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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*CSEM **01** 00:19:32.0±0.1, 6779N×20.19E, h0^{km}±3^{km}, ML2.8, Error ellipse: s-maj=4.6km s-min=3.2km az=76.0, Mining explosion.*
*ISCJB **01** 00:19:32.2±0.5, 6782N±003×20.11E±008, h0^{km}, Error ellipse: s-maj=4.6km s-min=3.8km az=80.7*
*NAO **01** 00:19:32.5±2.7, 6786N×1998E, ML2.1*
*HEL **01** 00:19:33.9±0.1, 6784N×20.18E, h0^{km}, ML1.9, ML2.8(UPP), ML1.7(BER), Explosion*
*UPP **01** 00:19:33.1, 6783N×20.19E, h0^{km}, ML2.8, Mining explosion.*
*BER **01** 00:19:36.2±3.5, 6790N×1999E, h0^{km}, ML1.7, ML2.1(NAO), Suspected explosion*
ISC 01 00:19:32.7±0.4**, 6781N**±002×**2016E**±007**, h0^{km}, n27, σ1^{s}23**/37**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.16	24	iP	Pg	00 19 35.9	0.0
KUA				iS	Sg	00 19 37.8	-0.2
NIKU	Nikkaluokta	0.43	279	iP	Pg	00 19 41.6	+0.5
DUNU	Dundret	0.70	167	iP	Pg	00 19 46.7	+0.5
LANU	Lannavaara	0.73	70	iP	Pg	00 19 46.5	-0.3
SALU	Saltoluokta	0.77	237	iP	Pg	00 19 48.0	+0.6
MASU	Masugnsbyn	0.79	116	iP	Pg	00 19 48.0	+0.2
KIF	Kilpisjarvi	1.23	11	eP	Pg	00 19 56.1	-0.2
KIF				eS	Sg	00 20 12.0	-0.2
PAJU	Pajala	1.38	123	eP	Pg	00 19 58.5	-0.8
KTK1	Kautokeino	1.66	42	eP	Pn	00 20 02.8	-0.3
KTK1				eSg	Sg	00 20 27.6	+1.4
KTK1				AML	AML	00 20 29.9	
	comp=Z,7.7nm,0.4s						
KTK1	Kautokeino	1.66	42	eP	Pn	00 20 02.8	-0.3
	SNR=50						
KTK1				eSg	Sg	00 20 27.6	+1.4
	comp=Z,7.7nm,0.4s,SNR=90						
TRO	Tromso	1.89	347	eSg	Sg	00 20 31.2	-2.3
TRO				AML	AML	00 20 35.9	
	comp=Z,9.8nm,0.3s						
SJUU	Sjulsmark	2.38	165	eP	Pn	00 20 15.0	+2.1
SGF	Sodankyl	2.46	96	eP	Pn	00 20 15.3	+1.2
SGF				eSB	Sb	00 20 47.9	-0.9
SGF				MSG		00 20 53.6	
	comp=Z,5.3nm,0.1s						
LOF	Lofoten	2.52	281	eSg	Sg	00 20 53.4	-0.2
LOF				AML	AML	00 21 03.2	
	comp=Z,13nm,0.8s						
LOF	Lofoten	2.52	281	eSg	Sg	00 20 53.4	-0.2
	comp=Z,13nm,0.8s,SNR=90						
LILU	Lilltraesk	2.53	183	eP	Pn	00 20 17.4	+2.3
ARA0	ARCESS Array S	2.62	46	Pn	Pn	00 20 16.6	+0.3
	baz=233,slow=14						
ARA0				Sn	Sn	00 20 50.1	+1.5
	baz=220,slow=28						
ARA0	ARCESS Array S	2.62	46	eP	Pn	00 20 16.6	+0.3
ARA0				eSB	Sn	00 20 50.1	+1.5
MOR8	Moi Rana	2.78	237	eSg	Sg	00 20 56.6	-5.6
MOR8				AML	AML	00 21 00.0	
	comp=Z,13nm,0.5s						
STOK	Stokkvaagen	3.16	245	eSg	Sg	00 21 13.0	-1.4
KEV	Kevo	3.17	49	eP	Pn	00 20 24.7	+0.8
KEV				eS	Sn	00 21 01.5	-0.8
KEV				eSG	Sg	00 21 10.6	-3.9
KEV				MSG		00 21 13.9	
	comp=Z,2.5nm,0.3s						
OUL	Oulu	3.57	137	ePG	Pg	00 20 39.1	-2.1
OUL				eSG	Sg	00 21 24.4	-3.1
OUL				MSG		00 21 32.5	
	comp=Z,3.2nm,0.3s						
KU6	Riekki	4.23	110	eP	Pn	00 20 40.1	+1.7
KU6				ePG	Pg	00 20 50.8	-3.0
KU6				eSG	Sg	00 21 44.1	-4.4
FIA0	FINESS Array S	6.87	156	Sn	Sn	00 22 33.6	0.0
	baz=346,slow=28						
FIA0				Lg		00 23 10.5	
	baz=342,slow=37						
FIA0	FINESS Array S	6.87	156	eS	Sn	00 22 33.6	0.0
FIA0				e		00 23 10.5	
HFS	Hagfors	8.20	203	Lg		00 23 53.1	
	baz=10.0,slow=37						
HFS	Hagfors	8.20	203	Lg		00 23 53.1	
	baz=10.0,slow=37						

*NEIC **01** 00:22:13.5, 3092S×7165W, h15^{km}, ML3.1(GUC), After GUC.*
GUC 01 00:22:13.5±1.0**, 3092S×7165W, h15^{km}**±7^{km}**, MD4.1, ML3.1, 4C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.49	51	⇓iP	Pg	00 22 23.6	+0.3
OVCH				iS	Sg	00 22 30.9	+0.9
OVCH				AML	AML	00 22 35.0	
	comp=N,1μm,0.3s						
OVCH	Ovalle	0.49	51	⇓iP	Pg	00 22 23.6	+0.3
OVCH				iS	Sg	00 22 30.9	+0.9
CMCH	Combarbala	0.61	115	⇑iP	Pg	00 22 25.2	-0.2
CMCH				iS	Sg	00 22 34.0	+0.4
CMCH				AML	AML	00 22 34.4	
	comp=E,4μm,0.2s						
CMCH	Combarbala	0.61	115	⇑iP	Pg	00 22 25.2	-0.2
CMCH				iS	Sg	00 22 34.0	+0.4
TLL	Tololo Astrono	1.04	44	⇓iP	Pb	00 22 32.3	-1.0
TLL				iS	Sb	00 22 46.4	-0.3
TLL				AML	AML	00 22 50.5	
	comp=N,439nm,0.4s						
TLL	Tololo Astrono	1.04	44	⇓iP	Pb	00 22 32.3	-1.0
TLL				iS	Sb	00 22 46.4	-0.3
LSCH	La Serena	1.07	19	⇓iP	Pb	00 22 32.4	-1.2
LSCH				iS	Sb	00 22 46.0	-1.4
PTCH	Petorca	1.47	156	⇑eP	Pn	00 22 38.5	-1.0
PTCH				iS	Sn	00 22 57.2	-1.3
PTCH				AML	AML	00 23 00.4	
	comp=N,1μm,0.3s						
PTCH	Petorca	1.47	156	⇑eP	Pn	00 22 38.5	-1.0
PTCH				iS	Sn	00 22 57.2	-1.3
PACH	Papudo	1.62	174	iP	Pn	00 22 39.9	-1.6
ZON	Zonda	2.62	105	eP	Pn	00 22 57.6	+2.3
CLCH	Cerro Calan	2.64	159	eP	Pn	00 22 56.5	+0.9
CLCH				iS	Sn	00 23 30.9	+3.6
CLCH				AML	AML	00 23 37.5	
	comp=N,199nm,0.5s						
FCH	Farellones	2.66	155	eP	Pn	00 22 57.7	+1.9
FCH				iS	Sn	00 23 31.4	+3.6
FCH				AML	AML	00 23 38.6	
	comp=E,108nm,0.2s						

IDC 01 01:04:23.2±20.0**, 4744N×15629E, h0^{km}, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/21**, mbtmp3.6**/3**, Error ellipse: s-maj=650.3km s-min=39.3km az=64.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	48.54	298	P	P	01 13 07.7	-0.3
	0.3nm,0.6s,baz=65,slow=7.0,SNR=6.7						
WRA	Warramunga Arr	69.92	202	P	P	01 15 35.7	-0.4
	0.3nm,0.7s,baz=21,slow=6.4,SNR=6.8						
ASAR	Alice Springs	73.59	201	P	P	01 15 58.5	+0.3
	0.7nm,0.8s,baz=16,slow=6.5,SNR=7.2						

GCMT 01 01:31:36.0±0.3**, 2965S×11239W, h12^{km}, MW5.1**/74**, Moment Tensor Solution. s31,c34; s74,c115; Duration: 0 Moment tensor: Scale** 10^{16}**Nm;** M_{rr}-0.92±.14; $M_{\theta\theta}$-2.42±.13; $M_{\phi\phi}$3.34±.13; $M_{r\theta}$-2.66±.37; $M_{\theta\phi}$-2.88±.11; $M_{\phi r}$0.67±.37; **Best double couple:** $M_0$4.97400×10^{16} **NP1:**ϕ_s20.00000°**,**δ56.00000°, λ-11.00000°. **NP2:**ϕ_s116.00000°**,**δ81.00000°, λ-145.00000°. **Principal axes:** T 5.0310**,** Plg17.0000°**,** Azm243.0000°**;** N -0.1130**,** Plg54.0000°**,** Azm128.0000°**;** P -4.9170**,** Plg31.0000°**,** Azm343.0000°**; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	21.23	283	eLQ		01 40 26.5	
	2μm,27.0s						
RKT	Rikitea	21.23	283	eP	P	01 36 19.2	-2.6
	90nm,31.0s						
RKT				eLR	LR	01 41 21.0	
	996nm,27.2s,baz=114						
TBI	Tubuai	33.66	272	eLQ		01 45 54.7	
	1μm,27.5s						
TBI				eLR	LR	01 47 04.4	
	1μm,26.5s,baz=105						
VNA3	Neumayer Olymp	66.19	160	e	P	01 42 28.2	+4.7
VNA3				e		01 42 30.7	
VNA3				e		01 42 33.8	
VNA3				e		01 42 39.3	
VNA3				e		01 42 46.8	
VNA3				e		01 43 01.5	
VNA2	Neumayer--Watz	67.00	160	e	P	01 42 31.6	+2.9
VNA2				e		01 42 34.2	
VNA2				e		01 42 37.1	
VNA2				e		01 42 40.4	
VNA2				e		01 42 44.6	
VNA2				e		01 42 49.9	
VNA2				e		01 43 04.1	
VNA2				e		01 43 17.8	

*NIED **01** 01:35:00, 39.10N×14330E, h23^{km}, Mw4.2 Best double couple: $M_0$2.50000×10^{15} NP1:ϕ_s25.00000°, δ69.00000°, λ90.00000°. NP2:ϕ_s205.00000°, δ21.00000°, λ90.00000°.*
*IDC **01** 01:35:10.8±1.4, 39.15N×14365E, h0^{km}, mb4.1/10, mb1 4.2/13, mb1mx4.0/26, mbtmp4.1/13, ML3.8/3, MS3.9/7, Ms1 3.9/7, ms1mx3.3/49, Error ellipse: s-maj=36.7km s-min=21.9km az=86.0*
*JMA **01** 01:35:12.9±0.1, 3909N×14333E, h12^{km}±2^{km}, M4.5*
*ISCJB **01** 01:35:13.5±1.6, 39.18N±004×14341E±006, h26^{km}±11^{km}, mb4.3/24, MS4.0/5, Error ellipse: s-maj=8.5km s-min=5.5km az=66.3*
*MOS **01** 01:35:15.7±1.3, 3921N×143.13E, h33^{km}, mb4.6/22, Error ellipse: s-maj=12.3km s-min=7.6km az=104.8*
*NEIC **01** 01:35:15.1±2.9, 39.16N×14327E, h21^{km}±19^{km}, mb4.5/9, MW4.2(NIED), Error ellipse: s-maj=17.5km s-min=8.4km az=107.0*
*BJI **01** 01:35:16.3, 39.19N×14277E, h20^{km}, mB4.9, mb4.6, Ms4.2, Msz4.1*
ISC 01 01:35:14.8±1.9**, 3921N**±004×**14330E**±006**, h18^{km}**±12^{km}**, h27^{km}**±3.4^{km}**:pP-P, n82, σ0^{s}96**/83**, mb4.3**/24**, MS4.0**/5**, 5C-3D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.21	288	⇓P	Pn	01 35 36.1	-0.6
MIYJ				S	Sb	01 35 52.2	-0.1
OFUJ	Ofunato	1.28	265	⇓P	Pn	01 35 36.6	-1.1
OFUJ				eS	Sn	01 35 53.4	-1.0
JTH	Tanohata	1.33	304	⇑P	Pn	01 35 38.4	0.0
JOM	Ohasama	1.58	280	P	Pn	01 35 42.0	+0.1
JOM				eS	Sn	01 36 02.7	+0.8
JMK	Ichinoseki	1.64	262	P	Pn	01 35 42.3	-0.4
JIO	Ouri	1.70	244	⇑P	Pn	01 35 42.4	-1.2
JOU	Okura	2.23	249	⇑P	Pn	01 35 50.5	-0.3
JOU				eS	Sn	01 36 18.9	+1.1
JAH	Hinai	2.28	296	P	Pn	01 35 52.2	+0.7
JYK	Kaneyama	2.31	264	⇑P	Pn	01 35 52.1	+0.2
JTM	Tenmabayashi	2.33	313	eS	Sn	01 36 24.1	+3.7
JMM	Marumori	2.38	237	P	Pn	01 35 52.0	-0.9
ERM	Erimo	2.81	358	ePn	Pn	01 35 59.4	+0.7
ERM				eSn	Sn	01 36 31.3	-0.8
MJAR	Matsushiro Arr	4.83	238	Pn	Pn	01 36 28.1	+1.6
	7.1nm,0.3s,baz=44,slow=12,SNR=47						
MJAR	Matsushiro Arr	4.83	238	P	Pn	01 36 28.2	+1.6
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MAJO	Matsushiro	4.83	238	ePn	Pn	01 36 25.2	-1.4
MAJO				e		01 36 28.3	
MAJO				eSn	Sn	01 37 11.3	-11
MAT	Matsushiro	4.83	238	P	Pn	01 36 28.0	+1.4
MAT				eS	Sn	01 37 15.8	-6.2
ASAJ	Asahikawa	4.93	354	Pn	Pn	01 36 28.6	+0.6
	comp=Z,2.4nm,0.3s,baz=288,slow=22,SNR=6.1						
ASAJ				Sn	Sn	01 37 23.9	-0.6
	comp=Z,2.7nm,0.3s,baz=77,slow=32,SNR=3.4						
ASAJ				LR	LR	01 39 17.2	
	comp=Z,418nm,19.2s,baz=76,slow=49						
ASAJ	Asahikawa	4.93	354	P	Pn	01 36 28.6	+0.6
ASAJ						01 37 24.0	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,418nm,19.2s						
YUK	Yuzh-Kuril'sk	5.19	21	⇑iP	Pn	01 36 32.5	+1.0
YUK				eS	Sn	01 37 26.5	-4.4
YUK				pmax	pmax		
	comp=Z,170nm,0.4s						
YUK				smax			
	comp=N,540nm,0.5s						
YUK				smax			
	comp=E,370nm,0.5s						
YSS	Yuzh-Sakhalins	7.75	357	P	Pn	01 37 06.6	-0.1
MDJ	Mudanjiang	11.55	302	ePn	Pn	01 37 59.4	+0.6
JNU	Nakatsue	11.73	243	LR	LR	01 42 04.6	
	comp=E,1μm,21.6s,baz=105,slow=35						
KSRS	Korea Array	12.21	267	Pn	Pn	01 38 10.5	+2.8
	baz=77,slow=17,SNR=4.6						
KSRS				LR	LR	01 42 21.5	
	comp=E,234nm,20.9s,baz=344,slow=34						
KLR	Kul'dur	12.98	324	eP	Pn	01 38 15.7	-2.6
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
HIA	Hailar	19.57	309	eP	Pn	01 39 39.7	-3.3
HIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
HIA	Hailar	19.57	309	eP	Pn	01 39 39.7	-3.4
	comp=Z,4.2nm,0.4s						
BJT	Baijiatuau	20.90	281	eP	P	01 39 53.3	-2.7
BJT				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BJT	Baijiatuau	20.90	281	eP	P	01 39 53.3	-2.7
	comp=Z,5.9nm,0.3s						
NACB	Ninganchiao	23.70	237	eP	P	01 40 24.1	-1.5
YAK	Yakutsk	24.33	344	eP	P	01 40 32.0	+0.7
YAK				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.6						
YAK	Yakutsk	24.33	344	eP	P	01 40 32.0	+0.7
	comp=Z,11nm,0.4s,mb4.7						
GUMO	Guam	25.56	176	LR	LR	01 49 27.7	
	comp=Z,88nm,18.0s,MS3.3,baz=254,slow=34						
BOD	Bodaibo	26.56	324	eP	P	01 40 51.1	-0.5
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
SONM	Songino Array	27.90	300	P	P	01 41 04.6	+1.0
	comp=Z,2.9nm,0.7s,mb4.0,baz=94,slow=8.3,SNR=21						
SONM				LR	LR	01 52 44.7	
	comp=Z,186nm,18.6s,MS3.7,baz=25,slow=37						
SONM	Songino Array	27.90	300	P	P	01 41 04.6	+1.0
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,187nm,18.6s						
TLY	Talaya	30.11	308	P	P	01 41 23.0	-0.3
ZAK	Zakamensk	30.17	305	eP	P	01 41 24.2	+0.4
ZAK				e		01 41 34.4	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
LZH	Lanzhou	31.23	277	eP	P	01 41 38.6	+5.4
LZH				AP	pP	01 41 44.0	+5.2
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA	Guiyang	33.09	259	⇓iP	P	01 41 49.3	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GTA	Gaotai	33.41	284	eP	P	01 41 53.4	+1.1
GTA				AP	pP	01 42 02.2	+4.3
GTA				XP	sP	01 42 05.5	+5.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,115nm,4.9s						
GTA				LR	LR		
	comp=N,181nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=E,244nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,413nm,16.3s,MS4.2						
KMI	Kunming	36.79	260	P	P	01 42 21.9	+0.5
KMI				AP	pP	01 42 30.5	+3.5
KMI				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.0						
ZAL	Zalesovo	41.61	311	P	P	01 43 02.5	+0.8
	comp=Z,1.7nm,0.3s,mb4.1,baz=150,slow=15,SNR=5.3						
ZAL	Zalesovo	41.61	311	P	P	01 43 02.5	+0.9
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LSA	Lhasa	43.52	274	eP	P	01 43 18.4	+1.2
LSA				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
LSA	Lhasa	43.52	274	eP	P	01 43 18.4	+1.2
	comp=Z,4.8nm,0.4s,mb4.6						
MK31	Makanchi Array	44.26	301	eP	P	01 43 23.2	0.0
MKAR	Makanchi Array	44.26	301	P	P	01 43 23.4	+0.3
	comp=Z,2.8nm,1.0s,mb4.0,baz=84,slow=11,SNR=15						
MKAR	Makanchi Array	44.26	301	P	P	01 43 23.5	+0.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	Kurchatov	45.80	307	eP	P	01 43 35.3	-0.1
KURK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
KURK	Kurchatov	45.80	307	eP	P	01 43 35.3	-0.1
	comp=Z,11nm,0.9s,mb4.8						
BVAR	Borovoye Array	50.24	311	P	P	01 44 10.0	+0.2
	comp=Z,2.1nm,0.8s,mb4.2,baz=73,slow=10,SNR=8.6						
BVAR	Borovoye Array	50.24	311	P	P	01 44 10.0	+0.3
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	50.29	311	eP	P	01 44 10.3	+0.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	Borovoye	50.29	311	eP	P	01 44 10.3	+0.2
	comp=Z,2.3nm,0.6s,mb4.4						
AAK	Ala-Archa	50.79	297	eP	P	01 44 13.6	-0.3
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AAK	Ala-Archa	50.79	297	eP	P	01 44 13.6	-0.3
	comp=Z,2.4nm,0.9s,mb4.1						
INK	Inuvik	51.77	28	eP	P	01 44 17.0	-4.3
	comp=Z,103nm,0.7s						
SOKR	Solikamsk	55.53	322	eP	P	01 44 55.0	+6.2
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
ARU	Arti	55.73	318	eP	P	01 44 50.2	-0.1
ARU	Arti	55.73	318	eP	P	01 44 49.8	-0.5
	comp=Z,2.9nm,0.7s,mb4.4						
AKTK	Aktyubinsk	58.34	312	P	P	01 45 08.9	+0.2
AKTO	Aktyubinsk	58.34	312	P	P	01 45 08.9	+0.2
	comp=Z,1.5nm,0.6s,mb4.2,baz=67,slow=12,SNR=4.7						
AKTO	Aktyubinsk	58.34	312	P	P	01 45 08.9	+0.2
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
WRAB	Tennant Creek	59.42	190	eP	P	01 45 16.1	-0.1
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
WRAB	Tennant Creek	59.42	190	eP	P	01 45 16.1	-0.1
	comp=Z,2.9nm,0.7s,mb4.4						
WB2	Warramunga Arr	59.43	190	P	P	01 45 19.2	+2.9
WRA	Warramunga Arr	59.43	190	P	P	01 45 15.1	-1.2
	comp=Z,1.4nm,0.7s,mb4.1,baz=7.5,slow=6.9,SNR=27						
WRA	Warramunga Arr	59.43	190	P	P	01 45 15.1	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PALK	Pallekele	64.29	258	P	P	01 45 47.7	-1.3
DZM	Mont Dzumac	64.69	156	LR	LR	02 07 17.4	
	comp=Z,439nm,21.2s,MS4.6,baz=40,slow=30						
FINES	FINESS Array B	67.58	332	P	P	01 46 09.6	-0.6
	comp=Z,1.4nm,0.7s,mb4.1,baz=145,slow=10,SNR=3.6						
FINES	FINESS Array B	67.58	332	P	P	01 46 09.6	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	Stephens Creek	70.74	182	LR	LR	02 14 46.7	
	comp=Z,169nm,20.7s,MS4.3,baz=111,slow=34						
HFS	Hagfors	72.71	336	P	P	01 46 41.7	0.0
	comp=Z,3.4nm,1.1s,mb4.2,baz=352,slow=3.0,SNR=4.5						
HFS	Hagfors	72.71	336	P	P	01 46 41.7	+0.1
HFS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AKASG	Malin Array Be	73.48	323	P	P	01 46 46.1	-0.1
	comp=Z,1.3nm,0.6s,mb4.0,baz=44,slow=6.2,SNR=6.0						
AKASG	Malin Array Be	73.48	323	P	P	01 46 46.1	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	81.64	329	P	P	01 47 31.8	+0.1
	comp=Z,0.4nm,0.6s,mb3.6,baz=32,slow=8.1,SNR=3.8						
PPT	Papeete	84.30	118	eLQ		01 46 42.1	
	comp=Z,971nm,28.5s						
PPT				eLR	LR	01 48 06.1	
	comp=Z,1μm,27.8s,baz=114						
TAOE	Nuku Hiva Isla	85.28	105	eLR	LR	01 46 36.8	
	comp=Z,783nm,23.3s						
TBI	Tubuai	88.39	122	eLR	LR	01 48 31.3	
	comp=Z,539nm,28.5s,baz=154						
RKT	Rikitea	98.21	113	eLR	LR	01 47 47.6	
	comp=Z,504nm,28.0s,baz=170						

*ISCJB **01** 01:38:35.2±0.3, 8282N±006×58W±04, h10^{km}, mb4.3/40, MS3.9/19, Error ellipse: s-maj=9.8km s-min=4.7km az=82.2*
*IDC **01** 01:38:35.2±0.6, 8287N×634W, h0^{km}, mb3.9/18, mb1 4.2/19, mb1mx4.1/25, mbtmp4.0/19, ML4.2/1, MS3.9/17, Ms1 3.9/17, ms1mx3.7/36, Error ellipse: s-maj=20.7km s-min=11.7km az=39.0*
*NEIC **01** 01:38:36.9±0.3, 8282N×604W, h10^{km}, mb4.6/22, MS4.2/2, Error ellipse: s-maj=9.1km s-min=5.2km az=224.0*
*NAO **01** 01:38:45.0±14.0, 8261N×099W, h12^{km}±128^{km}, ML2.0*
ISC 01 01:38:36.4±0.3**, 8282N**±005×**59W**±04**, h10^{km}, n102, σ1^{s}07**/102**, mb4.3**/40**, MS3.9**/19**, 2C-3D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	4.81	135	Pn	Pn	01 39 47.9	-1.0
KBS				Sn	Sn	01 40 39.3	-5.3
KBS	Kingsbay	4.81	135	eP	Pn	01 39 48.1	-0.8
KBS				eS	Sn	01 40 39.0	-5.6
KBS				AML	AML	01 40 44.2	
	comp=Z,53nm,0.7s						
KBS	Kingsbay	4.81	135	ePn	Pn	01 39 48.0	-0.9
KBS				eSn	Sn	01 40 39.8	-4.8
SPB4	Spitsbergen Ar	5.88	130	ePn	Pn	01 40 03.0	-0.6
SPB4				e		01 40 10.6	
SPB4				eSn	Sn	01 41 14.6	+3.5
SPA0	Spitsbergen Ar	5.88	130	Pn	Pn	01 40 02.0	-1.7
	baz=350,slow=14						
DAG	Danmarks Havn	6.46	207	iP	Pn	01 40 09.0	-2.6
DAG				i		01 41 21.6	
DAG	Danmarks Havn	6.46	207	eP	Pn	01 40 09.0	-2.6
DAG				i		01 41 21.6	
HOPEN	Hopen	8.25	123	eP	Pn	01 40 35.6	-0.5
BJO1	Bjornoya	9.53	137	eP	Pn	01 40 53.0	-0.7
BJO	Bjornoya	9.55	137	eP	Pn	01 40 53.0	-0.9
TRO	Tromso	14.25	143	ePn	Pn	01 41 58.0	-0.3
KEV	Kevo	14.81	132	ep	Pn	01 42 03.7	-2.2
	comp=Z,12nm,0.6s						
KEV	Kevo	14.81	132	ePn	Pn	01 42 03.2	-2.7
	comp=Z,17nm,0.7s						
ARA0	ARCESS Array S	14.89	134	Pn	Pn	01 42 04.7	-2.3
	baz=7.1,slow=14						
ARCES	ARCESS Array B	14.89	134	Pn	Pn	01 42 06.2	-0.8
	comp=Z,1.6nm,0.3s,baz=355,slow=11,SNR=41						
ARCES				LR	LR	01 47 21.4	
	comp=Z,464nm,21.4s,baz=346,slow=35						
ARCES	ARCESS Array B	14.89	134	Pn	Pn	01 42 06.2	-0.8
ARCES				LR	LR	01 47 21.4	
ARE0	ARCESS Array S	14.89	134	ePn	Pn	01 42 06.1	-0.9
KTK1	Kautokeino	15.21	138	ePn	Pn	01 42 11.1	-0.1
KTK1	Kautokeino	15.21	138	eP	Pn	01 42 10.9	-0.3
RES	Resolute Bay	16.86	294	ePn	Pn	01 42 25.3	-7.3
	comp=Z,899nm,0.9s						
APA0	Apatity Array	17.48	127	P	Pn	01 42 39.3	-1.0
	baz=333,slow=9.3						
NB2	NORSAR Subarra	22.32	158	P	P	01 43 34.5	+0.4
	comp=Z,19nm,1.1s,mb4.4,baz=352,slow=11						
NB2	NORSAR Subarra	22.32	158	P	P	01 43 37.0	+2.9
NOA	NORSAR Array B	22.32	158	P	P	01 43 36.3	+2.2
	comp=Z,5.5nm,1.0s,mb4.0,baz=353,slow=9.4,SNR=7.4						
NOA				LR	LR	01 51 30.6	
	comp=Z,158nm,19.3s,MS3.5,baz=0.0,slow=35						
FIA0	FINESS Array S	22.89	139	P	P	01 43 42.0	+1.8
	baz=331,slow=18						
FINES	FINESS Array B	22.89	139	P	P	01 43 41.3	+1.1
	comp=Z,2.5nm,0.8s,mb3.7,baz=342,slow=12,SNR=3.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES				LR	LR	01 51 48.1	
	comp=Z,288nm,21.5s,MS3.7,baz=348,slow=34						
HFS	**Hagfors**	**23.34**	**155**	P	**P**	**01 43 48.7**	**+3.7**
	baz=307,slow=10						
HFS	**Hagfors**	**23.34**	**155**	P	**P**	**01 43 46.7**	**+1.7**
	comp=Z,2.6nm,0.8s,mb3.7,baz=6.3,slow=14,SNR=3.5						
HFS				LR	LR	01 51 18.8	
	comp=Z,314nm,19.7s,MS3.8,baz=220,slow=33						
TIXI	**Tiksi**	**24.09**	**33**	P	**P**	**01 43 53.5**	**+1.5**
INK	**Inuvik**	**26.82**	**319**	P	**P**	**01 44 16.8**	**0.0**
	comp=Z,3.7nm,0.8s,mb3.9,baz=8.8,slow=11,SNR=9.8						
INK				LR	LR	01 57 06.3	
	comp=Z,253nm,18.8s,MS3.8,baz=132,slow=42						
INK	**Inuvik**	**26.82**	**319**	P	**P**	**01 44 16.8**	**0.0**
INK				LR	LR	01 57 06.3	
BILL	**Bilibino**	**29.27**	**6**	P	**P**	**01 44 39.4**	**+0.7**
OBN	**Obninsk**	**30.09**	**129**	P	**P**	**01 44 49.0**	**+3.0**
YKA	**Yellowknife Ar**	**30.69**	**300**	P	**P**	**01 44 50.0**	**-1.2**
	comp=Z,1.3nm,0.7s,mb3.9,baz=8.7,slow=8.8,SNR=9.9						
YKA				PcP	PcP	01 47 47.2	-1.9
	comp=Z,0.8nm,0.8s,baz=2.6,slow=2.7,SNR=5.1						
YKA				LR	LR	01 57 30.8	
	comp=Z,177nm,20.9s,MS3.7,baz=160,slow=37						
YKA	**Yellowknife Ar**	**30.69**	**300**	P	**P**	**01 44 50.0**	**-1.2**
YKA				PcP	PcP	01 47 47.2	-1.9
YKA				LR	LR	01 57 30.8	
RUE	**Ruedersdorf**	**30.99**	**156**	*e*P	**P**	**01 44 58.4**	**+4.5**
SCHQ	**Schefferville**	**32.38**	**251**	LR	LR	01 58 11.1	
	comp=Z,234nm,20.4s,MS3.9,baz=88,slow=36						
GIVF	**Givet**	**33.01**	**167**	*e*P	**P**	**01 45 11.9**	**+0.2**
BAIF	**Baives**	**33.04**	**168**	*e*P	**P**	**01 45 13.5**	**+1.6**
GRA1	**Grafenberg Arr**	**33.65**	**160**	*e*P	**P**	**01 45 19.0**	**+1.7**
	comp=Z,16nm,1.7s,mb4.7						
GRF	**Grafenberg Arr**	**33.65**	**160**	*e*P	**P**	**01 45 19.0**	**+1.7**
	comp=Z,16nm,1.7s,mb4.7						
AKASG	**Malin Array Be**	**33.80**	**139**	P	**P**	**01 45 17.9**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=355,slow=9.3,SNR=3.7						
AKASG				PcP	PcP	01 47 55.8	-1.8
	comp=Z,0.6nm,0.6s,baz=345,slow=2.9,SNR=3.7						
MORC	**Moravsky Berou**	**33.89**	**152**	*e*P	**P**	**01 45 27.8**	**+8.4**
	comp=Z,4.0nm,0.8s,mb4.4						
MORC	**Moravsky Berou**	**33.89**	**152**	⇑*i*P	**P**	**01 45 28.8**	**+9.5**
VRAC	**Vranov**	**34.30**	**154**	P	**P**	**01 45 23.5**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.1,baz=349,slow=5.2,SNR=3.6						
KWP	**Kalwaria**	**34.37**	**146**	*e*P	**P**	**01 45 26.5**	**+3.1**
	comp=Z,5.4nm,0.8s,mb4.5						
GERES	**GERESS Array B**	**34.61**	**157**	P	**P**	**01 45 26.6**	**+1.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=12,slow=7.2,SNR=8.9						
GERES				PcP	PcP	01 47 58.2	-1.7
	comp=Z,0.6nm,0.9s,baz=316,slow=4.1,SNR=3.2						
GERES				LR	LR	01 57 32.4	
	comp=Z,196nm,20.9s,MS3.8,baz=179,slow=33						
GERES	**GERESS Array B**	**34.61**	**157**	P	**P**	**01 45 26.6**	**+1.0**
GERES				PcP	PcP	01 47 58.2	-1.7
GERES				LR	LR	01 57 32.4	
CDF	**Champ du Feu**	**34.78**	**165**	*e*P	**P**	**01 45 28.2**	**+1.1**
	comp=Z,40nm,1.3s,mb4.9						
CDF	**Champ du Feu**	**34.78**	**165**	*e*P	**P**	**01 45 28.2**	**+1.1**
	comp=Z,20nm,1.3s,mb4.9						
HAU	**Haudompre**	**35.16**	**166**	*e*P	**P**	**01 45 30.6**	**+0.3**
	comp=Z,19nm,1.0s,mb4.7						
HAU	**Haudompre**	**35.16**	**166**	*e*P	**P**	**01 45 30.6**	**+0.3**
	comp=Z,9.4nm,1.0s,mb4.7						
LOR	**Lormes**	**35.82**	**169**	*e*P	**P**	**01 45 36.3**	**+0.3**
LOR				*e*MLR			
	comp=Z,310nm,17.5s						
LOR	**Lormes**	**35.82**	**169**	*e*P	**P**	**01 45 36.3**	**+0.3**
LOR				LR	LR		
	comp=Z,310nm,17.5s,MS4.1						
PSZ	**Piszkesteto**	**35.88**	**150**	*e*P	**P**	**01 45 40.1**	**+3.5**
	comp=Z,3.0nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**36.02**	**169**	*e*P	**P**	**01 45 38.0**	**+0.3**
	comp=Z,26nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**36.02**	**169**	*e*P	**P**	**01 45 38.0**	**+0.3**
	comp=Z,13nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**36.04**	**94**	P	**P**	**01 45 39.3**	**+1.4**
	comp=Z,1.9nm,0.9s,mb4.0,baz=357,slow=6.5,SNR=5.5						
BVAR				LR	LR	02 01 47.2	
	comp=Z,228nm,20.9s,MS3.9,baz=323,slow=39						
AVF	**Avril sur Loir**	**36.29**	**169**	*e*P	**P**	**01 45 40.2**	**+0.2**
	comp=Z,22nm,1.0s,mb4.8						
AVF	**Avril sur Loir**	**36.29**	**169**	*e*P	**P**	**01 45 40.2**	**+0.2**
	comp=Z,11nm,1.0s,mb4.7						
BGF	**Bois d'Agland**	**36.51**	**170**	*e*P	**P**	**01 45 42.2**	**+0.3**
	comp=Z,43nm,1.1s,mb4.9						
BGF	**Bois d'Agland**	**36.51**	**170**	*e*P	**P**	**01 45 42.2**	**+0.3**
	comp=Z,22nm,1.1s,mb4.9						
BURAR	**Bucovina Array**	**36.55**	**144**	⇓*i*P	**P**	**01 45 43.2**	**+0.9**
ZAL	**Zalesovo**	**36.95**	**80**	P	**P**	**01 45 46.0**	**+0.4**
	comp=Z,2.6nm,0.2s,mb4.6,baz=165,slow=3.7,SNR=4.8						
ZAL				LR	LR	02 04 50.0	
	comp=Z,226nm,21.9s,MS3.9,baz=135,slow=43						
LPL	**La Plagne**	**37.66**	**165**	*e*P	**P**	**01 45 51.7**	**+0.1**
	comp=Z,14nm,0.9s,mb4.4						
LPL	**La Plagne**	**37.66**	**165**	*e*P	**P**	**01 45 51.7**	**+0.1**
	comp=Z,6.8nm,0.9s,mb4.4						
LPG	**La Plagne**	**37.67**	**165**	*e*P	**P**	**01 45 51.9**	**+0.1**
	comp=Z,32nm,1.2s,mb4.6						
LPG	**La Plagne**	**37.67**	**165**	*e*P	**P**	**01 45 51.9**	**+0.1**
	comp=Z,16nm,1.2s,mb4.6						
RJF	**Les Rejaudoux**	**37.73**	**171**	*e*P	**P**	**01 45 52.4**	**+0.1**
	comp=Z,61nm,1.2s,mb4.9						
RJF				*e*MLR			
	comp=Z,472nm,20.2s						
RJF	**Les Rejaudoux**	**37.73**	**171**	*e*P	**P**	**01 45 52.4**	**+0.1**
	comp=Z,30nm,1.2s,mb4.9						
RJF				LR	LR		
	comp=Z,470nm,20.3s,MS4.3						
BZS	**Buzias**	**38.29**	**148**	⇑*i*P	**P**	**01 45 58.3**	**+1.3**
MLR	**Muntele Rosu**	**38.72**	**144**	⇓*i*P	**P**	**01 46 04.8**	**+4.2**
EPF	**Esparros**	**39.99**	**173**	*e*P	**P**	**01 46 11.1**	**-0.1**
	comp=Z,36nm,1.1s,mb4.7						
EPF	**Esparros**	**39.99**	**173**	*e*P	**P**	**01 46 11.1**	**-0.1**
	comp=Z,18nm,1.1s,mb4.7						
ULM	**Lac du Bonnet**	**40.47**	**278**	P	**P**	**01 46 15.0**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=336,slow=18,SNR=3.6						
ULM				LR	LR	02 01 34.2	
	comp=Z,219nm,18.7s,MS4.0,baz=16,slow=34						
KIV	**Kislovodsk**	**41.74**	**126**	*e*P	**P**	**01 46 24.8**	**-0.8**
	comp=Z,8.3nm,0.8s,mb4.4						
EYMN	**Ely**	**42.19**	**274**	P	**P**	**01 46 34.0**	**+4.7**
ESDC	**Sonseca Array**	**43.30**	**178**	P	**P**	**01 46 38.4**	**+0.1**
	comp=Z,2.5nm,0.7s,mb4.0,baz=2.7,slow=8.2,SNR=8.0						
ESLA	**Sonseca Array**	**43.30**	**178**	*e*P	**P**	**01 46 39.2**	**+0.9**
	comp=Z,1.1nm,0.8s,mb3.6						
MKAR	**Makanchi Array**	**43.66**	**84**	P	**P**	**01 46 40.2**	**-1.0**
	comp=Z,1.5nm,0.8s,mb3.8,baz=354,slow=8.5,SNR=4.6						
MKAR				LR	LR	02 07 36.9	
	comp=Z,167nm,18.5s,MS4.0,baz=353,slow=40						
BRTR	**Keskin Array B**	**45.07**	**136**	P	**P**	**01 46 53.2**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.4,baz=353,slow=5.9,SNR=2.7						
SONM	**Songino Array**	**45.50**	**61**	P	**P**	**01 46 55.8**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=318,slow=2.0,SNR=5.1						
SONM				LR	LR	02 06 24.1	
	comp=Z,158nm,18.4s,MS4.0,baz=344,slow=37						
CHMT	**Chamberlain Mo**	**45.85**	**294**	*e*P	**P**	**01 46 58.1**	**-0.6**
MSO	**Missoula**	**46.01**	**295**	*e*P	**P**	**01 46 59.6**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**46.77**	**93**	*e*P	**P**	**01 47 06.0**	**0.0**
	comp=Z,13nm,1.4s,mb4.7						
MALT	**Malatya**	**46.91**	**131**	P	**P**	**01 47 05.6**	**-1.4**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MALT	**Malatya**	**46.91**	**131**	P	**P**	**01 47 05.6**	**-1.4**
	comp=Z,4.3nm,0.9s,mb4.4						
MALT	**Malatya**	**46.91**	**131**	⇓*i*P	**P**	**01 47 06.3**	**-0.7**
KEST	**Kesra**	**47.51**	**163**	LR	LR	02 07 20.6	
	comp=Z,71nm,21.0s,MS3.6,baz=254,slow=36						
RSSD	**Black Hills**	**47.51**	**285**	*e*P	**P**	**01 47 11.1**	**-0.6**
	comp=Z,4.9nm,0.9s,mb4.5						
MCMT	**McKenzie Canyo**	**47.86**	**293**	*e*P	**P**	**01 47 14.2**	**-0.2**
BMO	**Blue Mountains**	**48.34**	**298**	*e*P	**P**	**01 47 17.3**	**-0.8**
	comp=Z,5.8nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	**49.51**	**290**	P	**P**	**01 47 26.9**	**-0.2**
	comp=Z,1.5nm,0.9s,mb4.0,baz=32,slow=14,SNR=9.1						
PDAR				LR	LR	02 08 44.8	
	comp=Z,348nm,19.6s,MS4.4,baz=16,slow=37						
PV01	**Paradox Valley**	**53.96**	**288**	*e*P	**P**	**01 48 00.1**	**-0.3**
NVAR	**Mina Array Bea**	**54.80**	**297**	P	**P**	**01 48 06.1**	**-0.4**
	comp=Z,0.9nm,0.9s,mb3.8,baz=0.8,slow=6.3,SNR=4.2						
NVAR	**Mina Array Bea**	**54.80**	**297**	P	**P**	**01 48 06.1**	**-0.4**
WUAZ	**Wupatki**	**56.88**	**290**	*e*P	**P**	**01 48 24.5**	**+3.1**
	comp=Z,8.1nm,1.0s,mb4.7						
KSRS	**Korea Array**	**57.90**	**43**	LR	LR	02 12 21.8	
	comp=Z,74nm,19.7s,MS3.8,baz=114,slow=35						
JHJ	**Hachijo jima 2**	**63.11**	**32**	LR	LR	02 16 16.2	
	comp=Z,106nm,18.2s,MS4.0,baz=111,slow=36						
TORD	**Torodi Ar. Bea**	**69.78**	**172**	P	**P**	**01 49 45.7**	**-1.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=359,slow=6.5,SNR=8.6						
LIC	**Lamto**	**76.59**	**179**	*e*P	**P**	**01 50 26.7**	**-0.4**
	comp=Z,19nm,1.0s,mb4.7						
LIC				*e*MLR			
	comp=Z,194nm,20.0s						
LIC	**Lamto**	**76.59**	**179**	*e*P	**P**	**01 50 26.7**	**-0.4**
	comp=Z,9.4nm,1.0s,mb4.7						
LIC				LR	LR		
	comp=Z,100nm,20.0s,MS4.1						

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*NEIC **01** 01:40:37.0, 18.11N×68.11W, h105km, MD3.6(RSPR), After RSPR.*

RSPR 01 01:40:37.0, 1811N×6811W, h105km±1km**, MD3.6**/6**, MD3.6**/6**, 6C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.95**	**96**	⇑*e*P	Pn	01 40 56.7	-0.7
CRPR				*e*S	Sn	01 41 12.3	-0.3
LSP	**Las Mesas**	**0.97**	**86**	⇑*e*P	Pn	01 40 57.3	-0.2
LSP				*e*S	Sn	01 41 12.7	-0.2
AOPR	**Arecibo Observ**	**1.31**	**79**	⇓*e*P	Pn	01 41 01.0	-0.2
AOPR				*e*S	Sn	01 41 19.4	-0.1
OBIP	**Obispado Ponce**	**1.43**	**92**	⇑*e*P	Pn	01 41 02.4	-0.3
OBIP				*e*S	Sn	01 41 22.2	+0.2
CELP	**Cerrillos**	**1.45**	**91**	⇑*e*P	Pn	01 41 02.5	-0.4
CELP				*e*S	Sn	01 41 22.7	+0.1
SJG	**San Juan**	**1.86**	**90**	⇑*e*P	Pn	01 41 06.8	-1.1
SJG				*e*S	Sn	01 41 31.5	-0.1
CBYP	**Canovanas**	**2.14**	**85**	⇓*e*P	Pn	01 41 11.1	-0.5
CBYP				*e*S	Sn	01 41 38.0	-0.1
HUMP	**Col San Antoni**	**2.15**	**89**	⇑*e*P	Pn	01 41 11.6	0.0
HUMP				*e*S	Sn	01 41 38.2	+0.1

IDC 01 01:55:38.7±70.0**, 1629S×17614W, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/13**, mbtmp4.0**/3**, MS3.8**/2**, Ms1 3.8**/2**, ms1mx3.2**/32**, Error ellipse: s-maj=1315.0km s-min=187.5km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.01**	**187**	LR	LR	02 03 05.0	
	comp=Z,197nm,21.7s,baz=17,slow=34						
STKA	**Stephens Creek**	**41.31**	**240**	P	P	02 03 26.3	+0.3
	0.8nm,0.3s,baz=90,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**47.08**	**258**	P	P	02 04 12.3	+0.1
	0.4nm,0.5s,baz=95,slow=7.4,SNR=8.1						
ASAR	**Alice Springs**	**47.33**	**253**	P	P	02 04 14.7	+0.5
	4.1nm,0.5s,baz=88,slow=8.1,SNR=50						
ASAR				LR	LR	02 22 08.7	
	comp=Z,223nm,19.8s,baz=157,slow=34						

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*NIED **01** 02:09:00, 4660N×15240E, h26km, Mw4.1 Best double couple: M₀1.80000×10^15 NP1:φs125.00000°, δ77.00000°, λ-33.00000°. NP2:φs224.00000°, δ58.00000°, λ-165.00000°.*

*NEIC **01** 02:09:23.5±0.4, 4657N×15215E, h10km, mb4.3/7, Error ellipse: s-maj=13.4km s-min=8.5km az=151.0*

*MOS **01** 02:09:26.6±1.0, 4656N×15210E, h45km, mb4.4/17, Error ellipse: s-maj=14.1km s-min=9.2km az=73.0*

*SKHL **01** 02:09:26.6±0.9, 4650N×15240E, h61km±20km, mb5.1/3*

*JMA **01** 02:09:27.7±0.8, 4659N×15237E, h30km, M4.9*

*ISCJB **01** 02:09:29.0±1.0, 4633N±007×15224E±008, h75km±10km, mb4.0/23, Error ellipse: s-maj=11.9km s-min=8.2km az=134.5*

*IDC **01** 02:09:33.8±3.7, 4659N×15203E, h96km±33km, mb3.7/14, mb1 3.9/15, mb1mx3.8/22, mbtmp3.7/15, MS3.2/3, Ms1 3.2/3, ms1mx3.0/43, Error ellipse: s-maj=18.3km s-min=15.9km az=128.0*

ISC 01 02:09:30.0±0.7**, 4651N**±007**×15219E**±008**, h63**km±7km**, n101, σ1§36**/111**, mb4.1**/23**, 4C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.28**	**249**	⇑*i*PN	**Pn**	**02 10 16.6**	**-2.3**
KUR				*i* S	**Sn**	**02 10 55.0**	**-1.7**
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				pmax	pmax		
	comp=N,130nm,0.6s						
KUR				smax			
	comp=N,700nm,0.5s						
KUR				smax			
	comp=E,670nm,0.5s						
KUR	**Kuril'sk**	**3.28**	**249**	⇑*i*P	**Pn**	**02 10 16.6**	**-2.3**
KUR				AMB	AMB	02 10 16.8	
	comp=E,130nm,0.6s						
KUR				AMB	AMB	02 10 16.8	
	comp=E,300nm,0.6s						
KUR				*i* S	**Sn**	**02 10 55.0**	**-1.7**
KUR				A		02 11 07.6	
	comp=E,700nm,0.5s						
KUR				A		02 11 07.6	
	comp=E,670nm,0.5s						
SKR	**Severo-Kuril's**	**4.92**	**31**	*e*P	**Pn**	**02 10 39.5**	**-1.9**
SKR				*e*S	**Sn**	**02 11 33.9**	**-3.1**
SKR				A		02 11 38.7	
	comp=E,100nm,0.4s						
SKR				A		02 11 38.7	
	comp=E,130nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.11**	**243**	⇓*i*PN	**Pn**	**02 10 45.5**	**+1.6**
YUK				*i* S	**Sn**	**02 11 43.9**	**+2.4**
YUK				pmax	pmax		
	comp=Z,310nm,0.3s						
YUK				smax			
	comp=N,890nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.11**	**243**	⇓*i*P	**Pn**	**02 10 45.5**	**+1.6**
YUK				AMB	AMB	02 10 46.0	
	comp=E,310nm,0.2s						
YUK				*i* S	**Sn**	**02 11 43.9**	**+2.4**
YUK				A		02 12 10.0	
	comp=E,890nm,0.5s						
YUK				A		02 12 10.0	
	comp=E,380nm,0.5s						
NEM2	**Nemuro 2**	**5.55**	**238**	P	**Pn**	**02 10 49.1**	**-0.9**
NEM2				*e*S	**Sn**	**02 11 49.7**	**-2.7**
JNK	**Nakash**	**6.05**	**244**	P	**Pn**	**02 10 58.3**	**+1.5**
JTKR	**Abashiri--Toko**	**6.38**	**250**	P	**Pn**	**02 11 04.0**	**+2.7**
JAK	**Akkeshi**	**6.39**	**239**	P	**Pn**	**02 11 00.6**	**-0.8**
JAK				*e*S	**Sn**	**02 12 10.0**	**-2.9**
YSS	**Yuzh-Sakhalins**	**6.50**	**277**	*e*PN	**Pn**	**02 11 05.9**	**+2.9**
YSS				*e*S	**Sn**	**02 12 20.4**	**+4.6**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				smax			
	comp=N,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.50**	**277**	*e*Pn	**Pn**	**02 11 06.0**	**+3.0**
	comp=N,38nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.50**	**277**	*e*P	**Pn**	**02 11 05.9**	**+2.9**
YSS				AMB	AMB	02 11 06.9	
	comp=N,50nm,0.9s						
YSS				AMB	AMB	02 11 06.9	
	comp=N,70nm,1.0s						
YSS				*e*S	**Sn**	**02 12 20.4**	**+4.6**
YSS				A		02 12 22.9	
	comp=N,50nm,0.8s						
JMP	**Maruseppu**	**6.72**	**251**	P	**Pn**	**02 11 08.8**	**+2.9**
JAR	**Ashorobuto**	**6.79**	**245**	P	**Pn**	**02 11 08.5**	**+1.6**
JOB	**Onbets**	**6.96**	**242**	P	**Pn**	**02 11 09.9**	**+0.6**
JOB				*e*S	**Sn**	**02 12 26.4**	**-0.6**
JKK2	**Kamakawa 2**	**7.17**	**252**	P	**Pn**	**02 11 15.3**	**+3.1**
ASAJ	**Asahikawa**	**7.17**	**254**	P	**Pn**	**02 11 15.8**	**+3.5**
	comp=N,4.8nm,0.3s,baz=77,slow=20,SNR=12						
ASAJ				LR	LR	02 13 54.4	
	comp=N,134nm,20.1s,baz=326,slow=37						
ASAJ	**Asahikawa**	**7.17**	**254**	P	**Pn**	**02 11 16.1**	**+3.9**
ASAJ	**Asahikawa**	**7.17**	**254**	PN	**Pn**	**02 11 15.8**	**+3.6**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,134nm,20.1s						
JCH	**Churui**	**7.41**	**241**	P	**Pn**	**02 11 15.1**	**-0.3**
JFR	**Furan**	**7.60**	**247**	P	**Pn**	**02 11 19.8**	**+1.8**
JEM	**Erimo**	**7.88**	**239**	P	**Pn**	**02 11 23.1**	**+1.2**
ERM	**Erimo**	**7.89**	**239**	*e*PN	**Pn**	**02 11 22.5**	**+0.6**
ERM				pmax	pmax		
	comp=Z,88nm,0.6s						
ERM	**Erimo**	**7.89**	**239**	*e*Pn	**Pn**	**02 11 22.5**	**+0.6**
	comp=Z,88nm,0.6s						
ERM				*e*Sn	**Sn**	**02 12 46.3**	**-3.4**
JNBK	**Urakawa-nobuka**	**7.97**	**241**	P	**Pn**	**02 11 22.4**	**-0.7**
JNB	**Noboribetsu**	**8.94**	**247**	P	**Pn**	**02 11 37.6**	**+1.3**
JKB	**Kayabe**	**9.25**	**244**	P	**Pn**	**02 11 39.5**	**-1.1**
JSH	**Shimam**	**9.49**	**250**	P	**Pn**	**02 11 45.8**	**+1.9**
JYM2	**Yakumo 2**	**9.54**	**247**	P	**Pn**	**02 11 45.1**	**+0.5**
JSR	**Shiriuchi**	**9.83**	**244**	P	**Pn**	**02 11 47.4**	**-1.1**
JTM	**Tenmabayashi**	**9.88**	**239**	P	**Pn**	**02 11 47.6**	**-1.6**
JOSM	**Okushiri--Mats**	**10.13**	**249**	P	**Pn**	**02 11 52.7**	**+0.1**
OFUJ	**Ofunato**	**10.71**	**230**	P	**Pn**	**02 11 57.1**	**-3.4**
OFUJ				*e*S	**Sn**	**02 13 49.8**	**-9.0**
JRG	**Rokugo**	**11.05**	**234**	P	**Pn**	**02 12 03.2**	**-2.0**
JRG				*e*S	**Sn**	**02 13 57.1**	**-10**
MAJO	**Matsushiro**	**14.43**	**231**	*e*P	**Pn**	**02 12 57.3**	**+6.5**
MAJO				pmax	pmax		
	comp=Z,21nm,0.9s						
MAJO	**Matsushiro**	**14.43**	**231**	*e*Pn	**Pn**	**02 12 57.3**	**+6.5**
	comp=Z,21nm,0.9s						
MJAR	**Matsushiro Arr**	**14.43**	**231**	P	**Pn**	**02 12 48.4**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=26,slow=14,SNR=3.5						
MJAR				LR	LR	02 18 05.1	
	comp=Z,141nm,18.8s,baz=25,slow=36						
MJAR	**Matsushiro Arr**	**14.43**	**231**	P	**Pn**	**02 12 48.4**	**-2.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,141nm,18.8s						
MJAR	**Matsushiro Arr**	**14.43**	**231**	P	**Pn**	**02 12 48.4**	**-2.4**
MJAR				LR	LR	02 18 05.1	
MDJ	**Mudanjiang**	**15.93**	**271**	*e*P	**Pn**	**02 13 11.9**	**+1.7**
KSRS	**Korea Array**	**20.12**	**252**	P	**P**	**02 13 58.8**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=57,slow=10.0,SNR=7.5						
KSRS				LR	LR	02 20 43.1	
	comp=Z,42nm,19.4s,baz=350,slow=33						
YAK	**Yakutsk**	**20.19**	**328**	*i* P	**P**	**02 13 59.9**	**+0.5**
YAK				pmax	pmax		
	comp=Z,31nm,0.8s						
BILL	**Bilibino**	**22.77**	**14**	*e*P	**P**	**02 14 26.9**	**-0.1**
BILL				*e**PP		02 14 45.6	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
ULN	**Ulaanbaatar**	**30.38**	**289**	⇑*e*P	**P**	**02 15 35.7**	**-0.2**
SONM	**Songino Array**	**30.82**	**289**	P	**P**	**02 15 36.5**	**-3.2**
	comp=Z,0.8nm,0.8s,mb3.6,baz=87,slow=7.5,SNR=5.1						
SONM	**Songino Array**	**30.82**	**289**	P	**P**	**02 15 36.5**	**-3.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**36.72**	**38**	*i* P	**P**	**02 16 30.5**	**-0.5**
COLA	**College**	**36.72**	**38**	*e*P	**P**	**02 16 30.7**	**-0.3**
	comp=Z,2.4nm,0.6s,mb4.2						
INK	**Inuvik**	**42.20**	**32**	P	**P**	**02 17 16.3**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.7,baz=309,slow=6.0,SNR=7.0						
INK	**Inuvik**	**42.20**	**32**	*e*P	**P**	**02 17 16.0**	**-0.5**
	comp=Z,48nm,0.7s,mb5.2						
MKAR	**Makanchi Array**	**46.49**	**297**	P	**P**	**02 17 49.7**	**-1.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=67,slow=7.2,SNR=22						
MKAR				PcP	PcP	02 19 23.5	-0.9
	comp=Z,1.0nm,0.5s,baz=78,slow=1.7,SNR=9.1						
MKAR	**Makanchi Array**	**46.49**	**297**	*i* P	**P**	**02 17 50.0**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**46.49**	**297**	P	**P**	**02 17 49.7**	**-1.1**
MKAR				PcP	PcP	02 19 23.5	-0.9
KURK	**Kurchatov**	**46.97**	**303**	*i* P	**P**	**02 17 53.5**	**-1.0**
BVAR	**Borovoye Array**	**50.52**	**309**	P	**P**	**02 18 19.9**	**-1.9**
	comp=Z,1.3nm,0.5s,mb4.1,baz=55,slow=7.6,SNR=15						
BVAR				PcP	PcP	02 19 37.4	-1.5
	comp=Z,0.9nm,0.4s,baz=88,slow=2.9,SNR=6.4						
BVAR	**Borovoye Array**	**50.52**	**309**	P	**P**	**02 18 19.9**	**-1.9**
BVAR						02 19 37.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**50.56**	**309**	*e*P	**P**	**02 18 23.1**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**50.56**	**309**	*e*P	**P**	**02 18 23.1**	**+1.1**
	comp=Z,1.9nm,0.6s,mb4.2						
CHTO	**Chiang Mai**	**51.44**	**256**	*e*P	**P**	**02 18 30.1**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**51.44**	**256**	*e*P	**P**	**02 18 30.1**	**+1.4**
	comp=Z,3.9nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**51.50**	**36**	P	**P**	**02 18 28.8**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=299,slow=7.2,SNR=3.7						
AAK	**Ala-Archa**	**53.37**	**296**	*e*P	**P**	**02 18 44.0**	**+1.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**53.37**	**296**	*e*P	**P**	**02 18 44.0**	**+1.0**
	comp=Z,2.9nm,0.7s,mb4.3						
ARU	**Arti**	**54.76**	**317**	⇓*i*P	**P**	**02 18 52.4**	**-0.7**
ARU				*e*		02 19 52.6	
ARU				*e*		02 20 57.8	
ARU				*e*S	**S**	**02 26 28.7**	**-0.2**
ARU				*e*SS	SS	02 30 08.6	-4.1
ARU				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
EDM	**Edmonton**	**56.94**	**46**	*e*P	**P**	**02 19 08.3**	**-0.3**
ARCES	**ARCESS Array B**	**57.87**	**341**	P	**P**	**02 19 13.8**	**-1.4**
	comp=Z,1.5nm,0.8s,mb4.1,baz=27,slow=6.9,SNR=6.7						
ARCES	**ARCESS Array B**	**57.87**	**341**	P	**P**	**02 19 13.8**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**57.87**	**341**	P	**P**	**02 19 13.8**	**-1.4**
WVOR	**Wild Horse Val**	**60.43**	**58**	*e*P	**P**	**02 19 34.8**	**+1.9**
BOZ	**Bozeman (W)**	**62.40**	**52**	*e*P	**P**	**02 19 46.9**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**62.40**	**52**	*e*P	**P**	**02 19 46.9**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**63.99**	**334**	P	**P**	**02 19 55.3**	**-1.3**
	comp=Z,0.8nm,0.4s,mb4.1,baz=43,slow=6.4,SNR=16						
FINES	**FINESS Array B**	**63.99**	**334**	*i* P	**P**	**02 19 55.7**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DUG	**Dugway**	**65.24**	**57**	*e*P	**P**	**02 20 05.7**	**+0.9**
DUG				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
DUG	**Dugway**	**65.24**	**57**	*e*P	**P**	**02 20 05.7**	**+0.8**
	comp=Z,2.2nm,1.1s,mb4.1						
BW06	**Boulder Array**	**65.40**	**53**	*e*P	**P**	**02 20 05.8**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**65.40**	**53**	P	**P**	**02 20 06.2**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.9,baz=317,slow=1.4,SNR=7.2						
WRAB	**Tennant Creek**	**68.07**	**198**	*i* P	**P**	**02 20 19.1**	**-3.8**
WRA	**Warramunga Arr**	**68.08**	**198**	P	**P**	**02 20 22.6**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=19,slow=6.9,SNR=7.4						
WRA	**Warramunga Arr**	**68.08**	**198**	P	**P**	**02 20 22.6**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**68.25**	**341**	P	**P**	**02 20 23.2**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.3,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**02 20 23.6**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.5,baz=27,slow=6.4,SNR=7.7						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**02 20 23.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**02 20 41.5**	**-1.8**
	comp=Z,1.0nm,0.3s,mb4.2,baz=32,slow=5.7,SNR=5.7						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**02 20 41.5**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**02 20 41.5**	**-1.8**
ASAR	**Alice Springs**	**71.78**	**198**	P	**P**	**02 20 46.5**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.5,baz=12,slow=5.6,SNR=4.5						
BURAR	**Bucovina Array**	**75.44**	**326**	⇓*i*P	**P**	**02 21 07.3**	**+0.2**
MORC	**Moravsky Berou**	**76.35**	**332**	⇑*i*P	**P**	**02 21 12.6**	**+0.3**
MALT	**Malatya**	**76.85**	**312**	⇓*i*P	**P**	**02 21 17.1**	**+2.0**
BRTR	**Keskin Array B**	**78.13**	**316**	P	**P**	**02 21 22.4**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=82,slow=4.3,SNR=10.0						
BRTR	**Keskin Array B**	**78.13**	**316**	P	**P**	**02 21 22.4**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**78.16**	**60**	P	**P**	**02 21 22.8**	**+0.4**
	baz=294,slow=4.7						
KHC	**Kasperske Hory**	**78.18**	**334**	*e*P	**P**	**02 21 22.5**	**0.0**
GERES	**GERESS Array B**	**78.39**	**333**	P	**P**	**02 21 23.6**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=38,slow=6.8,SNR=7.7						
GERES	**GERESS Array B**	**78.39**	**333**	P	**P**	**02 21 23.6**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VTS	**Vitosha**	**80.40**	**324**	⇓*i*P	**P**	**02 21 35.4**	**+0.8**

TVO	Taravao	82.89	125	eT		02 21 01.3	
	comp=Z,6.8nm,0.3s						
CFAA	Coronel Fontan	145.66	79	PKPbc	PKPbc	02 29 00.6	-0.9
	comp=Z,0.1nm,0.4s,baz=27,slow=14,SNR=2.7						
CFAA	Coronel Fontan	145.66	79	PKPbc	PKPbc	02 29 00.6	-0.9
VNA2	Neumayer--Watz	153.61	195	ePKPdf	PKPdf	02 29 07.7	-6.0
VNA2				e		02 29 20.3	
VNA2				e		02 29 32.6	
VNA2				e		02 29 37.2	
VNA2				e		02 29 48.8	

IDC 01 02:25:30.4±5.5**, 1966S**×**17521W, h0**^{km}**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/14**, mbtmp4.0**/3**, Error ellipse: s-maj=198.6km s-min=89.1km az=146.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.52	244	P	P	02 33 10.3	-0.8
	2.0nm,0.8s,baz=85,slow=11,SNR=3.1						
ASAR	Alice Springs	47.27	256	P	P	02 34 06.1	+0.7
	2.4nm,0.8s,baz=90,slow=8.0,SNR=22						
WRA	Warramunga Arr	47.32	261	P	P	02 34 06.5	+0.6
	1.2nm,0.8s,baz=94,slow=8.0,SNR=27						
AKASG	Malin Array Be	143.49	334	PKP	PKPdf	02 45 06.3	-0.7
	0.3nm,0.3s,baz=39,slow=4.1,SNR=6.5						

*ISCJB **01** 02:26:35.8±1.0, 3526N±005×2330E±005, h14^{km}±7^{km}, mb4.0/8, MS3.6/1, Error ellipse: s-maj=9.4km s-min=5.6km az=61.6*
*ATH **01** 02:26:37.3, 3547N×2340E, h6^{km}±3^{km}, ML3.6*
*NEIC **01** 02:26:37.5, 3550N×2341E, h4^{km}, mb3.8/2, After ATH.*
*CSEM **01** 02:26:38.1±0.1, 3535N×2329E, h30^{km}, mb3.8/2, Error ellipse: s-maj=2.0km s-min=1.4km az=40.0*
*IDC **01** 02:26:40.2±2.4, 3542N×2336E, h45^{km}±28^{km}, mb3.6/4, mb1 3.7/7, mb1mx3.4/21, mbtmp3.5/7, ML3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/37, Error ellipse: s-maj=22.8km s-min=18.9km az=29.0*
ISC 01 02:26:37.0±1.1**, 3535N**±005×**2336E**±005**, h6**^{km}±7^{km}**, n53, σ1**^{s}**21**/55**, mb4.0**/8**, MS3.6**/1**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.69	85	ePB	Pg	02 26 50.5	+0.3
GVD	Gavdhos	0.78	130	ePG	Pg	02 26 53.0	+1.0
KYTH	Kithira	0.97	344	ePG	Pg	02 26 53.0	-2.5
IDI	Anoyia	1.25	92	P	Pn	02 27 00.6	-0.4
	24nm,0.3s,baz=284,slow=15,SNR=174						
IDI				S	Sg	02 27 17.3	+0.1
	99nm,0.3s,baz=103,slow=22,SNR=12						
VLI	Veliai	1.41	346	ePB	Pb	02 27 02.0	-1.7
NPS	Neapolis	1.84	92	ePG	Pg	02 27 11.5	-0.8
XRY	Khrisi	1.97	103	ePN	Pb	02 27 13.5	+0.3
XRY	Khrisi	1.97	103	ePg	Pg	02 27 15.5	+0.8
SANT	Santorini	1.99	58	ePn	Pn	02 27 11.1	0.0
SANT				eSg	Sg	02 27 38.1	-2.7
SANT	Santorini	1.99	58	ePn	Pn	02 27 11.1	0.0
SANT				eSg	Sg	02 27 38.1	-2.7
ITM	Ithomi	2.17	328	ePG	Pn	02 27 15.5	+2.0
NAIG	Nisos Aigina	2.41	2	ePN	Pn	02 27 17.0	+0.1
NAIG	Nisos Aigina	2.41	2	ePn	Pn	02 27 16.0	-0.9
APE	Apeiranthos	2.46	45	ePN	Pn	02 27 17.9	+0.4
APE	Apeiranthos	2.46	45	ePn	Pn	02 27 16.5	-1.0
KVR	Kavouri	2.50	7	ePN	Pn	02 27 19.5	+1.4
KVR	Kavouri	2.50	7	ePg	Pn	02 27 20.5	+2.4
MGER	Gerania Oros	2.63	358	ePN	Pn	02 27 21.0	+1.0
ATH	Athens Observa	2.63	6	ePN	Pn	02 27 20.3	+0.3
PTL	Penteli	2.73	8	ePN	Pn	02 27 22.0	+0.7
KARP	Karpathos	3.11	85	ePN	Pn	02 27 28.0	+1.5
LKR	Lokris	3.31	355	P	Pn	02 27 31.3	+2.0
ARG	Arkhangelos	3.97	76	ePN	Pn	02 27 40.0	+1.6
TIP	Timpagrande	6.51	308	ePn	Pn	02 28 14.2	+1.0
ANTO	Ankara	8.74	56	ePn	Pn	02 28 44.6	+0.7
	9.1nm,1.0s						
ANTO	Ankara	8.74	56	ePn	Pn	02 28 44.6	+0.8
	9.1nm,1.0s						
DIVS	Divcibare	9.12	344	ePn	Pn	02 28 50.8	+1.8
BRTR	Keskin Array B	9.26	59	P	Pn	02 28 52.1	+1.1
	0.2nm,0.3s,baz=232,slow=14,SNR=14						
MMAI	Mount Meron Ar	10.24	100	P	Pn	02 29 01.9	-2.6
	0.7nm,0.3s,baz=283,slow=12,SNR=4.4						
MLR	Muntele Rosu	10.32	10	P	Pn	02 29 03.0	-2.6
	0.1nm,0.3s,baz=10,slow=17,SNR=2.0						
EIL	Elat	11.30	117	ePn	Pn	02 29 20.1	+1.1
EIL	Elat	11.30	117	ePn	Pn	02 29 20.0	+1.1
MALT	Malatya	12.43	72	ePn	Pn	02 29 34.5	+0.1
MALT	Malatya	12.43	72	ePn	Pn	02 29 34.5	+0.1
GERES	GERESS Array B	15.26	335	P	Pn	02 30 12.8	-0.1
	0.0nm,0.3s,baz=139,slow=21,SNR=2.5						
STU	Stuttgart	17.01	326	eP	Pn	02 30 34.8	-0.6
	5.5nm,0.4s						
STU	Stuttgart	17.01	326	eP	Pn	02 30 34.8	-0.6
	5.5nm,0.4s						
CART	Cartagena	19.71	284	eP	Pn	02 31 08.0	-0.5
	35nm,1.0s						
CART	Cartagena	19.71	284	eP	Pn	02 31 08.0	-0.5
	35nm,1.0s						
MIB	Mutribah	20.93	99	eP	P	02 31 19.1	-1.1
MIB				AMb	AMB	02 31 19.9	
	comp=Z,11nm,0.6s						
NAY	Al-Naaiem	21.06	100	eP	P	02 31 20.7	-1.0
NAY				AMb	AMB	02 31 22.2	
	comp=Z,6.9nm,0.7s,mb4.1						
UMR	Umm Al-Rimmam	21.33	99	eP	P	02 31 23.8	-0.8
UMR				AMb	AMB	02 31 24.3	
	comp=Z,17nm,0.4s,mb4.7						
HFS	Hagfors	25.58	349	P	P	02 32 06.0	-0.8
	comp=Z,1.0nm,0.5s,mb3.6,baz=144,slow=12,SNR=4.8						
FINES	FINESS Array B	26.17	3	LR	LR	02 43 58.7	
	comp=Z,179nm,18.8s,MS3.6,baz=329,slow=40						
NAO01	NORSAR Array S	26.74	346	eP	P	02 32 16.3	-1.0
	comp=Z,12nm,1.0s,mb4.4						
NAO01	NORSAR Array S	26.74	346	eP	P	02 32 16.3	-1.0
TOA0	Torodi Ar. Sit	29.51	227	eP	P	02 32 42.0	0.0
TOA0	Torodi Ar. Sit	29.51	227	eP	P	02 32 42.0	0.0
TORD	Torodi Ar. Bea	29.51	227	P	P	02 32 40.8	-1.2
	comp=Z,0.6nm,0.5s,mb3.6,baz=33,slow=9.6,SNR=9.3						
ARCES	ARCESS Array B	34.26	1	P	P	02 33 19.0	-4.8
	comp=Z,3.3nm,1.2s,mb4.2,baz=152,slow=5.5,SNR=5.6						
KURK	Kurchatov	42.21	51	eP	P	02 34 30.9	+0.3
	comp=Z,1.3nm,0.9s,mb3.6						
KURK	Kurchatov	42.21	51	eP	P	02 34 30.9	+0.3
MKAR	Makanchi Array	44.90	56	P	P	02 34 49.6	-2.7
	comp=Z,0.8nm,0.5s,mb3.8,baz=270,slow=8.4,SNR=11						

*CSEM **01** 02:37:02.1, 3558N×2360E, h10^{km}, MD3.5/3, After ATH*
ATH 01 02:37:02.1, 3558N×**2360E, h10**^{km}**, MD3.5**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.84	327	ePB	Pb	02 37 17.0	-1.7
GVD	Gavdhos	0.84	151	ePG	Pg	02 37 18.0	-0.3
VLI	Veliai	1.26	335	ePB	Pb	02 37 27.0	+1.1

*IDC **01** 02:37:31.2±3.5, 1716S×17599W, h0^{km}, mb4.2/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.2/4, Error ellipse: s-maj=152.2km s-min=73.5km az=158.0*
NEIC 01 02:37:54.3±2.2**, 1725S**×**17546W, h250**^{km}**, mb3.9**/4**, 2D, Error ellipse: s-maj=94.2km s-min=36.0km az=150.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.33	259⇓	iP	P	02 44 35.0	+0.6
	3.1nm,0.8s						
CTAO	Charters Tower	36.33	259	eP	P	02 44 35.1	+0.7
	3.1nm,0.6s						
STKA	Stephens Creek	41.41	241	eP	P	02 45 17.0	+0.6
	2.0nm,0.9s						
STKA	Stephens Creek	41.41	241	P	P	02 45 16.9	+0.6
	1.4nm,0.5s,baz=63,slow=6.8,SNR=4.8						
STKA	Stephens Creek	41.41	241	eP	P	02 45 17.1	+0.7
WB2	Warramunga Arr	47.51	259	eP	P	02 46 03.5	-0.9
WRAB	Tennant Creek	47.51	259	eP	P	02 46 04.5	0.0
	0.8nm,0.5s						
WRA	Warramunga Arr	47.52	259	P	P	02 46 03.5	-1.0
	0.7nm,0.3s,baz=97,slow=7.9,SNR=39						
WRA				PcP	PcP	02 47 36.9	+6.6
	0.2nm,0.3s,baz=92,slow=3.2,SNR=4.5						
AS31	Alice Springs	47.67	253	eP	P	02 46 06.4	+0.7
ASAR	Alice Springs	47.67	253	P	P	02 46 06.5	+0.7
	6.4nm,0.5s,baz=90,slow=8.4,SNR=111						
ASAR				PcP	PcP	02 47 37.2	+6.3
	0.3nm,0.4s,baz=101,slow=3.8,SNR=4.7						
ASPA	Alice Springs	47.68	253	eP	P	02 46 06.4	+0.6
KAKA	Kakadu	50.41	268	eP	P	02 46 28.4	+2.0
	5.5nm,0.5s						
FITZ	Fitzroy Crossi	55.91	260⇓	iP	P	02 47 07.8	+1.4
	2.8nm,0.9s						
FITZ	Fitzroy Crossi	55.91	260	P	P	02 47 08.9	+2.5
	0.6nm,0.5s,baz=90,slow=7.1,SNR=5.9						
BRVK	Borovoye	118.16	321	ePKPdf	PKPdf	02 56 11.3	-0.2

*IDC **01** 02:54:37.0±1.0, 4707N×15589E, h0^{km}, mb3.8/11, mb1 4.0/11, mb1mx3.9/21, mbtmp3.8/11, MS2.7/1, Ms1 2.7/1, ms1mx2.4/32, Error ellipse: s-maj=27.1km s-min=19.7km az=122.0*
*NEIC **01** 02:54:38.5±0.6, 4706N×15584E, h10^{km}, mb4.3/1, Error ellipse: s-maj=15.0km s-min=13.1km az=135.0*
*ISCJB **01** 02:54:40.2±2.8, 4719N±008×1559E±01, h32^{km}±19^{km}, mb4.0/17, Error ellipse: s-maj=17.4km s-min=11.3km az=74.1*
*MOS **01** 02:54:40.3±0.5, 4709N×15587E, h36^{km}, mb4.4/9, Error ellipse: s-maj=18.6km s-min=11.3km az=103.1*
ISC 01 02:54:42.6±1.6**, 4722N**±009×**1559E**±01**, h38**^{km}±12^{km}**, n33, σ0**^{s}**73**/34**, mb4.0**/17**, 3C-1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.47	2	ePN	Pn	02 55 34.7	+0.6
SKR				eS	Sn	02 56 12.0	-1.9
SKR				smax			
	comp=N,1μm,0.5s						
SKR				smax			
	comp=E,800nm,0.5s						
YSS	Yuzh-Sakhalins	9.00	273c	iPN	Pn	02 56 50.5	+0.5
ASAJ	Asahikawa	9.84	256	LR	LR	03 00 28.3	
	comp=E,49nm,21.1s,baz=7.3,slow=36						
YAK	Yakutsk	21.02	324	eP	P	02 59 24.1	+1.2
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.5						
BILL	Bilibino	21.54	11	eP	P	02 59 28.5	0.0
BILL				e*PP		02 59 41.3	
BILL				e*SP	sP	02 59 49.1	+6.2
BILL				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.1						
KSRS	Korea Array	22.78	255	P	P	02 59 42.0	+0.3
	comp=Z,3.1nm,0.7s,mb3.8,baz=55,slow=9.6,SNR=8.5						
TIXI	Tiksi	27.59	342	i P	P	03 00 22.0	-4.2
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ULN	Ulaanbaatar	32.56	290	eP	P	03 01 10.1	-0.1
SONM	Songino Array	33.00	290	P	P	03 01 13.3	-0.7
	comp=Z,0.7nm,0.8s,mb3.6,baz=59,slow=8.4,SNR=4.3						
SONM	Songino Array	33.00	290	P	P	03 01 13.3	-0.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	College	34.56	39	eP	P	03 01 27.9	+0.3
INK	Inuvik	40.21	33	P	P	03 02 16.1	+0.7
	comp=Z,0.7nm,0.5s,mb3.6,baz=16,slow=9.4,SNR=7.8						
INK	Inuvik	40.21	33	P	P	03 02 16.1	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	43.91	306	P	P	03 02 45.4	-0.2
	comp=Z,1.3nm,0.3s,mb4.1,baz=32,slow=7.3,SNR=3.8						
ZAL	Zalesovo	43.91	306	P	P	03 02 45.4	-0.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	Makanchi Array	48.43	298	eP	P	03 03 21.3	+0.2
MKAR	Makanchi Array	48.43	298	P	P	03 03 21.6	+0.4
	comp=Z,1.2nm,0.7s,mb4.0,baz=71,slow=9.1,SNR=7.3						
MKAR	Makanchi Array	48.43	298	P	P	03 03 21.5	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	48.70	304d	iP	P	03 03 23.2	0.0
KURK	Kurchatov	48.70	304	eP	P	03 03 23.7	+0.5
	comp=Z,2.2nm,0.3s,mb4.7						
YKA	Yellowknife Ar	49.38	38	P	P	03 03 29.4	+1.0
	comp=Z,0.7nm,0.5s,mb4.0,baz=295,slow=7.1,SNR=7.3						
YKA	Yellowknife Ar	49.38	38	P	P	03 03 29.3	+0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	Ala-Archa	55.34	297⇑	iP	P	03 04 12.4	-0.2
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	Ala-Archa	55.34	297	eP	P	03 04 12.3	-0.4
	comp=Z,2.2nm,0.8s,mb4.2						
ARU	Arti	55.96	318⇑	iP	P	03 04 17.4	+0.4
ARU				e		03 05 12.6	
ARU				e		03 06 21.6	
ARU				eS	S	03 12 02.5	+0.1
ARU				eSS	SS	03 15 47.2	-1.4
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ARCES	ARCESS Array B	58.03	342	P	P	03 04 31.4	-0.3
	comp=Z,3.2nm,0.9s,mb4.3,baz=37,slow=7.4,SNR=7.6						
ARCES	ARCESS Array B	58.03	342	P	P	03 04 31.4	-0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	64.42	336	P	P	03 05 15.3	+0.4
	comp=Z,0.7nm,0.4s,mb4.0,baz=34,slow=5.6,SNR=5.3						
FINES	FINESS Array B	64.42	336	P	P	03 05 15.3	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	64.42	336	P	P	03 05 15.3	+0.4
WRA	Warramunga Arr	69.62	202	P	P	03 05 46.2	-1.8
	comp=Z,0.4nm,0.7s,mb3.5,baz=24,slow=6.8,SNR=4.2						
AKASG	Malin Array Be	72.21	328	P	P	03 06 03.2	-0.5
	comp=Z,0.3nm,0.4s,mb3.6,baz=28,slow=5.2,SNR=3.1						
ASAR	Alice Springs	73.30	201	P	P	03 06 09.7	-0.5
	comp=Z,0.3nm,0.5s,mb3.5,baz=16,slow=5.1,SNR=4.5						

*IDC **01** 03:08:24.5±1.6, 4761N×15430E, h0^{km}, mb3.8/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.8/8, MS2.8/1, Ms1 2.8/1, ms1mx1.8/37, Error ellipse: s-maj=52.8km s-min=23.7km az=167.0*
*NEIC **01** 03:08:24.2±2.1, 4731N×15409E, h10^{km}, mb4.1/1, Error ellipse: s-maj=61.8km s-min=19.0km az=184.0*
*MOS **01** 03:08:27.7±1.2, 4760N×15409E, h37^{km}, mb4.1/5, Error ellipse: s-maj=57.6km s-min=23.4km az=78.6*
*ISCJB **01** 03:08:29.3±3.2, 477N±02×1542E±02, h46^{km}±25^{km}, mb3.8/9, Error ellipse: s-maj=33.9km s-min=17.0km az=115.1*
ISC 01 03:08:31.4±3.0**, 477N**±02×**1542E**±02**, h50**^{km}±23^{km}**, n15, σ0**^{s}**88**/16**, mb3.8**/9**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.24	22	ePN	Pn	03 09 18.6	-1.2
SKR				eS	Sn	03 09 58.0	+0.9
SKR				smax			
	comp=N,190nm,0.7s						
SKR				smax			
	comp=E,80nm,0.5s						
KSRS	Korea Array	21.78	252	P	P	03 13 19.9	+1.0
	comp=E,0.8nm,0.6s,mb3.4,baz=62,slow=10,SNR=4.1						
KSRS				LR	LR	03 22 11.0	
	comp=E,25nm,21.7s,baz=0.0,slow=38						
INK	Inuvik	40.46	33	P	P	03 16 05.7	+0.7
	comp=E,2.0nm,0.7s,mb4.0,baz=289,slow=6.7,SNR=14						
INK	Inuvik	40.46	33	P	P	03 16 05.7	+0.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	49.73	37	P	P	03 17 18.6	+0.1
	comp=Z,0.6nm,0.7s,mb3.7,baz=295,slow=7.4,SNR=3.7						
YKA	Yellowknife Ar	49.73	37	P	P	03 17 18.6	+0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	Borovoye	50.86	309	eP	P	03 17 25.7	-1.4
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	Borovoye	50.86	309	eP	P	03 17 25.7	-1.4
	comp=Z,2.1nm,0.8s,mb4.1						
NVAR	Mina Array Bea	61.35	63	P	P	03 18 41.6	-0.4
	comp=Z,0.3nm,0.3s,mb3.9,baz=298,slow=7.7,SNR=2.7						
FINES	FINESS Array B	63.49	335	P	P	03 18 55.4	-0.9
	comp=Z,0.4nm,0.6s,mb3.7,baz=61,slow=6.3,SNR=3.2						
PDAR	Pinedale Array	63.60	55	P	P	03 18 57.7	+0.7
	comp=Z,0.5nm,0.8s,mb3.6,baz=292,slow=2.8,SNR=4.5						
TXAR	Lajitas Array	76.39	61	P	P	03 20 14.7	-0.7
	comp=Z,1.2nm,0.6s,mb4.0,baz=300,slow=5.0,SNR=20						
TXAR	Lajitas Array	76.39	61	P	P	03 20 14.7	-0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	78.19	317	P	P	03 20 26.6	+1.1
	comp=Z,1.0nm,0.9s,mb3.8,baz=227,slow=2.9,SNR=5.1						
BRTR	Keskin Array B	78.19	317	P	P	03 20 26.6	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*IDC **01** 03:55:10.0±17.0, 4504N×15423E, h0^{km}, mb4.0/6, mb1 4.0/6, mb1mx3.7/22, mbtmp4.0/6, Error ellipse: s-maj=395.0km s-min=71.9km az=153.0*
*MOS **01** 03:55:31.6±2.9, 4709N×15116E, h40^{km}, mb4.2/5, Error ellipse: s-maj=42.6km s-min=27.0km az=78.0*
ISC 01 03:55:12.6±16.0**, 45N**±2×**154E**±**, h10**^{km}**, n12, σ0**^{s}**21**/12**, mb4.0**/6**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.43	272	ePN	Pn	03 56 14.0	-5.8
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
MKAR	Makanchi Array	48.28	299	P	P	04 03 53.9	0.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=73,slow=9.5,SNR=3.9						
MKAR	Makanchi Array	48.28	299	P	P	04 03 53.9	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	59.50	341	P	P	04 05 15.9	+0.1
	comp=Z,3.6nm,1.0s,mb4.3,baz=22,slow=9.8,SNR=3.4						
ARCES	ARCESS Array B	59.50	341	P	P	04 05 15.9	0.0
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	FINESS Array B	65.70	335	P	P	04 05 57.1	-0.2
	comp=Z,0.5nm,0.5s,mb3.8,baz=20,slow=6.1,SNR=5.3						
NOA	NORSAR Array B	69.87	342	P	P	04 06 24.0	+0.4
	comp=Z,0.8nm,0.7s,mb3.7,baz=28,slow=6.5,SNR=2.8						
NOA	NORSAR Array B	69.87	342	P	P	04 06 24.0	+0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	Hagfors	70.11	340	P	P	04 06 24.8	-0.2
	comp=Z,3.8nm,1.1s,mb4.2,baz=81,slow=8.9,SNR=6.6						
HFS	Hagfors	70.11	340	P	P	04 06 24.8	-0.2
HFS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AKASG	Malin Array Be	73.19	327	P	P	04 06 43.5	-0.1
	comp=Z,0.8nm,0.4s,mb4.0,baz=32,slow=5.7,SNR=5.1						
AKASG	Malin Array Be	73.19	327	P	P	04 06 43.5	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*IDC **01** 03:56:03.6±2.2, 3716N×6937E, h0^{km}, mb3.7/3, mb1 3.9/7, mb1mx3.6/24, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=43.5km s-min=25.2km az=141.0*
*ISCJB **01** 03:56:10.9±1.8, 3776N±007×690E±02, h36^{km}±23^{km}, mb3.6/3, Error ellipse: s-maj=25.3km s-min=11.1km az=9.6*
ISC 01 03:56:13.1±1.4**, 3776N**±007×**690E**±02**, h44**^{km}±21^{km}**, n18, σ0**^{s}**87**/19**, mb3.6**/3**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	4.61	148	P	Pn	03 57 20.2	+0.1
CEP				S	Sn	03 58 23.0	+11
CHCP	Chirah Chowk	5.39	138	P	Pn	03 57 20.2	-11
THW	Thamme Wali	5.46	154	P	Pn	03 57 31.8	0.0
SBDP	Sheikh Budin	5.66	164	P	Pn	03 57 42.7	+8.2
AML	Almayashu	5.69	38	P	Pn	03 57 35.2	+0.2
	SNR=9.8						
UCH	Uchtor	6.17	42	P	Pn	03 57 41.8	+0.2
	SNR=11						
AAK	Ala-Archa	6.46	39	P	Pn	03 57 48.0	+2.5
	SNR=9.2						
KZA	Kyzart	6.48	46	P	Pn	03 57 45.3	-0.5
	SNR=12						
KBK	Karagaybulak	6.70	41	P	Pn	03 57 49.0	+0.1
	SNR=11						
CHMS	Chumysh	6.85	38	P	Pn	03 57 51.0	0.0
	SNR=8.0						
TKM2	Tokmak 2	7.23	42	P	Pn	03 57 55.4	-0.7
	SNR=9.3						
MKAR	Makanchi Array	13.36	43	Pn	Pn	03 59 15.9	-4.1
	0.1nm,0.3s,baz=233,slow=14,SNR=3.7						
AKTO	Aktyubinsk	14.88	332	Pn	Pn	03 59 40.6	0.0
	0.5nm,0.3s,baz=148,slow=15,SNR=9.2						
BVAR	Borovoye Array	15.30	3	Pn	Pn	03 59 45.2	-0.7
	0.2nm,0.3s,baz=163,slow=11,SNR=3.6						
ZAL	Zalesovo	19.51	29	P	Pn	04 00 36.7	-1.3
	1.1nm,0.3s,baz=256,slow=12,SNR=7.0						
ARCES	ARCESS Array B	39.36	338	P	P	04 03 39.5	+1.4
	1.8nm,1.0s,mb3.8,baz=101,slow=6.3,SNR=3.6						
TORD	Torodi Ar. Bea	64.13	267	P	P	04 06 41.9	-0.9
	0.3nm,0.9s,mb3.3,baz=46,slow=5.6,SNR=5.7						
YKA	Yellowknife Ar	80.05	2	P	P	04 08 18.6	+0.6
	0.5nm,0.5s,mb3.7,baz=350,slow=5.8,SNR=6.1						

*ISCJB **01** 03:56:32.5±0.7, 6292S±008×1461E±06, h10^{km}, mb4.7/7, MS5.4/3, Error ellipse: s-maj=40.9km s-min=8.9km az=159.2*
*IDC **01** 03:56:32.6±1.3, 6303S×14548E, h0^{km}, mb4.8/4, mb1 4.9/5, mb1mx4.6/11, mbtmp4.8/5, ML5.0/1, MS5.1/4, Ms1 5.0/4, ms1mx4.3/20, Error ellipse: s-maj=62.6km s-min=27.3km az=76.0*
*NEIC **01** 03:56:34.1±0.6, 6292S×14606E, h10^{km}, mb4.6/4, Error ellipse: s-maj=39.9km s-min=10.1km az=78.0*
ISC 01 03:56:33.9±0.7**, 6294S**±008×**1461E**±06**, h10**^{km}**, n25, σ1**^{s}**27**/19**, mb4.7**/7**, MS5.4**/3**, South of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	15.47	167	Pn	Pn	04 00 11.0	-1.1
	6.0nm,0.3s,baz=328,slow=13,SNR=163						
VNDA				Sn	Sn	04 02 55.8	-7.9
	2.5nm,0.3s,baz=80,slow=9.5,SNR=4.5						
VNDA				LR	LR	04 06 40.8	
	comp=Z,1μm,18.0s,baz=337,slow=39						
VNDA	Vanda	15.47	167	Pn	Pn	04 00 11.0	-1.1
VNDA				Sn	Sn	04 02 55.8	-7.9
VNDA				LR	LR	04 06 40.8	
SBA	Scott Base	16.31	165	eP	Pn	04 00 21.9	-1.1
	36nm,0.7s						
QSPA	South Pole Qui	27.14	180	eP	P	04 02 20.3	+3.1
	22nm,0.5s,mb4.9						
STKA	Stephens Creek	31.21	353	P	P	04 02 54.6	+1.2
	2.1nm,0.5s,mb4.2,baz=207,slow=9.3,SNR=4.3						
NWAO	Narrogin (SRO)	35.13	315	P	P	04 03 26.2	-1.3
	12nm,0.7s,mb5.0,baz=141,slow=6.1,SNR=9.8						
ASAR	Alice Springs	40.11	342	P	P	04 04 09.8	+0.1
	10.0nm,0.7s,mb4.7,baz=166,slow=9.1,SNR=90						
AS31	Alice Springs	40.11	342	eP	P	04 04 09.4	-0.3
CTAO	Charters Tower	42.82	0	eP	P	04 04 32.9	+1.0
	4.3nm,0.9s,mb4.2						
WB2	Warramunga Arr	43.72	344	eP	P	04 04 38.6	-0.6
WRA	Warramunga Arr	43.72	344	P	P	04 04 38.3	-1.0
	19nm,0.6s,mb5.0,baz=169,slow=7.0,SNR=301						
WRA				LR	LR	04 20 54.2	
	comp=Z,4μm,18.5s,MS5.3,baz=295,slow=33						
SNAA	Sanae	43.98	194	e	P	04 04 45.4	+4.1
SNAA				e		04 04 50.9	
SNAA				e		04 04 54.7	
SNAA	Sanae	43.98	194	eP	P	04 04 42.6	+1.3
	12nm,1.0s,mb4.6						
VNA3	Neumayer Olymp	45.05	191	e	P	04 04 51.8	+1.9
VNA3				e		04 04 58.2	
VNA3				e		04 05 00.5	
VNA3				e		04 05 05.1	
VNA2	Neumayer--Watz	45.15	192	e	P	04 04 52.4	+1.7
VNA2				e		04 04 59.0	
VNA2				e		04 05 01.2	
VNA2				e		04 05 05.9	
VNA1	Neumayer--Stat	45.50	192	e	P	04 04 51.4	-2.0
VNA1				e		04 04 57.8	
VNA1				e		04 04 59.7	
VNA1				e		04 05 05.4	
KULM	Kulim	76.24	313	eP	P	04 08 22.6	0.0
BOSA	Boshof	77.45	231	LR	LR	04 42 01.0	
	comp=Z,2μm,18.8s,MS5.4,baz=181,slow=35						
JNU	Nakatsue	96.51	347	LR	LR	04 52 02.9	
	comp=Z,1μm,19.2s,MS5.3,baz=258,slow=34						
BRVK	Borovoye	129.91	310	ePKPdf	PKPdf	04 15 40.3	-3.4
KIV	Kislovodsk	133.78	283	ePKPdf	PKPdf	04 15 49.2	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TIP	**Timpagrande**	**141.73**	**256**	ePKPdf	PKPdf	04 16 05.1	-0.6
YKA	**Yellowknife Ar**	**145.26**	**54**	PKPbc	PKPbc	04 16 10.3	-1.3
	0.9nm,0.6s,baz=238,slow=2.9,SNR=3.8						
ESDC	**Sonseca Array**	**150.63**	**232**	PKPbc	PKPbc	04 16 24.1	-2.0
	2.1nm,0.6s,baz=144,slow=1.7,SNR=5.7						
FINES	**FINESS Array B**	**152.87**	**294**	PKPbc	PKPbc	04 16 29.9	-1.3
	6.0nm,0.8s,baz=108,slow=4.5,SNR=2.7						

*BJI **01** 03:58:14.8, 2.79N×99.06E, h205km, mB5.9, mb5.8*

*ISCJB **01** 03:58:20.4±0.1, 3.46N±0.02×99.10E±0.02, h204km, mb6.0/328, Error ellipse: s-maj=2.9km s-min=2.0km az=49.9*

*NEIC **01** 03:58:21.6±0.1, 3.39N×99.08E, h204km, mb6.0/193, ME6.2, MW6.3, Error ellipse: s-maj=3.8km s-min=2.5km az=35.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{18}Nm; Mrr0.44; Mθθ-0.16; Mφφ-0.28; Mrθ-0.55; Mθφ-0.81; Mφr-3.14; Best double couple: M0 3.30000×10^{18} NP1:φs190.00000°,δ86.00000°,λ77.00000°. NP2: φs82.00000°,δ14.00000°,λ161.00000°. Principal axes: T 3.2500, Plg48.0000°, Azm87.0000°; N 0.1300, Plg13.0000°, Azm191.0000°; P -3.3800, Plg39.0000°, Azm292.0000°; Broadband fault plane solution: P waves. NP1:φs10.00000°,δ5.00000°,λ90.00000°. NP2: φs190.00000°,δ85.00000°,λ90.00000°. Principal axes: T Plg50.0000°, Azm100.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm280.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Meulaboh and Tapatuan; [III] at Banda Aceh and Medan. Also felt [III] at Gunungsitoli, Nias. Felt [III] at Kuala Lumpur, Petaling Jaya and Subang Jaya; [II] at George Town, Malaysia. Also felt in Singapore and at Ayer Itam, Ipoh, Port Dickson, Shah Alam, Taiping and Teluk Intan, Malaysia.

*IDC **01** 03:58:21.8±0.2, 3.41N×99.11E, h211km±1km, mb5.6/34, mb1 5.7/34, mb1mx5.7/34, mbtmp5.6/34 Error ellipse: s-maj=6.9km s-min=4.5km az=60.0*

*GCMT **01** 03:58:21.8±0.1, 3.46N×99.05E, h208km, MW6.3/103, Moment Tensor Solution. s103,c266; s100,c422; Duration: 3.5s Moment tensor: Scale 10^{18}Nm; Mrr0.50±.02; Mθθ-0.26±.02; Mφφ-0.24±.02; Mrθ-0.66±.01; Mθφ-0.64±.02; Mφr-3.68±.02; Best double couple: M0 3.81800×10^{18} NP1:φs78.00000°,δ10.00000°,λ157.00000°. NP2:φs191.00000°,δ86.00000°,λ81.00000°. Principal axes: T 3.8300, Plg48.0000°, Azm91.0000°; N -0.0260, Plg9.0000°, Azm191.0000°; P -3.8050, Plg41.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*SZGRF **01** 03:58:22.0, 3.16N×98.89E, h200km, mb6.6, Northern Sumatera, Indonesia*

*MOS **01** 03:58:23.5±0.9, 3.45N×99.11E, h242km, mb6.1/131, MS5.4/18, Error ellipse: s-maj=8.0km s-min=4.6km az=117.1*

ISC 01 03:58:22.1±0.1**, 3.43N**±0.02×**99.11E**±0.02**, h206**km**, h206**km±7km**: pP-P, n1669, σ0.95**/1319**, mb6.0**/326**, 196C-445D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.65**	**197**	P	**Pn**	**03 58 51.4**	**+0.9**
	10µm,0.3s,baz=344,slow=7.8						
PSI				S	**Sn**	**03 59 13.1**	**+0.5**
	baz=68,slow=23,SNR=10						
PSI				ScP	ScP	04 09 38.0	-0.2
	0.8nm,0.3s,baz=227,slow=7.9,SNR=6.8						
PSI	**Prapat**	**0.65**	**197**	P	**Pn**	**03 58 51.4**	**+0.9**
PSI				S	**Sn**	**03 59 13.1**	**+0.5**
PSI				ScP	ScP	04 09 38.0	-0.2
IPM	**Ipoh**	**2.17**	**61**	P	**Pn**	**03 59 03.3**	**+0.5**
KULM	**Kulim**	**2.40**	**40**	ePn	**Pn**	**03 59 05.4**	**+0.2**
KULM				eS	**Sn**	**03 59 40.2**	**+1.2**
PPI	**Padang Panjang**	**4.07**	**162**	P	**Pn**	**03 59 23.4**	**-1.5**
	26µm,0.8s						
BSI	**Banda Aceh**	**4.32**	**298**	P	**Pn**	**03 59 26.1**	**-2.0**
	13µm,1.1s						
KGM	**Kluang**	**4.43**	**108**	P	**Pn**	**03 59 29.5**	**+0.1**
KSI	**Kapahiang**	**7.85**	**154**	P	**Pn**	**04 00 10.1**	**-3.2**
	7µm,0.9s						
NNT	**Nongplab**	**9.12**	**4**	P	**Pn**	**04 00 23.2**	**-6.6**
PBA	**Port Blair**	**10.33**	**323**	ex	x	04 00 39.6	
PBA				AMb	AMB	04 00 46.7	
	comp=Z,2µm,2.1s						
PBA				ex	x	04 02 46.4	
KSM	**Kuching**	**11.35**	**100**	ePn	**Pn**	**04 01 00.3**	**+1.8**
KSM				eSn	**Sn**	**04 03 02.9**	**-2.4**
KSM				eScP	ScP	04 09 46.2	+0.1
NST	**Nakhon Sawan**	**12.21**	**5**	⇑P	**Pn**	**04 01 11.3**	**+2.0**
	comp=Z,883nm,0.8s						
CBJI	**Citeko**	**12.46**	**142**	P	**Pn**	**04 01 11.8**	**-0.8**
	comp=Z,2µm,1.0s						
CM31	**Chiang Mai Arr**	**14.94**	**359**	ePn	**Pn**	**04 01 45.2**	**+2.0**
BJII	**Banjamegara**	**15.04**	**135**	P	**Pn**	**04 01 43.3**	**-1.1**
	comp=Z,2µm,1.4s						
CHG	**Chiang Mai**	**15.29**	**359**	⇓P	**Pn**	**04 01 49.9**	**+2.4**
	comp=Z,150nm,0.8s						
CHTO	**Chiang Mai**	**15.29**	**359**	P	**Pn**	**04 01 49.4**	**+1.9**
	SNR=556						
CHTO	**Chiang Mai**	**15.29**	**359**	⇓iP	**Pn**	**04 01 48.3**	**+0.8**
CHTO				eS	**S**	**04 04 38.7**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,2µm,0.8s						
CHTO	**Chiang Mai**	**15.29**	**359**	⇓iP	**Pn**	**04 01 48.2**	**+0.8**
	comp=Z,2µm,0.8s						
CHTO				eS	**S**	**04 04 38.7**	**+1.7**
CHTO				eScP	ScP	04 09 52.3	-0.2
COCO	**West Island**	**15.68**	**188**	Pn	**Pn**	**04 01 56.3**	**+4.1**
	comp=Z,5µm,1.4s,SNR=10						
COCO	**West Island**	**15.68**	**188**	P	**Pn**	**04 01 56.3**	**+4.1**
	SNR=15						
COCO	**West Island**	**15.68**	**188**	ePn	**Pn**	**04 01 55.7**	**+3.5**
	comp=Z,653nm,0.6s						
COCO				eSn	**S**	**04 04 43.3**	**-2.5**
KKM	**Kota Kinabalu**	**17.24**	**81**	P	**P**	**04 02 10.6**	**+1.5**
KKM	**Kota Kinabalu**	**17.24**	**81**	⇑iP	**P**	**04 02 11.0**	**+1.9**
KKM				eS	**S**	**04 05 19.2**	**+1.4**
KKM				eScP	ScP	04 09 55.7	-0.6
KRKI	**Karangkates**	**17.59**	**131**	P	**P**	**04 02 15.4**	**+2.4**
	comp=Z,7µm,1.8s						
KMMI	**Kalianget**	**18.11**	**125**	P	**P**	**04 02 19.5**	**+0.8**
	comp=Z,12µm,1.0s						
TARAI	**Tarakan**	**18.43**	**90**	P	**P**	**04 02 23.8**	**+1.8**
	comp=Z,10µm,0.9s						
QIZ	**Qiongzhong**	**18.72**	**33**	⇑iP	**P**	**04 02 27.0**	**+1.8**
QIZ				XP	sP	04 03 22.0	-3.1
QIZ				S	**S**	**04 05 50.1**	**+2.8**
QIZ				PCP	PcP	04 06 41.7	-1.9
QIZ				AMB	AMB		
	comp=Z,2µm,1.1s						
QIZ				AMB	AMB		
	comp=Z,9µm,4.8s						
QIZ	**Qiongzhong**	**18.72**	**33**	⇑iP	**P**	**04 02 27.0**	**+1.8**
	comp=Z,1µm,0.9s						
QIZ				eScP	ScP	04 09 59.4	-0.1
PALK	**Pallekele**	**18.72**	**283**	P	**P**	**04 02 28.9**	**+3.7**
	comp=Z,26µm,0.9s						
PALK	**Pallekele**	**18.72**	**283**	⇓P	**P**	**04 02 28.5**	**+3.3**
	SNR=746						
PALK	**Pallekele**	**18.72**	**283**	⇓iP	**P**	**04 02 28.4**	**+3.2**
	comp=Z,5µm,1.0s						
PALK				eS	**S**	**04 05 49.1**	**+1.8**
PALK				eScP	ScP	04 10 00.7	+1.2
TSM	**Tawau**	**18.74**	**87**	P	**P**	**04 02 26.8**	**+1.4**
BATP	**Bataraza**	**19.33**	**73**	eP	**P**	**04 02 32.8**	**+1.1**
NBBI	**Negara**	**19.41**	**127**	P	**P**	**04 02 31.6**	**-1.0**
	comp=Z,7µm,1.1s						
PPR	**Puerto Princes**	**20.47**	**71**	⇑eP	**P**	**04 02 44.2**	**+0.2**
MDRS	**Chennai**	**20.96**	**298**	⇓iP	**P**	**04 02 50.4**	**+1.2**
MDRS				AMb	AMB	04 02 53.4	
	comp=Z,2µm,0.8s						
MDRS				eS	**S**	**04 06 32.9**	**+2.5**
VIS	**Vishakhapatnam**	**21.00**	**314**	eP	**P**	**04 02 48.4**	**-1.2**
VIS				AMb	AMB	04 03 31.9	
	comp=Z,2µm,2.0s,mb6.2						
VIS				ex	x	04 06 39.8	
PCI	**Palu**	**21.16**	**101**	P	**P**	**04 02 50.6**	**-0.6**
	comp=Z,4µm,1.0s,mb6.9						
ENPP	**El Nido**	**21.56**	**68**	eP	**P**	**04 02 56.0**	**+0.5**
CAL	**Calcutta**	**21.68**	**332**	⇓iP	**P**	**04 02 56.3**	**-0.4**
CAL				AMP		04 02 59.9	
	comp=Z,451nm,0.4s						
CAL				eS	**S**	**04 06 43.0**	**+0.8**
AGT	**Agartala**	**21.71**	**340**	iP	**P**	**04 02 58.0**	**+1.0**
AGT				ex	x	04 05 31.0	
IMP	**Imphal**	**21.81**	**347**	eP	**P**	**04 02 57.0**	**-0.9**
IMP				ex	x	04 05 31.0	
KMI	**Kunming**	**21.85**	**9**	⇑P	**P**	**04 03 00.0**	**+1.7**
KMI				AP		04 03 39.0	
KMI				PP		04 03 40.3	
KMI				XP	sP	04 04 02.5	+3.2
KMI				S	**S**	**04 06 46.4**	**+1.5**
KMI				AMB	AMB		
	comp=Z,355nm,1.0s,mb5.8						
KMI				LR	LR		
	comp=N,8µm,13.1s						
KMI				LR	LR		
	comp=E,21µm,13.5s						
KMI				LR	LR		
	comp=Z,9µm,17.2s						
KMI	**Kunming**	**21.85**	**9**	⇑P	**P**	**04 03 00.0**	**+1.7**
	comp=Z,355nm,1.0s,mb5.8						
KMI				pP		04 03 39.0	
KMI				PP		04 03 40.3	
KMI				sP	sP	04 04 02.5	+3.2
KMI				S	**S**	**04 06 46.4**	**+1.5**
KMI				PcP	PcP	04 06 54.0	+4.6
KMI				SS		04 07 45.2	
KMI				SSS		04 08 04.1	
KMI				LR	LR		
	comp=Z,9µm,17.2s						
KAPI	**Kappang**	**22.26**	**112**	P	**P**	**04 03 01.5**	**-0.5**
	comp=Z,20µm,0.7s						
BUSP	**Coron**	**22.55**	**67**	eP	**P**	**04 03 06.5**	**+1.9**
TRD	**Trivandrum**	**22.60**	**284**	eP	**P**	**04 03 06.5**	**+1.4**
TRD				AMb	AMB	04 03 11.3	
	comp=Z,3µm,1.1s,mb6.8						
TRD				ix	x	04 07 25.4	
CUYO	**Cuyo Island**	**22.94**	**70**	eP	**P**	**04 03 08.6**	**+0.4**
SHL	**Shillong**	**23.08**	**343**	eP	**P**	**04 03 08.5**	**-1.0**
SHL				ex	x	04 07 03.0	
LUBP	**Lubang**	**23.24**	**63**	eP	**P**	**04 03 12.6**	**+1.6**
GZH	**Guangzhou**	**23.91**	**34**	P	**P**	**04 03 19.3**	**+2.2**
GZH				PP		04 04 04.0	
GZH				S	**S**	**04 07 25.6**	**+7.6**
GZH				LR	LR		
	comp=N,7µm,10.2s						
GZH				LR	LR		
	comp=E,10µm,13.5s						
GZH				LR	LR		
	comp=Z,10µm,15.1s						
BOK	**Bokaro**	**23.94**	**329**	eP	**P**	**04 03 17.1**	**-0.2**
BOK				AMb	AMB	04 03 20.3	
	comp=Z,977nm,0.8s,mb6.5						
BOK				ex	x	04 07 16.6	
LKP	**Lekhapani**	**23.95**	**353**	eP	**P**	**04 03 16.0**	**-1.4**
TGY	**Tagaytay City**	**24.01**	**62**	P	**P**	**04 03 19.5**	**+1.5**
	comp=Z,2µm,0.8s,baz=228,slow=3.5,SNR=37						
TGY				ScP	ScP	04 10 13.0	+0.4
	comp=Z,95nm,0.3s,baz=205,slow=14,SNR=3.2						
TGY	**Tagaytay City**	**24.01**	**62**	P	**P**	**04 03 19.5**	**+1.5**
TGY				ScP	ScP	04 10 13.0	+0.3
GYA	**Guiyang**	**24.02**	**17**	⇑iP	**P**	**04 03 18.4**	**+0.4**
GYA				AP		04 04 00.1	
GYA				PP		04 04 06.8	
GYA				XP	sP	04 04 24.6	+2.1
GYA				S	**S**	**04 07 18.0**	**-1.7**
GYA				XS	sS	04 08 31.0	+0.3
GYA				AMB	AMB		
	comp=Z,260nm,0.9s,mb5.9						
GYA				AMB	AMB		
	comp=Z,2µm,6.3s						
GYA				LR	LR		
	comp=N,9µm,14.4s						
GYA				LR	LR		
	comp=E,16µm,15.2s						
GYA				LR	LR		
	comp=Z,8µm,15.7s						
OTRP	**Odiongan**	**24.34**	**67**	eP	**P**	**04 03 21.6**	**+0.6**
GUIM	**Jordan**	**24.36**	**72**	eP	**P**	**04 03 21.7**	**+0.6**
KALP	**Kalibo**	**24.42**	**69**	⇑eP	**P**	**04 03 25.2**	**+3.6**
HYB	**Hyderabad**	**24.49**	**306**	⇓iP	**P**	**04 03 22.0**	**-0.3**
	comp=Z,400nm,0.8s,mb6.1						
HYB	**Hyderabad**	**24.49**	**306**	⇓eP	**P**	**04 03 22.0**	**-0.3**
HYB				eS	**S**	**04 07 24.0**	**-3.3**
HYB				pmax	pmax		
	comp=Z,743nm,0.8s,mb6.4						
HYB	**Hyderabad**	**24.49**	**306**	⇓eP	**P**	**04 03 22.0**	**-0.3**
	comp=Z,743nm,0.8s,mb6.4						
HYB				e		04 04 02.0	
HYB				eS	**S**	**04 07 24.0**	**-3.3**
BOAC	**Boac**	**24.57**	**65**	eP	**P**	**04 03 22.5**	**-0.5**
SNPH	**Sibulan**	**24.67**	**75**	⇑eP	**P**	**04 03 25.2**	**+1.2**
BCPH	**Baguio City Da**	**24.72**	**57**	⇓eP	**P**	**04 03 24.1**	**-0.3**
RCP	**Roxas**	**24.76**	**70**	⇑eP	**P**	**04 03 25.9**	**+1.1**
PCPH	**Palayan**	**24.77**	**59**	⇑eP	**P**	**04 03 23.5**	**-1.3**
POLP	**Polilio Island**	**25.15**	**62**	eP	**P**	**04 03 28.8**	**+0.6**
BALP	**Baler**	**25.26**	**60**	eP	**P**	**04 03 30.2**	**+0.9**
CTBH	**Cotabato--PC H**	**25.30**	**80**	⇑eP	**P**	**04 03 29.9**	**+0.3**
TBP	**Tagbilaran**	**25.35**	**75**	eP	**P**	**04 03 31.0**	**+0.9**
LLP	**Lapu-Lapu**	**25.59**	**73**	⇑eP	**P**	**04 03 33.3**	**+1.1**
MNGI	**Mangalore**	**25.81**	**293**	iP	**P**	**04 03 35.7**	**+1.5**
MNGI				ex	x	04 03 38.0	
	comp=Z,1µm,1.1s						
MNGI				eS	**S**	**04 07 51.1**	**+3.1**
CGP	**Cagayan de Oro**	**25.92**	**78**	⇑iP	**P**	**04 03 35.1**	**-0.1**
CAUP	**Cauayan**	**26.03**	**57**	eP	**P**	**04 03 37.4**	**+1.2**
BUKP	**Musuan**	**26.19**	**79**	eP	**P**	**04 03 38.9**	**+1.3**
NGP	**Nagpur**	**26.29**	**314**	⇓iP	**P**	**04 03 37.0**	**-1.5**
NGP				ex	x	04 03 39.3	
	comp=Z,1µm,1.1s						
NGP				ix	x	04 09 16.4	
OCLP	**Ormoc**	**26.38**	**72**	eP	**P**	**04 03 40.9**	**+1.6**
CVP	**Callao Caves**	**26.40**	**56**	eP	**P**	**04 03 39.0**	**-0.5**
MSLP	**Maasin**	**26.40**	**74**	eP	**P**	**04 03 39.9**	**+0.3**
DAV	**Davao City (W)**	**26.60**	**81**	⇑iP	**P**	**04 03 42.0**	**+0.7**
DAV	**Davao City (W)**	**26.60**	**81**	⇑iP	**P**	**04 03 43.0**	**+1.7**
	comp=Z,553nm,0.7s,mb6.3						
PLP	**Palo**	**26.76**	**72**	eP	**P**	**04 03 42.9**	**+0.1**
CNP	**Catarman**	**26.84**	**69**	eP	**P**	**04 03 44.1**	**+0.7**
JBP	**Jabalpur**	**26.98**	**318**	⇓iP	**P**	**04 03 44.4**	**-0.3**
JBP				ex	x	04 03 50.0	
	comp=Z,2µm,1.5s						
JBP				iS	**S**	**04 08 06.8**	**+0.4**
JIRN	**Jiri**	**27.07**	**334**	eP	**P**	**04 03 45.9**	**+0.4**
	comp=Z,895nm,0.8s,mb6.5						
LSA	**Lhasa**	**27.20**	**345**	P	**P**	**04 03 48.2**	**+1.6**
LSA				PP	PP	04 04 41.6	-11
LSA				S	**S**	**04 08 06.5**	**-3.4**
LSA				AMB	AMB		
	comp=Z,1µm,1.0s,mb6.5						
LSA				AMB	AMB		
	comp=Z,4µm,12.0s						
LSA				LR	LR		
	comp=N,9µm,12.0s						
LSA				LR	LR		
	comp=E,17µm,11.0s						
LSA				LR	LR		
	comp=Z,13µm,14.0s						
LSA	**Lhasa**	**27.20**	**345**	⇓iP	**P**	**04 03 48.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,2µm,1.0s,mb6.6						
LSA	**Lhasa**	**27.20**	**345**	⇓iP	**P**	**04 03 48.1**	**+1.5**
	comp=Z,2µm,1.0s,mb6.6						
LSA				eScP	ScP	04 10 22.8	+0.9
PKI	**Pulchoki**	**27.34**	**333**	eP	**P**	**04 03 47.7**	**-0.2**
	comp=Z,290nm,0.7s,mb6.0						
ALBI	**Allahabad**	**27.39**	**324**	iP	**P**	**04 03 46.5**	**-1.8**
GUN	**Gumba**	**27.43**	**334**	eP	**P**	**04 03 49.2**	**+0.6**
	comp=Z,844nm,0.5s,mb6.6						
DMN	**Daman**	**27.52**	**332**	eP	**P**	**04 03 49.3**	**-0.1**
	comp=Z,595nm,0.9s,mb6.2						
AKL	**Akola**	**27.53**	**310**	⇑iP	**P**	**04 03 50.3**	**+0.8**
AKL				ex	x	04 03 52.2	
	comp=Z,1µm,0.9s						
AKL				ix	x	04 09 53.6	
KKN	**Kakani**	**27.59**	**333**	eP	**P**	**04 03 49.8**	**-0.3**
	comp=Z,741nm,0.9s,mb6.3						
GOA	**Goa**	**27.63**	**297**	ex	**P**	**04 03 45.3**	**-5.2**
GOA				AMb	AMB	04 03 46.6	
	comp=Z,601nm,0.9s,mb6.2						
CD2	**Chengdu**	**27.68**	**9**	⇑iP	**P**	**04 03 50.4**	**-0.5**
CD2				AP	pP	04 04 34.5	+2.1
CD2				PP	PP	04 04 49.9	-7.8
CD2				S	**S**	**04 08 13.8**	**-3.8**
CD2				XS	sS	04 09 32.6	+0.6
CD2				SCP	ScP	04 10 23.3	-0.1
CD2				PCS	PcS	04 10 43.0	-1.5
CD2				SCS	ScS	04 14 14.8	-0.9
CD2				AMB	AMB		
	comp=Z,170nm,0.7s,mb5.8						
CD2				AMB	AMB		
	comp=Z,150nm,4.7s						
CD2				LR	LR		
	comp=N,12µm,10.8s						
CD2				LR	LR		
	comp=E,20µm,13.8s						
CD2				LR	LR		
	comp=Z,19µm,11.0s						
GKN	**Gorkha**	**28.07**	**332**	eP	**P**	**04 03 54.2**	**-0.1**
	comp=Z,464nm,0.6s,mb6.3						
KAD	**Karad**	**28.08**	**301**	⇓iP	**P**	**04 03 54.5**	**+0.1**
KAD				AMb	AMB	04 03 57.4	
	comp=Z,1µm,1.0s,mb6.4						
KAD				ex	x	04 09 36.2	
KOLN	**Koldanda**	**28.38**	**330**	eP	**P**	**04 03 57.2**	**+0.1**
	comp=Z,1µm,0.7s,mb6.6						
QZH	**Quanzhou**	**28.45**	**39**	⇑iP	**P**	**04 03 58.0**	**+0.3**
QZH				AP	pP	04 04 40.1	+0.8
QZH				XP	sP	04 05 02.8	-0.4
QZH				S	**S**	**04 08 28.5**	**-1.1**
QZH				SCP	ScP	04 10 24.8	-0.9
QZH				AMB	AMB		
	comp=Z,610nm,0.9s,mb6.2						
QZH				AMB	AMB		
	comp=Z,8µm,4.4s						
QZH				LR	LR		
	comp=N,11µm,9.0s						
QZH				LR	LR		
	comp=E,14µm,11.0s						
QZH				LR	LR		
	comp=Z,25µm,11.9s						
DGAR	**Diego Garcia**	**28.70**	**248**	⇓P	**P**	**04 04 01.5**	**+1.6**
	SNR=5.4						
DGAR	**Diego Garcia**	**28.70**	**248**	eP	**P**	**04 04 00.9**	**+1.0**
DGAR				pmax	pmax		
	comp=Z,255nm,0.8s,mb5.9						
DGAR	**Diego Garcia**	**28.70**	**248**	eP	**P**	**04 04 00.9**	**+1.0**
	comp=Z,254nm,0.8s,mb5.9						
DGAR				eScP	ScP	04 10 26.4	-0.1
BHPL	**Bhopal**	**28.78**	**315**	eP	**P**	**04 04 00.9**	**+0.3**
BHPL				AMb	AMB	04 04 03.5	
	comp=Z,2µm,0.9s,mb6.7						
BHPL				eS	**S**	**04 08 33.9**	**-0.9**
DANN	**Dangsing**	**28.78**	**331**	eP	**P**	**04 04 00.7**	**+0.1**
POO	**Poona**	**28.92**	**303**	⇓iP	**P**	**04 03 59.0**	**-2.9**
	comp=Z,840nm,1.0s,mb6.3						
POO				ex	x	04 05 15.9	
POO				iS	**S**	**04 08 36.0**	**-1.0**
NACB	**Ninganchiao**	**29.93**	**44**	⇑iP	**P**	**04 04 11.8**	**+1.0**
	comp=Z,189nm,0.8s,mb5.8						
NACB				eScP	ScP	04 10 29.9	-0.6
YHNB	**Yeheng**	**30.10**	**43**	⇑iP	**P**	**04 04 12.9**	**+0.6**
	comp=Z,138nm,0.8s,mb5.6						
YHNB				eScP	ScP	04 10 30.9	-0.1
TATO	**Taipei**	**30.38**	**43**	eP	**P**	**04 04 15.9**	**+1.1**
	comp=Z,879nm,1.8s,mb6.1						
WHN	**Wuhan**	**30.57**	**26**	⇑P	**P**	**04 04 15.9**	**-0.5**
WHN				XP	sP	04 05 19.0	-3.1
WHN				S	**S**	**04 09 03.0**	**+0.2**
WHN				LR	LR		
	comp=Z,24µm,14.1s						
LGTI	**Lohaghat**	**31.47**	**327**	iP	**P**	**04 04 22.7**	**-1.6**
LGTI				ex	x	04 06 30.5	
PTH	**Pithoragarh**	**31.56**	**327**	eP	**P**	**04 04 25.3**	**+0.2**
PTH				ex	x	04 09 12.8	
XAN	**Xi'an**	**31.80**	**16**	P	**P**	**04 04 26.6**	**-0.6**
XAN				S	**S**	**04 09 18.4**	**-3.5**
XAN				AMB	AMB		
	comp=Z,181nm,1.1s,mb5.5						
XAN				LR	LR		
	comp=N,4µm,10.4s						
XAN				LR	LR		
	comp=E,8µm,12.3s						
XAN				LR	LR		
	comp=Z,11µm,11.9s						
BHV	**Bhavnagar**	**31.90**	**307**	eP	**P**	**04 04 29.0**	**+1.0**
NDI	**New Delhi**	**32.63**	**323**	eP	**P**	**04 04 33.7**	**-0.7**
NDI				AMb	AMB	04 04 35.8	
	comp=Z,1µm,0.8s,mb6.5						
AJM	**Ajmer**	**32.79**	**317**	eP	**P**	**04 04 35.9**	**+0.1**
AJM				AMb	AMB	04 04 38.1	
	comp=Z,837nm,0.6s,mb6.4						
LZH	**Lanzhou**	**32.79**	**7**	⇑P	**P**	**04 04 36.3**	**+0.5**
LZH				AP	pP	04 05 20.0	+2.0
LZH				XP	sP	04 05 44.1	+2.4
LZH				PP	PP	04 05 55.0	+0.7
LZH				PCP	PcP	04 07 15.8	0.0
LZH				S	**S**	**04 09 34.6**	**-2.7**
LZH				SCP	ScP	04 10 39.2	-0.9
LZH				PCS	PcS	04 11 00.8	-0.5
LZH				SCS	ScS	04 14 39.1	-1.4
LZH				AMB	AMB		
	comp=Z,273nm,1.2s,mb5.7						
LZH				AMB	AMB		
	comp=Z,910nm,5.0s						
LZH	**Lanzhou**	**32.79**	**7**	⇑P	**P**	**04 04 36.3**	**+0.5**
	comp=Z,273nm,1.2s,mb5.7						
LZH				pP	pP	04 05 20.0	+2.0
LZH				sP	sP	04 05 44.1	+2.4
LZH				PP	PP	04 05 55.0	+0.7
LZH				PcP	PcP	04 07 15.8	0.0
LZH				S	**S**	**04 09 34.6**	**-2.7**
LZH				ScP	ScP	04 10 39.2	-0.9
LZH				sS	sS	04 10 50.0	-2.3
LZH				PcS	PcS	04 11 00.8	-0.5
LZH				SS	SS	04 11 51.0	-10
LZH				ScS	ScS	04 14 39.1	-1.4
DDI	**Dehra Dun**	**33.35**	**326**	eP	**P**	**04 04 41.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**33.78**	**130**	eP	**P**	**04 04 43.0**	**-1.4**
	comp=Z,838nm,0.6s,mb6.5						
FITZ				epP	pP	04 05 27.6	+0.9
FITZ				ePCP	PcP	04 07 19.9	+1.3
FITZ				eS	**S**	**04 09 40.8**	**-12**
FITZ				eSCP	ScP	04 10 44.4	+0.8
	comp=Z,416nm,1.1s						
FITZ				eSCS	ScS	04 14 43.5	-2.2
SSE	**Sheshan**	**34.50**	**35**	⇑P	**P**	**04 04 51.3**	**+0.7**
SSE				AP	pP	04 05 34.4	+1.4
SSE				XP	sP	04 05 56.4	-0.2
SSE				PP	PP	04 06 15.4	+2.2
SSE				PCP	PcP	04 07 22.2	+1.5
SSE				S	**S**	**04 10 04.9**	**+1.3**
SSE				XS	sS	04 11 19.5	+0.5
SSE				AMB	AMB		
	comp=Z,127nm,1.1s,mb5.4						
SSE				AMB	AMB		
	comp=Z,2µm,7.0s						
SSE				LR	LR		
	comp=N,9µm,16.7s						
SSE				LR	LR		
	comp=E,3µm,16.6s						
SSE				LR	LR		
	comp=Z,6µm,16.4s						
SSE	**Sheshan**	**34.50**	**35**	⇑P	**P**	**04 04 51.3**	**+0.7**
	comp=Z,127nm,1.1s,mb5.4						
SSE				pP	pP	04 05 34.4	+1.4
SSE				sP	sP	04 05 56.4	-0.2
SSE				PP	PP	04 06 15.4	+2.2
SSE				PcP	PcP	04 07 22.2	+1.5
SSE				S	**S**	**04 10 04.9**	**+1.3**
SSE				sS	sS	04 11 19.5	+0.5
SSE				SS	SS	04 12 41.1	+0.5
SSE				ScS	ScS	04 14 53.3	+3.8
SSE				LR	LR		
	comp=Z,6µm,16.4s						
BHJ	**Bhuj**	**34.64**	**307**	⇑eP	**P**	**04 04 49.2**	**-2.5**
BHJ				eS	**S**	**04 10 06.8**	**+1.1**
BHJ				ex	x	04 20 52.9	
SDNR	**Sundarnagar**	**34.85**	**326**	eP	**P**	**04 04 53.5**	**0.0**
SDNR				eS	**S**	**04 10 09.5**	**+0.6**
GTA	**Gaotai**	**35.82**	**1**	⇓iP	**P**	**04 05 02.5**	**+0.7**
GTA				AP	pP	04 05 45.8	+1.3
GTA				XP	sP	04 06 09.1	+1.0
GTA				PP	PP	04 06 31.8	+4.1
GTA				S	**S**	**04 10 23.3**	**-0.5**

GTA				SCP	ScP	04 10 50.5	-0.4
GTA				XS	sS	04 11 39.0	-0.4
GTA				SS	SS	04 13 00.4	-8.7
GTA				SCS	ScS	04 14 53.8	-2.9
GTA				AMB	AMB		
	comp=Z,385nm,0.9s,mb5.9						
GTA				AMB	AMB		
	comp=Z,1µm,8.0s						
GTA				LR	LR		
	comp=N,3µm,13.3s						
GTA				LR	LR		
	comp=E,6µm,14.5s						
GTA				LR	LR		
	comp=Z,4µm,23.6s						
KAKA	**Kakadu**	**36.78**	**116**	eP	**P**	**04 05 07.6**	**-2.3**
	comp=Z,194nm,0.4s,mb6.0						
KAKA				eSCP	ScP	04 10 55.5	+1.0
BTO	**Baotou**	**38.30**	**13**	eP	**P**	**04 05 22.8**	**+0.2**
BTO				S	**S**	**04 10 59.9**	**-1.3**
BTO				LR	LR		
	comp=N,3µm,5.9s						
BTO				LR	LR		
	comp=E,3µm,13.5s						
NIL	**Nilore**	**38.55**	**324**	P	**P**	**04 05 24.9**	**+0.2**
	comp=E,928nm,0.6s,mb6.5,SNR=23						
MUN	**Mundaring**	**38.78**	**156**	eP	**P**	**04 05 25.6**	**-1.0**
MUN				epP	pP	04 06 11.4	+1.5
MUN				ePCP	PcP	04 07 34.6	+1.0
MUN				eSCP	ScP	04 11 01.4	-0.7
MUN				esS	sS	04 12 23.6	-1.2
MUN				eSS	SS	04 14 09.5	+1.2
MUN	**Mundaring**	**38.78**	**156**	eP	**P**	**04 05 25.6**	**-1.0**
MUN				e*PP	pP	04 06 11.4	+1.5
MUN				e		04 07 34.6	
MUN				e		04 11 01.4	
HHC	**Hu-ho-hao-te**	**38.91**	**15**	eP	**P**	**04 05 29.1**	**+1.4**
HHC				AP	pP	04 06 12.9	+2.0
HHC				XP	sP	04 06 36.1	+1.7
HHC				PP	PP	04 07 07.7	+6.3
HHC				S	**S**	**04 11 12.6**	**+2.3**
HHC				XS	sS	04 12 28.2	+1.5
HHC				SS	SS	04 14 07.6	-3.2
HHC				AMB	AMB		
	comp=Z,182nm,1.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,1µm,5.3s						
HHC				LR	LR		
	comp=N,4µm,11.9s						
HHC				LR	LR		
	comp=E,11µm,14.3s						
HHC				LR	LR		
	comp=Z,4µm,13.1s						
KLBR	**Kellerberrin**	**39.09**	**154**	eP	**P**	**04 05 28.3**	**-0.9**
	comp=Z,223nm,0.7s,mb5.8						
KLBR				epP	pP	04 06 12.4	0.0
KLBR				ePCP	PcP	04 07 35.0	+0.4
KLBR				eSCP	ScP	04 11 01.8	-1.4
BJI	**Beijing**	**39.58**	**21**	P	**P**	**04 05 34.5**	**+1.2**
BJI				AMB	AMB		
	comp=Z,85nm,0.9s,mb5.2						
BJI				LR	LR		
	comp=E,9µm,17.3s						
NWAO	**Narrogin (SRO)**	**40.02**	**156**	P	**P**	**04 05 36.2**	**-0.7**
	comp=E,177nm,0.6s,mb5.7,baz=317,slow=7.6,SNR=95						
NWAO				pP	pP	04 06 21.4	+1.1
	comp=E,126nm,0.8s,baz=318,slow=10,SNR=4.3						
NWAO				ScP	ScP	04 11 06.5	-0.4
	comp=E,20nm,0.6s,baz=350,slow=4.3,SNR=6.2						
NWAO				S	**S**	**04 11 22.6**	**-4.4**
	comp=E,9.4nm,0.6s,baz=41,slow=19,SNR=2.8						
NWAO	**Narrogin (SRO)**	**40.02**	**156**	P	**P**	**04 05 36.2**	**-0.7**
NWAO				*PP	pP	04 06 21.5	+1.1
NWAO				S	**S**	**04 11 22.6**	**-4.3**
NWAO				pmax	pmax		
	comp=Z,177nm,0.6s						
NWAO				smax			
	comp=N,9.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**40.02**	**156**	eP	**P**	**04 05 36.0**	**-0.9**
NWAO				epP	pP	04 06 20.8	+0.4
NWAO				eScP	ScP	04 11 03.7	-3.2
DL2	**Dalian**	**40.83**	**27**	⇑iP	**P**	**04 05 43.9**	**+0.4**
DL2				AP	pP	04 06 27.6	+0.5
DL2				XP	sP	04 06 50.9	+0.5
DL2				PP	PP	04 07 27.2	+5.1
DL2				PCP	PcP	04 07 41.8	+1.6
DL2				SCP	ScP	04 11 09.0	-1.1
DL2				S	**S**	**04 11 37.5**	**-1.4**
DL2				SS	SS	04 14 47.8	-1.0
DL2				SCS	ScS	04 15 24.4	-1.3
DL2				AMB	AMB		
	comp=Z,260nm,0.9s,mb5.7						
DL2				AMB	AMB		
	comp=Z,1µm,6.2s						
WMQ	**Urumqi**	**41.48**	**348**	⇓iP	**P**	**04 05 49.4**	**+0.6**
WMQ				AP	pP	04 06 33.8	+1.3
WMQ				XP	sP	04 06 58.3	+2.5
WMQ				PP	PP	04 07 31.9	+2.9
WMQ				SCP	ScP	04 11 13.0	+0.4
WMQ				PCS	PcS	04 11 34.3	+0.3
WMQ				S	**S**	**04 11 46.8**	**-1.6**
WMQ				XS	sS	04 13 05.1	-0.4
WMQ				SCS	ScS	04 15 28.6	-1.0
WMQ				AMB	AMB		
	comp=Z,1µm,1.0s,mb6.3						
WMQ				LR	LR		
	comp=N,2µm,24.0s						
WMQ				LR	LR		
	comp=E,2µm,26.0s						
WMQ				LR	LR		
	comp=Z,3µm,24.0s						
KSH	**Kashi**	**41.61**	**333**	i P	**P**	**04 05 50.5**	**+0.7**
KSH				AP	pP	04 06 33.4	-0.2
KSH				XP	sP	04 06 57.5	+0.6
KSH				PP	PP	04 07 32.1	+1.6
KSH				PCP	PcP	04 07 44.4	+1.6
KSH				SCP	ScP	04 11 13.3	+0.1
KSH				PCS	PcS	04 11 34.4	-0.1
KSH				S	**S**	**04 11 49.4**	**-0.9**
KSH				XS	sS	04 13 06.5	-0.9
KSH				SCS	ScS	04 15 28.1	-2.3
KSH				LR	LR		
	comp=N,9µm,9.8s						
KSH				LR	LR		
	comp=E,15µm,11.1s						
KSH				LR	LR		
	comp=Z,8µm,12.7s						
WRA	**Warramunga Arr**	**41.67**	**125**	P	**P**	**04 05 49.4**	**-0.9**
	comp=Z,672nm,0.6s,mb6.3,baz=301,slow=9.2,SNR=866						
WRA				pP	pP	04 06 34.7	+0.6
	comp=Z,585nm,0.8s,baz=302,slow=9.2,SNR=8.2						
WRA				PcP	PcP	04 07 43.1	+0.2
	comp=Z,88nm,0.5s,baz=314,slow=2.7,SNR=13						
WRA				ScP	ScP	04 11 13.5	+0.1
	comp=Z,134nm,0.9s,baz=312,slow=3.5,SNR=182						
WRA				S	**S**	**04 11 47.4**	**-3.8**
	comp=Z,66nm,1.1s,baz=292,slow=16,SNR=10						
WRA				PKPPKP		04 37 16.2	
	comp=Z,1.2nm,0.8s,baz=61,slow=3.3,SNR=7.2						
WRA				P4KPbc		04 43 52.2	
	comp=Z,0.5nm,0.6s,baz=314,slow=3.4,SNR=14						
WRA	**Warramunga Arr**	**41.67**	**125**	P	**P**	**04 05 49.4**	**-0.9**
WRA						04 07 43.1	
WRA				S	**S**	**04 11 47.4**	**-3.8**
WRA				pmax	pmax		
	comp=Z,672nm,0.6s						
WRA				smax			
	comp=N,66nm,1.1s						
WRA	**Warramunga Arr**	**41.67**	**125**	P	**P**	**04 05 49.4**	**-0.9**
WRA				pP	pP	04 06 34.7	+0.6
WRA				PcP	PcP	04 07 43.1	+0.1
WRA				ScP	ScP	04 11 13.5	+0.1
WRA				S	**S**	**04 11 47.4**	**-3.8**
WRA				P'P'		04 37 16.2	
WRAB	**Tennant Creek**	**41.67**	**125**	P	**P**	**04 05 49.0**	**-1.4**
	comp=N,9µm,0.6s						
WRAB	**Tennant Creek**	**41.67**	**125c**	iP	**P**	**04 05 49.6**	**-0.8**
WB2	**Warramunga Arr**	**41.68**	**125**	eP	**P**	**04 05 49.4**	**-1.0**
WB2				epP	pP	04 06 35.8	+1.6
WB2				ePCP	PcP	04 07 43.8	+0.8
WB2				eS	**S**	**04 11 43.9**	**-7.5**
WB2				esS	sS	04 13 00.0	-8.5
WB2				eSS	SS	04 15 10.0	+4.6
WB2				eSCS	ScS	04 15 26.3	-4.6
KS15	**Wonju Array Si**	**42.91**	**34**	eP	**P**	**04 06 00.3**	**0.0**
KSRS	**Korea Array**	**42.94**	**34**	P	**P**	**04 06 00.2**	**-0.4**
	comp=N,188nm,0.8s,mb5.5,baz=220,slow=8.1,SNR=182						
KSRS				pP	pP	04 06 45.4	+0.8
	comp=N,382nm,1.0s,baz=221,slow=8.9,SNR=8.5						
KSRS				ScP	ScP	04 11 17.9	-0.7
	comp=N,24nm,0.9s,baz=215,slow=3.8,SNR=7.8						
KSRS				S	**S**	**04 12 07.2**	**-2.7**
	comp=N,17nm,1.1s,baz=230,slow=16,SNR=6.1						
ASPA	**Alice Springs**	**43.28**	**130**	eP	**P**	**04 06 02.7**	**-0.6**
ASPA				eSCS	ScS	04 15 38.1	-2.7
AS31	**Alice Springs**	**43.29**	**130**	eP	**P**	**04 06 02.7**	**-0.6**
AS31				eScS	ScS	04 15 38.1	-2.7
ASAR	**Alice Springs**	**43.29**	**130**	P	**P**	**04 06 02.8**	**-0.6**
	comp=N,407nm,0.6s,mb6.0,baz=300,slow=8.1,SNR=660						
ASAR				pP	pP	04 06 48.3	+0.9
	comp=N,379nm,0.9s,baz=303,slow=7.5,SNR=6.6						
ASAR				PcP	PcP	04 07 49.3	+0.9
	comp=N,53nm,0.7s,baz=317,slow=4.3,SNR=4.8						
ASAR				ScP	ScP	04 11 19.9	0.0
	comp=N,123nm,0.8s,baz=306,slow=3.8,SNR=24						
ASAR				S	**S**	**04 12 11.7**	**-3.2**
	comp=N,76nm,1.1s,baz=298,slow=12,SNR=17						
ASAR				PKiKP	PKiKP	04 14 50.5	-0.2
	comp=N,5.3nm,0.9s,baz=1.0,slow=1.2,SNR=4.2						
ASAR				PKPPKP		04 37 19.8	
	comp=N,1.2nm,0.8s,baz=170,slow=2.2,SNR=4.1						
ASAR				P4KPbc		04 43 56.2	
	comp=N,0.5nm,0.4s,baz=303,slow=4.6,SNR=10						
ASAR	**Alice Springs**	**43.29**	**130**	P	**P**	**04 06 02.8**	**-0.5**
ASAR						04 07 49.3	
ASAR				S	**S**	**04 12 11.7**	**-3.1**
ASAR				pmax	pmax		
	comp=Z,407nm,0.6s						
ASAR				smax			
	comp=N,77nm,1.1s						
ASAR	**Alice Springs**	**43.29**	**130**	P	**P**	**04 06 02.8**	**-0.6**
ASAR				pP	pP	04 06 48.3	+0.9
ASAR				PcP	PcP	04 07 49.3	+0.9
ASAR				ScP	ScP	04 11 19.9	0.0
ASAR				S	**S**	**04 12 11.7**	**-3.2**
WBK	**Wadi Bani Khal**	**43.29**	**300**	⇑P	**P**	**04 06 04.9**	**+1.5**
	SNR=292						
ULHL	**Ulahol**	**43.72**	**335**	P	**P**	**04 06 07.6**	**+0.8**
	SNR=22						
ULHL	**Ulahol**	**43.72**	**335**	P	ScP	04 11 22.7	+1.0
	SNR=15						
FORT	**Forrest**	**43.82**	**143**	eP	**P**	**04 06 06.7**	**-0.9**
	comp=N,410nm,0.6s,mb5.9						
FORT				epP	pP	04 06 52.3	+0.6
FORT				eSCP	ScP	04 11 22.7	+0.6
FORT				eS	**S**	**04 12 18.6**	**-3.9**
JMDO	**Jabal Madar**	**43.97**	**299**	⇑P	**P**	**04 06 09.8**	**+1.1**
	SNR=215						
KZA	**Kyzart**	**44.00**	**334**	P	**P**	**04 06 10.0**	**+0.9**
	SNR=512						
KZA	**Kyzart**	**44.00**	**334**	P	ScP	04 11 24.1	+1.3
	SNR=7.6						
SNY	**Shenyang**	**44.06**	**26**	⇑P	**P**	**04 06 09.0**	**-0.6**
SNY				AP	pP	04 06 55.3	+1.5
SNY				XP	sP	04 07 16.0	-0.9
SNY				PP	PP	04 07 51.4	-5.2
SNY				S	**S**	**04 12 24.2**	**-1.9**
SNY				SS	SS	04 15 43.9	-6.1
SNY				AMB	AMB		
	comp=Z,187nm,1.6s,mb5.2						
SNY				AMB	AMB		
	comp=Z,2µm,8.2s						
SNY				LR	LR		
	comp=N,4µm,15.1s						
SNY				LR	LR		
	comp=E,2µm,11.8s						
SNY				LR	LR		
	comp=Z,6µm,15.1s						
SMDO	**Samad**	**44.24**	**300**	P	**P**	**04 06 12.3**	**+1.3**
	SNR=51						
AAA	**Alma-Ata**	**44.29**	**337**	i P	**P**	**04 06 12.2**	**+0.9**
AAA				i S	**S**	**04 12 27.6**	**-1.8**
AAA				pmax	pmax		
	comp=Z,12µm,3.5s						
AAA				smax			
	comp=E,13µm,6.9s						
MSEY	**Mahe Island**	**44.33**	**260**	P	**P**	**04 06 14.6**	**+2.9**
	comp=E,3µm,1.2s,mb6.5,SNR=66						
MSEY	**Mahe Island**	**44.33**	**260**	P	**P**	**04 06 14.0**	**+2.3**
	SNR=138						
MSEY	**Mahe Island**	**44.33**	**260**	⇓iP	**P**	**04 06 13.7**	**+2.1**
	comp=E,1µm,1.1s,mb6.1						
MSEY				epP	pP	04 06 59.0	+3.1
MSEY				eScP	ScP	04 11 24.1	-0.1
BIDO	**Bidbid**	**44.34**	**301**	P	**P**	**04 06 13.0**	**+1.3**
	SNR=342						
UCH	**Uchtor**	**44.45**	**334**	P	**P**	**04 06 13.7**	**+1.1**
	SNR=1238						
UCH	**Uchtor**	**44.45**	**334**	P	ScP	04 11 25.9	+1.3
	SNR=10						
TKM2	**Tokmak 2**	**44.55**	**335**	P	**P**	**04 06 14.1**	**+0.8**
	SNR=1021						
TKM2	**Tokmak 2**	**44.55**	**335**	P	ScP	04 11 24.5	-0.6
	SNR=5.7						
TKM2	**Tokmak 2**	**44.55**	**335**	i P	**P**	**04 06 14.1**	**+0.7**
KBK	**Karagaybulak**	**44.60**	**335**	P	**P**	**04 06 14.9**	**+1.1**
	SNR=1653						
KBK	**Karagaybulak**	**44.60**	**335**	P	ScP	04 11 25.8	+0.5
	SNR=6.5						
SONM	**Songino Array**	**44.68**	**7**	P	**P**	**04 06 15.1**	**+0.7**
	comp=E,168nm,0.7s,mb5.5,baz=189,slow=8.5,SNR=222						
SONM				pP	pP	04 07 00.6	+1.9
	comp=E,142nm,1.1s,baz=188,slow=8.0,SNR=2.2						
SONM				PcP	PcP	04 07 53.3	+0.1
	comp=E,89nm,0.8s,baz=195,slow=3.7,SNR=11						
SONM				ScP	ScP	04 11 25.0	-0.6
	comp=E,164nm,0.9s,baz=195,slow=3.2,SNR=23						
SONM				S	**S**	**04 12 34.0**	**-0.9**
	comp=E,11nm,0.9s,baz=180,slow=1.5,SNR=2.0						
SONM				PKPPKP		04 37 21.2	
	comp=E,0.2nm,0.3s,baz=197,slow=4.4,SNR=2.5						
SONM	**Songino Array**	**44.68**	**7**	P	**P**	**04 06 15.1**	**+0.7**
SONM						04 07 53.3	
SONM				S	**S**	**04 12 34.0**	**-1.0**
SONM				pmax	pmax		
	comp=Z,168nm,0.7s						
SONM				smax			
	comp=N,11nm,0.9s						
AML	**Almayashu**	**44.73**	**333**	P	**P**	**04 06 16.0**	**+1.1**
	SNR=148						
AML	**Almayashu**	**44.73**	**333**	P	ScP	04 11 27.0	+1.1
	SNR=11						
AAK	**Ala-Archa**	**44.78**	**334**	P	**P**	**04 06 15.1**	**-0.1**
	comp=N,5µm,0.9s,mb6.9						
AAK	**Ala-Archa**	**44.78**	**334**	⇓P	**P**	**04 06 15.2**	**0.0**
	SNR=57						
AAK	**Ala-Archa**	**44.78**	**334**	⇓iP	**P**	**04 06 15.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,965nm,1.0s,mb6.1						
AAK	**Ala-Archa**	**44.78**	**334**	⇓iP	**P**	**04 06 14.9**	**-0.3**
	comp=Z,965nm,1.0s,mb6.1						
AAK				eScP	ScP	04 11 24.6	-1.5
ULN	**Ulaanbaatar**	**44.79**	**8**	P	**P**	**04 06 16.2**	**+0.9**
	SNR=45						
ULN	**Ulaanbaatar**	**44.79**	**8**	eP	**P**	**04 06 15.8**	**+0.5**
ULN				e		04 07 54.5	
ULN				pmax	pmax		
	comp=Z,99nm,0.6s,mb5.3						
ULN	**Ulaanbaatar**	**44.79**	**8**	eP	**P**	**04 06 15.8**	**+0.5**
	comp=Z,99nm,0.6s,mb5.3						
ULN				epP	pP	04 06 60.0	+0.3
ULN				ePcP	PcP	04 07 54.5	+1.0
ULN				eScP	ScP	04 11 24.7	-1.4
BSY	**Bisya**	**44.88**	**299**	P	**P**	**04 06 17.3**	**+1.3**
	SNR=410						
FRU	**Bishkek**	**44.89**	**334κ**	iP	**P**	**04 06 16.3**	**+0.2**
FRU				i *PP	pP	04 07 03.0	+2.6
FRU				i S	**S**	**04 12 37.0**	**-1.0**
FRU				i		04 15 51.0	
FRU				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.1						
FRU				smax			
	comp=E,5µm,4.1s						
CHMS	**Chumysh**	**44.97**	**335**	P	**P**	**04 06 17.3**	**+0.6**
	SNR=8.2						
CHMS	**Chumysh**	**44.97**	**335**	P	ScP	04 11 26.6	-0.2
	SNR=10						
SHAO	**Shalim**	**44.98**	**292**	⇓P	**P**	**04 06 18.2**	**+1.4**
	SNR=70						
HOQ	**Hoqain**	**45.06**	**300**	P	**P**	**04 06 18.3**	**+0.9**
	SNR=225						
EKS2	**Erkin-Say**	**45.12**	**334**	P	**P**	**04 06 18.9**	**+1.0**
	SNR=97						
EKS2	**Erkin-Say**	**45.12**	**334**	P	ScP	04 11 28.3	+0.9
	SNR=6.1						
USP	**Ospenovka**	**45.29**	**335**	P	**P**	**04 06 20.2**	**+1.0**
	SNR=62						
USP	**Ospenovka**	**45.29**	**335**	P	ScP	04 11 28.1	0.0
	SNR=7.0						
MK31	**Makanchi Array**	**45.60**	**344**	⇓eP	**P**	**04 06 21.4**	**-0.2**
MK31				epP	pP	04 07 05.6	-0.6
MK31				eScP	ScP	04 11 28.5	-0.9
MK31				eS	**S**	**04 12 47.4**	**-0.7**
MKAR	**Makanchi Array**	**45.60**	**344**	P	**P**	**04 06 21.6**	**-0.1**
	comp=E,1µm,0.8s,mb6.3,baz=155,slow=8.8,SNR=505						
MKAR				pP	pP	04 07 07.2	+1.1
	comp=E,393nm,0.8s,baz=161,slow=8.7,SNR=3.7						
MKAR				ScP	ScP	04 11 28.7	-0.7
	comp=E,67nm,0.8s,baz=146,slow=6.7,SNR=6.9						
MKAR				S	**S**	**04 12 47.5**	**-0.7**
	comp=E,49nm,1.0s,baz=160,slow=18,SNR=4.5						
MKAR				PKPPKP		04 37 48.6	
	comp=E,1.9nm,0.9s,baz=302,slow=3.2,SNR=3.3						
MKAR	**Makanchi Array**	**45.60**	**344**	P	**P**	**04 06 21.6**	**0.0**
MKAR				S	**S**	**04 12 47.5**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,393nm,0.9s						
MKAR				smax			
	comp=N,49nm,1.0s						
ARQ	**Araqi**	**45.66**	**300**	⇓P	**P**	**04 06 23.1**	**+1.0**
	SNR=64						
RBK	**Rabkut**	**46.18**	**291**	⇑P	**P**	**04 06 27.5**	**+1.3**
	SNR=126						
GUMO	**Guam**	**46.28**	**75**	eP	**P**	**04 06 26.8**	**-0.2**
GUMO	**Guam**	**46.28**	**75**	eP	**P**	**04 06 26.5**	**-0.4**
	comp=N,220nm,0.6s,mb5.7						
CN2	**Changchun**	**46.47**	**26**	⇑P	**P**	**04 06 27.8**	**-0.6**
CN2				XP	sP	04 07 35.4	-0.7
CN2				eS	**S**	**04 13 00.0**	**-0.5**
CN2				AMB	AMB		
	comp=Z,260nm,0.9s,mb5.6						
CN2				AMB	AMB		
	comp=Z,2µm,4.0s						
CN2				LR	LR		
	comp=N,5µm,15.0s						
CN2				LR	LR		
	comp=E,6µm,15.0s						
CN2				LR	LR		
	comp=Z,7µm,15.0s						
HATD	**Hatta, Dubai**	**46.50**	**301**	P	**P**	**04 06 28.9**	**+0.3**
	SNR=142						
ASHO	**Ashiyiah**	**46.51**	**301**	P	**P**	**04 06 29.1**	**+0.4**
	SNR=189						
WHFO	**Wadi Hawf**	**46.67**	**291**	P	**P**	**04 06 30.8**	**+0.8**
	SNR=382						
BANOM	**Banah**	**46.74**	**303**	⇓P	**P**	**04 06 30.1**	**-0.5**
	SNR=31						
ZAK	**Zakamensk**	**46.92**	**4**	eP	**P**	**04 06 32.4**	**+0.5**
ZAK				e		04 07 59.8	
ZAK				pmax	pmax		
	comp=Z,45nm,1.0s						
KK31	**Karatay Array**	**46.97**	**331**	i P	**P**	**04 06 31.7**	**-0.6**
KKAR	**Karatay Array**	**46.97**	**331**	i P	**P**	**04 06 31.6**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,193nm,0.8s,mb5.5						
ABTO	**Aybut**	**46.99**	**291**	P	**P**	**04 06 33.5**	**+1.0**
	SNR=67						
MOY	**Mondy**	**48.10**	**2**	eP	**P**	**04 06 41.2**	**+0.2**
MOY				pmax	pmax		
	comp=Z,146nm,3.2s						
TLY	**Talaya**	**48.24**	**4**	P	**P**	**04 06 42.9**	**+0.9**
	comp=Z,556nm,0.7s,mb6.0,SNR=15						
TLY	**Talaya**	**48.24**	**4**	P	**P**	**04 06 43.4**	**+1.4**
	SNR=13						
TLY	**Talaya**	**48.24**	**4**	eP	**P**	**04 06 42.9**	**+0.9**
TLY				e		04 08 31.1	
TLY				eS	**S**	**04 13 25.0**	**-0.5**
TLY				e		04 16 10.7	
TLY				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.1						
TLY				MLR	MLR		
	comp=Z,3µm,15.0s						
TLY	**Talaya**	**48.24**	**4**	⇓iP	**P**	**04 06 42.8**	**+0.8**
	comp=Z,79nm,0.8s,mb5.1						
TLY				epP	pP	04 07 26.5	-0.5
TLY				eScP	ScP	04 11 39.4	-1.1
MAJO	**Matsushiro**	**48.77**	**42**	⇑iP	**P**	**04 06 44.8**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,71nm,0.7s,mb5.1						
MAJO	**Matsushiro**	**48.77**	**42**	⇑iP	**P**	**04 06 44.8**	**-1.3**
	comp=Z,71nm,0.7s,mb5.1						
MAJO				epP	pP	04 07 31.6	+0.5
MAJO				eScP	ScP	04 11 42.0	-0.8
MAT	**Matsushiro**	**48.77**	**42**	P	**P**	**04 06 45.2**	**-0.9**
MAT				S	**S**	**04 13 27.0**	**-5.9**
MJAR	**Matsushiro Arr**	**48.77**	**42**	P	**P**	**04 06 45.5**	**-0.6**
	comp=Z,76nm,0.8s,mb5.1,baz=222,slow=6.7,SNR=66						
MJAR				pP	pP	04 07 32.2	+1.0
	comp=Z,62nm,1.0s,baz=231,slow=7.2,SNR=4.2						
MJAR				PcP	PcP	04 08 08.7	+1.0
	comp=Z,44nm,1.0s,baz=245,slow=4.0,SNR=5.9						
MJAR				ScP	ScP	04 11 42.2	-0.6
	comp=Z,37nm,0.9s,baz=224,slow=4.9,SNR=9.5						
MJAR	**Matsushiro Arr**	**48.77**	**42**	P	**P**	**04 06 45.5**	**-0.6**
MJAR				pP	pP	04 07 32.2	+1.0
MJAR				PcP	PcP	04 08 08.7	+1.0
MJAR				ScP	ScP	04 11 42.2	-0.6
IRK	**Irkutsk**	**48.84**	**4**	eP	**P**	**04 06 45.0**	**-1.6**
IRK				e	pP	04 07 33.6	+1.9
IRK				eS	ScS	04 16 14.8	-2.2
IRK				pmax	pmax		
	comp=Z,134nm,0.8s,mb5.3						
HIA	**Hailar**	**48.94**	**18**	⇑eP	**P**	**04 06 46.7**	**-0.7**
HIA				pmax	pmax		
	comp=Z,150nm,0.8s						
HIA	**Hailar**	**48.94**	**18**	⇑eP	**P**	**04 06 46.7**	**-0.7**
	comp=Z,150nm,0.8s,mb5.4						
HIA				eScP	ScP	04 11 41.9	-1.6
MDJ	**Mudanjiang**	**49.01**	**29**	P	**P**	**04 06 48.3**	**+0.4**
MDJ				AP	pP	04 07 33.7	+0.7
MDJ				XP	sP	04 07 55.7	-0.2
MDJ				PCP	PcP	04 08 09.1	+0.6
MDJ				PP	PP	04 08 43.3	-0.1
MDJ				SCP	ScP	04 11 42.4	-1.4
MDJ				S	**S**	**04 13 39.1**	**+2.9**
MDJ				AMB	AMB		
	comp=Z,123nm,1.2s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,2µm,8.8s						
MDJ				LR	LR		
	comp=N,3µm,14.0s						
MDJ				LR	LR		
	comp=E,2µm,20.5s						
MDJ				LR	LR		
	comp=Z,4µm,14.9s						
MDJ	**Mudanjiang**	**49.01**	**29**	⇑iP	**P**	**04 06 47.8**	**-0.1**
	comp=Z,612nm,1.5s,mb5.7						
MDJ				epP	pP	04 07 34.0	+1.0
MDJ				eScP	ScP	04 11 42.1	-1.7
PMG	**Port Moresby**	**49.55**	**105**	⇑iP	**P**	**04 06 51.8**	**-0.2**
PMG				pmax	pmax		
	comp=Z,762nm,0.9s						
PMG	**Port Moresby**	**49.55**	**105**	⇑iP	**P**	**04 06 51.8**	**-0.2**
	comp=Z,762nm,0.9s,mb6.0						
PMG				eScP	ScP	04 11 47.1	+1.1
PMG	**Port Moresby**	**49.55**	**105**	P	**P**	**04 06 52.0**	**0.0**
PMG				ScP	ScP	04 11 47.5	+1.4
PMG				S	**S**	**04 13 43.0**	**-0.8**
PMG				ScS	ScS	04 16 23.7	+1.9
CIT	**Chita**	**49.90**	**12**	eP	**P**	**04 06 55.9**	**+1.2**
CIT				e		04 08 05.5	
CIT				pmax	pmax		
	comp=Z,406nm,1.9s,mb5.4						
KURK	**Kurchatov**	**50.19**	**343**	P	**P**	**04 06 56.2**	**-0.6**
	comp=Z,6µm,0.7s,mb7.0						
KURK	**Kurchatov**	**50.19**	**343**	P	**P**	**04 06 56.6**	**-0.2**
	SNR=1053						
KURK	**Kurchatov**	**50.19**	**343**	⇓iP	**P**	**04 06 56.4**	**-0.4**
KURK				eS	**S**	**04 13 50.4**	**-2.2**
KURK				pmax	pmax		
	comp=Z,961nm,0.9s,mb6.1						
KURK	**Kurchatov**	**50.19**	**343**	⇓iP	**P**	**04 06 56.4**	**-0.4**
	comp=Z,961nm,0.9s,mb6.1						
KURK				epP	pP	04 07 43.3	+1.2
KURK				eScP	ScP	04 11 48.0	-0.9
KURK				eS	**S**	**04 13 50.4**	**-2.2**

MUKL Al Mukalla 50.56 286⇑ eP P 04 07 00.7 +1.2
MUKL AMb AMB 04 07 01.3
comp=Z,738nm,1.5s,mb5.9
ABKT Ailbek 50.79 318 P **P 04 07 01.6 +0.3**
comp=Z,12μm,0.8s
ZAL Zalesovo 51.70 349 P **P 04 07 08.0 -0.1**
comp=Z,486nm,0.7s,mb6.0,baz=314,slow=4.6,SNR=358
ZAL pP pP 04 07 54.3 +0.7
comp=Z,221nm,1.0s,baz=293,slow=7.1,SNR=2.7
ZAL S **S 04 14 11.6 -1.7**
comp=Z,28nm,0.7s,baz=193,slow=22,SNR=20
ZAL PKPPKP 04 37 26.6
comp=Z,1.2nm,0.3s,baz=94,slow=6.7,SNR=5.7
ZAL Zalesovo 51.70 349 P **P 04 07 08.0 0.0**
ZAL S **S 04 14 11.6 -1.7**
ZAL pmax pmax
comp=Z,486nm,0.7s
ZAL smax
comp=N,28nm,0.7s
CTA Charters Tower 51.84 119 eP **P 04 07 08.6 -0.5**
comp=N,175nm,0.9s,mb5.5
CTA epP pP 04 07 56.1 +1.4
CTA eSCP ScP 04 11 56.9 +0.9
CTA eS **S 04 14 14.0 -1.2**
CTA Charters Tower 51.84 119 eP **P 04 07 08.6 -0.5**
CTA eS **S 04 14 14.0 -1.2**
CTA pmax pmax
comp=Z,175nm,0.9s
CTAO Charters Tower 51.84 119 P **P 04 07 08.8 -0.3**
CTAO pP pP 04 07 54.2 -0.5
CTAO ScP ScP 04 11 56.5 +0.5
CTAO S **S 04 14 13.5 -1.8**
CTAO Charters Tower 51.84 119⇑ iP **P 04 07 08.8 -0.3**
CTAO eS **S 04 14 13.9 -1.3**
CTAO pmax pmax
comp=Z,272nm,0.9s,mb5.7
CTAO Charters Tower 51.84 119⇑ iP **P 04 07 08.8 -0.3**
comp=Z,272nm,0.9s,mb5.7
CTAO epP pP 04 07 55.8 +1.2
CTAO eScP ScP 04 11 56.8 +0.8
CTAO eS **S 04 14 13.9 -1.3**
NVS Novosibirsk 52.85 349⇓ iP **P 04 07 15.2 -1.3**
NVS i S **S 04 14 25.6 -3.4**
NVS i 04 16 37.4
NVS pmax pmax
comp=Z,383nm,0.9s,mb5.8
NVS pmax pmax
comp=N,357nm,1.1s
NVS pmax pmax
comp=E,255nm,1.0s
NVS smax
comp=N,532nm,1.5s
NVS smax
comp=E,609nm,1.6s
KLR Kul'dur 53.42 26d iP **P 04 07 17.8 -2.9**
KLR e 04 08 22.5
KLR eS **S 04 14 32.5 -4.2**
KLR e 04 16 38.6
KLR pmax pmax
comp=E,260nm,1.4s
KLR pmax pmax
comp=Z,600nm,1.4s,mb5.8
KLR pmax pmax
comp=N,1μm,9.0s
KLR pmax pmax
comp=E,1μm,9.0s
KLR pmax pmax
comp=Z,2μm,9.0s
KLR smax
comp=N,11μm,13.0s
KLR smax
comp=E,8μm,13.0s
KLR MLR MLR
comp=E,4μm,12.5s
KLR MLR MLR
comp=Z,14μm,12.5s
STKA Stephens Creek 53.48 134 eP **P 04 07 20.5 -0.6**
comp=Z,672nm,0.6s,mb6.2
STKA epP pP 04 08 08.3 +1.3
STKA eSCP ScP 04 12 00.8 -2.3
STKA eS **S 04 14 34.6 -2.9**
STKA Stephens Creek 53.48 134 P **P 04 07 20.6 -0.4**
comp=Z,646nm,0.5s,mb6.3,baz=314,slow=6.2,SNR=749
STKA pP pP 04 08 08.0 +1.0
comp=Z,193nm,0.7s,baz=285,slow=7.5,SNR=2.0
STKA S **S 04 14 36.4 -1.1**
comp=Z,11nm,0.8s,baz=190,slow=22,SNR=3.8
BDHA Al Bayda' 53.84 285⇓ eP **P 04 07 25.6 +1.9**
BDHA AMb AMB 04 07 27.0
comp=Z,159nm,0.5s,mb5.8
LBOS 54.14 285 eP **P 04 07 27.6 +1.8**
LBOS AMb AMB 04 07 28.6
comp=Z,1μm,1.3s,mb6.2
HABR Khabarovsk 54.40 29⇑ iP **P 04 07 27.2 -0.5**
HABR eS **S 04 14 48.8 -0.9**
HABR pmax pmax
comp=Z,337nm,1.3s,mb5.7
QRN Al-Qurain 54.71 303 eP **P 04 07 29.8 -0.2**
QRN AMb AMB 04 07 32.6
comp=Z,2μm,0.7s,mb6.8
BVA0 Borovoye Array 54.82 339 i P **P 04 07 29.8 -1.0**
BVA0 pmax pmax
comp=Z,77nm,0.9s,mb5.2
BVAR Borovoye Array 54.82 339 P **P 04 07 29.7 -1.1**
comp=Z,403nm,0.7s,mb6.0,baz=139,slow=10.0,SNR=397
BVAR pP pP 04 08 17.8 +0.9
comp=Z,204nm,0.8s,baz=144,slow=8.3,SNR=4.1
BVAR ScP ScP 04 12 08.2 -0.8
comp=Z,77nm,0.8s,baz=145,slow=5.4,SNR=8.4
BVAR S **S 04 14 52.6 -2.8**
comp=Z,28nm,0.9s,baz=133,slow=14,SNR=7.1
BVAR PKPPKP 04 37 16.9
comp=Z,1.0nm,0.9s,baz=98,slow=2.1,SNR=5.7
BVAR P4KPbc 04 44 46.3
comp=Z,0.9nm,0.8s,baz=152,slow=6.6,SNR=4.8
BVAR Borovoye Array 54.82 339 P **P 04 07 29.7 -1.1**
BVAR pP pP 04 08 17.8 +0.9
BVAR ScP ScP 04 12 08.2 -0.8
BVAR S **S 04 14 52.6 -2.8**
BVAR P'P' 04 37 16.9
BRVK Borovoye 54.89 339 P **P 04 07 30.8 -0.4**
comp=Z,4μm,0.9s,mb6.9
BRVK Borovoye 54.89 339 P **P 04 07 30.5 -0.7**
SNR=160
BRVK Borovoye 54.89 339⇓ iP **P 04 07 30.1 -1.1**
BRVK eS **S 04 14 55.0 -1.3**
BRVK pmax pmax
comp=Z,466nm,0.8s,mb6.1
BRVK Borovoye 54.89 339⇓ iP **P 04 07 30.1 -1.1**
comp=Z,466nm,0.8s,mb6.1
BRVK epP pP 04 08 15.2 -2.1
BRVK eScP ScP 04 12 08.3 -0.9
BRVK eS **S 04 14 55.0 -1.3**
ERM Erimo 54.95 39 P **P 04 07 32.2 +0.5**
comp=Z,747nm,0.7s,mb6.3,SNR=7.6
ERM Erimo 54.95 39 P **P 04 07 32.8 +1.1**
ERM pmax pmax
comp=Z,82nm,0.7s,mb5.4
ERM Erimo 54.95 39 eP **P 04 07 32.4 +0.8**
comp=Z,82nm,0.7s,mb5.4
KBD Kabd 55.03 303 eP **P 04 07 32.2 0.0**
KBD AMb AMB 04 07 35.9
comp=Z,7μm,1.0s
DHBB Dhamar BB 55.04 285⇓ eP **P 04 07 34.3 +2.0**
DHBB AMb AMB 04 07 35.6
comp=Z,1μm,1.1s,mb6.3
RDF Al-Radifah 55.07 303 eP **P 04 07 32.4 -0.1**
RDF AMb AMB 04 07 36.0
comp=Z,3μm,0.7s,mb6.9
UMR Umm Al-Rimmam 55.12 304 eP **P 04 07 32.6 -0.3**
UMR AMb AMB 04 07 35.3
comp=Z,2μm,1.2s,mb6.5
TRBA At Turbah 55.17 284⇑ eP **P 04 07 35.1 +1.8**
TRBA AMb AMB 04 07 35.8
comp=Z,226nm,1.0s,mb5.7
UDYN Al 'Udayn 55.38 285⇓ eP **P 04 07 36.5 +1.7**
UDYN AMb AMB 04 07 37.3
comp=Z,440nm,1.0s,mb5.9
NAY Al-Naaiem 55.42 303 eP **P 04 07 35.0 -0.1**
NAY AMb AMB 04 07 38.4
comp=Z,2μm,0.8s,mb6.6
BOD Bodaibo 55.50 10 eP **P 04 07 35.7 +0.1**
BOD pmax pmax
comp=Z,140nm,1.0s,mb5.5
MIB Mutribah 55.51 304 eP **P 04 07 35.7 0.0**
MIB AMb AMB 04 07 39.2
comp=Z,4μm,1.1s,mb6.8
HAJJ Hajjah 55.92 287⇓ eP **P 04 07 40.5 +1.9**
ATD Arta Tunnel 56.28 282 P **P 04 07 42.4 +1.2**
comp=Z,227nm,0.7s,mb5.8,baz=78,slow=3.8,SNR=56
ATD pP pP 04 08 29.2 +1.7
comp=Z,123nm,0.8s,baz=44,slow=2.9,SNR=3.1
AB31 Akbulak array 56.50 330 i P **P 04 07 41.7 -1.0**
CLNS Chul'man 57.07 17 eP **P 04 07 44.8 -1.9**
CLNS e pP 04 08 35.3 +2.1
CLNS eS **S 04 15 13.8 -11**
CLNS pmax pmax
comp=Z,96nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,56nm,0.9s
CLNS pmax pmax
comp=E,50nm,0.9s
CLNS smax
comp=N,2μm,12.6s
CLNS smax
comp=Z,457nm,13.5s
CLNS smax
comp=E,4μm,11.9s
YSS Yuzh-Sakhalins 57.44 34⇑ iP **P 04 07 49.5 +0.2**
YSS e pP 04 08 37.0 +1.1
YSS e 04 09 58.0
YSS i S **S 04 15 28.0 -1.9**
YSS e 04 17 14.1
YSS eSS SS 04 19 27.0 +4.1
YSS pmax pmax
comp=N,310nm,1.0s
YSS pmax pmax
comp=E,120nm,1.0s
YSS pmax pmax
comp=Z,780nm,1.0s,mb6.3
YSS pmax pmax
comp=Z,1μm,8.0s
YSS smax
comp=E,3μm,14.0s
YSS smax
comp=N,4μm,12.0s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS MLR MLR
comp=N,2μm,14.0s
YSS MLR MLR
comp=E,1μm,12.0s
YSS Yuzh-Sakhalins 57.44 34⇑ iP **P 04 07 49.1 -0.2**
comp=E,772nm,1.0s,mb6.3
YSS epP pP 04 08 35.0 -0.9
YSS eScP ScP 04 12 18.6 -1.9
YUK Yuzh-Kuril'sk 57.69 38 eP **P 04 07 50.0 -1.0**
YUK i pP 04 08 38.0 +0.4
YUK eS **S 04 15 30.0 -3.2**
YUK eSS SS 04 19 21.0 -5.8
YUK pmax pmax
comp=Z,4μm,3.0s
YUK pmax pmax
comp=Z,190nm,0.5s,mb6.0
YUK smax
comp=N,7μm,16.0s
AKTK Aktyubinsk 58.21 330 P **P 04 07 53.5 -1.2**
AKTK ScP ScP 04 12 23.3 -0.7
AKTK S **S 04 15 35.5 -4.4**
AKTK P'P' 04 37 29.1
AKTO Aktyubinsk 58.21 330 P **P 04 07 53.5 -1.2**
comp=N,450nm,1.0s,mb6.1,baz=128,slow=6.7,SNR=240
AKTO ScP ScP 04 12 23.3 -0.7
comp=N,139nm,0.9s,baz=120,slow=3.9,SNR=7.2
AKTO S **S 04 15 35.5 -4.4**
comp=N,17nm,0.6s,baz=326,slow=21,SNR=15
AKTO PKPPKP 04 37 29.1
comp=N,1.1nm,0.5s,baz=328,slow=7.1,SNR=3.7
AKTO Aktyubinsk 58.21 330 P **P 04 07 53.5 -1.2**
AKTO S **S 04 15 35.5 -4.5**
AKTO pmax pmax
comp=Z,450nm,1.0s,mb6.0
AKTO smax
comp=N,17nm,0.6s
BHD Baghdad 58.98 307 i x x 04 07 58.0
BHD ex x 04 08 32.0
BHD ex x 04 10 10.0
BHD i x x 04 15 18.0
BHD i x x 04 15 28.0
BHD i x x 04 15 48.0
TOO Toolangi 59.26 138 eP **P 04 08 02.5 +0.6**
comp=N,434nm,1.4s,mb5.9
TOO epP pP 04 08 50.3 +1.6
TOO eS **S 04 15 55.0 +1.6**
TOO esS sS 04 17 12.7 -2.6
TOO Toolangi 59.26 138 eP **P 04 08 02.5 +0.6**
TOO e*PP pP 04 08 50.3 +1.6
TOO eS **S 04 15 55.0 +1.6**
TOO pmax pmax
comp=Z,434nm,1.4s,mb5.9
DESE Dese 59.41 281 eP **P 04 08 05.9 +3.1**
DESE eS **S 04 15 48.2 -7.1**
KUR Kuril'sk 59.53 38 P **P 04 08 00.5 -3.2**
KUR pmax pmax
comp=Z,820nm,1.1s,mb6.3
KUR pmax pmax
comp=Z,6μm,5.0s
FURI Furi 60.28 278 eP **P 04 08 11.8 +3.1**
FURI S **S 04 16 09.9 +3.5**
MAK Makhachkala 60.30 319d iP **P 04 08 08.5 -0.4**
MAK e*PP pP 04 08 51.4 -4.6
MAK e pP 04 09 00.5 +4.5
MAK e 04 10 20.7
MAK i S **S 04 16 03.0 -3.7**
MAK i 04 17 28.5
MAK eSSS 04 22 41.4
MAK pmax pmax
comp=Z,5μm,4.0s
MAK pmax pmax
comp=N,3μm,3.2s
MAK pmax pmax
comp=E,2μm,3.4s
MAK pmax pmax
comp=Z,657nm,1.5s,mb6.0
MAK pmax pmax
comp=N,286nm,1.2s
MAK pmax pmax
comp=E,604nm,1.4s
MAK smax
comp=N,7μm,4.7s
MAK smax
comp=E,2μm,4.8s
ARMA Armidale 60.34 128 eP **P 04 08 10.2 +1.0**
ORR Orenburg 60.57 330⇓ iP **P 04 08 09.7 -1.0**
ORR pmax pmax
comp=Z,200nm,0.5s,mb6.0
CNB Canberra Magne 60.80 134 eP **P 04 08 11.9 -0.4**
comp=Z,162nm,0.7s,mb5.8
CNB epP pP 04 09 00.3 +0.9
CUKT Cukurca 60.86 311 i P **P 04 08 11.7 -1.0**
HKR Hakkari 60.87 312 i P **P 04 08 12.4 -0.4**
HAKT HAKKARI 60.89 312 i P **P 04 08 12.3 -0.6**
MSL Mosul 60.94 310 i x x 04 08 11.5
MSL i x x 04 08 58.5
MSL i x x 04 10 32.0
MSL i x x 04 12 40.0
MSL i x x 04 16 10.0
MSL i x x 04 17 45.0
GNI Garni 61.06 315 P **P 04 08 14.1 +0.1**
comp=Z,124nm,0.6s,mb5.8,baz=175,slow=0.7,SNR=112
GNI PP PP 04 10 32.3 +1.3
comp=Z,160nm,0.8s,baz=9.9,slow=5.4,SNR=3.4
GNI S **S 04 16 14.1 -2.2**
comp=Z,3.4nm,0.5s,baz=306,slow=22,SNR=3.5
GNI PKPPKP 04 37 27.1
comp=Z,1.2nm,0.3s,baz=184,slow=22,SNR=3.1
GNI Garni 61.06 315 P **P 04 08 14.6 +0.5**
SNR=127
GNI Garni 61.06 315 P **P 04 08 14.1 0.0**
GNI 04 10 32.3
GNI S **S 04 16 14.1 -2.2**
GNI pmax pmax
comp=Z,124nm,0.6s
GNI smax
comp=N,3.0nm,0.5s
GNI Garni 61.06 315⇓ iP **P 04 08 14.1 +0.1**
comp=N,723nm,1.0s,mb6.3
GNI ePP PP 04 10 32.0 +0.9
GNI eS **S 04 16 15.0 -1.4**
CLDR Caldiran 61.29 313 i P **P 04 08 15.8 +0.2**
SVE Sverdlovsk 61.36 337⇓ iP **P 04 08 15.0 -1.1**
SVE e 04 09 08.0
SVE ePPP 04 12 07.0
SVE eS **S 04 16 16.0 -4.2**
SVE smax
comp=E,4μm,14.0s
RIV Riverview 61.44 132 eP **P 04 08 17.5 +0.9**
RIV epP pP 04 09 05.0 +1.2
TVAN Van 61.45 312 i P **P 04 08 16.2 -0.4**
VANB Van 61.48 313 i P **P 04 08 18.1 +1.2**
TBLG Delisi 61.67 316 P **P 04 08 15.2 -2.9**
KZR Kazreti 61.76 316 P **P 04 08 19.2 +0.5**
DUS Dusheti 61.83 317 P **P 04 08 19.8 +0.6**
ARU Arti 61.92 336 P **P 04 08 18.4 -1.4**
comp=E,2μm,1.0s,mb6.7
ARU Arti 61.92 336⇓ iP **P 04 08 18.6 -1.2**
ARU e 04 08 57.9
ARU eS **S 04 16 22.5 -4.6**
ARU e 04 17 47.8
ARU pmax pmax
comp=Z,425nm,1.2s,mb6.0
ARU Arti 61.92 336⇓ iP **P 04 08 18.5 -1.2**
comp=Z,480nm,1.1s,mb6.0
ARU epP pP 04 09 05.7 -1.3
HNR Honiara 61.95 103 P **P 04 08 19.6 -0.4**
HNR pmax pmax
comp=Z,1μm,1.0s,mb6.5
HNR Honiara 61.95 103⇑ iP **P 04 08 18.7 -1.3**
comp=Z,1μm,1.0s,mb6.5
KMBO Kilima Mbogo 62.00 267 P **P 04 08 22.1 +1.8**
comp=Z,205nm,0.9s,mb5.8,baz=70,slow=9.7,SNR=256
KMBO pP pP 04 09 09.2 +1.6
comp=Z,76nm,0.9s,baz=50,slow=11,SNR=4.0
KMBO S **S 04 16 29.3 +1.2**
comp=Z,0.9nm,0.3s,baz=31,slow=15,SNR=3.1
KMBO PKP2bc 04 37 33.4
comp=Z,13nm,1.1s,baz=258,slow=4.1,SNR=18
KMBO Kilima Mbogo 62.00 267 P **P 04 08 22.2 +1.9**
KMBO S **S 04 16 29.3 +1.2**
KMBO pmax pmax
comp=Z,205nm,0.9s
KMBO smax
comp=N,1.0nm,0.3s
KMBO Kilima Mbogo 62.00 267⇓ iP **P 04 08 21.8 +1.4**
comp=N,255nm,1.0s,mb5.8
KMBO epP pP 04 09 08.3 +0.7
KMBO eScP ScP 04 12 42.4 +1.7
AGRB Hanur-Agry 62.11 313 i P **P 04 08 21.5 +0.4**
DIGO Kars 62.13 314 i P **P 04 08 21.3 0.0**
GOR Gori 62.20 316 P **P 04 08 21.4 -0.3**
KARS Kars 62.40 315 i P **P 04 08 23.6 +0.6**
ZEI Tsey 62.64 317 eP **P 04 08 25.0 +0.4**
ZEI eS **S 04 16 34.1 -2.1**
ZEI pmax pmax
comp=Z,474nm,0.7s,mb6.2
ZEI smax
comp=N,309nm,2.0s
BTMT Batman 62.76 312 i P **P 04 08 25.3 -0.1**
YAK Yakutsk 62.77 16 eP **P 04 08 24.2 -1.2**
YAK e 04 09 01.1
YAK e 04 10 41.4
YAK ePPP 04 12 15.1
YAK i S **S 04 16 35.3 -2.4**
YAK i 04 17 50.5
YAK eSS SS 04 20 38.3 -8.0
YAK pmax pmax
comp=Z,312nm,1.1s,mb5.8
YAK pmax pmax
comp=N,135nm,1.2s
YAK pmax pmax
comp=E,137nm,1.3s
YAK pmax pmax
comp=Z,261nm,1.7s,mb5.6
YAK smax
comp=N,4μm,6.8s
YAK smax
comp=Z,579nm,4.9s
YAK smax
comp=E,5μm,7.9s
YAK Yakutsk 62.77 16 eP **P 04 08 24.5 -1.0**
comp=E,318nm,0.8s,mb6.0
YAK epP pP 04 09 11.7 -1.1
YAK eS **S 04 16 33.5 -4.3**
MARD Mardin 63.02 310 i P **P 04 08 26.6 -0.5**
BNGL BINGOL 63.25 312 i P **P 04 08 29.1 +0.5**
TAU Tasmania Unive 63.35 142 P **P 04 08 29.4 +0.1**
comp=E,1μm,0.6s,mb6.7,SNR=9.3
TAU Tasmania Unive 63.35 142 P **P 04 08 29.5 +0.2**
TAU pmax pmax
comp=Z,110nm,0.7s,mb5.6
TAU Tasmania Unive 63.35 142⇑ iP **P 04 08 29.2 -0.1**
comp=Z,106nm,0.6s,mb5.7
TAU epP pP 04 09 17.0 +0.3
ERZM Erzurum 63.40 313 i P **P 04 08 30.2 +0.6**
EZM Erzurum 63.40 313 i P **P 04 08 30.4 +0.7**
ARTV Artvin 63.43 315 i P **P 04 08 29.5 -0.3**
DIY Diyarbakir 63.61 311 P **P 04 08 32.1 +1.1**
BINT Bingol 63.72 312 P **P 04 08 31.8 +0.2**
BCA Borcka 63.74 315 P **P 04 08 31.5 -0.3**
KIV Kislovodsk 63.91 318 P **P 04 08 32.8 -0.1**
comp=Z,4μm,1.3s,mb6.9,SNR=97
KIV Kislovodsk 63.91 318⇓ iP **P 04 08 32.7 -0.2**
SNR=131
KIV Kislovodsk 63.91 318⇓ iP **P 04 08 32.4 -0.5**
KIV eS **S 04 16 50.0 -1.9**
KIV pmax pmax
comp=Z,1μm,1.3s,mb6.4
KIV Kislovodsk 63.91 318⇓ iP **P 04 08 32.4 -0.6**
comp=Z,1μm,1.3s,mb6.4
KIV eS **S 04 16 50.0 -1.8**
GOF Gofitskoye 64.10 319⇓ iP **P 04 08 27.4 -6.8**
GOF i *PP pP 04 09 20.7 -1.1
GOF i S **S 04 16 45.0 -9.2**
GOF i *SS sS 04 17 58.9 -18
GOF pmax pmax
comp=Z,490nm,1.3s,mb6.0
GOF smax
comp=N,2μm,1.7s
GOF smax
comp=E,760nm,1.7s
EZC Erzincan 64.48 313 P **P 04 08 39.5 +2.8**
PTK Pertek 64.54 312 P **P 04 08 37.1 +0.1**
URFA Urfa 64.55 310 P **P 04 08 37.6 +0.6**
ELZG Elazig 64.73 311 i P **P 04 08 38.6 +0.4**
SOKR Solikamsk 64.73 338d iP **P 04 08 37.3 -1.0**
SOKR e 04 11 00.4
SOKR e 04 16 58.5
SOKR e 04 18 06.7
SOKR pmax pmax
comp=Z,280nm,1.1s,mb5.8
MACK Trabzon 64.89 314 i P **P 04 08 39.1 -0.2**
KTUT Trabzon 64.91 314 P **P 04 08 39.4 0.0**
KELT Kelkit 65.02 313 i P **P 04 08 40.3 +0.2**
MALT Malatya 65.09 311⇓ iP **P 04 08 40.9 +0.3**
MALT pmax pmax
comp=Z,486nm,1.2s,mb6.0
MALT Malatya 65.09 311⇓ iP **P 04 08 40.9 +0.4**
comp=Z,486nm,1.2s,mb6.0
GZT Gaziantep 65.49 310 i P **P 04 08 43.8 +0.7**
GAZ Gaziantep 65.71 309 P **P 04 08 45.4 +0.9**
SOC Sochi 65.79 317d iP **P 04 08 43.7 -1.3**
SOC e 04 09 17.1
SOC e 04 11 09.4
SOC ePPP 04 12 49.0
SOC i S S 04 17 10.5 -4.3
SOC e 04 18 16.2
SOC eSS SS 04 21 29.5 -3.8
SOC pmax pmax
comp=Z,532nm,0.7s,mb6.3
SOC pmax pmax
comp=Z,6μm,3.6s
EIL Elat 65.93 301⇓ iP **P 04 08 46.6 +0.7**
comp=Z,16μm,1.2s
EIL epP pP 04 09 34.9 +1.1
RCY Rachaya 65.95 305 eP **P 04 08 47.4 +1.3**
GRSN GIRESUNGRSN 65.97 314 i P **P 04 08 45.1 -1.1**
HWQ Hawqa 66.02 306 eP **P 04 08 47.5 +1.0**
KMRS Kahramanmaras 66.04 310 P **P 04 08 47.0 +0.4**
BHL Bhannes 66.17 306 eP **P 04 08 48.4 +1.0**
MMAI Mount Meron Ar 66.19 305 P **P 04 08 48.9 +1.3**
comp=Z,68nm,0.5s,mb5.5,baz=91,slow=9.3,SNR=137
MMAI ScP 04 12 59.9
comp=Z,47nm,1.1s,baz=86,slow=4.3,SNR=5.2
HTY Hatay 66.29 308 P **P 04 08 49.8 +1.6**

COBT	Iskenderun	66.29	308	*i* P	P	04 08 48.9	+0.7
SVSK	Karacayir	66.61	312	P	P	04 08 47.0	-3.2
CEYT	Ceyhan	66.81	309	P	P	04 08 52.3	+0.8
KOZT	Kozan	66.86	309	P	P	04 08 52.1	+0.3
SKR	Severo-Kuril's	66.94	35	*e*P	P	04 08 51.5	-0.8
SKR				*e*S	SKSac	04 18 24.0	-5.2
SKR				pmax	pmax		
	comp=Z,670nm,1.0s,mb6.2						
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,2µm,4.0s						
SKR				pmax	pmax		
	comp=Z,4µm,4.0s						
SKR				MLR	MLR		
	comp=Z,3µm,16.0s						
SKR				MLR	MLR		
	comp=N,2µm,14.0s						
KRTS	Karatas	67.00	308	P	P	04 08 53.9	+1.2
TOKT	Tokat	67.05	313	P	P	04 08 53.4	+0.4
BNN	Bunyan	67.19	311	P	P	04 08 54.0	+0.1
VRHR	Novokhopersk	67.39	325	*e*P	P	04 08 53.7	-1.5
VRHR				*e*S	S	04 17 22.7	-11
VRHR				pmax	pmax		
	comp=Z,710nm,0.6s,mb6.5						
VRHR				pmax	pmax		
	comp=N,2.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,130nm,0.8s						
VRHR				smax			
	comp=E,260nm,1.1s						
VRHR				smax			
	comp=Z,230nm,1.4s						
VRHR				smax			
	comp=N,4.0nm,1.2s						
KARA	Karaisali	67.41	309	P	P	04 08 55.6	+0.4
KVT	Kavak	67.62	313	P	P	04 08 56.8	+0.2
MERS	Mersin	67.73	308	P	P	04 08 57.4	+0.1
ANN	Anapa	67.74	317	*d i*P	P	04 08 55.3	-2.0
ANN				*i*		04 11 25.8	
ANN				*e*PPP		04 13 14.6	
ANN				*i* S	S	04 17 31.6	-6.5
ANN				*i*		04 18 26.4	
ANN				pmax	pmax		
	comp=Z,60nm,0.5s,mb5.5						
YOZ	Yozgat	67.78	312	P	P	04 08 57.9	+0.3
AVNT	Avonos	67.92	311	*i* P	P	04 08 57.9	-0.6
IKL	Isikli	68.25	308	P	P	04 09 00.3	-0.2
CSS	Prodhromos	68.27	306	⇓P	P	04 09 00.8	+0.1
	comp=Z,16nm,1.2s						
CSS	Prodhromos	68.27	306	⇓*i*P	P	04 09 00.8	+0.1
	comp=Z,1µm,1.2s,mb6.3						
DIKM	Dikmen	68.35	314	P	P	04 09 00.9	-0.2
MAMC	Mammari	68.40	306	⇓P	P	04 09 02.2	+0.7
MAMC	Mammari	68.40	306	⇓*e*P	P	04 09 02.2	+0.7
CTKT	Corum	68.42	312	*i* P	P	04 09 01.5	-0.1
CORM	Corum	68.43	312	P	P	04 08 59.4	-2.2
CDAG	Cicekdag	68.49	311	*i* P	P	04 09 01.4	-0.6
MA2	Magadan	68.51	25	*c i*P	P	04 09 03.1	+1.0
MA2				*e*		04 09 27.7	
MA2				*i* S	S	04 17 48.6	+1.3
MA2				*e*		04 18 39.3	
MA2				*e*SSS		04 25 24.6	
MA2				pmax	pmax		
	comp=Z,500nm,0.9s,mb6.1						
MA2	Magadan	68.51	25	*e*P	P	04 09 02.1	-0.1
	comp=Z,273nm,0.8s,mb5.9						
MA2				*e*PcP	PcP	04 09 24.3	-1.6
MA2				*e*pP	pP	04 09 50.1	-0.3
BOYT	Boyabat	68.54	313	*i* P	P	04 09 02.3	0.0
SZAC	Souni-Zanaja	68.59	306	⇓P	P	04 09 02.9	+0.3
SZAC	Souni-Zanaja	68.59	306	⇓*e*P	P	04 09 02.9	+0.3
BYBT	Boyabat	68.66	313	P	P	04 09 02.8	-0.2
VORD	Divnogorie	68.69	324	*e*P	P	04 09 01.5	-1.8
VORD				*e*S	S	04 17 46.5	-2.9
VORD				pmax	pmax		
	comp=Z,340nm,0.7s,mb6.1						
VORD				pmax	pmax		
	comp=N,340nm,1.5s						
VORD				pmax	pmax		
	comp=E,420nm,1.1s						
VORD				smax			
	comp=N,390nm,0.9s						
VORD				smax			
	comp=E,520nm,0.9s						
VORD				smax			
	comp=Z,40nm,0.7s						
VRSR	Storozhevoye	68.85	324	*e*P	P	04 09 02.3	-1.9
VRSR				*e*		04 11 33.8	
VRSR				*e*S	S	04 17 44.0	-7.2
VRSR				*e*		04 18 39.9	
VRSR				pmax	pmax		
	comp=Z,480nm,1.1s,mb6.0						
VRSR				pmax	pmax		
	comp=N,210nm,1.2s						
VRSR				pmax	pmax		
	comp=E,440nm,1.0s						
VRSR				smax			
	comp=E,1µm,1.1s						
VRSR				smax			
	comp=Z,40nm,0.9s						
VRSR				smax			
	comp=N,1µm,1.3s						
ALFC	Alevga	68.90	306	⇓P	P	04 09 04.3	-0.2
	comp=N,8.3nm,0.7s						
ALFC	Alevga	68.90	306	⇓*e*P	P	04 09 04.3	-0.2
KAMT	Kaman	68.92	311	P	P	04 09 04.0	-0.6
PPCY	Paphos	69.05	306	⇓P	P	04 09 05.1	-0.4
PPCY	Paphos	69.05	306	⇓*e*P	P	04 09 05.1	-0.4
BRTR	Keskin Array B	69.06	311	P	P	04 09 04.7	-0.8
	comp=N,136nm,0.6s,mb5.8,baz=133,slow=7.0,SNR=467						
BRTR				pP	pP	04 09 54.9	+1.1
	comp=N,112nm,1.0s,baz=120,slow=7.3,SNR=3.2						
BRTR				PP	PP	04 11 41.5	+0.7
	comp=N,68nm,1.0s,baz=119,slow=7.4,SNR=3.8						
BRTR				S	S	04 17 51.2	-2.5
	comp=N,7.6nm,1.0s,baz=91,slow=12,SNR=7.4						
BRTR				PKPPKP		04 36 58.8	
	comp=N,1.0nm,0.9s,baz=258,slow=6.1,SNR=5.0						
BRTR	Keskin Array B	69.06	311	P	P	04 09 04.7	-0.8
BRTR						04 11 41.5	
BRTR				S	S	04 17 51.3	-2.4
BRTR				pmax	pmax		
	comp=Z,136nm,0.6s						
BRTR				smax			
	comp=N,8.0nm,1.0s						
TOS	Tosya	69.09	313	*e*P	P	04 09 05.6	-0.1
AKMC	Akamas	69.09	306	⇓P	P	04 09 05.4	-0.3
AKMC	Akamas	69.09	306	⇓*e*P	P	04 09 05.4	-0.3
CANT	Cankiri	69.28	312	*e*P	P	04 09 06.9	+0.1
PET	Petropavlovsk	69.33	34	α *i*P	P	04 09 07.0	-0.2
PET				*e*		04 09 26.5	
PET				*e*		04 11 45.2	
PET				*i* S	S	04 17 56.2	-0.7
PET				*e*SS	SS	04 22 29.7	+1.8
PET				*e*SSS		04 25 38.4	
PET				pmax	pmax		
	comp=Z,3µm,4.4s						
PET				pmax	pmax		
	comp=Z,458nm,1.0s,mb6.1						
PET				smax			
	comp=E,3µm,6.8s						
PET				smax			
	comp=N,8µm,8.1s						
PET				MLR	MLR		
	comp=Z,2µm,19.0s						
PET	Petropavlovsk	69.33	34	⇑*i*P	P	04 09 06.8	-0.3
	comp=Z,478nm,1.0s,mb6.1						
PET				*e*pP	pP	04 09 55.3	-0.2
BZK	Bozkurt	69.33	314	*e*P	P	04 09 07.3	+0.1
HDMB	Hadim	69.34	308	*e*P	P	04 09 07.2	0.0
ELDT	Eldivan	69.40	312	*i* P	P	04 09 07.0	-0.6
KONT	Konya--Tatoy	69.64	309	*e*P	P	04 09 08.9	-0.1
BALT	Daday	69.68	313	*i* P	P	04 09 09.3	0.0
ANTO	Ankara	69.73	311	*e*P	P	04 09 04.8	-4.8
ANTO	Ankara	69.73	311	⇓P	P	04 09 09.3	-0.3
	SNR=97						
ANTO	Ankara	69.73	311	⇓*i*P	P	04 09 08.8	-0.8
ANTO				*e*		04 11 47.0	
ANTO				*e*S	S	04 17 55.6	-5.9
ANTO				pmax	pmax		
	comp=Z,567nm,1.3s,mb6.0						
ANTO	Ankara	69.73	311	⇓*i*P	P	04 09 08.8	-0.9
	comp=Z,567nm,1.3s,mb6.0						
ANTO				*e*pP	pP	04 09 58.1	+0.1
ANTO				*e*PP	PP	04 11 47.0	+0.4
ANTO				*e*S	S	04 17 55.6	-5.9
ANTO	Ankara	69.73	311	⇓*i*P	P	04 09 08.9	-0.7
KDHN	Kadinhani	69.95	310	*i* P	P	04 09 09.8	-1.1
SIM	Simferopol'	70.03	317	*d i*P	P	04 09 11.5	0.0
SIM				*e*		04 11 45.0	
SIM				*e*S	S	04 17 56.0	-9.1
SIM				*e**SS	ScS	04 18 52.0	-2.0
SIM				pmax	pmax		
	comp=Z,1µm,11.0s						
SAFT	Safranbolu	70.12	313	*e*P	P	04 09 11.8	-0.2
KIZT	Kizilcal	70.20	310	*e*P	P	04 09 11.7	-0.8
SGKT	Sivrigoynuk	70.43	312	*i* P	P	04 09 13.6	-0.3
DZM	Mont Dzumac	70.45	115	*e*P	P	04 09 14.2	+0.3
TIXI	Tiksi	70.68	10	*e*P	P	04 09 10.8	-4.6
TIXI				pmax	pmax		
	comp=Z,189nm,1.5s,mb5.5						
TIXI				MLR	MLR		
	comp=Z,3µm,16.0s						
TIXI	Tiksi	70.68	10	*e*P	P	04 09 13.5	-1.8
	comp=Z,67nm,0.4s,mb5.6						
TIXI				*e*pP	pP	04 10 02.0	-1.9
TIXI				*e*S	S	04 18 09.2	-3.4
ANTB	Antalya	70.77	308	*e*P	P	04 09 15.4	-0.5
BCK	Bucak	70.93	308	*e*P	P	04 09 16.5	-0.3
SEY	Seymchan	70.98	23	⇑*i*P	P	04 09 16.9	-0.3
KDZE	Karadeniz Ereo	71.05	313	*e*P	P	04 09 16.7	-0.9
ISP	Isparta	71.06	309	*e*P	P	04 09 16.5	-1.2
ISP	Isparta	71.06	309	*e*P	P	04 09 17.2	-0.5
ISP	Isparta	71.06	309	⇓*i*P	P	04 09 16.6	-1.1
ISP				*e*		04 11 53.1	
ISP				*e*S	S	04 18 13.3	-3.6
ISP				pmax	pmax		
	comp=Z,234nm,0.6s,mb6.0						
ISP	Isparta	71.06	309	⇓*i*P	P	04 09 16.6	-1.1
	comp=Z,234nm,0.6s,mb6.0						
ISP				*e*pP	pP	04 10 05.6	-0.6
ISP				*e*PP	PP	04 11 53.1	-4.9
ISP				*e*S	S	04 18 13.3	-3.6
ESKT	Eskisehir	71.12	311	*e*P	P	04 09 17.6	-0.5
ESKT	Eskisehir	71.12	311	*i* P	P	04 09 17.2	-0.8
SHUT	Suhut-Afyon	71.16	310	*e*P	P	04 09 17.9	-0.4
TKTP	Tekketepe	71.24	309	*i* P	P	04 09 18.1	-0.7
ELL	Elmali	71.33	308	*e*P	P	04 09 19.3	0.0
HENT	Hendek	71.35	312	*i* P	P	04 09 18.3	-1.1
MOS	Moscow	71.43	328	*e*P	P	04 09 14.1	-5.8
MOS				*e*		04 09 34.1	
MOS				*e*S	S	04 18 10.5	-11
MOS				*e*		04 19 00.8	
MOS				*e*SS	SS	04 23 02.5	+2.4
MOS				*e*SSS		04 26 07.2	
MOS				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.3						
MOS				smax			
	comp=N,8µm,4.9s						
MOS				smax			
	comp=E,1µm,1.7s						
BORA	Eskisehir	71.49	311	*i* P	P	04 09 19.5	-0.7
KSL	Kastellorizon	71.49	307	*e*P	P	04 09 19.0	-1.3
ALT	Altintas	71.59	310	*e*P	P	04 09 21.7	+0.8
GPA	Golpazari	71.68	311	*e*P	P	04 09 17.2	-4.2
GOLH	Golhisar	71.69	308	*i* P	P	04 09 20.9	-0.5
OBN	Obninsk	71.76	328	P	P	04 09 20.3	-1.5
	comp=E,3µm,1.2s,mb6.8,SNR=37						
OBN	Obninsk	71.76	328	*d i*P	P	04 09 20.7	-1.1
OBN				*e*		04 09 38.9	
OBN				*e*		04 12 04.1	
OBN				*e*S	S	04 18 22.1	-2.8
OBN				*e*SS	SS	04 23 04.8	-0.3
OBN				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.3						
OBN				MLR	MLR		
	comp=Z,1µm,16.0s						
OBN	Obninsk	71.76	328	⇓*i*P	P	04 09 20.6	-1.2
	comp=Z,285nm,0.7s,mb6.0						
OBN				*e*pP	pP	04 10 07.2	-3.2
OBN				*e*S	S	04 18 19.6	-5.3
KHL	Karahalli	71.91	309	*e*P	P	04 09 23.0	+0.2
FETY	Fethiye	71.97	307	*e*P	P	04 09 22.4	-0.7
GDZ	Gediz	72.08	310	*i* P	P	04 09 22.9	-0.8
ADVT	Abdulvahap	72.13	311	*e*P	P	04 09 23.6	-0.5
DNZL	Cakiroluk	72.17	308	*i* P	P	04 09 29.4	+5.1
DENT	Denizli	72.19	308	*e*P	P	04 09 24.4	0.0
OSMT	Osmaniye	72.19	312	*e*P	P	04 09 20.0	-4.4
HRT	Hereke	72.26	312	*e*P	P	04 09 22.5	-2.3
IZI	Iznik	72.31	311	*e*P	P	04 09 25.0	-0.2
DALT	Dalyan (Mudla)	72.34	307	*e*P	P	04 09 25.0	-0.4
YLV	Yalova	72.43	311	*e*P	P	04 09 25.3	-0.6
ULDT	Uludag	72.53	311	*i* P	P	04 09 26.2	-0.3
GEMT	Gemlik	72.55	311	*e*P	P	04 09 26.1	-0.5
LSZ	Lusaka	72.58	253	P	P	04 09 27.9	+1.2
LSZ				pP	pP	04 10 16.8	+1.3
LSZ				PP	PP	04 12 11.1	+0.1
LSZ				S	S	04 18 33.8	-0.5
LSZ				SKSac	SKSac	04 19 11.3	-0.5
LSZ	Lusaka	72.58	253	⇓P	P	04 09 27.9	+1.2
	SNR=36						
LSZ	Lusaka	72.58	253	⇓*i*P	P	04 09 27.8	+1.1
LSZ				*e*S	S	04 18 33.7	-0.6
LSZ				pmax	pmax		
	comp=Z,147nm,0.7s,mb5.7						
LSZ	Lusaka	72.58	253	⇓*i*P	P	04 09 27.8	+1.0
	comp=Z,729nm,0.7s,mb6.4						
LSZ				*e*pP	pP	04 10 16.7	+1.3
LSZ				*e*S	S	04 18 33.7	-0.6
KLMR	Klimovskoe	72.59	334	*d i*P	P	04 09 25.5	-1.3
KLMR				*e*		04 09 42.7	
KLMR				*e*		04 12 06.7	
KLMR				*e*S	S	04 18 28.9	-5.5
KLMR				pmax	pmax		
	comp=Z,791nm,1.5s,mb6.1						
ARG	Arkhangelos	72.67	307	*e*P	P	04 09 27.0	-0.2
ARG	Arkhangelos	72.67	307	*e*P	P	04 09 26.8	-0.4
YER	Yerkesik	72.68	308	*e*P	P	04 09 27.0	-0.3
ISK	Istanbul-Kandi	72.76	312	*e*P	P	04 09 27.2	-0.5
KLYT	Kilyos	72.81	312	*e*P	P	04 09 27.7	-0.4
DST	Dursunbey	72.82	310	*e*P	P	04 09 28.6	+0.4
DAT	Datca	73.18	307	*e*P	P	04 09 29.7	-0.5
CTT	Catalca	73.24	312	*e*P	P	04 09 29.6	-1.0
BTOK	Tokmak	73.30	310	*i* P	P	04 09 30.5	-0.5
AKS	Akhisar	73.33	309	*e*P	P	04 09 31.1	0.0
BDRM	Kayabasi	73.33	308	*i* P	P	04 09 30.2	-1.0
KAP	Karpathos	73.34	306	*e*P	P	04 09 31.2	+0.1
KARP	Karpathos	73.35	306	*e*P	P	04 09 31.5	+0.3
BODT	Bodrum	73.44	308	*e*P	P	04 09 26.1	-5.7
BNT	Bandirma	73.49	311	*e*P	P	04 09 32.8	+0.8
NISR	Nisiros	73.52	307	*e*P	P	04 09 31.0	-1.2
EDC	Edincik	73.53	311	*e*P	P	04 09 31.4	-0.8
KDAG	Bornova	73.67	309	*i* P	P	04 09 33.1	0.0
IZM	Izmir	73.68	309	*e*P	P	04 09 33.4	+0.3
BLCB	Balcova	73.84	309	*e*P	P	04 09 34.4	+0.3
TIRR	Tirgusor	73.88	315	⇓*i*P	P	04 09 33.5	-0.8
TIRR				*e*		04 12 19.0	
TIRR				*e*S	S	04 18 43.5	-5.3
TIRR				pmax	pmax		
	comp=Z,473nm,1.1s,mb6.0						
TIRR	Tirgusor	73.88	315	⇓*i*P	P	04 09 33.5	-0.8
	comp=Z,473nm,1.1s,mb6.0						
TIRR				*e*pP	pP	04 10 22.2	-1.0
TIRR				*e*PP	PP	04 12 19.0	-3.0
TIRR				*e*S	S	04 18 43.5	-5.4
TIRR	Tirgusor	73.88	315	⇑*i*P	P	04 09 33.5	-0.8
PSN	Preselentsi	73.89	314	*i* P	P	04 09 33.7	-0.7
SMG	Samos	73.91	308	*e*P	P	04 09 34.5	0.0
SMG	Samos	73.91	308	*e*P	P	04 09 34.2	-0.3
ZKR	Zakros	74.06	305	*e*P	P	04 09 35.5	+0.2
CANB	Canakkale	74.08	311	*e*P	P	04 09 35.0	-0.5
CANB	Canakkale	74.08	311	*i* P	P	04 09 34.8	-0.7
SART	Tekirdag	74.10	311	*i* P	P	04 09 34.7	-0.9
KIS	Kishinev	74.12	318	κ *i*P	P	04 09 33.0	-2.7
KIS				*i*		04 12 22.0	
KIS				*i* PPP		04 14 10.0	
KIS				*i* S	S	04 18 44.0	-7.5
KIS				*i*	SKSac	04 19 20.0	-3.3
KIS				*e*PS		04 19 52.0	
KIS				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.5						
KIS				pmax	pmax		
	comp=E,700nm,1.5s						
KIS				pmax	pmax		
	comp=Z,3µm,6.0s						
KIS				smax			
	comp=N,6µm,12.0s						
KIS				smax			
	comp=E,3µm,10.0s						
KIS				MLR	MLR		
	comp=Z,2µm,15.0s						
KIS				MLR	MLR		
	comp=Z,800nm,15.0s						
KIS	Kishinev	74.12	318	⇓*i*P	P	04 09 33.0	-2.7
	comp=Z,1µm,1.0s,mb6.5						
KIS				*i* pP	pP	04 10 22.0	-2.6
KIS	Kishinev	74.12	318	*i* PP	PP	04 12 22.0	-2.0
	comp=Z,3µm,6.0s						
KIS	Kishinev	74.12	318	*i* PPP		04 14 10.0	
KIS				*i* S	S	04 18 44.0	-7.5
	comp=Z,6µm,12.0s						
KIS				*i* SKS		04 19 20.0	
URLA	Izmir	74.19	309	*i* P	P	04 09 35.5	-0.5
AYVA	Ayvalik	74.25	310	*i* P	P	04 09 36.0	-0.5
PRD	Provadia	74.36	314	*i* P	P	04 09 36.5	-0.6
XRY	Khrisi	74.45	305	*e*P	P	04 09 37.0	-0.6
NPS	Neapolis	74.56	306	*e*P	P	04 09 38.5	+0.2
NPS	Neapolis	74.56	306	*e*P	P	04 09 38.4	+0.1
PRK	Paraskevi	74.57	310	*e*P	P	04 09 38.0	-0.3
PRK	Paraskevi	74.57	310	*e*P	P	04 09 37.8	-0.5
EDRB	Edirne	74.61	312	*e*P	P	04 09 35.0	-3.5
AKASG	Malin Array Be	74.69	322	P	P	04 09 37.5	-1.5
	comp=Z,14nm,0.3s,mb5.0,baz=88,slow=4.7,SNR=371						
AKASG				pP	pP	04 10 26.3	-1.7
	comp=Z,46nm,0.7s,baz=90,slow=5.4,SNR=2.5						
AKASG				PP	PP	04 12 25.4	-3.4
	comp=Z,41nm,0.8s,baz=92,slow=6.7,SNR=4.0						
AKASG				S	S	04 18 52.0	-5.8
	comp=Z,76nm,1.1s,baz=99,slow=11,SNR=34						
AKASG				PKPPKP		04 36 56.0	
	comp=Z,0.2nm,0.5s,baz=275,slow=2.8,SNR=4.4						
AKASG	Malin Array Be	74.69	322	P	P	04 09 37.5	-1.5
AKASG						04 12 25.4	
AKASG				S	S	04 18 52.1	-5.7
AKASG				pmax	pmax		
	comp=Z,14nm,0.3s						
AKASG				smax			
	comp=N,76nm,1.1s						
AKASG	Malin Array Be	74.69	322	P	P	04 09 37.5	-1.5
AKASG				pP	pP	04 10 26.3	-1.7
AKASG				PP	PP	04 12 25.4	-3.4
AKASG				S	S	04 18 52.0	-5.8
AKASG				P'P'		04 36 56.0	
AKBB	Malin Array Si	74.69	322	⇓*i*P	P	04 09 37.5	-1.4
AKBB				*e*pP	pP	04 10 25.9	-2.1
AKBB				*e*PP	PP	04 12 24.8	-4.0
AKBB				*e*S	S	04 18 51.8	-6.0
KIEV	Kiev	74.69	322	⇓*i*P	P	04 09 37.3	-1.7
KIEV				*e*		04 12 24.8	
KIEV				*e*S	S	04 18 51.8	-6.1
KIEV				pmax	pmax		
	comp=Z,261nm,1.1s,mb5.8						
KIEV	Kiev	74.69	322	⇓*i*P	P	04 09 37.3	-1.7
	comp=Z,261nm,1.1s,mb5.8						
KIEV				*e*pP	pP	04 10 25.8	-2.3
KIEV				*e*PP	PP	04 12 24.8	-4.0
KIEV				*e*S	S	04 18 51.8	-6.2
BOZC	Bozcaada	74.82	310	*i* P	P	04 09 39.1	-0.7
SANT	Santorini	74.82	307	⇓*i*P	P	04 09 38.6	-1.1
	comp=Z,527nm,0.8s,mb6.2						
SANT				*e*pP	pP	04 10 27.8	-1.0
THR1	Thera Island	74.82	307	*e*P	P	04 09 38.9	-0.8
JMB	Yambol	74.83	313	*i* P	P	04 09 39.8	0.0
APE	Apeiranthos	74.85	307	*e*P	P	04 09 38.0	-1.9
APE	Apeiranthos	74.85	307	*e*P	P	04 09 38.5	-1.4
APE	Apeiranthos	74.85	307	⇑P	P	04 09 38.8	-1.1
APE	Apeiranthos	74.85	307	⇑*i*P	P	04 09 38.8	-1.1
THR6	Thira Island,	74.87	307	*e*P	P	04 09 39.4	-0.6
THR5	Thira Island,	74.92	307	*e*P	P	04 09 39.9	-0.4
IAS	Iasi	75.00	318	⇑*i*P	P	04 09 40.2	-0.5
IDI	Anoyia	75.16	305	S	S	04 18 57.7	-5.3
	comp=Z,27nm,0.7s,baz=304,slow=19,SNR=9.5						
MAW	Mawson	75.31	194	*e*P	P	04 09 43.4	+0.9
	comp=Z,75nm,1.4s,mb5.1						
MAW				*e*pP	pP	04 10 33.6	+2.0
MAW				*e*S	S	04 19 05.5	+0.8
MAW				*e*sS	sS	04 20 31.6	+1.3
MAW	Mawson	75.31	194	P	P	04 09 43.1	+0.6
	comp=Z,53nm,0.6s,mb5.3,baz=30,slow=5.6,SNR=101						
MAW				pP	pP	04 10 31.9	+0.3
	comp=Z,101nm,1.1s,baz=57,slow=9.9,SNR=5.3						
MAW				S	S	04 19 01.8	-2.8
	comp=Z,2.2nm,0.8s,baz=240,slow=19,SNR=1.3						
MAW	Mawson	75.31	194	*e*P	P	04 09 43.4	+0.9
MAW				*e*S	S	04 19 05.5	+0.8
MAW				pmax	pmax		
	comp=Z,75nm,1.4s						
VRI	Vrincioaia	75.31	316	⇓*i*P	P	04 09 42.8	+0.3
PLOR	Plostina	75.36	316	⇑*i*P	P	04 09 42.9	+0.1
RDO	Rodhopi	75.40	312	*e*P	P	04 09 42.5	-0.5
RDO	Rodhopi	75.40	312	*e*P	P	04 09 42.1	-0.9
SZH	Strazhica	75.43	314	*i* P	P	04 09 42.6	-0.6
LIA	Limnos Island	75.49	310	*e*P	P	04 09 42.4	-1.2
DIM	Dimitrovgrad	75.53	312	*i* P	P	04 09 43.5	-0.3
BUC1	Bucharest	75.54	315	⇑*i*P	P	04 09 44.0	+0.2
KDZ	Kurdzhali	75.56	312	*i* P	P	04 09 43.1	-0.8
VAM	Vamos	75.73	306	*e*P	P	04 09 46.0	+1.1
VAM	Vamos	75.73	306	*e*P	P	04 09 44.6	-0.3
DRV	Dumont d'Urvil	75.75	164	P	P	04 09 47.0	+2.0
DRV				S	S	04 19 10.0	+0.4
GVD	Gavdhos	75.76	305	*e*P	P	04 09 45.0	-0.1
GVD	Gavdhos	75.76	305	⇓*i*P	P	04 09 44.5	-0.6
	comp=Z,709nm,1.1s,mb6.2						
GVD				*e*pP	pP	04 10 33.1	-1.1
MLR	Muntele Rosu	75.79	316	P	P	04 09 45.4	+0.2
	comp=Z,932nm,1.2s,mb6.3,baz=124,slow=1.6,SNR=250						
MLR				pP	pP	04 10 34.4	0.0
	comp=Z,70nm,0.7s,baz=120,slow=12,SNR=1.3						
MLR				PP	PP	04 12 38.0	-0.1
	comp=Z,108nm,1.0s,baz=38,slow=4.7,SNR=3.3						
MLR				S	S	04 19 07.2	-2.7
	comp=Z,42nm,1.1s,baz=60,slow=23,SNR=18						
MLR	Muntele Rosu	75.79	316	P	P	04 09 45.4	+0.2
MLR						04 12 38.0	
MLR				S	S	04 19 07.2	-2.7
MLR				pmax	pmax		
	comp=Z,932nm,1.2s						
MLR				smax			
	comp=N,42nm,1.1s						
MLR	Muntele Rosu	75.79	316	⇓P	P	04 09 45.5	+0.2
MLR	Muntele Rosu	75.79	316	⇓*i*P	P	04 09 45.5	+0.3
PVL	Pavlikeni	75.86	314	*i* P	P	04 09 45.9	+0.3
MCQ	Macquarie Isla	75.86	149	*e*P	P	04 09 46.5	+0.9
SNX	Sinaia	76.06	316	⇓*i*P	P	04 09 46.7	-0.1
RZN	Rozhen	76.09	312	*i* P	P	04 09 45.9	-1.0
PLD	Plovdiv	76.15	312	*i* P	P	04 09 46.2	-1.1
PTL	Penteli	76.28	308	*e*P	P	04 09 47.5	-0.5
KVR	Kavouri	76.33	308	*e*P	P	04 09 47.0	-1.3
MTUR	Matau	76.36	316	⇓*i*P	P	04 09 47.7	-0.7
ATH	Athens Observa	76.39	308	*e*P	P	04 09 47.0	-1.6
ATH	Athens Observa	76.39	308	*e*P	P	04 09 46.6	-2.0
MNK	Minsk	76.40	325	⇓*i*P	P	04 09 44.0	-4.7
MNK				*e*S	S	04 19 06.0	-11
MNK				pmax	pmax		
	comp=Z,7µm,2.0s,mb7.0						
MNK				pmax	pmax		
	comp=Z,740nm,1.5s,mb6.1						
MNK				smax			
	comp=N,6µm,4.0s						
MNK				smax			
	comp=E,10µm,4.0s						
MNK				smax			
	comp=N,1µm,1.0s						
OUR	Ouranopolis	76.46	311	*e*P	P	04 09 48.1	-0.9
PUL	Pulkovo	76.47	331	⇓*e*P	P	04 09 48.5	-0.6
NAIG	Nisos Aigina	76.55	308	*e*P	P	04 09 47.5	-2.0
LBTB	Lobatse	76.58	243	⇓*i*P	P	04 09 50.8	+1.1
LBTB				pmax	pmax		
	comp=Z,660nm,1.4s,mb6.1						
LBTB	Lobatse	76.58	243	⇓*i*P	P	04 09 50.8	+1.0
	comp=Z,660nm,1.4s,mb6.1						
LBTB				*e*pP	pP	04 10 40.4	+1.5
PGB	Panagyurishte	76.61	313	*i* P	P	04 09 48.7	-1.2
BURAR	Bucovina Array	76.64	318	⇓*i*P	P	04 09 50.7	+0.7
NVR	Nevrokopi	76.68	312	*e*P	P	04 09 51.7	+1.5
MGER	Gerania Oros	76.75	308	*e*P	P	04 09 49.0	-1.6
KYTH	Kithira	76.76	306	*e*P	P	04 09 50.0	-0.7
MMB	Musomiste	76.81	312	*i* P	P	04 09 49.4	-1.6

PLG	Polygyros	76.87	311	eP	P	04 09 50.5	-0.8
PLG	Polygyros	76.87	311	eP	P	04 09 47.7	-3.6
VLI	Veliai	76.88	307	eP	P	04 09 51.5	+0.1
VLI	Veliai	76.88	307	eP	P	04 09 49.3	-2.1
NEO	Neokhori	76.92	309	eP	P	04 09 51.0	-0.6
LKR	Lokris	77.02	309	eP	P	04 09 50.1	-2.1
IDID	Didziasalis	77.20	326	eP	P	04 09 52.7	-0.5
IDID				AMb	AMB	04 09 55.3	
	comp=Z,5µm,1.0s						
VTS	Vitosha	77.31	313	iP	P	04 09 53.2	-0.6
KKB	Krupnik	77.32	312	iP	P	04 09 52.5	-1.3
IIGN	Ignalina	77.50	326	eP	P	04 09 54.4	-0.4
IIGN				AMb	AMB	04 09 55.6	
	comp=Z,7µm,0.4s						
BOSA	Boshof	77.54	240	P	P	04 09 55.9	+0.8
	comp=Z,117nm,0.5s,mb5.8,baz=90,slow=4.0,SNR=221						
BOSA				pP	pP	04 10 45.1	+0.7
	comp=Z,80nm,0.8s,baz=99,slow=5.6,SNR=4.9						
BOSA				S	S	04 19 27.6	-1.3
	comp=Z,3.3nm,0.9s,baz=295,slow=19,SNR=3.0						
BOSA	Boshof	77.54	240	eP	P	04 09 55.7	+0.6
BOSA				pmax	pmax		
	comp=Z,123nm,0.6s,mb5.7						
BOSA	Boshof	77.54	240	eP	P	04 09 55.7	+0.6
	comp=Z,123nm,0.6s,mb5.7						
BOSA				epP	pP	04 10 45.6	+1.2
IZAR	Zarasai	77.57	326	eP	P	04 09 54.6	-0.6
IZAR				AMb	AMB	04 09 55.8	
	comp=Z,4µm,0.5s						
VAY	Valandovo	77.64	311	⇓iP	P	04 09 54.1	-1.5
VAY				iS	S	04 19 22.0	-8.0
VAY	Valandovo	77.64	311	⇓iP	P	04 09 54.1	-1.5
VAY				iS	S	04 19 22.0	-8.0
ITM	Ithomi	77.73	307	eP	P	04 09 55.0	-1.1
ITM	Ithomi	77.73	307	eP	P	04 09 55.1	-1.0
APA	Apatity	77.73	339	⇑iP	P	04 09 54.6	-1.5
APA				iS	S	04 19 27.0	-4.0
APA				i		04 19 51.0	
APA				iPS		04 20 32.0	
APA				iSSS		04 27 51.0	
APA				pmax	pmax		
	comp=Z,205nm,1.0s,mb5.7						
APA				MLR	MLR		
	comp=Z,2µm,18.0s						
LVV	L'vov	77.78	320c	iP	P	04 09 55.7	-0.6
LVV				iS	S	04 19 26.7	-4.8
LVV				e		04 19 40.9	
LVV				ePS		04 20 43.5	
THL	Klokotos Trika	77.88	310	eP	P	04 09 54.6	-2.3
VSU	Vasula	77.91	329	iP	P	04 09 56.3	-0.8
VSU	Vasula	77.91	329	iP	P	04 09 56.3	-0.8
STIP	Stip	77.97	312	⇓iP	P	04 09 55.6	-1.8
STIP				iS	S	04 19 26.2	-7.3
STIP	Stip	77.97	312	⇓iP	P	04 09 55.6	-1.8
STIP				iS	S	04 19 26.2	-7.3
EVR	Evrytania	77.98	309	eP	P	04 09 56.0	-1.4
EVR	Evrytania	77.98	309	eP	P	04 09 56.2	-1.2
GZR	Gura Zlata	77.98	316	⇑iP	P	04 09 57.5	+0.1
KZN	Kozani	78.14	310	eP	P	04 09 57.5	-0.8
KZN	Kozani	78.14	310	eP	P	04 09 56.6	-1.7
RLS	Riolos of Patr	78.17	308	eP	P	04 09 58.0	-0.5
DRGR		78.20	317	⇓iP	P	04 09 59.2	+0.5
SMY	Shemya	78.20	37	eP	P	04 09 59.1	+0.4
SMY				pmax	pmax		
	comp=Z,947nm,0.9s,mb6.4						
SMY				MLR	MLR		
	comp=Z,1µm,21.0s						
SMY	Shemya	78.20	37	eP	P	04 09 59.1	+0.4
	comp=Z,947nm,0.9s,mb6.4						
SMY				LR	LR		
	comp=Z,1µm,21.0s						
APZ	The Paps	78.24	139	ePN	P	04 09 58.7	-0.2
APZ				pP	pP	04 10 48.0	-0.3
BARS	Barje	78.36	313	⇓iP	P	04 09 59.2	-0.3
BOLS	Boljevac	78.37	314	⇑iP	P	04 09 59.4	-0.2
BILL	Bilibino	78.42	21c	iP	P	04 09 58.9	-1.0
BILL				e		04 10 07.2	
BILL				e		04 12 55.9	
BILL				iS	S	04 19 33.1	-5.2
BILL				eSS	SS	04 24 45.5	-0.4
BILL				pmax	pmax		
	comp=Z,158nm,1.4s,mb5.5						
BILL				MLR	MLR		
	comp=Z,3µm,15.0s						
BILL	Bilibino	78.42	21	eP	P	04 09 58.6	-1.3
	comp=Z,55nm,0.6s,mb5.4						
BIA	Bitola	78.55	311	⇓iP	P	04 09 58.5	-2.0
BIA				iS	S	04 19 33.1	-6.6
BIA	Bitola	78.55	311	⇓iP	P	04 09 58.5	-2.0
BIA				iS	S	04 19 33.1	-6.6
SKO	Skopje	78.55	312	⇓iP	P	04 09 59.7	-0.9
SKO				iS	S	04 19 32.5	-7.2
SKO	Skopje	78.55	312	⇓iP	P	04 09 59.7	-0.9
SKO				iS	S	04 19 32.5	-7.2
KWP	Kalwaria	78.60	320	eP	P	04 10 00.9	+0.1
	comp=Z,2.0nm,1.5s						
KWP				epP	pP	04 10 48.5	-1.8
KWP				ePP	PP	04 13 01.2	-0.4
KWP				eS	S	04 19 37.1	-3.1
KWP				eSKS		04 19 55.8	
KRUS	Krusevo	78.63	311	⇓iP	P	04 10 00.3	-0.8
KRUS				iS	S	04 19 33.0	-7.6
KRUS	Krusevo	78.63	311	⇓iP	P	04 10 00.3	-0.8
KRUS				iS	S	04 19 33.0	-7.6
UZH	Uzhgorod	78.73	319	⇑iP	P	04 10 01.2	-0.4
UZH				i		04 10 10.0	
UZH				iS	S	04 19 36.0	-5.6
UZH				i *SS	sS	04 20 58.0	-10
JAN	Janina	78.78	310	eP	P	04 10 01.5	-0.4
JAN	Janina	78.78	310	eP	P	04 10 01.3	-0.6
KOLS	Kolonicke sedl	78.78	319	eP	P	04 10 02.2	+0.3
KOLS				eS	S	04 19 39.5	-2.7
BZS	Buzias	78.81	316	⇓iP	P	04 10 01.7	-0.3
VLS	Valsamata	78.87	308	eP	P	04 10 01.5	-0.8
VLS	Valsamata	78.87	308	eP	P	04 10 01.4	-0.9
KBN	Korca	78.91	311	ip	P	04 10 01.3	-1.3
FIA1	FINESS Array S	78.93	332	⇓iP	P	04 10 01.7	-0.9
FIA1				eS	S	04 19 39.1	-4.6
FINES	FINESS Array B	78.93	332	P	P	04 10 01.9	-0.8
	comp=Z,119nm,0.5s,mb5.8,baz=108,slow=6.2,SNR=864						
FINES				pP	pP	04 10 51.6	-0.5
	comp=Z,56nm,0.7s,baz=103,slow=8.2,SNR=3.1						
FINES				S	S	04 19 39.2	-4.5
	comp=Z,6.9nm,0.9s,baz=108,slow=6.2,SNR=4.2						
FINES				PKKPbc	PKKPbc	04 28 54.0	+0.2
	comp=Z,1.2nm,0.4s,baz=315,slow=1.4,SNR=9.9						
FINES	FINESS Array B	78.93	332	P	P	04 10 01.9	-0.7
FINES				S	S	04 19 39.3	-4.4
FINES				pmax	pmax		
	comp=Z,119nm,0.5s						
FINES				smax			
	comp=N,7.0nm,0.9s						
FINES	FINESS Array B	78.93	332	P	P	04 10 01.9	-0.8
FINES				pP	pP	04 10 51.6	-0.5
FINES				S	S	04 19 39.2	-4.5
FINES				PKKPbc	PKKPbc	04 28 54.0	+0.2
SVIS	Svilajnac	78.95	314	⇓iP	P	04 10 01.9	-0.8
OHR	Ohrid	78.95	311	⇓iP	P	04 10 00.8	-2.0
OHR				iS	S	04 19 34.5	-9.5
OHR	Ohrid	78.95	311	⇓iP	P	04 10 00.8	-2.0
OHR				iS	S	04 19 34.5	-9.5
KAF	Kangasniemi	78.98	333	ep	P	04 10 00.7	-2.2
	comp=N,249nm,0.6s,mb6.0,baz=99,slow=5.1						
KAF	Kangasniemi	78.98	333	eP	P	04 10 00.7	-2.2
KAF				pmax	pmax		
	comp=Z,249nm,0.6s,mb6.0						
SUW	Suwalki	78.98	324	eP	P	04 10 02.0	-0.9
	comp=Z,1.5nm,1.2s						
SUW				epP	pP	04 10 50.5	-1.9
SUW				eS	S	04 19 38.9	-5.4
SUW				eSKS	SKSac	04 20 00.1	+1.3
TUZ	Tuapeka	79.07	138	eP	P	04 10 03.0	-0.4
TUZ	Tuapeka	79.07	138	ePN	P	04 10 03.0	-0.4
PHP	Peshkopia	79.27	312	ip	P	04 10 03.1	-1.4
GRUS	Gruza	79.27	314	⇓iP	P	04 10 03.9	-0.6
CRVS	Cervenica-Dubn	79.31	319	eP	P	04 10 04.9	+0.2
CRVS				eS	S	04 19 44.4	-3.4
RPZ	Rata Peaks	79.43	135	P	P	04 10 04.7	-0.6
	comp=Z,172nm,0.5s,mb5.9,baz=281,slow=2.0,SNR=127						
RPZ				pP	pP	04 10 55.2	+0.3
	comp=Z,239nm,1.0s,baz=214,slow=2.2,SNR=5.6						
SRN	Sarande	79.45	310	ip	P	04 10 04.8	-0.7
STHS	Stebnicka Huta	79.52	320	iP	P	04 10 06.0	+0.2
STHS				pmax	pmax		
	comp=Z,193nm,0.7s,mb5.8						
BEO	Belgrade	79.55	315	⇓iP	P	04 10 05.2	-0.8
KEK	Kerkira	79.60	310	eP	P	04 10 05.5	-0.8
KEK	Kerkira	79.60	310	eP	P	04 10 05.5	-0.8
TIR	Tirane	79.67	311	ip	P	04 10 07.2	+0.5
PVY	Plav	79.69	313	⇓iP	P	04 10 06.1	-0.7
IVA	Berane	79.77	313	⇓iP	P	04 10 06.6	-0.6
QRZ	Quartz Range	79.78	132	eP	P	04 10 07.2	0.0
QRZ				e	pP	04 10 56.3	-0.5
QRZ	Quartz Range	79.78	132	ePN	P	04 10 07.2	0.0
QRZ				pP	pP	04 10 56.3	-0.6
DIVS	Divcibare	79.81	314	⇓iP	P	04 10 07.4	0.0
KECS	Kecovo	79.90	319	iP	P	04 10 07.5	-0.4
KECS				pmax	pmax		
	comp=Z,126nm,0.8s,mb5.6						
KECS	Kecovo	79.90	319	iP	P	04 10 07.5	-0.4
KECS				eS	S	04 19 50.5	-3.5
WAR	Warsaw	80.01	322	eP	P	04 10 08.4	-0.1
	comp=Z,1.3nm,1.5s						
WAR				eS	S	04 19 47.3	-7.8
WAR				eSKS		04 20 04.4	
WAR				eSS	SS	04 24 57.7	-12
WAR	Warsaw	80.01	322	⇓eP	P	04 10 08.4	-0.1
WAR				eS	S	04 19 47.3	-7.8
WAR				e		04 20 04.4	
NIE	Niedzica	80.12	319	iP	P	04 10 09.4	+0.3
NIE				ePcP	PcP	04 10 15.6	-0.1
NIE				epP	pP	04 10 59.2	+0.5
NIE				ePP	PP	04 13 09.2	-5.0
PLE	Pljevlja	80.18	313	⇓iP	P	04 10 09.0	-0.3
ULC	Ulcinj	80.18	312	⇓iP	P	04 10 08.7	-0.7
TTG	Podgorica	80.20	312	⇓iP	P	04 10 08.7	-0.8
BBLS	Bajina Basta -	80.21	314	⇓iP	P	04 10 10.3	+0.7
PSZ	Piszkesteto	80.24	318	⇓iP	P	04 10 09.6	-0.1
PSZ				pmax	pmax		
	comp=Z,451nm,1.0s,mb6.0						
PSZ	Piszkesteto	80.24	318	⇓iP	P	04 10 09.6	-0.1
	comp=Z,451nm,1.0s,mb6.0						
PSZ	Piszkesteto	80.24	318	⇑iP	P	04 10 09.4	-0.3
THZ	Tophouse	80.27	133	eP	P	04 10 08.7	-1.2
THZ				e	pP	04 10 58.7	-0.8
THZ	Tophouse	80.27	133	ePN	P	04 10 08.7	-1.2
THZ				pP	pP	04 10 58.7	-0.8
THZ				ScP		04 13 12.8	
NKY	Niksic	80.42	313	⇓iP	P	04 10 09.8	-0.9
BUM	Brajici-Budva	80.46	312	⇓iP	P	04 10 10.3	-0.6
NNZ	Nelson	80.49	133	eP	P	04 10 09.1	-1.9
NNZ	Nelson	80.49	133	ePN	P	04 10 09.1	-2.0
UPM	Unac-Piva	80.52	313	⇓iP	P	04 10 10.2	-1.0
OJC	Ojcow	80.54	320	iP	P	04 10 10.9	-0.4
OJC				ePcP	PcP	04 10 17.0	-0.5
OJC				epP	pP	04 11 02.7	+1.7
OJC				ePP	PP	04 13 15.8	-1.8
OJC				iS	S	04 19 56.4	-4.2
OJC				iS	S	04 19 56.4	-4.2
OJC				L		04 45 28.7	
	comp=Z,6.8nm,22.6s						
KEV	Kevo	80.65	340	ep	P	04 10 09.9	-2.0
	comp=Z,122nm,1.0s,mb5.5						
KEV	Kevo	80.65	340	P	P	04 10 11.0	-0.9
KEV				pmax	pmax		
	comp=Z,250nm,1.2s,mb5.7						
FUNA	Funafuti	80.72	99	eP	P	04 10 13.5	+1.3
	comp=Z,1µm,1.4s,mb6.3						
FUNA				epP	pP	04 11 03.5	+1.5
BRY	Bratogost	80.77	313	⇓iP	P	04 10 11.6	-0.9
HCY	Herceg Novi	80.77	312	⇓iP	P	04 10 11.8	-0.7
BUD	Budapest	80.78	317	iP	P	04 10 12.4	-0.2
LIKS	Likavka	80.87	319	eP	P	04 10 12.7	-0.3
LIKS				pmax	pmax		
	comp=Z,112nm,0.8s,mb5.5						
KHZ	Kahutara	80.88	134	eP	P	04 10 12.2	-0.9
KHZ				e	pP	04 11 02.6	-0.3
KHZ	Kahutara	80.88	134	ePN	P	04 10 12.2	-0.9
KHZ				pP	pP	04 11 02.6	-0.3
LCI	Lecce	80.93	310	P	P	04 10 13.1	-0.3
	comp=Z,233nm,0.6s,mb6.0						
PKSM	Moragy	80.94	316	⇓iP	P	04 10 13.2	-0.2
VYHS	Vyhne	81.00	318	iP	P	04 10 13.6	-0.1
VYHS				pmax	pmax		
	comp=Z,244nm,1.4s,mb5.6						
VYHS	Vyhne	81.00	318	iP	P	04 10 13.6	-0.1
VYHS				eS	S	04 20 01.5	-3.8
VYHS				e		04 40 03.4	
ARCES	ARCESS Array B	81.10	340	P	P	04 10 13.6	-0.7
	comp=Z,98nm,0.7s,mb5.5,baz=102,slow=6.6,SNR=733						
ARCES				pP	pP	04 11 03.1	-1.0
	comp=Z,41nm,0.9s,baz=147,slow=2.5,SNR=2.1						
ARCES				S	S	04 20 02.8	-3.6
	comp=Z,5.5nm,0.7s,baz=95,slow=11,SNR=3.9						
ARCES				PKKPbc	PKKPbc	04 28 49.5	+0.5
	comp=Z,1.6nm,0.7s,baz=252,slow=3.2,SNR=4.7						
ARCES	ARCESS Array B	81.10	340	P	P	04 10 13.6	-0.7
ARCES				S	S	04 20 02.8	-3.6
ARCES						04 28 49.5	
ARCES				pmax	pmax		
	comp=Z,98nm,0.7s						
ARCES				smax			
	comp=N,6.0nm,0.7s						
ARCES	ARCESS Array B	81.10	340	P	P	04 10 13.6	-0.7
ARCES				pP	pP	04 11 03.1	-1.0
ARCES				S	S	04 20 02.8	-3.6
ARCES				PKKPbc	PKKPbc	04 28 49.5	+0.5
ARE0	ARCESS Array S	81.10	340	eP	P	04 10 13.5	-0.7
ARE0				ePP	PP	04 13 20.4	-1.8
WAZ	Wanganui	81.37	131	P	P	04 10 15.7	0.0
WAZ	Wanganui	81.37	131	PN	P	04 10 15.7	-0.1
STON	Ston	81.38	313	⇓iP	P	04 10 14.0	-1.8
SNZO	South Karori	81.49	132	eP	P	04 10 15.1	-1.2
	comp=N,388nm,1.3s,mb5.9						
RAC	Raciborz	81.55	320	eP	P	04 10 17.1	+0.5
RAC				eS	S	04 20 08.5	-2.5
RAC				MLR	MLR		
	comp=Z,2µm,20.0s						
PKVZ	Pokaka	81.55	130	PN	P	04 10 16.2	-0.5
OKC	Ostrava-Krasne	81.56	320	⇓iP	P	04 10 16.8	+0.1
OKC				epP	pP	04 11 05.2	-1.3
OKC				ePP	PP	04 13 21.6	-4.4
OKC				eS	S	04 20 08.2	-2.9
TRVZ	Turoa	81.71	130	PN	P	04 10 17.1	-0.4
DRZ	Dome Shelter	81.72	130	eP	P	04 10 17.4	-0.1
DRZ	Dome Shelter	81.72	130	ePN	P	04 10 17.4	-0.1
KATZ	Kakaramea	81.76	130	P	P	04 10 17.5	-0.2
KATZ	Kakaramea	81.76	130	PN	P	04 10 17.5	-0.2
KTK1	Kautokeino	81.77	339	eP	P	04 10 17.0	-0.8
KTK1				AMb	AMB	04 10 19.1	
	comp=Z,526nm,1.2s,mb6.0						
KTK1				epP	pP	04 11 06.6	-1.0
KTK1	Kautokeino	81.77	339	eP	P	04 10 17.1	-0.7
	comp=Z,526nm,1.2s,mb6.0						
OTVZ	Oturere	81.77	130	PN	P	04 10 17.4	-0.4
TIP	Timpagrande	81.92	309	⇓iP	P	04 10 19.0	+0.4
	comp=Z,349nm,1.0s,mb5.9						
TIP				epP	pP	04 11 08.0	-0.4
TIP				ePP	PP	04 13 30.6	+1.6
SMOL	Smolenice	81.93	318	iP	P	04 10 18.6	0.0
MORC	Moravsky Berou	81.95	320	⇓iP	P	04 10 18.8	+0.1
MORC				pmax	pmax		
	comp=Z,127nm,1.1s,mb5.5						
MORC	Moravsky Berou	81.95	320	⇓iP	P	04 10 18.8	+0.1
	comp=Z,127nm,1.1s,mb5.5						
MORC	Moravsky Berou	81.95	320	⇑iP	P	04 10 18.8	+0.1
SUR	Sutherland	81.97	237	P	P	04 10 21.8	+3.0
	comp=Z,2µm,1.3s,mb6.5,SNR=27						
SUR	Sutherland	81.97	237	P	P	04 10 20.8	+2.0
	SNR=74						
SUR	Sutherland	81.97	237	eP	P	04 10 20.7	+1.9
	comp=Z,861nm,1.3s,mb6.2						
SUR				epP	pP	04 11 09.0	+0.3
MRZ	Mangatainoka R	82.00	132	eP	P	04 10 17.8	-1.2
MRZ	Mangatainoka R	82.00	132	ePN	P	04 10 17.8	-1.2
MRZ				pP	pP	04 11 06.0	-2.9
ZST	Bratislava	82.13	318	iP	P	04 10 19.6	0.0
ZST				eS	S	04 20 14.1	-2.8
ZST				pmax	pmax		
	comp=Z,376nm,1.0s,mb6.0						
ZST	Bratislava	82.13	318	iP	P	04 10 19.6	0.0
ZST				epP	pP	04 11 08.8	-0.7
ZST				eS	S	04 20 14.1	-2.8
GKP	Gorka Klasztor	82.40	323	eP	P	04 10 20.7	-0.4
	comp=Z,1.3nm,1.6s						
GKP				epP	pP	04 11 10.6	-0.4
GKP				eS	S	04 20 15.3	-4.4
BKZ	Black Stump Fm	82.40	130	eP	P	04 10 19.9	-1.2
BKZ	Black Stump Fm	82.40	130	ePN	P	04 10 19.9	-1.1
BKZ				pP	pP	04 11 09.9	-1.1
SOP	Sopron	82.46	317	⇓iP	P	04 10 21.2	-0.2
SISC	Sisak	82.47	315	P	P	04 10 21.5	0.0
BFZ	Birch Farm	82.50	132	eP	P	04 10 20.7	-0.9
BFZ				e	pP	04 11 11.0	-0.5
BFZ	Birch Farm	82.50	132	ePN	P	04 10 20.7	-0.9
BFZ				pP	pP	04 11 11.0	-0.5
VRAC	Vranov	82.53	319	⇓iP	P	04 10 21.6	-0.1
KOGS	Kog	82.61	316	eP	P	04 10 22.2	+0.1
KOGS				epP	pP	04 11 08.8	-3.3
KOGS				eS	S	04 20 19.2	-2.6
FGMS	Monte Sant'Ang	82.62	311	P	P	04 10 22.1	-0.1
	comp=Z,202nm,0.6s,mb6.0						
VKA	Vienna	82.65	318	iP	P	04 10 23.2	+0.8
MIDW	Midway	82.68	62	eP	P	04 10 23.3	+0.8
	comp=Z,224nm,1.0s,mb5.8						
MIDW				epP	pP	04 11 13.6	+1.2
SYO	Syowa Base	82.70	198	⇑eP	P	04 10 22.8	+0.2
SYO	Syowa Base	82.70	198	⇓iPcP	PcP	04 10 26.5	-0.5
SYO	Syowa Base	82.70	198	⇓ipP	pP	04 11 14.2	+1.6
SCLL	Scilla	82.70	308	P	P	04 10 23.3	+0.7
	comp=Z,130nm,0.5s,mb5.9						
URZ	Urewera	82.72	129	P	P	04 10 21.0	-1.7
	comp=Z,128nm,0.5s,mb5.9,baz=268,slow=4.3,SNR=115						
URZ				pP	pP	04 11 11.3	-1.3
	comp=Z,79nm,0.8s,baz=12,slow=4.3,SNR=2.5						
URZ	Urewera	82.72	129	eP	P	04 10 20.4	-2.3
URZ	Urewera	82.72	129	ePN	P	04 10 20.4	-2.3
URZ				pP	pP	04 11 11.1	-1.5
DPC	Dobruska-Polom	82.77	320	⇓iP	P	04 10 23.5	+0.5
DPC				epP	pP	04 11 11.5	-1.4
DPC				ePP	PP	04 13 37.0	+1.1
DPC				eSKS		04 20 19.3	
DPC	Dobruska-Polom	82.77	320	⇓iP	P	04 10 23.5	+0.5
DPC				epP	pP	04 11 11.5	-1.4
DPC				e		04 13 37.0	
DPC				eSKS		04 20 19.3	
KSP	Ksiaz	82.82	321	eP	P	04 10 23.8	+0.6
	comp=Z,1.6nm,1.5s						
KSP				epP	pP	04 11 13.4	+0.2
KSP				eS	S	04 20 21.3	-2.6
KSP	Ksiaz	82.82	321	⇓eP	P	04 10 23.4	+0.2
KSP				e		04 20 20.2	
CONA	Conrad Observa	82.94	318	iP	P	04 10 23.6	-0.2
	comp=Z,72nm,0.8s,mb5.5,SNR=41						
CONA				⇑iSKSac	SKSac	04 20 23.1	-2.7
	comp=Z,25nm,2.2s						
UPC	Upice	82.98	320	⇓iP	P	04 10 24.3	+0.3
UPC				ePP	PP	04 13 36.2	-1.4
CRES	Cresnjev	83.13	316	eP	P	04 10 24.9	+0.1
TSUM	Tsumeb	83.13	250	eP	P	04 10 26.2	+1.4
	comp=Z,385nm,1.0s,mb6.1						
TSUM				epP	pP	04 11 15.9	+1.1
ARSA	Arzberg	83.14	317	iP	P	04 10 24.8	-0.1
	comp=Z,789nm,1.8s,mb6.1,SNR=99						
ARSA				⇑iSKSac	SKSac	04 20 25.9	-1.2
	comp=Z,6µm,5.5s						
ARSA	Arzberg	83.14	317	iP	P	04 10 24.8	0.0
	comp=Z,789nm,1.8s,mb6.1						
ARSA				i		04 20 24.2	
BOJS	Bojanci	83.26	315	eP	P	04 10 25.6	+0.1
BOJS				epP	pP	04 11 14.4	-1.1
BOJS				eS	S	04 20 24.8	-3.6
TRO	Tromso	83.38	340	eP	P	04 10 24.0	-2.1
TRO				eSKS		04 20 24.5	
TRO				AMS	AMS	04 34 59.3	
	comp=Z,2µm,21.0s						
TRO	Tromso	83.38	340	eP	P	04 10 24.0	-2.1
TRO				e		04 20 24.1	
TRO				LR	LR		
	comp=Z,2µm,21.0s						
PERS	Pernice	83.40	316	iP	P	04 10 26.3	+0.1
HMDC	Modica	83.42	307	P	P	04 10 26.9	+0.6
NVLJ	Novalja	83.50	314	⇑iP	P	04 10 25.3	-1.4
PUZ	Puketiti	83.58	129	ePN	P	04 10 26.0	-1.1
OBKA	Obir	83.78	316	iP	P	04 10 28.3	+0.2
	comp=Z,3µm,3.8s,SNR=105						
OBKA				⇓iSKSac	SKSac	04 20 29.7	-1.6
	comp=Z,10µm,5.6s						
OBKA	Obir	83.78	316	iP	P	04 10 28.3	+0.2
	comp=Z,3µm,3.8s						
OBKA				i		04 20 30.9	
LJU	Ljubljana	83.79	316	iP	P	04 10 28.6	+0.5
LJU				ePcP	PcP	04 10 30.1	-1.6
LJU				i		04 11 13.4	
LJU				epP	pP	04 11 17.6	-0.6
LJU				e		04 11 56.9	
LJU				eS	S	04 20 28.8	-4.8
BSD	Bornholm Skovb	83.88	325	⇓iP	P	04 10 27.9	-0.7
	comp=Z,435nm,1.3s,mb6.0						
BSD				i	pP	04 11 21.3	+2.6
BSD				iS	S	04 20 29.4	-5.2
BSD	Bornholm Skovb	83.88	325	⇓iP	P	04 10 27.9	-0.7
BSD				i	pP	04 11 21.3	+2.6
BSD				iS	S	04 20 29.4	-5.2
BSD				pmax	pmax		
	comp=Z,435nm,1.3s,mb6.0						
PRU	Pruhonice	83.90	320	⇓iP	P	04 10 28.8	+0.1
PRU				epP	pP	04 11 18.1	-0.7
PRU				ePP	PP	04 13 43.6	-1.5
PRU				eSKS		04 20 29.1	
PVCC	Panska Ves	83.90	320	⇓iP	P	04 10 29.0	+0.3
PVCC				eSKS		04 20 29.4	
PVCC				ePKPPKP		04 36 50.5	
PVCC	Panska Ves	83.90	320	⇓iP	P	04 10 29.0	+0.3
PVCC				eSKS		04 20 29.4	
RNI2	Rionero Sannit	83.97	311	P	P	04 10 29.3	+0.2
CSLB	Castelbuono	84.01	308	P	P	04 10 29.5	+0.2
	comp=Z,247nm,0.9s,mb5.9						
MOA	Molln	84.01	318	iP	P	04 10 28.9	-0.4
	comp=Z,1µm,2.5s,mb6.1,SNR=55						
MOA				⇓iS	S	04 20 33.9	-2.0
	comp=Z,2µm,5.4s						
MOA	Molln	84.01	318	iP	P	04 10 28.9	-0.4
	comp=Z,1µm,2.5s,mb6.1						
MOA				i		04 20 31.6	
BJO	Bjornoya	84.02	345	eSKS		04 20 31.7	
RFI	Roccamonfina	84.09	311	P	P	04 10 29.5	-0.2
	comp=Z,180nm,1.6s,mb5.5						
VOY	Vojsko	84.23	316	eP	P	04 10 30.1	-0.3
VOY				e		04 11 14.8	
BRG	Berggiesshubel	84.31	321	eP	P	04 10 30.9	+0.1
	comp=Z,869nm,1.5s,mb6.3						
BRG	Berggiesshubel	84.31	321	⇓iP	P	04 10 31.1	+0.3
	comp=Z,520nm,1.5s,mb6.0						
BRG				i		04 10 48.4	
	comp=Z,136nm,1.7s						
BRG				i pP	pP	04 11 20.5	-0.4
	comp=Z,82nm,1.1s						
BRG				i sP	sP	04 11 41.3	-1.3
	comp=Z,93nm,1.7s						
BRG				ePP	PP	04 13 49.8	+1.4
	comp=Z,30nm,1.1s						
BRG				i		04 16 23.9	
	comp=Z,27nm,1.6s						
BRG				i SKS		04 20 31.7	
	comp=Z,31nm,1.7s						
BRG				S	S	04 20 32.0	-6.8
BRG				ePKPPKP		04 36 49.4	
	comp=Z,22nm,2.0s						
BRG	Berggiesshubel	84.31	321	⇓iP	P	04 10 31.1	+0.3
BRG				e		04 13 49.8	
BRG				i		04 20 31.7	
BRG				S	S	04 20 32.0	-6.8
BRG				pmax	pmax		
	comp=Z,520nm,1.5s,mb6.0						
TRI	Trieste	84.31	315	P	P	04 10 30.4	-0.4
GEC2	GERESS Array S	84.41	319	eP	P	04 10 31.5	+0.2
	comp=Z,773nm,1.6s,mb6.2						
GEC2				epP	pP	04 11 20.7	-0.8
GEC2				eSKSac	SKSac	04 20 33.8	-1.5
GEC2				eScS	ScS	04 20 51.9	+1.5
GEC2	GERESS Array S	84.41	319	eP	P	04 10 31.5	+0.2
GEC2				pmax	pmax		
	comp=Z,773nm,1.6s,mb6.2						
GERES	GERESS Array B	84.41	319	P	P	04 10 31.3	0.0
	comp=Z,85nm,0.5s,mb5.7,baz=98,slow=6.0,SNR=529						
GERES				pP	pP	04 11 21.7	+0.2

comp=Z,26nm,0.9s,baz=90,slow=5.3,SNR=1.7
GERES PP PP 04 13 49.3 0.0
comp=Z,26nm,1.1s,baz=90,slow=6.7,SNR=4.2
GERES S S 04 20 32.3 -7.5
comp=Z,1.3nm,0.8s,baz=72,slow=6.3,SNR=2.7
GERES GERESS Array B 84.41 319 P **P 04 10 31.3 0.0**
GERES 04 13 49.3
GERES S S 04 20 32.3 -7.6
GERES pmax pmax
comp=Z,85nm,0.5s
GERES smax
comp=N,1.0nm,0.8s
RUE Ruedersdorf 84.45 322 *e*P **P 04 10 31.5 0.0**
comp=Z,1μm,0.9s,mb6.7
RUE *e*pP pP 04 11 21.4 -0.3
RUE Ruedersdorf 84.45 322 *e*P **P 04 10 31.5 0.0**
comp=Z,684nm,0.6s,mb6.6
RUE *e*pP pP 04 11 21.4 -0.3
KHC Kasperske Hory 84.50 319⇓*i*P **P 04 10 31.6 -0.1**
KHC PCP PcP 04 10 35.0 +0.1
KHC x x 04 10 50.0
KHC *e*pP pP 04 11 20.9 -1.0
KHC *e*SKS 04 20 35.1
KHC *e*PKPPKP 04 36 42.4
KHC Kasperske Hory 84.50 319⇓*i*P **P 04 10 31.6 -0.1**
KHC *e* 04 10 35.0
KHC *e* 04 10 50.0
KHC *e*pP pP 04 11 20.9 -1.0
KHC *e*SKS 04 20 35.1
AQU L'Aquila 84.54 312 *e*P **P 04 10 32.0 +0.1**
AQU pmax pmax
comp=Z,1μm,1.2s,mb6.6
AQU L'Aquila 84.54 312 *e*P **P 04 10 32.0 +0.1**
comp=Z,1μm,1.2s,mb6.6
AQU L'Aquila 84.54 312⇓*i*P **P 04 10 32.2 +0.3**
KBA Koelnbreinsper 84.62 317⇓*i*P **P 04 10 31.7 -0.6**
comp=Z,243nm,1.4s,mb5.7,SNR=48
KBA ⇑*i*SKSac SKSac 04 20 33.1 -3.5
comp=Z,2μm,5.0s
KBA Koelnbreinsper 84.62 317⇓*i*P **P 04 10 31.7 -0.7**
KBA *i* 04 20 31.1
KBA pmax pmax
comp=Z,243nm,1.4s,mb5.7
KBA Koelnbreinsper 84.62 317⇓*i*P **P 04 10 31.7 -0.6**
comp=Z,243nm,1.4s,mb5.7
KBA *i* 04 20 31.1
FBE Freiberg 84.68 321 *e*P **P 04 10 32.8 +0.2**
comp=Z,1μm,1.5s,mb6.3
CING Cingoli 84.69 313 P **P 04 10 33.2 +0.5**
USI Ustica 84.70 308 P **P 04 10 32.5 -0.2**
MOR8 Moi Rana 84.72 336 *e*P **P 04 10 31.6 -1.2**
MOR8 AMb AMB 04 10 33.9
comp=Z,482nm,1.1s,mb6.2
MOR8 *e*PP PP 04 13 51.6 -0.2
MOR8 Moi Rana 84.72 336 *e*P **P 04 10 31.5 -1.4**
comp=Z,482nm,1.1s,mb6.1
HFS Hagfors 84.76 330 P **P 04 10 32.6 -0.4**
comp=Z,158nm,0.5s,mb6.0,baz=108,slow=4.8,SNR=438
HFS pP pP 04 11 22.1 -1.1
comp=Z,106nm,0.9s,baz=114,slow=3.6,SNR=3.0
HFS S S 04 20 33.3 -10
comp=Z,9.6nm,0.9s,baz=139,slow=13,SNR=4.0
HFS Hagfors 84.76 330 P **P 04 10 32.6 -0.4**
HFS S S 04 20 33.3 -10
HFS pmax pmax
comp=Z,158nm,0.5s
HFS smax
comp=N,10.0nm,0.9s
RGN Rugen 84.78 324 *e*P **P 04 10 33.4 +0.3**
comp=Z,578nm,1.2s,mb6.2
RGN Rugen 84.78 324 *e*P **P 04 10 33.6 +0.4**
comp=Z,501nm,1.1s,mb6.2
CLL Collm 84.91 321⇓*i*P **P 04 10 33.5 -0.3**
comp=Z,499nm,1.4s,mb6.0
CLL *e*pP pP 04 11 23.5 -0.5
CLL *e*SKSac SKSac 04 20 34.6 -3.8
CLL *e*S S 04 20 40.8 -3.9
CLL *e*ScS ScS 04 20 54.9 +0.4
CLL *e*SP 04 21 33.2
CLL *e*PS 04 22 12.0
CLL *e*SS SS 04 26 28.2 +6.0
CLL *e*SSSS 04 32 51.7
CLL *e*PKPPKPdf 04 36 50.1
CLL *e*SKPPKPdf 04 40 01.8
CLL Collm 84.91 321⇓*i*P **P 04 10 33.6 -0.2**
CLL *e* 04 20 34.0
CLL *e*S S 04 20 40.0 -4.7
CLL pmax pmax
comp=Z,492nm,1.4s,mb6.0
CLL Collm 84.91 321⇓*i*P **P 04 10 33.6 -0.2**
comp=Z,492nm,1.4s,mb6.0
CLL *i*pP pP 04 11 23.5 -0.5
CLL *e*SKS 04 20 34.0
CLL *e*S S 04 20 40.0 -4.7
CLL P'P' 04 36 49.0
CLL Collm 84.91 321⇓*i*P **P 04 10 33.6 -0.2**
comp=Z,492nm,1.4s,mb6.0
CLL *e*Plp 04 10 36.0
CLL *i*pP pP 04 11 23.5 -0.5
CLL *e*SKSac SKSac 04 20 34.0 -4.4
CLL *e*S S 04 20 40.0 -4.7
comp=N,5μm,16.0s
CLL *e*S S 04 20 40.0 -4.7
comp=E,7μm,11.3s
CLL *e*ScS ScS 04 20 54.0 -0.5
CLL *e*SP 04 21 34.0
CLL *e*PS 04 22 04.0
CLL *e*(pPS) 04 22 25.0
CLL *e*x x 04 24 18.0
CLL *e*SSSS 04 32 48.0
CLL *e*PKPPKPdf 04 36 49.0
WET Wettzell 84.96 319 *e*P **P 04 10 34.1 +0.1**
comp=Z,289nm,1.2s,mb5.9
WET *e*SKSac SKSac 04 20 36.5 -2.2
WET Wettzell 84.96 319 *e*P **P 04 10 34.1 +0.1**
WET *e* 04 20 36.5
WET pmax pmax
comp=Z,289nm,1.2s,mb5.9
RDP Rocca di Papa 85.05 311 P **P 04 10 34.2 -0.3**
SPB4 Spitsbergen Ar 85.18 348 *e*P **P 04 10 33.9 -1.2**
LOF Lofoten 85.18 338 *e*P **P 04 10 36.2 +1.0**
LOF AMb AMB 04 10 37.9
comp=Z,318nm,0.8s,mb6.1
LOF Lofoten 85.18 338 *e*P **P 04 10 36.2 +1.0**
comp=Z,318nm,0.8s,mb6.1
ROM9 Roma 85.20 312 P **P 04 10 35.4 +0.2**
TANN Tannenbergstha 85.24 320 *e*P **P 04 10 35.5 +0.1**
comp=Z,305nm,1.5s,mb5.8
NKC Novy Kostel 85.25 320⇓*i*P **P 04 10 35.6 +0.1**
NKC *e*SKS 04 20 40.5
NKC *e*PKPPKP 04 36 47.2
NKC Novy Kostel 85.25 320⇓*i*P **P 04 10 35.6 +0.1**
NKC *e*SKS 04 20 40.5
WERN Wernitzgruen 85.30 320 *e*P **P 04 10 35.9 +0.2**
comp=Z,183nm,1.2s,mb5.7
STOK Stokkvaagen 85.31 336 *e*P **P 04 10 35.0 -0.8**
STOK AMb AMB 04 10 37.4
comp=Z,423nm,0.8s,mb6.2
STOK Stokkvaagen 85.31 336 *e*P **P 04 10 35.0 -0.8**
comp=Z,423nm,0.8s,mb6.2
COP Copenhagen 85.31 325⇓*i*P **P 04 10 36.0 +0.2**
comp=Z,205nm,0.8s,mb5.9
COP *i* S S 04 20 42.4 -6.3
COP *i* 04 20 48.5
COP *e* 04 22 14.4
COP Copenhagen 85.31 325⇓*i*P **P 04 10 36.0 +0.2**
COP *i* S S 04 20 42.4 -6.3
COP *e* 04 22 14.4
COP pmax pmax
comp=Z,205nm,0.8s,mb5.9
GUNZ Gunzen 85.32 320 *e*P **P 04 10 36.1 +0.3**
comp=Z,496nm,1.5s,mb6.0
WERD Werda 85.34 320 *e*P **P 04 10 35.9 0.0**
comp=Z,458nm,1.5s,mb6.0
ROTZ Rotzenmuhle 85.40 319 *e*P **P 04 10 36.7 +0.5**
comp=Z,562nm,1.5s,mb6.1
MANZ Manzenberg 85.47 320 *e*P **P 04 10 37.2 +0.7**
comp=Z,600nm,1.4s,mb6.1
MANZ *e*pP pP 04 11 25.9 -0.9
NSS Namsos 85.69 334 *e*P **P 04 10 34.7 -3.0**
NSS AMb AMB 04 10 38.2
comp=Z,423nm,1.2s,mb6.0
NSS *e*SKS 04 20 42.0
NSS *e*S S 04 20 48.6 -3.8
NSS Namsos 85.69 334 *e*P **P 04 10 34.7 -3.0**
comp=Z,423nm,1.2s,mb6.0
MOX Moxa 85.78 320 *e*P **P 04 10 38.1 0.0**
comp=Z,580nm,1.5s,mb6.1
MOX *e*SKSac SKSac 04 20 40.6 -3.3
MOX Moxa 85.78 320 *e*P **P 04 10 38.2 +0.1**
comp=Z,613nm,1.6s,mb6.1
MOX *e* pP 04 11 28.2 -0.2
MOX *e* 04 13 56.4
MOX
comp=Z,800nm,22.0s
MOX Moxa 85.78 320 *e*P **P 04 10 38.2 +0.1**
MOX *e* 04 13 56.4
MOX pmax pmax
comp=Z,613nm,1.6s,mb6.1
MOX MLR MLR
comp=Z,800nm,22.0s
WTTA Wattenberg 85.79 317 *i*P **P 04 10 37.6 -0.5**
comp=Z,631nm,1.7s,mb6.1,SNR=80
WTTA ⇓*i*SKSac SKSac 04 20 41.7 -2.3
comp=Z,3μm,5.3s
WTTA Wattenberg 85.79 317 *i*P **P 04 10 37.6 -0.5**
WTTA *i* 04 20 38.7
WTTA pmax pmax
comp=Z,631nm,1.7s,mb6.1
WTTA Wattenberg 85.79 317 *i*P **P 04 10 37.6 -0.5**
comp=Z,631nm,1.7s,mb6.1
WTTA *i* 04 20 38.7
WATA Walderalm 85.83 317⇓*i*P **P 04 10 37.6 -0.7**
comp=Z,359nm,1.4s,mb5.9,SNR=48
WATA ⇓*i*SKSac SKSac 04 20 45.4 +1.2
comp=Z,42nm,1.1s
WATA Walderalm 85.83 317⇓*i*P **P 04 10 37.6 -0.7**
WATA *i* 04 20 45.4
WATA pmax pmax
comp=Z,359nm,1.4s,mb5.9
NB2 NORSAR Subarra 86.00 331 P **P 04 10 38.6 -0.6**
comp=Z,265nm,0.9s,mb6.0,baz=92,slow=4.8
NOA NORSAR Array B 86.00 331 P **P 04 10 38.4 -0.8**
comp=Z,193nm,0.9s,mb5.8,baz=91,slow=4.9,SNR=197
NOA pP pP 04 11 28.6 -0.9
comp=Z,38nm,1.0s,baz=90,slow=4.9,SNR=1.4
NOA PP PP 04 14 01.4 -0.7
comp=Z,32nm,0.8s,baz=86,slow=7.5,SNR=7.8
NOA NORSAR Array B 86.00 331 P **P 04 10 38.4 -0.8**
NOA 04 14 01.5
NOA pmax pmax
comp=Z,193nm,0.9s
FUR Furstenfeldbru 86.02 318 *e*P **P 04 10 38.8 -0.5**
comp=Z,314nm,1.2s,mb5.9
FUR Furstenfeldbru 86.02 318 *e*P **P 04 10 38.8 -0.5**
FUR pmax pmax
comp=Z,314nm,1.2s,mb5.9
GRA1 Grafenberg Arr 86.04 319 *e*P **P 04 10 39.8 +0.4**
comp=Z,819nm,1.5s,mb6.2
GRA1 *e*pP pP 04 11 28.9 -0.8
GRA1 *e*SKSac SKSac 04 20 42.7 -2.8
GRA1 *e*ScS ScS 04 21 05.1 +1.3
GRF Grafenberg Arr 86.04 319 *e*P **P 04 10 39.8 +0.4**
comp=Z,819nm,1.5s,mb6.2
GRF *e*pP pP 04 11 28.9 -0.8
GRF *e*SKSac SKSac 04 20 42.7 -2.8
GRF *e*ScS ScS 04 21 05.1 +1.3
GRF Grafenberg Arr 86.04 319 *e*P **P 04 10 39.8 +0.4**
GRF *e* 04 20 42.7
GRF pmax pmax
comp=Z,819nm,1.5s,mb6.2
GRFO Grafenberg 86.04 319 *e*P **P 04 10 39.8 +0.4**
comp=Z,733nm,1.5s,mb6.2
GRFO Grafenberg 86.04 319 P **P 04 10 40.0 +0.6**
GRFO pmax pmax
comp=Z,300nm,1.0s,mb6.0
APPI Appiano 86.08 316 P **P 04 10 38.6 -0.9**
SQTA Sankt Quirin 86.08 317 *i*P **P 04 10 39.1 -0.5**
comp=Z,108nm,0.8s,mb5.6,SNR=238
SQTA ⇓*i*SKSac SKSac 04 20 43.7 -2.1
comp=Z,138nm,1.4s
SQTA Sankt Quirin 86.08 317 *i*P **P 04 10 39.1 -0.5**
SQTA *i* 04 20 43.7
SQTA pmax pmax
comp=Z,108nm,0.8s,mb5.6
KBS Kingsbay 86.11 349 *e*P **P 04 10 38.4 -1.3**
KBS *e*pP pP 04 11 28.8 -1.3
KBS *e*SKS 04 20 44.5
KBS *e* 04 20 50.2
KBS Kingsbay 86.11 349 P **P 04 10 37.7 -2.0**
KBS pmax pmax
comp=Z,150nm,1.2s,mb5.6
KBS Kingsbay 86.11 349 *e*P **P 04 10 37.4 -2.3**
comp=Z,154nm,1.3s,mb5.6
MOTA Moosalm 86.15 317 *i*P **P 04 10 39.3 -0.6**
comp=Z,255nm,1.1s,mb5.9,SNR=131
MOTA ⇑*i*SKSac SKSac 04 20 43.6 -2.6
comp=Z,59nm,1.0s
MOTA Moosalm 86.15 317 *i*P **P 04 10 39.3 -0.6**
MOTA *i* 04 20 43.6
MOTA pmax pmax
comp=Z,255nm,1.1s,mb5.9
NAO01 NORSAR Array S 86.16 331 *e*P **P 04 10 39.2 -0.8**
comp=Z,89nm,0.7s,mb5.6
OSL Oslo 86.25 330 *e*P **P 04 10 40.4 0.0**
OSL AMb AMB 04 10 42.4
comp=Z,843nm,1.3s,mb6.3
OSL Oslo 86.25 330 *e*P **P 04 10 40.4 0.0**
comp=Z,843nm,1.3s,mb6.3
BSEG Bad Segeberg 86.54 324 *e*P **P 04 10 42.1 +0.3**
comp=Z,901nm,1.5s,mb6.3
CLZ Clausthal 86.55 322 *e*P **P 04 10 42.1 +0.3**
comp=Z,1μm,1.5s,mb6.4
CLZ *e*SKSac SKSac 04 20 45.4 -3.2
CLZ *e*ScS ScS 04 21 06.6 -1.4
CLZ Clausthal 86.55 322 *e*P **P 04 10 42.1 +0.3**
CLZ *e* 04 20 45.4
CLZ pmax pmax
comp=Z,1μm,1.5s,mb6.4
NRDL Niedersach Rie 86.70 322 *e*P **P 04 10 42.4 -0.2**
comp=Z,1μm,1.4s,mb6.5
VLC Villacollemand 86.72 314 *e*P **P 04 10 42.1 -0.6**
comp=Z,46nm,0.6s,mb5.4
VLC *e*PP PP 04 14 08.6 +0.7
FUORN Ofenpass 86.74 316⇓*i*P **P 04 10 37.5 -5.3**
comp=Z,2μm,2.7s,mb6.4
FUORN Ofenpass 86.74 316⇓*i*P **P 04 10 43.3 +0.5**
UBBA Unterbreizbach 86.81 321 *e*P **P 04 10 43.2 +0.1**
comp=Z,171nm,0.9s,mb5.8
KONO Kongsberg 86.82 329 *e*P **P 04 10 42.3 -0.8**
KONO *e*SKS 04 20 48.0
KONO Kongsberg 86.82 329 *d*P **P 04 10 42.6 -0.6**
KONO Kongsberg 86.82 329 *e*P **P 04 10 42.9 -0.3**
comp=Z,387nm,0.9s,mb6.1
BERNI Berninapass 86.91 316⇓*i*P **P 04 10 42.9 -0.7**
comp=Z,2μm,1.6s,mb6.5
BERNI Berninapass 86.91 316⇓*i*P **P 04 10 44.2 +0.6**
DAVA Damuels 86.98 317⇓*i*P **P 04 10 44.1 +0.2**
comp=Z,644nm,1.4s,mb6.2,SNR=67
DAVA ⇑*i*SKSac SKSac 04 20 48.1 -3.2
comp=Z,5μm,5.6s
DAVOX Davos 87.00 317⇓*i*P **P 04 10 43.3 -0.7**
comp=Z,603nm,0.6s,mb6.5
DAVOX Davos 87.00 317⇓*i*P **P 04 10 44.5 +0.5**
DOMB Dombas 87.02 332 *e*P **P 04 10 43.6 -0.5**
DOMB AMb AMB 04 10 46.1
comp=Z,209nm,1.6s,mb5.6
DOMB *e*PP PP 04 14 10.9 +0.6
DOMB Dombas 87.02 332 *e*P **P 04 10 43.6 -0.5**
comp=Z,209nm,1.6s,mb5.6
MUD Monsted U'grnd 87.13 326⇓*i*P **P 04 10 45.2 +0.5**
MUD *i* 04 11 40.6
MUD *i* S SKSac 04 20 53.5 +1.3
MUD *i* 04 21 08.5
LIENZ Alp Oberkamor 87.25 317⇓*i*P **P 04 10 44.2 -1.0**
comp=Z,1μm,1.4s,mb6.4
LIENZ Alp Oberkamor 87.25 317⇓*i*P **P 04 10 45.5 +0.3**
VDL Val di Lei 87.29 316⇓*i*P **P 04 10 44.2 -1.2**
comp=Z,1μm,3.8s
VDL Val di Lei 87.29 316⇓*i*P **P 04 10 45.5 +0.1**
PLONS Plons 87.33 317⇓*i*P **P 04 10 44.2 -1.4**
comp=Z,1μm,1.2s,mb6.5
PLONS Plons 87.33 317⇓*i*P **P 04 10 45.8 +0.2**
STU Stuttgart 87.39 319 *e*P **P 04 10 46.0 +0.1**
comp=Z,489nm,1.6s,mb6.0
STU Stuttgart 87.39 319 *e*P **P 04 10 45.8 -0.1**
STU *e* 04 14 11.9
STU pmax pmax
comp=Z,161nm,0.8s,mb5.8
STU Stuttgart 87.39 319 *e*P **P 04 10 45.8 -0.1**
comp=Z,161nm,0.8s,mb5.8
STU *e*pP pP 04 11 35.9 -0.5
STU *e*PP PP 04 14 11.9 -1.4
SPIA Saint Paul Isl 87.49 33 *e*P **P 04 10 48.3 +2.0**
WEIN Weingarten 87.58 317⇓*i*P **P 04 10 45.5 -1.3**
comp=Z,2μm,3.2s
WEIN Weingarten 87.58 317⇓*i*P **P 04 10 46.7 -0.1**
LLS Linth-Limmern 87.59 317⇓*i*P **P 04 10 45.5 -1.3**
comp=Z,2μm,3.3s
LLS Linth-Limmern 87.59 317⇓*i*P **P 04 10 47.0 +0.2**
MUGIO Muggio 87.61 316⇓*i*P **P 04 10 44.5 -2.4**
comp=Z,2μm,3.9s
MUGIO Muggio 87.61 316⇓*i*P **P 04 10 45.9 -1.0**
TOD Tromm 87.61 319 *e*P **P 04 10 46.9 0.0**
VNDA Vanda 87.62 169 P **P 04 10 46.0 -1.0**
comp=Z,18nm,0.6s,mb5.1,baz=301,slow=5.3,SNR=50
VNDA pP pP 04 11 37.2 -0.3
comp=Z,21nm,0.8s,baz=321,slow=6.2,SNR=3.0
VNDA S SKSac 04 20 48.4 -6.8
comp=Z,6.3nm,1.2s,baz=107,slow=12,SNR=3.5
VNDA PKKPbc PKKPbc 04 28 38.5 +4.8
comp=Z,3.2nm,0.8s,baz=282,slow=1.6,SNR=8.2
VNDA Vanda 87.62 169 P **P 04 10 46.0 -1.0**
VNDA S SKSac 04 20 48.4 -6.8
VNDA smax
comp=N,6.0nm,1.2s
VNDA Vanda 87.62 169 *e*P **P 04 10 45.9 -1.0**
comp=N,180nm,1.6s,mb5.7
VSL Villasalto 87.64 309 *e*P **P 04 10 46.5 -0.5**
comp=N,178nm,0.9s,mb5.9
VSL *e*pP pP 04 11 36.8 -0.8
VSL *e*PP PP 04 14 15.0 -0.3
WILA Wila 87.64 317⇓*i*P **P 04 10 45.8 -1.3**
comp=N,3μm,3.1s
WILA Wila 87.64 317⇓*i*P **P 04 10 47.1 0.0**
STEIN Stein am Rhein 87.66 317⇓*i*P **P 04 10 45.8 -1.3**
comp=N,1μm,1.3s,mb6.6
STEIN Stein am Rhein 87.66 317⇓*i*P **P 04 10 47.1 0.0**
SPAK Spaichingen-Ko 87.69 318 *e*P **P 04 10 47.1 -0.2**
MOL Molde 87.71 332 *e*P **P 04 10 46.9 -0.4**
MOL AMb AMB 04 10 49.8
comp=Z,453nm,1.2s,mb6.2
MOL Molde 87.71 332 *e*P **P 04 10 46.9 -0.4**
comp=Z,453nm,1.2s,mb6.2
TRULL Truellikon 87.78 317⇓*i*P **P 04 10 45.9 -1.8**
comp=Z,1μm,1.6s,mb6.5
TRULL Truellikon 87.78 317⇓*i*P **P 04 10 47.6 -0.1**
PGF Pioggiola 87.79 312⇓*i*P **P 04 10 48.0 +0.2**
comp=Z,266nm,1.1s,mb5.7
PGF *e*pP pP 04 11 35.7 -2.6
PGF Pioggiola 87.79 312⇓*i*P **P 04 10 48.0 +0.2**
PGF pmax pmax
comp=Z,133nm,1.0s,mb5.7
PGF Pioggiola 87.79 312⇓*i*P **P 04 10 48.0 +0.2**
comp=Z,133nm,1.0s,mb5.7
PGF *e*pP pP 04 11 35.7 -2.6
TNS Taunus Mts 87.82 320 *e*P **P 04 10 48.3 +0.4**
comp=Z,684nm,1.0s,mb6.4
TNS Taunus Mts 87.82 320 *e*P **P 04 10 48.3 +0.4**
TNS pmax pmax
comp=Z,684nm,1.0s,mb6.4
KEST Kesra 87.83 305 P **P 04 10 49.3 +1.4**
comp=Z,113nm,1.0s,mb5.7,baz=101,slow=0.5,SNR=121
KEST pP pP 04 11 38.8 +0.2
comp=Z,67nm,1.0s,baz=37,slow=4.4,SNR=4.4
KEST S SKSac 04 20 57.8 +1.4
comp=Z,5.0nm,1.0s,baz=210,slow=19,SNR=11
KEST PKKPbc PKKPbc 04 28 35.3 +2.0
comp=Z,2.3nm,0.5s,baz=199,slow=2.3,SNR=34
MUO Muotathal 87.84 317⇓*i*P **P 04 10 46.2 -1.8**
comp=Z,1μm,1.4s,mb6.6
MUO Muotathal 87.84 317⇓*i*P **P 04 10 48.4 +0.4**
FLACH Flaach 87.86 317⇓*i*P **P 04 10 48.0 -0.1**
ZUR Zurich 87.86 317⇓*i*P **P 04 10 46.7 -1.4**
comp=Z,2μm,2.9s,mb6.3
ZUR Zurich 87.86 317⇓*i*P **P 04 10 48.1 0.0**
HLG Helgoland 87.97 324 *e*P **P 04 10 49.0 +0.4**
comp=Z,304nm,0.9s,mb6.1
BFO Black Forest 87.99 318 P **P 04 10 48.9 +0.2**
comp=Z,1μm,0.9s,mb6.7,SNR=45
BFO Black Forest 87.99 318 *e*P **P 04 10 48.3 -0.4**
comp=Z,203nm,0.9s,mb6.0
BFO Black Forest 87.99 318 *e*P **P 04 10 48.3 -0.4**
BFO pmax pmax
comp=Z,203nm,0.9s,mb6.0
BNALP Bannalp 88.00 317⇓*i*P **P 04 10 47.6 -1.1**
comp=Z,2μm,3.5s
BNALP Bannalp 88.00 317⇓*i*P **P 04 10 49.0 +0.3**
KTD Kalmit 88.10 319 *e*P **P 04 10 49.5 +0.3**
SNART Snartemo 88.11 328 *e* **P 04 10 50.3 +1.0**
SULZ Sulz-Cheisache 88.17 317⇓*i*P **P 04 10 48.0 -1.6**
comp=Z,654nm,1.2s,mb6.3
SULZ Sulz-Cheisache 88.17 317⇓*i*P **P 04 10 49.3 -0.3**
HASLI Hasliberg 88.19 317⇓*i*P **P 04 10 47.6 -2.0**
comp=Z,2μm,3.6s
HASLI Hasliberg 88.19 317⇓*i*P **P 04 10 49.8 +0.2**
FELD Feldberg im Sc 88.23 318⇓*e*P **P 04 10 49.9 +0.1**
LANF Langenberg 88.30 319 *e*P **P 04 10 50.3 +0.1**
STR Strasbourg 88.35 318 *e*P **P 04 10 50.8 +0.4**
MMK Mattmark 88.36 316⇓*i*P **P 04 10 49.0 -1.4**
comp=Z,2μm,3.7s
MMK Mattmark 88.36 316⇓*i*P **P 04 10 50.7 +0.3**
ABH Alteburg 88.42 320 *e*P **P 04 10 51.4 +0.7**
BALST Balsthal 88.47 317⇓*i*P **P 04 10 48.4 -2.6**
comp=Z,966nm,1.4s,mb6.5
BALST Balsthal 88.47 317⇓*i*P **P 04 10 50.9 -0.1**
BUG Bochum--Univer 88.50 321 *e*P **P 04 10 51.4 +0.3**
comp=Z,502nm,0.9s,mb6.3
WIMIS Wimmis 88.56 316⇓*i*P **P 04 10 48.8 -2.6**
comp=Z,2μm,3.2s
WIMIS Wimmis 88.56 316⇓*i*P **P 04 10 51.5 +0.1**
LKBD Leukerbad 88.57 316⇓*i*P **P 04 10 49.0 -2.4**
comp=Z,715nm,1.1s,mb6.4
LKBD Leukerbad 88.57 316⇓*i*P **P 04 10 51.9 +0.5**
BBS Basel-Blauen 88.59 317 *e*P **P 04 10 51.2 -0.3**
CDF Champ du Feu 88.68 318⇓*i*P **P 04 10 51.9 -0.1**
SBA Scott Base 88.72 169 *e*P **P 04 10 52.4 +0.2**
comp=Z,54nm,0.7s,mb5.5
DIX Grande Dixence 88.74 316⇓*i*P **P 04 10 49.3 -2.9**
comp=Z,1μm,1.2s,mb6.6
DIX Grande Dixence 88.74 316⇓*i*P **P 04 10 53.2 +1.0**
RUP Ruppelstein 88.74 320 *e*P **P 04 10 52.7 +0.5**
WTSB Winterswijk 88.75 322⇓*e*P **P 04 10 52.7 +0.4**
SAOF Saorge 88.77 314 *e*P **P 04 10 52.5 +0.1**
ECH Echery 88.77 318 *e*P **P 04 10 51.9 -0.5**
WIT Witteveen 88.78 323⇓*e*P **P 04 10 53.4 +1.0**
BOURR Bourrignon 88.78 317⇓*i*P **P 04 10 50.7 -1.7**
comp=Z,743nm,1.5s,mb6.3
BOURR Bourrignon 88.78 317⇓*i*P **P 04 10 52.3 -0.1**
SENIN Lac Senin 88.80 316⇓*i*P **P 04 10 49.8 -2.7**
comp=Z,2μm,2.9s,mb6.4
SENIN Lac Senin 88.80 316⇓*i*P **P 04 10 53.0 +0.5**
MOF Molkenrain 88.81 318 *e*P **P 04 10 52.1 -0.5**
AUTN L'Aution 88.86 314 *e*P **P 04 10 54.1 +1.3**
SBF Sospel 88.86 314⇓*i*P **P 04 10 53.1 +0.3**
comp=Z,582nm,0.8s,mb6.1
SBF Sospel 88.86 314⇓*i*P **P 04 10 53.1 +0.3**
SBF pmax pmax
comp=Z,291nm,0.8s,mb6.2
SBF Sospel 88.86 314⇓*i*P **P 04 10 53.1 +0.3**
comp=Z,291nm,0.8s,mb6.2
BER Bergen 88.92 330 *e*SKS SKSac 04 21 01.6 -1.3
BER *e* S 04 21 23.3 +0.2
REVF Revere 88.92 314 *e*P **P 04 10 52.5 -0.6**
LUCF Luceram 88.92 314 *e*P **P 04 10 53.5 +0.4**
GRYON Gryon 88.94 316⇓*i*P **P 04 10 50.9 -2.3**
comp=Z,1μm,2.3s,mb6.2
GRYON Gryon 88.94 316⇓*i*P **P 04 10 53.6 +0.4**
TOUF Mont Tournerai 88.99 314 *e*P **P 04 10 53.8 +0.4**
HINF Hinteralfeld 89.01 318⇓*i*P **P 04 10 53.1 -0.4**
AIGLE Aigle 89.04 316⇓*i*P **P 04 10 51.5 -2.1**
comp=Z,2μm,2.8s,mb6.4
AIGLE Aigle 89.04 316⇓*i*P **P 04 10 53.8 +0.2**
SALAN Lac Salanfe 89.04 316⇓*i*P **P 04 10 50.9 -2.7**
comp=Z,2μm,2.9s,mb6.3
SALAN Lac Salanfe 89.04 316⇓*i*P **P 04 10 54.2 +0.6**
LOMF Lomont 89.06 317 *e*P **P 04 10 53.4 -0.3**
MVIF Mont Vial 89.06 314 *e*P **P 04 10 53.3 -0.4**
EMV Vieux Emosson 89.09 316⇓*i*P **P 04 10 51.6 -2.3**
comp=Z,2μm,3.1s
EMV Vieux Emosson 89.09 316⇓*i*P **P 04 10 54.5 +0.6**
OG22 Abries 89.15 315 *e*P **P 04 10 54.1 0.0**
OG01 Vacheresse 89.23 316 *e*P **P 04 10 55.0 +0.5**
LPG La Plagne 89.24 315⇓*i*P **P 04 10 55.2 +0.6**

comp=Z,473nm,0.8s,mb6.1
LPG *ep*P pP 04 11 42.9 -2.4
LPG La Plagne 89.24 315 ⇓*iP* **P 04 10 55.2 +0.6**
LPG pmax pmax
comp=Z,237nm,0.8s,mb6.1
LPG La Plagne 89.24 315 ⇓*iP* **P 04 10 55.2 +0.6**
comp=Z,237nm,0.8s,mb6.1
LPG *ep*P pP 04 11 42.9 -2.4
LPL La Plagne 89.25 315 ⇓*iP* **P 04 10 55.2 +0.6**
comp=Z,821nm,0.9s,mb6.3
LPL La Plagne 89.25 315 ⇓*iP* **P 04 10 55.2 +0.6**
LPL pmax pmax
comp=Z,411nm,0.9s,mb6.3
LPL La Plagne 89.25 315 ⇓*iP* **P 04 10 55.2 +0.6**
comp=Z,410nm,0.9s,mb6.3
SURF Saint Ours 89.27 314 *eP* **P 04 10 55.7 +1.0**
MBDF Montbardon 89.28 315 ⇓*iP* **P 04 10 54.5 -0.3**
comp=Z,130nm,0.7s,mb5.6
MBDF Montbardon 89.28 315 ⇓*iP* **P 04 10 54.5 -0.3**
MBDF pmax pmax
comp=Z,65nm,0.7s,mb5.6
MBDF Montbardon 89.28 315 ⇓*iP* **P 04 10 54.5 -0.3**
comp=Z,65nm,0.7s,mb5.6
RSL Roselend 89.31 316 *eP* **P 04 10 55.2 +0.3**
ABSA Djebel Ababsia 89.31 306 P **P 04 10 56.0 +1.1**
BNI Bardonecchia 89.32 315 *eP* **P 04 10 54.4 -0.6**
BNI *e* 04 14 28.1
BNI pmax pmax
comp=Z,112nm,0.8s,mb5.8
BNI Bardonecchia 89.32 315 P **P 04 10 55.0 0.0**
BNI pmax pmax
comp=Z,110nm,0.8s,mb5.7
BNI Bardonecchia 89.32 315 *eP* **P 04 10 54.4 -0.6**
comp=Z,112nm,0.8s,mb5.8
BNI *ep*PP PP 04 14 28.1 -0.6
HAU Haudompre 89.33 318 ⇓*iP* **P 04 10 55.0 0.0**
comp=Z,796nm,0.9s,mb6.2
HAU *e*MLR
comp=Z,1μm,20.2s
HAU Haudompre 89.33 318 ⇓*iP* **P 04 10 55.0 0.0**
HAU pmax pmax
comp=Z,398nm,0.9s,mb6.2
HAU MLR MLR
comp=Z,1μm,20.3s
HAU Haudompre 89.33 318 ⇓*iP* **P 04 10 55.0 0.0**
comp=Z,398nm,0.9s,mb6.2
HAU LR LR
comp=Z,1μm,20.3s
WLF Walferdange 89.33 320 *eP* **P 04 10 55.7 +0.7**
comp=Z,718nm,1.4s,mb6.3
WLF *ep*P pP 04 11 43.9 -1.8
WLF *e*S S 04 21 25.9 -1.1
WLF Walferdange 89.33 320 P **P 04 10 55.6 +0.6**
comp=Z,358nm,1.6s,mb6.0
WLF Walferdange 89.33 320 P **P 04 10 55.6 +0.6**
WLF pmax pmax
comp=Z,460nm,1.1s,mb6.2
WLF Walferdange 89.33 320 *eP* **P 04 10 55.4 +0.4**
comp=Z,459nm,1.1s,mb6.2
CMAH Djebel Manchou 89.34 306 P **P 04 10 56.0 +1.0**
MEM Membach 89.35 320 P **P 04 10 55.2 +0.1**
comp=Z,174nm,1.2s,mb5.8
HGN Heimansgroeve 89.39 321 ⇓*eP* **P 04 10 55.1 -0.2**
comp=Z,254nm,1.7s,mb5.8
HGN *ep*P pP 04 11 45.2 -0.7
HGN *e*S SKSac 04 21 04.0 -1.6
FRF La Foret Royal 89.45 313 ⇓*iP* **P 04 10 56.0 +0.4**
comp=Z,802nm,1.0s,mb6.2
FRF La Foret Royal 89.45 313 ⇓*iP* **P 04 10 56.0 +0.4**
FRF pmax pmax
comp=Z,401nm,1.0s,mb6.2
FRF La Foret Royal 89.45 313 ⇓*iP* **P 04 10 56.0 +0.4**
comp=Z,401nm,1.0s,mb6.2
GIMEL Gimel 89.50 316 ⇓*iP* **P 04 10 51.9 -3.9**
comp=Z,2μm,2.9s,mb6.4
GIMEL Gimel 89.50 316 ⇓*iP* **P 04 10 56.3 +0.5**
BEBN Eben Emael 89.55 321 P **P 04 10 56.3 +0.3**
comp=Z,70nm,1.4s,mb5.3
THEF They Montfort 89.56 318 *eP* **P 04 10 55.7 -0.3**
LMR La Mourre 89.57 313 ⇓*iP* **P 04 10 56.3 +0.2**
comp=Z,623nm,1.2s,mb6.0
LMR *ep*P pP 04 11 44.3 -2.5
LMR La Mourre 89.57 313 ⇓*iP* **P 04 10 56.3 +0.2**
LMR pmax pmax
comp=Z,311nm,1.2s,mb6.0
LMR La Mourre 89.57 313 ⇓*iP* **P 04 10 56.3 +0.2**
comp=Z,311nm,1.2s,mb6.0
LMR *ep*P pP 04 11 44.3 -2.5
CABF La Chapelle 89.61 316 ⇓*iP* **P 04 10 56.9 +0.6**
comp=Z,407nm,0.8s,mb6.0
CABF La Chapelle 89.61 316 ⇓*iP* **P 04 10 56.9 +0.6**
CABF pmax pmax
comp=Z,203nm,0.8s,mb6.0
CABF La Chapelle 89.61 316 ⇓*iP* **P 04 10 56.9 +0.6**
comp=Z,203nm,0.8s,mb6.0
GDM Grand'Maison 89.71 315 *eP* **P 04 10 57.1 +0.3**
CAEH 'Ain El Ouahch 89.78 307 P **P 04 10 58.0 +0.9**
OG25 Le Caire 89.80 314 *eP* **P 04 10 57.8 +0.6**
BCLA Clavier 89.81 320 P **P 04 10 57.3 0.0**
comp=Z,170nm,1.6s,mb5.6
UNV Unalaska Valle 89.85 36 *eP* **P 04 10 57.1 -0.3**
comp=Z,85nm,0.8s,mb5.6
TAVF Tavernes 89.87 314 *eP* **P 04 10 58.1 +0.6**
ORIF Oris-en-Rattie 89.90 315 ⇓*iP* **P 04 10 58.0 +0.4**
comp=Z,280nm,0.8s,mb5.9
ORIF *e*MLR
comp=Z,2μm,22.2s
ORIF Oris-en-Rattie 89.90 315 ⇓*iP* **P 04 10 58.0 +0.4**
ORIF pmax pmax
comp=Z,140nm,0.8s,mb5.8
ORIF Oris-en-Rattie 89.90 315 ⇓*iP* **P 04 10 58.0 +0.4**
comp=Z,140nm,0.8s,mb5.8
CKFL Kef-Lekhel 89.92 306 P **P 04 10 59.0 +1.3**
AFI Afiamalu 89.95 104 *eP* **P 04 10 59.9 +2.0**
AFI pmax pmax
comp=Z,924nm,1.4s,mb6.4
AFI Afiamalu 89.95 104 *eP* **P 04 10 59.9 +2.1**
comp=Z,924nm,1.4s,mb6.4
AFI *ep*P pP 04 11 50.8 +2.2
STOF St-Etienne Org 89.95 314 *eP* **P 04 10 58.9 +1.0**
GRN Grenoble 89.97 315 *eP* **P 04 10 58.8 +0.8**
OG05 Jujurieux 90.10 316 *eP* **P 04 10 58.9 +0.3**
CASM Ain Smara 90.11 306 P **P 04 11 00.0 +1.4**
GIVF Givet 90.15 320 ⇓*iP* **P 04 10 59.1 +0.3**
comp=Z,502nm,1.3s,mb5.9
GIVF Givet 90.15 320 ⇓*iP* **P 04 10 59.1 +0.3**
GIVF pmax pmax
comp=Z,251nm,1.3s,mb5.9
GIVF Givet 90.15 320 ⇓*iP* **P 04 10 59.1 +0.3**
comp=Z,251nm,1.3s,mb5.9
MEZF Maizieres J'vi 90.15 318 ⇓*iP* **P 04 10 59.1 +0.3**
comp=Z,841nm,1.2s,mb6.1
MEZF Maizieres J'vi 90.15 318 ⇓*iP* **P 04 10 59.1 +0.3**
comp=Z,841nm,1.3s,mb6.4
SMRF Simiane la Rot 90.19 314 ⇓*iP* **P 04 11 00.0 +1.0**
comp=Z,662nm,1.3s,mb6.0
SMRF Simiane la Rot 90.19 314 ⇓*iP* **P 04 11 00.0 +1.0**
comp=Z,662nm,1.3s,mb6.3
CTEI Djebel Teioual 90.19 306 P **P 04 11 01.0 +2.0**
AKUT Akutan 90.25 36 *eP* **P 04 10 59.1 -0.2**
comp=Z,316nm,0.8s,mb6.2
AKUT LR LR
comp=Z,800nm,18.0s
DOU Dourbes 90.30 320 P **P 04 10 59.3 -0.2**
comp=Z,170nm,1.7s,mb5.6
OCF Saint Nazaire 90.34 315 *eP* **P 04 10 58.9 -0.8**
OG26 St.-Nazaire-De 90.34 315 *eP* **P 04 10 58.9 -0.8**
GELF Grande-Etoile 90.35 313 *eP* **P 04 11 00.5 +0.8**
UCC Uccle 90.38 321 P **P 04 10 59.0 -0.9**
SNF Seneffe 90.45 320 P **P 04 11 00.4 +0.2**
comp=Z,172nm,1.6s,mb5.6
PRAF Pradon 90.50 314 *eP* **P 04 11 00.9 +0.5**
BAIF Baives 90.55 320 ⇓*iP* **P 04 11 01.2 +0.5**
comp=Z,930nm,1.2s,mb6.3
BAIF *ep*P pP 04 11 49.1 -2.3
BAIF Baives 90.55 320 ⇓*iP* **P 04 11 01.2 +0.5**
BAIF pmax pmax
comp=Z,465nm,1.2s,mb6.3
BAIF Baives 90.55 320 ⇓*iP* **P 04 11 01.2 +0.5**
comp=Z,465nm,1.2s,mb6.3
BAIF *ep*P pP 04 11 49.1 -2.3
DFRA Djebel Bou Aff 90.58 306 P **P 04 11 03.0 +2.2**
CMER Merouana 90.64 306 P **P 04 11 04.0 +2.9**
VIVF Saint-Julien-I 90.76 315 ⇓*iP* **P 04 11 02.0 +0.4**
comp=Z,374nm,0.9s,mb6.0
VIVF *ep*P pP 04 11 49.8 -2.6
VIVF Saint-Julien-I 90.76 315 ⇓*iP* **P 04 11 02.0 +0.4**
VIVF pmax pmax
comp=Z,187nm,0.9s,mb6.0
VIVF Saint-Julien-I 90.76 315 ⇓*iP* **P 04 11 02.0 +0.4**
comp=Z,187nm,0.9s,mb6.0
VIVF *ep*P pP 04 11 49.8 -2.6
SET Setif 90.99 306 P **P 04 11 04.0 +1.3**
LOR Lormes 91.08 317 ⇓*iP* **P 04 11 03.4 +0.3**
comp=Z,897nm,1.0s,mb6.3
LOR *ep*P pP 04 11 51.3 -2.6
LOR *e*MLR
comp=Z,1μm,21.0s
LOR Lormes 91.08 317 ⇓*iP* **P 04 11 03.4 +0.3**
LOR pmax pmax
comp=Z,448nm,1.0s,mb6.3
LOR MLR MLR
comp=Z,1μm,21.0s
LOR Lormes 91.08 317 ⇓*iP* **P 04 11 03.4 +0.3**
comp=Z,448nm,1.0s,mb6.3
LOR *ep*P pP 04 11 51.3 -2.6
LOR LR LR
comp=Z,1μm,21.0s
SMF Signal de Mont 91.15 317 ⇓*iP* **P 04 11 03.7 +0.2**
comp=Z,848nm,1.0s,mb6.3
SMF Signal de Mont 91.15 317 ⇓*iP* **P 04 11 03.7 +0.2**
SMF pmax pmax
comp=Z,424nm,1.0s,mb6.3
SMF Signal de Mont 91.15 317 ⇓*iP* **P 04 11 03.7 +0.2**
comp=Z,424nm,1.0s,mb6.3
SSF Saint Saulge 91.34 317 ⇓*iP* **P 04 11 04.5 +0.2**
comp=Z,645nm,1.4s,mb6.1
SSF Saint Saulge 91.34 317 ⇓*iP* **P 04 11 04.5 +0.2**
SSF pmax pmax
comp=Z,323nm,1.4s,mb6.1
SSF Saint Saulge 91.34 317 ⇓*iP* **P 04 11 04.5 +0.2**
comp=Z,323nm,1.4s,mb6.1
COLF Collangettes 91.38 316 *eP* **P 04 11 05.1 +0.6**
PLDF La Plantade 91.38 316 *eP* **P 04 11 05.1 +0.6**
LASF Ste Croix 91.42 314 ⇓*iP* **P 04 11 05.2 +0.5**
comp=Z,236nm,0.9s,mb5.8
AVF Avril sur Loir 91.47 317 ⇓*iP* **P 04 11 05.1 +0.2**
comp=Z,497nm,1.0s,mb6.1
AVF *ep*P pP 04 11 53.1 -2.6
AVF Avril sur Loir 91.47 317 ⇓*iP* **P 04 11 05.1 +0.2**
AVF pmax pmax
comp=Z,248nm,1.0s,mb6.1
AVF Avril sur Loir 91.47 317 ⇓*iP* **P 04 11 05.1 +0.2**
comp=Z,248nm,1.0s,mb6.1
AVF *ep*P pP 04 11 53.1 -2.6
AGO Saint Agoulin 91.71 316 *eP* **P 04 11 06.4 +0.4**
LBL Lubilhac 91.72 315 *eP* **P 04 11 06.4 +0.3**
MENF Mencas 91.80 321 *eP* **P 04 11 06.7 +0.2**
PYM Petit Puy Mans 91.83 316 *eP* **P 04 11 06.9 +0.3**
BGF Bois d'Agland 91.84 317 ⇓*iP* **P 04 11 07.2 +0.5**
comp=Z,919nm,1.3s,mb6.3
BGF *ep*P pP 04 11 55.3 -2.1
BGF Bois d'Agland 91.84 317 ⇓*iP* **P 04 11 07.2 +0.5**
BGF pmax pmax
comp=Z,459nm,1.3s,mb6.2
BGF Bois d'Agland 91.84 317 ⇓*iP* **P 04 11 07.2 +0.5**
comp=Z,459nm,1.3s,mb6.2
BGF *ep*P pP 04 11 55.3 -2.1
HYF Humbligny 91.90 317 ⇓*iP* **P 04 11 07.7 +0.8**
ATAF Djebel Tarf 91.93 306 P **P 04 11 10.0 +2.9**
AEU East Anglia Un 92.08 323 *eP* **P 04 11 08.5 +0.7**
ABA1 Baconsthorpe 92.10 323 *eP* **P 04 11 08.4 +0.6**
VERF Verneugheol 92.19 316 *eP* **P 04 11 09.1 +0.8**
AKET Djebel Ketaf 92.23 306 P **P 04 11 11.0 +2.5**
EJON La Jonquera 92.30 313 P **P 04 11 09.8 +1.0**
comp=Z,52nm,0.9s,mb5.5
SJAF Saint Jean de 92.30 313 *eP* **P 04 11 09.0 +0.2**
NVL N'lazarevskaya 92.31 199 *d iP* **P 04 11 10.1 +1.3**
NVL *i* S SKSac 04 21 16.3 -6.0
NVL pmax pmax
comp=Z,91nm,1.7s,mb5.4
TCF Toulx Ste Croi 92.31 316 ⇓*iP* **P 04 11 09.3 +0.5**
comp=Z,408nm,1.2s,mb5.9
TCF *ep*P pP 04 11 57.6 -2.0
TCF Toulx Ste Croi 92.31 316 ⇓*iP* **P 04 11 09.3 +0.5**
TCF pmax pmax
comp=Z,204nm,1.2s,mb5.9
TCF Toulx Ste Croi 92.31 316 ⇓*iP* **P 04 11 09.3 +0.5**
comp=Z,204nm,1.2s,mb5.9
TCF *ep*P pP 04 11 57.6 -2.0
MAIT Maitri 92.34 199 *eP* **P 04 11 10.0 +1.0**
MAIT *ep*PP pP 04 12 01.8 +2.0
MAIT *e*SKSac S 04 21 57.7 +3.4
LRDF Laroque-de-Fa 92.50 313 *eP* **P 04 11 09.9 +0.2**
FILF Fillols 92.53 313 *eP* **P 04 11 10.9 +1.1**
ADJB Djebel Djouab 92.58 306 P **P 04 11 12.0 +1.9**
CAF Calviac 92.59 315 ⇓*iP* **P 04 11 10.9 +0.8**
comp=Z,358nm,1.0s,mb6.0
CAF Calviac 92.59 315 ⇓*iP* **P 04 11 10.9 +0.8**
CAF pmax pmax
comp=Z,179nm,1.0s,mb6.0
CAF Calviac 92.59 315 ⇓*iP* **P 04 11 10.9 +0.8**
comp=Z,179nm,1.0s,mb6.0
ETOS Mallorca 92.67 310 P **P 04 11 12.5 +2.0**
comp=Z,75nm,0.8s,mb5.8
MTLF Montolieu 92.68 314 ⇓*iP* **P 04 11 11.1 +0.6**
comp=Z,280nm,0.9s,mb6.0
MTLF *ep*P pP 04 11 59.1 -2.2
MTLF Montolieu 92.68 314 ⇓*iP* **P 04 11 11.1 +0.6**
MTLF pmax pmax
comp=Z,140nm,0.9s,mb6.0
MTLF Montolieu 92.68 314 ⇓*iP* **P 04 11 11.1 +0.6**
comp=Z,140nm,0.9s,mb6.0
MTLF *ep*P pP 04 11 59.1 -2.2
DAG Danmarks Havn 92.83 348 ⇑*iP* **P 04 11 09.5 -1.7**
comp=Z,44nm,0.8s,mb5.5
DAG Danmarks Havn 92.83 348 ⇑*eP* **P 04 11 09.5 -1.7**
DAG pmax pmax
comp=Z,44nm,0.8s,mb5.5
DAG Danmarks Havn 92.83 348 ⇑*eP* **P 04 11 09.5 -1.7**
comp=Z,44nm,0.8s,mb5.5
ABA Alger-Bouzarea 92.83 307 P **P 04 11 13.0 +1.8**
CARF Carcanieres 92.84 313 *eP* **P 04 11 11.5 +0.2**
RJF Les Rejaudoux 92.93 316 ⇓*iP* **P 04 11 12.4 +0.7**
comp=Z,712nm,1.5s,mb6.2
RJF *ep*P pP 04 12 00.5 -1.9
RJF *e*MLR
comp=Z,973nm,21.5s
RJF Les Rejaudoux 92.93 316 ⇓*iP* **P 04 11 12.4 +0.7**
RJF pmax pmax
comp=Z,356nm,1.5s,mb6.2
RJF MLR MLR
comp=Z,970nm,21.5s
RJF Les Rejaudoux 92.93 316 ⇓*iP* **P 04 11 12.4 +0.7**
comp=Z,356nm,1.5s,mb6.2
RJF *ep*P pP 04 12 00.5 -1.9
RJF LR LR
comp=Z,970nm,21.5s
VALF Valcebollere 92.95 313 *eP* **P 04 11 13.0 +1.2**
EMHD Djebel Mahouad 92.96 306 P **P 04 11 14.0 +2.2**
SDPT Sand Point 93.11 34 *eP* **P 04 11 12.1 -0.4**
comp=Z,217nm,0.9s,mb6.2
QSPA South Pole Qui 93.36 180 *eP* **P 04 11 13.3 -0.4**
comp=Z,36nm,0.5s,mb5.7
QSPA *ep*P pP 04 12 03.8 -0.7
EMIR Miracle 93.37 312 P **P 04 11 14.8 +1.1**
comp=Z,97nm,0.7s,mb5.9
SKP1 Kophill 93.47 322 *eP* **P 04 11 14.2 0.0**
SALF Salau 93.51 313 *eP* **P 04 11 14.1 -0.2**
LFF La Frestale 93.52 315 ⇓*iP* **P 04 11 15.2 +0.8**
comp=Z,459nm,1.3s,mb6.0
LFF La Frestale 93.52 315 ⇓*iP* **P 04 11 15.2 +0.8**
LFF pmax pmax
comp=Z,230nm,1.3s,mb6.0
LFF La Frestale 93.52 315 ⇓*iP* **P 04 11 15.2 +0.8**
comp=Z,230nm,1.3s,mb6.0
MLS Moulis 93.55 313 *eP* **P 04 11 14.4 -0.1**
LDF La Druitiere 93.55 319 ⇓*iP* **P 04 11 14.3 -0.2**
comp=Z,136nm,0.7s,mb5.8
LDF *ep*P pP 04 12 02.5 -2.8
LDF La Druitiere 93.55 319 ⇓*iP* **P 04 11 14.3 -0.2**
LDF pmax pmax
comp=Z,68nm,0.7s,mb5.8
LDF La Druitiere 93.55 319 ⇓*iP* **P 04 11 14.3 -0.2**
comp=Z,68nm,0.7s,mb5.8
LDF *ep*P pP 04 12 02.5 -2.8
KBI1 Birley Grange 93.63 324 *eP* **P 04 11 14.2 -0.7**
MME1 Meikle Cairn 93.64 328 *eP* **P 04 11 15.2 +0.3**
XAL Allendale 93.72 325 *eP* **P 04 11 15.1 -0.2**
MCD Coleburn Disti 93.73 328 *eP* **P 04 11 15.9 +0.5**
ESY Stoneypath 93.73 326 *eP* **P 04 11 15.7 +0.3**
ALE Alert 93.75 358 P **P 04 11 14.9 -0.5**
comp=Z,158nm,1.0s,mb6.0,SNR=14
FLN La Foliniere 93.76 319 ⇓*iP* **P 04 11 15.4 -0.1**
comp=Z,134nm,0.8s,mb5.7
FLN *e*MLR
comp=Z,2μm,23.0s
FLN La Foliniere 93.76 319 ⇓*iP* **P 04 11 15.4 -0.1**
FLN pmax pmax
comp=Z,67nm,0.8s,mb5.7
FLN MLR MLR
comp=Z,2μm,23.0s
FLN La Foliniere 93.76 319 ⇓*iP* **P 04 11 15.4 -0.1**
comp=Z,67nm,0.8s,mb5.7
FLN LR LR
comp=Z,2μm,23.0s
LHO Holmfirth 93.77 324 *eP* **P 04 11 15.6 +0.1**
EPOB Poblet 93.78 312 P **P 04 11 16.1 +0.5**
comp=Z,68nm,0.9s,mb5.7
ORE Reay 93.79 329 *eP* **P 04 11 16.1 +0.5**
IMA2 Indian Mountai 93.79 23 *eP* **P 04 11 15.8 +0.2**
MELF Melles 93.80 313 *eP* **P 04 11 15.7 0.0**
KWE Weaver Farm 93.86 324 *eP* **P 04 11 16.2 +0.2**
MFF Saint Martin d 93.88 317 *eP* **P 04 11 16.1 +0.1**
comp=Z,62nm,0.7s,mb5.4
MFF Saint Martin d 93.88 317 *eP* **P 04 11 16.1 +0.1**
MFF pmax pmax
comp=Z,31nm,0.7s,mb5.5
MFF Saint Martin d 93.88 317 *eP* **P 04 11 16.1 +0.1**
comp=Z,31nm,0.7s,mb5.4
EIBI Ibiza 93.89 309 P **P 04 11 18.1 +2.0**
comp=Z,45nm,0.8s,mb5.5
EBL Broad Law 94.00 326 *eP* **P 04 11 17.3 +0.7**
EDI Edinburgh 94.05 327 *eP* **P 04 11 17.6 +0.7**
EDI AMb AMB 04 11 19.2
comp=Z,260nm,1.3s,mb6.1
SSW Stow on the Wo 94.06 322 *eP* **P 04 11 17.1 +0.3**
CHGN Chignik 94.06 33 *eP* **P 04 11 16.5 -0.4**
GRR Gorron 94.07 319 ⇓*iP* **P 04 11 17.0 +0.1**
comp=Z,181nm,1.2s,mb5.7
GRR Gorron 94.07 319 ⇓*iP* **P 04 11 17.0 +0.1**
GRR pmax pmax
comp=Z,90nm,1.2s,mb5.7
GRR Gorron 94.07 319 ⇓*iP* **P 04 11 17.0 +0.1**
comp=Z,90nm,1.2s,mb5.7
EPF Esparros 94.09 313 ⇓*iP* **P 04 11 16.4 -0.6**
EBNR Beni Rached 94.09 307 P **P 04 11 19.5 +2.5**
SWN1 Swindon 94.11 322 *eP* **P 04 11 16.9 -0.2**
RESF Ens 94.12 313 *eP* **P 04 11 18.1 +1.0**
MVH1 Achvaich 94.14 329 *eP* **P 04 11 18.2 +1.0**
EKA Eskdalemuir Ar 94.16 326 PKKP PKKPbc 04 28 16.6 -0.8
comp=Z,3.1nm,0.8s,baz=262,slow=3.2,SNR=3.8
ECK Cauldkaine Hil 94.17 326 *eP* **P 04 11 17.8 +0.4**
ESK Eskdalemuir 94.19 326 P **P 04 11 18.2 +0.8**
comp=Z,512nm,1.0s,mb6.5,SNR=8.7
ESK Eskdalemuir 94.19 326 *eP* **P 04 11 17.5 +0.1**
ESK AMb AMB 04 11 19.9
comp=Z,192nm,1.2s,mb6.0
ESK Eskdalemuir 94.19 326 *eP* **P 04 11 18.1 +0.7**
ESK pmax pmax
comp=Z,51nm,0.7s,mb5.7
ESK Eskdalemuir 94.19 326 *eP* **P 04 11 18.1 +0.7**
comp=Z,51nm,0.7s,mb5.7
ECHA Ech Chlef 94.24 306 P **P 04 11 21.0 +3.3**
LABF Labassere 94.28 313 *eP* **P 04 11 17.8 -0.1**
EBIE Bielsa 94.28 313 P **P 04 11 19.3 +1.4**
comp=Z,51nm,0.8s,mb5.6
VIEF Viey 94.34 313 *eP* **P 04 11 19.1 +1.0**
MDO Dochfour 94.35 328 *eP* **P 04 11 18.7 +0.5**
SVW2 Sparrevohn 94.36 28 *eP* **P 04 11 19.8 +1.5**
ERTA Horta de San J 94.39 311 P **P 04 11 19.8 +1.4**
comp=Z,267nm,1.4s,mb6.1
ETRT Tiaret 94.39 306 P **P 04 11 20.0 +1.6**
EANR 'Ain N'Sour 94.48 306 P **P 04 11 20.5 +1.7**
HLM1 Long Mynd 94.57 323 ⇑*eP* **P 04 11 19.8 +0.6**
REYF Montagne du Re 94.61 314 *eP* **P 04 11 19.6 +0.2**
EAB Aberfoyle 94.62 327 *eP* **P 04 11 19.6 +0.2**
HGH Gray Hill 94.70 322 *eP* **P 04 11 19.9 0.0**
SBD1 Bryn Du 94.72 324 *eP* **P 04 11 19.4 -0.4**
MCH1 Michaelchurch 94.75 323 *eP* **P 04 11 20.4 +0.3**
MCH1 *eP* 04 11 20.4
MCH1 AMb AMB 04 11 24.0
comp=Z,65nm,1.3s,mb5.6
ETSF Etsaut 94.76 313 ⇓*iP* **P 04 11 20.9 +0.8**
comp=Z,72nm,0.6s,mb5.7
ETSF *ep*P pP 04 12 09.2 -1.7
ETSF Etsaut 94.76 313 ⇓*iP* **P 04 11 20.9 +0.8**
ETSF pmax pmax
comp=Z,36nm,0.6s,mb5.7
ETSF Etsaut 94.76 313 ⇓*iP* **P 04 11 20.9 +0.8**
comp=Z,36nm,0.6s,mb5.7
ETSF *ep*P pP 04 12 09.2 -1.7
ATE Arette 94.83 314 *eP* **P 04 11 20.1 -0.3**
ESAC San Caprasio 94.88 312 P **P 04 11 21.8 +1.2**
comp=Z,52nm,0.8s,mb5.7
LARF Larrau 95.05 314 *eP* **P 04 11 22.1 +0.7**
KPL Plockton 95.05 328 *eP* **P 04 11 21.1 -0.3**
KPL AMb AMB 04 11 29.5
comp=Z,120nm,1.8s,mb5.7
EMOS Mosqueruela 95.09 311 P **P 04 11 23.9 +2.3**
comp=Z,160nm,1.2s,mb6.0
SJPF Ste Jean 95.20 314 ⇓*iP* **P 04 11 23.0 +0.9**
comp=Z,48nm,0.7s,mb5.5
SJPF Ste Jean 95.20 314 ⇓*iP* **P 04 11 23.0 +0.9**
SJPF pmax pmax
comp=Z,24nm,0.7s,mb5.4
SJPF Ste Jean 95.20 314 ⇓*iP* **P 04 11 23.0 +0.9**
comp=Z,24nm,0.7s,mb5.4
SGMF Saint Gilles 95.21 319 *eP* **P 04 11 22.0 -0.1**
comp=Z,77nm,0.9s,mb5.5
SGMF Saint Gilles 95.21 319 *eP* **P 04 11 22.0 -0.1**
SGMF pmax pmax
comp=Z,38nm,0.9s,mb5.5
SGMF Saint Gilles 95.21 319 *eP* **P 04 11 22.0 -0.1**
comp=Z,38nm,0.9s,mb5.5
YRE Yr Eifl 95.39 324 *eP* **P 04 11 22.9 0.0**
ELIZ Elizondo 95.42 314 P **P 04 11 25.2 +2.1**
comp=Z,7.5nm,0.6s,mb5.0
DYA Yadsworthy 95.65 321 *eP* **P 04 11 24.4 +0.3**
ROSF Rostrenen 95.66 319 *eP* **P 04 11 24.0 -0.2**
comp=Z,160nm,1.1s,mb5.8
ROSF Rostrenen 95.66 319 *eP* **P 04 11 24.0 -0.2**
ROSF pmax pmax
comp=Z,80nm,1.1s,mb5.9
ROSF Rostrenen 95.66 319 *eP* **P 04 11 24.0 -0.2**
comp=Z,80nm,1.1s,mb5.9
QUIF Quistinic 95.67 319 ⇓*iP* **P 04 11 23.4 -0.8**
comp=Z,61nm,0.9s,mb5.5
QUIF Quistinic 95.67 319 ⇓*iP* **P 04 11 23.4 -0.8**
QUIF pmax pmax
comp=Z,30nm,0.9s,mb5.5
QUIF Quistinic 95.67 319 ⇓*iP* **P 04 11 23.4 -0.8**
comp=Z,30nm,0.9s,mb5.5
CART Cartagena 95.92 308 *eP* **P 04 11 25.9 +0.6**
comp=Z,28nm,0.6s,mb5.7
CART *ep*P pP 04 12 15.9 -0.3
EMUR La Murta 96.07 308 P **P 04 11 27.0 +1.0**
comp=Z,7.8nm,0.7s,mb5.0
ETOB Tobarra 96.18 309 P **P 04 11 28.4 +1.8**
comp=Z,19nm,0.7s,mb5.4
ETOR Torete 96.20 311 P **P 04 11 28.1 +1.5**
ETOR pmax pmax
comp=Z,37nm,0.6s,mb5.8
ETOR Torete 96.20 311 P **P 04 11 28.1 +1.5**
comp=Z,37nm,0.6s,mb5.8
ECRI Cripan 96.22 313 P **P 04 11 28.1 +1.4**
ECRI pmax pmax
comp=Z,16nm,2.1s,mb4.9
ECRI Cripan 96.22 313 P **P 04 11 28.1 +1.4**
comp=Z,16nm,2.1s,mb4.9
TOA0 Torodi Ar. Sit 96.44 284 *eP* **P 04 11 27.8 +0.2**
TOA0 *ep*P pP 04 12 17.9 -0.7
TOA0 *e*PP PP 04 15 24.5 +0.2
TORD Torodi Ar. Bea 96.44 284 P **P 04 11 28.1 +0.4**
comp=Z,8.0nm,0.5s,mb5.2,baz=84,slow=4.7,SNR=126
TORD pP pP 04 12 18.6 0.0
comp=Z,27nm,1.0s,baz=96,slow=2.8,SNR=5.8
TORD PP PP 04 15 22.8 -1.5
comp=Z,38nm,0.9s,baz=78,slow=5.8,SNR=8.8
TORD S SKSac 04 21 38.2 -6.2
comp=Z,5.2nm,1.0s,baz=16,slow=1.4,SNR=3.6
TORD PKKPbc PKKPbc 04 28 07.2 -4.1
comp=Z,1.5nm,0.7s,baz=281,slow=3.3,SNR=4.9
TORD PKKP PKKPbc 04 28 13.1 +1.7
comp=Z,8.4nm,0.5s,baz=299,slow=3.2,SNR=50
TORD SKKPbc 04 31 31.2

comp=Z,1.3nm,0.6s,baz=305,slow=2.7,SNR=6.2
TORD PKPPKP 04 36 25.2
comp=Z,1.6nm,1.1s,baz=348,slow=0.5,SNR=3.5
TORD Torodi Ar. Bea 96.44 284 P **P 04 11 28.1 +0.4**
TORD pP pP 04 12 18.6 0.0
TORD PP PP 04 15 22.8 -1.5
TORD S SKSac 04 21 38.2 -6.2
TORD PKKPbc PKKPbc 04 28 07.2 -4.1
TORD PKKP PKKPbc 04 28 13.1 +1.7
TORD SKKPbc 04 31 31.2
TORD P'P' 04 36 25.2
MCK McKinley 96.48 25 *e*P **P 04 11 27.6 -0.3**
MCK pmax pmax
comp=Z,91nm,1.1s,mb5.9
MCK McKinley 96.48 25 *e*P **P 04 11 27.6 -0.2**
comp=Z,185nm,1.1s,mb6.2
COLA College 96.49 23 ⇓*i*P **P 04 11 27.8 -0.1**
COLA College 96.49 23 *e*P **P 04 11 27.8 -0.2**
comp=Z,15nm,0.9s,mb5.2
KDAK Kodiak Island 96.76 31 P **P 04 11 29.0 -0.2**
comp=Z,495nm,0.6s,mb6.9,SNR=18
KDAK Kodiak Island 96.76 31 P **P 04 11 29.6 +0.4**
comp=Z,57nm,0.6s,mb6.0,baz=269,slow=3.9,SNR=40
KDAK S SKSac 04 21 41.3 -4.8
comp=Z,39nm,1.1s,baz=105,slow=12,SNR=6.3
KDAK Kodiak Island 96.76 31 *e*P **P 04 11 29.5 +0.3**
comp=Z,57nm,0.7s,mb5.9
ELAN Lanestosa 96.77 314 P **P 04 11 30.1 +0.9**
comp=Z,20nm,0.8s,mb5.4
EVIA Vianos 96.92 309 P **P 04 11 31.8 +1.9**
EVIA pmax pmax
comp=Z,25nm,0.8s,mb5.5
EVIA Vianos 96.92 309 P **P 04 11 31.8 +1.9**
comp=Z,24nm,0.8s,mb5.5
ENIJ Nijar 96.97 308 P **P 04 11 31.0 +0.9**
ENIJ pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
ENIJ Nijar 96.97 308 P **P 04 11 31.0 +0.9**
comp=Z,7.5nm,0.7s,mb5.0
SNAA Sanae 96.99 198 PKKPbc PKKPbc 04 28 08.8 -1.0
comp=Z,2.6nm,0.9s,baz=277,slow=2.2,SNR=10
SNAA SKKP 04 31 27.3
comp=Z,1.0nm,0.8s,baz=1.7,slow=9.0,SNR=5.5
SNAA Sanae 96.99 198 *e*P **P 04 11 31.2 +1.0**
SNAA *e* 04 11 35.9
SNAA *e* 04 11 39.5
SNAA *e* 04 11 46.2
SNAA *e* 04 11 52.2
SNAA *e* 04 12 02.3
SNAA *e* pP 04 12 22.5 +1.4
SNAA *e* pP 04 12 26.3 +5.2
SNAA *e* 04 19 20.6
SNAA *e* 04 28 09.3
SNAA Sanae 96.99 198 *e*P **P 04 11 30.8 +0.6**
SNAA epP pP 04 12 21.4 +0.3
SLKM Skilak Lake 97.05 28 *e*P **P 04 11 29.8 -0.6**
EHUE Huescar 97.13 309 P **P 04 11 31.3 +0.5**
EHUE pmax pmax
comp=Z,72nm,2.6s,mb5.4
EHUE Huescar 97.13 309 P **P 04 11 31.3 +0.5**
comp=Z,72nm,2.6s,mb5.4
PMR Palmer 97.17 27 *e*P **P 04 11 32.0 +1.0**
PMR pmax pmax
comp=Z,57nm,1.0s,mb5.8
PMR MLR MLR
comp=Z,1μm,19.0s
PMR Palmer 97.17 27 *e*P **P 04 11 32.0 +1.0**
comp=Z,57nm,1.0s,mb5.8
PMR LR LR
comp=Z,1μm,19.0s
SML Sawmill 97.44 26 *e*P **P 04 11 32.9 +0.7**
EQES Quesada 97.51 309 P **P 04 11 33.2 +0.7**
comp=Z,26nm,1.2s,mb5.4
GUD Guadarrama 97.80 312 P **P 04 11 34.4 +0.6**
GUD pmax pmax
comp=Z,70nm,1.4s,mb5.8
GUD Guadarrama 97.80 312 P **P 04 11 34.4 +0.6**
comp=Z,70nm,1.4s,mb5.8
ESDC Sonseca Array 97.85 311 P **P 04 11 34.9 +0.9**
comp=Z,6.3nm,0.6s,mb5.1,baz=61,slow=3.9,SNR=25
ESDC pP pP 04 12 25.0 +0.1
comp=Z,9.7nm,0.7s,baz=60,slow=4.5,SNR=5.8
ESDC PP PP 04 15 23.5 -12
comp=Z,5.3nm,0.9s,baz=78,slow=7.7,SNR=4.3
ESDC PKKPbc PKKPbc 04 28 07.9 +0.4
comp=Z,2.8nm,0.6s,baz=273,slow=3.1,SNR=21
ESDC Sonseca Array 97.85 311 P **P 04 11 34.5 +0.5**
comp=Z,4.4nm,0.6s,mb5.0
ESLA Sonseca Array 97.85 311 *e*P **P 04 11 34.3 +0.3**
comp=Z,9.1nm,1.2s,mb5.0
ECOG Cogollos-Vega 97.99 308 P **P 04 11 35.5 +0.8**
ECOG pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
ECOG Cogollos-Vega 97.99 308 P **P 04 11 35.5 +0.9**
comp=Z,9.4nm,0.8s,mb5.2
EBAN Banos Encina 98.00 309 P **P 04 11 35.6 +0.9**
EBAN pmax pmax
comp=Z,76nm,1.4s,mb5.8
EBAN Banos Encina 98.00 309 P **P 04 11 35.6 +0.9**
comp=Z,76nm,1.4s,mb5.8
EARI Arriondas 98.03 314 P **P 04 11 37.6 +2.8**
comp=Z,32nm,1.1s,mb5.6
VNA2 Neumayer--Watz 98.59 199 *e*P **P 04 11 39.0 +1.6**
VNA2 *e* 04 11 41.5
VNA2 *e* 04 11 48.6
VNA2 *e* 04 11 51.8
VNA2 *e* 04 12 00.3
VNA2 *e* 04 12 07.3
VNA2 *e* 04 12 16.3
VNA2 *e* pP 04 12 29.5 +1.2
VNA2 *e* 04 12 34.9
VNA2 *e* 04 12 39.2
VNA2 *e* 04 12 42.9
VNA2 *e* 04 12 51.5
VNA2 *e* 04 16 08.1
VNA2 *e* 04 16 16.2
VNA2 *e* 04 16 30.4
VNA2 *e* 04 16 47.3
VNA2 *e* 04 16 53.5
VNA2 *e* 04 17 00.2
VNA2 *e* 04 17 08.1
VNA2 *e* 04 17 20.4
VNA2 *e* 04 19 20.9
VNA2 *e* 04 19 24.6
VNA2 *e* 04 19 28.3
VNA2 *e* 04 28 04.9
VNA2 *e* 04 28 08.0
EADA Adamuz 98.61 309 P **P 04 11 38.4 +1.0**
comp=Z,9.7nm,0.8s,mb5.2
DIV Divide 98.84 26 *e*P **P 04 11 39.3 +0.8**
comp=Z,27nm,1.0s,mb5.5
VNA1 Neumayer--Stat 98.94 199 *e*P **P 04 11 37.4 -1.5**
VNA1 *e* 04 11 41.3
VNA1 *e* 04 11 46.5
VNA1 *e* 04 11 51.7
VNA1 *e* 04 12 01.3
VNA1 *e* pP 04 12 32.4 +2.5
VNA1 *e* 04 12 36.5
VNA1 *e* 04 12 40.2
VNA1 *e* 04 12 44.9
VNA1 *e* 04 12 53.5
VNA1 *e* 04 16 10.0
VNA1 *e* 04 16 18.4
VNA1 *e* 04 19 22.4
VNA1 *e* 04 19 25.3
VNA1 *e* 04 19 29.4
VNA1 *e* 04 28 04.5
MENT Mentasta 98.95 24 *e*P **P 04 11 40.3 +1.3**
EYAK Cordova Ski Ar 99.09 27 *e*Pdif Pdif 04 11 40.9 +1.3
comp=Z,31nm,0.8s
EGAK Eagle 99.12 22 *e*Pdif Pdif 04 11 39.3 -0.4
comp=Z,8.7nm,0.9s
VNA3 Neumayer Olymp 99.22 198 *e*P Pdif 04 11 45.5 +5.4
VNA3 *e* 04 11 47.2
VNA3 *e* 04 11 54.4
VNA3 *e* 04 11 57.9
VNA3 *e* 04 12 01.4
VNA3 *e* 04 12 05.1
VNA3 *e* 04 12 17.9
VNA3 *e* 04 12 32.1
VNA3 *e* 04 12 36.3
VNA3 *e* 04 12 40.2
VNA3 *e* 04 12 53.5
VNA3 *e* 04 16 09.7
VNA3 *e* 04 16 17.2
VNA3 *e* 04 16 31.0
VNA3 *e* 04 16 49.0
VNA3 *e* 04 16 55.3
VNA3 *e* 04 17 08.6
VNA3 *e* 04 17 22.3
VNA3 *e* 04 19 22.5
VNA3 *e* 04 19 25.3
VNA3 *e* 04 19 29.8
VNA3 *e* 04 28 03.3
VNA3 *e* 04 28 06.8
MDT Midelt 99.64 304 PKKPbc PKKPbc 04 28 02.8 +0.3
comp=Z,2.2nm,0.6s,baz=289,slow=5.0,SNR=9.3
INK Inuvik 99.79 17 P Pdif 04 11 41.1 -1.6
comp=Z,14nm,0.7s,baz=321,slow=3.8,SNR=50
INK PKKPbc PKKPbc 04 28 01.2 -0.8
comp=Z,0.8nm,0.5s,baz=182,slow=3.9,SNR=5.0
INK SKKPbc 04 31 20.9
comp=Z,11nm,0.9s,baz=157,slow=1.9,SNR=9.6
INK Inuvik 99.79 17 *e*Pdif Pdif 04 11 42.5 -0.2
DAWY Dawson 100.14 22 *e*Pdif Pdif 04 11 44.5 +0.3
PVRL Vila Real 100.30 313 *e*PP PP 04 15 56.4 +2.7
EMIN Mina Concepcio 100.31 309 P Pdif 04 11 44.0 -1.0
comp=Z,40nm,5.2s
EBAD Badajoz 100.36 310 P Pdif 04 11 44.4 -0.8
ELOB Lobios 100.41 313 P Pdif 04 11 44.4 -1.1
comp=Z,5.7nm,0.8s
PCBR Castelo Branco 100.46 311 *e*PP PP 04 15 57.3 +2.4
PESTR Estremoz 100.77 310 *e*PP PP 04 15 56.7 -0.5
PESTR *e*SKS 04 22 06.8
PESTR *i* P 04 23 04.2
PBEJ Beja 101.17 310 *e*PP PP 04 15 59.1 -1.1
RES Resolute Bay 101.54 4 *e*P Pdif 04 11 50.7 +0.2
PTEO Sao Teotonio 101.95 309 *e*PP PP 04 16 04.8 -1.2
PMAFR Mafra 102.03 311 *e*PP PP 04 16 07.2 +0.5
PMAFR *e*SKS 04 22 12.0
PMAFR *i* P 04 23 15.4
LIC Lamto 103.65 277 *e*P Pdif 04 12 04.1 +4.2
comp=Z,49nm,1.1s
LIC *e*MLR
comp=Z,2μm,20.8s
LIC Lamto 103.65 277 *e*P Pdif 04 12 04.1 +4.2
comp=Z,24nm,1.1s
LIC LR LR
comp=Z,1μm,20.8s
SFJD Kangerlussuaq 106.51 348 *i* P PP 04 16 33.3 -6.5
SFJD Kangerlussuaq 106.51 348 *e*P PP 04 16 33.3 -6.5
PMPS Porto Santo 109.14 307 *e*PP PP 04 16 58.1 -0.9
YKA Yellowknife Ar 109.44 16 Pdiff Pdif 04 12 26.3 +0.6
comp=Z,0.4nm,0.6s,baz=108,slow=23,SNR=4.2
YKA PP PP 04 16 57.3 -3.9
comp=Z,5.1nm,0.7s,baz=331,slow=7.2,SNR=5.7
YKA PKKPbc PKKPbc 04 27 32.2 -0.8
comp=Z,2.5nm,0.8s,baz=139,slow=2.9,SNR=11
YKA SKKPbc 04 30 54.4
comp=Z,5.7nm,0.9s,baz=146,slow=2.1,SNR=9.4
YKA Yellowknife Ar 109.44 16 P Pdif 04 12 26.3 +0.7
YKA 04 16 57.3
YKA 04 27 32.2
YKA Yellowknife Ar 109.44 16 Pdif Pdif 04 12 26.3 +0.6
YKA PP PP 04 16 57.3 -3.9
YKA PKKPbc PKKPbc 04 27 32.2 -0.9
YKA SKKPbc 04 30 54.4
PMAR Madeira 109.71 306 *e*PP PP 04 17 02.7 -0.4
TBI Tubuai 111.01 114 *e*PP PP 04 17 07.3 -5.1
comp=Z,914nm,41.5s
TBI Tubuai 111.01 114 *e*SKSac SKSac 04 22 50.8 -0.7
comp=Z,2μm,27.2s
TBI *e*SP SP 04 26 14.9 -7.1
comp=Z,2μm,33.3s
TBI *e*SS SS 04 32 16.5 -11
comp=Z,1μm,32.2s
TBI *e*LR LR 04 49 23.5
comp=Z,2μm,32.0s
PPT Papeete 111.34 107 *e*PP PP 04 17 07.5 -7.3
comp=Z,1μm,27.0s
PPT Papeete 111.34 107 *e*SKSac SKSac 04 22 50.6 -2.3
comp=Z,2μm,27.0s
PPT *e*SP SP 04 26 15.5 -10
comp=Z,5μm,28.8s
PPT *e*LR LR 04 49 37.0
comp=Z,3μm,32.2s
A05A Maple Falls 116.74 29 ⇓P PKPdf 04 16 42.1 +0.3
baz=117
C04A Brinnon 117.16 31 ⇓P PKPdf 04 16 43.0 +0.5
baz=117
B05A Bryant 117.23 30 ⇑P PKPdf 04 16 43.2 +0.5
baz=117,SNR=9.9
EDM Edmonton 117.32 21 *e*PKPdf PKPdf 04 16 42.9 +0.1
EDM *e*SKPdf SKPdf 04 19 56.8 -1.8
B06A Marblemount 117.36 29 ⇑P PKPdf 04 16 43.2 +0.3
baz=117
JCW Jim Creek 117.36 30 P PKPdf 04 16 43.9 +1.0
RPW Rockport 117.39 29 P PKPdf 04 16 43.1 +0.1
C05A Tolt Reservoir 117.82 30 ⇓P PKPdf 04 16 44.0 +0.2
baz=118,SNR=8.3
D05A Enumclaw 118.01 31 ⇓P PKPdf 04 16 44.5 +0.3
baz=118
E04A Onalaska 118.03 31 ⇑P PKPdf 04 16 44.6 +0.3
baz=118
B07A Winthrop 118.06 28 ⇑P PKPdf 04 16 44.6 +0.4
baz=118,SNR=7.2
A08A Turner Farm, O 118.11 28 ⇑P PKPdf 04 16 44.8 +0.4
baz=118,SNR=6.6
A09A Danville 118.41 27 ⇓P PKPdf 04 16 45.4 +0.5
baz=118
B08A Colville Reser 118.50 28 ⇑P PKPdf 04 16 45.6 +0.5
baz=118,SNR=11
E05A Randle 118.55 31 ⇑P PKPdf 04 16 45.6 +0.4
baz=118
G03A Yamhill 118.56 33 ⇓P PKPdf 04 16 45.7 +0.5
baz=118
D06A Cle Elum 118.58 30 ⇓P PKPdf 04 16 45.6 +0.4
baz=118,SNR=6.9
F04A Amboy 118.62 32 ⇑P PKPdf 04 16 45.7 +0.4
baz=118,SNR=8.3
C07A Waterville 118.62 29 P PKPdf 04 16 45.5 +0.1
baz=118,SNR=12
WTV Waterville 118.67 29 P PKPdf 04 16 45.5 +0.1
TBM Table Mountain 118.72 30 P PKPdf 04 16 45.9 +0.3
E06A Yakima 118.95 31 ⇑P PKPdf 04 16 46.5 +0.5
baz=119
H03A Soap Creek Ran 118.96 33 ⇓P PKPdf 04 16 46.5 +0.5
baz=119
B09A Rice 119.01 27 ⇑P PKPdf 04 16 46.5 +0.4
baz=119,SNR=19
D07A Quincy 119.01 29 ⇓P PKPdf 04 16 46.6 +0.5
baz=119
C08A Higginbotham F 119.04 28 ⇑P PKPdf 04 16 46.6 +0.5
baz=119,SNR=7.8
EPH Ephrata 119.08 29 P PKPdf 04 16 46.6 +0.3
I02A Mapleton 119.09 34 ⇓P PKPdf 04 16 47.0 +0.7
baz=119
C09A Chrisman Ranch 119.40 28 ⇑P PKPdf 04 16 47.4 +0.6
baz=119
A11A Hall Mountain, 119.42 26 ⇑P PKPdf 04 16 47.6 +0.7
baz=119,SNR=19
I03A Eugene 119.42 34 ⇓P PKPdf 04 16 47.7 +0.8
baz=119
OD2 Odessa Site #2 119.48 29 P PKPdf 04 16 47.5 +0.5
E07A Sunnyside 119.51 30 ⇓P PKPdf 04 16 47.6 +0.5
baz=119,SNR=9.1
B10A Chitwood Farm, 119.52 27 ⇓P PKPdf 04 16 47.7 +0.7
baz=119
H04A Detroit Lake 119.56 33 ⇑P PKPdf 04 16 47.6 +0.5
baz=120,SNR=7.2
F06A Goldendale 119.58 31 ⇓P PKPdf 04 16 47.8 +0.6
baz=120
NEW Newport 119.59 27 PKP PKPdf 04 16 47.0 -0.2
comp=Z,17nm,0.9s,baz=325,slow=0.5,SNR=15
NEW SKKPbc 04 30 23.9
comp=Z,15nm,1.1s,baz=111,slow=1.8,SNR=6.9
NEW Newport 119.59 27 *e*PKPdf PKPdf 04 16 47.3 0.0
NEW *e*SKPdf SKPdf 04 20 02.3 -0.6
D08A Wollman Farm, 119.62 29 P PKPdf 04 16 48.1 +0.8
baz=120,SNR=14
J02A Umpqua 119.64 35 ⇓P PKPdf 04 16 48.0 +0.7
baz=120
G05A Wamic 119.66 32 ⇑P PKPdf 04 16 48.1 +0.8
baz=120
HAWA Hanford 119.78 30 *e*PKPdf PKPdf 04 16 47.7 +0.1
HAWA *e*SKPdf SKPdf 04 20 02.5 -0.8
C10A Spilker Farm, 119.83 27 ⇓P PKPdf 04 16 47.9 +0.2
baz=120
D09A Jones Farm, Ri 119.91 29 ⇓P PKPdf 04 16 48.2 +0.4
baz=120,SNR=11
F07A Phinny Hill Vi 119.93 31 ⇑P PKPdf 04 16 48.2 +0.3
baz=120
E08A Dider Farm, El 119.95 30 ⇑P PKPdf 04 16 48.5 +0.6
baz=120,SNR=6.9
J03A Ideyld Park 119.98 34 ⇓P PKPdf 04 16 48.8 +0.9
baz=120
I04A Tendick Farm, 120.02 34 ⇑P PKPdf 04 16 48.6 +0.5
baz=120,SNR=7.8
G06A Carlson Farm, 120.02 31 ⇓P PKPdf 04 16 49.2 +1.2
baz=120,SNR=9.6
K02A Glendale 120.06 35 ⇑P PKPdf 04 16 48.9 +0.8
baz=120
H05A Madras 120.10 32 ⇓P PKPdf 04 16 49.1 +0.9
baz=120,SNR=7.6
B12A Libby 120.12 26 ⇑P PKPdf 04 16 48.8 +0.6
baz=120
L02A Cave Junction 120.37 36 ⇑P PKPdf 04 16 49.5 +0.8
baz=120,SNR=5.9
E09A Wood Farm, Sta 120.38 29 P PKPdf 04 16 49.4 +0.7
baz=120,SNR=12
WALA Waterton Lakes 120.39 25 *e*PKPdf PKPdf 04 16 48.5 -0.2
D10A Wagner Farm, O 120.41 28 ⇑P PKPdf 04 16 49.4 +0.7
baz=120,SNR=12
HUMO Hull Mountain 120.47 35 *e*PKPdf PKPdf 04 16 50.2 +1.3
HUMO *ep*PKPdf pPKPdf 04 17 42.1 0.0
HUMO *e*SKPdf SKPdf 04 20 04.3 -0.2
HUMO Hull Mountain 120.47 35 ⇓P PKPdf 04 16 49.7 +0.8
baz=120,SNR=12
G07A Ruggs Ranch, H 120.50 31 ⇑P PKPdf 04 16 49.6 +0.7
baz=120,SNR=5.9
H06A Lindquist Farm 120.51 32 ⇑P PKPdf 04 16 49.8 +0.8
baz=120,SNR=11
J04A Umpqua Nationa 120.54 34 ⇑P PKPdf 04 16 50.0 +0.9
baz=120,SNR=15
F08A Pendleton 120.58 30 ⇓P PKPdf 04 16 49.8 +0.7
baz=120
B13A Whitefish 120.68 25 ⇓P PKPdf 04 16 49.8 +0.5
baz=121,SNR=28
SCHQ Schefferville 120.78 351 PKP PKPdf 04 16 49.3 -0.2
comp=Z,8.9nm,0.5s,baz=25,slow=1.5,SNR=13
SCHQ pPKP pPKPdf 04 17 43.4 +0.7
comp=Z,33nm,0.8s,baz=15,slow=4.3,SNR=6.6
SCHQ PKKPbc PKKPbc 04 26 53.6 -0.5
comp=Z,4.8nm,0.5s,baz=212,slow=4.9,SNR=12
SCHQ SKKPbc 04 30 20.9
comp=Z,6.2nm,0.9s,baz=200,slow=13,SNR=4.2
SCHQ Schefferville 120.78 351 *e*PKPdf PKPdf 04 16 49.0 -0.6
SCHQ *ep*PKPdf pPKPdf 04 17 43.6 +0.9
G08A Pilot Rock 120.84 30 ⇑P PKPdf 04 16 50.3 +0.7
baz=121,SNR=10
D11A Klaveano Farm, 120.85 28 P PKPdf 04 16 49.9 +0.3
baz=121,SNR=14
TAOE Nuku Hiva Isla 120.88 98 *e*PP PP 04 18 14.3 -7.0
comp=Z,2μm,26.3s
TAOE Nuku Hiva Isla 120.88 98 *e*SP SP 04 27 46.4 -5.2
comp=Z,5μm,30.3s
TAOE *e*LR LR 04 53 45.0
comp=Z,5μm,29.2s
E10A Myers Farm, Un 120.90 28 ⇓P PKPdf 04 16 50.1 +0.4
baz=121,SNR=11
JCC Jacoby Creek 120.94 37 ⇓P PKPdf 04 16 50.4 +0.6
baz=121
J05A Fort Rock 121.00 33 ⇓P PKPdf 04 16 50.8 +0.9
baz=121,SNR=21
F09A S2 Ranch, Elgi 121.07 30 ⇑P PKPdf 04 16 50.7 +0.6
baz=121,SNR=20
KHMM Horse Mountain 121.08 37 *e*PKPdf PKPdf 04 16 51.7 +1.6
KHMM *e*SKPdf SKPdf 04 20 06.1 +0.3
I06A Prineville 121.11 32 ⇓P PKPdf 04 16 50.9 +0.7
baz=121,SNR=11
K04A Chilquin 121.16 34 ⇓P PKPdf 04 16 51.0 +0.8
baz=121
YBH Yreka Blue Hor 121.16 36 PKP PKPdf 04 16 51.4 +1.2
comp=Z,4.1nm,0.6s,baz=46,slow=2.4,SNR=11
YBH PKKPbc PKKPbc 04 26 53.0 +0.3
comp=Z,2.2nm,0.6s,baz=109,slow=3.6,SNR=6.8
YBH SKKPbc 04 30 19.9
comp=Z,5.0nm,1.0s,baz=110,slow=3.3,SNR=6.0
YBH Yreka Blue Hor 121.16 36 *e*PKPdf PKPdf 04 16 51.7 +1.5
YBH Yreka Blue Hor 121.16 36 ⇑P PKPdf 04 16 51.2 +0.9
baz=121
C13A Hot Springs 121.17 26 ⇑P PKPdf 04 16 51.0 +0.7
baz=121,SNR=9.3
F10A Beach Ranch, E 121.21 29 ⇑P PKPdf 04 16 50.8 +0.4
baz=121,SNR=42
M02C Callahan 121.29 36 ⇑P PKPdf 04 16 51.0 +0.5
baz=121,SNR=17
L04A Klamath Falls 121.35 35 ⇑P PKPdf 04 16 51.2 +0.6
baz=121,SNR=9.8
N02C Big Bar 121.37 37 ⇑P PKPdf 04 16 51.2 +0.6
baz=121,SNR=12
I07A Izee 121.39 32 ⇑P PKPdf 04 16 51.5 +0.8
baz=121,SNR=13
E11A Bogner Ranch, 121.42 28 ⇓P PKPdf 04 16 51.1 +0.4
baz=121,SNR=24
O01C Eel River Cons 121.48 38 ⇓P PKPdf 04 16 51.4 +0.6
baz=121
H08A Prairie City 121.53 31 ⇑P PKPdf 04 16 51.5 +0.6
baz=121,SNR=9.6
K05A Summer Lake 121.55 34 ⇑P PKPdf 04 16 51.6 +0.6
baz=122,SNR=16
J06A Christmas Vall 121.61 33 ⇓P PKPdf 04 16 51.7 +0.6
baz=122,SNR=21
M04C Macdoel 121.63 35 ⇓P PKPdf 04 16 51.7 +0.5
baz=122,SNR=11
D13A Huson 121.66 26 ⇑P PKPdf 04 16 51.7 +0.5
baz=122,SNR=19
F11A Grangeville 121.79 28 ⇓P PKPdf 04 16 51.8 +0.4
baz=122,SNR=23
M03C McCloud 121.79 36 ⇑P PKPdf 04 16 52.1 +0.6
baz=122,SNR=11
K06A Valley Falls 121.86 33 ⇓P PKPdf 04 16 52.5 +0.9
baz=122,SNR=15
KIPM Iron Peak 121.88 38 *e*PKPdf PKPdf 04 16 52.6 +1.0
KIPM *ep*PKPdf pPKPdf 04 17 45.9 +1.0
KIPM *e*SKPdf SKPdf 04 20 07.5 +0.2
KCPM Cahto Peak 121.89 38 *e*PKPdf PKPdf 04 16 52.9 +1.2
KCPM *ep*PKPdf pPKPdf 04 17 46.1 +1.2
KCPM *e*SKPdf SKPdf 04 20 07.1 -0.2
WDC Whiskeytown Da 121.98 37 *e*PKPdf PKPdf 04 16 52.2 +0.4
WDC *e*SKPdf SKPdf 04 20 06.2 -1.2
WDC Whiskeytown Da 121.98 37 ⇓P PKPdf 04 16 52.4 +0.6
baz=122,SNR=12
BMO Blue Mountains 121.98 30 *e*PKIKP PKPdf 04 16 51.2 -0.6
J07A Hines 121.98 32 ⇑P PKPdf 04 16 52.4 +0.6
baz=122,SNR=21
I08A Drewsey 122.00 31 ⇑P PKPdf 04 16 52.6 +0.8
baz=122,SNR=12
L05A Lakeview 122.03 34 ⇑P PKPdf 04 16 52.6 +0.7
baz=122,SNR=14
O02C Red Bluff 122.08 37 ⇓P PKPdf 04 16 53.0 +1.0
baz=122,SNR=15
D14A Greenough 122.09 26 ⇑P PKPdf 04 16 52.6 +0.6
baz=122,SNR=18
MSO Missoula 122.09 26 *e*PKPdf PKPdf 04 16 51.6 -0.4
MSO *e*SKPdf SKPdf 04 20 05.4 -2.3
P01C Double 8 Ranch 122.18 38 ⇑P PKPdf 04 16 53.0 +0.8
baz=122
LTIM Timbered Crate 122.22 36 P PKPdf 04 16 52.8 +0.5
E13A Victor 122.28 27 ⇑P PKPdf 04 16 52.6 +0.2
baz=122,SNR=43
M05C Lookout 122.30 35 ⇓P PKPdf 04 16 53.3 +0.9
baz=122,SNR=11
CHMT Chamberlain Mo 122.33 26 *e*PKPdf PKPdf 04 16 52.5 0.0
CHMT *e*SKPdf SKPdf 04 20 06.7 -1.5
I09A Lost Marbles R 122.39 31 P PKPdf 04 16 53.6 +1.0
baz=122,SNR=6.3
MOD Modoc 122.42 34 *e*PKPdf PKPdf 04 16 53.6 +1.0
MOD *e*SKPdf SKPdf 04 20 08.3 0.0
MOD Modoc 122.42 34 ⇑P PKPdf 04 16 53.9 +1.2
baz=122,SNR=27
J08A Circle Bar Ran 122.43 32 ⇑P PKPdf 04 16 53.8 +1.2
baz=122,SNR=25
GASB Alder Springs 122.44 38 ⇓P PKPdf 04 16 53.9 +1.2
baz=122,SNR=15
H10A Noah's Angus R 122.45 30 ⇑P PKPdf 04 16 53.1 +0.4
baz=122,SNR=12
HATC Hat Creek Radi 122.47 36 ⇓P PKPdf 04 16 53.9 +1.2
baz=122,SNR=11
K07A Rock Creek Ran 122.48 33 P PKPdf 04 16 53.9 +1.1
baz=122,SNR=44
D15A Lincoln 122.54 25 ⇓P PKPdf 04 16 53.3 +0.4
baz=122,SNR=18
E14A Clinton 122.61 26 P PKPdf 04 16 53.0 0.0
baz=122,SNR=20
HOPS Hopland 122.63 38 *e*PKPdf PKPdf 04 16 54.3 +1.2
HOPS *ep*PKPdf pPKPdf 04 17 45.8 -0.5

HOPS eSKPdf SKPdf 04 20 08.3 -0.4
HOPS Hopland 122.63 38 ⇑P PKPdf 04 16 53.4 +0.4
baz=123,SNR=5.4
O03C Acorn Hollow, 122.65 37 ⇑P PKPdf 04 16 53.6 +0.5
baz=123
F13A Darby 122.71 27 ⇑P PKPdf 04 16 53.8 +0.6
baz=123,SNR=14
H11A Donnelly 122.72 29 ⇑P PKPdf 04 16 53.9 +0.6
baz=123,SNR=28
M06C Likely Place G 122.78 35 ⇑P PKPdf 04 16 54.3 +1.0
baz=123,SNR=6.5
J09A Fry Pan Ranch, 122.82 31 ⇑P PKPdf 04 16 54.5 +1.1
baz=123,SNR=18
K08A Mann Creek Ran 122.86 32 ⇑P PKPdf 04 16 54.5 +1.0
baz=123,SNR=41
EGMT Eagleton 122.88 23 ePKPdf PKPdf 04 16 53.6 +0.1
EGMT eSKPdf SKPdf 04 20 08.5 -0.7
L07A Adell 122.88 33 ⇑P PKPdf 04 16 54.7 +1.1
baz=123,SNR=10
E15A Deer Lodge 122.97 26 ⇑P PKPdf 04 16 54.5 +0.8
baz=123,SNR=11
WVOR Wild Horse Val 122.98 33 ePKPdf PKPdf 04 16 54.4 +0.7
WVOR eSKPdf SKPdf 04 20 09.3 -0.1
O04C Chester 123.00 36 ⇑P PKPdf 04 16 54.6 +0.8
baz=123,SNR=13
ELFS Eagle Lake Fie 123.02 36 ⇑P PKPdf 04 16 54.9 +1.1
baz=123,SNR=18
MNRC McLaughlin Nat 123.09 38 ⇓P PKPdf 04 16 55.1 +1.1
baz=123,SNR=28
F14A Wisdom 123.13 27 ⇑P PKPdf 04 16 55.0 +1.0
baz=123,SNR=12
NSHM Saint Helena R 123.20 39 ePKPdf PKPdf 04 16 54.7 +0.6
NSHM eSKPdf SKPdf 04 20 09.7 -0.1
ORV Oroville 123.24 37 ⇓P PKPdf 04 16 55.4 +1.2
baz=123,SNR=11
J10A Berg Farm, Mel 123.27 31 ⇓P PKPdf 04 16 55.1 +0.9
baz=123,SNR=14
SUTB Sutter Butte 123.27 37 ⇑P PKPdf 04 16 55.1 +0.8
baz=123
G13A Cobalt 123.28 28 ⇓P PKPdf 04 16 54.9 +0.6
baz=123,SNR=6.7
K09A Rome 123.29 32 ⇓P PKPdf 04 16 55.2 +0.9
baz=123,SNR=48
L08A Fields 123.31 33 ⇑P PKPdf 04 16 55.2 +0.8
baz=123,SNR=29
I11A Placerville 123.33 30 ⇓P PKPdf 04 16 55.1 +0.7
baz=123,SNR=14
O05C Quincy 123.33 36 ⇑P PKPdf 04 16 55.2 +0.8
baz=123,SNR=14
OHCM Honcut 123.39 37 ePKPdf PKPdf 04 16 54.5 0.0
OHCM eSKPdf SKPdf 04 20 09.4 -0.8
H12A Diamond D Ranc 123.39 29 ⇓P PKPdf 04 16 55.1 +0.6
baz=123,SNR=20
M07A Soldier Meadow 123.40 34 ⇑P PKPdf 04 16 55.3 +0.8
baz=123,SNR=26
CVS Carmenet Viney 123.40 39 ⇓P PKPdf 04 16 55.5 +1.0
baz=123,SNR=12
N06A Buffalo Meadow 123.45 35 ⇓P PKPdf 04 16 55.8 +1.2
baz=123,SNR=38
F15A Butte 123.49 26 ⇓P PKPdf 04 16 55.9 +1.2
baz=123,SNR=15
Q03C Winters 123.50 38 ⇑P PKPdf 04 16 56.2 +1.4
baz=123,SNR=6.4
BEKR Beckwourth 123.72 36 ⇑P PKPdf 04 16 56.2 +1.1
baz=124,SNR=17
Q04C Lincoln 123.77 38 ⇑P PKPdf 04 16 56.4 +1.2
baz=124
L09A Wilkinson Ranc 123.79 32 ⇑P PKPdf 04 16 56.5 +1.2
baz=124,SNR=33
DLMT Dillon 123.82 26 ePKPdf PKPdf 04 16 56.2 +0.9
DLMT eSKPdf SKPdf 04 20 11.4 +0.4
O06A Flanigan 123.84 35 ⇑P PKPdf 04 16 56.1 +0.8
baz=124,SNR=30
N07B Gerlach 123.92 34 ⇑P PKPdf 04 16 56.7 +1.2
baz=124,SNR=27
P05C Yuba Gap, Truc 123.94 37 ⇑P PKPdf 04 16 56.8 +1.2
baz=124,SNR=5.8
BDM Black Diamond 124.01 39 ⇓P PKPdf 04 16 57.0 +1.3
baz=124
G15A Dillon 124.02 27 ⇓P PKPdf 04 16 56.9 +1.2
baz=124,SNR=53
BOZ Bozeman (W) 124.02 26 ePKPdf PKPdf 04 16 56.5 +0.8
BOZ eSKPdf SKPdf 04 20 11.6 +0.2
JRSC Jasper Ridge 124.11 39 ⇑P PKPdf 04 16 57.1 +1.2
baz=124
P06A Stead Airport, 124.11 36 ⇑P PKPdf 04 16 57.3 +1.4
baz=124
MCMT McKenzie Canyo 124.12 27 ePKPdf PKPdf 04 16 57.2 +1.3
LAVA Lava Cap Winer 124.20 37 ⇓P PKPdf 04 16 57.3 +1.2
baz=124,SNR=17
RKT Rikitea 124.21 116 ePP PP 04 18 40.0 -3.7
comp=Z,1μm,44.0s
RKT Rikitea 124.21 116 ePS PS 04 28 37.4 -7.3
comp=Z,2μm,34.0s
RKT Rikitea 124.21 116 eSKSac SKSac 04 23 39.2 -0.2
comp=Z,1μm,26.5s
RKT eLR LR 04 55 32.6
comp=Z,3μm,45.2s
RKT Rikitea 124.21 116 eSS SS 04 35 10.6 -7.6
comp=Z,2μm,32.2s
WENL Wente Brothers 124.28 39 ⇓P PKPdf 04 16 57.7 +1.5
baz=124
BNLO Ben Lomond (Sa 124.32 40 ⇓P PKPdf 04 16 57.8 +1.5
baz=124
M09A Marrel Ranch, 124.32 33 ⇓P PKPdf 04 16 57.8 +1.5
baz=124,SNR=12
HLID Hailey 124.34 29 ePKPdf PKPdf 04 16 57.4 +1.0
HLID eSKPdf SKPdf 04 20 12.5 +0.5
O07A Toulon 124.39 35 ⇓P PKPdf 04 16 57.8 +1.4
baz=124,SNR=23
N08A GE Springer Mi 124.39 34 ⇓P PKPdf 04 16 57.9 +1.4
baz=124,SNR=29
R04C Big Horse Ranc 124.40 38 ⇑P PKPdf 04 16 57.7 +1.3
baz=124
WCN Washoe City 124.44 36 P PKPdf 04 16 58.1 +1.6
baz=124,SNR=16
S04C Ingram Canyon, 124.62 39 ⇓P PKPdf 04 16 58.4 +1.5
baz=124,SNR=6.6
R05C Kirkwood Meado 124.64 37 ⇓P PKPdf 04 16 58.5 +1.6
baz=125,SNR=16
N09A Rock Creek Ran 124.67 33 ⇑P PKPdf 04 16 58.3 +1.4
baz=125,SNR=26
GCMT Greycliff 124.73 24 ePKPdf PKPdf 04 16 57.8 +0.7
GCMT eSKPdf SKPdf 04 20 13.8 +1.1
M10A I.L. Ranch, Tu 124.74 32 ⇓P PKPdf 04 16 58.4 +1.3
baz=125,SNR=7.4
QLMT Earthquake Lak 124.75 26 ePKPdf PKPdf 04 16 58.7 +1.6
QLMT e 04 17 55.0
QLMT eSKPdf SKPdf 04 20 14.2 +1.4
CMB Columbia Colle 124.88 38 ePKIKP PKPdf 04 16 58.3 +0.9
CMB Columbia Colle 124.88 38 ⇓P PKPdf 04 16 58.7 +1.3
baz=125,SNR=13
PACP Pacheco Peak 124.95 39 ⇓P PKPdf 04 16 59.2 +1.7
baz=125,SNR=8.7
ULM Lac du Bonnet 125.00 12 PKP PKPdf 04 16 57.6 0.0
comp=Z,34nm,0.8s,baz=336,slow=3.8,SNR=33
ULM PKKPbc 04 26 38.0
comp=Z,1.3nm,0.4s,baz=100,slow=16,SNR=6.1
ULM SKKPbc 04 30 05.9
comp=Z,12nm,1.0s,baz=138,slow=2.4,SNR=7.8
ULM Lac du Bonnet 125.00 12 ePKPdf PKPdf 04 16 57.1 -0.5
ULM epPKPdf pPKPdf 04 17 51.0 +0.2
ULM eSKPdf SKPdf 04 20 12.2 -1.1
YMR Madison River 125.08 26 ePKPdf PKPdf 04 16 59.3 +1.5
R06C Coleville 125.13 37 ⇑P PKPdf 04 16 59.3 +1.5
baz=125,SNR=22
P08A Dixie Valley 125.15 35 ⇓P PKPdf 04 16 59.3 +1.4
baz=125
HAST UC Hastings Re 125.16 40 ⇑P PKPdf 04 16 59.3 +1.4
baz=125,SNR=10.0
YNR Norris Junctio 125.17 26 ePKPdf PKPdf 04 17 00.1 +2.2
YNR epPKPdf pPKPdf 04 17 50.9 -0.2
YNR eSKPdf SKPdf 04 20 15.2 +1.7
M11A Holland Ranch, 125.20 32 ⇑P PKPdf 04 16 59.2 +1.2
baz=125,SNR=9.3
S06C San Francisco 125.30 38 ⇓P PKPdf 04 16 59.5 +1.3
baz=125,SNR=28
LAO LASA Array 125.31 21 ePKPdf PKPdf 04 16 58.7 +0.5
YFT Old Faithful 125.31 26 ePKPdf PKPdf 04 17 00.7 +2.5
YFT eSKPdf SKPdf 04 20 15.4 +1.6
O09A Fish Creek Ran 125.33 34 ⇓P PKPdf 04 16 59.6 +1.4
baz=125,SNR=14
S05C Merced 125.34 38 ⇓P PKPdf 04 16 59.6 +1.3
baz=125,SNR=20
RLMT Red Lodge 125.44 24 ePKPdf PKPdf 04 16 59.4 +0.9
RLMT ePP PP 04 18 51.8 0.0

LRV Little Rabbit 125.48 40 ePKPdf PKPdf 04 16 59.9 +1.4
LRV eSKPdf SKPdf 04 20 15.6 +1.4
O10A Cortez Mining, 125.62 33 ⇑P PKPdf 04 17 00.5 +1.8
baz=126,SNR=14
R07C Lee Vining 125.65 37 ⇓P PKPdf 04 17 00.6 +1.7
baz=126,SNR=11
N11A Elko Archery C 125.67 32 ⇑P PKPdf 04 17 00.6 +1.7
baz=126,SNR=8.5
M12A Wells 125.67 31 ⇓P PKPdf 04 17 00.7 +1.8
baz=126,SNR=36
U04C Hernandez Rese 125.67 40 ⇓P PKPdf 04 17 00.6 +1.7
baz=126
P09A Austin 125.78 34 ⇑P PKPdf 04 17 00.6 +1.5
baz=126
Q08A Gabbs 125.80 35 ⇑P PKPdf 04 17 00.7 +1.5
baz=126,SNR=12
DCID1 Drake Creek 125.83 27 ePKPdf PKPdf 04 17 00.4 +1.3
NVAR Mina Array Bea 125.87 36 PKhKP 04 16 52.7
comp=Z,1.3nm,0.7s,baz=277,slow=4.8,SNR=5.0
NVAR PKP PKPdf 04 17 01.3 +2.0
comp=Z,27nm,0.8s,baz=277,slow=3.6,SNR=48
NVAR PKKPbc 04 26 35.7
comp=Z,1.2nm,0.5s,baz=39,slow=9.5,SNR=12
NVAR SKKPbc 04 30 04.9
comp=Z,7.0nm,0.9s,baz=110,slow=3.3,SNR=8.5
NVAR Mina Array Bea 125.87 36 PKP 04 16 52.7
NVAR PKP PKPdf 04 17 01.3 +2.0
NVAR PKKPbc 04 26 35.7
NVAR SKKPbc 04 30 04.9
MOOW Moose Ponds 125.91 26 ePKPdf PKPdf 04 17 00.5 +1.2
T06C Millerton Lake 125.94 38 ⇑P PKPdf 04 17 00.7 +1.3
baz=126,SNR=17
RRI2 Red Ridge 125.96 27 ePKPdf PKPdf 04 16 58.2 -1.3
KCC Kaiser Creek 125.98 38 ⇑P PKPdf 04 17 00.8 +1.3
baz=126,SNR=9.6
ELK Elko 125.98 32 ePKIKP PKPdf 04 17 01.1 +1.6
N12A Clover Valley, 126.01 32 ⇑P PKPdf 04 17 00.8 +1.2
baz=126,SNR=27
R08A Mina 126.04 36 ⇓P PKPdf 04 17 01.2 +1.6
baz=126,SNR=11
V04C Ramage Ranch, 126.06 40 ⇓P PKPdf 04 17 01.1 +1.5
baz=126
PKD Parkfield 126.08 40 ⇓P PKPdf 04 17 00.7 +1.1
baz=126,SNR=10
M13A Montello 126.09 31 ⇓P PKPdf 04 17 01.0 +1.3
baz=126,SNR=36
U05C Westside ANR, 126.11 39 ⇑P PKPdf 04 17 01.1 +1.3
baz=126
P10A Eureka 126.11 34 ⇑P PKPdf 04 17 01.0 +1.2
baz=126,SNR=8.3
SNOW Snow King Moun 126.13 27 ePKPdf PKPdf 04 17 01.1 +1.4
SNOW eSKPdf SKPdf 04 20 16.3 +0.9
REDW Red Top Meadow 126.16 27 ePKPdf PKPdf 04 17 01.0 +1.2
REDW ePP PP 04 18 56.6 0.0
REDW eSKPdf SKPdf 04 20 16.4 +0.9
O11A Cowboy Ranch, 126.20 33 ⇓P PKPdf 04 17 01.1 +1.2
baz=126,SNR=19
Q09A Carvers 126.25 35 ⇑P PKPdf 04 17 01.3 +1.3
baz=126,SNR=20
MTUM Tungsten Hills 126.42 37 ePKPdf PKPdf 04 17 02.1 +1.8
MTUM eSKP 04 19 57.3
N13A Wendover, West 126.44 31 ⇑P PKPdf 04 17 01.6 +1.3
baz=126,SNR=7.6
PTRM Twissleman Ran 126.47 40 ePKPdf PKPdf 04 17 02.4 +2.0
PTRM eSKPdf SKPdf 04 20 17.1 +1.0
HVU Hansel Valley 126.48 29 ePKPdf PKPdf 04 17 01.6 +1.1
HVU eSKP 04 19 56.7
HELL Mitchell Peak, 126.57 38 ⇑P PKPdf 04 17 01.8 +1.2
baz=126
O12A Currie 126.59 32 ⇑P PKPdf 04 17 01.7 +1.1
baz=126,SNR=21
RCTC Rector, Farmer 126.67 39 ⇓P PKPdf 04 17 02.1 +1.3
baz=127
R09A Tonopah 126.71 35 P PKPdf 04 17 02.1 +1.3
baz=127,SNR=14
TIN Tinemaha 126.82 37 ⇑P PKPdf 04 17 02.4 +1.3
baz=127
SMMC Simmler 126.82 40 ⇑P PKPdf 04 17 02.5 +1.5
baz=127,SNR=7.8
S09A Goldfield 126.97 36 ⇑P PKPdf 04 17 01.9 +0.6
baz=127,SNR=15
BGU Big Grassy Mou 126.99 30 ePKPdf PKPdf 04 17 02.8 +1.4
SPUT South Promonto 126.99 30 ePKPdf PKPdf 04 16 59.1 -2.3
P12A McGill 127.07 33 ⇑P PKPdf 04 17 02.6 +1.1
baz=127,SNR=20
VES Vestal, Richgr 127.07 39 P PKPdf 04 17 02.8 +1.2
baz=127,SNR=5.3
Q11A Duckwater 127.10 34 ⇓P PKPdf 04 17 03.0 +1.4
baz=127,SNR=13
PKM Peak Mountain 127.19 40 ⇑P PKPdf 04 17 03.2 +1.5
baz=127,SNR=7.7
HWUT Hardware Ranch 127.20 29 ePKPdf PKPdf 04 17 02.4 +0.6
HWUT eSKP 04 19 59.0
BW06 Boulder Array 127.21 26 ePKPdf PKPdf 04 17 01.0 -0.9
BW06 epPKPdf pPKPdf 04 17 58.1 +3.1
PDAR Pinedale Array 127.21 26 PKP PKPdf 04 17 01.9 0.0
comp=Z,14nm,0.9s,baz=252,slow=1.3,SNR=33
PDAR pPKP pPKPdf 04 17 55.1 0.0
comp=Z,12nm,0.9s,baz=298,slow=1.9,SNR=3.6
PDAR SKPbc 04 19 57.1
comp=Z,17nm,0.9s,baz=20,slow=0.2,SNR=6.2
PDAR PKKPbc 04 26 29.8
comp=Z,0.9nm,0.7s,baz=123,slow=6.0,SNR=4.8
PDAR SKKPbc 04 29 57.8
comp=Z,12nm,0.9s,baz=144,slow=4.3,SNR=22
CWC Cottonwood Cre 127.31 38 ⇓P PKPdf 04 17 03.3 +1.3
baz=127
GRAC Grapevine Rang 127.37 37 ⇑P PKPdf 04 17 03.7 +1.5
baz=127,SNR=6.7
Q12A Willow Creek R 127.42 33 ⇑P PKPdf 04 17 03.7 +1.5
baz=127,SNR=7.4
TRCR Troy Canyon 127.49 34 ePKPdf PKPdf 04 17 03.9 +1.5
TRCR epPKPdf pPKPdf 04 17 56.8 +1.2
ISA Isabella 127.57 39 ePKPdf PKPdf 04 17 03.4 +0.9
ISA eSKPdf SKPdf 04 20 19.0 +0.9
ISA Isabella 127.57 39 ⇓P PKPdf 04 17 04.0 +1.5
baz=128,SNR=6.3
DUG Dugway 127.65 31 ePKPdf PKPdf 04 17 04.3 +1.7
DUG eSKPdf SKPdf 04 20 19.3 +1.1
NOQ North Oquirrh 127.65 30 ePKPdf PKPdf 04 17 04.1 +1.4
ARVC Arvin 127.68 40 ⇓P PKPdf 04 17 04.5 +1.8
baz=128,SNR=6.3
CTU Camp Tracy 127.81 30 ePKPdf PKPdf 04 17 04.2 +1.3
CTU eSKPdf SKPdf 04 20 18.7 +0.2
MPMC Manual Prospec 127.92 38 ⇓P PKPdf 04 17 04.9 +1.7
baz=128,SNR=20
EYMN Ely 128.00 9 ePKPdf PKPdf 04 17 03.0 -0.3
EYMN epPKPdf pPKPdf 04 17 55.7 -0.8
JLU Jordanelle 128.02 29 ePKPdf PKPdf 04 17 04.4 +1.1
FURC Furnace Creek, 128.03 37 ⇑P PKPdf 04 17 05.2 +1.8
baz=128,SNR=9.3
OSI Osito Adit 128.07 40 ⇑P PKPdf 04 17 05.2 +1.7
baz=128
LRMC Laurel Mountai 128.17 38 ⇑P PKPdf 04 17 05.3 +1.6
baz=128,SNR=7.7
NLU North Lily Min 128.20 30 ePKPdf PKPdf 04 17 04.9 +1.2
NLU eSKPdf SKPdf 04 20 19.6 +0.3
DAU Daniels Canyon 128.26 29 ePKIKP PKPdf 04 17 05.2 +1.4
DAU e 04 18 01.2
RSSD Black Hills 128.31 21 ePKPdf PKPdf 04 17 03.7 -0.2
RSSD e 04 20 02.8
EDW2 Edwards Air Fo 128.37 39 ⇓P PKPdf 04 17 05.7 +1.6
baz=128,SNR=7.0
MPU Maple Canyon 128.38 30 ePKPdf PKPdf 04 17 05.7 +1.6
U10A Ash Meadows, A 128.38 37 ⇑P PKPdf 04 17 05.7 +1.7
baz=128,SNR=9.8
SHOC Shoshone 128.76 37 ⇑P PKPdf 04 17 06.5 +1.7
baz=129,SNR=8.8
U11A Corn Creek 128.94 36 ⇑P PKPdf 04 17 07.0 +1.9
baz=129
BFSC Mount Baldy St 128.99 40 ⇓P PKPdf 04 17 07.1 +1.9
baz=129
RRX Edison Barstow 128.99 39 ⇑P PKPdf 04 17 07.0 +1.8
baz=129
ARUT Antelope Range 129.08 33 ePKPdf PKPdf 04 17 06.8 +1.5
ARUT e 04 20 07.4
TMUT Trail Mountain 129.14 30 ePKPdf PKPdf 04 17 07.1 +1.6
MSU Marysvale 129.23 32 ePKIKP PKPdf 04 17 07.7 +2.0
TUQ Turquoise Mtn. 129.28 37 ⇓P PKPdf 04 17 07.8 +2.1
baz=129,SNR=7.3
CCUT Cedar City 129.29 33 ePKPdf PKPdf 04 17 07.8 +2.0
V11A Goodsprings 129.31 37 ⇓P PKPdf 04 17 07.5 +1.7
baz=129,SNR=5.5
U12A Valley of Fire 129.42 35 ⇑P PKPdf 04 17 07.7 +1.7
baz=129,SNR=6.0

HEC Hector,Ludlow 129.44 38 ⇑P PKPdf 04 17 08.0 +1.9
baz=129,SNR=5.3
BBRC Big Bear Sol-O 129.44 39 ⇓P PKPdf 04 17 07.8 +1.7
baz=129
SRU San Rafael 129.62 30 ePKPdf PKPdf 04 17 08.1 +1.7
SRU eSKP 04 20 08.1
MURC Murrieta 129.69 40 ⇓P PKPdf 04 17 08.4 +1.9
baz=130,SNR=5.2
V12A Nelson 129.73 36 ⇓P PKPdf 04 17 08.3 +1.7
baz=130,SNR=10.0
GMRC Granite Mounta 129.88 38 ⇓P PKPdf 04 17 08.6 +1.7
baz=130,SNR=8.2
W12A Cal Nev Ari 130.01 37 ⇓P PKPdf 04 17 08.7 +1.5
baz=130
PFO Pinyon Flat Ob 130.16 39 PKP PKPdf 04 17 09.1 +1.6
comp=Z,8.8nm,0.7s,baz=286,slow=1.9,SNR=9.7
PFO pPKP pPKPdf 04 18 02.9 +2.2
comp=Z,29nm,1.2s,baz=254,slow=3.1,SNR=2.6
PFO SKPbc SKPbc 04 20 10.9 0.0
comp=Z,89nm,0.9s,baz=327,slow=4.0,SNR=31
PFO SKKPbc 04 29 50.2
comp=Z,7.0nm,0.9s,baz=349,slow=1.5,SNR=5.2
PFO Pinyon Flat Ob 130.16 39 ePKPdf PKPdf 04 17 08.0 +0.5
PFO eSKPbc SKPbc 04 20 10.5 -0.4
PFO Pinyon Flat Ob 130.16 39 ⇓P PKPdf 04 17 09.2 +1.7
baz=130
BELC Belle Mtn. 130.19 39 ⇑P PKPdf 04 17 09.3 +1.8
baz=130
PKME Peaks-Kenny Pk 130.43 349 ePKPdf PKPdf 04 17 08.3 +0.4
PKME epPKPdf pPKPdf 04 18 03.0 +1.8
PKME eSKPbc SKPbc 04 20 11.2 -0.7
IRM Iron Mountain 130.61 38 ⇑P PKPdf 04 17 09.9 +1.6
baz=130,SNR=5.4
MONP Monument Peak 130.65 40 ⇓P PKPdf 04 17 09.9 +1.6
baz=131,SNR=6.0
W13A Hualapai Mount 130.73 36 ⇑P PKPdf 04 17 10.2 +1.7
baz=131,SNR=13
BC3 Big Chuckw Mtn 130.76 39 ⇑P PKPdf 04 17 10.2 +1.6
baz=131,SNR=5.4
PV10 Paradox Valley 130.92 29 ePKPdf PKPdf 04 17 10.7 +1.8
DVTC Desert V Tower 131.00 40 ⇑P PKPdf 04 17 10.5 +1.5
baz=131,SNR=6.3
SWSC Sam W. Stewart 131.01 40 ⇑P PKPdf 04 17 10.6 +1.6
baz=131,SNR=8.6
X13A Yucca 131.11 37 ⇓P PKPdf 04 17 10.8 +1.5
baz=131,SNR=9.0
W14A Seligman 131.12 35 ⇑P PKPdf 04 17 10.8 +1.6
baz=131,SNR=12
PDMCI Parker Dam,Lak 131.13 37 ⇑P PKPdf 04 17 10.9 +1.6
baz=131,SNR=5.2
Y12C Blythe 131.27 38 ⇑P PKPdf 04 17 11.2 +1.7
baz=131
PV01 Paradox Valley 131.34 29 ePKPdf PKPdf 04 17 11.5 +1.8
PV01 eSKPbc SKPbc 04 20 15.1 -0.1
ISCO Idaho Springs 131.35 25 ePKPdf PKPdf 04 17 08.3 -1.4
ISCO eSKPbc SKPbc 04 20 14.8 -0.4
GLA Glamis 131.55 39 ePKPdf PKPdf 04 17 12.4 +2.4
GLA eSKPbc SKPbc 04 20 16.4 +0.4
GLA Glamis 131.55 39 ⇓P PKPdf 04 17 11.7 +1.7
baz=132,SNR=7.5
W15A Williams 131.61 35 ⇓P PKPdf 04 17 12.0 +1.8
baz=132,SNR=8.4
X14A Yava 131.75 36 ⇓P PKPdf 04 17 12.2 +1.7
baz=132,SNR=10
WUAZ Wupatki 131.87 34 ePKPpre 04 17 06.5
WUAZ ePKPdf PKPdf 04 17 12.4 +1.7
WUAZ eSKPbc SKPbc 04 20 17.6 +0.5
Y14A Wickenburg 132.06 37 ⇓P PKPdf 04 17 13.1 +2.1
baz=132
MVCO Mesa Verde 132.10 30 ePKPdf PKPdf 04 17 13.2 +2.1
MVCO eSKPbc SKPbc 04 20 17.7 -0.2
X15A Humboldt 132.12 35 ⇓P PKPdf 04 17 13.1 +1.9
baz=132,SNR=14
NCB Newcomb 132.44 353 ePKPdf PKPdf 04 17 11.8 0.0
NCB epPKPdf pPKPdf 04 18 07.6 +2.6
NCB eSKPdf SKPdf 04 20 18.1 -9.1
Z14A Wintersburg 132.49 37 ⇓P PKPdf 04 17 13.9 +2.1
baz=132
SDCO Great Sand Dun 133.09 27 ePKPpre 04 17 10.1
SDCO ePKPdf PKPdf 04 17 13.9 +1.0
SDCO eSKPbc SKPbc 04 20 20.6 -0.7
JFWS Jewell Farm 133.10 9 ePKPdf PKPdf 04 17 13.8 +0.9
JFWS eSKPbc SKPbc 04 20 19.6 -1.8
115A Sonoran Desert 133.39 37 ⇑P PKPdf 04 17 15.4 +1.9
baz=133
SCIA State Center 133.51 13 ePKPdf PKPdf 04 17 14.2 +0.5
SCIA eSKPbc SKPbc 04 20 21.5 -1.3
116A Eloy 133.80 37 ⇓P PKPdf 04 17 16.2 +1.9
baz=134,SNR=5.4
BINY Binghamton 134.37 355 ePKPdf PKPdf 04 17 15.8 +0.5
BINY epPKPdf pPKPdf 04 18 11.0 +2.4
BINY eSKPbc SKPbc 04 20 24.1 -1.5
AAM Ann Arbor 134.42 3 ePKPdf PKPdf 04 17 15.3 -0.2
AAM eSKPbc SKPbc 04 20 24.1 -1.6
CBKS Cedar Bluff 134.50 21 ePKIKP 04 17 08.5
TUC Tucson 134.52 36 ePKPpre 04 17 08.4
TUC ePKPdf PKPdf 04 17 17.4 +1.7
TUC eSKP 04 20 26.8
ANMO Albuquerque 134.89 30 PKhKP 04 17 06.2
comp=Z,0.6nm,0.5s,baz=282,slow=4.1,SNR=3.9
ANMO PKP PKPdf 04 17 14.7 -1.7
comp=Z,5.3nm,0.8s,baz=59,slow=1.4,SNR=5.2
ANMO pPKP pPKPdf 04 18 13.0 +3.4
comp=Z,23nm,1.0s,baz=221,slow=2.9,SNR=4.8
ANMO SKPbc SKPbc 04 20 27.7 +0.5
comp=Z,198nm,1.0s,baz=311,slow=2.8,SNR=46
ANMO SKKPbc 04 29 33.3
comp=Z,4.6nm,1.0s,baz=188,slow=2.7,SNR=5.0
ANMO Albuquerque 134.89 30 *i* PKHKP 04 17 06.2
ANMO 04 17 14.7
ANMO 04 18 13.0
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 134.89 30 PKP 04 17 06.2
ANMO ePKPdf PKPdf 04 17 15.6 -0.8
ANMO eSKPbc SKPbc 04 20 27.6 +0.3
LAZ Ladron 134.98 31 ePKPdf PKPdf 04 17 16.6 +0.1
LAZ eSKPbc SKPbc 04 20 27.8 +0.3
RCBR Riachuelo 135.11 265 ePKPdf PKPdf 04 17 18.0 +1.3
RCBR epPKPdf pPKPdf 04 18 11.6 +1.6
RCBR eSKPbc SKPbc 04 20 29.0 +1.1
LENM Lemitar 135.25 31 ePKPdf PKPdf 04 17 16.1 -0.9
LENM epPKPdf pPKPdf 04 18 12.2 +2.0
LENM eSKPbc SKPbc 04 20 28.9 +0.6
KSU1 Kansas State U 135.26 17 ePKPpre 04 17 08.4
KSU1 ePKPdf PKPdf 04 17 17.8 +0.8
KSU1 eSKPbc SKPbc 04 20 26.8 -1.7
LPM Los Pinos Moun 135.31 31 ePKPdf PKPdf 04 17 18.2 +1.0
LPM eSKPbc SKPbc 04 20 27.4 -1.1
Y22C IRIS PASSCAL I 135.35 31 ⇓P PKPdf 04 17 19.0 +1.8
baz=135
BNM Barren Site 135.44 31 ePKPdf PKPdf 04 17 18.9 +1.5
BNM epPKPdf pPKPdf 04 18 11.8 +1.2
BNM eSKPbc SKPbc 04 20 29.2 +0.2
BNM eSKPdf SKPdf 04 20 33.4 +0.7
SSPA Standing Stone 136.06 357 ePKPdf PKPdf 04 17 19.4 +0.8
SSPA epPKPdf pPKPdf 04 18 12.9 +1.1
SSPA eSKPbc SKPbc 04 20 29.5 -1.4
MVL Millersville 136.59 355 ePKPdf PKPdf 04 17 21.0 +1.5
MVL eSKPbc SKPbc 04 20 31.5 -0.9
CAM3 Guarapari 137.13 243 (P) PKPdf 04 17 21.4 +0.9
CAM3 *i* 04 17 34.2
CAM3 *i* 04 18 00.1
CAM3 *i* 04 18 15.0
CAM3 *i* 04 18 32.8
AMTX Amarillo 137.17 25 ePKPpre 04 17 15.3
AMTX ePKPdf PKPdf 04 17 22.6 +2.0
AMTX eSKPbc SKPbc 04 20 33.5 -0.7
AMTX eSKPab 04 20 41.0
BLO Bloomington 137.29 6 ePKPpre 04 17 11.9
BLO eSKPbc SKPbc 04 20 33.1 -1.4
MNTX Cornudas Mount 138.01 32 ePKPpre 04 17 15.5
MNTX ePKPdf PKPdf 04 17 22.4 +0.2
MNTX eSKPbc SKPbc 04 20 36.8 +0.2
WCI Wyandotte Cave 138.25 6 ePKHKP 04 17 13.4
WCI *e* 04 17 23.8
WCI Wyandotte Cave 138.25 6 ePKPpre 04 17 13.3
WCI ePKPdf PKPdf 04 17 23.8 +1.2
WCI eSKPbc SKPbc 04 20 36.2 -1.1
USIN University of 138.34 8 ePKPdf PKPdf 04 17 23.0 +0.3
USIN eSKPbc SKPbc 04 20 36.4 -1.1
USIN eSKPab 04 20 45.5
SIUC Southern Illin 138.34 10 ePKPpre 04 17 14.9

SIUC				ePKPdf	PKPdf	04 17 23.3	+0.6
SIUC				epPKPdf	pPKPdf	04 18 16.8	+0.8
SIUC				eSKPbc	SKPbc	04 20 36.1	-1.4
CAM4	Nova Friburgo	138.37	240	eP		04 17 15.9	
CAM4				i	PKiKP	04 17 24.8	-0.2
CAM4				i		04 17 52.4	
CAM4				i		04 18 19.5	
CAM4				i		04 19 09.6	
CBN	Corbin	138.45	356	ePKPdf	PKPdf	04 17 24.7	+1.8
CBN				eSKPbc	SKPbc	04 20 37.0	-0.8
WMOK	Wichita Mounta	138.47	22	ePKHKP		04 17 13.4	
WMOK				e		04 17 23.0	
WMOK	Wichita Mounta	138.47	22	ePKPpre		04 17 13.4	
WMOK				ePKPdf	PKPdf	04 17 22.9	0.0
WMOK				eSKPbc	SKPbc	04 20 36.2	-1.7
FWV	Forest Hill	139.20	360	ePKPdf	PKPdf	04 17 24.8	+0.5
FWV				epPKPdf	pPKPdf	04 18 20.6	+3.0
FWV				eSKPdf	SKPdf	04 20 38.3	-1.1
ELN	Prospectdale	139.55	360	ePKPpre		04 17 16.6	
ELN				ePKPdf	PKPdf	04 17 26.1	+1.2
ELN				epPKPdf	pPKPdf	04 18 18.8	+0.6
ELN				eSKPdf	SKPdf	04 20 39.2	-0.8
ELN				eSKPab		04 20 51.4	
BLA	Blacksburg	139.57	359	ePKPdf	PKPdf	04 17 25.2	+0.3
BLA				eSKPdf	SKPdf	04 20 39.8	-0.2
BLA				eSKPab		04 20 52.9	
WVT	Waverly	140.12	9	ePKHKP		04 17 17.0	
WVT				e		04 17 23.9	
WVT	Waverly	140.12	9	ePKPpre		04 17 16.9	
WVT				ePKPdf	PKPdf	04 17 23.9	-2.1
WVT				eSKPdf	SKPdf	04 20 41.5	+0.5
TZTN	Tazewell	140.16	3	ePKPpre		04 17 17.5	
TZTN				ePKPdf	PKPdf	04 17 27.1	+1.1
TZTN				eSKPdf	SKPdf	04 20 41.2	+0.2
MIAR	Mount Ida	140.38	17	ePKPpre		04 17 19.4	
MIAR				eSKPbc	SKPbc	04 20 42.2	-0.9
LPIG	La Paz	140.40	45	SKPbc	SKPbc	04 20 41.9	-1.2
	comp=Z,55nm,0.6s,baz=271,slow=3.1,SNR=3.9						
UALR	University of	140.50	15	ePKPpre		04 17 20.2	
UALR				eSKPdf	SKPdf	04 20 42.1	+0.5
UALR				eSKPab		04 20 54.4	
LTX	Lajitas	140.78	32	ePKPdf	PKPdf	04 17 24.6	-2.5
LTX				eSKPbc	SKPbc	04 20 44.2	+0.1
TKL	Tuckaleechee C	141.03	4	SKPbc	SKPbc	04 20 43.8	-1.0
	comp=Z,171nm,0.9s,baz=104,slow=2.2,SNR=18						
PLAL	Pickwick Lake	141.20	9	ePKPpre		04 17 20.4	
PLAL				ePKPdf	PKPdf	04 17 28.7	+0.8
PLAL				eSKPdf	SKPdf	04 20 42.9	0.0
CNNC	Cliffs of the	141.43	356	ePKPdf	PKPdf	04 17 26.8	-1.5
CNNC				epPKPdf	pPKPdf	04 18 24.7	+3.1
CNNC				eSKPbc	SKPbc	04 20 45.2	-0.6
MYNC	Murphy	141.58	4	ePKPdf	PKPdf	04 17 24.2	-4.4
MYNC				eSKPbc	SKPbc	04 20 45.3	-0.9
JCT	Junction City	141.75	27	ePKPpre		04 17 24.1	
JCT				ePKPdf	PKPdf	04 17 30.2	+1.3
JCT				eSKPbc	SKPbc	04 20 46.5	-0.1
JSC	Jenkinsville	142.49	1	ePKPpre		04 17 26.8	
JSC				ePKPdf	PKPdf	04 17 31.1	+0.8
JSC				epPKPdf	pPKPdf	04 18 25.8	+2.2
JSC				eSKPbc	SKPbc	04 20 47.6	-0.8
NATX	Nacogdoches	142.63	20	ePKPdf	PKPdf	04 17 27.9	-2.6
NATX				eSKPbc	SKPbc	04 20 48.6	-0.2
LRAL	Lakeview Retre	143.28	9	ePKPdf	PKPdf	04 17 29.0	-2.6
LRAL				eSKPbc	SKPbc	04 20 49.1	-1.3
GOGA	Godfrey	143.28	4	ePKIKP	PKPdf	04 17 29.9	-1.7
GOGA				e		04 20 49.5	
COW	Cow Castle Cre	143.39	360	ePKPdf	PKPdf	04 17 31.2	-0.6
COW				eSKPbc	SKPbc	04 20 50.1	-0.5
NHSC	New Hope	143.66	359	ePKPdf	PKPdf	04 17 32.2	-0.1
NHSC				eSKPbc	SKPbc	04 20 50.6	-0.6
HKT	Hockley	143.86	22	ePKIKP	PKPdf	04 17 31.5	-1.1
HKT				e		04 20 51.5	
RPN	Rapa Nui	144.02	134	ePKPdf	PKPdf	04 17 33.5	+0.5
RPN				eSKPbc	SKPbc	04 20 53.7	+1.6
KVTX	Kingsville	145.11	27	ePKPbc	PKPbc	04 17 37.7	+2.9
KVTX				epPKPdf	pPKPdf	04 18 29.4	+1.2
KVTX				eSKPbc	SKPbc	04 20 55.0	+0.3
BRAL	Brewton	145.25	9	ePKPbc	PKPbc	04 17 36.0	+0.8
BRAL				eSKPdf	SKPdf	04 20 51.1	+1.6
CJM	Chamela	147.09	45	eP	PKPdf	04 17 42.2	+4.0
SFJM	Santa Fe	147.79	42	i P	PKPdf	04 17 41.5	+2.2
DWPF	Disney	148.64	1	ePKPbc	PKPbc	04 17 45.4	+0.7
CFAA	Coronel Fontan	149.55	202	PKP	PKPdf	04 17 43.0	+0.9
	comp=Z,7.1nm,0.8s,baz=219,slow=2.7						
CFAA				PKPbc	PKPbc	04 17 48.0	+1.1
	baz=172,slow=4.2						
CFAA				pPKPbc	pPKPbc	04 18 40.8	+1.0
	comp=Z,46nm,0.7s,baz=159,slow=3.0,SNR=10.0						
CFAA				SKPbc	SKPbc	04 21 04.3	-0.1
	comp=Z,7.8nm,0.9s,baz=242,slow=2.4,SNR=5.9						
PTVM	Pico Tres Padr	150.94	37	i P	PKPdf	04 17 46.5	+2.1
PLIG	Platanillo	151.60	40	eP	PKPdf	04 17 47.7	+2.4
MGG	Marie-Galante	152.72	315⇓	eP	PKPbc	04 17 55.6	+1.4
LZG	Guadaloupe-1	152.88	316	eP	PKPbc	04 17 56.0	+1.3
TBG	Guadaloupe-3	152.99	316	eP	PKPbc	04 17 55.4	+0.5
MTP	Monte Pirata	153.81	325	ePKPbc	PKPbc	04 17 57.3	+0.7
MTP				ePKPab	PKPab	04 18 12.1	+1.7
SOR	Soroa	153.86	4	eP	PKPdf	04 17 50.8	+2.2
CPD	Cerro la Pandu	154.06	326	ePKIKP	PKPbc	04 17 58.8	+1.6
CPD				e		04 18 12.8	
OXX	Oaxaca	154.31	37	eP	PKPdf	04 17 53.0	+3.7
TEIG	Tepich	155.40	17	eP	PKPdf	04 17 48.5	-2.2
TEIG				ePKPdf	PKPdf	04 17 53.0	+2.2
TEIG				i S	PKPab	04 18 17.3	0.0
TEIG				ePKPab	PKPab	04 18 17.9	+0.7
HUIG	Huatulco	155.70	38	eP	PKPdf	04 17 53.4	+2.3
SIV	San Ignacio	156.85	236	PKP	PKPdf	04 17 53.5	+0.9
	comp=Z,8.8nm,0.8s,baz=120,slow=2.9,SNR=51						
SIV				PKPab	PKPab	04 18 24.5	+1.0
	comp=Z,9.8nm,0.5s,baz=118,slow=5.9,SNR=13						
SIV				PP	PP	04 22 03.8	+1.3
	comp=Z,12nm,1.0s,baz=120,slow=10,SNR=3.3						
SAML	Samuel	161.57	252	ePKPdf	PKPdf	04 17 59.4	+1.2
SAML				ePKPab	PKPab	04 18 44.9	+0.9
LPAZ	La Paz	162.10	224	PKP	PKPdf	04 18 00.8	+2.1
	comp=Z,26nm,0.9s,baz=148,slow=0.9,SNR=69						
LPAZ				PKPab	PKPab	04 18 47.7	+1.4
	comp=Z,17nm,0.6s,baz=106,slow=3.8,SNR=16						
LPAZ	La Paz	162.10	224	PKIKP	PKPdf	04 18 00.8	+2.2
LPAZ						04 18 47.7	
LPAZ				pmax	pmax		
	comp=Z,26nm,1.0s						
LPAZ	La Paz	162.10	224	ePKPdf	PKPdf	04 18 00.8	+2.1
LPAZ				ePKPab	PKPab	04 18 48.1	+1.8
LPAZ				eSKPdf	SKPdf	04 21 11.7	+0.8
SDV	Santo Domingo	164.06	320	PKPab	PKPab	04 18 55.7	+0.8
	comp=Z,68nm,0.8s,baz=65,slow=3.8,SNR=6.5						
SDV				PP	PP	04 22 40.3	-0.9
	comp=Z,39nm,1.1s,baz=37,slow=6.3,SNR=5.6						
SDV	Santo Domingo	164.06	320	ePKPdf	PKPdf	04 18 01.5	+1.0
SDV				PKPab	PKPab	04 18 55.7	+0.8
SDV				ePKPab	PKPab	04 18 56.1	+1.1
SDV				ePP	PP	04 22 39.9	-1.2
SDV				PP	PP	04 22 40.3	-0.9
ARE	Arequipa	164.09	215	ePKIKP	PKPdf	04 18 03.0	+2.5
ROSC	El Rosal	169.48	321	PKP	PKPdf	04 18 07.1	+2.5
	comp=Z,34nm,0.9s,baz=88,slow=3.4,SNR=31						
ROSC				pPKP	pPKPdf	04 19 00.8	+2.6
	comp=Z,81nm,1.1s,baz=166,slow=2.6,SNR=7.3						
ROSC				PKPab	PKPab	04 19 20.2	+1.2
	comp=Z,31nm,0.6s,baz=98,slow=9.3,SNR=9.8						
ROSC				PP	PP	04 23 09.5	+0.5
	comp=Z,41nm,1.1s,baz=74,slow=9.1,SNR=4.8						
ROSC	El Rosal	169.48	321	ePKPdf	PKPdf	04 18 06.4	+1.8
ROSC				epPKPdf	pPKPdf	04 18 59.7	+1.4
ROSC				ePKPab	PKPab	04 19 21.3	+2.4
ROSC				ePP	PP	04 23 09.3	+0.4
PAYG	Puerto Ayora	170.22	74	ePKPdf	PKPdf	04 18 07.0	+1.9
PAYG				ePKPab	PKPab	04 19 23.1	+0.9
NNA	Nana	170.60	205	PKP	PKPdf	04 18 07.0	+1.7
	comp=Z,20nm,0.8s,baz=265,slow=2.8,SNR=7.5						
NNA				pPKP	pPKPdf	04 19 00.3	+1.4
	comp=Z,40nm,1.0s,baz=295,slow=0.4,SNR=5.3						
NNA	Nana	170.60	205	ePKPdf	PKPdf	04 18 07.0	+1.8
NNA				epPKPdf	pPKPdf	04 18 59.2	+0.3
OTAV	Otavalo	175.62	326	ePKPdf	PKPdf	04 18 08.5	+1.3
OTAV				epPKPdf	pPKPdf	04 19 02.2	+1.3
OTAV				ePKPab	PKPab	04 19 49.4	+3.2
ATAH	Atahualpa	175.67	215	PKP	PKPdf	04 18 09.5	+2.3
	comp=Z,22nm,1.0s,baz=290,slow=2.2,SNR=22						
ATAH				pPKP	pPKPdf	04 19 03.2	+2.3
	comp=Z,31nm,1.0s,baz=180,slow=7.7,SNR=5.5						

*TRN **01** 04:58:17.5, 1795N×6078W, h11^{km}, MD3.9, M3.6(FDF)*
*ISCJB **01** 04:58:21.2±1.9, 180N±0.1×609W±0.1, h86^{km}±23^{km}, Error ellipse: s-maj=25.0km s-min=11.0km az=84.0*
*RSPR **01** 04:58:27.5, 2049N×6187W, h25^{km}±59^{km}*
ISC 01 04:58:22.3±1.9**, 179N**±01×**609W**±01**, h87**^{km}±21^{km}**, n14, σ1^{s}14**/17**, 4C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPB	Codrington	0.94	252	eP	Pn	04 58 39.4	-1.7
CPB	Codrington	0.94	252	e	Pn	04 58 46.5	+5.4
CPB				eS	Sn	04 58 56.8	+1.7
BPA	Boggy Peak	1.28	226	eP	Pn	04 58 43.8	-1.4
BPA				eS	Sn	04 59 01.0	-1.3
DEG	La Desirade	1.62	186	eP	Pn	04 58 47.9	-1.6
LZG	Guadaloupe-1	1.98	205	eP	Pn	04 58 54.0	-0.1
SCG	Saint Claude	2.04	202	eP	Pn	04 58 55.6	+0.6
SCG				eS	Sn	04 59 21.4	+1.5
TBG	Guadaloupe-3	2.19	199	eP	Pn	04 58 57.3	+0.3
MTP	Monte Pirata	4.44	273⇑	eP	Pn	04 59 28.0	+0.8
MTP	Monte Pirata	4.44	273	eS	Sn	05 00 17.7	+0.1
HUMP	Col San Antoni	4.72	273⇑	eP	Pn	04 59 31.7	+0.6
HUMP	Col San Antoni	4.72	273	eS	Sn	05 00 22.4	-2.1
CBYP	Canovanas	4.73	275⇑	eP	Pn	04 59 31.7	+0.5
CBYP	Canovanas	4.73	275	eS	Sn	05 00 19.6	-5.2
CRPR	Cabo Rojo, PR	5.92	272⇑	eP	Pn	04 59 48.2	+0.8

*ISCJB **01** 05:08:22.4±0.7, 346S±0.1×554E±02, h10^{km}, mb4.1/6, Error ellipse: s-maj=26.2km s-min=16.2km az=105.3*
*IDC **01** 05:08:22.3±1.0, 3466S×5538E, h0^{km}, mb3.9/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=39.5km s-min=25.5km az=31.0*
*NEIC **01** 05:08:24.2±0.5, 3454S×5545E, h10^{km}, mb4.4/3, Error ellipse: s-maj=20.5km s-min=12.7km az=53.0*
ISC 01 05:08:24.4±0.7**, 346S**±01×**554E**±02**, h10**^{km}**, n10, σ0^{s}49**/9**, mb4.1**/6**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	17.58	333	P	Pn	05 12 30.0	+0.5
	0.6nm,0.3s,baz=147,slow=18,SNR=5.2						
SNAA	Sanae	47.62	201	P	P	05 16 59.5	-1.1
	0.6nm,0.8s,mb3.7,baz=62,slow=13,SNR=3.8						
SNAA	Sanae	47.62	201	eP	P	05 17 01.1	+0.6
	1.6nm,0.8s,mb4.1						
QSPA	South Pole Qui	55.55	180	eP	P	05 18 00.7	+0.8
	2.4nm,0.6s,mb4.4						
ASAR	Alice Springs	67.90	104	P	P	05 19 23.1	-0.1
	0.9nm,0.6s,mb4.0,baz=232,slow=6.0,SNR=13						
TOA0	Torodi Ar. Sit	69.64	303	eP	P	05 19 33.5	-0.5
TORD	Torodi Ar. Bea	69.64	303	P	P	05 19 33.8	-0.2
	0.7nm,0.7s,mb3.7,baz=129,slow=5.3,SNR=6.1						
WRA	Warramunga Arr	70.10	101	P	P	05 19 36.7	-0.2
	2.8nm,0.8s,mb4.3,baz=236,slow=5.4,SNR=27						
WRAB	Tennant Creek	70.11	101	eP	P	05 19 36.9	0.0
	3.3nm,0.7s,mb4.4						
INK	Inuvik	145.90	6	PKPbc	PKPbc	05 28 01.8	-2.3
	1.3nm,0.9s,baz=349,slow=1.5,SNR=5.2						

GUC 01 05:47:49.8±0.9**, 3127S**×**6801W, h5**^{km}**, MD4.1, ML3.2, 1C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZON	Zonda	0.63	244⇓	iP	Pg	05 48 01.1	-0.8
TLL	Tololo Astrono	2.65	294	eP	Pn	05 48 34.4	+1.3
TLL				i S	Sn	05 49 09.3	+3.7
TLL				AML	AML	05 49 24.6	
	comp=N,145nm,0.5s						
FCH	Farellones	2.81	223	eP	Pn	05 48 37.5	+2.1
PEL	Peldehue	2.93	230	eP	Pn	05 48 37.8	+0.8
PEL			⇑	iS	Sn	05 49 15.1	+2.4
PEL				AML	AML	05 49 15.7	
	comp=E,98nm,0.4s						
CLCH	Cerro Calan	3.01	225	eP	Pn	05 48 39.2	+1.1
CLCH				i S	Sn	05 49 17.2	+2.7
CLCH				AML	AML	05 49 26.1	
	comp=E,118nm,0.7s						

*ISCJB **01** 05:51:26.4±0.5, 4698N±006×15576E±009, h10^{km}, mb4.3/27, Error ellipse: s-maj=11.1km s-min=6.1km az=86.5*
*IDC **01** 05:51:27.3±0.7, 4706N×15583E, h0^{km}, mb4.0/16, mb1 4.2/17, mb1mx4.1/26, mbtmp4.0/17, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/32, Error ellipse: s-maj=20.7km s-min=15.2km az=159.0*
*NEIC **01** 05:51:28.2±0.5, 4701N×15570E, h10^{km}, mb4.6/4, Error ellipse: s-maj=11.0km s-min=7.3km az=142.0*
*MOS **01** 05:51:30.5±1.6, 4697N×15567E, h43^{km}, mb4.4/15, Error ellipse: s-maj=11.6km s-min=8.9km az=90.0*
*BJI **01** 05:51:32.5, 4724N×15472E, h5^{km}, mB4.8, mb4.7, Ms4.4, Msz4.2*
ISC 01 05:51:28.2±0.5**, 4699N**±006×**15575E**±009**, h10**^{km}**, n64, σ1^{s}04**/70**, mb4.3**/27**, 2C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.71	4	ePN	Pn	05 52 26.5	+1.0
SKR				eS	Sn	05 53 02.6	-6.7
SKR				smax			
	comp=N,110nm,0.7s						
SKR				smax			
	comp=E,170nm,0.7s						
KUR	Kuril'sk	5.75	255	ePN	Pn	05 52 52.0	-1.7
KUR				pmax	pmax		
	comp=Z,250nm,0.8s						
PET	Petropavlovsk	6.33	16	ePN	Pn	05 52 59.6	-1.9
PET				pmax	pmax		
	comp=Z,20nm,0.7s						
PET	Petropavlovsk	6.33	16	ePn	Pn	05 52 59.6	-1.9
	comp=Z,20nm,0.7s						
PET				eSn	Sn	05 54 14.7	+0.8
YSS	Yuzh-Sakhalins	8.89	275⇑	ePN	Pn	05 53 40.8	+4.1
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	Yuzh-Sakhalins	8.89	275	P	Pn	05 53 35.1	-1.6
ASAJ	Asahikawa	9.66	258	Pn	Pn	05 53 47.4	+0.1
	comp=Z,0.6nm,0.3s,baz=75,slow=8.9,SNR=6.4						
ASAJ				LR	LR	05 58 04.7	
	comp=Z,163nm,18.4s,baz=337,slow=41						
ERM	Erimo	10.27	246	ePN	Pn	05 53 54.4	-1.3
ERM	Erimo	10.27	246	ePn	Pn	05 53 55.3	-0.4
ERM				eSn	Sn	05 55 44.4	-6.6
KLR	Kul'dur	16.17	287	eP	Pn	05 55 17.0	+1.4
MJAR	Matsushiro Arr	16.70	238	Pn	Pn	05 55 21.2	-1.1
	comp=Z,0.5nm,0.3s,baz=19,slow=13,SNR=6.8						
MJAR	Matsushiro Arr	16.70	238	P	Pn	05 55 21.2	-1.1
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	Yakutsk	21.13	325	P	P	05 56 11.8	-1.4
CN2	Changchun	21.45	273	eP	P	05 56 21.5	+4.9
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
BILL	Bilibino	21.79	11	P	P	05 56 20.1	-0.2
KSRS	Korea Array	22.60	255	P	P	05 56 32.3	+3.4
	comp=Z,6.4nm,0.8s,mb4.1,baz=53,slow=8.4,SNR=12						
TIXI	Tiksi	27.77	342	eP	P	05 57 17.0	-0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
HHC	Hu-ho-hao-te	32.08	275	eP	P	05 57 55.1	-0.2
HHC				XP	sP	05 58 02.3	+2.7
HHC				PP	PP	05 59 01.2	-6.5
HHC				S	S	06 03 12.2	+4.8
HHC				SCS	ScS	06 08 23.1	-3.8
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,264nm,5.4s						
HHC				LR	LR		
	comp=E,601nm,20.2s						
HHC				LR	LR		
	comp=Z,214nm,17.8s						
ULN	Ulaanbaatar	32.52	290	P	P	05 57 58.3	-0.9
SONM	Songino Array	32.96	290	P	P	05 58 03.6	+0.5
	comp=Z,1.2nm,0.8s,mb3.9,baz=74,slow=7.5,SNR=6.4						
SONM	Songino Array	32.96	290	P	P	05 58 03.6	+0.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LZH	Lanzhou	39.69	273	eP	P	05 59 03.6	+3.1
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,120nm,4.1s						
INK	Inuvik	40.48	33	P	P	05 59 07.0	-0.1
	comp=Z,1.8nm,0.6s,mb4.0,baz=276,slow=6.5,SNR=13						
INK	Inuvik	40.48	33	eP	P	05 59 06.0	-1.1
	comp=Z,76nm,0.7s,mb5.5						
GYA	Guiyang	43.53	260⇑	iP	P	05 59 34.3	+2.3
GYA				AP	pP	05 59 38.4	+3.2
GYA				XP	sP	05 59 41.6	+5.2
GYA				PP	PP	06 01 15.9	+2.7
GYA				PCP	PcP	06 01 20.8	+1.0
GYA				S	S	06 06 01.2	+0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=N,240nm,15.4s						
GYA				LR	LR		
	comp=E,280nm,15.3s						
GYA				LR	LR		
	comp=Z,190nm,15.0s						
ZAL	Zalesovo	43.95	306	P	P	05 59 35.5	+0.1
	comp=Z,1.2nm,0.4s,mb4.0,baz=27,slow=7.2,SNR=0.2						
ZAL	Zalesovo	43.95	306	P	P	05 59 35.5	+0.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMQ	Urumqi	46.52	292	eP	P	05 59 57.0	+1.2
KMI	Kunming	47.07	261	P	P	06 00 01.7	+1.6
KMI				AP	pP	06 00 05.1	+1.9
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
MKAR	Makanchi Array	48.43	298	P	P	06 00 11.7	+1.0
	comp=Z,2.4nm,0.7s,mb4.3,baz=64,slow=8.2,SNR=16						
MKAR	Makanchi Array	48.43	298	P	P	06 00 11.7	+1.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	48.43	298	P	P	06 00 11.6	+0.9
KURK	Kurchatov	48.73	304	eP	P	06 00 13.0	0.0
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
KURK	Kurchatov	48.73	304	eP	P	06 00 13.0	0.0
	comp=Z,8.5nm,0.7s,mb4.9						
YKA	Yellowknife Ar	49.64	38	P	P	06 00 19.5	-0.4
	comp=Z,1.5nm,0.6s,mb4.2,baz=295,slow=7.1,SNR=11						
YKA	Yellowknife Ar	49.64	38	P	P	06 00 19.5	-0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	Borovoye Array	52.10	310	P	P	06 00 38.8	+0.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=59,slow=9.5,SNR=7.4						
BVAR	Borovoye Array	52.10	310	P	P	06 00 38.8	+0.4
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	Borovoye	52.13	310	eP	P	06 00 38.9	+0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	Borovoye	52.13	310	eP	P	06 00 38.9	+0.2
	comp=Z,2.7nm,0.7s,mb4.3						
AAK	Ala-Archa	55.34	298	eP	P	06 01 01.9	-0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	Ala-Archa	55.34	298	eP	P	06 01 00.7	-1.5
	comp=Z,4.0nm,0.7s,mb4.6						
ARU	Arti	56.05	318	eP	P	06 01 07.0	-0.3
ARU				e		06 03 07.7	
ARU				eS	S	06 08 55.9	+0.1
ARU				eSS	SS	06 12 39.3	-2.6
ARU	Arti	56.05	318	eP	P	06 01 05.6	-1.7
	comp=Z,5.1nm,0.4s,mb4.9						
ARCES	ARCESS Array B	58.21	342	P	P	06 01 22.3	-0.3
	comp=Z,2.5nm,0.8s,mb4.3,baz=37,slow=7.2,SNR=6.1						
ARCES	ARCESS Array B	58.21	342	P	P	06 01 22.3	-0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	58.21	342	P	P	06 01 22.2	-0.4
AKTK	Aktyubinsk	59.90	313	P	P	06 01 34.2	-0.1
AKTO	Aktyubinsk	59.90	313	P	P	06 01 34.2	-0.1
	comp=Z,2.2nm,0.7s,mb4.3,baz=49,slow=13						
AKTO	Aktyubinsk	59.90	313	P	P	06 01 34.2	-0.1
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NVAR	Mina Array Bea	60.71	64	P	P	06 01 40.6	+0.8
	comp=Z,0.3nm,0.7s,mb3.6,baz=289,slow=8.4,SNR=3.5						
PDAR	Pinedale Array	63.13	55	P	P	06 01 56.2	+0.1
	comp=Z,0.9nm,1.0s,mb3.9,baz=298,slow=3.2,SNR=4.6						
FINES	FINESS Array B	64.58	336	P	P	06 02 05.3	-0.3
	comp=Z,2.0nm,0.9s,mb4.1,baz=51,slow=9.1,SNR=4.1						
FINES	FINESS Array B	64.58	336	P	P	06 02 05.3	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRAB	Tennant Creek	69.35	202	eP	P	06 02 34.0	-2.0
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
WRAB	Tennant Creek	69.35	202	eP	P	06 02 34.0	-2.0
	comp=Z,6.5nm,1.2s,mb4.4						
WRA	Warramunga Arr	69.36	202	P	P	06 02 36.5	+0.4
	comp=Z,1.0nm,0.7s,mb3.9,baz=22,slow=6.9,SNR=5.9						
WRA	Warramunga Arr	69.36	202	P	P	06 02 36.5	+0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	72.34	328	P	P	06 02 53.4	-0.7
	comp=Z,0.9nm,0.7s,mb3.8,baz=32,slow=5.9,SNR=2.8						
AKASG	Malin Array Be	72.34	328	P	P	06 02 53.4	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	73.04	201	P	P	06 02 59.7	+1.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=14,slow=5.6,SNR=9.6						
ASAR	Alice Springs	73.04	201	P	P	06 02 59.7	+1.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	75.79	62	P	P	06 03 14.7	+0.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=302,slow=4.1,SNR=16						
TXAR	Lajitas Array	75.79	62	P	P	06 03 14.7	+0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*NEIC **01** 05:59:30.4, 16.12N×9728W, h10^{km}, MD3.7(MEX), After MEX.*
MEX 01 05:59:30.3±0.4**, 1612N**×**9729W, h10**^{km}±5^{km}**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.85	288	i P	Pg	05 59 44.6	-2.1
PNIG				i S	Sg	05 59 55.5	-2.3
VHO	Vista Hermosa	1.08	29	i P	Pb	05 59 47.9	-3.2
VHO				i S	Sg	06 00 01.6	-3.6
OXX	Oaxaca	1.10	29	i P	Pb	05 59 48.0	-3.3
OXX				i S	Sg	06 00 02.0	-3.6
HUIG	Huatulco	1.19	107	eP	Pb	05 59 48.9	-4.0
HUIG				i S	Sb	06 00 04.1	-4.1
UTMO	Huajuapan	1.77	344	eP	Pn	05 59 58.8	-2.2
UTMO				i S	Sn	06 00 19.4	-4.1
MEIG	Mezcala	2.87	309	eP	Pn	06 00 13.1	-2.9
MEIG				i S	Sn	06 00 46.0	-4.6

*IDC **01** 06:23:08.9±0.9, 775S×7570W, h138^{km}±8^{km}, mb3.5/4, mb1 3.7/7, mb1mx3.6/16, mbtmp3.6/7, Error ellipse: s-maj=15.3km s-min=12.3km az=41.0*
*ISCJB **01** 06:23:09.3±1.0, 775S±007×758W±0.1, h159^{km}±14^{km}, mb3.4/4, Error ellipse: s-maj=20.5km s-min=9.8km az=135.2*
*NEIC **01** 06:23:09.3±0.7, 763S×7552W, mb4.8/2, Error ellipse: s-maj=18.0km s-min=12.2km az=64.0*
ISC 01 06:23:10.3±1.0**, 774S**±007×**758W**±01**, h149**^{km}±13^{km}**, n17, σ0^{s}68**/18**, mb3.4**/4**, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.70	286	P	Pn	06 23 53.5	-0.3
	38nm,0.3s,baz=66,slow=5.4,SNR=101						
ATAH				S	Sn	06 24 27.5	+0.2
	93nm,0.3s,baz=34,slow=13,SNR=20						
NNA	Nana	4.35	194	P	Pn	06 24 16.8	+1.8
	21nm,0.3s,baz=6.9,slow=10,SNR=58						
NNA				S	Sn	06 25 04.2	-1.2
	12nm,0.3s,baz=347,slow=12,SNR=6.3						
NNA	Nana	4.35	194	P	Pn	06 24 16.8	+1.8
NNA				S	Sn	06 25 04.2	-1.2

OTAV	Otavalo	8.36	341	ePn	Pn	06 25 08.4	-0.1
LPAZ	La Paz	11.32	139	P	Pn	06 25 53.5	+5.9
	0.2nm,0.3s,baz=330,slow=8.1,SNR=4.8						
SAML	Samuel	12.52	96	ePn	Pn	06 25 57.7	-5.6
	4.8nm,0.5s						
SIV	San Ignacio	16.55	121	P	Pn	06 26 54.0	+0.2
	0.3nm,0.3s,baz=284,slow=11,SNR=6.1						
SDV	Santo Domingo	17.29	17	P	Pn	06 27 02.3	-0.4
	0.4nm,0.3s,baz=191,slow=10,SNR=2.6						
SCIA	State Center	51.92	343	eP	P	06 32 04.2	+0.4
	45nm,0.7s						
PDAR	Pinedale Array	58.93	331	P	P	06 32 54.3	+0.5
	0.4nm,0.8s,mb3.3,baz=114,slow=8.3,SNR=3.3						
PDAR				pP	pP	06 33 25.9	-2.7
	0.2nm,0.4s,baz=123,slow=14,SNR=2.7						
PDAR	Pinedale Array	58.93	331	P	P	06 32 54.3	+0.5
PDAR				pP	pP	06 33 25.9	-2.7
ULM	Lac du Bonnet	60.34	345	P	P	06 33 02.8	-0.7
	1.1nm,0.6s,mb3.9,baz=135,slow=14,SNR=4.8						
YKA	Yellowknife Ar	76.11	343	P	P	06 34 41.6	-0.1
	0.1nm,0.5s,mb2.7,baz=144,slow=5.9,SNR=4.7						
YKA				pP	pP	06 35 15.9	-2.2
	0.4nm,0.6s,baz=138,slow=6.2,SNR=3.2						
YKA	Yellowknife Ar	76.11	343	P	P	06 34 41.6	-0.1
YKA				pP	pP	06 35 15.9	-2.3
TORD	Torodi Ar. Bea	79.68	75	P	P	06 35 01.2	-0.1
	1.4nm,0.6s,mb3.8,baz=281,slow=6.1,SNR=14						
ASAR	Alice Springs	137.39	222	PKP	PKPdf	06 42 16.9	+0.7
	0.3nm,0.4s,baz=125,slow=2.2,SNR=4.1						
WRA	Warramunga Arr	139.56	227	PKP	PKPdf	06 42 22.8	+2.6
	0.5nm,0.4s,baz=122,slow=1.9,SNR=14						
WRA				pPKP	pPKPdf	06 42 58.1	-1.4
	0.7nm,1.1s,baz=112,slow=1.9,SNR=1.8						

*NEIC **01** 06:23:12.3±5.8,2350N×12202E,h17km±36km, MG3.4(JMA),Error ellipse: s-maj=51.8km s-min=18.5km az=71.0*
*ISCJB **01** 06:23:13.4±1.3,2352N±007×12196E±004,h32km±9km, mb3.4/4,Error ellipse: s-maj=11.8km s-min=6.6km az=12.3*
*JMA **01** 06:23:15.4±0.2,2359N×12204E,h72km,M3.4*
*IDC **01** 06:23:16.3±6.9,2351N×12197E,h50km±70km,mb3.3/4, mb1 3.6/5,mb1mx3.4/20,mbtmp3.4/5,ML4.0/1,MS3.4/1, Ms1 3.4/1,ms1mx2.8/17,Error ellipse: s-maj=54.3km s-min=24.4km az=70.0*
ISC 01 06:23:14.3±1.4,**2356N**±007×**12197E**±004,**h27**km±10km,**n17**,σ**0.67**/25,**mb3.4**/4,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.70	331	ePb	Pb	06 23 27.2	-0.7
NACB				eSg	Sb	06 23 36.5	-0.7
YHNB	Yeheng	1.23	334	ePn	Pn	06 23 35.9	+0.2
YOJ	Yonaguni jima	1.31	46	P	Pn	06 23 37.3	+0.5
YOJ				S	Sn	06 23 53.5	+0.1
TATO	Taipei	1.48	343	ePn	Pn	06 23 39.8	+0.7
TATO				eSn	Sn	06 23 57.5	-0.1
HATJ	Hateruma jima	1.75	73	P	Pn	06 23 43.2	+0.3
HATJ				S	Sn	06 24 03.9	-0.4
IRIF	Iriomote-Funau	1.79	64	P	Pn	06 23 43.9	+0.6
IRIF				eS	Sn	06 24 05.2	+0.1
JKRS	Kuro-shima	1.98	70	P	Pn	06 23 46.7	+0.6
JKRS				eS	Sn	06 24 10.0	-0.1
JIJ	Ishigaki jima	2.14	68	P	Pn	06 23 48.2	0.0
JIJ				S	Sn	06 24 12.9	-1.1
JTJ	Tarama	2.72	66	P	Pn	06 23 56.5	+0.3
JTJ				eS	Sn	06 24 27.4	-0.8
JMJ	Miyako jima 2	3.28	67	P	Pn	06 24 04.7	+0.8
JMJ				eS	Sn	06 24 41.8	-0.3
KSRS	Korea Array	14.76	19	P	Pn	06 26 43.1	+1.9
	baz=198,slow=11,SNR=6.4						
JHJ	Hachijo jima 2	18.32	55	LR	LR	06 33 23.7	
	comp=Z,118nm,19.3s,baz=192,slow=33						
SONM	Songino Array	27.22	337	P	P	06 28 54.9	-1.0
	0.5nm,0.8s,mb3.1,baz=161,slow=9.2,SNR=4.2						
MKAR	Makanchi Array	39.29	316	P	P	06 30 41.4	+0.7
	0.6nm,0.7s,mb3.5,baz=106,slow=8.0,SNR=4.6						
WRA	Warramunga Arr	44.89	163	P	P	06 31 25.5	-0.9
	0.3nm,0.7s,mb3.3,baz=345,slow=9.0,SNR=4.3						
YKA	Yellowknife Ar	83.26	23	P	P	06 35 37.9	-0.5
	0.9nm,0.7s,mb3.9,baz=312,slow=5.4,SNR=7.6						
YKA	Yellowknife Ar	83.26	23	P	P	06 35 37.9	-0.5

*NEIC **01** 06:27:34.4±3.4,1836S×16849E,h100km±24km,mb4.6/2, Error ellipse: s-maj=35.2km s-min=24.5km az=220.0*
*IDC **01** 06:27:34.6±6.4,1842S×16843E,h99km±74km,mb3.8/4, mb1 3.9/5,mb1mx3.7/12,mbtmp3.8/5,ML4.0/1,MS3.2/1, Ms1 3.2/1,ms1mx2.8/25,Error ellipse: s-maj=113.7km s-min=46.0km az=129.0*
*ISCJB **01** 06:27:35.4±4.3,185S±02×1684E±02,h121km±32km, mb4.1/6,Error ellipse: s-maj=41.1km s-min=35.4km az=105.1*
ISC 01 06:27:35.1±4.1,**185S**±02×**1685E**±02,**h105**km±30km,**n12**,σ**0.40**/13,**mb4.1**/6,**2D**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.08	208	eP	Pn	06 28 35.7	+0.3
DZM				eS	Sn	06 29 21.7	-0.5
DZM	Mont Dzumac	4.08	208	P	Pn	06 28 35.9	+0.4
	9.2nm,0.3s,baz=18,slow=20,SNR=199						
DZM				S	Sn	06 29 22.0	-0.3
	22nm,0.3s,baz=114,slow=23,SNR=16						
RAO	Raoul Island	16.39	133	LR	LR	06 36 24.1	
	comp=Z,92nm,21.8s,baz=33,slow=32						
STKA	Stephens Creek	27.69	236	P	P	06 33 13.6	+0.3
	3.6nm,1.0s,mb3.9,baz=86,slow=15,SNR=4.4						
STKA	Stephens Creek	27.69	236	P	P	06 33 13.6	+0.3
WRA	Warramunga Arr	32.28	262	P	P	06 33 53.2	-0.5
	0.4nm,0.5s,mb3.5,baz=81,slow=6.5,SNR=15						
AS31	Alice Springs	32.66	255	⇓iP	P	06 33 57.0	-0.1
ASAR	Alice Springs	32.66	255	P	P	06 33 57.1	+0.1
	5.2nm,0.4s,mb4.8,baz=83,slow=8.6,SNR=96						
ASPA	Alice Springs	32.66	255	⇓iP	P	06 33 57.0	-0.1
FITZ	Fitzroy Crossi	40.65	264	eP	P	06 35 05.6	+0.8
	6.3nm,0.8s,mb4.5						
SBA	Scott Base	59.43	180	eP	P	06 37 26.7	+0.1
	7.9nm,1.4s,mb4.5						
SONM	Songino Array	86.19	323	P	P	06 40 04.1	-0.5
	0.2nm,0.5s,mb3.3,baz=131,slow=4.0,SNR=4.5						

*ISCJB **01** 06:55:12.2±1.1,2880S±004×716W±0.1,h44km±13km, mb3.5/2,Error ellipse: s-maj=16.1km s-min=5.7km az=24.1*
*GUC **01** 06:55:13.5±0.9,2888S×7137W,h40km±3km,ML4.3*
*NEIC **01** 06:55:13.5,2888S×7137W,h40km,MG4.3(GUC),After GUC.*
*IDC **01** 06:55:14.5±5.1,2862S×7135W,h38km±41km,mb3.4/2, mb1 3.5/5,mb1mx3.4/16,mbtmp3.4/5,ML3.6/2,Error ellipse: s-maj=51.5km s-min=28.0km az=71.0*
ISC 01 06:55:10.9±1.6,**2880S**±003×**7158W**±008,**h16**km±8km,**n20**,σ**0.96**/30,**mb3.5**/2,**8C-2D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.76	73	⇓iP	Pg	06 55 26.1	+0.4
VACH				iS	Sg	06 55 34.9	-0.8
VACH				AML	AML	06 55 35.4	
	comp=N,66μm,0.1s						
VACH	Vallenar	0.76	73	⇓iP	Pg	06 55 26.1	+0.4
VACH				iS	Sg	06 55 34.9	-0.8
LSCH	La Serena	1.14	165	⇑iP	Pn	06 55 32.4	+0.1
LSCH				iS	Sb	06 55 46.0	-0.9
TLL	Tololo Astrono	1.52	154	⇑iP	Pn	06 55 38.0	+0.5
TLL				iS	Sn	06 55 56.9	-0.1
TLL				AML	AML	06 56 00.9	
	comp=E,2μm,0.8s						
TLL	Tololo Astrono	1.52	154	⇑iP	Pn	06 55 38.0	+0.5
TLL				iS	Sn	06 55 56.9	-0.1
CPCH	Copiapo	1.80	37	⇑iP	Pn	06 55 42.1	+0.7
CPCH				iS	Sn	06 56 05.0	+1.1
OVCH	Ovalle	1.83	170	⇑iP	Pn	06 55 42.3	+0.6
OVCH				iS	Sn	06 56 03.5	-1.2
OVCH				AML	AML	06 56 11.9	
	comp=N,2μm,0.3s						
OVCH	Ovalle	1.83	170	⇑iP	Pn	06 55 42.3	+0.6
OVCH				iS	Sn	06 56 03.5	-1.2
CMCH	Combarbala	2.42	168	⇑iP	Pn	06 55 50.0	+0.1
CMCH				iS	Sn	06 56 18.2	-0.9
CMCH				AML	AML	06 56 35.3	
	comp=E,6μm,0.6s						
CMCH	Combarbala	2.42	168	⇑iP	Pn	06 55 50.0	+0.1
CMCH				iS	Sn	06 56 18.2	-0.9
CFAA	Coronel Fontan	4.02	135	Pn	Pn	06 56 14.0	+2.1
	comp=E,0.8nm,0.3s,baz=316,slow=13,SNR=97						
CFAA				Sn	Sn	06 56 59.2	+0.5
	comp=E,2.1nm,0.3s,baz=244,slow=22,SNR=5.8						
PEL	Peldehue	4.40	170	eP	Pn	06 56 18.0	+1.0
TACH	Talagante	4.87	174	eP	Pn	06 56 24.0	+0.5
LPAZ	La Paz	12.85	15	Pn	Pn	06 58 12.1	-0.9
	comp=E,0.1nm,0.3s,baz=207,slow=9.9,SNR=5.7						
LPAZ	La Paz	12.85	15	Pn	Pn	06 58 12.1	-0.9
SIV	San Ignacio	16.02	39	Pn	Pn	06 58 52.3	-3.2
	comp=E,0.1nm,0.3s,baz=246,slow=16,SNR=3.7						
SAML	Samuel	21.27	23	P	P	06 59 54.7	-1.9
SAML				epP		07 00 11.0	
PDAR	Pinedale Array	79.33	333	P	P	07 07 16.3	+0.5
	comp=E,0.4nm,0.9s,mb3.3,baz=118,slow=3.3,SNR=2.9						
TORD	Torodi Ar. Bea	82.09	70	P	P	07 07 30.3	-0.3
	comp=E,0.7nm,0.6s,mb3.8,baz=243,slow=3.6,SNR=9.3						
WRA	Warramunga Arr	125.46	210	PKP	PKPdf	07 14 12.0	+0.7
	comp=E,0.2nm,0.6s,baz=145,slow=1.5,SNR=5.5						

*CSEM **01** 07:24:07.7±0.1,4579N×1096E,h20km,ML3.0/6,Error ellipse: s-maj=2.1km s-min=1.6km az=169.0*
*ISCJB **01** 07:24:08.1±0.5,4585N±002×1098E±003,h10km,Error ellipse: s-maj=3.5km s-min=2.6km az=168.9*
*ROM **01** 07:24:08.6±0.2,4583N×1096E,h5km,Md2.2/7,Ml2.1/1, Error ellipse: s-maj=3.7km s-min=1.8km az=161.0*
*VIE **01** 07:24:09.9±0.7,4592N×1103E,h8km,mb1.9/3,ML2.6/6, Error ellipse: s-maj=4.3km s-min=2.5km az=2.0 19 km SSW of Trento*
*ZUR **01** 07:24:09.2,4584N×1092E,h18km±2km,ML2.3/5*
ISC 01 07:24:08.8±0.5,**4582N**±003×**1098E**±003,**h10**km,**n26**,σ**0.58**/43,**5C-14D**,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAGA	Magasa	0.25	260	Pg	Pg	07 24 13.9	+0.1
MAGA				Sg	Sg	07 24 17.7	+0.4
MABI	Malga Bissina	0.40	306	⇓iPg	Pg	07 24 16.8	+0.1
MABI				Sg	Sg	07 24 22.7	+0.7
CTI	Castel Tesino	0.52	64	Pg	Pg	07 24 19.3	+0.4
CTI				Sg	Sg	07 24 26.1	+0.3
CGRP	Cima Grappa	0.58	84	⇓iPg	Pg	07 24 20.3	+0.3
CGRP				iSg	Sg	07 24 27.8	+0.2
TEOL	Teolo	0.67	133	⇑iPg	Pg	07 24 21.4	-0.3
TEOL				iSg	Sg	07 24 30.1	-0.3
APPI	Appiano	0.68	15	Pg	Pg	07 24 22.5	+0.5
APPI				Sg	Sg	07 24 31.9	+1.0
BRMO	Bormio	0.78	328	Pg	Pg	07 24 24.0	+0.2
MDI	Monti di Nese	0.89	268	Pg	Pg	07 24 25.7	-0.2
MDI				Sg	Sg	07 24 38.9	+1.5
BERNI	Berninapass	0.89	312	⇓iP	Pg	07 24 16.8	-9.1
	152nm,0.2s						
FUORN	Ofenpass	0.94	328	iS	Pg	07 24 22.5	-4.4
	232nm,0.2s						
FUORN	Ofenpass	0.94	328	⇓iP	Pg	07 24 25.8	-1.1
	232nm,0.2s						
FUORN	Ofenpass	0.94	328	⇓iP	Pg	07 24 25.8	-1.1
	232nm,0.2s						
DAVOX	Davos	1.23	322	Pg	Pg	07 24 32.1	-0.2
DAVOX				Sg	Sg	07 24 48.6	+0.3
DAVOX	Davos	1.23	322	⇓iP	Pn	07 24 26.9	-5.1
	93nm,0.3s						
DAVOX	Davos	1.23	322	Pg	Pg	07 24 32.1	-0.2
DAVOX				Sg	Sg	07 24 48.6	+0.3
VDL	Val di Lei	1.24	303	eP	Pg	07 24 39.4	+6.7
	94nm,0.2s						
SEST	Monte Rota	1.27	42	Pg	Pg	07 24 33.3	+0.2
SEST				Sg	Sg	07 24 50.7	+1.2
TUE	Stuetta	1.31	301	Pg	Pg	07 24 33.5	-0.4
TUE				Sg	Sg	07 24 49.9	-1.0
	27nm,0.5s						
MUGIO	Muggio	1.36	275	Pg	Pg	07 24 33.7	-1.1
SQTA	Sankt Quirin	1.41	6	⇓iPg	Pg	07 24 35.7	-0.1
SQTA				⇓iSg	Sg	07 24 53.7	-0.4
	22nm,0.2s						
WTTA	Wattenberg	1.52	17	⇑iPg	Pg	07 24 37.7	-0.1
WTTA				⇓iSg	Sg	07 24 57.6	+0.1
	14nm,0.2s						
MOTA	Moosalm	1.53	3	⇑iPg	Pg	07 24 38.0	-0.1
MOTA				⇓iSg	Sg	07 24 57.5	-0.5
	9.8nm,0.2s						
WATA	Walderalm	1.57	15	⇑iPg	Pg	07 24 38.5	-0.4
WATA				⇓iSg	Sg	07 24 58.6	-0.8
	11nm,0.2s						
DAVA	Damuels	1.65	333	⇓iPg	Pg	07 24 40.3	-0.1
DAVA				⇓iSg	Sg	07 25 02.3	+0.4
	7.7nm,0.3s						
FUSIO	Fusio	1.73	292	eP	Pn	07 24 32.1	-6.8
	89nm,1.1s						
KBA	Koelnbreinsper	2.06	52	⇑iPg	Pg	07 24 48.1	-0.3
KBA				⇓iSg	Sg	07 25 14.3	-0.8
	3.3nm,0.3s						

*IDC **01** 07:24:09.8±1.7,4094N×5500E,h0km,mb3.5/5,mb1 3.8/8, mb1mx3.6/24,mbtmp3.7/8,ML4.1/3,Error ellipse: s-maj=24.7km s-min=18.3km az=135.0*
*ISCJB **01** 07:24:11.1±5.6,414N±0.1×548E±0.1,h21km±48km, mb3.6/3,Error ellipse: s-maj=20.8km s-min=13.5km az=80.8*
*MOS **01** 07:24:15.2±1.7,4145N×5498E,h33km,mb4.0/5,Error ellipse: s-maj=34.5km s-min=19.5km az=70.1*
ISC 01 07:24:13.0±5.9,**412N**±01×**550E**±01,**h18**km±43km,**n15**,σ**1.35**/17,**mb3.6**/3,**Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	9.43	12	Pn	Pn	07 26 29.4	+1.4
	0.9nm,0.3s,baz=190,slow=11,SNR=13						
AKTO				Sn	Sn	07 28 12.7	-0.9
	1.3nm,0.3s,baz=233,slow=20,SNR=5.0						
AKTO	Aktyubinsk	9.43	12	P	Pn	07 26 29.4	+1.4
AKTO						07 28 12.7	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
BVAR	Borovoye Array	15.73	36	Pn	Pn	07 27 51.6	-2.1
	comp=N,0.4nm,0.3s,baz=207,slow=11,SNR=7.9						
BVAR				Sn	Sn	07 30 42.5	-5.1
	comp=N,0.6nm,0.3s,baz=223,slow=21,SNR=5.5						
BVAR	Borovoye Array	15.73	36	P	Pn	07 27 51.6	-2.1
BVAR						07 30 42.5	
BVAR				smax			
	comp=N,1.0nm,0.3s						
MMAI	Mount Meron Ar	17.61	248	P	Pn	07 28 14.8	-2.7
	comp=N,2.1nm,0.3s,baz=51,slow=14,SNR=3.7						
AKASG	Malin Array Be	20.15	307	P	P	07 28 46.0	-0.3
	comp=N,0.6nm,0.3s,baz=108,slow=9.2,SNR=4.3						
AKASG	Malin Array Be	20.15	307	P	P	07 28 46.0	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	20.36	65	P	P	07 28 48.5	+0.1
	comp=Z,0.9nm,0.4s,baz=254,slow=12,SNR=8.1						
MKAR	Makanchi Array	20.36	65	P	P	07 28 48.6	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	23.58	47	P	P	07 29 23.1	+0.3
	comp=Z,2.0nm,0.5s,mb3.8,baz=199,slow=8.6,SNR=9.7						
ZAL	Zalesovo	23.58	47	P	P	07 29 23.1	+0.3
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	26.72	329	P	P	07 29 53.8	+2.4
	comp=Z,0.5nm,0.3s,mb3.5,baz=129,slow=12,SNR=8.4						
FINES	FINESS Array B	26.72	329	P	P	07 29 53.8	+2.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	Songino Array	36.66	62	P	P	07 31 19.1	+0.5
	comp=Z,0.6nm,0.9s,mb3.4,baz=298,slow=3.2,SNR=3.7						
SONM	Songino Array	36.66	62	P	P	07 31 19.1	+0.5
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						

CASC 01 07:46:03.1±5.0,**1501N**×**8926W**,**h25**km±52km,**MD3.8**,**2C**,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTO2	Montecristo 2	0.62	189	eP	x	07 47 09.7	
MTO2				eS	x	07 47 19.1	
RBDL	Robledal	0.98	205	⇑eP	x	07 47 03.7	
RBDL				eS	x	07 47 16.0	
SNJE	San Jose	1.18	196	eP	x	07 47 02.0	
SNJE				eS	x	07 47 21.8	
SBLS	San Blas	1.22	197	⇑eP	x	07 47 01.4	
SBLS				eS	x	07 47 18.5	
PCG	Pacaya	1.44	245	eP	Pn	07 46 29.0	+1.4
FUG	Fuego 3	1.63	250	eP	Pn	07 46 30.1	-0.1
FUG				eS	Sn	07 46 50.0	-0.4

*NIED **01** 07:50:00,2450N×12230E,h32km,Mw4.2 Best double couple: M0 2.51000×10[15] NP1:φs80.00000°,δ74.00000°, λ40.00000°. NP2:φs337.00000°,δ52.00000°,λ159.00000°.*
*MOS **01** 07:50:32.7±1.1,2429N×12246E,h33km,mb4.3/5,Error ellipse: s-maj=39.6km s-min=11.6km az=114.5*
*NEIC **01** 07:50:35.3±0.8,2418N×12229E,h39km±7km,mb4.3/1, Error ellipse: s-maj=10.9km s-min=8.5km az=216.0*
*IDC **01** 07:50:35.7±4.4,2422N×12231E,h41km±40km,mb3.8/14, mb1 4.0/15,mb1mx4.0/21,mbtmp3.9/15,ML3.8/1,MS3.6/10, Ms1 3.6/10,ms1mx3.5/31,Error ellipse: s-maj=33.2km s-min=14.3km az=64.0*
*ISCJB **01** 07:50:35.3±0.6,2418N±006×12228E±003,h53km±5km, mb4.0/17,MS4.0/5,Error ellipse: s-maj=11.0km s-min=4.3km az=24.4*
*JMA **01** 07:50:35.2±0.2,2452N×12227E,h46km±2km,M4.5*
*BJI **01** 07:50:36.1,2438N×12245E,h51km,mB4.5,mb4.4,ML4.0, Ms4.0,Msz3.8*
ISC 01 07:50:36.3±0.6,**2420N**±007×**12228E**±003,**h46**km±5km,**n49**,σ**1.05**/54,**mb4.0**/17,**MS4.0**/5,**3C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.63	268	ePn	Pn	07 50 46.6	-2.3
YOJ	Yonaguni jima	0.72	69	P	Pn	07 50 48.6	-1.4
YOJ				S	Sn	07 50 58.2	-1.8
YHNB	Yeheng	0.95	300	ePn	Pn	07 50 52.8	-0.4
YHNB				eSn	Sn	07 51 05.5	0.0
TATO	Taipei	1.05	317	ePn	Pn	07 50 55.1	+0.5
TATO				eSn	Sn	07 51 09.6	+1.5
IRIF	Iriomote-Funau	1.33	84	P	Pn	07 50 57.8	-0.6
IRIF				eS	Sn	07 51 14.2	-0.7
HATJ	Hateruma jima	1.40	96	P	Pn	07 51 00.2	+0.8
HATJ				eS	Sn	07 51 18.6	+1.9
JKRS	Kuro-shima	1.58	88	P	Pn	07 51 01.8	0.0
JKRS				S	Sn	07 51 22.4	+1.4
JIJ	Ishigaki jima	1.71	84	P	Pn	07 51 03.0	-0.6
JIJ				S	Sn	07 51 23.8	-0.4
JTJ	Tarama	2.25	78	P	Pn	07 51 11.4	+0.4
JTJ				S	Sn	07 51 37.2	-0.3
JMJ	Miyako jima 2	2.81	77	eS	Sn	07 51 52.2	+0.8
JOGS	Gusukube	2.90	78	eS	Sn	07 51 53.9	+0.3
JKE	Kume jima 2	4.60	62	P	Pn	07 51 43.7	+0.5
JOW	Kunigami	6.02	63	P	Pn	07 52 01.7	-1.0
	5.0nm,0.3s,baz=201,slow=14,SNR=13						
JOW				LR	LR	07 54 36.9	
	comp=Z,166nm,21.9s,baz=87,slow=40						
GZH	Guangzhou	8.27	264	P	Pn	07 52 42.3	+8.8
GZH				S	Sn	07 54 13.3	+7.7
GZH				Smax			
	comp=N,86nm,0.8s						
GZH				Smax			
	comp=E,45nm,0.9s						
JNU	Nakatsue	11.65	38	LR	LR	07 57 41.9	
	comp=E,451nm,21.0s,baz=267,slow=37						
KSRS	Korea Array	14.06	19	P	Pn	07 53 55.0	+2.2
	baz=207,slow=14,SNR=2.7						
KSRS				LR	LR	07 59 50.7	
	comp=E,136nm,19.8s,baz=210,slow=40						
JHJ	Hachijo jima 2	17.73	56	LR	LR	08 01 05.4	
	comp=E,76nm,21.4s,baz=17,slow=36						
CBIJ	Chichi jima	18.18	77	LR	LR	08 00 53.5	
	comp=E,111nm,19.1s,baz=103,slow=34						
MJAR	Matsushiro Arr	18.41	44	LR	LR	08 02 39.1	
	comp=E,147nm,20.1s,baz=220,slow=39						
LZH	Lanzhou	19.82	311	eP	Pn	07 55 08.5	+3.6
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH				AMB	AMB		
	comp=Z,130nm,4.5s						
ULN	Ulaanbaatar	26.53	337	⇑eP	P	07 56 09.9	+0.3
ULN	Ulaanbaatar	26.53	337	eP	P	07 56 09.8	+0.2
	comp=Z,6.5nm,0.8s,mb4.2						
SONM	Songino Array	26.75	336	P	P	07 56 11.9	+0.3
	comp=Z,9.6nm,0.7s,mb4.4,baz=149,slow=10.0,SNR=85						
SONM				LR	LR	08 07 59.2	
	comp=Z,251nm,18.9s,MS3.8,baz=155,slow=39						
MKAR	Makanchi Array	39.02	315	P	P	07 57 58.7	+0.3
	comp=Z,1.0nm,0.5s,mb3.8,baz=99,slow=9.4,SNR=26						
MKAR				PcP	PcP	08 00 07.2	-0.6
	comp=Z,0.4nm,0.6s,baz=95,slow=5.2,SNR=3.3						
MKAR				LR	LR	08 15 38.5	
	comp=Z,140nm,18.7s,MS3.8,baz=253,slow=38						
MKAR	Makanchi Array	39.02	315	P	P	07 57 58.7	+0.3
MKAR						08 00 07.2	
MKAR	Makanchi Array	39.02	315	P	P	07 57 58.7	+0.3
MKAR				PcP	PcP	08 00 07.2	-0.6
MKAR				LR	LR	08 15 38.5	
ZAL	Zalesovo	40.78	327	P	P	07 58 12.3	-0.6
	comp=Z,2.7nm,0.7s,mb4.0,baz=4.3,slow=9.2,SNR=18						
ZAL				LR	LR	08 16 58.3	
	comp=Z,184nm,18.1s,MS4.0,baz=237,slow=39						
ZAL	Zalesovo	40.78	327	iP	P	07 58 12.6	-0.3
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	Kurchatov	42.72	320	⇑eP	P	07 58 29.0	+0.2
WRAB	Tennant Creek	45.42	164	eP	P	07 58 50.3	-0.1
WRA	Warramunga Arr	45.42	164	P	P	07 58 50.3	-0.2
	comp=Z,1.1nm,0.7s,mb3.8,baz=346,slow=8.6,SNR=15						
WRA	Warramunga Arr	45.42	164	iP	P	07 58 50.2	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TIXI	Tiksi	47.62	3	eP	P	07 59 05.3	-2.4
TIXI				eS	S	08 05 52.4	-7.6
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,159nm,14.0s,MS4.1						
ASAR	Alice Springs	48.90	166	P	P	07 59 18.2	+0.7
	comp=Z,0.7nm,0.6s,mb3.9,baz=351,slow=12,SNR=5.9						
ARU	Arti	55.70	323	eP	P	08 00 05.6	-2.3
ARU				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
STKA	Stephens Creek	58.74	161	P	P	08 00 29.5	0.0
	comp=Z,2.1nm,0.9s,mb4.2,baz=306,slow=14,SNR=2.3						
DZM	Mont Dzumac	62.92	133	LR	LR	08 22 58.7	
	comp=Z,223nm,19.6s,MS4.3,baz=21,slow=31						
ARCES	ARCESS Array B	69.89	338	P	P	08 01 41.9	-0.5
	comp=Z,1.7nm,0.7s,mb4.1,baz=77,slow=7.0,SNR=9.4						
FINES	FINESS Array B	71.93	330	P	P	08 01 54.8	0.0
	comp=Z,0.5nm,0.5s,mb3.7,baz=56,slow=11,SNR=3.7						
AKASG	Malin Array Be	73.52	319	P	P	08 02 03.5	-0.7
	comp=Z,0.3nm,0.3s,mb3.7,baz=59,slow=6.3,SNR=4.4						
BRTR	Keskin Array B	73.97	307	P	P	08 02 07.8	+1.0
	comp=Z,2.0nm,0.8s,mb4.1,baz=107,slow=6.6,SNR=9.1						
NOA	NORSAR Array B	78.67	332	P	P	08 02 32.9	-0.6
	comp=Z,1.7nm,0.9s,mb4.0,baz=61,slow=5.3,SNR=3.4						
NOA	NORSAR Array B	78.67	332	P	P	08 02 32.9	-0.6
YKA	Yellowknife Ar	82.56	23	P	P	08 02 53.9	-0.4
	comp=Z,1.1nm,0.7s,mb4.0,baz=310,slow=5.2,SNR=12						
YKA	Yellowknife Ar	82.56	23	P	P	08 02 53.9	-0.4
GERES	GERESS Array B	83.46	321	P	P	08 02 59.6	+0.6
	comp=Z,0.3nm,0.2s,mb3.9,baz=29,slow=3.0,SNR=3.5						
KMBO	Kilima Mbogo	85.92	267	⇑eP	P	08 03 13.6	+2.3
NVAR	Mina Array Bea	95.73	43	P	P	08 03 58.3	+1.1
	comp=Z,0.5nm,0.7s,mb4.0,baz=291,slow=7.5,SNR=3.3						
GCMT	Greycliff	95.89	34	eP	P	08 03 56.4	-1.5
GCMT				epP	pP	08 04 08.4	-3.2

OTT 01 07:57:29.4±0.3,**7246N**×**8409W**,**h18**km,**MN3.0**/3,**Northern Baffin Island, Nu 66km south from Nanisivik, Nu Eastern Arctic Background Seismic Zone.,Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINU	Pond Inlet	1.86	80	PN	Pn	07 57 59.6	-0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINU				SN	Sn	07 58 23.9	+0.6
PINU				Trac		07 58 26.0	
	comp=Z,108nm,0.1s						
ILON	**Igloolik, Nuna**	**3.20**	**165**	PN	Pn	07 58 18.6	-0.1
ILON				SN	Sn	07 58 53.7	-2.6
ILON				LG		07 59 05.5	
ILON				Trac		07 59 09.2	
	comp=Z,17nm,0.1s						
RES	**Resolute Bay**	**3.79**	**311**	PN	Pn	07 58 26.9	0.0
RES				SN	Sn	07 59 11.7	+0.7
RES				LG		07 59 26.7	
RES				Trac		07 59 39.1	
	comp=Z,13nm,0.3s						
QILN	**Qililugaq Expl**	**5.89**	**189**	PN	Pn	07 58 54.7	-1.1
QILN				SN	Sn	07 59 57.6	-5.2
QILN				Trac		08 00 03.0	
	comp=Z,6.6nm,0.3s						
QILN				LG		08 00 28.6	
EUNU	**Eureka**	**7.65**	**357**	PN	Pn	07 59 21.0	+1.1
SEDN	**First Sedna Si**	**9.63**	**200**	PN	Pn	07 59 44.5	-2.5
SEDN				SN	Sn	08 01 23.7	-11
SEDN				LG		08 02 22.3	
YRTN	**Rankin Inlet**	**10.15**	**201**	SN	Sn	08 01 31.8	-16
YRTN				LG		08 02 43.4	
FRB	**Frobisher Bay**	**10.45**	**139**	PN	Pn	07 59 53.4	-4.9
FRB				SN	Sn	08 01 41.9	-13
FRB				LG		08 02 46.4	

CASC 01 08:18:41.7±3.5**,1213N×9075W,h9**^{km}±537^{km}**,MD4.1,1C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**2.14**	**44**	⇑eP	x	08 20 05.8	
SNET				eS	x	08 20 32.2	
RBDL	**Robledal**	**2.23**	**28**	eP	x	08 19 50.7	
RBDL				eS	x	08 20 20.1	
VSM	**San Miguel**	**2.74**	**62**	eP	x	08 20 06.6	
VSM				eS	x	08 20 43.3	
CNCH	**Conchagua**	**3.07**	**68**	eP	x	08 20 11.4	
CNCH				eS	x	08 20 48.2	
MRL	**Marmol**	**3.10**	**19**	eP	Pn	08 19 31.5	+0.9

*NEIC **01** 08:21:36.1,3704S×17738E,h178^{km},MG4.3(WEL),After WEL.*

WEL 01 08:21:35.9±0.2**,3704S×17739E,h180**^{km}±2^{km}**,ML4.3**/23**, 2C-3D,Error ellipse: s-maj=2.2km s-min=2.1km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**126**	P	Pn	08 22 02.7	-0.1
MXZ				S	Sn	08 22 23.4	-0.2
MXZ	**Matakaoa Point**	**0.90**	**126**	⇑PN	Pn	08 22 02.7	-0.1
MXZ				SN	Sn	08 22 23.4	-0.2
MXZ				SN	Sn	08 22 23.6	0.0
MARZ	**Manawahe**	**1.10**	**211**	P	Pn	08 22 04.6	+0.3
MARZ	**Manawahe**	**1.10**	**211**	PN	Pn	08 22 04.6	+0.3
EDRZ	**Edgecumbe**	**1.18**	**206**	P	Pn	08 22 05.5	+0.5
EDRZ	**Edgecumbe**	**1.18**	**206**	PN	Pn	08 22 05.5	+0.5
EDRZ				SN	Sn	08 22 28.3	+0.9
URZ	**Urewera**	**1.24**	**190**	P	Pn	08 22 05.3	-0.1
URZ	**Urewera**	**1.24**	**190**	PN	Pn	08 22 05.3	-0.1
URZ				SN	Sn	08 22 28.3	0.0
PUZ	**Puketiti**	**1.24**	**146**	P	Pn	08 22 05.6	+0.1
PUZ				S	Sn	08 22 27.8	-0.5
PUZ	**Puketiti**	**1.24**	**146**	⇑PN	Pn	08 22 05.6	+0.2
PUZ				SN	Sn	08 22 27.8	-0.5
MWZ	**Matawai**	**1.30**	**175**	P	Pn	08 22 06.1	+0.2
MWZ				S	Sn	08 22 29.4	+0.2
MWZ	**Matawai**	**1.30**	**175**	⇓PN	Pn	08 22 06.1	+0.2
MWZ				SN	Sn	08 22 29.3	+0.1
KUZ	**Kuaotunu**	**1.37**	**282**	P	Pn	08 22 06.5	-0.1
KUZ	**Kuaotunu**	**1.37**	**282**	⇓PN	Pn	08 22 06.5	-0.1
KNZ	**Kokohu**	**1.99**	**174**	eP	Pn	08 22 12.5	-0.3
KNZ	**Kokohu**	**1.99**	**174**	PN	Pn	08 22 12.5	-0.3
BKZ	**Black Stump Fm**	**2.24**	**198**	P	Pn	08 22 14.7	-0.8
BKZ	**Black Stump Fm**	**2.24**	**198**	PN	Pn	08 22 14.7	-0.8
BKZ				SN	Sn	08 22 44.7	-1.6
WTVZ	**West Tongariro**	**2.51**	**214**	P	Pn	08 22 18.5	-0.2
WTVZ	**West Tongariro**	**2.51**	**214**	PN	Pn	08 22 18.5	-0.2
TWVZ	**Taurewa**	**2.55**	**217**	P	Pn	08 22 18.7	-0.4
TWVZ	**Taurewa**	**2.55**	**217**	PN	Pn	08 22 18.6	-0.5
WPVZ	**Whakapapa**	**2.60**	**213**	eP	Pn	08 22 19.5	-0.2
WPVZ	**Whakapapa**	**2.60**	**213**	PN	Pn	08 22 19.5	-0.3
TUVZ	**Tukino**	**2.61**	**211**	P	Pn	08 22 19.2	-0.6
TUVZ	**Tukino**	**2.61**	**211**	PN	Pn	08 22 19.2	-0.6
FWVZ	**Far West T-bar**	**2.64**	**213**	eP	Pn	08 22 19.8	-0.4
FWVZ	**Far West T-bar**	**2.64**	**213**	PN	Pn	08 22 19.8	-0.4
TRVZ	**Turoa**	**2.68**	**212**	PN	Pn	08 22 20.1	-0.5
WNVZ	**Wahianoa**	**2.69**	**211**	P	Pn	08 22 19.8	-0.9
WNVZ	**Wahianoa**	**2.69**	**211**	PN	Pn	08 22 19.8	-0.8
MOVZ	**Moawhango**	**2.69**	**208**	P	Pn	08 22 19.4	-1.4
MOVZ	**Moawhango**	**2.69**	**208**	PN	Pn	08 22 19.4	-1.3
PXZ	**Pawanui**	**3.02**	**188**	PN	Pn	08 22 23.0	-1.7
WPHZ	**Waipukurau**	**3.11**	**193**	PN	Pn	08 22 24.3	-1.5
TSZ	**Takapari Road**	**3.22**	**200**	P	Pn	08 22 25.3	-1.8
TSZ	**Takapari Road**	**3.22**	**200**	⇓PN	Pn	08 22 25.3	-1.8
WAZ	**Wanganui**	**3.30**	**214**	eP	Pn	08 22 27.0	-1.2
WAZ	**Wanganui**	**3.30**	**214**	PN	Pn	08 22 27.0	-1.2
BFZ	**Birch Farm**	**3.74**	**193**	eP	Pn	08 22 31.3	-2.4
BFZ	**Birch Farm**	**3.74**	**193**	PN	Pn	08 22 31.3	-2.3
MRZ	**Mangatainoka R**	**3.88**	**201**	P	Pn	08 22 32.7	-2.7
MRZ	**Mangatainoka R**	**3.88**	**201**	PN	Pn	08 22 32.7	-2.7
TIWZ	**Tintock**	**3.91**	**197**	PN	Pn	08 22 33.4	-2.4
KIW	**Kapiti Island**	**4.28**	**206**	P	Pn	08 22 37.3	-3.2
KIW	**Kapiti Island**	**4.28**	**206**	PN	Pn	08 22 37.3	-3.2
MTW	**Mount Morrison**	**4.37**	**199**	P	Pn	08 22 38.2	-3.4
MTW	**Mount Morrison**	**4.37**	**199**	PN	Pn	08 22 38.2	-3.5
CAW	**Cannon Point**	**4.45**	**203**	P	Pn	08 22 39.2	-3.4
CAW	**Cannon Point**	**4.45**	**203**	PN	Pn	08 22 39.2	-3.4
TRWZ	**Traveller**	**4.55**	**196**	PN	Pn	08 22 40.6	-3.3
PAWZ	**Paruwai Farm**	**4.60**	**199**	P	Pn	08 22 40.9	-3.6
PAWZ	**Paruwai Farm**	**4.60**	**199**	PN	Pn	08 22 40.9	-3.6
DUWZ	**D'Urville Isla**	**4.63**	**215**	PN	Pn	08 22 41.5	-3.4
MSWZ	**Moikau Station**	**4.67**	**200**	P	Pn	08 22 41.9	-3.7
MSWZ	**Moikau Station**	**4.67**	**200**	PN	Pn	08 22 41.9	-3.7
MRW	**Makara Radio**	**4.68**	**206**	P	Pn	08 22 41.9	-3.7
MRW	**Makara Radio**	**4.68**	**206**	PN	Pn	08 22 41.9	-3.7
WEL	**Wellington**	**4.70**	**205**	P	Pn	08 22 42.4	-3.5
WEL	**Wellington**	**4.70**	**205**	PN	Pn	08 22 42.4	-3.6
SNZO	**South Karori**	**4.75**	**205**	P	Pn	08 22 42.5	-4.0
SNZO	**South Karori**	**4.75**	**205**	PN	Pn	08 22 42.5	-4.0
BHW	**Baring Head**	**4.78**	**203**	P	Pn	08 22 43.0	-3.9
BHW	**Baring Head**	**4.78**	**203**	PN	Pn	08 22 43.0	-3.9
TCW	**Tory Channel**	**4.82**	**209**	P	Pn	08 22 43.5	-3.9
TCW	**Tory Channel**	**4.82**	**209**	PN	Pn	08 22 43.5	-3.9
TUWZ	**Tuamarina**	**5.14**	**210**	PN	Pn	08 22 47.3	-4.2
NNZ	**Nelson**	**5.21**	**216**	eP	Pn	08 22 48.6	-3.9
NNZ	**Nelson**	**5.21**	**216**	PN	Pn	08 22 48.6	-3.8
QRZ	**Quartz Range**	**5.35**	**224**	eP	Pn	08 22 49.8	-4.5
QRZ	**Quartz Range**	**5.35**	**224**	PN	Pn	08 22 49.8	-4.5
BSWZ	**Blackbirch Sta**	**5.40**	**209**	P	Pn	08 22 51.3	-3.7
BSWZ	**Blackbirch Sta**	**5.40**	**209**	PN	Pn	08 22 51.3	-3.7
THZ	**Tophouse**	**5.86**	**215**	eP	Pn	08 22 56.7	-4.2
THZ	**Tophouse**	**5.86**	**215**	PN	Pn	08 22 56.7	-4.3
KHZ	**Kahutara**	**6.13**	**208**	P	Pn	08 23 00.1	-4.5
KHZ	**Kahutara**	**6.13**	**208**	PN	Pn	08 23 00.1	-4.4
DSZ	**Denniston Nort**	**6.39**	**221**	eP	Pn	08 23 06.1	-1.8
LTZ	**Lake Taylor**	**6.95**	**213**	eP	Pn	08 23 10.0	-5.3
LTZ	**Lake Taylor**	**6.95**	**213**	PN	Pn	08 23 10.0	-5.3
MQZ	**McQueen's Vall**	**7.58**	**207**	eP	Pn	08 23 17.3	-6.2
MQZ	**McQueen's Vall**	**7.58**	**207**	PN	Pn	08 23 17.3	-6.2
RPZ	**Rata Peaks**	**8.23**	**214**	eP	Pn	08 23 27.1	-5.0
FOZ	**Fox Glacier**	**8.78**	**220**	eP	Pn	08 23 32.8	-6.5
ODZ	**Otahua Downs**	**9.48**	**210**	eP	Pn	08 23 43.7	-4.8
ODZ	**Otahua Downs**	**9.48**	**210**	PN	Pn	08 23 43.7	-4.8
JCZ	**Jackson Bay**	**9.61**	**220**	eP	Pn	08 23 44.6	-5.6

*NEIC **01** 08:41:03.8,14.12N×61.13W,h129^{km},MD3.7(TRN),After TRN.*

TRN 01 08:41:00.9,1429N×6102W,h140^{km}**,MD3.7,M3.8**(FDF)**, 3D,Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIM	**Bigot**	**0.23**	**348**	eP	Pn	08 41 21.6	+1.5
BIM				eS	Sn	08 41 35.8	+1.4
SLW	**Petit Monier**	**0.28**	**163**	eP	Pn	08 41 19.1	-1.1
SLB	**Belfond**	**0.46**	**182**	eP	Pn	08 41 22.1	+1.3
SLB				eS	Sn	08 41 37.0	+1.0
SFAN	**Fancy Village**	**0.91**	**189**	eP	Pn	08 41 26.5	+2.6
SSV	**Crater Summit**	**0.97**	**190**	eP	Pn	08 41 25.4	+1.0
SSV				eS	Sn	08 41 38.6	-3.8
BHS	**Barnard House**	**0.99**	**186**	eP	Pn	08 41 26.0	+1.4
SVB	**Belmont**	**1.03**	**192**	⇓iP	Pn	08 41 26.8	+1.7
SVB				eS	Sn	08 41 42.6	-0.7
FCV	**Fort Charlotte**	**1.15**	**191**	eP	Pn	08 41 27.4	+1.4
MGG	**Marie-Galante**	**1.64**	**350**	⇓eP	Pn	08 41 31.6	+0.3
TBG	**Guadaloupe-3**	**1.67**	**339**	eP	Pn	08 41 33.3	+1.8
SCG	**Saint Claude**	**1.84**	**340**	eP	Pn	08 41 34.8	+1.3
SCG				eS	Sn	08 42 03.7	+5.2
LZG	**Guadaloupe-1**	**1.98**	**339**	⇓eP	Pn	08 41 36.4	+1.2
GRSS	**Sisters**	**2.06**	**196**	eP	Pn	08 41 37.1	+1.0
GRSS				eS	Sn	08 42 02.2	-0.9
GRIC	**Isle de Caille**	**2.06**	**195**	eP	Pn	08 41 37.2	+1.0
GRIC				eS	Sn	08 42 05.5	+2.3
GRW	**Mount Saint Ca**	**2.21**	**196**	eP	Pn	08 41 39.1	+1.2
GRW				eS	Sn	08 42 04.2	-2.1

*NEIC **01** 08:55:17.4,1724N×10056W,h11^{km},MD3.7(MEX),After MEX.*

MEX 01 08:55:17.3±0.5**,1723N×10060W,h25**^{km}±17^{km}**,MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.36**	**120**	i P	Pb	08 55 23.6	-1.6
CAIG				i S	Sb	08 55 29.0	-1.7
ACX	**Acapulco**	**0.74**	**119**	i P	Pb	08 55 29.5	-2.1
ACX				i S	Sb	08 55 39.0	-2.3
MEIG	**Mezcala**	**1.16**	**53**	i P	Pn	08 55 35.4	-2.5
MEIG				i S	Sn	08 55 49.4	-3.5
PLIG	**Platanillo**	**1.55**	**42**	i P	Pn	08 55 41.5	-1.8
PLIG				i S	Sn	08 55 58.5	-4.2
PLIG	**Platanillo**	**1.55**	**42**	i P	Pn	08 55 41.5	-1.8
PLIG				i S	Sn	08 55 58.1	-4.6
UTMO	**Huajuapan**	**2.73**	**77**	i P	Pn	08 55 58.0	-1.5
UTMO				i S	Sn	08 56 28.4	-3.3
IIO	**Organos**	**2.94**	**37**	eP	Pn	08 56 06.4	+3.9

*ISCJB **01** 09:00:06.0±1.8,3449N±007×731E±01,h9^{km}±11^{km}, mb3.8/7,Error ellipse: s-maj=22.4km s-min=7.2km az=122.2*

*IDC **01** 09:00:06.7±0.9,3448N×7299E,h0^{km},mb3.6/6,mb1 3.8/8, mb1mx3.6/23,mbtmp3.6/8,ML3.7/2,Error ellipse: s-maj=32.3km s-min=20.0km az=47.0*

*NEIC **01** 09:00:08.2±0.8,3451N×7301E,h10^{km},Error ellipse: s-maj=17.8km s-min=13.8km az=81.0*

*MOS **01** 09:00:10.2±0.8,3465N×73.12E,h33^{km},mb4.1/3,Error ellipse: s-maj=49.0km s-min=16.1km az=97.1*

*NDI **01** 09:00:21.7±3.6,34.12N×7302E,h10^{km},ML2.9*

ISC 01 09:00:07.6±1.9**,3450N**±007×**730E**±01**,h7**^{km}±12^{km}**,n18, σ0^{s}93**/21**,mb3.8**/7**,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.06**	**132**	eP	**Pg**	**09 01 05.4**	**-0.9**
THN				eS	**Sg**	**09 01 42.5**	**-3.4**
DLH	**Dalhousie**	**3.15**	**128**	eP	**Pg**	**09 01 09.0**	**+1.1**
DLH				eSB	**Sg**	**09 01 50.0**	**+1.3**
KLP	**Kalpa**	**5.30**	**123**	eP	**Pn**	**09 01 26.3**	**-0.9**
KLP				eS	**Sn**	**09 02 21.9**	**-6.7**
KLP				AML	AML	09 02 58.6	
	comp=N,56nm,0.4s						
KLP				AML	AML	09 02 58.6	
	comp=N,57nm,0.4s						
KHET	**Khetri**	**6.84**	**159**	eS	**Sn**	**09 03 06.2**	**-0.2**
KHET				AML	AML	09 03 56.2	
	comp=N,4.4nm,0.1s						
KHET				AML	AML	09 03 57.5	
	comp=E,3.3nm,0.2s						
AAK	**Ala-Archa**	**8.20**	**8**	eP	**Pn**	**09 02 07.1**	**+0.1**
BVAR	**Borovoye Array**	**18.61**	**355**	P	**Pn**	**09 04 25.8**	**+0.1**
	comp=E,0.3nm,0.3s,baz=150,slow=9.2,SNR=5.0						
AKTK	**Aktyubinsk**	**19.33**	**330**	P	**Pn**	**09 04 34.4**	**0.0**
AKTO	**Aktyubinsk**	**19.33**	**330**	P	**Pn**	**09 04 34.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=133,slow=12,SNR=6.6						
ZAL	**Zalesovo**	**21.13**	**20**	P	**P**	**09 04 52.2**	**-0.7**
	comp=E,1.2nm,0.4s,mb3.6,baz=255,slow=7.9,SNR=3.6						
ZAL	**Zalesovo**	**21.13**	**20**	P	**P**	**09 04 52.3**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
IDI	**Anoyia**	**39.17**	**285**	P	**P**	**09 07 34.6**	**-1.4**
	comp=Z,8.8nm,0.3s,mb5.0,baz=63,slow=15,SNR=6.5						
ARCES	**ARCESS Array B**	**43.61**	**338**	P	**P**	**09 08 13.1**	**+0.6**
	comp=Z,3.7nm,1.0s,mb4.0,baz=112,slow=6.9,SNR=4.2						
ARCES	**ARCESS Array B**	**43.61**	**338**	P	**P**	**09 08 13.1**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	**NORSAR Array B**	**46.96**	**324**	P	**P**	**09 08 38.8**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=53,slow=22,SNR=2.5						
NOA	**NORSAR Array B**	**46.96**	**324**	P	**P**	**09 08 38.8**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.35**	**271**	P	**P**	**09 11 05.0**	**+1.6**
	comp=Z,0.1nm,0.4s,mb3.2,baz=45,slow=6.5,SNR=4.2						
WRA	**Warramunga Arr**	**79.53**	**123**	P	**P**	**09 12 15.8**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=324,slow=5.0,SNR=13						
ASAR	**Alice Springs**	**81.76**	**126**	P	**P**	**09 12 27.4**	**+0.3**
	comp=Z,0.4nm,0.9s,mb3.3,baz=323,slow=5.8,SNR=3.6						

*SZGRF **01** 09:23:26.9,1697S×17438W,h33^{km},Tonga Islands*

*MOS **01** 09:23:33.1±1.3,1508S×17398W,h51^{km},mb5.4/31, MS4.9/5,Error ellipse: s-maj=10.2km s-min=7.2km az=49.7*

*IDC **01** 09:23:34.5±2.4,1521S×17383W,h57^{km}±21^{km},mb4.7/16, mb1 4.8/19,mb1mx4.8/20,mbtmp4.7/19,ML4.3/3,MS4.1/21, Ms1 4.1/21,ms1mx4.0/28,Error ellipse: s-maj=17.9km s-min=11.6km az=140.0*

*BJI **01** 09:23:36.6,1520S×17400W,h101^{km},mB5.2,mb5.0*

*ISCJB **01** 09:23:37.7±0.2,1523S±005×17400W±004,h99^{km}, mb4.9/87,Error ellipse: s-maj=8.3km s-min=4.1km az=114.5*

*GCMT **01** 09:23:39.7±0.2,1506S×17363W,h90^{km}±1^{km},MW5.3/83, Moment Tensor Solution. s60,c101; s83,c147; Duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.02; $M_{\theta\theta}$0.73±.02; $M_{\phi\phi}$-0.56±.02; $M_{r\theta}$-0.55±.01; $M_{\theta\phi}$-0.24±.02; $M_{\phi r}$-0.40±.01; Best double couple: $M_0$0.98200×10^{17} NP1:ϕ_s322.00000°,δ45.00000°, λ-10.00000°. NP2:ϕ_s59.00000°,δ83.00000°, λ-135.00000°. Principal axes: T 0.9930, Plg25.0000°, Azm182.0000°; N -0.0230, Plg44.0000°, Azm66.0000°; P -0.9700, Plg36.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 09:23:39.7±0.2,15.19S×17400W,mb4.9/61 Error ellipse: s-maj=9.7km s-min=4.8km az=144.0*

ISC 01 09:23:39.8±0.2**,1522S**±005×**17401W**±004**,h101**^{km}**,h101**^{km}±1.3^{km}**:pP-P,n635,σ0^{s}67**/405**,mb4.9**/87**,72C-123D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.52**	**59**	P	**Pn**	**09 24 11.0**	**-8.2**
	905nm,0.3s,baz=178,slow=1.9,SNR=778						
AFI				S	**Sn**	**09 24 35.4**	**-14**
	3µm,0.3s,baz=23,slow=22,SNR=50						
AFI	**Afiamalu**	**2.52**	**59**	ePn	**Pn**	**09 24 11.0**	**-8.2**
AFI				eSn	**Sn**	**09 24 35.6**	**-14**
FUNA	**Funafuti**	**9.40**	**314**	ePn	**Pn**	**09 25 51.2**	**-1.0**
	149nm,1.0s						
RAR	**Rarotonga**	**14.78**	**116**	P	**Pn**	**09 26 57.5**	**-6.0**
	5.5nm,0.3s,baz=270,slow=6.5,SNR=12						
RAR				LR	LR	09 31 39.0	
	comp=Z,388nm,20.5s,baz=270,slow=33						
DZM	**Mont Dzumac**	**19.72**	**247**	eP	**P**	**09 28 00.0**	**-1.2**
DZM	**Mont Dzumac**	**19.72**	**247**	P	**P**	**09 28 02.1**	**+0.9**
	1.0nm,0.3s,baz=68,slow=19,SNR=8.7						
DZM				LR	LR	09 34 07.4	
	comp=Z,623nm,20.4s,baz=47,slow=32						
PPT	**Papeete**	**23.55**	**99**	eLQ		09 33 10.6	
	2µm,25.5s						
PPT	**Papeete**	**23.55**	**99**	eP	**P**	**09 28 49.9**	**+9.0**
	312nm,27.5s						
PPT				eLR	LR	09 34 06.2	
	2µm,30.5s						
PPT	**Papeete**	**23.55**	**99**	LR	LR	09 36 20.2	
	comp=Z,177nm,19.1s,baz=274,slow=33						
URZ	**Urewera**	**24.26**	**197**	P	**P**	**09 28 46.4**	**-0.9**
	12nm,0.4s,mb4.6,baz=28,slow=3.5,SNR=16						
TBI	**Tubuai**	**24.52**	**113**	eLQ		09 33 26.4	
	702nm,26.8s						
TBI				eLR	LR	09 34 39.9	
	2µm,31.0s						
HNR	**Honiara**	**26.07**	**280**	P	**P**	**09 29 04.1**	**+0.3**
	114nm,0.8s,mb5.3,baz=260,slow=5.7,SNR=4.2						
HNR				LR	LR	09 38 04.3	
	comp=Z,218nm,20.2s,baz=177,slow=33						
HNR	**Honiara**	**26.07**	**280**	eP	**P**	**09 29 04.6**	**+0.9**
HNR				pmax	pmax		
	comp=Z,237nm,1.1s,mb5.5						
HNR	**Honiara**	**26.07**	**280**	eP	**P**	**09 29 04.6**	**+0.8**
	comp=Z,237nm,1.1s,mb5.5						
SNZO	**South Karori**	**27.78**	**198**	eP	**P**	**09 29 17.7**	**-1.4**
	comp=Z,70nm,1.0s,mb5.2						
RPZ	**Rata Peaks**	**31.13**	**201**	P	**P**	**09 29 47.4**	**-1.3**
	comp=Z,10nm,0.8s,mb4.6,baz=11,slow=3.8,SNR=5.1						
RPZ				LR	LR	09 40 14.3	
	comp=Z,890nm,21.0s,baz=96,slow=32						
TAOE	**Nuku Hiva Isla**	**33.69**	**83**	eLR	LR	09 38 43.1	
	comp=Z,2µm,29.0s						
ARMA	**Armidale**	**34.93**	**238**	eP	**P**	**09 30 21.9**	**+0.1**
RKT	**Rikitea**	**37.61**	**108**	eS	**S**	**09 36 40.2**	**+14**
	comp=Z,80nm,31.0s						
RKT				eLR	LR	09 40 40.5	
	comp=Z,801nm,31.2s						
CTA	**Charters Tower**	**38.11**	**257**	eP	**P**	**09 30 49.0**	**+0.2**
	comp=Z,20nm,0.8s,mb5.0						
CTA	**Charters Tower**	**38.11**	**257**	LR	LR	09 44 44.4	
	comp=Z,243nm,19.4s,baz=61,slow=33						
CTA	**Charters Tower**	**38.11**	**257**	eP	**P**	**09 30 49.0**	**+0.2**
CTA				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**38.11**	**257**	eP	**P**	**09 30 49.0**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**38.11**	**257**	eP	**P**	**09 30 49.0**	**+0.2**
	comp=Z,37nm,0.9s,mb5.2						
PMG	**Port Moresby**	**38.33**	**274**	P	**P**	**09 30 52.3**	**+1.7**
	comp=Z,38nm,0.7s,mb5.3,baz=71,slow=6.7,SNR=26						
PMG				LR	LR	09 42 14.3	
	comp=Z,237nm,20.4s,baz=117,slow=29						
PMG	**Port Moresby**	**38.33**	**274**	⇑eP	**P**	**09 30 52.4**	**+1.7**
PMG	**Port Moresby**	**38.33**	**274**	eP	**P**	**09 30 52.2**	**+1.6**
	comp=Z,52nm,0.9s,mb5.4						
CNB	**Canberra Magne**	**38.40**	**232**	eP	**P**	**09 30 51.7**	**+0.5**
	comp=Z,68nm,1.7s,mb5.2						
STKA	**Stephens Creek**	**43.62**	**240**	eP	**P**	**09 31 33.8**	**-0.2**
	comp=Z,13nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**43.62**	**240**	P	**P**	**09 31 34.6**	**+0.6**
	comp=Z,5.8nm,0.4s,mb4.7,baz=89,slow=7.8,SNR=7.8						
STKA	**Stephens Creek**	**43.62**	**240**	eP	**P**	**09 31 33.8**	**-0.2**
WB2	**Warramunga Arr**	**49.30**	**257**	eP	**P**	**09 32 17.6**	**-0.8**
WRAB	**Tennant Creek**	**49.30**	**257**	d iP	**P**	**09 32 17.9**	**-0.5**
WRA	**Warramunga Arr**	**49.31**	**257**	P	**P**	**09 32 18.6**	**+0.1**
	comp=Z,63nm,0.7s,mb5.7,baz=90,slow=7.0,SNR=533						
WRA				PcP	PcP	09 33 40.3	+0.6
	comp=Z,5.7nm,0.7s,baz=90,slow=3.6,SNR=4.5						
WRA				LR	LR	09 50 25.2	
	comp=Z,300nm,21.7s,baz=100,slow=32						
WRA	**Warramunga Arr**	**49.31**	**257**	P	**P**	**09 32 18.6**	**+0.1**
WRA						09 33 40.3	
ASAR	**Alice Springs**	**49.61**	**252**	P	**P**	**09 32 21.2**	**+0.5**
	comp=Z,235nm,0.7s,baz=85,slow=8.4,SNR=2449						
KAKA	**Kakadu**	**51.92**	**266**	⇓iP	**P**	**09 32 38.2**	**+0.1**
	comp=Z,42nm,0.6s,mb5.7						
FORT	**Forrest**	**54.97**	**243**	eP	**P**	**09 32 59.8**	**-0.6**
	comp=Z,77nm,0.6s,mb5.9						
FITZ	**Fitzroy Crossi**	**57.67**	**258**	eP	**P**	**09 33 19.6**	**+0.1**
	comp=Z,15nm,0.6s,mb5.2						
SBA	**Scott Base**	**63.38**	**184**	eP	**P**	**09 33 59.7**	**+1.3**
SBA				e*PP	pP	09 34 24.4	+0.9
SBA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
SBA	**Scott Base**	**63.38**	**184**	eP	**P**	**09 33 59.7**	**+1.3**
	comp=Z,11nm,0.9s,mb4.8						
SBA				epP	pP	09 34 24.4	+0.9
VNDA	**Vanda**	**63.50**	**186**	P	**P**	**09 33 59.4**	**+0.3**
	comp=Z,5.6nm,0.9s,mb4.5,baz=5.3,slow=6.6,SNR=24						
VNDA				LR	LR	09 57 01.7	
	comp=Z,67nm,21.8s,baz=7.2,slow=32						
VNDA	**Vanda**	**63.50**	**186**	eP	**P**	**09 33 59.5**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,25nm,1.5s						
VNDA	**Vanda**	**63.50**	**186**	eP	**P**	**09 33 59.5**	**+0.4**
	comp=Z,25nm,1.5s,mb4.9						
KLBR	**Kellerberrin**	**63.80**	**242**	eP	**P**	**09 34 00.2**	**-0.9**
	comp=Z,32nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**64.19**	**241**	eP	**P**	**09 34 03.5**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,34nm,1.3s						
NWAO	**Narrogin (SRO)**	**64.19**	**241**	eP	**P**	**09 34 03.5**	**-0.2**
	comp=Z,34nm,1.3s,mb5.0						
MUN	**Mundaring**	**65.10**	**242**	eP	**P**	**09 34 09.6**	**0.0**
JHJ	**Hachijo jima 2**	**65.24**	**318**	LR	LR	09 55 54.4	
	comp=Z,120nm,21.2s,baz=56,slow=30						
MJAR	**Matsushiro Arr**	**68.42**	**320**	P	**P**	**09 34 30.9**	**+0.2**
	comp=Z,6.6nm,0.9s,mb4.5,baz=154,slow=5.7,SNR=12						
MJAR				LR	LR	09 58 04.1	
	comp=Z,257nm,21.9s,baz=120,slow=30						
MAJO	**Matsushiro**	**68.42**	**320**	eP	**P**	**09 34 30.2**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.0						
MAJO	**Matsushiro**	**68.42**	**320**	eP	**P**	**09 34 30.2**	**-0.4**
	comp=Z,32nm,1.3s,mb5.0						
UNV	**Unalaska Valle**	**69.08**	**5**	eP	**P**	**09 34 33.5**	**-1.2**
JOW	**Kunigami**	**69.90**	**306**	LR	LR	09 59 54.1	
	comp=Z,222nm,19.2s,baz=95,slow=31						
ASAJ	**Asahikawa**	**71.08**	**328**	LR	LR	09 58 38.4	
	comp=Z,192nm,21.7s,baz=346,slow=30						
FARB	**Farallon Islan**	**71.16**	**41**	⇑P	**P**	**09 34 47.0**	**-0.4**
	baz=71						
BSC	**Santa Cruz Isl**	**71.22**	**46**	⇓P	**P**	**09 34 47.7**	**-0.1**
	baz=71						
JNU	**Nakatsue**	**71.25**	**313**	LR	LR	09 59 49.1	
	comp=Z,220nm,20.7s,baz=264,slow=30						
V03C	**Hunter Liggett**	**71.29**	**43**	⇑P	**P**	**09 34 48.8**	**+0.5**
	baz=71						
HAST	**UC Hastings Re**	**71.30**	**42**	⇓P	**P**	**09 34 49.2**	**+0.9**
	baz=71						
SAO	**San Andreas Ge**	**71.59**	**42**	eP	**P**	**09 34 49.4**	**-0.6**
SAO				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.9						
SAO	**San Andreas Ge**	**71.59**	**42**	eP	**P**	**09 34 49.4**	**-0.7**
	comp=Z,22nm,1.1s,mb4.9						
PKM	**Peak Mountain**	**71.59**	**45**	⇓P	**P**	**09 34 49.9**	**-0.1**
	baz=72						
SMMC	**Simmler**	**71.71**	**44**	⇓P	**P**	**09 34 51.1**	**+0.4**
	baz=72						
PKD	**Parkfield**	**71.71**	**43**	⇑P	**P**	**09 34 51.0**	**+0.2**
	baz=72						
U04C	**Hernandez Rese**	**71.79**	**43**	P	**P**	**09 34 52.4**	**+1.2**
	baz=72,SNR=9.6						
PACP	**Pacheco Peak**	**71.84**	**42**	P	**P**	**09 34 52.5**	**+1.0**
	baz=72,SNR=5.7						
CVS	**Carmenet Viney**	**71.89**	**40**	⇑P	**P**	**09 34 52.0**	**+0.2**
	baz=72						
WENL	**Wente Brothers**	**71.90**	**41**	⇓P	**P**	**09 34 52.2**	**+0.3**
	baz=72						
HOPS	**Hopland**	**71.90**	**40**	⇓P	**P**	**09 34 52.2**	**+0.3**
	baz=72						
PET	**Petropavlovsk**	**71.93**	**343**	⇑eP	**P**	**09 34 51.3**	**-0.8**
PET				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.0						
P01C	**Double 8 Ranch**	**72.03**	**39**	⇓P	**P**	**09 34 52.7**	**0.0**
	baz=72						
S04C	**Ingram Canyon,**	**72.10**	**42**	⇑P	**P**	**09 34 53.2**	**+0.1**
	baz=72,SNR=11						
MNRC	**McLaughlin Nat**	**72.22**	**40**	P	**P**	**09 34 54.3**	**+0.5**
	baz=72,SNR=14						
Q03C	**Winters**	**72.34**	**40**	⇑P	**P**	**09 34 55.2**	**+0.7**
	baz=72						
ARVC	**Arvin**	**72.40**	**45**	⇓P	**P**	**09 34 54.7**	**-0.2**
	baz=72						
MWC	**Mount Wilson**	**72.43**	**46**	eP	**P**	**09 34 55.0**	**-0.1**
CHGN	**Chignik**	**72.44**	**9**	eP	**P**	**09 34 53.8**	**-1.3**
GASB	**Alder Springs**	**72.52**	**39**	⇓P	**P**	**09 34 56.4**	**+0.8**
	baz=73,SNR=5.6						
VES	**Vestal, Richgr**	**72.62**	**44**	P	**P**	**09 34 56.1**	**-0.1**
	baz=73,SNR=13						

S05C	Merced	72.66	42	⇑P	P	09 34 56.9	+0.5
	baz=73						
KHMM	Horse Mountain	72.67	38	eP	P	09 34 56.9	+0.4
MURC	Murrieta	72.70	47	⇓P	P	09 34 56.8	+0.2
	baz=73						
BFSC	Mount Baldy St	72.72	46	⇑P	P	09 34 56.6	-0.2
	baz=73						
RCTC	Rector, Farmer	72.78	44	⇑P	P	09 34 56.6	-0.5
	baz=73						
R04C	Big Horse Ranc	72.80	41	⇓P	P	09 34 57.1	-0.1
	baz=73						
O02C	Red Bluff	72.80	39	P	P	09 34 58.3	+1.0
	baz=73,SNR=7.4						
EDW2	Edwards Air Fo	72.84	46	P	P	09 34 57.4	-0.1
	baz=73,SNR=11						
SUTB	Sutter Butte	72.84	40	⇑P	P	09 34 57.5	0.0
	baz=73						
Q04C	Lincoln	72.86	41	⇓P	P	09 34 57.7	+0.1
	baz=73						
T06C	Millerton Lake	72.87	43	P	P	09 34 57.4	-0.2
	baz=73,SNR=14						
MONP	Monument Peak	72.88	48	⇓P	P	09 34 57.8	+0.1
	baz=73						
N02C	Big Bar	72.89	38	⇑P	P	09 34 58.3	+0.5
	baz=73						
ISA	Isabella	72.94	45	eP	P	09 34 58.0	0.0
ISA	Isabella	72.94	45	P	P	09 34 58.1	+0.1
	baz=73,SNR=13						
DVTC	Desert V Tower	72.99	48	⇓P	P	09 34 58.5	+0.1
	baz=73						
CMB	Columbia Colle	73.02	42	eP	P	09 34 58.3	-0.2
CMB				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
CMB	Columbia Colle	73.02	42	eP	P	09 34 58.3	-0.2
	comp=Z,19nm,1.0s,mb4.9						
CMB	Columbia Colle	73.02	42	P	P	09 34 58.4	-0.1
	baz=73,SNR=15						
YSS	Yuzh-Sakhalins	73.03	331	⇑eP	P	09 34 59.2	+0.6
YSS				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.4						
YSS	Yuzh-Sakhalins	73.03	331	eP	P	09 34 58.0	-0.6
	comp=Z,35nm,0.8s,mb5.2						
OHCM	Honcut	73.09	40	eP	P	09 34 58.7	-0.3
HELL	Mitchell Peak,	73.13	43	P	P	09 34 58.8	-0.4
	baz=73,SNR=13						
O03C	Acorn Hollow,	73.15	39	⇑P	P	09 34 59.3	-0.1
	baz=73						
WDC	Whiskeytown Da	73.20	38	eP	P	09 34 59.6	0.0
WDC				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.9						
WDC	Whiskeytown Da	73.20	38	eP	P	09 34 59.6	0.0
	comp=Z,28nm,1.4s,mb4.9						
WDC				epP	pP	09 35 26.4	+1.0
WDC	Whiskeytown Da	73.20	38	P	P	09 34 59.7	+0.1
	baz=73,SNR=7.7						
ORV	Oroville	73.21	40	P	P	09 34 59.1	-0.6
	baz=73,SNR=11						
LAVA	Lava Cap Winer	73.22	41	⇓P	P	09 34 59.5	-0.2
	baz=73						
PFO	Pinyon Flat Ob	73.23	47	⇑P	P	09 34 59.5	-0.3
	baz=73						
BBRC	Big Bear Sol-O	73.25	47	⇓P	P	09 34 59.3	-0.6
	baz=73						
KCC	Kaiser Creek	73.30	43	P	P	09 35 00.3	+0.1
	baz=73,SNR=7.2						
SWSC	Sam W. Stewart	73.36	48	⇓P	P	09 35 00.2	-0.3
	baz=74						
LRMC	Laurel Mountai	73.37	45	P	P	09 35 01.0	+0.4
	baz=74,SNR=10						
M02C	Callahan	73.52	38	⇓P	P	09 35 01.7	+0.2
	baz=74						
L02A	Cave Junction	73.56	37	⇑P	P	09 35 02.3	+0.6
	baz=74						
R05C	Kirkwood Meado	73.61	41	P	P	09 35 02.0	0.0
	baz=74,SNR=19						
P05C	Yuba Gap, Truc	73.62	40	⇑P	P	09 35 02.2	+0.2
	baz=74,SNR=6.3						
CWC	Cottonwood Cre	73.63	44	⇑P	P	09 35 02.2	0.0
	baz=74						
BELC	Belle Mtn.	73.76	47	P	P	09 35 02.9	+0.1
	baz=74,SNR=6.3						
MLAC	Mammoth Lakes	73.79	43	⇑P	P	09 35 03.6	+0.5
	baz=74						
YBH	Yreka Blue Hor	73.81	37	eP	P	09 35 03.5	+0.3
YBH				pmax	pmax		
	comp=Z,18nm,1.0s						
YBH	Yreka Blue Hor	73.81	37	eP	P	09 35 03.5	+0.3
	comp=Z,18nm,1.0s,mb4.8						
YBH	Yreka Blue Hor	73.81	37	P	P	09 35 03.7	+0.5
	baz=74,SNR=12						
MTUM	Tungsten Hills	73.81	43	eP	P	09 35 03.1	-0.1
O05C	Quincy	73.82	40	⇑P	P	09 35 03.4	+0.2
	baz=74						
MPMC	Manual Prospec	73.82	45	P	P	09 35 03.9	+0.6
	baz=74,SNR=19						
DAC	Darwin (Calif)	73.87	44	eP	P	09 35 03.5	0.0
TIN	Tinemaha	73.87	44	⇓P	P	09 35 04.1	+0.6
	baz=74						
M03C	McCloud	73.88	38	P	P	09 35 04.0	+0.4
	baz=74,SNR=5.9						
GSC	Goldstone	73.88	46	eP	P	09 35 03.6	0.0
GSC	Goldstone	73.88	46	P	P	09 35 03.8	+0.2
	baz=74,SNR=9.2						
WAKR	Walker	73.90	42	eP	P	09 35 03.9	+0.2
R06C	Coleville	73.90	42	P	P	09 35 04.3	+0.6
	baz=74,SNR=13						
R07C	Lee Vining	73.91	42	P	P	09 35 04.1	+0.3
	baz=74,SNR=12						
O04C	Chester	73.93	39	P	P	09 35 04.4	+0.5
	baz=74,SNR=5.4						
HEC	Hector,Ludlow	73.96	46	P	P	09 35 03.8	-0.2
	baz=74,SNR=15						
BC3	Big Chuckw Mtn	73.97	48	⇓P	P	09 35 04.2	+0.1
	baz=74						
HATC	Hat Creek Radi	74.00	39	P	P	09 35 04.9	+0.6
	baz=74,SNR=6.3						
K02A	Glendale	74.01	36	⇑P	P	09 35 04.6	+0.2
	baz=74						
BEKR	Beckwourth	74.11	40	P	P	09 35 05.3	+0.4
	baz=74,SNR=21						
GLA	Glamis	74.11	49	eP	P	09 35 05.5	+0.6
GLA	Glamis	74.11	49	P	P	09 35 05.5	+0.6
	baz=74,SNR=5.8						
WCN	Washoe City	74.16	41	P	P	09 35 05.6	+0.4
	baz=74,SNR=22						
HUMO	Hull Mountain	74.21	37	eP	P	09 35 05.6	+0.1
	comp=Z,12nm,1.1s,mb4.5						
HUMO	Hull Mountain	74.21	37	P	P	09 35 06.3	+0.8
	baz=74,SNR=5.9						
P06A	Stead Airport,	74.28	41	P	P	09 35 06.6	+0.7
	baz=74,SNR=5.5						
ELFS	Eagle Lake Fie	74.32	39	P	P	09 35 06.9	+0.7
	baz=74,SNR=9.2						
J02A	Umpqua	74.34	36	⇓P	P	09 35 06.7	+0.4
	baz=74						
M04C	Macdoel	74.36	38	P	P	09 35 06.5	+0.2
	baz=74,SNR=10						
GMRC	Granite Mounta	74.40	47	P	P	09 35 06.6	0.0
	baz=74,SNR=8.0						
GRAC	Grapevine Rang	74.41	44	P	P	09 35 07.0	+0.4
	baz=74,SNR=9.8						
IRM	Iron Mountain	74.44	47	P	P	09 35 07.0	+0.1
	baz=75,SNR=12						
FURC	Furnace Creek,	74.47	45	P	P	09 35 07.2	+0.2
	baz=75,SNR=8.5						
M05C	Lookout	74.51	39	P	P	09 35 07.4	+0.2
	baz=75,SNR=13						
Q07A	Schurz	74.55	42	⇑P	P	09 35 07.4	0.0
	baz=75						
SHOC	Shoshone	74.56	45	P	P	09 35 07.6	+0.1
	baz=75,SNR=7.5						
TUQ	Turquoise Mtn.	74.56	46	P	P	09 35 07.9	+0.4
	baz=75,SNR=15						
L04A	Klamath Falls	74.56	37	P	P	09 35 08.1	+0.5
	baz=75,SNR=9.3						
NVAR	Mina Array Bea	74.59	42	P	P	09 35 07.8	+0.1
	comp=Z,17nm,0.9s,mb4.8,baz=231,slow=9.6,SNR=92						
I02A	Mapleton	74.60	35	⇓P	P	09 35 08.8	+1.0
	baz=75						
O06A	Flanigan	74.61	40	P	P	09 35 07.9	+0.1
	baz=75,SNR=19						
R08A	Mina	74.67	42	P	P	09 35 08.7	+0.5
	baz=75,SNR=8.4						
Y12C	Blythe	74.68	48	P	P	09 35 08.6	+0.4
	baz=75,SNR=6.3						
U10A	Ash Meadows, A	74.80	45	P	P	09 35 09.6	+0.6
	baz=75,SNR=6.0						
M06C	Likely Place G	74.83	39	P	P	09 35 09.7	+0.7
	baz=75,SNR=8.0						
P07A	Fallon	74.84	41	⇑P	P	09 35 09.6	+0.4
	baz=75						
KDAK	Kodiak Island	74.86	12	LR	LR	10 00 44.8	
	comp=Z,223nm,20.2s,baz=7.4,slow=30						
S09A	Goldfield	74.91	43	P	P	09 35 09.3	-0.2
	baz=75,SNR=18						
K04A	Chilquin	74.93	37	⇓P	P	09 35 10.0	+0.4
	baz=75						
N06A	Buffalo Meadow	74.95	40	P	P	09 35 10.2	+0.4
	baz=75,SNR=14						
Q08A	Gabbs	75.07	42	P	P	09 35 10.4	0.0
	baz=75,SNR=16						
J04A	Umpqua Nationa	75.09	37	P	P	09 35 11.3	+0.7
	baz=75,SNR=5.1						
TPH	Tonopah	75.10	43	eP	P	09 35 11.2	+0.6
TPH				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.0						
TPH	Tonopah	75.10	43	eP	P	09 35 11.2	+0.5
	comp=Z,34nm,1.1s,mb5.0						
L05A	Lakeview	75.11	38	P	P	09 35 11.6	+0.9
	baz=75,SNR=7.3						
V11A	Goodsprings	75.11	46	⇑P	P	09 35 10.9	+0.2
	baz=75						
O07A	Toulon	75.20	41	P	P	09 35 11.3	+0.1
	baz=75,SNR=26						
W12A	Cal Nev Ari	75.23	47	⇑P	P	09 35 12.0	+0.6
	baz=75						
PDMCI	Parker Dam,Lak	75.23	48	⇑P	P	09 35 11.5	0.0
	baz=75						
I04A	Tendick Farm,	75.26	36	⇓P	P	09 35 11.3	-0.3
	baz=75						
R09A	Tonopah	75.29	43	P	P	09 35 11.8	+0.1
	baz=75,SNR=10						
MOD	Modoc	75.34	38	eP	P	09 35 11.9	-0.1
	comp=Z,14nm,1.0s,mb4.6						
MOD				epP	pP	09 35 35.1	-2.8
MOD	Modoc	75.34	38	⇓P	P	09 35 12.1	+0.1
	baz=76,SNR=20						
P08A	Dixie Valley	75.44	41	⇓P	P	09 35 12.9	+0.3
	baz=76						
U11A	Corn Creek	75.45	45	⇓P	P	09 35 12.9	+0.3
	baz=76						
V12A	Nelson	75.46	46	P	P	09 35 12.9	+0.2
	baz=76,SNR=8.1						
K05A	Summer Lake	75.49	38	P	P	09 35 13.7	+0.8
	baz=76,SNR=8.9						
N07B	Gerlach	75.50	40	⇑P	P	09 35 13.0	+0.1
	baz=76						
Q09A	Carvers	75.54	42	⇑P	P	09 35 13.7	+0.5
	baz=76						
X13A	Yucca	75.60	48	P	P	09 35 13.6	+0.1
	baz=76,SNR=7.5						
KSRS	Korea Array	75.62	316	P	P	09 35 14.9	+1.4
	comp=Z,5.7nm,0.9s,mb4.3,baz=128,slow=6.0,SNR=12						
KSRS				LR	LR	10 01 59.9	
	comp=Z,141nm,21.9s,baz=121,slow=30						
J05A	Fort Rock	75.62	37	P	P	09 35 14.3	+0.7
	baz=76,SNR=11						
Z14A	Wintersburg	75.63	49	⇑P	P	09 35 13.8	+0.1
	baz=76						
SHPR	Sheep Range	75.65	45	eP	P	09 35 13.9	+0.1
M07A	Soldier Meadow	75.73	39	P	P	09 35 14.9	+0.6
	baz=76,SNR=11						
O08A	Rochester Mine	75.73	41	⇑P	P	09 35 14.4	+0.1
	baz=76						
W13A	Hualapai Mount	75.82	47	P	P	09 35 15.1	+0.4
	baz=76,SNR=11						
115A	Sonoran Desert	75.84	50	⇑P	P	09 35 15.3	+0.5
	baz=76						
Y14A	Wickenburg	75.87	49	P	P	09 35 15.5	+0.4
	baz=76,SNR=8.3						
K06A	Valley Falls	75.91	38	P	P	09 35 15.4	+0.1
	baz=76,SNR=14						
H04A	Detroit Lake	75.94	35	⇓P	P	09 35 15.0	-0.4
	baz=76						
P09A	Austin	75.97	42	⇓P	P	09 35 16.0	+0.4
	baz=76						
L07A	Adell	75.99	39	P	P	09 35 16.0	+0.3
	baz=76,SNR=16						
U12A	Valley of Fire	76.04	46	P	P	09 35 16.4	+0.4
	baz=76,SNR=16						
116A	Eloy	76.16	50	⇓P	P	09 35 17.0	+0.3
	baz=76						
X14A	Yava	76.22	48	P	P	09 35 17.8	+0.8
	baz=76,SNR=6.5						
J06A	Christmas Vall	76.24	37	P	P	09 35 17.1	0.0
	baz=76,SNR=6.8						
O09A	Fish Creek Ran	76.28	41	P	P	09 35 17.2	-0.1
	baz=76,SNR=12						
BMN	Battle Mountai	76.40	41	eP	P	09 35 17.9	-0.1
BMN				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
BMN	Battle Mountai	76.40	41	eP	P	09 35 17.9	-0.1
	comp=Z,16nm,0.9s,mb4.7						
P10A	Eureka	76.44	42	P	P	09 35 18.7	+0.4
	baz=77,SNR=8.5						
W14A	Seligman	76.44	47	P	P	09 35 18.9	+0.7
	baz=77,SNR=13						
N09A	Rock Creek Ran	76.44	41	P	P	09 35 18.5	+0.2
	baz=77,SNR=7.8						
Q11A	Duckwater	76.55	43	P	P	09 35 19.0	+0.1
	baz=77,SNR=19						
KSM	Kuching	76.58	275	eP	P	09 35 19.6	+0.5
I06A	Prineville	76.62	37	P	P	09 35 19.8	+0.6
	baz=77,SNR=10						
WVOR	Wild Horse Val	76.66	39	eP	P	09 35 18.9	-0.6
WVOR				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
WVOR	Wild Horse Val	76.66	39	eP	P	09 35 18.9	-0.6
	comp=Z,16nm,1.1s,mb4.7						
WVOR				epP	pP	09 35 45.8	+0.3
X15A	Humboldt	76.69	48	P	P	09 35 20.1	+0.4
	baz=77,SNR=12						
L08A	Fields	76.70	39	P	P	09 35 20.2	+0.5
	baz=77,SNR=16						
G05A	Wamic	76.78	35	⇓P	P	09 35 21.1	+0.9
	baz=77						
O10A	Cortez Mining,	76.78	42	⇓P	P	09 35 20.5	+0.3
	baz=77						
J07A	Hines	76.80	38	P	P	09 35 20.7	+0.4
	baz=77,SNR=5.2						
M09A	Marrel Ranch,	76.81	40	P	P	09 35 20.8	+0.4
	baz=77,SNR=12						
E04A	Onalaska	76.85	34	⇓P	P	09 35 21.3	+0.7
	baz=77						
P11A	Circle Ranch,	76.86	42	⇑P	P	09 35 20.9	+0.3
	baz=77						
K08A	Mann Creek Ran	76.92	39	P	P	09 35 21.2	+0.2
	baz=77,SNR=11						
W15A	Williams	77.01	48	⇓P	P	09 35 22.7	+1.2
	baz=77						
L09A	Wilkinson Ranc	77.01	40	⇓P	P	09 35 21.9	+0.4
	baz=77						
H06A	Lindquist Farm	77.02	36	P	P	09 35 21.5	0.0
	baz=77,SNR=8.7						
I07A	Izee	77.11	37	P	P	09 35 22.4	+0.4
	baz=77,SNR=6.2						
Q12A	Willow Creek R	77.20	43	P	P	09 35 23.0	+0.5
	baz=77,SNR=6.5						
O11A	Cowboy Ranch,	77.24	42	P	P	09 35 22.9	+0.2
	baz=77,SNR=15						
J08A	Circle Bar Ran	77.29	38	P	P	09 35 23.3	+0.2
	baz=77,SNR=9.4						
E05A	Randle	77.35	34	⇓P	P	09 35 23.2	-0.2
	baz=78						
P12A	McGill	77.38	43	⇑P	P	09 35 23.5	0.0
	baz=78						
GNW	Green Mountain	77.42	33	eP	P	09 35 22.9	-0.8
CCUT	Cedar City	77.42	45	eP	P	09 35 24.0	+0.3
CCUT				epP	pP	09 35 49.5	-0.3
M10A	I.L. Ranch, Tu	77.44	40	P	P	09 35 24.5	+0.7
	baz=78,SNR=16						
ARUT	Antelope Range	77.49	45	eP	P	09 35 24.4	+0.3
ARUT				epP	pP	09 35 51.2	+1.1
I08A	Drewsey	77.55	38	⇑P	P	09 35 24.6	+0.1
	baz=78						
D05A	Enumclaw	77.62	33	⇑P	P	09 35 25.4	+0.6
	baz=78						
J09A	Fry Pan Ranch,	77.71	38	P	P	09 35 25.7	+0.3
	baz=78,SNR=9.8						
G07A	Ruggs Ranch, H	77.72	36	⇑P	P	09 35 25.3	-0.1
	baz=78						
E06A	Yakima	77.76	34	⇑P	P	09 35 25.8	+0.1
	baz=78						
WUAZ	Wupatki	77.81	48	eP	P	09 35 26.8	+0.8
	comp=Z,22nm,1.3s,mb4.7						
WUAZ				epP	pP	09 35 51.3	-0.6
ELK	Elko	77.84	42	eP	P	09 35 26.5	+0.4
ELK				pmax	pmax		
	comp=Z,16nm,1.0s						
ELK	Elko	77.84	42	eP	P	09 35 26.5	+0.4
	comp=Z,16nm,1.0s,mb4.7						
H08A	Prairie City	77.85	37	⇓P	P	09 35 26.1	0.0
	baz=78						
M11A	Holland Ranch,	77.86	41	P	P	09 35 26.5	+0.3
	baz=78,SNR=9.9						
HABR	Khabarovsk	77.87	328	⇓P	P	09 35 27.3	+1.0
HABR				eS	S	09 45 13.8	+2.8
HABR				pmax	pmax		
	comp=Z,88nm,1.4s,mb5.3						
O12A	Currie	77.90	42	P	P	09 35 26.3	-0.2
	baz=78,SNR=13						
F07A	Phinny Hill Vi	77.95	35	⇑P	P	09 35 26.5	-0.2
	baz=78						
N12A	Clover Valley,	78.02	42	P	P	09 35 27.2	+0.1
	baz=78,SNR=11						
I09A	Lost Marbles R	78.08	38	⇑P	P	09 35 27.4	0.0
	baz=78						
C05A	Tolt Reservoir	78.09	33	⇓P	P	09 35 27.2	-0.3
	baz=78,SNR=6.7						
G08A	Pilot Rock	78.13	36	P	P	09 35 27.8	0.0
	baz=78,SNR=9.9						
A04A	Legoe Bay, Lum	78.21	32	⇑P	P	09 35 28.1	-0.1
	baz=78						
D06A	Cle Elum	78.23	34	⇓P	P	09 35 28.2	-0.1
	baz=78						
B05A	Bryant	78.24	32	⇓P	P	09 35 28.2	-0.1
	baz=78						
J10A	Berg Farm, Mel	78.35	39	⇓P	P	09 35 28.8	-0.2
	baz=78						
E07A	Sunnyside	78.39	35	P	P	09 35 28.8	-0.4
	baz=78,SNR=9.6						
M12A	Wells	78.40	41	P	P	09 35 29.3	+0.1
	baz=78,SNR=18						
HAWA	Hanford	78.47	35	eP	P	09 35 29.1	-0.5
	comp=Z,8.1nm,1.0s,mb4.4						
H09A	Durkee	78.52	37	⇓P	P	09 35 29.5	-0.3
	baz=79						
MDJ	Mudanjiang	78.52	323	P	P	09 35 30.9	+1.0
MDJ				AP	pP	09 35 56.6	+0.7
MDJ				XP	sP	09 36 07.8	+1.0
MDJ				PP	PP	09 38 30.1	+1.4
MDJ				S	S	09 45 20.6	+2.6
MDJ				SCS	ScS	09 45 41.7	0.0
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,145nm,6.6s						
MDJ				LR	LR		
	comp=N,148nm,37.0s						
MDJ				LR	LR		
	comp=E,188nm,35.3s						
MDJ				LR	LR		
	comp=Z,323nm,35.8s						
F08A	Pendleton	78.54	36	⇓P	P	09 35 29.4	-0.5
	baz=79						
N13A	Wendover, West	78.56	42	P	P	09 35 30.3	+0.2
	baz=79,SNR=8.5						
D07A	Quincy	78.70	34	⇓P	P	09 35 30.5	-0.4
	baz=79						
MSU	Marysvale	78.71	45	eP	P	09 35 31.7	+0.8
E08A	Dider Farm, El	78.79	35	⇑P	P	09 35 31.2	-0.1
	baz=79						
BMO	Blue Mountains	78.84	37	eP	P	09 35 30.9	-0.7
	comp=Z,5.1nm,1.0s,mb4.3						
M13A	Montello	78.85	42	P	P	09 35 31.9	+0.3
	baz=79,SNR=5.7						
C07A	Waterville	78.96	34	⇑P	P	09 35 31.3	-0.9
	baz=79						
F09A	S2 Ranch, Elgi	78.98	36	P	P	09 35 32.3	-0.1
	baz=79,SNR=5.1						
H10A	Noah's Angus R	79.02	38	P	P	09 35 31.9	-0.7
	baz=79,SNR=19						
PMR	Palmer	79.06	12	eP	P	09 35 31.8	-1.0
PMR				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.2						
PMR	Palmer	79.06	12	eP	P	09 35 31.8	-1.0
	comp=Z,41nm,1.0s,mb5.2						
I11A	Placerville	79.11	39	P	P	09 35 32.7	-0.4
	baz=79,SNR=12						
DUG	Dugway	79.13	43	eP	P	09 35 32.7	-0.5
DUG				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
DUG	Dugway	79.13	43	eP	P	09 35 32.6	-0.5
	comp=Z,11nm,0.9s,mb4.7						
DUG				epP	pP	09 35 59.8	+0.5
D08A	Wollman Farm,	79.20	35	P	P	09 35 33.2	-0.4
	baz=79,SNR=5.6						
E09A	Wood Farm, Sta	79.31	36	⇑P	P	09 35 33.4	-0.8
	baz=80						
DIV	Divide	79.36	14	eP	P	09 35 33.9	-0.5
	comp=Z,127nm,0.7s,mb5.9						
BGU	Big Grassy Mou	79.36	42	eP	P	09 35 34.0	-0.5
BGU				epP	pP	09 36 01.0	+0.5
B07A	Winthrop	79.39	33	⇓P	P	09 35 33.4	-1.2
	baz=80,SNR=6.9						
H11A	Donnelly	79.52	38	P	P	09 35 34.8	-0.5
	baz=80,SNR=7.4						
F10A	Beach Ranch, E	79.52	36	⇓P	P	09 35 34.1	-1.2
	baz=80,SNR=6.7						
D09A	Jones Farm, Ri	79.54	35	P	P	09 35 34.9	-0.5
	baz=80,SNR=7.4						
C08A	Higginbotham F	79.56	34	⇓P	P	09 35 35.3	-0.2
	baz=80						
B08A	Colville Reser	79.75	34	P	P	09 35 35.5	-1.1
	baz=80,SNR=5.9						
TMUT	Trail Mountain	79.75	45	eP	P	09 35 37.8	+1.2
TMUT				epP	pP	09 36 03.7	+1.0
MPU	Maple Canyon	79.82	44	eP	P	09 35 36.5	-0.5
E10A	Myers Farm, Un	79.88	36	⇑P	P	09 35 36.6	-0.6
	baz=80						
SPUT	South Promonto	79.93	42	eP	P	09 35 33.2	-4.4
HVU	Hansel Valley	79.96	42	eP	P	09 35 36.9	-0.8
HVU				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
HVU	Hansel Valley	79.96	42	eP	P	09 35 36.9	-0.8
	comp=Z,12nm,0.8s,mb4.8						
HVU				epP	pP	09 36 04.6	+0.8
C09A	Chrisman Ranch	79.99	34	⇑P	P	09 35 37.2	-0.6
	baz=80						
KLR	Kul'dur	80.05	327	eP	P	09 35 46.0	+7.9
CTU	Camp Tracy	80.08	43	eP	P	09 35 37.8	-0.5
F11A	Grangeville	80.09	37	⇑P	P	09 35 37.3	-1.1
	baz=80						
D10A	Wagner Farm, O	80.11	35	⇑P	P	09 35 37.6	-0.9
	baz=80						
H12A	Diamond D Ranc	80.12	39	P	P	09 35 38.1	-0.5
	baz=80,SNR=8.5						
SRU	San Rafael	80.13	45	eP	P	09 35 38.6	0.0
SRU				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
SRU	San Rafael	80.13	45	eP	P	09 35 38.6	0.0
	comp=Z,15nm,1.1s,mb4.7						
SRU				epP	pP	09 36 05.1	+0.4
A08A	Turner Farm, O	80.14	33	P	P	09 35 38.0	-0.6
	baz=80,SNR=7.6						
JLU	Jordanelle	80.23	43	eP	P	09 35 39.4	+0.3
DAU	Daniels Canyon	80.27	44	eP	P	09 35 39.8	+0.5
E11A	Bogner Ranch,	80.32	36	⇓P	P	09 35 38.3	-1.3
	baz=80						
B09A	Rice	80.42	34	⇑P	P	09 35 39.3	-0.

PV10 *e*pP pP 09 36 09.0 +0.6
NEW Newport 80.89 35 *e*P **P 09 35 41.5 -1.2**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 80.89 35 *e*P **P 09 35 41.5 -1.1**
comp=Z,3.0nm,0.8s,mb4.2
TXAR Lajitas Array 81.00 56 P **P 09 35 43.6 +0.4**
comp=Z,5.4nm,1.0s,mb4.3,baz=221,slow=4.8,SNR=27
PV01 Paradox Valley 81.02 47 *e*pP pP 09 36 10.1 +0.6
MCK McKinley 81.06 11 *e*P **P 09 35 42.5 -1.0**
MCK pmax pmax
comp=Z,31nm,0.9s,mb5.1
MCK McKinley 81.06 11 *e*P **P 09 35 42.5 -1.0**
comp=Z,31nm,0.9s,mb5.1
F13A Darby 81.10 38 P **P 09 35 43.1 -0.7**
baz=81,SNR=10
ANMO Albuquerque 81.14 50⇑*e*P **P 09 35 44.1 +0.1**
ANMO Albuquerque 81.14 50 *e*P **P 09 35 44.4 +0.4**
comp=Z,3.4nm,0.7s,mb4.3
MENT Mentasta 81.41 13 *e*P **P 09 35 44.9 -0.5**
MCMT McKenzie Canyo 81.48 39 *e*P **P 09 35 45.6 -0.2**
MCMT *e*pP pP 09 36 08.9 -3.1
E13A Victor 81.54 37⇓P **P 09 35 45.1 -1.0**
baz=82,SNR=11
GDL2 Guadalupe Moun 81.58 53 *e*P **P 09 35 46.6 +0.3**
GDL2 *e*pP pP 09 36 12.9 +0.3
RRI2 Red Ridge 81.68 41 *e*P **P 09 35 44.4 -2.4**
F14A Wisdom 81.69 38⇑P **P 09 35 46.8 -0.1**
baz=82
A11A Hall Mountain, 81.70 34⇑P **P 09 35 46.6 -0.3**
baz=82
D13A Huson 81.73 37 P **P 09 35 46.2 -0.9**
baz=82,SNR=8.8
B12A Libby 81.85 35⇑P **P 09 35 47.2 -0.5**
baz=82
G15A Dillon 81.88 39 P **P 09 35 47.6 -0.2**
baz=82,SNR=12
DCID1 Drake Creek 81.89 41 *e*P **P 09 35 48.5 +0.6**
MSO Missoula 81.89 37 *e*P **P 09 35 47.0 -1.0**
E14A Clinton 81.93 37 P **P 09 35 47.6 -0.6**
baz=82,SNR=12
BSMT Bassoo Peak 81.96 36 *e*P **P 09 35 48.5 +0.2**
BSMT *e*pP pP 09 36 18.0 +3.5
C13A Hot Springs 81.98 36⇓P **P 09 35 47.3 -1.1**
baz=82,SNR=5.9
REDW Red Top Meadow 81.98 41 *e*P **P 09 35 48.2 -0.2**
comp=Z,32nm,1.4s,mb5.0
REDW *e*pP pP 09 36 14.9 +0.3
SNOW Snow King Moun 82.09 41 *e*P **P 09 35 49.1 +0.1**
comp=Z,20nm,1.0s,mb4.9
SEY Seymchan 82.19 345⇑*e*P **P 09 35 49.4 -0.1**
F15A Butte 82.22 38⇓P **P 09 35 49.3 -0.4**
baz=82,SNR=5.5
MOOW Moose Ponds 82.24 41 *e*P **P 09 35 49.9 +0.1**
comp=Z,8.7nm,1.2s,mb4.5
D14A Greenough 82.28 37 P **P 09 35 48.6 -1.3**
baz=82,SNR=6.0
QIZ Qiongzhong 82.29 292 *e*P **P 09 35 49.6 -0.4**
QIZ XP sP 09 36 24.5 -2.6
QIZ S S 09 45 55.8 -1.6
QIZ XS sS 09 46 43.2 +0.8
QIZ SS SS 09 51 24.3 +4.7
QIZ AMB AMB
comp=Z,28nm,1.6s,mb4.8
QIZ LR LR
comp=E,116nm,37.0s
QIZ LR LR
comp=Z,170nm,33.6s
COLA College 82.29 11*d i*P **P 09 35 48.7 -1.3**
COLA College 82.29 11 *e*P **P 09 35 48.8 -1.2**
comp=Z,61nm,0.8s,mb5.5
CHMT Chamberlain Mo 82.33 37 *e*P **P 09 35 49.7 -0.6**
QLMT Earthquake Lak 82.35 40 *e*P **P 09 35 50.8 +0.4**
B13A Whitefish 82.42 35⇓P **P 09 35 49.9 -0.8**
baz=83
E15A Deer Lodge 82.44 38 P **P 09 35 50.4 -0.4**
baz=83,SNR=5.3
IMA2 Indian Mountai 82.47 8 *e*P **P 09 35 50.6 -0.3**
BW06 Boulder Array 82.52 42 *e*P **P 09 35 51.0 -0.3**
comp=Z,13nm,1.0s,mb4.7
PDAR Pinedale Array 82.52 42 P **P 09 35 50.9 -0.4**
comp=Z,7.4nm,0.8s,mb4.6,baz=216,slow=3.3,SNR=63
YMR Madison River 82.56 40 *e*P **P 09 35 51.9 +0.5**
comp=Z,53nm,1.6s,mb5.1
YMR *e*pP pP 09 36 19.2 +1.6
BOZ Bozeman (W) 82.64 39 *e*P **P 09 35 51.3 -0.6**
BOZ pmax pmax
comp=Z,21nm,1.5s,mb4.8
BOZ Bozeman (W) 82.64 39 *e*P **P 09 35 51.3 -0.5**
comp=Z,21nm,1.5s,mb4.7
D15A Lincoln 82.83 37 P **P 09 35 52.2 -0.6**
baz=83,SNR=7.8
SDCO Great Sand Dun 83.03 48 *e*P **P 09 35 53.7 -0.2**
comp=Z,12nm,1.2s,mb4.6
SDCO *e*pP pP 09 36 21.0 +0.9
WALA Waterton Lakes 83.10 35 *e*P **P 09 35 53.6 -0.6**
comp=Z,4.0nm,0.7s,mb4.4
DAWY Dawson 83.39 15 *e*P **P 09 35 55.4 -0.4**
EGAK Eagle 83.58 14 *e*P **P 09 35 55.9 -0.8**
comp=Z,32nm,1.3s,mb5.0
ISCO Idaho Springs 83.83 46 *e*P **P 09 35 57.9 0.0**
ISCO pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ISCO Idaho Springs 83.83 46 *e*P **P 09 35 57.9 0.0**
comp=Z,2.7nm,0.7s,mb4.2
ISCO *e*pP pP 09 36 24.5 +0.2
RLMT Red Lodge 83.83 40 *e*P **P 09 35 58.3 +0.3**
comp=Z,12nm,1.0s,mb4.7
BILL Bilibino 84.25 353*d i*P **P 09 35 59.4 -0.7**
BILL pmax pmax
comp=Z,28nm,1.0s,mb5.0
BILL Bilibino 84.25 353 *e*P **P 09 35 59.0 -1.1**
comp=Z,55nm,1.4s,mb5.2
AMTX Amarillo 84.70 52 *e*P **P 09 36 02.0 -0.3**
comp=Z,14nm,0.9s,mb4.9
AMTX *e*pP pP 09 36 25.0 -3.7
EGMT Eagleton 84.94 37 *e*P **P 09 36 03.2 -0.4**
comp=Z,13nm,1.1s,mb4.8
EDM Edmonton 85.64 32 *e*P **P 09 36 06.1 -0.9**
HIA Hailar 86.70 323 *e*P **P 09 36 12.4 +0.2**
HIA pmax pmax
comp=Z,7.0nm,0.8s
HIA Hailar 86.70 323 *e*P **P 09 36 12.3 +0.1**
comp=Z,7.1nm,0.8s,mb4.7
RSSD Black Hills 86.72 43 *e*P **P 09 36 10.9 -1.5**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
RSSD Black Hills 86.72 43 *e*P **P 09 36 10.9 -1.5**
comp=Z,2.1nm,0.6s,mb4.2
GYA Guiyang 87.44 298⇑*i*P **P 09 36 18.7 +2.9**
GYA AP pP 09 36 45.0 +2.7
GYA XP sP 09 36 56.2 +3.1
GYA PP PP 09 39 45.6 +4.0
GYA SKS 09 46 32.8
GYA S S 09 46 48.0 -0.3
GYA XS sS 09 47 36.0 +2.2
GYA SS SS 09 52 38.7 +3.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,110nm,5.4s
GYA LR LR
comp=N,340nm,19.4s
GYA LR LR
comp=E,450nm,19.8s
GYA LR LR
comp=Z,410nm,20.4s
MAW Mawson 87.78 199 P **P 09 36 18.2 +0.7**
comp=Z,7.1nm,0.6s,mb4.9,baz=130,slow=8.6,SNR=22
MAW LR LR 10 10 35.9
comp=Z,137nm,20.7s,baz=72,slow=32
CLNS Chul'man 87.79 331 *e*P **P 09 36 15.4 -2.1**
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,19nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,10.0nm,1.0s
XAN Xi'an 88.05 306 P **P 09 36 20.0 +1.3**
XAN AMB AMB
comp=Z,7.0nm,0.9s,mb4.7
INK Inuvik 88.23 14 LR LR 10 07 27.8
comp=Z,108nm,21.4s,baz=32,slow=30
INK Inuvik 88.23 14 *e*P **P 09 36 18.6 -1.0**
comp=Z,819nm,1.1s
HHC Hu-ho-hao-te 88.47 313 *e*P **P 09 36 22.6 +1.9**

HHC AP pP 09 36 48.6 +1.3
HHC XP sP 09 36 58.7 +0.7
HHC S S 09 46 58.6 +0.5
HHC XS sS 09 47 43.8 +0.1
HHC AMB AMB
comp=Z,21nm,0.8s,mb5.2
HHC AMB AMB
comp=Z,119nm,5.6s
HHC LR LR
comp=N,488nm,22.6s
HHC LR LR
comp=E,3μm,22.6s
HHC LR LR
comp=Z,183nm,19.0s
YAK Yakutsk 88.71 337⇑*e*P **P 09 36 20.0 -1.9**
YAK pmax pmax
comp=Z,46nm,1.2s,mb5.4
YAK Yakutsk 88.71 337 *e*P **P 09 36 20.2 -1.7**
comp=Z,25nm,0.8s,mb5.3
YKA Yellowknife Ar 90.17 24 P **P 09 36 27.8 -0.8**
comp=Z,9.4nm,1.0s,mb4.9,baz=238,slow=4.3,SNR=35
YKA LR LR 10 10 58.2
comp=Z,82nm,21.7s,baz=150,slow=32
YKA Yellowknife Ar 90.17 24 P **P 09 36 27.8 -0.8**
YKA LR LR 10 10 58.2
YKW3 Yellowknife Ar 90.20 23 *e*P **P 09 36 28.0 -0.8**
KMI Kunming 90.42 296 P **P 09 36 32.3 +2.5**
KMI AP pP 09 36 57.2 +0.8
KMI XP sP 09 37 05.2 -2.0
KMI SKS 09 46 52.6
KMI S S 09 47 15.6 -0.6
KMI SS SS 09 53 19.7 +1.1
KMI AMB AMB
comp=Z,16nm,0.8s,mb5.2
KMI AMB AMB
comp=Z,105nm,4.3s
KMI LR LR
comp=N,179nm,10.6s
KMI LR LR
comp=E,172nm,11.2s
KMI LR LR
comp=Z,222nm,14.8s
CD2 Chengdu 91.21 302 *e*P **P 09 36 33.2 -0.3**
CD2 AP pP 09 37 00.2 +0.1
CD2 XP sP 09 37 11.2 +0.3
CD2 PP PP 09 40 14.0 +2.3
CD2 SKS 09 46 54.0
CD2 S S 09 47 20.0 -3.4
CD2 XS sS 09 48 08.0 -1.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,30nm,5.8s
CIT Chita 91.44 324 *e*P **P 09 36 35.2 +0.7**
CIT pmax pmax
comp=Z,45nm,1.7s,mb5.3
JTS JuntasAbangare 91.76 80 *e*P **P 09 36 36.6 +0.6**
CHTO Chiang Mai 92.09 289 *e*P **P 09 36 39.2 +1.6**
CHTO pmax pmax
comp=Z,15nm,0.8s,mb5.3
CHTO Chiang Mai 92.09 289 *e*P **P 09 36 39.2 +1.6**
comp=Z,15nm,0.8s,mb5.3
LZH Lanzhou 92.64 307 *e*P **P 09 36 43.0 +2.9**
LZH AP pP 09 37 10.6 +3.8
LZH PP PP 09 40 28.0 +5.0
LZH SKS 09 47 06.0
LZH *e*S S 09 47 38.0 +1.8
LZH SS SS 09 53 54.0 +3.4
LZH AMB AMB
comp=Z,24nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,260nm,6.0s
SYO Syowa Base 92.66 192⇓*e*P **P 09 36 39.0 -1.2**
SYO Syowa Base 92.66 192⇓*e*pP pP 09 37 05.6 -1.2
VNA3 Neumayer Olymp 93.09 175⇓*i*P **P 09 36 42.1 -0.1**
VNA3 *e* 09 36 45.7
VNA3 *e* pP 09 37 05.0 -3.8
VNA3 *e* pP 09 37 08.6 -0.2
VNA3 *e* 09 37 18.1
VNA3 *e* 09 37 22.5
SNAA Sanae 93.12 177 *e*P **P 09 36 41.6 -0.7**
SNAA pmax pmax
comp=Z,4.0nm,1.1s
SNAA Sanae 93.12 177 *e*P **P 09 36 41.6 -0.7**
comp=Z,4.4nm,1.1s,mb4.7
SNAA *e*pP pP 09 37 07.7 -1.3
VNA2 Neumayer--Watz 93.58 176⇑*i*P **P 09 36 43.8 -0.6**
VNA2 *e* 09 36 48.2
VNA2 *e* pP 09 37 07.1 -4.0
VNA2 *e* pP 09 37 11.2 +0.1
VNA2 *e* 09 37 21.2
VNA2 *e* 09 37 25.5
VNA1 Neumayer--Stat 93.78 175⇓*i*P **P 09 36 45.9 +0.5**
VNA1 *e* 09 36 49.4
VNA1 *e* pP 09 37 08.7 -3.3
VNA1 *e* pP 09 37 12.3 +0.3
VNA1 *e* 09 37 22.6
VNA1 *e* 09 37 27.4
ULN Ulaanbaatar 93.91 319⇑*e*P **P 09 36 45.8 -0.1**
ULM Lac du Bonnet 94.16 39 P **P 09 36 44.6 -2.5**
comp=Z,3.9nm,0.9s,mb4.7,baz=126,slow=3.5,SNR=3.8
ULM LR LR 10 12 06.7
comp=Z,117nm,18.9s,baz=24,slow=31
SONM Songino Array 94.32 318 P **P 09 36 49.1 +1.3**
comp=Z,1.1nm,0.7s,mb4.3,baz=108,slow=3.4,SNR=7.9
SONM PP PP 09 40 37.5 +1.4
comp=Z,0.8nm,0.9s,baz=131,slow=6.1,SNR=3.7
SONM LR LR 10 11 55.6
comp=Z,174nm,20.7s,baz=141,slow=31
SONM Songino Array 94.32 318 P **P 09 36 49.1 +1.3**
SONM 09 40 37.5
TIXI Tiksi 94.67 345⇑*e*P **P 09 36 48.0 -1.4**
TIXI pmax pmax
comp=Z,11nm,1.2s,mb5.2
TIXI Tiksi 94.67 345 *e*P **P 09 36 48.2 -1.2**
comp=Z,8.0nm,0.8s,mb5.2
PLAL Pickwick Lake 95.32 55 P **P 09 36 55.3 +2.9**
comp=Z,14nm,0.9s,mb5.4
TLY Talaya 97.13 322 *e*P **P 09 37 00.0 -0.6**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
MKAR Makanchi Array 110.28 315 Pdiff Pdif 09 38 00.0 +0.9
comp=Z,0.3nm,0.7s,baz=50,slow=7.7,SNR=2.5
KURK Kurchatov 112.62 319⇑*i*PKIKP PKiKP 09 42 03.2 -1.1
AAK Ala-Archa 115.92 310 *i*PKIKP PKPdf 09 42 07.3 -3.3
SOKR Solikamsk 122.35 332 *e*PKIKP PKPdf 09 42 22.6 -0.3
SOKR pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 122.88 328 *i*PKIKP PKPdf 09 42 23.2 -0.8
ARU *e* 09 44 00.1
ARU *e* 09 49 12.4
ARU Arti 122.88 328 *e*PKPdf PKPdf 09 42 23.0 -1.0
ARCES ARCESS Array B 124.35 352 PKP PKPdf 09 42 25.8 -1.0
comp=Z,5.6nm,0.7s,baz=22,slow=1.3,SNR=38
AKTK Aktyubinsk 125.48 322 PKP PKPdf 09 42 28.0 -0.9
AKTO Aktyubinsk 125.48 322 PKP PKPdf 09 42 28.0 -0.9
comp=Z,3.1nm,0.7s,baz=64,slow=3.0,SNR=17
KAF Kangasniemi 130.99 348 *ep* PKPdf 09 42 36.2 -3.2
comp=Z,4.5nm,0.6s
FINES FINESS Array B 131.64 347 PKP PKPdf 09 42 39.7 -0.9
comp=Z,1.6nm,0.5s,baz=28,slow=3.0,SNR=12
FINES FINESS Array B 131.64 347 PKP PKPdf 09 42 39.7 -0.9
MOS Moscow 132.84 336 *e*PKIKP PKPdf 09 42 44.6 +1.7
OBN Obninsk 133.71 336 *i*PKIKP PKPdf 09 42 43.6 -1.0
OBN pmax pmax
comp=Z,3.0nm,0.6s
OBN MLR MLR
comp=Z,200nm,20.0s
NB2 NORSAR Subarra134.09 356 PKPdf PKPdf 09 42 42.3 -3.0
comp=Z,3.3nm,0.8s,baz=6.6,slow=1.8
NOA NORSAR Array B 134.09 356 PKP PKPdf 09 42 44.1 -1.2
comp=Z,1.9nm,0.8s,baz=14,slow=3.9,SNR=3.9
VRHR Novokhopersk 134.20 329 *e*PKIKP PKPdf 09 42 49.5 +4.0
VRHR pmax pmax
comp=Z,9.0nm,0.4s
VRHR pmax pmax
comp=E,1.0nm,0.2s
HFS Hagfors 134.80 355 PKP PKPdf 09 42 45.3 -1.4
comp=E,4.9nm,0.9s,baz=286,slow=6.0,SNR=4.3
GNI Garni 138.12 314 PKP PKPdf 09 42 53.9 +1.1
comp=E,3.4nm,0.5s,baz=281,slow=9.3,SNR=3.2
AKASG Malin Array Be 139.94 337 PKhKP 09 42 45.7
comp=E,0.3nm,0.3s,baz=41,slow=3.8,SNR=6.4
AKASG PKP PKPdf 09 42 53.6 -2.5
comp=E,2.5nm,0.6s,baz=38,slow=3.2,SNR=8.9
AKASG Malin Array Be 139.94 337 PKP 09 42 45.7
AKASG PKP PKPdf 09 42 53.6 -2.5
LVV L'vov 142.50 341 *e*PKIKP PKPdf 09 43 01.5 +0.8
KWP Kalwaria 143.07 342 *e*PKP PKPdf 09 42 59.0 -2.7
CLZ Clausthal 143.30 355 *e*PKPbc PKPdf 09 42 59.1 -3.0
MALT Malatya 143.32 315⇓*i*P PKPdf 09 43 01.5 -0.6
OJC Ojcow 143.34 345 *e*PKP PKPdf 09 42 59.3 -2.9
KSP Ksiaz 143.50 349 *e*PKP PKPdf 09 43 01.0 -1.5
KSP Ksiaz 143.50 349 *e*PKP PKPdf 09 43 00.1 -2.4
CLL Collm 143.56 353 *e*PKPbc PKPdf 09 42 59.7 -2.9
CLL Collm 143.56 353⇑*i*PKPdf PKPdf 09 42 59.6 -3.0
comp=Z,19nm,0.8s
CLL *i* PKiKP PKiKP 09 43 02.5 -3.5
STHS Stebnicka Huta 143.69 343 *i* PKP PKPdf 09 43 00.9 -1.9
KOLS Kolonicke sedl 143.82 342 *e*PKP PKPdf 09 43 00.7 -2.3
BRG Berggiesshubel 143.86 351 *e*PKP 09 42 49.4
comp=Z,5.4nm,0.2s
BRG Berggiesshubel 143.86 351 *e*PKP 09 42 49.4
UPC Upice 143.88 349 *e*PKP PKPdf 09 43 01.2 -1.9
FBE Freiberg 143.90 352 *e*PKPbc PKPdf 09 43 00.9 -2.2
NIE Niedzica 143.94 344 *e*PKPc PKPdf 09 43 01.8 -1.4
TSUM Tsumeb 143.94 199 *e*PKPdf PKPdf 09 43 02.3 -1.0
DPC Dobruska-Polom 143.97 349 *e*PKP PKPdf 09 43 01.8 -1.5
BURAR Bucovina Array 143.98 338⇑*i*P PKPdf 09 43 01.8 -1.5
OKC Ostrava-Krasne 144.08 347 *e*PKP PKPdf 09 43 01.6 -1.9
UZH Uzhgorod 144.08 341⇓*i*PKIKP PKPdf 09 43 01.8 -1.7
CRVS Cervenica-Dubn 144.09 343 *e*PKP PKPdf 09 43 01.6 -1.9
MORC Moravsky Berou 144.27 347 *e*PKIKP PKPdf 09 43 02.6 -1.2
MOX Moxa 144.37 354 *e*PKPbc PKPdf 09 43 02.8 -1.2
MOX Moxa 144.37 354 *e*PKP PKPdf 09 43 02.7 -1.3
comp=Z,49nm,1.7s
MOX *e* 09 43 07.4
UCC Uccle 144.49 2 PKP PKPdf 09 43 03.0 -1.2
WERD Werda 144.49 353 *e*PKPbc PKPdf 09 43 03.2 -1.0
HGN Heimansgroeve 144.55 0 *e*PKP PKPdf 09 43 02.2 -2.1
comp=Z,48nm,1.7s
GUNZ Gunzen 144.57 353 *e*PKPbc PKPdf 09 43 03.9 -0.4
PRU Pruhonice 144.63 350 *e*PKP PKPdf 09 43 03.3 -1.1
WERN Wernitzgruen 144.64 353 *e*PKPbc PKPdf 09 43 04.0 -0.4
MEM Membach 144.70 360 PKP PKPdf 09 43 03.7 -1.1
KECS Kecovo 144.75 343 *i*PKIKP PKPdf 09 43 04.2 -0.4
KECS Kecovo 144.75 343 *i* PKP PKPdf 09 43 04.1 -0.5
SNF Seneffe 144.77 2 PKP PKPdf 09 43 03.6 -1.1
VRI Vrincioaia 144.83 335⇑*i*P PKPdf 09 43 04.3 -0.5
PLOR Plostina 144.88 335⇑PKIKP PKPdf 09 43 05.0 +0.1
PLOR Plostina 144.88 335⇑*i*P PKPdf 09 43 04.9 +0.1
BCLA Clavier 144.89 1 PKP PKPdf 09 43 03.9 -1.0
VRAC Vranov 144.91 348 PKP PKPdf 09 43 04.6 -0.3
comp=Z,45nm,1.0s,baz=7.4,slow=2.4,SNR=31
VRAC Vranov 144.91 348⇑*i*P PKPdf 09 43 04.7 -0.2
MANZ Manzenberg 144.97 353 *e*PKPbc PKPdf 09 43 04.6 -0.4
TNS Taunus Mts 145.03 357 *e*PKPbc PKPbc 09 43 04.8 +0.1
KMBO Kilima Mbogo 145.08 245 PKPbc PKPbc 09 43 07.0 +2.1
comp=Z,19nm,0.9s,baz=56,slow=5.9,SNR=22
KMBO Kilima Mbogo 145.08 245 *e*PKPbc PKPbc 09 43 07.0 +2.1
VYHS Vyhne 145.17 345 *i* PKP PKPdf 09 43 05.6 +0.2
ROTZ Rotzenmuhle 145.17 353 *e*PKPbc PKPbc 09 43 05.2 0.0
GIVF Givet 145.19 1⇓*i*PKP1 PKPbc 09 43 04.9 -0.3
comp=Z,87nm,0.9s
DOU Dourbes 145.20 2 PKP PKPdf 09 43 05.0 -0.4
TIRR Tirgusor 145.20 331 *e*PKPbc PKPbc 09 43 05.7 +0.5
TIRR Tirgusor 145.20 331⇑*i*P PKPbc 09 43 05.8 +0.6
BAIF Baives 145.22 2⇓*i*PKP1 PKPbc 09 43 05.3 0.0
comp=Z,179nm,1.0s
GRA1 Grafenberg Arr 145.35 354 *e*PKPbc PKPbc 09 43 06.0 +0.3
GRF Grafenberg Arr 145.35 354 *e*PKPbc PKPbc 09 43 06.0 +0.3
GRO Grafenberg 145.36 354 *e*PKIKP PKPdf 09 43 06.5 +0.8
ABH Altleburg 145.41 358 PKP PKPdf 09 43 05.7 -0.1
PSZ Piszkesteto 145.42 343 *e*PKIKP PKPdf 09 43 06.1 +0.3
PSZ Piszkesteto 145.42 343⇓*i*P PKPdf 09 43 07.1 +1.3
PSZ Piszkesteto 145.42 343⇓*e*PKP PKPdf 09 43 06.2 +0.4
MLR Muntele Rosu 145.46 335 PKPbc PKPbc 09 43 06.1 0.0
comp=Z,40nm,0.7s,baz=218,slow=1.7,SNR=80
MLR Muntele Rosu 145.46 335⇓P PKPdf 09 43 06.1 +0.2
MLR Muntele Rosu 145.46 335⇓*i*P PKPdf 09 43 06.1 +0.2
SMOL Smolenice 145.49 347 *e*PKP PKPdf 09 43 07.3 +1.4
DRGR 145.57 340⇓*i*P PKPdf 09 43 06.6 +0.6
RUP Ruppelstein 145.60 359 PKIKP PKPdf 09 43 06.8 +0.7
KHC Kasperske Hory 145.61 351 *e*PKP PKPdf 09 43 06.5 +0.4
KHC *ex* x 09 43 26.5
KHC pPKP pPKPdf 09 43 39.0 +5.1
KHC *ex* x 09 44 03.0
KHC Kasperske Hory 145.61 351 *e*PKIKP PKPdf 09 43 06.5 +0.4
KHC *e* 09 43 26.5
KHC Kasperske Hory 145.61 351 *e*PKP PKPdf 09 43 06.5 +0.4
KHC *e* 09 43 26.5
KHC *e* 09 43 39.0
KHC *e* 09 44 03.0
TOD Tromm 145.63 357 PKIKP PKPdf 09 43 05.9 -0.2
BR131 Keskin Array S 145.65 321 *e*PKPdf PKPdf 09 43 06.3 +0.1
BRTR Keskin Array B 145.65 321 PKPbc PKPbc 09 43 07.0 +0.4
comp=Z,27nm,0.7s,baz=103,slow=2.4,SNR=102
WLF Walferdange 145.65 360 *e*PKPbc PKPbc 09 43 07.0 +0.4
WLF Walferdange 145.65 360 PKP PKPdf 09 43 07.2 +1.1
WLF Walferdange 145.65 360 *e*PKPbc PKPbc 09 43 07.2 +0.5
WET Wettzell 145.70 352 *e*PKPbc PKPbc 09 43 07.3 +0.5
ZST Bratislava 145.86 347 *e*PKP PKPbc 09 43 08.1 +0.8
GEC2 GERESS Array S 145.87 351 *e*PKPbc PKPbc 09 43 07.1 -0.2
GERES GERESS Array B 145.87 351 PKPbc PKPbc 09 43 07.3 0.0
comp=Z,22nm,0.8s,baz=29,slow=3.0,SNR=117
PSN Preselentsi 145.90 331 *e*P PKPdf 09 43 08.0 +1.4
KTD Kalmit 145.95 358 PKP2 PKPab 09 43 07.9 -0.3
BUD Budapest 146.06 344⇓*e*PKP PKPdf 09 43 07.8 +0.9
ANTO Ankara 146.07 322 *e*PKPbc PKPbc 09 43 08.2 +0.3
ANTO Ankara 146.07 322⇓*i*P PKPbc 09 43 08.4 +0.5
ROSF Rostrenen 146.10 11⇓*i*PKP1 PKPbc 09 43 07.5 -0.5
comp=Z,60nm,0.9s
FLN La Foliniere 146.13 8⇓*i*PKP1 PKPbc 09 43 07.5 -0.6
comp=Z,226nm,1.2s
FLN *e*MLR
comp=Z,341nm,17.0s
FLN La Foliniere 146.13 8⇓*i*PKP PKPdf 09 43 07.5 +0.5
FLN LR LR
comp=Z,340nm,17.0s
LANF Langenberg 146.30 358 PKP PKPbc 09 43 08.7 +0.1
SGMF Saint Gilles 146.31 10⇓*i*PKP1 PKPbc 09 43 08.1 -0.5
comp=Z,183nm,0.9s
LDF La Druitiere 146.34 7⇓*i*PKP1 PKPbc 09 43 08.1 -0.6
comp=Z,120nm,1.1s
CONA Conrad Observa 146.38 348⇓*i*PKPab PKPab 09 43 09.4 -0.4
comp=Z,32nm,0.9s,SNR=18
GRR Gorron 146.44 8⇓*i*PKP1 PKPbc 09 43 08.8 -0.2
comp=Z,175nm,0.9s
SOP Sopron 146.46 347⇓*e*PKP PKPbc 09 43 09.8 +0.7
QUIF Quistinic 146.53 11⇓*i*PKP1 PKPbc 09 43 08.6 -0.7
comp=Z,102nm,0.9s
MOA Molln 146.75 350 *i* P PKPbc 09 43 10.2 +0.3
comp=Z,53nm,1.0s,SNR=14
GZR Gura Zlata 146.76 338⇓*i*P PKPbc 09 43 10.0 +0.1
MEZF Maizieres J'vi 146.80 1⇓*i*PKP1 PKPbc 09 43 10.3 +0.2
comp=Z,82nm,0.9s
FUR Furstenfeldbru 146.86 354 *e*PKPbc PKPbc 09 43 10.6 +0.4
CDF Champ du Feu 146.88 358⇓*i*PKP1 PKPbc 09 43 10.4 +0.1
comp=Z,123nm,1.0s
BFO Black Forest 146.93 357 *e*PKPbc PKPbc 09 43 10.4 0.0
BZS Buzias 146.96 340⇓*i*P PKPbc 09 43 10.9 +0.4
ECH Echery 147.08 359 PKP PKPbc 09 43 10.5 -0.3
THEF They Montfort 147.09 0 PKP PKPbc 09 43 10.9 0.0
ARSA Arzberg 147.09 348 *i* P PKPbc 09 43 10.9 0.0
comp=Z,37nm,1.2s,SNR=11
HAU Haudompre 147.31 360⇓*i*PKP1 PKPbc 09 43 11.6 +0.1
comp=Z,82nm,0.7s
HAU *e*MLR
comp=Z,270nm,17.8s
HAU Haudompre 147.31 360⇓*i*PKP PKPbc 09 43 11.6 +0.1
HAU LR LR
comp=Z,270nm,17.8s
PKSM Moragy 147.33 344⇓*i*P PKPdf 09 43 09.4 +0.4
FELD Feldberg im Sc 147.39 357⇓*e*P PKPbc 09 43 11.8 +0.1
MOF Molkenrain 147.45 359 PKP PKPbc 09 43 11.5 -0.4
HINF Hinteralfeld 147.49 359⇓*i*PKP1 PKPbc 09 43 11.7 -0.3
comp=Z,22nm,0.7s
KBA Koelnbreinsper 147.65 351 *i* P PKPbc 09 43 12.0 -0.4
comp=Z,42nm,1.1s,SNR=9.6
MOTA Moosalm 147.69 353 *i* P PKPbc 09 43 12.6 +0.1
comp=Z,37nm,1.0s,SNR=12
WTTA Wattenberg 147.71 353 *i* P PKPbc 09 43 12.9 +0.3
comp=Z,46nm,0.8s,SNR=12
PERS Pernice 147.76 348 *i* PKPbc PKPbc 09 43 12.3 -0.4
SQTA Sankt Quirin 147.80 353⇓*i*P PKPbc 09 43 13.1 +0.3
comp=Z,29nm,1.0s
DAVA Damuels 147.86 355⇓*i*P PKPbc 09 43 13.4 +0.4

comp=Z,61nm,0.9s
HYF Humbligny 147.92 4⇓iPKP1 PKPbc 09 43 13.5 +0.4
LOMF Lomont 147.96 359 PKP PKPbc 09 43 13.5 +0.3
LOR Lormes 148.00 3⇓iPKP1 PKPbc 09 43 13.5 +0.2
comp=Z,84nm,0.8s
LOR eMLR
comp=Z,205nm,17.4s
LOR Lormes 148.00 3⇓iPKP PKPbc 09 43 13.5 +0.2
LOR LR LR
comp=Z,200nm,17.4s
MMAI Mount Meron Ar 148.00 309 PKPbc PKPbc 09 43 14.3 +0.9
comp=Z,16nm,0.7s,baz=57,slow=3.1,SNR=12
LCHF La Chataignera 148.14 9 PKP PKPbc 09 43 13.6 -0.1
SSF Saint Saulge 148.18 3⇓iPKP1 PKPbc 09 43 14.1 +0.3
comp=Z,110nm,0.9s
MFF Saint Martin d 148.29 8⇓iPKP1 PKPbc 09 43 14.0 -0.1
comp=Z,114nm,1.0s
LEGS Legarje 148.38 348 ePKPbc PKPbc 09 43 14.2 -0.2
LJU Ljubljana 148.44 349 iPKPbc PKPbc 09 43 14.4 -0.1
LJU e 09 43 45.7
AVF Avril sur Loir 148.45 3⇓iPKP1 PKPbc 09 43 14.4 -0.1
comp=Z,83nm,0.9s
VOY Vojsko 148.57 349 ePKPbc PKPbc 09 43 14.2 -0.6
SMF Signal de Mont 148.62 3⇓iPKP1 PKPbc 09 43 14.8 -0.1
comp=Z,131nm,1.1s
BGF Bois d'Agland 148.65 4⇓iPKP1 PKPbc 09 43 15.2 +0.2
comp=Z,197nm,1.0s
CABF La Chapelle 148.70 360⇓iPKP1 PKPbc 09 43 16.0 +0.8
comp=Z,190nm,1.0s
KDZ Kurdzhali 148.76 331 ePKPbc 09 43 15.0 -0.3
GRUS Gruza 148.79 339⇓iPKP PKPbc 09 43 15.1 -0.2
BOJS Bojanci 148.82 347 ePKPbc PKPbc 09 43 15.5 +0.1
BOJS e 09 43 46.6
DIVS Divcibare 148.84 340⇓iPKP PKPbc 09 43 15.7 +0.2
TCF Toulx Ste Croi 148.86 5⇓iPKP1 PKPbc 09 43 15.4 -0.2
comp=Z,62nm,1.0s
VTS Vitosha 148.96 335 ePKPbc 09 43 15.0 -0.8
VTS Vitosha 148.96 335⇓iPKP PKPbc 09 43 16.5 +0.7
AGO Saint Agoulin 149.17 4 PKP PKPbc 09 43 16.4 +0.1
BBLS Bajina Basta - 149.24 341⇓iPKP PKPbc 09 43 17.5 +1.0
OG05 Jujurieux 149.27 1 PKP PKPbc 09 43 17.1 +0.5
PLDF La Plantade 149.28 3 PKP PKPbc 09 43 17.2 +0.6
BARS Barje 149.32 337⇓iPKP PKPbc 09 43 17.4 +0.7
MMB Musomiste 149.57 333 ePKPbc 09 43 15.0 -2.3
RSL Roselend 149.62 359 PKP PKPbc 09 43 18.1 +0.7
RJF Les Rejaudoux 149.77 6⇓iPKP1 PKPbc 09 43 17.8 0.0
comp=Z,208nm,1.4s
RJF eMLR
comp=Z,321nm,17.0s
RJF Les Rejaudoux 149.77 6⇓iPKP PKPbc 09 43 17.8 0.0
RJF LR LR
comp=Z,320nm,17.0s
LPL La Plagne 149.79 359⇓iPKP1 PKPbc 09 43 19.1 +1.2
comp=Z,71nm,0.9s
LPG La Plagne 149.81 359⇓iPKP1 PKPbc 09 43 19.2 +1.3
comp=Z,78nm,0.8s
LBL Lubilhac 149.99 4 PKP PKPbc 09 43 19.4 +1.1
LFF La Frestale 150.04 7⇓iPKP1 PKPbc 09 43 18.7 +0.2
comp=Z,191nm,1.0s
GRN Grenoble 150.07 0 PKP PKPbc 09 43 19.5 +1.0
GDM Grand'Maison 150.11 360 PKP PKPbc 09 43 19.6 +1.0
STIP Stip 150.13 335 ePKP PKPbc 09 43 17.9 -0.7
STIP Stip 150.13 335 ePKP PKPbc 09 43 17.9 -0.7
CAF Calviac 150.20 6⇓iPKP1 PKPbc 09 43 19.1 +0.2
comp=Z,90nm,1.1s
BNI Bardonecchia 150.26 359 ePKIKP PKPbc 09 43 20.2 +1.2
ORIF Oris-en-Rattie 150.40 0⇓iPKP1 PKPbc 09 43 20.0 +0.7
comp=Z,45nm,0.9s
ORIF eMLR
comp=Z,235nm,20.8s
VIVF Saint-Julien-l 150.44 2⇓iPKP1 PKPbc 09 43 20.0 +0.6
comp=Z,132nm,1.2s
MBDF Montbardon 150.58 359⇓iPKP1 PKPbc 09 43 20.5 +0.8
comp=Z,37nm,0.8s
KRUS Krusevo 150.78 336 ePKP PKPbc 09 43 19.8 -0.4
KRUS Krusevo 150.78 336 ePKP PKPbc 09 43 19.8 -0.4
ELOB Lobios 150.80 22 PKP PKPbc 09 43 19.4 -0.9
SURF Saint Ours 150.82 359 PKP PKPbc 09 43 21.5 +1.2
OG25 Le Caire 150.94 360 PKP PKPbc 09 43 21.0 +0.4
PCAB Cabril 150.95 22 ePKPbc PKPbc 09 43 21.2 +0.6
PCAB Cabril 150.95 22 ePKPab PKPab 09 43 27.5 -0.8
BIA Bitola 151.05 336 ePKP PKPbc 09 43 20.2 -0.7
BIA Bitola 151.05 336 ePKP PKPbc 09 43 20.2 -0.7
OHR Ohrid 151.17 336 ePKP PKPbc 09 43 20.6 -0.5
OHR Ohrid 151.17 336 ePKP PKPbc 09 43 20.6 -0.5
LASF Ste Croix 151.18 3⇓iPKP1 PKPbc 09 43 21.9 +0.7
comp=Z,126nm,1.0s
TOUF Mont Tournerai 151.28 358 PKP PKPbc 09 43 21.3 -0.1
AUTN L'Aution 151.29 358 PKP PKPbc 09 43 21.5 +0.1
SAOF Saorge 151.30 358 PKP PKPbc 09 43 21.3 -0.1
PBRG Braganca 151.31 20 ePKPdf PKPdf 09 43 17.3 +1.9
PBRG Braganca 151.31 20 ePKPbc PKPbc 09 43 21.8 +0.3
PBRG Braganca 151.31 20 ePKPab PKPab 09 43 30.3 +0.4
SMRF Simiane la Rot 151.34 1⇓iPKP1 PKPbc 09 43 22.5 +1.0
comp=Z,130nm,1.2s
SBF Sospel 151.42 358 ePKP1 PKPbc 09 43 21.5 -0.2
comp=Z,87nm,1.1s
PVRL Vila Real 151.44 22 ePKPbc PKPbc 09 43 22.1 +0.3
PRAF Pradon 151.50 1 PKP PKPbc 09 43 23.2 +1.3
SJPF Ste Jean 151.52 11⇓iPKP1 PKPbc 09 43 22.1 +0.2
comp=Z,55nm,1.0s
FRF La Foret Royal 151.75 359⇓iPKP1 PKPbc 09 43 22.4 -0.1
comp=Z,86nm,1.3s
PUYF Puyloubier 151.78 0 PKP PKPbc 09 43 23.2 +0.7
MTLF Montolieu 151.79 6⇓iPKP1 PKPbc 09 43 22.9 +0.4
comp=Z,33nm,1.0s
ETSF Etsaut 151.85 10⇓iPKP1 PKPbc 09 43 23.4 +0.7
comp=Z,80nm,0.9s
EPF Esparros 151.86 9⇓iPKP1 PKPbc 09 43 22.8 +0.1
comp=Z,15nm,0.7s
PVIS Viseu 151.87 23 ePKPbc PKPbc 09 43 22.9 +0.2
PVIS Viseu 151.87 23 ePKPab PKPab 09 43 32.6 +0.4
GELF Grande-Etoile 151.93 1 PKP PKPbc 09 43 23.8 +0.9
LMR La Mourre 151.98 359⇓iPKP1 PKPbc 09 43 23.0 0.0
comp=Z,81nm,1.2s
PGF Pioggiola 152.64 355 ePKP1 PKPbc 09 43 24.4 -0.1
PCBR Castelo Branco 152.79 23 ePKPbc PKPbc 09 43 25.0 +0.2
PESTR Estremoz 153.58 24 ePKPab PKPab 09 43 39.4 0.0
ESDC Sonseca Array 154.12 18 PKP PKPdf 09 43 19.6 +0.2
comp=Z,0.3nm,0.3s,baz=291,slow=1.4,SNR=4.5
ESDC PKPbc PKPbc 09 43 27.5 -0.2
comp=Z,4.5nm,0.7s,baz=338,slow=2.1,SNR=16
ESDC PKPab PKPab 09 43 41.2 -0.5
comp=Z,6.3nm,0.8s,baz=332,slow=3.7,SNR=12
ESLA Sonseca Array 154.12 18 ePKPab PKPab 09 43 41.6 -0.1
LIC Lamto 165.97 128 ePKIKP PKPdf 09 43 31.7 -1.0
comp=Z,12nm,0.9s
LIC eMLR
comp=Z,122nm,23.0s
TORD Torodi Ar. Bea 175.35 116 PKP PKPdf 09 43 37.0 -0.7
comp=Z,2.0nm,1.1s,baz=287,slow=1.9,SNR=7.5

IDC 01 09:42:59.7±5.2, 5216N×3595E, h0km, mb1 3.8/3, mb1mx3.4/20, mbtmp3.8/3, ML3.1/4, Error ellipse: s-maj=64.5km s-min=15.4km az=125.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.45**	**254**	Pn	Pn	09 44 07.5	-0.9
	1.0nm,0.3s,baz=52,slow=12,SNR=3.5						
AKASG				Pg	Pg	09 44 16.9	-8.1
	2.2nm,0.3s,baz=59,slow=15,SNR=7.9						
AKASG				Sn	Sn	09 44 58.3	-2.6
	2.3nm,0.3s,baz=96,slow=25,SNR=5.6						
AKASG				Lg		09 45 12.2	
	3.0nm,0.3s,baz=138,slow=17,SNR=7.7						
FINES	**FINESS Array B**	**10.76**	**334**	Pn	Pn	09 45 29.7	-5.2
	0.2nm,0.3s,baz=146,slow=14,SNR=5.9						
HFS	**Hagfors**	**14.69**	**312**	Pn	Pn	09 46 19.9	-8.8
	0.2nm,0.3s,baz=96,slow=10,SNR=4.1						
ARCES	**ARCESS Array B**	**18.11**	**348**	P	Pn	09 47 11.7	-0.9
	0.4nm,0.3s,baz=162,slow=11,SNR=17						

IDC 01 09:46:53.7±2.2, 077N×9768E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/21, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=59.9km s-min=26.1km az=65.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.37**	**32**	Pn	Pn	09 47 32.8	-1.0
	3.7nm,0.3s,baz=268,slow=4.9,SNR=11						
WRA	**Warramunga Arr**	**41.40**	**122**	P	P	09 54 42.5	+0.8
	0.3nm,0.8s,baz=301,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**42.76**	**127**	P	P	09 54 52.6	-0.1
	0.3nm,0.6s,baz=298,slow=8.2,SNR=4.3						
MKAR	**Makanchi Array**	**47.77**	**346**	P	P	09 55 32.5	0.0
	0.6nm,0.5s,baz=153,slow=9.2,SNR=11						

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*NEIC **01** 09:56:33.5±0.5, 4695N×15269E, h10km, Error ellipse: s-maj=16.3km s-min=11.5km az=134.0*
*MOS **01** 09:56:35.9±1.7, 4713N×15301E, h33km, mb4.1/10, Error ellipse: s-maj=26.7km s-min=14.0km az=68.0*
*ISCJB **01** 09:56:37.2±0.9, 4712N±0.10×1527E±0.1, h46km±9km, mb3.8/13, Error ellipse: s-maj=21.7km s-min=4.9km az=93.0*
*IDC **01** 09:56:45.1±3.7, 4699N×15273E, h105km±35km, mb3.6/13, mb1 3.8/15, mb1mx3.7/24, mbtmp3.6/15, Error ellipse: s-maj=20.5km s-min=16.4km az=140.0*
ISC 01 09:56:39.9±0.8, 4715N±009×1527E±01, h55km±7km, n46, σ1§22/55, mb3.8/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.18**	**31**	eP	Pn	09 57 40.9	-0.2
SKR				eS	Sn	09 58 28.0	-0.7
SKR				smax			
	comp=N,140nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
NEM2	**Nemuro 2**	**6.22**	**235**	P	Pn	09 58 07.8	-1.3
NEM2				eS	Sn	09 59 14.7	-4.1
JRA	**Rausu**	**6.24**	**242**	P	Pn	09 58 11.7	+2.4
JNK	**Nakash**	**6.68**	**241**	P	Pn	09 58 16.2	+0.8
JNK				eS	Sn	09 59 28.3	-1.8
JTKR	**Abashiri--Toko**	**6.96**	**246**	P	Pn	09 58 21.7	+2.4
PET	**Petropavlovsk**	**7.00**	**31**	Pn	Pn	09 58 19.4	-0.4
PET				eSn	Sn	09 59 37.3	-0.8
JAK	**Akkeshi**	**7.04**	**237**	P	Pn	09 58 19.2	-1.2
JAK				eS	Sn	09 59 35.1	-4.0
JMP	**Maruseppu**	**7.29**	**248**	P	Pn	09 58 27.3	+3.5
JAR	**Ashorobuto**	**7.41**	**242**	P	Pn	09 58 26.7	+1.3
JAR				eS	Sn	09 59 49.7	+1.7
JOB	**Onbets**	**7.60**	**239**	P	Pn	09 58 28.4	+0.4
JOB				eS	Sn	09 59 51.1	-1.6
ASAJ	**Asahikawa**	**7.73**	**251**	P	Pn	09 58 33.8	+4.0
	comp=E,0.4nm,0.3s,baz=112,slow=9.6,SNR=3.7						
ASAJ	**Asahikawa**	**7.73**	**251**	PN	Pn	09 58 33.8	+4.1
JKK2	**Kamakawa 2**	**7.74**	**249**	P	Pn	09 58 33.3	+3.3
JCH	**Churui**	**8.05**	**239**	P	Pn	09 58 33.5	-0.7
JCH				eS	Sn	10 00 00.2	-3.6
JBT2	**Biratori 2**	**8.55**	**243**	P	Pn	09 58 42.6	+1.5
JNBK	**Urakawa-nobuka**	**8.61**	**239**	P	Pn	09 58 41.5	-0.4
JNB	**Noboribetsu**	**9.54**	**245**	P	Pn	09 58 55.2	+0.7
JNB				eS	Sn	10 00 38.7	-1.5
JKB	**Kayabe**	**9.87**	**242**	P	Pn	09 58 58.1	-1.0
JANG	**Nango**	**10.56**	**234**	eS	Sn	10 00 55.1	-10
MJAR	**Matsushiro Arr**	**15.12**	**231**	P	Pn	10 00 12.8	+2.7
	comp=E,0.2nm,0.3s,baz=37,slow=8.8,SNR=5.2						
INK	**Inuvik**	**41.45**	**33**	P	P	10 04 20.9	-0.4
	comp=E,2.2nm,0.8s,mb3.8,baz=280,slow=7.0,SNR=7.2						
INK	**Inuvik**	**41.45**	**33**	P	P	10 04 20.9	-0.3
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.53**	**297**	P	P	10 05 02.8	+0.9
	comp=Z,0.6nm,0.9s,mb3.5,baz=34,slow=8.7,SNR=3.1						
MKAR	**Makanchi Array**	**46.53**	**297**	P	P	10 05 02.8	+0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**50.76**	**37**	P	P	10 05 35.0	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=295,slow=6.9,SNR=7.3						
YKA	**Yellowknife Ar**	**50.76**	**37**	P	P	10 05 35.0	+0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.76**	**37**	P	P	10 05 35.0	+0.7
NVAR	**Mina Array Bea**	**62.48**	**62**	P	P	10 06 58.0	+0.4
	comp=Z,0.7nm,0.8s,mb3.9,baz=268,slow=8.3,SNR=5.9						
FINES	**FINESS Array B**	**63.57**	**335**	P	P	10 07 04.7	-0.1
	comp=Z,2.6nm,0.8s,mb4.3,baz=4.3,slow=7.6,SNR=5.2						
FINES	**FINESS Array B**	**63.57**	**335**	P	P	10 07 04.7	-0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**64.72**	**54**	P	P	10 07 12.9	+0.7
	comp=Z,1.2nm,0.9s,mb3.9,baz=269,slow=2.8,SNR=8.6						
NB2	**NORSAR Subarra**	**67.77**	**341**	P	P	10 07 32.1	+0.3
	comp=Z,0.4nm,0.8s,mb3.5,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**67.77**	**341**	P	P	10 07 32.6	+0.8
	comp=Z,3.3nm,0.9s,mb4.4,baz=28,slow=6.5,SNR=5.9						
NOA	**NORSAR Array B**	**67.77**	**341**	P	P	10 07 32.6	+0.8
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**68.81**	**199**	P	P	10 07 36.0	-2.3
	comp=Z,0.6nm,1.0s,mb3.5,baz=347,slow=6.6,SNR=3.1						
WRA	**Warramunga Arr**	**68.81**	**199**	P	P	10 07 36.0	-2.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**71.07**	**326**	P	P	10 07 51.7	-0.5
	comp=Z,1.1nm,0.4s,mb4.2,baz=33,slow=6.0,SNR=8.5						
AKASG	**Malin Array Be**	**71.07**	**326**	P	P	10 07 51.7	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.07**	**326**	P	P	10 07 51.7	-0.5
ASAR	**Alice Springs**	**72.51**	**198**	P	P	10 08 00.2	-0.6
	comp=Z,0.5nm,0.7s,mb3.5,baz=15,slow=6.2,SNR=4.9						
ASAR	**Alice Springs**	**72.51**	**198**	P	P	10 08 00.3	-0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.52**	**60**	P	P	10 08 30.0	+0.3
	comp=Z,0.7nm,0.6s,mb3.8,baz=300,slow=4.8,SNR=12						
TXAR	**Lajitas Array**	**77.52**	**60**	P	P	10 08 30.0	+0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.92**	**316**	P	P	10 08 31.6	-0.3
	comp=Z,1.4nm,1.0s,mb3.9,baz=70,slow=7.1,SNR=4.3						
BRTR	**Keskin Array B**	**77.92**	**316**	P	P	10 08 31.6	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GERES	**GERESS Array B**	**77.98**	**334**	P	P	10 08 32.2	-0.1
	comp=Z,0.3nm,0.4s,mb3.6,baz=330,slow=4.6,SNR=3.5						

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*IDC **01** 09:58:28.2±1.6, 3193S×6833W, h0km, mb4.2/1, mb1 4.0/2, mb1mx3.8/13, mbtmp3.9/2, ML3.6/1, Error ellipse: s-maj=83.4km s-min=53.3km az=117.0*
*ISCJB **01** 09:58:42.5±0.7, 3134S±004×6844W±008, h115km±10km, mb4.0/1, Error ellipse: s-maj=11.9km s-min=5.8km az=168.0*
*GUC **01** 09:58:42.9±0.9, 3131S×6844W, h108km±4km, MD3.9, ML4.0*
*NEIC **01** 09:58:42.9, 3131S×6844W, h108km, MD3.9(GUC), After GUC.*
ISC 01 09:58:43.4±0.7, 3133S±004×6842W±007, h106km±9km, n37, σ0§70/52, mb4.0/1, 12C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.31**	**225**	⇓iP	Pn	09 58 58.7	-0.1
CMCH	**Combarbala**	**2.21**	**273**	⇓iP	Pn	09 59 19.0	+0.1
CMCH				i S	Sn	09 59 46.5	+0.4
JACH	**Jahuel**	**2.29**	**233**	eP	Pn	09 59 20.4	+0.6
JACH				eS	Sn	09 59 48.6	+0.8
PTCH	**Petorca**	**2.33**	**246**	⇑iP	Pn	09 59 20.3	-0.2
PTCH				i S	Sn	09 59 48.9	0.0
PTCH				AML	AML	09 59 50.5	
	comp=N,2μm,0.3s						
PTCH	**Petorca**	**2.33**	**246**	⇑iP	Pn	09 59 20.3	-0.2
PTCH				i S	Sn	09 59 48.9	0.0
TLL	**Tololo Astrono**	**2.35**	**299**	⇑iP	Pn	09 59 21.5	+0.8
TLL				i S	Sn	09 59 50.5	+1.0
TLL				AML	AML	09 59 53.5	
	comp=N,1μm,0.5s						
TLL	**Tololo Astrono**	**2.35**	**299**	⇑iP	Pn	09 59 21.5	+0.8
TLL				i S	Sn	09 59 50.5	+1.0
OVCH	**Ovalle**	**2.49**	**286**	eP	Pn	09 59 22.0	-0.5
OVCH				i S	Sn	09 59 52.1	-0.5
OVCH				AML	AML	09 59 58.2	
	comp=N,923nm,0.5s						
OVCH	**Ovalle**	**2.49**	**286**	eP	Pn	09 59 22.0	-0.5
OVCH				i S	Sn	09 59 52.1	-0.5
PEL	**Peldehue**	**2.64**	**226**	⇓iP	Pn	09 59 24.3	-0.2
PEL				i S	Sn	09 59 56.0	-0.1
PEL				AML	AML	09 59 58.0	
	comp=E,684nm,0.5s						
CLCH	**Cerro Calan**	**2.73**	**220**	⇓iP	Pn	09 59 26.2	+0.5
CLCH				i S	Sn	09 59 59.0	+0.8
CLCH				AML	AML	10 00 06.8	
	comp=E,364nm,0.6s						
ROCH	**El Roble**	**2.74**	**233**	eP	Pn	09 59 26.0	+0.1
LSCH	**La Serena**	**2.81**	**299**	⇑iP	Pn	09 59 26.6	-0.2
LSCH				i S	Sn	09 59 59.2	-1.0
LSCH				AML	AML	10 00 02.3	
	comp=E,166nm,0.3s						
LSCH	**La Serena**	**2.81**	**299**	⇑iP	Pn	09 59 26.6	-0.2
LSCH				i S	Sn	09 59 59.2	-1.0
PACH	**Papudo**	**2.83**	**244**	⇑iP	Pn	09 59 25.6	-1.4
PACH				i S	Sn	09 59 59.0	-1.6
PCH	**Pirque**	**2.89**	**217**	eP	Pn	09 59 28.6	+0.8
ANTU	**Antumapu**	**2.91**	**219**	⇑iP	Pn	09 59 28.6	+0.5
ANTU				i S	Sn	10 00 03.0	+0.4
ANTU				AML	AML	10 00 05.0	
	comp=N,258nm,0.4s						
ANTU	**Antumapu**	**2.91**	**219**	⇑iP	Pn	09 59 28.6	+0.5
ANTU				i S	Sn	10 00 03.0	+0.4
RCDM	**Rinconada Maip**	**2.95**	**222**	eP	Pn	09 59 28.7	+0.1
RCDM				i S	Sn	10 00 03.8	+0.3
RCDM				AML	AML	10 00 06.8	
	comp=N,534nm,0.1s						
RCDM	**Rinconada Maip**	**2.95**	**222**	eP	Pn	09 59 28.7	+0.1
RCDM				i S	Sn	10 00 03.8	+0.3
TACH	**Talagante**	**3.15**	**222**	⇑iP	Pn	09 59 30.7	-0.4
CHCH	**Chadas Angostu**	**3.21**	**215**	⇑iP	Pn	09 59 32.2	+0.2
CHCH				eS	Sn	10 00 10.1	+0.5
CACH	**El Canelo**	**3.33**	**213**	⇓iP	Pn	09 59 34.6	+0.9
LCCH	**Las Cruces**	**3.42**	**230**	eP	Pn	09 59 33.8	-1.0
CICH	**Cipreses**	**3.42**	**209**	⇑iP	Pn	09 59 35.7	+0.8
SFDO	**San Fernando**	**3.94**	**213**	⇓iP	Pn	09 59 40.5	-1.3
SFDO				i S	Sn	10 00 26.1	-0.9
TRQA	**Tornquist**	**8.55**	**143**	ePn	Pn	10 00 42.9	-1.4
LPAZ	**La Paz**	**14.97**	**1**	Pn	Pn	10 02 10.2	+0.8
	comp=N,0.1nm,0.3s,baz=183,slow=7.0,SNR=5.2						
VNA3	**Neumayer Olymp**	**50.72**	**159**	e	P	10 07 32.1	-0.1
VNA3				e		10 07 33.6	
VNA3				e		10 07 44.2	
VNA3				e		10 08 10.8	
VNA1	**Neumayer--Stat**	**50.97**	**158**	e	P	10 07 34.4	+0.3
VNA1				e		10 07 36.1	
VNA1				e		10 07 45.4	
VNA1				e		10 08 12.2	
VNA2	**Neumayer--Watz**	**51.33**	**158**	e	P	10 07 36.7	0.0
VNA2				e		10 07 38.1	
VNA2				e		10 07 48.1	
VNA2				e		10 08 12.9	
TORD	**Torodi Ar. Bea**	**80.41**	**68**	P	P	10 10 43.1	0.0
	comp=N,2.1nm,0.9s,mb4.0,baz=256,slow=1.8,SNR=7.7						
TORD				pP	pP	10 11 10.9	+0.5
	comp=N,0.8nm,0.8s,baz=258,slow=5.8,SNR=5.1						
PDAR	**Pinedale Array**	**82.84**	**331**	pP	pP	10 11 24.8	+1.4
	comp=N,0.2nm,0.7s,baz=111,slow=3.3,SNR=4.0						
MCMT	**McKenzie Canyo**	**85.91**	**330**	eP	P	10 11 02.1	-9.3
WRA	**Warramunga Arr**	**124.54**	**206**	PKP	PKPdf	10 17 29.2	-1.0
	comp=N,0.3nm,0.8s,baz=168,slow=1.8,SNR=11						
MKAR	**Makanchi Array**	**152.72**	**47**	PKPbc	PKPbc	10 18 26.9	-0.6
	comp=N,0.6nm,0.7s,baz=316,slow=1.9,SNR=5.5						
MKAR				PKPab	PKPab	10 18 38.5	-0.3
	comp=N,0.9nm,0.5s,baz=294,slow=2.6,SNR=7.8						
MKAR	**Makanchi Array**	**152.72**	**47**	PKPbc	PKPbc	10 18 26.9	-0.6
MKAR				PKPab	PKPab	10 18 38.5	-0.3

IDC 01 09:59:48.1±15.0, 014N×12177E, h221km±167km, mb3.0/4, mb1 3.1/5, mb1mx3.0/18, mbtmp2.9/5, Error ellipse: s-maj=109.6km s-min=26.0km az=58.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.52**	**168**	P	P	10 03 48.4	+0.2
	0.1nm,0.3s,baz=333,slow=8.1,SNR=2.5						
WRA	**Warramunga Arr**	**23.45**	**149**	P	P	10 04 37.3	-0.3
	1.0nm,0.5s,baz=324,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.44**	**154**	P	P	10 05 05.5	+0.9
	0.5nm,0.5s,baz=344,slow=14,SNR=15						
SONM	**Songino Array**	**49.35**	**346**	P	P	10 08 15.5	+0.4
	0.7nm,0.8s,baz=171,slow=8.3,SNR=4.4						
MKAR	**Makanchi Array**	**57.85**	**329**	P	P	10 09 16.6	-0.1
	0.4nm,0.3s,baz=124,slow=7.8,SNR=9.8						

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*ISCJB **01** 10:00:00.0±0.8, 6480N±003×306E±0.1, h0km, Error ellipse: s-maj=9.1km s-min=3.4km az=33.4*
*HEL **01** 10:00:01.4±0.2, 6480N×3071E, h0km, ML2.3, ML1.8(BER), ML2.0(NAO), Explosion*
*IDC **01** 10:00:02.6±2.5, 6475N×3076E, h0km, mb1 3.1/3, mb1mx3.0/20, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=37.2km s-min=8.2km az=101.0*
*BER **01** 10:00:03.6±3.1, 6482N×3020E, h0km, ML1.8, ML2.0(NAO), Suspected explosion*
*NAO **01** 10:00:03.0±1.8, 6484N×3016E, ML2.0*
ISC 01 10:00:01.5±0.8, 6483N±003×305E±01, h0km, n18, σ0§89/36, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.23**	**348**	eP	Pg	10 00 24.7	-0.3
KU6				eS	Sg	10 00 41.2	+0.3
MSF	**Maaselka**	**1.25**	**331**	eP	Pg	10 00 25.0	-0.3
MSF				eS	Sg	10 00 42.0	+0.5
KJN	**Kajaani**	**1.43**	**240**	eP	Pn	10 00 27.9	-0.6
KJN				eS	Sg	10 00 46.6	-0.7
KU4	**Liikasenvaara**	**1.59**	**346**	eP	Pn	10 00 30.9	+0.1
KU4				eS	Sn	10 00 51.8	-0.3
OUL	**Oulu**	**1.98**	**279**	eP	Pn	10 00 37.8	+1.6
OUL				eS	Sn	10 01 04.0	+2.3
OUL				MSG		10 01 06.9	
	comp=Z,17nm,0.1s						
SUF	**Sumiainen**	**2.87**	**224**	eP	Pn	10 00 49.7	+1.2
SUF				eSB	Sb	10 01 28.6	-0.7
SUF				MSG		10 01 29.9	
	comp=Z,9.4nm,0.2s						
APA0	**Apatity Array**	**2.96**	**19**	Pn	Pn	10 00 49.5	-0.2
	baz=189,slow=11						
APA0				Sn	Sn	10 01 26.7	+0.7
	baz=203,slow=28						
APA0	**Apatity Array**	**2.96**	**19**	eP	Pn	10 00 49.5	-0.2
APA0				eS	Sn	10 01 26.7	+0.7
SGF	**S

NOA NORSAR Array B 9.56 255 Pn **Pn 10 02 19.6 -0.7**
comp=Z,0.1nm,0.3s,baz=63,slow=12,SNR=2.6

*NEIC **01** 10:43:08.5, 3187S×7005W, h107km, MD3.7(GUC), After GUC.*
GUC 01 10:43:08.5±0.9, 3187S×7005W, h107km±5km, MD3.7, ML3.7, 16C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.85**	**242**	⇓*iP*	Pn	10 43 28.0	+0.2
PTCH				*i* S	Sn	10 43 42.7	+0.2
PTCH				AML	AML	10 43 44.1	
	comp=N,8μm,0.2s						
PTCH	**Petorca**	**0.85**	**242**	⇓*iP*	Pn	10 43 28.0	+0.2
PTCH				*i* S	Sn	10 43 42.7	+0.2
JACH	**Jahuel**	**0.93**	**210**	⇑*iP*	Pn	10 43 29.3	+0.6
JACH				*i* S	Sn	10 43 44.9	+0.9
CMCH	**Combarbala**	**1.07**	**310**	⇓*iP*	Pn	10 43 30.6	+0.4
CMCH				*i* S	Sn	10 43 47.5	+0.9
ZON	**Zonda**	**1.21**	**75**	⇑*iP*	Pn	10 43 32.3	+0.6
ZON				*i* S	Sn	10 43 49.4	+0.2
PACH	**Papudo**	**1.35**	**240**	*eP*	Pn	10 43 33.1	-0.2
PACH				*i* S	Sn	10 43 51.8	-0.4
ROCH	**El Roble**	**1.37**	**216**	⇑*iP*	Pn	10 43 33.8	+0.3
ROCH				*i* S	Sn	10 43 53.2	+0.7
PEL	**Peldehue**	**1.38**	**203**	⇑*iP*	Pn	10 43 33.8	+0.2
PEL				*i* S	Sn	10 43 53.0	+0.2
PEL				AML	AML	10 43 54.7	
	comp=E,1μm,0.4s						
FCH	**Farellones**	**1.47**	**188**	⇓*iP*	Pn	10 43 36.2	+1.5
FCH				*i* S	Sn	10 43 57.0	+2.5
FCH				AML	AML	10 43 58.7	
	comp=E,933nm,0.2s						
CLCH	**Cerro Calan**	**1.58**	**195**	⇓*iP*	Pn	10 43 36.6	+0.6
CLCH				*i* S	Sn	10 43 57.9	+1.0
CLCH				AML	AML	10 44 03.0	
	comp=E,870nm,0.7s						
OVCH	**Ovalle**	**1.60**	**322**	*eP*	Pn	10 43 36.8	+0.4
OVCH				*i* S	Sn	10 43 58.4	+0.9
OVCH				AML	AML	10 44 02.1	
	comp=E,1μm,0.5s						
OVCH	**Ovalle**	**1.60**	**322**	*eP*	Pn	10 43 36.8	+0.4
OVCH				*i* S	Sn	10 43 58.4	+0.9
SAN	**Santiago**	**1.66**	**198**	⇑*iP*	Pn	10 43 37.5	+0.5
SAN				*i* S	Sn	10 43 59.6	+0.8
SAN				AML	AML	10 44 01.1	
	comp=E,526nm,0.2s						
SAN	**Santiago**	**1.66**	**198**	⇑*iP*	Pn	10 43 37.5	+0.5
SAN				*i* S	Sn	10 43 59.6	+0.8
RCDM	**Rinconada Maip**	**1.74**	**201**	⇑*iP*	Pn	10 43 38.3	+0.3
RCDM				*i* S	Sn	10 44 01.1	+0.6
RCDM				AML	AML	10 44 04.9	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**1.74**	**201**	⇑*iP*	Pn	10 43 38.3	+0.3
RCDM				*i* S	Sn	10 44 01.1	+0.6
ANTU	**Antumapu**	**1.76**	**196**	*eP*	Pn	10 43 38.9	+0.6
ANTU				*i* S	Sn	10 44 02.0	+1.0
ANTU				AML	AML	10 44 02.7	
	comp=N,832nm,0.8s						
PCH	**Pirque**	**1.79**	**193**	⇑*iP*	Pn	10 43 39.3	+0.6
PCH				*i* S	Sn	10 44 03.0	+1.4
TLL	**Tololo Astrono**	**1.82**	**339**	⇑*iP*	Pn	10 43 40.4	+1.4
TLL				*i* S	Sn	10 44 04.0	+1.8
TLL				AML	AML	10 44 07.8	
	comp=N,1μm,0.7s						
TLL	**Tololo Astrono**	**1.82**	**339**	⇑*iP*	Pn	10 43 40.4	+1.4
TLL				*i* S	Sn	10 44 04.0	+1.8
TACH	**Talagante**	**1.93**	**203**	⇑*iP*	Pn	10 43 40.2	-0.2
LMEL	**Las Melosas**	**1.98**	**184**	*eP*	Pn	10 43 41.9	+0.9
LMEL				AML	AML	10 44 13.3	
	comp=N,550nm,0.2s						
LCCH	**Las Cruces**	**2.05**	**218**	*iP*	Pn	10 43 42.3	+0.3
CHCH	**Chadas Angostu**	**2.12**	**194**	⇑*iP*	Pn	10 43 43.0	+0.2
CHCH				*i* S	Sn	10 44 09.8	+0.7
LSCH	**La Serena**	**2.21**	**332**	⇑*iP*	Pn	10 43 44.5	+0.4
LSCH				*i* S	Sn	10 44 11.2	0.0
CACH	**El Canelo**	**2.29**	**192**	⇑*iP*	Pn	10 43 46.0	+1.0
CICH	**Cipreses**	**2.46**	**187**	*eP*	Pn	10 43 48.0	+0.7
SFDO	**San Fernando**	**2.85**	**196**	*eP*	Pn	10 43 51.8	-0.6
VACH	**Vallenar**	**3.34**	**349**	⇑*iP*	Pn	10 43 59.5	+0.6
VACH				*i* S	Sn	10 44 38.2	+0.3

*NEIC **01** 11:05:32.2±0.9, 1976S×17562W, h10km, mb4.6/3, Error ellipse: s-maj=25.2km s-min=15.6km az=120.0*
*ISCJB **01** 11:05:35.4±3.3, 1975S±0.1×1754W±0.2, h62km±41km, mb4.5/8, Error ellipse: s-maj=36.3km s-min=21.4km az=178.3*
*IDC **01** 11:05:39.1±3.1, 1968S×17530W, h86km±29km, mb4.2/5, mb1 4.2/7, mb1mx3.8/18, mbtmp4.1/7, Error ellipse: s-maj=33.4km s-min=19.1km az=120.0*
ISC 01 11:05:36.6±2.3, 1985S±01×1754W±02, h55km±31km, n17, σ0=97/12, mb4.5/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.82**	**31**	P	**Pn**	**11 07 14.2**	**+0.2**
	4.2nm,0.3s,baz=322,slow=21,SNR=9.2						
AFI				S	**Sn**	**11 08 22.0**	**-8.2**
	7.9nm,0.3s,baz=50,slow=23,SNR=4.4						
URZ	**Urewera**	**19.48**	**198**	P	**Pn**	**11 09 59.4**	**-1.2**
	1.9nm,0.3s,baz=352,slow=3.2,SNR=12						
RPZ	**Rata Peaks**	**26.39**	**203**	P	**P**	**11 11 10.7**	**+3.0**
	4.5nm,0.4s,mb4.3,baz=117,slow=2.3,SNR=4.6						
CTA	**Charters Tower**	**36.03**	**263**	P	**P**	**11 12 34.0**	**+1.5**
	4.8nm,0.4s,mb4.8,baz=98,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**47.09**	**256**	P	**P**	**11 14 03.0**	**+0.1**
	1.8nm,0.4s,mb4.4,baz=84,slow=8.6,SNR=28						
ASAR				PcP	PcP	11 15 33.4	-0.7
	1.6nm,0.7s,baz=104,slow=3.8,SNR=13						
WB2	**Warramunga Arr**	**47.14**	**261**	*eP*	**P**	**11 14 02.4**	**-0.9**
WRA	**Warramunga Arr**	**47.15**	**261**	P	**P**	**11 14 02.9**	**-0.5**
	1.8nm,0.4s,mb4.4,baz=92,slow=6.2,SNR=217						
WRA				PcP	PcP	11 15 33.2	-1.1
	0.6nm,0.6s,baz=93,slow=3.5,SNR=6.7						
KAKA	**Kakadu**	**50.45**	**270**	*eP*	**P**	**11 14 28.3**	**-0.4**
	2.4nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.58**	**261**	*eP*	**P**	**11 15 06.8**	**+0.4**
	3.7nm,1.1s,mb4.3						
QSPA	**South Pole Qui**	**70.23**	**180**	*eP*	**P**	**11 16 43.6**	**-0.1**
	2.9nm,0.4s,mb4.6						
MJAR	**Matsushiro Arr**	**71.19**	**322**	P	**P**	**11 16 49.0**	**-0.6**
	3.3nm,0.8s,mb4.3,baz=157,slow=6.7,SNR=6.8						
ARCES	**ARCESS Array B**	**128.70**	**351**	PKP	PKPdf	11 24 35.2	-2.3
	2.9nm,0.9s,baz=45,slow=0.5,SNR=8.4						
ARCES	**ARCESS Array B**	**128.70**	**351**	PKP	PKPdf	11 24 35.2	-2.4
FINES	**FINESS Array B**	**135.80**	**345**	PKP	PKPdf	11 24 49.8	-1.1
	1.8nm,0.9s,baz=273,slow=35,SNR=3.6						
FINES	**FINESS Array B**	**135.80**	**345**	PKP	PKPdf	11 24 49.8	-1.1
BRTR	**Keskin Array B**	**148.19**	**315**	PKPbc	PKPbc	11 25 13.8	-2.5
	0.7nm,0.7s,baz=142,slow=5.3,SNR=3.5						
GERES	**GERESS Array B**	**150.16**	**348**	PKPbc	PKPbc	11 25 19.3	-1.9
	0.8nm,0.6s,baz=29,slow=3.0,SNR=6.7						

*NIED **01** 11:20:00, 4620N×15300E, h35km, Mw4.1 Best double couple: M0=1.48000×10^15 NP1:φs=85.00000°, δ=72.00000°, λ=-92.00000°. NP2:φs=272.00000°, δ=18.00000°, λ=-84.00000°.*
*ISCJB **01** 11:20:37.0±0.6, 4620N±0.1×1526E±0.1, h10km, mb3.7/12, Error ellipse: s-maj=18.7km s-min=5.4km az=114.5*
*NEIC **01** 11:20:38.7±0.7, 4630N×15292E, h10km, Error ellipse: s-maj=19.8km s-min=13.8km az=135.0*
*JMA **01** 11:20:39.9±0.7, 4618N×15301E, h30km, M4.2*
*MOS **01** 11:20:40.1±1.3, 4631N×15290E, h33km, mb4.1/6, Error ellipse: s-maj=22.8km s-min=16.3km az=51.9*
*IDC **01** 11:20:46.1±4.4, 4627N×15272E, h69km±40km, mb3.5/12, mb1 3.7/13, mb1mx3.5/25, mbtmp3.5/13, ML4.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/28, Error ellipse: s-maj=21.5km s-min=18.1km az=111.0*
ISC 01 11:20:38.8±0.6, 4630N±01×1527E±01, h10km, n39, σ1=33/46, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**5.34**	**247**	*e*PN	**Pn**	**11 22 02.8**	**+4.3**
NEM2	**Nemuro 2**	**5.75**	**242**	P	**Pn**	**11 22 04.1**	**0.0**
NEM2				*e*S	**Sn**	**11 23 06.0**	**-4.1**
JNK	**Nakash**	**6.28**	**247**	P	**Pn**	**11 22 13.5**	**+2.1**
JAK	**Akkeshi**	**6.59**	**243**	P	**Pn**	**11 22 15.6**	**-0.1**
JAK				*e*S	**Sn**	**11 23 26.3**	**-4.6**
JTKR	**Abashiri--Toko**	**6.64**	**253**	P	**Pn**	**11 22 19.5**	**+3.1**
JAR	**Ashorobuto**	**7.02**	**248**	P	**Pn**	**11 22 23.7**	**+2.0**
JAR				*e*S	**Sn**	**11 23 42.1**	**+0.5**
JOB	**Onbets**	**7.18**	**245**	P	**Pn**	**11 22 24.7**	**+0.9**
JOB				*e*S	**Sn**	**11 23 43.0**	**-2.3**
JKK2	**Kamakawa 2**	**7.45**	**255**	P	**Pn**	**11 22 31.5**	**+4.0**
ASAJ	**Asahikawa**	**7.46**	**257**	P	**Pn**	**11 22 32.5**	**+4.8**
	2.4nm,0.3s,baz=89,slow=14,SNR=16						
ASAJ				LR	LR	11 25 30.4	
	comp=Z,72nm,20.4s,baz=186,slow=38						
JCH	**Churui**	**7.62**	**245**	P	**Pn**	**11 22 30.6**	**+0.7**
JCH				*e*S	**Sn**	**11 23 52.7**	**-3.7**
ERM	**Erimo**	**8.08**	**241**	*e*PN	**Pn**	**11 22 39.6**	**+3.4**
JBT2	**Biratori 2**	**8.18**	**248**	P	**Pn**	**11 22 40.2**	**+2.7**
JNBK	**Urakawa-nobuka**	**8.19**	**244**	P	**Pn**	**11 22 38.0**	**+0.4**
JNBK				*e*S	**Sn**	**11 24 04.8**	**-5.3**
JNB	**Noboribetsu**	**9.18**	**250**	P	**Pn**	**11 22 53.6**	**+2.3**
JNB				*e*S	**Sn**	**11 24 33.4**	**-1.3**
JKB	**Kayabe**	**9.48**	**247**	P	**Pn**	**11 22 55.4**	**+0.1**
JKB				*e*S	**Sn**	**11 24 35.3**	**-6.6**
JANG	**Nango**	**10.06**	**238**	P	**Pn**	**11 23 00.4**	**-3.0**
JTH	**Tanohata**	**10.15**	**235**	*e*S	**Sn**	**11 24 47.5**	**-11**
JOSM	**Okushiri--Mats**	**10.39**	**251**	P	**Pn**	**11 23 09.0**	**+1.2**
OFUJ	**Ofunato**	**10.85**	**232**	*e*S	**Sn**	**11 25 04.4**	**-11**
JIO	**Ouri**	**11.47**	**231**	*e*S	**Sn**	**11 25 17.5**	**-13**
INK	**Inuvik**	**42.19**	**32**	P	**P**	**11 28 31.9**	**+0.1**
	0.7nm,0.8s,mb3.3,baz=250,slow=11,SNR=5.5						
INK	**Inuvik**	**42.19**	**32**	P	**P**	**11 28 31.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.90**	**298**	P	**P**	**11 29 09.5**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=57,slow=6.7,SNR=8.7						
BVAR	**Borovoye Array**	**50.93**	**310**	P	**P**	**11 29 39.9**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=24,slow=11,SNR=4.7						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	**P**	**11 29 43.7**	**-0.5**
	comp=Z,0.1nm,0.4s,mb3.1,baz=299,slow=7.0,SNR=3.0						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**11 30 32.6**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=30,slow=7.3,SNR=7.8						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**11 30 32.6**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**62.90**	**62**	P	**P**	**11 31 05.1**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.8,baz=302,slow=8.4,SNR=4.6						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**11 31 14.0**	**-0.6**
	comp=Z,1.8nm,0.9s,mb4.1,baz=57,slow=7.7,SNR=5.5						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**11 31 14.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**67.98**	**199**	P	**P**	**11 31 36.2**	**-1.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=15,slow=7.1,SNR=4.7						
WRA	**Warramunga Arr**	**67.98**	**199**	P	**P**	**11 31 36.2**	**-1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**11 31 41.3**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.9,baz=28,slow=6.5,SNR=2.8						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**11 31 41.3**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**11 32 01.1**	**-0.2**
	comp=Z,0.6nm,0.3s,mb4.0,baz=34,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**11 32 01.1**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR	**Lajitas Array**	**77.97**	**60**	P	**P**	**11 32 36.7**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=303,slow=5.0,SNR=7.6						
STKA	**Stephens Creek**	**78.45**	**190**	P	**P**	**11 32 40.6**	**+0.8**
	comp=Z,3.8nm,0.9s,mb4.3,baz=140,slow=22,SNR=3.0						
CFAA	**Coronel Fontan**	**145.36**	**80**	PKPbc	PKPbc	11 40 14.9	-1.9
	comp=Z,0.2nm,0.5s,baz=227,slow=1.7,SNR=4.8						

*BJI **01** 11:36:42.5, 9435S×16061E, h24km, mB5.4, mb4.8*
*ISCJB **01** 11:36:43.7±1.1, 1006S±0.06×16020E±0.09, h47km±9km, mb4.6/19, MS3.7/5, Error ellipse: s-maj=15.7km s-min=9.7km az=17.6*
*IDC **01** 11:36:43.8±3.2, 1006S×16022E, h35km±23km, mb4.2/11, mb1 4.3/14, mb1mx4.3/17, mbtmp4.2/14, ML3.5/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/27, Error ellipse: s-maj=24.7km s-min=13.4km az=97.0*
*NEIC **01** 11:36:44.6±1.1, 9975S×16029E, h41km±10km, mb4.8/9, Error ellipse: s-maj=11.6km s-min=8.1km az=103.0*
ISC 01 11:36:44.3±1.2, 1000S±005×16029E±009, h38km±10km, n35, σ1=06/33, mb4.6/19, MS3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.66**	**330**	Pn	**Pn**	**11 36 57.5**	**+0.3**
	1μm,0.3s,baz=129,slow=2.7,SNR=323						
HNR				Sn	**Sn**	**11 37 07.0**	**+0.7**
PMG	**Port Moresby**	**12.95**	**272**	Pn	**Pn**	**11 39 44.2**	**-1.6**
	0.3nm,0.3s,baz=170,slow=18,SNR=2.0						
PMG				LR	LR	11 44 33.7	
	comp=Z,510nm,18.8s,baz=98,slow=36						
DZM	**Mont Dzumac**	**13.38**	**155**	Pn	**Pn**	**11 39 51.3**	**-0.3**
	0.2nm,0.3s,baz=359,slow=21,SNR=3.4						
DZM				LR	LR	11 43 35.6	
	comp=Z,244nm,19.2s,baz=19,slow=31						
CTA	**Charters Tower**	**16.84**	**232**	*eP*	**Pn**	**11 40 38.6**	**+1.4**
	21nm,0.7s						
CTA	**Charters Tower**	**16.84**	**232**	Pn	**Pn**	**11 40 35.9**	**-1.3**
	0.6nm,0.3s,baz=52,slow=13,SNR=19						
CTAO	**Charters Tower**	**16.84**	**232**	*eP*	**Pn**	**11 40 38.6**	**+1.4**
	35nm,0.8s						
ARMA	**Armidale**	**21.86**	**200**	*eP*	**P**	**11 41 35.0**	**+1.4**
WRAB	**Tennant Creek**	**26.89**	**245**	*eP*	**P**	**11 42 22.0**	**+0.4**
WB2	**Warramunga Arr**	**26.89**	**245**	*eP*	**P**	**11 42 21.9**	**+0.2**
WRA	**Warramunga Arr**	**26.90**	**245**	P	**P**	**11 42 22.1**	**+0.3**
	8.1nm,0.9s,mb4.2,baz=72,slow=9.7,SNR=32						
WRA				PcP	PcP	11 45 44.5	+1.3
	2.7nm,0.8s,baz=73,slow=2.2,SNR=9.9						
AFI	**Afiamalu**	**27.60**	**101**	LR	LR	11 51 18.1	
	comp=Z,156nm,19.7s,MS3.6,baz=316,slow=32						
STKA	**Stephens Creek**	**27.81**	**216**	*eP*	**P**	**11 42 30.0**	**+0.1**
	4.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.81**	**216**	P	**P**	**11 42 27.7**	**-2.2**
	2.5nm,0.6s,mb4.0,baz=55,slow=15,SNR=3.2						
STKA				LR	LR	11 52 44.0	
	comp=Z,194nm,19.2s,MS3.7,baz=28,slow=35						
ASAR	**Alice Springs**	**28.60**	**238**	P	**P**	**11 42 36.5**	**-0.4**
	1.3nm,0.6s,mb3.9,baz=62,slow=10,SNR=8.9						
FITZ	**Fitzroy Crossi**	**34.51**	**253**	*eP*	**P**	**11 43 28.7**	**-0.1**
	6.9nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.51**	**253**	P	**P**	**11 43 28.3**	**-0.5**
	3.8nm,0.6s,mb4.5,baz=84,slow=6.0,SNR=14						
FITZ				LR	LR	11 57 37.0	
	comp=Z,96nm,18.1s,MS3.6,baz=59,slow=36						
MJAR	**Matsushiro Arr**	**50.74**	**337**	P	**P**	**11 45 38.8**	**-1.7**
	1.3nm,0.6s,mb4.1,baz=169,slow=9.2,SNR=6.4						
KSRS	**Korea Array**	**56.11**	**329**	P	**P**	**11 46 18.6**	**-1.2**
	4.0nm,1.0s,mb4.4,baz=156,slow=7.5,SNR=6.4						
KSRS				LR	LR	12 06 56.9	
	comp=Z,27nm,21.4s,MS3.3,baz=335,slow=32						
CN2	**Changchun**	**62.20**	**332**	*eP*	**P**	**11 47 02.3**	**+0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.3						
VNDA	**Vanda**	**67.50**	**180**	P	**P**	**11 47 35.5**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=335,slow=5.4,SNR=10.0						
VNDA	**Vanda**	**67.50**	**180**	P	**P**	**11 47 35.5**	**-1.0**
LZH	**Lanzhou**	**70.13**	**314**	*eP*	**P**	**11 47 54.9**	**+2.1**
LZH				AP	pP	11 48 02.5	-1.8
LZH				XP	sP	11 48 05.6	-3.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GTA	**Gaotai**	**74.52**	**316**	*eP*	**P**	**11 48 20.4**	**+1.4**
GTA				AP	pP	11 48 29.2	-1.3
GTA				XP	sP	11 48 32.0	-2.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
SONM	**Songino Array**	**74.72**	**326**	P	**P**	**11 48 21.5**	**+1.3**
	comp=Z,3.8nm,0.6s,mb4.5,baz=139,slow=5.6,SNR=31						
QSPA	**South Pole Qui**	**79.99**	**180**	*eP*	**P**	**11 48 51.1**	**+1.4**
	comp=Z,42nm,1.8s,mb5.1						
MCK	**McKinley**	**82.96**	**20**	*eP*	**P**	**11 49 04.8**	**-0.6**
	comp=Z,9.9nm,0.9s,mb4.8						
COLA	**College**	**84.05**	**20**	*eP*	**P**	**11 49 09.7**	**-1.2**
	comp=Z,14nm,0.8s,mb5.1						
EGAK	**Eagle**	**86.32**	**21**	*eP*	**P**	**11 49 22.9**	**+0.6**
	comp=Z,11nm,1.1s,mb5.0						
MK31	**Makanchi Array**	**89.12**	**318**	*eP*	**P**	**11 49 35.4**	**-0.4**
MKAR	**Makanchi Array**	**89.12**	**318**	P	**P**	**11 49 35.2**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.4,baz=101,slow=6.3,SNR=14						
INK	**Inuvik**	**90.71**	**20**	LR	LR	12 28 39.2	
	comp=Z,97nm,19.8s,MS4.2,baz=57,slow=34						
KURK	**Kurchatov**	**92.43**	**321**	*eP*	**P**	**11 49 49.9**	**-1.3**
	comp=Z,4.4nm,0.7s,mb4.9						
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**	**11 50 09.1**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.7,baz=260,slow=4.7,SNR=24						
PDAR	**Pinedale Array**	**96.82**	**48**	P	**P**	**11 50 12.9**	**+1.7**
	comp=Z,1.1nm,0.9s,mb4.3,baz=245,slow=1.3,SNR=7.3						
TORD	**Torodi Ar. Bea**	**158.80**	**281**	PKPab	PKPab	11 57 14.6	+0.7
	comp=Z,0.6nm,0.8s,baz=70,slow=3.0,SNR=4.3						

*ISCJB **01** 11:45:43.4±0.3, 4756N±002×12266W±003, h10km, Error ellipse: s-maj=3.4km s-min=2.2km az=142.6*
*PGC **01** 11:45:43.7, 4748N×12278W, h34km±7km, ML2.0/4, 35km southwest of Seattle, Wa Washington*
*PNSN **01** 11:45:44.7, 4754N×12269W, h23km, MD2.4, Fault plane solution: NP1:φs140.00000°, δ50.00000°, NP2: φs320.00000°, δ40.00000°, Principal axes: T Plg85.0000°, Azm50.0000°; P Plg5.0000°, Azm230.0000°;*
ISC 01 11:45:43.3±0.3, 4756N±002×12267W±004, h10km, n25, σ0=89/39, 14C-15D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C04A	**Brinnon**	**0.26**	**308**	⇓P	**Pg**	**11 45 50.3**	**+1.8**
	baz=0.3,SNR=101						
C04A				⇑S	**Sg**	**11 45 54.7**	**+2.6**
	baz=0.3						
D04A	**Dobbs Creek Ra**	**0.46**	**192**	⇓P	**Pg**	**11 45 53.5**	**+1.3**
	baz=0.4,SNR=30						
D04A				⇑S	**Sg**	**11 46 01.2**	**+2.9**
	baz=0.4						
D05A	**Enumclaw**	**0.59**	**129**	⇓P	**Pg**	**11 45 55.9**	**+1.1**
	baz=0.6,SNR=7.2						
D05A				⇑S	**Sg**	**11 46 03.2**	**+0.6**
	baz=0.6						
B04A	**Port Angeles**	**0.75**	**312**	⇓P	**Pg**	**11 45 58.5**	**+0.7**
	baz=0.8						
B04A				⇓S	**Sg**	**11 46 09.1**	**+1.5**
	baz=0.8						
B05A	**Bryant**	**0.80**	**28**	⇓P	**Pg**	**11 45 59.0**	**+0.2**
	baz=0.8						
B05A				⇑S	**Sg**	**11 46 09.9**	**+0.6**
	baz=0.8						
VGZ	**Gonzales**	**0.96**	**333**	Trac			
VGZ	**Gonzales**	**0.96**	**333**	P	**Pg**	**11 46 00.9**	**-0.8**
VGZ				S	**Sg**	**11 46 14.0**	**-0.3**
E04A	**Onalaska**	**0.97**	**182**	⇑P	**Pg**	**11 46 01.4**	**-0.5**
	baz=0.9,SNR=26						
E04A				⇑S	**Sg**	**11 46 14.0**	**-0.5**
	baz=0.9						
A04A	**Legoe Bay, Lum**	**1.16**	**359**	⇓P	**Pb**	**11 46 04.8**	**-0.6**
	baz=1.2,SNR=17						
A04A				⇑S	**Sb**	**11 46 20.3**	**-0.3**
	baz=1.2						
E05A	**Randle**	**1.18**	**148**	P	**Pb**	**11 46 04.7**	**-1.0**
	baz=1.2,SNR=119						
E05A				⇓S	**Sb**	**11 46 20.0**	**-1.0**
	baz=1.2						
E03A	**Lebam**	**1.18**	**211**	⇓P	**Pb**	**11 46 04.8**	**-1.0**
	baz=1.2,SNR=40						
E03A				⇑S	**Sb**	**11 46 20.8**	**-0.4**
	baz=1.2						
PGC	**Sidney**	**1.21**	**335**	Trac			
PGC	**Sidney**	**1.21**	**335**	P	**Pn**	**11 46 05.1**	**-1.1**
PGC				S	**Sb**	**11 46 20.6**	**-1.3**
B06A	**Marblemount**	**1.25**	**39**	P	**Pn**	**11 46 06.6**	**-0.2**
	baz=1.3,SNR=28						
B06A				⇑S	**Sb**	**11 46 23.1**	**+0.1**
	baz=1.3						
SNB	**Saturna Island**	**1.26**	**345**	Trac			
SNB	**Saturna Island**	**1.26**	**345**	P	**Pn**	**11 46 06.6**	**-0.4**
SNB				S	**Sb**	**11 46 23.6**	**+0.1**
D06A	**Cle Elum**	**1.29**	**106**	⇓P	**Pn**	**11 46 07.0**	**-0.4**
	baz=1.3						
D06A				⇑S	**Sb**	**11 46 24.5**	**+0.1**
	baz=1.3						
LZB	**Mount Lazard**	**1.31**	**324**	Trac			
LZB	**Mount Lazard**	**1.31**	**324**	P	**Pn**	**11 46 06.5**	**-1.1**
LZB				S	**Sb**	**11 46 23.3**	**-1.4**
A05A	**Maple Falls**	**1.49**	**15**	⇓P	**Pn**	**11 46 10.5**	**+0.4**
	baz=1.5,SNR=38						
A05A				⇓S	**Sn**	**11 46 30.3**	**+0.6**
	baz=1.5						
E06A	**Yakima**	**1.54**	**131**	⇓S	**Sn**	**11 46 30.9**	**0.0**
	baz=1.5						
F04A	**Amboy**	**1.64**	**174**	⇑P	**Pn**	**11 46 11.9**	**-0

URZ	**Urewera**	**0.52 199**	*e*P	Pn	11 57 46.9	-0.1
URZ	**Urewera**	**0.52 199**	⇑P*	Pn	11 57 46.9	-0.1
URZ			S*	Sn	11 57 57.2	0.0
EDRZ	**Edgecumbe**	**0.57 234**	P	Pn	11 57 47.6	+0.1
EDRZ			S	Sn	11 57 59.3	+1.2
EDRZ	**Edgecumbe**	**0.57 234**	P*	Pn	11 57 47.6	+0.1
EDRZ			S*	Sn	11 57 58.7	+0.7
MWZ	**Matawai**	**0.59 164**	P	Pn	11 57 47.8	+0.2
MWZ			S	Sn	11 57 58.0	-0.3
MWZ	**Matawai**	**0.59 164**	⇑P*	Pn	11 57 47.8	+0.2
MWZ			S*	Sn	11 57 57.9	-0.4
PUZ	**Puketiti**	**0.80 113**	*e*P	Pn	11 57 49.7	-0.1
PUZ	**Puketiti**	**0.80 113**	PN	Pn	11 57 49.7	-0.2
PUZ			SN	Sn	11 58 02.3	+0.1
MXZ	**Matakaoa Point**	**0.81 76**	P	Pn	11 57 49.9	0.0
MXZ	**Matakaoa Point**	**0.81 76**	P*	Pn	11 57 49.8	-0.1
MXZ			S*	Sn	11 58 03.0	+0.6
KNZ	**Kokohu**	**1.28 168**	*e*P	Pn	11 57 55.5	-0.1
KNZ	**Kokohu**	**1.28 168**	PN	Pn	11 57 55.4	-0.2
BKZ	**Black Stump Fm**	**1.54 205**	P	Pn	11 57 59.3	+0.4
BKZ	**Black Stump Fm**	**1.54 205**	P*	Pn	11 57 59.3	+0.4
KUZ	**Kuaotunu**	**1.64 308**	*e*P	Pn	11 57 59.4	-0.8
KUZ	**Kuaotunu**	**1.64 308**	PN	Pn	11 57 59.4	-0.8
OTVZ	**Oturere**	**1.91 223**	PN	Pn	11 58 04.7	+1.0
WTVZ	**West Tongariro**	**1.91 225**	P	Pn	11 58 04.8	+1.0
WTVZ	**West Tongariro**	**1.91 225**	PN	Pn	11 58 04.8	+0.9
TUVZ	**Tukino**	**1.99 221**	P	Pn	11 58 05.7	+0.9
TUVZ	**Tukino**	**1.99 221**	PN	Pn	11 58 05.7	+0.9
WPVZ	**Whakapapa**	**2.00 224**	P	Pn	11 58 06.2	+1.2
WPVZ	**Whakapapa**	**2.00 224**	PN	Pn	11 58 05.7	+0.7
FWVZ	**Far West T-bar**	**2.03 223**	*e*P	Pn	11 58 06.5	+1.1
FWVZ	**Far West T-bar**	**2.03 223**	PN	Pn	11 58 06.5	+1.1
MOVZ	**Moawhango**	**2.05 216**	P	Pn	11 58 05.8	+0.2
MOVZ	**Moawhango**	**2.05 216**	PN	Pn	11 58 05.8	+0.1
WNVZ	**Wahianoa**	**2.06 220**	PN	Pn	11 58 06.6	+0.8
MTVZ	**Mangateitei**	**2.17 221**	PN	Pn	11 58 08.0	+0.7
PKVZ	**Pokaka**	**2.17 225**	PN	Pn	11 58 08.4	+1.2
PXZ	**Pawanui**	**2.29 189**	PN	Pn	11 58 07.3	-1.6
WPHZ	**Waipukurau**	**2.39 196**	PN	Pn	11 58 08.9	-1.4
TSZ	**Takapari Road**	**2.52 204**	PN	Pn	11 58 10.6	-1.4
WAZ	**Wanganui**	**2.69 222**	*e*P	Pn	11 58 15.1	+0.8
WAZ	**Wanganui**	**2.69 222**	PN	Pn	11 58 14.8	+0.4
BFZ	**Birch Farm**	**3.02 196**	*e*P	Pn	11 58 16.7	-2.1
MRZ	**Mangatainoka R**	**3.19 205**	*e*P	Pn	11 58 18.5	-2.5
MRZ	**Mangatainoka R**	**3.19 205**	PN	Pn	11 58 18.5	-2.5
KIW	**Kapiti Island**	**3.61 210**	P	Pn	11 58 24.1	-2.6
KIW	**Kapiti Island**	**3.61 210**	PN	Pn	11 58 24.1	-2.7
MTW	**Mount Morrison**	**3.67 202**	P	Pn	11 58 24.3	-3.2
MTW	**Mount Morrison**	**3.67 202**	PN	Pn	11 58 24.3	-3.2
CAW	**Cannon Point**	**3.76 207**	P	Pn	11 58 26.1	-2.7
CAW	**Cannon Point**	**3.76 207**	PN	Pn	11 58 26.1	-2.7
TRWZ	**Traveller**	**3.84 199**	PN	Pn	11 58 26.4	-3.4
TUWZ	**Tuamarina**	**4.49 214**	PN	Pn	11 58 35.2	-3.5
QRZ	**Quartz Range**	**4.81 229**	PN	Pn	11 58 40.5	-2.6

*ISCJB **01** 12:12:19.5±3.5, 475N±02×1563E±02, h10km±21km, mb3.7/7, Error ellipse: s-maj=33.0km s-min=13.1km az=101.4*
*IDC **01** 12:12:19.7±0.9, 4736N×15638E, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML3.5/2, Error ellipse: s-maj=34.7km s-min=18.6km az=160.0*
*MOS **01** 12:12:24.1±3.5, 4689N×156.15E, h33km, mb4.1/4, Error ellipse: s-maj=32.3km s-min=19.3km az=75.1*

ISC 01 12:12:22.5±3.6, **475N**±02×**1563E**±02, **h18**km±21km, **n15,** σ0§**93**/15, **mb3.7/7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.18**	**358**	*e*P		**Pg**	**12 13 24.0**	**+0.5**
PET	**Petropavlovsk**	**5.73**	**14**	*e*P		**Pn**	**12 13 44.7**	**-2.0**
PET				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ASAJ	**Asahikawa**	**10.14**	**255**	Pn		**Pn**	**12 14 46.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=247,slow=15,SNR=5.1							
ASAJ	**Asahikawa**	**10.14**	**255**	P		**Pn**	**12 14 46.3**	**-0.8**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**17.29**	**237**	Pn		**Pn**	**12 16 22.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=21,slow=11,SNR=2.9							
KSRS	**Korea Array**	**23.09**	**255**	P		**P**	**12 17 28.6**	**+1.4**
	comp=Z,1.4nm,0.6s,mb3.5,baz=53,slow=9.8,SNR=4.8							
MKAR	**Makanchi Array**	**48.51**	**298**	P		**P**	**12 21 03.7**	**-0.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=62,slow=7.5,SNR=8.9							
MKAR	**Makanchi Array**	**48.51**	**298**	P		**P**	**12 21 03.7**	**-0.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NVAR	**Mina Array Bea**	**60.16**	**64**	P		**P**	**12 22 29.5**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=299,slow=8.0,SNR=4.3							
PDAR	**Pinedale Array**	**62.54**	**56**	P		**P**	**12 22 45.6**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.8,baz=257,slow=4.0,SNR=5.5							
FINES	**FINESS Array B**	**64.26**	**336**	P		**P**	**12 22 57.8**	**+1.3**
	comp=Z,2.3nm,0.9s,mb4.2,baz=35,slow=11,SNR=3.6							
FINES	**FINESS Array B**	**64.26**	**336**	P		**P**	**12 22 57.8**	**+1.3**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**73.65**	**201**	P		**P**	**12 23 54.0**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=18,slow=5.6,SNR=4.9							
TXAR	**Lajitas Array**	**75.23**	**63**	P		**P**	**12 24 04.2**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=315,slow=4.2,SNR=8.6							
TXAR	**Lajitas Array**	**75.23**	**63**	P		**P**	**12 24 04.3**	**+0.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

*ISCJB **01** 12:14:06.6±1.1, 6079N±004×292E±0.1, h0km, Error ellipse: s-maj=8.9km s-min=5.7km az=37.6*
*HEL **01** 12:14:10.6±0.2, 6084N×2900E, h0km, ML2.1, ML2.5(NAO), Explosion*
*IDC **01** 12:14:11.9±1.8, 6080N×2880E, h0km, mb1 3.4/3, mb1mx3.1/21, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=14.3km s-min=11.5km az=149.0*
*NAO **01** 12:14:11.7±1.8, 6077N×2880E, ML2.5*
*BER **01** 12:14:11.8±3.0, 6079N×2886E, h0km, ML2.5(NAO), Suspected explosion*

ISC 01 12:14:09.4±1.0, **6085N**±004×**290E**±01, **h0**km, **n18,** σ1§**14**/31, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.76**	**246**	*e*P		**Pg**	**12 14 24.3**	**+0.4**
VJF				*e*S		**Sg**	**12 14 34.7**	**+1.0**
FIA0	**FINESS Array S**	**1.52**	**294**	Pg		**Pg**	**12 14 37.5**	**-1.0**
	baz=117,slow=16							
FIA0				Lg			12 14 58.5	
	baz=114,slow=37							
FIA0				Rg			12 15 05.9	
	baz=118,slow=37							
FIA0	**FINESS Array S**	**1.52**	**294**	*e*P		**Pn**	**12 14 37.4**	**-0.4**
FIA0				*e*S		**Sg**	**12 14 58.5**	**+0.3**
FINES	**FINESS Array B**	**1.52**	**294**	Pg		**Pg**	**12 14 37.4**	**-1.2**
	4.7nm,0.3s,baz=118,slow=16,SNR=133							
FINES				Lg			12 14 58.4	
	14nm,0.3s,baz=114,slow=31,SNR=38							
PVF	**Pernaja**	**1.55**	**260**	*e*P		**Pn**	**12 14 37.8**	**-0.5**
PVF				*e*S		**Sn**	**12 14 59.2**	**0.0**
KAF	**Kangasniemi**	**1.80**	**316**	*e*P		**Pn**	**12 14 43.1**	**+1.4**
KAF				*e*SN		**Sn**	**12 15 06.7**	**+1.5**
KAF				MSG			12 15 10.2	
	comp=Z,16nm,0.1s							
SUF	**Sumiainen**	**2.30**	**326**	*e*PB		**Pb**	**12 14 50.9**	**-0.9**
SUF				*e*SB		**Sb**	**12 15 20.2**	**-0.6**
SUF				MSG			12 15 23.6	
	comp=Z,9.1nm,0.1s							
KEF	**Keuruu**	**2.36**	**306**	*e*P		**Pn**	**12 14 51.3**	**+1.8**
KEF				*e*SB		**Sb**	**12 15 22.4**	**-0.2**
KEF				MSG			12 15 24.9	
	comp=Z,6.4nm,0.1s							
VSU	**Vasula**	**2.65**	**206**	*e*P		**Pn**	**12 14 54.5**	**+1.1**
VSU				*e*SG		**Sg**	**12 15 32.1**	**-2.4**
HFS	**Hagfors**	**7.57**	**271**	Pn		**Pn**	**12 16 01.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=85,slow=16,SNR=11							
HFS				Sn		**Sn**	**12 17 21.0**	**-6.6**
	comp=Z,0.1nm,0.3s,baz=110,slow=18,SNR=3.7							
HFS				Lg			12 18 18.0	
	comp=Z,0.8nm,0.3s,baz=96,slow=30,SNR=5.1							
HFS	**Hagfors**	**7.57**	**271**	Pn		**Pn**	**12 16 01.6**	**+0.5**
	baz=93,slow=14							
HFS				Sn		**Sn**	**12 17 24.6**	**-2.9**
	baz=79,slow=28							
HFS				Lg			12 18 04.1	
	baz=77,slow=28							
HFS	**Hagfors**	**7.57**	**271**	*e*P		**Pn**	**12 16 01.6**	**+0.5**
HFS				*e*S		**Sn**	**12 17 24.6**	**-2.9**
HFS				*e*SG			12 18 04.1	
NB2	**NORSAR Subarra**	**8.64**	**279**	Pn		**Pn**	**12 16 14.8**	**-0.8**
	baz=85,slow=12							
NB2	**NORSAR Subarra**	**8.64**	**279**	*e*P		**Pn**	**12 16 14.8**	**-0.8**
NOA	**NORSAR Array B**	**8.64**	**279**	Pn		**Pn**	**12 16 15.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=88,slow=13,SNR=3.0							
ARA0	**ARCESS Array S**	**8.84**	**352**	Pn		**Pn**	**12 16 18.6**	**+0.1**
	baz=165,slow=16							
ARA0				Sn		**Sn**	**12 17 56.4**	**-2.4**
	baz=163,slow=28							
ARA0	**ARCESS Array S**	**8.84**	**352**	*e*P		**Pn**	**12 16 18.6**	**+0.1**
ARA0				*e*S		**Sn**	**12 17 56.4**	**-2.4**
ARCES	**ARCESS Array B**	**8.84**	**352**	Pn		**Pn**	**12 16 19.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=169,slow=13,SNR=6.9							
ARCES				Sn		**Sn**	**12 17 53.3**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=3.4							
ARCES				Lg			12 18 39.4	
	comp=Z,0.5nm,0.3s,baz=170,slow=30,SNR=5.5							

*IDC **01** 12:19:20.7±1.9, 4814N×15529E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, MS2.9/1, Ms1 2.9/1, ms1mx2.6/32, Error ellipse: s-maj=52.6km s-min=26.1km az=168.0*
*ISCJB **01** 12:19:25.8±2.2, 483N±02×1552E±03, h44km±15km, mb3.8/8, Error ellipse: s-maj=38.5km s-min=11.5km az=89.3*
*MOS **01** 12:19:26.2±1.1, 4834N×155.18E, h49km, mb4.3/5, Error ellipse: s-maj=28.6km s-min=16.1km az=81.8*

ISC 01 12:19:27.7±2.0, **483N**±02×**1553E**±03, **h48**km±13km, **n16,** σ0§**66**/17, **mb3.8/8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.45**	**13**	*e*PN		**Pn**	**12 20 05.2**	**+0.1**
PET	**Petropavlovsk**	**5.20**	**23**	*e*PN		**Pn**	**12 20 41.8**	**-1.1**
PET				*e*S		**Sn**	**12 21 41.9**	**+0.4**
PET				pmax	pmax			
	comp=Z,5.0nm,0.5s							
PET				smax				
	comp=E,31nm,0.6s							
PET				smax				
	comp=N,33nm,0.7s							
ASAJ	**Asahikawa**	**9.72**	**249**	Pn		**Pn**	**12 21 45.9**	**+1.0**
	comp=N,0.5nm,0.3s,baz=67,slow=7.7,SNR=3.9							
ASAJ				LR		LR	12 25 14.3	
	comp=N,72nm,21.1s,baz=65,slow=36							
KSRS	**Korea Array**	**22.65**	**252**	P		**P**	**12 24 23.8**	**-1.0**
	comp=N,1.2nm,0.9s,mb3.3,baz=70,slow=12,SNR=4.1							
SONM	**Songino Array**	**32.21**	**288**	P		**P**	**12 25 50.7**	**-0.5**
	comp=N,0.2nm,0.4s,mb3.3,baz=54,slow=7.3,SNR=3.2							
MKAR	**Makanchi Array**	**47.52**	**297**	P		**P**	**12 27 57.9**	**-0.3**
	comp=N,1.5nm,0.6s,mb4.2,baz=62,slow=7.9,SNR=20							
MKAR	**Makanchi Array**	**47.52**	**297**	P		**P**	**12 27 57.9**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**50.99**	**309**	P		**P**	**12 28 24.7**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=52,slow=8.5,SNR=5.5							
BVAR	**Borovoye Array**	**50.99**	**309**	P		**P**	**12 28 24.7**	**0.0**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**63.24**	**335**	P		**P**	**12 29 50.7**	**-0.5**
	comp=Z,0.9nm,0.7s,mb4.0,baz=46,slow=8.2,SNR=4.1							
FINES	**FINESS Array B**	**63.24**	**335**	P		**P**	**12 29 50.7**	**-0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**67.21**	**342**	P		**P**	**12 30 17.4**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=26,slow=6.3,SNR=3.7							
NOA	**NORSAR Array B**	**67.21**	**342**	P		**P**	**12 30 17.4**	**+0.5**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**67.49**	**340**	P		**P**	**12 30 19.8**	**+1.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=77,slow=6.4,SNR=7.8							
HFS	**Hagfors**	**67.49**	**340**	P		**P**	**12 30 19.8**	**+1.1**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.5s							
TXAR	**Lajitas Array**	**75.48**	**62**	P		**P**	**12 31 07.0**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=293,slow=4.9,SNR=7.0							

*IDC **01** 12:28:53.0±1.1, 1343N×90.17W, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.7/9, ML3.0/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/32, Error ellipse: s-maj=51.6km s-min=17.1km az=56.0*
*NEIC **01** 12:28:54.4±0.8, 1346N×9009W, h10km, Error ellipse: s-maj=21.0km s-min=10.7km az=218.0*
*ISCJB **01** 12:28:58.6±1.3, 133N±0.1×9064W±009, h66km±10km, mb3.7/7, Error ellipse: s-maj=20.1km s-min=11.9km az=64.9*
*CASC **01** 12:28:58.4±3.1, 1326N×9076W, h20km±21km, MD3.9*

ISC 01 12:28:59.5±1.4, **133N**±01×**9057W**±009, **h53**km±12km, **n28,** σ1§**13**/22, **mb3.7/7, MS3.3**/3, **2C-1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TER	**Terranova**	**1.04**	**354**	⇑*e*P		**Pn**	**12 29 17.9**	**0.0**
SBLS	**San Blas**	**1.09**	**58**	⇑*e*P		x	12 29 54.0	
SBLS				*e*S		x	12 30 12.3	
SNJE	**San Jose**	**1.12**	**57**	*e*P		x	12 29 54.5	
SNJE				*e*S		x	12 30 14.1	
PCG	**Pacaya**	**1.13**	**358**	*e*P		**Pn**	**12 29 19.5**	**+0.5**
RBDL	**Robledal**	**1.21**	**45**	*e*P		x	12 29 56.0	
RBDL				*e*S		x	12 30 09.9	
FUG	**Fuego 3**	**1.21**	**347**	*e*P		**Pn**	**12 29 19.8**	**-0.3**
FUG				*e*S		**Sn**	**12 29 35.4**	**0.0**
JAT	**Jato**	**1.47**	**316**	*e*P		**Pn**	**12 29 22.6**	**-1.1**
LFRS	**El Faro**	**1.51**	**76**	*e*P		x	12 29 59.4	
LFRS				*e*S		x	12 30 21.4	
LCBS	**La Ceiba**	**1.60**	**76**	*e*P		x	12 30 00.4	
LCBS				*e*S		x	12 30 21.6	
SNVI	**San Vicente**	**1.72**	**78**	*e*P		x	12 29 57.1	
MRL	**Marmol**	**1.99**	**25**	⇓*e*P		**Pn**	**12 29 32.9**	**+2.3**
TGUH	**Tegucigalpa,Un**	**3.30**	**76**	P		**Pn**	**12 29 38.1**	**-11**
CMIG	**Matias Romero**	**5.64**	**313**	Pn		**Pn**	**12 30 19.9**	**-0.8**
	0.4nm,0.3s,baz=120,slow=11,SNR=5.6							
CMIG				Sn		**Sn**	**12 31 24.3**	**+0.1**
	0.7nm,0.3s,baz=72,slow=11,SNR=4.2							
CMIG	**Matias Romero**	**5.64**	**313**	Pn		**Pn**	**12 30 19.9**	**-0.8**
CMIG				Sn		**Sn**	**12 31 24.3**	**+0.1**
TEIG	**Tepich**	**7.27**	**17**	Pn		**Pn**	**12 30 42.7**	**-0.3**
TEIG				LR		LR	12 33 59.5	
	comp=Z,306nm,18.8s,baz=257,slow=44							
TXAR	**Lajitas Array**	**20.09**	**325**	P		**P**	**12 33 30.8**	**+2.3**
	1.9nm,0.7s,baz=151,slow=11,SNR=16							
LPIG	**La Paz**	**21.55**	**303**	LR		LR	12 42 31.6	
	comp=Z,64nm,20.9s,MS3.0,baz=358,slow=38							
TKL	**Tuckaleechee C**	**23.13**	**14**	P		**P**	**12 33 59.0**	**-2.1**
	4.8nm,0.8s,mb4.0,baz=162,slow=9.6,SNR=3.4							
TKL	**Tuckaleechee C**	**23.13**	**14**	P		**P**	**12 33 59.0**	**-2.1**
PCRV	**Puerto La Cruz**	**25.57**	**94**	LR		LR	12 46 09.0	
	comp=Z,47nm,18.2s,MS3.0,baz=78,slow=41							
PDAR	**Pinedale Array**	**33.67**	**334**	P		**P**	**12 35 36.2**	**+0.9**
	0.2nm,0.5s,mb3.3,baz=138,slow=14,SNR=3.0							
NVAR	**Mina Array Bea**	**35.12**	**321**	P		**P**	**12 35 49.5**	**+1.8**
	0.8nm,0.7s,mb3.8,baz=140,slow=6.9,SNR=7.1							
LPAZ	**La Paz**	**36.80**	**142**	P		**P**	**12 36 02.5**	**+0.4**
	0.4nm,0.4s,mb3.6,baz=309,slow=6.5,SNR=3.7							
LPAZ	**La Paz**	**36.80**	**142**	P		**P**	**12 36 02.5**	**+0.4**
ULM	**Lac du Bonnet**	**37.14**	**354**	P		**P**	**12 36 03.4**	**-1.6**
	2.0nm,0.6s,mb4.1,baz=167,slow=12,SNR=3.6							
SIV	**San Ignacio**	**41.18**	**134**	P		**P**	**12 36 38.3**	**-0.4**
	0.8nm,0.8s,mb3.4,baz=299,slow=16,SNR=4.8							
SCHQ	**Schefferville**	**45.45**	**19**	LR		LR	12 56 58.5	
	comp=Z,123nm,19.4s,MS3.9,baz=147,slow=37							
YKA	**Yellowknife Ar**	**52.06**	**346**	P		**P**	**12 38 03.1**	**-0.8**
	0.5nm,0.5s,mb3.7,baz=143,slow=6.6,SNR=8.5							

*HLW **01** 12:38:12.0, 3002N×3692E, h18km, Mb2.9*
*ISCJB **01** 12:38:18.6±3.3, 2987N±007×36.1E±02, h3km±13km, Error ellipse: s-maj=33.9km s-min=11.4km az=18.0*
*GII **01** 12:38:21.3±1.5, 3000N×3590E, h0km±11km*

ISC 01 12:38:18.9±3.8, **2987N**±007×**361E**±02, **h4**km±14km, **n11,** σ0§**87**/12, **Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**0.93**	**262**	Pg		**Pg**	**12 38 37.5**	**+0.7**
EIL	**Elat**	**1.03**	**259**	Pg		**Pg**	**12 38 39.2**	**+0.6**
ZFRI	**Zfri**	**1.06**	**311**	Pg		**Pg**	**12 38 38.0**	**-1.2**
MZDA	**Masada**	**1.58**	**336**	Pn		**Pn**	**12 38 46.3**	**-1.3**
MZDA				Sn		**Sn**	**12 39 08.8**	**+0.4**
SVTA	**Shivta**	**1.67**	**310**	Pn		**Pn**	**12 38 48.5**	**-0.4**
HDHB	**Dhahab**	**1.73**	**229**	P		**Pn**	**12 38 49.4**	**-0.3**
KZIT	**Kziot**	**1.81**	**305**	Pn		**Pn**	**12 38 51.2**	**+0.5**
HNKL	**Nakhl**	**1.85**	**272**	P		**Pn**	**12 38 51.8**	**+0.5**
HKAT	**Jabal Katrina**	**2.29**	**235**	P		**Pn**	**12 38 56.9**	**-0.4**
HMDT	**Nahal Hemdat**	**2.43**	**348**	Pn		**Pn**	**12 39 01.4**	**+2.0**
AMAG	**Maghara**	**2.63**	**288**	P		**Pn**	**12 39 01.2**	**-0.8**

*MOS **01** 12:53:09.8±1.4, 5566N×110.19E, h6km, mb4.2/1, Error ellipse: s-maj=16.4km s-min=12.8km az=53.4*

BYKL 01 12:53:09.5±0.3, **5568N**×**11015E**, **h4**km±5km, **7C, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**286**	*e*PG		Pg	12 53 16.7	+0.3
NIZ				*e*			12 53 22.5	
NIZ				pmax	pmax			
	comp=Z,207nm,0.2s							
NIZ				smax				
	comp=N,2μm,0.4s							
NIZ	**Nizh Angarsk**	**0.36**	**286**	⇑*i*Pg		Pg	12 53 16.7	+0.3
NIZ				*e*Sg		Sg	12 53 21.1	+0.1
NIZ				*e*			12 53 23.1	
NIZ				Pmax				
	comp=N,213nm,0.2s							
NIZ				max				
	comp=N,2μm,0.3s							
KMO	**Kumora**	**0.63**	**70**	*e*PG		Pg	12 53 20.8	-0.8
KMO				*e*			12 53 28.8	
KMO				pmax	pmax			
	comp=Z,358nm,0.2s							
KMO				smax				
	comp=N,617nm,0.8s							
KMO	**Kumora**	**0.63**	**70**	⇑*i*Pg		Pg	12 53 20.8	-0.8
KMO				*e*Sg		Sg	12 53 28.9	-0.8
KMO				Pmax				
	comp=N,360nm,0.3s							
KMO				Smax				
	comp=N,654nm,1.4s							
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑*i*PG		Pg	12 53 27.3	-1.2
YLYR				*e*			12 53 40.4	
YLYR				pmax	pmax			
	comp=Z,144nm,0.2s							
YLYR				smax				
	comp=N,400nm,0.2s							
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑*i*Pg		Pg	12 53 27.3	-1.2
YLYR				*e*			12 53 28.1	
YLYR				*e*Sg		Sg	12 53 40.2	-1.2
YLYR				max				
	comp=N,142nm,0.1s							
YLYR				Smax				
	comp=N,396nm,0.1s							
YOA	**Uoyan**	**1.00**	**62**	⇑*i*PG		Pg	12 53 27.6	-1.0
YOA	**Uoyan**	**1.00**	**62**	*e*Pg		Pg	12 53 27.6	-1.0
YOA				*e*Sg		Sg	12 53 41.6	+0.1
YOA				Pmax				
	comp=N,110nm,0.3s							
YOA				Smax				
	comp=N,843nm,0.3s							
SVKR	**Severomuysk**	**1.97**	**76**	*e*PN		Pn	12 53 44.6	+1.0
SVKR				*e*			12 53 45.6	
SVKR				*e*			12 54 10.4	
SVKR				pmax	pmax			
	comp=Z,144nm,0.7s							
SVKR				smax				
	comp=N,1μm,0.8s							
SVKR	**Severomuysk**	**1.97**	**76**	*e*Pn		Pn	12 53 44.5	+0.9
SVKR				⇑*i*Pg		Pg	12 53 45.9	-1.3
SVKR				*e*Sn		Sn	12 54 10.5	+1.8
SVKR				*e*Sg		Sg	12 54 12.4	-0.4
SVKR				Pmax				
	comp=N,140nm,0.3s							
SVKR				Smax				
	comp=N,1μm,0.5s							
UKT	**Uakit**	**1.98**	**94**	*e*PN		Pn	12 53 44.5	+0.7
UKT				*e*			12 54 11.4	
UKT				pmax	pmax			
	comp=Z,126nm,0.2s							
UKT				smax				
	comp=N,239nm,0.5s							
UKT	**Uakit**	**1.98**	**94**	⇑*i*Pg		Pg	12 53 44.6	-2.9
UKT				*e*Sg		Sg	12 54 11.2	-2.0
UKT				Pmax				
	comp=N,158nm,0.9s							
UKT				Smax				
	comp=N,254nm,0.8s							
SYVR	**Suvo**	**2.03**	**183**	*e*PN		Pn	12 53 45.8	+1.4
SYVR				*e*			12 54 13.1	
SYVR				pmax	pmax			
	comp=Z,45nm,0.4s							
SYVR				smax				
	comp=E,435nm,0.7s							
SYVR	**Suvo**	**2.03**	**183**	*e*		Pn	12 53 45.0	+0.6
SYVR				*i* Pg		Pg	12 53 45.8

comp=E,30nm,0.8s
CRS Smax
comp=E,25nm,1.1s
IRK Irkutsk 4.89 228 eSn Sn 12 55 20.9 +0.1
IRK eSg Sg 12 55 40.0 -6.5
IRK Smax
comp=E,178nm,0.5s
LSTR Listvyanka 4.95 222 eSn Sn 12 55 22.2 -0.1
LSTR eSg Sg 12 55 42.6 -6.0
LSTR Smax
comp=E,42nm,0.7s
TLY Talaya 5.57 227 ePN Pn 12 54 33.5 +0.4
TLY e 12 54 49.4
TLY eS Sn 12 55 35.4 -2.1
TLY e 12 56 00.6
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY smax
comp=N,29nm,1.5s
TLY Talaya 5.57 227 eSn Sn 12 55 36.1 -1.4
TLY eSg Sg 12 56 01.9 -6.4
TLY Smax
comp=N,21nm,0.6s
TUP Tupik 5.78 99 ePN Pn 12 54 35.4 -0.5
TUP e 12 54 52.7
TUP eS Sn 12 55 39.4 -3.2
TUP e 12 56 06.2
TUP pmax pmax
comp=Z,14nm,0.5s
TUP smax
comp=N,43nm,1.1s
TUP Tupik 5.78 99 ePn Pn 12 54 35.5 -0.4
TUP eSg Sg 12 54 52.3 -7.8
TUP Pmax
comp=N,7.0nm,0.5s
TUP Smax
comp=N,29nm,0.6s
ARS Arshan 5.93 234 ePn Pn 12 54 37.5 -0.5
ARS eSn Sn 12 55 42.7 -3.7
ARS eSg Sg 12 56 11.3 -8.5
ARS Smax
comp=N,126nm,0.8s
KPC Khapcheranga 6.14 166 eSg Sg 12 56 19.2 -7.4
KPC Smax
comp=N,37nm,1.0s
ZAK Zakamensk 6.73 221 eSg Sg 12 56 39.2 -6.4
ZAK Smax
comp=N,35nm,1.8s
MOY Mondy 6.76 237 ePN Pn 12 54 51.2 +1.7
MOY e 12 55 11.0
MOY eS Sn 12 56 05.3 -1.7
MOY e 12 56 39.9
MOY pmax pmax
comp=Z,1.0nm,0.1s
MOY smax
comp=N,39nm,1.3s
MOY Mondy 6.76 237 ePn Pn 12 54 49.6 +0.1
MOY eSn Sn 12 56 05.3 -1.7
MOY eSg Sg 12 56 36.8 -10
MOY max
comp=N,25nm,1.3s
MOY Smax
comp=N,40nm,1.7s

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*IDC **01** 13:06:58.2±5.3, 4284N×14327E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/22, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=122.2km s-min=41.4km az=102.0*
*ISCJB **01** 13:07:07.6±0.5, 4244N±004×14268E±004, h84km±4km, mb3.6/3, Error ellipse: s-maj=6.4km s-min=4.9km az=119.8*
*JMA **01** 13:07:08.6±0.1, 4249N×14271E, h77km±2km, M3.2 Broadband fault plane solution: P waves. NP1: φs=132.00000°, δ20.00000°, λ-40.00000°. NP2: φs=260.00000°, δ78.00000°, λ-105.00000°. Principal axes: T Plg31.0000°, Azm3.0000°; N Plg15.0000°, Azm264.0000°; P Plg55.0000°, Azm151.0000°;*
ISC 01 13:07:08.4±0.5, 4244N±004×14268E±004, h80km±4km, n19, σ0°75/34, mb3.6/3, 4C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.17**	**161**	⇑P	**Pn**	**13 07 20.2**	**+0.1**
JNBK				eS	**Sn**	**13 07 29.5**	**+0.8**
JBT2	**Biratori 2**	**0.41**	**325**	⇓P	**Pn**	**13 07 20.8**	**-0.7**
JBT2				eS	**Sn**	**13 07 30.6**	**-0.5**
JCH	**Churui**	**0.53**	**71**	⇓P	**Pn**	**13 07 22.1**	**-0.4**
JCH				eS	**Sn**	**13 07 32.0**	**-0.9**
JEM	**Erimo**	**0.55**	**140**	⇑P	**Pn**	**13 07 23.1**	**+0.4**
JEM				eS	**Sn**	**13 07 34.3**	**+1.1**
JFR	**Furan**	**0.73**	**355**	⇓P	**Pn**	**13 07 23.8**	**-0.6**
JFR				eS	**Sn**	**13 07 35.8**	**-0.4**
JOB	**Onbets**	**0.97**	**61**	⇓P	**Pn**	**13 07 27.5**	**+0.4**
JOB				S	**Sn**	**13 07 41.8**	**+0.7**
JEW	**Eniwo**	**0.99**	**294**	⇓P	**Pn**	**13 07 27.5**	**+0.1**
JEW				S	**Sn**	**13 07 41.9**	**+0.4**
JAB	**Ashibetsu**	**1.12**	**343**	P	**Pn**	**13 07 29.0**	**+0.1**
JAB				eS	**Sn**	**13 07 44.2**	**0.0**
JAR	**Ashorobuto**	**1.17**	**43**	⇓P	**Pn**	**13 07 29.4**	**-0.2**
JAR				S	**Sn**	**13 07 44.9**	**-0.5**
JNB	**Noboribetsu**	**1.22**	**272**	⇓P	**Pn**	**13 07 29.4**	**-0.7**
JNB				S	**Sn**	**13 07 45.7**	**-0.7**
JKB	**Kayabe**	**1.34**	**246**	⇑P	**Pn**	**13 07 31.5**	**-0.2**
JKB				S	**Sn**	**13 07 48.7**	**-0.6**
JKK2	**Kamakawa 2**	**1.43**	**2**	P	**Pn**	**13 07 33.1**	**+0.2**
JKK2				eS	**Sn**	**13 07 51.4**	**+0.1**
JHR	**Hokuryu**	**1.48**	**332**	P	**Pn**	**13 07 34.7**	**+1.2**
JHR				S	**Sn**	**13 07 54.7**	**+2.3**
JAK	**Akkeshi**	**1.59**	**69**	⇓P	**Pn**	**13 07 34.3**	**-0.6**
JAK				eS	**Sn**	**13 07 54.1**	**-0.7**
JOT	**Ohata**	**1.61**	**230**	⇑P	**Pn**	**13 07 35.0**	**-0.2**
JOT				eS	**Sn**	**13 07 54.6**	**-0.9**
MJAR	**Matsushiro Arr**	**6.83**	**212**	Pn	**Pn**	**13 08 47.5**	**+1.6**
	0.5nm,0.3s,baz=29,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**42.28**	**297**	P	**P**	**13 14 55.0**	**+1.0**
	0.2nm,0.6s,mb3.0,baz=69,slow=7.9,SNR=4.4						
BVAR	**Borovoye Array**	**47.79**	**309**	P	**P**	**13 15 37.6**	**0.0**
	0.7nm,0.4s,mb3.8,baz=74,slow=9.9,SNR=5.8						
FINES	**FINESS Array B**	**64.51**	**332**	P	**P**	**13 17 35.4**	**-1.3**
	1.6nm,0.9s,mb3.9,baz=45,slow=8.4,SNR=4.9						

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*ISCJB **01** 13:08:05.9±0.6, 5014N±004×1838E±004, h0km, Error ellipse: s-maj=6.3km s-min=3.0km az=37.0*
*WAR **01** 13:08:07.9, 5006N×1845E, ML2.5, Mining Induced*
*PRU **01** 13:08:08.6, 5009N×1835E, h0km*
ISC 01 13:08:07.4±0.5, 5010N±004×1838E±003, h0km, n14, σ1°25/23, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.12**	**261**	*i* Pg	**Pg**	**13 08 11.6**	**+1.8**
RAC				eSg	**Sg**	**13 08 14.9**	**+3.5**
OKC	**Ostrava-Krasne**	**0.30**	**210**	ePG	**Pg**	**13 08 13.5**	**+0.2**
OKC				eSG	**Sg**	**13 08 18.1**	**+0.9**
	74nm,0.5s						
OJC	**Ojcow**	**0.92**	**82**	ePg	**Pg**	**13 08 24.1**	**-0.9**
OJC				eSg	**Sg**	**13 08 36.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.35**	**281**	ePG	**Pg**	**13 08 33.3**	**+0.1**
DPC				eSG	**Sg**	**13 08 51.7**	**+1.0**
	22nm,0.4s						
NIE	**Niedzica**	**1.43**	**118**	ePg	**Pg**	**13 08 34.1**	**-0.7**
NIE				eSg	**Sg**	**13 08 54.0**	**+0.7**
UPC	**Upice**	**1.57**	**286**	ePG	**Pg**	**13 08 36.4**	**-1.2**
UPC				eSG	**Sg**	**13 08 58.2**	**+0.2**
VYHS	**Vyhne**	**1.64**	**169**	ePN	**Pn**	**13 08 36.1**	**-1.3**
VYHS				eSN	**Sn**	**13 08 58.0**	**-1.2**
STHS	**Stebnicka Huta**	**1.98**	**109**	ePN	**Pn**	**13 08 44.2**	**+2.1**
STHS				eSN	**Sn**	**13 09 12.0**	**+4.4**
KECS	**Kecovo**	**2.13**	**139**	eSN	**Sn**	**13 09 10.6**	**-0.7**
PRU	**Pruhonice**	**2.48**	**269**	eSG	**Sg**	**13 09 24.8**	**-2.3**
PVCC	**Panska Ves**	**2.48**	**281**	eSG	**Sg**	**13 09 27.4**	**+0.2**
BRG	**Berggiesshubel**	**2.94**	**287**	SG	**Sg**	**13 09 42.9**	**+1.1**
	2.1nm,0.2s						
KHC	**Kasperske Hory**	**3.27**	**255**	ePG	**Pg**	**13 09 09.5**	**-0.6**
KHC				eSG	**Sg**	**13 09 50.3**	**-2.3**
BZS	**Buzias**	**4.99**	**153**	S	**Sn**	**13 10 24.3**	**+2.4**

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*SZGRF **01** 13:11:57.1, 3623N×7151E, h33km, mb5.0,*
Afghanistan-Tajikistan border region
*BJI **01** 13:12:16.6, 3660N×7052E, h198km, mB4.8, mb4.8*
*ISCJB **01** 13:12:17.2±0.1, 3644N±002×7063E±002, h209km, mb4.6/126, Error ellipse: s-maj=2.6km s-min=1.9km az=89.2*
*NEIC **01** 13:12:17.6±0.9, 3642N×7060E, h198km±8km, mb4.6/78, Error ellipse: s-maj=5.5km s-min=3.5km az=190.0*
*MOS **01** 13:12:17.5±0.9, 3652N×7056E, h206km, mb4.5/58, Error ellipse: s-maj=6.1km s-min=3.6km az=117.8*
*IDC **01** 13:12:19.4±0.6, 3647N×7063E, h214km±5km, mb4.4/28, mb1 4.5/31, mb1mx4.5/31, mbtmp4.4/31, Error ellipse: s-maj=9.1km s-min=7.2km az=178.0*
ISC 01 13:12:18.8±0.1, 3648N±002×7067E±002, h211km, h211km±2.3km: pP-P, n438, σ1°03/479, mb4.6/126, 70C-36D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.84**	**159**	⇑P	**Pn**	**13 13 07.1**	**-0.1**
CHCP	**Chirah Chowk**	**3.53**	**142**	⇑P	**Pn**	**13 13 15.7**	**+0.4**
NIL	**Nilore**	**3.53**	**142**	Pn	**Pn**	**13 13 16.6**	**+1.3**
	2μm,0.8s,SNR=97						
THW	**Thamme Wali**	**3.78**	**166**	P	**Pn**	**13 13 17.8**	**-0.5**
SRNI	**Srinagar**	**4.17**	**124**	eP	**Pn**	**13 13 20.0**	**-3.0**
SRNI				ex	x	13 14 25.0	
SBDP	**Sheikh Budin**	**4.17**	**178**	⇑P	**Pn**	**13 13 21.5**	**-1.6**
DRP	**Derazinda**	**4.74**	**185**	⇓P	**Pn**	**13 13 29.1**	**-1.1**
SARP	**Sargodha**	**4.84**	**159**	⇓P	**Pn**	**13 13 30.5**	**-1.0**
JMU	**Jammu**	**5.13**	**136**	ex	**Pn**	**13 13 37.0**	**+1.9**
JMU				eS	**S**	**13 14 31.0**	**-4.4**
THN	**Thein Dam**	**5.80**	**133**	eP	**Pn**	**13 13 42.6**	**-1.1**
THN				ex	x	13 14 48.8	
DLH	**Dalhousie**	**5.88**	**130**	eP	**Pn**	**13 13 44.0**	**-0.7**
DLH				ex	x	13 14 51.0	
AML	**Almayashu**	**6.11**	**22**	P	**Pn**	**13 13 47.2**	**-0.4**
	SNR=1274						
UCH	**Uchtor**	**6.46**	**26**	P	**Pn**	**13 13 51.9**	**-0.3**
	SNR=2042						
KK31	**Karatay Array**	**6.61**	**359**	ePN	**Pn**	**13 13 52.4**	**-1.7**
KK31				pmax	pmax		
	comp=Z,121nm,0.2s						
KKAR	**Karatay Array**	**6.61**	**359**	ePN	**Pn**	**13 13 52.4**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,24nm,0.2s						
KKAR				pmax	pmax		
	comp=Z,156nm,0.5s						
KZA	**Kyzart**	**6.62**	**31**	P	**Pn**	**13 13 53.6**	**-0.6**
	SNR=133						
EKS2	**Erkin-Say**	**6.62**	**20**	P	**Pn**	**13 13 53.8**	**-0.4**
	SNR=463						
AAK	**Ala-Archa**	**6.82**	**25**	Pn	**Pn**	**13 13 55.2**	**-1.5**
	comp=Z,3μm,0.6s						
AAK	**Ala-Archa**	**6.82**	**25**	⇓P	**Pn**	**13 13 55.7**	**-1.0**
	SNR=82						
AAK	**Ala-Archa**	**6.82**	**25**	ePN	**Pn**	**13 13 55.6**	**-1.1**
AAK				e		13 15 12.9	
AAK				pmax	pmax		
	comp=Z,448nm,0.8s						
AAK	**Ala-Archa**	**6.82**	**25**	ePn	**Pn**	**13 13 55.6**	**-1.1**
	comp=Z,448nm,0.8s						
AAK				eSn	**S**	**13 15 12.9**	**-1.7**
BHK	**Bhakra**	**6.95**	**135**	eP	**Pn**	**13 13 57.0**	**-1.4**
KBK	**Karagaybulak**	**7.00**	**27**	P	**Pn**	**13 13 59.1**	**+0.1**
	SNR=49						
FRU	**Bishkek**	**7.04**	**24κ**	*i* PN	**Pn**	**13 13 59.0**	**-0.5**
FRU				*i* S	**S**	**13 15 16.5**	**-3.2**
FRU				pmax	pmax		
	comp=Z,560nm,1.4s						
FRU				smax			
	comp=N,700nm,1.4s						
ULHL	**Ulahol**	**7.19**	**35**	P	**Pn**	**13 14 00.7**	**-0.9**
	SNR=30						
SDNR	**Sundarnagar**	**7.21**	**132**	eP	**Pn**	**13 14 01.0**	**-0.9**
CHMS	**Chumysh**	**7.23**	**25**	P	**Pn**	**13 14 01.3**	**-0.8**
	SNR=487						
USP	**Ospenovka**	**7.39**	**22**	P	**Pn**	**13 14 02.8**	**-1.3**
	SNR=156						
TKM2	**Tokmak 2**	**7.47**	**29**	P	**Pn**	**13 14 04.9**	**-0.2**
	SNR=256						
SMLA	**Simla**	**7.60**	**133**	ex	**Pn**	**13 14 10.0**	**+3.2**
SMLA				eS	**S**	**13 15 26.0**	**-7.0**
KLP	**Kalpa**	**8.00**	**126**	eP	**Pn**	**13 14 11.7**	**-0.3**
KKR	**Kurukshetra**	**8.29**	**140**	eP	**Pn**	**13 14 15.1**	**-0.8**
DDI	**Dehra Dun**	**8.71**	**133**	eP	**Pn**	**13 14 20.5**	**-0.7**
DDI				ex	x	13 15 45.5	
RTK	**Rohtak**	**8.86**	**145**	eP	**Pn**	**13 14 21.7**	**-1.5**
BHGR	**Bahadurgarh**	**9.40**	**144**	eP	**Pn**	**13 14 28.9**	**-1.2**
BHGR				eS	**S**	**13 16 08.0**	**-7.6**
KHET	**Khetri**	**9.44**	**151**	eP	**Pn**	**13 14 28.1**	**-2.5**
KHET				eS	**S**	**13 16 06.7**	**-10**
NDI	**New Delhi**	**9.54**	**143**	eP	**Pn**	**13 14 29.0**	**-2.9**
	comp=N,29nm,0.6s						
NDI				ex	x	13 16 07.0	
AYAN	**Aya Nagar**	**9.66**	**144**	eP	**Pn**	**13 14 32.2**	**-1.2**
AYAN				eS	**S**	**13 16 14.0**	**-7.7**
KUDL	**Kundal**	**9.66**	**148**	eP	**Pn**	**13 14 30.1**	**-3.3**
KUDL				eS	**S**	**13 16 11.8**	**-10**
SONA	**Sohna**	**9.84**	**145**	eP	**Pn**	**13 14 34.3**	**-1.4**
SONA				eS	**S**	**13 16 17.6**	**-8.4**
AJM	**Ajmer**	**10.53**	**160**	eP	**Pn**	**13 14 42.8**	**-1.8**
AJM				eS	**S**	**13 16 28.0**	**-14**
PTH	**Pithoragarh**	**10.58**	**128**	eP	**Pn**	**13 14 45.8**	**+0.5**
PTH				ex	x	13 16 35.2	
LGTI	**Lohaghat**	**10.67**	**128**	eP	**Pn**	**13 14 43.3**	**-3.1**
LGTI				ex	x	13 16 35.5	
AGRA	**Agra**	**11.10**	**144**	eP	**Pn**	**13 14 49.5**	**-2.4**
AGRA				eS	**S**	**13 16 47.0**	**-9.0**
MK31	**Makanchi Array**	**13.46**	**36**	eP	**Pn**	**13 15 21.1**	**-0.5**
MKAR	**Makanchi Array**	**13.46**	**36**	P	**Pn**	**13 15 20.8**	**-0.9**
	comp=N,5.6nm,0.3s,baz=215,slow=12,SNR=244						
MKAR	**Makanchi Array**	**13.46**	**36**	P	**Pn**	**13 15 21.1**	**-0.5**
MKAR						13 17 46.2	
MKAR				pmax	pmax		
	comp=Z,34nm,0.7s						
MKAR				smax			
	comp=Z,31nm,1.0s						
KOLN	**Koldanda**	**13.97**	**125**	eP	**Pn**	**13 15 27.2**	**-0.7**
	comp=Z,127nm,0.3s						
KOLN				eS	**S**	**13 17 53.3**	**-10**
BHPL	**Bhopal**	**14.43**	**154**	eP	**Pn**	**13 15 32.9**	**-0.7**
GKN	**Gorkha**	**14.52**	**122**	eP	**Pn**	**13 15 34.6**	**0.0**
	comp=Z,503nm,0.4s						
GKN				eS	**S**	**13 18 06.2**	**-10**
ALBI	**Allahabad**	**14.66**	**136**	ex	x	13 15 34.0	
WMQ	**Urumqi**	**14.93**	**55**	⇑P	**Pn**	**13 15 40.8**	**+1.2**
WMQ				XP		13 16 35.1	
WMQ				S	**S**	**13 18 21.5**	**-3.6**
WMQ				PCP	PcP	13 20 37.3	+3.6
WMQ				SCP	ScP	13 23 51.7	+4.2
WMQ				PCS	PcS	13 24 14.4	+5.5
WMQ				SCS	ScS	13 27 26.3	+0.8
WMQ				AMB	AMB		
	comp=Z,36nm,1.0s						
AB31	**Akbulak array**	**14.97**	**332**	P	**Pn**	**13 15 38.0**	**-2.1**
AB31				e		13 18 13.9	
AB31				pmax	pmax		
	comp=Z,14nm,0.4s						
AB31				smax			
	comp=Z,56nm,1.0s						
DMN	**Daman**	**15.09**	**122**	eP	**Pn**	**13 15 41.8**	**+0.2**
	comp=Z,236nm,0.4s						
DMN				eS	**S**	**13 18 20.8**	**-8.0**
KKN	**Kakani**	**15.10**	**121**	eP	**Pn**	**13 15 41.8**	**+0.1**
	comp=Z,436nm,0.4s						
KKN				eS	**S**	**13 18 21.4**	**-7.6**
KKN	**Kakani**	**15.10**	**121**	eP	**Pn**	**13 15 41.8**	**+0.1**
	comp=Z,438nm,0.4s						
KKN				eS	**S**	**13 18 21.0**	**-8.0**
PKI	**Pulchoki**	**15.32**	**121**	eP	**Pn**	**13 15 44.5**	**+0.1**
	comp=Z,611nm,0.6s						
PKI				eS	**S**	**13 18 26.3**	**-7.8**
KURK	**Kurchatov**	**15.34**	**19**	Pn	**Pn**	**13 15 43.9**	**-0.6**
	comp=Z,195nm,0.7s,SNR=9.4						
KURK	**Kurchatov**	**15.34**	**19**	⇓P	**Pn**	**13 15 43.7**	**-0.8**
	SNR=12						
KURK	**Kurchatov**	**15.34**	**19**	*d i* P	**Pn**	**13 15 42.5**	**-2.0**
KURK	**Kurchatov**	**15.34**	**19**	eP	**Pn**	**13 15 42.4**	**-2.2**
	comp=Z,26nm,0.8s						
GUN	**Gumba**	**15.44**	**119**	eP	**Pn**	**13 15 46.4**	**+0.6**
	comp=Z,396nm,0.7s						
GUN				eS	**S**	**13 18 28.8**	**-8.0**
JBP	**Jabalpur**	**15.52**	**146**	⇓eP	**Pn**	**13 15 47.5**	**+0.7**
JBP				ex	x	13 18 29.7	
JIRN	**Jiri**	**15.81**	**119**	eP	**Pn**	**13 15 51.3**	**+1.0**
	comp=Z,845nm,0.6s						
JIRN				eS	**S**	**13 18 38.6**	**-6.5**
	comp=Z,636nm,0.8s						
BANOM	**Banah**	**16.16**	**233**	⇓P	**P**	**13 15 53.1**	**-0.6**
	SNR=59						
VOSK	**Vostochnaya**	**16.24**	**1**	P	**P**	**13 15 54.0**	**-0.6**
VOSK						13 18 48.9	
VOSK				pmax	pmax		
	comp=Z,21nm,0.6s						
VOSK				smax			
	comp=Z,17nm,0.8s						
BVA0	**Borovoye Array**	**16.54**	**359**	*i* P	**P**	**13 15 58.2**	**+0.3**
BVA0				*i*		13 18 54.8	
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVA0				smax			
	comp=Z,30nm,2.0s						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**P**	**13 15 58.1**	**+0.2**
	comp=Z,9.6nm,0.3s,baz=164,slow=8.9,SNR=152						
BVAR				S	**S**	**13 18 57.0**	**-3.0**
	baz=178,slow=21,SNR=3.4						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**P**	**13 15 58.1**	**+0.2**
BVAR				S	**S**	**13 18 57.0**	**-3.0**
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
BRVK	**Borovoye**	**16.58**	**359**	P	**P**	**13 15 58.9**	**+0.6**
	comp=Z,390nm,0.4s,SNR=46						
BRVK	**Borovoye**	**16.58**	**359**	P	**P**	**13 15 59.1**	**+0.8**
	SNR=23						
BRVK	**Borovoye**	**16.58**	**359**	eP	**P**	**13 15 58.3**	**0.0**
BRVK				eS	**S**	**13 19 00.4**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,39nm,0.6s						
BRVK	**Borovoye**	**16.58**	**359**	ePn	**Pn**	**13 15 58.3**	**-1.1**
	comp=Z,39nm,0.6s						
BRVK				eS	**S**	**13 19 00.4**	**-0.3**
AKTK	**Aktyubinsk**	**16.66**	**331**	P	**P**	**13 15 59.6**	**+0.4**
AKTK				S	**S**	**13 18 59.0**	**-3.4**
AKTO	**Aktyubinsk**	**16.66**	**331**	P	**P**	**13 15 59.6**	**+0.4**
	comp=Z,22nm,0.3s,baz=143,slow=9.9,SNR=763						
AKTO				S	**S**	**13 18 59.0**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=173,slow=23,SNR=4.9						
AKTO	**Aktyubinsk**	**16.66**	**331**	P	**P**	**13 15 59.6**	**+0.4**
AKTO				S	**S**	**13 18 59.0**	**-3.4**
AKTO				pmax	pmax		
	comp=Z,22nm,0.3s						
AKL	**Akola**	**16.67**	**159**	eP	**P**	**13 16 01.2**	**+1.9**
AKL				AMb	AMB	13 16 04.0	
	comp=Z,158nm,0.9s						
BIDO	**Bidbid**	**16.86**	**223**	P	**P**	**13 16 01.9**	**+0.6**
	SNR=8.3						
NGP	**Nagpur**	**16.94**	**152**	eP	**P**	**13 16 02.3**	**+0.1**
NGP				ex	x	13 19 04.0	
HATD	**Hatta, Dubai**	**17.05**	**231**	⇓P	**P**	**13 16 01.9**	**-1.5**
	SNR=6.6						
WBK	**Wadi Bani Khal**	**17.14**	**219**	P	**P**	**13 16 06.0**	**+1.5**
	SNR=20						
ASHO	**Ashiyiah**	**17.20**	**231**	⇓P	**P**	**13 16 05.3**	**+0.2**
	SNR=21						
SMDO	**Samad**	**17.27**	**223**	⇑P	**P**	**13 16 06.5**	**+0.7**
	SNR=20						
HOQ	**Hoqain**	**17.27**	**226**	⇑P	**P**	**13 16 06.0**	**+0.2**
	SNR=14						
JMDO	**Jabal Madar**	**17.79**	**221**	⇓P	**P**	**13 16 12.8**	**+1.2**
	SNR=12						
ARQ	**Araqi**	**17.92**	**227**	⇓P	**P**	**13 16 13.6**	**+0.7**
	SNR=12						
BSY	**Bisya**	**17.99**	**224**	⇓P	**P**	**13 16 14.7**	**+1.1**
	SNR=23						
POO	**Poona**	**18.10**	**170**	⇓*i* x	**P**	**13 16 13.5**	**-1.4**
	comp=Z,140nm,1.0s						
POO				*i* x	**S**	**13 19 30.5**	**-0.7**
BOK	**Bokaro**	**18.22**	**130**	ex	**P**	**13 16 18.1**	**+1.9**
BOK				ex	**S**	**13 19 35.9**	**+2.4**
LSA	**Lhasa**	**18.43**	**106**	eP	**P**	**13 16 22.6**	**+4.1**
LSA				pmax	pmax		
	comp=Z,23nm,0.6s						
LSA	**Lhasa**	**18.43**	**106**	eP	**P**	**13 16 22.6**	**+4.1**
	comp=Z,23nm,0.6s						
LATR	**Latur**	**18.73**	**162**	eP	**P**	**13 16 24.9**	**+3.2**
LATR				ex	x	13 19 41.2	
ORR	**Orenburg**	**18.90**	**328**	eP	**P**	**13 16 23.4**	**-0.2**
ORR				pmax	pmax		
	comp=Z,300nm,0.6s						
KAD	**Karad**	**19.35**	**170**	eP	**P**	**13 16 29.2**	**+0.8**
KAD				AMb	AMB	13 16 34.2	
	comp=Z,65nm,0.6s						
KAD				eS	**S**	**13 20 01.1**	**+5.4**
ZAL	**Zalesovo**	**20.03**	**25**	P	**P**	**13 16 36.5**	**+0.8**
	comp=Z,64nm,0.4s,baz=253,slow=5.9,SNR=148						
ZAL				S	**S**	**13 20 08.6**	**-0.3**
	comp=Z,20nm,1.1s,baz=159,slow=20,SNR=7.0						
ZAL	**Zalesovo**	**20.03**	**25**	P	**P**	**13 16 36.5**	**+0.9**
ZAL				S	**S**	**13 20 08.6**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,64nm,0.4s						
ZAL				smax			
	comp=N,20nm,1.1s						
ZAL	**Zalesovo**	**20.03**	**25**	P	**P**	**13 16 36.5**	**+0.8**
ZAL				S	**S**	**13 20 08.6**	**-0.3**
HYB	**Hyderabad**	**20.23**	**158**	⇓*i* P	**P**	**13 16 39.0**	**+1.2**
	comp=N,62nm,0.8s						
HYB				eSP	sP	13 17 40.0	+0.6
HYB				eS	**S**	**13 20 10.0**	**-2.9**
HYB	**Hyderabad**	**20.23**	**158**	⇓eP	**P**	**13 16 39.0**	**+1.2**
HYB				eS	**S**	**13 20 19.0**	**+6.1**
HYB				pmax	pmax		
	comp=Z,114nm,0.8s						
HYB	**Hyderabad**	**20.23**	**158**	⇓eP	**P**	**13 16 39.0**	**+1.2**
	comp=Z,114nm,0.8s						
HYB				eS	**S**	**13 20 19.0**	**+6.1**
NVS	**Novosibirsk**	**20.29**	**21**	*i* P	**P**	**13 16 38.8**	**+0.3**
NVS				*i*		13 17 39.2	
NVS				*i* S	**S**	**13 20 11.5**	**-2.6**
NVS				eSSS		13 21 06.8	
NVS				pmax	pmax		
	comp=Z,69nm,0.8s						
NVS				pmax	pmax		
	comp=N,58nm,0.8s						
NVS				pmax	pmax		
	comp=E,17nm,0.8s						
NVS				smax			
	comp=N,66nm,1.3s						
NVS				smax			
	comp=E,137nm,1.3s						
KBD	**Kabd**	**20.61**	**256**	eP	**P**	**13 16 43.8**	**+2.0**
KBD				AMb	AMB	13 16 44.5	
	comp=Z,332nm,0.7s						
QRN	**Al-Qurain**	**20.63**	**255**	eP	**P**	**13 16 41.4**	**-0.7**
QRN				AMb	AMB	13 16 47.3	
	comp=Z,118nm,0.7s						
GNI	**Garni**	**20.64**	**288**	P	**P**	**13 16 44.0**	**+1.9**
	comp=Z,18nm,0.5s,baz=68,slow=1.7,SNR=28						
GNI	**Garni**	**20.64**	**288**	⇓P	**P**	**13 16 44.2**	**+2.1**
	SNR=15						
GNI	**Garni**	**20.64**	**288**	*c i* P	**P**	**13 16 43.9**	**+1.7**
GNI	**Garni**	**20.64**	**288**	eP	**P**	**13 16 44.0**	**+1.8**
	comp=Z,107nm,1.1s						
RDF	**Al-Radifah**	**20.83**	**255**	eP	**P**	**13 16 43.7**	**-0.4**
RDF				AMb	AMB	13 16 46.6	
	comp=Z,96nm,0.9s						
NAY	**Al-Naaiem**	**20.93**	**257**	eP	**P**	**13 16 44.6**	**-0.6**
NAY				AMb	AMB	13 16 47.4	
	comp=Z,46nm,0.5s						
SHL	**Shillong**	**21.14**	**115**	ex	**P**	**13 16 44.8**	**-2.6**
SHL				ex	**S**	**13 20 30.0**	**+0.7**
SVE	**Sverdlovsk**	**21.44**	**345**	⇑eP	**P**	**13 16 51.0**	**+0.4**
SVE				*e*		13 17 24.0	
SVE				*e*		13 17 51.0	
SVE				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.2						
ZEI	**Tsey**	**21.50**	**295**	eP	**P**

comp=Z,60nm,0.6s,mb5.3
ARU epP 13 17 25.7
VIS Vishakhapatnam 21.78 146 eP **P 13 16 55.9 +1.9**
VIS AMb AMB 13 16 57.5
comp=Z,32nm,0.9s,mb4.8
VIS ex x 13 20 53.2
MSL Mosul 22.18 278 ex x 13 17 41.5
KIV Kislovodsk 22.56 298c iP **P 13 17 00.9 -0.2**
KIV Kislovodsk 22.56 298 eP **P 13 17 01.1 0.0**
comp=Z,24nm,0.6s,mb4.9
IMP Imphal 23.10 114 eP **P 13 17 12.0 +6.0**
GTA Gaotai 23.13 74 ⇑P **P 13 17 09.0 +2.8**
GTA XP sP 13 18 07.1 -3.7
GTA PCP PcP 13 20 49.0 +0.8
GTA S **S 13 21 07.3 +5.9**
GTA SS 13 22 17.3
GTA SCP ScP 13 24 06.7 +0.8
GTA AMB AMB
comp=Z,31nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,132nm,4.6s
GTA LR LR
comp=N,126nm,11.4s
GTA LR LR
comp=E,167nm,11.4s
GTA LR LR
comp=Z,173nm,12.5s
WHFO Wadi Hawf 23.76 223 ⇓P **P 13 17 11.8 -0.2**
SNR=6.5
RBK Rabkut 23.86 222 ⇓P **P 13 17 12.7 -0.2**
SNR=10
ABTO Aybut 24.48 223 ⇑P **P 13 17 18.2 -0.4**
SNR=8.2
KRAR Krasnoyarsk 24.65 31 eP **P 13 17 21.6 +1.5**
KRAR pmax pmax
comp=Z,43nm,1.3s,mb4.9
SOKR Solikamsk 24.79 343c iP **P 13 17 22.4 +1.0**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.1
VRHR Novokhopersk 25.34 314 eP **P 13 17 26.4 +0.1**
VRHR pmax pmax
comp=Z,6.0nm,0.3s,mb4.7
VRHR pmax pmax
comp=E,20nm,0.5s
MALT Malatya 25.61 284 eP **P 13 17 30.0 +1.3**
LZH Lanzhou 26.68 81 eP **P 13 17 36.5 -1.8**
LZH PP PP 13 18 29.8 -13
LZH PCP PcP 13 20 52.5 -3.6
LZH eS **S 13 21 56.5 -1.1**
LZH SCP ScP 13 24 16.5 +0.6
LZH PCS PcS 13 24 34.5 -3.1
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,90nm,4.5s
VRSR Storozhevoye 26.81 313 eP **P 13 17 39.5 +0.1**
VRSR e 13 18 30.0
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=Z,30nm,1.0s,mb4.9
VRSR pmax pmax
comp=E,70nm,0.9s
ZAK Zakamensk 27.20 49⇑iP **P 13 17 45.2 +2.2**
ZAK e pP 13 18 30.5 +5.2
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
TLY Talaya 27.85 47 eP **P 13 17 50.7 +2.0**
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.5
CD2 Chengdu 28.00 92⇑iP **P 13 17 51.8 +1.8**
CD2 AP pP 13 18 30.4 -2.1
CD2 PP PP 13 18 49.8 -7.8
CD2 XP sP 13 18 53.2 -3.8
CD2 S **S 13 22 20.5 +2.1**
CD2 XS sS 13 23 28.9 -5.6
CD2 SS SS 13 24 00.5 -26
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,50nm,5.8s
SONM Songino Array 28.57 55 P **P 13 17 57.3 +2.3**
comp=Z,10nm,0.8s,mb4.5,baz=260,slow=9.6,SNR=72
SONM PcP PcP 13 21 01.3 +0.6
comp=Z,3.6nm,0.7s,baz=244,slow=3.8,SNR=6.8
SONM Songino Array 28.57 55 P **P 13 17 57.3 +2.3**
SONM 13 21 01.3
SONM pmax pmax
comp=Z,10.0nm,0.8s
MMAI Mount Meron Ar 29.08 274 P **P 13 17 60.0 +0.4**
comp=Z,1.1nm,0.5s,mb3.8,baz=64,slow=3.4,SNR=3.4
MMAI PcP PcP 13 21 02.9 +0.9
comp=Z,2.9nm,0.5s,baz=67,slow=6.4,SNR=8.3
BR131 Keskin Array S 29.18 288 eP **P 13 18 00.3 -0.2**
BRTR Keskin Array B 29.18 288 P **P 13 18 00.8 +0.3**
comp=Z,4.7nm,0.7s,mb4.2,baz=106,slow=8.9,SNR=17
BRTR PcP PcP 13 21 02.2 -0.1
comp=Z,2.3nm,0.6s,baz=121,slow=2.9,SNR=4.8
BRTR Keskin Array B 29.18 288 P **P 13 18 00.8 +0.3**
BRTR 13 21 02.2
BRTR pmax pmax
comp=Z,5.0nm,0.7s
MOS Moscow 29.51 321 eP **P 13 18 00.7 -2.6**
MOS e*PP pP 13 18 38.9 -7.1
MOS eS **S 13 22 41.1 -1.0**
MOS pmax pmax
comp=Z,144nm,0.8s
KMI Kunming 29.65 103 P **P 13 18 07.9 +3.3**
KMI AMB AMB
comp=Z,13nm,0.5s,mb4.8
OBN Obninsk 29.78 320c iP **P 13 18 05.8 +0.1**
OBN e*PP pP 13 18 45.6 -2.8
OBN e 13 19 11.3
OBN eS **S 13 22 48.4 +2.1**
OBN pmax pmax
comp=Z,153nm,0.9s,mb5.6
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 29.78 320 eP **P 13 18 06.2 +0.4**
CHTO Chiang Mai 30.45 118 eP **P 13 18 10.3 -1.3**
CHTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
CHTO Chiang Mai 30.45 118 eP **P 13 18 10.3 -1.3**
comp=Z,1.9nm,0.5s,mb4.0
XAN Xi'an 31.20 83 P **P 13 18 19.4 +1.2**
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
KLMR Klimovskoe 31.37 331 iP **P 13 18 19.5 -0.2**
HHC Hu-ho-hao-te 32.02 70 eP **P 13 18 27.9 +2.5**
HHC AP pP 13 19 10.1 +1.8
HHC XP sP 13 19 30.9 -1.8
HHC PP PP 13 19 43.4 +1.2
HHC SS SS 13 25 32.6 -7.2
HHC AMB AMB
comp=Z,15nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,109nm,3.8s
HHC LR LR
comp=N,218nm,16.6s
HHC LR LR
comp=E,566nm,19.0s
GYA Guiyang 32.13 98⇓iP **P 13 18 28.7 +2.4**
GYA AP pP 13 19 11.5 +2.2
GYA XP sP 13 19 35.2 +1.6
GYA PP PP 13 19 44.2 +0.8
GYA PCP PcP 13 21 10.9 +0.8
GYA S **S 13 23 25.7 +2.8**
GYA SCP ScP 13 24 35.7 +2.3
GYA XS sS 13 24 40.0 +0.5
GYA PCS PcS 13 24 56.9 +1.7
GYA SCS ScS 13 28 33.3 +0.6
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,240nm,5.4s
GYA LR LR
comp=N,260nm,16.4s
GYA LR LR
comp=E,380nm,16.9s
GYA LR LR
comp=Z,430nm,16.3s
AKASG Malin Array Be 32.75 309 P **P 13 18 31.2 -0.5**
comp=Z,12nm,0.6s,mb4.6,baz=81,slow=7.3,SNR=37
AKASG PcP PcP 13 21 10.5 -1.3
comp=Z,0.9nm,0.4s,baz=74,slow=3.1,SNR=4.8
AKASG ScP ScP 13 24 34.4 -1.2
comp=Z,1.0nm,0.3s,baz=80,slow=2.9,SNR=7.5
AKASG Malin Array Be 32.75 309 P **P 13 18 31.2 -0.5**
AKASG PcP PcP 13 21 10.5 -1.3
AKASG ScP ScP 13 24 34.4 -1.2
AKBB Malin Array Si 32.75 309 eP **P 13 18 29.2 -2.5**
KIEV Kiev 32.76 309 eP **P 13 18 30.1 -1.7**
KIEV pmax pmax
comp=Z,13nm,0.6s,mb4.6
KIEV Kiev 32.76 309 eP **P 13 18 30.1 -1.7**
comp=Z,13nm,0.6s,mb4.6
CIT Chita 33.87 49 eP **P 13 18 43.1 +1.7**
CIT e pP 13 19 25.5 +0.9
CIT pmax pmax
comp=Z,72nm,1.2s,mb5.1
MLR Muntele Rosu 34.56 299 P **P 13 18 49.1 +1.8**
comp=Z,11nm,0.7s,mb4.5,baz=133,slow=3.2,SNR=22
MLR Muntele Rosu 34.56 299 ⇓P **P 13 18 49.3 +2.0**
MLR Muntele Rosu 34.56 299 ⇓iP **P 13 18 49.3 +2.0**
BURAR Bucovina Array 35.07 303 ⇓iP **P 13 18 52.3 +0.6**
BOD Bodaibo 35.53 39 eP **P 13 18 56.3 +0.7**
BOD pmax pmax
comp=Z,30nm,1.3s,mb4.7
APE Apeiranthos 35.90 285⇑iP **P 13 18 58.9 +0.1**
LVV L'vov 35.96 307 eP **P 13 18 58.3 -0.9**
VSU Vasula 36.03 322d iP **P 13 19 00.0 +0.1**
VTS Vitosha 36.72 294⇑iP **P 13 19 06.5 +0.8**
DRGR 36.78 302⇑iP **P 13 19 07.2 +1.0**
KWP Kalwaria 36.80 306 eP **P 13 19 07.4 +1.0**
IDI Anoyia 36.84 282 P **P 13 19 07.4 +0.7**
comp=Z,12nm,0.7s,mb4.5,baz=187,slow=23,SNR=9.5
SUW Suwalki 36.94 314 eP **P 13 19 07.5 0.0**
KOLS Kolonicke sedl 37.07 305 eP **P 13 19 09.1 +0.5**
FIA1 FINESS Array S 37.35 326 eP **P 13 19 10.7 -0.3**
FINES FINESS Array B 37.35 326 P **P 13 19 11.2 +0.2**
comp=Z,56nm,0.6s,mb5.3,baz=117,slow=10.0,SNR=196
FINES FINESS Array B 37.35 326 iP **P 13 19 11.1 +0.1**
FINES pmax pmax
comp=Z,57nm,0.6s
KAF Kangasniemi 37.50 327 ep **P 13 19 11.6 -0.6**
comp=Z,31nm,0.5s,mb5.1,baz=112,slow=8.6
KAF Kangasniemi 37.50 327 eP **P 13 19 11.6 -0.6**
KAF pmax pmax
comp=Z,31nm,0.5s,mb5.1
HIA Hailar 37.52 54 eP **P 13 19 14.3 +1.9**
HIA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 37.52 54 eP **P 13 19 14.3 +1.9**
comp=Z,6.8nm,0.6s,mb4.3
APA Apatity 37.55 338⇓iP **P 13 19 12.7 0.0**
APA pmax pmax
comp=Z,32nm,0.6s,mb5.0
CRVS Cervenica-Dubn 37.60 305 eP **P 13 19 14.0 +0.9**
STHS Stebnicka Huta 37.75 306 eP **P 13 19 14.7 +0.3**
STHS e 13 21 25.9
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
STHS Stebnicka Huta 37.75 306 eP **P 13 19 14.7 +0.3**
comp=Z,4.1nm,1.0s,mb3.9
STHS ePP PP 13 20 41.6 -3.6
STHS ePcP PcP 13 21 25.9 -0.7
KECS Kecovo 38.25 304 eP **P 13 19 19.0 +0.5**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
KECS Kecovo 38.25 304 eP **P 13 19 19.0 +0.5**
comp=Z,2.8nm,0.8s,mb3.8
KECS ePP PP 13 20 45.2 -5.4
KECS ePcP PcP 13 21 41.2 +13
PSZ Piszkesteto 38.66 303⇓iP **P 13 19 23.7 +1.8**
VYHS Vyhne 39.35 304 eP **P 13 19 28.0 +0.4**
VYHS e 13 21 00.7
VYHS pmax pmax
comp=Z,7.0nm,1.4s,mb4.0
VYHS Vyhne 39.35 304 eP **P 13 19 28.0 +0.4**
comp=Z,6.5nm,1.4s,mb4.0
VYHS ePP PP 13 21 00.7 -1.8
MORC Moravsky Berou 40.16 306⇑iP **P 13 19 35.0 +0.7**
KEV Kevo 40.72 338 ep **P 13 19 37.4 -1.5**
VRAC Vranov 40.79 306 P **P 13 19 39.4 -0.1**
comp=Z,13nm,0.8s,mb4.4,baz=91,slow=7.7,SNR=8.3
VRAC Vranov 40.79 306 ⇓P **P 13 19 40.5 +1.0**
VRAC Vranov 40.79 306⇓iP **P 13 19 40.5 +1.0**
SNY Shenyang 40.84 66 ⇓P **P 13 19 41.2 +1.4**
SNY AMB AMB
comp=Z,19nm,0.6s,mb4.7
DPC Dobruska-Polom 40.93 307 eP **P 13 19 41.0 +0.4**
ARCES ARCESS Array B 41.06 338 P **P 13 19 42.2 +0.6**
comp=Z,109nm,0.8s,mb5.4,baz=112,slow=7.8,SNR=516
ARCES ARCESS Array B 41.06 338 P **P 13 19 42.2 +0.6**
ARCES pmax pmax
comp=Z,109nm,0.8s
ARCES ARCESS Array B 41.06 338 P **P 13 19 42.2 +0.6**
ARE0 ARCESS Array S 41.06 338 eP **P 13 19 42.4 +0.7**
CLNS Chul'man 41.10 43 eP **P 13 19 41.1 -0.9**
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=Z,17nm,0.8s,mb4.5
UPC Upice 41.12 308 eP **P 13 19 42.8 +0.6**
KTK1 Kautokeino 41.53 336 eP **P 13 19 45.5 +0.1**
KTK1 AMb AMB 13 19 46.4
comp=Z,159nm,0.6s
KTK1 Kautokeino 41.53 336 eP **P 13 19 45.5 +0.1**
comp=Z,159nm,0.6s,mb5.6
GROS Grobnik 41.76 302 eP **P 13 19 47.3 0.0**
PRU Pruhonice 42.09 307 eP **P 13 19 50.5 +0.5**
BRG Berggiesshubel 42.42 308 iP **P 13 19 53.2 +0.5**
comp=Z,12nm,0.9s,mb4.3
BRG i pP 13 20 40.3 +2.8
comp=Z,9.2nm,1.1s
MOA Molln 42.44 304⇑iP **P 13 19 52.8 0.0**
comp=Z,17nm,0.9s,mb4.5
GERES GERESS Array B 42.72 305 P **P 13 19 55.0 0.0**
comp=Z,2.7nm,0.8s,mb3.7,baz=89,slow=7.1,SNR=12
GERES pP pP 13 20 40.9 +0.9
comp=Z,1.2nm,0.7s,baz=72,slow=5.7,SNR=2.2
GERES PcP PcP 13 21 42.2 -0.4
comp=Z,2.7nm,0.8s,baz=60,slow=7.9,SNR=6.2
GERES ScP ScP 13 25 12.1 -1.1
comp=Z,0.6nm,0.7s,baz=179,slow=5.3,SNR=3.6
GERES GERESS Array B 42.72 305 P **P 13 19 55.0 -0.1**
GERES *PP pP 13 20 40.9 +0.9
GERES 13 21 42.2
KHC Kasperske Hory 42.78 306 eP **P 13 19 55.5 0.0**
KHC ex x 13 20 19.0
KHC ex x 13 20 49.0
KHC ex x 13 21 28.0
HFS Hagfors 42.92 322 P **P 13 19 56.4 -0.3**
comp=Z,67nm,0.6s,mb5.3,baz=98,slow=11,SNR=136
HFS Hagfors 42.92 322 P **P 13 19 56.4 -0.2**
HFS pmax pmax
comp=Z,67nm,0.6s
CLL Collm 42.99 309 iP **P 13 19 57.4 +0.1**
CLL pmax pmax
comp=Z,11nm,0.8s,mb4.3
CLL Collm 42.99 309 iP **P 13 19 57.4 +0.1**
comp=Z,11nm,0.8s,mb4.3
ROBS Robic 43.15 302 eP **P 13 19 58.2 -0.3**
KBA Koelnbreinsper 43.15 303⇑iP **P 13 19 58.9 +0.3**
comp=Z,12nm,1.1s,mb4.2
KBA Koelnbreinsper 43.15 303⇑iP **P 13 19 58.9 +0.4**
KBA pmax pmax
comp=Z,12nm,1.1s,mb4.2
TRO Tromso 43.18 336 eP **P 13 19 57.9 -0.8**
TRO Tromso 43.18 336 eP **P 13 19 57.6 -1.2**
MOR8 Moi Rana 43.70 331 iPg **P 13 20 02.4 -0.5**
MOR8 AMb AMB 13 20 03.3
comp=Z,213nm,0.6s
MOX Moxa 43.91 308 eP **P 13 20 04.9 +0.3**
YAK Yakutsk 44.14 35c iP **P 13 20 07.7 +1.3**
YAK eS **S 13 26 24.2 +1.2**
YAK pmax pmax
comp=N,11nm,0.8s
YAK pmax pmax
comp=Z,120nm,0.8s,mb5.3
YAK pmax pmax
comp=E,13nm,0.6s
YAK smax
comp=E,357nm,4.9s
YAK smax
comp=N,40nm,1.4s
YAK Yakutsk 44.14 35 eP **P 13 20 07.0 +0.7**
NB2 NORSAR Subarra 44.23 323 P **P 13 20 06.6 -0.5**
comp=Z,73nm,0.8s,mb5.1,baz=95,slow=7.9
NOA NORSAR Array B 44.23 323 P **P 13 20 06.5 -0.6**
comp=Z,58nm,0.7s,mb5.0,baz=97,slow=7.8,SNR=134
NOA NORSAR Array B 44.23 323 P **P 13 20 06.5 -0.6**
NOA pmax pmax
comp=Z,58nm,0.7s
GRA1 Grafenberg Arr 44.26 307 eP **P 13 20 08.3 +1.0**
comp=Z,17nm,0.9s,mb4.4
GRF Grafenberg Arr 44.26 307 eP **P 13 20 08.3 +1.0**
comp=Z,17nm,0.9s,mb4.4
GRF Grafenberg Arr 44.26 307 eP **P 13 20 08.3 +1.0**
GRF pmax pmax
comp=Z,17nm,0.9s,mb4.4
NSS Namsos 44.37 328 eP **P 13 20 05.8 -2.4**
NAO01 NORSAR Array S 44.38 323 eP **P 13 20 08.2 0.0**
comp=Z,44nm,0.9s,mb4.8
LOF Lofoten 44.54 333 eP **P 13 20 11.0 +1.4**
LOF AMb AMB 13 20 15.5
comp=Z,211nm,2.0s,mb5.1
MOTA Moosalm 44.63 303⇑iP **P 13 20 09.5 -0.8**
comp=Z,7.1nm,0.9s,mb4.0
MOTA Moosalm 44.63 303⇑iP **P 13 20 09.5 -0.8**
MOTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.0
MDJ Mudanjiang 44.65 61 P **P 13 20 11.6 +1.2**
MDJ AP pP 13 20 53.4 -2.3
MDJ XP sP 13 21 15.1 -4.3
MDJ PCP PcP 13 21 49.8 +0.6
MDJ PP PP 13 21 57.1 -2.0
MDJ PCS PcS 13 25 43.8 +0.8
MDJ S **S 13 26 27.4 -2.9**
MDJ SCS ScS 13 29 47.4 +2.3
MDJ AMB AMB
comp=Z,11nm,1.9s,mb3.9
MDJ AMB AMB
comp=Z,67nm,3.6s
KONO Kongsberg 44.93 321 eP **P 13 20 11.9 -0.7**
KONO Kongsberg 44.93 321⇑eP **P 13 20 11.6 -1.0**
KSRS Korea Array 45.14 71 P **P 13 20 15.1 +0.8**
comp=Z,3.5nm,0.4s,mb4.0,baz=274,slow=6.7,SNR=28
KSRS PcP PcP 13 21 51.1 +0.2
comp=Z,2.7nm,0.7s,baz=298,slow=2.0,SNR=5.2
BJO Bjornoya 45.16 343 eP **P 13 20 15.1 +0.7**
KLR Kul'dur 45.37 54 eP **P 13 20 14.0 -2.1**
DAVA Damuels 45.46 304⇑iP **P 13 20 16.5 -0.3**
comp=Z,61nm,1.0s,mb4.9
TIXI Tiksi 45.89 22 eP **P 13 20 18.5 -1.7**
TIXI e pP 13 21 08.0 +2.3
TIXI pmax pmax
comp=Z,63nm,0.9s,mb5.0
TIXI Tiksi 45.89 22 eP **P 13 20 20.7 +0.5**
TIXI epP pP 13 21 08.4 +2.7
LANF Langenberg 46.56 306 eP **P 13 20 26.3 +0.9**
CDF Champ du Feu 47.00 305 eP **P 13 20 28.7 -0.1**
comp=Z,15nm,0.9s,mb4.0
CDF Champ du Feu 47.00 305 eP **P 13 20 28.7 -0.1**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
CDF Champ du Feu 47.00 305 eP **P 13 20 28.7 -0.1**
comp=Z,7.7nm,0.9s,mb4.0
PGF Pioggiola 47.04 297⇑iP **P 13 20 28.2 -0.9**
comp=Z,25nm,0.8s,mb4.3
PGF Pioggiola 47.04 297⇑iP **P 13 20 28.2 -0.9**
PGF pmax pmax
comp=Z,12nm,0.8s,mb4.3
PGF Pioggiola 47.04 297⇑iP **P 13 20 28.2 -0.9**
comp=Z,12nm,0.8s,mb4.3
ECH Echery 47.12 305 eP **P 13 20 30.7 +1.0**
HINF Hinteralfeld 47.39 305⇑iP **P 13 20 31.1 -0.7**
comp=Z,19nm,0.8s,mb4.2
HINF Hinteralfeld 47.39 305⇑iP **P 13 20 31.1 -0.7**
HINF pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
HINF Hinteralfeld 47.39 305⇑iP **P 13 20 31.1 -0.7**
comp=Z,9.6nm,0.8s,mb4.2
SPB4 Spitsbergen Ar 47.45 347 eP **P 13 20 32.9 +0.6**
MEM Membach 47.47 309 P **P 13 20 32.1 -0.2**
WLF Walferdange 47.52 307 P **P 13 20 33.7 +0.9**
HABR Khabarovsk 47.64 54 eP **P 13 20 32.0 -1.7**
HABR eS **S 13 27 13.8 +0.8**
HAU Haudompre 47.69 305 eP **P 13 20 33.6 -0.5**
comp=Z,18nm,0.6s,mb4.3
HAU Haudompre 47.69 305 eP **P 13 20 33.6 -0.5**
HAU pmax pmax
comp=Z,9.0nm,0.6s,mb4.3
HAU Haudompre 47.69 305 eP **P 13 20 33.6 -0.5**
comp=Z,8.8nm,0.6s,mb4.3
SAOF Saorge 47.72 300 eP **P 13 20 34.3 0.0**
AUTN L'Aution 47.81 300 eP **P 13 20 36.3 +1.3**
SBF Sospel 47.83 299⇑iP **P 13 20 34.9 -0.3**
comp=Z,54nm,0.9s,mb4.6
SBF Sospel 47.83 299⇑iP **P 13 20 34.9 -0.3**
SBF pmax pmax
comp=Z,27nm,0.9s,mb4.6
SBF Sospel 47.83 299⇑iP **P 13 20 34.9 -0.3**
comp=Z,27nm,0.9s,mb4.6
TOUF Mont Tournerai 47.93 300 eP **P 13 20 36.3 +0.4**
LPG La Plagne 47.93 302 eP **P 13 20 36.1 +0.2**
comp=Z,27nm,0.8s,mb4.3
LPG La Plagne 47.93 302 eP **P 13 20 36.1 +0.2**
LPG pmax pmax
comp=Z,14nm,0.8s,mb4.3
LPG La Plagne 47.93 302 eP **P 13 20 36.1 +0.2**
comp=Z,14nm,0.8s,mb4.3
LPL La Plagne 47.94 302 eP **P 13 20 36.1 +0.1**
comp=Z,24nm,0.6s,mb4.4
LPL La Plagne 47.94 302 eP **P 13 20 36.1 +0.1**
LPL pmax pmax
comp=Z,12nm,0.6s,mb4.4
LPL La Plagne 47.94 302 eP **P 13 20 36.1 +0.1**
comp=Z,12nm,0.6s,mb4.4
MVIF Mont Vial 48.02 299 eP **P 13 20 37.1 +0.5**
BNI Bardonecchia 48.08 301 eP **P 13 20 36.9 -0.2**
BNI pmax pmax
comp=Z,14nm,1.0s,mb4.2
BNI Bardonecchia 48.08 301 eP **P 13 20 36.9 -0.2**
comp=Z,14nm,1.0s,mb4.2
MBDF Montbardon 48.09 301 eP **P 13 20 36.4 -0.8**
comp=Z,21nm,0.6s,mb4.4
MBDF Montbardon 48.09 301 eP **P 13 20 36.4 -0.8**
MBDF pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
MBDF Montbardon 48.09 301 eP **P 13 20 36.4 -0.8**
comp=Z,10nm,0.6s,mb4.3
CABF La Chapelle 48.14 303 eP **P 13 20 37.5 0.0**
comp=Z,30nm,0.7s,mb4.4
CABF La Chapelle 48.14 303 eP **P 13 20 37.5 0.0**
CABF pmax pmax
comp=Z,15nm,0.7s,mb4.4
CABF La Chapelle 48.14 303 eP **P 13 20 37.5 0.0**
comp=Z,15nm,0.7s,mb4.4
GIVF Givet 48.30 308 eP **P 13 20 39.0 +0.3**
DOU Dourbes 48.44 308 P **P 13 20 40.4 +0.6**
MEZF Maizieres J'vi 48.44 306 eP **P 13 20 39.9 +0.1**
FRF La Foret Royal 48.46 299 eP **P 13 20 39.2 -0.8**
SNF Seneffe 48.57 309 P **P 13 20 40.9 +0.1**
KBS Kingsbay 48.57 347 eP **P 13 20 41.6 +0.8**
KBS AMb AMB 13 20 42.8
comp=Z,57nm,1.1s,mb4.8
KBS Kingsbay 48.57 347⇑eP **P 13 20 41.7 +0.9**
KBS Kingsbay 48.57 347 eP **P 13 20 41.8 +1.0**
comp=Z,66nm,0.8s,mb5.0
KBS epP pP 13 21 26.7 -0.1
LMR La Mourre 48.62 299 eP **P 13 20 40.8 -0.3**
KMBO Kilima Mbogo 48.62 227 P **P 13 20 42.9 +1.7**
comp=Z,6.2nm,0.5s,mb4.2,baz=38,slow=11,SNR=18
KMBO Kilima Mbogo 48.62 227 eP **P 13 20 42.0 +0.8**
KMBO pmax pmax
comp=Z,7.0nm,0.6s
KMBO Kilima Mbogo 48.62 227 eP **P 13 20 42.0 +0.8**
comp=Z,6.6nm,0.6s,mb4.1
ORIF Oris-en-Rattie 48.66 301 eP **P 13 20 41.7 +0.2**
BAIF Baives 48.70 308 eP **P 13 20 42.0 +0.2**
comp=Z,40nm,0.9s,mb4.5
BAIF Baives 48.70 308 eP **P 13 20 42.0 +0.2**
BAIF pmax pmax
comp=Z,20nm,0.9s,mb4.5
BAIF Baives 48.70 308 eP **P 13 20 42.0 +0.2**
comp=Z,20nm,0.9s,mb4.4
KEST Kesra 48.79 288 P **P 13 20 43.2 +0.7**
comp=Z,3.0nm,0.6s,mb3.8,baz=253,slow=1.6,SNR=12
SMRF Simiane la Rot 49.11 300 eP **P 13 20 44.5 -0.4**
LOR Lormes 49.49 305⇑iP **P 13 20 46.7 -1.1**
comp=Z,5.2nm,0.6s,mb3.7

LOR	Lormes	49.49	305⇑	*i*P		P	13 20 46.7 -1.1
	comp=Z,2.6nm,0.6s,mb3.7						
VIVF	Saint-Julien-I	49.51	301⇑	*i*P		P	13 20 47.6 -0.3
	comp=Z,25nm,0.8s,mb4.3						
VIVF	Saint-Julien-I	49.51	301⇑	*i*P		P	13 20 47.6 -0.3
VIVF					pmax	pmax	
	comp=Z,12nm,0.8s,mb4.3						
VIVF	Saint-Julien-I	49.51	301⇑	*i*P		P	13 20 47.6 -0.3
	comp=Z,12nm,0.8s,mb4.3						
SMF	Signal de Mont	49.64	304⇑	*i*P		P	13 20 48.4 -0.5
	comp=Z,46nm,0.8s,mb4.6						
SMF	Signal de Mont	49.64	304⇑	*i*P		P	13 20 48.4 -0.5
SMF					pmax	pmax	
	comp=Z,23nm,0.8s,mb4.6						
SMF	Signal de Mont	49.64	304⇑	*i*P		P	13 20 48.4 -0.5
	comp=Z,23nm,0.8s,mb4.6						
SSF	Saint Saulge	49.77	304⇑	*i*P		P	13 20 49.2 -0.7
	comp=Z,11nm,0.8s,mb4.0						
SSF	Saint Saulge	49.77	304⇑	*i*P		P	13 20 49.2 -0.7
SSF					pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.0						
SSF	Saint Saulge	49.77	304⇑	*i*P		P	13 20 49.2 -0.7
	comp=Z,5.6nm,0.8s,mb4.0						
AVF	Avril sur Loir	49.93	304⇑	*i*P		P	13 20 50.5 -0.6
	comp=Z,44nm,0.8s,mb4.6						
AVF	Avril sur Loir	49.93	304⇑	*i*P		P	13 20 50.5 -0.6
AVF					pmax	pmax	
	comp=Z,22nm,0.8s,mb4.5						
AVF	Avril sur Loir	49.93	304⇑	*i*P		P	13 20 50.5 -0.6
	comp=Z,22nm,0.8s,mb4.5						
PLDF	La Plantade	49.95	303	*e*P		P	13 20 51.3 0.0
AGO	Saint Agoulin	50.26	303	*e*P		P	13 20 54.0 +0.4
LASF	Ste Croix	50.28	301	*e*P		P	13 20 53.7 0.0
	comp=Z,62nm,1.0s,mb4.6						
BGF	Bois d'Agland	50.33	304	*e*P		P	13 20 53.3 -0.8
	comp=Z,23nm,0.9s,mb4.2						
BGF	Bois d'Agland	50.33	304	*e*P		P	13 20 53.3 -0.8
BGF					pmax	pmax	
	comp=Z,12nm,0.9s,mb4.2						
BGF	Bois d'Agland	50.33	304	*e*P		P	13 20 53.3 -0.8
	comp=Z,12nm,0.9s,mb4.2						
LBL	Lubilhac	50.39	302	*e*P		P	13 20 55.1 +0.5
TCF	Toulx Ste Croi	50.82	304⇑	*i*P		P	13 20 57.6 -0.2
	comp=Z,35nm,0.8s,mb4.5						
TCF	Toulx Ste Croi	50.82	304⇑	*i*P		P	13 20 57.6 -0.2
TCF					pmax	pmax	
	comp=Z,17nm,0.8s,mb4.5						
TCF	Toulx Ste Croi	50.82	304⇑	*i*P		P	13 20 57.6 -0.2
	comp=Z,17nm,0.8s,mb4.5						
CAF	Calviac	51.28	302⇑	*i*P		P	13 21 01.2 0.0
	comp=Z,18nm,0.7s,mb4.3						
CAF	Calviac	51.28	302⇑	*i*P		P	13 21 01.2 0.0
CAF					pmax	pmax	
	comp=Z,9.0nm,0.7s,mb4.3						
CAF	Calviac	51.28	302⇑	*i*P		P	13 21 01.2 0.0
	comp=Z,9.1nm,0.7s,mb4.3						
RJF	Les Rejaudoux	51.55	303	*e*P		P	13 21 03.2 0.0
	comp=Z,17nm,0.8s,mb4.2						
RJF	Les Rejaudoux	51.55	303	*e*P		P	13 21 03.2 0.0
RJF					pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.2						
RJF	Les Rejaudoux	51.55	303	*e*P		P	13 21 03.2 0.0
	comp=Z,8.4nm,0.8s,mb4.2						
MTLF	Montolieu	51.62	300⇑	*i*P		P	13 21 03.4 -0.3
	comp=Z,17nm,0.8s,mb4.2						
MTLF	Montolieu	51.62	300⇑	*i*P		P	13 21 03.4 -0.3
MTLF					pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.2						
MTLF	Montolieu	51.62	300⇑	*i*P		P	13 21 03.4 -0.3
	comp=Z,8.4nm,0.8s,mb4.2						
LDF	La Druitiere	51.78	307	*e*P		P	13 21 03.9 -0.9
	comp=Z,17nm,0.6s,mb4.3						
LDF	La Druitiere	51.78	307	*e*P		P	13 21 03.9 -0.9
LDF					pmax	pmax	
	comp=Z,9.0nm,0.6s,mb4.4						
LDF	La Druitiere	51.78	307	*e*P		P	13 21 03.9 -0.9
	comp=Z,8.6nm,0.6s,mb4.4						
FLN	La Foliniere	51.97	307	*e*P		P	13 21 05.2 -1.0
	comp=Z,24nm,0.6s,mb4.5						
FLN	La Foliniere	51.97	307	*e*P		P	13 21 05.2 -1.0
FLN					pmax	pmax	
	comp=Z,12nm,0.6s,mb4.5						
FLN	La Foliniere	51.97	307	*e*P		P	13 21 05.2 -1.0
	comp=Z,12nm,0.6s,mb4.5						
EKA	Eskdalemuir Ar	52.11	316	P		P	13 21 06.8 -0.5
	comp=Z,8.2nm,0.8s,mb4.2,baz=94,slow=7.2,SNR=15						
EKA				PcP		PcP	13 22 15.2 -1.1
	comp=Z,6.4nm,1.0s,baz=86,slow=4.1,SNR=4.2						
EKA	Eskdalemuir Ar	52.11	316	P		P	13 21 06.9 -0.4
EKA							13 22 15.2
EKA					pmax	pmax	
	comp=Z,8.0nm,0.8s						
EKA					pmax	pmax	
	comp=Z,6.0nm,1.0s						
LFF	La Frestale	52.18	302	*e*P		P	13 21 07.7 -0.1
	comp=Z,28nm,0.6s,mb4.6						
LFF	La Frestale	52.18	302	*e*P		P	13 21 07.7 -0.1
LFF					pmax	pmax	
	comp=Z,14nm,0.6s,mb4.6						
LFF	La Frestale	52.18	302	*e*P		P	13 21 07.7 -0.1
	comp=Z,14nm,0.6s,mb4.6						
GRR	Gorron	52.30	307⇑	*i*P		P	13 21 07.7 -1.0
	comp=Z,34nm,0.8s,mb4.5						
GRR	Gorron	52.30	307⇑	*i*P		P	13 21 07.7 -1.0
GRR					pmax	pmax	
	comp=Z,17nm,0.8s,mb4.5						
GRR	Gorron	52.30	307⇑	*i*P		P	13 21 07.7 -1.0
	comp=Z,17nm,0.8s,mb4.5						
MFF	Saint Martin d	52.31	305	*e*P		P	13 21 07.9 -0.9
	comp=Z,24nm,0.8s,mb4.4						
MFF	Saint Martin d	52.31	305	*e*P		P	13 21 07.9 -0.9
MFF					pmax	pmax	
	comp=Z,12nm,0.8s,mb4.4						
MFF	Saint Martin d	52.31	305	*e*P		P	13 21 07.9 -0.9
	comp=Z,12nm,0.8s,mb4.4						
ETOS	Mallorca	52.31	296	P		P	13 21 08.3 -0.5
	comp=Z,113nm,2.4s,mb4.9						
EPF	Esparros	53.03	300	*e*P		P	13 21 12.7 -1.3
	comp=Z,7.9nm,0.6s,mb4.0						
EPF	Esparros	53.03	300	*e*P		P	13 21 12.7 -1.3
EPF					pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.0						
EPF	Esparros	53.03	300	*e*P		P	13 21 12.7 -1.3
	comp=Z,4.0nm,0.6s,mb4.0						
YSS	Yuzh-Sakhalins	53.05	55⇑	*e*P		P	13 21 14.5 +0.3
YSS					pmax	pmax	
	comp=Z,25nm,0.9s,mb4.6						
YSS	Yuzh-Sakhalins	53.05	55	*e*P		P	13 21 14.6 +0.4
	comp=Z,40nm,0.8s,mb4.9						
MJAR	Matsushiro Arr	53.21	68	P		P	13 21 16.4 +1.1
	comp=Z,9.0nm,0.9s,mb4.2,baz=292,slow=9.5,SNR=14						
MJAR				pP		pP	13 22 05.0 +2.7
	comp=Z,6.3nm,1.1s,baz=299,slow=9.3,SNR=3.5						
MJAR	Matsushiro Arr	53.21	68	P		P	13 21 16.5 +1.2
MJAR				*PP		pP	13 22 05.0 +2.8
MJAR					pmax	pmax	
	comp=Z,9.0nm,0.9s						
MJAR					pmax	pmax	
	comp=Z,6.0nm,1.1s						
EBIE	Bielsa	53.27	300	P		P	13 21 15.9 +0.1
	comp=Z,173nm,3.0s						
SGMF	Saint Gilles	53.43	307	*e*P		P	13 21 16.3 -0.7
ETSF	Etsaut	53.69	300⇑	*i*P		P	13 21 18.8 -0.1
	comp=Z,24nm,0.5s,mb4.6						
ETSF	Etsaut	53.69	300⇑	*i*P		P	13 21 18.8 -0.1
ETSF					pmax	pmax	
	comp=Z,12nm,0.5s,mb4.7						
ETSF	Etsaut	53.69	300⇑	*i*P		P	13 21 18.8 -0.1
	comp=Z,12nm,0.5s,mb4.7						
ROSF	Rostrenen	53.87	307	*e*P		P	13 21 19.3 -0.8
QUIF	Quistinic	53.92	307	*e*P		P	13 21 19.4 -1.1
ESAC	San Caprasio	54.02	299	P		P	13 21 20.8 -0.4
	comp=Z,154nm,2.3s,mb5.1						
SJPF	Ste Jean	54.09	301	*e*P		P	13 21 21.1 -0.6
	comp=Z,12nm,0.7s,mb4.2						
SJPF	Ste Jean	54.09	301	*e*P		P	13 21 21.1 -0.6
SJPF					pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.2						
SJPF	Ste Jean	54.09	301	*e*P		P	13 21 21.1 -0.6
	comp=Z,5.8nm,0.7s,mb4.2						
EMOS	Mosqueruela	54.48	297	P		P	13 21 23.7 -0.9
	comp=Z,173nm,3.2s						
MA2	Magadan	54.54	38	P		P	13 21 26.3 +1.3
MA2					pmax	pmax	
	comp=Z,10.0nm,0.3s,mb4.8						
SEY	Seymchan	54.58	34⇑	*e*P		P	13 21 26.4 +1.1
DAG	Danmarks Havn	54.67	344⇓	*i*P		P	13 21 26.5 +0.6
	comp=Z,29nm,0.6s,mb5.0						
DAG	Danmarks Havn	54.67	344⇓	*i*P		P	13 21 26.5 +0.6
DAG					pmax	pmax	
	comp=Z,29nm,0.6s,mb5.0						
ELAN	Lanestosa	55.57	302	P		P	13 21 32.2 -0.2
	comp=Z,154nm,2.1s,mb5.2						
ETOB	Tobarra	55.88	296	P		P	13 21 34.7 +0.1
	comp=Z,334nm,3.6s						
EHUE	Huescar	56.96	295	P		P	13 21 42.2 +0.1
EHUE					pmax	pmax	
	comp=Z,6.0nm,0.9s,mb4.2						
EHUE	Huescar	56.96	295	P		P	13 21 42.2 +0.1
	comp=Z,6.1nm,0.9s,mb4.2						
GUD	Guadarrama	57.00	299	P		P	13 21 42.1 -0.3
GUD					pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.3						
GUD	Guadarrama	57.00	299	P		P	13 21 42.1 -0.3
	comp=Z,5.1nm,0.6s,mb4.3						
ENIJ	Nijar	57.01	294	P		P	13 21 42.3 -0.2
ENIJ					pmax	pmax	
	comp=Z,14nm,0.6s,mb4.8						
ENIJ	Nijar	57.01	294	P		P	13 21 42.3 -0.2
	comp=Z,14nm,0.6s,mb4.8						
ESDC	Sonseca Array	57.23	298	P		P	13 21 43.6 -0.4
	comp=Z,3.6nm,0.6s,mb4.2,baz=56,slow=7.5,SNR=13						
ESDC	Sonseca Array	57.23	298	P		P	13 21 43.3 -0.8
	comp=Z,5.1nm,0.4s,mb4.5						
EBER	Berja	57.54	294	P		P	13 21 46.4 +0.3
	comp=Z,29nm,0.9s,mb4.9						
ERON	Agron	58.16	295	P		P	13 21 49.6 -0.9
	comp=Z,4.6nm,0.5s,mb4.4						
EADA	Adamuz	58.26	296	P		P	13 21 51.4 +0.2
	comp=Z,147nm,3.0s						
BILL	Bilibino	58.74	26	*e*P		P	13 21 55.8 +1.3
BILL				*e*		pP	13 22 41.3 -1.0
BILL				*e*			13 24 07.8
BILL					pmax	pmax	
	comp=Z,30nm,0.9s,mb4.9						
ELOB	Lobios	59.25	302	P		P	13 21 58.6 +0.6
	comp=Z,122nm,1.7s,mb5.3						
EBAD	Badajoz	59.77	298	P		P	13 22 01.4 -0.1
	comp=Z,130nm,3.0s						
EGRO	El Granado	60.62	297	P		P	13 22 06.5 -0.8
	comp=Z,103nm,2.3s,mb5.0						
LSZ	Lusaka	65.25	226	*e*P		P	13 22 38.5 +0.7
LSZ				*e*PP		pP	13 23 27.9 +1.3
LSZ					pmax	pmax	
	comp=Z,13nm,1.1s,mb4.5						
LSZ	Lusaka	65.25	226	*e*P		P	13 22 38.5 +0.7
	comp=Z,13nm,1.1s,mb4.5						
LSZ				*e*pP		pP	13 23 27.9 +1.3
TORD	Torodi Ar. Bea	65.45	268	P		P	13 22 37.6 -1.5
	comp=Z,34nm,0.5s,mb5.3,baz=48,slow=5.8,SNR=232						
TORD					pP	pP	13 23 27.2 -0.7
	comp=Z,2.5nm,0.5s,baz=45,slow=5.8,SNR=1.8						
IMA2	Indian Mountai	72.22	17	*e*P		P	13 23 20.8 0.0
INK	Inuvik	73.97	9	*e*P		P	13 23 31.3 +0.3
	comp=Z,929nm,0.6s						
INK				*e*pP		pP	13 24 22.5 +1.5
COLA	College	74.57	16	*d*P		P	13 23 35.1 +0.6
TSUM	Tsumeb	74.69	232	*e*P		P	13 23 35.5 +0.3
	comp=Z,9.6nm,0.8s,mb4.5						
LIC	Lamto	74.83	267	*e*P		P	13 23 34.5 -1.5
	comp=Z,49nm,0.5s,mb5.1						
LIC	Lamto	74.83	267	*e*P		P	13 23 34.5 -1.5
	comp=Z,25nm,0.5s,mb5.1						
FITZ	Fitzroy Crossi	75.10	126	*e*P		P	13 23 38.3 +0.8
	comp=Z,9.5nm,0.8s,mb4.5						
MCK	McKinley	75.30	17	*e*P		P	13 23 39.1 +0.5
MCK					pmax	pmax	
	comp=Z,9.0nm,0.4s,mb4.8						
MCK	McKinley	75.30	17	*e*P		P	13 23 39.1 +0.5
	comp=Z,8.6nm,0.4s,mb4.7						
KNA	Kununurra	75.50	122⇑	*i*P		P	13 23 40.3 +0.5
	comp=Z,15nm,0.7s,mb4.7						
SVW2	Sparrevohn	75.72	21	*e*P		P	13 23 42.6 +1.6
KAKA	Kakadu	75.96	118	*e*P		P	13 23 42.5 +0.1
	comp=Z,13nm,0.6s,mb4.7						
PMR	Palmer	77.07	18	*e*P		P	13 23 49.1 +0.5
PMR					pmax	pmax	
	comp=Z,13nm,0.4s,mb4.9						
PMR	Palmer	77.07	18	*e*P		P	13 23 49.1 +0.5
	comp=Z,13nm,0.4s,mb4.9						
SML	Sawmill	77.08	18	*e*P		P	13 23 49.1 +0.4
MENT	Mentasta	77.16	15	*e*P		P	13 23 50.6 +1.5
BOSA	Boshof	77.56	220	P		P	13 23 51.6 +0.2
	comp=Z,17nm,0.7s,mb4.8,baz=40,slow=4.9,SNR=23						
BOSA	Boshof	77.56	220	P		P	13 23 51.6 +0.3
BOSA					pmax	pmax	
	comp=Z,17nm,0.7s,mb4.8						
DIV	Divide	78.29	17	*e*P		P	13 23 56.4 +1.1
KDAK	Kodiak Island	79.32	22	P		P	13 24 01.5 +0.6
	comp=Z,513nm,1.0s,SNR=12						
KDAK	Kodiak Island	79.32	22	*e*P		P	13 24 01.8 +0.9
YKW3	Yellowknife Ar	81.21	2	*e*P		P	13 24 11.1 +0.1
YKA	Yellowknife Ar	81.28	2	P		P	13 24 11.8 +0.4
	comp=Z,15nm,0.6s,mb4.8,baz=351,slow=5.4,SNR=162						
YKA				pP		pP	13 25 02.7 +0.4
	comp=Z,2.7nm,0.7s,baz=351,slow=5.7,SNR=3.0						
YKA				PKKPbc		PKKPbc	13 42 43.7 -1.0
	comp=Z,0.6nm,0.3s,baz=169,slow=2.0,SNR=12						
YKA	Yellowknife Ar	81.28	2	P		P	13 24 11.8 +0.4
YKA				*PP		pP	13 25 02.7 +0.4
YKA							13 42 43.7
YKA					pmax	pmax	
	comp=Z,15nm,0.6s						
YKA	Yellowknife Ar	81.28	2	P		P	13 24 11.8 +0.4
YKA				pP		pP	13 25 02.7 +0.4
YKA				PKKPbc		PKKPbc	13 42 43.7 -1.0
SCHQ	Schefferville	82.01	337	P		P	13 24 14.1 -1.1
	comp=Z,9.1nm,0.8s,mb4.5,baz=205,slow=17,SNR=7.7						
SKAG	Skagway	82.01	13	*e*P		P	13 24 16.6 +1.4
	comp=Z,30nm,0.9s,mb4.9						
WRA	Warramunga Arr	82.21	122	P		P	13 24 15.8 -0.4
	comp=Z,12nm,0.7s,mb4.6,baz=322,slow=4.9,SNR=243						
WRA				pP		pP	13 25 07.8 +0.6
	comp=Z,4.4nm,0.9s,baz=323,slow=5.2,SNR=3.8						
WRA	Warramunga Arr	82.21	122	P		P	13 24 15.8 -0.4
WRA				*PP		pP	13 25 07.8 +0.5
WRA					pmax	pmax	
	comp=Z,12nm,0.7s						
WRAB	Tennant Creek	82.21	122	P		P	13 24 15.3 -0.9
	comp=Z,136nm,0.5s,SNR=25						
WRAB	Tennant Creek	82.21	122	*e*P		P	13 24 16.0 -0.2
WRAB	Tennant Creek	82.21	122	*e*P		P	13 24 15.8 -0.4
	comp=Z,16nm,0.8s,mb4.7						
WRAB				*e*pP		pP	13 25 07.8 +0.6
WB2	Warramunga Arr	82.22	122⇑	*i*P		P	13 24 15.8 -0.5
DLBC	Dease Lake	83.86	11	*e*P		P	13 24 25.2 +0.5
ASAR	Alice Springs	84.46	125	P		P	13 24 27.4 -0.4
	comp=Z,8.4nm,0.5s,mb4.7,baz=311,slow=5.0,SNR=173						
ASAR				pP		pP	13 25 19.1 +0.1
	comp=Z,2.9nm,0.7s,baz=318,slow=5.5,SNR=4.1						
ASAR	Alice Springs	84.46	125	P		P	13 24 27.4 -0.3
ASAR				*PP		pP	13 25 19.1 +0.1
ASAR					pmax	pmax	
	comp=Z,8.0nm,0.5s						
FORT	Forrest	85.85	133	*e*P		P	13 24 34.9 +0.3
	comp=Z,18nm,0.6s,mb5.0						
EDM	Edmonton	90.60	2	*e*P		P	13 24 57.7 +0.6
EDM				*e*PP		pP	13 25 49.9 +1.0
ULM	Lac du Bonnet	92.83	351	P		P	13 25 07.0 -0.4
	comp=Z,4.4nm,0.8s,mb4.5,baz=351,slow=5.2,SNR=6.2						
ULM	Lac du Bonnet	92.83	351	P		P	13 25 07.0 -0.4
MIV	Mineville/With	93.49	335	P		P	13 25 11.8 +1.4
MIV				*e*pP		pP	13 26 02.8 +0.4
STKA	Stephens Creek	94.99	126	P		P	13 25 18.6 +1.3
	comp=Z,4.3nm,1.1s,mb4.5,baz=108,slow=19,SNR=5.0						
PDAR	Pinedale Array	101.13	0	PP		PP	13 29 47.7 -8.4
	comp=Z,0.5nm,0.9s,baz=11,slow=3.0,SNR=4.8						
PDAR				PKKPbc		PKKPbc	13 41 52.6 -1.8
	comp=Z,0.5nm,0.4s,baz=127,slow=5.6,SNR=8.6						
SYO	Syowa Base	107.67	191⇓	*e*PKiKP		PKiKP	13 30 20.3 -0.3
TXAR	Lajitas Array	114.32	355	PKP		PKiKP	13 30 34.8 +1.6
	comp=Z,0.3nm,0.6s,baz=60,slow=4.9,SNR=5.1						
TXAR				PKKPbc		PKKPbc	13 41 12.6 -0.6
	comp=Z,0.7nm,0.6s,baz=183,slow=5.6,SNR=7.8						
VNDA	Vanda	125.55	164	PKP		PKPdf	13 30 53.0 -1.8
	comp=Z,1.8nm,0.5s,baz=299,slow=5.2,SNR=20						
VNDA	Vanda	125.55	164	PKIKP		PKPdf	13 30 53.0 -1.8
VNDA					pmax	pmax	
	comp=Z,2.0nm,0.5s						

MAN 01 13:47:20.5,1064N×12588E,h92km,mb2.1,ML3.7,MS1.6,

Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.93	204	*e*P	Pn	13 47 40.2	+0.6
SCPH				*e*S	Sn	13 47 55.3	+1.5
PLP	Palo	1.03	301	*e*P	Pn	13 47 41.1	+0.5
MSLP	Maasin	1.12	244	*e*P	Pn	13 47 42.6	+0.9

*IDC **01** 14:01:41.7±0.3,826S×11876E,h0km,mb5.4/29, mb1 5.4/31,mb1mx5.4/31,mbtmp5.4/31,ML5.2/2,MS5.9/22, Ms1 5.9/22,ms1mx5.7/28,Error ellipse: s-maj=13.7km s-min=8.4km az=62.0*

*NEIC **01** 14:01:44.3±0.1,826S×11875E,h19km,mb6.0/61,ME5.9, MS6.0/153,MW6.2,Error ellipse: s-maj=7.1km s-min=4.6km az=54.0,Moment Tensor Solution. s37 Moment tensor: Scale 10^18Nm; M_{rr}1.99; $M_{\theta\theta}$-1.84; $M_{\phi\phi}$-0.15; $M_{r\theta}$-1.31; $M_{\theta\phi}$0.52; $M_{\phi r}$0.03; Best double couple: $M_0$2.40000×10^18 NP1:ϕ_s278.00000°,δ62.00000°, λ83.00000°. NP2:ϕ_s113.00000°,δ29.00000°,λ103.00000°. Principal axes: T 2.4000, Plg72.0000°, Azm171.0000°; N -0.0400, Plg6.0000°, Azm282.0000°; P -2.3600, Plg16.0000°, Azm14.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s85.00000°,δ30.00000°, λ90.00000°. NP2:ϕ_s265.00000°,δ60.00000°,λ90.00000°. Principal axes: T Plg75.0000°, Azm175.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm355.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC One person died of a heart attack, 14 people injured and at least 20 houses destroyed and many damaged [V] at Bima. Felt [IV] at Labuhanbajo, Flores; [III] at Makassar, Sulawesi; [II] at Mataram, Lombok.

*ISCJB **01** 14:01:46.7±0.1,831S×102.2×11875E±003,h45km, mb5.8/138,MS6.0/193 Error ellipse: s-maj=3.9km s-min=3.0km az=134.1*

*MOS **01** 14:01:46.1±1.1,8.12S×11873E,h37km,mb6.1/46, MS6.0/44,Error ellipse: s-maj=8.7km s-min=5.3km az=112.5*

*BJI **01** 14:01:46.5,830S×11880E,h43km,mB6.2,mb5.6,Ms6.2, Msz6.0*

*GCMT **01** 14:01:47.5±0.1,8.16S×11880E,h27km,MW6.3/107, Moment Tensor Solution. s107,c242; s103,c404; Duration: 3s6 Moment tensor: Scale 10^18Nm; M_{rr}2.68±.02; $M_{\theta\theta}$-2.98±.02; $M_{\phi\phi}$0.30±.02; $M_{r\theta}$-2.63±.04; $M_{\theta\phi}$-0.57±.01; $M_{\phi r}$-0.90±.04; Best double couple: $M_0$4.00300×10^18 NP1:ϕ_s89.00000°,δ24.00000°, λ104.00000°. NP2:ϕ_s254.00000°,δ67.00000°,λ84.00000°. Principal axes: T 3.8270, Plg67.0000°, Azm152.0000°; N 0.3580, Plg6.0000°, Azm256.0000°; P -4.1800, Plg22.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 01 14:01:48.8±0.1,835S±002×11874E±003,h47km, h47km±1.8km;pP-P,n861,σ1§33/449,mb5.8/138,MS6.0/193, 133C-117D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	2.02	131	P	Pn	14 02 19.4	-1.0
	100μm,1.1s						
KAPI	Kappang	3.46	17	Pn	Pn	14 02 36.2	-3.9
	51μm,0.5s						
DNP	Denpasar	3.50	264	P	Pn	14 02 40.7	0.0
	4μm,1.2s						
NBBI	Negara	4.08	269	P	Pn	14 02 47.5	-1.0
	2μm,0.9s						
KMMI	Kalianget	4.90	285	P	Pn	14 02 59.5	-0.4
	716nm,0.9s						
KRKI	Karangkates	6.22	271	P	Pn	14 03 21.5	+3.5
	4μm,0.8s						
PCI	Palu	7.47	8	P	Pn	14 03 32.6	-2.5
	458nm,1.1s						
BJII	Banjamegara	9.00	276	P	Pn	14 03 52.0	-4.1
	290nm,0.8s						
FITZ	Fitzroy Crossi	11.79	146	*e*P	Pn	14 04 32.4	-1.9
	930nm,0.8s						
FITZ				*e*S	Sn	14 06 42.5	-1.9
FITZ	Fitzroy Crossi	11.79	146	Pn	Pn	14 04 32.0	-2.3
	19nm,0.3s,baz=339,slow=8.8,SNR=189						
FITZ				Sn	Sn	14 06 41.2	-3.2
	47nm,0.3s,baz=191,slow=20,SNR=12						
FITZ				LR	LR	14 09 36.6	
	comp=Z,84μm,21.0s,baz=331,slow=40						
KSM	Kuching	12.88	319⇓	*e*Pn	Pn	14 04 48.0	-1.1
KSM				*e*Sn	Sn	14 07 15.8	+4.9
KAKA	Kakadu	14.15	109	*e*P	Pn	14 05 02.5	-3.9
	1μm,0.7s						
KAKA				*e*S	Sn	14 07 39.4	-2.5
KKM	Kota Kinabalu	14.52	350	P	Pn	14 05 13.2	+1.9
KKM	Kota Kinabalu	14.52	350⇓	*e*Pn	Pn	14 05 10.4	-0.9
IPIL	Ipil	16.48	14	*e*P	Pn	14 05 39.0	+2.5
DAV	Davao City (W)	16.77	24	*e*Pn	Pn	14 05 41.5	+1.3
	4μm,1.6s						
MATI	Mati	16.94	26	*e*P	Pn	14 05 43.4	+1.0
BATP	Bataraza	17.06	357	*e*P	Pn	14 05 45.0	+1.2
BUKP	Musuan	17.31	22	*e*P	Pn	14 05 48.7	+1.8
CGP	Cagayan de Oro	17.71	20	*e*P	Pn	14 05 51.8	-0.1
CGP				*i*S	S	14 09 03.8	-10
SNPH	Sibulan	18.14	14	*e*P	Pn	14 06 03.0	+5.9
KGM	Kluang	18.50	303	P	Pn	14 06 07.3	+5.8
TBP	Tagbilaran	18.63	16⇑	*e*P	Pn	14 06 03.2	+0.1
WRA	Warramunga Arr	19.00

LUBP	Lubang	21.99	4	*e*P	P	14 06 42.3	+3.6
TGY	Tagaytay City	22.41	6	P	P	14 06 41.1	-2.2
	comp=Z,106nm,0.5s,baz=142,slow=10.0,SNR=3.8						
TGY				LR	LR	14 18 32.4	
	comp=Z,68nm,18.1s,baz=195,slow=45						
KULM	Kulim	22.56	306⇓	*e*P	P	14 06 45.5	+0.7
JAY	Jayapura	22.61	76	P	P	14 06 45.5	+0.1
	comp=Z,142nm,0.6s,mb5.6						
PSI	Prapat	22.65	298	P	P	14 06 45.5	-0.3
	comp=Z,152nm,1.1s,mb5.4,baz=167,slow=8.7,SNR=40						
PSI				LR	LR	14 16 30.7	
	comp=Z,91μm,19.0s,MS6.2,baz=129,slow=39						
POLP	Polilio Island	23.14	8	*e*P	P	14 06 50.1	-0.9
KLBR	Kellerberrin	23.15	182	*e*P	P	14 06 50.9	-0.1
	comp=Z,740nm,0.9s,mb6.1						
KLBR				*e*S	S	14 11 03.9	+5.0
MUN	Mundaring	23.63	185	*e*P	P	14 06 56.7	+1.1
MUN				*e*S	S	14 11 17.7	+11
SNG	Songkhla	23.75	310	P	P	14 07 01.0	+4.3
	comp=Z,1μm,1.0s,mb6.3						
PCPH	Palayan	23.87	6⇑	*e*P	P	14 06 59.4	+1.6
FORT	Forrest	23.96	160	*e*P	P	14 06 59.1	+0.5
	comp=Z,762nm,1.1s,mb6.0						
BALP	Baler	24.10	7	*e*P	P	14 07 01.7	+1.8
NWAO	Narrogin (SRO)	24.50	183	P	P	14 07 04.5	+1.0
	comp=Z,247nm,0.9s,mb5.6,baz=358,slow=10,SNR=33						
NWAO				S	S	14 11 35.4	+15
	comp=Z,455nm,0.9s,baz=323,slow=10,SNR=6.3						
NWAO				LR	LR	14 16 44.1	
	comp=Z,67μm,21.0s,MS6.1,baz=175,slow=37						
NWAO	Narrogin (SRO)	24.50	183	*e*P	P	14 07 04.3	+0.8
NWAO	Narrogin (SRO)	24.50	183⇑	*e*P	P	14 07 04.2	+0.7
NWAO				*e*S	S	14 11 34.2	+13
NWAO				LR	LR		
	comp=Z,52μm,21.0s,MS6.0						
BOLP	Bolinao	24.60	3	*e*P	P	14 07 07.4	+3.0
BCPH	Baguio City Da	24.64	4⇓	*e*P	P	14 07 00.0	-4.8
CAUP	Cauayan	25.31	7	*e*P	P	14 07 11.1	+0.1
PALP	Palanan	25.51	8	*e*P	P	14 07 08.5	-4.2
BSI	Banda Aceh	27.12	300	P	P	14 07 32.2	+4.9
	comp=Z,97nm,1.2s,mb5.2						
NNT	Nongplab	28.09	318	P	P	14 07 38.5	+2.5
PMG	Port Moresby	28.10	94	P	P	14 07 34.9	-1.1
	comp=Z,33nm,0.8s,mb5.0,baz=299,slow=7.1,SNR=11						
PMG	Port Moresby	28.10	94	P	P	14 07 35.9	-0.1
PMG				pmax	pmax		
	comp=Z,130nm,1.0s						
PMG	Port Moresby	28.10	94⇑	*e*P	P	14 07 32.4	-3.6
	comp=Z,135nm,1.0s,mb5.5						
PMG				*e*ScP	ScP	14 14 25.1	-1.3
PMG				LR	LR		
	comp=Z,43μm,20.0s,MS6.0						
QIZ	Qiongzhong	28.58	342	⇓P	P	14 07 41.2	+0.9
QIZ				AP	pP	14 07 53.4	+0.8
QIZ				PP	PP	14 08 32.3	-13
QIZ				S	S	14 12 28.7	+3.4
QIZ				AMB	AMB		
	comp=Z,2μm,10.7s						
QIZ				LR	LR		
	comp=E,23μm,16.2s						
QIZ				LR	LR		
	comp=Z,30μm,25.2s						
QIZ	Qiongzhong	28.58	342	*e*P	P	14 07 41.1	+0.8
	comp=Z,338nm,1.5s,mb5.8						
QIZ				LR	LR		
	comp=Z,22μm,20.0s,MS5.8						
CTA	Charters Tower	29.06	117	*e*P	P	14 07 44.7	+0.1
	comp=Z,93nm,1.0s,mb5.5						
CTA	Charters Tower	29.06	117	P	P	14 07 44.9	+0.3
	comp=Z,78nm,0.9s,mb5.4,baz=293,slow=11,SNR=41						
CTA				LR	LR	14 21 18.3	
	comp=Z,105μm,18.1s,MS6.5,baz=292,slow=40						
CTA	Charters Tower	29.06	117	*e*P	P	14 07 44.7	+0.1
CTA				pmax	pmax		
	comp=Z,93nm,1.0s						
CTAO	Charters Tower	29.06	117	*e*P	P	14 07 44.8	+0.2
CTAO				pmax	pmax		
	comp=Z,590nm,1.5s,mb6.1						
CTAO	Charters Tower	29.06	117	*e*P	P	14 07 44.7	+0.1
	comp=Z,594nm,1.5s,mb6.1						
CTAO				LR	LR		
	comp=Z,94μm,19.0s,MS6.4						
KKTK	Khon Kaen	29.15	327	P	P	14 07 47.0	+1.7
	comp=Z,1μm,0.5s						
NST	Nakhon Sawan	30.15	322	P	P	14 07 55.0	+0.8
	comp=Z,100nm,1.2s,mb5.4						
HKC	Hong Kong	30.79	352	P	P	14 07 57.0	-2.8
HKC				S	S	14 12 57.0	-2.9
STKA	Stephens Creek	31.62	141	*e*P	P	14 08 07.7	+0.5
	comp=Z,164nm,0.8s,mb5.9						
STKA	Stephens Creek	31.62	141	P	P	14 08 07.8	+0.6
	comp=Z,60nm,0.6s,mb5.6,baz=311,slow=9.1,SNR=71						
STKA				LR	LR	14 22 02.5	
	comp=Z,42μm,21.3s,MS6.1,baz=310,slow=38						
GZH	Guangzhou	31.68	351	P	P	14 08 13.0	+5.3
GZH				LR	LR		
	comp=N,14μm,14.3s,MS5.9						
GZH				LR	LR		
	comp=E,14μm,15.9s,MS5.9						
GZH				LR	LR		
	comp=Z,24μm,17.4s,MS5.9						
NACB	Ninganchiao	32.44	5	P	P	14 08 14.0	-0.3
PBA	Port Blair	32.61	307	*ex*	P	14 08 10.6	-5.3
PBA				*ex*	x	14 08 51.6	
	comp=Z,380nm,1.3s						
PBA				*ex*	x	14 10 10.0	
YHNB	Yeheng	32.92	4	*e*P	P	14 08 18.1	-0.4
	comp=Z,49nm,0.8s,mb5.5						
CM31	Chiang Mai Arr	33.03	324	*e*P	P	14 08 21.0	+1.5
	comp=Z,14nm,0.8s,mb5.0						
CM31				LR	LR		
	comp=Z,34μm,19.0s,MS6.1						
QZH	Quanzhou	33.09	360	P	P	14 08 18.5	-1.5
QZH				AMB	AMB		
	comp=Z,360nm,1.5s,mb6.1						
QZH				AMB	AMB		
	comp=Z,2μm,4.7s						
QZH				LR	LR		
	comp=N,22μm,17.6s,MS6.0						
QZH				LR	LR		
	comp=E,14μm,14.9s,MS6.0						
QZH				LR	LR		
	comp=Z,33μm,17.0s,MS6.1						
TATO	Taipei	33.23	5	PFAKE		14 08 30.0	+8.7
TATO				LR	LR		
	comp=Z,12μm,20.0s,MS5.6						
CHG	Chiang Mai	33.31	324	⇓P	P	14 08 23.3	+1.3
	comp=Z,107nm,1.5s,mb5.5						
CHTO	Chiang Mai	33.31	324	P	P	14 08 23.7	+1.7
	SNR=52						
CHTO	Chiang Mai	33.31	324⇓	*e*P	P	14 08 23.3	+1.3
CHTO				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.8						
CHTO				MLR	MLR		
	comp=Z,38μm,19.0s,MS6.1						
CHTO	Chiang Mai	33.31	324⇓	*e*P	P	14 08 23.3	+1.3
	comp=Z,140nm,1.2s,mb5.8						
CHTO				*e*ScP	ScP	14 14 44.7	+1.1
CHTO				LR	LR		
	comp=Z,38μm,19.0s,MS6.1						
GUMO	Guam	33.88	50	P	P	14 08 26.2	-0.7
	comp=Z,103nm,0.7s,mb5.9,baz=215,slow=14,SNR=4.3						
GUMO	Guam	33.88	50	*e*P	P	14 08 26.0	-0.9
GUMO				pmax	pmax		
	comp=Z,496nm,1.3s,mb6.3						
GUMO				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.5						
GUMO	Guam	33.88	50	*e*P	P	14 08 26.0	-0.9
	comp=Z,496nm,1.3s,mb6.3						
GUMO				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
JOW	Kunigami	36.17	15	P	P	14 08 46.6	-0.1
	comp=Z,44nm,0.8s,mb5.5,baz=111,slow=2.6,SNR=4.9						
JOW				LR	LR	14 22 47.3	
	comp=Z,27μm,21.6s,MS6.0,baz=198,slow=35						
GYA	Guiyang	36.53	342⇑	*i*P	P	14 08 51.0	+1.3
GYA				AP	pP	14 09 04.4	+2.2
GYA				XP	sP	14 09 09.8	+2.1
GYA				PP	PP	14 10 17.0	+3.5
GYA				PCP	PcP	14 11 14.1	+1.6
GYA				S	S	14 14 28.6	-0.1
GYA				XS	sS	14 14 52.4	+2.8
GYA				SCP	ScP	14 14 55.6	+0.4
GYA				SS	SS	14 16 58.5	-11
GYA				SCS	ScS	14 19 00.8	-0.9
GYA				AMB	AMB		
	comp=Z,300nm,1.0s,mb6.1						
GYA				AMB	AMB		
	comp=Z,3μm,10.8s						
GYA				LR	LR		
	comp=N,21μm,24.0s,MS5.9						
GYA				LR	LR		
	comp=E,12μm,23.6s,MS5.9						
GYA				LR	LR		
	comp=Z,22μm,22.4s,MS5.9						
KMI	Kunming	36.74	335	P	P	14 08 54.4	+2.9
KMI				AP	pP	14 09 06.8	+2.8
KMI				XP	sP	14 09 12.8	+3.3
KMI				PP	PP	14 10 21.8	+6.1
KMI				PCP	PcP	14 11 15.8	+2.7
KMI				S	S	14 14 34.8	+2.9
KMI				XS	sS	14 14 56.9	+4.1
KMI				SCS	ScS	14 19 03.0	+0.1
KMI				AMB	AMB		
	comp=Z,141nm,1.4s,mb5.6						
KMI				AMB	AMB		
	comp=Z,3μm,6.2s						
KMI				LR	LR		
	comp=N,24μm,13.0s,MS6.3						
KMI				LR	LR		
	comp=E,24μm,14.4s,MS6.3						
KMI				LR	LR		
	comp=Z,28μm,12.6s,MS6.2						
KMI	Kunming	36.74	335	P	P	14 08 54.4	+2.9
	comp=Z,141nm,1.4s,mb5.6						
KMI				pP	pP	14 09 06.8	+2.8
KMI				sP	sP	14 09 12.8	+3.3
KMI				PP	PP	14 10 21.8	+6.1
KMI				PPP		14 10 41.7	
KMI				PcP	PcP	14 11 15.8	+2.7
KMI				S	S	14 14 34.8	+2.9
KMI				sS	sS	14 14 56.9	+4.1
KMI				SS	SS	14 17 06.0	-7.8
KMI				SSS		14 17 34.7	
KMI				ScS	ScS	14 19 03.0	+0.1
KMI				LR	LR		
	comp=Z,28μm,12.6s,MS6.2						
ARMA	Armidale	37.77	130	*e*P	P	14 09 02.3	+2.0
TOO	Toolangi	37.85	144	*e*P	P	14 09 02.8	+1.9
	comp=Z,154nm,0.9s,mb5.7						
TOO	Toolangi	37.85	144	*e*P	P	14 09 02.8	+1.9
TOO				pmax	pmax		
	comp=Z,154nm,0.9s,mb5.7						
CNB	Canberra Magne	38.80	138	*e*P	P	14 09 10.0	+1.1
	comp=Z,243nm,1.3s,mb5.8						
WHN	Wuhan	38.90	354	⇓P	P	14 09 10.0	+0.3
WHN				S	S	14 14 58.6	-6.0
WHN				LR	LR		
	comp=Z,19μm,11.8s,MS6.1						
RIV	Riverview	39.17	135	*e*P	P	14 09 15.4	+3.4
SSE	Sheshan	39.29	3	⇓P	P	14 09 13.5	+0.5
SSE				AP	pP	14 09 28.5	+3.0
SSE				XP	sP	14 09 34.1	+3.1
SSE				PP	PP	14 10 45.0	+1.3
SSE				PCP	PcP	14 11 21.2	+0.2
SSE				S	S	14 15 11.3	+0.8
SSE				SCS	ScS	14 19 17.6	+0.1
SSE				AMB	AMB		
	comp=Z,59nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,2μm,12.0s						
SSE				LR	LR		
	comp=N,5μm,19.0s,MS5.6						
SSE				LR	LR		
	comp=E,8μm,19.0s,MS5.6						
SSE				LR	LR		
	comp=Z,8μm,17.6s,MS5.6						
SSE	Sheshan	39.29	3	⇓P	P	14 09 13.5	+0.5
	comp=Z,59nm,0.8s,mb5.4						
SSE				pP	pP	14 09 28.5	+3.0
SSE				sP	sP	14 09 34.1	+3.1
SSE				PP	PP	14 10 45.0	+1.3
SSE				PcP	PcP	14 11 21.2	+0.2
SSE				S	S	14 15 11.3	+0.8
SSE				sS	sS	14 15 36.1	+4.6
SSE				SS	SS	14 18 09.9	+4.7
SSE				ScS	ScS	14 19 17.6	+0.1
SSE				LR	LR		
	comp=Z,8μm,17.6s,MS5.6						
HNR	Honiara	40.71	95	P	P	14 09 25.5	+0.7
HNR				pmax	pmax		
	comp=Z,750nm,1.0s,mb6.3						
HNR	Honiara	40.71	95⇑	*e*P	P	14 09 23.4	-1.3
	comp=Z,754nm,1.0s,mb6.3						
HNR				LR	LR		
	comp=Z,12μm,19.0s,MS5.8						
PALK	Pallekele	40.97	291	P	P	14 09 26.8	-0.1
PALK				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
CD2	Chengdu	41.59	340⇓	*i*P	P	14 09 32.3	+0.3
CD2				XP	sP	14 09 50.0	-0.1
CD2				PP	PP	14 11 12.9	+4.2
CD2				PCP	PcP	14 11 28.4	0.0
CD2				S	S	14 15 46.4	+1.6
CD2				XS	sS	14 16 07.1	+1.1
CD2				SS	SS	14 18 48.2	-2.9
CD2				SCS	ScS	14 19 27.3	-4.0
CD2				AMB	AMB		
	comp=Z,480nm,1.2s,mb6.0						
CD2				AMB	AMB		
	comp=Z,5μm,7.8s						
CD2				LR	LR		
	comp=N,22μm,15.6s,MS6.4						
CD2				LR	LR		
	comp=E,29μm,14.4s,MS6.4						
CD2				LR	LR		
	comp=Z,19μm,15.6s,MS6.1						
AGT	Agartala	41.80	321	*i* x	P	14 09 41.0	+7.3
AGT				*i* x	x	14 10 16.0	
TAU	Tasmania Unive	42.59	149	P	P	14 09 43.5	+3.4
	comp=Z,882nm,1.3s,mb6.3,SNR=5.5						
TAU	Tasmania Unive	42.59	149	*e*P	P	14 09 41.6	+1.5
TAU	Tasmania Unive	42.59	149	*e*P	P	14 09 40.3	+0.2
	comp=Z,267nm,1.2s,mb5.8						
TAU				LR	LR		
	comp=Z,13μm,19.0s,MS5.8						
SHL	Shillong	42.65	323	*e*P	P	14 09 40.2	-0.5
SHL				AMb	AMB	14 09 47.7	
	comp=Z,2μm,2.0s,mb6.6						
SHL				*ex*	x	14 15 27.0	
CAL	Calcutta	42.77	316	*e*P	P	14 09 40.2	-1.4
CAL				*ex*	x	14 16 12.8	
JNU	Nakatsue	42.83	15	P	P	14 09 42.5	+0.4
	comp=Z,24nm,0.9s,mb4.9,baz=195,slow=13,SNR=4.6						
XAN	Xi'an	43.17	348	P	P	14 09 44.4	-0.4
XAN				AP	pP	14 09 53.8	-3.7
XAN				S	S	14 16 08.1	0.0
XAN				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
XAN				LR	LR		
	comp=N,9μm,19.1s,MS5.9						
XAN				LR	LR		
	comp=E,11μm,16.0s,MS5.9						
XAN				LR	LR		
	comp=Z,20μm,20.6s,MS6.0						
VIS	Vishakhapatnam	43.52	307	*e*P	P	14 09 47.8	+0.1
VIS				AML	AML	14 10 08.3	
	comp=Z,170nm,2.2s						
MDRS	Chennai	43.75	299⇑	*e*P	P	14 09 47.8	-1.7
TIA	Tai'an	44.34	358	*e*P	P	14 09 54.7	+0.4
TIA				S	S	14 16 25.0	-0.2
TIA				LR	LR		
	comp=N,1μm,14.0s,MS5.6						
TIA				LR	LR		
	comp=E,5μm,15.0s,MS5.6						
BOK	Bokaro	45.28	316	*e*P	P	14 10 00.9	-0.8
DGAR	Diego Garcia	45.84	268	*e*P	P	14 10 06.2	+0.1
DGAR	Diego Garcia	45.84	268	*e*P	P	14 10 03.1	-3.0
	comp=E,834nm,1.4s,mb6.5						
DGAR				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
GTK	Gangtok	45.93	322	*ex*	P	14 10 00.0	-6.8
LSA	Lhasa	46.21	326	P	P	14 10 10.0	+0.9
LSA				S	S	14 16 53.2	+1.0
LSA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.7						
LSA				LR	LR		
	comp=N,9μm,19.0s,MS6.0						
LSA				LR	LR		
	comp=E,13μm,19.0s,MS6.0						
LSA				LR	LR		
	comp=Z,16μm,19.0s,MS6.0						
LSA	Lhasa	46.21	326⇑	*e*P	P	14 10 10.3	+1.2
LSA				*e*S	S	14 16 52.7	+0.5
LSA				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.6						
LSA				MLR	MLR		
	comp=Z,19μm,20.0s,MS6.0						
LSA	Lhasa	46.21	326⇑	*e*P	P	14 10 10.3	+1.2
	comp=Z,1μm,1.8s,mb6.6						
LSA				*e*S	S	14 16 52.7	+0.6
LSA				LR	LR		
	comp=Z,19μm,20.0s,MS6.0						
KS15	Wonju Array Si	46.35	10	*e*P	P	14 10 12.0	+1.9
KSRS	Korea Array	46.36	10	P	P	14 10 10.5	+0.2
	comp=Z,94nm,1.1s,mb5.6,baz=190,slow=7.2,SNR=66						
KSRS				S	S	14 16 56.5	+2.2
	comp=Z,0.9nm,0.7s,baz=150,slow=42,SNR=2.4						
KSRS				LR	LR	14 30 04.7	
	comp=Z,12μm,19.8s,MS5.8,baz=86,slow=37						
LZH	Lanzhou	46.37	343	*e*P	P	14 10 12.1	+1.8
LZH				AP	pP	14 10 24.7	+1.6
LZH				XP	sP	14 10 30.6	+2.1
LZH				PCP	PcP	14 11 45.5	+0.8
LZH				PP	PP	14 12 01.5	+1.8
LZH				SCP	ScP	14 15 33.0	-1.2
LZH				PCS	PcS	14 15 37.5	-1.8
LZH				S	S	14 16 55.0	+0.6
LZH				XS	sS	14 17 16.3	+0.5
LZH				SCS	ScS	14 20 01.2	-0.2
LZH				AMB	AMB		
	comp=Z,419nm,1.7s,mb6.1						
LZH				AMB	AMB		
	comp=Z,1μm,4.3s						
LZH				LR	LR		
	comp=E,16μm,14.4s						
LZH				LR	LR		
	comp=Z,22μm,16.0s,MS6.2						
LZH	Lanzhou	46.37	343	*e*P	P	14 10 12.1	+1.8
	comp=Z,419nm,1.7s,mb6.1						
LZH				pP	pP	14 10 24.7	+1.6
LZH				sP	sP	14 10 30.6	+2.1
LZH				PcP	PcP	14 11 45.5	+0.8
LZH				PP	PP	14 12 01.5	+1.8
LZH				ScP	ScP	14 15 33.0	-1.2
LZH				PcS	PcS	14 15 37.5	-1.8
LZH				S	S	14 16 55.0	+0.6
LZH				sS	sS	14 17 16.3	+0.5
LZH				ScS	ScS	14 20 01.2	-0.2
LZH				SS		14 22 14.0	
LZH				LR	LR		
	comp=Z,22μm,16.0s,MS6.2						
DL2	Dalian	47.09	3	*i* P	P	14 10 17.8	+1.9
DL2				XP	sP	14 10 35.5	+1.3
DL2				S	S	14 17 05.7	+1.0
DL2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
DL2				AMB	AMB		
	comp=Z,2μm,9.2s						
DL2				LR	LR		
	comp=N,4μm,14.3s,MS5.7						
DL2				LR	LR		
	comp=E,4μm,14.4s,MS5.7						
DL2				LR	LR		
	comp=Z,5μm,15.1s,MS5.6						
HYB	Hyderabad	47.25	303	*i* P	P	14 10 16.0	-1.2
HYB				*e*PP	PP	14 12 12.0	+3.6
HYB				*e*PcS	PcS	14 15 44.0	+1.0
HYB				*e*S	S	14 17 04.0	-2.9
HYB				*e*ScS	ScS	14 20 04.0	-3.1
HYB				*e*SS	SS	14 20 36.0	+1.4
HYB				LR	LR		
	comp=Z,28nm,20.0s						
HYB	Hyderabad	47.25	303	*e*P	P	14 10 16.0	-1.2
HYB				*e*S	S	14 17 04.0	-2.9
JIRN	Jiri	47.68	320	*e*P	P	14 10 20.7	+0.2
	comp=Z,813nm,1.1s,mb6.7						
DZM	Mont Dzumac	47.81	112	*e*P	P	14 10 22.4	+0.9
DZM	Mont Dzumac	47.81	112	P	P	14 10 23.0	+1.5
	comp=Z,64nm,0.9s,mb5.7,baz=272,slow=7.1,SNR=17						
DZM	Mont Dzumac	47.81	112	*e*P	P	14 10 22.4	+0.9
GUN	Gumba	48.05	320	*e*P	P	14 10 24.0	+0.6
	comp=Z,765nm,0.9s,mb6.7						
PKI	Pulchoki	48.12	319	*e*P	P	14 10 24.7	+0.8
BJT	Baijiatuau	48.18	357	PFAKE		14 10 30.0	+5.6
BJT				LR	LR		
	comp=Z,17μm,19.0s,MS6.0						
BJI	Beijing	48.20	357	P	P	14 10 25.1	+0.6
BJI				AMB	AMB		
	comp=Z,91nm,1.3s,mb5.7						
BJI				LR	LR		
	comp=N,13μm,19.3s,MS6.1						
BJI				LR	LR		
	comp=E,15μm,17.8s,MS6.1						
BJI				LR	LR		
	comp=Z,10μm,17.4s,MS5.8						
BJI	Beijing	48.20	357	P	P	14 10 25.1	+0.6
	comp=Z,91nm,1.3s,mb5.7						
BJI				S	S	14 16 56.6	-24
BJI				SS	SS	14 20 21.1	-29
BJI				LR	LR		
	comp=Z,10μm,17.4s,MS5.8						
MAJO	Matsushiro	48.25	21	*e*P	P	14 10 23.7	-1.2
MAJO	Matsushiro	48.25	21	*e*P	P	14 10 23.2	-1.7
	comp=Z,204nm,1.2s,mb6.0						
MAJO				LR	LR		
	comp=Z,12μm,22.0s,MS5.8						
MAT	Matsushiro	48.25	21	P	P	14 10 23.8	-1.1
MAT				S	S	14 17 17.0	-4.2
MJAR	Matsushiro Arr	48.25	21	P	P	14 10 23.9	-1.1
	comp=Z,108nm,1.1s,mb5.8,baz=194,slow=7.5,SNR=50						
MJAR				LR	LR	14 29 35.3	
	comp=Z,10μm,20.4s,MS5.8,baz=185,slow=35						
DMN	Daman	48.34	319	*e*P	P	14 10 26.0	+0.4
	comp=Z,690nm,1.1s,mb6.6						
KKN	Kakani	48.35	319	*e*P	P	14 10 25.0	-0.7
	comp=Z,492nm,1.1s,mb6.5						
MNGI	Mangalore	48.48	295	*i* P	P	14 10 25.1	-1.6
MNGI				*i* x	x	14 17 18.4	
NGP	Nagpur	48.77	308	*e*P	P	14 10 25.6	-3.3
NGP				*ex*	x	14 10 56.2	
	comp=Z,303nm,1.0s						
NGP				*ex*	x	14 17 22.1	
GKN	Gorkha	48.91	319	*e*P	P	14 10 29.9	-0.1
	comp=Z,701nm,1.2s,mb6.6						
ALBI	Allahabad	49.11	314	*e*P	P	14 10 32.0	+0.5
JBP	Jabalpur	49.17	310⇑	*e*P	P	14 10 32.3	+0.3
JBP				*ex*	x	14 10 54.0	
	comp=Z,365nm,1.7s						
JBP				*i* x	x	14 17 15.0	
BTO	Baotou	49.37	351	*e*P	P	14 10 34.2	+0.7
HHC	Hu-ho-hao-te	49.40	353	*e*P	P	14 10 35.3	+1.6
HHC				AP	pP	14 10 47.3	+0.7
HHC				XP	sP	14 10 52.6	+0.6
HHC				PP	PP	14 12 31.4	+3.4
HHC				PCS	PcS	14 15 51.8	-0.3
HHC				S	S	14 17 36.9	-0.4
HHC				XS	sS	14 18 00.7	+1.9
HHC				SCS	ScS	14 20 21.7	+0.2
HHC				SS	SS	14 21 07.5	-1.8
HHC				AMB	AMB		
	comp=Z,34nm,1.6s,mb5.1						
HHC				LR	LR		
	comp=N,11μm,14.3s,MS6.1						
HHC				LR	LR		
	comp=E,10μm,18.4s,MS6.1						
HHC				LR	LR		
	comp=Z,8μm,19.0s,MS5.7						
KOLN	Koldanda	49.44	318	*e*P	P	14 10 33.5	-0.6
	comp=Z,1μm,1.5s,mb6.7						
SNY	Shenyang	50.12	5	⇑P	P	14 10 39.8	+0.5
SNY				AP	pP	14 10 51.7	-0.5
SNY				XP	sP	14 10 56.9	-0.7
SNY				S	S	14 17 42.5	-4.9
SNY				XS	sS	14 18 08.7	-0.3
SNY				AMB	AMB		
	comp=Z,87nm,1.7s,mb5.5						
SNY				AMB	AMB		
	comp=Z,3μm,9.6s						
SNY				LR	LR		
	comp=N,9μm,16.2s,MS5.9						
SNY				LR	LR		
	comp=E,5μm,17.1s,MS5.9						
SNY				LR	LR		
	comp=Z,8μm,15.2s,MS5.8						
AKL	Akola	50.15	306	*e*P	P	14 10 39.1	-0.3

AKL				*i* x	x	14 17 42.2	
GOA	**Goa**	**50.41**	**298**	*ex*	**P**	**14 10 32.9**	**-8.4**
GOA				AMb	AMB	14 10 41.1	
comp=Z,477nm,8.2s							
GTA	**Gaotai**	**50.66**	**341**	P	**P**	**14 10 44.8**	**+1.5**
GTA				AP	pP	14 10 57.6	+1.4
GTA				XP	sP	14 11 02.8	+1.2
GTA				PCP	PcP	14 12 03.9	+3.7
GTA				PP	PP	14 12 41.6	+2.1
GTA				SCP	ScP	14 15 54.2	+1.8
GTA				S	**S**	**14 17 57.2**	**+2.4**
GTA				XS	sS	14 18 18.5	+2.1
GTA				SS	SS	14 21 30.1	+0.7
GTA				AMB	AMB		
comp=Z,53nm,1.1s,mb5.4							
GTA				AMB	AMB		
comp=Z,4μm,9.1s							
GTA				LR	LR		
comp=N,9μm,20.9s,MS6.1							
GTA				LR	LR		
comp=E,16μm,22.1s,MS6.1							
GTA				LR	LR		
comp=Z,15μm,22.4s,MS6.0							
KAD	**Karad**	**50.88**	**300**	*e*P	**P**	**14 10 45.0**	**+0.1**
KAD				*ex*	x	14 10 45.2	
BHPL	**Bhopal**	**51.16**	**309**	*e*P	**P**	**14 10 46.9**	**-0.2**
POO	**Poona**	**51.71**	**301**	⇓*i* x	**P**	**14 10 45.0**	**-6.2**
comp=Z,268nm,1.2s,mb6.0							
POO				*i* x	x	14 18 00.0	
POO				*ex*	x	14 21 16.0	
CN2	**Changchun**	**52.26**	**6**	⇑P	**P**	**14 10 56.0**	**+0.8**
CN2				*e*AP	pP	14 11 08.6	+0.4
CN2				*e*XP	sP	14 11 13.8	+0.2
CN2				*e*S	**S**	**14 18 17.1**	**+0.2**
CN2				SS	SS	14 21 53.8	-1.0
CN2				AMB	AMB		
comp=Z,80nm,1.2s,mb5.5							
CN2				AMB	AMB		
comp=Z,3μm,10.0s							
CN2				LR	LR		
comp=N,6μm,16.0s,MS5.9							
CN2				LR	LR		
comp=E,5μm,16.0s,MS5.9							
CN2				LR	LR		
comp=Z,8μm,19.0s,MS5.8							
BOM	**Bombay**	**52.75**	**301**	*i* P	**P**	**14 10 55.3**	**-3.6**
BOM				*i* x	x	14 18 10.1	
LGTI	**Lohaghat**	**52.77**	**317**	*e*P	**P**	**14 11 00.0**	**+1.0**
PTH	**Pithoragarh**	**52.85**	**317**	*ex*	x	14 11 15.1	
MDJ	**Mudanjiang**	**53.62**	**10**	P	**P**	**14 11 05.7**	**+0.4**
MDJ				AP	pP	14 11 17.3	-1.0
MDJ				XP	sP	14 11 22.3	-1.4
MDJ				SCP	ScP	14 16 05.9	+0.7
MDJ				PCS	PcS	14 16 10.4	0.0
MDJ				S	**S**	**14 18 34.6**	**-0.8**
MDJ				SCS	ScS	14 20 51.6	+0.9
MDJ				AMB	AMB		
comp=Z,160nm,1.2s,mb5.8							
MDJ				AMB	AMB		
comp=Z,3μm,9.9s							
MDJ				LR	LR		
comp=N,3μm,23.7s							
MDJ				LR	LR		
comp=E,12μm,33.9s							
MDJ				LR	LR		
comp=Z,9μm,41.8s							
SONA	**Sohna**	**54.24**	**314**	*e*P	**P**	**14 11 07.2**	**-2.6**
SONA				AMb	AMB	14 11 24.9	
comp=Z,270nm,1.8s,mb5.9							
AYAN	**Aya Nagar**	**54.35**	**314**	*e*P	**P**	**14 11 07.9**	**-2.6**
NDI	**New Delhi**	**54.40**	**314**	*e*P	**P**	**14 11 09.6**	**-1.4**
NDI				AMb	AMB	14 11 24.7	
comp=Z,506nm,2.0s,mb6.1							
NDI				*ex*	x	14 18 36.0	
KUDL	**Kundal**	**54.61**	**313**	*e*P	**P**	**14 11 08.8**	**-3.6**
KUDL				AMb	AMB	14 11 25.9	
comp=Z,293nm,0.8s,mb6.3							
ERM	**Erimo**	**54.88**	**22**	PFAKE		14 11 20.0	+5.5
ERM				LR	LR		
comp=Z,3μm,22.0s,MS5.3							
AJM	**Ajmer**	**55.04**	**310**	*e*P	**P**	**14 11 14.8**	**-0.8**
AJM				AMb	AMB	14 11 35.3	
comp=Z,219nm,1.6s,mb5.9							
KHET	**Khetri**	**55.06**	**313**	*e*P	**P**	**14 11 13.4**	**-2.3**
KHET				AMb	AMB	14 11 31.6	
comp=Z,144nm,1.2s,mb5.9							
SDNR	**Sundarnagar**	**56.26**	**317**	*e*P	**P**	**14 11 24.5**	**+0.2**
ULN	**Ulaanbaatar**	**56.91**	**351**	PFAKE		14 11 40.0	+11
ULN				LR	LR		
comp=Z,8μm,21.0s,MS5.8							
SONM	**Songino Array**	**56.99**	**350**	P	**P**	**14 11 29.7**	**+0.2**
comp=Z,50nm,0.9s,mb5.6,baz=168,slow=5.7,SNR=162							
SONM				LR	LR	14 36 25.1	
comp=Z,11μm,21.5s,MS5.9,baz=198,slow=37							
SONM				PKPPKP		14 41 01.5	
comp=Z,0.9nm,0.8s,baz=2.8,slow=1.5,SNR=5.3							
PONG	**Pong**	**57.22**	**317**	*ex*	x	14 11 45.5	
BHJ	**Bhuj**	**57.35**	**304**	⇓*e*P	**P**	**14 11 29.2**	**-2.9**
BHJ				*ex*	x	14 19 13.6	
BHJ				*ex*	x	14 38 15.6	
HIA	**Hailar**	**57.37**	**1**	*e*P	**P**	**14 11 32.4**	**+0.2**
HIA				pmax	pmax		
comp=Z,123nm,1.1s							
HIA				MLR	MLR		
comp=Z,11μm,20.0s							
HIA	**Hailar**	**57.37**	**1**	*e*P	**P**	**14 11 32.4**	**+0.1**
comp=Z,123nm,1.1s,mb5.8							
HIA				LR	LR		
comp=Z,11μm,20.0s,MS6.0							
RPZ	**Rata Peaks**	**57.46**	**137**	P	**P**	**14 11 33.5**	**+0.6**
comp=Z,193nm,0.9s,mb6.2,baz=275,slow=3.3,SNR=28							
RPZ	**Rata Peaks**	**57.46**	**137**	P	**P**	**14 11 33.5**	**+0.6**
THN	**Thein Dam**	**57.67**	**317**	*e*P	**P**	**14 11 32.1**	**-2.2**
THN				*ex*	x	14 19 25.5	
CASY	**Casey**	**58.12**	**184**	⇑*i*P	**P**	**14 11 37.7**	**+0.2**
CASY				LR	LR		
comp=Z,28μm,20.0s,MS6.4							
HABR	**Khabarovsk**	**58.37**	**13**	⇑*i*P	**P**	**14 11 39.3**	**0.0**
HABR				*e*S	**S**	**14 19 39.6**	**+1.0**
HABR				pmax	pmax		
comp=Z,257nm,1.5s,mb6.0							
KLR	**Kul'dur**	**58.46**	**10**	*e*P	**P**	**14 11 35.2**	**-4.6**
KLR				*e*S	**S**	**14 19 35.0**	**-4.7**
KLR				*e*SS	SS	14 23 23.5	-9.0
KLR				pmax	pmax		
comp=N,88nm,2.2s							
KLR				pmax	pmax		
comp=E,120nm,2.2s							
KLR				pmax	pmax		
comp=Z,430nm,2.2s,mb6.1							
KLR				pmax	pmax		
comp=N,1μm,11.0s							
KLR				pmax	pmax		
comp=Z,6μm,11.0s							
KLR				smax			
comp=N,5μm,13.5s							
KLR				smax			
comp=E,4μm,13.5s							
KLR				MLR	MLR		
comp=Z,11μm,14.0s,MS6.1							
WMQ	**Urumqi**	**59.06**	**334**	⇑P	**P**	**14 11 44.1**	**+0.1**
WMQ				AP	pP	14 11 57.0	-0.2
WMQ				PCP	PcP	14 12 33.0	+0.6
WMQ				PP	PP	14 13 53.1	-1.7
WMQ				PCS	PcS	14 16 32.7	-1.6
WMQ				S	**S**	**14 19 45.3**	**-2.2**
WMQ				XS	sS	14 20 07.8	-1.7
WMQ				SCS	ScS	14 21 27.1	-2.9
WMQ				AMB	AMB		
comp=Z,218nm,1.5s,mb6.0							
WMQ				AMB	AMB		
comp=Z,1μm,4.5s							
WMQ				LR	LR		
comp=N,9μm,15.0s,MS6.2							
WMQ				LR	LR		
comp=E,10μm,17.0s,MS6.2							
WMQ				LR	LR		
comp=Z,9μm,30.0s							
YSS	**Yuzh-Sakhalins**	**59.06**	**19**	*j e*P	**P**	**14 11 42.8**	**-1.2**
YSS				*e**PP	pP	14 11 54.5	-2.7
YSS				*e*		14 13 53.0	
YSS				*e*S	**S**	**14 19 46.0**	**-1.5**
YSS				*e*PS		14 19 56.0	
YSS						14 21 30.0	
YSS				pmax	pmax		
comp=N,50nm,1.2s							
YSS				pmax	pmax		
comp=Z,140nm,1.2s,mb5.9							
YSS				MLR	MLR		
comp=Z,5μm,18.0s,MS5.7							
YSS				MLR	MLR		
comp=N,4μm,19.0s,MS5.6							
YSS				MLR	MLR		
comp=E,3μm,20.0s,MS5.6							
YSS	**Yuzh-Sakhalins**	**59.06**	**19**	*e*P	**P**	**14 11 42.8**	**-1.2**
comp=E,140nm,1.2s,mb5.9							
YSS				*e*pP	pP	14 11 54.5	-2.7
YSS				*e*		14 13 53.0	
YSS				*e*S	**S**	**14 19 46.0**	**-1.5**
YSS				*e*PS		14 19 56.0	
YSS				*e*		14 21 30.0	
YSS				LR	LR		
comp=Z,5μm,18.0s,MS5.7							
SNZO	**South Karori**	**59.20**	**133**	PFAKE		14 11 50.0	+5.0
SNZO				LR	LR		
comp=Z,2μm,20.0s,MS5.3							
FUNA	**Funafuti**	**59.75**	**95**	PFAKE		14 12 00.0	+11
FUNA				LR	LR		
comp=Z,6μm,20.0s,MS5.8							
ZAK	**Zakamensk**	**60.01**	**349**	*e*P	**P**	**14 11 50.3**	**-0.3**
ZAK				pmax	pmax		
comp=Z,33nm,1.4s,mb5.2							
DRV	**Dumont d'Urvil**	**60.02**	**170**	P	**P**	**14 11 53.0**	**+2.3**
DRV	**Dumont d'Urvil**	**60.02**	**170**	PP	PP	14 14 05.0	+1.6
DRV				S	**S**	**14 20 09.0**	**+9.1**
DRV				SS	SS	14 23 59.0	+1.9
DRV				L		14 27 00.0	
DRV				R		14 31 00.0	
CIT	**Chita**	**60.29**	**356**	*e*P	**P**	**14 11 52.8**	**+0.3**
CIT				*e*S	**S**	**14 19 56.5**	**-6.8**
CIT				pmax	pmax		
comp=Z,297nm,1.9s,mb6.0							
MIR	**Mirnyy**	**60.73**	**191**	*c i*P	**P**	**14 11 59.0**	**+3.5**
MIR				*e*		14 14 09.0	
MIR				pmax	pmax		
comp=Z,6μm,10.0s							
TLY	**Talaya**	**61.18**	**349**	P	**P**	**14 11 59.3**	**+0.7**
comp=Z,324nm,1.5s,mb6.2,SNR=13							
TLY	**Talaya**	**61.18**	**349**	P	**P**	**14 11 59.6**	**+1.0**
SNR=24							
TLY	**Talaya**	**61.18**	**349**	*c i*P	**P**	**14 11 58.5**	**-0.1**
TLY				*e*S	**S**	**14 20 16.4**	**+1.7**
TLY				*e*PS		14 20 30.6	
TLY				*e*		14 21 38.7	
TLY				pmax	pmax		
comp=Z,157nm,1.7s,mb5.9							
TLY	**Talaya**	**61.18**	**349**	⇑*i*P	**P**	**14 11 58.5**	**-0.1**
TLY				*e*S	**S**	**14 20 16.4**	**+1.7**
TLY				*e*PS		14 20 30.6	
TLY				*e*		14 21 38.7	
IRK	**Irkutsk**	**61.61**	**350**	*e*P	**P**	**14 12 01.0**	**-0.5**
IRK				*e*		14 12 46.5	
IRK				*e*S	**S**	**14 20 21.7**	**+1.5**
IRK				pmax	pmax		
comp=Z,302nm,2.1s,mb6.1							
MOY	**Mondy**	**61.70**	**348**	*e*P	**P**	**14 12 01.9**	**-0.1**
MOY				pmax	pmax		
comp=Z,313nm,2.1s,mb6.1							
KSH	**Kashi**	**61.93**	**323**	P	**P**	**14 12 03.8**	**+0.2**
KSH				AP	pP	14 12 16.1	-0.8
KSH				XP	sP	14 12 21.4	-0.8
KSH				PCP	PcP	14 12 44.3	+0.3
KSH				PP	PP	14 14 21.2	+1.0
KSH				SCP	ScP	14 16 41.3	-0.6
KSH				PCS	PcS	14 16 46.9	-0.2
KSH				S	**S**	**14 20 21.6**	**-2.6**
KSH				XS	sS	14 20 42.8	-3.5
KSH				SCS	ScS	14 21 47.1	-4.4
KSH				SS	SS	14 24 24.5	-2.4
KSH				AMB	AMB		
comp=Z,8μm,6.8s							
KSH				LR	LR		
comp=Z,62μm,18.6s,MS6.8							
MSEY	**Mahe Island**	**62.91**	**269**	*e*P	**P**	**14 12 09.2**	**-0.9**
comp=Z,349nm,1.6s,mb6.2							
MSEY				LR	LR		
comp=Z,5μm,20.0s,MS5.7							
MK31	**Makanchi Array**	**63.76**	**333**	*i* P	**P**	**14 12 14.9**	**-0.9**
MK31				pmax	pmax		
comp=Z,154nm,0.9s,mb6.0							
MK31	**Makanchi Array**	**63.76**	**333**	*i* P	**P**	**14 12 14.9**	**-0.9**
comp=Z,154nm,0.9s,mb6.0							
MKAR	**Makanchi Array**	**63.76**	**333**	P	**P**	**14 12 15.0**	**-0.8**
comp=Z,84nm,1.0s,mb5.7,baz=144,slow=6.1,SNR=115							
MKAR				PKPPKP		14 40 55.9	
comp=Z,1.2nm,1.1s,baz=343,slow=3.8,SNR=5.0							
MKAR				PKP2bc		14 41 14.6	
comp=Z,2.4nm,1.0s,baz=327,slow=2.0,SNR=8.3							
MKAR				LR	LR	14 44 07.9	
comp=Z,8μm,20.2s,MS5.9,baz=195,slow=40							
MKAR	**Makanchi Array**	**63.76**	**333**	P	**P**	**14 12 15.0**	**-0.8**
AAA	**Alma-Ata**	**63.87**	**327**	*i* P	**P**	**14 12 17.9**	**+1.4**
AAA				*i* S	**S**	**14 20 50.8**	**+2.3**
AAA				pmax	pmax		
comp=Z,4μm,10.4s							
AAA				smax			
comp=E,11μm,14.0s							
AAA				MLR	MLR		
comp=Z,9μm,15.2s,MS6.1							
KZA	**Kyzart**	**64.01**	**325**	P	**P**	**14 12 17.2**	**-0.2**
SNR=19							
TKM2	**Tokmak 2**	**64.37**	**326**	P	**P**	**14 12 19.0**	**-0.7**
SNR=12							
UCH	**Uchtor**	**64.52**	**325**	P	**P**	**14 12 20.6**	**-0.2**
SNR=15							
KBK	**Karagaybulak**	**64.56**	**326**	P	**P**	**14 12 20.6**	**-0.3**
SNR=18							
AAK	**Ala-Archa**	**64.80**	**325**	P	**P**	**14 12 21.6**	**-0.9**
comp=Z,239nm,1.0s,mb6.2,SNR=20							
AAK	**Ala-Archa**	**64.80**	**325**	P	**P**	**14 12 21.1**	**-1.4**
SNR=31							
AAK	**Ala-Archa**	**64.80**	**325**	⇑*e*P	**P**	**14 12 21.0**	**-1.6**
AAK				pmax	pmax		
comp=Z,86nm,1.7s,mb5.5							
AAK	**Ala-Archa**	**64.80**	**325**	⇑*e*P	**P**	**14 12 21.0**	**-1.6**
comp=Z,86nm,1.7s,mb5.5							
FRU	**Bishkek**	**64.86**	**326**	*e*P	**P**	**14 12 22.0**	**-0.9**
FRU				*i*	pP	14 12 38.0	+1.7
FRU				*e*S	**S**	**14 21 04.0**	**+3.3**
FRU				*e*SS	SS	14 25 08.0	-4.7
FRU				pmax	pmax		
comp=Z,250nm,2.8s,mb5.8							
FRU				pmax	pmax		
comp=Z,2μm,11.0s							
FRU				MLR	MLR		
comp=Z,10μm,24.0s,MS5.9							
AML	**Almayashu**	**64.93**	**324**	P	**P**	**14 12 22.9**	**-0.5**
SNR=34							
NRGR	**Nerungri**	**64.96**	**4**	*e*P	**P**	**14 12 24.0**	**+0.4**
NRGR				S	**S**	**14 21 05.4**	**+3.5**
NRGR				smax			
comp=E,31nm,0.5s							
CLNS	**Chul'man**	**65.15**	**4**	*e*P	**P**	**14 12 23.6**	**-1.2**
CLNS				*e**PP	pP	14 12 30.8	-7.4
CLNS				*e*	pP	14 12 40.1	+1.9
CLNS				*e*S	S	14 21 00.9	-3.4
CLNS				*e*		14 21 42.3	
CLNS				pmax	pmax		
comp=N,72nm,0.9s							
CLNS				pmax	pmax		
comp=E,65nm,0.9s							
CLNS				pmax	pmax		
comp=Z,114nm,0.9s,mb5.9							
CLNS				smax			
comp=N,2μm,10.9s							
CLNS				smax			
comp=Z,3μm,13.9s							
CLNS				smax			
comp=E,5μm,12.5s							
USP	**Ospenovka**	**65.20**	**326**	P	**P**	**14 12 23.9**	**-1.3**
SNR=20							
EKS2	**Erkin-Say**	**65.22**	**325**	P	**P**	**14 12 24.8**	**-0.5**
SNR=22							
BOD	**Bodaibo**	**66.05**	**357**	*e*P	**P**	**14 12 29.6**	**-1.0**
BOD				*e*		14 21 18.0	
BOD				pmax	pmax		
comp=Z,132nm,1.4s,mb5.8							
SKR	**Severo-Kuril's**	**67.11**	**25**	*e*P	**P**	**14 12 37.5**	**+0.1**
SKR				*e*		14 13 06.0	
SKR				*e*		14 15 10.0	
SKR				*e*S	S	14 21 32.0	+3.9
SKR				*e*PS		14 21 55.0	
SKR				*e*		14 22 26.0	
SKR				*e*SS	SS	14 25 44.0	-3.6
SKR				pmax	pmax		
comp=N,3μm,12.0s							
SKR				pmax	pmax		
comp=E,3μm,12.0s							
SKR				pmax	pmax		
comp=Z,3μm,12.0s							
SKR				smax			
comp=N,5μm,14.0s							
SKR				smax			
comp=E,9μm,14.0s							
SKR				MLR	MLR		
comp=N,4μm,22.0s,MS5.7							
SKR				MLR	MLR		
comp=E,3μm,22.0s,MS5.7							
SKR				MLR	MLR		
comp=Z,7μm,22.0s,MS5.8							
KK31	**Karatay Array**	**67.38**	**324**	*i* P	**P**	**14 12 37.1**	**-2.0**
KKAR	**Karatay Array**	**67.38**	**324**	*i* P	**P**	**14 12 37.1**	**-2.0**
KKAR				pmax	pmax		
comp=Z,87nm,1.1s,mb5.7							
AFI	**Afiamalu**	**68.21**	**102**	*e*P	**P**	**14 12 44.4**	**+0.1**
AFI				pmax	pmax		
comp=Z,163nm,1.2s,mb5.9							
AFI				MLR	MLR		
comp=Z,2μm,22.0s,MS5.3							
AFI	**Afiamalu**	**68.21**	**102**	*e*P	**P**	**14 12 44.4**	**0.0**
comp=Z,163nm,1.2s,mb5.9							
AFI				LR	LR		
comp=Z,2μm,22.0s,MS5.3							
KURK	**Kurchatov**	**68.30**	**334**	P	**P**	**14 12 43.4**	**-1.5**
comp=Z,448nm,1.2s,mb6.4,SNR=32							
KURK	**Kurchatov**	**68.30**	**334**	*e*P	**P**	**14 12 43.4**	**-1.5**
KURK				pmax	pmax		
comp=Z,158nm,1.0s,mb6.0							
KURK				MLR	MLR		
comp=Z,3μm,20.0s,MS5.5							
ZAL	**Zalesovo**	**68.34**	**339**	P	**P**	**14 12 43.6**	**-1.5**
comp=Z,12nm,0.6s,mb5.1,baz=335,slow=4.4,SNR=37							
ZAL				PKP2bc		14 41 01.9	
comp=Z,1.7nm,0.4s,baz=150,slow=5.9,SNR=6.9							
ZAL	**Zalesovo**	**68.34**	**339**	P	**P**	**14 12 43.7**	**-1.5**
NVS	**Novosibirsk**	**69.61**	**339**	*i* P	**P**	**14 12 50.5**	**-2.6**
NVS				*e*		14 13 19.8	
NVS				*i* S	S	14 21 53.2	-4.7
NVS				pmax	pmax		
comp=N,61nm,1.4s							
NVS				pmax	pmax		
comp=E,90nm,1.4s							
NVS				pmax	pmax		
comp=Z,126nm,1.4s,mb5.7							
NVS				smax			
comp=N,134nm,3.0s							
NVS				smax			
comp=E,49nm,2.6s							
MAW	**Mawson**	**69.76**	**200**	P	**P**	**14 12 55.3**	**+1.3**
comp=E,56nm,0.8s,mb5.5,baz=59,slow=7.9,SNR=38							
MAW				LR	LR	14 42 21.4	
comp=E,14μm,18.3s,MS6.2,baz=57,slow=35							
MAW	**Mawson**	**69.76**	**200**	⇑*i* P	**P**	**14 12 55.1**	**+1.1**
MAW				pmax	pmax		
comp=Z,63nm,0.8s							
MAW				MLR	MLR		
comp=Z,26μm,21.0s							
MAW	**Mawson**	**69.76**	**200**	⇑*i* P	**P**	**14 12 55.1**	**+1.1**
comp=Z,63nm,0.8s,mb5.6							
MAW				LR	LR		
comp=Z,26μm,21.0s,MS6.5							
PET	**Petropavlovsk**	**69.91**	**24**	⇑*e*P	**P**	**14 12 53.0**	**-1.9**
PET				pmax	pmax		
comp=Z,415nm,1.7s,mb6.1							
PET	**Petropavlovsk**	**69.91**	**24**	⇑*e*P	**P**	**14 12 53.0**	**-1.9**
comp=Z,415nm,1.7s,mb6.1							
YAK	**Yakutsk**	**70.68**	**5**	*c i*P	**P**	**14 12 58.5**	**-1.1**
YAK				*i* *PP	pP	14 13 08.8	-4.3
YAK				*e*		14 13 18.1	
YAK				*e*PPP		14 17 13.1	
YAK				*i* S	S	14 22 10.1	-0.2
YAK				*e*		14 22 58.5	
YAK				*i* SS	SS	14 26 40.4	-2.3
YAK				pmax	pmax		
comp=Z,322nm,1.0s,mb6.2							
YAK				pmax	pmax		
comp=N,159nm,1.2s							
YAK				pmax	pmax		
comp=E,61nm,1.4s							
YAK				smax			
comp=N,6μm,9.1s							
YAK				smax			
comp=Z,3μm,11.6s							
YAK				smax			
comp=E,7μm,16.1s							
YAK	**Yakutsk**	**70.68**	**5**	⇑*i* P	**P**	**14 12 58.5**	**-1.1**
comp=E,322nm,1.0s,mb6.2							
YAK				*i* pP	pP	14 13 08.8	-4.3
YAK				*e*		14 13 18.1	
YAK				*e*PPP		14 17 13.1	
YAK				*i* S	S	14 22 10.1	-0.2
YAK				*e*		14 22 58.5	
YAK				*i* SS	SS	14 26 40.4	-2.3
MIDW	**Midway**	**71.55**	**57**	PFAKE		14 13 10.0	+5.1
MIDW				LR	LR		
comp=Z,5μm,20.0s,MS5.7							
MA2	**Magadan**	**72.37**	**16**	*e*P	**P**	**14 13 09.8**	**0.0**
MA2				*i* S	S	14 22 33.2	+3.4
MA2				*e*		14 23 11.3	
MA2				pmax	pmax		
comp=Z,40nm,0.7s,mb5.5							
MA2	**Magadan**	**72.37**	**16**	*e*P	**P**	**14 13 09.8**	**0.0**
MA2				*i* S	S	14 22 33.2	+3.4
MA2				*e*		14 23 11.3	
VNDA	**Vanda**	**72.67**	**171**	P	**P**	**14 13 12.5**	**+1.0**
comp=Z,22nm,0.7s,mb5.2,baz=314,slow=5.8,SNR=62							
VNDA				LR	LR	14 43 01.9	
comp=Z,16μm,20.9s,MS6.3,baz=335,slow=34							
VNDA	**Vanda**	**72.67**	**171**	P	**P**	**14 13 12.6**	**+1.1**
VNDA				pmax	pmax		
comp=Z,130nm,1.2s							
VNDA	**Vanda**	**72.67**	**171**	*e*P	**P**	**14 13 12.5**	**+0.9**
comp=Z,131nm,1.2s,mb5.7							
VNDA				LR	LR		
comp=Z,16μm,21.0s,MS6.3							
ABKT	**Ailbek**	**72.81**	**314**	P	**P**	**14 13 10.1**	**-2.3**
comp=Z,144nm,1.6s,mb5.7,SNR=6.6							
VOSK	**Vostochnaya**	**73.13**	**332**	P	**P**	**14 13 10.9**	**-3.4**
VOSK				pmax	pmax		
comp=Z,242nm,1.8s,mb5.8							
BVA0	**Borovoye Array**	**73.60**	**332**	*i* P	**P**	**14 13 15.7**	**-1.4**
BVA0				pmax	pmax		
comp=Z,44nm,1.3s,mb5.2							
BVAR	**Borovoye Array**	**73.60**	**332**	P	**P**	**14 13 16.1**	**-0.9**
comp=Z,12nm,0.9s,mb4.8,baz=134,slow=4.2,SNR=5.1							
BVAR				PKPPKP		14 40 50.4	
comp=Z,0.4nm,0.6s,baz=268,slow=5.6,SNR=3.9							
BVAR	**Borovoye Array**	**73.60**	**332**	P	**P**	**14 13 16.1**	**-1.0**
BRVK	**Borovoye**	**73.67**	**332**	P	**P**	**14 13 15.1**	**-2.4**
comp=Z,186nm,1.4s,mb5.8,SNR=7.1							
BRVK	**Borovoye**	**73.67**	**332**	⇑P	**P**	**14 13 16.8**	**-0.7**
SNR=14							
BRVK	**Borovoye**	**73.67**	**332**	*e*P	**P**	**14 13 16.9**	**-0.6**
SBA	**Scott Base**	**73.67**	**171**	⇑*e*P	**P**	**14 13 19.4**	**+1.9**
SBA				pmax	pmax		
comp=Z,258nm,1.4s,mb6.0							
SBA				MLR	MLR		
comp=Z,8μm,19.0s,MS6.0							
SBA	**Scott Base**	**73.67**	**171**	⇑*e*P	**P**	**14 13 19.4**	**+1.9**
comp=Z,258nm,1.4s,mb6.0							
SBA				LR	LR		
comp=Z,8μm,19.0s,MS6.0							
SEY	**Seymchan**	**75.60**	**15**	⇑*e*P	**P**	**14 13 26.9**	**-1.8**
LBOS		**76.19**	**286**	⇑*e*P	**P**	**14 13 31.1**	**-0.9**
SMY	**Shemya**	**76.84**	**31**	P	**P**	**14 13 34.1**	**-1.6**
comp=Z,2μm,1.8s,mb6.7							
SMY				LR	LR		
comp=Z,5μm,21.0s,MS5.8							
AB31	**Akbulak array**	**76.88**	**325**	*i* P	**P**	**14 13 34.1**	**-1.8**
ATD	**Arta Tunnel**	**78.01**	**284**	P	**P**	**14 13 42.5**	**+0.3**
comp=Z,68nm,1.2s,mb5.4,baz=309,slow=5.3,SNR=7.6							
ATD	**Arta Tunnel**	**78.01**	**284**	P	**P**	**14 13 42.5**	**+0.3**
SYO	**Syowa Base**	**78.36**	**201**	⇓*i* P	**P**	**14 13 44.5**	**+0.3**
SYO	**

AKTK	**Aktyubinsk**	**78.54 325**	P	**P**	**14 13 43.8**	**-1.3**
AKTO	**Aktyubinsk**	**78.54 325**	P	**P**	**14 13 43.8**	**-1.3**
	comp=Z,20nm,0.9s,mb5.0,baz=118,slow=5.8,SNR=33					
RAR	**Rarotonga**	**79.13 110**	LR	LR	14 47 15.5	
	comp=Z,6μm,22.0s,MS5.9,baz=279,slow=34					
RAR	**Rarotonga**	**79.13 110**	PFAKE		14 14 00.0	+12
RAR			LR	LR		
	comp=Z,1.0nm,21.0s					
TIXI	**Tiksi**	**80.11 3**	*e*P	**P**	**14 13 50.8**	**-2.9**
TIXI			pmax	pmax		
	comp=Z,207nm,1.0s,mb6.0					
TIXI			MLR	MLR		
	comp=Z,7μm,21.0s,MS6.0					
TIXI	**Tiksi**	**80.11 3**	*e*P	**P**	**14 13 50.8**	**-2.9**
	comp=Z,207nm,1.0s,mb6.0					
TIXI			LR	LR		
	comp=Z,7μm,21.0s,MS6.0					
SVE	**Sverdlovsk**	**80.39 332**⇓	*e*P	**P**	**14 13 55.0**	**-0.2**
SVE			*e*S	S	14 23 54.0	-3.6
SVE			*e*SS	SS	14 29 14.0	+4.1
SVE			pmax	pmax		
	comp=Z,230nm,2.0s,mb5.8					
SVE			MLR	MLR		
	comp=E,4μm,19.0s					
SVE			MLR	MLR		
	comp=Z,11μm,19.0s,MS6.2					
ORR	**Orenburg**	**80.92 325**	P	**P**	**14 13 57.2**	**-0.8**
ORR					14 17 06.0	
ORR			S	S	14 23 55.4	-7.8
ORR			pmax	pmax		
	comp=Z,110nm,1.1s,mb5.7					
DESE	**Dese**	**81.03 283**	*e*P	**P**	**14 13 52.2**	**-6.4**
DESE			*e*S	S	14 23 47.5	-17
ARU	**Arti**	**81.17 331**⇓	*i*P	**P**	**14 13 57.4**	**-2.0**
ARU			*e*		14 17 03.8	
ARU			*e*PPP		14 18 55.9	
ARU			*e*S	S	14 24 05.4	-0.4
ARU			pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8					
ARU	**Arti**	**81.17 331**⇓	*i*P	**P**	**14 13 57.4**	**-2.0**
	comp=Z,15nm,1.1s,mb4.8					
ARU			*e*		14 17 03.8	
ARU			*e*PPP		14 18 55.9	
ARU			*e*S	S	14 24 05.4	-0.4
KMBO	**Kilima Mbogo**	**81.41 270**	P	**P**	**14 14 01.5**	**+0.9**
	comp=Z,23nm,1.0s,mb5.1,baz=52,slow=6.6,SNR=31					
KMBO			LR	LR	14 45 38.4	
	comp=Z,13μm,20.6s,MS6.3,baz=88,slow=32					
KMBO	**Kilima Mbogo**	**81.41 270**	P	**P**	**14 14 01.7**	**+1.0**
	SNR=19					
KMBO	**Kilima Mbogo**	**81.41 270**	*i* P	**P**	**14 14 01.5**	**+0.8**
KMBO			pmax	pmax		
	comp=Z,23nm,1.0s					
KMBO	**Kilima Mbogo**	**81.41 270**⇑	*e*P	**P**	**14 14 00.8**	**+0.1**
	comp=Z,69nm,1.1s,mb5.5					
KMBO			LR	LR		
	comp=Z,5μm,19.0s,MS5.9					
FURI	**Furi**	**81.57 280**	*e*P	**P**	**14 14 03.3**	**+1.8**
FURI			S	S	14 24 17.2	+7.2
QSPA	**South Pole Qui**	**81.64 180**	*e*P	**P**	**14 14 02.6**	**+0.7**
	comp=Z,226nm,1.2s,mb6.0					
QSPA			LR	LR		
	comp=Z,7μm,20.0s,MS6.0					
BHD	**Baghdad**	**81.67 305**	*ex*	x	14 13 59.0	
BHD			*ex*	x	14 14 21.0	
BHD			*ex*	x	14 24 08.0	
BHD			*ex*	x	14 25 10.0	
MAK	**Makhachkala**	**82.20 315***d*	*i*P	**P**	**14 14 05.7**	**+0.9**
MAK			*e*		14 17 19.7	
MAK			*e*PPP		14 19 00.7	
MAK			*i* S	S	14 24 14.9	-1.5
MAK			*e*SSS		14 33 01.1	
MAK			pmax	pmax		
	comp=N,344nm,1.8s					
MAK			pmax	pmax		
	comp=Z,287nm,1.8s,mb5.9					
MAK			pmax	pmax		
	comp=E,263nm,1.7s					
MAK			pmax	pmax		
	comp=Z,4μm,7.9s					
MAK			smax			
	comp=E,7μm,8.7s					
MAK			smax			
	comp=N,5μm,9.7s					
DGRG	**David-gareji**	**83.23 314**	P	**P**	**14 14 09.7**	**-0.5**
DGRG			S	S	14 24 34.6	+7.6
BILL	**Bilibino**	**83.24 16**	*e*P	**P**	**14 14 08.5**	**-1.7**
BILL			*e**PP	pP	14 14 20.8	-3.2
BILL			*e**SP	sP	14 14 26.6	-2.6
BILL			pmax	pmax		
	comp=Z,80nm,1.2s,mb5.6					
BILL	**Bilibino**	**83.24 16**	*e*P	**P**	**14 14 08.5**	**-1.7**
	comp=Z,80nm,1.2s,mb5.6					
BILL			*e*pP	pP	14 14 20.8	-3.2
BILL			*e*sP	sP	14 14 26.6	-2.6
GNI	**Garni**	**83.31 312**	*e*P	**P**	**14 14 10.1**	**-0.5**
GNI	**Garni**	**83.31 312**	P	**P**	**14 14 11.1**	**+0.5**
	comp=Z,2.9nm,0.4s,mb4.7,baz=333,slow=18,SNR=7.0					
GNI	**Garni**	**83.31 312**	P	**P**	**14 14 11.4**	**+0.8**
	SNR=11					
GNI	**Garni**	**83.31 312**⇑	*e*P	**P**	**14 14 09.2**	**-1.4**
GNI			pmax	pmax		
	comp=Z,13nm,1.1s					
GNI	**Garni**	**83.31 312**⇑	*e*P	**P**	**14 14 09.2**	**-1.4**
	comp=Z,13nm,1.1s,mb4.9					
CUKT	**Cukurca**	**83.35 309**	*e*P	**P**	**14 14 09.0**	**-1.8**
HAKT	**HAKKARI**	**83.36 309**	*i* P	**P**	**14 14 11.6**	**+0.8**
MSL	**Mosul**	**83.50 308**	*ex*	x	14 14 13.0	
MSL	**Mosul**	**83.50 308**	*ex*	x	14 24 17.5	
MSL			*ex*	x	14 24 32.0	
SOKR	**Solikamsk**	**83.53 333**	*e*P	**P**	**14 14 12.8**	**+1.1**
SOKR					14 17 31.8	
SOKR			S	S	14 24 31.1	+1.2
SOKR			SS	SS	14 29 52.5	-4.0
SOKR			pmax	pmax		
	comp=Z,30nm,1.2s,mb5.3					
MTA	**Mtatsminda**	**83.72 314**	P	**P**	**14 14 13.7**	**+1.0**
MTA			S	S	14 24 33.1	+1.2
TBLG	**Delisi**	**83.77 314**	P	**P**	**14 14 10.3**	**-2.6**
TVAN	**Van**	**83.85 310**	*e*P	pP	14 14 25.6	-1.5
VANB	**Van**	**83.88 310**	*e*P	**P**	**14 14 13.3**	**-0.2**
DUS	**Dusheti**	**83.90 314**	P	**P**	**14 14 16.8**	**+3.2**
GOR	**Gori**	**84.29 314**	P	**P**	**14 14 15.9**	**+0.3**
SIRT	**Sirnak**	**84.32 309**	*e*P	**P**	**14 14 19.9**	**+4.2**
DIGO	**Kars**	**84.39 312**	*e*P	**P**	**14 14 21.1**	**+5.1**
AGRB	**Hanur-Agry**	**84.44 311**	*e*P	**P**	**14 14 16.0**	**-0.4**
ZEI	**Tsey**	**84.66 314**	*e*P	**P**	**14 14 20.0**	**+2.5**
ZEI			*i*		14 14 27.2	
ZEI			pmax	pmax		
	comp=Z,67nm,1.1s,mb5.7					
ONI	**Oni**	**84.93 314**	P	**P**	**14 14 24.8**	**+6.0**
ONI			S	S	14 24 40.4	-3.5
MARD	**Mardin**	**85.55 309**	*i* P	**P**	**14 14 22.1**	**+0.2**
ARTV	**Artvin**	**85.65 313**	*e*P	**P**	**14 14 23.5**	**+1.1**
BNGL	**BINGOL**	**85.67 310**	*e*P	**P**	**14 14 23.0**	**+0.5**
ERZM	**Erzurum**	**85.74 311**	*i* P	**P**	**14 14 23.8**	**+0.9**
EZM	**Erzurum**	**85.74 311**	*e*P	**P**	**14 14 23.7**	**+0.9**
KIV	**Kislovodsk**	**85.84 315***c*	*i*P	**P**	**14 14 21.0**	**-2.3**
KIV			pmax	pmax		
	comp=Z,28nm,1.7s,mb5.2					
KIV	**Kislovodsk**	**85.84 315**⇑	*i*P	**P**	**14 14 21.0**	**-2.3**
	comp=Z,28nm,1.7s,mb5.2					
BCA	**Borcka**	**85.94 313**	P	**P**	**14 14 20.2**	**-3.6**
EZC	**Erzincan**	**86.86 311**	*e*P	**P**	**14 14 30.2**	**+1.9**
PTK	**Pertek**	**86.98 310**	*e*P	**P**	**14 14 29.6**	**+0.6**
URFA	**Urfa**	**87.10 308**	*e*P	**P**	**14 14 28.4**	**-1.1**
KTUT	**Trabzon**	**87.19 312**	*e*P	**P**	**14 14 33.8**	**+3.9**
ELZG	**Elazig**	**87.21 309**	*i* P	**P**	**14 14 30.2**	**+0.2**
ATAB	**Bozova**	**87.52 308**	*e*P	**P**	**14 14 32.0**	**+0.5**
MALT	**Malatya**	**87.59 309**	*e*P	**P**	**14 14 30.9**	**-1.0**
MALT			pmax	pmax		
	comp=Z,50nm,1.2s,mb5.6					
MALT	**Malatya**	**87.59 309**	*e*P	**P**	**14 14 30.9**	**-1.0**
	comp=Z,50nm,1.2s,mb5.6					
MALT	**Malatya**	**87.59 309**⇑	*i*P	**P**	**14 14 32.5**	**+0.6**
NVL	**N'lazarevskaya**	**87.67 199***c*	*i*P	**P**	**14 14 32.9**	**+0.7**
NVL			*i* S	SKSac	14 24 56.9	+0.5
NVL			*e*		14 26 26.6	
NVL			*e*SSS		14 34 33.3	
NVL			pmax	pmax		
	comp=Z,174nm,1.7s,mb6.0					
NVL			MLR	MLR		
	comp=Z,11μm,19.0s,MS6.3					
MAIT	**Maitri**	**87.69 198**	*e*P	**P**	**14 14 32.7**	**+0.3**
MAIT			*e*S	SKSac	14 24 56.5	-0.1
UNV	**Unalaska Valle**	**87.83 35**	*e*P	**P**	**14 14 30.3**	**-2.7**
	comp=Z,884nm,2.0s,mb6.7					
UNV			LR	LR		
	comp=Z,14μm,22.0s,MS6.3					
SOC	**Sochi**	**87.83 314***d*	*i*P	**P**	**14 14 33.8**	**+0.8**
SOC			*e**PP	pP	14 14 47.4	+0.5
SOC			*e*		14 17 59.0	
SOC			*e*PPP		14 19 51.4	
SOC			*i* S	SKSac	14 24 56.9	-0.5
SOC			*e*		14 25 17.9	
SOC			*e*SS	SS	14 30 52.3	-7.5
SOC			*e*SSS		14 34 36.0	
SOC			pmax	pmax		
	comp=Z,27nm,0.7s,mb5.6					
LSZ	**Lusaka**	**88.36 255**	P	**P**	**14 14 36.9**	**+1.3**
	SNR=37					
LSZ	**Lusaka**	**88.36 255**⇑	*i*P	**P**	**14 14 36.4**	**+0.9**
LSZ			pmax	pmax		
	comp=Z,175nm,1.1s,mb6.2					
LSZ			MLR	MLR		
	comp=Z,7μm,20.0s,MS6.1					
LSZ	**Lusaka**	**88.36 255**⇑	*i*P	**P**	**14 14 36.4**	**+0.8**
	comp=Z,175nm,1.1s,mb6.2					
LSZ			LR	LR		
	comp=Z,7μm,20.0s,MS6.1					
FKH	**Fakeheh**	**88.36 305**	*e*P	**P**	**14 14 34.3**	**-1.2**
TBI	**Tubuai**	**88.38 113**	*e*LQ		14 39 08.5	
	comp=Z,14μm,37.8s					
TBI	**Tubuai**	**88.38 113**	*e*PP	PP	14 17 59.7	-4.0
	comp=Z,1μm,26.5s					
TBI	**Tubuai**	**88.38 113**	*e*S	S	14 25 18.6	+1.2
	comp=Z,6μm,28.5s					
TBI			*e*LR	LR	14 43 35.5	
	comp=Z,13μm,24.5s					
VRHR	**Novokhopersk**	**88.44 322**	*e*P	**P**	**14 14 35.7**	**-0.2**
VRHR			*e*S	S	14 25 17.4	-0.5
VRHR			pmax	pmax		
	comp=E,10.0nm,0.6s					
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.2					
VRHR			smax			
	comp=E,850nm,7.1s					
VRHR			smax			
	comp=Z,2μm,13.9s					
VRHR			MLR	MLR		
	comp=Z,4μm,23.0s,MS5.8					
VRHR			MLR	MLR		
	comp=E,4μm,27.0s					
EIL	**Elat**	**88.73 300**	*e*P	**P**	**14 14 36.0**	**-1.2**
	comp=E,885nm,1.1s					
HWQ	**Hawqa**	**88.74 305**	*e*P	**P**	**14 14 37.1**	**-0.2**
POHA	**Pohakuloa**	**88.80 70**	PFAKE		14 14 50.0	+12
POHA			LR	LR		
	comp=Z,6μm,21.0s,MS6.0					
BHL	**Bhannes**	**88.91 304**	*e*P	**P**	**14 14 37.6**	**-0.5**
MMAI	**Mount Meron Ar**	**88.95 303**	P	**P**	**14 14 38.6**	**+0.3**
	comp=Z,10nm,0.8s,mb5.2,baz=68,slow=5.7,SNR=14					
SVSK	**Karacayir**	**89.02 310**	*e*P	**P**	**14 14 37.2**	**-1.5**
BOSA	**Boshof**	**89.09 241**	P	**P**	**14 14 40.2**	**+1.2**
	comp=Z,53nm,1.0s,mb5.8,baz=105,slow=4.5,SNR=39					
BOSA			LR	LR	14 51 36.0	
	comp=Z,8μm,19.1s,MS6.1,baz=104,slow=34					
BOSA	**Boshof**	**89.09 241**	*e*P	**P**	**14 14 39.5**	**+0.5**
BOSA			pmax	pmax		
	comp=Z,71nm,1.0s,mb6.0					
BOSA			MLR	MLR		
	comp=Z,8μm,19.0s,MS6.2					
BOSA	**Boshof**	**89.09 241**	*e*P	**P**	**14 14 39.5**	**+0.5**
	comp=Z,71nm,1.0s,mb6.0					
BOSA			LR	LR		
	comp=Z,8μm,19.0s,MS6.2					
PAE	**Paea**	**89.09 108**	*e*P	**P**	**14 14 42.1**	**+3.1**
	comp=Z,301nm,1.4s,mb6.5					
PPT	**Papeete**	**89.11 108**	*e*P	**P**	**14 14 42.4**	**+3.3**
	comp=Z,122nm,1.4s,mb6.0					
PPT	**Papeete**	**89.11 108**	*e*LQ		14 39 28.6	
	comp=Z,32μm,39.8s					
PPT	**Papeete**	**89.11 108**	*e*PP	PP	14 18 00.6	-8.9
	comp=Z,1μm,25.2s					
PPT	**Papeete**	**89.11 108**	*e*S	S	14 25 26.7	+2.4
	comp=Z,10μm,28.0s					
PPT			*e*SS	SS	14 31 18.1	-0.3
	comp=Z,7μm,25.8s					
PPT			*e*LR	LR	14 43 35.5	
	comp=Z,11μm,25.5s					
PPT	**Papeete**	**89.11 108**	P	**P**	**14 14 40.2**	**+1.1**
	comp=Z,58nm,1.1s,mb5.8,baz=274,slow=0.5,SNR=5.4					
PPT			LR	LR	14 51 10.1	
	comp=Z,2μm,21.1s,MS5.6,baz=263,slow=33					
LBTB	**Lobatse**	**89.34 245**	*e*P	**P**	**14 14 40.9**	**+0.8**
LBTB			pmax	pmax		
	comp=Z,118nm,1.1s,mb6.1					
LBTB			MLR	MLR		
	comp=Z,5μm,19.0s,MS5.9					
LBTB	**Lobatse**	**89.34 245**	*e*P	**P**	**14 14 40.9**	**+0.7**
	comp=Z,118nm,1.1s,mb6.1					
LBTB			LR	LR		
	comp=Z,5μm,19.0s,MS5.9					
TVO	**Taravao**	**89.39 108**	*e*P	**P**	**14 14 43.7**	**+3.3**
	comp=Z,398nm,1.4s,mb6.6					
ANN	**Anapa**	**89.70 315**	*e*P	**P**	**14 14 40.1**	**-1.7**
ANN			*e*		14 18 17.6	
ANN			*e*S	SKSac	14 25 05.3	-3.2
ANN			pmax	pmax		
	comp=Z,84nm,1.1s,mb6.0					
VORD	**Divnogorie**	**89.83 322**	*e*P	**P**	**14 14 40.6**	**-1.8**
VORD			pmax	pmax		
	comp=E,10.0nm,0.8s					
VORD			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.2					
VORD			pmax	pmax		
	comp=N,9.0nm,0.6s					
VRSR	**Storozhevoye**	**89.95 322**	*e*P	**P**	**14 14 42.9**	**-0.1**
VRSR			*e*S	S	14 25 29.6	-2.5
VRSR			*e*SS	SS	14 31 34.2	+3.6
VRSR			pmax	pmax		
	comp=N,10.0nm,0.9s					
VRSR			pmax	pmax		
	comp=E,20nm,0.9s					
VRSR			pmax	pmax		
	comp=Z,20nm,0.9s,mb5.5					
VRSR			smax			
	comp=N,130nm,1.8s					
VRSR			smax			
	comp=Z,30nm,2.1s					
VRSR			smax			
	comp=E,70nm,1.8s					
KVT	**Kavak**	**89.96 311**	*e*P	**P**	**14 14 42.7**	**-0.4**
AVNT	**Avonos**	**90.43 309**	*e*P	**P**	**14 14 44.0**	**-1.3**
DIKM	**Dikmen**	**90.65 312**	*e*P	**P**	**14 14 49.4**	**+3.2**
TNA	**Tin City**	**90.75 23**	PFAKE		14 15 00.0	+13
TNA			LR	LR		
	comp=Z,2μm,22.0s,MS5.5					
IKL	**Isikli**	**90.91 306**	*e*P	**P**	**14 14 49.3**	**+1.9**
CDAG	**Cicekdag**	**90.95 310**	*i* P	**P**	**14 14 46.6**	**-1.1**
CSS	**Prodhromos**	**90.98 305**	*e*P	**P**	**14 14 43.3**	**-4.5**
	comp=Z,97nm,1.3s,mb6.0					
PMOR	**Pomariorio Ree**	**91.09 105**	*e*P	**P**	**14 14 51.4**	**+3.1**
	comp=Z,331nm,1.3s,mb6.5					
VAH	**Vaihoa**	**91.31 106**	*e*P	**P**	**14 14 52.1**	**+2.8**
	comp=Z,462nm,1.3s,mb6.6					
BR131	**Keskin Array S**	**91.52 310**	P	**P**	**14 14 45.1**	**-5.2**
	comp=Z,6.7nm,0.8s,mb5.0					
BR131			LR	LR		
	comp=Z,5μm,20.0s,MS5.9					
BRTR	**Keskin Array B**	**91.52 310**	P	**P**	**14 14 48.8**	**-1.5**
	comp=Z,5.4nm,0.9s,mb4.9,baz=114,slow=5.5,SNR=12					
BRTR			LR	LR	15 01 18.1	
	comp=Z,5μm,20.3s,MS6.0,baz=103,slow=39					
BRTR	**Keskin Array B**	**91.52 310**	*i* P	**P**	**14 14 48.7**	**-1.6**
SNAA	**Sanae**	**91.56 196**	P	**P**	**14 14 51.7**	**+1.3**
SNAA			pmax	pmax		
	comp=Z,130nm,1.3s					
SNAA	**Sanae**	**91.56 196**⇑	*e*P	**P**	**14 14 51.4**	**+0.9**
	comp=Z,132nm,1.3s,mb6.1					
KLMR	**Klimovskoe**	**92.01 331**	P	**P**	**14 15 00.6**	**+8.0**
KLMR			*e*S	SKSac	14 25 17.6	-4.1
KLMR			*e*SP	SP	14 27 02.8	+2.1
KLMR			*e*SS	SS	14 31 54.0	-6.4
KLMR			pmax	pmax		
	comp=Z,80nm,1.5s,mb5.8					
SIM	**Simferopol'**	**92.04 315**	*e*P	**P**	**14 14 53.8**	**+1.1**
SIM			*e*		14 18 38.0	
SIM			*e*		14 25 24.0	
SIM			*e*S	S	14 25 57.0	+5.8
SIM			pmax	pmax		
	comp=Z,500nm,10.4s					
ANTO	**Ankara**	**92.19 310**	*e*P	**P**	**14 14 55.4**	**+2.0**
ANTO	**Ankara**	**92.19 310**	PFAKE		14 15 00.0	+6.6
ANTO			LR	LR		
	comp=Z,5μm,22.0s,MS6.0					
SUR	**Sutherland**	**92.21 237**	P	**P**	**14 14 56.4**	**+2.9**
	comp=Z,398nm,1.2s,mb6.6,SNR=7.8					
SUR	**Sutherland**	**92.21 237**	⇓P	**P**	**14 14 57.1**	**+3.6**
	SNR=12					
SUR	**Sutherland**	**92.21 237**	*e*P	**P**	**14 14 56.1**	**+2.6**
	comp=Z,195nm,1.2s,mb6.3					
SUR			LR	LR		
	comp=Z,5μm,19.0s,MS5.9					
OBN	**Obninsk**	**92.33 325**⇑	*e*P	**P**	**14 14 52.6**	**-1.4**
OBN			*e**PP	pP	14 15 08.0	+0.1
OBN			pmax	pmax		
	comp=Z,36nm,1.4s,mb5.5					
OBN			MLR	MLR		
	comp=Z,6μm,21.0s,MS6.0					
OBN	**Obninsk**	**92.33 325**⇑	*e*P	**P**	**14 14 52.6**	**-1.4**
	comp=Z,36nm,1.4s,mb5.5					
OBN			*e*pP	pP	14 15 08.0	+0.1
OBN			LR	LR		
	comp=Z,6μm,21.0s,MS6.0					
VNA2	**Neumayer--Watz**	**93.19 195**⇑	*i*P	**P**	**14 14 59.2**	**+1.2**
	baz=115,slow=3.9					
VNA2			*e*		14 15 04.1	
VNA2			*e*	pP	14 15 12.2	+0.3
VNA2			*e*		14 15 26.0	
VNA2			*e*		14 15 33.4	
VNA2			*e*		14 15 43.2	
VNA3	**Neumayer Olymp**	**93.58 195**⇑	*i*P	**P**	**14 15 00.8**	**+1.0**
VNA3			*e*		14 15 06.2	
VNA3			*e*	pP	14 15 14.1	+0.4
VNA3			*e*		14 15 27.4	
VNA3			*e*		14 15 35.1	
VNA3			*e*		14 15 44.7	
VNA1	**Neumayer--Stat**	**93.59 195**⇑	*i*P	**P**	**14 15 01.2**	**+1.4**
VNA1			*e*		14 15 06.2	
VNA1			*e*	pP	14 15 14.6	+0.9
VNA1			*e*		14 15 28.1	
VNA1			*e*		14 15 35.5	
SHUT	**Suhut-Afyon**	**93.72 308**	*e*P	**P**	**14 15 02.7**	**+2.2**
YER	**Yerkesik**	**95.33 307**	*e*P	**P**	**14 15 11.2**	**+3.4**
APA	**Apatity**	**95.87 337**	*e*P	**P**	**14 15 12.0**	**+1.7**
APA			*i*		14 25 40.0	
APA			*e*S	S	14 26 19.0	-5.7
APA			*i* SS	SS	14 32 55.0	-0.4
APA			pmax	pmax		
	comp=Z,2μm,8.0s					
KIS	**Kishinev**	**95.98 317**	*e*PP	PP	14 19 13.0	+9.5
KIS			*e*SKS		14 25 20.0	
KIS			*e*S	S	14 26 32.0	+6.3
KIS			LRM		15 04 58.0	
	comp=Z,6μm,20.0s					
AKASG	**Malin Array Be**	**96.08 320**	P	**P**	**14 15 08.6**	**-2.6**
	comp=Z,1.6nm,0.7s,baz=82,slow=4.6,SNR=5.9					
AKASG			PP	PP	14 19 05.5	+1.3
	comp=Z,0.8nm,0.6s,baz=83,slow=6.1,SNR=5.1					
AKASG			LR	LR	15 10 01.5	
	comp=Z,3μm,18.4s,MS5.8,baz=60,slow=43					
AKASG	**Malin Array Be**	**96.08 320**	*i* P	**P**	**14 15 08.3**	**-2.9**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.7s					
AKASG	**Malin Array Be**	**96.08 320**	*i* P	**P**	**14 15 08.3**	**-2.9**
	comp=Z,2.0nm,0.7s,mb4.7					
KIEV	**Kiev**	**96.09 320**	PFAKE		14 15 20.0	+8.7
KIEV			LR	LR		
	comp=Z,4μm,20.0s,MS5.8					
KDAK	**Kodiak Island**	**96.29 33**	PFAKE		14 15 20.0	+7.8
KDAK			LR	LR		
	comp=Z,1μm,22.0s,MS5.3					
IMA2	**Indian Mountai**	**96.58 24**	*e*P	**P**	**14 15 12.7**	**-0.8**
MNK	**Minsk**	**97.25 324**	*e*P	**P**	**14 15 09.0**	**-7.5**
VRI	**Vrincioaia**	**97.32 315**⇑	*i*P	**P**	**14 15 19.1**	**+2.3**
TSUM	**Tsumeb**	**97.69 249**	*e*P	**P**	**14 15 19.4**	**+0.9**
	comp=Z,34nm,1.0s,mb5.8					
TSUM			LR	LR		
	comp=Z,5μm,22.0s,MS6.0					
MLR	**Muntele Rosu**	**97.84 315**	P	**P**	**14 15 17.4**	**-1.8**
	comp=Z,13nm,1.2s,mb5.3,baz=6.0,slow=3.5,SNR=5.6					
MLR	**Muntele Rosu**	**97.84 315**⇓	*i*P	**P**	**14 15 20.7**	**+1.5**
PMR	**Palmer**	**98.29 29**	*e*P	**P**	**14 15 18.7**	**-2.5**
PMR			pmax	pmax		
	comp=Z,54nm,1.4s,mb5.9					
PMR			MLR	MLR		
	comp=Z,3μm,22.0s,MS5.8					
PMR	**Palmer**	**98.29 29**	*e*Pdif	**P**	**14 15 18.7**	**-2.5**
	comp=Z,54nm,1.4s,mb5.9					
PMR			LR	LR		
	comp=Z,3μm,22.0s,MS5.8					
KEV	**Kevo**	**98.37 339**	PFAKE		14 15 30.0	+8.4
KEV			LR	LR		
	comp=Z,8μm,20.0s,MS6.2					
MCK	**McKinley**	**98.45 27**	*e*P	**P**	**14 15 20.8**	**-1.1**
MCK			pmax	pmax		
	comp=Z,75nm,1.8s,mb5.9					
MCK			MLR	MLR		
	comp=Z,1μm,22.0s,MS5.4					
MCK	**McKinley**	**98.45 27**	*e*P	**P**	**14 15 20.8**	**-1.1**
	comp=Z,152nm,1.8s,mb6.2					
MCK			LR	LR		
	comp=Z,1μm,22.0s,MS5.4					
BURAR	**Bucovina Array**	**98.47 317**⇑	*i*P	**P**	**14 15 25.2**	**+3.2**
FINES	**FINESS Array B**	**98.54 331**	P	**P**	**14 15 18.3**	**-4.0**
	comp=Z,3.5nm,1.0s,mb4.8,baz=131,slow=5.3,SNR=3.8					
FINES			PKiKP	PKiKP	14 19 56.8	+2.8
	comp=Z,2.3nm,0.8s,baz=108,slow=4.2,SNR=3.5					
FINES			LR	LR	15 06 46.3	
	comp=Z,7μm,21.0s,MS6.1,baz=101,slow=40					
FINES	**FINESS Array B**	**98.54 331**	*i* P	**P**	**14 15 18.7**	**-3.6**
FINES			pmax	pmax		
	comp=Z,4.0nm,1.0s					
SML	**Sawmill**	**98.68 29**	P	**P**	**14 15 20.4**	**-2.6**
SML	**Sawmill**	**98.68 29**	*e*P	**P**	**14 15 17.9**	**-5.0**
ARCES	**ARCESS Array B**	**98.89 339**	P	**P**	**14 15 22.7**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=82,slow=8.7,SNR=5.3					
ARCES			PKKPbc	PKKPbc	14 32 05.4	+15
	comp=Z,1.6nm,0.8s,baz=270,slow=3.6,SNR=4.0					
ARCES			LR	LR	15 07 40.8	
	comp=Z,12μm,20.5s,MS6.4,baz=121,slow=40					
COLA	**College**	**98.95 26**	P	**P**	**14 15 18.8**	**-5.4**
COLA			pmax	pmax		
	comp=Z,14nm,1.2s,mb5.4					
COLA			MLR	MLR		
	comp=Z,3μm,22.0s,MS5.7					
COLA	**College**	**98.95 26**	P	**P**	**14 15 18.8**	**-5.4**
	comp=Z,14nm,1.2s,mb5.3					
COLA			LR	LR		
	comp=Z,3μm,22.0s,MS5.7					
TAOE	**Nuku Hiva Isla**	**99.58 100**	*e*LQ		14 43 39.5	
	comp=Z,14μm,33.2s					
TAOE	**Nuku Hiva Isla**	**99.58 100**	*e*PP	PP	14 19 23.9	-7.2
	comp=Z,3μm,25.2s					
TAOE	**Nuku Hiva Isla**	**99.58 100**	*e*S	S	14 26 55.1	-1.2
	comp=Z,20μm,26.

STHS **Stebnicka Huta** 101.16 319 PDIF Pdif 14 15 32.5 -1.5
STHS **Stebnicka Huta** 101.16 319 *e*PKP PKiKP 14 20 00.0 +1.3
STHS **Stebnicka Huta** 101.16 319 *e*P Pdif 14 15 32.5 -1.5
STHS *e* 14 20 00.0
TRO **Tromso** 101.19 339 *e*SKS 14 26 06.8
TRO *e* 14 28 37.9
TRO *e*SS SS 14 34 09.0 -1.0
TRO AMS AMS 15 08 25.2
comp=Z,10μm,19.8s,MS6.3
KBS **Kingsbay** 101.35 349 *e* PP 14 19 29.8 -15
KBS *e*SKS 14 26 07.3
KBS *e*SKS 14 26 09.9
KBS *i* 14 28 47.0
KBS AMS AMS 15 06 12.5
comp=Z,3μm,20.6s,MS5.8
KBS **Kingsbay** 101.35 349 PFAKE 14 15 40.0 +5.2
KBS LR LR
comp=Z,7μm,22.0s,MS6.1
RKT **Rikitea** 101.49 116 *e*LQ 14 44 27.4
comp=Z,11μm,36.8s
RKT **Rikitea** 101.49 116 *e*PP PP 14 19 45.1 -0.5
comp=Z,1μm,25.8s
RKT **Rikitea** 101.49 116 *e*PS PS 14 28 52.6 +2.8
comp=Z,4μm,28.0s
RKT **Rikitea** 101.49 116 *e*SKSac SKSac 14 26 14.4 +3.5
comp=Z,2μm,27.0s
RKT *e*LR LR 14 48 49.1
comp=Z,8μm,24.0s
GRUS **Gruza** 101.51 313⇑ *i*(PP) PP 14 19 57.2 +11
KECS **Kecovo** 101.66 318 *e*P Pdif 14 15 35.6 -0.6
KECS *e* 14 19 43.2
KECS pmax pmax
comp=Z,4.0nm,1.3s
KECS **Kecovo** 101.66 318 PDIF Pdif 14 15 35.6 -0.6
KECS *e*PP PP 14 19 43.2 -3.7
KECS **Kecovo** 101.66 318 *e*PKP PKiKP 14 19 58.0 -1.6
KECS **Kecovo** 101.66 318 *e*P Pdif 14 15 35.6 -0.6
comp=Z,3.7nm,1.3s
KECS *e*PP PP 14 19 43.2 -3.7
KECS *e* 14 19 58.0
BEO **Belgrade** 101.70 314⇑ *i*(PP) PP 14 19 46.5 -0.6
NIE **Niedzica** 101.77 319 *e*PKP PKiKP 14 19 53.5 -6.3
EGAK **Eagle** 101.81 26 PFAKE 14 15 50.0 +13
EGAK LR LR
comp=Z,3μm,21.0s,MS5.7
DIVS **Divcibare** 102.03 313⇑ *i*(PP) PP 14 19 49.7 0.0
BBLS **Bajina Basta -** 102.45 313 *e*(PP) PP 14 20 05.8 +13
DAWY **Dawson** 102.65 26 *e*Pdif Pdif 14 15 38.2 -2.5
VYHS **Vyhne** 102.76 318 *e*P Pdif 14 15 40.7 -0.4
VYHS *e* 14 19 53.4
VYHS **Vyhne** 102.76 318 PDIF Pdif 14 15 40.7 -0.4
VYHS *e*PP PP 14 19 53.4 -1.7
VYHS **Vyhne** 102.76 318 *e*PKP 14 20 14.5
VYHS **Vyhne** 102.76 318 *e*P Pdif 14 15 40.7 -0.4
VYHS *e*PP PP 14 19 53.4 -1.7
VYHS *e* 14 20 14.5
OKC **Ostrava-Krasne** 103.16 319 *e*PP PP 14 20 04.9 +6.8
OKC *e*SKS 14 26 19.3
OKC *e*SP SP 14 29 00.0 -1.6
OKC AMS AMS 15 05 50.0
comp=Z,5μm,22.1s
ZST **Bratislava** 103.93 318 PDIF Pdif 14 15 46.1 -0.2
ZST **Bratislava** 103.93 318 *e*PKP 14 20 19.1
ZST **Bratislava** 103.93 318 *e*P Pdif 14 15 46.1 -0.2
ZST *e* 14 20 19.1
INK **Inuvik** 104.24 21 *e*P Pdif 14 15 45.5 -2.2
INK *e* 14 20 04.6
KSP **Ksiaz** 104.28 320 *e*P Pdif 14 15 49.0 +1.1
KSP *e* 14 20 07.0
KSP *e* 14 26 23.0
KSP *e*SP SP 14 29 09.5 -3.9
KSP *e*SS SS 14 34 46.0 -6.7
KSP MLR MLR
comp=Z,13μm,24.5s,MS6.4
DPC **Dobruska-Polom** 104.30 320 *e*SKS 14 26 20.4
DPC *e*SP SP 14 29 12.6 -1.0
DPC *ex* x 14 34 31.4
DPC AMS AMS 15 04 00.0
comp=Z,6μm,26.3s
UPC **Upice** 104.49 320 *e*PP PP 14 20 02.3 -5.7
KOGS **Kog** 104.60 316 *e*PP PP 14 20 20.9 +12
NSS **Namsos** 104.69 335 AMS AMS 15 07 55.0
comp=Z,6μm,21.3s,MS6.1
BSD **Bornholm Skovb** 104.71 325 *i* P 14 20 22.0
BSD *i* S SKSac 14 26 29.3 +3.4
BSD *i* 14 29 16.8
BSD
comp=Z,5μm,21.0s
MSKU **Masuku** 104.71 266 PFAKE 14 16 00.0 +10
MSKU LR LR
comp=Z,71nm,22.0s
ARSA **Arzberg** 105.05 317⇓ *i*PP PP 14 20 10.7 -1.5
comp=Z,13nm,1.4s
CRES **Cresnjev** 105.19 315 *e*PP PP 14 20 25.1 +12
PTCN **Pitcairn Islan** 105.26 119 PFAKE 14 20 20.0 +14
PTCN LR LR
comp=Z,8μm,20.0s,MS6.2
PVCC **Panska Ves** 105.40 320 *e*SKS SKSac 14 26 27.9 -1.2
PVCC *e*SP SP 14 29 21.4 -3.7
PVCC AMS AMS 15 05 20.0
comp=Z,6μm,23.7s
PRU **Pruhonice** 105.47 320 *e*PP PP 14 20 14.5 -0.8
PRU *e*SKS SKSac 14 26 25.8 -3.6
PRU *e*SP SP 14 29 21.5 -4.3
PRU AMS AMS 15 06 00.0
comp=Z,6μm,25.7s
SIT **Sitka** 105.62 33 PFAKE 14 20 20.0 +13
SIT LR LR
comp=Z,3μm,20.0s,MS5.9
NOA **NORSAR Array B** 105.72 331 PP PP 14 20 14.6 -2.6
comp=Z,2.5nm,0.9s,baz=66,slow=7.3,SNR=3.3
BRG **Berggiesshubel** 105.76 320 PDIF Pdif 14 16 08.0 +14
MOA **Molln** 105.85 317⇓ *i*pPKiKP 14 20 20.3
comp=Z,21nm,1.3s
NAO01 **NORSAR Array S** 105.92 331 PFAKE 14 20 20.0 +13
NAO01 LR LR
comp=Z,10μm,20.0s,MS6.4
COP **Copenhagen** 106.03 326 *i* P 14 20 28.7
COP *i* S SKSac 14 26 35.4 +3.5
COP
comp=Z,3μm,22.0s
GEC2 **GERESS Array S** 106.13 318 *e*PKPdf PKiKP 14 20 06.6 -1.2
GERES **GERESS Array B** 106.13 318 PKiKP PKiKP 14 20 07.6 -0.2
comp=Z,1.7nm,0.9s,baz=76,slow=4.1,SNR=3.8
GERES PKKPbc PKKPbc 14 31 30.3 +1.1
comp=Z,0.7nm,0.8s,baz=251,slow=3.0,SNR=5.6
KHC **Kasperske Hory** 106.18 319 *e*PKP PKiKP 14 20 08.8 +0.9
KHC *e*PP PP 14 20 25.0 +4.5
KHC *ex* x 14 20 52.0
KHC *e*SKS SKSac 14 26 29.5 -3.0
KHC *e*PKKP PKKPbc 14 31 33.0 +3.9
KHC *e*PKKS 14 35 09.5
KHC AMS AMS 15 09 50.0
comp=Z,6μm,22.6s
KHC **Kasperske Hory** 106.18 319 *e*PKP PKiKP 14 20 08.8 +0.9
KHC *e* 14 20 25.0
KHC *e* 14 20 52.0
KHC *e*SKS SKSac 14 26 29.5 -3.0
KHC *e*PKKS 14 35 09.5
KHC LR LR
comp=Z,6μm,22.6s,MS6.1
CLL **Collm** 106.30 321 *e*PP PP 14 20 22.5 +1.1
CLL *e*SKSac SKSac 14 26 34.4 +1.3
CLL *e*PS PS 14 29 38.9 -1.3
CLL *e*PPS 14 30 37.8
CLL *e*SS SS 14 35 22.7 +2.4
CLL *e*SSSS 14 42 43.4
CLL *e*L 15 10 17.5
comp=Z,5μm,22.0s
CLL **Collm** 106.30 321 *i* PP PP 14 20 22.2 +0.8
CLL *e*SKSac SKSac 14 26 34.0 +0.9
CLL *e*PS PS 14 29 35.0 -5.2
CLL *e*PPS 14 30 34.0
CLL *ex* x 14 34 48.0
CLL *e*SS SS 14 35 16.0 -4.3
CLL *ex* x 14 40 24.0
CLL *ex* x 14 41 26.0
CLL *e*(SSSS) 14 42 30.0
NKC **Novy Kostel** 106.79 320 AMS AMS 15 13 40.0
comp=Z,6μm,17.2s
KONO **Kongsberg** 106.80 330 *e*SS SS 14 35 26.9 -0.1
KONO **Kongsberg** 106.80 330 PFAKE 14 20 20.0 +11
KONO LR LR
comp=Z,9μm,21.0s,MS6.3
PMSA **Palmer Station** 107.05 179 PFAKE 14 20 20.0 +11
PMSA LR LR
comp=Z,12μm,20.0s,MS6.4
MOX **Moxa** 107.26 320 *e*P PP 14 20 30.3 +1.8
comp=Z,35nm,1.5s
MOX
comp=Z,4μm,18.0s
GRF **Grafenberg Arr** 107.64 319 *e*PP PP 14 20 28.7 -2.6
GRF *e*L 15 11 53.4
comp=Z,5μm,20.6s
GRFO **Grafenberg** 107.64 319 PFAKE 14 20 20.0 +9.4
GRFO LR LR
comp=Z,5μm,19.0s,MS6.1
BER **Bergen** 108.69 331 AMS AMS 15 14 00.1
comp=Z,6μm,19.7s,MS6.2
BFO **Black Forest** 109.73 318 PFAKE 14 20 20.0 +5.5
BFO LR LR
comp=Z,1μm,21.0s,MS5.5
PGF **Pioggiola** 110.13 312 *e*PKIKP PKiKP 14 20 13.2 -2.0
SBF **Sospel** 111.08 314 *e*PKIKP PKiKP 14 20 15.3 -1.7
comp=Z,52nm,1.1s
LPG **La Plagne** 111.29 316 *e*PKIKP PKiKP 14 20 15.4 -2.0
comp=Z,22nm,1.0s
LPL **La Plagne** 111.30 316 *e*PKIKP PKiKP 14 20 15.9 -1.5
FRF **La Foret Royal** 111.69 314 *e*PKIKP PKiKP 14 20 16.2 -2.0
LMR **La Mourre** 111.82 313 *e*PKIKP PKiKP 14 20 16.7 -1.7
comp=Z,74nm,1.5s
VIVF **Saint-Julien-l** 112.85 315 *e*PKIKP PKiKP 14 20 18.4 -2.0
LOR **Lormes** 112.90 318 *e*PKIKP PKiKP 14 20 18.5 -2.0
comp=Z,11nm,0.8s
SSF **Saint Saulge** 113.18 318 *e*PKIKP PKiKP 14 20 19.2 -1.8
comp=Z,19nm,0.8s
LASF **Ste Croix** 113.58 314 *e*PKIKP PKiKP 14 20 20.2 -1.6
comp=Z,68nm,1.4s
YKA **Yellowknife Ar** 113.70 24 Pdiff 14 16 47.3
comp=Z,2.2nm,1.1s,baz=310,slow=4.6,SNR=6.4
YKA PKiKP PKiKP 14 20 19.9 -2.1
comp=Z,1.7nm,0.7s,baz=310,slow=1.9,SNR=14
YKA PP PP 14 21 13.2 -1.8
comp=Z,4.8nm,1.1s,baz=305,slow=1.9,SNR=2.7
YKA PKKPbc PKKPbc 14 31 04.5 -0.3
comp=Z,1.1nm,0.6s,baz=106,slow=3.2,SNR=7.9
HOPE **Hope Point** 114.21 196 PFAKE 14 20 30.0 +7.0
HOPE LR LR
comp=Z,2μm,21.0s,MS5.7
TCF **Toulx Ste Croi** 114.23 317 *e*PKIKP PKiKP 14 20 21.6 -1.4
CAF **Calviac** 114.65 316 *e*PKIKP PKiKP 14 20 22.4 -1.4
EKA **Eskdalemuir Ar** 114.65 328 PKP PKiKP 14 20 23.0 -0.8
comp=Z,5.5nm,1.1s,baz=287,slow=13,SNR=3.8
EKA PP PP 14 21 31.1 +9.4
comp=Z,6.7nm,1.1s,baz=70,slow=8.4,SNR=3.7
EKA PKKPbc PKKPbc 14 31 13.0 +11
comp=Z,1.9nm,0.8s,baz=254,slow=3.7,SNR=4.1
EKA **Eskdalemuir Ar** 114.65 328 PKIKP PKiKP 14 20 23.0 -0.8
EKA 14 21 31.1
ESK **Eskdalemuir** 114.68 328 PFAKE 14 20 30.0 +6.1
ESK LR LR
comp=Z,2μm,21.0s,MS5.7
MTLF **Montolieu** 114.90 314 *e*PKIKP PKiKP 14 20 22.5 -1.8
comp=Z,118nm,1.6s
RJF **Les Rejaudoux** 114.94 316 *e*PKIKP PKiKP 14 20 23.0 -1.4
comp=Z,27nm,0.9s
B05A **Bryant** 115.44 40 ⇓P PKPdf 14 20 25.2 -0.1
baz=115
COR **Corvallis** 115.62 44 PFAKE 14 20 40.0 +14
COR LR LR
comp=Z,4μm,21.0s,MS6.0
TRIS **Tristan da Cun** 115.68 222 PFAKE 14 20 40.0 +14
TRIS LR LR
comp=Z,7μm,20.0s,MS6.3
B06A **Marblemount** 115.75 40 ⇓P PKPdf 14 20 26.0 0.0
baz=116
I03A **Eugene** 115.79 45 ⇓P PKPdf 14 20 26.4 +0.4
baz=116
D05A **Enumclaw** 115.82 41 ⇑P PKPdf 14 20 26.4 +0.3
baz=116
K02A **Glendale** 115.92 46 ⇓P PKPdf 14 20 27.0 +0.7
baz=116
E05A **Randle** 116.14 42 ⇑P PKPdf 14 20 26.6 -0.1
baz=116
J03A **Ideyld Park** 116.15 46 ⇑P PKPdf 14 20 26.8 +0.1
baz=116
HUMO **Hull Mountain** 116.34 46 *e*PKPdf PKPdf 14 20 23.0 -4.0
HUMO LR LR
comp=Z,2μm,22.0s,MS5.7
HUMO **Hull Mountain** 116.34 46 ⇓P PKPdf 14 20 27.5 +0.4
baz=116
I04A **Tendick Farm,** 116.44 45 ⇑P PKPdf 14 20 26.4 -0.9
baz=116
N02C **Big Bar** 116.49 49 ⇓P PKPdf 14 20 27.1 -0.2
baz=116
D06A **Cle Elum** 116.56 41 ⇓P PKPdf 14 20 27.2 -0.3
baz=116
B07A **Winthrop** 116.63 40 ⇓P PKPdf 14 20 27.4 -0.3
baz=116
E06A **Yakima** 116.67 42 ⇓P PKPdf 14 20 27.7 0.0
baz=116
M02C **Callahan** 116.69 48 ⇓P PKPdf 14 20 27.8 +0.1
baz=116
YBH **Yreka Blue Hor** 116.72 47 *e*PKIKP PKPdf 14 20 27.0 -0.8
YBH MLR MLR
comp=Z,4μm,22.0s
YBH **Yreka Blue Hor** 116.72 47 ⇑P PKPdf 14 20 27.6 -0.3
baz=117
J04A **Umpqua Nationa** 116.79 46 ⇓P PKPdf 14 20 28.0 +0.1
baz=117
C07A **Waterville** 116.92 40 ⇓P PKPdf 14 20 28.2 0.0
baz=117
ETSF **Etsaut** 116.98 314 *e*PKIKP PKPdf 14 20 27.3 -1.0
comp=Z,42nm,1.2s
A08A **Turner Farm, O** 117.00 39 ⇓P PKPdf 14 20 28.5 +0.2
baz=117
O02C **Red Bluff** 117.01 49 ⇑P PKPdf 14 20 29.5 +1.1
baz=117
H05A **Madras** 117.04 44 ⇑P PKPdf 14 20 28.6 +0.2
baz=117
HOPS **Hopland** 117.04 50 PFAKE 14 20 40.0 +12
HOPS LR LR
comp=Z,3μm,19.0s,MS6.0
WDC **Whiskeytown Da** 117.11 49 PFAKE 14 20 40.0 +11
WDC LR LR
comp=Z,3μm,19.0s,MS6.0
WDC **Whiskeytown Da** 117.11 49 ⇑P PKPdf 14 20 29.4 +0.8
baz=117
D07A **Quincy** 117.13 41 ⇓P PKPdf 14 20 28.8 +0.2
baz=117
B08A **Colville Reser** 117.16 40 ⇓P PKPdf 14 20 28.5 -0.1
baz=117
GASB **Alder Springs** 117.17 50 ⇓P PKPdf 14 20 28.9 +0.2
baz=117
L04A **Klamath Falls** 117.21 47 ⇓P PKPdf 14 20 28.7 -0.1
baz=117
K04A **Chilquin** 117.22 46 ⇑P PKPdf 14 20 28.7 -0.1
baz=117
M03C **McCloud** 117.26 48 ⇓P PKPdf 14 20 28.5 -0.4
baz=117
M04C **Macdoel** 117.34 47 ⇑P PKPdf 14 20 29.2 +0.2
baz=117
J05A **Fort Rock** 117.39 45 ⇓P PKPdf 14 20 28.7 -0.4
baz=117
A09A **Danville** 117.42 39 ⇓P PKPdf 14 20 28.7 -0.4
baz=117
MNRC **McLaughlin Nat** 117.55 50 ⇑P PKPdf 14 20 29.0 -0.4
baz=117
F07A **Phinny Hill Vi** 117.56 42 ⇑P PKPdf 14 20 29.3 -0.1
baz=117
O03C **Acorn Hollow,** 117.62 49 ⇑P PKPdf 14 20 28.8 -0.7
baz=118
H06A **Lindquist Farm** 117.62 44 ⇓P PKPdf 14 20 29.4 -0.1
baz=117
CVS **Carmenet Viney** 117.64 51 ⇓P PKPdf 14 20 29.8 +0.2
baz=118
HAWA **Hanford** 117.66 42 *e*PKPdf PKPdf 14 20 29.6 0.0
HAWA LR LR
comp=Z,3μm,21.0s,MS5.9
K05A **Summer Lake** 117.78 46 P PKPdf 14 20 30.4 +0.6
baz=118,SNR=8.8
HATC **Hat Creek Radi** 117.85 48 ⇑P PKPdf 14 20 29.9 -0.1
baz=118
D08A **Wollman Farm,** 117.85 41 ⇑P PKPdf 14 20 30.2 +0.2
baz=118
I06A **Prineville** 117.93 44 ⇓P PKPdf 14 20 30.6 +0.5
baz=118,SNR=9.4
E08A **Dider Farm, El** 117.94 41 ⇓P PKPdf 14 20 29.7 -0.4
baz=118
M05C **Lookout** 117.95 47 ⇓P PKPdf 14 20 30.1 -0.1
baz=118
SUTB **Sutter Butte** 117.97 50 ⇓P PKPdf 14 20 30.7 +0.5
baz=118
JRSC **Jasper Ridge** 118.00 52 ⇓P PKPdf 14 20 29.6 -0.7
baz=118
TOA0 **Torodi Ar. Sit** 118.09 280 *e*PKPdf PKPdf 14 20 29.9 -0.5
TORD **Torodi Ar. Bea** 118.09 280 PKP PKPdf 14 20 30.9 +0.4
comp=Z,10nm,0.6s,baz=78,slow=1.6,SNR=58
TORD PKKPbc PKKPbc 14 30 54.8 +5.3
comp=Z,5.7nm,1.1s,baz=278,slow=3.2,SNR=7.0
BNLO **Ben Lomond (Sa** 118.11 52 ⇓P PKPdf 14 20 30.7 +0.2
baz=118
ORV **Oroville** 118.11 50 ⇓P PKPdf 14 20 30.4 -0.1
baz=118
J06A **Christmas Vall** 118.17 45 P PKPdf 14 20 31.8 +1.2
baz=118,SNR=8.7
OHCM **Honcut** 118.18 50 *e*PKPdf PKPdf 14 20 29.6 -1.0
K06A **Valley Falls** 118.22 46 ⇓P PKPdf 14 20 30.9 +0.2
baz=118
D09A **Jones Farm, Ri** 118.25 41 ⇓P PKPdf 14 20 30.6 -0.1
baz=118
O04C **Chester** 118.25 49 ⇓P PKPdf 14 20 31.0 +0.2
baz=118
WENL **Wente Brothers** 118.34 52 ⇓P PKPdf 14 20 31.4 +0.5
baz=118
F08A **Pendleton** 118.35 42 ⇑P PKPdf 14 20 30.5 -0.4
baz=118
I07A **Izee** 118.38 44 ⇓P PKPdf 14 20 31.5 +0.5
baz=118
G08A **Pilot Rock** 118.39 43 ⇓P PKPdf 14 20 32.1 +1.1
baz=118
MOD **Modoc** 118.42 47 *e*PKPdf PKPdf 14 20 30.6 -0.5
MOD LR LR
comp=Z,3μm,20.0s,MS5.9
MOD **Modoc** 118.42 47 P PKPdf 14 20 31.9 +0.8
baz=118,SNR=11
ELFS **Eagle Lake Fie** 118.44 48 ⇑P PKPdf 14 20 31.3 +0.2
baz=118
O05C **Quincy** 118.46 49 ⇑P PKPdf 14 20 30.8 -0.4
baz=118
M06C **Likely Place G** 118.48 48 ⇑P PKPdf 14 20 31.1 -0.1
baz=118,SNR=6.3
E09A **Wood Farm, Sta** 118.53 41 ⇓P PKPdf 14 20 31.2 -0.1
baz=118
NEW **Newport** 118.58 39 *e*PKIKP PKPdf 14 20 32.9 +1.5
NEW *e* 14 21 47.6
NEW MLR MLR
comp=Z,3μm,22.0s
S04C **Ingram Canyon,** 118.69 52 ⇑P PKPdf 14 20 31.8 +0.2
baz=118
J07A **Hines** 118.72 45 ⇓P PKPdf 14 20 32.1 +0.5
baz=118
EDM **Edmonton** 118.74 33 *e*PKIKP PKPdf 14 20 30.8 -0.9
HAST **UC Hastings Re** 118.75 53 ⇓P PKPdf 14 20 32.5 +0.8
baz=119
SAO **San Andreas Ge** 118.75 53 PFAKE 14 20 40.0 +8.3
SAO LR LR
comp=Z,3μm,21.0s,MS5.9
A11A **Hall Mountain,** 118.79 38 ⇑P PKPdf 14 20 32.9 +1.1
baz=119
H08A **Prairie City** 118.82 43 ⇓P PKPdf 14 20 32.6 +0.8
baz=119
PACP **Pacheco Peak** 118.83 52 ⇑P PKPdf 14 20 31.8 -0.1
baz=119
P05C **Yuba Gap, Truc** 118.84 50 ⇑P PKPdf 14 20 32.1 +0.2
baz=119
LAVA **Lava Cap Winer** 118.87 50 ⇓P PKPdf 14 20 31.6 -0.4
baz=119
BEKR **Beckwourth** 118.90 49 ⇑P PKPdf 14 20 31.3 -0.7
baz=119
D10A **Wagner Farm, O** 118.91 40 ⇓P PKPdf 14 20 31.3 -0.8
baz=119
F09A **S2 Ranch, Elgi** 118.95 42 ⇑P PKPdf 14 20 32.3 +0.2
baz=119
N06A **Buffalo Meadow** 119.06 48 P PKPdf 14 20 32.6 +0.3
baz=119,SNR=13
I08A **Drewsey** 119.08 44 ⇓P PKPdf 14 20 32.5 +0.2
baz=119
L07A **Adell** 119.08 46 ⇑P PKPdf 14 20 33.1 +0.8
baz=119
E10A **Myers Farm, Un** 119.22 41 ⇓P PKPdf 14 20 32.5 -0.1
baz=119
O06A **Flanigan** 119.22 49 P PKPdf 14 20 32.9 +0.3
baz=119,SNR=17
CMB **Columbia Colle** 119.31 51 *e*PKIKP PKPdf 14 20 30.8 -2.0
CMB MLR MLR
comp=Z,4μm,21.0s,MS6.0
CMB **Columbia Colle** 119.31 51 ⇓P PKPdf 14 20 33.3 +0.5
baz=119
J08A **Circle Bar Ran** 119.31 45 ⇑P PKPdf 14 20 33.6 +0.8
baz=119
F10A **Beach Ranch, E** 119.31 42 ⇑P PKPdf 14 20 33.0 +0.2
baz=119
M07A **Soldier Meadow** 119.38 47 P PKPdf 14 20 33.9 +1.0
baz=119,SNR=11
R05C **Kirkwood Meado** 119.39 50 ⇑P PKPdf 14 20 33.5 +0.5
baz=119
H09A **Durkee** 119.46 43 ⇑P PKPdf 14 20 33.8 +0.8
baz=119
WVOR **Wild Horse Val** 119.47 46 *e*PKIKP PKPdf 14 20 33.6 +0.5
K08A **Mann Creek Ran** 119.49 45 ⇓P PKPdf 14 20 33.3 +0.2
baz=119
WCN **Washoe City** 119.49 49 ⇓P PKPdf 14 20 33.3 +0.2
baz=119
S05C **Merced** 119.50 52 ⇓P PKPdf 14 20 33.1 -0.1
baz=119
D11A **Klaveano Farm,** 119.52 40 ⇓P PKPdf 14 20 33.3 +0.1
baz=119
I09A **Lost Marbles R** 119.63 44 ⇑P PKPdf 14 20 33.9 +0.5
baz=119
BMO **Blue Mountains** 119.64 43 *e*PKIKP PKPdf 14 20 30.0 -3.4
BMO MLR MLR
comp=Z,3μm,21.0s,MS5.9
N07B **Gerlach** 119.69 48 P PKPdf 14 20 35.2 +1.7
baz=120,SNR=8.2
L08A **Fields** 119.75 46 P PKPdf 14 20 34.4 +0.8
baz=120,SNR=19
J09A **Fry Pan Ranch,** 119.81 45 ⇓P PKPdf 14 20 34.5 +0.8
baz=120
E11A **Bogner Ranch,** 119.84 41 ⇓P PKPdf 14 20 33.4 -0.5
baz=120
R06C **Coleville** 119.91 50 ⇓P PKPdf 14 20 33.5 -0.4
baz=120
O07A **Toulon** 119.92 48 P PKPdf 14 20 34.5 +0.5
baz=120,SNR=11
F11A **Grangeville** 120.05 41 ⇓P PKPdf 14 20 35.0 +0.8
baz=120
T06C **Millerton Lake** 120.06 52 ⇑P PKPdf 14 20 34.1 -0.1
baz=120
H10A **Noah's Angus R** 120.10 43 ⇓P PKPdf 14 20 34.5 +0.2
baz=120
EFI **East Falkland** 120.16 182 PFAKE 14 20 40.0 +5.6
EFI LR LR
comp=Z,2μm,20.0s,MS5.8
B13A **Whitefish** 120.18 38 ⇑P PKPdf 14 20 34.3 -0.2
baz=120
SMMC **Simmler** 120.20 54 ⇑P PKPdf 14 20 34.1 -0.4
baz=120
L09A **Wilkinson Ranc** 120.28 46 ⇓P PKPdf 14 20 35.1 +0.5
baz=120
ESDC **Sonseca Array** 120.28 311 PKP PKPdf 14 20 34.5 -0.2
comp=Z,1.0nm,0.5s,baz=38,slow=2.4,SNR=5.8
ESLA **Sonseca Array** 120.28 311 PFAKE 14 20 40.0 +5.3
ESLA LR LR
comp=Z,14μm,20.0s,MS6.6
KCC **Kaiser Creek** 120.29 52 ⇓P PKPdf 14 20 35.5 +0.8
baz=120
R07C **Lee Vining** 120.32 51 ⇓P PKPdf 14 20 35.2 +0.5
baz=120
C13A **Hot Springs** 120.39 39 ⇑P PKPdf 14 20 35.6 +0.7
baz=120
PKM **Peak Mountain** 120.43 54 ⇓P PKPdf 14 20 35.2 +0.2
baz=120
J10A **Berg Farm, Mel** 120.47 44 ⇑P PKPdf 14 20 34.9 -0.1
baz=120
H11A **Donnelly** 120.56 43 ⇓P PKPdf 14 20 35.6 +0.4
baz=120
PAB **San Pablo** 120.61 311 *e*PKIKP PKPdf 14 20 34.9 -0.4
PAB MLR MLR
comp=Z,4μm,21.0s,MS6.1
M09A **Marrel Ranch,** 120.61 47 ⇓P PKPdf 14 20 35.8 +0.5
baz=120
P08A **Dixie Valley** 120.64 49 ⇑P PKPdf 14 20 34.9 -0.4
baz=120
HELL **Mitchell Peak,** 120.67 52 ⇑P PKPdf 14 20 35.0 -0.4
baz=120
D13A **Huson** 120.69 40 ⇓P PKPdf 14 20 35.3 -0.2
baz=120

N09A Rock Creek Ran 120.72 47 ⇑P PKPdf 14 20 35.7 +0.2
baz=120
BSC Santa Cruz Isl 120.76 55 ⇑P PKPdf 14 20 34.6 -1.0
baz=121
NVAR Mina Array Bea 120.80 50 PKP PKPdf 14 20 35.9 +0.2
comp=Z,2.4nm,0.8s,baz=95,slow=1.2,SNR=17
NVAR PKKPbc PKKPbc 14 30 43.6 +4.1
comp=Z,6.4nm,0.8s,baz=110,slow=4.7,SNR=14
VES Vestal, Richgr 120.82 53 ⇓P PKPdf 14 20 35.3 -0.4
baz=121
I11A Placerville 120.86 43 ⇓P PKPdf 14 20 36.2 +0.4
baz=121
MTUM Tungsten Hills 120.87 51 *e*PKPdf PKPdf 14 20 33.8 -2.0
Q08A Gabbs 120.97 50 P PKPdf 14 20 36.5 +0.5
baz=121,SNR=13
SFJD Kangerlussuaq 120.99 355 *i* P PKPdf 14 20 33.7 -2.3
SFJD Kangerlussuaq 120.99 355 *e*P PKPdf 14 20 33.7 -2.3
SFJD LR LR
comp=Z,9μm,22.0s,MS6.4
SNCC San Nicolas Is 120.99 56 PFAKE 14 20 50.0 +14
SNCC LR LR
comp=Z,3μm,20.0s,MS6.0
E13A Victor 121.11 40 ⇓P PKPdf 14 20 36.1 -0.2
baz=121
MSO Missoula 121.12 40 *e*PKPdf PKPdf 14 20 34.7 -1.5
MSO LR LR
comp=Z,2μm,22.0s,MS5.7
O09A Fish Creek Ran 121.16 48 ⇓P PKPdf 14 20 36.2 -0.1
baz=121
ARVC Arvin 121.17 54 ⇓P PKPdf 14 20 37.2 +0.8
baz=121
M10A I.L. Ranch, Tu 121.23 46 ⇑P PKPdf 14 20 36.3 -0.1
baz=121
F13A Darby 121.27 41 ⇑P PKPdf 14 20 36.1 -0.5
baz=121
D14A Greenough 121.29 39 ⇑P PKPdf 14 20 36.4 -0.2
baz=121
ISA Isabella 121.34 53 *e*PKIKP PKPdf 14 20 36.9 +0.2
ISA MLR MLR
comp=Z,866nm,19.0s,MS5.4
ISA Isabella 121.34 53 ⇓P PKPdf 14 20 36.9 +0.2
baz=121
H12A Diamond D Ranc 121.38 42 ⇑P PKPdf 14 20 37.5 +0.7
baz=121
CWC Cottonwood Cre 121.47 52 ⇑P PKPdf 14 20 37.7 +0.8
baz=121
CHMT Chamberlain Mo 121.52 39 *e*PKPdf PKPdf 14 20 36.4 -0.7
Q09A Carvers 121.54 49 ⇓P PKPdf 14 20 38.5 +1.4
baz=121
RPN Rapa Nui 121.59 129 PFAKE 14 20 50.0 +13
RPN LR LR
comp=Z,2μm,20.0s,MS5.7
G13A Cobalt 121.59 42 ⇑P PKPdf 14 20 37.0 -0.2
baz=121
O10A Cortez Mining, 121.63 48 ⇑P PKPdf 14 20 37.7 +0.5
baz=122
R09A Tonopah 121.79 50 ⇑P PKPdf 14 20 37.7 +0.2
baz=122
M11A Holland Ranch, 121.79 46 ⇑P PKPdf 14 20 37.1 -0.5
baz=122
S09A Goldfield 121.81 51 P PKPdf 14 20 38.5 +1.0
baz=122,SNR=15
P10A Eureka 121.86 48 ⇓P PKPdf 14 20 38.1 +0.5
baz=122
F14A Wisdom 121.88 41 ⇑P PKPdf 14 20 38.1 +0.4
baz=122
GRAC Grapevine Rang 121.88 52 ⇑P PKPdf 14 20 37.6 -0.1
baz=122
DAC Darwin (Calif) 121.89 52 *e*PKIKP PKPdf 14 20 38.2 +0.5
EDW2 Edwards Air Fo 121.90 54 ⇑P PKPdf 14 20 37.3 -0.4
baz=122
D15A Lincoln 121.92 39 ⇑P PKPdf 14 20 37.6 -0.2
baz=122
LRMC Laurel Mountai 122.00 53 ⇓P PKPdf 14 20 38.5 +0.5
baz=122
MPMC Manual Prospec 122.02 53 P PKPdf 14 20 39.4 +1.4
baz=122,SNR=15
N11A Elko Archery C 122.03 47 ⇓P PKPdf 14 20 38.2 +0.1
baz=122
HLID Hailey 122.03 43 *e*PKPdf PKPdf 14 20 38.3 +0.3
HLID LR LR
comp=Z,2μm,19.0s,MS5.8
E15A Deer Lodge 122.10 40 ⇓P PKPdf 14 20 38.0 -0.2
baz=122
O11A Cowboy Ranch, 122.30 48 ⇑P PKPdf 14 20 39.9 +1.4
baz=122
BFSC Mount Baldy St 122.31 55 ⇑P PKPdf 14 20 38.4 -0.1
baz=122
P11A Circle Ranch, 122.40 48 ⇑P PKPdf 14 20 38.9 +0.1
baz=122
MDT Midelt 122.40 304 PKP PKPdf 14 20 39.0 +0.2
comp=Z,8.1nm,1.2s,baz=79,slow=4.0,SNR=7.1
ELK Elko 122.41 47 *e*PKIKP PKPdf 14 20 36.9 -1.8
ELK MLR MLR
comp=Z,4μm,22.0s
FURC Furnace Creek, 122.41 52 ⇑P PKPdf 14 20 38.3 -0.4
baz=122
M12A Wells 122.42 46 ⇓P PKPdf 14 20 38.6 -0.2
baz=122
F15A Butte 122.43 40 ⇓P PKPdf 14 20 38.9 +0.1
baz=122
N12A Clover Valley, 122.52 47 ⇑P PKPdf 14 20 39.7 +0.7
baz=122
DLMT Dillon 122.56 41 *e*PKPdf PKPdf 14 20 39.5 +0.5
Q11A Duckwater 122.68 49 ⇓P PKPdf 14 20 39.1 -0.2
baz=122
G15A Dillon 122.71 41 ⇓P PKPdf 14 20 40.0 +0.7
baz=122
GSC Goldstone 122.75 53 *e*PKIKP PKPdf 14 20 40.4 +1.0
GSC Goldstone 122.75 53 P PKPdf 14 20 40.6 +1.2
baz=123,SNR=7.4
MURC Murrieta 122.82 55 ⇑P PKPdf 14 20 40.3 +0.8
baz=123
U10A Ash Meadows, A 122.84 52 P PKPdf 14 20 41.0 +1.4
baz=123,SNR=13
TRCR Troy Canyon 122.88 50 *e*PKPdf PKPdf 14 20 40.1 +0.4
BBRC Big Bear Sol-O 122.90 55 ⇑P PKPdf 14 20 40.2 +0.5
baz=123
O12A Currie 122.92 47 ⇑P PKPdf 14 20 40.2 +0.4
baz=123
M13A Montello 122.97 46 ⇑P PKPdf 14 20 40.0 +0.1
baz=123
SHOC Shoshone 123.01 52 ⇓P PKPdf 14 20 40.4 +0.5
baz=123
P12A McGill 123.05 48 ⇑P PKPdf 14 20 41.0 +1.0
baz=123
BOZ Bozeman (W) 123.06 40 *e*PKIKP PKPdf 14 20 40.2 +0.2
BOZ MLR MLR
comp=Z,3μm,19.0s,MS6.0
EGMT Eagleton 123.17 37 *e*PKPdf PKPdf 14 20 38.7 -1.5
EGMT LR LR
comp=Z,3μm,20.0s,MS5.9
Q12A Willow Creek R 123.24 49 ⇓P PKPdf 14 20 40.8 +0.4
baz=123
TUQ Turquoise Mtn. 123.41 53 ⇓P PKPdf 14 20 41.4 +0.8
baz=123,SNR=8.1
PFO Pinyon Flat Ob 123.42 55 *e*PKIKP PKPdf 14 20 41.5 +0.8
PFO MLR MLR
comp=Z,935nm,22.0s,MS5.4
PFO Pinyon Flat Ob 123.42 55 ⇑P PKPdf 14 20 41.5 +0.8
baz=123
QLMT Earthquake Lak 123.53 41 *e*PKPdf PKPdf 14 20 41.5 +0.6
MONP Monument Peak 123.61 56 ⇑P PKPdf 14 20 41.2 +0.2
baz=124
V11A Goodsprings 123.69 52 ⇓P PKPdf 14 20 41.4 +0.2
baz=124
BELC Belle Mtn. 123.70 55 P PKPdf 14 20 42.4 +1.2
baz=124,SNR=14
GMRC Granite Mounta 123.78 54 P PKPdf 14 20 42.7 +1.4
baz=124,SNR=9.6
HVU Hansel Valley 123.80 45 *e*PKIKP PKPdf 14 20 40.6 -0.8
YMR Madison River 123.90 41 *e*PKPdf PKPdf 14 20 42.8 +1.2
YMR LR LR
comp=Z,2μm,20.0s,MS5.9
BGU Big Grassy Mou 123.93 46 *e*PKPdf PKPdf 14 20 40.8 -0.9
DVTC Desert V Tower 123.93 56 ⇑P PKPdf 14 20 41.8 +0.2
baz=124
SWSC Sam W. Stewart 124.11 56 ⇓P PKPdf 14 20 41.9 -0.1
baz=124
V12A Nelson 124.18 52 P PKPdf 14 20 43.3 +1.2
baz=124,SNR=17
DCID1 Drake Creek 124.19 42 *e*PKPdf PKPdf 14 20 42.4 +0.2
RRI2 Red Ridge 124.20 43 *e*PKPdf PKPdf 14 20 38.9 -3.3
SPUT South Promonto 124.20 45 *e*PKPdf PKPdf 14 20 37.9 -4.3
LIC Lamto 124.22 272 *e*PKIKP PKPdf 14 20 42.4 +0.2
comp=Z,182nm,1.2s
U12A Valley of Fire 124.23 51 ⇓P PKPdf 14 20 43.0 +0.7
baz=124
BC3 Big Chuckw Mtn 124.23 55 ⇑P PKPdf 14 20 43.3 +1.1
baz=124
W12A Cal Nev Ari 124.28 53 ⇓P PKPdf 14 20 42.8 +0.4
baz=124
LKWY Lake 124.31 41 PFAKE 14 20 50.0 +7.6
LKWY LR LR
comp=Z,4μm,20.0s,MS6.1
DUG Dugway 124.34 47 *e*PKIKP PKPdf 14 20 43.1 +0.7
DUG MLR MLR
comp=Z,3μm,21.0s,MS5.9
IRM Iron Mountain 124.35 54 P PKPdf 14 20 44.0 +1.6
baz=124,SNR=11
MOOW Moose Ponds 124.42 42 *e*PKPdf PKPdf 14 20 41.6 -1.0
REDW Red Top Meadow 124.51 42 *e*PKPdf PKPdf 14 20 43.2 +0.4
SNOW Snow King Moun 124.53 42 *e*PKPdf PKPdf 14 20 42.9 +0.1
ARUT Antelope Range 124.66 50 *e*PKIKP PKPdf 14 20 44.0 +0.9
NOQ North Oquirrh 124.67 46 *e*PKPdf PKPdf 14 20 43.6 +0.5
HWUT Hardware Ranch 124.71 45 *e*PKPdf PKPdf 14 20 43.1 -0.1
HWUT LR LR
comp=Z,2μm,20.0s,MS5.8
RLMT Red Lodge 124.79 40 PFAKE 14 20 50.0 +6.7
RLMT LR LR
comp=Z,3μm,20.0s,MS5.9
CCUT Cedar City 124.80 50 *e*PKPdf PKPdf 14 20 44.4 +1.1
GLA Glamis 124.88 55 ⇓P PKPdf 14 20 43.9 +0.5
baz=125
NLU North Lily Min 124.95 47 *e*PKPdf PKPdf 14 20 44.0 +0.3
Y12C Blythe 124.95 55 ⇑P PKPdf 14 20 43.8 +0.1
baz=125
W13A Hualapai Mount 125.11 53 ⇓P PKPdf 14 20 44.7 +0.7
baz=125
PDMCI Parker Dam,Lak 125.12 54 ⇑P PKPdf 14 20 44.4 +0.4
baz=125
MPU Maple Canyon 125.25 46 *e*PKPdf PKPdf 14 20 44.8 +0.6
MPU LR LR
comp=Z,3μm,21.0s,MS5.9
X13A Yucca 125.29 53 ⇓P PKPdf 14 20 44.4 +0.1
baz=125
DAU Daniels Canyon 125.37 46 *e*PKIKP PKPdf 14 20 44.8 +0.4
MSU Marysvale 125.37 48 *e*PKIKP PKPdf 14 20 44.8 +0.4
BW06 Boulder Array 125.62 43 PFAKE 14 20 50.0 +5.1
BW06 LR LR
comp=Z,3μm,20.0s,MS6.0
PDAR Pinedale Array 125.62 43 PKP PKPdf 14 20 45.1 +0.2
comp=Z,9.0nm,1.2s,baz=249,slow=2.5,SNR=18
PDAR PKKPab 14 30 23.4
comp=Z,1.6nm,0.8s,baz=117,slow=5.1,SNR=7.4
PDAR SKKPbc 14 34 03.6
comp=Z,5.6nm,1.2s,baz=122,slow=5.6,SNR=4.2
W14A Seligman 125.71 52 ⇓P PKPdf 14 20 46.7 +1.6
baz=126
LAO LASA Array 125.92 37 *e*PKPdf PKPdf 14 20 45.7 +0.2
LAO LR LR
comp=Z,2μm,21.0s,MS5.8
X14A Yava 126.07 53 ⇓P PKPdf 14 20 46.5 +0.7
baz=126
Y14A Wickenburg 126.12 54 ⇓P PKPdf 14 20 46.6 +0.7
baz=126
DGMT Dagmar 126.14 34 *e*PKPdf PKPdf 14 20 45.4 -0.5
DGMT LR LR
comp=Z,3μm,22.0s,MS5.9
Z14A Wintersburg 126.33 55 ⇑P PKPdf 14 20 46.7 +0.4
baz=126
W15A Williams 126.36 52 ⇓P PKPdf 14 20 47.3 +1.0
baz=126
SRU San Rafael 126.37 47 *e*PKIKP PKPdf 14 20 44.7 -1.6
X15A Humboldt 126.58 53 ⇓P PKPdf 14 20 47.8 +1.0
baz=126
WUAZ Wupatki 126.95 52 *e*PKPdf PKPdf 14 20 48.6 +1.1
115A Sonoran Desert 127.08 55 ⇓P PKPdf 14 20 47.2 -0.5
baz=127
116A Eloy 127.55 55 ⇑P PKPdf 14 20 49.6 +1.0
baz=127
PV10 Paradox Valley 127.72 47 *e*PKPdf PKPdf 14 20 49.8 +0.9
PV01 Paradox Valley 128.16 47 *e*PKPdf PKPdf 14 20 50.8 +1.0
TUC Tucson 128.37 55 *e*PKIKP PKPdf 14 20 51.4 +1.3
TUC MLR MLR
comp=Z,3μm,19.0s,MS6.0
RSSD Black Hills 128.55 39 PFAKE 14 21 00.0 +10
RSSD LR LR
comp=Z,6μm,21.0s,MS6.2
MVCO Mesa Verde 128.55 49 *e*PKPdf PKPdf 14 20 50.7 +0.2
MVCO LR LR
comp=Z,3μm,20.0s,MS6.0
ULM Lac du Bonnet 129.30 28 PKP PKPdf 14 20 49.8 -2.1
comp=Z,1.8nm,0.4s,baz=308,slow=5.1,SNR=4.5
ULM Lac du Bonnet 129.30 28 PKP PKPdf 14 20 49.8 -2.1
ULM LR LR
comp=Z,5μm,20.0s,MS6.2
ISCO Idaho Springs 129.57 44 *e*PKPdf PKPdf 14 20 52.6 +0.2
ISCO *e*SKP 14 24 12.2
ISCO LR LR
comp=Z,3μm,19.0s,MS6.0
SDCO Great Sand Dun 130.53 47 *e*PKPdf PKPdf 14 20 55.9 +1.6
SDCO *e*SKP 14 24 15.3
SDCO LR LR
comp=Z,4μm,20.0s,MS6.1
ASCN Ascension 130.54 252 PFAKE 14 21 10.0 +16
ASCN LR LR
comp=Z,958nm,22.0s,MS5.5
AGMN Agassiz Refuge 130.64 30 PFAKE 14 21 00.0 +5.5
AGMN LR LR
comp=Z,4μm,20.0s,MS6.1
LENM Lemitar 130.81 52 *e*PKPdf PKPdf 14 20 55.1 +0.4
LENM *e*SKP 14 24 17.1
ANMO Albuquerque 130.92 50 ⇑*i*PKIKP PKPdf 14 20 54.8 -0.2
ANMO Albuquerque 130.92 50 *e*PKPdf PKPdf 14 20 56.1 +1.1
ANMO *e*SKP 14 24 17.1
ANMO LR LR
comp=Z,4μm,20.0s,MS6.1
LPM Los Pinos Moun 131.02 51 *e*PKPdf PKPdf 14 20 55.8 +0.6
LPM *e*SKP 14 24 18.1
BNM Barren Site 131.08 52 *e*PKPdf PKPdf 14 20 56.5 +1.2
BNM *e*SKP 14 24 18.1
MNTX Cornudas Mount 132.92 54 *e*PKPdf PKPdf 14 21 00.3 +1.5
MNTX *e*SKP 14 24 24.1
MNTX LR LR
comp=Z,4μm,22.0s,MS6.1
EYMN Ely 132.97 28 PFAKE 14 21 10.0 +11
EYMN LR LR
comp=Z,4μm,22.0s,MS6.1
ECSD EROS,Sioux Fal 133.19 35 *e*PKPpre 14 20 50.9
ECSD LR LR
comp=Z,4μm,21.0s,MS6.1
SCHQ Schefferville 133.43 4 PKP PKPdf 14 21 01.9 +2.1
comp=Z,14nm,0.9s,baz=298,slow=2.6,SNR=5.0
SCHQ Schefferville 133.43 4 PKP PKPdf 14 21 01.9 +2.1
SCHQ LR LR
comp=Z,6μm,22.0s,MS6.2
TRQA Tornquist 133.83 179 *e*PKPdf PKPdf 14 21 00.2 -0.3
TRQA *e*PP PP 14 23 31.1 +0.8
TRQA *e*SKP 14 24 29.3
TRQA LR LR
comp=Z,10μm,20.0s,MS6.5
CBKS Cedar Bluff 134.05 43 PFAKE 14 21 10.0 +9.1
CBKS LR LR
comp=Z,3μm,22.0s,MS6.0
AMTX Amarillo 134.54 48 PFAKE 14 21 10.0 +8.2
AMTX LR LR
comp=Z,4μm,19.0s,MS6.1
LTX Lajitas 135.10 57 PFAKE 14 21 10.0 +7.1
LTX LR LR
comp=Z,4μm,22.0s,MS6.1
TXAR Lajitas Array 135.10 57 PKP PKPdf 14 20 56.1 -6.8
comp=Z,1.0nm,0.6s,baz=289,slow=1.5,SNR=9.6
KSU1 Kansas State U 135.94 40 *e*PKPpre 14 20 54.9
KSU1 *e*PKPdf PKPdf 14 21 02.8 -1.6
KSU1 LR LR
comp=Z,4μm,20.0s,MS6.1
SCIA State Center 136.28 35 PFAKE 14 21 10.0 +4.9
SCIA LR LR
comp=Z,4μm,21.0s,MS6.2
WMOK Wichita Mounta 136.73 47 *e*PKPpre 14 20 58.0
WMOK *e*PKPdf PKPdf 14 21 08.4 +2.5
WMOK *e*SKP 14 24 35.6
WMOK LR LR
comp=Z,3μm,20.0s,MS6.1
LPA La Plata 136.87 184 *ce*PKP PKPdf 14 21 14.0 +7.9
LPA *e*PP PP 14 23 48.0 -1.4
LPA *e*PKS 14 24 46.0
LPA
comp=Z,10μm,21.0s
JFWS Jewell Farm 137.20 32 PFAKE 14 21 20.0 +13
JFWS LR LR
comp=Z,3μm,21.0s,MS6.0
JCT Junction City 137.81 53 *e*PKHKP 14 21 00.7
JCT *e* 14 21 06.8
JCT MLR MLR
comp=Z,5μm,22.0s,MS6.2
JCT Junction City 137.81 53 *e*PKPpre 14 21 00.7
JCT *e*PKPdf PKPdf 14 21 06.8 -1.1
JCT *e*SKP 14 24 36.8
JCT LR LR
comp=Z,5μm,22.0s,MS6.2
GLMI Grayling 138.40 25 PFAKE 14 21 20.0 +11
GLMI LR LR
comp=Z,3μm,21.0s,MS6.0
CFAA Coronel Fontan 139.72 171 PKP PKPdf 14 21 03.2 -8.1
comp=Z,2.8nm,0.7s,baz=189,slow=4.4,SNR=21
CFAA PP PP 14 24 05.3 -1.8
comp=Z,2.1nm,1.1s,baz=155,slow=6.8,SNR=6.5
KVTX Kingsville 140.48 56 PFAKE 14 21 20.0 +7.2
KVTX LR LR
comp=Z,3μm,19.0s,MS6.1
MIAR Mount Ida 140.51 44 *e*PKPpre 14 21 07.4
MIAR *e*SKP 14 24 43.0
MIAR LR LR
comp=Z,4μm,19.0s,MS6.2
AAM Ann Arbor 140.85 27 PFAKE 14 21 20.0 +6.6
AAM LR LR
comp=Z,4μm,20.0s,MS6.1
HKT Hockley 141.15 52 *e*PKPpre 14 21 09.6
HKT *e*SKP 14 24 48.7
HKT LR LR
comp=Z,5μm,20.0s,MS6.3
NATX Nacogdoches 141.19 48 PFAKE 14 21 20.0 +5.9
NATX LR LR
comp=Z,5μm,21.0s,MS6.2
SIUC Southern Illin 141.36 37 *e*PKPdf PKPdf 14 21 12.7 -1.6
LONY Lake Ozonia 142.06 16 PFAKE 14 21 30.0 +14
LONY LR LR
comp=Z,4μm,20.0s,MS6.1
PKME Peaks-Kenny Pk 142.57 9 PFAKE 14 21 30.0 +13
PKME LR LR
comp=Z,4μm,20.0s,MS6.2
WCI Wyandotte Cave 142.66 33 *e*PKHKP 14 21 09.3
WCI MLR MLR
comp=Z,3μm,22.0s,MS6.1
NCB Newcomb 142.75 16 PFAKE 14 21 30.0 +13
NCB LR LR
comp=Z,5μm,22.0s,MS6.3
WVT Waverly 143.24 37 *e*PKHKP 14 21 12.6
OXF Oxford 143.31 41 *e*PKIKP PKPdf 14 21 13.9 -3.9
OXF MLR MLR
comp=Z,3μm,20.0s,MS6.0
PLAL Pickwick Lake 143.85 39 *e*PKPpre 14 21 13.8
PLAL LR LR
comp=Z,4μm,20.0s,MS6.2
BINY Binghamton 143.87 19 *e*PKPdf PKPdf 14 21 17.1 -1.6
BINY LR LR
comp=Z,4μm,20.0s,MS6.2
CAM4 Nova Friburgo 144.41 211 ⇑*i*P PKPdf 14 21 20.6 +0.9
CAM4 *i* 14 21 29.7
CAM4 *i* 14 21 35.1
CAM4 *i* 14 21 45.4
CAM4 *i* 14 21 45.5
CAM4 *i* 14 21 56.7
SSPA Standing Stone 144.60 22 *e*PKPdf PKPdf 14 21 17.8 -2.3
SSPA LR LR
comp=Z,4μm,21.0s,MS6.2
CAM3 Guarapari 144.64 215 ⇑*i*P PKPdf 14 21 21.1 +0.9
CAM3 *i* 14 21 26.2
CAM3 *i* 14 21 30.0
CAM3 *i* 14 21 31.9
CAM3 *i* 14 21 39.3
CAM3 *i* 14 21 42.9
CAM3 *i* 14 22 04.7
MCWV Mont Chateau 144.66 25 *e*PKPdf PKPdf 14 21 18.3 -1.9
MCWV LR LR
comp=Z,6μm,20.0s,MS6.3
HRV Harvard--Oak R 144.79 13 *e*PKIKP PKPdf 14 21 19.5 -0.9
HRV MLR MLR
comp=Z,5μm,19.0s,MS6.3
QUA2 Belchertown 144.82 14 *e*PKPdf PKPdf 14 21 20.3 -0.2
WES Weston 144.96 13 *e*PKIKP PKPdf 14 21 21.8 +1.1
WES MLR MLR
comp=Z,3μm,20.0s,MS6.0
TZTN Tazewell 145.37 33 *e*PKPdf PKPdf 14 21 21.1 -0.3
TZTN LR LR
comp=Z,4μm,20.0s,MS6.2
PAL Palisades 145.59 17 *e*PKIKP PKPdf 14 21 20.8 -1.0
BRNJ Basking Ridge 145.69 18 *e*PKPbc PKPbc 14 21 24.4 +2.1
MVL Millersville 145.72 21 *e*PKPdf PKPdf 14 21 20.9 -1.1
LRAL Lakeview Retre 145.79 40 *e*PKPdf PKPdf 14 21 21.7 -0.4
LRAL LR LR
comp=Z,4μm,22.0s,MS6.1
FWV Forest Hill 145.94 28 *e*PKPdf PKPdf 14 21 23.9 +1.5
MYNC Murphy 146.14 35 PFAKE 14 21 30.0 +7.3
MYNC LR LR
comp=Z,6μm,22.0s,MS6.3
ELN Prospectdale 146.25 29 *e*PKPdf PKPdf 14 21 22.2 -0.7
BLA Blacksburg 146.42 28 *e*PKP2 PKPab 14 21 24.2 -1.3
BLA MLR MLR
comp=Z,4μm,20.0s,MS6.2
CBN Corbin 146.91 24 PFAKE 14 21 30.0 +6.0
CBN LR LR
comp=Z,5μm,20.0s,MS6.3
BRAL Brewton 147.02 43 *e*PKPbc PKPbc 14 21 26.0 -0.3
BRAL LR LR
comp=Z,5μm,21.0s,MS6.3
GOGA Godfrey 147.71 36 *e*PKIKP PKPdf 14 21 25.8 +0.5
GOGA MLR MLR
comp=Z,9μm,22.0s,MS6.5
JSC Jenkinsville 148.30 33 *e*PKIKP PKPdf 14 21 27.5 +1.2
CNNC Cliffs of the 149.20 27 *e*PKP PKPdf 14 21 29.1 +1.3
CNNC LR LR
comp=Z,4μm,21.0s,MS6.2
COW Cow Castle Cre 149.29 33 *e*PKPbc PKPbc 14 21 34.5 +2.3
PAYG Puerto Ayora 149.72 106 *e*PKPab PKPab 14 21 36.7 -1.9
PAYG LR LR
comp=Z,4μm,21.0s,MS6.2
NHSC New Hope 149.78 33 PFAKE 14 21 40.0 +11
NHSC LR LR
comp=Z,6μm,22.0s,MS6.3
TEIG Tepich 151.34 63 *e*PKPbc PKPbc 14 21 33.3 -3.8
TEIG LR LR
comp=Z,3μm,20.0s,MS6.1
DWPF Disney 152.64 42 PFAKE 14 21 40.0 +6.9
DWPF LR LR
comp=Z,5μm,19.0s,MS6.4
ARE Arequipa 153.35 158 *e*PKIKP PKPdf 14 21 39.0 +4.9
TGUH Tegucigalpa,Un 153.88 75 PFAKE 14 21 50.0 +15
TGUH LR LR
comp=Z,3μm,20.0s,MS6.0
NNA Nana 154.54 142 PKP PKPdf 14 21 36.2 +0.4
comp=Z,17nm,1.0s,baz=287,slow=5.2,SNR=4.3
NNA Nana 154.54 142 *e*PKPdf PKPdf 14 21 38.6 +2.8
NNA LR LR
comp=Z,2μm,21.0s,MS5.8
LPAZ La Paz 154.60 164 PKP PKPdf 14 21 38.0 +2.1
comp=Z,23nm,1.3s,baz=309,slow=1.2,SNR=21
LPAZ La Paz 154.60 164 *e*PKPdf PKPdf 14 21 39.1 +3.3
LPAZ LR LR
comp=Z,5μm,20.0s,MS6.4
SIV San Ignacio 155.82 180 PKP PKPdf 14 21 39.0 +1.5
comp=Z,19nm,1.2s,baz=238,slow=2.1,SNR=26
SIV PKPab PKPab 14 22 08.1 +3.8
comp=Z,33nm,0.9s,baz=159,slow=4.7,SNR=10
SIV PP PP 14 25 43.6 +2.3
comp=Z,11nm,1.1s,baz=129,slow=9.0,SNR=3.8
BBSR BB Station 155.88 7 PFAKE 14 21 50.0 +12
BBSR LR LR
comp=Z,2μm,19.0s,MS6.0
JTS JuntasAbangare 156.54 83 PFAKE 14 21 50.0 +12
JTS LR LR
comp=Z,1μm,20.0s,MS5.7
ATAH Atahualpa 157.10 131 PKP PKPdf 14 21 41.5 +2.3
comp=Z,35nm,1.1s,baz=36,slow=8.4,SNR=15
OTAV Otavalo 161.07 114 *e*PKPdf PKPdf 14 21 45.2 +1.4
OTAV LR LR
comp=Z,5μm,22.0s
SAML Samuel 162.71 174 PFAKE 14 22 00.0 +14
SAML LR LR
comp=Z,5μm,20.0s
ROSC El Rosal 166.56 104 PKP PKPdf 14 21 50.8 +1.9
comp=Z,6.0nm,0.4s,baz=81,slow=22,SNR=9.7
ROSC El Rosal 166.56 104 *e*PKPdf PKPdf 14 21 49.1 +0.2
ROSC *e*PKPab PKPab 14 22 53.3 +2.1

SDV	**Santo Domingo**	**170.72**	**86**	PKP	PKPdf	14 21 52.2	+0.6
	comp=Z,18nm,1.0s,baz=333,slow=1.9,SNR=9.7						
SDV	**Santo Domingo**	**170.72**	**86**	*e*PKPdf	PKPdf	14 21 51.9	+0.3
SDV				LR	LR		
	comp=Z,4μm,22.0s						
BBGH	**Gun Hill**	**174.95**	**341**	PFAKE		14 22 00.0	+6.7
BBGH				LR	LR		
	comp=Z,7μm,20.0s						

CASC 01 14:09:43.7±3.1, 1365N×9074W, h24km±8km, MD3.9, 2C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.75**	**10**	⇑*i*P	Pb	14 09 59.4	+1.3
FUG	**Fuego 3**	**0.80**	**353**	⇑*e*P	Pb	14 09 59.8	+0.9
RTR	**El Retiro**	**1.09**	**77**	⇓*e*P	x	14 10 04.0	
RTR				*e*S	x	14 10 21.2	
JAT	**Jato**	**1.09**	**307**	*e*P	Pn	14 10 04.0	+0.5
JAT				*e*S	Sb	14 10 15.8	-1.9
SBLS	**San Blas**	**1.10**	**80**	⇓*e*P	x	14 10 03.8	
SBLS				*e*S	x	14 10 17.2	
RBDL	**Robledal**	**1.12**	**66**	⇓*e*P	x	14 10 04.6	
RBDL				*e*S	x	14 10 19.0	
SNJE	**San Jose**	**1.12**	**79**	⇓*e*P	x	14 10 04.3	
SNJE				*e*S	x	14 10 18.2	
TP2	**Tecpan 2**	**1.16**	**346**	⇓*e*P	Pn	14 10 04.9	+0.6
TP2				*e*S	Sn	14 10 21.7	+2.3
BOQS	**Boqueron**	**1.42**	**87**	*e*P	x	14 10 08.4	
BOQS				*e*S	x	14 10 25.8	
SNET	**Serv Nac Est T**	**1.47**	**88**	*e*P	x	14 10 06.5	
MTO2	**Montecristo 2**	**1.53**	**61**	⇓*e*P	x	14 10 10.7	
MTO2				*e*S	x	14 10 32.4	
LFU	**La Fuente**	**1.58**	**86**	⇓*e*P	x	14 10 11.2	
LFU				*e*S	x	14 10 31.7	
LFRS	**El Faro**	**1.63**	**91**	*e*P	x	14 10 11.2	
LFRS				*e*S	x	14 10 33.8	
LBRS	**Las Brisas**	**1.65**	**87**	*e*P	x	14 10 12.1	
LBRS				*e*S	x	14 10 31.5	
LCBS	**La Ceiba**	**1.71**	**90**	*e*P	x	14 10 12.7	
LCBS				*e*S	x	14 10 33.6	
SNVI	**San Vicente**	**1.85**	**91**	*e*P	x	14 10 14.7	
SNVI				*e*S	x	14 10 36.1	
VSM	**San Miguel**	**2.41**	**95**	*e*P	x	14 10 22.5	
BLLM	**Bellamira**	**2.44**	**95**	*e*P	x	14 10 22.9	

*NEIC **01** 14:28:45.1, 1953N×6778W, h47km, MD3.5(RSPR), After RSPR.*

RSPR 01 14:28:45.1, 1953N×6778W, h47km±29km, MD3.5/5, MD3.5/5, 4C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.50**	**154**	⇑*e*P	Pn	14 29 08.6	-0.9
LSP				*e*S	Sn	14 29 27.2	-0.6
AOPR	**Arecibo Observ**	**1.52**	**140**	*e*S	Sn	14 29 26.9	-1.6
CRPR	**Cabo Rojo, PR**	**1.64**	**157**	⇑*e*P	Pn	14 29 10.6	-0.8
CRPR				*e*S	Sn	14 29 29.8	-1.5
GBPR	**Guanica, Bosqu**	**1.76**	**151**	*e*S	Sn	14 29 33.6	-0.8
CELP	**Cerrillos**	**1.84**	**142**	⇑*e*P	Pn	14 29 12.8	-1.4
CELP				*e*S	Sn	14 29 36.1	-0.1
ICM	**Isla Caja Muer**	**2.02**	**144**	*e*S	Sn	14 29 40.2	-0.4
CBYP	**Canovanas**	**2.21**	**124**	*e*S	Sn	14 29 44.1	-1.2
HUMP	**Col San Antoni**	**2.29**	**127**	⇓*e*P	Pn	14 29 20.0	-0.3
HUMP				*e*S	Sn	14 29 47.1	-0.1
MTP	**Monte Pirata**	**2.54**	**124**	⇑*e*P	Pn	14 29 23.3	-0.5
MTP				*e*S	Sn	14 29 52.3	-1.2

*ISCJB **01** 14:37:40.0±1.1, 3823N×004×2655E±007, h7km±7km, Error ellipse: s-maj=9.4km s-min=6.5km az=123.2*
*ISK **01** 14:37:40.2, 3829N×2661E, h2km, MD2.7*
*CSEM **01** 14:37:40.7±0.1, 3831N×2662E, h6km±1km, MD2.7, Error ellipse: s-maj=3.0km s-min=2.0km az=47.0*
*ATH **01** 14:37:40.8, 3822N×2660E, h33km, MD3.0/3*

ISC 01 14:37:40.8±0.9, 3828N±003×2654E±007, h7km±6km, n12, σ0960/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.09**	**28**	*i*P	**Pg**	**14 37 43.0**	**0.0**
URLA				*i*S	**Sg**	**14 37 45.1**	**+0.7**
BLCB	**Balcova**	**0.41**	**75**	PG	**Pg**	**14 37 47.9**	**-0.9**
BLCB				SG	**Sg**	**14 37 53.8**	**-0.3**
IZM	**Izmir**	**0.58**	**78**	PG	**Pg**	**14 37 51.1**	**-0.9**
IZM				SG	**Sg**	**14 38 00.0**	**+0.5**
KDAG	**Bornova**	**0.58**	**78**	*i*P	**Pg**	**14 37 51.6**	**-0.5**
KDAG				*i*S	**Sg**	**14 37 59.9**	**+0.2**
SMG	**Samos**	**0.62**	**158**	*e*PN	**Pg**	**14 37 52.8**	**+0.1**
SMG				*e*SN	**Sg**	**14 38 01.0**	**+0.3**
PRK	**Paraskevi**	**0.99**	**348**	*e*PN	**Pn**	**14 38 00.4**	**-0.7**
PRK				*e*SN	**Sn**	**14 38 15.3**	**0.0**
AKS	**Akhisar**	**1.16**	**59**	PN	**Pn**	**14 38 03.1**	**-0.4**
BODT	**Bodrum**	**1.36**	**153**	*e*PN	**Pn**	**14 38 06.9**	**+0.7**
MLSB	**Milas**	**1.39**	**135**	*e*PN	**Pn**	**14 38 07.2**	**+0.7**
APE	**Apeiranthos**	**1.45**	**214**	*e*PN	**Pn**	**14 38 06.5**	**-0.9**
EZN	**Ezine**	**1.55**	**354**	*e*PN	**Pn**	**14 38 09.3**	**+0.4**
CANB	**Canakkale**	**1.78**	**13**	*e*PN	**Pn**	**14 38 13.1**	**+1.1**

IDC 01 14:47:25.4±7.8, 4553N×15328E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, Error ellipse: s-maj=468.8km s-min=31.3km az=86.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**65.20**	**335**	P	P	14 58 07.8	-0.6
	1.4nm,0.7s,baz=57,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**67.40**	**199**	P	P	14 58 22.3	-0.3
	0.3nm,0.6s,baz=19,slow=7.3,SNR=6.3						
ASAR	**Alice Springs**	**71.09**	**199**	P	P	14 58 45.8	+0.3
	0.2nm,0.6s,baz=13,slow=6.2,SNR=4.7						

JMA 01 14:54:44.9±0.2, 4384N×14764E, h0km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.46**	**252**	P	Pn	14 55 12.3	-0.2
NEM2				*e*S	Sg	14 55 32.5	+0.8
JRA	**Rausu**	**1.82**	**274**	P	Pn	14 55 18.0	+0.5
JRA				*e*S	Sn	14 55 42.8	+1.5
JNK	**Nakash**	**2.13**	**264**	P	Pn	14 55 22.4	+0.6
JNK				*e*S	Sn	14 55 50.0	+1.1
JAK	**Akkeshi**	**2.31**	**250**	P	Pn	14 55 24.8	+0.7
JAK				*e*S	Sn	14 55 53.4	+0.2
JTKR	**Abashiri--Toko**	**2.70**	**274**	P	Pn	14 55 30.4	+0.8
JAR	**Ashorobuto**	**2.87**	**260**	P	Pn	14 55 33.2	+1.4
JAR				*e*S	Sn	14 56 08.7	+1.7
JOB	**Onbets**	**2.93**	**253**	P	Pn	14 55 34.1	+1.4
JOB				*e*S	Sn	14 56 09.6	+1.0
JMP	**Maruseppu**	**3.10**	**275**	P	Pn	14 55 36.1	+1.1
JCH	**Churui**	**3.36**	**250**	P	Pn	14 55 39.9	+1.3
JCH				*e*S	Sn	14 56 20.6	+1.4
JFR	**Furan**	**3.73**	**261**	P	Pn	14 55 46.2	+2.4
JNBK	**Urakawa-nobuka**	**3.91**	**248**	P	Pn	14 55 47.5	+1.4

*CSEM **01** 15:01:02.3±0.2, 3546N×592W, h40km, ML3.2/3, Error ellipse: s-maj=6.2km s-min=3.6km az=83.0*
*CNRM **01** 15:01:04.7, 3545N×604W, h31km, MD3.2*
*INMG **01** 15:01:05.9±0.9, 3559N×600W, h26km±17km, ML2.4, Error ellipse: s-maj=11.8km s-min=3.7km az=3.0*
*NEIC **01** 15:01:05.1, 3562N×602W, h22km, MN2.7(MDD), After MDD.*

MDD 01 15:01:04.2±0.5, 3548N×603W, h33km±5km, mbLg2.8/12, Error ellipse: s-maj=8.0km s-min=4.6km az=77.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSY	**Tnine Yamani**	**0.12**	**156**	*i*P	Pb	15 01 10.0	-0.1
TSY				*i*S	Sb	15 01 13.5	-0.6
MDAL	**Dalia**	**0.61**	**47**	*e*P	Pn	15 01 16.5	0.0
MDAL				*e*S	Sb	15 01 25.0	0.0
RSA	**Sarsar**	**0.63**	**165**	*i*P	Pn	15 01 16.0	-0.7
RSA				*i*S	Sb	15 01 24.5	-0.9
ESPR	**Espera**	**1.39**	**6**	S	Sn	15 01 45.0	+0.7
	4.9nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**1.48**	**43**	P	Pn	15 01 27.4	-1.1
	0.9nm,0.2s,SNR=4.0						
EMIJ				S	Sn	15 01 45.1	-1.6
	4.6nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**2.13**	**333**	P	Pn	15 01 36.7	-0.7
	4.3nm,0.1s,SNR=7.9						
ERIP				S	Sn	15 02 00.5	-2.2
	27nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.34**	**347**	P	Pn	15 01 39.3	-0.9
	1.4nm,0.1s,SNR=16						
EMIN				S	Sn	15 02 04.6	-3.2
	7.0nm,0.1s,SNR=9.7						
EMIN	**Mina Concepcio**	**2.34**	**347**	P	Pn	15 01 39.3	-0.9
	1.4nm,0.1s,SNR=16						
EGRO	**El Granado**	**2.36**	**331**	P	Pn	15 01 39.8	-0.7
	2.4nm,0.1s,SNR=7.6						
EGRO				S	Sn	15 02 06.1	-2.2
	9.7nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**2.36**	**331**	P	Pn	15 01 39.8	-0.7
	2.4nm,0.1s,SNR=7.6						
CZD	**Col de Zad**	**2.58**	**161**	*e*P	Pn	15 01 43.0	-0.5
CZD				*i*S	Sn	15 02 11.5	-2.2
EQUE	**Quentar**	**2.71**	**50**	S	Sn	15 02 17.7	+0.9
	0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.92**	**23**	P	Pn	15 01 48.0	-0.3
	0.5nm,0.1s,SNR=8.7						
EADA				S	Sn	15 02 18.6	-3.6
	2.6nm,0.1s						
EADA	**Adamuz**	**2.92**	**23**	P	Pn	15 01 48.0	-0.2
	0.5nm,0.1s,SNR=8.7						
PBEJ	**Beja**	**2.94**	**330**	*e*Sn	Sn	15 02 19.6	-2.9
PBEJ				A		15 02 20.9	
	4.2nm,0.1s						
PBEJ	**Beja**	**2.94**	**330**	*e*Sn	Sn	15 02 19.6	-2.9
	4.2nm,0.1s						
PTEO	**Sao Teotonio**	**2.99**	**314**	*e*Pn	Pn	15 01 48.9	-0.3
PTEO				*e*Sn	Sn	15 02 21.4	-2.5
PTEO				A		15 02 23.8	
	5.0nm,0.2s						
PTEO	**Sao Teotonio**	**2.99**	**314**	*e*Pn	Pn	15 01 48.9	-0.3
PTEO				*e*Sn	Sn	15 02 21.4	-2.5
	5.0nm,0.2s						
EBAN	**Banos Encina**	**3.23**	**33**	S	Sn	15 02 25.7	-4.0
	7.7nm,0.1s,SNR=12						
EQES	**Quesada**	**3.32**	**45**	S	Sn	15 02 29.6	-2.4
	2.5nm,0.1s,SNR=8.5						
EBAD	**Badajoz**	**3.36**	**347**	P	Pn	15 01 53.7	-0.6
	1.3nm,0.1s,SNR=12						
EBAD				S	Sn	15 02 29.4	-3.6
	5.3nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**3.36**	**347**	P	Pn	15 01 53.7	-0.6
	1.3nm,0.1s,SNR=12						
MOE	**Montemor**	**3.56**	**329**	*e*Sn	Sn	15 02 35.2	-2.7
PESTR	**Estremoz**	**3.60**	**340**	*e*Pn	Pn	15 01 57.3	-0.3
PESTR				*e*Sn	Sn	15 02 35.4	-3.5
PESTR				A		15 02 37.4	
	4.3nm,0.2s						
PESTR	**Estremoz**	**3.60**	**340**	*e*Pn	Pn	15 01 57.3	-0.3
PESTR				*e*Sn	Sn	15 02 35.4	-3.5
	4.3nm,0.2s						
EHUE	**Huescar**	**3.61**	**49**	P	Pn	15 01 59.0	+1.3
	0.6nm,0.1s,SNR=7.9						
EHUE				S	Sn	15 02 37.5	-1.7
	0.7nm,0.1s,SNR=4.0						
EVIA	**Vianos**	**4.23**	**41**	P	Pn	15 02 05.7	-0.5
	0.6nm,0.1s,SNR=7.9						
EVIA				S	Sn	15 02 49.2	-5.3
	4.5nm,0.1s,SNR=10						
PMAFR	**Mafra**	**4.33**	**324**	*e*Pn	Pn	15 02 07.5	-0.1
PMAFR				*e*Sn	Sn	15 02 53.5	-3.4
ESDC	**Sonseca Array**	**4.49**	**21**	P	Pn	15 02 09.2	-0.7
	1.2nm,0.2s,baz=202,slow=14,SNR=4.0						
ESDC				S	Sn	15 02 57.8	-3.2
	3.8nm,0.2s,baz=202,slow=24,SNR=4.4						
ESDC	**Sonseca Array**	**4.49**	**21**	P	Pn	15 02 09.2	-0.7
	1.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.78**	**47**	P	Pn	15 02 12.8	-0.9
	0.5nm,0.1s,SNR=7.9						
ETOB				S	Sn	15 03 03.1	-4.8
	1.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.78**	**47**	P	Pn	15 02 12.8	-0.9
	0.5nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.93**	**348**	*e*Pn	Pn	15 02 29.2	-0.4
PVRL				*e*Sn	Sn	15 03 30.8	-5.6
PVRL				A		15 03 32.9	
	19nm,0.1s						
PVRL	**Vila Real**	**5.93**	**348**	Pn	Pn	15 02 29.2	-0.4
PVRL				Sn	Sn	15 03 30.8	-5.6
	9.7nm,0.1s						
ETOR	**Torete**	**6.18**	**29**	S	Sn	15 03 38.4	-4.1
	8.8nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.57**	**347**	P	Pn	15 02 38.1	-0.3
	0.7nm,0.1s,SNR=4.0						
ELOB				S	Sn	15 03 47.1	-5.0
	0.9nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**6.57**	**347**	P	Pn	15 02 38.1	-0.3
	0.7nm,0.1s,SNR=4.0						

IDC 01 15:03:23.8±4.9, 676S×12920E, h263km±51km, mb3.2/1, mb1 3.4/4, mb1mx3.2/15, mbtmp3.2/4, Error ellipse: s-maj=54.1km s-min=21.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79**	**197**	P	Pn	15 06 04.3	-0.2
	0.4nm,0.3s,baz=49,slow=12,SNR=10						
FITZ				S	S	15 08 11.7	-4.2
	0.4nm,0.3s,baz=93,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**14.02**	**160**	P	Pn	15 06 30.3	-1.4
	0.5nm,0.3s,baz=343,slow=11,SNR=36						
WRA				S	S	15 09 07.5	+0.9
	0.5nm,0.3s,baz=335,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**17.41**	**165**	P	P	15 07 10.7	+1.6
	1.4nm,0.3s,baz=345,slow=11,SNR=162						
ASAR				S	S	15 10 17.4	+1.2
	0.1nm,0.3s,baz=347,slow=25,SNR=4.6						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	15 13 52.2	0.0
	0.5nm,0.5s,baz=121,slow=8.7,SNR=7.4						

IDC 01 15:24:43.7±2.7, 2888S×17791W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/13, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=62.4km s-min=44.0km az=44.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.23**	**203**	Pn	Pn	15 27 11.6	-0.2
	0.6nm,0.3s,baz=165,slow=17,SNR=4.3						
URZ				Sn	Sn	15 29 02.3	-5.0
	1.1nm,0.3s,baz=51,slow=24,SNR=8.1						
ASAR	**Alice Springs**	**43.29**	**265**	P	P	15 32 48.0	+0.9
	0.2nm,0.4s,baz=102,slow=6.8,SNR=7.7						
WRA	**Warramunga Arr**	**44.14**	**271**	P	P	15 32 53.6	-0.3
	0.3nm,0.3s,baz=110,slow=8.2,SNR=27						
FINES	**FINESS Array B**	**143.75**	**341**	PKP	PKPdf	15 44 19.3	-1.4
	1.4nm,0.5s,baz=64,slow=3.2,SNR=16						
TORD	**Torodi Ar. Bea**	**164.34**	**179**	PKPab	PKPab	15 45 43.6	+0.2
	0.3nm,0.7s,baz=198,slow=2.5,SNR=4.4						

CASC 01 15:26:54.7±1.8, 1397N×9175W, h16km±51km, MD3.9, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.07**	**41**	⇑*e*P	Pb	15 27 14.5	-0.3
TP2				*e*S	Sb	15 27 29.8	+1.2
RBDL	**Robledal**	**2.00**	**86**	*e*P	x	15 27 31.9	
RBDL				*e*S	x	15 27 57.9	
RTR	**El Retiro**	**2.04**	**92**	*e*P	x	15 27 32.8	
RTR				*e*S	x	15 27 59.8	
SBLS	**San Blas**	**2.07**	**93**	*e*P	x	15 27 32.9	
SBLS				*e*S	x	15 27 59.9	
SNJE	**San Jose**	**2.08**	**93**	*e*P	x	15 27 33.3	
SNJE				*e*S	x	15 28 00.1	
MRL	**Marmol**	**2.27**	**61**	*e*P	Pn	15 27 31.8	+0.3
LFU	**La Fuente**	**2.57**	**95**	*e*P	x	15 27 40.9	
LFU				*e*S	x	15 28 13.3	
LFRS	**El Faro**	**2.63**	**97**	*e*P	x	15 27 41.4	
LFRS				*e*S	x	15 28 13.6	

IDC 01 15:34:13.1±2.3, 810S×11861E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.6/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/8, Error ellipse: s-maj=212.2km s-min=23.6km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.06**	**146**	Pn	Pn	15 37 06.6	+0.3
	0.4nm,0.3s,baz=340,slow=11,SNR=9.5						
FITZ				Sn	Sn	15 39 14.6	-6.9
	0.1nm,0.3s,baz=173,slow=16,SNR=3.9						
WRA	**Warramunga Arr**	**19.25**	**129**	P	Pn	15 38 38.7	-1.2
	0.2nm,0.3s,baz=301,slow=12,SNR=12						
WRA				LR	LR	15 46 07.9	
	comp=Z,374nm,19.8s,baz=240,slow=37						
ASAR	**Alice Springs**	**21.31**	**138**	P	P	15 39 02.3	+0.8
	0.4nm,0.3s,baz=312,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**31.88**	**141**	LR	LR	15 54 44.1	
	comp=Z,414nm,21.3s,baz=24,slow=39						
MKAR	**Makanchi Array**	**63.49**	**333**	P	P	15 44 45.1	+0.1
	0.2nm,0.5s,baz=113,slow=7.0,SNR=2.2						

CASC 01 15:43:34.6±3.4, 1363N×9077W, h31km±9km, MD3.8, 7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.78**	**11**	⇓*e*P	Pn	15 43 49.7	+0.3
PCG				*e*S	Sb	15 44 00.9	+1.1
FUG	**Fuego 3**	**0.82**	**355**	⇓*e*P	Pn	15 43 50.1	+0.1
JAT	**Jato**	**1.09**	**309**	*e*P	Pn	15 43 54.3	+0.6
JAT				*e*S	Sn	15 44 06.4	-1.3
RTR	**El Retiro**	**1.12**	**76**	⇓*e*P	x	15 43 55.0	
RTR				*e*S	x	15 44 09.1	
SBLS	**San Blas**	**1.13**	**79**	⇓*e*P	x	15 43 54.8	
SBLS				*e*S	x	15 44 09.2	
SNJE	**San Jose**	**1.15**	**78**	⇓*e*P	x	15 43 55.2	
RBDL	**Robledal**	**1.15**	**65**	*e*P	x	15 43 55.8	
RBDL				*e*S	x	15 44 12.9	
TP2	**Tecpan 2**	**1.17**	**348**	*e*P	Pn	15 43 55.2	+0.3
TP2				*e*S	Sn	15 44 11.8	+2.0
BOQS	**Boqueron**	**1.45**	**86**	⇓*e*P	x	15 43 59.4	
BOQS				*e*S	x	15 44 17.6	
SNET	**Serv Nac Est T**	**1.49**	**88**	*e*P	x	15 43 56.3	
SNET				*e*S	x	15 44 14.6	
MTO2	**Montecristo 2**	**1.56**	**60**	*e*P	x	15 44 01.7	
MTO2				*e*S	x	15 44 23.2	
LFU	**La Fuente**	**1.61**	**86**	*e*P	x	15 44 02.1	
LFU				*e*S	x	15 44 22.0	
LFRS	**El Faro**	**1.66**	**90**	*e*P	x	15 44 02.0	
LBRS	**Las Brisas**	**1.68**	**86**	*e*P	x	15 44 03.0	
LCBS	**La Ceiba**	**1.74**	**89**	*e*P	x	15 44 03.6	
LCBS				*e*S	x	15 44 25.4	
MRL	**Marmol**	**1.77**	**36**	⇓*e*P	Pn	15 44 03.3	+0.3
MRL				*e*S	Sn	15 44 26.7	+2.2
SNVI	**San Vicente**	**1.87**	**90**	*e*P	x	15 44 05.6	
SNVI				*e*S	x	15 44 27.7	
BLLM	**Bellamira**	**2.47**	**94**	*e*P	x	15 44 13.3	
CNCH	**Conchagua**	**2.87**	**97**	*e*P	x	15 44 19.6	
CNCH				*e*S	x	15 44 51.9	

*SZGRF **01** 15:57:26.4, 795N×7198W, h33km, mb4.6, Venezuela*
*ISCJB **01** 15:57:30.7±0.2, 675N±003×7301W±002, h158km, mb4.8/108, Error ellipse: s-maj=3.9km s-min=2.5km az=169.5*
*MOS **01** 15:57:30.4±1.0, 687N×7293W, h150km, mb5.0/32, Error ellipse: s-maj=7.6km s-min=5.3km az=94.5*
*BJI **01** 15:57:31.9, 670N×7290W, h157km, mB5.5*
*NEIC **01** 15:57:31.9±0.1, 673N×7293W, mb4.9/97, Error ellipse: s-maj=3.8km s-min=3.2km az=209.0*
NEIC Felt at Medellin.
*IDC **01** 15:57:32.3±0.5, 674N×7295W, h160km±4km, mb4.5/18, mb1 4.7/24, mb1mx4.6/28, mbtmp4.5/24, MS3.7/2, Ms1 3.7/2, ms1mx3.6/27, Error ellipse: s-maj=9.5km s-min=6.5km az=119.0*
*CASC **01** 15:57:32.6±1.2, 753N×7322W, h170km±23km, MW4.0, mb4.9(NEIC)*
*FUNV **01** 15:57:34.0, 691N×7309W, h168km, MW5.0*

ISC 01 15:57:32.5±0.2, 671N±003×7296W±002, h160km, h160km±1.2km: pP-P, n581, σ0978/556, mb4.8/108, 132C-102D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.31**	**29**	*e*P	**Pn**	**15 58 01.9**	**+1.0**
ROSC	**El Rosal**	**2.30**	**217**	P	**Pn**	**15 58 13.8**	**+2.1**
ROSC	baz=270,slow=20			S	**Sn**	**15 58 43.1**	**+1.2**
	3μm,0.3s,baz=108,slow=15,SNR=12						
ROSC				LR	LR	15 59 09.6	
	comp=Z,2μm,21.2s,baz=98,slow=42						
ROSC	**El Rosal**	**2.30**	**217**	⇑*i*Pn	**Pn**	**15 58 13.7**	**+2.0**
ROSC				*e*Sn	**Sn**	**15 58 42.2**	**+0.3**
SOCV	**Socops**	**2.60**	**53**	*e*P	**Pn**	**15 58 16.7**	**+1.4**
VIGV	**El Vigia**	**2.63**	**37**	*e*P	**Pn**	**15 58 16.4**	**+0.7**
VIGV				*e*S	**Sn**	**15 58 47.2**	**-1.9**
SDV	**Santo Domingo**	**3.15**	**47**	P	**Pn**	**15 58 23.3**	**+1.2**
	623nm,0.3s,baz=251,slow=12,SNR=1815						
SDV				S	**Sn**	**15 59 01.4**	**+0.7**
SDV				LR	LR	15 59 05.5	
	comp=Z,1μm,19.5s,baz=138,slow=30						
SDV	**Santo Domingo**	**3.15**	**47**	⇓*i*Pn	**Pn**	**15 58 23.3**	**+1.1**
SDV				*e*Sn	**Sn**	**15 58 59.8**	**-0.8**
ELOV	**Elorza**	**3.46**	**85**	*e*P	**Pn**	**15 58 27.6**	**+1.6**
VIRV	**Villa del Rosa**	**3.80**	**8**	*e*P	**Pn**	**15 58 28.5**	**-1.9**
VIRV				*e*S	**Sn**	**15 59 08.9**	**-6.6**
QARV	**Quebrada Arrib**	**4.22**	**35**	*e*P	**Pn**	**15 58 35.9**	**0.0**
QARV				*e*S	**Sn**	**15 59 21.3**	**-3.9**
SANV	**Sanarito**	**4.37**	**50**	*e*P	**Pn**	**15 58 37.9**	**+0.1**
SANV				*e*S	**Sn**	**15 59 25.0**	**-3.8**
CURV	**Curarigua**	**4.42**	**42**	*e*P	**Pn**	**15 58 38.4**	**0.0**
DABV	**Dabajuro**	**4.77**	**29**	*e*P	**Pn**	**15 58 42.1**	**-0.9**
TEPV	**Terepaima**	**4.93**	**49**	*e*P	**Pn**	**15 58 45.2**	**+0.1**
SIQV	**Siquisique**	**5.00**	**38**	*e*P	**Pn**	**15 58 45.4**	**-0.6**
UPD1	**Univ de Panama**	**5.34**	**290**	*e*P	**Pn**	**15 58 45.8**	**-4.6**
UPD1				*e*S	**Sn**	**15 59 44.4**	**-7.0**
UPA	**Univ. de Panam**	**6.90**	**289**	⇓*i*P	**Pn**	**15 59 07.4**	**-3.8**
UPA				*e*S	**Sn**	**16 00 19.

RIN3 **Volcan Rincon** 12.93 289 eP Pn 16 00 29.6 -0.7
CPD **Cerro la Pandu** 13.18 31 ePn Pn 16 00 31.8 -1.8
CPD eSn Sn 16 02 45.6 -14
FCV **Fort Charlotte** 13.19 60 eP Pn 16 00 36.7 +3.1
SVB **Belmont** 13.23 60 eP Pn 16 00 35.9 +1.6
SSV **Crater Summit** 13.31 60 eP Pn 16 00 32.8 -2.4
BHS **Barnard House** 13.35 60 eP Pn 16 00 38.5 +2.7
MTP **Monte Pirata** 13.42 32 ePn Pn 16 00 34.5 -2.0
RCC **Rio Carpintero** 13.47 349 eP Pn 16 00 36.7 -0.5
SLB **Belfond** 13.68 58 eP Pn 16 00 35.4 -4.6
TBG **Guadaloupe-3** 14.33 50 eP Pn 16 00 51.7 +3.7
LZG **Guadaloupe-1** 14.41 48 eP Pn 16 00 48.9 -0.1
MGG **Marie-Galante** 14.62 50 eP Pn 16 00 52.0 +0.4
BBGH **Gun Hill** 14.65 63 ePn Pn 16 00 52.9 +0.8
ATAH **Atahualpa** 14.66 202 P Pn 16 00 55.9 +3.7
3.4nm,0.3s,baz=21,slow=3.6,SNR=11
DEG **La Desirade** 15.05 50⇓eP Pn 16 00 58.0 +1.0
CCCC **Cccc** 15.13 343 eP Pn 16 00 58.1 +0.1
TGUH **Tegucigalpa,Un** 15.85 299⇓ePn Pn 16 01 05.0 -1.8
260nm,1.0s
MGV **Manicaragua** 16.74 337 eP Pn 16 01 19.1 +1.5
MGV eS S 16 04 11.9 -12
comp=N,42nm,0.5s
MGV e
comp=E,55nm,0.5s
SAML **Samuel** 18.36 148 eP P 16 01 35.5 +0.8
comp=E,0.9nm,0.3s
SAML eS S 16 05 01.2 +5.1
SOR **Soroa** 18.69 330 eP P 16 01 37.1 -1.3
SOR eS S 16 05 06.2 +3.4
comp=N,0.4nm,0.5s
SOR e
comp=E,0.4nm,0.5s
PAYG **Puerto Ayora** 18.79 248 eP P 16 01 41.2 +1.7
comp=E,44nm,0.7s
NNA **Nana** 18.98 192 P P 16 01 43.2 +1.6
comp=E,2.8nm,0.3s,baz=349,slow=9.7,SNR=20
NNA **Nana** 18.98 192 eP P 16 01 42.8 +1.3
comp=E,28nm,0.6s
TEIG **Tepich** 20.03 314 eP P 16 01 52.8 -0.1
comp=E,56nm,0.5s
ARE **Arequipa** 23.07 176 eP P 16 02 24.0 +0.1
LPAZ **La Paz** 23.35 168 P P 16 02 27.9 +1.5
comp=E,14nm,0.7s,mb4.5,baz=351,slow=7.8,SNR=77
LPAZ **La Paz** 23.35 168 eP P 16 02 27.5 +1.1
LPAZ eS S 16 06 26.3 -0.7
LPAZ pmax pmax
comp=Z,2.0nm,0.3s
LPAZ **La Paz** 23.35 168 eP P 16 02 27.5 +1.2
comp=Z,2.0nm,0.3s,mb4.0
LPAZ eS S 16 06 26.3 -0.7
CMIG **Matias Romero** 23.78 298 P P 16 02 26.1 -4.2
comp=Z,4.8nm,0.5s,mb4.3,baz=90,slow=5.6,SNR=8.8
SIV **San Ignacio** 25.44 153 P P 16 02 45.9 +0.6
comp=Z,8.7nm,0.7s,mb4.4,baz=332,slow=9.2,SNR=53
BBSR **BB Station** 26.66 16 P P 16 02 57.2 +0.9
comp=Z,14nm,0.6s,mb4.8
GOGA **Godfrey** 28.30 341 eP P 16 03 11.4 +0.5
GOGA pmax pmax
comp=Z,23nm,0.9s,mb4.9
GOGA **Godfrey** 28.30 341 eP P 16 03 11.4 +0.5
comp=Z,23nm,0.9s,mb4.9
JSC **Jenkinsville** 28.49 345 eP P 16 03 13.0 +0.4
LRAL **Lakeview Retre** 29.26 335 eP P 16 03 20.3 +0.9
comp=Z,23nm,0.8s,mb5.0
TKL **Tuckaleechee C** 30.47 342 P P 16 03 30.0 -0.1
comp=Z,17nm,1.0s,mb4.7,baz=140,slow=6.0,SNR=6.0
TZTN **Tazewell** 31.23 343 eP P 16 03 36.9 +0.2
comp=Z,16nm,0.8s,mb4.8
PLAL **Pickwick Lake** 31.39 336 eP P 16 03 38.7 +0.5
comp=Z,46nm,0.8s,mb5.3
PLAL ePcP PcP 16 06 27.3 -0.5
PLAL eS S 16 08 34.6 +0.9
WVT **Waverly** 32.29 337⇑iP P 16 03 46.1 0.0
WVT pmax pmax
comp=Z,83nm,0.9s,mb5.5
WVT **Waverly** 32.29 337⇑iP P 16 03 46.1 +0.1
comp=Z,83nm,0.9s,mb5.5
MVL **Millersville** 33.28 355 eP P 16 03 55.3 +0.7
MVL ePcP PcP 16 06 31.4 -1.6
MCWV **Mont Chateau** 33.38 350 eP P 16 03 55.0 -0.5
comp=Z,34nm,0.7s,mb5.2
MIAR **Mount Ida** 33.60 328 eP P 16 03 56.4 -1.0
MIAR e 16 06 33.0
MIAR pmax pmax
comp=Z,11nm,0.8s,mb4.6
MIAR **Mount Ida** 33.60 328 eP P 16 03 56.4 -1.0
comp=Z,11nm,0.8s,mb4.6
MIAR ePcP PcP 16 06 33.0 -0.9
WCI **Wyandotte Cave** 33.62 341⇑iP P 16 03 57.8 +0.2
WCI pmax pmax
comp=Z,46nm,0.6s,mb5.4
WCI **Wyandotte Cave** 33.62 341⇑iP P 16 03 57.8 +0.2
comp=Z,46nm,0.6s,mb5.4
USIN **University of** 33.85 339 eP P 16 03 59.6 0.0
comp=Z,83nm,0.7s,mb5.6
SSPA **Standing Stone** 34.06 353 eP P 16 04 02.5 +1.1
comp=Z,12nm,0.8s,mb4.7
PAL **Palisades** 34.16 359⇑iP P 16 04 02.7 +0.5
PAL pmax pmax
comp=Z,22nm,0.6s,mb5.1
PAL **Palisades** 34.16 359⇑iP P 16 04 02.7 +0.5
comp=Z,22nm,0.6s,mb5.1
SIUC **Southern Illin** 34.22 337 eP P 16 04 02.5 -0.2
comp=Z,88nm,0.7s,mb5.6
BLO **Bloomington** 34.55 341⇑eP P 16 04 06.1 +0.5
BLO pmax pmax
comp=Z,91nm,0.6s,mb5.6
BLO **Bloomington** 34.55 341⇑eP P 16 04 06.0 +0.4
comp=Z,91nm,0.6s,mb5.6
BINY **Binghamton** 35.44 356⇑eP P 16 04 14.1 +0.9
comp=Z,39nm,0.7s,mb5.2
WES **Weston** 35.55 2⇑eP P 16 04 15.0 +0.8
WES pmax pmax
comp=Z,151nm,1.1s,mb5.5
WES **Weston** 35.55 2⇑eP P 16 04 15.0 +0.8
comp=Z,151nm,1.1s,mb5.5
HRV **Harvard--Oak R** 35.67 2⇑iP P 16 04 15.1 0.0
HRV pmax pmax
comp=Z,93nm,1.0s,mb5.4
HRV **Harvard--Oak R** 35.67 2⇑iP P 16 04 15.1 -0.1
comp=Z,93nm,1.0s,mb5.4
ACCN **Adirondack Com** 36.53 359⇑eP P 16 04 23.0 +0.5
FFD **Franklin Falls** 36.63 2 eP P 16 04 24.2 +1.0
comp=Z,33nm,0.5s,mb5.2
LTX **Lajitas** 36.66 312⇑eP P 16 04 23.5 0.0
LTX e 16 06 44.5
LTX pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
LTX **Lajitas** 36.66 312⇑eP P 16 04 23.5 0.0
comp=Z,5.8nm,0.6s,mb4.4
LTX ePcP PcP 16 06 44.5 +1.6
TXAR **Lajitas Array** 36.66 312 P P 16 04 23.5 0.0
comp=Z,5.2nm,0.6s,mb4.3,baz=128,slow=9.6,SNR=58
TXAR PcP PcP 16 06 44.5 +1.6
comp=Z,11nm,0.8s,baz=133,slow=6.0,SNR=14
WMOK **Wichita Mounta** 36.66 323⇑eP P 16 04 22.1 -1.5
WMOK eS S 16 09 48.6 -6.2
WMOK pmax pmax
comp=Z,15nm,0.8s,mb4.7
WMOK **Wichita Mounta** 36.66 323⇑eP P 16 04 22.1 -1.5
comp=Z,15nm,0.8s,mb4.7
WMOK eS S 16 09 48.6 -6.2
AAM **Ann Arbor** 36.69 347 eP P 16 04 24.7 +0.9
AAM pmax pmax
comp=Z,32nm,0.3s,mb5.4
AAM **Ann Arbor** 36.69 347 eP P 16 04 24.7 +0.9
comp=Z,32nm,0.3s,mb5.4
NCB **Newcomb** 37.12 358 eP P 16 04 28.2 +0.7
comp=Z,26nm,0.6s,mb5.0
MSNY **Massena** 38.17 358 eP P 16 04 36.6 +0.3
MSNY pP pP 16 05 09.3 -1.5
CFAA **Coronel Fontan** 38.37 174 P P 16 04 37.5 -0.4
comp=Z,0.3nm,0.3s,baz=340,slow=11,SNR=8.9
PKME **Peaks-Kenny Pk** 38.53 4 eP P 16 04 40.0 +0.7
comp=Z,52nm,0.8s,mb5.2
AMTX **Amarillo** 38.54 321⇑eP P 16 04 38.9 -0.5
comp=Z,24nm,0.7s,mb4.9
AMTX epP pP 16 05 12.9 -1.1
AMTX ePcP PcP 16 06 49.1 +0.4
KSU1 **Kansas State U** 38.66 330 eP P 16 04 38.9 -1.5
comp=Z,52nm,0.7s,mb5.3
KSU1 epP pP 16 05 13.7 -1.3
JFWS **Jewell Farm** 39.15 340 eP P 16 04 43.5 -0.9
JFWS e 16 06 50.6
JFWS pmax pmax
comp=Z,111nm,0.7s,mb5.6
JFWS **Jewell Farm** 39.15 340 eP P 16 04 43.5 -0.9
comp=Z,112nm,0.7s,mb5.6
JFWS ePcP PcP 16 06 50.6 0.0
MNTX **Cornudas Mount** 39.16 314⇑iP P 16 04 44.5 0.0
comp=Z,19nm,0.9s,mb4.7
MNTX epP pP 16 05 18.3 -1.0
MNTX ePcP PcP 16 06 50.5 -0.2
SCIA **State Center** 39.39 336 eP P 16 04 45.8 -0.7
comp=Z,97nm,0.9s,mb5.4
LPM **Los Pinos Moun** 41.47 316 eP P 16 05 07.2 +3.7
LPM epP pP 16 05 43.7 +5.2
ANMO **Albuquerque** 41.71 317 P P 16 05 06.1 +0.7
comp=Z,2.8nm,0.5s,mb4.2,baz=138,slow=8.9,SNR=6.8
ANMO PcP PcP 16 07 00.4 +1.5
comp=Z,4.1nm,0.7s,baz=130,slow=6.8,SNR=3.6
ANMO **Albuquerque** 41.71 317 eP P 16 05 05.2 -0.2
ANMO e*PP pP 16 05 40.3 -0.2
ANMO e*SP sP 16 05 59.2 +0.7
ANMO pmax pmax
comp=Z,2.0nm,0.5s
ANMO **Albuquerque** 41.71 317 eP P 16 05 05.2 -0.2
comp=Z,2.5nm,0.5s,mb4.1
ANMO epP pP 16 05 40.3 -0.2
ANMO esP sP 16 05 59.2 +0.6
ECSD **EROS,Sioux Fal** 42.31 334 eP P 16 05 08.8 -1.5
comp=Z,37nm,1.0s,mb5.0
ECSD ePcP PcP 16 07 00.2 -0.7
SDCO **Great Sand Dun** 42.73 321⇑eP P 16 05 14.0 +0.2
comp=Z,26nm,0.8s,mb4.9
SDCO epP pP 16 05 48.7 -0.2
SDCO ePcP PcP 16 07 02.0 -0.3
TUC **Tucson** 43.44 311 eP P 16 05 19.2 -0.2
TUC pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
TUC **Tucson** 43.44 311 eP P 16 05 19.2 -0.2
comp=Z,5.6nm,0.8s,mb4.2
EYMN **Ely** 44.02 342 eP P 16 05 23.1 -0.9
comp=Z,102nm,0.6s,mb5.6
ISCO **Idaho Springs** 44.09 323⇑eP P 16 05 25.4 +0.8
ISCO e 16 07 07.8
ISCO pmax pmax
comp=Z,24nm,0.9s,mb4.8
ISCO **Idaho Springs** 44.09 323⇑eP P 16 05 25.4 +0.8
comp=Z,24nm,0.9s,mb4.8
ISCO ePcP PcP 16 07 07.8 +0.9
116A **Eloy** 44.25 311 ⇓P P 16 05 26.2 +0.4
baz=44
MVCO **Mesa Verde** 44.34 318 eP P 16 05 26.6 0.0
comp=Z,12nm,0.7s,mb4.6
MVCO ePcP PcP 16 07 08.4 +0.6
MVCO **Mesa Verde** 44.34 318 ⇑P P 16 05 27.3 +0.7
baz=44
115A **Sonoran Desert** 44.70 311 ⇓P P 16 05 30.0 +0.5
baz=45
PV01 **Paradox Valley** 44.91 319 eP P 16 05 32.2 +1.1
PV01 epP pP 16 06 07.8 +1.2
PV01 ePcP PcP 16 07 11.0 +1.3
PV10 **Paradox Valley** 45.36 319 eP P 16 05 34.9 +0.3
WUAZ **Wupatki** 45.41 315⇑eP P 16 05 35.8 +0.7
comp=Z,37nm,0.9s,mb5.0
X15A **Humboldt** 45.53 313 ⇓P P 16 05 36.7 +0.7
baz=46,SNR=6.8
Z14A **Wintersburg** 45.54 311 ⇑P P 16 05 36.7 +0.6
baz=46,SNR=5.6
TRQA **Tornquist** 45.70 168 eP P 16 05 35.8 -1.5
AGMN **Agassiz Refuge** 45.78 339 eP P 16 05 37.1 -0.8
comp=Z,50nm,0.6s,mb5.3
AGMN ePcP PcP 16 07 11.6 -1.2
Y14A **Wickenburg** 45.84 312 ⇓P P 16 05 39.0 +0.6
baz=46,SNR=11
W15A **Williams** 45.88 314 ⇓P P 16 05 39.8 +1.1
baz=46
X14A **Yava** 46.00 312 ⇑P P 16 05 40.4 +0.8
baz=46,SNR=5.9
W14A **Seligman** 46.49 313 ⇑P P 16 05 44.4 +0.9
baz=46,SNR=9.0
SRU **San Rafael** 46.73 319⇑eP P 16 05 45.7 +0.4
SRU e*PP pP 16 06 21.5 +0.4
SRU e 16 07 17.0
SRU pmax pmax
comp=Z,24nm,0.9s,mb4.8
SRU **San Rafael** 46.73 319⇑eP P 16 05 45.7 +0.3
comp=Z,24nm,0.9s,mb4.8
SRU epP pP 16 06 21.5 +0.4
SRU ePcP PcP 16 07 17.0 +0.9
X13A **Yucca** 46.75 312 ⇓P P 16 05 46.3 +0.8
baz=47
GLA **Glamis** 46.83 310 ⇓P P 16 05 46.8 +0.7
baz=47
PDMCI **Parker Dam,Lak** 46.85 312 ⇑P P 16 05 47.1 +0.8
baz=47
Y12C **Blythe** 46.89 311 ⇑P P 16 05 47.1 +0.5
baz=47
W13A **Hualapai Mount** 47.02 313 ⇑P P 16 05 48.3 +0.7
baz=47
TMUT **Trail Mountain** 47.27 319⇑eP P 16 05 49.9 +0.3
TMUT eScP ScP 16 10 58.1 +1.2
ULM **Lac du Bonnet** 47.44 340 P P 16 05 49.7 -1.1
comp=Z,54nm,0.6s,mb5.4,baz=144,slow=7.2,SNR=120
ULM PcP PcP 16 07 18.5 -0.2
comp=Z,8.6nm,0.6s,baz=58,slow=2.3,SNR=3.3
ULM **Lac du Bonnet** 47.44 340⇑iP P 16 05 49.5 -1.3
comp=Z,82nm,0.7s,mb5.5
MSU **Marysvale** 47.49 318 eP P 16 05 51.9 +0.6
MSU e*PP pP 16 06 27.2 +0.1
MSU **Marysvale** 47.49 318 eP P 16 05 51.9 +0.6
MSU epP pP 16 06 27.2 +0.1
MSU eScP ScP 16 10 58.6 +0.9
SWSC **Sam W. Stewart** 47.53 309 ⇑P P 16 05 52.2 +0.7
baz=48
IRM **Iron Mountain** 47.54 311 P P 16 05 52.3 +0.7
baz=48,SNR=6.8
BC3 **Big Chuckw Mtn** 47.55 310 ⇑P P 16 05 52.2 +0.5
baz=48
W12A **Cal Nev Ari** 47.83 312 ⇓P P 16 05 54.5 +0.7
baz=48
DAU **Daniels Canyon** 47.92 320 eP P 16 05 55.3 +0.8
DAU e*PP pP 16 06 31.0 +0.5
MPU **Maple Canyon** 47.94 320 eP P 16 05 54.7 0.0
comp=Z,30nm,0.9s,mb4.9
ARUT **Antelope Range** 47.98 316 eP P 16 05 55.7 +0.7
ARUT e*PP pP 16 06 31.7 +0.8
MONP **Monument Peak** 47.99 309 ⇑P P 16 05 55.8 +0.8
baz=48
V12A **Nelson** 48.00 313 ⇓P P 16 05 55.8 +0.6
baz=48,SNR=14
U12A **Valley of Fire** 48.10 314 ⇓P P 16 05 56.5 +0.6
baz=48
BELC **Belle Mtn.** 48.11 310 ⇑P P 16 05 56.5 +0.5
baz=48
JLU **Jordanelle** 48.15 320 eP P 16 05 56.7 +0.4
GMRC **Granite Mounta** 48.18 311 ⇑P P 16 05 57.1 +0.5
baz=48
NLU **North Lily Min** 48.19 319 eP P 16 05 56.7 +0.1
NLU epP pP 16 06 30.8 -1.8
SCHQ **Schefferville** 48.23 5 P P 16 05 57.4 +0.4
comp=Z,147nm,0.7s,mb5.8,baz=186,slow=6.2,SNR=137
SCHQ ScP ScP 16 11 01.4 +0.5
comp=Z,13nm,0.7s,baz=195,slow=4.3,SNR=6.2
SCHQ **Schefferville** 48.23 5 eP P 16 05 57.0 0.0
comp=Z,189nm,0.7s,mb5.8
PDAR **Pinedale Array** 48.26 324 P P 16 05 57.0 -0.1
comp=Z,55nm,1.3s,mb5.0,baz=130,slow=9.1,SNR=80
PDAR PcP PcP 16 07 21.6 0.0
comp=Z,3.1nm,0.4s,baz=112,slow=5.8,SNR=8.3
PDAR ScP ScP 16 11 01.4 +0.3
comp=Z,1.5nm,0.7s,baz=121,slow=6.1,SNR=5.3
PFO **Pinyon Flat Ob** 48.30 310 ⇑P P 16 05 58.1 +0.6
baz=48
CTU **Camp Tracy** 48.39 320 eP P 16 05 57.5 -0.6
comp=Z,12nm,0.8s,mb4.6
V11A **Goodsprings** 48.48 313 ⇓P P 16 05 59.4 +0.7
baz=48
TUQ **Turquoise Mtn.** 48.66 312 ⇓P P 16 06 00.6 +0.4
baz=49,SNR=13
HEC **Hector,Ludlow** 48.70 311 ⇑P P 16 06 01.1 +0.5
baz=49,SNR=7.0
HWUT **Hardware Ranch** 48.79 322 eP P 16 06 00.7 -0.5
comp=Z,19nm,0.7s,mb4.8
DUG **Dugway** 48.80 319 eP P 16 06 01.7 +0.4
DUG e*PP pP 16 06 37.5 +0.2
DUG pmax pmax
comp=Z,15nm,0.7s,mb4.7
DUG **Dugway** 48.80 319 eP P 16 06 01.7 +0.4
comp=Z,15nm,0.7s,mb4.7
DUG epP pP 16 06 37.5 +0.1
MURC **Murrieta** 48.87 309 ⇓P P 16 06 02.4 +0.6
baz=49
LAO **LASA Array** 49.01 330 eP P 16 06 01.9 -0.9
comp=Z,9.9nm,0.5s,mb4.7
SHOC **Shoshone** 49.12 313 ⇓P P 16 06 04.2 +0.5
baz=49
SPUT **South Promonto** 49.17 321 eP P 16 05 59.0 -5.0
GSC **Goldstone** 49.26 312 eP P 16 06 04.7 0.0
GSC e*PP pP 16 06 41.6 +0.8
GSC e*SP sP 16 06 57.6 -1.0
GSC **Goldstone** 49.26 312 ⇓P P 16 06 05.5 +0.7
baz=49,SNR=9.7
DGMT **Dagmar** 49.32 333 eP P 16 06 05.2 0.0
comp=Z,162nm,0.6s,mb5.8
BGU **Big Grassy Mou** 49.33 320⇑iP P 16 06 05.5 +0.2
BGU epP pP 16 06 40.3 -1.1
REDW **Red Top Meadow** 49.38 324⇑eP P 16 06 05.5 -0.2
comp=Z,56nm,0.9s,mb5.2
REDW epP pP 16 06 41.4 -0.4
SNOW **Snow King Moun** 49.38 324 eP P 16 06 05.8 +0.2
comp=Z,37nm,0.8s,mb5.1
U10A **Ash Meadows, A** 49.38 313 ⇓P P 16 06 06.5 +0.8
baz=49
MOOW **Moose Ponds** 49.55 324 eP P 16 06 06.8 -0.1
comp=Z,17nm,0.8s,mb4.7
MOOW epP pP 16 06 43.3 +0.3
Q12A **Willow Creek R** 49.55 317 ⇓P P 16 06 07.6 +0.7
baz=50,SNR=16
RLMT **Red Lodge** 49.56 327 eP P 16 06 06.9 -0.2
comp=Z,6.8nm,0.5s,mb4.5
HVU **Hansel Valley** 49.63 321 eP P 16 06 07.4 -0.2
HVU pmax pmax
comp=Z,11nm,0.8s,mb4.5
HVU **Hansel Valley** 49.63 321 eP P 16 06 07.4 -0.2
comp=Z,11nm,0.8s,mb4.5
TRCR **Troy Canyon** 49.73 316 eP P 16 06 09.1 +0.8
FURC **Furnace Creek,** 49.79 313 ⇑P P 16 06 09.5 +0.7
baz=50
P12A **McGill** 49.81 317 ⇓P P 16 06 09.7 +0.7
baz=50,SNR=8.0
EDW2 **Edwards Air Fo** 49.97 311 ⇓P P 16 06 10.4 +0.2
baz=50,SNR=7.1
LRMC **Laurel Mountai** 49.99 311 ⇓P P 16 06 10.6 +0.3
baz=50
Q11A **Duckwater** 50.02 316 ⇓P P 16 06 11.0 +0.5
baz=50,SNR=16
YFT **Old Faithful** 50.02 325 eP P 16 06 11.6 +1.1
N13A **Wendover, West** 50.05 319 ⇓P P 16 06 10.9 +0.1
baz=50,SNR=7.7
MPMC **Manual Prospec** 50.08 312 ⇑P P 16 06 11.2 +0.2
baz=50
O12A **Currie** 50.10 318 ⇑P P 16 06 11.6 +0.5
baz=50,SNR=19
YMR **Madison River** 50.23 325 eP P 16 06 12.5 +0.5
comp=Z,8.1nm,0.6s,mb4.5
M13A **Montello** 50.29 320 ⇑P P 16 06 12.6 +0.1
baz=50,SNR=16
GRAC **Grapevine Rang** 50.39 313 ⇑P P 16 06 13.7 +0.4
baz=50
QLMT **Earthquake Lak** 50.59 325 eP P 16 06 15.7 +0.9
QLMT epP pP 16 06 52.0 +1.0
N12A **Clover Valley,** 50.59 319 ⇑P P 16 06 14.9 +0.1
baz=51,SNR=6.9
S09A **Goldfield** 50.60 314 P P 16 06 15.4 +0.5
baz=51,SNR=19
O11A **Cowboy Ranch,** 50.64 318 ⇑P P 16 06 15.7 +0.5
baz=51,SNR=21
ISA **Isabella** 50.65 311 ⇑P P 16 06 15.5 +0.3
baz=51
CWC **Cottonwood Cre** 50.67 312 ⇑P P 16 06 15.8 +0.4
baz=51
R09A **Tonopah** 50.72 315 ⇓P P 16 06 16.1 +0.3
baz=51,SNR=14
M12A **Wells** 50.80 320 ⇓P P 16 06 16.2 -0.2
baz=51,SNR=14
BSC **Santa Cruz Isl** 50.89 309 ⇑P P 16 06 17.5 +0.4
baz=51
P10A **Eureka** 50.94 317 ⇓P P 16 06 18.0 +0.6
baz=51,SNR=7.4
N11A **Elko Archery C** 51.03 318 ⇑P P 16 06 18.0 -0.1
baz=51
BOZ **Bozeman (W)** 51.19 326⇑eP P 16 06 18.9 -0.4
BOZ e*PP pP 16 06 52.9 -2.7
BOZ pmax pmax
comp=Z,12nm,0.8s,mb4.6
BOZ **Bozeman (W)** 51.19 326⇑eP P 16 06 18.9 -0.4
comp=Z,12nm,0.8s,mb4.6
BOZ epP pP 16 06 52.9 -2.7
O10A **Cortez Mining,** 51.28 318 ⇑P P 16 06 20.2 +0.3
baz=51,SNR=8.9
PKM **Peak Mountain** 51.37 310 ⇑P P 16 06 20.8 +0.2
baz=51
P09A **Austin** 51.37 316 ⇓P P 16 06 21.0 +0.4
baz=51
M11A **Holland Ranch,** 51.37 319 ⇓P P 16 06 20.9 +0.2
baz=51,SNR=8.8
G15A **Dillon** 51.39 325 ⇓P P 16 06 21.1 +0.4
baz=52,SNR=12
MCMT **McKenzie Canyo** 51.40 324 eP P 16 06 21.8 +0.9
MCMT epP pP 16 06 58.1 +0.9
HELL **Mitchell Peak,** 51.46 312 ⇑P P 16 06 22.0 +0.7
baz=52,SNR=19
R08A **Mina** 51.50 315 ⇑P P 16 06 21.9 +0.3
baz=52
Q08A **Gabbs** 51.60 315 P P 16 06 22.8 +0.4
baz=52,SNR=29
HLID **Hailey** 51.62 322 eP P 16 06 22.4 -0.1
comp=Z,21nm,1.0s,mb4.7
SMMC **Simmler** 51.66 310 ⇑P P 16 06 23.4 +0.7
baz=52
NVAR **Mina Array Bea** 51.67 315 PcP PcP 16 07 34.9 +0.8
baz=140,slow=4.4
EGMT **Eagleton** 51.69 329 eP P 16 06 22.7 -0.3
comp=Z,13nm,0.6s,mb4.7
EGMT **Eagleton** 51.69 329 ⇑P P 16 06 23.4 +0.5
baz=52
O09A **Fish Creek Ran** 51.69 317 ⇑P P 16 06 23.1 +0.1
baz=52,SNR=31
F15A **Butte** 51.79 326 ⇓P P 16 06 23.9 +0.1
baz=52,SNR=22
M10A **I.L. Ranch, Tu** 51.91 319 ⇓P P 16 06 24.7 +0.1
baz=52,SNR=7.0
KCC **Kaiser Creek** 51.94 313 ⇓P P 16 06 24.6 -0.2
baz=52
PTRM **Twisleman Ran** 51.95 311 eP P 16 06 26.0 +1.1
R07C **Lee Vining** 52.06 314 ⇑P P 16 06 26.3 +0.6
baz=52,SNR=7.6
T06C **Milleton Lake** 52.10 312 ⇓P P 16 06 25.9 -0.1
baz=52
E15A **Deer Lodge** 52.22 326 ⇓P P 16 06 27.0 +0.1
baz=52,SNR=16
N09A **Rock Creek Ran** 52.23 318 ⇑P P 16 06 26.9 -0.1
baz=52,SNR=5.9
F14A **Wisdom** 52.27 325 ⇓P P 16 06 27.4 +0.1
baz=52,SNR=6.2
G13A **Cobalt** 52.36 324 ⇑P P 16 06 27.9 0.0
baz=52,SNR=35
H12A **Diamond D Ranc** 52.43 323 P P 16 06 28.8 +0.3
baz=52,SNR=40
M09A **Marrel Ranch,** 52.46 318 ⇑P P 16 06 28.8 +0.2
baz=52,SNR=5.7
D15A **Lincoln** 52.53 327 ⇓P P 16 06 29.4 +0.3
baz=53
R06C **Coleville** 52.53 314 ⇓P P 16 06 28.9 -0.3
baz=53
P07A **Fallon** 52.57 316 ⇓P P 16 06 29.6 +0.1
baz=53
U04C **Hernandez Rese** 52.64 311 ⇓P P 16 06 30.2 +0.2
baz=53
S05C **Merced** 52.69 312 ⇓P P 16 06 30.3 0.0
baz=53
E14A **Clinton** 52.69 326 ⇑P P 16 06 30.5 +0.1
baz=53
I11A **Placerville** 52.75 322 P P 16 06 30.9 0.0
baz=53,SNR=17
F13A **Darby** 52.81 325 P P 16 06 31.2 0.0
baz=53,SNR=25
O07A **Toulon** 52.84 316 ⇑P P 16 06 31.4 0.0
baz=53,SNR=9.3
L09A **Wilkinson Ranc** 52.88 319 ⇑P P 16 06 32.1 +0.3
baz=53,SNR=30
R05C **Kirkwood Meado** 53.05 314 ⇑P P 16 06 33.7 +0.8
baz=53,SNR=6.0
WCN **Washoe City** 53.07 315 ⇓P P 16 06 33.7 +0.5
baz=53

D14A Greenough 53.09 326 P P 16 06 33.2 0.0
baz=53,SNR=6.2
E13A Victor 53.10 325 ⇓P P 16 06 33.6 +0.2
baz=53
N07B Gerlach 53.18 317 P P 16 06 34.2 +0.3
baz=53,SNR=7.7
MSO Missoula 53.19 326 eP P 16 06 33.5 -0.5
comp=Z,6.7nm,1.0s,mb4.3
H11A Donnelly 53.21 323 P P 16 06 34.1 0.0
baz=53,SNR=5.8
HAST UC Hastings Re 53.23 311 ⇑P P 16 06 34.2 -0.1
baz=53
PACP Pacheco Peak 53.26 312 ⇓P P 16 06 35.1 +0.5
baz=53
P06A Stead Airport, 53.33 315 ⇑P P 16 06 35.6 +0.6
baz=53
L08A Fields 53.41 319 ⇑P P 16 06 35.8 +0.2
baz=54,SNR=85
R04C Big Horse Ranc 53.49 313 ⇑P P 16 06 36.8 +0.6
baz=54
O06A Flanigan 53.49 316 ⇑P P 16 06 35.8 -0.4
baz=54,SNR=8.3
LAVA Lava Cap Winer 53.54 314 ⇑P P 16 06 36.5 -0.1
baz=54
M07A Soldier Meadow 53.59 318 ⇑P P 16 06 36.6 -0.3
baz=54,SNR=36
J09A Fry Pan Ranch, 53.59 320 P P 16 06 37.0 0.0
baz=54,SNR=20
H10A Noah's Angus R 53.59 322 P P 16 06 36.0 -0.9
baz=54,SNR=11
D13A Huson 53.63 326 ⇑P P 16 06 37.1 -0.2
baz=54,SNR=14
P05C Yuba Gap, Truc 53.67 315 ⇑P P 16 06 37.5 -0.1
baz=54,SNR=12
WVOR Wild Horse Val 53.72 319 eP P 16 06 37.8 -0.1
WVOR e*PP pP 16 07 15.5 +1.0
WVOR pmax pmax
comp=Z,26nm,0.9s,mb5.0
WVOR Wild Horse Val 53.72 319 eP P 16 06 37.8 -0.1
comp=Z,26nm,0.9s,mb5.0
WVOR epP pP 16 07 15.4 +0.9
BEKR Beckwourth 53.73 315 ⇑P P 16 06 37.8 -0.2
baz=54,SNR=9.3
N06A Buffalo Meadow 53.75 317 ⇑P P 16 06 37.0 -1.1
baz=54,SNR=5.3
K08A Mann Creek Ran 53.76 319 ⇑P P 16 06 38.3 +0.1
baz=54,SNR=27
WENL Wente Brothers 53.84 312 ⇓P P 16 06 39.2 +0.4
baz=54
I09A Lost Marbles R 53.89 321 P P 16 06 38.8 -0.3
baz=54,SNR=13
F11A Grangeville 53.93 324 P P 16 06 38.8 -0.6
baz=54,SNR=12
L07A Adell 53.98 318 P P 16 06 40.3 +0.5
baz=54,SNR=13
C13A Hot Springs 54.03 326 ⇑P P 16 06 40.0 -0.2
baz=54,SNR=15
Q04C Lincoln 54.03 314 ⇓P P 16 06 40.6 +0.5
baz=54
BDM Black Diamond 54.04 313 ⇓P P 16 06 40.9 +0.6
baz=54
J08A Circle Bar Ran 54.05 320 ⇑P P 16 06 39.9 -0.4
baz=54,SNR=7.4
BMO Blue Mountains 54.07 322 eP P 16 06 39.1 -1.3
comp=Z,3.9nm,0.7s,mb4.2
O05C Quincy 54.16 315 ⇓P P 16 06 41.4 +0.3
baz=54
H09A Durkee 54.19 322 ⇓P P 16 06 40.2 -1.1
baz=54
E11A Bogner Ranch, 54.21 324 P P 16 06 40.8 -0.6
baz=54,SNR=17
OHCM Honcut 54.31 314 eP P 16 06 42.3 +0.2
B13A Whitefish 54.38 327 ⇓P P 16 06 42.4 -0.2
baz=54,SNR=6.7
I08A Drewsey 54.38 321 ⇑P P 16 06 42.1 -0.5
baz=54
M06C Likely Place G 54.39 317 ⇓P P 16 06 42.2 -0.5
baz=54
ORV Oroville 54.41 315 ⇑P P 16 06 42.9 0.0
baz=54,SNR=8.1
Q03C Winters 54.41 313 ⇑P P 16 06 43.7 +0.8
baz=54
FCC Fort Churchill 54.41 347 eP P 16 06 41.3 -1.6
FCC pmax pmax
comp=Z,74nm,1.0s,mb5.4
FCC Fort Churchill 54.41 347 eP P 16 06 41.3 -1.6
comp=Z,74nm,1.0s,mb5.4
O04C Chester 54.43 316 ⇓P P 16 06 43.1 +0.1
baz=54,SNR=14
SUTB Sutter Butte 54.48 314 ⇑P P 16 06 43.8 +0.4
baz=54
MOD Modoc 54.57 318 eP P 16 06 43.4 -0.6
comp=Z,3.9nm,0.7s,mb4.2
MOD eP cP cP 16 07 43.0 -2.1
MOD Modoc 54.57 318 P P 16 06 43.7 -0.4
baz=55,SNR=7.6
J07A Hines 54.60 320 P P 16 06 44.2 0.0
baz=55,SNR=7.7
F10A Beach Ranch, E 54.60 323 ⇑P P 16 06 43.6 -0.7
baz=55,SNR=19
CVS Carmenet Viney 54.62 313 ⇓P P 16 06 44.1 -0.3
baz=55
D11A Klaveano Farm, 54.66 325 P P 16 06 44.4 -0.3
baz=55,SNR=12
H08A Prairie City 54.74 321 ⇓P P 16 06 44.7 -0.5
baz=55
E10A Myers Farm, Un 54.81 324 P P 16 06 45.1 -0.7
baz=55,SNR=8.0
F09A S2 Ranch, Elgi 54.87 323 P P 16 06 46.4 +0.2
baz=55,SNR=15
HATC Hat Creek Radi 54.90 316 ⇓P P 16 06 46.1 -0.2
baz=55
M05C Lookout 54.91 317 ⇓P P 16 06 46.0 -0.4
baz=55,SNR=19
K06A Valley Falls 54.94 319 P P 16 06 46.8 0.0
baz=55,SNR=8.1
B12A Libby 55.04 327 ⇓P P 16 06 47.5 +0.1
baz=55,SNR=7.1
I07A Izee 55.05 320 P P 16 06 47.8 +0.2
baz=55,SNR=20
LTIM Timbered Crate 55.06 316 P P 16 06 48.1 +0.5
J06A Christmas Vall 55.08 319 P P 16 06 47.6 -0.1
baz=55,SNR=13
D10A Wagner Farm, O 55.21 324 P P 16 06 47.9 -0.7
baz=55,SNR=21
G08A Pilot Rock 55.30 322 ⇑P P 16 06 49.2 -0.1
baz=55,SNR=38
K05A Summer Lake 55.33 318 ⇑P P 16 06 49.5 0.0
baz=55
E09A Wood Farm, Sta 55.43 323 P P 16 06 50.0 -0.3
baz=56,SNR=15
I06A Prineville 55.44 320 ⇓P P 16 06 50.3 0.0
baz=56,SNR=17
F08A Pendleton 55.44 322 P P 16 06 50.0 -0.3
baz=56,SNR=11
M03C McCloud 55.54 316 ⇑P P 16 06 50.5 -0.5
baz=56
WDC Whiskeytown Da 55.55 315 ⇑P P 16 06 50.0 -1.1
baz=56
M04C Macdoel 55.56 317 ⇓P P 16 06 51.1 -0.1
baz=56,SNR=14
P01C Double 8 Ranch 55.68 314 ⇑P P 16 06 52.7 +0.7
baz=56
G07A Ruggs Ranch, H 55.73 322 P P 16 06 52.5 +0.2
baz=56,SNR=6.8
A11A Hall Mountain, 55.74 327 ⇓P P 16 06 52.5 +0.1
baz=56,SNR=16
L04A Klamath Falls 55.76 317 ⇑P P 16 06 52.4 -0.1
baz=56,SNR=9.1
NEW Newport 55.77 326 P P 16 06 52.1 -0.6
comp=Z,9.2nm,0.8s,mb4.7,baz=121,slow=7.5,SNR=11
J05A Fort Rock 55.80 319 ⇓P P 16 06 53.0 +0.2
baz=56
D09A Jones Farm, Ri 55.81 324 ⇑P P 16 06 52.7 -0.2
baz=56
K04A Chilquin 55.84 318 ⇑P P 16 06 53.0 -0.1
baz=56
H06A Lindquist Farm 55.89 321 ⇑P P 16 06 53.2 -0.3
baz=56,SNR=8.9
E08A Dider Farm, El 55.96 323 ⇑P P 16 06 53.5 -0.5
baz=56
BUOR Burton Butte 56.04 317 P P 16 06 54.7 +0.1
M02C Callahan 56.09 316 ⇑P P 16 06 53.9 -1.0
baz=56
YBH Yreka Blue Hor 56.13 317 P P 16 06 53.8 -1.3
comp=Z,8.5nm,0.6s,mb4.8,baz=117,slow=2.7,SNR=22
YBH pP cP cP 16 07 51.2 0.0
comp=Z,5.9nm,0.8s,baz=59,slow=5.3,SNR=4.9

YBH Yreka Blue Hor 56.13 317 eP P 16 06 53.5 -1.7
YBH e 16 07 50.7
YBH pmax pmax
comp=Z,6.0nm,0.6s
YBH Yreka Blue Hor 56.13 317 eP P 16 06 53.5 -1.7
comp=Z,5.6nm,0.6s,mb4.6
YBH ePcP PcP 16 07 50.7 -0.5
YBH Yreka Blue Hor 56.13 317 ⇑P P 16 06 53.8 -1.4
baz=56,SNR=8.3
D08A Wollman Farm, 56.17 324 P P 16 06 55.4 -0.1
baz=56,SNR=5.9
C09A Chrisman Ranch 56.18 325 ⇑P P 16 06 55.2 -0.3
baz=56,SNR=19
N02C Big Bar 56.18 315 P P 16 06 54.9 -0.7
baz=56,SNR=8.2
F07A Phinny Hill Vi 56.19 322 ⇑P P 16 06 55.6 0.0
baz=56
O01C Eel River Cons 56.28 314 ⇓P P 16 06 56.4 +0.2
baz=56
G06A Carlson Farm, 56.31 321 ⇓P P 16 06 56.9 +0.5
baz=56,SNR=10
J04A Umpqua Nationa 56.36 318 ⇑P P 16 06 56.9 +0.1
baz=56,SNR=18
H05A Madras 56.41 320 ⇑P P 16 06 57.6 +0.5
baz=56
E07A Sunnyside 56.47 323 ⇑P P 16 06 57.4 -0.2
baz=56
KHMM Horse Mountain 56.50 315 eP P 16 06 58.2 +0.4
C08A Higginbotham F 56.61 324 ⇓P P 16 06 58.6 0.0
baz=57
EPH Ephrata 56.71 324 P P 16 06 59.4 +0.1
G05A Wamic 56.74 321 ⇑P P 16 06 59.9 +0.4
baz=57
EDM Edmonton 56.79 332 eP P 16 06 58.7 -1.2
I04A Tendick Farm, 56.80 319 ⇓P P 16 06 59.5 -0.4
baz=57,SNR=5.8
D07A Quincy 56.86 323 ⇑P P 16 07 00.4 +0.1
baz=57,SNR=8.0
A09A Danville 56.98 326 ⇓P P 16 07 00.9 -0.2
baz=57
J03A Ideyld Park 56.98 318 ⇓P P 16 07 00.6 -0.6
baz=57
BROR Big Rock Looko 57.03 319 P P 16 07 01.1 -0.4
H04A Detroit Lake 57.04 320 ⇓P P 16 07 00.8 -0.8
baz=57,SNR=16
EBG Ellensburg 57.07 323 P P 16 07 02.3 +0.5
B08A Colville Reser 57.07 325 ⇑P P 16 07 01.3 -0.6
baz=57,SNR=12
K02A Glendale 57.08 317 P P 16 07 01.1 -0.8
baz=57,SNR=5.5
E06A Yakima 57.14 322 ⇑P P 16 07 02.4 +0.1
baz=57
M01C Crescent City 57.15 316 ⇑P P 16 07 02.3 0.0
baz=57
C07A Waterville 57.16 324 ⇓P P 16 07 02.6 +0.2
baz=57,SNR=6.2
A08A Turner Farm, O 57.35 326 ⇓P P 16 07 03.1 -0.7
baz=57,SNR=10
D06A Cle Elum 57.37 323 P P 16 07 04.4 +0.4
baz=57,SNR=5.7
J02A Umpqua 57.38 318 ⇓P P 16 07 03.6 -0.4
baz=57,SNR=7.9
I03A Eugene 57.44 319 ⇓P P 16 07 03.7 -0.7
baz=58
B07A Winthrop 57.58 325 P P 16 07 05.1 -0.2
baz=58,SNR=5.1
E05A Randle 57.63 322 ⇑P P 16 07 05.4 -0.3
baz=58,SNR=6.8
H03A Soap Creek Ran 57.75 320 ⇓P P 16 07 06.8 +0.2
baz=58,SNR=7.0
K01A Sixes 57.76 317 ⇑P P 16 07 06.7 +0.1
baz=58
I02A Mapleton 57.81 319 ⇑P P 16 07 07.2 +0.2
baz=58
GSM Grass Mountain 57.95 323 P P 16 07 08.0 +0.1
G03A Yamhill 58.01 320 ⇓P P 16 07 08.3 -0.1
baz=58
D05A Enumclaw 58.06 323 ⇓P P 16 07 08.2 -0.5
baz=58
E04A Onalaska 58.23 322 ⇓P P 16 07 09.6 -0.3
baz=58
B06A Marblemount 58.39 324 ⇓P P 16 07 10.8 -0.2
baz=58
F03A Seaside 58.46 321 ⇓P P 16 07 11.3 -0.2
baz=58
D04A Dobbs Creek Ra 58.52 322 ⇓P P 16 07 11.8 -0.1
baz=59
B05A Bryant 58.63 324 ⇓P P 16 07 12.4 -0.3
baz=59
E03A Lebam 58.73 321 ⇓P P 16 07 13.2 -0.1
baz=59
C04A Brinnon 58.89 323 ⇓P P 16 07 13.8 -0.7
baz=59,SNR=6.8
A05A Maple Falls 58.97 324 ⇑P P 16 07 14.5 -0.5
baz=59
A04A Legoe Bay, Lum 59.20 324 ⇓P P 16 07 15.9 -0.7
baz=59
B04A Port Angeles 59.37 323 ⇓P P 16 07 17.2 -0.6
baz=59
SFJD Kangerlussuaq 62.10 10 iP P 16 07 35.3 -0.9
comp=Z,22nm,0.6s,mb5.2
SFJD Kangerlussuaq 62.10 10 iP P 16 07 35.3 -0.9
SFJD pmax pmax
comp=Z,22nm,0.6s,mb5.2
YKA Yellowknife Ar 63.42 340 P P 16 07 44.1 -0.8
comp=Z,52nm,0.6s,mb5.6,baz=131,slow=6.8,SNR=572
YKA PcP PcP 16 08 20.2 -0.1
comp=Z,6.8nm,0.8s,baz=126,slow=4.5,SNR=6.0
LIC Lamto 67.44 86⇑iP P 16 08 10.9 +0.1
comp=Z,123nm,0.6s,mb5.6
LIC Lamto 67.44 86⇑iP P 16 08 10.9 +0.1
comp=Z,61nm,0.6s,mb5.6
DLBC Dease Lake 67.50 331 eP P 16 08 11.2 +0.1
ESDC Sonseca Array 69.59 50 P P 16 08 23.2 -0.9
comp=Z,1.4nm,0.6s,mb3.9,baz=270,slow=5.7,SNR=5.6
SKAG Skagway 70.42 331 eP P 16 08 29.3 +0.1
comp=Z,16nm,0.7s,mb4.9
QUIF Quistinic 71.53 42 eP P 16 08 36.5 +0.6
SJPF Ste Jean 72.11 47 eP P 16 08 38.6 -0.7
comp=Z,20nm,0.8s,mb4.6
SJPF Ste Jean 72.11 47 eP P 16 08 38.6 -0.7
SJPF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
SJPF Ste Jean 72.11 47 eP P 16 08 38.6 -0.7
comp=Z,10.0nm,0.8s,mb4.6
ETSF Etaut 72.57 47 eP P 16 08 41.6 -0.4
GRR Gorron 73.14 42 eP P 16 08 43.0 -2.4
comp=Z,8.7nm,0.3s,mb4.7
GRR Gorron 73.14 42 eP P 16 08 43.0 -2.4
GRR pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
GRR Gorron 73.14 42 eP P 16 08 43.0 -2.4
comp=Z,4.3nm,0.3s,mb4.7
INK Inuvik 73.19 340 P P 16 08 45.2 -0.5
comp=Z,22nm,0.6s,mb5.1,baz=108,slow=6.4,SNR=122
INK Inuvik 73.19 340 eP P 16 08 44.9 -0.8
comp=Z,938nm,0.7s
EPF Esparros 73.24 47 eP P 16 08 45.3 -0.7
comp=Z,5.7nm,0.4s,mb4.3
EPF Esparros 73.24 47 eP P 16 08 45.3 -0.7
EPF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
EPF Esparros 73.24 47 eP P 16 08 45.3 -0.7
comp=Z,2.8nm,0.4s,mb4.3
MFF Saint Martin d 73.35 43 eP P 16 08 45.3 -1.3
FLN La Foliniere 73.44 41 eP P 16 08 46.2 -1.0
comp=Z,12nm,0.4s,mb4.7
FLN La Foliniere 73.44 41 eP P 16 08 46.2 -1.0
FLN pmax pmax
comp=Z,6.0nm,0.4s,mb4.7
FLN La Foliniere 73.44 41 eP P 16 08 46.2 -1.0
comp=Z,6.0nm,0.4s,mb4.7
TOA0 Torodi Ar. Sit 73.60 78 eP P 16 08 47.3 -0.8
TOA0 epP pP 16 09 29.3 +2.3
TORD Torodi Ar. Bea 73.60 78 P P 16 08 47.5 -0.6
comp=Z,5.1nm,0.4s,mb4.6,baz=285,slow=6.5,SNR=104
TORD pP pP 16 09 27.4 +0.4
comp=Z,1.2nm,0.6s,baz=285,slow=6.9,SNR=1.9
LDF La Druitiere 73.65 41 eP P 16 08 46.9 -1.5
DAWY Dawson 73.81 335 eP P 16 08 48.5 -0.8
RJF Les Rejaudoux 74.34 45 eP P 16 08 51.1 -1.3
MTLF Montolieu 74.64 47 eP P 16 08 53.9 -0.2
CAF Calviac 74.69 45 eP P 16 08 53.1 -1.3
comp=Z,3.7nm,0.3s,mb4.1
CAF Calviac 74.69 45 eP P 16 08 53.1 -1.3
CAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.2

CAF Calviac 74.69 45 eP P 16 08 53.1 -1.3
comp=Z,1.9nm,0.3s,mb4.2
EGAK Eagle 74.75 336 eP P 16 08 54.8 0.0
comp=Z,36nm,1.1s,mb4.9
TCF Toulx Ste Croi 74.93 44 eP P 16 08 55.6 -0.2
MENT Mentasta 75.35 333 eP P 16 08 58.4 +0.2
BGF Bois d'Agland 75.39 44 eP P 16 08 58.0 -0.4
DAG Danmarks Havn 75.73 11⇓iP P 16 08 59.1 -1.2
comp=Z,24nm,0.7s,mb4.9
DAG Danmarks Havn 75.73 11⇓eP P 16 08 59.1 -1.2
DAG pmax pmax
comp=Z,24nm,0.7s,mb4.9
DAG Danmarks Havn 75.73 11⇓eP P 16 08 59.1 -1.2
comp=Z,24nm,0.7s,mb4.9
AVF Avril sur Loir 75.76 44 eP P 16 08 59.8 -0.7
SMF Signal de Mont 76.08 44 eP P 16 09 00.9 -1.5
LOR Lormes 76.15 43 eP P 16 09 01.3 -1.4
GIVF Givet 77.04 40 eP P 16 09 06.7 -1.0
comp=Z,23nm,0.9s,mb4.5
GIVF Givet 77.04 40 eP P 16 09 06.7 -1.0
GIVF pmax pmax
comp=Z,11nm,0.9s,mb4.5
GIVF Givet 77.04 40 eP P 16 09 06.7 -1.0
comp=Z,11nm,0.9s,mb4.5
MEZF Maizieres J'vi 77.06 42 eP P 16 09 07.6 -0.2
comp=Z,12nm,0.4s,mb4.6
MEZF Maizieres J'vi 77.06 42 eP P 16 09 07.6 -0.2
comp=Z,12nm,0.4s,mb4.9
SML Sawmill 77.22 332 eP P 16 09 08.5 -0.2
ORIF Oris-en-Rattie 77.39 46 eP P 16 09 09.2 -0.4
comp=Z,3.9nm,0.5s,mb4.0
ORIF Oris-en-Rattie 77.39 46 eP P 16 09 09.2 -0.4
ORIF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
ORIF Oris-en-Rattie 77.39 46 eP P 16 09 09.2 -0.4
comp=Z,2.0nm,0.5s,mb4.0
COLA College 77.55 335 eP P 16 09 10.0 -0.6
PMR Palmer 77.56 332 eP P 16 09 10.2 -0.4
PMR pmax pmax
comp=Z,21nm,0.7s,mb4.9
PMR Palmer 77.56 332 eP P 16 09 10.2 -0.4
comp=Z,21nm,0.7s,mb4.9
LMR La Mourre 77.76 47 eP P 16 09 10.6 -1.1
comp=Z,7.5nm,0.6s,mb4.2
LMR La Mourre 77.76 47 eP P 16 09 10.6 -1.1
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
LMR La Mourre 77.76 47 eP P 16 09 10.6 -1.1
comp=Z,3.8nm,0.6s,mb4.2
MCK McKinley 77.81 334 eP P 16 09 11.2 -0.8
MCK pmax pmax
comp=Z,24nm,1.4s,mb4.6
MCK McKinley 77.81 334 eP P 16 09 11.2 -0.8
comp=Z,24nm,1.4s,mb4.6
FRF La Foret Royal 77.87 47 eP P 16 09 11.3 -1.0
comp=Z,7.3nm,0.5s,mb4.2
FRF La Foret Royal 77.87 47 eP P 16 09 11.3 -1.0
FRF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
FRF La Foret Royal 77.87 47 eP P 16 09 11.3 -1.0
comp=Z,3.7nm,0.5s,mb4.3
MBDF Montbardon 78.01 46 eP P 16 09 12.1 -1.0
LPL La Plagne 78.02 45 eP P 16 09 13.0 -0.1
LPG La Plagne 78.03 45 eP P 16 09 13.0 -0.2
comp=Z,6.8nm,0.6s,mb4.2
LPG La Plagne 78.03 45 eP P 16 09 13.0 -0.2
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
LPG La Plagne 78.03 45 eP P 16 09 13.0 -0.2
comp=Z,3.4nm,0.6s,mb4.2
HINF Hinteralfeld 78.21 43 eP P 16 09 12.1 -2.1
comp=Z,5.1nm,0.5s,mb4.1
HINF Hinteralfeld 78.21 43 eP P 16 09 12.1 -2.1
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
HINF Hinteralfeld 78.21 43 eP P 16 09 12.1 -2.1
comp=Z,2.5nm,0.5s,mb4.1
CDF Champ du Feu 78.53 42 eP P 16 09 14.3 -1.6
IMA2 Indian Mountai 80.14 336 eP P 16 09 24.2 -0.5
SVW2 Sparrevohn 80.59 331 eP P 16 09 26.3 -0.8
GRA1 Grafenberg Arr 81.16 41 eP P 16 09 30.5 +0.4
comp=Z,6.0nm,0.9s,mb4.2
GRF Grafenberg Arr 81.16 41 eP P 16 09 30.5 +0.4
comp=Z,6.0nm,0.9s,mb4.2
GRF Grafenberg Arr 81.16 41 eP P 16 09 30.5 +0.4
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
NB2 NORSAR Subarra 81.34 29 P P 16 09 30.8 -0.2
comp=Z,18nm,0.8s,mb4.8,baz=268,slow=5.6
NOA NORSAR Array B 81.34 29 P P 16 09 31.1 +0.1
comp=Z,15nm,0.7s,mb4.7,baz=268,slow=5.3,SNR=30
CHGN Chignik 81.94 326 eP P 16 09 32.9 -1.3
NKC Novy Kostel 81.94 40 eP P 16 09 34.4 +0.2
CLL Collm 82.28 39 iP P 16 09 35.9 -0.1
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
CLL Collm 82.28 39 iP P 16 09 35.9 -0.1
comp=Z,10.0nm,0.8s,mb4.5
KBS Kingsbay 82.47 11⇑eP P 16 09 38.0 +1.1
KHC Kasperske Hory 82.70 41 eP P 16 09 37.4 -0.7
KHC ePCP PcP 16 09 44.0 +1.3
KHC ex x 16 10 25.0
KHC Kasperske Hory 82.70 41 eP P 16 09 37.4 -0.7
KHC e 16 09 44.0
KHC e 16 10 25.0
GERES GERESS Array B 82.79 42 P P 16 09 37.9 -0.7
comp=Z,6.1nm,0.6s,mb4.5,baz=266,slow=3.7,SNR=50
BRG Berggiesshubel 82.88 40 eP P 16 09 38.4 -0.7
comp=Z,5.5nm,0.9s,mb4.3
BRG e 16 09 43.3
BRG comp=Z,2.8nm,0.9s
BRG comp=N,427nm,13.1s
BRG comp=E,627nm,26.2s
BRG comp=Z,1μm,20.3s
BRG Berggiesshubel 82.88 40 eP P 16 09 38.4 -0.7
comp=Z,5.5nm,0.9s,mb4.3
BRG e 16 09 43.3
BRG LR LR
BRG comp=Z,1μm,20.3s
JAVS Javornik 83.15 45 eP P 16 09 41.2 +0.8
PVCC Panska Ves 83.29 40 eP P 16 09 41.3 +0.1
PRU Pruhonice 83.30 40 eP P 16 09 41.2 0.0
SPB4 Spitsbergen Ar 83.33 12 eP P 16 09 40.7 -0.7
LJU Ljubljana 83.47 44 e P 16 09 42.9 +0.8
DOBS Dobrina 84.12 44 eP P 16 09 45.5 +0.1
DPC Dobruska-Polom 84.42 40 eP P 16 09 46.5 -0.4
ZST Bratislava 85.09 42 eP P 16 09 50.2 0.0
ZST pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
ZST Bratislava 85.09 42 eP P 16 09 50.2 0.0
comp=Z,9.1nm,0.7s,mb4.6
MORC Moravsky Berou 85.25 41 eP P 16 09 51.1 +0.1
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MORC Moravsky Berou 85.25 41 eP P 16 09 51.1 +0.1
comp=Z,5.2nm,0.8s,mb4.3
MORC Moravsky Berou 85.25 41⇑iP P 16 09 52.0 +1.0
OKC Ostrava-Krasne 85.63 40 eP P 16 09 53.4 +0.5
VYHS Vyhne 86.21 42 eP P 16 09 56.0 +0.2
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
VYHS Vyhne 86.21 42 eP P 16 09 56.0 +0.2
comp=Z,3.2nm,0.9s,mb4.0
PKSM Moragy 86.31 44⇓iP P 16 09 57.2 +0.9
ARCES ARCESS Array B 86.71 20 P P 16 09 57.7 -0.5
comp=Z,14nm,0.7s,mb4.9,baz=266,slow=3.8,SNR=85
PSZ Piszkesteto 86.98 42⇓iP P 16 10 01.3 +1.8
KEV Kevo 87.19 20 ep P 16 09 59.2 -1.3
comp=Z,12nm,0.8s,mb4.8
KEV Kevo 87.19 20 eP P 16 09 59.2 -1.3
KEV pmax pmax
comp=Z,12nm,0.8s,mb4.8
KECS Kecovo 87.30 42 eP P 16 10 01.8 +0.7
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
KECS Kecovo 87.30 42 eP P 16 10 01.8 +0.7
comp=Z,2.1nm,0.8s,mb4.0
STHS Stebnicka Huta 87.68 41 eP P 16 10 04.4 +1.5
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
STHS Stebnicka Huta 87.68 41 eP P 16 10 04.3 +1.4
STHS Stebnicka Huta 87.68 41 eP P 16 10 04.4 +1.5

comp=Z,3.2nm,0.9s,mb4.2
VNA3 Neumayer Olymp 88.02 163 ⇑ *i*P **P 16 10 03.6 -0.9**
VNA3 *e* 16 10 05.4
VNA3 *e* 16 10 07.7
VNA3 *e* 16 10 10.6
VNA3 *e* pP 16 10 44.1 -0.6
VNA1 Neumayer--Stat 88.16 162 ⇑ *i*P **P 16 10 04.4 -0.7**
VNA1 *e* 16 10 06.1
VNA1 *e* 16 10 08.3
VNA1 *e* 16 10 11.4
VNA1 *e* pP 16 10 44.5 -0.9
BZS Buzias 88.44 44 ⇑ *i*P **P 16 10 07.3 +0.8**
FINES FINESS Array B 88.46 28 P **P 16 10 06.7 +0.1**
comp=Z,9.6nm,0.9s,mb4.6,baz=285,slow=3.1,SNR=19
FINES FINESS Array B 88.46 28 *e*P **P 16 10 06.0 -0.5**
VNA2 Neumayer--Watz 88.54 163 ⇑ *i*P **P 16 10 05.8 -1.1**
VNA2 *e* 16 10 07.2
VNA2 *e* 16 10 09.5
VNA2 *e* 16 10 13.0
VNA2 *e* pP 16 10 46.5 -0.7
KWP Kalwaria 88.59 40 *e*P **P 16 10 08.5 +1.3**
SNAA Sanae 90.19 163 P **P 16 10 13.6 -1.0**
comp=Z,1.8nm,0.8s,mb4.0,baz=290,slow=4.3,SNR=24
SNAA Sanae 90.19 163 ⇑ *e*P **P 16 10 13.6 -1.0**
SNAA Sanae 90.19 163 *e*P **P 16 10 13.4 -1.3**
comp=Z,3.2nm,0.7s,mb4.4
BURAR Bucovina Array 90.57 42 ⇓ *i*P **P 16 10 17.8 +1.4**
MLR Muntele Rosu 91.46 44 ⇑ *i*P **P 16 10 21.5 +1.0**
TSUM Tsumeb 92.68 109 *e*P **P 16 10 27.0 +0.9**
BILL Bilibino 94.79 341 *d i*P **P 16 10 35.8 0.0**
BILL *e*SS SS 16 28 06.9 +3.6
BILL pmax pmax
comp=Z,38nm,2.5s,mb5.2
OBN Obninsk 95.49 33 *e*P **P 16 10 37.2 -1.8**
OBN *e**SP pP 16 11 14.8 -4.6
OBN *e* 16 14 26.7
OBN *e* 16 20 59.5
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
OBN MLR MLR
comp=Z,200nm,19.0s
QSPA South Pole Qui 96.73 180 *e*P **P 16 10 44.4 -0.2**
comp=Z,8.0nm,0.8s,mb5.1
ZAL Zalesovo 116.74 15 PKP PKPdf 16 15 57.9 +0.2
comp=Z,10nm,0.7s,baz=184,slow=2.0,SNR=56
KURK Kurchatov 117.75 20 ⇑ *i*PKIKP PKPdf 16 15 59.6 0.0
KURK Kurchatov 117.75 20 *e*PKPdf PKPdf 16 15 59.3 -0.3
MK31 Makanchi Array 122.37 20 *e*PKIKP PKPdf 16 16 08.0 -0.5
MKAR Makanchi Array 122.37 20 PKP PKPdf 16 16 08.3 -0.2
comp=Z,7.1nm,0.4s,baz=295,slow=3.1,SNR=91
MKAR Makanchi Array 122.37 20 PKP PKPdf 16 16 08.3 -0.2
AAK Ala-Archa 122.65 28 ⇑ *i*PKIKP PKPdf 16 16 08.8 -0.2
AAK Ala-Archa 122.65 28 *e*PKPdf PKPdf 16 16 09.2 +0.2
ZAK Zakamensk 123.05 3 *e*PKIKP PKPdf 16 16 10.2 +0.4
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 125.66 360 ⇑ *i*PKIKP PKPdf 16 16 15.4 +0.6
ULN Ulaanbaatar 125.66 360 *e*PKPdf PKPdf 16 16 15.2 +0.4
SONM Songino Array 125.69 1 PKP PKPdf 16 16 15.5 +0.6
comp=Z,7.6nm,0.7s,baz=313,slow=1.0,SNR=49
WMQ Urumqi 126.74 17 PKP PKPdf 16 16 17.3 +0.5
WMQ LR LR
comp=N,713nm,23.0s
WMQ LR LR
comp=E,759nm,23.0s
WMQ LR LR
comp=Z,849nm,23.0s
CN2 Changchun 127.03 343 *e*PKP PKPdf 16 16 16.6 -0.8
CN2 PP PP 16 18 19.8 +2.2
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,540nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,640nm,20.0s
MJAR Matsushiro Arr 128.00 328 PKP PKPdf 16 16 19.6 +0.4
comp=Z,3.3nm,0.9s,baz=70,slow=0.4,SNR=5.8
KSRS Korea Array 131.93 338 PKP PKPdf 16 16 27.4 +0.7
comp=Z,2.4nm,0.7s,baz=20,slow=1.9,SNR=7.6
HHC Hu-ho-hao-te 132.49 355 *e*PKP PKPdf 16 16 30.0 +2.2
HHC PP PP 16 18 58.1 +5.0
HHC PKS 16 20 05.3
HHC SKS SKSdf 16 23 24.0 0.0
HHC SKKS SKKSac 16 25 30.3 -2.9
HHC SS SS 16 36 20.2 +0.7
HHC LR LR
comp=N,545nm,23.8s
HHC LR LR
comp=E,593nm,21.4s
HHC LR LR
comp=Z,671nm,22.0s
BJI Beijing 132.72 350 PKP PKPdf 16 16 27.9 -0.3
BJI LR LR
comp=N,631nm,20.2s
BJI LR LR
comp=E,475nm,20.9s
BJI LR LR
comp=Z,603nm,19.7s
GTA Gaotai 133.62 8 PKP PKPdf 16 16 31.2 +1.3
GTA XPKP 16 17 30.2
GTA PP PP 16 19 01.7 +1.4
GTA PKS 16 20 06.0
GTA SKS SKSdf 16 23 24.5 -1.5
GTA SKKS SKKSac 16 25 34.5 -5.6
GTA SS SS 16 36 31.5 -1.7
GTA PP PP
comp=Z,288nm,4.9s
GTA LR LR
comp=N,466nm,19.0s
GTA LR LR
comp=E,336nm,20.5s
GTA LR LR
comp=Z,435nm,17.1s
LZH Lanzhou 137.32 4 *e*PKP PKPdf 16 16 38.5 +1.7
LZH XPKP 16 17 36.2
LZH PP PP 16 19 27.5 +4.0
LZH SKKS SKKSac 16 26 00.1 -2.2
LZH PP PP
comp=Z,110nm,4.5s
KOLN Koldanda 138.91 32 *e*P PKPdf 16 16 30.8 -8.9
comp=Z,12nm,0.8s
STKA Stephens Creek 139.20 228 *e*PKP PKPdf 16 16 35.1 -5.1
comp=Z,11nm,1.6s
STKA *e*PKIKP PKPdf 16 16 41.6 +1.4
STKA *ep*PKP pPKPdf 16 17 23.6 +1.1
STKA *e*PP PP 16 19 59.8 +25
STKA Stephens Creek 139.20 228 PKhKP 16 16 37.4
comp=Z,9.9nm,0.9s,baz=119,slow=6.1,SNR=3.7
XAN Xi'an 139.43 358 PKP PKPdf 16 16 35.7 -5.0
XAN LR LR
comp=N,273nm,18.3s
XAN LR LR
comp=E,195nm,16.3s
XAN LR LR
comp=Z,673nm,21.2s
CTA Charters Tower 139.73 247 *e*PKP PKPdf 16 16 34.1 -7.1
comp=Z,5.6nm,1.5s
CTA *e*PKIKP PKPdf 16 16 42.2 +1.0
CTA *ep*PKP pPKPdf 16 17 26.2 +2.8
CTA *e*PP PP 16 20 02.8 +24
CTA Charters Tower 139.73 247 PKP PKPdf 16 16 42.1 +1.0
comp=Z,6.9nm,0.7s,baz=99,slow=0.8,SNR=10
CTA Charters Tower 139.73 247 *e*PKHKP 16 16 34.1
CTA *e* 16 16 42.2
CTA *e* 16 17 26.2
KKN Kakani 139.76 31 *e*P PKPdf 16 16 34.3 -7.0
comp=Z,29nm,0.7s
DMN Daman 139.82 31 *e*P PKPdf 16 16 34.3 -7.1
GUN Gumba 139.96 30 *e*P PKPdf 16 16 34.8 -6.8
comp=Z,37nm,0.8s
JIRN Jiri 140.32 30 *e*P PKPdf 16 16 35.2 -7.1
LSA Lhasa 140.70 22 *e*PKP PKPdf 16 16 38.5 -4.5
CD2 Chengdu 142.46 5 *e*PKP PKPdf 16 16 44.3 -1.8
GYA Guiyang 147.02 1 *i*PKP PKPdf 16 16 53.5 -0.5
GYA PKP2 PKPab 16 16 59.1 +1.0
GYA APKP 16 17 35.3
GYA XPKP 16 17 51.4
GYA PKS 16 20 27.1
GYA SKS SKSdf 16 23 44.5 -3.1
GYA SKKS SKKSac 16 26 56.3 -2.0
GYA SS SS 16 39 07.9 -1.6
GYA PP PP
comp=Z,110nm,5.1s
GYA LR LR
comp=N,280nm,20.8s
GYA LR LR
comp=E,210nm,21.4s
GYA LR LR
comp=Z,190nm,21.6s
KMI Kunming 148.08 7 PKP PKPdf 16 16 57.1 +1.4
FORT Forrest 149.00 217 *e*PKP PKPdf 16 17 00.6 +3.4
comp=Z,29nm,0.6s
FORT *ep*PKP pPKPdf 16 17 51.0 +11
ASAR Alice Springs 149.18 234 PKP PKPdf 16 16 58.6 +1.1
comp=Z,38nm,0.7s,baz=117,slow=3.2,SNR=202
ASAR PKPbc PKPbc 16 17 02.4 +0.4
comp=Z,37nm,0.7s,baz=117,slow=3.1,SNR=203
ASAR *e*PKPbc pPKPbc 16 17 44.8 +0.9
comp=Z,12nm,0.8s,baz=117,slow=3.2,SNR=3.3
WB2 Warramunga Arr 150.42 241 *e*PKP PKPdf 16 17 00.5 +1.0
WB2 *e*PKIKP PKPdf 16 17 05.4 +5.9
WB2 *ep*PKP pPKPdf 16 17 48.3 +6.5
WRA Warramunga Arr 150.43 241 PKP PKPdf 16 17 00.7 +1.3
comp=Z,30nm,0.5s,baz=107,slow=2.5,SNR=76
WRA PKPbc PKPbc 16 17 05.5 +0.6
comp=Z,30nm,0.5s,baz=107,slow=2.6,SNR=230
WRA *e*PKPbc pPKPbc 16 17 46.8 -0.1
comp=Z,19nm,0.7s,baz=112,slow=2.0,SNR=4.4
NWAO Narrogin (SRO) 152.25 199 PKPbc PKPbc 16 17 08.9 -0.2
comp=Z,5.3nm,0.8s,baz=8.1,slow=7.1,SNR=4.1
NWAO PKPab PKPab 16 17 19.0 -0.6
comp=Z,8.6nm,1.0s,baz=179,slow=2.0,SNR=3.7
KLBR Kellerberrin 153.30 201 *e*PKP PKPdf 16 17 11.5 +7.7
comp=Z,82nm,1.8s
CHTO Chiang Mai 153.41 17 *e*PKIKP PKPdf 16 17 04.6 +0.7
CHTO *e* 16 17 24.2
CHTO Chiang Mai 153.41 17 *e*PKPdf PKPdf 16 17 04.6 +0.7
CHTO *e*PKPbc PKPbc 16 17 12.2 +0.6
CHTO *e*PKPab PKPab 16 17 24.2 -0.2
CHTO *e*SKP 16 20 25.6
MUN Mundaring 153.45 198 *e*PKP PKPab 16 17 20.5 -4.1
KAKA Kakadu 154.28 255 *e*PKP PKPdf 16 17 06.6 +1.4
comp=Z,3.5nm,0.6s
KAKA *e*PKIKP PKPbc 16 17 14.0 +0.5
KAKA *ep*PKP pPKPdf 16 17 56.7 +9.2
FITZ Fitzroy Crossi 158.63 236 *e*PKP PKPdf 16 17 12.1 +1.3
comp=Z,3.6nm,1.1s
FITZ *ep*PKP pPKPdf 16 17 48.2 -5.0
FITZ Fitzroy Crossi 158.63 236 PKP PKPdf 16 17 11.6 +0.8
comp=Z,3.8nm,1.0s,baz=320,slow=10,SNR=3.6
FITZ PKPab PKPab 16 17 48.0 +1.1
comp=Z,8.7nm,0.8s,baz=137,slow=5.5,SNR=12
PSI Prapat 167.55 41 PKP PKPdf 16 17 20.1 +0.8
comp=Z,7.0nm,0.9s,baz=311,slow=18,SNR=6.7
PSI PKPab PKPab 16 18 26.9 +0.8
comp=Z,1.8nm,0.3s,baz=228,slow=9.5,SNR=2.9

*ISCJB **01** 16:29:08.8±1.3,3498N±003×113W±0.1,h10km, Error ellipse: s-maj=13.9km s-min=4.6km az=9.5*
*MDD **01** 16:29:08.6±2.7,3497N×1159W,h0km,mb3.9/2, Error ellipse: s-maj=34.2km s-min=9.9km az=95.0, PRXIMO*
*CNRM **01** 16:29:10.6,3560N×1051W,h30km,MD3.4*
*CSEM **01** 16:29:10.3±0.5,3481N×1155W,h25km,ML3.6/10, Error ellipse: s-maj=13.9km s-min=4.6km az=97.0*
*INMG **01** 16:29:10.5±0.7,3512N×1176W,h5km,ML2.5, Error ellipse: s-maj=9.2km s-min=5.5km az=118.0*
ISC 01 16:29:09.7±1.2,3499N±003×114W±01,h10km,n28, σ1§18/45,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.33**	**39**	*e*Pn	**Pn**	**Pn**	**16 30 02.4**	**+0.6**
PTEO				*e*Sn	**Sn**	**Sn**	**16 30 41.8**	**+0.4**
PTEO				A			16 30 46.8	
8.2nm,0.1s								
PTEO	**Sao Teotonio**	**3.33**	**39**	*e*Pn	**Pn**	**Pn**	**16 30 02.4**	**+0.6**
PTEO				*e*Sn	**Sn**	**Sn**	**16 30 41.8**	**+0.4**
8.2nm,0.1s								
EGRO	**El Granado**	**4.04**	**50**	Pn	**Pn**	**Pn**	**16 30 13.5**	**+1.9**
3.3nm,0.2s,SNR=11								
EGRO				Sn	**Sn**	**Sn**	**16 30 59.7**	**+0.7**
5.8nm,0.2s,SNR=6.3								
EGRO	**El Granado**	**4.04**	**50**	Pn	**Pn**	**Pn**	**16 30 13.5**	**+1.9**
3.3nm,0.2s,SNR=11								
EGRO				Sn	**Sn**	**Sn**	**16 30 59.7**	**+0.8**
5.8nm,0.2s,SNR=6.3								
CIA	**Chichaoua**	**4.06**	**147**	P	**Pn**	**Pn**	**16 30 12.0**	**+0.2**
CIA				S	**Sn**	**Sn**	**16 30 59.0**	**-0.3**
CIA	**Chichaoua**	**4.06**	**147**	*i* P	**Pn**	**Pn**	**16 30 12.0**	**+0.2**
PBEJ	**Beja**	**4.14**	**42**	*e*Pn	**Pn**	**Pn**	**16 30 13.9**	**+0.9**
PBEJ				*e*Sn	**Sn**	**Sn**	**16 31 01.6**	**+0.1**
PBEJ				A			16 31 04.8	
4.2nm,0.2s								
PBEJ	**Beja**	**4.14**	**42**	*e*Pn	**Pn**	**Pn**	**16 30 13.9**	**+0.9**
PBEJ				*e*Sn	**Sn**	**Sn**	**16 31 01.6**	**+0.1**
4.2nm,0.2s								
PLOU	**Loures**	**4.28**	**24**	*e*Sn	**Sn**	**Sn**	**16 31 04.1**	**-0.6**
PLOU				A			16 31 05.7	
8.8nm,0.2s								
PLOU	**Loures**	**4.28**	**24**	*e*Sn	**Sn**	**Sn**	**16 31 04.1**	**-0.6**
8.8nm,0.2s								
MOE	**Montemor**	**4.28**	**34**	*e*Pn	**Pn**	**Pn**	**16 30 14.8**	**-0.1**
MOE				*e*Sn	**Sn**	**Sn**	**16 31 03.6**	**-1.3**
PMAFR	**Mafra**	**4.30**	**22**	*e*Pn	**Pn**	**Pn**	**16 30 14.5**	**-0.6**
PMAFR				*e*Sn	**Sn**	**Sn**	**16 31 02.8**	**-2.5**
PMAFR				A			16 31 06.1	
16nm,0.2s								
PMAFR	**Mafra**	**4.30**	**22**	*e*Pn	**Pn**	**Pn**	**16 30 14.5**	**-0.6**
PMAFR				*e*Sn	**Sn**	**Sn**	**16 31 02.8**	**-2.5**
16nm,0.2s								
EMIN	**Mina Concepcio**	**4.70**	**52**	Pn	**Pn**	**Pn**	**16 30 22.5**	**+1.9**
1.0nm,0.3s,SNR=7.9								
EMIN				Sn	**Sn**	**Sn**	**16 31 15.1**	**-0.1**
1.1nm,0.1s,SNR=6.0								
EMIN	**Mina Concepcio**	**4.70**	**52**	Pn	**Pn**	**Pn**	**16 30 22.5**	**+1.9**
1.0nm,0.3s,SNR=7.9								
EMIN				Sn	**Sn**	**Sn**	**16 31 15.1**	**0.0**
1.1nm,0.1s,SNR=6.0								
OUK	**Oukaimeden**	**4.78**	**141**	P	**Pn**	**Pn**	**16 30 22.0**	**+0.3**
OUK				S	**Sn**	**Sn**	**16 31 15.0**	**-2.2**
OUK	**Oukaimeden**	**4.78**	**141**	*e*P	**Pn**	**Pn**	**16 30 22.0**	**+0.3**
ESPR	**Espera**	**4.85**	**66**	Sn	**Sn**	**Sn**	**16 31 22.3**	**+3.3**
4.6nm,0.1s,SNR=7.9								
ESPR	**Espera**	**4.85**	**66**	Sn	**Sn**	**Sn**	**16 31 22.3**	**+3.3**
4.6nm,0.1s,SNR=7.9								
PESTR	**Estremoz**	**4.92**	**37**	*e*Sn	**Sn**	**Sn**	**16 31 19.8**	**-0.7**
PESTR				A			16 31 22.8	
3.1nm,0.2s								
PESTR	**Estremoz**	**4.92**	**37**	*e*Sn	**Sn**	**Sn**	**16 31 19.8**	**-0.7**
3.1nm,0.2s								
TZC	**Tazercounte**	**4.96**	**123**	*e*P	**Pn**	**Pn**	**16 30 21.0**	**-3.2**
EBAD	**Badajoz**	**5.13**	**42**	Pn	**Pn**	**Pn**	**16 30 26.6**	**0.0**
0.6nm,0.1s,SNR=7.9								
EBAD				Sn	**Sn**	**Sn**	**16 31 25.1**	**-0.7**
3.0nm,0.1s,SNR=7.1								
EBAD	**Badajoz**	**5.13**	**42**	Pn	**Pn**	**Pn**	**16 30 26.6**	**0.0**
0.6nm,0.1s,SNR=7.9								
EBAD				Sn	**Sn**	**Sn**	**16 31 25.1**	**-0.8**
3.0nm,0.1s,SNR=7.1								
PCBR	**Castelo Branco**	**5.75**	**31**	*e*Sn	**Sn**	**Sn**	**16 31 37.4**	**-3.7**
PCBR				A			16 31 43.3	
3.1nm,0.4s								
PCBR	**Castelo Branco**	**5.75**	**31**	*e*Sn	**Sn**	**Sn**	**16 31 37.4**	**-3.7**
3.1nm,0.4s								
EADA	**Adamuz**	**6.32**	**58**	Pn	**Pn**	**Pn**	**16 30 44.6**	**+1.7**
0.7nm,0.2s,SNR=7.9								
EADA				Sn	**Sn**	**Sn**	**16 31 55.0**	**-0.2**
1.3nm,0.1s,SNR=5.6								
EADA	**Adamuz**	**6.32**	**58**	Pn	**Pn**	**Pn**	**16 30 44.6**	**+1.7**
0.7nm,0.2s,SNR=7.9								
EADA				Sn	**Sn**	**Sn**	**16 31 55.0**	**-0.1**
1.3nm,0.1s,SNR=5.6								

IDC 01 16:35:46.2±5.4,801S×11926E,h74km±62km,mb3.4/3, mb1 3.6/5,mb1mx3.3/18,mbtmp3.4/5,ML3.8/1,Error ellipse: s-maj=150.1km s-min=15.6km az=48.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.80**	**149**	P	**Pn**	**Pn**	**16 38 31.0**	**-0.4**
0.5nm,0.3s,baz=335,slow=13,SNR=12								
FITZ				S	**Sn**	**Sn**	**16 40 39.6**	**-1.6**
baz=195,slow=19,SNR=3.1								
WRA	**Warramunga Arr**	**18.82**	**131**	P	**Pn**	**Pn**	**16 40 01.2**	**+0.1**
0.2nm,0.3s,baz=310,slow=9.1,SNR=8.0								
WRA				S	**S**	**S**	**16 43 30.4**	**+0.5**
0.0nm,0.3s,baz=308,slow=19,SNR=3.1								
ASAR	**Alice Springs**	**20.96**	**140**	P	**P**	**P**	**16 40 24.9**	**+1.8**
1.0nm,0.3s,baz=314,slow=9.2,SNR=18								
STKA	**Stephens Creek**	**31.56**	**142**	P	**P**	**P**	**16 42 01.2**	**-0.2**
0.7nm,0.3s,baz=339,slow=9.8,SNR=3.8								
MKAR	**Makanchi Array**	**63.70**	**333**	P	**P**	**P**	**16 46 09.6**	**-0.2**
0.2nm,0.5s,baz=157,slow=8.1,SNR=3.5								

IDC 01 16:50:40.6±1.9,2167N×14315E,h288km±18km,mb3.1/8, mb1 3.3/10,mb1mx3.1/24,mbtmp3.2/10,Error ellipse: s-maj=30.2km s-min=13.6km az=89.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.47**	**351**	P	**Pn**	**Pn**	**16 52 03.9**	**+0.7**
12nm,0.3s,baz=186,slow=19,SNR=6.2								
CBIJ				S	**S**	**S**	**16 53 09.8**	**+0.1**
16nm,0.3s,baz=315,slow=23,SNR=8.2								
MJAR	**Matsushiro Arr**	**15.43**	**345**	P	**Pn**	**Pn**	**16 54 02.5**	**-2.0**
0.8nm,0.3s,baz=166,slow=10,SNR=6.9								
WRA	**Warramunga Arr**	**42.24**	**192**	P	**P**	**P**	**16 58 06.3**	**+0.3**
0.4nm,0.3s,baz=14,slow=8.3,SNR=49								
ASAR	**Alice Springs**	**45.95**	**192**	P	**P**	**P**	**16 58 34.9**	**-0.3**
0.2nm,0.6s,baz=18,slow=13,SNR=5.8								
MKAR	**Makanchi Array**	**54.70**	**313**	P	**P**	**P**	**16 59 40.8**	**+0.5**
0.2nm,0.5s,baz=88,slow=8.9,SNR=4.2								
MKAR				PcP	PcP	PcP	**17 00 39.3**	**+0.2**
0.5nm,0.8s,baz=91,slow=4.5,SNR=4.1								
BVAR	**Borovoye Array**	**62.67**	**320**	P	**P**	**P**	**17 00 34.6**	**-0.4**
0.7nm,0.3s,baz=91,slow=8.3,SNR=7.7								
YKA	**Yellowknife Ar**	**76.50**	**28**	P	**P**	**P**	**17 01 58.9**	**-0.1**
0.7nm,0.5s,baz=290,slow=5.9,SNR=5.4								
ARCES	**ARCESS Array B**	**78.94**	**341**	P	**P**	**P**	**17 02 12.3**	**-0.1**
1.7nm,0.8s,baz=70,slow=7.9,SNR=6.8								
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**	**P**	**17 02 35.3**	**+0.6**
0.4nm,0.4s,baz=283,slow=8.2,SNR=4.8								
FINES	**FINESS Array B**	**83.20**	**334**	P	**P**	**P**	**17 02 33.6**	**-1.1**
2.4nm,0.8s,baz=52,slow=3.1,SNR=8.0								

*CSEM **01** 17:12:04.0,4289N×4627E,h12km,mb3.7, After OBN*
MOS 01 17:12:04.0±1.0,4289N×4627E,h12km,mb3.7/1,Error ellipse: s-maj=25.8km s-min=9.0km az=3.2,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.32**	**55**	*e*PG	**Pg**	**Pg**	**17 12 12.0**	**+1.5**
DLMR				*i* S	**Sg**	**Sg**	**17 12 18.7**	**+3.8**
UNCR	**Uncukul**	**0.42**	**114**	*i* PG	**Pg**	**Pg**	**17 12 12.7**	**+0.3**
UNCR				*i* S	**Sg**	**Sg**	**17 12 20.7**	**+2.7**
UNCR				pmax	pmax	pmax		
comp=Z,43nm,0.2s								
UNCR	**Uncukul**	**0.42**	**114**	*i* Pg	**Pg**	**Pg**	**17 12 12.7**	**+0.3**
comp=Z,43nm,0.2s								
UNCR				*i* Sg	**Sg**	**Sg**	**17 12 20.7**	**+2.7**
DBC	**Dubki**	**0.43**	**72**	*e*PG	**Pg**	**Pg**	**17 12 13.2**	**+0.6**
DBC				*e*S	**Sg**	**Sg**	**17 12 22.5**	**+4.1**
KRNR	**Karanay**	**0.47**	**97**	*e*PG	**Pg**	**Pg**	**17 12 13.8**	**+0.5**
KRNR				*i* S	**Sg**	**Sg**	**17 12 23.3**	**+3.7**
BUJR	**Buynaksk**	**0.62**	**95**	*e*Pg	**Pg**	**Pg**	**17 12 19.5**	**+3.4**
SNJR	**Sundja**	**1.08**	**280**	*e*Pg	**Pg**	**Pg**	**17 12 24.1**	**-0.8**
SNJR				*e*Sg	**Sg**	**Sg**	**17 12 37.4**	**-1.6**
VLKR	**Vladikavkaz**	**1.18**	**278**	*e*Pg	**Pg**	**Pg**	**17 12 25.6**	**-1.1**
VLKR				*e*Sg	**Sg**	**Sg**	**17 12 40.1**	**-1.9**
LACR	**Lac**	**1.45**	**268**	*i* Pg	**Pg**	**Pg**	**17 12 30.1**	**-1.8**
LACR				*i* Sg	**Sg**	**Sg**	**17 12 47.8**	**-2.9**
ARNR	**Ardon**	**1.49**	**282**	*e*Pg	**Pg**	**Pg**	**17 12 31.0**	**-1.6**
ARNR				*e*Sg	**Sg**	**Sg**	**17 12 49.5**	**-2.5**
KORR	**Kora**	**1.63**	**278**	*e*Pn	**Pn**	**Pn**	**17 12 33.2**	**+0.7**
KORR				*e*Sg	**Sg**	**Sg**	**17 12 53.4**	**-3.0**
ZEI	**Tsey**	**1.75**	**267**	*i* Pn	**Pn**	**Pn**	**17 12 34.9**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.98**	**271**	*i* Pn	**Pn**	**Pn**	**17 12 38.7**	**+1.5**

IDC 01 17:18:37.4±2.7,2322S×6893W,h118km±28km,mb4.1/1, mb1 3.3/3,mb1mx3.2/15,mbtmp3.2/3,MS3.5/1,Ms1 3.5/1, ms1mx2.9/21,Error ellipse: s-maj=100.9km s-min=21.0km az=90.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.94**	**6**	P	**Pn**	**Pn**	**17 20 17.3**	**+0.8**
0.4nm,0.3s,baz=204,slow=6.3,SNR=8.2								
CFAA	**Coronel Fontan**	**8.37**	**176**	P	**Pn**	**Pn**	**17 20 35.4**	**-0.5**
0.1nm,0.3s,baz=359,slow=12,SNR=8.6								
CFAA				S	**Sn**	**Sn**	**17 22 10.0**	**+1.4**
0.0nm,0.3s,baz=68,slow=19,SNR=1.9								
USHA	**Ushuaia**	**31.57**	**179**	LR	LR	LR	**17 39 56.6**	
comp=Z,86nm,19.6s,baz=286,slow=40								
VNA3	**Neumayer Olymp**	**58.46**	**161**	*e*	P	P	**17 28 23.7**	**+2.8**
VNA3				*e*			**17 28 33.0**	
VNA2	**Neumayer--Watz**	**59.04**	**160**	*e*	P	P	**17 28 27.7**	**+2.7**
VNA2				*e*			**17 28 36.6**	
TORD	**Torodi Ar. Bea**	**77.96**	**70**	P	P	P	**17 30 23.1**	**+0.6**
1.9nm,0.5s,baz=255,slow=5.3,SNR=20								
MKAR	**Makanchi Array**	**147.02**	**37**	PKPbc	PKPbc	PKPbc	**17 38 05.6**	**-0.7**
0.5nm,0.6s,baz=332,slow=2.9,SNR=7.7								

*ISCJB **01** 17:29:51.3±0.9,179S±0.1×17855W±009,h564km±12km, mb4.3/19, Error ellipse: s-maj=21.6km s-min=9.8km az=130.1*
*IDC **01** 17:29:52.3±1.5,1732S×17880W,h546km±20km,mb3.7/8, mb1 3.9/10,mb1mx3.6/17,mbtmp3.7/10,Error ellipse: s-maj=47.8km s-min=11.8km az=152.0*
*NEIC **01** 17:29:52.6±0.9,1785S×17853W,h567km±11km,mb4.4/12, Error ellipse: s-maj=18.6km s-min=8.0km az=152.0*
ISC 01 17:29:52.1±0.8,179S±01×17843W±009,h562km±11km, n39,σ0§99/36,mb4.3/19,5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**59**	P	**P**	**P**	**17 31 46.2**	**+0.6**
3.7nm,0.3s,baz=188,slow=9.1,SNR=5.6								
AFI				S	**S**	**S**	**17 33 17.6**	**-1.1**
1.8nm,0.3s,baz=307,slow=20,SNR=3.1								
DZM	**Mont Dzumac**	**14.81**	**251**	P	**P**	**P**	**17 33 00.2**	**+0.9**
1.0nm,0.3s,baz=84,slow=19,SNR=5.7								
ARMA	**Armidale**	**29.92**	**240**	*e*P	**P**	**P**	**17 35 16.4**	**+1.3**
CTA	**Charters Tower**	**33.43**	**261**	⇓ *i*P	**P**	**P**	**17 35 45.1**	**+0.2**
7.1nm,0.8s,mb4.2								
CTAO	**Charters Tower**	**33.43**	**261**	*e*P	**P**	**P**	**17 35 45.0**	**+0.1**
9.8nm,0.7s,mb4.5								
PMG	**Port Moresby**	**34.45**	**280**	*e*P	**P**	**P**	**17 35 54.0**	**+0.5**
27nm,0.9s,mb4.8								
STKA	**Stephens Creek**	**38.61**	**241**	⇓ *i*P	**P**	**P**	**17 36 28.4**	**+0.8**
8.9nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**P**	**17 36 28.6**	**+1.0**
11nm,0.5s,mb4.6,baz=92,slow=9.7,SNR=31								
STKA	**Stephens Creek**	**38.61**	**241**	*e*P	**P**	**P**	**17 36 28.3**	**+0.7**
WB2	**Warramunga Arr**	**44.60**	**260**	⇓ *i*P	**P**	**P**	**17 37 14.2**	**-0.6**
WB2	**Warramunga Arr**	**44.60**	**260**	*e*P	**P**	**P**	**17 37 14.2**	**-0.7**
WRAB	**Tennant Creek**	**44.60**	**260**	*e*P	**P**	**P**	**17 37 14.2**	**-0.7**
11nm,0.6s,mb4.6								
WRA	**Warramunga Arr**	**44.61**	**260**	P	**P**	**P**	**17 37 14.4**	**-0.5**
7.6nm,0.5s,mb4.5,baz=93,slow=7.3,SNR=393								
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**P**	**17 37 16.4**	**+0.2**
47nm,0.5s,mb5.3,baz=87,slow=9.1,SNR=1522								
KAKA	**Kakadu**	**47.57**	**269**	*e*P	**P**	**P**	**17 37 37.0**	**-0.3**
18nm,0.4s,mb5

2.2nm,0.9s,mb3.7
TXAR Lajitas Array 86.02 58 P **P 17 41 35.9 +2.4**
1.4nm,0.7s,mb3.7,baz=214,slow=6.2,SNR=14
TXAR Lajitas Array 86.02 58 P **P 17 41 35.9 +2.4**
PDAR Pinedale Array 87.38 43 P **P 17 41 40.6 +0.8**
1.0nm,0.6s,mb3.7,baz=215,slow=3.3,SNR=9.3
SNAA Sanae 90.58 179 *e*P **P 17 41 53.3 -1.5**
1.5nm,0.8s,mb4.0
VNA3 Neumayer Olymp 90.72 176 *e* **P 17 41 55.2 -0.2**
VNA3 *e* 17 41 57.0
VNA2 Neumayer--Watz 91.16 177 *e* **P 17 41 56.6 -0.9**
VNA2 *e* 17 41 58.6
INK Inuvik 91.91 15 P **P 17 41 59.6 -1.3**
2.8nm,1.2s,mb4.2,baz=146,slow=1.1,SNR=3.1
INK Inuvik 91.91 15 P **P 17 41 59.5 -1.4**
95nm,1.0s,mb5.8
MKAR Makanchi Array 109.14 314 PKiKP PKiKP 17 47 17.1 -1.4
0.2nm,0.5s,baz=147,slow=1.8,SNR=5.0
BRTR Keskin Array B 144.78 315 PKP PKPdf 17 48 25.6 +0.3
0.7nm,0.4s,baz=112,slow=2.7,SNR=6.6
GERES GERESS Array B 147.63 345 PKPbc PKPbc 17 48 33.3 -0.4
0.6nm,0.5s,baz=348,slow=1.7,SNR=6.5

MEX 01 17:41:49.1±0.4, 1692N×10042W, h5km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**50**	*i* P	Pg	17 41 52.7	-0.3
CAIG				*i* S	Sg	17 41 55.6	0.0
MEIG	**Mezcala**	**1.26**	**37**	*i* P	Pg	17 42 09.5	-3.8
MEIG				*i* S	Sg	17 42 25.9	-3.6
UTMO	**Huajuapan**	**2.66**	**70**	*i* P	Pn	17 42 30.1	-2.4
UTMO				*i* S	Sn	17 43 00.8	-4.4

*ISCJB **01** 18:13:35.6±0.6, 44.19N±006×10538W±007, h0km, Error ellipse: s-maj=9.0km s-min=7.2km az=122.0*
*NEIC **01** 18:13:37.6±0.5, 44.10N×10529W, h0km, ML3.1, Error ellipse: s-maj=7.7km s-min=5.5km az=149.0, Suspected Mining explosion.*
NEIC 25 km [15 miles] SE of Gillette.
*IDC **01** 18:13:38.6±1.4, 4441N×10581W, h0km, mb1 3.7/3, mb1mx3.4/21, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=62.2km s-min=8.6km az=144.0*
ISC 01 18:13:37.4±0.6, 4415N±006×10535W±007, h0km, n22, σ1§12/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**92**	*e*P	**Pg**	**18 13 55.5**	**-0.1**
LAO	**LASA Array**	**2.61 347**		*e*P	**Pn**	**18 14 24.7**	**+3.9**
RWWY	**Rawlins**	**2.82 210**		*e*P	**Pn**	**18 14 23.9**	**+0.2**
PHWY	**Pilot Hill**	**2.85 182**		*e*P	**Pn**	**18 14 23.2**	**-0.9**
RLMT	**Red Lodge**	**2.96 290**		*e*P	**Pn**	**18 14 27.1**	**+1.5**
PDAR	**Pinedale Array**	**3.36 247**		Pn	**Pn**	**18 14 32.2**	**+1.0**
	1.8nm,0.3s,baz=66,slow=15,SNR=48						
PDAR				Lg		18 15 18.4	
	10nm,0.3s,baz=61,slow=31,SNR=15						
MOOW	**Moose Ponds**	**3.92 266**		*e*P	**Pn**	**18 14 39.0**	**+0.2**
YMR	**Madison River**	**4.05 279**		*e*Pg	**Pg**	**18 14 52.8**	**-2.3**
REDW	**Red Top Meadow**	**4.06 261**		Pn	**Pn**	**18 14 36.0**	**-4.8**
REDW				*e*Pg	**Pg**	**18 14 50.7**	**-4.6**
ISCO	**Idaho Springs**	**4.36 183**		*e*P	**Pn**	**18 14 44.3**	**-0.6**
DGMT	**Dagmar**	**4.39 10**		*e*Pn	**Pn**	**18 14 45.6**	**+0.3**
RRI2	**Red Ridge**	**4.40 262**		*e*P	**Pn**	**18 14 39.4**	**-6.0**
QLMT	**Earthquake Lak**	**4.40 281**		*e*Pg	**Pg**	**18 14 57.3**	**-4.4**
BOZ	**Bozeman (W)**	**4.70 291**		Pn	**Pn**	**18 14 47.4**	**-2.2**
HWUT	**Hardware Ranch**	**5.23 243**		*e*Pn	**Pn**	**18 14 56.3**	**-0.5**
	10nm,0.5s						
DLMT	**Dillon**	**5.30 286**		P	**Pn**	**18 14 58.4**	**+0.6**
MCMT	**McKenzie Canyo**	**5.41 280**		*e*Pg	**Pg**	**18 15 14.8**	**-6.2**
DAU	**Daniels Canyon**	**5.76 232**		*e*Pn	**Pn**	**18 15 05.3**	**+1.2**
SRU	**San Rafael**	**6.36 219**		*e*Pn	**Pn**	**18 15 12.1**	**-0.2**
DUG	**Dugway**	**6.81 237**		*e*Pn	**Pn**	**18 15 18.2**	**-0.3**
	5.5nm,0.4s						
ULM	**Lac du Bonnet**	**8.87 43**		Pn	**Pn**	**18 15 46.8**	**-0.1**
	0.8nm,0.3s,baz=236,slow=11,SNR=9.1						
ULM				Lg		18 18 15.5	
	0.2nm,0.3s,baz=163,slow=19,SNR=1.9						
NVAR	**Mina Array Bea**	**11.29 244**		Pn	**Pn**	**18 16 22.1**	**+2.1**
	0.1nm,0.3s,baz=54,slow=16,SNR=3.3						

*IDC **01** 18:38:49.6±1.2, 4576N×15490E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.6/24, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=29.4km s-min=26.3km az=156.0*
*MOS **01** 18:38:53.8±2.2, 4564N×15453E, h33km, mb3.8/1, Error ellipse: s-maj=29.2km s-min=21.0km az=69.2*
*ISCJB **01** 18:38:56.9±2.5, 457N±01×1547E±02, h67km±23km, mb3.4/7, Error ellipse: s-maj=31.8km s-min=17.3km az=80.1*
ISC 01 18:38:57.8±2.1, 457N±01×1546E±02, h58km±19km, n11, σ1§46/11, mb3.5/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.09**	**11**	*e*P	**Pn**	**18 40 12.3**	**+0.8**
ASAJ	**Asahikawa**	**8.66 264**		Pn	**Pn**	**18 40 58.2**	**-2.2**
	0.3nm,0.3s,baz=38,slow=32,SNR=2.5						
MJAR	**Matsushiro Arr**	**15.34 239**		Pn	**Pn**	**18 42 30.8**	**+0.2**
	0.3nm,0.3s,baz=36,slow=27,SNR=3.6						
KSRS	**Korea Array**	**21.51 257**		P	**P**	**18 43 44.0**	**+2.1**
	1.0nm,0.9s,mb3.3,baz=234,slow=36,SNR=3.0						
SONM	**Songino Array**	**32.66 291**		P	**P**	**18 45 26.6**	**+2.3**
	0.2nm,0.6s,mb3.3,baz=80,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**48.34 299**		P	**P**	**18 47 32.3**	**-1.3**
	0.3nm,0.5s,mb3.6,baz=68,slow=8.7,SNR=4.6						
FINES	**FINESS Array B**	**65.42 336**		P	**P**	**18 49 33.2**	**-1.3**
	1.7nm,0.9s,mb4.1,baz=55,slow=5.3,SNR=3.4						
WRA	**Warramunga Arr**	**67.87 201**		P	**P**	**18 49 51.6**	**+1.6**
	0.5nm,0.8s,mb3.6,baz=24,slow=6.9,SNR=5.1						
WRA	**Warramunga Arr**	**67.87 201**		P	**P**	**18 49 51.6**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**71.55 200**		P	**P**	**18 50 11.2**	**-1.5**
	comp=Z,0.4nm,1.0s,mb3.3,baz=19,slow=6.1,SNR=4.1						
TXAR	**Lajitas Array**	**77.11**	**61**	P	**P**	**18 50 44.7**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=316,slow=3.5,SNR=3.9						

*IDC **01** 19:10:40.7±2.6, 4308N×10502W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/17, Error ellipse: s-maj=53.1km s-min=9.3km az=157.0*
*ISCJB **01** 19:10:43.3±0.6, 4377N±005×10530W±008, h0km, mb4.2/1, Error ellipse: s-maj=9.5km s-min=6.8km az=76.3*
*NEIC **01** 19:10:44.6±0.7, 4367N×10528W, h0km, ML3.1, Error ellipse: s-maj=11.7km s-min=7.8km az=137.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 01 19:10:44.6±0.6, 4374N±005×10528W±008, h0km, n20, σ1§18/22, mb4.2/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**66**	*e*P	**Pg**	**19 11 03.8**	**+0.5**
PHWY	**Pilot Hill**	**2.44 183**		*e*P	**Pn**	**19 11 25.0**	**-0.7**
RWWY	**Rawlins**	**2.50 216**		*e*P	**Pn**	**19 11 27.4**	**+0.9**
RWWY				*e*S	**Sn**	**19 11 59.2**	**+1.6**
LAO	**LASA Array**	**3.03 348**		*e*Pn	**Pn**	**19 11 35.9**	**+2.2**
BW06	**Boulder Array**	**3.28 254**		*e*Pn	**Pn**	**19 11 34.2**	**-3.0**
BW06				*e*S	**Sn**	**19 12 23.2**	**+6.4**
PDAR	**Pinedale Array**	**3.28 254**		Pn	**Pn**	**19 11 37.7**	**+0.5**
	1.9nm,0.3s,baz=78,slow=17,SNR=45						
PDAR				Lg		19 12 25.4	
	11nm,0.3s,baz=73,slow=35,SNR=11						
ISCO	**Idaho Springs**	**3.94 184**		*e*Pn	**Pn**	**19 11 46.6**	**+0.2**
ISCO				*e*S	**Sn**	**19 12 42.3**	**+8.9**
MOOW	**Moose Ponds**	**3.96 272**		*e*Pn	**Pn**	**19 11 46.2**	**-0.5**
SNOW	**Snow King Moun**	**3.99 268**		Pn	**Pn**	**19 11 54.2**	**+7.2**
YFT	**Old Faithful**	**4.07 282**		Pn	**Pn**	**19 11 53.6**	**+5.5**
REDW	**Red Top Meadow**	**4.07 267**		*e*Pn	**Pn**	**19 11 49.2**	**+1.1**
YMR	**Madison River**	**4.20 285**		Pn	**Pn**	**19 11 48.0**	**-1.9**
RRI2	**Red Ridge**	**4.41 267**		*e*Pn	**Pn**	**19 11 47.3**	**-5.5**
BOZ	**Bozeman (W)**	**4.92 295**		*e*Pn	**Pn**	**19 12 00.1**	**+0.4**
HWUT	**Hardware Ranch**	**5.10 247**		*e*Pn	**Pn**	**19 12 02.0**	**-0.3**
	5.3nm,0.5s						
DAU	**Daniels Canyon**	**5.55 235**		Pn	**Pn**	**19 12 06.6**	**-1.9**
ANMO	**Albuquerque**	**8.82 186**		LR	LR	19 15 55.1	
	comp=Z,49nm,21.0s,baz=360,slow=38						
ULM	**Lac du Bonnet**	**9.14 41**		Pn	**Pn**	**19 12 56.7**	**-1.1**
	0.8nm,0.3s,baz=233,slow=15,SNR=8.7						
ULM				Lg		19 15 35.0	
	0.2nm,0.3s,baz=319,slow=20,SNR=2.4						
YKA	**Yellowknife Ar**	**19.57 347**		P	**Pn**	**19 15 16.1**	**+0.9**
	0.5nm,0.5s,baz=155,slow=8.7,SNR=4.4						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**19 21 01.8**	**-0.9**
	1.5nm,0.8s,mb4.2,baz=350,slow=6.5,SNR=4.1						

*ISCJB **01** 19:14:38.8±0.9, 10N±01×972E±0.1, h35km, mb3.9/9, MS3.6/1, Error ellipse: s-maj=20.1km s-min=13.1km az=118.0*
*NEIC **01** 19:14:40.0±0.7, 096N×9722E, h30km, mb4.1/2, Error ellipse: s-maj=15.7km s-min=10.0km az=58.0*
*IDC **01** 19:14:42.0±7.0, 099N×9730E, h43km±54km, mb3.6/7, mb1 3.7/8, mb1mx3.5/23, mbtmp3.6/8, ML3.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.1/36, Error ellipse: s-maj=72.7km s-min=19.4km az=58.0*
ISC 01 19:14:41.2±0.9, 10N±01×973E±01, h35km, n15, σ0§38/17, mb3.9/9, MS3.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.41**	**43**	P	**Pn**	**19 15 18.4**	**+0.3**
	3.6nm,0.3s,baz=170,slow=15,SNR=11						
PSI				S	**Sn**	**19 15 55.5**	**+9.1**
	5.2nm,0.3s,baz=151,slow=23,SNR=4.3						
PSI	**Prapat**	**2.41**	**43**	P	**Pn**	**19 15 18.4**	**+0.3**
PSI				S	**Sn**	**19 15 55.5**	**+9.1**
KULM	**Kulim**	**5.41**	**38**	*e*P	**Pn**	**19 15 59.2**	**-0.2**
LSA	**Lhasa**	**29.11 349**		P	**P**	**19 20 38.0**	**-0.6**
WRA	**Warramunga Arr**	**41.87 122**		P	**P**	**19 22 27.8**	**-0.1**
	0.4nm,0.6s,mb3.2,baz=299,slow=9.2,SNR=5.1						
WRAB	**Tennant Creek**	**41.88 122**		*e*P	**P**	**19 22 27.9**	**-0.1**
	5.0nm,1.1s,mb4.1						
ASAR	**Alice Springs**	**43.22 127**		P	**P**	**19 22 39.1**	**+0.2**
	0.8nm,0.8s,mb3.5,baz=298,slow=7.5,SNR=7.7						
KSRS	**Korea Array**	**45.95**	**34**	P	**P**	**19 23 00.2**	**-0.5**
	2.7nm,0.9s,mb4.2,baz=232,slow=8.4,SNR=5.4						
KSRS				LR	LR	19 41 51.5	
	comp=Z,72nm,20.0s,MS3.6,baz=191,slow=36						
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**19 23 11.8**	**+0.5**
	1.9nm,0.8s,mb4.1,baz=188,slow=9.3,SNR=11						
SONM				PcP	PcP	19 24 42.3	+0.5
	0.3nm,0.4s,baz=185,slow=3.4,SNR=4.0						
MK31	**Makanchi Array**	**47.43 346**		*e*P	**P**	**19 23 12.6**	**+0.3**
MKAR	**Makanchi Array**	**47.43 346**		P	**P**	**19 23 12.8**	**+0.5**
	2.1nm,0.8s,mb4.1,baz=161,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**47.43 346**		P	**P**	**19 23 12.8**	**+0.5**
KURK	**Kurchatov**	**51.98 345**		*e*P	**P**	**19 23 46.9**	**0.0**
	2.2nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**53.74 351**		P	**P**	**19 24 00.1**	**+0.3**
	1.7nm,0.7s,mb4.1,baz=305,slow=6.9,SNR=10						
BVAR	**Borovoye Array**	**56.44 341**		P	**P**	**19 24 18.7**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=146,slow=11,SNR=6.2						

*IPEC **01** 19:19:57.7±0.3, 5151N×1633E, h0km, ML1.8/3, Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*ISCJB **01** 19:19:58.5±0.8, 5134N±004×1609E±005, h0km, Error ellipse: s-maj=6.1km s-min=3.3km az=56.3*
*PRU **01** 19:19:59.5, 5139N×1618E, h0km*
*WAR **01** 19:19:59.1, 5145N×1617E, ML2.6, Mining Induced*
*CSEM **01** 19:20:00.1±0.6, 5138N×1621E, h1km±1km, ML3.1/8, Error ellipse: s-maj=7.5km s-min=4.3km az=28.0*
*VIE **01** 19:20:00.3±0.4, 5127N×1616E, h0km, mb2.1/2, ML2.6/4, Error ellipse: s-maj=2.4km s-min=2.2km az=173.0 62 km WNW of Breslau Suspected Mining induced.*
ISC 01 19:19:58.2±0.9, 5143N±004×1619E±005, h0km, n19, σ0§81/41, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59 173**		*e*Pg	**Pg**	**19 20 10.3**	**+0.8**
KSP				*e*Sg	**Sg**	**19 20 18.8**	**+1.6**
KSP	**Ksiaz**	**0.59 173**		*e*Pg	**Pg**	**19 20 10.3**	**+0.8**
KSP				*e*Sg	**Sg**	**19 20 18.7**	**+1.5**
UPC	**Upice**	**0.93 187**		*e*PG	**Pg**	**19 20 16.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.09 175**		*e*PG	**Pg**	**19 20 19.2**	**+0.2**
DPC				*e*SG	**Sg**	**19 20 33.9**	**+0.8**
	31nm,0.4s						
DPC	**Dobruska-Polom**	**1.09 175**		*e*Pg	**Pg**	**19 20 19.3**	**+0.3**
DPC				*e*Sg	**Sg**	**19 20 34.0**	**+0.9**
PVCC	**Panska Ves**	**1.36 229**		*e*PG	**Pg**	**19 20 24.3**	**0.0**
PVCC				*e*SG	**Sg**	**19 20 42.9**	**+0.9**
PVCC	**Panska Ves**	**1.36 229**		*e*Pn	**Pn**	**19 20 24.9**	**+0.4**
PVCC				*e*Sg	**Sg**	**19 20 43.9**	**+1.9**
BRG	**Berggiesshubel**	**1.52 249**		PN	**Pn**	**19 20 26.4**	**-0.1**
BRG				PG	**Pg**	**19 20 27.1**	**-0.2**
BRG				SG	**Sg**	**19 20 47.4**	**+0.4**
	30nm,0.6s						
PRU	**Pruhonice**	**1.78 217**		*e*PG	**Pg**	**19 20 31.6**	**-0.8**
PRU				*e*SG	**Sg**	**19 20 54.8**	**-0.7**
	30nm,0.4s						
MORC	**Moravsky Berou**	**1.87 152**		*e*Pn	**Pn**	**19 20 31.4**	**0.0**
MORC				*e*Sg	**Sg**	**19 20 56.2**	**-2.0**
	8.2nm,0.2s						
CLL	**Collm**	**2.00 268**		*i* Pg	**Pg**	**19 20 35.2**	**-1.3**
CLL				*i* Sg	**Sg**	**19 21 02.5**	**+0.1**
	comp=Z,25nm,0.4s						
CLL				*i* x	x	19 21 11.9	
OKC	**Ostrava-Krasne**	**2.03 141**		*e*PG	**Pg**	**19 20 36.9**	**-0.1**
OKC				*e*SG	**Sg**	**19 21 02.3**	**-1.0**
VRAC	**Vranov**	**2.14 173**		*e*Pn	**Pn**	**19 20 36.4**	**+1.3**
VRAC				*e*Sg	**Sg**	**19 21 06.8**	**-0.2**
	comp=Z,6.3nm,0.2s						
KRUC	**Moravsky**	**2.38 177**		*e*Pn	**Pn**	**19 20 39.4**	**+1.0**
KRUC				*e*Sg	**Sg**	**19 21 14.7**	**+0.2**
	comp=Z,3.6nm,0.2s						
NKC	**Novy Kostel**	**2.66 245**		*e*PN	**Pn**	**19 20 43.0**	**+0.8**
NKC				*e*PG	**Pg**	**19 20 48.6**	**-0.5**
NKC				*e*SG	**Sg**	**19 21 23.3**	**-0.2**
	comp=Z,29nm,0.4s						
KHC	**Kasperske Hory**	**2.85 217**		*e*PN	**Pn**	**19 20 45.3**	**+0.5**
KHC				*e*PG	**Pg**	**19 20 51.1**	**-1.6**
KHC				*e*SN	**Sn**	**19 21 19.5**	**-0.3**
KHC				*e*SG	**Sg**	**19 21 27.7**	**-1.9**
	comp=Z,14nm,0.9s						
MOX	**Moxa**	**2.99 257**		*e*PG	**Pg**	**19 20 55.5**	**0.0**
MOX				*e*SG	**Sg**	**19 21 34.9**	**+0.6**
CONA	**Conrad Observa**	**3.51 184**		⇑*i*Pn	**Pn**	**19 20 54.1**	**+0.1**
CONA				⇓*i*Sg	**Sg**	**19 21 51.0**	**-0.1**
	comp=Z,8.6nm,0.5s						
MOA	**Molln**	**3.80 200**		⇑*i*Pn	**Pn**	**19 20 57.7**	**-0.2**
MOA				⇓*i*Sg	**Sg**	**19 22 00.6**	**+0.5**
	comp=Z,13nm,0.8s						

*BJI **01** 19:33:06.0, 2675N×114.12W, h16km, mB5.5, mb5.0, Ms4.9, Msz4.6*
*ISCJB **01** 19:33:07.6±0.5, 2684N±004×11402W±003, h10km, mb4.7/34, MS4.3/22, Error ellipse: s-maj=6.2km s-min=3.6km az=58.1*
*NEIC **01** 19:33:08.2±0.6, 2672N×11420W, h10km, mb4.7/39, Error ellipse: s-maj=9.3km s-min=6.2km az=47.0*
NEIC Felt at Bahia Asuncion.
*GCMT **01** 19:33:08.1±0.4, 27.13N×11436W, h12km±1km, MW4.9/61, Moment Tensor Solution. s16,c17; s61,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.43±.21; $M_{\theta\theta}$-0.31±.10; $M_{\phi\phi}$2.74±.14; $M_{r\theta}$-0.03±.40; $M_{\theta\phi}$0.03±.08; $M_{\phi r}$1.29±.31; Best double couple: $M_0$2.88900×10^{16} NP1:φ$_0$2.00000°, δ32.00000°, λ-88.00000°. NP2: φ$_s$180.00000°, δ58.00000°, λ-91.00000°. Principal axes: T 3.0440, Plg13.0000°, Azm270.0000°; N -0.3070, Plg1.0000°, Azm180.0000°; P -2.7340, Plg77.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 19:33:10.3±1.3, 2687N×114.17W, h33km, mb5.0/8 Error ellipse: s-maj=9.2km s-min=4.9km az=82.7*
*IDC **01** 19:33:12.3±3.1, 2702N×114.13W, h33km±21km, mb4.4/14, mb1 4.5/21, mb1mx4.4/25, mbtmp4.3/21, ML3.7/6, MS4.3/20, Ms1 4.3/20, ms1mx4.1/36, Error ellipse: s-maj=24.2km s-min=11.7km az=53.0*
ISC 01 19:33:09.3±0.5, 2679N±004×11400W±003, h10km, n337, σ1§17/322, mb4.7/34, MS4.3/22, 66C-79D, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**4.28 128**		Pn	**Pn**	**19 34 18.7**	**+4.3**
	51nm,0.3s,baz=307,slow=1.6,SNR=48						
LPIG				Lg		19 35 37.8	
	baz=193,slow=21,SNR=2.1						
115A	**Sonoran Desert**	**6.09**	**14**	⇑P	**Pn**	**19 34 37.8**	**-1.5**
	baz=6.2,SNR=28						
116A	**Eloy**	**6.09**	**19**	⇑P	**Pn**	**19 34 38.4**	**-1.0**
	baz=6.2						
TUC	**Tucson**	**6.18**	**26**	*e*P	**Pn**	**19 34 38.9**	**-1.6**
TUC				pmax	pmax		
	comp=Z,29nm,0.8s						
TUC	**Tucson**	**6.18**	**26**	*e*Pn	**Pn**	**19 34 38.9**	**-1.6**
	comp=Z,29nm,0.8s						
TUC				*e*Sg	**Sg**	**19 36 24.9**	**-2.6**
GLA	**Glamis**	**6.29 354**		*e*P	**Pn**	**19 34 39.0**	**-3.0**
GLA	**Glamis**	**6.29 354**		⇑P	**Pn**	**19 34 40.7**	**-1.3**
	baz=6.4,SNR=18						
SWSC	**Sam W. Stewart**	**6.33 346**		⇑P	**Pn**	**19 34 41.7**	**-0.9**
	baz=6.4						
MONP	**Monument Peak**	**6.44 342**		⇓P	**Pn**	**19 34 42.9**	**-1.2**
	baz=6.5,SNR=13						
Z14A	**Wintersburg**	**6.62**	**8**	⇓P	**Pn**	**19 34 45.1**	**-1.5**
	baz=6.8						
Y12C	**Blythe**	**6.96 356**		⇓P	**Pn**	**19 34 49.4**	**-1.8**
	baz=7.1,SNR=36						
BC3	**Big Chuckw Mtn**	**6.96 350**		⇓P	**Pn**	**19 34 50.5**	**-0.8**
	baz=7.1,SNR=10						
PFO	**Pinyon Flat Ob**	**7.12 343**		Pn	**Pn**	**19 34 52.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=160,slow=9.7,SNR=7.1						
PFO				Lg		19 36 38.4	
	comp=Z,0.7nm,0.3s,baz=237,slow=11,SNR=6.2						
PFO	**Pinyon Flat Ob**	**7.12 343**		*e*P	**Pn**	**19 34 52.7**	**-0.8**
PFO				pmax	pmax		
	comp=Z,45nm,1.1s						
PFO	**Pinyon Flat Ob**	**7.12 343**		*e*Pn	**Pn**	**19 34 52.7**	**-0.9**
	comp=Z,46nm,1.1s						
PFO	**Pinyon Flat Ob**	**7.12 343**		⇑P	**Pn**	**19 34 53.0**	**-0.5**
	baz=7.2						
Y14A	**Wickenburg**	**7.18**	**7**	P	**Pn**	**19 34 52.9**	**-1.4**
	baz=7.3,SNR=23						
SCI	**San Clemente I**	**7.33 328**		⇓P	**Pn**	**19 34 56.6**	**+0.3**
	baz=7.4						
MURC	**Murrieta**	**7.33 339**		⇓P	**Pn**	**19 34 55.9**	**-0.5**
	baz=7.4						
BELC	**Belle Mtn.**	**7.39 347**		⇓P	**Pn**	**19 34 56.3**	**-1.0**
	baz=7.5,SNR=6.5						
IRM	**Iron Mountain**	**7.42 353**		P	**Pn**	**19 34 56.8**	**-0.7**
	baz=7.5,SNR=25						
PDMCI	**Parker Dam,Lak**	**7.49 359**		P	**Pn**	**19 34 57.5**	**-1.1**
	baz=7.6,SNR=25						
X14A	**Yava**	**7.72**	**7**	⇑P	**Pn**	**19 35 00.1**	**-1.6**
	baz=7.9,SNR=32						
X13A	**Yucca**	**7.78**	**1**	⇓P	**Pn**	**19 35 01.2**	**-1.3**
	baz=7.9,SNR=19						
X15A	**Humboldt**	**7.83**	**11**	⇓P	**Pn**	**19 35 02.2**	**-0.9**
	baz=8.0,SNR=33						
NEE2	**Needles Airpor**	**7.97 356**		⇓P	**Pn**	**19 35 03.5**	**-1.7**
	baz=8.1						
SNCC	**San Nicolas Is**	**8.02 325**		⇓P	**Pn**	**19 35 06.8**	**+0.9**
	baz=8.0						
BFSC	**Mount Baldy St**	**8.07 338**		⇑P	**Pn**	**19 35 06.0**	**-0.5**
	baz=8.1						
GMRC	**Granite Mounta**	**8.10 350**		⇑P	**Pn**	**19 35 05.9**	**-1.0**
	baz=8.2,SNR=8.8						
HEC	**Hector,Ludlow**	**8.26 347**		⇑P	**Pn**	**19 35 08.5**	**-0.7**
	baz=8.4						
W13A	**Hualapai Mount**	**8.29**	**1**	⇓P	**Pn**	**19 35 08.7**	**-0.8**
	baz=8.4,SNR=18						
W14A	**Seligman**	**8.44**	**5**	⇓P	**Pn**	**19 35 11.1**	**-0.4**
	baz=8.6,SNR=37						
W15A	**Williams**	**8.50**	**10**	⇑P	**Pn**	**19 35 11.9**	**-0.4**
	baz=8.6,SNR=18						
BLG	**Laguna Peak**	**8.51 330**		⇑P	**Pn**	**19 35 13.4**	**+0.9**
	baz=8.5						
W12A	**Cal Nev Ari**	**8.52 355**		⇓P	**Pn**	**19 35 12.5**	**-0.2**
	baz=8.6						
EDW2	**Edwards Air Fo**	**8.77 338**		⇓P	**Pn**	**19 35 16.5**	**+0.5**
	baz=8.8,SNR=23						
TUQ	**Turquoise Mtn.**	**8.78 350**		⇑P	**Pn**	**19 35 16.1**	**-0.1**
	baz=8.9,SNR=14						
OSI	**Osito Adit**	**8.80 334**		⇓P	**Pn**	**19 35 16.9**	**+0.4**
	baz=8.8						
GSC	**Goldstone**	**8.82 345**		*e*Pn	**Pn**	**19 35 17.4**	**+0.6**
GSC				*e*Sn	Sn	19 37 28.1	+32
GSC	**Goldstone**	**8.82 345**		⇓P	**Pn**	**19 35 17.3**	**+0.5**
	baz=8.9,SNR=7.9						
V12A	**Nelson**	**8.94 356**		⇑P	**Pn**	**19 35 18.3**	**-0.2**
	baz=9.1,SNR=6.5						
MNTX	**Cornudas Mount**	**8.98**	**55**	*e*Pn	**Pn**	**19 35 20.8**	**+1.8**
	comp=Z,47nm,1.3s						
WUAZ	**Wupatki**	**8.99**	**14**	*e*Pn	**Pn**	**19 35 18.6**	**-0.5**
	comp=Z,74nm,1.0s						
WUAZ	**Wupatki**	**8.99**	**14**	P	**Pn**	**19 35 18.9**	**-0.2**
	baz=9.1,SNR=43						
V11A	**Goodsprings**	**9.11 353**		⇑P	**Pn**	**19 35 20.8**	**0.0**
	baz=9.2						
LRMC	**Laurel Mountai**	**9.22 341**		⇑P	**Pn**	**19 35 22.8**	**+0.5**
	baz=9.3,SNR=13						
ARVC	**Arvin**	**9.29 335**		⇑P	**Pn**	**19 35 23.4**	**+0.2**
	baz=9.3						
**SH

comp=Z,25nm,1.0s
MVCO Mesa Verde 11.39 23 ⇓P Pn 19 35 53.1 +1.1
baz=12
KCC Kaiser Creek 11.43 338 ⇓P Pn 19 35 54.0 +1.4
baz=12,SNR=14
HAST UC Hastings Re 11.53 328 ⇑P Pn 19 35 53.0 -0.9
baz=12
MLAC Mammoth Lakes 11.56 340 ⇓P Pn 19 35 55.4 +1.1
baz=12
TRCR Troy Canyon 11.61 354 eP Pn 19 35 55.7 +0.7
R09A Tonopah 11.71 348 ⇓P Pn 19 35 56.5 +0.1
baz=12,SNR=19
MSU Marysvale 11.79 7 eP Pn 19 35 59.7 +2.2
S05C Merced 11.81 335 ⇑P Pn 19 35 58.4 +0.6
baz=12
PACP Pacheco Peak 11.92 331 ⇓P Pn 19 35 59.3 +0.1
baz=12
R07C Lee Vining 12.05 341 ⇓P Pn 19 36 02.1 +1.1
baz=12,SNR=11
Q11A Duckwater 12.11 354 ⇑P Pn 19 36 02.5 +0.7
baz=12,SNR=21
S06C San Francisco 12.11 337 ⇓P Pn 19 36 02.4 +0.5
baz=12
NVAR Mina Array Bea 12.16 344 Pn Pn 19 36 02.8 +0.2
comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=22
PV01 Paradox Valley 12.21 21 eP Pn 19 36 02.4 -0.7
Q12A Willow Creek R 12.24 357 ⇑P Pn 19 36 04.2 +0.6
baz=12,SNR=13
PV10 Paradox Valley 12.29 19 eP Pn 19 36 04.0 -0.3
Q09A Carvers 12.31 348 ⇑P Pn 19 36 05.3 +0.8
baz=12
S04C Ingram Canyon, 12.35 332 ⇑P Pn 19 36 05.0 -0.1
baz=12
Q08A Gabbs 12.48 346 ⇓P Pn 19 36 07.5 +0.6
baz=13,SNR=12
R06C Coleville 12.57 340 ⇓P Pn 19 36 09.0 +0.9
baz=13,SNR=7.1
SRU San Rafael 12.63 12 eP Pn 19 36 10.4 +1.4
SRU pmax pmax
comp=Z,25nm,1.0s
SRU San Rafael 12.63 12 eP Pn 19 36 10.4 +1.4
comp=Z,25nm,1.0s
WENL Wente Brothers 12.64 331 ⇑P Pn 19 36 09.5 +0.5
baz=13
JRSC Jasper Ridge 12.68 329 ⇑P Pn 19 36 08.5 -1.1
baz=13
P12A McGill 12.68 357 ⇓P Pn 19 36 10.3 +0.7
baz=13,SNR=17
P11A Circle Ranch, 12.82 354 ⇑P Pn 19 36 12.7 +1.2
baz=13,SNR=11
R05C Kirkwood Meado 12.93 338 ⇓P Pn 19 36 14.0 +0.9
baz=13
JCT Junction City 13.00 70 eP Pn 19 36 19.2 +5.2
JCT pmax pmax
comp=Z,263nm,1.2s
JCT Junction City 13.00 70 eP Pn 19 36 19.2 +5.1
comp=Z,263nm,1.2s
SDCO Great Sand Dun 13.07 31 eP Pn 19 36 16.5 +1.5
comp=Z,14nm,1.1s
NLU North Lily Min 13.23 6 eP Pn 19 36 16.1 -1.1
AMTX Amarillo 13.30 50 eP Pn 19 36 19.2 +1.0
comp=Z,32nm,1.0s
MPU Maple Canyon 13.34 8 eP Pn 19 36 21.2 +2.5
comp=Z,34nm,1.2s
WCN Washoe City 13.38 340 ⇑P Pn 19 36 20.1 +0.9
baz=14
O11A Cowboy Ranch, 13.38 355 ⇓P Pn 19 36 19.7 +0.5
baz=14
DUG Dugway 13.41 4 eP Pn 19 36 20.4 +0.8
DUG pmax pmax
comp=Z,36nm,1.1s
DUG Dugway 13.41 4 eP Pn 19 36 20.4 +0.8
comp=Z,36nm,1.1s
DUG Dugway 13.41 4 ⇑P Pn 19 36 20.4 +0.8
baz=14
O12A Currie 13.46 358 ⇑P Pn 19 36 21.1 +0.8
baz=14
CVS Carmenet Viney 13.54 330 ⇓P Pn 19 36 20.9 -0.6
baz=14
Q03C Winters 13.60 332 ⇓P Pn 19 36 22.1 0.0
baz=14
O09A Fish Creek Ran 13.61 350 ⇓P Pn 19 36 22.6 +0.2
baz=14,SNR=7.5
O10A Cortez Mining, 13.63 352 ⇓P Pn 19 36 23.2 +0.6
baz=14
P05C Yuba Gap, Truc 13.65 338 ⇑P Pn 19 36 23.0 +0.1
baz=14
NSHM Saint Helena R 13.76 330 eP Pn 19 36 23.8 -0.5
DAU Daniels Canyon 13.78 9 eP Pn 19 36 27.1 +2.4
JLU Jordanelle 13.94 8 P Pn 19 36 29.7 +2.8
O07A Toulon 13.94 344 ⇓P Pn 19 36 27.5 +0.6
baz=14,SNR=5.1
MNRC McLaughlin Nat 13.98 332 ⇓P Pn 19 36 27.2 -0.2
baz=14,SNR=5.7
OHCM Honcut 13.99 335 eP Pn 19 36 28.5 +0.9
CTU Camp Tracy 14.00 7 eP Pn 19 36 28.2 +0.6
comp=Z,47nm,1.0s
SUTB Sutter Butte 14.01 334 ⇑P Pn 19 36 27.4 -0.5
baz=14
N13A Wendover, West 14.04 359 ⇓P Pn 19 36 28.6 +0.4
baz=14
N12A Clover Valley, 14.06 357 ⇓P Pn 19 36 28.9 +0.5
baz=14
N11A Elko Archery C 14.07 355 ⇓P Pn 19 36 29.2 +0.6
baz=14
BEKR Beckwourth 14.08 339 ⇑P Pn 19 36 28.7 0.0
baz=14
BGU Big Grassy Mou 14.13 3 eP Pn 19 36 29.9 +0.5
ORV Oroville 14.19 336 ⇓P Pn 19 36 30.1 -0.1
baz=14
O06A Flanigan 14.20 342 ⇑P Pn 19 36 30.4 +0.1
baz=14
N09A Rock Creek Ran 14.33 349 ⇓P Pn 19 36 32.6 +0.5
baz=14
O05C Quincy 14.35 338 ⇓P Pn 19 36 32.5 +0.1
baz=14
SPUT South Promonto 14.54 5 eP Pn 19 36 34.4 -0.7
N07B Gerlach 14.55 345 ⇑P Pn 19 36 35.9 +0.7
baz=15,SNR=9.4
M12A Wells 14.61 357 ⇓P Pn 19 36 36.8 +0.8
baz=15
M11A Holland Ranch, 14.68 355 ⇓P Pn 19 36 37.5 +0.5
baz=15
O04C Chester 14.73 338 ⇑P Pn 19 36 38.3 +0.8
baz=15
ISCO Idaho Springs 14.74 26 eP Pn 19 36 39.1 +1.3
ISCO pmax pmax
comp=Z,12nm,1.2s
ISCO Idaho Springs 14.74 26 eP Pn 19 36 39.1 +1.4
comp=Z,12nm,1.2s
N06A Buffalo Meadow 14.74 342 ⇓P Pn 19 36 38.7 +1.0
baz=15,SNR=25
GASB Alder Springs 14.75 333 ⇓P Pn 19 36 39.2 +1.3
baz=15
M10A I.L. Ranch, Tu 14.85 353 ⇓P Pn 19 36 40.0 +0.8
baz=15,SNR=7.0
M09A Marrel Ranch, 14.88 350 ⇑P Pn 19 36 40.2 +0.6
baz=15
ELFS Eagle Lake Fie 14.88 340 ⇓P Pn 19 36 40.9 +1.2
baz=15,SNR=8.2
HWUT Hardware Ranch 14.92 7 eP Pn 19 36 41.9 +1.7
comp=Z,29nm,1.0s
HVU Hansel Valley 14.99 4 eP Pn 19 36 44.7 +3.5
HVU pmax pmax
comp=Z,56nm,1.1s
HVU Hansel Valley 14.99 4 eP Pn 19 36 44.7 +3.6
comp=Z,56nm,1.1s
M07A Soldier Meadow 15.18 345 P Pn 19 36 44.3 +0.7
baz=15,SNR=20
WMOK Wichita Mounta 15.29 55 eP Pn 19 36 45.1 0.0
WMOK pmax pmax
comp=Z,27nm,1.1s
WMOK Wichita Mounta 15.29 55 eP Pn 19 36 45.1 +0.1
comp=Z,27nm,1.1s
HATC Hat Creek Radi 15.30 338 ⇑P Pn 19 36 46.5 +1.3
baz=15,SNR=6.5
M06C Likely Place G 15.34 341 P Pn 19 36 47.1 +1.3
baz=15,SNR=26
WDC Whiskeytown Da 15.47 335 eP Pn 19 36 46.9 -0.6
WDC pmax pmax
comp=Z,51nm,1.5s
WDC Whiskeytown Da 15.47 335 eP Pn 19 36 46.9 -0.6
comp=Z,51nm,1.5s
WDC Whiskeytown Da 15.47 335 P Pn 19 36 48.4 +0.9
baz=16,SNR=9.1
L09A Wilkinson Ranc 15.49 350 ⇑P Pn 19 36 48.6 +0.8
baz=16

M05C Lookout 15.69 340 ⇑P Pn 19 36 51.1 +0.8
baz=16,SNR=11
L08A Fields 15.78 348 ⇓P Pn 19 36 52.3 +0.9
baz=16,SNR=41
L07A Adell 15.82 345 ⇑P Pn 19 36 52.6 +0.6
baz=16,SNR=17
M03C McCloud 15.93 337 ⇑P Pn 19 36 54.8 +1.4
baz=16,SNR=6.8
MOD Modoc 15.94 343 eP Pn 19 36 53.4 -0.3
comp=Z,52nm,1.5s
MOD Modoc 15.94 343 P Pn 19 36 54.8 +1.2
baz=16,SNR=24
N02C Big Bar 15.98 334 ⇑P Pn 19 36 54.6 +0.5
baz=16
WVOR Wild Horse Val 16.07 348 eP Pn 19 36 55.9 +0.7
WVOR pmax pmax
comp=Z,55nm,1.4s
WVOR Wild Horse Val 16.07 348 eP Pn 19 36 55.9 +0.7
comp=Z,55nm,1.4s
K09A Rome 16.16 350 ⇑P Pn 19 36 57.5 +1.0
baz=16
KHMM Horse Mountain 16.20 333 eP Pn 19 36 57.4 +0.5
L05A Lakeview 16.22 342 ⇓P Pn 19 36 58.7 +1.4
baz=16,SNR=20
M04C Macdoel 16.29 339 ⇑P Pn 19 36 59.1 +1.0
baz=16,SNR=24
M02C Callahan 16.30 336 P Pn 19 36 59.0 +0.9
baz=16,SNR=7.8
HKT Hockley 16.30 75 eP Pn 19 37 03.8 +5.6
HKT pmax pmax
comp=Z,68nm,1.4s
HKT Hockley 16.30 75 eP Pn 19 37 03.8 +5.6
comp=Z,68nm,1.4s
K08A Mann Creek Ran 16.32 348 P Pn 19 36 59.3 +0.8
baz=16,SNR=25
BW06 Boulder Array 16.35 12 eP Pn 19 36 59.6 +0.7
comp=Z,26nm,0.4s
PDAR Pinedale Array 16.35 12 Pn Pn 19 36 58.9 0.0
comp=Z,0.1nm,0.3s,baz=188,slow=9.8,SNR=17
PDAR LR LR 19 43 33.2
comp=Z,503nm,18.6s,baz=203,slow=38
K07A Rock Creek Ran 16.44 346 ⇓P Pn 19 37 00.6 +0.6
baz=16
YBH Yreka Blue Hor 16.54 337 Pn Pn 19 36 59.5 -1.8
comp=Z,0.1nm,0.3s,baz=107,slow=6.8,SNR=8.8
YBH LR LR 19 42 57.8
comp=Z,916nm,19.2s,baz=160,slow=36
YBH Yreka Blue Hor 16.54 337 eP Pn 19 36 59.2 -2.1
YBH Yreka Blue Hor 16.54 337 ⇓P Pn 19 37 01.7 +0.4
baz=17
L04A Klamath Falls 16.66 339 ⇑P Pn 19 37 03.6 +0.8
baz=17,SNR=6.8
RRI2 Red Ridge 16.67 7 eP Pn 19 36 58.9 -4.0
comp=Z,21nm,0.9s
REDW Red Top Meadow 16.74 8 eP Pn 19 37 06.2 +2.4
comp=Z,42nm,1.4s
HLID Hailey 16.74 359 eP Pn 19 37 04.8 +0.9
comp=Z,39nm,1.4s
HLID Hailey 16.74 359 ⇓P Pn 19 37 04.7 +0.8
baz=17
J10A Berg Farm, Mel 16.76 353 ⇓P Pn 19 37 04.7 +0.7
baz=17
K06A Valley Falls 16.77 344 ⇑P Pn 19 37 04.7 +0.5
baz=17,SNR=15
J09A Fry Pan Ranch, 16.80 350 P Pn 19 37 05.0 +0.3
baz=17,SNR=22
SNOW Snow King Moun 16.85 8 eP Pn 19 37 07.8 +2.6
comp=Z,10.0nm,0.5s
K05A Summer Lake 16.87 342 ⇓P Pn 19 37 06.2 +0.7
baz=17,SNR=13
DCID1 Drake Creek 16.93 7 eP Pn 19 37 08.5 +2.4
J08A Circle Bar Ran 16.93 349 P Pn 19 37 07.0 +0.8
baz=17,SNR=39
CBKS Cedar Bluff 16.93 41 eP Pn 19 37 09.0 +2.7
CBKS pmax pmax
comp=Z,123nm,1.3s
CBKS Cedar Bluff 16.93 41 eP Pn 19 37 09.0 +2.8
comp=Z,123nm,1.3s
MOOW Moose Ponds 17.13 8 eP Pn 19 37 07.3 -1.4
comp=Z,29nm,1.1s
J06A Christmas Vall 17.17 345 P Pn 19 37 10.3 +1.0
baz=17,SNR=15
I10A Payette 17.41 353 ⇓P Pn 19 37 13.3 +1.1
baz=18
I09A Lost Marbles R 17.41 351 P Pn 19 37 12.9 +0.7
baz=18,SNR=12
J05A Fort Rock 17.48 342 ⇑P Pn 19 37 13.8 +0.7
baz=18,SNR=11
I08A Drewsey 17.48 349 ⇑P Pn 19 37 14.3 +1.2
baz=18,SNR=11
K02A Glendale 17.73 336 ⇓P Pn 19 37 16.4 +0.2
baz=18
H12A Diamond D Ranc 17.74 358 P Pn 19 37 17.5 +1.2
baz=18,SNR=27
I07A Izee 17.82 347 ⇓P Pn 19 37 18.5 +1.1
baz=18,SNR=24
H10A Noah's Angus R 17.90 354 P Pn 19 37 18.9 +0.5
baz=18,SNR=29
H11A Donnelly 17.95 355 P Pn 19 37 19.9 +0.9
baz=18,SNR=8.9
YMR Madison River 18.01 7 eP Pn 19 37 20.3 +0.6
comp=Z,43nm,1.1s
MCMT McKenzie Canyo 18.03 3 P Pn 19 37 20.3 +0.4
H09A Durkee 18.08 352 ⇓P Pn 19 37 20.9 +0.3
baz=18,SNR=32
H08A Prairie City 18.09 349 P Pn 19 37 20.4 -0.3
baz=18,SNR=25
QLMT Earthquake Lak 18.12 6 eP Pn 19 37 24.1 +3.1
BMO Blue Mountains 18.22 352 eP Pn 19 37 21.8 -0.5
comp=Z,53nm,1.5s
G13A Cobalt 18.27 359 ⇑P Pn 19 37 23.1 +0.3
baz=18,SNR=27
H07A Lands Inn, Kim 18.32 347 ⇑P Pn 19 37 23.2 -0.3
baz=18
G15A Dillon 18.38 3 ⇑P Pn 19 37 24.5 +0.3
baz=18,SNR=28
DLMT Dillon 18.57 3 eP Pn 19 37 27.2 +0.6
comp=Z,45nm,1.2s
H06A Lindquist Farm 18.62 346 ⇑P Pn 19 37 27.6 +0.5
baz=19,SNR=12
G08A Pilot Rock 18.89 349 ⇑P Pn 19 37 29.6 -0.8
baz=19,SNR=16
BOZ Bozeman (W) 18.92 5 eP Pn 19 37 29.7 -1.0
BOZ pmax pmax
comp=Z,43nm,1.7s
BOZ Bozeman (W) 18.92 5 eP Pn 19 37 29.7 -1.0
comp=Z,43nm,1.7s
F13A Darby 18.97 359 P Pn 19 37 30.2 -1.1
baz=19,SNR=25
G07A Ruggs Ranch, H 18.99 348 ⇓P Pn 19 37 31.4 -0.3
baz=19,SNR=16
F14A Wisdom 19.00 1 P Pn 19 37 31.3 -0.4
baz=19,SNR=18
KSU1 Kansas State U 19.04 45 eP Pn 19 37 31.6 -0.6
comp=Z,95nm,1.4s
F15A Butte 19.05 3 ⇓P Pn 19 37 32.1 -0.2
baz=19,SNR=15
RSSD Black Hills 19.08 22 eP Pn 19 37 32.0 -0.7
RSSD pmax pmax
comp=Z,17nm,1.1s
RSSD Black Hills 19.08 22 eP Pn 19 37 32.0 -0.7
comp=Z,17nm,1.1s
F11A Grangeville 19.14 355 ⇓P Pn 19 37 32.5 -0.9
baz=19,SNR=9.4
G06A Carlson Farm, 19.16 346 ⇓P Pn 19 37 32.2 -1.5
baz=19,SNR=8.0
MIAR Mount Ida 19.18 61 eP Pn 19 37 34.6 +0.7
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR Mount Ida 19.18 61 eP Pn 19 37 34.6 +0.7
comp=Z,18nm,1.0s
F10A Beach Ranch, E 19.32 353 P Pn 19 37 33.6 -2.0
baz=19,SNR=19
F08A Pendleton 19.35 350 ⇑P Pn 19 37 34.5 -1.4
baz=20,SNR=9.2
E14A Clinton 19.60 1 P Pn 19 37 37.5 -1.3
baz=20,SNR=21
E11A Bogner Ranch, 19.61 355 P Pn 19 37 37.2 -1.8
baz=20,SNR=13
E13A Victor 19.62 360 ⇓P Pn 19 37 36.6 -2.6
baz=20,SNR=7.9
E15A Deer Lodge 19.63 3 ⇑P Pn 19 37 37.2 -2.1
baz=20,SNR=14
F06A Goldendale 19.70 346 ⇑P Pn 19 37 37.0 -3.1
baz=20
MSO Missoula 20.01 0 eP Pn 19 37 40.7 -3.1
comp=Z,28nm,1.2s
HAWA Hanford 20.06 349 eP P 19 37 40.6 -2.0

comp=Z,88nm,1.6s
CHMT Chamberlain Mo 20.10 1 eP P 19 37 42.3 -0.8
CMIG Matias Romero 20.16 115 P P 19 37 48.5 +4.7
comp=Z,16nm,0.9s,baz=307,slow=8.7,SNR=11
CMIG LR LR 19 46 08.6
comp=Z,1μm,18.7s,MS4.3,baz=148,slow=38
CMIG Matias Romero 20.16 115 P P 19 37 48.5 +4.7
CMIG LR LR 19 46 08.6
UALR University of 20.21 62 eP P 19 37 45.0 +0.7
comp=Z,15nm,0.8s
D14A Greenough 20.26 1 P P 19 37 44.1 -0.7
baz=20,SNR=26
D13A Huson 20.27 359 P P 19 37 43.8 -1.2
baz=20,SNR=30
E07A Sunnyside 20.27 348 P P 19 37 44.5 -0.4
baz=20,SNR=8.6
D11A Klaveano Farm, 20.31 355 P P 19 37 44.1 -1.2
baz=20,SNR=5.7
D10A Wagner Farm, O 20.40 354 P P 19 37 44.1 -2.2
baz=20,SNR=18
E06A Yakima 20.48 346 ⇓P P 19 37 45.6 -1.6
baz=21,SNR=7.0
LAO LASA Array 20.80 15 eP P 19 37 50.6 0.0
comp=Z,76nm,1.1s
C13A Hot Springs 20.86 359 ⇑P P 19 37 49.8 -1.5
baz=21,SNR=27
C08A Higginbotham F 21.33 351 ⇑P P 19 37 54.3 -2.0
baz=21,SNR=9.6
C07A Waterville 21.40 349 P P 19 37 55.3 -1.9
baz=22,SNR=20
B13A Whitefish 21.55 359 ⇑P P 19 37 56.5 -2.3
baz=22,SNR=7.8
NEW Newport 21.58 354 P P 19 37 56.4 -2.7
comp=Z,21nm,1.0s,mb4.5,baz=178,slow=12,SNR=16
NEW LR LR 19 45 35.7
comp=Z,309nm,21.3s,MS3.7,baz=184,slow=35
B09A Rice 21.84 353 ⇓P P 19 38 00.4 -1.5
baz=22
B08A Colville Reser 21.93 350 P P 19 38 01.2 -1.7
baz=22,SNR=16
ECSD EROS,Sioux Fal 22.00 35 eP P 19 38 02.2 -1.4
comp=Z,57nm,1.0s,mb5.0
B07A Winthrop 22.16 349 P P 19 38 03.7 -1.5
baz=22,SNR=28
A11A Hall Mountain, 22.21 356 ⇓P P 19 38 04.6 -1.2
baz=22,SNR=5.8
WALA Waterton Lakes 22.24 0 eP P 19 38 04.0 -2.1
comp=Z,51nm,1.3s,mb4.8
A09A Danville 22.44 352 ⇓P P 19 38 07.0 -1.3
baz=23,SNR=9.0
A08A Turner Farm, O 22.51 351 ⇑P P 19 38 08.0 -1.0
baz=23,SNR=10
SCIA State Center 22.76 43 eP P 19 38 12.1 +0.4
comp=Z,206nm,1.6s,mb5.3
A07A Ashnola River, 22.77 349 ⇓P P 19 38 10.9 -0.8
baz=23
DGMT Dagmar 22.96 17 eP P 19 38 12.7 -1.1
comp=Z,75nm,1.0s,mb5.1
PGC Sidney 23.04 344 P P 19 38 16.7 +2.1
comp=Z,31nm,0.8s,mb4.8
PLAL Pickwick Lake 23.65 63 eP P 19 38 21.0 +0.1
comp=Z,43nm,1.4s,mb4.7
WVT Waverly 24.13 61 eP P 19 38 25.7 +0.5
WVT pmax pmax
comp=Z,48nm,1.0s,mb4.9
WVT Waverly 24.13 61 eP P 19 38 25.7 +0.5
comp=Z,48nm,1.0s,mb4.9
TEIG Tepich 24.45 100 LR LR 19 49 36.0
comp=Z,1μm,19.6s,MS4.5,baz=124,slow=40
AGMN Agassiz Refuge 25.72 29 eP P 19 38 38.5 -1.2
comp=Z,27nm,1.3s,mb4.6
EDM Edmonton 26.41 1 eP P 19 38 45.5 -0.5
TKL Tuckaleechee C 27.23 64 P P 19 38 52.2 -1.2
comp=Z,16nm,0.9s,mb4.6,baz=221,slow=5.2,SNR=10.0
TKL LR LR 19 50 31.6
comp=Z,1μm,18.4s,MS4.5,baz=346,slow=38
ULM Lac du Bonnet 27.24 26 P P 19 38 50.8 -2.7
comp=Z,32nm,1.1s,mb4.8,baz=215,slow=10,SNR=13
ULM LR LR 19 48 58.8
comp=Z,275nm,19.7s,MS3.8,baz=168,slow=35
ULM Lac du Bonnet 27.24 26 P P 19 38 50.8 -2.7
ULM LR LR 19 48 58.8
JTS JuntasAbangare 31.94 115 P P 19 39 37.9 +2.8
comp=Z,12nm,0.9s,mb4.7,baz=296,slow=11,SNR=5.6
JTS JuntasAbangare 31.94 115 eP P 19 39 37.8 +2.7
YKA Yellowknife Ar 35.71 360 P P 19 40 04.7 -3.1
comp=Z,0.6nm,0.7s,mb3.6,baz=177,slow=8.4,SNR=6.8
YKA PcP PcP 19 42 34.1 -1.8
comp=Z,0.5nm,0.8s,baz=167,slow=3.0,SNR=5.1
YKA LR LR 19 54 29.7
comp=Z,175nm,18.1s,MS3.9,baz=85,slow=36
YKA Yellowknife Ar 35.71 360 P P 19 40 04.7 -3.2
YKA 19 42 34.2
YKA Yellowknife Ar 35.71 360 P P 19 40 04.7 -3.1
YKA PcP PcP 19 42 34.1 -1.8
YKA LR LR 19 54 29.6
INK Inuvik 43.17 350 P P 19 41 08.3 -1.8
comp=Z,7.0nm,1.0s,mb4.3,baz=144,slow=11,SNR=12
INK Inuvik 43.17 350 P P 19 41 08.3 -1.8
OTAV Otavalo 43.19 122 eP P 19 41 15.5 +5.3
comp=Z,22nm,1.1s,mb4.8
MCK McKinley 43.32 338 eP P 19 41 09.8 -1.6
MCK pmax pmax
comp=Z,11nm,1.2s,mb4.5
MCK McKinley 43.32 338 eP P 19 41 09.8 -1.6
comp=Z,11nm,1.2s,mb4.5
ROSC El Rosal 43.67 113 P P 19 41 21.7 +7.6
comp=Z,5.7nm,0.5s,mb4.6,baz=96,slow=20,SNR=5.8
ROSC LR LR 20 01 14.9
comp=Z,139nm,19.1s,MS3.9,baz=185,slow=38
COLA College 43.76 340 eP P 19 41 13.1 -1.7
SCHQ Schefferville 44.17 38 P P 19 41 16.9 -1.3
comp=Z,20nm,1.0s,mb4.8,baz=289,slow=5.1,SNR=6.9
SCHQ LR LR 20 00 05.8
comp=Z,647nm,18.6s,MS4.6,baz=292,slow=37
SDV Santo Domingo 44.69 105 eP P 19 41 25.0 +2.6
comp=Z,37nm,0.8s,mb5.3
IMA2 Indian Mountai 46.38 339 eP P 19 41 33.6 -2.1
RKT Rikitea 53.60 204 eLR LR 19 57 59.9
comp=Z,241nm,27.5s
PPT Papeete 56.01 222 eS S 19 50 38.4 +2.1
comp=Z,100nm,27.2s
PPT eLQ 19 56 42.6
comp=Z,214nm,25.5s
PPT eLR LR 19 58 59.5
comp=Z,486nm,26.0s,baz=30
PPT Papeete 56.01 222 LR LR 20 00 22.8
comp=Z,338nm,18.9s,MS4.5,baz=25,slow=29
TBI Tubuai 60.49 218 eLQ 19 58 29.9
comp=Z,161nm,26.2s
TBI eLR LR 20 00 56.8
comp=Z,248nm,28.8s,baz=28
SAML Samuel 60.74 119 eP P 19 43 21.2 +0.1
comp=Z,10nm,1.0s,mb4.9
BILL Bilibino 61.62 335 eP P 19 43 24.0 -3.1
BILL e*PP pP 19 43 34.6 +4.3
BILL e 19 44 07.2
BILL eSS SS 19 55 43.1 -7.4
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.3
LPAZ La Paz 61.78 129 P P 19 43 30.7 +2.6
comp=Z,4.5nm,1.0s,mb4.5,baz=352,slow=6.9,SNR=13
LPAZ LR LR 20 09 49.4
comp=Z,79nm,18.5s,MS3.9,baz=73,slow=35
DAG Danmarks Havn 65.35 15⇑/P P 19 43 49.0 -2.7
comp=Z,2.7nm,0.7s,mb4.4
DAG Danmarks Havn 65.35 15⇑/P P 19 43 49.0 -2.7
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
AFI Afiamalu 69.16 242 LR LR 20 08 07.2
comp=Z,244nm,18.5s,MS4.5,baz=61,slow=30
TIXI Tiksi 72.78 343 eP P 19 44 33.4 -4.5
TIXI pmax pmax
comp=Z,11nm,1.0s,mb4.7
TIXI MLR MLR
comp=Z,147nm,19.0s,MS4.3
TIXI Tiksi 72.78 343 eP P 19 44 34.7 -3.1
comp=Z,9.6nm,0.9s,mb4.7
YAK Yakutsk 77.97 334 eP P 19 45 05.3 -2.4
YAK pmax pmax
comp=Z,13nm,1.3s,mb4.7
ARCES ARCESS Array B 79.60 13 P P 19 45 12.5 -4.1
comp=Z,8.6nm,1.1s,mb4.6,baz=311,slow=2.6,SNR=5.3
NOA NORSAR Array B 81.91 24 P P 19 45 26.9 -2.1
comp=Z,1.7nm,0.8s,mb4.0,baz=309,slow=4.5,SNR=3.3

NOA	NORSAR Array B	81.91	24	P	P	19 45 26.9	-2.1
FINES	FINESS Array B	86.35	18	P	P	19 45 49.1	-2.5
	comp=Z,4.9nm,1.0s,mb4.7,baz=335,slow=3.1,SNR=8.2						
BOD	Bodaibo	86.64	337	eP	P	19 45 49.5	-3.5
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
ESDC	Sonseca Array	87.21	47	LR	LR	20 21 18.4	
	comp=Z,175nm,18.8s,MS4.5,baz=340,slow=33						
MJAR	Matsushiro Arr	87.38	310	LR	LR	20 17 48.3	
	comp=Z,253nm,19.6s,MS4.6,baz=80,slow=31						
GERES	GERESS Array B	91.41	32	LR	LR	20 28 06.8	
	comp=Z,324nm,18.6s,MS4.8,baz=314,slow=36						
KSRS	Korea Array	93.64	315	P	P	19 46 24.6	-1.2
	comp=Z,2.2nm,0.8s,mb4.7,baz=88,slow=3.8,SNR=4.6						
KSRS				LR	LR	20 26 41.3	
	comp=Z,92nm,18.9s,MS4.3,baz=234,slow=34						
AKASG	Malin Array Be	96.28	23	P	P	19 46 35.4	-2.5
	comp=Z,0.2nm,0.3s,mb4.0,baz=325,slow=3.8,SNR=3.8						
ULN	Ulaanbaatar	97.04	334	eP	P	19 46 39.9	-1.5
SONM	Songino Array	97.32	334	P	P	19 46 42.3	-0.4
	comp=Z,2.3nm,0.9s,mb4.6,baz=27,slow=5.2,SNR=12						
SONM				LR	LR	20 30 31.5	
	comp=Z,98nm,19.3s,MS4.3,baz=37,slow=35						
ZAL	Zalesovo	97.98	349	P	P	19 46 46.0	+0.3
	comp=Z,0.6nm,0.3s,mb4.6,baz=342,slow=21,SNR=4.0						
ZAL				LR	LR	20 35 48.9	
	comp=Z,166nm,18.3s,MS4.6,baz=14,slow=38						
ZAL	Zalesovo	97.98	349	P	P	19 46 46.0	+0.3
ZAL				LR	LR	20 35 48.9	
KEST	Kesra	98.00	43	P	P	19 46 45.3	-0.4
	comp=Z,1.4nm,1.0s,mb4.4,baz=18,slow=10,SNR=3.4						
KEST				LR	LR	20 28 00.3	
	comp=Z,108nm,21.5s,MS4.3,baz=235,slow=34						
HHC	Hu-ho-hao-te	100.53	327	eP	Pdif	19 46 55.8	-1.2
HHC				PP	PP	19 51 04.7	+1.0
HHC				S	Sdif	19 58 27.2	-6.5
HHC				XS		19 58 35.7	
HHC				SS	SS	20 05 24.8	-4.7
HHC				AMB	AMB		
	comp=Z,5.0nm,0.4s						
HHC				AMB	AMB		
	comp=Z,218nm,6.8s						
HHC				LR	LR		
	comp=N,231nm,22.6s,MS4.7						
HHC				LR	LR		
	comp=E,166nm,21.4s,MS4.7						
CD2	Chengdu	112.23	325	ePKP	PKiKP	19 51 38.8	-6.4
GYA	Guiyang	114.16	320	PDIF	Pdif	19 47 57.0	-0.6
GYA				PKP	PKiKP	19 51 48.3	-0.6
GYA				PP	PP	19 52 46.3	+2.7
GYA				PKS		19 55 23.7	
GYA				SKS	SKSdf	19 58 58.2	-2.8
GYA				SKKS	SKKSac	19 59 38.6	-7.0
GYA				PP	PP		
	comp=Z,110nm,7.6s						
GYA				LR	LR		
	comp=N,130nm,19.8s,MS4.7						
GYA				LR	LR		
	comp=E,120nm,20.8s,MS4.7						
GYA				LR	LR		
	comp=Z,140nm,20.6s,MS4.5						
KMI	Kunming	117.39	322	PKP	PKPdf	19 51 54.4	-0.7
WRA	Warramunga Arr	117.54	260	PKP	PKPdf	19 51 54.4	-0.9
	comp=Z,1.3nm,0.9s,baz=68,slow=1.8,SNR=7.4						
ASAR	Alice Springs	119.16	257	PKP	PKPdf	19 51 56.2	-2.2
	comp=Z,0.8nm,0.9s,baz=71,slow=2.0,SNR=5.9						
KMBO	Kilima Mbogo	142.41	52	i PKIKP	PKPdf	19 52 45.7	+3.5
KMBO				pmax	pmax		
	comp=Z,10.0nm,0.3s						
LSZ	Lusaka	143.03	80	eP	PKPdf	19 52 41.7	-1.6

*IDC **01** 19:37:02.1±29.0, 46.19N×15427E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/21, mbtmp3.9/4, Error ellipse: s-maj=662.6km s-min=81.2km az=156.0*
*ISCJB **01** 19:37:10.9±4.1, 471.1N±04×1539E±07, h35km, mb4.0/4, Error ellipse: s-maj=87.4km s-min=13.0km az=79.1*
*MOS **01** 19:37:10.2±1.1, 4704N×15378E, h33km, mb4.0/3, Error ellipse: s-maj=76.5km s-min=34.4km az=92.0*

ISC 01 19:37:11.6±4.1, 470N±04×1540E±07, h35km, n8, σ0§55/9, mb4.0/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.98	20	ePN		Pn	19 38 09.5	-0.7
SKR				eS		Sn	19 38 55.8	+0.2
MKAR	Makanchi Array	47.39	298	P		P	19 45 41.5	-0.8
	0.4nm,0.7s,mb3.5,baz=71,slow=7.9,SNR=3.6							
BVAR	Borovoye Array	51.20	310	P		P	19 46 11.8	+0.3
	0.8nm,0.8s,mb3.7,baz=43,slow=8.9,SNR=5.9							
BVAR	Borovoye Array	51.20	310	P		P	19 46 11.8	+0.4
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
FINES	FINESS Array B	64.12	335	P		P	19 47 42.4	+0.1
	comp=Z,7.1nm,1.2s,mb4.6,baz=37,slow=9.4,SNR=5.1							
FINES	FINESS Array B	64.12	335	P		P	19 47 42.4	+0.2
FINES				pmax		pmax		
	comp=Z,7.0nm,1.2s							
NOA	NORSAR Array B	68.23	342	P		P	19 48 09.4	+0.8
	comp=Z,1.9nm,0.9s,mb4.1,baz=23,slow=6.3,SNR=3.6							
NOA	NORSAR Array B	68.23	342	P		P	19 48 09.4	+0.8
NOA				pmax		pmax		
	comp=Z,2.0nm,0.9s							

*IDC **01** 20:06:17.1±1.2, 1555S×16661E, h0km, mb4.3/4, mb1 4.5/7, mb1mx4.3/16, mbtmp4.4/7, ML4.2/3, MS3.6/5, Ms1 3.6/5, ms1mx3.4/30, Error ellipse: s-maj=32.3km s-min=24.6km az=78.0*
*NEIC **01** 20:06:19.8±4.0, 1552S×16678E, h23km±26km, mb4.5/6, Error ellipse: s-maj=16.5km s-min=11.6km az=65.0*
*ISCJB **01** 20:06:20.8±1.0, 1562S±007×1665E±0.1, h35km, mb4.4/8, MS3.9/2, Error ellipse: s-maj=19.7km s-min=7.7km az=133.9*

ISC 01 20:06:20.2±4.4, 1557S±007×1667E±01, h22km±30km, n39, σ0§83/21, mb4.4/8, MS3.9/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.47	182	eP		Pn	20 07 54.4	+0.3
DZM				eS		Sn	20 09 05.1	-2.1
DZM	Mont Dzumac	6.47	182	Pn		Pn	20 07 54.5	+0.4
	12nm,0.3s,baz=94,slow=8.9,SNR=71							
DZM				Sn		Sn	20 09 08.0	+0.8
	baz=159,slow=24,SNR=1.8							
DZM				LR		LR	20 09 33.5	
	comp=Z,105nm,19.5s,baz=296,slow=30							
HNR	Honiara	8.98	312	Pn		Pn	20 08 27.7	-0.9
	14nm,0.3s,baz=227,slow=0.6,SNR=7.0							
HNR				Sn		Sn	20 10 08.8	-0.3
	3.3nm,0.3s,baz=84,slow=21,SNR=2.2							
HNR				LR		LR	20 11 33.2	
	comp=Z,260nm,19.4s,baz=180,slow=36							
RAO	Raoul Island	19.65	136	LR		LR	20 16 54.8	
	comp=Z,211nm,20.3s,baz=117,slow=32							
CTA	Charters Tower	19.97	254	eP		Pn	20 10 53.6	+0.9
	9.2nm,0.8s							
CTA	Charters Tower	19.97	254	P		Pn	20 10 53.3	+0.6
	0.7nm,0.3s,baz=82,slow=13,SNR=11							
CTAO	Charters Tower	19.97	254	eP		Pn	20 10 53.7	+1.0
	27nm,1.1s							
PMG	Port Moresby	20.03	286	P		P	20 10 52.3	+0.7
	0.4nm,0.3s,baz=90,slow=5.4,SNR=8.1							
AFI	Afiamalu	20.88	88	LR		LR	20 17 15.1	
	comp=Z,149nm,18.4s,MS3.4,baz=25,slow=31							
WB2	Warramunga Arr	31.09	257	eP		P	20 12 36.4	-0.4
WRAB	Tennant Creek	31.09	257	eP		P	20 12 36.4	-0.3
WRA	Warramunga Arr	31.10	257	P		P	20 12 36.4	-0.5
	3.1nm,0.8s,mb4.2,baz=86,slow=9.0,SNR=14							
ASAR	Alice Springs	31.87	250	P		P	20 12 44.1	+0.5
	7.7nm,0.8s,mb4.6,baz=78,slow=9.0,SNR=64							
KAKA	Kakadu	33.33	270	eP		P	20 12 56.4	0.0
	4.0nm,0.6s,mb4.5							
FITZ	Fitzroy Crossi	39.33	260	eP		P	20 13 48.0	+0.3
	8.6nm,0.9s,mb4.5							
PPT	Papeete	41.89	99	eLR		LR	20 26 06.3	
	86nm,25.2s							
QSPA	South Pole Qui	74.46	180	eP		P	20 17 56.0	-0.7
	6.3nm,0.9s,mb4.5							
YAK	Yakutsk	82.67	343	eP		P	20 18 43.1	+1.1
	30nm,1.0s,mb5.3							
SONM	Songino Array	82.85	324	P		P	20 18 42.5	-0.4
	1.1nm,0.9s,mb3.9,baz=150,slow=1.2,SNR=6.9							
LSA	Lhasa	85.54	302	eP		P	20 18 58.2	+1.7

PMSA	Palmer Station	91.16	161	LR		LR	20 53 04.9	
	comp=Z,123nm,19.2s,MS4.4,baz=122,slow=31							
MKAR	Makanchi Array	97.43	316	P		P	20 19 50.8	-1.3
	0.3nm,0.6s,mb3.9,baz=93,slow=7.4,SNR=3.1							
ARCES	ARCESS Array B	120.92	345	PKP	PKPdf		20 25 13.0	+2.2
	2.6nm,0.7s,baz=64,slow=2.8,SNR=14							
ARCES	ARCESS Array B	120.92	345	PKP	PKPdf		20 25 13.0	+2.2
CABF	La Chapelle	145.08	336	ePKP1	PKPbc		20 25 55.1	-0.2
	42nm,1.0s							
LDF	La Druitiere	145.34	345	ePKP1	PKPbc		20 25 54.3	-1.8
	55nm,1.1s							
LOR	Lormes	145.34	339	ePKP1	PKPbc		20 25 55.3	-0.8
	46nm,1.2s							
SSF	Saint Saulge	145.63	340	ePKP1	PKPbc		20 25 56.5	-0.5
	53nm,0.9s							
GRR	Gorron	145.71	345	ePKP1	PKPbc		20 25 55.8	-1.5
	116nm,1.4s							
LPL	La Plagne	145.72	335	ePKP1	PKPbc		20 25 57.5	+0.2
	24nm,0.9s							
LPG	La Plagne	145.73	335	ePKP1	PKPbc		20 25 57.6	+0.3
	40nm,0.9s							
SMF	Signal de Mont	145.88	339	ePKP1	PKPbc		20 25 57.0	-0.8
	62nm,1.2s							
AVF	Avril sur Loir	145.92	339	ePKP1	PKPbc		20 25 57.2	-0.7
	38nm,1.2s							
ORIF	Oris-en-Rattie	146.56	335	ePKP1	PKPbc		20 25 58.3	-1.5
	24nm,0.8s							
SBF	Sospel	146.74	332	ePKP1	PKPbc		20 25 58.4	-1.9
	38nm,0.8s							
MFF	Saint Martin d	147.17	343	ePKP1	PKPbc		20 25 59.3	-2.3
	22nm,0.8s							
KEST	Kesra	151.50	319	PKPbc	PKPbc		20 26 12.7	+0.3
	0.7nm,0.7s,baz=329,slow=9.3,SNR=2.9							
TORD	Torodi Ar. Bea	165.28	262	PKP	PKPdf		20 26 23.3	+0.6
	1.0nm,0.9s,baz=322,slow=0.9,SNR=3.0							
TORD				PKPab	PKPab		20 27 20.4	+0.1
	1.1nm,0.9s,baz=96,slow=3.7,SNR=5.7							
TORD	Torodi Ar. Bea	165.28	262	PKP	PKPdf		20 26 23.3	+0.6
TORD				PKPab	PKPab		20 27 20.4	+0.1

WEL 01 20:12:10.3±0.3, 3788S×17868E, h12km, ML3.5/5, 1C-1D, Error ellipse: s-maj=2.8km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.38	240	⇑P*		Pg	20 12 18.2	+0.3
PUZ				S*		Sg	20 12 23.4	+0.3
MXZ	Matakaoa Point	0.43	317	⇓P*		Pg	20 12 18.9	+0.1
MXZ				S*		Sg	20 12 24.4	-0.1
MWZ	Matawai	1.01	243	P*		Pb	20 12 29.0	-0.7
MWZ				S*		Sb	20 12 42.5	-0.6
URZ	Urewera	1.29	252	ePN		Pn	20 12 33.4	-0.7
BKZ	Black Stump Fm	2.14	232	ePN		Pn	20 12 44.7	-1.1

*MOS **01** 20:23:36.4±1.4, 4691N×15297E, h53km, mb4.3/5, Error ellipse: s-maj=21.0km s-min=13.4km az=54.3*
*ISCJB **01** 20:23:39.0±1.1, 465N±0.1×1530E±01, h95km±11km, mb3.7/10, Error ellipse: s-maj=25.9km s-min=7.7km az=107.7*
*NEIC **01** 20:23:43.4±2.3, 47.12N×15289E, h91km±21km, mb4.2/1, Error ellipse: s-maj=21.6km s-min=16.2km az=133.0*
*IDC **01** 20:23:46.5±6.8, 4702N×15286E, h125km±64km, mb3.4/10, mb1 3.6/11, mb1mx3.4/25, mbtmp3.4/11, Error ellipse: s-maj=25.0km s-min=20.3km az=132.0*

ISC 01 20:23:40.2±1.0, 465N±01×1530E±01, h93km±10km, n40, σ1§16/52, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.81	252	PN		Pn	20 24 35.0	-1.7
KUR				eS		Sn	20 25 20.0	-0.4
KUR				smax				
	comp=N,300nm,0.5s							
KUR				smax				
	comp=E,210nm,0.5s							
SKR	Severo-Kuril's	4.65	25	ePN		Pn	20 24 47.5	-0.6
YUK	Yuzh-Kuril'sk	5.62	246	ePN		Pn	20 25 02.9	+1.7
YUK				S		Sn	20 26 16.5	+12
YUK				smax				
	comp=N,360nm,0.5s							
NEM2	Nemuro 2	6.04	241	P		Pn	20 25 06.3	-0.7
NEM2				eS		Sn	20 26 14.3	-0.4
JRA	Rausu	6.13	248	P		Pn	20 25 10.1	+1.9
JNK	Nakash	6.56	246	P		Pn	20 25 15.3	+1.3
JNK				eS		Sn	20 26 30.6	+3.3
JAK	Akkeshi	6.88	242	P		Pn	20 25 18.5	+0.1
JAK				eS		Sn	20 26 35.4	+0.2
YSS	Yuzh-Sakhalins	7.05	277	PN		Pn	20 25 21.3	+0.5
JAR	Ashorobuto	7.30	247	P		Pn	20 25 25.5	+1.3
JAR				eS		Sn	20 26 51.0	+5.6
JOB	Onbets	7.46	244	P		Pn	20 25 26.4	+0.1
JOB				eS		Sn	20 26 49.6	+0.2
JKK2	Kamakawa 2	7.71	254	P		Pn	20 25 31.8	+2.1
JCH	Churui	7.91	244	P		Pn	20 25 32.6	+0.2
JCH				eS		Sn	20 26 59.2	-1.1
JNBK	Urakawa-nobuka	8.47	244	P		Pn	20 25 39.7	-0.4
JNBK				eS		Sn	20 27 10.8	-3.2
JNB	Noboribetsu	9.46	249	P		Pn	20 25 53.6	+0.1
JNB				eS		Sn	20 27 38.2	+0.2
JKB	Kayabe	9.76	246	P		Pn	20 25 56.6	-1.0
JKB				eS		Sn	20 27 40.2	-5.1
JYM2	Yakumo 2	10.06	249	P		Pn	20 26 01.5	-0.2
JANG	Nango	10.36	238	P		Pn	20 26 03.4	-2.4
JANG				eS		Sn	20 27 54.9	-5.1
JTH	Tanohata	10.45	235	eS		Sn	20 27 54.6	-7.5
JRG	Rokugo	11.52	236	P		Pn	20 26 20.3	-1.2
JIO	Ouri	11.78	231	eS		Sn	20 28 28.1	-6.3
MJAR	Matsushiro Arr	14.88	233	P		Pn	20 27 14.0	+8.4
	comp=N,0.3nm,0.3s,baz=37,slow=9.3,SNR=6.4							
KSRS	Korea Array	20.65	253	P		P	20 28 16.6	+4.2
	comp=N,1.3nm,0.6s,baz=57,slow=10,SNR=3.8							
INK	Inuvik	41.89	32	P		P	20 31 20.7	-0.6
	comp=N,0.6nm,0.6s,mb3.5,baz=235,slow=9.9,SNR=4.2							
INK	Inuvik	41.89	32	P		P	20 31 20.7	-0.6
MKAR	Makanchi Array	46.97	297	P		P	20 32 01.6	-0.2
	comp=N,0.3nm,0.5s,mb3.3,baz=64,slow=7.5,SNR=7.6							
LSA	Lhasa	50.21	273	eP		P	20 32 30.0	+3.5
LSA				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
LSA	Lhasa	50.21	273	eP		P	20 32 30.0	+3.4
	comp=Z,1.3nm,0.5s,mb4.1							
BVAR	Borovoye Array	50.94	310	P		P	20 32 33.5	+1.5
	comp=Z,0.2nm,0.4s,mb3.5,baz=53,slow=9.8,SNR=4.6							
YKA	Yellowknife Ar	51.15	37	P		P	20 32 33.8	+0.2
	comp=Z,0.5nm,0.6s,mb3.7,baz=304,slow=7.1,SNR=4.1							
FINES	FINESS Array B	64.21	335	P		P	20 34 03.5	-1.6
	comp=Z,1.7nm,0.7s,mb4.0,baz=35,slow=10,SNR=4.6							
FINES	FINESS Array B	64.21	335	P		P	20 34 03.5	-1.6
FINES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NB2	NORSAR Subarra	68.42	341	P		P	20 34 31.1	-0.9
	comp=Z,0.8nm,0.6s,mb3.7,baz=28,slow=6.2							
NOA	NORSAR Array B	68.42	341	P		P	20 34 31.1	-0.9
	comp=Z,1.8nm,0.8s,mb4.0,baz=27,slow=6.1,SNR=4.2							
NOA	NORSAR Array B	68.42	341	P		P	20 34 31.1	-0.9
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AKASG	Malin Array Be	71.69	326	P		P	20 34 51.2	-0.8
	comp=Z,1.4nm,0.4s,mb4.1,baz=33,slow=6.1,SNR=9.6							
AKASG	Malin Array Be	71.69	326	P		P	20 34 51.2	-0.8
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	71.69	326	P		P	20 34 51.2	-0.8
ASAR	Alice Springs	71.97	198	P		P	20 34 59.1	+5.4
	comp=Z,0.2nm,0.4s,mb3.3,baz=338,slow=39,SNR=5.4							
TXAR	Lajitas Array	77.67	60	P		P	20 35 28.3	+1.7
	comp=Z,0.4nm,0.5s,mb3.4,baz=303,slow=4.7,SNR=5.3							
TXAR	Lajitas Array	77.67	60	P		P	20 35 28.3	+1.7

*NEIC **01** 20:40:56.7±0.8, 4752N×15396E, h10km, mb4.6/5, Error ellipse: s-maj=20.8km s-min=12.9km az=137.0*
*ISCJB **01** 20:40:59.4±1.8, 475N±0.1×1539E±02, h41km±14km, mb4.4/21, Error ellipse: s-maj=24.6km s-min=10.5km az=84.2*
*MOS **01** 20:40:59.9±1.3, 4747N×15390E, h46km, mb4.4/12, Error ellipse: s-maj=19.1km s-min=9.4km az=99.8*
*IDC **01** 20:41:04.6±7.5, 4740N×15377E, h83km±69km, mb3.7/11, mb1 3.9/12, mb1mx3.7/25, mbtmp3.7/12, ML3.3/1, Error ellipse: s-maj=24.1km s-min=19.9km az=153.0*

ISC 01 20:41:01.7±1.6, 475N±01×1540E±02, h50km±13km, n60, σ0§90/61, mb4.4/21, 5C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.50	23	ePN		Pn	20 41 53.5	-0.1
SKR				eS		Sn	20 42 34.0	+0.2
SKR				pmax		pmax		
	comp=Z,90nm,0.5s							
SKR				smax				
	comp=N,190nm,0.7s							
SKR				smax				
	comp=E,190nm,0.7s							
MJAR	Matsushiro Arr	15.99	233	P		Pn	20 44 43.9	+0.7
	comp=E,0.1nm,0.3s,baz=278,slow=24,SNR=3.1							
SONM	Songino Array	31.66	289	P		P	20 47 18.7	-1.5
	comp=E,0.4nm,0.7s,mb3.4,baz=77,slow=6.5,SNR=2.8							
INK	Inuvik	40.72	33	P		P	20 48 37.8	+0.3
	comp=E,1.9nm,0.6s,mb3.9,baz=297,slow=8.3,SNR=7.6							
INK	Inuvik	40.72	33	P		P	20 48 37.8	+0.3
INK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MKAR	Makanchi Array	47.14	297	P		P	20 49 27.2	-1.7
	comp=Z,1.5nm,0.9s,mb3.9,baz=63,slow=8.3,SNR=11							
MKAR	Makanchi Array	47.14	297	P		P	20 49 27.3	-1.6
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
YKA	Yellowknife Ar	49.99	37	P		P	20 49 50.4	-0.4
	comp=Z,1.6nm,0.9s,mb4.1,baz=296,slow=7.6,SNR=7.3							
YKA	Yellowknife Ar	49.99	37	P		P	20 49 50.4	-0.5
YKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
YKA	Yellowknife Ar	49.99	37	P		P	20 49 50.4	-0.4
LSA	Lhasa	50.83	273	eP		P	20 49 58.5	+1.3
LSA				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
LSA	Lhasa	50.83	273	eP		P	20 49 58.5	+1.3
	comp=Z,2.3nm,0.6s,mb4.3							
BVAR	Borovoye Array	50.86	309	P		P	20 49 55.1	-2.4
	comp=Z,2.3nm,0.8s,mb4.2,baz=46,slow=8.5,SNR=16							
BVAR	Borovoye Array	50.86	309	P		P	20 49 55.1	-2.3
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
JIRN	Jiri	55.48	275	eP		P	20 50 31.7	+0.3
	comp=Z,17nm,0.7s,mb5.2							
KKN	Kakani	56.01	275	eP		P	20 50 35.3	+0.1
	comp=Z,11nm,0.7s,mb5.0							
DMN	Daman	56.24	275	eP		P	20 50 37.3	+0.4
	comp=Z,28nm,0.8s,mb5.3							
GKN	Gorkha	56.31	276	eP		P	20 50 37.5	+0.2
	comp=Z,19nm,0.8s,mb5.2							
KOLN	Koldanda	57.16	277	eP		P	20 50 43.5	+0.1
	comp=Z,16nm,0.9s,mb5.1							
FINES	FINESS Array B	63.64	335	P		P	20 51 26.6	-1.0
	comp=Z,0.9nm,0.3s,mb4.3,baz=32,slow=9.0,SNR=24							
FINES	FINESS Array B	63.64	335	P		P	20 51 26.6	-1.0
FINES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
NB2	NORSAR Subarra	67.73	341	P		P	20 51 53.6	-0.4
	comp=Z,3.5nm,0.7s,mb4.5,baz=26,slow=6.5							
NOA	NORSAR Array B	67.73	341	P		P	20 51 53.9	-0.1
	comp=Z,4.7nm,0.7s,mb4.6,baz=26,slow=6.3,SNR=13							
NOA	NORSAR Array B	67.73	341	P		P	20 51 53.9	-0.1
NOA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
AKASG	Malin Array Be	71.27	327	P		P	20 52 14.5	-1.3
	comp=Z,1.3nm,0.4s,mb4.3,baz=33,slow=6.0,SNR=10							
AKASG	Malin Array Be	71.27	327	P		P	20 52 14.5	-1.3
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ASAR	Alice Springs	73.08	199	P		P	20 52 25.1	-1.6
	comp=Z,1.3nm,0.9s,mb3.9,baz=14,slow=4.6,SNR=7.8							
ASAR	Alice Springs	73.08	199	P		P	20 52 25.1	-1.5
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
KWP	Kalwaria	74.50	330	eP		P	20 52 35.4	+0.5
KWP				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7							
KWP	Kalwaria	74.50	330	eP		P	20 52 35.4	+0.4
	comp=Z,7.3nm,0.7s,mb4.7							
STHS	Stebnicka Huta	75.18	330	eP		P	20 52 39.8	+0.9
STHS				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
STHS	Stebnicka Huta	75.18	330	eP		P	20 52 39.8	+0.9
	comp=Z,4.9nm,0.9s,mb4.4							
KOLS	Kolonicke sedl	75.25	329	eP		P	20 52 38.8	-0.4
KOLS	Kolonicke sedl	75.25	329	eP		P	20 52 38.9	-0.3
BURAR	Bucovina Array	75.31	327	⇑iP		P	20 52 39.7	+0.1
CRVS	Cervenica-Dubn	75.55	330	eP		P	20 52 40.0	-1.0
OKC	Ostrava-Krasne	75.83	332	eP		P	20 52 39.5	-3.1
UPC	Upice	75.90	334	eP		P	20 52 42.9	0.0
DPC	Dobruska-Polom	75.94	334	eP		P	20 52 42.9	-0.3
CLL	Collm	76.05	336	i P		P	20 52 43.6	-0.2
CLL				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
CLL	Collm	76.05	336	i P		P	20 52 43.6	-0.2
	comp=Z,10.0nm,0.9s,mb4.8							
MORC	Moravsky Berou	76.07	333	⇑iP		P	20 52 44.8	+0.9
KECS	Kecovo	76.24	330	eP		P	20 52 44.4	-0.5
KECS				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
KECS	Kecovo	76.24	330	eP		P	20 52 44.4	-0.5
	comp=Z,2.0nm,0.9s,mb4.0							
PVCC	Panska Ves	76.30	335	eP		P	20 52 45.5

10.0nm,0.3s,baz=45,slow=20,SNR=6.9
AFI Afiamalu 13.65 36 *e*P **P 20 51 48.9 -5.8**
AFI pmax pmax
comp=Z,108nm,0.8s
AFI Afiamalu 13.65 36 *e*P **P 20 51 48.9 -5.8**
comp=Z,108nm,0.8s
BKZ Black Stump Fm 14.25 191 *e*P **P 20 52 00.0 -0.9**
BKZ Black Stump Fm 14.25 191 *e*PN **P 20 51 60.0 -0.9**
MRZ Mangatainoka R 15.86 192 *e*P **P 20 52 14.4 -3.4**
MRZ Mangatainoka R 15.86 192 *e*PN **P 20 52 14.4 -3.4**
KIW Kapiti Island 16.19 194 *e*P **P 20 52 18.9 -2.3**
KIW Kapiti Island 16.19 194 *e*PN **P 20 52 18.9 -2.3**
FUNA Funafuti 16.58 357 *e*P **P 20 52 19.9 -5.3**
comp=Z,73nm,0.8s
TCW Tory Channel 16.67 195 *e*P **P 20 52 24.9 -1.3**
TCW Tory Channel 16.67 195 *e*PN **P 20 52 24.9 -1.3**
QRZ Quartz Range 16.79 200 *e*P **P 20 52 27.2 -0.2**
QRZ Quartz Range 16.79 200 *e*PN **P 20 52 27.2 -0.2**
NNZ Nelson 16.90 197 *e*P **P 20 52 26.7 -1.9**
NNZ Nelson 16.90 197 *e*PN **P 20 52 26.7 -1.8**
THZ Tophouse 17.54 198 *e*PN **P 20 52 33.5 -1.1**
THZ SN **S 20 55 29.5 -1.3**
DSZ Denniston Nort 17.85 200 *e*P **P 20 52 37.8 +0.3**
DSZ Denniston Nort 17.85 200 *e*PN **P 20 52 37.8 +0.4**
LTZ Lake Taylor 18.66 198 *e*P **P 20 52 44.7 -0.2**
LTZ Lake Taylor 18.66 198 *e*PN **P 20 52 44.7 -0.1**
RAR Rarotonga 19.05 82 P **P 20 52 47.3 -1.2**
comp=Z,2.7nm,0.3s,baz=270,slow=6.5,SNR=14
WVZ Waitaha Valley 19.39 201 *e*PN **P 20 52 51.8 +0.2**
RPZ Rata Peaks 19.87 199 P **P 20 52 57.0 +1.1**
comp=Z,23nm,0.7s,baz=34,slow=1.2,SNR=11
RPZ S **S 20 56 14.7 +6.0**
comp=Z,10nm,0.9s,baz=338,slow=14,SNR=3.2
JCZ Jackson Bay 20.94 203 *e*P **P 20 53 06.1 +0.5**
JCZ Jackson Bay 20.94 203 *e*PN **P 20 53 06.1 +0.5**
HNR Honiara 24.64 306 P **P 20 53 37.3 -1.4**
comp=Z,136nm,0.7s,mb5.5,baz=210,slow=0.4,SNR=12
ARMA Armidale 25.55 252 *e*P **P 20 53 49.7 +2.9**
TBI Tubuai 27.92 93 *e*P **P 20 54 08.2 +0.5**
comp=Z,287nm,1.2s,mb5.6
CNB Canberra Magne 28.19 242 *e*P **P 20 54 12.7 +2.7**
comp=Z,22nm,1.1s,mb4.5
PAE Paea 29.29 81 *e*P **P 20 54 19.3 -0.3**
comp=Z,82nm,1.0s,mb5.1
PPT Papeete 29.32 81 *e*P **P 20 54 19.9 0.0**
comp=Z,47nm,1.0s,mb4.9
TVO Taravao 29.54 82 *e*P **P 20 54 21.5 -0.3**
comp=Z,88nm,0.8s,mb5.2
CTA Charters Tower 31.46 272 ⇓*i*P **P 20 54 39.2 +0.9**
comp=Z,31nm,0.4s,mb5.1
CTA Charters Tower 31.46 272 P **P 20 54 39.4 +1.1**
comp=Z,46nm,0.5s,mb5.2,baz=98,slow=10,SNR=108
CTA Charters Tower 31.46 272 ⇓*i*P **P 20 54 39.2 +0.9**
CTA pmax pmax
comp=Z,31nm,0.4s
CTAO Charters Tower 31.46 272 *e*P **P 20 54 39.1 +0.8**
CTAO pmax pmax
comp=Z,47nm,0.6s,mb5.1
CTAO Charters Tower 31.46 272 *e*P **P 20 54 39.1 +0.8**
comp=Z,47nm,0.6s,mb5.1
TOO Toolangi 31.73 239 *e*P **P 20 54 43.4 +2.7**
comp=Z,13nm,0.6s,mb4.5
TOO Toolangi 31.73 239 *e*P **P 20 54 43.4 +2.7**
TOO pmax pmax
comp=Z,13nm,0.6s,mb4.5
PMOR Pomariorio Ree 31.78 78 *e*P **P 20 54 40.8 -0.3**
comp=Z,49nm,0.9s,mb5.0
VAH Vaihoa 31.92 78 *e*P **P 20 54 41.7 -0.6**
comp=Z,68nm,0.9s,mb5.1
STKA Stephens Creek 34.22 250 *e*P **P 20 55 03.0 +1.2**
comp=Z,6.5nm,0.4s,mb4.4
STKA Stephens Creek 34.22 250 P **P 20 55 03.1 +1.3**
comp=Z,9.6nm,0.5s,mb4.5,baz=97,slow=9.8,SNR=32
PMG Port Moresby 34.88 291 P **P 20 55 07.4 +0.1**
comp=Z,31nm,0.7s,mb4.9,baz=108,slow=4.9,SNR=21
PMG Port Moresby 34.88 291 *d*iP **P 20 55 06.9 -0.5**
PMG Port Moresby 34.88 291 P **P 20 55 07.5 +0.1**
ASAR Alice Springs 41.80 262 P **P 20 56 04.0 +0.4**
comp=Z,10nm,0.5s,mb4.5,baz=89,slow=5.8,SNR=124
ASAR ScP ScP 21 00 52.4 +2.3
comp=Z,2.5nm,0.9s,baz=112,slow=4.4,SNR=6.7
ASAR S **S 21 01 44.3 +0.1**
comp=Z,2.2nm,0.8s,baz=98,slow=18,SNR=9.8
WB2 Warramunga Arr 42.28 268 ⇓*i*P **P 20 56 07.2 -0.2**
WB2 *e*SCP ScP 21 00 56.4 +4.3
WB2 *e*S **S 21 01 48.9 -2.2**
WRAB Tennant Creek 42.28 268 *e*P **P 20 56 07.1 -0.3**
WRA Warramunga Arr 42.29 268 P **P 20 56 06.6 -0.9**
comp=Z,32nm,0.5s,mb5.0,baz=104,slow=8.0,SNR=119
WRA ScP ScP 21 00 53.0 +0.9
comp=Z,8.7nm,0.9s,baz=102,slow=4.2,SNR=15
WRA S **S 21 01 48.8 -2.5**
comp=Z,8.7nm,0.9s,baz=100,slow=15,SNR=12
FORT Forrest 45.83 251 *e*P **P 20 56 35.0 0.0**
comp=Z,43nm,0.6s,mb5.1
KAKA Kakadu 46.39 276 ⇑*i*P **P 20 56 38.7 -0.5**
comp=Z,26nm,0.7s,mb4.8
KAKA *e*SCP ScP 21 01 12.9 +3.8
FITZ Fitzroy Crossi 50.69 267 ⇓*i*P **P 20 57 12.0 +0.7**
comp=Z,43nm,0.6s,mb5.0
FITZ *e*S **S 21 03 49.0 +0.5**
VNDA Vanda 53.10 185 P **P 20 57 30.6 +1.9**
comp=Z,1.4nm,0.7s,baz=3.8,slow=6.2,SNR=3.9
VNDA ScP ScP 21 01 39.2 +1.3
comp=Z,1.8nm,0.8s,baz=0.9,slow=4.9,SNR=5.3
VNDA Vanda 53.10 185 P **P 20 57 30.6 +1.9**
VNDA ScP ScP 21 01 39.2 +1.3
KLBR Kellerberrin 54.46 248 *e*P **P 20 57 38.6 +0.3**
comp=Z,16nm,0.6s,mb4.5
MUN Mundaring 55.69 247 *e*P **P 20 57 47.4 +0.5**
QSPA South Pole Qui 64.91 180 *e*P **P 20 58 50.3 +2.3**
comp=Z,11nm,0.9s,mb4.5
JOW Kunigami 71.81 312 P **P 20 59 29.8 -0.2**
comp=Z,40nm,0.7s,mb5.1,baz=134,slow=4.1,SNR=6.5
KSM Kuching 72.28 280 *e*P **P 20 59 33.1 +0.4**
MJAR Matsushiro Arr 72.92 326 P **P 20 59 35.7 -0.7**
comp=Z,16nm,0.8s,mb4.6,baz=160,slow=5.5,SNR=34
MAT Matsushiro 72.93 326 P **P 20 59 35.3 -1.1**
MAW Mawson 76.54 201 P **P 20 59 57.8 +1.1**
comp=Z,4.4nm,0.8s,mb4.1,baz=106,slow=9.1,SNR=4.8
KSRS Korea Array 79.20 320 P **P 21 00 11.4 +0.3**
comp=Z,5.5nm,0.7s,mb4.2,baz=130,slow=5.8,SNR=18
YSS Yuzh-Sakhalins 79.27 335 *e*P **P 21 00 10.5 -1.0**
YSS pmax pmax
comp=Z,76nm,2.5s,mb4.8
VNA3 Neumayer Olymp 83.61 177 ⇑*i*PKPdf **P 21 00 34.4 +0.7**
VNA3 *e* 21 00 37.4
VNA3 *e* 21 00 44.4
HABR Khabarovsk 83.61 332 *e*P **P 21 00 33.3 -0.5**
HABR *e*S S 21 10 09.4 -4.5
HABR pmax pmax
comp=Z,52nm,2.4s,mb4.6
WHN Wuhan 83.74 308 ⇓P **P 21 00 34.9 +0.5**
ISA Isabella 83.94 46 *e*P **P 21 00 36.4 +1.0**
VNA2 Neumayer--Watz 84.02 178 ⇑*i*PKPdf **P 21 00 36.7 +0.9**
VNA2 *e* 21 00 39.7
VNA2 *e* 21 00 47.9
CMB Columbia Colle 84.16 43 *e*P **P 21 00 35.1 -1.4**
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.3
CMB Columbia Colle 84.16 43 *e*P **P 21 00 35.1 -1.4**
comp=Z,11nm,1.1s,mb4.3
CN2 Changchun 84.89 324 *e*P **P 21 00 40.0 0.0**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
KLR Kul'dur 85.62 331 *e*P **P 21 00 40.2 -3.4**
TUC Tucson 87.33 52 *e*P **P 21 00 53.6 +1.9**
TUC pmax pmax
comp=Z,17nm,1.2s,mb4.7
TUC Tucson 87.33 52 *e*P **P 21 00 53.6 +1.9**
comp=Z,17nm,1.2s,mb4.7
GYA Guiyang 87.36 301 P **P 21 00 52.8 +1.0**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
KMI Kunming 89.82 298 P **P 21 01 05.4 +2.1**
KMI AMB AMB
comp=Z,14nm,1.0s,mb4.8
SEY Seymchan 90.50 348 ⇑*e*P **P 21 01 04.5 -2.0**
TMUT Trail Mountain 90.75 46 *e*P **P 21 01 09.1 +1.5**
SRU San Rafael 91.11 47 *e*P **P 21 01 09.9 +0.7**
SRU pmax pmax
comp=Z,11nm,1.1s,mb4.7
SRU San Rafael 91.11 47 *e*P **P 21 01 09.9 +0.7**
comp=Z,11nm,1.1s,mb4.7
LTX Lajitas 91.15 58 *e*P **P 21 01 10.4 +1.0**
LTX pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LTX Lajitas 91.15 58 *e*P **P 21 01 10.4 +0.9**
comp=Z,6.5nm,0.8s,mb4.6
TXAR Lajitas Array 91.15 58 P **P 21 01 10.9 +1.5**
comp=Z,5.8nm,0.8s,mb4.6,baz=214,slow=6.5,SNR=43
ANMO Albuquerque 91.78 52 ⇑*e*P **P 21 01 11.2 -1.1**
BILL Bilibino 93.49 355 *e*P **P 21 01 17.6 -2.6**
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BILL MLR MLR
comp=Z,100nm,18.0s
PDAR Pinedale Array 93.64 44 P **P 21 01 20.9 0.0**
comp=Z,1.1nm,0.8s,mb4.0,baz=211,slow=3.2,SNR=8.3
YAK Yakutsk 95.75 339 *e*P **P 21 01 29.4 -1.0**
ULN Ulaanbaatar 97.67 320 ⇑*e*P **P 21 01 36.9 -2.1**
SONM Songino Array 98.04 319 P Pdif 21 01 39.7 -0.9
comp=Z,0.5nm,0.7s,baz=126,slow=3.4,SNR=4.3
SONM PP PP 21 05 47.4 -0.3
comp=Z,1.6nm,0.9s,baz=128,slow=6.3,SNR=7.5
ZAL Zalesovo 112.91 320 PKiKP PKiKP 21 06 37.2 -1.0
comp=Z,0.5nm,0.4s,baz=12,slow=5.7,SNR=3.9
ZAL Zalesovo 112.91 320 PKPdf PKiKP 21 06 37.2 -1.0
MKAR Makanchi Array 112.98 312 PKiKP PKiKP 21 06 37.2 -1.0
comp=Z,1.2nm,0.8s,baz=134,slow=1.0,SNR=10
MKAR PKKPbc PKKPbc 21 17 26.8 +0.6
comp=Z,0.5nm,0.6s,baz=257,slow=4.6,SNR=5.1
MKAR Makanchi Array 112.98 312 PKPdf PKiKP 21 06 37.2 -1.0
MKAR PKKPbc PKKPbc 21 17 26.8 +0.6
KURK Kurchatov 116.09 316 ⇑*i*PKIKP PKPdf 21 06 42.5 -1.7
BVAR Borovoye Array 121.36 318 PKP PKPdf 21 06 53.0 -1.4
comp=Z,2.9nm,0.5s,baz=141,slow=1.6,SNR=25
BRVK Borovoye 121.43 318 *e*PKIKP PKPdf 21 06 53.0 -1.5
ARU Arti 127.88 323 *i*PKIKP PKPdf 21 07 05.8 -1.0
ARU *e* 21 09 14.5
AKTK Aktyubinsk 129.18 316 PKP PKPdf 21 07 08.0 -1.3
AKTO Aktyubinsk 129.18 316 PKP PKPdf 21 07 08.0 -1.3
comp=Z,2.6nm,0.6s,baz=72,slow=3.2,SNR=8.6
ARCES ARCESS Array B 133.12 348 PKP PKPdf 21 07 13.6 -3.2
comp=Z,2.8nm,0.6s,baz=333,slow=1.4,SNR=16
ARCES SKPbc SKPbc 21 09 56.8 -0.6
comp=Z,8.4nm,0.8s,baz=22,slow=3.9,SNR=13
FINES FINESS Array B 139.64 341 PKhKP 21 07 19.3
comp=Z,1.4nm,0.5s,baz=80,slow=3.6,SNR=12
FINES SKPbc SKPbc 21 10 16.4 -0.4
comp=Z,8.8nm,0.8s,baz=56,slow=4.8,SNR=19
OBN Obninsk 139.83 328 *e*PKHKP 21 07 21.5
OBN *e* 21 10 29.1
OBN pmax pmax
comp=Z,5.0nm,1.0s
MARD Mardin 143.32 299 *i*P PKPdf 21 07 34.2 -1.1
NB2 NORSAR Subarra 143.33 351 PKP PKPdf 21 07 31.9 -3.5
comp=Z,4.0nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 143.33 351 PKP PKPdf 21 07 31.9 -3.4
comp=Z,8.8nm,0.8s,baz=15,slow=4.9,SNR=20
NOA SKPbc SKPbc 21 10 25.7 -0.3
comp=Z,2.9nm,0.8s,baz=14,slow=4.2,SNR=5.8
HFS Hagfors 143.79 348 PKP PKPdf 21 07 33.3 -2.9
comp=Z,28nm,0.7s,baz=66,slow=3.7,SNR=87
KELT Kelkit 144.01 304 *i*P PKPdf 21 07 36.9 +0.3
ELZG Elazig 144.54 302 *i*P PKPdf 21 07 39.3 +1.8
MALT Malatya 145.01 301 ⇓*i*P PKPdf 21 07 38.5 +0.2
GZT Gaziantep 145.85 300 *i*P PKPbc 21 07 42.4 +1.0
AKASG Malin Array Be 146.01 326 PKPbc PKPbc 21 07 40.6 -1.2
comp=Z,12nm,0.5s,baz=45,slow=4.3,SNR=63
AKASG SKPbc SKPbc 21 10 32.1 -0.1
comp=Z,2.4nm,0.7s,baz=47,slow=3.0,SNR=5.6
AKBB Malin Array Si 146.01 326 *e*PKIKP PKPdf 21 07 40.5 +0.5
KIEV Kiev 146.02 326 *e*PKIKP PKPdf 21 07 40.8 +0.8
SUW Suwalki 146.41 335 *e*PKIKP PKPdf 21 07 42.0 +1.4
BOYT Boyabat 146.86 308 *i*P PKPbc 21 07 44.5 +0.4
COBT Iskenderun 147.02 299 *i*P PKPbc 21 07 45.6 +1.1
CTKT Corum 147.19 307 *i*P PKPbc 21 07 49.1 +4.0
AVNT Avonos 147.64 303 *i*P PKPbc 21 07 46.6 +0.4
BALT Daday 147.90 309 *i*P PKPbc 21 07 47.3 +0.4
ELDT Eldivan 148.22 307 *i*P PKPbc 21 07 48.2 +0.6
BR131 Keskin Array S 148.29 306 *e*PKPdf PKPbc 21 07 48.0 +0.1
BRTR Keskin Array B 148.29 306 PKPbc PKPbc 21 07 47.9 0.0
comp=Z,5.1nm,0.6s,baz=141,slow=3.6,SNR=26
ANTO Ankara 148.87 306 *e*PKPdf PKPbc 21 07 49.6 +0.4
ANTO Ankara 148.87 306 ⇑*i*P PKPbc 21 07 50.0 +0.7
SGKT Sivrigoynuk 149.18 308 *i*P PKPbc 21 07 50.3 +0.2
CSS Prodhromos 149.63 297 *e*PKPdf PKPbc 21 07 51.3 +0.2
EKA Eskdalemuir Ar 149.79 4 PKPbc PKPbc 21 07 49.8 -1.8
comp=Z,1.9nm,0.6s,baz=357,slow=3.5,SNR=7.1
KWP Kalwaria 149.85 330 *e*PKHKP PKPbc 21 07 51.4 -0.3
HENT Hendek 149.91 309 *i*P PKPbc 21 07 52.0 +0.2
TIRR Tirgusor 149.97 317 ⇑*i*P PKPbc 21 07 50.9 -1.0
BURAR Bucovina Array 149.99 325 ⇓*i*P PKPbc 21 07 53.2 +1.2
VRI Vrincioaia 150.22 321 ⇓*i*P PKPbc 21 07 52.7 +0.2
BSEG Bad Segeberg 150.25 348 *e*PKPbc PKPbc 21 07 52.5 -0.1
ESKT Eskisehir 150.41 306 *i*P PKPbc 21 07 52.7 -0.2
KOLS Kolonicke sedl 150.55 329 *e*PKP PKPbc 21 07 53.9 +0.6
BORA Eskisehir 150.57 307 *i*P PKPbc 21 07 53.5 +0.2
OJC Ojcow 150.66 334 *e*PKP PKPdf 21 07 50.7 +3.2
STHS Stebnicka Huta 150.66 331 *e*PKP PKPbc 21 07 53.7 +0.2
RUE Ruedersdorf 150.79 343 *e*PKPbc PKPbc 21 07 53.9 +0.1
MLR Muntele Rosu 150.88 321 PKPbc PKPbc 21 07 53.6 -0.5
comp=Z,4.1nm,0.6s,baz=327,slow=4.9,SNR=15
MLR Muntele Rosu 150.88 321 ⇑*i*P PKPbc 21 07 53.9 -0.2
MLR Muntele Rosu 150.88 321 ⇑*i*P PKPbc 21 07 53.9 -0.1
CRVS Cervenica-Dubn 150.95 330 *e*PKP PKPbc 21 07 53.9 -0.3
NIE Niedzica 151.06 332 *e*PKP PKPbc 21 07 55.0 +0.5
ULDT Uludag 151.41 309 *i*P PKPbc 21 07 55.5 +0.2
KSP Ksiaz 151.46 338 *e*PKIKP PKPbc 21 07 55.2 -0.1
KSP *e* 21 08 05.7
NRDL Niedersach Rie 151.66 347 *e*PKPab PKPab 21 08 04.9 -2.0
KECS Kecovo 151.69 331 *e*PKP PKPab 21 08 05.9 -1.1
DRGR 151.82 326 ⇓*i*P PKPbc 21 07 55.8 -0.4
UPC Upice 151.84 338 ⇑*e*PKP PKPbc 21 07 56.0 -0.2
UPC *e*PKPAB PKPab 21 08 07.6 0.0
UPC Upice 151.84 338 *e*PKP PKPbc 21 07 56.0 -0.2
UPC *e* 21 08 07.6
DPC Dobruska-Polom 151.86 337 ⇑*e*PKP PKPbc 21 07 56.1 -0.1
DPC *e*PKPAB PKPab 21 08 07.9 +0.1
MORC Moravsky Berou 151.90 335 ⇓*i*P PKPbc 21 07 55.5 -0.8
CLL Collm 152.06 342 *e*PKPbc PKPbc 21 07 56.2 -0.5
CLL *e*PKPab PKPab 21 08 07.6 -1.0
CLL Collm 152.06 342 ⇓*i*PKPbc PKPbc 21 07 56.2 -0.5
comp=Z,13nm,0.7s
CLL *i*PKPab PKPab 21 08 07.8 -0.8
BRG Berggiesshubel 152.18 341 *e*PKPbc PKPbc 21 07 56.8 -0.1
BRG *e*PKPab PKPab 21 08 08.5 -0.6
BRG Berggiesshubel 152.18 341 *i*PKP PKPbc 21 07 56.0 -0.9
comp=Z,5.4nm,0.6s
BRG *i* 21 08 08.6
comp=Z,5.8nm,0.8s
CLZ Clausthal 152.22 346 *e*PKPbc PKPbc 21 07 56.8 -0.2
PVCC Panska Ves 152.29 340 ⇑*e*PKP PKPbc 21 07 57.2 0.0
PVCC *e*PKPAB PKPab 21 08 09.2 -0.4
FBE Freiberg 152.31 342 *e*PKPbc PKPbc 21 07 57.2 0.0
FBE *e*PKPab PKPab 21 08 09.2 -0.4
DNZL Cakiroluk 152.34 304 *i*P PKPab 21 08 04.8 -4.9
PSZ Piszkesteto 152.38 330 ⇓*i*P PKPbc 21 07 55.9 -1.5
VYHS Vyhne 152.40 332 *e*PKP PKPbc 21 07 57.1 -0.3
VYHS *e* 21 08 09.8
PRU Pruhonice 152.77 339 ⇑*e*PKP PKPbc 21 07 57.9 -0.3
PRU *e*PKPAB PKPab 21 08 11.6 0.0
GUNZ Gunzen 153.10 342 *e*PKPab PKPab 21 08 12.8 -0.2
WERN Wernitzgruen 153.15 342 *e*PKPbc PKPbc 21 07 59.4 +0.3
WERN *e*PKPab PKPab 21 08 12.9 -0.3
BZS Buzias 153.18 325 ⇓*i*P PKPbc 21 07 58.9 -0.2
NKC Novy Kostel 153.18 342 *e*PKPab PKPab 21 08 13.8 +0.4
ROTZ Rotzenmuhle 153.67 342 *e*PKPab PKPab 21 08 16.0 +0.6
KHC Kasperske Hory 153.82 339 ⇑*e*PKP PKPbc 21 08 00.5 0.0
KHC *e*PKPAB PKPab 21 08 15.8 -0.3
GRA1 Grafenberg Arr 154.01 343 *e*PKPab PKPab 21 08 16.7 -0.2
GRF Grafenberg Arr 154.01 343 *e*PKPab PKPab 21 08 16.7 -0.2
WET Wettzell 154.03 340 *e*PKPab PKPab 21 08 17.0 0.0
GERES GERESS Array B 154.03 339 PKPbc PKPbc 21 08 00.2 -0.7
comp=Z,0.7nm,0.6s,baz=42,slow=2.2,SNR=6.1
GERES PKPab PKPab 21 08 16.4 -0.6
comp=Z,2.1nm,0.7s,baz=33,slow=4.3,SNR=15
TNS Taunus Mts 154.15 347 *e*PKPbc PKPbc 21 08 01.1 -0.1
VTS Vitosha 154.16 318 ⇓*i*P PKPab 21 08 18.8 +1.2
PKSM Moragy 154.22 329 ⇓*i*P PKPbc 21 08 00.9 -0.4
GIVF Givet 154.84 353 *e*PKP2 PKPab 21 08 18.5 -1.9
BAIF Baives 154.94 354 *e*PKP2 PKPab 21 08 18.3 -2.6
FUR Furstenfeldbru 155.38 342 *e*PKPab PKPab 21 08 22.8 0.0
CDF Champ du Feu 156.10 348 *e*PKP2 PKPab 21 08 24.3 -1.6
comp=Z,9.2nm,0.8s
MEZF Maizieres J'vi 156.38 352 *e*PKP2 PKPab 21 08 25.6 -1.5
HAU Haudompre 156.66 349 *e*PKP2 PKPab 21 08 26.7 -1.6
comp=Z,25nm,0.8s
HINF Hinteralfeld 156.76 348 *e*PKP2 PKPab 21 08 26.8 -1.9
LOR Lormes 157.74 353 *e*PKP2 PKPab 21 08 31.2 -1.8
SSF Saint Saulge 157.98 354 *e*PKP2 PKPab 21 08 32.5 -1.6
comp=Z,23nm,0.9s
CABF La Chapelle 158.06 349 *e*PKP2 PKPab 21 08 33.8 -0.6
AVF Avril sur Loir 158.26 354 *e*PKP2 PKPab 21 08 33.6 -1.7
SMF Signal de Mont 158.36 353 *e*PKP2 PKPab 21 08 34.2 -1.5
comp=Z,68nm,1.3s
TCF Toulx Ste Croi 158.86 356 *e*PKP2 PKPab 21 08 34.8 -3.1
LPL La Plagne 158.99 347 *e*PKP2 PKPab 21 08 37.8 -0.6
comp=Z,11nm,0.9s
LPG La Plagne 159.00 347 *e*PKP2 PKPab 21 08 38.0 -0.5
comp=Z,8.5nm,0.8s
MBDF Montbardon 159.73 346 *e*PKP2 PKPab 21 08 41.8 +0.1
ORIF Oris-en-Rattie 159.73 348 *e*PKP2 PKPab 21 08 40.8 -0.9
comp=Z,12nm,0.7s
RJF Les Rejaudoux 159.88 357 *e*PKP2 PKPab 21 08 38.4 -4.0
VIVF Saint-Julien-l 160.00 350 *e*PKP2 PKPab 21 08 41.6 -1.3
SBF Sospel 160.39 344 *e*PKP2 PKPab 21 08 43.1 -1.5
comp=Z,23nm,0.8s
FRF La Foret Royal 160.86 345 *e*PKP2 PKPab 21 08 45.1 -1.6
comp=Z,19nm,1.1s
LMR La Mourre 161.11 345 *e*PKP2 PKPab 21 08 46.4 -1.3
comp=Z,37nm,1.3s
ESDC Sonseca Array 165.18 12 PKPab PKPab 21 09 05.1 -0.5
comp=Z,1.1nm,0.7s,baz=348,slow=4.7,SNR=4.9
KEST Kesra 166.73 325 PKPab PKPab 21 09 12.9 +0.4
comp=Z,0.9nm,0.8s,baz=42,slow=6.2,SNR=3.8
TORD Torodi Ar. Bea 167.92 188 PKPab PKPab 21 09 18.9 +1.1
comp=Z,0.6nm,0.5s,baz=172,slow=3.6,SNR=11

IDC 01 21:06:15.3±1.9, 400S×12783E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/17, mbtmp3.8/5, Error ellipse: s-maj=231.8km s-min=28.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.07**	**159**	P	Pn	21 10 10.2	-5.0
0.2nm,0.3s,baz=333,slow=12,SNR=4.7							
ASAR	**Alice Springs**	**20.41**	**164**	P	P	21 10 54.2	+0.4
3.2nm,0.8s,baz=344,slow=10,SNR=40							
SONM	**Songino Array**	**54.94**	**342**	P	P	21 15 48.3	+0.3
0.9nm,1.0s,baz=123,slow=5.3,SNR=4.2							
MKAR	**Makanchi Array**	**64.55**	**327**	P	P	21 16 54.8	+0.7
1.2nm,0.5s,baz=115,slow=7.9,SNR=31							
ZAL	**Zalesovo**	**67.96**	**334**	P	P	21 17 16.1	+0.1
0.8nm,0.8s,baz=8.2,slow=4.4,SNR=4.7							
BVAR	**Borovoye Array**	**74.39**	**328**	P	P	21 17 54.0	-1.0
0.9nm,0.9s,baz=134,slow=6.4,SNR=4.3							

JMA 01 21:42:32.7±0.2, 2251N×12161E, h30km, M3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.33**	**33**	P	Pn	21 43 10.3	+1.3
YOJ				S	Sn	21 43 38.1	+1.5
HATJ	**Hateruma jima**	**2.54**	**52**	P	Pn	21 43 13.3	+1.5
HATJ				S	Sn	21 43 43.3	+1.6
IRIF	**Iriomote-Funau**	**2.66**	**47**	P	Pn	21 43 15.0	+1.5
IRIF				S	Sn	21 43 47.1	+2.3
JKRS	**Kuro-shima**	**2.80**	**52**	P	Pn	21 43 17.1	+1.7
JKRS				S	Sn	21 43 50.3	+2.2
JIJ	**Ishigaki jima**	**2.97**	**51**	P	Pn	21 43 19.3	+1.6
JIJ				S	Sn	21 43 53.3	+1.0
JTJ	**Tarama**	**3.54**	**53**	P	Pn	21 43 27.4	+1.8
JTJ				S	Sn	21 44 07.6	+1.1
JMJ	**Miyako jima 2**	**4.08**	**55**	P	Pn	21 43 35.1	+2.0
JMJ				S	Sn	21 44 23.6	+3.8

KRSC 01 21:42:40.9±0.1, 5613N×16268E, h19km±19km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.11**	**45**	*i*P	Pg	21 42 45.1	+0.3
KBTR				*e*S	Sg	21 42 47.8	+0.4
BDR	**Baidarnaya**	**0.93**	**299**	*i*P	Pb	21 42 58.5	+0.1
BDR				*i*S	Sb	21 43 11.2	+0.9
SRKR	**Sorokina**	**0.99**	**303**	*i*P	Pb	21 42 59.3	-0.2
SRKR				*i*S	Sb	21 43 12.6	+0.5
ZLN	**Zelenaya**	**1.06**	**265**	*i*P	Pb	21 43 00.9	+0.3
ZLN				*i*S	Sb	21 43 15.3	+1.3
KLY	**Klyuchi**	**1.15**	**280**	*i*P	Pn	21 43 00.1	-1.8
KLY				*i*S	Sb	21 43 13.9	-2.7
KRSR	**Krestovskiy**	**1.19**	**275**	*i*P	Pn	21 43 02.1	-0.4
KRSR				*e*S	Sb	21 43 17.7	0.0
BZMR	**Bezymyannaya**	**1.25**	**262**	*i*P	Pn	21 43 03.3	0.0
BZMR				*i*S	Sb	21 43 19.3	-0.1
KPT	**Kopyto**	**1.39**	**264**	*i*P	Pn	21 43 05.8	+0.6
KPT				*i*S	Sn	21 43 24.4	+1.3
KMNR	**Kamenistaya**	**1.43**	**256**	*e*P	Pn	21 43 06.8	+1.1
KMNR				*e*S	Sn	21 43 26.6	+2.7
KOZ	**Kozyrevsk**	**1.57**	**269**	*i*P	Pn	21 43 09.1	+1.3
KOZ				*i*S	Sn	21 43 30.3	+2.7
SRDR	**Sredinnyy**	**1.67**	**278**	*i*P	Pn	21 43 10.2	+1.2
SRDR				*i*S	Sn	21 43 30.8	+0.9
TUMR	**Tumrok**	**1.67**	**240**	*i*P	Pn	21 43 10.3	+1.2
TUMR				*i*S	Sn	21 43 31.2	+1.3
MKZ	**Mys Kozlova**	**1.67**	**199**	P	Pn	21 43 09.3	+0.2
MKZ				*i*S	Sn	21 43 30.6	+0.6
SPN	**Mys Shipunski**	**3.41**	**208**	*e*P	Pn	21 43 32.9	-0.1
SPN				*i*S	Sn	21 44 11.7	-1.2
NLC	**Nalytchevo**	**3.54**	**215**	P	Pn	21 43 35.3	+0.5
NLC				*i*S	Sn	21 44 14.9	-1.3
GNL	**Ganaly**	**3.67**	**230**	P	Pn	21 43 38.8	+2.3
AVH	**Avacha**	**3.67**	**220**	*e*P	Pn	21 43 38.7	+2.1
AVH				*e*S	Sn	21 44 20.7	+1.3
PET	**Petropavlovsk**	**3.90**	**219**	P	Pn	21 43 41.3	+1.6
PET				*i*S	Sn	21 44 25.9	+1.0
RUS	**Russkaya**	**4.44**	**215**	P	Pn	21 43 47.7	+0.6
RUS				*i*S	Sn	21 44 37.1	-1.1
GRL	**Gorelyy**	**4.49**	**219**	P	Pn	21 43 48.2	+0.4

MEX 01 21:48:38.4±0.8, 1788N×9965W, h5km±10km, MD3.7, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.05**	**37**	⇑*i*P	Pg	21 48 39.0	-0.7
MEIG				*i*S	Sg	21 48 40.4	-0.2
PLIG	**Platanillo**	**0.53**	**16**	*i*P	Pg	21 48 48.4	-0.1
PLIG				*i*S	Sg	21 48 56.7	+1.3
PPM	**Popocatepetl**	**1.53**	**39**	*e*P	Pn	21 49 03.0	-3.4
PPM				*i*S	Sn	21 49 20.6	-6.1
UTMO	**Huajuapan**	**1.76**	**91**	*i*P	Pn	21 49 06.9	-2.7
UTMO				*i*S	Sn	21 49 28.9	-3.6

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*IDC **01** 21:55:41.8±7.9, 2488S×18000W, h506km±77km, mb3.6/3, mb1 3.7/4, mb1mx3.3/12, mbtmp3.5/4, Error ellipse: s-maj=65.1km s-min=33.0km az=34.0*
*ISCJB **01** 21:55:43.9

2.9nm,0.2s,mb4.5
FITZ Fitzroy Crossi 50.72 267 *e*P **P 22 03 55.3 +0.6**
5.2nm,0.6s,mb4.0
KLBR Kellerberrin 54.54 248 *e*P **P 22 04 21.8 -0.3**
9.1nm,0.8s,mb4.1
VNA3 Neumayer Olymp 83.78 177 *e* **P 22 07 17.7 +0.1**
VNA3 Neumayer Olymp 83.78 177 *e* **P 22 07 17.7 +0.1**
VNA3 *e* 22 07 20.1
VNA2 Neumayer--Watz 84.19 178 *e* **P 22 07 19.8 +0.1**
VNA2 Neumayer--Watz 84.19 178 *e* **P 22 07 19.8 +0.1**
VNA2 *e* 22 07 22.3
ARCES ARCESS Array B 132.96 348 PKP PKPdf 22 13 59.3 0.0
1.8nm,0.9s,baz=64,slow=2.8,SNR=5.0
AKASG Malin Array Be 145.88 326 PKPbc PKPbc 22 14 22.9 -1.4
0.4nm,0.3s,baz=43,slow=4.1,SNR=8.1
AKASG Malin Array Be 145.88 326 PKPbc PKPbc 22 14 22.9 -1.4
BRTR Keskin Array B 148.21 306 PKPbc PKPbc 22 14 29.9 -0.6
0.4nm,0.4s,baz=98,slow=3.2,SNR=3.2
TORD Torodi Ar. Bea 168.09 188 PKPab PKPab 22 16 01.8 +0.2
0.4nm,0.6s,baz=165,slow=3.6,SNR=7.7

*NEIC **01** 22:00:41.9, 3098S×7205W, h33km, ML3.4(GUC), After GUC.*

GUC 01 22:00:41.9±0.7, 3098S×7205W, h33km±5km, MD4.1, ML3.4, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.81**	**63**	*e*P	Pn	22 00 56.9	-0.2
OVCH				*i* S	Sn	22 01 08.5	+0.5
OVCH				AML	AML	22 01 11.5	
	comp=E,3μm,0.5s						
OVCH	**Ovalle**	**0.81**	**63**	*e*P	Pn	22 00 56.9	-0.2
OVCH				*i* S	Sn	22 01 08.5	+0.5
CMCH	**Combarbala**	**0.92**	**103**	⇑*i*P	Pn	22 00 58.4	0.0
CMCH				*i* S	Sn	22 01 11.5	+1.0
CMCH				AML	AML	22 01 14.2	
	comp=N,3μm,0.6s						
CMCH	**Combarbala**	**0.92**	**103**	⇑*i*P	Pn	22 00 58.4	0.0
CMCH				*i* S	Sn	22 01 11.5	+1.0
TLL	**Tololo Astrono**	**1.34**	**53**	⇑*i*P	Pn	22 01 05.4	+1.1
TLL				*i* S	Sn	22 01 23.8	+2.8
TLL				AML	AML	22 01 31.0	
	comp=N,830nm,0.6s						
TLL	**Tololo Astrono**	**1.34**	**53**	⇑*i*P	Pn	22 01 05.4	+1.1
TLL				*i* S	Sn	22 01 23.8	+2.8
PTCH	**Petorca**	**1.60**	**144**	*e*P	Pn	22 01 09.4	+1.5
PTCH				*i* S	Sn	22 01 29.6	+2.2
PTCH				AML	AML	22 01 39.6	
	comp=E,1μm,0.4s						
PTCH	**Petorca**	**1.60**	**144**	*e*P	Pn	22 01 09.4	+1.5
PTCH				*i* S	Sn	22 01 29.6	+2.2
FCH	**Farellones**	**2.78**	**148**	*e*P	Pn	22 01 26.6	+2.6
FCH				*i* S	Sn	22 01 59.8	+3.3
FCH				AML	AML	22 02 17.6	
	comp=E,134nm,0.3s						
ZON	**Zonda**	**2.94**	**102**	*e*P	Pn	22 01 32.6	+6.3

IDC 01 22:16:51.4±4.4, 366S×13592E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.6/12, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=204.3km s-min=31.3km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.26**	**185**	Pn	Pn	22 20 39.6	-1.6
	0.3nm,0.3s,baz=4.8,slow=12,SNR=6.9						
WRA				Sn	Sn	22 23 35.7	-6.4
	0.2nm,0.3s,baz=1.2,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**19.99**	**185**	P	Pn	22 21 26.4	-0.6
	0.2nm,0.3s,baz=6.5,slow=11,SNR=23						
MKAR	**Makanchi Array**	**68.86**	**324**	P	P	22 27 57.9	+0.2
	0.2nm,0.5s,baz=117,slow=7.3,SNR=5.0						

KRSC 01 22:17:14.7±0.3, 5528N×16312E, h41km±41km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.95**	**350**	*e*P	Pn	22 17 31.2	-0.3
KBTR				*e*S	Sn	22 17 44.6	+0.8
MKZ	**Mys Kozlova**	**1.08**	**228**	*e*P	Pn	22 17 33.0	-0.4
MKZ				*e*S	Sn	22 17 47.2	+0.1
ZLN	**Zelenaya**	**1.51**	**300**	*e*P	Pn	22 17 41.3	+2.1
ZLN				*e*S	Sn	22 18 00.7	+3.1
BZMR	**Bezymyannaya**	**1.63**	**295**	*e*P	Pn	22 17 43.5	+2.6
BZMR				*e*S	Sn	22 18 04.6	+4.0
BDR	**Baidarnaya**	**1.68**	**321**	*e*P	Pn	22 17 43.7	+2.1
BDR				*e*S	Sn	22 18 04.9	+3.0
TUMR	**Tumrok**	**1.70**	**271**	*e*P	Pn	22 17 44.3	+2.4
TUMR				*e*S	Sn	22 18 06.3	+3.9
KMNR	**Kamenistaya**	**1.71**	**287**	*e*P	Pn	22 17 43.9	+1.9
KMNR				*e*S	Sn	22 18 05.7	+3.2
KRSR	**Krestovskiy**	**1.72**	**304**	*e*P	Pn	22 17 44.1	+1.9
KRSR				*e*S	Sn	22 18 06.2	+3.3
KLY	**Klyuchi**	**1.74**	**308**	*e*P	Pn	22 17 42.8	+0.5
KLY				*e*S	Sn	22 18 03.1	-0.2
SRKR	**Sorokina**	**1.76**	**322**	*e*P	Pn	22 17 44.6	+1.9
SRKR				S	Sn	22 18 06.5	+2.6
KPT	**Kopyto**	**1.78**	**294**	*e*P	Pn	22 17 45.4	+2.4
KPT				S	Sn	22 18 07.8	+3.4
KOZ	**Kozyrevsk**	**2.00**	**294**	*e*P	Pn	22 17 49.1	+3.2
KOZ				S	Sn	22 18 13.4	+3.7
SRDR	**Sredinnyy**	**2.18**	**300**	*e*P	Pn	22 17 51.2	+2.7
SRDR				S	Sn	22 18 16.9	+2.6
SPN	**Mys Shipunski**	**2.84**	**221**	P	Pn	22 17 58.5	+0.9
SPN				S	Sn	22 18 30.1	-0.5
NLC	**Nalytchevo**	**3.06**	**228**	P	Pn	22 18 04.2	+3.6
NLC				S	Sn	22 18 40.1	+4.2
AVH	**Avacha**	**3.27**	**234**	P	Pn	22 18 06.1	+2.7
GNL	**Ganaly**	**3.41**	**244**	P	Pn	22 18 09.0	+3.6
PET	**Petropavlovsk**	**3.46**	**231**	S	Sn	22 18 50.3	+4.4
RUS	**Russkaya**	**3.95**	**226**	P	Pn	22 18 15.5	+2.8

IDC 01 22:31:50.7±1.8, 2162S×6934W, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=54.0km s-min=45.6km az=166.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.42**	**12**	Pn	Pn	22 33 13.9	+1.1
	1.4nm,0.3s,baz=223,slow=6.9,SNR=11						
SIV	**San Ignacio**	**9.62**	**56**	Pn	Pn	22 34 11.1	+0.7
	2.1nm,0.3s,baz=251,slow=11,SNR=44						
TORD	**Torodi Ar. Bea**	**77.77**	**70**	P	P	22 43 49.7	0.0
	0.4nm,0.3s,baz=253,slow=5.2,SNR=24						
TORD				sP		22 44 20.6	
	0.6nm,0.8s,baz=251,slow=5.2,SNR=2.9						
YKA	**Yellowknife Ar**	**91.16**	**341**	P	P	22 44 55.6	-1.9
	0.6nm,0.6s,baz=134,slow=4.5,SNR=6.7						
MKAR	**Makanchi Array**	**145.96**	**36**	PKPbc	PKPbc	22 51 32.4	+0.1
	0.4nm,0.6s,baz=338,slow=1.7,SNR=6.3						
SONM	**Songino Array**	**153.62**	**6**	PKPbc	PKPbc	22 51 52.9	+1.5
	0.4nm,0.4s,baz=317,slow=1.5,SNR=9.9						

*CSEM **01** 22:49:35.6, 3572N×2252E, h114km, ML3.7, After ATH*
*NEIC **01** 22:49:35.6, 3572N×2252E, h114km, MG3.7(ATH), After ATH.*

ATH 01 22:49:35.6, 3572N×2252E, h114km±4km, ML3.7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.70**	**37**	*e*P	Pn	22 49 54.8	+0.5
VLI	**Veliai**	**1.05**	**19**	*e*P	Pn	22 49 59.0	+1.4
VLI				*e*S	Sn	22 50 15.0	+0.7
VAM	**Vamos**	**1.41**	**102**	*e*P	Pn	22 50 02.0	+0.5
ITM	**Ithomi**	**1.53**	**342**	*e*P	Pn	22 50 03.6	+0.6
GVD	**Gavdhos**	**1.56**	**124**	*e*P	Pn	22 50 04.5	+1.2
GVD				*e*S	Sn	22 50 25.0	+0.7
NAIG	**Nisos Aigina**	**2.18**	**21**	*e*P	Pn	22 50 12.0	+1.0
KVR	**Kavouri**	**2.33**	**25**	*e*P	Pn	22 50 13.8	+0.8
MGER	**Gerania Oros**	**2.34**	**14**	*e*P	Pn	22 50 14.2	+1.2
ATH	**Athens Observa**	**2.44**	**23**	*e*P	Pn	22 50 16.0	+1.6
RLS	**Riolos of Patr**	**2.48**	**340**	P	Pn	22 50 17.0	+2.1
PTL	**Penteli**	**2.56**	**24**	*e*P	Pn	22 50 17.5	+1.6
PTL				*e*S	Sn	22 50 46.5	-0.4
APE	**Apeiranthos**	**2.78**	**60**	P	Pn	22 50 21.6	+2.9
VLS	**Valsamata**	**2.90**	**328**	*e*P	Pn	22 50 20.8	+0.4
LKR	**Lokris**	**2.95**	**7**	P	Pn	22 50 22.8	+1.8
EVR	**Evrytania**	**3.24**	**350**	P	Pn	22 50 29.7	+4.8
NEO	**Neokhori**	**3.62**	**9**	*e*P	Pn	22 50 31.3	+1.3
ARG	**Arkhangelos**	**4.57**	**82**	P	Pn	22 50 46.5	+3.8

CASC 01 22:57:10.9±3.2, 1246N×8771W, h62km±31km, MD4.1, ML3.5, 4C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.68**	**69**	⇓*e*P	Pn	22 57 24.3	-0.7
CRIN				*e*S	Sn	22 57 36.4	+1.0
CNCH	**Conchagua**	**0.82**	**351**	⇓*e*P	x	22 57 29.1	
CNCH				*e*S	x	22 57 40.2	
TELN	**Telica**	**0.87**	**80**	⇓*e*P	Pn	22 57 26.2	-1.0
TELN				*e*S	Sn	22 57 40.7	+1.4
CNGN	**Cerro Negro**	**0.98**	**87**	⇑*e*P	Pn	22 57 27.0	-1.8
CNGN				*e*S	Sn	22 57 44.6	+2.6
BLLM	**Bellamira**	**1.11**	**332**	⇑*e*P	x	22 57 31.6	
BLLM				*e*S	x	22 57 46.8	
VSM	**San Miguel**	**1.11**	**330**	*e*P	x	22 57 31.9	
VSM				*e*S	x	22 57 46.8	
MOMJ	**Momotombo**	**1.14**	**92**	⇑*e*P	Pn	22 57 29.6	-1.2
MOMJ				*e*S	Sn	22 57 46.5	+0.8
MOMJ				*i*		22 57 48.2	
	comp=Z,685nm,0.3s						
XAVN	**Gruta Xavier**	**1.38**	**103**	*e*P	Pn	22 57 33.3	-0.7
XAVN				*e*S	Sn	22 57 51.7	+0.3
TISN	**Laguna Tiscapa**	**1.44**	**102**	⇑*e*P	Pn	22 57 34.0	-0.7
TISN				*e*S	Sn	22 57 53.6	+0.9
MGAN	**Managua**	**1.46**	**102**	*e*P	Pn	22 57 34.5	-0.6
MGAN				*e*S	Sn	22 57 53.5	+0.3
MGAN				*i*		22 57 55.4	
	comp=N,1μm,0.3s						
TICN	**Ticuantepe**	**1.50**	**106**	*e*P	Pn	22 57 35.0	-0.6
TICN				*e*S	Sn	22 57 55.6	+1.4
SNVI	**San Vicente**	**1.59**	**316**	*e*P	x	22 57 37.5	
SNVI				*e*S	x	22 57 56.3	
APON	**Apoyo**	**1.69**	**108**	*e*P	Pn	22 57 37.9	-0.3
LCBS	**La Ceiba**	**1.72**	**314**	*e*P	x	22 57 39.2	
LCBS				*e*S	x	22 57 58.5	
LFRS	**El Faro**	**1.76**	**311**	*e*P	x	22 57 39.5	
LFRS				*e*S	x	22 57 59.8	
LBRS	**Las Brisas**	**1.82**	**314**	*e*P	x	22 57 41.1	
BOQS	**Boqueron**	**1.99**	**310**	*e*P	x	22 57 43.1	
BOQS				*e*S	x	22 58 05.5	
BOAB	**BOACO BROADBAN**	**.99**	**90**	*e*P	Pn	22 57 41.2	-1.1
SSNN	**San Juan del S**	**2.16**	**122**	*e*P	Pn	22 57 43.3	-1.2
SBLS	**San Blas**	**2.32**	**307**	*e*P	x	22 57 47.5	
MADN	**Villa Maderas**	**2.37**	**116**	*e*P	Pn	22 57 46.8	-0.6
RTR	**El Retiro**	**2.37**	**307**	*e*P	x	22 57 49.4	
VCR	**Vista de Mar**	**3.08**	**138**	*e*P	Pn	22 57 56.2	-0.9
CGA2	**Cerro Gallo 2**	**4.00**	**127**	*e*P	Pn	22 58 11.1	+1.4
CGA2				*e*S	Sn	22 58 59.5	+4.3
PRS1	**Puriscal**	**4.14**	**126**	*e*P	Pn	22 58 13.6	+2.1
LAJ	**Bijagual**	**4.36**	**126**	*e*P	Pn	22 58 12.5	-2.1
LCR2	**La Lucha 2**	**4.53**	**126**	*e*P	Pn	22 58 19.7	+2.9
LCR2				*e*S	Sn	22 59 11.3	+3.2

*ISCJB **01** 23:03:03.7±0.5, 5141N×003×1621E×003, h0km, Error ellipse: s-maj=4.1km s-min=2.4km az=28.2*
*IPEC **01** 23:03:04.4±0.3, 5151N×1628E, h0km, ML2.1/3, Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*IDC **01** 23:03:06.1±1.1, 5141N×1611E, h0km, mb1 3.6/4, mb1mx3.3/18, mbtmp3.4/4, ML2.8/4, Error ellipse: s-maj=18.2km s-min=9.9km az=109.0*
*PRU **01** 23:03:06.9, 5139N×1614E, h0km*
*WAR **01** 23:03:06.4, 5144N×1619E, ML2.6, Mining Induced*
*CSEM **01** 23:03:07.2±0.2, 5139N×1624E, h1km, ML3.2/9, Error ellipse: s-maj=3.2km s-min=2.0km az=13.0*
*VIE **01** 23:03:07.7±0.5, 5125N×1616E, h0km, mb2.2/4, ML2.8/4, Error ellipse: s-maj=3.4km s-min=3.1km az=174.0 61 km WNW of Breslau Suspected Mining induced.*

ISC 01 23:03:04.4±0.4, 5148N±002×1619E±003, h0km, n31, σ1§09/63, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**174**	*i* Pg	**Pg**	**23 03 17.4**	**+0.8**
KSP				*e*Sg	**Sg**	**23 03 25.3**	**+0.4**
KSP	**Ksiaz**	**0.64**	**174**	*e*Pg	**Pg**	**23 03 17.3**	**+0.7**
KSP				*e*Sg	**Sg**	**23 03 24.7**	**-0.2**
UPC	**Upice**	**0.98**	**187**	*e*PG	**Pg**	**23 03 23.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.13**	**176**	*e*PG	**Pg**	**23 03 26.3**	**+0.2**
DPC				*e*SG	**Sg**	**23 03 40.3**	**-0.5**
	36nm,0.3s						
DPC	**Dobruska-Polom**	**1.13**	**176**	*e*Pg	**Pg**	**23 03 26.2**	**+0.1**
DPC				*e*Sg	**Sg**	**23 03 40.8**	**0.0**
PVCC	**Panska Ves**	**1.40**	**228**	*e*PG	**Pg**	**23 03 31.6**	**+0.4**
PVCC				*e*SG	**Sg**	**23 03 50.5**	**+1.2**
	215nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**228**	*e*Pg	**Pg**	**23 03 31.6**	**+0.4**
PVCC				*e*Sg	**Sg**	**23 03 50.7**	**+1.4**
BRG	**Berggiesshubel**	**1.54**	**248**	PN	**Pn**	**23 03 32.6**	**-0.4**
BRG				PG	**Pg**	**23 03 34.2**	**+0.3**
BRG				SG	**Sg**	**23 03 54.8**	**+0.9**
	21nm,0.5s						
PRU	**Pruhonice**	**1.82**	**216**	*e*PN	**Pn**	**23 03 37.4**	**+0.4**
PRU				*e*PG	**Pg**	**23 03 38.7**	**-0.6**
PRU				*e*SG	**Sg**	**23 04 02.5**	**-0.5**
	42nm,0.5s						
MORC	**Moravsky Berou**	**1.91**	**153**	*e*Pn	**Pn**	**23 03 38.2**	**+0.1**
MORC				*e*Sg	**Sg**	**23 04 04.5**	**-1.2**
	14nm,0.3s						
CLL	**Collm**	**2.01**	**266**	*e*Pn	**Pn**	**23 03 40.0**	**+0.5**
CLL				*i* Pg	**Pg**	**23 03 42.9**	**+0.1**
CLL				*i* Sg	**Sg**	**23 04 10.1**	**+1.3**
	comp=Z,15nm,0.6s						
OKC	**Ostrava-Krasne**	**2.06**	**142**	*e*PN	**Pn**	**23 03 40.0**	**-0.2**
OKC				*e*PG	**Pg**	**23 03 44.1**	**+0.2**
OKC				*e*SG	**Sg**	**23 04 08.7**	**-1.9**
	comp=Z,38nm,0.7s						
VRAC	**Vranov**	**2.19**	**173**	Pn	**Pn**	**23 03 42.9**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=344,slow=12,SNR=17						
VRAC				Lg		23 04 12.6	
	comp=Z,3.7nm,0.3s,baz=66,slow=14,SNR=9.7						
VRAC	**Vranov**	**2.19**	**173**	*e*Pn	**Pn**	**23 03 42.7**	**+0.7**
VRAC				*e*Sg	**Sg**	**23 04 14.0**	**-0.7**
	comp=Z,9.7nm,0.2s						
KRUC	**Moravsky**	**2.42**	**177**	*e*Pn	**Pn**	**23 03 46.6**	**+1.4**
KRUC				*e*Sg	**Sg**	**23 04 21.5**	**-0.7**
	comp=Z,7.0nm,0.2s						
OJC	**Ojcow**	**2.61**	**117**	*e*Pg	**Pg**	**23 03 53.4**	**-1.0**
OJC				*e*Sg	**Sg**	**23 04 28.4**	**+0.2**
NKC	**Novy Kostel**	**2.68**	**244**	*e*PN	**Pn**	**23 03 49.3**	**+0.5**
NKC				*e*PG	**Pg**	**23 03 55.5**	**-0.3**
NKC				*e*SG	**Sg**	**23 04 31.4**	**+0.9**
	comp=Z,22nm,0.3s						
KHC	**Kasperske Hory**	**2.89**	**217**	*e*PN	**Pn**	**23 03 52.2**	**+0.6**
KHC				*e*PG	**Pg**	**23 03 58.1**	**-1.6**
KHC				*e*SN	**Sn**	**23 04 25.0**	**-2.0**
KHC				*e*SG	**Sg**	**23 04 34.7**	**-2.4**
	comp=Z,13nm,0.4s						
SMOL	**Smolenice**	**3.07**	**164**	*e*SG	**Sg**	**23 04 44.1**	**+1.0**
GERES	**GERESS Array B**	**3.08**	**212**	Pn	**Pn**	**23 03 54.7**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=16						
GERES				Pg	**Pg**	**23 04 01.3**	**-2.2**
	comp=Z,3.1nm,0.3s,baz=30,slow=16,SNR=47						
GERES				Sn	**Sn**	**23 04 34.7**	**+2.8**
	comp=Z,1.7nm,0.3s,baz=39,slow=26,SNR=6.8						
GERES				Lg		23 04 40.4	
	comp=Z,3.8nm,0.3s,baz=33,slow=27,SNR=10						
ZST	**Bratislava**	**3.34**	**169**	*e*SG	**Sg**	**23 04 50.9**	**-0.7**
NIE	**Niedzica**	**3.34**	**126**	*e*P	**Pg**	**23 04 08.3**	**-0.2**
NIE				*e*S	**Sg**	**23 04 53.0**	**+1.2**
VYHS	**Vyhne**	**3.44**	**149**	*e*SG	**Sg**	**23 04 53.2**	**-1.7**
CONA	**Conrad Observa**	**3.56**	**184**	⇓*i*Pn	**Pn**	**23 04 01.1**	**+0.2**
CONA				⇓*i*Sg	**Sg**	**23 04 58.1**	**-0.7**
	comp=Z,8.8nm,0.5s						
BSD	**Bornholm Skovb**	**3.72**	**349**	*i* P	**Pn**	**23 04 02.1**	**-1.0**
BSD				*i*		23 04 08.7	
BSD				*i* S	**Sn**	**23 04 45.6**	**-2.0**
STHS	**Stebnicka Huta**	**3.83**	**121**	*e*PN	**Pn**	**23 04 05.5**	**+0.9**
STHS				*e*PG	**Pg**	**23 04 19.2**	**+1.4**
STHS				*e*SG	**Sg**	**23 05 10.6**	**+3.1**
MOA	**Molln**	**3.84**	**200**	⇓*i*Pn	**Pn**	**23 04 05.5**	**+0.8**
MOA				⇓*i*Sg	**Sg**	**23 05 07.9**	**+0.1**
	comp=Z,15nm,0.7s						
KECS	**Kecovo**	**4.08**	**136**	*e*SG	**Sg**	**23 05 18.8**	**+3.3**
CRVS	**Cervenica-Dubn**	**4.25**	**125**	*e*PG	**Pg**	**23 04 26.7**	**+0.8**
CRVS				*e*SG	**Sg**	**23 05 24.5**	**+3.4**
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**23 05 46.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=219,slow=12,SNR=4.7						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**Pn**	**23 07 19.8**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=7.4						

*NEIC **01** 23:21:21.7±1.4, 5.12S×15107E, h10km, mb4.1/3, Error ellipse: s-maj=36.0km s-min=18.9km az=110.0*
*ISCJB **01** 23:21:28.3±4.4, 5.1S±02×1509E±03, h75km±33km, mb3.9/7, Error ellipse: s-maj=44.3km s-min=25.4km az=30.6*
*IDC **01** 23:21:32.5±5.8, 5.16S×15074E, h98km±45km, mb3.7/6, mb1 3.9/7, mb1mx3.8/14, mbtmp3.8/7, MS3.5/7, Ms1 3.4/7, ms1mx3.3/19, Error ellipse: s-maj=49.3km s-min=24.8km az=87.0*

ISC 01 23:21:30.3±4.0, 52S±02×1509E±03, h79km±30km, n18, σ0§76/12, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.63**	**221**	P	**Pn**	**23 22 50.7**	**-0.7**
	1.7nm,0.3s,baz=38,slow=8.9,SNR=27						
PMG				S	**Sn**	**23 23 55.9**	**+1.3**
	3.8nm,0.3s,baz=124,slow=22,SNR=10						
PMG				LR	LR	23 24 37.7	
	comp=Z,101nm,20.1s,baz=12,slow=34						
CTA	**Charters Tower**	**15.52**	**197**	LR	LR	23 30 34.4	
	comp=Z,161nm,18.9s,baz=233,slow=35						
KAKA	**Kakadu**	**19.72**	**246**	*e*P	**Pn**	**23 25 55.3**	**-0.3**
	3.3nm,0.5s						
WRAB	**Tennant Creek**	**21.80**	**226**	*e*P	**P**	**23 26 16.0**	**+0.2**
	5.9nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**21.81**	**226**	*e*P	**P**	**23 26 15.1**	**-0.8**
WRA	**Warramunga Arr**	**21.82**	**226**	P	**P**	**23 26 15.7**	**-0.3**
	3.7nm,0.7s,mb3.9,baz=51,slow=10,SNR=20						
WRA				LR	LR	23 35 45.9	
	comp=Z,76nm,19.2s,baz=165,slow=39						
DZM	**Mont Dzumac**	**22.56**	**140**	LR	LR	23 34 00.8	
	comp=Z,221nm,19.6s,baz=63,slow=33						
ASAR	**Alice Springs**	**24.64**	**220**	P	**P**	**23 26 42.2**	**-1.2**
	4.8nm,0.7s,mb4.0,baz=56,slow=8.9,SNR=42						
FITZ	**Fitzroy Crossi**	**27.84**	**240**	*e*P	**P**	**23 27 12.6**	**+0.3**
	11nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.84**	**240**	P	**P**	**23 27 12.2**	**-0.1**
	7.5nm,0.9s,mb4.2,baz=83,slow=5.5,SNR=10						
STKA	**Stephens Creek**	**27.98**	**197**	LR	LR	23 37 03.9	
	comp=Z,128nm,18.5s,baz=27,slow=33						
KSRS	**Korea Array**	**47.49**	**335**	LR	LR	23 50 34.4	
	comp=Z,20nm,18.1s,baz=340,slow=37						
SONM	**Songino Array**	**65.63**	**329**	P	**P**	**23 32 07.0**	**+1.0**
	1.2nm,0.7s,mb3.9,baz=142,slow=5.2,SNR=7.9						
VNDA	**Vanda**	**72.55**	**178**	P	**P**	**23 32 49.8**	**+0.9**
	0.8nm,0.5s,mb3.8,baz=84,slow=8.0,SNR=7.8						
MKAR	**Makanchi Array**	**79.36**	**319**	P	**P**	**23 33 27.4**	**-0.1**
	0.6nm,0.8s,mb3.5,baz=116,slow=5.5,SNR=4.7						
MAW	**Mawson**	**84.52**	**203**	LR	LR	00 06 06.3	
	comp=Z,74nm,18.4s,baz=68,slow=32						
GERES	**GERESS Array B**	**123.36**	**328**	PKP	PKPdf	23 40 15.9	-2.3
	0.7nm,0.7s,baz=188,slow=0.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.61**	**287**	PKPbc	PKPbc	23 41 07.3	-0.9
	5.9nm,0.7s,baz=74,slow=2.9,SNR=37						

*NEIC **01** 23:44:16.9±0.8, 1696S×17770W, h35km, mb3.8/1, Error ellipse: s-maj=30.9km s-min=16.9km az=140.0*
*ISCJB **01** 23:45:00.6±0.7, 179S±02×1779W±02, h500km, mb3.6/9, Error ellipse: s-maj=26.4km s-min=13.5km az=104.1*
*IDC **01** 23:45:11.2±3.5, 1830S×17793W, h628km±44km, mb3.3/9, mb1 3.6/9, mb1mx3.3/16, mbtmp3.3/9, Error ellipse: s-maj=31.5km s-min=18.2km az=160.0*

ISC 01 23:45:01.7±0.7, 180S±02×1779W±02, h500km, n26, σ0§70/11, mb3.6/9, 5C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.70**	**191**	P	**P**	**23 49 06.2**	**-0.3**
	2.4nm,0.3s,baz=244,slow=7.4,SNR=4.4						
STKA	**Stephens Creek**	**39.07**	**241**	P	**P**	**23 51 44.4**	**-0.5**
WRAB	**Tennant Creek**	**45.13**	**260**	*e*P	**P**	**23 52 32.9**	**+0.2**
	0.5nm,0.4s,mb3.3						
WRA	**Warramunga Arr**	**45.14**	**260**	P	**P**	**23 52 33.3**	**+0.5**
	0.8nm,0.4s,mb3.5,baz=94,slow=8.4,SNR=4.9						
WRA				PcP	PcP	23 54 00.0	-2.8
	0.4nm,0.6s,baz=88,slow=3.5,SNR=4.9						
ASAR	**Alice Springs**	**45.28**	**254**	P	**P**	**23 52 34.5**	**+0.6**
	3.0nm,0.7s,mb3.8,baz=91,slow=7.6,SNR=35						
ASAR				PcP	PcP	23 54 01.0	-2.3
	1.6nm,0.6s,baz=102,slow=4.0,SNR=14						
MJAR	**Matsushiro Arr**	**68.26**	**323**	P	**P**	**23 55 11.6**	**-0.4**
	0.9nm,0.4s,mb3.8,baz=144,slow=5.2,SNR=4.5						
YBH	**Yreka Blue Hor**	**78.23**	**39**	P	**P**	**23 56 09.7**	**+0.6**
	1.6nm,0.6s,mb3.7,baz=102,slow=4.0,SNR=4.7						
NVAR	**Mina Array Bea**	**79.09**	**44**	P	**P**	**23 56 14.3**	**+0.6**
	1.6nm,0.7s,mb

5.1nm,0.4s,mb4.0
WRA Warramunga Arr 45.26 261 P **P 23 57 30.4 -0.7**
5.1nm,0.3s,mb4.1,baz=97,slow=5.6,SNR=31
FORT Forrest 50.06 246 *e*P **P 23 58 07.0 -0.7**
28nm,0.6s,mb4.7
FITZ Fitzroy Crossi 53.68 262 *e*P **P 23 58 34.0 -0.2**
7.5nm,1.5s,mb3.8
KLBR Kellerberrin 58.83 245 *e*P **P 23 59 09.6 -0.6**
20nm,1.1s,mb4.5
NWAO Narrogin (SRO) 59.15 243 *e*P **P 23 59 10.9 -1.6**
2.0nm,0.5s,mb3.8
KKM Kota Kinabalu 70.17 284 *e*P **P 00 00 23.6 +0.5**
KSM Kuching 73.91 278 *e*P **P 00 00 45.5 +0.5**
KULM Kulim 84.26 278 *e*P **P 00 01 41.0 +0.3**
TXAR Lajitas Array 86.25 57 P **P 00 01 52.4 +1.9**
0.3nm,0.7s,mb3.2,baz=233,slow=5.6,SNR=3.7
VNA3 Neumayer Olymp 88.69 176 *e* **P 00 02 01.4 -0.7**
VNA3 *e* 00 02 04.0
VNA3 *e* 00 02 16.7
VNA2 Neumayer--Watz 89.14 177 *e* **P 00 02 04.0 -0.2**
baz=186,slow=3.5
VNA2 *e* 00 02 06.1
VNA2 *e* 00 02 19.6
MKAR Makanchi Array 111.21 314 PKiKP PKiKP 00 07 39.5 -0.8
0.2nm,0.6s,baz=90,slow=0.4,SNR=3.9
ARCES ARCESS Array B 128.44 350 PKP PKPdf 00 08 11.1 -2.3
3.4nm,1.0s,baz=343,slow=1.3,SNR=4.7
ARCES ARCESS Array B 128.44 350 PKP PKPdf 00 08 11.1 -2.3
GERES GERESS Array B 149.78 345 PKPbc PKPbc 00 08 55.7 -1.1
0.8nm,0.7s,baz=29,slow=3.0,SNR=6.8

*IDC **01** 23:53:14.3±9.8, 1853S×17633W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/13, mbtmp4.0/2, Error ellipse: s-maj=533.2km s-min=54.4km az=148.0*
*NEIC **01** 23:53:15.2±2.2, 20.14S×175.41W, h35km, mb4.1/2, Error ellipse: s-maj=93.3km s-min=35.3km az=156.0*
*ISCJB **01** 23:53:24.2±3.9, 204S±08×1769W±05, h35km, mb4.0/4, Error ellipse: s-maj=127.5km s-min=27.2km az=57.6*
ISC 01 23:53:24.9±4.0, 204S±08×1766W±05, h35km, n9, σ0s34/8, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**36.56**	**282**	*e*P	**P**	**00 00 27.4**	**+0.1**
	3.6nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**45.79**	**256**	P	**P**	**00 01 43.7**	**+0.6**
	0.9nm,0.4s,mb4.0,baz=91,slow=7.5,SNR=16						
WRAB	**Tennant Creek**	**45.87**	**262**	*e*P	**P**	**00 01 43.3**	**-0.5**
	0.6nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**45.88**	**262**	P	**P**	**00 01 43.5**	**-0.3**
	0.3nm,0.3s,mb3.6,baz=93,slow=6.1,SNR=5.1						
VNA3	**Neumayer Olymp**	**88.20**	**176**	*e*	**P**	**00 06 12.2**	**-0.1**
VNA3	**Neumayer Olymp**	**88.20**	**176**	*e*P	**P**	**00 06 12.2**	**-0.1**
VNA2	**Neumayer--Watz**	**88.66**	**176**	*e*	**P**	**00 06 14.5**	**+0.1**
VNA2	**Neumayer--Watz**	**88.66**	**176**	*e*P	**P**	**00 06 14.5**	**+0.1**
	baz=319,slow=12						
GERES	**GERESS Array B**	**150.38**	**346**	PKPbc	PKPbc	00 13 03.1	-9.4
	0.4nm,0.6s,baz=1.7,slow=3.3,SNR=3.6						

IDC 01 23:59:46.4±3.3, 5239N×3185W, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/23, mbtmp3.7/6, Error ellipse: s-maj=76.4km s-min=34.2km az=75.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**28.75**	**79**	P	P	00 05 45.4	-0.2
	0.3nm,0.6s,baz=287,slow=10.0,SNR=2.9						
ARCES	**ARCESS Array B**	**31.13**	**35**	P	P	00 06 06.1	-0.5
	2.0nm,0.9s,baz=255,slow=10,SNR=2.3						
BRTR	**Keskin Array B**	**45.65**	**79**	P	P	00 08 08.8	+0.1
	0.8nm,0.8s,baz=318,slow=8.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**47.46**	**133**	P	P	00 08 22.6	-0.2
	1.2nm,0.8s,baz=330,slow=8.5,SNR=6.5						
MKAR	**Makanchi Array**	**66.30**	**43**	P	P	00 10 36.1	-0.4
	0.6nm,0.8s,baz=332,slow=5.7,SNR=4.3						
SONM	**Songino Array**	**73.99**	**28**	P	P	00 11 23.7	-0.1
	0.5nm,0.8s,baz=354,slow=7.2,SNR=3.6						

*TIF **02** 00:08:28.8, 4137N×4403E, h17km±5km*
*CSEM **02** 00:08:30.6, 4141N×4403E, h19km, mb3.6, After OBN*
MOS 02 00:08:30.6±2.3, 4141N×4403E, h19km, mb3.6/1, Error ellipse: s-maj=58.0km s-min=18.4km az=86.6, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.62**	**59**	Pg	Pg	00 08 39.3	-3.6
TBLG				Sg	Sg	00 08 48.6	-2.7
ZEI	**Tsey**	**1.36**	**356**	*i* Pg	Pg	00 08 55.6	-1.3
ZEI				*i* Sg	Sg	00 09 14.3	-0.4
LACR	**Lac**	**1.43**	**8**	*i* Pg	Pg	00 08 56.5	-1.7
LACR				*i* Sg	Sg	00 09 15.7	-1.1
DIGR	**Digorskoe uzhe**	**1.52**	**347**	*i* Pg	Pg	00 08 58.0	-2.0
DIGR				*e*Sg	Sg	00 09 18.3	-1.6
KORR	**Kora**	**1.68**	**1**	*i* Pn	Pn	00 09 02.1	+3.2
KORR				*i* Sg	Sg	00 09 25.1	+0.4

OTT 02 00:20:15.4±0.4, 6579N×9060W, h18km, MN3.0/7, Wager Bay, Nu. Aftershock. Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**1.92**	**61**	PN	Pn	00 20 47.5	+0.4
QILN				PG	Pg	00 20 49.3	-3.0
QILN				SN	Sn	00 21 10.6	-0.2
QILN				SG	Sg	00 21 13.4	-3.8
QILN				Trac		00 21 15.6	
	comp=Z,22nm,0.1s						
SEDN	**First Sedna Si**	**2.57**	**186**	PN	Pn	00 20 55.3	-0.7
SEDN				PG	Pg	00 21 01.5	-3.1
SEDN				SN	Sn	00 21 25.9	-0.9
SEDN				SG	Sg	00 21 33.6	-4.3
SEDN				Trac		00 21 34.5	
	comp=Z,12nm,0.1s						
YRTN	**Rankin Inlet**	**3.06**	**193**	PN	Pn	00 21 03.1	+0.3
YRTN				PG	Pg	00 21 10.5	-3.6
YRTN				SN	Sn	00 21 37.2	-1.9
YRTN				SG	Sg	00 21 48.3	-5.6
YRTN				Trac		00 21 50.8	
	comp=Z,25nm,0.2s						
ILON	**Igloolik, Nuna**	**4.92**	**39**	PN	Pn	00 21 27.4	-1.0
ILON				SN	Sn	00 22 21.7	-3.0
ILON				SG	Sg	00 22 46.6	-6.6
ILON				Trac		00 22 47.0	
	comp=Z,20nm,0.3s						
IVKQ	**Ivujivik**	**6.50**	**115**	PN	Pn	00 21 47.7	-2.4
IVKQ				SN	Sn	00 22 58.3	-5.5
IVKQ				SG	Sn	00 23 33.0	+29
IVKQ				Trac		00 23 39.5	
	comp=Z,6.0nm,0.4s						
FCC	**Fort Churchill**	**7.24**	**195**	PN	Pn	00 22 00.2	-0.1
FCC				SN	Sn	00 23 14.0	-7.9
FCC				LG		00 23 58.8	
FCC				Trac		00 24 16.6	
	comp=Z,4.8nm,0.3s						
AKVQ	**Akulik**	**7.49**	**126**	PN	Pn	00 22 01.5	-2.2
AKVQ				SN	Sn	00 23 17.6	-11
AKVQ				LG		00 24 01.5	
GLWN	**Glow Worm Lake**	**7.92**	**271**	SN	Sn	00 23 34.8	-4.0
GLWN				LG		00 24 08.2	
KNDN	**Kennady Lake**	**8.33**	**262**	SN	Sn	00 23 43.9	-5.0
KNDN				LG		00 24 30.6	
BOXN	**Box Lake**	**8.37**	**265**	SN	Sn	00 23 43.1	-6.6
MCKN	**MacKay Lake No**	**8.45**	**268**	SN	Sn	00 23 46.9	-4.9
RES	**Resolute Bay**	**9.05**	**353**	SN	Sn	00 24 00.7	-5.9
RES				LG		00 24 50.8	
FRB	**Frobisher Bay**	**9.62**	**92**	SN	Sn	00 24 11.4	-9.1
FRB				LG		00 25 16.9	
ILKN	**Indian Lake**	**10.47**	**273**	PN	Pn	00 22 48.7	+4.2
ILKN				SN	Sn	00 24 30.8	-11
ILKN				LG		00 25 36.5	
YKW3	**Yellowknife Ar**	**10.93**	**264**	PN	Pn	00 22 48.0	-2.8
YKW3				SN	Sn	00 24 42.0	-11
YKW3				LG		00 25 51.5	
YKW3				Trac		00 25 52.7	
	comp=Z,1.6nm,0.4s						
GALN	**Gameti Lake**	**11.41**	**274**	PN	Pn	00 22 55.4	-2.0
GALN				SN	Sn	00 24 51.7	-13
SILO	**Sutton Inlier**	**11.69**	**163**	PN	Pn	00 22 58.5	-2.8
SILO				SN	Sn	00 25 04.3	-6.9

*UPP **02** 00:28:59.1, 6785N×2020E, h0km, ML3.1, Mining explosion.*
*CSEM **02** 00:28:59.1, 6785N×2020E, h0km, ML3.1, Mining explosion. After UPP*
HEL 02 00:28:59.7±0.0, 6786N×2020E, h0km, ML1.4, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**29**	*i* P	Pg	00 29 01.6	-0.2
KUA				*i* S	Sg	00 29 03.4	+0.1
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P	Pg	00 29 07.6	-0.6
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	00 29 12.4	-0.8
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	00 29 13.1	-1.0
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 29 14.1	-0.9
SALU	**Saltoluokta**	**0.81**	**234**	*i* P	Pg	00 29 14.3	-0.9
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	00 29 21.1	-1.1
KIF				*e*S	Sg	00 29 36.9	-0.5
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 29 24.7	-1.8
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	00 29 30.4	-0.6
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	00 29 41.0	+0.5
SGF	**Sodankyl**	**2.46**	**97**	*e*SG	Sg	00 30 15.1	-3.5
KEV	**Kevo**	**3.12**	**49**	*e*S	Sn	00 30 28.7	+0.5
OUL	**Oulu**	**3.60**	**138**	*e*SB	Sb	00 30 48.5	0.0

*NIED **02** 00:30:00, 3650N×1426.0E, h8km, Mw4.5 Best double couple: M0:6.16000×10^15 NP1:φ=5.00000°, δ=63.00000°, λ=62.00000°. NP2:φ=234.00000°, δ=38.00000°, λ=133.00000°.*
*IDC **02** 00:30:33.2±0.6, 3635N×14251E, h0km, mb4.0/15, mb1 4.2/19, mb1mx4.2/26, mbtmp4.1/19, ML3.8/4, MS3.8/3, Ms1 3.8/3, ms1mx3.2/36, Error ellipse: s-maj=17.9km s-min=15.7km az=102.0*
*ISCJB **02** 00:30:34.0±1.5, 3644N±004×14258E±006, h16km±10km, mb4.2/29, MS4.2/9, Error ellipse: s-maj=8.5km s-min=5.4km az=43.6*
*BJI **02** 00:30:33.8, 3650N×1426.0E, h40km, mB4.9, mb4.8, Ms4.4, Msz4.2*
*JMA **02** 00:30:35.8±0.3, 3646N×14256E, h59km, M3.8*
*NEIC **02** 00:30:35.9, 3646N×14256E, h59km, MG3.8(JMA), After JMA.*
*MOS **02** 00:30:36.2±1.1, 3648N×14255E, h33km, mb4.4/20, Error ellipse: s-maj=13.1km s-min=7.9km az=105.3*
ISC 02 00:30:33.5±2.0, 3645N±003×14255E±006, h2km±12km, h36km±1.8km: pP-P, n90, σ0s92/88, mb4.2/29, MS4.2/9, 8C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.55**	**295**	P	**Pn**	**00 31 01.7**	**-0.4**
CHOJ	**Chosi**	**1.56**	**242**	P	**Pn**	**00 31 02.2**	**0.0**
JHO	**Hitachi**	**1.60**	**276**	P	**Pn**	**00 31 02.3**	**-0.5**
JFK	**Kawauchi**	**1.63**	**305**	P	**Pn**	**00 31 02.5**	**-0.6**
JMM	**Marumori**	**2.00**	**316**	P	**Pn**	**00 31 07.5**	**-0.7**
JFT	**Otama**	**2.07**	**302**	P	**Pn**	**00 31 09.8**	**+0.6**
BSO1	**Boso 1**	**2.20**	**216**	P	**Pn**	**00 31 10.6**	**-0.4**
BSO1				*e*S	**Sn**	**00 31 38.5**	**-0.3**
JIO	**Ouri**	**2.22**	**335**	P	**Pn**	**00 31 10.4**	**-0.9**
BSO3	**Boso 3**	**2.33**	**226**	P	**Pn**	**00 31 12.8**	**-0.1**
JAG	**Ashikaga**	**2.50**	**270**	P	**Pn**	**00 31 15.0**	**-0.1**
JMK	**Ichinoseki**	**2.71**	**338**	P	**Pn**	**00 31 18.1**	**0.0**
JMK				S	**Sn**	**00 31 51.0**	**-0.5**
JRY	**Ryogami san**	**2.98**	**263**	P	**Pn**	**00 31 21.9**	**+0.2**
JRY				S	**Sn**	**00 31 56.8**	**-1.2**
JYK	**Kaneyama**	**3.02**	**326**	P	**Pn**	**00 31 22.1**	**-0.2**
JOD2	**Odawara 2**	**3.05**	**248**	P	**Pn**	**00 31 23.0**	**+0.3**
JOM	**Chasama**	**3.18**	**342**	P	**Pn**	**00 31 25.6**	**+1.1**
JYN	**Shimobe**	**3.38**	**255**	P	**Pn**	**00 31 28.4**	**+1.1**
MJAR	**Matsushiro Arr**	**3.50**	**273**	Pn	**Pn**	**00 31 29.9**	**+1.1**
	3.8nm,0.3s,baz=98,slow=9.2,SNR=31						
MAJO	**Matsushiro**	**3.50**	**273**	*e*P	**Pn**	**00 31 30.2**	**+1.3**
MAT	**Matsushiro**	**3.50**	**273**	P	**Pn**	**00 31 30.3**	**+1.4**
MAT				S	**Sn**	**00 32 03.6**	**-7.3**
JHJ	**Hachijo jima 2**	**4.02**	**215**	Pn	**Pn**	**00 31 34.8**	**-1.3**
	37nm,0.3s,baz=238,slow=20,SNR=7.5						
JHJ				Sn	**Sn**	**00 32 18.5**	**-5.3**
	34nm,0.3s,baz=59,slow=22,SNR=4.6						
ERM	**Erimo**	**5.58**	**5**	*e*P	**Pn**	**00 31 56.7**	**-0.8**
ASAJ	**Asahikawa**	**7.66**	**0**	Pn	**Pn**	**00 32 25.4**	**-0.7**
	3.5nm,0.3s,baz=229,slow=8.8,SNR=7.7						
ASAJ				Sn	**Sn**	**00 33 48.5**	**-4.9**
	0.9nm,0.3s,baz=32,slow=21,SNR=2.9						
ASAJ				LR	LR	00 36 23.9	
	comp=Z,765nm,18.4s,baz=114,slow=45						
ASAJ	**Asahikawa**	**7.66**	**0**	P	**Pn**	**00 32 25.4**	**-0.7**
ASAJ						00 33 48.6	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,765nm,18.4s						
CBIJ	**Chichi jima**	**9.33**	**182**	Pn	**Pn**	**00 32 45.8**	**-3.2**
	comp=Z,1.8nm,0.3s,baz=282,slow=20,SNR=4.2						
YSS	**Yuzh-Sakhalins**	**10.50**	**1**	*e*P	**Pn**	**00 33 03.4**	**-1.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
YSS				MLR	MLR		
	comp=N,800nm,15.0s						
YSS	**Yuzh-Sakhalins**	**10.50**	**1**	*e*Pn	**Pn**	**00 33 04.0**	**-1.0**
	comp=N,23nm,0.8s						
KSRS	**Korea Array**	**11.75**	**279**	Pn	**Pn**	**00 33 25.5**	**+3.4**
	baz=226,slow=28,SNR=4.3						
KSRS				LR	LR	00 37 18.4	
	comp=N,194nm,21.9s,baz=133,slow=34						
HABR	**Khabarovsk**	**13.22**	**338**	*e*P	**Pn**	**00 33 38.5**	**-3.7**
HABR				*e*S	**Sn**	**00 36 03.6**	**-6.2**
SSE	**Sheshan**	**18.53**	**259**	*e*P	**Pn**	**00 34 51.2**	**-0.1**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s						
SSE				AMB	AMB		
	comp=Z,328nm,5.0s						
SSE				LR	LR		
	comp=N,286nm,18.7s						
SSE				LR	LR		
	comp=E,88nm,19.6s						
SSE				LR	LR		
	comp=Z,218nm,13.4s						
HIA	**Hailar**	**20.97**	**315**	*e*P	**P**	**00 35 17.0**	**-0.8**
CLNS	**Chul'man**	**23.59**	**335**	*e*P	**P**	**00 35 49.9**	**+4.1**
CLNS				pmax	pmax		
	comp=N,14nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.3						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s,MS4.6						
CLNS				MLR	MLR		
	comp=Z,600nm,14.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s,MS4.6						
WHN	**Wuhan**	**24.20**	**264**	P	**P**	**00 35 51.1**	**-0.2**
CIT	**Chita**	**25.73**	**316**	*e*P	**P**	**00 36 06.1**	**+0.8**
CIT				*e*		00 36 15.6	
YAK	**Yakutsk**	**26.85**	**347**	*e*P	**P**	**00 36 15.1**	**-0.2**
YAK				*e**PP	pP	00 36 23.2	+7.2
YAK				*e*		00 37 05.5	
YAK				*e*PPP		00 37 13.1	
YAK				*e*SS		00 42 14.1	
YAK				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.5						
YAK				pmax	pmax		
	comp=N,18nm,1.2s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
YAK				MLR	MLR		
	comp=Z,746nm,16.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,475nm,13.0s						
YAK				MLR	MLR		
	comp=E,500nm,19.0s						
SEY	**Seymchan**	**27.20**	**10**	*e*P	**P**	**00 36 18.4**	**-0.1**
XAN	**Xi'an**	**27.49**	**275**	P	**P**	**00 36 20.6**	**-0.5**
XAN				AP	pP	00 36 30.9	+9.1
XAN				AMB	AMB		
	comp=Z,81nm,1.4s,mb5.1						
XAN				LR	LR		
	comp=N,101nm,8.0s						
XAN				LR	LR		
	comp=E,258nm,11.0s						
XAN				LR	LR		
	comp=Z,309nm,12.5s,MS4.1						
ULN	**Ulaanbaatar**	**28.44**	**305**	↑*e*P	**P**	**00 36 30.1**	**+0.5**
BOD	**Bodaibo**	**28.51**	**328**	*e*P	**P**	**00 36 33.7**	**+3.5**
BOD				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
SONM	**Songino Array**	**28.87**	**305**	P	**P**	**00 36 34.3**	**+0.9**
	comp=Z,3.6nm,1.0s,mb4.0,baz=104,slow=9.3,SNR=17						
SONM	**Songino Array**	**28.87**	**305**	P	**P**	**00 36 34.3**	**+0.9**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LZH	**Lanzhou**	**31.07**	**281**	↓P	**P**	**00 36 53.5**	**+0.6**
LZH				AP	pP	00 37 04.1	+11
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,107nm,6.8s						
LZH				LR	LR		
	comp=N,651nm,13.6s						
LZH				LR	LR		
	comp=Z,989nm,16.7s,MS4.5						
GTA	**Gaotai**	**33.61**	**288**	*e*P	**P**	**00 37 16.1**	**+0.9**
GTA				AP	pP	00 37 26.5	+11
GTA				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,182nm,5.3s						
GTA				LR	LR		
	comp=N,288nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=E,276nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,397nm,12.5s,MS4.3						
BILL	**Bilibino**	**34.34**	**16**	↑*e*P	**P**	**00 37 21.1**	**-0.4**
BILL				*i*		00 38 33.5	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
TIXI	**Tiksi**	**35.98**	**353**	*e*P	**P**	**00 37 34.7**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,303nm,17.0s,MS4.1						
WMQ	**Urumqi**	**41.92**	**298**	*e*P	**P**	**00 38 27.5**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**43.00**	**313**	P	**P**	**00 38 34.1**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=9.5,slow=6.9,SNR=7.8						
ZAL	**Zalesovo**	**43.00**	**313**	*i* P	**P**	**00 38 34.7**	**+0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	**Novosibirsk**	**43.91**	**314**	*e*P	**P**	**00 38 36.8**	**-4.7**
NVS				pmax	pmax		
	comp=Z,25nm,2.8s,mb4.5						
NVS				pmax	pmax		
	comp=N,7.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,36nm,2.8s						
MKAR	**Makanchi Array**	**45.20**	**303**	P	**P**	**00 38 52.0**	**+0.2**
	comp=E,3.3nm,0.9s,mb4.2,baz=89,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**45.20**	**303**	↑*e*P	**P**	**00 38 52.7**	**+0.8**
PMG	**Port Moresby**	**45.81**	**174**	↑*e*P	**P**	**00 38 56.6**	**-0.1**
KURK	**Kurchatov**	**47.01**	**309**	↑*e*P	**P**	**00 39 03.8**	**-2.3**
COLA	**College**	**49.09**	**32**	*e*P	**P**	**00 39 23.1**	**+0.9**
AAK	**Ala-Archa**	**51.57**	**299**	*e*P	**P**	**00 39 41.1**	**+0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
BVAR	**Borovoye Array**	**51.64**	**313**	LR	LR	01 03 42.2	
	comp=Z,188nm,18.1s,MS4.2,baz=316,slow=38						
INK	**Inuvik**	**54.50**	**27**	P	**P**	**00 40 03.0**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=280,slow=4.8,SNR=16						
INK	**Inuvik**	**54.50**	**27**	P	**P**	**00 40 03.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRAB	**Tennant Creek**	**56.60**	**189**	*e*P	**P**	**00 40 16.4**	**-1.3**
WRA	**Warramunga Arr**	**56.62**	**189**	P	**P**	**00 40 16.6**	**-1.2**
	comp=Z,2.6nm,1.0s,mb4.2,baz=8.5,slow=7.0,SNR=7.0						
WRA	**Warramunga Arr**	**56.62**	**189**	*i* P	**P**	**00 40 19.0**	**+1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**57.40**	**319**	↓*i*P	**P**	**00 40 21.2**	**-2.2**
ARU				*e*		00 41 19.0	
ARU				*e*		00 42 27.0	
ARU				*e*S	**S**	**00 48 16.6**	**-4.4**
ARU				*e*SS	SS	00 52 07.7	-2.7
ARU				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
ASAR	**Alice Springs**	**60.34**	**189**	P	**P**	**00 40 43.5**	**-0.3**
	comp=Z,1.2nm,0.9s,mb3.9,baz=7.6,slow=6.2,SNR=10.0						
ASAR	**Alice Springs**	**60.34**	**189**	P	**P**	**00 40 43.5**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**63.86**	**30**	P	**P**	**00 41 07.6**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=301,slow=6.8,SNR=12						
YKA	**Yellowknife Ar**	**63.86**	**30**	↑*e*P	**P**	**00 41 07.9**	**+0.5**
OBN	**Obninsk**	**69.11**	**324**	↑*e*P	**P**	**00 41 41.7**	**+0.6**
OBN				*e*		00 44 10.4	
OBN				*e*S	S	00 50 49.1	+1.8
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.5						
FINES	**FINESS Array B**	**69.76**	**333**	P	**P**	**00 41 45.2**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=36,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**69.76**	**333**	P	**P**	**00 41 45.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**71.98**	**312**	↑*e*P	**P**	**00 41 58.3**	**-0.3**
KIV				*e*		00 44 36.7	
KIV				*e*S	S	00 51 23.6	+2.8
KIV				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
NVAR	**Mina Array Bea**	**74.61**	**54**	P	**P**	**00 42 15.9**	**+1.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=303,slow=6.0,SNR=8.9						
NOA	**NORSAR Array B**	**75.08**	**338**	P	**P**	**00 42 17.5**	**+0.6**
	comp=Z,2.2nm,1.0s,mb4.1,baz=36,slow=6.0,SNR=2.7						
NOA	**NORSAR Array B**	**75.08**	**338**	P	**P**	**00 42 17.5**	**+0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**75.32**	**323**	P	**P**	**00 42 17.2**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=42,slow=6.1,SNR=6.8						
AKASG	**Malin Array Be**	**75.32**	**323**	P	**P**	**00 42 17.2**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**77.42**	**46**	P	**P**	**00 42 31.2**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.5,

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNA2				e		00 50 16.2	
VNA2				e		00 50 22.8	
VNA3	Neumayer Olymp	142.23	194	ePKPdf	PKPdf	00 50 02.3	-5.1
VNA3				e		00 50 04.5	
VNA3				e		00 50 06.6	
VNA3				e		00 50 15.2	
VNA3				e		00 50 22.0	
LPAZ	La Paz	146.19	62	PKPbc	PKPbc	00 50 16.1	+0.7
	comp=Z,1.6nm,0.7s,baz=12,slow=7.8,SNR=7.0						
LPAZ	La Paz	146.19	62	PKP2	PKPab	00 50 16.1	+0.1
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SIV	San Ignacio	150.75	52	PKPbc	PKPbc	00 50 28.6	+1.3
	comp=Z,2.4nm,0.9s,baz=250,slow=2.0,SNR=11						

KRSC 02 00:31:15.8±0.8, 5550N×16598E, h41^{km}±40^{km}, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.92	293	eP	Pn	00 31 46.0	+0.1
KBTR				i S	Sn	00 32 08.2	-0.6
MKZ	Mys Kozlova	2.62	251	eP	Pn	00 31 58.3	+2.7
MKZ				i S	Sn	00 32 29.4	+3.2
SRKR	Sorokina	2.94	295	P	Pn	00 32 01.9	+2.0
SRKR				i S	Sn	00 32 36.4	+2.5
ZLN	Zelenaya	2.97	282	eP	Pn	00 32 03.9	+3.5
ZLN				i S	Sn	00 32 39.4	+4.6
KLY	Klyuchi	3.11	287	P	Pn	00 32 02.9	+0.6
KLY				i S	Sn	00 32 37.9	-0.3
BZMR	Bezymyannaya	3.14	280	P	Pn	00 32 05.7	+3.0
BZMR				i S	Sn	00 32 41.5	+2.6
KRSR	Krestovskiy	3.14	285	P	Pn	00 32 05.9	+3.2
KRSR				i S	Sn	00 32 42.3	+3.4
KMNR	Kamenistaya	3.27	277	eP	Pn	00 32 07.9	+3.4
KMNR				eS	Sn	00 32 45.8	+3.7
KPT	Kopyto	3.29	281	P	Pn	00 32 08.6	+3.8
KPT				i S	Sn	00 32 46.2	+3.6
TUMR	Tumrok	3.33	269	P	Pn	00 32 08.8	+3.4
TUMR				i S	Sn	00 32 47.6	+3.8
KOZ	Kozyrevsk	3.49	282	P	Pn	00 32 11.1	+3.5
KOZ				i S	Sn	00 32 50.3	+2.6
SRDR	Sredinnyy	3.62	286	P	Pn	00 32 12.8	+3.5
SPN	Mys Shipunski	4.24	238	P	Pn	00 32 20.7	+2.9
SPN				i S	Sn	00 33 07.3	+1.3
NLC	Nalytchevo	4.53	242	P	Pn	00 32 26.2	+4.4
NLC				i S	Sn	00 33 16.4	+3.2
AVH	Avacha	4.79	245	P	Pn	00 32 29.5	+4.1
AVH				i S	Sn	00 33 23.1	+3.5
PET	Petropavlovsk	4.96	243	P	Pn	00 32 30.4	+2.7
PET				i S	Sn	00 33 24.4	+0.6
GNL	Ganaly	5.01	252	P	Pn	00 32 34.2	+5.8
RUS	Russkaya	5.37	238	P	Pn	00 32 36.2	+2.8
RUS				i S	Sn	00 33 34.3	+0.3

*NIED **02** 00:49:00, 3640N×14260E, h8^{km}, Mw4.7 Best double couple: $M_0$1.12000×10^{16} NP1:ϕ_s25.00000°, δ54.00000°, λ85.00000°. NP2:ϕ_s213.00000°, δ36.00000°, λ96.00000°.*

*IDC **02** 00:49:14.2±0.6, 3629N×14262E, h0^{km}, mb4.1/17, mb1 4.3/20, mb1mx4.3/27, mbtmp4.2/20, ML4.3/3, MS4.2/13, Ms1 4.2/13, ms1mx3.8/35, Error ellipse: s-maj=18.0km s-min=16.1km az=77.0*

*ISCJB **02** 00:49:15.1±1.2, 3643N±004×14260E±004, h15^{km}±8^{km}, mb4.7/57, MS4.4/20, Error ellipse: s-maj=7.1km s-min=4.8km az=90.9*

*JMA **02** 00:49:16.8±0.3, 3645N×14265E, h56^{km}, M4.3*

*BJI **02** 00:49:18.5, 3640N×14260E, h36^{km}, mB4.9, mb4.7, Ms4.6, Msz4.5*

*NEIC **02** 00:49:19.7±0.4, 3644N×14257E, mb4.8/36, MS4.3/2, MW4.6(NIED), Error ellipse: s-maj=8.6km s-min=7.6km az=147.0*

*MOS **02** 00:49:20.5±1.1, 3685N×14235E, h33^{km}, mb4.8/32, MS4.2/12, Error ellipse: s-maj=10.6km s-min=6.1km az=114.4*

*SZGRF **02** 00:49:39.0, 3674N×140.14E, h33^{km}, mb4.9, Near east coast of eastern Honshu, Japan*

ISC 02 00:49:16.6±1.4, 3644N±004×14255E±004, h13^{km}±8^{km}, h34^{km}±1.7^{km}:pP-P, n162, σ1§09/169, mb4.7/56, MS4.4/20, 17C-6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.55	296	⇑P	Pn	00 49 43.5	-0.5
CHOJ	Chosi	1.56	242	⇑P	Pn	00 49 43.8	-0.2
CHOJ				S	Sn	00 50 03.6	-0.5
JHO	Hitachi	1.61	277	⇑P	Pn	00 49 44.3	-0.4
JFK	Kawauchi	1.63	305	⇑P	Pn	00 49 44.3	-0.7
JMM	Marumori	2.00	316	⇑P	Pn	00 49 49.4	-0.7
JMM				S	Sn	00 50 14.2	-0.8
JFT	Otama	2.07	302	P	Pn	00 49 51.6	+0.5
BSO1	Boso 1	2.20	216	P	Pn	00 49 50.2	-2.6
BSO1				S	Sn	00 50 20.1	+0.2
JAG	Ashikaga	2.50	271	⇑P	Pn	00 49 56.9	-0.1
JAG				S	Sn	00 50 26.5	-0.8
JMK	Ichinoseki	2.72	338	P	Pn	00 50 00.4	+0.4
JRY	Ryogami san	2.98	263	P	Pn	00 50 03.6	0.0
JYK	Kaneyama	3.02	326	⇑P	Pn	00 50 04.2	+0.1
JOD2	Odawara 2	3.05	248	P	Pn	00 50 05.0	+0.5
JOD2				S	Sn	00 50 40.4	-0.5
JYN	Shimob	3.38	255	P	Pn	00 50 10.2	+1.1
MJAR	Matsushiro Arr	3.50	273	Pn	Pn	00 50 11.6	+0.9
	17nm,0.3s,baz=98,slow=9.2,SNR=143						
MJAR	Matsushiro Arr	3.50	273	P	Pn	00 50 11.6	+0.9
MJAR				pmax	pmax		
	comp=Z,17nm,0.3s						
MAJO	Matsushiro	3.50	273	eP	Pn	00 50 11.8	+1.0
MAT	Matsushiro	3.50	273	P	Pn	00 50 12.0	+1.2
MAT				S	Sn	00 50 51.6	-0.5
MAT	Matsushiro	3.50	273	P	Pn	00 50 12.2	+1.4
JHJ	Hachijo jima 2	4.02	215	Pn	Pn	00 50 16.1	-1.9
	comp=Z,24nm,0.3s,baz=234,slow=19,SNR=4.7						
JHJ				Sn	Sn	00 51 00.2	-4.7
	comp=Z,105nm,0.3s,baz=177,slow=22,SNR=5.6						
JHJ				LR	LR	00 51 50.8	
	comp=Z,1μm,18.9s,baz=76,slow=40						
ERM	Erimo	5.58	5	eP	Pn	00 50 37.1	-2.3
ERM	Erimo	5.58	5	ePn	Pn	00 50 35.8	-3.6
	comp=Z,51nm,0.4s						
ASAJ	Asahikawa	7.67	0	Pn	Pn	00 51 06.2	-1.8
	comp=Z,4.1nm,0.3s,baz=200,slow=9.1,SNR=15						
ASAJ				Sn	Sn	00 52 31.6	-3.0
	comp=Z,0.9nm,0.3s,baz=44,slow=31,SNR=3.6						
ASAJ				LR	LR	00 55 06.2	
	comp=Z,1μm,18.1s,baz=134,slow=45						
ASAJ	Asahikawa	7.67	0	P	Pn	00 51 06.2	-1.7
ASAJ						00 52 31.7	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.1s						
YUK	Yuzh-Kuril'sk	7.99	17	eP	Pn	00 51 14.5	+2.1
YUK				i S	Sn	00 52 33.4	-9.3
YUK				smax			
	comp=N,400nm,0.5s						
YUK				smax			
	comp=E,330nm,0.7s						
YUK	Yuzh-Kuril'sk	7.99	17	eP	Pn	00 51 14.5	+2.1
YUK				i S	Sn	00 52 33.4	-9.3
CBIJ	Chichi jima	9.32	182	Pn	Pn	00 51 27.1	-3.6
	comp=E,16nm,0.3s,baz=235,slow=20,SNR=6.5						
CBIJ				Sn	Sn	00 53 03.3	-12
	comp=E,18nm,0.3s,baz=286,slow=22,SNR=4.8						
YSS	Yuzh-Sakhalins	10.50	1	⇓iP	Pn	00 51 45.8	-1.1
YSS				S	Sn	00 53 36.3	-8.1
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS	Yuzh-Sakhalins	10.50	1	⇓iP	Pn	00 51 45.8	-1.1
	comp=E,40nm,0.8s						
YSS				S	Sn	00 53 36.3	-8.1
KSRS	Korea Array	11.75	279	Pn	Pn	00 52 07.1	+3.2
	baz=94,slow=13,SNR=14						
KSRS				LR	LR	00 56 10.6	
	comp=E,279nm,19.2s,baz=114,slow=35						
KLR	Kul'dur	15.02	332	eP	Pn	00 52 50.6	+2.1
KLR				MLR	MLR		
	comp=N,2μm,13.5s						
KLR				MLR	MLR		
	comp=Z,9μm,13.5s						
TIA	Tai'an	20.48	277	P	P	00 53 52.5	-1.6
TIA				LR	LR		
	comp=N,652nm,13.0s,MS4.3						
TIA				LR	LR		
	comp=E,511nm,13.0s,MS4.3						
HIA	Hailar	20.97	315	eP	P	00 53 58.8	-0.6
HIA				pmax	pmax		
	comp=Z,43nm,1.4s						
HIA	Hailar	20.97	315	eP	P	00 53 58.8	-0.6
	comp=Z,43nm,1.4s						
BJT	Baijiatuau	21.00	288	eP	P	00 53 58.7	-1.1
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	Baijiatuau	21.00	288	eP	P	00 53 58.7	-1.1
	comp=Z,18nm,0.8s,mb4.5						
NRGR	Nerungri	23.51	335	eP	P	00 54 33.2	+6.7
CLNS	Chul'man	23.60	335	eP	P	00 54 24.4	-2.9
CLNS				e*PP		00 54 33.6	
CLNS				ePPP		00 54 59.4	
CLNS				e		00 58 07.2	
CLNS				eS	S	00 58 28.8	-12
CLNS				eSS		00 59 34.6	
CLNS				pmax	pmax		
	comp=N,16nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.4						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.4						
CLNS				pmax	pmax		
	comp=N,15nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				smax			
	comp=E,737nm,10.3s						
CLNS				smax			
	comp=Z,354nm,11.6s						
CLNS				smax			
	comp=N,242nm,12.7s						
CLNS				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,400nm,13.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,1μm,14.0s,MS4.5						
CLNS	Chul'man	23.60	335	eP	P	00 54 24.4	-2.9
CLNS				epP		00 54 33.6	
CLNS				ePPP		00 54 59.4	
CLNS				e		00 58 07.2	
CLNS				eS	S	00 58 28.8	-12
CLNS				eSS		00 59 34.6	
WHN	Wuhan	24.20	264	P	P	00 54 33.0	+0.2
WHN				AMB	AMB		
	comp=Z,58nm,1.2s,mb4.9						
CIT	Chita	25.74	316	eP	P	00 54 47.5	+0.7
CIT				e		00 54 57.7	
CIT				e		00 55 22.5	
CIT				e		00 55 39.8	
CIT				pmax	pmax		
	comp=Z,354nm,2.0s,mb5.5						
CIT	Chita	25.74	316	eP	P	00 54 47.5	+0.7
	comp=Z,354nm,2.0s,mb5.5						
CIT				e		00 54 57.7	
CIT				e		00 55 22.5	
CIT				e		00 55 39.8	
YAK	Yakutsk	26.85	347	eP	P	00 54 57.5	+0.6
YAK				e*PP	pP	00 55 05.5	+4.8
YAK				e		00 55 42.4	
YAK				ePPP		00 55 51.5	
YAK				e		00 58 15.1	
YAK				eSS		01 00 48.4	
YAK				e		01 05 42.4	
YAK				pmax	pmax		
	comp=Z,39nm,1.3s,mb4.8						
YAK				pmax	pmax		
	comp=N,28nm,1.4s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.6						
YAK				MLR	MLR		
	comp=N,765nm,12.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,691nm,15.0s,MS4.5						
YAK	Yakutsk	26.85	347	eP	P	00 54 57.5	+0.6
	comp=E,39nm,1.3s,mb4.8						
YAK				epP	pP	00 55 05.5	+4.8
YAK				e		00 55 42.4	
YAK				ePPP		00 55 51.5	
YAK				e		00 58 15.1	
YAK				eSS		01 00 48.4	
YAK				e		01 05 42.4	
YAK				LR	LR		
	comp=Z,1μm,14.0s,MS4.6						
SEY	Seymchan	27.20	10	⇑eP	P	00 54 59.2	-0.8
XAN	Xi'an	27.50	275	P	P	00 55 02.7	+0.1
XAN				AP	pP	00 55 13.0	+6.5
XAN				S	S	00 59 41.3	-1.8
XAN				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
XAN				LR	LR		
	comp=N,238nm,10.2s,MS4.4						
XAN				LR	LR		
	comp=E,551nm,13.2s,MS4.4						
XAN				LR	LR		
	comp=Z,632nm,12.8s,MS4.4						
ULN	Ulaanbaatar	28.44	305	⇑eP	P	00 55 09.7	-1.4
ULN	Ulaanbaatar	28.44	305	eP	P	00 55 12.2	+1.1
	comp=Z,52nm,1.4s,mb5.0						
BOD	Bodaibo	28.52	328	eP	P	00 55 11.7	-0.1
BOD				e		00 55 26.0	
BOD				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.7						
BOD				pmax	pmax		
	comp=Z,41nm,1.5s,mb4.9						
BOD	Bodaibo	28.52	328	eP	P	00 55 11.7	-0.1
	comp=Z,22nm,1.4s,mb4.7						
BOD				e		00 55 26.0	
SONM	Songino Array	28.87	305	P	P	00 55 16.3	+1.4
	comp=Z,22nm,1.2s,mb4.8,baz=110,slow=8.1,SNR=40						
SONM	Songino Array	28.87	305	P	P	00 55 16.3	+1.4
SONM				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH	Lanzhou	31.07	281	⇑P	P	00 55 34.5	+0.1
LZH				AP	pP	00 55 45.0	+6.7
LZH				XP	sP	00 55 49.6	+10
LZH				PP	PP	00 56 40.3	-4.2
LZH				eS	S	01 00 41.0	+1.6
LZH				XS	sS	01 00 58.2	+12
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,112nm,5.3s						
LZH				LR	LR		
	comp=N,779nm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,16.4s,MS4.6						
LZH	Lanzhou	31.07	281	⇑P	P	00 55 34.5	+0.1
	comp=Z,26nm,1.4s,mb4.9						
LZH				pP	pP	00 55 45.0	+6.7
LZH				sP	sP	00 55 49.6	+10
LZH				PP	PP	00 56 40.3	-4.2
LZH				eS	S	01 00 41.0	+1.6
LZH				sS	sS	01 00 58.2	+12
LZH				eSS	SS	01 02 32.5	-20
LZH				LR	LR		
	comp=Z,1μm,16.4s,MS4.6						
ZAK	Zakamensk	31.35	309	eP	P	00 55 37.5	+0.6
ZAK				e		00 55 47.1	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.5						
ZAK	Zakamensk	31.35	309	eP	P	00 55 37.5	+0.6
	comp=Z,4.0nm,1.4s,mb4.1						
ZAK				e		00 55 47.1	
TLY	Talaya	31.41	311	eP	P	00 55 37.4	0.0
	comp=Z,6.3nm,0.6s,mb4.6						
GYA	Guiyang	32.03	262	P	P	00 55 42.8	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
QIZ	Qiongzhong	33.53	248	P	P	00 55 59.9	+3.9
QIZ				eS	S	01 01 18.6	+0.9
QIZ				AMB	AMB		
	comp=Z,35nm,1.9s,mb5.0						
QIZ				LR	LR		
	comp=E,512nm,12.6s						
QIZ				LR	LR		
	comp=Z,531nm,13.4s,MS4.4						
GTA	Gaotai	33.61	288	eP	P	00 55 57.7	+1.0
GTA				AP	pP	00 56 08.3	+7.8
GTA				XP	sP	00 56 12.6	+10
GTA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
GTA				AMB	AMB		
	comp=Z,328nm,9.1s						
GTA				LR	LR		
	comp=N,460nm,18.3s,MS4.4						
GTA				LR	LR		
	comp=E,474nm,15.6s,MS4.4						
GTA				LR	LR		
	comp=Z,413nm,14.4s,MS4.3						
BILL	Bilibino	34.34	16	⇑eP	P	00 56 04.5	+1.5
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.0						
BILL	Bilibino	34.34	16	eP	P	00 56 01.1	-1.9
	comp=Z,2.5nm,0.3s,mb4.6						
BILL				⇑eP	pP	00 56 04.5	-2.4
BILL				LR	LR		
	comp=Z,200nm,16.0s,MS4.0						
TIXI	Tiksi	35.99	353	eP	P	00 56 14.7	-2.5
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,417nm,13.0s,MS4.4						
TIXI	Tiksi	35.99	353	eP	P	00 56 14.7	-2.5
	comp=Z,6.0nm,1.8s,mb4.2						
TIXI				LR	LR		
	comp=Z,420nm,13.0s,MS4.4						
WMQ	Urumqi	41.92	298	P	P	00 57 09.7	+2.8
WMQ				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.0						
ZAL	Zalesovo	43.00	313	P	P	00 57 16.5	+0.8
	comp=Z,3.2nm,0.6s,mb4.2,baz=24,slow=8.2,SNR=22						
ZAL				LR	LR	01 14 35.7	
	comp=Z,135nm,19.3s,MS3.9,baz=249,slow=35						
ZAL	Zalesovo	43.00	313	P	P	00 57 16.5	+0.9
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,135nm,19.3s						
LSA	Lhasa	43.18	276	P	P	00 57 18.2	+1.1
LSA	Lhasa	43.18	276	eP	P	00 57 20.6	+3.5
LSA				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
LSA	Lhasa	43.18	276	eP	P	00 57 20.6	+3.5
	comp=Z,13nm,1.3s,mb4.5						
NVS	Novosibirsk	43.91	314	i P	P	00 57 23.0	0.0
NVS				e		00 59 07.7	
NVS				i		00 59 36.5	
NVS				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.7						
NVS				pmax	pmax		
	comp=N,7.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,24nm,1.5s						
NVS	Novosibirsk	43.91	314	i P	P	00 57 23.0	0.0
	comp=E,27nm,1.6s,mb4.7						
NVS				e		00 59 07.7	
NVS				i		00 59 36.5	
MK31	Makanchi Array	45.21	303	P	P	00 57 33.7	+0.3
MK31				pmax	pmax		
	comp=Z,102nm,1.6s,mb5.4						
MK31	Makanchi Array	45.21	303	P	P	00 57 33.7	+0.3
	comp=Z,102nm,1.6s,mb5.4						
MKAR	Makanchi Array	45.21	303	P	P	00 57 33.8	+0.4
	comp=Z,6.5nm,0.8s,mb4.5,baz=88,slow=10.0,SNR=20						
MKAR	Makanchi Array	45.21	303	⇑eP	P	00 57 33.7	+0.3
PMG	Port Moresby	45.81	174	eP	P	00 57 37.0	-1.1
	comp=Z,4.3nm,0.6s,mb4.6						
KURK	Kurchatov	47.02	309	⇑i P	P	00 57 47.6	0.0
KURK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
JIRN	Jiri	47.99	276	eP	P	00 57 56.4	+1.3
	comp=Z,59nm,1.2s,mb5.5						
GUN	Gumba	48.13	277	eP	P	00 57 57.4	+1.2
	comp=Z,35nm,0.8s,mb5.4						
KKN	Kakani	48.66	277	eP	P	00 58 01.3	+1.0
	comp=Z,71nm,1.2s,mb5.6						
GKN	Gorkha	49.08	278	eP	P	00 58 04.4	+0.8
	comp=Z,84nm,1.2s,mb5.6						
COLA	College	49.09	32	eP	P	00 58 08.3	+4.6
KOLN	Koldanda	50.01	278	eP	P	00 58 11.6	+0.9
	comp=Z,100nm,1.7s,mb5.6						
TKM2	Tokmak 2	50.72	299	P	P	00 58 15.9	-0.1
TKM2				pmax	pmax		
	comp=Z,82nm,2.0s,mb5.3						
TKM2	Tokmak 2	50.72	299	P	P	00 58 15.9	-0.1
	comp=Z,82nm,2.0s,mb5.3						
AAK	Ala-Archa	51.58	299	eP	P	00 58 22.0	-0.5
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
AAK	Ala-Archa	51.58	299	eP	P	00 58 22.0	-0.5
	comp=Z,10.0nm,1.1s,mb4.7						
BVA0	Borovoye Array	51.65	313	i P	P	00 58 20.9	-2.1
BVA0				pmax	pmax		
	comp=Z,12nm,2.6s,mb4.4						
BVA0	Borovoye Array	51.65	313	i P	P	00 58 20.9	-2.1
	comp=Z,12nm,2.6s,mb4.4						
BVAR	Borovoye Array	51.65	313	P	P	00 58 23.1	+0.2
	comp=Z,1.8nm,0.9s,mb4.0,baz=69,slow=8.1,SNR=9.6						
BVAR				LR	LR	01 22 40.1	
	comp=Z,131nm,20.4s,MS4.0,baz=318,slow=39						
BVAR	Borovoye Array	51.65	313	P	P	00 58 23.1	+0.1
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR				MLR	MLR		
	comp=Z,131nm,20.4s						
BVAR	Borovoye Array	51.65	313	P	P	00 58 23.1	+0.1
	comp=Z,2.0nm,0.9s,mb4.0						
BVAR				LR	LR		
	comp=Z,130nm,20.4s,MS4.0						
BRVK	Borovoye	51.70	313	eP	P	00 58 22.5	-0.9
BRVK				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
BRVK	Borovoye	51.70	313	eP	P	00 58 22.5	-0.9
	comp=Z,21nm,1.7s,mb4.8						
KK31	Karatay Array	54.21	301	i P	P	00 58 41.9	0.0
KK31				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.3						
KK31	Karatay Array	54.21	301	i P	P	00 58 41.9	0.0
	comp=Z,56nm,1.4s,mb5.3						
KKAR	Karatay Array	54.21	301	P	P	00 58 41.9	0.0
KKAR				pmax	pmax		
	comp=Z,79nm,1.4s,mb5.5						
KKAR	Karatay Array	54.21	301	P	P	00 58 41.9	0.0
	comp=Z,79nm,1.4s,mb5.5						
INK	Inuvik	54.50	27	P	P	00 58 43.9	-0.1
	comp=Z,0.7nm,0.6s,mb3.8,baz=115,slow=5.9,SNR=5.8						
WRAB	Tennant Creek	56.60	189	eP	P	00 58 59.2	+0.1
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
WRAB	Tennant Creek	56.60	189	eP	P	00 58 59.2	0.0
	comp=Z,11nm,1.0s,mb4.8						
WRA	Warramunga Arr	56.61	189	P	P	00 58 56.9	-2.3
	comp=Z,1.7nm,0.7s,mb4.2,baz=7.9,slow=7.4,SNR=13						
WRA	Warramunga Arr	56.61	189	P	P	00 58 56.9	-2.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	Arti	57.41	319	⇓iP	P	00 59 03.2	-1.6
ARU				e		00 59 58.5	
ARU				e		01 01 09.0	
ARU				eS	S	01 06 53.1	-8.3
ARU				eSSS		01 12 53.4	
ARU				pmax	pmax		

comp=Z,28nm,1.7s,mb5.0
ARU Arti 57.41 319 ⇓*i*P **P 00 59 03.2 -1.6**
comp=Z,28nm,1.7s,mb5.0
ARU *e* 00 59 58.5
ARU *e* 01 01 09.0
ARU *e*S **S 01 06 53.1 -8.3**
ARU *e*SSS 01 12 53.4
AB31 Akbulak array 59.02 311 P **P 00 59 15.6 -0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
AB31 Akbulak array 59.02 311 P **P 00 59 15.6 -0.5**
comp=Z,3.0nm,0.7s,mb4.4
AKTK Aktyubinsk 59.75 313 P **P 00 59 20.9 -0.3**
AKTK LR LR 01 26 36.7
AKTO Aktyubinsk 59.75 313 P **P 00 59 20.9 -0.3**
comp=Z,3.1nm,0.8s,mb4.4,baz=75,slow=9.5,SNR=11
AKTO LR LR 01 26 36.7
comp=Z,164nm,18.5s,MS4.2,baz=250,slow=37
AKTO Aktyubinsk 59.75 313 P **P 00 59 20.9 -0.3**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AKTO MLR MLR
comp=Z,164nm,18.5s,MS4.2
ASAR Alice Springs 60.34 189 P **P 00 59 24.8 -0.5**
comp=Z,0.9nm,1.0s,mb3.8,baz=11,slow=7.1,SNR=7.5
POO Poona 62.31 273 *e*P **P 00 59 35.0 -3.6**
YKA Yellowknife Ar 63.86 30 P **P 00 59 48.3 -0.5**
comp=Z,0.3nm,0.8s,baz=282,slow=6.4,SNR=3.8
ARCES ARCESS Array B 64.87 340 LR LR 01 34 07.6
comp=Z,449nm,18.3s,MS4.7,baz=178,slow=41
OBN Obninsk 69.11 324⇓*e*P **P 01 00 21.4 -1.1**
OBN *e* 01 02 57.9
OBN pmax pmax
comp=Z,27nm,1.9s,mb4.8
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
OBN Obninsk 69.11 324⇓*e*P **P 01 00 21.4 -1.1**
comp=Z,27nm,1.9s,mb4.8
OBN *e* 01 02 57.9
OBN LR LR
comp=Z,300nm,19.0s,MS4.5
KAF Kangasniemi 69.25 333 *e*p **P 01 00 20.1 -3.2**
comp=Z,2.2nm,0.5s,mb4.3
KAF Kangasniemi 69.25 333 *e*P **P 01 00 20.1 -3.2**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 69.76 333 P **P 01 00 26.6 +0.2**
comp=Z,4.0nm,0.7s,mb4.5,baz=87,slow=4.0,SNR=7.5
FINES LR LR 01 32 15.3
comp=Z,243nm,18.2s,MS4.5,baz=347,slow=37
FINES FINESS Array B 69.76 333 P **P 01 00 26.7 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES MLR MLR
comp=Z,243nm,18.2s
KIV Kislovodsk 71.98 312⇑*e*P **P 01 00 40.4 +0.4**
KIV pmax pmax
comp=Z,17nm,1.0s,mb4.9
KIV Kislovodsk 71.98 312⇑*e*P **P 01 00 40.4 +0.4**
comp=Z,17nm,1.0s,mb4.9
ANN Anapa 74.60 315 *e*P **P 01 00 53.1 -2.3**
NVAR Mina Array Bea 74.61 54 P **P 01 00 56.9 +1.4**
baz=294,slow=6.8
NB2 NORSAR Subarra 75.08 338 P **P 01 00 58.4 +0.2**
comp=Z,40nm,2.0s,mb5.0,baz=40,slow=5.9
NOA NORSAR Array B 75.08 338 P **P 01 00 58.3 +0.1**
comp=Z,3.4nm,1.1s,mb4.2,baz=38,slow=5.7,SNR=3.9
NOA LR LR 01 37 06.7
comp=Z,256nm,19.0s,MS4.5,baz=0.0,slow=38
NOA NORSAR Array B 75.08 338 P **P 01 00 58.3 +0.1**
NOA pmax pmax
comp=Z,3.0nm,1.1s
NOA MLR MLR
comp=Z,256nm,19.0s
AKASG Malin Array Be 75.32 323 P **P 01 00 59.8 +0.2**
comp=Z,2.3nm,0.6s,mb4.3,baz=44,slow=6.0,SNR=13
AKASG LR LR 01 39 26.2
comp=Z,278nm,18.5s,MS4.6,baz=5.0,slow=40
AKASG Malin Array Be 75.32 323 *i* P **P 01 00 59.7 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 75.32 323 *i* P **P 01 00 59.7 +0.1**
comp=Z,2.0nm,0.6s,mb4.2
PDAR Pinedale Array 77.42 46 P **P 01 01 11.6 +0.1**
comp=Z,0.6nm,1.0s,baz=72,slow=4.8,SNR=2.9
MSU Marysvale 78.45 51 *e*P **P 01 01 18.8 +1.6**
KWP Kalwaria 79.14 325 *e*P **P 01 01 22.1 +1.1**
KWP *e* 01 01 32.7
BRTR Keskin Array B 79.93 312 P **P 01 01 26.8 +1.5**
comp=Z,2.1nm,1.0s,mb4.0,baz=138,slow=7.7,SNR=7.7
BRTR Keskin Array B 79.93 312 P **P 01 01 26.8 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
OJC Ojcow 80.04 327 *e*P **P 01 01 26.3 +0.4**
OKC Ostrava-Krasne 81.04 327 *e*P **P 01 01 35.5 +4.2**
OKC *e*pP pP 01 01 42.6 +7.2
KSP Ksiaz 81.08 329 *e*P **P 01 01 32.3 +0.8**
KSP *e*PP pP 01 01 44.1 +8.4
DPC Dobruska-Polom 81.44 328 *e*P **P 01 01 34.6 +1.2**
DPC *e*pP pP 01 01 45.8 +8.2
UPC Upice 81.45 329 *e*P **P 01 01 37.7 +4.2**
UPC *e*pP pP 01 01 45.1 +7.5
BRG Berggiesshubel 82.02 330 *e*P pP 01 01 47.6 +6.9
comp=Z,2.0nm,1.0s
PVCC Panska Ves 82.03 329 *e*P **P 01 01 37.2 +0.7**
PVCC *e*pP pP 01 01 47.6 +6.9
CLL Collm 82.06 331 *e*P **P 01 01 37.0 +0.3**
CLL *i* 01 01 48.0
CLL pmax pmax
comp=Z,12nm,1.4s,mb4.6
CLL Collm 82.06 331 *e*P **P 01 01 37.0 +0.3**
comp=Z,12nm,1.4s,mb4.6
CLL *i* pP pP 01 01 48.0 +7.2
comp=Z,22nm,1.5s
VRAC Vranov 82.11 328 P **P 01 01 37.8 +0.8**
comp=Z,1.4nm,0.3s,mb4.3,baz=166,slow=12,SNR=2.6
VRAC Vranov 82.11 328 P **P 01 01 37.8 +0.9**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
PRU Pruhonice 82.46 329 *e*P **P 01 01 39.1 +0.3**
PRU *e*pP pP 01 01 49.9 +7.0
KHC Kasperske Hory 83.52 329 *e*P **P 01 01 44.5 +0.2**
KHC *e*pP pP 01 01 55.5 +7.1
PPT Papeete 83.55 117 *e*LR LR 01 26 49.7
comp=Z,114nm,24.8s
PPT Papeete 83.55 117 LR LR 01 32 49.2
comp=Z,80nm,19.2s,MS4.1,baz=299,slow=31
GERES GERESS Array B 83.69 329 P **P 01 01 45.2 +0.1**
comp=Z,0.9nm,0.7s,mb4.0,baz=34,slow=5.0,SNR=8.5
GERES LR LR 01 44 59.5
comp=Z,257nm,18.6s,MS4.6,baz=132,slow=40
GRA1 Grafenberg Arr 84.04 331 *e*P pP 01 01 58.7 +7.6
GRF Grafenberg Arr 84.04 331 *e*P pP 01 01 58.7 +7.6
comp=Z,8.0nm,1.0s
GRF Grafenberg Arr 84.04 331 *e*P pP 01 01 58.7 +7.6
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
SCHQ Schefferville 85.65 17 LR LR 01 45 41.2
comp=Z,133nm,18.2s,MS4.4,baz=105,slow=40
TBI Tubuai 87.44 121 *e*LR LR 01 28 36.1
comp=Z,136nm,27.5s
TXAR Lajitas Array 89.75 53 P **P 01 02 15.0 +0.2**
comp=Z,0.3nm,0.6s,mb3.8,baz=320,slow=5.2,SNR=3.9
RKT Rikitea 97.68 113 *e*LR LR 01 33 22.3
comp=Z,110nm,27.2s
TORD Torodi Ar. Bea 118.39 316 PKP PKPdf 01 08 04.6 +0.7
comp=Z,0.6nm,1.1s,baz=112,slow=1.6,SNR=2.8
TORD PP PP 01 09 19.4 -0.7
comp=Z,0.8nm,1.1s,baz=19,slow=5.6,SNR=4.7
VNA2 Neumayer--Watz 142.00 196 *e*PKPdf PKPdf 01 08 43.5 -4.8
baz=123,slow=2.5
VNA2 *e* 01 08 51.0
VNA2 *e* 01 08 56.5
VNA2 *e* 01 09 02.0
VNA2 *e* 01 09 21.9
VNA2 *e* 01 09 27.2
LPAZ La Paz 146.19 62 PKPbc PKPbc 01 08 57.5 +0.8
comp=Z,2.5nm,0.8s,baz=43,slow=3.1,SNR=7.1
LPAZ La Paz 146.19 62 PKIKP PKPdf 01 08 57.5 +1.9
LPAZ pmax pmax
comp=Z,3.0nm,0.8s

*ISCJB **02** 00:49:17.1±1.2,2396S×007×667W±02,h202km±12km, mb3.5/5,Error ellipse: s-maj=27.8km s-min=11.0km az=168.8*

*IDC **02** 00:49:17.8±2.0,2398S×6665W,h197km±18km,mb3.4/5, mb1 3.6/7,mb1mx3.5/15,mbtmp3.3/7,Error ellipse: s-maj=25.4km s-min=19.4km az=87.0*

ISC 02 00:49:17.9±1.1,2394S±007×668W±02,h193km±12km,n15, σ0:71/12,mb3.5/5,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.72**	**350**	P	**Pn**	**00 51 09.1**	**+1.6**
	0.6nm,0.3s,baz=189,slow=8.3,SNR=19						
LPAZ				S	**Sn**	**00 52 33.6**	**-0.9**
	0.1nm,0.3s,baz=70,slow=24,SNR=4.3						
CFAA	**Coronel Fontan**	**7.75**	**189**	P	**Pn**	**00 51 07.2**	**-0.6**
	0.1nm,0.3s,baz=15,slow=14,SNR=10						
CFAA				S	**Sn**	**00 52 27.9**	**-7.1**
	0.5nm,0.3s,baz=256,slow=19,SNR=15						
SIV	**San Ignacio**	**9.54**	**35**	P	**Pn**	**00 51 31.2**	**0.0**
	0.2nm,0.3s,baz=219,slow=13,SNR=4.3						
VNA3	**Neumayer Olymp**	**57.13**	**161**	*e*	**P**	**00 58 44.5**	**+0.2**
VNA3				*e*		00 58 48.5	
VNA3				*e*		00 59 03.9	
VNA2	**Neumayer--Watz**	**57.70**	**160**	*e*	**P**	**00 58 48.6**	**+0.4**
	baz=289,slow=7.5						
VNA2				*e*		00 58 53.2	
VNA2				*e*		00 59 07.3	
TXAR	**Lajitas Array**	**63.76**	**324**	P	**P**	**00 59 29.8**	**+0.6**
	0.4nm,0.7s,mb3.1,baz=161,slow=8.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	**P**	**01 00 45.2**	**-0.3**
	0.9nm,0.7s,mb3.5,baz=262,slow=4.5,SNR=18						
PDAR	**Pinedale Array**	**77.21**	**329**	P	**P**	**01 00 50.8**	**+0.4**
	0.4nm,0.6s,mb3.2,baz=126,slow=7.1,SNR=5.3						
ULM	**Lac du Bonnet**	**78.24**	**341**	P	**P**	**01 00 55.2**	**-0.9**
	1.0nm,0.5s,mb3.7,baz=143,slow=5.1,SNR=6.1						
YKA	**Yellowknife Ar**	**94.15**	**340**	P	**P**	**01 02 14.0**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=136,slow=4.5,SNR=10						
ASAR	**Alice Springs**	**128.60**	**204**	PKP	PKPdf	01 08 02.0	+0.2
	0.7nm,0.8s,baz=113,slow=1.5,SNR=5.9						
WRA	**Warramunga Arr**	**131.78**	**207**	PKP	PKPdf	01 08 08.3	+0.4
	0.4nm,0.5s,baz=166,slow=1.6,SNR=3.9						
BVAR	**Borovoye Array**	**136.61**	**37**	PKP	PKPdf	01 08 16.6	-0.3
	0.2nm,0.5s,baz=9.9,slow=3.4,SNR=3.0						
ZAL	**Zalesovo**	**143.24**	**28**	PKP	PKPdf	01 08 26.3	-2.6
	0.9nm,0.6s,baz=179,slow=5.2,SNR=5.3						
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	PKPbc	01 08 34.5	-1.3
	1.9nm,0.6s,baz=327,slow=2.0,SNR=30						

*NEIC **02** 00:54:40.9,3139S×7162W,h14km,ML3.0(GUC),After GUC.*

GUC 02 00:54:40.9±0.5,3139S×7162W,h14km±4km,MD3.6, ML3.0,5C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.57**	**68**⇑	*i*P	Pg	00 54 51.8	-0.3
CMCH				*i* S	Sg	00 55 00.4	+0.6
CMCH				AML	AML	00 55 01.7	
	comp=E,2μm,0.5s						
CMCH	**Combarbala**	**0.57**	**68**⇑	*i*P	Pg	00 54 51.8	-0.3
CMCH				*i* S	Sg	00 55 00.4	+0.6
OVCH	**Ovalle**	**0.86**	**25**⇑	*i*P	Pb	00 54 56.5	-1.0
OVCH				*i* S	Sg	00 55 08.5	-0.3
OVCH				AML	AML	00 55 12.4	
	comp=E,665nm,0.3s						
OVCH	**Ovalle**	**0.86**	**25**⇑	*i*P	Pb	00 54 56.5	-1.0
OVCH				*i* S	Sg	00 55 08.5	-0.3
PTCH	**Petorca**	**1.05**	**146**⇑	*i*P	Pb	00 54 59.5	-1.3
PTCH				*i* S	Sb	00 55 13.3	-1.0
PTCH				AML	AML	00 55 13.7	
	comp=N,1μm,0.2s						
PACH	**Papudo**	**1.15**	**172**	*i* P	Pn	00 55 01.0	-1.5
PACH				*i* S	Sb	00 55 16.4	-0.9
TLL	**Tololo Astrono**	**1.41**	**30**	*i* P	Pn	00 55 05.7	-0.3
TLL				*i* S	Sn	00 55 24.3	-0.1
PEL	**Peldehue**	**1.92**	**156**	*i* P	Pn	00 55 13.3	+0.3
PEL				*i* S	Sn	00 55 38.1	+1.2
PEL				AML	AML	00 55 40.3	
	comp=N,224nm,0.5s						
CLCH	**Cerro Calan**	**2.20**	**156**	AML	AML	00 55 53.9	
	comp=N,153nm,0.5s						
FCH	**Farellones**	**2.23**	**150**	AML	AML	00 55 54.2	
	comp=E,76nm,0.3s						
ZON	**Zonda**	**2.52**	**94**	AML	AML	00 56 10.7	
	comp=E,50nm,0.3s						

IDC 02 01:14:04.7±3.6,2219S×6801W,h115km±32km,mb3.5/2, mb1 3.6/4,mb1mx3.3/16,mbtmp3.6/4,Error ellipse: s-maj=45.4km s-min=29.1km az=114.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.87**	**359**	P	Pn	01 15 29.9	+0.5
	1.2nm,0.3s,baz=193,slow=6.9,SNR=33						
SIV	**San Ignacio**	**9.00**	**48**	P	Pn	01 16 12.6	+0.9
	4.6nm,0.3s,baz=240,slow=11,SNR=75						
SIV				S	Sn	01 17 50.9	-0.3
	0.6nm,0.3s,baz=304,slow=22,SNR=10.0						
CFAA	**Coronel Fontan**	**9.38**	**181**	P	Pn	01 16 12.0	-4.8
	0.0nm,0.3s,baz=249,slow=22,SNR=2.5						
CFAA				S	Sn	01 17 51.3	-9.1
	0.1nm,0.3s,baz=261,slow=22,SNR=4.5						
SNAA	**Sanae**	**61.36**	**161**	P	P	01 24 07.9	-0.4
	0.4nm,0.6s,baz=271,slow=8.0,SNR=11						
TORD	**Torodi Ar. Bea**	**76.80**	**70**	P	P	01 25 44.5	+0.8
	1.0nm,0.5s,baz=254,slow=5.3,SNR=22						
MKAR	**Makanchi Array**	**145.69**	**37**	PKPbc	PKPbc	01 33 29.1	-0.9
	1.0nm,0.8s,baz=306,slow=4.2,SNR=7.1						

*ISCJB **02** 01:20:15.6±0.8,473N±02×155.1E±02,h10km,mb3.8/12, Error ellipse: s-maj=24.3km s-min=13.6km az=131.4*

*IDC **02** 01:20:16.1±1.1,4727N×155.17E,h0km,mb3.8/12, mb1 4.0/13,mb1mx3.8/26,mbtmp3.9/13,ML3.8/1,Error ellipse: s-maj=30.9km s-min=20.8km az=168.0*

*MOS **02** 01:20:20.6±1.4,4727N×154.92E,h47km,mb4.1/9,Error ellipse: s-maj=27.6km s-min=19.7km az=84.5*

ISC 02 01:20:17.5±0.8,473N±02×1551E±02,h10km,n23, σ0:67/23,mb3.8/12,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.33**	**254**	Pn	**Pn**	**01 22 31.9**	**-0.1**
	1.2nm,0.3s,baz=284,slow=33,SNR=3.4						
ASAJ	**Asahikawa**	**9.33**	**254**	PN	**Pn**	**01 22 32.0**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**40.42**	**33**	P	**P**	**01 27 55.3**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.6,baz=287,slow=6.8,SNR=8.8						
INK	**Inuvik**	**40.42**	**33**	P	**P**	**01 27 55.3**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.90**	**298**	P	**P**	**01 28 55.1**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=66,slow=7.8,SNR=5.5						
YKA	**Yellowknife Ar**	**49.63**	**38**	P	**P**	**01 29 08.7**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=289,slow=7.3,SNR=3.1						
YKA	**Yellowknife Ar**	**49.63**	**38**	P	**P**	**01 29 08.7**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**01 29 23.3**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=56,slow=7.3,SNR=17						
BVAR	**Borovoye Array**	**51.55**	**310**	P	**P**	**01 29 23.3**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**59.36**	**312**	P	**P**	**01 30 19.8**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=76,slow=14,SNR=3.1						
AKTO	**Aktyubinsk**	**59.36**	**312**	P	**P**	**01 30 19.8**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**63.29**	**55**	P	**P**	**01 30 46.3**	**-0.2**
	comp=Z,0.4nm,0.9s,mb3.5,baz=316,slow=2.5,SNR=3.0						
FINES	**FINESS Array B**	**64.10**	**335**	P	**P**	**01 30 51.2**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.3,baz=35,slow=6.1,SNR=10						
FINES	**FINESS Array B**	**64.10**	**335**	P	**P**	**01 30 51.2**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**68.12**	**342**	P	**P**	**01 31 18.3**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=28,slow=6.4,SNR=3.1						
NOA	**NORSAR Array B**	**68.12**	**342**	P	**P**	**01 31 18.3**	**+0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**68.39**	**340**	P	**P**	**01 31 19.9**	**+0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=74,slow=5.1,SNR=6.4						
HFS	**Hagfors**	**68.39**	**340**	P	**P**	**01 31 19.9**	**+0.6**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**69.52**	**201**	P	**P**	**01 31 26.6**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=24,slow=6.3,SNR=2.4						
TXAR	**Lajitas Array**	**76.01**	**62**	P	**P**	**01 32 05.0**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=303,slow=4.5,SNR=9.9						
TXAR	**Lajitas Array**	**76.01**	**62**	P	**P**	**01 32 05.0**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**76.09**	**347**	P	**P**	**01 32 07.3**	**+1.9**
	comp=Z,3.9nm,1.1s,mb4.2,baz=17,slow=5.2,SNR=4.6						
EKA	**Eskdalemuir Ar**	**76.09**	**347**	P	**P**	**01 32 07.3**	**+1.9**
EKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						

*IDC **02** 01:40:32.8±10.0,602S×13065E,h87km±104km,mb3.8/2, mb1 3.9/5,mb1mx3.6/13,mbtmp3.7/5,Error ellipse: s-maj=85.5km s-min=33.9km az=52.0*

*NEIC **02** 01:40:39.5±3.8,634S×13026E,h150km±36km,mb4.2/3, Error ellipse: s-maj=47.7km s-min=27.6km az=55.0*

*ISCJB **02** 01:40:44.7±2.3,68S±01×1303E±01,h189km±22km, mb3.9/2,Error ellipse: s-maj=22.1km s-min=19.8km az=138.9*

ISC 02 01:40:43.5±2.4,67S±01×1301E±01,h158km±16km,n9, σ0:99/15,mb3.9/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.40**	**159**	*e*P	**Pn**	**01 42 16.3**	**+0.7**
	5.8nm,0.2s						
KAKA				*e*S	**Sn**	**01 43 27.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.12**	**201**	*e*P	**Pn**	**01 43 32.6**	**+1.5**
	2.3nm,0.3s						
FITZ				*e*S	**Sn**	**01 45 44.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**12.12**	**201**	P	**Pn**	**01 43 32.5**	**+1.5**
	0.5nm,0.3s,baz=36,slow=12,SNR=21						
FITZ				S	**Sn**	**01 45 43.9**	**-1.3**
	0.5nm,0.3s,baz=71,slow=9.8,SNR=5.1						
WRAB	**Tennant Creek**	**13.78**	**163**	*e*Pn	**Pn**	**01 43 52.1**	**-0.2**
	4.4nm,0.9s						
WRA	**Warramunga Arr**	**13.79**	**163**	P	**Pn**	**01 43 51.6**	**-0.8**
	0.4nm,0.3s,baz=346,slow=11,SNR=3.1						
WRA				S	**Sn**	**01 46 19.9**	**-5.3**
	1.4nm,0.3s,baz=343,slow=21,SNR=10						
WB2	**Warramunga Arr**	**13.79**	**163**	*e*P	**Pn**	**01 43 51.5**	**-0.9**
WB2				*e*		01 43 57.5	
WB2				*e*S	**Sn**	**01 46 19.7**	**-5.7**
ASAR	**Alice Springs**	**17.26**	**168**	P	**Pn**	**01 44 36.6**	**+1.6**
	0.9nm,0.3s,baz=348,slow=10,SNR=55						
ASAR				S	**S**	**01 47 46.0**	**+0.5**
	0.3nm,0.3s,baz=353,slow=28,SNR=5.4						
STKA	**Stephens Creek**	**27.25**	**158**	P	**P**	**01 46 12.1**	**-0.8**
	2.8nm,0.9s,mb3.9,baz=352,slow=7.1,SNR=3.2						
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**01 51 21.3**	**-4.4**
	1.1nm,0.4s,mb3.9,baz=114,slow=8.2,SNR=31						

*NEIC **02** 01:46:49.7±2.0,351S×13035E,h35km,mb3.8/1,Error ellipse: s-maj=248.0km s-min=14.8km az=73.0*

IDC 02 01:46:45.9±1.6,378S×12923E,h0km,mb3.7/4,mb1 3.9/6, mb1mx3.8/16,mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=129.5km s-min=21.8km az=74.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.66**	**194**	Pn	Pn	01 50 13.9	-0.6
	0.2nm,0.3s,baz=15,slow=12,SNR=4.4						
WRAB	**Tennant Creek**	**16.81**	**163**	*e*Pn	Pn	01 50 41.7	-0.9
	9.9nm,1.3s						
WRA	**Warramunga Arr**	**16.82**	**163**	Pn	Pn	01 50 41.0	-1.8
	baz=346,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**20.28**	**168**	P	P	01 51 24.9	+1.9
	2.2nm,0.7s,baz=348,slow=9.7,SNR=19						
SONM	**Songino Array**	**55.17**	**341**	P	P	01 56 20.1	-0.1
	0.2nm,0.5s,baz=152,slow=6.7,SNR=3.6						
MKAR	**Makanchi Array**	**65.14**	**326**	P	P	01 57 28.9	+0.3
	0.9nm,0.8s,baz=119,slow=7.6,SNR=8.1						
VNDA	**Vanda**	**75.71**	**173**	P	P	01 58 32.4	-0.8
	0.6nm,0.8s,baz=315,slow=2.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**127.38**	**284**	PKP	PKPdf	02 05 53.8	+1.2
	0.3nm,0.7s,baz=55,slow=1.3,SNR=2.0						

*IDC **02** 02:12:32.5±1.0,1656N×14027E,h0km,mb3.9/7, mb1 4.0/7,mb1mx3.9/18,mbtmp3.9/7,MS3.1/3,Ms1 3.1/3, ms1mx2.7/29,Error ellipse: s-maj=47.9km s-min=20.7km az=82.0*

*ISCJB **02** 02:12:36.3±1.0,165N±01×1402E±02,h35km,mb4.2/10, MS3.1/2,Error ellipse: s-maj=30.3km s-min=17.2km az=152.2*

ISC 02 02:12:37.7±1.0,166N±01×1403E±02,h35km,n15, σ0:61/11,mb4.2/10,MS3.1/2,West of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**15.16**	**314**	LR	LR	02 20 11.4	
	comp=Z,53nm,19.7s,baz=319,slow=30						
PMG	**Port Moresby**	**26.66**	**165**	LR	LR	02 28 28.0	
	comp=Z,65nm,19.9s,MS3.2,baz=196,slow=36						
WRA	**Warramunga Arr**	**36.74**	**189**	P	**P**	**02 19 40.8**	**-0.8**
	0.6nm,0.6s,mb3.6,baz=5.3,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**40.46**	**189**	P	**P**	**02 20 13.7**	**+0.8**
	0.4nm,0.6s,mb3.4,baz=16,slow=12,SNR=8.8						
SONM	**Songino Array**	**41.81**	**326**	P	**P**	**02 20 24.2**	**+0.2**
	1.0nm,0.8s,mb3.5,baz=146,slow=7.2,SNR=6.9						
JIRN	**Jiri**	**51.02**	**292**	*e*P	**P**	**02 21 36.4**	**+0.2**
	7.9nm,0.7s,mb4.8						
GUN	**Gumba**	**51.29**	**293**	*e*P	**P**	**02 21 38.6**	**+0.3**
	18nm,0.7s,mb5.1						
DMN	**Daman**	**51.98**	**292**	*e*P	**P**	**02 21 43.3**	**-0.1**
KOLN	**Koldanda**	**53.31**	**293**	*e*P	**P**	**02 21 53.0**	**-0.2**
	8.1nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**56.32**	**316**	P	**P**	**02 22 15.4**	**+0.4**
	1.2nm,0.7s,mb4.1,baz=102,slow=7.9,SNR=13						
YKA	**Yellowknife Ar**	**82.25**	**27**	P	**P**	**02 24 56.0**	**+0.6**
	0.9nm,0.7s,mb3.8,baz=292,slow=5.4,SNR=6.5						
ARCES	**ARCESS Array B**	**82.91**	**341**	P	**P**	**02 24 58.7**	**-0.1**
	2.4nm,0.8s,mb4.3,baz=64,slow=8.2,SNR=8.4						
FINES	**FINESS Array B**	**86.62**	**334**	P	**P**	**02 25 16.1**	**-1.5**
	1.6nm,0.6s,mb4.4,baz=81,slow=6.0,SNR=11						
NVAR	**Mina Array Bea**	**88.47**	**50**	LR	LR	03 00 05.8	
	comp=Z,6.5nm,20.9s,MS3.0,baz=340,slow=32						
LPAZ	**La Paz**	**152.71**	**94**	PKPbc	PKPbc	02 32 33.4	+2.7
	0.8nm,0.7s,baz=342,slow=6.4,SNR=3.6						

JMA 02 02:42:20.6±0.3,3303N×14161E,h68km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.51**	**274**	P	Pn	02 42 46.0	+0.4
JHJ2				S	Sn	02 43 05.8	+1.4
BSO1	**Boso 1**	**1.70**	**342**	P	Pn	02 42 48.8	+0.6
BSO3	**Boso 3**	**1.99**	**333**	P	Pn	02 42 52.7	+0.7
BSO4	**Boso 4**	**2.22**	**332**	P	Pn	02 42 56.4	+1.2
NJJJ	**Nii jima 2**	**2.37**	**306**	P	Pn	02 42 58.1	+0.9
JIM2	**Oshima 3**	**2.47**	**313**	P	Pn	02 42 59.0	+0.4
JIZS	**Izushimoda**	**2.83**	**307**	P	Pn	02 43 04.6	+1.2
JOD2	**Odawara 2**	**3.06**	**318**	P	Pn	02 43 07.1	+0.6
JYN	**Shimob**	**3.54**	**315**	P	Pn	02 43 14.9	+1.

SPN	**Mys Shipunski**	**2.07**	**29**	*e*P	Pn	02 43 49.9	+2.0
SPN				*i* S	Sn	02 44 17.4	+3.3
GNL	**Ganaly**	**2.41**	**354**	*i* P	Pn	02 43 53.3	+0.8
GNL				*e*S	Sn	02 44 22.7	+0.3
MKZ	**Mys Kozlova**	**3.85**	**31**	*e*P	Pn	02 44 13.3	+1.0
MKZ				*e*S	Sn	02 44 57.6	-0.3
KMNR	**Kamenistaya**	**4.60**	**13**	P	Pn	02 44 23.7	+1.1
KBTR	**Krutoberegovo**	**5.59**	**27**	P	Pn	02 44 37.9	+1.8

IDC 02 02:44:17.9±1.1, 569S×12311E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.2/2, Error ellipse: s-maj=117.0km s-min=20.2km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.58**	**169**	Pn	Pn	02 47 17.4	-0.7
	0.0nm,0.3s,baz=22,slow=9.7,SNR=3.1						
WRA	**Warramunga Arr**	**17.89**	**143**	P	Pn	02 48 26.8	-1.3
	0.2nm,0.3s,baz=320,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**20.68**	**151**	P	P	02 49 00.9	+1.6
	1.3nm,0.7s,baz=322,slow=11,SNR=15						
SONM	**Songino Array**	**55.29**	**346**	P	P	02 53 54.0	+0.9
	1.8nm,0.7s,baz=162,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**63.52**	**330**	P	P	02 54 50.5	+0.5
	1.1nm,0.7s,baz=128,slow=7.9,SNR=12						
ZAL	**Zalesovo**	**67.53**	**337**	P	P	02 55 14.5	-1.4
	1.6nm,0.2s,baz=291,slow=2.2,SNR=7.0						

IDC 02 02:48:17.2±2.4, 799S×11891E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=202.9km s-min=26.8km az=54.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.99**	**148**	Pn	Pn	02 51 10.1	+0.8
	0.2nm,0.3s,baz=328,slow=14,SNR=6.2						
FITZ				Sn	Sn	02 53 18.2	-5.7
	0.2nm,0.3s,baz=28,slow=17,SNR=3.7						
WRA	**Warramunga Arr**	**19.09**	**130**	P	Pn	02 52 41.7	-0.4
	0.2nm,0.3s,baz=303,slow=13,SNR=6.5						
WRA				S	Sn	02 56 08.6	-8.0
	0.0nm,0.3s,baz=316,slow=25,SNR=3.2						
ASAR	**Alice Springs**	**21.20**	**139**	P	P	02 53 04.5	+0.1
	0.5nm,0.4s,baz=315,slow=9.1,SNR=9.6						
MKAR	**Makanchi Array**	**63.52**	**333**	P	P	02 58 49.3	+0.1
	0.2nm,0.5s,baz=140,slow=6.9,SNR=2.1						

*NEIC **02** 03:04:06.2, 3796S×17652E, h5km, ML4.0(WEL), After WEL.*
NEIC Felt in the central Bay of Plenty-Rotorua area.
WEL 02 03:04:06.2±0.1, 3796S×17651E, h5km, ML4.0/13, 14C, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIRZ	**Lichensteins R**	**0.11**	**247**	⇑P	Pg	03 04 08.9	+0.4
LIRZ				S	Sg	03 04 11.1	+1.0
LIRZ	**Lichensteins R**	**0.11**	**247**	⇑PG	Pg	03 04 08.9	+0.3
LIRZ				SG	Sg	03 04 10.7	+0.6
LIRZ				SG	Sg	03 04 11.1	+1.0
MARZ	**Manawahe**	**0.13**	**101**	⇑P	Pg	03 04 09.3	+0.4
MARZ	**Manawahe**	**0.13**	**101**	⇑PG	Pg	03 04 09.3	+0.4
MARZ				SG	Sg	03 04 12.2	+1.5
MKRZ	**Makatiti**	**0.18**	**192**	PG	Pg	03 04 10.5	+0.7
MKRZ				SG	Sg	03 04 12.8	+0.5
KARZ	**Kaharoa**	**0.22**	**254**	⇑P	Pg	03 04 10.9	+0.3
KARZ	**Kaharoa**	**0.22**	**254**	⇑PG	Pg	03 04 10.9	+0.3
EDRZ	**Edgecumbe**	**0.23**	**130**	⇑P	Pg	03 04 11.1	+0.4
EDRZ	**Edgecumbe**	**0.23**	**130**	⇑PG	Pg	03 04 11.1	+0.4
TAZ	**Tarawera**	**0.27**	**181**	P	Pg	03 04 12.6	+1.1
TAZ	**Tarawera**	**0.27**	**181**	PG	Pg	03 04 12.6	+1.1
TGRZ	**Tauranga**	**0.30**	**319**	⇑P	Pg	03 04 12.5	+0.3
TGRZ	**Tauranga**	**0.30**	**319**	⇑PG	Pg	03 04 12.5	+0.4
UTU	**Utuhina**	**0.33**	**230**	P	Pg	03 04 13.3	+0.6
UTU	**Utuhina**	**0.33**	**230**	PG	Pg	03 04 13.3	+0.6
PATZ	**Paeroa**	**0.47**	**206**	P	Pg	03 04 16.0	+0.8
PATZ	**Paeroa**	**0.47**	**206**	PG	Pg	03 04 16.0	+0.8
URZ	**Urewera**	**0.56**	**123**	⇑P	Pg	03 04 17.3	+0.3
URZ	**Urewera**	**0.56**	**123**	⇑PG	Pg	03 04 17.3	+0.3
WIZ	**White Island**	**0.69**	**51**	P	Pg	03 04 19.9	+0.4
WIZ	**White Island**	**0.69**	**51**	P*	Pb	03 04 19.9	-0.8
MYRZ	**Mayor Island**	**0.71**	**342**	P*	Pb	03 04 20.4	-0.8
TOZ	**Tahuroa Road**	**0.83**	**286**	*e*P	Pg	03 04 21.9	-0.3
TOZ	**Tahuroa Road**	**0.83**	**286**	*e*P*	Pb	03 04 21.9	-1.3
MWZ	**Matawai**	**0.88**	**115**	⇑P	Pg	03 04 23.3	+0.1
MWZ	**Matawai**	**0.88**	**115**	⇑P*	Pb	03 04 23.3	-0.8
WATZ	**Wairara**	**0.97**	**219**	P	Pg	03 04 24.1	-0.7
WATZ	**Wairara**	**0.97**	**219**	P*	Pb	03 04 24.1	-1.4
BKZ	**Black Stump Fm**	**1.20**	**181**	*e*P	Pg	03 04 27.8	-1.5
BKZ	**Black Stump Fm**	**1.20**	**181**	*e*P*	Pb	03 04 27.8	-1.7
KUZ	**Kuaotunu**	**1.37**	**332**	*e*PN	Pn	03 04 30.9	-1.1
KNZ	**Kokohu**	**1.40**	**140**	*e*PN	Pn	03 04 32.6	+0.2
HIZ	**Hauiti**	**1.42**	**247**	*e*PN	Pn	03 04 30.9	-1.8
MXZ	**Matakaoa Point**	**1.48**	**75**	*e*P	Pn	03 04 32.9	-0.6
MXZ	**Matakaoa Point**	**1.48**	**75**	P*	Pb	03 04 32.9	-1.2
WCZ	**Waipu Caves**	**2.66**	**319**	*e*PN	Pn	03 04 47.8	-1.9

*ISCJB **02** 03:52:45.6±0.8, 373S±0.1×1768E±0.1, h265km±6km, mb3.4/2, Error ellipse: s-maj=20.5km s-min=11.1km az=96.7*
*IDC **02** 03:52:45.9±1.2, 3736S×17673E, h256km±10km, mb3.3/2, mb1 3.7/3, mb1mx3.4/11, mbtmp3.6/3, Error ellipse: s-maj=34.4km s-min=26.4km az=105.0*
*NEIC **02** 03:52:46.7, 3703S×17688E, h241km, MG4.4(WEL), After WEL.*
*WEL **02** 03:52:46.4±0.4, 3701S×17688E, h243km±4km, ML4.4/22, Error ellipse: s-maj=5.9km s-min=5.5km az=90.0*
ISC 02 03:52:46.1±0.9, 372S±01×1768E±01, h262km±6km, n68, σ1§05/73, mb3.4/2, 1C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.04**	**168**	P	**Pn**	**03 53 22.0**	**-0.5**
	16nm,0.3s,baz=288,slow=2.7,SNR=63						
URZ				S	**S**	**03 53 49.3**	**-2.0**
	20nm,0.3s,baz=157,slow=22,SNR=22						
URZ	**Urewera**	**1.04**	**168**	P	**Pn**	**03 53 22.0**	**-0.5**
URZ	**Urewera**	**1.04**	**168**	PN	**Pn**	**03 53 22.0**	**-0.5**
URZ				SN	**S**	**03 53 50.3**	**-1.0**
MXZ	**Matakaoa Point**	**1.21**	**106**	P	**Pn**	**03 53 22.3**	**-1.2**
MXZ	**Matakaoa Point**	**1.21**	**106**	⇑PN	**Pn**	**03 53 22.3**	**-1.2**
MWZ	**Matawai**	**1.22**	**154**	P	**Pn**	**03 53 23.5**	**-0.1**
MWZ				S	**S**	**03 53 52.1**	**-1.1**
MWZ	**Matawai**	**1.22**	**154**	PN	**Pn**	**03 53 23.4**	**-0.2**
MWZ				SN	**S**	**03 53 52.1**	**-1.1**
PUZ	**Puketiti**	**1.40**	**127**	PN	**Pn**	**03 53 24.4**	**-0.4**
PUZ				SN	**S**	**03 53 53.2**	**-2.1**
KNZ	**Kokohu**	**1.89**	**160**	*e*P	**Pn**	**03 53 29.5**	**+0.9**
KNZ	**Kokohu**	**1.89**	**160**	PN	**Pn**	**03 53 29.5**	**+0.9**
BKZ	**Black Stump Fm**	**1.94**	**188**	P	**Pn**	**03 53 29.7**	**+0.7**
BKZ	**Black Stump Fm**	**1.94**	**188**	PN	**Pn**	**03 53 29.7**	**+0.8**
NGZ	**Ngauruhoe**	**2.16**	**206**	P	**Pn**	**03 53 32.9**	**+2.0**
NGZ	**Ngauruhoe**	**2.16**	**206**	PN	**Pn**	**03 53 32.9**	**+1.9**
TUVZ	**Tukino**	**2.23**	**204**	P	**Pn**	**03 53 33.2**	**+1.7**
TUVZ	**Tukino**	**2.23**	**204**	PN	**Pn**	**03 53 33.2**	**+1.7**
FWVZ	**Far West T-bar**	**2.25**	**206**	PN	**Pn**	**03 53 33.7**	**+2.0**
TRVZ	**Turoa**	**2.29**	**206**	PN	**Pn**	**03 53 33.9**	**+1.8**
WNVZ	**Wahianoa**	**2.30**	**205**	P	**Pn**	**03 53 33.7**	**+1.5**
WNVZ	**Wahianoa**	**2.30**	**205**	PN	**Pn**	**03 53 33.7**	**+1.5**
MOVZ	**Moawhango**	**2.32**	**201**	P	**Pn**	**03 53 33.5**	**+1.1**
MOVZ	**Moawhango**	**2.32**	**201**	PN	**Pn**	**03 53 33.5**	**+1.0**
MTVZ	**Mangateitei**	**2.39**	**206**	PN	**Pn**	**03 53 34.7**	**+1.6**
PXZ	**Pawanui**	**2.78**	**180**	PN	**Pn**	**03 53 38.0**	**+1.1**
WAZ	**Wanganui**	**2.90**	**210**	P	**Pn**	**03 53 39.9**	**+1.7**
WAZ	**Wanganui**	**2.90**	**210**	PN	**Pn**	**03 53 39.9**	**+1.8**
BFZ	**Birch Farm**	**3.46**	**187**	P	**Pn**	**03 53 45.2**	**+0.9**
BFZ	**Birch Farm**	**3.46**	**187**	PN	**Pn**	**03 53 45.2**	**+0.9**
MRZ	**Mangatainoka R**	**3.55**	**196**	P	**Pn**	**03 53 45.6**	**+0.3**
MRZ	**Mangatainoka R**	**3.55**	**196**	PN	**Pn**	**03 53 45.6**	**+0.4**
KIW	**Kapiti Island**	**3.91**	**202**	P	**Pn**	**03 53 49.6**	**+0.2**
KIW	**Kapiti Island**	**3.91**	**202**	PN	**Pn**	**03 53 49.6**	**+0.2**
MTW	**Mount Morrison**	**4.04**	**194**	P	**Pn**	**03 53 51.1**	**+0.2**
CAW	**Cannon Point**	**4.10**	**199**	P	**Pn**	**03 53 51.4**	**-0.1**
CAW	**Cannon Point**	**4.10**	**199**	PN	**Pn**	**03 53 51.4**	**0.0**
DUWZ	**D'Urville Isla**	**4.22**	**212**	PN	**Pn**	**03 53 52.7**	**-0.2**
PAWZ	**Paruwai Farm**	**4.27**	**194**	P	**Pn**	**03 53 53.9**	**+0.3**
PAWZ	**Paruwai Farm**	**4.27**	**194**	PN	**Pn**	**03 53 53.9**	**+0.4**
MRW	**Makara Radio**	**4.31**	**202**	P	**Pn**	**03 53 53.9**	**-0.1**
MSWZ	**Moikau Station**	**4.34**	**196**	P	**Pn**	**03 53 54.4**	**0.0**
MSWZ	**Moikau Station**	**4.34**	**196**	PN	**Pn**	**03 53 54.4**	**0.0**
WEL	**Wellington**	**4.34**	**201**	P	**Pn**	**03 53 54.9**	**+0.5**
SNZO	**South Karori**	**4.38**	**202**	P	**Pn**	**03 53 54.7**	**-0.2**
SNZO	**South Karori**	**4.38**	**202**	PN	**Pn**	**03 53 54.7**	**-0.2**
BHW	**Baring Head**	**4.43**	**200**	P	**Pn**	**03 53 54.6**	**-0.8**
TCW	**Tory Channel**	**4.43**	**206**	P	**Pn**	**03 53 55.4**	**0.0**
TCW	**Tory Channel**	**4.43**	**206**	PN	**Pn**	**03 53 55.4**	**-0.1**
NNZ	**Nelson**	**4.79**	**213**	P	**Pn**	**03 53 59.3**	**-0.4**
QRZ	**Quartz Range**	**4.90**	**222**	P	**Pn**	**03 54 00.2**	**-0.8**
THZ	**Tophouse**	**5.44**	**213**	*e*P	**Pn**	**03 54 06.8**	**-0.8**
THZ	**Tophouse**	**5.44**	**213**	PN	**Pn**	**03 54 06.7**	**-0.9**
KHZ	**Kahutara**	**5.76**	**205**	P	**Pn**	**03 54 11.5**	**+0.1**
KHZ	**Kahutara**	**5.76**	**205**	PN	**Pn**	**03 54 11.5**	**0.0**
DSZ	**Denniston Nort**	**5.95**	**219**	*e*P	**Pn**	**03 54 12.4**	**-1.4**
LTZ	**Lake Taylor**	**6.55**	**211**	P	**Pn**	**03 54 21.0**	**-0.2**
MQZ	**McQueen's Vall**	**7.20**	**205**	P	**Pn**	**03 54 28.5**	**-0.8**
RPZ	**Rata Peaks**	**7.82**	**212**	P	**Pn**	**03 54 36.7**	**-0.4**
	11nm,0.3s,baz=37,slow=2.4,SNR=45						
RPZ				S	**S**	**03 56 02.1**	**-4.6**
	4.8nm,0.3s,baz=110,slow=19,SNR=14						
RPZ	**Rata Peaks**	**7.82**	**212**	P	**Pn**	**03 54 36.4**	**-0.7**
FOZ	**Fox Glacier**	**8.34**	**219**	*e*P	**Pn**	**03 54 41.4**	**-2.2**
LBZ	**Lake Benmore**	**8.73**	**213**	*e*P	**Pn**	**03 54 47.2**	**-1.4**
ODZ	**Otahua Downs**	**9.08**	**209**	*e*P	**Pn**	**03 54 53.1**	**+0.1**
JCZ	**Jackson Bay**	**9.17**	**219**	*e*P	**Pn**	**03 54 52.9**	**-1.2**
WKZ	**Wanaka**	**9.60**	**215**	*e*P	**Pn**	**03 54 57.6**	**-1.9**
ASAR	**Alice Springs**	**39.08**	**278**	P	**P**	**03 59 48.1**	**0.0**
	1.3nm,0.5s,mb3.6,baz=120,slow=8.1,SNR=37						
WRA	**Warramunga Arr**	**40.73**	**283**	P	**P**	**04 00 01.0**	**-0.6**
	0.6nm,0.4s,mb3.1,baz=126,slow=6.3,SNR=14						
VNA3	**Neumayer Olymp**	**71.72**	**178**	*e*	**P**	**04 03 40.3**	**+0.5**
VNA3				*e*		04 03 58.8	
VNA3				*e*		04 04 20.3	
VNA2	**Neumayer--Watz**	**72.09**	**179**	*e*	**P**	**04 03 43.2**	**+1.2**
VNA2				*e*		04 04 01.4	
VNA2				*e*		04 04 23.2	
TORD	**Torodi Ar. Bea**	**155.61**	**192**	PKPab	PKPab	04 12 35.8	-0.2
	0.3nm,0.6s,baz=156,slow=3.8,SNR=5.5						

*BJI **02** 04:16:23.6, 270N×9531E, h23km, mB5.1, mb4.7, Ms4.6, Msz4.3*
*ISCJB **02** 04:16:24.2±0.5, 272N±006×9537E±006, h25km, mb4.6/50, MS4.1/17, Error ellipse: s-maj=9.9km s-min=6.0km az=86.2*
*MOS **02** 04:16:25.7±0.8, 282N×9541E, h33km, mb4.8/19, Error ellipse: s-maj=14.1km s-min=8.0km az=107.2*
*NEIC **02** 04:16:26.3±0.5, 275N×9538E, mb4.5/12, Error ellipse: s-maj=13.0km s-min=7.0km az=223.0*
*IDC **02** 04:16:30.5±5.1, 289N×9561E, h58km±44km, mb4.0/12, mb1 4.1/13, mb1mx3.9/23, mbtmp4.0/13, ML4.2/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/33, Error ellipse: s-maj=43.3km s-min=15.7km az=55.0*
ISC 02 04:16:26.9±0.5, 278N±006×9539E±006, h26km, h26km±.6km:pP-P, n85, σ1§00/87, mb4.6/50, MS4.1/17, 4C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.70**	**358**	P	**Pn**	**04 17 06.5**	**-2.0**
	327nm,0.8s						
PSI	**Prapat**	**3.53**	**90**	P	**Pn**	**04 17 20.5**	**+0.5**
	23nm,0.3s,baz=275,slow=10,SNR=55						
KULM	**Kulim**	**5.81**	**64**	*e*Pn	**Pn**	**04 17 51.4**	**0.0**
IPM	**Ipoh**	**5.87**	**73**	P	**Pn**	**04 17 51.6**	**-0.6**
PPI	**Padang Panjang**	**5.95**	**123**	P	**Pn**	**04 17 54.0**	**+0.7**
	72nm,1.2s						
KSM	**Kuching**	**14.97**	**95**	*e*Pn	**Pn**	**04 20 01.9**	**+5.3**
CHTO	**Chiang Mai**	**16.31**	**12**	*e*P	**Pn**	**04 20 12.8**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,22nm,1.3s						
CHTO	**Chiang Mai**	**16.31**	**12**	*e*Pn	**Pn**	**04 20 12.8**	**-1.2**
	comp=Z,22nm,1.3s						
CHTO				*e*P		04 20 15.8	
CHTO				*e*pP	pP	04 20 22.7	-1.1
MDRS	**Chennai**	**18.13**	**305**	*e*x	x	04 21 10.3	
MDRS				*e*x	x	04 24 11.3	
KKM	**Kota Kinabalu**	**21.01**	**80**	*e*P	**P**	**04 21 08.6**	**+0.1**
KKM				*e*pP		04 21 17.6	
QIZ	**Qiongzhong**	**21.46**	**40**	P	**P**	**04 21 14.5**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,39nm,2.1s,mb4.4						
QIZ				AMB	AMB		
	comp=Z,566nm,4.3s						
QIZ				LR	LR		
	comp=N,725nm,14.1s						
QIZ				LR	LR		
	comp=Z,652nm,14.5s,MS4.2						
KMI	**Kunming**	**23.31**	**17**	P	**P**	**04 21 33.8**	**+0.9**
KMI				AP		04 21 41.5	
KMI				S	**S**	**04 25 42.1**	**-1.5**
KMI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.4						
KMI				LR	LR		
	comp=N,650nm,13.5s,MS4.3						
KMI				LR	LR		
	comp=E,393nm,13.5s,MS4.3						
KMI				LR	LR		
	comp=Z,825nm,13.5s,MS4.4						
GYA	**Guiyang**	**25.91**	**24**	⇓*i*P	**P**	**04 21 56.6**	**-0.1**
GYA				AP	pP	04 22 03.8	-0.6
GYA				XP	sP	04 22 07.6	0.0
GYA				PP		04 22 40.7	
GYA				PCP	PcP	04 25 27.2	+2.1
GYA				S	**S**	**04 26 25.7**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,60nm,4.3s						
GYA				LR	LR		
	comp=N,240nm,14.8s,MS4.0						
GYA				LR	LR		
	comp=E,230nm,14.3s,MS4.0						
GYA				LR	LR		
	comp=Z,190nm,14.0s,MS3.8						
JIRN	**Jiri**	**26.25**	**341**	*e*P	**P**	**04 22 00.8**	**+1.0**
	comp=Z,29nm,0.6s,mb5.0						
DMN	**Daman**	**26.57**	**339**	*e*P	**P**	**04 22 04.4**	**+1.7**
	comp=Z,24nm,0.7s,mb4.9						
GUN	**Gumba**	**26.59**	**341**	*e*P	**P**	**04 22 03.5**	**+0.7**
	comp=Z,28nm,0.5s,mb5.0						
KKN	**Kakani**	**26.68**	**340**	*e*P	**P**	**04 22 04.6**	**+0.9**
	comp=Z,47nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.07**	**352**	*e*P	**P**	**04 22 08.5**	**+1.3**
LSA	**Lhasa**	**27.07**	**352**	*e*P	**P**	**04 22 08.1**	**+0.9**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.6						
LSA	**Lhasa**	**27.07**	**352**	*e*P	**P**	**04 22 08.1**	**+0.9**
	comp=Z,12nm,0.6s,mb4.6						
GKN	**Gorkha**	**27.10**	**339**	*e*P	**P**	**04 22 07.2**	**-0.3**
	comp=Z,24nm,0.4s,mb5.1						
KOLN	**Koldanda**	**27.28**	**337**	*e*P	**P**	**04 22 10.5**	**+1.4**
	comp=Z,46nm,1.0s,mb5.0						
CD2	**Chengdu**	**29.07**	**15**	*e*P	**P**	**04 22 26.7**	**+1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
WHN	**Wuhan**	**32.93**	**31**	P	**P**	**04 22 59.2**	**+0.1**
XAN	**Xi'an**	**33.56**	**21**	P	**P**	**04 23 03.1**	**-1.5**
XAN				AP	pP	04 23 09.1	-3.3
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
LZH	**Lanzhou**	**34.05**	**12**	*e*P	**P**	**04 23 14.0**	**+5.2**
LZH				AP	pP	04 23 21.5	+4.9
LZH				XP	sP	04 23 25.2	+5.4
LZH				*e*PP	PP	04 24 19.2	-6.9
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,48nm,4.9s						
LZH				LR	LR		
	comp=E,281nm,13.2s						
LZH				LR	LR		
	comp=Z,394nm,17.4s,MS4.2						
FITZ	**Fitzroy Crossi**	**36.32**	**126**	*e*P	**P**	**04 23 27.7**	**-0.7**
	comp=Z,6.5nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**36.32**	**126**	P	**P**	**04 23 27.0**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=272,slow=6.2,SNR=6.6						
GTA	**Gaotai**	**36.68**	**6**	*e*P	**P**	**04 23 30.2**	**-1.2**
GTA				AP	pP	04 23 37.9	-1.4
GTA				XP	sP	04 23 40.8	-1.7
GTA				PP	PP	04 24 53.5	-1.6
GTA				PCP	PcP	04 25 56.4	+2.6
GTA				S	**S**	**04 29 09.1**	**-4.0**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,146nm,5.3s						
GTA				LR	LR		
	comp=N,231nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=E,165nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=Z,184nm,11.8s,MS4.1						
HHC	**Hu-ho-hao-te**	**40.61**	**19**	*e*P	**P**	**04 24 06.5**	**+2.1**
HHC				AP	pP	04 24 14.2	+1.9
HHC				XP	sP	04 24 17.2	+1.7
HHC				PP	PP	04 25 44.0	+5.8
HHC				PCS	PcS	04 29 58.3	+1.5
HHC				S	**S**	**04 30 14.0**	**+1.6**
HHC				SS	SS	04 33 12.5	-0.4
HHC				SCS	ScS	04 34 07.9	-0.3
HHC				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,192nm,6.2s						
HHC				LR	LR		
	comp=N,474nm,17.2s,MS4.5						
HHC				LR	LR		
	comp=E,465nm,19.0s,MS4.5						
HHC				LR	LR		
	comp=Z,346nm,16.6s,MS4.3						
WMQ	**Urumqi**	**41.43**	**352**	P	**P**	**04 24 11.6**	**+0.4**
WMQ				AP	pP	04 24 18.9	-0.2
WMQ				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.5						
WMQ				LR	LR		
	comp=N,42nm,22.0s,MS3.8						
WMQ				LR	LR		
	comp=E,146nm,22.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,125nm,21.0s,MS3.8						
BJT	**Baijiatuau**	**41.58**	**24**	*e*P	**P**	**04 24 13.2**	**+0.8**
BJT				*e**PP	pP	04 24 20.2	-0.1
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**41.58**	**24**	*e*P	**P**	**04 24 13.2**	**+0.8**
	comp=Z,10nm,0.6s,mb4.6						
BJT				*e*pP	pP	04 24 20.2	-0.1
BJI	**Beijing**	**41.60**	**24**	P	**P**	**04 24 12.3**	**-0.2**
BJI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
BJI				AMB	AMB		
	comp=Z,150nm,3.6s						
BJI				LR	LR		
	comp=N,216nm,12.8s,MS4.5						
BJI				LR	LR		
	comp=E,296nm,10.6s,MS4.5						
BJI				LR	LR		
	comp=Z,108nm,14.9s,MS3.9						
AAK	**Ala-Archa**	**43.85**	**338**	*e*P	**P**	**04 24 30.8**	**0.0**
AAK	**Ala-Archa**	**43.85**	**338**	*e*P	**P**	**04 24 32.2**	**+1.4**
	comp=Z,1.9nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.41**	**122**	P	**P**	**04 24 35.1**	**-0.2**
	comp=Z,2.6nm,0.6s,mb4.1,baz=301,slow=9.0,SNR=19						
WRA				LR	LR	04 43 54.9	
	comp=Z,107nm,20.8s,MS3.8,baz=215,slow=37						
WRA	**Warramunga Arr**	**44.41**	**122**	P	**P**	**04 24 35.1**	**-0.2**
WRA				LR	LR	04 43 54.9	
WRAB	**Tennant Creek**	**44.41**	**122**	*e*P	**P**	**04 24 34.5**	**-0.8**
WRAB				*e**PP	pP	04 24 41.8	-1.5
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**44.41**	**122**	*e*P	**P**	**04 24 34.5**	**-0.8**
	comp=Z,4.7nm,0.8s,mb4.3						
WRAB				*e*pP	pP	04 24 41.8	-1.5
WB2	**Warramunga Arr**	**44.42**	**122**	*e*P	**P**	**04 24 35.0**	**-0.4**
MK31	**Makanchi Array**	**45.29**	**347**	P	**P**	**04 24 42.2**	**-0.1**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**45.29**	**347**	P	**P**	**04 24 42.3**	**0.0**
	comp=Z,9.0nm,0.5s,mb4.8,baz=163,slow=8.2,SNR=99						
MKAR	**Makanchi Array**	**45.29**	**347**	⇑*e*P	**P**	**04 24 42.2**	**-0.1**
KSRS	**Korea Array**	**45.62**	**37**	P	**P**	**04 24 41.6**	**-3.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=219,slow=9.4,SNR=5.3						
KSRS				LR	LR	04 46 26.9	
	comp=Z,94nm,18.4s,MS3.8,baz=332,slow=40						
ASAR	**Alice Springs**	**45.79**	**127**	P	**P**	**04 24 46.3**	**0.0**
	comp=Z,1.3nm,0.9s,mb3.9,baz=311,slow=7.5,SNR=9.6						
KK31	**Karatay Array**	**45.85**	**335**	*i* P	**P**	**04 24 47.0**	**+0.3**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KKAR	**Karatay Array**	**45.85**	**335**	P	**P**	**04 24 47.0**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
SONM	**Songino Array**	**45.87**	**10**	P	**P**	**04 24 46.5**	**-0.5**

ARU	**Arti**	**61.03**	**338**⇑	*i*P	**P**	**04 26 36.7**	**-1.5**
ARU				*e*		04 28 48.5	
ARU				*e*PPP		04 30 21.1	
ARU				*e*S	**S**	**04 34 53.0**	**-2.3**
ARU				*e*SS	SS	04 38 49.0	-6.0
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**61.93**	**319**⇑	*i*P	**P**	**04 26 45.6**	**+1.3**
KIV				*e*		04 29 03.5	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.1						
YAK	**Yakutsk**	**64.43**	**17**	*e*P	**P**	**04 27 00.6**	**-0.2**
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,235nm,16.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,131nm,15.0s,MS4.4						
YAK				MLR	MLR		
	comp=E,155nm,18.0s,MS4.4						
ANN	**Anapa**	**65.72**	**319**	*e*P	**P**	**04 27 14.0**	**+4.8**
ANN				pmax	pmax		
	comp=Z,86nm,1.4s,mb5.6						
BRTR	**Keskin Array B**	**66.71**	**312**	P	**P**	**04 27 16.9**	**+1.3**
	comp=Z,0.7nm,0.9s,mb3.7,baz=149,slow=8.1,SNR=3.3						
OBN	**Obninsk**	**70.33**	**329**⇑	*e*P	**P**	**04 27 36.7**	**-1.5**
OBN				*e*		04 30 15.9	
OBN				pmax	pmax		
	comp=Z,40nm,2.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.5						
TIXI	**Tiksi**	**71.96**	**11**	*e*P	**P**	**04 27 41.9**	**-6.1**
TIXI				*e*		04 27 53.1	
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
TIXI	**Tiksi**	**71.96**	**11**	*e*P	**P**	**04 27 46.6**	**-1.5**
	comp=Z,6.0nm,1.0s,mb4.5						
TIXI				*e*pP	pP	04 27 54.1	-2.2
AKASG	**Malin Array Be**	**72.91**	**323**	P	**P**	**04 27 53.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=89,slow=5.9,SNR=3.3						
BOSA	**Boshof**	**74.01**	**239**	LR	LR	04 58 10.6	
	comp=Z,92nm,20.1s,MS4.1,baz=265,slow=34						
FINES	**FINESS Array B**	**77.77**	**333**	P	**P**	**04 28 19.8**	**-1.8**
	comp=Z,2.3nm,0.9s,mb4.1,baz=83,slow=6.5,SNR=8.3						
FINES	**FINESS Array B**	**77.77**	**333**	*i* P	**P**	**04 28 21.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**77.77**	**333**	P	**P**	**04 28 19.8**	**-1.8**
KAF	**Kangasniemi**	**77.86**	**333**	*e*p	**P**	**04 28 21.0**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.1,baz=101,slow=5.2						
KAF	**Kangasniemi**	**77.86**	**333**	*e*P	**P**	**04 28 21.0**	**-1.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**80.44**	**340**	P	**P**	**04 28 36.3**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.2,baz=100,slow=5.5,SNR=8.5						
GERES	**GERESS Array B**	**82.44**	**319**	P	**P**	**04 28 47.5**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=120,slow=5.3,SNR=4.6						
TXAR	**Lajitas Array**	**143.21**	**28**	PKP	PKPdf	04 35 56.8	-1.8
	comp=Z,0.3nm,0.7s,baz=274,slow=1.4,SNR=2.9						

IDC 02 04:22:26.2±2.4, 802S×11859E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=215.7km s-min=25.4km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.14**	**146**	Pn	Pn	04 25 21.7	+1.2
	0.1nm,0.3s,baz=339,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**19.32**	**129**	P	Pn	04 26 53.2	-0.6
	0.3nm,0.3s,baz=302,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**21.39**	**138**	P	P	04 27 15.3	-0.1
	2.8nm,0.5s,baz=315,slow=9.1,SNR=23						
MKAR	**Makanchi Array**	**63.40**	**333**	P	P	04 32 57.6	+0.1
	0.4nm,0.6s,baz=146,slow=5.8,SNR=4.5						

*STR **02** 04:22:36.8±0.0, 4299N×005E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 04:22:36.7±0.0, 4301N×002W, h5km, Md1.4/2, Ml1.0/1, Error ellipse: s-maj=0.6km s-min=0.3km az=159.0*

MDD 02 04:22:37.2±0.4, 4301N×002W, h0km, mbLg0.8/1, Error ellipse: s-maj=3.5km s-min=2.3km az=153.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**61**	Pg	Pg	04 22 38.7	0.0
LABF				Sg	Sg	04 22 40.1	+0.3
LABF	**Labassere**	**0.08**	**61**	P	Pg	04 22 38.8	0.0
LABF				S	Sg	04 22 40.1	+0.4
VIEF	**Viey**	**0.13**	**165**	Pg	Pg	04 22 39.7	0.0
VIEF				Sg	Sg	04 22 41.7	+0.3
VIEF	**Viey**	**0.13**	**165**	P	Pg	04 22 39.8	0.0
VIEF				S	Sg	04 22 41.8	+0.4
EPF	**Esparros**	**0.27**	**85**	*e*Pg	Pg	04 22 41.9	-0.4
EPF				*e*Sg	Sg	04 22 45.6	-0.2
EBIE	**Bielsa**	**0.34**	**160**	Pg	Pg	04 22 43.5	-0.3
	0.6nm,0.1s,SNR=7.9						
EBIE				Lg		04 22 48.2	
	1.2nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.41**	**254**	*e*Pg	Pg	04 22 44.8	-0.3
ETSF				*e*Sg	Sg	04 22 50.2	-0.2
	0.9nm,0.2s						
ETSF	**Etsaut**	**0.41**	**254**	Pg	Pg	04 22 44.8	-0.3
ETSF				Lg		04 22 50.2	
	0.4nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	*e*Sg	Sg	04 23 29.2	-1.7
	0.1nm,0.1s						
MTLF	**Montolieu**	**1.67**	**78**	Lg		04 23 29.2	
	0.1nm,0.1s						

*BJI **02** 04:41:39.3, 2940S×17870W, h110km*
*ISCJB **02** 04:41:50.3±0.6, 2933S±007×1787W±0.1, h208km±6km, mb4.0/12, Error ellipse: s-maj=18.0km s-min=11.1km az=21.4*
*IDC **02** 04:41:50.9±0.5, 2902S×17844W, h211km±4km, mb3.8/9, mb1 3.9/9, mb1mx3.8/15, mbtmp3.8/9, Error ellipse: s-maj=20.4km s-min=17.1km az=1.0*
*NEIC **02** 04:41:51.3±1.0, 2944S×17868W, h203km±10km, mb4.1/6, Error ellipse: s-maj=23.7km s-min=16.1km az=79.0*

ISC 02 04:41:51.4±0.6, 2942S±007×1786W±0.1, h205km±5km, n37, σ1$04/29, mb4.0/12, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.65**	**75**	P	**Pn**	**04 42 20.2**	**+0.5**
	2μm,0.3s,baz=89,slow=22,SNR=77						
RAO				S	**Sn**	**04 42 41.9**	**+0.3**
	635nm,0.3s,baz=100,slow=22,SNR=6.3						
URZ	**Urewera**	**9.50**	**201**	P	**Pn**	**04 44 03.0**	**-1.0**
	1.1nm,0.3s,baz=265,slow=12,SNR=6.6						
URZ				S	**Sn**	**04 45 50.2**	**-0.1**
	3.0nm,0.3s,baz=304,slow=23,SNR=15						
SNZO	**South Karori**	**13.04**	**203**	Pn	**Pn**	**04 44 47.0**	**-2.1**
SNZO				*e*Sn	**Sn**	**04 47 04.6**	**-10**
CTA	**Charters Tower**	**33.11**	**278**	P	**P**	**04 48 08.8**	**+0.9**
	3.8nm,0.5s,mb4.2,baz=104,slow=10,SNR=14						
CTAO	**Charters Tower**	**33.11**	**278**	*e*P	**P**	**04 48 09.0**	**+1.1**
	3.6nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**42.62**	**266**	P	**P**	**04 49 27.6**	**+0.2**
	2.5nm,0.5s,mb3.9,baz=99,slow=6.4,SNR=66						
ASAR				PcP	PcP	04 51 17.6	+2.1
	0.7nm,0.6s,baz=112,slow=4.2,SNR=5.1						
WB2	**Warramunga Arr**	**43.51**	**271**	*e*P	**P**	**04 49 34.5**	**0.0**
WRA	**Warramunga Arr**	**43.52**	**271**	P	**P**	**04 49 34.5**	**0.0**
	2.1nm,0.5s,mb3.7,baz=110,slow=7.6,SNR=26						
VNDA	**Vanda**	**49.01**	**186**	P	**P**	**04 50 19.9**	**+2.6**
	1.5nm,0.8s,mb3.4,baz=16,slow=8.2,SNR=3.9						
VNDA	**Vanda**	**49.01**	**186**	*e*P	**P**	**04 50 20.0**	**+2.7**
	5.2nm,1.2s,mb3.7						
FITZ	**Fitzroy Crossi**	**51.81**	**269**	*e*P	**P**	**04 50 39.5**	**+1.2**
	2.8nm,0.9s,mb3.7						
FITZ	**Fitzroy Crossi**	**51.81**	**269**	P	**P**	**04 50 39.6**	**+1.3**
	0.9nm,0.5s,mb3.5,baz=141,slow=6.5,SNR=4.4						
CASY	**Casey**	**55.75**	**208**	*e*P	**P**	**04 51 06.8**	**0.0**
	13nm,0.7s,mb4.6						
QSPA	**South Pole Qui**	**60.68**	**180**	*e*P	**P**	**04 51 42.9**	**+2.0**
	6.0nm,0.6s,mb4.4						
MAW	**Mawson**	**73.03**	**201**	P	**P**	**04 52 59.3**	**+0.6**
	3.2nm,0.8s,mb4.0,baz=110,slow=10,SNR=7.2						
MJAR	**Matsushiro Arr**	**77.13**	**326**	P	**P**	**04 53 20.1**	**-2.0**
	0.8nm,0.3s,mb3.9,baz=161,slow=6.0,SNR=5.1						
SYO	**Syowa Base**	**77.94**	**193**⇓	*e*P	**P**	**04 53 26.0**	**-0.6**
SNAA	**Sanae**	**79.14**	**179**	*e*	**P**	**04 53 32.9**	**-0.3**
SNAA				*e*		04 53 36.0	
SNAA				*e*		04 53 39.8	
SNAA	**Sanae**	**79.14**	**179**	*e*P	**P**	**04 53 32.5**	**-0.7**
	2.2nm,0.8s,mb3.8						
VNA3	**Neumayer Olymp**	**79.31**	**176**	*e*	**P**	**04 53 34.0**	**-0.1**
VNA3				*e*		04 53 37.0	
VNA3				*e*		04 53 40.1	
VNA3				*e*		04 53 48.3	
VNA2	**Neumayer--Watz**	**79.74**	**177**	*e*	**P**	**04 53 36.7**	**+0.3**
VNA2				*e*		04 53 39.3	
VNA2				*e*		04 53 43.4	
VNA2				*e*		04 53 50.6	
VNA1	**Neumayer--Stat**	**79.97**	**177**	*e*	**P**	**04 53 38.3**	**+0.6**
VNA1				*e*		04 53 41.4	
VNA1				*e*		04 53 44.9	
VNA1				*e*		04 53 52.4	
PSI	**Prapat**	**84.79**	**276**	P	**P**	**04 54 02.0**	**-0.6**
	4.7nm,0.8s,mb4.3,baz=246,slow=4.4,SNR=5.7						
NVAR	**Mina Array Bea**	**87.90**	**43**	P	**P**	**04 54 15.3**	**-2.3**
	0.7nm,0.6s,mb3.6,baz=208,slow=7.4,SNR=4.6						
CD2	**Chengdu**	**95.10**	**303**	*e*P	**P**	**04 54 51.0**	**0.0**
HHC	**Hu-ho-hao-te**	**95.16**	**314**	*e*P	**P**	**04 54 51.6**	**+0.3**
HHC				AP	pP	04 55 17.9	-24
HHC				XP	sP	04 55 28.0	-35
HHC				SKS		05 05 17.3	
HHC				S	S	05 05 55.3	+7.0
HHC				XS	sS	05 06 41.7	-36
MKAR	**Makanchi Array**	**116.72**	**311**	PKP	PKPdf	05 00 08.3	-2.8
	0.3nm,0.9s,baz=218,slow=0.7,SNR=3.6						
ARCES	**ARCESS Array B**	**137.52**	**348**	PKP	PKPdf	05 00 49.0	-1.6
	1.3nm,0.6s,baz=50,slow=3.0,SNR=5.8						
KAF	**Kangasniemi**	**143.45**	**341**	*e*pkp	PKPdf	05 00 55.2	-6.1
FINES	**FINESS Array B**	**144.04**	**340**	PKP	PKPdf	05 00 57.5	-4.9
	5.2nm,0.5s,baz=62,slow=3.7,SNR=51						
NB2	**NORSAR Subarra**	**147.71**	**351**	PKP	PKPdf	05 01 08.3	-0.3
	comp=Z,2.3nm,0.6s,baz=15,slow=2.9						
NOA	**NORSAR Array B**	**147.71**	**351**	PKPbc	PKPbc	05 01 08.4	-3.2
	comp=Z,4.3nm,0.8s,baz=15,slow=4.3,SNR=7.2						
HFS	**Hagfors**	**148.18**	**348**	PKPbc	PKPbc	05 01 09.5	-3.4
	comp=Z,5.4nm,0.8s,baz=53,slow=5.7,SNR=7.3						
AKASG	**Malin Array Be**	**150.19**	**323**	PKP	PKPdf	05 01 11.5	-1.0
	comp=Z,2.6nm,0.6s,baz=45,slow=2.8,SNR=3.6						
AKASG				PKPbc	PKPbc	05 01 14.8	-3.1
	comp=Z,3.5nm,0.7s,baz=46,slow=2.9,SNR=16						
EIL	**Elat**	**150.84**	**279**	*e*PKPbc	PKPbc	05 01 18.4	-1.0
BRTR	**Keskin Array B**	**151.64**	**300**	PKPbc	PKPbc	05 01 19.8	-1.4
	comp=Z,0.7nm,0.4s,baz=137,slow=3.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**163.80**	**181**	PKPab	PKPab	05 02 23.6	+0.3
	comp=Z,1.9nm,0.6s,baz=178,slow=3.5,SNR=25						

*ISCJB **02** 05:11:49.3±0.5, 6223S±006×1647E±0.2, h10km, mb4.5/9, MS4.5/9, Error ellipse: s-maj=15.9km s-min=8.2km az=8.0*
*IDC **02** 05:11:49.0±0.8, 6217S×16481E, h0km, mb4.3/5, mb1 4.6/7, mb1mx4.6/8, mbtmp4.5/7, ML4.5/1, MS4.6/11, Ms1 4.6/11, ms1mx4.3/18, Error ellipse: s-maj=31.8km s-min=19.4km az=87.0*
*NEIC **02** 05:11:51.1±0.6, 6225S×16495E, h10km, mb4.8/5, Error ellipse: s-maj=24.4km s-min=10.6km az=85.0*
*GCMT **02** 05:11:51.1±0.2, 62.14S×16495E, h18km±1km, MW5.3/80, Moment Tensor Solution. s60,c82; s80,c129; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.02; $M_{\theta\theta}$1.04±.02; $M_{\phi\phi}$-0.87±.02; $M_{r\theta}$-0.60±.06; $M_{\theta\phi}$-0.20±.02; $M_{\phi r}$0.06±.04; Best double couple: $M_0$1.10100×10^17 NP1:ϕ_s323.00000°, δ74.00000°, λ16.00000°. NP2: ϕ_s229.00000°, δ75.00000°, λ163.00000°. Principal axes: T 1.3070, Plg22.0000°, Azm186.0000°; N -0.4120, Plg68.0000°, Azm8.0000°; P -0.8950, Plg1.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 05:11:50.5±0.5, 6224S±006×1648E±02, h10km, (h9km±.4km:pP-P), n37, σ1$00/25, mb4.5/9, MS4.5/9, 4C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.38**	**182**	Pn	**Pn**	**05 15 27.4**	**-0.1**
	5.1nm,0.3s,baz=355,slow=14,SNR=250						
VNDA				LR	LR	05 20 21.9	
	comp=Z,5μm,21.0s,baz=9.9,slow=33						
VNDA	**Vanda**	**15.38**	**182**	*e*P	**Pn**	**05 15 27.0**	**-0.5**
	23nm,0.5s						
SBA	**Scott Base**	**15.70**	**178**	*e*P	**Pn**	**05 15 31.6**	**0.0**
	267nm,1.4s						
RPZ	**Rata Peaks**	**18.92**	**14**	P	**Pn**	**05 16 10.8**	**-1.1**
	1.5nm,0.3s,baz=193,slow=11,SNR=10.0						
RPZ				LR	LR	05 22 20.1	
	comp=Z,4μm,19.8s,baz=217,slow=34						
URZ	**Urewera**	**25.17**	**23**	P	**P**	**05 17 16.5**	**+0.5**
	34nm,1.1s,mb4.8,baz=229,slow=4.9,SNR=5.1						
URZ				LR	LR	05 25 48.4	
	comp=Z,3μm,20.1s,MS4.7,baz=332,slow=33						
QSPA	**South Pole Qui**	**27.85**	**180**	*e*P	**P**	**05 17 40.5**	**+0.4**
	30nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**33.86**	**323**	P	**P**	**05 18 32.2**	**-0.9**
	3.9nm,0.9s,mb4.4,baz=165,slow=9.4,SNR=4.8						
STKA				LR	LR	05 30 07.5	
	comp=Z,1μm,18.3s,MS4.7,baz=154,slow=32						
STKA	**Stephens Creek**	**33.86**	**323**	*e*P	**P**	**05 18 36.4**	**+3.3**
MAW	**Mawson**	**38.83**	**217**	P	**P**	**05 19 16.6**	**+1.1**
	5.0nm,0.8s,mb4.3,baz=112,slow=9.5,SNR=5.9						
MAW				LR	LR	05 35 24.0	
	comp=Z,1μm,18.7s,MS4.8,baz=128,slow=36						
ASAR	**Alice Springs**	**43.87**	**317**	P	**P**	**05 19 56.6**	**-0.3**
	2.8nm,0.6s,mb4.1,baz=160,slow=7.9,SNR=41						
ASAR				PcP	PcP	05 21 42.0	-1.1
	0.7nm,0.7s,baz=140,slow=4.1,SNR=4.5						
CTAO	**Charters Tower**	**44.04**	**334**	*e*P	**P**	**05 19 59.0**	**+0.6**
	15nm,1.2s,mb4.6						
SNAA	**Sanae**	**46.09**	**185**⇑	*i*	**P**	**05 20 14.3**	**-0.3**
SNAA				*e*	pP	05 20 16.7	-1.1
SNAA				*e*		05 20 19.9	
SNAA	**Sanae**	**46.09**	**185**	*e*P	**P**	**05 20 14.0**	**-0.7**
	23nm,1.1s,mb5.0						
VNA3	**Neumayer Olymp**	**46.74**	**182**⇑	*i*	**P**	**05 20 19.1**	**-0.6**
VNA3				*e*	pP	05 20 21.7	-1.2
VNA3				*e*		05 20 25.5	
VNA2	**Neumayer--Watz**	**47.00**	**183**⇑	*i*	**P**	**05 20 21.4**	**-0.4**
VNA2				*e*	pP	05 20 23.6	-1.3
VNA2				*e*		05 20 28.9	
VNA2				*e*		05 20 40.9	
WRA	**Warramunga Arr**	**47.22**	**319**	P	**P**	**05 20 21.9**	**-1.6**
	1.5nm,0.9s,mb3.9,baz=159,slow=7.5,SNR=5.9						
WRA				PcP	PcP	05 21 53.1	-1.7
	1.9nm,1.0s,baz=160,slow=3.0,SNR=7.6						
WRA				LR	LR	05 38 39.1	
	comp=Z,323nm,20.9s,MS4.3,baz=150,slow=34						
VNA1	**Neumayer--Stat**	**47.30**	**183**⇑	*i*	**P**	**05 20 24.4**	**+0.3**
VNA1				*e*	pP	05 20 27.1	-0.1
VNA1				*e*		05 20 30.5	
VNA1				*e*		05 20 43.1	
TBI	**Tubuai**	**49.56**	**60**	*e*S	**S**	**05 27 50.5**	**+1.0**
	221nm,28.2s						
TBI				*e*LQ		05 32 05.6	
	2μm,27.0s						
TBI				*e*LR	LR	05 34 49.1	
	560nm,23.8s,baz=212						
FITZ	**Fitzroy Crossi**	**51.83**	**310**	LR	LR	05 39 41.8	
	comp=Z,324nm,18.9s,MS4.4,baz=87,slow=32						
PPT	**Papeete**	**54.72**	**57**	*e*S	**S**	**05 29 00.5**	**+0.2**
	358nm,29.0s						
PPT				*e*LQ		05 34 15.5	
	1μm,24.0s						
PPT				*e*LR	LR	05 37 11.7	
	372nm,22.5s,baz=207						
PPT	**Papeete**	**54.72**	**57**	LR	LR	05 39 02.4	
	comp=Z,284nm,18.3s,MS4.4,baz=207,slow=30						
RKT	**Rikitea**	**56.00**	**75**	*e*S	**S**	**05 29 21.4**	**+4.0**
	149nm,27.8s						
RKT				*e*LQ		05 35 16.9	
	489nm,29.5s						
RKT				*e*LR	LR	05 37 31.1	
	470nm,29.5s						
CFAA	**Coronel Fontan**	**77.25**	**136**	P	**P**	**05 23 43.7**	**-1.1**
	0.1nm,0.6s,baz=233,slow=3.7,SNR=3.6						
CFAA	**Coronel Fontan**	**77.25**	**136**	P	**P**	**05 23 43.7**	**-1.1**
PSI	**Prapat**	**81.48**	**293**	LR	LR	05 53 02.4	
	comp=Z,224nm,20.8s,MS4.5,baz=52,slow=30						
KULM	**Kulim**	**82.98**	**295**	*e*P	**P**	**05 24 18.2**	**+2.4**
BOSA	**Boshof**	**83.82**	**215**	LR	LR	05 57 30.8	
	comp=Z,206nm,20.5s,MS4.5,baz=164,slow=33						
LPAZ	**La Paz**	**91.41**	**130**	P	**P**	**05 25 00.6**	**+3.8**
	2.0nm,0.8s,mb4.5,baz=203,slow=4.7,SNR=9.4						
LPAZ				LR	LR	05 59 11.2	
	comp=Z,118nm,18.2s,MS4.4,baz=95,slow=31						
LPAZ	**La Paz**	**91.41**	**130**	*e*P	**P**	**05 25 00.6**	**+3.9**
	7.2nm,1.4s,mb4.8						
MKAR	**Makanchi Array**	**126.89**	**302**	PKP	PKPdf	05 30 53.9	-0.6
	0.5nm,0.8s,baz=186,slow=1.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**129.50**	**201**	PKP	PKPdf	05 31 00.8	+1.3
	1.5nm,1.1s,baz=216,slow=0.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**129.50**	**201**	PKP	PKPdf	05 31 00.8	+1.3
YKA	**Yellowknife Ar**	**138.33**	**44**	PKP	PKPdf	05 31 14.6	-1.4
	0.4nm,0.8s,baz=210,slow=4.1,SNR=3.6						
BRTR	**Keskin Array B**	**143.15**	**255**	PKP	PKPdf	05 31 24.0	-0.7
	0.7nm,0.8s,baz=143,slow=7.1,SNR=4.1						
AKASG	**Malin Array Be**	**153.46**	**265**	PKPbc	PKPbc	05 31 46.4	-2.7
	0.2nm,0.3s,baz=93,slow=2.8,SNR=3.9						
AKASG				PKPab	PKPab	05 32 00.2	-1.1
	0.2nm,0.4s,baz=105,slow=2.3,SNR=4.0						
ESDC	**Sonseca Array**	**156.39**	**202**	PKPab	PKPab	05 32 13.4	-0.5
	1.4nm,0.8s,baz=158,slow=3.5,SNR=5.2						
GERES	**GERESS Array B**	**159.10**	**243**	PKPab	PKPab	05 32 29.2	+3.6
	0.3nm,0.6s,baz=158,slow=3.2,SNR=5.2						

*ISCJB **02** 05:13:36.8±0.5, 2158S±005×6996W±007, h54km, mb3.8/10, Error ellipse: s-maj=10.0km s-min=6.8km az=160.2*
*IDC **02** 05:13:37.8±0.9, 2172S×6997W, h54km±6km, mb3.5/4, mb1 3.9/5, mb1mx3.6/15, mbtmp3.6/5, Error ellipse: s-maj=38.8km s-min=23.8km az=162.0*
*NEIC **02** 05:13:43.5±1.1, 2167S×6971W, h105km±10km, mb3.9/8, Error ellipse: s-maj=16.9km s-min=8.3km az=88.0*

ISC 02 05:13:40.8±1.0, 2155S±005×6998W±008, h72km±10km, n24, σ1$17/24, mb3.6/10, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**5.26**	**344**	*e*P	**Pn**	**05 14 55.0**	**-1.7**
ARE				*i* S	**Sn**	**05 15 55.8**	**-0.2**
LPAZ	**La Paz**	**5.51**	**19**	P	**Pn**	**05 15 05.8**	**+5.6**
	1.5nm,0.3s,baz=188,slow=8.4,SNR=52						
LPAZ				S	**Sn**	**05 16 17.1**	**+15**
	baz=71,slow=21,SNR=1.6						
LPAZ	**La Paz**	**5.51**	**19**	*e*Pn	**Pn**	**05 15 05.8**	**+5.6**
	20nm,0.8s						
SIV	**San Ignacio**	**10.08**	**58**	P	**Pn**	**05 16 01.8**	**-0.9**
	2.2nm,0.3s,baz=246,slow=12,SNR=72						
SIV				S	**Sn**	**05 17 54.5**	**+0.5**
	0.1nm,0.3s,baz=273,slow=21,SNR=3.2						
CFAA	**Coronel Fontan**	**10.14**	**172**	P	**Pn**	**05 16 04.7**	**+1.2**
	0.4nm,0.3s,baz=349,slow=13,SNR=9.0						
CFAA				S	**Sn**	**05 17 56.6**	**+1.2**
	0.3nm,0.3s,baz=253,slow=18,SNR=3.4						
SAML	**Samuel**	**14.13**	**29**	*e*Pn	**Pn**	**05 16 59.2**	**+1.9**
TRQA	**Tornquist**	**17.84**	**159**	*e*P	**Pn**	**05 17 40.8**	**-3.3**
	5.5nm,0.6s						
TXAR	**Lajitas Array**	**60.10**	**326**	P	**P**	**05 23 40.7**	**+0.2**
	0.2nm,1.0s,mb3.1,baz=151,slow=8.0,SNR=3.6						
TXAR	**Lajitas Array**	**60.10**	**326**	P	**P**	**05 23 40.7**	**+0.2**
SNAA	**Sanae**	**62.56**	**161**	*e*P	**P**	**05 23 55.2**	**-1.9**
	1.5nm,0.8s,mb4.0						
SDCO	**Great Sand Dun**	**67.79**	**330**	*e*P	**P**	**05 24 32.2**	**+1.3**
	0.8nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**73.66**	**331**	P	**P**	**05 25 06.4**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=131,slow=11,SNR=2.0						
HWUT	**Hardware Ranch**	**73.70**	**329**	*e*P	**P**	**05 25 06.8**	**0.0**
	1.9nm,0.8s,mb3.9						
LOHW	**Long Hollow**	**74.80**	**331**	*e*P	**P**	**05 25 13.7**	**+0.6**
	0.9nm,0.6s,mb3.7						
MOOW	**Moose Ponds**	**74.97**	**331**	*e*P	**P**	**05 25 14.6**	**+0.5**
	0.6nm,0.6s,mb3.5						
HLID	**Hailey**	**76.56**	**328**	*e*P	**P**	**05 25 24.3**	**+1.1**
	1.4nm,0.9s,mb3.7						
TOA0	**Torodi Ar. Sit**	**78.31**	**71**	*e*P	**P**	**05 25 32.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**78.31**	**71**	P	**P**	**05 25 32.9**	**-0.1**
	1.0nm,0.5s,mb3.8,baz=253,slow=5.1,SNR=34						
TORD				pP	pP	05 25 47.5	-4.9
	1.9nm,0.7s,baz=252,slow=5.1,SNR=7.4						
YKA	**Yellowknife Ar**	**90.90**	**341**	P	**P**	**05 26 35.5**	**-1.0**
	0.2nm,0.6s,mb3.4,baz=140,slow=4.7,SNR=3.6						
YKA	**Yellowknife Ar**	**90.90**	**341**	P	**P**	**05 26 35.5**	**-1.0**
ASAR	**Alice Springs**	**129.41**	**209**	PKP	PKPdf	05 32 40.6	-0.4
	0.4nm,0.7s,baz=151,slow=2.0,SNR=7.1						

Ms1 3.8/4, ms1mx3.0/47, Error ellipse: s-maj=40.0km s-min=15.8km az=63.0
ISCJB ***02*** *06:05:53.1±2.2, 1404N×005×12478E±006, h16km±17km, mb4.1/9, MS4.0/3, Error ellipse: s-maj=10.6km s-min=6.8km az=120.4*
MAN ***02*** *06:05:54.8, 14.11N×12476E, h93km, mb3.5, ML4.7, MS5.9*
NEIC ***02*** *06:05:57.8±0.6, 1386N×12472E, h35km, mb4.4/3, Error ellipse: s-maj=22.6km s-min=9.2km az=62.0*
ISC 02 06:05:54.1±2.2, 1405N±004×12475E±006, h9km±15km, n33, σ1§24/34, mb4.1/9, MS4.0/3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.53**	**183**	*e*P	**Pn**	**06 06 22.5**	**+0.9**
CNP				*e*S	**Sn**	**06 06 43.6**	**+2.1**
POLP	**Polilio Island**	**2.80**	**284**	*e*P	**Pn**	**06 06 39.1**	**0.0**
POLP				*e*S	**Sn**	**06 07 17.1**	**+4.1**
PLP	**Palo**	**2.87**	**175**	*e*P	**Pn**	**06 06 40.1**	**+0.1**
PLP				*e*S	**Sn**	**06 07 12.6**	**-2.1**
BOAC	**Boac**	**2.88**	**259**	*e*P	**Pn**	**06 06 38.8**	**-1.3**
BOAC				*e*S	**Sn**	**06 07 14.5**	**-0.4**
OTRP	**Odiongan**	**3.14**	**238**	*e*P	**Pn**	**06 06 43.3**	**-0.4**
BALP	**Baler**	**3.50**	**299**	*e*P	**Pn**	**06 06 46.4**	**-2.3**
TGY	**Tagaytay City**	**3.70**	**271**	Pn	**Pn**	**06 06 52.5**	**+1.1**
	159nm,0.3s,baz=118,slow=0.4,SNR=10						
TGY				Sn	**Sn**	**06 07 35.5**	**+0.5**
	40nm,0.3s,baz=316,slow=13,SNR=2.8						
PCPH	**Palayan**	**3.84**	**294**	*i* P	**Pn**	**06 06 51.1**	**-2.2**
MSLP	**Maasin**	**3.89**	**178**	*e*P	**Pb**	**06 07 05.7**	**+2.9**
GUIM	**Jordan**	**4.00**	**212**	*e*P	**Pn**	**06 06 56.4**	**+0.9**
CAUP	**Cauayan**	**4.03**	**316**	*e*P	**Pn**	**06 06 55.4**	**-0.6**
LUBP	**Lubang**	**4.38**	**266**	*e*P	**Pn**	**06 07 00.7**	**-0.1**
CVP	**Callao Caves**	**4.60**	**323**	*e*P	**Pn**	**06 07 03.5**	**-0.2**
CVP	**Callao Caves**	**4.60**	**323**	*e*P	**Pn**	**06 07 03.5**	**-0.2**
CUYO	**Cuyo Island**	**4.83**	**229**	*e*P	**Pn**	**06 07 07.1**	**+0.1**
BUSP	**Coron**	**4.88**	**246**	*e*P	**Pn**	**06 07 08.4**	**+0.9**
APYP	**Conner**	**5.07**	**319**	*e*P	**Sn**	**06 08 00.3**	**-8.7**
GUMO	**Guam**	**19.55**	**89**	LR	LR	06 16 19.4	
	comp=Z,59nm,20.2s,baz=76,slow=32						
KSRS	**Korea Array**	**23.48**	**6**	LR	LR	06 19 49.4	
	comp=Z,48nm,18.7s,MS3.0,baz=325,slow=35						
FITZ	**Fitzroy Crossi**	**31.96**	**178**	*e*P	**P**	**06 12 17.5**	**-2.7**
	2.5nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**31.96**	**178**	P	**P**	**06 12 17.6**	**-2.7**
	1.4nm,0.6s,mb4.0,baz=33,slow=8.0,SNR=6.1						
WRA	**Warramunga Arr**	**35.07**	**164**	P	**P**	**06 12 45.6**	**-1.8**
	0.7nm,0.5s,mb3.9,baz=345,slow=9.1,SNR=18						
WB2	**Warramunga Arr**	**35.07**	**164**	*e*P	**P**	**06 12 46.0**	**-1.4**
SONM	**Songino Array**	**36.98**	**339**	P	**P**	**06 13 05.1**	**+1.3**
	0.6nm,0.5s,mb3.7,baz=160,slow=9.5,SNR=6.1						
ASAR	**Alice Springs**	**38.54**	**166**	P	**P**	**06 13 16.5**	**-0.4**
	2.0nm,0.5s,mb4.1,baz=342,slow=6.8,SNR=60						
MKAR	**Makanchi Array**	**48.15**	**321**	P	**P**	**06 14 35.8**	**+1.3**
	1.4nm,0.7s,mb4.1,baz=116,slow=9.1,SNR=16						
STKA	**Stephens Creek**	**48.44**	**161**	P	**P**	**06 14 36.9**	**+0.2**
	2.7nm,0.8s,mb4.3,baz=304,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**48.44**	**161**	P	**P**	**06 14 36.9**	**+0.2**
ZAL	**Zalesovo**	**50.62**	**331**	P	**P**	**06 14 53.9**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=337,slow=11,SNR=3.4						
KURK	**Kurchatov**	**52.14**	**325**	*e*P	**P**	**06 15 05.6**	**+0.9**
	3.2nm,0.8s,mb4.3						
BRVK	**Borovoye**	**57.81**	**325**	*e*P	**P**	**06 15 47.1**	**+1.3**
	14nm,1.3s,mb4.8						
ARCES	**ARCESS Array B**	**80.16**	**339**	LR	LR	07 00 08.5	
	comp=Z,368nm,18.5s,MS4.8,baz=280,slow=40						
RAR	**Rarotonga**	**81.94**	**114**	LR	LR	06 47 15.3	
	comp=Z,146nm,20.9s,MS4.3,baz=88,slow=30						

NNC ***02*** *06:14:28.2±1.8, 4150N×83.14E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.9km s-min=9.4km az=142.0*
BJI 02 06:14:24.6, 4126N×8360E, h16km, mB4.4, mb4.4, ML3.5, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.61**	**351**	⇓Pn	Pn	06 15 48.4	+1.1
	1.6nm,0.4s,baz=192,slow=12,SNR=26						
MK31				Pg	Pg	06 16 06.0	-6.1
	1.8nm,0.2s,baz=174,slow=14,SNR=12						
MK31				⇓Lg		06 17 17.4	
	20nm,0.7s,baz=185,slow=29,SNR=3.6						
KSH	**Kashi**	**6.08**	**256**	*e*PG	Pg	06 16 14.3	-6.7
KSH				SG	Sg	06 17 36.2	-3.4
KSH				Smax			
	comp=N,117nm,0.4s						
KSH				Smax			
	comp=E,134nm,0.6s						
TKM2	**Tokmak 2**	**6.18**	**288**	⇑Pn	Pn	06 15 55.6	+0.4
	comp=E,0.1nm,0.3s						
TKM2				⇑Lg		06 17 32.7	
	comp=E,3.5nm,0.7s						
KK31	**Karatay Array**	**9.89**	**285**	⇑Lg		06 19 28.7	
	comp=E,1.6nm,0.6s,baz=93,slow=24,SNR=4.9						
KURK	**Kurchatov**	**10.07**	**342**	⇓Lg		06 19 38.1	
	comp=E,3.5nm,0.7s						
LZH	**Lanzhou**	**16.62**	**102**	*e*P	Pn	06 18 18.5	+1.6
LZH				AP	pP	06 18 21.1	-2.7
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,80nm,4.0s						

CSEM ***02*** *06:23:32.9±0.0, 4302N×001E, h2km, ML3.3/29, Error ellipse: s-maj=0.9km s-min=0.7km az=156.0*
LDG ***02*** *06:23:32.9±0.1, 4302N×001W, h3km, Md3.1/3, Ml3.3/32, Error ellipse: s-maj=2.1km s-min=1.5km az=4.0*
NEIC ***02*** *06:23:32.9, 4304N×001E, h2km, ML2.9(STR), ML3.3(LDG), After STR.*
STR ***02*** *06:23:32.9±0.1, 4304N×001E, h2km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 02 06:23:33.3±0.2, 4302N×000E, h0km, mbLg2.6/33, 3C-1D, Error ellipse: s-maj=1.8km s-min=1.2km az=6.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**64**	Pg	Pg	06 23 34.6	+0.2
LABF	**Labassere**	**0.06**	**64**	P	Pg	06 23 34.6	+0.2
LABF				S	Sg	06 23 35.9	+0.7
VIEF	**Viey**	**0.14**	**174**	Pg	Pg	06 23 35.8	-0.2
VIEF	**Viey**	**0.14**	**174**	P	Pg	06 23 35.8	-0.2
VIEF				S	Sg	06 23 37.9	+0.1
EPF	**Esparros**	**0.25**	**88**	*e*Pg	Pg	06 23 37.5	-0.5
EPF				*e*Sg	Sg	06 23 40.8	-0.4
	615nm,0.2s						
EPF	**Esparros**	**0.25**	**88**	*e*Pg	Pg	06 23 37.5	-0.5
EPF				*e*Sg	Sg	06 23 40.8	-0.4
	308nm,0.2s						
REYF	**Montagne du Re**	**0.29**	**279**	Pg	Pg	06 23 38.3	-0.7
REYF				Sg	Sg	06 23 42.8	0.0
REYF	**Montagne du Re**	**0.29**	**279**	P	Pg	06 23 38.3	-0.6
REYF				S	Sg	06 23 42.8	+0.1
RESF	**Ens**	**0.33**	**131**	Pg	Pg	06 23 39.0	-0.6
RESF				Sg	Sg	06 23 43.8	0.0
RESF	**Ens**	**0.33**	**131**	P	Pg	06 23 39.1	-0.5
RESF				S	Sg	06 23 43.8	0.0
EBIE	**Bielsa**	**0.35**	**163**	⇑Pg	Pg	06 23 39.5	-0.5
	365nm,0.3s,SNR=18						
EBIE				Lg		06 23 44.1	
	266nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.35**	**163**	Pg	Pg	06 23 39.5	-0.5
	365nm,0.3s,SNR=18						
EBIE				Lg		06 23 44.1	
	266nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.43**	**254**	*e*Pg	Pg	06 23 41.0	-0.6
ETSF				*e*Sg	Sg	06 23 46.6	-0.6
	560nm,0.3s						
ETSF	**Etsaut**	**0.43**	**254**	*e*Pg	Pg	06 23 41.0	-0.6
ETSF				*e*Sg	Sg	06 23 46.6	-0.6
	280nm,0.3s						
FDAF	**Les Forges d'A**	**0.47**	**244**	P	Pg	06 23 41.6	-0.6
FDAF				S	Sg	06 23 48.0	-0.3
ATE	**Arette**	**0.52**	**277**	Pg	Pg	06 23 42.7	-0.6
ATE				Sg	Sg	06 23 50.3	+0.3
ATE	**Arette**	**0.52**	**277**	P	Pg	06 23 42.4	-0.9
ATE				S	Sg	06 23 49.8	-0.2
MELF	**Melles**	**0.57**	**105**	Pg	Pg	06 23 43.4	-0.9
MELF				Sg	Sg	06 23 51.8	0.0
MELF	**Melles**	**0.57**	**105**	P	Pg	06 23 43.5	-0.8
MELF				S	Sg	06 23 51.4	-0.4
ORDF	**Ordiarp**	**0.71**	**286**	Pg	Pg	06 23 46.4	-0.6
ORDF				Sg	Sg	06 23 56.8	+0.5
ORDF	**Ordiarp**	**0.71**	**286**	P	Pg	06 23 46.2	-0.8
ORDF				S	Sg	06 23 56.4	+0.2
LARF	**Larrau**	**0.73**	**272**	Pg	Pg	06 23 46.9	-0.3
LARF				Sg	Sg	06 23 57.1	+0.4
LARF	**Larrau**	**0.73**	**272**	P	Pg	06 23 46.5	-0.7
LARF				S	Sg	06 23 56.9	+0.2
MLS	**Moulis**	**0.80**	**94**	Pg	Pg	06 23 47.3	-1.4
MLS				Sg	Sg	06 24 00.1	+1.0
MLS	**Moulis**	**0.80**	**94**	P	Pg	06 23 47.2	-1.5
MLS				S	Sg	06 23 59.1	0.0
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	Pg	06 23 49.7	-1.0
SJPF				*e*Sg	Sg	06 24 01.4	-1.0
	44nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	Pg	06 23 49.7	-1.0
SJPF				*e*Sg	Sg	06 24 01.4	-1.0
	22nm,0.3s						
SALF	**Salau**	**0.91**	**106**	Pg	Pg	06 23 49.3	-1.5
SALF	**Salau**	**0.91**	**106**	P	Pg	06 23 49.6	-1.2
OSSF	**Osses**	**0.95**	**285**	P	Pg	06 23 50.0	-1.6
OSSF				S	Sg	06 24 04.1	+0.1
IPRE	**Itoiz**	**1.02**	**258**	Pg	Pg	06 23 52.1	-0.8
	6.0nm,0.3s,SNR=19						
IPRE				Lg		06 24 06.2	
	2.2nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**1.02**	**258**	Pg	Pg	06 23 52.1	-0.8
	6.0nm,0.3s,SNR=19						
CSOR	**Sort**	**1.05**	**127**	P	Pg	06 23 52.4	-1.1
CSOR				S	Sg	06 24 07.1	-0.1
	76nm,0.2s						
EALK	**Alkurruntz**	**1.12**	**281**	Lg		06 24 10.5	
	30nm,0.2s,SNR=10						
ELIZ	**Elizondo**	**1.13**	**278**	Pg	Pg	06 23 54.4	-0.6
	6.9nm,0.3s,SNR=13						
ELIZ				Lg		06 24 10.2	
	7.8nm,0.2s,SNR=10						
GRBF	**Gourbit**	**1.14**	**99**	P	Pg	06 23 54.2	-0.9
IUSE	**Utxeti**	**1.14**	**267**	Pg	Pg	06 23 54.4	-0.8
	8.3nm,0.1s,SNR=18						
IUSE				Lg		06 24 11.5	
	8.1nm,0.1s,SNR=9.2						
IUSE	**Utxeti**	**1.14**	**267**	Pg	Pg	06 23 54.4	-0.8
	8.3nm,0.1s,SNR=18						
PAND	**Andorre**	**1.24**	**113**	P	Pg	06 23 56.4	-0.7
PAND				S	Sg	06 24 13.3	+0.1
CORG	**Organya**	**1.25**	**129**	P	Pg	06 23 56.2	-1.1
CORG				S	Sg	06 24 14.0	+0.5
	40nm,0.3s						
CAVN	**Les Avellanes**	**1.27**	**154**	P	Pg	06 23 56.6	-1.0
CAVN				S	Sg	06 24 13.9	-0.1
	201nm,0.1s						
ESAC	**San Caprasio**	**1.35**	**195**	⇑Pg	Pg	06 23 58.3	-0.8
	421nm,0.3s,SNR=18						
ESAC				Lg		06 24 17.7	
	49nm,0.1s,SNR=479						
ESAC	**San Caprasio**	**1.35**	**195**	Pg	Pg	06 23 58.3	-0.8
	421nm,0.3s,SNR=18						
LPEF	**Le Peyrat**	**1.40**	**92**	S	Sg	06 24 18.3	0.0
CLLI	**Llivia**	**1.55**	**110**	P	Pn	06 24 01.8	-0.3
CLLI				S	Sn	06 24 22.6	-0.3
	18nm,0.2s						
CARF	**Carcanieres**	**1.57**	**100**	Pn	Pn	06 24 01.3	-1.2
CARF				Sg	Sg	06 24 24.6	+0.7
CARF	**Carcanieres**	**1.57**	**100**	P	Pn	06 24 02.4	-0.1
CARF				S	Sn	06 24 23.2	-0.4
EMIR	**Miracle**	**1.58**	**134**	Pg	Pg	06 24 02.6	-1.0
EMIR				Lg		06 24 24.6	
EMIR	**Miracle**	**1.58**	**134**	Pg	Pg	06 24 02.6	-0.9
	11nm,0.2s,SNR=4.0						
EMIR				Lg		06 24 24.6	
	16nm,0.1s,SNR=12						
EMIR	**Miracle**	**1.58**	**134**	Pg	Pg	06 24 02.6	-1.0
	11nm,0.2s,SNR=4.0						
VALF	**Valcebollere**	**1.61**	**112**	P	Pn	06 24 03.1	+0.2
VALF				S	Sn	06 24 25.2	+0.8
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	06 24 03.6	-1.3
MTLF				*e*Sg	Sg	06 24 24.6	-1.7
	178nm,0.3s						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pn	Pn	06 24 00.5	-3.0
MTLF				*e*Pg	Pg	06 24 03.6	-1.3
MTLF				*e*Sg	Sg	06 24 24.6	-1.7
MTLF	**Montolieu**	**1.65**	**78**	Pn	Pn	06 24 00.5	-3.0
MTLF				Pg	Pg	06 24 03.6	-1.3
MTLF				Lg		06 24 24.6	
	89nm,0.3s						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	06 24 03.6	-1.3
MTLF				*e*Sg	Sg	06 24 24.6	-1.7
	89nm,0.3s						
CBRU	**Bruguera**	**1.77**	**114**	P	Pn	06 24 06.1	+1.0
CBRU				S	Sn	06 24 29.0	+0.7
	41nm,0.4s						
EPOB	**Poblet**	**1.85**	**154**	⇓Pg	Pg	06 24 07.0	-1.8
	7.3nm,0.3s,SNR=18						
EPOB				Lg		06 24 31.4	
	14nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.85**	**154**	Pg	Pg	06 24 07.0	-1.8
	7.3nm,0.3s,SNR=18						
ECRI	**Cripan**	**1.90**	**258**	Pn	Pn	06 24 07.1	+0.3
	2.1nm,0.1s,SNR=7.9						
ECRI				Pg	Pg	06 24 08.7	-1.0
	6.0nm,0.2s,SNR=7.9						
ECRI				Lg		06 24 34.9	
	18nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.90**	**258**	Pn	Pn	06 24 07.1	+0.2
	2.1nm,0.1s,SNR=7.9						
CGAR	**Garraf**	**1.92**	**154**	S	Sn	06 24 38.8	+6.7
	12nm,0.3s						
LFF	**La Frestale**	**1.99**	**15**	*e*Pg	Pg	06 24 09.9	-1.5
LFF				*e*Sg	Sg	06 24 36.2	-1.0
	122nm,0.4s						
LFF	**La Frestale**	**1.99**	**15**	*e*Pn	Pn	06 24 06.8	-1.4
LFF				*e*Pg	Pg	06 24 09.9	-1.5
LFF				*e*Sg	Sg	06 24 36.2	-1.0
LFF	**La Frestale**	**1.99**	**15**	Pn	Pn	06 24 06.8	-1.4
LFF				Pg	Pg	06 24 09.9	-1.5
LFF				Lg		06 24 36.2	
	61nm,0.4s						
LFF	**La Frestale**	**1.99**	**15**	*e*Pg	Pg	06 24 09.9	-1.5
LFF				*e*Sg	Sg	06 24 36.2	-1.0
	61nm,0.4s						
ERTA	**Horta de San J**	**2.08**	**173**	Pg	Pg	06 24 11.2	-2.0
	6.2nm,0.3s,SNR=22						
ERTA				Lg		06 24 38.4	
	4.5nm,0.1s,SNR=14						
ERTA	**Horta de San J**	**2.08**	**173**	Pg	Pg	06 24 11.2	-2.0
	6.2nm,0.3s,SNR=22						
CFON	**Fontmartina**	**2.20**	**124**	P	Pn	06 24 11.3	+0.2
CFON				S	Sn	06 24 39.4	+0.5
	74nm,0.2s						
EJON	**La Jonquera**	**2.20**	**104**	Pn	Pn	06 24 11.6	+0.5
	SNR=7.9						
EJON				Pg	Pg	06 24 15.1	-0.4
	SNR=7.9						
EJON				Lg		06 24 44.1	
	13nm,0.3s,SNR=8.6						
EJON	**La Jonquera**	**2.20**	**104**	Pn	Pn	06 24 11.6	+0.5
	SNR=7.9						
EJON	**La Jonquera**	**2.20**	**104**	Pg	Pg	06 24 15.1	-0.4
	SNR=7.9						
CAF	**Calviac**	**2.42**	**37**	*e*Pg	Pg	06 24 17.8	-1.8
CAF				*e*Sg	Sg	06 24 48.7	-2.2
	44nm,0.2s						
CAF	**Calviac**	**2.42**	**37**	*e*Pn	Pn	06 24 10.8	-3.3
CAF				*e*Pg	Pg	06 24 17.8	-1.8
CAF				*e*Sg	Sg	06 24 48.7	-2.2
CAF	**Calviac**	**2.42**	**37**	Pn	Pn	06 24 10.8	-3.3
CAF				Pg	Pg	06 24 17.8	-1.8
CAF				Lg		06 24 48.7	
	22nm,0.2s						
CAF	**Calviac**	**2.42**	**37**	*e*Pg	Pg	06 24 17.8	-1.8
CAF				*e*Sg	Sg	06 24 48.7	-2.2
	22nm,0.2s						
ELAN	**Lanestosa**	**2.52**	**276**	Pn	Pn	06 24 16.0	+0.4
	0.4nm,0.2s,SNR=7.9						
ELAN				Pg	Pg	06 24 20.4	-1.3
	1.8nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	06 24 46.4	-0.6
	3.6nm,0.2s,SNR=4.0						
ELAN				Lg		06 24 54.3	
	3.8nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**2.52**	**276**	Pn	Pn	06 24 16.0	+0.4
	0.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.52**	**276**	Pg	Pg	06 24 20.4	-1.3
	1.8nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	06 24 46.4	-0.6
	3.6nm,0.2s,SNR=4.0						
RJF	**Les Rejaudoux**	**2.53**	**25**	*e*Pg	Pg	06 24 20.2	-1.6
RJF				*e*Sg	Sg	06 24 53.4	-1.2
	35nm,0.2s						
RJF	**Les Rejaudoux**	**2.53**	**25**	*e*Pn	Pn	06 24 12.7	-2.9
RJF				*e*Pg	Pg	06 24 20.2	-1.6
RJF				*e*Sg	Sg	06 24 53.4	-1.2
RJF	**Les Rejaudoux**	**2.53**	**25**	Pn	Pn	06 24 12.7	-2.9
RJF				Pg	Pg	06 24 20.2	-1.6
RJF				Lg		06 24 53.4	
	17nm,0.2s						
RJF	**Les Rejaudoux**	**2.53**	**25**	*e*Pg	Pg	06 24 20.2	-1.6
RJF				*e*Sg	Sg	06 24 53.4	-1.2
	17nm,0.2s						
EMOS	**Mosqueruela**	**2.68**	**188**	Pn	Pn	06 24 18.1	+0.4
	3.7nm,0.3s,SNR=6.6						
EMOS				Pg	Pg	06 24 23.0	-1.7
	17nm,0.3s,SNR=34						
EMOS				Sn	Sn	06 24 49.2	-1.6
	2.5nm,0.2s,SNR=7.9						
EMOS				Lg		06 24 58.6	
	14nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.68**	**188**	Pn	Pn	06 24 18.1	+0.4
	3.7nm,0.3s,SNR=6.6						
EMOS	**Mosqueruela**	**2.68**	**188**	Pg	Pg	06 24 23.0	-1.7
	17nm,0.3s,SNR=34						
EMOS				Sn	Sn	06 24 49.2	-1.6
	2.5nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.68**	**216**	⇑Pn	Pn	06 24 17.3	-0.4
	11nm,0.2s,SNR=18						
ETOR				Pg	Pg	06 24 22.1	-2.7
	19nm,0.3s,SNR=14						
ETOR				Sn	Sn	06 24 50.3	-0.6
	20nm,0.3s,SNR=5.0						
ETOR				Lg		06 25 00.6	
	35nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.68**	**216**	Pg	Pg	06 24 22.0	-2.8
ETOR	**Torete**	**2.68**	**216**	Pg	Pg	06 24 22.1	-2.7
	19nm,0.3s,SNR=14						
ETOR				Sn	Sn	06 24 50.3	-0.6
	20nm,0.3s,SNR=5.0						
LASF	**Ste Croix**	**2.99**	**68**	*e*Pg	Pg	06 24 28.5	-2.2
LASF				*e*Sg	Sg	06 25 06.2	-3.3
	29nm,0.3s						
LASF	**Ste Croix**	**2.99**	**68**	*e*Pn	Pn	06 24 18.1	-3.9
LASF				*e*Pg	Pg	06 24 28.5	-2.2
LASF				*e*Sg	Sg	06 25 06.2	-3.3
LASF	**Ste Croix**	**2.99**	**68**	*e*Pg	Pg	06 24 28.5	-2.2
LASF				*e*Sg	Sg	06 25 06.2	-3.3
	14nm,0.3s						
LBL	**Lubilhac**	**3.21**	**45**	Pn	Pn	06 24 23.6	-1.4
PYM	**Petit Puy Mans**	**3.48**	**37**	Pn	Pn	06 24 27.1	-1.5
MFF	**Saint Martin d**	**3.58**	**358**	*e*Pg	Pg	06 24 38.6	-3.4
MFF				*e*Sg	Sg	06 25 24.6	-3.8
	15nm,0.3s						
MFF	**Saint Martin d**	**3.58**	**358**	*e*Pn	Pn	06 24 27.2	-2.9
MFF				*e*Pg	Pg	06 24 38.6	-3.4
MFF				*e*Sg	Sg	06 25 24.6	-3.8
MFF	**Saint Martin d**	**3.58**	**358**	Pn	Pn	06 24 27.2	-2.9
MFF				Pg	Pg	06 24 38.6	-3.4
MFF	**Saint Martin d**	**3.58**	**358**	*e*Pg	Pg	06 24 38.6	-3.4
MFF				*e*Sg	Sg	06 25 24.6	-3.8
	7.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.62**	**25**	*e*Pg	Pg	06 24 39.7	-3.1
TCF				*e*Sg	Sg	06 25 27.1	-2.7
	22nm,0.3s						
TCF	**Toulx Ste Croi**	**3.62**	**25**	*e*Pn	Pn	06 24 27.9	-2.8
TCF				*e*Pg	Pg	06 24 39.7	-3.1
TCF				*e*Sg	Sg	06 25 27.1	-2.7
TCF	**Toulx Ste Croi**	**3.62**	**25**	Pn	Pn	06 24 27.9	-2.8
TCF				Pg	Pg	06 24 39.7	-3.1
TCF				Lg		06 25 27.1	
	11nm,0.3s						
TCF	**Toulx Ste Croi**	**3.62**	**25**	*e*Pg	Pg	06 24 39.7	-3.1
TCF				*e*Sg	Sg	06 25 27.1	-2.7
	11nm,0.3s						
EARI	**Arriondas**	**3.83**	**276**	Pn	Pn	06 24 33.6	+0.1
	31nm,1.3s,SNR=8.1						
EARI				Sn	Sn	06 25 15.9	-3.1
	SNR=7.9						
EARI	**Arriondas**	**3.83**	**276**	Pn	Pn	06 24 33.6	+0.2
	31nm,1.3s,SNR=8.1						
EARI				Sn	Sn	06 25 15.9	-3.2
	SNR=7.9						
VIVF	**Saint-Julien-l**	**3.84**	**60**	*e*Pg	Pg	06 24 44.4	-2.5
VIVF				*e*Sg	Sg	06 25 33.2	-3.4
	21nm,0.4s						
VIVF	**Saint-Julien-l**	**3.84**	**60**	*e*Pn	Pn	06 24 33.3	-0.3
VIVF				*e*Pg	Pg	06 24 44.4	-2.5
VIVF				*e*Sg	Sg	06 25 33.2	-3.4
VIVF	**Saint-Julien-l**	**3.84**	**60**	Pn	Pn	06 24 33.3	-0.3
VIVF				Pg	Pg	06 24 44.4	-2.5
VIVF	**Saint-Julien-l**	**3.84**	**60**	*e*Pg	Pg	06 24 44.4	-2.5
VIVF				*e*Sg	Sg	06 25 33.2	-3.4
	11nm,0.4s						
ETOS	**Mallorca**	**3.88**	**146**	Pn	Pn	06 24 33.5	-0.7
	SNR=7.9						
ETOS				Sn	Sn	06 25 16.9	-3.5
	3.6nm,0.3s,SNR=5.9						
ETOS	**Mallorca**	**3.88**	**146**	Pn	Pn	06 24 33.5	-0.7
	SNR=7.9						
ETOS				Sn	Sn	06 25 16.9	-3.5
	3.6nm,0.3s,SNR=5.9						
GUD	**Guadarrama**	**3.91**	**

HYF	Humbligny	4.64	23	Lg			06 25 59.6	
ORIF	Oris-en-Rattie	4.65	64	ePn	Pn		06 24 43.0	-1.7
SSF	Saint Saulge	4.74	30	ePg	Pg		06 25 01.5	-2.7
SSF				eSg	Sg		06 26 01.2	-4.4
	11nm,0.3s							
SSF	Saint Saulge	4.74	30	ePn	Pn		06 24 42.0	-4.0
SSF				ePg	Pg		06 25 01.5	-2.7
SSF				eSg	Sg		06 26 01.2	-4.4
SSF	Saint Saulge	4.74	30	ePg	Pg		06 25 01.5	-2.7
SSF				eSg	Sg		06 26 01.2	-4.4
	5.3nm,0.3s							
LMR	La Mourre	4.77	84	ePg	Pg		06 25 00.5	-4.2
LMR				eSg	Sg		06 26 01.8	-4.7
	3.4nm,0.2s							
LMR	La Mourre	4.77	84	ePn	Pn		06 24 46.7	+0.3
LMR				ePg	Pg		06 25 00.5	-4.2
LMR				eSg	Sg		06 26 01.8	-4.7
LMR	La Mourre	4.77	84	Pn	Pn		06 24 46.7	+0.3
LMR				Pg	Pg		06 25 00.5	-4.2
LMR	La Mourre	4.77	84	ePg	Pg		06 25 00.5	-4.2
LMR				eSg	Sg		06 26 01.8	-4.7
	1.7nm,0.2s							
FRF	La Foret Royal	4.88	81	ePg	Pg		06 25 04.4	-2.4
FRF				eSg	Sg		06 26 05.1	-5.0
	4.8nm,0.3s							
FRF	La Foret Royal	4.88	81	ePn	Pn		06 24 44.9	-3.0
FRF				ePg	Pg		06 25 04.4	-2.4
FRF				eSg	Sg		06 26 05.1	-5.0
FRF	La Foret Royal	4.88	81	ePg	Pg		06 25 04.4	-2.4
FRF				eSg	Sg		06 26 05.1	-5.0
	2.4nm,0.3s							
LOR	Lormes	5.05	31	ePn	Pn		06 24 44.1	-6.1
LOR	Lormes	5.05	31	ePg	Pg		06 25 06.5	-3.5
LOR				eSg	Sg		06 26 11.9	-3.5
	9.0nm,0.4s							
LOR	Lormes	5.05	31	ePg	Pg		06 25 06.5	-3.5
LOR				eSg	Sg		06 26 11.9	-3.5
	4.5nm,0.4s							
ECAL	Calabor	5.10	260	Pn	Pn		06 24 50.7	-0.3
ECAL				Sn	Sn		06 25 47.6	-2.9
ECAL	Calabor	5.10	260	Pn	Pn		06 24 50.7	-0.3
ECAL				Sn	Sn		06 25 47.6	-3.0
QUIF	Quistinic	5.38	337	ePn	Pn		06 24 51.4	-3.4
QUIF				eSn	Sn		06 25 49.7	-7.7
QUIF				eSg	Sg		06 26 22.0	-4.1
	4.0nm,0.3s							
QUIF	Quistinic	5.38	337	ePn	Pn		06 24 51.4	-3.4
QUIF				eSn	Sn		06 25 49.7	-7.7
QUIF				eSg	Sg		06 26 22.0	-4.1
	2.0nm,0.3s							
GRR	Gorron	5.40	354	ePn	Pn		06 24 52.3	-2.8
GRR				eSn	Sn		06 25 50.3	-7.7
GRR				eSg	Sg		06 26 23.4	-3.4
	11nm,0.4s							
GRR	Gorron	5.40	354	ePn	Pn		06 24 52.3	-2.8
GRR				eSn	Sn		06 25 50.3	-7.7
GRR				eSg	Sg		06 26 23.4	-3.4
	5.7nm,0.4s							
LPL	La Plagne	5.44	60	ePn	Pn		06 24 53.1	-2.5
LPL				eSg	Sg		06 26 23.5	-4.5
	2.0nm,0.4s							
LPL	La Plagne	5.44	60	ePn	Pn		06 24 53.1	-2.5
LPL				eSg	Sg		06 26 23.5	-4.5
	1.0nm,0.4s							
LPG	La Plagne	5.44	61	ePn	Pn		06 24 54.6	-1.0
LPG				eSg	Sg		06 26 25.0	-3.1
	3.4nm,0.4s							
LPG	La Plagne	5.44	61	ePn	Pn		06 24 54.6	-1.0
LPG				eSg	Sg		06 26 25.0	-3.1
	1.7nm,0.4s							
SGMF	Saint Gilles	5.53	342	ePn	Pn		06 24 54.0	-2.9
SGMF				eSn	Sn		06 25 53.0	-8.2
SGMF				eSg	Sg		06 26 25.5	-5.5
	10nm,0.5s							
SGMF	Saint Gilles	5.53	342	ePn	Pn		06 24 54.0	-2.9
SGMF				eSn	Sn		06 25 53.0	-8.2
SGMF				eSg	Sg		06 26 25.5	-5.5
	5.1nm,0.5s							
LDF	La Druitiere	5.57	359	ePn	Pn		06 24 54.9	-2.6
LDF				eSg	Sg		06 26 26.1	-6.2
	5.9nm,0.4s							
LDF	La Druitiere	5.57	359	ePn	Pn		06 24 54.9	-2.6
LDF				eSg	Sg		06 26 26.1	-6.2
	3.0nm,0.4s							
CABF	La Chapelle	5.62	48	ePn	Pn		06 24 56.9	-1.2
CABF				eSg	Sg		06 26 30.7	-3.2
	6.6nm,0.5s							
CABF	La Chapelle	5.62	48	ePn	Pn		06 24 56.9	-1.2
CABF				eSg	Sg		06 26 30.7	-3.2
	3.3nm,0.5s							
FLN	La Foliniere	5.75	357	ePn	Pn		06 24 55.4	-4.5
FLN				eSg	Sg		06 26 31.2	-6.9
	5.4nm,0.3s							
FLN	La Foliniere	5.75	357	ePn	Pn		06 24 55.4	-4.5
FLN				eSg	Sg		06 26 31.2	-6.9
	2.7nm,0.3s							
ROSF	Rostrenen	5.79	338	ePn	Pn		06 24 56.6	-3.8
ROSF				eSn	Sn		06 26 00.4	-7.1
ROSF				eSg	Sg		06 26 34.8	-4.5
	3.9nm,0.4s							
ROSF	Rostrenen	5.79	338	ePn	Pn		06 24 56.6	-3.8
ROSF				eSn	Sn		06 26 00.4	-7.1
ROSF				eSg	Sg		06 26 34.8	-4.5
	2.0nm,0.4s							
MEZF	Maizieres J'vi	6.52	31	eSg	Sg		06 27 00.0	-2.7
	6.6nm,0.5s							
MEZF	Maizieres J'vi	6.52	31	Lg			06 27 00.0	
	8.6nm,0.5s							
PGF	Pioggiola	6.64	91	ePn	Pn		06 25 10.8	-1.3
PGF				eSn	Sn		06 26 19.7	-8.7
	2.0nm,0.4s							
PGF	Pioggiola	6.64	91	ePn	Pn		06 25 10.8	-1.3
PGF				eSn	Sn		06 26 19.7	-8.7
	1.0nm,0.4s							
HAU	Haudompre	6.68	40	eSg	Sg		06 27 02.4	-5.6
	3.2nm,0.4s							
HAU	Haudompre	6.68	40	eSg	Sg		06 27 02.4	-5.6
	1.6nm,0.4s							
HINF	Hinteralfeld	6.80	43	eSg	Sg		06 27 06.3	-5.3
	2.9nm,0.4s							
HINF	Hinteralfeld	6.80	43	eSg	Sg		06 27 06.3	-5.3
	1.5nm,0.4s							

*IDC **02** 06:27:44.9±1.5,2783S×11367W,h0km,mb4.3/7, mb1 4.6/7,mb1mx4.3/15,mbtmp4.3/7,MS4.3/12, Ms1 4.3/12,ms1mx4.2/15,Error ellipse: s-maj=46.4km s-min=33.2km az=36.0*

*ISCJB **02** 06:27:46.0±0.5,2774S±008×1132W±0.1,h10km,mb4.6/29, MS4.5/16,Error ellipse: s-maj=16.2km s-min=8.9km az=116.6*

*NEIC **02** 06:27:47.9±0.5,2770S×11321W,h10km,mb4.8/23,Error ellipse: s-maj=15.1km s-min=8.0km az=220.0*

*GCMT **02** 06:27:47.9±0.3,2778S×11337W,h16km±1km,MW5.0/77, Moment Tensor Solution. s39,c45; s77,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.34±.13; $M_{\theta\theta}$-2.68±.13; $M_{\phi\phi}$3.02±.13; $M_{r\theta}$-0.26±.32; $M_{\phi\theta}$2.90±.12; $M_{r\phi}$0.19±.35; Best double couple: $M_0$4.08000×10^{16} NP1:ϕ_s68.00000°,δ86.00000°,λ-3.00000°. NP2: ϕ_s158.00000°,δ87.00000°,λ-176.00000°. Principal axes: T 4.2370, Plg1.0000°, Azm293.0000°; P -3.9230, Plg5.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **02** 06:27:49.9,2770S×11320W,h10km,mB5.3,Ms5.3, Msz4.9*

ISC 02 06:27:47.5±0.5,2783S±008×1134W±01,h10km, (h12km±1.7km:pP-P),n219,$_c$0$$71/191,mb4.6/29,MS4.5/16, 57C-40D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.63	80	T		06 32 26.3	
	31nm,0.3s,baz=216,slow=23,SNR=4.4						
RPN	Rapa Nui	3.63	80	ePn	Pn	06 28 41.4	-2.5
RKT	Rikitea	20.07	279	eLQ		06 35 57.2	
	2μm,27.8s						
RKT	Rikitea	20.07	279	eP	P	06 32 14.5	-6.5
	120nm,28.8s						
RKT				eLR	LR	06 36 45.6	
	1μm,27.5s						
RKT	Rikitea	20.07	279	eP	P	06 32 14.5	-6.5
RKT				eLQ		06 35 57.2	
TBI	Tubuai	32.80	270	eS	S	06 39 24.2	-14
	76nm,29.0s						
TBI				eLQ		06 41 24.2	
	650nm,32.0s						
TBI				eLR	LR	06 42 34.8	
	959nm,27.2s,baz=109						
PPT	Papeete	34.83	279	eS	S	06 40 00.5	-8.9
	108nm,28.8s						
PPT				eLQ		06 42 06.4	
	707nm,27.8s						
PPT				eLR	LR	06 43 32.9	
	1μm,25.8s,baz=108						
PPT	Papeete	34.83	279	LR	LR	06 44 24.0	
	comp=Z,816nm,18.2s,MS4.5,baz=99,slow=29						
MDZ	Mendoza	38.51	109	eP	P	06 35 14.8	+4.9
LPAZ	La Paz	43.23	84	P	P	06 35 51.5	+2.7
	6.6nm,1.0s,mb4.3,baz=253,slow=6.7,SNR=18						
LPAZ				LR	LR	06 49 46.2	
	comp=Z,582nm,20.8s,MS4.5,baz=110,slow=30						
LPAZ	La Paz	43.23	84	eP	P	06 35 50.9	+2.0
	11nm,0.9s,mb4.6						
TRQA	Tornquist	43.82	117	eP	P	06 35 54.4	+0.8
	15nm,1.1s,mb4.6						
JTS	JuntasAbangare	46.82	40	P	P	06 36 18.3	+0.9
	8.6nm,0.9s,mb4.7,baz=198,slow=8.5,SNR=4.0						
ROSC	El Rosal	49.72	55	LR	LR	06 52 33.4	
	comp=Z,168nm,21.5s,MS4.0,baz=10,slow=30						
SAML	Samuel	50.78	78	eP	P	06 36 47.4	-0.4
	12nm,1.0s,mb4.8						
SDV	Santo Domingo	55.13	55	eP	P	06 37 17.9	-2.0
	18nm,1.3s,mb5.0						
LTX	Lajitas	57.59	10	eP	P	06 37 37.8	+0.3
TXAR	Lajitas Array	57.59	10	P	P	06 37 36.9	-0.6
	1.3nm,0.9s,mb4.0,baz=186,slow=7.5,SNR=11						
TXAR				LR	LR	06 57 17.5	
	comp=Z,128nm,18.5s,MS4.1,baz=5.0,slow=31						
JCT	Junction City	59.41	14	eP	P	06 37 49.8	-0.3
	16nm,0.9s,mb5.0						
MNTX	Cornudas Mount	59.68	8	eP	P	06 37 51.0	-1.0
116A	Eloy	60.08	2	⇓P	P	06 37 55.6	+0.8
	baz=60						
115A	Sonoran Desert	60.21	1	⇓P	P	06 37 56.2	+0.6
	baz=60						
DVTC	Desert V Tower	60.21	357	⇓P	P	06 37 56.7	+0.9
	baz=60						
BAR	Barrett	60.26	357	eP	P	06 37 56.9	+0.9
MONP	Monument Peak	60.46	357	⇓P	P	06 37 58.3	+1.0
	baz=61						
SWSC	Sam W. Stewart	60.48	358	⇓P	P	06 37 59.0	+1.5
	baz=61						
PFO	Pinyon Flat Ob	61.17	357	⇓P	P	06 38 02.8	+0.6
	baz=61						
BC3	Big Chuckw Mtn	61.18	358	⇑P	P	06 38 02.9	+0.6
	baz=61						
Y12C	Blythe	61.26	359	P	P	06 38 03.1	+0.3
	baz=62,SNR=6.2						
Y14A	Wickenburg	61.43	0	⇓P	P	06 38 04.7	+0.7
	baz=62						
BELC	Belle Mtn.	61.55	357	⇓P	P	06 38 05.6	+0.8
	baz=62						
IRM	Iron Mountain	61.68	358	⇑P	P	06 38 06.0	+0.3
	baz=62						
PDMCI	Parker Dam,Lak	61.80	359	⇑P	P	06 38 07.4	+0.9
	baz=62						
MWC	Mount Wilson	61.88	356	eP	P	06 38 10.9	+3.9
VNDA	Vanda	61.92	194	LR	LR	07 00 19.0	
	comp=Z,196nm,18.0s,MS4.3,baz=151,slow=32						
X14A	Yava	61.96	0	⇓P	P	06 38 08.4	+0.9
	baz=62						
X15A	Humboldt	61.99	1	P	P	06 38 08.1	+0.4
	baz=62,SNR=12						
X13A	Yucca	62.09	360	⇑P	P	06 38 09.0	+0.6
	baz=62						
GMRC	Granite Mounta	62.31	358	P	P	06 38 10.8	+0.9
	baz=62,SNR=5.4						
EDW2	Edwards Air Fo	62.53	356	⇓P	P	06 38 11.7	+0.4
	baz=63						
W13A	Hualapai Mount	62.59	360	⇑P	P	06 38 12.3	+0.5
	baz=63						
W15A	Williams	62.68	1	⇑P	P	06 38 13.1	+0.7
	baz=63						
W14A	Seligman	62.70	0	P	P	06 38 13.3	+0.8
	baz=63,SNR=20						
W12A	Cal Nev Ari	62.81	359	⇓P	P	06 38 14.1	+0.8
	baz=63						
GSC	Goldstone	62.88	357	eP	P	06 38 14.1	+0.4
GSC	Goldstone	62.88	357	P	P	06 38 14.3	+0.6
	baz=63,SNR=6.6						
TUQ	Turquoise Mtn.	62.97	358	⇓P	P	06 38 15.2	+0.8
	baz=63						
WUAZ	Wupatki	63.03	2	eP	P	06 38 15.1	+0.4
	7.4nm,1.0s,mb4.8						
WUAZ	Wupatki	63.03	2	⇑P	P	06 38 15.5	+0.8
	baz=63						
LRMC	Laurel Mountai	63.10	356	⇑P	P	06 38 15.6	+0.5
	baz=63						
V12A	Nelson	63.23	359	⇓P	P	06 38 16.4	+0.4
	baz=63						
ISA	Isabella	63.34	355	⇓P	P	06 38 17.4	+0.7
	baz=64						
AMTX	Amarillo	63.34	11	eP	P	06 38 16.6	-0.2
MPMC	Manual Prospec	63.67	356	P	P	06 38 19.5	+0.6
	baz=64,SNR=7.3						
U12A	Valley of Fire	63.93	359	⇑P	P	06 38 21.2	+0.5
	baz=64						
SHPR	Sheep Range	64.02	358	eP	P	06 38 22.0	+0.8
FURC	Furnace Creek,	64.04	357	⇑P	P	06 38 22.0	+0.6
	baz=64						
T06C	Millerton Lake	64.77	354	⇑P	P	06 38 25.7	-0.5
	baz=65						
MVCO	Mesa Verde	64.86	4	eP	P	06 38 26.3	-0.4
	13nm,1.2s,mb4.8						
MVCO	Mesa Verde	64.86	4	P	P	06 38 26.9	+0.2
	baz=65,SNR=5.8						
CCUT	Cedar City	65.04	360	eP	P	06 38 28.5	+0.6
S08C	White Mtn Res	65.14	356	⇑P	P	06 38 29.1	+0.5
	baz=65						
S09A	Goldfield	65.31	357	P	P	06 38 30.6	+0.9
	baz=66,SNR=11						
SDCO	Great Sand Dun	65.65	7	eP	P	06 38 31.4	-0.5
	7.1nm,1.1s,mb4.6						
PV01	Paradox Valley	65.77	4	eP	P	06 38 32.4	-0.2
R09A	Tonopah	65.82	357	P	P	06 38 33.9	+0.9
	baz=66,SNR=8.0						
CMB	Columbia Colle	65.85	354	⇓P	P	06 38 33.8	+0.6
	baz=66						
R08A	Mina	65.98	356	⇓P	P	06 38 35.0	+1.0
	baz=66						
NVAR	Mina Array Bea	66.08	356	P	P	06 38 34.9	+0.3
	7.1nm,1.0s,mb4.6,baz=183,slow=8.0,SNR=22						
NVAR	Mina Array Bea	66.08	356	P	P	06 38 34.9	+0.3
Q11A	Duckwater	66.36	358	P	P	06 38 37.6	+1.1
	baz=67,SNR=10						
Q08A	Gabbs	66.48	356	⇑P	P	06 38 37.8	+0.5
	baz=67						
Q12A	Willow Creek R	66.54	359	⇓P	P	06 38 37.9	+0.4
	baz=67						
SRU	San Rafael	66.65	2	eP	P	06 38 37.8	-0.5
	13nm,1.0s,mb4.9						
TMUT	Trail Mountain	66.81	2	P	P	06 38 39.1	-0.2
P12A	McGill	66.97	359	P	P	06 38 40.9	+0.6
	baz=67,SNR=5.6						
P09A	Austin	67.13	357	⇑P	P	06 38 42.2	+0.9
	baz=67						
MPU	Maple Canyon	67.52	1	eP	P	06 38 44.0	+0.2
O11A	Cowboy Ranch,	67.65	358	⇑P	P	06 38 45.4	+0.8
	baz=68						
ISCO	Idaho Springs	67.67	6	eP	P	06 38 44.6	-0.1
DUG	Dugway	67.68	0	eP	P	06 38 45.0	+0.1
	10nm,1.2s,mb4.7						
DUG	Dugway	67.68	0	P	P	06 38 45.2	+0.3
	baz=68,SNR=8.3						
O09A	Fish Creek Ran	67.75	357	⇓P	P	06 38 45.7	+0.5
	baz=68						
O12A	Currie	67.76	359	P	P	06 38 45.9	+0.5
	baz=68,SNR=6.2						
O07A	Toulon	67.84	355	P	P	06 38 46.6	+0.8
	baz=68,SNR=5.3						
DAU	Daniels Canyon	67.92	2	P	P	06 38 46.5	+0.2
JLU	Jordanelle	68.11	2	eP	P	06 38 47.7	+0.2
VNA3	Neumayer Olymp	68.18	160	⇓iP	P	06 38 49.3	+1.3
VNA3				e	pP	06 38 52.6	+1.4
VNA3				e	pP	06 38 53.8	+2.6
VNA3				e		06 40 19.2	
CTU	Camp Tracy	68.19	1	eP	P	06 38 48.5	+0.5
N13A	Wendover, West	68.34	359	⇓P	P	06 38 49.3	+0.3
	baz=69						
N12A	Clover Valley,	68.35	359	P	P	06 38 49.6	+0.5
	baz=69,SNR=6.2						
N06A	Buffalo Meadow	68.50	355	⇑P	P	06 38 50.2	+0.2
	baz=69						
WDC	Whiskeytown Da	68.60	352	⇑P	P	06 38 50.0	-0.5
	baz=69						
VNA1	Neumayer--Stat	68.84	160	eP	P	06 38 51.4	-0.7
VNA1				e	pP	06 38 54.4	-0.9
VNA1				e	pP	06 38 56.3	+1.0
VNA1				e		06 39 16.3	
VNA1				e		06 39 19.4	
VNA1				e		06 39 22.3	
M13A	Montello	68.85	359	P	P	06 38 51.7	-0.4
	baz=69,SNR=6.8						
M12A	Wells	68.91	359	P	P	06 38 52.8	+0.2
	baz=69,SNR=10						
M11A	Holland Ranch,	68.95	358	⇓P	P	06 38 53.4	+0.6
	baz=69						
VNA2	Neumayer--Watz	68.99	160	⇓iP	P	06 38 53.0	0.0
VNA2				e	pP	06 38 56.3	0.0
VNA2				e		06 38 58.9	
VNA2				e		06 39 18.4	
VNA2				e		06 39 21.7	
VNA2				e		06 39 25.0	
VNA2				e		06 40 22.2	
M06C	Likely Place G	69.00	354	⇑P	P	06 38 53.4	+0.3
	baz=69						
M09A	Marrel Ranch,	69.01	357	⇓P	P	06 38 53.5	+0.3
	baz=69						
M10A	I.L. Ranch, Tu	69.07	357	P	P	06 38 54.1	+0.6
	baz=69,SNR=5.2						
M07A	Soldier Meadow	69.08	355	⇑P	P	06 38 54.1	+0.5
	baz=69						
HWUT	Hardware Ranch	69.11	1	eP	P	06 38 52.5	-1.2
	6.0nm,1.2s,mb4.4						
M05C	Lookout	69.22	354	⇑P	P	06 38 54.5	+0.1
	baz=70						
RWWY	Rawlins	69.40	5	eP	P	06 38 55.3	-0.3
	3.5nm,0.6s,mb4.5						
L09A	Wilkinson Ranc	69.61	357	⇓P	P	06 38 57.5	+0.6
	baz=70						
MOD	Modoc	69.68	354	eP	P	06 38 57.3	0.0
	8.4nm,1.2s,mb4.5						
MOD	Modoc	69.68	354	P	P	06 38 57.7	+0.4
	baz=70,SNR=6.4						
L07A	Adell	69.72	355	⇑P	P	06 38 57.9	+0.3
	baz=70						
YBH	Yreka Blue Hor	69.75	353	LR	LR	07 01 35.2	
	comp=Z,126nm,21.1s,MS4.1,baz=174,slow=29						
L08A	Fields	69.82	356	⇑P	P	06 38 58.7	+0.5
	baz=70						
L05A	Lakeview	69.87	354	⇑P	P	06 38 59.2	+0.7
	baz=70						
SNAA	Sanae	69.98	162	⇓iP	P	06 39 00.4	+1.3
SNAA				e	pP	06 39 03.3	+0.9
SNAA				e	pP	06 39 04.5	+2.1
SNAA				e		06 39 22.9	
SNAA				e		06 39 26.4	
SNAA	Sanae	69.98	162	eP	P	06 38 59.8	+0.6
	11nm,1.1s,mb4.7						
WVOR	Wild Horse Val	70.08	356	eP	P	06 39 00.0	+0.2
	7.9nm,1.1s,mb4.6						
K09A	Rome	70.30	357	⇑P	P	06 39 01.2	+0.1
	baz=70						
BW06	Boulder Array	70.33	3	eP	P	06 39 00.2	-1.1
PDAR	Pinedale Array	70.33	3	P	P	06 38 59.7	-1.6
	4.7nm,1.1s,mb4.3,baz=179,slow=5.9,SNR=16						
PDAR				LR	LR	07 04 30.2	
	comp=Z,126nm,19.1s,MS4.2,baz=299,slow=31						
K08A	Mann Creek Ran	70.37	356	P	P	06 39 02.3	+0.8
	baz=71,SNR=6.5						
K07A	Rock Creek Ran	70.38	355	⇑P	P	06 39 01.8	+0.2
	baz=71						
K05A	Summer Lake	70.55	354	⇑P	P	06 39 02.8	+0.2
	baz=71						
K06A	Valley Falls	70.57	355	⇑P	P	06 39 02.5	-0.2
	baz=71						
HUMO	Hull Mountain	70.65	352	⇑P	P	06 39 03.0	-0.2
	baz=71						
J09A	Fry Pan Ranch,	70.94	357	⇑P	P	06 39 04.4	-0.6
	baz=71						
J08A	Circle Bar Ran	71.00	356	⇑P	P	06 39 05.3	0.0
	baz=71						
J06A	Christmas Vall	71.01	355	⇑P	P	06 39 05.8	+0.3
	baz=71						
HLID	Hailey	71.05	359	eP	P	06 39 05.4	-0.3
	12nm,0.9s,mb4.8						
HLID	Hailey	71.05	359	P	P	06 39 05.7	0.0
	baz=71,SNR=21						
DCID1	Drake Creek	71.10	2	eP	P	06 39 05.4	-0.6
J05A	Fort Rock	71.14	354	⇓P	P	06 39 06.4	+0.2
	baz=71						
LOHW	Long Hollow	71.14	2	eP	P	06 39 05.2	-1.1
	15nm,1.4s,mb4.7						
MOOW	Moose Ponds	71.27	2	eP	P	06 39 06.1	-0.9
	3.9nm,0.9s,mb4.3						
I11A	Placerville	71.43	358	⇓P	P	06 39 07.6	-0.4
	baz=72						
I08A	Drewsey	71.55	356	⇑P	P	06 39 08.9	+0.1
	baz=72						
I09A	Lost Marbles R	71.57	357	⇑P	P	06 39 08.6	-0.2
	baz=72						
I06A	Prineville	71.70	355	⇑P	P	06 39 09.4	-0.2
	baz=72						
I07A	Izee	71.78	355	P	P	06 39 10.2	+0.1
	baz=72,SNR=6.5						
H10A	Noah's Angus R	72.14	357	P	P	06 39 11.9	-0.3
	baz=72,SNR=8.6						
H08A	Prairie City	72.16	356	P	P	06 39 12.7	+0.3
	baz=72,SNR=5.3						
H11A	Donnelly	72.22	358	⇓P	P	06 39 12.3	-0.4
	baz=72						
H09A	Durkee	72.25	357	⇓P	P	06 39 12.9	-0.1
	baz=72						
H07A	Lands Inn, Kim	72.30	355	⇑P	P	06 39 13.5	+0.3
	baz=72						
MCMT	McKenzie Canyo	72.31	0	eP	P	06 39 13.2	-0.1
BMO	Blue Mountains	72.42	357	eP	P	06 39 13.8	-0.2
	6.5nm,1.2s,mb4.4						
H06A	Lindquist Farm	72.50	355	⇑P	P	06 39 14.7	+0.3
	baz=73						
G13A	Cobalt	72.58	359	P	P	06 39 14.8	0.0
	baz=73,SNR=7.0						
H04A	Detroit Lake	72.61	353	⇑P	P	06 39 14.3	-0.8
	baz=73						
G15A	Dillon	72.65	1	⇑P	P	06 39 14.6	-0.7
	baz=73						
G08A	Pilot Rock	72.95	356	P	P	06 39 17.6	+0.5
	baz=73,SNR=11						
G07A	Ruggs Ranch, H	72.97	355	⇑P	P	06 39 17.0	-0.2
	baz=73						
G06A	Carlson Farm,	73.02	355	⇑P	P	06 39 17.1	-0.4
	baz=73						
F13A	Darby	73.28	359	P	P	06 39 18.7	-0.3
	baz=74,SNR=12						
F14A	Wisdom	73.29	360	⇑P	P	06 39 18.6	-0.5
	baz=74						
F09A	S2 Ranch, Elgi	73.31	357	⇑P	P	06 39 18.4	-0.8
	baz=74						
F15A	Butte	73.33	1	⇑P

D14A	Greenough	74.56	360	⇓P	P	06 39 26.2	-0.3
	baz=75						
D11A	Klaveano Farm,	74.58	358	⇑P	P	06 39 26.2	-0.5
	baz=75						
D13A	Huson	74.58	359	⇓P	P	06 39 26.5	-0.1
	baz=75						
D10A	Wagner Farm, O	74.62	357	⇑P	P	06 39 25.3	-1.6
	baz=75						
D09A	Jones Farm, Ri	74.68	356	⇑P	P	06 39 26.9	-0.3
	baz=75						
D08A	Wollman Farm,	74.71	356	⇑P	P	06 39 26.9	-0.5
	baz=75						
C13A	Hot Springs	75.17	359	⇓P	P	06 39 28.8	-1.2
	baz=75						
C09A	Chrisman Ranch	75.41	357	⇑P	P	06 39 30.8	-0.7
	baz=76						
C07A	Waterville	75.41	355	⇑P	P	06 39 31.0	-0.5
	baz=76						
C08A	Higginbotham F	75.44	356	⇑P	P	06 39 30.8	-0.8
	baz=76						
EGMT	Eagleton	75.57	2	eP	P	06 39 32.0	-0.3
C04A	Brinnon	75.70	353	⇑P	P	06 39 32.8	-0.3
	baz=76						
NEW	Newport	75.82	357	LR	LR	07 07 48.7	
	comp=Z,185nm,20.3s,MS4.4,baz=198,slow=32						
NEW	Newport	75.82	357	eP	P	06 39 33.3	-0.5
	11nm,1.1s,mb4.7						
B13A	Whitefish	75.86	359	⇓P	P	06 39 33.2	-0.9
	baz=76						
B09A	Rice	76.03	357	⇑P	P	06 39 34.1	-0.8
	baz=76						
B08A	Colville Reser	76.03	356	⇓P	P	06 39 34.3	-0.7
	baz=76						
B05A	Bryant	76.15	354	⇑P	P	06 39 35.8	+0.1
	baz=76						
A11A	Hall Mountain,	76.49	358	P	P	06 39 37.2	-0.3
	baz=77,SNR=5.2						
WALA	Waterton Lakes	76.54	360	eP	P	06 39 37.8	-0.1
	6.1nm,1.0s,mb4.5						
A09A	Danville	76.60	356	⇑P	P	06 39 37.5	-0.7
	baz=77						
A08A	Turner Farm, O	76.62	356	⇓P	P	06 39 37.7	-0.7
	baz=77						
A05A	Maple Falls	76.88	354	⇓P	P	06 39 39.5	-0.3
	baz=77						
AGMN	Agassiz Refuge	77.39	12	eP	P	06 39 42.6	-0.1
	5.2nm,0.4s,mb4.8						
ULM	Lac du Bonnet	79.27	11	P	P	06 39 51.0	-2.1
	2.3nm,0.9s,mb4.1,baz=158,slow=6.1,SNR=3.5						
ULM				LR	LR	07 10 33.6	
	comp=Z,155nm,20.1s,MS4.3,baz=264,slow=32						
EDM	Edmonton	80.71	360	eP	P	06 39 59.7	-1.2
SYO	Syowa Base	81.43	170⇑	epP	pP	06 40 08.6	+0.6
MAW	Mawson	84.82	179	LR	LR	07 14 08.9	
	comp=Z,312nm,20.1s,MS4.7,baz=340,slow=33						
DLBC	Dease Lake	87.06	351	eP	P	06 40 32.7	-0.7
STKA	Stephens Creek	87.23	235	LR	LR	07 12 17.1	
	comp=Z,156nm,21.0s,MS4.4,baz=54,slow=31						
SKAG	Skagway	88.85	349	eP	P	06 40 41.1	-0.8
YKA	Yellowknife Ar	90.01	359	P	P	06 40 45.5	-1.8
	1.1nm,0.9s,mb4.2,baz=180,slow=4.6,SNR=7.3						
YKA	Yellowknife Ar	90.01	359	P	P	06 40 45.5	-1.8
WRA	Warramunga Arr	99.14	242	LR	LR	07 23 19.6	
	comp=Z,119nm,19.2s,MS4.4,baz=135,slow=34						
CN2	Changchun	130.73	305	ePKP	PKPdf	06 46 58.4	-0.4
CN2				PP	PP	06 49 19.1	+4.9
HHC	Hu-ho-hao-te	141.11	301	ePKP	PKPdf	06 47 19.7	+1.6
HHC				LR	LR		
	comp=N,239nm,18.4s,MS5.2						
HHC				LR	LR		
	comp=E,302nm,21.4s,MS5.2						
HHC				LR	LR		
	comp=Z,316nm,20.2s,MS5.1						
SONM	Songino Array	143.32	314	PKP	PKPdf	06 47 18.5	-3.5
	comp=Z,1.6nm,0.9s,baz=133,slow=2.2,SNR=7.5						
MLR	Muntele Rosu	143.35	50	PKP	PKPdf	06 47 19.6	-2.5
	comp=Z,7.0nm,1.1s,baz=92,slow=3.5,SNR=4.9						
AKASG	Malin Array Be	143.67	41	PKhKP		06 47 18.3	
	comp=Z,0.6nm,0.4s,baz=288,slow=3.7,SNR=4.0						
ZAK	Zakamensk	144.27	319	eP	PKPdf	06 47 18.5	-5.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GYA	Guiyang	144.48	277	PKP	PKPdf	06 47 23.4	-0.7
GYA				PP	PP		
	comp=Z,110nm,8.0s						
GYA				LR	LR		
	comp=N,240nm,20.4s,MS5.0						
GYA				LR	LR		
	comp=E,180nm,21.3s,MS5.0						
GYA				LR	LR		
	comp=Z,210nm,21.8s,MS4.9						
LZH	Lanzhou	147.54	294	ePKP	PKPdf	06 47 31.5	+2.2
LZH				APKP		06 47 34.1	
LZH				XPKP		06 47 36.0	
LZH				PP	PP		
	comp=Z,81nm,8.5s						
LZH				LR	LR		
	comp=N,128nm,18.2s						
LZH				LR	LR		
	comp=Z,249nm,20.1s,MS5.0						
CD2	Chengdu	147.61	285	ePKP	PKPdf	06 47 27.9	-1.5
KMI	Kunming	147.66	274	PKP	PKPdf	06 47 29.5	0.0
KMI				APKP		06 47 34.0	
KMI				XPKP		06 47 36.3	
KMI				LR	LR		
	comp=Z,46nm,22.1s,MS4.2						
GTA	Gaotai	150.23	301	ePKP	PKPdf	06 47 39.4	+5.8
GTA				APKP		06 47 43.9	
GTA				PP	PP		
	comp=Z,127nm,4.6s						
GTA				LR	LR		
	comp=N,200nm,9.5s						
GTA				LR	LR		
	comp=E,239nm,11.0s						
GTA				LR	LR		
	comp=Z,160nm,8.4s						
BRTR	Keskin Array B	150.27	58	PKP	PKPdf	06 47 32.5	-1.1
	comp=Z,2.8nm,0.9s,baz=219,slow=7.3,SNR=4.0						
BRTR				PKPbc	PKPbc	06 47 38.0	-0.8
	comp=Z,2.9nm,0.9s,baz=227,slow=3.3,SNR=11						
ZAL	Zalesovo	150.71	338	PKP	PKPdf	06 47 33.2	-1.1
	comp=Z,2.3nm,0.8s,baz=107,slow=4.4,SNR=3.2						
ZAL				PKPbc	PKPbc	06 47 38.9	-1.0
	comp=Z,1.8nm,0.7s,baz=65,slow=3.6,SNR=4.9						
ARU	Arti	150.84	9	ePKPbc	PKPbc	06 47 39.5	-0.7
BRVK	Borovoye	154.66	355	ePKPab	PKPab	06 48 02.7	-0.7
BVAR	Borovoye Array	154.68	355	PKPbc	PKPbc	06 47 47.4	-1.3
	comp=Z,0.8nm,0.6s,baz=85,slow=1.6,SNR=3.5						
BVAR				PKPab	PKPab	06 48 02.5	-1.1
	comp=Z,4.1nm,0.8s,baz=11,slow=3.0,SNR=9.0						
WMQ	Urumqi	156.74	319	ePKP	PKPdf	06 47 45.4	+2.4

IDC 02 06:29:07.5±1.3, 1387N×12485E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML4.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=42.7km s-min=19.2km az=60.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	3.80	274	Pn	Pn	06 30 07.1	-0.3
	50nm,0.3s,baz=168,slow=9.3,SNR=3.5						
TGY				Sn	Sn	06 30 54.8	+2.0
	26nm,0.3s,baz=245,slow=22,SNR=2.3						
FITZ	Fitzroy Crossi	31.77	179	P	P	06 35 32.6	-0.8
	0.9nm,0.6s,baz=3.9,slow=10,SNR=3.1						
WRA	Warramunga Arr	34.87	164	P	P	06 35 59.6	-0.9
	0.3nm,0.5s,baz=347,slow=9.0,SNR=7.1						
SONM	Songino Array	37.19	339	P	P	06 36 20.5	+0.2
	0.5nm,0.9s,baz=156,slow=7.3,SNR=2.9						
ASAR	Alice Springs	38.34	167	P	P	06 36 31.8	+1.7
	1.3nm,0.6s,baz=341,slow=6.7,SNR=33						
HNR	Honiara	41.82	122	LR	LR	06 53 29.3	
	comp=Z,70nm,18.9s,baz=182,slow=35						
MKAR	Makanchi Array	48.35	322	P	P	06 37 50.9	0.0
	0.5nm,0.7s,baz=111,slow=9.7,SNR=7.0						

*MOS **02** 06:31:42.0±2.0, 4969N×15707E, h5km, mb4.2/1, Error ellipse: s-maj=52.9km s-min=14.9km az=81.7*

KRSC 02 06:31:42.0±1.7, 4969N×15707E, h5km±5km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.17	329	PN	Pn	06 32 01.2	-3.8
SKR				pmax	pmax		
	comp=N,170nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,320nm,0.5s						
RUS	Russkaya	2.89	18	P	Pn	06 32 29.5	+0.8
RUS				i S	Sn	06 33 04.2	+0.3
GRL	Gorelyy	2.94	12	P	Pn	06 32 29.9	+0.6
GRL				i S	Sn	06 33 04.6	-0.3
PET	Petropavlovsk	3.48	16	ePN	Pn	06 32 40.2	+3.4
PET				eS	Sn	06 33 20.6	+2.2
PET				smax			
	comp=E,92nm,0.7s						
PET				smax			
	comp=N,18nm,0.8s						
PET	Petropavlovsk	3.48	16	P	Pn	06 32 38.2	+1.4
PET				i S	Sn	06 33 19.1	+0.7
SDLR	Sedlovina	3.77	17	eP	Pn	06 32 42.4	+1.7
SDLR				eS	Sn	06 33 26.6	+1.1
SPN	Mys Shipunski	3.88	27	P	Pn	06 32 44.3	+2.0
SPN				i S	Sn	06 33 29.8	+1.5
GNL	Ganaly	4.05	7	P	Pn	06 32 46.7	+2.1
GNL				i S	Sn	06 33 33.7	+1.3
MKZ	Mys Kozlova	5.66	29	P	Pn	06 33 07.0	+0.3
MKZ				i S	Sn	06 34 10.4	-1.6
KBTR	Krutoberegovo	7.39	26	P	Pn	06 33 30.6	+0.1

*NAO **02** 06:38:59.1, 3413N×4728E, h33km, mb3.2*
*NSSP **02** 06:39:32.2, 3847N×4517E, h15km, ML3.7*
*ISCJB **02** 06:39:36.0±0.5, 3855N±002×4519E±002, h6km±3km, mb4.3/29, MS3.8/7, Error ellipse: s-maj=3.5km s-min=3.0km az=76.9*
*SZGRF **02** 06:39:36.6, 3684N×4438E, h33km, mb4.7, Iran-Iraq border region*
*MOS **02** 06:39:36.1±1.2, 3847N×4514E, h33km, mb4.5/21, Error ellipse: s-maj=8.7km s-min=5.4km az=109.6*
*CSEM **02** 06:39:37.2±0.1, 3854N×4510E, h16km, mb4.4/20, Error ellipse: s-maj=2.3km s-min=1.6km az=47.0*
*BJI **02** 06:39:37.2, 3860N×4520E, h10km, mB5.0, mb4.6, Ms4.4, Msz4.1*
*NEIC **02** 06:39:39.2, 3856N×4519E, h10km, mb4.4/9, ML4.0(THR), MN4.4(TEH), After TEH.*
*TEH **02** 06:39:39.2, 3856N×4519E, h10km, Mn4.4*
*THR **02** 06:39:40.5±0.6, 3877N×4518E, h15km±8km, ML4.0*
*IDC **02** 06:39:40.5±4.4, 3850N×4498E, h33km±32km, mb3.9/11, mb1 4.1/15, mb1mx3.9/25, mbtmp4.0/15, ML4.0/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/30, Error ellipse: s-maj=24.7km s-min=15.4km az=166.0*

ISC 02 06:39:37.2±0.5, 3852N±002×4515E±002, h6km±3km, n176, σ1§21/199, mb4.3/29, MS3.8/7, 6C-5D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.43	122	ePg	Pg	06 39 46.0	+0.5
ISHB	Shabestar	0.43	122	Pg	Pg	06 39 45.9	+0.4
IMRD	Marand	0.47	65	ePg	Pg	06 39 48.0	+1.7
IMRD	Marand	0.47	65	Pg	Pg	06 39 47.9	+1.6
ITBZ	Tabriz	0.83	109	ePg	Pg	06 39 53.1	0.0
ITBZ	Tabriz	0.83	109	Pg	Pg	06 39 53.0	-0.1
MAKU	Maku	0.92	337	ePg	Pg	06 39 54.0	-0.7
MAKU	Maku	0.92	337	ePg	Pg	06 39 54.0	-0.8
	SNR=91						
KDR	Kadzharan	0.97	49	⇓P	Pg	06 39 53.8	-2.1
IAZR	Azarshahr	1.06	142	ePg	Pg	06 39 56.0	-1.5
CLDR	Caldiran	1.15	303	PG	Pg	06 39 57.8	-1.5
CLDR				SG	Sg	06 40 14.4	+0.1
TVAN	Van	1.37	271	i P	Pn	06 40 01.9	-1.0
TVAN				i S	Sb	06 40 25.4	+4.3
VANB	Van	1.39	274	PN	Pn	06 40 03.8	+0.7
HKR	Hakkari	1.46	230	PN	Pn	06 40 01.6	-2.5
HAKT	HAKKARI	1.49	231	i P	Pn	06 40 02.2	-2.3
HAKT				i S	Sn	06 40 25.4	+1.1
HAKT	HAKKARI	1.49	231	i P	Pn	06 40 02.2	-2.3
IBST	Bostanabad	1.59	120	ePn	Pn	06 40 05.5	-0.5
IBST	Bostanabad	1.59	120	Pn	Pn	06 40 05.4	-0.6
GNI	Garni	1.66	349	PN	Pn	06 40 07.2	+0.3
GNI	Garni	1.66	349	Pn	Pn	06 40 07.8	+0.9
	91nm,0.3s,baz=293,slow=2.1,SNR=100						
GNI				Lg		06 40 33.5	
	240nm,0.3s,baz=106,slow=11,SNR=5.7						
GNI	Garni	1.66	349	d iPG	Pg	06 40 07.6	-1.5
GNI	Garni	1.66	349	ePg	Pg	06 40 07.8	-1.3
GNI				eSg	Sg	06 40 35.8	+5.1
GNI	Garni	1.66	349	i Pg	Pg	06 40 07.6	-1.5
CUKT	Cukurca	1.76	225	PN	Pn	06 40 07.2	-1.0
AGRB	Hanur-Agry	1.99	303	PN	Pn	06 40 11.1	-0.3
GRMI	Germi	2.17	81	ePn	Pn	06 40 17.3	+3.5
GRMI				eSg	Sg	06 40 47.2	+0.4
GRMI				AML	AML	06 40 48.7	
	comp=N,959nm,0.5s						
GRMI				AML	AML	06 40 54.9	
	comp=E,1μm,0.6s						
GRMI	Germi	2.17	81	ePn	Pn	06 40 17.0	+3.2
GRMI				eSg	Sg	06 40 47.0	+0.2
GRMI	Germi	2.17	81	ePn	Pn	06 40 17.3	+3.5
	SNR=52						
GRMI				eSg	Sg	06 40 47.2	+0.4
	SNR=90						
DIGO	Kars	2.34	325	i P	Pg	06 40 23.3	+1.1
DIGO				i S	Sg	06 40 58.4	+5.9
SIRT	Sirnak	2.37	246	ePN	Pn	06 40 17.7	+1.1
STE	Stepanavan	2.56	347	P	Pn	06 40 21.0	+1.8
KARS	Kars	2.63	323	ePN	Pg	06 40 28.2	+0.6
MSL	Mosul	2.76	217	ex	x	06 40 27.0	
MSL				i x	x	06 40 37.0	
MSL				i x	x	06 41 03.5	
MSL				i x	x	06 41 09.0	
MSL				ex	x	06 41 15.5	
BTMT	Batman	2.90	265	ePN	Pn	06 40 24.3	+0.3
KZR	Kazreti	2.92	349	P	Pg	06 40 32.6	-0.6
KZR				S	Sg	06 41 11.5	+0.5
BNGL	BINGOL	3.16	279	i P	Pb	06 40 34.3	+0.5
BNGL				i S	Sg	06 41 25.0	+6.2
TBLG	Delisi	3.23	354	PN	Pg	06 40 37.9	-1.2
TBLG				S	Sg	06 41 21.4	+0.5
ERZM	Erzurum	3.25	296	i P	Pb	06 40 34.9	-0.4
EZM	Erzurum	3.26	296	ePN	Pn	06 40 32.7	+3.8
DUS	Dusheti	3.59	355	P	Pg	06 40 45.1	-0.8
ARTV	Artvin	3.64	318	i P	Pb	06 40 43.5	+1.5
ARTV				i S	Sg	06 41 47.0	+13
MARD	Mardin	3.66	252	i P	Pn	06 40 34.0	-0.5
MARD				i S	Sg	06 41 35.7	+0.9
BINT	Bingol	3.67	277	ePN	Pn	06 40 42.5	+8.0
SNGE	Sanandaj	3.84	152	ePn	Pb	06 40 44.2	-1.2
SNGE				AML	AML	06 42 02.9	
	comp=N,199nm,0.6s						
SNGE	Sanandaj	3.84	152	ePn	Pb	06 40 44.0	-1.4
ILIN	Laeen	3.87	157	ePn	Pn	06 40 39.0	+1.7
ILIN				eSn	Sn	06 41 23.4	+0.3
ILIN	Laeen	3.87	157	Pn	Pn	06 40 38.9	+1.6
ILIN				Sn	Sn	06 41 23.4	+0.3
IDHR	Dehrash	3.94	165	ePn	Pn	06 40 39.7	+1.5
IDHR				eSn	Sn	06 41 25.0	+0.3
IDHR	Dehrash	3.94	165	Pn	Pn	06 40 39.6	+1.4
IDHR				Sn	Sn	06 41 24.9	+0.2
IVIS	Veys	4.21	161	ePn	Pn	06 40 43.0	+1.0
IVIS				eSn	Sn	06 41 31.2	-0.3
IVIS	Veys	4.21	161	Pn	Pn	06 40 42.9	+0.9
IVIS				Sn	Sn	06 41 31.1	-0.4
ZEI	Tsey	4.36	348	ePN	Pn	06 40 50.3	+6.3
ZEI				e		06 41 42.3	
PTK	Pertek	4.52	277	ePN	Pn	06 40 49.9	+3.7
URFA	Urfa	5.12	260	ePN	Pn	06 41 00.4	+6.0
BHD	Baghdad	5.27	187	ex	x	06 40 55.0	
BHD				ex	x	06 41 17.0	
BHD				ex	x	06 41 57.0	
BHD				i x	x	06 42 16.0	
BHD				i x	x	06 42 31.0	
MALT	Malatya	5.29	270	ePN	Pn	06 40 56.7	-0.1
MALT				pmax	pmax		
	comp=Z,44nm,1.1s						
MALT	Malatya	5.29	270	ePn	Pn	06 40 56.7	-0.1
	comp=Z,44nm,1.1s						
MALT				eSg	Sg	06 42 39.9	+13
MALT	Malatya	5.29	270	ePn	Pn	06 40 56.7	-0.1
	comp=Z,44nm,1.1s						
CHTH	Charan	5.43	117	ePn	Pn	06 41 04.8	+6.1
CHTH	Charan	5.43	117	ePn	Pn	06 41 04.0	+5.3
ASAO	Ashtian	5.57	134	ePn	Pn	06 41 07.4	+6.7
ASAO	Ashtian	5.57	134	ePn	Pn	06 41 07.0	+6.3
KIV	Kislovodsk	5.75	342⇑	eP	Pn	06 41 04.1	+1.1
KIV				eS	Sn	06 42 03.7	-5.6
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV				MLR	MLR		
	comp=Z,500nm,13.0s						
KIV	Kislovodsk	5.75	342	ePn	Pn	06 41 04.4	+1.4
	comp=Z,40nm,1.3s						
KIV	Kislovodsk	5.75	342	eP	Pn	06 41 04.1	+1.1
	comp=Z,13nm,1.1s						
GZT	Gaziantep	6.11	261	i P	Pg	06 41 28.4	-5.9
DAMV	Damavand	6.16	116	ePn	Pn	06 41 15.3	+6.5
DAMV	Damavand	6.16	116	ePn	Pn	06 41 15.0	+6.2
IVRN	Varamin	6.34	122	ePn	Pn	06 41 11.8	+0.6
IVRN				eSn	Sn	06 42 20.8	-3.1
IVRN	Varamin	6.34	122	Pn	Pn	06 41 11.8	+0.6
IVRN				Sn	Sn	06 42 20.7	-3.2
SVSK	Karacayir	6.49	285	eP	Pn	06 41 12.7	-0.5
GOF	Gofitskoye	6.73	347	eP	Pn	06 41 18.3	+1.8
NASN	Na'in	8.44	130	ePn	Pn	06 41 47.1	+7.0
NASN	Na'in	8.44	130	ePn	Pn	06 41 47.0	+6.9
ANN	Anapa	8.53	320	eP	Pn	06 41 41.5	+0.2
ANN				eS	Sn	06 43 14.9	-3.0
ANN				pmax	pmax		
	comp=Z,15nm,0.6s						
ANN				MLR	MLR		
	comp=N,172nm,9.0s						
ANN				MLR	MLR		
	comp=E,131nm,9.0s						
ANN				MLR	MLR		
	comp=Z,358nm,9.0s						
ANN	Anapa	8.53	320	eP	Pn	06 41 41.5	+0.2
	comp=Z,15nm,0.6s						
BR131	Keskin Array S	9.03	281	ePn	Pn	06 41 52.1	+3.9
	comp=Z,9.9nm,0.8s						
BR131	Keskin Array S	9.03	281	ePn	Pn	06 41 52.1	+3.9
	comp=Z,9.9nm,0.8s						
BRTR	Keskin Array B	9.03	281	Pn	Pn	06 41 50.0	+1.8
	comp=Z,0.4nm,0.3s,baz=104,slow=14,SNR=39						
ISP	Isparta	11.55	271	eP	Pn	06 42 27.4	+4.8
ORR	Orenburg	14.73	24	eP	Pn	06 43 06.4	+0.3
ORR				pmax	pmax		
	comp=Z,30nm,1.2s						
AKTK	Aktyubinsk	15.02	33	Pn	Pn	06 43 09.6	-0.4
AKTK	Aktyubinsk	15.02	33	Pn	Pn	06 43 09.6	-0.4
AKTO	Aktyubinsk	15.02	33	Pn	Pn	06 43 09.6	-0.4
	comp=Z,0.3nm,0.3s,baz=228,slow=10,SNR=16						
MLR	Muntele Rosu	15.87	302	Pn	Pn	06 43 23.4	+2.2
	comp=Z,0.1nm,0.3s,baz=84,slow=18,SNR=3.1						
MLR	Muntele Rosu	15.87	302	Pn	Pn	06 43 23.4	+2.2
MLR	Muntele Rosu	15.87	302	Pn	Pn	06 43 23.4	+2.2
IDI	Anoyia	16.52	265	Pn	Pn	06 43 29.9	+0.3
	comp=Z,1.3nm,0.3s,baz=58,slow=13,SNR=8.2						
AKASG	Malin Array Be	16.60	322	Pn	Pn	06 43 30.1	-0.5
	baz=132,slow=11,SNR=24						
OBN	Obninsk	17.59	344⇑	eP	Pn	06 43 40.9	-2.1
OBN				pmax	pmax		
	comp=Z,12nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
OBN	Obninsk	17.59	344	ePn	Pn	06 43 41.9	-1.1
	comp=Z,24nm,0.9s						
OBN	Obninsk	17.59	344	eP	Pn	06 43 40.9	-2.1
	comp=Z,100nm,15.0s						
MOS	Moscow	17.96	346	eP	Pn	06 43 51.1	+3.6
GRUS	Gruza	19.13	294	⇓iP	Pn	06 44 02.6	+0.8
UZH	Uzhgorod	19.34	309	eP	Pn	06 44 04.0	-0.3
KOLS	Kolonicke sedl	19.47	310	eP	Pn	06 44 06.9	+1.0
KWP	Kalwaria	19.51	312	eP	Pn	06 44 06.7	+0.4
KWP				pmax	pmax		
	comp=Z,51nm,1.1s						
KWP	Kalwaria	19.51	312	eP	Pn	06 44 06.7	+0.4
	comp=Z,51nm,1.1s						
KWP	Kalwaria	19.51	312	eP	Pn	06 44 06.7	+0.4
	comp=Z,51nm,1.1s						
DIVS	Divcibare	19.67	294	⇓iP	Pn	06 44 07.2	-1.1
KK31	Karatay Array	19.70	68	P	Pn	06 44 06.4	-2.3
	comp=Z,1.1nm,0.3s,baz=173,slow=11,SNR=70						
CRVS	Cervenica-Dubn	19.95	309	eP	Pn	06 44 12.6	+1.0
ARU	Arti	20.02	22	⇓iP	P	06 44 11.2	+0.5
ARU				e		06 44 30.5	
ARU				eS	S	06 47 51.0	-5.1
ARU				pmax	pmax		
	comp=Z,23nm,0.8s						
ARU	Arti	20.02	22	eP	P	06 44 11.3	+0.5
	comp=Z,37nm,1.1s						
ARU	Arti	20.02	22	i P	P	06 44 11.2	+0.5
	comp=Z,23nm,0.8s						
BBLS	Bajina Basta -	20.06	294	⇑iP	P	06 44 15.4	+4.2
KECS	Kecovo	20.40	307	eP	P	06 44 15.6	+0.7
	comp=Z,2.2nm,1.1s						
NIE	Niedzica	20.84	310	eP	P	06 44 20.1	+0.4
SVE	Sverdlovsk	20.99	24	eP	P	06 44 26.0	+4.7
VYHS	Vyhne	21.44	306	eP	P	06 44 26.1	0.0
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.8						
VYHS	Vyhne	21.44	306	eP	P	06 44 26.1	0.0
	comp=Z,7.0nm,1.3s,mb3.8						
SOKR	Solikamsk	22.34	16	eP	P	06 44 36.7	+0.9
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
SOKR	Solikamsk	22.34	16	eP	P	06 44 36.7	+0.9
	comp=Z,10.0nm,0.9s,mb4.2						
AAK	Ala-Archa	22.61	70⇑	eP	P	06 44 41.1	+2.5
AAK				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.0						
AAK	Ala-Archa	22.61	70	eP	P	06 44 39.0	+0.4
	comp=Z,11nm,1.3s,mb4.1						
AAK	Ala-Archa	22.61	70	eP	P	06 44 41.1	+2.5
	comp=Z,12nm,1.9s,mb4.0						
BRVK	Borovoye	22.61	42	eP	P	06 44 38.3	-0.3
KLMR	Klimovskoe	22.64	353	eP	P	06 44 37.7	-1.2
KLMR				pmax	pmax		
	comp=Z,63nm,1.8s,mb4.7						
KLMR	Klimovskoe	22.64	353	eP	P	06 44 37.7	-1.2
	comp=Z,63nm,1.8s,mb4.7						
BVAR	Borovoye Array	22.65	42	P	P	06 44 39.7	+0.6
	comp=Z,5.1nm,0.8s,mb4.0,baz=232,slow=8.9,SNR=13						
BVAR	Borovoye Array	22.65	42	P	P	06 44 39.7	+0.7
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VRAC	Vranov	23.10	307	P	P	06 44 43.4	-0.3
	comp=Z,1.9nm,0.5s,mb3.8,baz=76,slow=7.3,SNR=4.5						
VRAC	Vranov

comp=Z,18nm,1.2s,mb4.5
GRF Grafenberg Arr 26.58 306 *e*P **P 06 45 16.3 +0.2**
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.5
ATD Arta Tunnel 26.95 185 LR LR 06 56 44.0
comp=Z,78nm,18.3s,MS3.3,baz=170,slow=38
MKAR Makanchi Array 28.32 61 P **P 06 45 32.6 +0.9**
comp=Z,3.8nm,0.7s,mb4.2,baz=268,slow=7.3,SNR=18
MKAR Makanchi Array 28.32 61 P **P 06 45 32.6 +0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
HFS Hagfors 29.33 328 P **P 06 45 39.2 -1.5**
comp=Z,7.5nm,0.8s,mb4.5,baz=134,slow=11,SNR=8.4
HFS Hagfors 29.33 328 P **P 06 45 39.2 -1.5**
HFS pmax pmax
comp=Z,8.0nm,0.8s
NB2 NORSAR Subarra 30.85 328 P **P 06 45 52.1 -2.1**
comp=Z,0.3nm,0.7s,mb3.2,baz=118,slow=10
NOA NORSAR Array B 30.85 328 P **P 06 45 52.5 -1.6**
comp=Z,2.5nm,0.8s,mb4.1,baz=130,slow=7.6,SNR=5.0
NOA LR LR 06 59 37.8
comp=Z,127nm,19.4s,MS3.6,baz=0.0,slow=39
NOA NORSAR Array B 30.85 328 P **P 06 45 52.6 -1.6**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA MLR MLR
comp=Z,127nm,19.4s
KRAR Krasnoyarsk 35.95 45 *e*P **P 06 46 39.6 +1.0**
KRAR pmax pmax
comp=Z,19nm,1.0s,mb5.0
KRAR Krasnoyarsk 35.95 45 *e*P **P 06 46 39.6 +1.0**
comp=Z,19nm,1.0s,mb5.0
ESDC Sonseca Array 37.76 288 P **P 06 46 51.1 -2.9**
comp=Z,0.2nm,0.3s,mb3.3,baz=65,slow=9.9,SNR=4.1
KMBO Kilima Mbogo 40.11 192 LR LR 07 03 16.2
comp=Z,73nm,18.1s,MS3.6,baz=93,slow=35
TLY Talaya 42.22 52 *e*P **P 06 47 32.7 +1.7**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
TLY Talaya 42.22 52 *e*P **P 06 47 32.7 +1.7**
comp=Z,4.0nm,0.8s,mb4.1
ULN Ulaanbaatar 44.98 57 *e*P **P 06 47 53.7 +0.4**
TORD Torodi Ar. Bea 45.98 249 P **P 06 47 58.6 -2.7**
comp=Z,1.2nm,0.8s,mb3.9,baz=54,slow=7.8,SNR=7.4
TORD LR LR 07 09 25.2
comp=Z,80nm,18.3s,MS3.7,baz=10.0,slow=39
LZH Lanzhou 46.06 74 *e*P **P 06 48 05.0 +3.2**
LZH AP pP 06 48 09.5 +5.9
LZH XP sP 06 48 12.1 +7.8
LZH *e*PP PP 06 49 52.8 +3.1
LZH AMB AMB
comp=Z,18nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,46nm,7.2s
LZH LR LR
comp=E,132nm,15.2s
LZH LR LR
comp=Z,198nm,18.3s,MS4.1
BOD Bodaibo 47.52 43 *e*P **P 06 48 12.4 -0.9**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
BOD Bodaibo 47.52 43 *e*P **P 06 48 12.4 -0.9**
comp=Z,6.0nm,1.2s,mb4.5
HHC Hu-ho-hao-te 50.04 65 *e*P **P 06 48 34.2 +1.5**
HHC AP pP 06 48 38.9 +4.5
HHC XP sP 06 48 40.7 +5.6
HHC PP PP 06 50 29.5 +1.9
HHC PCS PcS 06 53 51.1 +1.7
HHC S **S 06 55 42.2 -1.9**
HHC SCS ScS 06 58 22.2 -2.5
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,128nm,4.9s
HHC LR LR
comp=N,218nm,15.5s,MS4.4
HHC LR LR
comp=E,220nm,15.5s,MS4.4
HHC LR LR
comp=Z,190nm,16.6s,MS4.2
TIXI Tiksi 52.02 24⇑ *e*P **P 06 48 45.7 -1.8**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
TIXI Tiksi 52.02 24 *e*P **P 06 48 45.7 -1.8**
comp=Z,2.0nm,1.0s,mb4.0
GYA Guiyang 52.39 84 P **P 06 48 52.4 +2.1**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
BJI Beijing 53.61 64 P **P 06 48 57.9 -1.4**
BJI AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
YAK Yakutsk 54.40 35 *e*P **P 06 49 03.8 -1.2**
YAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
YAK Yakutsk 54.40 35 *e*P **P 06 49 03.8 -1.2**
comp=Z,8.0nm,1.3s,mb4.5
CN2 Changchun 58.43 57 *e*P **P 06 49 34.9 +1.1**
CN2 *e*S **S 06 57 34.4 -2.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
MDJ Mudanjiang 60.77 55 P **P 06 49 50.5 +0.6**
MDJ PP PP 06 52 03.3 -0.4
MDJ AMB AMB
comp=Z,10.0nm,2.0s,mb4.6
MDJ AMB AMB
comp=Z,92nm,8.8s
BILL Bilibino 65.03 21⇑ *e*P **P 06 50 21.8 +3.5**
BILL pmax pmax
comp=Z,14nm,1.6s,mb4.7
BOSA Boshof 69.32 199 P **P 06 50 43.9 -1.7**
comp=Z,3.9nm,1.0s,mb4.3,baz=350,slow=13,SNR=4.9
BOSA Boshof 69.32 199 P **P 06 50 43.9 -1.6**
comp=Z,4.0nm,1.0s,mb4.3
COLA College 76.44 6 *e*P **P 06 51 25.8 -2.0**
YKA Yellowknife Ar 78.02 351 P **P 06 51 34.9 -1.7**
comp=Z,0.6nm,0.9s,mb3.5,baz=12,slow=4.2,SNR=5.4
YKA Yellowknife Ar 78.02 351 P **P 06 51 34.9 -1.7**

*IDC **02** 06:50:44.5±3.5, 4678N×15253E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=92.5km s-min=32.9km az=16.0*
*MOS **02** 06:50:48.4±3.0, 4693N×15290E, h20km, mb4.4/4, Error ellipse: s-maj=53.5km s-min=21.6km az=64.1*
*ISCJB **02** 06:50:56.9±1.6, 473N±02×1527E±02, h92km±13km, mb3.8/7, Error ellipse: s-maj=40.9km s-min=9.1km az=97.5*
ISC 02 06:50:58.6±1.5, 473N±02×1526E±02, h92km±12km, n14, σ0:38/15, mb3.8/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**240**	*e*PN	**Pn**	**06 51 51.5**	**-4.8**
KUR				*e*S	**Sn**	**06 52 41.0**	**-0.1**
KUR				smax			
	comp=N,110nm,0.6s						
KUR				smax			
	comp=E,110nm,0.6s						
SKR	**Severo-Kuril's**	**4.08**	**33**	*e*PN	**Pn**	**06 51 59.0**	**+0.3**
SKR				*e*S	**Sn**	**06 52 45.0**	**-0.3**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=E,90nm,0.3s						
INK	**Inuvik**	**41.35**	**33**	P	**P**	**06 58 35.8**	**+0.5**
	comp=E,0.7nm,0.5s,mb3.7,baz=306,slow=6.3,SNR=7.8						
INK	**Inuvik**	**41.35**	**33**	P	**P**	**06 58 35.8**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.40**	**297**	PcP	PcP	07 00 48.8	-0.4
	comp=Z,0.3nm,0.5s,baz=59,slow=4.3,SNR=7.3						
YKA	**Yellowknife Ar**	**50.67**	**37**	P	**P**	**06 59 48.1**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.6,baz=294,slow=7.5,SNR=4.0						
NVAR	**Mina Array Bea**	**62.46**	**62**	P	**P**	**07 01 11.4**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=287,slow=9.4,SNR=3.3						
FINES	**FINESS Array B**	**63.39**	**334**	P	**P**	**07 01 18.4**	**+0.2**
	comp=Z,1.8nm,0.9s,mb4.0,baz=18,slow=6.6,SNR=6.3						
FINES	**FINESS Array B**	**63.39**	**334**	P	**P**	**07 01 18.4**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**64.68**	**54**	P	**P**	**07 01 27.1**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.4,baz=317,slow=3.7,SNR=3.1						
HFS	**Hagfors**	**67.82**	**339**	P	**P**	**07 01 46.3**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.4,baz=41,slow=4.6,SNR=5.5						
HFS	**Hagfors**	**67.82**	**339**	P	**P**	**07 01 46.3**	**-0.3**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TXAR	**Lajitas Array**	**77.50**	**60**	P	**P**	**07 02 44.1**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=300,slow=4.8,SNR=26						
TXAR	**Lajitas Array**	**77.50**	**60**	P	**P**	**07 02 44.1**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*STR **02** 06:51:45.2±0.0, 4300N×005E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 06:51:45.2±0.1, 4301N×001W, h2km, Md2.0/2, Ml2.1/1, Error ellipse: s-maj=2.7km s-min=1.3km az=157.0*
MDD 02 06:51:45.6±0.4, 4301N×001W, h0km, mbLg1.0/4, Error ellipse: s-maj=3.3km s-min=2.2km az=147.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**58**	Pg	Pg	06 51 46.9	0.0
LABF				Sg	Sg	06 51 48.2	+0.4
LABF	**Labassere**	**0.07**	**58**	P	Pg	06 51 47.0	0.0
LABF				S	Sg	06 51 48.2	+0.4
VIEF	**Viey**	**0.13**	**170**	Pg	Pg	06 51 48.1	0.0
VIEF				Sg	Sg	06 51 50.2	+0.4
VIEF	**Viey**	**0.13**	**170**	P	Pg	06 51 48.2	+0.1
VIEF				S	Sg	06 51 50.3	+0.5
EPF	**Esparros**	**0.26**	**85**	*e*Pg	Pg	06 51 50.0	-0.5
EPF				*e*Sg	Sg	06 51 53.6	-0.2
	6.2nm,0.2s						
EPF	**Esparros**	**0.26**	**85**	Pg	Pg	06 51 50.0	-0.5
EPF				Lg		06 51 53.6	
	3.1nm,0.2s						
EBIE	**Bielsa**	**0.34**	**161**	Pg	Pg	06 51 51.9	-0.3
	0.4nm,0.0s,SNR=13						
EBIE				Lg		06 51 56.6	
	6.0nm,0.1s,SNR=7.5						
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg	Pg	06 51 53.4	-0.3
ETSF				*e*Sg	Sg	06 51 58.9	-0.2
	5.3nm,0.2s						
ETSF	**Etsaut**	**0.42**	**255**	Pg	Pg	06 51 53.4	-0.3
ETSF				Lg		06 51 58.9	
	2.7nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	06 52 16.4	-1.0
MTLF				*e*Sg	Sg	06 52 37.6	-1.4
	2.6nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	06 52 16.4	-1.0
MTLF				Lg		06 52 37.6	
	1.3nm,0.3s						

*CSEM **02** 07:16:08.0±0.9, 3865N×2851W, h2km±8km, ML1.5, Error ellipse: s-maj=3.3km s-min=2.5km az=8.0, After PDA*
*PDA **02** 07:16:08.0±0.9, 3865N×2851W, h2km±8km, MD2.6, ML1.5, Error ellipse: s-maj=3.3km s-min=2.5km az=8.0*
SVSA 02 07:16:08.0±0.9, 3865N×2851W, h2km±8km, MD2.6, ML1.5, Error ellipse: s-maj=3.3km s-min=2.5km az=8.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.15**	**262**	*e*P	Pg	07 16 10.7	-0.2
PCED				*e*S	Sg	07 16 13.3	+0.5
PCED							
	84nm,0.2s						
PCED	**Cedros**	**0.15**	**262**	*e*P	Pg	07 16 10.7	-0.2
PCED				*e*S	Sg	07 16 13.3	+0.5
HOR	**Horta**	**0.15**	**217**	*e*S	Sg	07 16 19.1	+6.1
PICO	**Pico**	**0.16**	**155**	*e*P	Pg	07 16 17.7	+6.5
PICO				*e*S	Sg	07 16 19.9	+6.6
PCND	**Candelaria**	**0.18**	**168**	*e*P	Pg	07 16 11.6	0.0
PCND				*e*S	Sg	07 16 14.4	+0.4
PCND							
	32nm,0.1s						
ROSA	**Rosais**	**0.22**	**72**	*e*S	Sg	07 16 22.8	+7.6
PMAN	**Manadas**	**0.33**	**93**	*e*P	Pg	07 16 14.4	0.0
PMAN				*e*S	Sg	07 16 18.6	-0.1
PMAN							
	22nm,0.1s						
PMAN	**Manadas**	**0.33**	**93**	*e*P	Pg	07 16 14.4	0.0
PMAN				*e*S	Sg	07 16 18.6	-0.1

*ISCJB **02** 07:20:56.1±0.6, 4463N±002×678E±005, h13km±7km, Error ellipse: s-maj=5.9km s-min=3.2km az=156.7*
*STR **02** 07:20:56.4±0.5, 4463N×673E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 07:20:57.1±0.1, 4464N×679E, h2km, Md1.9/4, Ml1.9/6, Error ellipse: s-maj=2.6km s-min=1.3km az=80.0*
ISC 02 07:20:57.1±0.6, 4463N±002×679E±005, h8km±9km, n13, σ0:60/25, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.10**	**354**	*e*Pg	**Pg**	**07 20 59.2**	**-0.1**
MBDF				*e*Sg	**Sg**	**07 21 00.9**	**0.0**
	48nm,0.3s						
SURF	**Saint Ours**	**0.15**	**173**	Pg	**Pg**	**07 21 00.1**	**-0.2**
SURF				Sg	**Sg**	**07 21 02.3**	**-0.2**
OG22	**Abries**	**0.22**	**31**	Pg	**Pg**	**07 21 01.6**	**+0.1**
OG22				Sg	**Sg**	**07 21 05.0**	**+0.5**
TOUF	**Mont Tournerai**	**0.70**	**152**	Pg	**Pg**	**07 21 10.3**	**-0.3**
ORIF	**Oris-en-Rattie**	**0.70**	**294**	*e*Pg	**Pg**	**07 21 10.2**	**-0.5**
ORIF				*e*Sg	**Sg**	**07 21 19.1**	**-0.8**
	5.0nm,0.2s						
AUTN	**L'Aution**	**0.79**	**144**	Pg	**Pg**	**07 21 12.5**	**+0.3**
AUTN				Sg	**Sg**	**07 21 23.5**	**+1.0**
LUCF	**Luceram**	**0.84**	**151**	Pg	**Pg**	**07 21 12.8**	**-0.5**
LUCF				Sg	**Sg**	**07 21 24.4**	**+0.1**
LPG	**La Plagne**	**0.86**	**358**	*e*Pg	**Pg**	**07 21 13.7**	**0.0**
LPG				*e*Sg	**Sg**	**07 21 25.3**	**+0.3**
	2.0nm,0.3s						
LPL	**La Plagne**	**0.88**	**358**	*e*Pg	**Pg**	**07 21 13.9**	**-0.2**
LPL				*e*Sg	**Sg**	**07 21 25.9**	**+0.3**
	2.1nm,0.3s						
SBF	**Sospel**	**0.90**	**149**	*e*Pg	**Pg**	**07 21 14.1**	**-0.3**
SBF				*e*Sg	**Sg**	**07 21 25.9**	**-0.2**
	6.0nm,0.3s						
FRF	**La Foret Royal**	**1.08**	**185**	*e*Pg	**Pg**	**07 21 17.0**	**-0.8**
FRF				*e*Sg	**Sg**	**07 21 32.4**	**+0.7**
	3.3nm,0.2s						
SMRF	**Simiane la Rot**	**1.09**	**233**	*e*Pg	**Pg**	**07 21 18.5**	**+0.5**
SMRF				*e*Sg	**Sg**	**07 21 34.5**	**+2.4**
	2.9nm,0.3s						
LMR	**La Mourre**	**1.31**	**189**	*e*Pg	**Pg**	**07 21 21.7**	**-0.6**
LMR				*e*Sg	**Sg**	**07 21 38.7**	**-0.7**
	2.0nm,0.2s						

IDC 02 07:30:43.4±8.3, 3186S×17855W, h45km±69km, mb3.7/2, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=61.5km s-min=41.4km az=45.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.31**	**208**	P	Pn	07 32 28.2	+0.7
	1.2nm,0.3s,baz=151,slow=7.2,SNR=20						
URZ				S	Sn	07 33 48.8	-0.4
	1.2nm,0.3s,baz=168,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**42.58**	**269**	P	P	07 38 35.1	+0.3
	0.8nm,0.6s,baz=108,slow=7.4,SNR=17						
WRA	**Warramunga Arr**	**43.70**	**274**	P	P	07 38 44.2	+0.3
	1.2nm,0.4s,baz=113,slow=7.7,SNR=22						
FINES	**FINESS Array B**	**146.34**	**339**	PKPbc	PKPbc	07 50 17.2	-2.0
	2.0nm,0.9s,baz=45,slow=3.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**161.38**	**181**	PKPab	PKPab	07 51 23.5	+0.2
	0.1nm,0.3s,baz=179,slow=2.8,SNR=1.9						

*NEIC **02** 07:50:38.8, 1615N×9587W, h27km, MD4.3(MEX), After MEX.*
MEX 02 07:50:38.6±0.6, 1614N×9587W, h32km±8km, MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.44**	**212**	*e*P	Pb	07 50 46.1	-2.0
HUIG				*i* S	Sb	07 50 53.3	-1.4
OXX	**Oaxaca**	**1.24**	**319**	*i* P	Pn	07 50 58.1	-1.7
OXX				*i* S	Sn	07 51 15.5	0.0
VHO	**Vista Hermosa**	**1.24**	**318**	*i* P	Pn	07 50 57.6	-2.1
VHO				*i* S	Sn	07 51 13.3	-2.1
PNIG	**Pinotepa**	**2.19**	**277**	*e*P	Pn	07 51 10.9	-1.8
PNIG				*i* S	Sn	07 51 36.1	-2.6
UTMO	**Huajuapan**	**2.50**	**312**	*e*P	Pn	07 51 16.2	-0.9
UTMO				*i* S	Sn	07 51 45.0	-1.5
CCIG	**Comitan**	**3.58**	**87**	*e*P	Pn	07 51 31.7	-0.3
CCIG				*i* S	Sn	07 52 11.8	-1.5
MEIG	**Mezcala**	**4.00**	**297**	*e*P	Pn	07 51 36.8	-1.0
MEIG				*i* S	Sn	07 52 21.7	-1.9
YAIG	**Yautepec**	**4.08**	**312**	*e*P	Pn	07 51 37.0	-1.8
YAIG				*i* S	Sn	07 52 23.7	-1.8
YAIG	**Yautepec**	**4.08**	**312**	*e*P	Pn	07 51 38.6	-0.2
YAIG				*i* S	Sn	07 52 23.7	-1.8
PLIG	**Platanillo**	**4.13**	**303**	*i* P	Pn	07 51 39.2	-0.3
PLIG				*i* S	Sn	07 52 25.5	-1.2
PLIG	**Platanillo**	**4.13**	**303**	*e*P	Pn	07 51 39.3	-0.2
PLIG				*i* S	Sn	07 52 26.4	-0.3
CAIG	**El Cayaco**	**4.32**	**283**	*i* P	Pn	07 51 40.8	-1.2
CAIG				*i* S	Sn	07 52 28.7	-2.6
IIO	**Organos**	**4.38**	**322**	*i* P	Pn	07 51 46.8	+3.9
UNM	**Universidad Na**	**4.47**	**316**	*i* S	Sn	07 52 33.0	-2.2
UNM	**Universidad Na**	**4.47**	**316**	*i* S	Sn	07 52 36.6	+1.4
SZVM	**Salazar**	**4.61**	**314**	*i* P	Pn	07 51 45.0	-1.0
SZVM				*i* S	Sn	07 52 38.7	+0.2
PTVM	**Pico Tres Padr**	**4.62**	**318**	*e*P	Pn	07 51 44.6	-1.6
PTVM				*e*S	Sn	07 52 37.6	-1.2
PTVM	**Pico Tres Padr**	**4.62**	**318**	*i* P	Pn	07 51 53.9	+7.7

IDC 02 08:01:40.3±4.4, 1964S×17951W, h519km±37km, mb2.9/5, mb1 3.3/6, mb1mx3.1/15, mbtmp3.0/6, Error ellipse: s-maj=206.8km s-min=17.7km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.35**	**54**	P	P	08 03 51.0	+0.1
	2.7nm,0.3s,baz=243,slow=14,SNR=5.9						
CTA	**Charters Tower**	**32.17**	**263**	P	P	08 07 25.9	+0.9
	1.9nm,0.6s,baz=113,slow=7.7,SNR=2.4						
WRA	**Warramunga Arr**	**43.32**	**261**	P	P	08 08 56.4	+0.4
	0.4nm,0.3s,baz=95,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**43.34**	**256**	P	P	08 08 56.0	-0.2
	0.9nm,0.5s,baz=96,slow=8.0,SNR=20						
NVAR	**Mina Array Bea**	**81.39**	**44**	P	P	08 13 03.4	+0.7
	0.3nm,0.5s,baz=208,slow=5.1,SNR=2.2						
PDAR	**Pinedale Array**	**89.32**	**44**	P	P	08 13 41.1	0.0
	0.4nm,0.7s,baz=252,slow=4.6,SNR=2.4						
AKASG	**Malin Array Be**	**141.57**	**331**	PKhKP		08 20 09.0	
	0.7nm,0.4s,baz=42,slow=3.7,SNR=5.2						

*LDG **02** 08:06:30.0±0.3, 1009N×5936W, h10km, Mb4.8/10, Ms3.9/7, Error ellipse: s-maj=16.8km s-min=9.2km az=77.0*
*IDC **02** 08:06:31.4±0.5, 1002N×5909W, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.5/28, mbtmp4.4/26, ML3.1/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/35, Error ellipse: s-maj=13.9km s-min=12.2km az=124.0*
*MOS **02** 08:06:31.5±0.8, 1011N×5906W, h10km, mb5.0/30, Error ellipse: s-maj=9.6km s-min=6.1km az=37.5*
*ISCJB **02** 08:06:32.4±0.2, 1027N±003×5910W±002, h10km, mb4.8/86, MS4.3/16, Error ellipse: s-maj=4.3km s-min=3.2km az=61.5*
*TRN **02** 08:06:33.6, 1032N×5908W, h10km, MD4.9, M5.0(FDF)*
*BJI **02** 08:06:33.6, 1040N×5930W, h10km, mB5.3, Ms5.3, Msz4.9*
*NEIC **02** 08:06:35.6, 1040N×5932W, h10km, mb4.9/63, MS4.4/1, MD4.8(TRN), After TRN.*
ISC 02 08:06:34.3±1.2, 1031N±003×5914W±003, h5km±7km, h42km±8km: pP-P, n464, σ0:76/468, mb4.8/86, MS4.3/16, 103C-95D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPR	**Prospect**	**1.83**	**299**⇑	*i*P	**Pn**	**08 07 07.0**	**+0.5**
TPR				*e*S	**Sn**	**08 07 27.2**	**-2.9**
TBH	**Brigand Hill**	**1.91**	**275**⇑	*i*P	**Pn**	**08 07 07.9**	**+0.4**
TBH	**Brigand Hill**	**1.91**	**275**	*e*	**Pn**	**08 07 16.3**	**+8.8**
TBH				*e*S	**Sn**	**08 07 29.5**	**-2.4**
TRN	**Trinidad (W)**	**2.25**	**279**⇑	*i*P	**Pn**	**08 07 11.5**	**-0.7**
TRN				*e*S	**Sn**	**08 07 37.7**	**-2.8**
TPP	**Pointe-a-Pierr**	**2.28**	**270**⇑	*e*P	**Pn**	**08 07 12.6**	**0.0**
TPP				*e*S	**Sn**	**08 07 43.7**	**+2.6**
ALNG	**Atlantic LNG**	**2.51**	**267**	*e*P	**Pn**	**08 07 15.6**	**-0.2**
ALNG				*e*S	**Sn**	**08 07 46.6**	**-0.3**
BUAY	**Buenos Aires**	**2.52**	**266**⇑	*e*P	**Pn**	**08 07 16.5**	**+0.6**
BUAY				*e*S	**Sn**	**08 07 49.8**	**+2.8**
TCE	**Chacachacare**	**2.60**	**279**	*e*P	**Pn**	**08 07 16.2**	**-0.8**
TCE				*e*S	**Sn**	**08 07 46.5**	**-2.5**
BBSP	**Saint Philip**	**2.80**	**354**	*e*S	**Sn**	**08 07 58.0**	**+4.1**
BBGH	**Gun Hill**	**2.85**	**352**	*e*Pn	**Pn**	**08 07 22.1**	**+1.6**
GRW	**Mount Saint Ca**	**3.09**	**307**	*e*P	**Pn**	**08 07 24.2**	**+0.5**
GRIC	**Isle de Caille**	**3.10**	**310**	*e*P	**Pn**	**08 07 24.7**	**+0.7**
GRIC				*e*S	**Sn**	**08 08 01.7**	**+0.2**
GRSS	**Sisters**	**3.13**	**309**	*e*P	**Pn**	**08 07 24.9**	**+0.5**
GRSS				*e*S	**Sn**	**08 08 01.5**	**-0.6**
FCV	**Fort Charlotte**	**3.50**	**324**	*e*P	**Pn**	**08 07 28.8**	**-0.7**
FCV				*e*S	**Sn**	**08 08 12.1**	**+0.8**
BHS	**Barnard House**	**3.55**	**327**	*e*P	**Pn**	**08 07 29.7**	**-0.5**
BHS				*e*S	**Sn**	**08 08 13.4**	**+0.9**
SVB	**Belmont**	**3.60**	**325**⇓	*e*P	**Pn**	**08 07 30.1**	**-0.7**
SVB				*e*S	**Sn**	**08 08 12.1**	**-1.6**
SSV	**Crater Summit**	**3.61**	**326**	*e*P	**Pn**	**08 07 29.8**	**-1.2**
SSV				*e*S	**Sn**	**08 08 15.1**	**+1.0**
SVV	**Soufriere Volc**	**3.62**	**326**	*e*P	**Pn**	**08 07 30.5**	**-0.5**
SVV				*e*S	**Sn**	**08 08 12.4**	**-1.7**
SLB	**Belfond**	**3.96**	**332**	*e*P	**Pn**	**08 07 34.8**	**-1.0**
SLB				*e*S	**Sn**	**08 08 22.2**	**-0.5**
MVM	**Montagne Vaucl**	**4.56**	**338**	*e*P	**Pn**	**08 07 43.6**	**-0.3**
BIM	**Bigot**	**4.59**	**336**⇑	*e*P	**Pn**	**08 07 44.3**	**-0.1**
BIM	**Bigot**	**4.59**	**336**⇑	*e*P	**Pn**	**08 07 49.0**	**+4.6**
BIM				*e*S	**Sn**	**08 08 38.4**	**+0.3**
FDF	**Fort de France**	**4.82**	**336**⇑	*e*P	**Pn**	**08 07 48.0**	**+0.5**
FDF				*e*S	**Sn**	**08 08 41.4**	**-2.3**
PCRV	**Puerto La Cruz**	**5.41**	**269**	Pn	**Pn**	**08 07 52.7**	**-3.0**
	55nm,0.3s,baz=62,slow=4.9,SNR=467						
PCRV				Sn	**Sn**	**08 08 52.6**	**-5.8**
	53nm,0.3s,baz=277,slow=16,SNR=7.2						
BBL	**Barber's Block**	**5.66**	**337**	*e*P	**Pn**	**08 07 59.7**	**+0.6**
MGG	**Marie-Galante**	**5.97**	**339**	*e*P	**Pn**	**08 08 03.1**	**-0.2**
TBG	**Guadaloupe-3**	**6.03**	**336**	*e*P	**Pn**	**08 08 05.0**	**+0.9**
SCG	**Saint Claude**	**6.20**	**337**	*e*P	**Pn**	**08 08 07.2**	**+0.6**
SFG	**Saint Francois**	**6.24**	**341**	*e*P	**Pn**	**08 08 06.6**	**-0.5**
DEG	**La Desirade**	**6.26**	**343**	*e*P	**Pn**	**08 08 06.1**	**-1.2**
DEG				*e*S	**Sn**	**08 09 16.1**	**-3.0**
LZG	**Guadaloupe-1**	**6.34**	**336**	*e*P	**Pn**	**08 08 08.8**	**+0.4**
MTP	**Monte Pirata**	**9.93**	**322**	*e*Pn	**Pn**	**08 08 57.1**	**-0.6**
CPD	**Cerro la Pandu**	**10.11**	**320**	*e*P	**Pn**	**08 08 59.2**	**-0.9**
HUMP	**Col San Antoni**	**10.15**	**321**	*e*Pn	**Pn**	**08 08 59.7**	**-1.0**
CBYP	**Canovanas**	**10.25**	**321**	*e*Pn	**Pn**	**08 09 02.1**	**0.0**
MPR	**Mayaguez**	**11.04**	**316**	*e*Pn	**Pn**	**08 09 11.6**	**-1.2**
SDV	**Santo Domingo**	**11.42**	**264**	Pn	**Pn**	**08 09 13.0**	**-5.2**
	14nm,0.3s,baz=78,slow=7.1,SNR=86						
SDV				Sn	**Sn**	**08 11 13.2**	**-13**
	48nm,0.3s,baz=30,slow=18,SNR=12						
SDV	**Santo Domingo**	**11.42**	**264**	*e*Pn	**Pn**	**08 09 12.7**	**-5.4**
SDV				*e*Sn	**Sn**	**08 11 15.6**	**-11**
ROSC	**El Rosal**	**16.00**	**251**	Pn	**Pn**	**08 10 18.4**	**-1.7**
	1.5nm,0.3s,baz=102,slow=19,SNR=6.7

	comp=Z,1.6nm,0.7s,mb3.8,baz=11,slow=12,SNR=9.2						
LPAZ				LR	LR	08 24 36.3	
	comp=Z,298nm,18.7s,MS3.9,baz=350,slow=39						
LPAZ	**La Paz**	**27.88**	**199**	*e*P	**P**	**08 12 21.8**	**-3.3**
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LPAZ	**La Paz**	**27.88**	**199**	*e*P	**P**	**08 12 21.8**	**-3.3**
	comp=Z,9.1nm,0.9s,mb4.4						
NNA	**Nana**	**28.29**	**219**	LR	LR	08 24 22.4	
	comp=Z,155nm,21.1s,MS3.6,baz=297,slow=38						
NNA	**Nana**	**28.29**	**219**	*e*P	**P**	**08 12 28.3**	**-0.3**
	comp=Z,9.4nm,0.8s,mb4.5						
TEIG	**Tepich**	**29.74**	**293**	P	**P**	**08 12 41.7**	**+0.1**
	comp=Z,16nm,0.6s,mb4.9						
TEIG	**Tepich**	**29.74**	**293**	*e*P	**P**	**08 12 41.5**	**-0.1**
	comp=Z,8.1nm,0.4s,mb4.8						
GOGA	**Godfrey**	**32.06**	**320**	*e*P	**P**	**08 13 03.4**	**+1.3**
TKL	**Tuckaleechee C**	**33.74**	**322**	P	**P**	**08 13 17.9**	**+1.2**
	comp=Z,21nm,0.7s,mb5.2,baz=149,slow=9.3,SNR=23						
TKL	**Tuckaleechee C**	**33.74**	**322**	P	**P**	**08 13 17.9**	**+1.2**
LRAL	**Lakeview Retre**	**34.18**	**316**	*e*P	**P**	**08 13 21.1**	**+0.6**
	comp=Z,28nm,0.8s,mb5.2						
PLAL	**Pickwick Lake**	**36.04**	**318**	*e*P	**P**	**08 13 37.1**	**+0.5**
	comp=Z,68nm,0.4s						
WVT	**Waverly**	**36.56**	**319**	*e*P	**P**	**08 13 41.4**	**+0.3**
WVT				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.2						
WVT	**Waverly**	**36.56**	**319**	*e*P	**P**	**08 13 41.4**	**+0.3**
	comp=Z,34nm,0.8s,mb5.2						
WVT				*e*pP	pP	08 13 53.6	+11
OXF	**Oxford**	**36.67**	**316**	*e*P	**P**	**08 13 42.4**	**+0.4**
OXF				pmax	pmax		
	comp=Z,19nm,0.4s,mb5.3						
OXF	**Oxford**	**36.67**	**316**	*e*P	**P**	**08 13 42.4**	**+0.4**
	comp=Z,19nm,0.4s,mb5.3						
WCI	**Wyandotte Cave**	**36.95**	**323**	*e*P	**P**	**08 13 45.9**	**+1.5**
WCI				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.1						
WCI	**Wyandotte Cave**	**36.95**	**323**	*e*P	**P**	**08 13 45.9**	**+1.5**
	comp=Z,18nm,0.6s,mb5.1						
UTMT	**University of**	**37.36**	**319**	*e*P	**P**	**08 13 45.8**	**-2.0**
	comp=Z,95nm,0.6s,mb5.8						
USIN	**University of**	**37.60**	**322**	*e*P	**P**	**08 13 51.1**	**+1.2**
	comp=Z,16nm,0.4s,mb5.1						
BLO	**Bloomington**	**37.72**	**324**	*e*P	**P**	**08 13 51.9**	**+1.0**
BLO				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.2						
BLO	**Bloomington**	**37.72**	**324**	*e*P	**P**	**08 13 51.9**	**+1.0**
	comp=Z,27nm,0.6s,mb5.2						
SIUC	**Southern Illin**	**38.41**	**320**	*e*P	**P**	**08 13 57.4**	**+0.6**
	comp=Z,30nm,0.6s,mb5.2						
SIUC				*e*pP	pP	08 14 09.2	+11
AAM	**Ann Arbor**	**38.42**	**330**	*e*P	**P**	**08 13 57.2**	**+0.4**
HKT	**Hockley**	**39.37**	**305**	*e*P	**P**	**08 14 03.9**	**-0.8**
HKT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
HKT	**Hockley**	**39.37**	**305**	*e*P	**P**	**08 14 03.9**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.1						
HKT				*e*pP	pP	08 14 19.1	+13
JFWS	**Jewell Farm**	**42.30**	**326**	*e*P	**P**	**08 14 29.2**	**+0.2**
CFAA	**Coronel Fontan**	**42.58**	**192**	P	**P**	**08 14 26.2**	**-5.0**
	comp=Z,0.6nm,0.7s,baz=1.4,slow=7.8,SNR=12						
CFAA	**Coronel Fontan**	**42.58**	**192**	P	**P**	**08 14 26.2**	**-5.0**
JCT	**Junction City**	**42.77**	**304**	*e*P	**P**	**08 14 31.5**	**-1.2**
JCT				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
JCT	**Junction City**	**42.77**	**304**	*e*P	**P**	**08 14 31.5**	**-1.2**
	comp=Z,13nm,0.7s,mb4.8						
SCIA	**State Center**	**43.39**	**322**	*e*P	**P**	**08 14 38.0**	**+0.2**
	comp=Z,15nm,0.6s,mb4.9						
SCIA				*e*pP	pP	08 14 49.5	+10
WMOK	**Wichita Mounta**	**43.54**	**310**	*e*P	**P**	**08 14 37.2**	**-1.8**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
WMOK	**Wichita Mounta**	**43.54**	**310**	*e*P	**P**	**08 14 37.2**	**-1.8**
	comp=Z,3.7nm,0.6s,mb4.3						
KSU1	**Kansas State U**	**44.00**	**317**	*e*P	**P**	**08 14 41.3**	**-1.4**
	comp=Z,24nm,0.6s,mb5.1						
SCHQ	**Schefferville**	**44.83**	**354**	P	**P**	**08 14 50.6**	**+1.3**
	comp=Z,3.9nm,0.4s,mb4.5,baz=187,slow=4.9,SNR=10.0						
LTX	**Lajitas**	**45.64**	**301**	*e*P	**P**	**08 14 55.1**	**-0.6**
LTX				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
LTX	**Lajitas**	**45.64**	**301**	*e*P	**P**	**08 14 55.1**	**-0.6**
	comp=Z,4.5nm,0.5s,mb4.7						
TXAR	**Lajitas Array**	**45.64**	**301**	P	**P**	**08 14 55.0**	**-0.7**
	comp=Z,3.8nm,0.5s,mb4.6,baz=120,slow=7.5,SNR=100						
TXAR				PcP	PcP	08 16 33.9	0.0
	comp=Z,0.9nm,0.6s,baz=111,slow=4.9,SNR=3.6						
CBKS	**Cedar Bluff**	**46.00**	**315**	*e*P	**P**	**08 14 57.8**	**-0.8**
CBKS				*e*		08 16 46.4	
CBKS				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
CBKS	**Cedar Bluff**	**46.00**	**315**	*e*P	**P**	**08 14 57.8**	**-0.8**
	comp=Z,16nm,0.8s,mb5.0						
CBKS				*e*PP	PP	08 16 46.4	+0.1
ECSD	**EROS,Sioux Fal**	**46.48**	**323**	*e*P	**P**	**08 15 02.2**	**-0.2**
	comp=Z,16nm,0.8s,mb5.0						
ECSD				*e*pP	pP	08 15 14.4	+11
GDL2	**Guadalupe Moun**	**47.01**	**305**	*e*P	**P**	**08 15 06.0**	**-0.5**
MNTX	**Cornudas Mount**	**47.70**	**304**	*e*P	**P**	**08 15 11.1**	**-0.8**
	comp=Z,7.7nm,0.5s,mb5.0						
MNTX				*e*pP	pP	08 15 23.4	+10
TRQA	**Tornquist**	**48.18**	**183**	*e*P	**P**	**08 15 10.4**	**-5.3**
AGMN	**Agassiz Refuge**	**48.77**	**328**	*e*P	**P**	**08 15 19.8**	**-0.4**
	comp=Z,12nm,0.5s,mb5.2						
BNM	**Barren Site**	**49.40**	**306**	*e*P	**P**	**08 15 25.2**	**+0.2**
LPM	**Los Pinos Moun**	**49.45**	**307**	*e*P	**P**	**08 15 25.5**	**+0.1**
ANMO	**Albuquerque**	**49.51**	**307**	*e*P	**P**	**08 15 25.9**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ANMO	**Albuquerque**	**49.51**	**307**	*e*P	**P**	**08 15 25.9**	**0.0**
	comp=Z,8.5nm,1.0s,mb4.7						
ANMO				*e*pP	pP	08 15 37.7	+10
Y22C	**IRIS PASSCAL I**	**49.61**	**306**	⇓P	**P**	**08 15 26.9**	**+0.3**
	baz=49						
LENM	**Lemitar**	**49.68**	**306**	*e*P	**P**	**08 15 27.2**	**0.0**
LENM				*e*pP	pP	08 15 39.0	+10
SDCO	**Great Sand Dun**	**49.71**	**311**	*e*P	**P**	**08 15 26.9**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.5						
LAZ	**Ladron**	**49.88**	**307**	*e*P	**P**	**08 15 28.9**	**+0.2**
LAZ				*e*pP	pP	08 15 41.0	+11
ULM	**Lac du Bonnet**	**50.02**	**330**	P	**P**	**08 15 28.6**	**-1.1**
	comp=Z,10.0nm,0.5s,mb5.1,baz=133,slow=8.6,SNR=35						
ULM	**Lac du Bonnet**	**50.02**	**330**	*e*P	**P**	**08 15 28.5**	**-1.2**
	comp=Z,10nm,0.5s,mb5.1						
ULM				*e*pP	pP	08 15 41.5	+10
ISCO	**Idaho Springs**	**50.55**	**314**	*e*P	**P**	**08 15 33.7**	**0.0**
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ISCO	**Idaho Springs**	**50.55**	**314**	*e*P	**P**	**08 15 33.7**	**-0.1**
	comp=Z,4.5nm,0.7s,mb4.5						
ISCO				*e*pP	pP	08 15 45.8	+11
MVCO	**Mesa Verde**	**51.78**	**310**	⇑P	**P**	**08 15 43.1**	**+0.2**
	baz=52						
PV01	**Paradox Valley**	**52.12**	**311**	*e*P	**P**	**08 15 46.1**	**+0.6**
PV01				*e*pP	pP	08 15 57.9	+11
TUC	**Tucson**	**52.29**	**303**	*e*P	**P**	**08 15 46.4**	**-0.4**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TUC	**Tucson**	**52.29**	**303**	*e*P	**P**	**08 15 46.4**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.5						
TUC				*e*pP	pP	08 15 58.4	+10
116A	**Eloy**	**53.11**	**303**	⇑P	**P**	**08 15 52.5**	**-0.3**
	baz=53						
DGMT	**Dagmar**	**53.47**	**324**	*e*P	**P**	**08 15 56.0**	**+0.6**
	comp=Z,24nm,0.6s,mb5.3						
DGMT				*e*pP	pP	08 16 07.7	+11
WUAZ	**Wupatki**	**53.53**	**307**	*e*P	**P**	**08 15 56.3**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0						
WUAZ	**Wupatki**	**53.53**	**307**	⇑P	**P**	**08 15 56.6**	**+0.6**
	baz=53,SNR=11						
115A	**Sonoran Desert**	**53.57**	**303**	⇓P	**P**	**08 15 56.1**	**-0.1**
	baz=53						
LIC	**Lamto**	**53.65**	**90**	*e*P	**P**	**08 15 55.5**	**-1.3**
	comp=Z,24nm,0.7s,mb4.9						
LIC				*e*MLR			
	comp=Z,131nm,22.8s						
LIC	**Lamto**	**53.65**	**90**	*e*P	**P**	**08 15 55.5**	**-1.3**
	comp=Z,12nm,0.7s,mb4.9						
LIC				LR	LR		
	comp=Z,70nm,22.8s,MS3.7						
LAO	**LASA Array**	**53.83**	**321**	*e*P	**P**	**08 15 58.7**	**+0.6**
	comp=Z,8.8nm,0.6s,mb4.9						
SRU	**San Rafael**	**53.88**	**311**	*e*P	**P**	**08 15 58.8**	**+0.3**
X15A	**Humboldt**	**53.97**	**305**	⇓P	**P**	**08 15 59.6**	**+0.4**

	baz=54,SNR=7.5						
W15A	**Williams**	**54.15**	**306**	⇓P	**P**	**08 16 01.3**	**+0.8**
	baz=54						
Z14A	**Wintersburg**	**54.30**	**304**	⇑P	**P**	**08 16 01.6**	**+0.1**
	baz=54						
BW06	**Boulder Array**	**54.41**	**316**	*e*P	**P**	**08 16 02.2**	**-0.2**
	comp=Z,17nm,0.9s,mb5.0						
PDAR	**Pinedale Array**	**54.41**	**316**	P	**P**	**08 16 02.2**	**-0.1**
	comp=Z,11nm,0.7s,mb4.9,baz=118,slow=9.6,SNR=88						
TMUT	**Trail Mountain**	**54.44**	**311**	*e*P	**P**	**08 16 02.8**	**+0.1**
Y14A	**Wickenburg**	**54.47**	**304**	⇓P	**P**	**08 16 02.7**	**-0.1**
	baz=54,SNR=7.3						
X14A	**Yava**	**54.49**	**305**	⇑P	**P**	**08 16 03.4**	**+0.4**
	baz=54,SNR=8.9						
MDT	**Midelt**	**54.77**	**57**	P	**P**	**08 16 08.0**	**+3.0**
	comp=Z,1.5nm,0.8s,mb4.1,baz=212,slow=9.5,SNR=3.0						
MDT				LR	LR	08 33 58.7	
	comp=Z,59nm,19.8s,MS3.7,baz=297,slow=30						
W14A	**Seligman**	**54.81**	**306**	⇓P	**P**	**08 16 05.9**	**+0.7**
	baz=54,SNR=5.7						
DAU	**Daniels Canyon**	**54.82**	**312**	*e*P	**P**	**08 16 05.9**	**+0.5**
DAU				*e*pP	pP	08 16 16.9	+10
MSU	**Marysvale**	**54.94**	**310**	*e*P	**P**	**08 16 06.8**	**+0.6**
MPU	**Maple Canyon**	**54.97**	**312**	*e*P	**P**	**08 16 06.7**	**+0.2**
JLU	**Jordanelle**	**55.02**	**313**	*e*P	**P**	**08 16 07.5**	**+0.7**
RLMT	**Red Lodge**	**55.10**	**319**	*e*P	**P**	**08 16 07.5**	**+0.1**
	comp=Z,15nm,1.0s,mb5.0						
FCC	**Fort Churchill**	**55.10**	**339**	*e*P	**P**	**08 16 07.0**	**-0.4**
FCC				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
FCC	**Fort Churchill**	**55.10**	**339**	*e*P	**P**	**08 16 07.0**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.8						
CTU	**Camp Tracy**	**55.26**	**313**	*e*P	**P**	**08 16 08.9**	**+0.3**
	comp=Z,5.6nm,0.6s,mb4.8						
CTU				*e*pP	pP	08 16 20.6	+11
X13A	**Yucca**	**55.27**	**305**	⇑P	**P**	**08 16 08.8**	**+0.2**
	baz=55						
NLU	**North Lily Min**	**55.28**	**312**	*e*P	**P**	**08 16 09.2**	**+0.6**
HWUT	**Hardware Ranch**	**55.42**	**314**	*e*P	**P**	**08 16 09.7**	**0.0**
	comp=Z,11nm,0.8s,mb5.0						
W13A	**Hualapai Mount**	**55.42**	**306**	⇑P	**P**	**08 16 10.6**	**+0.9**
	baz=55,SNR=16						
LOHW	**Long Hollow**	**55.43**	**316**	*e*P	**P**	**08 16 09.9**	**+0.1**
	comp=Z,23nm,1.3s,mb5.0						
PDMCI	**Parker Dam,Lak**	**55.46**	**305**	⇓P	**P**	**08 16 09.6**	**-0.3**
	baz=55						
REDW	**Red Top Meadow**	**55.51**	**316**	*e*P	**P**	**08 16 10.3**	**0.0**
	comp=Z,29nm,1.2s,mb5.2						
MOOW	**Moose Ponds**	**55.57**	**316**	*e*P	**P**	**08 16 10.6**	**-0.2**
CCUT	**Cedar City**	**55.59**	**309**	*e*P	**P**	**08 16 11.1**	**+0.2**
GCMT	**Greycliff**	**55.62**	**319**	*e*P	**P**	**08 16 11.1**	**-0.1**
GCMT				*e*pP	pP	08 16 23.0	+10
Y12C	**Blythe**	**55.66**	**304**	⇓P	**P**	**08 16 11.4**	**0.0**
	baz=55						
ARUT	**Antelope Range**	**55.71**	**309**	*e*P	**P**	**08 16 12.3**	**+0.6**
ARUT				*e*pP	pP	08 16 24.9	+12
DCID1	**Drake Creek**	**55.81**	**316**	*e*P	**P**	**08 16 12.8**	**+0.3**
YFT	**Old Faithful**	**55.88**	**317**	*e*P	**P**	**08 16 15.6**	**+2.6**
DUG	**Dugway**	**55.89**	**312**	*e*P	**P**	**08 16 13.3**	**+0.2**
DUG				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
DUG	**Dugway**	**55.89**	**312**	*e*P	**P**	**08 16 13.2**	**+0.2**
	comp=Z,14nm,0.6s,mb5.2						
DUG	**Dugway**	**55.89**	**312**	⇑P	**P**	**08 16 13.2**	**+0.2**
	baz=56,SNR=21						
YMR	**Madison River**	**56.05**	**317**	*e*P	**P**	**08 16 15.1**	**+0.9**
	comp=Z,18nm,1.2s,mb5.0						
U12A	**Valley of Fire**	**56.24**	**307**	⇑P	**P**	**08 16 16.2**	**+0.6**
	baz=56,SNR=8.5						
IRM	**Iron Mountain**	**56.25**	**304**	⇓P	**P**	**08 16 16.1**	**+0.4**
	baz=56,SNR=7.7						
W12A	**Cal Nev Ari**	**56.26**	**306**	⇓P	**P**	**08 16 16.2**	**+0.5**
	baz=56,SNR=17						
BGU	**Big Grassy Mou**	**56.26**	**313**	*e*P	**P**	**08 16 15.7**	**0.0**
V12A	**Nelson**	**56.33**	**306**	⇓P	**P**	**08 16 16.6**	**+0.3**
	baz=56,SNR=9.9						
HVU	**Hansel Valley**	**56.33**	**314**	*e*P	**P**	**08 16 15.9**	**-0.3**
HVU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
HVU	**Hansel Valley**	**56.33**	**314**	*e*P	**P**	**08 16 15.9**	**-0.3**
	comp=Z,7.3nm,0.6s,mb4.9						
BC3	**Big Chuckw Mtn**	**56.41**	**304**	⇓P	**P**	**08 16 16.8**	**+0.1**
	baz=56						
QLMT	**Earthquake Lak**	**56.41**	**317**	*e*P	**P**	**08 16 18.5**	**+1.7**
SWSC	**Sam W. Stewart**	**56.56**	**303**	⇓P	**P**	**08 16 17.5**	**-0.4**
	baz=56						
EGMT	**Eagleton**	**56.57**	**322**	⇓P	**P**	**08 16 18.3**	**+0.4**
	baz=56						
SHPR	**Sheep Range**	**56.74**	**307**	*e*P	**P**	**08 16 19.7**	**+0.6**
GMRC	**Granite Mounta**	**56.79**	**305**	⇓P	**P**	**08 16 19.9**	**+0.4**
	baz=56						
V11A	**Goodsprings**	**56.81**	**306**	⇓P	**P**	**08 16 20.2**	**+0.5**
	baz=56						
BOZ	**Bozeman (W)**	**56.84**	**318**	*e*P	**P**	**08 16 20.1**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
BOZ	**Bozeman (W)**	**56.84**	**318**	*e*P	**P**	**08 16 20.1**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
BOZ				*e*pP	pP	08 16 32.0	+11
ESDC	**Sonseca Array**	**56.85**	**49**	P	**P**	**08 16 19.9**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=260,slow=7.2,SNR=5.5						
U11A	**Corn Creek**	**56.90**	**307**	⇓P	**P**	**08 16 21.0**	**+0.7**
	baz=57						
BELC	**Belle Mtn.**	**56.92**	**304**	⇑P	**P**	**08 16 20.3**	**-0.1**
	baz=57						
MONP	**Monument Peak**	**57.07**	**303**	⇓P	**P**	**08 16 22.0**	**+0.5**
	baz=57,SNR=10						
Q12A	**Willow Creek R**	**57.08**	**310**	⇑P	**P**	**08 16 22.0**	**+0.4**
	baz=57,SNR=6.4						
N13A	**Wendover, West**	**57.09**	**312**	⇓P	**P**	**08 16 21.9**	**+0.3**
	baz=57,SNR=9.0						
TUQ	**Turquoise Mtn.**	**57.13**	**306**	⇑P	**P**	**08 16 22.2**	**+0.3**
	baz=57						
M13A	**Montello**	**57.21**	**313**	P	**P**	**08 16 22.5**	**+0.1**
	baz=57,SNR=18						
PFO	**Pinyon Flat Ob**	**57.22**	**303**	⇑P	**P**	**08 16 22.3**	**-0.2**
	baz=57						
G15A	**Dillon**	**57.23**	**318**	⇓P	**P**	**08 16 23.0**	**+0.4**
	baz=57,SNR=6.9						
P12A	**McGill**	**57.25**	**310**	⇑P	**P**	**08 16 23.1**	**+0.3**
	baz=57						
O12A	**Currie**	**57.33**	**311**	P	**P**	**08 16 23.8**	**+0.5**
	baz=57,SNR=19						
HEC	**Hector,Ludlow**	**57.34**	**305**	⇑P	**P**	**08 16 24.0**	**+0.7**
	baz=57						
MCMT	**McKenzie Canyo**	**57.36**	**317**	*e*P	**P**	**08 16 23.8**	**+0.3**
MCMT				*e*pP	pP	08 16 36.3	+11
LRM	**Limekiln Ridge**	**57.44**	**318**	*e*P	**P**	**08 16 25.0**	**+0.9**
F15A	**Butte**	**57.47**	**318**	⇓P	**P**	**08 16 24.9**	**+0.5**
	baz=57,SNR=9.3						
SHOC	**Shoshone**	**57.50**	**306**	⇑P	**P**	**08 16 24.7**	**+0.2**
	baz=57,SNR=7.2						
109C	**Camp Elliot, M**	**57.64**	**302**	⇓P	**P**	**08 16 25.3**	**-0.1**
	baz=57						
U10A	**Ash Meadows, A**	**57.65**	**307**	⇓P	**P**	**08 16 26.4**	**+0.8**
	baz=57,SNR=6.8						
Q11A	**Duckwater**	**57.66**	**310**	⇑P	**P**	**08 16 25.8**	**+0.2**
	baz=57,SNR=8.7						
N12A	**Clover Valley,**	**57.70**	**312**	P	**P**	**08 16 26.3**	**+0.4**
	baz=57,SNR=10						
M12A	**Wells**	**57.76**	**313**	⇑P	**P**	**08 16 26.5**	**+0.2**
	baz=57,SNR=16						
E15A	**Deer Lodge**	**57.77**	**319**	⇑P	**P**	**08 16 26.6**	**+0.1**
	baz=58						
GSC	**Goldstone**	**57.81**	**305**	*e*P	**P**	**08 16 27.3**	**+0.6**
GSC	**Goldstone**	**57.81**	**305**	⇓P	**P**	**08 16 27.0**	**+0.3**
	baz=58,SNR=9.3						
MURC	**Murrieta**	**57.83**	**303**	⇑P	**P**	**08 16 26.4**	**-0.5**
	baz=58						
P11A	**Circle Ranch,**	**57.90**	**310**	⇑P	**P**	**08 16 27.5**	**+0.1**
	baz=58						
D15A	**Lincoln**	**57.92**	**320**	⇓P	**P**	**08 16 27.8**	**+0.4**
	baz=58,SNR=12						
O11A	**Cowboy Ranch,**	**57.97**	**311**	⇓P	**P**	**08 16 28.3**	**+0.4**
	baz=58,SNR=18						
HLID	**Hailey**	**58.02**	**315**	*e*P	**P**	**08 16 28.5**	**+0.3**
	comp=Z,13nm,0.7s,mb5.1						
HLID				*e*pP	pP	08 16 41.0	+11
HLID				*e*PP	PP	08 18 35.6	-1.0
HLID	**Hailey**	**58.02**	**315**	⇑P	**P**	**08 16 28.6**	**+0.4**
	baz=58,SNR=30						
F14A	**Wisdom**	**58.04**	**318**	⇑P	**P**	**08 16 28.6**	**+0.3**
	baz=58,SNR=6.6						
FURC	**Furnace Creek,**	**58.08**	**307**	⇑P	**P**	**08 16 29.2**	**+0.7**
	baz=58,SNR=11						
N11A	**Elko Archery C**	**58.20**	**312**	⇑P	**P**	**08 16 29.7**	**+0.2**
	baz=58						

BFSC	**Mount Baldy St**	**58.31**	**304**	⇑P	**P**	**08 16 30.0**	**-0.2**
	baz=58						
E14A	**Clinton**	**58.32**	**319**	⇓P	**P**	**08 16 30.8**	**+0.5**
	baz=58,SNR=6.3						
CHMT	**Chamberlain Mo**	**58.34**	**319**	*e*P	**P**	**08 16 31.1**	**+0.7**
M11A	**Holland Ranch,**	**58.40**	**312**	⇑P	**P**	**08 16 31.3**	**+0.5**
	baz=58,SNR=17						
P10A	**Eureka**	**58.45**	**310**	⇓P	**P**	**08 16 31.2**	**0.0**
	baz=58						
MPMC	**Manual Prospec**	**58.50**	**306**	⇑P	**P**	**08 16 31.7**	**+0.2**
	baz=58,SNR=9.7						
LRMC	**Laurel Mountai**	**58.55**	**305**	⇑P	**P**	**08 16 32.2**	**+0.3**
	baz=58,SNR=11						
D14A	**Greenough**	**58.56**	**319**	P	**P**	**08 16 32.2**	**+0.2**
	baz=58,SNR=7.1						
GRAC	**Grapevine Rang**	**58.58**	**307**	⇑P	**P**	**08 16 32.7**	**+0.6**
	baz=58						
R09A	**Tonopah**	**58.60**	**309**	⇑P	**P**	**08 16 32.5**	**+0.3**
	baz=58,SNR=8.3						
S09A	**Goldfield**	**58.61**	**308**	⇓P	**P**	**08 16 32.6**	**+0.2**
	baz=58,SNR=14						
O10A	**Cortez Mining,**	**58.64**	**311**	⇓P	**P**	**08 16 32.6**	**+0.1**
	baz=58						
F13A	**Darby**	**58.67**	**318**	P	**P**	**08 16 32.9**	**+0.2**
	baz=58,SNR=9.1						
EDW2	**Edwards Air Fo**	**58.69**	**305**	⇓P	**P**	**08 16 33.0**	**+0.1**
	baz=58,SNR=14						
FMP	**Fort Macarthur**	**58.75**	**303**	⇑P	**P**	**08 16 32.7**	**-0.5**
	baz=58						
E13A	**Victor**	**58.79**	**318**	⇓P	**P**	**08 16 33.9**	**+0.4**
	baz=58,SNR=12						
CIS	**Catalina Islan**	**58.80**	**303**	⇓P	**P**	**08 16 33.9**	**+0.3**
	baz=58						
Q09A	**Carvers**	**58.81**	**309**	⇓P	**P**	**08 16 34.1**	**+0.4**
	baz=58						
SCI	**San Clemente I**	**58.85**	**302**	⇑P	**P**	**08 16 33.9**	**-0.1**
	baz=58						
DECC	**Green Verdugo**	**58.86**	**304**	⇓P	**P**	**08 16 34.0**	**-0.1**
	baz=58						
P09A	**Austin**	**58.94**	**310**	⇑P	**P**	**08 16 34.6**	**0.0**
	baz=59						
M10A	**I.L. Ranch, Tu**	**58.97**	**312**	⇑P	**P**	**08 16 35.1**	**+0.3**
	baz=59						
CWC	**Cottonwood Cre**	**59.03**	**306**	⇓P	**P**	**08 16 35.5**	**+0.2**
	baz=59						
O09A	**Fish Creek Ran**	**59.12**	**311**	P	**P**	**08 16 36.3**	**+0.5**
	baz=59,SNR=19						
D13A	**Huson**	**59.18**	**319**	⇓P	**P**	**08 16 36.3**	**+0.1**
	baz=59,SNR=7.7						
I11A	**Placerville**	**59.20**	**315**	⇓P	**P**	**08 16 36.3**	**-0.1**
	baz=59,SNR=34						
ISA	**Isabella**	**59.21**	**305**	*e*P	**P**	**08 16 37.1**	**+0.6**
ISA	**Isabella**	**59.21**	**305**	⇑P	**P**	**08 16 37.0**	**+0.5**
	baz=59,SNR=5.2						
OSI	**Osito Adit**	**59.24**	**304**	⇓P	**P**	**08 16 36.4**	**-0.3**
	baz=59						
S08C	**White Mtn Res**	**59.30**	**308**	P	**P**	**08 16 38.4**	**+1.2**
	baz=59,SNR=17						
Q08A	**Gabbs**	**59.39**	**309**	P	**P**	**08 16 37.8**	**+0.1**
	baz=59,SNR=12						
ARVC	**Arvin**	**59.41**	**305**	⇑P	**P**	**08 16 38.3**	**+0.5**
	baz=59						
R08A	**Mina**	**59.42**	**309**	⇑P	**P**	**08 16 38.0**	**+0.1**
	baz=59						
BLG	**Laguna Peak**	**59.44**	**304**	⇓P	**P**	**08 16 37.8**	**-0.3**
	baz=59						
C13A	**Hot Springs**	**59.45**	**320**	⇑P	**P**	**08 16 38.3**	**+0.2**
	baz=59,SNR=6.5						
H11A	**Donnelly**	**59.46**	**316**	P	**P**	**08 16 38.0**	**-0.3**
	baz=59,SNR=8.0						
TOA0	**Torodi Ar. Sit**	**59.51**	**81**	*e*P	**P**	**08 16 36.3**	**-2.3**
TORD	**Torodi Ar. Bea**	**59.51**	**81**	P	**P**	**08 16 36.4**	**-2.1**
	comp=Z,1.2nm,0.7s,mb4.1,baz=274,slow=5.8,SNR=9.0						
WALA	**Waterton Lakes**	**59.52**	**321**	*e*P	**P**	**08 16 38.5**	**-0.1**
	comp=Z,8.3nm,1.0s,mb4.7						
N09A	**Rock Creek Ran**	**59.53**	**311**	⇑P	**P**	**08 16 38.9**	**+0.3**
	baz=59,SNR=5.8						
NVAR	**Mina Array Bea**	**59.59**	**309**	P	**P**	**08 16 39.5**	**+0.4**
	comp=Z,3.7nm,0.6s,mb4.6,baz=103,slow=7.0,SNR=28						
NVAR	**Mina Array Bea**	**59.59**	**309**	P	**P**	**08 16 39.5**	**+0.4**
M09A	**Marrel Ranch,**	**59.61**	**312**	⇓P	**P**	**08 16 39.6**	**+0.3**
	baz=59,SNR=12						
B13A	**Whitefish**	**59.62**	**321**	⇓P	**P**	**08 16 39.3**	**0.0**
	baz=59						
J10A	**Berg Farm, Mel**	**59.63**	**315**	⇓P	**P**	**08 16 38.9**	**-0.4**
	baz=59,SNR=7.0						
VES	**Vestal, Richgr**	**59.73**	**305**	⇑P	**P**	**08 16 40.0**	**-0.1**
	baz=59						
SJPF	**Ste Jean**	**59.74**	**46**	*e*P	**P**	**08 16 38.9**	**-1.2**
	comp=Z,15nm,0.7s,mb4.8						
SJPF	**Ste Jean**	**59.74**	**46**	*e*P	**P**	**08 16 38.9**	**-1.2**
SJPF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
SJPF	**Ste Jean**	**59.74**	**46**	*e*P	**P**	**08 16 38.9**	**-1.2**
	comp=Z,7.5nm,0.7s,mb4.8						
HELL	**Mitchell Peak,**	**59.83**	**306**	⇓P	**P**	**08 16 41.0**	**+0.3**
	baz=60,SNR=17						
MLAC	**Mammoth Lakes**	**59.85**	**308**	⇑P	**P**	**08 16 41.4**	**+0.6**
	baz=60						
BSC	**Santa Cruz Isl**	**59.90**	**303**	⇓P	**P**	**08 16 41.5**	**+0.3**
	baz=60						
L09A	**Wilkinson Ranc**	**59.91**	**313**	P	**P**	**08 16 41.8**	**+0.5**
	baz=60,SNR=14						
H10A	**Noah's Angus R**	**59.93**	**316**	⇑P	**P**	**08 16 40.7**	**-0.7**
	baz=60,SNR=12						
RCTC	**Rector, Farmer**	**59.93**	**306**	⇓P	**P**	**08 16 41.2**	**-0.3**
	baz=60						
N08A	**GE Springer Mi**	**59.96**	**311**	⇓P	**P**	**08 16 41.7**	**+0.1**
	baz=60,SNR=6.6						
Q07A	**Schurz**	**60.08**	**309**	⇑P	**P**	**08 16 42.5**	**+0.1**
	baz=60						
E11A	**Bogner Ranch,**	**60.09**	**318**	P	**P**	**08 16 42.4**	**-0.1**
	baz=60,SNR=24						
R07C	**Lee Vining**	**60.10**	**308**	⇑P	**P**	**08 16 43.3**	**+0.7**
	baz=60						
K09A	**Rome**	**60.12**	**313**	⇓P	**P**	**08 16 42.9**	**+0.2**
	baz=60,SNR=13						
ETSF	**Etsaut**	**60.16**	**46**	*e*P	**P**	**08 16 42.0**	**-1.0**
	comp=Z,12nm,0.8s,mb4.7						
ETSF	**Etsaut**	**60.16**	**46**	*e*P	**P**	**08 16 42.0**	**-1.0**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ETSF	**Etsaut**	**60.16**	**46**	*e*P	**P**	**08 16 42.0**	**-1.0**
	comp=Z,6.2nm,0.8s,mb4.7						
KCC	**Kaiser Creek**	**60.17**	**307**	⇓P	**P**	**08 16 42.4**	**-0.6**
	baz=60						
PKM	**Peak Mountain**	**60.18**	**304**	⇑P	**P**	**08 16 43.5**	**+0.4**
	baz=60						
J09A	**Fry Pan Ranch,**	**60.30**	**314**	⇓P	**P**	**08 16 44.3**	**+0.3**
	baz=60						
B12A	**Libby**	**60.36**	**320**	⇑P	**P**	**08 16 44.5**	**+0.2**
	baz=60						
D11A	**Klaveano Farm,**	**60.38**	**319**	P	**P**	**08 16 44.4**	**-0.1**
	baz=60,SNR=8.9						
O07A	**Toulon**	**60.38**	**310**	⇓P	**P**	**08 16 44.1**	**-0.4**
	baz=60						
SMMC	**Simmler**	**60.38**	**305**	⇑P	**P**	**08 16 44.9**	**+0.4**
	baz=60						
BMO	**Blue Mountains**	**60.39**	**316**	*e*P	**P**	**08 16 44.0**	**-0.6**
BMO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
BMO	**Blue Mountains**	**60.39**	**316**	*e*P	**P**	**08 16 44.0**	**-0.6**
	comp=Z,12nm,1.1s,mb4.8						
V05C	**Boulder Hill,**	**60.39**	**305**	⇑P	**P**	**08 16 44.6**	**0.0**
	baz=60						
T06C	**Millerton Lake**	**60.42**	**307**	⇑P	**P**	**08 16 44.1**	**-0.7**
	baz=60						
L08A	**Fields**	**60.44**	**313**	⇑P	**P**	**08 16 44.7**	**-0.2**
	baz=60,SNR=21						
I09A	**Lost Marbles R**	**60.45**	**315**	⇑P	**P**	**08 16 44.8**	**-0.2**
	baz=60						
N07B	**Gerlach**	**60.58**	**311**	⇑P	**P**	**08 16 45.5**	**-0.3**
	baz=60						
H09A	**Durkee**	**60.58**	**316**	⇓P	**P**	**08 16 45.6**	**-0.3**
	baz=60,SNR=6.5						
F10A	**Beach Ranch, E**	**60.65**	**317**	⇑P	**P**	**08 16 46.0**	**-0.4**
	baz=60						
K08A	**Mann Creek Ran**	**60.67**	**313**	⇓P	**P**	**08 16 46.5**	**0.0**
	baz=60,SNR=5.8						
S06C	**San Francisco**	**60.68**	**308**	⇑P	**P**	**08 16 46.8**	**+0.2**
	baz=60						
WVOR	**Wild Horse Val**	**60.71**	**313**	*e*P	**P**	**08 16 46.8**	**+0.1**
WVOR				*e*		08 19 03.3	
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
WVOR	**Wild Horse Val**	**60.71**	**313**	*e*P	**P**	**08 16 46.8**	**+0.1**
	comp=Z,5.6nm,1.0s,mb4.7						
WVOR				*e*pP	pP	08 16 58.5	+10

WVOR *e*PP PP 08 19 03.2 +2.8
E10A Myers Farm, Un 60.72 318 ⇑P P 08 16 46.2 -0.6
baz=60
EDM Edmonton 60.79 326 *e*P P 08 16 46.6 -0.7
J08A Circle Bar Ran 60.81 314 ⇓P P 08 16 47.0 -0.5
baz=60,SNR=12
EPF Esparros 60.83 46 *e*P P 08 16 48.0 +0.4
comp=Z,12nm,0.6s,mb4.9
EPF Esparros 60.83 46 *e*P P 08 16 48.0 +0.4
EPF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
EPF Esparros 60.83 46 *e*P P 08 16 48.0 +0.4
comp=Z,6.1nm,0.6s,mb4.9
WCN Washoe City 60.87 309 ⇓P P 08 16 48.5 +0.6
baz=60
S05C Merced 60.97 307 ⇑P P 08 16 48.1 -0.4
baz=61
D10A Wagner Farm, O 60.99 318 P P 08 16 48.0 -0.6
baz=61,SNR=8.5
A11A Hall Mountain, 61.00 321 P P 08 16 49.4 +0.6
baz=61,SNR=5.5
R05C Kirkwood Meado 61.01 309 ⇑P P 08 16 49.7 +1.0
baz=61,SNR=7.2
I08A Drewsey 61.02 315 ⇑P P 08 16 48.8 -0.1
baz=61
F09A S2 Ranch, Elgi 61.03 317 P P 08 16 49.2 +0.2
baz=61,SNR=7.0
O06A Flanigan 61.09 310 ⇑P P 08 16 48.8 -0.5
baz=61
L07A Adell 61.12 312 ⇑P P 08 16 49.6 +0.1
baz=61
CMB Columbia Colle 61.13 308 ⇑P P 08 16 49.1 -0.5
baz=61
U04C Hernandez Rese 61.17 306 ⇓P P 08 16 49.6 -0.3
baz=61
K07A Rock Creek Ran 61.21 313 ⇓P P 08 16 50.2 +0.1
baz=61
N06A Buffalo Meadow 61.22 311 ⇓P P 08 16 49.9 -0.3
baz=61
H08A Prairie City 61.24 315 P P 08 16 50.8 +0.4
baz=61,SNR=13
C10A Spilker Farm, 61.24 319 ⇓P P 08 16 50.0 -0.4
baz=61
NEW Newport 61.26 320 LR LR 08 44 08.3
comp=Z,148nm,19.8s,MS4.1,baz=247,slow=37
NEW Newport 61.26 320 *e*P P 08 16 50.1 -0.4
NEW pmax pmax
comp=Z,15nm,0.7s
NEW Newport 61.26 320 *e*P P 08 16 50.1 -0.4
comp=Z,15nm,0.7s,mb5.2
B10A Chitwood Farm, 61.34 320 ⇑P P 08 16 50.8 -0.3
baz=61
LRV Little Rabbit 61.37 306 *e*P P 08 16 51.7 +0.4
J07A Hines 61.41 314 ⇑P P 08 16 51.9 +0.4
baz=61
BEKR Beckwourth 61.44 310 ⇓P P 08 16 51.6 -0.1
baz=61
P05C Yuba Gap, Truc 61.52 309 ⇓P P 08 16 52.5 +0.3
baz=61
LAVA Lava Cap Winer 61.53 309 ⇓P P 08 16 52.7 +0.4
baz=61
R04C Big Horse Ranc 61.59 308 ⇑P P 08 16 53.4 +0.6
baz=61
G08A Pilot Rock 61.63 316 P P 08 16 53.0 -0.1
baz=61,SNR=8.8
F08A Pendleton 61.64 317 ⇑P P 08 16 52.7 -0.4
baz=61,SNR=7.3
PACP Pacheco Peak 61.67 306 ⇓P P 08 16 53.3 0.0
baz=61
D09A Jones Farm, Ri 61.67 318 ⇑P P 08 16 53.0 -0.3
baz=61
I07A Izee 61.71 315 ⇓P P 08 16 53.7 +0.2
baz=61,SNR=18
S04C Ingram Canyon, 61.78 307 ⇑P P 08 16 53.8 -0.2
baz=61
M06C Likely Place G 61.78 311 ⇓P P 08 16 54.0 -0.1
baz=61
HAST UC Hastings Re 61.79 306 ⇓P P 08 16 53.9 -0.1
baz=61
MOD Modoc 61.80 312 *e*P P 08 16 53.6 -0.5
comp=Z,3.0nm,0.6s,mb4.6
MOD Modoc 61.80 312 P P 08 16 54.1 0.0
baz=62,SNR=5.9
C09A Chrisman Ranch 61.86 319 ⇓P P 08 16 54.4 -0.1
baz=62
H07A Lands Inn, Kim 61.88 315 ⇑P P 08 16 54.4 -0.3
baz=62
O05C Quincy 61.88 310 ⇑P P 08 16 54.9 +0.2
baz=62
K06A Valley Falls 61.95 313 ⇓P P 08 16 55.3 +0.2
baz=62
B09A Rice 61.96 320 ⇓P P 08 16 55.2 0.0
baz=62,SNR=7.7
J06A Christmas Vall 61.98 314 P P 08 16 55.6 +0.2
baz=62,SNR=16
E08A Dider Farm, El 62.01 317 ⇓P P 08 16 55.4 -0.2
baz=62
OD2 Odessa Site #2 62.03 318 P P 08 16 55.8 +0.1
D08A Wollman Farm, 62.07 318 ⇑P P 08 16 55.8 -0.2
baz=62
G07A Ruggs Ranch, H 62.11 316 P P 08 16 56.5 +0.3
baz=62,SNR=5.0
WENL Wente Brothers 62.13 307 ⇑P P 08 16 56.7 +0.3
baz=62
I06A Prineville 62.18 314 P P 08 16 57.2 +0.6
baz=62,SNR=9.2
OHCM Honcut 62.20 309 *e*P P 08 16 57.5 +0.7
L05A Lakeview 62.22 312 ⇑P P 08 16 57.5 +0.6
baz=62
ORV Oroville 62.25 309 ⇑P P 08 16 56.9 -0.2
baz=62
HAWA Hanford 62.30 317 *e*P P 08 16 57.4 -0.2
comp=Z,6.1nm,0.8s,mb4.8
M05C Lookout 62.31 311 ⇓P P 08 16 57.2 -0.4
baz=62
C08A Higginbotham F 62.35 319 P P 08 16 57.8 -0.1
baz=62,SNR=7.4
LBCM Butte Creek Ri 62.36 311 P P 08 16 57.9 0.0
K05A Summer Lake 62.40 313 P P 08 16 59.0 +0.9
baz=62,SNR=20
A09A Danville 62.40 320 ⇓P P 08 16 57.6 -0.6
baz=62
SNIWA Snively Ranch 62.41 317 P P 08 16 58.6 +0.4
HATC Hat Creek Radi 62.44 311 ⇓P P 08 16 58.7 +0.2
baz=62
F07A Phinny Hill Vi 62.44 317 P P 08 16 58.9 +0.4
baz=62,SNR=5.3
H06A Lindquist Farm 62.44 315 ⇓P P 08 16 59.1 +0.6
baz=62
E07A Sunnyside 62.56 317 P P 08 16 59.5 +0.2
baz=62,SNR=5.6
EKA Eskdalemuir Ar 62.58 32 P P 08 16 59.1 -0.2
comp=Z,1.7nm,0.9s,mb4.2,baz=259,slow=6.4,SNR=3.6
VIPM Ingram Point 62.59 315 P P 08 17 00.4 +1.0
B08A Colville Reser 62.70 319 P P 08 16 59.6 -0.6
baz=62,SNR=5.4
O03C Acorn Hollow, 62.73 310 ⇑P P 08 17 00.2 -0.1
baz=62
J05A Fort Rock 62.76 313 P P 08 17 01.4 +0.9
baz=62,SNR=13
G06A Carlson Farm, 62.77 316 P P 08 17 01.4 +0.8
baz=62,SNR=5.6
CVS Carmenet Viney 62.79 308 ⇑P P 08 17 01.2 +0.5
baz=62
D07A Quincy 62.80 318 P P 08 17 01.1 +0.2
baz=62,SNR=13
A08A Turner Farm, O 62.83 320 ⇓P P 08 17 01.1 +0.1
baz=62
MNRC McLaughlin Nat 62.86 308 ⇑P P 08 17 01.6 +0.4
baz=62
MXC Moxie City 62.86 317 P P 08 17 02.0 +0.8
M04C Macdoel 62.90 312 P P 08 17 02.1 +0.6
baz=63,SNR=14
K04A Chilquin 62.98 313 ⇑P P 08 17 02.5 +0.5
baz=63
L04A Klamath Falls 63.01 312 ⇑P P 08 17 03.2 +1.0
baz=63
M03C McCloud 63.02 311 ⇑P P 08 17 02.7 +0.4
baz=63
H05A Madras 63.05 315 ⇓P P 08 17 03.7 +1.2
baz=63
TBM Table Mountain 63.21 318 P P 08 17 04.2 +0.6
B07A Winthrop 63.23 319 P P 08 17 03.7 0.0
baz=63,SNR=16
G05A Wamic 63.24 316 P P 08 17 04.7 +0.9
baz=63,SNR=5.1
BUOR Burton Butte 63.29 312 P P 08 17 04.4 +0.3
E06A Yakima 63.31 317 ⇑P P 08 17 04.7 +0.4
baz=63
J04A Umpqua Nationa 63.38 313 P P 08 17 05.5 +0.8
baz=63,SNR=13
D06A Cle Elum 63.38 318 P P 08 17 05.4 +0.7
baz=63,SNR=6.5
F05A White Salmon 63.48 316 ⇓P P 08 17 06.0 +0.7
baz=63
HOOD Mount Hood Mea 63.49 316 *e*P P 08 17 06.5 +1.1
YBH Yreka Blue Hor 63.53 312 *e*P P 08 17 04.5 -1.2
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 63.53 312 *e*P P 08 17 04.5 -1.2
comp=Z,5.4nm,0.8s,mb4.6
YBH Yreka Blue Hor 63.53 312 P P 08 17 05.0 -0.7
baz=63,SNR=5.2
M02C Callahan 63.58 311 ⇓P P 08 17 05.5 -0.6
baz=63
I04A Tendick Farm, 63.70 314 ⇓P P 08 17 06.0 -0.8
baz=63
H04A Detroit Lake 63.72 315 P P 08 17 07.2 +0.2
baz=63,SNR=7.0
AVF Avril sur Loir 63.80 43 *e*P P 08 17 06.8 -0.7
N02C Big Bar 63.82 310 ⇑P P 08 17 07.3 -0.3
baz=64
E05A Randle 63.84 317 ⇓P P 08 17 07.3 -0.4
baz=64
HUMO Hull Mountain 63.87 312 *e*P P 08 17 06.8 -1.2
comp=Z,2.6nm,0.6s,mb4.4
HUMO Hull Mountain 63.87 312 ⇑P P 08 17 07.5 -0.4
baz=64
SSF Saint Saulge 63.97 43 *e*P P 08 17 07.8 -0.8
comp=Z,11nm,0.9s,mb4.5
SSF Saint Saulge 63.97 43 *e*P P 08 17 07.8 -0.8
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SSF Saint Saulge 63.97 43 *e*P P 08 17 07.8 -0.8
comp=Z,5.3nm,0.9s,mb4.6
C05A Tolt Reservoir 64.06 318 ⇓P P 08 17 10.1 +1.0
baz=64
SMF Signal de Mont 64.09 43 *e*P P 08 17 07.1 -2.3
O01C Eel River Cons 64.10 310 ⇓P P 08 17 10.1 +0.6
baz=64
B06A Marblemount 64.12 319 ⇑P P 08 17 09.2 -0.4
baz=64
D05A Enumclaw 64.13 318 ⇓P P 08 17 11.3 +1.7
baz=64
LOR Lormes 64.25 42 *e*P P 08 17 09.6 -0.8
comp=Z,8.5nm,0.7s,mb4.6
LOR *e*MLR
comp=Z,209nm,18.8s
LOR Lormes 64.25 42 *e*P P 08 17 09.6 -0.8
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LOR MLR MLR
comp=Z,210nm,18.8s,MS4.3
LOR Lormes 64.25 42 *e*P P 08 17 09.6 -0.8
comp=Z,4.3nm,0.7s,mb4.6
LOR LR LR
comp=Z,210nm,18.8s,MS4.3
K02A Glendale 64.28 313 ⇑P P 08 17 10.2 -0.5
baz=64
JCW Jim Creek 64.33 319 P P 08 17 09.3 -1.7
J02A Umpqua 64.45 313 ⇑P P 08 17 11.4 -0.3
baz=64
B05A Bryant 64.46 319 ⇓P P 08 17 10.6 -1.1
baz=64
E04A Onalaska 64.49 317 ⇑P P 08 17 12.0 -0.1
baz=64
H03A Soap Creek Ran 64.49 315 ⇓P P 08 17 12.2 +0.2
baz=64
G03A Yamhill 64.61 315 ⇓P P 08 17 13.2 +0.4
baz=64
A05A Maple Falls 64.63 320 ⇓P P 08 17 12.5 -0.4
baz=64
I02A Mapleton 64.75 314 ⇓P P 08 17 13.3 -0.4
baz=64
C04A Brinnon 64.90 318 ⇑P P 08 17 14.3 -0.4
baz=65
F03A Seaside 64.92 316 ⇑P P 08 17 15.3 +0.5
baz=65
E03A Lebam 65.05 317 ⇓P P 08 17 16.0 +0.4
baz=65
YKA Yellowknife Ar 65.39 335 P P 08 17 16.1 -1.7
comp=Z,1.6nm,0.8s,mb4.1,baz=110,slow=7.4,SNR=11
YKA Yellowknife Ar 65.39 335 *i*P P 08 17 16.3 -1.6
YKA pmax pmax
comp=Z,2.0nm,0.8s
PGC Sidney 65.42 319 *e*P P 08 17 17.9 -0.2
comp=Z,20nm,0.7s,mb5.3
PGC *e*pP pP 08 17 29.2 +10
KEST Kesra 66.61 56 P P 08 17 25.9 +0.2
comp=Z,1.4nm,0.8s,mb4.0,baz=135,slow=1.4,SNR=2.4
CDF Champ du Feu 66.74 42 *e*P P 08 17 25.8 -0.7
comp=Z,20nm,0.9s,mb4.8
CDF Champ du Feu 66.74 42 *e*P P 08 17 25.8 -0.7
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 66.74 42 *e*P P 08 17 25.8 -0.7
comp=Z,10nm,0.9s,mb4.9
CLL Collm 70.86 39 *e*P P 08 18 02.0 +10
CLL Collm 70.86 39 *e*(sP) sP 08 18 02.0 +7.6
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 70.97 42⇓*e*P P 08 17 58.7 +5.8
GEC2 GERESS Array S 71.02 42 *e*P P 08 17 52.1 -1.1
GERES GERESS Array B 71.02 42 P P 08 17 52.0 -1.1
comp=Z,2.7nm,0.8s,mb4.2,baz=268,slow=5.2,SNR=11
BRG Berggiesshubel 71.40 40 *e*P P 08 18 05.4 +10
comp=Z,2.5nm,0.6s,mb4.3
NB2 NORSAR Subarra 71.56 29 P P 08 17 55.7 -0.7
comp=Z,2.7nm,0.9s,mb4.2,baz=254,slow=6.2
NOA NORSAR Array B 71.56 29 P P 08 17 55.6 -0.8
comp=Z,1.1nm,0.7s,mb3.9,baz=257,slow=5.8,SNR=3.3
PMSA Palmer Station 74.96 182 LR LR 08 51 48.4
comp=Z,122nm,19.0s,MS4.2,baz=14,slow=36
BZS Buzias 76.25 45⇓*i*P P 08 18 22.7 -1.3
DRGR 77.00 44⇑*i*P P 08 18 30.7 +2.6
ARCES ARCESS Array B 78.54 21 P P 08 18 35.6 -1.1
comp=Z,4.0nm,0.8s,mb4.4,baz=266,slow=3.6,SNR=11
BURAR Bucovina Array 78.67 43⇑*i*P P 08 18 37.4 -0.1
FINES FINESS Array B 78.73 29 P P 08 18 36.2 -1.6
comp=Z,2.1nm,0.7s,mb4.2,baz=213,slow=2.4,SNR=10.0
KAF Kangasniemi 78.83 29 *e*p P 08 18 36.3 -2.1
comp=Z,0.7nm,0.4s,mb3.9
KAF Kangasniemi 78.83 29 *e*P P 08 18 36.3 -2.1
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
VSU Vasula 79.14 32⇑*e*P P 08 18 47.3 +7.3
COLA College 80.20 334⇓*e*P P 08 18 50.3 +4.5
TSUM Tsumeb 81.05 111 LR LR 08 49 21.4
comp=Z,79nm,18.5s,MS4.1,baz=135,slow=32
AKASG Malin Array Be 81.08 40 P P 08 18 49.0 -1.6
comp=Z,0.1nm,0.2s,baz=285,slow=3.9,SNR=2.9
OBN Obninsk 84.88 35⇓*e*P P 08 19 18.6 +8.4
OBN *e*S S 08 29 40.4 +1.1
OBN pmax pmax
comp=Z,35nm,1.7s,mb5.2
BRTR Keskin Array B 85.62 51 P P 08 19 13.1 -0.9
comp=Z,0.5nm,0.6s,mb3.9,baz=272,slow=4.2,SNR=2.5
SUR Sutherland 87.10 123 LR LR 08 54 48.8
comp=Z,78nm,19.7s,MS4.1,baz=24,slow=33
SNAA Sanae 89.76 165 *e*P P 08 19 29.8 -4.0
SNAA pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 89.76 165 *e*P P 08 19 29.8 -4.0
comp=Z,2.1nm,0.6s,mb4.6
BOSA Boshof 90.01 119 P P 08 19 32.0 -3.0
comp=Z,1.4nm,0.6s,mb4.5,baz=276,slow=2.1,SNR=4.3
BOSA LR LR 08 59 21.1
comp=Z,65nm,19.7s,MS4.1,baz=94,slow=35
KIV Kislovodsk 91.30 45⇑*e*P P 08 19 48.2 +7.2
KIV *e*S SKSac 08 30 14.5 +0.5
KIV pmax pmax
comp=Z,28nm,2.5s,mb5.2
BILL Bilibino 95.46 344⇑*e*P P 08 19 59.3 -0.8
BILL *e*S SKSac 08 30 40.5 +3.6
BILL pmax pmax
comp=Z,12nm,1.7s,mb5.0
TIXI Tiksi 98.05 357⇓*e*P P 08 20 17.6 +5.7
MKAR Makanchi Array 113.54 28 PKKPbc PKKPbc 08 35 53.7 -3.5
comp=Z,0.4nm,0.6s,baz=130,slow=2.8,SNR=4.4
SONM Songino Array 120.71 11 PKP PKPdf 08 25 26.0 -1.4
comp=Z,0.2nm,0.3s,baz=277,slow=2.3,SNR=3.0
GTA Gaotai 126.81 20 PKP PKPdf 08 25 42.0 +2.9
GTA PP PP 08 27 40.9 +4.8
GTA PKS 08 29 17.9
GTA SKS SKSdf 08 32 48.5 -3.0
GTA SKKS SKKSac 08 34 29.7 -5.1
GTA PP PP
comp=Z,85nm,9.5s
GTA LR LR
comp=N,207nm,11.8s,MS5.2
GTA LR LR
comp=E,218nm,13.7s,MS5.2
GTA LR LR
comp=Z,232nm,10.3s,MS5.1
HHC Hu-ho-hao-te 128.38 9 *e*PKP PKPdf 08 25 44.5 +2.4
HHC PP PP 08 27 53.4 +6.9
HHC PKS 08 29 20.1
HHC SKS SKSdf 08 32 51.0 -3.5
HHC SKKS SKKSac 08 34 41.1 -3.6
HHC LR LR
comp=N,174nm,16.1s,MS5.0
HHC LR LR
comp=E,185nm,15.5s,MS5.0
HHC LR LR
comp=Z,183nm,16.6s,MS4.8
BJI Beijing 129.72 5 PKP PKPdf 08 25 47.5 +2.8
BJI SS SS 08 45 19.6 +0.4
BJI LR LR
comp=N,446nm,16.3s,MS5.3
BJI LR LR
comp=E,291nm,15.0s,MS5.3
BJI LR LR
comp=Z,284nm,20.8s
LZH Lanzhou 131.15 18 *e*PKP PKPdf 08 25 45.4 -1.9
LZH *e*PP PP 08 28 07.5 +3.0
LZH SKS SKSdf 08 32 50.7 -8.8
LZH SKKS SKKSac 08 34 53.0 -8.9
LZH PP PP
comp=Z,96nm,7.8s
LZH LR LR
comp=N,217nm,18.3s
LZH LR LR
comp=Z,378nm,20.2s,MS5.1
CD2 Chengdu 135.85 21 *e*PKP PKPdf 08 25 56.0 -0.2
CD2 XPKP 08 26 03.5
CD2 SKS SKSdf 08 33 01.3 -6.5
CD2 SKKS SKKSac 08 35 29.4 -1.1
CD2 PP PP
comp=Z,100nm,8.2s
KMI Kunming 140.60 26 PKP PKPdf 08 26 00.6 -4.3
KMI LR LR
comp=Z,61nm,24.4s,MS4.3
GYA Guiyang 140.94 20 PKP PKPdf 08 26 03.4 -2.1
GYA PP PP 08 29 07.8 +1.7
GYA PKS 08 29 37.9
GYA SKS SKSdf 08 33 07.2 -9.2
GYA SKKS SKKSac 08 35 53.0 -7.5
GYA PP PP
comp=Z,120nm,8.2s
GYA LR LR
comp=N,240nm,20.8s,MS5.0
GYA LR LR
comp=E,210nm,21.4s,MS5.0
GYA LR LR
comp=Z,200nm,21.0s,MS4.8
PMG Port Moresby 154.08 270⇑*i*PKIKP PKPdf 08 26 29.9 +2.8
ASAR Alice Springs 161.80 221 PKP PKPdf 08 26 34.5 -2.1
comp=Z,0.5nm,0.8s,baz=93,slow=1.2,SNR=10
ASAR PKPab PKPab 08 27 19.4 -2.6
comp=Z,0.5nm,0.7s,baz=138,slow=4.7,SNR=5.9
WRA Warramunga Arr 163.86 232 PKP PKPdf 08 26 37.4 -1.2
comp=Z,0.3nm,0.3s,baz=108,slow=1.1,SNR=4.7
WRA PKPab PKPab 08 27 30.7 -0.3
comp=Z,0.4nm,0.3s,baz=132,slow=4.7,SNR=3.5

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*ISCJB **02** 08:27:04.5±0.7,4308N±005×001E±003,h14km±5km,*
Error ellipse: s-maj=8.9km s-min=4.1km az=171.0
*LDG **02** 08:27:05.9±0.1,4303N×002W,h5km,Md2.0/2,Ml1.8/3,*
Error ellipse: s-maj=2.6km s-min=1.2km az=170.0
*MDD **02** 08:27:06.2±0.5,4302N×000E,h7km±5km,mbLg1.1/6,*
Error ellipse: s-maj=3.1km s-min=2.5km az=177.0,
PRXIMO
*STR **02** 08:27:06.1±0.0,4300N×005E,h5km±1km,Ml1.8,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 02 08:27:05.4±0.7,4303N±005×001E±004,h13km±6km,n18,
σ0:83/25,1C,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**63**	Pg	**Pg**	**08 27 07.9**	**+0.1**
LABF				Sg	**Sg**	**08 27 09.2**	**-0.3**
LABF	**Labassere**	**0.05**	**63**	P	**Pg**	**08 27 07.9**	**+0.1**
LABF				S	**Sg**	**08 27 09.2**	**-0.3**
VIEF	**Viey**	**0.14**	**177**	Pg	**Pg**	**08 27 09.0**	**+0.1**
VIEF				Sg	**Sg**	**08 27 11.1**	**-0.3**
VIEF	**Viey**	**0.14**	**177**	P	**Pg**	**08 27 09.1**	**+0.2**
VIEF				S	**Sg**	**08 27 11.2**	**-0.2**
EPF	**Esparros**	**0.24**	**89**	*e*Pg	**Pg**	**08 27 10.9**	**+0.4**
EPF				*e*Sg	**Sg**	**08 27 14.5**	**+0.5**
9.8nm,0.2s							
EPF	**Esparros**	**0.24**	**89**	Pg	**Pg**	**08 27 10.9**	**+0.4**
EPF				Lg		08 27 14.5	
4.9nm,0.2s							
EBIE	**Bielsa**	**0.35**	**164**	⇑Pg	**Pg**	**08 27 12.8**	**+0.3**
0.3nm,0.1s,SNR=18							
EBIE				Lg		08 27 17.4	
4.5nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**0.44**	**253**	*e*Pg	**Pg**	**08 27 14.3**	**+0.2**
ETSF				*e*Sg	**Sg**	**08 27 19.9**	**-0.1**
9.6nm,0.3s							
ETSF	**Etsaut**	**0.44**	**253**	Pg	**Pg**	**08 27 14.3**	**+0.2**
ETSF				Lg		08 27 19.9	
4.8nm,0.3s							
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	**Pg**	**08 27 22.4**	**-0.6**
SJPF				*e*Sg	**Sg**	**08 27 33.9**	**-1.1**
1.6nm,0.2s							
SJPF	**Ste Jean**	**0.91**	**276**	Pg	**Pg**	**08 27 22.4**	**-0.6**
SJPF				Lg		08 27 33.9	
0.8nm,0.2s							
ELIZ	**Elizondo**	**1.14**	**278**	Pg	**Pg**	**08 27 29.5**	**+2.2**
0.5nm,0.2s,SNR=4.0							
ELIZ				Lg		08 27 44.1	
1.5nm,0.4s,SNR=4.0							
ESAC	**San Caprasio**	**1.35**	**196**	Pg	**Pg**	**08 27 32.6**	**+1.1**
5.0nm,0.2s,SNR=7.9							
ESAC				Lg		08 27 47.5	
3.0nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**1.64**	**78**	*e*Pg	**Pg**	**08 27 36.9**	**-0.1**
MTLF				*e*Sg	**Sg**	**08 27 58.5**	**+0.2**
2.6nm,0.3s							
MTLF	**Montolieu**	**1.64**	**78**	Pg	**Pg**	**08 27 36.9**	**-0.1**
MTLF				Lg		08 27 58.5	
1.3nm,0.3s							
EPOB	**Poblet**	**1.85**	**154**	Pg	**Pg**	**08 27 38.7**	**-2.2**
0.1nm,0.1s,SNR=4.0							
EPOB				Lg		08 28 05.3	
0.4nm,0.2s,SNR=7.9							
LASF	**Ste Croix**	**2.98**	**68**	*e*Sg	**Sg**	**08 28 40.8**	**-0.5**
0.6nm,0.3s							
LASF	**Ste Croix**	**2.98**	**68**	Lg		08 28 40.8	
0.3nm,0.3s							

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*NEIC **02** 08:32:07.1±0.4,5382N×16359W,h10km,mb4.7/20,*
ML3.8(AEIC),Error ellipse: s-maj=9.1km s-min=5.2km
az=187.0
*BJI **02** 08:32:08.2,5447N×16427W,h10km,mB5.1,mb4.7,Ms4.7,*
Msz4.4
*ISCJB **02** 08:32:09.0±0.9,5376N±006×16365W±006,h37km±7km,*
mb4.5/55,MS4.2/12,Error ellipse: s-maj=10.9km
s-min=5.8km az=10.3
*MOS **02** 08:32:09.5±1.1,5372N×16377W,h45km,mb4.7/22,Error*
ellipse: s-maj=14.7km s-min=7.0km az=101.1
*IDC **02** 08:32:10.2±0.8,5385N×16348W,h32km±4km,mb4.0/20,*
mb1 4.1/21,mb1mx4.1/27,mbtmp4.0/21,ML3.5/1,MS4.0/6,
Ms1 4.0/6,ms1mx3.5/43,Error ellipse: s-maj=22.4km
s-min=12.5km az=180.0
*SZGRF **02** 08:32:12.6,5388N×16390W,h33km,mb5.0,Unimak*
Island, Alaska, United States, region
ISC 02 08:32:10.6±0.8,5385N±007×16365W±006,h35km±6km,
h24km±6.6km:pP-P,n139,σ0:97/139,mb4.5/55,MS4.2/12,
12C-7D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.02**	**8**	*e*Pn	**Pn**	**08 32 29.5**	**+1.2**
AKLV	**Akutan Long Va**	**1.40**	**284**	P	**Pn**	**08 32 34.9**	**+1.3**

AKLV S **Sn** **08 32 55.7 +5.0**
UNV Unalaska Valle 1.69 271 P **Pn** **08 32 37.4 -0.2**
SDPT Sand Point 2.38 50 P **Pn** **08 32 46.9 -0.1**
KDAK Kodiak Island 7.37 53 Pn **Pn** **08 33 53.0 -2.7**
0.7nm,0.3s,baz=310,slow=10,SNR=17
KDAK Sn **Sn** **08 35 11.3 -6.7**
baz=294,slow=20,SNR=2.5
KDAK Kodiak Island 7.37 53 Pn **Pn** **08 33 53.0 -2.7**
KDAK Sn **Sn** **08 35 11.3 -6.7**
IMA2 Indian Mountai 13.21 18 *e*Pn **Pn** **08 35 16.5 +0.9**
COLA College 13.62 30⇑ *e*Pn **Pn** **08 35 24.8 +3.6**
EGAK Eagle 15.75 37 *e*Pn **Pn** **08 35 46.6 -3.1**
10nm,0.9s
DAWY Dawson 16.05 41 *e*Pn **Pn** **08 35 52.9 -0.5**
BILL Bilibino 20.07 327⇓ *e*P **P** **08 36 42.1 +1.3**
BILL *e* 08 36 58.8
BILL *e*S **S** **08 40 21.5 -2.9**
BILL pmax pmax
comp=Z,29nm,1.7s
BILL MLR MLR
comp=Z,800nm,17.0s,MS4.1
INK Inuvik 20.22 33 P **P** **08 36 40.4 -2.0**
comp=Z,3.6nm,0.6s,baz=252,slow=10,SNR=30
INK PcP PcP 08 40 54.2 -1.4
comp=Z,1.8nm,0.8s,baz=182,slow=4.1,SNR=4.0
INK Inuvik 20.22 33 *e*P **P** **08 36 41.1 -1.3**
INK pmax pmax
comp=Z,104nm,0.7s
INK Inuvik 20.22 33 *e*P **P** **08 36 41.1 -1.3**
comp=Z,104nm,0.7s
YKA Yellowknife Ar 26.65 51 P **P** **08 37 45.6 -0.2**
comp=Z,2.9nm,0.7s,mb3.9,baz=271,slow=8.8,SNR=24
YKA LR LR 08 49 20.8
comp=Z,284nm,19.3s,MS3.8,baz=100,slow=39
HAWA Hanford 28.86 87 *e*P **P** **08 38 05.0 -0.6**
NEW Newport 29.34 82 P **P** **08 38 09.1 -0.8**
comp=Z,1.0nm,0.6s,mb3.7,baz=315,slow=4.3,SNR=2.8
BMO Blue Mountains 31.00 88 *e*P **P** **08 38 25.5 +0.9**
comp=Z,8.3nm,1.4s,mb4.4
WVOR Wild Horse Val 31.61 93 *e*P **P** **08 38 30.5 +0.5**
WVOR pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
WVOR Wild Horse Val 31.61 93 *e*P **P** **08 38 30.5 +0.5**
comp=Z,7.9nm,1.1s,mb4.5
TIXI Tiksi 33.28 328 *e*P **P** **08 38 44.4 -0.2**
HLID Hailey 33.45 87 *e*P **P** **08 38 46.5 +0.4**
comp=Z,5.7nm,1.1s,mb4.4
MCMT McKenzie Canyo 33.65 84 P **P** **08 38 48.4 +0.6**
YSS Yuzh-Sakhalins 34.13 281⇑ *e*P **P** **08 38 49.4 -2.6**
YSS pmax pmax
comp=Z,51nm,2.5s,mb5.0
NVAR Mina Array Bea 34.34 98 P **P** **08 38 52.8 -1.0**
comp=Z,0.6nm,0.7s,mb3.7,baz=312,slow=9.6,SNR=3.7
YAK Yakutsk 34.81 311⇓ *e*P **P** **08 38 58.8 +0.9**
YAK pmax pmax
comp=Z,38nm,2.5s,mb4.9
DUG Dugway 36.44 91 *e*P **P** **08 39 12.5 +0.6**
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
DUG Dugway 36.44 91 *e*P **P** **08 39 12.5 +0.6**
comp=Z,6.4nm,1.0s,mb4.5
ERM Erimo 36.71 273⇓ *e*P **P** **08 39 12.8 -1.3**
PDAR Pinedale Array 36.78 85 P **P** **08 39 14.3 -0.5**
comp=Z,0.2nm,0.4s,mb3.3,baz=346,slow=3.3,SNR=2.4
DAU Daniels Canyon 37.23 89 *e*P **P** **08 39 18.9 +0.4**
HABR Khabarovsk 37.75 288 *e*P **P** **08 39 22.0 -1.0**
HABR *e*S **S** **08 45 09.6 -1.6**
TMUT Trail Mountain 37.97 91 *e*P **P** **08 39 25.2 +0.4**
SRU San Rafael 38.49 90 *e*P **P** **08 39 29.6 +0.4**
PV01 Paradox Valley 40.29 90 *e*P **P** **08 39 43.1 -1.1**
ULM Lac du Bonnet 40.40 66 P **P** **08 39 47.7 +2.6**
comp=Z,5.0nm,0.9s,mb4.2,baz=293,slow=7.7,SNR=4.3
ULM Lac du Bonnet 40.40 66 P **P** **08 39 47.7 +2.6**
MAT Matsushiro 43.16 271 P **P** **08 40 07.2 -0.5**
MJAR Matsushiro Arr 43.16 271 P **P** **08 40 07.3 -0.4**
comp=Z,3.5nm,0.9s,mb4.1,baz=356,slow=12,SNR=6.6
MJAR pP pP 08 40 18.1 0.0
comp=Z,1.2nm,0.6s,baz=28,slow=5.3,SNR=3.1
BOD Bodaibo 43.72 310 *e*P **P** **08 40 11.1 -1.1**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.1
HIA Hailar 45.69 297⇑ *e*P **P** **08 40 25.8 -2.1**
CN2 Changchun 45.89 288 *e*P **P** **08 40 29.0 -0.5**
DAG Danmarks Havn 47.77 10⇑ *i*P **P** **08 40 43.9 -0.3**
comp=Z,6.0nm,0.6s,mb4.8
DAG Danmarks Havn 47.77 10⇑ *i*P **P** **08 40 43.9 -0.3**
DAG pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KSRS Korea Array 48.61 279 P **P** **08 40 51.0 +0.4**
comp=Z,3.6nm,0.9s,mb4.4,baz=51,slow=7.7,SNR=5.2
KSRS pP pP 08 41 01.2 +0.1
comp=Z,3.0nm,0.7s,baz=56,slow=7.0,SNR=5.0
KSRS LR LR 09 01 04.1
comp=Z,74nm,18.3s,MS3.7,baz=5.0,slow=36
TXAR Lajitas Array 49.35 95 P **P** **08 40 54.7 -1.7**
comp=Z,0.9nm,0.6s,mb4.0,baz=296,slow=5.2,SNR=12
TXAR ScP ScP 08 46 10.8 -0.3
comp=Z,0.6nm,1.0s,baz=290,slow=3.6,SNR=4.1
TXAR LR LR 09 00 09.4
comp=Z,72nm,20.2s,MS3.7,baz=5.0,slow=34
TXAR Lajitas Array 49.35 95 P **P** **08 40 54.7 -1.7**
TXAR ScP ScP 08 46 10.8 -0.3
TXAR LR LR 09 00 09.4
TLY Talaya 52.20 308⇑ *e*P **P** **08 41 16.9 -0.9**
TLY pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ULN Ulaanbaatar 53.10 303 *c i*P **P** **08 41 24.4 0.0**
ULN Ulaanbaatar 53.10 303 *e*P **P** **08 41 24.6 +0.1**
comp=Z,9.5nm,1.1s,mb4.6
ZAK Zakamensk 53.23 307 *e*P **P** **08 41 24.7 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
SONM Songino Array 53.45 303 P **P** **08 41 26.6 -0.4**
comp=Z,3.4nm,1.0s,mb4.2,baz=51,slow=7.4,SNR=18
HHC Hu-ho-hao-te 55.55 294 *e*P **P** **08 41 42.4 +0.1**
HHC XP sP 08 41 49.6 -7.5
HHC PCP PcP 08 42 41.8 0.0
HHC PP PP 08 43 47.3 +0.8
HHC PCS PcS 08 46 41.6 -0.4
HHC S **S** **08 49 25.4 +0.1**
HHC XS sS 08 49 32.4 -10
HHC SCS ScS 08 51 27.7 -1.0
HHC AMB AMB
comp=Z,13nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,143nm,4.9s
HHC LR LR
comp=N,216nm,16.6s,MS4.5
HHC LR LR
comp=E,192nm,14.9s,MS4.5
HHC LR LR
comp=Z,183nm,16.0s,MS4.2
KEV Kevo 56.46 356 *ep* **P** **08 41 46.6 -2.2**
ARCES ARCESS Array B 56.74 356 P **P** **08 41 49.4 -1.4**
comp=Z,4.7nm,0.9s,mb4.5,baz=13,slow=8.1,SNR=15
ZAL Zalesovo 58.60 320 P **P** **08 42 04.0 +0.2**
comp=Z,0.7nm,0.4s,mb4.0,baz=44,slow=7.7,SNR=3.3
SOKR Solikamsk 62.36 338 *e*P **P** **08 42 28.2 -1.3**
SOKR pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
GTA Gaotai 62.80 300 *e*P **P** **08 42 32.1 -0.3**
GTA AP pP 08 42 36.4 -6.8
GTA XP sP 08 42 39.7 -7.6
GTA PP PP 08 44 52.2 +1.5
GTA S **S** **08 50 59.9 +0.8**
GTA XS sS 08 51 06.7 -10
GTA SS SS 08 55 05.9 +1.6
GTA AMB AMB
comp=Z,6.0nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,76nm,4.2s
GTA LR LR
comp=N,207nm,11.4s,MS4.7
GTA LR LR
comp=E,218nm,12.6s,MS4.7
GTA LR LR
comp=Z,232nm,11.8s,MS4.6
LZH Lanzhou 63.16 295 *e*P **P** **08 42 35.5 +0.6**
LZH AP pP 08 42 38.9 -6.8
LZH XP sP 08 42 40.1 -10
LZH PP PP 08 44 55.6 +1.6
LZH AMB AMB
comp=Z,23nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,52nm,7.8s
LZH LR LR
comp=E,178nm,15.4s
LZH LR LR
comp=Z,293nm,18.5s,MS4.5
KURK Kurchatov 63.48 321 *d i*P **P** **08 42 37.2 +0.3**
KURK Kurchatov 63.48 321 *e*P **P** **08 42 37.3 +0.4**
KURK Kurchatov 63.48 321 *e*P **P** **08 42 37.3 +0.4**
KAF Kangasniemi 64.11 355 *ep* **P** **08 42 40.0 -1.1**
baz=2.4,slow=6.3
BVA0 Borovoye Array 64.42 327 *i* P **P** **08 42 43.3 +0.2**
BVA0 pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
BVAR Borovoye Array 64.42 327 P **P** **08 42 43.5 +0.4**
comp=Z,4.2nm,0.7s,mb4.6,baz=45,slow=6.9,SNR=22
BRVK Borovoye 64.42 327 *e*P **P** **08 42 44.0 +0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRVK Borovoye 64.42 327 *e*P **P** **08 42 44.0 +0.8**
comp=Z,8.2nm,0.9s,mb4.8
ARU Arti 64.78 336⇑ *i*P **P** **08 42 45.4 -0.1**
ARU *e* 08 45 07.1
ARU *e*S **S** **08 51 22.9 -0.9**
ARU *e*SS SS 08 55 29.8 -5.5
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 64.78 336 *e*P **P** **08 42 45.6 0.0**
FINES FINESS Array B 64.79 355 P **P** **08 42 45.5 -0.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=46,slow=5.5,SNR=7.1
FINES FINESS Array B 64.79 355 *i* P **P** **08 42 46.7 +1.1**
FINES pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 65.21 316 *i* P **P** **08 42 47.5 -0.8**
MK31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MK31 Makanchi Array 65.21 316 *e*P **P** **08 42 48.0 -0.3**
MKAR Makanchi Array 65.21 316 P **P** **08 42 47.9 -0.3**
comp=Z,1.5nm,0.7s,mb4.1,baz=53,slow=5.5,SNR=13
MKAR pP pP 08 42 58.3 -0.8
comp=Z,1.5nm,0.7s,baz=44,slow=5.7,SNR=8.5
MKAR Makanchi Array 65.21 316 P **P** **08 42 47.9 -0.3**
MKAR pP pP 08 42 58.3 -0.8
WMQ Urumqi 65.25 311 *e*P **P** **08 42 52.1 +3.6**
WMQ LR LR
comp=N,87nm,20.0s,MS4.3
WMQ LR LR
comp=E,180nm,20.0s,MS4.3
WMQ LR LR
comp=Z,100nm,22.0s,MS4.0
NB2 NORSAR Subarra 65.39 3 P **P** **08 42 49.0 -0.4**
comp=Z,7.2nm,1.0s,mb4.7,baz=356,slow=6.5
NOA NORSAR Array B 65.39 3 P **P** **08 42 49.3 -0.1**
comp=Z,6.3nm,1.1s,mb4.6,baz=359,slow=6.4,SNR=5.0
NOA LR LR 09 09 25.4
comp=Z,161nm,18.7s,MS4.2,baz=0.0,slow=34
NOA NORSAR Array B 65.39 3 P **P** **08 42 49.3 -0.1**
NOA LR LR 09 09 25.4
CD2 Chengdu 67.12 291 *e*P **P** **08 43 01.2 +0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA Guiyang 68.91 286 P **P** **08 43 12.3 +0.5**
GYA PCP PcP 08 43 37.0 +1.0
GYA PP PP 08 45 47.0 +2.9
GYA SCP 08 47 40.5
GYA S S 08 52 15.3 +1.7
GYA SKS 08 53 08.5
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,70nm,4.9s
GYA LR LR
comp=N,180nm,19.8s,MS4.5
GYA LR LR
comp=E,210nm,20.4s,MS4.5
GYA LR LR
comp=Z,190nm,20.8s,MS4.3
OBN Obninsk 70.13 348⇑ *e*P **P** **08 43 18.7 -0.6**
OBN *e**PP pP 08 43 34.0 +3.8
OBN *e* 08 45 55.7
OBN pmax pmax
comp=Z,48nm,2.5s,mb5.0
AKTK Aktyubinsk 70.35 333 P **P** **08 43 21.4 +0.8**
AKTO Aktyubinsk 70.35 333 P **P** **08 43 21.4 +0.8**
comp=Z,10nm,0.8s,mb4.8,baz=30,slow=5.5,SNR=38
AB31 Akbulak array 70.89 331 *i* P **P** **08 43 24.6 +0.7**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
AAK Ala-Archa 71.77 319⇓ *e*P **P** **08 43 28.8 -0.4**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
AAK Ala-Archa 71.77 319 *e*P **P** **08 43 29.1 -0.2**
PPT Papeete 72.15 166 *e*LR LR 09 04 41.8
comp=Z,76nm,23.0s
PPT Papeete 72.15 166 LR LR 09 13 13.2
comp=Z,104nm,18.8s,MS4.1,baz=8.5,slow=34
KMI Kunming 72.16 288 P **P** **08 43 33.1 +1.5**
KMI AP pP 08 43 38.1 -4.4
KMI XP sP 08 43 40.1 -6.5
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
CLL Collm 75.18 2 *e*P **P** **08 43 50.0 +0.7**
AKASG Malin Array Be 75.26 352 P **P** **08 43 49.1 -0.6**
comp=Z,3.0nm,0.6s,mb4.4,baz=10.0,slow=5.6,SNR=13
KIEV Kiev 75.27 352 P **P** **08 43 49.1 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIEV Kiev 75.27 352 P **P** **08 43 49.1 -0.7**
comp=Z,4.6nm,0.6s,mb4.6
MEM Membach 75.55 7 P **P** **08 43 52.3 +0.9**
BRG Berggiesshubel 75.63 2 *e*P **P** **08 43 52.0 +0.1**
comp=Z,4.0nm,1.0s,mb4.3
BRG Berggiesshubel 75.63 2 *e*P **P** **08 43 52.0 +0.1**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BAIF Baives 75.96 8 *e*P **P** **08 43 54.1 +0.3**
comp=Z,73nm,1.5s,mb5.1
BAIF Baives 75.96 8 *e*P **P** **08 43 54.1 +0.3**
BAIF pmax pmax
comp=Z,36nm,1.5s,mb5.1
BAIF Baives 75.96 8 *e*P **P** **08 43 54.1 +0.3**
comp=Z,36nm,1.5s,mb5.1
GIVF Givet 75.97 8 *e*P **P** **08 43 52.7 -1.1**
GRA1 Grafenberg Arr 76.74 3 *e*P **P** **08 43 58.8 +0.6**
comp=Z,16nm,1.4s,mb4.8
GRF Grafenberg Arr 76.74 3 *e*P **P** **08 43 58.8 +0.6**
comp=Z,16nm,1.4s,mb4.8
GRF Grafenberg Arr 76.74 3 *e*P **P** **08 43 58.8 +0.6**
GRF pmax pmax
comp=Z,16nm,1.4s,mb4.8
GRF Grafenberg Arr 76.74 3 *e*P **P** **08 43 58.8 +0.6**
GRF pmax pmax
comp=Z,16nm,1.4s,mb4.8
KWP Kalwaria 76.75 356 *e*P **P** **08 43 58.1 -0.2**
KWP pmax pmax
comp=Z,14nm,1.1s,mb4.8
KWP Kalwaria 76.75 356 *e*P **P** **08 43 58.1 -0.2**
comp=Z,14nm,1.1s,mb4.8
STHS Stebnicka Huta 77.03 357 *e*P **P** **08 44 01.4 +1.6**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 77.03 357 *e*P **P** **08 44 01.4 +1.6**
comp=Z,4.6nm,0.8s,mb4.5
KHC Kasperske Hory 77.37 2 *e*P **P** **08 44 02.5 +0.8**
KHC pP pP 08 44 09.0 -3.7
KHC Kasperske Hory 77.37 2 *e*P **P** **08 44 02.5 +0.8**
KHC *e* 08 44 09.0
KOLS Kolonicke sedl 77.47 356 *e*P **P** **08 44 03.5 +1.2**
CRVS Cervenica-Dubn 77.53 357 *e*P **P** **08 44 03.0 +0.4**
MEZF Maizieres J'vi 77.58 8 *e*P **P** **08 44 03.5 +0.6**
GERES GERESS Array B 77.66 2 P **P** **08 44 03.8 +0.4**
comp=Z,1.4nm,0.8s,mb4.0,baz=7.1,slow=4.3,SNR=8.8
CDF Champ du Feu 77.82 6 *e*P **P** **08 44 01.7 -2.6**
TBI Tubuai 77.85 167 *e*LR LR 09 07 21.8
comp=Z,90nm,31.0s
KECS Kecovo 77.98 357 *e*P **P** **08 44 05.9 +0.7**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 77.98 357 *e*P **P** **08 44 05.9 +0.7**
comp=Z,2.1nm,0.8s,mb4.1
VYHS Vyhne 78.01 358 *e*P **P** **08 44 06.0 +0.7**
PSZ Piszkesteto 78.56 358 *e*P **P** **08 44 09.9 +1.5**
PSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PSZ Piszkesteto 78.56 358 *e*P **P** **08 44 09.9 +1.6**
comp=Z,4.1nm,0.7s,mb4.5
BURAR Bucovina Array 78.63 354⇑ *i*P **P** **08 44 09.5 +0.8**
AVF Avril sur Loir 79.13 9 *e*P **P** **08 44 11.6 +0.1**
comp=Z,88nm,1.8s,mb5.1
AVF Avril sur Loir 79.13 9 *e*P **P** **08 44 11.6 +0.1**
AVF pmax pmax
comp=Z,44nm,1.8s,mb5.1
AVF Avril sur Loir 79.13 9 *e*P **P** **08 44 11.6 +0.1**
comp=Z,44nm,1.8s,mb5.1
DRGR 79.59 356⇑ *i*P **P** **08 44 14.4 +0.4**
DZM Mont Dzumac 79.89 208 LR LR 09 13 25.7
comp=Z,150nm,19.7s,MS4.3,baz=64,slow=31
ANN Anapa 80.09 345 *e*P **P** **08 44 16.9 +0.2**
ANN pmax pmax
comp=Z,71nm,1.6s,mb5.3
RKT Rikitea 80.56 153 *e*LR LR 09 08 33.7
comp=Z,53nm,31.8s
BZS Buzias 80.81 356⇓ *i*P **P** **08 44 21.1 +0.5**
GZR Gura Zlata 80.98 355⇓ *i*P **P** **08 44 22.0 +0.5**
BR131 Keskin Array S 85.61 347 *e*P **P** **08 44 45.6 +0.3**
comp=Z,2.3nm,0.8s,mb4.5
BRTR Keskin Array B 85.61 347 P **P** **08 44 46.3 +1.0**
comp=Z,2.4nm,0.8s,mb4.5,baz=54,slow=2.1,SNR=8.5
BRTR Keskin Array B 85.61 347⇑ *e*P **P** **08 44 46.2 +0.9**
WRA Warramunga Arr 90.66 236 P **P** **08 45 10.3 +0.9**
comp=Z,1.1nm,1.2s,mb4.1,baz=53,slow=3.0,SNR=2.6
ASAR Alice Springs 94.03 235 pP pP 08 45 34.1 -2.0
comp=Z,0.8nm,1.0s,baz=37,slow=2.7,SNR=4.6
MATP Matopo 145.36 340 PKPbc PKPbc 08 51 44.3 -0.2
comp=Z,2.7nm,0.8s,baz=52,slow=7.6,SNR=5.2
MATP pPKPbc pPKPbc 08 51 54.5 -1.4
comp=Z,3.2nm,0.7s,baz=24,slow=2.9,SNR=5.2
LBTB Lobatse 150.38 343 *e*PKIKP PKPdf 08 51 58.2 +5.3

IDC 02 08:34:47.8±12.0, 248N×12807E, h150km±113km, mb3.3/3, mb1 3.5/3, mb1mx3.2/16, mbtmp3.3/3, Error ellipse: s-maj=139.4km s-min=25.3km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.12**	**165**	P	P		08 39 40.7	+0.2
	1.9nm,0.4s,baz=345,slow=10,SNR=15							
ASAR	**Alice Springs**	**26.60**	**168**	P	P		08 40 12.3	+0.3
	0.3nm,0.5s,baz=354,slow=8.1,SNR=9.0							
ASAR				PcP	PcP		08 43 32.4	+0.3
	0.3nm,0.5s,baz=342,slow=2.1,SNR=5.7							
MKAR	**Makanchi Array**	**59.33**	**325**	P	P		08 44 33.9	+0.1
	0.4nm,0.4s,baz=126,slow=7.6,SNR=6.9							

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*ISCJB **02** 08:52:58.4±0.7, 2692S±004×7144W±006, h10km, mb4.1/2, MS3.8/1, Error ellipse: s-maj=8.0km s-min=6.0km az=145.7*
*NEIC **02** 08:52:59.9, 2700S×7138W, h10km, mb4.3/1, ML4.2(GUC), After GUC.*
*GUC **02** 08:52:59.9±1.0, 2700S×7138W, h10km±13km, MD4.2, ML4.2*
*IDC **02** 08:53:01.7±2.0, 2704S×7054W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.9/15, mbtmp4.0/3, ML3.9/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/28, Error ellipse: s-maj=69.4km s-min=46.4km az=40.0*
ISC 02 08:52:59.8±2.4, 2698S±005×**714W**±01, **h5**km±14km, **n22**, σ0°**79**/19, **mb4.1**/2, **MS3.8**/1, **3D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.52**	**100⇓**	*i*P		**Pg**	**08 53 10.4**	**+0.5**
CDCH				*i* S		**Sg**	**08 53 18.1**	**+1.4**
CDCH				AML		AML	08 53 22.3	
	comp=E,6μm,0.4s							
CDCH	**Caldera**	**0.52**	**100⇓**	*i*P		**Pg**	**08 53 10.4**	**+0.5**
CDCH				*i* S		**Sg**	**08 53 18.1**	**+1.4**
CPCH	**Copiapo**	**1.01**	**112**	*e*P		**Pg**	**08 53 17.9**	**-1.3**
CPCH				*i* S		**Sg**	**08 53 31.6**	**-0.7**
VACH	**Vallenar**	**1.69**	**160⇓**	*i*P		**Pn**	**08 53 29.4**	**-0.5**
VACH				*i* S		**Sn**	**08 53 50.6**	**-1.2**
LSCH	**La Serena**	**2.92**	**177**	*i* P		**Pn**	**08 53 46.8**	**0.0**
LSCH				*i* S		**Sn**	**08 54 23.4**	**+1.2**
LSCH				AML		AML	08 54 42.7	
	comp=E,211nm,0.5s							
LSCH	**La Serena**	**2.92**	**177**	*i* P		**Pn**	**08 53 46.8**	**0.0**
LSCH				*i* S		**Sn**	**08 54 23.4**	**+1.2**
TLL	**Tololo Astrono**	**3.21**	**171**	*i* P		**Pn**	**08 53 51.7**	**+0.7**
TLL				AML		AML	08 54 53.3	
	comp=N,769nm,0.8s							
ANCH	**Antofagasta**	**3.41**	**16**	AML		AML	08 54 59.2	
	comp=N,981nm,0.6s							
OVCH	**Ovalle**	**3.62**	**177**	AML		AML	08 55 02.7	
	comp=N,874nm,0.7s							
CEN1	**Los Morros**	**3.74**	**17**	AML		AML	08 55 03.6	
	comp=E,576nm,0.4s							
ARE	**Arequipa**	**10.47**	**360**	*e*P		**Pn**	**08 55 30.0**	**-0.5**
LPAZ	**La Paz**	**11.07**	**17**	Pn		**Pn**	**08 55 39.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=175,slow=7.1,SNR=10.0							
LPAZ				LR		LR	09 00 06.4	
	comp=E,108nm,19.6s,baz=8.8,slow=39							
NNA	**Nana**	**15.77**	**340**	LR		LR	09 01 59.3	
	comp=E,212nm,21.6s,baz=315,slow=33							
SAML	**Samuel**	**19.55**	**25**	*e*P		**Pn**	**08 57 29.2**	**-0.3**
	comp=E,9.9nm,0.6s							
RPN	**Rapa Nui**	**33.69**	**261**	LR		LR	09 10 13.5	
	comp=E,158nm,18.2s,MS3.8,baz=26,slow=30							
TXAR	**Lajitas Array**	**63.96**	**329**	P		**P**	**09 03 40.6**	**+6.6**
	comp=E,0.3nm,0.7s,mb3.4,baz=139,slow=7.0,SNR=3.3							
TOA0	**Torodi Ar. Sit**	**81.33**	**71**	*e*P		**P**	**09 05 17.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**81.33**	**71**	P		**P**	**09 05 17.5**	**+0.2**
	comp=E,9.2nm,0.7s,mb4.8,baz=254,slow=4.9,SNR=52							
ZAL	**Zalesovo**	**147.86**	**27**	PKPbc		PKPbc	09 12 46.7	+0.8
	comp=E,3.3nm,0.9s,baz=182,slow=4.1,SNR=7.2							
ZAL	**Zalesovo**	**147.86**	**27**	PKPbc		PKPbc	09 12 46.7	+0.8
MK31	**Makanchi Array**	**151.35**	**39**	*e*PKPbc		PKPbc	09 12 55.0	+0.5
MKAR	**Makanchi Array**	**151.35**	**39**	PKPbc		PKPbc	09 12 54.8	+0.3
	comp=E,4.5nm,0.8s,baz=306,slow=1.5,SNR=36							

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*ISCJB **02** 09:06:03.5±0.7, 1307N±008×8899W±007, h79km±9km, mb4.0/10, Error ellipse: s-maj=15.9km s-min=5.9km az=76.1*
*IDC **02** 09:06:03.5±1.9, 1328N×8875W, h56km±22km, mb3.8/7, mb1 4.1/10, mb1mx3.8/20, mbtmp3.9/10, ML4.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=38.5km s-min=11.0km az=41.0*
*CASC **02** 09:06:03.6±2.9, 1297N×8908W, h55km±34km, MD4.3, ML4.6, mb4.1(NEIC)*
*NEIC **02** 09:06:05.0±1.2, 1303N×8898W, h81km±13km, mb4.1/4, MD4.6(SNET), Error ellipse: s-maj=24.0km s-min=9.3km az=223.0*
NEIC Felt [III] at San Salvador.
ISC 02 09:06:05.3±0.6, 1317N±009×**8890W**±007, **h76**km±8km, **n45**, σ1°**09**/45, **mb4.0**/10, **10C-4D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.61**	**328⇑**	*e*P		x	09 06 17.5	
SNET				*e*S		x	09 06 28.9	
SNET				*i*			09 06 31.1	
	comp=Z,23μm,0.3s							
LFU	**La Fuente**	**0.61**	**341⇑**	*e*P		x	09 06 28.0	
LFU				*e*S		x	09 06 37.9	
PICS	**Picacho**	**0.66**	**329⇓**	*e*P		x	09 06 35.2	
PICS				*e*S		x	09 06 49.4	
VSM	**San Miguel**	**0.67**	**67⇑**	*i*P		x	09 06 31.1	
VSM				*e*S		x	09 06 44.2	
BOQS	**Boqueron**	**0.67**	**327⇓**	*i*P		x	09 06 28.4	
BOQS				*e*S		x	09 06 40.3	
BLLM	**Bellamira**	**0.70**	**67⇑**	*e*P		x	09 06 31.2	
BLLM				*e*S		x	09 06 45.2	
RTR	**El Retiro**	**1.02**	**315**	*e*P		x	09 06 32.1	
RTR				*e*S		x	09 06 49.1	
CNCH	**Conchagua**	**1.05**	**84**	*e*P		x	09 06 35.2	
CNCH				*e*S		x	09 06 52.5	
RBDL	**Robledal**	**1.21**	**321⇑**	*i*P		x	09 06 35.1	
RBDL				*e*S		x	09 06 51.7	
CRIN	**San Cristobal**	**1.87**	**104**	*e*P		**Pn**	**09 06 35.3**	**0.0**
CRIN				*e*S		**Sn**	**09 06 59.2**	**+1.1**
TELN	**Telica**	**2.10**	**105**	*e*P		**Pn**	**09 06 38.1**	**-0.3**
TELN				*e*S		**Sn**	**09 07 04.5**	**+0.9**
MOMJ	**Momotombo**	**2.43**	**108⇑**	*e*P		**Pn**	**09 06 42.1**	**-0.8**
XAVN	**Gruta Xavier**	**2.71**	**112**	*e*P		**Pn**	**09 06 45.9**	**-0.8**
XAVN				*e*S		**Sn**	**09 07 18.0**	**-0.5**
MGAN	**Managua**	**2.79**	**111**	*e*P		**Pn**	**09 06 46.7**	**-1.0**

MGAN *e*S **Sn** **09 07 19.8 -0.4**
MGAN *i* 09 07 21.4
comp=E,952nm,0.5s
TICN Ticuantepe 2.84 113 *e*P **Pn** **09 06 47.7 -0.8**
SSNN San Juan del S 3.52 122⇑*i*P **Pn** **09 06 56.6 -1.0**
CONN Concepcion 3.58 116 *e*P **Pn** **09 06 57.5 -0.9**
JTS JuntasAbangare 4.81 126 P **Pn** **09 07 14.1 -1.2**
comp=E,14nm,0.3s,baz=312,slow=20,SNR=55
JTS S **Sn** **09 08 06.3 -3.3**
comp=E,12nm,0.3s,baz=286,slow=19,SNR=3.8
JCR Jicaral 4.97 131⇓*e*P **Pn** **09 07 17.1 -0.3**
CAO Cobano 5.07 132⇓*i*P **Pn** **09 07 18.4 -0.5**
EPA Esparza 5.27 126 *e*P **Pn** **09 07 22.4 +0.9**
EPA *e*S **Sn** **09 08 19.8 -1.1**
CGA2 Cerro Gallo 2 5.36 125⇑*e*P **Pn** **09 07 24.6 +1.8**
CGA2 *e*S **Sn** **09 08 23.6 +0.5**
PRS1 Puriscal 5.50 125⇑*e*P **Pn** **09 07 26.2 +1.5**
OCM Ochomogo 5.83 123 *e*P **Pn** **09 07 29.7 +0.5**
LCR2 La Lucha 2 5.89 125 *e*P **Pn** **09 07 31.0 +1.1**
BUS Buena Vista 6.19 125 *e*P **Pn** **09 07 36.1 +2.0**
CMIG Matias Romero 6.97 305 P **Pn** **09 07 43.2 -1.5**
comp=E,3.3nm,0.3s,baz=122,slow=10,SNR=55
CMIG S **Sn** **09 09 02.2 -0.3**
comp=E,3.2nm,0.3s,baz=332,slow=19,SNR=5.8
CMIG Matias Romero 6.97 305 P **Pn** **09 07 43.2 -1.5**
CMIG S **Sn** **09 09 02.2 -0.3**
TEIG Tepich 7.04 5 P **Pn** **09 07 48.9 +3.2**
CTCR Cotoan 7.38 125⇓*e*P **Pn** **09 07 51.4 +1.2**
SDV Santo Domingo 18.43 101 P **Pn** **09 10 15.1 -0.3**
comp=E,0.6nm,0.3s,baz=310,slow=6.5,SNR=6.7
JCT Junction City 19.95 331 *e*P **Pn** **09 10 31.8 -1.7**
comp=E,12nm,0.9s
LTX Lajitas 21.13 322 *e*P **P** **09 10 45.2 +1.3**
comp=E,3.2nm,0.5s,mb3.9
TXAR Lajitas Array 21.13 322 P **P** **09 10 45.1 +1.3**
comp=E,2.5nm,0.4s,mb3.9,baz=146,slow=10,SNR=104
TXAR LR LR 09 19 19.5
comp=E,47nm,18.2s,baz=0.0,slow=38
TXAR Lajitas Array 21.13 322 P **P** **09 10 45.1 +1.3**
TXAR LR LR 09 19 19.5
MIAR Mount Ida 21.70 350 *e*P **P** **09 10 51.0 +1.1**
comp=E,10nm,0.8s,mb4.2
WMOK Wichita Mounta 23.27 339 *e*P **P** **09 11 06.1 -0.1**
comp=E,9.1nm,1.3s,mb4.0
PDAR Pinedale Array 34.48 333 P **P** **09 12 46.5 +0.6**
comp=E,1.1nm,1.0s,mb3.6,baz=130,slow=11,SNR=4.5
PDAR PcP PcP 09 15 19.4 0.0
comp=E,0.6nm,0.6s,baz=134,slow=5.2,SNR=5.8
NVAR Mina Array Bea 36.23 319 P **P** **09 13 02.7 +1.8**
comp=E,0.4nm,0.5s,mb3.6,baz=125,slow=6.3,SNR=3.6
NVAR PcP PcP 09 15 25.6 +1.0
comp=E,0.6nm,0.7s,baz=182,slow=2.6,SNR=3.8
NVAR Mina Array Bea 36.23 319 P **P** **09 13 02.7 +1.8**
NVAR PcP PcP 09 15 25.6 +1.0
ULM Lac du Bonnet 37.41 353 P **P** **09 13 09.8 -1.2**
comp=E,2.5nm,0.4s,mb4.5,baz=166,slow=11,SNR=20
SIV San Ignacio 39.96 136 P **P** **09 13 32.5 +0.3**
comp=E,1.1nm,0.5s,mb4.0,baz=322,slow=11,SNR=8.6
EDM Edmonton 44.43 339 *e*P **P** **09 14 07.8 -0.7**
SCHQ Schefferville 45.02 18 P **P** **09 14 12.0 -1.2**
comp=E,9.5nm,1.1s,mb4.5,baz=234,slow=8.7,SNR=3.8
YKA Yellowknife Ar 52.56 345 P **P** **09 15 09.9 -1.0**
comp=E,0.9nm,0.3s,mb4.2,baz=145,slow=6.9,SNR=24

IDC ***02*** *09:11:06.6±2.3, 2484S×17994E, h464km±22km, mb3.5/6, mb1 3.7/7, mb1mx3.5/13, mbtmp3.5/7, Error ellipse: s-maj=21.2km s-min=21.0km az=51.0*
ISCJB ***02*** *09:11:07.4±1.2, 2499S±009×1799E±0.1, h489km±14km, mb4.2/15, Error ellipse: s-maj=18.7km s-min=12.5km az=127.3*
NEIC ***02*** *09:11:08.2±1.2, 2496S×17999E, h492km±13km, mb4.7/7, Error ellipse: s-maj=20.6km s-min=12.5km az=217.0*
ISC 02 09:11:08.9±1.1, 2511S±009×1799E±01, h493km±13km, n26, σ1§09/25, mb4.2/15, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.55**	**156**	*e*P	**P**	**09 12 31.3**	**-0.1**
DZM	**Mont Dzumac**	**12.73**	**281**	P	**P**	**09 13 56.9**	**+1.8**
0.8nm,0.3s,baz=85,slow=17,SNR=7.5							
URZ	**Urewera**	**13.33**	**190**	P	**P**	**09 14 00.5**	**-0.9**
0.7nm,0.3s,baz=254,slow=15,SNR=4.1							
URZ				S	**S**	**09 16 22.9**	**-0.9**
0.3nm,0.3s,baz=43,slow=19,SNR=3.3							
HNR	**Honiara**	**24.58**	**306**	P	**P**	**09 15 47.0**	**-1.9**
32nm,0.4s,mb5.1,baz=111,slow=4.2,SNR=4.2							
HNR	**Honiara**	**24.58**	**306**	*e*P	**P**	**09 15 47.6**	**-1.4**
CTA	**Charters Tower**	**31.44**	**272**	⇓*i*P	**P**	**09 16 49.9**	**+1.0**
20nm,0.4s,mb4.9							
CTAO	**Charters Tower**	**31.44**	**272**	*e*P	**P**	**09 16 49.9**	**+1.0**
22nm,0.4s,mb4.9							
STKA	**Stephens Creek**	**34.23**	**250**	*e*P	**P**	**09 17 13.9**	**+1.3**
1.7nm,0.4s,mb3.8							
STKA	**Stephens Creek**	**34.23**	**250**	P	**P**	**09 17 13.8**	**+1.2**
2.0nm,0.4s,mb3.9,baz=87,slow=9.7,SNR=13							
STKA	**Stephens Creek**	**34.23**	**250**	*e*P	**P**	**09 17 13.3**	**+0.7**
PMG	**Port Moresby**	**34.84**	**291**	*e*P	**P**	**09 17 17.6**	**-0.2**
14nm,1.0s,mb4.3							
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**09 18 14.8**	**+0.4**
3.8nm,0.4s,mb4.2,baz=92,slow=7.0,SNR=83							
ASAR				ScP	ScP	09 23 05.0	+2.9
0.4nm,1.0s,baz=136,slow=4.5,SNR=4.7							
ASAR				S	**S**	**09 23 55.5**	**-0.1**
0.4nm,0.7s,baz=105,slow=13,SNR=5.7							
WB2	**Warramunga Arr**	**42.26**	**267**	⇓*i*P	**P**	**09 18 18.0**	**-0.1**
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**09 18 18.1**	**-0.2**
8.4nm,0.4s,mb4.5,baz=103,slow=7.9,SNR=70							
WRA				ScP	ScP	09 23 08.2	+4.1
1.5nm,0.7s,baz=109,slow=3.9,SNR=6.0							
KAKA	**Kakadu**	**46.36**	**276**	*e*P	**P**	**09 18 49.3**	**-0.6**
6.1nm,0.4s,mb4.4							
FITZ	**Fitzroy Crossi**	**50.68**	**267**	*e*P	**P**	**09 19 22.7**	**+0.6**
12nm,0.6s,mb4.4							
VNDA	**Vanda**	**53.17**	**185**	P	**P**	**09 19 41.4**	**+1.3**
0.7nm,0.8s,mb3.1,baz=1.4,slow=6.9,SNR=3.7							
CASY	**Casey**	**59.00**	**206**	*e*P	**P**	**09 20 17.3**	**-3.2**
104nm,1.4s,mb5.0							
QSPA	**South Pole Qui**	**64.98**	**180**	*e*P	**P**	**09 21 00.8**	**+1.3**
16nm,1.2s,mb4.5							
MJAR	**Matsushiro Arr**	**72.86**	**326**	P	**P**	**09 21 45.8**	**-1.2**
2.6nm,0.8s,mb3.8,baz=155,slow=4.4,SNR=5.9							
SNAA	**Sanae**	**83.46**	**179**	*e*P	**P**	**09 22 44.1**	**0.0**
0.6nm,0.5s,mb3.4							
ENH	**Enshi**	**87.08**	**305**	*e*P	**P**	**09 22 59.7**	**-1.9**
0.3nm,0.5s,mb3.3							
TXAR	**Lajitas Array**	**91.12**	**58**	P	**P**	**09 23 21.6**	**+1.2**
0.8nm,0.8s,mb3.7,baz=218,slow=6.2,SNR=10							
HFS	**Hagfors**	**143.71**	**348**	PKP	PKPdf	09 29 44.2	-3.0
2.6nm,0.5s,baz=66,slow=3.6,SNR=14							
AKASG	**Malin Array Be**	**145.94**	**326**	PKPbc	PKPbc	09 29 51.6	-1.2
1.5nm,0.5s,baz=45,slow=4.3,SNR=9.4							
TORD	**Torodi Ar. Bea**	**167.98**	**188**	PKPab	PKPab	09 31 30.3	+1.2
0.6nm,0.6s,baz=185,slow=2.4,SNR=4.2							

IDC ***02*** *09:15:03.7±1.2, 4739N×156.16E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse: s-maj=42.1km s-min=33.3km az=16.0*
ISCJB ***02*** *09:15:04.6±4.9, 4756N±009×1563E±03, h21km±35km, mb3.7/5, Error ellipse: s-maj=31.2km s-min=13.2km az=24.6*
NEIC ***02*** *09:15:05.1±1.1, 4759N×156.15E, h10km, mb4.3/1, Error ellipse: s-maj=29.6km s-min=20.7km az=112.0*
MOS ***02*** *09:15:08.9±1.6, 4774N×156.11E, h53km, mb3.8/2, Error ellipse: s-maj=56.4km s-min=19.1km az=90.2*
ISC 02 09:15:05.2±4.9, 4756N±008×1562E±03, h12km±31km, n9, σ1§02/11, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.12**	**359**	*e*PN	**Pn**	**09 15 54.5**	**+0.3**
SKR				*e*S	**Sn**	**09 16 32.5**	**+1.0**
SKR				smax			
comp=N,210nm,0.2s							
SKR				smax			
comp=E,90nm,0.5s							
PET	**Petropavlovsk**	**5.68**	**15**	*e*Pn	**Pn**	**09 16 29.5**	**+0.1**
PET				*e*Sn	**Sn**	**09 17 33.5**	**-1.1**
TIXI	**Tiksi**	**27.32**	**342**	*e*P	**P**	**09 20 47.6**	**-2.3**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.3s,mb4.3							
TIXI	**Tiksi**	**27.32**	**342**	*e*P	**P**	**09 20 47.5**	**-2.3**
comp=Z,2.5nm,0.3s,mb4.2							

MKAR	**Makanchi Array**	**48.44**	**298**	P	**P**	**09 23 47.5**	**+0.1**
comp=Z,0.7nm,0.7s,mb3.8,baz=57,slow=8.8,SNR=5.2							
MKAR	**Makanchi Array**	**48.44**	**298**	P	**P**	**09 23 47.5**	**+0.1**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**51.97**	**310**	P	**P**	**09 24 14.9**	**+0.8**
comp=Z,0.4nm,0.4s,mb3.7,baz=50,slow=8.5,SNR=3.7							
ASAR	**Alice Springs**	**73.69**	**201**	P	**P**	**09 26 38.2**	**-0.7**
comp=Z,0.2nm,0.6s,mb3.2,baz=20,slow=5.7,SNR=4.4							
TXAR	**Lajitas Array**	**75.24**	**63**	P	**P**	**09 26 49.1**	**+1.3**
comp=Z,0.4nm,0.6s,mb3.5,baz=300,slow=4.4,SNR=7.5							

ROM ***02*** *09:18:08.8±0.5, 4545N×1188E, h10km, Md2.7/6, Ml2.1/1, Error ellipse: s-maj=7.5km s-min=2.5km az=168.0*
ISCJB ***02*** *09:18:09.8±0.5, 4564N±003×1186E±004, h0km, Error ellipse: s-maj=4.2km s-min=3.5km az=137.5*
VIE ***02*** *09:18:09.1±0.7, 4562N×1185E, h8km, mb1.9/1, ML2.5/4, Error ellipse: s-maj=4.3km s-min=2.0km az=22.0 43 km WNW of Venedig Suspected Mining induced.*
CSEM ***02*** *09:18:09.1±0.2, 4561N×1194E, h1km, ML2.9/5, Error ellipse: s-maj=3.9km s-min=2.8km az=138.0, Suspected Mining induced.*
ISC 02 09:18:10.3±0.6, 4560N±003×1186E±004, h0km, n19, σ1§15/32, 6C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTLO	**Montello**	**0.27**	**39**	*e*Pg	**Pg**	**09 18 15.8**	**+0.3**
TEOL	**Teolo**	**0.28**	**208**	⇑*i*Pg	**Pg**	**09 18 16.0**	**+0.4**
TEOL				*i*Sg	**Sg**	**09 18 21.7**	**+2.6**
CGRP	**Cima Grappa**	**0.28**	**352**	⇓*e*Pg	**Pg**	**09 18 15.3**	**-0.4**
CAE	**Caneva**	**0.57**	**45**	⇓*e*Pg	**Pg**	**09 18 21.0**	**-0.3**
MLNI	**Malnisio**	**0.76**	**44**	⇓*e*Pg	**Pg**	**09 18 25.9**	**+1.0**
APPI	**Appiano**	**0.98**	**334**	Pg	**Pg**	**09 18 28.9**	**-0.2**
MABI	**Malga Bissina**	**1.04**	**296**	Pg	**Pg**	**09 18 30.0**	**-0.2**
MABI				Sg	**Sg**	**09 18 46.3**	**+2.5**
BAD	**Bernadia**	**1.16**	**56**	*e*Pg	**Pg**	**09 18 32.1**	**-0.4**
BAD				*e*Sg	**Sg**	**09 18 49.1**	**+1.6**
SEST	**Monte Rota**	**1.17**	**12**	Pg	**Pg**	**09 18 33.2**	**+0.4**
SEST				Sg	**Sg**	**09 18 50.7**	**+2.7**
30nm,0.7s							
FVI	**Forni Avoltri**	**1.18**	**33**	Pg	**Pg**	**09 18 32.8**	**-0.2**
FVI				Sg	**Sg**	**09 18 50.4**	**+2.1**
28nm,0.4s							
PTCC	**Patocco-Chiusa**	**1.32**	**52**	Pg	**Pg**	**09 18 34.5**	**-1.0**
PTCC				Sg	**Sg**	**09 18 53.3**	**+0.7**
19nm,0.4s							
BRMO	**Bormio**	**1.35**	**311**	Pg	**Pg**	**09 18 35.3**	**-0.9**
DRE	**Drenchia**	**1.37**	**65**	⇓*i*Pg	**Pg**	**09 18 35.2**	**-1.3**
DRE				*i*Sg	**Sg**	**09 18 55.3**	**+1.0**
DRE	**Drenchia**	**1.37**	**65**	*i*Pg	**Pg**	**09 18 35.2**	**-1.4**
DRE				*i*Sg	**Sg**	**09 18 55.3**	**+0.9**
VOY	**Vojsko**	**1.49**	**73**	*e*Pn	**Pn**	**09 18 36.8**	**-1.5**
VOY				*e*Sn	**Sn**	**09 18 57.7**	**-0.7**
WTTA	**Wattenberg**	**1.67**	**355**	⇓*i*Pg	**Pg**	**09 18 41.0**	**-1.2**
WTTA				⇓*i*Sg	**Sg**	**09 19 04.3**	**+0.4**
22nm,0.3s							
SQTA	**Sankt Quirin**	**1.68**	**345**	⇓*i*Pg	**Pg**	**09 18 41.2**	**-1.3**
SQTA				⇑*i*Sg	**Sg**	**09 19 03.9**	**-0.4**
6.4nm,0.3s							
KBA	**Koelnbreinsper**	**1.80**	**34**	⇑*i*Pg	**Pg**	**09 18 43.3**	**-1.5**
KBA				⇑*i*Sg	**Sg**	**09 19 08.0**	**-0.2**
7.4nm,0.3s							
MOTA	**Moosalm**	**1.82**	**344**	⇑*i*Pg	**Pg**	**09 18 43.4**	**-1.8**
MOTA				⇑*i*Sg	**Sg**	**09 19 09.4**	**+0.7**
8.7nm,0.4s							

ISCJB ***02*** *09:19:08.6±0.3, 6717N±002×2069E±007, h0km, Error ellipse: s-maj=4.0km s-min=3.2km az=68.2*
IDC ***02*** *09:19:09.9±1.0, 6715N×2083E, h0km, mb1 3.1/4, mb1mx3.0/22, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=16.4km s-min=7.8km az=113.0*
CSEM ***02*** *09:19:09.4±0.1, 6719N×2046E, h2km, ML2.8, Error ellipse: s-maj=5.6km s-min=3.1km az=83.0, Mining explosion.*
UPP ***02*** *09:19:09.5, 6719N×2066E, h2km, ML2.8, Mining explosion.*
HEL ***02*** *09:19:09.9±0.0, 6718N×2068E, h0km, ML2.4, ML2.8(UPP), ML2.0(BER), Explosion*
NAO ***02*** *09:19:09.5±1.0, 6715N×2090E, ML2.2*
BER ***02*** *09:19:12.0±3.3, 6714N×2062E, h0km, ML2.0, ML2.2(NAO), Suspected explosion*
ISC 02 09:19:09.3±0.3, 6715N±002×2077E±005, h0km, n45, σ1§05/64, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**250**	*i*P	**Pg**	**09 19 11.2**	**+0.3**
DUNU				*i*S	**Sg**	**09 19 12.3**	**+0.4**
DUNU	**Dundret**	**0.08**	**250**	P	**Pg**	**09 19 11.1**	**+0.2**
MASU	**Masugnsbyn**	**0.57**	**57**	*i*P	**Pg**	**09 19 20.5**	**+0.4**
KUA	**Kurravaara**	**0.82**	**349**	*i*P	**Pg**	**09 19 23.8**	**-1.3**
SALU	**Saltoluokta**	**0.91**	**286**	*i*P	**Pg**	**09 19 25.5**	**-1.2**
PAJU	**Pajala**	**0.93**	**97**	*e*P	**Pg**	**09 19 27.2**	**+0.2**
NIKU	**Nikkaluokta**	**0.98**	**318**	*e*P	**Pg**	**09 19 26.6**	**-1.5**
HARU	**Harads**	**0.99**	**175**	*e*P	**Pg**	**09 19 28.3**	**-0.1**
LANU	**Lannavaara**	**1.02**	**27**	*e*P	**Pg**	**09 19 27.9**	**-0.9**
SJUU	**Sjulsmark**	**1.68**	**168**	*e*P	**Pn**	**09 19 40.5**	**+0.6**
KIF	**Kilpisjarvi**	**1.86**	**0**	*e*P	**Pn**	**09 19 42.7**	**+0.3**
KIF				*e*S	**Sn**	**09 20 06.8**	**+0.2**
LILU	**Lilltraesk**	**1.91**	**192**	*e*P	**Pn**	**09 19 43.9**	**+0.8**
LILU	**Lilltraesk**	**1.91**	**192**	P	**Pn**	**09 19 43.8**	**+0.8**
KTK1	**Kautokeino**	**2.09**	**25**	*e*P	**Pn**	**09 19 46.3**	**+0.8**
KTK1				*e*S	**Sn**	**09 20 13.2**	**+1.0**
KTK1				AML	AML	09 20 16.0	
comp=Z,25nm,0.3s							
SGF	**Sodankyl**	**2.25**	**80**	*e*P	**Pn**	**09 19 48.7**	**+1.0**
SGF				*e*SB	**Sb**	**09 20 18.5**	**-0.7**
SGF				MSG		09 20 21.2	
comp=Z,32nm,0.2s							
TRO	**Tromso**	**2.59**	**346**	*e*P	**Pn**	**09 19 52.2**	**-0.2**
TRO				*e*S	**Sn**	**09 20 24.6**	**+0.2**
TRO				AML	AML	09 20 29.0	
comp=Z,12nm,0.4s							
BURU	**Burvik**	**2.59**	**174**	*e*P	**Pn**	**09 19 53.9**	**+1.5**
BURU	**Burvik**	**2.59**	**174**	P	**Pn**	**09 19 53.8**	**+1.4**
MOR8	**Moi Rana**	**2.71**	**252**	*e*Sg	**Sn**	**09 20 28.3**	**+0.9**
MOR8				AML	AML	09 20 29.3	
comp=Z,20nm,0.7s							
MOR8	**Moi Rana**	**2.71**	**252**	*e*Sg	**Sn**	**09 20 28.3**	**+0.9**
comp=Z,20nm,0.7s,SNR=90							
SVAU	**Svanoeiden**	**2.71**	**191**	*e*P	**Pn**	**09 19 55.3**	**+1.2**
LOF	**Lofoten**	**2.93**	**293**	*e*Sg	**Sg**	**09 20 43.4**	**-0.1**
OUL	**Oulu**	**2.94**	**132**	*e*P	**Pn**	**09 19 58.1**	**+0.8**
OUL				MSG		09 20 43.5	
comp=Z,7.2nm,0.2s							
ARA0	**ARCESS Array S**	**2.97**	**34**	Pn	**Pn**	**09 19 57.9**	**+0.2**
baz=210,slow=14							
ARA0				Sn	**Sn**	**09 20 34.1**	**+0.1**
baz=214,slow=22							
ARA0	**ARCESS Array S**	**2.97**	**34**	*e*P	**Pn**	**09 19 57.9**	**+0.2**
ARA0				*e*S	**Sn**	**09 20 34.1**	**+0.1**
ARA0	**ARCESS Array S**	**2.97**	**34**	Pn	**Pn**	**09 19 57.8**	**+0.2**
SNR=50							
ARA0				Sn	**Sn**	**09 20 34.1**	**+0.1**
SNR=50							
ARCES	**ARCESS Array B**	**2.97**	**34**	Pn	**Pn**	**09 19 58.0**	**+0.4**
comp=Z,1.3nm,0.3s,baz=211,slow=13,SNR=47							
ARCES				Sn	**Sn**	**09 20 35.1**	**+1.1**
comp=Z,2.4nm,0.3s,baz=212,slow=22,SNR=16							
STOK	**Stokkvaagen**	**3.18**	**259**	*e*Sg	**Sg**	**09 20 48.9**	**-2.7**
STOK				AML	AML	09 20 57.5	
comp=Z,14nm,0.7s							
STOK	**Stokkvaagen**	**3.18**	**259**	*e*Sg	**Sg**	**09 20 48.9**	**-2.7**
comp=Z,14nm,0.7s,SNR=90							
KU6	**Riekki**	**3.81**	**103**	*e*SG	**Sg**	**09 21 08.7**	**-3.0**
VAF	**Ylistaro**	**4.20**	**168**	*e*P	**Pn**	**09 20 15.6**	**+1.0**
VAF				*e*SG	**Sg**	**09 21 19.1**	**-5.2**
VAF				MSG		09 21 25.8	
comp=Z,4.9nm,0.3s							
KJN	**Kajaani**	**4.21**	**134**	*e*SG	**Sg**	**09 21 21.4**	**-3.2**
NSS	**Namsos**	**4.47**	**238**	*e*Sg	**Sg**	**09 21 28.7**	**-4.2**
APA0	**Apatity Array**	**4.74**	**79**	Sn	**Sn**	**09 21 16.0**	**-1.7**
baz=264,slow=28							
APA0				Lg		09 21 35.1	
baz=271,slow=28							
APA0	**Apatity Array**	**4.74**	**79**	*e*S	**Sn**	**09 21 16.0**	**-1.7**
APA0				*e*SG		09 21 35.1	
FIA0	**FINESS Array S**	**6.17**	**156**	Pn	**Pn**	**09 20 42.6**	**+1.0**
baz=346,slow=16							
FIA0				Sn	**Sn**	**09 21 51.5**	**-1.4**
baz=345,slow=28							
FIA0				Lg		09 22 23.3	
baz=346,slow=37							
FIA0	**FINESS Array S**	**6.17**	**156**	*e*P	**Pn**	**09 20 42.6**	**+1.0**
FIA0				*e*S	**Sn**	**09 21 51.5**	**-1.4**
FIA0				*e*SG		09 22 23.3	
FIA0	**FINESS Array S**	**6.17**	**156**	Pn	**Pn**	**09 20 42.7**	**+1.0**
SNR=50							
FIA0				Sn	**Sn**	**09 21 51.5**	**-1.5**
SNR=50							
FINES	**FINESS Array B**	**6.17**	**156**	Pn	**Pn**	**09 20 43.1**	**+1.4**
comp=Z,0.2nm,0.3s,baz=346,slow=14,SNR=7.4							
FINES				Sn	**Sn**	**09 21 52.2**	**-0.8**
comp=Z,0.3nm,0.3s,baz=349,slow=23,SNR=5.5							
FINES				Lg		09 22 22.8	
comp=Z,0.6nm,0.3s,baz=345,slow=27,SNR=7.3							
NB2	**NORSAR Subarra**	**7.42**	**219**	*e*P	**Pn**	**09 20 59.3**	**+0.6**
NB2				*e*		09 23 05.2	
NOA	**NORSAR Array B**	**7.42**	**219**	Pn	**Pn**	**09 20 58.3**	**-0.4**
comp=Z,0.2nm,0.3s,baz=36,slow=17,SNR=2.9							
NOA				Sn	**Sn**	**09 22 15.8**	**-7.8**
comp=Z,0.2nm,0.3s,baz=210,slow=16,SNR=3.2							
NOA				Lg		09 23 00.9	
comp=Z,0.4nm,0.3s,baz=100,slow=18,SNR=2.5							
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**09 21 02.0**	**-0.7**
comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=8.3							
HFS				Sn	**Sn**	**09 22 26.2**	**-4.6**
comp=Z,0.3nm,0.3s,baz=17,slow=22,SNR=7.0							
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**09 21 01.6**	**-1.1**
baz=21,slow=14							
HFS				Sn	**Sn**	**09 22 25.7**	**-5.0**
baz=32,slow=28							
HFS				Lg		09 23 10.2	
baz=34,slow=22							
HFS	**Hagfors**	**7.71**	**207**	*e*P	**Pn**	**09 21 01.6**	**-1.1**
HFS				*e*S	**Sn**	**09 22 25.7**	**-5.0**
HFS				*e*SG		09 23 10.2	
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**09 21 01.6**	**-1.1**
SNR=50							
HFS				Sn	**Sn**	**09 22 25.7**	**-5.1**
SNR=50							

MOS ***02*** *09:25:27.4±1.8, 5232N×16064E, h9km, mb4.6/22, Error ellipse: s-maj=9.8km s-min=5.8km az=103.1*
IDC ***02*** *09:25:29.3±0.8, 5252N×16026E, h0km, mb4.0/19, mb1 4.2/20, mb1mx4.1/27, mbtmp4.0/20, ML4.0/1, MS3.9/6, Ms1 3.9/6, ms1mx3.4/46, Error ellipse: s-maj=20.4km s-min=16.7km az=137.0*
KRSC ***02*** *09:25:32.3±0.2, 5249N×16054E, h6km±5km, ML4.9*
BJI ***02*** *09:25:32.7, 5274N×16003E, h25km, mB4.8, mb4.6, Ms4.5, Msz4.2*
ISCJB ***02*** *09:25:34.2±0.7, 5241N±004×16053E±007, h59km±5km, mb4.3/45, MS4.0/14, Error ellipse: s-maj=8.7km s-min=3.9km az=75.1*
NEIC ***02*** *09:25:36.8±1.3, 5250N×160.16E, h56km±10km, mb4.6/12, Error ellipse: s-maj=11.4km s-min=7.7km az=132.0*
ISC 02 09:25:35.4±0.7, 5238N±004×16047E±007, h55km±5km, n122, σ1§22/151, mb4.3/45, MS4.0/14, 2C-7D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.77**	**340**	*i*P	**Pn**	**09 25 46.7**	**-3.6**
SPN				*i*S	**Sn**	**09 25 56.6**	**-4.6**
NLC	**Nalytchevo**	**1.05**	**320**	*i*P	**Pn**	**09 25 51.8**	**-2.1**
NLC				*i*S	**Sn**	**09 26 06.1**	**-1.5**
RUS	**Russkaya**	**1.20**	**274**	*i*P	**Pn**	**09 25 55.2**	**-0.7**
RUS				*i*S	**Sn**	**09 26 12.1**	**+0.9**
PET	**Petropavlovsk**	**1.28**	**301**	*e*Pn	**Pn**	**09 25 56.2**	**-0.8**
PET				*e*Sn	**Sn**	**09 26 14.6**	**+1.4**
PET	**Petropavlovsk**	**1.28**	**301**	*i*P	**Pn**	**09 25 56.1**	**-0.9**
PET				*i*S	**Sn**	**09 26 13.7**	**+0.5**
INSR	**Institute**	**1.33**	**302**	P	**Pn**	**09 25 56.6**	**-1.0**
INSR				*i*S	**Sn**	**09 26 15.5**	**+1.2**
AVH	**Avacha**	**1.38**	**311**	*i*P	**Pn**	**09 25 58.0**	**-0.3**
AVH				*i*S	**Sn**	**09 26 17.0**	**+1.5**
GRL	**Gorelyy**	**1.48**	**278**	*i*P	**Pn**	**09 26 00.4**	**+0.8**
GRL				*i*S	**Sn**	**09 26 20.2**	**+2.3**
GNL	**Ganaly**	**2.02**	**312**	*i*P	**Pn**	**09 26 07.9**	**+0.9**
GNL				*i*S	**Sn**	**09 26 33.5**	**+2.4**
MKZ	**Mys Kozlova**	**2.31**	**18**	*i*P	**Pn**	**09 26 07.7**	**-3.3**
MKZ				*i*S	**Sn**	**09 26 33.7**	**-4.5**
TUMR	**Tumrok**	**2.92**	**356**	*e*P	**Pn**	**09 26 18.9**	**-0.4**
TUMR				*i*S	**Sn**	**09 26 52.5**	**-0.7**
SKR	**Severo-Kuril's**	**3.20**	**240**	*e*PN	**Pn**	**09 26 22.5**	**-0.7**
SKR				*e*S	**Sn**	**09 27 06.0**	**+5.9**
SKR				pmax	pmax		
comp=Z,90nm,0.5s							
SKR				smax			
comp=N,640nm,0.6s							
SKR				smax			
comp=E,240nm,0.6s							
SKR				smax			
comp=N,2μm,4.0s							
SKR				smax			
comp=E,2μm,4.0s							
SKR				MLR	MLR		
comp=N,3μm,14.0s							

YAK			MLR	MLR		
	comp=Z,261nm,15.0s					
YAK			MLR	MLR		
	comp=N,284nm,20.0s					
YAK			MLR	MLR		
	comp=E,281nm,18.0s					
YAK	**Yakutsk**	**19.09 312**	*e*P	**Pn**	**09 29 51.6**	**-3.1**
	comp=E,18nm,0.6s					
CLNS	**Chul'man**	**20.92 296**	*e*P	**P**	**09 30 14.4**	**+1.1**
CLNS			pmax	pmax		
	comp=Z,13nm,0.9s					
CLNS			pmax	pmax		
	comp=N,8.0nm,0.7s					
CLNS			pmax	pmax		
	comp=E,11nm,0.8s					
MDJ	**Mudanjiang**	**21.76 261**	P	**P**	**09 30 22.1**	**-0.1**
MDJ			AMB	AMB		
	comp=Z,103nm,4.3s					
MDJ			LR	LR		
	comp=N,193nm,24.7s,MS3.5					
MDJ			LR	LR		
	comp=E,129nm,23.4s,MS3.5					
MDJ			LR	LR		
	comp=Z,164nm,21.0s,MS3.4					
MAJO	**Matsushiro**	**22.29 234**	*e*P	**P**	**09 30 27.4**	**-0.5**
MAJO			pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5					
MAJO	**Matsushiro**	**22.29 234**	*e*P	**P**	**09 30 27.4**	**-0.5**
	comp=Z,17nm,0.8s,mb4.5					
MAT	**Matsushiro**	**22.29 234**	P	**P**	**09 30 31.2**	**+3.3**
MJAR	**Matsushiro Arr**	**22.29 234**	P	**P**	**09 30 28.7**	**+0.8**
	comp=Z,7.5nm,0.9s,mb4.1,baz=32,slow=11,SNR=14					
MJAR	**Matsushiro Arr**	**22.29 234**	P	**P**	**09 30 28.7**	**+0.8**
MJAR			pmax	pmax		
	comp=Z,8.0nm,0.9s					
TIXI	**Tiksi**	**23.83 336**	*e*P	**P**	**09 30 38.8**	**-4.5**
TIXI			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3					
TIXI			MLR	MLR		
	comp=Z,186nm,14.0s,MS3.7					
TIXI	**Tiksi**	**23.83 336**	*e*P	**P**	**09 30 42.0**	**-1.2**
	comp=Z,12nm,1.0s,mb4.3					
CN2	**Changchun**	**24.71 264**	*e*P	**P**	**09 30 50.7**	**-0.6**
CN2			*e*XP	sP	09 30 57.7	-14
CN2			*e*S	**S**	**09 35 11.4**	**+2.1**
CN2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,500nm,13.0s,MS4.3					
CN2			LR	LR		
	comp=E,400nm,13.0s,MS4.3					
CN2			LR	LR		
	comp=Z,400nm,17.0s,MS4.0					
HIA	**Hailar**	**25.68 279**	*e*P	**P**	**09 30 59.3**	**-0.8**
HIA			pmax	pmax		
	comp=Z,21nm,0.9s					
HIA	**Hailar**	**25.68 279**	*e*P	**P**	**09 30 59.3**	**-0.8**
	comp=Z,21nm,0.9s,mb4.7					
BOD	**Bodaibo**	**26.70 300**	*e*P	**P**	**09 31 07.6**	**-1.7**
BOD			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0					
KSRS	**Korea Array**	**27.17 250**	P	**P**	**09 31 16.9**	**+3.3**
	comp=Z,2.5nm,0.7s,mb3.9,baz=39,slow=9.7,SNR=7.2					
KSRS			LR	LR	09 43 16.1	
	comp=Z,136nm,18.8s,MS3.5,baz=39,slow=39					
JNU	**Nakatsue**	**28.72 240**	LR	LR	09 43 26.3	
	comp=Z,455nm,19.8s,MS4.1,baz=83,slow=38					
ULN	**Ulaanbaatar**	**33.89 284**‖	*e*P	**P**	**09 32 12.4**	**-0.4**
ULN	**Ulaanbaatar**	**33.89 284**	*e*P	**P**	**09 32 12.3**	**-0.5**
	comp=Z,5.8nm,1.1s,mb4.4					
TLY	**Talaya**	**34.20 292**	*e*P	**P**	**09 32 15.3**	**-0.2**
TLY			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4					
TLY			MLR	MLR		
	comp=Z,114nm,13.0s,MS3.8					
TLY	**Talaya**	**34.20 292**	P	**P**	**09 32 15.8**	**+0.3**
SONM	**Songino Array**	**34.30 284**	P	**P**	**09 32 16.4**	**+0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=62,slow=7.9,SNR=12					
SONM			LR	LR	09 47 34.5	
	comp=Z,386nm,18.5s,MS4.2,baz=40,slow=39					
SONM	**Songino Array**	**34.30 284**	P	**P**	**09 32 16.4**	**+0.1**
SONM			pmax	pmax		
	comp=Z,1.0nm,0.4s					
SONM			MLR	MLR		
	comp=Z,386nm,18.5s					
INK	**Inuvik**	**34.30 37**	P	**P**	**09 32 16.5**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=270,slow=2.0,SNR=4.7					
INK	**Inuvik**	**34.30 37**	P	**P**	**09 32 16.5**	**+0.1**
HHC	**Hu-ho-hao-te**	**34.87 271**	*e*P	**P**	**09 32 20.7**	**-0.6**
HHC			PP	PP	09 33 39.6	-1.6
HHC			S	**S**	**09 37 53.5**	**+5.0**
HHC			PCS	PcS	09 38 37.5	-2.4
HHC			SCS	ScS	09 42 38.2	+0.8
HHC			AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1					
HHC			AMB	AMB		
	comp=Z,115nm,5.0s					
HHC			LR	LR		
	comp=N,402nm,17.8s,MS4.3					
HHC			LR	LR		
	comp=E,250nm,16.7s,MS4.3					
HHC			LR	LR		
	comp=Z,357nm,17.8s,MS4.2					
ZAK	**Zakamensk**	**34.96 290**	*e*P	**P**	**09 32 22.2**	**+0.2**
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9					
LZH	**Lanzhou**	**42.57 271**	*e*P	**P**	**09 33 25.8**	**+0.1**
LZH			PP	PP	09 35 07.8	+2.6
LZH			AMB	AMB		
	comp=Z,20nm,1.5s,mb4.6					
LZH			AMB	AMB		
	comp=Z,53nm,5.9s					
LZH			LR	LR		
	comp=E,357nm,14.5s					
LZH			LR	LR		
	comp=Z,495nm,17.6s,MS4.5					
ZAL	**Zalesovo**	**43.38 303**	P	**P**	**09 33 29.6**	**-2.7**
	comp=Z,1.0nm,0.7s,mb3.7,baz=14,slow=8.8,SNR=6.9					
ZAL			LR	LR	09 54 23.2	
	comp=Z,106nm,18.5s,MS3.8,baz=173,slow=40					
ZAL	**Zalesovo**	**43.38 303**	P	**P**	**09 33 29.6**	**-2.7**
ZAL			pmax	pmax		
	comp=Z,1.0nm,0.7s					
ZAL			MLR	MLR		
	comp=Z,106nm,18.5s					
NVS	**Novosibirsk**	**43.72 305**	*i* P	**P**	**09 33 33.8**	**-1.2**
NVS			pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8					
NVS			pmax	pmax		
	comp=N,10.0nm,1.1s					
NVS			pmax	pmax		
	comp=E,18nm,1.1s					
CD2	**Chengdu**	**46.13 265**	*e*P	**P**	**09 33 53.2**	**-1.0**
CD2			AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6					
CD2			AMB	AMB		
	comp=Z,30nm,5.2s					
WMQ	**Urumqi**	**47.43 290**	P	**P**	**09 34 05.5**	**+1.2**
WMQ			AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6					
WMQ			LR	LR		
	comp=N,86nm,20.0s,MS4.1					
WMQ			LR	LR		
	comp=E,172nm,20.0s,MS4.1					
WMQ			LR	LR		
	comp=Z,86nm,16.0s,MS3.8					
GYA	**Guiyang**	**47.58 259**	P	**P**	**09 34 06.4**	**+1.0**
GYA			AP	pP	09 34 10.8	-9.2
GYA			PCP	PcP	09 35 35.4	+0.8
GYA			PP	PP	09 35 58.8	+1.6
GYA			S	**S**	**09 41 04.0**	**+7.3**
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9					
GYA			AMB	AMB		
	comp=Z,70nm,4.6s					
GYA			LR	LR		
	comp=N,340nm,17.9s,MS4.5					
GYA			LR	LR		
	comp=E,240nm,18.0s,MS4.5					
GYA			LR	LR		
	comp=Z,290nm,18.7s,MS4.3					
KURK	**Kurchatov**	**48.31 303**	*d* iP	**P**	**09 34 09.8**	**-1.3**
KURK	**Kurchatov**	**48.31 303**	*e*P	**P**	**09 34 09.7**	**-1.4**
	comp=Z,20nm,1.0s,mb5.1					
MK31	**Makanchi Array**	**48.68 296**	*e*P	**P**	**09 34 12.9**	**-1.0**
MKAR	**Makanchi Array**	**48.68 296**	P	**P**	**09 34 13.0**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=55,slow=6.8,SNR=14					
MKAR			LR	LR	09 55 55.1	
	comp=Z,92nm,21.9s,MS3.7,baz=170,slow=38					
MKAR	**Makanchi Array**	**48.68 296**	P	**P**	**09 34 13.0**	**-0.9**
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
MKAR			MLR	MLR		
	comp=Z,92nm,21.9s					
KMI	**Kunming**	**50.93 261**	P	**P**	**09 34 34.4**	**+3.4**
KMI			AP	pP	09 34 38.9	-6.9
KMI			XP	sP	09 34 41.3	-11
KMI			S	**S**	**09 41 50.4**	**+6.7**
KMI			AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7					
KMI			LR	LR		
	comp=N,215nm,16.7s,MS4.4					
KMI			LR	LR		
	comp=E,182nm,15.4s,MS4.4					
KMI			LR	LR		
	comp=Z,137nm,20.0s,MS4.0					
BVAR	**Borovoye Array**	**51.02 309**	P	**P**	**09 34 30.7**	**-1.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=55,slow=7.8,SNR=17					
BVAR	**Borovoye Array**	**51.02 309**	P	**P**	**09 34 30.7**	**-1.0**
BVAR			pmax	pmax		
	comp=Z,3.0nm,0.7s					
BRVK	**Borovoye**	**51.05 309**	*e*P	**P**	**09 34 29.4**	**-2.5**
BRVK			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5					
BRVK	**Borovoye**	**51.05 309**	*e*P	**P**	**09 34 29.4**	**-2.5**
	comp=Z,5.0nm,0.8s,mb4.5					
KEV	**Kevo**	**53.57 342**	*e*p	**P**	**09 34 49.4**	**-1.2**
ARCES	**ARCESS Array B**	**54.04 342**	P	**P**	**09 34 53.7**	**-0.4**
	comp=Z,6.3nm,0.8s,mb4.6,baz=50,slow=8.5,SNR=12					
ARCES	**ARCESS Array B**	**54.04 342**	P	**P**	**09 34 53.7**	**-0.4**
ARCES			pmax	pmax		
	comp=Z,6.0nm,0.8s					
ARCES	**ARCESS Array B**	**54.04 342**	P	**P**	**09 34 53.7**	**-0.4**
ARU	**Arti**	**54.08 318**‖	*i*P	**P**	**09 34 53.1**	**-1.3**
ARU			*e*		09 35 54.6	
ARU			*e*		09 37 04.5	
ARU			*e*S	**S**	**09 42 30.4**	**+3.7**
ARU			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
AAK	**Ala-Archa**	**55.61 297**	*e*P	**P**	**09 35 05.0**	**-0.4**
AAK			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6					
AAK	**Ala-Archa**	**55.61 297**	*e*P	**P**	**09 35 05.0**	**-0.4**
	comp=Z,6.2nm,0.9s,mb4.6					
PDAR	**Pinedale Array**	**57.67 61**	P	**P**	**09 35 22.1**	**+2.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=280,slow=5.4,SNR=3.5					
KLMR	**Klimovskoe**	**57.69 330**	P	**P**	**09 35 18.2**	**-2.0**
KLMR			pmax	pmax		
	comp=Z,31nm,1.7s,mb5.1					
CHTO	**Chiang Mai**	**57.99 259**	*e*P	**P**	**09 35 22.0**	**-0.3**
CHTO			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7					
CHTO	**Chiang Mai**	**57.99 259**	*e*P	**P**	**09 35 22.0**	**-0.3**
	comp=Z,5.6nm,0.8s,mb4.7					
AKTK	**Aktyubinsk**	**58.48 313**	P	**P**	**09 35 25.2**	**-0.5**
AKTO	**Aktyubinsk**	**58.48 313**	P	**P**	**09 35 25.2**	**-0.5**
	comp=Z,0.7nm,0.4s,mb4.1,baz=63,slow=9.0,SNR=3.2					
AKTO	**Aktyubinsk**	**58.48 313**	P	**P**	**09 35 25.2**	**-0.5**
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2					
KAF	**Kangasniemi**	**60.24 337**	*e*p	**P**	**09 35 37.6**	**-0.2**
	comp=Z,2.7nm,0.4s,mb4.6,baz=30,slow=6.5					
KAF	**Kangasniemi**	**60.24 337**	*e*P	**P**	**09 35 37.6**	**-0.2**
KAF			pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7					
FINES	**FINESS Array B**	**60.87 337**	P	**P**	**09 35 42.7**	**+0.6**
	comp=Z,2.7nm,0.5s,mb4.6,baz=34,slow=7.9,SNR=20					
FINES	**FINESS Array B**	**60.87 337**	*i* P	**P**	**09 35 43.0**	**+0.9**
FINES			pmax	pmax		
	comp=Z,3.0nm,0.5s					
OBN	**Obninsk**	**63.25 328**⇑	*e*P	**P**	**09 35 56.0**	**-2.1**
OBN			*e*S	S	09 44 46.6	+21
OBN			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1					
OBN	**Obninsk**	**63.25 328**	P	**P**	**09 35 56.6**	**-1.5**
NB2	**NORSAR Subarra**	**64.30 344**	P	**P**	**09 36 04.6**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.4,baz=23,slow=6.9					
NOA	**NORSAR Array B**	**64.30 344**	P	**P**	**09 36 05.2**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.4,baz=23,slow=6.6,SNR=7.2					
NOA	**NORSAR Array B**	**64.30 344**	P	**P**	**09 36 05.3**	**+0.3**
NOA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
AKASG	**Malin Array Be**	**69.35 329**	P	**P**	**09 36 37.2**	**+0.1**
	comp=Z,1.5nm,0.4s,mb4.3,baz=30,slow=6.3,SNR=19					
AKASG	**Malin Array Be**	**69.35 329**	P	**P**	**09 36 37.2**	**+0.1**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.4s					
AKASG	**Malin Array Be**	**69.35 329**	P	**P**	**09 36 37.2**	**+0.1**
TXAR	**Lajitas Array**	**70.71 67**	P	**P**	**09 36 46.8**	**+1.4**
	comp=Z,2.0nm,0.6s,mb3.2,baz=291,slow=5.2,SNR=4.5					
EKA	**Eskdalemuir Ar**	**71.81 350**	P	**P**	**09 36 52.5**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=18,slow=5.4,SNR=2.5					
EKA	**Eskdalemuir Ar**	**71.81 350**	P	**P**	**09 36 52.6**	**+0.6**
EKA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
CLL	**Collm**	**73.11 339**	*i* P	**P**	**09 37 01.5**	**+1.7**
CLL			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
CLL	**Collm**	**73.11 339**	*i* P	**P**	**09 37 01.5**	**+1.7**
	comp=Z,8.0nm,0.9s,mb4.7					
KHC	**Kasperske Hory**	**75.03 338**	*e*P	**P**	**09 37 12.0**	**+1.0**
GERES	**GERESS Array B**	**75.27 338**	P	**P**	**09 37 12.1**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=45,slow=5.8,SNR=6.8					
WRAB	**Tennant Creek**	**75.51 205**	P	**P**	**09 37 12.6**	**-1.2**
WRA	**Warramunga Arr**	**75.53 205**	P	**P**	**09 37 15.3**	**+1.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=22,slow=6.0,SNR=3.6					
BEO	**Belgrade**	**77.25 332**‖	*i*P	**P**	**09 37 23.0**	**-0.6**
BRTR	**Keskin Array B**	**77.32 321**	P	**P**	**09 37 24.3**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.8,baz=256,slow=0.5,SNR=4.9					
BRTR	**Keskin Array B**	**77.32 321**	*i* P	**P**	**09 37 25.8**	**+1.8**
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
GRUS	**Gruza**	**78.03 331**‖	*i*P	**P**	**09 37 28.6**	**+0.6**
DIVS	**Divcibare**	**78.05 332**‖	*i*P	**P**	**09 37 28.9**	**+0.9**
BBLS	**Bajina Basta -**	**78.42 332**‖	*i*P	**P**	**09 37 31.4**	**+1.3**
ASAR	**Alice Springs**	**79.20 205**	P	**P**	**09 37 36.5**	**+2.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=19,slow=5.8,SNR=5.3					
LPL	**La Plagne**	**79.91 342**	*e*P	**P**	**09 37 39.4**	**+1.2**
LPG	**La Plagne**	**79.92 342**	*e*P	**P**	**09 37 39.5**	**+1.2**
	comp=Z,10nm,0.7s,mb4.6					
LPG	**La Plagne**	**79.92 342**	*e*P	**P**	**09 37 39.5**	**+1.2**
LPG			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5					
LPG	**La Plagne**	**79.92 342**	*e*P	**P**	**09 37 39.5**	**+1.2**
	comp=Z,5.1nm,0.7s,mb4.6					
ESDC	**Sonseca Array**	**87.33 348**	P	**P**	**09 38 17.5**	**+1.2**
	comp=Z,0.4nm,0.5s,mb4.0,baz=359,slow=6.5,SNR=4.5					

GUC ***02*** *09:32:59.9±0.5,2697S×7109W,h47km±1km,MD4.5, ML4.7*

NEIC ***02*** *09:33:01.9±0.2,27.12S×7108W,mb4.8/15,Error ellipse: s-maj=8.5km s-min=4.2km az=65.0*

ISCJB ***02*** *09:33:01.2±0.9,27.13S±002×7115W±009,h31km±7km, mb4.5/22,MS4.3/4,Error ellipse: s-maj=13.5km s-min=4.0km az=168.6*

GCMT ***02*** *09:33:01.9±0.5,2709S×7170W,h23km±2km,MW4.9/25, Moment Tensor Solution. s10,c11; s25,c33; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.97±.27; Mθθ0.06±.14; Mφφ-2.03±.19; Mrθ0.54±.29; Mθφ-0.50±.12; Mφr-2.37±.37; Best double couple: M0:3.18600×10^16 NP1:φs30.00000°,δ24.00000°,λ124.00000°. NP2: φs174.00000°,δ71.00000°,λ76.00000°. Principal axes: T 3.2260, Plg62.0000°, Azm63.0000°; N -0.0800, Plg13.0000°, Azm178.0000°; P -3.1470, Plg24.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***02*** *09:33:02.2±0.8,2698S×7108W,h26km±5km,mb4.1/8, mb1 4.3/10,mb1mx4.2/15,mbtmp4.1/10,ML4.0/2,MS3.8/6, Ms1 3.8/6,ms1mx3.6/27 Error ellipse: s-maj=34.1km s-min=16.1km az=75.0*

BJI ***02*** *09:33:03.8,27.10S×71.10W,h24km,mB5.0,Ms5.0,Msz4.9*

ISC 02 09:33:01.9±1.2,2712S±002×7116W±008,h23km±8km, h23km±2.1km:pP-P,n100,σ0°89/93,mb4.5/22,MS4.3/4, 4C-6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.29**	**82**	‖*i*P	**Pb**	**09 33 08.3**	**-0.3**
CDCH				*i* S	**Sb**	**09 33 14.8**	**+1.6**
CDCH				AML	AML	09 33 16.8	
	comp=N,33μm,0.6s						
CDCH	**Caldera**	**0.29**	**82**	‖*i*P	**Pb**	**09 33 08.3**	**-0.3**
CDCH				*i* S	**Sb**	**09 33 14.8**	**+1.6**
CPCH	**Copiapo**	**0.75**	**109**	‖*i*P	**Pb**	**09 33 14.7**	**-1.6**
CPCH				*i* S	**Sb**	**09 33 26.2**	**+0.1**
CPCH				AML	AML	09 33 28.8	
	comp=E,86μm,0.1s						
CPCH	**Copiapo**	**0.75**	**109**	‖*i*P	**Pb**	**09 33 14.7**	**-1.6**
CPCH				*i* S	**Sb**	**09 33 26.2**	**+0.1**
VACH	**Vallenar**	**1.50**	**167**	*e*P	**Pn**	**09 33 26.9**	**-0.5**
VACH				*i* S	**Sn**	**09 33 47.0**	**+0.9**
VACH				AML	AML	09 33 58.2	
	comp=E,22μm,0.6s						
VACH	**Vallenar**	**1.50**	**167**	*e*P	**Pn**	**09 33 26.9**	**-0.5**
VACH				*i* S	**Sn**	**09 33 47.0**	**+0.9**
LSCH	**La Serena**	**2.78**	**182**	⇑*i*P	**Pn**	**09 33 43.9**	**-1.1**
LSCH				*i* S	**Sn**	**09 34 17.7**	**-0.2**
LSCH				AML	AML	09 34 47.2	
	comp=N,933nm,0.6s						
LSCH	**La Serena**	**2.78**	**182**	⇑*i*P	**Pn**	**09 33 43.9**	**-1.1**
LSCH				*i* S	**Sn**	**09 34 17.7**	**-0.2**
TLL	**Tololo Astrono**	**3.06**	**174**	*e*P	**Pn**	**09 33 48.7**	**0.0**
TLL				*e*S	**Sn**	**09 34 25.8**	**+1.1**
TLL				AML	AML	09 34 42.0	
	comp=N,3μm,0.7s						
TLL	**Tololo Astrono**	**3.06**	**174**	*e*P	**Pn**	**09 33 48.7**	**0.0**
TLL				*e*S	**Sn**	**09 34 25.8**	**+1.1**
CEN1	**Los Morros**	**3.81**	**13**	‖*i*P	**Pn**	**09 33 51.5**	**-7.6**
CEN1				*i* S	**Sn**	**09 34 31.2**	**-12**
CEN1				AML	AML	09 35 01.4	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**4.04**	**178**	⇑*i*P	**Pn**	**09 34 01.4**	**-1.0**
CMCH				*i* S	**Sn**	**09 34 48.4**	**-0.7**
CFAA	**Coronel Fontan**	**5.15**	**151**	Pn	**Pn**	**09 34 20.1**	**+2.6**
	comp=E,1.3nm,0.3s,baz=337,slow=13,SNR=48						
CFAA				Lg		09 35 33.6	
	comp=E,4.5nm,0.3s,baz=99,slow=15,SNR=9.2						
CFAA				LR	LR	09 36 21.3	
	comp=E,288nm,18.7s,baz=319,slow=38						
PEL	**Peldehue**	**6.02**	**176**	⇑*i*P	**Pn**	**09 34 29.0**	**-0.5**
FCH	**Farellones**	**6.24**	**173**	*e*P	**Pn**	**09 34 32.9**	**+0.4**
FCH				*i* S	**Sn**	**09 35 43.3**	**+0.3**
CLCH	**Cerro Calan**	**6.28**	**175**	*i* P	**Pn**	**09 34 32.7**	**-0.4**
CLCH				*i* S	**Sn**	**09 35 43.2**	**-0.9**
ARE	**Arequipa**	**10.61**	**358**	*e*P	**Pn**	**09 35 27.0**	**-5.4**
ARE				*e*		09 38 30.0	
LPAZ	**La Paz**	**11.13**	**15**	Pn	**Pn**	**09 35 36.7**	**-2.9**
	comp=E,1.2nm,0.3s,baz=197,slow=7.5,SNR=50						
LPAZ				LR	LR	09 38 40.4	
	comp=E,66nm,20.2s,baz=352,slow=31						
LPAZ	**La Paz**	**11.13**	**15**	*e*Pn	**Pn**	**09 35 36.6**	**-3.1**
	comp=E,12nm,0.7s						
LPAZ				*e*pPn		09 35 44.4	
LPAZ				*e*Sn	**Sn**	**09 37 42.7**	**-0.7**
TRQA	**Tornquist**	**13.36**	**147**	*e*Pn	**Pn**	**09 36 10.6**	**+0.5**
SIV	**San Ignacio**	**14.50**	**42**	Pn	**Pn**	**09 36 19.7**	**-5.9**
	comp=E,1.5nm,0.3s,baz=241,slow=7.7,SNR=34						
SIV				Sn	Sn	09 38 44.4	-21
	comp=E,0.3nm,0.3s,baz=191,slow=17,SNR=3.4						
NNA	**Nana**	**15.97**	**339**	LR	LR	09 41 37.1	
	comp=E,395nm,19.2s,baz=149,slow=32						
ATAH	**Atahualpa**	**21.16**	**340**	LR	LR	09 44 35.5	
	comp=E,252nm,18.8s,MS3.6,baz=160,slow=33						
USHA	**Ushuaia**	**27.76**	**177**	LR	LR	09 50 19.1	
	comp=E,548nm,19.0s,MS4.2,baz=153,slow=37						
OTAV	**Otavalo**	**28.09**	**344**	*e*P	**P**	**09 38 53.3**	**+1.6**
OTAV				*e*sP	sP	09 39 02.6	+1.3
RPN	**Rapa Nui**	**33.89**	**261**	LR	LR	09 50 05.1	
	comp=E,591nm,18.4s,MS4.3,baz=344,slow=30						
VNA3	**Neumayer Olymp**	**55.48**	**160**	*e*P	**P**	**09 42 34.9**	**0.0**
VNA3				*e*		09 42 36.1	
VNA3				*e*	pP	09 42 39.8	-2.2
VNA3				*e*		09 42 43.8	
VNA3				*e*		09 42 46.5	
VNA3				*e*		09 42 54.1	
VNA1	**Neumayer--Stat**	**55.75**	**159**	*e*P	**P**	**09 42 37.2**	**+0.4**
VNA1				*e*		09 42 38.5	
VNA1				*e*	pP	09 42 42.5	-1.4
VNA1				*e*		09 42 46.6	
VNA1				*e*		09 42 49.0	
VNA1				*e*		09 42 56.7	
VNA2	**Neumayer--Watz**	**56.10**	**159**	*e*P	**P**	**09 42 39.2**	**-0.1**
baz=292,slow=7.9							
VNA2				*e*		09 42 40.7	
VNA2				*e*	pP	09 42 43.8	-2.6
VNA2				*e*	pP	09 42 47.2	+0.8
VNA2				*e*		09 42 50.9	
VNA2				*e*		09 42 58.6	
SNAA	**Sanae**	**57.71**	**160**	P	**P**	**09 42 50.4**	**-0.3**
	comp=E,3.8nm,1.0s,mb4.4,baz=283,slow=6.1,SNR=26						
SNAA	**Sanae**	**57.71**	**160**	*e*P	**P**	**09 42 50.3**	**-0.4**
SNAA				*e*		09 42 51.8	
SNAA				*e*	pP	09 42 55.6	-2.2
SNAA				*e*		09 42 59.5	
SNAA				*e*		09 43 01.9	
SNAA				*e*		09 43 10.9	
SNAA	**Sanae**	**57.71**	**160**	*e*P	**P**	**09 42 50.4**	**-0.3**
	comp=E,15nm,1.1s,mb4.9						
MAIT	**Maitri**	**62.34**	**158**	*e*P	**P**	**09 43 21.7**	**-0.7**
JCT	**Junction City**	**63.48**	**332**	*e*P	**P**	**09 43 29.1**	**-0.9**
	comp=E,7.4nm,0.8s,mb4.9						
OXF	**Oxford**	**63.68**	**343**	*e*P	**P**	**09 43 31.2**	**-0.2**
OXF				*e*pP	pP	09 43 38.6	0.0
PLAL	**Pickwick Lake**	**63.80**	**345**	*e*P	**P**	**09 43 31.6**	**-0.6**
PLAL				*e*pP	pP	09 43 39.2	-0.2
TXAR	**Lajitas Array**	**64.19**	**329**	P	**P**	**09 43 34.2**	**-0.6**
	comp=E,0.6nm,0.8s,mb3.7,baz=153,slow=8.4,SNR=5.9						
MIAR	**Mount Ida**	**64.90**	**340**	*e*P	**P**	**09 43 38.5**	**-0.9**
	comp=E,10nm,1.0s,mb4.8						
LAZ	**Ladron**	**70.04**	**329**	*e*P	**P**	**09 44 13.2**	**+1.3**
ANMO	**Albuquerque**	**70.19**	**330**	*e*P	**P**	**09 44 13.5**	**+0.7**
ANMO				*e*pP	pP	09 44 19.0	-1.1
VNDA	**Vanda**	**70.98**	**191**	P	**P**	**09 44 19.1**	**+1.5**
	comp=E,1.4nm,0.8s,mb3.9,baz=119,slow=4.2,SNR=5.2						
SYO	**Syowa Base**	**71.99**	**159**‖	*e*P	**P**	**09 44 22.8**	**-0.9**

MAW Mawson 79.55 164 P P 09 45 06.7 -0.2
comp=E,7.5nm,0.7s,mb4.7,baz=202,slow=5.2,SNR=16
MAW Mawson 79.55 164 *eP* **P 09 45 06.9 0.0**
comp=E,11nm,0.9s,mb4.8
LAO LASA Array 80.02 336 *eP* **P 09 45 08.9 -0.6**
comp=E,16nm,1.1s,mb4.9
ULM Lac du Bonnet 80.08 344 P **P 09 45 08.1 -1.8**
comp=E,1.7nm,0.6s,mb4.1,baz=200,slow=5.6,SNR=5.5
ULM pP pP 09 45 17.1 -0.1
comp=E,11nm,1.0s,baz=168,slow=6.9,SNR=7.9
YMR Madison River 80.16 332 *eP* **P 09 45 10.0 -0.2**
comp=E,12nm,1.3s,mb4.7
TSUM Tsumeb 80.40 107 *eP* **P 09 45 11.8 +0.3**
comp=E,13nm,0.9s,mb4.9
QLMT Earthquake Lak 80.48 332 *eP* **P 09 45 12.8 +0.8**
GCMT Greycliff 80.56 334 P **P 09 45 12.3 -0.1**
HLID Hailey 80.76 330 *eP* **P 09 45 13.3 -0.2**
comp=E,8.5nm,1.1s,mb4.6
HLID *es*P sP 09 45 24.2 +0.7
DGMT Dagmar 80.86 338 *eP* **P 09 45 13.9 -0.1**
DGMT *es*P sP 09 45 24.0 0.0
MCMT McKenzie Canyo 81.08 331 *eP* **P 09 45 15.3 +0.2**
TOA0 Torodi Ar. Sit 81.17 70 *eP* **P 09 45 15.5 -0.2**
TORD Torodi Ar. Bea 81.17 70 P **P 09 45 15.4 -0.2**
comp=E,33nm,0.6s,mb5.4,baz=263,slow=5.0,SNR=178
LRM Limekiln Ridge 81.71 332 *eP* **P 09 45 18.7 +0.2**
LRM *es*P sP 09 45 28.8 +0.2
MOD Modoc 82.32 325 *eP* **P 09 45 22.3 +0.6**
MOD *es*P sP 09 45 31.3 -0.5
BOSA Boshof 82.62 118 P **P 09 45 23.8 +0.5**
comp=E,13nm,1.0s,mb4.9,baz=228,slow=5.6,SNR=11
BOSA Boshof 82.62 118 P **P 09 45 23.8 +0.5**
HAWA Hanford 85.26 329 *eP* **P 09 45 37.4 +0.6**
HAWA *es*P sP 09 45 46.7 -0.1
EDM Edmonton 88.00 336 *eP* **P 09 45 49.7 -0.4**
YKA Yellowknife Ar 95.80 341 P **P 09 46 24.2 -2.1**
comp=E,0.6nm,0.9s,mb4.0,baz=142,slow=4.1,SNR=3.6
YKA pP pP 09 46 34.0 +0.2
comp=E,2.0nm,1.1s,baz=139,slow=4.5,SNR=6.0
YKA Yellowknife Ar 95.80 341 P **P 09 46 24.2 -2.1**
YKA pP pP 09 46 34.0 +0.2
AKASG Malin Array Be 116.87 45 PKP PKPdf 09 51 42.9 -1.7
comp=E,0.3nm,0.3s,baz=260,slow=3.0,SNR=8.1
ASAR Alice Springs 124.01 208 PKP PKPdf 09 51 57.8 -0.5
comp=E,0.6nm,0.5s,baz=129,slow=1.3,SNR=5.6
WRA Warramunga Arr 127.10 211 PKP PKPdf 09 52 03.7 -0.5
comp=E,1.0nm,0.7s,baz=167,slow=1.3,SNR=3.3
WRA pPKP pPKPdf 09 52 12.3 +0.5
comp=E,1.7nm,0.8s,baz=152,slow=1.4,SNR=4.4
KURK Kurchatov 147.09 36 *e*PKPdf PKPdf 09 52 41.0 +0.2
KURK *e*PKPbc PKPbc 09 52 42.7 -0.2
ZAL Zalesovo 147.88 27 PKP PKPdf 09 52 42.1 +0.1
comp=E,13nm,0.8s,baz=163,slow=3.5,SNR=25
ZAL PKPbc PKPbc 09 52 44.9 -0.2
comp=E,13nm,0.8s,baz=172,slow=3.8,SNR=45
AAK Ala-Archa 148.10 52 *e*PKPdf PKPdf 09 52 42.2 -0.2
AAK *e*PKPbc PKPbc 09 52 45.5 -0.2
HYB Hyderabad 150.42 103 *i* PKP PKPdf 09 52 52.0 +5.8
MK31 Makanchi Array 151.31 40 *e*PKPbc PKPbc 09 52 52.9 -0.6
MKAR Makanchi Array 151.31 40 PKPbc PKPbc 09 52 52.9 -0.7
comp=E,17nm,0.8s,baz=319,slow=2.3,SNR=58
WMQ Urumqi 156.14 40 *e*PKP PKPdf 09 52 53.9 -0.5
WMQ LR LR
comp=N,205nm,20.0s,MS5.1
WMQ LR LR
comp=E,210nm,22.0s,MS5.1
WMQ LR LR
comp=Z,165nm,18.0s,MS4.9
SONM Songino Array 159.23 5 PKP PKPdf 09 52 57.9 -0.4
comp=Z,1.7nm,1.1s,baz=321,slow=1.8,SNR=6.0
SONM PKPab PKPab 09 53 34.8 -0.6
comp=Z,0.8nm,0.8s,baz=325,slow=2.3,SNR=2.4
GTA Gaotai 165.61 29 *e*PKP PKPdf 09 53 11.5 +6.9
GTA APKP 09 53 15.8
GTA XPKP 09 53 19.0
HHC Hu-ho-hao-te 166.12 351 *e*PKP PKPdf 09 53 02.6 -2.4
LZH Lanzhou 170.09 24 *e*PKP PKPdf 09 53 11.0 +3.3
LZH APKP 09 53 17.9
LZH XPKP 09 53 20.3
LZH PKS 09 56 42.6
LZH *e*PP PP 09 58 18.4 +5.2
LZH SKS SKSdf 10 00 10.9 +1.1
LZH PP PP
comp=Z,78nm,9.2s
LZH LR LR
comp=E,127nm,18.4s
LZH LR LR
comp=Z,195nm,20.3s
CD2 Chengdu 174.16 48 *e*PKP PKPdf 09 53 05.7 -3.9
KMI Kunming 174.16 109 PKP PKPdf 09 53 11.6 +2.0
KMI APKP 09 53 17.2
GYA Guiyang 177.94 108 PKP PKPdf 09 53 09.8 -0.6
GYA APKP 09 53 17.6
GYA XPKP 09 53 20.2
GYA PKP2 PKPab 09 54 59.3 +1.2
GYA PKS 09 56 41.4
GYA PP PP 09 58 53.3 +2.0
GYA SKS SKSdf 10 00 09.6 -2.3
GYA PP PP
comp=Z,110nm,8.6s
GYA LR LR
comp=N,280nm,20.9s
GYA LR LR
comp=E,210nm,21.8s
GYA LR LR
comp=Z,180nm,21.4s

MOS ***02*** *09:41:06.6±1.2, 45.59N×142.43E, h315km, mb3.8/4, Error ellipse: s-maj=30.4km s-min=16.5km az=99.1*
ISCJB ***02*** *09:41:07.1±0.4, 45.49N±0.007×142.5E±0.1, h316km±4km, mb3.4/9, Error ellipse: s-maj=13.2km s-min=10.1km az=121.4*
IDC ***02*** *09:41:07.9±0.7, 45.69N×142.46E, h302km±18km, mb3.2/9, mb1 3.4/10, mb1mx3.2/23, mbtmp3.2/10, Error ellipse: s-maj=39.1km s-min=15.9km az=176.0*
NEIC ***02*** *09:41:08.0, 45.50N×142.53E, h312km, MG3.7(JMA), After JMA.*
JMA ***02*** *09:41:08.0±0.2, 45.50N×142.53E, h312km±2km, M3.7*
ISC 02 09:41:07.9±0.4, 45.50N±0.007×142.5E±.01, h312km±4km, n38, σ0.91/47, mb3.4/9, 14C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.46**	**246**	⇑P	**Pn**	**09 41 48.1**	**+0.4**
JWK2				*es* S	S	09 42 19.0	-0.4
JSE	**Soyaes**	**0.55**	**173**	⇑P	**Pn**	**09 41 47.9**	**0.0**
JSE				*es* S	S	09 42 19.6	-0.2
JRR	**Rishiri**	**0.91**	**247**	⇑P	**Pn**	**09 41 49.4**	**+0.3**
JSS	**Shosan**	**1.19**	**203**	⇑P	**Pn**	**09 41 51.0**	**+0.6**
JYG	**Yagishiri**	**1.31**	**216**	P	**Pn**	**09 41 51.4**	**+0.3**
ASAJ	**Asahikawa**	**1.39**	**177**	P	**Pn**	**09 41 52.1**	**+0.6**
	16nm,0.3s,baz=329,slow=6.1,SNR=159						
ASAJ				S	**S**	**09 42 27.1**	**+0.8**
	baz=66,slow=19,SNR=3.9						
ASAJ	**Asahikawa**	**1.39**	**177**	⇑P	**Pn**	**09 41 52.0**	**+0.5**
ASAJ				*es* S	**S**	09 42 26.4	+0.2
ASAJ	**Asahikawa**	**1.39**	**177**	PN	**Pn**	**09 41 52.1**	**+0.6**
ASAJ				S	**S**	**09 42 27.1**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
YSS	**Yuzh-Sakhalins**	**1.46**	**7**	*e*PN	**Pn**	**09 41 51.6**	**-0.3**
JMP	**Maruseppu**	**1.62**	**157**	⇑P	**Pn**	**09 41 53.2**	**+0.3**
JKK2	**Kamakawa 2**	**1.64**	**174**	⇑P	**Pn**	**09 41 53.6**	**+0.5**
JTKR	**Abashiri--Toko**	**1.83**	**146**	⇑P	**Pn**	**09 41 54.8**	**+0.4**
JHR	**Hokuryu**	**1.84**	**198**	⇑P	**Pn**	**09 41 55.0**	**+0.5**
JAB	**Ashibetsu**	**2.01**	**186**	⇑P	**Pn**	**09 41 56.2**	**+0.5**
JFR	**Furan**	**2.34**	**178**	⇑P	**Pn**	**09 41 58.7**	**+0.3**
JAR	**Ashorobuto**	**2.39**	**157**	⇑P	**Pn**	**09 41 59.3**	**+0.5**
JEW	**Eniwo**	**2.77**	**196**	⇑P	**Pn**	**09 42 03.0**	**+0.8**
JCH	**Churui**	**2.95**	**167**	⇑P	**Pn**	**09 42 02.7**	**-1.3**
JCH				*es* S	**S**	**09 42 44.2**	**-4.6**
JAK	**Akkeshi**	**2.96**	**147**	P	**Pn**	**09 42 03.5**	**-0.5**
JAK				*es* S	**S**	**09 42 45.2**	**-3.8**
NEM2	**Nemuro 2**	**3.16**	**131**	P	**Pn**	**09 42 06.4**	**+0.4**
NEM2				*es* S	**S**	**09 42 48.1**	**-4.4**
JNBK	**Urakawa-nobuka**	**3.23**	**177**	P	**Pn**	**09 42 06.7**	**+0.1**
JNBK				*es* S	**S**	**09 42 51.4**	**-2.3**
ERM	**Erimo**	**3.52**	**172**	*e*PN	**Pn**	**09 42 09.1**	**-0.5**
JKB	**Kayabe**	**3.77**	**197**	P	**Pn**	**09 42 11.6**	**-0.5**
KLR	**Kul'dur**	**8.19**	**301**	*e*PN	**Pn**	**09 43 02.0**	**-1.8**
MJAR	**Matsushiro Arr**	**9.52**	**201**	P	**Pn**	**09 43 20.4**	**+0.4**

	comp=Z,0.4nm,0.3s,baz=8.8,slow=12,SNR=3.8						
SONM	**Songino Array**	**24.74**	**288**	P	**P**	**09 46 02.2**	**+0.5**
	comp=Z,0.5nm,0.3s,mb3.4,baz=87,slow=8.8,SNR=8.7						
SONM	**Songino Array**	**24.74**	**288**	P	**P**	**09 46 02.2**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KDAK	**Kodiak Island**	**40.54**	**48**	P	**P**	**09 48 16.7**	**-0.7**
	comp=Z,3.0nm,0.6s,mb3.7,baz=301,slow=5.9,SNR=6.9						
MKAR	**Makanchi Array**	**40.83**	**294**	P	**P**	**09 48 21.1**	**+1.4**
	comp=Z,0.1nm,0.5s,mb2.3,baz=78,slow=9.7,SNR=3.3						
YKA	**Yellowknife Ar**	**56.17**	**33**	P	**P**	**09 50 15.1**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.5,baz=306,slow=6.8,SNR=14						
YKA	**Yellowknife Ar**	**56.17**	**33**	P	**P**	**09 50 15.1**	**-0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**61.76**	**331**	P	**P**	**09 50 52.0**	**-2.0**
	comp=Z,1.2nm,0.7s,mb3.6,baz=92,slow=5.9,SNR=5.8						
FINES	**FINESS Array B**	**61.76**	**331**	P	**P**	**09 50 52.0**	**-2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**66.72**	**337**	P	**P**	**09 51 24.4**	**-1.5**
	comp=Z,1.9nm,1.0s,mb3.8,baz=17,slow=6.0,SNR=3.3						
NOA	**NORSAR Array B**	**66.72**	**337**	P	**P**	**09 51 24.4**	**-1.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NVAR	**Mina Array Bea**	**69.41**	**56**	P	**P**	**09 51 44.0**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=303,slow=7.0,SNR=5.8						
PDAR	**Pinedale Array**	**71.26**	**48**	P	**P**	**09 51 54.2**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.5,baz=5.7,slow=2.1,SNR=5.6						
TXAR	**Lajitas Array**	**84.36**	**53**	P	**P**	**09 53 06.3**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.5,baz=295,slow=4.2,SNR=8.7						

IDC 02 09:44:40.4±19.0, 729S×12965E, h155km±133km, mb3.7/1, mb1 3.6/3, mb1mx3.3/14, mbtmp3.4/3, ML4.0/2, Error ellipse: s-maj=138.4km s-min=109.3km az=167.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.37**	**161**	P	Pn	09 47 43.9	-0.2
	0.8nm,0.3s,baz=339,slow=12,SNR=13						
WRA				S	Sn	09 50 12.6	+0.3
	0.7nm,0.3s,baz=323,slow=27,SNR=7.8						
ASAR	**Alice Springs**	**16.79**	**166**	P	Pn	09 48 27.9	+1.5
	0.7nm,0.3s,baz=346,slow=10,SNR=30						
STKA	**Stephens Creek**	**26.88**	**157**	P	P	09 50 06.5	-0.2
	0.8nm,0.3s,baz=342,slow=13,SNR=6.2						

IGQ 02 09:45:37.5, 121S×8048W, h5km±4km, Mb4.0, Ms3.8, 2C-2D, Error ellipse: s-maj=3.2km s-min=2.5km az=132.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.29**	**303**	⇑P	Pg	09 45 43.5	+0.2
CHIS				S	Sg	09 45 48.1	+1.0
JAMA	**Jama**	**0.98**	**16**	P	Pg	09 45 54.6	-1.8
JAMA				S	Sg	09 46 08.0	-1.2
MAG1	**Magdalena**	**1.33**	**32**	P	Pn	09 46 01.4	-1.4
MAG1				S	Sb	09 46 23.1	+2.8
IGUA	**Igualata**	**1.86**	**99**	P	Pn	09 46 12.7	+2.6
IGUA				S	Sn	09 46 38.1	+4.2
JUIV	**Juive**	**2.03**	**96**	P	Pn	09 46 16.0	+3.6
CAMI	**Rancho Maria**	**2.04**	**75**	P	Pn	09 46 14.0	+1.4
CAMI				S	Sn	09 46 42.9	+4.4
ARRY	**Arrayan**	**2.05**	**98**	P	Pn	09 46 13.9	+1.3
RETU	**Refugio**	**2.05**	**97**	P	Pn	09 46 16.5	+3.9
RUN5	**Runtun**	**2.06**	**96**	P	Pn	09 46 16.7	+3.8
NAS1	**Nasa**	**2.08**	**74**	P	Pn	09 46 15.2	+2.0
NAS1				S	Sn	09 46 45.2	+5.7
ULBA	**Ulba**	**2.08**	**97**	P	Pn	09 46 16.4	+3.2
PISA	**Pisayambo**	**2.10**	**86**	⇓P	Pn	09 46 15.3	+2.0
PISA				S	Sn	09 46 43.9	+4.1
JUA2	**San Juan 2**	**2.12**	**62**	P	Pn	09 46 13.2	-0.4
JUA2				S	Sn	09 46 41.8	+1.4
PINO	**Pino**	**2.14**	**61**	P	Pn	09 46 13.4	-0.5
GGP	**Refugio Guagua**	**2.15**	**61**	⇓P	Pn	09 46 13.6	-0.4
GGP				S	Sn	09 46 43.6	+2.6
VC1	**Cotopaxi 1**	**2.15**	**75**	P	Pn	09 46 16.1	+2.1
TAMB	**Tambo**	**2.17**	**76**	P	Pn	09 46 16.3	+2.0
ANTI	**Antisana**	**2.44**	**72**	P	Pn	09 46 20.1	+2.1
ANTI				S	Sn	09 46 53.3	+5.1
COTA	**Cotacachi**	**2.63**	**54**	P	Pn	09 46 21.6	+0.9
COTA				S	Sn	09 46 56.6	+3.6
CAYR	**Refugio Cayamb**	**2.76**	**64**	P	Pn	09 46 25.6	+3.3
CAYR				S	Sn	09 47 01.2	+5.2
CAYA	**Cayambe**	**2.80**	**63**	⇑P	Pn	09 46 26.7	+3.8
CAYA				S	Sn	09 47 03.9	+6.9

IDC 02 09:47:15.3±2.0, 2203N×14317E, h249km±17km, mb3.3/8, mb1 3.4/9, mb1mx3.3/22, mbtmp3.3/9, Error ellipse: s-maj=33.6km s-min=14.1km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.12**	**350**	P	Pn	09 48 34.1	+1.6
	8.8nm,0.3s,baz=291,slow=21,SNR=7.4						
CBIJ				S	S	09 49 32.2	-1.9
	10nm,0.3s,baz=302,slow=23,SNR=8.2						
KSRS	**Korea Array**	**20.25**	**323**	P	P	09 51 33.6	+1.7
	3.9nm,0.6s,baz=146,slow=8.9,SNR=20						
SONM	**Songino Array**	**39.08**	**320**	P	P	09 54 18.6	+0.2
	0.6nm,0.4s,baz=128,slow=6.7,SNR=12						
WRA	**Warramunga Arr**	**42.60**	**192**	P	P	09 54 47.4	+0.3
	1.2nm,0.5s,baz=14,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**46.30**	**192**	P	P	09 55 16.1	-0.2
	0.5nm,0.7s,baz=14,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**54.47**	**312**	P	P	09 56 17.0	-0.2
	0.3nm,0.4s,baz=91,slow=8.9,SNR=5.1						
MKAR				PcP	PcP	09 57 16.1	-1.3
	0.5nm,0.8s,baz=77,slow=5.3,SNR=2.9						
YKA	**Yellowknife Ar**	**76.17**	**28**	P	P	09 58 37.0	+1.0
	0.3nm,0.5s,baz=291,slow=6.0,SNR=5.3						
ARCES	**ARCESS Array B**	**78.61**	**341**	P	P	09 58 49.1	-0.4
	4.0nm,0.9s,baz=61,slow=8.5,SNR=4.8						
FINES	**FINESS Array B**	**82.88**	**334**	P	P	09 59 10.8	-1.2
	1.6nm,0.5s,baz=74,slow=4.6,SNR=18						

ISCJB ***02*** *09:52:12.0±0.1, 1776S±0.002×174.33W±0.003, h138km, mb5.2/120, Error ellipse: s-maj=4.9km s-min=2.4km az=74.7*
SZGRF ***02*** *09:52:11.9, 18.73S×175.13W, h141km, Tonga Islands*
BJI ***02*** *09:52:11.7, 17.29S×173.93W, h131km, mB5.5, mb5.1*
MOS ***02*** *09:52:12.7±1.1, 1756S×174.23W, h132km, mb5.4/39, MS4.8/5, Error ellipse: s-maj=9.5km s-min=7.5km az=57.2*
IDC ***02*** *09:52:13.6±0.4, 1772S×174.31W, h137km±3km, mb5.1/24, mb1 5.2/25, mb1mx5.2/25, mbtmp5.1/25, MS4.7/19, Ms1 4.6/19, ms1mx4.5/27, Error ellipse: s-maj=11.9km s-min=9.1km az=140.0*
GCMT ***02*** *09:52:13.2±0.1, 1769S×173.85W, h135km, MW5.8/101, Moment Tensor Solution. s100,c206; s101,c292; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr=0.45±.05; Mθθ=4.54±.06; Mφφ=-4.09±.06; Mrθ=1.26±.04; Mθφ=-2.47±.05; Mφr=4.05±.04; Best double couple: M0=6.27700×10^17 NP1:φs=145.00000°, δ=66.00000°, λ=-22.00000°. NP2:φs=244.00000°, δ=70.00000°, λ=-155.00000°. Principal axes: T 5.2050, Plg=3.0000°, Azm=14.0000°; N 2.1480, Plg=58.0000°, Azm=280.0000°; P -7.3500, Plg=32.0000°, Azm=105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***02*** *09:52:13.2±0.1, 1777S×174.31W, mb5.3/80, MW5.8 Error ellipse: s-maj=5.3km s-min=2.5km az=123.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^17 Nm; Mrr=0.50; Mθθ=4.20; Mφφ=-4.70; Mrθ=1.70; Mθφ=-1.26; Mφr=3.32; Best double couple: M0=5.80000×10^17 NP1:φs=231.00000°, δ=87.00000°, λ=-145.00000°. NP2:φs=139.00000°, δ=55.00000°, λ=-4.00000°. Principal axes: T 4.8600, Plg=21.0000°, Azm=360.0000°; N 1.7800, Plg=55.0000°, Azm=236.0000°; P -6.6400, Plg=27.0000°, Azm=101.0000°;*
NEIC Felt [IV] at Neiafu.
ISC 02 09:52:13.7±0.1, 1780S±0.003×174.31W±0.003, h140km, h140km±.8km: pP-P, n962, σ0.80/626, mb5.2/119, 126C-86D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.57**	**33**	P	**Pn**	**09 53 12.9**	**-8.3**
	319nm,0.3s,baz=179,slow=2.3,SNR=230						
AFI				S	**Sn**	**09 53 57.4**	**-16**
	2μm,0.3s,baz=236,slow=22,SNR=16						
AFI	**Afiamalu**	**4.57**	**33**	*e*Pn	**Pn**	**09 53 12.7**	**-8.6**
AFI				*e*Sn	**Sn**	**09 53 58.7**	**-15**
FUNA	**Funafuti**	**11.17**	**325**	*e*Pn	**Pn**	**09 54 50.5**	**+1.1**
	3μm,1.8s						
RAO	**Raoul Island**	**11.87**	**195**	P	**Pn**	**09 54 55.4**	**-3.2**
	279nm,0.3s,baz=264,slow=23,SNR=23						
RAO				S	**Sn**	**09 57 01.8**	**-7.7**
	579nm,0.3s,baz=82,slow=23,SNR=8.5						
RAO	**Raoul Island**	**11.87**	**195**	*e*P	**Pn**	**09 54 54.9**	**-3.6**
RAO				pmax	pmax		
	comp=Z,3μm,0.6s						
RAO	**Raoul Island**	**11.87**	**195**	*e*Pn	**Pn**	**09 54 54.9**	**-3.6**
	comp=Z,3μm,0.6s						
RAR	**Rarotonga**	**14.12**	**106**	P	**Pn**	**09 55 24.2**	**-3.3**
	comp=Z,8.4nm,0.3s,baz=270,slow=7.6,SNR=58						
RAR				S	**Sn**	**09 57 55.3**	**-8.4**
	comp=Z,7.3nm,0.3s,baz=90,slow=19,SNR=5.4						
DZM	**Mont Dzumac**	**18.58**	**254**	*e*P	**P**	**09 56 21.2**	**+1.3**
DZM	**Mont Dzumac**	**18.58**	**254**	P	**P**	**09 56 20.9**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=78,slow=16,SNR=44						
DZM				LR	LR	10 00 54.5	
	comp=Z,4μm,18.9s,baz=83,slow=28						
OUZ	**Omahuta**	**20.42**	**209**	*e*P	**P**	**09 56 40.7**	**+0.9**
OUZ	**Omahuta**	**20.42**	**209**	PN	**P**	**09 56 40.7**	**+0.9**
WCZ	**Waipu Caves**	**20.68**	**207**	*e*P	**P**	**09 56 43.9**	**+1.2**
WCZ	**Waipu Caves**	**20.68**	**207**	PN	**P**	**09 56 43.7**	**+1.1**
MXZ	**Matakaoa Point**	**20.73**	**197**	*e*P	**P**	**09 56 40.9**	**-2.3**
MXZ	**Matakaoa Point**	**20.73**	**197**	*e*PN	**P**	**09 56 40.9**	**-2.3**
MXZ				*e*SN	**S**	**10 00 21.4**	**-5.5**
KUZ	**Kuaotunu**	**20.83**	**203**	*e*P	**P**	**09 56 45.9**	**+1.7**
KUZ	**Kuaotunu**	**20.83**	**203**	PN	**P**	**09 56 45.9**	**+1.7**
PUZ	**Puketiti**	**21.22**	**196**	*e*P	**P**	**09 56 49.4**	**+1.0**
KAAZ	**Kauri Point**	**21.29**	**205**	P	**P**	**09 56 51.2**	**+2.1**
KAAZ	**Kauri Point**	**21.29**	**205**	*e*PN	**P**	**09 56 50.5**	**+1.4**
OTAZ	**Otara**	**21.31**	**204**	P	**P**	**09 56 51.3**	**+2.0**
MKAZ	**Moumakai**	**21.36**	**204**	P	**P**	**09 56 51.2**	**+1.4**
MKAZ	**Moumakai**	**21.36**	**204**	PN	**P**	**09 56 51.6**	**+1.8**
TGRZ	**Tauranga**	**21.51**	**201**	*e*P	**P**	**09 56 53.3**	**+1.8**
TGRZ	**Tauranga**	**21.51**	**201**	PN	**P**	**09 56 53.0**	**+1.5**
MWZ	**Matawai**	**21.67**	**198**	*e*P	**P**	**09 56 52.5**	**-0.7**
MWZ				S	**S**	**10 00 42.4**	**-2.1**
MWZ	**Matawai**	**21.67**	**198**	*e*PN	**P**	**09 56 51.3**	**-1.9**
MWZ				SN	**S**	**10 00 42.4**	**-2.1**
URZ	**Urewera**	**21.73**	**198**	P	**P**	**09 56 52.8**	**-1.0**
	comp=Z,1μm,0.8s,mb6.4,baz=16,slow=3.8,SNR=164						
URZ				S	**S**	**10 00 41.8**	**-3.6**
	comp=Z,25nm,0.3s,baz=270,slow=20,SNR=11						
URZ				LR	LR	10 04 06.1	
	comp=Z,950nm,19.4s,baz=15,slow=33						
URZ	**Urewera**	**21.73**	**198**	*e*P	**P**	**09 56 52.8**	**-0.9**
URZ	**Urewera**	**21.73**	**198**	*e*PN	**P**	**09 56 52.0**	**-1.7**
URZ				SN	**S**	**10 00 42.5**	**-2.9**
TOZ	**Tahuroa Road**	**21.78**	**202**	*e*P	**P**	**09 56 55.3**	**+1.0**
TOZ	**Tahuroa Road**	**21.78**	**202**	PN	**P**	**09 56 56.3**	**+2.0**
KARZ	**Kaharoa**	**21.78**	**200**	P	**P**	**09 56 55.8**	**+1.5**
KARZ	**Kaharoa**	**21.78**	**200**	PN	**P**	**09 56 55.8**	**+1.4**
TAZ	**Tarawera**	**21.89**	**200**	*e*P	**P**	**09 56 58.9**	**+3.4**
PATZ	**Paeroa**	**22.10**	**200**	*e*P	**P**	**09 56 58.6**	**+0.9**
KNZ	**Kokohu**	**22.27**	**197**	*e*P	**P**	**09 57 00.4**	**+0.9**
KNZ	**Kokohu**	**22.27**	**197**	PN	**P**	**09 57 00.7**	**+1.2**
WATZ	**Wairara**	**22.57**	**201**	P	**P**	**09 57 02.0**	**-0.4**
WATZ	**Wairara**	**22.57**	**201**	PN	**P**	**09 57 02.0**	**-0.4**
HIZ	**Hauiti**	**22.71**	**202**	*e*P	**P**	**09 57 06.0**	**+2.4**
HIZ	**Hauiti**	**22.71**	**202**	PN	**P**	**09 57 05.8**	**+2.2**
BKZ	**Black Stump Fm**	**22.75**	**199**	*e*P	**P**	**09 57 02.0**	**-2.0**
BKZ	**Black Stump Fm**	**22.75**	**199**	PN	**P**	**09 57 02.3**	**-1.7**
OTVZ	**Oturere**	**23.01**	**200**	PN	**P**	**09 57 05.3**	**-1.1**
NGZ	**Ngauruhoe**	**23.04**	**200**	*e*P	**P**	**09 57 06.5**	**-0.2**
NGZ	**Ngauruhoe**	**23.04**	**200**	PN	**P**	**09 57 06.5**	**-0.2**
PXZ	**Pawanui**	**23.44**	**197**	PN	**P**	**09 57 10.2**	**-0.1**
PAE	**Paea**	**23.56**	**93**	⇓*i*P	**P**	**09 57 10.6**	**-0.8**
	comp=Z,887nm,1.0s,mb6.2						
PPT	**Papeete**	**23.57**	**93**	⇓*i*P	**P**	**09 57 10.9**	**-0.6**
	comp=Z,504nm,1.3s,mb5.9						
PPT	**Papeete**	**23.57**	**93**	P	**P**	**09 57 11.3**	**-0.2**
	comp=Z,352nm,1.0s,mb5.8,baz=258,slow=2.8,SNR=20						
PPT				LR	LR	10 04 19.1	
	comp=Z,2μm,18.2s,baz=274,slow=31						
WAZ	**Wanganui**	**23.77**	**201**	*e*P	**P**	**09 57 14.1**	**+0.8**
WAZ	**Wanganui**	**23.77**	**201**	*e*PN	**P**	**09 57 13.5**	**+0.2**
TVO	**Taravao**	**23.86**	**94**	⇓*i*P	**P**	**09 57 13.7**	**-0.4**
	comp=Z,2μm,1.2s						
TBI	**Tubuai**	**23.90**	**108**	⇓*i*P	**P**	**09 57 14.6**	**+0.1**
	comp=Z,3μm,1.2s						
BFZ	**Birch Farm**	**24.22**	**198**	*e*P	**P**	**09 57 16.3**	**-1.1**
BFZ	**Birch Farm**	**24.22**	**198**	PN	**P**	**09 57 18.0**	**+0.6**
BFZ				SN	**S**	**10 01 30.4**	**+4.8**
MRZ	**Mangatainoka R**	**24.40**	**199**	*e*P	**P**	**09 57 18.5**	**-0.5**
MRZ	**Mangatainoka R**	**24.40**	**199**	PN	**P**	**09 57 18.0**	**-1.0**
TIWZ	**Tintock**	**24.41**	**198**	PN	**P**	**09 57 18.7**	**-0.4**
KIW	**Kapiti Island**	**24.79**	**200**	*e*P	**P**	**09 57 21.9**	**-0.7**
KIW	**Kapiti Island**	**24.79**	**200**	PN	**P**	**09 57 21.6**	**-1.0**
MTW	**Mount Morrison**	**24.88**	**199**	P	**P**	**09 57 23.2**	**-0.2**
MTW	**Mount Morrison**	**24.88**	**199**	PN	**P**	**09 57 23.1**	**-0.3**
CAW	**Cannon Point**	**24.96**	**199**	P	**P**	**09 57 23.3**	**-0.9**
CAW	**Cannon Point**	**24.96**	**199**	PN	**P**	**09 57 22.8**	**-1.3**
MRW

CTA LR LR 10 12 41.6
comp=Z,2µm,21.2s,baz=90,slow=33
CTA Charters Tower 37.31 260 *eP* **P 09 59 11.4 -0.9**
CTA *e* pP 09 59 44.4 +1.6
CTA pmax pmax
comp=Z,53nm,0.9s
CTAO Charters Tower 37.31 260 *eP* **P 09 59 11.5 -0.8**
CTAO *e**PP pP 09 59 44.4 +1.6
CTAO pmax pmax
comp=Z,66nm,0.8s,mb5.3
CTAO Charters Tower 37.31 260 *eP* **P 09 59 11.5 -0.8**
comp=Z,66nm,0.8s,mb5.3
CTAO *e*pP pP 09 59 44.4 +1.6
PMG Port Moresby 38.30 277 *eP* **P 09 59 21.0 +0.4**
PMG *e**PP pP 09 59 54.4 +3.2
PMG pmax pmax
comp=Z,134nm,0.9s
PMG Port Moresby 38.30 277 *eP* **P 09 59 21.0 +0.4**
comp=Z,134nm,0.9s,mb5.6
PMG *e*pP pP 09 59 54.4 +3.1
TOO Toolangi 40.30 232 *eP* **P 09 59 36.9 -0.3**
comp=Z,19nm,0.6s,mb4.9
TOO Toolangi 40.30 232 *eP* **P 09 59 36.9 -0.3**
TOO pmax pmax
comp=Z,19nm,0.6s,mb4.9
POHA Pohakuloa 41.63 27 *eP* **P 09 59 47.0 -1.1**
comp=Z,154nm,0.9s,mb5.6
STKA Stephens Creek 42.11 242 *eP* **P 09 59 51.6 -0.4**
comp=Z,91nm,1.5s,mb5.2
STKA Stephens Creek 42.11 242 P **P 09 59 51.7 -0.3**
comp=Z,93nm,1.0s,mb5.4,baz=86,slow=8.1,SNR=62
STKA PcP PcP 10 01 45.7 +1.7
comp=Z,11nm,0.6s,baz=121,slow=5.9,SNR=3.0
STKA LR LR 10 14 37.2
comp=Z,1µm,20.7s,baz=74,slow=32
KIP Kipapa 42.12 23 *eP* **P 09 59 51.9 -0.2**
WB2 Warramunga Arr 48.47 259 ⇑*iP* **P 10 00 40.8 -1.3**
WB2 *e* pP 10 01 16.9 +2.9
WB2 *e*S **S 10 07 27.8 -4.7**
WRAB Tennant Creek 48.48 259 *eP* **P 10 00 41.0 -1.1**
WRAB pmax pmax
comp=Z,175nm,0.9s,mb5.7
WRAB Tennant Creek 48.48 259 *eP* **P 10 00 41.0 -1.2**
comp=Z,175nm,0.9s,mb5.7
WRA Warramunga Arr 48.48 259 P **P 10 00 41.2 -1.0**
comp=Z,150nm,0.9s,mb5.6,baz=98,slow=6.9,SNR=273
WRA pP pP 10 01 14.6 +0.6
comp=Z,24nm,0.6s,baz=97,slow=8.0,SNR=2.3
WRA S **S 10 07 31.0 -1.6**
comp=Z,6.1nm,1.0s,baz=96,slow=13,SNR=6.4
WRA LR LR 10 19 37.6
comp=Z,1µm,18.0s,baz=90,slow=34
WRA Warramunga Arr 48.48 259 P **P 10 00 41.2 -1.0**
WRA *PP pP 10 01 14.6 +0.6
WRA S **S 10 07 31.0 -1.6**
ASAR Alice Springs 48.57 254 P **P 10 00 42.5 -0.4**
comp=Z,712nm,0.9s,mb6.3,baz=94,slow=7.8,SNR=2607
ASAR pP pP 10 01 16.9 +2.2
comp=Z,198nm,0.9s,baz=89,slow=7.8,SNR=3.5
ASAR S **S 10 07 31.5 -2.3**
comp=Z,9.2nm,0.8s,baz=91,slow=15,SNR=14
KAKA Kakadu 51.49 268 ⇑*iP* **P 10 01 03.8 -1.0**
comp=Z,66nm,0.5s,mb5.5
FORT Forrest 53.58 245 *eP* **P 10 01 18.2 -2.1**
comp=Z,80nm,0.6s,mb5.6
FITZ Fitzroy Crossi 56.89 260 ⇑*iP* **P 10 01 43.7 -0.3**
comp=Z,83nm,1.4s,mb5.4
FITZ *e*S **S 10 09 26.2 -0.6**
FITZ Fitzroy Crossi 56.89 260 LR LR 10 24 57.5
comp=Z,1µm,18.5s,baz=96,slow=34
DRV Dumont d'Urvil 57.06 200 P **P 10 01 49.0 +3.9**
DRV S **S 10 09 35.0 +6.1**
DRV L 10 16 00.0
DRV R 10 20 00.0
SBA Scott Base 60.80 185 *eP* **P 10 02 13.4 +2.4**
SBA pmax pmax
comp=Z,39nm,0.8s,mb5.3
SBA Scott Base 60.80 185 *eP* **P 10 02 13.3 +2.4**
comp=Z,39nm,0.8s,mb5.3
VNDA Vanda 60.92 186 P **P 10 02 13.7 +2.0**
comp=Z,28nm,0.9s,mb5.1,baz=8.6,slow=6.5,SNR=86
VNDA pP pP 10 02 46.5 +1.6
comp=Z,22nm,1.0s,baz=1.1,slow=5.8,SNR=4.6
VNDA Vanda 60.92 186 *eP* **P 10 02 13.3 +1.6**
VNDA *e**PP pP 10 02 46.2 +1.3
VNDA pmax pmax
comp=Z,61nm,1.2s
VNDA Vanda 60.92 186 *eP* **P 10 02 13.3 +1.6**
comp=Z,61nm,1.2s,mb5.3
VNDA *e*pP pP 10 02 46.2 +1.3
KLBR Kellerberrin 62.37 243 *eP* **P 10 02 20.5 -1.0**
comp=Z,53nm,0.8s,mb5.4
KLBR *e* pP 10 02 55.3 +0.5
NWAO Narrogin (SRO) 62.70 242 *eP* **P 10 02 25.4 +1.7**
NWAO pmax pmax
comp=Z,38nm,1.1s
NWAO Narrogin (SRO) 62.70 242 *eP* **P 10 02 25.4 +1.7**
comp=Z,38nm,1.1s,mb5.1
MUN Mundaring 63.65 243 *eP* **P 10 02 29.3 -0.6**
MUN *e* pP 10 03 03.5 +0.2
BUKP Musuan 65.06 288 *eP* **P 10 02 41.0 +1.9**
MSLP Maasin 66.16 290 *eP* **P 10 02 46.5 +0.3**
JHJ Hachijo jima 2 66.97 319 P **P 10 02 51.5 +0.1**
baz=69,slow=8.8
MJAR Matsushiro Arr 70.22 321 P **P 10 03 10.5 -1.0**
comp=Z,20nm,1.0s,mb4.8,baz=156,slow=5.9,SNR=22
MJAR LR LR 10 27 40.1
comp=Z,279nm,21.9s,baz=155,slow=30
MAJO Matsushiro 70.22 321 *eP* **P 10 03 10.9 -0.6**
MAJO pmax pmax
comp=Z,30nm,1.0s,mb5.0
MAJO Matsushiro 70.22 321 *eP* **P 10 03 10.9 -0.5**
comp=Z,30nm,1.0s,mb5.0
MAT Matsushiro 70.22 321 P **P 10 03 10.6 -0.9**
MAT S S 10 12 06.2 -5.6
TSM Tawau 70.36 281 P **P 10 03 14.1 +1.8**
TGY Tagaytay City 71.29 292 P **P 10 03 20.5 +2.5**
comp=Z,109nm,0.3s,baz=156,slow=6.5,SNR=3.7
CAUP Cauayan 71.72 295 *eP* **P 10 03 22.7 +2.2**
KKM Kota Kinabalu 72.51 282 P **P 10 03 27.4 +2.1**
KKM Kota Kinabalu 72.51 282 *eP* **P 10 03 25.5 +0.3**
APYP Conner 72.61 296 *eP* **P 10 03 26.3 +0.5**
JNU Nakatsue 72.81 314 P **P 10 03 27.4 +0.5**
comp=Z,38nm,0.8s,mb5.2,baz=226,slow=19,SNR=5.6
ASAJ Asahikawa 73.12 329 P **P 10 03 29.1 +0.3**
comp=Z,19nm,0.6s,mb5.0,baz=199,slow=9.7,SNR=24
ASAJ LR LR 10 29 29.9
comp=Z,397nm,21.4s,baz=141,slow=31
BSC Santa Cruz Isl 73.23 45 ⇓P **P 10 03 29.8 +0.3**
baz=73
V03C Hunter Liggett 73.37 43 ⇑P **P 10 03 30.8 +0.5**
baz=74
V04C Ramage Ranch, 73.38 43 ⇑P **P 10 03 31.2 +0.8**
baz=74
SCI San Clemente I 73.38 46 ⇑P **P 10 03 31.0 +0.7**
baz=74
HAST UC Hastings Re 73.39 42 ⇓P **P 10 03 30.9 +0.5**
baz=74,SNR=8.2
BNLO Ben Lomond (Sa 73.46 41 ⇑P **P 10 03 30.9 +0.2**
baz=74
JRSC Jasper Ridge 73.58 41 ⇑P **P 10 03 31.8 +0.3**
baz=74
PKM Peak Mountain 73.63 44 ⇑P **P 10 03 32.5 +0.7**
baz=74
SAO San Andreas Ge 73.69 42 *eP* **P 10 03 33.5 +1.4**
SAO *e**PP pP 10 04 07.1 +0.6
SAO San Andreas Ge 73.69 42 *eP* **P 10 03 32.5 +0.3**
comp=Z,35nm,1.1s,mb5.0
SAO *e*pP pP 10 04 07.1 +0.7
CIS Catalina Islan 73.73 46 ⇑P **P 10 03 32.4 0.0**
baz=74
SMMC Simmler 73.75 44 ⇓P **P 10 03 33.1 +0.6**
baz=74
PKD Parkfield 73.78 43 ⇓P **P 10 03 33.3 +0.6**
baz=74,SNR=6.6
U04C Hernandez Rese 73.87 43 ⇑P **P 10 03 34.1 +0.8**
baz=74,SNR=13
PACP Pacheco Peak 73.94 42 P **P 10 03 34.5 +0.9**
baz=74,SNR=15
FMP Fort Macarthur 73.98 46 ⇓P **P 10 03 34.0 +0.2**
baz=74
WENL Wente Brothers 74.02 41 ⇓P **P 10 03 34.7 +0.6**
baz=74,SNR=5.5
CVS Carmenet Viney 74.03 40 ⇑P **P 10 03 34.4 +0.3**
baz=74
NSHM Saint Helena R 74.05 40 *eP* **P 10 03 34.2 -0.1**

HOPS Hopland 74.07 39 *eP* **P 10 03 35.2 +0.8**
comp=Z,66nm,1.3s,mb5.2
HOPS Hopland 74.07 39 ⇑P **P 10 03 35.1 +0.8**
baz=74
BDM Black Diamond 74.16 41 ⇑P **P 10 03 35.3 +0.4**
baz=74
OSI Osito Adit 74.20 45 ⇓P **P 10 03 35.3 +0.2**
baz=74
P01C Double 8 Ranch 74.21 39 ⇑P **P 10 03 35.7 +0.5**
baz=74
S04C Ingram Canyon, 74.22 41 P **P 10 03 35.8 +0.6**
baz=74,SNR=14
DECC Green Verdugo 74.26 46 ⇓P **P 10 03 35.4 0.0**
baz=74
T05C Eagle Field, D 74.26 42 ⇓P **P 10 03 36.3 +0.8**
baz=74
PET Petropavlovsk 74.30 343 *eP* **P 10 03 27.6 -8.1**
PET *e*S S 10 12 54.8 -3.5
PET *e*PPS 10 13 50.6
PET pmax pmax
comp=Z,500nm,5.5s
PET pmax pmax
comp=Z,43nm,1.5s,mb5.0
PET smax
comp=N,600nm,19.9s
PET MLR MLR
comp=Z,300nm,22.0s
109C Camp Elliot, M 74.34 47 ⇑P **P 10 03 36.1 +0.2**
baz=74
O01C Eel River Cons 74.36 38 ⇑P **P 10 03 35.6 -0.4**
baz=74
MNRC McLaughlin Nat 74.38 40 ⇑P **P 10 03 37.0 +0.9**
baz=74,SNR=14
ARVC Arvin 74.42 45 ⇓P **P 10 03 36.3 -0.1**
baz=75,SNR=6.7
MWC Mount Wilson 74.43 46 *eP* **P 10 03 36.3 -0.1**
Q03C Winters 74.49 40 ⇓P **P 10 03 37.6 +0.9**
baz=75,SNR=6.8
BAR Barrett 74.53 48 *eP* **P 10 03 36.9 -0.1**
MURC Murrieta 74.67 47 P **P 10 03 37.8 0.0**
baz=75,SNR=14
VES Vestal, Richgr 74.67 44 P **P 10 03 37.7 -0.1**
baz=75,SNR=16
JCC Jacoby Creek 74.68 37 ⇓P **P 10 03 38.3 +0.4**
baz=75
GASB Alder Springs 74.70 39 ⇑P **P 10 03 38.2 +0.2**
baz=75,SNR=11
BFSC Mount Baldy St 74.71 46 P **P 10 03 37.5 -0.5**
baz=75,SNR=8.4
S05C Merced 74.75 42 ⇑P **P 10 03 38.2 -0.1**
baz=75,SNR=20
MONP Monument Peak 74.82 48 ⇓P **P 10 03 39.0 +0.3**
baz=75,SNR=9.5
RCTC Rector, Farmer 74.84 43 ⇑P **P 10 03 38.3 -0.5**
baz=75,SNR=5.6
EDW2 Edwards Air Fo 74.84 45 ⇓P **P 10 03 38.9 +0.1**
baz=75,SNR=35
KHMM Horse Mountain 74.89 37 *eP* **P 10 03 40.0 +0.9**
DVTC Desert V Tower 74.92 48 P **P 10 03 39.8 +0.5**
baz=75,SNR=9.7
R04C Big Horse Ranc 74.92 41 ⇑P **P 10 03 39.2 -0.1**
baz=75
T06C Millerton Lake 74.95 43 P **P 10 03 39.5 +0.1**
baz=75,SNR=24
ISA Isabella 74.97 44 *eP* **P 10 03 39.6 0.0**
ISA *e*pP pP 10 04 13.8 -0.2
ISA Isabella 74.97 44 P **P 10 03 39.7 +0.1**
baz=75,SNR=33
O02C Red Bluff 74.99 38 ⇓P **P 10 03 40.1 +0.4**
baz=75,SNR=16
SUTB Sutter Butte 75.00 40 ⇑P **P 10 03 39.5 -0.2**
baz=75
Q04C Lincoln 75.00 40 ⇓P **P 10 03 39.7 -0.1**
baz=75
CHGN Chignik 75.02 9 *eP* **P 10 03 38.1 -1.7**
N02C Big Bar 75.10 38 ⇓P **P 10 03 40.5 +0.2**
baz=75,SNR=5.2
CMB Columbia Colle 75.13 41 *eP* **P 10 03 40.5 0.0**
CMB pmax pmax
comp=Z,61nm,1.2s,mb5.1
CMB Columbia Colle 75.13 41 *eP* **P 10 03 40.2 -0.3**
comp=Z,61nm,1.3s,mb5.1
CMB *e*pP pP 10 04 14.6 -0.4
CMB Columbia Colle 75.13 41 ⇑P **P 10 03 40.7 +0.3**
baz=75,SNR=24
YSS Yuzh-Sakhalins 75.13 331 α*iP* **P 10 03 40.0 -0.5**
YSS *e**PP pP 10 04 14.3 -0.6
YSS *e**SP sP 10 04 29.0 -0.8
YSS *e*S S 10 13 06.0 -1.6
YSS *e* 10 14 04.0
YSS pmax pmax
comp=E,40nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.3
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS Yuzh-Sakhalins 75.13 331 *eP* **P 10 03 40.3 -0.2**
comp=Z,76nm,1.1s,mb5.2
PFO Pinyon Flat Ob 75.19 47 P **P 10 03 41.0 +0.2**
baz=75,SNR=9.2
HELL Mitchell Peak, 75.20 43 P **P 10 03 40.5 -0.4**
baz=75,SNR=32
BBRC Big Bear Sol-O 75.23 46 ⇓P **P 10 03 41.6 +0.5**
baz=75
OHCM Honcut 75.25 40 *eP* **P 10 03 40.6 -0.5**
OHCM *e*pP pP 10 04 14.0 -1.6
SWSC Sam W. Stewart 75.28 48 ⇑P **P 10 03 41.5 +0.2**
baz=75
M01C Crescent City 75.30 36 ⇑P **P 10 03 41.1 -0.3**
baz=76
O03C Acorn Hollow, 75.33 39 ⇑P **P 10 03 42.2 +0.6**
baz=76
LAVA Lava Cap Winer 75.35 41 ⇑P **P 10 03 41.9 +0.1**
baz=76,SNR=7.7
ORV Oroville 75.37 40 ⇓P **P 10 03 42.1 +0.3**
baz=76,SNR=17
S06C San Francisco 75.38 42 ⇑P **P 10 03 41.8 -0.1**
baz=76,SNR=15
KCC Kaiser Creek 75.39 42 ⇓P **P 10 03 41.9 0.0**
baz=76,SNR=16
LRMC Laurel Mountai 75.39 45 P **P 10 03 42.1 +0.1**
baz=76,SNR=30
WDC Whiskeytown Da 75.39 38 *eP* **P 10 03 41.9 -0.1**
WDC *e**PP pP 10 04 15.8 -0.6
WDC pmax pmax
comp=Z,49nm,1.2s,mb5.0
WDC Whiskeytown Da 75.39 38 *eP* **P 10 03 41.9 -0.1**
comp=Z,49nm,1.2s,mb5.0
WDC *e*pP pP 10 04 15.8 -0.7
WDC Whiskeytown Da 75.39 38 P **P 10 03 42.3 +0.4**
baz=76,SNR=15
RRX Edison Barstow 75.52 46 ⇓P **P 10 03 42.8 +0.1**
baz=76
CWC Cottonwood Cre 75.68 44 P **P 10 03 43.8 +0.2**
baz=76,SNR=13
BELC Belle Mtn. 75.72 47 P **P 10 03 44.0 +0.1**
baz=76,SNR=10
M02C Callahan 75.73 37 ⇑P **P 10 03 44.5 +0.6**
baz=76,SNR=14
R05C Kirkwood Meado 75.73 41 P **P 10 03 44.0 +0.1**
baz=76,SNR=23
P05C Yuba Gap, Truc 75.76 40 P **P 10 03 44.1 +0.1**
baz=76,SNR=18
L02A Cave Junction 75.79 36 ⇓P **P 10 03 44.9 +0.7**
baz=76
MPMC Manual Prospec 75.85 44 P **P 10 03 45.0 +0.4**
baz=76,SNR=53
MLAC Mammoth Lakes 75.88 42 ⇑P **P 10 03 45.3 +0.6**
baz=76
GSC Goldstone 75.88 45 *eP* **P 10 03 44.6 -0.2**
GSC Goldstone 75.88 45 P **P 10 03 44.8 0.0**
baz=76,SNR=25
MTUM Tungsten Hills 75.89 43 *eP* **P 10 03 45.2 +0.4**
MTUM *e*pP pP 10 04 19.1 -0.2
BC3 Big Chuckw Mtn 75.91 47 P **P 10 03 45.4 +0.4**
baz=76,SNR=9.2
TIN Tinemaha 75.94 43 ⇓P **P 10 03 45.6 +0.6**
baz=76
HEC Hector,Ludlow 75.95 46 ⇑P **P 10 03 45.1 -0.1**
baz=76
O05C Quincy 75.98 39 P **P 10 03 45.5 +0.2**
baz=76,SNR=14
R07C Lee Vining 76.01 42 P **P 10 03 46.2 +0.7**
baz=76,SNR=19

R06C Coleville 76.01 41 P **P 10 03 45.9 +0.4**
baz=76,SNR=27
YBH Yreka Blue Hor 76.03 37 *eP* **P 10 03 46.1 +0.5**
YBH *e**PP pP 10 04 19.8 -0.3
YBH pmax pmax
comp=Z,57nm,1.1s
YBH Yreka Blue Hor 76.03 37 *eP* **P 10 03 46.1 +0.5**
comp=Z,57nm,1.1s,mb5.1
YBH *e*pP pP 10 04 19.8 -0.3
YBH Yreka Blue Hor 76.03 37 P **P 10 03 46.1 +0.5**
baz=76,SNR=31
GLA Glamis 76.03 48 *eP* **P 10 03 46.2 +0.6**
GLA *e**PP pP 10 04 20.0 -0.1
GLA Glamis 76.03 48 ⇑P **P 10 03 45.9 +0.3**
baz=76,SNR=5.7
M03C McCloud 76.08 38 P **P 10 03 46.0 +0.2**
baz=76,SNR=16
O04C Chester 76.09 39 P **P 10 03 46.2 +0.2**
baz=76,SNR=20
HATC Hat Creek Radi 76.18 39 P **P 10 03 47.0 +0.6**
baz=76,SNR=14
S08C White Mtn Res 76.23 43 P **P 10 03 47.5 +0.8**
baz=76,SNR=46
K02A Glendale 76.25 36 P **P 10 03 47.3 +0.4**
baz=76,SNR=6.3
BEKR Beckwourth 76.26 40 P **P 10 03 46.9 +0.1**
baz=76,SNR=25
LBCM Butte Creek Ri 76.26 39 P **P 10 03 46.8 -0.1**
WCN Washoe City 76.29 41 ⇓P **P 10 03 47.4 +0.4**
baz=76,SNR=7.6
GMRC Granite Mounta 76.38 46 P **P 10 03 47.5 0.0**
baz=76,SNR=20
IRM Iron Mountain 76.40 47 P **P 10 03 47.9 +0.2**
baz=76,SNR=26
P06A Stead Airport, 76.43 40 ⇓P **P 10 03 48.6 +0.7**
baz=77
HUMO Hull Mountain 76.45 36 *eP* **P 10 03 48.0 0.0**
comp=Z,44nm,1.1s,mb5.0
HUMO *e*pP pP 10 04 22.2 -0.3
HUMO Hull Mountain 76.45 36 ⇓P **P 10 03 48.6 +0.6**
baz=77,SNR=19
GRAC Grapevine Rang 76.47 44 ⇓P **P 10 03 48.6 +0.6**
baz=77,SNR=5.5
ELFS Eagle Lake Fie 76.49 39 P **P 10 03 48.6 +0.4**
baz=77,SNR=6.4
FURC Furnace Creek, 76.50 44 P **P 10 03 48.6 +0.3**
baz=77,SNR=24
KSM Kuching 76.55 276 *eP* **P 10 03 49.6 +1.1**
KSM *e*pP pP 10 04 24.9 +1.8
TUQ Turquoise Mtn. 76.56 46 P **P 10 03 49.1 +0.5**
baz=77,SNR=7.7
M04C Macdoel 76.56 38 ⇑P **P 10 03 49.1 +0.5**
baz=77,SNR=17
SHOC Shoshone 76.57 45 P **P 10 03 48.9 +0.2**
baz=77,SNR=13
J02A Umpqua 76.59 35 P **P 10 03 49.3 +0.5**
baz=77,SNR=8.7
Y12C Blythe 76.62 48 ⇓P **P 10 03 49.1 +0.1**
baz=77,SNR=12
BUOR Burton Butte 76.64 37 P **P 10 03 49.2 +0.2**
Q07A Schurz 76.66 41 ⇓P **P 10 03 49.5 +0.3**
baz=77
NVAR Mina Array Bea 76.68 42 P **P 10 03 49.5 +0.2**
comp=Z,27nm,0.8s,mb4.9,baz=229,slow=7.7,SNR=87
M05C Lookout 76.70 38 P **P 10 03 49.5 +0.1**
baz=77,SNR=25
O06A Flanigan 76.76 40 P **P 10 03 50.4 +0.6**
baz=77,SNR=5.2
R08A Mina 76.76 42 P **P 10 03 50.0 +0.3**
baz=77,SNR=26
L04A Klamath Falls 76.78 37 P **P 10 03 49.8 -0.1**
baz=77,SNR=20
U10A Ash Meadows, A 76.83 45 ⇓P **P 10 03 50.5 +0.4**
baz=77,SNR=30
I02A Mapleton 76.87 35 P **P 10 03 50.9 +0.5**
baz=77,SNR=7.4
J03A Ideyld Park 76.93 36 P **P 10 03 51.2 +0.5**
baz=77,SNR=9.0
P07A Fallon 76.97 41 ⇑P **P 10 03 51.2 +0.3**
baz=77
S09A Goldfield 76.97 43 P **P 10 03 50.8 -0.2**
baz=77,SNR=35
M06C Likely Place G 77.00 39 P **P 10 03 51.4 +0.3**
baz=77,SNR=22
NEE2 Needles Airpor 77.09 47 ⇓P **P 10 03 51.9 +0.3**
baz=77
N06A Buffalo Meadow 77.11 39 P **P 10 03 51.7 0.0**
baz=77,SNR=25
V11A Goodsprings 77.11 46 ⇑P **P 10 03 51.8 +0.1**
baz=77,SNR=24
K04A Chilquin 77.15 37 ⇑P **P 10 03 52.2 +0.3**
baz=77
I03A Eugene 77.15 35 ⇓P **P 10 03 52.0 +0.1**
baz=77
Q08A Gabbs 77.17 42 P **P 10 03 52.0 0.0**
baz=77,SNR=32
PDMCI Parker Dam,Lak 77.18 47 P **P 10 03 52.2 +0.2**
baz=77,SNR=13
W12A Cal Nev Ari 77.21 46 ⇓P **P 10 03 52.6 +0.4**
baz=77
H02A Toledo 77.22 34 ⇓P **P 10 03 52.7 +0.4**
baz=77
KSRS Korea Array 77.26 316 P **P 10 03 53.7 +1.2**
comp=Z,26nm,1.0s,mb4.8,baz=134,slow=6.2,SNR=32
KSRS LR LR 10 31 28.1
comp=Z,407nm,20.8s,baz=116,slow=30
L05A Lakeview 77.31 38 P **P 10 03 53.3 +0.5**
baz=78,SNR=19
J04A Umpqua Nationa 77.33 36 P **P 10 03 53.3 +0.4**
baz=78,SNR=13
O07A Toulon 77.34 40 P **P 10 03 53.1 +0.2**
baz=78,SNR=36
R09A Tonopah 77.37 43 P **P 10 03 53.1 0.0**
baz=78,SNR=38
KDAK Kodiak Island 77.43 12 P **P 10 03 52.0 -1.4**
comp=Z,38nm,0.6s,mb5.2,baz=202,slow=2.8,SNR=33
KDAK LR LR 10 33 17.1
comp=Z,314nm,18.5s,baz=207,slow=32
KDAK Kodiak Island 77.43 12 *eP* **P 10 03 52.5 -0.9**
comp=Z,29nm,0.6s,mb5.1
V12A Nelson 77.45 46 ⇓P **P 10 03 53.5 -0.1**
baz=78,SNR=26
U11A Corn Creek 77.47 45 ⇓P **P 10 03 54.1 +0.4**
baz=78,SNR=13
I04A Tendick Farm, 77.51 36 ⇑P **P 10 03 53.7 -0.2**
baz=78,SNR=11
COR Corvallis 77.53 35 P **P 10 03 54.5 +0.5**
COR pmax pmax
comp=Z,49nm,1.2s,mb5.0
COR Corvallis 77.53 35 *eP* **P 10 03 52.6 -1.5**
comp=Z,49nm,1.2s,mb5.0
COR *e*PcP PcP 10 04 01.7 -2.1
MOD Modoc 77.53 38 *eP* **P 10 03 50.8 -3.3**
comp=Z,42nm,1.2s,mb5.0
MOD *e*pP pP 10 04 28.1 -0.6
MOD Modoc 77.53 38 ⇓P **P 10 03 54.1 0.0**
baz=78,SNR=41
Z14A Wintersburg 77.54 49 ⇑P **P 10 03 54.3 +0.2**
baz=78,SNR=6.6
X13A Yucca 77.55 47 ⇑P **P 10 03 54.4 +0.3**
baz=78,SNR=20
P08A Dixie Valley 77.56 41 ⇑P **P 10 03 54.5 +0.3**
baz=78,SNR=6.2
H03A Soap Creek Ran 77.60 35 P **P 10 03 54.5 +0.1**
baz=78,SNR=13
Q09A Carvers 77.64 42 ⇑P **P 10 03 54.6 0.0**
baz=78,SNR=7.4
N07B Gerlach 77.65 40 ⇑P **P 10 03 55.1 +0.3**
baz=78
SHPR Sheep Range 77.66 45 *eP* **P 10 03 55.1 +0.4**
K05A Summer Lake 77.70 37 P **P 10 03 55.4 +0.4**
baz=78,SNR=43
115A Sonoran Desert 77.72 50 ⇑P **P 10 03 55.4 +0.3**
baz=78
IRO Indian Ridge 77.74 36 P **P 10 03 55.1 0.0**
W13A Hualapai Mount 77.78 47 P **P 10 03 55.9 +0.5**
baz=78,SNR=24
Y14A Wickenburg 77.79 48 P **P 10 03 55.6 +0.2**
baz=78,SNR=24
J05A Fort Rock 77.85 37 P **P 10 03 56.1 +0.3**
baz=78,SNR=44
G03A Yamhill 78.02 34 ⇓P **P 10 03 57.4 +0.6**
baz=78,SNR=6.3
116A Eloy 78.03 50 P **P 10 03 57.3 +0.5**
baz=78,SNR=11
U12A Valley of Fire 78.04 45 P **P 10 03 57.4 +0.6**
baz=78,SNR=40
P09A Austin 78.07 42 P **P 10 03 57.2 +0.2**

baz=78,SNR=14
K06A Valley Falls 78.12 38 P P 10 03 57.4 +0.1
baz=78,SNR=42
X14A Yava 78.15 48 ⇓P P 10 03 57.7 +0.2
baz=78,SNR=26
N08A GE Springer Mi 78.17 40 P P 10 03 57.5 0.0
baz=78,SNR=38
L07A Adell 78.18 39 P P 10 03 57.7 +0.1
baz=78,SNR=39
H04A Detroit Lake 78.21 35 P P 10 03 57.2 -0.6
baz=78,SNR=22
F03A Seaside 78.28 34 ⇑P P 10 03 58.9 +0.8
baz=78
G04A Mulino 78.38 35 ⇑P P 10 03 58.5 -0.2
baz=78,SNR=8.2
TRCR Troy Canyon 78.39 43 eP P 10 03 58.8 0.0
TRCR epP pP 10 04 32.1 -1.4
TRCR esP sP 10 04 49.0 +0.7
O09A Fish Creek Ran 78.40 41 P P 10 03 58.8 0.0
baz=78,SNR=30
W14A Seligman 78.40 47 P P 10 03 59.6 +0.8
baz=78,SNR=38
J06A Christmas Vall 78.45 37 P P 10 03 58.7 -0.4
baz=79,SNR=33
P10A Eureka 78.54 42 ⇑P P 10 03 59.8 +0.2
baz=79,SNR=18
TUC Tucson 78.58 51 eP P 10 04 00.4 +0.6
TUC e*PP pP 10 04 35.1 +0.6
TUC pmax pmax
comp=Z,54nm,1.3s,mb5.0
TUC Tucson 78.58 51 eP P 10 04 00.4 +0.6
comp=Z,54nm,1.3s,mb5.0
TUC epP pP 10 04 35.1 +0.6
N09A Rock Creek Ran 78.58 40 ⇑P P 10 03 59.9 +0.1
baz=79,SNR=10
X15A Humboldt 78.62 48 ⇓P P 10 04 00.4 +0.3
baz=79,SNR=35
Q11A Duckwater 78.62 43 P P 10 04 00.1 +0.1
baz=79,SNR=50
K07A Rock Creek Ran 78.64 38 P P 10 04 00.2 +0.1
baz=79,SNR=35
E03A Lebam 78.68 33 ⇓P P 10 04 00.0 -0.3
baz=79,SNR=8.0
H05A Madras 78.71 36 ⇑P P 10 04 00.2 -0.3
baz=79,SNR=14
SSE Sheshan 78.71 308 P P 10 04 02.0 +1.5
SSE AP pP 10 04 39.0 +3.8
SSE S S 10 13 48.9 +2.5
SSE XS sS 10 14 49.1 +2.8
SSE AMB AMB
comp=Z,64nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,303nm,4.4s
SSE LR LR
comp=N,717nm,27.6s
SSE LR LR
comp=E,705nm,27.6s
SSE LR LR
comp=Z,681nm,36.0s
WVOR Wild Horse Val 78.84 39 eP P 10 04 01.1 -0.1
WVOR e*PP pP 10 04 35.0 -1.0
WVOR e*SP sP 10 04 52.7 +1.9
WVOR pmax pmax
comp=Z,64nm,1.2s,mb5.1
WVOR Wild Horse Val 78.84 39 eP P 10 04 01.1 -0.1
comp=Z,64nm,1.2s,mb5.1
WVOR epP pP 10 04 35.0 -1.0
WVOR esP sP 10 04 52.7 +1.9
I06A Prineville 78.84 37 P P 10 04 01.4 +0.2
baz=79,SNR=46
L08A Fields 78.87 39 P P 10 04 01.5 +0.1
baz=79,SNR=56
O10A Cortez Mining, 78.90 41 P P 10 04 01.9 +0.3
baz=79,SNR=15
HOOD Mount Hood Mea 78.91 35 eP P 10 04 01.4 -0.2
W15A Williams 78.95 47 ⇑P P 10 04 02.4 +0.6
baz=79,SNR=9.0
P11A Circle Ranch, 78.96 42 ⇑P P 10 04 01.7 -0.2
baz=79,SNR=9.6
M09A Marrel Ranch, 78.96 40 ⇓P P 10 04 01.6 -0.3
baz=79,SNR=24
VIPM Ingram Point 78.96 36 P P 10 04 01.6 -0.3
J07A Hines 79.01 37 ⇓P P 10 04 02.2 0.0
baz=79,SNR=17
G05A Wamic 79.04 35 P P 10 04 02.3 0.0
baz=79,SNR=8.2
C03A Quillayute Air 79.11 32 ⇑P P 10 04 03.2 +0.5
baz=79
K08A Mann Creek Ran 79.11 38 ⇓P P 10 04 02.7 0.0
baz=79,SNR=55
E04A Onalaska 79.15 33 ⇑P P 10 04 03.2 +0.3
baz=79,SNR=8.6
L09A Wilkinson Ranc 79.18 39 P P 10 04 03.2 +0.1
baz=79,SNR=35
H06A Lindquist Farm 79.26 36 ⇓P P 10 04 03.5 0.0
baz=79
Q12A Willow Creek R 79.27 43 P P 10 04 03.8 +0.2
baz=79,SNR=26
I07A Izee 79.33 37 P P 10 04 03.9 0.0
baz=80,SNR=48
O11A Cowboy Ranch, 79.34 42 P P 10 04 04.2 +0.3
baz=80,SNR=45
F05A White Salmon 79.37 35 P P 10 04 04.0 -0.1
baz=80,SNR=16
G06A Carlson Farm, 79.41 35 P P 10 04 03.9 -0.5
baz=80,SNR=8.6
CCUT Cedar City 79.44 45 eP P 10 04 05.2 +0.7
CCUT epP pP 10 04 39.8 +0.6
D04A Dobbs Creek Ra 79.45 33 ⇓P P 10 04 05.0 +0.5
baz=80
P12A McGill 79.46 43 P P 10 04 04.8 +0.2
baz=80,SNR=23
J08A Circle Bar Ran 79.49 38 P P 10 04 04.7 -0.1
baz=80,SNR=50
ARUT Antelope Range 79.51 45 P P 10 04 05.4 +0.5
ARUT Antelope Range 79.51 45 eP P 10 04 05.3 +0.5
K09A Rome 79.54 39 P P 10 04 05.0 0.0
baz=80,SNR=84
M10A I.L. Ranch, Tu 79.58 40 P P 10 04 05.7 +0.4
baz=80,SNR=41
H07A Lands Inn, Kim 79.61 36 ⇑P P 10 04 05.1 -0.3
baz=80
E05A Randle 79.64 34 P P 10 04 05.0 -0.5
baz=80,SNR=24
F06A Goldendale 79.66 35 ⇑P P 10 04 05.2 -0.5
baz=80
N11A Elko Archery C 79.68 41 ⇑P P 10 04 05.9 +0.2
baz=80,SNR=9.2
B04A Port Angeles 79.71 32 ⇑P P 10 04 06.1 +0.1
baz=80
GNW Green Mountain 79.73 33 eP P 10 04 05.7 -0.4
WUAZ Wupatki 79.75 48 eP P 10 04 06.8 +0.6
comp=Z,69nm,1.4s,mb5.1
WUAZ epP pP 10 04 40.5 -0.5
WUAZ esP sP 10 04 55.0 -0.8
WUAZ Wupatki 79.75 48 ⇓P P 10 04 06.6 +0.4
baz=80,SNR=25
C04A Brinnon 79.76 32 ⇑P P 10 04 05.9 -0.3
baz=80,SNR=14
I08A Drewsey 79.77 37 P P 10 04 06.1 -0.1
baz=80,SNR=36
HABR Khabarovsk 79.90 328 eP P 10 04 09.5 +2.5
HABR eS S 10 14 01.7 +2.8
HABR pmax pmax
comp=Z,170nm,1.5s,mb5.5
J09A Fry Pan Ranch, 79.91 38 P P 10 04 06.8 -0.2
baz=80,SNR=66
D05A Enumclaw 79.92 33 ⇑P P 10 04 07.4 +0.4
baz=80,SNR=16
ELK Elko 79.95 41 eP P 10 04 07.1 -0.1
ELK e 10 04 12.9
ELK pmax pmax
comp=Z,26nm,0.9s
ELK Elko 79.95 41 eP P 10 04 07.0 -0.2
comp=Z,26nm,0.9s,mb4.9
ELK ePcP PcP 10 04 12.9 -1.4
G07A Ruggs Ranch, H 79.96 36 P P 10 04 06.8 -0.5
baz=80,SNR=24
M11A Holland Ranch, 79.99 41 P P 10 04 07.8 +0.4
baz=80,SNR=25
O12A Currie 80.00 42 P P 10 04 07.6 +0.1
baz=80,SNR=17
E06A Yakima 80.04 34 P P 10 04 07.5 -0.2
baz=80,SNR=15
SVW2 Sparrevohn 80.05 9 eP P 10 04 06.5 -1.3
H08A Prairie City 80.07 37 P P 10 04 07.5 -0.4
baz=80,SNR=20

PGC Sidney 80.13 31 eP P 10 04 07.5 -0.6
comp=Z,70nm,0.7s,mb5.4
PGC epP pP 10 04 40.1 -2.9
N12A Clover Valley, 80.14 41 P P 10 04 08.4 +0.1
baz=80,SNR=36
F07A Phinny Hill Vi 80.21 35 P P 10 04 08.3 -0.4
baz=80,SNR=12
I09A Lost Marbles R 80.28 38 P P 10 04 08.6 -0.5
baz=80,SNR=18
G08A Pilot Rock 80.38 36 P P 10 04 09.3 -0.2
baz=80,SNR=73
MDJ Mudanjiang 80.39 323 P P 10 04 09.3 -0.3
MDJ AP pP 10 04 40.9 -3.6
MDJ XP sP 10 04 55.2 -4.1
MDJ S S 10 14 09.8 +5.8
MDJ AMB AMB
comp=Z,28nm,2.0s,mb4.5
MDJ AMB AMB
comp=Z,384nm,6.8s
MDJ LR LR
comp=N,1μm,31.3s
MDJ LR LR
comp=E,988nm,31.3s
MDJ LR LR
comp=Z,1μm,33.9s
C05A Tolt Reservoir 80.40 33 ⇓P P 10 04 08.9 -0.7
baz=81,SNR=20
SLKM Skilak Lake 80.42 12 P P 10 04 08.5 -1.3
SLKM Skilak Lake 80.42 12 eP P 10 04 08.3 -1.4
EBG Ellensburg 80.49 34 P P 10 04 10.0 -0.1
D06A Cle Elum 80.53 34 P P 10 04 10.1 -0.2
baz=81,SNR=13
M12A Wells 80.53 41 ⇓P P 10 04 10.2 -0.1
baz=81,SNR=38
J10A Berg Farm, Mel 80.54 39 ⇑P P 10 04 10.0 -0.4
baz=81,SNR=10
A04A Legoe Bay, Lum 80.55 32 ⇓P P 10 04 10.1 -0.4
baz=81,SNR=9.2
B05A Bryant 80.56 32 P P 10 04 10.1 -0.4
baz=81,SNR=22
CMW Cultus Mountai 80.65 32 P P 10 04 10.7 -0.3
E07A Sunnyside 80.66 35 ⇓P P 10 04 10.8 -0.3
baz=81,SNR=34
N13A Wendover, West 80.66 42 ⇑P P 10 04 11.1 0.0
baz=81,SNR=21
HAWA Hanford 80.73 35 eP P 10 04 10.9 -0.5
comp=Z,36nm,1.0s,mb5.0
HAWA epP pP 10 04 45.2 -1.1
H09A Durkee 80.74 37 P P 10 04 11.2 -0.3
baz=81,SNR=28
MSU Marysvale 80.74 45 eP P 10 04 12.8 +1.3
MSU ePcP PcP 10 04 18.2 +0.5
MSU epP pP 10 04 46.5 +0.2
MDW Midway 80.74 35 P P 10 04 11.0 -0.5
F08A Pendleton 80.78 36 P P 10 04 11.4 -0.3
baz=81,SNR=35
M13A Montello 80.97 41 P P 10 04 12.6 0.0
baz=81,SNR=29
D07A Quincy 80.99 34 ⇓P P 10 04 12.2 -0.6
baz=81,SNR=14
A05A Maple Falls 81.04 32 P P 10 04 12.5 -0.6
baz=81,SNR=7.0
E08A Dider Farm, El 81.05 35 P P 10 04 12.7 -0.4
baz=81,SNR=25
BMO Blue Mountains 81.05 37 eP P 10 04 12.5 -0.6
comp=Z,52nm,1.2s,mb5.0
BMO ePcP PcP 10 04 18.6 -0.5
BMO epP pP 10 04 46.9 -1.2
DUG Dugway 81.20 43 eP P 10 04 14.0 +0.1
DUG Dugway 81.20 43 epP pP 10 04 48.0 -0.8
DUG Dugway 81.20 43 ⇓P P 10 04 13.7 -0.2
baz=81,SNR=18
F09A S2 Ranch, Elgi 81.22 36 ⇑P P 10 04 13.7 -0.3
baz=81,SNR=27
H10A Noah's Angus R 81.22 38 P P 10 04 13.5 -0.5
baz=81,SNR=86
C07A Waterville 81.25 34 P P 10 04 13.3 -0.8
baz=81,SNR=22
I11A Placerville 81.30 38 P P 10 04 14.1 -0.3
baz=81,SNR=47
WTV Waterville 81.31 34 P P 10 04 13.6 -0.9
EYAK Cordova Ski Ar 81.41 14 eP P 10 04 13.2 -1.8
BGU Big Grassy Mou 81.45 42 eP P 10 04 15.0 -0.2
BGU ePcP PcP 10 04 20.6 -0.3
BGU epP pP 10 04 50.8 +0.6
D08A Wollman Farm, 81.47 35 P P 10 04 14.9 -0.4
baz=82,SNR=41
NLU North Lily Min 81.56 43 eP P 10 04 16.0 +0.3
NLU epP pP 10 04 49.9 -0.8
E09A Wood Farm, Sta 81.57 35 ⇑P P 10 04 15.1 -0.8
baz=82,SNR=24
PMR Palmer 81.63 12 eP P 10 04 14.6 -1.6
PMR pmax pmax
comp=Z,47nm,0.6s,mb5.3
PMR Palmer 81.63 12 eP P 10 04 14.6 -1.6
comp=Z,47nm,0.6s,mb5.3
B07A Winthrop 81.70 33 P P 10 04 15.8 -0.7
baz=82,SNR=23
H11A Donnelly 81.72 38 P P 10 04 16.3 -0.3
baz=82,SNR=50
F10A Beach Ranch, E 81.76 36 P P 10 04 16.1 -0.7
baz=82,SNR=64
OD2 Odessa Site #2 81.79 35 P P 10 04 16.4 -0.6
TMUT Trail Mountain 81.79 44 eP P 10 04 18.0 +1.0
TMUT ePcP PcP 10 04 23.9 +1.6
TMUT epP pP 10 04 52.2 +0.2
D09A Jones Farm, Ri 81.81 35 ⇑P P 10 04 16.7 -0.4
baz=82,SNR=34
C08A Higginbotham F 81.85 34 P P 10 04 16.6 -0.7
baz=82,SNR=20
MPU Maple Canyon 81.88 44 eP P 10 04 18.0 +0.5
comp=Z,13nm,0.8s,mb4.6
MPU ePcP PcP 10 04 23.7 +1.0
NOQ North Oquirrh 81.89 43 eP P 10 04 17.5 0.0
comp=Z,28nm,1.0s,mb4.8
SML Sawmill 81.99 12 eP P 10 04 16.6 -1.4
HLID Hailey 82.02 39 eP P 10 04 18.5 +0.2
comp=Z,40nm,0.9s,mb5.0
HLID epP pP 10 04 52.7 -0.5
HLID Hailey 82.02 39 P P 10 04 18.6 +0.3
baz=82,SNR=61
SPUT South Promonto 82.03 42 eP P 10 04 13.8 -4.4
SPUT ePcP PcP 10 04 19.4 -4.0
SPUT epP pP 10 04 47.9 -5.4
B08A Colville Reser 82.05 33 ⇑P P 10 04 17.1 -1.3
baz=82,SNR=29
KLR Kul'dur 82.05 328 eP P 10 04 15.7 -2.7
KLR eS S 10 14 17.5 -3.7
KLR pmax pmax
comp=E,38nm,1.4s
KLR pmax pmax
comp=Z,48nm,1.4s,mb4.9
HVU Hansel Valley 82.07 42 eP P 10 04 18.3 -0.2
HVU e*PP pP 10 04 51.5 -1.9
HVU pmax pmax
comp=Z,134nm,1.6s,mb5.3
HVU Hansel Valley 82.07 42 eP P 10 04 18.3 -0.2
comp=Z,134nm,1.6s,mb5.3
HVU epP pP 10 04 51.5 -2.0
E10A Myers Farm, Un 82.12 36 ⇓P P 10 04 17.4 -1.4
baz=82,SNR=19
SRU San Rafael 82.15 45 eP P 10 04 19.2 +0.3
SRU pmax pmax
comp=Z,49nm,1.0s,mb5.1
SRU San Rafael 82.15 45 eP P 10 04 19.2 +0.3
comp=Z,49nm,1.0s,mb5.1
SRU ePcP PcP 10 04 24.8 +0.9
CTU Camp Tracy 82.15 43 eP P 10 04 18.8 -0.1
comp=Z,24nm,1.0s,mb4.8
DL2 Dalian 82.23 315 P P 10 04 20.0 +0.7
DL2 XP sP 10 05 08.0 -1.1
DL2 S S 10 14 29.0 +6.0
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
DL2 AMB AMB
comp=Z,120nm,4.6s
LAZ Ladron 82.25 50 eP P 10 04 20.1 +0.6
LENM Lemitar 82.27 51 eP P 10 04 20.6 +1.2
LENM epP pP 10 04 55.1 +0.6
C09A Chrisman Ranch 82.27 34 P P 10 04 18.9 -0.6
baz=82,SNR=16
JLU Jordanelle 82.30 43 eP P 10 04 20.1 +0.4
DAU Daniels Canyon 82.33 43 eP P 10 04 20.4 +0.6
DAU Daniels Canyon 82.33 43 eP P 10 04 20.1 +0.3
MNTX Cornudas Mount 82.35 53 eP P 10 04 20.5 +0.6

comp=Z,30nm,1.1s,mb4.8
MNTX epP pP 10 04 52.6 -2.3
CN2 Changchun 82.36 321 eP P 10 04 20.7 +0.7
CN2 eAP pP 10 04 56.1 +1.1
CN2 eS S 10 14 23.4 -0.9
CN2 AMB AMB
comp=Z,30nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,400nm,4.0s
CN2 LR LR
comp=N,490nm,15.0s
CN2 LR LR
comp=E,270nm,15.0s
CN2 LR LR
comp=Z,480nm,16.0s
D10A Wagner Farm, O 82.37 35 P P 10 04 19.0 -1.0
baz=82,SNR=35
A08A Turner Farm, O 82.45 33 P P 10 04 19.9 -0.6
baz=83,SNR=24
BNM Barren Site 82.51 51 eP P 10 04 21.9 +1.1
BNM epP pP 10 04 55.3 -0.5
E11A Bogner Ranch, 82.56 36 P P 10 04 19.4 -1.6
baz=83,SNR=21
LPM Los Pinos Moun 82.58 51 eP P 10 04 22.1 +1.0
LPM epP pP 10 04 56.6 +0.4
MVCO Mesa Verde 82.60 47 eP P 10 04 21.5 +0.2
comp=Z,29nm,1.1s,mb4.9
MVCO Mesa Verde 82.60 47 ⇑P P 10 04 20.8 -0.4
baz=83,SNR=12
LTX Lajitas 82.67 56 eP P 10 04 22.9 +1.3
LTX pmax pmax
comp=Z,75nm,1.4s,mb5.2
LTX Lajitas 82.67 56 eP P 10 04 22.4 +0.8
comp=Z,75nm,1.5s,mb5.2
LTX epP pP 10 04 56.4 -0.2
TXAR Lajitas Array 82.67 56 P P 10 04 22.6 +1.1
comp=Z,18nm,1.2s,mb4.7,baz=212,slow=4.4,SNR=7.1
TXAR pP pP 10 04 55.6 -0.9
comp=Z,14nm,1.0s,baz=225,slow=4.8,SNR=6.1
TXAR LR LR 10 34 40.8
comp=Z,227nm,18.5s,baz=55,slow=31
TXAR Lajitas Array 82.67 56 P P 10 04 22.6 +1.0
TXAR *PP pP 10 04 55.7 -0.9
B09A Rice 82.71 34 P P 10 04 20.9 -0.9
baz=83,SNR=11
HWUT Hardware Ranch 82.75 42 eP P 10 04 21.7 -0.3
comp=Z,56nm,1.3s,mb5.1
PV10 Paradox Valley 82.80 46 eP P 10 04 22.7 +0.4
PV10 ePcP PcP 10 04 27.5 +0.7
C10A Spilker Farm, 82.81 35 P P 10 04 21.5 -0.8
baz=83,SNR=9.3
A09A Danville 82.82 33 P P 10 04 21.7 -0.6
baz=83,SNR=24
D11A Klaveano Farm, 82.89 36 P P 10 04 21.6 -1.0
baz=83,SNR=37
G13A Cobalt 82.98 38 ⇑P P 10 04 22.9 -0.3
baz=83,SNR=55
QIZ Qiongzhong 82.99 292 ⇓P P 10 04 22.2 -1.1
QIZ XP sP 10 05 12.7 -0.4
QIZ PP PP 10 07 36.4 +0.6
QIZ S S 10 14 29.6 -1.2
QIZ AMB AMB
comp=Z,50nm,1.8s,mb4.9
PV01 Paradox Valley 83.00 46 eP P 10 04 23.5 +0.2
PV01 epP pP 10 04 57.5 -0.8
ANMO Albuquerque 83.00 50 eP P 10 04 24.0 +0.7
ANMO e*PP pP 10 04 58.8 +0.5
ANMO pmax pmax
comp=Z,92nm,1.3s
ANMO Albuquerque 83.00 50 eP P 10 04 24.0 +0.7
comp=Z,92nm,1.3s,mb5.3
ANMO epP pP 10 04 58.8 +0.4
B10A Chitwood Farm, 83.13 34 ⇑P P 10 04 23.0 -0.9
baz=83
NEW Newport 83.17 34 eP P 10 04 23.0 -1.1
NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 83.17 34 eP P 10 04 23.0 -1.1
comp=Z,15nm,1.0s,mb4.7
SKAG Skagway 83.28 19 eP P 10 04 23.7 -1.0
comp=Z,42nm,1.0s,mb5.1
F13A Darby 83.31 38 ⇓P P 10 04 24.1 -0.7
baz=84,SNR=54
GDL2 Guadalupe Moun 83.35 53 eP P 10 04 26.3 +1.3
KGM Kluang 83.35 274 P P 10 04 29.5 +4.4
MCK McKinley 83.63 11 eP P 10 04 24.9 -1.6
MCK pmax pmax
comp=Z,59nm,0.9s,mb5.3
MCMT McKenzie Canyo 83.66 39 eP P 10 04 27.0 +0.4
MCMT epP pP 10 05 01.3 -0.4
E13A Victor 83.76 37 P P 10 04 26.2 -1.0
baz=84,SNR=54
F14A Wisdom 83.88 38 ⇑P P 10 04 27.5 -0.3
baz=84
D13A Huson 83.97 36 P P 10 04 27.0 -1.2
baz=84,SNR=58
MENT Mentasta 83.97 14 eP P 10 04 27.3 -1.0
A11A Hall Mountain, 83.98 34 P P 10 04 28.1 -0.2
baz=84,SNR=21
DCID1 Drake Creek 84.02 41 eP P 10 04 29.0 +0.5
G15A Dillon 84.06 39 P P 10 04 28.8 +0.1
baz=84,SNR=104
DLMT Dillon 84.10 39 eP P 10 04 29.0 +0.1
comp=Z,56nm,0.8s,mb5.3
DLMT epP pP 10 05 03.2 -0.8
MSO Missoula 84.11 37 eP P 10 04 27.8 -1.1
comp=Z,16nm,0.9s,mb4.8
B12A Libby 84.12 35 P P 10 04 28.7 -0.3
baz=84,SNR=9.8
E14A Clinton 84.14 37 P P 10 04 28.7 -0.4
baz=84,SNR=67
BSMT Bassoo Peak 84.21 36 P P 10 04 28.6 -0.8
C13A Hot Springs 84.23 36 P P 10 04 28.8 -0.8
baz=84,SNR=13
DLBC Dease Lake 84.24 22 eP P 10 04 29.0 -0.6
MOOW Moose Ponds 84.37 41 eP P 10 04 30.1 -0.2
comp=Z,40nm,1.2s,mb5.0
MOOW epP pP 10 05 04.7 -0.7
LOHW Long Hollow 84.39 41 eP P 10 04 30.3 0.0
comp=Z,69nm,1.1s,mb5.3
F15A Butte 84.42 38 ⇓P P 10 04 29.9 -0.5
baz=85,SNR=28
LRM Limekiln Ridge 84.43 38 eP P 10 04 30.2 -0.3
D14A Greenough 84.50 37 P P 10 04 29.8 -1.1
baz=85,SNR=27
QLMT Earthquake Lak 84.52 40 eP P 10 04 31.7 +0.7
QLMT epP pP 10 05 05.7 -0.4
CHMT Chamberlain Mo 84.56 37 eP P 10 04 30.3 -0.9
CHMT epP pP 10 05 03.0 -3.4
SEY Seymchan 84.60 345 ⇑/P P 10 04 30.1 -1.3
BW06 Boulder Array 84.62 42 eP P 10 04 31.0 -0.5
comp=Z,60nm,1.1s,mb5.2
PDAR Pinedale Array 84.62 42 P P 10 04 30.9 -0.6
comp=Z,30nm,0.7s,mb5.1,baz=213,slow=3.3,SNR=246
PDAR pP pP 10 05 05.0 -1.7
comp=Z,13nm,0.9s,baz=249,slow=1.3,SNR=2.2
PDAR PKKP PKKPbc 10 22 41.6 +1.1
comp=Z,1.0nm,0.8s,baz=86,slow=3.6,SNR=7.4
PDAR LR LR 10 37 13.4
comp=Z,314nm,18.9s,baz=146,slow=32
E15A Deer Lodge 84.64 38 P P 10 04 30.8 -0.8
baz=85,SNR=25
B13A Whitefish 84.68 35 P P 10 04 30.7 -1.1
baz=85,SNR=9.1
YFT Old Faithful 84.68 40 eP P 10 04 33.5 +1.7
YFT epP pP 10 05 08.3 +1.3
YMR Madison River 84.71 40 eP P 10 04 32.8 +0.8
comp=Z,42nm,0.7s,mb5.3
BOZ Bozeman (W) 84.82 39 eP P 10 04 32.3 -0.2
BOZ e*PP pP 10 05 06.7 -1.0
BOZ pmax pmax
comp=Z,63nm,1.2s,mb5.2
BOZ Bozeman (W) 84.82 39 eP P 10 04 32.3 -0.2
comp=Z,63nm,1.2s,mb5.2
BOZ epP pP 10 05 06.7 -1.1
COLA College 84.87 11 eP P 10 04 31.1 -1.6
COLA e*PP pP 10 05 07.5 -0.4
COLA pmax pmax
comp=Z,125nm,0.9s,mb5.6
COLA College 84.87 11 eP P 10 04 31.1 -1.7
comp=Z,125nm,0.9s,mb5.6
COLA epP pP 10 05 07.5 -0.4
YNR Norris Junctio 84.91 40 eP P 10 04 34.1 +1.1
SDCO Great Sand Dun 84.96 48 eP P 10 04 33.6 +0.4
SDCO epP pP 10 05 08.5 +0.1

IMA2	**Indian Mountai**	**85.04**	**8**	*e*P	**P**		**10 04 32.8**	**-0.8**
D15A	**Lincoln**	**85.05**	**37**	P	**P**		**10 04 33.2**	**-0.4**
	baz=85,SNR=35							
MAW	**Mawson**	**85.25**	**199**	⇑*i*P	**P**		**10 04 35.0**	**+0.3**
	comp=Z,23nm,0.8s,mb5.0							
MAW	**Mawson**	**85.25**	**199**	P	**P**		**10 04 35.1**	**+0.4**
	comp=Z,27nm,0.8s,mb5.0,baz=121,slow=6.1,SNR=45							
MAW				LR	LR		10 38 34.0	
	comp=Z,173nm,19.0s,baz=310,slow=33							
MAW	**Mawson**	**85.25**	**199**	⇑*i*P	**P**		**10 04 35.0**	**+0.3**
MAW				pmax	pmax			
	comp=Z,23nm,0.8s							
WALA	**Waterton Lakes**	**85.37**	**35**	*e*P	**P**		**10 04 34.5**	**-0.8**
	comp=Z,109nm,1.6s,mb5.3							
WALA				*e*pP	pP		10 05 09.8	-0.7
RWWY	**Rawlins**	**85.62**	**44**	*e*pP	pP		10 05 11.5	-0.3
ISCO	**Idaho Springs**	**85.82**	**46**	*e*P	**P**		**10 04 37.7**	**+0.2**
ISCO				*e**PP	pP		10 05 13.8	+1.1
ISCO	**Idaho Springs**	**85.82**	**46**	*e*P	**P**		**10 04 37.3**	**-0.2**
	comp=Z,9.9nm,1.3s,mb4.4							
ISCO				*e*pP	pP		10 05 13.8	+1.0
DAWY	**Dawson**	**85.95**	**15**	*e*P	**P**		**10 04 37.2**	**-0.9**
DAWY				*e*pP	pP		10 05 12.6	-0.8
RLMT	**Red Lodge**	**85.98**	**40**	*e*P	**P**		**10 04 38.2**	**0.0**
	comp=Z,42nm,1.3s,mb5.0							
RLMT				*e*pP	pP		10 05 13.1	-0.5
GCMT	**Greycliff**	**86.08**	**39**	*e*P	**P**		**10 04 38.8**	**0.0**
GCMT				*e*pP	pP		10 05 14.1	+0.1
EGAK	**Eagle**	**86.14**	**14**	*e*P	**P**		**10 04 38.0**	**-1.0**
	comp=Z,46nm,0.9s,mb5.2							
EGAK				*e*pP	pP		10 05 13.9	-0.4
JCT	**Junction City**	**86.19**	**56**	*e*P	**P**		**10 04 39.5**	**+0.2**
JCT				pmax	pmax			
	comp=Z,69nm,1.4s,mb5.2							
JCT	**Junction City**	**86.19**	**56**	*e*P	**P**		**10 04 39.5**	**+0.1**
	comp=Z,69nm,1.4s,mb5.2							
IPM	**Ipoh**	**86.28**	**276**	P	**P**		**10 04 43.6**	**+3.8**
BJI	**Beijing**	**86.48**	**314**	P	**P**		**10 04 41.7**	**+1.0**
BJI				S	SKSac		10 14 54.3	+0.1
BJI				AMB	AMB			
	comp=Z,31nm,1.6s,mb4.8							
BJI				AMB	AMB			
	comp=Z,590nm,4.3s							
BJI				LR	LR			
	comp=N,381nm,19.8s							
BJI				LR	LR			
	comp=E,506nm,20.6s							
BJI				LR	LR			
	comp=Z,533nm,30.9s							
KVTX	**Kingsville**	**86.62**	**60**	*e*P	**P**		**10 04 43.8**	**+2.4**
	comp=Z,152nm,1.3s,mb5.7							
BILL	**Bilibino**	**86.76**	**353***c*	*i*P	**P**		**10 04 40.6**	**-1.5**
BILL				*e*S	S		10 15 08.2	+0.3
BILL				pmax	pmax			
	comp=Z,73nm,1.2s,mb5.4							
BILL	**Bilibino**	**86.76**	**353**	*e*P	**P**		**10 04 40.8**	**-1.3**
	comp=Z,58nm,1.0s,mb5.4							
KULM	**Kulim**	**86.89**	**277**	*e*P	**P**		**10 04 42.7**	**0.0**
KULM				*e*pP	pP		10 05 20.7	+2.6
EGMT	**Eagleton**	**87.16**	**37**	*e*P	**P**		**10 04 43.9**	**-0.1**
EGMT	**Eagleton**	**87.16**	**37**	⇓P	**P**		**10 04 43.6**	**-0.4**
	baz=87							
PSI	**Prapat**	**87.77**	**274**	P	**P**		**10 04 47.3**	**+0.4**
	comp=Z,30nm,0.9s,mb5.1,baz=188,slow=4.1,SNR=18							
PSI				pP	pP		10 05 22.2	-0.1
	comp=Z,30nm,1.0s,baz=168,slow=7.9,SNR=3.1							
EDM	**Edmonton**	**87.97**	**32**	*e*P	**P**		**10 04 47.1**	**-0.8**
GYA	**Guiyang**	**88.39**	**298**	⇑*i*P	**P**		**10 04 51.0**	**+1.1**
GYA				AP	pP		10 05 26.4	+1.1
GYA				XP	sP		10 05 40.9	+0.9
GYA				PP	PP		10 08 22.8	+3.3
GYA				SKS			10 15 04.5	
GYA				S	S		10 15 22.7	-0.8
GYA				SS	SS		10 21 19.3	+2.9
GYA				AMB	AMB			
	comp=Z,40nm,0.8s,mb5.3							
GYA				AMB	AMB			
	comp=Z,670nm,5.9s							
GYA				LR	LR			
	comp=N,1μm,19.7s							
GYA				LR	LR			
	comp=E,1μm,20.4s							
GYA				LR	LR			
	comp=Z,1μm,20.8s							
LAO	**LASA Array**	**88.60**	**40**	*e*P	**P**		**10 04 51.3**	**+0.4**
	comp=Z,30nm,0.8s,mb5.3							
RSSD	**Black Hills**	**88.81**	**43**	*e*P	**P**		**10 04 51.1**	**-0.7**
RSSD				*e**PP	pP		10 05 26.1	-1.2
RSSD				pmax	pmax			
	comp=Z,25nm,1.0s,mb5.1							
RSSD	**Black Hills**	**88.81**	**43**	*e*P	**P**		**10 04 51.1**	**-0.7**
	comp=Z,25nm,1.0s,mb5.1							
RSSD				*e*pP	pP		10 05 26.1	-1.2
HKT	**Hockley**	**89.18**	**58**	*e*P	**P**		**10 04 54.5**	**+0.9**
HKT				pmax	pmax			
	comp=Z,167nm,1.7s,mb5.7							
HKT	**Hockley**	**89.18**	**58**	*e*P	**P**		**10 04 54.5**	**+1.0**
	comp=Z,167nm,1.7s,mb5.7							
XAN	**Xi'an**	**89.32**	**306**	P	**P**		**10 04 54.6**	**+0.4**
XAN				AP	pP		10 05 28.6	-1.1
XAN				PP	PP		10 08 28.0	+1.2
XAN				SS	SS		10 21 30.0	+0.1
XAN				AMB	AMB			
	comp=Z,23nm,1.9s,mb4.8							
XAN				AMB	AMB			
	comp=Z,263nm,7.9s							
XAN				LR	LR			
	comp=N,211nm,19.4s							
XAN				LR	LR			
	comp=E,270nm,17.0s							
XAN				LR	LR			
	comp=Z,388nm,18.7s							
CBKS	**Cedar Bluff**	**89.52**	**49**	*e*P	**P**		**10 04 55.2**	**+0.1**
CLNS	**Chul'man**	**89.90**	**331**	*e*P	**P**		**10 04 55.0**	**-1.9**
CLNS				pmax	pmax			
	comp=E,25nm,1.1s							
CLNS				pmax	pmax			
	comp=Z,74nm,1.1s,mb5.5							
CLNS				pmax	pmax			
	comp=N,25nm,1.2s							
HHC	**Hu-ho-hao-te**	**90.01**	**313**	*e*P	**P**		**10 04 58.1**	**+0.7**
HHC				AP	pP		10 05 34.5	+1.6
HHC				XP	sP		10 05 49.4	+1.8
HHC				PP	PP		10 08 36.5	+4.2
HHC				SKS			10 15 15.8	
HHC				S	S		10 15 37.2	-1.3
HHC				SS	SS		10 21 44.1	+4.3
HHC				AMB	AMB			
	comp=Z,39nm,1.3s,mb5.2							
HHC				AMB	AMB			
	comp=Z,240nm,5.5s							
HHC				LR	LR			
	comp=N,488nm,18.4s							
HHC				LR	LR			
	comp=E,420nm,20.8s							
HHC				LR	LR			
	comp=Z,437nm,22.0s							
SYO	**Syowa Base**	**90.09**	**192**	⇓*e*P	**P**		**10 04 56.6**	**-1.2**
SYO	**Syowa Base**	**90.09**	**192**	⇑*i*pP	pP		10 05 30.2	-3.1
VNA3	**Neumayer Olymp**	**90.56**	**175**	⇑*i*P	**P**		**10 05 00.0**	**0.0**
VNA3				*e*			10 05 01.0	
VNA3				*e*			10 05 09.5	
VNA3				*e*	pP		10 05 35.3	-0.2
VNA3				*e*	pP		10 05 37.8	+2.3
VNA3				*e*			10 05 41.3	
VNA3				*e*			10 05 53.8	
SNAA	**Sanae**	**90.57**	**177**	⇑*i*P	**P**		**10 04 59.6**	**-0.4**
SNAA				*e*			10 05 00.6	
SNAA				*e*			10 05 08.8	
SNAA				*e*	pP		10 05 34.0	-1.6
SNAA				*e*	pP		10 05 36.0	+0.4
SNAA				*e*	pP		10 05 39.1	+3.5
SNAA				*e*			10 05 45.5	
SNAA				*e*			10 05 53.9	
SNAA	**Sanae**	**90.57**	**177**	*e*P	**P**		**10 04 59.6**	**-0.4**
SNAA				*e**PP	pP		10 05 32.8	-2.8
SNAA				pmax	pmax			
	comp=Z,51nm,1.2s							
SNAA	**Sanae**	**90.57**	**177**	*e*P	**P**		**10 04 59.6**	**-0.4**
	comp=Z,51nm,1.2s,mb5.4							
SNAA				*e*pP	pP		10 05 32.8	-2.8
DGMT	**Dagmar**	**90.64**	**39**	*e*P	**P**		**10 05 00.6**	**+0.3**
	comp=Z,50nm,0.9s,mb5.5							
DGMT				*e*pP	pP		10 05 35.5	-0.3
INK	**Inuvik**	**90.79**	**14**	P	**P**		**10 04 59.5**	**-1.6**
	comp=Z,25nm,1.1s,mb5.2,baz=200,slow=5.6,SNR=40							
INK				pP	pP		10 05 34.7	-1.9
	comp=Z,8.4nm,1.0s,baz=212,slow=11,SNR=2.8							
INK	**Inuvik**	**90.79**	**14**	*e*P	**P**		**10 04 59.3**	**-1.7**
	comp=Z,924nm,1.1s							
INK				*e*pP	pP		10 05 35.7	-0.9
YAK	**Yakutsk**	**90.96**	**337**	*d i*P	**P**		**10 05 00.0**	**-1.8**
YAK				pmax	pmax			
	comp=N,7.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,35nm,1.1s,mb5.3							
YAK				pmax	pmax			
	comp=E,12nm,1.5s							
YAK	**Yakutsk**	**90.96**	**337**	*e*P	**P**		**10 05 00.1**	**-1.8**
	comp=E,25nm,0.7s,mb5.4							
BTO	**Baotou**	**91.00**	**312**	*e*P	**P**		**10 05 03.9**	**+1.9**
VNA2	**Neumayer--Watz**	**91.04**	**176**	⇑*i*P	**P**		**10 05 02.4**	**+0.2**
VNA2				*e*			10 05 03.6	
VNA2				*e*			10 05 11.5	
VNA2				*e*	pP		10 05 36.6	-1.2
VNA2				*e*	pP		10 05 39.3	+1.5
VNA2				*e*	pP		10 05 42.3	+4.5
VNA2				*e*			10 05 47.9	
VNA2				*e*			10 05 54.0	
VNA1	**Neumayer--Stat**	**91.25**	**175**	*e*P	**P**		**10 05 04.2**	**+1.0**
VNA1				*e*			10 05 05.0	
VNA1				*e*			10 05 13.7	
VNA1				*e*	pP		10 05 39.3	+0.6
VNA1				*e*	pP		10 05 41.4	+2.7
VNA1				*e*	pP		10 05 44.6	+5.9
VNA1				*e*			10 05 51.3	
VNA1				*e*			10 05 57.7	
KMI	**Kunming**	**91.27**	**296**	P	**P**		**10 05 06.1**	**+2.8**
KMI				AP	pP		10 05 42.2	+3.4
KMI				PP	PP		10 08 44.2	+1.9
KMI				SKS			10 15 22.4	
KMI				S	S		10 15 49.7	-0.3
KMI				AMB	AMB			
	comp=Z,16nm,0.9s,mb5.0							
TGUH	**Tegucigalpa,Un**	**91.47**	**76**	*e*P	**P**		**10 05 05.5**	**+1.3**
	comp=Z,132nm,1.4s,mb5.8							
MAIT	**Maitri**	**91.56**	**182**	*e*P	**P**		**10 05 03.8**	**-0.8**
NVL	**N'lazarevskaya**	**91.56**	**182**	*d i*P	**P**		**10 05 03.9**	**-0.7**
NVL				*i*			10 15 51.7	
NVL				pmax	pmax			
	comp=Z,30nm,0.7s,mb5.4							
KSU1	**Kansas State U**	**91.89**	**50**	*e*P	**P**		**10 05 06.2**	**0.0**
	comp=Z,28nm,1.1s,mb5.2							
KSU1				*e*pP	pP		10 05 41.5	-0.1
CD2	**Chengdu**	**92.31**	**302**	*e*P	**P**		**10 05 08.8**	**+0.7**
CD2				AP	pP		10 05 44.8	+1.2
CD2				XP	sP		10 05 59.8	+1.5
CD2				PP	PP		10 08 54.0	+3.5
CD2				SKS			10 15 27.2	
CD2				S	S		10 15 57.2	-2.1
CD2				XS	sS		10 16 59.9	-1.2
CD2				SS	SS		10 22 15.2	+2.3
CD2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8							
CD2				AMB	AMB			
	comp=Z,260nm,9.6s							
JTS	**JuntasAbangare**	**92.49**	**80**	*d i*P	**P**		**10 05 09.8**	**+0.9**
JTS	**JuntasAbangare**	**92.49**	**80**	*e*P	**P**		**10 05 09.6**	**+0.6**
	comp=Z,66nm,1.0s,mb5.6							
MIAR	**Mount Ida**	**92.57**	**55**	*e*P	**P**		**10 05 09.9**	**+0.6**
MIAR				pmax	pmax			
	comp=Z,33nm,1.2s,mb5.3							
MIAR	**Mount Ida**	**92.57**	**55**	*e*P	**P**		**10 05 09.9**	**+0.6**
	comp=Z,33nm,1.2s,mb5.3							
YKA	**Yellowknife Ar**	**92.63**	**24**	P	**P**		**10 05 08.1**	**-1.4**
	comp=Z,11nm,1.0s,mb4.9,baz=235,slow=4.2,SNR=44							
YKA				pP	pP		10 05 42.4	-2.7
	comp=Z,4.9nm,0.9s,baz=240,slow=4.2,SNR=3.0							
YKA				PKKP	PKKPbc		10 22 15.8	-5.2
	comp=Z,0.4nm,0.7s,baz=46,slow=2.1,SNR=3.2							
YKA				LR	LR		10 40 34.6	
	comp=Z,208nm,20.6s,baz=250,slow=31							
YKA	**Yellowknife Ar**	**92.63**	**24**	P	**P**		**10 05 08.2**	**-1.4**
YKA				*PP	pP		10 05 42.4	-2.7
YKA							10 22 15.8	
CHTO	**Chiang Mai**	**92.64**	**289**	*e*P	**P**		**10 05 10.9**	**+1.3**
CHTO				*e**PP	pP		10 05 47.6	+2.4
CHTO				pmax	pmax			
	comp=Z,15nm,0.9s,mb5.1							
CHTO	**Chiang Mai**	**92.64**	**289**	*e*P	**P**		**10 05 10.9**	**+1.3**
	comp=Z,15nm,0.9s,mb5.1							
CHTO				*e*pP	pP		10 05 47.6	+2.4
YKW3	**Yellowknife Ar**	**92.67**	**24**	*e*P	**P**		**10 05 08.5**	**-1.2**
ECSD	**EROS,Sioux Fal**	**93.56**	**45**	*e*P	**P**		**10 05 13.6**	**-0.2**
	comp=Z,28nm,1.3s,mb5.2							
UALR	**University of**	**93.61**	**55**	*e*P	**P**		**10 05 14.6**	**+0.5**
	comp=Z,23nm,0.8s,mb5.3							
LZH	**Lanzhou**	**93.94**	**307**	⇓P	**P**		**10 05 17.2**	**+1.6**
LZH				AP	pP		10 05 53.1	+2.0
LZH				XP	sP		10 06 08.5	+2.7
LZH				PP	PP		10 09 08.3	+5.1
LZH				SKS			10 15 37.5	
LZH				S	S		10 16 12.4	-1.2
LZH				XS	sS		10 17 15.3	-0.3
LZH				SS	SS		10 22 39.5	+3.4
LZH				AMB	AMB			
	comp=Z,38nm,1.5s,mb5.3							
LZH				AMB	AMB			
	comp=Z,406nm,8.6s							
LZH				LR	LR			
	comp=N,956nm,17.2s							
LZH				LR	LR			
	comp=Z,1μm,19.5s							
SCIA	**State Center**	**95.28**	**48**	*e*P	**P**		**10 05 21.6**	**-0.1**
	comp=Z,63nm,1.4s,mb5.7							
SCIA				*e*pP	pP		10 05 55.6	-1.7
BOD	**Bodaibo**	**95.53**	**329**	*e*P	**P**		**10 05 21.8**	**-1.1**
BOD				pmax	pmax			
	comp=Z,5.0nm,2.0s,mb4.5							
AGMN	**Agassiz Refuge**	**95.67**	**41**	*e*P	**P**		**10 05 21.9**	**-1.6**
	comp=Z,36nm,1.3s,mb5.5							
AGMN				*e*pP	pP		10 05 57.5	-1.6
SONM	**Songino Array**	**96.04**	**318**	P	**P**		**10 05 25.5**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=68,slow=4.0,SNR=6.1							
SONM				PP	PP		10 09 11.3	-8.2
	comp=Z,0.7nm,0.9s,baz=116,slow=6.6,SNR=3.2							
SONM				LR	LR		10 44 01.6	
	comp=Z,347nm,21.6s,baz=277,slow=32							
ULM	**Lac du Bonnet**	**96.33**	**39**	P	**P**		**10 05 24.9**	**-1.7**
	comp=Z,9.0nm,1.1s,mb5.0,baz=230,slow=6.8,SNR=6.9							
ULM				LR	LR		10 41 38.7	
	comp=Z,242nm,19.7s,baz=246,slow=31							
TIXI	**Tiksi**	**97.06**	**345**	⇑*e*P	**P**		**10 05 27.7**	**-2.1**
TIXI				*e**PP	pP		10 06 04.7	-0.7
TIXI				pmax	pmax			
	comp=Z,16nm,1.0s,mb5.3							
TIXI	**Tiksi**	**97.06**	**345**	*e*P	**P**		**10 05 27.8**	**-2.0**
	comp=Z,14nm,1.0s,mb5.2							
TIXI				*e*pP	pP		10 06 04.5	-0.9
GTA	**Gaotai**	**97.99**	**309**	*e*P	**P**		**10 05 35.3**	**+1.3**
GTA				AP	pP		10 06 12.0	+2.4
GTA				XP	sP		10 06 27.9	+3.7
GTA				SKS			10 16 00.8	
GTA				S	S		10 16 45.7	-2.8
GTA				XS	sS		10 17 51.1	+0.4
GTA				SS	SS		10 23 37.1	+3.7
GTA				AMB	AMB			
	comp=Z,3.0nm,1.4s,mb4.5							
GTA				AMB	AMB			
	comp=Z,178nm,7.2s							
GTA				LR	LR			
	comp=N,207nm,14.5s							
GTA				LR	LR			
	comp=E,355nm,20.9s							
GTA				LR	LR			
	comp=Z,576nm,27.0s							
ZAK	**Zakamensk**	**98.79**	**320**	*e*P	**P**		**10 05 31.9**	**-5.6**
LPAZ	**La Paz**	**99.81**	**111**	P	Pdif		10 05 44.6	+2.5
	comp=Z,1.6nm,0.8s,baz=275,slow=5.7,SNR=7.8							
LPAZ				PP	PP		10 09 47.1	-1.1
	comp=Z,0.7nm,0.8s,baz=227,slow=9.1,SNR=3.9							
LPAZ				LR	LR		10 41 48.1	
	comp=Z,286nm,18.2s,baz=265,slow=30							
LPAZ	**La Paz**	**99.81**	**111**	P	Pdif		10 05 44.6	+2.5
LPAZ				PP	PP		10 09 47.2	
LPAZ	**La Paz**	**99.81**	**111**	P	Pdif		10 05 44.6	+2.5
LPAZ				PP	PP		10 09 47.1	-1.1
LPAZ				LR	LR		10 41 48.1	
WMQ	**Urumqi**	**107.79**	**311**	*e*PDIF	Pdif		10 06 18.3	+0.7
WMQ				PP	PP		10 10 51.3	+3.7
WMQ				S	Sdif		10 18 05.0	-5.4
WMQ				SS	SS		10 25 47.0	-1.2
WMQ				LR	LR			
	comp=N,120nm,22.0s							
WMQ				LR	LR			
	comp=E,894nm,35.0s							
WMQ				LR	LR			
	comp=Z,316nm,27.0s							
ZAL	**Zalesovo**	**110.57**	**322**	PKiKP	PKiKP		10 10 27.9	-1.7
	comp=Z,2.4nm,0.5s,baz=342,slow=1.1,SNR=12							
ZAL				PP	PP		10 11 06.5	-1.2
	comp=Z,1.4nm,0.8s,baz=99,slow=2.0,SNR=4.7							
NVS	**Novosibirsk**	**111.51**	**323**	*e*PKIKP	PKiKP		10 10 29.3	-2.1
NVS				*e*			10 11 05.8	
MK31	**Makanchi Array**	**111.86**	**314**	*i*PKIKP	PKiKP		10 10 30.9	-1.2
MKAR	**Makanchi Array**	**111.86**	**314**	Pdiff	Pdif		10 06 42.9	+7.3
	comp=Z,0.1nm,0.3s,baz=73,slow=5.0,SNR=4.8							
MKAR				PKiKP	PKiKP		10 10 31.0	-1.1
	comp=Z,4.6nm,0.7s,baz=206,slow=0.5,SNR=38							
MKAR				PKKPbc	PKKPbc		10 21 26.1	+1.3
	comp=Z,1.5nm,0.8s,baz=273,slow=3.1,SNR=8.6							
MKAR				PKKPab	PKKPab		10 21 35.2	+0.8
	comp=Z,2.2nm,1.0s,baz=272,slow=4.1,SNR=6.0							
MKAR	**Makanchi Array**	**111.86**	**314**	PKPdf	PKiKP		10 10 31.0	-1.1
MKAR				PKKPbc	PKKPbc		10 21 26.1	+1.3
MKAR				PKKPab	PKKPab		10 21 35.2	+0.8
KURK	**Kurchatov**	**114.35**	**318**	PKiKP	PKiKP		10 10 36.0	-0.8
KURK	**Kurchatov**	**114.35**	**318**	*e*PKPdf	PKiKP		10 10 35.8	-1.0
AAK	**Ala-Archa**	**117.33**	**309**	PKiKP	PKPdf		10 10 41.5	-1.1
AAK	**Ala-Archa**	**117.33**	**309**	*e*PKPdf	PKPdf		10 10 41.1	-1.4
KBS	**Kingsbay**	**118.76**	**359**	⇑*e*PKIKP	PKPdf		10 10 44.8	-0.5
BVA0	**Borovoye Array**	**119.21**	**321**	*i*PKIKP	PKPdf		10 10 45.3	-0.9
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRVK	**Borovoye**	**119.27**	**321**	*e*PKPdf	PKPdf		10 10 45.4	-0.9
BRVK				*ep*PKPdf	pPKPdf		10 11 22.9	-0.6
DAG	**Danmarks Havn**	**119.70**	**6**	*i*P	PKPdf		10 10 44.0	-3.1
DAG	**Danmarks Havn**	**119.70**	**6**	*e*P	PKPdf		10 10 44.0	-3.1
KK31	**Karatay Array**	**120.24**	**310**	*i*PKIKP	PKPdf		10 10 47.5	-0.7
KKAR	**Karatay Array**	**120.24**	**310**	*i*PKIKP	PKPdf		10 10 47.4	-0.8
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SVE	**Sverdlovsk**	**123.68**	**327**	*e*PKIKP	PKPdf		10 10 53.0	-1.8
SOKR	**Solikamsk**	**124.47**	**331***c*	*i*PKIKP	PKPdf		10 10 55.7	-0.6
SOKR				pmax	pmax			
	comp=Z,70nm,1.0s							
ARU	**Arti**	**124.89**	**327**	*i*PKIKP	PKPdf		10 10 56.2	-0.9
ARU				*e*			10 11 33.4	
ARU				*e*			10 12 48.9	
ARU				*e*PPP			10 15 25.2	
ARU				*e*			10 17 45.2	
ARU				*e*PS	PS		10 22 50.5	+2.1
ARU				*e*SS	SS		10 29 24.7	-6.3
ARU	**Arti**	**124.89**	**327**	*e*PKPdf	PKPdf		10 10 56.4	-0.7
ARU				*ep*PKPdf	pPKPdf		10 11 33.7	-0.5
KEV	**Kevo**	**126.42**	**351**	*e*pkp	PKPdf		10 10 55.1	-4.9
AB31	**Akbulak array**	**126.45**	**319**	*i*PKIKP	PKPdf		10 10 59.9	-0.2
ARCES	**ARCESS Array B**	**126.84**	**351**	PKP	PKPdf		10 10 59.7	-1.1
	comp=Z,13nm,0.5s,baz=18,slow=1.0,SNR=68							
APA	**Apatity**	**127.17**	**347**	*e*PKIKP	PKPdf		10 11 02.0	+0.6
APA				*i*			10 11 41.0	
APA				pmax	pmax			
	comp=Z,29nm,1.2s							
ORR	**Orenburg**	**128.81**	**323**	PKIKP	PKPdf		10 11 04.5	-0.1
ORR				pmax	pmax			
	comp=Z,20nm,0.6s							
BOSA	**Boshof**	**130.13**	**203**	PKP	PKPdf		10 11 07.9	+0.8
	comp=Z,14nm,1.1s,baz=94,slow=1.4,SNR=8.7							
BOSA	**Boshof**	**130.13**	**203**	*e*PKPdf	PKPdf		10 11 08.9	+1.8
BOSA				*es*PKPdf			10 11 59.0	
KLMR	**Klimovskoe**	**130.72**	**339**	*e*PKIKP	PKPdf		10 11 05.7	-2.5
LBTB	**Lobatse**	**133.24**	**205**	*e*PKIKP	PKPdf		10 11 14.3	+1.4
KAF	**Kangasniemi**	**133.42**	**347**	*e*pkp	PKPdf		10 11 09.5	-3.8
FINES	**FINESS Array B**	**134.07**	**347**	PKhKP			10 11 02.5	
	comp=Z,2.8nm,0.9s,baz=349,slow=1.9,SNR=4.5							
FINES				PKP	PKPdf		10 11 14.4	-0.1
	comp=Z,10nm,0.8s,baz=37,slow=2.5,SNR=6.7							
FINES				pPKP	pPKPdf		10 11 51.8	+0.2
	comp=Z,4.1nm,0.8s,baz=90,slow=5.7,SNR=2.5							
FINES	**FINESS Array B**	**134.07**	**347**	PKIKP	PKPdf		10 11 14.4	-0.1
FINES							10 11 51.8	
OBN	**Obninsk**	**135.93**	**335**	⇑*i*PKIKP	PKPdf		10 11 18.5	+0.5
OBN				*e*			10 11 56.6	
OBN				pmax	pmax			
	comp=Z,55nm,1.4s							
OBN	**Obninsk**	**135.93**	**335**	⇑*e*PKP	PKPdf		10 11 18.6	+0.6
VRHR	**Novokhopersk**	**136.24**	**328**	*e*PKIKP	PKPdf		10 11 17.7	-0.9
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.4s							
VSU	**Vasula**	**136.54**	**344**	⇑*i*PKIKP	PKPdf		10 11 20.0	+0.9
VSU	**Vasula**	**136.54**	**344**	⇑*e*PKP	PKPdf		10 11 20.1	+1.0
NB2	**NORSAR Subarra**	**136.63**	**356**	PKPdf	PKPdf		10 11 18.3	-1.0
	comp=Z,14nm,1.2s,baz=6.6,slow=1.8							
NB2	**NORSAR Subarra**	**136.63**	**356**	PKPdf	PKPdf		10 11 18.3	-1.0
	baz=6.6,slow=1.8							
NOA	**NORSAR Array B**	**136.63**	**356**	PKhKP			10 11 08.2	
	comp=Z,1.5nm,0.9s,baz=256,slow=2.0,SNR=4.1							
NOA

HTL	Hartland	145.90	11⇑	eP	PKPdf	10 11 36.4	+0.5
HTL				AMb	AMB	10 11 40.3	
comp=Z,70nm,1.3s							
GZT	Gaziantep	145.92	311	i P	PKPbc	10 11 38.1	+1.3
HEX	Exmoor	145.96	11⇑	eP	PKPdf	10 11 36.2	+0.3
KSP	Ksiaz	145.96	348	ePKP	PKPdf	10 11 37.2	+1.2
KSP	Ksiaz	145.96	348⇑	ePKP	PKPdf	10 11 37.0	+1.0
KSP				epPKP	pPKPdf	10 12 13.5	+0.3
PSET	Sete Cidades	146.04	48	ePKP	pPKPbc	10 12 17.7	+3.9
STHS	Stebnicka Huta	146.04	342	ePKP	PKPdf	10 11 37.4	+1.3
STHS				e		10 12 15.0	
CLL	Collm	146.06	352	ePKPbc	PKPbc	10 11 36.8	-0.4
CLL	Collm	146.06	352⇑	iPKP	PKPdf	10 11 36.8	+0.7
CLL				i pPKP	pPKPdf	10 12 13.2	-0.2
CLL	Collm	146.06	352⇑	iPKPbc	PKPbc	10 11 36.8	-0.4
comp=Z,265nm,1.1s							
CLL				i pPKPbc	pPKPbc	10 12 13.2	-0.7
CLL				i pPKiKP		10 12 16.5	
CLL				esPKPbc		10 12 26.0	
KOLS	Kolonicke sedl	146.15	340	ePKP	PKPdf	10 11 37.0	+0.7
GTTG	Gvttingen	146.16	355	ePKPbc	PKPbc	10 11 37.8	+0.3
CTKT	Corum	146.17	318	i P	PKPdf	10 11 38.0	+1.7
CML	Cha da Macela	146.19	48	ePKP	pPKPbc	10 12 16.2	+1.9
PMAT	Coroa da Mata	146.22	47	ePKP	pPKPbc	10 12 14.4	0.0
BURAR	Bucovina Array	146.22	336	⇑PKP2	PKPab	10 11 38.6	-0.1
BURAR	Bucovina Array	146.22	336⇑	iP	PKPdf	10 11 38.1	+1.7
LFA	Lagoa do Fogo	146.23	48	ePKP	pPKPbc	10 12 16.6	+2.2
MESC	Monte Escuro	146.25	47	ePKP	pPKPbc	10 12 14.2	-0.3
GAZ	Gaziantep	146.25	311	eP	PKPdf	10 11 39.1	+2.6
VIF	Vila Franca	146.27	48	ePKP	pPKPbc	10 12 16.1	+1.5
PFAD	Fenais da Ajud	146.31	47	ePKP	pPKPbc	10 12 15.4	+0.7
NIE	Niedzica	146.31	343	ePKP	PKPbc	10 11 38.7	+0.7
KMRS	Kahramanmaras	146.32	312	eP	PKPbc	10 11 38.6	+0.6
UPC	Upice	146.34	348	ePKP	PKPdf	10 11 38.0	+1.4
UPC				epPKP	pPKPdf	10 12 13.5	-0.3
BRG	Berggiesshubel	146.35	351	ePKPbc	PKPbc	10 11 37.9	-0.2
BRG	Berggiesshubel	146.35	351	i PKP	PKPdf	10 11 37.2	+0.6
comp=Z,80nm,1.3s							
BRG				i		10 11 41.2	
comp=Z,31nm,2.0s							
BRG				i pPKP	pPKPdf	10 12 14.2	+0.3
comp=Z,62nm,1.4s							
YOZ	Yozgat	146.36	316	eP	PKPbc	10 11 39.0	+0.8
FBE	Freiberg	146.39	351	ePKPbc	PKPbc	10 11 38.3	+0.1
BUG	Bochum--Univer	146.41	358	ePKPbc	PKPbc	10 11 38.0	-0.3
UZH	Uzhgorod	146.41	340⇑	iPKP2	PKPab	10 11 38.4	-1.0
UZH				e		10 18 34.7	
BNN	Bunyan	146.41	315	eP	PKPdf	10 11 38.7	+1.9
TOS	Tosya	146.41	320	eP	PKPdf	10 11 38.3	+1.6
DPC	Dobruska-Polom	146.42	348	ePKP	PKPdf	10 11 37.3	+0.6
DPC				epPKP	pPKPdf	10 12 13.6	-0.4
CSA1	St Austell	146.43	12	eP	PKPdf	10 11 37.9	+1.1
CRVS	Cervenica-Dubn	146.44	341	ePKP	PKPdf	10 11 38.0	+1.2
CRVS				e		10 12 18.8	
OKC	Ostrava-Krasne	146.50	345	ePKP	PKPdf	10 11 38.0	+1.1
OKC				epPKP	pPKPdf	10 12 14.9	+0.8
BALT	Daday	146.51	321	i P	PKPbc	10 11 39.0	+0.4
CORM	Corum	146.51	318	eP	PKPbc	10 11 38.9	+0.3
DYA	Yadsworthy	146.54	11	eP	PKPdf	10 11 35.9	-1.1
CRQ2	Rosemanowes 2	146.55	13	eP	PKPdf	10 11 38.0	+1.0
PVCC	Panska Ves	146.58	350	ePKP	PKPdf	10 11 37.4	+0.4
PVCC				epPKP	pPKPdf	10 12 15.7	+1.5
MORC	Moravsky Berou	146.70	346	⇑PKIKP	PKPdf	10 11 38.1	+0.9
MORC	Moravsky Berou	146.70	346	ePKPdf	PKPdf	10 11 37.6	+0.4
MORC	Moravsky Berou	146.70	346⇑	iP	PKPdf	10 11 38.8	+1.6
UBBA	Unterbreizbach	146.88	355	ePKPbc	PKPbc	10 11 38.9	-0.7
CFR	Carcaliu	146.88	330	⇓PKP2	PKPbc	10 11 39.1	-0.5
MOX	Moxa	146.89	353	ePKPbc	PKPbc	10 11 39.3	-0.3
MOX	Moxa	146.89	353	eP	PKPdf	10 11 39.0	+1.5
comp=Z,109nm,1.3s							
MOX				e		10 12 15.4	
comp=Z,158nm,1.7s							
LIKS	Likavka	146.98	344	ePKP	PKPbc	10 11 40.8	+0.9
CDAG	Cicekdag	146.98	317	i P	PKPbc	10 11 41.6	+1.7
WERD	Werda	147.00	352	ePKPbc	PKPbc	10 11 39.3	-0.6
VRI	Vrincioaia	147.00	333	⇑PKIKP	PKPdf	10 11 38.9	+1.2
VRI	Vrincioaia	147.00	333	⇓iP	PKPbc	10 11 40.2	+0.3
TANN	Tannenbergstha	147.01	352	ePKPbc	PKPbc	10 11 38.9	-1.1
PRA	Prague	147.04	350	PKP	PKPdf	10 11 38.0	+0.2
PRA				pPKP	pPKPdf	10 12 17.0	+2.0
UCC	Uccle	147.06	2	PKPbc	PKPbc	10 11 39.6	-0.5
GUNZ	Gunzen	147.08	352	ePKPbc	PKPbc	10 11 39.3	-0.9
BEBN	Eben Emael	147.08	0	PKPbc	PKPbc	10 11 39.8	-0.3
KOZT	Kozan	147.09	313	eP	PKPdf	10 11 39.2	+1.3
ELDT	Eldivan	147.10	319	i P	PKPbc	10 11 41.1	+0.9
KECS	Kecovo	147.10	342	i PKP	PKPbc	10 11 40.3	+0.1
KECS				e		10 12 17.6	
PRU	Pruhonice	147.10	349	ePKP	PKPdf	10 11 38.1	+0.2
PRU				epPKP	pPKPdf	10 12 16.7	+1.6
HGN	Heimansgroeve	147.11	360	ePKP	PKPdf	10 11 39.7	+1.8
comp=Z,5.2nm,1.6s							
HGN				epPKP	pPKPdf	10 12 17.4	+2.3
AVNT	Avonos	147.11	315	i P	PKPdf	10 11 37.4	-0.5
WERN	Wernitzgruen	147.15	352	ePKPbc	PKPbc	10 11 39.8	-0.5
NKC	Novy Kostel	147.19	352	ePKP	PKPdf	10 11 38.8	+0.8
NKC				epPKP	pPKPdf	10 12 19.1	+3.8
COBT	Iskenderun	147.23	311	i P	PKPbc	10 11 41.4	+0.8
MEM	Membach	147.26	360	PKPbc	PKPbc	10 11 39.6	-1.0
TIRR	Tirgusor	147.28	329	⇑PKP2	PKPab	10 11 41.0	-1.8
TIRR	Tirgusor	147.28	329	ePKPbc	PKPbc	10 11 40.8	+0.1
TIRR	Tirgusor	147.28	329⇑	iP	PKPbc	10 11 40.6	-0.1
HARR	Harsova	147.34	330	⇓PKP2	PKPbc	10 11 41.7	+0.8
SNF	Seneffe	147.35	2	PKPbc	PKPbc	10 11 40.6	-0.3
VRAC	Vranov	147.35	347	⇑PKIKP	PKPdf	10 11 39.1	+0.8
VRAC	Vranov	147.35	347	⇑iP	PKPdf	10 11 41.1	+0.2
BRTR	Keskin Array B	147.40	318	PKP	PKPdf	10 11 38.7	+0.3
comp=Z,44nm,1.0s,baz=126,slow=2.1,SNR=40							
BRTR				PKPbc	PKPbc	10 11 42.0	+1.0
comp=Z,45nm,1.0s,baz=134,slow=2.1,SNR=63							
BRTR				pPKPbc	pPKPbc	10 12 16.5	-1.3
comp=Z,23nm,1.0s,baz=98,slow=2.5,SNR=2.6							
BCLA	Clavier	147.45	0	PKPbc	PKPbc	10 11 40.8	-0.4
MANZ	Manzenberg	147.47	352	ePKPbc	PKPbc	10 11 40.2	-1.0
VYHS	Vyhne	147.56	344	ePKP	PKPdf	10 11 39.0	+0.3
VYHS				e		10 11 42.0	
VYHS				e		10 12 15.1	
TNS	Taunus Mts	147.58	357	ePKPbc	PKPbc	10 11 41.4	-0.1
MLR	Muntele Rosu	147.63	333	PKP	PKPdf	10 11 38.7	-0.1
comp=Z,72nm,1.1s,baz=33,slow=2.5,SNR=8.0							
MLR				PKPbc	PKPbc	10 11 42.8	+1.1
comp=Z,60nm,0.9s,baz=82,slow=5.7,SNR=40							
MLR	Muntele Rosu	147.63	333	⇑P	PKPdf	10 11 39.1	+0.4
MLR	Muntele Rosu	147.63	333	⇓iP	PKPdf	10 11 40.4	+1.6
ASCN	Ascension	147.66	141	ePKPbc	PKPbc	10 11 41.9	+0.1
ASCN				ePKPab	PKPab	10 11 45.6	+1.3
ROTZ	Rotzenmuhle	147.68	352	ePKPbc	PKPbc	10 11 40.7	-1.1
KARA	Karaisali	147.74	313	eP	PKPbc	10 11 41.2	-0.7
GIVF	Givet	147.76	1	ePKIKP	PKPdf	10 11 37.2	-1.8
DOU	Dourbes	147.77	1	PKPbc	PKPbc	10 11 41.9	-0.1
PSZ	Piszkesteto	147.79	342	⇑PKIKP	PKPdf	10 11 40.7	+1.7
PSZ	Piszkesteto	147.79	342	⇑iP	PKPbc	10 11 42.3	+0.2
PSZ	Piszkesteto	147.79	342	⇓ePKP	PKPbc	10 11 42.6	+0.5
BAIF	Baives	147.79	2	ePKIKP	PKPdf	10 11 37.8	-1.2
DRGR		147.85	338	⇑PKP2	PKPbc	10 11 42.6	+0.3
DRGR		147.85	338	⇑iP	PKPbc	10 11 42.0	-0.3
ANTO	Ankara	147.85	319	ePKPdf	PKPdf	10 11 39.6	+0.5
ANTO				ePKPbc	PKPbc	10 11 43.2	+1.0
ANTO	Ankara	147.85	319	⇓iP	PKPdf	10 11 40.1	+1.0
GRA1	Grafenberg Arr	147.87	353	ePKPdf	PKPdf	10 11 40.1	+0.9
GRA1				ePKPbc	PKPbc	10 11 41.7	-0.6
GRA1				ePKPab	PKPab	10 11 44.7	-0.5
GRA1				epPKPbc	pPKPbc	10 12 18.7	-0.4
GRF	Grafenberg Arr	147.87	353	ePKPdf	PKPdf	10 11 40.1	+0.9
GRF				ePKPbc	PKPbc	10 11 41.7	-0.6
GRF				ePKPab	PKPab	10 11 44.7	-0.5
GRF				epPKPbc	pPKPbc	10 12 18.7	-0.4
GRF	Grafenberg Arr	147.87	353	ePKP2	PKPab	10 11 44.7	-0.5
GRF	Grafenberg Arr	147.87	353	ePKP	PKPdf	10 11 40.1	+0.9
GRF				ePKP	PKPdf	10 11 41.7	+2.5
GRFO	Grafenberg	147.87	353	PKIKP	PKPdf	10 11 40.7	+1.5
GRFO	Grafenberg	147.87	353	ePKPdf	PKPdf	10 11 39.2	0.0
GRFO				ePKPbc	PKPbc	10 11 42.8	+0.5
SMOL	Smolenice	147.90	345	ePKP	PKPbc	10 11 43.1	+0.7
ABH	Alteburg	147.96	358	PKP	PKPbc	10 11 42.5	0.0
PSN	Preselentsi	147.96	328	eP	PKPbc	10 11 43.0	+0.5
FKH	Fakeheh	148.07	307	eP	PKPbc	10 11 43.9	+1.1
KHC	Kasperske Hory	148.10	350	ePKP	PKPdf	10 11 39.8	+0.3
KHC				ex	x	10 11 43.0	
KHC				ex	x	10 11 50.0	
KHC				epPKP	pPKPdf	10 12 18.2	+1.4
KHC	Kasperske Hory	148.10	350	ePKIKP	PKPdf	10 11 39.8	+0.3
KHC				e		10 11 43.0	
KHC				e		10 12 18.2	
RUP	Ruppelstein	148.15	358	PKP2	PKPbc	10 11 43.4	+0.3
TOD	Tromm	148.17	356	PKP2	PKPbc	10 11 42.8	-0.3
WET	Wettzell	148.19	351	ePKPbc	PKPbc	10 11 42.8	-0.4
WLF	Walferdange	148.21	359	ePKPbc	PKPbc	10 11 43.4	+0.2
WLF	Walferdange	148.21	359	PKP	PKPdf	10 11 40.2	+0.5
WLF				PKPbc	PKPbc	10 11 43.7	+0.5
WLF	Walferdange	148.21	359	ePKPbc	PKPbc	10 11 43.9	+0.7
ZST	Bratislava	148.28	345	ePKP	PKPbc	10 11 43.8	+0.4
ZST				e		10 12 19.2	
ZST	Bratislava	148.28	345	ePKP	PKPbc	10 11 43.8	+0.4
ZST				e		10 12 19.3	
MERS	Mersin	148.30	313	eP	PKPbc	10 11 44.0	+0.6
GEC2	GERESS Array S	148.35	350	ePKPbc	PKPbc	10 11 43.0	-0.6
GERES	GERESS Array B	148.35	350	PKP	PKPdf	10 11 40.5	+0.5
comp=Z,72nm,1.1s,baz=96,slow=1.3,SNR=20							
GERES				PKPbc	PKPbc	10 11 43.8	+0.2
comp=Z,74nm,1.1s,baz=29,slow=2.2,SNR=90							
GERES				pPKPbc	pPKPbc	10 12 20.6	+0.1
comp=Z,10nm,0.7s,baz=35,slow=2.8,SNR=3.2							
BUD	Budapest	148.43	343	⇑ePKP	PKPbc	10 11 43.9	+0.1
ROSF	Rostrenen	148.67	12	ePKIKP	PKPdf	10 11 40.8	+0.3
PRD	Provadia	148.70	329	eP	PKPbc	10 11 46.2	+1.7
FLN	La Foliniere	148.71	8	ePKIKP	PKPdf	10 11 40.0	-0.5
comp=Z,108nm,1.2s							
FLN				eMLR			
comp=Z,293nm,17.5s							
FLN	La Foliniere	148.71	8	ePKPdf	PKPdf	10 11 40.0	-0.5
FLN				LR	LR		
comp=Z,290nm,17.5s							
BHL	Bhannes	148.78	307	eP	PKPbc	10 11 45.2	+0.6
CONA	Conrad Observa	148.81	347	⇑iPKPdf	PKPdf	10 11 41.3	+0.6
comp=Z,80nm,1.3s,SNR=17							
LANF	Langenberg	148.85	357	PKP	PKPbc	10 11 44.7	-0.1
SGMF	Saint Gilles	148.88	11	ePKIKP	PKPdf	10 11 41.3	+0.5
comp=Z,88nm,1.2s							
SOP	Sopron	148.89	346	⇑ePKP	PKPbc	10 11 45.4	+0.5
LDF	La Druitiere	148.92	7	ePKIKP	PKPdf	10 11 40.2	-0.7
comp=Z,116nm,1.3s							
STU	Stuttgart	148.97	355	ePKPdf	PKPdf	10 11 41.9	+0.9
STU				ePKPbc	PKPbc	10 11 44.9	-0.2
STU	Stuttgart	148.97	355	ePKPbc	PKPbc	10 11 45.4	+0.3
GRR	Gorron	149.02	8	ePKIKP	PKPdf	10 11 40.5	-0.5
comp=Z,56nm,1.1s							
KDHN	Kadinhani	149.06	317	i P	PKPbc	10 11 44.1	-1.3
QUIF	Quistinic	149.10	12	ePKIKP	PKPdf	10 11 40.8	-0.4
MOA	Molln	149.21	349	⇓iP	PKPdf	10 11 41.2	-0.2
comp=Z,62nm,1.4s,SNR=11							
BZS	Buzias	149.25	338	⇑PKIKP	PKPdf	10 11 42.8	+1.4
BZS	Buzias	149.25	338	⇓iP	PKPdf	10 11 42.5	+1.1
ESKT	Eskisehir	149.27	320	i P	PKPbc	10 11 46.5	+0.6
ISK	Istanbul-Kandi	149.33	324	eP	PKPbc	10 11 46.6	+0.5
FUR	Furstenfeldbru	149.37	353	ePKPbc	PKPbc	10 11 46.1	0.0
MEZF	Maizieres J'vi	149.37	1	ePKIKP	PKPdf	10 11 41.8	+0.2
CDF	Champ du Feu	149.44	358	ePKIKP	PKPdf	10 11 41.8	+0.1
BFO	Black Forest	149.47	357	ePKPbc	PKPbc	10 11 46.4	0.0
ARSA	Arzberg	149.53	347	⇑iP	PKPdf	10 11 42.1	+0.3
comp=Z,56nm,1.3s,SNR=15							
ECH	Echery	149.64	358	PKP	PKPbc	10 11 46.4	-0.4
JMB	Yambol	149.65	329	eP	PKPbc	10 11 47.3	+0.5
JMB	Yambol	149.65	329	eP	PKPbc	10 11 47.6	+0.8
THEF	They Montfort	149.65	360	PKP	PKPbc	10 11 46.7	-0.1
PVL	Pavlikeni	149.68	331	eP	PKPbc	10 11 48.0	+1.1
PKSM	Moragy	149.70	342	⇓iP	PKPbc	10 11 46.1	-0.8
HAU	Haudompre	149.87	359	ePKIKP	PKPdf	10 11 42.8	+0.4
HAU				eMLR			
comp=Z,217nm,20.5s							
HAU	Haudompre	149.87	359	ePKPdf	PKPdf	10 11 42.8	+0.4
HAU				LR	LR		
comp=Z,220nm,20.5s							
ULDT	Uludag	149.90	323	i P	PKPdf	10 11 42.6	+0.2
FELD	Feldberg im Sc	149.94	357	eP	PKPbc	10 11 47.6	+0.1
MOF	Molkenrain	150.00	358	PKP	PKPbc	10 11 47.1	-0.6
HINF	Hinteralfeld	150.04	358	ePKIKP	PKPdf	10 11 42.9	+0.2
KBA	Koelnbreinsper	150.12	349	⇑iP	PKPdf	10 11 42.7	-0.1
comp=Z,52nm,0.9s,SNR=13							
WATA	Walderalm	150.15	352	⇑iP	PKPdf	10 11 43.5	+0.6
comp=Z,45nm,1.1s,SNR=14							
MOTA	Moosalm	150.20	353	⇓iP	PKPdf	10 11 42.7	-0.2
comp=Z,86nm,1.0s,SNR=16							
PERS	Pernice	150.20	347	i PKPdf	PKPdf	10 11 42.1	-0.8
PERS				i PKPbc	PKPbc	10 11 47.6	-0.5
PERS				e		10 12 24.8	
WTTA	Wattenberg	150.21	352	⇑iP	PKPdf	10 11 42.9	-0.1
comp=Z,96nm,0.7s,SNR=21							
SQTA	Sankt Quirin	150.31	352	⇓iP	PKPdf	10 11 43.2	+0.1
comp=Z,53nm,1.0s,SNR=16							
BEO	Belgrade	150.35	338	⇓iPKP2	PKPbc	10 11 48.1	-0.4
GDZ	Gediz	150.37	321	i P	PKPbc	10 11 48.6	+0.1
DAVA	Damuels	150.39	354	⇑iP	PKPdf	10 11 44.0	+0.8
comp=Z,125nm,1.1s,SNR=25							
OBKA	Obir	150.44	348	⇓iP	PKPdf	10 11 42.9	-0.4
comp=Z,24nm,0.8s,SNR=5.7							
DIM	Dimitrovgrad	150.48	329	eP	PKPbc	10 11 49.0	+0.2
ISP	Isparta	150.48	318	eP	PKPbc	10 11 48.5	-0.3
ISP	Isparta	150.48	318	c iPKIKP	PKPbc	10 11 48.2	-0.6
ISP	Isparta	150.48	318	ePKPbc	PKPbc	10 11 48.6	-0.2
TKTP	Tekketepe	150.49	318	i P	PKPbc	10 11 49.2	+0.4
LOMF	Lomont	150.51	358	PKP	PKPbc	10 11 49.0	+0.1
SVIS	Svilajnac	150.53	337	PKP2	PKPbc	10 11 48.9	0.0
LOR	Lormes	150.57	3	ePKIKP	PKPdf	10 11 43.5	0.0
comp=Z,49nm,1.3s							
LOR				eMLR			
comp=Z,297nm,22.5s							
LOR	Lormes	150.57	3	ePKPdf	PKPdf	10 11 43.5	0.0
LOR				LR	LR		
comp=Z,300nm,22.5s							
PGB	Panagyurishte	150.74	331	eP	PKPbc	10 11 49.0	-0.4
SSF	Saint Saulge	150.76	3	ePKIKP	PKPdf	10 11 43.6	-0.2
comp=Z,46nm,1.1s							
EIL	Elat	150.81	299	ePKPbc	PKPbc	10 11 50.7	+1.1
LEGS	Legarje	150.81	346	i PKPbc	PKPbc	10 11 49.2	-0.3
PLD	Plovdiv	150.84	330	eP	PKPbc	10 11 49.4	-0.2
KDZ	Kurdzhali	150.84	329	eP	PKPbc	10 11 49.5	-0.1
MFF	Saint Martin d	150.87	8	ePKIKP	PKPdf	10 11 43.7	-0.2
comp=Z,51nm,1.1s							
LJU	Ljubljana	150.89	347	i PKPdf	PKPdf	10 11 44.2	+0.3
LJU				ePKPbc	PKPbc	10 11 49.6	-0.1
LJU				i		10 12 26.8	
AVF	Avril sur Loir	151.02	3	ePKIKP	PKPdf	10 11 43.8	-0.4
VOY	Vojsko	151.03	348	ePKPdf	PKPdf	10 11 44.0	-0.2
VOY				ePKPbc	PKPbc	10 11 49.3	-0.8
VOY				e		10 11 58.6	
VOY				e		10 12 28.0	
GRUS	Gruza	151.06	337	i PKP2	PKPbc	10 11 50.1	-0.1
ALN	Alexandroupoli	151.07	327	eP	PKPbc	10 11 49.6	-0.6
VTS	Vitosha	151.13	333	eP	PKPbc	10 11 50.6	+0.3
VTS	Vitosha	151.13	333	eP	PKPbc	10 11 50.0	-0.3
VTS	Vitosha	151.13	333	⇓iP	PKPbc	10 11 50.3	0.0
DIVS	Divcibare	151.14	338	⇑iPKP1	PKPdf	10 11 44.2	-0.2
DIVS	Divcibare	151.14	338	eP	PKPbc	10 11 50.5	+0.1
RZN	Rozhen	151.15	330	eP	PKPbc	10 11 50.0	-0.4
SMF	Signal de Mont	151.19	3	ePKIKP	PKPdf	10 11 44.1	-0.3
comp=Z,48nm,1.2s							
BGF	Bois d'Agland	151.22	4	ePKIKP	PKPdf	10 11 44.4	-0.1
BOJS	Bojanci	151.24	346	i PKPdf	PKPdf	10 11 44.7	+0.2
BOJS				ePKPbc	PKPbc	10 11 50.8	+0.2
BOJS				e		10 11 58.2	
BOJS				e		10 12 28.2	
CABF	La Chapelle	151.26	359	ePKIKP	PKPdf	10 11 44.7	+0.2
KNDS	Knezji Dol	151.41	347	i PKPbc	PKPbc	10 11 50.7	-0.3
TCF	Toulx Ste Croi	151.44	5	ePKIKP	PKPdf	10 11 44.5	-0.3
comp=Z,44nm,1.1s							
BARS	Barje	151.53	335	⇓iPKP2	PKPdf	10 11 46.2	+1.2
BBLS	Bajina Basta -	151.55	339	⇑iPKP1	PKPdf	10 11 46.6	+1.7
MMB	Musomiste	151.69	331	eP	PKPbc	10 11 51.0	-0.6
AGO	Saint Agoulin	151.75	4	PKP	PKPdf	10 11 46.0	+0.7
KKB	Krupnik	151.77	332	eP	PKPbc	10 11 52.0	+0.2
OG05	Jujurieux	151.84	0	PKP	PKPdf	10 11 46.3	+0.9
AYVA	Ayvalik	151.85	324	i P	PKPbc	10 11 51.9	-0.1
PLDF	La Plantade	151.85	3	PKP	PKPdf	10 11 46.7	+1.3
PYM	Petit Puy Mans	152.04	4	PKP	PKPdf	10 11 46.5	+0.8
STIP	Stip	152.31	333	ePKP	PKPdf	10 11 46.3	+0.2
STIP	Stip	152.31	333	ePKP	PKPdf	10 11 46.3	+0.2
LPL	La Plagne	152.35	358	ePKIKP	PKPdf	10 11 46.6	+0.4
RJF	Les Rejaudoux	152.35	6	ePKIKP	PKPdf	10 11 46.1	-0.1
comp=Z,48nm,1.2s							
RJF				eMLR			
comp=Z,324nm,19.8s							
RJF	Les Rejaudoux	152.35	6	ePKPdf	PKPdf	10 11 46.1	-0.1
RJF				LR	LR		
comp=Z,320nm,19.8s							
LPG	La Plagne	152.37	358	ePKIKP	PKPdf	10 11 46.7	+0.5
SKO	Skopje	152.40	334	eP	PKPbc	10 11 53.3	+0.1
SKO	Skopje	152.40	334	ePKP	PKPdf	10 11 46.5	+0.2
SKO	Skopje	152.40	334	ePKP	PKPdf	10 11 46.5	+0.2
KNT	Kendrikon	152.42	331	eP	PKPbc	10 11 52.6	-0.6
VAY	Valandovo	152.44	332	ePKP	PKPdf	10 11 46.6	+0.3
VAY	Valandovo	152.44	332	ePKP	PKPdf	10 11 46.6	+0.3
LBL	Lubilhac	152.57	4	PKP	PKPdf	10 11 46.7	+0.2
LFF	La Frestale	152.62	8	ePKIKP	PKPdf	10 11 46.5	-0.1
comp=Z,43nm,1.1s							
CAF	Calviac	152.78	6	ePKIKP	PKPdf	10 11 47.1	+0.3
comp=Z,63nm,1.3s							
GRG	Griva	152.81	332	eP	PKPbc	10 11 53.4	-0.7
ORIF	Oris-en-Rattie	152.96	360	ePKIKP	PKPdf	10 11 47.3	+0.2
comp=Z,27nm,1.1s							
ORIF				eMLR			
comp=Z,376nm,22.0s							
KRUS	Krusevo	152.98	334	ePKP	PKPdf	10 11 47.4	+0.3
KRUS	Krusevo	152.98	334	ePKP	PKPdf	10 11 47.4	+0.3
VIVF	Saint-Julien-l	153.01	2	ePKIKP	PKPdf	10 11 47.3	+0.2
comp=Z,40nm,1.2s							
MBDF	Montbardon	153.14	358	ePKIKP	PKPdf	10 11 47.4	+0.1
comp=Z,41nm,1.3s							
BIA	Bitola	153.23	333	ePKP	PKPdf	10 11 47.7	+0.3
BIA	Bitola	153.23	333	ePKP	PKPdf	10 11 47.7	+0.3
OHR	Ohrid	153.38	334	ePKP	PKPdf	10 11 48.0	+0.3
OHR	Ohrid	153.38	334	ePKP	PKPdf	10 11 48.0	+0.3
PCAB	Cabril	153.43	23	ePKPbc	PKPbc	10 11 56.1	+0.6
PCAB	Cabril	153.43	23	ePKPab	PKPab	10 12 07.8	-0.4
LASF	Ste Croix	153.76	3	ePKIKP	PKPdf	10 11 48.6	+0.4
comp=Z,47nm,1.0s							
PBRG	Braganca	153.81	21	ePKPbc	PKPbc	10 11 56.4	+0.1
PBRG	Braganca	153.81	21	ePKPab	PKPab	10 12 09.7	-0.1
SMRF	Simiane la Rot	153.90	0	ePKIKP	PKPdf	10 11 49.0	+0.6
PVRL	Vila Real	153.92	23	ePKPdf	PKPdf	10 11 48.1	-0.3
SBF	Sospel	153.97	357	ePKIKP	PKPdf	10 11 48.1	-0.4
SJPF	Ste Jean	154.09	12	ePKIKP	PKPdf	10 11 48.0	-0.7
comp=Z,54nm,1.3s							
PVIS	Viseu

h42km△6.5km**:pP-P,n569,**σ1$22/609,**mb4.5**/100,**MS4.1**/15,
31C-15D,Crete

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.81**	**16**	*i* P	**Pn**	**10 27 10.7**	**+0.2**
KARP				*e*S	**Sn**	**10 27 23.9**	**+2.3**
XRY	**Khrisi**	**0.99**	**276**	*e*P	**Pn**	**10 27 14.8**	**+1.8**
NPS	**Neapolis**	**1.16**	**295**	⇑*i*P	**Pn**	**10 27 17.0**	**+1.7**
NPS				*e*S	**Sn**	**10 27 32.5**	**+2.4**
IDI	**Anoyia**	**1.73**	**288**	P	**Pn**	**10 27 25.3**	**+2.4**
	60nm,0.3s,baz=115,slow=14,SNR=173						
SIVA	**Sivas**	**1.73**	**279**	*e*Pb	**Pn**	**10 27 25.3**	**+2.3**
ARG	**Arkhangelos**	**1.76**	**34**	⇓*i*P	**Pn**	**10 27 24.5**	**+1.1**
NISR	**Nisiros**	**1.85**	**6**	*e*P	**Pn**	**10 27 24.5**	**-0.1**
SANT	**Santorini**	**1.98**	**324**	*e*Pb	**Pn**	**10 27 26.3**	**-0.1**
SANT				*e*Sb	**Sn**	**10 27 48.7**	**-1.4**
SANT	**Santorini**	**1.98**	**324**	*e*Pn	**Pn**	**10 27 26.1**	**-0.3**
SANT	**Santorini**	**1.98**	**324**	*e*Pn	**Pn**	**10 27 26.1**	**-0.3**
SANT				*e*Sb	**Sn**	**10 27 48.7**	**-1.4**
THR1	**Thera Island**	**1.98**	**324**	*e*Pb	**Pn**	**10 27 26.3**	**-0.1**
THR6	**Thira Island,**	**2.00**	**323**	*e*Pb	**Pn**	**10 27 26.6**	**-0.1**
DAT	**Datca**	**2.03**	**16**	PN	**Pn**	**10 27 26.8**	**-0.4**
THR3	**Thira Island,**	**2.04**	**324**	*e*Pb	**Pn**	**10 27 27.4**	**+0.2**
THR5	**Thira Island,**	**2.07**	**323**	*e*Pb	**Pn**	**10 27 27.6**	**-0.1**
THR4	**Thira Island,**	**2.08**	**325**	*e*Pb	**Pn**	**10 27 27.0**	**-0.8**
VAM	**Vamos**	**2.30**	**287**	⇑*i*P	**Pn**	**10 27 33.2**	**+2.4**
GVD	**Gavdhos**	**2.31**	**273**	⇑*i*P	**Pn**	**10 27 33.0**	**+2.1**
BDRM	**Kayabasi**	**2.33**	**11**	*i* P	**Pn**	**10 27 30.6**	**-0.6**
DALT	**Dalyan (Mudla)**	**2.45**	**35**	PN	**Pn**	**10 27 33.5**	**+0.7**
APE	**Apeiranthos**	**2.55**	**335**	*e*Pn	**Pn**	**10 27 33.7**	**-0.5**
APE				*e*Sn	**Sn**	**10 28 01.8**	**-2.2**
APE	**Apeiranthos**	**2.55**	**335**	*i* P	**Pn**	**10 27 33.6**	**-0.6**
APE	**Apeiranthos**	**2.55**	**335**	*c* P	**Pn**	**10 27 33.5**	**-0.7**
FETY	**Fethiye**	**2.58**	**43**	PN	**Pn**	**10 27 34.3**	**-0.3**
KSL	**Kastellorizon**	**2.59**	**57**	*e*P	**Pn**	**10 27 34.5**	**-0.2**
YER	**Yerkesik**	**2.62**	**25**	PN	**Pn**	**10 27 35.4**	**+0.3**
MLSB	**Milas**	**2.62**	**16**	PN	**Pn**	**10 27 35.2**	**0.0**
SMG	**Samos**	**2.93**	**359**	*e*P	**Pn**	**10 27 38.7**	**-0.8**
ELL	**Elmali**	**3.15**	**50**	PN	**Pn**	**10 27 43.7**	**+1.3**
GOLH	**Golhisar**	**3.28**	**40**	*i* P	**Pn**	**10 27 44.8**	**+0.7**
GOLH				*i* S	**Sn**	**10 28 24.0**	**+2.1**
DNZL	**Cakiroluk**	**3.39**	**30**	*i* P	**Pn**	**10 27 52.1**	**+6.4**
DNZL				*i* S	**Sn**	**10 28 36.5**	**+12**
DENT	**Denizli**	**3.44**	**29**	PN	**Pn**	**10 27 46.3**	**-0.1**
KYTH	**Kithira**	**3.49**	**297**	*e*P	**Pn**	**10 27 47.5**	**+0.4**
SLUM		**3.56**	**204**	P	**Pn**	**10 27 50.1**	**+2.1**
URLA	**Izmir**	**3.59**	**356**	*i* P	**Pn**	**10 27 49.2**	**+0.7**
BLCB	**Balcova**	**3.61**	**2**	PN	**Pn**	**10 27 49.0**	**+0.3**
BLCB	**Balcova**	**3.61**	**2**	*e*Pn	**Pn**	**10 27 48.6**	**-0.1**
KDAG	**Bornova**	**3.64**	**5**	*i* P	**Pn**	**10 27 48.6**	**-0.5**
KDAG				*i* S	**Sn**	**10 28 35.0**	**+4.3**
ANTB	**Antalya**	**3.72**	**54**	PN	**Pn**	**10 27 52.0**	**+1.8**
VLI	**Veliai**	**3.76**	**302**	⇑*i*P	**Pn**	**10 27 50.7**	**-0.1**
KVR	**Kavouri**	**3.96**	**321**	*e*P	**Pn**	**10 27 53.7**	**+0.2**
BCK	**Bucak**	**4.02**	**47**	PN	**Pn**	**10 27 55.2**	**+0.9**
NAIG	**Nisos Aigina**	**4.06**	**318**	*e*P	**Pn**	**10 27 55.3**	**+0.4**
PTL	**Penteli**	**4.09**	**324**	*e*P	**Pn**	**10 27 55.5**	**+0.3**
ATH	**Athens Observa**	**4.10**	**322**	*i* P	**Pn**	**10 27 56.3**	**+0.9**
KHL	**Karahalli**	**4.13**	**30**	PN	**Pn**	**10 27 55.3**	**-0.6**
AKS	**Akhisar**	**4.17**	**10**	PN	**Pn**	**10 27 56.4**	**0.0**
ISP	**Isparta**	**4.23**	**43**	PN	**Pn**	**10 27 57.0**	**-0.2**
ISP	**Isparta**	**4.23**	**43**	*e*Pn	**Pn**	**10 27 57.2**	**0.0**
ISP				*e*Sn	**Sn**	**10 28 44.6**	**-0.8**
ISP	**Isparta**	**4.23**	**43**	*e*Pn	**Pn**	**10 27 56.9**	**-0.4**
TKTP	**Tekketepe**	**4.28**	**39**	*i* P	**Pn**	**10 27 58.2**	**+0.4**
AKMC	**Akamas**	**4.47**	**85**	P	**Pn**	**10 27 59.7**	**-0.9**
PPCY	**Paphos**	**4.48**	**87**	P	**Pn**	**10 28 00.5**	**-0.2**
PRK	**Paraskevi**	**4.50**	**354**	*e*P	**Pn**	**10 28 01.3**	**+0.4**
ITM	**Ithomi**	**4.69**	**302**	*e*P	**Pn**	**10 28 04.2**	**+0.6**
ALFC	**Alevga**	**4.70**	**84**	P	**Pn**	**10 28 02.8**	**-0.9**
	54nm,0.2s						
ALFC				S	**Sn**	**10 28 54.7**	**-2.2**
GDZ	**Gediz**	**4.78**	**25**	*i* P	**Pn**	**10 28 04.1**	**-0.7**
SHUT	**Suhut-Afyon**	**4.79**	**37**	PN	**Pn**	**10 28 05.8**	**+1.0**
SZAC	**Souni-Zanaja**	**4.93**	**88**	P	**Pn**	**10 28 07.0**	**+0.2**
	30nm,0.2s						
SZAC				S	**Sn**	**10 29 01.1**	**-1.4**
LKR	**Lokris**	**4.98**	**322**	⇑*i*P	**Pn**	**10 28 08.1**	**+0.6**
ALT	**Altintas**	**4.99**	**30**	*e*PN	**Pn**	**10 28 07.1**	**-0.6**
AOS	**Alonnisos**	**5.01**	**332**	*e*Pn	**Pn**	**10 28 08.8**	**+0.8**
HDMB	**Hadim**	**5.04**	**63**	*e*PN	**Pn**	**10 28 10.3**	**+2.0**
EZN	**Ezine**	**5.07**	**355**	*e*PN	**Pn**	**10 28 08.8**	**+0.1**
CANB	**Canakkale**	**5.24**	**1**	*e*PN	**Pn**	**10 28 11.8**	**+0.7**
CANB	**Canakkale**	**5.24**	**1**	*i* P	**Pn**	**10 28 11.0**	**-0.1**
CSS	**Prodhromos**	**5.29**	**86**	P	**Pn**	**10 28 12.1**	**+0.3**
	30nm,0.4s						
CSS				S	**Sn**	**10 29 09.3**	**-2.2**
CSS	**Prodhromos**	**5.29**	**86**	*e*Pn	**Pn**	**10 28 12.0**	**+0.2**
	434nm,0.7s						
CSS	**Prodhromos**	**5.29**	**86**	*e*Pn	**Pn**	**10 28 12.0**	**+0.2**
	434nm,0.7s						
LIA	**Limnos Island**	**5.30**	**346**	*e*P	**Pn**	**10 28 11.4**	**-0.5**
LOS	**Limnos**	**5.36**	**345**	*e*Pn	**Pn**	**10 28 13.0**	**+0.4**
NEO	**Neokhori**	**5.40**	**328**	*e*P	**Pn**	**10 28 14.1**	**+0.9**
KONT	**Konya--Tatoy**	**5.43**	**53**	*e*PN	**Pn**	**10 28 14.6**	**+0.9**
XOR	**Xorichti**	**5.46**	**328**	*e*Pn	**Pn**	**10 28 14.9**	**+0.8**
RLS	**Riolos of Patr**	**5.47**	**308**	*e*P	**Pn**	**10 28 15.2**	**+0.9**
SWA1		**5.58**	**191**	P	**Pn**	**10 28 17.6**	**+1.8**
AGG	**Agios Georgios**	**5.60**	**321**	*e*Pn	**Pn**	**10 28 16.8**	**+0.7**
KDHN	**Kadinhani**	**5.62**	**47**	*i* P	**Pn**	**10 28 16.2**	**-0.2**
ULDT	**Uludag**	**5.65**	**18**	*i* P	**Pn**	**10 28 16.4**	**-0.3**
ESKT	**Eskisehir**	**5.70**	**32**	*i* P	**Pn**	**10 28 16.3**	**-1.1**
ESKT				*i* S	**Sn**	**10 29 30.2**	**+8.8**
ESKT	**Eskisehir**	**5.70**	**32**	*e*Pn	**Pn**	**10 28 16.8**	**-0.5**
SEYT	**Eskypehyr**	**5.70**	**32**	*i* P	**Pn**	**10 28 16.3**	**-1.0**
KIZT	**Kizilcal**	**5.73**	**43**	*e*PN	**Pn**	**10 28 17.8**	**+0.1**
IKL	**Isikli**	**5.73**	**73**	*e*PN	**Pn**	**10 28 18.2**	**+0.4**
PAIG	**Paliouri**	**5.75**	**334**	*e*Pn	**Pn**	**10 28 18.6**	**+0.5**
EVR	**Evrytania**	**5.81**	**317**	*e*P	**Pn**	**10 28 20.5**	**+1.6**
GEMT	**Gemlik**	**5.94**	**17**	*e*PN	**Pn**	**10 28 20.4**	**-0.3**
HMYD	**Mayadein**	**5.96**	**145**	P	**Pn**	**10 28 21.4**	**+0.4**
ENEZ	**Enez**	**5.99**	**355**	*e*PN	**Pn**	**10 28 21.2**	**-0.1**
HNAT	**Natroun**	**6.01**	**147**	P	**Pn**	**10 28 21.8**	**+0.1**
SQR		**6.08**	**142**	P	**Pn**	**10 28 21.8**	**-0.8**
ADVT	**Abdulvahap**	**6.09**	**21**	*e*PN	**Pn**	**10 28 22.9**	**+0.2**
YLV	**Yalova**	**6.11**	**18**	*e*PN	**Pn**	**10 28 23.7**	**+0.6**
VLS	**Valsamata**	**6.11**	**306**	*e*P	**Pn**	**10 28 23.2**	**+0.1**
ALN	**Alexandroupoli**	**6.16**	**354**	*e*Pn	**Pn**	**10 28 23.9**	**+0.3**
FYM	**Al Fayyum**	**6.16**	**144**	P	**Pn**	**10 28 23.3**	**-0.4**
THL	**Klokotos Trika**	**6.17**	**322**	*e*P	**Pn**	**10 28 24.7**	**+0.8**
AYT	**Al 'Ayyat**	**6.20**	**143**	P	**Pn**	**10 28 24.3**	**0.0**
PLG	**Polygyros**	**6.23**	**335**	*e*P	**Pn**	**10 28 26.0**	**+1.4**
LIT	**Litokhoron**	**6.37**	**328**	*e*Pn	**Pn**	**10 28 27.5**	**+0.9**
KOT	**Kottamia**	**6.38**	**138**	P	**Pn**	**10 28 25.5**	**-1.2**
RDO	**Rodhopi**	**6.46**	**351**	*e*P	**Pn**	**10 28 28.0**	**+0.2**
HSAF	**As Saff**	**6.48**	**141**	P	**Pn**	**10 28 27.3**	**-0.7**
HHAG	**Hagoal**	**6.51**	**136**	P	**Pn**	**10 28 27.6**	**-0.9**
MERS	**Mersin**	**6.54**	**69**	*e*PN	**Pn**	**10 28 30.2**	**+1.3**
GLL	**Jalalah**	**6.59**	**140**	P	**Pn**	**10 28 28.6**	**-1.0**
SOH	**Sokhos**	**6.66**	**336**	*e*Pn	**Pn**	**10 28 31.9**	**+1.3**
AMAG	**Maghara**	**6.72**	**126**	⇓P	**Pn**	**10 28 29.3**	**-2.2**
MEV	**Metsovon**	**6.74**	**320**	*e*Pn	**Pn**	**10 28 32.7**	**+1.0**
HENT	**Hendek**	**6.82**	**26**	*i* P	**Pn**	**10 28 32.9**	**+0.1**
JAN	**Janina**	**6.86**	**317**	*e*P	**Pn**	**10 28 33.2**	**-0.1**
HBNS	**Bani Suwayf**	**6.86**	**146**	P	**Pn**	**10 28 33.4**	**0.0**
HBNS	**Bani Suwayf**	**6.86**	**146**	P	**Pn**	**10 28 33.3**	**0.0**
KZN	**Kozani**	**6.87**	**325**	*e*P	**Pn**	**10 28 34.2**	**+0.9**
ANTO	**Ankara**	**6.93**	**41**	*e*PN	**Pn**	**10 28 34.2**	**0.0**
ANTO	**Ankara**	**6.93**	**41**	*e*P	**Pn**	**10 28 34.0**	**-0.2**
ANTO				pmax	pmax		
	comp=Z,55nm,0.8s						
ANTO	**Ankara**	**6.93**	**41**	*e*Pn	**Pn**	**10 28 34.0**	**-0.2**
	comp=Z,55nm,0.8s						
ANTO	**Ankara**	**6.93**	**41**	⇑*i*P	**Pn**	**10 28 35.2**	**+1.0**
ANTO	**Ankara**	**6.93**	**41**	*e*Pn	**Pn**	**10 28 34.0**	**-0.2**
	comp=Z,55nm,0.8s						
KDZ	**Kurdzhali**	**6.97**	**351**	*e*P	**Pn**	**10 28 39.0**	**+4.2**
SUZ		**7.03**	**133**	P	**Pn**	**10 28 34.4**	**-1.1**
KARA	**Karaisali**	**7.06**	**67**	*e*PN	**Pn**	**10 28 37.0**	**+0.9**
EDRB	**Edirne**	**7.07**	**359**	*e*PN	**Pn**	**10 28 35.6**	**-0.6**
OFRI	**'Ofer**	**7.07**	**105**	P	**Pn**	**10 28 36.5**	**+0.3**
SGKT	**Sivrigoynuk**	**7.09**	**34**	*i* P	**Pn**	**10 28 37.0**	**+0.6**
SGKT	**Sivrigoynuk**	**7.09**	**34**	*i* P	**Pn**	**10 28 37.0**	**+0.5**
RZN	**Rozhen**	**7.12**	**347**	*e*P	**Pn**	**10 28 39.0**	**+2.2**
KNT	**Kendrikon**	**7.12**	**335**	*e*Pn	**Pn**	**10 28 38.5**	**+1.7**
KAMT	**Kaman**	**7.12**	**48**	*e*PN	**Pn**	**10 28 36.9**	**0.0**
GRG	**Griva**	**7.13**	**331**	*e*Pn	**Pn**	**10 28 38.0**	**+1.1**
MMB	**Musomiste**	**7.25**	**341**	*e*P	**Pn**	**10 28 39.0**	**+0.4**
SLTI	**Sal'it**	**7.25**	**108**	P	**Pn**	**10 28 38.7**	**0.0**
SLTI				S	**Sn**	**10 29 55.1**	**-4.6**
ZAF		**7.28**	**137**	⇑P	**Pn**	**10 28 38.2**	**-0.8**
MMAI	**Mount Meron Ar**	**7.29**	**101**	P	**Pn**	**10 28 37.7**	**-1.4**
	comp=Z,15nm,0.3s,baz=297,slow=11,SNR=37						
MMAI				S	**Sn**	**10 29 58.1**	**-2.3**
	comp=Z,100nm,0.3s,baz=298,slow=26,SNR=9.4						
BHL	**Bhannes**	**7.29**	**94**	*e*Pn	**Pn**	**10 28 39.2**	**0.0**
BHL				Sn	**Sn**	**10 29 51.3**	**-9.4**
BHL	**Bhannes**	**7.29**	**94**	*e*Pn	**Pn**	**10 28 39.2**	**0.0**
BHL				Sn	**Sn**	**10 29 51.3**	**-9.4**
BR131	**Keskin Array S**	**7.30**	**45**	*e*Pn	**Pn**	**10 28 39.7**	**+0.3**
BR131				*e*Sn	**Sn**	**10 29 59.5**	**-1.4**
BR131	**Keskin Array S**	**7.30**	**45**	*e*Pn	**Pn**	**10 28 39.7**	**+0.3**
BR131				*e*Sn	**Sn**	**10 29 59.5**	**-1.4**
BRTR	**Keskin Array B**	**7.30**	**45**	P	**Pn**	**10 28 39.8**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=223,slow=15,SNR=38						
BRTR				S	**Sn**	**10 29 58.9**	**-2.0**
	comp=Z,4.9nm,0.3s,baz=217,slow=26,SNR=11						
BRTR	**Keskin Array B**	**7.30**	**45**	P	**Pn**	**10 28 39.8**	**+0.4**
BRTR				S	**Sn**	**10 29 58.9**	**-2.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRTR				smax			
	comp=N,5.0nm,0.3s						
ZNM		**7.39**	**135**	P	**Pn**	**10 28 39.8**	**-0.8**
KZIT	**Kziot**	**7.39**	**119**	P	**Pn**	**10 28 39.8**	**-0.8**
KZIT				S	**Sn**	**10 29 58.0**	**-5.0**
KSDI	**Kefar Szold**	**7.45**	**100**	P	**Pn**	**10 28 41.1**	**-0.2**
HWQ	**Hawqa**	**7.49**	**91**	*e*Pn	**Pn**	**10 28 43.2**	**+1.3**
HWQ				Sn	**Sn**	**10 30 00.4**	**-4.9**
ARNB	**Al Arnab**	**7.50**	**79**	⇑P	**Pn**	**10 28 43.0**	**+1.0**
ARNB				⇑S	Sn	10 29 39.0	-27
ARNB	**Al Arnab**	**7.50**	**79**	⇑*i*P	**Pn**	**10 28 43.1**	**+1.1**
ARNB				⇑*i*S	Sn	10 29 39.6	-26
KEK	**Kerkira**	**7.51**	**313**	P	**Pn**	**10 28 41.1**	**-1.1**
RCY	**Rachaya**	**7.51**	**97**	*e*Pn	**Pn**	**10 28 41.6**	**-0.5**
RCY				Sn	**Sn**	**10 30 02.2**	**-3.7**
CEYT	**Ceyhan**	**7.52**	**70**	*e*PN	**Pn**	**10 28 42.5**	**+0.1**
RTMI	**Retamim**	**7.53**	**117**	P	**Pn**	**10 28 41.7**	**-0.8**
AVNT	**Avonos**	**7.54**	**56**	*i* P	**Pn**	**10 28 44.0**	**+1.4**
SVTA	**Shivta**	**7.54**	**118**	P	**Pn**	**10 28 41.6**	**-1.0**
MASH	**Mash'abbe Sade**	**7.63**	**117**	P	**Pn**	**10 28 42.7**	**-1.1**
HMDT	**Nahal Hemdat**	**7.63**	**107**	P	**Pn**	**10 28 43.3**	**-0.5**
BRBR	**Barbar**	**7.63**	**98**	⇓P	**Pn**	**10 28 43.0**	**-0.9**
BRBR				⇓S	Sn	10 29 41.0	-28
BRBR	**Barbar**	**7.63**	**98**	⇓*i*P	**Pn**	**10 28 43.7**	**-0.2**
BRBR				⇓*i*S	Sn	10 29 41.8	-27
BIA	**Bitola**	**7.64**	**326**	*e*Pn	**Pn**	**10 28 42.4**	**-1.5**
HTY	**Hatay**	**7.66**	**77**	*e*PN	**Pn**	**10 28 44.6**	**+0.3**
SLNF	**Slenfeh**	**7.68**	**81**	⇑P	**Pn**	**10 28 43.0**	**-1.5**
SLNF				⇑S	Sn	10 29 42.0	-28
SLNF	**Slenfeh**	**7.68**	**81**	⇑*i*P	**Pn**	**10 28 43.5**	**-1.0**
SLNF				⇑*i*S	Sn	10 29 42.4	-28
CDAG	**Cicekdag**	**7.68**	**49**	*i* P	**Pn**	**10 28 43.9**	**-0.7**
HNKL	**Nakhl**	**7.69**	**127**	P	**Pn**	**10 28 43.6**	**-1.1**
KKB	**Krupnik**	**7.69**	**338**	*e*P	**Pn**	**10 28 45.0**	**+0.3**
ELDT	**Eldivan**	**7.71**	**40**	*i* P	**Pn**	**10 28 45.3**	**+0.4**
KOZT	**Kozan**	**7.72**	**67**	*e*PN	**Pn**	**10 28 45.0**	**0.0**
BIDA	**Albida**	**7.75**	**86**	⇑P	**Pn**	**10 28 43.0**	**-2.5**
BIDA				⇑S	Sn	10 29 43.0	-29
BIDA	**Albida**	**7.75**	**86**	⇑*i*P	**Pn**	**10 28 43.8**	**-1.7**
BIDA				⇑*i*S	Sn	10 29 43.9	-28
DRGI	**Dragot**	**7.79**	**112**	P	**Pn**	**10 28 45.1**	**-0.9**
COBT	**Iskenderun**	**7.82**	**74**	*i* P	**Pn**	**10 28 47.4**	**+1.0**
WRDH	**Warideh**	**7.83**	**82**	⇑P	**Pn**	**10 28 45.0**	**-1.6**
WRDH				⇑S	Sn	10 29 46.0	-28
WRDH	**Warideh**	**7.83**	**82**	⇑*i*P	**Pn**	**10 28 45.8**	**-0.8**
WRDH				⇑*i*S	Sn	10 29 46.7	-27
HAWK	**Haweek**	**7.84**	**89**	⇑P	**Pn**	**10 28 46.0**	**-0.7**
HAWK	**Haweek**	**7.84**	**89**	⇑*i*P	**Pn**	**10 28 47.0**	**+0.3**
TCHB	**Talchebab**	**7.84**	**103**	⇑P	**Pn**	**10 28 47.0**	**+0.2**
TCHB				⇑S	Sn	10 29 48.0	-26
TCHB	**Talchebab**	**7.84**	**103**	⇑*i*P	**Pn**	**10 28 47.2**	**+0.4**
TCHB				⇑*i*S	Sn	10 29 48.6	-26
FKH	**Fakeheh**	**7.87**	**91**	*e*Pn	**Pn**	**10 28 48.0**	**+0.9**
FKH				Sn	**Sn**	**10 30 10.3**	**-4.4**
MZDA	**Masada**	**7.90**	**114**	P	**Pn**	**10 28 47.1**	**-0.4**
MZDA				S	**Sn**	**10 30 10.1**	**-5.4**
BTCH	**Batrach**	**7.91**	**78**	⇑P	**Pn**	**10 28 47.0**	**-0.7**
BTCH				⇑S	Sn	10 29 49.0	-27
BTCH	**Batrach**	**7.91**	**78**	⇑*i*P	**Pn**	**10 28 47.6**	**-0.1**
BTCH				⇑*i*S	Sn	10 29 49.3	-26
KRUS	**Krusevo**	**7.95**	**328**	*e*Pn	**Pn**	**10 28 48.9**	**+0.7**
TOTH	**TOTAH**	**8.03**	**97**	⇑P	**Pn**	**10 28 49.0**	**-0.4**
TOTH				⇑S	Sn	10 29 51.0	-28
TOTH	**TOTAH**	**8.03**	**97**	⇑*i*P	**Pn**	**10 28 50.0**	**+0.6**
TOTH				⇑*i*S	Sn	10 29 51.6	-27
KFRA	**Kufra**	**8.14**	**84**	⇑P	**Pn**	**10 28 51.0**	**+0.2**
KFRA	**Kufra**	**8.14**	**84**	⇑*i*P	**Pn**	**10 28 51.2**	**+0.4**
ZFRI	**Zfri**	**8.15**	**119**	P	**Pn**	**10 28 49.3**	**-1.6**
CORM	**Corum**	**8.18**	**46**	*e*PN	**Pn**	**10 28 51.0**	**-0.3**
GRB	**Gharib**	**8.20**	**141**	P	**Pn**	**10 28 51.1**	**-0.5**
BNN	**Bunyan**	**8.25**	**58**	*e*PN	**Pn**	**10 28 52.9**	**+0.6**
YOZ	**Yozgat**	**8.29**	**52**	*e*PN	**Pn**	**10 28 52.7**	**-0.2**
VTS	**Vitosha**	**8.32**	**341**	*e*P	**Pn**	**10 28 55.0**	**+1.6**
VTS	**Vitosha**	**8.32**	**341**	⇑*i*P	**Pn**	**10 28 56.3**	**+2.9**
SALA	**Sala**	**8.45**	**101**	⇑P	**Pn**	**10 28 55.0**	**0.0**
SALA				⇑S	Sn	10 30 02.0	-27
SALA	**Sala**	**8.45**	**101**	⇑*i*P	**Pn**	**10 28 56.0**	**+1.0**
SALA				⇑*i*S	Sn	10 30 02.5	-26
EIL	**Elat**	**8.51**	**124**	P	**Pn**	**10 28 55.5**	**-0.3**
EIL	**Elat**	**8.51**	**124**	*e*Pn	**Pn**	**10 28 55.3**	**-0.6**
EIL				*e*Sn	**Sn**	**10 30 24.9**	**-5.5**
EIL	**Elat**	**8.51**	**124**	*e*Pn	**Pn**	**10 28 55.3**	**-0.5**
EIL	**Elat**	**8.51**	**124**	P	**Pn**	**10 28 55.5**	**-0.3**
EIL				*e*Sn	**Sn**	**10 30 24.9**	**-5.5**
AQBJ	**Aqaba**	**8.54**	**124**	P	**Pn**	**10 28 55.8**	**-0.5**
TIR	**Tirane**	**8.59**	**322**	P	**Pn**	**10 28 58.4**	**+1.4**
ROOS	**tI_alroos**	**8.60**	**91**	⇑P	**Pn**	**10 28 57.0**	**-0.2**
ROOS				⇑S	Sn	10 30 04.0	-29
ROOS	**tI_alroos**	**8.60**	**91**	⇑*i*P	**Pn**	**10 28 57.8**	**+0.6**
ROOS				⇑*i*S	Sn	10 30 04.7	-28
BARS	**Barje**	**8.96**	**335**	⇑*i*Pn	**Pn**	**10 29 03.0**	**+1.0**
TR1		**9.04**	**136**	P	**Pn**	**10 29 02.0**	**-1.2**
TIP	**Timpagrande**	**9.23**	**301**	*e*Pn	**Pn**	**10 29 03.5**	**-2.3**
TIP	**Timpagrande**	**9.23**	**301**	*e*Pn	**Pn**	**10 29 03.5**	**-2.2**
HHRG	**Al Ghardaqah**	**9.45**	**141**	P	**Pn**	**10 29 07.8**	**-1.0**
PE1	**Pezze di Greco**	**9.62**	**312**	*e*Pn	**Pn**	**10 29 07.6**	**-3.4**
TIRR	**Tirgusor**	**9.75**	**6**	*e*P	**Pn**	**10 29 11.7**	**-1.1**
TIRR				pmax	pmax		
	comp=Z,20nm,0.9s						
TIRR	**Tirgusor**	**9.75**	**6**	*e*Pn	**Pn**	**10 29 11.7**	**-1.1**
	comp=Z,20nm,0.9s						
TIRR	**Tirgusor**	**9.75**	**6**	⇓*i*P	**Pn**	**10 29 18.8**	**+6.0**
TIRR	**Tirgusor**	**9.75**	**6**	*e*Pn	**Pn**	**10 29 11.7**	**-1.1**
	comp=Z,20nm,0.9s						
GTR	**Jabal at Tayr**	**9.76**	**160**	P	**Pn**	**10 29 13.8**	**+0.8**
MALT	**Malatya**	**9.93**	**66**	*e*P	**Pn**	**10 29 15.1**	**-0.2**
SG1	**Sgolgore (BA)**	**10.10**	**310**	*e*Pn	**Pn**	**10 29 13.2**	**-4.4**
BAI	**Bari**	**10.13**	**312**	*e*Pn	**Pn**	**10 29 14.2**	**-3.8**
HSFG		**10.17**	**142**	P	**Pn**	**10 29 17.9**	**-0.7**
GRUS	**Gruza**	**10.29**	**334**	⇓*i*Pn	**Pn**	**10 29 20.6**	**+0.5**
VAE	**Valguarnera**	**10.45**	**289**	S	**Sn**	**10 31 07.4**	**-11**
	comp=Z,18nm,0.3s,baz=162,slow=20,SNR=3.6						
CDT	**Castel del Mon**	**10.49**	**310**	*e*Pn	**Pn**	**10 29 19.2**	**-3.8**
DIVS	**Divcibare**	**10.73**	**332**	*e*Pn	**Pn**	**10 29 28.5**	**+2.2**
MLR	**Muntele Rosu**	**10.73**	**356**	P	**Pn**	**10 29 26.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=113,slow=14,SNR=3.7						
MLR	**Muntele Rosu**	**10.73**	**356**	⇑*i*P	**Pn**	**10 29 35.7**	**+9.4**
BBLS	**Bajina Basta -**	**10.77**	**330**	⇑*i*Pn	**Pn**	**10 29 24.4**	**-2.5**
STON	**Ston**	**10.81**	**321**	*i* Pn	**Pn**	**10 29 22.6**	**-4.7**
STON				*i* Sn	**Sn**	**10 31 13.5**	**-13**
BZS	**Buzias**	**11.56**	**341**	⇑*i*P	**Pn**	**10 29 41.0**	**+3.4**
KIS	**Kishinev**	**12.30**	**6**	*e*P	**Pn**	**10 29 56.0**	**+8.3**
DRGR		**12.42**	**347**	⇓*i*P	**Pn**	**10 29 59.8**	**+10**
BURAR	**Bucovina Array**	**12.90**	**355**	⇑*i*P	**Pn**	**10 30 06.0**	**+10**
PSZ	**Piszkesteto**	**14.14**	**340**	*e*P	**Pn**	**10 30 10.9**	**-1.9**
UZH	**Uzhgorod**	**14.27**	**348**	*e*P	**Pn**	**10 30 06.0**	**-8.4**
KEST	**Kesra**	**14.38**	**279**	P	**Pn**	**10 30 16.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=90,slow=21,SNR=5.1						
KEST				S	**Sn**	**10 32 44.6**	**-9.3**
	comp=Z,0.3nm,0.3s,baz=341,slow=17,SNR=6.0						
KECS	**Kecovo**	**14.51**	**343**	*e*P	**Pn**	**10 30 22.7**	**+5.1**
KOLS	**Kolonicke sedl**	**14.56**	**348**	*e*P	**Pn**	**10 30 23.0**	**+4.7**
CRVS	**Cervenica-Dubn**	**14.69**	**346**	*e*P	**Pn**	**10 30 24.7**	**+4.8**
VYHS	**Vyhne**	**14.97**	**339**	*e*P	**Pn**	**10 30 23.5**	**-0.1**
ARSA	**Arzberg**	**15.12**	**329**	⇑*i*P	**Pn**	**10 30 24.9**	**-0.6**
	comp=Z,15nm,1.2s						
GNI	**Garni**	**15.15**	**64**	P	**Pn**	**10 30 28.4**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=173,slow=8.1,SNR=2.5						
GNI	**Garni**	**15.15**	**64**	⇑*e*P	**Pn**	**10 30 28.8**	**+2.8**
GNI				pmax	pmax		
	comp=Z,15nm,1.0s						
STHS	**Stebnicka Huta**	**15.22**	**346**	*e*P	**Pn**	**10 30 30.9**	**+4.0**
STHS				pmax	pmax		
	comp=Z,11nm,0.8s						
STHS	**Stebnicka Huta**	**15.22

comp=Z,98nm,1.8s
GRF Grafenberg Arr 18.84 327 *e*P Pn 10 31 10.2 -1.7
comp=Z,98nm,1.8s
RSL Roselend 18.88 311 *e*P Pn 10 31 11.1 -1.3
ORIF Oris-en-Rattie 19.01 309 *e*P Pn 10 31 11.2 -2.7
ORIF *e*MLR
comp=Z,435nm,21.0s
BBS Basel-Blauen 19.28 317 *e*P Pn 10 31 18.7 +1.6
BFO Black Forest 19.34 320 *e*P Pn 10 31 14.9 -2.9
BFO pmax pmax
comp=Z,16nm,1.0s
BFO Black Forest 19.34 320 *e*P Pn 10 31 14.9 -3.0
comp=Z,16nm,1.0s
BFO Black Forest 19.34 320 *e*P Pn 10 31 14.9 -2.9
comp=Z,16nm,1.0s
CLL Collm 19.34 333 *i* P Pn 10 31 15.0 -2.9
CLL pmax pmax
comp=Z,21nm,0.7s
CLL Collm 19.34 333 *i* (P) Pn 10 31 15.0 -2.9
comp=Z,21nm,0.7s
CLL *i* pP pP 10 31 27.5 -0.6
MOX Moxa 19.38 330 *e*P Pn 10 31 18.9 +0.6
comp=Z,26nm,1.4s
MOX Moxa 19.38 330 *e*P Pn 10 31 18.9 +0.6
MOX pmax pmax
comp=Z,26nm,1.4s
SUW Suwalki 19.42 353 *e*P Pn 10 31 16.7 -2.1
VRHR Novokhopersk 19.50 29 *e*P Pn 10 31 17.9 -1.8
VRHR *e*S S 10 34 48.9 -6.7
VRHR *e*S S 10 34 53.3 -2.3
VRHR pmax pmax
comp=E,9.0nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR smax
comp=E,10.0nm,0.3s
LOMF Lomont 19.60 316 *e*P Pn 10 31 23.4 +2.4
CABF La Chapelle 19.65 313 *e*P Pn 10 31 18.6 -3.0
comp=E,62nm,0.7s
CABF La Chapelle 19.65 313 *e*P Pn 10 31 18.6 -3.0
CABF pmax pmax
comp=Z,31nm,0.7s
CABF La Chapelle 19.65 313 *e*P Pn 10 31 18.6 -3.0
comp=Z,31nm,0.7s
MNK Minsk 19.74 2 *e*P Pn 10 31 16.0 -6.6
VIVF Saint-Julien-l 19.77 307 *e*P Pn 10 31 21.3 -1.6
comp=Z,9.1nm,0.5s
VIVF Saint-Julien-l 19.77 307 *e*P Pn 10 31 21.3 -1.6
VIVF pmax pmax
comp=Z,5.0nm,0.5s
VIVF Saint-Julien-l 19.77 307 *e*P Pn 10 31 21.3 -1.6
comp=Z,4.6nm,0.5s
OG05 Jujurieux 19.77 311 *e*P Pn 10 31 19.4 -3.5
HINF Hinteralfeld 19.84 317⇑ *i*P Pn 10 31 21.1 -2.7
comp=Z,9.2nm,0.4s
HINF Hinteralfeld 19.84 317⇑ *i*P Pn 10 31 21.1 -2.7
comp=Z,4.6nm,0.4s
ECH Echery 19.90 318 *e*P Pn 10 31 25.0 +0.5
CDF Champ du Feu 19.95 319 *e*P Pn 10 31 22.4 -2.7
comp=Z,16nm,0.6s
CDF Champ du Feu 19.95 319 *e*P Pn 10 31 22.4 -2.7
CDF pmax pmax
comp=Z,8.0nm,0.6s
CDF Champ du Feu 19.95 319 *e*P Pn 10 31 22.4 -2.7
comp=Z,8.1nm,0.6s
LASF Ste Croix 20.02 305 *e*P P 10 31 23.3 -0.5
EJON La Jonquera 20.23 299 P P 10 31 25.5 -0.5
comp=Z,20nm,1.0s
EJON La Jonquera 20.23 299 P P 10 31 25.5 -0.5
comp=Z,20nm,1.0s
HAU Haudompre 20.23 317 *e*P P 10 31 25.2 -0.9
HAU *e*MLR
comp=Z,514nm,19.2s
HAU Haudompre 20.23 317 *e*P P 10 31 25.2 -0.9
comp=Z,4.8nm,0.4s
THEF They Montfort 20.56 317 *e*P P 10 31 28.0 -1.6
PLDF La Plantade 20.89 309 *e*P P 10 31 32.7 -0.5
MTLF Montolieu 20.93 302 *e*P P 10 31 32.7 -0.9
SMF Signal de Mont 21.04 311 *e*P P 10 31 33.8 -1.0
comp=Z,35nm,0.5s,mb4.7
SMF Signal de Mont 21.04 311 *e*P P 10 31 33.8 -1.0
SMF pmax pmax
comp=Z,18nm,0.5s,mb4.7
SMF Signal de Mont 21.04 311 *e*P P 10 31 33.8 -1.0
comp=Z,18nm,0.5s,mb4.7
EMIR Miracle 21.09 297 P P 10 31 34.4 -0.9
comp=Z,20nm,1.0s,mb4.4
EMIR Miracle 21.09 297 P P 10 31 34.4 -1.0
comp=Z,20nm,1.0s,mb4.4
PYM Petit Puy Mans 21.20 308 *e*P P 10 31 36.2 -0.3
MEZF Maizieres J'vi 21.23 317 *e*P P 10 31 35.3 -1.5
comp=Z,48nm,0.8s,mb4.5
MEZF Maizieres J'vi 21.23 317 *e*P P 10 31 35.3 -1.5
comp=Z,24nm,0.8s,mb4.5
AGO Saint Agoulin 21.24 309 *e*P P 10 31 36.9 0.0
WLF Walferdange 21.29 321 P P 10 31 37.3 -0.2
WLF Walferdange 21.29 321 *e*P P 10 31 37.6 +0.1
WLF pmax pmax
comp=Z,15nm,0.8s,mb4.4
WLF Walferdange 21.29 321 *e*P P 10 31 37.6 +0.2
comp=Z,15nm,0.8s,mb4.4
WLF Walferdange 21.29 321 *e*P P 10 31 37.6 +0.1
comp=Z,15nm,0.8s,mb4.4
LOR Lormes 21.31 313⇑ *i*P P 10 31 36.2 -1.5
comp=Z,36nm,0.7s,mb4.5
LOR *e*MLR
comp=Z,644nm,22.2s
LOR Lormes 21.31 313⇑ *i*P P 10 31 36.2 -1.5
LOR pmax pmax
comp=Z,18nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,640nm,22.3s,MS4.0
LOR Lormes 21.31 313⇑ *i*P P 10 31 36.2 -1.5
comp=Z,18nm,0.7s,mb4.5
LOR LR LR
comp=Z,640nm,22.3s,MS4.0
EPOB Poblet 21.32 296 P P 10 31 37.0 -0.8
comp=Z,17nm,1.0s,mb4.3
EPOB Poblet 21.32 296 P P 10 31 37.0 -0.8
comp=Z,17nm,1.0s,mb4.3
AVF Avril sur Loir 21.41 311 *e*P P 10 31 37.2 -1.5
comp=Z,22nm,0.7s,mb4.3
AVF Avril sur Loir 21.41 311 *e*P P 10 31 37.2 -1.5
AVF pmax pmax
comp=Z,11nm,0.7s,mb4.3
AVF Avril sur Loir 21.41 311 *e*P P 10 31 37.2 -1.5
comp=Z,11nm,0.7s,mb4.3
OBN Obninsk 21.43 15⇑ *e*P P 10 31 37.2 -1.7
OBN *e*S S 10 35 38.4 +4.7
OBN pmax pmax
comp=Z,58nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,200nm,17.0s,MS3.6
OBN Obninsk 21.43 15 *e*P P 10 31 38.8 -0.1
comp=Z,34nm,0.6s,mb4.9
OBN *e*Sn S 10 35 46.2 +13
OBN Obninsk 21.43 15 *e*P P 10 31 37.2 -1.7
comp=Z,58nm,1.2s,mb4.8
SSF Saint Saulge 21.43 312⇑ *i*P P 10 31 37.8 -1.2
comp=Z,41nm,0.7s,mb4.6
SSF Saint Saulge 21.43 312⇑ *i*P P 10 31 37.8 -1.2
SSF pmax pmax
comp=Z,21nm,0.7s,mb4.6
SSF Saint Saulge 21.43 312⇑ *i*P P 10 31 37.8 -1.2
comp=Z,21nm,0.7s,mb4.6
CAF Calviac 21.52 306 *e*P P 10 31 39.7 -0.2
comp=Z,51nm,1.2s,mb4.5
CAF Calviac 21.52 306 *e*P P 10 31 39.7 -0.2
CAF pmax pmax
comp=Z,25nm,1.2s,mb4.5
CAF Calviac 21.52 306 *e*P P 10 31 39.7 -0.2
comp=Z,25nm,1.2s,mb4.5
BGF Bois d'Agland 21.62 310 *e*P P 10 31 40.5 -0.5
comp=Z,16nm,0.5s,mb4.4
BGF Bois d'Agland 21.62 310 *e*P P 10 31 40.5 -0.5
BGF pmax pmax
comp=Z,8.0nm,0.5s,mb4.4
BGF Bois d'Agland 21.62 310 *e*P P 10 31 40.5 -0.5
comp=Z,7.9nm,0.5s,mb4.4
ERTA Horta de San J 21.82 294 P P 10 31 42.1 -1.0
comp=Z,10nm,0.7s,mb4.4
ERTA Horta de San J 21.82 294 P P 10 31 42.1 -1.0
comp=Z,10nm,0.7s,mb4.4
TCF Toulx Ste Croi 21.92 309 *e*P P 10 31 42.8 -1.4
MEM Membach 21.94 323 P P 10 31 44.6 +0.2
comp=Z,16nm,1.5s,mb4.2
MEM Membach 21.94 323 P P 10 31 44.5 +0.1
comp=Z,16nm,1.5s,mb4.2
RJF Les Rejaudoux 22.01 306 *e*P P 10 31 44.2 -1.0
comp=Z,19nm,0.8s,mb4.3
RJF *e*MLR
comp=Z,270nm,23.0s
RJF Les Rejaudoux 22.01 306 *e*P P 10 31 44.2 -1.0
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
RJF MLR MLR
comp=Z,270nm,23.0s,MS3.6
RJF Les Rejaudoux 22.01 306 *e*P P 10 31 44.2 -1.0
comp=Z,9.4nm,0.8s,mb4.3
RJF LR LR
comp=Z,270nm,23.0s,MS3.6
EBEN Beniarda 22.05 288 P P 10 31 45.6 -0.1
comp=Z,16nm,1.0s,mb4.4
BCLA Clavier 22.18 321 P P 10 31 47.6 +0.6
BCLA Clavier 22.18 321 P P 10 31 47.5 +0.5
EPF Esparros 22.19 300 *e*P P 10 31 46.7 -0.3
comp=Z,18nm,0.9s,mb4.2
EPF Esparros 22.19 300 *e*P P 10 31 46.7 -0.3
EPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
EPF Esparros 22.19 300 *e*P P 10 31 46.7 -0.3
comp=Z,9.1nm,0.9s,mb4.2
MOS Moscow 22.24 16 *e*P P 10 31 46.4 -1.2
MOS *e* 10 32 11.5
MOS *e* 10 32 29.8
MOS *e*S S 10 35 45.0 -4.4
MOS pmax pmax
comp=Z,94nm,0.9s,mb5.2
MOS Moscow 22.24 16 *e*P P 10 31 46.4 -1.2
comp=Z,94nm,0.9s,mb5.2
GIVF Givet 22.24 320 *e*P P 10 31 46.0 -1.6
comp=Z,22nm,0.7s,mb4.4
GIVF Givet 22.24 320 *e*P P 10 31 46.0 -1.6
GIVF pmax pmax
comp=Z,11nm,0.7s,mb4.4
GIVF Givet 22.24 320 *e*P P 10 31 46.0 -1.6
comp=Z,11nm,0.7s,mb4.4
EBIE Bielsa 22.25 299 P P 10 31 48.5 +0.7
comp=Z,9.4nm,1.0s,mb4.2
EBIE Bielsa 22.25 299 P P 10 31 48.5 +0.7
comp=Z,9.4nm,1.0s,mb4.2
EMOS Mosqueruela 22.36 293 P P 10 31 51.0 +2.1
comp=Z,19nm,1.3s,mb4.4
DOU Dourbes 22.36 320 P P 10 31 48.8 0.0
comp=Z,13nm,1.9s,mb4.0
LFF La Frestale 22.41 305 *e*P P 10 31 49.5 0.0
ESAC San Caprasio 22.53 296 P P 10 31 51.7 +1.0
comp=Z,50nm,0.9s,mb4.9
BAIF Baives 22.54 320 *e*P P 10 31 49.3 -1.5
comp=Z,40nm,0.7s,mb4.7
BAIF Baives 22.54 320 *e*P P 10 31 49.3 -1.5
BAIF pmax pmax
comp=Z,20nm,0.7s,mb4.7
BAIF Baives 22.54 320 *e*P P 10 31 49.3 -1.5
comp=Z,20nm,0.7s,mb4.7
SNF Seneffe 22.76 321 P P 10 31 53.7 +0.6
comp=Z,20nm,1.5s,mb4.3
ETSF Etsaut 22.80 299 *e*P P 10 31 53.3 -0.3
comp=Z,6.6nm,0.4s,mb4.1
ETSF Etsaut 22.80 299 *e*P P 10 31 53.3 -0.3
comp=Z,3.3nm,0.4s,mb4.1
SJPF Ste Jean 23.32 299 *e*P P 10 31 57.2 -1.7
comp=Z,25nm,0.6s,mb4.5
SJPF Ste Jean 23.32 299 *e*P P 10 31 57.2 -1.7
SJPF pmax pmax
comp=Z,13nm,0.6s,mb4.5
SJPF Ste Jean 23.32 299 *e*P P 10 31 57.2 -1.7
comp=Z,13nm,0.6s,mb4.5
MFF Saint Martin d 23.55 308 *e*P P 10 32 00.1 -0.9
comp=Z,20nm,0.7s,mb4.4
MFF Saint Martin d 23.55 308 *e*P P 10 32 00.1 -0.9
MFF pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
MFF Saint Martin d 23.55 308 *e*P P 10 32 00.1 -0.9
comp=Z,10nm,0.7s,mb4.4
ELIZ Elizondo 23.55 299 P P 10 32 01.4 +0.4
ELIZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
ELIZ Elizondo 23.55 299 P P 10 32 01.4 +0.4
comp=Z,6.5nm,0.6s,mb4.2
ELIZ Elizondo 23.55 299 P P 10 32 01.4 +0.4
comp=Z,6.5nm,0.6s,mb4.2
ETOR Torete 23.60 293 P P 10 32 01.9 +0.5
ETOR pmax pmax
comp=Z,14nm,0.6s,mb4.6
ETOR Torete 23.60 293 P P 10 32 01.9 +0.4
comp=Z,14nm,0.6s,mb4.6
ETOR Torete 23.60 293 P P 10 32 01.9 +0.5
comp=Z,14nm,0.6s,mb4.6
VSU Vasula 23.70 360 *e*P P 10 31 58.8 -3.6
EVIA Vianos 23.84 288 P P 10 32 04.3 +0.7
EVIA pmax pmax
comp=Z,14nm,1.0s,mb4.3
EVIA Vianos 23.84 288 P P 10 32 04.3 +0.6
comp=Z,14nm,1.0s,mb4.3
EVIA Vianos 23.84 288 P P 10 32 04.3 +0.7
comp=Z,14nm,1.0s,mb4.3
LDF La Druitiere 24.30 313 *e*P P 10 32 06.7 -1.1
comp=Z,27nm,0.5s,mb4.6
LDF La Druitiere 24.30 313 *e*P P 10 32 06.7 -1.1
LDF pmax pmax
comp=Z,13nm,0.5s,mb4.6
LDF La Druitiere 24.30 313 *e*P P 10 32 06.7 -1.1
comp=Z,13nm,0.5s,mb4.6
FLN La Foliniere 24.58 313 *e*P P 10 32 09.6 -0.8
comp=Z,36nm,0.5s,mb4.8
FLN *e*MLR
comp=Z,373nm,19.0s
FLN La Foliniere 24.58 313 *e*P P 10 32 09.6 -0.8
FLN pmax pmax
comp=Z,18nm,0.5s,mb4.9
FLN MLR MLR
comp=Z,370nm,19.0s,MS3.9
FLN La Foliniere 24.58 313 *e*P P 10 32 09.6 -0.8
comp=Z,18nm,0.5s,mb4.8
FLN LR LR
comp=Z,370nm,19.0s,MS3.9
GRR Gorron 24.66 312 *e*P P 10 32 10.1 -1.0
comp=Z,27nm,0.6s,mb4.7
GRR Gorron 24.66 312 *e*P P 10 32 10.1 -1.0
GRR pmax pmax
comp=Z,14nm,0.6s,mb4.7
GRR Gorron 24.66 312 *e*P P 10 32 10.1 -1.0
comp=Z,14nm,0.6s,mb4.7
ELAN Lanestosa 24.93 299 P P 10 32 14.4 +0.8
comp=Z,29nm,0.9s,mb4.8
ESDC Sonseca Array 24.99 290 P P 10 32 14.8 +0.7
comp=Z,4.8nm,0.5s,mb4.3,baz=82,slow=9.5,SNR=27
ESDC Sonseca Array 24.99 290 P P 10 32 14.8 +0.7
comp=Z,6.3nm,0.4s,mb4.5
ESLA Sonseca Array 24.99 290 *e*P P 10 32 15.1 +1.0
comp=Z,0.9nm,0.5s,mb3.6
ESLA Sonseca Array 24.99 290 *e*P P 10 32 15.1 +1.0
comp=Z,0.9nm,0.5s,mb3.6
PUL Pulkovo 25.11 4⇑ *e*P P 10 32 15.2 0.0
GUD Guadarrama 25.18 293 P P 10 32 17.0 +1.2
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
GUD Guadarrama 25.18 293 P P 10 32 17.0 +1.2
comp=Z,4.4nm,0.6s,mb4.2
GUD Guadarrama 25.18 293 P P 10 32 17.0 +1.2
comp=Z,4.4nm,0.6s,mb4.2
EADA Adamuz 25.47 287 P P 10 32 18.5 0.0
comp=Z,13nm,1.0s,mb4.4
SGMF Saint Gilles 25.66 311 *e*P P 10 32 19.3 -0.9
EMIJ Mijas 25.73 283 P P 10 32 23.8 +2.9
comp=Z,11nm,0.7s,mb4.5
QUIF Quistinic 25.93 310 *e*P P 10 32 21.1 -1.5
SKP1 Kophill 26.12 319 *e*P P 10 32 23.6 -0.8
ROSF Rostrenen 26.14 310 *e*P P 10 32 23.2 -1.3
ORR Orenburg 26.15 41 *e*P P 10 32 25.2 +0.5
ORR pmax pmax
comp=Z,40nm,0.8s,mb5.0
ORR Orenburg 26.15 41 *e*P P 10 32 25.2 +0.5
comp=Z,40nm,0.8s,mb5.0
MDT Midelt 26.21 275 P P 10 32 28.4 +3.2
comp=Z,4.0nm,0.9s,mb4.0,baz=71,slow=12,SNR=6.4
EARI Arriondas 26.23 299 P P 10 32 28.8 +3.4
comp=Z,30nm,1.0s,mb4.8
SWN1 Swindon 26.56 318 *e*P P 10 32 27.9 -0.5
FINES FINESS Array B 26.70 359 P P 10 32 27.8 -1.8
comp=Z,5.5nm,0.7s,mb4.2,baz=165,slow=10.0,SNR=28
FINES FINESS Array B 26.70 359 *i* P P 10 32 28.1 -1.5
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 26.70 359 *i* P P 10 32 28.1 -1.5
comp=Z,6.0nm,0.7s,mb4.2
HFS Hagfors 26.80 345 P P 10 32 28.4 -2.1
comp=Z,2.3nm,0.3s,mb4.2,baz=130,slow=10,SNR=17
HFS LR LR 10 42 45.6
comp=Z,406nm,19.2s,MS4.0,baz=163,slow=36
HFS Hagfors 26.80 345 P P 10 32 28.4 -2.1
HFS pmax pmax
comp=Z,2.0nm,0.3s
HFS MLR MLR
comp=Z,406nm,19.2s
EMIN Mina Concepcio 27.15 286 P P 10 32 36.3 +2.7
comp=Z,39nm,1.9s,mb4.6
ECAL Calabor 27.20 295 P P 10 32 36.2 +2.1
comp=Z,4.1nm,0.5s,mb4.2
KWE Weaver Farm 27.32 321 *e*P P 10 32 34.4 -0.8
KLMR Klimovskoe 27.34 13 P P 10 32 32.2 -3.2
KLMR pmax pmax
comp=Z,56nm,1.6s,mb4.8
KLMR Klimovskoe 27.34 13 P P 10 32 32.2 -3.2
comp=Z,56nm,1.6s,mb4.8
EBAD Badajoz 27.36 288 P P 10 32 36.7 +1.1
comp=Z,9.9nm,0.8s,mb4.4
EBAD Badajoz 27.36 288 P P 10 32 36.7 +1.2
comp=Z,9.9nm,0.8s,mb4.4
KAF Kangasniemi 27.37 359 *e*p P 10 32 33.1 -2.5
comp=Z,2.1nm,0.3s,mb4.2
KAF Kangasniemi 27.37 359 *e*P P 10 32 33.1 -2.5
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.1
AKTK Aktyubinsk 27.49 46 P P 10 32 37.2 +0.6
AKTK Aktyubinsk 27.49 46 P P 10 32 37.2 +0.6
comp=Z,9.0nm,0.8s,mb4.3
AKTO Aktyubinsk 27.49 46 P P 10 32 37.2 +0.6
comp=Z,8.7nm,0.8s,mb4.3,baz=251,slow=8.3,SNR=32
AKTO Aktyubinsk 27.49 46 P P 10 32 37.2 +0.6
AKTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
EPON Pontenova 27.64 298 P P 10 32 39.2 +1.2
comp=Z,20nm,1.3s,mb4.6
EGRO El Granado 27.81 286 P P 10 32 41.1 +1.6
comp=Z,71nm,1.7s,mb5.0
EGRO El Granado 27.81 286 P P 10 32 41.1 +1.6
comp=Z,71nm,1.7s,mb5.0
NB2 NORSAR Subarra 28.16 344 P P 10 32 40.1 -2.5
comp=Z,10nm,1.1s,mb4.4,baz=148,slow=9.3
NOA NORSAR Array B 28.16 344 P P 10 32 40.9 -1.8
comp=Z,1.6nm,0.8s,mb3.7,baz=151,slow=9.7,SNR=5.4
NOA LR LR 10 45 07.8
comp=Z,194nm,18.9s,MS3.7,baz=350,slow=39
NOA NORSAR Array B 28.16 344 P P 10 32 40.9 -1.7
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,194nm,18.9s
AB31 Akbulak array 28.24 49 *i* P P 10 32 44.1 +0.7
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
AB31 Akbulak array 28.24 49 *i* P P 10 32 44.1 +0.7
comp=Z,2.0nm,0.4s,mb4.1
EKA Eskdalemuir Ar 29.19 324 P P 10 32 51.4 -0.4
comp=Z,7.7nm,0.5s,mb4.7,baz=132,slow=11,SNR=43
EKA Eskdalemuir Ar 29.19 324 P P 10 32 51.4 -0.4
EKA pmax pmax
comp=Z,8.0nm,0.5s
EKA Eskdalemuir Ar 29.19 324 P P 10 32 51.3 -0.5
ESK Eskdalemuir 29.20 324 *e*P P 10 32 51.1 -0.8
ESK AMb AMB 10 32 51.8
comp=Z,37nm,1.9s,mb4.8
ESY Stoneypath 29.25 325 *e*P P 10 32 52.0 -0.3
EBL Broad Law 29.37 325 *e*P P 10 32 52.3 -1.1
EDI Edinburgh 29.52 325 *e*P P 10 32 54.0 -0.8
EDI AMb AMB 10 32 55.0
comp=Z,40nm,1.9s,mb4.8
GAL1 Galloway 29.71 322 *e*P P 10 32 55.6 -0.8
GAL1 AMb AMB 10 32 57.0
comp=Z,38nm,1.8s,mb4.8
EAB Aberfoyle 30.21 325 *e*P P 10 33 00.1 -0.7
ARU Arti 30.54 35⇑ *i*P P 10 33 03.0 -0.8
ARU *e* 10 34 01.2
ARU *e* 10 36 04.1
ARU *e*S S 10 37 59.8 -1.9
ARU *e*SS SS 10 39 35.2 -38
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ARU Arti 30.54 35 *e*P P 10 33 03.8 0.0
comp=Z,4.2nm,0.3s,mb4.8
ARU Arti 30.54 35 *i* P P 10 33 03.0 -0.8
comp=Z,6.0nm,0.9s,mb4.4
TOA0 Torodi Ar. Sit 31.36 233 *e*P P 10 33 13.1 +2.1
TORD Torodi Ar. Bea 31.36 233 P P 10 33 14.4 +3.4
comp=Z,8.3nm,1.0s,mb4.5,baz=39,slow=8.9,SNR=31
TORD ScP ScP 10 39 44.2 +1.8
comp=Z,0.9nm,0.7s,baz=41,slow=2.7,SNR=3.9
SOKR Solikamsk 31.58 29 *e*P P 10 33 12.3 -0.6
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.9
SOKR Solikamsk 31.58 29 *e*P P 10 33 12.3 -0.6
comp=Z,20nm,1.0s,mb4.9
KK31 Karatay Array 34.61 63 *i* P P 10 33 41.1 +1.8
KK31 pmax pmax
comp=Z,17nm,1.0s,mb4.9
KKAR Karatay Array 34.61 63 *i* P P 10 33 41.1 +1.8
KKAR pmax pmax
comp=Z,18nm,1.1s,mb4.9
ARCES ARCESS Array B 34.83 359 P P 10 33 39.0 -2.3
comp=Z,5.0nm,0.6s,mb4.7,baz=179,slow=8.9,SNR=36
ARCES ARCESS Array B 34.83 359 P P 10 33 39.0 -2.2
ARCES pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 35.04 0 *e*p P 10 33 42.3 -0.8
BVAR Borovoye Array 35.59 46 P P 10 33 49.2 +1.4
comp=Z,5.1nm,0.8s,mb4.5,baz=248,slow=7.8,SNR=15
BVAR Borovoye Array 35.59 46 P P 10 33 49.2 +1.4
BVAR pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 37.56 63 *c* *i*P P 10 34 06.1 +1.6
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
AAK Ala-Archa 37.56 63 *e*P P 10 34 06.0 +1.4
comp=Z,12nm,0.8s,mb4.7
AAK Ala-Archa 37.56 63 *e*P P 10 34 05.9 +1.4
comp=Z,11nm,0.8s,mb4.7
KURK Kurchatov 40.33 50 *d* *i*P P 10 34 28.6 +0.9
KURK Kurchatov 40.33 50 P P 10 34 28.7 +1.0
comp=Z,12nm,0.6s,mb4.8
KURK Kurchatov 40.33 50 P P 10 34 28.7 +1.0
comp=Z,12nm,0.6s,mb4.8
LIC Lamto 40.90 233 *e*P P 10 34 34.8 +2.4
comp=Z,22nm,0.9s,mb4.5
LIC *e*MLR
comp=Z,241nm,21.0s
MK31 Makanchi Array 42.80 56 *e*P P 10 34 49.5 +1.6
MKAR Makanchi Array 42.80 56 P P 10 34 49.5 +1.6
comp=Z,5.3nm,0.6s,mb4.5,baz=276,slow=7.1,SNR=66
MKAR Makanchi Array 42.80 56 P P 10 34 49.5 +1.6
MKAR pmax pmax
comp=Z,5.0nm,0.6s
NVS Novosibirsk 43.36 45⇓ *i*P P 10 34 54.0 +1.5
NVS *i* pP 10 35 07.6 +1.5
NVS *e*S S 10 41 16.7 +0.1
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,21nm,1.0s,mb4.8
NVS smax
comp=N,27nm,2.3s
NVS smax
comp=E,21nm,2.1s
ZAL Zalesovo 44.24 46 P P 10 35 00.4 +0.9
comp=E,4.0nm,0.6s,mb4.3,baz=210,slow=8.9,SNR=19
ZAL Zalesovo 44.24 46 P P 10 35 00.4 +0.9
ZAL pmax pmax
comp=Z,4.0nm,0.6s
WMQ Urumqi 46.97 60 *e*P P 10 35 24.3 +3.2
WMQ AMB AMB
comp=Z,14nm,1.2s,mb4.8
WMQ LR LR
comp=N,210nm,23.0s,MS4.2
WMQ LR LR
comp=E,217nm,25.0s,MS4.2
WMQ LR LR
comp=Z,167nm,20.0s,MS4.0

KOLN	**Koldanda**	**48.43**	**82**	*e*P	**P**	**10 35 34.3 +1.9**
	comp=Z,58nm,1.2s,mb5.5					
KRAR	**Krasnoyarsk**	**48.86**	**43⇑**	*e*P	**P**	**10 35 37.6 +1.9**
GKN	**Gorkha**	**49.18**	**81**	*e*P	**P**	**10 35 40.5 +2.4**
	comp=Z,56nm,1.0s,mb5.5					
DMN	**Daman**	**49.72**	**81**	*e*P	**P**	**10 35 44.8 +2.6**
	comp=Z,86nm,1.1s					
LSZ	**Lusaka**	**49.78**	**178**	P	**P**	**10 35 46.8 +4.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=22,slow=5.4,SNR=3.1					
LSZ	**Lusaka**	**49.78**	**178**	P	**P**	**10 35 46.8 +4.1**
LSZ				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.2					
LSZ	**Lusaka**	**49.78**	**178**	P	**P**	**10 35 46.8 +4.1**
PKI	**Pulchoki**	**49.98**	**81**	*e*P	**P**	**10 35 46.6 +2.4**
	comp=Z,41nm,0.9s,mb5.5					
GUN	**Gumba**	**50.23**	**81**	*e*P	**P**	**10 35 48.5 +2.4**
	comp=Z,55nm,1.0s,mb5.6					
MOY	**Mondy**	**54.22**	**48**	*e*P	**P**	**10 36 18.6 +2.9**
TSUM	**Tsumeb**	**54.40**	**191**	P	**P**	**10 36 20.9 +3.9**
	comp=Z,2.1nm,0.9s,mb4.0,baz=0.0,slow=9.1,SNR=3.4					
MATP	**Matopo**	**54.91**	**178**	P	**P**	**10 36 25.1 +4.3**
	comp=Z,2.4nm,0.6s,mb4.4,baz=358,slow=9.0,SNR=9.0					
MATP	**Matopo**	**54.91**	**178**	P	**P**	**10 36 25.0 +4.3**
TLY	**Talaya**	**55.83**	**47**	*e*P	**P**	**10 36 29.9 +2.6**
TLY				*e*	pP	10 36 44.7 +3.3
TLY				pmax	pmax	
	comp=Z,8.0nm,1.1s,mb4.7					
ZAK	**Zakamensk**	**55.93**	**49⇓**	*i*P	**P**	**10 36 30.2 +2.1**
ZAK				*e*	pP	10 36 45.3 +3.1
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.4					
ZAK				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.3					
GTA	**Gaotai**	**56.89**	**62**	*e*P	**P**	**10 36 37.1 +2.2**
GTA				PP	PP	10 38 46.2 +4.6
GTA				S	**S**	**10 44 25.0 +0.2**
GTA				AMB	AMB	
	comp=Z,5.0nm,0.9s,mb4.5					
GTA				AMB	AMB	
	comp=Z,226nm,6.1s					
GTA				LR	LR	
	comp=N,176nm,10.6s,MS4.5					
GTA				LR	LR	
	comp=E,148nm,12.6s,MS4.5					
GTA				LR	LR	
	comp=Z,196nm,9.5s					
SONM	**Songino Array**	**58.63**	**51**	P	**P**	**10 36 49.1 +2.0**
	comp=Z,4.2nm,0.8s,mb4.5,baz=288,slow=8.2,SNR=31					
SONM	**Songino Array**	**58.63**	**51**	P	**P**	**10 36 49.1 +2.0**
SONM				pmax	pmax	
	comp=Z,4.0nm,0.8s					
BOD	**Bodaibo**	**59.88**	**38**	*e*P	**P**	**10 36 55.8 +0.1**
BOD				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.8					
TIXI	**Tiksi**	**61.03**	**21**	*e*P	**P**	**10 37 01.5 -2.1**
TIXI				*e*		10 37 21.5
TIXI				pmax	pmax	
	comp=Z,2.0nm,0.9s,mb4.2					
TIXI	**Tiksi**	**61.03**	**21**	*e*P	**P**	**10 37 04.7 +1.2**
	comp=Z,3.3nm,0.8s,mb4.5					
TIXI	**Tiksi**	**61.03**	**21**	*e*P	**P**	**10 37 04.7 +1.1**
	comp=Z,3.3nm,0.8s,mb4.5					
LZH	**Lanzhou**	**61.09**	**64**	*e*P	**P**	**10 37 05.5 +1.6**
LZH				AP	pP	10 37 13.6 -4.6
LZH				PP	PP	10 39 22.4 +3.5
LZH				AMB	AMB	
	comp=Z,53nm,6.7s					
LZH				LR	LR	
	comp=E,235nm,15.2s					
LZH				LR	LR	
	comp=Z,397nm,17.9s,MS4.6					
BOSA	**Boshof**	**63.06**	**182**	P	**P**	**10 37 21.2 +4.0**
	comp=Z,1.2nm,0.3s,mb4.4,baz=358,slow=8.1,SNR=8.2					
BOSA	**Boshof**	**63.06**	**182**	P	**P**	**10 37 21.2 +4.0**
BOSA				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.3					
BOSA	**Boshof**	**63.06**	**182**	P	**P**	**10 37 21.2 +4.0**
CD2	**Chengdu**	**63.19**	**70**	*e*P	**P**	**10 37 19.9 +1.9**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb5.0					
CD2				AMB	AMB	
	comp=Z,30nm,5.4s					
SCHQ	**Schefferville**	**64.40**	**320**	P	**P**	**10 37 26.4 +0.4**
	comp=Z,7.2nm,0.5s,mb4.9,baz=57,slow=4.4,SNR=21					
SCHQ	**Schefferville**	**64.40**	**320**	*e*P	**P**	**10 37 26.4 +0.3**
	comp=Z,11nm,0.6s,mb5.1					
SCHQ	**Schefferville**	**64.40**	**320**	*e*P	**P**	**10 37 26.4 +0.4**
	comp=Z,11nm,0.6s,mb5.1					
HHC	**Hu-ho-hao-te**	**64.67**	**57**	*e*P	**P**	**10 37 29.9 +2.2**
HHC				PP	PP	10 39 54.3 +3.9
HHC				PCS		10 42 05.9
HHC				S	**S**	**10 46 07.4 +3.5**
HHC				SCS	ScS	10 47 19.9 +2.1
HHC				AMB	AMB	
	comp=Z,23nm,0.6s,mb5.4					
HHC				LR	LR	
	comp=N,217nm,20.2s,MS4.6					
HHC				LR	LR	
	comp=E,284nm,16.1s,MS4.6					
HHC				LR	LR	
	comp=Z,210nm,19.6s,MS4.3					
KMI	**Kunming**	**65.03**	**76**	P	**P**	**10 37 34.2 +4.1**
KMI				AP	pP	10 37 42.9 -1.6
KMI				AMB	AMB	
	comp=Z,10.0nm,1.4s,mb4.7					
GYA	**Guiyang**	**67.50**	**73**	P	**P**	**10 37 48.1 +2.2**
GYA				AP	pP	10 37 57.7 -2.7
GYA				XP	sP	10 38 01.4 -4.8
GYA				PCP	PcP	10 38 16.4 +3.5
GYA				PP	PP	10 40 19.8 +4.7
GYA				SCP		10 42 16.7
GYA				S	S	10 46 41.7 +3.3
GYA				SKS		10 47 40.7
GYA				AMB	AMB	
	comp=Z,10.0nm,1.0s,mb4.8					
GYA				AMB	AMB	
	comp=Z,70nm,5.4s					
GYA				LR	LR	
	comp=N,240nm,18.9s,MS4.6					
GYA				LR	LR	
	comp=E,270nm,19.4s,MS4.6					
GYA				LR	LR	
	comp=Z,260nm,19.8s,MS4.5					
BJI	**Beijing**	**68.18**	**56**	P	**P**	**10 37 48.9 -1.3**
CN2	**Changchun**	**72.37**	**49**	*e*P	**P**	**10 38 18.7 +2.9**
CN2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.9					
KLR	**Kul'dur**	**73.12**	**41**	*e*P	**P**	**10 38 18.0 -2.2**
MDJ	**Mudanjiang**	**74.45**	**46**	P	**P**	**10 38 29.5 +1.5**
MDJ				AMB	AMB	
	comp=Z,10.0nm,2.2s,mb4.4					
KSRS	**Korea Array**	**77.38**	**53**	P	**P**	**10 38 46.3 +1.6**
	comp=Z,4.1nm,0.8s,mb4.4,baz=296,slow=5.5,SNR=6.8					
KSRS				LR	LR	11 19 56.2
	comp=Z,109nm,19.1s,MS4.2,baz=265,slow=41					
YKA	**Yellowknife Ar**	**78.25**	**343**	P	**P**	**10 38 49.5 -0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=32,slow=5.3,SNR=31					
YKA				LR	LR	11 16 48.3
	comp=Z,124nm,19.0s,MS4.3,baz=30,slow=38					
YKA	**Yellowknife Ar**	**78.25**	**343**	P	**P**	**10 38 49.5 -0.1**
YKA				pmax	pmax	
	comp=Z,2.0nm,0.5s					
YKA				MLR	MLR	
	comp=Z,125nm,19.0s					
YKA	**Yellowknife Ar**	**78.25**	**343**	P	**P**	**10 38 49.5 -0.1**
YKA				LR	LR	11 16 48.3
CNNC	**Cliffs of the**	**81.14**	**307**	*e*P	**P**	**10 39 07.2 +2.0**
CNNC				*e*PcP	PcP	10 39 13.0 +1.6
CNNC	**Cliffs of the**	**81.14**	**307**	*e*P	**P**	**10 39 07.2 +2.0**
CNNC	**Cliffs of the**	**81.14**	**307**	*e*PcP	PcP	10 39 13.0 +1.6
ULM	**Lac du Bonnet**	**81.42**	**327**	P	**P**	**10 39 06.9 +0.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=56,slow=8.0,SNR=6.1					
MJAR	**Matsushiro Arr**	**84.52**	**49**	P	**P**	**10 39 24.5 +1.8**
	comp=Z,3.5nm,1.1s,mb4.4,baz=301,slow=5.7,SNR=5.5					
MJAR				LR	LR	11 21 09.1
	comp=Z,94nm,18.4s,MS4.2,baz=80,slow=38					
MJAR	**Matsushiro Arr**	**84.52**	**49**	P	**P**	**10 39 24.5 +1.8**
MJAR				pmax	pmax	
	comp=Z,4.0nm,1.1s					
MJAR				MLR	MLR	
	comp=Z,94nm,18.5s					
KDAK	**Kodiak Island**	**87.80**	**360**	P	**P**	**10 39 38.0 -0.8**
	comp=Z,7.6nm,0.9s,mb4.9,baz=27,slow=2.3,SNR=2.6					
PDAR	**Pinedale Array**	**93.17**	**329**	P	**P**	**10 40 04.5 +0.6**
	comp=Z,0.3nm,0.6s,mb3.9,baz=77,slow=4.9,SNR=2.7					
PDAR				LR	LR	11 22 14.3
	comp=Z,104nm,18.4s,MS4.3,baz=213,slow=36					
WRA	**Warramunga Arr**	**115.13**	**98**	PKP	PKiKP	10 45 32.8 +2.1
	comp=Z,0.4nm,0.7s,baz=321,slow=1.5,SNR=3.9					
ASAR	**Alice Springs**	**116.58**	**101**	PKP	PKPdf	10 45 35.1 +1.7
	comp=Z,0.6nm,0.9s,baz=272,slow=1.3,SNR=5.8					
ASAR	**Alice Springs**	**116.58**	**101**	PKIKP	PKPdf	10 45 35.2 +1.7
ASAR				pmax	pmax	
	comp=Z,1.0nm,0.9s					

*NEIC **02** 10:40:26.2, 3731N×2193E, h22km, MD2.9(ATH), After ATH.*
*CSEM **02** 10:40:26.2, 3731N×2193E, h22km, MD2.9/3, After ATH*
ATH 02 10:40:26.2, 3731N×2193E, h22km, MD2.9/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.13**	**181**	*i*PB	Pb	10 40 30.8	+0.1
ITM				*e*SB	Sb	10 40 34.2	+0.4
RLS	**Riolos of Patr**	**0.83**	**334**	*e*PN	Pn	10 40 42.3	-0.3
VLI	**Veliai**	**1.00**	**126**	*e*PN	Pn	10 40 45.5	+0.6

*STR **02** 10:41:55.2±0.1, 4257N×200E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 10:41:55.5±0.1, 4257N×198E, h3km, Md1.6/1, Ml1.8/3, Error ellipse: s-maj=1.9km s-min=1.5km az=127.0*
MDD 02 10:41:55.8±0.4, 4256N×205E, h7km±4km, mbLg1.4/4, Error ellipse: s-maj=3.1km s-min=2.3km az=115.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLLI	**Llivia**	**0.10**	**213**	P	Pg	10 41 58.0	0.0
CLLI				S	Sg	10 41 59.7	+0.1
	17nm,0.1s						
CARF	**Carcanieres**	**0.16**	**15**	Pg	Pg	10 41 59.1	0.0
CARF				Sg	Sg	10 42 01.6	+0.3
CARF	**Carcanieres**	**0.16**	**15**	P	Pg	10 41 59.2	+0.1
CARF				S	Sg	10 42 01.7	+0.4
VALF	**Valcebollere**	**0.16**	**188**	Pg	Pg	10 41 59.1	0.0
VALF				Sg	Sg	10 42 01.7	+0.3
VALF	**Valcebollere**	**0.16**	**188**	P	Pg	10 41 59.2	0.0
VALF				S	Sg	10 42 01.6	+0.3
GRBF	**Gourbit**	**0.47**	**307**	S	Sg	10 42 10.6	-0.4
EJON	**La Jonquera**	**0.63**	**100**	Pg	Pg	10 42 06.8	-1.1
	2.1nm,0.2s,SNR=4.0						
EJON				Lg		10 42 15.2	
	0.7nm,0.1s,SNR=7.9						
CORG	**Organya**	**0.64**	**239**	P	Pg	10 42 07.7	-0.3
CORG				S	Sg	10 42 16.3	0.0
SALF	**Salau**	**0.66**	**288**	Pg	Pg	10 42 07.4	-1.1
SALF				Sg	Sg	10 42 15.7	-1.5
SALF	**Salau**	**0.66**	**288**	P	Pg	10 42 07.5	-1.0
SALF				S	Sg	10 42 15.8	-1.3
MTLF	**Montolieu**	**0.79**	**9**	*e*Pg	Pg	10 42 10.6	-0.3
MTLF				*e*Sg	Sg	10 42 21.4	+0.2
	2.0nm,0.1s						
MTLF	**Montolieu**	**0.79**	**9**	Pg	Pg	10 42 10.6	-0.3
MTLF				Lg		10 42 21.4	
	1.0nm,0.1s						
CFON	**Fontmartina**	**0.85**	**160**	P	Pg	10 42 11.9	-0.2
CAVN	**Les Avellanes**	**1.18**	**235**	P	Pg	10 42 17.8	-0.6
CAVN				S	Sg	10 42 32.9	-0.8
	1.8nm,0.1s						
EPF	**Esparros**	**1.34**	**291**	*e*Sg	Sg	10 42 35.3	-3.6
	1.7nm,0.3s						
EPOB	**Poblet**	**1.41**	**211**	Pg	Pg	10 42 21.8	-1.0
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		10 42 40.1	
	3.5nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.41**	**276**	Pg	Pg	10 42 21.9	-1.0
	0.0nm,0.1s,SNR=7.9						
EBIE				Lg		10 42 41.4	
	0.2nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.95**	**281**	*e*Pn	Pn	10 42 27.1	-2.1
ETSF				*e*Sg	Sg	10 42 54.8	-3.6
	1.2nm,0.2s						
LASF	**Ste Croix**	**2.01**	**40**	*e*Pn	Pn	10 42 29.0	-1.0
LASF				*e*Sg	Sg	10 42 59.5	-0.8
	0.9nm,0.2s						
LASF	**Ste Croix**	**2.01**	**40**	Pn	Pn	10 42 29.0	-1.0
LASF				Lg		10 42 59.5	
	0.4nm,0.2s						

*MOS **02** 10:50:03.5±1.7, 5567N×110.10E, h7km, mb4.3/1, Error ellipse: s-maj=20.7km s-min=12.5km az=63.2*
BYKL 02 10:50:03.0±0.3, 5568N×11014E, h4km±6km, 4C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**286**	*e*PG	Pg	10 50 10.3	+0.5
NIZ				*e*		10 50 14.5	
NIZ				pmax	pmax		
	comp=Z,422nm,0.3s						
NIZ				smax			
	comp=E,1μm,0.3s						
NIZ	**Nizh Angarsk**	**0.35**	**286⇑**	*i*Pg	Pg	10 50 10.4	+0.6
NIZ				*e*Sg	Sg	10 50 14.9	+0.5
NIZ				*e*		10 50 16.8	
NIZ				Pmax			
	comp=E,123nm,0.2s						
NIZ				max			
	comp=E,2μm,0.3s						
KMO	**Kumora**	**0.63**	**70**	*e*PG	Pg	10 50 14.4	-0.8
KMO				*e*		10 50 22.6	
KMO				pmax	pmax		
	comp=Z,292nm,0.3s						
KMO				smax			
	comp=E,726nm,0.7s						
KMO	**Kumora**	**0.63**	**70⇑**	*i*Pg	Pg	10 50 14.4	-0.8
KMO				*e*Sg	Sg	10 50 22.6	-0.8
KMO				Pmax			
	comp=E,291nm,0.3s						
KMO				Smax			
	comp=E,844nm,1.2s						
YLYR	**Ulyunkhan**	**0.99**	**144**	*e*PG	Pg	10 50 21.0	-1.1
YLYR				*e*		10 50 34.3	
YLYR				pmax	pmax		
	comp=Z,154nm,0.2s						
YLYR				smax			
	comp=N,394nm,0.1s						
YLYR	**Ulyunkhan**	**0.99**	**144⇑**	*i*Pg	Pg	10 50 21.0	-1.1
YLYR				*e*Pb	Pb	10 50 21.8	-1.0
YLYR				*e*Sg	Sg	10 50 34.1	-0.9
YLYR				max			
	comp=N,148nm,0.2s						
YLYR				Smax			
	comp=N,502nm,0.3s						
YOA	**Uoyan**	**1.00**	**62⇓**	*i*PG	Pg	10 50 21.3	-0.9
YOA				*e*		10 50 35.6	
YOA				pmax	pmax		
	comp=Z,128nm,0.2s						
YOA				smax			
	comp=E,998nm,0.3s						
YOA	**Uoyan**	**1.00**	**62**	*e*Pg	Pg	10 50 21.0	-1.2
YOA				*e*Sg	Sg	10 50 35.6	+0.4
YOA				Pmax			
	comp=E,115nm,0.4s						
YOA				Smax			
	comp=E,989nm,0.3s						
SVKR	**Severomuysk**	**1.98**	**76**	*e*PN	Pn	10 50 38.9	+1.7
SVKR				*e*		10 50 39.4	
SVKR				*e*		10 51 05.5	
SVKR				pmax	pmax		
	comp=Z,177nm,0.6s						
SVKR				smax			
	comp=N,947nm,0.7s						
SVKR	**Severomuysk**	**1.98**	**76**	*e*Pn	Pn	10 50 36.2	-1.0
SVKR				*e*Pg	Pg	10 50 38.0	-2.9
SVKR				*e*Sg	Sg	10 51 05.8	-0.6
SVKR				Pmax			
	comp=N,190nm,0.5s						
SVKR				Smax			
	comp=N,964nm,0.6s						
SYVR	**Suvo**	**2.03**	**182**	*e*PN	Pn	10 50 39.4	+1.5
SYVR				*e*		10 51 07.0	
SYVR				pmax	pmax		
	comp=Z,45nm,0.5s						
SYVR				smax			
	comp=E,494nm,0.7s						
SYVR	**Suvo**	**2.03**	**182⇑**	*i*Pg	Pg	10 50 39.5	-2.4
SYVR				*e*		10 50 43.6	
SYVR				*e*Sg	Sg	10 51 07.1	-1.1
SYVR				*e*		10 51 08.6	
SYVR				max			
	comp=E,46nm,0.5s						
SYVR				max			
	comp=E,567nm,0.7s						
OGRR	**Ongureny**	**2.52**	**217**	*e*Pn	Pn	10 50 45.2	+0.5
OGRR				*e*Pg	Pg	10 50 46.1	-5.2
OGRR				*e*		10 50 49.8	
OGRR				*e*Sg	Sg	10 51 19.5	-4.5
OGRR				max			
	comp=E,17nm,0.2s						
OGRR				Smax			
	comp=E,130nm,0.5s						
MXMB	**Maximikha**	**2.56**	**199**	*e*Pg	Pg	10 50 49.5	-2.5
MXMB				*e*Sg	Sg	10 51 23.6	-1.5
MXMB				Pmax			
	comp=E,32nm,0.7s						
MXMB				Smax			
	comp=E,257nm,0.6s						
BOD	**Bodaibo**	**3.02**	**43**	*e*Pn	Pn	10 50 52.4	+0.8
BOD				*e*Pg	Pg	10 50 55.8	-5.1
BOD				*e*Sn	Sn	10 51 28.2	0.0
BOD				*e*Sg	Sg	10 51 36.1	-3.9
BOD				Pmax			
	comp=E,12nm,0.3s						
BOD				Smax			
	comp=E,98nm,0.7s						
NLYR	**Nelyaty**	**3.22**	**73**	*e*Pn	Pn	10 50 54.7	+0.4
NLYR				*e*Pg	Pg	10 51 00.4	-4.3
NLYR				*e*		10 51 04.1	
NLYR				*e*Sn	Sn	10 51 33.4	+0.2
NLYR				*e*Sg	Sg	10 51 42.9	-3.6
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	Pn	10 51 01.2	+0.6
TRG				*e*Sn	Sn	10 51 45.0	+0.6
TRG				*e*Sg	Sg	10 51 56.4	-4.7
TRG				max			
	comp=E,26nm,0.5s						
TRG				Smax			
	comp=E,72nm,0.6s						
TRTB	**Turuntaevo**	**3.76**	**204**	*e*Pn	Pn	10 51 01.9	+0.1
TRTB				*e*		10 51 06.3	
TRTB				*e*Sg	Sg	10 52 00.2	-3.6
TRTB				max			
	comp=E,4.0nm,0.0s						
TRTB				Smax			
	comp=E,49nm,0.7s						
FFNB	**Fofonovo**	**4.15**	**210**	*e*Sn	Sn	10 51 51.4	-4.7
FFNB				*e*Sg	Sg	10 52 10.9	-5.5
FFNB				Smax			
	comp=E,151nm,0.7s						
CIT	**Chita**	**4.19**	**150**	*e*Pg	Pg	10 51 17.3	-5.9
CIT				*e*Sg	Sg	10 52 11.2	-6.2
CIT				Pmax			
	comp=E,14nm,0.6s						
CIT				Smax			
	comp=E,62nm,0.9s						
CRS	**Chara**	**4.69**	**72**	*e*Pg	Pg	10 51 27.2	-5.7
CRS				*e*Sg	Sg	10 52 28.1	-5.6
CRS				Pmax			
	comp=E,50nm,0.9s						
CRS				Smax			
	comp=E,76nm,1.4s						
IRK	**Irkutsk**	**4.88**	**228**	*e*PN	Pn	10 51 31.0	+14
IRK				*e*		10 52 33.4	
IRK				pmax	pmax		
	comp=Z,134nm,0.1s						
IRK				smax			
	comp=N,368nm,0.3s						
LSTR	**Listvyanka**	**4.95**	**222**	*e*Sn	Sn	10 52 16.1	+0.3
LSTR				*e*Sg	Sg	10 52 36.5	-5.4
LSTR				Smax			
	comp=N,43nm,0.7s						
TLY	**Talaya**	**5.56**	**227**	*e*PN	Pn	10 51 25.8	-0.7
TLY				*e*		10 51 42.3	
TLY				*e*S	Sn	10 52 28.5	-2.4
TLY				*e*		10 52 53.8	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TLY				smax			
	comp=E,48nm,0.9s						
TLY	**Talaya**	**5.56**	**227**	*e*Sn	Sn	10 52 28.0	-2.9
TLY				*e*Sg	Sg	10 52 53.8	-7.8
TLY				Smax			
	comp=E,48nm,0.7s						
TUP	**Tupik**	**5.78**	**99**	*e*Pg	Pg	10 51 46.5	-7.2
TUP				*e*Sg	Sg	10 53 02.2	-6.4
TUP				Pmax			
	comp=E,7.0nm,0.7s						
TUP				Smax			
	comp=E,66nm,1.8s						
ARS	**Arshan**	**5.92**	**234**	*e*Pn	Pn	10 51 31.6	+0.1
ARS				*e*Sn	Sn	10 52 37.2	-2.6
ARS				*e*Sg	Sg	10 53 06.9	-6.3
ARS				max			
	comp=E,12nm,0.5s						
ARS				Smax			
	comp=E,174nm,0.7s						
KPC	**Khapcheranga**	**6.14**	**166**	*e*Sg	Sg	10 53 13.5	-6.6
KPC				Smax			
	comp=E,46nm,1.1s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN	Pn	10 51 44.0	+1.5
ZAK				*e*		10 52 05.6	
ZAK				*e*S	Sn	10 53 01.8	+2.2
ZAK				*e*		10 53 32.8	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAK				pmax	pmax		
	comp=N,47nm,1.5s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*Sg	Sg	10 53 32.8	-6.2
ZAK				Smax			
	comp=N,48nm,2.4s						
MOY	**Mondy**	**6.76**	**237**	*e*PN	Pn	10 51 44.8	+1.9
MOY				*e*		10 52 04.7	
MOY				*e*S	Sn	10 52 59.4	-0.9
MOY				*e*		10 53 30.8	
MOY				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MOY				smax			
	comp=E,58nm,0.8s						
MOY	**Mondy**	**6.76**	**237**	*i*Pn	Pn	10 51 44.9	+2.0
MOY				*e*Sn	Sn	10 52 59.0	-1.3
MOY				*e*Sg	Sg	10 53 30.8	-9.2
MOY				Smax			
	comp=E,63nm,1.3s						

*MOS **02** 10:50:34.3±2.0, 5567N×110.13E, h13km, mb4.4/1, Error ellipse: s-maj=28.4km s-min=13.7km az=55.9*
BYKL 02 10:50:34.4±0.4, 5568N×11013E, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**286**	*e*PG	Pg	10 50 41.6	+0.6
NIZ				*e*		10 50 47.3	
NIZ				pmax	pmax		
	comp=Z,725nm,0.3s						
NIZ				smax			
	comp=N,3μm,0.3s						
NIZ	**Nizh Angarsk**	**0.35**	**286**	*e*Pg	Pg	10 50 41.7	+0.7
NIZ				*e*Sg	Sg	10 50 46.1	+0.6
NIZ				*e*		10 50 47.4	
NIZ				Pmax			
	comp=N,301nm,0.3s						
NIZ				max			
	comp=N,3μm,0.3s						
KMO	**Kumora**	**0.64**	**71**	*e*PG	Pg	10 50 45.6	-1.1
KMO				*e*		10 50 53.2	
KMO				pmax	pmax		
	comp=Z,540nm,0.2s						
KMO				smax			
	comp=E,813nm,0.7s						
KMO	**Kumora**	**0.64**	**71**	*e*Pg	Pg	10 50 45.5	-1.2
KMO				*e*Sg	Sg	10 50 53.8	-1.1
KMO				Pmax			
	comp=E,541nm,0.3s						
KMO				Smax			
	comp=E,1μm,1.2s						
YLYR	**Ulyunkhan**	**1.00**	**143**	*e*Pg	Pg	10 50 53.0	-0.5
YLYR				*e*Sg	Sg	10 51 05.3	-1.2
YLYR				Pmax			
	comp=E,207nm,0.2s						

YLYR				Smax				
	comp=E,594nm,0.2s							
YOA	**Uoyan**	**1.01**	**63**	*e*PG	Pg	10 50 52.6	-1.1	
YOA				*e*		10 51 06.9		
YOA				pmax	pmax			
	comp=Z,377nm,0.2s							
YOA				smax				
	comp=N,1μm,0.3s							
YOA	**Uoyan**	**1.01**	**63**	*e*Sg	Sg	10 51 07.1	+0.4	
YOA				Smax				
	comp=N,1μm,0.4s							
SVKR	**Severomuysk**	**1.98**	**76**	*e*Sg	Sg	10 51 37.0	-1.0	
SVKR				Smax				
	comp=N,1μm,0.5s							
SYVR	**Suvo**	**2.03**	**182**	*e*Sg	Sg	10 51 38.6	-1.0	
SYVR				*e*		10 51 39.9		
SYVR				max				
	comp=N,730nm,0.7s							
OGRR	**Ongureny**	**2.52**	**217**	*e*Sg	Sg	10 51 51.1	-4.2	
OGRR				Smax				
	comp=N,180nm,0.4s							
MXMB	**Maximikha**	**2.55**	**199**	*e*Sg	Sg	10 51 53.3	-3.2	
MXMB				Smax				
	comp=N,316nm,0.6s							
BOD	**Bodaibo**	**3.02**	**43**	*e*Sn	Sn	10 52 00.4	0.0	
BOD				*e*Sg	Sg	10 52 07.1	-4.5	
BOD				Smax				
	comp=N,106nm,0.3s							
NLYR	**Nelyaty**	**3.23**	**73**	*e*Sg	Sg	10 52 13.3	-4.8	
TRG	**Tyrgan**	**3.67**	**219**	*e*Pn	Pn	10 51 33.4	+1.0	
TRG				*e*Sn	Sn	10 52 17.9	+1.5	
TRG				*e*Sg	Sg	10 52 28.1	-4.3	
TRG				Smax				
	comp=N,96nm,0.4s							
TRTB	**Turuntaevo**	**3.76**	**204**	*e*Sg	Sg	10 52 31.6	-3.6	
TRTB				Smax				
	comp=N,61nm,0.8s							
FFNB	**Fofonovo**	**4.15**	**210**	*e*Sg	Sg	10 52 44.1	-3.6	
FFNB				Smax				
	comp=N,153nm,0.4s							
CIT	**Chita**	**4.19**	**150**	*e*Sg	Sg	10 52 42.5	-6.5	
CIT				Smax				
	comp=N,85nm,0.8s							
CRS	**Chara**	**4.70**	**72**	*e*Pg	Pg	10 51 58.8	-5.6	
CRS				*e*Sg	Sg	10 53 00.2	-5.1	
CRS				Pmax				
	comp=N,34nm,0.7s							
CRS				Smax				
	comp=N,72nm,1.1s							
IRK	**Irkutsk**	**4.88**	**228**	*e*Sg	Sg	10 53 05.5	-5.7	
IRK				Smax				
	comp=N,215nm,0.3s							
LSTR	**Listvyanka**	**4.95**	**222**	*e*Sg	Sg	10 53 06.1	-7.2	
LSTR				Smax				
	comp=N,52nm,0.6s							
TLY	**Talaya**	**5.56**	**227**	*e*PN	Pn	10 51 56.7	-1.6	
TLY				*e*		10 52 13.1		
TLY				*e*		10 53 24.6		
TLY				pmax	pmax			
	comp=Z,6.0nm,0.4s							
TLY				smax				
	comp=E,41nm,0.8s							
TLY	**Talaya**	**5.56**	**227**	*e*Sg	Sg	10 53 24.6	-8.4	
TLY				Smax				
	comp=E,41nm,0.8s							
TUP	**Tupik**	**5.79**	**98**	*e*Sg	Sg	10 53 33.3	-7.0	
TUP				Smax				
	comp=E,48nm,1.0s							
ARS	**Arshan**	**5.92**	**234**	*e*Pn	Pn	10 52 03.0	-0.3	
ARS				*e*Sg	Sg	10 53 36.6	-7.9	
ARS				Smax				
	comp=E,173nm,0.7s							
KPC	**Khapcheranga**	**6.14**	**166**	*e*Sg	Sg	10 53 44.5	-7.1	
KPC				Smax				
	comp=E,55nm,1.0s							
ZAK	**Zakamensk**	**6.72**	**221**	*e*PN	Pn	10 52 12.9	-1.4	
ZAK				*e*		10 52 35.2		
ZAK				*e*S	Sn	10 54 03.4	+32	
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ZAK				smax				
	comp=N,36nm,1.4s							
ZAK	**Zakamensk**	**6.72**	**221**	*e*Sg	Sg	10 54 03.8	-6.5	
ZAK				Smax				
	comp=N,42nm,1.4s							
MOY	**Mondy**	**6.75**	**237**	*e*PN	Pn	10 52 16.1	+1.3	
MOY				*e*		10 52 36.8		
MOY				*e*		10 54 02.6		
MOY				pmax	pmax			
	comp=Z,3.0nm,0.2s							
MOY				smax				
	comp=E,59nm,0.8s							
MOY	**Mondy**	**6.75**	**237**	*e*Pn	Pn	10 52 15.6	+0.8	
MOY				*e*Sg	Sg	10 54 01.5	-10	
MOY				max				
	comp=E,13nm,0.8s							
MOY				Smax				
	comp=E,60nm,1.5s							
TDJR	**Todzha**	**8.88**	**254**	*e*Sg	Sg	10 55 08.9	-11	

*CSEM **02** 10:53:27.2±0.1, 4565N×2664E, h138km±1km, MD3.5/2, Error ellipse: s-maj=1.9km s-min=0.8km az=50.0, After BUC*
*NEIC **02** 10:53:27.8, 4561N×2666E, h133km, MD2.7(BUC), After BUC.*
BUC 02 10:53:27.2±0.1, 4565N×2664E, h138km±1km, MD3.5/2, 4C-4D, Error ellipse: s-maj=1.9km s-min=0.8km az=50.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.23**	**16**	⇓*P*	Pn	10 53 46.2	+0.2
VRI				S	Sn	10 54 00.6	+0.3
VRI	**Vrincioaia**	**0.23**	**16**	⇓*iP*	Pn	10 53 46.2	+0.2
VRI				*i*S	Sn	10 54 00.3	0.0
MLR	**Muntele Rosu**	**0.51**	**252**	⇑*P*	Pn	10 53 47.4	+0.3
MLR				S	Sn	10 54 02.7	+0.3
MLR	**Muntele Rosu**	**0.51**	**252**	⇑*iP*	Pn	10 53 47.4	+0.2
MLR				*i*S	Sn	10 54 02.7	+0.3
TIRR	**Tirgusor**	**1.73**	**133**	⇓*P*	Pn	10 53 58.9	+0.5
TIRR				S	Sn	10 54 21.3	-1.0
TIRR	**Tirgusor**	**1.73**	**133**	⇓*iP*	Pn	10 53 58.9	+0.5
TIRR				*i*S	Sn	10 54 21.3	-1.0
BURAR	**Bucovina Array**	**2.20**	**334**	⇑*P*	Pn	10 54 05.1	+1.2
BURAR	**Bucovina Array**	**2.20**	**334**	⇑*iP*	Pn	10 54 04.7	+0.7

*CSEM **02** 10:53:55.8±0.1, 4156N×274E, h2km, ML2.9/16, Error ellipse: s-maj=2.1km s-min=1.6km az=144.0*
*NEIC **02** 10:53:56.0, 4147N×272E, h3km, ML3.0(STR), MN2.8(MDD), After MDD.*
NEIC Felt [II] in the epicentral area.
*LDG **02** 10:53:56.9±0.2, 4159N×264E, h5km, Md2.8/1, Ml3.0/20, Error ellipse: s-maj=3.9km s-min=2.8km az=136.0*
*STR **02** 10:54:00.0±0.8, 4169N×249E, h5km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 02 10:53:57.0±0.6, 4155N×268E, h5km±4km, mbLg2.7/16, Error ellipse: s-maj=4.4km s-min=2.9km az=127.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.28**	**320**	P	Pg	10 54 02.0	-0.4
CFON				S	Sg	10 54 05.5	-0.6
	625nm,0.2s						
CBRU	**Bruguera**	**0.82**	**333**	P	Pg	10 54 12.4	-0.4
CBRU				S	Sg	10 54 22.9	-0.6
	33nm,0.3s						
EJON	**La Jonquera**	**0.91**	**10**	Pg	Pg	10 54 14.4	-0.1
	8.7nm,0.3s,SNR=43						
EJON				Lg		10 54 26.6	
	97nm,0.2s,SNR=4.6						
EJON	**La Jonquera**	**0.91**	**10**	Pg	Pg	10 54 14.4	-0.1
	8.7nm,0.3s,SNR=43						
EMIR	**Miracle**	**0.94**	**293**	Pg	Pg	10 54 14.0	-0.9
	31nm,0.3s,SNR=82						
EMIR				Lg		10 54 26.1	
	175nm,0.1s,SNR=7.5						
EMIR	**Miracle**	**0.94**	**293**	Pg	Pg	10 54 14.0	-0.9
	31nm,0.3s,SNR=82						
SJAF	**Saint Jean de**	**0.95**	**9**	Pg	Pg	10 54 15.1	-0.1
SJAF				Sg	Sg	10 54 27.2	-0.3
VALF	**Valcebollere**	**0.98**	**330**	Pg	Pg	10 54 14.7	-1.2
VALF				Sg	Sg	10 54 27.8	-0.8
FILF	**Fillols**	**1.01**	**355**	Pg	Pg	10 54 16.0	-0.5
FILF				Sg	Sg	10 54 29.2	-0.4
CLLI	**Llivia**	**1.07**	**331**	P	Pg	10 54 16.3	-1.2
CLLI				S	Sg	10 54 30.3	-1.0
CGAR	**Garraf**	**1.19**	**258**	P	Pg	10 54 08.8	-11
CGAR				S	Sg	10 54 16.9	-18
	31nm,0.1s						
EPOB	**Poblet**	**1.22**	**261**	Pg	Pg	10 54 18.2	-2.1
	11nm,0.3s,SNR=4.0						
EPOB				Lg		10 54 34.8	
	59nm,0.1s,SNR=29						
EPOB	**Poblet**	**1.22**	**261**	Pg	Pg	10 54 18.2	-2.1
	11nm,0.3s,SNR=4.0						
CORG	**Organya**	**1.22**	**304**	P	Pg	10 54 19.1	-1.3
CORG				S	Sg	10 54 34.9	-1.4
	26nm,0.1s						
CARF	**Carcanieres**	**1.24**	**340**	Pg	Pg	10 54 19.6	-1.2
CARF				Sg	Sg	10 54 35.8	-1.1
CSOR	**Sort**	**1.42**	**306**	P	Pn	10 54 22.8	-0.6
CSOR				S	Sb	10 54 40.7	-1.6
	64nm,0.2s						
CAVN	**Les Avellanes**	**1.48**	**284**	P	Pn	10 54 23.6	-0.7
CAVN				S	Sn	10 54 42.5	-1.5
	120nm,0.4s						
SALF	**Salau**	**1.64**	**318**	Pg	Pg	10 54 26.7	-1.7
SALF				Sg	Sg	10 54 46.5	-3.2
SALF	**Salau**	**1.64**	**318**	Pn	Pn	10 54 25.7	-0.8
SALF				Pg	Pg	10 54 26.7	-1.7
SALF				Sg	Sg	10 54 46.5	-3.2
SALF	**Salau**	**1.64**	**318**	Pg	Pg	10 54 26.7	-1.7
SALF				Sg	Sg	10 54 46.5	-3.2
ETOS	**Mallorca**	**1.78**	**177**	Pn	Pn	10 54 26.3	-2.1
	1.8nm,0.3s,SNR=11						
ETOS				Sn	Sn	10 54 46.6	-4.9
	9.1nm,0.2s,SNR=12						
ETOS	**Mallorca**	**1.78**	**177**	Pg	Pg	10 54 26.3	-4.8
	1.8nm,0.3s,SNR=11						
MTLF	**Montolieu**	**1.82**	**349**	*e*Pg	Pg	10 54 29.9	-2.1
MTLF				*e*Sg	Sg	10 54 52.6	-3.0
	24nm,0.2s						
MTLF	**Montolieu**	**1.82**	**349**	*e*Pn	Pn	10 54 27.9	-1.1
MTLF				*e*Pg	Pg	10 54 29.9	-2.1
MTLF				*e*Sg	Sg	10 54 52.6	-3.0
MTLF	**Montolieu**	**1.82**	**349**	Pn	Pn	10 54 27.9	-1.1
MTLF				Pg	Pg	10 54 29.9	-2.1
MTLF	**Montolieu**	**1.82**	**349**	*e*Pg	Pg	10 54 29.9	-2.1
MTLF				*e*Sg	Sg	10 54 52.6	-3.0
	12nm,0.2s						
MLS	**Moulis**	**1.83**	**321**	Pn	Pn	10 54 29.4	+0.2
MLS				Sg	Sg	10 54 52.0	-3.9
ERTA	**Horta de San J**	**1.86**	**252**	Pn	Pn	10 54 27.4	-2.1
ERTA				Pg	Pg	10 54 32.0	-0.7
ERTA				Lg		10 54 56.0	
ERTA	**Horta de San J**	**1.86**	**252**	Pn	Pn	10 54 27.4	-2.1
	SNR=7.9						
ERTA				Pg	Pg	10 54 32.0	-0.7
	4.3nm,0.3s,SNR=19						
ERTA				Lg		10 54 56.0	
	4.7nm,0.1s,SNR=7.1						
ERTA	**Horta de San J**	**1.86**	**252**	Pn	Pn	10 54 27.4	-2.2
	SNR=7.9						
ERTA	**Horta de San J**	**1.86**	**252**	Pg	Pg	10 54 32.0	-0.7
	4.3nm,0.3s,SNR=19						
MELF	**Melles**	**1.94**	**314**	Pn	Pn	10 54 30.5	-0.2
MELF				Sg	Sg	10 54 56.6	-2.9
EBIE	**Bielsa**	**2.20**	**302**	Pn	Pn	10 54 32.9	-1.4
EBIE				Pg	Pg	10 54 36.9	-2.3
EBIE				Lg		10 55 04.5	
EBIE	**Bielsa**	**2.20**	**302**	Pn	Pn	10 54 32.9	-1.4
	SNR=7.9						
EBIE				Pg	Pg	10 54 36.9	-2.3
	3.0nm,0.3s,SNR=22						
EBIE				Lg		10 55 04.4	
	12nm,0.1s,SNR=21						
EBIE	**Bielsa**	**2.20**	**302**	Pn	Pn	10 54 32.9	-1.3
	SNR=7.9						
EBIE	**Bielsa**	**2.20**	**302**	Pg	Pg	10 54 36.9	-2.3
	3.0nm,0.3s,SNR=22						
EPF	**Esparros**	**2.28**	**311**	*e*Pg	Pg	10 54 37.9	-2.8
EPF				*e*Sg	Sg	10 55 06.1	-4.2
	33nm,0.2s						
EPF	**Esparros**	**2.28**	**311**	*e*Pn	Pn	10 54 35.1	-0.2
EPF				*e*Pg	Pg	10 54 37.9	-2.8
EPF				*e*Sg	Sg	10 55 06.1	-4.2
EPF	**Esparros**	**2.28**	**311**	Pn	Pn	10 54 35.1	-0.2
EPF				Pg	Pg	10 54 37.9	-2.8
EPF	**Esparros**	**2.28**	**311**	*e*Pg	Pg	10 54 37.9	-2.8
EPF				*e*Sg	Sg	10 55 06.1	-4.2
	16nm,0.2s						
ESAC	**San Caprasio**	**2.36**	**275**	Pn	Pn	10 54 35.9	-0.5
	SNR=7.9						
ESAC				Pg	Pg	10 54 40.4	-1.9
	32nm,0.3s,SNR=14						
ESAC				Lg		10 55 11.1	
	161nm,0.3s,SNR=9.8						
ESAC	**San Caprasio**	**2.36**	**275**	Pn	Pn	10 54 35.9	-0.6
	SNR=7.9						
ESAC	**San Caprasio**	**2.36**	**275**	Pg	Pg	10 54 40.4	-1.9
	32nm,0.3s,SNR=14						
EMOS	**Mosqueruela**	**2.66**	**245**	Pn	Pn	10 54 39.3	-1.3
	SNR=7.9						
EMOS				Pg	Pg	10 54 46.6	-1.4
	3.9nm,0.4s,SNR=14						
EMOS				Lg		10 55 23.9	
	4.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.66**	**245**	Pn	Pn	10 54 39.3	-1.3
	SNR=7.9						
EMOS	**Mosqueruela**	**2.66**	**245**	Pg	Pg	10 54 46.6	-1.4
	3.9nm,0.4s,SNR=14						
LASF	**Ste Croix**	**2.67**	**19**	*e*Pg	Pg	10 54 45.8	-2.4
LASF				*e*Sg	Sg	10 55 18.8	-4.0
	7.0nm,0.2s						
LASF	**Ste Croix**	**2.67**	**19**	*e*Pg	Pg	10 54 45.8	-2.4
LASF				*e*Sg	Sg	10 55 18.8	-4.0
	3.5nm,0.2s						
EIBI	**Ibiza**	**2.72**	**202**	Pn	Pn	10 54 38.0	-3.3
	1.8nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	10 55 08.6	-5.9
	7.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.72**	**202**	Pn	Pn	10 54 38.0	-3.3
	1.8nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.76**	**300**	*e*Pg	Pg	10 54 48.0	-1.8
ETSF				*e*Sg	Sg	10 55 20.0	-5.5
	21nm,0.3s						
ETSF	**Etsaut**	**2.76**	**300**	*e*Pn	Pn	10 54 41.1	-0.8
ETSF				*e*Pg	Pg	10 54 48.0	-1.8
ETSF				*e*Sg	Sg	10 55 20.0	-5.5
ETSF	**Etsaut**	**2.76**	**300**	Pn	Pn	10 54 41.1	-0.8
ETSF				Pg	Pg	10 54 48.0	-1.8
ETSF	**Etsaut**	**2.76**	**300**	*e*Pg	Pg	10 54 48.0	-1.8
SMRF	**Simiane la Rot**	**3.23**	**40**	*e*Pg	Pg	10 54 59.0	+0.1
SMRF				*e*Sg	Sg	10 55 38.0	-2.8
	8.9nm,0.4s						
SMRF	**Simiane la Rot**	**3.23**	**40**	*e*Pn	Pn	10 54 47.5	-0.9
SMRF				*e*Pg	Pg	10 54 59.0	+0.1
SMRF				*e*Sg	Sg	10 55 38.0	-2.8
SMRF	**Simiane la Rot**	**3.23**	**40**	Pn	Pn	10 54 47.5	-0.9
SMRF				Lg		10 55 38.0	
	8.9nm,0.4s						
SMRF	**Simiane la Rot**	**3.23**	**40**	*e*Pg	Pg	10 54 59.0	+0.1
SMRF				*e*Sg	Sg	10 55 38.0	-2.8
	4.4nm,0.4s						
SJPF	**Ste Jean**	**3.29**	**300**	*e*Pg	Pg	10 54 58.2	-1.8
SJPF				*e*Sg	Sg	10 55 37.1	-5.5
	18nm,0.3s						
SJPF	**Ste Jean**	**3.29**	**300**	*e*Pn	Pn	10 54 47.6	-1.6
SJPF				*e*Pg	Pg	10 54 58.2	-1.8
SJPF				*e*Sg	Sg	10 55 37.1	-5.5
SJPF	**Ste Jean**	**3.29**	**300**	Pn	Pn	10 54 47.6	-1.6
SJPF				Pg	Pg	10 54 58.2	-1.8
LMR	**La Mourre**	**3.35**	**57**	*e*Pn	Pn	10 54 48.5	-1.5
LMR				*e*Sn	Sn	10 55 26.6	-3.6
	5.7nm,0.3s						
LMR	**La Mourre**	**3.35**	**57**	*e*Pn	Pn	10 54 48.5	-1.5
LMR				*e*Sn	Sn	10 55 26.6	-3.6
	2.8nm,0.3s						
CAF	**Calviac**	**3.41**	**353**	*e*Pg	Pg	10 54 59.0	-3.3
CAF				*e*Sg	Sg	10 55 41.6	-4.8
	11nm,0.3s						
CAF	**Calviac**	**3.41**	**353**	*e*Pn	Pn	10 54 50.4	-0.4
CAF				*e*Pg	Pg	10 54 59.0	-3.3
CAF				*e*Sg	Sg	10 55 41.6	-4.8
CAF	**Calviac**	**3.41**	**353**	Pn	Pn	10 54 50.4	-0.4
CAF				Pg	Pg	10 54 59.0	-3.3
CAF	**Calviac**	**3.41**	**353**	*e*Pg	Pg	10 54 59.0	-3.3
CAF				*e*Sg	Sg	10 55 41.6	-4.8
	5.5nm,0.3s						
IUSE	**Utxeti**	**3.43**	**295**	Lg		10 55 44.6	
	4.6nm,0.4s,SNR=7.9						
ELIZ	**Elizondo**	**3.51**	**299**	Pn	Pn	10 54 51.7	-0.5
	1.9nm,0.3s,SNR=7.9						
ELIZ				Lg		10 55 51.1	
	8.3nm,0.3s,SNR=7.9						
FRF	**La Foret Royal**	**3.56**	**54**	*e*Pn	Pn	10 54 51.2	-1.7
FRF				*e*Sn	Sn	10 55 31.0	-4.3
	3.0nm,0.3s						
FRF	**La Foret Royal**	**3.56**	**54**	*e*Pn	Pn	10 54 51.2	-1.7
FRF				*e*Sn	Sn	10 55 31.0	-4.3
	1.5nm,0.3s						
VIVF	**Saint-Julien-l**	**3.61**	**23**	*e*Pn	Pn	10 54 52.2	-1.5
VIVF				*e*Sg	Sg	10 55 48.7	-4.4
	5.2nm,0.3s						
VIVF	**Saint-Julien-l**	**3.61**	**23**	*e*Pn	Pn	10 54 52.2	-1.5
VIVF				*e*Sg	Sg	10 55 48.7	-4.4
	2.6nm,0.3s						
ETOR	**Torete**	**3.64**	**260**	Pg	Pg	10 55 03.0	-3.9
	11nm,0.3s,SNR=4.0						
ETOR				Lg		10 55 53.8	
	12nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**3.67**	**338**	*e*Sg	Sg	10 55 50.0	-5.0
	16nm,0.3s						
LFF	**La Frestale**	**3.67**	**338**	*e*Sg	Sg	10 55 50.0	-5.0
	8.2nm,0.3s						
RJF	**Les Rejaudoux**	**3.85**	**348**	*e*Pn	Pn	10 54 54.7	-2.2
RJF				*e*Sg	Sg	10 55 55.9	-4.7
	6.9nm,0.3s						
RJF	**Les Rejaudoux**	**3.85**	**348**	*e*Pn	Pn	10 54 54.7	-2.2
RJF				*e*Sg	Sg	10 55 55.9	-4.7
	3.5nm,0.3s						
TCF	**Toulx Ste Croi**	**4.75**	**356**	*e*Pg	Pg	10 55 24.0	-4.0
TCF				*e*Sg	Sg	10 56 23.7	-5.9
	5.2nm,0.4s						
TCF	**Toulx Ste Croi**	**4.75**	**356**	*e*Pg	Pg	10 55 24.0	-4.0
TCF				*e*Sg	Sg	10 56 23.7	-5.9
	2.6nm,0.4s						
PGF	**Pioggiola**	**4.81**	**76**	*e*Pn	Pn	10 55 07.5	-2.6
PGF				*e*Sn	Sn	10 55 59.4	-6.9
	8.1nm,0.5s						
PGF	**Pioggiola**	**4.81**	**76**	*e*Pn	Pn	10 55 07.5	-2.6
PGF				*e*Sn	Sn	10 55 59.4	-6.9
	4.1nm,0.5s						
BGF	**Bois d'Agland**	**5.01**	**1**	*e*Pg	Pg	10 55 28.7	-4.3
BGF				*e*Sg	Sg	10 56 32.1	-5.8
	10nm,0.3s						
BGF	**Bois d'Agland**	**5.01**	**1**	*e*Pg	Pg	10 55 28.7	-4.3
BGF				*e*Sg	Sg	10 56 32.1	-5.8
	5.2nm,0.3s						
SMF	**Signal de Mont**	**5.17**	**9**	*e*Sg	Sg	10 56 35.7	-7.2
	2.8nm,0.3s						
SMF	**Signal de Mont**	**5.17**	**9**	*e*Sg	Sg	10 56 35.7	-7.2
	1.4nm,0.3s						
AVF	**Avril sur Loir**	**5.26**	**5**	*e*Sg	Sg	10 56 39.6	-6.4
	1.8nm,0.4s						
AVF	**Avril sur Loir**	**5.26**	**5**	*e*Sg	Sg	10 56 39.6	-6.4
	0.9nm,0.4s						
MFF	**Saint Martin d**	**5.45**	**339**	*e*Pg	Pg	10 55 37.0	-4.3
MFF				*e*Sg	Sg	10 56 47.2	-4.7
	2.4nm,0.3s						
MFF	**Saint Martin d**	**5.45**	**339**	*e*Pn	Pn	10 55 15.9	-2.9
MFF				*e*Pg	Pg	10 55 37.0	-4.3
MFF				*e*Sg	Sg	10 56 47.2	-4.7
MFF	**Saint Martin d**	**5.45**	**339**	Pn	Pn	10 55 15.9	-2.9
MFF				Pg	Pg	10 55 37.0	-4.3
MFF	**Saint Martin d**	**5.45**	**339**	*e*Pg	Pg	10 55 37.0	-4.3
MFF				*e*Sg	Sg	10 56 47.2	-4.7
	1.2nm,0.3s						
SSF	**Saint Saulge**	**5.54**	**6**	*e*Sg	Sg	10 56 48.5	-6.5
	2.3nm,0.4s						
SSF	**Saint Saulge**	**5.54**	**6**	*e*Sg	Sg	10 56 48.5	-6.5
	1.1nm,0.4s						

*NEIC **02** 10:56:13.7±0.6, 8.17S×11867E, h25km, mb4.5/2, Error ellipse: s-maj=22.0km s-min=9.0km az=224.0*
*ISCJB **02** 10:56:15.0±4.0, 84S±02×1187E±01, h52km±40km, mb4.0/6, Error ellipse: s-maj=33.3km s-min=11.7km az=79.6*
*IDC **02** 10:56:16.4±5.0, 793S×11924E, h33km±41km, mb3.6/4, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.8/2, Error ellipse: s-maj=134.2km s-min=14.0km az=56.0*
ISC 02 10:56:15.5±4.0, 83S±01×1187E±01, h34km±30km, n11, σ0879/14, mb4.0/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.85**	**146**	Pn	**Pn**	**10 59 02.9**	**+0.8**
	0.6nm,0.3s,baz=343,slow=6.8,SNR=16						
FITZ				Sn	**Sn**	**11 01 12.1**	**-1.0**
	0.3nm,0.3s,baz=187,slow=18,SNR=3.9						
KSM	**Kuching**	**12.81**	**319**	*e*Pn	**Pn**	**10 59 11.2**	**-4.1**
WRA	**Warramunga Arr**	**19.06**	**129**	P	**Pn**	**11 00 35.0**	**-0.8**
	0.3nm,0.3s,baz=303,slow=13,SNR=9.1						
WRA				S	**Sn**	**11 04 01.2**	**-7.0**
	0.1nm,0.3s,baz=300,slow=24,SNR=4.1						
WB2	**Warramunga Arr**	**19.07**	**129**	*e*P	**Pn**	**11 00 35.4**	**-0.5**
ASAR	**Alice Springs**	**21.11**	**138**	P	**P**	**11 00 58.7**	**+1.5**
	1.7nm,0.6s,mb3.5,baz=333,slow=16,SNR=20						
ASAR				S	**S**	**11 04 50.8**	**+0.6**
	0.8nm,0.9s,baz=330,slow=26,SNR=4.7						
COCO	**West Island**	**21.86**	**258**	P	**P**	**11 01 05.0**	**-0.2**
	14nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**31.68**	**141**	P	**P**	**11 02 36.2**	**+0.5**
	1.0nm,0.5s,mb3.9,baz=320,slow=12,SNR=4.8						
HNR	**Honiara**	**40.75**	**95**	*e*P	**P**	**11 03 52.9**	**-0.3**
	7.9nm,0.8s,mb4.4						
SONM	**Songino Array**	**56.94**	**350**	P	**P**	**11 05 57.6**	**+0.3**
	0.7nm,0.7s,mb3.8,baz=165,slow=9.0,SNR=5.8						
MKAR	**Makanchi Array**	**63.70**	**333**	P	**P**	**11 06 43.2**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=149,slow=6.1,SNR=9.9						
MKAR	**Makanchi Array**	**63.70**	**333**	P	**P**	**11 06 43.2**	**-0.3**

*GII **02** 11:34:50.2±1.2, 3388N×3603E, h0km±30km, ML2.2/3*
*CSEM **02** 11:34:52.9±0.1, 3378N×3580E, h2km, ML3.0, Error ellipse: s-maj=3.6km s-min=2.0km az=97.0, Mining explosion.*
*ISCJB **02** 11:34:53.1±0.6, 3380N±003×3581E±007, h0km, Error ellipse: s-maj=7.8km s-min=4.1km az=5.1*
*GRAL **02** 11:34:54.0±2.7, 3380N×3569E, h10km±20km, MD3.0*
**ISC 02 11:34:53.5±0.6, 3380N±003×3581E±006,

*HLW **02** 12:00:27.6, 34.15N×2727E, h33km, Mb4.2*
ISC 02 12:00:19.3±0.3, 3481N±003×2698E±003, h59km±4km, n84, σ1§24/100, mb3.8/14, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.70**	**296**	*e*Pg	**Pn**	**12 00 32.5**	**-0.9**
ZKR				*e*Sg	**Sn**	**12 00 43.1**	**-0.7**
KARP	**Karpathos**	**0.75**	**11**	⇑*i P*	**Pn**	**12 00 34.3**	**+0.3**
KARP				*e*S	**Sn**	**12 00 46.1**	**+1.2**
XRY	**Khrisi**	**1.06**	**274**	*e*P	**Pn**	**12 00 38.5**	**+0.5**
NPS	**Neapolis**	**1.21**	**292**	*e*P	**Pn**	**12 00 40.6**	**+0.6**
ARG	**Arkhangelos**	**1.68**	**33**	*e*P	**Pn**	**12 00 48.0**	**+1.6**
IDI	**Anoyia**	**1.78**	**286**	P	**Pn**	**12 00 49.7**	**+2.0**
	6.0nm,0.3s,baz=82,slow=12,SNR=22						
SIVA	**Sivas**	**1.80**	**277**	*e*Pb	**Pn**	**12 00 50.2**	**+2.3**
SIVA				*e*Sb	**Sn**	**12 01 14.1**	**+4.5**
NISR	**Nisiros**	**1.80**	**4**	*e*P	**Pn**	**12 00 46.0**	**-2.0**
DAT	**Datca**	**1.97**	**14**	PN	**Pn**	**12 00 50.3**	**0.0**
THR1	**Thera Island**	**1.99**	**322**	*e*Pb	**Pn**	**12 00 50.1**	**-0.5**
SANT	**Santorini**	**1.99**	**322**	*e*Pg	**Pn**	**12 00 49.8**	**-0.7**
SANT	**Santorini**	**1.99**	**322**	*e*Pg	**Pn**	**12 00 49.8**	**-0.8**
THR6	**Thira Island,**	**2.01**	**321**	*e*Pb	**Pn**	**12 00 50.2**	**-0.6**
THR3	**Thira Island,**	**2.05**	**322**	*e*Pb	**Pn**	**12 00 50.9**	**-0.5**
THR5	**Thira Island,**	**2.08**	**321**	*e*Pb	**Pn**	**12 00 51.1**	**-0.8**
THR5				*e*Sb	**Sn**	**12 01 15.1**	**-1.5**
THR4	**Thira Island,**	**2.09**	**322**	*e*Pb	**Pn**	**12 00 51.3**	**-0.6**
THR4				*e*Sb	**Sn**	**12 01 15.2**	**-1.6**
BDRM	**Kayabasi**	**2.28**	**9**	*i P*	**Pn**	**12 00 54.1**	**-0.4**
VAM	**Vamos**	**2.36**	**285**	*e*P	**Pn**	**12 00 56.5**	**+1.0**
DALT	**Dalyan (Mudla)**	**2.37**	**34**	PN	**Pn**	**12 00 56.8**	**+1.0**
GVD	**Gavdhos**	**2.38**	**272**	*e*Pn	**Pn**	**12 00 58.5**	**+2.6**
GVD	**Gavdhos**	**2.38**	**272**	*e*P	**Pn**	**12 00 56.0**	**+0.1**
GVD	**Gavdhos**	**2.38**	**272**	*e*Pn	**Pn**	**12 00 58.5**	**+2.6**
FETY	**Fethiye**	**2.50**	**43**	PN	**Pn**	**12 00 58.1**	**+0.7**
KSL	**Kastellorizon**	**2.51**	**57**	*e*P	**Pn**	**12 00 58.5**	**+0.9**
APE	**Apeiranthos**	**2.54**	**333**	*e*Pn	**Pn**	**12 00 57.2**	**-0.9**
APE				*e*Sn	**Sn**	**12 01 24.9**	**-2.9**
APE	**Apeiranthos**	**2.54**	**333**	*e*P	**Pn**	**12 00 57.6**	**-0.5**
APE				*e*Sn	**Sn**	**12 01 24.9**	**-2.9**
YER	**Yerkesik**	**2.55**	**24**	PN	**Pn**	**12 00 58.8**	**+0.6**
MLSB	**Milas**	**2.56**	**14**	*e*PN	**Pn**	**12 00 58.9**	**+0.6**
KARN	**Karanos**	**2.58**	**284**	*e*Pn	**Pn**	**12 01 00.4**	**+1.8**
KARN				*e*Sn	**Sn**	**12 01 31.6**	**+2.8**
SMG	**Samos**	**2.89**	**358**	*e*P	**Pn**	**12 01 02.6**	**-0.3**
ELL	**Elmali**	**3.07**	**50**	*e*PN	**Pn**	**12 01 06.7**	**+1.5**
GOLH	**Golhisar**	**3.20**	**40**	*i P*	**Pn**	**12 01 08.1**	**+1.0**
GOLH				*i* S	**Sn**	**12 01 42.7**	**-1.2**
DNZL	**Cakiroluk**	**3.32**	**30**	*i P*	**Pn**	**12 01 15.2**	**+6.4**
SLUM		**3.63**	**205**	*e*P	**Pn**	**12 01 14.2**	**+1.3**
HMAT	**Matruh**	**3.71**	**178**	P	**Pn**	**12 01 13.5**	**-0.5**
VLI	**Veliai**	**3.80**	**301**	*e*P	**Pn**	**12 01 14.9**	**-0.4**
BCK	**Bucak**	**3.94**	**47**	*e*PN	**Pn**	**12 01 18.9**	**+1.8**
KHL	**Karahalli**	**4.06**	**30**	*e*PN	**Pn**	**12 01 19.0**	**+0.2**
ISP	**Isparta**	**4.16**	**42**	Pn	**Pn**	**12 01 16.3**	**-3.8**
ISP				*e*Sn	**Sn**	**12 02 07.3**	**-0.1**
ISP	**Isparta**	**4.16**	**42**	Pn	**Pn**	**12 01 16.3**	**-3.8**
ISP				*e*Sn	**Sn**	**12 02 07.3**	**-0.1**
TKTP	**Tekketepe**	**4.20**	**39**	*i P*	**Pn**	**12 01 20.4**	**-0.3**
ITM	**Ithomi**	**4.73**	**301**	*e*P	**Pn**	**12 01 28.1**	**+0.1**
HDMB	**Hadim**	**4.96**	**63**	*e*PN	**Pn**	**12 01 34.4**	**+3.2**
CSS	**Prodhromos**	**5.22**	**87**	*e*Pn	**Pn**	**12 01 31.2**	**-3.5**
CSS				*e*Sn	**Sn**	**12 02 22.2**	**-11**
CSS	**Prodhromos**	**5.22**	**87**	*e*Pn	**Pn**	**12 01 31.2**	**-3.5**
KONT	**Konya--Tatoy**	**5.35**	**53**	*e*PN	**Pn**	**12 01 38.9**	**+2.4**
AGG	**Agios Georgios**	**5.62**	**320**	*e*Pn	**Pn**	**12 01 40.4**	**+0.2**
AGG				*e*Sn	**Sn**	**12 02 42.5**	**-0.8**
SWA1		**5.64**	**191**	P	**Pn**	**12 01 41.1**	**+0.7**
IKL	**Isikli**	**5.65**	**73**	*e*PN	**Pn**	**12 01 41.2**	**+0.6**
KIZT	**Kizilcal**	**5.65**	**43**	*e*PN	**Pn**	**12 01 41.3**	**+0.7**
FYM	**Al Fayyum**	**6.15**	**145**	P	**Pn**	**12 01 46.2**	**-1.3**
KOT	**Kottamia**	**6.37**	**139**	P	**Pn**	**12 01 49.3**	**-1.1**
HSAF	**As Saff**	**6.46**	**142**	P	**Pn**	**12 01 50.8**	**-0.9**
HHAG	**Hagoal**	**6.50**	**137**	P	**Pn**	**12 01 51.1**	**-1.0**
GLL	**Jalalah**	**6.58**	**141**	P	**Pn**	**12 01 52.4**	**-0.9**
SUZ		**7.00**	**133**	P	**Pn**	**12 01 58.4**	**-0.7**
BRTR	**Keskin Array B**	**7.23**	**45**	P	**Pn**	**12 02 04.1**	**+1.9**
	0.1nm,0.3s,baz=216,slow=12,SNR=3.6						
BRTR				S	**Sn**	**12 03 20.9**	**-1.9**
	0.3nm,0.3s,baz=220,slow=25,SNR=5.9						
MMAI	**Mount Meron Ar**	**7.23**	**102**	P	**Pn**	**12 02 04.5**	**+2.3**
	2.4nm,0.3s,baz=262,slow=12,SNR=8.1						
MMAI				S	**Sn**	**12 03 21.3**	**-1.5**
	12nm,0.3s,baz=290,slow=20,SNR=12						
ZAF		**7.26**	**138**	P	**Pn**	**12 02 01.4**	**-1.2**
ZNM		**7.37**	**136**	P	**Pn**	**12 02 02.9**	**-1.2**
HNKL	**Nakhl**	**7.66**	**128**	P	**Pn**	**12 02 07.3**	**-0.8**
HKAT	**Jabal Katrina**	**8.66**	**134**	P	**Pn**	**12 02 20.6**	**-1.2**
TIP	**Timpagrande**	**9.27**	**301**	*e*Pn	**Pn**	**12 02 26.8**	**-3.3**
TIP				*e*Sn	**Sn**	**12 04 00.5**	**-12**
TIP	**Timpagrande**	**9.27**	**301**	*e*Pn	**Pn**	**12 02 26.8**	**-3.3**
AKASG	**Malin Array Be**	**15.96**	**5**	P	**Pn**	**12 04 00.3**	**+0.3**
	1.4nm,0.3s,baz=192,slow=12,SNR=6.3						
ESDC	**Sonseca Array**	**25.04**	**290**	P	**P**	**12 05 37.9**	**+0.1**
	1.0nm,0.4s,mb3.7,baz=83,slow=9.9,SNR=6.7						
FINES	**FINESS Array B**	**26.66**	**359**	P	**P**	**12 05 51.1**	**-1.3**
	1.2nm,0.7s,mb3.5,baz=171,slow=11,SNR=8.4						
HFS	**Hagfors**	**26.77**	**345**	P	**P**	**12 05 51.6**	**-1.9**
	1.8nm,0.7s,mb3.7,baz=137,slow=11,SNR=7.0						
KAF	**Kangasniemi**	**27.33**	**359**	*e*p	**P**	**12 05 57.4**	**-1.0**
AKTK	**Aktyubinsk**	**27.41**	**46**	P	**P**	**12 06 00.1**	**+0.9**
AKTK	**Aktyubinsk**	**27.41**	**46**	P	**P**	**12 06 00.1**	**+1.0**
AKTO	**Aktyubinsk**	**27.41**	**46**	P	**P**	**12 06 00.1**	**+0.9**
	0.5nm,0.3s,mb3.5,baz=227,slow=5.1,SNR=4.1						
NOA	**NORSAR Array B**	**28.14**	**344**	P	**P**	**12 06 03.9**	**-1.7**
	0.5nm,0.5s,mb3.5,baz=146,slow=9.4,SNR=2.8						
EKA	**Eskdalemuir Ar**	**29.20**	**324**	P	**P**	**12 06 14.4**	**-0.7**
	1.2nm,0.4s,mb4.0,baz=126,slow=10,SNR=8.0						
TORD	**Torodi Ar. Bea**	**31.44**	**233**	P	**P**	**12 06 37.8**	**+2.9**
	0.4nm,0.8s,mb3.3,baz=17,slow=10,SNR=2.8						
ARCES	**ARCESS Array B**	**34.79**	**359**	P	**P**	**12 07 02.8**	**-1.2**
	1.0nm,0.5s,mb4.0,baz=182,slow=8.6,SNR=14						
ARCES				PcP	PcP	12 09 37.2	+0.8
	3.7nm,1.0s,baz=153,slow=1.0,SNR=3.6						
MKAR	**Makanchi Array**	**42.72**	**56**	P	**P**	**12 08 13.1**	**+2.7**
	1.0nm,0.5s,mb3.6,baz=268,slow=8.4,SNR=19						
MKAR				PcP	PcP	12 10 02.4	+1.3
	0.5nm,0.8s,baz=278,slow=4.2,SNR=3.3						
ZAL	**Zalesovo**	**44.16**	**46**	P	**P**	**12 08 23.1**	**+1.1**
	1.4nm,0.4s,mb4.0,baz=189,slow=8.8,SNR=6.2						
ZAL	**Zalesovo**	**44.16**	**46**	P	**P**	**12 08 23.0**	**+1.0**
SONM	**Songino Array**	**58.55**	**51**	P	**P**	**12 10 12.5**	**+2.8**
	0.6nm,0.4s,mb4.0,baz=284,slow=8.0,SNR=8.6						
SCHQ	**Schefferville**	**64.42**	**320**	P	**P**	**12 10 49.6**	**+0.4**
	4.6nm,0.8s,mb4.5,baz=29,slow=14,SNR=9.7						
INK	**Inuvik**	**76.16**	**353**	P	**P**	**12 12 00.8**	**-0.1**
	0.7nm,0.8s,mb3.6,baz=311,slow=9.3,SNR=3.1						
INK	**Inuvik**	**76.16**	**353**	P	**P**	**12 12 00.8**	**-0.1**
YKA	**Yellowknife Ar**	**78.23**	**343**	P	**P**	**12 12 12.8**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=30,slow=5.2,SNR=8.0						

CASC 02 12:03:16.6±2.7, 1000N×8652W, h11km±9km, MD4.0, ML3.4, 4C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.88**	**82**	⇑*e*P	Pg	12 03 33.0	-0.6
RIN3	**Volcan Rincon**	**1.37**	**55**	*e*P	Pn	12 03 39.5	-2.1
RIN3				*e*S	Sb	12 04 01.5	+1.8
JCR	**Jicaral**	**1.39**	**96**	*e*P	Pn	12 03 40.5	-1.4
JCR				*e*S	Sn	12 03 58.4	-1.9
CAO	**Cobano**	**1.42**	**102**	*e*P	Pn	12 03 40.9	-1.5
LIM1	**Limonal**	**1.43**	**61**	⇑*e*P	Pn	12 03 41.0	-1.4
LIM1				*e*S	Sn	12 04 01.3	+0.2
SSNN	**San Juan del S**	**1.44**	**27**	*e*P	Pn	12 03 42.7	+0.1
SSNN				*e*S	Sn	12 04 02.3	+0.8
CONN	**Concepcion**	**1.79**	**29**	*e*P	Pn	12 03 47.5	+0.2
CONN				*e*S	Sn	12 04 10.9	+0.9
EPA	**Esparza**	**1.89**	**90**	*e*P	Pn	12 03 47.8	-1.0
CGA2	**Cerro Gallo 2**	**2.02**	**89**	*e*P	Pn	12 03 51.1	+0.6
CGA2				*e*S	Sn	12 04 16.5	+0.7
TICN	**Ticuantepe**	**2.04**	**8**	*e*P	Pn	12 03 50.8	-0.1
TICN				*e*S	Sn	12 04 16.6	+0.3
MGAN	**Managua**	**2.15**	**7**	*e*P	Pn	12 03 51.6	-0.7
MGAN				*e*S	Sn	12 04 17.7	-1.3
MGAN				*i*		12 04 25.3	
	comp=E,322nm,0.7s						
PRS1	**Puriscal**	**2.17**	**90**	⇑*e*P	Pn	12 03 52.9	+0.3
PRS1				*e*S	Sn	12 04 19.4	-0.1
POA2	**Poas 2**	**2.24**	**85**	*e*P	Pn	12 03 54.9	+1.4
POA2				*e*S	Sn	12 04 25.5	+4.3
SJS	**Escuela Geolog**	**2.43**	**91**	*e*P	Pn	12 03 56.2	0.0
SJS				*e*S	Sn	12 04 27.1	+1.3
LCR2	**La Lucha 2**	**2.49**	**96**	*e*P	Pn	12 03 57.3	+0.3
LCR2				*e*S	Sn	12 04 27.2	-0.2
OCM	**Ochomogo**	**2.52**	**92**	*e*P	Pn	12 03 58.6	+1.2
OCM				*e*S	Sn	12 04 31.1	+2.9
IRZ2	**Volcan Irazu 2**	**2.58**	**90**	⇑*e*P	Pn	12 04 00.5	+2.2
IRZ2				*e*S	Sn	12 04 30.5	+0.9
BUS	**Buena Vista**	**2.75**	**99**	*e*P	Pn	12 04 02.1	+1.5
BUS				*e*S	Sn	12 04 34.5	+0.6

IDC 02 12:09:59.8±1.1, 4736N×15291E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, MS2.6/1, Ms1 2.6/1, ms1mx2.5/29, Error ellipse: s-maj=32.8km s-min=27.6km az=118.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.91**	**250**	LR	LR	12 15 06.2	
	comp=Z,41nm,18.1s,baz=354,slow=39						
INK	**Inuvik**	**41.21**	**33**	P	P	12 17 46.4	+0.2
	1.5nm,0.8s,baz=276,slow=9.6,SNR=11						
YKA	**Yellowknife Ar**	**50.52**	**37**	P	P	12 18 58.9	-0.8
	0.7nm,0.7s,baz=299,slow=7.5,SNR=6.3						
FINES	**FINESS Array B**	**63.43**	**335**	P	P	12 20 31.0	-0.3
	0.9nm,0.5s,baz=34,slow=6.4,SNR=12						
PDAR	**Pinedale Array**	**64.50**	**54**	P	P	12 20 38.9	+0.5
	0.3nm,0.8s,baz=308,slow=4.9,SNR=3.5						
NOA	**NORSAR Array B**	**67.60**	**341**	P	P	12 20 58.0	-0.4
	0.8nm,0.8s,baz=31,slow=6.6,SNR=2.7						
HFS	**Hagfors**	**67.83**	**339**	P	P	12 20 58.8	-1.0
	1.5nm,0.4s,baz=53,slow=5.7,SNR=15						
ASAR	**Alice Springs**	**72.75**	**198**	P	P	12 21 30.0	+0.2
	0.4nm,0.5s,baz=15,slow=6.7,SNR=6.0						
TXAR	**Lajitas Array**	**77.31**	**61**	P	P	12 21 55.5	-0.7
	0.4nm,0.6s,baz=297,slow=4.8,SNR=5.9						

*NIED **02** 12:10:00, 3360N×13450E, h41km, Mw3.7 Best double couple: M∞3.81000×10^14 NP1:φs176.00000°, δ82.00000°, λ-46.00000°. NP2:φs274.00000°, δ44.00000°, λ-169.00000°.*
JMA 02 12:10:20.9, 3357N×13450E, h43km±1km, M3.8, 4C-4D Broadband fault plane solution: P waves. NP1: φs272.00000°, δ59.00000°, λ-167.00000°. **NP2:** φs175.00000°, δ79.00000°, λ-32.00000°. **Principal axes:** T Plg13.0000°, Azm227.0000°; N Plg57.0000°, Azm338.0000°; P Plg30.0000°, Azm129.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.23**	**350**	⇓P	Pn	12 10 28.7	0.0
JAI				S	Sn	12 10 33.7	-0.4
MRT2	**Murotomisaki 2**	**0.35**	**239**	⇑P	Pn	12 10 29.7	-0.2
MRT2				S	Sn	12 10 35.8	-0.5
JMN	**Monobe**	**0.54**	**287**	⇓P	Pn	12 10 32.4	+0.1
JMN				S	Sn	12 10 40.3	-0.1
JWM	**Minabe**	**0.77**	**68**	⇑P	Pn	12 10 34.9	-0.4
JWM				S	Sn	12 10 44.7	-1.0
JAJ2	**Tsuna**	**0.91**	**21**	⇑P	Pn	12 10 37.5	+0.3
JAJ2				S	Sn	12 10 48.9	-0.2
JJS	**Sakaide**	**0.93**	**330**	⇓P	Pn	12 10 37.5	0.0
JJS				S	Sn	12 10 49.1	-0.6
JWZ	**Kozaga**	**1.01**	**92**	⇑P	Pn	12 10 38.3	-0.4
JWZ				S	Sn	12 10 50.5	-1.3
JET	**Tanbara**	**1.23**	**280**	⇓P	Pn	12 10 41.5	-0.1
JET				S	Sn	12 10 56.1	-0.9
MAT	**Matsushiro**	**4.25**	**45**	P	Pn	12 11 23.8	+0.8
MAT				*e*S	Sn	12 12 11.2	-0.1

*IDC **02** 12:48:51.0±1.1, 1302N×12041E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4 Error ellipse: s-maj=30.0km s-min=12.5km az=102.0*
*NEIC **02** 12:48:52.0±0.8, 1300N×12053E, h10km, mb4.7/2, Error ellipse: s-maj=25.6km s-min=11.4km az=83.0*
*MAN **02** 12:48:53.6, 1307N×12065E, h1km, mb2.1, ML3.8, MS2.3*
*ISCJB **02** 12:48:55.3±0.6, 1309N±005×12052E±008, h48km±8km, mb4.1/6, Error ellipse: s-maj=12.8km s-min=7.7km az=158.8*
ISC 02 12:48:55.1±1.2, 1308N±005×12052E±008, h25km±12km, n17, σ1§08/20, mb4.1/6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.70**	**338**	*e*P	**Pb**	**12 49 08.5**	**-0.2**
LUBP				*e*S	**Sb**	**12 49 17.1**	**-0.8**
TGY	**Tagaytay City**	**1.09**	**22**	Pg	**Pn**	**12 49 15.0**	**+0.2**
	357nm,0.3s,baz=201,slow=2.0,SNR=58						
TGY				Lg		12 49 29.4	
	420nm,0.3s,baz=17,slow=18,SNR=21						
TGY	**Tagaytay City**	**1.09**	**22**	⇓*i P*	**Pn**	**12 49 17.6**	**+2.8**
TGY				*i* S	**Sn**	**12 49 34.6**	**+5.6**
BUSP	**Coron**	**1.12**	**196**	*e*P	**Pn**	**12 49 15.9**	**+0.8**
BUSP				*e*S	**Sn**	**12 49 33.5**	**+3.8**
BOAC	**Boac**	**1.34**	**74**	*e*P	**Pn**	**12 49 16.6**	**-1.6**
OTRP	**Odiongan**	**1.63**	**116**	*e*P	**Pn**	**12 49 21.9**	**-0.3**
POLP	**Polilio Island**	**2.14**	**40**	*e*P	**Pn**	**12 49 30.6**	**+1.4**
ENPP	**El Nido**	**2.15**	**210**	*e*P	**Pn**	**12 49 29.9**	**+0.5**
CUYO	**Cuyo Island**	**2.27**	**168**	*e*P	**Pn**	**12 49 30.7**	**-0.4**
BALP	**Baler**	**2.83**	**21**	*e*P	**Pn**	**12 49 40.6**	**+1.9**
GUIM	**Jordan**	**3.17**	**140**	*e*P	**Pn**	**12 49 44.4**	**+1.0**
WRA	**Warramunga Arr**	**35.52**	**157**	P	**P**	**12 55 49.1**	**-0.9**
	1.2nm,0.5s,mb4.1,baz=332,slow=9.9,SNR=6.0						
SONM	**Songino Array**	**36.60**	**344**	P	**P**	**12 55 58.3**	**-0.8**
	0.6nm,0.7s,mb3.5,baz=158,slow=8.3,SNR=4.4						
ASAR	**Alice Springs**	**38.80**	**160**	P	**P**	**12 56 17.9**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=342,slow=7.8,SNR=28						
CTAO	**Charters Tower**	**41.57**	**142**	P	**P**	**12 56 38.0**	**-2.6**
	22nm,1.5s,mb4.6						
MKAR	**Makanchi Array**	**46.42**	**324**	P	**P**	**12 57 19.8**	**+0.2**
	1.3nm,0.8s,mb3.9,baz=126,slow=9.0,SNR=11						
KURK	**Kurchatov**	**50.60**	**327**	*e*P	**P**	**12 57 51.7**	**-0.2**
	6.6nm,0.8s,mb4.6						

*NEIC **02** 13:04:57.9, 3667S×177.10E, h5km, mb4.6/2, ML4.7(WEL), After WEL.*
WEL 02 13:04:57.7±0.3, 3664S×17712E, h5km, ML4.7/13, Error ellipse: s-maj=2.8km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.89**	**176**	P	Pg	13 05 13.5	-1.2
WIZ	**White Island**	**0.89**	**176**	P*	Pb	13 05 13.5	-2.0
MYRZ	**Mayor Island**	**0.95**	**227**	*e*P*	Pb	13 05 14.5	-2.1
MYRZ				S*	Sb	13 05 27.8	-1.6
KUZ	**Kuaotunu**	**1.13**	**264**	P	Pg	13 05 18.4	-0.9
KUZ				S	Sg	13 05 33.2	-0.7
KUZ	**Kuaotunu**	**1.13**	**264**	P*	Pb	13 05 18.5	-1.2
KUZ				S*	Sb	13 05 33.2	-1.4
TGRZ	**Tauranga**	**1.28**	**212**	P	Pn	13 05 19.8	-2.5
TGRZ	**Tauranga**	**1.28**	**212**	P*	Pb	13 05 19.8	-2.5
MXZ	**Matakaoa Point**	**1.32**	**134**	P	Pn	13 05 20.5	-2.3
MXZ	**Matakaoa Point**	**1.32**	**134**	P*	Pb	13 05 20.6	-2.4
MARZ	**Manawahe**	**1.39**	**195**	P	Pn	13 05 20.8	-2.9
MARZ	**Manawahe**	**1.39**	**195**	P*	Pb	13 05 20.8	-3.3
LIRZ	**Lichensteins R**	**1.48**	**203**	*e*P	Pn	13 05 23.3	-1.7
LIRZ	**Lichensteins R**	**1.48**	**203**	*e*P*	Pb	13 05 23.3	-2.4
KARZ	**Kaharoa**	**1.54**	**207**	*e*P	Pn	13 05 24.0	-1.8
KARZ	**Kaharoa**	**1.54**	**207**	*e*P*	Pb	13 05 24.0	-2.7
URZ	**Urewera**	**1.62**	**180**	*e*P	Pn	13 05 24.3	-2.5
URZ	**Urewera**	**1.62**	**180**	*e*P*	Pb	13 05 24.4	-3.6
MKAZ	**Moumakai**	**1.63**	**252**	P	Pn	13 05 26.2	-0.8
MKAZ	**Moumakai**	**1.63**	**253**	PN	Pb	13 05 26.4	-0.7
TOZ	**Tahuroa Road**	**1.69**	**229**	P	Pn	13 05 26.4	-1.4
TOZ	**Tahuroa Road**	**1.69**	**229**	P*	Pb	13 05 26.5	-2.7
PUZ	**Puketiti**	**1.69**	**148**	P	Pn	13 05 28.6	+0.7
PUZ	**Puketiti**	**1.69**	**148**	PN	Pn	13 05 28.6	+0.7
MWZ	**Matawai**	**1.72**	**169**	*e*P	Pn	13 05 26.1	-2.2
MWZ	**Matawai**	**1.72**	**169**	*e*P*	Pb	13 05 26.2	-3.6
OTAZ	**Otara**	**1.79**	**259**	*e*P	Pn	13 05 29.1	-0.1
OTAZ	**Otara**	**1.79**	**259**	*e*PN	Pn	13 05 29.0	-0.1
KAAZ	**Kauri Point**	**1.95**	**264**	*e*P	Pn	13 05 32.3	+0.9
KAAZ	**Kauri Point**	**1.95**	**264**	*e*PN	Pn	13 05 32.3	+0.9
WCZ	**Waipu Caves**	**2.35**	**286**	*e*P	Pn	13 05 37.5	+0.6
WCZ	**Waipu Caves**	**2.35**	**286**	*e*PN	Pn	13 05 37.5	+0.7
BKZ	**Black Stump Fm**	**2.57**	**191**	*e*P*	Pb	13 05 41.3	-2.9
HIZ	**Hauiti**	**2.59**	**223**	*e*P	Pn	13 05 39.7	-0.6
HIZ	**Hauiti**	**2.59**	**223**	*e*PN	Pn	13 05 39.7	-0.6
OUZ	**Omahuta**	**3.19**	**295**	*e*P	Pn	13 05 49.9	+1.5
OUZ	**Omahuta**	**3.19**	**295**	*e*PN	Pn	13 05 49.9	+1.5
WAZ	**Wanganui**	**3.54**	**208**	*e*PN	Pn	13 05 55.5	+2.3
THZ	**Tophouse**	**6.07**	**211**	*e*P	Pn	13 06 30.6	+2.5
TBI	**Tubuai**	**31.66**	**75**	*e*LR	LR	13 19 35.9	
	108nm,26.8s,baz=222						
PPT	**Papeete**	**34.97**	**66**	*e*LR	LR	13 21 05.9	
	94nm,23.8s,baz=213						
RKT	**Rikitea**	**43.25**	**86**	*e*LR	LR	13 24 32.2	
	67nm,28.0s						
QSPA	**South Pole Qui**	**53.48**	**180**	*e*P	P	13 14 19.9	+1.1
	7.7nm,0.9s						
SNAA	**Sanae**	**71.99**	**180**	*e*	P	13 16 27.6	+5.3
SNAA				*e*		13 16 30.9	
SNAA	**Sanae**	**71.99**	**180**	P	P	13 16 25.5	+3.2
	3.8nm,0.9s						
VNA3	**Neumayer Olymp**	**72.31**	**178**	*e*	P	13 16 29.9	+5.7
VNA3				*e*		13 16 31.7	
VNA2	**Neumayer--Watz**	**72.69**	**178**	*e*	P	13 16 32.1	+5.6
	baz=166,slow=5.5						
VNA2				*e*		13 16 35.3	
VNA2				*e*		13 16 38.9	

*IDC **02** 13:20:03.9±1.0, 2483N×14277E, h0km, mb4.1/12, mb1 4.2/15, mb1mx4.1/26, mbtmp4.1/15, ML4.0/3, Error ellipse: s-maj=43.8km s-min=17.8km az=82.0*
*NEIC **02** 13:20:05.2±0.6, 2491N×14288E, h10km, mb4.6/4, Error ellipse: s-maj=23.2km s-min=11.2km az=87.0*
*ISCJB **02** 13:20:06.5±2.2, 249N±0.1×1429E±02, h33km±16km, mb4.2/16, Error ellipse: s-maj=30.6km s-min=17.0km az=3.0*
*JMA **02** 13:20:06.3±0.1, 2499N×14355E, h84km, M4.2*
ISC 02 13:20:03.2±2.9, 2480N±007×1431E±02, h3km±17km, n32, σ0§99/35, mb4.2/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.00**	**336**	P	**Pn**	**13 20 39.5**	**+1.6**
JHHJ				S	**Sn**	**13 21 04.5**	**+1.0**
CBIJ	**Chichi jima**	**2.43**	**340**	Pn	**Pn**	**13 20 45.0**	**+1.1**
	32nm,0.3s,baz=276,slow=19,SNR=28						
CBIJ				Sn	**Sn**	**13 21 15.2**	**+1.2**
	131nm,0.3s,baz=312,slow=23,SNR=16						
CBIJ	**Chichi jima**	**2.43**	**340**	P	**Pn**	**13 20 44.6**	**+0.8**
CBIJ				S	**Sn**	**13 21 14.0**	**0.0**
JOD2	**Odawara 2**	**10.99**	**343**	P	**Pn**	**13 22 42.4**	**+1.1**
JHU	**Hanno**	**11.49**	**344**	P	**Pn**	**13 22 47.9**	**-0.3**
JRY	**Ryogami san**	**11.75**	**343**	P	**Pn**	**13 22 51.4**	**-0.3**
JHO	**Hitachi**	**11.97**	**350**	P	**Pn**	**13 22 54.4**	**-0.3**
JAG	**Ashikaga**	**12.00**	**346**	P	**Pn**	**13 22 56.0**	**+0.8**
MJAR	**Matsushiro Arr**	**12.43**	**341**	Pn	**Pn**	**13 22 59.7**	**-1.3**
	0.9nm,0.3s,baz=161,slow=10.0,SNR=12						
**MAJ

IMRD			Pn	Pn	13 24 30.5	+1.1
IMRD			Pn	Pn	13 24 30.8	+1.4
IMRD			Sn	Sn	13 24 56.5	-1.1
IMRD			Sn	Sn	13 24 56.7	-0.9
IAZR	**Azarshahr**	**2.40 240**	*e*Pn	Pn	13 24 31.8	+0.7
IAZR			*e*Pn	Pn	13 24 32.4	+1.3
IAZR			*e*Sn	Sn	13 25 00.5	-0.1
IAZR	**Azarshahr**	**2.40 240**	*e*Pn	Pn	13 24 31.7	+0.6
IAZR			*e*Pn	Pn	13 24 32.3	+1.2
IAZR			*e*Sn	Sn	13 24 58.5	-2.1
IAZR	**Azarshahr**	**2.40 240**	Pn	Pn	13 24 31.7	+0.6
IAZR			Pn	Pn	13 24 32.3	+1.2
IAZR			Sn	Sn	13 24 58.5	-2.1
ISHB	**Shabestar**	**2.43 256**	*e*Pn	Pn	13 24 32.0	+0.6
ISHB			*e*Pn	Pn	13 24 32.0	+0.6
ISHB			*e*Pn	Pn	13 24 32.4	+1.0
ISHB			*e*Sn	Sn	13 25 01.9	+0.7
ISHB			*e*Sn	Sn	13 25 02.0	+0.8
ISHB	**Shabestar**	**2.43 256**	*e*Pn	Pn	13 24 31.7	+0.3
ISHB			*e*Pn	Pn	13 24 31.9	+0.5
ISHB			*e*Pn	Pn	13 24 32.1	+0.7
ISHB			*e*Pn	Pn	13 24 32.5	+1.1
ISHB			*e*Sn	Sn	13 25 00.2	-1.0
ISHB			*e*Sn	Sn	13 25 00.2	-1.0
ISHB	**Shabestar**	**2.43 256**	Pn	Pn	13 24 31.7	+0.3
ISHB			Pn	Pn	13 24 31.9	+0.5
ISHB			Pn	Pn	13 24 32.4	+1.0
ISHB			Sn	Sn	13 25 00.1	-1.1
MAKU	**Maku**	**3.09 280**	*e*Pn	Pn	13 24 41.5	+1.0
MAKU			*e*Sg	Sb	13 25 24.9	+0.4
GNI	**Garni**	**3.25 294**	Pn	Pb	13 24 49.1	-0.3
	comp=N,8.0nm,0.3s,baz=318,slow=2.3,SNR=18					
GNI			Sn	Sg	13 25 33.7	-2.1
	comp=N,10nm,0.3s,baz=241,slow=19,SNR=3.3					
GNI	**Garni**	**3.25 294** *d*	*i*PN	Pb	13 24 49.3	0.0
THKV	**Tehran--Karaj**	**3.48 148**	*e*Pn	Pn	13 24 46.2	+0.3
THKV			AML	AML	13 25 28.4	
	comp=N,250nm,0.4s					
THKV			AML	AML	13 25 28.7	
	comp=E,339nm,0.3s					
CHTH	**Charan**	**3.59 145**	*e*Pn	Pn	13 24 47.6	+0.1
IMHD	**Mahdasht**	**3.60 152**	*e*Pn	Pn	13 24 47.0	-0.5
IMHD	**Mahdasht**	**3.60 152**	*e*Pn	Pn	13 24 47.2	-0.3
IMHD	**Mahdasht**	**3.60 152**	Pn	Pn	13 24 47.1	-0.4
IRAZ	**Razeghan**	**3.64 163**	*e*Pn	Pn	13 24 47.2	-0.9
IRAZ	**Razeghan**	**3.64 163**	*e*Pn	Pn	13 24 47.2	-0.9
IRAZ	**Razeghan**	**3.64 163**	Pn	Pn	13 24 47.1	-1.0
IPRN	**Paran-Amol**	**3.92 131**	*e*Pn	Pn	13 24 51.9	0.0
IPRN	**Paran-Amol**	**3.92 131**	*e*Pn	Pn	13 24 51.8	-0.1
IPRN	**Paran-Amol**	**3.92 131**	Pn	Pn	13 24 51.7	-0.2
IDMV	**Damavand**	**4.29 139**	*e*Pn	Pn	13 24 57.4	+0.3
IDMV	**Damavand**	**4.29 139**	*e*Pn	Pn	13 24 56.9	-0.2
IDMV	**Damavand**	**4.29 139**	Pn	Pn	13 24 56.9	-0.2
IVRN	**Varamin**	**4.62 146**	*e*Pn	Pn	13 25 01.8	+0.2
IVRN	**Varamin**	**4.62 146**	*e*Pn	Pn	13 25 01.1	-0.5
IVRN	**Varamin**	**4.62 146**	Pn	Pn	13 25 01.1	-0.5
IFIR	**Firoozkooh**	**4.63 133**	*e*Pn	Pn	13 25 02.8	+1.1
IFIR	**Firoozkooh**	**4.63 133**	*e*Pn	Pn	13 25 02.8	+1.1
ISHM	**Shahmirzad**	**4.84 128**	*e*Pn	Pn	13 25 04.7	+0.1
ISHM	**Shahmirzad**	**4.84 128**	*e*Pn	Pn	13 25 04.7	+0.1
ISHM	**Shahmirzad**	**4.84 128**	Pn	Pn	13 25 04.6	0.0
IKIA	**Kiasar**	**4.84 122**	*e*Pn	Pn	13 25 04.4	-0.2
IKIA	**Kiasar**	**4.84 122**	*e*Pn	Pn	13 25 04.9	+0.3
IKIA	**Kiasar**	**4.84 122**	Pn	Pn	13 25 04.9	+0.3
MSL	**Mosul**	**5.10 241**	*ex*	x	13 25 27.0	
ZEI	**Tsey**	**5.27 319**	*e*PN	Pn	13 25 13.6	+3.1
IANJ	**Anjiloo**	**5.44 127**	*e*Pn	Pn	13 25 13.6	+0.7
IANJ	**Anjiloo**	**5.44 127**	*e*Pn	Pn	13 25 13.5	+0.6
IANJ	**Anjiloo**	**5.44 127**	Pn	Pn	13 25 13.5	+0.6
IKLH	**Kalahroud**	**6.06 156**	*e*Pn	Pn	13 25 20.4	-1.0
ISHV	**Shirvan**	**7.28 98**	*e*Pn	Pn	13 25 38.2	+0.1
ISHV	**Shirvan**	**7.28 98**	Pn	Pn	13 25 38.1	0.0
ISFR	**Esferayen**	**7.64 101**	*e*Pn	Pn	13 25 42.9	-0.2
ISFR	**Esferayen**	**7.64 101**	*e*Pn	Pn	13 25 43.4	+0.3
ISFR	**Esferayen**	**7.64 101**	Pn	Pn	13 25 43.3	+0.2
IEMG	**Emamqoli**	**8.05 97**	*e*Pn	Pn	13 25 47.3	-1.4
IEMG	**Emamqoli**	**8.05 97**	*e*Pn	Pn	13 25 47.6	-1.1
IEMG	**Emamqoli**	**8.05 97**	Pn	Pn	13 25 47.6	-1.1
IKRD	**Kardeh**	**8.12 102**	*e*Pn	Pn	13 25 59.8	+10
IKRD	**Kardeh**	**8.12 102**	*e*Pn	Pn	13 26 00.2	+11
IKRD	**Kardeh**	**8.12 102**	Pn	Pn	13 26 00.1	+10
IPAY	**Payeh**	**8.59 103**	*e*Pn	Pn	13 25 55.7	-0.4
IPAY	**Payeh**	**8.59 103**	*e*Pn	Pn	13 25 56.0	-0.1
IPAY	**Payeh**	**8.59 103**	Pn	Pn	13 25 56.0	-0.1
ANN	**Anapa**	**10.21 309**	*e*P	Pn	13 26 15.6	-2.7
ANN			pmax	pmax		
	comp=Z,43nm,1.0s					
AKTK	**Aktyubinsk**	**13.32 27**	Pn	Pn	13 26 56.0	-4.8
AKTK			Sn	Sn	13 29 18.1	-11
AKTO	**Aktyubinsk**	**13.32 27**	Pn	Pn	13 26 56.0	-4.8
	comp=Z,1.1nm,0.3s,baz=197,slow=10,SNR=15					
AKTO			Sn	Sn	13 29 18.1	-11
	comp=Z,2.3nm,0.3s,baz=309,slow=22,SNR=17					
AKTO	**Aktyubinsk**	**13.32 27**	P	Pn	13 26 56.0	-4.9
AKTO					13 29 18.1	
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKTO			smax			
	comp=N,2.0nm,0.3s					
AKASG	**Malin Array Be**	**18.06 317**	P	Pn	13 28 02.6	-0.1
	comp=N,0.5nm,0.3s,baz=121,slow=12,SNR=3.3					
AKASG	**Malin Array Be**	**18.06 317**	P	Pn	13 28 02.6	-0.2
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
OBN	**Obninsk**	**18.14 337**⇑	*e*P	Pn	13 27 58.8	-4.9
OBN			pmax	pmax		
	comp=Z,5.0nm,0.5s					
ARU	**Arti**	**18.75 17**⇑	*i*P	Pn	13 28 07.3	-3.8
ARU			*e*S	Sn	13 31 27.6	-13
ARU			pmax	pmax		
	comp=Z,5.0nm,0.6s					
ARU	**Arti**	**18.75 17**	*e*Pn	Pn	13 28 08.5	-2.6
	comp=Z,6.2nm,0.4s					
ARU			*e*Sn	Sn	13 31 26.8	-14
AAK	**Ala-Archa**	**19.93 71** *d*	*i*P	Pn	13 28 24.7	-0.6
AAK			pmax	pmax		
	comp=Z,17nm,0.8s					
AAK	**Ala-Archa**	**19.93 71**	*e*P	Pn	13 28 24.4	-0.9
	comp=Z,15nm,0.8s					
BRVK	**Borovoye**	**20.56 39**	*e*P	P	13 28 29.8	-0.7
BRVK			pmax	pmax		
	comp=Z,14nm,1.0s					
BRVK	**Borovoye**	**20.56 39**	*e*P	P	13 28 29.8	-0.8
	comp=Z,14nm,1.0s					
BVA0	**Borovoye Array**	**20.59 40**	*i*P	P	13 28 30.7	-0.2
BVA0			pmax	pmax		
	comp=Z,1.0nm,0.8s					
BVAR	**Borovoye Array**	**20.59 40**	P	P	13 28 30.5	-0.4
	comp=Z,5.5nm,0.6s,baz=233,slow=10,SNR=20					
BVAR	**Borovoye Array**	**20.59 40**	P	P	13 28 30.5	-0.4
BVAR			pmax	pmax		
	comp=Z,6.0nm,0.6s					
KWP	**Kalwaria**	**21.33 309**	P	P	13 28 39.7	+0.9
	comp=Z,7.2nm,0.8s,mb4.0					
KLMR	**Klimovskoe**	**22.71 348**	P	P	13 28 53.9	+0.4
KLMR			pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5					
KURK	**Kurchatov**	**24.18 51**	*e*P	P	13 29 08.4	+0.3
KURK			*e*		13 29 17.1	
KURK			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4					
KURK	**Kurchatov**	**24.18 51**	*e*P	P	13 29 08.4	+0.3
	comp=Z,17nm,1.0s,mb4.4					
KURK			*e*		13 29 17.1	
MK31	**Makanchi Array**	**25.77 61**	*i*P	P	13 29 23.0	+0.3
MK31			pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6					
MKAR	**Makanchi Array**	**25.77 61**	P	P	13 29 23.2	+0.6
	comp=Z,11nm,0.8s,mb4.5,baz=253,slow=10.0,SNR=64					
MKAR	**Makanchi Array**	**25.77 61**	P	P	13 29 23.3	+0.6
MKAR			pmax	pmax		
	comp=Z,11nm,0.8s					
MKAR	**Makanchi Array**	**25.77 61**	P	P	13 29 23.2	+0.6
FINES	**FINESS Array B**	**26.52 336**	P	P	13 29 30.3	+0.8
	comp=Z,0.6nm,0.4s,mb3.4,baz=140,slow=10.0,SNR=5.1					
FINES	**FINESS Array B**	**26.52 336**	*i*P	P	13 29 30.2	+0.7
FINES			pmax	pmax		
	comp=Z,1.0nm,0.4s					
GERES	**GERESS Array B**	**26.85 303**	P	P	13 29 33.4	+1.0
	comp=Z,0.2nm,0.4s,mb3.0,baz=97,slow=8.3,SNR=3.4					
ZAL	**Zalesovo**	**28.75 47**	P	P	13 29 49.5	+0.1
	comp=Z,2.1nm,0.3s,mb4.4,baz=235,slow=7.0,SNR=4.7					
ZAL	**Zalesovo**	**28.75 47**	*i*P	P	13 29 49.7	+0.3
ZAL			pmax	pmax		
	comp=Z,2.0nm,0.3s					
VSL	**Villasalto**	**30.25 284**	P	P	13 30 04.2	+1.5
	comp=Z,14nm,1.1s,mb4.6					
HFS	**Hagfors**	**30.50 326**	P	P	13 30 04.4	-0.5
	comp=Z,8.1nm,1.1s,mb4.4,baz=120,slow=8.5,SNR=3.9					
HFS	**Hagfors**	**30.50 326**	P	P	13 30 04.4	-0.5
HFS			pmax	pmax		
	comp=Z,8.0nm,1.1s					
HFS	**Hagfors**	**30.50 326**	P	P	13 30 04.4	-0.5
ARCES	**ARCESS Array B**	**33.09 345**	P	P	13 30 27.7	0.0
	comp=Z,1.4nm,0.8s,mb3.9,baz=138,slow=9.6,SNR=4.2					
ARCES	**ARCESS Array B**	**33.09 345**	P	P	13 30 27.7	0.0
ARCES			pmax	pmax		
	comp=Z,1.0nm,0.8s					
SONM	**Songino Array**	**42.06 58**	P	P	13 31 42.8	-0.8
	comp=Z,0.5nm,0.6s,mb3.3,baz=270,slow=8.6,SNR=5.1					
SONM	**Songino Array**	**42.06 58**	P	P	13 31 42.8	-0.8
SONM			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ULN	**Ulaanbaatar**	**42.49 58**⇑	*e*P	P	13 31 47.7	+0.6
ULN	**Ulaanbaatar**	**42.49 58**	*e*P	P	13 31 47.4	+0.2
	comp=Z,4.8nm,1.0s,mb4.1					
TORD	**Torodi Ar. Bea**	**48.66 251**	P	P	13 32 40.8	+4.9
	comp=Z,0.4nm,1.0s,mb3.4,baz=38,slow=4.8,SNR=2.7					

ISCJB ***02*** *13:32:24.8±0.3, 5142N±002×1607E±002, h0km, Error ellipse: s-maj=2.6km s-min=1.7km az=25.2*
IPEC ***02*** *13:32:24.8±0.3, 5156N×1623E, h0km, ML3.0/4, Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
NEIC ***02*** *13:32:24.8±0.4, 5159N×1613E, h5km, ML3.0(BRA), Error ellipse: s-maj=4.6km s-min=4.0km az=30.0*
LDG ***02*** *13:32:25.3±0.5, 5145N×1616E, h1km, Ml3.9/8, Error ellipse: s-maj=11.6km s-min=4.2km az=11.0, Suspected Mining induced.*
IDC ***02*** *13:32:25.9±0.6, 5149N×1607E, h0km, mb1 3.5/7, mb1mx3.4/23, mbtmp3.4/7, ML3.2/7, Error ellipse: s-maj=9.7km s-min=5.7km az=102.0*
CSEM ***02*** *13:32:26.8±0.1, 5148N×1613E, h1km, ML4.0/19, Error ellipse: s-maj=1.8km s-min=1.1km az=19.0*
WAR ***02*** *13:32:26.6, 5152N×1612E, ML3.1, Mining Induced*
BGR ***02*** *13:32:27.2±0.6, 5152N×1605E, h1km, ML3.6/8, Error ellipse: s-maj=6.7km s-min=5.6km az=170.0*
PRU ***02*** *13:32:27.5, 5145N×1604E, h0km, Felt In Harrachov*
VIE ***02*** *13:32:28.0±0.6, 5132N×1612E, h0km, mb2.9/7, ML3.3/8, Error ellipse: s-maj=3.9km s-min=2.9km az=11.0 67 km WNW of Breslau Suspected Mining induced.*
ISC 02 13:32:25.0±0.3, 5154N±002×1612E±002, h0km, n112, σ1§11/188, 11C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	*i* Pg	**Pg**	**13 32 39.1**	**+0.7**
KSP				*e*Sg	**Sg**	**13 32 48.6**	**+1.1**
KSP				*e*L		13 32 54.0	
KSP	**Ksiaz**	**0.70**	**171**	*e*Pg	**Pg**	**13 32 39.0**	**+0.6**
KSP				*e*Sg	**Sg**	**13 32 47.3**	**-0.2**
UPC	**Upice**	**1.03**	**184**	*e*PG	**Pg**	**13 32 45.2**	**+0.5**
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*PG	**Pg**	**13 32 47.9**	**+0.1**
DPC				*e*SG	**Sg**	**13 33 03.5**	**+0.2**
	158nm,0.5s						
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*Pg	**Pg**	**13 32 47.9**	**+0.1**
DPC				*e*Sg	**Sg**	**13 33 03.2**	**-0.1**
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	**Pg**	**13 32 52.0**	**+0.1**
PVCC				*e*SG	**Sg**	**13 33 10.3**	**+0.1**
	646nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pg	**Pg**	**13 32 54.0**	**-0.2**
BRG				*e*Sg	**Sg**	**13 33 14.9**	**+0.9**
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**13 32 53.6**	**+0.2**
BRG				PG	**Pg**	**13 32 54.4**	**+0.2**
BRG				SG	**Sg**	**13 33 14.8**	**+0.9**
	331nm,0.4s						
RUE	**Ruedersdorf**	**1.73**	**304**	*e*Pn	**Pn**	**13 32 54.7**	**-1.6**
RUE				*e*Sn	**Sn**	**13 33 19.5**	**+0.5**
RUE	**Ruedersdorf**	**1.73**	**304**	*e*Pn	**Pn**	**13 32 54.7**	**-1.6**
RUE				*e*Sn	**Sn**	**13 33 19.5**	**+0.5**
FBE	**Freiberg**	**1.85**	**252**	*e*Pn	**Pn**	**13 32 59.3**	**+1.4**
FBE				*e*Sg	**Sg**	**13 33 24.4**	**+0.1**
PRU	**Pruhonice**	**1.85**	**214**	*e*PN	**Pn**	**13 32 57.5**	**-0.4**
PRU				*e*PG	**Pg**	**13 32 59.6**	**-0.8**
PRU				*e*SG	**Sg**	**13 33 23.6**	**-0.7**
	204nm,0.3s						
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn	**Pn**	**13 33 05.7**	**+7.6**
GKP				*e*Sn	**Sn**	**13 33 28.8**	**+6.4**
GKP				*e*Sg	**Sg**	**13 33 31.4**	**+6.5**
RAC	**Raciborz**	**1.96**	**137**	*e*Pg	**Pg**	**13 33 02.8**	**+0.3**
RAC				*e*Sg	**Sg**	**13 33 29.2**	**+1.3**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**13 32 59.1**	**-0.4**
CLL				*e*Sg	**Sg**	**13 33 28.0**	**-0.2**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**13 32 59.0**	**-0.5**
CLL				*i* Pg	**Pg**	**13 33 03.1**	**+0.4**
CLL				*i* Sg	**Sg**	**13 33 28.6**	**+0.4**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**13 32 59.0**	**-0.5**
CLL				*i* Pg	**Pg**	**13 33 03.1**	**+0.4**
CLL				*i* x	x	13 33 05.5	
CLL				*i* Sg	**Sg**	**13 33 28.6**	**+0.4**
	comp=Z,266nm,0.8s						
CLL				*ex*	x	13 33 55.0	
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**13 32 59.0**	**-0.7**
MORC				*e*Sn	**Sn**	**13 33 21.4**	**-3.8**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**13 32 59.0**	**-0.7**
MORC	**Moravsky Berou**	**1.98**	**152**⇑	*i*P	**Pn**	**13 32 59.4**	**-0.3**
MORC				*e*Sg	**Sg**	**13 33 26.9**	**-1.6**
	comp=Z,124nm,0.5s						
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pg**	**13 33 05.5**	**-0.3**
OKC				*e*SG	**Sg**	**13 33 32.8**	**-0.7**
	comp=Z,147nm,0.7s						
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**13 33 03.3**	**-0.1**
	comp=Z,5.0nm,0.3s,baz=343,slow=13,SNR=26						
VRAC				Pg	**Pg**	**13 33 07.0**	**-1.1**
	comp=Z,10nm,0.3s,baz=344,slow=14,SNR=26						
VRAC				Lg		13 33 35.9	
	comp=Z,10nm,0.3s,baz=74,slow=17,SNR=4.6						
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**13 33 03.4**	**0.0**
VRAC	**Vranov**	**2.25**	**172**⇑	*i*P	**Pn**	**13 33 04.3**	**+0.9**
VRAC	**Vranov**	**2.25**	**172**	Pg	**Pg**	**13 33 07.0**	**-1.1**
VRAC				*e*Sg	**Sg**	**13 33 35.7**	**-1.6**
	comp=Z,66nm,0.2s						
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**13 33 06.9**	**+0.3**
KRUC				*e*Sg	**Sg**	**13 33 43.1**	**-1.6**
	comp=Z,33nm,0.2s						
TANN	**Tannenbergstha**	**2.57**	**246**	*e*Pn	**Pn**	**13 33 08.3**	**+0.4**
TANN				*e*Sg	**Sg**	**13 33 47.8**	**+0.2**
WERD	**Werda**	**2.65**	**247**	*e*Sg	**Sg**	**13 33 50.8**	**+0.8**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**13 33 10.0**	**+0.8**
NKC				*e*PG	**Pg**	**13 33 16.3**	**+0.2**
NKC				*e*SG	**Sg**	**13 33 50.0**	**-0.7**
	comp=Z,385nm,0.3s						
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**13 33 16.7**	**+0.5**
OJC				*e*Sg	**Sg**	**13 33 52.2**	**+1.3**
WERN	**Wernitzgruen**	**2.68**	**244**	*e*Pn	**Pn**	**13 33 10.3**	**+1.0**
NEUB	**Neuenburg**	**2.75**	**265**	*e*Sg	**Sg**	**13 33 53.6**	**+0.5**
JAVC	**Velka Javorina**	**2.86**	**159**	*e*Sg	**Sg**	**13 33 56.8**	**0.0**
	comp=Z,84nm,0.8s						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**13 33 12.5**	**0.0**
KHC				*e*PG	**Pg**	**13 33 18.8**	**-1.9**
KHC				*e*SN	**Sn**	**13 33 44.0**	**-4.1**
KHC				*e*SG	**Sg**	**13 33 57.1**	**-1.3**
	comp=Z,74nm,0.5s						
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**13 33 14.1**	**+0.7**
MOX				*e*Sg	**Sg**	**13 34 01.0**	**+0.4**
MOX	**Moxa**	**2.98**	**254**	*e*PN	**Pn**	**13 33 13.8**	**+0.4**
MOX				*e*PG	**Pg**	**13 33 22.3**	**+0.2**
MOX				*e*SG	**Sg**	**13 34 01.7**	**+1.0**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**13 33 14.2**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**13 33 15.0**	**+0.5**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**13 33 16.1**	**+0.9**
GEC2				*e*Sg	**Sg**	**13 34 04.6**	**-0.3**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**13 33 15.2**	**-0.1**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**13 33 15.2**	**-0.1**
GEC2				Sg	**Sg**	**13 34 04.6**	**-0.3**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**13 33 15.9**	**+0.6**
	comp=Z,2.5nm,0.3s,baz=31,slow=12,SNR=61						
GERES				Pg	**Pg**	**13 33 22.6**	**-1.9**
	comp=Z,7.9nm,0.3s,baz=29,slow=16,SNR=54						
GERES				Sn	**Sn**	**13 33 51.4**	**-1.7**
	comp=Z,7.2nm,0.3s,baz=27,slow=18,SNR=7.1						
GERES				Lg		13 34 01.3	
	comp=Z,20nm,0.3s,baz=29,slow=28,SNR=18						
GERES	**GERESS Array B**	**3.11**	**211**	Pg	**Pg**	**13 33 22.6**	**-2.0**
SMOL	**Smolenice**	**3.14**	**164**	*e*PG	**Pg**	**13 33 24.9**	**-0.2**
SMOL				*e*SG	**Sg**	**13 34 05.4**	**-0.4**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**13 33 16.1**	**0.0**
WET				*e*Sg	**Sg**	**13 34 05.6**	**-1.3**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**13 33 16.1**	**0.0**
WET				*e*Sg	**Sg**	**13 34 05.6**	**-1.2**
ZST	**Bratislava**	**3.40**	**169**	*e*PG	**Pg**	**13 33 29.0**	**-1.2**
ZST				*e*SG	**Sg**	**13 34 13.8**	**-0.5**
NIE	**Niedzica**	**3.41**	**127**	*e*P	**Pg**	**13 33 29.3**	**-1.1**
NIE				*e*S	**Sg**	**13 34 13.8**	**-0.8**
VYHS	**Vyhne**	**3.51**	**149**	*e*PN	**Pn**	**13 33 20.6**	**-0.2**
VYHS				*e*PG	**Pg**	**13 33 31.4**	**-0.9**
VYHS				*e*SG	**Sg**	**13 34 18.7**	**+0.9**
CONA	**Conrad Observa**	**3.62**	**183**	*i* Pn	**Pn**	**13 33 23.1**	**+0.9**
	SNR=12						
CONA			⇑	*i*Sg	**Sg**	**13 34 20.4**	**-0.7**
	comp=Z,51nm,0.4s						
GRA1	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**13 33 23.0**	**+0.6**
GRA1				*e*Sg	**Sg**	**13 34 21.8**	**+0.3**
GRA1	**Grafenberg Arr**	**3.63**	**241**	Pn	**Pn**	**13 33 23.0**	**+0.6**
GRA1				Sg	**Sg**	**13 34 21.8**	**+0.3**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**13 33 23.0**	**+0.6**
GRF				*e*Sg	**Sg**	**13 34 21.8**	**+0.3**
GRFO	**Grafenberg**	**3.63**	**241**	*e*Pn	**Pn**	**13 33 21.6**	**-0.8**
GRFO	**Grafenberg**	**3.63**	**241**	*e*Pn	**Pn**	**13 33 21.6**	**-0.8**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**13 33 22.1**	**-0.7**
BSD				*e*S	**Sn**	**13 34 01.5**	**-5.1**
BSD				*i*		13 34 04.9	
MOA	**Molln**	**3.88**	**199**	*i* Pn	**Pn**	**13 33 26.4**	**+0.6**
	SNR=30						
MOA			⇑	*i*Sg	**Sg**	**13 34 30.3**	**+0.6**
	comp=Z,52nm,0.5s						
HROE	**Hohe Rhon--Fla**	**3.90**	**257**⇑	*i*Pn	**Pn**	**13 33 26.8**	**+0.7**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**13 33 28.9**	**+2.8**
STHS				*e*PG	**Pg**	**13 33 40.9**	**+1.2**
STHS				*e*SG	**Sg**	**13 34 35.7**	**+5.5**
KECS	**Kecovo**	**4.15**	**136**	*e*PN	**Pn**	**13 33 29.8**	**+0.2**
KECS				*e*PG	**Pg**	**13 33 45.2**	**+0.6**
KECS				*e*SG	**Sg**	**13 34 42.0**	**+3.6**
ARSA	**Arzberg**	**4.31**	**185**⇓	*i*Pn	**Pn**	**13 33 31.6**	**-0.1**
ARSA			⇑	*i*Sg	**Sg**	**13 34 42.1**	**-1.2**
	comp=Z,40nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PN	**Pn**	**13 33 33.6**	**+1.7**
CRVS				*e*PG	**Pg**	**13 33 48.5**	**+0.7**
CRVS				*e*SG	**Sg**	**13 34 48.9**	**+5.0**
PSZ	**Piszkesteto**	**4.37**	**145**	*e*Pn	**Pn**	**13 33 32.9**	**+0.4**
PSZ	**Piszkesteto**	**4.37**	**145**	*e*Pn	**Pn**	**13 33 32.9**	**+0.3**
KWP	**Kalwaria**	**4.61**	**112**	*e*Pn	**Pg**	**13 33 50.1**	**-3.2**
KWP				*e*Sn	**Sg**	**13 35 00.0**	**+7.0**
KWP	**Kalwaria**	**4.61**	**112**	Pn	**Pn**	**13 33 37.3**	**+1.5**
KWP				*e*Pn	**Pg**	**13 33 50.1**	**-3.2**
KWP				*e*Pg	**Pg**	**13 33 50.3**	**-2.9**
KWP				*e*Sn	**Sg**	**13 35 00.0**	**+7.0**
KWP	**Kalwaria**	**4.61**	**112**	Pn	**Pn**	**13 33 37.3**	**+1.5**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PG	**Pg**	**13 33 55.5**	**-0.1**
KBA	**Koelnbreinsper**	**4.82**	**203**	*i* Pn	**Pn**	**13 33 39.8**	**+1.1**
	SNR=12						
KBA			⇑	*i*Sg	**Sg**	**13 35 00.2**	**+0.4**
	comp=Z,32nm,0.5s						
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn	**Pn**	**13 33 39.8**	**+1.1**
	comp=Z,12nm,5.0s						
KBA			Sg		**Sg**	**13 35 00.2**	**+0.5**
	comp=Z,32nm,0.5s						
PERS	**Pernice**	**

ISC 02 13:56:30.2±1.0,570S±004×14771E±006,h134km±10km, h132km±1.5km:pP-P,n122,σ0°91/112,mb4.8/50,12C-5D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.72**	**188**	P	**Pn**	**13 57 25.7**	**-0.5**
	359nm,0.3s,baz=0.4,slow=5.3,SNR=1494						
PMG				S	**Sn**	**13 58 06.8**	**-2.9**
	393nm,0.3s,baz=38,slow=23,SNR=12						
PMG	**Port Moresby**	**3.72**	**188**	⇑*e*Pn	**Pn**	**13 57 25.5**	**-0.8**
PMG				*e*		13 57 31.0	
PMG				*e*Sn	**Sn**	**13 58 01.3**	**-8.4**
HNR	**Honiara**	**12.69**	**108**	P	**Pn**	**13 59 25.3**	**-0.4**
	7.5nm,0.3s,baz=236,slow=0.8,SNR=25						
HNR	**Honiara**	**12.69**	**108**	*e*P	**Pn**	**13 59 25.6**	**-0.2**
HNR				pmax	pmax		
	comp=Z,415nm,0.7s						
HNR	**Honiara**	**12.69**	**108**	*e*Pn	**Pn**	**13 59 25.6**	**-0.1**
	comp=Z,415nm,0.7s						
HNR				*e*		13 59 33.3	
HNR				*e*Sn	**Sn**	**14 02 00.6**	**+15**
CTA	**Charters Tower**	**14.37**	**186**	*e*P	**Pn**	**13 59 48.1**	**+0.8**
	comp=Z,32nm,0.9s						
CTA	**Charters Tower**	**14.37**	**186**	P	**Pn**	**13 59 48.0**	**+0.7**
	comp=Z,4.6nm,0.3s,baz=2.9,slow=12,SNR=35						
CTA				LR	LR	14 04 26.5	
	comp=Z,140nm,20.6s,baz=23,slow=33						
CTA	**Charters Tower**	**14.37**	**186**	*e*P	**Pn**	**13 59 48.1**	**+0.8**
CTA				pmax	pmax		
	comp=Z,32nm,0.9s						
CTAO	**Charters Tower**	**14.37**	**186**	*e*P	**Pn**	**13 59 47.8**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,30nm,0.6s						
CTAO	**Charters Tower**	**14.37**	**186**	*e*Pn	**Pn**	**13 59 47.8**	**+0.5**
	comp=Z,30nm,0.6s						
KAKA	**Kakadu**	**16.59**	**244**	⇑*i*P	**Pn**	**14 00 13.9**	**-1.0**
	comp=Z,198nm,0.6s						
KAKA				*e*S	**S**	**14 03 14.5**	**-5.2**
WRAB	**Tennant Creek**	**19.20**	**221**	*c i*P	**P**	**14 00 44.5**	**+0.9**
WB2	**Warramunga Arr**	**19.21**	**221**	*e*P	**P**	**14 00 44.7**	**+1.1**
WB2				*e*S	**S**	**14 04 12.4**	**-1.7**
WB2				*e*ScS	ScS	14 12 09.4	+3.0
WRA	**Warramunga Arr**	**19.22**	**221**	P	**P**	**14 00 44.6**	**+0.9**
	comp=Z,13nm,0.3s,baz=49,slow=11,SNR=155						
WRA				S	**S**	**14 04 12.7**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=40,slow=20,SNR=9.9						
GUMO	**Guam**	**19.37**	**352**	LR	LR	14 07 47.0	
	comp=Z,85nm,20.5s,baz=148,slow=35						
ASAR	**Alice Springs**	**22.26**	**215**	P	**P**	**14 01 16.9**	**+0.7**
	comp=Z,56nm,0.7s,mb5.1,baz=53,slow=7.9,SNR=817						
ASAR				S	**S**	**14 05 11.7**	**+0.3**
	comp=Z,42nm,0.9s,baz=31,slow=24,SNR=25						
DZM	**Mont Dzumac**	**24.35**	**134**	*e*P	**P**	**14 01 35.9**	**+0.3**
DZM	**Mont Dzumac**	**24.35**	**134**	P	**P**	**14 01 35.6**	**+0.1**
	comp=Z,21nm,0.6s,mb4.8,baz=12,slow=8.6,SNR=19						
DZM				LR	LR	14 09 37.3	
	comp=Z,236nm,18.6s,baz=215,slow=32						
FITZ	**Fitzroy Crossi**	**24.82**	**238**	⇓*i*P	**P**	**14 01 40.4**	**+0.6**
	comp=Z,143nm,0.4s,mb5.8						
FITZ				*e*S	**S**	**14 05 55.3**	**+2.7**
FITZ	**Fitzroy Crossi**	**24.82**	**238**	P	**P**	**14 01 40.5**	**+0.7**
	comp=Z,82nm,0.5s,mb5.5,baz=63,slow=9.3,SNR=253						
FITZ				S	**S**	**14 05 53.8**	**+1.2**
	comp=Z,7.6nm,0.8s,baz=99,slow=7.8,SNR=3.1						
FITZ				LR	LR	14 12 23.1	
	comp=Z,189nm,18.1s,baz=71,slow=38						
STKA	**Stephens Creek**	**26.66**	**192**	*e*P	**P**	**14 01 56.4**	**0.0**
	comp=Z,16nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**26.66**	**192**	P	**P**	**14 01 55.9**	**-0.5**
	comp=Z,15nm,0.5s,mb4.9,baz=2.1,slow=7.8,SNR=52						
STKA				LR	LR	14 12 37.1	
	comp=Z,126nm,21.2s,baz=26,slow=36						
CNB	**Canberra Magne**	**29.51**	**177**	⇑*i*P	**P**	**14 02 22.7**	**+1.0**
	comp=Z,61nm,0.8s,mb5.4						
FORT	**Forrest**	**31.03**	**214**	⇑*i*P	**P**	**14 02 35.7**	**+0.5**
	comp=Z,112nm,0.6s,mb5.8						
TOO	**Toolangi**	**31.78**	**183**	⇑*i*P	**P**	**14 02 42.4**	**+0.7**
	comp=Z,23nm,0.8s,mb5.0						
TOO	**Toolangi**	**31.78**	**183**	⇑*i*P	**P**	**14 02 42.4**	**+0.7**
TOO				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
CBIJ	**Chichi jima**	**33.04**	**351**	P	**P**	**14 02 51.4**	**-1.3**
	comp=Z,42nm,0.6s,mb5.4,baz=239,slow=18,SNR=3.4						
TAU	**Tasmania Unive**	**37.05**	**180**	*e*P	**P**	**14 03 27.8**	**+0.7**
TAU				pmax	pmax		
	comp=Z,151nm,1.5s,mb5.4						
TAU	**Tasmania Unive**	**37.05**	**180**	*e*P	**P**	**14 03 27.8**	**+0.7**
	comp=Z,151nm,1.5s,mb5.4						
KLBR	**Kellerberrin**	**38.07**	**224**	⇑*i*P	**P**	**14 03 35.6**	**0.0**
	comp=Z,36nm,0.8s,mb5.0						
KLBR				*e*		14 03 41.5	
NWAO	**Narrogin (SRO)**	**39.22**	**222**	P	**P**	**14 03 45.1**	**-0.1**
	comp=Z,22nm,1.0s,mb4.8,baz=60,slow=7.9,SNR=14						
NWAO	**Narrogin (SRO)**	**39.22**	**222**	*e*P	**P**	**14 03 45.4**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,12nm,0.6s						
NWAO	**Narrogin (SRO)**	**39.22**	**222**	*e*P	**P**	**14 03 45.4**	**+0.2**
	comp=Z,12nm,0.6s,mb4.7						
MUN	**Mundaring**	**39.37**	**224**	*e*P	**P**	**14 03 47.2**	**+0.8**
URZ	**Urewera**	**41.98**	**145**	P	**P**	**14 04 08.2**	**+0.3**
	comp=Z,17nm,0.6s,mb4.8,baz=271,slow=3.7,SNR=12						
MJAR	**Matsushiro Arr**	**42.95**	**349**	P	**P**	**14 04 15.8**	**+0.1**
	comp=Z,13nm,0.9s,mb4.6,baz=173,slow=8.9,SNR=20						
MJAR	**Matsushiro Arr**	**42.95**	**349**	P	**P**	**14 04 15.8**	**+0.1**
MAJO	**Matsushiro**	**42.95**	**349**	*e*P	**P**	**14 04 16.1**	**+0.3**
	comp=Z,38nm,1.2s,mb4.9						
MAT	**Matsushiro**	**42.95**	**349**	P	**P**	**14 04 15.9**	**+0.1**
KSRS	**Korea Array**	**46.73**	**338**	P	**P**	**14 04 46.0**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.1,baz=159,slow=8.5,SNR=8.9						
KSRS				PcP	PcP	14 06 17.2	+0.3
	comp=Z,2.2nm,0.6s,baz=166,slow=1.1,SNR=5.4						
KULM	**Kulim**	**48.24**	**282**	*e*P	**P**	**14 04 55.1**	**-2.2**
PSI	**Prapat**	**49.45**	**279**	P	**P**	**14 05 05.6**	**-1.0**
	comp=Z,1.7nm,0.4s,mb4.1,baz=148,slow=19,SNR=2.8						
PSI	**Prapat**	**49.45**	**279**	P	**P**	**14 05 05.6**	**-1.0**
XAN	**Xi'an**	**53.90**	**320**	P	**P**	**14 05 39.6**	**0.0**
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.9						
BJT	**Baijiatuau**	**53.98**	**330**	P	**P**	**14 05 39.9**	**-0.2**
BJT				pmax	pmax		
	comp=Z,60nm,0.6s						
BJT	**Baijiatuau**	**53.98**	**330**	P	**P**	**14 05 39.9**	**-0.2**
	comp=Z,6.2nm,0.6s,mb4.5						
CD2	**Chengdu**	**55.58**	**314**	*e*P	**P**	**14 05 52.8**	**+1.2**
CD2				AP	pP	14 06 22.5	-0.6
CD2				XP	sP	14 06 36.6	-1.2
CD2				PP	PP	14 08 00.2	+3.1
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,6.2s						
CD2				LR	LR		
	comp=N,350nm,14.4s						
CD2				LR	LR		
	comp=E,280nm,12.6s						
CD2				LR	LR		
	comp=Z,320nm,14.6s						
HHC	**Hu-ho-hao-te**	**56.95**	**328**	*e*P	**P**	**14 06 03.5**	**+2.1**
HHC				AP	pP	14 06 33.8	+0.8
HHC				XP	sP	14 06 48.0	+0.3
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,128nm,6.3s						
HIA	**Hailar**	**59.92**	**339**	⇓*e*P	**P**	**14 06 22.6**	**+0.6**
HIA	**Hailar**	**59.92**	**339**	*e*P	**P**	**14 06 22.5**	**+0.5**
	comp=Z,7.0nm,0.6s,mb4.7						
HIA				*e*pP	pP	14 06 51.9	-2.0
GTA	**Gaotai**	**62.97**	**320**	*e*P	**P**	**14 06 43.7**	**+1.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**64.19**	**331**	*e*P	**P**	**14 06 51.3**	**+0.8**
	comp=Z,12nm,0.7s,mb4.8						
ULN				*e*pP	pP	14 07 21.8	-1.0
SONM	**Songino Array**	**64.49**	**330**	P	**P**	**14 06 53.3**	**+0.9**
	comp=Z,7.6nm,0.6s,mb4.7,baz=145,slow=6.1,SNR=60						
SONM				PcP	PcP	14 07 25.2	-0.3
	comp=Z,2.4nm,0.8s,baz=101,slow=8.0,SNR=4.4						
SONM				PKPPKP		14 35 45.2	
	comp=Z,1.5nm,1.0s,baz=222,slow=0.8,SNR=6.1						
SONM	**Songino Array**	**64.49**	**330**	P	**P**	**14 06 53.3**	**+0.9**
SONM					pP	14 07 25.2	+0.4
LSA	**Lhasa**	**64.63**	**307**	P	**P**	**14 06 54.5**	**+1.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
LSA	**Lhasa**	**64.63**	**307**	*e*P	**P**	**14 06 54.5**	**+1.2**
LSA				*e*PP	pP	14 07 25.9	+0.2
LSA				*e*SP	sP	14 07 38.4	-1.8
LSA				pmax	pmax		
	comp=Z,40nm,0.5s,mb5.5						
LSA	**Lhasa**	**64.63**	**307**	*e*P	**P**	**14 06 54.5**	**+1.1**
	comp=Z,4.0nm,0.5s,mb4.5						
LSA				*e*pP	pP	14 07 25.9	+0.2
LSA				*e*sP	sP	14 07 38.4	-1.8
ZAK	**Zakamensk**	**67.72**	**331**	⇑*i*P	**P**	**14 07 13.4**	**+0.3**
ZAK				*e*		14 07 39.8	
ZAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
GUN	**Gumba**	**68.30**	**303**	*e*P	**P**	**14 07 17.4**	**+0.7**
	comp=Z,44nm,0.4s,mb5.6						
PKI	**Pulchoki**	**68.58**	**302**	*e*P	**P**	**14 07 18.6**	**+0.2**
	comp=Z,8.6nm,0.4s,mb4.8						
DMN	**Daman**	**68.84**	**302**	*e*P	**P**	**14 07 20.7**	**+0.6**
	comp=Z,26nm,0.4s,mb5.3						
YAK	**Yakutsk**	**68.96**	**351**	*de*P	**P**	**14 07 20.8**	**0.0**
YAK				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.8						
YAK	**Yakutsk**	**68.96**	**351**	*e*P	**P**	**14 07 20.2**	**-0.6**
	comp=Z,11nm,0.6s,mb4.8						
GKN	**Gorkha**	**69.36**	**303**	*e*P	**P**	**14 07 23.5**	**+0.2**
	comp=Z,24nm,0.4s,mb5.2						
KOLN	**Koldanda**	**70.16**	**302**	*e*P	**P**	**14 07 28.4**	**+0.2**
	comp=Z,12nm,0.3s,mb5.1						
VNDA	**Vanda**	**72.17**	**177**	P	**P**	**14 07 40.2**	**0.0**
	comp=Z,16nm,0.8s,mb4.8,baz=330,slow=6.5,SNR=104						
VNDA	**Vanda**	**72.17**	**177**	*e*P	**P**	**14 07 40.2**	**0.0**
VNDA				pmax	pmax		
	comp=Z,16nm,0.8s						
VNDA	**Vanda**	**72.17**	**177**	*e*P	**P**	**14 07 40.2**	**0.0**
	comp=Z,16nm,0.8s,mb4.8						
SBA	**Scott Base**	**72.80**	**176**	*e*P	**P**	**14 07 44.5**	**+0.5**
SBA				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
SBA	**Scott Base**	**72.80**	**176**	*e*P	**P**	**14 07 44.5**	**+0.5**
	comp=Z,12nm,1.1s,mb4.5						
BILL	**Bilibino**	**74.73**	**7**	⇓*e*P	**P**	**14 07 55.0**	**-0.2**
BILL				*e*PP	pP	14 08 28.7	+0.3
BILL				*e*		14 10 40.7	
BILL				*e*S	S	14 17 23.3	+2.7
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
BILL	**Bilibino**	**74.73**	**7**	*e*P	**P**	**14 07 55.5**	**+0.2**
	comp=Z,7.8nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**77.72**	**320**	*i* P	**P**	**14 08 11.5**	**-0.6**
MK31				pmax	pmax		
	comp=Z,20nm,0.4s,mb5.1						
MK31	**Makanchi Array**	**77.72**	**320**	*e*P	**P**	**14 08 11.7**	**-0.4**
MKAR	**Makanchi Array**	**77.72**	**320**	P	**P**	**14 08 11.5**	**-0.6**
	comp=Z,2.5nm,0.4s,mb4.2,baz=97,slow=8.2,SNR=49						
MKAR				pP	pP	14 08 45.0	-0.5
	comp=Z,4.2nm,0.9s,baz=106,slow=6.4,SNR=4.6						
TIXI	**Tiksi**	**78.19**	**354**	⇑*i*P	**P**	**14 08 13.7**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**78.19**	**354**	*e*P	**P**	**14 08 13.5**	**-1.2**
	comp=Z,2.2nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**79.14**	**328**	P	**P**	**14 08 18.9**	**-1.1**
	comp=Z,3.5nm,0.5s,mb4.2,baz=356,slow=5.4,SNR=16						
ZAL				pP	pP	14 08 52.7	-0.8
	comp=Z,3.2nm,0.8s,baz=23,slow=5.9,SNR=5.5						
ZAL	**Zalesovo**	**79.14**	**328**	P	**P**	**14 08 18.9**	**-1.1**
ZAL				pP	pP	14 08 52.7	-0.8
NVS	**Novosibirsk**	**80.36**	**328**	*e*P	**P**	**14 08 24.8**	**-1.7**
NVS				*e*	pP	14 08 59.5	-0.5
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
TKM2	**Tokmak 2**	**80.93**	**315**	P	**P**	**14 08 29.6**	**0.0**
	SNR=6.3						
KZA	**Kyzart**	**80.94**	**314**	P	**P**	**14 08 30.8**	**+1.2**
	SNR=8.9						
KURK	**Kurchatov**	**81.39**	**323**	*ce*P	**P**	**14 08 31.0**	**-1.0**
KURK	**Kurchatov**	**81.39**	**323**	*e*P	**P**	**14 08 30.5**	**-1.5**
	comp=Z,6.1nm,0.9s,mb4.2						
UCH	**Uchtor**	**81.51**	**314**	P	**P**	**14 08 33.7**	**+1.1**
	SNR=5.7						
AAK	**Ala-Archa**	**81.63**	**314**	P	**P**	**14 08 33.7**	**+0.4**
	SNR=6.7						
AAK	**Ala-Archa**	**81.63**	**314**	*i* P	**P**	**14 08 32.2**	**-1.0**
AAK				*i* *PP	pP	14 09 04.8	-2.1
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**81.63**	**314**	*e*P	**P**	**14 08 32.1**	**-1.1**
	comp=Z,4.9nm,0.7s,mb4.2						
AML	**Almayashu**	**82.07**	**314**	P	**P**	**14 08 36.3**	**+0.8**
	SNR=6.0						
EKS2	**Erkin-Say**	**82.15**	**314**	P	**P**	**14 08 36.8**	**+0.8**
	SNR=5.3						
MAW	**Mawson**	**82.79**	**203**	P	**P**	**14 08 38.6**	**-0.6**
	comp=Z,7.6nm,0.7s,mb4.6,baz=100,slow=6.7,SNR=21						
MAW	**Mawson**	**82.79**	**203**	*e*P	**P**	**14 08 38.1**	**-1.2**
MAW				pmax	pmax		
	comp=Z,27nm,1.3s						
MAW	**Mawson**	**82.79**	**203**	*e*P	**P**	**14 08 38.1**	**-1.1**
	comp=Z,27nm,1.3s,mb4.8						
QSPA	**South Pole Qui**	**84.26**	**180**	*e*P	**P**	**14 08 46.2**	**-0.6**
	comp=Z,39nm,0.7s,mb5.2						
KK31	**Karatay Array**	**84.59**	**314**	*i* P	**P**	**14 08 47.9**	**-0.5**
KK31				pmax	pmax		
	comp=Z,10.0nm,0.3s,mb5.0						
KKAR	**Karatay Array**	**84.59**	**314**	P	**P**	**14 08 47.9**	**-0.5**
COLA	**College**	**84.61**	**23**	⇓*i*P	**P**	**14 08 47.6**	**-0.9**
BVAR	**Borovoye Array**	**86.94**	**324**	P	**P**	**14 08 58.3**	**-1.8**
	comp=Z,4.6nm,0.8s,mb4.4,baz=104,slow=6.3,SNR=23						
BVAR				pP	pP	14 09 32.6	-1.5
	comp=Z,4.7nm,0.9s,baz=110,slow=5.2,SNR=6.7						
BRVK	**Borovoye**	**87.01**	**324**	*e*P	**P**	**14 08 58.3**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**87.01**	**324**	*e*P	**P**	**14 08 58.3**	**-2.1**
	comp=Z,4.5nm,0.9s,mb4.3						
INK	**Inuvik**	**91.12**	**21**	P	**P**	**14 09 18.9**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.3,baz=241,slow=6.8,SNR=2.1						
YBH	**Yreka Blue Hor**	**93.44**	**49**	LR	LR	14 47 30.9	
	comp=Z,69nm,20.0s,baz=282,slow=33						
WVOR	**Wild Horse Val**	**96.51**	**48**	*e*P	**P**	**14 09 44.6**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,24nm,2.0s,mb5.2						
WVOR	**Wild Horse Val**	**96.51**	**48**	*e*P	**P**	**14 09 44.6**	**+0.2**
	comp=Z,24nm,2.0s,mb5.2						
NEW	**Newport**	**97.67**	**42**	P	**P**	**14 09 48.9**	**-0.7**
	comp=Z,0.6nm,0.5s,mb4.3,baz=159,slow=3.1,SNR=3.8						
SNAA	**Sanae**	**100.40**	**189**	⇑*e*P	Pdif	14 10 01.2	-0.6
SNAA	**Sanae**	**100.40**	**189**	*e*Pdif	Pdif	14 10 00.3	-1.5
VNA2	**Neumayer--Watz**	**101.74**	**188**	*e*Pdiff	Pdif	14 10 06.2	-1.6
VNA2				*e*		14 10 15.0	
VNA2				*e*		14 10 37.4	
VNA2				*e*		14 10 50.7	
VNA3	**Neumayer Olymp**	**101.76**	**187**	*e*Pdiff	Pdif	14 10 05.9	-1.9
VNA3				*e*		14 10 15.2	
VNA3				*e*		14 10 36.9	
VNA3				*e*		14 10 49.8	
ARCES	**ARCESS Array B**	**106.19**	**342**	PKKPbc	PKKPbc	14 25 57.9	-2.0
	comp=Z,4.1nm,1.0s,baz=249,slow=3.4,SNR=6.8						
ULM	**Lac du Bonnet**	**111.10**	**38**	PKiKP	PKiKP	14 14 45.9	-1.9
	comp=Z,2.9nm,0.9s,baz=303,slow=4.6,SNR=3.5						
CLL	**Collm**	**121.08**	**329**	*e*PKPdf	PKPdf	14 15 06.0	-0.9
GERES	**GERESS Array B**	**122.06**	**326**	PKP	PKPdf	14 15 07.3	-1.5
	comp=Z,0.8nm,0.5s,baz=57,slow=4.9,SNR=4.2						
SCHQ	**Schefferville**	**123.70**	**23**	PKP	PKPdf	14 15 08.9	-2.9
	comp=Z,7.7nm,1.0s,baz=258,slow=9.3,SNR=3.5						
TSUM	**Tsumeb**	**125.01**	**242**	*e*PKPdf	PKPdf	14 15 14.6	+0.2
CFAA	**Coronel Fontan**	**129.49**	**140**	PKP	PKPdf	14 15 22.9	0.0
	comp=Z,0.6nm,0.6s,baz=254,slow=3.3,SNR=12						
CFAA	**Coronel Fontan**	**129.49**	**140**	PKP	PKPdf	14 15 22.9	0.0
LPAZ	**La Paz**	**138.35**	**122**	PKhKP		14 15 31.3	
	comp=Z,0.8nm,0.5s,baz=243,slow=9.0,SNR=3.2						
LPAZ	**La Paz**	**138.35**	**122**	PKP		14 15 31.3	
LPAZ				*e*PKPdf	PKPdf	14 15 41.5	+1.9
SIV	**San Ignacio**	**144.28**	**128**	PKP	PKPdf	14 15 49.2	-0.9
	comp=Z,18nm,0.5s,baz=241,slow=4.1,SNR=64						
TOA0	**Torodi Ar. Sit**	**145.70**	**285**	*e*PKPdf	PKPdf	14 15 53.0	+0.4
TOA0				epPKPdf	pPKPdf	14 16 25.8	-2.7
TORD	**Torodi Ar. Bea**	**145.70**	**285**	PKPbc	PKPbc	14 15 53.3	0.0
	comp=Z,7.9nm,0.5s,baz=52,slow=3.0,SNR=101						
TORD				SKPbc	SKPbc	14 19 18.2	-1.8
	comp=Z,0.7nm,0.7s,baz=60,slow=2.7,SNR=2.3						

*IDC **02** 14:00:29.4±0.6,4750N×15571E,h0km,mb4.5/24, mb1 4.6/25,mb1mx4.6/28,mbtmp4.5/25,ML3.7/1,MS3.7/6, Ms1 3.7/6,ms1mx3.2/40,Error ellipse: s-maj=18.3km s-min=13.3km az=151.0*

*ISCJB **02** 14:00:30.1±0.2,4764N±005×15568E±003,h10km, mb4.7/75,MS3.8/12,Error ellipse: s-maj=6.6km s-min=3.2km az=168.7*

*NEIC **02** 14:00:31.4±0.3,4759N×15571E,h10km,mb4.8/36,Error ellipse: s-maj=8.4km s-min=5.6km az=165.0*

*BJI **02** 14:00:33.3,4774N×15500E,h10km,mB4.9,mb4.4,Ms4.5, Msz3.9*

*MOS **02** 14:00:35.1±1.4,4764N×15558E,h47km,mb4.9/48,Error ellipse: s-maj=10.0km s-min=6.0km az=105.5*

*SZGRF **02** 14:00:39.4,4866N×15745E,h33km,mb5.1,East of Kuril Islands, Russia*

ISC 02 14:00:31.6±2.0,4770N±005×15561E±003,h7km±12km, h13km±2.5km:pP-P,n298,σ0°80/300,mb4.7/75,MS3.8/12, 54C-58D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.00**	**6**	*e*PN	**Pn**	**14 01 19.5**	**-0.1**
SKR				*e*S	**Sn**	**14 01 56.5**	**+0.7**
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				smax			
	comp=N,250nm,0.6s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR				MLR	MLR		
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
PET	**Petropavlovsk**	**5.67**	**19**	*e*PN	**Pn**	**14 01 56.1**	**-0.2**
PET				pmax	pmax		
	comp=Z,73nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
PET	**Petropavlovsk**	**5.67**	**19**	*e*Pn	**Pn**	**14 01 55.7**	**-0.5**
	comp=Z,46nm,0.8s						
PET				*e*Sn	**Sn**	**14 02 57.3**	**-4.4**
KUR	**Kuril'sk**	**5.89**	**248**	*e*PN	**Pn**	**14 01 54.5**	**-4.7**
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**7.73**	**245**	*e*PN	**Pn**	**14 02 23.5**	**-0.9**
YSS	**Yuzh-Sakhalins**	**8.77**	**270**	⇓*i*PN	**Pn**	**14 02 42.3**	**+3.6**
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=N,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.77**	**270**	*e*P	**Pn**	**14 02 42.2**	**+3.5**
	comp=N,54nm,0.8s						
UGL	**Uglegorsk**	**9.12**	**284**	*e*PN	**Pn**	**14 02 48.0**	**+4.4**
UGL				pmax	pmax		
	comp=Z,98nm,0.9s						
UGL				MLR	MLR		
	comp=N,800nm,14.0s						
UGL				MLR	MLR		
	comp=E,1μm,14.0s						
UGL				MLR	MLR		
	comp=Z,900nm,14.0s						
ASAJ	**Asahikawa**	**9.75**	**253**	Pn	**Pn**	**14 02 52.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=74,slow=14,SNR=12						
ASAJ				LR	LR	14 06 21.0	
	comp=Z,114nm,20.3s,baz=224,slow=36						
HABR	**Khabarovsk**	**13.77**	**281**	*e*P	**Pn**	**14 03 47.2**	**+0.1**
HABR				*e*S	**Sn**	**14 06 18.6**	**-1.6**
SEY	**Seymchan**	**15.38**	**354**	⇓*i*P	**Pn**	**14 04 09.6**	**+0.7**
KLR	**Kul'dur**	**15.89**	**284**	*e*P	**Pn**	**14 04 14.4**	**-1.2**
KLR				MLR	MLR		
	comp=E,600nm,12.5s						
KLR				MLR	MLR		
	comp=Z,2μm,12.5s						
MDJ	**Mudanjiang**	**18.26**	**270**	P	**Pn**	**14 04 45.4**	**0.0**
MDJ				AMB	AMB		
	comp=Z,14nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,136nm,4.7s						
YAK	**Yakutsk**	**20.50**	**324**	*c i*P	**P**	**14 05 09.9**	**-0.2**
YAK				*i*		14 05 25.2	
YAK				*e*S	**S**	**14 08 50.5**	**-9.2**
YAK				*e*SS		14 09 24.2	
YAK				pmax	pmax		
	comp=Z,39nm,0.7s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,0.9s						
YAK				smax			
	comp=E,229nm,3.6s

HHC AMB AMB
comp=Z,27nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,234nm,5.7s
HHC LR LR
comp=N,330nm,14.9s,MS4.2
HHC LR LR
comp=E,306nm,16.6s,MS4.2
HHC LR LR
comp=Z,226nm,17.8s,MS3.9
IMA2 Indian Mountai 32.03 37 *e*P **P 14 06 58.4 -0.3**
SONM Songino Array 32.63 289 LR LR 14 19 31.3
comp=Z,108nm,18.9s,MS3.6,baz=59,slow=35
TLY Talaya 33.27 297 *e*P **P 14 07 10.5 +1.0**
TLY *e* 14 12 18.4
TLY pmax pmax
comp=Z,11nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,144nm,15.0s,MS3.8
MCK McKinley 33.82 41 *e*P **P 14 07 12.9 -1.4**
MCK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
MCK McKinley 33.82 41 *e*P **P 14 07 12.9 -1.4**
comp=Z,4.2nm,1.2s,mb4.2
SML Sawmill 34.10 45 *e*P **P 14 07 15.0 -1.8**
COLA College 34.33 39 *e*P **P 14 07 18.5 -0.2**
EGAK Eagle 37.19 39 *e*P **P 14 07 41.8 -1.5**
comp=Z,9.8nm,0.9s,mb4.6
LZH Lanzhou 39.55 272 *e*P **P 14 08 04.6 +1.4**
LZH AMB AMB
comp=Z,29nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.8s
INK Inuvik 39.93 33 P **P 14 08 06.3 0.0**
comp=Z,8.5nm,0.8s,mb4.5,baz=277,slow=8.9,SNR=49
INK Inuvik 39.93 33 *e*P **P 14 08 06.2 -0.1**
comp=Z,235nm,0.8s
CD2 Chengdu 42.65 266 *e*P **P 14 08 28.4 -0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
ZAL Zalesovo 43.45 306 P **P 14 08 34.7 -0.5**
comp=Z,2.5nm,0.5s,mb4.2,baz=55,slow=6.9,SNR=7.4
ZAL LR LR 14 27 26.9
comp=Z,126nm,18.4s,MS3.9,baz=228,slow=37
ZAL Zalesovo 43.45 306 P **P 14 08 34.7 -0.5**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL MLR MLR
comp=Z,126nm,18.4s
ZAL Zalesovo 43.45 306 P **P 14 08 34.7 -0.5**
ZAL LR LR 14 27 26.9
GYA Guiyang 43.58 259⇑ *i*P **P 14 08 38.6 +2.5**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
NVS Novosibirsk 43.96 307 *e*P **P 14 08 37.3 -2.0**
KMI Kunming 47.08 261 P **P 14 09 05.5 +1.5**
KMI AP pP 14 09 11.1 +4.9
KMI XP sP 14 09 14.0 +6.9
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
MK31 Makanchi Array 48.01 298 *i* P **P 14 09 11.2 0.0**
MK31 pmax pmax
comp=Z,14nm,0.7s,mb5.1
MKAR Makanchi Array 48.01 298 P **P 14 09 11.2 0.0**
comp=Z,12nm,0.8s,mb5.0,baz=61,slow=6.6,SNR=23
MKAR LR LR 14 32 35.9
comp=Z,147nm,18.1s,MS4.0,baz=243,slow=40
MKAR Makanchi Array 48.01 298 P **P 14 09 11.2 0.0**
MKAR pmax pmax
comp=Z,12nm,0.8s
MKAR MLR MLR
comp=Z,147nm,18.1s
KURK Kurchatov 48.25 304⇓ *e*P **P 14 09 12.8 -0.3**
KURK Kurchatov 48.25 304 *e*P **P 14 09 12.5 -0.6**
comp=Z,22nm,0.7s,mb5.3
YKA Yellowknife Ar 49.14 38 P **P 14 09 19.3 -0.5**
comp=Z,4.8nm,0.9s,mb4.5,baz=295,slow=7.5,SNR=22
YKA Yellowknife Ar 49.14 38 *i* P **P 14 09 19.6 -0.3**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 49.14 38 P **P 14 09 19.3 -0.5**
RES Resolute Bay 49.39 19 *e*P **P 14 09 22.2 +0.5**
comp=Z,223nm,0.9s
BVAR Borovoye Array 51.57 310 P **P 14 09 38.4 +0.2**
comp=Z,5.0nm,0.7s,mb4.5,baz=60,slow=8.8,SNR=7.5
BVAR PcP PcP 14 10 51.1 -1.1
comp=Z,2.5nm,0.8s,baz=45,slow=2.3,SNR=3.8
BVAR LR LR 14 35 24.0
comp=Z,126nm,18.4s,MS4.0,baz=319,slow=40
BVAR Borovoye Array 51.57 310 P **P 14 09 38.4 +0.2**
BVAR 14 10 51.1
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR MLR MLR
comp=Z,126nm,18.4s
BRVK Borovoye 51.60 310 *e*P **P 14 09 33.2 -5.3**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRVK Borovoye 51.60 310 *e*P **P 14 09 33.2 -5.3**
comp=Z,9.7nm,0.8s,mb4.8
KBS Kingsbay 51.81 352⇑ *e*P **P 14 09 41.3 +1.2**
LSA Lhasa 51.91 274 P **P 14 09 43.0 +2.2**
LSA Lhasa 51.91 274 *e*P **P 14 09 43.2 +2.4**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LSA Lhasa 51.91 274 *e*P **P 14 09 43.2 +2.3**
comp=Z,10nm,0.8s,mb4.8
C05A Tolt Reservoir 53.01 57⇑ P **P 14 09 48.2 -0.7**
baz=53
E04A Onalaska 53.02 59⇑ P **P 14 09 48.5 -0.5**
baz=53
B07A Winthrop 53.48 56⇓ P **P 14 09 51.7 -0.7**
baz=53
A08A Turner Farm, O 53.67 55⇓ P **P 14 09 53.4 -0.5**
baz=54
C07A Waterville 53.93 56⇓ P **P 14 09 54.8 -1.0**
baz=54
B08A Colville Reser 53.97 55⇓ P **P 14 09 55.3 -0.7**
baz=54
A09A Danville 54.04 54 P **P 14 09 56.2 -0.3**
baz=54,SNR=5.6
D07A Quincy 54.26 57⇓ P **P 14 09 57.1 -1.0**
baz=54
H04A Detroit Lake 54.40 60⇓ P **P 14 09 57.6 -1.6**
baz=54
EDM Edmonton 54.42 48 *e*P **P 14 09 58.4 -0.9**
C08A Higginbotham F 54.45 56⇑ P **P 14 09 58.5 -1.1**
baz=54
B09A Rice 54.59 55⇓ P **P 14 10 00.3 -0.2**
baz=54
E07A Sunnyside 54.69 57⇓ P **P 14 10 00.5 -0.7**
baz=54
I04A Tendick Farm, 54.78 61⇓ P **P 14 10 01.4 -0.5**
baz=55
C09A Chrisman Ranch 54.87 55⇓ P **P 14 10 01.5 -1.1**
baz=55
D08A Wollman Farm, 54.93 56⇓ P **P 14 10 02.0 -1.0**
baz=55
AAK Ala-Archa 54.93 297 *e*P **P 14 10 03.2 +0.2**
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AAK Ala-Archa 54.93 297 *e*P **P 14 10 03.2 +0.2**
comp=Z,8.8nm,0.8s,mb4.8
H05A Madras 54.98 60⇓ P **P 14 10 02.8 -0.6**
baz=55
F07A Phinny Hill Vi 55.02 58⇑ P **P 14 10 02.8 -0.9**
baz=55
HUMO Hull Mountain 55.13 63⇓ P **P 14 10 04.5 0.0**
baz=55
J04A Umpqua Nationa 55.27 62⇓ P **P 14 10 05.3 -0.2**
baz=55
C10A Spilker Farm, 55.40 55⇑ P **P 14 10 06.1 -0.3**
baz=55
H06A Lindquist Farm 55.45 59⇓ P **P 14 10 06.6 -0.2**
baz=55
ARU Arti 55.45 318 *e*P **P 14 10 06.2 -0.6**
ARU *e* 14 11 05.9
ARU *e* 14 12 07.2
ARU *e*PPP 14 13 22.4
ARU *e*S **S 14 17 49.1 -2.9**
ARU *e*SS SS 14 21 31.6 -5.0
ARU *e*SSS 14 23 43.8
ARU Arti 55.45 318 *e*P **P 14 10 06.6 -0.2**
comp=Z,27nm,0.8s,mb5.3

E09A Wood Farm, Sta 55.68 57⇓ P **P 14 10 08.5 +0.1**
baz=56
DAG Danmarks Havn 55.76 358⇓ *i*P **P 14 10 09.2 +0.3**
comp=Z,4.2nm,0.9s,mb4.5
DAG Danmarks Havn 55.76 358⇓ *i*P **P 14 10 09.2 +0.3**
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
J05A Fort Rock 55.77 61⇑ P **P 14 10 09.1 0.0**
baz=56
YBH Yreka Blue Hor 55.80 64⇓ P **P 14 10 09.4 +0.2**
baz=56
D10A Wagner Farm, O 55.85 56⇓ P **P 14 10 08.4 -1.2**
baz=56
G08A Pilot Rock 55.92 58⇓ P **P 14 10 09.8 -0.4**
baz=56
I06A Prineville 55.99 60⇑ P **P 14 10 11.2 +0.6**
baz=56
E10A Myers Farm, Un 56.28 56⇑ P **P 14 10 12.4 -0.3**
baz=56
F09A S2 Ranch, Elgi 56.28 57⇑ P **P 14 10 12.5 -0.2**
baz=56
M04C Macdoel 56.29 63⇑ P **P 14 10 12.5 -0.3**
baz=56
K05A Summer Lake 56.30 62⇑ P **P 14 10 12.8 0.0**
baz=56
I07A Izee 56.32 60⇑ P **P 14 10 13.3 +0.3**
baz=56
D11A Klaveano Farm, 56.38 55⇑ P **P 14 10 12.8 -0.6**
baz=56
J06A Christmas Vall 56.43 61 P **P 14 10 14.4 +0.7**
baz=56,SNR=6.3
H08A Prairie City 56.54 59 P **P 14 10 14.4 -0.2**
baz=56,SNR=5.1
WDC Whiskeytown Da 56.58 65⇓ P **P 14 10 14.1 -0.8**
baz=56
B13A Whitefish 56.62 53 P **P 14 10 15.1 0.0**
baz=56,SNR=6.4
K06A Valley Falls 56.64 61 P **P 14 10 15.8 +0.6**
baz=56,SNR=6.3
O02C Red Bluff 56.67 65⇓ P **P 14 10 16.4 +0.9**
baz=56
L05A Lakeview 56.74 62⇓ P **P 14 10 16.3 +0.3**
baz=56
P01C Double 8 Ranch 56.76 66⇑ P **P 14 10 15.8 -0.3**
baz=57
J07A Hines 56.85 60⇑ P **P 14 10 18.2 +1.5**
baz=57
E11A Bogner Ranch, 56.86 56⇓ P **P 14 10 16.5 -0.3**
baz=57
M05C Lookout 56.96 63⇓ P **P 14 10 18.4 +0.8**
baz=57
I08A Drewsey 56.96 59 P **P 14 10 18.2 +0.6**
baz=57,SNR=6.9
H09A Durkee 57.04 58⇑ P **P 14 10 18.7 +0.6**
baz=57
KKN Kakani 57.09 276 *e*P **P 14 10 19.2 +0.8**
comp=Z,38nm,1.1s,mb5.3
HATC Hat Creek Radi 57.10 64⇓ P **P 14 10 17.7 -0.8**
baz=57
MOD Modoc 57.14 62⇑ P **P 14 10 18.9 +0.1**
baz=57
K07A Rock Creek Ran 57.30 61⇓ P **P 14 10 19.8 -0.1**
baz=57
DMN Daman 57.32 276 *e*P **P 14 10 20.9 +0.8**
comp=Z,46nm,0.9s,mb5.5
J08A Circle Bar Ran 57.35 60⇓ P **P 14 10 20.7 +0.4**
baz=57
GKN Gorkha 57.38 277 *e*P **P 14 10 21.2 +0.7**
comp=Z,28nm,0.9s,mb5.3
D13A Huson 57.39 54⇑ P **P 14 10 20.2 -0.4**
baz=57
I09A Lost Marbles R 57.41 59 P **P 14 10 21.1 +0.5**
baz=57,SNR=5.3
ARCES ARCESS Array B 57.51 341 P **P 14 10 21.0 -0.4**
comp=Z,6.8nm,0.8s,mb4.7,baz=7.8,slow=9.8,SNR=6.7
ARCES ARCESS Array B 57.51 341 P **P 14 10 21.0 -0.4**
H10A Noah's Angus R 57.61 58⇑ P **P 14 10 22.3 +0.2**
baz=57
L07A Adell 57.64 62⇑ P **P 14 10 22.2 -0.2**
baz=57
K08A Mann Creek Ran 57.72 60⇑ P **P 14 10 23.0 +0.1**
baz=58
J09A Fry Pan Ranch, 57.77 59 P **P 14 10 23.9 +0.6**
baz=58,SNR=5.2
D14A Greenough 57.91 54 P **P 14 10 23.8 -0.5**
baz=58,SNR=6.4
E13A Victor 57.93 55⇓ P **P 14 10 24.5 +0.2**
baz=58
H11A Donnelly 57.96 57 P **P 14 10 24.3 -0.3**
baz=58,SNR=10
N06A Buffalo Meadow 58.12 63⇓ P **P 14 10 25.5 -0.3**
baz=58
L08A Fields 58.13 61 P **P 14 10 25.3 -0.5**
baz=58,SNR=5.6
K09A Rome 58.18 60⇓ P **P 14 10 26.2 +0.1**
baz=58
KOLN Koldanda 58.23 278 *e*P **P 14 10 27.1 +0.7**
comp=Z,30nm,0.9s,mb5.3
F13A Darby 58.24 55⇓ P **P 14 10 27.0 +0.4**
baz=58
E14A Clinton 58.33 54⇓ P **P 14 10 27.5 +0.3**
baz=58
BEKR Beckwourth 58.34 64⇓ P **P 14 10 26.9 -0.4**
baz=58
I11A Placerville 58.47 58⇑ P **P 14 10 28.6 +0.5**
baz=58
N07B Gerlach 58.62 62⇑ P **P 14 10 29.1 -0.1**
baz=58
L09A Wilkinson Ranc 58.63 61⇑ P **P 14 10 29.5 +0.2**
baz=58
G13A Cobalt 58.72 56 P **P 14 10 29.9 -0.1**
baz=58,SNR=11
F14A Wisdom 58.76 55⇑ P **P 14 10 30.6 +0.4**
baz=58
E15A Deer Lodge 58.79 54⇓ P **P 14 10 30.3 -0.1**
baz=59
LAVA Lava Cap Winer 58.79 65⇑ P **P 14 10 30.0 -0.4**
baz=59
O07A Toulon 59.06 63⇓ P **P 14 10 32.3 +0.1**
baz=59
AB31 Akbulak array 59.12 311 *i* P **P 14 10 33.1 +0.4**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
N08A GE Springer Mi 59.12 62⇓ P **P 14 10 32.6 -0.1**
baz=59
M09A Marrel Ranch, 59.13 61⇑ P **P 14 10 33.3 +0.5**
baz=59
S04C Ingram Canyon, 59.21 67⇓ P **P 14 10 33.5 +0.2**
baz=59
F15A Butte 59.23 54 P **P 14 10 34.2 +0.8**
baz=59,SNR=6.9
R05C Kirkwood Meado 59.23 65⇓ P **P 14 10 34.0 +0.5**
baz=59
EGMT Eagleton 59.34 51⇑ P **P 14 10 34.9 +0.7**
baz=59
AKTK Aktyubinsk 59.35 313 P **P 14 10 34.3 0.0**
AKTO Aktyubinsk 59.35 313 P **P 14 10 34.3 0.0**
comp=Z,3.0nm,0.8s,mb4.4,baz=43,slow=7.0,SNR=8.8
AKTO Aktyubinsk 59.35 313 P **P 14 10 34.3 0.0**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
N09A Rock Creek Ran 59.44 62⇑ P **P 14 10 35.3 +0.4**
baz=59
CMB Columbia Colle 59.46 66⇑ P **P 14 10 35.0 0.0**
baz=59
FCC Fort Churchill 59.52 35 P **P 14 10 34.1 -1.3**
comp=Z,14nm,1.0s,mb4.9
PACP Pacheco Peak 59.54 67⇑ P **P 14 10 35.5 -0.1**
baz=59
HLID Hailey 59.56 57 *e*P **P 14 10 35.8 +0.1**
comp=Z,3.4nm,1.3s,mb4.2
HLID Hailey 59.56 57 P **P 14 10 36.1 +0.4**
baz=59,SNR=5.8
M10A I.L. Ranch, Tu 59.60 60⇑ P **P 14 10 36.5 +0.5**
baz=59
G15A Dillon 59.65 55⇑ P **P 14 10 36.6 +0.3**
baz=59
MCMT McKenzie Canyo 59.66 56 *e*P **P 14 10 36.0 -0.4**
R06C Coleville 59.73 65⇑ P **P 14 10 37.2 +0.3**
baz=60
BOZ Bozeman (W) 59.82 54 *e*P **P 14 10 37.7 +0.2**
BOZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BOZ Bozeman (W) 59.82 54 *e*P **P 14 10 37.6 +0.1**
comp=Z,5.9nm,1.0s,mb4.6
S06C San Francisco 59.89 66⇑ P **P 14 10 38.5 +0.6**
baz=60
O09A Fish Creek Ran 60.06 62⇑ P **P 14 10 39.4 +0.2**
baz=60
M11A Holland Ranch, 60.10 60⇓ P **P 14 10 40.5 +1.1**
baz=60
KLMR Klimovskoe 60.16 330 *e*P **P 14 10 39.9 0.0**
KLMR pmax pmax
comp=Z,57nm,1.6s,mb5.3
O10A Cortez Mining, 60.40 62⇓ P **P 14 10 42.4 +1.0**
baz=60
Q08A Gabbs 60.44 64⇓ P **P 14 10 42.5 +0.7**
baz=60
QLMT Earthquake Lak 60.44 55 *e*P **P 14 10 42.2 +0.4**
NVAR Mina Array Bea 60.49 64 P **P 14 10 41.7 -0.4**
comp=Z,2.0nm,0.9s,mb4.1,baz=292,slow=8.8,SNR=6.4
NVAR Mina Array Bea 60.49 64 P **P 14 10 41.7 -0.4**
M12A Wells 60.62 60 P **P 14 10 44.0 +1.0**
baz=60,SNR=5.1
P10A Eureka 60.84 62⇑ P **P 14 10 44.6 +0.1**
baz=61
N12A Clover Valley, 60.91 60⇑ P **P 14 10 45.1 +0.1**
baz=61
O11A Cowboy Ranch, 61.00 61⇑ P **P 14 10 46.1 +0.6**
baz=61
M13A Montello 61.09 59⇓ P **P 14 10 47.1 +0.9**
baz=61
HELL Mitchell Peak, 61.16 66⇓ P **P 14 10 46.2 -0.4**
baz=61
S08C White Mtn Res 61.16 65⇓ P **P 14 10 47.0 +0.4**
baz=61
R09A Tonopah 61.35 64 P **P 14 10 48.1 +0.1**
baz=61,SNR=5.2
N13A Wendover, West 61.39 60⇓ P **P 14 10 48.8 +0.5**
baz=61
O12A Currie 61.45 61 P **P 14 10 49.1 +0.4**
baz=61,SNR=7.0
CWC Cottonwood Cre 61.89 66⇓ P **P 14 10 51.9 +0.2**
baz=62
DGMT Dagmar 61.91 48 *e*P **P 14 10 51.2 -0.6**
comp=Z,14nm,1.0s,mb5.0
FURC Furnace Creek, 62.62 65⇑ P **P 14 10 57.2 +0.7**
baz=62
DUG Dugway 62.63 60 *e*P **P 14 10 56.6 +0.1**
DUG pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
DUG Dugway 62.63 60 *e*P **P 14 10 56.6 +0.1**
comp=Z,3.3nm,0.9s,mb4.5
DUG Dugway 62.63 60 P **P 14 10 57.1 +0.5**
baz=62,SNR=5.2
PDAR Pinedale Array 62.81 56 P **P 14 10 57.5 -0.2**
comp=Z,4.0nm,0.9s,mb4.5,baz=309,slow=2.6,SNR=18
EDW2 Edwards Air Fo 62.96 67⇑ P **P 14 10 58.8 0.0**
baz=63
U10A Ash Meadows, A 62.98 65⇓ P **P 14 10 59.3 +0.4**
baz=63
KAF Kangasniemi 63.28 336 *e*p **P 14 10 59.5 -1.4**
baz=35,slow=6.1
GSC Goldstone 63.42 66⇑ P **P 14 11 01.9 +0.2**
baz=63
TUQ Turquoise Mtn. 63.87 65⇑ P **P 14 11 04.7 -0.1**
baz=64
FINES FINESS Array B 63.89 336 P **P 14 11 05.2 +0.3**
comp=Z,6.2nm,0.8s,mb4.7,baz=34,slow=7.1,SNR=16
FINES FINESS Array B 63.89 336 *i* P **P 14 11 05.4 +0.5**
FINES pmax pmax
comp=Z,6.0nm,0.8s
V11A Goodsprings 63.91 65⇓ P **P 14 11 05.6 +0.5**
baz=64
MURC Murrieta 64.29 68⇑ P **P 14 11 07.5 -0.1**
baz=64
GMRC Granite Mounta 64.47 66⇑ P **P 14 11 08.6 -0.1**
baz=64
ULM Lac du Bonnet 64.68 42 P **P 14 11 08.4 -1.7**
comp=Z,3.3nm,0.8s,mb4.4,baz=291,slow=2.0,SNR=4.5
RSSD Black Hills 64.91 51 *e*P **P 14 11 10.8 -0.8**
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
RSSD Black Hills 64.91 51 *e*P **P 14 11 10.8 -0.8**
comp=Z,7.6nm,1.0s,mb4.7
IRM Iron Mountain 65.19 66⇓ P **P 14 11 13.4 0.0**
baz=65
OBN Obninsk 65.47 326⇑ *e*P **P 14 11 14.8 -0.5**
OBN *e**PP pP 14 11 30.3 +13
OBN *e* 14 11 46.0
OBN pmax pmax
comp=Z,13nm,1.1s,mb4.9
X13A Yucca 65.71 65⇑ P **P 14 11 17.1 +0.3**
baz=66
W14A Seligman 65.75 64 P **P 14 11 17.6 +0.5**
baz=66,SNR=5.2
PV10 Paradox Valley 66.02 59 *e*P **P 14 11 18.8 0.0**
PSI Prapat 66.03 246 P **P 14 11 19.0 +0.2**
comp=Z,5.1nm,0.8s,mb4.6,baz=161,slow=6.4,SNR=4.9
PSI Prapat 66.03 246 P **P 14 11 19.0 +0.2**
PSI pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VSU Vasula 66.14 333 *i* P **P 14 11 20.5 +0.9**
X14A Yava 66.37 64⇓ P **P 14 11 21.6 +0.5**
baz=66
WUAZ Wupatki 66.58 63⇓ P **P 14 11 22.8 +0.4**
baz=66
Y14A Wickenburg 66.66 65⇓ P **P 14 11 22.7 -0.2**
baz=66
X15A Humboldt 66.76 64⇑ P **P 14 11 24.0 +0.5**
baz=66
MVCO Mesa Verde 67.13 60⇓ P **P 14 11 26.5 +0.7**
baz=67
NB2 NORSAR Subarra 67.86 342 P **P 14 11 30.7 +0.2**
comp=Z,14nm,0.8s,mb5.0,baz=26,slow=6.5
NOA NORSAR Array B 67.86 342 P **P 14 11 30.8 +0.2**
comp=Z,14nm,0.9s,mb5.0,baz=26,slow=6.5,SNR=20
NOA NORSAR Array B 67.86 342 P **P 14 11 30.8 +0.3**
NOA pmax pmax
comp=Z,14nm,0.9s
ANMO Albuquerque 69.88 60⇑ *e*P **P 14 11 43.5 +0.4**
WRA Warramunga Arr 69.99 201 P **P 14 11 41.4 -2.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=21,slow=6.6,SNR=4.2
WRA Warramunga Arr 69.99 201 P **P 14 11 41.4 -2.3**
WRA pmax pmax
comp=Z,1.0nm,0.7s
SUW Suwalki 70.96 333 P **P 14 11 49.5 -0.2**
SUW pmax pmax
comp=Z,22nm,0.9s,mb5.1
SUW Suwalki 70.96 333 P **P 14 11 49.5 -0.1**
comp=Z,22nm,0.9s,mb5.1
KIV Kislovodsk 71.34 315⇑ *e*P **P 14 11 48.3 -3.7**
KIV *e**PP pP 14 12 03.6 +9.3
KIV *e* 14 12 10.9
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.8
AKASG Malin Array Be 71.69 327 P **P 14 11 53.0 -1.1**
comp=Z,7.3nm,0.8s,mb4.7,baz=34,slow=6.2,SNR=24
AKASG Malin Array Be 71.69 327 P **P 14 11 53.0 -1.1**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 71.69 327 *e*P **P 14 11 53.0 -1.1**
KIEV Kiev 71.70 327 *e*P **P 14 11 53.0 -1.1**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 71.70 327 *e*P **P 14 11 53.0 -1.1**
comp=Z,8.2nm,0.8s,mb4.7
SCHQ Schefferville 71.76 24 P **P 14 11 54.1 -0.4**
comp=Z,6.3nm,0.9s,mb4.5,baz=6.8,slow=6.7,SNR=4.1
ASAR Alice Springs 73.67 201 P **P 14 12 04.0 -1.9**
comp=Z,1.4nm,0.7s,mb4.0,baz=13,slow=4.8,SNR=12
ASAR Alice Springs 73.67 201 P **P 14 12 04.0 -1.9**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
KWP Kalwaria 74.86 330 *e*P **P 14 12 12.1 -0.7**
STHS Stebnicka Huta 75.53 331 *e*P **P 14 12 17.9 +1.3**
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 75.53 331 *e*P **P 14 12 17.9 +1.3**
comp=Z,3.6nm,0.9s,mb4.3
STHS *e* 14 33 08.1
TXAR Lajitas Array 75.54 62 P **P 14 12 16.3 -0.4**
comp=Z,4.1nm,0.8s,mb4.4,baz=302,slow=4.1,SNR=46
TXAR Lajitas Array 75.54 62 P **P 14 12 16.3 -0.4**
TXAR pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 75.61 330 *e*P **P 14 12 17.7 +0.6**
UPC Upice 76.17 335 *e*P **P 14 12 21.2 +0.9**
DPC Dobruska-Polom 76.22 335 *e*P **P 14 12 21.8 +1.2**
DPC pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
DPC Dobruska-Polom 76.22 335 *e*P **P 14 12 21.8 +1.2**
comp=Z,4.4nm,0.3s,mb4.9
CLL Collm 76.28 337 *i* P **P 14 12 20.7 -0.3**
CLL *i* 14 12 37.3

CLL pmax pmax
comp=Z,13nm,1.2s,mb4.7
CLL Collm 76.28 337 *i* P **P 14 12 20.7 -0.3**
comp=Z,13nm,1.2s,mb4.7
CLL *i* pP 14 12 23.4 +0.1
CLL *i* 14 12 37.3
CLL *i* 14 12 51.6
CLL Collm 76.28 337 *i* P **P 14 12 20.7 -0.3**
comp=Z,13nm,1.2s,mb4.7
CLL *i* pP pP 14 12 23.4 +0.1
comp=Z,11nm,0.9s
CLL *i* sPcP 14 12 37.3
MORC Moravsky Berou 76.37 334 *e*P **P 14 12 22.2 +0.7**
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MORC Moravsky Berou 76.37 334 *e*P **P 14 12 22.2 +0.7**
comp=Z,8.5nm,1.1s,mb4.6
BRG Berggiesshubel 76.42 336 *e*P **P 14 12 23.7 +1.9**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BRG Berggiesshubel 76.42 336 *e*P **P 14 12 23.7 +1.9**
comp=Z,3.2nm,1.1s,mb4.2
PRU Pruhonice 77.06 335 *e*P **P 14 12 26.2 +0.9**
PRU *e*pP pP 14 12 29.9 +2.2
VYHS Vyhne 77.11 332 *e*P **P 14 12 25.9 +0.3**
PSZ Piszkesteto 77.27 331 P **P 14 12 28.5 +1.9**
PSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
PSZ Piszkesteto 77.27 331 P **P 14 12 28.5 +1.9**
comp=Z,2.8nm,0.7s,mb4.3
MALT Malatya 77.73 314 *e*P **P 14 12 31.1 +2.0**
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MALT Malatya 77.73 314 *e*P **P 14 12 31.1 +1.9**
comp=Z,5.0nm,0.9s,mb4.4
KHC Kasperske Hory 78.10 336 *e*P **P 14 12 31.9 +0.7**
KHC *e*pP pP 14 12 34.8 +1.3
KHC Kasperske Hory 78.10 336 *e*P **P 14 12 31.9 +0.7**
KHC *e* pP 14 12 34.8 +1.3
GRA1 Grafenberg Arr 78.23 337 *e*P **P 14 12 31.9 0.0**
comp=Z,11nm,0.8s,mb4.8
GRF Grafenberg Arr 78.23 337 *e*P **P 14 12 31.9 0.0**
comp=Z,11nm,0.8s,mb4.8
GRF Grafenberg Arr 78.23 337 *e*P **P 14 12 31.9 0.0**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRF Grafenberg Arr 78.23 337 *e*P **P 14 12 31.9 0.0**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GERES GERESS Array B 78.33 335 P **P 14 12 32.5 0.0**
comp=Z,1.5nm,0.6s,mb4.1,baz=44,slow=4.6,SNR=11
GERES GERESS Array B 78.33 335 P **P 14 12 32.5 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.6s
MEM Membach 78.64 341 P **P 14 12 35.0 +0.9**
comp=Z,7.3nm,0.9s,mb4.6
BRTR Keskin Array B 78.84 318 P **P 14 12 35.9 +0.6**
comp=Z,2.7nm,0.9s,mb4.2,baz=70,slow=4.1,SNR=7.6
BRTR Keskin Array B 78.84 318 P **P 14 12 35.9 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BCLA Clavier 78.97 341 P **P 14 12 39.1 +3.1**
BFO Black Forest 80.22 339 *e*P **P 14 12 43.1 +0.3**
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BFO Black Forest 80.22 339 *e*P **P 14 12 43.1 +0.3**
comp=Z,4.7nm,0.9s,mb4.4
CDF Champ du Feu 80.40 339 *e*P **P 14 12 43.6 -0.1**
comp=Z,31nm,1.4s,mb4.8
CDF Champ du Feu 80.40 339 *e*P **P 14 12 43.6 -0.1**
CDF pmax pmax
comp=Z,15nm,1.4s,mb4.7
CDF Champ du Feu 80.40 339 *e*P **P 14 12 43.6 -0.1**
comp=Z,15nm,1.4s,mb4.7
GRR Gorron 82.14 344 *e*P **P 14 12 53.1 +0.1**
comp=Z,64nm,1.4s,mb5.0
GRR Gorron 82.14 344 *e*P **P 14 12 53.1 +0.1**
GRR pmax pmax
comp=Z,32nm,1.4s,mb5.1
GRR Gorron 82.14 344 *e*P **P 14 12 53.1 +0.1**
comp=Z,32nm,1.4s,mb5.1
SMF Signal de Mont 82.85 341 *e*P **P 14 12 56.8 +0.1**
comp=Z,30nm,1.0s,mb5.0
SMF Signal de Mont 82.85 341 *e*P **P 14 12 56.8 +0.1**
SMF pmax pmax
comp=Z,15nm,1.0s,mb5.0
SMF Signal de Mont 82.85 341 *e*P **P 14 12 56.8 +0.1**
comp=Z,15nm,1.0s,mb5.0
LPG La Plagne 83.25 339 *e*P **P 14 12 59.9 +1.1**
comp=Z,24nm,0.9s,mb4.9
LPG La Plagne 83.25 339 *e*P **P 14 12 59.9 +1.1**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
LPG La Plagne 83.25 339 *e*P **P 14 12 59.9 +1.1**
comp=Z,12nm,0.9s,mb4.9
CAF Calviac 84.88 341 *e*P **P 14 13 07.7 +0.7**
comp=Z,70nm,1.6s,mb5.2
CAF Calviac 84.88 341 *e*P **P 14 13 07.7 +0.7**
CAF pmax pmax
comp=Z,35nm,1.6s,mb5.2
CAF Calviac 84.88 341 *e*P **P 14 13 07.7 +0.7**
comp=Z,35nm,1.6s,mb5.2
NWAO Narrogin (SRO) 87.34 212 P **P 14 13 16.2 -3.0**
comp=Z,8.3nm,0.7s,mb5.1,baz=103,slow=7.6,SNR=4.6
NWAO Narrogin (SRO) 87.34 212 *e*P **P 14 13 17.5 -1.7**
NWAO pmax pmax
comp=Z,14nm,0.9s
NWAO Narrogin (SRO) 87.34 212 *e*P **P 14 13 17.5 -1.7**
comp=Z,14nm,0.9s,mb5.2
ESDC Sonseca Array 91.13 344 P **P 14 13 35.0 -2.0**
comp=Z,1.3nm,0.8s,mb4.3,baz=12,slow=2.9,SNR=6.4
KEST Kesra 91.63 333 P **P 14 13 39.5 +0.2**
comp=Z,1.5nm,0.8s,mb4.4,baz=0.0,slow=2.0,SNR=3.7
TORD Torodi Ar. Bea 115.11 332 PP PP 14 20 10.6 -2.5
comp=Z,1.0nm,0.9s,baz=9.7,slow=7.7,SNR=4.2
SNAA Sanae 153.93 195 *e*PKPdf PKPbc 14 20 30.0 -1.7
SNAA *e* 14 20 41.5
SNAA *e* 14 20 52.3
SNAA Sanae 153.93 195 *e*PKP2 PKPab 14 20 41.6 -3.3

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*BEO **02** 14:08:05.8±0.1, 45.19N×2323E, h10km*
*BUC **02** 14:08:07.3±0.5, 45.17N×2298E, h9km±2km, MD2.5/3, Error ellipse: s-maj=4.9km s-min=2.0km az=8.0*
*ISCJB **02** 14:08:08.1±0.6, 45.19N±003×2305E±005, h10km, Error ellipse: s-maj=5.8km s-min=4.0km az=51.7*
ISC 02 14:08:08.7±0.6,**4520N**±003×**2302E**±005,**h10**km,**n13,**
σ1§**14**/22,**4C-5D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.26**	**318**	⇑*i*P	**Pg**	**14 08 13.1**	**-0.9**
GZR				*i* S	**Sg**	**14 08 18.3**	**+0.8**
DJES	**Djerdap**	**0.67**	**212**	Pg	**Pg**	**14 08 19.5**	**-2.2**
DJES				Sg	**Sg**	**14 08 30.1**	**-0.4**
BZS	**Buzias**	**1.07**	**293**	⇑*i*P	**Pg**	**14 08 28.0**	**-1.4**
BZS				*i* S	**Sg**	**14 08 43.3**	**0.0**
SVIS	**Svilajnac**	**1.57**	**235**	Pg	**Pg**	**14 08 36.6**	**-2.3**
SVIS				Sg	**Sg**	**14 09 00.2**	**+0.9**
DRGR		**1.60**	**352**	⇓*i*P	**Pn**	**14 08 35.9**	**-1.2**
DRGR				*i* S	**Sn**	**14 08 59.3**	**+1.4**
MLR	**Muntele Rosu**	**2.08**	**81**	⇓*i*P	**Pn**	**14 08 44.1**	**+0.5**
GRUS	**Gruza**	**2.11**	**232**	*e*Pn	**Pn**	**14 08 43.9**	**-0.2**
GRUS				Sn	**Sb**	**14 09 13.4**	**+0.1**
DIVS	**Divcibare**	**2.43**	**244**	⇓*i*Pn	**Pn**	**14 08 48.7**	**+0.2**
DIVS				Sn	**Sn**	**14 09 21.5**	**+3.3**
BARS	**Barje**	**2.53**	**200**	*e*Pn	**Pn**	**14 08 49.5**	**-0.4**
BARS				Sn	**Sn**	**14 09 22.4**	**+1.6**
PLOR	**Plostina**	**2.63**	**74**	⇑*i*P	**Pn**	**14 08 51.6**	**+0.4**
BURAR	**Bucovina Array**	**2.85**	**31**	⇓*i*P	**Pn**	**14 08 54.6**	**+0.4**
BBLS	**Bajina Basta -**	**2.91**	**244**	⇓*i*Pn	**Pn**	**14 08 55.3**	**+0.3**
BBLS				Sg	**Sn**	**14 09 33.0**	**+3.0**
PKSM	**Moragy**	**3.23**	**290**	⇑*i*P	**Pn**	**14 08 58.7**	**-0.8**

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*ISCJB **02** 14:08:20.0±0.4, 677N±005×7295W±005, h169km±5km, mb3.5/7, Error ellipse: s-maj=10.6km s-min=6.0km az=98.6*
*IDC **02** 14:08:20.4±0.7, 673N×7294W, h158km±7km, mb3.4/7, mb1 3.7/11, mb1mx3.6/22, mbtmp3.6/11, Error ellipse: s-maj=17.4km s-min=7.3km az=132.0*
*NEIC **02** 14:08:21.1±0.6, 670N×7298W, h167km±7km, mb4.3/5, Error ellipse: s-maj=8.8km s-min=7.9km az=127.0*
*FUNV **02** 14:08:21.4, 682N×7311W, h166km, MW4.0*
ISC 02 14:08:20.9±0.4,**672N**±005×**7290W**±005,**h164**km±5km,**n36,**
σ0§**93**/41,**mb3.5**/7,**6C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.27**	**27**	⇑*i*P	**Pn**	**14 08 49.8**	**+0.5**
CAPV				*e*S	**Sn**	**14 09 10.9**	**-0.2**
ROSC	**El Rosal**	**2.34**	**218**	P	**Pn**	**14 09 02.0**	**+1.2**
178nm,0.3s,baz=304,slow=4.4,SNR=81							
ROSC				S	**Sn**	**14 09 30.8**	**-0.8**
257nm,0.3s,baz=93,slow=23,SNR=8.3							
ROSC	**El Rosal**	**2.34**	**218**	*e*Pn	**Pn**	**14 09 01.9**	**+1.2**
ROSC				*e*Sn	**Sn**	**14 09 31.2**	**-0.4**
SOCV	**Socops**	**2.55**	**52**	⇑*i*P	**Pn**	**14 09 04.7**	**+1.4**
VIGV	**El Vigia**	**2.59**	**36**	⇑*i*P	**Pn**	**14 09 04.3**	**+0.5**
SDV	**Santo Domingo**	**3.11**	**46**	P	**Pn**	**14 09 11.0**	**+0.9**
110nm,0.3s,baz=235,slow=5.9,SNR=414							
SDV				S	**Sn**	**14 09 48.3**	**0.0**
82nm,0.3s,baz=108,slow=18,SNR=17							
SDV	**Santo Domingo**	**3.11**	**46**	P	**Pn**	**14 09 11.0**	**+0.9**
SDV				S	**Sn**	**14 09 48.3**	**0.0**
VIRV	**Villa del Rosa**	**3.79**	**7**	⇑*i*P	**Pn**	**14 09 16.6**	**-2.1**
VIRV				*e*S	**Sn**	**14 09 58.6**	**-5.2**
QARV	**Quebrada Arrib**	**4.18**	**34**	⇑*i*P	**Pn**	**14 09 24.2**	**+0.4**
CURV	**Curarigua**	**4.37**	**41**	*e*P	**Pn**	**14 09 26.6**	**+0.3**
DABV	**Dabajuro**	**4.73**	**28**	*e*P	**Pn**	**14 09 31.0**	**0.0**
SIQV	**Siquisique**	**4.95**	**38**	⇑*i*P	**Pn**	**14 09 33.7**	**-0.2**
BAUV	**El Baul**	**5.29**	**65**	⇓*i*P	**Pn**	**14 09 38.3**	**-0.1**
BAUV				*e*S	**Sn**	**14 10 36.4**	**-2.6**
CAOV	**Caicara del Or**	**6.55**	**84**	*e*S	**Sn**	**14 11 06.5**	**-2.4**
BIRV	**Birongo**	**7.54**	**60**	*e*P	**Pn**	**14 10 07.9**	**-0.2**
CUPV	**Ccepira**	**7.77**	**64**	*e*P	**Pn**	**14 10 11.4**	**+0.2**
OTAV	**Otavalo**	**8.50**	**221**	*e*Pn	**Pn**	**14 10 19.9**	**-0.8**
6.0nm,0.6s							
PCRV	**Puerto La Cruz**	**8.86**	**67**	P	**Pn**	**14 10 27.6**	**+2.0**
1.3nm,0.3s,baz=244,slow=7.8,SNR=7.3							
PCRV				S	**Sn**	**14 12 04.8**	**+0.5**
1.3nm,0.3s,baz=144,slow=17,SNR=3.8							
JTS	**JuntasAbangare**	**12.44**	**287**	P	**Pn**	**14 11 12.6**	**+0.2**
0.6nm,0.3s,baz=353,slow=22,SNR=2.7							
JTS	**JuntasAbangare**	**12.44**	**287**	Pn	**Pn**	**14 11 11.3**	**-1.0**
13nm,0.6s							
SAML	**Samuel**	**18.33**	**148**	*e*Pn	**Pn**	**14 12 24.1**	**-0.6**
4.3nm,0.6s							
TEIG	**Tepich**	**20.07**	**313**	P	**P**	**14 12 41.5**	**0.0**
15nm,0.8s							
TEIG	**Tepich**	**20.07**	**313**	*e*P	**P**	**14 12 41.3**	**-0.2**
20nm,0.8s							
LPAZ	**La Paz**	**23.34**	**168**	P	**P**	**14 13 15.4**	**+1.0**
0.6nm,0.5s,mb3.3,baz=338,slow=7.9,SNR=4.3							
LPAZ				pP		14 13 49.1	
2.6nm,0.7s,baz=344,slow=12,SNR=12							
LPAZ	**La Paz**	**23.34**	**168**	*e*P	**P**	**14 13 15.6**	**+1.1**
SIV	**San Ignacio**	**25.43**	**153**	pP	pP	14 14 09.1	+2.1
0.9nm,0.6s,baz=322,slow=16,SNR=5.6							
LTX	**Lajitas**	**36.69**	**312**	P	**P**	**14 15 07.6**	**-4.3**
4.1nm,1.2s,mb3.9							
TXAR	**Lajitas Array**	**36.69**	**312**	P	**P**	**14 15 12.1**	**+0.1**
0.9nm,0.6s,mb3.6,baz=124,slow=9.1,SNR=11							
SCHQ	**Schefferville**	**48.22**	**5**	P	**P**	**14 16 45.5**	**+0.5**
2.9nm,0.6s,mb4.1,baz=187,slow=12,SNR=7.0							
PDAR	**Pinedale Array**	**48.29**	**324**	P	**P**	**14 16 45.3**	**-0.1**
0.3nm,0.5s,mb3.1,baz=133,slow=12,SNR=3.3							
NVAR	**Mina Array Bea**	**51.71**	**315**	P	**P**	**14 17 10.9**	**-0.3**
0.3nm,0.5s,mb3.2,baz=142,slow=6.2,SNR=2.9							
NVAR	**Mina Array Bea**	**51.71**	**315**	P	**P**	**14 17 10.9**	**-0.3**
YKA	**Yellowknife Ar**	**63.43**	**340**	P	**P**	**14 18 32.4**	**-0.6**
0.4nm,0.5s,mb3.5,baz=131,slow=6.6,SNR=7.9							
YKA				pP	pP	14 19 09.7	-1.9
0.4nm,0.5s,baz=131,slow=6.7,SNR=3.3							
YKA	**Yellowknife Ar**	**63.43**	**340**	P	**P**	**14 18 32.4**	**-0.7**
YKA				pP	pP	14 19 09.7	-1.9
ASAR	**Alice Springs**	**149.23**	**234**	PKP	PKPdf	14 27 47.3	+1.7
1.0nm,0.7s,baz=127,slow=3.6,SNR=11							
ASAR				PKPbc	PKPbc	14 27 50.5	+0.4
1.0nm,0.7s,baz=127,slow=3.3,SNR=11							
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPbc	14 27 53.6	+0.5
0.6nm,0.3s,baz=116,slow=2.3,SNR=5.8							

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*ISCJB **02** 14:15:50.4±0.7, 129S±01×144W±03, h10km, mb4.0/8, MS4.1/12, Error ellipse: s-maj=43.8km s-min=15.6km az=20.6*
*IDC **02** 14:15:50.6±1.0, 1291S×1450W, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, MS4.0/12, Ms1 4.0/12, ms1mx3.9/22, Error ellipse: s-maj=63.0km s-min=20.5km az=100.0*
ISC 02 14:15:52.2±0.8,**130S**±01×**144W**±03,**h10**km,**n17,**σ0§**66**/10,
mb4.0/8,**MS4.1**/12,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**30.48**	**32**	P	**P**	**14 22 04.8**	**-0.4**
1.5nm,1.1s,mb3.6,baz=217,slow=8.3,SNR=5.2							
TORD				LR	LR	14 32 17.6	
comp=Z,396nm,19.9s,MS4.1,baz=225,slow=32							
BOSA	**Boshof**	**40.01**	**119**	LR	LR	14 37 21.4	
comp=Z,294nm,18.3s,MS4.2,baz=280,slow=32							
LPAZ	**La Paz**	**51.96**	**259**	LR	LR	14 47 07.4	
comp=Z,75nm,18.7s,MS3.8,baz=304,slow=36							
KMBO	**Kilima Mbogo**	**52.50**	**81**	LR	LR	14 46 29.1	
comp=Z,175nm,18.2s,MS4.1,baz=282,slow=35							
KEST	**Kesra**	**53.41**	**24**	P	**P**	**14 25 13.2**	**+1.1**
2.4nm,1.0s,mb4.1,baz=357,slow=2.8,SNR=4.0							
KEST				LR	LR	14 47 23.0	
comp=Z,64nm,18.7s,MS3.7,baz=226,slow=36							
VNA2	**Neumayer--Watz**	**58.08**	**177**	*e*	**P**	**14 25 44.6**	**-1.0**
VNA2				*e*	pP	14 25 47.0	-1.8
VNA2				*e*		14 25 51.6	
SNAA	**Sanae**	**59.08**	**176**	P	**P**	**14 25 52.9**	**+0.2**
1.6nm,0.9s,mb4.0,baz=330,slow=8.2,SNR=11							
SNAA	**Sanae**	**59.08**	**176**	*e*	**P**	**14 25 53.8**	**+1.2**
SNAA				*e*	pP	14 25 56.3	+0.4
SNAA				*e*		14 26 00.2	
ROSC	**El Rosal**	**62.08**	**283**	LR	LR	14 52 49.7	
comp=Z,176nm,18.8s,MS4.2,baz=7.4,slow=36							
GERES	**GERESS Array B**	**66.39**	**20**	P	**P**	**14 26 40.5**	**-0.9**
0.4nm,0.7s,mb3.6,baz=171,slow=9.2,SNR=4.0							
GERES				LR	LR	14 54 44.9	
comp=Z,139nm,19.5s,MS4.2,baz=232,slow=35							
MAW	**Mawson**	**73.25**	**157**	P	**P**	**14 27 23.7**	**+0.1**
2.5nm,0.8s,mb4.2,baz=231,slow=6.7,SNR=3.5							
MAW				LR	LR	14 51 37.4	
comp=Z,125nm,19.2s,MS4.2,baz=57,slow=29							
AKASG	**Malin Array Be**	**73.95**	**27**	P	**P**	**14 27 27.9**	**+0.2**
0.3nm,0.3s,mb3.8,baz=227,slow=6.4,SNR=8.6							
SCHQ	**Schefferville**	**80.68**	**332**	LR	LR	14 58 16.7	
comp=Z,119nm,18.2s,MS4.3,baz=87,slow=32							
TKL	**Tuckaleechee C**	**81.35**	**310**	LR	LR	14 59 13.4	
comp=Z,116nm,18.8s,MS4.3,baz=70,slow=32							
VNDA	**Vanda**	**89.65**	**179**	P	**P**	**14 28 50.5**	**+0.2**
2.1nm,0.9s,mb4.4,baz=196,slow=3.7,SNR=7.3							
ULM	**Lac du Bonnet**	**94.48**	**320**	LR	LR	15 06 17.3	
comp=Z,57nm,20.5s,MS4.0,baz=28,slow=32							
TXAR	**Lajitas Array**	**95.60**	**299**	P	**P**	**14 29 17.8**	**0.0**
0.7nm,1.1s,mb4.0,baz=71,slow=8.7,SNR=3.4							
TXAR				LR	LR	15 09 18.3	
comp=Z,65nm,20.3s,MS4.1,baz=185,slow=34							

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*ISCJB **02** 14:21:14.9±0.5, 4696N±007×15473E±008, h10km, mb4.3/41, MS3.7/4, Error ellipse: s-maj=12.0km s-min=5.8km az=11.4*
*IDC **02** 14:21:15.3±0.9, 4695N×15485E, h0km, mb4.0/16, mb1 4.1/18, mb1mx4.1/26, mbtmp4.0/18, ML3.5/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/39, Error ellipse: s-maj=24.1km s-min=15.8km az=159.0*
*BJI **02** 14:21:15.0, 4704N×15504E, h24km, mB4.7, mb4.2, Ms4.1, Msz3.8*
*NEIC **02** 14:21:16.4±0.5, 4694N×15475E, h10km, mb4.4/16, Error ellipse: s-maj=11.3km s-min=6.9km az=141.0*
*MOS **02** 14:21:20.8±1.9, 4682N×15470E, h60km, mb4.5/22, Error ellipse: s-maj=11.1km s-min=8.8km az=99.7*
ISC 02 14:21:16.3±3.0,**4704N**±008×**15475E**±009,**h6**km±18km,
n87,σ1§**36**/93,**mb4.3**/41,**MS3.7**/4,**6C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.76**	**13**	*e*PN	**Pn**	**14 22 15.0**	**+0.1**
SKR				*e*S	**Sn**	**14 22 51.5**	**-8.0**
KUR	**Kuril'sk**	**5.11**	**252**	*e*PN	**Pn**	**14 22 33.6**	**+0.1**
KUR				*e*S	**Sn**	**14 23 30.5**	**-2.3**
KUR				pmax	pmax		
comp=N,90nm,0.7s							
KUR				pmax	pmax		
comp=Z,170nm,0.7s							
KUR				smax			
comp=N,130nm,0.7s							
KUR				smax			
comp=E,90nm,0.7s							
PET	**Petropavlovsk**	**6.50**	**21**	*e*Pn	**Pn**	**14 22 51.5**	**-1.0**
PET				*e*Sn	**Sn**	**14 24 02.6**	**-4.4**
YSS	**Yuzh-Sakhalins**	**8.21**	**274**	PN	**Pn**	**14 23 24.5**	**+8.6**
ASAJ	**Asahikawa**	**9.01**	**256**	Pn	**Pn**	**14 23 28.4**	**+1.5**
comp=E,0.7nm,0.3s,baz=66,slow=15,SNR=9.2							
ASAJ				LR	LR	14 27 23.7	
comp=E,71nm,18.4s,baz=354,slow=41							
HABR	**Khabarovsk**	**13.34**	**283**	*e*PN	**Pn**	**14 24 24.7**	**-1.4**
MJAR	**Matsushiro Arr**	**16.16**	**235**	Pn	**Pn**	**14 25 01.7**	**-2.3**
comp=E,0.1nm,0.3s,baz=35,slow=12,SNR=5.1							
MAJO	**Matsushiro**	**16.16**	**235**	*e*P	**Pn**	**14 25 01.7**	**-2.3**
MAJO				pmax	pmax		
comp=Z,11nm,0.6s							
MAJO	**Matsushiro**	**16.16**	**235**	*e*Pn	**Pn**	**14 25 01.7**	**-2.3**
comp=Z,10nm,0.6s							
CLNS	**Chul'man**	**20.70**	**309**	*e*P	**P**	**14 25 51.6**	**-5.6**
CLNS				pmax	pmax		
comp=Z,11nm,0.9s							
CLNS				pmax	pmax		
comp=N,8.0nm,0.7s							
CLNS				pmax	pmax		
comp=E,7.0nm,0.8s							
YAK	**Yakutsk**	**20.70**	**326**	⇓*e*P	**P**	**14 25 51.5**	**-5.8**
YAK				pmax	pmax		
comp=Z,13nm,1.3s							
YAK	**Yakutsk**	**20.70**	**326**	*e*P	**P**	**14 25 57.2**	**-0.1**
comp=Z,9.7nm,0.7s							
BILL	**Bilibino**	**21.87**	**12**	⇑*e*P	**P**	**14 26 10.2**	**+0.3**
BILL				*e*S	**S**	**14 29 56.9**	**-15**
BILL				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.1							
BILL				MLR	MLR		
comp=Z,100nm,18.0s,MS3.3							
BILL	**Bilibino**	**21.87**	**12**	*e*P	**P**	**14 26 08.6**	**-1.3**
comp=Z,10nm,1.1s,mb4.2							
KSRS	**Korea Array**	**21.95**	**254**	P	**P**	**14 26 12.7**	**+1.9**
comp=Z,2.7nm,0.7s,mb3.8,baz=56,slow=11,SNR=7.6							
HIA	**Hailar**	**23.34**	**288**	*e*P	**P**	**14 26 22.9**	**-2.5**
HIA				pmax	pmax		
comp=Z,4.0nm,0.8s							
HIA	**Hailar**	**23.34**	**288**	*e*P	**P**	**14 26 22.9**	**-2.5**
comp=Z,3.6nm,0.8s,mb3.9							
BOD	**Bodaibo**	**26.68**	**309**	*e*P	**P**	**14 26 55.2**	**-0.9**
BOD				pmax	pmax		
comp=Z,7.0nm,1.8s,mb3.9							
TIXI	**Tiksi**	**27.52**	**343**	⇑*i*P	**P**	**14 27 01.7**	**-2.0**
TIXI				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.2							
TIXI	**Tiksi**	**27.52**	**343**	*e*P	**P**	**14 27 02.5**	**-1.1**
comp=Z,9.1nm,1.1s,mb4.3							
HHC	**Hu-ho-hao-te**	**31.39**	**275**	*e*P	**P**	**14 27 37.8**	**-0.2**
HHC				PP	PP	14 28 41.7	-7.1
HHC				S	**S**	**14 32 41.9**	**-3.9**
HHC				SS	SS	14 34 29.0	-31
HHC				AMB	AMB		
comp=Z,8.0nm,0.5s,mb4.8							
HHC				AMB	AMB		
comp=Z,200nm,5.1s							
HHC				LR	LR		
comp=N,215nm,16.1s,MS4.2							
HHC				LR	LR		
comp=E,299nm,15.5s,MS4.2							
HHC				LR	LR		
comp=Z,174nm,15.5s,MS3.8							
ULN	**Ulaanbaatar**	**31.86**	**289**	⇓*e*P	**P**	**14 27 44.5**	**+2.3**
ULN	**Ulaanbaatar**	**31.86**	**289**	P	**P**	**14 27 42.6**	**+0.4**
comp=Z,2.2nm,1.0s,mb3.9							
SONM	**Songino Array**	**32.30**	**290**	P	**P**	**14 27 45.2**	**-0.7**
comp=Z,0.6nm,0.5s,mb3.7,baz=56,slow=8.4,SNR=7.4							
SONM				LR	LR	14 42 48.8	
comp=Z,88nm,18.6s,MS3.5,baz=85,slow=40							
SONM	**Songino Array**	**32.30**	**290**	P	**P**	**14 27 45.2**	**-0.8**
SONM				pmax	pmax		
comp=Z,1.0nm,0.5s							
SONM				MLR	MLR		
comp=Z,88nm,18.6s							
ZAK	**Zakamensk**	**33.58**	**295**	*e*P	**P**	**14 27 57.6**	**+0.4**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.4s,mb3.9							
GUMO	**Guam**	**34.36**	**197**	*e*P	**P**	**14 28 02.4**	**-1.5**
comp=Z,269nm,1.2s							
MCK	**McKinley**	**34.71**	**41**	*e*P	**P**	**14 28 06.7**	**-0.3**
MCK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
MCK	**McKinley**	**34.71**	**41**	*e*P	**P**	**14 28 06.7**	**-0.3**
comp=Z,1.7nm,0.9s,mb4.0							
SML	**Sawmill**	**34.99**	**44**	*e*P	**P**	**14 28 08.9**	**-0.5**
COLA	**College**	**35.22**	**39**	*e*P	**P**	**14 28 11.4**	**0.0**
COLA				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
COLA	**College**	**35.22**	**39**	*e*P	**P**	**14 28 11.4**	**0.0**
comp=Z,5.9nm,0.9s,mb4.5							
LZH	**Lanzhou**	**39.00**	**273**	*e*P	**P**	**14 28 47.5**	**+4.0**
LZH				AP	pP	14 28 55.6	+10
LZH				XP	sP	14 28 59.8	+14
LZH				AMB	AMB		
comp=Z,18nm,1.2s,mb4.7							
LZH				AMB	AMB		
comp=Z,60nm,4.5s							
INK	**Inuvik**	**40.81**	**33**	P	**P**	**14 28 58.7**	**+0.2**
comp=Z,1.9nm,0.8s,mb3.8,baz=294,slow=4.6,SNR=12							
INK	**Inuvik**	**40.81**	**33**	*e*P	**P**	**14 28 59.2**	**+0.6**
comp=Z,73nm,0.7s,mb5.4							
INK				*e*		14 29 11.2	
ZAL	**Zalesovo**	**43.37**	**306**	P	**P**	**14 29 19.2**	**-0.2**
comp=Z,2.2nm,0.5s,mb4.2,baz=37,slow=9.6,SNR=9.4							
ZAL	**Zalesovo**	**43.37**	**306**	*i* P	**P**	**14 29 20.0**	**+0.5**
ZAL				pmax	pmax		
comp=Z,2.0nm,0.5s							
NVS	**Novosibirsk**	**43.91**	**308**	*e*P	**P**	**14 29 24.9**	**+1.1**
NVS				pmax	pmax		
comp=Z,24nm,2.2s,mb4.5							
NVS				pmax	pmax		
comp=N,15nm,2.0s							
KMI	**Kunming**	**46.40**	**261**	P	**P**	**14 29 39.4**	**-4.2**
KMI				AMB	AMB		
comp=Z,4.0nm,1.6s,mb4.1							
MK31	**Makanchi Array**	**47.81**	**298**	P	**P**	**14 29 54.6**	**0.0**
MKAR	**Makanchi Array**	**47.81**	**298**	P	**

ARCES pmax pmax
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 63.67 55 P **P 14 31 48.4 -0.1**
comp=Z,0.4nm,1.0s,mb3.4,baz=31,slow=7.6,SNR=3.2
FINES FINESS Array B 64.26 335 P **P 14 31 52.3 0.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=44,slow=6.6,SNR=13
FINES LR LR 15 00 38.2
comp=Z,130nm,21.7s,MS4.1,baz=0.9,slow=37
FINES FINESS Array B 64.26 335 *i* P **P 14 31 52.7 +0.4**
FINES pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 65.70 326⇓ *e*P **P 14 32 03.5 +1.8**
OBN *e* 14 34 27.9
OBN pmax pmax
comp=Z,20nm,1.2s,mb5.0
NB2 NORSAR Subarra 68.32 342 P **P 14 32 20.5 +2.2**
comp=Z,6.7nm,1.1s,mb4.6,baz=29,slow=6.5
NOA NORSAR Array B 68.32 342 P **P 14 32 19.1 +0.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=26,slow=6.1,SNR=3.7
NOA NORSAR Array B 68.32 342 P **P 14 32 19.2 +0.9**
NOA pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 71.40 315⇓ *e*P **P 14 32 33.9 -3.4**
KIV *e* 14 35 12.6
KIV pmax pmax
comp=Z,14nm,1.5s,mb4.7
AKASG Malin Array Be 71.93 327 P **P 14 32 39.5 -1.0**
comp=Z,1.4nm,0.4s,mb4.2,baz=34,slow=6.2,SNR=4.4
AKASG Malin Array Be 71.93 327 P **P 14 32 39.5 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 72.85 200 P **P 14 32 45.5 -0.4**
comp=Z,0.6nm,0.7s,mb3.6,baz=16,slow=4.7,SNR=9.5
STHS Stebnicka Huta 75.83 331 *e*P **P 14 33 08.0 +4.7**
TXAR Lajitas Array 76.37 62 P **P 14 33 06.0 -0.5**
comp=Z,1.0nm,0.6s,mb3.9,baz=296,slow=4.3,SNR=11
TXAR Lajitas Array 76.37 62 P **P 14 33 06.0 -0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 76.66 336⇑ *i*P **P 14 33 10.5 +2.4**
CLL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CLL Collm 76.66 336⇑ *i*P **P 14 33 10.5 +2.4**
comp=Z,8.0nm,0.7s,mb4.8
MORC Moravsky Berou 76.70 333 *e*P **P 14 33 11.3 +3.0**
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MORC Moravsky Berou 76.70 333 *e*P **P 14 33 11.3 +3.0**
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 76.79 336 *e*(P) **P 14 33 12.2 +3.4**
comp=Z,3.7nm,1.0s,mb4.2
KHC Kasperske Hory 78.46 335⇓ *i*P **P 14 33 21.0 +2.8**
GERES GERESS Array B 78.68 335 P **P 14 33 21.6 +2.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=33,slow=6.0,SNR=7.0
GERES GERESS Array B 78.68 335 P **P 14 33 21.6 +2.2**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.94 318 P **P 14 33 22.4 +1.6**
comp=Z,0.9nm,0.7s,mb3.8,baz=63,slow=5.7,SNR=4.1
BRTR Keskin Array B 78.94 318 P **P 14 33 22.5 +1.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
WCI Wyandotte Cave 79.12 45 *e*P **P 14 33 14.7 -7.1**
comp=Z,22nm,0.8s,mb5.1
CDF Champ du Feu 80.81 339 *e*P **P 14 33 34.9 +4.0**
comp=Z,8.9nm,0.8s,mb4.4
GRR Gorron 82.62 344 *e*P **P 14 33 45.4 +4.9**
SMF Signal de Mont 83.29 340 *e*P **P 14 33 48.4 +4.5**
LPG La Plagne 83.65 338 *e*P **P 14 33 51.2 +5.4**
comp=Z,11nm,0.8s,mb4.8
CAF Calviac 85.32 341 *e*P **P 14 33 59.2 +5.0**

*NEIC **02** 14:31:41.3, 1623N×9807W, h5km, MD4.0(MEX), After MEX.*
MEX 02 14:31:40.9±1.0, 1622N×9806W, h5km±8km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**340**	*i* P		Pg	Pg	14 31 44.0	-0.5
PNIG				*i* S		Sg	Sg	14 31 46.6	-0.2
VHO	**Vista Hermosa**	**1.53**	**56**	*i* P		Pn	Pn	14 32 06.1	-2.8
VHO				*i* S		Sn	Sn	14 32 25.4	-3.8
UTMO	**Huajuapan**	**1.62**	**9**	*e*P		Pn	Pn	14 32 07.5	-2.6
UTMO				*i* S		Sn	Sn	14 32 27.4	-4.0
HUIG	**Huatulco**	**1.94**	**103**	*e*P		Pn	Pn	14 32 11.6	-2.9
HUIG				*i* S		Sn	Sn	14 32 32.8	-6.4
HUIG	**Huatulco**	**1.94**	**103**	*e*P		Pn	Pn	14 32 13.4	-1.1
HUIG				*i* S		Sn	Sn	14 32 33.9	-5.3
MEIG	**Mezcala**	**2.25**	**319**	*e*P		Pn	Pn	14 32 17.1	-1.8
MEIG				*i* S		Sn	Sn	14 32 41.6	-5.4
CAIG	**El Cayaco**	**2.27**	**292**	*i* P		Pn	Pn	14 32 16.4	-2.6
CAIG				*i* S		Sn	Sn	14 32 42.7	-4.7
CAIG	**El Cayaco**	**2.27**	**292**	*i* P		Pn	Pn	14 32 15.6	-3.4
CAIG				*i* S		Sn	Sn	14 32 42.7	-4.7
PLIG	**Platanillo**	**2.56**	**328**	*i* P		Pn	Pn	14 32 20.8	-2.3
PLIG				*i* S		Sn	Sn	14 32 50.8	-3.7
PLIG	**Platanillo**	**2.56**	**328**	*i* P		Pn	Pn	14 32 22.4	-0.6
PLIG				*i* S		Sn	Sn	14 32 52.8	-1.7
YAIG	**Yautepec**	**2.79**	**340**	*i* P		Pn	Pn	14 32 23.4	-2.9
YAIG				*i* S		Sn	Sn	14 32 55.9	-4.5
YAIG	**Yautepec**	**2.79**	**340**	*i* P		Pn	Pn	14 32 27.4	+1.1
YAIG				*i* S		Sn	Sn	14 32 57.4	-2.9
PPM	**Popocatepetl**	**2.88**	**349**	*e*P		Pn	Pn	14 32 26.0	-1.4
PPM				*i* S		Sn	Sn	14 32 59.2	-3.2
PPM	**Popocatepetl**	**2.88**	**349**	*e*P		Pn	Pn	14 32 26.0	-1.4
PPM				*i* S		Sn	Sn	14 33 01.0	-1.4
IIO	**Organos**	**3.41**	**349**	*e*P		Pn	Pn	14 32 36.9	+2.1
PTVM	**Pico Tres Padr**	**3.50**	**344**	*e*P		Pn	Pn	14 32 32.1	-3.9
PTVM				*i* S		Sn	Sn	14 33 12.5	-5.2
PTVM	**Pico Tres Padr**	**3.50**	**344**	*e*P		Pn	Pn	14 32 27.6	-8.3
LVIG	**Laguna Verde**	**3.82**	**24**	*i* P		Pn	Pn	14 32 36.6	-3.7
LVIG				*i* S		Sn	Sn	14 33 23.3	-2.4
LVIG	**Laguna Verde**	**3.82**	**24**	*i* P		Pn	Pn	14 32 35.6	-4.8
MOIG	**Morelia**	**4.54**	**320**	*i* S		Sn	Sn	14 33 41.9	-1.6
MOIG	**Morelia**	**4.54**	**320**	*i* S		Sn	Sb	14 33 53.8	-2.4

IDC 02 14:37:18.5±9.2, 652S×15113E, h76km±65km, mb3.3/3, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=104.8km s-min=60.3km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**234**	P		Pn	Pn	14 38 29.6	+0.5
PMG	0.6nm,0.3s,baz=38,slow=12,SNR=3.3			S		Sn	Sn	14 39 25.0	+0.9
	0.6nm,0.3s,baz=14,slow=6.4,SNR=1.7								
WRA	**Warramunga Arr**	**21.07**	**229**	P		P	P	14 41 56.4	0.0
	1.1nm,0.6s,baz=54,slow=10,SNR=4.0								
ASAR	**Alice Springs**	**23.76**	**222**	P		P	P	14 42 24.2	+0.3
	0.5nm,0.5s,baz=56,slow=9.3,SNR=15								
FITZ	**Fitzroy Crossi**	**27.39**	**243**	P		P	P	14 42 57.2	+0.4
	1.6nm,0.6s,baz=20,slow=8.5,SNR=3.1								
TORD	**Torodi Ar. Bea**	**149.20**	**285**	PKPbc		PKPbc		14 56 59.1	+0.8
	0.7nm,0.7s,baz=62,slow=3.2,SNR=4.6								

*LDG **02** 14:43:11.9±0.2, 4260N×206E, h10km, Md1.7/2, Ml1.9/4, Error ellipse: s-maj=3.4km s-min=2.4km az=134.0*
*STR **02** 14:43:12.3±0.1, 4260N×206E, h3km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 02 14:43:12.2±0.3, 4260N×211E, h10km±1km, mbLg1.2/5, Error ellipse: s-maj=2.5km s-min=2.3km az=129.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CARF	**Carcanieres**	**0.11**	**358**	Pg		Pg	Pg	14 43 15.0	0.0
CARF				Sg		Sg	Sg	14 43 17.0	0.0
CARF	**Carcanieres**	**0.11**	**358**	P		Pg	Pg	14 43 15.1	0.0
CARF				S		Sg	Sg	14 43 17.1	+0.1
CLLI	**Llivia**	**0.16**	**219**	P		Pg	Pg	14 43 15.6	-0.2
CLLI				S		Sg	Sg	14 43 18.0	-0.2
	16nm,0.1s								
VALF	**Valcebollere**	**0.21**	**199**	Pg		Pg	Pg	14 43 16.5	-0.2
VALF				Sg		Sg	Sg	14 43 19.6	-0.1
VALF	**Valcebollere**	**0.21**	**199**	P		Pg	Pg	14 43 16.6	-0.1
VALF				S		Sg	Sg	14 43 19.6	-0.1
CBRU	**Bruguera**	**0.32**	**171**	P		Pg	Pg	14 43 18.5	-0.1
CBRU				S		Sg	Sg	14 43 22.9	-0.1
	9.8nm,0.2s								
FILF	**Fillols**	**0.33**	**97**	P		Pg	Pg	14 43 16.7	-2.2
FILF				S		Sg	Sg	14 43 20.1	-3.3
EJON	**La Jonquera**	**0.59**	**105**	Pg		Pg	Pg	14 43 22.7	-1.1
	0.3nm,0.1s,SNR=4.0								
EJON				Lg				14 43 31.3	
	1.7nm,0.1s,SNR=7.9								
CORG	**Organya**	**0.70**	**238**	P		Pg	Pg	14 43 25.7	0.0
CORG				S		Sg	Sg	14 43 35.1	+0.3
SALF	**Salau**	**0.70**	**283**	Pg		Pg	Pg	14 43 25.0	-0.7
SALF				Sg		Sg	Sg	14 43 34.1	-0.7
SALF	**Salau**	**0.70**	**283**	P		Pg	Pg	14 43 25.1	-0.6
SALF				S		Sg	Sg	14 43 34.0	-0.8
MTLF	**Montolieu**	**0.74**	**6**	*e*Pg		Pg	Pg	14 43 26.1	-0.4
MTLF				*e*Sg		Sg	Sg	14 43 35.8	-0.4
	2.3nm,0.2s								
MTLF	**Montolieu**	**0.74**	**6**	Pg		Pg	Pg	14 43 26.1	-0.4
MTLF				Lg				14 43 35.8	
	1.1nm,0.2s								
CSOR	**Sort**	**0.76**	**253**	S		Sg	Sg	14 43 36.9	+0.1
	0.9nm,0.2s								
CFON	**Fontmartina**	**0.88**	**164**	P		Pg	Pg	14 43 28.7	-0.4
CFON				S		Sg	Sg	14 43 39.9	-0.6
	4.0nm,0.2s								
EPF	**Esparros**	**1.37**	**289**	*e*Pg		Pg	Pg	14 43 35.7	-2.8
EPF				*e*Sg		Sg	Sg	14 43 53.4	-3.0
	1.3nm,0.2s								
EPF	**Esparros**	**1.37**	**289**	Pg		Pg	Pg	14 43 35.7	-2.8
EPF				Lg				14 43 53.4	
	0.6nm,0.2s								
EBIE	**Bielsa**	**1.46**	**274**	Pg		Pg	Pg	14 43 40.1	0.0
	0.1nm,0.1s,SNR=7.9								
EBIE				Lg				14 43 59.5	
	0.3nm,0.1s,SNR=7.9								
EPOB	**Poblet**	**1.47**	**212**	Pg		Pg	Pg	14 43 39.4	-1.0
	0.2nm,0.1s,SNR=7.9								
EPOB				Lg				14 43 58.4	
	0.8nm,0.1s,SNR=7.9								
LASF	**Ste Croix**	**1.95**	**40**	*e*Pg		Pg	Pg	14 43 48.9	-0.6
LASF				*e*Sg		Sg	Sg	14 44 14.0	-0.8
	1.7nm,0.2s								
LASF	**Ste Croix**	**1.95**	**40**	Pg		Pg	Pg	14 43 48.9	-0.6
LASF				Lg				14 44 14.0	
	0.9nm,0.2s								
ETSF	**Etsaut**	**1.99**	**279**	*e*Pg		Pg	Pg	14 43 47.6	-2.8
ETSF				*e*Sg		Sg	Sg	14 44 14.3	-1.8
	1.7nm,0.3s								
ETSF	**Etsaut**	**1.99**	**279**	Pg		Pg	Pg	14 43 47.6	-2.8
ETSF				Lg				14 44 14.3	
	0.9nm,0.3s								
CAF	**Calviac**	**2.32**	**359**	*e*Sg		Sg	Sg	14 44 25.0	-1.8
	1.6nm,0.2s								
CAF	**Calviac**	**2.32**	**359**	Lg				14 44 25.0	
	0.8nm,0.2s								

IDC 02 14:43:16.3±1.4, 672S×13002E, h0km, mb4.1/3, mb1 4.3/6, mb1mx4.0/15, mbtmp4.1/6, ML4.2/3, Error ellipse: s-maj=73.9km s-min=21.7km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.09**	**200**	Pn		Pn	Pn	14 46 08.8	-1.0
	1.0nm,0.3s,baz=33,slow=11,SNR=28								
FITZ				Sn		Sn	Sn	14 48 08.0	-17
	1.9nm,0.3s,baz=149,slow=18,SNR=8.7								
WRA	**Warramunga Arr**	**13.80**	**163**	Pn		Pn	Pn	14 46 35.1	+2.0
	1.1nm,0.3s,baz=347,slow=13,SNR=27								
WRA				Sn		Sn	Sn	14 48 55.9	-11
	3.5nm,0.3s,baz=332,slow=23,SNR=14								
ASAR	**Alice Springs**	**17.26**	**168**	P		Pn	Pn	14 47 20.1	+1.4
	0.8nm,0.3s,baz=339,slow=9.6,SNR=44								
ASAR				S		Sn	Sn	14 50 17.3	-14
	0.3nm,0.3s,baz=349,slow=27,SNR=6.3								
STKA	**Stephens Creek**	**27.27**	**158**	P		P	P	14 49 01.7	-0.5
	1.0nm,0.4s,baz=346,slow=8.3,SNR=2.8								
MKAR	**Makanchi Array**	**68.00**	**327**	P		P	P	14 54 17.5	+0.3
	1.2nm,0.5s,baz=122,slow=7.8,SNR=32								
ZAL	**Zalesovo**	**71.34**	**334**	P		P	P	14 54 37.8	-0.1
	0.7nm,0.4s,baz=308,slow=19,SNR=3.5								

*STR **02** 14:59:06.0±0.2, 4428N×721E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 02 14:59:05.6±0.2, 4432N×727E, h2km, Md1.6/2, Ml1.9/6, Error ellipse: s-maj=4.7km s-min=2.0km az=81.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOUF	**Mont Tournerai**	**0.30**	**183**	Pg		Pg	Pg	14 59 11.6	+0.2
TOUF				Sg		Sg	Sg	14 59 15.8	+0.4
AUTN	**L'Aution**	**0.34**	**161**	Pg		Pg	Pg	14 59 12.7	+0.6
AUTN				Sg		Sg	Sg	14 59 17.3	+0.7
SAOF	**Saorge**	**0.39**	**148**	Pg		Pg	Pg	14 59 13.5	+0.5
SAOF				Sg		Sg	Sg	14 59 19.3	+1.2
SBF	**Sospel**	**0.47**	**166**	*e*Pg		Pg	Pg	14 59 14.7	+0.1
SBF				*e*Sg		Sg	Sg	14 59 20.6	-0.1
	6.5nm,0.2s								
MBDF	**Montbardon**	**0.55**	**319**	*e*Pg		Pg	Pg	14 59 16.1	+0.1
MBDF				*e*Sg		Sg	Sg	14 59 24.1	+1.0
	7.8nm,0.2s								
FRF	**La Foret Royal**	**0.88**	**211**	*e*Pg		Pg	Pg	14 59 22.6	+0.1
FRF				*e*Sg		Sg	Sg	14 59 32.8	-1.1
	2.6nm,0.2s								
LMR	**La Mourre**	**1.13**	**210**	*e*Pg		Pg	Pg	14 59 26.6	-0.6
LMR				*e*Sg		Sg	Sg	14 59 40.1	-1.8
	2.7nm,0.2s								
ORIF	**Oris-en-Rattie**	**1.16**	**302**	*e*Pg		Pg	Pg	14 59 27.3	-0.6
ORIF				*e*Sg		Sg	Sg	14 59 41.9	-1.1
	2.9nm,0.3s								
LPG	**La Plagne**	**1.24**	**343**	*e*Pg		Pg	Pg	14 59 29.2	-0.1
LPG				*e*Sg		Sg	Sg	14 59 44.2	-1.2
	2.5nm,0.4s								
LPL	**La Plagne**	**1.26**	**342**	*e*Pg		Pg	Pg	14 59 29.5	-0.2
LPL				*e*Sg		Sg	Sg	14 59 45.0	-1.1
	1.2nm,0.3s								
SMRF	**Simiane la Rot**	**1.27**	**255**	*e*Sg		Sg	Sg	14 59 46.8	+0.4
	3.7nm,0.3s								

MAN 02 15:17:02.2, 1065N×12567E, h31km, mb2.3, ML3.9, MS2.2, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.85**	**307**	*e*P		Pn	Pn	15 17 17.3	-0.8
PLP				*e*S		Sn	Sn	15 17 30.1	+0.5
SCPH	**Surigao**	**0.88**	**192**	*e*P		Pn	Pn	15 17 18.3	-0.2
SCPH				*e*S		Sn	Sn	15 17 30.7	+0.5
MSLP	**Maasin**	**0.95**	**237**	*e*P		Pn	Pn	15 17 20.7	+1.2
BESP	**Borongan**	**0.97**	**346**	*e*P		Pn	Pn	15 17 20.0	+0.2

*IDC **02** 15:26:42.5±2.0, 4753N×15337E, h0km, mb3.4/7, mb1 3.7/7, mb1mx3.5/23, mbtmp3.5/7, MS2.9/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=58.1km s-min=25.6km az=166.0*
*NEIC **02** 15:26:43.6±0.9, 4742N×15341E, h10km, Error ellipse: s-maj=25.7km s-min=19.9km az=147.0*
*ISCJB **02** 15:26:47.9±1.6, 475N∟02×1534E∟02, h55km±12km, mb3.5/7, Error ellipse: s-maj=35.8km s-min=7.7km az=93.8*
*MOS **02** 15:26:49.3±1.6, 4743N×15344E, h71km, mb4.3/2, Error ellipse: s-maj=25.3km s-min=13.9km az=50.0*
ISC 02 15:26:49.8±1.4, 475N∟02×1534E∟02, h58km±11km, n15, σ0°98/16, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.66**	**28**	*e*PN		**Pn**	**Pn**	**15 27 45.1**	**+1.3**
SKR				*e*S		**Sn**	**Sn**	**15 28 24.4**	**-1.3**
KUR	**Kuril'sk**	**4.45**	**242**	*e*PN		**Pn**	**Pn**	**15 27 53.5**	**-1.1**
KUR				pmax		pmax	pmax		
	comp=Z,90nm,0.6s								
KUR				pmax		pmax	pmax		
	comp=N,220nm,0.8s								
KUR				pmax		pmax	pmax		
	comp=E,220nm,0.8s								
YUK	**Yuzh-Kuril'sk**	**6.31**	**240**	*e*PN		**Pn**	**Pn**	**15 28 20.5**	**+0.4**
YUK				*e*S		**Sn**	**Sn**	**15 29 30.0**	**-0.7**
YUK				smax					
	comp=N,200nm,0.5s								
YUK				smax					
	comp=E,150nm,0.5s								
YSS	**Yuzh-Sakhalins**	**7.27**	**270**	*e*PN		**Pn**	**Pn**	**15 28 35.9**	**+2.6**
YSS				pmax		pmax	pmax		
	comp=Z,14nm,0.6s								
YSS	**Yuzh-Sakhalins**	**7.27**	**270**	*e*Pn		**Pn**	**Pn**	**15 28 35.9**	**+2.6**
	comp=Z,14nm,0.6s								
ASAJ	**Asahikawa**	**8.27**	**250**	LR		LR	LR	15 32 42.9	
	comp=Z,79nm,18.6s,baz=172,slow=44								
KSRS	**Korea Array**	**21.22**	**251**	P		**P**	**P**	**15 31 30.4**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.1,baz=52,slow=9.6,SNR=2.8								
INK	**Inuvik**	**40.92**	**33**	P		**P**	**P**	**15 34 27.1**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.3,baz=293,slow=7.7,SNR=3.4								
INK	**Inuvik**	**40.92**	**33**	*e*P		**P**	**P**	**15 34 26.3**	**-0.1**
MKAR	**Makanchi Array**	**46.78**	**297**	P		**P**	**P**	**15 35 14.4**	**+0.9**
	comp=Z,0.1nm,0.5s,mb3.0,baz=77,slow=7.4,SNR=2.7								
YKA	**Yellowknife Ar**	**50.21**	**37**	P		**P**	**P**	**15 35 39.6**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=296,slow=7.1,SNR=2.9								
FINES	**FINESS Array B**	**63.45**	**335**	P		**P**	**P**	**15 37 13.1**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.2,baz=28,slow=6.2,SNR=8.7								
FINES	**FINESS Array B**	**63.45**	**335**	P		**P**	**P**	**15 37 13.1**	**-0.5**
FINES				pmax		pmax	pmax		
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**71.04**	**326**	P		**P**	**P**	**15 38 00.7**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=33,slow=6.6,SNR=3.1								
TXAR	**Lajitas Array**	**76.96**	**61**	P		**P**	**P**	**15 38 36.7**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=319,slow=7.8,SNR=2.1								

*ISCJB **02** 15:26:49.0±1.0, 458N∟02×1542E∟02, h10km, mb3.8/9, Error ellipse: s-maj=26.8km s-min=14.0km az=144.0*
*IDC **02** 15:26:49.0±1.1, 4581N×15437E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.8/25, mbtmp3.8/10, ML3.3/1, Error ellipse: s-maj=30.9km s-min=21.7km az=163.0*
*MOS **02** 15:26:54.3±0.9, 4586N×15429E, h51km, mb4.1/7, Error ellipse: s-maj=37.7km s-min=25.7km az=99.4*
ISC 02 15:26:50.8±1.0, 459N∟02×1542E∟01, h10km, n17, σ1°00/17, mb3.8/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**7.97**	**282**	*e*P		**Pn**	**Pn**	**15 28 44.6**	**-2.1**
ASAJ	**Asahikawa**	**8.41**	**262**	Pn		**Pn**	**Pn**	**15 28 52.2**	**-0.5**
	0.4nm,0.3s,baz=94,slow=13,SNR=4.2								
SONM	**Songino Array**	**32.32**	**291**	P		**P**	**P**	**15 33 20.6**	**+0.5**
	0.2nm,0.5s,mb3.2,baz=84,slow=7.8,SNR=2.4								
INK	**Inuvik**	**41.96**	**32**	P		**P**	**P**	**15 34 41.7**	**-0.1**
	1.0nm,0.8s,mb3.5,baz=26,slow=20,SNR=5.7								
MKAR	**Makanchi Array**	**47.39**	**298**	P		**P**	**P**	**15 35 30.6**	**+0.7**
	1.1nm,0.7s,mb4.0,baz=71,slow=7.8,SNR=11								
MKAR	**Makanchi Array**	**47.99**	**298**	P		**P**	**P**	**15 35 30.6**	**+0.8**
MKAR				pmax		pmax	pmax		
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**51.15**	**37**	P		**P**	**P**	**15 35 53.2**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=295,slow=7.0,SNR=4.2								
YKA	**Yellowknife Ar**	**51.15**	**37**	P		**P**	**P**	**15 35 53.2**	**-0.7**
YKA				pmax		pmax	pmax		
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**51.97**	**310**	P		**P**	**P**	**15 36 02.2**	**+2.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=58,slow=5.4,SNR=2.9								
FINES	**FINESS Array B**	**65.11**	**335**	P		**P**	**P**	**15 37 31.6**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.1,baz=44,slow=6.2,SNR=4.8								
FINES	**FINESS Array B**	**65.11**	**335**	P		**P**	**P**	**15 37 31.7**	**0.0**
FINES				pmax		pmax	pmax		
	comp=Z,2.0nm,0.7s								
ASAR	**Alice Springs**	**71.66**	**200**	P		**P**	**P**	**15 38 12.6**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=14,slow=4.7,SNR=5.6								
ASAR	**Alice Springs**	**71.66**	**200**	P		**P**	**P**	**15 38 13.9**	**+1.2**
ASAR				pmax		pmax	pmax		
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**72.66**	**327**	P		**P**	**P**	**15 38 18.9**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.1,baz=32,slow=6.1,SNR=7.3								
AKASG	**Malin Array Be**	**72.66**	**327**	P		**P**	**P**	**15 38 18.9**	**+0.3**
AKASG				pmax		pmax	pmax		
	comp=Z,2.0nm,0.5s								
TXAR	**Lajitas Array**	**77.25**	**61**	P		**P**	**P**	**15 38 44.3**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=304,slow=4.0,SNR=9.4								
TXAR	**Lajitas Array**	**77.25**	**61**	P		**P**	**P**	**15 38 44.3**	**-0.9**
TXAR				pmax		pmax	pmax		
	comp=Z,1.0nm,0.6s								

IDC 02 15:32:00.7±2.5, 649S×13106E, h0km, mb3.6/1, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML4.0/3, MS4.0/1, Ms1 4.0/1, ms1mx2.7/26, Error ellipse: s-maj=107.9km s-min=28.0km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.70**	**204**	Pn		Pn	Pn	15 35 01.8	-0.7
	0.6nm,0.3s,baz=36,slow=11,SNR=26								
FITZ				Sn		Sn	Sn	15 37 09.4	-15
	0.8nm,0.3s,baz=268,slow=19,SNR=8.9								
WRA	**Warramunga Arr**	**13.75**	**167**	Pn		Pn	Pn	15 35 16.7	-0.2
	0.5nm,0.3s,baz=352,slow=13,SNR=15								
WRA				Sn		Sn	Sn	15 37 41.0	-9.3
	1.9nm,0.3s,baz=345,slow=22,SNR=11								
ASAR	**Alice Springs**	**17.30**	**171**	P		Pn	Pn	15 36 04.8	+1.2
	0.9nm,0.3s,baz=347,slow=9.6,SNR=32								
ASAR				S		Sn	Sn	15 39 05.1	-12
	0.4nm,0.3s,baz=353,slow=26,SNR=7.4								
AFI	**Afiamalu**	**56.63**	**102**	LR		LR	LR	16 04 29.5	
	comp=Z,144nm,19.6s,baz=110,slow=34								
MKAR	**Makan

comp=Z,1.0nm,0.8s
HFS Hagfors 68.29 341 P **P** **15 58 21.1 -0.1**
comp=Z,1.3nm,0.5s,mb4.2,baz=57,slow=5.3,SNR=4.3
HFS Hagfors 68.29 341 P **P** **15 58 21.1 -0.1**
HFS pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 73.58 201 P **P** **15 58 50.6 -2.7**
comp=Z,0.2nm,0.6s,mb3.2,baz=10,slow=5.6,SNR=2.7
TXAR Lajitas Array 75.54 62 P **P** **15 59 05.4 +0.8**
comp=Z,0.3nm,0.6s,mb3.4,baz=292,slow=4.4,SNR=4.7

*IDC **02** 15:51:15.8±2.0, 47.36N×152.85E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.7/24, mbtmp3.9/8, ML3.4/2, Error ellipse: s-maj=50.6km s-min=30.6km az=153.0*
*JMA **02** 15:51:17.7±0.8, 47.11N×152.84E, h30km, M4.2*
*ISCJB **02** 15:51:19.7±1.5, 468N±02×1528E±03, h61km±12km, mb3.8/6, Error ellipse: s-maj=41.2km s-min=9.1km az=90.2*
*MOS **02** 15:51:20.9±2.2, 47.43N×152.23E, h33km, mb4.4/4, Error ellipse: s-maj=30.8km s-min=15.8km az=58.5*
ISC 02 15:51:21.6±1.3, 469N±02×1528E±03, h64km±9km, n27, σ1°36/31, mb3.8/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.40**	**29**	*e*PN	**Pn**	**15 52 27.0**	**+1.1**
SKR				*e*S	**Sn**	**15 53 14.5**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**5.64**	**242**	PN	**Pn**	**15 52 44.0**	**+1.1**
NEM2	**Nemuro 2**	**6.10**	**237**	P	**Pn**	**15 52 46.8**	**-2.3**
JRA	**Rausu**	**6.15**	**244**	P	**Pn**	**15 52 50.8**	**+1.0**
JNK	**Nakash**	**6.58**	**243**	P	**Pn**	**15 52 55.3**	**-0.4**
JTKR	**Abashiri--Toko**	**6.89**	**248**	P	**Pn**	**15 53 00.7**	**+0.7**
JAK	**Akkeshi**	**6.93**	**239**	P	**Pn**	**15 52 58.0**	**-2.5**
JAK				*e*S	**Sn**	**15 54 11.8**	**-6.1**
JMP	**Maruseppu**	**7.23**	**250**	P	**Pn**	**15 53 06.1**	**+1.5**
JAR	**Ashorobuto**	**7.32**	**244**	P	**Pn**	**15 53 05.7**	**-0.1**
JOB	**Onbets**	**7.50**	**241**	*e*S	**Sn**	**15 54 27.4**	**-4.4**
ASAJ	**Asahikawa**	**7.68**	**253**	Pn	**Pn**	**15 53 12.5**	**+1.8**
ASAJ	**Asahikawa**	**7.68**	**253**	PN	**Pn**	**15 53 12.5**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.68**	**251**	P	**Pn**	**15 53 12.1**	**+1.3**
JCH	**Churui**	**7.95**	**241**	P	**Pn**	**15 53 12.8**	**-1.7**
JCH				*e*S	**Sn**	**15 54 37.3**	**-5.6**
JFR	**Furan**	**8.12**	**246**	P	**Pn**	**15 53 19.5**	**+2.7**
JNBK	**Urakawa-nobuka**	**8.51**	**241**	P	**Pn**	**15 53 20.0**	**-2.1**
JNBK				*e*S	**Sn**	**15 54 50.1**	**-6.5**
MJAR	**Matsushiro Arr**	**14.98**	**232**	Pn	**Pn**	**15 54 53.7**	**+4.1**
	comp=Z,0.2nm,0.3s,baz=35,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**15 59 42.9**	**-1.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=60,slow=6.0,SNR=4.2						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**16 01 47.2**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=40,slow=7.1,SNR=15						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**16 01 47.3**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**68.04**	**341**	P	**P**	**16 02 14.3**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.1,baz=27,slow=6.3,SNR=3.3						
NOA	**NORSAR Array B**	**68.04**	**341**	P	**P**	**16 02 14.3**	**+0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	**Hagfors**	**68.26**	**339**	P	**P**	**16 02 15.1**	**-0.5**
	comp=Z,1.5nm,0.4s,mb4.4,baz=46,slow=6.4,SNR=12						
HFS	**Hagfors**	**68.26**	**339**	P	**P**	**16 02 15.1**	**-0.5**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**16 02 34.4**	**0.0**
	comp=Z,0.6nm,0.3s,mb4.0,baz=33,slow=6.2,SNR=6.4						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**16 02 34.4**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR	**Lajitas Array**	**77.62**	**60**	P	**P**	**16 03 12.2**	**+1.3**
	comp=Z,0.1nm,0.4s,mb3.1,baz=299,slow=4.1,SNR=3.7						

*IDC **02** 15:56:11.6±1.2, 872S×111.44E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/19, mbtmp3.9/9, MS3.1/2, Ms1 3.1/2, ms1mx2.7/28, Error ellipse: s-maj=57.4km s-min=17.6km az=50.0*
*NEIC **02** 15:56:12.9±0.8, 871S×111.40E, h10km, mb4.3/4, Error ellipse: s-maj=32.5km s-min=8.9km az=49.0*
*ISCJB **02** 15:56:14.9±1.0, 86S±02×1115E±02, h35km, mb4.0/12, Error ellipse: s-maj=43.6km s-min=11.8km az=97.6*
ISC 02 15:56:16.8±1.0, 87S±02×1115E±02, h35km, n15, σ0°62/15, mb4.0/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.67**	**126**	Pn	**Pn**	**16 00 07.5**	**0.0**
	baz=306,slow=8.7						
FITZ				Sn	**Sn**	**16 02 54.0**	**-17**
	0.1nm,0.3s,baz=315,slow=22,SNR=3.1						
FITZ				LR	LR	16 06 55.2	
	comp=Z,57nm,18.9s,baz=313,slow=39						
PSI	**Prapat**	**16.92**	**312**	LR	LR	16 07 42.8	
	comp=Z,67nm,18.2s,baz=257,slow=41						
WRA	**Warramunga Arr**	**24.80**	**119**	P	**P**	**16 01 35.9**	**+0.4**
	0.6nm,0.7s,mb3.3,baz=296,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.15**	**127**	P	**P**	**16 01 47.2**	**-0.4**
	0.5nm,0.4s,mb3.4,baz=304,slow=9.1,SNR=18						
ASAR				PcP	PcP	16 05 15.2	+1.0
	0.4nm,0.5s,baz=317,slow=1.8,SNR=7.9						
MJAR	**Matsushiro Arr**	**51.54**	**28**	P	**P**	**16 05 18.9**	**-0.2**
	0.9nm,0.5s,mb3.9,baz=209,slow=8.0,SNR=4.6						
ULN	**Ulaanbaatar**	**56.44**	**356**	P	**P**	**16 05 55.1**	**+0.2**
	1.0nm,0.5s,mb4.1						
SONM	**Songino Array**	**56.45**	**356**	P	**P**	**16 05 56.2**	**+1.2**
	0.8nm,0.5s,mb4.0,baz=174,slow=8.6,SNR=11						
SONM				PcP	PcP	16 06 52.5	+1.0
	0.4nm,0.3s,baz=187,slow=3.9,SNR=9.8						
MKAR	**Makanchi Array**	**61.04**	**338**	P	**P**	**16 06 27.4**	**+0.5**
	0.9nm,0.4s,mb4.3,baz=149,slow=7.6,SNR=35						
KURK	**Kurchatov**	**65.65**	**338**	*e*P	**P**	**16 06 56.5**	**-0.9**
	1.8nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**66.33**	**343**	P	**P**	**16 07 01.8**	**+0.1**
	1.1nm,0.4s,mb4.3,baz=349,slow=5.5,SNR=4.6						
BVAR	**Borovoye Array**	**70.69**	**335**	P	**P**	**16 07 29.0**	**+0.1**
	1.1nm,0.6s,mb3.9,baz=138,slow=9.1,SNR=9.9						
BRVK	**Borovoye**	**70.75**	**335**	P	**P**	**16 07 28.1**	**-1.2**
	2.6nm,1.1s,mb4.1						
YAK	**Yakutsk**	**71.92**	**9**	P	**P**	**16 07 36.0**	**-0.4**
	6.0nm,0.6s,mb4.7						
BRTR	**Keskin Array B**	**86.24**	**311**	P	**P**	**16 08 55.3**	**+0.7**
	0.9nm,0.9s,mb4.0,baz=107,slow=6.2,SNR=3.3						
BRTR	**Keskin Array B**	**86.24**	**311**	P	**P**	**16 08 55.3**	**+0.6**

*IDC **02** 16:03:06.5±2.8, 5.17S×152.07E, h24km±17km, mb4.5/15, mb1 4.7/16, mb1mx4.6/19, mbtmp4.5/16, ML4.4/1, MS4.0/13, Ms1 4.0/13, ms1mx3.6/27, Error ellipse: s-maj=20.2km s-min=12.8km az=123.0*
*ISCJB **02** 16:03:07.4±1.7, 5.18S±007×152.16E±006, h44km±15km, mb4.6/30, MS4.0/14, Error ellipse: s-maj=12.7km s-min=9.1km az=114.0*
*NEIC **02** 16:03:09.6±1.1, 5.16S×152.13E, h52km±10km, mb4.7/20, Error ellipse: s-maj=8.6km s-min=6.4km az=145.0*
*BJI **02** 16:03:14.0, 4.34S×151.92E, h52km, mB5.0, mb4.8, Ms4.6, Msz4.3*
ISC 02 16:03:10.3±1.2, 519S±006×15217E±006, h56km±11km, n58, σ0°89/54, mb4.7/29, MS4.0/14, 2C-7D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.50**	**230**	Pn	**Pn**	**16 04 43.2**	**-0.1**
	17nm,0.3s,baz=40,slow=6.4,SNR=59						
PMG				Sn	**Sn**	**16 05 57.2**	**+1.2**
	24nm,0.3s,baz=159,slow=21,SNR=12						
PMG	**Port Moresby**	**6.50**	**230**	*e*Pn	**Pn**	**16 04 43.5**	**+0.2**
	284nm,0.8s						
PMG				*e*Sn	**Sn**	**16 05 51.9**	**-4.1**
HNR	**Honiara**	**8.78**	**119**	Pn	**Pn**	**16 05 14.8**	**+0.2**
	3.9nm,0.3s,baz=259,slow=2.3,SNR=7.8						
HNR	**Honiara**	**8.78**	**119**	*e*Pn	**Pn**	**16 05 13.7**	**-0.9**
CTA	**Charters Tower**	**15.88**	**201**	||*i*P	**Pn**	**16 06 51.2**	**+1.0**
	3.6nm,0.3s						
CTA				*e*		16 06 55.3	
CTA	**Charters Tower**	**15.88**	**201**	Pn	**Pn**	**16 06 51.1**	**+1.0**
	1.4nm,0.3s,baz=24,slow=11,SNR=24						
CTA				LR	LR	16 12 00.3	
	comp=Z,444nm,21.6s,baz=25,slow=34						
CTAO	**Charters Tower**	**15.88**	**201**	*e*Pn	**Pn**	**16 06 51.0**	**+0.9**
	33nm,0.8s						
CTAO				*e*		16 06 55.4	
KAKA	**Kakadu**	**20.86**	**248**	||*i*P	**P**	**16 07 46.9**	**-0.6**
	156nm,0.6s						
KAKA				*e*S	**S**	**16 11 34.6**	**-2.4**
DZM	**Mont Dzumac**	**21.73**	**142**	P	**P**	**16 07 56.7**	**-0.1**
	8.3nm,0.6s,mb4.3,baz=262,slow=20,SNR=10						
DZM				LR	LR	16 14 04.2	
	comp=Z,241nm,19.5s,MS3.6,baz=353,slow=30						
DZM	**Mont Dzumac**	**21.73**	**142**	P	**P**	**16 07 56.7**	**-0.1**
DZM				LR	LR	16 14 04.2	
WRAB	**Tennant Creek**	**22.70**	**228**	*e*P	**P**	**16 08 06.5**	**-0.6**
	70nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**22.71**	**228**	||*i*P	**P**	**16 08 06.8**	**-0.4**
WB2				*e*S	**S**	**16 12 12.6**	**+0.9**
WRA	**Warramunga Arr**	**22.72**	**228**	P	**P**	**16 08 06.8**	**-0.4**
	51nm,0.7s,mb5.1,baz=55,slow=10,SNR=87						
WRA				S	**S**	**16 12 13.2**	**+1.4**
	7.4nm,1.2s,baz=52,slow=17,SNR=9.2						
WRA				ScP	ScP	16 15 36.0	+5.5
	0.7nm,0.9s,baz=55,slow=2.6,SNR=5.0						
WRA				LR	LR	16 17 15.2	
	comp=Z,175nm,19.9s,MS3.5,baz=55,slow=38						
ARMA	**Armidale**	**25.10**	**181**	*e*P	**P**	**16 08 31.1**	**+1.5**
ASAR	**Alice Springs**	**25.44**	**222**	P	**P**	**16 08 32.9**	**+0.1**
	27nm,0.5s,mb5.0,baz=58,slow=8.3,SNR=151						
ASAR				ScP	ScP	16 15 42.3	+4.3
	1.0nm,0.8s,baz=58,slow=2.9,SNR=5.8						
STKA	**Stephens Creek**	**28.34**	**199**	||*i*P	**P**	**16 08 58.0**	**-0.8**
	9.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**28.34**	**199**	P	**P**	**16 08 57.6**	**-1.2**
	11nm,0.7s,mb4.6,baz=39,slow=14,SNR=20						
STKA				LR	LR	16 19 54.1	
	comp=Z,259nm,20.4s,MS3.8,baz=25,slow=36						
FITZ	**Fitzroy Crossi**	**28.92**	**241**	||*i*P	**P**	**16 09 03.5**	**-0.5**
	24nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**28.92**	**241**	P	**P**	**16 09 03.5**	**-0.5**
	8.7nm,0.6s,mb4.7,baz=78,slow=7.3,SNR=32						
FITZ				LR	LR	16 21 56.1	
	comp=Z,200nm,20.9s,MS3.7,baz=64,slow=39						
FORT	**Forrest**	**34.09**	**219**	||*i*P	**P**	**16 09 49.0**	**-0.4**
	16nm,0.6s,mb5.1						
AFI	**Afiamalu**	**36.54**	**106**	LR	LR	16 21 08.0	
	comp=Z,348nm,20.3s,MS4.1,baz=336,slow=30						
TAU	**Tasmania Unive**	**37.80**	**186**	P	**P**	**16 10 22.0**	**+0.8**
	36nm,1.1s,mb5.0						
KLBR	**Kellerberrin**	**41.58**	**227**	||*i*P	**P**	**16 10 51.2**	**-1.3**
	9.8nm,0.5s,mb4.7						
NWAO	**Narrogin (SRO)**	**42.67**	**225**	P	**P**	**16 11 00.3**	**-1.1**
	12nm,1.0s,mb4.6,baz=58,slow=9.5,SNR=4.5						
NWAO	**Narrogin (SRO)**	**42.67**	**225**	P	**P**	**16 10 59.8**	**-1.6**
	9.7nm,0.9s,mb4.5						
KSRS	**Korea Array**	**48.07**	**334**	LR	LR	16 27 52.6	
	comp=Z,65nm,20.8s,MS3.6,baz=303,slow=31						
KMI	**Kunming**	**56.69**	**305**	P	**P**	**16 12 51.3**	**+3.4**
KMI				AP	pP	16 13 04.6	+1.6
KMI				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.2						
KMI				LR	LR		
	comp=Z,49nm,25.5s,MS3.5						
CD2	**Chengdu**	**58.52**	**311**	*e*P	**P**	**16 13 02.5**	**+1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.4s						
HHC	**Hu-ho-hao-te**	**59.00**	**325**	*e*P	**P**	**16 13 05.5**	**+1.3**
HHC				AP	pP	16 13 19.7	+0.4
HHC				XP	sP	16 13 27.5	+1.8
HHC				PP	PP	16 15 18.1	+3.1
HHC				S	**S**	**16 21 05.9**	**-0.6**
HHC				SCS	ScS	16 22 46.7	-2.5
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,191nm,6.2s						
HHC				LR	LR		
	comp=N,176nm,16.1s,MS4.3						
HHC				LR	LR		
	comp=E,127nm,17.2s,MS4.3						
HHC				LR	LR		
	comp=Z,151nm,14.9s,MS4.2						
ULN	**Ulaanbaatar**	**66.00**	**329**	*e*P	**P**	**16 13 51.8**	**+1.0**
	comp=Z,2.6nm,0.9s,mb4.3						
SONM	**Songino Array**	**66.33**	**328**	P	**P**	**16 13 52.8**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.1,baz=142,slow=5.9,SNR=9.1						
SONM				LR	LR	16 42 10.6	
	comp=Z,85nm,20.0s,MS4.0,baz=62,slow=35						
LSA	**Lhasa**	**67.95**	**305**	*e*P	**P**	**16 14 03.5**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.5						
VNDA	**Vanda**	**72.46**	**178**	P	**P**	**16 14 31.0**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=352,slow=6.0,SNR=6.7						
VNDA	**Vanda**	**72.46**	**178**	*e*P	**P**	**16 14 31.0**	**+0.2**
	comp=Z,2.2nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**80.21**	**319**	P	**P**	**16 15 14.5**	**-0.2**
	comp=Z,2.2nm,0.9s,mb4.1,baz=94,slow=8.0,SNR=11						
SML	**Sawmill**	**80.74**	**24**	*e*P	**P**	**16 15 17.3**	**-0.2**
MCK	**McKinley**	**81.46**	**23**	*e*P	**P**	**16 15 20.0**	**-1.4**
	comp=Z,5.6nm,0.9s,mb4.5						
COLA	**College**	**82.45**	**22**	*e*P	**P**	**16 15 25.2**	**-1.3**
	comp=Z,8.1nm,0.8s,mb4.7						
KURK	**Kurchatov**	**83.69**	**322**	*e*P	**P**	**16 15 33.0**	**+0.1**
	comp=Z,6.0nm,1.2s,mb4.6						
AAK	**Ala-Archa**	**84.48**	**314**	*e*P	**P**	**16 15 36.8**	**-0.2**
	comp=Z,4.6nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**84.77**	**180**	*e*P	**P**	**16 15 38.6**	**+0.2**
	comp=Z,12nm,1.2s,mb4.9						
EGAK	**Eagle**	**84.97**	**23**	*e*P	**P**	**16 15 38.6**	**-0.8**
	comp=Z,11nm,1.0s,mb5.0						
MAW	**Mawson**	**84.97**	**203**	P	**P**	**16 15 39.4**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.6,baz=81,slow=8.6,SNR=8.9						
MAW				LR	LR	16 48 21.4	
	comp=Z,80nm,21.6s,MS4.1,baz=66,slow=32						
MAW	**Mawson**	**84.97**	**203**	*e*P	**P**	**16 15 39.5**	**+0.1**
	comp=Z,6.5nm,0.8s,mb4.8						
DAWY	**Dawson**	**85.40**	**24**	*e*P	**P**	**16 15 42.1**	**+0.5**
BVAR	**Borovoye Array**	**89.18**	**323**	P	**P**	**16 16 00.4**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.3,baz=107,slow=4.5,SNR=6.8						
YBH	**Yreka Blue Hor**	**89.78**	**48**	LR	LR	16 48 01.4	
	comp=Z,117nm,19.8s,MS4.3,baz=323,slow=30						
NVAR	**Mina Array Bea**	**92.82**	**52**	P	**P**	**16 16 18.1**	**+1.3**
	comp=Z,3.6nm,0.7s,mb4.9,baz=262,slow=7.2,SNR=22						
SYO	**Syowa Base**	**93.09**	**199**	||*e*PcP	PcP	16 16 19.5	+0.9
SYO	**Syowa Base**	**93.09**	**199**	||*e*pP	pP	16 16 31.0	-3.1
NEW	**Newport**	**94.31**	**42**	P	**P**	**16 16 23.9**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.7,baz=215,slow=14,SNR=2.9						
NEW				LR	LR	16 54 34.6	
	comp=Z,127nm,19.5s,MS4.4,baz=77,slow=33						
NEW	**Newport**	**94.31**	**42**	P	**P**	**16 16 23.9**	**+0.4**
NEW				LR	LR	16 54 34.6	
YKA	**Yellowknife Ar**	**96.06**	**28**	P	**P**	**16 16 30.5**	**-1.1**
	comp=Z,1.2nm,0.8s,mb4.4,baz=269,slow=4.8,SNR=10						
YKA				LR	LR	16 53 45.3	
	comp=Z,109nm,20.6s,MS4.3,baz=220,slow=32						
PDAR	**Pinedale Array**	**99.57**	**48**	P	Pdif	16 16 47.9	+0.5
	comp=Z,1.0nm,0.7s,baz=251,slow=2.2,SNR=9.0						
PDAR				LR	LR	16 51 36.3	
	comp=Z,104nm,21.8s,MS4.3,baz=272,slow=29						
GERES	**GERESS Array B**	**124.06**	**328**	PKP	PKPdf	16 22 02.6	+0.3
	comp=Z,0.7nm,0.5s,baz=98,slow=1.6,SNR=8.9						
SDV	**Santo Domingo**	**137.38**	**83**	*e*P	PKPdf	16 22 29.6	+2.2
TOA0	**Torodi Ar. Sit**	**149.83**	**287**	*e*PKPbc	PKPbc	16 22 54.4	+0.4
TORD	**Torodi Ar. Bea**	**149.83**	**287**	PKPbc	PKPbc	16 22 54.8	+0.8
	comp=Z,3.8nm,0.5s,baz=105,slow=2.6,SNR=32						

IDC 02 16:39:26.8±5.6, 691S×14689E, h78km±47km, mb3.6/3, mb1 3.7/5, mb1mx3.4/14, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=48.5km s-min=43.3km az=88.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.50**	**174**	P	Pn	16 40 06.9	+1.5
	9.0nm,0.3s,baz=357,slow=4.8,SNR=42						
PMG				S	Sn	16 40 35.6	+0.7
	22nm,0.3s,baz=318,slow=5.2,SNR=11						
WB2	**Warramunga Arr**	**17.77**	**222**	*e*P	Pn	16 43 29.4	+0.5
WRA	**Warramunga Arr**	**17.78**	**222**	P	Pn	16 43 29.0	0.0
	0.3nm,0.3s,baz=49,slow=11,SNR=21						
ASAR	**Alice Springs**	**20.82**	**215**	P	P	16 44 02.5	+0.7
	1.4nm,0.4s,baz=52,slow=8.1,SNR=55						
FITZ	**Fitzroy Crossi**	**23.51**	**240**	*e*P	P	16 44 29.6	0.0
	2.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**23.51**	**240**	P	P	16 44 29.8	+0.2
	1.2nm,0.3s,baz=57,slow=12,SNR=18						
STKA	**Stephens Creek**	**25.33**	**191**	P	P	16 44 45.4	-0.8
	1.3nm,0.7s,baz=16,slow=15,SNR=3.0						
TORD	**Torodi Ar. Bea**	**145.19**	**283**	PKPbc	PKPbc	16 58 55.5	+0.5
	0.2nm,0.5s,baz=91,slow=2.8,SNR=1.6						

KRSC 02 16:40:09.0±0.6, 5273N×16059E, h11km±11km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.50**	**317**	*i*P	Pg	16 40 20.2	+1.4
SPN				*e*S	Sg	16 40 27.8	+2.3
NLC	**Nalytchevo**	**0.87**	**301**	*i*P	Pg	16 40 26.0	+0.2
NLC				*i*S	Sg	16 40 38.6	+1.4
PET	**Petropavlovsk**	**1.21**	**285**	*e*P	Pn	16 40 31.2	-0.6
PET				*i*S	Sb	16 40 48.3	+0.8
AVH	**Avacha**	**1.24**	**296**	*e*P	Pn	16 40 32.0	-0.3
AVH				*i*S	Sb	16 40 48.4	0.0
RUS	**Russkaya**	**1.30**	**258**	*e*P	Pn	16 40 32.6	-0.5
RUS				*i*S	Sb	16 40 50.3	+0.1
GRL	**Gorelyy**	**1.54**	**264**	*e*P	Pn	16 40 36.9	+0.5
GRL				*i*S	Sn	16 40 57.1	+0.6
GNL	**Ganaly**	**1.86**	**302**	*e*P	Pn	16 40 42.0	+1.2
GNL				*i*S	Sn	16 41 06.7	+2.4
MKZ	**Mys Kozlova**	**1.95**	**20**	*e*P	Pn	16 40 40.9	-1.1
MKZ				*i*S	Sn	16 41 04.1	-2.4
TUMR	**Tumrok**	**2.57**	**354**	*e*P	Pn	16 40 51.9	+1.3
TUMR				*i*S	Sn	16 41 23.0	+1.2
KMNR	**Kamenistaya**	**3.04**	**356**	P	Pn	16 40 58.7	+1.7
KMNR				*i*S	Sn	16 41 34.3	+0.9
BZMR	**Bezymyannaya**	**3.21**	**359**	P	Pn	16 41 01.1	+1.7
BZMR				*i*S	Sn	16 41 39.5	+1.9
KPT	**Kopyto**	**3.25**	**356**	P	Pn	16 41 00.6	+0.7
KPT				*i*S	Sn	16 41 38.6	0.0
ZLN	**Zelenaya**	**3.30**	**2**	P	Pn	16 41 03.3	+2.8
ZLN				*i*S	Sn	16 41 42.3	+2.6
KOZ	**Kozyrevsk**	**3.36**	**353**	P	Pn	16 41 02.5	+1.1
KOZ				*i*S	Sn	16 41 41.7	+0.4
KRSR	**Krestovskiy**	**3.50**	**360**	P	Pn	16 41 04.8	+1.5
KLY	**Klyuchi**	**3.59**	**1**	P	Pn	16 41 07.4	+2.8
KLY				*i*S	Sn	16 41 49.4	+2.4
SRDR	**Sredinnyy**	**3.63**	**352**	P	Pn	16 41 06.9	+1.8
KBTR	**Krutoberegovo**	**3.72**	**20**	*e*P	Pn	16 41 06.0	-0.4
KBTR				*e*S	Sn	16 41 47.6	-2.6
BDR	**Baidarnaya**	**3.86**	**5**	P	Pn	16 41 11.0	+2.7
SRKR	**Sorokina**	**3.95**	**5**	P	Pn	16 41 12.7	+3.2
SRKR				*i*S	Sn	16 41 59.0	+3.2

IDC 02 16:40:14.0±3.1, 3392S×17866W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=73.8km s-min=36.5km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.52**	**217**	Pn	Pn	16 41 38.0	+0.6
	4.8nm,0.3s,baz=299,slow=0.6,SNR=25						
URZ				Sn	Sn	16 42 41.2	-0.4
	5.3nm,0.3s,baz=159,slow=20,SNR=10						
ASAR	**Alice Springs**	**42.48**	**271**	P	P	16 48 11.2	+0.3
	1.8nm,0.8s,baz=114,slow=6.8,SNR=18						
WRA	**Warramunga Arr**	**43.79**	**276**	P	P	16 48 21.5	+0.1
	1.2nm,0.5s,baz=121,slow=7.9,SNR=20						
FINES	**FINESS Array B**	**148.22**	**338**	PKPbc	PKPbc	17 00 00.3	-1.6
	2.0nm,0.8s,baz=47,slow=3.0,SNR=5.7						

*SZGRF **02** 16:57:36.0, 50.19N×164.93W, h33km, mb4.7, South of Alaska*
*BJI **02** 16:57:47.7, 53.56N×163.96W, h11km, mB5.2, mb4.6, Ms4.4, Msz4.2*
*IDC **02** 16:57:48.6±1.4, 53.75N×163.73W, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/25, mbtmp4.1/15, ML3.8/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/44, Error ellipse: s-maj=38.8km s-min=17.4km az=167.0*
*ISCJB **02** 16:57:49.8±1.9, 536N±0.1×163.53W±007, h24km±12km, mb4.5/40, MS3.7/9, Error ellipse: s-maj=17.4km s-min=6.5km az=156.2*
*NEIC **02** 16:57:50.7±2.7, 53.68N×163.66W, h15km±16km, mb4.6/20, Error ellipse: s-maj=17.3km s-min=5.9km az=165.0*
*MOS **02** 16:57:55.8±1.3, 53.81N×163.81W, h64km, mb4.7/17, Error ellipse: s-maj=20.4km s-min=8.7km az=101.2*
ISC 02 16:57:51.2±2.0, 5361N±010×16360W±007, h22km±12km, n91, σ1°03/92, mb4.5/40, MS3.7/9, 7C-4D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.25**	**5**	P	**Pn**	**16 58 14.9**	**+1.5**
FALS				S	**Sn

comp=Z,4.2nm,0.8s,mb4.5,baz=46,slow=7.2,SNR=8.6
TXAR Lajitas Array 49.30 95 P **P 17 06 39.3 +0.9**
comp=Z,0.3nm,0.6s,mb3.5,baz=311,slow=5.8,SNR=4.1
TLY Talaya 52.37 308⇑ *eP* **P 17 07 01.9 +0.4**
TLY pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
TLY Talaya 52.37 308 P **P 17 07 01.4 -0.1**
comp=Z,8.4nm,0.9s,mb4.7
ULN Ulaanbaatar 53.25 303⇑ *eP* **P 17 07 07.8 -0.3**
ULN Ulaanbaatar 53.25 303 *eP* **P 17 07 07.3 -0.7**
comp=Z,9.8nm,0.9s,mb4.7
SONM Songino Array 53.60 303 P **P 17 07 10.9 +0.2**
comp=Z,4.8nm,0.9s,mb4.4,baz=45,slow=6.8,SNR=34
SONM PcP PcP 17 08 16.0 -1.0
comp=Z,0.7nm,0.9s,baz=29,slow=3.3,SNR=2.4
HHC Hu-ho-hao-te 55.67 294 *eP* **P 17 07 26.1 +0.4**
HHC XP sP 17 07 32.8 -2.6
HHC PP PP 17 09 31.1 +1.1
HHC S **S 17 15 08.3 -2.3**
HHC SCS ScS 17 17 12.0 -1.5
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,253nm,5.0s
HHC LR LR
comp=N,167nm,15.5s,MS4.4
HHC LR LR
comp=E,230nm,17.3s,MS4.4
HHC LR LR
comp=Z,153nm,14.3s,MS4.2
KEV Kevo 56.70 356 *ep* **P 17 07 29.9 -3.1**
comp=Z,3.5nm,0.6s,mb4.6
KEV Kevo 56.70 356 *eP* **P 17 07 29.9 -3.1**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARCES ARCESS Array B 56.98 356 P **P 17 07 33.9 -1.1**
comp=Z,5.8nm,1.0s,mb4.6,baz=14,slow=7.0,SNR=6.5
ZAL Zalesovo 58.80 320 P **P 17 07 47.2 -0.5**
comp=Z,1.2nm,0.8s,mb4.0,baz=66,slow=5.4,SNR=7.6
GTA Gaotai 62.95 300 *eP* **P 17 08 16.0 +0.1**
GTA AP pP 17 08 23.0 0.0
GTA XP sP 17 08 25.4 -0.3
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.8
KURK Kurchatov 63.68 321⇑ *eP* **P 17 08 21.3 +0.5**
KURK Kurchatov 63.68 321 *eP* **P 17 08 21.1 +0.2**
comp=Z,4.5nm,0.9s,mb4.5
KAF Kangasniemi 64.36 355 *ep* **P 17 08 24.0 -1.2**
baz=2.6,slow=6.2
BRVK Borovoye 64.64 327 *eP* **P 17 08 26.9 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BRVK Borovoye 64.64 327 *eP* **P 17 08 26.9 -0.2**
comp=Z,6.1nm,0.9s,mb4.6
ARU Arti 65.01 336⇓ *iP* **P 17 08 29.2 -0.3**
ARU *e* 17 08 58.3
ARU *e* 17 10 50.8
ARU *e*S S 17 17 09.9 -0.5
ARU *e*SS SS 17 21 25.0 +2.6
ARU pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
FINES FINESS Array B 65.03 355 P **P 17 08 28.4 -1.3**
comp=Z,3.1nm,0.7s,mb4.4,baz=21,slow=12,SNR=8.2
MKAR Makanchi Array 65.40 316 P **P 17 08 30.9 -1.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=50,slow=6.5,SNR=11
MKAR Makanchi Array 65.40 316 *iP* **P 17 08 31.7 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 65.43 311 *eP* **P 17 08 35.4 +3.2**
WMQ AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
WMQ LR LR
comp=N,45nm,21.0s,MS4.0
WMQ LR LR
comp=E,95nm,19.0s,MS4.0
WMQ LR LR
comp=Z,64nm,16.0s,MS3.9
NB2 NORSAR Subarra 65.62 3 P **P 17 08 33.5 0.0**
comp=Z,2.0nm,0.8s,mb4.2,baz=359,slow=6.9
NOA NORSAR Array B 65.62 3 P **P 17 08 33.5 0.0**
comp=Z,3.8nm,0.8s,mb4.5,baz=358,slow=6.6,SNR=7.8
CD2 Chengdu 67.24 291 *eP* **P 17 08 43.5 -0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,6.2s
GYA Guiyang 69.00 286 P **P 17 08 55.3 +0.4**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
PPT Papeete 71.91 166 LR LR 17 35 05.5
comp=Z,65nm,18.1s,MS3.9,baz=131,slow=31
AAK Ala-Archa 71.97 319⇑ *eP* **P 17 09 12.6 -0.4**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
AAK Ala-Archa 71.97 319 *eP* **P 17 09 10.3 -2.7**
comp=Z,6.7nm,1.1s,mb4.5
KMI Kunming 72.27 288 P **P 17 09 16.2 +1.4**
KMI AP pP 17 09 25.3 +3.3
KMI XP sP 17 09 29.0 +4.4
KMI AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
KMI LR LR
comp=Z,28nm,28.5s,MS3.4
LSA Lhasa 74.96 300 *eP* **P 17 09 31.6 +1.0**
LSA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LSA Lhasa 74.96 300 *eP* **P 17 09 31.6 +1.0**
comp=Z,5.0nm,1.0s,mb4.4
AKASG Malin Array Be 75.50 352 P **P 17 09 32.8 -1.0**
comp=Z,0.3nm,0.2s,mb3.8,baz=9.0,slow=5.5,SNR=4.4
MOX Moxa 76.04 3 *e*(P) **P 17 09 37.3 +0.5**
GRA1 Grafenberg Arr 76.98 3 *eP* **P 17 09 42.8 +0.7**
comp=Z,13nm,1.4s,mb4.7
GRF Grafenberg Arr 76.98 3 *eP* **P 17 09 42.8 +0.7**
comp=Z,13nm,1.4s,mb4.7
GRF Grafenberg Arr 76.98 3 *eP* **P 17 09 42.8 +0.7**
GRF pmax pmax
comp=Z,13nm,1.4s,mb4.7
GRF Grafenberg Arr 76.98 3 *eP* **P 17 09 42.8 +0.7**
GRF pmax pmax
comp=Z,13nm,1.4s,mb4.7
KWP Kalwaria 76.99 356 *eP* **P 17 09 42.5 +0.3**
STHS Stebnicka Huta 77.27 357 *eP* **P 17 09 44.9 +1.2**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
STHS Stebnicka Huta 77.27 357 *eP* **P 17 09 44.9 +1.2**
comp=Z,4.4nm,1.1s,mb4.3
KHC Kasperske Hory 77.61 2⇓ *eP* **P 17 09 45.5 -0.1**
KOLS Kolonicke sedl 77.71 356 *eP* **P 17 09 46.8 +0.6**
GERES GERESS Array B 77.89 2 P **P 17 09 47.7 +0.5**
comp=Z,1.3nm,0.8s,mb3.9,baz=350,slow=4.1,SNR=9.4
KECS Kecovo 78.22 357 *eP* **P 17 09 49.5 +0.4**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 78.22 357 *eP* **P 17 09 49.5 +0.4**
comp=Z,2.1nm,0.8s,mb4.1
VYHS Vyhne 78.25 358 *eP* **P 17 09 49.9 +0.7**
ZST Bratislava 78.57 360 *eP* **P 17 09 52.2 +1.2**
ZST pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ZST Bratislava 78.57 360 *eP* **P 17 09 52.2 +1.2**
comp=Z,3.3nm,0.7s,mb4.4
GUN Gumba 79.10 302 *eP* **P 17 09 54.6 +0.7**
comp=Z,18nm,0.8s,mb5.1
KKN Kakani 79.50 303 *eP* **P 17 09 56.3 +0.2**
GKN Gorkha 79.65 303 *eP* **P 17 09 57.1 +0.2**
comp=Z,18nm,0.9s,mb5.0
KIV Kislovodsk 80.23 341⇑ *eP* **P 17 10 00.4 +0.4**
KIV *e* 17 12 58.8
KIV *e*S S 17 19 50.2 -14
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.8
KOLN Koldanda 80.35 304 *eP* **P 17 10 00.8 +0.1**
comp=Z,18nm,1.0s,mb5.0
BR131 Keskin Array S 85.85 347 *eP* **P 17 10 30.1 +1.0**
comp=Z,2.6nm,0.8s,mb4.5
BRTR Keskin Array B 85.85 347 P **P 17 10 29.9 +0.8**
comp=Z,2.8nm,0.9s,mb4.5,baz=77,slow=2.8,SNR=11
BRTR Keskin Array B 85.85 347 *iP* **P 17 10 30.2 +1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s

*ISCJB **02** 17:00:02.6±0.9, 125S×0.1×166.1E±0.1, h35km, mb4.2/8, MS3.5/7, Error ellipse: s-maj=18.7km s-min=10.1km az=97.5*
*NEIC **02** 17:00:03.8±2.2, 12.45S×166.30E, h36km±17km, mb4.3/3, Error ellipse: s-maj=26.2km s-min=14.0km az=65.0*
*IDC **02** 17:00:05.6±4.2, 12.56S×166.14E, h53km±33km, mb3.9/5, mb1 4.0/8, mb1mx3.9/15, mbtmp4.0/8, ML3.3/2, MS3.5/9, Ms1 3.5/9, ms1mx3.2/27, Error ellipse: s-maj=35.7km s-min=23.8km az=68.0*
ISC 02 17:00:04.3±0.9, 1244S±010×1662E±01, h35km, n25, σ1§12/19, mb4.2/8, MS3.5/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
HNR	**Honiara**	**6.87**	**295**	P		**Pn**	**17 01 43.4**		**+1.0**
	25nm,0.3s,baz=148,slow=0.7,SNR=16								
HNR				S		**Sn**	**17 02 59.2**		**-0.1**
	8.2nm,0.3s,baz=260,slow=11,SNR=2.9								
HNR	**Honiara**	**6.87**	**295**	*e*Pn		**Pn**	**17 01 42.6**		**+0.2**
HNR				*e*Sn		**Sn**	**17 02 57.9**		**-1.4**
DZM	**Mont Dzumac**	**9.58**	**179**	P		**Pn**	**17 02 19.3**		**-0.4**
	0.6nm,0.3s,baz=162,slow=17,SNR=3.0								
DZM				LR		LR	17 05 37.8		
	comp=Z,161nm,21.8s,baz=74,slow=35								
DZM	**Mont Dzumac**	**9.58**	**179**	P		**Pn**	**17 02 19.3**		**-0.4**
DZM				LR		LR	17 05 37.8		
PMG	**Port Moresby**	**18.98**	**277**	P		**Pn**	**17 04 23.8**		**+0.3**
	0.1nm,0.3s,baz=347,slow=3.9,SNR=3.8								
PMG				LR		LR	17 10 31.0		
	comp=Z,65nm,20.0s,baz=0.5,slow=33								
PMG	**Port Moresby**	**18.98**	**277**	*e*P		**Pn**	**17 04 23.7**		**+0.2**
	10nm,0.8s								
PMG				LR		LR	17 10 31.0		
CTA	**Charters Tower**	**20.63**	**246**	P		**P**	**17 04 43.7**		**+3.1**
	3.3nm,0.7s,baz=58,slow=9.8,SNR=5.1								
CTA				LR		LR	17 10 18.7		
	comp=Z,89nm,18.9s,MS3.1,baz=52,slow=30								
CTA	**Charters Tower**	**20.63**	**246**	P		**P**	**17 04 43.7**		**+3.1**
CTA				LR		LR	17 10 18.7		
AFI	**Afiamalu**	**21.45**	**96**	LR		LR	17 12 02.2		
	comp=Z,115nm,19.3s,MS3.3,baz=283,slow=33								
STKA	**Stephens Creek**	**29.80**	**226**	P		**P**	**17 06 09.2**		**+1.4**
	3.3nm,0.6s,mb4.3,baz=358,slow=6.0,SNR=5.2								
STKA				LR		LR	17 18 09.2		
	comp=Z,149nm,18.0s,MS3.7,baz=27,slow=37								
WRA	**Warramunga Arr**	**31.49**	**252**	P		**P**	**17 06 21.2**		**-1.5**
	0.9nm,0.7s,mb3.7,baz=83,slow=9.2,SNR=7.8								
ASAR	**Alice Springs**	**32.63**	**245**	P		**P**	**17 06 31.4**		**-1.4**
	1.3nm,0.7s,mb4.0,baz=71,slow=9.0,SNR=21								
GUMO	**Guam**	**33.43**	**320**	LR		LR	17 19 03.1		
	comp=Z,85nm,19.9s,MS3.5,baz=139,slow=34								
FITZ	**Fitzroy Crossi**	**39.51**	**257**	LR		LR	17 22 46.7		
	comp=Z,63nm,18.3s,MS3.5,baz=132,slow=35								
PPT	**Papeete**	**42.91**	**102**	LR		LR	17 23 07.9		
	comp=Z,125nm,18.3s,MS3.8,baz=179,slow=32								
NWAO	**Narrogin (SRO)**	**49.11**	**237**	LR		LR	17 27 44.7		
	comp=Z,104nm,20.6s,MS3.8,baz=204,slow=34								
MJAR	**Matsushiro Arr**	**55.42**	**333**	P		**P**	**17 09 35.0**		**-0.2**
	1.8nm,0.8s,mb4.2,baz=168,slow=8.3,SNR=6.0								
QSPA	**South Pole Qui**	**77.58**	**180**	*e*P		**P**	**17 11 55.6**		**-1.1**
	3.5nm,1.0s,mb4.2								
ULN	**Ulaanbaatar**	**79.70**	**324**	*e*P		**P**	**17 12 08.7**		**+0.3**
	5.0nm,0.9s,mb4.4								
SONM	**Songino Array**	**80.07**	**324**	P		**P**	**17 12 10.0**		**-0.4**
	0.9nm,0.6s,mb3.9,baz=145,slow=5.8,SNR=8.8								
DGAR	**Diego Garcia**	**92.10**	**262**	*e*P		**P**	**17 13 12.1**		**+2.2**
	182nm,1.1s								
MKAR	**Makanchi Array**	**94.86**	**317**	P		**P**	**17 13 22.6**		**0.0**
	1.8nm,0.8s,mb4.5,baz=151,slow=6.3,SNR=18								
ARCES	**ARCESS Array B**	**117.80**	**345**	PKP		PKPdf	17 18 44.7		-2.2
	3.1nm,0.9s,baz=29,slow=2.8,SNR=4.6								
ARCES	**ARCESS Array B**	**117.80**	**345**	PKP		PKPdf	17 18 44.7		-2.2
KEST	**Kesra**	**148.81**	**322**	PKPbc		PKPbc	17 19 47.4		-0.7
	1.6nm,0.8s,baz=4.6,slow=3.0,SNR=5.5								

IDC 02 17:35:08.3±0.8, 681N×7302W, h157km±19km, mb2.8/1, mb1 3.1/3, mb1mx2.9/19, mbtmp3.0/3, Error ellipse: s-maj=70.5km s-min=8.0km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
ROSC	**El Rosal**	**2.33**	**214**	P		Pn	17 35 49.1		+1.5
	4.4nm,0.3s,baz=276,slow=22,SNR=21								
ROSC				S		Sn	17 36 19.1		+1.1
	11nm,0.3s,baz=253,slow=22,SNR=7.9								
SDV	**Santo Domingo**	**3.14**	**49**	P		Pn	17 35 59.2		+1.5
	8.1nm,0.3s,baz=230,slow=2.4,SNR=53								
SDV				S		Sn	17 36 36.3		+0.4
	2.9nm,0.3s,baz=78,slow=22,SNR=14								
YKA	**Yellowknife Ar**	**63.31**	**340**	P		P	17 45 20.1		-0.3
	0.1nm,0.4s,baz=131,slow=6.6,SNR=3.5								
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		PKPbc	17 54 41.7		+0.6
	0.3nm,0.8s,baz=107,slow=2.7,SNR=4.6								

*CSEM **02** 17:35:30.6, 6788N×2015E, h0km, ML3.2, Suspected Mining explosion. After UPP*
*UPP **02** 17:35:30.6, 6788N×2015E, h0km, ML3.2, Suspected Mining explosion.*
HEL 02 17:35:31.6±0.2, 6786N×2017E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
KUA	**Kurravaara**	**0.12**	**33**	*i*P		Pg	17 35 32.7		-1.1
NIKU	**Nikkaluokta**	**0.43**	**272**	*i*P		Pg	17 35 38.8		-1.1
LANU	**Lannavaara**	**0.71**	**73**	*i*P		Pg	17 35 44.9		-0.4
DUNU	**Dundret**	**0.75**	**168**	*i*P		Pg	17 35 44.9		-1.1
SALU	**Saltoluokta**	**0.80**	**234**	*i*P		Pg	17 35 46.4		-0.5
SALU	**Saltoluokta**	**0.80**	**234**	P		Pg	17 35 46.3		-0.5
MASU	**Masugnsbyn**	**0.81**	**119**	*i*P		Pg	17 35 46.0		-1.1
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	17 35 54.6		+0.4
KIF				*e*S		Sg	17 36 10.1		+0.6
PAJU	**Pajala**	**1.41**	**125**	*e*P		Pn	17 35 56.2		-2.3
PAJU	**Pajala**	**1.41**	**125**	P		Pn	17 35 56.2		-2.3
HARU	**Harads**	**1.73**	**169**	*e*P		Pn	17 36 02.8		-0.1

*MOS **02** 17:56:04.8±2.2, 4704N×15294E, h46km, mb4.1/7, Error ellipse: s-maj=23.1km s-min=13.0km az=59.2*
*JMA **02** 17:56:06.9±0.7, 4695N×15282E, h30km, M4.2*
*ISCJB **02** 17:56:09.5±1.2, 468N±0.1×1525E±02, h73km±10km, mb3.7/9, Error ellipse: s-maj=25.4km s-min=8.8km az=94.5*
*IDC **02** 17:56:14.0±4.7, 4686N×15255E, h96km±39km, mb3.5/10, mb1 3.7/11, mb1mx3.5/25, mbtmp3.6/11, MS3.6/1, Ms1 3.6/1, ms1mx2.6/31, Error ellipse: s-maj=33.3km s-min=19.0km az=95.0*
ISC 02 17:56:11.3±1.1, 468N±01×1525E±02, h74km±9km, n39, σ1§40/43, mb3.7/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
KUR	**Kuril'sk**	**3.59**	**246**	*e*PN		**Pn**	**17 57 03.5**		**-1.1**
SKR	**Severo-Kuril's**	**4.55**	**30**	*e*PN		**Pn**	**17 57 16.5**		**-1.2**
SKR				*e*S		**Sn**	**17 58 02.4**		**-7.0**
YUK	**Yuzh-Kuril'sk**	**5.43**	**242**	*e*PN		**Pn**	**17 57 31.2**		**+1.5**
NEM2	**Nemuro 2**	**5.89**	**237**	P		**Pn**	**17 57 35.0**		**-1.0**
NEM2				*e*S		**Sn**	**17 58 39.4**		**-2.7**
JNK	**Nakash**	**6.37**	**242**	P		**Pn**	**17 57 43.5**		**+1.0**
JTKR	**Abashiri--Toko**	**6.68**	**248**	P		**Pn**	**17 57 48.9**		**+2.1**
JAK	**Akkeshi**	**6.72**	**238**	P		**Pn**	**17 57 46.4**		**-1.0**
JAK				*e*S		**Sn**	**17 58 59.9**		**-2.6**
JMP	**Maruseppu**	**7.02**	**250**	P		**Pn**	**17 57 54.2**		**+2.9**
JAR	**Ashorobuto**	**7.11**	**244**	P		**Pn**	**17 57 53.8**		**+1.2**
JAR				*e*S		**Sn**	**17 59 13.6**		**+1.7**
JOB	**Onbets**	**7.29**	**241**	*e*S		**Sn**	**17 59 15.7**		**-0.6**
ASAJ	**Asahikawa**	**7.46**	**252**	P		**Pn**	**17 58 01.1**		**+3.6**
	1.1nm,0.3s,baz=80,slow=12,SNR=14								
ASAJ	**Asahikawa**	**7.46**	**252**	PN		**Pn**	**17 58 01.1**		**+3.6**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
JKK2	**Kamakawa 2**	**7.47**	**250**	P		**Pn**	**17 58 00.5**		**+2.9**
JCH	**Churui**	**7.74**	**240**	P		**Pn**	**17 58 00.5**		**-0.7**
JCH				*e*S		**Sn**	**17 59 25.1**		**-2.2**
JBT2	**Biratori 2**	**8.26**	**244**	P		**Pn**	**17 58 08.9**		**+0.6**
JNBK	**Urakawa-nobuka**	**8.30**	**240**	*e*S		**Sn**	**17 59 38.2**		**-2.9**
JTM	**Tenmabayashi**	**10.22**	**238**	*e*S		**Sn**	**18 00 20.7**		**-7.2**
JANG	**Nango**	**10.23**	**235**	*e*S		**Sn**	**18 00 19.6**		**-8.7**
MJAR	**Matsushiro Arr**	**14.78**	**231**	P		**Pn**	**17 59 41.8**		**+5.5**
	comp=Z,0.4nm,0.3s,baz=37,slow=9.1,SNR=8.1								
JHJ	**Hachijo jima 2**	**16.76**	**220**	LR		LR	18 05 22.6		
	comp=Z,186nm,19.4s,baz=65,slow=33								
KSRS	**Korea Array**	**20.41**	**252**	P		**P**	**18 00 44.3**		**+2.0**
	comp=Z,1.9nm,0.7s,baz=58,slow=9.4,SNR=5.2								
INK	**Inuvik**	**41.83**	**32**	P		**P**	**18 03 53.3**		**-0.4**
	comp=Z,1.2nm,0.8s,mb3.7,baz=263,slow=6.9,SNR=3.9								
INK	**Inuvik**	**41.83**	**32**	P		**P**	**18 03 53.3**		**-0.4**
INK				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**46.54**	**297**	P		**P**	**18 04 30.9**		**-0.5**
	comp=Z,0.5nm,0.6s,mb3.4,baz=65,slow=8.8,SNR=7.1								
MKAR				PcP	PcP		18 06 04.9		+0.3
	comp=Z,0.4nm,0.6s,baz=73,slow=2.3,SNR=4.5								
MKAR	**Makanchi Array**	**46.54**	**297**	P		**P**	**18 04 30.9**		**-0.5**
MKAR							18 06 04.9		
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**50.49**	**309**	P		**P**	**18 05 02.4**		**+0.7**
	comp=Z,0.3nm,0.4s,mb3.6,baz=67,slow=11,SNR=2.3								
KAF	**Kangasniemi**	**63.21**	**335**	*ep*		**P**	**18 06 30.3**		**-1.4**
	baz=36,slow=6.1								
FINES	**FINESS Array B**	**63.81**	**334**	P		**P**	**18 06 35.0**		**-0.6**
	comp=Z,1.1nm,0.4s,mb4.0,baz=42,slow=6.9,SNR=20								
FINES	**FINESS Array B**	**63.81**	**334**	P		**P**	**18 06 35.0**		**-0.6**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NB2	**NORSAR Subarra**	**68.03**	**341**	P		**P**	**18 07 02.6**		**-0.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.03**	**341**	P		**P**	**18 07 02.4**		**-0.3**
	comp=Z,2.4nm,0.8s,mb4.1,baz=29,slow=6.4,SNR=4.0								
NOA	**NORSAR Array B**	**68.03**	**341**	P		**P**	**18 07 02.4**		**-0.3**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
WRA	**Warramunga Arr**	**68.43**	**198**	P		**P**	**18 07 04.9**		**-0.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=14,slow=6.7,SNR=3.2								
WRA	**Warramunga Arr**	**68.43**	**198**	P		**P**	**18 07 04.9**		**-0.3**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**71.26**	**326**	P		**P**	**18 07 22.0**		**-0.6**
	comp=Z,1.5nm,0.4s,mb4.2,baz=32,slow=6.2,SNR=6.4								
AKASG	**Malin Array Be**	**71.26**	**326**	P		**P**	**18 07 22.0**		**-0.6**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ASAR	**Alice Springs**	**72.13**	**198**	P		**P**	**18 07 28.6**		**+0.8**
	comp=Z,0.5nm,0.6s,mb3.5,baz=15,slow=5.1,SNR=16								
ASAR	**Alice Springs**	**72.13**	**198**	P		**P**	**18 07 28.7**		**+0.9**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MMAI	**Mount Meron Ar**	**82.46**	**311**	P		**P**	**18 08 26.8**		**+1.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=46,slow=6.0,SNR=4.1								

*NEIC **02** 18:02:25.0, 3663S×177.11E, h5km, ML3.8(WEL), After WEL.*
WEL 02 18:02:26.9±0.2, 3671S×17714E, h33km, ML3.8/5, Error ellipse: s-maj=2.3km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
WIZ	**White Island**	**0.82**	**177**	P		Pn	18 02 42.9		+0.8
WIZ	**White Island**	**0.82**	**177**	*e*P*		Pb	18 02 42.1		-0.6
WIZ				*e*S*		Sb	18 02 50.9		-2.6
MYRZ	**Mayor Island**	**0.92**	**231**	P*		Pb	18 02 42.8		-1.5
MYRZ				S*		Sb	18 02 55.0		-1.2
KUZ	**Kuaotunu**	**1.14**	**268**	P		Pn	18 02 45.8		-0.7
KUZ				S		Sn	18 03 00.0		-1.0
KUZ	**Kuaotunu**	**1.14**	**268**	PN		Pn	18 02 46.0		-0.5
KUZ				SN		Sn	18 03 00.0		-0.9
MXZ	**Matakaoa Point**	**1.27**	**133**	*e*P		Pn	18 02 47.8		-0.4
MXZ	**Matakaoa Point**	**1.27**	**133**	P*		Pb	18 02 47.8		-2.4
MXZ				S*		Sb	18 03 03.4		-2.7
URZ	**Urewera**	**1.55**	**181**	*e*P		Pn	18 02 50.7		-1.4
URZ	**Urewera**	**1.55**	**181**	*e*P*		Pb	18 02 51.5		-3.5
MWZ	**Matawai**	**1.65**	**169**	*e*P		Pn	18 02 53.4		-0.2
MWZ	**Matawai**	**1.65**	**169**	*e*P*		Pb	18 02 53.4		-3.3
WCZ	**Waipu Caves**	**2.38**	**288**	*e*P		Pn	18 03 04.7		+1.1
WCZ	**Waipu Caves**	**2.38**	**288**	*e*PN		Pn	18 03 04.7		+1.1
OUZ	**Omahuta**	**3.23**	**296**	*e*PN		Pn	18 03 17.2		+1.9

*ISCJB **02** 18:14:54.9±0.3, 44.11N±002×2141E±003, h12km, Error ellipse: s-maj=2.9km s-min=2.7km az=87.2*
*SKO **02** 18:14:55.0, 4408N×2139E, h0km*
*CSEM **02** 18:14:55.1±0.1, 4408N×2140E, h20km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.6km az=48.0*
*BEO **02** 18:14:55.1±0.2, 4408N×2142E, h12km*
*NEIC **02** 18:14:56.4, 4428N×2135E, h3km, ML3.7(BUC), After BUC.*
ISC 02 18:14:55.7±0.4, 4410N±002×2142E±003, h12km±3km, n47, σ0§96/75, 15C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
SVIS	**Svilajnac**	**0.25**	**324⇑**	*i*Pg		**Pg**	**18 15 00.7**		**-0.2**
SVIS				Sg		**Sg**	**18 15 04.3**		**-0.1**
BOLS	**Boljevac**	**0.47**	**124⇓**	*i*Pg		**Pg**	**18 15 04.9**		**-0.1**
BOLS				Sg		**Sg**	**18 15 11.0**		**-0.2**
GRUS	**Gruza**	**0.55**	**248⇓**	*i*Pg		**Pg**	**18 15 06.0**		**-0.5**
GRUS				Sg		**Sg**	**18 15 14.3**		**+0.5**
DJES	**Djerdap**	**0.96**	**55**	*i*Pg		**Pg**	**18 15 14.9**		**+0.7**
DJES				Sg		**Sg**	**18 15 27.2**		**+0.6**
BEO	**Belgrade**	**1.00**	**317**	*i*Pg		**Pg**	**18 15 15.7**		**+0.7**
BEO				Sg		**Sg**	**18 15 28.4**		**+0.3**
DIVS	**Divcibare**	**1.03**	**271⇓**	*i*Pg		**Pg**	**18 15 16.1**		**+0.5**
DIVS				Sg		**Sg**	**18 15 29.5**		**+0.5**
DIVS	**Divcibare**	**1.03**	**271**	*e*P		**Pb**	**18 15 16.0**		**+0.6**
DIVS				*e*S		**Sb**	**18 15 29.4**		**+0.5**
BARS	**Barje**	**1.31**	**167**	*i*Pg		**Pg**	**18 15 20.1**		**-0.7**
BARS				Sg		**Sg**	**18 15 38.0**		**+0.1**
SJES	**Sjenica**	**1.36**	**233**	Pg		**Pg**	**18 15 20.9**		**-0.9**
SJES				Sg		**Sg**	**18 15 38.7**		**-0.7**
BZS	**Buzias**	**1.53**	**5**	⇑P		**Pn**	**18 15 21.9**		**-0.8**
BZS				S		**Sn**	**18 15 41.2**		**-1.2**
BZS	**Buzias**	**1.53**	**5**	⇑*i*P		**Pn**	**18 15 21.9**		**-0.8**
BZS	**Buzias**	**1.53**	**5**	S		**Sn**	**18 15 41.2**		**-1.3**
FGSL	**Fruska Gora**	**1.56**	**313**	Sg		**Sg**	**18 15 45.7**		**-0.4**
GZR	**Gura Zlata**	**1.62**	**36**	⇑P		**Pn**	**18 15 23.9**		**-0.1**
GZR				S		**Sn**	**18 15 46.2**		**+1.6**
GZR	**Gura Zlata**	**1.62**	**36**	⇑*i*P		**Pn**	**18 15 23.9**		**-0.1**
GZR	**Gura Zlata**	**1.62**	**36**	S		**Sn**	**18 15 46.3**		**+1.6**
VTS	**Vitosha**	**1.99**	**138**	*e*P		**Pn**	**18

OBKA	**Obir**	**5.42 299**	⇑*i*Pn	**Pn**	**18 16 16.7**	**+0.5**
OBKA			*i* Sn	**Sn**	**18 17 15.9**	**-2.5**
CONA	**Conrad Observa**	**5.45 317**	⇓*i*Pn	**Pn**	**18 16 16.7**	**+0.1**
CONA			⇓*i*Sn	**Sn**	**18 17 18.9**	**-0.3**
JAVS	**Javornik**	**5.52 292**	*i* Pn	**Pn**	**18 16 18.1**	**+0.5**
JAVS			*i* Sn	**Sn**	**18 17 21.7**	**+0.8**

MAN 02 18:46:21.9, 1887N×12144E, h7km, MS3.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.85**	**137**	*e*P	Pg	18 46 38.2	-0.1
CVP	**Callao Caves**	**1.22**	**163**	*e*P	Pb	18 46 44.5	-0.8
CVP	**Callao Caves**	**1.22**	**163**	*e*P	Pb	18 46 44.5	-0.8
ABRA	**Dolores**	**1.40**	**210**	*e*P	Pn	18 46 46.9	-1.0
CAUP	**Cauayan**	**1.95**	**169**	*e*P	Pn	18 46 57.3	+1.9
BALP	**Baler**	**3.12**	**178**	*e*P	Pn	18 47 11.9	+0.4

*ISCJB **02** 18:47:39.4±0.8, 2161N±005×14320E±009, h313km±8km, mb4.0/32, Error ellipse: s-maj=13.9km s-min=7.5km az=167.5*
*IDC **02** 18:47:39.9±1.3, 2155N×14306E, h300km±12km, mb3.6/16, mb1 3.7/19, mb1mx3.7/25, mbtmp3.6/19, Error ellipse: s-maj=17.6km s-min=8.1km az=84.0*
*BJI **02** 18:47:40.0, 2160N×143.10E, h324km, mB4.7, mb4.3*
*NEIC **02** 18:47:42.0±0.9, 2159N×143.10E, h325km±9km, mb4.0/14, Error ellipse: s-maj=9.5km s-min=5.3km az=79.0*

ISC 02 18:47:40.3±0.8, 2164N±005×14324E±009, h308km±8km, n55, σ0°80/56, mb4.0/32, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.52**	**350**	P	**Pn**	**18 49 03.6**	**-0.5**
	55nm,0.3s,baz=220,slow=5.3,SNR=30						
CBIJ				S	**S**	**18 50 10.4**	**-1.2**
	29nm,0.3s,baz=240,slow=22,SNR=7.6						
GUMO	**Guam**	**8.15**	**169**	P	**Pn**	**18 49 36.0**	**+0.3**
	9.6nm,0.3s,baz=118,slow=7.9,SNR=5.2						
GUMO	**Guam**	**8.15**	**169**	*e*Pn	**Pn**	**18 49 37.7**	**+1.9**
MJAR	**Matsushiro Arr**	**15.48**	**345**	P	**P**	**18 51 03.4**	**+1.2**
	0.8nm,0.3s,baz=169,slow=10,SNR=16						
MAJO	**Matsushiro**	**15.49**	**345**	*e*P	**P**	**18 51 03.1**	**+0.9**
	13nm,1.0s						
NACB	**Ninganchiao**	**20.10**	**281**	P	**P**	**18 51 51.1**	**-0.5**
YHNB	**Yeheng**	**20.33**	**283**	*e*P	**P**	**18 51 53.2**	**-0.9**
KSRS	**Korea Array**	**20.59**	**323**	P	**P**	**18 51 57.0**	**+0.3**
	6.2nm,0.6s,baz=146,slow=8.8,SNR=36						
HHC	**Hu-ho-hao-te**	**32.91**	**313**	*e*P	**P**	**18 53 47.2**	**+0.9**
HHC				AP	pP	18 54 49.5	+3.7
HHC				PP	PP	18 55 10.9	+2.8
HHC				XP	sP	18 55 25.2	+3.8
HHC				S	**S**	**18 58 40.9**	**0.0**
HHC				XS	sS	19 00 30.9	+2.2
HHC				SS	SS	19 01 08.4	-9.4
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,123nm,6.2s						
HIA	**Hailar**	**33.29**	**332**	*e*P	**P**	**18 53 49.5**	**-0.1**
	comp=Z,7.3nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**39.05**	**321**	P	**P**	**18 54 36.4**	**-1.5**
	comp=Z,1.1nm,0.6s,mb3.5						
SONM	**Songino Array**	**39.42**	**320**	P	**P**	**18 54 41.7**	**+0.7**
	comp=Z,0.9nm,0.4s,mb3.5,baz=136,slow=8.1,SNR=14						
YAK	**Yakutsk**	**41.44**	**350**	*e*P	**P**	**18 54 56.3**	**-1.1**
	comp=Z,8.5nm,0.7s,mb4.1						
CTA	**Charters Tower**	**41.57**	**176**	P	**P**	**18 54 59.0**	**+0.5**
	comp=Z,2.4nm,1.0s,mb3.4,baz=347,slow=10,SNR=4.9						
CTAO	**Charters Tower**	**41.57**	**176**	*e*P	**P**	**18 54 58.8**	**+0.2**
	comp=Z,1.2nm,0.6s,mb3.3						
CM31	**Chiang Mai Arr**	**41.63**	**274**	*e*P	**P**	**18 54 59.3**	**+0.3**
	comp=Z,3.0nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**42.23**	**192**	*e*P	**P**	**18 55 03.7**	**-0.1**
WRA	**Warramunga Arr**	**42.23**	**193**	P	**P**	**18 55 03.1**	**-0.7**
	comp=Z,5.1nm,0.6s,mb3.9,baz=15,slow=8.5,SNR=16						
WRA				S	**S**	**19 00 59.7**	**-0.8**
	comp=Z,1.6nm,1.1s,baz=11,slow=13,SNR=4.1						
FITZ	**Fitzroy Crossi**	**43.09**	**205**	*e*P	**P**	**18 55 10.4**	**-0.3**
	comp=Z,3.6nm,1.0s,mb3.6						
KULM	**Kulim**	**44.30**	**255**	*e*P	**P**	**18 55 21.3**	**+1.0**
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**18 55 32.4**	**-0.7**
	comp=Z,1.1nm,0.6s,mb3.4,baz=14,slow=10,SNR=32						
ASAR				S	**S**	**19 01 53.1**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=20,slow=19,SNR=5.1						
LSA	**Lhasa**	**47.31**	**291**	*e*P	**P**	**18 55 45.1**	**+1.5**
	comp=Z,2.4nm,0.6s,mb3.7						
BILL	**Biiibino**	**48.57**	**11**	*e*P	**P**	**18 55 54.0**	**+0.8**
	comp=Z,4.6nm,0.6s,mb4.0						
JIRN	**Jiri**	**51.82**	**289**	*e*P	**P**	**18 56 18.5**	**+1.1**
	comp=Z,14nm,0.7s,mb4.4						
GUN	**Gumba**	**52.06**	**289**	*e*P	**P**	**18 56 20.2**	**+1.0**
	comp=Z,7.8nm,0.5s,mb4.3						
PKI	**Pulchoki**	**52.52**	**289**	*e*P	**P**	**18 56 22.2**	**-0.3**
KKN	**Kakani**	**52.60**	**289**	*e*P	**P**	**18 56 23.5**	**+0.4**
GKN	**Gorkha**	**53.14**	**289**	*e*P	**P**	**18 56 27.5**	**+0.5**
	comp=Z,12nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**53.23**	**182**	P	**P**	**18 56 26.9**	**-0.8**
	comp=Z,2.5nm,0.4s,mb3.9,baz=335,slow=8.9,SNR=9.4						
STKA	**Stephens Creek**	**53.23**	**182**	*e*P	**P**	**18 56 27.0**	**-0.6**
KOLN	**Koldanda**	**54.08**	**289**	*e*P	**P**	**18 56 34.3**	**+0.5**
	comp=Z,4.3nm,0.7s,mb3.9						
ZAL	**Zalesovo**	**54.30**	**322**	P	**P**	**18 56 35.9**	**+0.5**
	comp=Z,1.8nm,0.6s,mb3.6,baz=0.1,slow=9.1,SNR=8.2						
ZAL				PcP	PcP	18 57 35.1	0.0
	comp=Z,1.8nm,0.4s,baz=99,slow=1.4,SNR=7.6						
MKAR	**Makanchi Array**	**54.78**	**313**	P	**P**	**18 56 39.1**	**+0.4**
	comp=Z,1.7nm,0.6s,mb3.7,baz=88,slow=8.5,SNR=22						
MKAR				PcP	PcP	18 57 37.3	+0.3
	comp=Z,1.0nm,0.4s,baz=74,slow=4.2,SNR=8.6						
KURK	**Kurchatov**	**57.55**	**317**	*e*P	**P**	**18 56 57.9**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.1						
BRVK	**Borovoye**	**62.81**	**320**	*e*P	**P**	**18 57 34.0**	**+0.2**
	comp=Z,7.4nm,0.8s,mb4.4						
INK	**Inuvik**	**67.60**	**24**	P	**P**	**18 58 04.5**	**+0.2**
	comp=Z,2.1nm,0.9s,mb3.9,baz=280,slow=7.6,SNR=8.9						
INK	**Inuvik**	**67.60**	**24**	*e*P	**P**	**18 58 04.8**	**+0.6**
	comp=Z,50nm,0.7s						
ARU	**Arti**	**69.34**	**324**	*e*P	**P**	**18 58 14.2**	**-0.7**
	comp=Z,3.9nm,0.4s,mb4.5						
YKA	**Yellowknife Ar**	**76.48**	**28**	P	**P**	**18 58 57.5**	**+0.9**
	comp=Z,3.7nm,0.6s,mb4.2,baz=291,slow=6.0,SNR=53						
YKA	**Yellowknife Ar**	**76.48**	**28**	P	**P**	**18 58 57.5**	**+0.9**
RES	**Resolute Bay**	**77.12**	**13**	*e*P	**P**	**18 59 00.3**	**+0.2**
	comp=Z,117nm,0.8s						
KEV	**Kevo**	**78.43**	**341**	*e*p	**P**	**18 59 06.6**	**-0.7**
	comp=Z,3.1nm,0.4s,mb4.4						
ARCES	**ARCESS Array B**	**79.00**	**342**	P	**P**	**18 59 10.9**	**+0.6**
	comp=Z,7.0nm,0.6s,mb4.6,baz=74,slow=8.5,SNR=58						
ARE0	**ARCESS Array S**	**79.00**	**342**	*e*P	**P**	**18 59 10.8**	**+0.4**
KAF	**Kangasniemi**	**82.80**	**335**	*e*p	**P**	**18 59 28.9**	**-1.4**
	comp=Z,3.1nm,0.6s,mb4.3,baz=55,slow=4.8						
FIA1	**FINESS Array S**	**83.26**	**335**	*e*P	**P**	**18 59 31.6**	**-1.0**
FINES	**FINESS Array B**	**83.26**	**335**	P	**P**	**18 59 32.0**	**-0.7**
	comp=Z,4.3nm,0.5s,mb4.5,baz=75,slow=5.1,SNR=55						
PDAR	**Pinedale Array**	**87.40**	**45**	P	**P**	**18 59 54.2**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=152,slow=0.9,SNR=3.8						
AKASG	**Malin Array Be**	**87.59**	**324**	P	**P**	**18 59 52.7**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=48,slow=4.8,SNR=8.4						
AKASG	**Malin Array Be**	**87.59**	**324**	P	**P**	**18 59 52.7**	**-1.2**
NOA	**NORSAR Array B**	**89.02**	**339**	P	**P**	**18 59 59.7**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.8,baz=34,slow=5.3,SNR=3.0						
BRTR	**Keskin Array B**	**90.42**	**313**	P	**P**	**19 00 06.5**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.3,baz=129,slow=2.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**128.82**	**309**	PKP	PKPdf	19 06 12.1	+0.9
	comp=Z,0.2nm,0.4s,baz=302,slow=0.3,SNR=5.5						
LPAZ	**La Paz**	**149.89**	**85**	PKPbc	PKPbc	19 06 57.5	+3.3
	comp=Z,2.4nm,0.5s,baz=309,slow=2.5,SNR=14						
LPAZ				PKPab	PKPab	19 07 04.5	+3.6
	comp=Z,1.6nm,0.6s,baz=319,slow=6.4,SNR=6.8						
LPAZ	**La Paz**	**149.89**	**85**	*e*PKPbc	PKPbc	19 06 56.6	+2.4

*IDC **02** 19:25:08.7±79.0, 1394S×16792E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, MS3.8/1, Ms1 3.7/1, ms1mx2.8/26, Error ellipse: s-maj=1343.0km s-min=124.8km az=64.0*
*ISCJB **02** 19:25:32.4±5.6, 152S±03×1658E±06, h35km, mb3.6/3, MS3.6/1, Error ellipse: s-maj=95.0km s-min=14.3km az=122.7*

ISC 02 19:25:34.0±5.6, 151S±03×1659E±06, h35km, n4, σ0°20/5, mb3.6/3, MS3.6/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.97**	**175**	*e*P	**Pn**	**19 27 13.5**	**0.0**
DZM				*e*S	**Sn**	**19 28 31.5**	**0.0**
STKA	**Stephens Creek**	**27.72**	**229**	P	**P**	**19 31 18.9**	**0.0**
	2.6nm,1.0s,mb3.8,baz=55,slow=8.9,SNR=6.2						
STKA				LR	LR	19 43 27.3	
	comp=Z,162nm,19.8s,MS3.6,baz=205,slow=37						
WRA	**Warramunga Arr**	**30.41**	**256**	P	**P**	**19 31 42.6**	**-0.2**
	0.4nm,0.7s,mb3.3,baz=86,slow=9.2,SNR=2.4						
ASAR	**Alice Springs**	**31.26**	**249**	P	**P**	**19 31 50.6**	**+0.2**
	0.5nm,0.4s,mb3.7,baz=78,slow=8.7,SNR=12						

*IDC **02** 19:26:55.0±1.3, 4756N×154.16E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.7/3, Error ellipse: s-maj=46.6km s-min=36.6km az=155.0*
*MOS **02** 19:26:58.6±1.8, 4747N×15423E, h33km, mb4.0/2, Error ellipse: s-maj=52.6km s-min=36.8km az=69.0*
*ISCJB **02** 19:27:01.2±3.0, 477N±02×1542E±03, h57km±27km, mb3.6/3, Error ellipse: s-maj=43.1km s-min=14.7km az=101.4*

ISC 02 19:27:03.2±2.7, 477N±02×1542E±03, h61km±25km, n7, σ0°70/8, mb3.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.27**	**22**	*e*PN	**Pn**	**19 27 51.6**	**-0.3**
SKR				*e*S	**Sn**	**19 28 29.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.80**	**269**	*e*PN	**Pn**	**19 28 54.4**	**+0.4**
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**19 35 29.2**	**-0.3**
	0.6nm,0.8s,mb3.6,baz=68,slow=7.8,SNR=4.3						
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**19 35 29.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**73.32**	**199**	P	**P**	**19 38 27.6**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.4,baz=6.0,slow=5.2,SNR=6.2						
TXAR	**Lajitas Array**	**76.41**	**61**	P	**P**	**19 38 46.9**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=292,slow=4.1,SNR=9.9						
TXAR	**Lajitas Array**	**76.41**	**61**	P	**P**	**19 38 46.9**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 02 19:40:31.9±2.9, 619S×15128E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.2/26, Error ellipse: s-maj=78.3km s-min=47.0km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.65**	**199**	LR	LR	19 48 50.7	
	comp=Z,64nm,18.9s,baz=48,slow=34						
WRA	**Warramunga Arr**	**21.39**	**229**	P	P	19 45 21.4	+0.3
	0.5nm,0.4s,baz=53,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**24.11**	**222**	P	P	19 45 49.0	-0.2
	0.7nm,0.5s,baz=57,slow=8.7,SNR=20						
STKA	**Stephens Creek**	**27.11**	**198**	P	P	19 46 16.6	+0.2
	2.4nm,1.1s,baz=11,slow=5.2,SNR=3.5						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	P	P	19 46 22.4	+0.9
	1.4nm,0.8s,baz=74,slow=7.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**149.26**	**285**	PKPbc	PKPbc	20 00 23.2	+0.8
	0.3nm,0.6s,baz=67,slow=2.9,SNR=5.9						

*IDC **02** 19:40:36.7±4.5, 4663N×152.77E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/22, mbtmp3.8/6, MS2.5/1, Ms1 2.5/1, ms1mx2.2/41, Error ellipse: s-maj=131.4km s-min=31.7km az=13.0*
*ISCJB **02** 19:40:43.3±1.9, 470N±02×1528E±02, h46km±14km, mb3.8/6, Error ellipse: s-maj=39.0km s-min=8.5km az=97.1*
*MOS **02** 19:40:43.8±0.5, 4698N×152.73E, h54km, mb4.1/3, Error ellipse: s-maj=48.8km s-min=22.7km az=66.1*

ISC 02 19:40:45.3±1.7, 470N±02×1528E±02, h50km±13km, n14, σ0°37/15, mb3.8/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**245**	*e*PN	**Pn**	**19 41 41.5**	**-0.8**
KUR				*e*S	**Sn**	**19 42 27.0**	**+0.5**
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
SKR	**Severo-Kuril's**	**4.29**	**29**	*e*PN	**Pn**	**19 41 48.5**	**+0.5**
SKR				*e*S	**Sn**	**19 42 36.5**	**-0.2**
ASAJ	**Asahikawa**	**7.74**	**252**	LR	LR	19 45 48.4	
	comp=E,33nm,18.6s,baz=5.7,slow=41						
YKA	**Yellowknife Ar**	**50.85**	**37**	P	**P**	**19 49 40.9**	**0.0**
	comp=E,0.3nm,0.8s,mb3.3,baz=293,slow=7.0,SNR=5.0						
YKA	**Yellowknife Ar**	**50.85**	**37**	P	**P**	**19 49 40.9**	**0.0**
FINES	**FINESS Array B**	**63.74**	**335**	P	**P**	**19 51 11.7**	**-0.2**
	comp=E,3.8nm,1.1s,mb4.3,baz=23,slow=7.5,SNR=5.5						
FINES	**FINESS Array B**	**63.74**	**335**	P	**P**	**19 51 11.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**64.76**	**54**	P	**P**	**19 51 18.5**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=282,slow=2.9,SNR=5.3						
NOA	**NORSAR Array B**	**67.94**	**341**	P	**P**	**19 51 39.1**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=41,slow=4.8,SNR=3.0						
NOA	**NORSAR Array B**	**67.94**	**341**	P	**P**	**19 51 39.1**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**19 51 58.9**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=34,slow=6.4,SNR=3.6						
AKASG	**Malin Array Be**	**71.24**	**326**	P	**P**	**19 51 58.9**	**-0.3**
TXAR	**Lajitas Array**	**77.55**	**60**	P	**P**	**19 52 35.9**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=5.2,SNR=14						
TXAR	**Lajitas Array**	**77.55**	**60**	P	**P**	**19 52 35.9**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*IDC **02** 19:55:54.9±1.6, 537N×124.45E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=122.7km s-min=22.8km az=67.0*
*ISCJB **02** 19:55:55.7±0.7, 5.19N±005×12380E±006, h10km, mb3.8/4, Error ellipse: s-maj=8.9km s-min=6.8km az=32.6*

ISC 02 19:55:57.2±0.7, 520N±005×12379E±006, h10km, n12, σ1°00/16, mb3.8/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.46**	**53**	*i* P	**Pg**	**19 56 26.0**	**+0.8**
KCP	**Kidapawan**	**2.22**	**36**	⇑*i*P	**Pn**	**19 56 33.8**	**-0.3**
KCP				*i* S	**Sg**	**19 57 09.6**	**+1.1**
ZMPH	**Zamboanga City**	**2.44**	**316**	*i* P	**Pn**	**19 56 37.3**	**+0.2**
ZMPH				*i* S	**Sn**	**19 56 57.1**	**-10**
IPIL	**Ipil**	**2.84**	**335**	*e*P	**Pn**	**19 56 43.6**	**+1.0**
IPIL				*e*S	**Sn**	**19 57 15.1**	**-1.8**
BUKP	**Musuan**	**2.95**	**25**	*e*P	**Pn**	**19 56 44.0**	**-0.1**
MATI	**Mati**	**3.01**	**55**	*e*P	**Pn**	**19 56 43.7**	**-1.2**
CGP	**Cagayan de Oro**	**3.36**	**16**	⇓*e*P	**Pn**	**19 56 49.7**	**0.0**
CGP				*i* S	**Sn**	**19 57 28.2**	**-1.4**
CUYO	**Cuyo Island**	**6.25**	**334**	*e*P	**Pn**	**19 57 30.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.22**	**176**	P	**P**	**20 01 05.2**	**+0.7**
	2.5nm,0.7s,mb3.8,baz=354,slow=13,SNR=5.9						
WRA	**Warramunga Arr**	**27.05**	**158**	P	**P**	**20 01 38.6**	**-1.1**
	2.3nm,0.7s,mb3.8,baz=338,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**30.34**	**161**	P	**P**	**20 02 08.2**	**-0.7**
	0.6nm,0.6s,mb3.5,baz=338,slow=6.3,SNR=17						
ASAR				PcP	PcP	20 05 08.1	-0.9
	0.5nm,1.0s,baz=3.2,slow=1.9,SNR=4.3						
MKAR	**Makanchi Array**	**54.70**	**326**	P	**P**	**20 05 27.6**	**+1.2**
	0.8nm,0.5s,mb4.0,baz=123,slow=7.9,SNR=11						

IDC 02 19:58:50.2±13.0, 2176N×14323E, h75km±126km, mb3.2/6, mb1 3.5/6, mb1mx3.3/21, mbtmp3.3/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/17, Error ellipse: s-maj=57.5km s-min=19.9km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.39**	**350**	LR	LR	20 01 42.0	
	comp=Z,119nm,21.1s,baz=19,slow=32						
GUMO	**Guam**	**8.28**	**169**	LR	LR	20 03 18.0	
	comp=Z,116nm,18.8s,baz=178,slow=32						
KSRS	**Korea Array**	**20.48**	**323**	P	P	20 03 24.1	+2.2
	1.4nm,0.8s,baz=148,slow=8.9,SNR=4.2						
SONM	**Songino Array**	**39.31**	**320**	P	P	20 06 11.0	-0.8
	0.5nm,0.6s,baz=128,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**42.35**	**192**	P	P	20 06 36.8	-0.1
	1.3nm,1.0s,baz=15,slow=8.3,SNR=5.2						
ASAR	**Alice Springs**	**46.06**	**192**	P	P	20 07 06.3	-0.1
	0.5nm,0.6s,baz=17,slow=9.4,SNR=7.6						
MKAR	**Makanchi Array**	**54.68**	**313**	P	P	20 08 11.7	+0.2
	1.0nm,1.0s,baz=85,slow=11,SNR=4.1						
YKA	**Yellowknife Ar**	**76.38**	**28**	P	P	20 10 30.0	-1.3
	0.5nm,0.5s,baz=292,slow=5.9,SNR=7.1						
LPAZ	**La Paz**	**149.90**	**85**	PKPbc	PKPbc	20 18 33.9	+2.1
	0.7nm,0.8s,baz=244,slow=5.5,SNR=3.3						
LPAZ				PKPab	PKPab	20 18 39.8	+2.2
	1.4nm,0.8s,baz=249,slow=3.6,SNR=6.2						

*CSEM **02** 20:11:27.2, 3575N×6055E, h6km, ML3.9, After TEH*
*IDC **02** 20:12:10.7±10.0, 34.17N×6060E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/21, mbtmp3.5/4, Error ellipse: s-maj=225.8km s-min=37.8km az=173.0*
*ISCJB **02** 20:12:19.0±0.9, 3575N±003×6068E±004, h1km±6km, mb3.3/3, Error ellipse: s-maj=5.6km s-min=4.9km az=18.9*
*TEH **02** 20:12:22.3, 3575N×6055E, h6km, Mn3.9*
*NNC **02** 20:12:32.3±4.6, 3668N×6092E, h0km, mb3.4, Error ellipse: s-maj=44.8km s-min=29.8km az=23.0*

ISC 02 20:12:20.8±1.0, 3574N±003×6060E±004, h0km±6km, n42, σ0°99/57, mb3.5/3, 4C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMYA	**Miamay**	**0.72**	**326**	*e*Pg	**Pg**	**20 12 34.8**	**+0.3**
IMYA	**Miamay**	**0.72**	**326**	*e*Pg	**Pg**	**20 12 34.9**	**+0.4**
IMYA	**Miamay**	**0.72**	**326**	*e*Pg	**Pg**	**20 12 34.9**	**+0.4**
IMYA				*e*Sg	**Sg**	**20 12 44.1**	**+0.3**
IMYA				*e*Sg	**Sg**	**20 12 44.1**	**+0.3**
IMOG	**Moghan**	**1.08**	**290**	*e*Pg	**Pg**	**20 12 41.0**	**-0.5**
IMOG	**Moghan**	**1.08**	**290**	*e*Pg	**Pg**	**20 12 41.0**	**-0.5**
IMOG	**Moghan**	**1.08**	**290**	*e*Pg	**Pg**	**20 12 41.0**	**-0.5**
IMOG				*e*Sg	**Sg**	**20 12 54.7**	**-0.8**
IMOG				*e*Sg	**Sg**	**20 12 54.9**	**-0.6**
IPAY	**Payeh**	**1.47**	**299**	*e*Pn	**Pn**	**20 12 46.6**	**-1.9**
IPAY	**Payeh**	**1.47**	**299**	*e*Pn	**Pn**	**20 12 47.8**	**-0.7**
IPAY	**Payeh**	**1.47**	**299**	*e*Pn	**Pn**	**20 12 47.9**	**-0.6**
IPAY				*e*Sn	**Sn**	**20 13 08.9**	**+0.4**
IPAY				*e*Sn	**Sn**	**20 13 09.1**	**+0.6**
IAKL	**Akhlamad**	**1.73**	**299**	*e*Pn	**Pn**	**20 12 51.7**	**-0.4**
IAKL	**Akhlamad**	**1.73**	**299**	*e*Pn	**Pn**	**20 12 52.0**	**-0.1**
IAKL				*e*Sn	**Sn**	**20 13 15.0**	**+0.1**
IEMG	**Emamqoli**	**2.28**	**317**	*e*Pn	**Pn**	**20 13 00.4**	**+0.8**
IEMG	**Emamqoli**	**2.28**	**317**	*e*Pn	**Pn**	**20 13 00.5**	**+0.9**
IEMG	**Emamqoli**	**2.28**	**317**	*e*Pn	**Pn**	**20 13 01.0**	**+1.4**
IEMG				*e*Sn	**Sn**	**20 13 28.2**	**-0.2**
IEMG				*e*Sn	**Sn**	**20 13 28.5**	**+0.1**
ISFR	**Esferayen**	**2.46**	**303**	*e*Pn	**Pn**	**20 13 03.5**	**+1.4**
ISFR	**Esferayen**	**2.46**	**303**	*e*Pn	**Pn**	**20 13 03.6**	**+1.5**
ISFR	**Esferayen**	**2.46**	**303**	*e*Pn	**Pn**	**20 13 03.9**	**+1.8**
ISFR				*e*Sn	**Sn**	**20 13 32.2**	**-0.7**
ISFR				*e*Sn	**Sn**	**20 13 32.2**	**-0.7**
IMON		**2.66**	**197**	*e*Pn	**Pn**	**20 13 05.4**	**+0.6**
ISHV	**Shirvan**	**2.94**	**308**	*e*Pn	**Pn**	**20 13 08.8**	**+0.2**
IDAH		**3.06**	**192**	*e*Pn	**Pn**	**20 13 10.9**	**+0.6**
ITEG		**3.23**	**209**	*e*Pn	**Pn**	**20 13 12.8**	**+0.2**
ITEG		**3.23**	**209**	*e*Pn	**Pn**	**20 13 12.8**	**+0.2**
ITEG		**3.23**	**209**	*e*Pn	**Pn**	**20 13 13.0**	**+0.4**
ITEG				*e*Sn	**Sn**	**20 13 50.3**	**-1.4**
ITEG				*e*Sn	**Sn**	**20 13 50.7**	**-1.0**
IKDO		**3.56**	**202**	*e*Pn	**Pn**	**20 13 17.6**	**+0.3**
IBAF	**Bafgh**	**5.89**	**227**	*e*Pn	**Pn**	**20 13 50.2**	**+0.9**
ICHK	**Chekchek**	**6.21**	**238**	*e*Pn	**Pn**	**20 13 53.3**	**-0.3**
KK31	**Karatay Array**	**10.62**	**43**	⇑P	**Pn**	**20 14 53.9**	**-0.1**
	0.5nm,0.4s,baz=234,slow=16,SNR=10						
KK31				⇑S	**Sn**	**20 16 46.8**	**-6.8**
	1.3nm,0.5s						
AML	**Almayashu**	**12.02**	**54**	P	**Pn**	**20 15

ASAJ pmax pmax
comp=Z,8.0nm,0.3s
ASAJ smax
comp=N,9.0nm,0.3s
YUK Yuzh-Kuril'sk 3.81 47 *e*P **Pn 20 26 58.4 -0.7**
YUK *e*S **Sn 20 27 39.4 -3.2**
YUK smax
comp=N,230nm,0.5s
YUK smax
comp=E,270nm,0.5s
MJAR Matsushiro Arr 5.75 212 P **Pn 20 27 28.0 +2.4**
comp=E,0.5nm,0.3s,baz=30,slow=12,SNR=6.2
MJAR Matsushiro Arr 5.75 212 P **Pn 20 27 28.0 +2.4**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 11.62 254 P **Pn 20 28 49.0 +3.3**
baz=63,slow=14,SNR=8.3
SONM Songino Array 25.97 296 P **P 20 31 29.8 +0.5**
comp=Z,0.7nm,0.6s,mb3.3,baz=88,slow=9.2,SNR=5.4
SONM Songino Array 25.97 296 P **P 20 31 29.8 +0.6**
SONM pmax pmax
comp=Z,1.0nm,0.6s
ZAL Zalesovo 39.41 308 P **P 20 33 25.2 -1.1**
comp=Z,0.9nm,0.6s,mb3.8,baz=42,slow=10,SNR=4.9
ZAL Zalesovo 39.41 308 P **P 20 33 25.2 -1.1**
ZAL pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 42.30 298 P **P 20 33 50.0 -0.1**
comp=Z,0.8nm,0.5s,mb3.7,baz=84,slow=13,SNR=15
MKAR Makanchi Array 42.30 298 P **P 20 33 50.0 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 42.30 298 P **P 20 33 50.0 -0.1**
BVAR Borovoye Array 48.03 310 P **P 20 34 35.4 +0.1**
comp=Z,0.8nm,0.4s,mb3.9,baz=71,slow=9.4,SNR=8.9
BVAR Borovoye Array 48.03 310 P **P 20 34 35.4 0.0**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 50.25 29 P **P 20 34 53.0 +0.6**
comp=Z,0.9nm,0.5s,mb3.9,baz=68,slow=9.8,SNR=14
INK Inuvik 50.25 29 P **P 20 34 53.0 +0.7**
INK pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 61.52 188 P **P 20 36 12.5 -0.4**
comp=Z,0.2nm,0.3s,mb3.6,baz=5.0,slow=6.9,SNR=4.2
POO Poona 61.74 270 *ex* x 20 35 29.0
FINES FINESS Array B 65.13 332 P **P 20 36 35.8 -0.9**
comp=Z,2.1nm,0.9s,mb4.0,baz=98,slow=5.8,SNR=6.5
FINES FINESS Array B 65.13 332 P **P 20 36 35.8 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 71.10 322 P **P 20 37 13.8 -0.3**
comp=Z,0.4nm,0.3s,mb3.7,baz=42,slow=6.2,SNR=7.7

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*ISCJB **02** 20:27:45.4±0.7, 1082N±004×62.16W±003, h96km±7km, Error ellipse: s-maj=6.4km s-min=4.9km az=112.1*
*FUNV **02** 20:27:46.5, 1089N×6208W, h92km, MW3.7*
*NEIC **02** 20:27:48.5, 1088N×6204W, h80km, MD3.8(TRN), After TRN.*
NEIC Felt [III] on Trinidad.
*TRN **02** 20:27:48.5, 1088N×6204W, h80km, MD3.8*
ISC 02 20:27:46.4±0.7, 1083N±004×6215W±003, h90km±7km, n18, σ0§91/34, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.20**	**201**	⇑*i*P	**Pn**	**20 27 59.9**	**+0.5**
GUIV				*e*S	**Sn**	**20 28 09.2**	**+0.1**
TCE	**Chacachacare**	**0.41**	**109**	*e*P	**Pn**	**20 28 01.4**	**+0.8**
TCE				*e*S	**Sn**	**20 28 10.3**	**-0.7**
TRN	**Trinidad (W)**	**0.76**	**104**	⇑*i*P	**Pn**	**20 28 04.3**	**+0.8**
TRN				*e*S	**Sn**	**20 28 15.3**	**-0.9**
TPP	**Pointe-a-Pierr**	**0.86**	**127**	*e*P	**Pn**	**20 28 06.2**	**+1.6**
TPP				*e*S	**Sn**	**20 28 18.0**	**-0.1**
GUNV	**Guanoco**	**1.02**	**230**	⇑*i*P	**Pn**	**20 28 07.9**	**+1.5**
GUNV				*e*S	**Sn**	**20 28 23.0**	**+1.6**
ITEV	**Isla Los Testi**	**1.09**	**298**	⇓*i*P	**Pn**	**20 28 07.3**	**+0.1**
ITEV				*e*S	**Sn**	**20 28 22.3**	**-0.5**
TBH	**Brigand Hill**	**1.12**	**108**	*e*P	**Pn**	**20 28 08.4**	**+0.9**
TBH				*e*S	**Sn**	**20 28 22.4**	**-1.0**
TPR	**Prospect**	**1.39**	**75**	*e*P	**Pn**	**20 28 11.2**	**+0.4**
TPR				*e*S	**Sn**	**20 28 27.8**	**-1.5**
GRW	**Mount Saint Ca**	**1.40**	**20**	*e*P	**Pn**	**20 28 11.1**	**+0.1**
GRW				*e*S	**Sn**	**20 28 28.2**	**-1.3**
GRW	**Mount Saint Ca**	**1.40**	**20**	*e*P	**Pn**	**20 28 11.1**	**+0.1**
GRW				*e*S	**Sn**	**20 28 28.2**	**-1.3**
GRIC	**Isle de Caille**	**1.55**	**21**	*e*P	**Pn**	**20 28 13.2**	**+0.5**
GRIC				*e*S	**Sn**	**20 28 32.7**	**+0.1**
GRSS	**Sisters**	**1.55**	**20**	*e*P	**Pn**	**20 28 13.3**	**+0.6**
GRSS				*e*S	**Sn**	**20 28 32.9**	**+0.2**
PCRV	**Puerto La Cruz**	**2.53**	**255**	*e*P	**Pn**	**20 28 26.4**	**+0.7**
PCRV				*e*S	**Sn**	**20 28 54.5**	**-1.2**
IBAV	**Isla La Blanqu**	**2.58**	**293**	*e*P	**Pn**	**20 28 26.5**	**+0.3**
GURV	**El Guri**	**3.19**	**197**	*e*P	**Pn**	**20 28 34.8**	**+0.3**
GURV				*e*S	**Sn**	**20 29 10.1**	**-1.4**
CUPV	**Cœpira**	**3.66**	**258**	*e*P	**Pn**	**20 28 41.6**	**+0.8**
CUPV				*e*S	**Sn**	**20 29 21.8**	**-1.1**
CAOV	**Caicara del Or**	**5.39**	**230**	*e*P	**Pn**	**20 29 03.5**	**-0.9**
CAOV				*e*S	**Sn**	**20 30 01.3**	**-3.8**
BAUV	**El Baul**	**6.10**	**253**	*e*P	**Pn**	**20 29 13.0**	**-0.9**

IDC 02 20:39:34.3±1.9, 5639S×2756W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.7/12, mbtmp4.1/2, MS3.5/1, Ms1 3.4/1, ms1mx3.0/11, Error ellipse: s-maj=75.5km s-min=44.4km az=7.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.74**	**160**	*e*	Pn	20 43 50.4	+20
VNA2	**Neumayer--Watz**	**16.96**	**157**	*e*	Pn	20 43 45.9	+13
VNA2				*e*		20 43 52.7	
SNAA	**Sanae**	**18.52**	**155**	*e*	Pn	20 44 02.0	+10
BOSA	**Boshof**	**46.25**	**76**	LR	LR	21 05 03.4	
	comp=Z,52nm,18.4s,baz=202,slow=33						
LPAZ	**La Paz**	**50.40**	**306**	P	P	20 48 34.2	+0.9
	0.7nm,0.5s,baz=152,slow=10.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**73.45**	**30**	P	P	20 51 08.3	-0.2
	1.8nm,0.6s,baz=200,slow=6.3,SNR=29						
YKA	**Yellowknife Ar**	**136.28**	**318**	PKP	PKPdf	20 58 54.7	-3.1
	0.3nm,0.6s,baz=122,slow=2.8,SNR=4.5						
INK	**Inuvik**	**145.93**	**320**	PKPbc	PKPbc	20 59 12.7	-3.0
	0.6nm,0.3s,baz=77,slow=4.4,SNR=5.4						
SONM	**Songino Array**	**150.95**	**87**	PKPbc	PKPbc	20 59 28.1	-0.9
	1.0nm,0.4s,baz=225,slow=3.7,SNR=11						

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*BJI **02** 20:51:49.4, 2181N×14370E, h35km, mB5.1, mb4.7, Ms4.7, Msz4.2*
*MOS **02** 20:51:53.0±1.0, 2209N×143.14E, h33km, mb4.8/14, Error ellipse: s-maj=21.3km s-min=8.2km az=109.6*
*ISCJB **02** 20:51:54.8±2.2, 2204N±008×143.1E±01, h49km±18km, mb4.4/33, MS3.9/20, Error ellipse: s-maj=17.2km s-min=13.6km az=157.2*
*NEIC **02** 20:51:54.9±0.4, 2205N×143.14E, h35km, mb4.7/9, Error ellipse: s-maj=14.6km s-min=9.2km az=77.0*
*IDC **02** 20:51:56.5±3.6, 2200N×14309E, h50km±32km, mb3.9/15, mb1 4.0/17, mb1mx3.9/26, mbtmp3.9/17, ML4.1/2, MS3.9/22, Ms1 3.9/22, ms1mx3.7/41, Error ellipse: s-maj=24.4km s-min=15.1km az=81.0*
ISC 02 20:51:57.1±2.0, 2208N±008×1432E±01, h53km±16km, n74, σ1§10/56, mb4.4/33, MS3.9/20, 5C-2D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.08**	**350**	P	**Pn**	**20 53 10.9**	**+0.4**
	22nm,0.3s,baz=239,slow=15,SNR=16						
GUMO	**Guam**	**8.59**	**169**	LR	LR	20 56 17.6	
	comp=Z,256nm,19.5s,baz=206,slow=31						
JOW	**Kunigami**	**14.36**	**292**	LR	LR	20 59 55.8	
	comp=Z,225nm,18.7s,baz=46,slow=34						
MJAR	**Matsushiro Arr**	**15.04**	**344**	P	**Pn**	**20 55 24.8**	**-1.4**
	0.4nm,0.3s,baz=144,slow=11,SNR=7.6						
MJAR				LR	LR	21 00 42.6	
	comp=Z,357nm,21.5s,baz=145,slow=35						
KSRS	**Korea Array**	**20.20**	**323**	P	**P**	**20 56 30.4**	**+3.0**
	5.7nm,0.7s,baz=137,slow=11,SNR=15						
KSRS				LR	LR	21 03 39.8	
	comp=Z,58nm,18.1s,MS3.0,baz=135,slow=35						
ASAJ	**Asahikawa**	**21.99**	**359**	LR	LR	21 04 56.4	
	comp=Z,151nm,20.8s,MS3.4,baz=160,slow=35						
YSS	**Yuzh-Sakhalins**	**24.82**	**359**	*ce*P	**P**	**20 57 15.4**	**+1.2**
YSS				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
KLR	**Kul'dur**	**28.57**	**344**	*e*P	**P**	**20 57 45.8**	**-2.1**
LZH	**Lanzhou**	**36.83**	**301**	*e*P	**P**	**20 59 05.0**	**+5.1**
LZH				AP	pP	20 59 07.9	-5.8
LZH				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,70nm,4.0s						
ULN	**Ulaanbaatar**	**38.66**	**321**	⇑*i*P	**P**	**20 59 16.4**	**+1.0**
ULN	**Ulaanbaatar**	**38.66**	**321**	*e*P	**P**	**20 59 16.3**	**+0.9**
	comp=Z,11nm,1.3s,mb4.4						
SONM	**Songino Array**	**39.04**	**320**	P	**P**	**20 59 19.0**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.1,baz=128,slow=6.9,SNR=22						
SONM	**Songino Array**	**39.04**	**320**	P	**P**	**20 59 19.0**	**+0.5**
GTA	**Gaotai**	**40.64**	**305**	*e*P	**P**	**20 59 29.8**	**-2.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,2.0s,mb3.6						
YAK	**Yakutsk**	**40.99**	**350**	*e*P	**P**	**20 59 35.3**	**+0.6**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK	**Yakutsk**	**40.99**	**350**	*e*P	**P**	**20 59 34.1**	**-0.7**
	comp=E,18nm,0.8s,mb4.8						
CTA	**Charters Tower**	**42.01**	**176**	P	**P**	**20 59 44.1**	**+1.0**
	comp=E,1.4nm,0.6s,mb3.8,baz=350,slow=6.1,SNR=2.4						
CTAO	**Charters Tower**	**42.01**	**176**	*e*P	**P**	**20 59 43.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
CTAO	**Charters Tower**	**42.01**	**176**	*e*P	**P**	**20 59 43.8**	**+0.7**
	comp=Z,8.5nm,1.1s,mb4.3						
ZAK	**Zakamensk**	**42.03**	**322**	*e*P	**P**	**20 59 42.9**	**-0.4**
ZAK				*e*		21 01 52.4	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.5						
WRA	**Warramunga Arr**	**42.64**	**192**	P	**P**	**20 59 46.6**	**-1.5**
	comp=Z,1.7nm,0.9s,mb3.8,baz=15,slow=9.0,SNR=7.4						
WRA	**Warramunga Arr**	**42.64**	**192**	*i* P	**P**	**20 59 49.5**	**+1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**43.45**	**205**	LR	LR	21 16 45.9	
	comp=Z,57nm,20.0s,MS3.5,baz=80,slow=34						
ASAR	**Alice Springs**	**46.35**	**192**	P	**P**	**21 00 16.1**	**-1.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=17,slow=7.4,SNR=9.0						
PSI	**Prapat**	**47.01**	**252**	LR	LR	21 16 23.8	
	comp=Z,67nm,21.5s,MS3.6,baz=152,slow=31						
LSA	**Lhasa**	**47.08**	**291**	*e*P	**P**	**21 00 25.0**	**+1.5**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
LSA	**Lhasa**	**47.08**	**291**	*e*P	**P**	**21 00 25.0**	**+1.5**
	comp=Z,10.0nm,1.4s,mb4.5						
BILL	**Bilibino**	**48.16**	**11**	*e*P	**P**	**21 00 30.8**	**-1.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
BILL	**Bilibino**	**48.16**	**11**	*e*P	**P**	**21 00 30.8**	**-1.0**
	comp=Z,3.3nm,0.3s,mb4.8						
DZM	**Mont Dzumac**	**49.40**	**151**	LR	LR	21 19 10.3	
	comp=Z,128nm,19.2s,MS3.9,baz=349,slow=33						
TIXI	**Tiksi**	**50.27**	**354**	⇑*e*P	**P**	**21 00 48.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
WMQ	**Urumqi**	**50.33**	**309**	P	**P**	**21 00 49.9**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.6						
WMQ				LR	LR		
	comp=N,25nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=E,90nm,23.0s,MS3.8						
STKA	**Stephens Creek**	**53.66**	**182**	LR	LR	21 24 34.8	
	comp=E,107nm,19.2s,MS3.9,baz=26,slow=36						
ZAL	**Zalesovo**	**53.91**	**321**	P	**P**	**21 01 15.3**	**+0.3**
	comp=E,3.0nm,0.8s,mb4.3,baz=12,slow=8.1,SNR=23						
ZAL	**Zalesovo**	**53.91**	**321**	P	**P**	**21 01 15.3**	**+0.3**
MKAR	**Makanchi Array**	**54.43**	**312**	P	**P**	**21 01 19.1**	**+0.4**
	comp=E,1.4nm,0.7s,mb4.0,baz=94,slow=9.1,SNR=12						
MKAR				PcP	PcP	21 02 22.4	+0.6
	comp=E,0.3nm,0.8s,baz=72,slow=1.9,SNR=3.7						
MKAR	**Makanchi Array**	**54.43**	**312**	⇑*e*P	**P**	**21 01 19.6**	**+0.8**
MKAR	**Makanchi Array**	**54.43**	**312**	P	**P**	**21 01 19.1**	**+0.4**
MKAR				PcP	PcP	21 02 22.4	+0.5
NVS	**Novosibirsk**	**54.99**	**322**	*e*P	**P**	**21 01 22.4**	**-0.5**
NVS				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.8						
NVS				pmax	pmax		
	comp=E,18nm,2.0s						
AFI	**Afiamalu**	**56.84**	**125**	LR	LR	21 24 05.7	
	comp=E,59nm,18.5s,MS3.7,baz=332,slow=34						
KURK	**Kurchatov**	**57.19**	**317**	*e*P	**P**	**21 01 38.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**57.19**	**317**	*e*P	**P**	**21 01 38.0**	**-0.5**
	comp=Z,5.4nm,0.9s,mb4.6						
KDAK	**Kodiak Island**	**57.90**	**35**	LR	LR	21 22 40.6	
	comp=Z,282nm,20.4s,MS4.4,baz=106,slow=32						
AAK	**Ala-Archa**	**59.92**	**307**	⇓*i*P	**P**	**21 01 58.1**	**+0.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.3						
BVAR	**Borovoye Array**	**62.37**	**319**	P	**P**	**21 02 14.7**	**+0.5**
	comp=Z,7.7nm,0.9s,mb4.8,baz=94,slow=6.4,SNR=6.1						
BRVK	**Borovoye**	**62.44**	**319**	*e*P	**P**	**21 02 14.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
BRVK	**Borovoye**	**62.44**	**319**	*e*P	**P**	**21 02 14.8**	**+0.2**
	comp=Z,6.3nm,0.9s,mb4.8						
INK	**Inuvik**	**67.23**	**24**	P	**P**	**21 02 45.7**	**-0.1**
	comp=Z,3.4nm,1.0s,mb4.3,baz=263,slow=9.4,SNR=6.3						
INK				LR	LR	21 32 58.6	
	comp=Z,94nm,20.6s,MS4.0,baz=257,slow=37						
INK	**Inuvik**	**67.23**	**24**	P	**P**	**21 02 45.7**	**-0.1**
INK				LR	LR	21 32 58.6	
ARU	**Arti**	**68.95**	**324**	⇓*i*P	**P**	**21 02 56.1**	**-0.4**
ARU				*e*		21 03 21.2	
ARU				*e*S	S	21 11 56.3	-0.7
ARU				*e*SS	SS	21 16 20.9	-2.4
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
AKTK	**Aktyubinsk**	**70.28**	**317**	P	**P**	**21 03 04.9**	**+0.2**
AKTO	**Aktyubinsk**	**70.28**	**317**	P	**P**	**21 03 04.9**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=51,slow=8.8						
YKA	**Yellowknife Ar**	**76.13**	**28**	P	**P**	**21 03 39.1**	**-0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=293,slow=5.9,SNR=14						
YKA				LR	LR	21 34 36.0	
	comp=Z,93nm,20.9s,MS4.1,baz=325,slow=34						
PPT	**Papeete**	**76.71**	**115**	LR	LR	21 33 18.1	
	comp=Z,107nm,19.3s,MS4.2,baz=257,slow=32						
ARCES	**ARCESS Array B**	**78.56**	**341**	P	**P**	**21 03 51.2**	**-1.6**
	comp=Z,5.8nm,0.9s,mb4.5,baz=14,slow=12,SNR=4.5						
ARCES	**ARCESS Array B**	**78.56**	**341**	P	**P**	**21 03 51.2**	**-1.6**
YBH	**Yreka Blue Hor**	**78.59**	**50**	LR	LR	21 30 25.4	
	comp=Z,91nm,20.9s,MS4.1,baz=310,slow=29						
NEW	**Newport**	**80.02**	**42**	LR	LR	21 41 46.4	
	comp=Z,111nm,18.4s,MS4.2,baz=312,slow=37						
OBN	**Obninsk**	**81.16**	**326**	⇑*e*P	**P**	**21 04 07.6**	**+0.7**
OBN				*e*		21 07 12.0	
OBN				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
BMO	**Blue Mountains**	**81.18**	**45**	*e*P	**P**	**21 04 07.8**	**+0.9**
	comp=Z,24nm,1.9s,mb4.8						
FINES	**FINESS Array B**	**82.83**	**334**	P	**P**	**21 04 14.7**	**-0.9**
	comp=Z,1.1nm,0.8s,mb4.0,baz=86,slow=5.9,SNR=3.7						
FINES				LR	LR	21 42 15.1	
	comp=Z,121nm,19.4s,MS4.3,baz=9.2,slow=36						
FINES	**FINESS Array B**	**82.83**	**334**	*i* P	**P**	**21 04 14.6**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**82.93**	**52**	P	**P**	**21 04 17.6**	**+1.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=277,slow=6.9,SNR=11						
TRCR	**Troy Canyon**	**84.92**	**51**	*e*P	**P**	**21 04 25.3**	**-1.0**
QLMT	**Earthquake Lak**	**85.00**	**44**	*e*P	**P**	**21 04 29.0**	**+2.3**
PDAR	**Pinedale Array**	**87.14**	**45**	LR	LR	21 36 10.8	
	comp=Z,115nm,20.4s,MS4.3,baz=256,slow=30						
AKASG	**Malin Array Be**	**87.19**	**324**	P	**P**	**21 04 35.7**	**-1.8**
	comp=Z,0.4nm,0.4s,mb4.0,baz=42,slow=4.6,SNR=5.8						
NOA	**NORSAR Array B**	**88.59**	**339**	LR	LR	21 50 50.6	
	comp=Z,67nm,18.7s,MS4.1,baz=5.0,slow=40						
BRTR	**Keskin Array B**	**90.07**	**313**	P	**P**	**21 04 50.5**	**-0.5**
	comp=Z,1.5nm,0.9s,mb4.3,baz=106,slow=4.5,SNR=8.7						
ULM	**Lac du Bonnet**	**91.14**	**33**	LR	LR	21 46 02.7	
	comp=Z,86nm,18.1s,MS4.2,baz=332,slow=36						
LTX	**Lajitas**	**97.85**	**54**	*e*P	**P**	**21 05 22.5**	**-4.2**
	comp=Z,6.5nm,0.8s,mb5.2						
TXAR	**Lajitas Array**	**97.85**	**54**	LR	LR	21 48 50.6	
	comp=Z,64nm,19.1s,MS4.1,baz=0.0,slow=35						
VNDA	**Vanda**	**99.99**	**176**	LR	LR	21 52 35.2	
	comp=Z,57nm,19.4s,MS4.1,baz=69,slow=36						
LPAZ	**La Paz**	**149.93**	**84**	PKPbc	PKPbc	21 11 43.4	+2.1
	comp=Z,2.9nm,1.0s,baz=348,slow=4.9,SNR=9.5						

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*ISCJB **02** 21:09:35.4±2.0, 3834N±007×266E±02, h12km±30km, Error ellipse: s-maj=23.1km s-min=7.3km az=45.3*
*CSEM **02** 21:09:35.3±0.1, 3832N×2664E, h20km, MD2.7, Error ellipse: s-maj=3.8km s-min=2.3km az=147.0*
*ATH **02** 21:09:35.0, 3833N×2678E, h48km, MD2.9/3*
*ISK **02** 21:09:36.2, 3838N×2665E, h5km, MD2.7*
ISC 02 21:09:35.5±1.7, 3835N±007×266E±02, h13km±25km, n6, σ0§26/10, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.38**	**85**	*i* PG	**Pg**	**21 09 42.9**	**-0.2**
BLCB				*i* SG	**Sg**	**21 09 47.9**	**-0.3**
IZM	**Izmir**	**0.55**	**85**	PG	**Pg**	**21 09 46.3**	**0.0**
IZM				SG	**Sg**	**21 09 53.7**	**+0.1**
SMG	**Samos**	**0.68**	**161**	⇑*i*P	**Pg**	**21 09 48.4**	**-0.3**
SMG				*e*S	**Sg**	**21 09 58.1**	**+0.5**
PRK	**Paraskevi**	**0.92**	**346**	⇓*i*P	**Pb**	**21 09 53.7**	**+0.3**
AKS	**Akhisar**	**1.11**	**61**	*e*PG	**Pg**	**21 09 56.9**	**0.0**
AKS				*e*SG	**Sg**	**21 10 11.6**	**+0.2**
APE	**Apeiranthos**	**1.52**	**213**	*e*P	**Pn**	**21 10 02.2**	**-0.3**

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*IDC **02** 21:44:43.4±0.8, 3888N×7142E, h0km, mb3.9/12, mb1 4.2/16, mb1mx4.0/26, mbtmp4.0/16, ML4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/35, Error ellipse: s-maj=16.5km s-min=13.8km az=13.0*
*NNC **02** 21:44:45.0±2.2, 3898N×7103E, h0km±10km, mb4.0, mpv3.8, Error ellipse: s-maj=14.1km s-min=9.2km az=5.0*
*MOS **02** 21:44:48.0±1.4, 3910N×7132E, h33km, mb4.4/13, Error ellipse: s-maj=10.5km s-min=6.0km az=87.1*
*BJI **02** 21:44:48.0, 3925N×7117E, h49km, mb4.4, ML3.8, Ms3.9*
*ISCJB **02** 21:44:49.8±0.6, 3901N±003×7131E±006, h61km±7km, mb4.0/19, Error ellipse: s-maj=7.6km s-min=4.3km az=165.6*
*NEIC **02** 21:44:50.1±0.6, 3914N×7129E, h35km, mb4.1/4, Error ellipse: s-maj=11.8km s-min=9.8km az=171.0*
ISC 02 21:44:48.8±1.5, 3900N±003×7103E±005, h28km±12km, n99, σ1§63/117, mb4.0/19, MS3.5/1, 12C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.73**	**32**	P	**Pn**	**21 45 45.3**	**+0.9**
	SNR=80						
KSH	**Kashi**	**3.87**	**81**	P	**Pn**	**21 45 46.2**	**-0.2**
KSH				S	**Sn**	**21 46 33.2**	**+2.2**
KSH				Smax			
	comp=N,1μm,0.7s						
KSH				Smax			
	comp=E,2μm,0.5s						
KK31	**Karatay Array**	**4.12**	**355**	⇓Pn	**Pn**	**21 45 51.2**	**+1.5**
	comp=E,20nm,0.2s,baz=178,slow=13,SNR=3068						
KK31				⇑Sn	**Sn**	**21 46 40.4**	**+3.5**
	comp=E,70nm,0.4s,baz=150,slow=17,SNR=8.4						
KK31				⇑Lg		21 46 54.9	
	comp=E,232nm,0.6s						
KKAR	**Karatay Array**	**4.12**	**355**	*e*PN	**Pn**	**21 45 51.2**	**+1.5**
KKAR				S	**Sn**	**21 46 42.9**	**+6.0**
KKAR				pmax	pmax		
	comp=Z,15nm,0.2s						
KKAR				smax			
	comp=Z,21nm,0.3s						
UCH	**Uchtor**	**4.17**	**38**	P	**Pn**	**21 45 51.4**	**+0.8**
	SNR=180						
EKS2	**Erkin-Say**	**4.21**	**29**	P	**Pn**	**21 45 52.0**	**+1.0**
	SNR=41						
KZA	**Kyzart**	**4.45**	**45**	P	**Pn**	**21 45 54.7**	**+0.3**
	SNR=114						
AAK	**Ala-Archa**	**4.48**	**35**	P	**Pn**	**21 45 55.7**	**+1.0**
	SNR=52						
AAK	**Ala-Archa**	**4.48**	**35**	⇑*i*Pn	**Pn**	**21 45 54.7**	**0.0**
FRU	**Bishkek**	**4.70**	**34**	*e*PN	**Pn**	**21 45 58.5**	**+0.8**
FRU				*i*		21 46 11.0	
FRU				*i* S	**Sn**	**21 46 54.0**	**+2.8**
FRU				pmax	pmax		
	comp=Z,150nm,1.3s						
FRU				pmax	pmax		
	comp=N,630nm,1.9s						
KBK	**Karagaybulak**	**4.71**	**38**	P	**Pn**	**21 45 59.5**	**+1.6**
	SNR=101						
CHMS	**Chumysh**	**4.89**	**34**	P	**Pn**	**21 46 01.1**	**+0.8**
	SNR=71						
USP	**Ospenovka**	**5.00**	**30**	P	**Pn**	**21 46 02.8**	**+0.8**
	SNR=62						
ULHL	**Ulahol**	**5.12**	**49**	P	**Pn**	**21 46 03.0**	**-0.5**
	SNR=21						
CEP	**Cherat**	**5.22**	**172**	P	**Pn**	**21 46 09.3**	**+4.4**
CEP				S	**Sn**	**21 47 15.0**	**+11**
TKM2	**Tokmak 2**	**5.22**	**40**	P	**Pn**	**21 46 05.2**	**+0.3**
	SNR=45						
TKM2	**Tokmak 2**	**5.22**	**40**	⇑Pn	**Pn**	**21 46 05.1**	**+0.1**
TKM2				⇑Sn	**Sn**	**21 47 06.5**	**+2.3**
	comp=N,4.9nm,0.7s						
TKM2				⇑Lg		21 47 32.9	
	comp=N,3.9nm,0.7s						
TKM2	**Tokmak 2**	**5.22**	**40**	PN	**Pn**	**21 46 05.1**	**+0.1**
TKM2				S	**Sn**	**21 47 06.1**	**+1.9**
TKM2				pmax	pmax		
	comp=Z,11nm,0.5s						
TKM2				smax			
	comp=Z,31nm,0.7s						
CHCP	**Chirah Chowk**	**

AB31 smax
comp=Z,30nm,0.8s
BVA0 Borovoye Array 14.03 358 ⇓Pn **Pn 21 48 04.5 -1.2**
comp=Z,1.2nm,1.1s,baz=165,slow=12,SNR=6.5
BVA0 ⇑Sn **Sn 21 50 42.5 +2.1**
comp=Z,1.5nm,1.2s,baz=153,slow=20,SNR=9.3
BVA0 Borovoye Array 14.03 358 *i* P **Pn 21 48 04.3 -1.3**
BVA0 pmax pmax
comp=Z,1.0nm,1.2s
BVAR Borovoye Array 14.03 358 Pn **Pn 21 48 03.5 -2.1**
comp=Z,0.6nm,0.3s,baz=160,slow=13,SNR=16
BVAR Sn **Sn 21 50 37.8 -2.6**
comp=Z,0.6nm,0.3s,baz=168,slow=24,SNR=8.5
BVAR Borovoye Array 14.03 358 P **Pn 21 48 03.5 -2.1**
BVAR 21 50 37.8
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
BRVK Borovoye 14.07 358 *e*P **Pn 21 48 04.8 -1.3**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 14.07 358 *e*Pn **Pn 21 48 04.8 -1.4**
comp=Z,6.1nm,0.8s
AKTK Aktyubinsk 14.68 325 Pn **Pn 21 48 13.3 -1.1**
AKTK Sn **Sn 21 50 54.5 -1.6**
AKTO Aktyubinsk 14.68 325 ⇑Pn **Pn 21 48 13.0 -1.4**
comp=Z,0.3nm,0.8s
AKTO ⇓Sn **Sn 21 50 59.4 +3.4**
comp=Z,0.2nm,0.7s
AKTO Aktyubinsk 14.68 325 Pn **Pn 21 48 13.3 -1.1**
comp=Z,0.6nm,0.3s,baz=135,slow=12,SNR=12
AKTO Sn **Sn 21 50 54.5 -1.6**
comp=Z,0.9nm,0.3s,baz=295,slow=22,SNR=11
AKTO Aktyubinsk 14.68 325 P **Pn 21 48 13.3 -1.1**
AKTO 21 50 54.5
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax
comp=N,1.0nm,0.3s
KOLN Koldanda 15.34 133 *e*P **Pn 21 48 19.8 -3.4**
comp=N,7.8nm,0.5s
GKN Gorkha 15.77 130 *e*P **Pn 21 48 22.9 -5.9**
comp=N,17nm,0.4s
KKN Kakani 16.31 129 *e*P **Pn 21 48 29.6 -6.1**
comp=N,14nm,0.5s
DMN Daman 16.34 130 *e*P **Pn 21 48 30.8 -5.3**
comp=N,6.2nm,0.3s
PKI Pulchoki 16.55 129 *e*P **Pn 21 48 32.9 -5.8**
GUN Gumba 16.59 127 *e*P **Pn 21 48 32.8 -6.5**
comp=N,12nm,0.4s
JIRN Jiri 16.96 127 *e*P **Pn 21 48 37.7 -6.2**
comp=N,13nm,0.3s
ORR Orenburg 16.98 323 *e*P **Pn 21 48 46.2 +2.0**
ORR *e*S **Sn 21 51 43.3 -8.8**
ORR pmax pmax
comp=Z,10.0nm,0.9s
ZAL Zalesovo 17.64 28 P **Pn 21 48 49.4 -3.0**
comp=Z,3.0nm,0.3s,baz=251,slow=8.0,SNR=32
ZAL LR LR 21 56 18.6
comp=Z,37nm,18.3s,baz=356,slow=40
ZAL Zalesovo 17.64 28 P **Pn 21 48 49.4 -3.0**
ZAL LR LR 21 56 18.6
NVS Novosibirsk 17.86 24 *e*P **Pn 21 48 52.6 -2.5**
NVS pmax pmax
comp=Z,41nm,2.9s
NVS pmax pmax
comp=N,10.0nm,1.6s
LSA Lhasa 19.00 113 *e*P **Pn 21 49 07.9 -1.1**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 19.00 113 *e*P **Pn 21 49 07.9 -1.0**
comp=Z,2.6nm,0.6s
ARU Arti 19.29 339 *e*P **Pn 21 49 11.6 -0.9**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 19.29 339⇑*i*P **Pn 21 49 11.9 -0.6**
ARU *e*S **Sn 21 52 42.3 -5.7**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 19.29 339 *e*P **Pn 21 49 11.6 -0.9**
comp=Z,4.7nm,0.8s
GNI Garni 20.27 282 P **P 21 49 27.6 +5.6**
comp=Z,0.8nm,0.3s,baz=3.7,slow=19,SNR=2.1
KIV Kislovodsk 21.75 292⇓*e*P **P 21 49 43.1 +5.2**
KIV *e* 21 50 04.3
KIV pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
KIV Kislovodsk 21.75 292 *e*P **P 21 49 41.5 +3.6**
comp=Z,14nm,0.8s,mb4.4
GTA Gaotai 22.28 80 *e*P **P 21 49 40.8 -2.8**
ZAK Zakamensk 25.40 53 *e*P **P 21 50 11.0 -2.7**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
ANN Anapa 25.55 294 *e*P **P 21 50 22.3 +7.2**
ANN *e*S **S 21 54 47.4 +6.5**
ANN pmax pmax
comp=Z,34nm,1.1s,mb4.8
SONM Songino Array 26.97 59 P **P 21 50 26.0 -1.9**
comp=Z,1.1nm,0.7s,mb3.5,baz=262,slow=9.6,SNR=8.6
SONM Songino Array 26.97 59 P **P 21 50 26.0 -1.9**
SONM pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 28.10 316⇓*e*P **P 21 50 41.3 +3.3**
OBN *e* 21 51 25.9
OBN *e*S **S 21 55 14.2 -7.0**
OBN *e*SS 21 56 49.2
OBN pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.5
BRTR Keskin Array B 28.78 283 P **P 21 50 46.9 +2.7**
comp=Z,0.3nm,0.5s,mb3.3,baz=91,slow=5.8,SNR=2.8
BOD Bodaibo 33.43 41 *e*P **P 21 51 22.4 -2.6**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MLR Muntele Rosu 33.64 296 P **P 21 51 29.7 +2.8**
comp=Z,3.4nm,0.9s,mb4.3,baz=230,slow=3.3,SNR=5.9
MLR Muntele Rosu 33.64 296 P **P 21 51 29.7 +2.8**
MLR pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 35.45 324 P **P 21 51 42.9 +0.4**
comp=Z,0.7nm,0.4s,mb3.9,baz=126,slow=9.7,SNR=12
FINES FINESS Array B 35.45 324 P **P 21 51 42.9 +0.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 35.56 325 *e*p **P 21 51 51.0 +7.5**
ARCES ARCESS Array B 38.85 336 P **P 21 52 11.0 -0.4**
comp=Z,2.5nm,0.7s,mb4.1,baz=109,slow=7.6,SNR=13
ARCES ARCESS Array B 38.85 336 P **P 21 52 11.0 -0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 41.55 303 P **P 21 52 35.3 +1.5**
comp=Z,0.2nm,0.5s,mb3.0,baz=69,slow=8.5,SNR=3.2
YAK Yakutsk 41.94 37⇑*e*P **P 21 52 39.3 +2.4**
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
NB2 NORSAR Subarra 42.42 321 P **P 21 52 40.1 -0.8**
comp=Z,0.9nm,0.5s,mb3.7,baz=90,slow=8.6
NOA NORSAR Array B 42.42 321 P **P 21 52 40.0 -0.9**
comp=Z,1.8nm,0.7s,mb3.8,baz=92,slow=8.1,SNR=5.8
NOA NORSAR Array B 42.42 321 P **P 21 52 40.0 -0.9**
NOA pmax pmax
comp=Z,2.0nm,0.7s
KULM Kulim 42.95 134 *e*P **P 21 52 47.9 +2.7**
KONO Kongsberg 43.18 319⇓*e*P **P 21 52 46.7 -0.3**
TIXI Tiksi 43.46 23⇑*i*P **P 21 52 47.4 -1.9**
TIXI pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
TIXI Tiksi 43.46 23 *e*P **P 21 52 47.1 -2.1**
comp=Z,7.4nm,0.9s,mb4.4
ESDC Sonseca Array 56.34 296 P **P 21 54 28.0 +0.9**
comp=Z,0.3nm,0.5s,mb3.6,baz=55,slow=7.1,SNR=3.7
TOA0 Torodi Ar. Sit 65.82 268 *e*P **P 21 55 32.0 +0.5**
TORD Torodi Ar. Bea 65.82 268 P **P 21 55 32.2 +0.8**
comp=Z,2.4nm,0.6s,mb4.4,baz=47,slow=5.9,SNR=26
YKA Yellowknife Ar 78.75 3 P **P 21 56 47.6 -1.0**
comp=Z,0.8nm,0.6s,mb3.8,baz=350,slow=5.5,SNR=9.9
YKA Yellowknife Ar 78.75 3 P **P 21 56 47.6 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 83.30 122 P **P 21 57 10.5 -2.3**
comp=Z,2.2nm,0.9s,mb4.2,baz=325,slow=5.0,SNR=8.9
WRA Warramunga Arr 83.30 122 P **P 21 57 10.5 -2.4**
WRA pmax pmax
comp=Z,2.0nm,0.9s

ASAR Alice Springs 85.67 125 P **P 21 57 23.4 -1.5**
comp=Z,0.8nm,0.7s,mb4.1,baz=319,slow=4.8,SNR=12
ASAR Alice Springs 85.67 125 P **P 21 57 23.4 -1.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s

ISCJB ***02*** *21:46:08.8±1.1, 3834N±004×2660E±009, h9km±17km, Error ellipse: s-maj=12.9km s-min=6.6km az=34.1*
ATH ***02*** *21:46:08.8, 3832N×2657E, h35km±29km, MD2.9/3*
CSEM ***02*** *21:46:09.1±0.1, 3839N×2663E, h8km, MD2.7, Error ellipse: s-maj=2.6km s-min=2.2km az=70.0*
ISK ***02*** *21:46:10.2, 3844N×2672E, h5km, MD2.7*
ISC 02 21:46:09.2±1.2, 3833N±005×266E±01, h15km±14km, n7, σ0§59/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.35**	**81**	PG	**Pg**	**21 46 16.4**	**0.0**
BLCB				SG	**Sg**	**21 46 21.1**	**-0.1**
IZM	**Izmir**	**0.53**	**83**	PG	**Pg**	**21 46 19.7**	**+0.1**
IZM				SG	**Sg**	**21 46 27.1**	**+0.5**
SMG	**Samos**	**0.65**	**163**	*e*PN	**Pb**	**21 46 21.8**	**-0.5**
SMG				*e*SN	**Sb**	**21 46 32.0**	**+0.8**
PRK	**Paraskevi**	**0.95**	**344**	*e*PN	**Pb**	**21 46 27.0**	**-0.4**
PRK				*e*SN	**Sb**	**21 46 40.4**	**+0.7**
AKS	**Akhisar**	**1.10**	**60**	PG	**Pg**	**21 46 29.6**	**-0.8**
AKS				SG	**Sg**	**21 46 44.1**	**-0.6**
EZN	**Ezine**	**1.51**	**352**	*e*PN	**Pg**	**21 46 38.6**	**+0.4**
APE	**Apeiranthos**	**1.52**	**214**	*e*PN	**Pn**	**21 46 35.2**	**-0.7**

SKO ***02*** *21:51:59.6, 4020N×2109E, h45km*
ISCJB ***02*** *21:52:00.1±0.6, 4023N±003×2111E±005, h10km, Error ellipse: s-maj=5.8km s-min=4.2km az=18.6*
NEIC ***02*** *21:52:01.6, 4004N×2127E, h5km, MD2.9(ATH), After ATH.*
CSEM ***02*** *21:52:01.6, 4004N×2127E, h5km, MD2.9/5, After ATH*
ATH ***02*** *21:52:01.6, 4004N×2127E, h5km, MD2.9/5*
THE ***02*** *21:52:01.8, 4021N×2115E, h10km*
ISC 02 21:52:00.8±0.6, 4022N±003×2110E±005, h10km, n15, σ1§32/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.45**	**168**	*e*Sg	**Sg**	**21 52 16.4**	**+0.9**
	comp=Z,11nm,0.0s						
KZN	**Kozani**	**0.52**	**81**	*e*PB	**Pg**	**21 52 09.5**	**-1.4**
KZN				*e*SB	**Sg**	**21 52 18.8**	**+1.1**
KZN	**Kozani**	**0.52**	**81**	*e*Pb	**Pg**	**21 52 09.5**	**-1.4**
JAN	**Janina**	**0.60**	**199**	*e*PB	**Pg**	**21 52 10.0**	**-2.4**
BIA	**Bitola**	**0.81**	**12**	*e*Pg	**Pg**	**21 52 16.0**	**-0.4**
BIA				*e*Sg	**Sg**	**21 52 29.0**	**+2.0**
BIA	**Bitola**	**0.81**	**12**	*e*Pg	**Pg**	**21 52 16.0**	**-0.4**
IGT	**Igoumenitsa**	**0.91**	**221**	*e*Pg	**Pg**	**21 52 19.3**	**+1.0**
THL	**Klokotos Trika**	**0.96**	**133**	*e*PB	**Pg**	**21 52 16.2**	**-3.1**
LIT	**Litokhoron**	**1.07**	**96**	*e*Pg	**Pg**	**21 52 21.4**	**0.0**
LIT				*e*Sg	**Sg**	**21 52 36.5**	**+1.2**
KEK	**Kerkira**	**1.12**	**243**	*e*PB	**Pg**	**21 52 24.9**	**+2.5**
KRUS	**Krusevo**	**1.15**	**5**	*e*Pg	**Pg**	**21 52 22.6**	**-0.3**
KRUS				*e*Sg	**Sg**	**21 52 36.6**	**-1.2**
KRUS	**Krusevo**	**1.15**	**5**	*e*Pg	**Pg**	**21 52 22.6**	**-0.3**
KRUS				*e*Sg	**Sg**	**21 52 36.6**	**-1.2**
GRG	**Griva**	**1.23**	**53**	*e*Pg	**Pg**	**21 52 24.2**	**-0.2**
EVR	**Evrytania**	**1.41**	**157**	*e*PB	**Pn**	**21 52 25.1**	**-1.5**
KNT	**Kendrikon**	**1.66**	**55**	*e*Pb	**Pb**	**21 52 31.3**	**-0.1**

MAN 02 22:10:27.0, 1032N×12613E, h21km, mb3.4, ML4.6, MS2.2, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.82**	**230**	*e*P	Pb	22 10 41.9	-0.7
SCPH				*i* S	Sb	22 10 54.1	+0.9
MSLP	**Maasin**	**1.26**	**262**	*e*P	Pn	22 10 49.1	-0.2
MSLP				*e*S	Sn	22 11 06.6	+1.0
PLP	**Palo**	**1.40**	**307**	*e*P	Pn	22 10 51.4	0.0
PLP				*e*S	Sn	22 11 09.5	+0.3
BESP	**Borongan**	**1.44**	**332**	*e*P	Pn	22 10 51.8	0.0
OCLP	**Ormoc**	**1.66**	**296**	*e*P	Pn	22 10 56.1	+1.3
CGP	**Cagayan de Oro**	**2.33**	**217**	*e*P	Pn	22 11 04.2	+0.2
CGP				*i* S	Sn	22 11 33.4	+1.3
CNP	**Cataman**	**2.61**	**327**	*e*P	Pn	22 11 07.3	-0.5
BUKP	**Musuan**	**2.64**	**203**	*e*P	Pn	22 11 10.2	+1.8
DCPH	**Dipolog City**	**3.23**	**238**⇑	*e*P	Pn	22 11 16.6	+0.1
DCPH				*e*S	Sn	22 11 56.1	+1.7

IDC ***02*** *22:11:13.0±1.9, 309S×12762E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=126.9km s-min=15.1km az=68.0*
NEIC ***02*** *22:11:18.2±1.1, 3145S×12741E, h35km, mb4.3/1, Error ellipse: s-maj=33.3km s-min=16.7km az=65.0*
ISC 02 22:11:14.9±5.0, 31S±01×1274E±03, h10km±33km, n7, σ0§51/9, mb3.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**14.38**	**309**	Pn	**Pn**	**22 14 30.7**	**-7.8**
WRA	**Warramunga Arr**	**18.06**	**158**	P	**Pn**	**22 15 25.3**	**-0.5**
	0.6nm,0.3s,baz=343,slow=12,SNR=8.1						
WRA				S	**Sn**	**22 18 47.4**	**+0.1**
	0.2nm,0.3s,baz=342,slow=21,SNR=3.5						
WB2	**Warramunga Arr**	**18.06**	**158**	*e*P	**Pn**	**22 15 25.5**	**-0.4**
PMG	**Port Moresby**	**20.63**	**109**	P	**P**	**22 15 54.4**	**-0.1**
	5.5nm,0.4s						
ASAR	**Alice Springs**	**21.39**	**163**	P	**P**	**22 16 03.0**	**+0.4**
	5.0nm,0.8s,mb3.9,baz=344,slow=12,SNR=30						
ASAR				S	**S**	**22 19 59.4**	**-0.5**
	0.6nm,0.6s,baz=345,slow=16,SNR=5.1						
STKA	**Stephens Creek**	**31.59**	**156**	P	**P**	**22 17 38.8**	**+1.1**
	0.8nm,0.5s,mb3.8,baz=2.7,slow=9.7,SNR=3.1						
MKAR	**Makanchi Array**	**63.56**	**327**	P	**P**	**22 21 45.4**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=120,slow=7.6,SNR=2.5						

NIED ***02*** *22:20:00, 2420N×12520E, h20km, Mw4.8 Best double couple: M0 1.79000×10^16 NP1:φs=56.00000°, δ65.00000°, λ76.00000°. NP2:φs=266.00000°, δ28.00000°, λ118.00000°.*
IDC ***02*** *22:20:43.5±0.6, 2433N×12516E, h0km, mb4.5/15, mb1 4.6/17, mb1mx4.6/21, mbtmp4.5/17, ML4.0/2, MS4.3/19, Ms1 4.3/19, ms1mx4.1/28, Error ellipse: s-maj=26.1km s-min=14.7km az=70.0*
BJI ***02*** *22:20:43.9, 2402N×12562E, h35km, mB4.8, mb4.5, Ms4.5, Msz4.4*
ISCJB ***02*** *22:20:46.8±0.3, 2423N±003×12529E±003, h34km, mb4.7/61, MS4.4/31, Error ellipse: s-maj=4.5km s-min=3.3km az=119.3*
JMA ***02*** *22:20:47.6±0.3, 2421N×12523E, h24km, M4.9*
JMA Felt II J1.
MOS ***02*** *22:20:47.4±1.3, 2432N×12511E, h33km, mb5.0/28, MS4.3/7, Error ellipse: s-maj=10.2km s-min=6.0km az=112.0*
NEIC ***02*** *22:20:49.1±0.3, 2432N×12522E, h35km, mb4.7/27, MW4.8(NIED), Error ellipse: s-maj=7.6km s-min=6.9km az=114.0*
NEIC Recorded [2 JMA] on Miyako-jima.
GCMT ***02*** *22:20:49.1±0.3, 2405N×12529E, h38km±1km, MW4.9/61, Moment Tensor Solution. s34,c42; s61,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.09±.15; Mθθ-2.14±.11; Mφφ0.05±.12; Mrθ1.45±.09; Mθφ-0.92±.07; Mφr0.85±.11; Best double couple: M0 2.83800×10^16 NP1:φs=259.00000°, δ28.00000°, λ104.00000°. NP2: φs=63.00000°, δ63.00000°, λ83.00000°. Principal axes: T 2.6630, Plg71.0000°, Azm317.0000°; N 0.3520, Plg6.0000°, Azm66.0000°; P -3.0120, Plg18.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 22:20:49.2±0.3, 2431N±003×12525E±003, h36km, h36km±1.5km:pP-P, n190, σ1§17/194, mb4.7/61, MS4.4/31, 6C-5D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.47**	**18**	P	**Pn**	**22 20 58.9**	**-0.6**
JOGS				S	**Sn**	**22 21 07.4**	**+0.8**
JMJ	**Miyako jima 2**	**0.51**	**5**	P	**Pn**	**22 20 59.2**	**-0.7**
JMJ				S	**Sn**	**22 21 07.5**	**+0.1**
JTJ	**Tarama**	**0.60**	**304**	P	**Pn**	**22 20 59.8**	**-1.4**
JTJ				S	**Sn**	**22 21 09.3**	**-0.4**
JIJ	**Ishigaki jima**	**1.01**	**274**	P	**Pn**	**22 21 05.8**	**-1.0**
JIJ				S	**Sn**	**22 21 21.3**	**+1.5**
JKRS	**Kuro-shima**	**1.13**	**267**	P	**Pn**	**22 21 08.3**	**-0.2**
HATJ	**Hateruma jima**	**1.34**	**260**	P	**Pn**	**22 21 10.6**	**-0.8**
IRIF	**Iriomote-Funau**	**1.39**	**272**	P	**Pn**	**22 21 11.5**	**-0.5**
YOJ	**Yonaguni jima**	**2.05**	**275**	P	**Pn**	**22 21 21.9**	**+0.8**
JKE	**Kume jima 2**	**2.45**	**34**	P	**Pn**	**22 21 26.1**	**-0.5**
JAGN	**Aguni-jima**	**2.90**	**38**	P	**Pn**	**22 21 34.0**	**+1.2**
JJT2	**Tamagusuku 2**	**2.91**	**51**	P	**Pn**	**22 21 33.1**	**+0.2**
NAH1	**Naha**	**2.91**	**49**	P	**Pn**	**22 21 41.7**	**+8.8**
NACB	**Ninganchiao**	**3.34**	**269**	*e*Pn	**Pn**	**22 21 37.3**	**-1.5**
TATO	**Taipei**	**3.49**	**282**	*e*Pn	**Pn**	**22 21 42.1**	**+1.2**
YHNB	**Yeheng**	**3.55**	**277**	*e*Pn	**Pn**	**22 21 42.6**	**+0.9**
YHNB				Sn	**Sn**	**22 22 21.8**	**-0.6**
JIH	**Iheya**	**3.66**	**41**	P	**Pn**	**22 21 42.9**	**-0.4**
JOW	**Kunigami**	**3.71**	**47**	Pn	**Pn**	**22 21 43.7**	**-0.3**
	12nm,0.3s,baz=214,slow=16,SNR=12						
JTK	**Tokunoshima**	**4.81**	**43**	P	**Pn**	**22 21 57.5**	**-1.5**
JMZ	**Minamidaito 2**	**5.62**	**73**	P	**Pn**	**22 22 06.8**	**-3.4**
JMZ				S	**Sn**	**22 23 05.6**	**-7.9**
JAM	**Amami Oshima**	**5.66**	**43**	P	**Pn**	**22 22 08.7**	**-2.0**
QZH	**Quanzhou**	**6.09**	**277**	*e*P	**Pn**	**22 22 15.2**	**-1.5**
QZH				LR	LR		
	comp=Z,4μm,13.6s						
SGCP	**Mt. Cagua**	**6.73**	**207**	*e*P	**Sn**	**22 23 38.4**	**-2.5**
BALP	**Baler**	**9.19**	**203**	*e*P	**Pn**	**22 22 58.1**	**-1.1**
JNU	**Nakatsue**	**10.08**	**28**	Pn	**Pn**	**22 23 11.7**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=168,slow=28,SNR=6.6						
JNU				LR	LR	22 27 22.3	
	comp=Z,4μm,21.9s,baz=283,slow=40						
JNU	**Nakatsue**	**10.08**	**28**	Pn	**Pn**	**22 23 11.7**	**+0.4**
JNU				LR	LR	22 27 22.3	
TGY	**Tagaytay City**	**10.93**	**203**	Pn	**Pn**	**22 23 23.8**	**+0.7**
	comp=Z,56nm,0.3s,baz=278,slow=3.4,SNR=2.6						
KSRS	**Korea Array**	**13.31**	**9**	Pn	**Pn**	**22 23 56.7**	**+1.2**
	baz=189,slow=13,SNR=7.5						
KSRS				LR	LR	22 29 31.3	
	comp=Z,1μm,18.8s,baz=185,slow=40						
DL2	**Dalian**	**14.88**	**349**	P	**Pn**	**22 24 22.9**	**+6.0**
DL2				XP	sP	22 24 35.4	-0.5
DL2				S	**Sn**	**22 27 06.1**	**+5.7**
DL2				AMB	AMB		
	comp=Z,50nm,0.8s						
DL2				AMB	AMB		
	comp=Z,190nm,5.7s						
DL2				LR	LR		
	comp=N,600nm,10.8s						
DL2				LR	LR		
	comp=E,440nm,11.4s						
DL2				LR	LR		
	comp=Z,630nm,11.2s						
JHJ	**Hachijo jima 2**	**15.47**	**52**	LR	LR	22 29 56.7	
	comp=Z,610nm,21.6s,baz=328,slow=36						
CBIJ	**Chichi jima**	**15.52**	**76**	LR	LR	22 29 20.2	
	comp=Z,481nm,21.9s,baz=86,slow=33						
MAJO	**Matsushiro**	**16.52**	**39**	*e*P	**Pn**	**22 24 41.6**	**+3.5**
MAJO				pmax	pmax		
	comp=Z,27nm,0.7s						
MAJO	**Matsushiro**	**16.52**	**39**	*e*P	**Pn**	**22 24 41.6**	**+3.5**
	comp=Z,27nm,0.7s						
MAT	**Matsushiro**	**16.52**	**39**	P	**Pn**	**22 24 41.0**	**+2.9**
MAT				S	**S**	**22 27 54.8**	**+3.6**
MJAR	**Matsushiro Arr**	**16.52**	**39**	Pn	**Pn**	**22 24 40.9**	**+2.8**
	comp=Z,1.4nm,0.3s,baz=226,slow=11,SNR=43						
GYA	**Guiyang**	**16.93**	**281**	P	**Pn**	**22 24 45.5**	**+2.2**
GYA				AP	pP	22 24 52.7	-1.4
GYA				XP	sP	22 24 57.9	-0.8
GYA				PP		22 24 58.8	
GYA				S	**S**	**22 27 47.6**	**-12**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
GYA				AMB	AMB		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,670nm,13.8s						
GYA				LR	LR		
	comp=E,610nm,12.6s						
GYA				LR	LR		
	comp=Z,710nm,12.9s						
XAN	**Xi'an**	**17.23**	**308**	P	**Pn**	**22 24 48.4**	**+1.5**
XAN				AP	pP	22 24 54.7	-2.7
XAN				S	**S**	**22 27 59.3**	**-6.3**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s						
XAN				AMB	AMB		
	comp=Z,101nm,4.6s						
XAN				LR	LR		
	comp=N,345nm,13.5s						
XAN				LR	LR		
	comp=E,1μm,15.9s						
XAN				LR	LR		
	comp=Z,2μm,14.9s						
BJT	**Baijiatuau**	**17.43**	**336**	*e*P	**Pn**	**22 24 50.5**	**+1.0**
BJT				pmax	pmax		
	comp=Z,12nm,0.6s						
BJT	**Baijiatuau**	**17.43**	**336**	*e*P	**Pn**	**22 24 50.5**	**+1.0**
	comp=Z,12nm,0.6s						
BJI	**Beijing**	**17.45**	**336**	P	**Pn**	**22 24 50.6**	**+0.9**
BJI				S	**S**	**22 28 10.2**	**+0.1**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s						
BJI				LR	LR		
	comp=N,2μm,15.5s						
BJI				LR	LR		
	comp=E,976nm,17.5s						
BJI				LR	LR		
	comp=Z,1μm,22.4s						
SNY	**Shenyang**	**17.53**	**356**	⇑P	**Pn**	**22 24 51.8**	**+1.1**
SNY				PP		22 25 01.0	
SNY				S	**S**	**22 28 09.2**	**-2.6**
SNY				PCP	PcP	22 29 24.3	-5.2
SNY				AMB	AMB		
	comp=Z,39nm,1.0s						
SNY				AMB	AMB		
	comp=Z,410nm,5.1s						
SNY				LR	LR		
	comp=N,1μm,15.3s						
SNY				LR	LR		
	comp=Z,2μm,16.1s						
CN2	**Changchun**	**19.45**	**0**	*e*P	**Pn**	**22 25 12.0**	**-2.0**
CN2				*e*XP	sP	22 25 24.5	-1.9
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,13.0s						
CN2				LR	LR		
	comp=E,600nm,13.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
HHC	**Hu-ho-hao-te**	**20.09**	**328**	*e*P	**P**	**22 25 20.3**	**+0.8**
HHC				AP		22 25 29.0	
HHC				XP	sP	22 25 33.2	-0.2
HHC				PP		22 25 38.5	
HHC				AMB	AMB		
	comp=Z,28nm,1.0s						
HHC				AMB	AMB		
	comp=Z,379nm,6.9s						
HHC				LR	LR		
	comp=N,1μm,13.7s,MS4.5						
HHC				LR	LR		
	comp=E,1μm,14.9s,MS4.5						
HHC				LR	LR		
	comp=Z,1μm,17.2s,MS4.4						
CD2	**Chengdu**	**20.13**	**294**	⇓*i*P	**P**	**22 25 20.1**	**0.0**
CD2				AP		22 25 28.6	
CD2				XP	sP	22 25 33.1	-0.8
CD2				PP		22 25 39.0	
CD2				AMB	AMB		
	comp=Z,60nm,0.5s						
CD2				AMB	AMB		
	comp=Z,310nm,6.2s						
CD2				LR	LR		
	comp=N,770nm,15.6s,MS4.4						
CD2				LR	LR		
	comp=E,1μm,14.4s,MS4.4						
CD2				LR	LR		
	comp=Z,1μm,13.2s,MS4.5						
KMI	**Kunming**	**20.46**	**277**	P	**P**	**22 25 28.1**	**+4.5**
KMI				XP	sP	22 25 37.8	+0.3

KMI				S	S	22 29 08.3	-2.5
KMI				AMB	AMB		
	comp=Z,20nm,0.8s						
KMI				AMB	AMB		
	comp=Z,337nm,11.3s						
KMI				LR	LR		
	comp=N,620nm,15.6s,MS4.4						
KMI				LR	LR		
	comp=E,1μm,14.9s,MS4.4						
KMI				LR	LR		
	comp=Z,1μm,14.2s,MS4.4						
MDJ	Mudanjiang	20.57	9	P	P	22 25 25.0	+0.2
MDJ				AP		22 25 33.0	
MDJ				XP	sP	22 25 36.9	-1.8
MDJ				S	S	22 29 15.2	+2.3
MDJ				AMB	AMB		
	comp=Z,13nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,89nm,6.2s						
MDJ				LR	LR		
	comp=N,620nm,19.6s,MS4.1						
MDJ				LR	LR		
	comp=E,534nm,18.9s,MS4.1						
MDJ				LR	LR		
	comp=Z,758nm,18.9s,MS4.1						
BTO	Baotou	20.67	325	eP	P	22 25 25.5	-0.4
GUMO	Guam	21.37	116	LR	LR	22 32 21.7	
	comp=Z,486nm,18.2s,MS3.9,baz=95,slow=32						
LZH	Lanzhou	21.86	307	eP	P	22 25 38.5	-0.2
LZH				AP		22 25 48.1	
LZH				XP	sP	22 25 54.2	+1.6
LZH				PP		22 26 03.3	
LZH				eS	S	22 29 29.1	-9.1
LZH				AMB	AMB		
	comp=Z,36nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,159nm,4.3s						
LZH				LR	LR		
	comp=E,939nm,11.5s						
LZH				LR	LR		
	comp=Z,2μm,15.2s,MS4.6						
ERM	Erimo	23.09	36	eP	P	22 25 49.7	-2.0
ERM				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.0						
ERM	Erimo	23.09	36	eP	P	22 25 49.7	-2.0
	comp=Z,45nm,0.8s,mb5.0						
ASAJ	Asahikawa	24.33	31	LR	LR	22 36 18.4	
	comp=Z,894nm,19.8s,MS4.3,baz=356,slow=38						
CHTO	Chiang Mai	25.05	263	eP	P	22 26 10.2	+0.2
CHTO				e*PP	pP	22 26 20.0	-0.1
CHTO				*SP	sP	22 26 25.9	+1.5
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
CHTO	Chiang Mai	25.05	263	eP	P	22 26 10.2	+0.2
	comp=Z,9.5nm,0.8s,mb4.4						
CHTO				epP	pP	22 26 20.0	-0.1
CHTO				sP	sP	22 26 25.9	+1.5
HIA	Hailar	25.29	352	eP	P	22 26 10.7	-1.5
HIA				pmax	pmax		
	comp=Z,21nm,0.9s						
HIA	Hailar	25.29	352	eP	P	22 26 10.7	-1.5
	comp=Z,21nm,0.9s,mb4.7						
GTA	Gaotai	26.21	311	eP	P	22 26 19.0	-1.6
GTA				AP	pP	22 26 28.4	-2.3
GTA				XP	sP	22 26 32.5	-2.5
GTA				PP		22 27 04.5	
GTA				S	S	22 30 43.5	-6.8
GTA				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,156nm,6.8s						
GTA				LR	LR		
	comp=N,533nm,16.0s,MS4.4						
GTA				LR	LR		
	comp=E,733nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=Z,922nm,14.8s,MS4.5						
YSS	Yuzh-Sakhalins	26.59	27	eP	P	22 26 26.4	+2.5
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.2						
YSS	Yuzh-Sakhalins	26.59	27	P	P	22 26 23.7	-0.2
	comp=Z,12nm,0.7s,mb4.5						
ULN	Ulaanbaatar	27.59	333⇓	eP	P	22 26 31.6	-1.4
ULN	Ulaanbaatar	27.59	333	eP	P	22 26 31.5	-1.5
SONM	Songino Array	27.85	332	P	P	22 26 33.5	-1.8
	comp=Z,2.0nm,0.3s,mb4.2,baz=149,slow=11,SNR=33						
SONM				PcP	PcP	22 29 49.3	-1.2
	comp=Z,0.9nm,0.9s,baz=164,slow=4.3,SNR=4.2						
SONM				LR	LR	22 39 09.0	
	comp=Z,1μm,20.0s,MS4.4,baz=185,slow=40						
SONM	Songino Array	27.85	332	P	P	22 26 33.5	-1.7
SONM						22 29 49.3	
CIT	Chita	29.09	345	eP	P	22 26 45.4	-0.8
CIT				e	pP	22 26 54.4	-2.0
LSA	Lhasa	30.78	288	eP	P	22 27 03.4	+2.1
LSA	Lhasa	30.78	288	eP	P	22 27 02.6	+1.3
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
LSA	Lhasa	30.78	288	eP	P	22 27 02.6	+1.4
	comp=Z,4.1nm,0.7s,mb4.4						
JIRN	Jiri	35.17	284	eP	P	22 27 40.8	+1.2
	comp=Z,23nm,0.7s,mb5.2						
GUN	Gumba	35.43	284	eP	P	22 27 42.9	+1.1
	comp=Z,52nm,0.9s,mb5.5						
PKI	Pulchoki	35.87	284	eP	P	22 27 45.9	+0.3
	comp=Z,41nm,0.9s,mb5.3						
KKN	Kakani	35.97	284	eP	P	22 27 47.0	+0.6
	comp=Z,75nm,1.1s,mb5.5						
DMN	Daman	36.13	284	eP	P	22 27 48.5	+0.7
	comp=Z,45nm,0.9s,mb5.4						
WMQ	Urumqi	36.30	312	P	P	22 27 49.8	+0.6
WMQ				PP	PP	22 29 12.0	-0.1
WMQ				S	S	22 33 24.2	-3.3
WMQ				SCP	ScP	22 33 59.5	+2.3
WMQ				SCS	ScS	22 38 03.8	+0.5
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,273nm,17.0s,MS4.2						
WMQ				LR	LR		
	comp=E,301nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,319nm,17.0s,MS4.2						
GKN	Gorkha	36.52	285	eP	P	22 27 51.5	+0.3
	comp=Z,37nm,0.8s,mb5.3						
KAKA	Kakadu	37.45	168	eP	P	22 27 58.1	-1.0
	comp=Z,14nm,1.2s,mb4.7						
KAKA	Kakadu	37.45	168	eP	P	22 28 04.7	+5.6
	comp=Z,9.5nm,0.7s,mb4.7						
KOLN	Koldanda	37.45	284	eP	P	22 27 59.8	+0.7
	comp=Z,34nm,0.8s,mb5.2						
YAK	Yakutsk	37.83	3⇓	eP	P	22 27 59.2	-3.1
YAK				pmax	pmax		
	comp=Z,35nm,2.5s,mb4.7						
YAK	Yakutsk	37.83	3	eP	P	22 27 59.9	-2.4
	comp=Z,7.6nm,0.6s,mb4.6						
PET	Petropavlovsk	38.16	33	eP	P	22 28 04.8	-0.2
PET				e*PP	pP	22 28 15.0	-0.4
PET				eS	S	22 33 50.2	-5.7
PET				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.1						
PET				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.1						
PMG	Port Moresby	39.75	145	eP	P	22 28 20.0	+1.6
PMG				pmax	pmax		
	comp=Z,30nm,1.3s						
PMG	Port Moresby	39.75	145	eP	P	22 28 20.0	+1.6
	comp=Z,30nm,1.3s,mb4.9						
MK31	Makanchi Array	40.87	314	i P	P	22 28 26.6	-1.0
MK31				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
MK31	Makanchi Array	40.87	314	eP	P	22 28 26.7	-0.9
MKAR	Makanchi Array	40.87	314	P	P	22 28 27.0	-0.6
	comp=Z,11nm,0.5s,mb4.7,baz=100,slow=9.9,SNR=250						
MKAR				LR	LR	22 46 46.8	
	comp=Z,448nm,19.9s,MS4.3,baz=112,slow=38						
MKAR	Makanchi Array	40.87	314	P	P	22 28 27.0	-0.6
MKAR				LR	LR	22 46 46.8	
FITZ	Fitzroy Crossi	42.15	179	eP	P	22 28 37.5	-0.6
	comp=Z,6.7nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	42.15	179	eP	P	22 28 43.8	+5.7
	comp=Z,21nm,0.8s,mb4.8						
ZAL	Zalesovo	42.22	325	P	P	22 28 37.3	-1.4
	comp=Z,4.0nm,0.6s,mb4.2,baz=358,slow=7.7,SNR=22						
ZAL				LR	LR	22 48 09.6	
	comp=Z,761nm,18.4s,MS4.6,baz=343,slow=39						
NVS	Novosibirsk	43.45	326	eP	P	22 28 44.2	-4.4
NVS				pmax	pmax		
	comp=Z,40nm,2.4s,mb4.7						
NVS				pmax	pmax		
	comp=N,11nm,1.8s						
NVS				pmax	pmax		
	comp=E,14nm,1.8s						
ULHL	Ulahol	44.06	306	P	P	22 28 55.0	+1.5
	SNR=6.7						
KURK	Kurchatov	44.42	319	P	P	22 28 55.3	-1.1
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
KURK	Kurchatov	44.42	319	eP	P	22 28 54.5	-1.9
	comp=Z,28nm,1.0s,mb5.0						
TKM2	Tokmak 2	44.63	307	P	P	22 28 59.6	+1.5
	SNR=12						
KZA	Kyzart	44.77	306	P	P	22 29 01.2	+2.0
	SNR=6.1						
WRAB	Tennant Creek	44.85	168	deP	P	22 29 06.4	+6.5
WRA	Warramunga Arr	44.86	168	P	P	22 28 59.7	-0.3
	comp=Z,5.6nm,0.6s,mb4.6,baz=349,slow=8.6,SNR=22						
WRA				LR	LR	22 46 54.4	
	comp=Z,153nm,19.9s,MS3.9,baz=355,slow=35						
WB2	Warramunga Arr	44.86	168	eP	P	22 28 59.6	-0.4
KBK	Karagaybulak	45.07	307	P	P	22 29 03.0	+1.4
	SNR=7.4						
CHMS	Chumysh	45.26	307	P	P	22 29 04.0	+0.9
	SNR=8.7						
FRU	Bishkek	45.33	307	eP	P	22 29 04.0	+0.3
FRU				e	pP	22 29 12.0	-2.2
FRU				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.5						
UCH	Uchtor	45.34	306	P	P	22 29 06.0	+2.3
	SNR=28						
AAK	Ala-Archa	45.40	307	eP	P	22 29 04.3	+0.1
USP	Ospenovka	45.48	307	P	P	22 29 04.4	-0.4
	SNR=5.1						
AML	Almayashu	45.93	306	P	P	22 29 10.2	+1.8
	SNR=12						
TIXI	Tiksi	47.42	2	eP	P	22 29 15.4	-4.6
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,519nm,17.0s,MS4.6						
POO	Poona	47.98	274	ex	x	22 29 21.0	
KK31	Karatay Array	48.36	307	i P	P	22 29 27.7	+0.4
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
KKAR	Karatay Array	48.36	307	i P	P	22 29 27.7	+0.4
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ASAR	Alice Springs	48.42	169	P	P	22 29 28.0	+0.2
	comp=Z,3.4nm,0.7s,mb4.5,baz=353,slow=8.4,SNR=38						
CTA	Charters Tower	48.64	153	eP	pP	22 29 37.4	-2.6
	comp=Z,4.6nm,1.0s						
CTA	Charters Tower	48.64	153	eP	pP	22 29 37.4	-2.6
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTAO	Charters Tower	48.64	153	eP	pP	22 29 37.4	-2.6
CTAO				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
CTAO	Charters Tower	48.64	153	eP	pP	22 29 37.4	-2.6
	comp=Z,12nm,1.2s						
BVA0	Borovoye Array	49.95	320	i P	P	22 29 38.4	-1.1
BRVK	Borovoye	50.02	320	eP	P	22 29 39.2	-0.9
BRVK				e*PP	pP	22 29 49.0	-1.7
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
BRVK	Borovoye	50.02	320	eP	P	22 29 39.2	-0.9
	comp=Z,5.9nm,0.6s,mb4.8						
BRVK				epP	pP	22 29 49.0	-1.6
BILL	Bilibino	50.34	19⇑	eP	P	22 29 41.2	-1.3
BILL				pmax	pmax		
	comp=Z,26nm,2.0s,mb4.9						
BILL				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.3						
BILL	Bilibino	50.34	19	eP	P	22 29 42.2	-0.3
FORT	Forrest	54.84	177	eP	P	22 30 23.1	+7.4
	comp=Z,9.5nm,1.1s,mb4.7						
AB31	Akbulak array	56.02	314	eP	P	22 30 24.2	0.0
AB31				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0						
SVE	Sverdlovsk	56.16	323	eP	P	22 30 25.0	-0.2
SVE				MLR	MLR		
	comp=E,800nm,18.0s						
SVE				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.1						
ARU	Arti	57.25	323⇑	iP	P	22 30 32.0	-1.0
ARU				e		22 31 25.3	
ARU				e		22 32 36.0	
ARU				eS	S	22 38 24.5	-1.9
ARU				eSSS		22 44 31.3	
ARU				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
ARU				MLR	MLR		
	comp=E,300nm,20.0s,MS4.5						
ARU				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,100nm,17.0s,MS4.5						
ARU	Arti	57.25	323	eP	P	22 30 32.1	-0.9
	comp=N,25nm,0.9s,mb5.2						
ARU				epP	pP	22 30 41.6	-2.1
STKA	Stephens Creek	58.01	164	eP	P	22 30 39.2	+0.9
	comp=N,2.2nm,0.8s,mb4.2						
STKA	Stephens Creek	58.01	164	eP	P	22 30 45.4	+7.1
	comp=N,5.6nm,0.6s,mb4.8						
STKA	Stephens Creek	58.01	164	P	P	22 30 38.8	+0.4
	comp=N,2.6nm,0.7s,mb4.3,baz=325,slow=2.6,SNR=5.1						
STKA				LR	LR	22 57 33.5	
	comp=N,139nm,19.6s,MS4.1,baz=26,slow=38						
ORR	Orenburg	59.34	317	eP	P	22 30 47.4	-0.2
ORR				e	pP	22 30 57.8	-0.6
ORR				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.6						
IMA2	Indian Mountai	64.44	27	eP	P	22 31 24.3	+2.5
MCK	McKinley	66.66	29	eP	P	22 31 37.0	+0.8
COLA	College	66.97	28	i P	P	22 31 37.2	-1.0
KLMR	Klimovskoe	67.04	328	eP	P	22 31 38.0	-0.6
VRHR	Novokhopersk	67.57	317	eP	P	22 31 40.9	-1.1
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KIV	Kislovodsk	68.38	310⇑	eP	P	22 31 47.3	+0.2
KIV				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
KIV				MLR	MLR		
	comp=Z,200nm,23.0s,MS4.3						
KIV	Kislovodsk	68.38	310	eP	P	22 31 47.4	+0.4
OBN	Obninsk	69.69	322⇓	eP	P	22 31 53.9	-1.3
OBN				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,300nm,23.0s,MS4.5						
KEV	Kevo	70.23	339	ep	P	22 31 57.4	-1.1
DAWY	Dawson	70.72	28	eP	P	22 32 02.8	+1.2
ARCES	ARCESS Array B	70.80	338	P	P	22 32 01.2	-0.8
	comp=Z,5.2nm,0.9s,mb4.5,baz=73,slow=7.2,SNR=15						
ARCES				LR	LR	23 08 07.3	
	comp=Z,312nm,21.8s,MS4.5,baz=74,slow=40						
ARCES	ARCESS Array B	70.80	338	P	P	22 32 01.2	-0.8
ARCES				LR	LR	23 08 07.3	
INK	Inuvik	71.71	23	eP	P	22 32 08.4	+0.9
	comp=Z,175nm,0.8s						
INK				epP	pP	22 32 19.4	+0.9
ANN	Anapa	71.81	312	eP	P	22 32 06.6	-1.5
ANN				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
KAF	Kangasniemi	72.87	331	ep	P	22 32 13.1	-1.3
	comp=Z,7.0nm,0.6s,mb4.8,baz=70,slow=5.6						
KAF	Kangasniemi	72.87	331	eP	P	22 32 13.1	-1.3
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
MALT	Malatya	72.99	305	eP	P	22 32 16.0	+0.9
MALT				e*PP	pP	22 32 26.0	-0.2
MALT				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
MALT	Malatya	72.99	305	eP	P	22 32 16.0	+0.9
	comp=Z,13nm,1.1s,mb4.8						
MALT				epP	pP	22 32 26.0	-0.1
FINES	FINESS Array B	73.20	330	P	P	22 32 16.1	-0.3
	comp=Z,9.5nm,0.6s,mb4.9,baz=68,slow=6.6,SNR=66						
FINES				LR	LR	23 08 03.1	
	comp=Z,471nm,19.3s,MS4.8,baz=154,slow=39						
SIM	Simferopol’	74.02	312	P	pP	22 32 30.5	-1.7
SIM				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
AKASG	Malin Array Be	75.23	319	P	P	22 32 27.7	-0.5
	comp=Z,2.9nm,0.6s,mb4.4,baz=59,slow=6.6,SNR=18						
AKBB	Malin Array Si	75.23	319	eP	P	22 32 27.8	-0.4
KIEV	Kiev	75.24	319	eP	P	22 32 27.9	-0.3
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KIEV	Kiev	75.24	319	eP	P	22 32 27.9	-0.3
	comp=Z,4.4nm,0.6s,mb4.6						
BR131	Keskin Array S	76.07	307	eP	P	22 32 33.2	+0.2
	comp=Z,6.2nm,0.9s,mb4.5						
BRTR	Keskin Array B	76.07	307	P	P	22 32 32.7	-0.3
	comp=Z,2.6nm,0.9s,mb4.2,baz=86,slow=5.1,SNR=12						
SUW	Suwalki	77.42	324	eP	P	22 32 41.6	+1.0
SUW				e	pP	22 32 50.9	-0.8
KWP	Kalwaria	79.51	320	eP	P	22 32 52.9	+0.8
KWP				e	pP	22 33 03.8	+0.6
NB2	NORSAR Subarra	79.82	333	P	P	22 32 53.6	-0.2
	comp=Z,4.1nm,0.8s,mb4.4,baz=57,slow=5.6						
NOA	NORSAR Array B	79.82	333	P	P	22 32 53.1	-0.7
	comp=Z,6.3nm,0.9s,mb4.6,baz=56,slow=5.5,SNR=13						
NOA				LR	LR	23 11 52.3	
	comp=Z,198nm,19.2s,MS4.5,baz=45,slow=38						
STHS	Stebnicka Huta	80.46	320	eP	P	22 32 56.1	-1.2
STHS				epP	pP	22 33 08.1	-0.3
OJC	Ojcow	80.94	321	eP	P	22 32 59.7	-0.1
OJC				e	pP	22 33 10.9	-0.1
OJC	Ojcow	80.94	321	eP	P	22 32 59.7	-0.1
OJC				e	pP	22 33 10.9	-0.1
NIE	Niedzica	81.00	320	eP	P	22 33 02.0	+1.8
NIE				e	pP	22 33 11.8	+0.5
NIE	Niedzica	81.00	320	eP	P	22 33 02.0	+1.8
NIE				e	pP	22 33 11.8	+0.5
KECS	Kecovo	81.32	319	eP	P	22 32 59.2	-2.7
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KECS	Kecovo	81.32	319	eP	P	22 32 59.2	-2.7
	comp=Z,2.3nm,0.9s,mb4.1						
YKW3	Yellowknife Ar	81.34	24	eP	P	22 33 01.9	0.0
YKW3				epP	pP	22 33 14.6	+1.5
YKA	Yellowknife Ar	81.39	24	P	P	22 33 01.7	-0.5
	comp=Z,1.9nm,0.6s,mb4.2,baz=305,slow=5.2,SNR=23						
YKA				LR	LR	23 09 28.1	
	comp=Z,93nm,19.9s,MS4.1,baz=250,slow=36						
YKA	Yellowknife Ar	81.39	24⇑	iP	P	22 33 02.2	0.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VYHS	Vyhne	82.29	320	eP	P	22 33 09.0	+2.0
VYHS				e	pP	22 33 17.1	-1.1
VYHS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
VYHS	Vyhne	82.29	320	eP	P	22 33 09.0	+2.0
	comp=Z,5.5nm,0.9s,mb4.5						
VYHS				e	pP	22 33 17.1	-1.1
MORC	Moravsky Berou	82.43	321	eP	P	22 33 09.4	+1.7
SMOL	Smolenice	83.11	320	eP	P	22 33 09.2	-2.0
SMOL				epP	pP	22 33 22.4	0.0
BRG	Berggiesshubel	83.88	324	eP	P	22 33 16.7	+1.5
	comp=Z,6.3nm,1.3s,mb4.6						
BRG	Berggiesshubel	83.88	324	eP	P	22 33 16.7	+1.5
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6						
CLL	Collm	84.16	324	epP	pP	22 33 28.0	+0.2
CLL				ePP	PP	22 36 33.0	+1.9
GERES	GERESS Array B	85.07	322	P	P	22 33 21.2	0.0
	comp=Z,1.5nm,0.7s,mb4.2,baz=54,slow=5.3,SNR=15						
GERES				LR	LR	23 14 10.2	
	comp=Z,309nm,20.4s,MS4.7,baz=211,slow=38						
EDM	Edmonton	87.64	31	eP	P	22 33 33.9	+0.1
KMBO	Kilima Mbogo	88.63	268	P	P	22 33 40.4	+1.9
	comp=Z,0.6nm,0.3s,mb4.4,baz=53,slow=5.1,SNR=3.6						
KMBO				LR	LR	23 15 17.0	
	comp=Z,52nm,18.9s,MS4.0,baz=96,slow=37						
KMBO	Kilima Mbogo	88.63	268⇑	eP	P	22 33 41.2	+2.7
LPL	La Plagne	90.87	322	eP	P	22 33 49.1	+0.1
	comp=Z,23nm,1.1s,mb5.1						
LPL	La Plagne	90.87	322	eP	P	22 33 49.1	+0.1
LPL				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.1						
LPL	La Plagne	90.87	322	eP	P	22 33 49.1	+0.1
	comp=Z,11nm,1.1s,mb5.1						
LPG	La Plagne	90.87	322	eP	P	22 33 49.2	+0.2
	comp=Z,14nm,0.9s,mb5.0						
LPG	La Plagne	90.87	322	eP	P	22 33 49.2	+0.2
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.0						
LPG	La Plagne	90.87	322	eP	P	22 33 49.2	+0.2
	comp=Z,6.9nm,0.9s,mb5.0						
PPT	Papeete	92.84	108	LR	LR	23 08 19.8	
	comp=Z,115nm,19.2s,MS4.3,baz=280,slow=31						
NVAR	Mina Array Bea	93.77	45	P	P	22 34 02.4	0.0
	comp=Z,0.8nm,0.6s,mb4.3,baz=300,slow=5.7,SNR=4.9						
NVAR	Mina Array Bea	93.77	45	P	P	22 34 02.4	0.0
ULM	Lac du Bonnet	97.32	25	LR	LR	23 24 39.6	
	comp=Z,111nm,18.7s,MS4.4,baz=342,slow=39						
SDV	Santo Domingo	143.55	27	ePKPdf	PKPdf	22 40 18.7	-1.3
OTAV	Otavalo	146.49	47	eP	PKPdf	22 40 27.6	+2.5

*NIED **02** 22:54:00, 47.20N×153.20E, h68km, Mw4.4 Best double couple: $M_0$3.84000×10^{15} NP1:ϕ_s88.00000°, δ65.00000°, λ104.00000°. NP2:ϕ_s239.00000°, δ28.00000°, λ63.00000°.*

*JMA **02** 22:54:08.9±0.8, 47.15N×153.18E, h30km, M4.4*

*MOS **02** 22:54:10.2±2.5, 46.76N×153.24E, h39km, mb4.3/4, Error ellipse: s-maj=24.6km s-min=12.6km az=52.3*

*ISCJB **02** 22:54:13.8±1.2, 46.6N±0.1×152.9E±0.2, h88km±13km, mb3.8/7, Error ellipse: s-maj=27.2km s-min=5.9km az=95.0*

*IDC **02** 22:54:15.9±4.8, 47.10N×152.98E, h75km±47km, mb3.5/7, mb1 3.9/9, mb1mx3.5/24, mbtmp3.6/9, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/37, Error ellipse: s-maj=33.8km s-min=27.4km az=140.0*

ISC 02 22:54:15.2±1.1**, 46.7N**±0.1×**152.9E**±0.2**, h80**km±11km**, n36, σ1.58**/43**, mb3.8**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril’sk	3.81	249	ePN	Pn	22 55 09.0	-2.6
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
SKR	Severo-Kuril’s	4.51	27	ePN	Pn	22 55 16.5	-4.5
SKR				eS	Sn	22 56 14.5	+2.3
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,140nm,0.5s						
SKR				smax			
	comp=E,120nm,0.8s						
YUK	Yuzh-Kuril’sk	5.64	244	ePN	Pn	22 55 37.0	+0.5
YUK				eS	Sn	22 56 46.8	+6.9
YUK				smax			
	comp=N,310nm,0.6s						
YUK				smax			
	comp=E,400nm,0.8s						
NEM2	Nemuro 2	6.08	239	P	Pn	22 55 40.7	-1.8
NEM2				eS	Sn	22 56 48.6	-2.0
JRA	Rausu	6.15	246	P	Pn	22 55 44.9	+1.4
JNK	Nakash	6.58	245	P	Pn	22 55 49.7	+0.4
JNK				eS	Sn	22 57 04.2	+1.3
JTKR	Abashiri--Toko	6.91	250	P	Pn	22 55 55.0	+1.2
JAK	Akkeshi	6.92	241	P	Pn	22 55 52.5	-1.4
JAK				eS	Sn	22 57 09.4	-1.7
YSS	Yuzh-Sakhalins	6.97	276	ePN	Pn	22 55 56.8	+2.1
JMP	Maruseppu	7.25	252	P	Pn	22 56 00.0	+1.5
JAR	Ashorobuto	7.32	246	P	Pn	22 55 59.8	+0.4
JAR				eS	Sn	22 57 23.6	+2.6
PET	Petropavlovsk	7.33	28	ePN	Pn	22 56 01.7	+2.2
PET				eS	Sn	22 57 19.2	-1.9
PET				pmax	pmax		
	comp=Z,33nm,1.7s						
PET				smax			
	comp=E,51nm,0.8s						
JOB	Onbets	7.49	243	P	Pn	22 56 01.2	-0.6
JOB				eS	Sn	22 57 24.5	-0.7
ASAJ	Asahikawa	7.71	254	P	Pn	22 56 07.5	+2.8
	comp=E,0.9nm,0.3s,baz=58,slow=16,SNR=5.5						
ASAJ	Asahikawa	7.71	254	P	Pn	22 56 07.2	+2.5
ASAJ	Asahikawa	7.71	254	PN	Pn	22 56 07.5	+2.8

ASAJ pmax pmax
comp=Z,1.0nm,0.3s
JKK2 Kamakawa 2 7.71 252 P **Pn 22 56 06.6 +1.9**
JCH Churui 7.94 242 P **Pn 22 56 06.8 -1.1**
JCH *e*S **Sn 22 57 33.7 -2.4**
JBT2 Biratori 2 8.47 246 P **Pn 22 56 15.1 0.0**
JNBK Urakawa-nobuka 8.50 242 P **Pn 22 56 14.0 -1.6**
JNBK *e*S **Sn 22 57 45.4 -4.5**
MJAR Matsushiro Arr 14.95 232 P **Pn 22 57 47.6 +5.5**
comp=Z,0.3nm,0.3s,baz=32,slow=8.7,SNR=11
KSRS Korea Array 20.65 252 LR LR 23 07 14.6
comp=Z,23nm,18.2s,baz=350,slow=37
MKAR Makanchi Array 46.84 297 LR LR 23 25 07.5
comp=Z,36nm,20.2s,baz=350,slow=40
YKA Yellowknife Ar 51.04 37 P **P 23 03 05.7 -3.5**
comp=Z,1.4nm,0.7s,mb4.1,baz=300,slow=7.3,SNR=10
YKA Yellowknife Ar 51.04 37 P **P 23 03 05.7 -3.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 62.58 62 P **P 23 04 31.6 +0.8**
comp=Z,0.7nm,0.6s,mb3.8,baz=307,slow=6.2,SNR=4.1
PSI Prapat 63.94 244 LR LR 23 32 40.6
comp=Z,28nm,21.4s,baz=15,slow=36
FINES FINESS Array B 64.02 335 P **P 23 04 38.8 -1.6**
comp=Z,2.6nm,0.9s,mb4.0,baz=200,slow=16,SNR=4.6
FINES FINESS Array B 64.02 335 P **P 23 04 38.8 -1.6**
FINES pmax pmax
comp=Z,3.0nm,1.0s
PDAR Pinedale Array 64.88 54 P **P 23 04 45.9 -0.1**
comp=Z,1.4nm,0.8s,mb3.8,baz=314,slow=1.6,SNR=12
NB2 NORSAR Subarra 68.22 341 P **P 23 05 06.6 -0.7**
comp=Z,1.0nm,0.6s,mb3.8,baz=27,slow=6.5
NOA NORSAR Array B 68.22 341 P **P 23 05 06.4 -0.9**
comp=Z,1.5nm,0.7s,mb4.0,baz=27,slow=6.3,SNR=4.7
NOA NORSAR Array B 68.22 341 P **P 23 05 06.4 -0.9**
NOA pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 72.12 198 P **P 23 05 33.7 +2.6**
comp=Z,0.2nm,0.7s,mb3.0,baz=11,slow=5.7,SNR=2.4
TXAR Lajitas Array 77.63 60 P **P 23 06 03.3 +0.4**
comp=Z,0.8nm,0.6s,mb3.7,baz=301,slow=4.2,SNR=14
TXAR Lajitas Array 77.63 60 P **P 23 06 03.3 +0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.6s

ISCJB ***02*** *23:14:31.3±1.2,44.4N±03×1480E±02,h169km±13km, mb3.2/4, Error ellipse: s-maj=51.0km s-min=15.1km az=125.0*
JMA ***02*** *23:14:31.3±0.5,44.28N×148.40E,h121km,M3.6*
IDC ***02*** *23:14:41.0±3.2,45.17N×148.01E,h216km±45km,mb3.0/4, mb1 3.2/5,mb1mx2.9/22,mbtmp3.0/5,Error ellipse: s-maj=90.1km s-min=28.7km az=179.0*
ISC 02 23:14:32.2±1.3,445N±03×1480E±02,h162km±15km,n13, σ0:97/16,mb3.2/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.98**	**237**	P	**Pn**	**23 15 06.8**	**-1.0**
NEM2				*e*S	**Sn**	**23 15 34.2**	**-1.0**
JRA	**Rausu**	**2.15**	**257**	P	**Pn**	**23 15 09.7**	**0.0**
JNK	**Nakash**	**2.54**	**251**	P	**Pn**	**23 15 14.8**	**+0.5**
JAK	**Akkeshi**	**2.82**	**240**	P	**Pn**	**23 15 17.8**	**0.0**
JAK				*e*S	**Sn**	**23 15 53.6**	**+0.5**
JAR	**Ashorobuto**	**3.29**	**251**	P	**Pn**	**23 15 25.2**	**+1.6**
JCH	**Churui**	**3.86**	**243**	P	**Pn**	**23 15 31.6**	**+0.7**
JCH				*e*S	**Sn**	**23 16 17.3**	**+0.7**
ASAJ	**Asahikawa**	**3.91**	**267**	P	**Pn**	**23 15 43.2**	**+12**
	0.8nm,0.3s,baz=143,slow=20,SNR=4.2						
JKB	**Kayabe**	**5.72**	**246**	*e*S	**Sn**	**23 16 59.8**	**-0.5**
JOT	**Ohata**	**5.97**	**241**	*e*S	**Sn**	**23 17 05.2**	**-1.1**
MKAR	**Makanchi Array**	**44.82**	**297**	P	**P**	**23 22 31.0**	**+1.2**
	0.5nm,0.7s,mb3.3,baz=75,slow=8.3,SNR=4.4						
YKA	**Yellowknife Ar**	**54.86**	**34**	P	**P**	**23 23 44.5**	**-1.1**
	0.2nm,0.5s,mb3.1,baz=301,slow=7.0,SNR=3.2						
FINES	**FINESS Array B**	**64.53**	**333**	P	**P**	**23 24 49.9**	**-1.7**
	1.0nm,0.6s,mb3.9,baz=55,slow=7.2,SNR=6.9						
TXAR	**Lajitas Array**	**81.73**	**57**	P	**P**	**23 26 33.6**	**+1.1**
	0.1nm,0.5s,mb2.7,baz=289,slow=4.2,SNR=4.3						

IDC 02 23:17:07.3±1.0,2197N×14320E,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.8/21,mbtmp3.7/7,ML3.6/1,Error ellipse: s-maj=38.0km s-min=20.9km az=87.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.19**	**350**	Pn	Pn	23 18 28.1	+1.9
	4.4nm,0.3s,baz=268,slow=17,SNR=4.0						
CBIJ				Sn	Sn	23 19 25.8	-1.1
	2.8nm,0.3s,baz=268,slow=21,SNR=2.9						
KSRS	**Korea Array**	**20.31**	**323**	P	P	23 21 48.3	+3.5
	2.0nm,0.7s,baz=143,slow=7.5,SNR=5.2						
SONM	**Songino Array**	**39.15**	**320**	P	P	23 24 36.7	+0.1
	0.4nm,0.4s,baz=129,slow=4.9,SNR=3.6						
WRA	**Warramunga Arr**	**42.54**	**192**	P	P	23 25 06.1	+1.5
	0.7nm,0.7s,baz=13,slow=9.0,SNR=3.1						
ASAR	**Alice Springs**	**46.25**	**192**	P	P	23 25 33.4	-0.9
	0.3nm,0.7s,baz=17,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**54.53**	**313**	P	P	23 26 37.0	0.0
	0.4nm,0.6s,baz=100,slow=7.6,SNR=4.9						
YKA	**Yellowknife Ar**	**76.21**	**28**	P	P	23 28 57.0	-0.5
	0.5nm,0.6s,baz=291,slow=6.0,SNR=6.6						
NVAR	**Mina Array Bea**	**82.96**	**52**	P	P	23 29 35.2	+0.9
	0.5nm,0.7s,baz=287,slow=6.2,SNR=2.4						
LPAZ	**La Paz**	**149.90**	**85**	PKPbc	PKPbc	23 37 00.8	+1.3
	0.6nm,0.6s,baz=342,slow=2.7,SNR=3.6						

NIED ***02*** *23:36:00,46.50N×154.00E,h11km,Mw4.9 Best double couple: M0:2.51000×10^16 NP1:φs:206.00000°,δ64.00000°, λ-109.00000°. NP2:φs:64.00000°,δ31.00000°, λ-56.00000°.*
IDC ***02*** *23:36:12.2±0.5,46.09N×154.63E,h0km,mb4.6/25, mb1 4.8/26,mb1mx4.7/29,mbtmp4.6/26,ML4.6/1,MS4.1/14, Ms1 4.1/14,ms1mx3.8/31,Error ellipse: s-maj=15.9km s-min=12.9km az=154.0*
ISCJB ***02*** *23:36:13.1±0.1,45.93N±004×154.49E±002,h16km, mb5.0/136,MS4.2/31,Error ellipse: s-maj=5.2km s-min=2.0km az=152.7*
SKHL ***02*** *23:36:13.5±2.1,46.10N×154.70E,h54km±19km,mb5.1/4, mbh5.1/1,mbv5.1/1,ms4.7/5,msh5.2/3*
GCMT ***02*** *23:36:14.3±0.4,46.17N×154.63E,h17km±1km,MW4.9/64, Moment Tensor Solution. s25,c35; s64,c106; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.74±.17; Mθθ1.29±.11; Mφφ1.45±.11; Mrθ0.19±.30; Mφφ1.80±.07; Mφr0.39±.28; Best double couple: M0:2.98900×10^16 NP1:φs:47.00000°,δ41.00000°,λ-85.00000°. NP2: φs:221.00000°,δ49.00000°,λ-94.00000°. Principal axes: T 3.2010, Plg4.0000°, Azm314.0000°; N -0.4240, Plg3.0000°, Azm223.0000°; P -2.7770, Plg85.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *23:36:14.3±0.2,46.08N×154.48E,h10km,mb5.1/57 Error ellipse: s-maj=6.8km s-min=4.0km az=166.0*
BJI ***02*** *23:36:15.8,46.36N×154.05E,h10km,mB5.1,mb4.8,Ms4.5, Msz4.2*
MOS ***02*** *23:36:17.9±0.9,46.08N×154.46E,h48km,mb5.2/68, MS4.2/14,Error ellipse: s-maj=8.9km s-min=5.0km az=111.3*
JMA ***02*** *23:36:17.6±1.0,46.55N×153.99E,h30km,M5.1*
BGS ***02*** *23:36:20.8,46.08N×154.48E,h10km,mb5.3*
SZGRF ***02*** *23:36:21.7,46.53N×153.11E,h23km,mb5.2,Kuril Islands, Russia*
ISC 02 23:36:15.5±0.1,4609N±003×15441E±002,h17km, h17km±1.4km:pP-P,n536,σ0:97/558,mb5.0/136,MS4.2/31, 81C-80D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.67**	**262**	⇑*i*P	**Pn**	**23 37 22.7**	**-2.4**
KUR				AMB	AMB	23 37 23.0	
	3μm,1.0s						
KUR				AMB	AMB	23 37 25.5	
	950nm,0.6s						
KUR				*e*S	**Sn**	**23 38 13.0**	**-5.9**
KUR				A		23 38 18.0	
	7μm,2.0s						
KUR				A		23 38 18.0	
	4μm,2.0s						
KUR				A		23 38 18.0	
	965nm,0.5s						
KUR				A		23 38 18.0	
	1μm,0.5s						
KUR				AMS	AMS	23 39 01.0	
	8μm,13.0s						
KUR				AMS	AMS	23 39 01.0	
	3μm,13.0s						
KUR				AMS	AMS	23 39 01.0	
	3μm,13.0s						
SKR	**Severo-Kuril's**	**4.74**	**13**	*e*P	**Pn**	**23 37 20.6**	**-5.5**
SKR				AMB	AMB	23 37 28.5	
	150nm,0.5s						
SKR				*e*S	**Sn**	**23 38 12.5**	**-8.0**
SKR				A		23 38 16.8	
	3μm,6.0s						
SKR				A		23 38 16.8	
	2μm,4.0s						
SKR				A		23 38 16.8	
	2μm,6.0s						
SKR				A		23 38 16.8	
	180nm,0.4s						
SKR				A		23 38 16.8	
	1μm,0.2s						
SKR				A		23 38 16.8	
	820nm,0.2s						
SKR				AMS	AMS	23 39 08.0	
	3μm,14.0s						
SKR				AMS	AMS	23 39 08.0	
	2μm,14.0s						
SKR				AMS	AMS	23 39 08.0	
	6μm,16.0s						
SKR				AMS	AMS	23 39 08.0	
	3μm,16.0s						
SKR				AMS	AMS	23 39 08.0	
	7μm,16.0s						
SKR				AMS	AMS	23 39 08.0	
	3μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**6.39**	**254**	*e*P	**Pn**	**23 37 50.0**	**+1.1**
YUK				*e*S	**Sn**	**23 38 58.7**	**-2.7**
YUK				A		23 39 04.8	
	900nm,0.5s						
YUK				A		23 39 04.8	
	400nm,0.3s						
NEM2	**Nemuro 2**	**6.75**	**249**	P	**Pn**	**23 37 52.1**	**-1.6**
NEM2				*e*S	**Sn**	**23 39 02.0**	**-8.1**
JRA	**Rausu**	**6.93**	**255**	P	**Pn**	**23 37 56.6**	**+0.4**
JNK	**Nakash**	**7.33**	**253**	P	**Pn**	**23 38 01.7**	**0.0**
JNK				*e*S	**Sn**	**23 39 20.7**	**-3.8**
PET	**Petropavlovsk**	**7.47**	**20**	*e*PN	**Pn**	**23 37 59.0**	**-4.6**
PET				pmax	pmax		
	comp=Z,54nm,1.4s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
PET	**Petropavlovsk**	**7.47**	**20**	*e*Pn	**Pn**	**23 37 59.8**	**-3.8**
JAK	**Akkeshi**	**7.60**	**249**	P	**Pn**	**23 38 04.0**	**-1.4**
JTKR	**Abashiri--Toko**	**7.74**	**258**	P	**Pn**	**23 38 07.7**	**+0.4**
JAR	**Ashorobuto**	**8.08**	**254**	P	**Pn**	**23 38 12.0**	**0.0**
JAR				*e*S	**Sn**	**23 39 38.1**	**-4.8**
YSS	**Yuzh-Sakhalins**	**8.09**	**280**	⇑*e*PN	**Pn**	**23 38 14.8**	**+2.7**
YSS				pmax	pmax		
	comp=Z,130nm,1.2s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.09**	**280**	*e*Pn	**Pn**	**23 38 15.7**	**+3.6**
YSS	**Yuzh-Sakhalins**	**8.09**	**280**	⇓*e*P	**Pn**	**23 38 14.8**	**+2.7**
YSS				AMB	AMB	23 38 17.0	
	comp=E,130nm,1.2s						
YSS				*e*S	**Sn**	**23 39 41.2**	**-1.9**
YSS				*e*LQ		23 40 00.0	
YSS				AMS	AMS	23 42 43.0	
	comp=E,1μm,15.0s						
YSS				AMS	AMS	23 42 43.0	
	comp=E,1μm,14.0s						
JMP	**Maruseppu**	**8.10**	**259**	P	**Pn**	**23 38 13.4**	**+1.1**
JOB	**Onbets**	**8.20**	**251**	P	**Pn**	**23 38 13.0**	**-0.7**
JOB				*e*S	**Sn**	**23 39 37.7**	**-8.3**
JKK2	**Kamakawa 2**	**8.56**	**259**	P	**Pn**	**23 38 19.6**	**+1.0**
ASAJ	**Asahikawa**	**8.59**	**261**	Pn	**Pn**	**23 38 20.0**	**+1.0**
	comp=E,8.0nm,0.3s,baz=119,slow=9.6,SNR=20						
ASAJ	**Asahikawa**	**8.59**	**261**	P	**Pn**	**23 38 20.5**	**+1.5**
ASAJ	**Asahikawa**	**8.59**	**261**	PN	**Pn**	**23 38 20.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
JCH	**Churui**	**8.64**	**250**	P	**Pn**	**23 38 18.7**	**-1.0**
JCH				*e*S	**Sn**	**23 39 47.2**	**-10**
UGL	**Uglegorsk**	**8.86**	**294**	*e*rx	rx	23 39 25.0	
UGL				AMS	AMS	23 44 26.0	
	comp=Z,1μm,16.0s						
UGL				AMS	AMS	23 44 26.0	
	comp=Z,2μm,14.0s						
UGL				AMS	AMS	23 44 26.0	
	comp=Z,2μm,14.0s						
JAB	**Ashibetsu**	**9.04**	**258**	P	**Pn**	**23 38 28.4**	**+3.2**
ERM	**Erimo**	**9.07**	**247**	Pn	**Pn**	**23 38 26.5**	**+0.9**
	comp=Z,380nm,0.4s,SNR=11						
ERM	**Erimo**	**9.07**	**247**	*e*PN	**Pn**	**23 38 26.0**	**+0.4**
ERM				pmax	pmax		
	comp=Z,56nm,0.6s						
ERM	**Erimo**	**9.07**	**247**	*e*Pn	**Pn**	**23 38 26.0**	**+0.4**
	comp=Z,56nm,0.6s						
ERM				*e*Sn	**Sn**	**23 40 00.4**	**-6.8**
JEM	**Erimo**	**9.07**	**247**	P	**Pn**	**23 38 26.1**	**+0.6**
JEM				*e*S	**Sn**	**23 39 58.1**	**-9.1**
TYV	**Tymovskoe**	**9.15**	**306**	*e*P	**Pn**	**23 38 27.8**	**+1.1**
TYV				AMB	AMB	23 38 46.0	
	comp=Z,25nm,0.7s						
TYV				*e*S	**Sn**	**23 40 03.0**	**-6.2**
TYV				A		23 40 08.0	
	comp=Z,13nm,0.8s						
TYV				AMS	AMS	23 43 22.0	
	comp=Z,2μm,12.0s						
TYV				AMS	AMS	23 43 22.0	
	comp=Z,2μm,14.0s						
TYV				AMS	AMS	23 43 22.0	
	comp=Z,3μm,14.0s						
JNBK	**Urakawa-nobuka**	**9.20**	**250**	P	**Pn**	**23 38 26.6**	**-0.8**
JNBK				*e*S	**Sn**	**23 40 01.7**	**-8.7**
JBT2	**Biratori 2**	**9.23**	**253**	P	**Pn**	**23 38 27.1**	**-0.7**
OKH	**Okha**	**10.51**	**319**	*e*L		23 41 44.2	
OKH				AMS	AMS	23 43 55.8	
	comp=Z,2μm,13.0s						
OKH				AMS	AMS	23 43 55.8	
	comp=Z,3μm,14.0s						
OKH				AMS	AMS	23 43 55.8	
	comp=Z,3μm,12.0s						
JKB	**Kayabe**	**10.51**	**251**	P	**Pn**	**23 38 44.2**	**-1.2**
JKB				*e*S	**Sn**	**23 40 33.3**	**-9.4**
JYM2	**Yakumo 2**	**10.85**	**254**	P	**Pn**	**23 38 48.9**	**-1.0**
JANG	**Nango**	**11.00**	**243**	P	**Pn**	**23 38 48.7**	**-3.3**
JANG				*e*S	**Sn**	**23 40 40.0**	**-15**
JTH	**Tanohata**	**11.05**	**241**	P	**Pn**	**23 38 48.8**	**-3.9**
JTH				*e*S	**Sn**	**23 40 42.1**	**-14**
JTM	**Tenmabayashi**	**11.05**	**246**	P	**Pn**	**23 38 50.2**	**-2.5**
JOSM	**Okushiri--Mats**	**11.46**	**255**	P	**Pn**	**23 38 56.9**	**-1.4**
OFUJ	**Ofunato**	**11.71**	**238**	P	**Pn**	**23 38 58.8**	**-2.9**
JRG	**Rokugo**	**12.13**	**241**	P	**Pn**	**23 39 05.2**	**-2.3**
JIO	**Ouri**	**12.31**	**236**	P	**Pn**	**23 39 06.1**	**-3.8**
JIO				*e*S	**Sn**	**23 41 10.9**	**-16**
TEY	**Ternei**	**12.53**	**272**	*e*P	**Pn**	**23 39 12.0**	**-0.9**
HABR	**Khabarovsk**	**13.36**	**287**	*e*PN	**Pn**	**23 39 28.7**	**+4.5**
MA2	**Magadan**	**13.68**	**352**	*e*P	**Pn**	**23 39 27.3**	**-1.4**
MA2				pmax	pmax		
	comp=Z,27nm,0.7s						
MA2	**Magadan**	**13.68**	**352**	*e*Pn	**Pn**	**23 39 27.3**	**-1.4**
	comp=Z,27nm,0.7s						
JHK	**Hiroka**	**14.48**	**238**	P	**Pn**	**23 39 37.6**	**-2.0**
JAG	**Ashikaga**	**14.80**	**235**	P	**Pn**	**23 39 41.3**	**-2.6**
MAJO	**Matsushiro**	**15.44**	**238**	*e*P	**Pn**	**23 39 50.1**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,48nm,0.9s						
MAJO	**Matsushiro**	**15.44**	**238**	*e*P	**Pn**	**23 39 50.1**	**-2.3**
	comp=Z,48nm,0.9s						
MAT	**Matsushiro**	**15.44**	**238**	P	**Pn**	**23 39 50.3**	**-2.1**
MJAR	**Matsushiro Arr**	**15.44**	**238**	Pn	**Pn**	**23 39 50.4**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=18						
JNG	**Nsakai**	**15.60**	**237**	P	**Pn**	**23 39 53.5**	**-0.9**
SEY	**Seymchan**	**16.92**	**357**	⇓*i*P	**Pn**	**23 40 09.7**	**-1.7**
MDJ	**Mudanjiang**	**17.49**	**274**	P	**Pn**	**23 40 18.4**	**-0.1**
MDJ				AP	pP	23 40 21.5	-3.0
MDJ				S	**Sn**	**23 43 33.5**	**+0.7**
MDJ				PCS	PcS	23 48 36.8	+1.9
MDJ				AMB	AMB		
	comp=Z,68nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,137nm,4.9s						
MDJ				LR	LR		
	comp=N,341nm,14.8s						
MDJ				LR	LR		
	comp=E,413nm,15.2s						
MDJ				LR	LR		
	comp=Z,620nm,15.2s						
ZEA	**Zeya**	**19.00**	**304**	*e*P	**Pn**	**23 40 32.6**	**-4.4**
ZEA				AMB	AMB	23 40 34.7	
	comp=Z,37nm,1.4s						
ZEA				AMB	AMB	23 40 42.0	
	comp=Z,400nm,7.0s						
ZEA				AMB	AMB	23 40 42.0	
	comp=Z,500nm,8.0s						
ZEA				*e*S	**Sn**	**23 44 08.0**	**-1.4**
ZEA				A		23 44 18.0	
	comp=Z,400nm,13.0s						
CN2	**Changchun**	**20.58**	**274**	*e*P	**P**	**23 40 51.6**	**-1.9**
CN2				*e*XP	sP	23 40 58.6	-2.0
CN2				*e*S	**S**	**23 44 36.5**	**-6.4**
CN2				AMB	AMB		
	comp=Z,30nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,13.0s,MS4.3						
CN2				LR	LR		
	comp=E,500nm,13.0s,MS4.3						
CN2				LR	LR		
	comp=Z,600nm,14.0s,MS4.1						
CLNS	**Chul'man**	**21.13**	**311**	*e*P	**P**	**23 40 55.2**	**-4.2**
CLNS				*e*		23 41 15.6	
CLNS				*e*PPP		23 41 21.2	
CLNS				*e*S	**S**	**23 44 51.2**	**-2.6**
CLNS				*e*		23 45 03.8	
CLNS				*e*SS		23 45 30.4	
CLNS				pmax	pmax		
	comp=Z,39nm,0.9s,mb4.7						
CLNS				pmax	pmax		
	comp=N,21nm,1.1s						
CLNS				pmax	pmax		
	comp=E,18nm,0.8s						
CLNS				smax			
	comp=N,38nm,1.0s						
CLNS				smax			
	comp=Z,10.0nm,1.0s						
CLNS				smax			
	comp=E,17nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,200nm,12.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,2μm,11.0s,MS4.7						
NRGR	**Nerungri**	**21.16**	**311**	*e*P	**P**	**23 41 01.7**	**+1.9**
YAK	**Yakutsk**	**21.36**	**327**	*e*P	**P**	**23 41 01.0**	**-0.9**
YAK				*e*		23 41 18.1	
YAK				*e*S	**S**	**23 44 49.4**	**-9.0**
YAK				*i*		23 45 10.1	
YAK				*e*SS		23 45 11.1	
YAK				*e*		23 52 26.2	
YAK				pmax	pmax		
	comp=Z,59nm,1.2s,mb4.8						
YAK				pmax	pmax		
	comp=N,28nm,1.1s						
YAK				pmax	pmax		
	comp=E,30nm,1.1s						
YAK				smax			
	comp=N,278nm,2.2s						
YAK				smax			
	comp=E,278nm,2.5s						
YAK				MLR	MLR		
	comp=Z,646nm,14.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,550nm,13.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,316nm,13.0s,MS4.2						
YAK	**Yakutsk**	**21.36**	**327**	*e*P	**P**	**23 40 59.0**	**-2.9**
	comp=E,46nm,0.6s,mb5.0						
KSRS	**Korea Array**	**21.48**	**256**	P	**P**	**23 41 05.2**	**+2.1**
	comp=E,7.5nm,0.6s,mb4.2,baz=66,slow=10.0,SNR=18						
KSRS				LR	LR	23 48 59.0	
	comp=E,305nm,18.2s,MS3.7,baz=183,slow=35						
JNU	**Nakatsue**	**22.18**	**243**	LR	LR	23 48 25.2	
	comp=E,796nm,21.7s,MS4.1,baz=255,slow=33						
SNY	**Shenyang**	**22.52**	**270**	⇓P	**P**	**23 41 14.6**	**+0.3**
SNY				AP		23 41 18.2	
SNY				XP	sP	23 41 20.4	-1.1
SNY				PP		23 41 42.3	
SNY				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.7						
SNY				LR	LR		
	comp=E,484nm,14.0s						
SNY				LR	LR		
	comp=Z,623nm,14.3s,MS4.2						
BILL	**Bilibino**	**22.85**	**11**	⇓*e*P	**P**	**23 41 16.5**	**-1.2**
BILL				pmax	pmax		
	comp=Z,86nm,1.2s,mb5.1						
BILL				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.0						
BILL	**Bilibino**	**22.85**	**11**	*e*P	**P**	**23 41 16.1**	**-1.6**
	comp=Z,52nm,0.9s,mb5.0						
HIA	**Hailar**	**23.43**	**290**	*c i*P	**P**	**23 41 22.2**	**-1.7**
HIA	**Hailar**	**23.43**	**290**	*e*P	**P**	**23 41 22.3**	**-1.7**
	comp=Z,11nm,0.4s,mb4.7						
DL2	**Dalian**	**25.09**	**265**	⇑P	**P**	**23 41 43.6**	**+4.5**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
DL2				AMB	AMB		
	comp=Z,170nm,3.6s						
DL2				LR	LR		
	comp=N,170nm,14.2s,MS4.0						
DL2				LR	LR		
	comp=E,250nm,13.4s,MS4.0						
DL2				LR	LR		
	comp=Z,210nm,11.4s,MS3.9						
BOD	**Bodaibo**	**27.10**	**310**	*e*P	**P**	**23 41 55.5**	**-1.8**
BOD				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.7						
CIT	**Chita**	**27.15**	**298**	*e*P	**P**	**23 41 58.0**	**+0.3**
CIT				pmax	pmax		
	comp=Z,59nm,2.9s,mb4.6						
TIXI	**Tiksi**	**28.36**	**343**	*e*P	**P**	**23 42 05.5**	**-3.1**
TIXI				*e*S	**S**	**23 47 00.5**	**+6.0**
TIXI				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,394nm,16.0s,MS4.1						
TIXI	**Tiksi**	**28.36**	**343**	*e*P	**P**	**23 42 06.7**	**-1.9**
BJI	**Beijing**	**28.38**	**272**	P	**P**	**23 42 11.7**	**+2.9**
BJI				S	**S**	**23 46 58.2**	**+3.4**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
BJI				AMB	AMB		
	comp=Z,137nm,2.5s,mb5.1						
BJI				LR	LR		
	comp=N,600nm,14.1s,MS4.4						
BJI				LR	LR		
	comp=E,474nm,15.1s,MS4.4						
BJI				LR	LR		
	comp=Z,299nm,15.1s,MS4.0						
BJT	**Baijiatuau**	**28.39**	**272**	*e*P	**P**	**23 42 11.6**	**+2.7**
BJT				pmax	pmax		
	comp=Z,24nm,0.6s						
BJT	**Baijiatuau**	**28.39**	**272**	*e*P	**P**	**23 42 11.6**	**+2.7**
	comp=Z,24nm,0.6s,mb5.0						
SSE	**Sheshan**	**29.72**	**251**	P	**P**	**23 42 24.1**	**+3.4**
SSE				S	**S**	**23 47 17.4**	**+1.5**
SSE				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,151nm,4.3s						
SSE				LR	LR		
	comp=N,120nm,19.3s,MS3.8						
SSE				LR	LR		
	comp=E,161nm,19.4s,MS3.8						
SSE				LR	LR		
	comp=Z,126nm,22.0s,MS3.5						
HHC	**Hu-ho-hao-te**	**31.25**	**276**	*e*P	**P**	**23 42 36.1**	**+2.0**
HHC				XP	sP	23 42 43.4	+1.8
HHC				PP	PP	23 43 39.3	-5.4
HHC				S	**S**	**23 47 40.7**	**+0.9**
HHC				XS	sS	23 47 49.4	+0.9

HHC PCS PcS 23 49 12.3 -0.3
HHC AMB AMB
comp=Z,32nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,328nm,4.2s
HHC LR LR
comp=N,421nm,20.8s
HHC LR LR
comp=E,364nm,14.9s
HHC LR LR
comp=Z,316nm,13.7s
ULN Ulaanbaatar 31.97 291 *e*P **P 23 42 41.7 +1.2**
ULN pmax pmax
comp=Z,32nm,1.1s,mb5.1
ULN Ulaanbaatar 31.97 291 *e*P **P 23 42 41.7 +1.2**
comp=Z,32nm,1.1s,mb5.1
SVW2 Sparrevohn 32.33 44 *e*P **P 23 42 43.9 +0.2**
SONM Songino Array 32.40 291 P **P 23 42 44.1 -0.2**
comp=Z,3.0nm,0.6s,mb4.3,baz=80,slow=8.9,SNR=13
SONM PcP PcP 23 45 31.6 +0.1
comp=Z,2.3nm,0.8s,baz=133,slow=2.1,SNR=4.8
SONM LR LR 23 56 25.1
comp=Z,434nm,19.4s,MS4.2,baz=260,slow=37
SONM Songino Array 32.40 291 P **P 23 42 44.1 -0.2**
SONM 23 45 31.6
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM MLR MLR
comp=Z,434nm,19.4s
TLY Talaya 33.28 298 *e*P **P 23 42 53.5 +1.5**
TLY *e*SS SS 23 50 13.3 -22
TLY pmax pmax
comp=Z,24nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,570nm,14.0s,MS4.4
TLY Talaya 33.28 298 *e*P **P 23 42 54.0 +2.1**
ZAK Zakamensk 33.77 296 *e*P **P 23 42 55.4 -0.9**
ZAK pmax pmax
comp=Z,12nm,1.2s,mb4.7
IMA2 Indian Mountai 33.82 35 *e*P **P 23 42 48.7 -8.0**
KDAK Kodiak Island 33.83 50 P **P 23 42 55.3 -1.4**
comp=Z,30nm,0.9s,mb5.2,baz=306,slow=6.3,SNR=8.0
WHN Wuhan 34.65 258 P **P 23 43 04.0 +0.1**
PMR Palmer 35.46 43 *e*P **P 23 43 10.1 -0.7**
PMR pmax pmax
comp=Z,30nm,1.2s,mb5.1
PMR Palmer 35.46 43 *e*P **P 23 43 09.9 -0.9**
comp=Z,26nm,1.0s,mb5.1
MCK McKinley 35.58 40 *e*P **P 23 43 11.5 -0.4**
MCK pmax pmax
comp=Z,25nm,1.3s,mb5.0
MCK McKinley 35.58 40 *e*P **P 23 43 11.5 -0.4**
comp=Z,25nm,1.3s,mb5.0
SML Sawmill 35.83 43 *e*P **P 23 43 13.4 -0.7**
COLA College 36.10 38 *e*P **P 23 43 15.6 -0.8**
COLA pmax pmax
comp=Z,54nm,1.1s,mb5.4
COLA College 36.10 38 *e*P **P 23 43 15.6 -0.8**
comp=Z,54nm,1.1s,mb5.4
XAN Xi'an 36.37 267 P **P 23 43 19.5 +0.9**
XAN AP pP 23 43 25.1 +1.1
XAN AMB AMB
comp=Z,11nm,0.9s,mb4.8
LZH Lanzhou 38.82 274 ⇑P **P 23 43 41.8 +2.4**
LZH AP pP 23 43 45.1 +0.4
LZH XP sP 23 43 46.5 -0.4
LZH PP PP 23 45 15.2 +6.9
LZH *e*S **S 23 49 38.7 +2.5**
LZH XS sS 23 49 45.3 +0.3
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,167nm,5.2s
LZH LR LR
comp=N,1µm,13.5s
LZH LR LR
comp=Z,1µm,17.6s,MS4.9
EGAK Eagle 38.97 38 *e*P **P 23 43 39.1 -1.5**
comp=Z,51nm,1.1s,mb5.2
DAWY Dawson 39.79 39 *e*P **P 23 43 47.3 -0.2**
GTA Gaotai 39.97 281 P **P 23 43 51.2 +2.2**
GTA AP pP 23 43 55.4 +1.1
GTA XP sP 23 43 58.4 +1.9
GTA PP PP 23 45 29.2 +8.3
GTA PCP PcP 23 45 55.2 +1.1
GTA S **S 23 49 58.8 +5.3**
GTA XS sS 23 50 08.3 +5.9
GTA AMB AMB
comp=Z,17nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,289nm,4.2s
GTA LR LR
comp=N,357nm,13.3s,MS4.5
GTA LR LR
comp=E,231nm,12.5s,MS4.5
GTA LR LR
comp=Z,258nm,17.1s,MS4.1
CD2 Chengdu 41.73 267 *e*P **P 23 44 04.9 +1.4**
CD2 AP pP 23 44 14.5 +5.6
CD2 XP sP 23 44 18.7 +7.7
CD2 PP PP 23 45 45.0 +5.0
CD2 S **S 23 50 21.8 +2.0**
CD2 XS sS 23 50 36.5 +7.9
CD2 SS SS 23 53 21.4 -4.1
CD2 AMB AMB
comp=Z,50nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,120nm,6.2s
CD2 LR LR
comp=N,310nm,12.0s
CD2 LR LR
comp=E,520nm,18.0s
CD2 LR LR
comp=Z,230nm,14.4s,MS4.2
INK Inuvik 41.73 32 P **P 23 44 02.6 -0.9**
comp=Z,14nm,0.5s,mb4.8,baz=292,slow=6.1,SNR=139
INK Inuvik 41.73 32 *e*P **P 23 44 03.3 -0.2**
comp=Z,580nm,0.7s
GYA Guiyang 42.46 259 ⇑*i*P **P 23 44 10.6 +1.1**
GYA AP pP 23 44 14.8 -0.1
GYA XP sP 23 44 17.6 +0.6
GYA PP PP 23 45 56.2 +8.3
GYA PCP PcP 23 46 07.6 +5.4
GYA SCP ScP 23 49 57.3 +5.2
GYA S **S 23 50 37.3 +6.7**
GYA SCS ScS 23 54 14.3 +3.8
GYA AMB AMB
comp=Z,30nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,360nm,5.1s
GYA LR LR
comp=N,540nm,16.4s,MS4.7
GYA LR LR
comp=E,640nm,15.8s,MS4.7
GYA LR LR
comp=Z,630nm,15.4s,MS4.6
ZAL Zalesovo 43.74 307 P **P 23 44 19.0 -0.8**
comp=Z,5.2nm,0.4s,mb4.6,baz=39,slow=6.7,SNR=18
ZAL PcP PcP 23 46 05.7 -0.8
comp=Z,4.3nm,0.8s,baz=53,slow=5.3,SNR=11
ZAL ScP ScP 23 49 58.6 +1.3
comp=Z,0.7nm,0.7s,baz=169,slow=22,SNR=5.8
ZAL LR LR 00 04 16.6
comp=Z,504nm,18.9s,MS4.5,baz=40,slow=38
ZAL Zalesovo 43.74 307 P **P 23 44 19.0 -0.8**
ZAL PcP PcP 23 46 05.7 -0.8
ZAL ScP ScP 23 49 58.6 +1.3
ZAL LR LR 00 04 16.6
NVS Novosibirsk 44.30 308 *e*P **P 23 44 23.4 -0.9**
NVS *e* 23 46 07.4
NVS *e*S **S 23 50 52.8 -4.7**
NVS pmax pmax
comp=N,40nm,2.4s
NVS pmax pmax
comp=Z,64nm,2.4s,mb4.9
NVS pmax pmax
comp=E,49nm,2.3s
NVS smax
comp=N,27nm,2.1s
QIZ Qiongzhong 45.43 249 *e*P **P 23 44 36.2 +2.9**
QIZ AMB AMB
comp=Z,24nm,1.4s,mb4.8
QIZ LR LR
comp=N,84nm,18.1s,MS3.9
QIZ LR LR
comp=E,86nm,19.3s,MS3.9
WMQ Urumqi 46.01 292 P **P 23 44 41.3 +3.4**
WMQ PCP PcP 23 46 15.0 +0.7
WMQ PP PP 23 46 28.6 +2.8
WMQ S **S 23 51 24.0 +1.8**
WMQ XS sS 23 51 31.3 +0.2
WMQ SS SS 23 54 39.4 -7.7
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,97nm,5.0s
WMQ LR LR
comp=N,439nm,19.0s,MS4.4
WMQ LR LR
comp=E,86nm,19.0s,MS4.4
WMQ LR LR
comp=Z,264nm,16.0s,MS4.3
KMI Kunming 46.02 261 P **P 23 44 44.6 +6.7**
KMI S **S 23 51 27.1 +4.8**
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
MK31 Makanchi Array 48.04 298 *e*P **P 23 44 54.1 +0.3**
MKAR Makanchi Array 48.04 298 P **P 23 44 54.3 +0.5**
comp=Z,8.8nm,0.7s,mb4.9,baz=68,slow=8.1,SNR=82
MKAR PcP PcP 23 46 21.3 -0.2
comp=Z,4.7nm,0.7s,baz=57,slow=4.5,SNR=5.4
MKAR LR LR 00 06 27.6
comp=Z,289nm,18.2s,MS4.3,baz=282,slow=38
MKAR Makanchi Array 48.04 298 *i*P **P 23 44 54.2 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 48.48 305 P **P 23 44 57.1 0.0**
comp=Z,226nm,0.5s,SNR=35
YKW3 Yellowknife Ar 50.88 37 *e*P **P 23 45 15.4 0.0**
YKW3 *e*pP pP 23 45 26.0 +5.1
YKA Yellowknife Ar 50.92 37 P **P 23 45 14.8 -0.9**
comp=Z,4.8nm,0.8s,mb4.5,baz=295,slow=7.2,SNR=23
YKA PcP PcP 23 46 31.1 -0.9
comp=Z,1.3nm,0.6s,baz=304,slow=3.9,SNR=6.5
YKA Yellowknife Ar 50.92 37 P **P 23 45 14.8 -0.9**
YKA 23 46 31.1
YKA pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 51.18 19 *e*P **P 23 45 18.4 +0.7**
RES *e*pP pP 23 45 23.8 +0.6
comp=Z,775nm,1.0s
LSA Lhasa 51.21 275 P **P 23 45 20.0 +2.1**
LSA AMB AMB
comp=Z,20nm,0.8s,mb5.1
LSA Lhasa 51.21 275 *e*P **P 23 45 20.3 +2.4**
LSA pmax pmax
comp=Z,26nm,0.7s,mb5.3
LSA Lhasa 51.21 275 *e*P **P 23 45 20.2 +2.3**
comp=Z,26nm,0.7s,mb5.3
BVA0 Borovoye Array 51.97 310 *i*P **P 23 45 23.8 +0.2**
BVAR Borovoye Array 51.97 310 P **P 23 45 23.8 +0.2**
comp=Z,6.8nm,0.5s,mb4.9,baz=58,slow=7.8,SNR=41
BVAR PcP PcP 23 46 35.8 -0.2
comp=Z,5.3nm,0.7s,baz=85,slow=3.1,SNR=5.8
BVAR PP PP 23 47 15.7 -5.9
comp=Z,5.0nm,0.7s,baz=57,slow=9.4,SNR=4.9
BRVK Borovoye 52.01 310 P **P 23 45 23.7 -0.2**
comp=Z,224nm,0.5s,SNR=16
BRVK Borovoye 52.01 310 P **P 23 45 23.8 -0.1**
BRVK pmax pmax
comp=Z,17nm,0.5s,mb5.2
BRVK Borovoye 52.01 310 *e*P **P 23 45 27.6 +3.7**
comp=Z,17nm,0.5s,mb5.2
CHTO Chiang Mai 52.85 258 P **P 23 45 31.2 +1.1**
CHTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHTO Chiang Mai 52.85 258 *e*P **P 23 45 30.6 +0.5**
comp=Z,4.3nm,0.6s,mb4.6
SHL Shillong 53.26 270 *e*P **P 23 45 33.8 +0.7**
SPB4 Spitsbergen Ar 53.42 350 *e*P **P 23 45 29.0 -5.4**
C04A Brinnon 53.84 56 ⇑P **P 23 45 37.2 -0.2**
baz=54
B05A Bryant 54.06 55 ⇑P **P 23 45 39.1 +0.1**
baz=54
A07A Ashnola River, 54.62 54 ⇓P **P 23 45 42.8 -0.3**
baz=54
FRU Bishkek 54.75 298 *e*P **P 23 45 46.0 +2.0**
SVE Sverdlovsk 54.92 318 *e*P **P 23 45 44.0 -1.3**
AAK Ala-Archa 54.94 297 *c i*P **P 23 45 45.8 +0.4**
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.9
AAK Ala-Archa 54.94 297 *e*P **P 23 45 47.9 +2.6**
B07A Winthrop 55.08 54 ⇑P **P 23 45 45.8 -0.6**
baz=55
E05A Randle 55.16 57 ⇓P **P 23 45 46.8 -0.1**
baz=55
A08A Turner Farm, O 55.29 53 ⇓P **P 23 45 47.3 -0.6**
baz=55
C07A Waterville 55.52 55 ⇓P **P 23 45 49.1 -0.5**
baz=55
B08A Colville Reser 55.57 54 ⇑P **P 23 45 49.4 -0.6**
baz=55
A09A Danville 55.66 53 ⇑P **P 23 45 50.0 -0.6**
baz=55
I03A Eugene 55.66 60 ⇑P **P 23 45 51.0 +0.4**
baz=55
KSH Kashi 55.74 294 *e*P **P 23 45 53.7 +2.6**
KSH AP pP 23 45 58.7 +2.0
KSH XP sP 23 46 00.6 +1.8
KSH PCP PcP 23 46 53.1 +2.8
KSH PP PP 23 47 58.7 +3.2
KSH SCP ScP 23 50 50.8 +2.3
KSH PCS PcS 23 50 52.4 +1.9
KSH S **S 23 53 36.7 -0.3**
KSH XS sS 23 53 43.4 -2.7
KSH SCS ScS 23 55 38.0 -1.6
KSH SS SS 23 57 20.2 -2.2
J02A Umpqua 55.82 61 ⇑P **P 23 45 52.1 +0.4**
baz=56
D07A Quincy 55.84 55 ⇓P **P 23 45 51.4 -0.5**
baz=56
JIRN Jiri 55.90 276 *e*P **P 23 45 54.6 +2.3**
comp=Z,36nm,0.4s,mb5.8
H04A Detroit Lake 55.93 59 P **P 23 45 52.6 +0.1**
baz=56,SNR=5.4
GUN Gumba 55.96 276 *e*P **P 23 45 54.9 +2.2**
comp=Z,43nm,0.4s,mb5.8
C08A Higginbotham F 56.05 54 ⇓P **P 23 45 52.5 -0.8**
baz=56
ARU Arti 56.10 318 P **P 23 45 53.6 -0.2**
comp=Z,312nm,0.5s,SNR=19
ARU Arti 56.10 318 ⇑*i*P **P 23 45 53.2 -0.6**
ARU *e* 23 46 46.9
ARU *e*S **S 23 53 43.7 +1.8**
ARU pmax pmax
comp=Z,23nm,0.7s,mb5.3
ARU Arti 56.10 318 *e*P **P 23 45 52.6 -1.1**
EDM Edmonton 56.12 46 *e*P **P 23 45 53.7 -0.2**
G05A Wamic 56.13 58 ⇓P **P 23 45 54.6 +0.6**
baz=56
F06A Goldendale 56.16 57 ⇓P **P 23 45 54.1 -0.1**
baz=56
B09A Rice 56.20 53 ⇑P **P 23 45 53.6 -0.9**
baz=56
K02A Glendale 56.20 61 ⇑P **P 23 45 55.9 +1.4**
baz=56
E07A Sunnyside 56.26 56 ⇓P **P 23 45 54.4 -0.4**
baz=56
I04A Tendick Farm, 56.28 60 ⇑P **P 23 45 55.4 +0.4**
baz=56
KKN Kakani 56.45 277 *e*P **P 23 45 58.3 +2.1**
comp=Z,40nm,0.5s,mb5.7
C09A Chrisman Ranch 56.47 54 ⇑P **P 23 45 55.6 -0.9**
baz=56
L02A Cave Junction 56.48 62 ⇓P **P 23 45 56.6 +0.2**
baz=56
PKI Pulchoki 56.50 276 *e*P **P 23 45 58.6 +2.0**
comp=Z,24nm,0.4s,mb5.5
H05A Madras 56.52 58 ⇓P **P 23 45 57.0 +0.3**
baz=56
D08A Wollman Farm, 56.52 55 ⇓P **P 23 45 56.6 -0.2**
baz=56
G06A Carlson Farm, 56.54 58 ⇓P **P 23 45 56.5 -0.4**
baz=56
HUMO Hull Mountain 56.62 61 ⇓P **P 23 45 57.9 +0.5**
baz=56
DMN Daman 56.68 277 *e*P **P 23 46 00.3 +2.4**
comp=Z,173nm,1.0s,mb6.0
E08A Dider Farm, El 56.75 56 ⇑P **P 23 45 56.7 -1.7**
baz=56
GKN Gorkha 56.76 277 *e*P **P 23 46 00.5 +2.1**
comp=Z,70nm,0.4s,mb6.0
J04A Umpqua Nationa 56.77 60 ⇓P **P 23 45 58.7 +0.1**
baz=56
NEW Newport 56.86 53 *e*P **P 23 45 58.3 -0.9**
NEW pmax pmax
comp=Z,22nm,1.6s
NEW Newport 56.86 53 *e*P **P 23 45 58.3 -0.8**
comp=Z,22nm,1.6s,mb4.9
D09A Jones Farm, Ri 56.86 55 ⇓P **P 23 45 58.7 -0.5**
baz=56
A11A Hall Mountain, 56.89 52 ⇑P **P 23 45 59.1 -0.3**
baz=56
H06A Lindquist Farm 56.99 58 ⇓P **P 23 46 00.1 0.0**
baz=57
G07A Ruggs Ranch, H 57.09 57 ⇓P **P 23 46 01.7 +0.9**
baz=57
KKAR Karatay Array 57.11 300 *i*P **P 23 46 01.6 +0.7**
KKAR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
E09A Wood Farm, Sta 57.26 55 ⇓P **P 23 46 01.6 -0.5**
baz=57
YBH Yreka Blue Hor 57.26 62 ⇑P **P 23 46 02.2 +0.2**
baz=57
J05A Fort Rock 57.28 60 ⇓P **P 23 46 02.5 +0.4**
baz=57
F08A Pendleton 57.30 56 ⇓P **P 23 46 01.6 -0.7**
baz=57
DAG Danmarks Havn 57.34 358 *i*P **P 23 46 03.0 +0.5**
DAG Danmarks Havn 57.34 358 *e*P **P 23 46 03.0 +0.5**
N02C Big Bar 57.42 63 ⇑P **P 23 46 03.4 +0.3**
baz=57
D10A Wagner Farm, O 57.45 54 ⇓P **P 23 46 03.8 +0.5**
baz=57
G08A Pilot Rock 57.49 57 ⇓P **P 23 46 03.5 -0.1**
baz=57
L04A Klamath Falls 57.51 61 ⇑P **P 23 46 03.9 +0.2**
baz=57
I06A Prineville 57.52 59 ⇓P **P 23 46 03.5 -0.3**
baz=57
KOLN Koldanda 57.62 278 *e*P **P 23 46 06.8 +2.3**
comp=Z,69nm,0.9s,mb5.7
M04C Macdoel 57.77 62 ⇓P **P 23 46 05.8 +0.2**
baz=57
K05A Summer Lake 57.80 60 ⇓P **P 23 46 06.6 +0.8**
baz=57
I07A Izee 57.85 58 ⇑P **P 23 46 06.5 +0.4**
baz=58
F09A S2 Ranch, Elgi 57.86 56 ⇓P **P 23 46 06.4 +0.2**
baz=58
E10A Myers Farm, Un 57.87 55 ⇓P **P 23 46 06.1 -0.1**
baz=58
J06A Christmas Vall 57.95 59 ⇑P **P 23 46 05.9 -0.9**
baz=58
F10A Beach Ranch, E 58.09 55 ⇓P **P 23 46 08.1 +0.2**
baz=58
H08A Prairie City 58.09 57 P **P 23 46 08.2 +0.4**
baz=58,SNR=6.6
K06A Valley Falls 58.15 60 P **P 23 46 08.7 +0.5**
baz=58,SNR=6.6
L05A Lakeview 58.23 61 ⇑P **P 23 46 09.9 +1.1**
baz=58
B13A Whitefish 58.26 52 P **P 23 46 09.0 0.0**
baz=58,SNR=9.7
KEV Kevo 58.26 341 *ep* **P 23 46 07.6 -1.4**
APA Apatity 58.30 337 ⇑*e*P **P 23 46 10.4 +1.1**
APA pmax pmax
comp=Z,27nm,1.1s,mb5.2
E11A Bogner Ranch, 58.45 54 ⇑P **P 23 46 09.6 -0.8**
baz=58
BOK Bokaro 58.57 273 *e*P **P 23 46 11.1 -0.1**
BOK AMb AMB 23 46 21.5
comp=Z,22nm,1.3s,mb5.0
H09A Durkee 58.60 57 ⇑P **P 23 46 11.7 +0.3**
baz=58
C13A Hot Springs 58.60 52 ⇑P **P 23 46 11.2 -0.2**
baz=58
MOD Modoc 58.63 61 ⇑P **P 23 46 12.1 +0.5**
baz=58
BMO Blue Mountains 58.70 56 *e*P **P 23 46 12.7 +0.6**
F11A Grangeville 58.76 55 ⇓P **P 23 46 12.4 -0.1**
baz=58
ARCES ARCESS Array B 58.77 341 P **P 23 46 12.2 -0.3**
comp=Z,7.7nm,0.6s,mb4.9,baz=21,slow=7.3,SNR=27
ARCES LR LR 00 19 07.4
comp=Z,256nm,18.1s,MS4.4,baz=36,slow=44
ARE0 ARCESS Array S 58.77 341 *e*P **P 23 46 10.1 -2.4**
K07A Rock Creek Ran 58.81 59 ⇓P **P 23 46 12.7 -0.2**
baz=58
LGTI Lohaghat 58.88 281 *e*P **P 23 46 14.3 +1.0**
J08A Circle Bar Ran 58.88 58 ⇑P **P 23 46 13.1 -0.3**
baz=58
I09A Lost Marbles R 58.96 57 ⇓P **P 23 46 13.6 -0.3**
baz=59
C14A Swan Lake 59.00 52 ⇓P **P 23 46 14.0 -0.2**
baz=59
D13A Huson 59.01 53 ⇑P **P 23 46 12.7 -1.5**
baz=59
L07A Adell 59.15 60 ⇓P **P 23 46 15.4 +0.2**
baz=59
H10A Noah's Angus R 59.17 56 ⇓P **P 23 46 15.7 +0.3**
baz=59
K08A Mann Creek Ran 59.24 59 ⇓P **P 23 46 16.3 +0.4**
baz=59
ORV Oroville 59.28 63 ⇑P **P 23 46 16.4 +0.4**
baz=59
J09A Fry Pan Ranch, 59.31 58 ⇓P **P 23 46 17.1 +0.7**
baz=59
WVOR Wild Horse Val 59.33 59 *e*P **P 23 46 15.9 -0.5**
WVOR pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
WVOR Wild Horse Val 59.33 59 *e*P **P 23 46 15.9 -0.6**
comp=Z,6.6nm,1.2s,mb4.5
OHCM Honcut 59.42 64 *e*P **P 23 46 15.8 -1.2**
MSO Missoula 59.45 53 *e*P **P 23 46 17.5 +0.3**
comp=Z,17nm,1.4s,mb4.9
MSO *e*pP pP 23 46 28.4 +5.6
H11A Donnelly 59.53 56 P **P 23 46 17.9 +0.1**
baz=59,SNR=7.6
AB31 Akbulak array 59.54 311 *e*P **P 23 46 18.2 +0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
E13A Victor 59.54 53 ⇓P **P 23 46 18.4 +0.5**
baz=59
D14A Greenough 59.54 52 P **P 23 46 17.9 0.0**
baz=59,SNR=9.5
N06A Buffalo Meadow 59.60 61 P **P 23 46 18.4 +0.1**
baz=59,SNR=5.5
M07A Soldier Meadow 59.62 61 ⇓P **P 23 46 18.7 +0.2**
baz=59
L08A Fields 59.65 59 ⇓P **P 23 46 18.5 -0.2**
baz=59
K09A Rome 59.71 59 ⇓P **P 23 46 19.2 +0.1**
baz=59
CHMT Chamberlain Mo 59.78 52 *e*P **P 23 46 19.2 -0.3**
BEKR Beckwourth 59.80 63 ⇑P **P 23 46 19.1 -0.6**
baz=59,SNR=6.3
AKTK Aktyubinsk 59.84 313 P **P 23 46 20.2 +0.2**
AKTK PcP PcP 23 47 06.0 -0.3
AKTO Aktyubinsk 59.84 313 P **P 23 46 20.2 +0.2**
comp=Z,8.0nm,0.6s,mb5.0,baz=69,slow=10,SNR=19
AKTO PcP PcP 23 47 06.0 -0.3
comp=Z,6.7nm,0.7s,baz=87,slow=2.9,SNR=4.7
AKTO Aktyubinsk 59.84 313 P **P 23 46 20.2 +0.3**
AKTO 23 47 06.1
AKTO pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
F13A Darby 59.85 54 ⇑P **P 23 46 19.9 -0.1**
baz=59
E14A Clinton 59.94 53 P **P 23 46 20.8 +0.1**
baz=60,SNR=5.1
O06A Flanigan 59.95 62 ⇓P **P 23 46 21.0 +0.3**
baz=60
THN Thein Dam 60.09 287 *e*P **P 23 46 21.6 -0.1**
D15A Lincoln 60.11 52 ⇑P **P 23 46 21.6 -0.2**
baz=60
L09A Wilkinson Ranc 60.15 59 ⇑P **P 23 46 22.3 +0.2**
baz=60
LAVA Lava Cap Winer 60.23 64 ⇑P **P 23 46 22.4 -0.2**
baz=60
G13A Cobalt 60.32 55 P **P 23 46 22.8 -0.5**
baz=60,SNR=12
E15A Deer Lodge 60.41 53 P **P 23 46 23.6 -0.3**
baz=60,SNR=5.8
O07A Toulon 60.53 61 ⇓P **P 23 46 25.0 +0.3**
baz=60
N08A GE Springer Mi 60.62 61 ⇑P **P 23 46 24.9 -0.4**
baz=60

ORR Orenburg 60.75 315 eP P 23 46 26.4 +0.2
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
F15A Butte 60.84 53 P P 23 46 26.8 -0.1
baz=60,SNR=8.4
LRM Limekiln Ridge 60.88 53 eP P 23 46 27.2 +0.2
CMB Columbia Colle 60.89 64 ⇓P P 23 46 27.6 +0.5
baz=60
EGMT Eagleton 61.01 50 eP P 23 46 28.3 +0.4
comp=Z,20nm,1.1s,mb5.2
M10A I.L. Ranch, Tu 61.13 59 ⇑P P 23 46 29.6 +0.8
baz=61
KLMR Klimovskoe 61.13 330 P P 23 46 27.8 -1.0
KLMR pmax pmax
comp=Z,52nm,1.3s,mb5.5
HLID Hailey 61.14 56 eP P 23 46 28.8 0.0
HLID Hailey 61.14 56 P P 23 46 29.2 +0.4
baz=61,SNR=7.2
R06C Coleville 61.17 63 ⇓P P 23 46 29.5 +0.4
baz=61
G15A Dillon 61.26 54 ⇓P P 23 46 29.6 -0.1
baz=61
S06C San Francisco 61.32 64 ⇓P P 23 46 29.9 -0.2
baz=61
S05C Merced 61.34 65 ⇑P P 23 46 31.0 +0.8
baz=61
NDI New Delhi 61.42 283 eP P 23 46 31.8 +1.1
NDI AMb AMB 23 46 32.3
comp=Z,27nm,0.7s,mb5.5
BOZ Bozeman (W) 61.44 53 eP P 23 46 30.6 -0.3
BOZ pmax pmax
comp=Z,25nm,1.4s,mb5.2
BOZ Bozeman (W) 61.44 53 eP P 23 46 30.6 -0.3
comp=Z,25nm,1.4s,mb5.2
O09A Fish Creek Ran 61.56 61 ⇑P P 23 46 32.3 +0.6
baz=61
M11A Holland Ranch, 61.63 59 ⇓P P 23 46 33.0 +0.8
baz=61
R07C Lee Vining 61.69 63 ⇓P P 23 46 33.0 +0.4
baz=61
KAKA Kakadu 61.78 204 eP P 23 46 33.3 +0.1
comp=Z,13nm,0.6s,mb5.2
O10A Cortez Mining, 61.90 60 ⇑P P 23 46 34.2 +0.3
baz=62
Q08A Gabbs 61.91 62 ⇓P P 23 46 33.8 -0.3
baz=62
T06C Millerton Lake 61.94 65 ⇓P P 23 46 34.5 +0.2
baz=62
KCC Kaiser Creek 61.99 64 ⇓P P 23 46 34.4 -0.1
baz=62
QLMT Earthquake Lak 62.05 53 eP P 23 46 35.4 +0.4
PBA Port Blair 62.11 257 eP x 23 47 15.4
PBA eS x 23 47 28.8
PBA ex x 23 47 34.7
comp=N,371nm,0.5s
PBA ex x 23 47 35.0
comp=E,306nm,0.6s
M12A Wells 62.16 58 ⇓P P 23 46 36.2 +0.5
baz=62
P10A Eureka 62.34 61 ⇓P P 23 46 37.2 +0.3
baz=62
N12A Clover Valley, 62.43 59 ⇑P P 23 46 37.8 +0.2
baz=62
O11A Cowboy Ranch, 62.51 60 ⇑P P 23 46 38.6 +0.6
baz=62
HELL Mitchell Peak, 62.58 65 ⇑P P 23 46 38.4 -0.1
baz=62
M13A Montello 62.63 58 ⇑P P 23 46 38.4 -0.5
baz=62
R09A Tonopah 62.82 62 ⇓P P 23 46 40.2 +0.1
baz=62
O12A Currie 62.97 59 ⇓P P 23 46 41.1 -0.1
baz=63
RRI2 Red Ridge 63.04 55 eP P 23 46 33.0 -8.6
comp=E,14nm,0.9s,mb5.1
S09A Goldfield 63.05 63 ⇓P P 23 46 41.5 -0.2
baz=63
RLMT Red Lodge 63.07 52 eP P 23 46 40.2 -1.6
comp=E,24nm,1.7s,mb5.1
MOOW Moose Ponds 63.11 54 eP P 23 46 42.2 +0.1
comp=E,20nm,1.5s,mb5.0
TPAW Teton Pass 63.16 54 eP P 23 46 43.3 +0.9
LOHW Long Hollow 63.28 54 eP P 23 46 44.2 +1.0
SNOW Snow King Moun 63.29 54 eP P 23 46 44.1 +0.9
comp=E,8.4nm,0.8s,mb4.9
REDW Red Top Meadow 63.30 54 eP P 23 46 43.9 +0.5
Q11A Duckwater 63.31 61 ⇓P P 23 46 43.1 -0.3
baz=63
CWC Cottonwood Cre 63.32 64 ⇑P P 23 46 43.3 -0.1
baz=63
P12A McGill 63.37 60 ⇓P P 23 46 44.1 +0.3
baz=63
GRAC Grapevine Rang 63.41 63 ⇑P P 23 46 44.3 +0.2
baz=63
Q12A Willow Creek R 63.69 60 ⇑P P 23 46 45.6 -0.3
baz=63
LAO LASA Array 63.71 49 eP P 23 46 46.9 +0.9
MPMC Manual Prospec 63.93 64 ⇓P P 23 46 47.7 +0.3
baz=64
HWUT Hardware Ranch 64.00 56 eP P 23 46 48.5 +0.5
comp=E,18nm,1.5s,mb4.9
FURC Furnace Creek, 64.06 64 ⇓P P 23 46 48.9 +0.5
baz=64
DUG Dugway 64.16 58 eP P 23 46 48.7 -0.3
DUG Dugway 64.16 58 P P 23 46 49.5 +0.5
baz=64,SNR=6.3
EDW2 Edwards Air Fo 64.36 66 ⇑P P 23 46 50.3 0.0
baz=64
VIS Vishakhapatnam 64.39 269 eP P 23 46 49.8 -0.6
VIS AMb AMB 23 46 55.0
comp=Z,28nm,1.4s,mb5.1
PDAR Pinedale Array 64.41 54 P P 23 46 49.0 -1.6
comp=Z,3.5nm,0.8s,mb4.4,baz=299,slow=3.1,SNR=21
KAF Kangasniemi 64.42 336 ep P 23 46 49.3 -1.4
baz=37,slow=6.2
AJM Ajmer 64.58 282 eP P 23 46 52.7 +1.0
AJM AMb AMB 23 46 54.6
comp=Z,40nm,1.2s,mb5.3
BHPL Bhopal 64.79 278 eP P 23 46 54.2 +1.0
BHPL AMb AMB 23 46 55.8
comp=Z,38nm,1.4s,mb5.2
FINES FINESS Array B 65.02 335 P P 23 46 53.6 -0.9
comp=Z,8.7nm,0.4s,mb5.2,baz=44,slow=6.2,SNR=38
FINES LR LR 00 19 52.0
comp=Z,194nm,19.1s,MS4.3,baz=17,slow=40
FINES FINESS Array B 65.02 335 P P 23 46 53.7 -0.9
FINES pmax pmax
comp=Z,9.0nm,0.4s
FINES MLR MLR
comp=Z,194nm,19.1s
NGP Nagpur 65.05 275 eP P 23 46 53.6 -1.3
NGP AMb AMB 23 46 55.2
comp=Z,23nm,1.3s,mb5.1
SHPR Sheep Range 65.09 63 eP P 23 46 55.3 +0.2
TUQ Turquoise Mtn. 65.31 64 ⇑P P 23 46 56.8 +0.3
baz=65
V11A Goodsprings 65.35 63 ⇑P P 23 46 57.4 +0.6
baz=65
SFJD Kangerlussuaq 65.64 11 i P P 23 46 58.4 -0.2
comp=Z,37nm,0.9s,mb5.4
SFJD Kangerlussuaq 65.64 11 i P P 23 46 58.4 -0.2
SFJD pmax pmax
comp=Z,37nm,0.9s,mb5.4
V12A Nelson 65.79 63 ⇑P P 23 46 59.8 +0.3
baz=65
GMRC Granite Mounta 65.89 64 ⇑P P 23 46 59.6 -0.6
baz=66
SRU San Rafael 66.21 58 eP P 23 47 02.2 -0.1
OBN Obninsk 66.36 326 ⇓eP P 23 47 05.4 +2.1
OBN e 23 49 28.2
OBN eS S 23 55 48.6 -3.7
OBN pmax pmax
comp=Z,80nm,2.5s,mb5.3
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
ULM Lac du Bonnet 66.43 41 P P 23 47 02.2 -1.5
comp=Z,2.7nm,0.5s,mb4.5,baz=310,slow=9.2,SNR=8.1
ULM LR LR 00 15 47.0
comp=Z,85nm,18.6s,MS4.0,baz=18,slow=36
ULM Lac du Bonnet 66.43 41 P P 23 47 02.2 -1.5
ULM LR LR 00 15 47.0
RSSD Black Hills 66.56 50 P P 23 47 03.9 -0.6
RSSD pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
RSSD Black Hills 66.56 50 eP P 23 47 03.1 -1.4
comp=Z,6.8nm,0.6s,mb4.8
AKL Akola 66.76 276 eP P 23 47 07.6 +1.8
AKL AMb AMB 23 47 08.8
comp=Z,22nm,1.3s,mb5.0
X13A Yucca 67.16 63 ⇓P P 23 47 08.0 -0.3
baz=67
W14A Seligman 67.22 63 P P 23 47 09.3 +0.6
baz=67,SNR=6.4
PV10 Paradox Valley 67.57 58 eP P 23 47 10.8 -0.2
W15A Williams 67.74 62 ⇓P P 23 47 12.6 +0.6
baz=67
X14A Yava 67.82 63 ⇓P P 23 47 13.5 +1.0
baz=68
HYB Hyderabad 67.92 272 i P P 23 47 13.5 +0.4
HYB Hyderabad 67.92 272 eP P 23 47 13.5 +0.4
WUAZ Wupatki 68.06 61 ⇓P P 23 47 15.0 +0.9
baz=68
Y14A Wickenburg 68.10 64 ⇓P P 23 47 14.4 +0.1
baz=68
VRSR Storozhevoye 68.18 322 eP P 23 47 15.5 +0.7
VRSR pmax pmax
comp=E,5.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
WRAB Tennant Creek 68.18 200 ⇑i P P 23 47 15.1 +0.3
WB2 Warramunga Arr 68.19 200 eP P 23 47 14.9 0.0
WRA Warramunga Arr 68.19 200 P P 23 47 14.5 -0.4
comp=N,5.5nm,0.7s,mb4.7,baz=20,slow=6.8,SNR=15
WRA Warramunga Arr 68.19 200 P P 23 47 14.5 -0.4
WRA pmax pmax
comp=Z,6.0nm,0.7s
X15A Humboldt 68.22 63 P P 23 47 15.3 +0.3
baz=68,SNR=6.0
ISCO Idaho Springs 68.60 55 eP P 23 47 17.6 +0.2
ISCO pmax pmax
comp=Z,15nm,1.3s,mb4.8
ISCO Idaho Springs 68.60 55 eP P 23 47 17.6 +0.2
comp=Z,16nm,1.3s,mb4.8
MVCO Mesa Verde 68.67 58 ⇓P P 23 47 18.0 +0.1
baz=68
FITZ Fitzroy Crossi 69.00 209 eP P 23 47 20.3 +0.4
comp=Z,5.9nm,0.6s,mb4.7
NB2 NORSAR Subarra 69.14 342 P P 23 47 20.3 -0.5
comp=Z,4.6nm,0.5s,mb4.7,baz=26,slow=6.5
NOA NORSAR Array B 69.14 342 P P 23 47 19.6 -1.1
comp=Z,7.2nm,0.6s,mb4.8,baz=27,slow=6.4,SNR=10
NOA LR LR 00 22 02.4
comp=Z,96nm,21.0s,MS4.0,baz=0.0,slow=40
NOA NORSAR Array B 69.14 342 P P 23 47 19.7 -1.1
NOA pmax pmax
comp=Z,7.0nm,0.6s
NOA MLR MLR
comp=Z,96nm,21.0s
NOA NORSAR Array B 69.14 342 P P 23 47 19.6 -1.1
NOA LR LR 00 22 02.4
POO Poona 70.42 277 ex P 23 47 26.0 -2.7
ECSD EROS,Sioux Fal 70.69 47 eP P 23 47 28.2 -2.1
comp=Z,23nm,1.5s,mb4.9
KAD Karad 71.02 275 eP P 23 47 33.7 +1.3
KAD AMb AMB 23 47 35.2
comp=Z,13nm,0.8s,mb4.9
LAZ Ladron 71.38 60 eP P 23 47 34.3 -0.2
ANMO Albuquerque 71.41 59 ⇓i P P 23 47 35.3 +0.6
ANMO Albuquerque 71.41 59 eP P 23 47 35.1 +0.4
ASAR Alice Springs 71.88 200 P P 23 47 37.7 +0.2
comp=Z,5.5nm,1.0s,mb4.5,baz=16,slow=6.1,SNR=28
ASAR Alice Springs 71.88 200 P P 23 47 37.7 +0.2
ASAR pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 71.90 315 ⇓eP P 23 47 39.0 +1.4
KIV eS S 23 56 52.7 -5.1
KIV pmax pmax
comp=Z,23nm,0.7s,mb5.2
KIV Kislovodsk 71.90 315 eP P 23 47 39.8 +2.1
ZEI Tsey 72.17 314 eP P 23 47 38.2 -1.0
GOA Goa 72.52 274 ex P 23 47 33.1 -8.2
GOA AMb AMB 23 47 41.3
comp=Z,42nm,1.2s,mb5.2
AKASG Malin Array Be 72.59 327 P P 23 47 41.0 -0.7
comp=Z,4.5nm,0.5s,mb4.7,baz=34,slow=6.3,SNR=28
AKASG PP PP 23 50 23.5 +0.3
comp=Z,0.2nm,0.3s,baz=37,slow=8.7,SNR=4.7
AKASG LR LR 00 21 57.9
comp=Z,174nm,18.2s,MS4.4,baz=330,slow=38
AKASG Malin Array Be 72.59 327 P P 23 47 41.1 -0.7
AKASG 23 50 23.5
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG MLR MLR
comp=Z,174nm,18.3s
AKBB Malin Array Si 72.59 327 P P 23 47 41.0 -0.8
AKBB Malin Array Si 72.59 327 eP P 23 47 40.4 -1.4
KIEV Kiev 72.60 327 eP P 23 47 40.8 -1.0
KIEV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIEV Kiev 72.60 327 eP P 23 47 40.8 -1.1
comp=Z,12nm,0.8s,mb4.9
SCHQ Schefferville 73.56 23 P P 23 47 44.7 -2.8
comp=Z,6.1nm,1.0s,mb4.5,baz=289,slow=12,SNR=2.4
SCHQ LR LR 00 21 01.4
comp=Z,48nm,19.2s,MS3.8,baz=344,slow=37
SOC Sochi 73.62 317 eP P 23 47 46.5 -1.3
SOC eSSS 00 05 13.5
GNI Garni 73.64 311 P P 23 47 50.3 +2.3
comp=Z,6.4nm,0.8s,mb4.6,baz=258,slow=1.4,SNR=7.0
GNI Garni 73.64 311 deP P 23 47 48.7 +0.7
GNI pmax pmax
comp=Z,29nm,1.3s
GNI Garni 73.64 311 eP P 23 47 49.9 +1.9
ANN Anapa 73.77 319 eP P 23 47 46.9 -1.8
ANN eS S 23 57 19.3 +0.2
ANN pmax pmax
comp=Z,20nm,1.1s,mb5.0
MNTX Cornudas Mount 74.31 61 eP P 23 47 51.8 -0.1
MLA1 Latheron 74.35 348 eP P 23 47 58.6 +6.5
MVH1 Achvaich 74.84 348 eP P 23 47 59.2 +4.2
SIM Simferopol' 75.15 321 eP P 23 47 57.5 +0.8
SIM S S 23 57 26.0 -8.6
SIM pmax pmax
comp=Z,13nm,1.0s,mb4.8
MDO Dochfour 75.33 348 eP P 23 48 02.3 +4.5
KWP Kalwaria 75.85 330 eP P 23 48 01.5 +0.7
KWP pmax pmax
comp=Z,62nm,1.0s,mb5.5
KWP Kalwaria 75.85 330 eP P 23 48 01.5 +0.8
comp=Z,62nm,1.0s,mb5.5
WMOK Wichita Mounta 76.02 54 eP P 23 48 01.0 -0.7
OJC Ojcow 76.33 332 eP P 23 48 02.8 -0.7
STHS Stebnicka Huta 76.53 331 eP P 23 48 05.7 +1.0
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
STHS Stebnicka Huta 76.53 331 eP P 23 48 05.7 +1.0
comp=Z,10nm,0.8s,mb4.8
EAB Aberfoyle 76.54 348 eP P 23 48 09.6 +4.9
KOLS Kolonicke sedl 76.59 330 eP P 23 48 05.2 +0.2
BURAR Bucovina Array 76.63 327 ⇑i P P 23 48 05.0 -0.2
NIE Niedzica 76.85 331 eP P 23 48 07.1 +0.7
KSP Ksiaz 76.89 334 eP P 23 48 06.8 +0.1
CRVS Cervenica-Dubn 76.90 330 eP P 23 48 06.9 +0.2
PGBU Glenifferbraes 76.93 348 eP P 23 48 13.9 +7.0
PGBU AMb AMB 23 48 15.0
comp=Z,40nm,1.2s,mb5.2
LTX Lajitas 77.03 61 eP P 23 48 07.1 -0.3
TXAR Lajitas Array 77.03 61 P P 23 48 06.7 -0.8
comp=Z,5.6nm,0.6s,mb4.6,baz=305,slow=4.2,SNR=68
TXAR Lajitas Array 77.03 61 P P 23 48 06.7 -0.8
TXAR pmax pmax
comp=Z,6.0nm,0.6s
EKA Eskdalemuir Ar 77.19 347 P P 23 48 07.8 -0.5
comp=Z,2.4nm,0.7s,mb4.3,baz=29,slow=7.1,SNR=5.6
EKA Eskdalemuir Ar 77.19 347 P P 23 48 07.9 -0.4
EKA pmax pmax
comp=Z,2.0nm,0.7s
OKC Ostrava-Krasne 77.19 333 eP P 23 48 08.5 +0.1
ESK Eskdalemuir 77.21 347 eP P 23 48 13.9 +5.5
ESK AMb AMB 23 48 17.0
comp=Z,42nm,1.6s,mb5.1
UPC Upice 77.27 334 eP P 23 48 09.0 +0.2
DPC Dobruska-Polom 77.31 334 eP P 23 48 09.7 +0.6
DPC epP pP 23 48 14.5 -0.3
MSL Mosul 77.37 310 ex x 23 48 13.5
CLL Collm 77.44 336 ⇑i P P 23 48 09.4 -0.3
CLL i 23 48 17.2
CLL pmax pmax
comp=Z,24nm,1.0s,mb5.1
CLL Collm 77.44 336 ⇑i P P 23 48 09.4 -0.3
comp=Z,24nm,1.0s,mb5.1
CLL i pP 23 48 14.5 -0.9
CLL i 23 48 17.2
CLL Collm 77.44 336 ⇑i P P 23 48 09.4 -0.3
comp=Z,24nm,1.0s,mb5.1
CLL i pP pP 23 48 14.5 -0.9
CLL i sP sP 23 48 17.2 -0.3
MORC Moravsky Berou 77.44 333 P P 23 48 09.2 -0.5
MORC pmax pmax
comp=Z,14nm,1.1s,mb4.8
MORC Moravsky Berou 77.44 333 eP P 23 48 08.3 -1.4
comp=Z,14nm,1.1s,mb4.8
MORC Moravsky Berou 77.44 333 ⇑i P P 23 48 09.0 -0.7
VRI Vrincioaia 77.50 325 ⇓i P P 23 48 10.2 +0.1
BRG Berggiesshubel 77.56 336 eP P 23 48 09.6 -0.8
comp=Z,9.6nm,1.3s,mb4.6
BRG e 23 48 20.1
comp=Z,4.1nm,1.1s
BRG Berggiesshubel 77.56 336 eP P 23 48 09.6 -0.8
BRG e 23 48 20.1
BRG pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
KECS Kecovo 77.59 331 eP P 23 48 10.6 0.0
KECS e 23 48 23.7
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 77.59 331 eP P 23 48 10.6 0.0
comp=Z,5.4nm,0.9s,mb4.5
KECS e 23 48 23.7
PVCC Panska Ves 77.68 335 eP P 23 48 11.2 +0.1
PVCC epP pP 23 48 14.5 -2.3
GAL1 Galloway 77.88 348 eP P 23 48 19.4 +7.2
GAL1 AMb AMB 23 48 21.9
comp=Z,48nm,1.4s,mb5.2
TIRR Tirgusor 77.98 324 ⇑i P P 23 48 13.2 +0.4
MLR Muntele Rosu 78.12 326 ⇑i P P 23 48 14.1 +0.6
VYHS Vyhne 78.14 332 eP P 23 48 14.0 +0.4
VYHS e pP 23 48 19.6 +0.3
VYHS pmax pmax
comp=Z,12nm,1.5s,mb4.6
VYHS Vyhne 78.14 332 eP P 23 48 14.0 +0.4
comp=Z,12nm,1.5s,mb4.6
VYHS e pP 23 48 19.6 +0.3
VRAC Vranov 78.15 333 ⇑P P 23 48 14.0 +0.3
VRAC Vranov 78.15 333 ⇑i P P 23 48 13.9 +0.2
PRU Pruhonice 78.17 335 eP P 23 48 14.0 +0.2
PRU epP pP 23 48 17.7 -1.8
MALT Malatya 78.26 314 eP P 23 48 16.2 +1.9
MALT pmax pmax
comp=Z,19nm,1.0s,mb5.0
MALT Malatya 78.26 314 eP P 23 48 16.2 +1.9
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 78.28 331 P P 23 48 14.9 +0.5
PSZ pmax pmax
comp=Z,17nm,1.3s,mb4.8
PSZ Piszkesteto 78.28 331 eP P 23 48 14.8 +0.3
PSZ Piszkesteto 78.28 331 ⇑i P P 23 48 14.7 +0.3
MOX Moxa 78.42 337 eP P 23 48 15.2 0.0
comp=Z,29nm,1.6s,mb5.0
MOX Moxa 78.42 337 eP P 23 48 15.2 0.0
MOX pmax pmax
comp=Z,29nm,1.6s,mb5.0
WTSB Winterswijk 78.43 340 eP P 23 48 15.7 +0.4
comp=Z,24nm,0.9s,mb5.1
WTSB ex x 23 48 21.9
JCT Junction City 78.52 58 eP P 23 48 15.3 -0.5
JCT pmax pmax
comp=Z,6.0nm,0.3s,mb5.0
JCT Junction City 78.52 58 eP P 23 48 15.3 -0.5
comp=Z,5.8nm,0.3s,mb5.0
NKC Novy Kostel 78.56 336 eP P 23 48 15.7 -0.2
NKC epP pP 23 48 19.5 -2.2
SMOL Smolenice 78.58 332 eP P 23 48 16.8 +0.7
KBI1 Birley Grange 78.92 346 eP P 23 48 23.7 +5.7
ZST Bratislava 78.96 332 eP P 23 48 19.0 +0.8
KWE Weaver Farm 79.20 346 eP P 23 48 25.1 +5.6
KHC Kasperske Hory 79.22 335 eP P 23 48 19.7 +0.1
KHC ePCP PcP 23 48 30.5 +2.6
GRA1 Grafenberg Arr 79.39 337 eP P 23 48 20.2 -0.3
comp=Z,24nm,1.0s,mb5.1
GRA1 epP pP 23 48 26.8 +0.6
GRF Grafenberg Arr 79.39 337 eP P 23 48 20.2 -0.3
comp=Z,24nm,1.0s,mb5.1
GRF epP pP 23 48 26.8 +0.6
GRF Grafenberg Arr 79.39 337 eP P 23 48 20.2 -0.3
GRF e*PP pP 23 48 26.8 +0.6
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRF Grafenberg Arr 79.39 337 eP P 23 48 20.2 -0.3
GRF e*PP pP 23 48 26.8 +0.6
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRFO Grafenberg 79.39 337 eP P 23 48 20.6 +0.1
GRFO pmax pmax
comp=Z,27nm,1.1s,mb5.1
GRFO Grafenberg 79.39 337 eP P 23 48 20.6 +0.1
comp=Z,28nm,1.1s,mb5.1
GZR Gura Zlata 79.41 328 ⇑i P P 23 48 20.5 -0.1
GEC2 GERESS Array S 79.44 335 eP P 23 48 20.4 -0.4
GERES GERESS Array B 79.44 335 P P 23 48 20.5 -0.3
comp=Z,2.2nm,0.6s,mb4.3,baz=34,slow=5.5,SNR=25
GERES LR LR 00 27 20.0
comp=Z,132nm,19.3s,MS4.3,baz=183,slow=39
GERES GERESS Array B 79.44 335 P P 23 48 20.5 -0.3
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,132nm,19.3s
BR131 Keskin Array S 79.48 318 eP P 23 48 21.6 +0.6
BRTR Keskin Array B 79.48 318 P P 23 48 21.1 +0.1
comp=Z,6.7nm,1.0s,mb4.5,baz=71,slow=3.6,SNR=25
BRTR PP PP 23 51 23.1 +1.7
comp=Z,3.1nm,1.0s,baz=75,slow=5.4,SNR=6.1
BRTR Keskin Array B 79.48 318 P P 23 48 21.1 +0.1
BRTR 23 51 23.1
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BZS Buzias 79.65 328 ⇓i P P 23 48 21.1 -0.8
HGN Heimansgroeve 79.75 340 eP P 23 48 21.4 -1.1
comp=Z,32nm,1.2s,mb5.1
HGN ex x 23 48 29.3
ANTO Ankara 79.77 318 ⇑i P P 23 48 23.5 +0.9
BEBN Eben Emael 79.78 340 E P 23 48 27.9 +5.2
MEM Membach 79.88 340 P P 23 48 22.8 -0.3
MEM E pP 23 48 27.9 -1.0
KBD Kabd 80.03 302 eP P 23 48 25.2 +1.2
KBD AMb AMB 23 48 26.3
comp=Z,178nm,0.9s,mb6.0
PKSM Moragy 80.19 331 ⇓i P P 23 48 24.1 -0.8
QRN Al-Qurain 80.21 301 eP P 23 48 26.0 +1.1
BCLA Clavier 80.22 341 P P 23 48 26.0 +1.0
BCLA E pP 23 48 30.1 -0.6
BCLA E pP 23 48 31.9 +1.1
NAY Al-Naaiem 80.24 302 eP P 23 48 25.9 +0.8
NAY AMb AMB 23 48 27.3
comp=Z,55nm,0.9s,mb5.5
SKP1 Kophill 80.26 345 eP P 23 48 32.5 +7.2
RDF Al-Radifah 80.30 302 eP P 23 48 26.7 +1.2
RDF AMb AMB 23 48 28.0
comp=Z,141nm,1.2s,mb5.8
ARSA Arzberg 80.30 333 ⇑i P P 23 48 25.5 +0.1
comp=Z,9.3nm,1.3s,mb4.5
SNF Seneffe 80.37 341 E P 23 48 31.1 +5.3
SWN1 Swindon 80.64 345 eP P 23 48 33.9 +6.6
DOU Dourbes 80.68 341 E P 23 48 33.4 +5.9
WLF Walferdange 80.72 340 E P 23 48 34.6 +6.9
LANF Langenberg 80.94 338 eP P 23 48 33.4 +4.5
PERS Pernice 80.98 333 i P P 23 48 29.5 +0.4
PPT Papeete 81.04 127 LR LR 00 22 09.4
comp=Z,132nm,18.6s,MS4.3,baz=339,slow=34
KBA Koelnbreinsper 81.13 334 ⇑i P P 23 48 30.1 +0.2
comp=Z,42nm,1.0s,mb5.3
KBA Koelnbreinsper 81.13 334 ⇑i P P 23 48 30.1 +0.2
KBA pmax pmax
comp=Z,42nm,1.0s,mb5.3
BFO Black Forest 81.41 338 P P 23 48 31.3 -0.1
BFO pmax pmax
comp=Z,16nm,0.9s,mb5.0
BFO Black Forest 81.41 338 eP P 23 48 31.4 0.0
comp=Z,16nm,0.9s,mb4.9
WATA Walderalm 81.42 335 ⇑i P P 23 48 32.1 +0.7

comp=Z,18nm,1.1s,mb4.9,SNR=8.4
WATA Walderalm 81.42 335⇑*i*P **P 23 48 32.1 +0.7**
WATA pmax pmax
comp=Z,19nm,1.1s,mb4.9
WATA Walderalm 81.42 335⇑*i*P **P 23 48 32.1 +0.7**
comp=Z,18nm,1.1s,mb4.9
GRUS Gruza 81.46 328⇑*i*P **P 23 48 31.2 -0.5**
WTTA Wattenberg 81.47 335 *i*P **P 23 48 32.4 +0.8**
comp=Z,30nm,1.3s,mb5.1,SNR=11
WTTA Wattenberg 81.47 335 *i*P **P 23 48 32.5 +0.8**
WTTA pmax pmax
comp=Z,30nm,1.3s,mb5.1
DIVS Divcibare 81.55 329⇑*i*P **P 23 48 31.9 -0.2**
MOTA Moosalm 81.55 336⇑*i*P **P 23 48 32.4 +0.3**
comp=Z,27nm,1.1s,mb5.1,SNR=13
MOTA Moosalm 81.55 336⇑*i*P **P 23 48 32.4 +0.3**
MOTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
CDF Champ du Feu 81.60 339 *e*P **P 23 48 31.9 -0.5**
comp=Z,26nm,0.7s,mb5.0
CDF Champ du Feu 81.60 339 *e*P **P 23 48 31.9 -0.5**
CDF pmax pmax
comp=Z,13nm,0.7s,mb5.0
CDF Champ du Feu 81.60 339 *e*P **P 23 48 31.9 -0.5**
comp=Z,13nm,0.7s,mb5.0
VTS Vitosha 81.62 326⇓*i*P **P 23 48 32.4 -0.1**
SQTA Sankt Quirin 81.63 336⇑*i*P **P 23 48 33.0 +0.5**
comp=Z,25nm,1.2s,mb5.0,SNR=9.6
SQTA Sankt Quirin 81.63 336⇑*i*P **P 23 48 33.0 +0.4**
SQTA pmax pmax
comp=Z,25nm,1.2s,mb5.0
VISS Visnje 81.80 333 *e*P **P 23 48 32.6 -0.9**
ECH Echery 81.82 339 *e*P **P 23 48 32.9 -0.6**
ECH Echery 81.82 339 *e*P **P 23 48 32.3 -1.2**
FELD Feldberg im Sc 81.91 338 *e*P **P 23 48 34.5 +0.5**
BOJS Bojanci 81.94 332 *i*P **P 23 48 33.4 -0.7**
MOF Molkenrain 82.16 338 *e*P **P 23 48 34.8 -0.5**
MOF Molkenrain 82.16 338 *e*P **P 23 48 34.5 -0.8**
STIP Stip 82.79 326 *e*P **P 23 48 37.1 -1.5**
STIP Stip 82.79 326 *e*P **P 23 48 37.1 -1.5**
VAY Valandovo 82.95 326 *i*P **P 23 48 38.0 -1.5**
VAY Valandovo 82.95 326 *i*P **P 23 48 38.0 -1.5**
CSS Prodhromos 83.42 315 *e*P **P 23 48 42.1 +0.2**
comp=Z,11nm,0.8s,mb5.0
KRUS Krusevo 83.43 326 *e*P **P 23 48 40.3 -1.6**
KRUS Krusevo 83.43 326 *e*P **P 23 48 40.3 -1.6**
GRR Gorron 83.46 344 *e*P **P 23 48 41.7 -0.4**
comp=Z,40nm,0.8s,mb5.2
GRR Gorron 83.46 344 *e*P **P 23 48 41.7 -0.4**
GRR pmax pmax
comp=Z,20nm,0.8s,mb5.2
GRR Gorron 83.46 344 *e*P **P 23 48 41.7 -0.4**
comp=Z,20nm,0.8s,mb5.2
SMF Signal de Mont 84.10 340 *e*P **P 23 48 44.8 -0.5**
comp=Z,79nm,0.9s,mb5.5
SMF Signal de Mont 84.10 340 *e*P **P 23 48 44.8 -0.5**
SMF pmax pmax
comp=Z,40nm,0.9s,mb5.5
SMF Signal de Mont 84.10 340 *e*P **P 23 48 44.8 -0.5**
comp=Z,40nm,0.9s,mb5.5
RSL Roselend 84.30 338 *e*P **P 23 48 46.3 -0.1**
LPG La Plagne 84.44 338 *e*P **P 23 48 47.7 +0.6**
comp=Z,54nm,1.0s,mb5.3
LPG La Plagne 84.44 338 *e*P **P 23 48 47.7 +0.6**
LPG pmax pmax
comp=Z,27nm,1.0s,mb5.3
LPG La Plagne 84.44 338 *e*P **P 23 48 47.7 +0.6**
comp=Z,27nm,1.0s,mb5.3
PLDF La Plantade 84.78 340 *e*P **P 23 48 55.6 +6.8**
PLDF La Plantade 84.78 340 *e*P **P 23 48 55.4 +6.6**
AGO Saint Agoulin 84.82 340 *e*P **P 23 48 55.4 +6.4**
BNI Bardonecchia 84.87 338 *e*P **P 23 48 50.0 +0.7**
PYM Petit Puy Mans 85.13 340 *e*P **P 23 48 57.4 +6.8**
AQU L'Aquila 85.35 332 P **P 23 48 52.6 +0.9**
AQU pmax pmax
comp=Z,12nm,0.8s,mb5.1
AQU L'Aquila 85.35 332 *e*P **P 23 48 52.8 +1.1**
comp=Z,12nm,0.8s,mb5.1
CAF Calviac 86.13 341 *e*P **P 23 48 55.9 +0.4**
comp=Z,57nm,0.8s,mb5.5
CAF Calviac 86.13 341 *e*P **P 23 48 55.9 +0.4**
CAF pmax pmax
comp=Z,29nm,0.8s,mb5.6
CAF Calviac 86.13 341 *e*P **P 23 48 55.9 +0.4**
comp=Z,29nm,0.8s,mb5.5
EIL Elat 86.80 311 *e*P **P 23 49 00.8 +2.0**
TIP Timpagrande 87.02 328 *e*P **P 23 48 59.9 0.0**
ESDC Sonseca Array 92.45 343 P **P 23 49 24.3 -1.1**
comp=Z,0.1nm,0.3s,baz=12,slow=4.4,SNR=4.6
KEST Kesra 92.68 332 P **P 23 49 25.2 -1.3**
comp=Z,0.7nm,0.9s,mb4.1,baz=204,slow=12,SNR=4.6
KEST LR LR 00 39 43.2
comp=Z,45nm,19.9s,MS3.9,baz=215,slow=41
TORD Torodi Ar. Bea 116.12 330 PKP PKPdf 23 54 55.6 -2.0
comp=Z,0.6nm,0.7s,baz=358,slow=1.6,SNR=8.2
TORD PP PP 23 55 58.8 -3.7
comp=Z,3.6nm,1.2s,baz=5.4,slow=7.4,SNR=5.4
LPAZ La Paz 133.84 64 PKP PKPdf 23 55 32.1 +0.6
comp=Z,0.7nm,0.6s,baz=298,slow=3.4,SNR=4.8
LPAZ La Paz 133.84 64 PKIKP PKPdf 23 55 32.1 +0.6
LPAZ pmax pmax
comp=Z,10.0nm,0.6s
CFAA Coronel Fontan 144.22 81 PKP PKPdf 23 55 46.8 -3.6
comp=Z,0.3nm,0.5s,baz=188,slow=2.3,SNR=5.3
NVL N'lazarevskaya 149.39 203⇓*i*PKP2 PKPdf 23 56 01.7 +2.6
NVL pmax pmax
comp=Z,15nm,1.2s
MAIT Maitri 149.41 203 *e*PKPdf PKPdf 23 56 00.7 +1.6
SNAA Sanae 152.16 195 PKPbc PKPbc 23 56 07.3 -2.7
comp=Z,2.0nm,0.9s,baz=179,slow=2.3,SNR=18
SNAA PKPab PKPab 23 56 18.2 -1.5
comp=Z,4.4nm,1.1s,baz=96,slow=4.0,SNR=9.6

NIED ***03*** *00:00:00,3340N×13430E,h8km,Mw3.7 Best double couple: M0=3.59000×10¹⁴ NP1:φs=24.00000°,δ=79.00000°, λ=-128.00000°. NP2:φs=280.00000°,δ=40.00000°, λ=-18.00000°.*
ISCJB ***03*** *00:00:01.6±0.9,3338N±006×13429E±005,h19km±5km, mb3.2/2,MS4.2/3,Error ellipse: s-maj=10.4km s-min=6.1km az=137.0*
NEIC ***03*** *00:00:02.4,3341N×13430E,h17km,MG3.9(JMA),After JMA.*
NEIC Recorded [2 JMA] in Kochi and Tokushima Prefectures. Recorded [1 JMA] in Wakayama Prefecture, Honshu.
JMA ***03*** *00:00:02.3,3341N×13430E,h17km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs=282.00000°,δ=30.00000°,λ=-30.00000°. NP2:φs=38.00000°, δ=76.00000°,λ=-117.00000°. Principal axes: T Plg=26.0000°, Azm=149.0000°; N Plg=26.0000°, Azm=45.0000°; P Plg=52.0000°, Azm=277.0000°;*
JMA Felt II J1.
IDC ***03*** *00:00:02.3±4.0,3369N×134.11E,h0km,mb3.4/2, mb1 3.3/5,mb1mx3.2/25,mbtmp3.3/5,ML3.2/3,MS3.9/4, Ms1 3.9/4,ms1mx3.2/21 Error ellipse: s-maj=77.7km s-min=25.7km az=158.0*
ISC 03 00:00:01.9±0.8,3341N±005×13430E±005,h18km±4km, n15,σ0=74/19,mb3.2/2,MS4.2/3,4C-1D,Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRT2	**Murotomisaki 2**	**0.13**	**262**	⇑P		**Pg**		**00 00 05.9**	**+0.1**
MRT2				S		**Sg**		**00 00 08.5**	**0.0**
JAI	**Aioi**	**0.41**	**19**	⇑P		**Pg**		**00 00 10.5**	**+0.2**
JAI				S		**Sg**		**00 00 15.9**	**0.0**
JMN	**Monobe**	**0.47**	**313**	⇑P		**Pg**		**00 00 11.8**	**+0.3**
JMN				*e*S		**Sg**		**00 00 18.5**	**+0.6**
JWM	**Minabe**	**0.99**	**63**	P		**Pb**		**00 00 19.6**	**-0.9**
JWM				S		**Sb**		**00 00 32.7**	**-0.5**
JJS	**Sakaide**	**1.01**	**343**	⇑P		**Pb**		**00 00 20.0**	**-0.9**
JJS				S		**Sb**		**00 00 33.8**	**-0.1**
JKU	**Kubokawa**	**1.04**	**265**	⇓P		**Pb**		**00 00 20.7**	**-0.6**
JNU	**Nakatsue**	**2.88**	**265**	Pn		**Pn**		**00 00 48.4**	**+1.5**
5.6nm,0.3s,baz=223,slow=12,SNR=11									
JNU				Sn		**Sg**		**00 01 33.4**	**-1.0**
13nm,0.3s,baz=208,slow=20,SNR=4.6									
JNU				LR		LR		00 01 52.5	
comp=Z,347nm,21.0s,baz=81,slow=40									
MAT	**Matsushiro**	**4.48**	**45**	P		**Pn**		**00 01 14.4**	**+5.4**
MJAR	**Matsushiro Arr**	**4.49**	**45**	Pn		**Pn**		**00 01 10.6**	**+1.6**
0.9nm,0.3s,baz=247,slow=14,SNR=48									
MJAR				Sn		**Sn**		**00 02 05.4**	**+4.7**
0.6nm,0.3s,baz=228,slow=15,SNR=4.7									
KSRS	**Korea Array**	**6.59**	**310**	Pn		**Pn**		**00 01 37.3**	**-0.6**
baz=121,slow=15,SNR=3.6									
SONM	**Songino Array**	**25.44**	**313**	P		**P**		**00 05 28.5**	**-0.2**
0.4nm,0.7s,mb3.0,baz=118,slow=9.0,SNR=3.4									
MKAR	**Makanchi Array**	**41.24**	**305**	P		**P**		**00 07 46.6**	**+0.8**
0.6nm,0.6s,mb3.4,baz=88,slow=10.0,SNR=7.0									
PMG	**Port Moresby**	**44.30**	**162**	LR		LR		00 26 56.9	
comp=Z,429nm,18.8s,MS4.4,baz=312,slow=36									
HNR	**Honiara**	**49.10**	**146**	LR		LR		00 25 59.6	
comp=Z,149nm,19.6s,MS4.0,baz=359,slow=32									
CTA	**Charters Tower**	**54.40**	**166**	LR		LR		00 29 42.2	
comp=Z,294nm,20.6s,MS4.3,baz=141,slow=32									

BJI ***03*** *00:10:23.7,0425×12695E,h35km,mB5.0,mb5.1,Ms4.4, Msz3.7*
MOS ***03*** *00:10:27.9±1.2,0.19N×12657E,h33km,mb5.3/21,Error ellipse: s-maj=15.6km s-min=7.0km az=115.7*
NEIC ***03*** *00:10:29.9±0.2,0.12N×12665E,h35km,mb5.0/16,Error ellipse: s-maj=9.5km s-min=5.0km az=69.0*
NEIC Felt [II] on Ternate, Indonesia.
ISCJB ***03*** *00:10:32.0±0.8,009N±003×12669E±005,h71km±7km, mb4.9/69,Error ellipse: s-maj=8.3km s-min=5.0km az=144.7*
IDC ***03*** *00:10:31.8±1.6,0.10N×12664E,h52km±13km,mb4.5/19, mb1 4.5/20,mb1mx4.5/22,mbtmp4.5/20,ML4.4/1,MS3.9/11, Ms1 3.9/11,ms1mx3.6/24,Error ellipse: s-maj=20.3km s-min=8.1km az=74.0*
ISC 03 00:10:34.2±0.7,009N±003×12674E±005,h76km±6km, n164,σ1=05/156,mb4.9/69,6C-7D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.02**	**159**	P		**Pn**		**00 11 32.8**	**-0.5**
312nm,1.1s									
GSPH	**General Santos**	**6.22**	**343**	*e*P		**Pn**		**00 12 03.0**	**-0.4**
MATI	**Mati**	**6.83**	**356**	*e*P		**Pn**		**00 12 11.9**	**+0.2**
MATI	**Mati**	**6.83**	**356**	*e*P		**Pn**		**00 12 11.9**	**+0.2**
PCI	**Palu**	**6.98**	**262**	P		**Pn**		**00 12 12.7**	**-1.0**
203nm,1.0s									
BUKP	**Musuan**	**7.92**	**348**	*e*P		**Pn**		**00 12 26.9**	**+0.3**
BUKP	**Musuan**	**7.92**	**348**	*e*P		**Pn**		**00 12 26.9**	**+0.3**
TSM	**Tawau**	**9.80**	**295**	P		**Pn**		**00 12 52.0**	**-0.2**
KKM	**Kota Kinabalu**	**12.06**	**300**	P		**Pn**		**00 13 25.7**	**+2.7**
KKM	**Kota Kinabalu**	**12.06**	**300**	*e*Pn		**Pn**		**00 13 23.4**	**+0.4**
KAKA	**Kakadu**	**13.91**	**156**	*e*P		**Pn**		**00 13 44.6**	**-3.2**
54nm,1.1s									
KMMI	**Kalianget**	**14.58**	**241**	P		**Pn**		**00 14 02.9**	**+6.4**
266nm,1.4s									
NBBI	**Negara**	**14.71**	**235**	P		**Pn**		**00 14 04.0**	**+5.8**
314nm,1.2s									
KRKI	**Karangkates**	**16.43**	**240**	P		**Pn**		**00 14 23.5**	**+3.5**
436nm,1.3s									
KSM	**Kuching**	**16.49**	**275**	*e*Pn		**Pn**		**00 14 19.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.11**	**183**	*e*P		**Pn**		**00 14 39.0**	**-1.5**
19nm,1.2s									
FITZ	**Fitzroy Crossi**	**18.11**	**183**	P		**Pn**		**00 14 38.9**	**-1.6**
1.0nm,0.3s,baz=4.9,slow=12,SNR=24									
FITZ				LR		LR		00 22 07.4	
comp=Z,91nm,20.2s,baz=1.5,slow=38									
FITZ				ScP		ScP		00 22 41.8	+2.6
0.1nm,0.3s,baz=188,slow=3.9,SNR=3.7									
BJII	**Banjamegara**	**18.52**	**246**	P		**Pn**		**00 14 46.6**	**+1.1**
260nm,1.7s									
JCJI	**Jatiwangi**	**19.56**	**250**	P		**Pn**		**00 14 58.3**	**+0.5**
311nm,1.2s									
LEM	**Lembang**	**20.28**	**250**	P		**P**		**00 15 04.0**	**+0.4**
147nm,1.0s									
CBJI	**Citeko**	**20.88**	**252**	P		**P**		**00 15 10.6**	**+0.5**
242nm,1.0s									
WRAB	**Tennant Creek**	**21.24**	**160**	*d*P		**P**		**00 15 13.6**	**-0.4**
WRA	**Warramunga Arr**	**21.25**	**160**	P		**P**		**00 15 14.3**	**+0.2**
21nm,0.4s,mb4.8,baz=338,slow=10,SNR=74									
WRA				S		**S**		**00 19 07.0**	**+1.1**
8.8nm,1.0s,baz=334,slow=17,SNR=12									
WRA				ScP		ScP		00 22 49.0	+2.6
3.2nm,0.9s,baz=341,slow=3.1,SNR=9.7									
WRA	**Warramunga Arr**	**21.25**	**160**	P		**P**		**00 15 14.3**	**+0.2**
WRA				S		**S**		**00 19 07.0**	**+1.1**
WB2	**Warramunga Arr**	**21.25**	**160**	*e*P		**P**		**00 15 13.6**	**-0.5**
WB2				*e*S		**S**		**00 19 03.1**	**-2.9**
WB2				*e*SCS		ScS		00 26 30.8	+0.5
SBJI	**Serang**	**21.48**	**253**	P		**P**		**00 15 19.8**	**+3.3**
199nm,1.2s,mb5.3									
PMG	**Port Moresby**	**22.41**	**115**	P		**P**		**00 15 27.9**	**+1.5**
18nm,1.0s,mb4.3,baz=281,slow=5.7,SNR=7.1									
GUMO	**Guam**	**22.41**	**53**	LR		LR		00 23 30.0	
comp=Z,660nm,18.4s,baz=251,slow=35									
NACB	**Ninganchiao**	**24.46**	**349**	*e*P		**P**		**00 15 45.8**	**-0.2**
ASAR	**Alice Springs**	**24.61**	**164**	P		**P**		**00 15 47.6**	**+0.3**
21nm,0.4s,mb5.0,baz=344,slow=9.4,SNR=385									
ASAR				PcP		PcP		00 19 23.9	+0.7
0.8nm,0.3s,baz=358,slow=1.8,SNR=4.3									
ASAR				S		**S**		**00 20 09.9**	**+6.8**
7.0nm,1.0s,baz=348,slow=19,SNR=10.0									
ASAR				ScP		ScP		00 22 57.9	+2.6
1.2nm,0.7s,baz=346,slow=2.9,SNR=7.1									
ASAR	**Alice Springs**	**24.61**	**164**	P		**P**		**00 15 47.6**	**+0.3**
ASAR								00 19 23.9	
ASAR				S		**S**		**00 20 09.9**	**+6.8**
QIZ	**Qiongzhong**	**25.09**	**320**	⇓P		**P**		**00 15 52.0**	**+0.3**
QIZ				S		**S**		**00 20 09.9**	**-0.8**
QIZ				AMB		AMB			
comp=Z,39nm,1.1s,mb4.8									
QIZ				LR		LR			
comp=N,214nm,25.8s									
QIZ				LR		LR			
comp=E,185nm,26.1s									
QIZ				LR		LR			
comp=Z,242nm,29.0s									
QIZ	**Qiongzhong**	**25.09**	**320**	*e*P		**P**		**00 15 51.7**	**+0.1**
comp=Z,21nm,0.7s,mb4.7									
IPM	**Ipoh**	**26.06**	**280**	P		**P**		**00 16 02.6**	**+2.1**
PPI	**Padang Panjang**	**26.35**	**269**	P		**P**		**00 16 01.9**	**-1.2**
comp=Z,41nm,1.8s,mb4.6									
KULM	**Kulim**	**26.56**	**282**	*e*P		**P**		**00 16 05.9**	**+0.9**
JOW	**Kunigami**	**26.63**	**3**	P		**P**		**00 16 06.0**	**+0.4**
comp=Z,65nm,0.8s,mb5.2,baz=190,slow=10,SNR=5.9									
JOW				LR		LR		00 25 50.7	
comp=Z,108nm,20.9s,baz=340,slow=34									
CTA	**Charters Tower**	**27.70**	**138**	P		**P**		**00 16 19.8**	**+4.6**
comp=Z,4.9nm,0.8s,mb4.1,baz=301,slow=9.2,SNR=5.1									
CTA	**Charters Tower**	**27.70**	**138**	P		**P**		**00 16 19.8**	**+4.6**
PSI	**Prapat**	**27.94**	**276**	P		**P**		**00 16 16.7**	**-0.6**
comp=Z,8.4nm,0.9s,mb4.3,baz=110,slow=3.8,SNR=7.5									
FORT	**Forrest**	**30.72**	**178**	*e*P		**P**		**00 16 42.2**	**+0.3**
comp=Z,24nm,0.6s,mb5.1									
GYA	**Guiyang**	**32.58**	**325**	P		**P**		**00 16 58.6**	**+0.3**
GYA				AMB		AMB			
comp=Z,10.0nm,0.7s,mb4.8									
KLBR	**Kellerberrin**	**32.63**	**194**	*e*P		**P**		**00 16 58.0**	**-0.8**
comp=Z,25nm,1.0s,mb5.0									
CM31	**Chiang Mai Arr**	**32.85**	**305**	P		**P**		**00 16 57.5**	**-3.2**
comp=Z,2.3nm,0.5s,mb4.3									
MUN	**Mundaring**	**33.41**	**196**	*e*P		**P**		**00 17 04.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**34.04**	**194**	P		**P**		**00 17 11.1**	**+0.1**
comp=Z,5.4nm,0.7s,mb4.5,baz=64,slow=6.5,SNR=6.8									
NWAO	**Narrogin (SRO)**	**34.04**	**194**	*e*P		**P**		**00 17 11.3**	**+0.3**
NWAO				pmax		pmax			
comp=Z,14nm,1.1s									
NWAO	**Narrogin (SRO)**	**34.04**	**194**	*e*P		**P**		**00 17 11.3**	**+0.3**
comp=Z,14nm,1.1s,mb4.7									
STKA	**Stephens Creek**	**34.76**	**158**	*e*P		**P**		**00 17 17.8**	**+0.6**
comp=Z,25nm,0.9s,mb5.0									
STKA	**Stephens Creek**	**34.76**	**158**	P		**P**		**00 17 17.8**	**+0.6**
comp=Z,16nm,0.5s,mb5.1,baz=332,slow=8.2,SNR=43									
STKA	**Stephens Creek**	**34.76**	**158**	*e*P		**P**		**00 17 17.7**	**+0.5**
KSRS	**Korea Array**	**37.20**	**2**	P		**P**		**00 17 38.2**	**+0.2**
comp=Z,7.6nm,0.7s,mb4.7,baz=181,slow=9.7,SNR=18									
KSRS				PcP		PcP		00 19 57.3	+0.8
comp=Z,3.1nm,0.9s,baz=168,slow=3.1,SNR=4.6									
KSRS				ScP		ScP		00 23 39.1	+2.3
comp=Z,1.9nm,0.6s,baz=181,slow=3.3,SNR=6.4									
XAN	**Xi'an**	**37.69**	**335**	P		**P**		**00 17 41.8**	**-0.4**
XAN				AMB		AMB			
comp=Z,11nm,1.0s,mb4.6									
MAT	**Matsushiro**	**37.80**	**15**	P		**P**		**00 17 42.0**	**-1.1**
MJAR	**Matsushiro Arr**	**37.80**	**15**	P		**P**		**00 17 42.1**	**-1.0**
comp=Z,6.8nm,0.9s,mb4.5,baz=186,slow=8.6,SNR=10									
MJAR				PcP		PcP		00 19 59.4	+1.1
comp=Z,4.6nm,1.0s,baz=195,slow=3.1,SNR=5.2									
MJAR				ScP		ScP		00 23 41.0	+1.9
comp=Z,1.8nm,1.0s,baz=193,slow=5.1,SNR=4.7									
MJAR				LR		LR		00 30 32.7	
comp=Z,153nm,21.8s,baz=185,slow=32									
MJAR Matsushiro Arr 37.80 15 P **P 00 17 42.1 -1.0**									
MJAR								00 19 59.4	
BJT Baijiatuau 40.90 348 *e*P **P 00 18 09.2 +0.3**									
BJT pmax pmax									
comp=Z,26nm,0.8s									
BJT Baijiatuau 40.90 348 *e*P **P 00 18 09.2 +0.3**									
comp=Z,26nm,0.8s,mb5.1									
BJI Beijing 40.92 348 *e*P **P 00 18 09.3 +0.2**									
BJI S **S 00 24 29.9 +15**									
BJI AMB AMB									
comp=Z,36nm,0.8s,mb5.2									
BJI LR LR									
comp=Z,66nm,16.7s									
CNB Canberra Magne 41.06 151 *e*P **P 00 18 12.2 +2.0**									
comp=Z,73nm,1.9s,mb5.2									
TOO Toolangi 41.28 157 *e*P **P 00 18 14.0 +2.0**									
comp=Z,8.0nm,1.2s,mb4.4									
TOO Toolangi 41.28 157 *e*P **P 00 18 14.0 +2.0**									
TOO pmax pmax									
comp=Z,8.0nm,1.2s,mb4.4									
SNY Shenyang 41.65 356⇑P **P 00 18 15.5 +0.4**									
SNY AMB AMB									
comp=Z,16nm,0.5s,mb5.0									
LZH Lanzhou 41.67 332 *e*P **P 00 18 16.3 +1.1**									
LZH AP pP 00 18 27.8 -5.8									
LZH XP sP 00 18 32.0 -10									
LZH AMB AMB									
comp=Z,62nm,5.7s									
LZH LR LR									
comp=E,357nm,14.2s									
LZH LR LR									
comp=Z,495nm,17.8s									
SHL Shillong 42.12 310 *ex* x 00 18 06.0									
HHC Hu-ho-hao-te 42.85 343 *e*P **P 00 18 25.1 +0.3**									
HHC AMB AMB									
comp=Z,27nm,0.9s,mb5.0									
HHC AMB AMB									
comp=Z,93nm,5.5s									
MDJ Mudanjiang 44.41 3 P **P 00 18 37.6 +0.3**									
MDJ AMB AMB									
comp=Z,22nm,1.2s,mb4.8									
MDJ AMB AMB									
comp=Z,29nm,4.0s									
LSA Lhasa 44.91 314 *e*P **P 00 18 41.9 +0.6**									
LSA pmax pmax									
comp=Z,13nm,0.7s,mb4.8									
LSA Lhasa 44.91 314 *e*P **P 00 18 41.9 +0.6**									
comp=Z,13nm,0.7s,mb4.8									
BOK Bokaro 46.10 304 *e*P **P 00 18 51.0 +0.3**									
GTA Gaotai 46.24 331 P **P 00 18 52.8 +1.0**									
GTA PCP PcP 00 20 27.4 +1.2									
GTA SCP ScP 00 24 16.9 +4.1									
GTA AMB AMB									
comp=Z,20nm,1.2s,mb4.7									
JIRN Jiri 47.58 309 *e*P **P 00 19 01.9 -0.3**									
comp=Z,33nm,0.8s,mb5.2									
JIRN Jiri 47.58 309 *e*P **P 00 19 01.9 -0.3**									
comp=Z,33nm,0.8s,mb5.2									
MDRS Chennai 47.85 288 *e*P **P 00 19 04.2 -0.1**									
MDRS AMb AMB 00 19 06.8									
comp=Z,70nm,1.3s,mb5.3									
GUN Gumba 47.94 309 *e*P **P 00 19 04.8 -0.2**									
comp=Z,75nm,0.8s,mb5.6									
GUN Gumba 47.94 309 *e*P **P 00 19 05.0 0.0**									
comp=Z,75nm,0.8s,mb5.6									
PKI Pulchoki 48.15 308 *e*P **P 00 19 06.0 -0.6**									
PKI Pulchoki 48.15 308 *e*P **P 00 19 05.9 -0.7**									
KKN Kakani 48.35 308 *e*P **P 00 19 07.8 -0.4**									
comp=Z,32nm,0.9s,mb5.2									
KKN Kakani 48.35 308 *e*P **P 00 19 07.8 -0.4**									
comp=Z,32nm,0.9s,mb5.2									
DMN Daman 48.40 308 *e*P **P 00 19 08.4 -0.2**									
comp=Z,46nm,1.0s,mb5.3									
DMN Daman 48.40 308 *e*P **P 00 19 08.5 -0.1**									
comp=Z,46nm,1.0s,mb5.3									
GKN Gorkha 48.95 308 *e*P **P 00 19 12.1 -0.7**									
comp=Z,38nm,0.9s,mb5.3									
GKN Gorkha 48.95 308 *e*P **P 00 19 12.1 -0.7**									
comp=Z,38nm,0.9s,mb5.3									
KLR Kul'dur 49.14 4 *e*P **P 00 19 10.5 -3.8**									
KLR pmax pmax									
comp=Z,30nm,1.2s,mb5.1									
KOLN Koldanda 49.67 307 *e*P **P 00 19 18.0 -0.2**									
KOLN Koldanda 49.67 307 *e*P **P 00 19 18.1 -0.1**									
comp=Z,57nm,0.8s,mb5.6									
HYB Hyderabad 50.44 293 *i*P **P 00 19 23.0 -1.1**									
HYB Hyderabad 50.44 293 *e*P **P 00 19 23.0 -1.1**									
SONM Songino Array 50.74 342 P **P 00 19 26.9 +0.5**									
comp=Z,20nm,0.9s,mb5.1,baz=156,slow=8.2,SNR=78									
SONM PcP PcP 00 20 43.3 +0.8									
comp=Z,3.2nm,0.8s,baz=152,slow=4.1,SNR=3.8									
NGP Nagpur 51.04 297 *e*P **P 00 19 27.0 -1.6**									
AKL Akola 52.72 296 *e*P **P 00 19 40.5 -0.6**									
AKL AMb AMB 00 19 43.6									
comp=Z,45nm,1.3s,mb5.3									
CIT Chita 52.93 350 *e*P **P 00 19 43.0 +0.4**									
BHPL Bhopal 53.12 299 *e*P **P 00 19 43.8 -0.3**									
BHPL AMb AMB 00 19 44.0									
comp=Z,18nm,0.8s,mb5.1									
ZAK Zakamensk 53.96 342 *e*P **P 00 19 49.6 -0.6**									
ZAK *e* 00 20 55.2									
ZAK pmax pmax									
comp=Z,7.0nm,1.1s,mb4.6									
ZAK pmax pmax									
comp=Z,3.0nm,0.9s,mb4.3									
KAD Karad 54.47 291 *e*P **P 00 19 53.5 -0.4**									
TLY Talaya 54.98 343 *e*P **P 00 20 00.2 +2.6**					

AAK	**Ala-Archa**	63.08	319	*e*P		**P**	00 20 53.6	0.0
	comp=Z,12nm,0.8s,mb4.9							
FRU	**Bishkek**	63.09	319	*e*P		**P**	00 20 54.0	+0.4
USP	**Ospenovka**	63.37	320	P		**P**	00 20 56.4	+0.9
	SNR=37							
AML	**Almayashu**	63.38	318	P		**P**	00 20 57.3	+1.8
	SNR=24							
EKS2	**Erkin-Say**	63.56	319	P		**P**	00 20 58.3	+1.5
	SNR=17							
ZAL	**Zalesovo**	63.84	334	P		**P**	00 20 58.1	-0.4
	comp=Z,3.1nm,0.8s,mb4.2,baz=352,slow=6.8,SNR=19							
ZAL				LR		LR	00 49 57.6	
	comp=Z,66nm,20.3s,baz=188,slow=37							
NVS	**Novosibirsk**	65.12	334⇑	*i*P		**P**	00 21 05.5	-1.4
NVS				*e*			00 21 17.8	
NVS				*i*S		S	00 29 42.5	-1.3
NVS				pmax		pmax		
	comp=Z,27nm,1.3s,mb4.9							
NVS				pmax		pmax		
	comp=N,23nm,1.5s							
NVS				pmax		pmax		
	comp=E,23nm,1.4s							
NVS				smax				
	comp=E,21nm,1.6s							
NVS				smax				
	comp=N,17nm,2.0s							
KK31	**Karatay Array**	65.92	318	*i*P		**P**	00 21 12.5	+0.4
KK31				pmax		pmax		
	comp=Z,38nm,1.1s,mb5.1							
KKAR	**Karatay Array**	65.92	318	*i*P		**P**	00 21 12.5	+0.4
KKAR				pmax		pmax		
	comp=Z,42nm,1.1s,mb5.2							
BVA0	**Borovoye Array**	70.38	328	*i*P		**P**	00 21 39.1	-0.9
BVA0				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.2							
BRVK	**Borovoye**	70.45	328	*e*P		**P**	00 21 40.1	-0.3
BRVK				*e*			00 21 53.5	
BRVK				pmax		pmax		
	comp=Z,50nm,1.4s,mb5.2							
BRVK	**Borovoye**	70.45	328	*e*P		**P**	00 21 40.1	-0.3
	comp=Z,50nm,1.4s,mb5.2							
BRVK				*e*			00 21 53.5	
TIXI	**Tiksi**	71.46	1	*e*P		**P**	00 21 43.7	-2.9
TIXI				*e*		pP	00 22 01.1	-5.4
TIXI				pmax		pmax		
	comp=Z,24nm,1.4s,mb4.8							
TIXI	**Tiksi**	71.46	1⇑	*e*P		**P**	00 21 46.1	-0.5
	comp=Z,29nm,1.2s,mb5.0							
AB31	**Akbulak array**	74.98	321	P		**P**	00 22 06.8	-0.5
SVE	**Sverdlovsk**	77.06	329	*e*P		**P**	00 22 16.0	-3.1
ARU	**Arti**	78.01	328⇓	*i*P		**P**	00 22 22.8	-1.6
ARU				*e*			00 22 32.2	
ARU				*e*			00 25 20.0	
ARU				*e*S		S	00 32 16.8	+4.7
ARU				*e*SS		SS	00 37 23.5	+8.9
ARU				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.6							
ARU	**Arti**	78.01	328	*e*P		**P**	00 22 23.4	-1.0
	comp=Z,9.2nm,0.9s,mb4.5							
ORR	**Orenburg**	78.82	323	*e*P		**P**	00 22 29.3	+0.5
ORR				pmax		pmax		
	comp=Z,20nm,1.0s,mb4.9							
VNDA	**Vanda**	79.83	173	P		**P**	00 22 33.6	-0.8
	comp=Z,2.6nm,0.8s,mb4.1,baz=318,slow=6.7,SNR=8.0							
VNDA				LR		LR	00 54 53.1	
	comp=Z,119nm,21.4s,baz=337,slow=33							
MAW	**Mawson**	80.36	200	P		**P**	00 22 37.1	-0.2
	comp=Z,3.0nm,0.8s,mb4.2,baz=42,slow=8.3,SNR=6.1							
MAW				LR		LR	00 59 17.1	
	comp=Z,88nm,18.1s,baz=249,slow=36							
SVW2	**Sparrevohn**	83.97	29	*e*P		**P**	00 22 57.5	+1.4
PPT	**Papeete**	84.00	108	*e*S		S	00 33 19.4	+5.1
	comp=Z,51nm,25.5s							
PPT				*e*LR		LR	00 49 22.7	
	comp=Z,174nm,29.8s							
PPT	**Papeete**	84.00	108	LR		LR	00 59 24.6	
	comp=Z,131nm,19.1s,baz=234,slow=35							
TBI	**Tubuai**	84.33	113	*e*S		S	00 33 23.0	+5.4
	comp=Z,94nm,29.8s							
TBI				*e*LR		LR	00 49 32.8	
	comp=Z,136nm,25.5s							
ZEI	**Tsey**	84.68	313	*e*P		**P**	00 23 00.1	+0.4
ZEI				pmax		pmax		
	comp=Z,18nm,1.2s,mb4.9							
KDAK	**Kodiak Island**	84.95	32	LR		LR	01 00 00.1	
	comp=Z,138nm,18.8s,baz=287,slow=35							
IMA2	**Indian Mountai**	85.69	24	*e*P		**P**	00 23 05.0	+0.3
KLMR	**Klimovskoe**	88.57	331	*e*P		**P**	00 23 14.1	-4.5
KLMR				pmax		pmax		
	comp=Z,19nm,1.1s,mb5.0							
SYO	**Syowa Base**	89.05	201⇑	*e*P		**P**	00 23 20.0	-0.9
ANN	**Anapa**	89.45	315	*e*P		**P**	00 23 22.7	0.0
ANN				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.2							
KMBO	**Kilima Mbogo**	89.49	269	P		**P**	00 23 25.1	+2.1
	comp=Z,2.4nm,0.8s,mb4.3,baz=51,slow=8.6,SNR=6.4							
KMBO				LR		LR	01 03 16.3	
	comp=Z,72nm,19.2s,baz=93,slow=35							
QSPA	**South Pole Qui**	90.02	180	*e*P		**P**	00 23 25.5	+0.1
	comp=Z,6.3nm,0.9s,mb4.8							
OBN	**Obninsk**	90.03	325⇑	*e*P		**P**	00 23 24.3	-1.1
OBN				pmax		pmax		
	comp=Z,44nm,1.6s,mb5.3							
BRTR	**Keskin Array B**	92.34	310	P		**P**	00 23 35.1	-1.0
	comp=Z,1.1nm,0.9s,mb4.1,baz=127,slow=5.9,SNR=6.7							
ARCES	**ARCESS Array B**	93.85	340	P		**P**	00 23 41.9	-1.2
	comp=Z,4.8nm,0.6s,mb5.0,baz=86,slow=6.2,SNR=8.2							
FINES	**FINESS Array B**	95.03	332	P		**P**	00 23 46.3	-2.2
	comp=Z,2.9nm,0.9s,mb4.7,baz=255,slow=3.0,SNR=3.7							
TIRR	**Tirgusor**	95.90	315⇓	*i*P		**P**	00 23 51.1	-1.4
MLR	**Muntele Rosu**	97.51	316⇓	*i*P		**P**	00 24 00.1	+0.3
RKT	**Rikitea**	97.66	113	*e*LR		LR	00 55 31.3	
	comp=Z,99nm,33.5s							
BURAR	**Bucovina Array**	97.71	318⇑	*i*P		**P**	00 24 00.6	-0.1
LSZ	**Lusaka**	98.28	255	P		**P**	00 24 03.5	+0.3
	comp=Z,0.5nm,0.4s,mb4.4,baz=140,slow=4.0,SNR=5.4							
NOA	**NORSAR Array B**	102.03	333	P		Pdif	00 24 18.4	-1.5
	comp=Z,1.8nm,0.8s,baz=68,slow=4.4,SNR=2.9							
TXAR	**Lajitas Array**	123.76	54	PKP		PKPdf	00 29 25.1	+1.8
	comp=Z,0.8nm,0.8s,baz=343,slow=3.9,SNR=5.6							
TORD	**Torodi Ar. Bea**	123.99	286	PKP		PKPdf	00 29 25.2	+1.5
	comp=Z,4.5nm,0.8s,baz=57,slow=2.0,SNR=26							
TORD				PP		PP	00 31 12.8	+4.5
	comp=Z,2.9nm,1.1s,baz=59,slow=4.3,SNR=14							
TORD	**Torodi Ar. Bea**	123.99	286	PKP		PKPdf	00 29 25.2	+1.5
TORD				PP		PP	00 31 12.8	+4.5
JCT	**Junction City**	126.37	51	*e*PKIKP		PKPdf	00 29 29.6	+1.4
SDV	**Santo Domingo**	160.53	62	PKP		PKPdf	00 30 27.3	+2.1
	comp=Z,10nm,1.1s,baz=227,slow=4.2,SNR=4.5							
SDV				PKPab		PKPab	00 31 08.8	+2.0
	comp=Z,3.3nm,0.8s,baz=317,slow=2.8,SNR=3.6							
SDV	**Santo Domingo**	160.53	62	PKP		PKPdf	00 30 27.3	+2.1
SDV				PKPab		PKPab	00 31 08.8	+2.0
SIV	**San Ignacio**	162.41	154	PKP		PKPdf	00 30 29.1	+2.0
	comp=Z,3.8nm,1.0s,baz=222,slow=2.0,SNR=11							
SIV				PKPab		PKPab	00 31 16.3	+1.3
	comp=Z,0.5nm,0.5s,baz=244,slow=5.0,SNR=3.8							

IDC 03 00:11:01.1±15.0, 2244N×14298E, h236km±124km, mb3.2/4, mb1 3.3/5, mb1mx3.1/20, mbtmp3.1/5, Error ellipse: s-maj=89.5km s-min=41.8km az=179.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	19.81	322	P	P	00 15 14.2	+0.3
	baz=139,slow=9.1,SNR=4.6						
SONM	**Songino Array**	38.65	320	P	P	00 18 01.2	-0.6
	0.7nm,0.5s,baz=129,slow=7.8,SNR=6.3						
ZAL	**Zalesovo**	53.52	321	P	P	00 19 57.5	+0.1
	0.7nm,0.6s,baz=9.8,slow=7.3,SNR=5.1						
MKAR	**Makanchi Array**	54.06	312	P	P	00 20 01.5	+0.2
	0.4nm,0.5s,baz=91,slow=9.0,SNR=6.6						
YKA	**Yellowknife Ar**	75.89	28	P	P	00 22 21.4	-0.2
	0.4nm,0.5s,baz=293,slow=5.8,SNR=9.5						
LPAZ	**La Paz**	150.06	84	PKPbc	PKPbc	00 30 24.9	+1.3
	2.3nm,1.0s,baz=1.1,slow=3.7,SNR=7.2						

*ISCJB **03** 00:15:02.2±0.8, 10S±0.1×133W±0.1, h10km, mb4.2/10, MS3.9/7, Error ellipse: s-maj=19.6km s-min=13.6km az=86.6*
*IDC **03** 00:15:03.3±1.9, 0.98S×1337W, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.9/22, mbtmp4.1/7, MS3.9/7, Ms1 3.9/7, ms1mx3.7/22, Error ellipse: s-maj=51.9km s-min=26.1km az=70.0*
*NEIC **03** 00:15:03.7±0.9, 108S×1327W, h10km, mb4.6/5, Error ellipse: s-maj=22.5km s-min=21.0km az=112.0*

ISC 03 00:15:04.3±0.8, 10S±01×133W±01, h10km, n19, σ1°17/16, mb4.2/10, MS3.9/7, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOA0	**Torodi Ar. Sit**	20.48	46	*e*P	**P**	00 19 41.9	-0.3
TOA0				*e*S	**S**	00 23 23.0	-8.4
TORD	**Torodi Ar. Bea**	20.48	46	P	**P**	00 19 41.8	-0.5
	3.7nm,0.9s,baz=230,slow=11,SNR=20						
TORD				S	**S**	00 23 26.3	-5.2
	5.5nm,0.9s,baz=232,slow=22,SNR=7.2						
TORD				LR	LR	00 27 01.1	
	comp=Z,283nm,18.7s,MS3.7,baz=225,slow=35						
KEST	**Kesra**	42.22	28	P	**P**	00 22 58.1	+0.6
	2.1nm,1.1s,mb3.7,baz=292,slow=11,SNR=2.6						
LSZ	**Lusaka**	43.35	111	P	**P**	00 23 07.4	+0.7
	1.3nm,0.6s,mb3.9,baz=44,slow=12,SNR=4.3						
LBTB	**Lobatse**	44.51	126	P	**P**	00 23 13.1	-2.9
	4.3nm,1.0s,mb4.2						
BOSA	**Boshof**	45.93	130	P	**P**	00 23 29.1	+1.9
	2.0nm,0.8s,mb4.1,baz=281,slow=10,SNR=2.9						
BOSA				LR	LR	00 39 43.9	
	comp=Z,54nm,19.9s,MS3.5,baz=273,slow=32						
BOSA	**Boshof**	45.93	130	P	**P**	00 23 27.9	+0.7
	22nm,1.5s,mb4.9						
BOSA				LR	LR	00 39 43.9	
SAML	**Samuel**	50.24	259	*e*P	**P**	00 24 00.7	+0.1
	9.0nm,1.6s,mb4.5						
KMBO	**Kilima Mbogo**	50.57	91	LR	LR	00 44 14.0	
	comp=Z,273nm,18.7s,MS4.3,baz=85,slow=35						
GERES	**GERESS Array B**	54.88	22	P	**P**	00 24 35.6	+0.7
	1.8nm,0.8s,mb4.2,baz=194,slow=4.8,SNR=12						
GERES				PP	PP	00 26 40.6	+2.8
	0.9nm,0.9s,baz=210,slow=7.7,SNR=3.9						
GERES				LR	LR	00 48 28.0	
	comp=Z,130nm,18.3s,MS4.0,baz=97,slow=36						
GERES	**GERESS Array B**	54.88	22	P	**P**	00 24 35.6	+0.7
GERES				PP	PP	00 26 40.6	+2.8
GERES				LR	LR	00 48 28.0	
LPAZ	**La Paz**	56.06	251	LR	LR	00 46 48.7	
	comp=Z,98nm,18.7s,MS3.9,baz=292,slow=34						
ANTO	**Ankara**	58.51	41	*e*P	**P**	00 25 00.2	-0.6
	6.7nm,0.6s,mb4.8						
MALT	**Malatya**	61.56	45	P	**P**	00 25 21.1	-0.6
	0.9nm,0.4s,mb4.2						
NOA	**NORSAR Array B**	64.69	13	LR	LR	00 56 33.1	
	comp=Z,42nm,19.9s,MS3.6,baz=275,slow=38						
FINES	**FINESS Array B**	69.15	19	P	**P**	00 26 13.1	+2.3
	3.4nm,0.9s,mb4.2,baz=193,slow=7.8,SNR=5.3						
BVAR	**Borovoye Array**	87.00	37	LR	LR	01 09 15.2	
	comp=Z,114nm,18.8s,MS4.3,baz=222,slow=37						
YKA	**Yellowknife Ar**	96.10	333	P	**P**	00 28 30.5	-1.6
	0.4nm,0.8s,mb3.9,baz=74,slow=5.0,SNR=4.5						
ASAR	**Alice Springs**	139.81	130	PKhKP		00 34 21.3	
	0.1nm,0.7s,baz=228,slow=2.4,SNR=3.0						
ASAR				PKP	PKPdf	00 34 34.1	+1.5
	0.3nm,0.7s,baz=228,slow=2.2,SNR=4.1						

IDC 03 00:25:38.5±1.9, 014N×12653E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=173.3km s-min=23.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	21.38	159	P	P	00 30 27.5	0.0
	0.7nm,0.4s,baz=338,slow=10,SNR=9.4						
ASAR	**Alice Springs**	24.73	164	P	P	00 31 01.9	+0.5
	0.7nm,0.3s,baz=345,slow=12,SNR=15						
MKAR	**Makanchi Array**	60.39	327	P	P	00 35 49.7	+0.2
	0.3nm,0.3s,baz=121,slow=7.5,SNR=16						

*CSEM **03** 00:26:24.6, 6786N×2021E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **03** 00:26:24.6, 6786N×2021E, h0km, ML3.0, Mining explosion.*

HEL 03 00:26:25.2±0.1, 6786N×2021E, h0km, ML1.6, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.11	27	*i*P	Pg	00 26 26.9	-0.4
KUA				*i*S	Sg	00 26 28.7	0.0
NIKU	**Nikkaluokta**	0.44	272	*i*P	Pg	00 26 33.2	-0.6
LANU	**Lannavaara**	0.70	73	*i*P	Pg	00 26 37.9	-0.7
LANU	**Lannavaara**	0.70	73	P	Pg	00 26 37.9	-0.7
	baz=303						
DUNU	**Dundret**	0.75	169	*i*P	Pg	00 26 38.5	-1.1
DUNU	**Dundret**	0.75	169	P	Pg	00 26 38.5	-1.2
MASU	**Masugnsbyn**	0.80	120	*i*P	Pg	00 26 39.6	-0.8
SALU	**Saltoluokta**	0.81	234	*i*P	Pg	00 26 39.8	-0.9
KIF	**Kilpisjarvi**	1.17	11	*e*P	Pg	00 26 47.2	-0.5
KIF				*e*S	Sg	00 27 02.7	-0.1
PAJU	**Pajala**	1.40	125	*e*P	Pn	00 26 50.1	-1.9
HARU	**Harads**	1.73	170	*e*P	Pn	00 26 56.0	-0.6
HARU	**Harads**	1.73	170	P	Pn	00 26 56.0	-0.5
	baz=326						
SJUU	**Sjulsmark**	2.43	166	*e*P	Pn	00 27 06.4	+0.3
SGF	**Sodankyl**	2.45	97	*e*P	Pn	00 27 06.4	-0.1
SGF				*e*S	Sn	00 27 36.2	-0.9
SGF				MSG		00 27 42.1	
	comp=Z,4.0nm,0.2s						
KEV	**Kevo**	3.12	49	*e*P	Pn	00 27 15.5	-0.1
KEV				*e*S	Sn	00 27 52.0	-1.6
KEV				MSG		00 28 00.8	
	comp=Z,1.2nm,0.2s						
OUL	**Oulu**	3.60	138	*e*S	Sn	00 28 04.9	-0.5
OUL				MSG		00 28 17.5	
	comp=Z,0.9nm,0.2s						
KU6	**Riekki**	4.23	111	*e*S	Sn	00 28 19.7	-1.3

*CSEM **03** 00:46:51.4±0.2, 3931N×2303E, h0km±1km, ML3.1, Error ellipse: s-maj=3.9km s-min=2.9km az=99.0*
*ISCJB **03** 00:46:52.4±0.3, 3928N±002×2304E±004, h10km, Error ellipse: s-maj=4.3km s-min=3.5km az=15.0*
*NEIC **03** 00:46:52.0, 3925N×2301E, h17km, ML3.1(ATH), After ATH.*
*ATH **03** 00:46:52.0, 3925N×2301E, h17km±1km, MD3.4/21, ML3.1*
*SKO **03** 00:46:53.6, 3928N×2292E, h14km*

ISC 03 00:46:52.4±0.6, 3927N±002×2301E±004, h5km±5km, n33, σ0°95/41, 4C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	0.17	77⇑	*i*PB	**Pg**	00 46 56.3	+0.5
NEO				*e*SB	**Sg**	00 46 59.7	+1.6
LKR	**Lokris**	0.62	181⇑	*i*PB	**Pg**	00 47 03.5	-0.7
THL	**Klokotos Trika**	0.82	291⇓	*i*PN	**Pg**	00 47 06.7	-1.5
EVR	**Evrytania**	1.00	250	*e*PN	**Pg**	00 47 10.5	-1.0
EVR				*e*SN	**Sg**	00 47 25.1	+0.7
PLG	**Polygyros**	1.16	17⇓	*i*PN	**Pg**	00 47 14.2	-0.4
PLG				*e*SN	**Sg**	00 47 29.7	+0.2
MGER	**Gerania Oros**	1.29	171	*e*PN	**Pn**	00 47 16.0	-1.2
PTL	**Penteli**	1.39	151	*e*PN	**Pn**	00 47 18.0	-0.5
PTL				*e*SN	**Sn**	00 47 37.0	-0.3
ATH	**Athens Observa**	1.41	157	*e*PN	**Pn**	00 47 19.6	+0.8
KZN	**Kozani**	1.41	318⇓	*i*PN	**Pn**	00 47 18.4	-0.4
KZN				*e*SN	**Sn**	00 47 39.2	+1.5
NAIG	**Nisos Aigina**	1.55	166	*e*PB	**Pn**	00 47 19.2	-1.6
KVR	**Kavouri**	1.56	157	*e*PN	**Pn**	00 47 20.0	-0.8
RLS	**Riolos of Patr**	1.71	225	*e*PN	**Pn**	00 47 24.2	+1.3
JAN	**Janina**	1.71	284	*e*PN	**Pn**	00 47 23.9	+0.9
VAY	**Valandovo**	2.08	351	*e*Pn	**Pn**	00 47 27.1	-0.8
VAY				*e*Sn	**Sn**	00 47 52.3	-1.9
VAY	**Valandovo**	2.08	351	*e*Pn	**Pn**	00 47 27.1	-0.8
VAY				*e*Sn	**Sn**	00 47 52.3	-1.9
VAY	**Valandovo**	2.08	351	*e*Pn	**Pn**	00 47 27.1	-0.9
VAY				*e*Sn	**Sn**	00 47 52.3	-2.0
NVR	**Nevrokopi**	2.18	17	*e*PN	**Pb**	00 47 31.4	-1.0
VLS	**Valsamata**	2.18	241	*e*PN	**Pn**	00 47 31.0	+1.6
ITM	**Ithomi**	2.25	203	*e*PN	**Pn**	00 47 31.9	+1.5
MMB	**Musomiste**	2.38	13	*i*P	**Pn**	00 47 31.7	-0.5
KRUS	**Krusevo**	2.49	328	*e*Pn	**Pn**	00 47 34.2	+0.6
KEK	**Kerkira**	2.52	281	*e*PN	**Pn**	00 47 34.1	0.0
PRK	**Paraskevi**	2.54	89	*e*PN	**Pn**	00 47 34.7	+0.5
VLI	**Veliai**	2.55	181	*e*PN	**Pn**	00 47 34.0	-0.4
KKB	**Krupnik**	2.60	1	*i*P	**Pn**	00 47 34.9	-0.2
RDO	**Rodhopi**	2.70	45	*e*PN	**Pn**	00 47 36.1	-0.4
RZN	**Rozhen**	2.75	28	*i*P	**Pn**	00 47 37.0	-0.2
VTS	**Vitosha**	3.32	3	*i*P	**Pn**	00 47 45.7	+0.6
VTS	**Vitosha**	3.32	3⇑	*i*P	**Pn**	00 47 45.6	+0.5
SZH	**Strazhica**	4.56	28	*i*P	**Pn**	00 48 02.0	-0.1
MLR	**Muntele Rosu**	6.59	18⇓	*i*P	**Pn**	00 48 31.8	+1.8
VRI	**Vrincioaia**	7.14	21⇓	*i*P	**Pn**	00 48 32.1	-5.5
PKSM	**Moragy**	7.65	337⇑	*i*P	**Pn**	00 48 44.4	-0.1

*IDC **03** 00:48:47.5±1.2, 005S×12639E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=100.7km s-min=18.8km az=69.0*
*ISCJB **03** 00:48:50.3±0.9, 0.1S±0.1×1264E±03, h35km, mb3.8/6, Error ellipse: s-maj=50.6km s-min=12.6km az=144.5*
*NEIC **03** 00:48:52.5±0.7, 008S×12642E, h35km, mb4.0/1, Error ellipse: s-maj=38.2km s-min=9.5km az=72.0*

ISC 03 00:48:52.7±0.9, 01S±01×1264E±03, h35km, n9, σ0°53/9, mb3.8/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	17.92	182	P	**Pn**	00 52 58.5	-0.6
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=3.0						
WRA	**Warramunga Arr**	21.21	159	P	**P**	00 53 35.1	-0.3
	1.4nm,0.3s,mb3.8,baz=338,slow=11,SNR=17						
WB2	**Warramunga Arr**	21.22	159	*e*P	**P**	00 53 34.8	-0.6
ASAR	**Alice Springs**	24.55	163	P	**P**	00 54 09.8	+0.7
	2.6nm,0.4s,mb4.2,baz=342,slow=9.4,SNR=50						
NWAO	**Narrogin (SRO)**	33.79	194	*e*P	**P**	00 55 32.0	+0.8
	1.2nm,0.6s,mb4.0						
STKA	**Stephens Creek**	34.74	157	P	**P**	00 55 39.7	+0.3
	1.0nm,0.4s,mb4.1,baz=325,slow=11,SNR=5.6						
SONM	**Songino Array**	50.80	343	P	**P**	00 57 49.9	+0.4
	0.2nm,0.7s,mb3.2,baz=145,slow=3.9,SNR=2.7						
MK31	**Makanchi Array**	60.51	327	*e*P	**P**	00 58 58.6	-0.6
MKAR	**Makanchi Array**	60.51	327	P	**P**	00 58 59.1	-0.1
	0.4nm,0.5s,mb3.9,baz=120,slow=8.1,SNR=13						

IDC 03 00:49:12.0±3.9, 383S×15187E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/13, mbtmp3.7/2, Error ellipse: s-maj=178.3km s-min=46.5km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	23.42	225	P	P	00 54 23.2	+0.3
	1.5nm,0.6s,baz=51,slow=9.9,SNR=11						
ASAR	**Alice Springs**	26.27	220	P	P	00 54 49.5	+0.6
	1.3nm,0.8s,baz=55,slow=8.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	149.12	289	PKPbc	PKPbc	01 09 02.7	+0.4
	0.2nm,0.4s,baz=90,slow=1.4,SNR=3.0						

*IDC **03** 00:54:28.4±0.5, 4736N×153.15E, h0km, mb4.3/24, mb1 4.5/25, mb1mx4.5/27, mbtmp4.3/25, ML3.6/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/45, Error ellipse: s-maj=16.8km s-min=13.1km az=146.0*
*BJI **03** 00:54:29.7, 4739N×15341E, h24km, mB4.8, mb4.5, Ms4.4, Msz4.2*
*SZGRF **03** 00:54:29.6, 4708N×15588E, h33km, mb5.2, East of Kuril Islands, Russia*
*SKHL **03** 00:54:29.8±0.3, 4700N×15390E, h65km±34km, mb5.3/4, ms3.9/1, msh5.5/2*
*NEIC **03** 00:54:30.3±0.2, 4738N×153.11E, h10km, mb4.8/38, Error ellipse: s-maj=6.8km s-min=4.2km az=167.0*
*ISCJB **03** 00:54:34.6±0.2, 4728N±004×15325E±004, h57km, mb4.6/85, MS3.9/12, Error ellipse: s-maj=6.7km s-min=3.0km az=121.6*
*MOS **03** 00:54:34.7±0.8, 4731N×153.13E, h57km, mb4.8/35, Error ellipse: s-maj=9.3km s-min=5.6km az=97.8*

ISC 03 00:54:36.7±0.2, 4739N±004×15320E±005, h59km, h59km±.5km: pP-P, n258, σ1°02/259, mb4.6/85, MS3.9/12, 26C-16D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	3.81	29	*e*P	**Pn**	00 55 32.5	-0.4
SKR				AMB	AMB	00 55 37.0	
	150nm,0.5s						
SKR				AMB	AMB	00 55 37.0	
	120nm,0.5s						
SKR				AMB	AMB	00 55 37.0	
	230nm,0.5s						
SKR				*e*S	**Sn**	00 56 12.0	-4.5
SKR				A		00 56 26.7	
	540nm,0.5s						
SKR				A		00 56 26.7	
	390nm,0.5s						
SKR				A		00 56 26.7	
	150nm,0.5s						
SKR				A		00 56 26.7	
	2μm,2.0s						
SKR				A		00 56 26.7	
	2μm,2.0s						
KUR	**Kuril'sk**	4.28	242⇓	*i*PN	**Pn**	00 55 37.5	-1.8
KUR				*e*S	**Sn**	00 56 28.0	+0.1
KUR				pmax	pmax		
	comp=N,280nm,0.9s						
KUR				pmax	pmax		
	comp=E,280nm,0.9s						
KUR				pmax	pmax		
	comp=Z,710nm,0.9s						
KUR				smax			
	comp=E,4μm,2.0s						
KUR				smax			
	comp=N,860nm,0.6s						
KUR				smax			
	comp=E,1μm,0.6s						
KUR	**Kuril'sk**	4.28	242⇓	*i*P	**

TYV Tymovskoe 7.74 301 *eP* **Pn 00 56 30.5 +3.8**
TYV AMB AMB 00 56 41.5
comp=E,44nm,0.8s
TYV AMB AMB 00 56 41.5
comp=E,84nm,0.8s
JWK2 Keihoku 8.09 259 P **Pn 00 56 37.5 +6.0**
ASAJ Asahikawa 8.11 250 Pn **Pn 00 56 34.6 +2.9**
comp=E,5.3nm,0.3s,baz=46,slow=16,SNR=25
ASAJ LR LR 00 59 25.7
comp=E,412nm,20.6s,baz=11,slow=37
ASAJ Asahikawa 8.11 250 P **Pn 00 56 34.8 +3.1**
ASAJ *eS* **Sn 00 58 04.8 +3.0**
ASAJ Asahikawa 8.11 250 PN **Pn 00 56 34.6 +2.9**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,412nm,20.6s
JEM Erimo 8.94 237 P **Pn 00 56 43.1 -0.1**
JEM *eS* **Sn 00 58 20.3 -2.1**
ERM Erimo 8.94 237 *ce*PN **Pn 00 56 42.3 -0.9**
JEW Eniwo 9.47 246 P **Pn 00 56 51.9 +1.5**
JSH Shimam 10.45 248 P **Pn 00 57 04.5 +0.7**
JOT Ohata 10.56 240 P **Pn 00 57 03.0 -2.3**
JOT *eS* **Sn 00 58 51.0 -11**
JTM Tenmabayashi 10.93 237 P **Pn 00 57 07.0 -3.4**
JTM *eS* **Sn 00 59 01.8 -9.3**
JOM Ohasama 11.72 232 P **Pn 00 57 15.8 -5.3**
JOM *eS* **Sn 00 59 20.2 -10**
HABR Khabarovsk 12.22 282 *e*PN **Pn 00 57 27.1 -0.9**
MA2 Magadan 12.29 354 *e*PN **Pn 00 57 30.4 +1.5**
MA2 pmax pmax
comp=Z,18nm,0.6s
MA2 Magadan 12.29 354 *e*Pn **Pn 00 57 30.4 +1.5**
comp=Z,18nm,0.6s
JMM Marumori 13.18 228 *e*S **Sn 00 59 56.2 -10**
KLR Kul'dur 14.39 285 *e*P **Pn 00 57 59.6 +2.4**
MAJO Matsushiro 15.52 231 *e*P **Pn 00 58 15.2 +3.3**
MAJO pmax pmax
comp=Z,41nm,0.9s
MAJO Matsushiro 15.52 231 *e*P **Pn 00 58 15.2 +3.3**
comp=Z,41nm,0.9s
MAT Matsushiro 15.52 231 P **Pn 00 58 10.4 -1.5**
MAT Matsushiro 15.52 231 P **Pn 00 58 09.7 -2.2**
MJAR Matsushiro Arr 15.52 231 Pn **Pn 00 58 08.8 -3.1**
comp=Z,0.3nm,0.3s,baz=29,slow=14,SNR=7.8
MJAR LR LR 01 03 13.2
comp=Z,164nm,20.8s,baz=30,slow=34
MJAR Matsushiro Arr 15.52 231 Pn **Pn 00 58 08.8 -3.1**
MJAR LR LR 01 03 13.2
MDJ Mudanjiang 16.62 269 P **Pn 00 58 23.5 -2.2**
MDJ AP pP 00 58 28.9 -11
MDJ XP sP 00 58 30.3 -17
MDJ S **S 01 01 27.4 -10**
MDJ XS sS 01 01 44.1 -14
MDJ SCP ScP 01 06 49.0 +6.7
MDJ PCS PcS 01 06 50.3 +1.7
MDJ AMB AMB
comp=Z,4.0nm,0.8s
MDJ LR LR
comp=N,141nm,18.0s
MDJ LR LR
comp=E,154nm,12.5s
MDJ LR LR
comp=Z,277nm,17.1s
ZEA Zeya 17.61 301 *e*P **Pn 00 58 36.9 -1.0**
ZEA AMB AMB 00 58 38.0
comp=Z,12nm,1.0s
CLNS Chul'man 19.65 309 *e*P **Pn 00 59 02.8 +0.3**
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS pmax pmax
comp=Z,29nm,0.9s
CLNS MLR MLR
comp=E,2μm,13.0s
CLNS MLR MLR
comp=Z,300nm,13.0s
CLNS MLR MLR
comp=N,100nm,14.0s
CN2 Changchun 19.70 270 *e*P **Pn 00 59 07.0 +3.9**
YAK Yakutsk 19.82 326⇑ *e*P **Pn 00 59 05.6 +1.2**
YAK pmax pmax
comp=Z,23nm,0.7s
YAK Yakutsk 19.82 326 *e*P **Pn 00 59 05.4 +1.0**
comp=Z,26nm,0.7s
YAK *e*pP pP 00 59 18.3 +3.1
KSRS Korea Array 21.05 251 P **P 00 59 16.6 +0.8**
comp=Z,10nm,0.9s,mb4.2,baz=59,slow=11,SNR=12
KSRS LR LR 01 06 34.0
comp=Z,80nm,18.9s,MS3.1,baz=60,slow=34
BILL Bilibino 21.75 13⇑ *e*P **P 00 59 26.7 +3.4**
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
JNU Nakatsue 22.11 238 LR LR 01 07 32.2
comp=Z,218nm,20.2s,MS3.6,baz=77,slow=36
BOD Bodaibo 25.63 309 *e*P **P 00 59 58.6 -2.1**
BOD pmax pmax
comp=Z,7.0nm,2.2s,mb3.8
TIXI Tiksi 26.87 343 *e*P **P 01 00 12.8 +0.9**
TIXI pmax pmax
comp=Z,2.0nm,1.1s,mb3.6
HHC Hu-ho-hao-te 30.31 273 *e*P **P 01 00 44.5 +2.0**
HHC XP sP 01 00 51.7 -12
HHC PP PP 01 01 44.6 -7.1
HHC S **S 01 05 44.3 +5.9**
HHC XS sS 01 05 52.4 -11
HHC PCS PcS 01 07 26.6 +1.5
HHC SCS ScS 01 11 18.7 +4.0
HHC AMB AMB
comp=Z,17nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,141nm,4.9s
ULN Ulaanbaatar 30.75 288⇑ *e*P **P 01 00 47.0 +0.7**
SONM Songino Array 31.18 288 P **P 01 00 50.3 +0.2**
comp=Z,0.7nm,0.7s,mb3.6,baz=70,slow=7.5,SNR=5.4
SONM PcP PcP 01 03 42.4 -1.5
comp=Z,0.2nm,0.4s,baz=120,slow=3.3,SNR=3.9
SONM LR LR 01 14 07.9
comp=Z,173nm,19.8s,MS3.7,baz=72,slow=38
SONM Songino Array 31.18 288 P **P 01 00 50.3 +0.2**
SONM 01 03 42.4
IMA2 Indian Mountai 33.25 37 *e*P **P 01 01 08.6 +0.3**
KDAK Kodiak Island 33.66 52 P **P 01 01 10.8 -1.0**
comp=Z,16nm,0.7s,mb5.0,baz=322,slow=12,SNR=6.8
KDAK Kodiak Island 33.66 52 P **P 01 01 10.8 -1.0**
COLA College 35.60 39 *c i*P **P 01 01 28.7 +0.1**
COLA College 35.60 39 *e*P **P 01 01 28.7 +0.1**
comp=Z,13nm,0.6s,mb5.0
XAN Xi'an 35.63 264 P **P 01 01 26.5 -2.4**
XAN AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
LZH Lanzhou 37.93 271 *e*P **P 01 01 48.7 +0.3**
LZH AP pP 01 01 52.0 -11
LZH PP PP 01 03 16.8 +0.9
LZH AMB AMB
comp=Z,52nm,5.4s
LZH LR LR
comp=E,385nm,13.5s
LZH LR LR
comp=Z,492nm,17.6s,MS4.4
EGAK Eagle 38.46 39 *e*P **P 01 01 52.1 -0.7**
comp=Z,5.5nm,0.8s,mb4.3
GTA Gaotai 38.93 278 *e*P **P 01 01 59.3 +2.5**
GTA AP pP 01 02 03.8 -7.9
GTA XP sP 01 02 05.7 -13
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.0
CD2 Chengdu 40.99 265⇓ *i*P **P 01 02 14.3 +0.4**
CD2 XP sP 01 02 21.3 -14
CD2 PP PP 01 03 52.8 +3.5
CD2 S **S 01 08 27.2 +5.4**
CD2 SS SS 01 11 25.4 -0.2
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
CD2 LR LR
comp=N,220nm,10.8s
CD2 LR LR
comp=Z,200nm,10.8s,MS4.2
INK Inuvik 41.08 33 P **P 01 02 15.2 +0.6**
comp=Z,4.4nm,0.5s,mb4.4,baz=300,slow=7.1,SNR=77
INK Inuvik 41.08 33 P **P 01 02 15.2 +0.6**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 41.08 33 *e*P **P 01 02 15.2 +0.6**

GYA Guiyang 41.91 257⇑ *i*P **P 01 02 21.6 +0.2**
GYA AP pP 01 02 25.8 -11
GYA XP sP 01 02 28.9 -14
GYA PP PP 01 04 03.6 +4.3
GYA PCP PcP 01 04 20.3 +4.3
GYA S **S 01 08 41.6 +6.2**
GYA SCS ScS 01 12 24.9 +6.3
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,80nm,4.6s
GYA LR LR
comp=N,340nm,15.8s,MS4.5
GYA LR LR
comp=E,410nm,15.6s,MS4.5
GYA LR LR
comp=Z,380nm,15.4s,MS4.4
ZAL Zalesovo 42.30 305 P **P 01 02 23.6 -1.0**
comp=Z,0.8nm,0.5s,mb3.6,baz=22,slow=10,SNR=5.0
ZAL PcP PcP 01 04 16.5 -0.8
comp=Z,1.0nm,0.4s,baz=58,slow=4.4,SNR=6.2
ZAL LR LR 01 21 22.9
comp=Z,158nm,18.4s,MS3.9,baz=8.9,slow=38
ZAL Zalesovo 42.30 305 P **P 01 02 23.6 -1.0**
ZAL 01 04 16.5
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL MLR MLR
comp=Z,158nm,18.4s
WMQ Urumqi 44.75 291 *e*P **P 01 02 45.7 +1.4**
WMQ AMB AMB
comp=Z,4.0nm,1.0s,mb4.2
WMQ LR LR
comp=N,90nm,18.0s,MS3.9
WMQ LR LR
comp=E,90nm,20.0s,MS3.9
WMQ LR LR
comp=Z,139nm,17.0s,MS4.0
KMI Kunming 45.42 259 P **P 01 02 50.5 +0.9**
KMI AMB AMB
comp=Z,17nm,1.0s,mb4.8
KMI LR LR
comp=Z,50nm,24.0s,MS3.4
MK31 Makanchi Array 46.70 297 *e*P **P 01 02 58.6 -1.0**
MKAR Makanchi Array 46.70 297 P **P 01 02 58.9 -0.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=63,slow=7.3,SNR=13
MKAR PcP PcP 01 04 32.0 -0.4
comp=Z,1.1nm,0.6s,baz=56,slow=3.3,SNR=4.3
MKAR LR LR 01 24 06.2
comp=Z,108nm,18.0s,MS3.9,baz=248,slow=38
MKAR Makanchi Array 46.70 297 P **P 01 02 58.9 -0.7**
MKAR 01 04 32.0
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,108nm,18.0s
LSA Lhasa 50.30 273 *e*P **P 01 03 28.3 +1.0**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
LSA Lhasa 50.30 273 *e*P **P 01 03 28.3 +1.0**
comp=Z,5.2nm,0.6s,mb4.7
YKW3 Yellowknife Ar 50.34 37 *e*P **P 01 03 27.9 +0.3**
YKA Yellowknife Ar 50.38 37 P **P 01 03 28.0 +0.2**
comp=Z,2.5nm,0.4s,mb4.6,baz=298,slow=7.0,SNR=60
YKA PcP PcP 01 04 44.5 -1.1
comp=Z,0.5nm,0.4s,baz=302,slow=3.7,SNR=4.9
YKA Yellowknife Ar 50.38 37 P **P 01 03 28.0 +0.1**
YKA 01 04 44.5
YKA pmax pmax
comp=Z,3.0nm,0.4s
YKA Yellowknife Ar 50.38 37 P **P 01 03 28.1 +0.2**
YKA PcP PcP 01 04 44.5 -1.1
BVAR Borovoye Array 50.50 309 P **P 01 03 27.6 -1.2**
comp=Z,1.6nm,0.5s,mb4.3,baz=60,slow=7.0,SNR=12
BVAR PcP PcP 01 04 45.3 -0.8
comp=Z,1.1nm,0.4s,baz=83,slow=2.1,SNR=5.9
BVAR Borovoye Array 50.50 309 P **P 01 03 27.6 -1.2**
BVAR 01 04 45.3
BVAR pmax pmax
comp=Z,2.0nm,0.5s
CHTO Chiang Mai 52.33 256 *e*P **P 01 03 43.6 +1.1**
CHTO pmax pmax
comp=Z,15nm,0.8s,mb5.0
CHTO Chiang Mai 52.33 256 *e*P **P 01 03 43.5 +1.1**
comp=Z,15nm,0.8s,mb5.0
SHL Shillong 52.45 268 *e*P **P 01 03 44.2 +0.8**
AAK Ala-Archa 53.60 296⇑ *e*P **P 01 03 50.6 -1.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ARU Arti 54.58 317⇑ *i*P **P 01 03 57.1 -1.9**
ARU *e* 01 04 18.5
ARU *e* 01 06 00.6
ARU *e*S **S 01 11 32.8 -1.3**
ARU *e*SS SS 01 15 21.3 +3.9
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ARU Arti 54.58 317 *e*P **P 01 03 57.1 -1.9**
comp=Z,3.9nm,0.6s,mb4.6
JIRN Jiri 54.95 274 *e*P **P 01 04 02.8 +1.1**
comp=Z,6.2nm,0.3s,mb5.1
GUN Gumba 55.01 275 *e*P **P 01 04 02.9 +0.8**
comp=Z,7.3nm,0.4s,mb5.0
KKN Kakani 55.49 275 *e*P **P 01 04 06.7 +1.2**
PKI Pulchoki 55.54 275 *e*P **P 01 04 06.5 +0.6**
DMN Daman 55.72 275 *e*P **P 01 04 08.2 +1.0**
comp=Z,15nm,0.6s,mb5.2
GKN Gorkha 55.79 276 *e*P **P 01 04 08.5 +0.8**
comp=Z,20nm,0.7s,mb5.3
EDM Edmonton 55.83 47 *e*P **P 01 04 08.3 +0.3**
KOLN Koldanda 56.64 276 *e*P **P 01 04 14.5 +0.8**
comp=Z,6.7nm,0.5s,mb4.9
ARCES ARCESS Array B 57.27 341 P **P 01 04 17.1 -1.1**
comp=Z,2.1nm,0.6s,mb4.3,baz=25,slow=6.8,SNR=7.7
ARCES ARCESS Array B 57.27 341 P **P 01 04 17.1 -1.1**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
BOK Bokaro 57.70 271 *e*P **P 01 04 21.8 +0.5**
BOK AMb AMB 01 04 34.6
comp=Z,6.4nm,1.1s,mb4.6
BMO Blue Mountains 58.67 56 *e*P **P 01 04 28.2 +0.2**
comp=Z,35nm,2.4s,mb5.0
MSO Missoula 59.33 53 *e*P **P 01 04 33.6 +1.1**
comp=Z,7.0nm,1.2s,mb4.6
MSO *e*pP pP 01 04 48.9 +0.5
NDI New Delhi 60.33 281 *e*P **P 01 04 40.1 +0.7**
NDI AMb AMB 01 04 40.4
comp=Z,11nm,0.7s,mb5.0
LRM Limekiln Ridge 60.76 53 *e*P **P 01 04 43.3 +0.9**
LRM *e*pP pP 01 04 58.8 +0.5
HLID Hailey 61.10 56 *e*P pP 01 05 00.6 +0.1
BOZ Bozeman (W) 61.32 53 *e*P **P 01 04 47.1 +1.0**
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
BOZ Bozeman (W) 61.32 53 *e*P **P 01 04 47.1 +0.9**
comp=Z,5.3nm,0.9s,mb4.7
PBA Port Blair 61.61 256 *ex* x 01 05 57.4
QLMT Earthquake Lak 61.95 53 *e*P **P 01 04 51.2 +0.8**
QLMT *e*pP pP 01 05 07.0 +0.7
NVAR Mina Array Bea 62.09 63 P **P 01 04 51.2 -0.1**
comp=Z,1.3nm,0.7s,mb4.2,baz=298,slow=7.8
GCMT Greycliff 62.28 52 *e*P **P 01 04 51.4 -1.2**
KAF Kangasniemi 62.88 335 *ep* **P 01 04 55.7 -0.9**
comp=Z,1.3nm,0.4s,mb4.4,baz=37,slow=6.2
KAF Kangasniemi 62.88 335 *e*P **P 01 04 55.7 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
RRI2 Red Ridge 62.97 55 *e*P **P 01 04 49.7 -7.4**
MOOW Moose Ponds 63.02 54 *e*pP pP 01 05 14.5 +1.0
LOHW Long Hollow 63.19 54 *e*pP pP 01 05 15.8 +1.2
REDW Red Top Meadow 63.22 54 *e*P **P 01 05 00.4 +1.5**
DGMT Dagmar 63.32 47 *e*P **P 01 05 00.2 +0.6**
FINES FINESS Array B 63.48 335 P **P 01 04 59.3 -1.3**
comp=Z,4.4nm,0.3s,mb5.0,baz=39,slow=6.9,SNR=97
FINES LR LR 01 37 58.3
comp=Z,129nm,20.2s,MS4.1,baz=350,slow=41
FINES FINESS Array B 63.48 335 *i* P **P 01 04 59.2 -1.4**
FINES pmax pmax
comp=Z,4.0nm,0.3s
LAO LASA Array 63.49 49 *e*P **P 01 05 01.8 +1.1**
LAO *e*pP pP 01 05 17.4 +0.8
BHPL Bhopal 63.80 276 *e*P **P 01 05 03.0 +0.3**
BHPL AMb AMB 01 05 03.8
comp=Z,21nm,0.7s,mb5.3
HWUT Hardware Ranch 63.97 56 *e*pP pP 01 05 20.3 +0.5
NGP Nagpur 64.12 274 *e*P **P 01 05 03.0 -1.8**

NGP AMb AMB 01 05 03.8
comp=Z,20nm,0.9s,mb5.2
DUG Dugway 64.19 58 *e*P **P 01 05 05.9 +0.7**
DUG *e*PP pP 01 05 21.6 +0.4
BW06 Boulder Array 64.32 54 *e*P **P 01 05 06.8 +0.7**
comp=Z,6.2nm,0.9s,mb4.6
PDAR Pinedale Array 64.32 54 P **P 01 05 06.7 +0.6**
comp=Z,1.8nm,0.7s,mb4.2,baz=294,slow=2.2,SNR=15
PSI Prapat 64.41 244 P **P 01 05 07.4 +0.7**
comp=Z,4.7nm,1.0s,mb4.5,baz=41,slow=2.9,SNR=4.1
PSI Prapat 64.41 244 P **P 01 05 07.4 +0.7**
PSI pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
AKL Akola 65.81 275 *e*P **P 01 05 16.6 +0.9**
AKL AMb AMB 01 05 18.2
comp=Z,22nm,0.7s,mb5.3
ULM Lac du Bonnet 66.00 41 P **P 01 05 16.0 -0.9**
comp=Z,3.0nm,0.8s,mb4.4,baz=303,slow=8.3,SNR=5.1
ULM Lac du Bonnet 66.00 41 P **P 01 05 16.0 -0.9**
SRU San Rafael 66.22 58 *e*P **P 01 05 19.2 +0.8**
HYB Hyderabad 67.04 271 *i* P **P 01 05 24.0 +0.4**
HYB Hyderabad 67.04 271 *e*P **P 01 05 24.0 +0.4**
PV10 Paradox Valley 67.57 57 *e*P **P 01 05 28.3 +1.3**
PV10 *e* pP 01 05 43.6 +0.6
NB2 NORSAR Subarra 67.64 341 P **P 01 05 26.8 -0.6**
comp=Z,12nm,0.8s,mb5.0,baz=26,slow=6.5
NOA NORSAR Array B 67.64 341 P **P 01 05 27.1 -0.3**
comp=Z,10nm,0.8s,mb4.9,baz=26,slow=6.3,SNR=26
NOA NORSAR Array B 67.64 341 P **P 01 05 27.2 -0.2**
NOA pmax pmax
comp=Z,10.0nm,0.8s
SMCO Snowmass 68.19 56 *e*P **P 01 05 21.1 -10**
ISCO Idaho Springs 68.52 54 *e*P **P 01 05 33.1 +0.2**
ISCO *e*PP pP 01 05 49.4 +0.4
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ISCO Idaho Springs 68.52 54 *e*P **P 01 05 33.1 +0.2**
comp=Z,4.6nm,0.8s,mb4.5
ISCO *e*pP pP 01 05 49.4 +0.4
MVCO Mesa Verde 68.69 58 *e*P pP 01 05 49.8 -0.3
WB2 Warramunga Arr 69.14 199 *e*P **P 01 05 35.2 -1.5**
WRA Warramunga Arr 69.14 199 P **P 01 05 35.8 -1.0**
comp=Z,1.9nm,0.7s,mb4.2,baz=15,slow=6.6,SNR=6.6
WRA Warramunga Arr 69.14 199 P **P 01 05 35.8 -1.0**
WRA pmax pmax
comp=Z,2.0nm,0.7s
FITZ Fitzroy Crossi 69.74 208 *e*P **P 01 05 40.4 -0.1**
comp=Z,14nm,1.2s,mb4.8
FITZ Fitzroy Crossi 69.74 208 P **P 01 05 40.0 -0.5**
comp=Z,3.4nm,0.8s,mb4.3,baz=20,slow=7.5,SNR=6.4
KAD Karad 70.08 274 *e*P **P 01 05 43.1 +0.5**
KAD AMb AMB 01 05 43.9
comp=Z,21nm,0.7s,mb5.2
KIV Kislovodsk 70.39 314⇓ *e*P **P 01 05 46.3 +1.8**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ECSD EROS,Sioux Fal 70.40 46 *e*P **P 01 05 43.7 -0.8**
comp=Z,14nm,0.9s,mb4.9
AKASG Malin Array Be 71.05 326 P **P 01 05 47.5 -0.9**
comp=Z,4.4nm,0.4s,mb4.8,baz=34,slow=6.4,SNR=34
AKASG Malin Array Be 71.05 326 *i* P **P 01 05 47.5 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 71.05 326 *e*P **P 01 05 47.0 -1.4**
KIEV Kiev 71.06 326 *e*P **P 01 05 47.3 -1.2**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KIEV Kiev 71.06 326 *e*P **P 01 05 47.3 -1.2**
comp=Z,3.2nm,0.6s,mb4.4
ANMO Albuquerque 71.44 58 *e*P **P 01 05 51.7 +0.9**
ANMO *e*PP pP 01 06 07.3 +0.2
SCHQ Schefferville 72.69 23 P **P 01 05 57.6 -0.7**
comp=Z,4.2nm,0.7s,mb4.5,baz=246,slow=8.9,SNR=4.3
ASAR Alice Springs 72.83 198 P **P 01 05 59.2 +0.1**
comp=Z,5.7nm,0.8s,mb4.6,baz=10,slow=5.6,SNR=63
ASAR Alice Springs 72.83 198 P **P 01 05 59.3 +0.1**
ASAR pmax pmax
comp=Z,6.0nm,0.8s
GKP Gorka Klasztor 72.95 334 *e*P **P 01 05 59.3 -0.5**
SCIA State Center 73.42 46 *e*P **P 01 06 02.5 -0.1**
comp=Z,12nm,0.6s,mb5.0
SCIA *e* pP 01 06 18.7 -0.2
AMTX Amarillo 74.22 56 *e*pP pP 01 06 23.6 0.0
KWP Kalwaria 74.30 329 *e*P **P 01 06 07.7 -0.1**
STHS Stebnicka Huta 74.99 330 *e*P **P 01 06 12.4 +0.7**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 74.99 330 *e*P **P 01 06 12.4 +0.7**
comp=Z,6.2nm,0.9s,mb4.5
KOLS Kolonicke sedl 75.05 329 *e*P **P 01 06 12.0 -0.1**
BURAR Bucovina Array 75.08 327⇑ *i*P **P 01 06 12.2 -0.1**
CRVS Cervenica-Dubn 75.35 329 *e*P **P 01 06 13.7 -0.1**
KSP Ksiaz 75.35 333 *e*P **P 01 06 13.7 -0.1**
OKC Ostrava-Krasne 75.65 332 *e*P **P 01 06 14.6 -1.0**
UPC Upice 75.73 333 *e*P **P 01 06 15.8 -0.2**
DPC Dobruska-Polom 75.78 333 *e*P **P 01 06 16.4 +0.1**
MORC Moravsky Berou 75.90 332 *e*P **P 01 06 17.1 +0.1**
MORC Moravsky Berou 75.90 332 *e*P **P 01 06 17.1 +0.1**
MORC Moravsky Berou 75.90 332⇓ *i*P **P 01 06 16.8 -0.2**
CLL Collm 75.91 336⇓ *i*P **P 01 06 16.4 -0.6**
CLL pmax pmax
comp=Z,18nm,0.8s,mb5.0
CLL Collm 75.91 336⇓ *i*P **P 01 06 16.4 -0.6**
comp=Z,18nm,0.8s,mb5.0
BRG Berggiesshubel 76.03 335 *e*P **P 01 06 17.1 -0.5**
comp=Z,3.8nm,1.1s,mb4.2
BRG Berggiesshubel 76.03 335 *e*P **P 01 06 17.2 -0.5**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 76.05 330 *e*P **P 01 06 17.4 -0.4**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 76.05 330 *e*P **P 01 06 17.4 -0.4**
comp=Z,3.1nm,1.0s,mb4.2
PVCC Panska Ves 76.15 334 *e*P **P 01 06 17.9 -0.5**
TIRR Tirgusor 76.44 323⇓ *i*P **P 01 06 19.5 -0.5**
MLR Muntele Rosu 76.57 325⇑ *i*P **P 01 06 20.9 +0.1**
VYHS Vyhne 76.59 331 *e*P **P 01 06 20.6 -0.3**
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VYHS Vyhne 76.59 331 *e*P **P 01 06 20.6 -0.3**
comp=Z,3.1nm,0.9s,mb4.2
VRAC Vranov 76.61 332⇑ *i*P **P 01 06 21.2 +0.2**
PRU Pruhonice 76.64 334 *e*P **P 01 06 21.1 0.0**
DRGR 76.70 328⇓ *i*P **P 01 06 21.4 -0.1**
PSZ Piszkesteto 76.74 330⇑ *i*P **P 01 06 21.8 +0.1**
MALT Malatya 76.76 313⇑ *i*P **P 01 06 23.4 +1.6**
MOX Moxa 76.89 336 *e*P **P 01 06 22.3 -0.2**
comp=Z,11nm,1.1s,mb4.7
MOX Moxa 76.89 336 *e*P **P 01 06 22.3 -0.2**
MOX pmax pmax
comp=Z,11nm,1.1s,mb4.7
WTSB Winterswijk 76.92 339 *e*P **P 01 06 22.2 -0.5**
comp=Z,14nm,0.5s,mb5.2
NKC Novy Kostel 77.03 335 *e*P **P 01 06 22.3 -1.0**
SMOL Smolenice 77.04 332 *e*P **P 01 06 23.9 +0.5**
LTX Lajitas 77.13 61 *e*P **P 01 06 24.3 +0.4**
LTX *e*PP pP 01 06 39.9 -0.4
LTX pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LTX Lajitas 77.13 61 *e*P **P 01 06 24.3 +0.4**
comp=Z,7.9nm,0.8s,mb4.7
LTX *e*pP pP 01 06 39.9 -0.4
TXAR Lajitas Array 77.13 61 P **P 01 06 24.2 +0.3**
comp=Z,2.2nm,0.7s,mb4.2,baz=300,slow=4.0,SNR=20
TXAR Lajitas Array 77.13 61 P **P 01 06 24.2 +0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 77.13 61 P **P 01 06 24.2 +0.3**
ZST Bratislava 77.42 332 *e*P **P 01 06 26.4 +0.9**
ZST pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZST Bratislava 77.42 332 *e*P **P 01 06 26.4 +0.9**
comp=Z,5.9nm,0.7s,mb4.6
KHC Kasperske Hory 77.69 334 *e*P **P 01 06 27.2 +0.2**
GRA1 Grafenberg Arr 77.86 336 *e*P **P 01 06 28.0 0.0**
comp=Z,23nm,0.9s,mb5.1
GRF Grafenberg Arr 77.86 336 *e*P **P 01 06 28.0 0.0**
comp=Z,23nm,0.9s,mb5.1
GRF Grafenberg Arr 77.86 336 *e*P **P 01 06 28.0 0.0**
GRF pmax pmax
comp=Z,23nm,0.9s,mb5.1
GRF Grafenberg Arr 77.86 336 *e*P **P 01 06 28.0 0.0**
GRF pmax pmax
comp=Z,23nm,0.9s,mb5.1

GZR	Gura Zlata	77.87	327	⇓iP	P	01 06 27.8	-0.2
GERES	GERESS Array B	77.91	334	P	P	01 06 28.0	-0.2
	comp=Z,1.9nm,0.6s,mb4.2,baz=37,slow=5.2,SNR=20						
GERES	GERESS Array B	77.91	334	P	P	01 06 28.0	-0.2
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BR131	Keskin Array S	77.96	317	eP	P	01 06 27.0	-1.5
	comp=Z,5.3nm,1.3s,mb4.3						
BRTR	Keskin Array B	77.96	317	P	P	01 06 28.9	+0.4
	comp=Z,1.3nm,0.6s,mb4.0,baz=116,slow=2.1,SNR=11						
BRTR	Keskin Array B	77.96	317	P	P	01 06 29.0	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CONA	Conrad Observa	78.06	332	⇑iP	P	01 06 29.4	+0.3
	comp=Z,5.9nm,0.9s,mb4.5						
BZS	Buzias	78.10	328	⇑iP	P	01 06 28.6	-0.7
HGN	Heimansgroeve	78.24	339	eP	P	01 06 30.7	+0.6
	comp=Z,19nm,0.9s,mb5.0						
MEM	Membach	78.37	339	P	P	01 06 31.2	+0.4
JCT	Junction City	78.53	57	eP	P	01 06 31.2	-0.5
JCT				e*PP	pP	01 06 47.5	-0.6
JCT				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
JCT	Junction City	78.53	57	eP	P	01 06 31.2	-0.5
	comp=Z,6.4nm,0.7s,mb4.7						
JCT				epP	pP	01 06 47.5	-0.7
PKSM	Moragy	78.64	330	⇑iP	P	01 06 31.4	-0.9
BCLA	Clavier	78.71	340	P	P	01 06 32.4	-0.3
	comp=Z,14nm,1.2s,mb4.8						
PERS	Pernice	79.44	332	eP	P	01 06 36.4	-0.2
KBA	Koelnbreinsper	79.59	333	⇑iP	P	01 06 38.1	+0.6
	comp=Z,18nm,0.9s,mb5.0						
KBA	Koelnbreinsper	79.59	333	⇑iP	P	01 06 38.1	+0.6
KBA				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
WATA	Walderalm	79.89	335	⇑iP	P	01 06 39.2	+0.1
	comp=Z,12nm,1.1s,mb4.8						
WATA	Walderalm	79.89	335	⇑iP	P	01 06 39.2	+0.1
WATA				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
GRUS	Gruza	79.92	327	⇓iP	P	01 06 38.6	-0.6
WTTA	Wattenberg	79.94	335	⇓iP	P	01 06 39.7	+0.4
	comp=Z,20nm,1.0s,mb5.0						
WTTA	Wattenberg	79.94	335	⇓iP	P	01 06 39.7	+0.3
WTTA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
DIVS	Divcibare	80.00	328	⇓iP	P	01 06 39.2	-0.5
MOTA	Moosalm	80.02	335	⇑iP	P	01 06 39.9	+0.1
	comp=Z,16nm,1.1s,mb4.9						
MOTA	Moosalm	80.02	335	⇑iP	P	01 06 39.9	+0.1
MOTA				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
CRES	Cresnjev	80.04	331	iP	P	01 06 39.4	-0.6
VTS	Vitosha	80.08	325	⇑iP	P	01 06 40.0	-0.1
CDF	Champ du Feu	80.08	338	eP	P	01 06 39.2	-1.0
	comp=Z,30nm,1.1s,mb4.8						
CDF	Champ du Feu	80.08	338	eP	P	01 06 39.2	-1.0
CDF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
CDF	Champ du Feu	80.08	338	eP	P	01 06 39.2	-1.0
	comp=Z,15nm,1.1s,mb4.8						
SQTA	Sankt Quirin	80.10	335	⇓iP	P	01 06 40.4	+0.2
	comp=Z,17nm,1.3s,mb4.8						
SQTA	Sankt Quirin	80.10	335	⇓iP	P	01 06 40.4	+0.2
SQTA				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
RAR	Rarotonga	80.32	136	LR	LR	01 40 53.6	
	comp=Z,72nm,18.2s,MS4.1,baz=273,slow=35						
BBLS	Bajina Basta -	80.41	328	⇑iP	P	01 06 43.0	+1.1
CEY	Cerknica	80.45	332	iP	P	01 06 41.2	-0.9
GRR	Gorron	81.97	343	eP	P	01 06 49.0	-1.2
SMF	Signal de Mont	82.58	339	eP	P	01 06 52.5	-0.9
	comp=Z,62nm,1.2s,mb5.2						
SMF	Signal de Mont	82.58	339	eP	P	01 06 52.5	-0.9
SMF				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.2						
SMF	Signal de Mont	82.58	339	eP	P	01 06 52.5	-0.9
	comp=Z,31nm,1.3s,mb5.2						
LPG	La Plagne	82.92	337	eP	P	01 06 55.2	+0.1
	comp=Z,28nm,1.1s,mb4.9						
LPG	La Plagne	82.92	337	eP	P	01 06 55.2	+0.1
LPG				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
LPG	La Plagne	82.92	337	eP	P	01 06 55.2	+0.1
	comp=Z,14nm,1.1s,mb4.9						
CAF	Calviac	84.62	340	eP	P	01 07 02.5	-1.3
	comp=Z,20nm,1.2s,mb4.8						
CAF	Calviac	84.62	340	eP	P	01 07 02.5	-1.3
CAF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
CAF	Calviac	84.62	340	eP	P	01 07 02.5	-1.3
	comp=Z,9.9nm,1.2s,mb4.8						
TIP	Timpagrande	85.47	328	eP	P	01 07 07.2	-0.9
ESDC	Sonseca Array	90.96	343	P	P	01 07 32.4	-1.8
	comp=Z,0.7nm,0.7s,mb4.1,baz=32,slow=5.8,SNR=3.7						
KEST	Kesra	91.14	331	P	P	01 07 33.8	-1.3
	comp=Z,1.5nm,1.0s,mb4.3,baz=340,slow=11,SNR=4.2						
TORD	Torodi Ar. Bea	114.57	329	PKP	PKiKP	01 13 08.7	-1.5
	comp=Z,0.3nm,0.9s,baz=31,slow=2.0,SNR=4.7						
TORD	Torodi Ar. Bea	114.57	329	PKP	PKiKP	01 13 08.7	-1.5
CFAA	Coronel Fontan	144.81	78	PKP	PKPdf	01 14 04.7	-2.3
	comp=Z,0.8nm,0.6s,baz=292,slow=5.3,SNR=8.4						
SNAA	Sanae	153.19	197	ePKPdf	PKPbc	01 14 24.9	-2.9
SNAA				e		01 14 36.6	
SNAA				e		01 14 46.0	
SNAA				e		01 14 54.0	
SNAA				e		01 18 35.4	
VNA2	Neumayer--Watz	154.64	195	ePKPdf	PKPbc	01 14 28.7	-2.2
VNA2				e		01 14 43.8	
VNA2				e		01 15 00.4	
VNA2				e		01 18 36.6	
VNA2				e		01 18 49.9	
VNA3	Neumayer Olymp	154.73	193	ePKPdf	PKPbc	01 14 28.8	-2.3
VNA3				e		01 14 43.8	
VNA3				e		01 15 00.6	
VNA3				e		01 18 38.1	
VNA3				e		01 18 50.3	
VNA1	Neumayer--Stat	155.03	195	ePKPdf	PKPdf	01 14 28.3	+5.4
VNA1				e		01 14 45.4	
VNA1				e		01 14 54.3	
VNA1				e		01 15 02.2	
VNA1				e		01 18 39.2	

*ISCJB **03** 00:59:19.5±0.6, 4759N±003×753E±005, h5km, Error ellipse: s-maj=5.2km s-min=4.3km az=84.2*
*STR **03** 00:59:19.4±0.3, 4759N×763E, h5km±1km, MI1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **03** 00:59:20.3, 4759N×760E, h5km±1km, ML0.8*
*LDG **03** 00:59:21.3±0.2, 4762N×753E, h2km, Md2.1/3, MI1.8/5, Error ellipse: s-maj=2.8km s-min=1.9km az=98.0*

ISC 03 00:59:19.9±0.8, 4760N±004×757E±005, h14km±11km, n11, σ0°50/18, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.28	162	⇓iPg		Pg		00 59 25.6	-0.1
	27nm,0.1s								
BOURR	Bourrignon	0.31	228	⇑iPg		Pg		00 59 26.7	+0.4
	22nm,0.6s								
SULZ	Sulz-Cheisache	0.38	100	⇑iPg		Pg		00 59 27.2	-0.3
	14nm,0.5s								
MOF	Molkenrain	0.39	311	Pg		Pg		00 59 27.3	-0.4
MOF				Sg		Sg		00 59 33.9	+0.9
HINF	Hinteralfeld	0.53	295	ePg		Pg		00 59 30.4	0.0
HINF				eSg		Sg		00 59 37.7	+0.3
	6.2nm,0.2s								
SLE	Schleitheim	0.65	75	ePg		Pg		00 59 32.2	-0.4
	18nm,0.1s								
CDF	Champ du Feu	0.84	347	ePg		Pg		00 59 36.6	+0.4
CDF				eSg		Sg		00 59 47.2	0.0
	4.1nm,0.4s								
HAU	Haudompre	0.92	297	ePg		Pg		00 59 38.2	+0.5
HAU				eSg		Sg		00 59 49.4	-0.3
	6.3nm,0.4s								
CABF	La Chapelle	1.41	226	ePg		Pg		00 59 47.4	+0.3
CABF				eSg		Sg		01 00 05.9	+0.4
	0.9nm,0.2s								
SFTF	Sexfontaines	1.81	291	ePg		Pg		00 59 54.3	-0.3
SFTF				eSg		Sg		01 00 17.3	-0.8
	0.7nm,0.2s								
LOR	Lormes	2.54	264	ePn		Pn		01 00 01.2	+0.5
LOR				eSg		Sg		01 00 40.4	-1.1
	0.6nm,0.2s								

*ISCJB **03** 01:24:52.0±3.0, 220N±0.1×1434E±03, h34km±26km, mb3.7/7, MS3.6/4, Error ellipse: s-maj=45.9km s-min=17.2km az=164.9*
*IDC **03** 01:24:54.8±5.0, 2195N×143.19E, h40km±43km, mb3.5/7, mb1 3.7/8, mb1mx3.6/20, mbtmp3.6/8, ML3.6/1, MS3.5/7, Ms1 3.6/7, ms1mx3.0/31, Error ellipse: s-maj=36.4km s-min=21.0km az=84.0*
*NEIC **03** 01:25:00.3±2.7, 2191N×143.15E, h94km±24km, mb3.8/1, Error ellipse: s-maj=29.7km s-min=13.5km az=85.0*

ISC 03 01:24:55.1±2.5, 220N±01×1435E±03, h47km±22km, n18, σ1°28/13, mb3.7/7, MS3.6/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.23	347	Pn		Pn		01 26 09.8	-0.8
	4.5nm,0.3s,baz=254,slow=20,SNR=5.2								
CBIJ				Sn		Sn		01 27 08.3	-1.3
	3.3nm,0.3s,baz=309,slow=23,SNR=8.0								
GUMO	Guam	8.45	171	LR		LR		01 29 26.3	
	comp=Z,214nm,18.2s,baz=19,slow=32								
JOW	Kunigami	14.65	292	LR		LR		01 32 43.6	
	comp=Z,65nm,20.6s,baz=99,slow=32								
MJAR	Matsushiro Arr	15.21	344	Pn		Pn		01 28 29.4	+2.7
	0.1nm,0.3s,baz=168,slow=12,SNR=4.1								
MJAR				LR		LR		01 33 42.0	
	comp=Z,289nm,18.9s,baz=120,slow=35								
MAJO	Matsushiro	15.22	344	Pn		Pn		01 28 30.3	+3.6
	6.5nm,0.9s								
KSRS	Korea Array	20.45	322	P		P		01 29 30.5	+2.0
	1.3nm,0.5s,baz=138,slow=12,SNR=4.0								
ASAJ	Asahikawa	22.09	358	LR		LR		01 39 33.9	
	comp=Z,72nm,18.6s,MS3.1,baz=258,slow=40								
SONM	Songino Array	39.29	320	P		P		01 32 19.6	+0.3
	0.9nm,0.7s,mb3.6,baz=134,slow=6.2,SNR=5.7								
CTA	Charters Tower	41.90	176	LR		LR		01 46 35.7	
	comp=Z,72nm,20.0s,MS3.5,baz=232,slow=31								
WRA	Warramunga Arr	42.60	193	P		P		01 32 46.7	+0.1
	0.8nm,0.7s,mb3.5,baz=14,slow=11,SNR=4.6								
ASAR	Alice Springs	46.31	192	P		P		01 33 15.4	-0.7
	0.4nm,0.7s,mb3.5,baz=11,slow=5.7,SNR=3.1								
DZM	Mont Dzumac	49.18	151	LR		LR		01 49 57.8	
	comp=Z,102nm,19.1s,MS3.8,baz=261,slow=30								
ZAL	Zalesovo	54.16	321	P		P		01 34 15.2	-0.3
	0.7nm,0.3s,mb4.0,baz=72,slow=6.4,SNR=2.4								
MKAR	Makanchi Array	54.70	312	P		P		01 34 18.8	-0.6
	0.4nm,0.8s,mb3.5,baz=100,slow=7.9,SNR=3.5								
YKA	Yellowknife Ar	76.09	28	P		P		01 36 38.7	+1.0
	0.3nm,0.4s,mb3.5,baz=295,slow=5.6,SNR=6.1								
YKA				LR		LR		02 10 03.1	
	comp=Z,84nm,18.4s,MS4.1,baz=220,slow=36								
YKA	Yellowknife Ar	76.09	28	P		P		01 36 38.7	+1.0
YKA				LR		LR		02 10 03.1	
FINES	FINESS Array B	83.04	335	P		P		01 37 13.6	-1.9
	2.3nm,0.9s,mb4.2,baz=39,slow=5.3,SNR=3.8								
LPAZ	La Paz	149.66	85	PKPbc		PKPbc		01 44 41.9	+2.4
	0.2nm,0.3s,baz=297,slow=2.3,SNR=2.7								
LPAZ				PKPab		PKPab		01 44 48.5	+3.7
	0.9nm,0.8s,baz=331,slow=3.7,SNR=4.6								

*ISCJB **03** 01:27:28.7±0.8, 2506S±008×17966E±008, h519km±9km, mb4.0/14, Error ellipse: s-maj=12.7km s-min=11.0km az=111.3*
*IDC **03** 01:27:29.2±1.0, 2511S×17973E, h514km±11km, mb3.7/8, mb1 3.9/13, mb1mx3.7/19, mbtmp3.8/13, Error ellipse: s-maj=18.5km s-min=10.8km az=170.0*
*NEIC **03** 01:27:29.6±0.7, 2513S×17978E, h526km±8km, mb4.4/9, Error ellipse: s-maj=12.2km s-min=9.1km az=159.0*

ISC 03 01:27:29.7±0.7, 2516S±007×17977E±008, h521km±8km, n41, σ0°67/34, mb4.0/14, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.57	154	P		P		01 28 53.6	-0.5
	baz=54,slow=19								
RAO				S		S		01 30 02.9	-0.2
	66nm,0.3s,baz=90,slow=20,SNR=2.3								
DZM	Mont Dzumac	12.59	281	P		P		01 30 15.4	+1.0
	0.7nm,0.3s,baz=81,slow=18,SNR=7.4								
URZ	Urewera	13.26	189	P		P		01 30 21.1	-0.3
	4.2nm,0.3s,baz=14,slow=5.4,SNR=10								
URZ				S		S		01 32 43.2	+0.5
	1.7nm,0.3s,baz=41,slow=22,SNR=9.9								
AFI	Afiamalu	13.73	37	P		P		01 30 26.0	-0.3
	3.1nm,0.3s,baz=40,slow=7.9,SNR=4.2								
AFI				S		S		01 32 39.1	-13
	2.4nm,0.3s,baz=45,slow=18,SNR=2.8								
RPZ	Rata Peaks	19.84	199	P		P		01 31 25.6	-0.1
	1.9nm,0.3s,baz=29,slow=1.8,SNR=9.0								
CTA	Charters Tower	31.29	272	⇓iP		P		01 33 07.4	+0.6
	12nm,0.3s,mb4.9								
CTA	Charters Tower	31.29	272	P		P		01 33 07.5	+0.7
	16nm,0.4s,mb5.0,baz=95,slow=11,SNR=59								
CTAO	Charters Tower	31.29	272	⇓eP		P		01 33 07.2	+0.4
	16nm,0.4s,mb4.9								
STKA	Stephens Creek	34.07	250	eP		P		01 33 31.1	+0.7
	3.0nm,0.4s,mb4.2								
STKA	Stephens Creek	34.07	250	P		P		01 33 31.2	+0.9
	3.3nm,0.4s,mb4.2,baz=100,slow=11,SNR=15								
ASAR	Alice Springs	41.63	262	P		P		01 34 31.9	-0.1
	2.4nm,0.3s,mb4.2,baz=94,slow=7.1,SNR=53								
ASAR				ScP		ScP		01 39 20.5	+3.3
	0.6nm,0.7s,baz=121,slow=4.2,SNR=5.2								
ASAR				S		S		01 40 10.1	-0.5
	0.3nm,0.7s,baz=96,slow=16,SNR=4.0								
WB2	Warramunga Arr	42.11	268	⇓iP		P		01 34 35.5	-0.4
WRA	Warramunga Arr	42.12	268	P		P		01 34 35.7	-0.3
	7.9nm,0.3s,mb4.7,baz=100,slow=6.8,SNR=39								
WRA				ScP		ScP		01 39 23.6	+4.5
	2.0nm,0.7s,baz=101,slow=3.9,SNR=9.0								
WRA				S		S		01 40 16.8	-0.8
	0.8nm,0.6s,baz=100,slow=14,SNR=3.5								
FORT	Forrest	45.69	251	eP		P		01 35 03.0	-0.5
	11nm,0.6s,mb4.6								
KAKA	Kakadu	46.22	276	eP		P		01 35 06.6	-1.0
	3.9nm,0.2s,mb4.6								
FITZ	Fitzroy Crossi	50.53	267	eP		P		01 35 40.2	+0.5
	10nm,0.6s,mb4.3								
FITZ	Fitzroy Crossi	50.53	267	P		P		01 35 40.5	+0.8
	5.8nm,0.6s,mb4.1,baz=138,slow=9.0,SNR=21								
VNDA	Vanda	53.12	185	P		P		01 35 59.7	+1.4
	0.4nm,0.6s,mb2.9								
KLBR	Kellerberrin	54.32	248	eP		P		01 36 06.8	-0.1
	6.3nm,0.5s,mb4.2								
MUN	Mundaring	55.55	247	eP		P		01 36 15.7	+0.2
MAW	Mawson	76.50	201	P		P		01 38 24.5	-1.4
	0.7nm,0.5s,mb3.4								
SNAA	Sanae	83.42	179	e		P		01 39 02.6	+0.5
SNAA	Sanae	83.42	179	eP		P		01 39 00.5	-1.7
	0.7nm,0.5s,mb3.5								
VNA3	Neumayer Olymp	83.64	177	e		P		01 39 03.3	+0.1
VNA2	Neumayer--Watz	84.05	178	e		P		01 39 05.6	+0.3
YBH	Yreka Blue Hor	85.19	39	P		P		01 39 10.8	-0.1
	1.7nm,0.9s,mb3.6,baz=315,slow=2.9,SNR=3.4								
CCUT	Cedar City	88.49	47	eP		P		01 39 26.9	+0.5
TXAR	Lajitas Array	91.27	58	P		P		01 39 40.3	+1.0
	1.9nm,0.8s,mb4.1,baz=215,slow=6.2,SNR=14								
PDAR	Pinedale Array	93.74	44	P		P		01 39 50.0	-0.6
	0.4nm,0.8s,mb3.6,baz=297,slow=6.0,SNR=2.9								
MIV	Mineville/With	118.73	52	ePKPdf		PKPdf		01 45 17.5	-0.9
FFD	Franklin Falls	120.00	53	ePKPdf		PKPdf		01 45 22.1	+1.1
ARCES	ARCESS Array B	133.07	348	PKP		PKPdf		01 45 43.6	-2.2
	2.6nm,0.8s,baz=2.9,slow=2.4,SNR=7.3								
ARCES				SKPbc		SKPbc		01 48 25.3	+0.5
	4.0nm,1.0s,baz=22,slow=3.9,SNR=5.9								
ARCES	ARCESS Array B	133.07	348	PKP		PKPdf		01 45 43.6	-2.2
ARCES				SKPbc		SKPbc		01 48 25.3	+0.5
FINES	FINESS Array B	139.56	341	PKhKP				01 45 47.6	
	1.4nm,0.8s,baz=96,slow=3.7,SNR=5.2								
FINES				PKP		PKPdf		01 45 54.4	-3.4
	3.8nm,1.0s,baz=23,slow=4.5,SNR=3.6								
FINES				SKPbc		SKPbc		01 48 45.0	+0.8
	3.1nm,0.9s,baz=42,slow=3.1,SNR=6.2								
FINES	FINESS Array B	139.56	341	PKP				01 45 47.6	
FINES				PKP		PKPdf		01 45 54.4	-3.4
FINES				SKPbc		SKPbc		01 48 45.0	+0.8
NB2	NORSAR Subarra	143.28	351	PKP		PKPdf		01 46 00.9	-3.5
	comp=Z,1.1nm,0.6s,baz=15,slow=3.2								
NOA	NORSAR Array B	143.28	351	PKP		PKPdf		01 46 01.2	-3.3
	comp=Z,2.1nm,0.7s,baz=17,slow=2.4,SNR=5.3								
NOA	NORSAR Array B	143.28	351	PKP		PKPdf		01 46 01.2	-3.3
AKASG	Malin Array Be	145.90	326	PKPbc		PKPbc		01 46 09.2	-1.5
	comp=Z,1.0nm,0.5s,baz=42,slow=4.0,SNR=12								
CLL	Collm	151.99	342	iPKPbc		PKPbc		01 46 25.0	-0.7
	comp=Z,6.0nm,0.8s								
TORD	Torodi Ar. Bea	167.92	189	PKP		PKPdf		01 46 36.0	0.0
	comp=Z,0.8nm,1.0s,baz=234,slow=1.2,SNR=3.2								
TORD				PKPab		PKPab		01 47 47.3	+0.2
	comp=Z,0.5nm,0.8s,baz=190,slow=2.4,SNR=3.2								

*NEIC **03** 01:30:55.9±1.7, 552S×14558E, h35km, Error ellipse: s-maj=30.4km s-min=21.5km az=63.0*

IDC 03 01:30:59.1±8.1, 572S×14575E, h75km±93km, mb3.5/3, mb1 3.7/5, mb1mx3.4/14, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=62.9km s-min=35.0km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.92	159	P		P	Pn	01 31 57.3	+0.4
	2.3nm,0.3s,baz=31,slow=12,SNR=6.9								
PMG				S			Sn	01 32 42.4	+0.8
	4.4nm,0.3s,baz=210,slow=22,SNR=18								
WRA	Warramunga Arr	17.97	217	P		P	Pn	01 35 05.1	+1.3
	0.4nm,0.3s,baz=45,slow=12,SNR=6.3								
ASAR	Alice Springs	21.18	211	P		P		01 35 37.6	-0.6
	0.5nm,0.3s,baz=46,slow=8.7,SNR=7.9								
FITZ	Fitzroy Crossi	23.17	236	P		P		01 35 59.4	+0.3
	3.0nm,0.4s,baz=48,slow=12,SNR=10								
MKAR	Makanchi Array	76.49	321	P		P		01 42 41.0	+0.2
	0.3nm,0.3s,baz=124,slow=7.1,SNR=12								

*IDC **03** 01:45:44.9±9.1, 454S×15272E, h97km±61km, mb3.5/3, mb1 3.7/4, mb1mx3.4/15, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=116.8km s-min=53.5km az=112.0*

NEIC 03 01:45:29.6±3.5, 407S×15374E, h35km, mb4.1/1, Error ellipse: s-maj=65.2km s-min=27.6km az=93.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.41	231	P		P	Pn	01 47 29.1	+0.1
	0.8nm,0.3s,baz=40,slow=13,SNR=3.0								
WB2	Warramunga Arr	24.62	229	eP		P		01 50 46.7	+0.2
WB2	Warramunga Arr	24.62	229	eP		P		01 50 46.4	-0.1
WRA	Warramunga Arr	24.63	229	P		P		01 50 47.0	+0.4
	4.2nm,0.6s,baz=54,slow=9.7,SNR=24								
ASAR	Alice Springs	27.32	223	P		P		01 51 11.5	+0.6
	0.5nm,0.5s,baz=56,slow=8.7,SNR=8.0								
FITZ	Fitzroy Crossi	30.83	241	eP		P		01 51 42.7	+0.6
	5.8nm,1.5s								
FITZ	Fitzroy Crossi	30.83	241	P		P		01 51 42.6	+0.5
	0.5nm,0.3s,baz=47,slow=8.9,SNR=4.6								
KKM	Kota Kinabalu	38.80	285	P		P		01 52 51.4	+0.6
TORD	Torodi Ar. Bea	150.96	290	PKPbc		PKPbc		02 05 25.3	+6.8
	0.3nm,0.3s,baz=76,slow=2.1,SNR=15								
TORD				PKPab		PKPab		02 05 30.8	+4.8
	0.2nm,0.6s,baz=74,slow=3.0,SNR=4.3								

*NAO **03** 01:52:49.7, 3365N×2554E, h33km, mb4.2*
*MOS **03** 01:53:20.5±1.3, 3674N×2175E, h11km, mb4.1/6, Error ellipse: s-maj=8.9km s-min=6.1km az=117.1*
*NEIC **03** 01:53:22.4, 3672N×2181E, h24km, ML3.5(ATH), After ATH.*
*ATH **03** 01:53:22.4, 3672N×2181E, h24km±1km, MD3.8/20, ML3.5*
*ISCJB **03** 01:53:22.5±0.8, 3669N±004×2170E±003, h29km±6km, mb3.9/10, Error ellipse: s-maj=6.1km s-min=3.3km az=37.0*
*CSEM **03** 01:53:23.9±0.1, 3673N×2182E, h25km, ML3.5, Error ellipse: s-maj=3.0km s-min=1.4km az=28.0*
*IDC **03** 01:53:25.0±1.3, 3671N×2179E, h46km±18km, mb3.7/9, mb1 3.7/14, mb1mx3.6/26, mbtmp3.6/14, ML3.4/5, Error ellipse: s-maj=20.5km s-min=10.5km az=17.0*

ISC 03 01:53:24.1±0.9, 3672N±004×2177E±003, h26km±7km, n89, σ1°18/100, mb3.9/10, 2C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.47	15	⇓iPB		Pb		01 53 32.1	-1.8
ITM				eSB		Sb		01 53 39.2	-1.3
VLI	Veliai	0.94	90	ePN		Pn		01 53 40.2	-1.4
VLI				eSN		Sn		01 53 52.8	-1.3
KYTH	Kithira	1.11	113	ePN		Pn		01 53 43.5	-0.4
RLS	Riolos of Patr	1.35	350	ePN		Pn		01 53 48.1	+0.8
NAIG	Nisos Aigina	1.72	52	ePN		Pn		01 53 52.8	+0.5
VLS	Valsamata	1.73	327	ePB		Pn		01 53 51.9	-0.6
MGER	Gerania Oros	1.73	43	ePN		Pn		01 53 53.5	+1.0
KVR	Kavouri	1.94	55	ePB		Pn		01 53 55.5	+0.2
ATH	Athens Observa	1.99	51	⇑iPB		Pn		01 53 56.3	+0.3
ATH				eSN		Sn		01 54 21.5	+1.4
PTL	Penteli	2.13	51	ePN		Pn		01 53 58.0	0.0
LKR	Lokris	2.16	26	ePN		Pn		01 53 58.4	+0.1
EVR	Evrytania	2.19	1	eP

0.1nm,0.3s,baz=272,slow=20,SNR=4.0
MMAI Mount Meron Ar 11.79 104 P **Pn 01 56 10.3 -0.2**
0.5nm,0.3s,baz=314,slow=15,SNR=3.0
GERES GERESS Array B 13.48 337 P **Pn 01 56 31.0 -2.5**
0.2nm,0.3s,baz=153,slow=13,SNR=6.6
AKASG Malin Array Be 14.96 19 P **Pn 01 56 54.6 +0.8**
0.9nm,0.3s,baz=212,slow=11,SNR=7.0
AKASG Malin Array Be 14.96 19 P **Pn 01 56 54.6 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 24.00 350 P **P 01 58 34.6 -2.0**
comp=Z,2.5nm,0.4s,mb4.0,baz=156,slow=11,SNR=26
HFS Hagfors 24.00 350 P **P 01 58 34.6 -2.0**
HFS pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 24.89 5 P **P 01 58 42.7 -2.0**
comp=Z,1.0nm,0.3s,mb3.8,baz=169,slow=11,SNR=22
FINES FINESS Array B 24.89 5 P **P 01 58 42.7 -2.0**
FINES pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 25.19 326 P **P 01 58 47.6 +0.2**
comp=Z,1.0nm,0.6s,mb3.5,baz=129,slow=8.6,SNR=3.9
EKA Eskdalemuir Ar 25.19 326 P **P 01 58 47.6 +0.2**
EKA pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 25.24 348 P **P 01 58 45.3 -2.6**
comp=Z,1.6nm,0.5s,mb3.8,baz=155,slow=9.3
NOA NORSAR Array B 25.24 348 P **P 01 58 46.3 -1.6**
comp=Z,1.6nm,0.5s,mb3.9,baz=156,slow=8.9,SNR=6.6
NOA NORSAR Array B 25.24 348 P **P 01 58 46.3 -1.6**
NOA pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 25.57 5 *ep* **P 01 58 48.1 -2.8**
comp=Z,5.7nm,0.5s,mb4.4
KAF Kangasniemi 25.57 5 *eP* **P 01 58 48.1 -2.8**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.4
TORD Torodi Ar. Bea 29.58 223 P **P 01 59 27.5 +0.7**
comp=Z,0.6nm,0.8s,mb3.4,baz=35,slow=7.5,SNR=3.0
ARCES ARCESS Array B 32.93 2 P **P 01 59 55.0 -1.3**
comp=Z,1.5nm,0.7s,mb4.0,baz=188,slow=10,SNR=22
ARCES ARCESS Array B 32.93 2 P **P 01 59 55.1 -1.2**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.23 57 P **P 02 01 36.6 -2.5**
comp=Z,0.4nm,0.3s,mb3.7,baz=272,slow=7.5,SNR=14
ZAL Zalesovo 45.92 47 P **P 02 01 42.0 -2.6**
comp=Z,2.2nm,0.3s,mb4.6,baz=178,slow=5.2,SNR=7.1
ZAL Zalesovo 45.92 47 P **P 02 01 42.0 -2.6**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
KSRS Korea Array 79.48 51 P **P 02 05 26.7 -1.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=292,slow=5.7,SNR=2.8

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*ISCJB **03** 02:00:31.6±0.4, 6779N×003×20.16E±006, h0km, Error ellipse: s-maj=3.9km s-min=3.3km az=152.1*
*UPP **03** 02:00:32.9, 6787N×2015E, h18km, ML2.9, Suspected Mining explosion.*
*CSEM **03** 02:00:33.9±0.4, 6791N×2029E, h1km, ML1.8, Error ellipse: s-maj=11.6km s-min=8.8km az=129.0, Suspected Mining explosion.*
*HEL **03** 02:00:33.7±0.1, 6786N×2016E, h0km, ML2.1, ML2.9(UPP), ML1.8(BER), Explosion*
*NAO **03** 02:00:34.2±1.5, 6779N×2047E, ML2.0*
*BER **03** 02:00:35.8±4.1, 6786N×2004E, h0km, ML1.8, ML2.0(NAO), Suspected explosion*
ISC 03 02:00:32.8±0.4, 6782N±002×2015E±006, h0km, n31, σ1§08/44, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**27**	*i* P	**Pg**	**02 00 34.9**	**-0.8**
NIKU	**Nikkaluokta**	**0.43**	**277**	*i* P	**Pg**	**02 00 40.9**	**-0.1**
DUNU	**Dundret**	**0.72**	**167**	*i* P	**Pg**	**02 00 46.8**	**+0.1**
LANU	**Lannavaara**	**0.73**	**71**	*i* P	**Pg**	**02 00 47.1**	**+0.2**
SALU	**Saltoluokta**	**0.77**	**236**	*i* P	**Pg**	**02 00 47.9**	**+0.3**
MASU	**Masugnsbyn**	**0.79**	**116**	*i* P	**Pg**	**02 00 47.8**	**-0.3**
KIF	**Kilpisjarvi**	**1.22**	**11**	*eP*	**Pg**	**02 00 55.7**	**-0.4**
KIF				*eS*	**Sg**	**02 01 10.5**	**-1.4**
KTK1	**Kautokeino**	**1.66**	**42**	*eP*	**Pn**	**02 01 03.2**	**+0.1**
KTK1				*eSg*	**Sg**	**02 01 27.1**	**+1.1**
KTK1				AML	AML	02 01 31.2	
comp=Z,14nm,0.4s							
TRO	**Tromso**	**1.88**	**347**	*eP*	**Pn**	**02 01 05.8**	**-0.4**
TRO				*eSg*	**Sg**	**02 01 31.2**	**-2.0**
TRO				AML	AML	02 01 35.1	
comp=Z,9.1nm,0.3s							
TRO	**Tromso**	**1.88**	**347**	*eP*	**Pn**	**02 01 05.8**	**-0.4**
SNR=50							
TRO				*eSg*	**Sg**	**02 01 31.2**	**-2.0**
SNR=90							
SGF	**Sodankyl**	**2.47**	**96**	*ePB*	**Pb**	**02 01 16.8**	**-1.3**
SGF				*eS*	**Sn**	**02 01 46.4**	**+1.2**
SGF				MSG		02 01 51.0	
comp=Z,5.6nm,0.2s							
LOF	**Lofoten**	**2.51**	**280**	*eSg*	**Sg**	**02 01 54.5**	**+0.9**
ARA0	**ARCESS Array S**	**2.61**	**46**	Pn	**Pn**	**02 01 17.0**	**+0.7**
baz=234,slow=14							
ARA0				Sn	**Sn**	**02 01 49.9**	**+1.3**
baz=228,slow=28							
ARA0	**ARCESS Array S**	**2.61**	**46**	*eP*	**Pn**	**02 01 17.0**	**+0.7**
ARA0				*eSB*	**Sn**	**02 01 49.9**	**+1.3**
MOR8	**Moi Rana**	**2.79**	**236**	*eSg*	**Sg**	**02 01 56.0**	**-6.4**
MOR8				AML	AML	02 02 00.7	
comp=Z,22nm,0.3s							
KEV	**Kevo**	**3.16**	**49**	*eP*	**Pn**	**02 01 24.3**	**+0.4**
KEV				*eS*	**Sn**	**02 02 03.7**	**+1.5**
KEV				MSG		02 02 11.6	
comp=Z,7.1nm,0.3s							
STOK	**Stokkvaagen**	**3.17**	**245**	*eSg*	**Sg**	**02 02 16.0**	**+1.4**
OUL	**Oulu**	**3.58**	**137**	*ePG*	**Pg**	**02 01 37.6**	**-3.9**
OUL				*eS*	**Sn**	**02 02 13.4**	**+0.8**
OUL				MSG		02 02 28.5	
comp=Z,3.1nm,0.3s							
KU4	**Liikasenvaara**	**3.96**	**107**	*eS*	**Sn**	**02 02 21.1**	**-1.0**
MSF	**Maaselka**	**4.00**	**114**	*eP*	**Pn**	**02 01 36.9**	**+1.6**
MSF				*eS*	**Sn**	**02 02 22.7**	**-0.1**
KU6	**Riekki**	**4.23**	**111**	*eS*	**Sn**	**02 02 27.5**	**-1.2**
NSS	**Namsos**	**4.68**	**229**	*eSg*	**Sg**	**02 02 59.8**	**-3.4**
APA0	**Apatity Array**	**4.89**	**87**	Sn	**Sn**	**02 02 44.4**	**-0.6**
baz=293,slow=28							
APA0				Lg		02 03 03.0	
baz=279,slow=28							
APA0	**Apatity Array**	**4.89**	**87**	*eS*	**Sn**	**02 02 44.4**	**-0.6**
APA0				*eSG*		02 03 03.0	
APA0	**Apatity Array**	**4.89**	**87**	Sn	**Sn**	**02 02 44.3**	**-0.7**
SNR=50							
FIA0	**FINESS Array S**	**6.88**	**156**	Pn	**Pn**	**02 02 16.1**	**+1.1**
FIA0				Sn	**Sn**	**02 03 32.8**	**-1.2**
baz=348,slow=22							
FIA0				Lg		02 04 06.3	
baz=348,slow=28							
FIA0	**FINESS Array S**	**6.88**	**156**	*eP*	**Pn**	**02 02 16.1**	**+1.1**
FIA0				*eS*	**Sn**	**02 03 32.8**	**-1.2**
FIA0				*eSG*		02 04 06.3	
FIA0	**FINESS Array S**	**6.88**	**156**	Pn	**Pn**	**02 02 16.1**	**+1.1**
SNR=50							
FIA0				Sn	**Sn**	**02 03 32.8**	**-1.2**
SNR=50							
NB2	**NORSAR Subarra**	**7.82**	**214**	*eP*	**Pn**	**02 02 28.5**	**+0.7**
HFS	**Hagfors**	**8.21**	**203**	Sn	**Sn**	**02 04 04.6**	**-2.2**
baz=27,slow=28							
HFS				Lg		02 04 48.5	
baz=31,slow=28							
HFS	**Hagfors**	**8.21**	**203**	*eS*	**Sn**	**02 04 04.6**	**-2.2**
HFS				*eSG*		02 04 48.5	

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*ISCJB **03** 02:07:49.8±3.1, 820S×007×11889E±008, h15km±19km, mb4.3/21, MS3.7/4, Error ellipse: s-maj=16.8km s-min=7.2km az=101.3*
*BJI **03** 02:07:53.8, 820S×11880E, h32km, mB5.0, mb4.6, Ms4.6, Msz4.4*
*NEIC **03** 02:07:53.9±3.1, 823S×11882E, h32km±22km, mb4.4/9, Error ellipse: s-maj=13.7km s-min=6.6km az=54.0*
NEIC Felt [III] at Raba.
*IDC **03** 02:07:54.8±2.6, 825S×11876E, h40km±23km, mb4.0/13, mb1 4.2/15, mb1mx4.1/22, mbtmp4.1/15, ML4.7/2, MS3.7/6, Ms1 3.6/6, ms1mx3.4/27, Error ellipse: s-maj=25.0km s-min=10.5km az=57.0*

ISC 03 02:07:53.5±3.1, 828S±007×11883E±009, h27km±22km, n40, σ0§96/43, mb4.3/21, MS3.7/4, 2C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79**	**147**	*eP*	**Pn**	**02 10 39.9**	**0.0**
40nm,0.4s							
FITZ				*eS*	**Sn**	**02 12 48.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**11.79**	**147**	P	**Pn**	**02 10 40.3**	**+0.4**
5.3nm,0.3s,baz=334,slow=8.6,SNR=102							
FITZ				S	**Sn**	**02 12 48.3**	**-2.3**
2.1nm,0.3s,baz=193,slow=22,SNR=3.3							
FITZ				LR	LR	02 15 41.7	
comp=Z,174nm,20.3s,baz=330,slow=39							
KAKA	**Kakadu**	**14.09**	**109**	*eP*	**Pn**	**02 11 10.7**	**-0.5**
34nm,0.6s							
WRA	**Warramunga Arr**	**18.97**	**129**	P	**Pn**	**02 12 13.0**	**-0.4**
2.2nm,0.3s,baz=302,slow=13,SNR=28							
WRA				S	**Sn**	**02 15 40.5**	**-4.5**
0.6nm,0.3s,baz=299,slow=25,SNR=7.3							
WRA				LR	LR	02 21 09.8	
comp=Z,114nm,18.2s,baz=335,slow=42							
WB2	**Warramunga Arr**	**18.98**	**129**	⇓*iP*	**Pn**	**02 12 12.9**	**-0.7**
WB2				*eS*	**Sn**	**02 15 35.5**	**-10**
ASAR	**Alice Springs**	**21.04**	**138**	P	**P**	**02 12 36.3**	**+1.1**
10nm,0.6s,mb4.4,baz=319,slow=10.0,SNR=56							
ASAR				S	**S**	**02 16 28.7**	**+0.7**
2.2nm,0.8s,baz=336,slow=27,SNR=4.2							
ASAR				ScP	ScP	02 20 15.5	-0.8
0.8nm,0.7s,baz=323,slow=2.5,SNR=4.3							
KULM	**Kulim**	**22.59**	**306**	*eP*	**P**	**02 12 52.6**	**+0.7**
PSI	**Prapat**	**22.70**	**298**	P	**P**	**02 12 52.4**	**-0.6**
2.4nm,0.5s,mb3.9,baz=167,slow=13,SNR=4.0							
PSI				LR	LR	02 22 43.6	
comp=Z,193nm,19.2s,MS3.5,baz=133,slow=39							
FORT	**Forrest**	**23.99**	**160**	*eP*	**P**	**02 13 06.3**	**+0.6**
14nm,0.7s,mb4.5							
NWAO	**Narrogin (SRO)**	**24.57**	**183**	P	**P**	**02 13 11.3**	**+0.3**
6.8nm,0.5s,mb4.4,baz=2.5,slow=7.2,SNR=12							
CTA	**Charters Tower**	**29.01**	**117**	P	**P**	**02 13 52.4**	**+1.4**
3.3nm,0.7s,mb4.2,baz=295,slow=9.2,SNR=6.6							
CTA				LR	LR	02 27 15.9	
comp=Z,214nm,18.7s,MS3.8,baz=242,slow=40							
CTAO	**Charters Tower**	**29.01**	**117**	*eP*	**P**	**02 13 52.1**	**+1.1**
5.2nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**31.61**	**141**	*eP*	**P**	**02 14 14.9**	**+0.9**
5.0nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**31.61**	**141**	P	**P**	**02 14 15.0**	**+1.0**
6.4nm,0.6s,mb4.7,baz=310,slow=9.3,SNR=18							
STKA				LR	LR	02 27 21.6	
comp=Z,137nm,19.1s,MS3.6,baz=22,slow=37							
KSRS	**Korea Array**	**46.29**	**10**	P	**P**	**02 16 16.9**	**+0.2**
7.4nm,1.2s,mb4.5,baz=184,slow=9.1,SNR=8.1							
LZH	**Lanzhou**	**46.33**	**343**	*eP*	**P**	**02 16 18.6**	**+1.6**
LZH				AMB	AMB		
comp=Z,24nm,1.2s,mb5.0							
LZH				AMB	AMB		
comp=Z,110nm,4.5s							
GTA	**Gaotai**	**50.62**	**341**	*eP*	**P**	**02 16 52.6**	**+2.5**
GTA				AP	pP	02 16 57.2	-1.1
GTA				AMB	AMB		
comp=Z,8.0nm,1.4s,mb4.5							
ULN	**Ulaanbaatar**	**56.87**	**351**	*eP*	**P**	**02 17 35.5**	**-0.3**
comp=Z,1.6nm,0.7s,mb4.2							
SONM	**Songino Array**	**56.95**	**350**	P	**P**	**02 17 36.2**	**-0.1**
comp=Z,1.6nm,0.6s,mb4.2,baz=169,slow=8.8,SNR=8.0							
MK31	**Makanchi Array**	**63.75**	**333**	*eP*	**P**	**02 18 21.5**	**-1.3**
MKAR	**Makanchi Array**	**63.75**	**333**	P	**P**	**02 18 21.7**	**-1.2**
comp=Z,1.1nm,0.6s,mb4.1,baz=151,slow=6.2,SNR=20							
MKAR				LR	LR	02 49 34.6	
comp=Z,63nm,19.4s,MS3.8,baz=182,slow=39							
MKAR	**Makanchi Array**	**63.75**	**333**	P	**P**	**02 18 21.7**	**-1.2**
MKAR				LR	LR	02 49 34.6	
AAK	**Ala-Archa**	**64.80**	**325**	*eP*	**P**	**02 18 29.8**	**0.0**
comp=Z,2.5nm,0.9s,mb4.2							
ZAL	**Zalesovo**	**68.31**	**339**	P	**P**	**02 18 49.5**	**-2.6**
comp=Z,1.2nm,0.5s,mb4.2,baz=323,slow=9.7,SNR=4.0							
MAW	**Mawson**	**69.85**	**200**	P	**P**	**02 19 01.3**	**-0.4**
comp=Z,2.4nm,0.6s,mb4.3,baz=98,slow=9.5,SNR=5.1							
VNDA	**Vanda**	**72.72**	**171**	P	**P**	**02 19 19.4**	**+0.4**
comp=Z,0.9nm,0.4s,mb4.0,baz=299,slow=7.2,SNR=7.8							
VNDA	**Vanda**	**72.72**	**171**	*eP*	**P**	**02 19 19.4**	**+0.4**
comp=Z,3.2nm,1.1s,mb4.2							
BRVK	**Borovoye**	**73.66**	**332**	*eP*	**P**	**02 19 25.1**	**+0.5**
comp=Z,3.6nm,0.9s,mb4.3							
SYO	**Syowa Base**	**78.46**	**201**	⇓*eP*	**P**	**02 19 51.4**	**-0.5**
SYO	**Syowa Base**	**78.46**	**201**	⇓*epP*	pP	02 20 04.0	+3.5
AKTK	**Aktyubinsk**	**78.54**	**325**	P	**P**	**02 19 51.5**	**-0.9**
AKTO	**Aktyubinsk**	**78.54**	**325**	P	**P**	**02 19 51.5**	**-0.9**
comp=Z,0.5nm,0.5s,mb3.7,baz=45,slow=5.6,SNR=3.2							
QSPA	**South Pole Qui**	**81.71**	**180**	*eP*	**P**	**02 20 09.5**	**0.0**
comp=Z,2.6nm,0.7s,mb4.3							
BOSA	**Boshof**	**89.20**	**241**	P	**P**	**02 20 46.4**	**-0.4**
comp=Z,3.5nm,1.0s,mb4.7,baz=339,slow=9.6,SNR=3.4							
SNAA	**Sanae**	**91.64**	**196**	*e*	**P**	**02 20 58.7**	**+0.6**
SNAA				*e*	pP	02 21 04.8	-2.0
SNAA	**Sanae**	**91.64**	**196**	*eP*	**P**	**02 20 58.3**	**+0.1**
comp=Z,2.3nm,0.5s,mb4.8							
VNA2	**Neumayer--Watz**	**93.27**	**195**	*e*	**P**	**02 21 05.8**	**+0.1**
VNA2				*e*		02 21 10.9	
VNA3	**Neumayer Olymp**	**93.66**	**195**	*e*	**P**	**02 21 09.0**	**+1.5**
VNA3				*e*		02 21 14.4	
VNA1	**Neumayer--Stat**	**93.67**	**195**	*e*	**P**	**02 21 02.9**	**-4.6**
VNA1				*e*		02 21 08.1	
TORD	**Torodi Ar. Bea**	**118.17**	**280**	PKP	PKPdf	02 26 37.4	-0.6
comp=Z,1.0nm,0.5s,baz=48,slow=1.7,SNR=16							

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*NEIC **03** 02:16:49.0, 1694N×9490W, h118km, MD4.0(MEX), After MEX.*
MEX 03 02:16:49.0±0.9, 1695N×9490W, h120km±8km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.14**	**7**	*i* P	Pn	02 17 04.2	-1.2
CMIG				*i* S	Sn	02 17 16.0	-1.8
TUIG	**Tuzandepetl**	**1.17**	**23**	*i* P	Pn	02 17 11.4	-1.4
TUIG				*i* S	Sn	02 17 28.3	-2.4
TUIG	**Tuzandepetl**	**1.17**	**23**	*i* P	Pn	02 17 11.4	-1.4
TUIG				*i* S	Sn	02 17 27.9	-2.9
HUIG	**Huatulco**	**1.65**	**225**	*i* P	Pn	02 17 15.7	-2.4
HUIG				*i* S	Sn	02 17 38.9	-1.5
HUIG	**Huatulco**	**1.65**	**225**	*i* P	Pn	02 17 15.7	-2.5
HUIG				*i* S	Sn	02 17 38.9	-1.5
OXX	**Oaxaca**	**1.75**	**275**	*i* P	Pn	02 17 19.1	-0.2
OXX				*i* S	Sn	02 17 42.7	+0.2
VHO	**Vista Hermosa**	**1.76**	**274**	*i* P	Pn	02 17 18.8	-0.6
VHO				*i* S	Sn	02 17 41.9	-0.8
CCIG	**Comitan**	**2.73**	**104**	*eP*	Pn	02 17 31.9	+0.2
CCIG				*i* S	Sn	02 18 03.8	-0.8
CCIG	**Comitan**	**2.73**	**104**	*eP*	Pn	02 17 31.7	0.0
CCIG				*i* S	Sn	02 18 01.9	-2.8
UTMO	**Huajuapan**	**2.91**	**288**	*i* P	Pn	02 17 33.2	-0.8
UTMO				*i* S	Sn	02 18 06.4	-2.3
IIO	**Organos**	**4.48**	**306**	*i* P	Pn	02 17 55.6	+0.6
IIO				*i* S	Sn	02 18 43.0	-3.2

IDC 03 02:31:47.1±2.8, 557S×14755E, h184km±39km, mb2.9/4, mb1 3.2/6, mb1mx3.1/14, mbtmp3.0/6, Error ellipse: s-maj=78.7km s-min=25.4km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**186**	P	Pn	02 32 48.1	+1.9
5.2nm,0.3s,baz=5.7,slow=10,SNR=14							
PMG				S	Sn	02 33 32.2	-0.2
6.1nm,0.3s,baz=24,slow=20,SNR=13							
WB2	**Warramunga Arr**	**19.21**	**221**	*eP*	P	02 35 57.2	+0.1
WRA	**Warramunga Arr**	**19.22**	**221**	P	P	02 35 57.5	+0.4
0.5nm,0.3s,baz=45,slow=12,SNR=7.9							
ASAR	**Alice Springs**	**22.28**	**215**	P	P	02 36 29.9	+0.7
0.9nm,0.5s,baz=49,slow=8.6,SNR=21							
FITZ	**Fitzroy Crossi**	**24.76**	**238**	P	P	02 36 52.3	+0.5
0.8nm,0.5s,baz=42,slow=10,SNR=5.7							
SONM	**Songino Array**	**64.29**	**331**	P	P	02 42 03.3	+0.5
0.1nm,0.4s,baz=150,slow=5.4,SNR=2.6							
MKAR	**Makanchi Array**	**77.51**	**320**	P	P	02 43 21.8	-0.6
0.1nm,0.3s,baz=107,slow=5.8,SNR=4.0							
TORD	**Torodi Ar. Bea**	**145.51**	**285**	PKPbc	PKPbc	02 51 03.9	+0.2
0.5nm,0.6s,baz=65,slow=3.2,SNR=7.6							

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*NEIC **03** 03:02:30.3, 3959S×17733E, h63km, ML3.9(WEL), After WEL.*
WEL 03 03:02:30.7±0.2, 3958S×17730E, h62km±2km, ML3.8/20, 4C-2D, Error ellipse: s-maj=1.8km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.56**	**216**	PN	Pn	03 02 43.3	-0.2
PXZ				SN	Sn	03 02 53.1	+0.3
KNZ	**Kokohu**	**0.63**	**28**	⇑P	Pn	03 02 44.4	+0.2
KNZ				S	Sn	03 02 53.6	-0.6
KNZ	**Kokohu**	**0.63**	**28**	⇑PN	Pn	03 02 44.4	+0.1
KNZ				SN	Sn	03 02 53.6	-0.6
BKZ	**Black Stump Fm**	**0.75**	**303**	⇑P	Pn	03 02 44.8	-0.8
BKZ	**Black Stump Fm**	**0.75**	**303**	⇓PN	Pn	03 02 44.8	-0.8
BKZ				SN	Sn	03 02 54.5	-2.1
WPHZ	**Waipukurau**	**0.82**	**233**	PN	Pn	03 02 46.5	0.0
WPHZ				SN	Sn	03 02 58.9	+0.7
TSZ	**Takapari Road**	**1.14**	**245**	P	Pn	03 02 49.8	-0.8
TSZ	**Takapari Road**	**1.14**	**245**	PN	Pn	03 02 49.8	-0.7
MOVZ	**Moawhango**	**1.21**	**278**	P	Pn	03 02 51.4	-0.1
MOVZ	**Moawhango**	**1.21**	**278**	PN	Pn	03 02 51.4	-0.1
MWZ	**Matawai**	**1.26**	**8**	P	Pn	03 02 51.8	-0.4
MWZ	**Matawai**	**1.26**	**8**	PN	Pn	03 02 51.8	-0.4
TUVZ	**Tukino**	**1.31**	**283**	P	Pn	03 02 53.0	+0.1
TUVZ	**Tukino**	**1.31**	**283**	PN	Pn	03 02 53.0	+0.1
URZ	**Urewera**	**1.33**	**354**	P	Pn	03 02 52.5	-0.6
URZ	**Urewera**	**1.33**	**354**	PN	Pn	03 02 52.5	-0.6
OTVZ	**Oturere**	**1.33**	**288**	PN	Pn	03 02 53.1	0.0
WNVZ	**Wahianoa**	**1.34**	**280**	P	Pn	03 02 53.4	+0.1
WNVZ	**Wahianoa**	**1.34**	**280**	PN	Pn	03 02 53.4	+0.1
BFZ	**Birch Farm**	**1.36**	**216**	⇑P	Pn	03 02 53.2	-0.4
BFZ	**Birch Farm**	**1.36**	**216**	⇓PN	Pn	03 02 53.2	-0.4
KRVZ	**Karewarewa**	**1.37**	**290**	PN	Pn	03 02 53.7	0.0
NGZ	**Ngauruhoe**	**1.38**	**287**	P	Pn	03 02 53.8	+0.1
NGZ	**Ngauruhoe**	**1.38**	**287**	PN	Pn	03 02 53.8	0.0
KATZ	**Kakaramea**	**1.38**	**295**	P	Pn	03 02 53.8	0.0
KATZ	**Kakaramea**	**1.38**	**295**	PN	Pn	03 02 53.8	0.0
TRVZ	**Turoa**	**1.38**	**281**	PN	Pn	03 02 53.2	-0.7
FWVZ	**Far West T-bar**	**1.39**	**283**	P	Pn	03 02 53.8	-0.1
FWVZ	**Far West T-bar**	**1.39**	**283**	PN	Pn	03 02 53.8	-0.1
WTVZ	**West Tongariro**	**1.40**	**289**	PN	Pn	03 02 54.5	+0.4
MTVZ	**Mangateitei**	**1.43**	**277**	PN	Pn	03 02 54.4	-0.1
PATZ	**Paeroa**	**1.45**	**326**	P	Pn	03 02 54.5	-0.2
PATZ	**Paeroa**	**1.45**	**326**	PN	Pn	03 02 54.5	-0.2
TAZ	**Tarawera**	**1.48**	**335**	P	Pn	03 02 54.5	-0.6
TAZ	**Tarawera**	**1.48**	**335**	PN	Pn	03 02 54.5	-0.6
TWVZ	**Taurewa**	**1.53**	**289**	PN	Pn	03 02 55.4	-0.4
EDRZ	**Edgecumbe**	**1.53**	**343**	P	Pn	03 02 55.4	-0.5
EDRZ	**Edgecumbe**	**1.53**	**343**	PN	Pn	03 02 55.4	-0.5
PKVZ	**Pokaka**	**1.54**	**280**	PN	Pn	03 02 55.7	-0.2
TIWZ	**Tintock**	**1.61**	**222**	PN	Pn	03 02 56.4	-0.5
PUZ	**Puketiti**	**1.68**	**27**	P	Pn	03 02 57.5	-0.4
PUZ	**Puketiti**	**1.68**	**27**	PN	Pn	03 02 57.5	-0.4
MRZ	**Mangatainoka R**	**1.70**	**230**	P	Pn	03 02 57.3	-0.9
MRZ	**Mangatainoka R**	**1.70**	**230**	PN	Pn	03 02 57.3	-0.8
MTW	**Mount Morrison**	**2.09**	**220**	P	Pn	03 03 01.8	-1.6
MTW	**Mount Morrison**	**2.09**	**220**	PN	Pn	03 03 01.8	-1.5
MXZ	**Matakaoa Point**	**2.16**	**22**	P	Pn	03 03 04.3	-0.1
MXZ	**Matakaoa Point**	**2.16**	**22**	PN	Pn	03 03 04.3	0.0
TRWZ	**Traveller**	**2.19**	**214**	PN	Pn	03 03 03.2	-1.6
KIW	**Kapiti Island**	**2.23**	**234**	P	Pn	03 03 04.3	-1.0
KIW	**Kapiti Island**	**2.23**	**234**	PN	Pn	03 03 04.3	-1.1
RAEZ	**Rainy Point**	**2.27**	**276**	P	Pn	03 03 06.2	+0.4
RAEZ	**Rainy Point**	**2.27**	**276**	PN	Pn	03 03 06.2	+0.4
CAW	**Cannon Point**	**2.29**	**227**	P	Pn	03 03 05.2	-0.9
CAW	**Cannon Point**	**2.29**	**227**	PN	Pn	03 03 05.2	-0.9
PAWZ	**Paruwai Farm**	**2.30**	**218**	P	Pn	03 03 04.6	-1.6
PAWZ	**Paruwai Farm**	**2.30**	**218**	PN	Pn	03 03 04.6	-1.6
MSWZ	**Moikau Station**	**2.41**	**220**	P	Pn	03 03 05.8	-1.9
MSWZ	**Moikau Station**	**2.41**	**220**	PN	Pn	03 03 05.8	-1.9
NEZ	**North Egmont**	**2.50**	**276**	P	Pn	03 03 10.1	+1.2
MRW	**Makara Radio**	**2.58**	**229**	P	Pn	03 03 08.3	-1.7
MRW	**Makara Radio**	**2.58**	**229**	PN	Pn	03 03 08.3	-1.7
BHW	**Baring Head**	**2.60**	**225**	P	Pn	03 03 08.3	-2.0
BHW	**Baring Head**	**2.60**	**225**	PN	Pn	03 03 08.3	-2.0
NRZ	**Ngariki Road**	**2.62**	**274**	P	Pn	03 03 11.4	+0.9
NRZ	**Ngariki Road**	**2.62**	**274**	PN	Pn	03 03 11.4	+0.9
TCW	**Tory Channel**	**2.83**	**234**	P	Pn	03 03 11.4	-2.0
TCW	**Tory Channel**	**2.83**	**234**	PN	Pn	03 03 11.4	-2.0
DUWZ	**D'Urville Isla**	**2.86**	**244**	PN	Pn	03 03 12.1	-1.8
TUWZ	**Tuamarina**	**3.15**	**233**	PN	Pn	03 03 15.4	-2.5
NNZ	**Nelson**	**3.41**	**240**	*eP*	Pn	03 03 19.6	-1.8
NNZ	**Nelson**	**3.41**	**240**	PN	Pn	03 03 19.6	-1.8
QRZ	**Quartz Range**	**3.86**	**250**	P

WB2 Warramunga Arr 46.20 265 *eP* **P 03 21 27.8 -1.1**
WB2 Warramunga Arr 46.20 265 *eP* **P 03 21 27.6 -1.3**
WRA Warramunga Arr 46.22 265 P **P 03 21 28.0 -0.9**
10.0nm,0.8s,mb4.8,baz=101,slow=8.2,SNR=49
WRA LR LR 03 40 23.2
comp=Z,202nm,18.5s,MS4.1,baz=85,slow=36
KAKA Kakadu 50.12 273 *eP* **P 03 21 58.0 -1.1**
5.9nm,0.6s,mb4.8
FITZ Fitzroy Crossi 54.63 264 *eP* **P 03 22 32.8 +0.2**
11nm,0.9s,mb4.9
FITZ Fitzroy Crossi 54.63 264 P **P 03 22 32.6 +0.1**
6.1nm,0.8s,mb4.7,baz=82,slow=7.0,SNR=10
VNDA Vanda 54.73 186 LR LR 03 39 55.1
comp=Z,53nm,21.3s,MS3.6,baz=333,slow=29
VNDA Vanda 54.73 186 *eP* **P 03 22 35.8 +2.6**
6.2nm,1.3s,mb4.5
QSPA South Pole Qui 66.18 180 *eP* **P 03 23 51.7 +0.3**
42nm,0.6s,mb5.7
MJAR Matsushiro Arr 74.13 323 P **P 03 24 39.8 -0.4**
1.6nm,0.9s,mb4.0,baz=152,slow=5.2,SNR=3.5
MAW Mawson 79.05 199 *eP* **P 03 25 08.9 +1.0**
2.3nm,0.6s,mb4.3
MAW Mawson 79.05 199 P **P 03 25 08.8 +0.8**
3.1nm,0.6s,mb4.4,baz=120,slow=7.0,SNR=12
YSS Yuzh-Sakhalins 79.83 333 *eP* **P 03 25 12.3 +0.1**
17nm,0.8s,mb5.0
KSRS Korea Array 80.75 318 LR LR 03 57 21.0
comp=Z,58nm,20.4s,MS3.9,baz=162,slow=33
NVAR Mina Array Bea 82.15 42 P **P 03 25 22.6 -1.9**
1.0nm,0.7s,mb3.9,baz=229,slow=8.2,SNR=5.6
SNAA Sanae 84.56 178 *e* **P 03 25 36.3 -0.6**
SNAA *e* 03 25 40.4
SNAA *e* pP 03 25 49.7 +1.7
SNAA Sanae 84.56 178 *eP* **P 03 25 36.0 -1.0**
5.6nm,1.1s,mb4.6
VNA3 Neumayer Olymp 84.62 176 *e* **P 03 25 36.4 -0.8**
VNA3 *e* 03 25 40.7
VNA3 *e* 03 25 49.9
VNA3 *e* 03 26 02.9
VNA2 Neumayer--Watz 85.08 176 *e* **P 03 25 39.3 -0.3**
VNA2 *e* 03 25 43.5
VNA2 *e* pP 03 25 52.5 +1.9
VNA2 *e* 03 26 04.5
VNA1 Neumayer--Stat 85.30 176 *e* **P 03 25 40.2 -0.5**
VNA1 *e* 03 25 44.8
VNA1 *e* pP 03 25 53.6 +1.9
VNA1 *e* 03 26 09.4
PSI Prapat 86.78 274 P **P 03 25 48.9 +0.9**
6.3nm,0.9s,mb4.9,baz=160,slow=4.0,SNR=7.4
TXAR Lajitas Array 87.22 56 P **P 03 25 50.6 +0.5**
1.5nm,1.0s,mb4.2,baz=232,slow=4.1,SNR=5.3
TXAR LR LR 03 58 29.2
comp=Z,79nm,18.7s,MS4.2,baz=0.0,slow=31
PDAR Pinedale Array 90.08 42 P **P 03 26 05.1 +1.5**
0.8nm,1.0s,mb4.0,baz=210,slow=3.1,SNR=4.0
COLA College 91.10 12 *eP* **P 03 26 07.7 -0.7**
4.8nm,0.9s,mb4.8
CHTO Chiang Mai 93.27 289 *eP* **P 03 26 20.9 +2.5**
8.0nm,0.8s,mb5.2
LPAZ La Paz 98.91 112 LR LR 04 02 27.4
comp=Z,50nm,18.5s,MS4.0,baz=293,slow=30
SUW Suwalki 146.72 339 *e*PKPbc PKPbc 03 32 45.8 +0.3
AKASG Malin Array Be 146.95 330 PKPbc PKPbc 03 32 45.6 -0.6
4.3nm,0.7s,baz=40,slow=4.0,SNR=27
AKBB Malin Array Si 146.95 330 *e*PKPbc PKPbc 03 32 45.7 -0.5
AKBB *e* 03 32 57.4
KIEV Kiev 146.97 330 *e*PKPbc PKPbc 03 32 45.6 -0.6
MALT Malatya 147.55 304 *e*PKPbc PKPbc 03 32 49.1 +1.3
BR131 Keskin Array S 150.58 309 *e*PKPbc PKPbc 03 32 56.1 +0.6
BRTR Keskin Array B 150.58 309 PKPbc PKPbc 03 32 55.9 +0.4
1.9nm,0.8s,baz=121,slow=3.3,SNR=13
BRTR PKPab PKPab 03 33 02.4 +0.1
1.7nm,0.7s,baz=145,slow=5.3,SNR=8.1
CLL Collm 151.81 348 *i* PKPbc PKPbc 03 32 58.3 0.0
comp=Z,6.0nm,0.9s
CLL *i* PKPab PKPab 03 33 03.8 -3.6
CLL *i* pPKPab pPKPab 03 33 11.6 -7.0
comp=Z,14nm,1.2s
BRG Berggiesshubel 152.03 347 *eP* PKPdf 03 32 59.2 +6.9
comp=Z,3.1nm,0.8s
BRG *i* 03 33 11.7
comp=Z,3.4nm,0.8s
MORC Moravsky Berou 152.13 341 *e*PKPbc PKPbc 03 32 59.3 +0.2
PSZ Piszkesteto 152.97 336 *e*PKPab PKPab 03 33 13.0 +0.8
KHC Kasperske Hory 153.75 346 *e*PKPab PKPab 03 33 16.0 +0.4
GERES GERESS Array B 154.00 346 PKPbc PKPbc 03 33 02.9 -0.3
comp=Z,0.3nm,0.6s,baz=37,slow=3.3,SNR=3.9
GERES PKPab PKPab 03 33 14.2 -2.5
comp=Z,0.8nm,0.9s,baz=354,slow=2.7,SNR=5.0
TORD Torodi Ar. Bea 169.05 167 PKP PKPdf 03 33 10.5 -0.2
comp=Z,1.1nm,1.1s,baz=247,slow=2.4,SNR=3.9
TORD PKPab PKPab 03 34 23.3 +1.0
comp=Z,0.5nm,0.8s,baz=174,slow=3.6,SNR=2.9
TORD Torodi Ar. Bea 169.05 167 PKP PKPdf 03 33 10.5 -0.2
TORD PKPab PKPab 03 34 23.3 +1.0

IDC 03 03:15:18.8±1.8, 069S×12491E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.3/3, MS4.0/1, Ms1 4.0/1, ms1mx2.7/13, Error ellipse: s-maj=185.8km s-min=26.6km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.24**	**155**	P	P	03 20 05.5	-0.9
	0.3nm,0.4s,baz=332,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**24.45**	**160**	P	P	03 20 40.5	+1.3
	0.3nm,0.4s,baz=345,slow=11,SNR=7.7						
DZM	**Mont Dzumac**	**45.67**	**121**	LR	LR	03 40 52.4	
	comp=Z,158nm,18.4s,baz=210,slow=34						
MKAR	**Makanchi Array**	**60.21**	**328**	P	P	03 25 28.6	+0.1
	0.3nm,0.4s,baz=119,slow=8.4,SNR=5.1						

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*ISCJB **03** 03:29:21.9±0.7, 2497S±007×17965E±006, h517km±9km, mb4.2/34, Error ellipse: s-maj=11.0km s-min=6.9km az=120.4*
*IDC **03** 03:29:21.6±0.7, 2475S×17983E, h504km±6km, mb3.8/13, mb1 4.0/14, mb1mx3.8/18, mbtmp3.8/14, Error ellipse: s-maj=12.9km s-min=11.9km az=1.0*
*NEIC **03** 03:29:22.2±0.9, 2501S×17976E, h518km±10km, mb4.3/29, Error ellipse: s-maj=10.0km s-min=8.0km az=154.0*
ISC 03 03:29:22.6±0.7, 2500S±006×17971E±006, h515km±9km, n308, σ0&65/262, mb4.2/33, 68C-96D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.73**	**154**	P	P	03 30 49.0	+0.9
	356nm,0.3s,baz=82,slow=20,SNR=10						
RAO				S	S	03 31 58.4	+0.6
	94nm,0.3s,baz=250,slow=23,SNR=2.1						
RAO	**Raoul Island**	**4.73**	**154**	*eP*	P	03 30 49.3	+1.2
DZM	**Mont Dzumac**	**12.52**	**281**	P	P	03 32 05.1	-1.4
	0.5nm,0.3s,baz=114,slow=23,SNR=40						
PUZ	**Puketiti**	**13.09**	**185**	*eP*	P	03 32 11.6	-1.0
PUZ	**Puketiti**	**13.09**	**185**	*e*PN	P	03 32 11.6	-1.0
URZ	**Urewera**	**13.40**	**189**	P	P	03 32 13.9	-1.9
	7.2nm,0.3s,baz=356,slow=2.6,SNR=23						
URZ				S	S	03 34 41.7	+3.1
	2.4nm,0.3s,baz=5.0,slow=21,SNR=9.8						
AFI	**Afiamalu**	**13.63**	**38**	P	P	03 32 12.2	-6.0
	5.5nm,0.3s,baz=77,slow=5.5,SNR=9.8						
AFI				S	S	03 34 35.2	-7.7
	5.6nm,0.3s,baz=13,slow=20,SNR=8.2						
AFI	**Afiamalu**	**13.63**	**38**	*eP*	P	03 32 11.7	-6.6
	81nm,0.9s						
AFI				*e*S	S	03 34 31.4	-12
TCW	**Tory Channel**	**16.79**	**194**	*eP*	P	03 32 47.4	-3.6
TCW	**Tory Channel**	**16.79**	**194**	*e*PN	P	03 32 48.4	-2.6
QRZ	**Quartz Range**	**16.89**	**199**	P	P	03 32 51.6	-0.3
QRZ	**Quartz Range**	**16.89**	**199**	PN	P	03 32 51.6	-0.3
NNZ	**Nelson**	**17.01**	**197**	*eP*	P	03 32 50.5	-2.6
NNZ	**Nelson**	**17.01**	**197**	*e*PN	P	03 32 50.5	-2.6
THZ	**Tophouse**	**17.65**	**197**	*eP*	P	03 32 57.6	-1.3
THZ	**Tophouse**	**17.65**	**197**	*e*PN	P	03 32 57.6	-1.3
DSZ	**Denniston Nort**	**17.95**	**200**	*eP*	P	03 33 01.8	+0.2
DSZ	**Denniston Nort**	**17.95**	**200**	*e*PN	P	03 33 01.8	+0.2
KHZ	**Kahutara**	**18.11**	**195**	*eP*	P	03 33 01.2	-1.9
KHZ	**Kahutara**	**18.11**	**195**	*e*PN	P	03 33 01.2	-1.9
RPZ	**Rata Peaks**	**19.97**	**199**	P	P	03 33 21.3	+1.2
	41nm,0.5s,baz=19,slow=1.9,SNR=38						
FOZ	**Fox Glacier**	**20.26**	**201**	*eP*	P	03 33 19.7	-3.0
FOZ	**Fox Glacier**	**20.26**	**201**	*e*PN	P	03 33 21.7	-1.0
CTA	**Charters Tower**	**31.24**	**272**	⇓*iP*	P	03 35 01.0	+1.4
	12nm,0.4s,mb4.8						
CTA	**Charters Tower**	**31.24**	**272**	P	P	03 35 01.3	+1.7
	25nm,0.6s,mb5.0,baz=97,slow=11,SNR=64						
CTAO	**Charters Tower**	**31.24**	**272**	*eP*	P	03 35 00.8	+1.2
	25nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**34.08**	**250**	⇓*iP*	P	03 35 25.1	+1.3
	5.0nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**34.08**	**250**	P	P	03 35 25.5	+1.7
	6.1nm,0.4s,mb4.5,baz=94,slow=10.0,SNR=32						
STKA				ScP	ScP	03 40 45.2	+2.8
	0.9nm,0.5s,baz=0.0,slow=1.0,SNR=3.7						
PMG	**Port Moresby**	**34.62**	**291**	P	P	03 35 27.9	-0.4
	8.2nm,0.7s,mb4.4,baz=134,slow=6.4,SNR=4.3						
PMG	**Port Moresby**	**34.62**	**291**	*eP*	P	03 35 27.5	-0.8
	8.6nm,0.7s,mb4.4						
COEN	**Coen**	**36.05**	**281**	*eP*	P	03 35 41.2	+1.0
	5.6nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**41.61**	**262**	P	P	03 36 26.4	+1.2
	2.6nm,0.3s,mb4.2,baz=94,slow=6.8,SNR=69						
ASAR				pP	pP	03 37 58.3	+0.1
	1.9nm,0.8s,baz=102,slow=8.2,SNR=5.0						
ASAR				ScP	ScP	03 41 12.8	+1.8
	1.2nm,0.8s,baz=127,slow=4.2,SNR=5.7						
WB2	**Warramunga Arr**	**42.07**	**267**	⇓*iP*	P	03 36 29.3	+0.4
WRA	**Warramunga Arr**	**42.08**	**267**	P	P	03 36 29.4	+0.5
	12nm,0.4s,mb4.7,baz=103,slow=8.0,SNR=119						
WRA				pP	pP	03 38 01.4	-0.8
	0.7nm,0.4s,baz=100,slow=7.0,SNR=1.7						
WRA				ScP	ScP	03 41 16.4	+3.4
	4.7nm,0.9s,baz=100,slow=4.2,SNR=13						
FORT	**Forrest**	**45.69**	**251**	⇓*iP*	P	03 36 56.9	-0.1
	21nm,0.6s,mb4.8						
KAKA	**Kakadu**	**46.16**	**276**	*eP*	P	03 37 00.3	-0.2
	6.1nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**50.49**	**267**	*eP*	P	03 37 33.7	+0.9
	13nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**50.49**	**267**	P	P	03 37 34.4	+1.5
	8.2nm,0.8s,mb4.2,baz=138,slow=9.4,SNR=12						
VNDA	**Vanda**	**53.27**	**185**	P	P	03 37 54.5	+1.7
	1.1nm,0.5s,mb3.4,baz=340,slow=9.3,SNR=11						
VNDA	**Vanda**	**53.27**	**185**	*eP*	P	03 37 54.2	+1.4
	1.6nm,0.7s,mb3.5						
KLBR	**Kellerberrin**	**54.33**	**248**	*eP*	P	03 37 59.6	-0.7
	11nm,0.8s,mb4.2						
MUN	**Mundaring**	**55.56**	**247**	*eP*	P	03 38 09.4	+0.4
MAW	**Mawson**	**76.63**	**201**	P	P	03 40 21.3	+1.2
	1.6nm,0.7s,mb3.6,baz=127,slow=10,SNR=4.1						
FARB	**Farallon Islan**	**82.35**	**42**	⇓P	P	03 40 50.4	+0.2
	baz=82						
HAST	**UC Hastings Re**	**82.43**	**44**	⇑P	P	03 40 50.8	+0.2
	baz=82						
PKD	**Parkfield**	**82.80**	**45**	⇓P	P	03 40 52.5	0.0
	baz=83						
U04C	**Hernandez Rese**	**82.90**	**44**	⇑P	P	03 40 53.6	+0.6
	baz=83						
PACP	**Pacheco Peak**	**82.98**	**44**	⇓P	P	03 40 54.4	+1.0
	baz=83						
CVS	**Carmenet Viney**	**83.09**	**42**	⇓P	P	03 40 53.6	-0.4
	baz=83						
NSHM	**Saint Helena R**	**83.11**	**42**	*eP*	P	03 40 53.6	-0.4
HOPS	**Hopland**	**83.13**	**41**	⇑P	P	03 40 54.0	-0.1
	baz=83						
V05C	**Boulder Hill,**	**83.16**	**45**	⇑P	P	03 40 53.8	-0.5
	baz=83						
109C	**Camp Elliot, M**	**83.26**	**49**	⇓P	P	03 40 54.8	0.0
	baz=83						
S04C	**Ingram Canyon,**	**83.26**	**43**	⇓P	P	03 40 55.7	+0.9
	baz=83						
ARVC	**Arvin**	**83.42**	**46**	⇓P	P	03 40 55.8	+0.2
	baz=84						
O01C	**Eel River Cons**	**83.43**	**40**	⇑P	P	03 40 55.2	-0.5
	baz=84						
MNRC	**McLaughlin Nat**	**83.44**	**42**	⇓P	P	03 40 56.6	+0.9
	baz=84						
Q03C	**Winters**	**83.54**	**42**	⇓P	P	03 40 57.2	+1.0
	baz=84						
SNAA	**Sanae**	**83.58**	**179**	*e*	P	03 40 55.9	-0.5
SNAA				*e*		03 41 17.5	
SNAA	**Sanae**	**83.58**	**179**	*eP*	P	03 40 55.6	-0.8
	1.5nm,0.6s,mb3.7						
MURC	**Murrieta**	**83.61**	**48**	⇓P	P	03 40 56.9	+0.3
	baz=84						
BFSC	**Mount Baldy St**	**83.67**	**48**	⇓P	P	03 40 56.8	0.0
	baz=84						
VES	**Vestal, Richgr**	**83.68**	**46**	⇓P	P	03 40 56.5	-0.3
	baz=84						
MONP	**Monument Peak**	**83.73**	**49**	⇓P	P	03 40 58.0	+0.8
	baz=84						
GASB	**Alder Springs**	**83.76**	**41**	⇓P	P	03 40 58.7	+1.4
	baz=84						
S05C	**Merced**	**83.79**	**44**	P	P	03 40 57.6	+0.2
	baz=84,SNR=5.4						
VNA3	**Neumayer Olymp**	**83.80**	**177**	*e*	P	03 40 57.4	-0.1
VNA3				*e*		03 41 02.6	
VNA3				*e*		03 41 21.9	
DVTC	**Desert V Tower**	**83.82**	**50**	⇑P	P	03 40 57.5	-0.1
	baz=84						
EDW2	**Edwards Air Fo**	**83.82**	**47**	⇑P	P	03 40 57.9	+0.3
	baz=84						
ISA	**Isabella**	**83.97**	**46**	P	P	03 40 58.5	+0.1
	baz=84,SNR=9.6						
T06C	**Milleton Lake**	**83.97**	**45**	P	P	03 40 58.4	0.0
	baz=84,SNR=8.7						
SUTB	**Sutter Butte**	**84.06**	**42**	⇓P	P	03 40 58.6	-0.1
	baz=84						
O02C	**Red Bluff**	**84.06**	**41**	⇓P	P	03 40 59.8	+1.0
	baz=84						
Q04C	**Lincoln**	**84.06**	**42**	⇓P	P	03 40 59.7	+0.9
	baz=84						
N02C	**Big Bar**	**84.17**	**40**	⇑P	P	03 40 59.5	+0.2
	baz=84						
CMB	**Columbia Colle**	**84.17**	**43**	*eP*	P	03 40 58.5	-0.8
	13nm,1.2s,mb4.3						
CMB	**Columbia Colle**	**84.17**	**43**	P	P	03 40 59.1	-0.3
	baz=84,SNR=7.6						
SWSC	**Sam W. Stewart**	**84.19**	**50**	⇑P	P	03 40 59.6	+0.2
	baz=84						
VNA2	**Neumayer--Watz**	**84.21**	**178**	*e*	P	03 40 59.6	+0.1
VNA2				*e*		03 41 04.2	
VNA2				*e*		03 41 23.4	
HELL	**Mitchell Peak,**	**84.22**	**45**	P	P	03 40 59.0	-0.5
	baz=84,SNR=5.4						
OHCM	**Honcut**	**84.31**	**42**	*eP*	P	03 40 59.3	-0.7
LRMC	**Laurel Mountai**	**84.37**	**47**	⇑P	P	03 41 00.2	-0.1
	baz=84						
O03C	**Acorn Hollow,**	**84.39**	**41**	⇓P	P	03 41 00.4	0.0
	baz=84						
LAVA	**Lava Cap Winer**	**84.40**	**43**	⇑P	P	03 41 00.2	-0.3
	baz=84						
KCC	**Kaiser Creek**	**84.42**	**44**	⇑P	P	03 41 00.3	-0.2
	baz=84						
S06C	**San Francisco**	**84.42**	**44**	⇑P	P	03 41 00.3	-0.2
	baz=84						
ORV	**Oroville**	**84.43**	**42**	⇓P	P	03 41 01.1	+0.4
	baz=84						
VNA1	**Neumayer--Stat**	**84.45**	**177**	*e*	P	03 41 00.1	-0.6
VNA1				*e*		03 41 05.0	
VNA1				*e*		03 41 25.5	
WDC	**Whiskeytown Da**	**84.46**	**40**	⇑P	P	03 41 00.6	-0.2
	baz=85						
BELC	**Belle Mtn.**	**84.66**	**49**	⇓P	P	03 41 02.3	+0.6
	baz=85						
CWC	**Cottonwood Cre**	**84.68**	**46**	⇓P	P	03 41 01.5	-0.3
	baz=85						
R05C	**Kirkwood Meado**	**84.78**	**43**	⇓P	P	03 41 02.3	0.0
	baz=85						
M02C	**Callahan**	**84.80**	**40**	⇑P	P	03 41 02.8	+0.4
	baz=85						
P05C	**Yuba Gap, Truc**	**84.82**	**42**	⇑P	P	03 41 02.6	+0.1
	baz=85						
MPMC	**Manual Prospec**	**84.85**	**46**	⇑P	P	03 41 02.9	+0.2
	baz=85						
GSC	**Goldstone**	**84.86**	**47**	*eP*	P	03 41 02.2	-0.5
GSC	**Goldstone**	**84.86**	**47**	P	P	03 41 03.0	+0.3
	baz=85,SNR=7.0						
L02A	**Cave Junction**	**84.86**	**39**	⇓P	P	03 41 01.9	-0.8
	baz=85						
HEC	**Hector,Ludlow**	**84.91**	**48**	⇑P	P	03 41 03.2	+0.3
	baz=85						
MLAC	**Mammoth Lakes**	**84.91**	**44**	⇑P	P	03 41 03.6	+0.6
	baz=85						
GLA	**Glamis**	**84.93**	**50**	⇓P	P	03 41 03.5	+0.5
	baz=85						
O05C	**Quincy**	**85.04**	**42**	⇑P	P	03 41 03.5	-0.1
	baz=85						
R07C	**Lee Vining**	**85.05**	**44**	⇑P	P	03 41 03.8	+0.2
	baz=85						
R06C	**Coleville**	**85.06**	**43**	⇓P	P	03 41 04.0	+0.3
	baz=85						
YBH	**Yreka Blue Hor**	**85.10**	**39**	⇑P	P	03 41 04.7	+0.9
	baz=85						
M03C	**McCloud**	**85.15**	**40**	⇓P	P	03 41 04.5	+0.4
	baz=85						
O04C	**Chester**	**85.16**	**41**	⇓P	P	03 41 04.0	-0.2
	baz=85						
HATC	**Hat Creek Radi**	**85.25**	**41**	⇑P	P	03 41 04.4	-0.2
	baz=85						
S08C	**White Mtn Res**	**85.25**	**45**	P	P	03 41 05.0	+0.4
	baz=85,SNR=6.4						
BEKR	**Beckwourth**	**85.32**	**42**	⇓P	P	03 41 04.9	0.0
	baz=85						
K02A	**Glendale**	**85.32**	**38**	⇓P	P	03 41 05.5	+0.6
	baz=85						
IRM	**Iron Mountain**	**85.33**	**49**	⇓P	P	03 41 05.2	+0.2
	baz=85						
GMRC	**Granite Mounta**	**85.33**	**48**	⇑P	P	03 41 05.1	+0.2
	baz=85						
WCN	**Washoe City**	**85.34**	**43**	⇑P	P	03 41 04.9	-0.1
	baz=85						
GRAC	**Grapevine Rang**	**85.47**	**46**	⇓P	P	03 41 05.6	-0.1
	baz=86						
FURC	**Furnace Creek,**	**85.50**	**46**	⇓P	P	03 41 05.3	-0.5
	baz=86						
HUMO	**Hull Mountain**	**85.52**	**39**	⇑P	P	03 41 06.4	+0.5
	baz=86						
Y12C	**Blythe**	**85.53**	**50**	⇑P	P	03 41 06.3	+0.3
	baz=86						
SHOC	**Shoshone**	**85.55**	**47**	⇓P	P	03 41 06.1	0.0
	baz=86						
M04C	**Macdoel**	**85.63**	**40**	⇓P	P	03 41 06.7	+0.2
	baz=86						
J02A	**Umpqua**	**85.66**	**38**	⇑P	P	03 41 06.6	+0.1
	baz=86						
NVAR	**Mina Array Bea**	**85.72**	**44**	P	P	03 41 06.8	-0.1
	3.9nm,0.7s,mb4.1,baz=228,slow=8.5,SNR=25						
M05C	**Lookout**	**85.77**	**40**	P	P	03 41 07.1	0.0
	baz=86,SNR=6.5						
R08A	**Mina**	**85.80**	**44**	⇓P	P	03 41 06.9	-0.4
	baz=86						
S09A	**Goldfield**	**85.99**	**45**	⇑P	P	03 41 07.3	-0.9
	baz=86						
J03A	**Ideyld Park**	**86.00**	**38**	⇓P	P	03 41 07.3	-0.9
	baz=86						
M06C	**Likely Place G**	**86.07**	**41**	⇑P	P	03 41 08.4	-0.2
	baz=86						
V11A	**Goodsprings**	**86.08**	**47**	⇓P	P	03 41 08.8	+0.2
	baz=86						
PDMCI	**Parker Dam,Lak**	**86.10**	**49**	⇑P	P	03 41 08.8	+0.2
	baz=86						
W12A	**Cal Nev Ari**	**86.16**	**48**	⇓P	P	03 41 09.4	+0.4
	baz=86						
N06A	**Buffalo Meadow**	**86.17**	**41**	⇑P	P	03 41 09.0	0.0
	baz=86						
Q08A	**Gabbs**	**86.21**	**44**	P	P	03 41 08.9	-0.3
	baz=86,SNR=7.4						
L05A	**Lakeview**	**86.38**	**40**	⇑P	P	03 41 10.5	+0.5
	baz=86						
R09A	**Tonopah**	**86.39**	**45**	P	P	03 41 09.9	-0.2
	baz=86,SNR=6.0						
O07A	**Toulon**	**86.40**	**42**	P	P	03 41 10.0	-0.1
	baz=86,SNR=7.2						
J04A	**Umpqua Nationa**	**86.40**	**38**	⇓P	P	03 41 10.3	+0.2
	baz=86						
V12A	**Nelson**	**86.41**	**48**	⇑P	P	03 41 10.7	+0.5
	baz=86						
Z14A	**Wintersburg**	**86.42**	**51**	⇑P	P	03 41 10.9	+0.8
	baz=86						
U11A	**Corn Creek**	**86.45**	**47**	⇑P	P	03 41 10.8	+0.5
	baz=86						
X13A	**Yucca**	**86.47**	**49**	⇑P	P	03 41 10.8	+0.3
	baz=87						
115A	**Sonoran Desert**	**86.56**	**52**	⇓P	P	03 41 11.8	+0.9
	baz=87						
I04A	**Tendick Farm,**	**86.58**	**38**	⇑P	P	03 41 10.8	-0.2
	baz=87						
MOD	**Modoc**	**86.60**	**40**	*eP*	P	03 41 10.6	-0.4
	4.1nm,0.9s,mb4.1						
MOD	**Modoc**	**86.60**	**40**	P	P	03 41 10.9	-0.1
	baz=87,SNR=5.8						
Y14A	**Wickenburg**	**86.69**	**50**	⇓P	P	03 41 11.7	+0.3
	baz=87						
W13A	**Hualapai Mount**	**86.72**	**49**	⇑P	P	03 41 12.0	+0.4
	baz=87						
K05A	**Summer Lake**	**86.77**	**39**	⇓P	P	03 41 12.4	+0.5
	baz=87						
116A	**Eloy**	**86.86**	**52**	⇓P	P	03 41 13.3	+1.0
	baz=87						
J05A	**Fort Rock**	**86.92**	**39**	P	P	03 41 12.9	+0.4
	baz=87,SNR=9.6						
M07A	**Soldier Meadow**	**86.96**	**41**	⇓P	P	03 41 12.7	0.0
	baz=87						
U12A	**Valley of Fire**	**87.01**	**47**	⇓P	P	03 41 13.4	+0.4
	baz=87						
X14A	**Yava**	**87.05**	**50**	⇓P	P	03 41 13.7	+0.6
	baz=87						
K06A	**Valley Falls**	**87.19**	**40**	P	P	03 41 13.9	+0.1
	baz=87,SNR=7.8						
N08A	**GE Springer Mi**	**87.22**	**42**	⇑P	P	03 41 13.9	-0.1
	baz=87						
L07A	**Adell**	**87.24**	**41**	P	P	03 41 14.4	+0.4
	baz=87,SNR=7.6						
H04A	**Detroit Lake**	**87.28**	**37**	⇑P	P	03 41 13.9	-0.3
	baz=87						
W14A	**Seligman**	**87.33**	**49**	⇓P	P	03 41 15.4	+0.9
	baz=87						
TUC	**Tucson**	**87.39**	**53**	*eP*	P	03 41 15.6	+0.9
	13nm,1.3s,mb4.4						
O09A	**Fish Creek Ran**	**87.44**	**43**	⇓P	P	03 41 14.9	-0.1
	baz=88						
X15A	**Humboldt**	**87.52**	**50**	⇑P	P	03 41 15.6	+0.3
	baz=88						
J06A	**Christmas Vall**	**87.52**	**39**	P	P	03 41 15.4	0.0
	baz=88,SNR=9.3						
P10A	**Eureka**	**87.58**	**44**	⇑P	P	03 41 15.4	-0.2
	baz=88						
N09A	**Rock Creek Ran**	**87.64**	**42**	⇓P	P	03 41 16.3	+0.3
	baz=88						
Q11A	**Duckwater**	**87.65**	**45**	⇓P	P	03 41 15.9	0.0
	baz=88						
K07A	**Rock Creek Ran**	**87.71**	**40**	P	P	03 41 16.4	+0.1
	baz=88,SNR=12						
E03A	**Lebam**	**87.73**	**35**	⇓P	P	03 41 16.6	+0.2
	baz=88						
H05A	**Madras**	**87.78**	**38**

E05A	Randle baz=89	88.70	36	⇑P	P	03 41 20.4	-0.4
N11A	Elko Archery C baz=89	88.72	43	⇓P	P	03 41 21.5	+0.5
F06A	Goldendale baz=89	88.73	37	⇑P	P	03 41 20.2	-0.8
B04A	Port Angeles baz=89	88.75	34	⇓P	P	03 41 21.4	+0.3
C04A	Brinnon baz=89	88.80	35	⇓P	P	03 41 21.3	-0.1
I08A	Drewsey baz=89,SNR=9.7	88.84	40	P	P	03 41 21.6	+0.1
D05A	Enumclaw baz=89	88.97	35	⇓P	P	03 41 23.3	+1.2
J09A	Fry Pan Ranch, baz=89,SNR=12	88.97	40	P	P	03 41 22.3	+0.1
O12A	Currie baz=89	89.03	44	⇑P	P	03 41 22.4	-0.1
G07A	Ruggs Ranch, H baz=89,SNR=6.6	89.03	38	P	P	03 41 22.2	-0.2
M11A	Holland Ranch, baz=89,SNR=7.6	89.04	43	P	P	03 41 22.9	+0.4
E06A	Yakima baz=89	89.11	36	⇑P	P	03 41 22.5	-0.2
H08A	Prairie City baz=89	89.14	39	⇓P	P	03 41 23.3	+0.3
N12A	Clover Valley, baz=89	89.18	44	⇓P	P	03 41 23.3	+0.2
F07A	Phinny Hill Vi baz=89	89.28	37	⇓P	P	03 41 23.6	+0.1
I09A	Lost Marbles R baz=89	89.35	40	⇓P	P	03 41 23.9	0.0
G08A	Pilot Rock baz=90,SNR=8.4	89.45	38	P	P	03 41 24.1	-0.2
C05A	Tolt Reservoir baz=90	89.45	35	⇓P	P	03 41 24.3	-0.1
M12A	Wells baz=90	89.57	43	⇓P	P	03 41 25.1	+0.1
A04A	Legoe Bay, Lum baz=90	89.58	34	⇓P	P	03 41 25.6	+0.7
D06A	Cle Elum baz=90	89.58	36	⇑P	P	03 41 25.1	+0.1
B05A	Bryant baz=90	89.60	35	⇑P	P	03 41 25.2	+0.1
J10A	Berg Farm, Mel baz=90	89.61	41	⇓P	P	03 41 25.8	+0.8
E07A	Sunnyside baz=90	89.72	37	⇓P	P	03 41 25.5	-0.1
H09A	Durkee baz=90	89.81	39	⇓P	P	03 41 25.6	-0.4
F08A	Pendleton baz=90	89.86	38	⇓P	P	03 41 25.8	-0.4
M13A	Montello baz=90	90.01	43	⇓P	P	03 41 27.3	+0.4
D07A	Quincy baz=90	90.05	36	⇓P	P	03 41 27.5	+0.3
E08A	Dider Farm, El baz=90	90.12	37	⇓P	P	03 41 27.8	+0.3
BMO	Blue Mountains 1.4nm,0.7s,mb3.9	90.12	39	eP	P	03 41 26.7	-0.8
DUG	Dugway 3.9nm,1.2s,mb4.1	90.22	45	eP	P	03 41 27.2	-0.8
F09A	S2 Ranch, Elgi baz=90	90.29	38	⇑P	P	03 41 27.9	-0.4
H10A	Noah's Angus R baz=90	90.29	40	⇓P	P	03 41 27.8	-0.5
C07A	Waterville baz=90	90.31	36	⇓P	P	03 41 27.7	-0.7
I11A	Placerville baz=90	90.36	41	⇑P	P	03 41 28.6	0.0
D08A	Wollman Farm, baz=91	90.54	37	⇑P	P	03 41 28.9	-0.4
E09A	Wood Farm, Sta baz=91	90.64	38	⇓P	P	03 41 29.2	-0.6
B07A	Winthrop baz=91	90.75	35	⇑P	P	03 41 29.3	-1.1
TMUT	Trail Mountain	90.78	46	eP	P	03 41 31.1	+0.6
H11A	Donnelly baz=91	90.79	40	⇓P	P	03 41 30.3	-0.2
F10A	Beach Ranch, E baz=91,SNR=5.1	90.83	38	P	P	03 41 29.7	-1.0
D09A	Jones Farm, Ri baz=91	90.87	37	⇓P	P	03 41 30.4	-0.6
A07A	Ashnola River, baz=91	90.98	35	⇑P	P	03 41 30.9	-0.6
MNTX	Cornudas Mount 2.8nm,0.8s,mb4.2	91.05	55	eP	P	03 41 31.6	-0.2
SPUT	South Promonto	91.06	44	eP	P	03 41 27.2	-4.6
HLID	Hailey 4.2nm,1.1s,mb4.3	91.09	42	eP	P	03 41 31.7	-0.2
HLID	Hailey baz=91	91.09	42	⇑P	P	03 41 32.1	+0.1
B08A	Colville Reser baz=91	91.11	36	⇓P	P	03 41 30.7	-1.4
E10A	Myers Farm, Un baz=91	91.20	38	⇑P	P	03 41 32.3	-0.1
TXAR	Lajitas Array 4.4nm,0.8s,mb4.5,baz=215,slow=6.4,SNR=20	91.23	58	P	P	03 41 33.2	+0.7
LTX	Lajitas 4.9nm,0.8s,mb4.5	91.23	58	eP	P	03 41 32.8	+0.2
C09A	Chrisman Ranch baz=91	91.33	37	⇓P	P	03 41 32.1	-1.0
D10A	Wagner Farm, O baz=92	91.44	38	⇓P	P	03 41 32.7	-0.8
A08A	Turner Farm, O baz=92	91.50	35	⇑P	P	03 41 32.6	-1.2
B09A	Rice baz=92	91.77	36	⇑P	P	03 41 34.0	-1.1
HWUT	Hardware Ranch 2.9nm,0.9s,mb4.3	91.78	44	eP	P	03 41 34.5	-0.6
MCK	McKinley 1.1nm,0.6s,mb4.1	91.81	13	eP	P	03 41 32.8	-2.5
ANMO	Albuquerque 2.2nm,0.7s,mb4.3	91.84	52	eP	P	03 41 35.1	-0.3
D11A	Klaveano Farm, baz=92	91.96	38	⇓P	P	03 41 35.6	-0.4
G13A	Cobalt baz=92	92.05	40	⇓P	P	03 41 36.4	+0.1
F13A	Darby baz=92	92.38	40	⇑P	P	03 41 36.9	-1.0
COLA	College 2.8nm,0.8s,mb4.3	93.04	13	eP	P	03 41 38.7	-2.2
A11A	Hall Mountain, baz=93	93.05	36	⇓P	P	03 41 40.2	-0.7
G15A	Dillon baz=93	93.12	41	⇓P	P	03 41 40.9	-0.4
MOOW	Moose Ponds 0.9nm,0.7s,mb3.9	93.42	43	eP	P	03 41 42.1	-0.6
LOHW	Long Hollow 1.3nm,0.6s,mb4.1	93.44	43	eP	P	03 41 42.1	-0.6
CHMT	Chamberlain Mo	93.63	39	eP	P	03 41 42.6	-1.0
PDAR	Pinedale Array 0.8nm,0.8s,mb3.9,baz=208,slow=2.9,SNR=6.0	93.66	44	P	P	03 41 43.0	-0.8
SDCO	Great Sand Dun 3.6nm,1.2s,mb4.4	93.86	50	eP	P	03 41 44.4	-0.3
BOZ	Bozeman (W) 1.1nm,0.7s,mb4.1	93.89	41	eP	P	03 41 43.7	-1.1
INK	Inuvik 1.0nm,1.1s,baz=181,slow=6.0,SNR=7.1	99.15	16	P	Pdif	03 42 06.3	-2.1
YKA	Yellowknife Ar 0.2nm,0.5s,baz=258,slow=1.8,SNR=5.6	101.46	26	PKiKP	PKiKP	03 46 36.9	-2.6
MKAR	Makanchi Array 0.3nm,0.4s,baz=86,slow=0.3,SNR=5.8	112.70	312	PKiKP	PKiKP	03 46 58.5	-1.9
MKAR				SKP		03 49 46.5	
BVAR	0.4nm,0.6s,baz=72,slow=1.5,SNR=3.6 Borovoye Array 0.3nm,0.6s,baz=119,slow=1.8,SNR=4.0	121.08	318	SKP		03 50 03.3	
ARU	Arti	127.61	323	ePKPdf	PKPdf	03 47 27.7	-1.3
LSZ	Lusaka	131.28	218	ePKPdf	PKPdf	03 47 38.1	+2.2
ARCES	ARCESS Array B 8.0nm,1.1s,baz=71,slow=1.9,SNR=9.6	132.90	348	PKhKP		03 47 28.7	
ARCES				PKP	PKPdf	03 47 37.0	-2.0
ARCES	1.8nm,0.5s,baz=76,slow=2.7,SNR=16 5.2nm,0.9s,baz=18,slow=4.2,SNR=5.3			SKPbc	SKPbc	03 50 17.6	-0.7
KAF	Kangasniemi	138.80	341	ep		03 47 39.0	
FINES	FINESS Array B 1.3nm,0.5s,baz=68,slow=4.5,SNR=19	139.40	341	PKhKP		03 47 41.1	
FINES				PKP	PKPdf	03 47 48.8	-2.3
FINES	1.4nm,0.5s,baz=121,slow=3.3,SNR=7.4 3.4nm,0.8s,baz=29,slow=4.4,SNR=7.0			SKPbc	SKPbc	03 50 37.3	-0.5
NB2	NORSAR Subarra comp=Z,2.3nm,0.5s,baz=16,slow=3.1	143.12	351	PKP	PKPdf	03 47 53.5	-4.2
NOA	NORSAR Array B comp=Z,5.3nm,0.8s,baz=15,slow=4.9,SNR=12	143.12	351	PKP	PKPdf	03 47 54.3	-3.4
NAO01	NORSAR Array S	143.35	351	ePKPdf	PKPdf	03 47 54.2	-3.9
MALT	Malatya	144.73	302	ePKPdf	PKPdf	03 48 01.4	+0.9
AKASG	Malin Array Be comp=Z,4.5nm,0.5s,baz=44,slow=4.0,SNR=42	145.74	326	PKPbc	PKPbc	03 48 02.3	-1.5
AKASG				pPKPbc		03 49 59.7	
AKASG	comp=Z,1.0nm,0.6s,baz=45,slow=4.2,SNR=4.0			PP	PP	03 51 23.1	-6.7
AKBB	comp=Z,0.8nm,0.5s,baz=41,slow=4.0,SNR=6.4 Malin Array Si	145.74	326	ePKPbc	PKPbc	03 48 02.0	-1.7
KIEV	Kiev	145.75	326	ePKPbc	PKPbc	03 48 02.0	-1.8
BR131	Keskin Array S	148.02	306	ePKPbc	PKPbc	03 48 09.4	-0.5
BRTR	Keskin Array B comp=Z,2.5nm,0.7s,baz=135,slow=3.7,SNR=18	148.02	306	PKPbc	PKPbc	03 48 09.6	-0.3
EIL	Elat	148.43	286	ePKPbc	PKPbc	03 48 11.0	+0.1
ANTO	Ankara	148.59	306	ePKPbc	PKPbc	03 48 11.2	-0.1
ANTO	Ankara	148.59	306	⇑iP	PKPbc	03 48 11.3	0.0
CSS	Prodhromos	149.36	297	ePKPbc	PKPbc	03 48 13.1	-0.1
KWP	Kalwaria	149.59	330	ePKPbc	PKPbc	03 48 13.1	-0.6
TIRR	Tirgusor	149.69	317	⇑P	PKPbc	03 48 13.6	-0.4
TIRR	Tirgusor	149.69	317	⇑iP	PKPbc	03 48 13.6	-0.4
BURAR	Bucovina Array	149.72	325	⇑iP	PKPbc	03 48 14.8	+0.8
KOLS	Kolonicke sedl	150.29	329	ePKP	PKPbc	03 48 15.1	-0.3
STHS	Stebnicka Huta	150.40	331	ePKP	PKPbc	03 48 15.5	-0.1
OJC	Ojcow	150.41	333	ePX	PKPbc	03 48 15.1	-0.5
MLR	Muntele Rosu	150.61	321	⇓P	PKPbc	03 48 15.3	-0.8
MLR	Muntele Rosu	150.61	321	⇓iP	PKPbc	03 48 15.3	-0.8
CRVS	Cervenica-Dubn	150.68	330	ePKP	PKPbc	03 48 15.7	-0.6
NIE	Niedzica	150.81	332	ePX	PKPbc	03 48 16.7	+0.1
DRGR		151.56	326	⇓iP	PKPbc	03 48 17.6	-0.7
DPC	Dobruska-Polom	151.61	337	ePKPbc	PKPbc	03 48 18.0	-0.4
MORC	Moravsky Berou	151.64	335	ePKPbc	PKPbc	03 48 17.8	-0.7
MORC	Moravsky Berou	151.64	335	⇑iP	PKPbc	03 48 17.4	-1.0
CLL	Collm	151.82	342	⇓iP	PKPbc	03 48 18.2	-0.6
CLL				e		03 48 30.0	
CLL	Collm comp=Z,16nm,0.8s	151.82	342	⇓iPKPbc	PKPbc	03 48 18.2	-0.6
CLL				ePKPab	PKPab	03 48 30.0	-0.3
BRG	Berggiesshubel comp=Z,4.4nm,0.5s	151.94	341	iP	PKPbc	03 48 18.4	-0.7
BRG				e		03 48 29.7	
BRG	comp=Z,4.4nm,0.9s			e		03 50 18.6	
BRG	comp=Z,5.3nm,1.4s						
PVCC	Panska Ves	152.05	340	ePKPbc	PKPbc	03 48 18.8	-0.5
VYHS	Vyhne	152.14	332	ePKP	PKPbc	03 48 18.9	-0.7
PRU	Pruhonice	152.52	339	ePKPbc	PKPbc	03 48 19.6	-0.8
BZS	Buzias	152.91	325	⇑iP	PKPbc	03 48 20.4	-0.8
KHC	Kasperske Hory	153.58	339	ePKPbc	PKPbc	03 48 22.0	-0.7
KHC				ex	x	03 48 47.0	
GERES	GERESS Array B	153.79	339	PKPbc	PKPbc	03 48 22.4	-0.7
GERES	comp=Z,1.1nm,0.8s,baz=29,slow=3.0,SNR=7.6			PKPab	PKPab	03 48 37.6	-1.1
PKSM	comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=4.7 Moragy	153.96	329	⇑iP	PKPbc	03 48 22.5	-1.0
ESDC	Sonseca Array	165.04	11	PKPab	PKPab	03 49 26.3	-1.5
TOA0	comp=Z,1.2nm,0.7s,baz=340,slow=3.3,SNR=6.5 Torodi Ar. Sit	168.06	189	ePKPab	PKPab	03 49 41.7	+0.5
TORD	Torodi Ar. Bea	168.06	189	PKP	PKPdf	03 48 28.9	-0.7
TORD	comp=Z,0.9nm,0.7s,baz=335,slow=0.6,SNR=8.3			PKPab	PKPab	03 49 42.2	+1.0
	comp=Z,0.9nm,0.7s,baz=206,slow=2.7,SNR=9.5						

*IDC **03** 03:31:34.8±2.8, 2047S×175.15W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/17, mbtmp4.3/6, ML4.8/1, MS3.9/6, Ms1 3.9/6, ms1mx3.3/47, Error ellipse: s-maj=157.2km s-min=39.7km az=180.0*

*ISCJB **03** 03:31:43.8±0.7, 235S±07×17458W±009, h100km, mb4.3/7, Error ellipse: s-maj=95.3km s-min=8.9km az=169.7*

*NEIC **03** 03:31:46.3±0.7, 2340S×17470W, h100km, mb4.7/4, Error ellipse: s-maj=82.8km s-min=12.2km az=176.0*

ISC 03 03:31:46.6±0.9, 234S±07×1747W±01, h100km, n20, σ0°64/12, mb4.3/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga 4.0nm,0.3s,baz=270,slow=4.6,SNR=7.0	13.97	84	Pn	Pn	03 35 00.1	0.0
RAR	1.2nm,0.3s,baz=90,slow=18,SNR=4.6			Sn	Sn	03 37 27.9	-6.0
TBI	Tubuai 117nm,23.0s	23.15	95	eLR	LR	03 42 31.0	
PPT	Papeete 94nm,21.8s	24.21	81	eLR	LR	03 42 40.5	
PPT	Papeete comp=Z,175nm,18.1s,baz=307,slow=34	24.21	81	LR	LR	03 45 26.1	
CTA	Charters Tower 3.2nm,0.3s,mb4.7	36.36	268	eP	P	03 38 40.5	-0.5
CTA	Charters Tower 4.1nm,0.4s,mb4.8,baz=94,slow=9.9,SNR=13	36.36	268	P	P	03 38 40.9	-0.1
CTAO	Charters Tower 6.0nm,0.5s,mb4.8	36.36	268	eP	P	03 38 41.0	0.0
RKT	Rikitea 73nm,23.5s	36.41	98	eLR	LR	03 48 52.6	
PMG	Port Moresby 12nm,1.0s,mb4.7	39.02	284	eP	P	03 39 03.8	+0.4
STKA	Stephens Creek 0.9nm,0.6s,mb3.8,baz=108,slow=6.4,SNR=3.0	39.43	248	P	P	03 39 12.7	+6.0
ASAR	Alice Springs 1.8nm,0.9s,mb3.8,baz=97,slow=7.7,SNR=6.6	46.92	259	P	P	03 40 07.5	+0.5
WB2	Warramunga Arr	47.29	264	eP	P	03 40 09.5	-0.5
WRA	Warramunga Arr 1.7nm,0.4s,mb4.1,baz=94,slow=8.4,SNR=17	47.30	264	P	P	03 40 09.4	-0.7
WRA	comp=Z,74nm,19.6s,baz=75,slow=36			LR	LR	03 59 33.3	
KAKA	Kakadu 4.5nm,0.7s,mb4.6	51.14	272	eP	P	03 40 38.5	-0.8
FITZ	Fitzroy Crossi 2.4nm,0.9s,mb4.2,baz=108,slow=6.4,SNR=3.7	55.73	263	P	P	03 41 14.0	+1.2
CBIJ	Chichi jima comp=Z,368nm,21.4s,baz=173,slow=29	65.24	318	LR	LR	04 02 03.0	
LPIG	La Paz comp=Z,64nm,18.9s,baz=211,slow=29	78.31	57	LR	LR	04 09 00.1	
KSRS	Korea Array comp=Z,53nm,18.1s,baz=354,slow=34	81.09	317	LR	LR	04 15 29.3	
ATAH	Atahualpa comp=Z,52nm,19.2s,baz=279,slow=30	92.98	99	LR	LR	04 18 26.1	
CLL	Collm comp=Z,7.0nm,1.1s	151.51	350	ePKPab	PKPab	03 51 36.0	-1.7

*SKO **03** 03:38:36.7, 39.18N×2304E, h7km*

*NEIC **03** 03:38:37.3, 3926N×2301E, h17km, ML3.2(ATH), After ATH.*

*ISCJB **03** 03:38:37.4±0.6, 3927N±003×2301E±003, h6km±5km, Error ellipse: s-maj=4.4km s-min=4.3km az=26.8*

*ATH **03** 03:38:37.3, 3926N×2301E, h17km±2km, MD3.5/21, ML3.2*

*SOF **03** 03:38:38.1, 3937N×2309E, h10km, MD2.7*

*CSEM **03** 03:38:38.0±0.1, 3929N×2301E, h15km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.5km az=83.0*

ISC 03 03:38:37.7±0.6, 3926N±003×2301E±003, h3km±5km, n45, σ0°91/50, 3C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.17	74	⇑iPB	Pg	03 38 41.7	+0.6
NEO				eSB	Sg	03 38 45.0	+1.6
LKR	Lokris	0.61	181	⇑iPB	Pg	03 38 48.8	-0.6
THL	Klokotos Trika	0.83	292	ePN	Pg	03 38 52.0	-1.6
THL				eSN	Sg	03 39 05.0	+0.7
EVR	Evrytania	0.99	250	ePB	Pg	03 38 55.5	-1.3
EVR				eSN	Sg	03 39 10.5	+0.9
PLG	Polygyros	1.17	17	⇓iPN	Pg	03 38 59.5	-0.6
PLG				eSN	Sg	03 39 15.2	0.0
MGER	Gerania Oros	1.28	171	ePN	Pg	03 39 01.5	-0.9
PTL	Penteli	1.38	151	ePN	Pn	03 39 04.0	+0.1
ATH	Athens Observa	1.40	156	ePN	Pn	03 39 04.7	+0.6
KZN	Kozani	1.42	318	ePN	Pn	03 39 03.7	-0.7
KZN				eSN	Sn	03 39 23.1	-0.4
NAIG	Nisos Aigina	1.54	166	ePN	Pn	03 39 05.5	-0.6
KVR	Kavouri	1.55	157	ePN	Pn	03 39 05.8	-0.4
RLS	Riolos of Patr	1.70	226	ePN	Pn	03 39 08.6	+0.3
JAN	Janina	1.72	284	ePN	Pn	03 39 09.5	+1.0
LIA	Limnos Island	1.80	68	ePB	Pn	03 39 08.2	-1.4
VAY	Valandovo	2.09	351	ePn	Pn	03 39 12.6	-1.0
VLS	Valsamata	2.18	241	ePB	Pn	03 39 14.9	+0.1
BIA	Bitola	2.18	324	ePn	Pn	03 39 14.3	-0.6
BIA	Bitola	2.18	324	ePn	Pn	03 39 14.3	-0.6
BIA	Bitola	2.18	324	ePn	Pn	03 39 14.2	-0.7
NVR	Nevrokopi	2.19	17	ePN	Pn	03 39 16.8	+1.8
ITM	Ithomi	2.24	203	ePN	Pn	03 39 17.1	+1.4
MMB	Musomiste	2.39	13	iP	Pn	03 39 16.9	-0.9
SRN	Sarande	2.41	286	iPn	Pn	03 39 19.8	+1.8
KRUS	Krusevo	2.50	328	ePn	Pn	03 39 19.8	+0.5
KRUS	Krusevo	2.50	328	ePn	Pn	03 39 19.7	+0.4
STIP	Stip	2.51	346	ePn	Pn	03 39 19.4	-0.1
STIP	Stip	2.51	346	ePn	Pn	03 39 19.4	-0.1
STIP	Stip	2.51	346	ePn	Pn	03 39 19.3	-0.2
KEK	Kerkira	2.52	281	ePB	Pn	03 39 21.4	+1.8
PRK	Paraskevi	2.53	89	ePB	Pn	03 39 20.3	+0.5
VLI	Veliai	2.54	181	ePN	Pn	03 39 19.3	-0.5
KKB	Krupnik	2.61	1	iP	Pn	03 39 19.9	-0.9
RDO	Rodhopi	2.70	45	ePN	Pn	03 39 20.9	-1.2
RZN	Rozhen	2.75	28	iP	Pn	03 39 22.6	-0.2
APE	Apeiranthos	2.96	137	ePN	Pn	03 39 25.0	-0.5
PHP	Peshkopia	3.12	322	iPn	Pn	03 39 27.8	0.0
VTS	Vitosha	3.33	3	iP	Pn	03 39 30.9	+0.1
VTS	Vitosha	3.33	3	⇓iP	Pn	03 39 31.0	+0.2
SMG	Samos	3.38	116	ePN	Pn	03 39 31.5	+0.1
SZH	Strazhica	4.57	28	iP	Pn	03 39 48.0	+0.2
DIVS	Divcibare	5.34	336	ePn	Pn	03 39 57.6	-0.7
MLR	Muntele Rosu	6.60	18	⇑iP	Pn	03 40 16.9	+1.3
PLOR	Plostina	7.12	21	⇓iP	Pn	03 40 26.1	+3.4
PKSM	Moragy	7.66	337	⇓iP	Pn	03 40 29.5	-0.6

IDC 03 03:41:29.2±1.2, 2190N×14320E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=50.9km s-min=24.1km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array 0.4nm,0.6s,baz=130,slow=8.9,SNR=3.9	39.19	320	P	P	03 48 59.3	+0.4
WRA	Warramunga Arr 0.4nm,0.7s,baz=13,slow=8.7,SNR=4.6	42.48	192	P	P	03 49 26.4	+0.4
ASAR	Alice Springs 0.2nm,0.6s,baz=16,slow=8.6,SNR=5.3	46.18	192	P	P	03 49 55.6	-0.1
BVAR	Borovoye Array 0.9nm,0.6s,baz=94,slow=7.7,SNR=5.3	62.53	319	P	P	03 51 54.4	-0.3
YKA	Yellowknife Ar 0.3nm,0.7s,baz=291,slow=6.2,SNR=4.0	76.27	28	P	P	03 53 19.6	-0.1

IDC 03 03:43:50.5±1.1, 2188N×14311E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, MS3.4/1, Ms1 3.4/1, ms1mx2.0/46, Error ellipse: s-maj=44.2km s-min=21.0km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array 0.6nm,0.5s,baz=112,slow=9.8,SNR=7.2	39.16	320	P	P	03 51 19.4	-0.4
CTA	Charters Tower comp=Z,53nm,19.5s,baz=54,slow=32	41.82	176	LR	LR	04 06 03.8	
WRA	Warramunga Arr 0.6nm,0.7s,baz=17,slow=9.5,SNR=8.3	42.44	192	P	P	03 51 47.7	+0.8
ASAR	Alice Springs 0.4nm,0.7s,baz=11,slow=11,SNR=6.9	46.15	192	P	P	03 52 16.1	-0.6
ZAL	Zalesovo 0.8nm,0.5s,baz=350,slow=6.3,SNR=3.9	54.04	322	P	P	03 53 16.6	+0.1
MKAR	Makanchi Array 0.3nm,0.6s,baz=90,slow=9.7,SNR=4.7	54.53	313	P	P	03 53 20.6	+0.5
BVAR	Borovoye Array 1.0nm,0.6s,baz=79,slow=7.7,SNR=6.6	62.49	319	P	P	03 54 15.6	-0.1
YKA	Yellowknife Ar 0.2nm,0.5s,baz=292,slow=5.9,SNR=9.7	76.33	28	P	P	03 55 41.1	-0.1

*BJI **03** 04:01:39.6, 3638N×7064E, h181km, mb3.9*

*MOS **03** 04:01:41.5±0.8, 3640N×7098E, h182km, mb4.2/14, Error ellipse: s-maj=16.6km s-min=9.0km az=84.8*

*NEIC **03** 04:01:42.8±2.0, 3641N×7101E, h181km±19km, mb4.1/2, Error ellipse: s-maj=13.3km s-min=11.8km az=184.0*

*ISCJB **03** 04:01:43.6±0.4, 3651N±003×7101E±006, h205km±5km, mb3.6/17, Error ellipse: s-maj=7.8km s-min=3.9km az=160.4*

*IDC **03** 04:01:45.3±4.0, 3644N×7100E, h206km±38km, mb3.5/17, mb1 3.7/21, mb1mx3.5/30, mbtmp3.5/21, Error ellipse: s-maj=15.0km s-min=11.8km az=161.0*

*NNC **03** 04:01:49.2±2.7, 3698N×7099E, h210km±23km, mb2.8, mpv4.0, Error ellipse: s-maj=24.6km s-min=14.8km az=30.0*

ISC 03 04:01:44.4±0.4, 3652N±003×7101E±006, h198km±5km, n90, σ0°92/106, mb3.6/17, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.79	164	⇓P	Pn	04 02 33.0	+1.5
CHCP	Chirah Chowk	3.40	146	P	Pn	04 02 40.4	+1.7
THW	Thamme Wali	3.77	171	P	Pn	04 02 44.4	+1.2
SBDP	Sheikh Budin	4.21	182	⇑P	Pn	04 02 48.6	-0.2
SARP	Sargodha	4.79	163	P	Pn	04 02 56.6	+0.5
DRP	Derazinda	4.81	188	⇑P	Pn	04 02 57.2	+0.9
KSH	Kashi	4.93	51	⇑P	Pn	04 02 59.6	+1.7
KSH				S	Sn	04 03 56.1	+0.4
KSH				Smax			
KSH	comp=N,1μm,0.5s			Smax			
THN	comp=E,723nm,0.2s Thein Dam	5.63	135	eP	Pn	04 03 06.9	0.0
THN				ex	x	04 04 11.8	
AML	Almayashu SNR=198	5.98	20	P	Pn	04 03 11.3	0.0
UCH	Uchtor SNR=49	6.31	24	P	Pn	04 03 16.1	+0.4
KZA	Kyzart SNR=10	6.45	29	P	Pn	04 03 17.3	-0.1
EKS2	Erkin-Say SNR=211	6.50	18	P	Pn	04 03 18.0	0.0
KK31	Karatay Array comp=E,11nm,0.3s,baz=184,slow=12,SNR=676	6.58	357	P	Pn	04 03 18.6	-0.6
KK31				S	Sn	04 04 29.2	-5.0
AAK	comp=E,60nm,0.6s,baz=182,slow=22,SNR=12 Ala-Archa SNR=34	6.67	23	P	Pn	04 03 20.6	+0.3
AAK	Ala-Archa	6.67	23	ePN	Pn	04 03 19.2	-1.1
AAK				pmax	pmax		
AAK	comp=Z,22nm,0.4s Ala-Archa comp=Z,22nm,0.4s	6.67	23	ePn	Pn	04 03 19.2	-1.1
AAK				eS	Sn	04 04 25.3	-11
KBK	Karagaybulak SNR=9.7	6.84	25	P	Pn	04 03 23.1	+0.5
ULHL	Ulahol SNR=13	7.01	34	P	Pn	04 03 24.8	+0.1
CHMS	Chumysh SNR=11	7.08	23	P	Pn	04 03 25.4	-0.3
USP	Ospenovka SNR=29	7.25	21	P	Pn	04 03 27.0	-0.8
TKM2	Tokmak 2 SNR=49	7.30	28	P	Pn	04 03 28.9	+0.3
TKM2	Tokmak 2 comp=Z,2.8nm,0.5s	7.30	28	⇓P	Pn	04 03 28.0	-0.6
TKM2				⇑S	Sn	04 04 47.5	-3.7
KLP	comp=Z,1.2nm,0.6

SONA				*e*S	**Sn**	**04 05 40.3**	**-8.1**
SONA				AML	AML	04 05 44.1	
	comp=E,33nm,0.3s						
SONA				AML	AML	04 05 45.8	
	comp=N,19nm,0.3s						
AJM	**Ajmer**	**10.48**	**162**	*e*P	**Pn**	**04 04 09.1**	**-0.7**
AJM				*e*S	**Sn**	**04 05 58.8**	**-7.9**
AJM				AML	AML	04 10 45.8	
	comp=E,20nm,0.2s						
AJM				AML	AML	04 10 47.7	
	comp=N,17nm,0.2s						
AGRA	**Agra**	**10.98**	**146**	*e*P	**Pn**	**04 04 15.2**	**-1.0**
AGRA				*e*S	**Sn**	**04 06 07.6**	**-11**
AGRA				AML	AML	04 06 21.6	
	comp=N,92nm,0.3s						
AGRA				AML	AML	04 06 22.6	
	comp=E,64nm,0.3s						
MK31	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**04 04 45.0**	**-0.3**
	comp=E,2.7nm,0.7s,baz=225,slow=13,SNR=16						
MK31	**Makanchi Array**	**13.27**	**36**	*e*Pn	**Pn**	**04 04 45.4**	**+0.1**
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**04 04 45.1**	**-0.2**
	comp=E,0.3nm,0.3s,baz=228,slow=16,SNR=12						
KOLN	**Koldanda**	**13.77**	**126**	*e*P	**Pn**	**04 04 50.8**	**-0.7**
GKN	**Gorkha**	**14.31**	**123**	*e*P	**Pn**	**04 04 58.2**	**0.0**
	comp=E,23nm,0.3s						
DMN	**Daman**	**14.88**	**123**	*e*P	**Pn**	**04 05 05.3**	**+0.1**
	comp=E,13nm,0.3s						
KKN	**Kakani**	**14.88**	**122**	*e*P	**Pn**	**04 05 05.4**	**+0.2**
	comp=E,40nm,0.5s						
AB31	**Akbulak array**	**15.07**	**331**	P	**Pn**	**04 05 05.1**	**-2.4**
	comp=E,3.1nm,0.5s,baz=131,slow=12,SNR=81						
AB31				S	**S**	**04 07 50.7**	**-4.1**
	comp=E,1.6nm,0.5s,baz=150,slow=23,SNR=3.5						
PKI	**Pulchoki**	**15.11**	**122**	*e*P	**Pn**	**04 05 08.4**	**+0.4**
	comp=E,43nm,0.6s						
GUN	**Gumba**	**15.22**	**120**	*e*P	**Pn**	**04 05 10.3**	**+0.9**
JIRN	**Jiri**	**15.59**	**120**	*e*P	**Pn**	**04 05 14.8**	**+0.9**
	comp=E,32nm,0.4s						
BVA0	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**04 05 24.3**	**-0.6**
	comp=E,0.8nm,0.6s,baz=167,slow=12,SNR=33						
BVAR	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**04 05 24.2**	**-0.6**
	comp=E,1.7nm,0.3s,baz=163,slow=11,SNR=32						
BVAR	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**04 05 24.2**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRVK	**Borovoye**	**16.54**	**358**	*e*P	**Pn**	**04 05 24.7**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BRVK	**Borovoye**	**16.54**	**358**	*e*P	**Pn**	**04 05 24.7**	**-0.6**
	comp=Z,5.4nm,0.4s						
AKTK	**Aktyubinsk**	**16.76**	**330**	P	**Pn**	**04 05 27.8**	**-0.2**
AKTO	**Aktyubinsk**	**16.76**	**330**	⇑P	**Pn**	**04 05 26.7**	**-1.3**
	comp=Z,0.3nm,0.9s						
AKTO				⇓S	**S**	**04 08 26.3**	**-5.3**
	comp=Z,0.2nm,1.4s						
AKTO	**Aktyubinsk**	**16.76**	**330**	P	**Pn**	**04 05 27.8**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=139,slow=10,SNR=46						
AKTO	**Aktyubinsk**	**16.76**	**330**	P	**Pn**	**04 05 27.8**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**19.88**	**24**	P	**P**	**04 06 01.8**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=253,slow=8.5,SNR=17						
ZAL	**Zalesovo**	**19.88**	**24**	P	**P**	**04 06 01.8**	**+1.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARU	**Arti**	**21.61**	**341**	*e*P	**P**	**04 06 19.2**	**+0.3**
ARU	**Arti**	**21.61**	**341**	*e*P	**P**	**04 06 20.8**	**+1.9**
SONM	**Songino Array**	**28.32**	**55**	P	**P**	**04 07 20.9**	**+1.3**
	comp=Z,0.2nm,0.4s,mb3.1,baz=249,slow=7.1,SNR=2.8						
BRTR	**Keskin Array B**	**29.43**	**288**	P	**P**	**04 07 31.0**	**+1.5**
	comp=Z,0.6nm,0.7s,mb3.3,baz=90,slow=8.3,SNR=4.6						
BRTR	**Keskin Array B**	**29.43**	**288**	P	**P**	**04 07 31.0**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**32.94**	**309**	P	**P**	**04 08 00.7**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.5,baz=81,slow=7.3,SNR=9.3						
AKASG	**Malin Array Be**	**32.94**	**309**	P	**P**	**04 08 00.7**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MLR	**Muntele Rosu**	**34.77**	**299**	P	**P**	**04 08 16.8**	**+0.8**
	comp=Z,1.7nm,0.8s,mb3.6,baz=115,slow=12,SNR=6.0						
MLR	**Muntele Rosu**	**34.77**	**299**	P	**P**	**04 08 16.8**	**+0.8**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**04 08 39.6**	**+0.8**
	comp=Z,2.8nm,0.8s,mb3.8,baz=133,slow=8.1,SNR=5.0						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**04 08 39.6**	**+0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**04 09 24.6**	**0.0**
	comp=Z,0.9nm,0.4s,mb3.6,baz=93,slow=13,SNR=11						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**04 09 24.6**	**0.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**44.37**	**323**	P	**P**	**04 09 35.1**	**0.0**
	comp=Z,1.5nm,0.8s,mb3.4,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**04 09 34.1**	**-1.0**
	comp=Z,1.9nm,0.9s,mb3.4,baz=95,slow=7.8,SNR=2.9						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**04 09 34.1**	**-1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMBO	**Kilima Mbogo**	**48.85**	**228**	P	**P**	**04 10 10.7**	**+0.8**
	comp=Z,0.5nm,0.3s,mb3.3,baz=49,slow=22,SNR=7.6						
KMBO	**Kilima Mbogo**	**48.85**	**228**	P	**P**	**04 10 10.7**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO	**Kilima Mbogo**	**48.85**	**228**	*e*P	**P**	**04 10 11.9**	**+2.1**
	comp=Z,2.0nm,0.5s,mb3.7						
LSZ	**Lusaka**	**65.47**	**226**	P	**P**	**04 12 05.4**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.7,baz=36,slow=7.2,SNR=4.6						
LSZ	**Lusaka**	**65.47**	**226**	P	**P**	**04 12 05.4**	**-0.8**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
TOA0	**Torodi Ar. Sit**	**65.72**	**269**	*e*P	**P**	**04 12 06.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**04 12 06.7**	**-1.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=49,slow=5.9,SNR=31						
MATP	**Matopo**	**69.43**	**223**	P	**P**	**04 12 31.8**	**+0.8**
	comp=Z,2.7nm,0.4s,mb4.2,baz=28,slow=5.9,SNR=20						
MATP	**Matopo**	**69.43**	**223**	P	**P**	**04 12 31.8**	**+0.8**
INK	**Inuvik**	**73.88**	**9**	P	**P**	**04 12 58.1**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.4,baz=279,slow=17,SNR=7.2						
INK	**Inuvik**	**73.88**	**9**	P	**P**	**04 12 58.2**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LBTB	**Lobatse**	**74.70**	**222**	P	**P**	**04 13 03.4**	**+1.1**
	comp=Z,2.3nm,0.5s,mb4.0,baz=80,slow=2.7,SNR=6.6						
LBTB	**Lobatse**	**74.70**	**222**	P	**P**	**04 13 03.4**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
BOSA	**Boshof**	**77.77**	**220**	P	**P**	**04 13 19.1**	**-0.4**
	comp=Z,2.6nm,0.9s,mb3.9,baz=284,slow=16,SNR=3.8						
BOSA	**Boshof**	**77.77**	**220**	P	**P**	**04 13 19.1**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
YKA	**Yellowknife Ar**	**81.22**	**3**	P	**P**	**04 13 38.9**	**+0.7**
	comp=Z,0.9nm,0.3s,mb3.8,baz=350,slow=5.4,SNR=40						
YKA	**Yellowknife Ar**	**81.22**	**3**	P	**P**	**04 13 38.9**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**82.00**	**122**	P	**P**	**04 13 41.4**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.5,baz=325,slow=5.0,SNR=23						
WRA	**Warramunga Arr**	**82.00**	**122**	P	**P**	**04 13 41.4**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**84.26**	**125**	P	**P**	**04 13 53.8**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=313,slow=5.0,SNR=22						
ASAR	**Alice Springs**	**84.26**	**125**	P	**P**	**04 13 53.8**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***03*** *04:11:43.0±0.9, 0.06S×126.26E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/18, mbtmp4.2/7, Error ellipse: s-maj=144.5km s-min=17.0km az=67.0*
ISCJB ***03*** *04:11:46.1±0.6, 02N±0.1×126.8E±0.3, h35km, mb4.2/10, Error ellipse: s-maj=46.8km s-min=10.6km az=139.7*
NEIC ***03*** *04:11:52.2±3.9, 0.14N×126.92E, h76km±37km, mb4.3/4, Error ellipse: s-maj=37.0km s-min=9.7km az=75.0*
ISC 03 04:11:48.2±0.6, 02N±0.1×126.8E±0.3, h35km, n17, σ0.69/15, mb4.2/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.31**	**160**	P	**P**	**04 16 32.0**	**+0.1**
	1.6nm,0.4s,mb3.7,baz=338,slow=10,SNR=45						
WB2	**Warramunga Arr**	**21.32**	**160**	*e*P	**P**	**04 16 32.3**	**+0.4**
ASAR	**Alice Springs**	**24.68**	**164**	P	**P**	**04 17 06.2**	**+0.4**
	3.7nm,0.9s,mb3.9,baz=346,slow=11,SNR=37						
ASAR				PcP	PcP	04 20 41.5	-0.8
	0.4nm,0.6s,baz=353,slow=1.8,SNR=8.4						
STKA	**Stephens Creek**	**34.82**	**158**	*e*P	**P**	**04 18 34.7**	**-0.9**
	1.6nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**34.82**	**158**	P	**P**	**04 18 35.4**	**-0.3**
	1.8nm,0.6s,mb4.2,baz=343,slow=9.0,SNR=5.1						
MAJO	**Matsushiro**	**37.71**	**15**	*e*P	**P**	**04 18 59.9**	**-0.4**
	9.1nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**50.51**	**343**	*e*P	**P**	**04 20 43.6**	**+0.7**
	3.4nm,1.0s,mb4.2						
SONM	**Songino Array**	**50.68**	**342**	P	**P**	**04 20 45.6**	**+1.5**
	2.4nm,0.8s,mb4.2,baz=159,slow=8.1,SNR=14						
MK31	**Makanchi Array**	**60.51**	**326**	*e*P	**P**	**04 21 55.3**	**+0.6**
MKAR	**Makanchi Array**	**60.51**	**326**	P	**P**	**04 21 55.0**	**+0.2**
	1.9nm,0.4s,mb4.6,baz=121,slow=7.8,SNR=42						
MKAR	**Makanchi Array**	**60.51**	**326**	P	**P**	**04 21 55.0**	**+0.2**
BRVK	**Borovoye**	**70.40**	**328**	*e*P	**P**	**04 22 58.4**	**-0.2**
	3.4nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**76.48**	**322**	P	**P**	**04 23 33.6**	**-0.8**
AKTO	**Aktyubinsk**	**76.48**	**322**	P	**P**	**04 23 33.6**	**-0.8**
	0.5nm,0.4s,mb3.8,baz=100,slow=8.0,SNR=3.5						
ARCES	**ARCESS Array B**	**93.79**	**340**	P	**P**	**04 25 00.7**	**-0.9**
	2.7nm,0.8s,mb4.7,baz=81,slow=5.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**124.01**	**286**	PKP	PKPdf	04 30 43.1	+0.3
	0.7nm,0.7s,baz=81,slow=1.2,SNR=7.9						
CFAA	**Coronel Fontan**	**145.65**	**157**	PKPbc	PKPbc	04 31 23.4	+0.3
	0.3nm,0.7s,baz=217,slow=8.6,SNR=4.4						

CSEM ***03*** *04:52:05.5±0.5, 34.73N×79.1W, h25km, ML3.1/6, Error ellipse: s-maj=9.2km s-min=5.2km az=17.0*
MDD ***03*** *04:52:07.9±1.7, 35.08N×84.4W, h0km, mb4.1/11, Error ellipse: s-maj=15.7km s-min=9.1km az=25.0, PRXIMO*
INMG ***03*** *04:52:07.7±2.5, 34.81N×83.8W, h26km±16km, ML2.3, Error ellipse: s-maj=6.9km s-min=5.9km az=152.0*
ISCJB ***03*** *04:52:08.2±1.0, 35.19N±0.05×8.12W±0.05, h10km, Error ellipse: s-maj=8.0km s-min=4.6km az=54.4*
ISC 03 04:52:09.7±1.0, 35.19N±0.05×8.14W±0.05, h10km, n45, σ0.80/85, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.40**	**349**	*e*Pn	**Pn**	**04 52 47.9**	**-1.0**
PTEO				*e*Sn	**Sn**	**04 53 18.4**	**+0.1**
PTEO				A		04 53 24.4	
	4.9nm,0.2s						
PTEO	**Sao Teotonio**	**2.40**	**349**	*e*Pn	**Pn**	**04 52 47.9**	**-1.0**
PTEO				*e*Sn	**Sn**	**04 53 18.4**	**+0.1**
	4.9nm,0.2s						
EGRO	**El Granado**	**2.40**	**13**	P	**Pn**	**04 52 48.9**	**0.0**
	2.4nm,0.1s,SNR=14						
EGRO				S	**Sn**	**04 53 18.8**	**+0.4**
	4.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.40**	**13**	P	**Pn**	**04 52 48.9**	**-0.1**
	2.4nm,0.1s,SNR=14						
EGRO				S	**Sn**	**04 53 18.8**	**+0.4**
	4.1nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.50**	**47**	P	**Pn**	**04 52 50.2**	**-0.1**
	1.3nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**04 53 21.9**	**+1.1**
	5.6nm,0.2s,SNR=5.6						
ESPR	**Espera**	**2.50**	**47**	P	**Pn**	**04 52 50.2**	**-0.1**
	1.3nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**04 53 21.9**	**+1.1**
	5.6nm,0.2s,SNR=5.6						
EJIF	**Jimena Fronter**	**2.51**	**59**	P	**Pn**	**04 52 51.7**	**+1.2**
	1.5nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**04 53 23.0**	**+1.9**
	1.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.83**	**24**	P	**Pn**	**04 52 55.3**	**+0.4**
	1.4nm,0.1s,SNR=14						
EMIN				S	**Sn**	**04 53 29.2**	**+0.1**
	1.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.83**	**24**	P	**Pn**	**04 52 55.3**	**+0.4**
	1.4nm,0.1s,SNR=14						
EMIN				S	**Sn**	**04 53 29.2**	**+0.2**
	1.4nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.84**	**4**	*e*Pn	**Pn**	**04 52 55.2**	**+0.2**
PBEJ				*e*Sn	**Sn**	**04 53 30.3**	**+1.1**
PBEJ				A		04 53 33.6	
	4.9nm,0.2s						
PBEJ	**Beja**	**2.84**	**4**	*e*Pn	**Pn**	**04 52 55.2**	**+0.2**
PBEJ				*e*Sn	**Sn**	**04 53 30.3**	**+1.1**
	4.9nm,0.2s						
EMIJ	**Mijas**	**3.06**	**62**	P	**Pn**	**04 52 57.6**	**-0.4**
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**04 53 35.2**	**+0.5**
	0.5nm,0.2s,SNR=7.9						
MOE	**Montemor**	**3.33**	**357**	*e*Pn	**Pn**	**04 53 02.3**	**+0.5**
MOE				*e*Sn	**Sn**	**04 53 41.7**	**+0.3**
EBAD	**Badajoz**	**3.67**	**14**	P	**Pn**	**04 53 06.6**	**+0.1**
	1.3nm,0.1s,SNR=9.2						
EBAD				S	**Sn**	**04 53 49.4**	**-0.3**
	1.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.67**	**14**	P	**Pn**	**04 53 06.6**	**+0.1**
	1.3nm,0.1s,SNR=9.2						
EBAD				S	**Sn**	**04 53 49.4**	**-0.4**
	1.6nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**3.69**	**7**	*e*Pn	**Pn**	**04 53 07.3**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 53 50.9**	**+0.5**
PESTR				A		04 53 53.2	
	1.1nm,0.2s						
PESTR	**Estremoz**	**3.69**	**7**	*e*Pn	**Pn**	**04 53 07.3**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 53 50.9**	**+0.5**
	1.1nm,0.2s						
ELOJ	**Sierra Loja**	**3.77**	**58**	P	**Pn**	**04 53 08.8**	**+0.9**
	0.6nm,0.1s,SNR=7.9						
ELOJ				S	**Sn**	**04 53 52.5**	**+0.2**
	1.1nm,0.2s,SNR=7.9						
PLOU	**Loures**	**3.77**	**348**	*e*Pn	**Pn**	**04 53 07.3**	**-0.6**
PLOU				*e*Sn	**Sn**	**04 53 52.1**	**-0.2**
PLOU				A		04 53 56.4	
	3.9nm,0.2s						
PLOU	**Loures**	**3.77**	**348**	*e*Pn	**Pn**	**04 53 07.3**	**-0.6**
PLOU				*e*Sn	**Sn**	**04 53 52.1**	**-0.2**
	3.9nm,0.2s						
PMAFR	**Mafra**	**3.87**	**347**	*e*Pn	**Pn**	**04 53 09.0**	**-0.2**
PMAFR				*e*Sn	**Sn**	**04 53 53.8**	**-0.8**
PMAFR				A		04 53 58.5	
	12nm,0.3s						
PMAFR	**Mafra**	**3.87**	**347**	*e*Pn	**Pn**	**04 53 09.0**	**-0.2**
PMAFR				*e*Sn	**Sn**	**04 53 53.8**	**-0.8**
	12nm,0.3s						
ELUQ	**Luque**	**3.92**	**52**	P	**Pn**	**04 53 09.6**	**-0.2**
	2.2nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**04 53 55.5**	**-0.4**
	2.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.13**	**43**	P	**Pn**	**04 53 12.5**	**-0.3**
	4.5nm,0.1s,SNR=65						
EADA				S	**Sn**	**04 54 00.4**	**-0.7**
	3.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.13**	**43**	P	**Pn**	**04 53 12.5**	**-0.2**
	4.5nm,0.1s,SNR=65						
EADA				S	**Sn**	**04 54 00.4**	**-0.6**
	3.7nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**4.30**	**61**	P	**Pn**	**04 53 16.5**	**+1.4**
	0.4nm,0.1s,SNR=11						
EQUE				S	**Sn**	**04 54 06.0**	**+0.6**
	0.1nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.59**	**48**	P	**Pn**	**04 53 18.4**	**-0.7**
	4.0nm,0.1s,SNR=10						
EBAN				S	**Sn**	**04 54 11.8**	**-0.6**
	1.6nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.67**	**6**	*e*Pn	**Pn**	**04 53 20.5**	**+0.3**
PCBR				*e*Sn	**Sn**	**04 54 14.3**	**-0.1**
PCBR				A		04 54 17.6	
	1.2nm,0.2s						
PCBR	**Castelo Branco**	**4.67**	**6**	*e*Pn	**Pn**	**04 53 20.5**	**+0.3**
PCBR				*e*Sn	**Sn**	**04 54 14.3**	**-0.1**
	1.2nm,0.2s						
EQES	**Quesada**	**4.84**	**56**	P	**Pn**	**04 53 22.2**	**-0.4**
	0.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**04 54 18.5**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.84**	**56**	P	**Pn**	**04 53 22.2**	**-0.4**
	0.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**04 54 18.5**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**5.18**	**58**	P	**Pn**	**04 53 26.9**	**-0.3**
	0.8nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**04 54 26.4**	**-0.6**
	0.5nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.57**	**35**	P	**Pn**	**04 53 32.8**	**+0.2**
	0.9nm,0.1s,baz=221,slow=13,SNR=4.2						
ESDC	**Sonseca Array**	**5.57**	**35**	P	**Pn**	**04 53 32.8**	**+0.2**
	0.9nm,0.1s,SNR=4.2						
EVIA	**Vianos**	**5.68**	**51**	P	**Pn**	**04 53 32.7**	**-1.4**
	1.5nm,0.1s,SNR=6.9						
EVIA				S	**Sn**	**04 54 36.1**	**-3.2**
	1.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.29**	**29**	P	**Pn**	**04 53 42.7**	**+0.3**
	0.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.31**	**55**	P	**Pn**	**04 53 41.3**	**-1.3**
	1.1nm,0.2s,SNR=19						
ETOB				S	**Sn**	**04 54 51.4**	**-3.4**
	SNR=7.9						
ETOB	**Tobarra**	**6.31**	**55**	P	**Pn**	**04 53 41.3**	**-1.4**
	1.1nm,0.2s,SNR=19						
ETOB				S	**Sn**	**04 54 51.4**	**-3.4**
	SNR=7.9						
ETOR	**Torete**	**7.39**	**39**	P	**Pn**	**04 53 57.8**	**+0.2**
	3.1nm,0.1s,SNR=10						
ETOR				S	**Sn**	**04 55 17.1**	**-4.4**
	SNR=7.9						
PMAR	**Madeira**	**7.69**	**254**	*e*Pn	**Pn**	**04 53 52.7**	**-9.0**
PMAR				*e*Sn	**Sn**	**04 55 10.5**	**-18**
PMAR				A		04 55 18.4	
	16nm,0.3s						
PMAR	**Madeira**	**7.69**	**254**	*e*Pn	**Pn**	**04 53 52.7**	**-9.0**
PMAR				*e*Sn	**Sn**	**04 55 10.5**	**-18**
	16nm,0.3s						
EMOS	**Mosqueruela**	**7.97**	**47**	P	**Pn**	**04 54 05.5**	**0.0**
	0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**04 55 32.7**	**-2.9**
	SNR=7.9						
EMOS	**Mosqueruela**	**7.97**	**47**	P	**Pn**	**04 54 05.5**	**0.0**
	0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**04 55 32.7**	**-3.0**
	SNR=7.9						
EBIE	**Bielsa**	**9.88**	**38**	P	**Pn**	**04 54 32.7**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**9.88**	**38**	P	**Pn**	**04 54 32.7**	**+1.0**
	0.2nm,0.1s,SNR=7.9						

MOS ***03*** *04:52:27.6±1.7, 52.61N×160.16E, h15km, mb5.3/97, MS5.0/32, Error ellipse: s-maj=7.7km s-min=5.2km az=93.2*
MOS Felt (II-III) at Petropavlovsk-Kamchatskyi.
IDC ***03*** *04:52:27.1±0.5, 52.50N×160.37E, h0km, mb4.7/25, mb1 4.9/26, mb1mx4.9/27, mbtmp4.8/26, ML4.4/1, MS4.6/23, Ms1 4.6/23, ms1mx4.5/38, Error ellipse: s-maj=15.4km s-min=11.4km az=142.0*
ISCJB ***03*** *04:52:30.9±0.1, 52.40N±0.02×160.35E±0.03, h34km, mb5.1/222, MS4.9/64, Error ellipse: s-maj=3.3km s-min=2.3km az=85.4*
KRSC ***03*** *04:52:30.1±1.1, 52.44N×160.67E, h17km±17km, ML5.3*
GCMT ***03*** *04:52:31.9±0.3, 52.44N×160.77E, h26km, MW5.1/75, Moment Tensor Solution. s50,c81; s75,c125; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.44±.19; Mθθ-2.51±.14; Mφφ-1.93±.12; Mrθ2.84±.27; Mrφ-2.75±.09; Mθφ2.90±.22; Best double couple: M0 6.22000×10^16 NP1:φs231.00000°, δ25.00000°, λ95.00000°. NP2: φs45.00000°, δ65.00000°, λ88.00000°. Principal axes: T 5.9520, Plg70.0000°, Azm311.0000°; N 0.5360, Plg2.0000°, Azm46.0000°; P -6.4880, Plg20.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***03*** *04:52:31.9±1.6, 52.49N×160.36E, h26km±11km, mb5.2/139 Error ellipse: s-maj=5.0km s-min=3.1km az=175.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
BJI ***03*** *04:52:33.7, 52.80N×159.77E, h45km, mB5.2, mb5.1, Ms5.2, Msz5.0*
SZGRF ***03*** *04:52:40.3, 53.64N×160.87E, h36km, mb5.4, MS4.6, Near east coast of Kamchatka Peninsula, Russia*
ISC 03 04:52:32.7±0.1, 52.41N±0.02×160.33E±0.03, h36km, h36km±1.8km: pP-P, n621, σ1.93/638, mb5.1/222, MS4.9/64, 121C-24D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.71**	**345**	*e*P	**Pn**	**04 52 45.1**	**-1.2**
NLC	**Nalytchevo**	**0.97**	**322**	*i* P	**Pn**	**04 52 50.2**	**+0.4**
RUS	**Russkaya**	**1.11**	**272**	*i* P	**Pn**	**04 52 53.7**	**+1.9**
RUS				*i* S	**Sn**	**04 53 10.7**	**+4.9**
PET	**Petropavlovsk**	**1.19**	**302**	⇓*i* PN	**Pn**	**04 52 54.1**	**+1.2**
PET				*e*S	**Sn**	**04 53 12.1**	**+4.3**
PET				pmax	pmax		
	comp=Z,12μm,1.0s						
PET				pmax	pmax		
	comp=Z,10μm,1.0s						
PET				smax			
	comp=E,4μm,1.0s						
PET				MLR	MLR		
	comp=Z,8μm,12.0

YSS				MLR	MLR	
	comp=E,3μm,14.0s					
YSS				MLR	MLR	
	comp=Z,7μm,14.0s					
YSS				MLR	MLR	
	comp=N,2μm,13.0s					
YSS	**Yuzh-Sakhalins**	**12.61**	**251**	*e*Pn	**Pn**	**04 55 32.3 +2.8**
ASAJ	**Asahikawa**	**14.40**	**242**	Pn	**Pn**	**04 55 54.6 +0.6**
	comp=N,2.9nm,0.3s,baz=75,slow=11,SNR=26					
ASAJ				LR	LR	05 02 57.2
	comp=N,3μm,18.3s,baz=231,slow=44					
ASAJ	**Asahikawa**	**14.40**	**242**	P	**Pn**	**04 55 54.6 +0.6**
ASAJ				pmax	pmax	
	comp=Z,3.0nm,0.3s					
ASAJ				MLR	MLR	
	comp=Z,3μm,18.3s					
BILL	**Bilibino**	**15.94**	**8***c*	*i*P	**Pn**	**04 56 12.2 -2.1**
BILL				*e*S	**S**	**04 59 09.2 -14**
BILL				pmax	pmax	
	comp=Z,34nm,1.0s					
BILL				MLR	MLR	
	comp=Z,2μm,19.0s					
BILL	**Bilibino**	**15.94**	**8**	*e*Pn	**Pn**	**04 56 13.6 -0.7**
	comp=Z,131nm,1.0s					
HABR	**Khabarovsk**	**16.54**	**266⇑**	*i*P	**Pn**	**04 56 25.4 +3.5**
HABR				*e*S	**S**	**04 59 30.9 -4.3**
HABR				pmax	pmax	
	comp=Z,103nm,1.3s					
HABR				MLR	MLR	
	comp=Z,8μm,16.0s					
KLR	**Kul'dur**	**18.28**	**271**	*e*P	**Pn**	**04 56 41.5 -1.9**
KLR				pmax	pmax	
	comp=E,340nm,2.6s					
KLR				pmax	pmax	
	comp=Z,500nm,2.6s					
KLR				MLR	MLR	
	comp=Z,9μm,13.0s					
YAK	**Yakutsk**	**19.00**	**312***c*	*i*P	**Pn**	**04 56 48.9 -3.2**
YAK				pmax	pmax	
	comp=Z,231nm,1.0s					
YAK	**Yakutsk**	**19.00**	**312**	*e*P	**Pn**	**04 56 49.3 -2.8**
	comp=Z,200nm,0.9s					
CLNS	**Chul'man**	**20.83**	**296**	*e*P	**P**	**04 57 10.2 -0.9**
CLNS				*e*PPP		04 57 31.4
CLNS				*e*S	**S**	**05 00 50.5 -11**
CLNS				*e*		05 01 34.9
CLNS				pmax	pmax	
	comp=N,20nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,47nm,0.9s					
CLNS				pmax	pmax	
	comp=E,28nm,0.8s					
CLNS				smax		
	comp=E,1μm,12.8s					
CLNS				smax		
	comp=Z,207nm,9.6s					
CLNS				smax		
	comp=N,226nm,12.9s					
CLNS				MLR	MLR	
	comp=Z,3μm,13.0s,MS4.9					
CLNS				MLR	MLR	
	comp=N,400nm,12.0s,MS4.9					
CLNS				MLR	MLR	
	comp=E,3μm,12.0s,MS4.9					
NRGR	**Nerungri**	**20.93**	**296**	*e*P	**P**	**04 57 11.4 -0.9**
NRGR				S	**S**	**05 00 57.5 -6.0**
NRGR				smax		
	comp=N,32nm,0.6s					
MDJ	**Mudanjiang**	**21.68**	**261**	P	**P**	**04 57 19.5 -0.7**
MDJ				AP		04 57 29.5
MDJ				XP	sP	04 57 34.7 +0.5
MDJ				S	**S**	**05 01 15.6 -2.5**
MDJ				XS	sS	05 01 32.4 -0.8
MDJ				SCP	ScP	05 04 55.0 +0.2
MDJ				PCS	PcS	05 04 59.8 +1.0
MDJ				AMB	AMB	
	comp=Z,50nm,1.0s,mb4.9					
MDJ				AMB	AMB	
	comp=Z,134nm,5.0s					
MDJ				LR	LR	
	comp=N,4μm,14.4s,MS5.0					
MDJ				LR	LR	
	comp=E,2μm,14.4s,MS5.0					
MDJ				LR	LR	
	comp=Z,4μm,15.1s,MS5.0					
MAJO	**Matsushiro**	**22.24**	**233**	*e*P	**P**	**04 57 27.3 +1.0**
MAJO				pmax	pmax	
	comp=Z,123nm,0.9s,mb5.3					
MAJO	**Matsushiro**	**22.24**	**233**	*e*P	**P**	**04 57 27.3 +1.0**
	comp=Z,123nm,0.9s,mb5.3					
MAT	**Matsushiro**	**22.24**	**233**	P	**P**	**04 57 26.2 -0.1**
MAT				S	**S**	**05 01 35.0 +5.9**
MJAR	**Matsushiro Arr**	**22.24**	**233**	P	**P**	**04 57 26.9 +0.6**
	comp=Z,33nm,0.8s,mb4.8,baz=38,slow=8.0,SNR=61					
MJAR				PcP	PcP	05 01 21.6 0.0
	comp=Z,1.0nm,0.4s,baz=76,slow=1.2,SNR=4.2					
MJAR				LR	LR	05 06 39.9
	comp=Z,2μm,21.4s,MS4.6,baz=60,slow=38					
MJAR	**Matsushiro Arr**	**22.24**	**233**	P	**P**	**04 57 26.9 +0.6**
MJAR						05 01 21.6
MJAR				pmax	pmax	
	comp=Z,33nm,0.9s					
MJAR				MLR	MLR	
	comp=Z,2μm,21.4s					
TIXI	**Tiksi**	**23.76**	**336**	*e*P	**P**	**04 57 34.3 -7.5**
TIXI				*e*S	**S**	**05 01 49.5 -5.2**
TIXI				pmax	pmax	
	comp=Z,81nm,1.0s,mb5.1					
TIXI				MLR	MLR	
	comp=Z,1μm,14.0s,MS4.6					
TIXI	**Tiksi**	**23.76**	**336**	*e*P	**P**	**04 57 39.0 -2.8**
	comp=Z,84nm,1.0s,mb5.1					
CN2	**Changchun**	**24.63**	**264**	⇓P	**P**	**04 57 48.5 -1.2**
CN2				*e*XP	sP	04 58 05.0 +0.8
CN2				*e*S	**S**	**05 02 03.7 -4.9**
CN2				AMB	AMB	
	comp=Z,50nm,1.1s,mb5.0					
CN2				AMB	AMB	
	comp=Z,300nm,6.0s					
CN2				LR	LR	
	comp=N,3μm,16.0s,MS5.0					
CN2				LR	LR	
	comp=E,2μm,16.0s,MS5.0					
CN2				LR	LR	
	comp=Z,3μm,18.0s,MS4.8					
SVW2	**Sparrevohn**	**25.23**	**52**	*e*P	**P**	**04 57 53.0 -2.2**
HIA	**Hailar**	**25.58**	**279***c*	*i*P	**P**	**04 57 56.6 -1.8**
HIA	**Hailar**	**25.58**	**279**	*e*P	**P**	**04 57 56.7 -1.7**
	comp=Z,130nm,0.8s,mb5.5					
IMA2	**Indian Mountai**	**26.46**	**41**	*e*P	**P**	**04 58 05.1 -1.2**
BOD	**Bodaibo**	**26.61**	**300**	*e*P	**P**	**04 58 05.7 -1.9**
BOD				pmax	pmax	
	comp=Z,41nm,1.2s,mb4.8					
SNY	**Shenyang**	**26.88**	**262**	⇓P	**P**	**04 58 07.7 -2.4**
SNY				AMB	AMB	
	comp=Z,25nm,2.2s,mb4.4					
SNY				LR	LR	
	comp=N,1μm,14.7s,MS4.9					
SNY				LR	LR	
	comp=E,2μm,16.5s,MS4.9					
SNY				LR	LR	
	comp=Z,3μm,17.4s,MS4.9					
KDAK	**Kodiak Island**	**27.02**	**60**	P	**P**	**04 58 08.2 -3.1**
	comp=Z,16nm,0.8s,mb4.6,baz=301,slow=9.4,SNR=5.7					
KSRS	**Korea Array**	**27.10**	**249**	P	**P**	**04 58 12.5 +0.4**
	comp=Z,18nm,0.8s,mb4.7,baz=43,slow=9.0,SNR=42					
KSRS				PcP	PcP	05 01 33.1 +0.8
	comp=Z,3.8nm,0.9s,baz=10,slow=1.1,SNR=5.9					
KSRS				LR	LR	05 10 05.1
	comp=Z,1μm,18.6s,MS4.5,baz=62,slow=39					
KS15	**Wonju Array Si**	**27.13**	**249**	*e*P	**P**	**04 58 15.5 +3.2**
CIT	**Chita**	**28.27**	**288**	*e*P	**P**	**04 58 21.0 -1.6**
CIT				pmax	pmax	
	comp=Z,59nm,1.5s,mb5.0					
MCK	**McKinley**	**28.32**	**47**	*e*P	**P**	**04 58 22.6 -0.3**
	comp=Z,4.2nm,0.9s,mb4.1					
JNU	**Nakatsue**	**28.66**	**239**	P	**P**	**04 58 28.8 +2.8**
	comp=Z,42nm,0.8s,mb5.2,baz=228,slow=12,SNR=4.5					
JNU				LR	LR	05 10 03.1
	comp=Z,4μm,21.3s,MS5.0,baz=81,slow=37					
SML	**Sawmill**	**28.68**	**51**	*e*P	**P**	**04 58 25.4 -0.8**
COLA	**College**	**28.79**	**44⇑**	*e*P	**P**	**04 58 24.7 -2.4**
COLA	**College**	**28.79**	**44**	*e*P	**P**	**04 58 25.5 -1.6**
	comp=Z,23nm,1.2s,mb4.8					
DL2	**Dalian**	**29.84**	**259**	P	**P**	**04 58 37.8 +1.3**
DL2				*e*S	**S**	**05 03 34.3 +3.4**
DL2				XS	sS	05 03 52.1 +4.3
DL2				AMB	AMB	
	comp=Z,50nm,0.8s,mb5.3					
DL2				AMB	AMB	
	comp=Z,110nm,4.4s					
DL2				LR	LR	
	comp=N,820nm,13.5s,MS4.7					
DL2				LR	LR	
	comp=E,930nm,12.8s,MS4.7					
DL2				LR	LR	
	comp=Z,990nm,13.4s,MS4.6					
EGAK	**Eagle**	**31.65**	**44**	*e*P	**P**	**04 58 51.6 -0.9**
	comp=Z,7.4nm,0.6s,mb4.7					
BJI	**Beijing**	**32.45**	**265**	*e*P	**P**	**04 59 01.1 +1.7**
BJI				XP	sP	04 59 17.4 +3.4
BJI				AMB	AMB	
	comp=Z,7.0nm,0.8s,mb4.5					
BJI				LR	LR	
	comp=N,3μm,13.9s,MS5.3					
BJI				LR	LR	
	comp=E,3μm,13.9s,MS5.3					
BJI				LR	LR	
	comp=Z,3μm,19.8s					
ULN	**Ulaanbaatar**	**33.80**	**284**	⇑P	**P**	**04 59 11.5 +0.3**
	SNR=14					
ULN	**Ulaanbaatar**	**33.80**	**284⇑**	*i*P	**P**	**04 59 10.4 -0.8**
ULN	**Ulaanbaatar**	**33.80**	**284**	*e*P	**P**	**04 59 10.4 -0.8**
	comp=Z,29nm,1.0s,mb5.2					
TLY	**Talaya**	**34.11**	**292**	*e*P	**P**	**04 59 13.3 -0.6**
TLY				pmax	pmax	
	comp=Z,27nm,1.3s,mb5.0					
TLY				MLR	MLR	
	comp=Z,1μm,16.0s,MS4.7					
TLY	**Talaya**	**34.11**	**292⇑**	*i*P	**P**	**04 59 13.5 -0.4**
SONM	**Songino Array**	**34.20**	**284**	P	**P**	**04 59 13.9 -0.8**
	comp=Z,10.0nm,0.8s,mb4.8,baz=62,slow=7.0,SNR=62					
SONM				PcP	PcP	05 01 50.9 0.0
	comp=Z,4.7nm,1.1s,baz=36,slow=2.3,SNR=4.2					
SONM				LR	LR	05 14 51.7
	comp=Z,4μm,18.2s,MS5.2,baz=63,slow=39					
SONM	**Songino Array**	**34.20**	**284**	P	**P**	**04 59 13.9 -0.8**
SONM						05 01 50.9
SONM				pmax	pmax	
	comp=Z,10.0nm,0.8s					
SONM				MLR	MLR	
	comp=Z,4μm,18.3s					
SONM	**Songino Array**	**34.20**	**284**	P	**P**	**04 59 13.9 -0.8**
SONM				PcP	PcP	05 01 50.9 0.0
SONM				LR	LR	05 14 51.7
TIA	**Tai'an**	**34.31**	**259**	P	**P**	**04 59 15.2 -0.4**
TIA				AMB	AMB	
	comp=Z,54nm,1.0s,mb5.4					
TIA				LR	LR	
	comp=N,954nm,14.0s,MS4.9					
TIA				LR	LR	
	comp=E,1μm,14.0s,MS4.9					
INK	**Inuvik**	**34.33**	**37**	P	**P**	**04 59 15.0 -0.8**
	comp=E,8.1nm,0.8s,mb4.7,baz=285,slow=7.4,SNR=40					
INK				PcP	PcP	05 01 50.3 -1.0
	comp=E,4.1nm,1.0s,baz=310,slow=5.9,SNR=2.8					
INK	**Inuvik**	**34.33**	**37**	P	**P**	**04 59 15.0 -0.8**
INK						05 01 50.3
INK				pmax	pmax	
	comp=Z,8.0nm,0.8s					
INK	**Inuvik**	**34.33**	**37**	*e*P	**P**	**04 59 15.0 -0.8**
	comp=Z,284nm,0.8s,mb6.2					
HHC	**Hu-ho-hao-te**	**34.78**	**270**	*e*P	**P**	**04 59 20.0 +0.2**
HHC				AP	pP	04 59 32.0 +1.9
HHC				XP	sP	04 59 37.3 +2.9
HHC				PP	PP	05 00 37.4 -1.6
HHC				S	**S**	**05 04 46.5 -1.3**
HHC				XS	sS	05 05 05.0 +0.1
HHC				SS	SS	05 06 59.3 -20
HHC				SCS	ScS	05 09 35.7 -2.8
HHC				AMB	AMB	
	comp=Z,19nm,0.6s,mb5.2					
HHC				AMB	AMB	
	comp=Z,195nm,4.3s					
HHC				LR	LR	
	comp=N,2μm,14.9s,MS5.2					
HHC				LR	LR	
	comp=E,2μm,15.5s,MS5.2					
HHC				LR	LR	
	comp=Z,3μm,17.8s,MS5.0					
ZAK	**Zakamensk**	**34.86**	**290⇑**	*i*P	**P**	**04 59 19.9 -0.6**
ZAK				pmax	pmax	
	comp=Z,10.0nm,1.4s,mb4.5					
SSE	**Sheshan**	**35.53**	**249**	P	**P**	**04 59 27.1 +0.9**
SSE				AP	pP	04 59 37.9 +1.4
SSE				AMB	AMB	
	comp=Z,25nm,0.7s,mb5.2					
SSE				AMB	AMB	
	comp=Z,207nm,5.3s					
SSE				LR	LR	
	comp=N,608nm,23.4s,MS4.4					
SSE				LR	LR	
	comp=E,533nm,23.6s,MS4.4					
SSE				LR	LR	
	comp=Z,476nm,20.4s,MS4.2					
MOY	**Mondy**	**35.61**	**293**	*e*P	**P**	**04 59 26.3 -0.6**
DLBC	**Dease Lake**	**38.34**	**53**	*e*P	**P**	**04 59 50.2 +0.1**
WHN	**Wuhan**	**39.92**	**255**	⇓P	**P**	**05 00 05.0 +1.7**
WHN				LR	LR	
	comp=Z,3μm,14.2s,MS5.3					
GUMO	**Guam**	**40.66**	**203**	LR	LR	05 16 22.1
	comp=Z,226nm,18.7s,MS4.0,baz=95,slow=35					
XAN	**Xi'an**	**40.74**	**264**	P	**P**	**05 00 08.7 -1.3**
XAN				PP	PP	05 01 45.6 +1.3
XAN				AMB	AMB	
	comp=Z,5.0nm,1.0s,mb4.1					
XAN				LR	LR	
	comp=N,1μm,15.2s,MS5.0					
XAN				LR	LR	
	comp=E,951nm,15.2s,MS5.0					
XAN				LR	LR	
	comp=Z,2μm,14.1s,MS5.1					
LZH	**Lanzhou**	**42.48**	**270**	⇑P	**P**	**05 00 24.5 +0.2**
LZH				AP	pP	05 00 36.9 +2.1
LZH				XP	sP	05 00 42.3 +3.2
LZH				PP	PP	05 02 06.5 +3.4
LZH				*e*S	**S**	**05 06 42.1 -1.8**
LZH				XS	sS	05 07 02.5 +1.3
LZH				*e*SS	SS	05 09 45.6 -8.4
LZH				AMB	AMB	
	comp=Z,39nm,1.4s,mb4.8					
LZH				AMB	AMB	
	comp=Z,167nm,6.2s					
LZH				LR	LR	
	comp=N,1μm,13.2s					
LZH				LR	LR	
	comp=Z,2μm,17.6s,MS5.2					
GTA	**Gaotai**	**42.83**	**277**	⇑P	**P**	**05 00 27.2 +0.1**
GTA				AP	pP	05 00 39.7 +2.1
GTA				XP	sP	05 00 45.0 +3.1
GTA				PP	PP	05 02 10.4 +3.5
GTA				PCP	PcP	05 02 19.0 +1.2
GTA				S	**S**	**05 06 47.6 -1.4**
GTA				XS	sS	05 07 07.2 +0.9
GTA				SS	SS	05 09 52.6 -8.3
GTA				AMB	AMB	
	comp=Z,17nm,1.4s,mb4.6					
GTA				AMB	AMB	
	comp=Z,162nm,7.6s					
GTA				LR	LR	
	comp=N,2μm,16.7s,MS5.2					
GTA				LR	LR	
	comp=E,2μm,18.6s,MS5.2					
GTA				LR	LR	
	comp=Z,2μm,18.3s,MS5.1					
ZAL	**Zalesovo**	**43.29**	**303**	P	**P**	**05 00 28.7 -2.2**
	comp=Z,8.2nm,0.8s,mb4.5,baz=50,slow=7.4,SNR=46					
ZAL				LR	LR	05 19 17.7
	comp=Z,753nm,21.8s,MS4.5,baz=53,slow=37					
ZAL	**Zalesovo**	**43.29**	**303**	P	**P**	**05 00 28.7 -2.1**
ZAL				pmax	pmax	
	comp=Z,8.0nm,0.8s					
ZAL				MLR	MLR	
	comp=Z,753nm,21.8s					
ZAL	**Zalesovo**	**43.29**	**303**	P	**P**	**05 00 28.7 -2.2**
ZAL				LR	LR	05 19 17.7
YKA	**Yellowknife Ar**	**43.57**	**42**	P	**P**	**05 00 31.3 -1.8**
	comp=Z,3.2nm,0.9s,baz=298,slow=7.7,SNR=17					
YKA	**Yellowknife Ar**	**43.57**	**42**	*i*P	**P**	**05 00 31.7 -1.4**
YKA	**Yellowknife Ar**	**43.57**	**42**	P	**P**	**05 00 31.3 -1.8**
ALE	**Alert**	**43.58**	**7**	P	**P**	**05 00 32.0 -1.2**
	comp=Z,140nm,0.9s,mb5.7,SNR=14					
NVS	**Novosibirsk**	**43.62**	**305⇑**	*i*P	**P**	**05 00 31.6 -1.9**
NVS				*e*		05 02 12.5
NVS				*e*S	**S**	**05 07 01.6 +1.0**
NVS				pmax	pmax	
	comp=Z,174nm,1.0s,mb5.7					
NVS				pmax	pmax	
	comp=N,74nm,1.4s					
NVS				pmax	pmax	
	comp=E,143nm,1.2s					
NVS				pmax	pmax	
	comp=Z,24nm,1.3s,mb4.8					
NVS				pmax	pmax	
	comp=N,34nm,1.6s					
NVS				pmax	pmax	
	comp=E,34nm,1.2s					
NVS				smax		
	comp=E,21nm,1.7s					
RES	**Resolute Bay**	**43.91**	**22**	*e*P	**P**	**05 00 35.5 -0.3**
	comp=E,748nm,1.0s					
CD2	**Chengdu**	**46.05**	**265⇑**	*i*P	**P**	**05 00 52.5 -0.3**
CD2				AP	pP	05 01 04.9 +1.5
CD2				XP	sP	05 01 10.2 +2.5
CD2				PP	PP	05 02 40.8 -0.3
CD2				S	**S**	**05 07 33.5 -2.2**
CD2				XS	sS	05 07 54.5 +1.4
CD2				SS	SS	05 10 50.8 -10
CD2				AMB	AMB	
	comp=Z,60nm,1.1s,mb5.4					
CD2				AMB	AMB	
	comp=Z,300nm,5.9s					
CD2				LR	LR	
	comp=N,1μm,22.8s,MS5.0					
CD2				LR	LR	
	comp=E,1μm,20.4s,MS5.0					
CD2				LR	LR	
	comp=Z,2μm,14.4s					
GZH	**Guangzhou**	**46.13**	**249**	P	**P**	**05 00 51.0 -2.5**
GZH				S	**S**	**05 07 34.8 -2.1**
GZH				LR	LR	
	comp=N,2μm,18.7s,MS5.1					
GZH				LR	LR	
	comp=E,1μm,20.8s,MS5.1					
GZH				LR	LR	
	comp=Z,1μm,18.7s,MS5.0					
WMQ	**Urumqi**	**47.34**	**290**	P	**P**	**05 01 02.8 -0.1**
WMQ				AP	pP	05 01 15.5 +2.0
WMQ				PCP	PcP	05 02 33.9 +0.5
WMQ				PP	PP	05 02 53.6 -0.6
WMQ				SCP	ScP	05 06 23.2 -1.4
WMQ				PCS	PcS	05 06 28.2 -0.5
WMQ				S	**S**	**05 07 51.7 -2.4**
WMQ				XS	sS	05 08 12.7 +1.1
WMQ				SCS	ScS	05 10 50.2 -3.8
WMQ				AMB	AMB	
	comp=Z,36nm,1.0s,mb5.3					
WMQ				AMB	AMB	
	comp=Z,234nm,4.5s					
WMQ				LR	LR	
	comp=N,2μm,13.0s,MS5.4					
WMQ				LR	LR	
	comp=E,2μm,14.0s,MS5.4					
WMQ				LR	LR	
	comp=Z,1μm,17.0s,MS4.9					
GYA	**Guiyang**	**47.49**	**258⇑**	*i*P	**P**	**05 01 05.0 +0.8**
GYA				AP	pP	05 01 17.7 +2.9
GYA				XP	sP	05 01 22.8 +3.8
GYA				PCP	PcP	05 02 37.2 +3.2
GYA				PP	PP	05 02 58.1 +2.4
GYA				SCP	ScP	05 06 26.0 +0.7
GYA				S	**S**	**05 07 57.0 +0.6**
GYA				XS	sS	05 08 18.9 +5.0
GYA				SCS	ScS	05 10 54.0 -1.1
GYA				SS	SS	05 11 19.4 -5.1
GYA				AMB	AMB	
	comp=Z,40nm,1.0s,mb5.3					
GYA				AMB	AMB	
	comp=Z,120nm,6.3s					
GYA				LR	LR	
	comp=N,480nm,18.9s,MS4.7					
GYA				LR	LR	
	comp=E,540nm,18.6s,MS4.7					
GYA				LR	LR	
	comp=Z,570nm,19.2s,MS4.6					
KBS	**Kingsbay**	**47.58**	**352⇓**	*e*P	**P**	**05 01 05.1 +0.3**
KBS	**Kingsbay**	**47.58**	**352**	*e*P	**P**	**05 01 03.9 -0.9**
	comp=Z,88nm,1.1s,mb5.7					
SPB4	**Spitsbergen Ar**	**47.84**	**351**	*e*P	**P**	**05 01 05.8 -1.0**
KURK	**Kurchatov**	**48.22**	**302**	P	**P**	**05 01 08.1 -1.7**
	comp=Z,629nm,0.6s,SNR=68					
MK31	**Makanchi Array**	**48.58**	**296**	*i*P	**P**	**05 01 10.9 -1.7**
MK31				pmax	pmax	
	comp=Z,14nm,0.6s,mb5.2					
MK31	**Makanchi Array**	**48.58**	**296**	*i*P	**P**	**05 01 10.0 -2.6**
MKAR	**Makanchi Array**	**48.58**	**296**	P	**P**	**05 01 10.9 -1.7**
	comp=Z,6.8nm,0.5s,mb4.9,baz=57,slow=6.4,SNR=117					
MKAR				LR	LR	05 22 42.9
	comp=Z,819nm,20.1s,MS4.7,baz=42,slow=37					
MKAR	**Makanchi Array**	**48.58**	**296**	P	**P**	**05 01 10.9 -1.7**
MKAR				pmax	pmax	
	comp=Z,7.0nm,0.5s					
MKAR				MLR	MLR	
	comp=Z,819nm,20.1s					
EDM	**Edmonton**	**49.07**	**53**	*e*P	**P**	**05 01 15.6 -0.7**
TGY	**Tagaytay City**	**49.40**	**234**	LR	LR	05 24 45.1
	comp=Z,3.4nm,18.6s,baz=115,slow=39					
HOOD	**Mount Hood Mea**	**49.47**	**65**	*e*P	**P**	**05 01 19.9 +0.5**
HAWA	**Hanford**	**49.98**	**63**	*e*P	**P**	**05 01 28.8 +5.5**
NEW	**Newport**	**50.12**	**60**	*e*P	**P**	**05 01 26.3 +2.0**
KMI	**Kunming**	**50.85**	**261**	P	**P**	**05 01 29.4 -0.4**
KMI				AP	pP	05 01 38.1 -2.4
KMI				XP	sP	05 01 42.1 -2.6
KMI				S	**S**	**05 08 36.8 -6.7**
KMI				LR	LR	
	comp=N,1μm,19.2s,MS5.1					
KMI				LR	LR	
	comp=E,1μm,18.8s,MS5.1					
KMI				LR	LR	
	comp=Z,845nm,25.2s					
BVA0	**Borovoye Array**	**50.93**	**309**	*i*P	**P**	**05 01 28.6 -1.8**
BRVK	**Borovoye**	**50.96**	**309**	P	**P**	**05 01 29.5 -1.1**
	comp=Z,243nm,0.7s,mb6.2,SNR=18					
BRVK	**Borovoye**	**50.96**	**309**	⇑P	**P**	**05 01 28.6 -2.0**
	SNR=13					
BRVK	**Borovoye**	**50.96**	**309**	P	**P**	**05 01 29.0 -1.6**
BRVK				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.6					
BRVK	**Borovoye**	**50.96**	**309**	*e*P	**P**	**05 01 28.7 -2.0**
	comp=Z,29nm,0.8s,mb5.3					
DAG	**Danmarks Havn**	**51.09**	**360⇓**	*i*P	**P**	**05 01 29.7 -1.9**
	comp=Z,20nm,0.8s,mb5.1					
DAG	**Danmarks Havn**	**51.09**	**360⇓**	*e*P	**P**	**05 01 29.7 -1.9**
DAG				pmax	pmax	
	comp=Z,20nm,0.8s,mb5.1					
DAG	**Danmarks Havn**	**51.09**	**360⇓**	*e*P	**P**	**05 01 29.7 -1.9**
	comp=Z,20nm,0.8s,mb5.1					
YBH	**Yreka Blue Hor**	**51.13**	**69**	P	**P**	**05 01 33.0 +1.1**
YBH				pmax	pmax	
	comp=Z,12nm,1.1s					
YBH	**Yreka Blue Hor**	**51.13**	**69**	*e*P	**P**	**05 01 33.0 +1.1**
	comp=Z,9.7nm,1.1s,mb4.7					
QIZ	**Qiongzhong**	**51.32**	**249**	P	**P**	**05 01 35.1 +1.7**
QIZ				S	**S**	**05 08 54.6 +4.6**
QIZ				AMB	AMB	
	comp=Z,27nm,1.2s,mb5.0					
QIZ				LR	LR	
	comp=E,1μm,13.9s					
QIZ				LR	LR	
	comp=Z,1μm,14.7s,MS5.0					
BSMT	**Bassoo Peak**	**51.61**	**59**	*e*P	**P**	**05 01 35.4 -0.1**
BMO	**Blue Mountains**	**52.16**	**63**	*e*P	**P**	**05 01 41.0 +1.4**
MOD	**Modoc**	**52.39**	**68**	*e*P	**P**	**05 01 41.7 +0.3**
	comp=Z,9.9nm,1.1s,mb4.7					
SOKR	**Solikamsk**	**52.60**	**321**	*e*P	**P**	**05 01 41.3 -1.6**
SOKR				pmax	pmax	
	comp=Z,10.0nm,0.9s,mb4.8					
SOKR				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.3					
MSO	**Missoula**	**52.70**	**59**	*e*P	**P**	**05 01 49.2 +5.6**
SVE	**Sverdlovsk**	**52.88**	**317**	*e*P	**P**	**05 01 43.0 -1.9**
SVE				MLR	MLR	
	comp=E,1μm,16.0s					
SVE				MLR	MLR	
	comp=Z,2μm,16.0s,MS5.3					
WVOR	**Wild Horse Val**	**52.99**	**66**	*e*P	**P**	**05 01 46.0 +0.3**
WVOR				pmax	pmax	

comp=Z,8.0nm,1.0s,mb4.6
WVOR Wild Horse Val 52.99 66 *e*P **P 05 01 46.0 +0.3**
comp=Z,7.6nm,1.0s,mb4.6
CHMT Chamberlain Mo 53.01 59 *e*P **P 05 01 44.2 -1.7**
KEV Kevo 53.51 342 *e*p **P 05 01 47.8 -1.8**
comp=Z,28nm,0.7s,mb5.3
KEV Kevo 53.51 342 *e*P **P 05 01 47.8 -1.8**
KEV pmax pmax
comp=Z,28nm,0.7s,mb5.3
FCC Fort Churchill 53.93 38 *e*P **P 05 01 51.0 -1.6**
FCC pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
FCC Fort Churchill 53.93 38 *e*P **P 05 01 51.0 -1.7**
comp=Z,10nm,0.8s,mb4.8
APA Apatity 53.94 338⇑ *i*P **P 05 01 51.6 -1.1**
APA *i* 05 01 58.0
APA pmax pmax
comp=Z,28nm,0.8s,mb5.2
ARCES ARCESS Array B 53.98 342 P **P 05 01 51.1 -1.9**
comp=Z,54nm,0.9s,mb5.5,baz=44,slow=7.4,SNR=83
ARCES LR LR 05 32 30.5
comp=Z,576nm,18.8s,MS4.7,baz=159,slow=45
ARE0 ARCESS Array S 53.98 342 *e*P **P 05 01 51.2 -1.8**
ARU Arti 54.00 318 P **P 05 01 51.5 -1.7**
comp=Z,247nm,0.7s,mb6.2,SNR=19
ARU Arti 54.00 318⇑ *i*P **P 05 01 51.9 -1.3**
ARU *e* 05 02 54.4
ARU *e* 05 03 50.5
ARU *e*PPP 05 04 58.6
ARU *e*S **S 05 09 24.9 -1.6**
ARU pmax pmax
comp=Z,41nm,0.9s,mb5.4
ARU MLR MLR
comp=N,700nm,16.0s,MS4.9
ARU MLR MLR
comp=E,600nm,16.0s,MS4.9
ARU MLR MLR
comp=Z,1μm,16.0s,MS5.0
ARU Arti 54.00 318 *e*P **P 05 01 51.5 -1.7**
comp=Z,38nm,0.9s,mb5.3
HLID Hailey 54.58 63 *e*P **P 05 01 57.6 +0.3**
comp=Z,3.7nm,1.0s,mb4.4
MCMT McKenzie Canyo 54.59 61 *e*P **P 05 01 56.7 -0.8**
LSA Lhasa 54.61 274 *e*P **P 05 01 58.5 +0.9**
LSA pmax pmax
comp=Z,24nm,0.8s,mb5.3
LSA Lhasa 54.61 274 *e*P **P 05 01 58.5 +0.8**
comp=Z,24nm,0.8s,mb5.3
BOZ Bozeman (W) 54.69 59 P **P 05 01 58.3 +0.1**
BOZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
BOZ Bozeman (W) 54.69 59 *e*P **P 05 01 58.0 -0.2**
comp=Z,2.7nm,0.6s,mb4.5
TKM2 Tokmak 2 54.72 296 P **P 05 01 57.8 -0.6**
SNR=12
TKM2 Tokmak 2 54.72 296 P **P 05 01 57.3 -1.1**
TKM2 pmax pmax
comp=Z,23nm,1.2s,mb5.1
TKM2 Tokmak 2 54.72 296 *i* P **P 05 01 57.3 -1.1**
KTK1 Kautokeino 54.85 343 *e*P **P 05 01 58.2 -1.2**
KTK1 AMb AMB 05 02 00.2
comp=Z,117nm,1.4s,mb5.7
KTK1 Kautokeino 54.85 343 *e*P **P 05 01 58.2 -1.2**
comp=Z,117nm,1.4s,mb5.7
CMB Columbia Colle 54.91 71 P **P 05 02 00.8 +1.0**
CMB pmax pmax
comp=Z,17nm,1.3s,mb4.9
CMB Columbia Colle 54.91 71 *e*P **P 05 02 00.3 +0.5**
comp=Z,17nm,1.3s,mb4.9
TRO Tromso 55.06 345 *e*P **P 05 01 59.0 -1.8**
TRO AMb AMB 05 02 10.3
comp=Z,72nm,1.5s,mb5.5
TRO Tromso 55.06 345 *e*P **P 05 01 59.0 -1.8**
comp=Z,72nm,1.5s,mb5.5
USP Ospenovka 55.09 297 P **P 05 02 00.1 -0.9**
SNR=28
CHMS Chumysh 55.13 297 P **P 05 02 00.6 -0.8**
SNR=8.1
WAKR Walker 55.14 70 *e*P **P 05 02 02.2 +0.8**
KBK Karagaybulak 55.25 296 P **P 05 02 01.7 -0.5**
SNR=13
FRU Bishkek 55.31 297 *e*P **P 05 02 01.0 -1.7**
FRU *e* 05 02 08.0
FRU pmax pmax
comp=Z,80nm,1.4s,mb5.6
FRU MLR MLR
comp=Z,2μm,16.0s,MS5.2
QLMT Earthquake Lak 55.34 60 *e*P **P 05 02 02.8 -0.1**
KZA Kyzart 55.47 296 P **P 05 02 04.2 +0.4**
SNR=7.8
AAK Ala-Archa 55.51 297 P **P 05 02 03.5 -0.6**
SNR=24
AAK Ala-Archa 55.51 297 P **P 05 02 02.9 -1.2**
comp=Z,127nm,0.7s,mb6.1,SNR=17
AAK Ala-Archa 55.51 297 P **P 05 02 02.8 -1.3**
SNR=11
AAK Ala-Archa 55.51 297 P **P 05 02 02.4 -1.7**
AAK pmax pmax
comp=Z,60nm,1.3s,mb5.5
AAK Ala-Archa 55.51 297 *e*P **P 05 02 01.9 -2.2**
comp=Z,40nm,1.1s,mb5.4
UCH Uchtor 55.77 296 P **P 05 02 05.8 -0.2**
SNR=6.4
NVAR Mina Array Bea 55.84 70 P **P 05 02 06.3 -0.2**
comp=Z,1.8nm,0.7s,mb4.2,baz=298,slow=8.8,SNR=8.8
NVAR Mina Array Bea 55.84 70 P **P 05 02 06.3 -0.2**
EKS2 Erkin-Say 55.88 297 P **P 05 02 06.3 -0.5**
SNR=18
YFT Old Faithful 55.91 60 *e*P **P 05 02 08.1 +1.1**
RLMT Red Lodge 56.28 58 *e*P **P 05 02 09.4 -0.2**
comp=Z,8.1nm,0.7s,mb4.9
AML Almayashu 56.29 297 P **P 05 02 09.6 -0.1**
SNR=9.4
MOOW Moose Ponds 56.43 60 *e*P **P 05 02 11.0 +0.3**
IMP Imphal 56.46 268 *e*P **P 05 02 11.0 +0.1**
DGMT Dagmar 56.56 53 *e*P **P 05 02 10.3 -1.3**
comp=Z,16nm,1.0s,mb5.0
LOHW Long Hollow 56.60 60 *e*P **P 05 02 12.8 +0.9**
comp=Z,18nm,1.4s,mb4.9
SNOW Snow King Moun 56.62 61 *e*P **P 05 02 12.5 +0.4**
comp=Z,13nm,1.1s,mb4.9
REDW Red Top Meadow 56.64 61 *e*P **P 05 02 14.2 +2.0**
comp=Z,16nm,1.2s,mb4.9
HVU Hansel Valley 56.67 63 *e*P **P 05 02 15.0 +2.6**
LAO LASA Array 56.78 55 *e*P **P 05 02 12.8 -0.3**
comp=Z,15nm,1.0s,mb5.0
SHL Shillong 57.14 270 *e*P **P 05 02 16.5 +0.8**
SPUT South Promonto 57.17 64 *e*P **P 05 02 14.8 -1.1**
LOF Lofoten 57.26 346 *e*P **P 05 02 17.2 +0.6**
LOF comp=Z,140nm,1.2s,mb5.9 AMb AMB 05 02 20.1
LOF *e*pP pP 05 02 25.6 -1.7
LOF Lofoten 57.26 346 *e*P **P 05 02 17.2 +0.6**
comp=Z,140nm,1.2s,mb5.9
KK31 Karatay Array 57.34 300 *i* P **P 05 02 15.8 -1.4**
KKAR Karatay Array 57.34 300 *i* P **P 05 02 15.7 -1.5**
KKAR pmax pmax
comp=Z,20nm,0.8s,mb5.2
HWUT Hardware Ranch 57.45 63 *e*P **P 05 02 18.6 +0.6**
comp=Z,12nm,0.9s,mb4.9
KLMR Klimovskoe 57.62 330 *e*P **P 05 02 18.5 -0.6**
BW06 Boulder Array 57.73 61 *e*P **P 05 02 20.2 +0.3**
comp=Z,13nm,1.0s,mb4.9
PDAR Pinedale Array 57.73 61 P **P 05 02 19.5 -0.4**
comp=Z,3.5nm,0.8s,mb4.4,baz=310,slow=2.9,SNR=25
PDAR LR LR 05 24 29.6
comp=Z,274nm,21.0s,MS4.3,baz=334,slow=33
DUG Dugway 57.74 65 *e*P **P 05 02 20.4 +0.5**
DUG pmax pmax
comp=Z,15nm,1.1s,mb4.9
DUG Dugway 57.74 65 *e*P **P 05 02 20.4 +0.5**
comp=Z,15nm,1.1s,mb4.9
CHTO Chiang Mai 57.91 259 P **P 05 02 23.0 +1.8**
SNR=18
CHTO Chiang Mai 57.91 259 *e*P **P 05 02 22.6 +1.5**
CHTO pmax pmax
comp=Z,70nm,0.9s,mb5.7
CHTO Chiang Mai 57.91 259 *e*P **P 05 02 22.6 +1.5**
comp=Z,70nm,0.9s,mb5.7
CM31 Chiang Mai Arr 58.18 259 *e*P **P 05 02 24.8 +1.7**
comp=Z,38nm,0.8s,mb5.5
NLU North Lily Min 58.31 64 *e*P **P 05 02 24.4 +0.4**
AB31 Akbulak array 58.35 311 *i* P **P 05 02 23.3 -0.9**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AB31 Akbulak array 58.35 311⇑ *e*P **P 05 02 23.3 -0.9**

AKTO Aktyubinsk 58.39 313 LR LR 05 30 15.6
comp=Z,895nm,20.0s,MS4.9,baz=266,slow=39
GSC Goldstone 58.87 71 *e*P **P 05 02 27.9 0.0**
MOR8 Moi Rana 58.92 345 *e*P **P 05 02 26.1 -2.1**
MOR8 AMb AMB 05 02 27.9
comp=Z,59nm,1.4s,mb5.4
MOR8 Moi Rana 58.92 345 *e*P **P 05 02 26.1 -2.1**
comp=Z,59nm,1.4s,mb5.4
SHPR Sheep Range 58.98 69 *e*P **P 05 02 30.1 +1.5**
ARUT Antelope Range 59.06 67 *e*P **P 05 02 30.1 +0.9**
JIRN Jiri 59.10 276 *e*P **P 05 02 29.7 +0.2**
comp=Z,36nm,0.9s,mb5.4
GUN Gumba 59.11 277 *e*P **P 05 02 29.4 -0.1**
comp=Z,54nm,0.9s,mb5.6
ULM Lac du Bonnet 59.19 47 P **P 05 02 28.3 -1.7**
comp=Z,2.5nm,0.6s,mb4.4,baz=230,slow=8.5,SNR=4.9
ULM Lac du Bonnet 59.19 47 *e*P **P 05 02 28.8 -1.3**
TMUT Trail Mountain 59.25 64 *e*P **P 05 02 30.9 +0.4**
MSU Marysvale 59.26 66 *e*P **P 05 02 31.3 +0.8**
CCUT Cedar City 59.27 67 *e*P **P 05 02 30.8 +0.2**
KKN Kakani 59.56 277 *e*P **P 05 02 32.6 0.0**
comp=Z,28nm,0.5s,mb5.6
PKI Pulchoki 59.64 277 *e*P **P 05 02 33.2 0.0**
comp=Z,64nm,0.9s,mb5.7
RSSD Black Hills 59.67 56 P **P 05 02 33.1 -0.3**
RSSD pmax pmax
comp=Z,13nm,0.8s,mb5.0
RSSD Black Hills 59.67 56 *e*P **P 05 02 32.9 -0.5**
comp=Z,13nm,0.8s,mb5.0
SRU San Rafael 59.76 64 P **P 05 02 34.4 +0.4**
SRU pmax pmax
comp=Z,11nm,0.8s,mb4.9
SRU San Rafael 59.76 64 *e*P **P 05 02 34.4 +0.4**
comp=Z,8.0nm,0.6s,mb4.9
DMN Daman 59.80 277 *e*P **P 05 02 34.8 +0.5**
comp=Z,88nm,0.8s,mb5.8
GKN Gorkha 59.80 278 *e*P **P 05 02 34.2 -0.1**
comp=Z,83nm,0.9s,mb5.8
KAF Kangasniemi 60.17 337 *e*p **P 05 02 35.3 -1.5**
comp=Z,6.3nm,0.4s,mb5.0,baz=31,slow=6.3
KAF Kangasniemi 60.17 337 *e*P **P 05 02 35.3 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
KOLN Koldanda 60.60 278 *e*P **P 05 02 39.6 -0.1**
comp=Z,73nm,0.9s,mb5.8
FIA1 FINESS Array S 60.80 337 *e*P **P 05 02 40.0 -1.1**
FINES FINESS Array B 60.81 337 P **P 05 02 40.3 -0.8**
comp=Z,25nm,0.6s,mb5.5,baz=37,slow=8.4,SNR=161
FINES LR LR 05 33 38.6
comp=Z,503nm,18.7s,MS4.7,baz=16,slow=41
FINES FINESS Array B 60.81 337 *i* P **P 05 02 40.4 -0.7**
FINES pmax pmax
comp=Z,25nm,0.6s
NSS Namsos 60.85 345 *e*P **P 05 02 40.2 -1.2**
NSS AMb AMB 05 02 41.4
comp=Z,98nm,2.6s,mb5.5
NSS Namsos 60.85 345 *e*P **P 05 02 40.2 -1.2**
comp=Z,98nm,2.6s,mb5.5
PV10 Paradox Valley 61.10 64 *e*P **P 05 02 44.6 +1.5**
PV01 Paradox Valley 61.53 64 *e*P **P 05 02 47.2 +1.2**
WUAZ Wupatki 61.84 68 *e*P **P 05 02 47.4 -0.7**
comp=Z,8.7nm,0.9s,mb4.9
ISCO Idaho Springs 61.93 61 P **P 05 02 49.6 +0.8**
ISCO pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ISCO Idaho Springs 61.93 61 *e*P **P 05 02 49.0 +0.3**
comp=Z,7.5nm,0.9s,mb4.8
MOS Moscow 62.31 327 *e*P **P 05 02 49.8 -1.5**
MOS pmax pmax
comp=Z,145nm,1.2s,mb6.0
OBN Obninsk 63.17 328*c* *i*P **P 05 02 55.5 -1.5**
OBN *e* 05 03 33.5
OBN pmax pmax
comp=Z,110nm,1.1s,mb5.9
OBN MLR MLR
comp=Z,700nm,17.0s,MS4.9
OBN Obninsk 63.17 328 *e*P **P 05 02 56.0 -1.0**
comp=Z,64nm,0.8s,mb5.8
VSU Vasula 63.23 335*c* *i*P **P 05 02 55.6 -1.8**
SDCO Great Sand Dun 63.48 62 *e*P **P 05 02 59.3 +0.2**
comp=Z,5.7nm,1.3s,mb4.5
NDI New Delhi 63.77 283 *e*P **P 05 03 01.2 +0.3**
NDI AMb AMB 05 03 04.5
comp=Z,20nm,1.4s,mb5.0
NB2 NORSAR Subarra 64.24 344 P **P 05 03 03.1 -1.0**
comp=Z,26nm,0.8s,mb5.3,baz=22,slow=6.9
NOA NORSAR Array B 64.24 344 P **P 05 03 03.1 -1.0**
comp=Z,22nm,0.8s,mb5.2,baz=21,slow=6.6,SNR=43
NOA LR LR 05 37 23.3
comp=Z,436nm,18.2s,MS4.7,baz=40,slow=42
NAO01 NORSAR Array S 64.48 344 *e*P **P 05 03 05.1 -0.5**
comp=Z,15nm,0.9s,mb5.0
TUC Tucson 64.50 70 *e*P **P 05 03 05.2 -0.6**
TUC pmax pmax
comp=Z,30nm,0.9s,mb5.3
TUC Tucson 64.50 70 *e*P **P 05 03 05.2 -0.6**
comp=Z,2.6nm,0.9s,mb4.3
KUDL Kundal 64.60 284 *e*P **P 05 03 06.6 +0.2**
HFS Hagfors 64.65 342 LR LR 05 36 22.6
comp=Z,656nm,18.6s,MS4.8,baz=36,slow=41
VRHR Novokhopersk 64.67 322 *e*P **P 05 03 05.7 -1.1**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.6
VRHR pmax pmax
comp=E,60nm,0.6s
ANMO Albuquerque 65.00 65 *e*P **P 05 03 09.4 +0.3**
ANMO pmax pmax
comp=Z,10.0nm,0.7s
ANMO Albuquerque 65.00 65 *e*P **P 05 03 09.4 +0.3**
comp=Z,1.5nm,0.7s,mb4.1
LAZ Ladron 65.03 66 *e*P **P 05 03 09.8 +0.6**
KHET Khetri 65.06 284 *e*P **P 05 03 09.8 +0.5**
VRSR Storozhevoye 65.47 324 *e*P **P 05 03 11.0 -1.0**
VRSR pmax pmax
comp=Z,110nm,1.0s,mb5.8
VRSR pmax pmax
comp=N,120nm,0.9s
VRSR pmax pmax
comp=E,80nm,0.9s
VRSR MLR MLR
comp=E,320nm,18.0s,MS5.0
VRSR MLR MLR
comp=Z,1μm,18.0s,MS5.1
VRSR MLR MLR
comp=N,940nm,20.0s,MS5.0
KSM Kuching 65.56 237 *e*P **P 05 03 14.4 +1.7**
ASK Askoy 65.70 347 *e*P **P 05 03 13.9 +0.3**
KONO Kongsberg 65.83 344⇑ *i*P **P 05 03 15.5 +1.1**
ODD1 Odda 66.05 346 *e*P **P 05 03 15.5 -0.3**
SCHQ Schefferville 66.19 28 P **P 05 03 15.1 -1.6**
comp=N,7.6nm,0.8s,mb4.8,baz=344,slow=7.3,SNR=5.6
MNK Minsk 66.38 332⇓ *e*P **P 05 03 13.0 -4.9**
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
BLS5 Blasjo 66.54 346 *e*P **P 05 03 20.4 +1.5**
BLS5 AMb AMB 05 03 27.4
comp=Z,37nm,1.3s,mb5.3
BLS5 Blasjo 66.54 346 *e*P **P 05 03 20.4 +1.5**
comp=Z,37nm,1.3s,mb5.2
SCIA State Center 66.65 51 *e*P **P 05 03 18.6 -1.1**
comp=Z,17nm,0.6s,mb5.3
AJM Ajmer 66.93 284 *e*P **P 05 03 20.7 -0.7**
AJM AMb AMB 05 03 22.4
comp=Z,16nm,0.6s,mb5.2
KULM Kulim 67.64 248 *e*P **P 05 03 27.4 +1.5**
AMTX Amarillo 67.67 62 *e*P **P 05 03 25.9 -0.3**
BHPL Bhopal 67.68 279 *e*P **P 05 03 26.2 0.0**
BHPL AMb AMB 05 03 27.0
comp=Z,39nm,1.2s,mb5.3
MNTX Cornudas Mount 68.02 66 *e*P **P 05 03 28.3 -0.1**
comp=Z,5.9nm,1.0s,mb4.6
SUW Suwalki 68.10 334 *e*P **P 05 03 28.6 -0.2**
VIS Vishakhapatnam 68.25 271 *e*P **P 05 03 30.7 +0.9**
VIS AMb AMB 05 03 31.8
comp=Z,52nm,1.3s,mb5.4
NGP Nagpur 68.27 277 *e*P **P 05 03 28.4 -1.5**
NGP AMb AMB 05 03 29.1
comp=Z,31nm,1.3s,mb5.2
KAKA Kakadu 69.17 209 *e*P **P 05 03 41.3 +5.8**
comp=Z,12nm,1.1s,mb4.8
AKASG Malin Array Be 69.28 329 P **P 05 03 35.1 -1.0**
comp=Z,34nm,0.7s,mb5.4,baz=29,slow=6.1,SNR=140
AKASG LR LR 05 37 49.8
comp=Z,834nm,18.4s,MS5.0,baz=25,slow=39
AKASG Malin Array Be 69.28 329 *i* P **P 05 03 35.0 -1.1**
AKASG pmax pmax

comp=Z,34nm,0.7s
AKBB Malin Array Si 69.28 329 *e*P **P 05 03 34.9 -1.2**
KIEV Kiev 69.29 329 P **P 05 03 34.9 -1.3**
KIEV pmax pmax
comp=Z,69nm,1.0s,mb5.5
KIEV Kiev 69.29 329 *e*P **P 05 03 34.9 -1.3**
comp=Z,68nm,1.0s,mb5.5
WMOK Wichita Mounta 69.33 60 *e*P **P 05 03 36.3 -0.2**
WMOK pmax pmax
comp=Z,14nm,0.9s,mb4.9
WMOK Wichita Mounta 69.33 60 *e*P **P 05 03 36.2 -0.2**
comp=Z,14nm,0.9s,mb4.9
AKL Akola 69.84 278 *e*P **P 05 03 40.4 +0.8**
AKL AMb AMB 05 03 41.5
comp=Z,49nm,1.1s,mb5.3
KIV Kislovodsk 70.04 317*c* *i*P **P 05 03 40.7 -0.1**
KIV *i* pP 05 03 51.4 -0.5
KIV *i* 05 04 05.0
KIV *i* 05 06 12.9
KIV pmax pmax
comp=Z,36nm,1.6s,mb5.0
KIV MLR MLR
comp=Z,1μm,20.0s,MS5.1
KIV Kislovodsk 70.04 317 *e*P **P 05 03 40.4 -0.4**
comp=Z,17nm,0.6s,mb5.2
GKP Gorka Klasztor 70.26 337 *e*P **P 05 03 43.1 +0.9**
ZEI Tsey 70.49 316 *e*P **P 05 03 42.7 -0.9**
ZEI *e* 05 04 02.8
ZEI pmax pmax
comp=Z,20nm,1.0s,mb5.0
DUS Dusheti 70.69 315 P **P 05 03 46.5 +1.6**
LTX Lajitas 70.78 67 P **P 05 03 45.5 +0.1**
LTX pmax pmax
comp=Z,16nm,1.1s,mb4.9
LTX Lajitas 70.78 67 *e*P **P 05 03 45.5 +0.1**
comp=Z,17nm,1.1s,mb4.9
TXAR Lajitas Array 70.78 67 P **P 05 03 44.9 -0.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=298,slow=4.4,SNR=14
TXAR LR LR 05 33 10.3
comp=Z,174nm,18.9s,MS4.3,baz=180,slow=34
ONI Oni 70.83 316 P **P 05 03 46.0 +0.3**
TBLG Delisi 70.97 314 P **P 05 03 47.9 +1.3**
MTA Mtatsminda 70.97 314 P **P 05 03 46.1 -0.4**
GOR Gori 71.04 315 P **P 05 03 47.5 +0.6**
KZR Kazreti 71.39 314 P **P 05 03 47.2 -1.9**
HYB Hyderabad 71.41 274⇑ *i*P **P 05 03 49.5 +0.3**
HYB *es*P sP 05 04 01.0 -3.4
ANN Anapa 71.45 321 *e*P **P 05 03 47.9 -1.5**
ANN *e**PP pP 05 04 01.7 +1.2
ANN *e*S S 05 13 00.5 -4.8
ANN pmax pmax
comp=Z,35nm,1.1s,mb5.2
ANN MLR MLR
comp=N,1μm,24.0s,MS5.2
ANN MLR MLR
comp=E,893nm,24.0s,MS5.2
ANN MLR MLR
comp=Z,830nm,24.0s,MS4.9
SOC Sochi 71.56 319 *e*P **P 05 03 48.4 -1.7**
SOC *e* 05 06 26.6
SOC *e*PPP 05 08 04.7
SOC *e*S S 05 13 00.9 -5.7
SOC *e**SS sS 05 13 26.5 +1.6
SOC pmax pmax
comp=Z,57nm,1.0s,mb5.5
SOC MLR MLR
comp=Z,1μm,15.0s,MS5.3
LVV L'vov 71.62 332 *e*P **P 05 03 49.5 -1.0**
LVV *e* 05 04 12.5
LVV *e* 05 06 32.3
LVV *e*PPP 05 08 14.1
LVV MLR MLR
comp=N,700nm,17.0s,MS5.1
LVV MLR MLR
comp=E,500nm,17.0s,MS5.1
LVV MLR MLR
comp=Z,900nm,17.0s,MS5.1
RUE Ruedersdorf 71.78 339 *e*P **P 05 03 51.6 +0.2**
comp=Z,31nm,0.8s,mb5.3
JCT Junction City 72.05 63 *e*P **P 05 03 52.5 -0.5**
JCT pmax pmax
comp=Z,60nm,0.9s,mb5.5
JCT Junction City 72.05 63 *e*P **P 05 03 52.5 -0.5**
comp=Z,6.4nm,0.9s,mb4.5
KWP Kalwaria 72.17 333 *e*P **P 05 03 54.3 +0.6**
KWP Kalwaria 72.17 333 P **P 05 03 54.0 +0.3**
MIAR Mount Ida 72.19 56 *e*P **P 05 03 55.1 +1.2**
GNI Garni 72.25 313 LR LR 05 40 30.5
comp=Z,516nm,19.5s,MS4.8,baz=209,slow=40
GNI Garni 72.25 313⇓ P **P 05 03 55.7 +1.5**
SNR=5.7
GNI Garni 72.25 313⇑ *i*P **P 05 03 55.2 +1.0**
GNI pmax pmax
comp=Z,42nm,1.3s
GNI Garni 72.25 313 *e*P **P 05 03 55.0 +0.8**
comp=Z,16nm,0.8s,mb5.0
OJC Ojcow 72.42 335 *e*P **P 05 03 55.8 +0.5**
SIM Simferopol' 72.57 323 *e*P **P 05 03 56.6 +0.4**
SIM pmax pmax
comp=Z,25nm,1.1s,mb5.1
SIM MLR MLR
comp=Z,3μm,18.0s,MS5.6
KIS Kishinev 72.64 328α *i*P **P 05 03 54.0 -2.6**
KIS *e* 05 04 10.0
KIS *e* 05 08 14.0
KIS *e*S S 05 13 16.0 -3.0
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.4
KIS MLR MLR
comp=N,1μm,17.0s
KIS MLR MLR
comp=Z,600nm,16.0s
KIS Kishinev 72.64 328⇑ *i*P **P 05 03 54.0 -2.6**
comp=Z,200nm,1.0s,mb6.0
KIS Kishinev 72.64 328 *e*PcP PcP 05 04 10.0 -3.9
KIS *e*S S 05 13 16.0 -3.0
KSP Ksiaz 72.73 337 *e*P **P 05 03 57.3 +0.2**
KSP Ksiaz 72.73 337⇑ *e*P **P 05 03 57.0 -0.1**
KSP *e**PP pP 05 04 08.1 -0.1
KSP Ksiaz 72.73 337⇑ *e*P **P 05 03 57.0 -0.1**
KSP *e*PP pP 05 04 08.1 -0.1
KSP LR LR
comp=Z,3μm,15.9s,MS5.7
STHS Stebnicka Huta 72.77 333 *e*P **P 05 03 58.2 +0.9**
STHS *e* 05 04 12.1
STHS pmax pmax
comp=Z,23nm,0.8s,mb5.2
STHS Stebnicka Huta 72.77 333 *e*P **P 05 03 58.1 +0.8**
STHS *es*P sP 05 04 12.1 -0.5
STHS Stebnicka Huta 72.77 333 *e*P **P 05 03 58.2 +0.9**
comp=Z,23nm,0.8s,mb5.2
STHS *e* 05 04 12.1
WCI Wyandotte Cave 72.81 49 *e*P **P 05 03 56.6 -0.9**
WCI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WCI Wyandotte Cave 72.81 49 *e*P **P 05 03 56.6 -0.9**
comp=Z,7.8nm,0.9s,mb4.6
KOLS Kolonicke sedl 72.92 333 *e*P **P 05 03 58.2 0.0**
KOLS *e*pP pP 05 04 08.0 -1.3
NIE Niedzica 73.02 334 *e*P **P 05 03 58.8 0.0**
CLL Collm 73.05 339⇑ *i*P **P 05 03 58.5 -0.5**
CLL *e**PP pP 05 04 06.0 -4.1
CLL pmax pmax
comp=Z,38nm,0.9s,mb5.3
CLL Collm 73.05 339⇑ *i*P **P 05 03 58.5 -0.5**
comp=Z,38nm,0.9s,mb5.3
CLL *e*pP pP 05 04 06.0 -4.1
CLL Collm 73.05 339⇑ *i*P **P 05 03 58.5 -0.5**
comp=Z,38nm,0.9s,mb5.3
CLL *e*pP pP 05 04 06.0 -4.1
CLL *i* PcP PcP 05 04 15.2 -0.4
UPC Upice 73.11 337 *e*P **P 05 04 00.6 +1.3**
UPC *e*pP pP 05 04 10.1 -0.3
CRVS Cervenica-Dubn 73.18 333 *e*P **P 05 03 59.7 0.0**
CRVS *e*pP pP 05 04 06.6 -4.2
DPC Dobruska-Polom 73.18 337 *e*P **P 05 04 00.6 +0.8**
DPC *e*pP pP 05 04 09.3 -1.5
DPC AMS AMS 05 42 30.0
comp=Z,2μm,15.2s
UZH Uzhgorod 73.19 332 *e*P **P 05 03 58.0 -1.8**
UZH *e* 05 08 25.0
UZH *e*S S 05 13 18.0 -7.2

UZH MLR MLR
comp=Z,1µm,16.0s,MS5.2
OKC Ostrava-Krasne 73.20 335 *eP* **P 05 03 59.9 0.0**
OKC *ep*P pP 05 04 10.1 -0.9
OKC AMS AMS 05 39 30.0
comp=Z,900nm,13.4s
OKC Ostrava-Krasne 73.20 335 *eP* **P 05 03 59.9 0.0**
OKC *ep*P pP 05 04 10.1 -0.9
CTA Charters Tower 73.22 194 *eP* **P 05 03 58.7 -1.3**
comp=Z,3.7nm,0.9s,mb4.3
CTA Charters Tower 73.22 194 P **P 05 03 58.7 -1.3**
comp=Z,2.4nm,0.9s,mb4.1,baz=335,slow=8.2,SNR=2.7
CTA Charters Tower 73.22 194 P **P 05 03 58.7 -1.3**
CTA pmax pmax
comp=Z,20nm,0.9s
BURAR Bucovina Array 73.24 330⇑*iP* **P 05 03 59.8 -0.3**
BRG Berggiesshubel 73.25 339 *eP* **P 05 03 59.7 -0.4**
comp=Z,8.7nm,1.4s,mb4.5
BRG *i* 05 04 16.1
comp=Z,12nm,1.2s
BRG Berggiesshubel 73.25 339 *eP* **P 05 03 59.7 -0.4**
BRG *i* 05 04 16.2
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
MORC Moravsky Berou 73.41 336 P **P 05 04 01.4 +0.3**
MORC pmax pmax
comp=Z,22nm,1.0s,mb5.0
MORC Moravsky Berou 73.41 336 *eP* **P 05 04 01.4 +0.2**
comp=Z,22nm,0.9s,mb5.1
MORC Moravsky Berou 73.41 336⇓*iP* **P 05 04 01.3 +0.2**
POO Poona 73.42 279⇑*ix* **P 05 03 59.0 -2.2**
comp=Z,90nm,1.0s,mb5.7
PVCC Panska Ves 73.43 338 *eP* **P 05 04 01.6 +0.4**
PVCC AMS AMS 05 42 20.0
comp=Z,1µm,8.6s
WTSB Winterswijk 73.64 343 *eP* **P 05 04 01.7 -0.8**
comp=Z,25nm,0.8s,mb5.2
MDRS Chennai 73.72 270 *eP* **P 05 04 04.2 +1.3**
MDRS AMb AMB 05 04 06.8
comp=Z,66nm,0.6s,mb5.7
WVT Waverly 73.77 52 *eP* **P 05 04 02.7 -0.5**
WVT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WVT Waverly 73.77 52 *eP* **P 05 04 02.7 -0.5**
comp=Z,6.3nm,0.8s,mb4.6
KECS Kecovo 73.83 333 *eP* **P 05 04 03.9 +0.3**
KECS *e* pP 05 04 14.0 -0.7
KECS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KECS Kecovo 73.83 333 *eP* **P 05 04 03.9 +0.3**
comp=Z,6.4nm,1.0s,mb4.5
KECS *e* pP 05 04 14.0 -0.7
PRU Pruhonice 73.94 338 *eP* **P 05 04 04.1 -0.1**
PRU *ep*P pP 05 04 13.5 -1.8
PRU AMS AMS 05 42 50.0
comp=Z,900nm,11.5s
MOX Moxa 73.97 340 *eP* **P 05 04 04.3 -0.1**
comp=Z,25nm,1.1s,mb5.1
MOX
comp=Z,300nm,20.0s
MOX Moxa 73.97 340 *eP* **P 05 04 04.3 -0.1**
MOX pmax pmax
comp=Z,25nm,1.1s,mb5.1
MOX MLR MLR
comp=Z,300nm,20.0s,MS4.6
VRAC Vranov 74.08 336⇓*iP* **P 05 04 05.8 +0.8**
KAD Karad 74.15 278 *eP* **P 05 04 06.0 +0.5**
KAD AMb AMB 05 04 07.0
comp=Z,138nm,0.9s,mb5.9
NKC Novy Kostel 74.18 339 *eP* **P 05 04 05.7 +0.1**
NKC *ep*P pP 05 04 16.3 -0.4
VYHS Vyhne 74.26 335 *iP* **P 05 04 06.3 +0.2**
VYHS *e* pP 05 04 17.6 +0.4
VYHS pmax pmax
comp=Z,11nm,1.3s,mb4.6
VYHS Vyhne 74.26 335 *iP* **P 05 04 06.3 +0.2**
comp=Z,11nm,1.3s,mb4.6
VYHS *e* pP 05 04 17.6 +0.4
VYHS *e*PP PP 05 06 37.5 -15
VRI Vrincioaia 74.32 328⇑*iP* **P 05 04 06.4 -0.1**
PSZ Piszkesteto 74.50 334 *eP* **P 05 04 08.5 +1.0**
comp=Z,20nm,1.0s,mb5.0
PSZ Piszkesteto 74.50 334⇑*iP* **P 05 04 07.7 +0.2**
PSZ Piszkesteto 74.50 334⇑*eP* **P 05 04 08.0 +0.5**
SMOL Smolenice 74.61 335 *eP* **P 05 04 09.2 +1.1**
SMOL *ep*P pP 05 04 20.7 +1.5
DRGR 74.73 331⇓*iP* **P 05 04 08.7 -0.1**
MLR Muntele Rosu 74.91 329⇓*iP* **P 05 04 10.8 +1.0**
HGN Heimansgroeve 74.95 343 *eP* **P 05 04 09.9 -0.2**
comp=Z,34nm,1.3s,mb5.1
GRA1 Grafenberg Arr 74.95 340 *eP* **P 05 04 10.5 +0.4**
comp=Z,37nm,1.0s,mb5.3
GRA1 *ep*P pP 05 04 20.9 -0.3
GRA1 LR LR
comp=Z,300nm,20.2s,MS4.6
GRF Grafenberg Arr 74.95 340 *eP* **P 05 04 10.5 +0.4**
comp=Z,37nm,1.0s,mb5.3
GRF *ep*P pP 05 04 20.9 -0.3
GRF *e*L 05 39 09.5
comp=Z,340nm,20.2s
GRF Grafenberg Arr 74.95 340 *eP* **P 05 04 10.5 +0.4**
GRF *e**PP pP 05 04 20.9 -0.3
GRF pmax pmax
comp=Z,37nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,300nm,20.2s,MS4.6
GRF Grafenberg Arr 74.95 340 *eP* **P 05 04 10.5 +0.4**
GRF *e**PP pP 05 04 20.9 -0.3
GRF pmax pmax
comp=Z,37nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,300nm,20.2s,MS4.6
GRFO Grafenberg 74.95 340 P **P 05 04 11.1 +1.0**
GRFO pmax pmax
comp=Z,27nm,1.0s,mb5.1
GRFO Grafenberg 74.95 340 *eP* **P 05 04 10.4 +0.3**
comp=Z,27nm,1.0s,mb5.1
BEBN Eben Emael 74.96 344 P **P 05 04 10.9 +0.7**
KHC Kasperske Hory 74.96 338 *eP* **P 05 04 10.5 +0.3**
KHC *ep*P pP 05 04 19.1 -2.2
KHC PCP PcP 05 04 26.0 +2.1
KHC AMS AMS 05 43 20.0
comp=Z,1µm,13.8s
KHC Kasperske Hory 74.96 338 *eP* **P 05 04 10.5 +0.3**
KHC *ep*P pP 05 04 19.1 -2.2
KHC *e* 05 04 26.0
KHC LR LR
comp=Z,1µm,13.8s,MS5.4
ZST Bratislava 74.98 335 *eP* **P 05 04 11.3 +1.0**
comp=Z,13nm,0.8s,mb4.9
ZST LR LR
comp=Z,900nm,18.5s,MS5.1
TIRR Tirgusor 75.01 327 P **P 05 04 10.2 -0.2**
TIRR pmax pmax
comp=Z,42nm,1.0s,mb5.3
TIRR Tirgusor 75.01 327 *eP* **P 05 04 09.9 -0.5**
comp=Z,42nm,0.9s,mb5.4
TIRR Tirgusor 75.01 327⇑*iP* **P 05 04 10.2 -0.2**
MEM Membach 75.08 343 P **P 05 04 11.0 +0.1**
comp=Z,40nm,1.3s,mb5.2
MEM AP pP 05 04 18.9 -3.1
MEM XP sP 05 04 24.5 -1.7
BUD Budapest 75.14 334⇑*eP* **P 05 04 11.9 +0.7**
GEC2 GERESS Array S 75.20 338 P **P 05 04 12.0 +0.5**
GEC2 GERESS Array S 75.20 338 *eP* **P 05 04 11.5 -0.1**
GERES GERESS Array B 75.20 338 P **P 05 04 10.9 -0.6**
comp=Z,6.4nm,0.9s,mb4.6,baz=35,slow=4.9,SNR=44
GERES LR LR 05 42 50.2
comp=Z,559nm,18.5s,MS4.9,baz=22,slow=40
BCLA Clavier 75.39 344 P **P 05 04 12.4 -0.2**
SNF Seneffe 75.47 344 P **P 05 04 12.3 -0.8**
WRAB Tennant Creek 75.51 205⇓*eP* **P 05 04 13.7 +0.4**
WB2 Warramunga Arr 75.52 205 *eP* **P 05 04 13.1 -0.2**
WRA Warramunga Arr 75.52 205 P **P 05 04 13.5 +0.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=19,slow=5.9,SNR=26
WRA LR LR 05 34 58.9
comp=Z,137nm,21.7s,MS4.2,baz=15,slow=34
WRA Warramunga Arr 75.52 205 P **P 05 04 13.5 +0.1**
WRA LR LR 05 34 58.9
TOD Tromm 75.53 341 *eP* **P 05 04 13.5 +0.1**
CONA Conrad Observa 75.54 336⇑*iP* **P 05 04 14.4 +0.9**
comp=Z,12nm,1.2s,mb4.7,SNR=12
SOP Sopron 75.60 336⇑*eP* **P 05 04 14.8 +1.0**
GIVF Givet 75.78 344 *eP* **P 05 04 14.5 -0.3**
comp=Z,56nm,1.2s,mb5.1
GIVF Givet 75.78 344 *eP* **P 05 04 14.5 -0.3**
GIVF pmax pmax
comp=Z,28nm,1.2s,mb5.1
GIVF Givet 75.78 344 *eP* **P 05 04 14.5 -0.3**
comp=Z,28nm,1.2s,mb5.1
DOU Dourbes 75.82 344 P **P 05 04 15.2 +0.1**
BAIF Baives 75.92 344 *eP* **P 05 04 16.5 +0.8**
comp=Z,34nm,1.0s,mb4.9
BAIF Baives 75.92 344 *eP* **P 05 04 16.5 +0.8**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb4.9
BAIF Baives 75.92 344 *eP* **P 05 04 16.5 +0.8**
comp=Z,17nm,1.0s,mb4.9
WLF Walferdange 75.97 343 P **P 05 04 16.4 +0.5**
WLF Walferdange 75.97 343 *eP* **P 05 04 16.1 +0.2**
WLF pmax pmax
comp=Z,14nm,1.0s,mb4.8
WLF Walferdange 75.97 343 *eP* **P 05 04 16.1 +0.2**
comp=Z,14nm,1.0s,mb4.8
GZR Gura Zlata 75.98 331⇓*iP* **P 05 04 16.0 0.0**
MOA Molln 76.00 337⇑*iP* **P 05 04 16.5 +0.3**
comp=Z,13nm,1.3s,mb4.7,SNR=6.0
BZS Buzias 76.12 332⇑*iP* **P 05 04 16.3 -0.5**
STU Stuttgart 76.24 341 P **P 05 04 17.8 +0.3**
STU pmax pmax
comp=Z,21nm,1.0s,mb5.0
STU Stuttgart 76.24 341 *eP* **P 05 04 16.9 -0.6**
comp=Z,21nm,0.9s,mb5.1
ARSA Arzberg 76.26 336⇑*iP* **P 05 04 18.5 +0.9**
comp=Z,16nm,1.0s,mb4.9
FITZ Fitzroy Crossi 76.41 214 *eP* **P 05 04 19.3 +0.9**
comp=Z,22nm,0.9s,mb5.1
PKSM Moragy 76.41 334⇑*iP* **P 05 04 17.7 -0.7**
MALT Malatya 76.51 317 *eP* **P 05 04 19.9 +0.9**
comp=Z,39nm,1.2s,mb5.2
MALT Malatya 76.51 317⇑*iP* **P 05 04 20.1 +1.1**
KOGS Kog 76.82 335 *eP* **P 05 04 21.9 +1.1**
BFO Black Forest 76.84 341 *eP* **P 05 04 20.3 -0.6**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BFO Black Forest 76.84 341 *eP* **P 05 04 20.3 -0.6**
comp=Z,9.8nm,0.9s,mb4.7
PERS Pernice 76.93 336 *eP* **P 05 04 21.8 +0.4**
KBA Koelnbreinsper 76.94 338 *iP* **P 05 04 22.7 +1.2**
comp=Z,58nm,0.9s,mb5.5,SNR=20
KBA Koelnbreinsper 76.94 338 *iP* **P 05 04 22.7 +1.2**
KBA pmax pmax
comp=Z,58nm,0.9s,mb5.5
CDF Champ du Feu 76.96 342⇑*iP* **P 05 04 21.6 0.0**
comp=Z,69nm,1.2s,mb5.2
CDF Champ du Feu 76.96 342⇑*iP* **P 05 04 21.6 0.0**
CDF pmax pmax
comp=Z,35nm,1.2s,mb5.2
CDF Champ du Feu 76.96 342⇑*iP* **P 05 04 21.6 0.0**
comp=Z,35nm,1.2s,mb5.2
MNGI Mangalore 77.13 274 *eP* **P 05 04 22.0 -0.5**
MNGI AMb AMB 05 04 23.7
comp=Z,62nm,1.2s,mb5.4
ECH Echery 77.17 342 *eP* **P 05 04 23.4 +0.7**
OBKA Obir 77.19 337⇑*iP* **P 05 04 23.5 +0.6**
comp=Z,18nm,0.8s,mb5.1,SNR=17
OBKA Obir 77.19 337⇑*iP* **P 05 04 23.5 +0.6**
comp=Z,18nm,0.8s,mb5.0
MOTA Moosalm 77.20 339⇑*iP* **P 05 04 23.0 +0.2**
comp=Z,18nm,1.1s,mb4.9,SNR=13
MOTA Moosalm 77.20 339⇑*iP* **P 05 04 23.0 +0.1**
MOTA pmax pmax
comp=Z,18nm,1.1s,mb4.9
BR131 Keskin Array S 77.24 321 *eP* **P 05 04 23.7 +0.6**
comp=Z,26nm,1.2s,mb5.0
BRTR Keskin Array B 77.24 321 P **P 05 04 22.9 -0.3**
comp=Z,14nm,1.0s,mb4.8,baz=51,slow=2.4,SNR=51
BRTR Keskin Array B 77.24 321⇑*eP* **P 05 04 23.2 +0.1**
MEZF Maizieres J'vi 77.28 343⇑*iP* **P 05 04 23.5 +0.1**
comp=Z,51nm,1.1s,mb5.1
MEZF Maizieres J'vi 77.28 343⇑*iP* **P 05 04 23.5 +0.1**
comp=Z,51nm,1.1s,mb5.4
SQTA Sankt Quirin 77.29 339⇑*iP* **P 05 04 24.2 +0.8**
comp=Z,22nm,1.2s,mb5.0,SNR=12
SQTA Sankt Quirin 77.29 339⇑*iP* **P 05 04 24.2 +0.8**
SQTA pmax pmax
comp=Z,22nm,1.2s,mb5.0
FELD Feldberg im Sc 77.34 341 *eP* **P 05 04 24.3 +0.6**
SVIS Svilajnac 77.44 331⇑*iP* **P 05 04 22.4 -1.8**
ANTO Ankara 77.44 321 ⇑P **P 05 04 25.6 +1.4**
SNR=9.6
ANTO Ankara 77.44 321 P **P 05 04 25.1 +0.8**
ANTO pmax pmax
comp=Z,40nm,1.2s,mb5.2
ANTO Ankara 77.44 321 *eP* **P 05 04 24.9 +0.6**
comp=Z,40nm,1.3s,mb5.2
ANTO Ankara 77.44 321⇑*iP* **P 05 04 24.7 +0.4**
DAVA Damuels 77.52 340⇓*iP* **P 05 04 24.6 -0.1**
comp=Z,18nm,0.9s,mb5.0
FVI Forni Avoltri 77.53 338 P **P 05 04 25.3 +0.6**
FVI pmax pmax
comp=Z,52nm,1.7s,mb5.2
FVI Forni Avoltri 77.53 338 P **P 05 04 25.3 +0.6**
comp=Z,52nm,1.7s,mb5.2
HAU Haudompre 77.53 342⇑*iP* **P 05 04 24.7 0.0**
comp=Z,49nm,1.0s,mb5.1
HAU *e*MLR
comp=Z,584nm,22.0s
HAU Haudompre 77.53 342⇑*iP* **P 05 04 24.7 0.0**
HAU pmax pmax
comp=Z,24nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,580nm,22.0s,MS4.9
HAU Haudompre 77.53 342⇑*iP* **P 05 04 24.7 0.0**
comp=Z,24nm,1.0s,mb5.1
HAU LR LR
comp=Z,580nm,22.0s,MS4.9
PTCC Patocco-Chiusa 77.57 337 P **P 05 04 24.5 -0.5**
CRES Cresnjev 77.60 336 *eP* **P 05 04 25.0 -0.1**
HINF Hinteralfeld 77.61 342⇑*iP* **P 05 04 24.9 -0.3**
comp=Z,41nm,1.2s,mb4.9
HINF Hinteralfeld 77.61 342⇑*iP* **P 05 04 24.9 -0.3**
HINF pmax pmax
comp=Z,20nm,1.2s,mb4.9
HINF Hinteralfeld 77.61 342⇑*iP* **P 05 04 24.9 -0.3**
comp=Z,20nm,1.2s,mb4.9
LJU Ljubljana 77.63 336 *iP* **P 05 04 25.0 -0.3**
GMNA Gemona 77.72 337 P **P 05 04 25.5 -0.3**
comp=Z,138nm,0.8s,mb5.9
BANOM Banah 77.88 297 ⇑P **P 05 04 26.7 0.0**
SNR=7.4
BOJS Bojanci 77.95 336 *eP* **P 05 04 27.0 -0.1**
GRUS Gruza 77.96 331⇑*iP* **P 05 04 26.3 -0.8**
DIVS Divcibare 77.97 332⇑*iP* **P 05 04 26.4 -0.8**
LDF La Druitiere 78.01 347 *eP* **P 05 04 27.9 +0.5**
BRMO Bormio 78.18 339 P **P 05 04 29.2 +0.8**
CTI Castel Tesino 78.31 338 P **P 05 04 28.8 -0.2**
GRR Gorron 78.31 347 *eP* **P 05 04 28.7 -0.4**
BBLS Bajina Basta - 78.35 332⇑*iP* **P 05 04 29.5 +0.2**
VTS Vitosha 78.38 329 ⇑P **P 05 04 29.2 -0.2**
VTS Vitosha 78.38 329⇑*iP* **P 05 04 29.1 -0.3**
LOR Lormes 78.68 344⇑*iP* **P 05 04 30.9 -0.2**
comp=Z,86nm,1.3s,mb5.2
LOR *e*MLR
comp=Z,633nm,20.8s
LOR Lormes 78.68 344⇑*iP* **P 05 04 30.9 -0.2**
LOR pmax pmax
comp=Z,43nm,1.3s,mb5.2
LOR MLR MLR
comp=Z,630nm,20.8s,MS4.9
LOR Lormes 78.68 344⇑*iP* **P 05 04 30.9 -0.2**
comp=Z,43nm,1.3s,mb5.2
LOR LR LR
comp=Z,630nm,20.8s,MS4.9
BIDO Bidbid 78.77 294 ⇑P **P 05 04 32.8 +1.2**
SNR=6.5
HATD Hatta, Dubai 78.84 296 ⇓P **P 05 04 32.2 +0.2**
SNR=6.7
HYF Humbligny 78.88 345 *eP* **P 05 04 32.4 +0.2**
CABF La Chapelle 78.92 342 *eP* **P 05 04 32.8 +0.4**
comp=Z,67nm,1.2s,mb5.1
CABF La Chapelle 78.92 342 *eP* **P 05 04 32.8 +0.4**
CABF pmax pmax
comp=Z,34nm,1.2s,mb5.2
CABF La Chapelle 78.92 342 *eP* **P 05 04 32.8 +0.4**
comp=Z,34nm,1.2s,mb5.2
SSF Saint Saulge 78.94 344⇑*iP* **P 05 04 32.5 -0.1**
comp=Z,27nm,1.0s,mb4.8
SSF Saint Saulge 78.94 344⇑*iP* **P 05 04 32.5 -0.1**
SSF pmax pmax
comp=Z,14nm,1.0s,mb4.8
SSF Saint Saulge 78.94 344⇑*iP* **P 05 04 32.5 -0.1**
comp=Z,14nm,1.0s,mb4.8
ASHO Ashiyiah 79.00 296 P **P 05 04 32.7 -0.1**
SNR=16
WBK Wadi Bani Khal 79.01 293 ⇑P **P 05 04 34.0 +1.1**
SNR=6.5
HOQ Hoqain 79.17 294 ⇓P **P 05 04 33.9 0.0**
SNR=5.9
SMDO Samad 79.17 294 P **P 05 04 34.9 +1.1**
SNR=7.0
ASAR Alice Springs 79.19 205 P **P 05 04 34.6 +0.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=16,slow=4.7,SNR=26
ASAR Alice Springs 79.19 205 P **P 05 04 34.6 +0.7**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
AVF Avril sur Loir 79.23 344⇑*iP* **P 05 04 34.2 +0.1**
comp=Z,61nm,1.1s,mb5.1
AVF Avril sur Loir 79.23 344⇑*iP* **P 05 04 34.2 +0.1**
AVF pmax pmax
comp=Z,31nm,1.1s,mb5.2
AVF Avril sur Loir 79.23 344⇑*iP* **P 05 04 34.2 +0.1**
comp=Z,30nm,1.1s,mb5.1
SMF Signal de Mont 79.29 344⇑*iP* **P 05 04 34.5 +0.1**
comp=Z,81nm,1.2s,mb5.2
SMF Signal de Mont 79.29 344⇑*iP* **P 05 04 34.5 +0.1**
SMF pmax pmax
comp=Z,41nm,1.2s,mb5.2
SMF Signal de Mont 79.29 344⇑*iP* **P 05 04 34.5 +0.1**
comp=Z,41nm,1.2s,mb5.2
SKO Skopje 79.49 330 *eP* **P 05 04 34.2 -1.3**
SKO Skopje 79.49 330 *eP* **P 05 04 34.2 -1.3**
STIP Stip 79.51 329 *eP* **P 05 04 34.7 -0.9**
STIP Stip 79.51 329 *eP* **P 05 04 34.7 -0.9**
BGF Bois d'Agland 79.54 344 *eP* **P 05 04 35.8 0.0**
JMDO Jabal Madar 79.69 293 ⇓P **P 05 04 37.0 +0.4**
SNR=8.1
RSL Roselend 79.70 342 *eP* **P 05 04 37.4 +0.7**
VAY Valandovo 79.73 329 *eP* **P 05 04 35.8 -1.1**
comp=Z,24nm,1.0s,mb5.1
VAY Valandovo 79.73 329 *eP* **P 05 04 35.8 -1.1**
comp=Z,24nm,1.0s,mb5.1
KBD Kabd 79.80 305 *eP* **P 05 04 36.8 -0.4**
KBD AMb AMB 05 04 38.4
comp=Z,399nm,1.1s,mb6.2
ARQ Araqi 79.81 295 ⇓P **P 05 04 37.5 +0.2**
SNR=5.4
LPL La Plagne 79.85 341⇑*iP* **P 05 04 38.7 +1.2**
comp=Z,65nm,1.1s,mb5.2
LPL La Plagne 79.85 341⇑*iP* **P 05 04 38.7 +1.2**
LPL pmax pmax
comp=Z,33nm,1.1s,mb5.2
LPL La Plagne 79.85 341⇑*iP* **P 05 04 38.7 +1.2**
comp=Z,33nm,1.1s,mb5.2
LPG La Plagne 79.86 341⇑*iP* **P 05 04 38.9 +1.3**
comp=Z,116nm,1.2s,mb5.4
LPG La Plagne 79.86 341⇑*iP* **P 05 04 38.9 +1.3**
LPG pmax pmax
comp=Z,58nm,1.2s,mb5.4
LPG La Plagne 79.86 341⇑*iP* **P 05 04 38.9 +1.3**
comp=Z,58nm,1.2s,mb5.4
BSY Bisya 79.90 294 ⇓P **P 05 04 38.0 +0.3**
SNR=9.0
TCF Toulx Ste Croi 79.91 345⇑*iP* **P 05 04 38.0 +0.2**
comp=Z,32nm,1.0s,mb4.9
TCF Toulx Ste Croi 79.91 345⇑*iP* **P 05 04 38.0 +0.2**
TCF pmax pmax
comp=Z,16nm,1.0s,mb4.9
TCF Toulx Ste Croi 79.91 345⇑*iP* **P 05 04 38.0 +0.2**
comp=Z,16nm,1.0s,mb4.9
NAY Al-Naaiem 79.96 305 *eP* **P 05 04 37.6 -0.5**
NAY AMb AMB 05 04 39.0
comp=Z,96nm,1.0s,mb5.7
PLDF La Plantade 79.98 344 *eP* **P 05 04 38.9 +0.7**
AGO Saint Agoulin 79.98 344 *eP* **P 05 04 38.7 +0.5**
QRN Al-Qurain 80.03 304 *eP* **P 05 04 38.4 -0.1**
QRN AMb AMB 05 04 39.6
comp=Z,153nm,1.1s,mb5.9
RDF Al-Radifah 80.07 305 *eP* **P 05 04 38.6 -0.1**
RDF AMb AMB 05 04 40.0
comp=Z,271nm,0.8s,mb6.2
KRUS Krusevo 80.10 330 *eP* **P 05 04 37.9 -0.9**
KRUS Krusevo 80.10 330 *eP* **P 05 04 37.9 -0.9**
SEI Scarperia 80.26 338 P **P 05 04 41.6 +1.9**
PYM Petit Puy Mans 80.30 344 *eP* **P 05 04 41.2 +1.3**
BNI Bardonecchia 80.31 341 P **P 05 04 40.9 +0.9**
BNI pmax pmax
comp=Z,29nm,1.1s,mb5.1
BNI Bardonecchia 80.31 341 *eP* **P 05 04 40.9 +1.0**
comp=Z,35nm,1.3s,mb5.1
BIA Bitola 80.39 330 *eP* **P 05 04 38.9 -1.5**
BIA Bitola 80.39 330 *eP* **P 05 04 38.9 -1.5**
ORIF Oris-en-Rattie 80.59 342⇑*iP* **P 05 04 42.5 +1.0**
comp=Z,46nm,0.9s,mb5.1
ORIF *e*MLR
comp=Z,336nm,17.5s
ORIF Oris-en-Rattie 80.59 342⇑*iP* **P 05 04 42.5 +1.0**
ORIF pmax pmax
comp=Z,23nm,0.9s,mb5.1
ORIF Oris-en-Rattie 80.59 342⇑*iP* **P 05 04 42.5 +1.0**
comp=Z,23nm,0.9s,mb5.1
MBDF Montbardon 80.60 341 *eP* **P 05 04 42.2 +0.7**
comp=Z,36nm,1.0s,mb5.0
MBDF Montbardon 80.60 341 *eP* **P 05 04 42.2 +0.7**
MBDF pmax pmax
comp=Z,18nm,1.0s,mb5.0
MBDF Montbardon 80.60 341 *eP* **P 05 04 42.2 +0.7**
comp=Z,18nm,1.0s,mb5.0
SNTG Esanatoglia 80.64 336 P **P 05 04 42.5 +0.8**
comp=Z,10.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 80.87 343⇑*iP* **P 05 04 43.8 +0.8**
comp=Z,50nm,1.0s,mb5.1
VIVF Saint-Julien-l 80.87 343⇑*iP* **P 05 04 43.8 +0.8**
VIVF pmax pmax
comp=Z,25nm,1.0s,mb5.1
VIVF Saint-Julien-l 80.87 343⇑*iP* **P 05 04 43.8 +0.8**
comp=Z,25nm,1.0s,mb5.1
RJF Les Rejaudoux 80.97 345 *eP* **P 05 04 44.1 +0.6**
RJF *e*MLR
comp=Z,728nm,19.8s
RJF Les Rejaudoux 80.97 345 *eP* **P 05 04 44.1 +0.6**
RJF LR LR
comp=Z,730nm,19.8s,MS5.0
NRCA Norcia 80.99 336 P **P 05 04 44.5 +0.9**
comp=Z,13nm,1.1s,mb4.8
CAF Calviac 81.25 345⇑*iP* **P 05 04 46.0 +1.0**
comp=Z,59nm,1.2s,mb5.1
CAF Calviac 81.25 345⇑*iP* **P 05 04 46.0 +1.0**
CAF pmax pmax
comp=Z,30nm,1.2s,mb5.1
CAF Calviac 81.25 345⇑*iP* **P 05 04 46.0 +1.0**
comp=Z,30nm,1.2s,mb5.1
AQU L'Aquila 81.37 336 P **P 05 04 46.6 +0.9**
AQU pmax pmax
comp=Z,31nm,1.1s,mb5.2
AQU L'Aquila 81.37 336 *eP* **P 05 04 46.5 +0.9**
comp=Z,40nm,1.2s,mb5.2
AQU L'Aquila 81.37 336⇑*iP* **P 05 04 45.7 +0.1**
LFF La Frestale 81.45 345 *eP* **P 05 04 45.8 -0.3**
INTR Introdacqua 81.57 335 P **P 05 04 46.0 -0.7**
comp=Z,49nm,1.3s,mb5.3
LASF Ste Croix 81.77 343 *eP* **P 05 04 47.9 +0.1**
comp=Z,46nm,1.2s,mb5.0
MIDA Miranda 81.82 335 P **P 05 04 50.1 +2.1**
comp=Z,96nm,1.9s,mb5.4
SDI San Donato 81.87 335 P **P 05 04 48.2 -0.1**
FG5 Orsara di Pugl 81.89 334 P **P 05 04 49.1 +0.7**
FG5 pmax pmax
comp=Z,19nm,1.0s,mb5.0
FG5 Orsara di Pugl 81.89 334 P **P 05 04 49.1 +0.7**
comp=Z,18nm,1.0s,mb5.0
FG4 Candela 81.97 334 P **P 05 04 49.1 +0.3**
FG4 pmax pmax
comp=Z,32nm,0.9s,mb5.2
FG4 Candela 81.97 334 P **P 05 04 49.1 +0.3**
comp=Z,32nm,0.9s,mb5.2
PPT Papeete 82.08 132 *eS* S 05 14 40.9 -20
comp=Z,71nm,25.8s
PPT *e*LR LR 05 30 09.6
comp=Z,556nm,23.2s,baz=331
PPT Papeete 82.08 132 LR LR 05 32 49.1
comp=Z,306nm,22.0s,MS4.6,baz=218,slow=30
PPT Papeete 82.08 132 *eS* S 05 14 40.9 -20
MMAI Mount Meron Ar 82.30 316 LR LR 05 49 41.7
comp=Z,317nm,18.1s,MS4.7,baz=35,slow=42
MTLF Montolieu 82.77 344⇑*iP* **P 05 04 53.9 +0.9**
comp=Z,63nm,1.1s,mb5.3

MTLF	**Montolieu**	**82.77**	**344**⇑	*i*P	**P**	**05 04 53.9**	**+0.9**
MTLF				pmax	pmax		
comp=Z,32nm,1.1s,mb5.3							
MTLF	**Montolieu**	**82.77**	**344**⇑	*i*P	**P**	**05 04 53.9**	**+0.9**
comp=Z,32nm,1.1s,mb5.3							
EPF	**Esparros**	**83.38**	**345**⇑	*i*P	**P**	**05 04 56.5**	**+0.4**
comp=Z,52nm,1.1s,mb5.2							
EPF	**Esparros**	**83.38**	**345**⇑	*i*P	**P**	**05 04 56.5**	**+0.4**
EPF				pmax	pmax		
comp=Z,26nm,1.1s,mb5.2							
EPF	**Esparros**	**83.38**	**345**⇑	*i*P	**P**	**05 04 56.5**	**+0.4**
comp=Z,26nm,1.1s,mb5.2							
TIP	**Timpagrande**	**83.44**	**332**	*e*P	**P**	**05 04 56.0**	**-0.4**
ELIZ	**Elizondo**	**83.52**	**347**	P	**P**	**05 04 58.2**	**+1.3**
ELIZ				pmax	pmax		
comp=Z,28nm,1.0s,mb5.3							
ELIZ	**Elizondo**	**83.52**	**347**	P	**P**	**05 04 58.2**	**+1.4**
comp=Z,28nm,1.0s,mb5.3							
SJPF	**Ste Jean**	**83.53**	**347**⇑	*i*P	**P**	**05 04 58.2**	**+1.3**
comp=Z,47nm,1.2s,mb5.2							
SJPF	**Ste Jean**	**83.53**	**347**⇑	*i*P	**P**	**05 04 58.2**	**+1.3**
SJPF				pmax	pmax		
comp=Z,23nm,1.2s,mb5.2							
SJPF	**Ste Jean**	**83.53**	**347**⇑	*i*P	**P**	**05 04 58.2**	**+1.3**
comp=Z,23nm,1.2s,mb5.2							
ETSF	**Etsaut**	**83.64**	**346**⇑	*i*P	**P**	**05 04 58.6**	**+1.1**
comp=Z,76nm,1.0s,mb5.5							
ETSF	**Etsaut**	**83.64**	**346**⇑	*i*P	**P**	**05 04 58.6**	**+1.1**
ETSF				pmax	pmax		
comp=Z,38nm,1.0s,mb5.5							
ETSF	**Etsaut**	**83.64**	**346**⇑	*i*P	**P**	**05 04 58.6**	**+1.1**
comp=Z,38nm,1.0s,mb5.5							
ELAN	**Lanestosa**	**83.71**	**348**	P	**P**	**05 04 58.4**	**+0.5**
comp=Z,80nm,1.1s,mb5.8							
EBIE	**Bielsa**	**83.74**	**345**	P	**P**	**05 04 59.5**	**+1.4**
comp=Z,31nm,0.9s,mb5.4							
ECRI	**Cripan**	**84.20**	**347**	P	**P**	**05 05 00.0**	**-0.3**
EMIR	**Miracle**	**84.28**	**344**	P	**P**	**05 05 01.8**	**+1.1**
comp=Z,21nm,1.1s,mb5.2							
STS	**Santiago**	**84.60**	**352**	P	**P**	**05 05 02.3**	**0.0**
STS				pmax	pmax		
comp=Z,10.0nm,0.6s,mb5.1							
STS	**Santiago**	**84.60**	**352**	P	**P**	**05 05 02.3**	**0.0**
comp=Z,9.6nm,0.6s,mb5.1							
ESAC	**San Caprasio**	**84.78**	**346**	P	**P**	**05 05 04.5**	**+1.2**
comp=Z,94nm,1.2s,mb5.8							
ERUA	**La Rua**	**84.96**	**351**	P	**P**	**05 05 03.1**	**-1.0**
ERUA				pmax	pmax		
comp=Z,6.0nm,0.4s,mb5.1							
ERUA	**La Rua**	**84.96**	**351**	P	**P**	**05 05 03.1**	**-1.1**
comp=Z,5.5nm,0.4s,mb5.0							
EIL	**Elat**	**85.38**	**315**	*e*P	**P**	**05 05 06.4**	**+0.2**
comp=Z,639nm,0.9s							
STKA	**Stephens Creek**	**85.52**	**196**	*e*P	**P**	**05 05 06.9**	**0.0**
comp=Z,2.9nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**85.52**	**196**	P	**P**	**05 05 07.0**	**+0.1**
comp=Z,4.1nm,0.9s,mb4.7,baz=334,slow=11,SNR=6.1							
STKA				LR	LR	05 41 19.4	
comp=Z,168nm,20.1s,MS4.4,baz=23,slow=34							
ERC	**Erice**	**85.64**	**335**	P	**P**	**05 05 08.8**	**+1.2**
WHFO	**Wadi Hawf**	**85.67**	**294**	P	**P**	**05 05 07.2**	**-0.6**
SNR=14							
ETOR	**Torete**	**85.90**	**347**	P	**P**	**05 05 09.2**	**+0.4**
ETOR				pmax	pmax		
comp=Z,18nm,0.8s,mb5.3							
ETOR	**Torete**	**85.90**	**347**	P	**P**	**05 05 09.2**	**+0.4**
comp=Z,18nm,0.8s,mb5.3							
EMOS	**Mosqueruela**	**86.11**	**345**	P	**P**	**05 05 10.5**	**+0.6**
comp=Z,21nm,1.0s,mb5.3							
ETOS	**Mallorca**	**86.14**	**343**	P	**P**	**05 05 11.1**	**+1.1**
comp=Z,32nm,1.2s,mb5.4							
GUD	**Guadarrama**	**86.35**	**348**	P	**P**	**05 05 11.5**	**+0.4**
GUD				pmax	pmax		
comp=Z,11nm,0.9s,mb5.1							
GUD	**Guadarrama**	**86.35**	**348**	P	**P**	**05 05 11.5**	**+0.5**
comp=Z,11nm,0.9s,mb5.1							
TBI	**Tubuai**	**87.20**	**135**	*e*S	S	05 15 31.3	-21
TBI	comp=Z,270nm,27.5s						
				*e*LR	LR	05 32 39.0	
comp=Z,478nm,24.5s,baz=330							
ESDC	**Sonseca Array**	**87.28**	**348**	P	**P**	**05 05 15.7**	**+0.1**
comp=Z,14nm,0.9s,mb5.2,baz=3.4,slow=4.7,SNR=40							
ESDC	**Sonseca Array**	**87.28**	**348**	P	**P**	**05 05 15.0**	**-0.6**
comp=Z,21nm,1.2s,mb5.2							
ESLA	**Sonseca Array**	**87.28**	**348**	*e*P	**P**	**05 05 15.1**	**-0.5**
comp=Z,4.0nm,0.9s,mb4.7							
ETOB	**Tobarra**	**87.96**	**346**	P	**P**	**05 05 19.0**	**+0.2**
comp=Z,32nm,1.3s,mb5.4							
EVIA	**Vianos**	**88.10**	**347**	P	**P**	**05 05 19.5**	**0.0**
EVIA				pmax	pmax		
comp=Z,6.0nm,0.6s,mb5.0							
EVIA	**Vianos**	**88.10**	**347**	P	**P**	**05 05 19.5**	**-0.1**
comp=Z,6.1nm,0.6s,mb5.0							
KEST	**Kesra**	**88.64**	**337**	P	**P**	**05 05 22.0**	**-0.1**
comp=Z,7.0nm,1.0s,mb5.0,baz=317,slow=4.1,SNR=16							
KEST				LR	LR	05 50 20.8	
comp=Z,221nm,19.4s,MS4.6,baz=190,slow=39							
ECOG	**Cogollos-Vega**	**89.59**	**347**	P	**P**	**05 05 26.2**	**-0.3**
ECOG				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.9							
ECOG	**Cogollos-Vega**	**89.59**	**347**	P	**P**	**05 05 26.2**	**-0.3**
comp=Z,5.3nm,0.8s,mb4.9							
ERON	**Agron**	**89.87**	**347**	P	**P**	**05 05 27.1**	**-0.8**
comp=Z,7.6nm,0.8s,mb5.1							
RKT	**Rikitea**	**93.87**	**123**	*e*S	S	05 16 31.4	-22
RKT	comp=Z,68nm,26.5s						
				*e*LR	LR	05 35 29.8	
comp=Z,367nm,23.8s,baz=333							
LPAZ	**La Paz**	**127.62**	**65**	PKP	PKPdf	05 11 35.4	+1.4
comp=Z,0.9nm,0.9s,baz=288,slow=9.6,SNR=3.3							
LPAZ	**La Paz**	**127.62**	**65**	PKIKP	PKPdf	05 11 35.4	+1.4
LPAZ				pmax	pmax		
comp=Z,10.0nm,0.9s							
LPAZ	**La Paz**	**127.62**	**65**	*e*PKPdf	PKPdf	05 11 34.5	+0.5
SIV	**San Ignacio**	**131.18**	**58**	PKP	PKPdf	05 11 41.1	+0.3
comp=Z,3.0nm,0.9s,baz=354,slow=1.7,SNR=14							
LBTB	**Lobatse**	**136.35**	**291**	*e*PKIKP	PKPdf	05 11 51.5	+1.0
BOSA	**Boshof**	**139.28**	**288**	PKP	PKPdf	05 11 56.8	+0.9
comp=Z,4.1nm,1.1s,baz=18,slow=3.2,SNR=3.1							
BOSA	**Boshof**	**139.28**	**288**	PKIKP	PKPdf	05 11 56.8	+0.9
BOSA				pmax	pmax		
comp=Z,4.0nm,1.1s							
SUR	**Sutherland**	**144.64**	**288**	*e*PKPdf	PKPdf	05 12 05.9	+0.5
CAM4	**Nova Friburgo**	**145.22**	**39**⇑	*i*P	PKPbc	05 12 01.9	-4.3
CAM4				*i*		05 12 06.1	
CAM4				*i*		05 12 19.1	
SYO	**Syowa Base**	**148.22**	**216**⇓	*e*PKPdf	PKPdf	05 12 12.6	+1.1
VNA3	**Neumayer Olymp**	**160.57**	**190**	*e*PKPdf	PKPdf	05 12 28.0	-0.6
VNA3				*e*		05 12 32.2	
VNA3				*e*		05 12 44.3	
VNA3				*e*		05 12 55.6	
VNA3				*e*		05 13 09.5	
VNA3				*e*		05 13 20.3	
VNA3				*e*		05 13 25.8	
VNA3				*e*		05 13 30.9	
VNA2	**Neumayer--Watz**	**160.61**	**192**	*e*PKPdf	PKPdf	05 12 29.4	+0.8
VNA2				*e*		05 12 34.2	
VNA2				*e*		05 12 46.4	
VNA2				*e*		05 12 57.8	
VNA2				*e*		05 13 09.8	
VNA2				*e*		05 13 20.6	
VNA2				*e*		05 13 26.4	
VNA2				*e*		05 13 31.4	
VNA2				*e*		05 13 38.2	
VNA2				*e*		05 13 45.5	

ISCJB ***03*** *05:14:04.7±1.0, 3478N±006×14069E±008, h67km±6km, mb3.1/2, Error ellipse: s-maj=13.2km s-min=7.7km az=101.4*

IDC ***03*** *05:14:04.1±1.4, 3403N×13808E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, ML2.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/15, Error ellipse: s-maj=33.9km s-min=19.1km az=59.0*

JMA ***03*** *05:14:04.8±0.2, 3482N×14071E, h65km±2km, M2.4*

ISC 03 05:14:05.7±0.9,**3478N**±006×**14067E**±008,**h61**km±6km, **n14**,σ0°**64**/21,**mb3.1**/2,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO2	**Boso 2**	**0.07**	**113**	*e*S	**Sn**	**05 14 22.4**	**+1.0**
BSO3	**Boso 3**	**0.13**	**279**	P	**Pn**	**05 14 14.3**	**-0.7**
BSO3				*e*S	**Sn**	**05 14 21.7**	**0.0**
BSO1	**Boso 1**	**0.28**	**117**	P	**Pn**	**05 14 15.2**	**-0.7**
BSO1				S	**Sn**	**05 14 23.0**	**-0.2**
BSO4	**Boso 4**	**0.34**	**307**	P	**Pn**	**05 14 16.1**	**-0.2**
BSO4				S	**Sn**	**05 14 24.6**	**+0.6**
KTR	**Katsuura**	**0.47**	**322**	P	**Pn**	**05 14 16.9**	**-0.6**
TATJ	**Tateyama 2**	**0.69**	**292**	P	**Pn**	**05 14 20.3**	**+0.4**
JCN	**Nagara**	**0.74**	**329**	P	**Pn**	**05 14 20.4**	**-0.2**
JIM2	**Oshima 3**	**1.02**	**267**	P	**Pn**	**05 14 23.9**	**-0.2**
KTJJ	**Kamata 2**	**1.33**	**277**	P	**Pn**	**05 14 27.8**	**-0.3**
KTJJ				*e*S	**Sn**	**05 14 43.9**	**-1.0**
JOD2	**Odawara 2**	**1.39**	**291**	P	**Pn**	**05 14 28.4**	**-0.5**
JOD2				*e*S	**Sn**	**05 14 45.8**	**-0.5**
JHJ	**Hachijo jima 2**	**1.81**	**204**	Pn	**Pn**	**05 14 34.9**	**+0.2**
6.5nm,0.3s,baz=234,slow=19,SNR=2.7							
JHJ				Sn	**Sn**	**05 14 57.4**	**+0.8**
13nm,0.3s,baz=239,slow=19,SNR=4.9							
MJAR	**Matsushiro Arr**	**2.67**	**312**	Pn	**Pn**	**05 14 46.6**	**+0.4**
1.1nm,0.3s,baz=171,slow=15,SNR=11							
MJAR				Sn	**Sn**	**05 15 19.2**	**+1.8**
1.0nm,0.3s,baz=237,slow=20,SNR=6.7							
MJAR				LR	LR	05 15 35.4	
comp=Z,599nm,18.1s,baz=95,slow=37							
SONM	**Songino Array**	**28.61**	**308**	P	**P**	**05 19 50.6**	**-5.6**
0.2nm,0.5s,mb3.1,baz=106,slow=7.7,SNR=2.7							
WRA	**Warramunga Arr**	**54.75**	**187**	P	**P**	**05 23 29.1**	**+0.2**
0.2nm,0.9s,mb3.2,baz=3.5,slow=8.1,SNR=5.8							

NIED ***03*** *05:16:00, 4240N×14550E, h14km, Mw4.1 Best double couple: M0 1.38000×10^15 NP1:φs46.00000°, δ69.00000°, λ109.00000°. NP2:φs182.00000°, δ28.00000°, λ50.00000°.*

BJI ***03*** *05:16:24.7, 4225N×14576E, h44km, mB4.9, mb4.4, Ms4.2, Msz4.1*

JMA ***03*** *05:16:27.0, 4238N×14555E, h35km±1km, M4.3*

JMA Felt I J1.

MOS ***03*** *05:16:27.1±1.2, 4225N×14550E, h44km, mb4.4/15, Error ellipse: s-maj=13.0km s-min=8.9km az=105.1*

ISCJB ***03*** *05:16:27.1±0.9, 4237N±005×14556E±007, h37km±7km, mb4.1/23, Error ellipse: s-maj=9.9km s-min=6.3km az=84.4*

NEIC ***03*** *05:16:27.1±6.1, 4250N×14539E, h18km±39km, mb4.4/4, Error ellipse: s-maj=14.3km s-min=11.3km az=194.0*

NEIC Recorded [1 JMA] in eastern Hokkaido.

IDC ***03*** *05:16:28.7±0.7, 4271N×14537E, h22km±4km, mb3.9/16, mb1 4.1/16, mb1mx4.0/23, mbtmp3.9/16, Error ellipse: s-maj=18.1km s-min=16.7km az=110.0*

ISC 03 05:16:27.5±1.2,**4242N**±004×**14553E**±006,**h26**km±7km, **h23**km±.8km:**pP-P**,**n65**,σ0°**91**/71,**mb4.1**/23,**1C**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.85**	**314**	P	**Pb**	**05 16 43.2**	**-0.3**
JAK				*e*S	**Sb**	**05 16 55.3**	**+0.8**
NEM2	**Nemuro 2**	**0.96**	**9**	P	**Pn**	**05 16 45.0**	**-0.3**
NEM2				*e*S	**Sb**	**05 16 57.8**	**0.0**
JNK	**Nakash**	**1.31**	**333**	P	**Pn**	**05 16 49.5**	**-0.6**
JOB	**Onbets**	**1.34**	**292**	P	**Pn**	**05 16 50.5**	**0.0**
JRA	**Rausu**	**1.55**	**349**	P	**Pn**	**05 16 53.2**	**-0.2**
JRA				*e*S	**Sn**	**05 17 12.6**	**-0.1**
JAR	**Ashorobuto**	**1.57**	**305**	P	**Pn**	**05 16 53.3**	**-0.3**
JAR				*e*S	**Sn**	**05 17 13.8**	**+0.7**
JCH	**Churui**	**1.62**	**278**	P	**Pn**	**05 16 54.2**	**-0.1**
JCH				*e*S	**Sn**	**05 17 14.6**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.64**	**8**	*e*PN	**Pn**	**05 16 54.0**	**-0.6**
YUK				*i* S	**Sn**	**05 17 14.2**	**-0.6**
YUK				pmax	pmax		
comp=E,190nm,0.4s							
YUK				pmax	pmax		
comp=Z,530nm,0.4s							
YUK				pmax	pmax		
comp=N,190nm,0.5s							
YUK				smax			
comp=N,2500μm,0.5s							
YUK				smax			
comp=E,5μm,0.6s							
JEM	**Erimo**	**1.81**	**258**	P	**Pn**	**05 16 57.4**	**+0.5**
ERM	**Erimo**	**1.81**	**258**	*e*PN	**Pn**	**05 16 57.2**	**+0.3**
ASAJ	**Asahikawa**	**2.74**	**309**	Pn	**Pn**	**05 17 10.9**	**+1.3**
comp=E,29nm,0.3s,baz=140,slow=13,SNR=89							
ASAJ				Sn	**Sn**	**05 17 45.0**	**+3.1**
comp=E,18nm,0.3s,baz=257,slow=18,SNR=6.5							
ASAJ	**Asahikawa**	**2.74**	**309**	PN	**Pn**	**05 17 11.0**	**+1.3**
ASAJ						05 17 45.1	
ASAJ				pmax	pmax		
comp=Z,29nm,0.3s							
ASAJ				smax			
comp=N,18nm,0.3s							
YSS	**Yuzh-Sakhalins**	**4.95**	**337**⇑	*i*PN	**Pn**	**05 17 46.3**	**+6.2**
MJAR	**Matsushiro Arr**	**8.15**	**226**	Pn	**Pn**	**05 18 23.1**	**-1.0**
comp=N,0.6nm,0.3s,baz=29,slow=15,SNR=4.9							
MJAR	**Matsushiro Arr**	**8.15**	**226**	PN	**Pn**	**05 18 23.1**	**-1.0**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**8.15**	**226**	*e*PN	**Pn**	**05 18 23.7**	**-0.4**
KLR	**Kul'dur**	**11.78**	**310**	*e*PN	**Pn**	**05 19 21.8**	**+8.1**
CIT	**Chita**	**23.58**	**305**	*e*P	**P**	**05 21 35.4**	**-0.7**
ULN	**Ulaanbaatar**	**27.48**	**295**	*e*P	**P**	**05 22 12.7**	**+1.2**
ULN				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.1							
ULN	**Ulaanbaatar**	**27.48**	**295**	*e*P	**P**	**05 22 12.7**	**+1.2**
comp=Z,6.0nm,1.0s,mb4.1							
SONM	**Songino Array**	**27.92**	**295**	P	**P**	**05 22 15.7**	**+0.2**
comp=Z,5.6nm,0.8s,mb4.2,baz=83,slow=8.3,SNR=27							
SONM	**Songino Array**	**27.92**	**295**	P	**P**	**05 22 15.7**	**+0.2**
SONM				pmax	pmax		
comp=Z,6.0nm,0.8s							
ZAK	**Zakamensk**	**29.87**	**300**	*e*P	**P**	**05 22 32.4**	**-0.4**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.1s,mb3.9							
LZH	**Lanzhou**	**32.65**	**273**	*e*P	**P**	**05 22 54.7**	**-2.5**
LZH				AMB	AMB		
comp=Z,16nm,1.1s,mb4.9							
CD2	**Chengdu**	**35.10**	**265**	*e*P	**P**	**05 23 18.8**	**+0.3**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
ZAL	**Zalesovo**	**40.89**	**308**	P	**P**	**05 24 07.2**	**-0.2**
comp=Z,1.3nm,0.5s,mb3.8,baz=22,slow=11,SNR=7.5							
ZAL	**Zalesovo**	**40.89**	**308**	P	**P**	**05 24 07.2**	**-0.1**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.5s							
MK31	**Makanchi Array**	**44.16**	**298**	*e*P	**P**	**05 24 33.3**	**-0.7**
MKAR	**Makanchi Array**	**44.16**	**298**	P	**P**	**05 24 33.8**	**-0.2**
comp=Z,2.1nm,0.8s,mb3.9,baz=78,slow=8.3,SNR=14							
MKAR	**Makanchi Array**	**44.16**	**298**	P	**P**	**05 24 33.8**	**-0.2**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**48.15**	**30**	P	**P**	**05 25 05.3**	**0.0**
comp=Z,3.6nm,0.6s,mb4.6,baz=302,slow=6.9,SNR=53							
INK	**Inuvik**	**48.15**	**30**	P	**P**	**05 25 05.3**	**0.0**
INK				pmax	pmax		
comp=Z,4.0nm,0.6s							
INK	**Inuvik**	**48.15**	**30**	*e*P	**P**	**05 25 05.5**	**+0.2**
comp=Z,109nm,0.5s							
BRVK	**Borovoye**	**49.49**	**310**	*e*P	**P**	**05 25 14.7**	**-0.9**
BRVK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
BRVK	**Borovoye**	**49.49**	**310**	*e*P	**P**	**05 25 14.7**	**-0.9**
comp=Z,4.3nm,0.7s,mb4.6							
ARU	**Arti**	**54.51**	**317**	*e*P	**P**	**05 25 50.8**	**-2.2**
ARU	**Arti**	**54.51**	**317**	*e*P	**P**	**05 25 52.0**	**-1.1**
comp=Z,5.3nm,0.8s,mb4.6							
RES	**Resolute Bay**	**56.58**	**16**	*e*P	**P**	**05 26 07.3**	**-0.6**
comp=Z,185nm,0.8s							
YKA	**Yellowknife Ar**	**57.57**	**33**	P	**P**	**05 26 15.2**	**+0.3**
comp=Z,1.2nm,0.7s,mb4.0,baz=304,slow=6.9,SNR=10							
YKA	**Yellowknife Ar**	**57.57**	**33**	P	**P**	**05 26 15.2**	**+0.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**57.57**	**33**	P	**P**	**05 26 15.2**	**+0.3**
ARCES	**ARCESS Array B**	**60.08**	**339**	P	**P**	**05 26 31.8**	**-0.5**
comp=Z,4.0nm,1.0s,mb4.4,baz=29,slow=7.6,SNR=2.9							
ARCES	**ARCESS Array B**	**60.08**	**339**	P	**P**	**05 26 31.8**	**-0.5**
ARCES				pmax	pmax		
comp=Z,4.0nm,1.0s							
WRA	**Warramunga Arr**	**62.90**	**192**	P	**P**	**05 26 54.2**	**+2.8**
comp=Z,0.5nm,0.6s,mb3.8,baz=8.5,slow=6.6,SNR=5.5							
WRA				pP	pP	05 27 00.8	+1.3
comp=Z,0.6nm,0.7s,baz=9.2,slow=6.7,SNR=5.1							
FINES	**FINESS Array B**	**65.52**	**333**	P	**P**	**05 27 07.9**	**-0.7**
comp=Z,5.6nm,0.7s,mb4.7,baz=58,slow=7.8,SNR=27							
FINES				pP	pP	05 27 14.3	-2.3
comp=Z,2.3nm,0.5s,baz=53,slow=7.0,SNR=3.3							
ASAR	**Alice Springs**	**66.62**	**192**	P	**P**	**05 27 20.6**	**+5.0**
comp=Z,0.1nm,0.3s,mb3.3,baz=11,slow=5.6,SNR=4.9							
ASAR				pP	pP	05 27 26.9	+3.1
comp=Z,0.5nm,0.8s,baz=9.8,slow=6.1,SNR=3.8							
BOZ	**Bozeman (W)**	**68.68**	**47**	*e*P	**P**	**05 27 30.2**	**+1.6**
BOZ				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
BOZ	**Bozeman (W)**	**68.68**	**47**	*e*P	**P**	**05 27 30.1**	**+1.5**
comp=Z,1.9nm,0.8s,mb4.1							
NVAR	**Mina Array Bea**	**69.30**	**57**	P	**P**	**05 27 34.7**	**+2.3**
comp=Z,0.3nm,0.5s,mb3.5,baz=297,slow=8.0,SNR=2.8							
NVAR				pP	pP	05 27 41.9	+1.3
comp=Z,0.6nm,0.7s,baz=301,slow=7.2,SNR=3.5							
NVAR	**Mina Array Bea**	**69.30**	**57**	P	**P**	**05 27 34.7**	**+2.3**
NVAR				pP	pP	05 27 41.9	+1.3
NB2	**NORSAR Subarra**	**70.41**	**338**	P	**P**	**05 27 38.8**	**-0.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=33,slow=6.5							
NOA	**NORSAR Array B**	**70.41**	**338**	P	**P**	**05 27 38.8**	**-0.5**
comp=Z,2.2nm,0.8s,mb4.1,baz=33,slow=6.3,SNR=5.3							
NOA	**NORSAR Array B**	**70.41**	**338**	P	**P**	**05 27 38.8**	**-0.5**
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**70.45**	**337**	P	**P**	**05 27 38.8**	**-0.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=44,slow=6.6,SNR=8.0							
HFS	**Hagfors**	**70.45**	**337**	P	**P**	**05 27 38.8**	**-0.8**
HFS				pmax	pmax		
comp=Z,2.0nm,0.7s							
PDAR	**Pinedale Array**	**71.68**	**49**	P	**P**	**05 27 48.0**	**+1.0**
comp=Z,0.5nm,0.7s,mb3.5,baz=218,slow=3.6,SNR=4.1							
AKASG	**Malin Array Be**	**71.95**	**323**	P	**P**	**05 27 47.5**	**-1.1**
comp=Z,0.5nm,0.4s,mb3.8,baz=44,slow=6.0,SNR=7.2							
AKASG	**Malin Array Be**	**71.95**	**323**	P	**P**	**05 27 47.5**	**-1.1**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.95**	**323**	P	**P**	**05 27 47.5**	**-1.1**
BRTR	**Keskin Array B**	**77.60**	**313**	P	**P**	**05 28 21.9**	**+0.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=104,slow=2.5,SNR=6.2							
BRTR	**Keskin Array B**	**77.60**	**313**	P	**P**	**05 28 21.9**	**+0.6**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.7s							
CLL	**Collm**	**77.94**	**332**	*e*P	**P**	**05 28 23.0**	**-0.2**
TXAR	**Lajitas Array**	**84.38**	**55**	P	**P**	**05 28 58.9**	**+1.4**
comp=Z,0.8nm,0.7s,mb3.9,baz=316,slow=3.5,SNR=4.7							
TXAR	**Lajitas Array**	**84.38**	**55**	P	**P**	**05 28 58.9**	**+1.5**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**115.50**	**320**	PKP	PKPdf	05 35 06.9	-0.2
comp=Z,0.2nm,0.4s,baz=14,slow=1.6,SNR=4.0							

JMA 03 05:33:18.7±0.4,**4619N**×**15202E**,**h30**km,**M4.2**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.29**	**240**	P	Pn	05 34 34.8	-0.8
NEM2				*e*S	Sn	05 35 31.1	-4.4
JRA	**Rausu**	**5.38**	**248**	P	Pn	05 34 39.2	+2.3
JNK	**Nakash**	**5.80**	**246**	P	Pn	05 34 43.9	+1.2
JAK	**Akkeshi**	**6.13**	**241**	P	Pn	05 34 46.4	-0.7
JAK				*e*S	Sn	05 35 51.9	-4.3
JAR	**Ashorobuto**	**6.55**	**247**	P	Pn	05 34 54.4	+1.5
JKK2	**Kamakawa 2**	**6.97**	**254**	P	Pn	05 35 01.8	+3.1
JCH	**Churui**	**7.16**	**243**	P	Pn	05 35 00.8	-0.5
JCH				*e*S	Sn	05 36 16.4	-5.1
JNBK	**Urakawa-nobuka**	**7.72**	**243**	P	Pn	05 35 08.3	-0.7

ISCJB ***03*** *05:39:21.7±1.5, 2379N±008×121.14E±006, h5km±9km, mb3.4/4, Error ellipse: s-maj=13.1km s-min=8.1km az=147.9*

IDC ***03*** *05:39:22.2±1.1, 2372N×12121E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=38.9km s-min=21.0km az=70.0*

NEIC ***03*** *05:39:22.6±3.0, 2375N×12122E, h4km±19km, MG3.2(JMA), Error ellipse: s-maj=22.9km s-min=14.3km az=49.0*

JMA ***03*** *05:39:25.8±0.3, 2411N×12109E, h80km, M3.2*

ISC 03 05:39:22.8±1.7,**2379N**±008×**12118E**±006,**h1**km±10km, **n16**,σ0°**84**/22,**mb3.5**/4,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.54**	**45**	*e*Pg	**Pg**	**05 39 33.5**	**+0.4**
NACB				*e*Sg	**Sg**	**05 39 39.9**	**-0.2**
YHNB	**Yeheng**	**0.89**	**12**	*e*Pg	**Pg**	**05 39 38.3**	**-1.7**
YHNB				*e*Sg	**Sg**	**05 39 51.5**	**0.0**
TATO	**Taipei**	**1.21**	**13**	*e*Pg	**Pg**	**05 39 45.9**	**-0.1**
YOJ	**

PXZ	Pawanui	1.78 119	PN	Pn	05 47 21.9 -0.1
TIWZ	Tintock	1.79 154	PN	Pn	05 47 21.8 -0.3
BFZ	Birch Farm	1.85 145	P	Pn	05 47 22.2 -0.5
BFZ	Birch Farm	1.85 145	PN	Pn	05 47 22.2 -0.4
CAW	Cannon Point	1.94 175 ⇑	P	Pn	05 47 23.0 -0.5
CAW	Cannon Point	1.94 175 ⇑	PN	Pn	05 47 23.0 -0.5
URZ	Urewera	2.00 63	P	Pn	05 47 22.0 -2.1
URZ	Urewera	2.00 63	PN	Pn	05 47 22.0 -2.2
MTW	Mount Morrison	2.04 166	PN	Pn	05 47 23.8 -0.7
MRW	Makara Radio	2.05 183 ⇑	P	Pn	05 47 24.1 -0.5
MRW	Makara Radio	2.05 183 ⇑	PN	Pn	05 47 24.1 -0.6
TCW	Tory Channel	2.08 192	PN	Pn	05 47 24.4 -0.5
WEL	Wellington	2.10 181	P	Pn	05 47 24.3 -0.9
WEL	Wellington	2.10 181	PN	Pn	05 47 24.3 -0.9
SNZO	South Karori	2.13 183	PN	Pn	05 47 24.6 -0.8
PAWZ	Paruwai Farm	2.25 169 ⇑	P	Pn	05 47 25.9 -0.7
PAWZ	Paruwai Farm	2.25 169 ⇑	PN	Pn	05 47 25.9 -0.7
MSWZ	Moikau Station	2.26 172 ⇑	P	Pn	05 47 25.9 -0.8
MSWZ	Moikau Station	2.26 172 ⇑	PN	Pn	05 47 25.9 -0.8
TRWZ	Traveller	2.31 164	PN	Pn	05 47 26.6 -0.7
NNZ	Nelson	2.32 208 ⇑	P	Pn	05 47 26.4 -1.0
NNZ	Nelson	2.32 208 ⇑	PN	Pn	05 47 26.4 -1.1
TUWZ	Tuamarina	2.35 197	PN	Pn	05 47 26.9 -0.8
QRZ	Quartz Range	2.42 226	P	Pn	05 47 26.4 -2.0
QRZ	Quartz Range	2.42 226	PN	Pn	05 47 26.4 -2.0
CRLZ	Canterbury Las	4.70 200	P	Pn	05 47 52.3 -3.2
MQZ	McQueen's Vall	4.81 199	P	Pn	05 47 53.5 -3.4

PRU ***03*** *05:56:01.2, 4266N×1755E, h0km*

CSEM ***03*** *05:56:04.8±0.2, 4317N×1829E, h1km±1km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.6km az=52.0*

BEO ***03*** *05:56:04.3±0.1, 4328N×1807E, h8km*

PDG ***03*** *05:56:05.4±0.3, 4309N×1831E, h11km±1km*

NEIC ***03*** *05:56:05.4, 4309N×1831E, h11km, MD2.8(PDG), After PDG.*

ISCJB ***03*** *05:56:05.4±0.2, 4309N±002×1831E±002, h10km, Error ellipse: s-maj=2.5km s-min=1.9km az=72.5*

SKO ***03*** *05:56:10.9, 4324N×1882E, h11km*

ISC 03 05:56:06.9±0.2, 4308N±002×1833E±002, h10km, n66, σ1º45/106, 21C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.24	139	⇑iPg	Pg	05 56 09.9	-1.8
BRY				eSg	Sg	05 56 14.9	-0.1
BRY	Bratogost	0.24	139	⇑iPg	Pg	05 56 09.9	-1.9
BRY				eSg	Sg	05 56 14.9	-0.1
TREB	Trebinje	0.36	178	P	Pg	05 56 11.9	-2.1
UPM	Unac-Piva	0.44	74	⇓iPg	Pg	05 56 13.4	-2.1
UPM				eSg	Sg	05 56 21.2	-0.2
STON	Ston	0.51	246	iPg	Pg	05 56 12.9	-3.8
STON				iSg	Sg	05 56 20.3	-3.1
NKY	Niksic	0.56	118	⇑iPg	Pg	05 56 15.8	-1.9
NKY				eSg	Sg	05 56 25.6	+0.5
HCY	Herceg Novi	0.64	169	⇑iPg	Pg	05 56 17.1	-2.2
HCY				eSg	Sg	05 56 28.1	+0.3
PLE	Pljevlja	0.82	72	⇓iPg	Pg	05 56 20.9	-1.7
PLE				eSg	Sg	05 56 33.7	+0.4
BUM	Brajici-Budva	0.89	151	⇑iPg	Pg	05 56 22.5	-1.4
BUM				eSg	Sg	05 56 36.8	+1.3
TTG	Podgorica	0.94	133	⇑iPg	Pg	05 56 22.8	-2.3
TTG				eSg	Sg	05 56 38.8	+1.5
BBLS	Bajina Basta -	1.11	45	⇑iPg	Pg	05 56 25.3	-3.0
BBLS				Sg	Sg	05 56 40.8	-2.0
IVA	Berane	1.17	100	⇓iPg	Pg	05 56 27.9	-1.5
IVA				eSg	Sg	05 56 46.1	+1.6
SJES	Sjenica	1.20	80	Pg	Pg	05 56 29.9	+0.1
PVY	Plav	1.30	111	⇑iPg	Pg	05 56 30.0	-1.9
PVY				eSg	Sg	05 56 51.0	+2.2
PVY	Plav	1.30	111	⇑iPg	Pg	05 56 30.0	-1.9
PVY				eSg	Sg	05 56 51.0	+2.2
ULC	Ulcinj	1.31	148	⇑iPg	Pg	05 56 30.1	-1.9
ULC				eSg	Sg	05 56 50.9	+2.0
PUK	Puka	1.55	131	iPg	Pg	05 56 35.9	-0.8
DIVS	Divcibare	1.58	49	⇑iPn	Pn	05 56 34.0	-0.9
DIVS				Sg	Sg	05 56 56.8	-0.9
GRUS	Gruza	1.92	64	⇑iPn	Pn	05 56 40.1	+0.6
GRUS				Sg	Sg	05 57 07.1	-1.3
PHP	Peshkopia	2.10	131	iPg	Pn	05 56 44.2	+2.2
PHP				iSg	Sg	05 57 16.0	+1.8
FGMS	Monte Sant'Ang	2.23	233	Pn	Pn	05 56 44.0	+0.1
BEO	Belgrade	2.32	41	ePn	Pn	05 56 44.7	-0.4
BEO				Sg	Sn	05 57 14.8	+1.1
FGSL	Fruska Gora	2.33	27	Pn	Pn	05 56 43.7	-1.6
FGSL				Sg	Sn	05 57 13.5	-0.5
SVIS	Svilajnac	2.42	59	ePn	Pn	05 56 47.0	+0.5
SVIS				Sn	Sn	05 57 19.2	+2.9
RGNG	Rignano Grg	2.47	236	Pn	Pn	05 56 44.8	-2.4
SG1	Sgolgore (BA)	2.55	209	ePn	Pn	05 56 50.1	+1.8
BARS	Barje	2.58	95	ePn	Pn	05 56 49.4	+0.8
BARS				Sn	Sn	05 57 22.2	+2.1
OHR	Ohrid	2.69	136	ePn	Pn	05 56 52.5	+2.3
OHR				eSg	Sg	05 57 34.5	+1.2
OHR	Ohrid	2.69	136	ePn	Pn	05 56 52.5	+2.3
OHR				eSg	Sg	05 57 34.5	+1.2
OHR	Ohrid	2.69	136	ePn	Pn	05 56 52.4	+2.2
OHR				eSg	Sg	05 57 34.5	+1.1
KRUS	Krusevo	2.76	127	ePn	Pn	05 56 53.4	+2.2
KRUS				eSg	Sg	05 57 32.0	-3.6
KRUS	Krusevo	2.76	127	ePn	Pn	05 56 53.4	+2.2
KRUS				eSg	Sg	05 57 32.0	-3.6
KRUS	Krusevo	2.76	127	ePn	Pn	05 56 53.4	+2.2
KRUS				eSg	Sg	05 57 31.9	-3.7
FG4	Candela	2.86	228	Pn	Pn	05 56 52.8	+0.3
NVLJ	Novalja	2.91	302	iPn	Pn	05 56 53.3	+0.1
NVLJ				iSn	Sn	05 57 32.6	+4.5
NVLJ	Novalja	2.91	302	iPn	Pn	05 56 53.2	0.0
PKSM	Moragy	3.14	4	⇓iP	Pn	05 56 54.3	-2.1
PKSM	Moragy	3.14	4	⇓ePn	Pn	05 56 54.4	-2.0
MIDA	Miranda	3.34	246	Pn	Pn	05 56 59.3	+0.1
INTR	Introdacqua	3.44	253	Pn	Pn	05 56 59.8	-0.7
BZS	Buzias	3.46	42	⇑iP	Pn	05 57 04.4	-0.4
SDI	San Donato	3.62	249	Pn	Pn	05 57 03.0	+0.1
AQU	L'Aquila	3.70	260	ePn	Pn	05 57 02.2	-1.9
TDS	Terranova Siba	3.73	204	Pn	Pn	05 57 04.1	-0.4
NRCA	Norcia	3.84	268	Pn	Pn	05 57 05.0	-0.9
GZR	Gura Zlata	3.94	53	⇑iP	Pn	05 57 06.9	-0.5
VOY	Vojsko	4.33	314	ePn	Pn	05 57 13.1	+0.4
VOY				e		05 57 26.8	
VOY				eSn	Sn	05 58 06.2	+2.9
OBKA	Obir	4.36	323	⇓iPn	Pn	05 57 12.9	-0.2
OBKA				iSn	Sn	05 58 07.0	+3.1
OBKA	Obir	4.36	323	Pn	Pn	05 57 12.9	-0.2
OBKA				Sn	Sn	05 58 07.1	+3.2
ARSA	Arzberg	4.62	336	⇓iPn	Pn	05 57 16.0	-0.7
ARSA				⇓iSn	Sn	05 58 11.6	+1.2
DRGR		4.84	38	⇑iP	Pb	05 57 34.0	+2.2
PTCC	Patocco-Chiusa	4.86	315	Pn	Pn	05 57 20.1	+0.1
FVI	Forni Avoltri	5.28	314	Pn	Pn	05 57 26.1	+0.3
	8.5nm,0.5s						
VYHS	Vyhne	5.43	4	ePN	Pn	05 57 28.9	+1.1
VYHS				eSN	Sn	05 58 29.0	-1.3
MOA	Molln	5.56	330	⇓iPn	Pn	05 57 29.2	-0.5
MOA				⇓iSn	Sn	05 58 35.4	+1.8
CTI	Castel Tesino	5.62	304	Pn	Pn	05 57 29.3	-1.1
	7.5nm,0.3s						
WTTA	Wattenberg	6.31	314	⇓iSn	Sn	05 58 54.5	+2.4
WTTA	Wattenberg	6.31	314	⇑iPn	Pn	05 57 40.6	+0.6
WTTA				⇑iSn	Sn	05 58 53.5	+1.4
WTTA	Wattenberg	6.31	314	⇑iPn	Pn	05 57 40.6	+0.6
WTTA				iSn	Sn	05 58 54.5	+2.4
SQTA	Sankt Quirin	6.52	312	⇓iSn	Sn	05 58 60.0	+2.8
SQTA	Sankt Quirin	6.52	312	⇑iPn	Pn	05 57 43.7	+0.9
SQTA				iSn	Sn	05 58 60.0	+2.8
SQTA	Sankt Quirin	6.52	312	Pn	Pn	05 57 43.7	+0.9
MOTA	Moosalm	6.65	312	⇓iSn	Sn	05 59 02.7	+2.3
MOTA	Moosalm	6.65	312	⇑iPn	Pn	05 57 45.0	+0.4
MOTA				⇓iSn	Sn	05 58 58.4	-2.0
MOTA	Moosalm	6.65	312	⇑iPn	Pn	05 57 45.0	+0.4
MOTA				iSn	Sn	05 59 02.7	+2.3
KHC	Kasperske Hory	6.89	333	ePN	Pn	05 57 50.3	+2.4
KHC				ex	x	05 57 56.0	
KHC				eSN	Sn	05 59 01.5	-4.9

ISCJB ***03*** *06:16:22.0±1.5, 483N±02×1540E±02, h98km±13km, mb3.5/7, Error ellipse: s-maj=32.7km s-min=10.5km az=99.0*

MOS ***03*** *06:16:23.2±1.2, 4827N×1538.4E, h112km, mb3.7/5, Error ellipse: s-maj=33.7km s-min=18.6km az=59.1*

IDC ***03*** *06:16:27.1±4.4, 4818N×1537.9E, h131km±41km, mb3.3/7, mb1 3.5/8, mb1mx3.3/24, mbtmp3.4/8, Error ellipse: s-maj=31.3km s-min=17.0km az=117.0*

ISC 03 06:16:23.5±1.4, 483N±02×1540E±02, h99km±12km, n16, σ1º04/17, mb3.5/7, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.76	30	ePN	Pn	06 17 07.0	+1.0
SKR				eS	Sn	06 17 37.1	-1.6
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,120nm,0.2s						
SKR				smax			
	comp=E,330nm,0.2s						
YSS	Yuzh-Sakhalins	7.70	264	⇑iPN	Pn	06 18 12.2	-0.6
ASAJ	Asahikawa	8.93	246	P	Pn	06 18 31.0	+1.5
	comp=E,1.1nm,0.3s,baz=93,slow=16,SNR=9.3						
ASAJ	Asahikawa	8.93	246	PN	Pn	06 18 31.0	+1.5
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	Korea Array	21.85	250	P	P	06 21 07.2	-0.7
	comp=Z,1.2nm,0.7s,mb3.3,baz=45,slow=10,SNR=4.2						
INK	Inuvik	40.03	33	P	P	06 23 50.1	+1.3
	comp=Z,1.2nm,1.0s,mb3.7,baz=335,slow=5.6,SNR=4.6						
INK	Inuvik	40.03	33	P	P	06 23 50.1	+1.4
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	Makanchi Array	46.76	296	P	P	06 24 42.8	+0.1
	comp=Z,0.9nm,0.9s,mb3.5,baz=72,slow=7.8,SNR=4.3						
MKAR	Makanchi Array	46.76	296	P	P	06 24 42.8	+0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	49.34	38	P	P	06 25 03.5	+0.9
	comp=Z,0.7nm,0.8s,mb3.6,baz=300,slow=6.8,SNR=3.6						
YKA	Yellowknife Ar	49.34	38	P	P	06 25 03.5	+0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	62.88	335	P	P	06 26 38.8	-0.2
	comp=Z,0.6nm,0.4s,mb3.9,baz=35,slow=7.0,SNR=8.4						
FINES	FINESS Array B	62.88	335	P	P	06 26 38.8	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	70.17	200	P	P	06 27 23.7	-1.7
	comp=Z,0.7nm,0.7s,mb3.6,baz=16,slow=6.4,SNR=9.7						
WRA	Warramunga Arr	70.17	200	P	P	06 27 23.7	-1.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	73.87	199	P	P	06 27 47.4	-0.1
	comp=Z,0.3nm,0.5s,mb3.3,baz=12,slow=5.5,SNR=8.8						

IDC ***03*** *06:18:59.8±0.7, 4660N×1545.9E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.9/25, mbtmp3.8/16, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/44, Error ellipse: s-maj=22.3km s-min=15.7km az=146.0*

ISCJB ***03*** *06:19:00.8±3.7, 466N±0.1×1545E±02, h18km±26km, mb3.7/14, Error ellipse: s-maj=23.2km s-min=11.4km az=91.4*

MOS ***03*** *06:19:03.2±0.7, 4663N×1544.1E, h36km, mb4.2/5, Error ellipse: s-maj=21.6km s-min=15.8km az=52.9*

ISC 03 06:19:03.8±4.0, 4668N±010×1545E±02, h26km±28km, n25, σ0º88/26, mb3.7/14, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.15	14	ePN	Pn	06 20 06.0	+0.6
SKR				eS	Sn	06 20 50.0	-3.0
KUR	Kuril'sk	4.85	255	⇓iPN	Pn	06 20 13.7	-1.3
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
ASAJ	Asahikawa	8.76	257	Pn	Pn	06 21 10.4	+1.7
	comp=Z,0.5nm,0.3s,baz=76,slow=19,SNR=3.7						
ASAJ	Asahikawa	8.76	257	PN	Pn	06 21 10.5	+1.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	15.82	236	Pn	Pn	06 22 43.5	-1.1
	comp=Z,0.1nm,0.3s,baz=29,slow=20,SNR=3.1						
KSRS	Korea Array	21.70	254	P	P	06 23 53.1	+0.4
	comp=Z,0.9nm,0.8s,mb3.3,baz=55,slow=10,SNR=3.1						
SONM	Songino Array	32.26	290	P	P	06 25 30.1	0.0
	comp=Z,0.2nm,0.5s,mb3.2,baz=82,slow=6.7,SNR=2.5						
INK	Inuvik	41.20	32	P	P	06 26 46.3	+0.1
	comp=Z,0.7nm,0.6s,mb3.5,baz=193,slow=8.2,SNR=8.6						
INK	Inuvik	41.20	32	P	P	06 26 46.3	+0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	47.82	298	P	P	06 27 38.8	-0.3
	comp=Z,0.4nm,0.6s,mb3.6,baz=57,slow=7.3,SNR=4.4						
YKA	Yellowknife Ar	50.41	37	P	P	06 27 58.9	0.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=300,slow=7.1,SNR=5.8						
ARCES	ARCESS Array B	58.23	341	P	P	06 28 56.1	+0.2
	comp=Z,8.1nm,1.1s,mb4.7,baz=24,slow=8.0,SNR=12						
ARCES	ARCESS Array B	58.23	341	P	P	06 28 56.1	+0.3
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NVAR	Mina Array Bea	61.62	63	P	P	06 29 19.4	+0.4
	comp=Z,0.4nm,0.5s,mb3.8,baz=300,slow=7.9,SNR=3.7						
PDAR	Pinedale Array	64.01	55	P	P	06 29 34.8	-0.3
	comp=Z,0.8nm,0.8s,mb3.8,baz=318,slow=2.0,SNR=4.7						
FINES	FINESS Array B	64.51	335	P	P	06 29 38.5	+0.2
	comp=Z,2.4nm,0.7s,mb4.3,baz=40,slow=7.9,SNR=13						
FINES	FINESS Array B	64.51	335	P	P	06 29 38.5	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	NORSAR Array B	68.60	342	P	P	06 30 06.3	+1.9
	comp=Z,1.5nm,1.0s,mb3.9,baz=105,slow=3.5,SNR=3.5						
NOA	NORSAR Array B	68.60	342	P	P	06 30 06.3	+1.9
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	Warramunga Arr	68.77	200	P	P	06 30 04.8	-0.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=22,slow=6.7,SNR=5.1						
AKASG	Malin Array Be	72.13	327	P	P	06 30 25.3	-0.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=32,slow=5.8,SNR=4.2						
ASAR	Alice Springs	72.45	200	P	P	06 30 28.1	+0.1
	comp=Z,0.5nm,0.6s,mb3.6,baz=9.5,slow=4.8,SNR=9.2						
ASAR	Alice Springs	72.45	200	P	P	06 30 28.1	+0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	76.69	61	P	P	06 30 52.4	-0.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=304,slow=5.3,SNR=14						
TXAR	Lajitas Array	76.69	61	P	P	06 30 52.4	-0.1
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						

MAN ***03*** *06:37:52.7, 583N×12652E, h66km, mb3.9, ML4.9, MS3.9*

ISCJB ***03*** *06:37:54.5±0.9, 585N±0.10×1264E±0.1, h35km, mb3.5/4, Error ellipse: s-maj=22.8km s-min=8.1km az=112.6*

IDC ***03*** *06:38:14.1±4.5, 354N×12781E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=107.3km s-min=67.2km az=83.0*

ISC 03 06:37:56.0±0.9, 59N±01×1264E±01, h35km, n10, σ1º08/11, mb3.5/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.04	351	eP	Pn	06 38 13.7	-0.4
MATI	Mati	1.04	351	eP	Pn	06 38 13.7	-0.4
GSPH	General Santos	1.47	277	iP	Pn	06 38 18.0	-1.9
KCP	Kidapawan	1.71	310	⇑eP	Pn	06 38 22.3	-0.9
KCP				iS	Sn	06 38 45.8	+1.8
BUKP	Musuan	2.38	326	eP	Pn	06 38 32.5	+0.1
BUKP	Musuan	2.38	326	eP	Pn	06 38 32.5	+0.1
FITZ	Fitzroy Crossi	23.87	182	P	P	06 43 07.5	+1.4
	1.3nm,0.7s,mb3.4,baz=14,slow=12,SNR=3.4						
WRA	Warramunga Arr	26.84	163	P	P	06 43 33.8	+0.7
	0.4nm,0.6s,mb3.2,baz=342,slow=10.0,SNR=6.0						
ASAR	Alice Springs	30.29	166	P	P	06 44 03.1	-0.7
	0.3nm,0.4s,mb3.3,baz=346,slow=7.0,SNR=6.4						
STKA	Stephens Creek	40.26	160	P	P	06 45 29.3	-0.2
	2.2nm,0.9s,mb3.9,baz=338,slow=5.4,SNR=3.3						

STR ***03*** *06:41:42.2±0.7, 4760N×763E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***03*** *06:41:43.5±0.1, 4759N×756E, h2km, Md2.0/3, Ml1.9/5, Error ellipse: s-maj=2.5km s-min=1.3km az=105.0*

ZUR 03 06:41:43.2, 4759N×760E, h5km±1km, ML0.9, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.26	165	⇓iPg	Pg	06 41 48.5	+0.3
	31nm,0.3s						
BOURR	Bourrignon	0.32	233	⇑iPg	Pg	06 41 49.7	+0.4
	27nm,0.7s						
SULZ	Sulz-Cheisache	0.35	99	⇑iPg	Pg	06 41 50.2	+0.2
	9.3nm,0.3s						
MOF	Molkenrain	0.41	310	Pg	Pg	06 41 49.5	-1.7
MOF				Sg	Sg	06 41 57.0	+0.5
HINF	Hinteralfeld	0.56	295	ePg	Pg	06 41 53.4	-0.5
HINF				eSg	Sg	06 42 00.7	-0.4
	4.2nm,0.2s						
SLE	Schleitheim	0.63	73	ePg	Pg	06 41 55.1	-0.2
	18nm,0.1s						
CDF	Champ du Feu	0.86	345	ePg	Pg	06 41 59.5	-0.1
CDF				eSg	Sg	06 42 10.2	-0.5
	6.4nm,0.5s						
HAU	Haudompre	0.94	297	ePg	Pg	06 42 00.8	-0.5
HAU				eSg	Sg	06 42 13.2	-0.3
	3.6nm,0.2s						
CABF	La Chapelle	1.42	227	ePg	Pg	06 42 10.0	-0.4
CABF				eSg	Sg	06 42 28.0	-0.8
	2.7nm,0.4s						
LOR	Lormes	2.56	264	ePg	Pg	06 42 30.5	-1.8
LOR				eSg	Sg	06 43 02.6	-2.8
	0.7nm,0.3s						
SMF	Signal de Mont	2.73	251	ePg	Pg	06 42 33.8	-1.8
SMF				eSg	Sg	06 43 08.7	-2.3
	0.8nm,0.2s						

IDC ***03*** *06:42:07.8±0.6, 1440N×9203W, h0km, mb4.5/15, mb1 4.7/17, mb1mx4.6/20, mbtmp4.5/17, ML4.8/2, MS3.9/17, Ms1 3.8/17, ms1mx3.8/28, Error ellipse: s-maj=24.9km s-min=13.3km az=57.0*

BJI ***03*** *06:42:09.9, 1440N×9270W, h40km, mB5.2, Ms5.1, Msz4.6*

MOS ***03*** *06:42:10.9±0.9, 1427N×9216W, h33km, mb5.0/25, Error ellipse: s-maj=14.4km s-min=5.3km az=102.8*

ISCJB ***03*** *06:42:13.8±0.5, 1435N±003×9234W±003, h48km±4km, mb4.8/70, MS4.0/17, Error ellipse: s-maj=5.6km s-min=3.3km az=68.4*

CASC ***03*** *06:42:13.6±2.4, 1411N×9261W, h65km±74km, MD4.7, ML3.9, mb4.9(NEIC)*

MEX ***03*** *06:42:17.7±0.7, 1444N×9281W, h96km±12km, MD4.6*

NEIC ***03*** *06:42:18.9, 1445N×9272W, h40km, mb4.9/69, MD4.6(MEX), After MEX.*

ISC 03 06:42:16.7±0.4, 1438N±003×9231W±003, h56km±4km, h43km±1.8km: pP-P, n449, σ0º93/425, mb4.8/70, MS4.0/17, 77C-82D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.66	96	eP	Pn	06 42 31.7	+1.5
FUG	Fuego 3	1.43	87	⇓iP	Pn	06 42 41.5	+1.2
TER	Terranova	1.58	93	⇓eP	Pn	06 42 43.0	+0.6
PCG	Pacaya	1.65	89	⇓eP	Pn	06 42 44.9	+1.5
CCIG	Comitan	1.90	5	eP	Pn	06 42 48.7	+2.1
CCIG				iS	Sn	06 43 11.9	+2.5
CCIG	Comitan	1.90	5	eP	Pn	06 42 48.7	+2.1
CCIG				iS	Sn	06 43 08.4	-1.0
RBDL	Robledal	2.56	96	eP	x	06 42 57.8	
RTR	El Retiro	2.63	100	eP	x	06 42 58.3	
SBLS	San Blas	2.67	101	eP	x	06 42 58.5	
SBLS				eS	x	06 43 31.1	
SNJE	San Jose	2.68	101	⇑eP	x	06 42 59.1	
MTO2	Montecristo 2	2.86	89	eP	x	06 43 01.6	
MTO2				eS	x	06 43 41.1	
BOQS	Boqueron	3.01	102	⇑eP	x	06 43 03.4	
BOQS				eS	x	06 43 39.8	
SNET	Serv Nac Est T	3.07	103	eP	x	06 43 02.0	
LFU	La Fuente	3.17	101	eP	x	06 43 05.7	
LBRS	Las Brisas	3.24	101	⇑eP	x	06 43 06.5	
LFRS	El Faro	3.25	103	eP	x	06 43 06.5	
LCBS	La Ceiba	3.32	102	⇓eP	x	06 43 07.8	
SNVI	San Vicente	3.46	102	eP	x	06 43 09.8	
SNVI				eS	x	06 43 52.5	
CMIG	Matias Romero	3.66	318	Pn	Pn	06 43 07.2	-3.5
	57nm,0.3s,baz=141,slow=11,SNR=739						
CMIG				Sn	Sn	06 43 48.9	-3.7
	286nm,0.3s,baz=60,slow=4.7,SNR=10.0						
CMIG				Lg		06 44 04.8	
	294nm,0.3s,baz=44,slow=23,SNR=7.7						
CMIG	Matias Romero	3.66	318	eP	Pn	06 43 07.3	-3.4
CMIG				iS	Sn	06 43 45.0	-7.6
CMIG	Matias Romero	3.66	318	Pn	Pn	06 43 07.2	-3.5
CMIG				iS	Sn	06 43 47.0	-5.6
CMIG				Sn	Sn	06 43 48.9	-3.7
CMIG				Lg		06 44 04.8	
HUIG	Huatulco	3.92	291	eP	Pn	06 43 07.7	-6.6
HUIG				iS	Sn	06 43 47.6	-11
VSM	San Miguel	4.04	103	eP	x	06 43 18.5	
VSM				eS	x	06 44 09.2	
BLLM	Bellamira	4.07	103	eP	x	06 43 17.4	
BLLM				eS	x	06 44 08.6	
TUIG	Tuzandepetl	4.16	331	eP	Pn	06 43 15.6	-2.0
TUIG				iS	Sn	06 43 59.8	-5.1
TUIG	Tuzandepetl	4.16	331	eP	Pn	06 43 15.6	-2.0
TUIG				iS	Sn	06 44 02.1	-2.8
CNCH	Conchagua	4.49	104	eP	x	06 43 23.6	
CNC

PRS1	Puriscal	8.96	118	eP		Pn	06 44 25.0 +1.6
OCM	Ochomogo	9.30	118	eP		Pn	06 44 28.4 +0.3
PICA	Picada	9.39	117	eP		Pn	06 44 30.5 +1.2
MOIG	Morelia	9.99	303	i P		Pn	06 44 36.0 -1.5
MOIG				i S		Sn	06 46 18.9 -9.0
MOIG	Morelia	9.99	303	i P		Pn	06 44 37.2 -0.2
SOR	Soroa	12.15	45	ePG		Pn	06 45 08.8 +1.8
	baz=254						
SOR				eSG		Sn	06 47 23.0 +2.1
	comp=N,1μm,0.6s						
SOR				e			
	comp=E,1μm,0.6s						
BCIP	Isla Barro Col	13.27	112	ePn		Pn	06 45 21.2 -1.0
MGV	Manicaragua	14.01	55	eP		Pn	06 45 35.0 +2.8
	baz=257						
MGV				eS		Sn	06 48 06.4 +0.4
	comp=N,20nm,1.9s						
MGV				e			
	comp=E,35nm,1.6s						
PAYG	Puerto Ayora	15.09	172	eP		Pn	06 45 50.8 +4.4
	comp=E,26nm,0.8s						
HKT	Hockley	15.83	349	eP		Pn	06 45 55.1 -0.8
HKT				pmax		pmax	
	comp=Z,104nm,1.9s						
HKT	Hockley	15.83	349	eP		Pn	06 45 55.1 -0.8
	comp=Z,104nm,1.9s						
DWPF	Disney	17.00	35	eP		Pn	06 46 11.7 +1.2
	comp=Z,53nm,0.8s						
JCT	Junction City	17.44	338	eP		Pn	06 46 16.4 +0.4
JCT				pmax		pmax	
	comp=Z,12nm,0.6s						
JCT	Junction City	17.44	338	eP		Pn	06 46 16.4 +0.4
	comp=Z,12nm,0.6s						
LTX	Lajitas	18.21	327	eP		Pn	06 46 25.7 +0.3
LTX				pmax		pmax	
	comp=Z,59nm,1.3s						
LTX	Lajitas	18.21	327	eP		Pn	06 46 25.7 +0.3
	comp=Z,59nm,1.3s						
TXAR	Lajitas Array	18.21	327	P		Pn	06 46 25.5 +0.1
	comp=Z,0.8nm,0.3s,baz=152,slow=14,SNR=71						
TXAR				LR		LR	06 55 27.6
	comp=Z,124nm,19.1s,baz=180,slow=44						
LRAL	Lakeview Retre	19.19	14	eP		Pn	06 46 35.5 -1.6
	comp=Z,36nm,0.5s						
LPIG	La Paz	19.53	302	LR		LR	06 54 02.7
	comp=Z,280nm,19.5s,baz=194,slow=36						
OTAV	Otavalo	19.64	135	eP		Pn	06 46 40.8 -1.7
	comp=Z,28nm,1.3s						
ROSC	El Rosal	20.08	116	P		P	06 46 47.5 +2.0
	comp=Z,1.1nm,0.3s,baz=95,slow=2.0,SNR=48						
ROSC	El Rosal	20.08	116	eP		P	06 46 47.8 +2.3
MIAR	Mount Ida	20.11	357	eP		P	06 46 46.0 +0.2
MIAR				pmax		pmax	
	comp=Z,41nm,0.8s						
MIAR	Mount Ida	20.11	357	eP		P	06 46 46.0 +0.2
	comp=Z,41nm,0.8s						
OXF	Oxford	20.21	7	eP		P	06 46 47.0 +0.1
OXF				pmax		pmax	
	comp=Z,84nm,0.9s						
OXF	Oxford	20.21	7	eP		P	06 46 47.0 +0.1
	comp=Z,84nm,0.9s						
UALR	University of	20.30	360	eP		P	06 46 48.5 +0.6
	comp=Z,118nm,1.1s						
GOGA	Godfrey	20.58	21	eP		P	06 46 50.3 -0.6
GOGA				e			06 47 04.3
GOGA				pmax		pmax	
	comp=Z,18nm,0.5s						
GOGA	Godfrey	20.58	21	eP		P	06 46 50.3 -0.6
	comp=Z,18nm,0.5s						
GOGA				e			06 47 04.3
PLAL	Pickwick Lake	20.86	10	eP		P	06 46 52.4 -1.5
	comp=Z,11nm,0.6s						
GDL2	Guadalupe Moun	20.87	330	eP		P	06 46 54.5 +0.4
MNTX	Cornudas Mount	20.98	327	eP		P	06 46 54.6 -0.6
	comp=Z,37nm,0.9s						
WMOK	Wichita Mounta	21.09	345	eP		P	06 46 56.2 -0.2
WMOK				pmax		pmax	
	comp=Z,15nm,0.6s,mb4.5						
WMOK	Wichita Mounta	21.09	345	eP		P	06 46 56.2 -0.2
	comp=Z,15nm,0.6s,mb4.5						
NHSC	New Hope	21.66	29	eP		P	06 47 02.1 -0.4
	comp=Z,96nm,1.4s,mb5.0						
NHSC				e			06 47 16.4
SDV	Santo Domingo	21.92	102	P		P	06 47 01.6 -3.7
	comp=Z,15nm,0.9s,mb4.4,baz=332,slow=12,SNR=14						
SDV	Santo Domingo	21.92	102	eP		P	06 47 02.7 -2.5
WVT	Waverly	22.03	10	eP		P	06 47 04.8 -1.6
WVT				pmax		pmax	
	comp=Z,15nm,0.8s,mb4.5						
WVT	Waverly	22.03	10	eP		P	06 47 04.8 -1.6
	comp=Z,15nm,0.8s,mb4.5						
UTMT	University of	22.09	7	eP		P	06 47 06.2 -0.8
	comp=Z,69nm,0.9s,mb5.1						
AMTX	Amarillo	22.09	339	eP		P	06 47 06.5 -0.6
	comp=Z,125nm,0.5s,mb5.6						
JSC	Jenkinsville	22.19	25	eP		P	06 47 08.5 +0.4
TKL	Tuckaleechee C	22.53	18	P		P	06 47 09.9 -1.8
	comp=Z,19nm,0.5s,mb4.8,baz=192,slow=9.7,SNR=52						
TKL				LR		LR	06 57 30.6
	comp=Z,299nm,18.9s,MS3.7,baz=225,slow=41						
LHS	Liberty Hill	22.55	25	eP		P	06 47 11.3 -0.6
SIUC	Southern Illin	23.40	6	eP		P	06 47 19.4 -1.2
	comp=Z,69nm,0.7s,mb5.2						
SIUC				epP			06 47 34.2
TZTN	Tazewell	23.42	18	eP		P	06 47 19.7 -1.1
BNM	Barren Site	23.56	329	eP		P	06 47 22.5 +0.4
Y22C	IRIS PASSCAL I	23.65	329	⇓P		P	06 47 23.8 +0.9
	baz=24						
LPM	Los Pinos Moun	23.69	329	eP		P	06 47 23.8 +0.5
LENM	Lemitar	23.75	329	eP		P	06 47 24.7 +1.0
USIN	University of	23.85	9	eP		P	06 47 23.4 -1.3
	comp=Z,45nm,0.7s,mb5.0						
USIN				e			06 47 38.3
LAZ	Ladron	24.02	329	eP		P	06 47 26.8 +0.6
ANMO	Albuquerque	24.12	331	P		P	06 47 27.8 +0.5
	comp=Z,13nm,0.7s,mb4.5,baz=145,slow=11,SNR=54						
ANMO				LR		LR	06 58 27.4
	comp=Z,90nm,20.1s,MS3.2,baz=291,slow=40						
ANMO	Albuquerque	24.12	331	deP		P	06 47 27.2 0.0
ANMO	Albuquerque	24.12	331	eP		P	06 47 27.6 +0.4
	comp=Z,13nm,0.7s,mb4.5						
SLM	Saint Louis	24.23	4	eP		P	06 47 27.0 -1.2
SLM				e			06 47 41.8
SLM				pmax		pmax	
	comp=Z,66nm,0.5s,mb5.3						
SLM	Saint Louis	24.23	4	eP		P	06 47 27.0 -1.1
	comp=Z,66nm,0.5s,mb5.3						
SLM				e			06 47 41.8
WCI	Wyandotte Cave	24.34	12	eP		P	06 47 27.5 -1.7
WCI				pmax		pmax	
	comp=Z,84nm,0.8s,mb5.2						
WCI	Wyandotte Cave	24.34	12	eP		P	06 47 27.5 -1.7
	comp=Z,84nm,0.8s,mb5.2						
TUC	Tucson	24.55	320	eP		P	06 47 32.4 +1.3
TUC				pmax		pmax	
	comp=Z,23nm,1.0s,mb4.7						
TUC	Tucson	24.55	320	eP		P	06 47 32.4 +1.3
	comp=Z,23nm,1.0s,mb4.7						
KSU1	Kansas State U	24.91	352	eP		P	06 47 31.8 -2.6
	comp=Z,90nm,0.6s,mb5.5						
KSU1				e			06 47 46.5
ELN	Prospectdale	24.98	22	eP		P	06 47 34.1 -0.9
BLA	Blacksburg	25.08	23	eP		P	06 47 34.6 -1.4
BLA				pmax		pmax	
	comp=Z,17nm,0.8s,mb4.6						
BLA	Blacksburg	25.08	23	eP		P	06 47 34.6 -1.3
	comp=Z,17nm,0.8s,mb4.6						
CBKS	Cedar Bluff	25.20	346	eP		P	06 47 35.3 -1.7
CBKS				pmax		pmax	
	comp=Z,57nm,0.8s,mb5.2						
CBKS	Cedar Bluff	25.20	346	eP		P	06 47 35.3 -1.8
	comp=Z,58nm,0.8s,mb5.2						
BLO	Bloomington	25.21	11	eP		P	06 47 35.6 -1.5
BLO				pmax		pmax	
	comp=Z,25nm,0.6s,mb4.9						
BLO	Bloomington	25.21	11	eP		P	06 47 35.6 -1.6
	comp=Z,25nm,0.6s,mb4.9						
FWV	Forest Hill	25.27	22	eP		P	06 47 36.1 -1.5
116A	Eloy	25.30	319	⇓P		P	06 47 39.0 +1.1
	baz=25						
ATAH	Atahualpa	25.34	146	P		P	06 47 38.4 +0.1
	comp=Z,15nm,0.7s,mb4.6,baz=354,slow=5.6,SNR=8.7						
ATAH				LR		LR	06 55 42.5
	comp=Z,244nm,20.7s,MS3.7,baz=303,slow=32						
115A	Sonoran Desert	25.72	319	⇑P		P	06 47 43.0 +1.2
	baz=26						
SDCO	Great Sand Dun	26.05	336	eP		P	06 47 45.4 +0.7
	comp=Z,37nm,1.1s,mb4.8						
SDCO				ePcP		PcP	06 51 13.8 +2.4
Z14A	Wintersburg	26.61	319	⇑P		P	06 47 51.1 +1.3
	baz=27						
X15A	Humboldt	26.91	322	⇑P		P	06 47 53.3 +0.8
	baz=27,SNR=6.0						
MVCO	Mesa Verde	26.92	331	eP		P	06 47 53.6 +1.0
	comp=Z,95nm,1.1s,mb5.2						
MVCO	Mesa Verde	26.92	331	P		P	06 47 53.4 +0.9
	baz=27,SNR=51						
Y14A	Wickenburg	27.02	320	⇓P		P	06 47 54.2 +0.8
	baz=27						
WUAZ	Wupatki	27.13	324	eP		P	06 47 55.4 +0.9
	comp=Z,7.3nm,0.8s,mb4.3						
WUAZ	Wupatki	27.13	324	⇓P		P	06 47 55.0 +0.6
	baz=27,SNR=5.5						
X14A	Yava	27.30	321	⇓P		P	06 47 56.8 +0.9
	baz=27						
W15A	Williams	27.41	323	⇓P		P	06 47 57.4 +0.5
	baz=28						
PV01	Paradox Valley	27.70	332	eP		P	06 48 00.8 +1.3
ISCO	Idaho Springs	27.88	338	eP		P	06 48 01.7 +0.5
ISCO				e			06 51 18.1
ISCO				pmax		pmax	
	comp=Z,11nm,0.7s,mb4.6						
ISCO	Idaho Springs	27.88	338	eP		P	06 48 01.7 +0.5
	comp=Z,11nm,0.7s,mb4.6						
ISCO				ePcP		PcP	06 51 18.1 +2.4
W14A	Seligman	27.92	322	⇓P		P	06 48 01.9 +0.5
	baz=28						
X13A	Yucca	27.96	320	⇓P		P	06 48 02.5 +0.6
	baz=28						
PDMCI	Parker Dam,Lak	27.97	319	⇓P		P	06 48 02.3 +0.4
	baz=28						
PV10	Paradox Valley	28.11	331	eP		P	06 48 03.3 +0.1
DVTC	Desert V Tower	28.29	314	⇑P		P	06 48 05.5 +0.7
	baz=28						
W13A	Hualapai Mount	28.33	321	⇓P		P	06 48 05.5 +0.4
	baz=28						
BC3	Big Chuckw Mtn	28.43	316	⇓P		P	06 48 06.2 +0.2
	baz=29						
IRM	Iron Mountain	28.53	318	⇓P		P	06 48 07.3 +0.3
	baz=29						
BELC	Belle Mtn.	29.00	316	⇑P		P	06 48 11.5 +0.4
	baz=29						
W12A	Cal Nev Ari	29.07	320	⇓P		P	06 48 12.3 +0.6
	baz=29						
PFO	Pinyon Flat Ob	29.07	315	LR		LR	07 00 33.3
	comp=Z,244nm,21.0s,MS3.8,baz=249,slow=38						
MVL	Millersville	29.10	26	eP		P	06 48 10.7 -1.3
PHWY	Pilot Hill	29.16	339	eP		P	06 48 12.8 +0.3
GMRC	Granite Mounta	29.25	318	⇓P		P	06 48 13.7 +0.4
	baz=29						
V12A	Nelson	29.34	320	⇓P		P	06 48 14.7 +0.6
	baz=30,SNR=6.1						
SRU	San Rafael	29.40	330	eP		P	06 48 15.6 +1.0
SRU				pmax		pmax	
	comp=Z,5.0nm,0.6s,mb4.4						
SRU	San Rafael	29.40	330	eP		P	06 48 15.6 +0.9
	comp=Z,5.3nm,0.6s,mb4.5						
U12A	Valley of Fire	29.61	322	⇓P		P	06 48 17.2 +0.7
	baz=30						
MSU	Marysvale	29.76	328	eP		P	06 48 19.1 +1.2
TMUT	Trail Mountain	29.87	330	eP		P	06 48 19.8 +1.0
ARUT	Antelope Range	29.91	325	eP		P	06 48 20.7 +1.5
SHPR	Sheep Range	30.03	321	eP		P	06 48 21.1 +0.8
RWWY	Rawlins	30.12	337	eP		P	06 48 21.4 +0.4
	comp=Z,36nm,1.0s,mb5.0						
MPU	Maple Canyon	30.64	330	eP		P	06 48 26.8 +1.2
DAU	Daniels Canyon	30.77	331	eP		P	06 48 28.1 +1.4
NLU	North Lily Min	30.80	330	eP		P	06 48 27.7 +0.6
JLU	Jordanelle	31.01	331	eP		P	06 48 29.5 +0.7
JLU				ePcP		PcP	06 51 24.4 +0.7
FURC	Furnace Creek,	31.06	320	⇑P		P	06 48 29.8 +0.5
	baz=31						
BINY	Binghamton	31.11	24	eP		P	06 48 28.3 -1.4
	comp=Z,29nm,0.8s,mb5.2						
MPMC	Manual Prospec	31.21	318	⇓P		P	06 48 31.2 +0.5
	baz=31						
CTU	Camp Tracy	31.22	331	eP		P	06 48 31.2 +0.5
	comp=Z,12nm,0.8s,mb4.8						
RSSD	Black Hills	31.28	344	eP		P	06 48 30.9 -0.4
RSSD				e			06 51 25.5
RSSD				pmax		pmax	
	comp=Z,9.0nm,0.7s,mb4.7						
RSSD	Black Hills	31.28	344	eP		P	06 48 30.9 -0.3
	comp=Z,8.7nm,0.7s,mb4.7						
RSSD				ePcP		PcP	06 51 25.5 +1.1
DUG	Dugway	31.35	329	eP		P	06 48 32.9 +1.0
DUG				pmax		pmax	
	comp=Z,7.0nm,1.1s,mb4.4						
DUG	Dugway	31.35	329	eP		P	06 48 32.9 +1.0
	comp=Z,6.9nm,1.1s,mb4.4						
DUG	Dugway	31.35	329	⇑P		P	06 48 32.6 +0.7
	baz=32						
NOQ	North Oquirrh	31.36	330	eP		P	06 48 33.1 +1.1
	comp=Z,14nm,0.7s,mb4.9						
Q12A	Willow Creek R	31.57	325	⇓P		P	06 48 34.4 +0.6
	baz=32						
GRAC	Grapevine Rang	31.71	320	⇓P		P	06 48 35.6 +0.6
	baz=32						
HWUT	Hardware Ranch	31.86	332	eP		P	06 48 36.6 +0.3
	comp=Z,8.8nm,0.6s,mb4.8						
Q11A	Duckwater	31.90	324	⇓P		P	06 48 37.4 +0.8
	baz=32,SNR=5.7						
P12A	McGill	31.92	326	⇓P		P	06 48 37.7 +0.8
	baz=32,SNR=6.9						
BW06	Boulder Array	31.95	336	eP		P	06 48 36.9 -0.2
PDAR	Pinedale Array	31.95	336	P		P	06 48 36.9 -0.2
	comp=Z,5.5nm,0.7s,mb4.5,baz=138,slow=8.2,SNR=33						
PDAR				PcP		PcP	06 51 27.7 +1.5
	comp=Z,2.0nm,0.5s,baz=137,slow=5.2,SNR=19						
PDAR				ScP		ScP	06 55 12.6 +7.7
	comp=Z,1.2nm,0.8s,baz=132,slow=4.2,SNR=7.5						
PDAR				LR		LR	07 03 56.8
	comp=Z,174nm,19.7s,MS3.7,baz=161,slow=41						
PDAR	Pinedale Array	31.95	336	P		P	06 48 36.9 -0.2
PDAR				PcP		PcP	06 51 27.7 +1.5
PDAR				ScP		ScP	06 55 12.6 +7.7
BGU	Big Grassy Mou	32.02	330	eP		P	06 48 38.1 +0.4
SPUT	South Promonto	32.03	331	eP		P	06 48 33.9 -3.9
S09A	Goldfield	32.08	321	⇑P		P	06 48 38.5 +0.2
	baz=32,SNR=5.6						
VES	Vestal, Richgr	32.12	317	⇑P		P	06 48 39.2 +0.6
	baz=32						
R09A	Tonopah	32.32	322	⇑P		P	06 48 40.7 +0.3
	baz=32						
O12A	Currie	32.40	327	⇑P		P	06 48 42.1 +1.0
	baz=32,SNR=18						
P11A	Circle Ranch,	32.44	325	⇑P		P	06 48 42.2 +0.7
	baz=33						
RCTC	Rector, Farmer	32.50	317	⇑P		P	06 48 42.6 +0.6
	baz=33						
S08C	White Mtn Res	32.52	320	⇓P		P	06 48 43.1 +0.9
	baz=33,SNR=6.1						
HVU	Hansel Valley	32.55	331	eP		P	06 48 43.0 +0.6
HVU				pmax		pmax	
	comp=Z,14nm,0.7s,mb5.0						
HVU	Hansel Valley	32.55	331	eP		P	06 48 43.0 +0.6
	comp=Z,14nm,0.7s,mb5.0						
N13A	Wendover, West	32.55	328	⇓P		P	06 48 43.1 +0.7
	baz=33						
HELL	Mitchell Peak,	32.57	318	P		P	06 48 43.2 +0.6
	baz=33,SNR=5.3						
O11A	Cowboy Ranch,	32.79	326	⇓P		P	06 48 45.4 +0.8
	baz=33,SNR=12						
P10A	Eureka	32.88	324	⇓P		P	06 48 46.4 +1.1
	baz=33						
M13A	Montello	32.91	329	⇑P		P	06 48 46.1 +0.6
	baz=33,SNR=13						
REDW	Red Top Meadow	32.97	335	eP		P	06 48 46.5 +0.5
	comp=Z,63nm,0.6s,mb5.7						
N12A	Clover Valley,	32.98	327	⇑P		P	06 48 46.7 +0.5
	baz=33,SNR=6.2						
SNOW	Snow King Moun	33.01	335	eP		P	06 48 47.1 +0.6
	comp=Z,182nm,0.7s						
R08A	Mina	33.01	321	⇑P		P	06 48 47.0 +0.6
	baz=33						
LOHW	Long Hollow	33.07	335	eP		P	06 48 47.3 +0.3
	comp=Z,30nm,0.7s,mb5.3						
KCC	Kaiser Creek	33.14	319	⇑P		P	06 48 48.0 +0.5
	baz=33						
PKD	Parkfield	33.17	315	⇑P		P	06 48 48.0 +0.2
	baz=33						
NVAR	Mina Array Bea	33.18	321	P		P	06 48 48.4 +0.4
	comp=Z,10nm,0.9s,mb4.8,baz=137,slow=8.2,SNR=35						
T06C	Millerton Lake	33.21	318	⇑P		P	06 48 48.4 +0.3
	baz=33						
P09A	Austin	33.22	324	⇑P		P	06 48 48.6 +0.3
	baz=33						
Q08A	Gabbs	33.23	322	⇑P		P	06 48 48.9 +0.6
	baz=33,SNR=9.2						
MOOW	Moose Ponds	33.24	335	eP		P	06 48 48.5 +0.1
	comp=Z,25nm,0.9s,mb5.2						
DCID1	Drake Creek	33.30	335	eP		P	06 48 49.8 +0.9
N11A	Elko Archery C	33.32	327	⇑P		P	06 48 49.6 +0.5
	baz=34						
M12A	Wells	33.33	328	P		P	06 48 49.9 +0.8
	baz=34,SNR=23						
O10A	Cortez Mining,	33.37	325	⇓P		P	06 48 50.3 +0.8
	baz=34,SNR=8.0						
U04C	Hernandez Rese	33.56	316	⇑P		P	06 48 51.6 +0.4
	baz=34						
O09A	Fish Creek Ran	33.67	324	⇓P		P	06 48 52.7 +0.5
	baz=34,SNR=5.9						
M11A	Holland Ranch,	33.79	327	⇓P		P	06 48 53.7 +0.5
	baz=34,SNR=6.0						
S05C	Merced	33.81	318	⇓P		P	06 48 53.8 +0.4
	baz=34						
S06C	San Francisco	33.81	319	⇑P		P	06 48 53.8 +0.4
	baz=34						
RLMT	Red Lodge	33.84	338	eP		P	06 48 53.4 -0.3
	comp=Z,7.7nm,0.9s,mb4.6						
RLMT				ePcP		PcP	06 51 33.1 +1.6
YFT	Old Faithful	33.86	336	eP		P	06 48 55.9 +2.0
R06C	Coleville	33.95	320	⇓P		P	06 48 54.9 +0.3
	baz=34						
YMR	Madison River	34.10	336	eP		P	06 48 56.8 +0.9
	comp=Z,40nm,1.0s,mb5.3						
CMB	Columbia Colle	34.24	319	eP		P	06 48 57.0 -0.2
CMB	Columbia Colle	34.24	319	⇑P		P	06 48 57.5 +0.4
	baz=34						
M10A	I.L. Ranch, Tu	34.25	327	⇑P		P	06 48 57.6 +0.4
	baz=34,SNR=14						
LAO	LASA Array	34.25	343	eP		P	06 48 56.5 -0.6
	comp=Z,8.8nm,0.8s,mb4.7						
N09A	Rock Creek Ran	34.32	325	⇓P		P	06 48 58.2 +0.5
	baz=34						
QLMT	Earthquake Lak	34.42	336	eP		P	06 48 59.4 +0.7
R05C	Kirkwood Meado	34.45	320	⇑P		P	06 48 59.4 +0.5
	baz=35						
N08A	GE Springer Mi	34.61	324	⇓P		P	06 49 00.7 +0.4
	baz=35						
WCN	Washoe City	34.61	321	⇓P		P	06 49 00.7 +0.4
	baz=35						
O07A	Toulon	34.63	323	⇑P		P	06 49 00.7 +0.2
	baz=35						
M09A	Marrel Ranch,	34.67	326	⇓P		P	06 49 01.4 +0.6
	baz=35						
HLID	Hailey	34.70	331	eP		P	06 49 01.4 +0.4
	comp=Z,13nm,0.9s,mb4.9						
HLID	Hailey	34.70	331	P		P	06 49 01.6 +0.5
	baz=35,SNR=25						
LAVA	Lava Cap Winer	34.89	319	⇓P		P	06 49 03.5 +0.8
	baz=35						
WENL	Wente Brothers	34.90	317	⇑P		P	06 49 03.4 +0.6
	baz=35						
MCMT	McKenzie Canyo	35.00	334	eP		P	06 49 04.9 +1.3
N07B	Gerlach	35.09	324	⇓P		P	06 49 05.4 +1.0
	baz=35						
G15A	Dillon	35.12	335	⇓P		P	06 49 05.5 +0.8
	baz=35,SNR=34						
P05C	Yuba Gap, Truc	35.14	320	⇑P		P	06 49 05.7 +0.8
	baz=35						
BOZ	Bozeman (W)	35.17	336	eP		P	06 49 05.2 +0.1
BOZ				pmax		pmax	
	comp=Z,6.0nm,0.7s,mb4.6						
BOZ	Bozeman (W)	35.17	336	eP		P	06 49 05.2 0.0
	comp=Z,6.3nm,0.7s,mb4.7						
L09A	Wilkinson Ranc	35.20	326	⇓P		P	06 49 05.7 +0.3
	baz=35						
DLMT	Dillon	35.32	335	eP		P	06 49 07.1 +0.6
	comp=Z,82nm,1.3s,mb5.5						
BEKR	Beckwourth	35.33	321	⇓P		P	06 49 06.7 +0.2
	baz=36						
DGMT	Dagmar	35.38	346	eP		P	06 49 05.7 -1.2
	comp=Z,38nm,0.6s,mb5.5						
DGMT				ePcP		PcP	06 51 36.8 +0.9
N06A	Buffalo Meadow	35.57	323	P		P	06 49 09.0 +0.4
	baz=36,SNR=11						
LRM	Limekiln Ridge	35.64	336	eP		P	06 49 09.6 +0.5
F15A	Butte	35.67	336	P		P	06 49 09.8 +0.3
	baz=36,SNR=23						
L08A	Fields	35.68	326	P		P	06 49 10.1 +0.5
	baz=36,SNR=17						
I11A	Placerville	35.69	330	⇓P		P	06 49 10.2 +0.6
	baz=36,SNR=78						
K09A	Rome	35.70	327	⇓P		P	06 49 10.1 +0.4
	baz=36,SNR=40						
O05C	Quincy	35.73	321	⇑P		P	06 49 10.7 +0.8
	baz=36,SNR=5.7						
J10A	Berg Farm, Mel	35.73	329	⇑P		P	06 49 10.5 +0.5
	baz=36						
G13A	Cobalt	35.80	333	P		P	06 49 10.9 +0.3
	baz=36,SNR=17						
ORV	Oroville	35.84	320	⇑P		P	06 49 11.4 +0.5
	baz=36						
ULM	Lac du Bonnet	35.89	356	P		P	06 49 08.9 -2.3
	comp=Z,5.5nm,0.5s,mb4.8,baz=172,slow=9.9,SNR=18						
ULM				PcP		PcP	06 51 37.3 -0.1
	comp=Z,5.4nm,0.8s,baz=132,slow=1.4,SNR=4.7						
ULM				LR		LR	07 05 41.3
	comp=Z,155nm,21.2s,MS3.8,baz=195,slow=39						
ULM	Lac du Bonnet	35.89	356	P		P	06 49 08.9 -2.3
ULM				PcP		PcP	06 51 37.3 -0.1
WVOR	Wild Horse Val	36.01	326	eP		P	06 49 12.1 -0.2
WVOR				pmax		pmax	
	comp=Z,12nm,0.9s,mb4.8						
WVOR	Wild Horse Val	36.01	326	eP		P	06 49 12.1 -0.2
	comp=Z,12nm,0.9s,mb4.8						
F14A	Wisdom	36.01	335	⇑P		P	06 49 12.5 +0.2
	baz=36						
O04C	Chester	36.05	321	⇓P		P	06 49 13.0 +0.3
	baz=36						
MNRC	McLaughlin Nat	36.05	318	⇑P		P	06 49 13.0 +0.4
	baz=36						
L07A	Adell	36.11	325	P		P	06 49 13.6 +0.4
	baz=36,SNR=17						
K08A	Mann Creek Ran	36.13	327	⇑P		P	06 49 13.6 +0.3
	baz=36,SNR=38						
HRY

BMO **Blue Mountains** 37.04 330 *e*P P 06 49 20.1 -1.0
comp=Z,14nm,1.1s,mb4.7
SAML **Samuel** 37.04 127 *e*P P 06 49 18.1 -3.0
MSO **Missoula** 37.06 335 *e*P P 06 49 21.0 -0.3
comp=Z,15nm,1.0s,mb4.8
H09A **Durkee** 37.08 330 ⇓P P 06 49 21.1 -0.3
baz=37,SNR=9.3
D14A **Greenough** 37.09 336 P P 06 49 21.2 -0.3
baz=37,SNR=17
K06A **Valley Falls** 37.13 325 ⇑P P 06 49 22.3 +0.4
baz=37
M03C **McCloud** 37.25 322 ⇓P P 06 49 22.6 -0.2
baz=37
F11A **Grangeville** 37.27 332 ⇓P P 06 49 22.6 -0.5
baz=37
J06A **Christmas Vall** 37.38 326 ⇑P P 06 49 23.7 -0.3
baz=38
M04C **Macdoel** 37.39 323 ⇓P P 06 49 23.8 -0.2
baz=38
H08A **Prairie City** 37.47 329 ⇓P P 06 49 25.0 +0.2
baz=38,SNR=15
D13A **Huson** 37.48 335 P P 06 49 24.6 -0.3
baz=38,SNR=34
I07A **Izee** 37.60 327 P P 06 49 25.6 -0.2
baz=38,SNR=9.2
E11A **Bogner Ranch,** 37.66 333 P P 06 49 25.2 -1.1
baz=38,SNR=30
L04A **Klamath Falls** 37.67 323 ⇑P P 06 49 26.1 -0.3
baz=38
C14A **Swan Lake** 37.75 336 ⇑P P 06 49 26.8 -0.3
baz=38
F10A **Beach Ranch, E** 37.83 331 P P 06 49 27.4 -0.4
baz=38,SNR=46
I06A **Prineville** 37.88 327 ⇑P P 06 49 27.7 -0.4
baz=38
F09A **S2 Ranch, Elgi** 37.95 331 ⇑P P 06 49 28.4 -0.5
baz=38,SNR=13
H07A **Lands Inn, Kim** 37.98 328 ⇑P P 06 49 28.5 -0.5
baz=38,SNR=21
J05A **Fort Rock** 38.00 325 ⇓P P 06 49 28.9 -0.3
baz=38
C13A **Hot Springs** 38.00 335 ⇓P P 06 49 28.8 -0.4
baz=38,SNR=14
E10A **Myers Farm, Un** 38.16 332 P P 06 49 29.8 -0.8
baz=38,SNR=6.8
G08A **Pilot Rock** 38.16 329 ⇑P P 06 49 29.9 -0.7
baz=38
D11A **Klaveano Farm,** 38.24 333 P P 06 49 30.5 -0.8
baz=38,SNR=14
F08A **Pendleton** 38.44 330 ⇑P P 06 49 32.4 -0.4
baz=39
J04A **Umpqua Nationa** 38.46 324 ⇑P P 06 49 32.9 -0.2
baz=39
H06A **Lindquist Farm** 38.48 327 ⇑P P 06 49 32.6 -0.6
baz=39
G07A **Ruggs Ranch, H** 38.50 329 ⇓P P 06 49 33.1 -0.3
baz=39
B13A **Whitefish** 38.52 336 P P 06 49 33.5 -0.1
baz=39,SNR=19
E09A **Wood Farm, Sta** 38.66 331 P P 06 49 34.6 -0.1
baz=39,SNR=12
D10A **Wagner Farm, O** 38.66 332 ⇑P P 06 49 34.4 -0.4
baz=39,SNR=7.8
LPAZ **La Paz** 38.72 141 P P 06 49 34.1 -1.2
comp=Z,9.0nm,0.7s,mb4.6,baz=332,slow=7.3,SNR=43
LPAZ LR LR 07 05 12.2
comp=Z,147nm,20.4s,MS3.8,baz=87,slow=36
LPAZ **La Paz** 38.72 141 *e*P P 06 49 33.7 -1.6
LPAZ pmax pmax
comp=Z,6.0nm,0.7s
LPAZ **La Paz** 38.72 141 *e*P P 06 49 33.7 -1.6
comp=Z,6.0nm,0.7s,mb4.4
WALA **Waterton Lakes** 38.87 337 *e*P P 06 49 36.5 0.0
comp=Z,13nm,0.9s,mb4.7
G06A **Carlson Farm,** 38.97 328 ⇓P P 06 49 37.4 0.0
baz=39
I04A **Tendick Farm,** 38.98 325 ⇓P P 06 49 37.5 +0.1
baz=39
IRO **Indian Ridge** 39.03 325 P P 06 49 37.8 0.0
B12A **Libby** 39.04 335 ⇓P P 06 49 37.9 -0.1
baz=39,SNR=12
F07A **Phinny Hill Vi** 39.07 329 ⇓P P 06 49 37.8 -0.4
baz=39
E08A **Dider Farm, El** 39.07 330 ⇑P P 06 49 37.8 -0.4
baz=39
D09A **Jones Farm, Ri** 39.14 332 P P 06 49 38.5 -0.2
baz=39,SNR=12
HAWA **Hanford** 39.23 330 *e*P P 06 49 38.1 -1.4
comp=Z,4.5nm,0.6s,mb4.4
C10A **Spilker Farm,** 39.26 333 ⇓P P 06 49 39.2 -0.6
baz=39,SNR=9.8
G05A **Wamic** 39.33 327 ⇑P P 06 49 40.0 -0.4
baz=40
D08A **Wollman Farm,** 39.42 331 ⇓P P 06 49 40.6 -0.5
baz=40
H04A **Detroit Lake** 39.43 326 ⇓P P 06 49 40.7 -0.5
baz=40,SNR=11
E07A **Sunnyside** 39.50 330 P P 06 49 41.2 -0.6
baz=40,SNR=8.7
NEW **Newport** 39.52 334 *e*P P 06 49 41.2 -0.7
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW **Newport** 39.52 334 *e*P P 06 49 41.2 -0.7
comp=Z,6.4nm,0.8s,mb4.4
I03A **Eugene** 39.58 324 ⇓P P 06 49 42.1 -0.3
baz=40
B10A **Chitwood Farm,** 39.59 334 ⇓P P 06 49 42.1 -0.4
baz=40
C09A **Chrisman Ranch** 39.67 332 ⇓P P 06 49 42.9 -0.3
baz=40,SNR=9.8
A11A **Hall Mountain,** 39.74 335 P P 06 49 43.7 -0.1
baz=40,SNR=24
F05A **White Salmon** 39.84 328 ⇑P P 06 49 44.5 -0.1
baz=40,SNR=5.8
I02A **Mapleton** 39.91 324 ⇓P P 06 49 45.0 -0.2
baz=40
G04A **Mulino** 39.92 326 ⇓P P 06 49 45.1 -0.2
baz=40
C08A **Higginbotham F** 40.01 332 ⇓P P 06 49 46.0 0.0
baz=40,SNR=14
D07A **Quincy** 40.01 331 ⇑P P 06 49 45.9 -0.1
baz=40
H03A **Soap Creek Ran** 40.03 325 ⇑P P 06 49 46.1 -0.1
baz=40
E06A **Yakima** 40.05 329 ⇑P P 06 49 46.2 -0.1
baz=40,SNR=7.6
B09A **Rice** 40.08 333 ⇓P P 06 49 46.0 -0.6
baz=40,SNR=18
EBG **Ellensburg** 40.10 330 P P 06 49 47.1 +0.3
TBM **Table Mountain** 40.30 330 P P 06 49 48.7 +0.3
WTV **Waterville** 40.37 331 P P 06 49 50.0 +1.0
C07A **Waterville** 40.41 331 ⇑P P 06 49 49.3 0.0
baz=41,SNR=8.1
G03A **Yamhill** 40.43 326 ⇓P P 06 49 49.4 -0.1
baz=41
D06A **Cle Elum** 40.43 330 ⇓P P 06 49 49.6 +0.1
baz=41,SNR=5.2
E05A **Randle** 40.45 328 ⇓P P 06 49 49.5 -0.2
baz=41
B08A **Colville Reser** 40.56 332 ⇑P P 06 49 50.4 -0.2
baz=41,SNR=10
A09A **Danville** 40.69 333 ⇑P P 06 49 51.3 -0.3
baz=41,SNR=21
NLW **Nelson Butte** 40.82 331 P P 06 49 53.7 +1.0
E04A **Onalaska** 40.97 328 ⇑P P 06 49 53.5 -0.4
baz=41
A08A **Turner Farm, O** 40.98 333 ⇑P P 06 49 53.6 -0.4
baz=41,SNR=11
D05A **Enumclaw** 40.99 329 ⇓P P 06 49 53.7 -0.4
baz=41
B07A **Winthrop** 40.99 332 ⇓P P 06 49 53.8 -0.3
baz=41
C05A **Tolt Reservoir** 41.19 330 ⇓P P 06 49 55.3 -0.4
baz=41
E03A **Lebam** 41.37 327 ⇑P P 06 49 56.7 -0.6
baz=42
A07A **Ashnola River,** 41.54 332 ⇓P P 06 49 58.4 -0.2
baz=42,SNR=17
B06A **Marblemount** 41.67 331 P P 06 49 59.2 -0.5
baz=42,SNR=5.1
B05A **Bryant** 41.79 330 ⇓P P 06 49 59.9 -0.7
baz=42
C04A **Brinnon** 41.84 329 P P 06 50 01.0 -0.1
baz=42,SNR=11
EDM **Edmonton** 42.17 341 *e*P P 06 50 02.7 -1.1
A05A **Maple Falls** 42.29 331 ⇓P P 06 50 04.2 -0.6
baz=42
PGC **Sidney** 42.71 330 *e*P P 06 50 06.7 -1.4
comp=Z,27nm,0.8s,mb5.0
SCHQ **Schefferville** 44.97 21 P P 06 50 22.4 -3.9
comp=Z,14nm,0.9s,mb4.8,baz=205,slow=6.0,SNR=6.1
SCHQ LR LR 07 08 32.3
comp=Z,250nm,19.1s,MS4.2,baz=324,slow=35
YKA **Yellowknife Ar** 50.59 347 P P 06 51 08.1 -1.6
comp=Z,55nm,0.6s,mb5.7,baz=151,slow=7.2,SNR=957
YKA PcP PcP 06 52 25.5 -1.2
comp=Z,2.8nm,0.7s,baz=146,slow=3.8,SNR=5.6
YKA ScP ScP 06 56 22.4 +4.4
comp=Z,1.0nm,0.7s,baz=144,slow=4.1,SNR=9.2
YKA LR LR 07 13 28.1
comp=Z,93nm,21.6s,MS3.8,baz=25,slow=37
YKA **Yellowknife Ar** 50.59 347 P P 06 51 08.1 -1.6
YKA 06 52 25.6
YKA **Yellowknife Ar** 50.59 347 P P 06 51 08.1 -1.6
YKA PcP PcP 06 52 25.6 -1.2
YKA ScP ScP 06 56 22.4 +4.4
DLBC **Dease Lake** 52.18 336 *e*P P 06 51 21.7 0.0
DLBC *e* pP 06 51 34.6 -1.9
TAOE **Nuku Hiva Isla** 52.76 247 *e*LR LR 07 06 11.4
comp=Z,254nm,24.0s
RKT **Rikitea** 55.96 229 *e*LR LR 07 07 33.8
comp=Z,177nm,25.5s
DAWY **Dawson** 59.21 338 *e*P P 06 52 11.0 -1.1
RCBR **Riachuelo** 59.44 106 *e*P P 06 52 13.1 -0.5
comp=Z,38nm,1.0s,mb5.4
INK **Inuvik** 59.99 344 *e*P P 06 52 16.4 -0.9
comp=Z,2μm,1.1s
INK *e* pP 06 52 28.4 -4.1
EGAK **Eagle** 60.24 338 *e*P P 06 52 17.8 -1.4
comp=Z,9.0nm,0.8s,mb4.8
RES **Resolute Bay** 60.31 359 *e*P P 06 52 16.9 -2.7
comp=Z,127nm,0.5s
PMR **Palmer** 61.94 333 *e*P P 06 52 30.3 -0.3
PMR pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
PMR **Palmer** 61.94 333 *e*P P 06 52 30.3 -0.3
comp=Z,10nm,0.6s,mb5.1
MCK **McKinley** 62.72 335 *e*P P 06 52 35.1 -0.8
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MCK **McKinley** 62.72 335 *e*P P 06 52 35.1 -0.7
comp=Z,5.5nm,0.8s,mb4.7
COLA **College** 62.78 337 *e*P P 06 52 34.8 -1.5
COLA *e* 06 53 14.2
COLA pmax pmax
comp=Z,14nm,0.8s,mb5.1
COLA **College** 62.78 337 *e*P P 06 52 34.8 -1.4
comp=Z,14nm,0.8s,mb5.1
COLA *e*PcP PcP 06 53 14.2 -0.1
SVW2 **Sparrevohn** 64.69 331 *e*P P 06 52 48.4 -0.4
PPT **Papeete** 64.79 242 *e*LR LR 07 11 45.0
comp=Z,122nm,26.8s,baz=58
PPT **Papeete** 64.79 242 LR LR 07 13 19.8
comp=Z,116nm,19.0s,MS4.1,baz=75,slow=29
TBI **Tubuai** 67.30 237 *e*LR LR 07 12 52.4
comp=Z,127nm,26.5s,baz=52
DAG **Danmarks Havn** 72.36 13⇑ *i*P P 06 53 33.6 -3.0
comp=Z,5.6nm,0.5s,mb4.8
DAG **Danmarks Havn** 72.36 13⇑ *i*P P 06 53 33.6 -3.0
DAG pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ESDC **Sonseca Array** 79.72 52 P P 06 54 16.0 -2.5
comp=Z,1.1nm,0.7s,mb3.9,baz=287,slow=6.8,SNR=5.5
BILL **Bilibino** 80.99 338 *i* P P 06 54 25.2 -0.1
BILL *i* pP 06 54 37.0 -4.1
BILL pmax pmax
comp=Z,27nm,1.2s,mb5.0
BILL **Bilibino** 80.99 338 *e*P P 06 54 25.6 +0.3
comp=Z,20nm,0.8s,mb5.1
AFI **Afiamalu** 83.50 254 LR LR 07 21 42.2
comp=Z,70nm,19.0s,MS4.0,baz=196,slow=28
NOA **NORSAR Array B** 83.96 28 P P 06 54 39.3 -1.4
comp=Z,1.3nm,0.7s,mb4.2,baz=292,slow=5.1,SNR=3.7
NOA LR LR 07 29 59.0
comp=Z,84nm,20.2s,MS4.1,baz=285,slow=34
ARCES **ARCESS Array B** 85.87 18 P P 06 54 47.3 -3.1
comp=Z,3.7nm,0.8s,mb4.7,baz=305,slow=4.3,SNR=11
GERES **GERESS Array B** 89.50 39 P P 06 55 06.1 -1.7
comp=Z,0.6nm,0.8s,mb4.0,baz=318,slow=5.8,SNR=4.2
TIXI **Tiksi** 89.82 348 *e*P P 06 55 06.5 -2.8
TIXI *e* pP 06 55 18.2 -7.1
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
TIXI **Tiksi** 89.82 348 *e*P P 06 55 07.6 -1.6
comp=Z,8.4nm,0.8s,mb5.1
FINES **FINESS Array B** 90.28 25 P P 06 55 08.8 -2.6
comp=Z,1.5nm,0.9s,mb4.3,baz=293,slow=2.3,SNR=8.7
FINES LR LR 07 32 57.2
comp=Z,104nm,18.7s,MS4.3,baz=340,slow=34
FINES **FINESS Array B** 90.28 25 P P 06 55 08.8 -2.6
TORD **Torodi Ar. Bea** 90.58 76 P P 06 55 10.5 -2.3
comp=Z,0.5nm,0.7s,mb3.9,baz=286,slow=5.4,SNR=4.3
TORD LR LR 07 32 44.3
comp=Z,84nm,19.1s,MS4.2,baz=325,slow=34
CN2 **Changchun** 112.61 331 *e*PKP PKiKP 07 00 37.1 -10
CN2 PP PP 07 01 29.1 -5.0
SONM **Songino Array** 115.85 346 PKP PKPdf 07 00 53.9 +1.0
comp=Z,0.5nm,0.4s,baz=335,slow=0.8,SNR=5.4
KSRS **Korea Array** 116.06 325 PKP PKPdf 07 00 54.6 +1.3
comp=Z,2.3nm,0.6s,baz=8.5,slow=2.1,SNR=7.3
MKAR **Makanchi Array** 118.92 4 PKP PKPdf 07 00 57.0 -1.8
comp=Z,0.3nm,0.4s,baz=313,slow=2.9,SNR=9.3
HHC **Hu-ho-hao-te** 120.76 339 *e*PKP PKPdf 07 00 58.0 -4.4
HHC PP PP 07 02 31.6 +0.6
HHC PKS 07 04 33.5
HHC SKKS SKKSac 07 09 12.6 -13
HHC SS SS 07 18 48.9 -8.5
HHC PP PP
comp=Z,160nm,15.5s
BOSA **Boshof** 120.79 115 PKP PKPdf 07 01 01.6 -0.9
comp=Z,3.5nm,0.7s,baz=292,slow=0.2,SNR=7.2
WMQ **Urumqi** 122.08 360 *e*PKP PKPdf 07 01 04.8 -0.1
WMQ LR LR
comp=N,72nm,27.0s,MS4.3
WMQ LR LR
comp=E,46nm,23.0s,MS4.3
WMQ LR LR
comp=Z,54nm,32.0s
MAW **Mawson** 124.41 169 PKP PKPdf 07 01 06.4 -3.0
comp=Z,1.8nm,0.6s,baz=270,slow=5.1,SNR=7.4
MAW **Mawson** 124.41 169 *e*PKPdf PKPdf 07 01 06.3 -3.1
STKA **Stephens Creek** 127.98 241 *e*P PKPdf 07 01 14.5 -1.7
comp=Z,2.6nm,0.6s
STKA **Stephens Creek** 127.98 241 PKP PKPdf 07 01 14.8 -1.5
comp=Z,3.3nm,0.7s,baz=354,slow=3.7,SNR=8.2
CD2 **Chengdu** 132.39 341 *e*PKP PKPdf 07 01 22.3 -2.3
WB2 **Warramunga Arr** 135.18 256 *e*P PKPdf 07 01 23.6 -6.2
WRA **Warramunga Arr** 135.19 256 PKhKP 07 01 17.8
comp=Z,0.3nm,0.6s,baz=90,slow=2.5,SNR=6.4
WRA PKP PKPdf 07 01 28.1 -1.7
comp=Z,1.7nm,0.8s,baz=81,slow=1.7,SNR=7.5
WRA **Warramunga Arr** 135.19 256 PKIKP PKPdf 07 01 28.1 -1.8
GYA **Guiyang** 135.41 335 PDIF Pdif 06 58 30.8 -2.3
GYA PKP PKPdf 07 01 29.4 -0.9
GYA PP PP 07 04 09.5 +2.3
GYA PKS 07 05 04.2
GYA SKS SKSdf 07 08 31.8 -4.7
GYA SKKS SKKSac 07 10 53.0 -4.6
GYA SS SS 07 21 56.5 -2.5
GYA PP PP
comp=Z,120nm,7.8s
GYA LR LR
comp=N,340nm,20.4s
GYA LR LR
comp=Z,280nm,21.8s,MS5.0
ASAR **Alice Springs** 135.50 251 PKhKP 07 01 17.2
comp=Z,0.4nm,0.8s,baz=114,slow=3.3,SNR=4.7
ASAR PKP PKPdf 07 01 28.5 -1.9
comp=Z,0.9nm,0.7s,baz=120,slow=1.3,SNR=9.3
ASAR **Alice Springs** 135.50 251 PKIKP PKPdf 07 01 28.5 -1.9
KMI **Kunming** 138.08 339 PKP PKPdf 07 01 34.4 -0.8
KMI LR LR
comp=Z,47nm,24.7s,MS4.1
FITZ **Fitzroy Crossi** 143.42 259 *e*P 07 01 40.5
comp=Z,6.8nm,0.6s
FITZ **Fitzroy Crossi** 143.42 259 PKhKP 07 01 40.6
comp=Z,4.2nm,0.7s,baz=126,slow=4.4,SNR=13
FITZ PKP PKPdf 07 01 45.1 +0.3
comp=Z,1.5nm,0.5s,baz=30,slow=1.9,SNR=5.0
FITZ **Fitzroy Crossi** 143.42 259 *e*P 07 01 40.5
FITZ PKP PKPdf 07 01 45.1 +0.3
HYB **Hyderabad** 147.14 16 *i* PKP PKPdf 07 01 55.0 +3.8
HYB **Hyderabad** 147.14 16 *e*P PKPdf 07 01 55.0 +3.8
KLBR **Kellerberrin** 147.60 233 *e*P PKPdf 07 01 52.1 +0.1
comp=Z,41nm,1.7s
MUN **Mundaring** 148.62 231 *e*P PKPdf 07 01 55.1 +1.4
PSI **Prapat** 159.62 326 PKPab PKPab 07 02 49.1 +1.4
comp=Z,4.6nm,0.7s,baz=13,slow=3.4,SNR=6.9

IDC 03 06:48:53.6±1.1, 2099N×12263E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=65.7km s-min=21.2km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	41.57	318	P	P	06 56 43.7	+0.6
	0.6nm,0.5s,baz=110,slow=8.6,SNR=7.4						
WRA	**Warramunga Arr**	42.26	164	P	P	06 56 49.0	+0.3
	0.4nm,0.4s,baz=344,slow=9.1,SNR=16						
ZAL	**Zalesovo**	43.65	328	P	P	06 56 58.5	-1.4
	0.7nm,0.4s,baz=167,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	45.73	166	P	P	06 57 16.6	0.0
	0.3nm,0.5s,baz=351,slow=9.4,SNR=6.9						
YKA	**Yellowknife Ar**	85.38	23	P	P	07 01 32.8	0.0
	0.2nm,0.4s,baz=308,slow=4.8,SNR=10.0						

IDC 03 07:10:24.1±5.8, 618S×13000E, h60km±62km, mb3.5/4, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, ML4.3/4, Error ellipse: s-maj=44.3km s-min=27.1km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	12.59	199	P	Pn	07 13 21.1	+0.8
	2.3nm,0.3s,baz=23,slow=8.9,SNR=35						
FITZ				S	Sn	07 15 32.7	-6.2
	2.4nm,0.3s,baz=75,slow=17,SNR=7.3						
WRA	**Warramunga Arr**	14.31	163	P	Pn	07 13 41.8	-1.7
	2.0nm,0.3s,baz=345,slow=13,SNR=73						
WRA				S	Sn	07 16 11.1	-10
	5.8nm,0.3s,baz=339,slow=21,SNR=11						
PMG	**Port Moresby**	17.29	102	P	Pn	07 14 21.2	-0.3
	1.1nm,0.3s,baz=270,slow=17,SNR=4.0						
ASAR	**Alice Springs**	17.78	168	P	Pn	07 14 28.4	+0.9
	1.8nm,0.3s,baz=347,slow=11,SNR=71						
ASAR				S	S	07 17 35.5	-13
	1.4nm,0.3s,baz=356,slow=26,SNR=12						
CTA	**Charters Tower**	20.98	133	P	P	07 15 03.5	+1.2
	2.9nm,0.6s,baz=324,slow=12,SNR=7.3						
STKA	**Stephens Creek**	27.76	158	P	P	07 16 06.7	-0.5
	0.6nm,0.3s,baz=355,slow=11,SNR=3.1						
SONM	**Songino Array**	57.67	341	P	P	07 20 08.4	0.0
	0.4nm,0.5s,baz=152,slow=9.6,SNR=3.9						
MKAR	**Makanchi Array**	67.55	327	P	P	07 21 14.5	+0.3
	0.5nm,0.5s,baz=120,slow=7.2,SNR=4.7						

IDC 03 07:28:29.8±2.2, 5118N×17394E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/28, mbtmp3.9/9, Error ellipse: s-maj=67.9km s-min=18.5km az=179.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	20.38	58	P	P	07 33 09.7	+1.6
	27nm,1.2s,baz=274,slow=7.4,SNR=10						
INK	**Inuvik**	30.27	36	P	P	07 34 41.4	-1.1
	1.1nm,0.8s,baz=275,slow=5.4,SNR=6.1						
YKA	**Yellowknife Ar**	38.63	45	P	P	07 35 54.0	-0.8
	1.0nm,0.6s,baz=286,slow=7.3,SNR=18						
YKA				pP		07 36 04.6	
	0.7nm,0.7s,baz=288,slow=7.6,SNR=6.7						
SONM	**Songino Array**	42.59	293	P	P	07 36 28.5	+0.9
	0.2nm,0.5s,baz=65,slow=11,SNR=2.2						
PDAR	**Pinedale Array**	50.66	68	P	P	07 37 29.8	-1.1
	0.6nm,0.9s,baz=307,slow=3.3,SNR=3.5						
MKAR	**Makanchi Array**	56.48	305	P	P	07 38 11.9	-1.7
	3.1nm,1.2s,baz=46,slow=6.8,SNR=3.7						
BVAR	**Borovoye Array**	57.98	316	P	P	07 38 23.9	-0.3
	0.7nm,0.4s,baz=46,slow=6.2,SNR=6.0						
TXAR	**Lajitas Array**	63.16	76	P	P	07 39 00.0	+0.5
	0.2nm,0.4s,baz=295,slow=4.9,SNR=2.6						
AKTO	**Aktyubinsk**	65.07	321	P	P	07 39 12.1	0.0
	1.5nm,0.6s,baz=65,slow=8.4,SNR=4.3						

*TIF **03** 07:30:52.7, 4254N×4346E, h14km±2km*
*MOS **03** 07:30:53.5±1.1, 4255N×4352E, h11km, mb4.1/1, Error ellipse: s-maj=14.7km s-min=7.5km az=72.2*
*ISCJB **03** 07:30:54.1±0.3, 4261N±002×4347E±003, h10km, Error ellipse: s-maj=3.4km s-min=2.3km az=62.8*
*CSEM **03** 07:30:54.0±0.1, 4258N×4345E, h5km, mb4.1, Error ellipse: s-maj=2.9km s-min=2.2km az=121.0*

ISC 03 07:30:54.9±0.3, 4260N±002×4349E±003, h10km, n26, σ1§19/44, 2C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	0.30	13	*i* Pg	Pg	07 31 00.2	-0.8
DIGR				*i* Sg	Sg	07 31 05.3	+0.2
ZEI	**Tsey**	0.35	61	*e*PG	Pg	07 31 00.8	-0.9
ZEI				*e*		07 31 06.3	
ZEI				pmax	pmax		
	comp=Z,247nm,0.1s						
ZEI				smax			
	comp=N,2μm,0.2s						
ZEI	**Tsey**	0.35	61	*e*Pg	Pg	07 31 00.8	-0.9
	comp=N,247nm,0.1s						
ZEI				*e*Sg	Sg	07 31 06.3	-0.1
	comp=N,2μm,0.2s						
LACR	**Lac**	0.64	69	*i* Pg	Pg	07 31 05.7	-1.5
LACR				*i* Sg	Sg	07 31 14.7	-0.8
KORR	**Kora**	0.65	41	*i* Pg	Pg	07 31 06.7	-0.7
KORR				*i* Sg	Sg	07 31 17.4	+1.6
ARNR	**Ardon**	0.83	44	*i* Pg	Pg	07 31 10.6	-0.2
ARNR				*i* Sg	Sg	07 31 23.9	+2.3
VLKR	**Vladikavkaz**	0.98	63	*i* Pg	Pg	07 31 13.7	-0.1
VLKR				*e*Sg	Sg	07 31 27.2	+0.7
DUS	**Dusheti**	1.04	119	P	Pg	07 31 14.7	-0.1
DUS				S	Sg	07 31 29.4	+1.2
SNJR	**Sundja**	1.08	64	*i* Pg	Pg	07 31 14.8	-0.8
SNJR				*e*Sg	Sg	07 31 29.7	0.0
TBLG	**Delisi**	1.27	133	S	Sb	07 31 34.0	-1.4
TBLG	**Delisi**	1.27	133	Sg	Sb	07 31 34.0	-1.4
PRTR	**Priterechnaya**	1.29	27	*i* Pg	Pg	07 31 19.6	0.0
PRTR				*e*Sg	Sg	07 31 38.7	+2.4
KZR	**Kazreti**	1.40	150	P	Pn	07 31 18.0	-2.4
KZR				S	Sn	07 31 36.6	-2.4
TRKR	**Terskaya**	1.44	39	*i* Pg	Pg	07 31 21.5	-1.1
TRKR				*i* Sg	Sg	07 31 42.0	+0.7
PYA	**Pyatigorsk**	1.46	348⇑	*i*PG	Pg	07 31 21.7	-1.3
PYA				*i* S	Sn	07 31 41.8	+1.3
KIV	**Kislovodsk**	1.47	337⇑	*i*PG	Pg	07 31 21.5	-1.6
KIV				*i* S	Sn	07 31 41.9	+1.1
BEYR	**Belyy Ugol+**	1.49	341	*i* Pg	Pg	07 31 21.8	-1.7
BEYR				*e*Sg	Sg	07 31 42.2	-0.7
BCA	**Borcka**	1.81	231	PN	Pn	07 31 24.0	-2.0
BCA				SN	Sn	07 31 49.2	+0.1
ARTV	**Artvin**	1.83	220	*i* P	Pn	07 31 25.6	-0.8
ARTV				*i* S	Sn	07 31 49.5	-0.2
KARS	**Kars**	2.01	189	*e*PN	Pn	07 31 29.4	+0.6
DIGO	**Kars**	2.19	182	*i* P	Pn	07 31 32.1	+0.9
DIGO				*i* S	Sn	07 32 00.5	+2.1
GNI	**Garni**	2.63	159	*e*PN	Pn	07 31 38.3	+1.0
AGRB	**Hanur-Agry**	3.05	187	*e*P	Pn	07 31 44.6	+1.5
ERZM	**Erzurum**	3.13	211	*i* P	Pn	07 31 46.0	+1.7
EZM	**Erzurum**	3.13	211	*e*PN	Pn	07 31 44.5	+0.2
KELT	**Kelkit**	4.02	234	*i* P	Pn	07 31 58.0	+1.6
KELT				*i* S	Sn	07 32 43.8	+0.2

*ISCJB **03** 07:41:01.0±0.5, 4000N±003×2063E±005, h10km, Error ellipse: s-maj=5.9km s-min=4.1km az=14.3*
*NEIC **03** 07:41:01.4, 4008N×2050E, h15km, MD3.3(ATH), After ATH.*
*CSEM **03** 07:41:01.9±0.1, 4005N×2053E, h2km, MD3.3, Error ellipse: s-maj=3.0km s-min=2.0km az=139.0*
*ATH **03** 07:41:01.4, 4008N×2050E, h15km±2km, MD3.3/5*
*SKO **03** 07:41:08.6, 4025N×2104E, h21km*

ISC 03 07:41:02.3±0.5, 4008N±003×2059E±006, h10km±6km, n18, σ1§21/31, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	0.07	8	*i* Pg	Pg	07 41 04.4	-0.1

LSK				*i* Sg	**Sg**	07 41 06.7	+0.6
JAN	**Janina**	**0.47**	**154**	*e*PN	**Pg**	07 41 11.0	-0.5
JAN				*e*SN	**Sg**	07 41 18.4	+0.8
SRN	**Sarande**	**0.49**	**246**	*i* Pg	**Pg**	07 41 10.5	-1.4
SRN				*i* Sg	**Sg**	07 41 18.9	+0.5
KEK	**Kerkira**	**0.71**	**239**	*e*PN	**Pg**	07 41 14.0	-2.0
KZN	**Kozani**	**0.94**	**75**	*e*PN	**Pn**	07 41 20.9	-0.7
OHR	**Ohrid**	**1.04**	**9**	*e*Pg	**Pg**	07 41 24.0	+1.6
OHR				*e*Sg	**Sg**	07 41 37.9	+1.8
OHR	**Ohrid**	**1.04**	**9**	*e*Pg	**Pg**	07 41 24.0	+1.6
OHR				*e*Sg	**Sg**	07 41 37.9	+1.8
OHR	**Ohrid**	**1.04**	**9**	*e*Pg	**Pg**	07 41 24.0	+1.6
OHR				*e*Sg	**Sg**	07 41 37.8	+1.8
BIA	**Bitola**	**1.10**	**31**	*e*Pg	**Pg**	07 41 22.6	-0.8
BIA				*e*Sg	**Sg**	07 41 35.4	-2.2
BIA	**Bitola**	**1.10**	**31**	*e*Pg	**Pg**	07 41 22.6	-0.8
BIA				*e*Sg	**Sg**	07 41 35.4	-2.2
BIA	**Bitola**	**1.10**	**31**	*e*Pg	**Pg**	07 41 22.5	-0.9
BIA				*e*Sg	**Sg**	07 41 35.4	-2.2
THL	**Klokotos Trika**	**1.21**	**115**	*e*PN	**Pn**	07 41 25.1	-0.3
KRUS	**Krusevo**	**1.38**	**21**	*e*Pg	**Pg**	07 41 30.1	+1.2
KRUS				*e*Sg	**Sg**	07 41 44.8	-2.1
KRUS	**Krusevo**	**1.38**	**21**	*e*Pg	**Pg**	07 41 30.1	+1.2
KRUS				*e*Sg	**Sg**	07 41 44.8	-2.1
KRUS	**Krusevo**	**1.38**	**21**	*e*Pg	**Pg**	07 41 30.1	+1.2
KRUS				*e*Sg	**Sg**	07 41 44.7	-2.2
EVR	**Evrytania**	**1.50**	**140**	*e*PN	**Pn**	07 41 29.9	+0.6
PHP	**Peshkopia**	**1.61**	**356**	*i* Pn	**Pg**	07 41 34.2	+1.0
PHP				*i* Sn	**Sg**	07 41 59.1	+5.0
VLS	**Valsamata**	**1.90**	**180**	*e*PN	**Pn**	07 41 36.0	+1.2

*ISCJB **03** 07:47:45.8±0.2, 4315N±002×004E±002, h7km, Error ellipse: s-maj=2.2km s-min=2.0km az=163.2*
*MDD **03** 07:47:47.9±0.2, 4301N×000W, h0km, mbLg1.7/22, Error ellipse: s-maj=1.8km s-min=1.5km az=17.0, PRXIMO*
*CSEM **03** 07:47:47.6±0.1, 4304N×000W, h10km, ML2.5/10, Error ellipse: s-maj=1.1km s-min=0.9km az=129.0*
*LDG **03** 07:47:47.3±0.0, 4302N×000E, h7km, Md2.2/3, Ml2.4/11, Error ellipse: s-maj=1.0km s-min=0.7km az=162.0*
*STR **03** 07:47:47.2±0.1, 4301N×000E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 03 07:47:46.8±0.3, 4308N±002×002E±002, h9km±3km, n67, σ0$87/112, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**126**	Pg	**Pg**	07 47 49.3	+0.7
LABF				Sg	**Sg**	07 47 50.5	+0.6
LABF	**Labassere**	**0.05**	**126**	P	**Pg**	07 47 49.4	+0.7
LABF				S	**Sg**	07 47 50.6	+0.7
VIEF	**Viey**	**0.19**	**179**	Pg	**Pg**	07 47 50.4	-0.4
VIEF				Sg	**Sg**	07 47 52.6	-0.9
VIEF	**Viey**	**0.19**	**179**	P	**Pg**	07 47 50.5	-0.3
VIEF				S	**Sg**	07 47 52.6	-0.9
EPF	**Esparros**	**0.24**	**101**	*e*Pg	**Pg**	07 47 52.4	+0.7
EPF				*e*Sg	**Sg**	07 47 56.0	+1.1
	49nm,0.2s						
EPF	**Esparros**	**0.24**	**101**	*e*Pg	**Pg**	07 47 52.4	+0.7
EPF				*e*Sg	**Sg**	07 47 56.0	+1.1
	25nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**269**	Pg	**Pg**	07 47 52.9	+0.1
REYF				Sg	**Sg**	07 47 57.4	+0.5
REYF	**Montagne du Re**	**0.30**	**269**	P	**Pg**	07 47 53.0	+0.1
REYF				S	**Sg**	07 47 57.4	+0.6
RESF	**Ens**	**0.36**	**139**	P	**Pg**	07 47 53.8	-0.1
RESF				S	**Sg**	07 47 58.6	0.0
EBIE	**Bielsa**	**0.40**	**167**	⇑Pg	**Pg**	07 47 54.2	-0.5
	SNR=18						
EBIE				Lg		07 47 58.9	
	46nm,0.1s,SNR=15						
EBIE	**Bielsa**	**0.40**	**167**	Pg	**Pg**	07 47 54.2	-0.5
	SNR=18						
EBIE				Lg		07 47 58.9	
	46nm,0.1s,SNR=15						
ETSF	**Etsaut**	**0.46**	**247**	*e*Pg	**Pg**	07 47 55.5	-0.3
ETSF				*e*Sg	**Sg**	07 48 01.2	-0.7
	50nm,0.3s						
ETSF	**Etsaut**	**0.46**	**247**	*e*Pg	**Pg**	07 47 55.5	-0.3
ETSF				*e*Sg	**Sg**	07 48 01.2	-0.7
	25nm,0.3s						
ATE	**Arette**	**0.53**	**271**	Pg	**Pg**	07 47 57.3	+0.2
ATE				Sg	**Sg**	07 48 04.2	+0.2
ATE	**Arette**	**0.53**	**271**	P	**Pg**	07 47 57.3	+0.2
ATE				S	**Sg**	07 48 04.2	+0.3
MELF	**Melles**	**0.58**	**110**	P	**Pg**	07 47 58.1	0.0
MELF				S	**Sg**	07 48 05.9	+0.2
LARF	**Larrau**	**0.74**	**267**	Pg	**Pg**	07 48 01.3	+0.2
LARF				Sg	**Sg**	07 48 11.4	+0.7
LARF	**Larrau**	**0.74**	**267**	P	**Pg**	07 48 01.4	+0.3
LARF				S	**Sg**	07 48 11.3	+0.6
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	07 48 03.6	-0.8
SJPF				*e*Sg	**Sg**	07 48 16.0	-0.2
	4.1nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	07 48 03.6	-0.8
SJPF				*e*Sg	**Sg**	07 48 16.0	-0.2
	2.0nm,0.2s						
SALF	**Salau**	**0.92**	**110**	Pg	**Pg**	07 48 04.5	0.0
SALF				Sg	**Sg**	07 48 16.7	+0.3
SALF	**Salau**	**0.92**	**110**	P	**Pg**	07 48 04.3	-0.2
SALF				S	**Sg**	07 48 16.6	+0.2
IPRE	**Itoiz**	**1.05**	**255**	Pg	**Pg**	07 48 06.8	-0.1
	0.7nm,0.2s,SNR=7.9						
IPRE				Lg		07 48 21.2	
	3.9nm,0.3s,SNR=7.9						
CSOR	**Sort**	**1.08**	**130**	P	**Pg**	07 48 07.1	-0.5
CSOR				S	**Sg**	07 48 22.1	+0.5
	4.0nm,0.2s						
ELIZ	**Elizondo**	**1.14**	**275**	Pg	**Pg**	07 48 09.8	+1.1
	SNR=4.0						
ELIZ				Lg		07 48 24.8	
	1.2nm,0.2s,SNR=7.0						
IUSE	**Utxeti**	**1.16**	**264**	Pg	**Pg**	07 48 11.7	+2.7
	1.2nm,0.2s,SNR=4.0						
IUSE				Lg		07 48 24.7	
	3.8nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.16**	**264**	Pg	**Pg**	07 48 11.7	+2.6
	1.2nm,0.2s,SNR=7.9						
CORG	**Organya**	**1.28**	**131**	P	**Pn**	07 48 10.8	-0.1
CORG				S	**Sb**	07 48 28.2	+0.6
	1.8nm,0.2s						
CAVN	**Les Avellanes**	**1.31**	**155**	P	**Pn**	07 48 11.3	-0.1
CAVN				S	**Sb**	07 48 28.5	-0.1
	7.2nm,0.2s						
ESAC	**San Caprasio**	**1.40**	**195**	Pg	**Pg**	07 48 14.0	+0.2
	14nm,0.4s,SNR=7.9						
ESAC				Lg		07 48 31.3	
	26nm,0.2s,SNR=22						
ESAC	**San Caprasio**	**1.40**	**195**	Pg	**Pg**	07 48 14.0	+0.3
	14nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**1.56**	**112**	P	**Pn**	07 48 16.7	+1.9
CLLI				S	**Sn**	07 48 36.8	+1.7
	2.2nm,0.5s						
EMIR	**Miracle**	**1.61**	**136**	Pg	**Pg**	07 48 17.0	-0.7
	1.8nm,0.1s,SNR=7.9						
EMIR				Lg		07 48 38.3	
	4.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**1.61**	**136**	Pg	**Pg**	07 48 17.0	-0.7
	1.8nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.63**	**80**	*e*Pn	**Pn**	07 48 14.9	-0.8
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	07 48 18.4	+0.3
MTLF				*e*Sg	**Sg**	07 48 39.3	+0.1
	5.5nm,0.3s						
MTLF	**Montolieu**	**1.63**	**80**	Pn	**Pn**	07 48 14.9	-0.8
MTLF				Pg	**Pg**	07 48 18.4	+0.3
MTLF				Lg		07 48 39.3	
	2.8nm,0.3s						
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	07 48 18.4	+0.3
MTLF				*e*Sg	**Sg**	07 48 39.3	+0.1
	2.8nm,0.3s						
EPOB	**Poblet**	**1.89**	**155**	Pg	**Pg**	07 48 21.6	-1.5
	1.0nm,0.1s,SNR=11						
EPOB				Lg		07 48 46.0	
	4.0nm,0.2s,SNR=9.4						
EPOB	**Poblet**	**1.89**	**155**	Pg	**Pg**	07 48 21.6	-1.6
	1.0nm,0.1s,SNR=11						
LFF	**La Frestale**	**1.93**	**15**	*e*Pn	**Pn**	07 48 19.6	-0.3
LFF	**La Frestale**	**1.93**	**15**	*e*Pg	**Pg**	07 48 24.5	+0.6
LFF				*e*Sg	**Sg**	07 48 50.2	+1.2
	20nm,0.6s						
LFF	**La Frestale**	**1.93**	**15**	Pn	**Pn**	07 48 19.6	-0.3
LFF				Pg	**Pg**	07 48 24.5	+0.6
LFF				Lg		07 48 50.2	
	9.8nm,0.6s						
LFF	**La Frestale**	**1.93**	**15**	*e*Pg	**Pg**	07 48 24.5	+0.6
LFF				*e*Sg	**Sg**	07 48 50.2	+1.2
	9.8nm,0.6s						
ERTA	**Horta de San J**	**2.13**	**174**	Pg	**Pg**	07 48 26.1	-1.6
	0.5nm,0.1s,SNR=7.9						
ERTA				Lg		07 48 53.1	
	4.8nm,0.3s,SNR=8.2						
ERTA	**Horta de San J**	**2.13**	**174**	Pg	**Pg**	07 48 26.1	-1.6
	0.5nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.20**	**106**	Pg	**Pg**	07 48 28.6	-0.5
	SNR=7.9						
EJON				Lg		07 48 57.2	
	2.0nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.20**	**106**	Pg	**Pg**	07 48 28.6	-0.5
	SNR=7.9						
CFON	**Fontmartina**	**2.22**	**125**	P	**Pn**	07 48 26.1	+2.2
CAF	**Calviac**	**2.37**	**38**	*e*Pn	**Pn**	07 48 24.8	-1.1
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	07 48 32.5	+0.3
CAF				*e*Sg	**Sg**	07 49 03.6	+0.8
	2.0nm,0.2s						
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	07 48 32.5	+0.3
CAF				*e*Sg	**Sg**	07 49 03.6	+0.8
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	07 48 34.4	+0.1
RJF				*e*Sg	**Sg**	07 49 07.2	+0.9
	3.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.47**	**25**	*e*Pg	**Pg**	07 48 34.4	+0.1
RJF				*e*Sg	**Sg**	07 49 07.2	+0.9
	1.5nm,0.3s						
ETOR	**Torete**	**2.73**	**215**	Pn	**Pn**	07 48 33.1	+2.2
	SNR=7.9						
ETOR				Sn	**Sn**	07 49 02.1	-2.1
	SNR=4.0						
ETOR				Lg		07 49 13.0	
	4.5nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.73**	**215**	Pn	**Pn**	07 48 33.1	+2.2
	SNR=7.9						
ETOR				Sn	**Sn**	07 49 02.1	-2.0
	SNR=4.0						
EMOS	**Mosqueruela**	**2.74**	**188**	Lg		07 49 12.0	
	0.7nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	07 48 42.8	-0.8
LASF				*e*Sg	**Sg**	07 49 21.5	-0.5
	2.1nm,0.3s						
LASF	**Ste Croix**	**2.96**	**69**	*e*Pg	**Pg**	07 48 42.8	-0.8
LASF				*e*Sg	**Sg**	07 49 21.5	-0.5
	1.0nm,0.3s						
MFF	**Saint Martin d**	**3.53**	**358**	*e*Pg	**Pg**	07 48 53.6	-0.8
MFF				*e*Sg	**Sg**	07 49 39.5	-0.6
	5.5nm,0.2s						
MFF	**Saint Martin d**	**3.53**	**358**	*e*Pg	**Pg**	07 48 53.6	-0.8
MFF				*e*Sg	**Sg**	07 49 39.5	-0.6
	2.8nm,0.2s						
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg	**Pg**	07 48 54.7	-0.6
TCF				*e*Sg	**Sg**	07 49 41.1	-0.4
	1.0nm,0.2s						
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg	**Pg**	07 48 54.7	-0.6
TCF				*e*Sg	**Sg**	07 49 41.1	-0.4
	0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**3.80**	**61**	*e*Pg	**Pg**	07 48 58.9	-0.8
VIVF				*e*Sg	**Sg**	07 49 47.7	-1.2
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**3.80**	**61**	*e*Pg	**Pg**	07 48 58.9	-0.8
VIVF				*e*Sg	**Sg**	07 49 47.7	-1.2
	0.7nm,0.3s						
BGF	**Bois d'Agland**	**4.02**	**29**	*e*Pg	**Pg**	07 49 02.8	-1.1
BGF				*e*Sg	**Sg**	07 49 55.0	-0.9
	3.9nm,0.3s						
BGF	**Bois d'Agland**	**4.02**	**29**	*e*Pg	**Pg**	07 49 02.8	-1.1
BGF				*e*Sg	**Sg**	07 49 55.0	-0.9
	2.0nm,0.3s						

*NEIC **03** 07:53:41.2±1.1, 2372S×17989W, h473km±13km, mb4.4/17, Error ellipse: s-maj=10.6km s-min=7.1km az=133.0*
*IDC **03** 07:53:45.7±1.3, 2382S×17997E, h522km±12km, mb3.8/12, mb1 4.0/14, mb1mx3.9/16, mbtmp3.8/14, Error ellipse: s-maj=14.6km s-min=11.0km az=167.0*
*ISCJB **03** 07:53:46.3±1.4, 2387S±006×17992E±006, h542km±17km, mb4.4/28, Error ellipse: s-maj=10.2km s-min=7.7km az=103.0*

ISC 03 07:53:46.4±1.3, 2396S±006×17996W±006, h533km±16km, n221, σ0$60/209, mb4.4/28, 61C-72D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.64**	**39**	P	**P**	07 56 23.8	-7.6
	2.0nm,0.3s,baz=337,slow=9.5,SNR=6.6						
AFI				S	**S**	07 58 34.8	-13
	4.4nm,0.3s,baz=174,slow=19,SNR=6.4						
DZM	**Mont Dzumac**	**12.66**	**276**	P	**P**	07 56 32.3	+0.6
	0.7nm,0.3s,baz=85,slow=15,SNR=7.1						
URZ	**Urewera**	**14.48**	**189**	P	**P**	07 56 49.6	-1.0
	6.2nm,0.3s,baz=315,slow=3.1,SNR=26						
URZ				S	**S**	07 59 21.2	-1.2
	3.1nm,0.3s,baz=243,slow=20,SNR=14						
QRZ	**Quartz Range**	**17.96**	**199**	*e*P	**P**	07 57 25.3	+0.6
QRZ	**Quartz Range**	**17.96**	**199**	*e*PN	**P**	07 57 25.3	+0.6
NNZ	**Nelson**	**18.09**	**196**	*e*PN	**P**	07 57 24.9	-1.0
THZ	**Tophouse**	**18.73**	**197**	*e*P	**P**	07 57 31.4	-0.3
THZ	**Tophouse**	**18.73**	**197**	*e*PN	**P**	07 57 31.4	-0.3
DSZ	**Denniston Nort**	**19.02**	**199**	*e*P	**P**	07 57 34.3	-0.1
DSZ	**Denniston Nort**	**19.02**	**199**	*e*PN	**P**	07 57 34.3	-0.1
KHZ	**Kahutara**	**19.19**	**195**	*e*P	**P**	07 57 34.6	-1.2
KHZ	**Kahutara**	**19.19**	**195**	*e*PN	**P**	07 57 34.6	-1.2
ARMA	**Armidale**	**26.04**	**249**	*e*P	**P**	07 58 38.9	+1.8
ARMA				*e*		07 58 49.4	
CNB	**Canberra Magne**	**28.86**	**240**	*e*P	**P**	07 59 03.3	+1.5
	21nm,0.9s,mb4.8						
CNB				*e*		07 59 13.8	
CTA	**Charters Tower**	**31.51**	**270**	⇓*i*P	**P**	07 59 25.2	+0.5
	52nm,0.3s,mb5.5						
CTA				*e*		07 59 35.4	
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	07 59 25.3	+0.6
	64nm,0.4s,mb5.5,baz=93,slow=11,SNR=226						
TOO	**Toolangi**	**32.45**	**237**	*e*P	**P**	07 59 33.8	+1.1
	5.9nm,0.4s,mb4.5						
TOO				*e*		07 59 44.2	
PMG	**Port Moresby**	**34.55**	**289**	P	**P**	07 59 49.9	-0.4
	48nm,0.9s,mb5.0,baz=117,slow=6.0,SNR=18						
PMG	**Port Moresby**	**34.55**	**289**	*e*P	**P**	07 59 49.6	-0.7
	70nm,1.0s,mb5.2						
STKA	**Stephens Creek**	**34.73**	**248**	*e*P	**P**	07 59 52.6	+0.7
	3.2nm,0.3s,mb4.3						
STKA				*e*		08 00 03.0	
STKA	**Stephens Creek**	**34.73**	**248**	P	**P**	07 59 52.8	+0.9
	4.2nm,0.3s,mb4.4,baz=94,slow=9.8,SNR=18						
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	08 00 51.5	+0.2
	13nm,0.4s,mb4.8,baz=96,slow=7.7,SNR=414						
ASAR				ScP	ScP	08 05 35.7	+2.2
	6.1nm,0.8s,baz=117,slow=3.8,SNR=27						
ASAR				S	**S**	08 06 32.0	0.0
	0.9nm,0.9s,baz=93,slow=14,SNR=4.7						
WB2	**Warramunga Arr**	**42.43**	**266**	⇓*i*P	**P**	08 00 53.6	-0.6
WB2				*e*		08 01 04.1	
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	08 00 53.7	-0.6
	20nm,0.3s,mb5.1,baz=95,slow=8.4,SNR=625						
WRA				ScP	ScP	08 05 38.8	+3.9
	4.5nm,0.9s,baz=100,slow=4.1,SNR=16						
WRA				S	**S**	08 06 34.6	-2.9
	2.1nm,1.0s,baz=101,slow=14,SNR=6.1						
FORT	**Forrest**	**46.33**	**250**	*e*P	**P**	08 01 23.8	-0.5
	43nm,0.5s,mb5.2						
FORT				*e*		08 01 34.2	
KAKA	**Kakadu**	**46.35**	**275**	*e*P	**P**	08 01 23.4	-1.1
	19nm,0.3s,mb5.1						
FITZ	**Fitzroy Crossi**	**50.86**	**266**	*e*P	**P**	08 01 58.1	+0.1
	26nm,0.9s,mb4.6						
FITZ				*e*		08 02 09.4	
SBA	**Scott Base**	**54.32**	**183**	*e*P	**P**	08 02 25.1	+2.3
	22nm,1.0s,mb4.5						
VNDA	**Vanda**	**54.33**	**185**	P	**P**	08 02 22.9	+0.2
	2.4nm,0.8s,mb3.6,baz=8.1,slow=7.9,SNR=11						
VNDA	**Vanda**	**54.33**	**185**	*e*P	**P**	08 02 24.0	+1.2
	2.1nm,0.7s,mb3.6						
KLBR	**Kellerberrin**	**55.00**	**247**	*e*P	**P**	08 02 27.3	-0.2
	20nm,1.1s,mb4.2						
KLBR				*e*		08 02 37.5	
MUN	**Mundaring**	**56.24**	**247**	*e*P	**P**	08 02 35.9	-0.2
QSPA	**South Pole Qui**	**66.13**	**180**	*e*P	**P**	08 03 42.4	+1.5
	60nm,0.8s,mb5.2						
MJAR	**Matsushiro Arr**	**71.96**	**326**	P	**P**	08 04 15.1	-0.9
	2.1nm,0.9s,mb3.6,baz=141,slow=4.9,SNR=3.3						
MAW	**Mawson**	**77.71**	**200**	*e*P	**P**	08 04 49.1	+0.9
	3.0nm,0.5s,mb3.9						
MAW	**Mawson**	**77.71**	**200**	P	**P**	08 04 49.4	+1.2
	4.4nm,0.5s,mb4.0,baz=150,slow=6.3,SNR=19						
KSRS	**Korea Array**	**78.31**	**320**	P	**P**	08 04 51.7	+0.3
	1.4nm,0.8s,mb3.3,baz=149,slow=5.1,SNR=3.5						
FARB	**Farallon Islan**	**81.38**	**42**	⇑P	**P**	08 05 06.9	-0.6
	baz=81						
HAST	**UC Hastings Re**	**81.48**	**44**	⇑P	**P**	08 05 08.1	+0.1
	baz=82						
U04C	**Hernandez Rese**	**81.95**	**44**	⇑P	**P**	08 05 10.6	+0.2
	baz=82						
PACP	**Pacheco Peak**	**82.02**	**44**	⇑P	**P**	08 05 11.3	+0.5
	baz=82						
WENL	**Wente Brothers**	**82.11**	**43**	⇑P	**P**	08 05 11.7	+0.5
	baz=82						
OSI	**Osito Adit**	**82.25**	**47**	⇓P	**P**	08 05 13.0	+1.1
	baz=82						
S04C	**Ingram Canyon,**	**82.30**	**43**	⇑P	**P**	08 05 12.9	+0.7
	baz=82						
109C	**Camp Elliot, M**	**82.36**	**49**	⇓P	**P**	08 05 12.8	+0.3
	baz=82						
MNRC	**McLaughlin Nat**	**82.47**	**42**	⇓P	**P**	08 05 13.8	+0.8
	baz=82						
Q03C	**Winters**	**82.58**	**42**	⇓P	**P**	08 05 13.2	-0.4
	baz=83						
MURC	**Murrieta**	**82.70**	**48**	⇓P	**P**	08 05 13.9	-0.2
	baz=83						
VES	**Vestal, Richgr**	**82.74**	**46**	⇑P	**P**	08 05 13.9	-0.5
	baz=83						
GASB	**Alder Springs**	**82.78**	**41**	⇓P	**P**	08 05 14.3	-0.3
	baz=83						
S05C	**Merced**	**82.83**	**44**	⇑P	**P**	08 05 15.3	+0.4
	baz=83						
EDW2	**Edwards Air Fo**	**82.90**	**47**	⇓P	**P**	08 05 15.2	+0.1
	baz=83						
DVTC	**Desert V Tower**	**82.93**	**50**	⇑P	**P**	08 05 15.7	+0.4
	baz=83						
SYO	**Syowa Base**	**82.97**	**193**	⇓*e*P	**P**	08 05 14.8	-0.7
T06C	**Millerton Lake**	**83.03**	**44**	P	**P**	08 05 15.6	-0.3
	baz=83,SNR=5.9						
ISA	**Isabella**	**83.03**	**46**	*e*P	**P**	08 05 15.7	-0.1
ISA	**Isabella**	**83.03**	**46**	⇓P	**P**	08 05 16.4	+0.6
	baz=83						
O02C	**Red Bluff**	**83.08**	**40**	⇑P	**P**	08 05 16.9	+0.8
	baz=83						
SUTB	**Sutter Butte**	**83.08**	**42**	⇓P	**P**	08 05 15.7	-0.4
	baz=83						
Q04C	**Lincoln**	**83.09**	**42**	⇑P	**P**	08 05 15.8	-0.3
	baz=83						
N02C	**Big Bar**	**83.18**	**40**	⇑P	**P**	08 05 16.6	0.0
	baz=83						
CMB	**Columbia Colle**	**83.22**	**43**	*e*P	**P**	08 05 16.0	-0.7
	12nm,1.2s,mb4.3						
CMB	**Columbia Colle**	**83.22**	**43**	⇓P	**P**	08 05 16.9	+0.2
	baz=83						
HELL	**Mitchell Peak,**	**83.27**	**45**	⇑P	**P**	08 05 16.3	-0.8
	baz=83						
SWSC	**Sam W. Stewart**	**83.30**	**50**	⇓P	**P**	08 05 17.5	+0.4
	baz=83						
OHCM	**Honcut**	**83.33**	**42**	*e*P	**P**	08 05 16.3	-1.1
LAVA	**Lava Cap Winer**	**83.44**	**43**	⇓P	**P**	08 05 17.4	-0.5
	baz=83						
LRMC	**Laurel Mountai**	**83.45**	**47**	⇓P	**P**	08 05 18.0	+0.1
	baz=83						
ORV	**Oroville**	**83.46**	**42**	⇓P	**P**	08 05 18.3	+0.3
	baz=84						
S06C	**San Francisco**	**83.46**	**44**	⇑P	**P**	08 05 17.4	-0.6
	baz=84						
KCC	**Kaiser Creek**	**83.47**	**44**	⇑P	**P**	08 05 18.3	+0.3
	baz=84						
WDC	**Whiskeytown Da**	**83.48**	**40**	⇑P	**P**	08 05 18.2	+0.1
	baz=84						
CWC	**Cottonwood Cre**	**83.75**	**46**	⇓P	**P**	08 05 18.7	-0.8
	baz=84						
BELC	**Belle Mtn.**	**83.75**	**49**	⇑P	**P**	08 05 20.0	+0.6
	baz=84						
M02C	**Callahan**	**83.81**	**39**	⇓P	**P**	08 05 20.3	+0.6
	baz=84						
R05C	**Kirkwood Meado**	**83.81**	**43**	⇑P	**P**	08 05 19.5	-0.2
	baz=84						
P05C	**Yuba Gap, Truc**	**83.85**	**42**	⇓P	**P**	08 05 20.6	+0.7
	baz=84						
MPMC	**Manual Prospec**	**83.91**	**46**	⇑P	**P**	08 05 20.3	0.0
	baz=84						
GSC	**Goldstone**	**83.94**	**47**	P	**P**	08 05 20.7	+0.3
	baz=84,SNR=5.6						
HEC	**Hector,Ludlow**	**83.99**	**48**	⇑P	**P**	08 05 20.4	-0.2
	baz=84						
O05C	**Quincy**	**84.06**	**42**	⇑P	**P**	08 05 21.1	+0.2
	baz=84						
R06C	**Coleville**	**84.10**	**43**	P	**P**	08 05 21.7	+0.6
	baz=84,SNR=5.3						
YBH	**Yreka Blue Hor**	**84.11**	**39**	P

K05A	Summer Lake baz=86	85.78	39	⇑P		P	08 05 29.5 +0.2
Y14A	Wickenburg baz=86	85.79	50	⇓P		P	08 05 29.5 +0.1
W13A	Hualapai Mount baz=86	85.81	49	⇑P		P	08 05 30.1 +0.6
J05A	Fort Rock baz=86,SNR=5.7	85.93	39	P		P	08 05 30.6 +0.6
M07A	Soldier Meadow baz=86	85.98	41	⇓P		P	08 05 29.6 -0.7
116A	Eloy baz=86	85.99	52	⇓P		P	08 05 30.2 -0.1
G03A	Yamhill baz=86	86.07	36	⇑P		P	08 05 28.8 -1.9
U12A	Valley of Fire baz=86	86.09	47	⇓P		P	08 05 30.8 0.0
X14A	Yava baz=86	86.16	50	⇑P		P	08 05 31.5 +0.3
K06A	Valley Falls baz=86	86.20	40	⇓P		P	08 05 31.6 +0.3
N08A	GE Springer Mi baz=86	86.25	42	⇓P		P	08 05 31.5 -0.1
L07A	Adell baz=86	86.26	41	⇓P		P	08 05 31.7 +0.1
H04A	Detroit Lake baz=86	86.27	37	⇑P		P	08 05 31.3 -0.3
W14A	Seligman baz=86	86.42	49	⇓P		P	08 05 33.2 +0.8
J06A	Christmas Vall baz=86	86.53	39	⇓P		P	08 05 32.7 -0.2
N09A	Rock Creek Ran baz=87	86.67	42	⇑P		P	08 05 33.4 -0.1
Q11A	Duckwater baz=87	86.70	45	⇓P		P	08 05 33.9 +0.2
K07A	Rock Creek Ran baz=87	86.72	40	⇑P		P	08 05 33.8 +0.1
I06A	Prineville baz=87,SNR=9.6	86.92	39	P		P	08 05 35.1 +0.4
WVOR	Wild Horse Val 11nm,1.4s,mb4.3	86.93	41	*e*P		P	08 05 34.2 -0.5
L08A	Fields baz=87,SNR=5.3	86.96	41	P		P	08 05 35.0 +0.1
M09A	Marrel Ranch, baz=87	87.05	42	⇑P		P	08 05 35.6 +0.3
J07A	Hines baz=87	87.09	40	⇑P		P	08 05 35.8 +0.3
K08A	Mann Creek Ran baz=87,SNR=6.7	87.19	40	P		P	08 05 36.2 +0.2
L09A	Wilkinson Ranc baz=87	87.27	41	⇑P		P	08 05 36.7 +0.3
H06A	Lindquist Farm baz=87,SNR=9.6	87.33	38	P		P	08 05 36.6 0.0
Q12A	Willow Creek R baz=87	87.34	45	⇓P		P	08 05 37.1 +0.4
I07A	Izee baz=87,SNR=8.8	87.41	39	P		P	08 05 37.3 +0.3
O11A	Cowboy Ranch, baz=87	87.42	44	⇓P		P	08 05 37.3 +0.2
G06A	Carlson Farm, baz=88	87.47	37	⇓P		P	08 05 36.8 -0.5
P12A	McGill baz=88	87.53	45	⇑P		P	08 05 38.3 +0.7
J08A	Circle Bar Ran baz=88,SNR=7.3	87.57	40	P		P	08 05 38.1 +0.3
K09A	Rome baz=88,SNR=9.6	87.63	41	P		P	08 05 38.0 0.0
M10A	I.L. Ranch, Tu baz=88,SNR=5.6	87.67	42	P		P	08 05 38.6 +0.4
E05A	Randle baz=88	87.68	36	⇓P		P	08 05 38.2 -0.1
H07A	Lands Inn, Kim baz=88,SNR=8.9	87.68	38	P		P	08 05 38.5 +0.2
I08A	Drewsey baz=88,SNR=6.5	87.85	39	P		P	08 05 39.4 +0.3
D05A	Enumclaw baz=88	87.96	35	⇓P		P	08 05 39.7 +0.1
J09A	Fry Pan Ranch, baz=88	87.99	40	⇑P		P	08 05 39.6 -0.1
G07A	Ruggs Ranch, H baz=88,SNR=5.2	88.03	38	P		P	08 05 40.0 +0.1
M11A	Holland Ranch, baz=88	88.08	43	⇑P		P	08 05 40.3 +0.1
O12A	Currie baz=88	88.08	44	⇓P		P	08 05 40.0 -0.1
E06A	Yakima baz=88	88.09	36	⇓P		P	08 05 40.5 +0.3
H08A	Prairie City baz=88	88.15	39	⇓P		P	08 05 40.8 +0.3
N12A	Clover Valley, baz=88	88.22	43	⇓P		P	08 05 40.8 0.0
F07A	Phinny Hill Vi baz=88	88.27	37	⇓P		P	08 05 41.2 +0.2
I09A	Lost Marbles R baz=88	88.37	40	⇑P		P	08 05 41.0 -0.4
G08A	Pilot Rock baz=88,SNR=8.8	88.45	38	P		P	08 05 41.9 0.0
D06A	Cle Elum baz=89	88.57	36	⇓P		P	08 05 42.5 +0.1
B05A	Bryant baz=89	88.58	34	⇑P		P	08 05 42.5 0.0
M12A	Wells baz=89	88.61	43	⇑P		P	08 05 42.0 -0.6
J10A	Berg Farm, Mel baz=89	88.62	41	⇓P		P	08 05 43.4 +0.7
E07A	Sunnyside baz=89	88.72	37	⇓P		P	08 05 43.3 +0.2
N13A	Wendover, West baz=89	88.75	44	⇓P		P	08 05 44.1 +0.9
MSU	Marysvale	88.80	47	*e*P		P	08 05 43.8 +0.3
F08A	Pendleton baz=89	88.85	38	⇓P		P	08 05 43.2 -0.6
D07A	Quincy baz=89	89.04	36	⇓P		P	08 05 44.4 -0.2
M13A	Montello baz=89	89.05	43	⇓P		P	08 05 45.3 +0.6
E08A	Dider Farm, El baz=89	89.11	37	⇑P		P	08 05 44.0 -1.0
F09A	S2 Ranch, Elgi baz=89	89.29	38	⇓P		P	08 05 45.9 +0.1
C07A	Waterville baz=89	89.29	36	⇓P		P	08 05 45.2 -0.6
H10A	Noah's Angus R baz=89,SNR=5.0	89.31	40	P		P	08 05 45.5 -0.3
I11A	Placerville baz=89	89.38	41	⇑P		P	08 05 46.4 +0.2
D08A	Wollman Farm, baz=90	89.53	37	⇓P		P	08 05 46.8 -0.1
E09A	Wood Farm, Sta baz=90	89.63	37	⇑P		P	08 05 47.5 +0.1
B07A	Winthrop baz=90	89.73	35	⇑P		P	08 05 47.4 -0.4
H11A	Donnelly baz=90	89.80	40	⇓P		P	08 05 47.7 -0.4
F10A	Beach Ranch, E baz=90	89.83	38	⇑P		P	08 05 47.1 -1.1
TMUT	Trail Mountain	89.85	46	*e*P		P	08 05 48.9 +0.5
D09A	Jones Farm, Ri baz=90	89.87	37	⇑P		P	08 05 48.9 +0.4
A07A	Ashnola River, baz=90	89.96	35	⇑P		P	08 05 48.1 -0.8
HLID	Hailey baz=90	90.11	41	⇓P		P	08 05 49.6 0.0
SRU	San Rafael 11nm,1.0s,mb4.6	90.21	47	*e*P		P	08 05 50.1 +0.1
C09A	Chrisman Ranch baz=90	90.32	36	⇑P		P	08 05 50.0 -0.6
F11A	Grangeville baz=90	90.39	39	⇓P		P	08 05 50.8 0.0
TXAR	Lajitas Array 3.3nm,0.7s,mb4.3,baz=222,slow=6.7,SNR=19	90.43	58	P		P	08 05 51.7 +0.7
D10A	Wagner Farm, O baz=90	90.43	37	⇑P		P	08 05 50.2 -0.9
A08A	Turner Farm, O baz=90	90.48	35	⇓P		P	08 05 50.5 -0.8
HWUT	Hardware Ranch 2.6nm,0.7s,mb4.3	90.83	44	*e*P		P	08 05 52.2 -0.7
ANMO	Albuquerque 2.8nm,1.0s,mb4.2	90.96	52	*e*P		P	08 05 53.7 +0.2
PV01	Paradox Valley	91.03	48	*e*P		P	08 05 53.6 -0.2
G13A	Cobalt baz=91	91.07	40	⇓P		P	08 05 52.9 -1.1
F13A	Darby baz=91	91.39	40	⇓P		P	08 05 54.1 -1.4
G15A	Dillon baz=92	92.14	41	⇑P		P	08 05 58.2 -0.8
B12A	Libby baz=92	92.18	37	⇓P		P	08 05 58.5 -0.6
PDAR	Pinedale Array	92.70	44	P		P	08 06 00.8 -0.7
	1.5nm,0.8s,mb4.1,baz=214,slow=3.3,SNR=11						
SDCO	Great Sand Dun 2.5nm,0.8s,mb4.3	92.97	50	*e*P		P	08 06 02.7 -0.1
MKAR	Makanchi Array 0.2nm,0.4s,baz=212,slow=1.1,SNR=4.2	112.22	313	PKiKP	PKiKP		08 11 19.8 -1.7
ARCES	ARCESS Array B 3.0nm,0.8s,baz=12,slow=1.6,SNR=9.7	131.95	348	PKP	PKPdf		08 11 57.2 -2.0
FINES	FINESS Array B 2.4nm,0.9s,baz=86,slow=1.7,SNR=5.5	138.51	341	PKP	PKPdf		08 12 10.9 -0.5
FINES				SKPbc	SKPbc		08 14 56.4 +0.5
NOA	NORSAR Array B 4.2nm,0.8s,baz=57,slow=4.4,SNR=7.0	142.14	351	PKhKP			08 12 13.0
NOA				SKPbc	SKPbc		08 15 04.2 -1.2
AKASG	Malin Array Be 1.9nm,0.9s,baz=317,slow=4.3,SNR=3.3	145.04	327	PKP	PKPdf		08 12 21.9 -1.1
AKASG	1.0nm,0.4s,baz=42,slow=3.8,SNR=13			SKPbc	SKPbc		08 15 13.7 +1.5
BRTR	Keskin Array B 3.2nm,0.6s,baz=46,slow=2.4,SNR=13	147.64	307	PKPbc	PKPbc		08 12 30.3 -0.6
STHS	Stebnicka Huta 0.7nm,0.5s,baz=81,slow=2.1,SNR=4.6	149.63	332	*e*PKP	PKPbc		08 12 35.9 +0.1
CRVS	Cervenica-Dubn	149.92	331	*e*PKP	PKPbc		08 12 36.1 -0.4
UPC	Upice	150.73	339	*e*PKPbc	PKPbc		08 12 37.8 -0.6
DPC	Dobruska-Polom	150.76	338	*e*PKPbc	PKPbc		08 12 37.8 -0.7
CLL	Collm comp=Z,13nm,0.9s	150.92	343	⇑*i*PKPbc	PKPbc		08 12 38.1 -0.7
CLL				*i* (pPKPab)			08 14 43.4
BRG	Berggiesshubel comp=Z,4.5nm,0.9s	151.05	342	*i* P	PKPbc		08 12 38.4 -0.7
PVCC	Panska Ves	151.17	341	*e*PKPbc	PKPbc		08 12 38.7 -0.7
VYHS	Vyhne	151.35	333	*e*PKP	PKPbc		08 12 39.1 -0.7
GERES	GERESS Array B comp=Z,0.3nm,0.4s,baz=54,slow=3.4,SNR=5.5	152.92	340	PKPbc	PKPbc		08 12 42.7 -0.5
TORD	Torodi Ar. Bea comp=Z,2.5nm,1.1s,baz=19,slow=1.7,SNR=8.8	169.13	189	PKP	PKPdf		08 12 52.0 -0.4
TORD				PKPab	PKPab		08 14 08.8 +0.7
TORD	comp=Z,3.7nm,0.9s,baz=182,slow=3.9,SNR=15			PP	PP		08 17 57.6 -1.1
TORD	comp=Z,1.1nm,1.0s,baz=156,slow=4.3,SNR=4.6						

ISCJB ***03*** *08:12:08.0±0.6, 44.39N±003×726E±006, h20km±7km, Error ellipse: s-maj=8.0km s-min=3.6km az=133.7*
STR ***03*** *08:12:08.5±0.4, 44.38N×721E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***03*** *08:12:08.0±0.1, 44.41N×725E, h2km, Md1.9/3, Ml1.7/7, Error ellipse: s-maj=1.7km s-min=0.8km az=67.0*
ISC 03 08:12:07.6±0.6, 44.40N±002×723E±006, h16km±5km, n13, σ0.29/24, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.31	285	Pg	Pg	08 12 14.5	+0.3
TOUF	Mont Tournerai	0.39	178	Pg	Pg	08 12 15.8	+0.3
MBDF	Montbardon	0.46	315	*e*Pg	Pg	08 12 17.1	+0.2
MBDF				*e*Sg	Sg	08 12 23.1	0.0
MVIF	Mont Vial 10nm,0.4s	0.51	186	Pg	Pg	08 12 18.3	+0.6
MVIF				Sg	Sg	08 12 24.8	+0.3
LUCF	Luceram	0.52	171	Pg	Pg	08 12 18.1	+0.3
LUCF				Sg	Sg	08 12 24.7	-0.1
SBF	Sospel	0.56	165	*e*Pg	Pg	08 12 18.4	-0.2
SBF	5.1nm,0.2s			*e*Sg	Sg	08 12 25.8	-0.3
FRF	La Foret Royal	0.94	207	*e*Pg	Pg	08 12 25.3	-0.5
FRF	4.7nm,0.2s			*e*Sg	Sg	08 12 37.9	-0.3
ORIF	Oris-en-Rattie 2.2nm,0.3s	1.09	299	*e*Pg	Pg	08 12 28.7	-0.1
ORIF				*e*Sg	Sg	08 12 43.0	-0.1
LPG	La Plagne 1.1nm,0.3s	1.15	343	*e*Pg	Pg	08 12 30.1	+0.3
LPG				*e*Sg	Sg	08 12 44.5	-0.3
LPL	La Plagne 0.7nm,0.2s	1.17	343	*e*Pg	Pg	08 12 29.9	-0.3
LPL				*e*Sg	Sg	08 12 45.4	-0.1
SMRF	Simiane la Rot 4.4nm,0.3s	1.27	251	*e*Pg	Pg	08 12 32.1	+0.1
SMRF				*e*Sg	Sg	08 12 48.2	-0.3
VIVF	Saint-Julien-l 1.6nm,0.4s	1.88	285	*e*Pn	Pn	08 12 39.6	+0.4
VIVF				*e*Sn	Sn	08 13 02.7	+0.1
PGF	Pioggiola 0.2nm,0.2s	2.25	145	*e*Pn	Pn	08 12 44.5	+0.2
PGF				*e*Sn	Sn	08 13 11.4	-0.4

NEIC 03 08:16:30.6, 63.18N×151.31W, h10km, ML3.2(AEIC), ML3.8(PMR), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.41	25	P	Pg	08 16 39.0	+0.3
KTH				S	Sg	08 16 44.8	+0.6
TRF	Thorofare Moun	0.54	59	P	Pg	08 16 40.9	-0.1
TRF				S	Sg	08 16 48.9	+0.8
MCK	McKinley	1.20	62	P	Pn	08 16 52.7	-0.7
GHO	Glory Hole Cre	1.80	141	P	Pn	08 17 01.3	-0.2
PMR	Palmer	1.89	147	P	Pn	08 17 03.2	+0.4
SML	Sawmill	1.95	134	P	Pn	08 17 04.2	+0.6
FIB	Fire Island	2.09	165	P	Pn	08 17 05.7	+0.1
RC01	Rabbit Creek A	2.23	160	P	Pn	08 17 07.7	+0.2
COLA	College	2.28	40	P	Pn	08 17 07.3	-0.9
SLKM	Skilak Lake	2.73	169	P	Pn	08 17 14.8	+0.5
SVW2	Sparrevohn	2.90	226	*e*P	Pn	08 17 17.2	+0.5
GCSA	Galena City Sc	2.92	305	P	Pn	08 17 16.1	-0.8
IMA2	Indian Mountai	3.08	342	P	Pn	08 17 19.4	+0.2
SEW	Seward	3.21	163	P	Pn	08 17 22.3	+1.3
DOT	Dot Lake	3.29	79	P	Pn	08 17 22.6	+0.5
EYAK	Cordova Ski Ar	3.73	133	P	Pn	08 17 29.3	+1.2
COLD	Coldfoot	4.09	6	P	Pn	08 17 33.8	+0.6
EGAK	Eagle	4.75	66	*e*Pn	Pn	08 17 43.5	+1.3
EGAK				*e*Sn	Sb	08 18 52.4	+1.3
DAWY	Dawson	5.39	75	P	Pn	08 17 51.5	+0.5

ISCJB ***03*** *08:16:58.6±0.5, 767S±004×11749E±004, h299km±5km, mb4.6/59, Error ellipse: s-maj=7.5km s-min=4.8km az=97.1*
IDC ***03*** *08:17:00.2±1.7, 768S×11750E, h301km±16km, mb4.5/29, mb1 4.4/30, mb1mx4.4/33, mbtmp4.5/30, Error ellipse: s-maj=9.8km s-min=6.6km az=63.0*
NEIC ***03*** *08:17:00.9±0.9, 765S×11752E, h310km±9km, mb4.6/25, Error ellipse: s-maj=8.3km s-min=4.6km az=63.0*
BJI ***03*** *08:17:00.9, 760S×11750E, h310km, mB4.7, mb4.6*
ISC 03 08:16:59.4±0.5, 770S±004×11750E±004, h290km±5km, h303km±5.3km: pP-P, n124, σ1.08/116, mb4.6/59, 2C-4D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	Denpasar 1μm,0.6s	2.47	247	P	Pn	08 17 49.0	-0.4
NBBI	Negara 5μm,0.7s	2.93	257	P	Pn	08 17 52.5	-1.3
WSI	Waingapu 4μm,0.7s	3.39	126	P	Pn	08 17 55.7	-2.8
KMMI	Kalianget 2μm,1.1s	3.57	280	P	Pn	08 18 01.7	+1.4
KRKI	Karangkates 2μm,0.6s	5.02	264	P	Pn	08 18 16.4	-0.4
BJII	Banjamegara 668nm,0.8s	7.74	272	P	Pn	08 18 49.0	-0.6
LEM	Lembang 201nm,1.2s	9.85	274	P	Pn	08 19 14.7	-0.9
CBJI	Citeko 219nm,0.8s	10.65	276	P	Pn	08 19 24.5	-1.0
AAI	Ambon 122nm,0.7s	11.36	70	P	Pn	08 19 35.6	+1.4
KSM	Kuching	11.60	321	*e*Pn	Pn	08 19 39.0	+1.9
TSM	Tawau	11.91	2	P	Pn	08 19 43.9	+2.9
FITZ	Fitzroy Crossi 50nm,0.8s	13.03	143	⇓*i*P	Pn	08 19 54.2	-0.3
FITZ				*e*S	S	08 22 22.4	+3.6
FITZ	Fitzroy Crossi 4.2nm,0.3s,baz=336,slow=8.1,SNR=88	13.03	143	P	Pn	08 19 54.5	0.0
FITZ	2.9nm,0.3s,baz=144,slow=12,SNR=6.4			S	S	08 22 20.0	+1.2
KKM	Kota Kinabalu	13.71	355	P	Pn	08 20 04.7	+2.0
KKM	Kota Kinabalu	13.71	355	*e*Pn	Pn	08 20 03.6	+0.9
KAKA	Kakadu	15.52	110	*e*P	Pn	08 20 22.3	-1.9
	90nm,0.4s						
KAKA				*e*S	S	08 23 10.2	-1.1
KGM	Kluang	17.12	304	P	P	08 20 42.0	+1.9
WRA	Warramunga Arr 25nm,0.3s,baz=305,slow=10,SNR=228	20.36	128	P	P	08 21 14.0	-0.5
WRA	6.6nm,0.8s,baz=299,slow=21,SNR=6.8			S	S	08 24 45.9	+1.1
WB2	Warramunga Arr	20.37	128	⇓*i*P	P	08 21 14.0	-0.7
WB2				*e*S	S	08 24 52.8	+7.9
IPM	Ipoh	20.41	306	P	P	08 21 16.2	+1.1
KULM	Kulim	21.19	307	*e*P	P	08 21 22.6	-0.1
PSI	Prapat 25nm,0.6s,mb4.7,baz=150,slow=5.9,SNR=43	21.27	299	P	P	08 21 22.8	-0.6
PSI	Prapat	21.27	299	P	P	08 21 22.8	-0.6
TGY	Tagaytay City 167nm,0.3s,baz=171,slow=6.8,SNR=11	21.92	9	P	P	08 21 30.1	+0.8
ASAR	Alice Springs 61nm,0.4s,mb5.3,baz=313,slow=9.8,SNR=1181	22.35	137	P	P	08 21 33.7	+0.4
ASAR	5.9nm,0.7s,baz=315,slow=16,SNR=6.1			S	S	08 25 16.6	-0.6
KLBR	Kellerberrin 32nm,1.2s,mb4.5	23.78	179	*e*P	P	08 21 44.6	-1.6
MUN	Mundaring	24.19	183	*e*P	P	08 21 52.8	+2.8
FORT	Forrest 27nm,0.5s,mb4.9	25.00	158	⇓*i*P	P	08 21 57.4	+0.2
NWAO	Narrogin (SRO) 8.1nm,0.3s,mb4.6,baz=4.8,slow=7.1,SNR=18	25.11	181	P	P	08 21 58.6	+0.4
NWAO	Narrogin (SRO) 6.6nm,0.5s,mb4.3	25.11	181	*e*P	P	08 21 58.5	+0.3
PMG	Port Moresby 3.5nm,0.3s,mb4.2,baz=252,slow=17,SNR=3.6	29.37	95	P	P	08 22 35.2	-0.8
CTA	Charters Tower 22nm,0.8s,mb4.8	30.44	117	⇓*i*P	P	08 22 46.3	+0.9
CTAO	Charters Tower 37nm,0.9s,mb4.9	30.44	117	*e*P	P	08 22 46.6	+1.1
CHTO	Chiang Mai 2.9nm,0.5s,mb4.1	32.08	325	*e*P	P	08 22 59.2	-0.5
YHNB	Yeheng	32.39	7	*e*P	P	08 23 02.7	+0.3
STKA	Stephens Creek 17nm,0.5s,mb4.8	32.90	140	*e*P	P	08 23 07.5	+0.8
STKA	Stephens Creek 31nm,0.7s,mb5.0,baz=316,slow=9.0,SNR=41	32.90	140	P	P	08 23 07.5	+0.8
STKA				ScP	ScP	08 28 57.5	-2.1
GYA	Guiyang 2.9nm,0.5s,baz=91,slow=2.6,SNR=4.8	35.54	343	P	P	08 23 31.8	+2.4
GYA				AP	pP	08 24 31.9	+5.3
GYA				PP	PP	08 25 04.5	+7.5
GYA				XP	sP	08 25 05.8	+5.8
GYA				PCP	PcP	08 25 53.7	+2.3
GYA				S	S	08 28 46.7	+3.8
GYA				SCP	ScP	08 29 10.2	+1.1
GYA				SCS	ScS	08 33 14.6	0.0
GYA	comp=Z,10.0nm,0.8s,mb4.4			AMB	AMB		
GYA	comp=Z,70nm,4.8s			AMB	AMB		
KMI	Kunming	35.65	337	P	P	08 23 32.8	+2.5
KMI	comp=Z,22nm,1.1s,mb4.6			AMB	AMB		
JOW	Kunigami comp=Z,29nm,0.8s,mb4.9,baz=210,slow=9.2,SNR=3.6	35.88	17	P	P	08 23 32.2	0.0
TOO	Toolangi comp=Z,7.1nm,0.7s,mb4.2	39.09	144	*e*P	P	08 24 00.7	+1.7
ARMA	Armidale	39.13	130	*e*P	P	08 24 01.9	+2.6
CNB	Canberra Magne comp=Z,20nm,1.3s,mb4.3	40.09	138	*e*P	P	08 24 08.6	+1.4
CD2	Chengdu comp=Z,10.0nm,0.8s,mb4.1	40.58	342	*e*P	P	08 24 13.3	+2.1
CD2				AMB	AMB		
CBIJ	Chichi jima comp=Z,45nm,0.6s,mb4.9,baz=280,slow=12,SNR=5.1	42.05	34	P	P	08 24 21.4	-1.6
XAN	Xi'an comp=Z,9.0nm,0.7s,mb4.1	42.30	349	P	P	08 24 24.7	-0.3
XAN				AMB	AMB		
JNU	Nakatsue comp=Z,24nm,0.9s,mb4.4,baz=201,slow=20,SNR=3.3	42.54	17	P	P	08 24 26.8	-0.2
LSA	Lhasa comp=Z,25nm,0.9s,mb4.5	45.00	327	*e*P	P	08 24 47.4	+1.0
LZH	Lanzhou	45.40	344	⇑P	P	08 24 53.7	+4.1
LZH				AP	pP	08 25 55.2	+5.6
LZH				XP	sP	08 26 26.7	+4.5
LZH				PP	PP	08 26 45.3	+4.4
LZH	comp=Z,24nm,1.3s,mb4.3			AMB	AMB		
LZH	comp=Z,57nm,6.7s			AMB	AMB		
JHJ	Hachijo jima 2 comp=Z,174nm,0.9s,mb5.4,baz=85,slow=21,SNR=2.9	45.79	26	P	P	08 24 54.1	+1.6
KSRS	Korea Array comp=Z,22nm,0.9s,mb4.5,baz=190,slow=8.2,SNR=40	45.96	12	P	P	08 24 54.8	+0.9
KSRS				PcP	PcP	08 26 25.5	+0.1
GUN	comp=Z,1.5nm,0.6s,baz=183,slow=3.3,SNR=4.9 Gumba comp=Z,39nm,0.7s,mb4.9	46.77	320	*e*P	P	08 25 00.1	-0.1
PKI	Pulchoki comp=Z,13nm,0.4s,mb4.6	46.83	320	*e*P	P	08 25 00.1	-0.6
DMN	Daman comp=Z,18nm,0.5s,mb4.6	47.05	319	*e*P	P	08 25 01.4	-1.0
KKN	Kakani	47.07	320	*e*P	P	08 25 01.9	-0.6
BJT	Baijiatuau comp=Z,24nm,0.6s,mb4.7	47.49	359	*e*P	P	08 25 05.1	-0.6
BJI	Beijing comp=Z,39nm,1.0s,mb4.7	47.51	359	*e*P	P	08 25 05.9	+0.1
BJI				AMB	AMB		
GKN	Gorkha comp=Z,19nm,0.3s,mb4.9	47.62	319	*e*P	P	08 25 06.0	-0.7
MAJO	Matsushiro comp=Z,11nm,0.6s,mb4.4	48.10	22	*e*P	P	08 25 09.6	-0.8
MAT	Matsushiro	48.10	22	P	P	08 25 09.0	-1.4
MJAR	Matsushiro Arr comp=Z,5.0nm,0.6s,mb4.0,baz=109,slow=6.9,SNR=19	48.10	22	P	P	08 25 09.2	-1.2
KOLN	Koldanda comp=Z,19nm,0.6s,mb4.6	48.14	318	*e*P	P	08 25 09.9	-0.8
HHC	Hu-ho-hao-te	48.61	354	*e*P	P	08 25 14.2	0.0
HHC				AP	pP	08 26 20.5	+5.4
HHC				XP	sP	08 26 55.5	+8.0
HHC				PP	PP	08 27 11.6	+1.4
HHC				PCS	PcS	08 30 29.4	-2.0
HHC				S	S	08 31 50.5	-2.9
HHC				XS	sS	08 33 49.6	+8.0
HHC				SCS	ScS	08 34 29.7	-5.6
HHC	comp=Z,21nm,0.8s,mb4.5			AMB	AMB		
HHC	comp=Z,164nm,4.2s			AMB	AMB		
HHC	comp=N,134nm,17.8s			LR	LR		
HHC	comp=E,187nm,16.6s			LR	LR		
HHC	comp=Z,131nm,17.2s			LR	LR		
DZM	Mont Dzumac comp=Z,7.6nm,0.6s,mb4.2,baz=236,slow=9.8	49.19	112	P	P	08 25 19.5	+0.9
GTA	Gaotai comp=Z,22nm,0.8s,mb4.5	49.65	342	⇑P	P	08 25 23.2	+1.1
GTA				AMB	AMB		
CN2	Changchun comp=Z,10.0nm,0.8s,mb4.2	51.76	7	*e*P	P	08 25 42.1	+4.4
CN2				AMB	AMB		
MDJ	Mudanjiang comp=Z,72nm,0.9s,mb5.0	53.20	11	P	P	08 25 48.0	-0.2
MDJ				AMB	AMB		
MDJ	comp=Z,35nm,3.5s			AMB	AMB		
ULN	Ulaanbaatar comp=Z,25nm,0.6s,mb4.8	56.08	352	*e*P	P	08 26 08.8	0.0
SONM	Songino Array comp=Z,52nm,0.7s,mb5.1,baz=168,slow=8.4,SNR=269	56.15	351	P	P	08 26 09.4	+0.1
ASAJ	Asahikawa comp=Z,33nm,0.6s,mb5.0,baz=239,slow=11,SNR=42	56.34	22	P	P	08 26 10.7	+0.1
HIA	Hailar comp=Z,13nm,0.9s,mb4.4	56.75	2	*e*P	P	08 26 12.6	-0.9
WMQ	Urumqi	57.95	335	*e*P	P	08 26 22.1	+0.3
WMQ				PCP	PcP	08 27 10.2	-0.2
WMQ				AP	pP	08 27 26.2	+1.2
WMQ				PP	PP	08 28 36.5	+2.8
WMQ	comp=Z,127nm,5.0s			AMB	AMB		
RPZ	Rata Peaks comp=Z,17nm,0.6s,mb4.6,baz=329,slow=3.2,SNR=7.6	58.76	137	P	P	08 26 27.4	0.0
YSS	Yuzh-Sakhalins comp=Z,22nm,0.4s,mb4.9	58.86	20	*e

comp=Z,10.0nm,0.5s,mb4.7,baz=317,slow=3.9,SNR=7.5
MK31 Makanchi Array 62.63 334 *e*P **P 08 26 52.2 -1.1**
MKAR Makanchi Array 62.63 334 P **P 08 26 52.6 -0.7**
comp=Z,21nm,0.6s,mb4.9,baz=146,slow=7.5,SNR=81
MKAR PcP PcP 08 27 28.0 -1.3
comp=Z,2.1nm,0.5s,baz=131,slow=5.6,SNR=2.1
KZA Kyzart 62.78 326 P **P 08 26 54.5 +0.2**
SNR=13
TKM2 Tokmak 2 63.15 327 P **P 08 26 56.1 -0.7**
SNR=9.1
KBK Karagaybulak 63.34 326 P **P 08 26 58.2 +0.2**
SNR=6.5
AAK Ala-Archa 63.57 326 P **P 08 26 59.3 -0.2**
SNR=12
AAK Ala-Archa 63.57 326 *e*P **P 08 26 58.2 -1.3**
AML Almayashu 63.70 325 P **P 08 27 00.2 0.0**
SNR=11
USP Ospenovka 63.98 326 P **P 08 27 01.1 -1.0**
SNR=7.7
EKS2 Erkin-Say 63.99 325 P **P 08 27 02.0 -0.2**
SNR=11
OPO Ambohidratompo 68.97 253 P **P 08 27 33.9 +0.3**
comp=Z,4.8nm,0.6s,mb4.4,baz=93,slow=4.2,SNR=21
MAW Mawson 69.96 199 P **P 08 27 39.8 +0.2**
comp=Z,1.9nm,0.6s,mb4.0,baz=64,slow=8.4,SNR=5.0
YAK Yakutsk 70.16 6 *e*P **P 08 27 39.7 -1.0**
comp=Z,28nm,0.7s,mb5.1
BRVK Borovoye 72.53 332 *e*P **P 08 27 53.4 -1.5**
comp=Z,2.5nm,0.4s,mb4.2
VNDA Vanda 73.50 171 P **P 08 28 01.0 +0.5**
comp=Z,2.2nm,0.4s,mb4.1,baz=314,slow=7.7,SNR=41
VNDA Vanda 73.50 171 *e*P **P 08 28 00.5 -0.1**
comp=Z,1.9nm,0.4s,mb4.1
TIXI Tiksi 79.54 4 *e*P **P 08 28 32.1 -2.1**
comp=Z,7.5nm,0.5s,mb4.7
KMBO Kilima Mbogo 80.19 270 P **P 08 28 38.5 +0.7**
comp=Z,4.5nm,0.7s,mb4.3,baz=57,slow=7.0,SNR=15
KMBO Kilima Mbogo 80.19 270 *e*P **P 08 28 38.0 +0.3**
comp=Z,5.3nm,0.9s,mb4.3
MALT Malatya 86.24 309 *e*P **P 08 29 08.2 -0.3**
LSZ Lusaka 87.35 255 P **P 08 29 14.5 +0.7**
comp=Z,15nm,0.8s,mb4.9,baz=95,slow=4.4,SNR=21
LSZ Lusaka 87.35 255 *e*P **P 08 29 14.2 +0.5**
comp=Z,14nm,0.8s,mb4.8
BOSA Boshof 88.33 242 P **P 08 29 18.3 -0.1**
comp=Z,9.4nm,0.9s,mb4.6,baz=288,slow=7.5,SNR=5.8
LBTB Lobatse 88.51 245 P **P 08 29 19.9 +0.7**
comp=Z,6.3nm,0.5s,mb4.7,baz=132,slow=4.1,SNR=13
LBTB Lobatse 88.51 245 *e*P **P 08 29 20.4 +1.1**
comp=Z,8.1nm,0.6s,mb4.7
PPT Papeete 90.47 108 P **P 08 29 28.3 -0.1**
comp=Z,7.1nm,0.5s,mb4.7,baz=66,slow=17,SNR=3.9
SNAA Sanae 91.85 196 P **P 08 29 34.1 -0.6**
comp=Z,0.5nm,0.7s,mb3.6,baz=231,slow=18,SNR=4.6
KIS Kishinev 94.67 317 *e*P **P 08 29 50.0 +2.3**
KIS LRM 09 00 36.0
comp=Z,600nm,20.0s
TSUM Tsumeb 96.77 250 P **P 08 29 56.7 -0.5**
comp=Z,3.5nm,0.7s,mb4.7,baz=114,slow=5.8,SNR=8.4
TSUM Tsumeb 96.77 250 *e*P **P 08 29 58.1 +0.9**
comp=Z,3.3nm,0.7s,mb4.7
FINES FINESS Array B 97.38 331 P **P 08 29 57.2 -2.7**
comp=Z,5.1nm,1.1s,mb4.7,baz=140,slow=21,SNR=4.9
INK Inuvik 104.08 21 Pdiff Pdif 08 30 29.3 -0.4
comp=Z,0.3nm,0.5s,baz=180,slow=4.0,SNR=4.1
YKA Yellowknife Ar 113.61 24 PKiKP PKiKP 08 35 01.6 -1.5
comp=Z,1.0nm,0.4s,baz=303,slow=1.8,SNR=61
TORD Torodi Ar. Bea 116.77 281 PKP PKPdf 08 35 08.7 -0.6
comp=Z,2.1nm,0.5s,baz=48,slow=2.0,SNR=11
NVAR Mina Array Bea 121.32 50 PKP PKPdf 08 35 19.1 +1.1
comp=Z,0.7nm,0.6s,baz=268,slow=3.9,SNR=5.8
PDAR Pinedale Array 125.96 42 PKP PKPdf 08 35 28.4 +1.6
comp=Z,0.2nm,0.3s,baz=350,slow=1.8,SNR=5.3
RWWY Rawlins 128.00 42 *e*PKPdf PKPdf 08 35 31.1 +0.3
WVT Waverly 143.45 36 *e*PKPdf PKPdf 08 35 56.3 -3.0
BINY Binghamton 143.63 17 *e*PKPdf PKPdf 08 35 57.7 -2.0
SSPA Standing Stone 144.44 20 *e*PKPab PKPdf 08 35 59.8 -1.2
MCWV Mont Chateau 144.57 23 *e*PKPbc PKPdf 08 36 00.7 -0.6
PAL Palisades 145.31 15 *e*PKPbc PKPbc 08 36 02.8 -0.3
LRAL Lakeview Retre 146.07 39 *e*PKPdf PKPdf 08 36 03.9 0.0
ELN Prospectdale 146.24 27 *e*PKPdf PKPdf 08 36 04.7 +0.5
BLA Blacksburg 146.41 26 *e*PKPdf PKPdf 08 36 03.8 -0.7
BLA *e*PKPbc PKPbc 08 36 06.2 0.0
GOGA Godfrey 147.89 34 *e*PKPbc PKPbc 08 36 10.3 0.0
SIV San Ignacio 156.43 183 PKP PKPdf 08 36 20.6 +1.1
comp=Z,1.5nm,0.8s,baz=103,slow=4.0,SNR=6.8
SIV PKPab PKPab 08 36 50.8 +1.2
comp=Z,0.4nm,0.4s,baz=188,slow=12,SNR=2.7

ISCJB ***03*** *08:19:49.8±0.3, 0.46S±0.05×1971W±0.05, h10km, mb4.8/85, MS4.9/163, Error ellipse: s-maj=8.5km s-min=6.0km az=108.6*

MOS ***03*** *08:19:49.6±0.8, 0.45S×1971W, h10km, mb5.1/46, MS4.9/17, Error ellipse: s-maj=13.5km s-min=4.9km az=64.2*

IDC ***03*** *08:19:50.0±0.5, 0.36S×1977W, h0km, mb4.4/21, mb1 4.5/21, mb1mx4.4/27, mbtmp4.4/21, MS4.8/20, Ms1 4.8/20, ms1mx4.8/21, Error ellipse: s-maj=16.2km s-min=14.1km az=159.0*

SZGRF ***03*** *08:19:51.5, 0.27S×2073W, h33km, mb4.9, Central Mid-Atlantic Ridge*

GCMT ***03*** *08:19:51.3±0.1, 0.38S×1976W, h23km, MW5.6/99, Moment Tensor Solution. s75, c133; s99, c247; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.11±.04; $M_{\theta\theta}$1.20±.04; $M_{\phi\phi}$-1.32±.04; $M_{r\theta}$-0.02±.06; $M_{\theta\phi}$-2.68±.04; $M_{\phi r}$-0.47±.07; Best double couple: $M_0$2.99800×10^{17} NP1:ϕ_s347.00000°, δ88.00000°, λ-9.00000°. NP2:ϕ_s78.00000°, δ81.00000°, λ-178.00000°. Principal axes: T 2.9210, Plg5.0000°, Azm33.0000°; N 0.1440, Plg81.0000°, Azm156.0000°; P -3.0740, Plg7.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***03*** *08:19:51.3±0.2, 0.54S×1974W, h10km, mb4.9/64, MS5.0/136, MW5.5 Error ellipse: s-maj=6.8km s-min=5.0km az=146.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}0.15; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.18; $M_{r\theta}$0.21; $M_{\theta\phi}$-1.91; $M_{\phi r}$-0.95; Best double couple: $M_0$2.10000×10^{17} NP1:ϕ_s180.00000°, δ85.00000°, λ27.00000°. NP2:ϕ_s87.00000°, δ64.00000°, λ174.00000°. Principal axes: T 2.1700, Plg22.0000°, Azm46.0000°; N -0.0400, Plg63.0000°, Azm190.0000°; P -2.1300, Plg14.0000°, Azm310.0000°;*

BJI ***03*** *08:19:51.3, 0.50S×1970W, h10km, mB5.8, Ms5.5, Msz5.0*

ISC 03 08:19:52.1±0.3, 044S±005×1973W±005, h10km, n344, n0987/219, mb4.8/85, MS4.9/163, 15C-7D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**9.17**	**144**	Pn	**Pn**	**08 22 02.9**	**-1.6**
931nm,0.4s,SNR=9.7							
ASCN	**Ascension**	**9.17**	**144**	*e*Pn	**Pn**	**08 22 01.1**	**-3.3**
102nm,0.6s							
LIC	**Lamto**	**16.10**	**66**	*e*Pn	**Pn**	**08 23 37.5**	**-1.0**
baz=253							
LIC				*e*Sn	**Sn**	**08 26 23.6**	**-14**
105nm,0.9s							
LIC				*e*MLR			
comp=Z,11μm,20.5s							
RCBR	**Riachuelo**	**17.00**	**251**	*e*Pn	**Pn**	**08 23 45.2**	**-4.8**
comp=Z,26nm,0.5s							
TOA0	**Torodi Ar. Sit**	**25.17**	**57**	*e*P	**P**	**08 25 16.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**25.17**	**57**	P	**P**	**08 25 16.5**	**-1.1**
comp=Z,29nm,0.8s,mb4.8,baz=239,slow=9.3,SNR=65							
TORD				LR	LR	08 33 22.5	
comp=Z,2μm,20.5s,MS4.7,baz=230,slow=32							
ESPR	**Espera**	**39.29**	**18**	P	**P**	**08 27 21.8**	**+0.7**
comp=Z,500nm,4.1s							
ELOJ	**Sierra Loja**	**40.09**	**19**	P	**P**	**08 27 28.2**	**+0.5**
ELOJ				pmax	pmax		
comp=Z,12nm,1.2s,mb4.5							
ELOJ	**Sierra Loja**	**40.09**	**19**	P	**P**	**08 27 28.2**	**+0.5**
comp=Z,12nm,1.2s,mb4.5							
ERON	**Agron**	**40.09**	**20**	P	**P**	**08 27 28.9**	**+1.2**
comp=Z,8.7nm,0.8s,mb4.5							
ECOG	**Cogollos-Vega**	**40.40**	**20**	P	**P**	**08 27 30.8**	**+0.5**
ECOG				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.7							
ECOG	**Cogollos-Vega**	**40.40**	**20**	P	**P**	**08 27 30.8**	**+0.5**
comp=Z,10nm,0.6s,mb4.7							
ELUQ	**Luque**	**40.42**	**19**	P	**P**	**08 27 30.7**	**+0.2**
ELUQ				pmax	pmax		
comp=Z,25nm,1.0s,mb4.9							
ELUQ	**Luque**	**40.42**	**19**	P	**P**	**08 27 30.7**	**+0.2**
comp=Z,25nm,1.0s,mb4.9							
ENIJ	**Nijar**	**40.61**	**22**	P	**P**	**08 27 32.6**	**+0.5**
ENIJ				pmax	pmax		
comp=Z,20nm,0.8s,mb4.8							
ENIJ	**Nijar**	**40.61**	**22**	P	**P**	**08 27 32.6**	**+0.5**
comp=Z,20nm,0.8s,mb4.8							
EADA	**Adamuz**	**40.88**	**18**	P	**P**	**08 27 37.4**	**+3.1**
comp=Z,5.8nm,0.9s,mb4.2							
EQES	**Quesada**	**41.04**	**20**	P	**P**	**08 27 36.6**	**+0.9**
TSUM	**Tsumeb**	**41.06**	**119**	P	**P**	**08 27 37.1**	**+1.3**
comp=Z,2.2nm,0.9s,mb3.8,baz=343,slow=20,SNR=2.5							
TSUM	**Tsumeb**	**41.06**	**119**	*e*P	**P**	**08 27 40.9**	**+5.2**
comp=Z,15nm,1.4s,mb4.4							
TSUM				LR	LR		
comp=Z,2μm,20.0s,MS5.0							
EBAN	**Banos Encina**	**41.13**	**19**	P	**P**	**08 27 37.2**	**+0.9**
EBAN				pmax	pmax		
comp=Z,19nm,0.8s,mb4.8							
EBAN	**Banos Encina**	**41.13**	**19**	P	**P**	**08 27 37.2**	**+0.9**
comp=Z,19nm,0.8s,mb4.8							
CART	**Cartagena**	**41.61**	**23**	*e*P	**P**	**08 27 40.4**	**+0.1**
comp=Z,22nm,0.8s,mb4.8							
BBGH	**Gun Hill**	**41.72**	**290**	PFAKE		08 27 50.0	+8.8
BBGH				LR	LR		
comp=Z,2μm,22.0s,MS4.9							
EMUR	**La Murta**	**41.74**	**22**	P	**P**	**08 27 42.1**	**+0.8**
comp=Z,87nm,1.4s,mb5.2							
PAB	**San Pablo**	**42.21**	**18**	PFAKE		08 28 00.0	+15
PAB				LR	LR		
comp=Z,747nm,21.0s,MS4.5							
ESDC	**Sonseca Array**	**42.45**	**18**	P	**P**	**08 27 47.9**	**+0.7**
comp=Z,6.9nm,1.0s,mb4.3,baz=204,slow=8.8,SNR=23							
ESDC				PP	PP	08 29 26.9	+1.5
comp=Z,2.6nm,0.8s,baz=212,slow=10,SNR=4.5							
ESDC				LR	LR	08 45 50.0	
comp=Z,853nm,18.4s,MS4.7,baz=220,slow=37							
ESDC	**Sonseca Array**	**42.45**	**18**	P	**P**	**08 27 48.4**	**+1.3**
comp=Z,10nm,1.1s,mb4.4							
ESLA	**Sonseca Array**	**42.45**	**18**	*e*P	**P**	**08 27 48.1**	**+1.0**
comp=Z,18nm,1.6s,mb4.5							
ESLA				LR	LR		
comp=Z,7μm,22.0s,MS5.5							
GUD	**Guadarrama**	**43.28**	**17**	P	**P**	**08 27 54.6**	**+0.7**
GUD				pmax	pmax		
comp=Z,32nm,1.1s,mb5.0							
GUD	**Guadarrama**	**43.28**	**17**	P	**P**	**08 27 54.6**	**+0.8**
comp=Z,32nm,1.1s,mb5.0							
SIV	**San Ignacio**	**43.60**	**247**	P	**P**	**08 27 57.0**	**+0.5**
comp=Z,9.2nm,0.9s,mb4.5,baz=90,slow=9.7,SNR=32							
SAML	**Samuel**	**44.08**	**258**	*e*P	**P**	**08 27 59.5**	**-0.8**
comp=Z,31nm,1.1s,mb5.0							
SAML				LR	LR		
comp=Z,6μm,19.0s,MS5.5							
EMOS	**Mosqueruela**	**44.24**	**21**	P	**P**	**08 28 02.5**	**+0.9**
KEST	**Kesra**	**45.04**	**34**	P	**P**	**08 28 08.3**	**+0.3**
comp=Z,3.3nm,0.9s,mb4.2,baz=31,slow=2.4,SNR=7.3							
KEST				LR	LR	08 48 32.7	
comp=Z,3μm,18.5s,MS5.3,baz=338,slow=38							
ERTA	**Horta de San J**	**45.05**	**22**	P	**P**	**08 28 10.0**	**+1.9**
comp=Z,30nm,1.2s,mb5.0							
EPOB	**Poblet**	**45.68**	**22**	P	**P**	**08 28 14.7**	**+1.6**
comp=Z,98nm,1.8s,mb5.4							
SJPF	**Ste Jean**	**46.43**	**19**	*e*P	**P**	**08 28 18.3**	**-0.7**
comp=Z,30nm,1.0s,mb4.9							
SJPF	**Ste Jean**	**46.43**	**19**	*e*P	**P**	**08 28 18.3**	**-0.7**
SJPF				pmax	pmax		
comp=Z,15nm,1.0s,mb4.9							
SJPF	**Ste Jean**	**46.43**	**19**	*e*P	**P**	**08 28 18.3**	**-0.7**
comp=Z,15nm,1.0s,mb4.9							
ETSF	**Etsaut**	**46.46**	**19**	*e*P	**P**	**08 28 19.4**	**+0.2**
comp=Z,29nm,1.1s,mb4.8							
ETSF	**Etsaut**	**46.46**	**19**	*e*P	**P**	**08 28 19.4**	**+0.2**
ETSF				pmax	pmax		
comp=Z,14nm,1.1s,mb4.8							
ETSF	**Etsaut**	**46.46**	**19**	*e*P	**P**	**08 28 19.4**	**+0.2**
comp=Z,14nm,1.1s,mb4.8							
EPF	**Esparros**	**46.88**	**20**	*e*P	**P**	**08 28 22.8**	**+0.3**
comp=Z,163nm,1.7s,mb5.4							
EPF	**Esparros**	**46.88**	**20**	*e*P	**P**	**08 28 22.8**	**+0.3**
EPF				pmax	pmax		
comp=Z,82nm,1.7s,mb5.4							
EPF	**Esparros**	**46.88**	**20**	*e*P	**P**	**08 28 22.8**	**+0.3**
comp=Z,82nm,1.7s,mb5.4							
MTLF	**Montolieu**	**47.82**	**22**	*e*P	**P**	**08 28 29.0**	**-0.8**
comp=Z,16nm,1.0s,mb4.7							
MTLF	**Montolieu**	**47.82**	**22**	*e*P	**P**	**08 28 29.0**	**-0.8**
MTLF				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.7							
MTLF	**Montolieu**	**47.82**	**22**	*e*P	**P**	**08 28 29.0**	**-0.8**
comp=Z,7.9nm,1.0s,mb4.7							
LASF	**Ste Croix**	**49.06**	**22**	*e*P	**P**	**08 28 39.1**	**-0.3**
comp=Z,23nm,1.2s,mb4.8							
LSZ	**Lusaka**	**49.55**	**110**	P	**P**	**08 28 43.7**	**+0.5**
comp=Z,2.1nm,0.6s,mb4.3,baz=298,slow=6.6,SNR=7.6							
LSZ	**Lusaka**	**49.55**	**110**	*e*P	**P**	**08 28 44.2**	**+1.1**
LSZ				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
LSZ				MLR	MLR		
comp=Z,1μm,19.0s,MS4.9							
LSZ	**Lusaka**	**49.55**	**110**	*e*P	**P**	**08 28 44.2**	**+1.1**
comp=Z,3.8nm,1.0s,mb4.4							
LSZ				LR	LR		
comp=Z,1μm,19.0s,MS4.9							
SUR	**Sutherland**	**49.68**	**134**	PFAKE		08 29 00.0	+16
SUR				LR	LR		
comp=Z,419nm,21.0s,MS4.4							
MFF	**Saint Martin d**	**49.90**	**18**	*e*P	**P**	**08 28 46.1**	**+0.3**
VIVF	**Saint-Julien-l**	**50.03**	**23**	*e*P	**P**	**08 28 46.4**	**-0.4**
comp=Z,104nm,1.7s,mb5.3							
VIVF	**Saint-Julien-l**	**50.03**	**23**	*e*P	**P**	**08 28 46.4**	**-0.4**
VIVF				pmax	pmax		
comp=Z,52nm,1.7s,mb5.3							
VIVF	**Saint-Julien-l**	**50.03**	**23**	*e*P	**P**	**08 28 46.4**	**-0.4**
comp=Z,52nm,1.7s,mb5.3							
LBTB	**Lobatse**	**50.13**	**123**	P	**P**	**08 28 48.4**	**+0.8**
comp=Z,6.0nm,1.0s,mb4.6,baz=296,slow=9.5,SNR=4.1							
LBTB	**Lobatse**	**50.13**	**123**	*e*P	**P**	**08 28 46.6**	**-1.0**
LBTB				pmax	pmax		
comp=Z,15nm,1.3s,mb4.9							
LBTB				MLR	MLR		
comp=Z,2μm,20.0s,MS5.0							
LBTB	**Lobatse**	**50.13**	**123**	*e*P	**P**	**08 28 46.6**	**-1.0**
comp=Z,15nm,1.3s,mb4.9							
LBTB				LR	LR		
comp=Z,2μm,20.0s,MS5.0							
LPAZ	**La Paz**	**50.23**	**249**	P	**P**	**08 28 48.5**	**+0.2**
comp=Z,5.1nm,0.8s,mb4.6,baz=63,slow=5.8,SNR=22							
LPAZ				LR	LR	08 50 24.5	
comp=Z,2μm,18.1s,MS5.2,baz=256,slow=36							
LPAZ	**La Paz**	**50.23**	**249**	*e*P	**P**	**08 28 48.1**	**-0.2**
LPAZ				pmax	pmax		
comp=Z,28nm,1.4s							
LPAZ				MLR	MLR		
comp=Z,1μm,21.0s							
LPAZ	**La Paz**	**50.23**	**249**	*e*P	**P**	**08 28 48.1**	**-0.2**
comp=Z,28nm,1.4s,mb5.1							
LPAZ				LR	LR		
comp=Z,1μm,21.0s,MS5.0							
SBF	**Sospel**	**50.34**	**25**	*e*P	**P**	**08 28 48.8**	**-0.3**
comp=Z,62nm,1.1s,mb5.2							
SBF	**Sospel**	**50.34**	**25**	*e*P	**P**	**08 28 48.8**	**-0.3**
SBF				pmax	pmax		
comp=Z,31nm,1.1s,mb5.2							
SBF	**Sospel**	**50.34**	**25**	*e*P	**P**	**08 28 48.8**	**-0.3**
comp=Z,31nm,1.1s,mb5.2							
ORIF	**Oris-en-Rattie**	**50.56**	**23**	*e*P	**P**	**08 28 50.2**	**-0.6**
ORIF				*e*MLR			
comp=Z,1μm,18.2s							
MBDF	**Montbardon**	**50.76**	**24**	*e*P	**P**	**08 28 52.9**	**+0.6**
comp=Z,41nm,1.1s,mb5.0							
MBDF	**Montbardon**	**50.76**	**24**	*e*P	**P**	**08 28 52.9**	**+0.6**
MBDF				pmax	pmax		
comp=Z,21nm,1.1s,mb5.0							
MBDF	**Montbardon**	**50.76**	**24**	*e*P	**P**	**08 28 52.9**	**+0.6**
comp=Z,20nm,1.1s,mb5.0							
AVF	**Avril sur Loir**	**51.20**	**20**	*e*P	**P**	**08 28 55.4**	**-0.2**
comp=Z,34nm,1.2s,mb4.8							
AVF	**Avril sur Loir**	**51.20**	**20**	*e*P	**P**	**08 28 55.4**	**-0.2**
AVF				pmax	pmax		
comp=Z,17nm,1.2s,mb4.8							
AVF	**Avril sur Loir**	**51.20**	**20**	*e*P	**P**	**08 28 55.4**	**-0.2**
comp=Z,17nm,1.2s,mb4.8							
BOSA	**Boshof**	**51.29**	**127**	P	**P**	**08 28 56.2**	**-0.1**
comp=Z,5.4nm,0.9s,mb4.5,baz=302,slow=10,SNR=6.4							
BOSA				LR	LR	08 47 25.7	
comp=Z,1μm,18.4s,MS5.0,baz=287,slow=32							
BOSA	**Boshof**	**51.29**	**127**	P	**P**	**08 28 56.2**	**-0.1**
BOSA				LR	LR	08 47 25.7	
LPG	**La Plagne**	**51.38**	**24**	*e*P	**P**	**08 28 57.7**	**+0.7**
comp=Z,32nm,1.0s,mb4.9							
LPG	**La Plagne**	**51.38**	**24**	*e*P	**P**	**08 28 57.7**	**+0.7**
LPG				pmax	pmax		
comp=Z,16nm,1.0s,mb4.9							
LPG	**La Plagne**	**51.38**	**24**	*e*P	**P**	**08 28 57.7**	**+0.7**
comp=Z,16nm,1.0s,mb4.9							
LPL	**La Plagne**	**51.39**	**24**	*e*P	**P**	**08 28 57.6**	**+0.6**
comp=Z,39nm,1.3s,mb4.9							
LPL	**La Plagne**	**51.39**	**24**	*e*P	**P**	**08 28 57.6**	**+0.6**
LPL				pmax	pmax		
comp=Z,20nm,1.3s,mb4.9							
LPL	**La Plagne**	**51.39**	**24**	*e*P	**P**	**08 28 57.6**	**+0.6**
comp=Z,20nm,1.3s,mb4.9							
SSF	**Saint Saulge**	**51.49**	**20**	*e*P	**P**	**08 28 57.5**	**-0.3**
comp=Z,34nm,1.2s,mb4.8							
SSF	**Saint Saulge**	**51.49**	**20**	*e*P	**P**	**08 28 57.5**	**-0.3**
SSF				pmax	pmax		
comp=Z,17nm,1.2s,mb4.8							
SSF	**Saint Saulge**	**51.49**	**20**	*e*P	**P**	**08 28 57.5**	**-0.3**
comp=Z,17nm,1.2s,mb4.8							
SDV	**Santo Domingo**	**51.54**	**282**	*e*P	**P**	**08 28 57.7**	**-0.4**
comp=Z,9.5nm,1.1s,mb4.6							
SDV				LR	LR		
comp=Z,319nm,19.0s,MS4.4							
TIP	**Timpagrande**	**51.68**	**36**	*e*P	**P**	**08 28 59.5**	**+0.3**
LOR	**Lormes**	**51.79**	**20**	*e*P	**P**	**08 28 59.6**	**-0.4**
LOR				*e*MLR			
comp=Z,1μm,22.5s							
LOR	**Lormes**	**51.79**	**20**	*e*P	**P**	**08 28 59.6**	**-0.4**
LOR				LR	LR		
comp=Z,1μm,22.5s,MS5.0							
AQU	**L'Aquila**	**52.01**	**31**	*e*P	**P**	**08 29 02.9**	**+1.3**
AQU				pmax	pmax		
comp=Z,12nm,0.8s,mb4.9							
AQU	**L'Aquila**	**52.01**	**31**	*e*P	**P**	**08 29 02.9**	**+1.2**
comp=Z,12nm,0.8s,mb4.9							
MEZF	**Maizieres J'vi**	**53.26**	**20**	*e*P	**P**	**08 29 11.2**	**+0.3**
comp=Z,35nm,1.1s,mb4.9							
MEZF	**Maizieres J'vi**	**53.26**	**20**	*e*P	**P**	**08 29 11.2**	**+0.3**
comp=Z,35nm,1.0s,mb5.2							
HAU	**Haudompre**	**53.31**	**22**	*e*P	**P**	**08 29 10.5**	**-0.8**
comp=Z,34nm,1.1s,mb4.9							
HAU				*e*MLR			
comp=Z,870nm,17.5s							
HAU	**Haudompre**	**53.31**	**22**	*e*P	**P**	**08 29 10.5**	**-0.8**
HAU				pmax	pmax		
comp=Z,17nm,1.1s,mb4.9							
HAU				MLR	MLR		
comp=Z,870nm,17.5s,MS4.9							
HAU	**Haudompre**	**53.31**	**22**	*e*P	**P**	**08 29 10.5**	**-0.8**
comp=Z,17nm,1.1s,mb4.9							
HAU				LR	LR		
comp=Z,870nm,17.5s,MS4.9							
BBSR	**BB Station**	**53.51**	**312**	PFAKE		08 29 20.0	+7.2
BBSR				LR	LR		
comp=Z,869nm,20.0s,MS4.8							
TRQA	**Tornquist**	**53.91**	**221**	PFAKE		08 29 30.0	+14
TRQA				LR	LR		
comp=Z,2μm,22.0s,MS5.0							
CDF	**Champ du Feu**	**53.99**	**22**	*e*P	**P**	**08 29 16.1**	**-0.2**
comp=Z,26nm,1.2s,mb4.8							
CDF	**Champ du Feu**	**53.99**	**22**	*e*P	**P**	**08 29 16.1**	**-0.2**
CDF				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
CDF	**Champ du Feu**	**53.99**	**22**	*e*P	**P**	**08 29 16.1**	**-0.2**
comp=Z,13nm,1.2s,mb4.7							
DAVA	**Damuels**	**54.11**	**25⇑**	*i*P	**P**	**08 29 16.7**	**-0.5**
comp=Z,35nm,0.9s,mb5.3							
BAIF	**Baives**	**54.32**	**19**	*e*P	**P**	**08 29 18.4**	**-0.3**
comp=Z,56nm,1.3s,mb5.0							
BAIF	**Baives**	**54.32**	**19**	*e*P	**P**	**08 29 18.4**	**-0.3**
BAIF				pmax	pmax		
comp=Z,28nm,1.3s,mb5.0							
BAIF	**Baives**	**54.32**	**19**	*e*P	**P**	**08 29 18.4**	**-0.3**
comp=Z,28nm,1.3s,mb5.0							
GIVF	**Givet**	**54.56**	**19**	*e*P	**P**	**08 29 20.2**	**-0.2**
SQTA	**Sankt Quirin**	**54.62**	**25⇑**	*i*P	**P**	**08 29 20.2**	**-0.7**
comp=Z,19nm,1.1s,mb5.0							
SQTA	**Sankt Quirin**	**54.62**	**25⇑**	*i*P	**P**	**08 29 20.2**	**-0.6**
SQTA				pmax	pmax		
comp=Z,19nm,1.1s,mb5.0							
MOTA	**Moosalm**	**54.67**	**25⇑**	*i*P	**P**	**08 29 20.1**	**-1.1**
comp=Z,9.8nm,1.1s,mb4.7							
MOTA	**Moosalm**	**54.67**	**25⇑**	*i*P	**P**	**08 29 20.1**	**-1.1**
MOTA				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8							
ROSC	**El Rosal**	**54.79**	**276**	P	**P**	**08 29 21.9**	**-0.2**
comp=Z,3.6nm,0.6s,mb4.6,baz=106,slow=16,SNR=11							
ROSC				LR	LR	08 51 07.2	
comp=Z,2μm,19.5s,MS5.1,baz=137,slow=34							
ROSC	**El Rosal**	**54.79**	**276**	*e*P	**P**	**08 29 22.7**	**+0.6**
WTTA	**Wattenberg**	**54.83**	**26⇓**	*i*P	**P**	**08 29 21.2**	**-1.2**
comp=Z,19nm,1.1s,mb5.0							
WTTA	**Wattenberg**	**54.83**	**26⇓**	*i*P	**P**	**08 29 21.2**	**-1.2**
WTTA				pmax	pmax		
comp=Z,19nm,1.1s,mb5.0							
JAVS	**Javornik**	**54.91**	**28**	*i*P	**P**	**08 29 22.8**	**-0.2**
VOY	**Vojsko**	**54.93**	**28**	*e*P	**P**	**08 29 23.2**	**+0.1**
VOY				*e*		08 29 30.8	
BOJS	**Bojanci**	**55.20**	**29**	*e*P	**P**	**08 29 25.4**	**+0.3**
VISS	**Visnje**	**55.21

ZST LR LR
comp=Z,700nm,16.7s,MS4.8
PRU Pruhonice 58.16 25 *e*P **P 08 29 46.3 +0.2**
PRU *e*S **S 08 37 42.8 -4.7**
PRU AMS AMS 08 57 00.0
comp=Z,800nm,13.0s
CLL Collm 58.53 23 *e*P **P 08 29 50.0 +1.3**
CLL *e*S **S 08 38 01.0 +8.7**
CLL LmV 08 51 00.0
comp=Z,800nm,20.2s
VRAC Vranov 58.56 27⇑ *i*P **P 08 29 48.6 -0.3**
BRG Berggiesshubel 58.58 24 *e*P **P 08 29 49.1 +0.1**
comp=Z,7.3nm,1.3s,mb4.5
BRG Berggiesshubel 58.58 24 *e*P **P 08 29 49.1 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
OTAV Otavalo 58.72 271 *e*P **P 08 29 49.8 -0.2**
comp=Z,11nm,1.4s,mb4.7
OTAV LR LR
comp=Z,1μm,22.0s,MS4.9
VYHS Vyhne 59.04 29 *e*P **P 08 29 51.3 -1.0**
VYHS *e* 08 32 08.0
VYHS pmax pmax
comp=Z,21nm,1.6s,mb4.9
VYHS Vyhne 59.04 29 *e*P **P 08 29 51.3 -1.0**
comp=Z,21nm,1.6s,mb4.9
VYHS *e*PP PP 08 32 08.0 +5.3
PSZ Piszkesteto 59.17 30 *e*P **P 08 29 53.2 0.0**
comp=Z,18nm,1.3s,mb4.9
PSZ Piszkesteto 59.17 30⇓ *i*P **P 08 29 53.7 +0.5**
UPC Upice 59.18 26 *e*P **P 08 29 53.1 -0.1**
DPC Dobruska-Polom 59.20 26 *e*P **P 08 29 53.3 0.0**
DPC *e*S **S 08 38 06.3 +5.3**
DPC AMS AMS 09 01 00.0
comp=Z,800nm,19.4s
MORC Moravsky Berou 59.33 27 *e*P **P 08 29 53.4 -0.9**
comp=Z,15nm,1.4s,mb4.8
MORC Moravsky Berou 59.33 27⇑ *i*P **P 08 29 54.0 -0.3**
OKC Ostrava-Krasne 59.65 27 *e*P **P 08 29 56.6 +0.1**
OKC AMS AMS 08 58 50.0
comp=Z,700nm,12.7s
KECS Kecovo 59.84 30 *e*P **P 08 29 59.0 +1.2**
KECS pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
KECS Kecovo 59.84 30 *e*P **P 08 29 59.0 +1.2**
comp=Z,5.7nm,1.3s,mb4.4
DRGR 59.90 32⇓ *i*P **P 08 29 58.1 -0.1**
EFI East Falkland 60.37 206 PFAKE 08 30 10.0 +8.6
EFI LR LR
comp=Z,304nm,21.0s,MS4.4
CRVS Cervenica-Dubn 60.61 30 *e*P **P 08 30 02.8 -0.2**
OJC Ojcow 60.68 28 *e*P **P 08 30 03.1 -0.4**
UZH Uzhgorod 60.85 31 *e*P **P 08 30 04.0 -0.7**
UZH *e* 08 30 49.3
UZH *e* 08 32 25.0
UZH *e*S **S 08 38 22.0 -0.3**
UZH *e*PS 08 38 47.0
UZH MLR MLR
comp=Z,900nm,15.0s,MS5.0
MLR Muntele Rosu 60.92 35⇑ *i*P **P 08 30 05.6 +0.5**
VRI Vrincioaia 61.58 35⇓ *i*P **P 08 30 08.3 -1.3**
BURAR Bucovina Array 61.76 33⇓ *i*P **P 08 30 11.6 +0.8**
ANTO Ankara 62.40 44 PFAKE 08 30 30.0 +15
ANTO LR LR
comp=Z,547nm,19.0s,MS4.7
LVV L'vov 62.48 30 *e*P **P 08 30 15.9 +0.2**
LVV *e* 08 32 39.7
BR131 Keskin Array S 62.92 44 PFAKE 08 30 30.0 +11
BR131 LR LR
comp=Z,457nm,19.0s,MS4.7
BRTR Keskin Array B 62.92 44 P **P 08 30 17.1 -1.5**
comp=Z,4.7nm,1.1s,mb4.5,baz=231,slow=5.5,SNR=15
WES Weston 62.92 319 PFAKE 08 30 30.0 +11
WES LR LR
comp=Z,2μm,22.0s,MS5.2
HRV Harvard--Oak R 63.13 319 PFAKE 08 30 30.0 +10
HRV LR LR
comp=Z,793nm,19.0s,MS4.9
KONO Kongsberg 64.14 16 PFAKE 08 30 40.0 +13
KONO LR LR
comp=Z,1μm,19.0s,MS5.0
LBNH Lisbon 64.19 321 PFAKE 08 30 40.0 +13
LBNH LR LR
comp=Z,1μm,19.0s,MS5.0
CNNC Cliffs of the 64.69 310 PFAKE 08 30 40.0 +10
CNNC LR LR
comp=Z,1μm,22.0s,MS5.0
CBN Corbin 65.36 313 PFAKE 08 30 50.0 +15
CBN LR LR
comp=Z,886nm,19.0s,MS5.0
DWPF Disney 65.47 301 PFAKE 08 30 50.0 +15
DWPF LR LR
comp=Z,598nm,20.0s,MS4.8
NCB Newcomb 65.54 320 PFAKE 08 30 50.0 +14
NCB LR LR
comp=Z,969nm,19.0s,MS5.0
KIEV Kiev 65.68 32 *e*P **P 08 30 35.8 -0.9**
KIEV pmax pmax
comp=Z,25nm,1.1s,mb5.2
KIEV MLR MLR
comp=Z,872nm,21.0s,MS4.9
KIEV Kiev 65.68 32 *e*P **P 08 30 35.8 -0.9**
comp=Z,25nm,1.1s,mb5.2
KIEV LR LR
comp=Z,872nm,21.0s,MS4.9
AKASG Malin Array Be 65.69 32 P **P 08 30 35.6 -1.2**
comp=Z,7.5nm,0.9s,mb4.7,baz=236,slow=7.3,SNR=32
AKASG LR LR 09 02 31.1
comp=Z,578nm,18.2s,MS4.8,baz=235,slow=39
AKASG Malin Array Be 65.69 32 *i*P **P 08 30 35.5 -1.3**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 65.69 32 *e*P **P 08 30 35.7 -1.1**
JTS JuntasAbangare 65.72 281 PFAKE 08 30 50.0 +13
JTS LR LR
comp=Z,209nm,20.0s,MS4.3
NB2 NORSAR Subarra 65.75 16 P **P 08 30 35.9 -1.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=211,slow=6.9
NOA NORSAR Array B 65.75 16 P **P 08 30 35.6 -1.6**
comp=Z,3.7nm,1.0s,mb4.4,baz=237,slow=4.5,SNR=5.1
NOA LR LR 09 01 31.6
comp=Z,486nm,18.4s,MS4.7,baz=205,slow=38
MALT Malatya 65.78 47 *e*P **P 08 30 37.7 +0.4**
MALT pmax pmax
comp=Z,18nm,1.1s,mb5.0
MALT Malatya 65.78 47 *e*P **P 08 30 37.7 +0.4**
comp=Z,18nm,1.1s,mb5.0
MALT Malatya 65.78 47⇑ *i*P **P 08 30 37.8 +0.5**
NHSC New Hope 65.80 307 PFAKE 08 30 50.0 +13
NHSC LR LR
comp=Z,668nm,20.0s,MS4.8
BINY Binghamton 65.94 317 PFAKE 08 30 50.0 +12
BINY LR LR
comp=Z,589nm,19.0s,MS4.8
LONY Lake Ozonia 66.06 320 PFAKE 08 30 50.0 +11
LONY LR LR
comp=Z,921nm,20.0s,MS5.0
SSPA Standing Stone 66.63 315 PFAKE 08 30 50.0 +7.2
SSPA LR LR
comp=Z,816nm,20.0s,MS4.9
SCHQ Schefferville 67.19 333 LR LR 08 54 10.9
comp=Z,450nm,20.8s,MS4.7,baz=314,slow=31
SCHQ Schefferville 67.19 333 PFAKE 08 31 00.0 +14
SCHQ LR LR
comp=Z,1μm,21.0s,MS5.1
BLA Blacksburg 67.28 311 PFAKE 08 31 00.0 +13
BLA LR LR
comp=Z,781nm,21.0s,MS4.9
ANN Anapa 67.62 40 *e*P **P 08 30 48.2 -0.9**
ANN *e*S S 08 39 39.6 -6.5
ANN pmax pmax
comp=Z,56nm,1.3s,mb5.4
MCWV Mont Chateau 67.68 314 PFAKE 08 31 00.0 +11
MCWV LR LR
comp=Z,924nm,21.0s,MS5.0
OPO Ambohidratompo 68.02 110 P **P 08 30 53.4 +1.7**
comp=Z,2.5nm,0.9s,mb4.2,baz=278,slow=14,SNR=2.2
TGUH Tegucigalpa,Un 68.35 285 PFAKE 08 31 10.0 +16
TGUH LR LR
comp=Z,697nm,20.0s,MS4.9
GOGA Godfrey 68.53 306 PFAKE 08 31 10.0 +15
GOGA LR LR
comp=Z,503nm,20.0s,MS4.8
SOC Sochi 68.64 42 *e*P **P 08 30 53.8 -1.7**
SOC *e* 08 33 35.7
SOC *e*PPP 08 35 10.5
SOC *e*S S 08 39 48.9 -9.4
SOC *e* 08 40 50.1
SOC pmax pmax
comp=Z,40nm,1.0s,mb5.3
TEIG Tepich 70.07 292 PFAKE 08 31 20.0 +16
TEIG LR LR
comp=Z,679nm,22.0s,MS4.8
PAYG Puerto Ayora 70.55 269 PFAKE 08 31 20.0 +13
PAYG LR LR
comp=Z,1μm,19.0s,MS5.2
KIV Kislovodsk 70.78 43 *e*P **P 08 31 09.0 +0.3**
KIV pmax pmax
comp=Z,32nm,1.2s,mb5.1
KIV Kislovodsk 70.78 43 *e*P **P 08 31 09.1 +0.4**
comp=Z,21nm,1.2s,mb4.9
KIV LR LR
comp=Z,85nm,21.0s,MS4.0
VNA2 Neumayer--Watz 70.83 176 *e*P **P 08 31 10.0 +1.0**
VNA2 *e* 08 31 15.8
VNA2 *e* 08 31 18.6
VNA2 *e* 08 31 25.7
VNA2 *e* 08 31 32.6
FINES FINESS Array B 70.84 21 P **P 08 31 08.6 -0.5**
comp=Z,5.7nm,1.0s,mb4.5,baz=190,slow=7.7,SNR=6.2
FINES LR LR 09 06 43.7
comp=Z,650nm,18.0s,MS4.9,baz=229,slow=40
BRAL Brewton 70.91 303 PFAKE 08 31 20.0 +11
BRAL LR LR
comp=Z,901nm,20.0s,MS5.0
GNI Garni 71.01 47⇑ *e*P **P 08 31 10.0 -0.1**
GNI pmax pmax
comp=Z,28nm,1.6s
GNI Garni 71.01 47 *e*P **P 08 31 10.3 +0.2**
comp=Z,36nm,1.4s,mb5.1
GNI LR LR
comp=Z,308nm,20.0s,MS4.6
AAM Ann Arbor 71.28 315 PFAKE 08 31 20.0 +8.3
AAM LR LR
comp=Z,840nm,20.0s,MS5.0
LRAL Lakeview Retre 71.31 305 *e*P **P 08 31 11.8 -0.1**
LRAL LR LR
comp=Z,856nm,19.0s,MS5.0
VRSR Storozhevoye 71.41 35 *e*P **P 08 31 11.4 -1.1**
VRSR pmax pmax
comp=Z,20nm,1.3s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,0.9s
OBN Obninsk 71.79 30 PFAKE 08 31 30.0 +15
OBN LR LR
comp=Z,221nm,19.0s,MS4.5
SNAA Sanae 71.94 174 P **P 08 31 16.1 +0.4**
comp=Z,0.8nm,0.8s,baz=330,slow=8.8,SNR=3.5
WCI Wyandotte Cave 72.03 311 PFAKE 08 31 30.0 +14
WCI LR LR
comp=Z,1μm,20.0s,MS5.1
MOS Moscow 72.61 30 *e*P **P 08 31 18.6 -1.1**
MOS pmax pmax
comp=Z,50nm,1.1s,mb5.4
PLAL Pickwick Lake 72.62 307 *e*P **P 08 31 19.2 -0.5**
comp=Z,36nm,1.5s,mb5.1
PLAL LR LR
comp=Z,546nm,21.0s,MS4.8
WVT Waverly 72.69 308 PFAKE 08 31 30.0 +10
WVT LR LR
comp=Z,755nm,20.0s,MS5.0
OXF Oxford 73.59 306 *e*P **P 08 31 24.3 -1.2**
OXF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
OXF MLR MLR
comp=Z,599nm,19.0s,MS4.9
OXF Oxford 73.59 306 *e*P **P 08 31 24.3 -1.2**
comp=Z,5.6nm,0.6s,mb4.7
OXF LR LR
comp=Z,599nm,19.0s,MS4.9
HDIL Hopedale 74.86 312 PFAKE 08 31 40.0 +7.1
HDIL LR LR
comp=Z,780nm,20.0s,MS5.0
MSEY Mahe Island 75.23 95 PFAKE 08 31 50.0 +15
MSEY LR LR
comp=Z,192nm,19.0s,MS4.4
KLMR Klimovskoe 75.90 26 P **P 08 31 36.9 -2.0**
KLMR pmax pmax
comp=Z,14nm,0.9s,mb4.9
ARCES ARCESS Array B 76.08 15 LR LR 09 07 26.2
comp=Z,415nm,20.8s,MS4.7,baz=235,slow=38
JFWS Jewell Farm 76.12 314 PFAKE 08 31 50.0 +10
JFWS LR LR
comp=Z,990nm,19.0s,MS5.1
MIAR Mount Ida 76.97 306 PFAKE 08 32 00.0 +15
MIAR LR LR
comp=Z,657nm,22.0s,MS4.9
NATX Nacogdoches 77.44 303 PFAKE 08 32 00.0 +12
NATX LR LR
comp=Z,623nm,19.0s,MS5.0
SCIA State Center 78.04 313 PFAKE 08 32 00.0 +9.1
SCIA LR LR
comp=Z,995nm,19.0s,MS5.2
EYMN Ely 78.18 319 PFAKE 08 32 00.0 +8.3
EYMN LR LR
comp=Z,668nm,20.0s,MS5.0
HKT Hockley 78.19 301 PFAKE 08 32 00.0 +8.3
HKT LR LR
comp=Z,468nm,20.0s,MS4.8
KVTX Kingsville 79.71 298 PFAKE 08 32 10.0 +10
KVTX LR LR
comp=Z,409nm,19.0s,MS4.8
KSU1 Kansas State U 80.10 310 PFAKE 08 32 10.0 +7.8
KSU1 LR LR
comp=Z,764nm,20.0s,MS5.0
AGMN Agassiz Refuge 81.12 319 PFAKE 08 32 20.0 +12
AGMN LR LR
comp=Z,627nm,20.0s,MS5.0
WMOK Wichita Mounta 81.25 305 PFAKE 08 32 20.0 +12
WMOK LR LR
comp=Z,574nm,21.0s,MS4.9
ULM Lac du Bonnet 81.49 321 P **P 08 32 08.9 -0.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=137,slow=9.6,SNR=3.3
ULM LR LR 09 03 44.4
comp=Z,760nm,19.1s,MS5.1,baz=188,slow=32
JCT Junction City 81.66 301 *e*P **P 08 32 10.6 +0.1**
JCT pmax pmax
comp=Z,34nm,1.5s,mb5.1
JCT MLR MLR
comp=Z,369nm,20.0s,MS4.7
JCT Junction City 81.66 301 *e*P **P 08 32 10.6 +0.1**
comp=Z,34nm,1.5s,mb5.1
JCT LR LR
comp=Z,369nm,20.0s,MS4.7
CBKS Cedar Bluff 82.48 309 PFAKE 08 32 30.0 +15
CBKS LR LR
comp=Z,668nm,20.0s,MS5.0
AMTX Amarillo 83.64 305 PFAKE 08 32 30.0 +9.2
AMTX LR LR
comp=Z,637nm,20.0s,MS5.0
ARU Arti 83.89 33⇑ *i*P **P 08 32 20.8 -1.3**
ARU *e* 08 35 31.4
ARU *e*S S 08 42 38.1 -7.7
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
ARU MLR MLR
comp=N,80nm,18.0s,MS4.7
ARU MLR MLR
comp=E,300nm,18.0s,MS4.7
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.8
ARU Arti 83.89 33 *e*P **P 08 32 21.1 -1.0**
comp=Z,13nm,1.2s,mb4.9
ARU LR LR
comp=Z,150nm,20.0s,MS4.4
LTX Lajitas 84.92 299 *e*P **P 08 32 26.2 -1.1**
LTX pmax pmax
comp=Z,48nm,1.0s,mb5.6
LTX MLR MLR
comp=Z,747nm,22.0s,MS5.0
LTX Lajitas 84.92 299 *e*P **P 08 32 26.2 -1.1**
comp=Z,48nm,1.0s,mb5.6
LTX LR LR
comp=Z,747nm,22.0s,MS5.0
TXAR Lajitas Array 84.92 299 P **P 08 32 27.8 +0.5**
comp=Z,1.3nm,0.6s,mb4.2,baz=124,slow=6.2,SNR=8.3
TXAR LR LR 09 06 13.5
comp=Z,294nm,21.2s,MS4.7,baz=0.0,slow=33
GDL2 Guadalupe Moun 85.68 302 *e*P **P 08 32 31.8 +0.7**
MNTX Cornudas Mount 86.52 302 PFAKE 08 32 50.0 +15
MNTX LR LR
comp=Z,487nm,20.0s,MS4.9
DGMT Dagmar 86.64 318 PFAKE 08 32 50.0 +14
DGMT LR LR
comp=Z,688nm,20.0s,MS5.0
MAW Mawson 86.77 158 LR LR 09 03 45.3
comp=Z,273nm,19.1s,MS4.7,baz=118,slow=30
SDCO Great Sand Dun 86.91 308 *e*P **P 08 32 38.1 +0.9**
comp=Z,5.6nm,1.0s,mb4.8
SDCO LR LR
comp=Z,706nm,19.0s,MS5.1
ISCO Idaho Springs 87.11 310 *e*P **P 08 32 38.7 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
ISCO MLR MLR
comp=Z,815nm,20.0s,MS5.1
ISCO Idaho Springs 87.11 310 *e*P **P 08 32 38.7 +0.5**
comp=Z,2.8nm,0.8s,mb4.5
ISCO LR LR
comp=Z,815nm,20.0s,MS5.1
ANMO Albuquerque 87.56 305 *e*P **P 08 32 40.2 -0.2**
ANMO Albuquerque 87.56 305 *e*P **P 08 32 41.9 +1.5**
ANMO LR LR
comp=Z,747nm,21.0s,MS5.1
BNM Barren Site 87.67 304 *e*P **P 08 32 41.4 +0.5**
LAO LASA Array 87.90 317 *e*P **P 08 32 43.1 +1.1**
comp=Z,19nm,1.3s,mb5.2
LAO LR LR
comp=Z,780nm,20.0s,MS5.1
LAZ Ladron 88.10 304 *e*P **P 08 32 43.6 +0.6**
MVCO Mesa Verde 89.28 307 PFAKE 08 33 00.0 +12
MVCO LR LR
comp=Z,457nm,19.0s,MS4.9
PV01 Paradox Valley 89.35 308 *e*P **P 08 32 49.9 +1.0**
RPN Rapa Nui 89.45 243 PFAKE 08 33 00.0 +11
RPN LR LR
comp=Z,390nm,19.0s,MS4.8
QSPA South Pole Qui 89.64 180 *e*P **P 08 32 52.6 +2.4**
comp=Z,6.9nm,0.7s,mb5.1
QSPA LR LR
comp=Z,264nm,20.0s,MS4.7
BW06 Boulder Array 90.17 313 PFAKE 08 33 00.0 +7.4
BW06 LR LR
comp=Z,625nm,22.0s,MS5.0
PDAR Pinedale Array 90.17 313 P **P 08 32 50.1 -2.5**
comp=Z,0.9nm,1.0s,mb4.0,baz=90,slow=7.4,SNR=4.0
PDAR LR LR 09 11 46.2
comp=Z,408nm,19.3s,MS4.9,baz=104,slow=35
PDAR Pinedale Array 90.17 313 P **P 08 32 50.1 -2.5**
PDAR LR LR 09 11 46.2
EGMT Eagleton 90.34 318 PFAKE 08 33 00.0 +6.6
EGMT LR LR
comp=Z,557nm,20.0s,MS5.0
BRVK Borovoye 90.36 37 PFAKE 08 33 00.0 +6.5
BRVK LR LR
comp=Z,102nm,20.0s,MS4.2
LKWY Lake 90.78 314 PFAKE 08 33 10.0 +15
LKWY LR LR
comp=Z,1μm,19.0s,MS5.3
TUC Tucson 91.12 302 PFAKE 08 33 10.0 +13
TUC LR LR
comp=Z,494nm,21.0s,MS4.9
YMR Madison River 91.18 314 PFAKE 08 33 10.0 +13
YMR LR LR
comp=Z,637nm,20.0s,MS5.1
WUAZ Wupatki 91.59 305 PFAKE 08 33 10.0 +11
WUAZ LR LR
comp=Z,430nm,20.0s,MS4.9
BOZ Bozeman (W) 91.64 315 PFAKE 08 33 10.0 +11
BOZ LR LR
comp=Z,495nm,20.0s,MS5.0
HWUT Hardware Ranch 91.66 311 PFAKE 08 33 10.0 +10
HWUT LR LR
comp=Z,1μm,22.0s,MS5.3
MPU Maple Canyon 91.74 310 PFAKE 08 33 10.0 +10
MPU LR LR
comp=Z,1μm,20.0s,MS5.3
DGAR Diego Garcia 92.11 97 PFAKE 08 33 10.0 +8.3
DGAR LR LR
comp=Z,290nm,20.0s,MS4.7
MVU Marysvale 92.22 308 PFAKE 08 33 10.0 +7.9
MVU LR LR
comp=Z,382nm,19.0s,MS4.9
EDM Edmonton 92.52 323 *e*P **P 08 33 02.3 -1.3**
DUG Dugway 92.64 310 PFAKE 08 33 20.0 +16
DUG LR LR
comp=Z,820nm,20.0s,MS5.2
YKA Yellowknife Ar 92.65 332 P **P 08 33 02.2 -1.9**
comp=Z,1.4nm,0.9s,mb4.4,baz=91,slow=5.1,SNR=9.3
YKA LR LR 09 12 28.3
comp=Z,495nm,18.2s,MS5.0,baz=115,slow=34
MSO Missoula 93.20 317 PFAKE 08 33 20.0 +13
MSO LR LR
comp=Z,533nm,20.0s,MS5.0
AAK Ala-Archa 93.41 48 *e*P **P 08 33 07.8 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
AAK Ala-Archa 93.41 48 *e*P **P 08 33 06.8 -0.9**
AAK LR LR
comp=Z,118nm,19.0s,MS4.4
HLID Hailey 93.70 313 PFAKE 08 33 20.0 +11
HLID LR LR
comp=Z,678nm,20.0s,MS5.1
ELK Elko 94.46 311 PFAKE 08 33 20.0 +7.5
ELK LR LR
comp=Z,951nm,22.0s,MS5.2
NEW Newport 95.25 318 PFAKE 08 33 30.0 +14
NEW LR LR
comp=Z,1μm,21.0s,MS5.3
BMO Blue Mountains 95.69 315 PFAKE 08 33 30.0 +12
BMO LR LR
comp=Z,495nm,19.0s,MS5.0
BMN Battle Mountai 95.99 310 PFAKE 08 33 30.0 +11
BMN LR LR
comp=Z,316nm,22.0s,MS4.8
TPH Tonopah 96.17 308 PFAKE 08 33 30.0 +10
TPH LR LR
comp=Z,345nm,21.0s,MS4.8
DAC Darwin (Calif) 96.60 306 PFAKE 08 33 30.0 +7.7
DAC LR LR
comp=Z,348nm,19.0s,MS4.9
WVOR Wild Horse Val 96.87 313 PFAKE 08 33 30.0 +6.5
WVOR LR LR
comp=Z,749nm,21.0s,MS5.2
HAWA Hanford 97.08 317 PFAKE 08 33 40.0 +16
HAWA LR LR
comp=Z,404nm,19.0s,MS4.9
ISA Isabella 97.36 306 PFAKE 08 33 40.0 +14
ISA LR LR
comp=Z,83nm,20.0s,MS4.2
NVS Novosibirsk 97.82 35 *e*P **P 08 33 22.8 -4.9**
MOD Modoc 98.16 312 PFAKE 08 33 40.0 +11
MOD LR LR
comp=Z,699nm,22.0s,MS5.1
MKAR Makanchi Array 98.55 43 LR LR 09 24 58.1
comp=Z,410nm,19.6s,MS4.9,baz=102,slow=40
CMB Columbia Colle 98.66 308 PFAKE 08 33 40.0 +8.5
CMB LR LR
comp=Z,441nm,20.0s,MS5.0
ZAL Zalesovo 98.89 35 LR LR 09 25 05.4
comp=Z,484nm,18.3s,MS5.0,baz=180,slow=40
COR Corvallis 99.96 315 PFAKE 08 33 50.0 +13
COR LR LR
comp=Z,685nm,20.0s,MS5.2
YBH Yreka Blue Hor 99.97 312 PFAKE 08 33 50.0 +13
YBH LR LR
comp=Z,949nm,21.0s,MS5.3
WDC Whiskeytown Da 100.01 311 PFAKE 08 33 50.0 +12
WDC LR LR
comp=Z,665nm,20.0s,MS5.1
HUMO Hull Mountain 100.02 313 PFAKE 08 33 50.0 +12
HUMO LR LR
comp=Z,562nm,19.0s,MS5.1
PALK Pallekele 100.41 83 PFAKE 08 33 50.0 +11
PALK LR LR
comp=Z,202nm,20.0s,MS4.6
HOPS Hopland 100.64 310 PFAKE 08 33 50.0 +10
HOPS LR LR
comp=Z,654nm,22.0s,MS5.1
VNDA Vanda 102.12 180 PFAKE 08 34 00.0 +13
VNDA LR LR
comp=Z,306nm,20.0s,MS4.8
WRAK Wrangell Islan 102.71 328 PFAKE 08 34 00.0 +10
WRAK LR LR
comp=Z,616nm,21.0s,MS5.1

WMQ	**Urumqi**	**102.83**	**45**	*e*P	Pdif	08 33 51.3	+1.2
WMQ				PP	PP	08 38 08.5	+4.6
WMQ				SKS		08 44 29.2	
WMQ				S	Sdif	08 45 33.2	-2.6
WMQ				SS	SS	08 52 47.2	+2.9
WMQ				PP	PP		
	comp=Z,216nm,5.0s						
WMQ				LR	LR		
	comp=N,419nm,25.0s,MS4.9						
WMQ				LR	LR		
	comp=E,169nm,25.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,222nm,28.0s,MS4.5						
EGAK	**Eagle**	**103.31**	**338**	PFAKE		08 34 00.0	+7.8
EGAK				LR	LR		
	comp=Z,489nm,21.0s,MS5.0						
SIT	**Sitka**	**104.03**	**329**	PFAKE		08 34 10.0	+15
SIT				LR	LR		
	comp=Z,974nm,20.0s,MS5.3						
CASY	**Casey**	**104.75**	**161**	PFAKE		08 34 10.0	+11
CASY				LR	LR		
	comp=Z,394nm,19.0s,MS5.0						
COLA	**College**	**105.69**	**340**	PFAKE		08 38 30.0	+14
COLA				LR	LR		
	comp=Z,534nm,22.0s,MS5.0						
TIXI	**Tiksi**	**106.11**	**10**	PFAKE		08 38 30.0	+13
TIXI				LR	LR		
	comp=Z,358nm,19.0s,MS4.9						
MCK	**McKinley**	**106.74**	**339**	PFAKE		08 38 30.0	+12
MCK				LR	LR		
	comp=Z,229nm,19.0s,MS4.8						
PMR	**Palmer**	**108.07**	**337**	PFAKE		08 38 30.0	+10
PMR				LR	LR		
	comp=Z,572nm,20.0s,MS5.1						
LSA	**Lhasa**	**108.29**	**59**	PFAKE		08 38 30.0	+9.4
LSA				LR	LR		
	comp=Z,318nm,20.0s,MS4.9						
TLY	**Talaya**	**110.39**	**34**	PFAKE		08 38 40.0	+15
TLY				LR	LR		
	comp=Z,96nm,21.0s,MS4.3						
KDAK	**Kodiak Island**	**111.76**	**335**	PFAKE		08 38 40.0	+13
KDAK				LR	LR		
	comp=Z,213nm,19.0s,MS4.8						
BILL	**Bilibino**	**112.40**	**358**	PFAKE		08 38 40.0	+12
BILL				LR	LR		
	comp=Z,441nm,19.0s,MS5.1						
RKT	**Rikitea**	**112.93**	**245**	*e*PS	PS	08 48 45.4	-7.2
	comp=Z,79nm,31.2s						
RKT	**Rikitea**	**112.93**	**245**	*e*SS	SS	08 54 53.6	-7.3
	comp=Z,186nm,29.0s						
RKT				*e*LR	LR	09 11 59.5	
	comp=Z,482nm,23.2s						
ULN	**Ulaanbaatar**	**114.13**	**36**	PFAKE		08 38 40.0	+8.3
ULN				LR	LR		
	comp=Z,567nm,20.0s,MS5.2						
YAK	**Yakutsk**	**114.37**	**15**	PFAKE		08 38 40.0	+7.9
YAK				LR	LR		
	comp=Z,472nm,19.0s,MS5.1						
LZH	**Lanzhou**	**116.90**	**49**	*e*PKP	PKPdf	08 38 34.2	-2.8
LZH				XPKP		08 38 38.9	
LZH				*e*PP	PP	08 39 48.5	+2.8
LZH				SKS	SKSdf	08 45 44.3	-4.8
LZH				SKKS	SKKSac	08 46 40.2	-6.7
LZH				*e*SS	SS	08 55 52.5	-0.6
LZH				PP	PP		
	comp=Z,187nm,7.9s						
LZH				LR	LR		
	comp=N,216nm,18.0s						
LZH				LR	LR		
	comp=Z,398nm,20.3s,MS5.0						
CHTO	**Chiang Mai**	**117.19**	**69**	PFAKE		08 38 50.0	+12
CHTO				LR	LR		
	comp=Z,368nm,21.0s,MS5.0						
CD2	**Chengdu**	**118.56**	**55**	*e*PKP	PKPdf	08 38 37.2	-3.0
CD2				XPKP		08 38 45.3	
CD2				PP	PP	08 39 59.8	+2.5
CD2				PKS		08 42 12.6	
CD2				SKS	SKSdf	08 45 44.4	-7.9
CD2				SKKS	SKKSac	08 46 48.8	-9.1
CD2				SS	SS	08 56 13.6	-1.1
CD2				PP	PP		
	comp=Z,120nm,8.8s						
CD2				LR	LR		
	comp=N,540nm,20.4s,MS5.3						
CD2				LR	LR		
	comp=E,580nm,20.4s,MS5.3						
CD2				LR	LR		
	comp=Z,460nm,16.8s,MS5.2						
KMI	**Kunming**	**119.33**	**61**	PKP	PKPdf	08 38 37.6	-4.1
KMI				XPKP		08 38 45.4	
KMI				PP	PP	08 40 06.5	+3.9
KMI				SS	SS	08 56 25.4	+0.7
KMI				PP	PP		
	comp=Z,185nm,5.0s						
KMI				LR	LR		
	comp=N,359nm,19.9s,MS5.1						
KMI				LR	LR		
	comp=E,331nm,19.9s,MS5.1						
KMI				LR	LR		
	comp=Z,365nm,21.8s,MS5.0						
TAOE	**Nuku Hiva Isla**	**119.94**	**260**	*e*LR	LR	09 15 14.1	
	comp=Z,1μm,23.4s						
HIA	**Hailar**	**120.24**	**30**	PFAKE		08 38 50.0	+6.6
HIA				LR	LR		
	comp=Z,469nm,19.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**120.37**	**41**	*e*PKP	PKPdf	08 38 39.0	-4.7
HHC				PP	PP	08 40 09.4	-0.3
HHC				PKS		08 42 14.3	
HHC				SKS	SKSdf	08 45 50.1	-5.7
HHC				SKKS	SKKSac	08 47 01.9	-7.9
HHC				SS	SS	08 56 35.7	-2.3
HHC				PP	PP		
	comp=Z,97nm,8.8s						
HHC				LR	LR		
	comp=N,375nm,21.4s,MS5.0						
HHC				LR	LR		
	comp=E,241nm,23.8s,MS5.0						
HHC				LR	LR		
	comp=Z,298nm,25.6s,MS4.8						
GYA	**Guiyang**	**122.36**	**59**	PDIF	Pdif	08 35 15.8	-1.1
GYA				PKP	PKPdf	08 38 46.9	-0.6
GYA				PP	PP	08 40 27.5	+4.2
GYA				PKS		08 42 22.2	
GYA				SKS	SKSdf	08 45 56.4	-3.1
GYA				SKKS	SKKSac	08 47 18.5	-4.3
GYA				SS	SS	08 57 05.0	+1.5
GYA				PP	PP		
	comp=Z,130nm,8.9s						
GYA				LR	LR		
	comp=N,480nm,20.4s,MS5.3						
GYA				LR	LR		
	comp=E,490nm,20.6s,MS5.3						
GYA				LR	LR		
	comp=Z,340nm,20.0s,MS5.0						
BJT	**Baijiatuau**	**123.81**	**40**	PFAKE		08 39 00.0	+10
BJT				LR	LR		
	comp=Z,803nm,20.0s,MS5.4						
TBI	**Tubuai**	**125.76**	**241**	*e*SS	SS	08 57 41.0	-5.4
	comp=Z,630nm,27.2s						
TBI				*e*LQ		09 12 24.5	
	comp=Z,692nm,34.8s						
TBI				*e*LR	LR	09 18 01.8	
	comp=Z,350nm,34.5s						
QIZ	**Qiongzhong**	**127.24**	**66**	*e*PKP	PKPdf	08 38 52.3	-4.5
QIZ				PP	PP	08 41 04.5	+8.5
QIZ				LR	LR		
	comp=Z,726nm,19.4s,MS5.4						
QIZ	**Qiongzhong**	**127.24**	**66**	PFAKE		08 39 10.0	+13
QIZ				LR	LR		
	comp=Z,731nm,21.0s,MS5.3						
PPT	**Papeete**	**127.51**	**247**	*e*SS	SS	08 58 01.8	-6.5
	comp=Z,419nm,28.8s						
PPT				*e*LQ		09 13 20.2	
	comp=Z,924nm,29.5s						
PPT				*e*LR	LR	09 18 48.8	
	comp=Z,1μm,24.2s						
PET	**Petropavlovsk**	**127.58**	**1**	PFAKE		08 39 10.0	+13
PET				LR	LR		
	comp=Z,743nm,19.0s,MS5.4						
NWAO	**Narrogin (SRO)**	**127.64**	**134**	PFAKE		08 39 10.0	+12
NWAO				LR	LR		
	comp=Z,352nm,22.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**131.21**	**16**	PFAKE		08 39 20.0	+16
YSS				LR	LR		
	comp=Z,544nm,21.0s,MS5.2						
SSE	**Sheshan**	**132.05**	**47**	PKP	PKPdf	08 39 04.3	-1.7
SSE				LR	LR		
	comp=N,82nm,39.5s,MS4.5						
SSE				LR	LR		
	comp=E,196nm,39.1s,MS4.5						
SSE				LR	LR		
	comp=Z,173nm,32.6s						
ERM	**Erimo**	**135.83**	**18**	PFAKE		08 39 20.0	+6.9
ERM				LR	LR		
	comp=Z,139nm,22.0s,MS4.6						
DAV	**Davao City (W)**	**144.79**	**78**	PFAKE		08 39 40.0	+11
DAV				LR	LR		
	comp=Z,442nm,20.0s,MS5.2						
ASAR	**Alice Springs**	**144.93**	**135**	PKPbc	PKPdf	08 39 28.6	-0.9
	comp=Z,6.7nm,0.5s,baz=228,slow=2.3,SNR=94						
WRA	**Warramunga Arr**	**147.51**	**130**	PKPbc	PKPbc	08 39 35.7	-0.7
	comp=Z,2.1nm,1.1s,baz=234,slow=2.5,SNR=11						
CTAO	**Charters Tower**	**155.41**	**147**	PFAKE		08 40 00.0	+14
CTAO				LR	LR		
	comp=Z,423nm,20.0s,MS5.3						
FUNA	**Funafuti**	**159.14**	**244**	PFAKE		08 40 00.0	+9.5
FUNA				LR	LR		
	comp=Z,4μm,19.0s						
PMG	**Port Moresby**	**163.69**	**127**	PFAKE		08 40 10.0	+15
PMG				LR	LR		
	comp=Z,450nm,19.0s						

KRSC 03 08:43:39.5±1.2, 5561N×16618E, h45km±45km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.98**	**289**	*e*P	Pn	08 44 11.1	+0.5
KBTR				*i* S	Sn	08 44 34.1	-0.1
MKZ	**Mys Kozlova**	**2.77**	**249**	*e*P	Pn	08 44 23.0	+1.7
MKZ				*i* S	Sn	08 44 55.0	+1.5
SMKR	**Semkarok**	**2.81**	**292**	*e*P	Pn	08 44 24.4	+2.4
SMKR				*i* S	Sn	08 44 57.0	+2.4
BDR	**Baidarnaya**	**2.95**	**291**	*e*P	Pn	08 44 26.6	+2.8
BDR				*i* S	Sn	08 45 00.3	+2.4
SRKR	**Sorokina**	**2.99**	**293**	*e*P	Pn	08 44 26.9	+2.5
SRKR				*i* S	Sn	08 45 01.6	+2.5
ZLN	**Zelenaya**	**3.06**	**280**	*e*P	Pn	08 44 28.5	+3.2
ZLN				*i* S	Sn	08 45 04.4	+3.7
CIRR	**Tsirk**	**3.10**	**282**	*e*P	Pn	08 44 28.7	+2.8
CIRR				*i* S	Sn	08 45 04.6	+2.9
KLY	**Klyuchi**	**3.19**	**285**	*e*P	Pn	08 44 28.1	+1.0
KLY				*i* S	Sn	08 45 03.4	-0.4
KRSR	**Krestovskiy**	**3.22**	**283**	*e*P	Pn	08 44 30.0	+2.5
KRSR				*i* S	Sn	08 45 07.3	+2.7
BZMR	**Bezymyannaya**	**3.23**	**278**	*e*P	Pn	08 44 31.2	+3.5
BZMR				*i* S	Sn	08 45 09.1	+4.2
KIRR	**Kirishev**	**3.31**	**278**	*e*P	Pn	08 44 31.9	+3.1
KIRR				*i* S	Sn	08 45 10.6	+3.6
KMNR	**Kamenistaya**	**3.37**	**275**	*e*P	Pn	08 44 33.0	+3.4
KPT	**Kopyto**	**3.38**	**279**	*e*P	Pn	08 44 33.1	+3.3
KPT				*i* S	Sn	08 45 12.7	+4.1
TUMR	**Tumrok**	**3.45**	**267**	*e*P	Pn	08 44 34.0	+3.3
TUMR				*i* S	Sn	08 45 14.2	+3.8
KOZ	**Kozyrevsk**	**3.58**	**280**	*e*P	Pn	08 44 36.4	+3.9
KOZ				*i* S	Sn	08 45 18.0	+4.4
SRDR	**Sredinnyy**	**3.70**	**284**	*e*P	Pn	08 44 37.3	+3.2
SRDR				*i* S	Sn	08 45 19.9	+3.4
SPN	**Mys Shipunski**	**4.39**	**238**	*e*P	Pn	08 44 45.8	+2.2
SPN				*i* S	Sn	08 45 34.1	+0.6
AVH	**Avacha**	**4.94**	**245**	*e*P	Pn	08 44 54.8	+3.7
AVH				*i* S	Sn	08 45 49.4	+2.5
PET	**Petropavlovsk**	**5.11**	**243**	P	Pn	08 44 55.9	+2.4
PET				*i* S	Sn	08 45 51.8	+0.6
GNL	**Ganaly**	**5.15**	**252**	*e*P	Pn	08 44 57.8	+3.7
RUS	**Russkaya**	**5.53**	**238**	*e*P	Pn	08 45 02.2	+3.0

*ISCJB **03** 08:47:14.3±0.7, 4487N±004×2242E±007, h5km±8km, Error ellipse: s-maj=8.5km s-min=5.0km az=57.7*
*BEO **03** 08:47:14.8±0.2, 4483N×2248E, h14km*
*BUC **03** 08:47:16.3±1.8, 4497N×2248E, h16km±6km, MD2.5/2, Error ellipse: s-maj=15.8km s-min=8.3km az=332.0*

ISC 03 08:47:14.8±0.7, 4486N±003×2244E±006, h7km±7km, n8, σ0°83/16, 3C-3D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJES	**Djerdap**	**0.24**	**164**	*e*Pg	**Pg**	**08 47 19.0**	**-0.5**
DJES				Sg	**Sg**	**08 47 22.6**	**-0.1**
GZR	**Gura Zlata**	**0.58**	**24**	⇑*i*P	**Pg**	**08 47 26.3**	**+0.3**
GZR				*i* S	**Sg**	**08 47 33.9**	**+0.3**
BZS	**Buzias**	**0.95**	**323**	⇓*i*P	**Pg**	**08 47 33.5**	**+0.5**
BZS				*i* S	**Sg**	**08 47 45.4**	**+0.1**
SVIS	**Svilajnac**	**1.04**	**237**	⇓*i*Pg	**Pg**	**08 47 34.4**	**-0.3**
SVIS				Sg	**Sg**	**08 47 49.1**	**+1.0**
GRUS	**Gruza**	**1.57**	**232**	⇓*i*Pn	**Pn**	**08 47 43.9**	**+0.8**
GRUS				Sg	**Sg**	**08 48 05.5**	**+0.2**
DIVS	**Divcibare**	**1.91**	**247**	⇑*i*Pn	**Pn**	**08 47 48.5**	**+0.8**
DIVS				Sg	**Sg**	**08 48 13.8**	**-2.4**
DRGR		**1.94**	**6**	⇑*i*P	**Pn**	**08 47 47.9**	**-0.2**
DRGR				*i* S	**Sn**	**08 48 11.5**	**-1.2**
BARS	**Barje**	**2.09**	**192**	*e*Pn	**Pn**	**08 47 50.7**	**+0.5**
BARS				Sg	**Sg**	**08 48 18.1**	**-3.8**

IDC 03 09:01:42.2±7.2, 846S×11987E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=181.7km s-min=81.2km az=66.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.10**	**150**	*e*P	Pn	09 04 24.1	+1.9
	2.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.10**	**150**	Pn	Pn	09 04 23.9	+1.7
	0.4nm,0.3s,baz=337,slow=8.7,SNR=11						
FITZ				Sn	Sn	09 06 27.8	+0.7
	0.1nm,0.3s,baz=157,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**18.06**	**131**	P	Pn	09 05 55.0	+0.4
	0.1nm,0.3s,baz=303,slow=13,SNR=9.4						
ASAR	**Alice Springs**	**20.23**	**140**	P	P	09 06 19.3	+0.5
	0.7nm,0.6s,baz=318,slow=9.3,SNR=16						
STKA	**Stephens Creek**	**30.83**	**142**	P	P	09 07 59.4	-0.5
	1.3nm,0.9s,baz=339,slow=14,SNR=2.8						

*NIED **03** 09:12:00, 37.10N×14120E, h56km, Mw3.8 Best double couple: M:6.17000×10^14 NP1:φs=19.00000°, δ72.00000°, λ69.00000°. NP2:φs=251.00000°, δ27.00000°, λ138.00000°.*
*ISCJB **03** 09:12:36.1±0.8, 3704N±004×14140E±008, h49km±6km, mb3.6/6, Error ellipse: s-maj=10.9km s-min=5.6km az=44.4*
*NEIC **03** 09:12:38.4, 3707N×141.19E, h51km, MG4.0(JMA), After JMA.*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki Prefectures.
*JMA **03** 09:12:38.3±0.1, 3707N×141.19E, h51km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs:208.00000°, δ13.00000°, λ98.00000°. NP2:φs:19.00000°, δ77.00000°, λ88.00000°. Principal axes: T Plg58.0000°, Azm287.0000°; N Plg2.0000°, Azm20.0000°; P Plg32.0000°, Azm111.0000°;*
JMA Felt II J1.
*IDC **03** 09:12:38.1±2.7, 3708N×14142E, h54km±23km, mb3.5/6, mb1 3.7/10, mb1mx3.5/25, mbtmp3.6/10, ML3.7/4 Error ellipse: s-maj=20.9km s-min=16.6km az=83.0*

ISC 03 09:12:37.4±0.9, 3705N±004×14136E±008, h42km±8km, n23, σ0°83/34, mb3.6/6, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**276**	⇓P	**Pn**	**09 12 47.7**	**0.0**
ONAJ				S	**Sn**	**09 12 54.0**	**-0.9**
JFK	**Kawauchi**	**0.50**	**309**	⇓P	**Pn**	**09 12 48.2**	**0.0**
JFK				S	**Sn**	**09 12 55.1**	**-0.8**
JHO	**Hitachi**	**0.78**	**235**	⇓P	**Pn**	**09 12 51.4**	**-0.5**
JHO				S	**Sn**	**09 13 00.6**	**-1.8**
JMM	**Marumori**	**0.93**	**331**	⇓P	**Pn**	**09 12 54.0**	**0.0**
JMM				S	**Sn**	**09 13 05.3**	**-0.8**
JFT	**Otama**	**0.94**	**300**	⇓P	**Pn**	**09 12 54.5**	**+0.3**
JFT				S	**Sn**	**09 13 05.9**	**-0.5**
JFY	**Yanaizu**	**1.37**	**285**	⇓P	**Pn**	**09 12 59.7**	**-0.3**
JIO	**Ouri**	**1.40**	**360**	⇓P	**Pn**	**09 13 01.0**	**+0.6**
JIO				*e*S	**Sn**	**09 13 17.0**	**-0.7**
JOU	**Okura**	**1.42**	**337**	⇓P	**Pn**	**09 13 01.1**	**+0.4**
JOU				S	**Sn**	**09 13 18.8**	**+0.6**
JYS	**Shiratake**	**1.55**	**319**	⇓P	**Pn**	**09 13 03.0**	**+0.4**
JYS				*e*S	**Sn**	**09 13 21.9**	**+0.4**
JAG	**Ashikaga**	**1.66**	**248**	⇓P	**Pn**	**09 13 03.6**	**-0.4**
JAG				S	**Sn**	**09 13 22.7**	**-1.3**
MJAR	**Matsushiro Arr**	**2.58**	**260**	P	**Pn**	**09 13 17.1**	**+0.4**
	15nm,0.3s,baz=82,slow=16,SNR=95						
MJAR				S	**Sn**	**09 13 49.0**	**+2.2**
	14nm,0.3s,baz=93,slow=28,SNR=9.7						
MAJO	**Matsushiro**	**2.58**	**260**	*e*Pn	**Pn**	**09 13 17.4**	**+0.7**
MAT	**Matsushiro**	**2.58**	**260**	P	**Pn**	**09 13 17.5**	**+0.8**
MAT				S	**Sn**	**09 13 47.9**	**+1.0**
JHJ	**Hachijo jima 2**	**4.13**	**199**	P	**Pn**	**09 13 38.7**	**+0.7**
	30nm,0.3s,baz=234,slow=24,SNR=9.6						
ASAJ	**Asahikawa**	**7.12**	**7**	P	**Pn**	**09 14 19.6**	**+0.7**
	1.9nm,0.3s,baz=207,slow=15,SNR=16						
KSRS	**Korea Array**	**10.72**	**276**	P	**Pn**	**09 15 10.6**	**+2.3**
	baz=90,slow=14,SNR=5.5						
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**09 18 21.2**	**-0.6**
	0.8nm,0.5s,mb3.6,baz=98,slow=9.4,SNR=7.6						
ZAL	**Zalesovo**	**41.88**	**312**	P	**P**	**09 20 23.1**	**-0.4**
	1.7nm,0.5s,mb3.9,baz=352,slow=7.9,SNR=7.8						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**09 20 41.0**	**-0.2**
	0.6nm,0.5s,mb3.6,baz=83,slow=11,SNR=14						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**09 20 41.0**	**-0.2**
WRA	**Warramunga Arr**	**57.07**	**188**	P	**P**	**09 22 19.0**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=5.3,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**60.80**	**188**	P	**P**	**09 22 45.1**	**0.0**
	0.1nm,0.7s,mb3.1,baz=23,slow=5.0,SNR=3.8						
FINES	**FINESS Array B**	**68.78**	**332**	P	**P**	**09 23 35.7**	**-1.3**
	1.9nm,0.9s,mb4.0,baz=72,slow=4.5,SNR=3.2						

*MOS **03** 09:25:36.0±0.2, 5484N×16182E, h30km, mb4.3/1, Error ellipse: s-maj=36.1km s-min=12.1km az=79.2*

KRSC 03 09:25:35.8±0.5, 5488N×16168E, h36km±35km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.33**	**175**	*i* P	Pn	09 25 44.8	+0.7
MKZ				*i* S	Sn	09 25 50.8	+1.0
TUMR	**Tumrok**	**0.97**	**295**	*e*P	Pn	09 25 53.6	+0.7
TUMR				*i* S	Sn	09 26 06.5	+1.1
KMNR	**Kamenistaya**	**1.21**	**317**	*i* P	Pn	09 25 57.7	+1.6
KMNR				*i* S	Sn	09 26 13.7	+2.5
ZLN	**Zelenaya**	**1.24**	**337**	*e*P	Pn	09 25 58.8	+2.1
ZLN				*i* S	Sn	09 26 15.3	+3.1
BZMR	**Bezymyannaya**	**1.26**	**328**	*e*P	Pn	09 25 58.3	+1.5
BZMR				*i* S	Sn	09 26 14.9	+2.4
KIRR	**Kirishev**	**1.32**	**325**	*e*P	Pn	09 25 59.4	+1.7
KIRR				*i* S	Sn	09 26 16.6	+2.6
CIRR	**Tsirk**	**1.35**	**337**	*e*P	Pn	09 26 00.3	+2.2
CIRR				*i* S	Sn	09 26 17.5	+2.8
KPT	**Kopyto**	**1.37**	**323**	*e*P	Pn	09 26 00.2	+1.8
KPT				*i* S	Sn	09 26 17.3	+2.0
KBTR	**Krutoberegovo**	**1.48**	**25**	*e*P	Pn	09 26 01.0	+1.1
KBTR				*i* S	Sn	09 26 19.2	+1.2
KRSR	**Krestovskiy**	**1.48**	**335**	*e*P	Pn	09 26 01.6	+1.7
KRSR				*i* S	Sn	09 26 20.3	+2.2
KLY	**Klyuchi**	**1.55**	**338**	*e*P	Pn	09 26 02.2	+1.3
KLY				*i* S	Sn	09 26 21.0	+1.2
KOZR	**Kozyr**	**1.56**	**320**	PN	Pn	09 26 03.4	+2.3
KOZR				S	Sn	09 26 23.3	+3.2
KOZ	**Kozyrevsk**	**1.57**	**320**	*e*P	Pn	09 26 03.4	+2.3
KOZ				*i* S	Sn	09 26 23.3	+3.2
SMKR	**Semkarok**	**1.71**	**356**	*e*P	Pn	09 26 05.6	+2.5
SMKR				*i* S	Sn	09 26 26.9	+3.2
BDR	**Baidarnaya**	**1.71**	**351**	*e*P	Pn	09 26 05.8	+2.7
BDR				*i* S	Sn	09 26 27.5	+3.7
SRKR	**Sorokina**	**1.80**	**351**	*e*P	Pn	09 26 07.0	+2.7
SRKR				*i* S	Sn	09 26 29.4	+3.4
SRDR	**Sredinnyy**	**1.82**	**323**	*e*P	Pn	09 26 06.3	+1.7
SRDR				*i* S	Sn	09 26 28.1	+1.7
SPN	**Mys Shipunski**	**2.04**	**209**	*e*P	Pn	09 26 08.8	+1.2
SPN				*i* S	Sn	09 26 32.3	+0.6
NLC	**Nalytchevo**	**2.20**	**220**	*e*P	Pn	09 26 11.7	+1.9
NLC				*i* S	Sn	09 26 37.5	+1.8
AVH	**Avacha**	**2.37**	**228**	*e*P	Pn	09 26 14.7	+2.5
AVH				*i* S	Sn	09 26 43.8	+3.8
GNL	**Ganaly**	**2.49**	**243**	*e*P	Pn	09 26 16.3	+2.5
PET	**Petropavlovsk**	**2.58**	**225**	*e*PN	Pn	09 26 17.2	+2.2
PET				*e*S	Sn	09 26 48.7	+3.5
PET				pmax	pmax		
	comp=Z,134nm,0.5s						
PET				smax			
	comp=E,466nm,0.3s						
PET	**Petropavlovsk**	**2.58**	**225**	*e*P	Pn	09 26 17.4	+2.4
PET				*i* S	Sn	09 26 47.7	+2.5
RUS	**Russkaya**	**3.09**	**219**	*e*P	Pn	09 26 24.1	+2.0
RUS				*i* S	Sn	09 26 58.8	+1.0
GRL	**Gorelyy**	**3.17**	**224**	*e*P	Pn	09 26 26.6	+3.5
GRL				*i* S	Sn	09 27 03.6	+3.9

*MAN **03** 09:28:00.7, 16.10N×11863E, h1km, mb3.7, ML4.8, MS5.6*
*ISCJB **03** 09:28:07.9±0.8, 1594N±004×11901E±006, h41km±9km, mb4.3/31, MS4.1/5, Error ellipse: s-maj=10.3km s-min=6.3km az=153.2*
*IDC **03** 09:28:12.7±2.8, 1602N×11925E, h71km±26km, mb3.9/21, mb1 4.0/21, mb1mx4.0/27, mbtmp3.9/21, MS4.1/3, Ms1 4.1/3, ms1mx3.4/30, Error ellipse: s-maj=26.7km s-min=10.5km az=66.0*
*NEIC **03** 09:28:12.1±1.0, 1608N×11934E, h66km±10km, mb4.5/8, Error ellipse: s-maj=14.4km s-min=6.1km az=74.0*
*BJI **03** 09:28:14.5, 1626N×11888E, h65km, mB4.8, mb4.4, Ms4.6, Msz4.0*

ISC 03 09:28:10.0±0.7, 1598N±004×11908E±006, h42km±8km, n71, σ1°04/70, mb4.3/31, MS4.1/5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.89**	**63**	*e*P	**Pn**	**09 28 24.3**	**-1.8**
BOLP				*e*S	**Sn**	**09 28 38.0**	**+0.1**
BOLP	**Bolinao**	**0.89**	**63**	*e*P	**Pn**	**09 28 24.3**	**-1.8**
BOLP				*e*S	**Sn**	**09 28 38.0**	**+0.1**
BALP	**Baler**	**2.41**	**95**	*e*P	**Pn**	**09 28 48.1**	**+1.2**
BALP	**Baler**	**2.41**	**95**	*e*P	**Pn**	**09 28 48.1**	**+1.2**
LUBP	**Lubang**	**2.50**	**153**	*e*P	**Pn**	**09 28 48.0**	**-0.1**
LUBP	**Lubang**	**2.50**	**153**	*e*P	**Pn**	**09 28 48.0**	**-0.1**
TGY	**Tagaytay City**	**2.59**	**136**	P	**Pn**	**09 28 52.0**	**+2.7**
	270nm,0.3s,baz=275,slow=1.8,SNR=19						
APYP	**Conner**	**2.79**	**48**	*e*P	**Pn**	**09 28 51.0**	**-1.1**
APYP	**Conner**	**2.79**	**48**	*e*P	**Pn**	**09 28 51.0**	**-1.1**
CAUP	**Cauayan**	**2.80**	**70**	*e*P	**Pn**	**09 28 54.5**	**+2.3**
CAUP	**Cauayan**	**2.80**	**70

LZH	**Lanzhou**	**24.20 329**	*e*P	**P**	**09 33 23.5**	**+1.0**
LZH			AMB	AMB		
comp=Z,31nm,1.2s,mb4.6						
LZH			AMB	AMB		
comp=Z,49nm,5.2s						
LZH			LR	LR		
comp=N,319nm,13.7s						
LZH			LR	LR		
comp=Z,482nm,17.5s,MS4.0						
GTA	**Gaotai**	**28.79 328**	*e*P	**P**	**09 34 04.6**	**+0.7**
GTA			AMB	AMB		
comp=Z,6.0nm,1.5s,mb4.1						
KAKA	**Kakadu**	**31.42 154**	*e*P	**P**	**09 34 26.0**	**-1.1**
comp=Z,5.7nm,0.6s,mb4.6						
GUN	**Gumba**	**32.90 297**	*e*P	**P**	**09 34 40.8**	**+0.7**
comp=Z,25nm,0.8s,mb5.2						
PKI	**Pulchoki**	**33.23 296**	*e*P	**P**	**09 34 42.8**	**-0.2**
KKN	**Kakani**	**33.39 296**	*e*P	**P**	**09 34 44.4**	**0.0**
comp=Z,9.8nm,0.4s,mb5.1						
SONM	**Songino Array**	**33.45 344**	P	**P**	**09 34 45.5**	**+0.5**
comp=Z,2.3nm,0.8s,mb4.1,baz=161,slow=9.4,SNR=8.8						
DMN	**Daman**	**33.49 296**	*e*P	**P**	**09 34 45.4**	**+0.1**
comp=Z,15nm,0.9s,mb4.9						
ASAJ	**Asahikawa**	**34.41 31**	LR	LR	09 49 58.8	
comp=Z,192nm,18.1s,MS3.9,baz=183,slow=38						
FITZ	**Fitzroy Crossi**	**34.47 169**	*e*P	**P**	**09 34 53.7**	**-0.1**
comp=Z,8.5nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.47 169**	P	**P**	**09 34 53.3**	**-0.5**
comp=Z,5.6nm,0.8s,mb4.5,baz=347,slow=6.1,SNR=7.4						
KOLN	**Koldanda**	**34.83 296**	*e*P	**P**	**09 34 56.9**	**0.0**
PMG	**Port Moresby**	**37.53 130**	P	**P**	**09 35 18.7**	**-1.3**
comp=Z,11nm,0.8s,mb4.7,baz=0.3,slow=5.6,SNR=6.9						
PMG	**Port Moresby**	**37.53 130**	*e*P	**P**	**09 35 19.8**	**-0.2**
comp=Z,9.6nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**38.72 157**	P	**P**	**09 35 29.0**	**-0.9**
comp=Z,4.0nm,0.5s,mb4.4,baz=340,slow=9.1,SNR=73						
WRA			PcP	PcP	09 37 42.0	+0.9
comp=Z,0.2nm,0.5s,baz=339,slow=3.1,SNR=3.0						
WB2	**Warramunga Arr**	**38.72 157**	*e*P	**P**	**09 35 29.0**	**-1.0**
ASAR	**Alice Springs**	**41.98 159**	P	**P**	**09 35 56.9**	**-0.1**
comp=Z,2.8nm,0.4s,mb4.3,baz=338,slow=7.0,SNR=70						
MKAR	**Makanchi Array**	**43.28 323**	P	**P**	**09 36 08.0**	**+0.5**
comp=Z,3.4nm,0.8s,mb4.1,baz=130,slow=9.4,SNR=16						
MKAR			PcP	PcP	09 37 55.6	-0.3
comp=Z,0.7nm,0.9s,baz=207,slow=6.2,SNR=2.2						
MKAR	**Makanchi Array**	**43.28 323**	P	**P**	**09 36 08.0**	**+0.5**
MKAR			PcP	PcP	09 37 55.6	-0.3
CTA	**Charters Tower**	**44.69 142**	*e*P	**P**	**09 36 20.1**	**+1.3**
comp=Z,1.4nm,0.4s,mb4.1						
CTA	**Charters Tower**	**44.69 142**	P	**P**	**09 36 18.6**	**-0.2**
comp=Z,1.6nm,0.4s,mb4.2,baz=318,slow=12,SNR=9.2						
ZAL	**Zalesovo**	**46.33 333**	P	**P**	**09 36 32.5**	**+0.7**
comp=Z,1.3nm,0.3s,mb4.4,baz=297,slow=4.4,SNR=4.5						
AAK	**Ala-Archa**	**46.36 314**	*e*P	**P**	**09 36 32.7**	**+0.7**
comp=Z,3.6nm,0.9s,mb4.3						
FORT	**Forrest**	**47.28 169**	*e*P	**P**	**09 36 39.9**	**+0.7**
comp=Z,17nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**52.25 156**	*e*P	**P**	**09 37 17.2**	**+0.2**
comp=Z,5.3nm,1.5s,mb4.2						
STKA	**Stephens Creek**	**52.25 156**	P	**P**	**09 37 16.9**	**-0.1**
comp=Z,1.1nm,0.4s,mb4.1,baz=349,slow=6.3,SNR=7.0						
BVAR	**Borovoye Array**	**53.02 325**	P	**P**	**09 37 22.8**	**+0.2**
comp=Z,0.9nm,0.6s,mb3.9,baz=125,slow=9.8,SNR=6.4						
BVAR			PcP	PcP	09 38 30.0	-0.9
comp=Z,0.5nm,0.7s,baz=94,slow=5.8,SNR=2.3						
BRVK	**Borovoye**	**53.09 325**	*e*P	**P**	**09 37 23.5**	**+0.3**
comp=Z,3.1nm,0.8s,mb4.3						
AKTO	**Aktyubinsk**	**59.48 319**	LR	LR	10 04 52.0	
comp=Z,131nm,18.1s,MS4.1,baz=264,slow=37						
ARCES	**ARCESS Array B**	**76.41 339**	P	**P**	**09 39 52.5**	**-2.5**
comp=Z,8.4nm,1.1s,mb4.6,baz=73,slow=25,SNR=2.8						
BRTR	**Keskin Array B**	**76.52 308**	P	**P**	**09 39 56.1**	**+0.4**
comp=Z,0.2nm,0.4s,mb3.4,baz=152,slow=5.6,SNR=2.3						
KAF	**Kangasniemi**	**77.32 331**	*e*p	**P**	**09 40 01.7**	**+1.5**
comp=Z,3.4nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**77.55 331**	P	**P**	**09 40 01.3**	**-0.2**
comp=Z,1.3nm,0.9s,mb3.9,baz=69,slow=6.9,SNR=4.2						
AKASG	**Malin Array Be**	**77.72 319**	P	**P**	**09 40 01.9**	**-0.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=64,slow=5.6,SNR=5.9						
MLR	**Muntele Rosu**	**80.94 315**	P	**P**	**09 40 18.7**	**-1.3**
comp=Z,2.6nm,0.8s,mb4.2,baz=93,slow=16,SNR=2.6						
HFS	**Hagfors**	**83.74 331**	P	**P**	**09 40 33.4**	**-1.2**
comp=Z,2.3nm,0.9s,mb4.3,baz=94,slow=7.4,SNR=2.6						
NB2	**NORSAR Subarra**	**84.53 332**	P	**P**	**09 40 45.6**	**+7.0**
comp=Z,0.9nm,0.6s,mb4.1,baz=68,slow=5.3						
NOA	**NORSAR Array B**	**84.53 332**	P	**P**	**09 40 37.5**	**-1.1**
comp=Z,1.3nm,0.9s,mb4.1,baz=74,slow=16,SNR=2.8						
GERES	**GERESS Array B**	**87.89 320**	P	**P**	**09 40 56.4**	**+1.3**
comp=Z,0.5nm,0.8s,mb3.8,baz=342,slow=2.3,SNR=2.8						
YKA	**Yellowknife Ar**	**91.27 22**	P	**P**	**09 41 10.8**	**-0.2**
comp=Z,0.2nm,0.6s,mb3.7,baz=311,slow=4.6,SNR=4.2						
PPT	**Papeete**	**95.94 106**	LR	LR	10 20 18.6	
comp=Z,120nm,18.3s,MS4.4,baz=90,slow=33						

NIED ***03*** *09:31:00, 39.20N×143.50E, 23km, Mw4.4 Best double couple: M0=4.52000×10^15 NP1:φ=35.00000°, δ=66.00000°, λ=102.00000°. NP2:φ=187.00000°, δ=27.00000°, λ=65.00000°.*
BJI ***03*** *09:31:34.0, 39.27N×143.52E, H11km, mB5.0, mb4.8, Ms4.5, Msz4.2*
JMA ***03*** *09:31:37.2±0.1, 39.17N×143.52E, H35km, M4.3*
ISCJB ***03*** *09:31:37.3±1.0, 39.19N±003×143.42E±004, h21km±6km, mb4.5/58, MS4.3/12, Error ellipse: s-maj=6.2km s-min=4.5km az=92.4*
NEIC ***03*** *09:31:37.0±3.1, 39.22N×143.37E, H6km±18km, mb4.7/18, MW4.4(NIED), Error ellipse: s-maj=10.9km s-min=6.7km az=114.0*
IDC ***03*** *09:31:41.2±3.0, 39.14N×143.38E, H38km±25km, mb4.1/22, mb1 4.2/27, mb1mx4.1/34, mbtmp4.1/27, ML3.8/5, MS4.1/3, Ms1 4.1/3, ms1mx3.5/28, Error ellipse: s-maj=20.1km s-min=13.6km az=94.0*
MOS ***03*** *09:31:41.6±0.9, 39.50N×143.12E, H33km, mb4.8/35, MS4.2/5, Error ellipse: s-maj=11.4km s-min=5.8km az=105.9*
SZGRF ***03*** *09:31:42.0, 39.73N×145.04E, H33km, mb5.3, Off east coast of Honshu, Japan*

ISC 03 09:31:38.6±1.2, 3925N±003×14336E±004, h16km±7km, h31km±2.2km: pP-P, n162, σ0=999/179, mb4.5/58, MS4.3/12, 4C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.24**	**286**	P	**Pn**	**09 32 00.8**	**-0.4**
MIYJ				*e*S	**Sb**	**09 32 18.0**	**+0.8**
OFUJ	**Ofunato**	**1.32**	**263**	P	**Pn**	**09 32 01.8**	**-0.6**
OFUJ				*e*S	**Sn**	**09 32 20.2**	**+0.5**
JTH	**Tanohata**	**1.35**	**301**	P	**Pn**	**09 32 02.6**	**-0.1**
JTH				*e*S	**Sn**	**09 32 21.5**	**+1.3**
JOM	**Ohasama**	**1.62**	**279**	P	**Pn**	**09 32 06.6**	**+0.2**
JOM				*e*S	**Sn**	**09 32 26.8**	**-0.1**
JMK	**Ichinoseki**	**1.69**	**261**	P	**Pn**	**09 32 07.2**	**-0.2**
JIO	**Ouri**	**1.76**	**244**	P	**Pn**	**09 32 07.4**	**-0.9**
JIO				*e*S	**Sn**	**09 32 29.2**	**-1.2**
JANG	**Nango**	**1.81**	**309**	P	**Pn**	**09 32 08.4**	**-0.7**
JANG				*e*S	**Sn**	**09 32 32.2**	**+0.5**
JOU	**Okura**	**2.28**	**248**	P	**Pn**	**09 32 15.3**	**-0.2**
JYK	**Kaneyama**	**2.36**	**263**	P	**Pn**	**09 32 17.0**	**+0.4**
JYK				*e*S	**Sn**	**09 32 45.2**	**0.0**
JMM	**Marumori**	**2.44**	**236**	P	**Pn**	**09 32 16.5**	**-1.2**
ERM	**Erimo**	**2.77**	**357**	*e*P	**Pn**	**09 32 22.6**	**+0.4**
JOT	**Ohata**	**2.77**	**321**	P	**Pn**	**09 32 24.5**	**+2.3**
JNBK	**Urakawa-nobuka**	**3.06**	**352**	P	**Pn**	**09 32 27.0**	**+0.7**
JNBK				*e*S	**Sn**	**09 33 03.2**	**+0.6**
MJAR	**Matsushiro Arr**	**4.89**	**238**	Pn	**Pn**	**09 32 52.9**	**+1.5**
5.7nm,0.3s,baz=46,slow=10.0,SNR=156							
MJAR	**Matsushiro Arr**	**4.89**	**238**	P	**Pn**	**09 32 52.9**	**+1.6**
MJAR				pmax	pmax		
comp=Z,6.0nm,0.3s							
MAJO	**Matsushiro**	**4.89**	**238**	*e*P	**Pn**	**09 32 53.0**	**+1.6**
MAT	**Matsushiro**	**4.89**	**238**	P	**Pn**	**09 32 52.9**	**+1.5**
MAT				*e*S	**Sn**	**09 33 49.4**	**+1.8**
ASAJ	**Asahikawa**	**4.90**	**354**	Pn	**Pn**	**09 32 51.9**	**+0.4**
comp=Z,3.3nm,0.3s,baz=190,slow=10.0,SNR=25							
ASAJ				LR	LR	09 35 30.7	
comp=Z,656nm,20.3s,baz=340,slow=46							
ASAJ	**Asahikawa**	**4.90**	**354**	P	**Pn**	**09 32 51.9**	**+0.4**
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,656nm,20.3s							
YUK	**Yuzh-Kuril'sk**	**5.14**	**21**	*e*P	**Pn**	**09 32 53.0**	**-1.8**
YUK				*e*S	**Sn**	**09 33 48.0**	**-5.7**
YUK				smax			
comp=N,2μm,0.5s							
YUK				smax			
comp=E,3μm,0.5s							
YUK				smax			
comp=N,900nm,0.6s							
YUK				smax			
comp=E,400nm,0.5s							
JHJ	**Hachijo jima 2**	**6.76**	**206**	Pn	**Pn**	**09 33 16.8**	**-0.3**
comp=E,12nm,0.3s,baz=93,slow=23,SNR=5.3							
YSS	**Yuzh-Sakhalins**	**7.72**	**357**	*e*P	**Pn**	**09 33 30.3**	**+0.1**
YSS				S	**Sn**	**09 34 55.4**	**-1.8**
YSS				MLR	MLR		
comp=N,400nm,16.0s							
YSS				MLR	MLR		
comp=E,600nm,16.0s							
YSS				MLR	MLR		
comp=Z,600nm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.72**	**357**	*e*Pn	**Pn**	**09 33 28.9**	**-1.3**
HABR	**Khabarovsk**	**10.99**	**330**	*e*S	**Sn**	**09 36 14.1**	**-3.6**
MDJ	**Mudanjiang**	**11.57**	**302**	P	**Pn**	**09 34 22.0**	**-1.0**
MDJ				AP		09 34 29.9	
MDJ				XP		09 34 34.0	
MDJ				S	**Sn**	**09 36 28.4**	**-3.4**
MDJ				SCP	ScP	09 43 46.4	+0.5
MDJ				PCS	PcS	09 43 49.1	+1.3
MDJ				SCS	ScS	09 47 22.0	+0.6
MDJ				AMB	AMB		
comp=Z,6.0nm,1.9s							
MDJ				AMB	AMB		
comp=Z,46nm,3.6s							
MDJ				LR	LR		
comp=N,452nm,17.2s							
MDJ				LR	LR		
comp=E,436nm,15.0s							
MDJ				LR	LR		
comp=Z,986nm,16.1s							
JNU	**Nakatsue**	**11.79**	**243**	Pn	**Pn**	**09 34 24.8**	**-1.2**
comp=Z,0.6nm,0.3s,baz=249,slow=12,SNR=3.0							
JNU				LR	LR	09 38 41.3	
comp=Z,2μm,19.7s,baz=102,slow=36							
KSRS	**Korea Array**	**12.25**	**266**	Pn	**Pn**	**09 34 35.0**	**+2.6**
baz=77,slow=14,SNR=8.1							
KLR	**Kul'dur**	**12.98**	**324**	*e*P	**Pn**	**09 34 38.6**	**-3.7**
KLR				MLR	MLR		
comp=E,700nm,13.5s							
KLR				MLR	MLR		
comp=Z,2μm,13.5s							
CN2	**Changchun**	**14.16**	**294**	*e*P	**Pn**	**09 35 00.1**	**+1.7**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s							
HIA	**Hailar**	**19.59**	**308**	*e*P	**Pn**	**09 36 02.4**	**-4.8**
HIA				pmax	pmax		
comp=Z,33nm,1.1s							
HIA	**Hailar**	**19.59**	**308**	*e*P	**Pn**	**09 36 02.4**	**-4.8**
comp=Z,33nm,1.1s							
BJI	**Beijing**	**20.92**	**281**	*e*P	**P**	**09 36 18.2**	**-2.2**
BJI				AMB	AMB		
comp=Z,27nm,0.8s							
BJT	**Baijiatuau**	**20.93**	**281**	*e*P	**P**	**09 36 18.4**	**-2.1**
BJT				pmax	pmax		
comp=Z,25nm,0.8s							
BJT	**Baijiatuau**	**20.93**	**281**	*e*P	**P**	**09 36 18.4**	**-2.1**
comp=Z,25nm,0.8s							
TIA	**Tai'an**	**20.95**	**270**	P	**P**	**09 36 18.5**	**-2.1**
CLNS	**Chul'man**	**21.38**	**331**	*e*P	**P**	**09 36 24.7**	**-0.6**
CLNS				*e*		09 36 39.6	
CLNS				*e*PPP		09 36 45.6	
CLNS				*e*S	**S**	**09 40 14.1**	**-7.9**
CLNS				*e*		09 40 27.9	
CLNS				*e*SS		09 40 50.0	
CLNS				*e*		09 47 38.9	
CLNS				pmax	pmax		
comp=N,9.0nm,0.9s							
CLNS				pmax	pmax		
comp=Z,16nm,0.9s,mb4.3							
CLNS				pmax	pmax		
comp=E,8.0nm,1.0s							
CLNS				smax			
comp=E,8.0nm,1.0s							
CLNS				smax			
comp=N,8.0nm,0.9s							
CLNS				smax			
comp=Z,5.0nm,0.9s							
CLNS				MLR	MLR		
comp=Z,400nm,12.0s,MS4.0							
CLNS				MLR	MLR		
comp=N,100nm,13.0s,MS4.6							
CLNS				MLR	MLR		
comp=E,2μm,13.0s,MS4.6							
YHNB	**Yeheng**	**23.56**	**238**	*e*P	**P**	**09 36 45.8**	**-2.7**
CIT	**Chita**	**24.25**	**312**	*e*P	**P**	**09 36 54.1**	**-0.6**
CIT				*e*		09 37 01.0	
CIT				pmax	pmax		
comp=Z,62nm,1.1s,mb5.0							
YAK	**Yakutsk**	**24.30**	**344**	*e*P	**P**	**09 36 54.1**	**-1.1**
YAK				pmax	pmax		
comp=N,16nm,1.0s							
YAK				pmax	pmax		
comp=Z,31nm,1.0s,mb4.7							
YAK				pmax	pmax		
comp=E,10.0nm,1.4s							
YAK	**Yakutsk**	**24.30**	**344**	*e*P	**P**	**09 36 53.6**	**-1.6**
comp=E,46nm,0.9s,mb4.9							
HHC	**Hu-ho-hao-te**	**24.33**	**284**	*e*P	**P**	**09 36 53.1**	**-2.3**
HHC				AP		09 37 00.4	
HHC				XP	sP	09 37 04.5	+2.1
HHC				PP		09 37 28.3	
HHC				S	**S**	**09 41 07.2**	**-6.8**
HHC				XS	sS	09 41 19.0	-3.0
HHC				SS		09 42 00.7	
HHC				PCS	PcS	09 44 13.9	-0.8
HHC				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.4							
HHC				AMB	AMB		
comp=Z,338nm,7.4s							
HHC				LR	LR		
comp=N,237nm,22.6s,MS4.0							
HHC				LR	LR		
comp=E,436nm,17.8s,MS4.0							
HHC				LR	LR		
comp=Z,582nm,16.1s,MS4.2							
SEY	**Seymchan**	**24.34**	**10**	*e*P	**P**	**09 36 55.8**	**+0.3**
WHN	**Wuhan**	**25.25**	**259**	⇓P	**P**	**09 37 03.9**	**+0.1**
WHN				AP	pP	09 37 13.1	+4.4
BOD	**Bodaibo**	**26.56**	**324**	*e*P	**P**	**09 37 14.7**	**-1.0**
BOD				pmax	pmax		
comp=Z,15nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**27.48**	**300**	*c*P	**P**	**09 37 24.2**	**+0.3**
ULN	**Ulaanbaatar**	**27.48**	**300**	*e*P	**P**	**09 37 24.0**	**+0.1**
comp=Z,7.4nm,0.8s,mb4.3							
SONM	**Songino Array**	**27.91**	**300**	P	**P**	**09 37 28.8**	**+1.0**
comp=Z,5.7nm,0.6s,mb4.4,baz=90,slow=8.9,SNR=26							
SONM	**Songino Array**	**27.91**	**300**	P	**P**	**09 37 28.8**	**+1.0**
SONM				pmax	pmax		
comp=Z,6.0nm,0.6s							
XAN	**Xi'an**	**28.01**	**270**	P	**P**	**09 37 29.0**	**+0.3**
XAN				AP	pP	09 37 34.2	+0.6
XAN				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.4							
TLY	**Talaya**	**30.12**	**308**	*e*P	**P**	**09 37 47.5**	**+0.1**
TLY				*e*S	**S**	**09 42 45.6**	**+0.1**
TLY				*e*SS	SS	09 44 22.1	-32
TLY				*e*SSS		09 44 39.2	
TLY				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.3							
TLY				MLR	MLR		
comp=Z,281nm,15.0s,MS4.0							
TLY	**Talaya**	**30.12**	**308**	*e*P	**P**	**09 37 46.8**	**-0.7**
comp=Z,6.2nm,0.9s,mb4.3							
ZAK	**Zakamensk**	**30.18**	**305**	*e*P	**P**	**09 37 46.9**	**-1.1**
ZAK				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.2							
LZH	**Lanzhou**	**31.27**	**277**	*e*P	**P**	**09 37 57.2**	**-0.4**
LZH				AP	pP	09 38 06.3	+3.8
LZH				XP	sP	09 38 10.2	+5.6
LZH				PP	PP	09 38 59.7	-8.5
LZH				*e*S	**S**	**09 42 58.5**	**-5.0**
LZH				XS	sS	09 43 14.8	+3.1
LZH				AMB	AMB		
comp=Z,22nm,1.2s,mb4.9							
LZH				AMB	AMB		
comp=Z,104nm,4.5s							
LZH				LR	LR		
comp=E,957nm,13.0s							
LZH				LR	LR		
comp=Z,1μm,17.2s,MS4.7							
GYA	**Guiyang**	**33.13**	**259**	⇑*i*P	**P**	**09 38 13.6**	**-0.3**
GYA				AP	pP	09 38 22.4	+3.5
GYA				XP	sP	09 38 26.8	+5.9
GYA				PP	PP	09 39 26.7	-2.2
GYA				PCP	PcP	09 40 59.8	+3.0
GYA				S	**S**	**09 43 31.3**	**-1.3**
GYA				XS	sS	09 43 46.4	+5.6
GYA				SCP	ScP	09 44 40.6	+0.2
GYA				SS	SS	09 45 31.5	-24
GYA				SCS	ScS	09 48 39.2	-1.6
GYA				AMB	AMB		
comp=Z,30nm,0.9s,mb5.2							
GYA				AMB	AMB		
comp=Z,120nm,5.2s							
GYA				LR	LR		
comp=N,460nm,16.4s,MS4.4							
GYA				LR	LR		
comp=E,410nm,15.8s,MS4.4							
GYA				LR	LR		
comp=Z,420nm,16.4s,MS4.2							
CD2	**Chengdu**	**33.25**	**268**	*e*P	**P**	**09 38 14.1**	**-0.8**
CD2				XP	sP	09 38 27.6	+5.7
CD2				PP	PP	09 39 24.9	-5.3
CD2				S	**S**	**09 43 29.2**	**-5.1**
CD2				XS	sS	09 43 45.2	+2.7
CD2				AMB	AMB		
comp=Z,30nm,0.9s,mb5.2							
CD2				AMB	AMB		
comp=Z,40nm,4.2s							
CD2				LR	LR		
comp=N,530nm,12.0s							
CD2				LR	LR		
comp=Z,350nm,15.6s,MS4.2							
GTA	**Gaotai**	**33.44**	**284**	P	**P**	**09 38 18.0**	**+1.4**
GTA				AP	pP	09 38 26.9	+5.3
GTA				XP	sP	09 38 30.6	+7.0
GTA				PP	PP	09 39 31.8	-0.5
GTA				S	**S**	**09 43 37.8**	**+0.5**
GTA				XS	sS	09 43 53.7	+8.2
GTA				SS	SS	09 45 42.5	-19
GTA				AMB	AMB		
comp=Z,15nm,1.1s,mb4.8							
GTA				AMB	AMB		
comp=Z,105nm,5.8s							
GTA				LR	LR		
comp=N,204nm,19.4s,MS4.2							
GTA				LR	LR		
comp=E,444nm,18.3s,MS4.2							
GTA				LR	LR		
comp=Z,544nm,16.3s,MS4.3							
KMI	**Kunming**	**36.84**	**260**	P	**P**	**09 38 45.0**	**-0.9**
KMI				AP	pP	09 38 55.1	+4.2
KMI				AMB	AMB		
comp=Z,15nm,0.8s,mb4.9							
KMI				LR	LR		
comp=Z,118nm,18.4s,MS3.7							
WMQ	**Urumqi**	**41.26**	**295**	P	**P**	**09 39 24.1**	**+1.3**
WMQ				AMB	AMB		
comp=Z,23nm,1.2s,mb4.7							
WMQ				AMB	AMB		
comp=Z,184nm,6.4s							
WMQ				LR	LR		
comp=N,768nm,13.0s,MS4.8							
WMQ				LR	LR		
comp=E,223nm,10.0s,MS4.8							
WMQ				LR	LR		
comp=Z,317nm,8.5s							
ZAL	**Zalesovo**	**41.61**	**311**	P	**P**	**09 39 26.1**	**+0.3**
comp=Z,6.3nm,0.7s,mb4.4,baz=32,slow=9.9,SNR=12							
ZAL	**Zalesovo**	**41.61**	**311**	P	**P**	**09 39 26.1**	**+0.3**
ZAL				pmax	pmax		
comp=Z,6.0nm,0.7s							
NVS	**Novosibirsk**	**42.46**	**312**	*e*P	**P**	**09 39 32.4**	**-0.3**
NVS				pmax	pmax		
comp=Z,12nm,1.3s,mb4.4							
NVS				pmax	pmax		
comp=E,18nm,1.0s							
MK31	**Makanchi Array**	**44.28**	**301**	*i*P	**P**	**09 39 47.3**	**-0.1**
MK31				pmax	pmax		
comp=Z,11nm,0.9s,mb4.6							
MK31	**Makanchi Array**	**44.28**	**301**	*e*P	**P**	**09 39 47.3**	**-0.1**
MK31				*e*		09 39 56.6	
MKAR	**Makanchi Array**	**44.28**	**301**	P	**P**	**09 39 47.4**	**0.0**
comp=Z,7.1nm,0.9s,mb4.4,baz=84,slow=9.2,SNR=24							
MKAR	**Makanchi Array**	**44.28**	**301**	*i*P	**P**	**09 39 47.3**	**-0.1**
MKAR				pmax	pmax		
comp=Z,11nm,1.0s							
GUN	**Gumba**	**48.48**	**275**	*e*P	**P**	**09 40 20.7**	**+0.3**
KKN	**Kakani**	**49.01**	**275**	*e*P	**P**	**09 40 25.3**	**+0.9**
comp=Z,64nm,1.0s,mb5.6							
PKI	**Pulchoki**	**49.01**	**275**	*e*P	**P**	**09 40 24.9**	**+0.4**
GKN	**Gorkha**	**49.40**	**276**	*e*P	**P**	**09 40 27.7**	**+0.3**
comp=Z,24nm,0.8s,mb5.3							
BVA0	**Borovoye Array**	**50.24**	**311**	*i*P	**P**	**09 40 33.6**	**-0.3**
BVA0				pmax	pmax		
comp=Z,1.0nm,1.1s,mb3.8							
BVAR	**Borovoye Array**	**50.24**	**311**	P	**P**	**09 40 33.9**	**0.0**
comp=Z,4.4nm,0.8s,mb4.5,baz=81,slow=9.2,SNR=15							
BVAR	**Borovoye Array**	**50.24**	**311**	P	**P**	**09 40 33.9**	**0.0**
BVAR				pmax	pmax		
comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**50.30**	**311**	*e*P	**P**	**09 40 34.2**	**-0.1**
BRVK				*e*		09 40 43.5	
BRVK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
BRVK	**Borovoye**	**50.30**	**311**	*e*P	**P**	**09 40 34.2**	**0.0**
comp=Z,6.4nm,1.0s,mb4.6							
BRVK				*e*		09 40 43.5	
KOLN	**Koldanda**	**50.31**	**276**	*e*P	**P**	**09 40 34.9**	**+0.5**
comp=Z,25nm,1.0s,mb5.2							
AAK	**Ala-Archa**	**50.81**	**297**	*e*P	**P**	**09 40 37.5**	**-0.7**
AAK				pmax	pmax		
comp=Z,9.0nm,2.3s,mb4.3							
AAK	**Ala-Archa**	**50.81**	**297**	*e*P	**P**	**09 40 37.2**	**-1.0**
comp=Z,4.5nm,1.0s,mb4.3							
INK	**Inuvik**	**51.72**	**28**	P	**P**	**09 40 44.9**	**-0.1**
comp=Z,2.2nm,0.8s,mb4.1,baz=264,slow=5.1,SNR=6.9							
INK	**Inuvik**	**51.72**	**28**	*e*P	**P**	**09 40 45.2**	**+0.3**
comp=Z,106nm,0.8s							
PSI	**Prapat**	**54.24**	**240**	P	**P**	**09 41 02.8**	**-0.7**
comp=Z,1.4nm,0.5s,mb4.2,baz=70,slow=2.7,SNR=3.9							
PSI	**Prapat**	**54.24**	**240**	P	**P**	**09 41 02.8**	**-0.7**
PSI				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
ARU	**Arti**	**55.73**	**318**	⇑*i*P	**P**	**09 41 14.0**	**-0.4**
ARU				*e

ARCES ARCESS Array B 62.47 339 P **P** **09 42 00.5 -0.5**
comp=Z,7.5nm,1.1s,mb4.8,baz=68,slow=9.6,SNR=3.6
ARCES ARCESS Array B 62.47 339 P **P** **09 42 00.5 -0.5**
ARCES pmax pmax
comp=Z,8.0nm,1.1s
ASAR Alice Springs 63.20 190 P **P** **09 42 05.0 -0.9**
comp=Z,0.7nm,0.8s,mb3.8,baz=7.1,slow=5.2,SNR=6.6
ASAR Alice Springs 63.20 190 P **P** **09 42 05.1 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 67.24 323⇑ *iP* **P** **09 42 32.4 +0.3**
OBN *e* 09 44 56.7
OBN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
FINES FINESS Array B 67.57 332 P **P** **09 42 33.6 -0.6**
comp=Z,2.6nm,0.7s,mb4.4,baz=64,slow=8.7,SNR=8.2
FINES LR LR 10 14 29.2
comp=Z,140nm,18.8s,MS4.2,baz=103,slow=38
FINES FINESS Array B 67.57 332 *iP* **P** **09 42 33.5 -0.7**
FINES pmax pmax
comp=Z,3.0nm,0.7s
KIV Kislovodsk 70.61 311 *eP* **P** **09 42 53.6 +0.5**
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.1
KIV Kislovodsk 70.61 311 *eP* **P** **09 42 54.3 +1.2**
comp=Z,15nm,0.8s,mb5.0
HFS Hagfors 72.70 336 P **P** **09 43 05.3 -0.3**
comp=Z,3.2nm,0.6s,mb4.4,baz=45,slow=4.6,SNR=13
HFS Hagfors 72.70 336 P **P** **09 43 05.3 -0.3**
HFS pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 72.73 338 P **P** **09 43 05.1 -0.7**
comp=Z,2.3nm,0.6s,mb4.3,baz=38,slow=6.2
NOA NORSAR Array B 72.73 338 P **P** **09 43 05.8 -0.1**
comp=Z,3.1nm,0.7s,mb4.4,baz=38,slow=6.1,SNR=11
NOA NORSAR Array B 72.73 338 P **P** **09 43 05.8 0.0**
NOA pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 73.48 323 P **P** **09 43 09.6 -0.7**
comp=Z,2.6nm,0.6s,mb4.4,baz=44,slow=6.2,SNR=11
AKASG Malin Array Be 73.48 323 P **P** **09 43 09.6 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
DUG Dugway 74.76 50 *eP* **P** **09 43 19.8 +2.1**
DUG pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
DUG Dugway 74.76 50 *eP* **P** **09 43 19.8 +2.0**
comp=Z,3.6nm,1.2s,mb4.2
PDAR Pinedale Array 75.03 47 P **P** **09 43 20.0 +0.7**
comp=Z,0.4nm,0.5s,mb3.6,baz=301,slow=1.8,SNR=4.3
MALT Malatya 76.61 309 *eP* **P** **09 43 30.1 +1.8**
MALT pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
MALT Malatya 76.61 309 *eP* **P** **09 43 30.1 +1.8**
comp=Z,7.2nm,1.3s,mb4.4
STHS Stebnicka Huta 78.02 326 *eP* **P** **09 43 37.6 +1.4**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
STHS Stebnicka Huta 78.02 326 *eP* **P** **09 43 37.6 +1.4**
comp=Z,2.9nm,0.9s,mb4.2
OJC Ojcow 78.05 327 *eP* **P** **09 43 36.9 +0.5**
NIE Niedzica 78.42 326 *eP* **P** **09 43 39.8 +1.3**
BRTR Keskin Array B 78.52 312 P **P** **09 43 39.6 +0.7**
comp=Z,0.9nm,0.7s,mb3.8,baz=96,slow=5.0,SNR=6.0
BRTR Keskin Array B 78.52 312 P **P** **09 43 39.7 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
MORC Moravsky Berou 79.33 328 *eP* **P** **09 43 43.5 +0.1**
MORC pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MORC Moravsky Berou 79.33 328 *eP* **P** **09 43 43.5 +0.1**
comp=Z,5.2nm,1.1s,mb4.4
DPC Dobruska-Polom 79.39 329 *eP* **P** **09 43 44.5 +0.8**
UPC Upice 79.39 329 *eP* **P** **09 43 44.5 +0.7**
VYHS Vyhne 79.76 326 *eP* **P** **09 43 46.3 +0.5**
CLL Collm 79.93 331 *iP* **P** **09 43 46.6 -0.1**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLL Collm 79.93 331 *iP* **P** **09 43 46.6 -0.1**
comp=Z,7.0nm,0.9s,mb4.6
VRAC Vranov 80.08 328 P **P** **09 43 47.8 +0.2**
comp=Z,5.0nm,0.8s,mb4.5,baz=50,slow=4.6,SNR=5.8
VRAC Vranov 80.08 328 P **P** **09 43 47.8 +0.3**
VRAC pmax pmax
comp=Z,5.0nm,0.8s
PRU Pruhonice 80.38 329 *eP* **P** **09 43 49.4 +0.3**
NKC Novy Kostel 81.00 331 *eP* **P** **09 43 52.5 0.0**
KHC Kasperske Hory 81.45 329 *eP* **P** **09 43 54.9 +0.1**
KHC Kasperske Hory 81.45 329 *eP* **P** **09 43 54.7 -0.1**
EKA Eskdalemuir Ar 81.55 341 P **P** **09 43 54.2 -1.1**
comp=Z,1.3nm,0.7s,mb4.0,baz=34,slow=5.3,SNR=3.1
EKA Eskdalemuir Ar 81.55 341 P **P** **09 43 54.2 -1.1**
EKA pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 81.62 329 P **P** **09 43 56.0 +0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=37,slow=5.3,SNR=12
GERES GERESS Array B 81.62 329 P **P** **09 43 56.0 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GRA1 Grafenberg Arr 81.91 331 *eP* **P** **09 43 57.9 +0.7**
comp=Z,38nm,1.6s,mb5.1
GRF Grafenberg Arr 81.91 331 *eP* **P** **09 43 57.9 +0.7**
comp=Z,38nm,1.6s,mb5.1
GRF Grafenberg Arr 81.91 331 *eP* **P** **09 43 57.9 +0.7**
GRF pmax pmax
comp=Z,38nm,1.6s,mb5.1
GRF Grafenberg Arr 81.91 331 *eP* **P** **09 43 57.9 +0.7**
GRF pmax pmax
comp=Z,38nm,1.6s,mb5.1
MMAI Mount Meron Ar 81.92 306 P **P** **09 43 58.5 +1.2**
comp=Z,1.9nm,0.4s,mb4.4,baz=305,slow=32,SNR=4.3
ANMO Albuquerque 81.99 51 *eP* **P** **09 43 59.9 +2.2**
CDF Champ du Feu 84.42 332 *eP* **P** **09 44 11.1 +0.9**
CABF La Chapelle 86.38 332 *eP* **P** **09 44 20.7 +0.7**
LOR Lormes 86.60 334 *eP* **P** **09 44 21.7 +0.6**
comp=Z,30nm,1.1s,mb5.1
LOR Lormes 86.60 334 *eP* **P** **09 44 21.7 +0.6**
LOR pmax pmax
comp=Z,15nm,1.1s,mb5.1
LOR Lormes 86.60 334 *eP* **P** **09 44 21.7 +0.6**
comp=Z,15nm,1.1s,mb5.1
SSF Saint Saulge 86.90 334 *eP* **P** **09 44 22.6 0.0**
comp=Z,4.9nm,0.6s,mb4.6
SSF Saint Saulge 86.90 334 *eP* **P** **09 44 22.6 0.0**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
SSF Saint Saulge 86.90 334 *eP* **P** **09 44 22.6 0.0**
comp=Z,2.5nm,0.6s,mb4.6
LPL La Plagne 87.07 331 *eP* **P** **09 44 23.7 +0.3**
LPG La Plagne 87.08 331 *eP* **P** **09 44 24.0 +0.6**
SMF Signal de Mont 87.15 333 *eP* **P** **09 44 24.6 +0.8**
AVF Avril sur Loir 87.19 334 *eP* **P** **09 44 24.1 +0.1**
comp=Z,17nm,0.8s,mb5.0
AVF Avril sur Loir 87.19 334 *eP* **P** **09 44 24.1 +0.1**
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
AVF Avril sur Loir 87.19 334 *eP* **P** **09 44 24.1 +0.1**
comp=Z,8.5nm,0.8s,mb5.0
NNA Nana 135.26 64 *e*PKPdf PKPdf 09 50 56.6 -0.8
LPAZ La Paz 144.25 59 *e*PKIKP PKPdf 09 51 15.8 +2.1
VNA2 Neumayer--Watz 144.87 196 *e*PKPdf PKPdf 09 51 15.9 +1.2
VNA2 *e* 09 51 22.6
VNA2 *e* 09 51 25.7
VNA2 *e* 09 51 27.9

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*MOS **03** 09:32:55.8±0.7, 5257N×160.18E, h15km, mb4.5/1, Error ellipse: s-maj=30.9km s-min=13.7km az=96.9*
KRSC 03 09:32:51.5±1.1, 5235N×16037E, h11km±18km, ML4.4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.78**	**344**	*e*P	Pg		09 33 06.7	+0.2
SPN				*i* S	Sg		09 33 17.8	+1.1
NLC	**Nalytchevo**	**1.03**	**323**	*e*P	Pg		09 33 11.6	+0.2
NLC				*i* S	Sg		09 33 26.2	+1.4
RUS	**Russkaya**	**1.14**	**275**	*e*P	Pb		09 33 14.8	+1.6
RUS				*i* S	Sb		09 33 31.7	+3.7
PET	**Petropavlovsk**	**1.24**	**304**	*e*P	Pn		09 33 15.8	+1.0
PET				*i* S	Sb		09 33 33.3	+2.3
AVH	**Avacha**	**1.35**	**313**	*e*P	Pn		09 33 17.5	+1.2
AVH				*i* S	Sb		09 33 36.3	+2.2
GRL	**Gorelyy**	**1.42**	**279**	*e*P	Pn		09 33 19.7	+2.5
GRL				*i* S	Sn		09 33 40.3	+4.4
GNL	**Ganaly**	**1.99**	**314**	*e*P	Pn		09 33 27.3	+2.2
GNL				*i* S	Sn		09 33 53.6	+3.6
TUMR	**Tumrok**	**2.94**	**358**	*e*P	Pn		09 33 38.6	+0.4
KMNR	**Kamenistaya**	**3.41**	**359**	*e*P	Pn		09 33 46.2	+1.5
BZMR	**Bezymyannaya**	**3.59**	**1**	*e*P	Pn		09 33 48.6	+1.5
BZMR				*i* S	Sn		09 34 31.0	+1.5
KIRR	**Kirishev**	**3.61**	**360**	*e*P	Pn		09 33 49.4	+2.0
KPT	**Kopyto**	**3.62**	**359**	*e*P	Pn		09 33 49.3	+1.8
ZLN	**Zelenaya**	**3.68**	**4**	*e*P	Pn		09 33 50.3	+1.9
KOZ	**Kozyrevsk**	**3.73**	**356**	*e*P	Pn		09 33 51.0	+2.0
KOZR	**Kozyr**	**3.73**	**356**	PN	Pn		09 33 51.0	+1.9
CIRR	**Tsirk**	**3.78**	**3**	*e*P	Pn		09 33 51.7	+2.0
CIRR				*i* S	Sn		09 34 35.8	+1.7
KRSR	**Krestovskiy**	**3.88**	**2**	*e*P	Pn		09 33 53.1	+2.1
KLY	**Klyuchi**	**3.98**	**2**	*e*P	Pn		09 33 56.1	+3.7
KLY				*i* S	Sn		09 34 43.0	+4.1
SRDR	**Sredinnyy**	**3.99**	**355**	*e*P	Pn		09 33 53.9	+1.3
KBTR	**Krutoberegovo**	**4.12**	**19**	*e*P	Pn		09 33 57.8	+3.4
KBTR				*i* S	Sn		09 34 45.9	+3.3
BDR	**Baidarnaya**	**4.25**	**6**	*e*P	Pn		09 33 59.3	+3.1
SMKR	**Semkarok**	**4.29**	**8**	*e*P	Pn		09 34 00.7	+4.0
SRKR	**Sorokina**	**4.34**	**6**	*e*P	Pn		09 33 59.9	+2.5

IDC 03 09:35:20.2±1.6, 1317N×5110E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=58.5km s-min=35.3km az=165.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.23**	**259**	Pn	Pn		09 37 15.4	-5.4
2.3nm,0.3s,baz=279,slow=21,SNR=8.4								
MKAR	**Makanchi Array**	**42.52**	**32**	P	P		09 43 17.4	0.0
0.4nm,0.5s,baz=220,slow=7.0,SNR=4.0								
TORD	**Torodi Ar. Bea**	**48.05**	**276**	P	P		09 44 01.6	+0.5
0.7nm,0.6s,baz=89,slow=7.3,SNR=5.4								
WRA	**Warramunga Arr**	**88.21**	**111**	P	P		09 48 13.9	+0.7
0.8nm,1.0s,baz=301,slow=3.8,SNR=4.7								

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*NIED **03** 09:47:00, 2740N×13040E, h5km, Mw4.0 Best double couple: M0 9.67000×10^14 NP1:φ0=322.00000°, δ85.00000°, λ-153.00000°. NP2:φ0=229.00000°, δ63.00000°, λ-6.00000°.*
*ISCJB **03** 09:47:10.7±0.5, 2737N±003×13034E±004, h10km, mb3.5/4, Error ellipse: s-maj=5.5km s-min=4.5km az=74.6*
*IDC **03** 09:47:11.8±1.2, 2742N×130.19E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/26, Error ellipse: s-maj=27.8km s-min=19.8km az=85.0*
*JMA **03** 09:47:13.2±0.1, 2737N×13038E, h67km, M3.6*
ISC 03 09:47:11.9±0.6, 2743N±004×13030E±005, h10km, n21, σ1°27/31, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.93**	**342**	P	**Pg**		**09 47 32.1**	**+2.3**
JAM	**Amami Oshima**	**1.16**	**328**	P	**Pb**		**09 47 34.7**	**+0.7**
JTK	**Tokunoshima**	**1.25**	**287**	P	**Pn**		**09 47 36.4**	**+1.0**
JTK				*e*S	**Sb**		**09 47 52.4**	**+0.7**
JMZ	**Minamidaito 2**	**1.80**	**153**	P	**Pn**		**09 47 41.3**	**-1.7**
JMZ				*e*S	**Sn**		**09 48 01.8**	**-4.2**
JOW	**Kunigami**	**1.90**	**252**	Pn	**Pn**		**09 47 45.0**	**+0.7**
27nm,0.3s,baz=118,slow=22,SNR=28								
JOW				Sn	**Sn**		**09 48 07.3**	**-1.0**
48nm,0.3s,baz=270,slow=29,SNR=20								
JOW	**Kunigami**	**1.90**	**252**	P	**Pn**		**09 47 44.9**	**+0.5**
JOW				*e*S	**Sn**		**09 48 07.8**	**-0.5**
JIH	**Iheya**	**2.11**	**260**	P	**Pn**		**09 47 47.9**	**+0.6**
JIH				*e*S	**Sn**		**09 48 13.4**	**-0.2**
JNN	**Nakanoshima**	**2.43**	**351**	*e*S	**Sn**		**09 48 20.9**	**-0.6**
JJT2	**Tamagusuku 2**	**2.62**	**241**	P	**Pn**		**09 47 55.1**	**+0.9**
JJT2				*e*S	**Sn**		**09 48 25.2**	**-0.8**
NAH1	**Naha**	**2.63**	**243**	*e*S	**Sn**		**09 48 25.6**	**-0.8**
JAGN	**Aguni-jima**	**2.85**	**254**	P	**Pn**		**09 47 58.1**	**+0.6**
JAGN				S	**Sn**		**09 48 30.5**	**-1.4**
JKC	**Kuchinoerabu**	**3.02**	**358**	P	**Pn**		**09 48 01.0**	**+1.1**
JKC				*e*S	**Sn**		**09 48 34.2**	**-1.9**
JTN	**Tanegashima 3**	**3.27**	**10**	P	**Pn**		**09 48 03.2**	**0.0**
JTN				*e*S	**Sn**		**09 48 39.5**	**-2.7**
JKE	**Kume jima 2**	**3.32**	**252**	P	**Pn**		**09 48 03.8**	**-0.2**
JKE				*e*S	**Sn**		**09 48 42.8**	**-0.7**
JNU	**Nakatsue**	**5.70**	**5**	Pn	**Pn**		**09 48 38.5**	**+2.0**
3.4nm,0.3s,baz=221,slow=19,SNR=20								
JNU				Sn	**Sn**		**09 49 39.8**	**-2.2**
4.7nm,0.3s,baz=220,slow=19,SNR=6.6								
KSRS	**Korea Array**	**10.20**	**349**	Pn	**Pn**		**09 49 37.5**	**-0.9**
baz=214,slow=19,SNR=4.1								
ASAJ	**Asahikawa**	**19.38**	**28**	LR	LR		09 58 38.9	
comp=Z,201nm,18.1s,baz=252,slow=35								
MKAR	**Makanchi Array**	**42.14**	**310**	P	**P**		**09 55 04.4**	**0.0**
0.3nm,0.8s,mb3.0,baz=87,slow=11,SNR=3.4								
WRA	**Warramunga Arr**	**47.25**	**175**	P	**P**		**09 55 45.8**	**+0.6**
0.5nm,0.7s,mb3.5,baz=354,slow=8.5,SNR=2.7								
ASAR	**Alice Springs**	**50.91**	**176**	P	**P**		**09 56 15.5**	**+2.2**
0.3nm,0.8s,mb3.3,baz=358,slow=7.4,SNR=3.1								
FINES	**FINESS Array B**	**72.73**	**331**	P	**P**		**09 58 42.3**	**+2.1**
3.0nm,1.0s,mb4.2,baz=68,slow=9.1,SNR=5.4								

IDC 03 10:00:57.5±1.2, 014S×12603E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=203.4km s-min=18.8km az=67.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.29**	**158**	P	P		10 05 46.3	+0.7
0.6nm,0.4s,baz=338,slow=11,SNR=10								
ASAR	**Alice Springs**	**24.60**	**162**	P	P		10 06 19.8	+0.6
0.4nm,0.3s,baz=345,slow=11,SNR=17								
STKA	**Stephens Creek**	**34.83**	**156**	P	P		10 07 49.6	-0.4
2.0nm,0.8s,baz=340,slow=3.8,SNR=2.9								
SONM	**Songino Array**	**50.75**	**343**	P	P		10 09 59.5	+0.4
0.5nm,0.6s,baz=160,slow=4.6,SNR=3.1								
MKAR	**Makanchi Array**	**60.36**	**327**	P	P		10 11 08.4	+0.2
0.5nm,0.4s,baz=120,slow=7.8,SNR=14								
NOA	**NORSAR Array B**	**101.91**	**333**	P	Pdif		10 14 51.8	-1.2
1.1nm,0.9s,baz=179,slow=3.9,SNR=2.5								

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*IDC **03** 10:33:39.3±0.6, 1307N×9252E, h0km, mb4.0/17, mb1 4.1/18, mb1mx4.0/24, mbtmp4.0/18, ML3.6/1, Error ellipse: s-maj=25.1km s-min=13.0km az=55.0*
*ISCJB **03** 10:33:41.9±0.5, 1306N±009×924E±0.1, h35km, mb4.0/17, Error ellipse: s-maj=19.9km s-min=7.6km az=109.4*
*NEIC **03** 10:33:43.7±0.4, 1296N×9249E, h30km, mb3.9/1, Error ellipse: s-maj=21.3km s-min=8.8km az=61.0*
ISC 03 10:33:44.5±0.5, 1317N±008×925E±01, h35km, n33, σ1°04/31, mb4.0/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.52**	**172**	*e*P	x		10 34 06.2	
PBA				*e*S	x		10 34 26.0	
PBA				*ex*	x		10 34 29.0	
comp=N,4μm,0.6s								
PBA				*ex*	x		10 34 30.5	
comp=E,5μm,0.6s								
VIS	**Vishakhapatnam**	**9.94**	**298**	*i* P	**Pn**		**10 36 03.6**	**-1.3**
VIS				*i* S	**Sn**		**10 37 45.0**	**-10**
PSI	**Prapat**	**12.10**	**148**	Pn	**Pn**		**10 36 32.0**	**-2.3**
comp=E,0.4nm,0.3s,baz=308,slow=19,SNR=2.0								
PKI	**Pulchoki**	**15.79**	**336**	*e*P	**Pn**		**10 37 23.8**	**-0.4**
GUN	**Gumba**	**15.92**	**338**	*e*P	**Pn**		**10 37 24.0**	**-1.8**
DMN	**Daman**	**15.95**	**335**	*e*P	**Pn**		**10 37 26.1**	**-0.1**
comp=E,40nm,0.6s								
KKN	**Kakani**	**16.04**	**336**	*e*P	**Pn**		**10 37 25.9**	**-1.4**
GKN	**Gorkha**	**16.49**	**335**	*e*P	**Pn**		**10 37 31.6**	**-1.4**
comp=E,21nm,0.3s								
LSA	**Lhasa**	**16.50**	**356**	*e*P	**Pn**		**10 37 38.7**	**+5.5**
comp=E,5.4nm,0.6s								
KOLN	**Koldanda**	**16.74**	**332**	*e*P	**Pn**		**10 37 36.0**	**-0.3**
comp=E,25nm,0.4s								
MKAR	**Makanchi Array**	**34.60**	**348**	P	**P**		**10 40 31.4**	**+1.3**
comp=E,1.6nm,0.5s,mb4.2,baz=162,slow=8.5,SNR=21								
SONM	**Songino Array**	**36.45**	**16**	P	**P**		**10 40 47.8**	**+1.9**
comp=E,1.7nm,0.7s,mb4.1,baz=210,slow=7.0,SNR=10								
KSRS	**Korea Array**	**39.75**	**46**	P	**P**		**10 41 13.8**	**+0.1**
comp=E,1.9nm,0.7s,mb3.9,baz=240,slow=8.6,SNR=6.4								
ZAL	**Zalesovo**	**41.13**	**353**	P	**P**		**10 41 25.6**	**+0.4**
comp=E,1.6nm,0.6s,mb3.8,baz=328,slow=5.3,SNR=6.4								
BVAR	**Borovoye Array**	**43.49**	**341**	P	**P**		**10 41 44.9**	**+0.5**
comp=E,1.4nm,0.6s,mb3.9,baz=134,slow=10,SNR=4.2								
FITZ	**Fitzroy Crossi**	**45.09**	**133**	P	**P**		**10 41 56.7**	**-0.5**
comp=E,1.5nm,0.5s,mb4.1,baz=13,slow=4.8,SNR=9.6								
WRA	**Warramunga Arr**	**52.69**	**128**	P	**P**		**10 42 55.0**	**-0.4**
comp=E,1.0nm,0.6s,mb3.9,baz=302,slow=10,SNR=28								
ASAR	**Alice Springs**	**54.57**	**132**	P	**P**		**10 43 09.4**	**+0.2**
comp=E,0.6nm,0.4s,mb4.0,baz=315,slow=7.2,SNR=17								
BRTR	**Keskin Array B**	**57.83**	**309**	P	**P**		**10 43 32.7**	**+0.2**
comp=E,1.2nm,0.8s,mb4.0,baz=120,slow=6.0,SNR=7.5								
AKASG	**Malin Array Be**	**63.06**	**320**	P	**P**		**10 44 08.0**	**-0.1**
comp=E,0.1nm,0.3s,mb3.5,baz=81,slow=6.1,SNR=4.3								
STKA	**Stephens Creek**	**64.92**	**135**	P	**P**		**10 44 20.0**	**-0.4**
comp=E,0.5nm,0.4s,mb3.9,baz=306,slow=17,SNR=2.9								
STKA	**Stephens Creek**	**64.92**	**135**	P	**P**		**10 44 20.0**	**-0.4**
FINES	**FINESS Array B**	**67.32**	**331**	P	**P**		**10 44 36.3**	**+0.5**
comp=E,1.7nm,0.5s,mb4.3,baz=89,slow=6.4,SNR=16								
ARCES	**ARCESS Array B**	**69.78**	**340**	P	**P**		**10 44 51.7**	**+0.6**
comp=E,1.2nm,0.5s,mb4.1,baz=90,slow=7.0,SNR=12								
ARCES	**ARCESS Array B**	**69.78**	**340**	P	**P**		**10 44 51.7**	**+0.6**
GERES	**GERESS Array B**	**72.86**	**317**	P	**P**		**10 45 10.5**	**+0.8**
comp=E,0.8nm,0.6s,mb3.9,baz=90,slow=5.9,SNR=13								
NB2	**NORSAR Subarra**	**74.37**	**330**	P	**P**		**10 45 18.5**	**-0.1**
comp=Z,1.2nm,0.5s,mb4.1,baz=90,slow=5.9								
NOA	**NORSAR Array B**	**74.37**	**330**	P	**P**		**10 45 18.9**	**+0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=5.8,SNR=6.1								
BOSA	**Boshof**	**77.10**	**236**	P	**P**		**10 45 36.2**	**+2.0**
comp=Z,2.2nm,1.0s,mb4.1,baz=30,slow=8.7,SNR=4.7								
BOSA	**Boshof**	**77.10**	**236**	P	**P**		**10 45 36.2**	**+1.9**
TORD	**Torodi Ar. Bea**	**87.84**	**283**	P	**P**		**10 46 32.0**	**+1.8**
comp=Z,0.9nm,0.7s,mb4.1,baz=81,slow=4.9,SNR=5.4								
PDAR	**Pinedale Array**	**120.77**	**19**	PKP	PKPdf		10 52 34.0	+1.2
comp=Z,0.2nm,0.5s,baz=150,slow=2.0,SNR=3.0								
NVAR	**Mina Array Bea**	**121.12**	**28**	PKP	PKPdf		10 52 35.4	+1.9
comp=Z,0.5nm,0.5s,baz=295,slow=3.1,SNR=4.3								

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*STR **03** 10:36:59.9±0.1, 4303N×0.16W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 10:36:59.5±0.0, 4303N×0.15W, h10km, Md2.0/3, Ml1.9/5, Error ellipse: s-maj=0.7km s-min=0.4km az=170.0*
MDD 03 10:36:59.9±0.3, 4303N×016W, h10km, mbLg1.3/6, Error ellipse: s-maj=3.2km s-min=1.7km az=15.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.17**	**85**	Pg	Pg		10 37 03.2	-0.4
LABF				Sg	Sg		10 37 06.0	-0.2
LABF	**Labassere**	**0.17**	**85**	P	Pg		10 37 03.2	-0.4
LABF				S	Sg		10 37 06.1	-0.1
REYF	**Montagne du Re**	**0.18**	**282**	Pg	Pg		10 37 03.4	-0.4
REYF				Sg	Sg		10 37 06.4	0.0
REYF	**Montagne du Re**	**0.18**	**282**	P	Pg		10 37 03.5	-0.3
REYF				S	Sg		10 37 06.5	+0.1
VIEF	**Viey**	**0.20**	**139**	Pg	Pg		10 37 03.9	-0.3
VIEF				Sg	Sg		10 37 06.9	-0.1
VIEF	**Viey**	**0.20**	**139**	P	Pg		10 37 04.1	-0.1
VIEF				S	Sg		10 37 07.1	0.0
ETSF	**Etsaut**	**0.33**	**246**	*e*Pg	Pg		10 37 06.2	-0.2
ETSF				*e*Sg	Sg		10 37 10.4	-0.4
22nm,0.3s								
ETSF	**Etsaut**	**0.33**	**246**	Pg	Pg		10 37 06.2	-0.2
ETSF				Lg			10 37 10.4	
11nm,0.3s								
EPF	**Esparros**	**0.36**	**90**	*e*Pg	Pg		10 37 06.7	-0.4
EPF				*e*Sg	Sg		10 37 11.8	-0.2
16nm,0.2s								
EPF	**Esparros**	**0.36**	**90**	Pg	Pg		10 37 06.7	-0.4
EPF				Lg			10 37 11.8	
7.8nm,0.2s								
ATE	**Arette**	**0.40**	**278**	Pg	Pg		10 37 07.4	-0.4
ATE				Sg	Sg		10 37 13.2	0.0
ATE	**Arette**	**0.40**	**278**	P	Pg		10 37 07.5	-0.3
ATE				S	Sg		10 37 13.4	+0.2
EBIE	**Bielsa**	**0.41**	**148**	Pg	Pg		10 37 07.8	-0.2
0.1nm,0.1s,SNR=20								
EBIE				Lg			10 37 13.5	
5.4nm,0.1s,SNR=11								
RESF	**Ens**	**0.43**	**122**	P	Pg		10 37 08.1	-0.2
RESF				S	Sg		10 37 14.1	0.0
SJPF	**Ste Jean**	**0.79**	**276**	*e*Pg	Pg		10 37 14.5	-0.6
SJPF				*e*Sg	Sg		10 37 24.6	-0.8
3.7nm,0.2s								
SJPF	**Ste Jean**	**0.79**	**276**	Pg	Pg		10 37 14.5	-0.6
SJPF				Lg			10 37 24.6	
1.9nm,0.2s								
MTLF	**Montolieu**	**1.76**	**79**	*e*Pg	Pg		10 37 32.5	-1.3
MTLF				*e*Sg	Sg		10 37 55.1	-1.5
1.5nm,0.2s								
MTLF	**Montolieu**	**1.76**	**79**	Pg	Pg		10 37 32.5	-1.3
MTLF				Lg			10 37 55.1	
0.8nm,0.2s								
EPOB	**Poblet**	**1.91**	**151**	Pg	Pg		10 37 34.0	-2.6
0.1nm,0.1s,SNR=4.0								
EPOB				Lg			10 38 00.7	
0.2nm,0.1s,SNR=7.9								
LFF	**La Frestale**	**2.01**	**18**	*e*Pg	Pg		10 37 36.9	-1.6
LFF				*e*Sg	Sg		10 38 03.1	-1.5
3.6nm,0.4s								
LFF	**La Frestale**	**2.01**	**18**	Pg	Pg		10 37 36.9	-1.6
LFF				Lg			10 38 03.1	
1.8nm,0.4s								
CAF	**Calviac**	**2.48**	**40**	*e*Pg	Pg		10 37 45.5	-2.0
CAF				*e*Sg	Sg		10 38 17.6	-2.0
1.2nm,0.2s								
CAF	**Calviac**	**2.48**	**40**	Pg	Pg		10 37 45.5	-2.0
CAF				Lg			10 38 17.6	
0.6nm,0.2s	

BRTR Keskin Array B 70.76 312 P **P 10 53 52.6 +0.4**
0.6nm,0.6s,mb3.5,baz=159,slow=7.9,SNR=4.2
FINES FINESS Array B 80.94 332 P **P 10 54 49.2 -0.7**
0.9nm,0.7s,mb3.5,baz=116,slow=6.8,SNR=5.2
FINES FINESS Array B 80.94 332 P **P 10 54 49.2 -0.7**
ARCES ARCESS Array B 83.16 340 P **P 10 55 01.1 -0.3**
3.1nm,1.0s,mb4.0,baz=96,slow=4.9,SNR=12
CFAA Coronel Fontan 147.84 200 PKPbc PKPbc 11 02 20.9 +1.6
0.4nm,0.4s,baz=161,slow=2.7,SNR=14

IDC 03 10:53:20.3±2.2, 531N×12684E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=163.9km s-min=26.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.15**	**164**	P	P	10 58 55.8	-0.3
	0.5nm,0.4s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.61**	**167**	P	P	10 59 28.1	+1.1
	0.2nm,0.4s,baz=348,slow=7.9,SNR=9.8						
MKAR	**Makanchi Array**	**56.34**	**325**	P	P	11 03 03.0	+0.1
	0.2nm,0.4s,baz=125,slow=6.7,SNR=4.7						

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*ISCJB **03** 10:53:43.0±0.3, 5064S×004×162.94E±006, h10km, mb4.7/16, MS5.0/144, Error ellipse: s-maj=6.9km s-min=3.8km az=79.7*
*IDC **03** 10:53:42.5±0.8, 5065S×16268E, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.5/15, mbtmp4.5/11, ML3.5/1, MS4.9/21, Ms1 4.9/21, ms1mx4.8/23, Error ellipse: s-maj=28.2km s-min=18.0km az=79.0*
*NEIC **03** 10:53:43.8±0.5, 5070S×16256E, h10km, mb4.7/11, MS5.1/124, MW5.6, Error ellipse: s-maj=11.8km s-min=7.3km az=137.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17}Nm; M_{rr}0.34; $M_{\theta\theta}$2.83; $M_{\phi\phi}$-3.17; $M_{r\theta}$0.58; $M_{r\phi}$0.84; $M_{\theta\phi}$0.37; Best double couple: $M_0$3.20000×10^{17} NP1:ϕ_s36.00000°, δ84.00000°, λ168.00000°. NP2:ϕ_s128.00000°, δ78.00000°, λ6.00000°. Principal axes: T 3.0900, Plg13.0000°, Azm352.0000°; N 0.2200, Plg76.0000°, Azm192.0000°; P -3.3100, Plg5.0000°, Azm83.0000°;*
*BJI **03** 10:53:43.8, 5070S×16260E, h10km, mB5.8, mb5.1, Ms5.4, Msz5.0*
*GCMT **03** 10:53:43.8±0.1, 5092S×16186E, h26km, MW5.7/95, Moment Tensor Solution. s84, c151; s95, c233; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}0.23±.04; $M_{\theta\theta}$3.59±.05; $M_{\phi\phi}$-3.82±.04; $M_{r\theta}$0.95±.10; $M_{r\phi}$1.00±.04; $M_{\theta\phi}$0.56±.10; Best double couple: $M_0$3.99900×10^{17} NP1:ϕ_s128.00000°, δ75.00000°, λ7.00000°. NP2:ϕ_s37.00000°, δ84.00000°, λ165.00000°. Principal axes: T 4.0000, Plg15.0000°, Azm352.0000°; N 0.0010, Plg74.0000°, Azm194.0000°; P -3.9990, Plg6.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 03 10:53:44.5±0.3, 5064S±004×16278E±006, h10km, (h14km±.6km:pP-P), n220, σ1s33/84, mb4.7/16, MS5.0/144, 1C-1D, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**4.51**	**210**	*e*P	**Pn**	**10 54 46.3**	**-6.6**
MCQ				*e*S	**Sn**	**10 55 30.9**	**-15**
APZ	**The Paps**	**5.14**	**44**	*e*PN	**Pn**	**10 55 01.6**	**+0.2**
APZ				SN	**Sn**	**10 55 59.1**	**-1.7**
WHZ	**Wether Hill Ro**	**5.87**	**38**	P	**Pn**	**10 55 11.9**	**+0.4**
WHZ				S	**Sn**	**10 56 17.0**	**-1.8**
WHZ	**Wether Hill Ro**	**5.87**	**38**	PN	**Pn**	**10 55 11.9**	**+0.4**
WHZ				SN	**Sn**	**10 56 17.0**	**-1.8**
SYZ	**Scrubby Hill**	**5.88**	**48**	PN	**Pn**	**10 55 12.9**	**+1.1**
SYZ				SN	**Sn**	**10 56 15.6**	**-3.6**
DCZ	**Deep Cove**	**5.94**	**31**	*e*P	**Pn**	**10 55 12.3**	**-0.2**
DCZ				S	**Sn**	**10 56 19.5**	**-1.1**
DCZ	**Deep Cove**	**5.94**	**31**	*e*PN	**Pn**	**10 55 12.3**	**-0.2**
DCZ				SN	**Sn**	**10 56 19.5**	**-1.1**
MLZ	**Mavora Lakes**	**6.41**	**36**	*e*P	**Pn**	**10 55 20.0**	**+1.0**
MLZ				S	**Sn**	**10 56 31.7**	**-0.5**
MLZ	**Mavora Lakes**	**6.41**	**36**	*e*PN	**Pn**	**10 55 20.0**	**+1.0**
TUZ	**Tuapeka**	**6.54**	**47**	*e*P	**Pn**	**10 55 22.4**	**+1.6**
TUZ	**Tuapeka**	**6.54**	**47**	*e*PN	**Pn**	**10 55 22.4**	**+1.5**
ODZ	**Otahua Downs**	**7.70**	**46**	*e*P	**Pn**	**10 55 36.9**	**+0.2**
ODZ	**Otahua Downs**	**7.70**	**46**	*e*PN	**Pn**	**10 55 36.9**	**+0.2**
JCZ	**Jackson Bay**	**7.72**	**34**	*e*P	**Pn**	**10 55 38.6**	**+1.7**
JCZ	**Jackson Bay**	**7.72**	**34**	*e*PN	**Pn**	**10 55 38.6**	**+1.6**
RPZ	**Rata Peaks**	**8.92**	**42**	Pn	**Pn**	**10 55 52.1**	**-1.4**
	0.5nm,0.3s,baz=54,slow=21,SNR=2.5						
RPZ				Sn	**Sn**	**10 57 31.7**	**-2.3**
	9.3nm,0.3s,baz=7.1,slow=20,SNR=7.9						
RPZ				LR	LR	10 59 37.9	
	comp=Z,17μm,19.3s,baz=212,slow=40						
LTZ	**Lake Taylor**	**10.20**	**43**	*e*PN	**Pn**	**10 56 12.3**	**+1.3**
DSZ	**Denniston Nort**	**10.86**	**39**	*e*P	**Pn**	**10 56 20.3**	**+0.2**
DSZ	**Denniston Nort**	**10.86**	**39**	*e*PN	**Pn**	**10 56 20.3**	**+0.2**
QRZ	**Quartz Range**	**11.93**	**38**	*e*P	**Pn**	**10 56 34.9**	**+0.2**
QRZ	**Quartz Range**	**11.93**	**38**	*e*PN	**Pn**	**10 56 34.9**	**+0.2**
TAU	**Tasmania Unive**	**13.10**	**300**	*e*Pn	**Pn**	**10 56 47.1**	**-3.5**
	81nm,0.9s						
TAU				*e*Sn	**Sn**	**10 58 55.5**	**-21**
URZ	**Urewera**	**16.02**	**45**	Pn	**Pn**	**10 57 33.2**	**+3.3**
	1.2nm,0.3s,baz=232,slow=5.0,SNR=12						
URZ				LR	LR	11 04 18.4	
	comp=Z,12μm,19.4s,baz=38,slow=40						
TOO	**Toolangi**	**17.96**	**310**	*e*P	**Pn**	**10 57 56.2**	**+1.9**
	11nm,0.4s						
TOO				*e*S	**Sn**	**11 01 15.9**	**+1.2**
CNB	**Canberra Magne**	**18.15**	**322**	*e*P	**Pn**	**10 57 57.2**	**+0.6**
	44nm,1.3s						
RIV	**Riverview**	**18.84**	**329**	*e*P	**Pn**	**10 58 08.2**	**+3.2**
DRV	**Dumont d'Urvil**	**19.76**	**207**	P	**Pn**	**10 58 10.0**	**-6.1**
DRV				S	**Sn**	**11 01 52.0**	**-6.0**
DRV				R		11 03 00.0	
ARMA	**Armidale**	**21.86**	**333**	*e*P	**P**	**10 58 44.1**	**+6.8**
ARMA				*e*S	**S**	**11 02 52.8**	**+14**
STKA	**Stephens Creek**	**24.45**	**312**	*e*P	**P**	**10 59 03.6**	**+0.2**
	6.5nm,0.9s,mb4.1						
STKA				*e*S	**S**	**11 03 20.9**	**-2.5**
STKA	**Stephens Creek**	**24.45**	**312**	P	**P**	**10 59 04.1**	**+0.7**
	8.1nm,0.9s,mb4.2,baz=142,slow=14,SNR=12						
STKA				LR	LR	11 08 32.6	
	comp=Z,3μm,18.6s,MS4.8,baz=134,slow=36						
STKA	**Stephens Creek**	**24.45**	**312**	*e*P	**P**	**10 59 02.1**	**-1.3**
STKA				*e*P		10 59 03.6	
STKA				*e*S	**S**	**11 03 20.9**	**-2.5**
RAO	**Raoul Island**	**25.84**	**42**	LR	LR	11 09 51.0	
	comp=Z,2μm,18.9s,MS4.6,baz=1.3,slow=37						
RAO	**Raoul Island**	**25.84**	**42**	PFAKE		10 59 30.0	+14
RAO				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
VNDA	**Vanda**	**26.99**	**180**	P	**P**	**10 59 25.4**	**-1.1**
	comp=Z,4.6nm,1.0s,mb4.0,baz=12,slow=8.6,SNR=4.4						
VNDA				LR	LR	11 07 52.0	
	comp=Z,4μm,18.4s,MS5.0,baz=59,slow=32						
VNDA	**Vanda**	**26.99**	**180**	*e*P	**P**	**10 59 25.5**	**-0.9**
	comp=Z,20nm,1.4s,mb4.5						
VNDA				LR	LR		
	comp=Z,4μm,22.0s,MS5.0						
SBA	**Scott Base**	**27.36**	**178**	PFAKE		10 59 40.0	+10
SBA				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
DZM	**Mont Dzumac**	**28.66**	**7**	P	**P**	**10 59 43.0**	**+1.6**
	comp=Z,9.5nm,0.9s,mb4.5,baz=168,slow=12,SNR=4.0						
DZM				LR	LR	11 09 23.3	
	comp=Z,2μm,18.4s,MS4.8,baz=28,slow=33						
CASY	**Casey**	**30.36**	**219**	PFAKE		11 00 10.0	+14
CASY				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
CTA	**Charters Tower**	**33.17**	**331**	*e*P	**P**	**11 00 21.2**	**0.0**
	comp=Z,11nm,1.1s,mb4.7						
CTA				*e*S	**S**	**11 05 49.9**	**+9.2**
CTA	**Charters Tower**	**33.17**	**331**	P	**P**	**11 00 21.5**	**+0.3**
	comp=Z,14nm,1.0s,mb4.8,baz=168,slow=10,SNR=13						
CTA				LR	LR	11 12 01.2	
	comp=Z,4μm,18.4s,MS5.1,baz=158,slow=33						
CTAO	**Charters Tower**	**33.17**	**331**	*e*P	**P**	**11 00 20.8**	**-0.4**
	comp=Z,16nm,1.0s,mb4.9						
CTAO				LR	LR		
	comp=Z,3μm,21.0s,MS4.9						
ASAR	**Alice Springs**	**35.02**	**309**	P	**P**	**11 00 35.4**	**-1.8**
	comp=Z,11nm,0.7s,mb4.9,baz=148,slow=8.5,SNR=114						
NWAO	**Narrogin (SRO)**	**37.61**	**280**	PFAKE		11 01 10.0	+11
NWAO				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
WB2	**Warramunga Arr**	**37.98**	**313**	*e*P	**P**	**11 00 57.0**	**-5.5**
WB2				*e*P	pP	11 01 00.4	-5.2
WB2				*e*S	**S**	**11 06 46.1**	**-8.4**
WB2				*e*SS	SS	11 09 19.0	-22
WRA	**Warramunga Arr**	**37.99**	**313**	P	**P**	**11 01 00.1**	**-2.5**
	comp=Z,16nm,0.9s,mb4.8,baz=147,slow=7.9,SNR=76						
WRA				PcP	PcP	11 03 15.2	-2.9
	comp=Z,2.7nm,0.8s,baz=149,slow=2.6,SNR=6.0						
WRA				LR	LR	11 15 38.9	
	comp=Z,1μm,19.8s,MS4.7,baz=155,slow=35						
WRA	**Warramunga Arr**	**37.99**	**313**	P	**P**	**11 01 00.1**	**-2.5**
WRA				PcP	PcP	11 03 15.2	-2.9
WRA				LR	LR	11 15 38.9	
KLBR	**Kellerberrin**	**38.19**	**282**	*e*P	**P**	**11 01 02.4**	**-1.8**
	comp=Z,20nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**39.48**	**180**	*e*P	**P**	**11 01 15.1**	**0.0**
	comp=Z,21nm,1.0s,mb4.8						
QSPA				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
HNR	**Honiara**	**41.15**	**356**	PFAKE		11 01 40.0	+11
HNR				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
RAR	**Rarotonga**	**41.49**	**59**	PFAKE		11 01 40.0	+8.3
RAR				LR	LR		
	comp=Z,1.0nm,21.0s						
PMG	**Port Moresby**	**43.09**	**337**	P	**P**	**11 01 44.6**	**-0.1**
	comp=Z,17nm,1.0s,mb4.8,baz=163,slow=4.6,SNR=8.8						
PMG				LR	LR	11 16 58.0	
	comp=Z,2μm,21.1s,MS5.1,baz=165,slow=32						
PMG	**Port Moresby**	**43.09**	**337**	*e*P	**P**	**11 01 45.3**	**+0.6**
	comp=Z,22nm,1.0s,mb4.8						
PMG				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**43.87**	**304**	⇓*i*P	**P**	**11 01 48.9**	**-2.1**
	comp=Z,8.6nm,0.9s,mb4.5						
FITZ				*e*S	**S**	**11 08 17.2**	**-5.0**
FITZ				*e*SS	SS	11 11 16.9	-21
FITZ	**Fitzroy Crossi**	**43.87**	**304**	P	**P**	**11 01 49.9**	**-1.1**
	comp=Z,4.4nm,0.8s,mb4.2,baz=175,slow=11,SNR=8.2						
FITZ				LR	LR	11 19 01.2	
	comp=Z,3μm,18.3s,MS5.3,baz=152,slow=35						
FUNA	**Funafuti**	**44.14**	**24**	PFAKE		11 02 00.0	+6.8
FUNA				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
TBI	**Tubuai**	**45.79**	**72**	*e*S	**S**	**11 08 50.0**	**0.0**
	comp=Z,2μm,30.2s						
TBI				*e*LQ		11 13 01.7	
	comp=Z,3μm,35.2s						
TBI				*e*LR	LR	11 14 57.2	
	comp=Z,1μm,32.8s						
MAW	**Mawson**	**47.92**	**211**	*e*P	**P**	**11 02 25.1**	**+2.1**
	comp=Z,5.6nm,1.5s,mb4.4						
MAW				*e*S	**S**	**11 09 19.0**	**-1.4**
MAW	**Mawson**	**47.92**	**211**	P	**P**	**11 02 23.1**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.2,baz=131,slow=12,SNR=4.5						
MAW				LR	LR	11 20 24.8	
	comp=Z,2μm,19.5s,MS5.2,baz=296,slow=34						
MAW	**Mawson**	**47.92**	**211**	*e*P	**P**	**11 02 25.1**	**+2.1**
	comp=Z,5.6nm,1.5s,mb4.4						
MAW				*e*S	**S**	**11 09 19.0**	**-1.4**
MAW				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
PPT	**Papeete**	**50.17**	**67**	*e*S	**S**	**11 09 51.2**	**-0.8**
	comp=Z,2μm,27.8s						
PPT				*e*LR	LR	11 17 09.2	
	comp=Z,2μm,23.8s,baz=230						
PPT	**Papeete**	**50.17**	**67**	LR	LR	11 19 41.0	
	comp=Z,1μm,18.5s,MS4.9,baz=229,slow=31						
SYO	**Syowa Base**	**53.58**	**202**	⇑*e*P	**P**	**11 03 06.4**	**+0.7**
RKT	**Rikitea**	**54.97**	**84**	*e*S	**S**	**11 10 58.1**	**+0.4**
	comp=Z,2μm,31.5s						
RKT				*e*SS	SS	11 14 42.6	+1.4
	comp=Z,758nm,27.5s						
RKT				*e*LR	LR	11 19 17.7	
	comp=Z,2μm,34.0s,baz=210						
SNAA	**Sanae**	**57.57**	**185**	*e*	**P**	**11 03 35.1**	**+0.8**
SNAA				*e*		11 04 02.8	
SNAA	**Sanae**	**57.57**	**185**	*e*P	**P**	**11 03 34.7**	**+0.4**
	comp=Z,14nm,1.3s,mb4.8						
VNA3	**Neumayer Olymp**	**58.30**	**183**	*e*	**P**	**11 03 39.2**	**-0.3**
VNA3				*e*	pP	11 03 43.0	+0.3
VNA3				*e*		11 03 52.0	
VNA2	**Neumayer--Watz**	**58.54**	**184**	*e*	**P**	**11 03 39.6**	**-1.5**
VNA2				*e*	pP	11 03 43.9	-0.5
VNA2				*e*		11 03 54.1	
VNA2				*e*		11 04 08.6	
VNA1	**Neumayer--Stat**	**58.85**	**183**	*e*	**P**	**11 03 42.9**	**-0.4**
VNA1				*e*	pP	11 03 46.5	0.0
VNA1				*e*		11 03 58.3	
TAOE	**Nuku Hiva Isla**	**62.61**	**69**	*e*SS	SS	11 16 44.6	+3.3
	comp=Z,3μm,27.8s						
TAOE				*e*LQ		11 20 04.3	
	comp=Z,5μm,28.6s						
TAOE				*e*LR	LR	11 22 53.2	
	comp=Z,3μm,24.6s						
GUMO	**Guam**	**65.85**	**341**	LR	LR	11 31 58.8	
	comp=Z,159nm,19.2s,MS4.2,baz=255,slow=35						
DAV	**Davao City (W)**	**65.85**	**319**	PFAKE		11 04 40.0	+10
DAV				LR	LR		
	comp=Z,750nm,22.0s,MS4.8						
USHA	**Ushuaia**	**66.54**	**151**	LR	LR	11 26 37.7	
	comp=Z,2μm,20.5s,MS5.3,baz=202,slow=30						
HOPE	**Hope Point**	**74.21**	**168**	PFAKE		11 05 30.0	+8.5
HOPE				LR	LR		
	comp=Z,342nm,20.0s,MS4.6						
CBIJ	**Chichi jima**	**79.51**	**341**	LR	LR	11 41 02.5	
	comp=Z,228nm,18.1s,MS4.5,baz=78,slow=36						
JOW	**Kunigami**	**82.95**	**329**	LR	LR	11 43 32.4	
	comp=Z,728nm,18.4s,MS5.1,baz=134,slow=36						
TRQA	**Tornquist**	**83.31**	**146**	PFAKE		11 06 20.0	+8.4
TRQA				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
QIZ	**Qiongzhong**	**83.50**	**311**	P	**P**	**11 06 15.2**	**+2.7**
QIZ				S	S	11 16 33.6	-0.7
QIZ				XS	sS	11 16 44.5	+4.8
QIZ				SS	SS	11 22 01.3	+1.3
QIZ				AMB	AMB		
	comp=Z,25nm,2.0s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,532nm,5.2s						
QIZ				LR	LR		
	comp=E,912nm,20.2s						
QIZ	**Qiongzhong**	**83.50**	**311**	PFAKE		11 06 20.0	+7.5
QIZ				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
DGAR	**Diego Garcia**	**84.54**	**265**	PFAKE		11 06 30.0	+12
DGAR				LR	LR		
	comp=Z,153nm,21.0s,MS4.4						
JHJ	**Hachijo jima 2**	**85.84**	**341**	LR	LR	11 42 06.5	
	comp=Z,342nm,18.8s,MS4.8,baz=314,slow=34						
JNU	**Nakatsue**	**88.03**	**334**	LR	LR	11 41 52.0	
	comp=Z,949nm,20.9s,MS5.2,baz=274,slow=33						
CM31	**Chiang Mai Arr**	**88.63**	**302**	PFAKE		11 06 50.0	+12
CM31				LR	LR		
	comp=Z,445nm,19.0s,MS4.9						
CHTO	**Chiang Mai**	**88.92**	**302**	PFAKE		11 06 50.0	+11
CHTO				LR	LR		
	comp=Z,596nm,21.0s,MS5.0						
MJAR	**Matsushiro Arr**	**89.47**	**340**	P	**P**	**11 06 41.2**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.4,baz=182,slow=3.9,SNR=4.1						
MAJO	**Matsushiro**	**89.47**	**340**	PFAKE		11 06 50.0	+8.2
MAJO				LR	LR		
	comp=Z,545nm,21.0s,MS5.0						
PALK	**Pallekele**	**90.57**	**281**	PFAKE		11 07 00.0	+13
PALK				LR	LR		
	comp=Z,201nm,21.0s,MS4.5						
SUR	**Sutherland**	**90.77**	**211**	PFAKE		11 07 00.0	+12
SUR				LR	LR		
	comp=Z,182nm,19.0s,MS4.5						
KMI	**Kunming**	**92.14**	**308**	P	**P**	**11 06 55.9**	**+1.7**
KMI				AP	pP	11 06 59.8	+2.3
KMI				PP	PP	11 10 36.1	+2.0
KMI				SKS		11 17 29.8	
KMI				S	S	11 17 53.8	-2.9
KMI				SS	SS	11 24 04.2	-1.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb5.1						
KMI				LR	LR		
	comp=N,281nm,23.9s,MS5.0						
KMI				LR	LR		
	comp=E,464nm,19.3s,MS5.0						
KMI				LR	LR		
	comp=Z,506nm,21.1s,MS4.9						
BOSA	**Boshof**	**92.61**	**216**	LR	LR	11 40 05.1	
	comp=Z,562nm,20.4s,MS5.0,baz=159,slow=30						
BOSA	**Boshof**	**92.61**	**216**	PFAKE		11 07 10.0	+14
BOSA				LR	LR		
	comp=Z,904nm,21.0s,MS5.2						
KSRS	**Korea Array**	**92.93**	**333**	LR	LR	11 45 30.6	
	comp=Z,373nm,21.6s,MS4.8,baz=170,slow=34						
ENH	**Enshi**	**93.30**	**316**	PFAKE		11 07 10.0	+10
ENH				LR	LR		
	comp=Z,3.0nm,19.0s						
ERM	**Erimo**	**93.86**	**345**	PFAKE		11 07 10.0	+7.9
ERM				LR	LR		
	comp=Z,122nm,20.0s,MS4.4						
LBTB	**Lobatse**	**95.71**	**218**	PFAKE		11 07 20.0	+9.4
LBTB				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
CD2	**Chengdu**	**96.46**	**312**	*e*P	**P**	**11 07 14.9**	**+0.9**
CD2				AP	pP	11 07 19.7	+2.4
CD2				XP	sP	11 07 22.0	+3.5
CD2				PP	PP	11 11 11.7	+3.9
CD2				SKS		11 17 49.9	
CD2				S	S	11 18 32.1	-2.4
CD2				XS	sS	11 18 40.2	+0.1
CD2				SS	SS	11 25 10.1	+2.5
CD2				AMB	AMB		
	comp=Z,230nm,10.8s						
CD2				LR	LR		
	comp=N,700nm,21.6s,MS5.3						
CD2				LR	LR		
	comp=E,700nm,21.6s,MS5.3						
CD2				LR	LR		
	comp=Z,430nm,25.2s,MS4.8						
MSEY	**Mahe Island**	**97.26**	**254**	PFAKE		11 07 30.0	+12
MSEY				LR	LR		
	comp=Z,137nm,20.0s,MS4.4						
YSS	**Yuzh-Sakhalins**	**98.74**	**346**	PFAKE		11 07 30.0	+5.7
YSS				LR	LR		
	comp=Z,376nm,22.0s,MS4.8						
NNA	**Nana**	**98.97**	**121**	PFAKE		11 07 40.0	+15
NNA				LR	LR		
	comp=Z,111nm,20.0s,MS4.4						
BJT	**Baijiatuan**	**99.09**	**326**	PFAKE		11 07 40.0	+14
BJT				LR	LR		
	comp=Z,587nm,21.0s,MS5.1						
MDJ	**Mudanjiang**	**99.16**	**337**	P	**P**	**11 07 26.6**	**+0.5**
MDJ				XP	sP	11 07 37.1	+6.4
MDJ				S	S	11 18 57.2	-0.3
MDJ				SS	SS	11 25 47.1	+1.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.5s,mb4.8						
MDJ				LR	LR		
	comp=N,149nm,52.0s						
MDJ				LR	LR		
	comp=E,489nm,37.3s						
MDJ				LR	LR		
	comp=Z,557nm,40.4s						
LPAZ	**La Paz**	**99.83**	**131**	LR	LR	11 42 03.0	
	comp=Z,306nm,21.2s,MS4.8,baz=207,slow=29						
LPAZ	**La Paz**	**99.83**	**131**	PFAKE		11 07 40.0	+11
LPAZ				LR	LR		
	comp=Z,311nm,21.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**101.53**	**323**	*e*P	Pdif	11 07 38.2	+1.5
HHC				AP		11 07 41.9	
HHC				PP	PP	11 11 46.3	-0.2
HHC				SKS		11 18 15.2	
HHC				S	Sdif	11 19 08.7	-8.6
HHC				LR	LR		
	comp=N,334nm,25.0s,MS4.9						
HHC				LR	LR		
	comp=E,342nm,22.6s,MS4.9						
HHC				LR	LR		
	comp=Z,361nm,18.4s,MS4.9						
LSA	**Lhasa**	**101.86**	**302**	PFAKE		11 07 50.0	+12
LSA				LR	LR		
	comp=Z,280nm,22.0s,MS4.7						
LSZ	**Lusaka**	**103.27**	**225**	PFAKE		11 07 50.0	+5.6
LSZ				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
PET	**Petropavlovsk**	**103.35**	**357**	PFAKE		11 07 50.0	+5.2
PET				LR	LR		
	comp=Z,697nm,22.0s,MS5.1						
TSUM	**Tsumeb**	**104.01**	**214**	PFAKE		11 08 00.0	+12
TSUM				LR	LR		
	comp=Z,691nm,19.0s,MS5.2						
HIA	**Hailar**	**106.13**	**332**	PFAKE		11 12 20.0	+11
HIA				LR	LR		
	comp=Z,447nm,20.0s,MS5.0						
OTAV	**Otavalo**	**108.04**	**113**	PFAKE		11 12 20.0	+7.5
OTAV				LR	LR		
	comp=Z,237nm,19.0s,MS4.8						
SAML	**Samuel**	**108.55**	**131**	PFAKE		11 12 20.0	+6.5
SAML				LR	LR		
	comp=Z,396nm,22.0s,MS4.9						
ULN	**Ulaanbaatar**	**109.19**	**324**	PFAKE		11 12 20.0	+5.3
ULN				LR	LR		
	comp=Z,523nm,22.0s,MS5.1						
SAO	**San Andreas Ge**	**109.50**	**56**	PFAKE		11 12 30.0	+15
SAO				LR	LR		
	comp=Z,490nm,20.0s,MS5.1						
MCCM	**Marconi Confer**	**109.80**	**54**	PFAKE		11 12 30.0	+14
MCCM				LR	LR		
	comp=Z,621nm,20.0s,MS5.2						
ISA	**Isabella**	**110.26**	**58**	PFAKE		11 12 30.0	+13
ISA				LR	LR		
	comp=Z,123nm,20.0s,MS4.5						
HOPS	**Hopland**	**110.34**	**53**	PFAKE		11 12 30.0	+13
HOPS				LR	LR		
	comp=Z,814nm,20.0s,MS5.3						
KMBO	**Kilima Mbogo**	**110.79**	**240**	PFAKE		11 12 30.0	+12
KMBO				LR	LR		
	comp=Z,337nm,19.0s,MS4.9						
CMB	**Columbia Colle**	**111.01**	**55**	PFAKE		11 12 30.0	+12
CMB				LR	LR		
	comp=Z,436nm,19.0s,MS5.1						
DAC	**Darwin (Calif)**	**111.20**	**58**	PFAKE		11 12 30.0	+12
DAC				LR	LR		
	comp=Z,673nm,19.0s,MS5.2						
WDC	**Whiskeytown Da**	**111.81**	**52**	PFAKE		11 12 30.0	+10
WDC				LR	LR		
	comp=Z,638nm,21.0s,MS5.2						
JTS	**JuntasAbangare**	**111.98**	**101**	PFAKE		11 12 30.0	+10
JTS				LR	LR		
	comp=Z,133nm,20.0s,MS4.5						
TUC	**Tucson**	**112.12**	**66**	PFAKE		11 12 30.0	+10

YAK Yakutsk 115.37 343 PFAKE 11 12 40.0 +14
YAK LR LR
comp=Z,366nm,20.0s,MS5.0
ELK Elko 115.71 57 PFAKE 11 12 40.0 +13
ELK LR LR
comp=Z,398nm,20.0s,MS5.0
MVU Marysvale 115.76 60 PFAKE 11 12 40.0 +13
MVU LR LR
comp=Z,517nm,19.0s,MS5.2
KVTX Kingsville 116.51 78 PFAKE 11 12 40.0 +11
KVTX LR LR
comp=Z,711nm,19.0s,MS5.3
ANMO Albuquerque 116.53 67 PFAKE 11 12 40.0 +11
ANMO LR LR
comp=Z,862nm,21.0s,MS5.3
DUG Dugway 116.62 59 PFAKE 11 12 40.0 +11
DUG LR LR
comp=Z,437nm,19.0s,MS5.1
MVCO Mesa Verde 116.93 64 PFAKE 11 12 40.0 +11
MVCO LR LR
comp=Z,415nm,20.0s,MS5.0
MPU Maple Canyon 117.14 59 PFAKE 11 12 40.0 +10
MPU LR LR
comp=Z,859nm,20.0s,MS5.4
JCT Junction City 117.39 75 PFAKE 11 12 40.0 +10
JCT LR LR
comp=Z,648nm,20.0s,MS5.2
HAWA Hanford 117.55 50 PFAKE 11 12 40.0 +9.4
HAWA LR LR
comp=Z,537nm,21.0s,MS5.1
BMO Blue Mountains 117.56 52 PFAKE 11 12 40.0 +9.3
BMO LR LR
comp=Z,565nm,19.0s,MS5.2
HLID Hailey 118.13 55 PFAKE 11 12 40.0 +8.2
HLID LR LR
comp=Z,346nm,19.0s,MS5.0
HWUT Hardware Ranch 118.29 58 PFAKE 11 12 40.0 +7.9
HWUT LR LR
comp=Z,492nm,19.0s,MS5.2
BILL Bilibino 118.38 1 PFAKE 11 12 40.0 +7.8
BILL LR LR
comp=Z,474nm,20.0s,MS5.1
MKAR Makanchi Array 119.21 309 PKP PKPdf 11 12 31.4 -2.5
comp=Z,1.0nm,0.9s,baz=197,slow=1.3,SNR=4.4
AMTX Amarillo 119.31 70 PFAKE 11 12 40.0 +6.0
AMTX LR LR
comp=Z,502nm,20.0s,MS5.2
HKT Hockley 119.48 78 PFAKE 11 12 50.0 +16
HKT LR LR
comp=Z,397nm,20.0s,MS5.0
SDV Santo Domingo 119.56 114 PFAKE 11 12 50.0 +15
SDV LR LR
comp=Z,273nm,19.0s,MS4.9
NEW Newport 120.03 49 PFAKE 11 12 50.0 +15
NEW LR LR
comp=Z,770nm,21.0s,MS5.3
MCK McKinley 120.13 23 PFAKE 11 12 50.0 +14
MCK LR LR
comp=Z,241nm,19.0s,MS4.9
BW06 Boulder Array 120.17 58 PFAKE 11 12 50.0 +14
BW06 LR LR
comp=Z,442nm,21.0s,MS5.1
PDAR Pinedale Array 120.17 58 PKP PKPdf 11 12 33.8 -1.9
comp=Z,0.6nm,1.1s,baz=264,slow=6.0,SNR=3.7
ISCO Idaho Springs 120.35 63 PFAKE 11 12 50.0 +14
ISCO LR LR
comp=Z,639nm,19.0s,MS5.3
AAK Ala-Archa 120.42 301 PFAKE 11 12 50.0 +14
AAK LR LR
comp=Z,95nm,22.0s,MS4.4
MSO Missoula 120.62 52 PFAKE 11 12 50.0 +13
MSO LR LR
comp=Z,452nm,20.0s,MS5.1
YMR Madison River 120.70 56 PFAKE 11 12 50.0 +13
YMR LR LR
comp=Z,927nm,19.0s,MS5.4
WMOK Wichita Mounta 120.95 72 PFAKE 11 12 50.0 +13
WMOK LR LR
comp=Z,673nm,19.0s,MS5.3
BOZ Bozeman (W) 121.01 55 PFAKE 11 12 50.0 +13
BOZ LR LR
comp=Z,377nm,21.0s,MS5.0
COLA College 121.35 22 PFAKE 11 12 50.0 +12
COLA LR LR
comp=Z,605nm,21.0s,MS5.2
NATX Nacogdoches 121.45 77 PFAKE 11 12 50.0 +12
NATX LR LR
comp=Z,588nm,22.0s,MS5.2
RCBR Riachuelo 121.49 158 PFAKE 11 12 50.0 +12
RCBR LR LR
comp=Z,529nm,19.0s,MS5.2
ASCN Ascension 121.62 183 PFAKE 11 12 50.0 +12
ASCN LR LR
comp=Z,205nm,19.0s,MS4.8
MSKU Masuku 121.63 217 PFAKE 11 12 50.0 +12
MSKU LR LR
comp=Z,25nm,22.0s
RLMT Red Lodge 121.90 56 PFAKE 11 12 50.0 +11
RLMT LR LR
comp=Z,313nm,19.0s,MS5.0
EGAK Eagle 122.98 25 PFAKE 11 12 50.0 +8.9
EGAK LR LR
comp=Z,385nm,20.0s,MS5.0
CBKS Cedar Bluff 123.10 68 PFAKE 11 12 50.0 +8.7
CBKS LR LR
comp=Z,620nm,19.0s,MS5.3
EGMT Eagleton 123.55 54 PFAKE 11 12 50.0 +7.8
EGMT LR LR
comp=Z,486nm,20.0s,MS5.2
MIAR Mount Ida 124.00 75 PFAKE 11 12 50.0 +7.0
MIAR LR LR
comp=Z,364nm,20.0s,MS5.0
TIXI Tiksi 124.33 348 PFAKE 11 12 50.0 +6.3
TIXI LR LR
comp=Z,455nm,20.0s,MS5.1
LAO LASA Array 124.53 57 PFAKE 11 12 50.0 +5.9
LAO LR LR
comp=Z,717nm,20.0s,MS5.3
KSU1 Kansas State U 125.14 69 PFAKE 11 13 00.0 +15
KSU1 LR LR
comp=Z,597nm,19.0s,MS5.3
BRAL Brewton 125.71 83 PFAKE 11 13 00.0 +14
BRAL LR LR
comp=Z,452nm,19.0s,MS5.2
OXF Oxford 126.56 78 PFAKE 11 13 00.0 +12
OXF LR LR
comp=Z,461nm,21.0s,MS5.1
LRAL Lakeview Retre 127.10 81 PFAKE 11 13 00.0 +11
LRAL LR LR
comp=Z,327nm,19.0s,MS5.0
DWPF Disney 127.31 90 PFAKE 11 13 00.0 +11
DWPF LR LR
comp=Z,192nm,19.0s,MS4.8
PLAL Pickwick Lake 127.70 79 PFAKE 11 13 00.0 +10
PLAL LR LR
comp=Z,524nm,20.0s,MS5.2
ECSD EROS,Sioux Fal 128.03 65 PFAKE 11 13 00.0 +9.3
ECSD LR LR
comp=Z,526nm,19.0s,MS5.2
WVT Waverly 128.59 78 PFAKE 11 13 00.0 +8.2
WVT LR LR
comp=Z,456nm,19.0s,MS5.2
SCIA State Center 128.91 69 PFAKE 11 13 00.0 +7.6
SCIA LR LR
comp=Z,913nm,19.0s,MS5.5
BRVK Borovoye 129.16 309 PFAKE 11 13 00.0 +7.1
BRVK LR LR
comp=Z,98nm,21.0s,MS4.5
GOGA Godfrey 129.58 83 PFAKE 11 13 00.0 +6.3
GOGA LR LR
comp=Z,427nm,22.0s,MS5.1
YKA Yellowknife Ar 130.16 37 PKP PKPdf 11 12 52.1 -2.7
comp=Z,0.2nm,0.8s,baz=237,slow=5.9,SNR=3.0
HDIL Hopedale 130.44 72 PFAKE 11 13 10.0 +15
HDIL LR LR
comp=Z,955nm,21.0s,MS5.5
WCI Wyandotte Cave 130.86 77 PFAKE 11 13 10.0 +14
WCI LR LR
comp=Z,500nm,19.0s,MS5.2
AGMN Agassiz Refuge 131.12 60 PFAKE 11 13 10.0 +13
AGMN LR LR
comp=Z,442nm,19.0s,MS5.2
JFWS Jewell Farm 131.28 69 PFAKE 11 13 10.0 +13
JFWS LR LR
comp=Z,529nm,19.0s,MS5.3

TZTN Tazewell 131.53 80 PFAKE 11 13 10.0 +13
TZTN LR LR
comp=Z,445nm,19.0s,MS5.2
ULM Lac du Bonnet 132.19 58 PFAKE 11 13 10.0 +11
ULM LR LR
comp=Z,482nm,20.0s,MS5.2
EYMN Ely 133.38 63 PFAKE 11 13 10.0 +9.1
EYMN LR LR
comp=Z,749nm,21.0s,MS5.4
BLA Blacksburg 133.91 82 PFAKE 11 13 10.0 +8.1
BLA LR LR
comp=Z,557nm,22.0s,MS5.2
CNNC Cliffs of the 134.28 85 PFAKE 11 13 10.0 +7.4
CNNC LR LR
comp=Z,436nm,21.0s,MS5.2
AAM Ann Arbor 134.90 74 PFAKE 11 13 10.0 +6.3
AAM LR LR
comp=Z,769nm,19.0s,MS5.4
CBN Corbin 136.43 83 PFAKE 11 13 20.0 +13
CBN LR LR
comp=Z,504nm,19.0s,MS5.3
GNI Garni 136.44 281 PFAKE 11 13 20.0 +13
GNI LR LR
comp=Z,321nm,22.0s,MS5.0
ARU Arti 136.72 308 PFAKE 11 13 20.0 +13
ARU LR LR
comp=Z,76nm,21.0s,MS4.4
TORD Torodi Ar. Bea 139.56 209 PKhKP 11 13 03.3
comp=Z,0.7nm,1.1s,baz=193,slow=0.8,SNR=2.7
TORD PKP PKPdf 11 13 11.1 -1.2
comp=Z,1.0nm,0.7s,baz=160,slow=2.1,SNR=6.3
KIV Kislovodsk 139.81 284 PFAKE 11 13 20.0 +7.2
KIV LR LR
comp=Z,73nm,20.0s,MS4.4
LONY Lake Ozonia 141.72 76 PFAKE 11 13 30.0 +14
LONY LR LR
comp=Z,786nm,21.0s,MS5.4
WES Weston 142.61 81 PFAKE 11 13 30.0 +12
WES LR LR
comp=Z,1μm,21.0s,MS5.6
BR131 Keskin Array S 143.21 273 PFAKE 11 13 30.0 +11
BR131 LR LR
comp=Z,258nm,21.0s,MS5.0
BRTR Keskin Array B 143.21 273 PKhKP 11 13 14.0
comp=Z,0.7nm,0.7s,baz=91,slow=5.4,SNR=4.1
BRTR PKP PKPdf 11 13 18.4 -0.5
comp=Z,0.9nm,0.8s,baz=187,slow=2.6,SNR=3.7
ANTO Ankara 143.83 272 PFAKE 11 13 30.0 +10
ANTO LR LR
comp=Z,238nm,19.0s,MS5.0
IDI Anoyia 146.09 259 PKPbc PKPbc 11 13 23.0 -1.7
comp=Z,14nm,0.8s,baz=105,slow=4.4,SNR=7.8
OBN Obninsk 147.91 299 PFAKE 11 13 40.0 +13
OBN LR LR
comp=Z,101nm,20.0s,MS4.6
KBS Kingsbay 149.77 349 PFAKE 11 13 40.0 +10
KBS LR LR
comp=Z,434nm,19.0s,MS5.3
SCHQ Schefferville 150.18 62 PFAKE 11 13 40.0 +9.4
SCHQ LR LR
comp=Z,745nm,20.0s,MS5.5
AKASG Malin Array Be 150.94 288 PKPbc PKPbc 11 13 35.7 -1.8
comp=Z,3.7nm,0.8s,baz=85,slow=2.4,SNR=21
AKASG PKPab PKPab 11 13 42.0 -2.8
comp=Z,3.3nm,0.7s,baz=97,slow=2.7,SNR=11
KIEV Kiev 150.95 288 *e*PKPdf PKPdf 11 13 30.9 -0.8
KIEV *e*PKPbc PKPbc 11 13 35.6 -1.9
KIEV *e*PKPab PKPab 11 13 43.1 -1.8
ARCES ARCESS Array B 152.42 329 PKP PKPdf 11 13 33.8 -0.2
comp=Z,5.3nm,1.0s,baz=53,slow=29,SNR=2.8
ARCES PKPbc PKPbc 11 13 39.0 -1.9
comp=Z,5.3nm,0.8s,baz=116,slow=2.8,SNR=9.3
FINES FINESS Array B 154.01 311 PKP PKPdf 11 13 34.3 -2.0
comp=Z,2.5nm,0.9s,baz=144,slow=30,SNR=1.8
FINES PKPbc PKPbc 11 13 42.0 -2.4
comp=Z,3.0nm,0.8s,baz=24,slow=5.2,SNR=5.0
FINES FINESS Array B 154.01 311 PKP PKPdf 11 13 34.3 -2.0
FINES PKPbc PKPbc 11 13 42.0 -2.4
KEST Kesra 155.74 242 PKPab PKPab 11 14 04.7 -0.4
comp=Z,1.4nm,0.8s,baz=248,slow=6.2,SNR=3.8
GERES GERESS Array B 160.01 277 PKPab PKPab 11 14 21.9 -1.7
comp=Z,0.5nm,0.7s,baz=108,slow=2.1,SNR=5.9
GRFO Grafenberg 161.80 278 PFAKE 11 13 50.0 +4.1
GRFO LR LR
comp=Z,347nm,19.0s
ESLA Sonseca Array 165.61 225 PFAKE 11 14 00.0 +11
ESLA LR LR
comp=Z,5μm,21.0s
PAB San Pablo 165.68 224 PFAKE 11 14 00.0 +11
PAB LR LR
comp=Z,527nm,20.0s

*IDC **03** 11:01:34.4±1.3, 26.17S×70.84W, h0km, mb4.3/2, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, ML3.5/3, Error ellipse: s-maj=56.5km s-min=23.8km az=93.0*
*ISCJB **03** 11:01:35.7±0.8, 26.17S×100.3×70.8W±0.2, h27km, mb4.1/2, Error ellipse: s-maj=22.8km s-min=4.4km az=7.3*
*NEIC **03** 11:01:39.3, 26.38S×70.77W, h27km, ML4.2(GUC), After GUC.*
*GUC **03** 11:01:39.3±0.8, 26.38S×70.77W, h27km±4km, MD4.1, ML4.2*
ISC 03 11:01:35.5±0.8, 26.23S±0.03×70.7W±0.2, h9km±6km, n21, σ1$02/29, mb4.1/2, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.86**	**191**	⇑*i*P			**Pg**	**11 01 52.6**	**+0.5**
CDCH				*i* S			**Sg**	**11 02 01.8**	**-1.4**
CDCH				AML			AML	11 02 04.6	
	comp=N,9μm,0.3s								
CDCH	**Caldera**	**0.86**	**191**	⇑*i*P			**Pg**	**11 01 52.6**	**+0.5**
CDCH				*i* S			**Sg**	**11 02 01.8**	**-1.4**
CPCH	**Copiapo**	**1.16**	**167**	*e*P			**Pb**	**11 01 57.8**	**+0.1**
CPCH				*i* S			**Sg**	**11 02 11.8**	**-1.0**
CPCH				AML			AML	11 02 17.1	
	comp=E,39μm,0.1s								
CPCH	**Copiapo**	**1.16**	**167**	*e*P			**Pb**	**11 01 57.8**	**+0.1**
CPCH				*i* S			**Sg**	**11 02 11.8**	**-1.0**
VACH	**Vallenar**	**2.34**	**182**	*i* P			**Pn**	**11 02 15.2**	**+1.0**
VACH				*i* S			**Sn**	**11 02 42.9**	**-0.2**
VACH				AML			AML	11 02 48.7	
	comp=E,4μm,0.3s								
VACH	**Vallenar**	**2.34**	**182**	*i* P			**Pn**	**11 02 15.2**	**+1.0**
VACH				*i* S			**Sn**	**11 02 42.9**	**-0.2**
ANCH	**Antofagasta**	**2.54**	**5**	*e*P			**Pg**	**11 02 25.1**	**+0.8**
ANCH				*i* S			**Sg**	**11 02 57.6**	**+0.4**
ANCH				AML			AML	11 03 11.3	
	comp=N,654nm,0.6s								
ANCH	**Antofagasta**	**2.54**	**5**	*e*P			**Pg**	**11 02 25.1**	**+0.8**
ANCH				*i* S			**Sg**	**11 02 57.6**	**+0.4**
CEN1	**Los Morros**	**2.85**	**8**	*e*P			**Pn**	**11 02 20.4**	**-0.8**
CEN1				*i* S			**Sn**	**11 02 53.8**	**-2.0**
CEN1				AML			AML	11 03 11.1	
	comp=E,379nm,0.6s								
TLL	**Tololo Astrono**	**3.93**	**182**	*i* P			**Pn**	**11 02 37.8**	**+1.8**
TLL				*i* S			**Sn**	**11 03 22.0**	**-0.3**
CFAA	**Coronel Fontan**	**5.76**	**159**	Pn			**Pn**	**11 03 04.5**	**+3.3**
	comp=E,0.3nm,0.3s,baz=338,slow=14,SNR=23								
CFAA				Sn			**Sn**	**11 04 12.6**	**+5.2**
	comp=E,0.4nm,0.3s,baz=221,slow=19,SNR=4.3								
CFAA	**Coronel Fontan**	**5.76**	**159**	Pn			**Pn**	**11 03 04.5**	**+3.2**
CFAA				Sn			**Sn**	**11 04 12.6**	**+5.2**
LPAZ	**La Paz**	**10.16**	**14**	Pn			**Pn**	**11 04 01.2**	**-0.4**
	comp=E,0.2nm,0.3s,baz=286,slow=17,SNR=2.8								
LPAZ	**La Paz**	**10.16**	**14**	Pn			**Pn**	**11 04 01.2**	**-0.5**
SIV	**San Ignacio**	**13.54**	**43**	Pn			**Pn**	**11 04 47.7**	**-0.1**
	comp=E,0.4nm,0.3s,baz=250,slow=6.8,SNR=8.4								
MAW	**Mawson**	**80.27**	**164**	P			**P**	**11 13 46.4**	**-0.4**
	comp=E,1.3nm,0.4s,mb4.2,baz=235,slow=7.0,SNR=10								
TORD	**Torodi Ar. Bea**	**80.44**	**70**	P			**P**	**11 13 48.7**	**+1.1**
	comp=E,1.2nm,0.5s,mb4.1,baz=260,slow=5.4,SNR=9.6								
WRA	**Warramunga Arr**	**128.09**	**210**	PKP			PKPdf	11 20 42.2	+0.1
	comp=E,0.3nm,0.7s,baz=164,slow=1.8,SNR=4.0								
ZAL	**Zalesovo**	**146.88**	**27**	PKPbc			PKPbc	11 21 18.2	-0.1
	comp=E,1.1nm,0.4s,baz=206,slow=7.1,SNR=5.5								
ZAL	**Zalesovo**	**146.88**	**27**	PKPbc			PKPbc	11 21 18.2	-0.1
MKAR	**Makanchi Array**	**150.34**	**39**	PKPbc			PKPbc	11 21 27.8	+0.5
	comp=E,1.4nm,0.5s,baz=309,slow=2.2,SNR=13								
MKAR				PKPab			PKPab	11 21 35.1	+1.5
	comp=E,1.0nm,0.7s,baz=293,slow=2.5,SNR=4.3								

*NEIC **03** 11:15:54.5±0.8, 46.94N×153.13E, h10km, Error ellipse: s-maj=25.5km s-min=16.1km az=124.0*
*ISCJB **03** 11:16:01.7±3.2, 46.9N±0.1×152.9E±0.2, h86km±29km, mb3.7/12, Error ellipse: s-maj=25.8km s-min=19.1km az=58.6*
*IDC **03** 11:16:03.4±4.0, 46.82N×152.92E, h86km±36km, mb3.5/13, mb1 3.7/15, mb1mx3.5/26, mbtmp3.5/15, Error ellipse: s-maj=24.0km s-min=18.6km az=125.0*
ISC 03 11:16:02.9±2.7, 46.9N±0.1×152.9E±0.2, h83km±24km, n21, σ0$55/20, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.78**	**253**	P			**Pn**	**11 17 52.6**	**-0.7**
	0.9nm,0.3s,baz=77,slow=12,SNR=8.7								
MJAR	**Matsushiro Arr**	**15.07**	**232**	P			**Pn**	**11 19 32.3**	**+1.1**
	0.2nm,0.3s,baz=35,slow=8.1,SNR=7.3								
KSRS	**Korea Array**	**20.73**	**252**	P			**P**	**11 20 36.9**	**+0.2**
	2.5nm,1.0s,baz=113,slow=19,SNR=3.7								
INK	**Inuvik**	**41.60**	**32**	P			**P**	**11 23 43.2**	**+0.5**
	1.7nm,0.7s,mb3.9,baz=182,slow=14,SNR=14								
MKAR	**Makanchi Array**	**46.77**	**297**	P			**P**	**11 24 23.8**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=65,slow=7.9,SNR=5.4								
MKAR	**Makanchi Array**	**46.77**	**297**	P			**P**	**11 24 23.8**	**-0.2**
BVAR	**Borovoye Array**	**50.68**	**309**	P			**P**	**11 24 53.7**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=71,slow=9.3,SNR=2.9								
BVAR	**Borovoye Array**	**50.68**	**309**	P			**P**	**11 24 53.7**	**-0.2**
YKA	**Yellowknife Ar**	**50.89**	**37**	P			**P**	**11 24 54.8**	**-0.7**
	0.7nm,0.8s,mb3.8,baz=295,slow=6.9,SNR=5.9								
YKA	**Yellowknife Ar**	**50.89**	**37**	P			**P**	**11 24 54.8**	**-0.7**
ARCES	**ARCESS Array B**	**57.69**	**341**	P			**P**	**11 25 44.9**	**+0.1**
	2.1nm,0.8s,mb4.2,baz=30,slow=7.3,SNR=3.1								
FINES	**FINESS Array B**	**63.87**	**335**	P			**P**	**11 26 26.5**	**-0.2**
	1.5nm,0.4s,mb4.1,baz=40,slow=7.9,SNR=15								
NB2	**NORSAR Subarra**	**68.06**	**341**	P			**P**	**11 26 53.7**	**+0.1**
	comp=Z,1.5nm,0.6s,mb4.0,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.06**	**341**	P			**P**	**11 26 53.7**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.1,baz=27,slow=6.3,SNR=6.4								
NOA	**NORSAR Array B**	**68.06**	**341**	P			**P**	**11 26 53.7**	**+0.1**
WRA	**Warramunga Arr**	**68.60**	**199**	P			**P**	**11 26 56.1**	**-0.9**
	comp=Z,0.4nm,1.1s,mb3.2,baz=10,slow=5.9,SNR=3.1								
AKASG	**Malin Array Be**	**71.37**	**326**	P			**P**	**11 27 13.6**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.2,baz=33,slow=6.1,SNR=8.9								
ASAR	**Alice Springs**	**72.30**	**198**	P			**P**	**11 27 19.5**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.3,baz=12,slow=4.9,SNR=4.1								
TXAR	**Lajitas Array**	**77.53**	**60**	P			**P**	**11 27 50.0**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=309,slow=5.7,SNR=4.1								
BRTR	**Keskin Array B**	**78.21**	**317**	P			**P**	**11 27 54.3**	**+0.9**
	comp=Z,1.1nm,0.8s,mb3.6,baz=63,slow=6.0,SNR=5.7								
MAW	**Mawson**	**132.26**	**211**	*e*PKPdf			PKPdf	11 35 02.4	-4.9

IDC 03 11:22:17.3±13.0, 231N×128.26E, h85km±120km, mb3.1/3, mb1 3.3/3, mb1mx3.1/16, mbtmp3.1/3, Error ellipse: s-maj=118.6km s-min=24.0km az=63.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.91**	**165**	P			P	11 27 14.3	+0.4
	0.8nm,0.6s,baz=341,slow=11,SNR=14								
ASAR	**Alice Springs**	**26.40**	**168**	P			P	11 27 47.4	+1.6
	0.3nm,0.5s,baz=355,slow=7.8,SNR=6.8								
ASAR				PcP			PcP	11 31 08.4	-0.8
	0.2nm,0.5s,baz=351,slow=1.9,SNR=4.1								
MKAR	**Makanchi Array**	**59.58**	**325**	P			P	11 32 12.3	+0.3
	0.2nm,0.4s,baz=122,slow=6.8,SNR=6.7								
LPAZ	**La Paz**	**158.72**	**132**	PKPab			PKPab	11 42 41.6	+0.7
	1.4nm,0.3s,baz=279,slow=8.8,SNR=8.1								

*CSEM **03** 11:29:32.2, 67.88N×20.14E, h17km, ML3.0, Suspected Mining explosion. After UPP*
*UPP **03** 11:29:32.2, 67.88N×20.14E, h17km, ML3.0, Suspected Mining explosion.*
HEL 03 11:29:32.6±0.1, 67.88N×20.14E, h0km, ML1.9, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**44**	*i* P			Pg	11 29 34.7	0.0
NIKU	**Nikkaluokta**	**0.42**	**269**	*i* P			Pg	11 29 40.1	-0.5
LANU	**Lannavaara**	**0.72**	**75**	*i* P			Pg	11 29 45.1	-1.3
LANU	**Lannavaara**	**0.72**	**75**	P			Pg	11 29 45.1	-1.3
	baz=302								
DUNU	**Dundret**	**0.78**	**168**	*i* P			Pg	11 29 46.8	-0.7
DUNU	**Dundret**	**0.78**	**168**	P			Pg	11 29 46.8	-0.7
	baz=54								
SALU	**Saltoluokta**	**0.80**	**232**	*i* P			Pg	11 29 47.0	-0.9
MASU	**Masugnsbyn**	**0.83**	**120**	*i* P			Pg	11 29 47.6	-0.8
KIF	**Kilpisjarvi**	**1.16**	**12**	*e*P			Pg	11 29 54.1	-0.7
KIF				*e*SB			Sb	11 30 11.6	+0.5
PAJU	**Pajala**	**1.43**	**125**	*e*P			Pn	11 29 56.9	-2.9
HARU	**Harads**	**1.75**	**169**	*e*P			Pn	11 30 02.7	-1.5
SJUU	**Sjulsmark**	**2.45**	**166**	*e*P			Pn	11 30 13.1	-0.7
SGF	**Sodankyl**	**2.48**	**97**	*e*P			Pn	11 30 14.2	-0.1
SGF				*e*SG			Sg	11 30 48.8	-3.4
KEV	**Kevo**	**3.13**	**50**	*e*SB			Sb	11 31 04.2	-3.5
OUL	**Oulu**	**3.63**	**138**	*e*SB			Sb	11 31 20.9	-1.3
MSF	**Maaselka**	**4.02**	**115**	*e*P			Pn	11 30 36.1	+0.6

*NEIC **03** 11:56:44.0, 27.93S×71.18W, h29km, ML3.6(GUC), After GUC.*
GUC 03 11:56:44.0±0.8, 27.93S×71.18W, h29km±6km, MD3.8, ML3.6, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.74**	**150**	*e*P			Pb	11 56 58.1	-0.3
VACH				*i* S			Sb	11 57 08.1	-0.1
VACH				AML			AML	11 57 12.8	
	comp=N,8μm,0.1s								
VACH	**Vallenar**	**0.74**	**150**	*e*P			Pb	11 56 58.1	-0.3
VACH				*i* S			Sb	11 57 08.1	-0.1
CDCH	**Caldera**	**0.91**	**20**	*e*P			Pn	11 56 60.0	-0.9
CDCH				*i* S			Sb	11 57 12.8	-0.1
CDCH				AML			AML	11 57 14.7	
	comp=N,679nm,0.3s								
CDCH	**Caldera**	**0.91**	**20**	*e*P			Pn	11 56 60.0	-0.9
CDCH				*i* S			Sb	11 57 12.8	-0.1
CPCH	**Copiapo**	**0.93**	**52**	*e*P			Pn	11 57 00.5	-0.6
CPCH				*i* S			Sb	11 57 13.6	+0.1
CPCH				AML			AML	11 57 18.7	
	comp=E,6μm,0.1s								
CPCH	**Copiapo**	**0.93**	**52**	*e*P			Pn	11 57 00.5	-0.6
CPCH				*i* S			Sb	11 57 13.6	+0.1
LSCH	**La Serena**	**1.97**	**182**	*i* P			Pn	11 57 16.6	+1.1
LSCH				*i* S			Sn	11 57 41.8	+2.6
TLL	**Tololo Astrono**	**2.25**	**172**	*i* P			Pn	11 57 21.4	+2.1
TLL				*i* S			Sn	11 57 49.3	+3.2
TLL				AML			AML	11 57 57.2	
	comp=N,370nm,0.6s								
TLL	**Tololo Astrono**	**2.25**	**172**	*i* P			Pn	11 57 21.4	+2.1
TLL				*i* S			Sn	11 57 49.3	+3.2
OVCH	**Ovalle**	**2.67**	**180**	AML			AML	11 58 09.1	
	comp=N,306nm,0.3s								
CEN1	**Los Morros**	**4.61**	**11**	AML			AML	11 59 09.7	
	comp=E,42nm,0.8s								

*CSEM **03** 12:12:43.3, 67.18N×20.63E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **03** 12:12:43.3, 67.18N×20.63E, h0km, ML3.0, Mining explosion.*
HEL 03 12:12:43.8±0.0, 67.17N×20.62E, h0km, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**202**	*i* P			Pg	12 12 44.8	-0.1
DUNU	**Dundret**	**0.06**	**202**	P			Pg	12 12 44.8	-0.1
	baz=110								
MASU	**Masugnsbyn**	**0.61**	**61**	*i* P			Pg	12 12 54.7	-0.7
KUA	**Kurravaara**	**0.79**	**352**	*i* P			Pg	12 12 57.9	-1.1
KUA				*i* S			Sg	12 13 09.1	-0.2
PAJU	**Pajala**	**0.99**	**98**	*e*P			Pg	12 13 01.4	-1.4
HARU	**Harads**	**1.02**	**172**	*e*P			Pg	12 13 02.1	-1.3
HARU	**Harads**	**1.02**	**172**	P			Pg	12 13 02.1	-1.3
	baz=343								
LANU	**Lannavaara**	**1.02**	**30**	*e*P			Pg	12 13 02.1	-1.3
LANU	**Lannavaara**	**1.02**	**30**	P			Pg	12 13 02.1	-1.4
	baz=287								
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P			Pn	12 13 16.9	+0.3
KIF				*e*S			Sn	12 13 41.0	+0.4
SGF	**Sodankyl**	**2.31**	**81**	*e*PB			Pb	12 13 23.8	-2.4

SGF *e*SB Sb 12 13 53.5 -1.8

*IDC **03** 12:22:17.8±1.2,1996N×156.17W,h0km,mb4.0/9, mb1 4.2/9,mb1mx4.1/20,mbtmp4.0/9,MS3.8/3,Ms1 3.8/3, ms1mx3.2/32,Error ellipse: s-maj=50.8km s-min=19.6km az=143.0*

*ISCJB **03** 12:22:18.2±0.4,1985N±005×156.19W±004,h10km, mb4.3/22,MS4.3/7,Error ellipse: s-maj=7.8km s-min=5.0km az=54.5*

*BJI **03** 12:22:19.0,2000N×156.00W,h14km,mB5.0,mb4.6,Ms4.7, Msz4.6*

*NEIC **03** 12:22:21.0,1996N×155.98W,h14km,mb4.5/10, MD4.6(HVO),After HVO.*

NEIC Felt [IV] at Captain Cook, Hawi, Kamuela and Kapaau; [III] at Honoka'a, Kailua Kona and Waikoloa; [II] at Holualoa; felt at Hilo, Honomu, Laupahoehoe, Pa'auilo and Papaikou, Hawai'i. Also felt [III] at Haiku, Kihei, Kula and Wailuku; [II] at Makawao; felt at Hana, Ho'olehua and Lahaina, Maui. Felt at Ewa Beach, Honolulu and Kailua, O'ahu.

ISC 03 12:22:19.9±0.4,1981N±005×15616W±004,h10km,n234, σ0964/234,mb4.3/22,MS4.3/7,61C-67D,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
POHA	Pohakuloa	0.60	95	*e*Pg		Pg	12 22 30.4	-1.1
POHA				*e*Sg		Sg	12 22 39.4	+0.1
KHU	Kahuku	0.76	137	*e*Pg		Pg	12 22 34.6	0.0
HKL	Haleakala	0.90	354	*e*Pg		Pg	12 22 31.8	-5.5
HPO	Honuapo	0.92	141	*e*Pg		Pg	12 22 36.7	-0.9
STCH	Steam Cracks	1.06	113	*e*Pn		Pn	12 22 37.0	-3.8
STCH				*e*Sn		Sn	12 22 56.1	+0.5
HON	Honolulu	2.29	312	*e*Pn		Pn	12 22 51.1	-6.6
HON				*e*Sn		Sn	12 23 17.4	-8.5
KIP	Kipapa	2.36	313	*e*Pn		Pn	12 22 52.5	-6.3
P01C	Double 8 Ranch baz=34	34.34	48	⇑P		P	12 29 05.6	-1.1
HAST	UC Hastings Re baz=34	34.48	54	⇓P		P	12 29 07.3	-0.6
V04C	Ramage Ranch, baz=34	34.77	56	⇓P		P	12 29 10.0	-0.5
PACP	Pacheco Peak baz=35	34.89	53	⇓P		P	12 29 10.8	-0.7
M01C	Crescent City baz=35	34.89	44	⇓P		P	12 29 10.1	-1.4
N02C	Big Bar baz=35	34.95	46	⇑P		P	12 29 11.1	-0.9
O02C	Red Bluff baz=35	35.02	47	⇑P		P	12 29 11.7	-0.9
S04C	Ingram Canyon, baz=35	35.03	52	⇑P		P	12 29 12.2	-0.5
U04C	Hernandez Rese baz=35	35.06	54	⇑P		P	12 29 12.8	-0.1
PKD	Parkfield baz=35	35.12	55	⇑P		P	12 29 13.2	-0.2
V05C	Boulder Hill, baz=35	35.59	56	⇓P		P	12 29 17.0	-0.5
ORV	Oroville baz=35	35.67	49	⇑P		P	12 29 17.8	-0.4
K02A	Glendale baz=36	35.75	43	⇑P		P	12 29 18.6	-0.3
YBH	Yreka Blue Hor baz=36	35.77	45	⇓P		P	12 29 19.9	+0.9
LAVA	Lava Cap Winer baz=36	35.91	51	⇓P		P	12 29 19.6	-0.7
CMB	Columbia Colle baz=36	35.91	52	⇑P		P	12 29 19.2	-1.1
M03C	McCloud baz=36	35.96	46	⇓P		P	12 29 20.3	-0.4
T06C	Millerton Lake baz=36,SNR=5.4	36.09	54	⇓P		P	12 29 20.9	-0.8
OSI	Osito Adit baz=36	36.19	58	⇑P		P	12 29 22.8	+0.1
P05C	Yuba Gap, Truc baz=36	36.21	50	⇓P		P	12 29 22.1	-0.7
ARVC	Arvin baz=36	36.23	57	⇓P		P	12 29 23.3	+0.2
S06C	San Francisco baz=36	36.26	52	⇑P		P	12 29 22.3	-0.9
M04C	Macdoel baz=36	36.37	45	⇓P		P	12 29 24.4	+0.3
R05C	Kirkwood Meado baz=36	36.38	51	⇓P		P	12 29 24.2	0.0
J03A	Ideyld Park baz=36	36.38	42	⇑P		P	12 29 24.5	+0.2
CHGN	Chignik	36.48	358	*e*P		P	12 29 18.9	-6.2
KCC	Kaiser Creek baz=36	36.48	54	⇑P		P	12 29 24.7	-0.4
HELL	Mitchell Peak, baz=36	36.51	55	⇓P		P	12 29 25.2	-0.2
L04A	Klamath Falls baz=36	36.51	45	⇑P		P	12 29 25.2	-0.2
ISA	Isabella baz=36	36.65	57	⇑P		P	12 29 26.8	+0.2
M05C	Lookout baz=36	36.66	46	⇑P		P	12 29 26.7	+0.1
R06C	Coleville baz=36	36.77	52	⇓P		P	12 29 28.0	+0.4
WCN	Washoe City baz=37	36.82	50	⇓P		P	12 29 27.8	-0.2
EDW2	Edwards Air Fo baz=37	36.84	58	⇓P		P	12 29 27.5	-0.7
AFI	Afiamalu comp=Z,210nm,20.9s,MS3.9,baz=338,slow=30	36.86	206	LR		LR	12 40 45.7	
J04A	Umpqua Nationa baz=37	36.87	43	⇓P		P	12 29 28.4	0.0
R07C	Lee Vining baz=37	36.93	52	⇑P		P	12 29 29.5	+0.6
MLAC	Mammoth Lakes baz=37	36.94	53	⇑P		P	12 29 29.5	+0.4
I04A	Tendick Farm, baz=37	36.94	42	⇑P		P	12 29 29.7	+0.6
BFSC	Mount Baldy St baz=37	36.96	59	⇓P		P	12 29 28.8	-0.4
M06C	Likely Place G baz=37	37.05	47	⇓P		P	12 29 29.9	-0.1
MTUM	Tungsten Hills	37.06	54	*e*P		P	12 29 30.4	+0.4
109C	Camp Elliot, M baz=37	37.13	61	⇑P		P	12 29 30.9	+0.2
L05A	Lakeview baz=37	37.16	45	⇓P		P	12 29 30.9	0.0
CWC	Cottonwood Cre baz=37	37.17	55	⇓P		P	12 29 31.1	+0.1
MURC	Murrieta baz=37	37.19	60	⇓P		P	12 29 31.3	+0.1
LRMC	Laurel Mountai baz=37	37.22	57	⇓P		P	12 29 31.0	-0.5
N06A	Buffalo Meadow baz=37	37.31	48	⇑P		P	12 29 31.2	-1.0
F03A	Seaside baz=37	37.36	38	⇑P		P	12 29 32.8	+0.2
S08C	White Mtn Res baz=37	37.40	54	⇑P		P	12 29 33.1	+0.1
K05A	Summer Lake baz=37	37.42	44	⇑P		P	12 29 32.9	-0.2
J05A	Fort Rock baz=37	37.45	43	⇑P		P	12 29 34.3	+0.9
MOD	Modoc 3.0nm,1.1s,mb4.0	37.46	46	*e*P		P	12 29 33.9	+0.5
MOD	Modoc baz=37,SNR=5.2	37.46	46	P		P	12 29 34.1	+0.6
MPMC	Manual Prospec baz=37	37.53	56	⇓P		P	12 29 33.9	-0.1
P07A	Fallon baz=37	37.54	50	⇑P		P	12 29 34.6	+0.5
NVAR	Mina Array Bea 2.3nm,0.8s,mb4.0,baz=249,slow=9.7,SNR=15	37.59	52	P		P	12 29 34.7	+0.1
NVAR	Mina Array Bea	37.59	52	P		P	12 29 34.7	+0.1
R08A	Mina baz=38,SNR=5.4	37.71	52	P		P	12 29 35.5	-0.1
O07A	Toulon baz=38,SNR=5.5	37.77	49	P		P	12 29 36.6	+0.6
PFO	Pinyon Flat Ob baz=38	37.81	60	⇑P		P	12 29 36.7	+0.3
K06A	Valley Falls baz=38	37.88	45	⇓P		P	12 29 36.7	-0.3
GSC	Goldstone baz=38	37.88	58	⇓P		P	12 29 36.6	-0.4
N07B	Gerlach baz=38	37.93	48	⇓P		P	12 29 37.2	-0.3
Q08A	Gabbs baz=38,SNR=14	38.01	52	P		P	12 29 38.0	-0.1
M07A	Soldier Meadow baz=38	38.02	47	⇓P		P	12 29 38.5	+0.3
F04A	Amboy baz=38	38.03	39	⇓P		P	12 29 38.3	0.0
H05A	Madras baz=38	38.10	41	⇓P		P	12 29 38.9	0.0
FURC	Furnace Creek, baz=38	38.13	56	⇑P		P	12 29 39.0	0.0
J06A	Christmas Vall baz=38,SNR=5.8	38.14	44	P		P	12 29 39.8	+0.6
L07A	Adell baz=38	38.16	46	⇑P		P	12 29 39.4	0.0
S09A	Goldfield baz=38,SNR=5.3	38.19	54	P		P	12 29 39.9	+0.2
E04A	Onalaska baz=38	38.21	38	⇓P		P	12 29 39.3	-0.5
BELC	Belle Mtn. baz=38	38.25	60	⇑P		P	12 29 40.5	+0.3
G05A	Wamic baz=38	38.34	41	⇓P		P	12 29 41.1	+0.2
I06A	Prineville baz=38,SNR=6.2	38.41	43	P		P	12 29 42.7	+1.2
SHOC	Shoshone baz=38	38.44	57	⇓P		P	12 29 41.8	+0.1
R09A	Tonopah baz=38	38.45	53	⇓P		P	12 29 41.5	-0.4
K07A	Rock Creek Ran baz=38	38.50	45	⇑P		P	12 29 42.4	+0.2
N08A	GE Springer Mi baz=38	38.52	49	⇓P		P	12 29 42.6	+0.2
U10A	Ash Meadows, A baz=38	38.53	56	⇑P		P	12 29 42.9	+0.4
F05A	White Salmon baz=38	38.58	40	⇓P		P	12 29 42.5	-0.4
BC3	Big Chuckw Mtn baz=38	38.63	61	⇓P		P	12 29 43.5	+0.1
GMRC	Granite Mounta baz=38,SNR=5.8	38.68	59	P		P	12 29 43.8	0.0
C04A	Brinnon baz=38	38.69	36	⇑P		P	12 29 44.6	+0.8
H06A	Lindquist Farm baz=38,SNR=8.2	38.70	42	P		P	12 29 44.7	+0.7
J07A	Hines baz=38	38.75	44	⇑P		P	12 29 44.8	+0.5
E05A	Randle baz=38	38.75	39	⇑P		P	12 29 44.4	+0.1
G06A	Carlson Farm, baz=38	38.76	41	⇓P		P	12 29 44.7	+0.3
WVOR	Wild Horse Val 4.8nm,1.2s,mb4.1	38.80	46	*e*P		P	12 29 45.1	+0.3
L08A	Fields baz=39,SNR=8.0	38.91	47	P		P	12 29 45.9	+0.2
F06A	Goldendale baz=39	38.93	40	⇓P		P	12 29 46.5	+0.7
I07A	Izee baz=39,SNR=5.4	38.93	43	P		P	12 29 46.9	+1.0
D05A	Enumclaw baz=39	38.95	38	⇑P		P	12 29 46.6	+0.6
N09A	Rock Creek Ran baz=39	38.98	49	⇓P		P	12 29 46.4	+0.1
O09A	Fish Creek Ran baz=39	38.98	50	⇓P		P	12 29 46.5	+0.2
K08A	Mann Creek Ran baz=39,SNR=12	39.03	46	P		P	12 29 47.2	+0.6
V11A	Goodsprings baz=39	39.10	57	⇑P		P	12 29 47.9	+0.6
H07A	Lands Inn, Kim baz=39,SNR=9.6	39.12	42	P		P	12 29 48.0	+0.6
E06A	Yakima baz=39,SNR=5.8	39.20	39	P		P	12 29 49.2	+1.1
M09A	Marrel Ranch, baz=39	39.23	48	⇑P		P	12 29 48.6	+0.2
J08A	Circle Bar Ran baz=39,SNR=6.8	39.29	45	P		P	12 29 49.3	+0.4
L09A	Wilkinson Ranc baz=39	39.31	47	⇓P		P	12 29 49.2	+0.2
P10A	Eureka baz=39	39.33	51	⇑P		P	12 29 48.3	-0.8
G07A	Ruggs Ranch, H baz=39,SNR=7.9	39.37	41	P		P	12 29 50.0	+0.5
Y12C	Blythe baz=39	39.41	61	⇑P		P	12 29 50.0	+0.1
W12A	Cal Nev Ari baz=39	39.43	58	⇑P		P	12 29 49.9	0.0
I08A	Drewsey baz=39,SNR=9.6	39.46	44	P		P	12 29 51.0	+0.7
B05A	Bryant baz=39	39.48	36	⇑P		P	12 29 50.8	+0.3
K09A	Rome baz=39,SNR=6.7	39.53	46	P		P	12 29 51.4	+0.6
V12A	Nelson baz=39	39.53	58	⇓P		P	12 29 51.7	+0.9
D06A	Cle Elum baz=39	39.62	38	⇓P		P	12 29 52.3	+0.7
H08A	Prairie City baz=39,SNR=7.0	39.66	43	P		P	12 29 52.1	+0.2
Q11A	Duckwater baz=40,SNR=5.8	39.70	53	P		P	12 29 52.6	+0.4
J09A	Fry Pan Ranch, baz=40,SNR=8.0	39.77	45	P		P	12 29 53.6	+0.7
PDMCI	Parker Dam,Lak baz=40	39.82	60	⇑P		P	12 29 54.4	+1.1
G08A	Pilot Rock baz=40,SNR=14	39.83	42	P		P	12 29 53.8	+0.4
P11A	Circle Ranch, baz=40	39.83	51	⇓P		P	12 29 54.0	+0.7
E07A	Sunnyside baz=40	39.88	40	⇑P		P	12 29 53.9	+0.1
A05A	Maple Falls baz=40	39.90	35	⇓P		P	12 29 54.6	+0.7
M10A	I.L. Ranch, Tu baz=40	39.91	48	⇓P		P	12 29 53.4	-0.6
U12A	Valley of Fire baz=40	39.93	57	⇓P		P	12 29 55.5	+1.3
I09A	Lost Marbles R baz=40,SNR=7.3	40.03	44	P		P	12 29 55.4	+0.3
O11A	Cowboy Ranch, baz=40	40.08	51	⇓P		P	12 29 55.1	-0.3
D07A	Quincy baz=40	40.13	39	⇑P		P	12 29 55.9	+0.1
X13A	Yucca baz=40	40.13	60	⇓P		P	12 29 55.6	-0.2
F08A	Pendleton baz=40	40.17	41	⇑P		P	12 29 56.7	+0.5
W13A	Hualapai Mount baz=40,SNR=6.4	40.18	59	P		P	12 29 56.9	+0.6
N11A	Elko Archery C baz=40	40.24	50	⇓P		P	12 29 57.4	+0.7
E08A	Dider Farm, El baz=40,SNR=8.5	40.33	40	P		P	12 29 57.3	-0.2
C07A	Waterville baz=40	40.33	38	⇓P		P	12 29 57.5	0.0
Q12A	Willow Creek R baz=40,SNR=5.7	40.37	53	P		P	12 29 58.5	+0.7
H09A	Durkee baz=40	40.37	43	⇑P		P	12 29 58.0	+0.2
M11A	Holland Ranch, baz=40	40.41	49	⇓P		P	12 29 58.5	+0.4
P12A	McGill baz=40,SNR=5.5	40.43	52	P		P	12 29 58.7	+0.4
J10A	Berg Farm, Mel baz=40	40.46	45	⇑P		P	12 29 58.9	+0.4
F09A	S2 Ranch, Elgi baz=40,SNR=7.0	40.67	42	P		P	12 30 00.8	+0.4
D08A	Wollman Farm, baz=40,SNR=5.3	40.68	39	P		P	12 30 00.4	-0.1
Y14A	Wickenburg baz=40	40.69	61	⇓P		P	12 30 00.6	+0.1
B07A	Winthrop baz=40,SNR=6.3	40.70	37	P		P	12 30 00.9	+0.4
N12A	Clover Valley, baz=40	40.75	50	⇓P		P	12 30 00.8	-0.2
O12A	Currie baz=40	40.79	51	⇓P		P	12 30 01.7	+0.5
W14A	Seligman baz=41	40.84	59	⇑P		P	12 30 01.9	+0.1
A07A	Ashnola River, baz=41	40.86	36	⇑P		P	12 30 01.7	-0.2
X14A	Yava baz=41	40.87	60	⇑P		P	12 30 02.7	+0.7
E09A	Wood Farm, Sta baz=41,SNR=6.2	40.89	41	P		P	12 30 01.9	-0.3
C08A	Higginbotham F baz=41,SNR=6.7	40.97	38	P		P	12 30 03.0	+0.2
M12A	Wells baz=41	41.02	49	⇑P		P	12 30 02.6	-0.6
D09A	Jones Farm, Ri baz=41	41.05	40	⇓P		P	12 30 03.2	-0.3
B08A	Colville Reser baz=41,SNR=6.8	41.09	37	P		P	12 30 03.5	-0.3
ARUT	Antelope Range	41.10	55	*e*P		P	12 30 04.1	+0.2
I11A	Placerville baz=41,SNR=11	41.19	45	P		P	12 30 04.8	+0.2
F10A	Beach Ranch, E baz=41,SNR=13	41.22	42	P		P	12 30 04.8	-0.1
N13A	Wendover, West baz=41	41.36	50	⇓P		P	12 30 05.5	-0.4
X15A	Humboldt baz=41	41.41	60	⇓P		P	12 30 06.8	+0.4
C09A	Chrisman Ranch baz=41,SNR=6.9	41.43	39	P		P	12 30 06.4	-0.2
A08A	Turner Farm, O baz=41,SNR=9.6	41.43	37	P		P	12 30 06.7	+0.1
H11A	Donnelly baz=41,SNR=7.5	41.46	44	P		P	12 30 07.0	+0.2
W15A	Williams baz=41	41.50	59	⇑P		P	12 30 07.5	+0.4
E10A	Myers Farm, Un baz=41	41.52	41	⇓P		P	12 30 07.1	-0.2
M13A	Montello baz=41	41.54	49	⇑P		P	12 30 07.3	-0.1
D10A	Wagner Farm, O baz=41	41.67	40	⇓P		P	12 30 07.7	-0.9
A09A	Danville baz=42,SNR=6.9	41.83	37	P		P	12 30 09.8	-0.1
F11A	Grangeville baz=42	41.86	42	⇑P		P	12 30 09.9	-0.2
C10A	Spilker Farm, baz=42	42.01	39	⇑P		P	12 30 11.5	+0.2
E11A	Bogner Ranch, baz=42	42.02	42	⇓P		P	12 30 10.5	-0.9
HLID	Hailey 8.0nm,0.9s,mb4.3	42.10	46	*e*P		P	12 30 12.1	0.0
HLID	Hailey baz=42,SNR=15	42.10	46	P		P	12 30 12.6	+0.5
DUG	Dugway baz=42	42.18	52	⇑P		P	12 30 14.3	+1.6
MSU	Marysvale	42.24	54	*e*P		P	12 30 13.1	-0.1
D11A	Klaveano Farm, baz=42	42.24	41	⇑P		P	12 30 13.6	+0.4
WUAZ	Wupatki 10nm,0.9s,mb4.5	42.27	59	*e*P		P	12 30 13.5	0.0
WUAZ	Wupatki baz=42,SNR=7.3	42.27	59	P		P	12 30 14.3	+0.9
B10A	Chitwood Farm, baz=42	42.29	39	⇓P		P	12 30 13.7	+0.1
NEW	Newport 7.8nm,1.2s,mb4.2	42.33	39	*e*P		P	12 30 12.7	-1.2
G13A	Cobalt baz=42,SNR=8.0	42.78	44	P		P	12 30 17.5	-0.1
F13A	Darby baz=43,SNR=9.3	42.98	43	P		P	12 30 18.5	-0.7
A11A	Hall Mountain, baz=43,SNR=7.2	43.10	38	P		P	12 30 19.9	-0.3
E13A	Victor baz=43,SNR=14	43.33	42	P		P	12 30 21.3	-0.7
DAU	Daniels Canyon	43.39	52	*e*P		P	12 30 22.9	+0.4
D13A	Huson baz=43,SNR=10	43.42	41	P		P	12 30 22.2	-0.6
C13A	Hot Springs baz=43,SNR=8.7	43.60	41	P		P	12 30 24.1	-0.1
MCMT	McKenzie Canyo	43.60	45	*e*P		P	12 30 24.1	-0.1
F14A	Wisdom baz=43	43.61	44	⇑P		P	12 30 24.2	-0.1
SRU	San Rafael 11nm,0.9s,mb4.6	43.63	54	*e*P		P	12 30 24.5	0.0
E14A	Clinton baz=44,SNR=14	43.76	43	P		P	12 30 25.3	-0.3
DLMT	Dillon 13nm,1.0s,mb4.6	43.95	44	*e*P		P	12 30 26.4	-0.7
G15A	Dillon baz=44,SNR=6.5	43.96	45	P		P	12 30 27.2	+0.1
B13A	Whitefish baz=44	43.96	40	⇓P		P	12 30 27.3	+0.1
D14A	Greenough baz=44,SNR=5.9	44.02	42	P		P	12 30 27.1	-0.5
C14A	Swan Lake baz=44	44.14	41	⇑P		P	12 30 28.4	-0.2
F15A	Butte baz=44,SNR=8.8	44.19	44	P		P	12 30 29.1	+0.1
E15A	Deer Lodge baz=44,SNR=5.5	44.31	43	P		P	12 30 29.8	-0.2
REDW	Red Top Meadow 17nm,1.1s,mb4.7	44.49	48	*e*P		P	12 30 30.9	-0.4
PV10	Paradox Valley	44.62	55	*e*P		P	12 30 31.6	-0.8
D15A	Lincoln baz=44,SNR=6.3	44.62	42	P		P	12 30 32.1	-0.3
MVCO	Mesa Verde 8.9nm,1.1s,mb4.5	44.84	57	*e*P		P	12 30 33.7	-0.4
MVCO	Mesa Verde baz=45	44.84	57	⇓P		P	12 30 34.6	+0.5
PV01	Paradox Valley	44.94	56	*e*P		P	12 30 34.3	-0.6
PDAR	Pinedale Array 3.0nm,0.9s,mb4.1,baz=246,slow=5.5,SNR=18	45.23	49	P		P	12 30 36.8	-0.5
LAZ	Ladron	45.58	61	P		P	12 30 39.8	-0.2
DAWY	Dawson	45.66	10	*e*P		P	12 30 39.0	-1.6
LENM	Lemitar	45.69	61	*e*P		P	12 30 41.0	+0.1
Y22C	IRIS PASSCAL I baz=46	45.72	61	⇓P		P	12 30 42.7	+1.5
BNM	Barren Site	45.97	61	*e*P		P	12 30 43.5	+0.4
EGMT	Eagleton baz=46	46.72	42	⇑P		P	12 30 49.4	+0.3
EDM	Edmonton	46.80	34	*e*P		P	12 30 47.9	-1.8
SDCO	Great Sand Dun 6.7nm,1.3s,mb4.4	47.27	57	*e*P		P	12 30 52.7	-0.6
INK	Inuvik 4.5nm,0.9s,mb4.4,baz=203,slow=7.6,SNR=12	50.52	11	P		P	12 31 15.8	-2.5
INK	Inuvik 257nm,1.0s	50.52	11	*e*P		P	12 31 15.4	-2.9
YKA	Yellowknife Ar 1.4nm,0.9s,mb3.9,baz=231,slow=7.9,SNR=11	51.28	23	P		P	12 31 22.0	-2.0
HNR	Honiara comp=Z,85nm,19.3s,MS3.8,baz=0.7,slow=32	52.07	240	LR		LR	12 49 44.4	
ULM	Lac du Bonnet 3.7nm,1.0s,mb4.4,baz=300,slow=4.5,SNR=4.5	56.09	42	P		P	12 31 56.4	-2.8
ULM	Lac du Bonnet	56.09	42	P		P	12 31 56.4	-2.8
MDJ	Mudanjiang	65.27	311	P		P	12 33 02.3	+0.5
MDJ	comp=Z,12nm,2.1s,mb4.6			AMB		AMB		
CN2	Changchun	68.31	310	*e*P		P	12 33 21.6	+0.4
WRA	Warramunga Arr comp=Z,0.3nm,1.0s,baz=62,slow=5.5,SNR=2.6	78.70	244	P		P	12 34 22.1	-0.3
WRA	comp=Z,47nm,19.5s,MS3.8,baz=45,slow=32			LR		LR	13 04 21.5	
HHC	Hu-ho-hao-te	78.98	309	*e*P		P	12 34 22.1	-1.8
HHC				PP		PP	12 37 22.6	-0.1
HHC				S		S	12 44 19.5	-3.1
HHC				SCS		ScS	12 44 38.7	-7.3
HHC				SS		SS	12 49 25.3	-2.6
HHC	comp=Z,17nm,0.4s,mb5.3			AMB		AMB		
HHC	comp=Z,120nm,6.5s			AMB		AMB		
HHC	comp=N,201nm,17.8s,MS4.6			LR		LR		
HHC	comp=E,233nm,22.6s,MS4.6			LR		LR		
HHC	comp=Z,216nm,17.2s			LR		LR		
SONM	Songino Array comp=Z,0.3nm,0.5s,mb3.5,baz=60,slow=7.0,SNR=2.3	80.40	317	P		P	12 34 32.0	+0.4
ASAR	Alice Springs comp=Z,0.7nm,0.8s,mb3.6,baz=67,slow=5.5,SNR=7.8	80.69	241	P		P	12 34 34.0	+0.9
LZH	Lanzhou	86.26	307	*e*P		P	12 35 01.6	-0.2
LZH				AP		pP	12 35 04.5	-0.6
LZH				PP		PP	12 38 23.2	+0.7
LZH	comp=Z,43nm,7.9s			AMB		AMB		
LZH	comp=N,157nm,16.5s			LR		LR		
LZH	comp=Z,213nm,18.2s,MS4.6			LR		LR		
QIZ	Qiongzhong	87.30	289	*e*P		P	12 35 08.3	+1.4
QIZ				S		S	12 45 51.1	+4.0
QIZ	comp=Z,249nm,4.2s			AMB		AMB		
QIZ	comp=E,154nm,22.0s			LR		LR		
CD2	Chengdu	88.25	302	*e*P		P	12 35 10.0	-1.4
ZAL	Zalesovo comp=E,0.5nm,0.4s,mb4.2,baz=335,slow=1.2,SNR=2.2	89.92	329	P		P	12 35 17.8	-1.4
KMI	Kunming	91.26	297	P		P	12 35 28.7	+3.2
KMI				AP		pP	12 35 35.0	+6.2
KMI				XP		sP	12 35 37.0	+7.0
KMI				S		S	12 46 24.0	-0.2
KMI	comp=Z,5.0nm,1.1s,mb4.8			AMB		AMB		

KMI				AMB	AMB		
	comp=Z,154nm,4.6s						
KMI				LR	LR		
	comp=N,213nm,9.6s						
KMI				LR	LR		
	comp=E,225nm,15.5s						
KMI				LR	LR		
	comp=Z,157nm,11.2s,MS4.7						
WMQ	**Urumqi**	**93.89**	**319**	*e*P	**P**	**12 35 39.2**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,134nm,18.0s,MS4.5						
WMQ				LR	LR		
	comp=E,98nm,20.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,119nm,19.0s,MS4.4						
TORD	**Torodi Ar. Bea**	**140.66**	**35**	PKP	PKPdf	12 41 49.7	0.0
	comp=Z,0.7nm,0.9s,baz=325,slow=1.8,SNR=3.3						

KRSC 03 12:43:05.6±1.1, 5090N×15732E, h100km±99km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.71**	**25**	*e*P	Pn	12 43 36.7	+2.3
RUS				*i* S	Sn	12 43 59.2	+2.9
GRL	**Gorelyy**	**1.72**	**16**	*e*P	Pn	12 43 37.4	+2.8
GRL				*i* S	Sn	12 44 00.7	+4.1
PET	**Petropavlovsk**	**2.28**	**21**	*e*P	Pn	12 43 44.3	+2.5
PET				*i* S	Sn	12 44 12.5	+3.0
AVH	**Avacha**	**2.52**	**20**	*e*P	Pn	12 43 47.5	+2.5
AVH				*i* S	Sn	12 44 18.2	+2.9
NLC	**Nalytchevo**	**2.60**	**28**	*e*P	Pn	12 43 47.9	+2.0
NLC				*i* S	Sn	12 44 18.5	+1.6
SPN	**Mys Shipunski**	**2.76**	**36**	*e*P	Pn	12 43 51.4	+3.2
SPN				*i* S	Sn	12 44 24.9	+4.0
GNL	**Ganaly**	**2.83**	**8**	*e*P	Pn	12 43 50.8	+1.8
MKZ	**Mys Kozlova**	**4.54**	**34**	*e*P	Pn	12 44 13.6	+1.6
MKZ				*i* S	Sn	12 45 03.3	-0.3
KMNR	**Kamenistaya**	**5.17**	**19**	P	Pn	12 44 23.5	+2.9
KBTR	**Krutoberegovo**	**6.25**	**29**	*e*P	Pn	12 44 37.1	+1.9

*IDC **03** 12:44:25.9±0.7, 6.68S×102.60E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML3.4/1, Error ellipse: s-maj=27.6km s-min=13.4km az=47.0*
*ISCJB **03** 12:44:28.4±0.4, 6.69S±005×102.54E±005, h29km, mb4.7/49, MS4.5/4, Error ellipse: s-maj=9.2km s-min=5.5km az=83.5*
*BJI **03** 12:44:28.8, 6.60S×102.60E, h30km, mB5.1, mb4.9, Ms4.7, Msz4.4*
*NEIC **03** 12:44:30.8±0.5, 6.61S×102.62E, h30km, mb4.7/6, Error ellipse: s-maj=16.2km s-min=8.1km az=52.0*
*MOS **03** 12:44:35.3±3.0, 5.61S×10.378E, h33km, mb5.2/13, Error ellipse: s-maj=15.9km s-min=7.6km az=112.3*

ISC 03 12:44:30.7±0.4, 6.70S±005×10.253E±005, h31km, h31km±1.0km: pP-P, n105, σ1§08/91, mb4.7/49, MS4.5/4, 7C-5D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**3.03**	**1**	P	**Pn**	**12 45 14.7**	**-1.8**
	883nm,0.7s						
SBJI	**Serang**	**3.63**	**81**	P	**Pn**	**12 45 24.2**	**-0.5**
	509nm,1.1s						
CBJI	**Citeko**	**4.31**	**87**	P	**Pn**	**12 45 34.8**	**+0.7**
	2μm,0.9s						
LEM	**Lembang**	**5.06**	**92**	P	**Pn**	**12 45 45.2**	**+0.8**
	414nm,0.9s						
JCJI	**Jatiwangi**	**5.71**	**88**	P	**Pn**	**12 45 54.8**	**+1.4**
	337nm,0.8s						
PPI	**Padang Panjang**	**6.55**	**341**	P	**Pn**	**12 46 05.0**	**+0.1**
	98nm,1.1s						
BJII	**Banjamegara**	**7.16**	**95**	P	**Pn**	**12 46 13.2**	**0.0**
	164nm,1.1s						
KRKI	**Karangkates**	**9.95**	**99**	P	**Pn**	**12 46 57.2**	**+5.7**
	168nm,0.9s						
PSI	**Prapat**	**10.10**	**339**	Pn	**Pn**	**12 46 49.5**	**-4.0**
	0.3nm,0.3s,baz=141,slow=16,SNR=2.9						
PSI	**Prapat**	**10.10**	**339**	Pn	**Pn**	**12 46 49.5**	**-4.0**
KULM	**Kulim**	**12.05**	**351**	*e*Pn	**Pn**	**12 47 19.8**	**-0.5**
KULM				*e*		12 47 27.7	
TARAI	**Tarakan**	**18.02**	**57**	P	**Pn**	**12 48 39.6**	**+0.9**
	838nm,0.6s						
KKM	**Kota Kinabalu**	**18.62**	**47**	*e*P	**Pn**	**12 48 45.2**	**-0.9**
NST	**Nakhon Sawan**	**22.35**	**354**	P	**P**	**12 49 24.6**	**-1.4**
KKTK	**Khon Kaen**	**22.89**	**1**	⇓P	**P**	**12 49 32.6**	**+0.9**
	432nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.22**	**119**	*e*P	**P**	**12 49 54.3**	**+0.6**
	8.6nm,0.8s,mb4.3						
FITZ				*es*P	sP	12 50 02.7	-3.7
FITZ	**Fitzroy Crossi**	**25.22**	**119**	P	**P**	**12 49 52.0**	**-1.7**
	5.3nm,0.8s,mb4.1,baz=244,slow=9.6,SNR=8.0						
CM31	**Chiang Mai Arr**	**25.24**	**352**	*e*P	**P**	**12 49 54.4**	**+0.5**
NANT	**Nan**	**25.40**	**356**	⇑P	**P**	**12 49 54.0**	**-1.3**
	75nm,1.0s,mb5.2						
CHTO	**Chiang Mai**	**25.59**	**352**	*e*P	**P**	**12 49 57.2**	**+0.1**
CHTO				*e*	pP	12 50 05.8	-0.2
CHTO				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**25.59**	**352**	*e*P	**P**	**12 49 57.2**	**+0.1**
	comp=Z,27nm,1.0s,mb4.7						
CHTO				*e*	pP	12 50 05.8	-0.2
TLE	**Tual**	**30.05**	**90**	P	**P**	**12 50 43.8**	**+6.8**
	comp=Z,5μm,1.2s						
KMI	**Kunming**	**31.63**	**0**	P	**P**	**12 50 53.0**	**+2.1**
KMI				AP	pP	12 51 01.6	+1.8
KMI				XP	sP	12 51 04.5	+0.9
KMI				S	**S**	**12 56 02.6**	**+4.7**
KMI				XS	sS	12 56 15.1	+2.3
KMI				SS	SS	12 57 49.7	-24
KMI				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,84nm,5.3s						
KMI				LR	LR		
	comp=N,674nm,13.7s,MS4.6						
KMI				LR	LR		
	comp=E,438nm,11.8s,MS4.6						
KMI				LR	LR		
	comp=Z,731nm,14.6s,MS4.5						
GYA	**Guiyang**	**33.20**	**7**	⇓*i*P	**P**	**12 51 05.8**	**+1.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**33.56**	**116**	P	**P**	**12 51 07.5**	**-0.2**
	comp=Z,7.0nm,0.8s,mb4.7,baz=287,slow=11,SNR=55						
WRAB	**Tennant Creek**	**33.56**	**116**	*e*P	**P**	**12 51 08.1**	**+0.3**
WB2	**Warramunga Arr**	**33.57**	**116**	*e*P	**P**	**12 51 07.6**	**-0.2**
WB2				*es*P	sP	12 51 15.8	-4.8
ASAR	**Alice Springs**	**34.54**	**123**	P	**P**	**12 51 15.7**	**-0.6**
	comp=Z,3.7nm,1.1s,mb4.2,baz=300,slow=7.8,SNR=16						
ASAR				PcP	PcP	12 53 51.5	+0.9
	comp=Z,0.6nm,0.7s,baz=287,slow=2.4,SNR=4.0						
CD2	**Chengdu**	**37.41**	**2**	⇑*i*P	**P**	**12 51 40.9**	**+0.1**
CD2				AP	pP	12 51 50.6	+0.7
CD2				XP	sP	12 51 54.8	+1.1
CD2				PP	PP	12 53 09.1	+2.6
CD2				S	**S**	**12 57 26.4**	**-0.7**
CD2				XS	sS	12 57 42.5	+0.5
CD2				SS	SS	12 59 59.5	-12
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,620nm,14.4s,MS4.7						
CD2				LR	LR		
	comp=E,820nm,19.2s,MS4.7						
CD2				LR	LR		
	comp=Z,550nm,12.0s						
LSA	**Lhasa**	**37.80**	**344**	*e*P	**P**	**12 51 45.4**	**+1.2**
PKI	**Pulchoki**	**37.88**	**335**	*e*P	**P**	**12 51 49.0**	**+4.2**
GUN	**Gumba**	**37.98**	**336**	*e*P	**P**	**12 51 47.4**	**+1.8**
	comp=Z,58nm,0.8s,mb5.3						
DMN	**Daman**	**38.04**	**334**	*e*P	**P**	**12 51 51.7**	**+5.6**
	comp=Z,44nm,1.0s,mb5.2						
KKN	**Kakani**	**38.12**	**335**	*e*P	**P**	**12 51 50.9**	**+4.0**
	comp=Z,60nm,1.1s,mb5.2						
WHN	**Wuhan**	**38.72**	**16**	*e*P	**P**	**12 51 51.3**	**-0.6**
KOLN	**Koldanda**	**38.84**	**333**	*e*P	**P**	**12 51 58.0**	**+5.1**
	comp=Z,31nm,0.8s,mb5.1						
LZH	**Lanzhou**	**42.57**	**2**	*e*P	**P**	**12 52 24.9**	**+1.2**
LZH				AP	pP	12 52 33.5	+0.6
LZH				XP	sP	12 52 37.0	+0.4
LZH				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,149nm,4.0s						
STKA	**Stephens Creek**	**44.20**	**130**	*e*P	**P**	**12 52 36.7**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.1						
STKA				*e*	pP	12 52 45.7	-0.3
STKA	**Stephens Creek**	**44.20**	**130**	P	**P**	**12 52 36.5**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.2,baz=294,slow=6.5,SNR=11						
PMG	**Port Moresby**	**44.25**	**97**	P	**P**	**12 52 37.0**	**-0.3**
	comp=Z,4.8nm,0.7s,mb4.4,baz=289,slow=9.7,SNR=6.1						
PMG	**Port Moresby**	**44.25**	**97**	*i* P	**P**	**12 52 36.6**	**-0.6**
GTA	**Gaotai**	**45.94**	**357**	*e*P	**P**	**12 52 52.1**	**+1.4**
GTA				AP	pP	12 52 57.4	-2.5
GTA				XP	sP	12 53 00.3	-3.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.1						
HHC	**Hu-ho-hao-te**	**48.04**	**9**	*e*P	**P**	**12 53 09.2**	**+2.2**
HHC				AP	pP	12 53 18.2	+1.9
HHC				XP	sP	12 53 22.4	+2.4
HHC				PP	PP	12 55 00.5	+1.3
HHC				PCS	PcS	12 58 31.6	+1.3
HHC				S	**S**	**13 00 03.2**	**0.0**
HHC				SCS	ScS	13 02 56.8	-1.1
HHC				SS	SS	13 03 27.8	-4.4
HHC				AMB	AMB		
	comp=Z,22nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,136nm,4.3s						
HHC				LR	LR		
	comp=N,374nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=E,293nm,19.0s,MS4.5						
HHC				LR	LR		
	comp=Z,276nm,16.1s,MS4.3						
BJT	**Baijiatuau**	**48.16**	**14**	*e*P	**P**	**12 53 08.0**	**+0.1**
BJT				*e*	pP	12 53 16.5	-0.7
BJT				pmax	pmax		
	comp=Z,26nm,0.9s						
BJT	**Baijiatuau**	**48.16**	**14**	*e*P	**P**	**12 53 08.0**	**+0.1**
	comp=Z,26nm,0.9s,mb5.3						
BJT				*e*	pP	12 53 16.5	-0.7
BJI	**Beijing**	**48.18**	**14**	*e*P	**P**	**12 53 08.3**	**+0.2**
BJI				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=N,379nm,14.3s,MS4.5						
BJI				LR	LR		
	comp=E,172nm,14.7s,MS4.5						
BJI				LR	LR		
	comp=Z,199nm,19.1s,MS4.1						
KSRS	**Korea Array**	**49.92**	**26**	P	**P**	**12 53 21.4**	**0.0**
	comp=Z,1.1nm,0.7s,mb5.0,baz=222,slow=7.5,SNR=40						
WMQ	**Urumqi**	**52.04**	**346**	P	**P**	**12 53 38.5**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,57nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,248nm,4.0s						
CN2	**Changchun**	**54.37**	**20**	*e*P	**P**	**12 53 53.3**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
SONM	**Songino Array**	**54.40**	**3**	P	**P**	**12 53 55.6**	**+0.8**
	comp=Z,6.1nm,0.8s,mb4.6,baz=181,slow=8.1,SNR=26						
ULN	**Ulaanbaatar**	**54.47**	**4**	*e*P	**P**	**12 53 52.0**	**-3.3**
ULN	**Ulaanbaatar**	**54.47**	**4**	*e*P	**P**	**12 53 55.9**	**+0.7**
MJAR	**Matsushiro Arr**	**54.48**	**35**	P	**P**	**12 53 53.2**	**-2.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=204,slow=8.6,SNR=3.7						
TKM2	**Tokmak 2**	**55.12**	**336**	P	**P**	**12 54 06.1**	**+6.2**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**55.33**	**335**	*e*P	**P**	**12 54 00.5**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.2						
MK31	**Makanchi Array**	**56.21**	**343**	*e*P	**P**	**12 54 08.0**	**+0.2**
MK31				*e*	pP	12 54 16.7	-0.5
MKAR	**Makanchi Array**	**56.21**	**343**	P	**P**	**12 54 07.8**	**+0.1**
	comp=Z,8.0nm,0.8s,mb4.8,baz=151,slow=8.1,SNR=30						
MKAR	**Makanchi Array**	**56.21**	**343**	*i* P	**P**	**12 54 08.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ	**Mudanjiang**	**56.59**	**23**	P	**P**	**12 54 12.2**	**+1.7**
MDJ				AP	pP	12 54 21.4	+1.5
MDJ				XP	sP	12 54 25.2	+1.6
MDJ				PP	PP	12 56 18.2	+1.7
MDJ				SCP	ScP	12 59 05.2	+1.3
MDJ				PCS	PcS	12 59 09.3	+1.9
MDJ				S	**S**	**13 02 02.4**	**+2.1**
MDJ				XS	sS	13 02 18.0	+2.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,82nm,5.4s						
MDJ				LR	LR		
	comp=N,42nm,30.0s						
MDJ				LR	LR		
	comp=E,55nm,23.9s						
MDJ				LR	LR		
	comp=Z,60nm,22.4s						
ZAK	**Zakamensk**	**56.85**	**1**	*e*P	**P**	**12 54 12.5**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
HABR	**Khabarovsk**	**61.91**	**24**	*e*P	**P**	**12 54 40.7**	**-6.6**
HABR				*es*	**S**	**13 02 58.4**	**-11**
HABR				pmax	pmax		
	comp=Z,43nm,2.2s,mb5.2						
ZAL	**Zalesovo**	**62.23**	**348**	P	**P**	**12 54 49.0**	**-0.4**
	comp=Z,7.9nm,1.0s,mb4.8,baz=294,slow=4.9,SNR=50						
NVS	**Novosibirsk**	**63.40**	**348**	*e*P	**P**	**12 54 56.9**	**-0.3**
NVS				*i* S	**S**	**13 03 28.4**	**+0.6**
NVS				pmax	pmax		
	comp=N,12nm,1.4s						
NVS				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.1						
NVS				pmax	pmax		
	comp=E,11nm,1.2s						
NVS				smax			
	comp=N,17nm,2.3s						
NVS				smax			
	comp=E,2.0nm,1.3s						
YSS	**Yuzh-Sakhalins**	**64.21**	**29**	*e*P	**P**	**12 55 00.2**	**-2.3**
YSS				pmax	pmax		
	comp=Z,46nm,2.0s,mb5.2						
BOD	**Bodaibo**	**64.97**	**7**	*e*P	**P**	**12 55 04.9**	**-2.6**
BOD				*e*	pP	12 55 15.3	-1.8
BOD				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.2						
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
BVA0	**Borovoye Array**	**65.43**	**339**	*i* P	pP	12 55 17.9	-2.2
BVAR	**Borovoye Array**	**65.43**	**339**	P	**P**	**12 55 09.9**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=137,slow=7.8,SNR=2.1						
AB31	**Akbulak array**	**66.94**	**331**	P	**P**	**12 55 19.4**	**-0.8**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
AKTK	**Aktyubinsk**	**68.66**	**331**	P	**P**	**12 55 30.1**	**-0.8**
AKTO	**Aktyubinsk**	**68.66**	**331**	P	**P**	**12 55 30.1**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=57,slow=8.3,SNR=3.4						
YAK	**Yakutsk**	**71.67**	**13**	*e*P	**P**	**12 55 47.4**	**-2.0**
YAK				*e*	pP	12 55 56.8	-2.3
YAK				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.4						
YAK	**Yakutsk**	**71.67**	**13**	*e*P	**P**	**12 55 47.4**	**-2.1**
	comp=Z,37nm,0.8s,mb5.4						
YAK				*e*	pP	12 55 56.8	-2.3
SVE	**Sverdlovsk**	**71.96**	**337**	*e*P	pP	12 56 01.0	+0.2
ARU	**Arti**	**72.49**	**336**	⇓*i*P	**P**	**12 55 54.3**	**-0.1**
ARU				*e*		12 56 09.9	
ARU				*e*		12 58 35.2	
ARU				*es*	S	13 05 17.0	+0.5
ARU				*es*S	SS	13 09 58.5	+3.1
ARU				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
ARU	**Arti**	**72.49**	**336**	*e*P	**P**	**12 55 53.9**	**-0.5**
	comp=Z,13nm,1.0s,mb4.8						
MATP	**Matopo**	**72.75**	**251**	P	**P**	**12 55 56.8**	**+0.9**
	comp=Z,4.0nm,1.1s,mb4.2,baz=95,slow=3.1,SNR=4.1						
KIV	**Kislovodsk**	**73.72**	**319**	*e*P	**P**	**12 56 05.2**	**+3.6**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SYO	**Syowa Base**	**74.28**	**199**	⇑*e*P	pP	12 56 18.5	+3.9
BRTR	**Keskin Array B**	**78.33**	**313**	P	**P**	**12 56 29.4**	**+1.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=144,slow=5.0,SNR=3.9						
BRTR	**Keskin Array B**	**78.33**	**313**	*i* P	pP	12 56 37.7	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**80.09**	**8**	*e*P	**P**	**12 56 34.8**	**-2.7**
TIXI				*e*	pP	12 56 43.8	-3.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
TIXI	**Tiksi**	**80.09**	**8**	*e*P	**P**	**12 56 36.2**	**-1.3**
	comp=Z,6.3nm,0.8s,mb4.6						
TIXI				*e*	pP	12 56 44.1	-3.2
OBN	**Obninsk**	**82.08**	**328**	P	pP	12 56 56.6	-1.3
OBN				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
KLMR	**Klimovskoe**	**83.13**	**334**	P	**P**	**12 56 52.9**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.1						
TIRR	**Tirgusor**	**83.46**	**316**	⇓*i*P	pP	12 57 04.3	-0.8
AKASG	**Malin Array Be**	**84.72**	**322**	P	**P**	**12 57 02.2**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.8,baz=90,slow=4.2,SNR=2.4						
AKASG	**Malin Array Be**	**84.72**	**322**	*i* P	pP	12 57 09.8	-1.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VRI	**Vrincioaia**	**84.98**	**317**	⇑*i*P	pP	12 57 13.2	+0.4
MLR	**Muntele Rosu**	**85.42**	**317**	P	**P**	**12 57 04.6**	**-0.6**
	comp=Z,2.3nm,0.9s,mb4.3,baz=108,slow=13,SNR=3.5						
MLR	**Muntele Rosu**	**85.42**	**317**	⇓*i*P	pP	12 57 14.5	-0.5
BURAR	**Bucovina Array**	**86.43**	**319**	⇑*i*P	**P**	**12 57 15.3**	**+5.2**
DRGR		**87.91**	**317**	⇑*i*P	pP	12 57 27.2	0.0
SNAA	**Sanae**	**88.47**	**198**	*e*P	**P**	**12 57 19.5**	**-0.5**
SNAA				*e*	pP	12 57 29.7	-0.2
SNAA				*e*		12 57 33.0	
SNAA	**Sanae**	**88.47**	**198**	*e*P	pP	12 57 29.2	-0.7
FINES	**FINESS Array B**	**89.41**	**332**	P	**P**	**12 57 24.6**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.7,baz=202,slow=4.1,SNR=3.8						
KAF	**Kangasniemi**	**89.48**	**333**	*ep*	pP	12 57 32.9	-1.7
	comp=Z,13nm,0.9s						
KAF	**Kangasniemi**	**89.48**	**333**	*e*P	pP	12 57 32.9	-1.7
KAF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.3						
VNA2	**Neumayer--Watz**	**90.11**	**198**	*e*P	**P**	**12 57 28.2**	**+0.6**
VNA2				*e*	pP	12 57 37.4	-0.2
VNA2				*e*		12 57 41.7	
PKSM	**Moragy**	**90.57**	**316**	⇑*i*P	pP	12 57 39.6	-0.1
YKA	**Yellowknife Ar**	**118.05**	**19**	PKP	PKPdf	13 03 16.5	+2.1
	comp=Z,0.3nm,0.9s,baz=315,slow=1.2,SNR=3.4						
PDAR	**Pinedale Array**	**134.28**	**33**	PKP	PKPdf	13 03 47.3	+2.0
	comp=Z,0.3nm,0.8s,baz=240,slow=2.9,SNR=3.1						
LTX	**Lajitas**	**146.59**	**44**	*e*PKIKP	PKPdf	13 04 11.0	+3.5
JCT	**Junction City**	**148.39**	**39**	*e*PKPbc	PKPbc	13 04 15.0	+1.0
JCT				*ep*PKP	pPKPdf	13 04 23.6	+2.9
WVT	**Waverly**	**149.21**	**17**	*e*PKIKP	PKPdf	13 04 16.1	+4.3
WVT				*e*		13 04 24.8	
PLAL	**Pickwick Lake**	**150.21**	**18**	PKPbc	PKPbc	13 04 21.8	+3.3
PLAL				*e*PKPab	PKPab	13 04 27.0	+2.3

*STR **03** 13:06:19.0±0.1, 4278N×248E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 13:06:19.4±0.0, 4278N×248E, h2km, Md2.2/3, Ml2.1/13, Error ellipse: s-maj=0.6km s-min=0.5km az=153.0*

MDD 03 13:06:19.9±0.2, 4279N×248E, h0km, mbLg1.4/15, 1D, Error ellipse: s-maj=2.1km s-min=1.9km az=96.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRDF	**Laroque-de-Fa**	**0.15**	**15**	Pg	Pg	13 06 22.7	-0.2
LRDF				Sg	Sg	13 06 25.3	+0.4
LRDF	**Laroque-de-Fa**	**0.15**	**15**	P	Pg	13 06 22.5	-0.4
LRDF				S	Sg	13 06 25.3	+0.4
FILF	**Fillols**	**0.23**	**166**	Pg	Pg	13 06 23.8	-0.6
FILF				Sg	Sg	13 06 27.1	-0.4
FILF	**Fillols**	**0.23**	**166**	P	Pg	13 06 23.9	-0.6
FILF				S	Sg	13 06 27.0	-0.4
CARF	**Carcanieres**	**0.29**	**256**	Pg	Pg	13 06 24.8	-0.6
CARF				Sg	Sg	13 06 29.1	-0.1
CARF	**Carcanieres**	**0.29**	**256**	P	Pg	13 06 24.8	-0.6
CARF				S	Sg	13 06 29.0	-0.2
SJAF	**Saint Jean de**	**0.42**	**136**	Pg	Pg	13 06 27.6	-0.4
SJAF				Sg	Sg	13 06 33.1	-0.4
SJAF	**Saint Jean de**	**0.42**	**136**	P	Pg	13 06 27.6	-0.4
SJAF				S	Sg	13 06 33.3	-0.2
EJON	**La Jonquera**	**0.45**	**138**	⇓Pg	Pg	13 06 28.2	-0.4
	0.7nm,0.1s,SNR=18						
EJON				Lg		13 06 34.5	
	12nm,0.2s,SNR=6.1						
CLLI	**Llivia**	**0.49**	**231**	P	Pg	13 06 28.6	-0.7
CLLI				S	Sg	13 06 35.0	-0.6
	3.1nm,0.3s						
VALF	**Valcebollere**	**0.52**	**222**	Pg	Pg	13 06 29.3	-0.5
VALF				Sg	Sg	13 06 36.0	-0.5
VALF	**Valcebollere**	**0.52**	**222**	P	Pg	13 06 29.2	-0.7
VALF				S	Sg	13 06 36.1	-0.4
MTLF	**Montolieu**	**0.59**	**341**	*e*Pg	Pg	13 06 30.6	-0.6
MTLF	**Montolieu**	**0.59**	**341**	*e*Pn	Pg	13 06 33.3	+2.1
MTLF				*e*Sg	Sg	13 06 38.4	-0.4
	5.6nm,0.3s						
MTLF	**Montolieu**	**0.59**	**341**	Pg	Pg	13 06 30.6	-0.6
MTLF				Lg		13 06 38.4	
	2.8nm,0.3s						
CORG	**Organya**	**1.03**	**238**	P	Pg	13 06 39.8	+0.2
CORG				S	Sg	13 06 54.0	+1.1
	0.9nm,0.2s						
CSOR	**Sort**	**1.08**	**248**	P	Pg	13 06 39.4	-1.2
CSOR				S	Sg	13 06 54.5	-0.1
	1.8nm,0.5s						
EMIR	**Miracle**	**1.12**	**219**	Pg	Pg	13 06 41.5	0.0
	1.9nm,0.1s,SNR=7.7						
EMIR				Lg		13 06 57.0	
	7.4nm,0.1s,SNR=8.6						
CAVN	**Les Avellanes**	**1.57**	**235**	P	Pn	13 06 49.4	+0.3
CAVN				S	Sn	13 07 10.2	+0.1
	7.2nm,0.4s						
EPF	**Esparros**	**1.59**	**279**	*e*Pg	Pg	13 06 48.7	-1.8
EPF				*e*Sg	Sg	13 07 09.7	-1.4
	3.6nm,0.3s						
EPF	**Esparros**	**1.59**	**279**	Pg	Pg	13 06 48.7	-1

VIVF				Lg		13 07 41.4	
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.61**	**345**	*e*Pg	Pg	13 07 08.1	-1.9
RJF				*e*Sg	Sg	13 07 41.7	-2.1
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.61**	**345**	Pg	Pg	13 07 08.1	-1.9
RJF				Lg		13 07 41.7	
	0.6nm,0.2s						
SJPF	**Ste Jean**	**2.74**	**278**	*e*Pg	Pg	13 07 10.3	-2.2
SJPF				*e*Sg	Sg	13 07 45.5	-2.6
	0.8nm,0.2s						
SJPF	**Ste Jean**	**2.74**	**278**	Pg	Pg	13 07 10.3	-2.2
SJPF				Lg		13 07 45.5	
	0.4nm,0.2s						
LMR	**La Mourre**	**3.00**	**78**	*e*Pg	Pg	13 07 15.2	-2.2
LMR				*e*Sg	Sg	13 07 53.7	-2.6
	0.6nm,0.2s						
LMR	**La Mourre**	**3.00**	**78**	Pg	Pg	13 07 15.2	-2.2
LMR				Lg		13 07 53.7	
	0.3nm,0.2s						
FRF	**La Foret Royal**	**3.14**	**74**	*e*Pg	Pg	13 07 17.6	-2.6
FRF				*e*Sg	Sg	13 07 58.0	-2.9
	1.7nm,0.4s						
FRF	**La Foret Royal**	**3.14**	**74**	Pg	Pg	13 07 17.6	-2.6
FRF				Lg		13 07 58.0	
	0.9nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.25**	**48**	*e*Pg	Pg	13 07 19.8	-2.5
ORIF				*e*Sg	Sg	13 08 02.0	-2.4
	5.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.25**	**48**	Pg	Pg	13 07 19.8	-2.5
ORIF				Lg		13 08 02.0	
	2.5nm,0.5s						
SBF	**Sospel**	**3.77**	**72**	*e*Pg	Pg	13 07 29.4	-2.8
SBF				*e*Sg	Sg	13 08 17.8	-3.2
	2.0nm,0.3s						
SBF	**Sospel**	**3.77**	**72**	Pg	Pg	13 07 29.4	-2.8
SBF				Lg		13 08 17.8	
	1.0nm,0.3s						

IDC ***03*** *13:25:06.9±4.3, 4607N×15457E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=119.5km s-min=26.2km az=176.0*
MOS ***03*** *13:25:06.9±0.3, 4554N×15464E, h35km, mb4.1/4, Error ellipse: s-maj=58.9km s-min=25.9km az=87.3*
ISCJB ***03*** *13:25:08.4±1.8, 457N±03×1546E±02, h35km, mb3.7/6, Error ellipse: s-maj=37.3km s-min=21.3km az=143.0*

ISC 03 13:25:09.8±1.8, 457N±03×1546E±02, h35km, n11, σ0§80/11, mb3.7/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.12**	**11**	*e*P	**Pn**	**13 26 24.6**	**+0.6**
INK	**Inuvik**	**42.02**	**32**	P	**P**	**13 32 56.6**	**-1.2**
	1.3nm,1.1s,mb3.5,baz=275,slow=5.5,SNR=5.7						
INK	**Inuvik**	**42.02**	**32**	P	**P**	**13 32 56.6**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ZAL	**Zalesovo**	**44.10**	**307**	P	**P**	**13 33 13.9**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.6,baz=125,slow=13,SNR=2.2						
ZAL	**Zalesovo**	**44.10**	**307**	P	**P**	**13 33 13.9**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.36**	**299**	P	**P**	**13 33 48.8**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.4,baz=72,slow=8.1,SNR=3.1						
YKA	**Yellowknife Ar**	**51.18**	**37**	P	**P**	**13 34 08.9**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.5,baz=296,slow=7.0,SNR=3.8						
YKA	**Yellowknife Ar**	**51.18**	**37**	P	**P**	**13 34 08.9**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**64.55**	**54**	P	**P**	**13 35 44.5**	**+1.2**
	comp=Z,0.5nm,1.0s,mb3.5,baz=336,slow=2.0,SNR=3.4						
FINES	**FINESS Array B**	**65.45**	**336**	P	**P**	**13 35 49.0**	**-0.2**
	comp=Z,5.2nm,1.1s,mb4.5,baz=26,slow=6.8,SNR=3.5						
FINES	**FINESS Array B**	**65.45**	**336**	P	**P**	**13 35 49.0**	**-0.2**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						

STR ***03*** *13:34:37.3±0.3, 4758N×759E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 03 13:34:37.8±0.1, 4759N×754E, h2km, Md1.9/3, Ml1.8/5, Error ellipse: s-maj=2.4km s-min=1.4km az=103.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.38**	**314**	Pg	Pg	13 34 45.5	+0.4
MOF				Sg	Sg	13 34 51.0	+0.9
HINF	**Hinteralfeld**	**0.52**	**296**	*e*Pg	Pg	13 34 47.6	-0.1
HINF				*e*Sg	Sg	13 34 54.8	+0.3
	4.2nm,0.2s						
ECH	**Echery**	**0.68**	**338**	Pg	Pg	13 34 51.1	+0.3
ECH				Sg	Sg	13 35 00.0	+0.4
CDF	**Champ du Feu**	**0.84**	**348**	*e*Pg	Pg	13 34 53.9	-0.1
CDF				*e*Sg	Sg	13 35 04.7	-0.2
	3.8nm,0.4s						
HAU	**Haudompre**	**0.91**	**298**	*e*Pg	Pg	13 34 54.7	-0.5
HAU				*e*Sg	Sg	13 35 06.8	-0.1
	3.6nm,0.2s						
CABF	**La Chapelle**	**1.39**	**226**	*e*Pg	Pg	13 35 03.9	-0.6
CABF				*e*Sg	Sg	13 35 22.0	-0.6
	1.2nm,0.3s						
SFTF	**Sexfontaines**	**1.79**	**291**	*e*Pg	Pg	13 35 11.4	-0.8
SFTF				*e*Sg	Sg	13 35 34.4	-1.0
	0.9nm,0.2s						
LOR	**Lormes**	**2.52**	**264**	*e*Pg	Pg	13 35 24.8	-1.3
LOR				*e*Sg	Sg	13 35 56.8	-2.0
	0.9nm,0.2s						

SKHL 03 13:35:39.2±0.1, 5300N×14290E, h10km, mb3.9/4, 1C-1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.55**	**2**	⇓*i*Pg	Pg	13 35 52.0	+2.1
OKH				AMB	AMB	13 35 52.1	
	2μm,0.5s						
OKH				⇑*i*Sg	Sg	13 36 01.0	+3.8
OKH				A		13 36 02.9	
	900nm,0.5s						
OKH				A		13 36 02.9	
	5μm,0.5s						
NKL	**Nikolayevsk**	**1.35**	**277**	*e*Pg	Pg	13 36 06.2	+1.1
NKL				AMB	AMB	13 36 07.4	
	30nm,0.4s						
NKL				*e*Sg	Sg	13 36 25.0	+2.4
NKL				A		13 36 31.8	
	270nm,0.4s						
NKL				A		13 36 31.8	
	480nm,0.4s						
TYV	**Tymovskoe**	**2.15**	**184**	*e*Pg	Pg	13 36 21.2	+0.9
TYV				AMB	AMB	13 36 22.0	
	6.0nm,0.7s						
TYV				AMB	AMB	13 36 22.0	
	11nm,0.7s						
TYV				*e*Sg	Sg	13 36 52.1	+3.9
GRNR	**Gornyy**	**4.59**	**243**	*e*Pg	Pg	13 37 08.7	+1.5
GRNR				*e*Sg	Sg	13 38 11.5	+4.8
EKMR	**Ekimchan**	**6.00**	**275**	*e*Pg	Pg	13 37 36.5	+2.3
EKMR				AMB	AMB	13 37 36.8	
	3.0nm,0.5s						
EKMR				*e*Sg	Sg	13 39 01.0	+9.0
EKMR				A		13 39 02.5	
	11nm,0.7s						
EKMR				A		13 39 02.5	
	9.0nm,0.7s						

NEIC ***03*** *13:39:55.6±1.8, 1583N×9863W, h10km, mb4.1/4, MD4.4(MEX), Error ellipse: s-maj=26.0km s-min=10.4km az=192.0*
ISCJB ***03*** *13:39:57.9±0.9, 1605N±005×9864W±003, h33km±6km, mb4.1/4, Error ellipse: s-maj=9.2km s-min=4.3km az=30.2*
MEX ***03*** *13:39:59.4±0.8, 1603N×9868W, h16km±11km, MD4.5*

ISC 03 13:39:58.2±0.9, 1609N±004×9865W±002, h18km±4km, n37, σ1§28/65, mb4.1/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**59**	*i*P	**Pg**	**13 40 09.5**	**-0.2**
PNIG				*i*S	**Sg**	**13 40 18.0**	**+0.4**
PNIG	**Pinotepa**	**0.58**	**59**	*i*P	**Pg**	**13 40 09.5**	**-0.2**
PNIG				*i*S	**Sg**	**13 40 19.6**	**+2.0**
ACX	**Acapulco**	**1.44**	**302**	*i*S	**Sn**	**13 40 37.9**	**-3.8**
CAIG	**El Cayaco**	**1.82**	**302**	*i*P	**Pn**	**13 40 27.1**	**-1.5**
CAIG				*i*S	**Sn**	**13 40 50.2**	**-1.0**
CAIG	**El Cayaco**	**1.82**	**302**	*i*P	**Pn**	**13 40 26.8**	**-1.8**
CAIG				*i*S	**Sn**	**13 40 56.1**	**+5.0**
UTMO	**Huajuapan**	**1.91**	**25**	*e*P	**Pn**	**13 40 29.6**	**-0.1**
UTMO				*i*S	**Sn**	**13 40 52.6**	**-0.6**
MEIG	**Mezcala**	**2.05**	**333**	*e*P	**Pn**	**13 40 31.6**	**-0.1**
MEIG				*i*S	**Sn**	**13 40 54.8**	**-1.9**
VHO	**Vista Hermosa**	**2.08**	**62**	*i*P	**Pn**	**13 40 31.9**	**-0.1**
VHO				*i*S	**Sn**	**13 40 56.6**	**-0.9**
VHO	**Vista Hermosa**	**2.08**	**62**	*i*P	**Pn**	**13 40 31.9**	**-0.1**
VHO				*i*S	**Sg**	**13 41 06.2**	**+1.1**
OXX	**Oaxaca**	**2.09**	**62**	*i*P	**Pn**	**13 40 31.9**	**-0.4**
OXX				*i*S	**Sn**	**13 40 56.2**	**-1.5**
OXX	**Oaxaca**	**2.09**	**62**	*i*P	**Pn**	**13 40 31.8**	**-0.4**
PLIG	**Platanillo**	**2.43**	**340**	*e*P	**Pn**	**13 40 37.0**	**+0.1**
PLIG				*i*S	**Sn**	**13 41 03.3**	**-2.8**
PLIG	**Platanillo**	**2.43**	**340**	*e*P	**Pn**	**13 40 37.6**	**+0.7**
PLIG				*i*S	**Sg**	**13 41 14.0**	**-2.3**
HUIG	**Huatulco**	**2.46**	**97**	*i*P	**Pn**	**13 40 36.5**	**-0.9**
HUIG				*i*S	**Sn**	**13 41 06.2**	**-0.8**
HUIG	**Huatulco**	**2.46**	**97**	*i*P	**Pn**	**13 40 36.2**	**-1.2**
HUIG				*i*S	**Sn**	**13 41 02.6**	**-4.4**
YAIG	**Yautepec**	**2.78**	**352**	*e*P	**Pn**	**13 40 43.3**	**+1.5**
YAIG				*i*S	**Sn**	**13 41 15.3**	**+0.4**
YAIG	**Yautepec**	**2.78**	**352**	*e*P	**Pn**	**13 40 46.2**	**+4.5**
YAIG				*i*S	**Sg**	**13 41 23.6**	**-4.0**
PPM	**Popocatepetl**	**2.96**	**0**	*e*P	**Pn**	**13 40 44.1**	**-0.1**
PPM				*i*S	**Sn**	**13 41 19.1**	**-0.1**
ZIIG	**Zihuatanejo**	**3.09**	**300**	*e*P	**Pn**	**13 40 43.2**	**-2.8**
ZIIG				*i*S	**Sn**	**13 41 21.0**	**-1.4**
ZIIG	**Zihuatanejo**	**3.09**	**300**	*e*P	**Pg**	**13 41 01.5**	**+4.1**
ZIIG				*i*S	**Sg**	**13 41 36.5**	**-1.0**
UNM	**Universidad Na**	**3.26**	**351**	*e*P	**Pn**	**13 40 48.0**	**-0.3**
UNM				*i*S	**Sn**	**13 41 27.6**	**+1.0**
UNM	**Universidad Na**	**3.26**	**351**	*e*P	**Pb**	**13 40 56.9**	**+1.5**
UNM				*i*S	**Sg**	**13 41 42.0**	**-0.9**
SZVM	**Salazar**	**3.29**	**348**	*e*P	**Pn**	**13 40 48.8**	**+0.1**
SZVM				*i*S	**Sn**	**13 41 28.4**	**+1.1**
IIO	**Organos**	**3.48**	**359**	*i*P	**Pb**	**13 40 59.5**	**+0.3**
IIO				*i*S	**Sg**	**13 41 43.5**	**-6.4**
CMIG	**Matias Romero**	**3.74**	**74**	*i*P	**Pn**	**13 40 53.7**	**-1.3**
CMIG				*i*S	**Sn**	**13 41 38.6**	**+0.1**
CMIG	**Matias Romero**	**3.74**	**74**	*i*P	**Pn**	**13 40 53.7**	**-1.3**
CMIG				*i*S	**Sn**	**13 41 38.1**	**-0.4**
MOIG	**Morelia**	**4.31**	**326**	*e*P	**Pn**	**13 41 03.8**	**+1.1**
MOIG				*i*S	**Sn**	**13 41 53.9**	**+1.4**
MOIG	**Morelia**	**4.31**	**326**	*i*P	**Pb**	**13 41 13.5**	**+0.2**
MOIG				*i*S	**Sg**	**13 42 11.0**	**-5.5**
MMIG	**Aquila**	**4.99**	**297**	*e*P	**Pn**	**13 41 12.5**	**+0.3**
MMIG				*i*S	**Sn**	**13 42 05.7**	**-3.7**
CCIG	**Comitan**	**6.26**	**87**	*i*S	**Sn**	**13 42 39.4**	**-1.2**
ANIG	**Ahuacatlan**	**7.44**	**312**	*i*P	**Pn**	**13 41 46.4**	**+0.6**
ANIG				*i*S	**Sn**	**13 43 12.7**	**+3.0**
PLAL	**Pickwick Lake**	**21.06**	**25**	*e*P	**P**	**13 44 41.4**	**+0.2**
	8.7nm,0.9s,mb4.1						
WVT	**Waverly**	**22.16**	**24**	*e*P	**P**	**13 44 55.0**	**+2.1**
	13nm,0.9s,mb4.3						
MVCO	**Mesa Verde**	**22.77**	**339**	*e*P	**P**	**13 45 01.6**	**+2.1**
	5.7nm,0.8s,mb4.0						
PV01	**Paradox Valley**	**23.63**	**340**	*e*P	**P**	**13 45 10.7**	**+2.4**
PV10	**Paradox Valley**	**24.01**	**340**	*e*P	**P**	**13 45 13.8**	**+2.0**
ISCO	**Idaho Springs**	**24.39**	**347**	*e*P	**P**	**13 45 18.3**	**+3.1**
	5.6nm,1.1s,mb3.9						

NIED ***03*** *13:54:00, 4240N×14470E, h29km, Mw4.3 Best double couple: M=2.88000×10^15 NP1:φ=21.00000°, δ76.00000°, λ66.00000°. NP2:φ=262.00000°, δ28.00000°, λ148.00000°.*
JMA ***03*** *13:54:54.9, 4239N×14469E, h39km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ=244.00000°, δ18.00000°, λ148.00000°. NP2:φ=5.00000°, δ81.00000°, λ75.00000°. Principal axes: T Plg52.0000°, Azm258.0000°; N Plg15.0000°, Azm8.0000°; P Plg34.0000°, Azm108.0000°;*
JMA Felt I J1.
ISCJB ***03*** *13:54:54.3±0.7, 4237N±004×14474E±006, h46km±5km, mb4.1/22, MS3.7/4 Error ellipse: s-maj=8.9km s-min=4.4km az=89.1*
MOS ***03*** *13:54:54.8±1.0, 4231N×14456E, h50km, mb4.4/13, Error ellipse: s-maj=12.2km s-min=8.7km az=94.7*
BJI ***03*** *13:54:54.8, 4240N×14463E, h48km, mB5.2, mb4.6, Ms4.1, Msz3.9*
NEIC ***03*** *13:54:56.2±0.9, 4235N×14461E, h45km±8km, mb4.4/4, Error ellipse: s-maj=9.5km s-min=6.9km az=101.0*
NEIC Recorded [1 JMA] in the Kushiro area.
IDC ***03*** *13:54:56.4±2.5, 4237N×14461E, h45km±24km, mb3.7/13, mb1 3.9/16, mb1mx3.8/24, mbtmp3.7/16, ML3.9/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/33, Error ellipse: s-maj=19.8km s-min=16.2km az=98.0*

ISC 03 13:54:55.3±0.6, 4239N±004×14471E±006, h38km±5km, n61, σ0§78/73, mb4.1/22, MS3.7/4, 2C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.60**	**359**	⇑P	**Pn**	**13 55 07.0**	**-0.4**
JAK				*e*S	**Sn**	**13 55 15.8**	**-0.2**
JOB	**Onbets**	**0.82**	**309**	⇓P	**Pn**	**13 55 10.1**	**-0.3**
JOB				*e*S	**Sn**	**13 55 20.6**	**-0.8**
JCH	**Churui**	**1.02**	**283**	⇓P	**Pn**	**13 55 13.0**	**-0.1**
JCH				*e*S	**Sn**	**13 55 26.7**	**+0.5**
JAR	**Ashorobuto**	**1.14**	**323**	⇓P	**Pn**	**13 55 14.3**	**-0.4**
JNK	**Nakash**	**1.19**	**0**	⇓P	**Pn**	**13 55 15.0**	**-0.5**
JNK				*e*S	**Sn**	**13 55 29.4**	**-1.1**
ERM	**Erimo**	**1.21**	**252**	*e*PN	**Pn**	**13 55 15.7**	**-0.1**
JEM	**Erimo**	**1.21**	**253**	P	**Pn**	**13 55 16.5**	**+0.7**
JEM				*e*S	**Sn**	**13 55 32.7**	**+1.7**
NEM2	**Nemuro 2**	**1.23**	**38**	P	**Pn**	**13 55 16.2**	**+0.2**
NEM2				*e*S	**Sn**	**13 55 31.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.46**	**266**	P	**Pn**	**13 55 18.8**	**-0.3**
JRA	**Rausu**	**1.57**	**11**	P	**Pn**	**13 55 21.0**	**+0.3**
JRA				*e*S	**Sn**	**13 55 40.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.84**	**27**	PN	**Pn**	**13 55 25.0**	**+0.6**
YUK				*e*S	**Sn**	**13 55 46.8**	**+0.3**
YUK				pmax	pmax		
	comp=Z,400nm,0.4s						
YUK				smax			
	comp=Z,2μm,0.6s						
YUK				smax			
	comp=N,700nm,0.4s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
ASAJ	**Asahikawa**	**2.31**	**319**	P	**Pn**	**13 55 31.8**	**+0.8**
	comp=E,53nm,0.3s,baz=183,slow=14,SNR=226						
ASAJ				S	**Sn**	**13 56 01.4**	**+3.3**
	comp=E,25nm,0.3s,baz=178,slow=18,SNR=6.3						
ASAJ				LR	LR	13 56 45.6	
	comp=E,821nm,21.7s,baz=158,slow=48						
ASAJ	**Asahikawa**	**2.31**	**319**	PN	**Pn**	**13 55 31.8**	**+0.9**
ASAJ				S	**Sn**	**13 56 01.4**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,53nm,0.3s						
ASAJ				smax			
	comp=N,25nm,0.3s						
KUR	**Kuril'sk**	**3.65**	**38**	*e*PN	**Pn**	**13 55 55.0**	**+5.8**
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.77**	**344**	*e*PN	**Pn**	**13 56 06.0**	**+1.3**
MAJO	**Matsushiro**	**7.71**	**223**	*e*PN	**Pn**	**13 56 44.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,17nm,0.4s						
MAJO	**Matsushiro**	**7.71**	**223**	*e*P	**Pn**	**13 56 44.3**	**-0.7**
	comp=Z,17nm,0.4s						
MAT	**Matsushiro**	**7.71**	**223**	P	**Pn**	**13 56 43.7**	**-1.3**
MAT				*e*S	**Sn**	**13 58 15.8**	**+4.8**
MJAR	**Matsushiro Arr**	**7.71**	**223**	P	**Pn**	**13 56 44.5**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=30,slow=13,SNR=22						
MJAR				LR	LR	14 00 17.8	
	comp=Z,276nm,21.4s,baz=350,slow=42						
JHJ	**Hachijo jima 2**	**10.04**	**204**	S	**Sn**	**13 58 57.2**	**-11**
	comp=Z,9.5nm,0.3s,baz=54,slow=23,SNR=5.5						
KSRS	**Korea Array**	**13.79**	**255**	P	**Pn**	**13 58 07.1**	**-1.1**
	baz=56,slow=13,SNR=5.5						
KSRS				LR	LR	14 03 04.7	
	comp=Z,264nm,18.3s,baz=0.2,slow=36						
HIA	**Hailar**	**18.66**	**300**	*e*P	**Pn**	**13 59 09.5**	**-1.0**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**18.66**	**300**	*e*P	**Pn**	**13 59 09.5**	**-1.0**
	comp=Z,6.4nm,0.6s						
BJI	**Beijing**	**21.55**	**273**	*e*P	**P**	**13 59 41.8**	**+0.4**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.0						
BJI				LR	LR		
	comp=N,142nm,13.3s,MS3.8						
BJI				LR	LR		
	comp=E,217nm,12.7s,MS3.8						
YAK	**Yakutsk**	**21.61**	**341**	*e*P	**P**	**13 59 37.8**	**-4.2**
YAK				*e*S	**S**	**14 03 25.8**	**-13**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
YAK				smax			
	comp=N,242nm,3.2s						
YAK				smax			
	comp=E,223nm,3.8s						
CIT	**Chita**	**23.10**	**305**	*e*P	**P**	**13 59 57.8**	**0.0**
CIT				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**26.94**	**295**	*e*P	**P**	**14 00 33.9**	**+0.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**26.94**	**295**	*e*P	**P**	**14 00 33.9**	**+0.9**
	comp=Z,4.4nm,0.8s,mb4.0						
SONM	**Songino Array**	**27.38**	**295**	P	**P**	**14 00 37.0**	**0.0**
	comp=Z,4.3nm,0.9s,mb4.0,baz=79,slow=7.7,SNR=13						
SONM				LR	LR	14 12 36.7	
	comp=Z,109nm,19.7s,MS3.4,baz=146,slow=39						
SONM	**Songino Array**	**27.38**	**295**	P	**P**	**14 00 37.0**	**0.0**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,109nm,19.7s						
ZAK	**Zakamensk**	**29.36**	**300**	*e*P	**P**	**14 00 54.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
LZH	**Lanzhou**	**32.04**	**272**	⇑P	**P**	**14 01 19.3**	**+1.0**
LZH				AP	pP	14 01 30.1	+1.2
LZH				XP	sP	14 01 34.2	+0.8
GTA	**Gaotai**	**33.77**	**280**	*e*P	**P**	**14 01 36.0**	**+2.6**
GTA				AP	pP	14 01 42.6	-1.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
KMI	**Kunming**	**38.47**	**257**	P	**P**	**14 02 13.8**	**+0.2**
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**40.42**	**308**	P	**P**	**14 02 30.1**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.2,baz=23,slow=9.5,SNR=26						
ZAL	**Zalesovo**	**40.42**	**308**	P	**P**	**14 02 30.1**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	**Makanchi Array**	**43.64**	**298**	*e*P	**P**	**14 02 55.5**	**-0.6**
MKAR	**Makanchi Array**	**43.64**	**298**	P	**P**	**14 02 55.8**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.0,baz=78,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**43.64**	**298**	P	**P**	**14 02 55.8**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**48.47**	**29**	P	**P**	**14 03 34.6**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=276,slow=5.6,SNR=13						
INK	**Inuvik**	**48.47**	**29**	P	**P**	**14 03 34.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**48.47**	**29**	*e*P	**P**	**14 03 34.6**	**+0.5**
BRVK	**Borovoye**	**49.04**	**310**	*e*P	**P**	**14 03 37.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**49.04**	**310**	*e*P	**P**	**14 03 37.5**	**-0.9**
	comp=Z,8.1nm,1.0s,mb4.7						
ARU	**Arti**	**54.12**	**317**	*e*P	**P**	**14 04 15.3**	**-1.1**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ARU	**Arti**	**54.12**	**317**	*e*P	**P**	**14 04 15.3**	**-1.1**
	comp=Z,10nm,0.9s,mb4.8						
YKA	**Yellowknife Ar**	**57.92**	**33**	P	**P**	**14 04 44.0**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=305,slow=7.0,SNR=6.9						
YKA				LR	LR	14 33 04.8	
	comp=Z,47nm,19.9s,MS3.6,baz=200,slow=40						
YKA	**Yellowknife Ar**	**57.92**	**33**	P	**P**	**14 04 44.0**	**+0.5**
YKA				LR	LR	14 33 04.8	
ARCES	**ARCESS Array B**	**59.89**	**339**	P	**P**	**14 04 56.4**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.3,baz=30,slow=7.5,SNR=2.6						
ARCES	**ARCESS Array B**	**59.89**	**339**	P	**P**	**14 04 56.4**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**62.75**	**191**	P	**P**	**14 05 17.2**	**+0.5**
	comp=Z,0.5nm,0.9s,mb3.6,baz=10,slow=7.1,SNR=3.5						
FINES	**FINESS Array B**	**65.26**	**332**	P	**P**	**14 05 32.2**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.4,baz=44,slow=7.1,SNR=14						
FINES	**FINESS Array B**	**65.26**	**332**	P	**P**	**14 05 32.2**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**66.48**	**191**	P	**P**	**14 05 40.6**	**-0.3**
	comp=Z,0.5nm,1.0s,mb3.5,baz=5.7,slow=3.7,SNR=3.4						
ASAR	**Alice Springs**	**66.48**	**191**	P	**P**	**14 05 40.6**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NVAR	**Mina Array Bea**	**69.82**	**56**	P	**P**	**14 06 02.2**	**+0.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=304,slow=6.4,SNR=2.9						
NB2	**NORSAR Subarra**	**70.21**	**338**	P	**P**	**14 06 03.5**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**70.21**	**338**	P	**P**	**14 06 03.6**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=36,slow=6.1,SNR=5.2						
NOA				LR	LR	14 46 35.2	
	comp=Z,64nm,18.7s,MS3.9,baz=255,slow=44						
AKASG	**Malin Array Be**	**71.60**	**323**	P	**P**	**14 06 12.2**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=44,slow=6.2,SNR=3.9						
AKASG	**Malin Array Be**	**71.60**	**323**	P	**P**	**14 06 12.3**

az=65.0
ISCJB ***03*** *14:16:04.5±2.4, 1176N×008×1262E×01, h26km±15km, mb3.5/4, Error ellipse: s-maj=20.0km s-min=10.0km az=114.1*
MAN ***03*** *14:16:09.0, 1163N×12582E, h23km, mb3.1, ML4.4, MS1.9*
ISC 03 14:16:05.8±2.3, 1173N±008×1261E±01, h17km±11km, n16, σ0§78/18, mb3.5/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.62**	**258**	*eP*	**Pg**	**14 16 17.3**	**-0.8**
BESP	**Borongan**	**0.62**	**258**	*eP*	**Pg**	**14 16 17.3**	**-0.8**
CNP	**Catarman**	**1.57**	**300**	*eP*	**Pn**	**14 16 33.4**	**+0.6**
CNP				*eS*	**Sn**	**14 16 52.1**	**-0.5**
CNP	**Catarman**	**1.57**	**300**	*eP*	**Pn**	**14 16 33.4**	**+0.6**
CNP				*eS*	**Sn**	**14 16 52.1**	**-0.5**
OCLP	**Ormoc**	**1.58**	**245**	*eP*	**Pn**	**14 16 33.4**	**+0.5**
OCLP	**Ormoc**	**1.58**	**245**	*eP*	**Pn**	**14 16 33.4**	**+0.5**
MSLP	**Maasin**	**1.98**	**217**	*eP*	**Pn**	**14 16 40.0**	**+1.5**
MSLP	**Maasin**	**1.98**	**217**	*eP*	**Pn**	**14 16 40.0**	**+1.5**
SCPH	**Surigao**	**2.02**	**196**	*eP*	**Pn**	**14 16 39.4**	**+0.5**
SCPH				*eS*	**Sn**	**14 17 03.1**	**-0.6**
GUIM	**Jordan**	**3.58**	**252**	*eP*	**Pn**	**14 17 00.7**	**+0.2**
GUIM	**Jordan**	**3.58**	**252**	*eP*	**Pn**	**14 17 00.7**	**+0.2**
GUMO	**Guam**	**18.44**	**82**	LR	LR	14 27 00.5	
	comp=Z,29nm,19.8s,baz=84,slow=34						
FITZ	**Fitzroy Crossi**	**29.65**	**181**	P	**P**	**14 22 08.7**	**-1.5**
	1.3nm,0.8s,mb3.7,baz=14,slow=8.3,SNR=2.5						
WRA	**Warramunga Arr**	**32.51**	**165**	P	**P**	**14 22 35.6**	**+0.1**
	0.1nm,0.5s,mb3.0,baz=347,slow=8.9,SNR=2.6						
ASAR	**Alice Springs**	**36.01**	**168**	P	**P**	**14 23 06.4**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=349,slow=7.4,SNR=8.5						
STKA	**Stephens Creek**	**45.84**	**161**	P	**P**	**14 24 26.2**	**-0.6**
	1.5nm,0.8s,mb4.0,baz=339,slow=14,SNR=3.2						

IDC ***03*** *14:16:23.4±1.7, 157S×7786W, h162km±16km, mb3.7/8, mb1 3.8/14, mb1mx3.7/23, mbtmp3.7/14, Error ellipse: s-maj=21.9km s-min=12.3km az=62.0*
NEIC ***03*** *14:16:23.2±0.7, 163S×7789W, h161km±7km, mb4.3/8, MD4.3(IGQ), Error ellipse: s-maj=12.2km s-min=6.1km az=59.0*
BJI ***03*** *14:16:23.1, 160S×7790W, h161km, mB4.8*
ISCJB ***03*** *14:16:24.3±0.3, 168S±004×7798W±007, h187km±2km, mb4.1/13, Error ellipse: s-maj=10.9km s-min=6.6km az=162.3*
IGQ ***03*** *14:16:26.1, 172S×78.11W, h169km±3km, Mb4.3, Ms4.1, Error ellipse: s-maj=4.5km s-min=2.6km az=35.5*
ISC 03 14:16:25.3±0.3, 172S±004×7798W±006, h180km±2km, n76, σ1§14/75, mb4.1/13, 5C-14D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**0.50**	**295**	⇓P	**Pn**	**14 16 50.3**	**+0.3**
PATA				S	**Sn**	**14 17 06.2**	**-2.8**
ULBA	**Ulba**	**0.50**	**302**	⇓P	**Pn**	**14 16 50.1**	**+0.1**
ULBA				S	**Sn**	**14 17 04.3**	**-4.7**
ARRY	**Arrayan**	**0.52**	**294**	⇓P	**Pn**	**14 16 49.9**	**-0.2**
RETU	**Refugio**	**0.53**	**300**	⇓P	**Pn**	**14 16 50.6**	**+0.5**
RETU				S	**Sn**	**14 17 08.2**	**-1.1**
RUN5	**Runtun**	**0.53**	**304**	⇓P	**Pn**	**14 16 50.1**	**0.0**
RUN5				S	**Sn**	**14 17 06.0**	**-3.3**
JUIV	**Juive**	**0.56**	**301**	⇓P	**Pn**	**14 16 50.2**	**0.0**
BILB	**Tungurahua vol**	**0.58**	**298**	P	**Pn**	**14 16 50.6**	**+0.2**
IGUA	**Igualata**	**0.69**	**289**	P	**Pn**	**14 16 51.2**	**+0.3**
PISA	**Pisayambo**	**0.77**	**328**	⇓P	**Pn**	**14 16 51.8**	**+0.4**
TAMB	**Tambo**	**1.08**	**339**	⇓P	**Pn**	**14 16 54.3**	**+0.8**
TAMB				S	**Sn**	**14 17 12.8**	**-2.6**
VC1	**Cotopaxi 1**	**1.15**	**338**	⇓P	**Pn**	**14 16 54.8**	**+0.8**
VC1				S	**Sn**	**14 17 16.8**	**+0.6**
CAMI	**Rancho Maria**	**1.16**	**333**	P	**Pn**	**14 16 54.6**	**+0.4**
NAS1	**Nasa**	**1.18**	**335**	⇓P	**Pn**	**14 16 55.4**	**+1.0**
ANTI	**Antisana**	**1.27**	**352**	⇓P	**Pn**	**14 16 55.9**	**+0.8**
ANTI				S	**Sn**	**14 17 17.1**	**-1.0**
JUA2	**San Juan 2**	**1.62**	**337**	⇓P	**Pn**	**14 16 58.8**	**+0.5**
LAV3	**Lava3-Reventad**	**1.65**	**12**	⇑P	**Pn**	**14 16 59.2**	**+0.6**
LAV3				S	**Sn**	**14 17 25.1**	**+0.8**
GGP	**Refugio Guagua**	**1.65**	**338**	⇓P	**Pn**	**14 16 59.0**	**+0.4**
CONE	**Cono NE Rev Vo**	**1.67**	**12**	⇓P	**Pn**	**14 16 59.8**	**+0.9**
CONE				S	**Sn**	**14 17 25.4**	**+0.6**
PINO	**Pino**	**1.67**	**338**	⇑P	**Pn**	**14 16 59.5**	**+0.7**
CAYR	**Refugio Cayamb**	**1.72**	**359**	⇑P	**Pn**	**14 17 01.0**	**+1.6**
CAYR				S	**Sn**	**14 17 20.0**	**-5.6**
CAYA	**Cayambe**	**1.77**	**360**	⇑P	**Pn**	**14 17 01.2**	**+1.3**
CAYA				S	**Sn**	**14 17 24.8**	**-1.9**
OTAV	**Otavalo**	**2.00**	**346**	ePn	**Pn**	**14 16 57.8**	**-4.4**
COTA	**Cotacachi**	**2.07**	**350**	P	**Pn**	**14 17 04.5**	**+1.4**
COTA				S	**Sn**	**14 17 33.6**	**+1.3**
MAG1	**Magdalena**	**2.42**	**312**	P	**Pn**	**14 17 06.5**	**-0.5**
CHIS	**Cerro-Chispas-**	**2.82**	**284**	P	**Pn**	**14 17 10.4**	**-1.3**
CHIS				S	**Sn**	**14 17 42.7**	**-5.2**
ATAH	**Atahualpa**	**5.27**	**184**	P	**Pn**	**14 17 43.9**	**+1.2**
	9.8nm,0.3s,baz=8.1,slow=8.8,SNR=32						
ATAH				S	**Sn**	**14 18 32.3**	**-11**
	6.0nm,0.3s,baz=340,slow=11,SNR=4.3						
ROSC	**El Rosal**	**7.48**	**29**	P	**Pn**	**14 18 07.7**	**-3.9**
	1.0nm,0.3s,baz=266,slow=22,SNR=2.4						
ROSC	**El Rosal**	**7.48**	**29**	Pn	**Pn**	**14 18 09.4**	**-2.2**
NNA	**Nana**	**10.27**	**174**	P	**Pn**	**14 18 47.5**	**-0.7**
	2.6nm,0.3s,baz=321,slow=9.9,SNR=7.3						
NNA				S	**Sn**	**14 20 30.0**	**-12**
	1.3nm,0.3s,baz=285,slow=22,SNR=4.8						
NNA	**Nana**	**10.27**	**174**	Pn	**Pn**	**14 18 47.5**	**-0.7**
NNA				S	**Sn**	**14 20 30.0**	**-12**
BCIP	**Isla Barro Col**	**10.97**	**350**	Pn	**Pn**	**14 18 54.6**	**-2.7**
SDV	**Santo Domingo**	**12.83**	**35**	P	**Pn**	**14 19 18.5**	**-2.7**
	0.7nm,0.3s,baz=250,slow=13,SNR=5.7						
SDV	**Santo Domingo**	**12.83**	**35**	ePn	**Pn**	**14 19 19.2**	**-2.0**
	20nm,1.2s						
JTS	**JuntasAbangare**	**13.80**	**330**	P	**Pn**	**14 19 31.4**	**-2.0**
	1.6nm,0.3s,baz=316,slow=19,SNR=2.6						
JTS	**JuntasAbangare**	**13.80**	**330**	P	**Pn**	**14 19 31.4**	**-2.0**
SAML	**Samuel**	**16.39**	**117**	*eP*	**Pn**	**14 20 03.0**	**-2.1**
	11nm,0.8s						
LPAZ	**La Paz**	**17.43**	**147**	P	**Pn**	**14 20 16.8**	**-0.8**
	0.3nm,0.3s,baz=329,slow=12,SNR=11						
LPAZ	**La Paz**	**17.43**	**147**	P	**Pn**	**14 20 16.4**	**-1.2**
	3.2nm,0.9s						
SIV	**San Ignacio**	**21.88**	**131**	P	**P**	**14 21 05.1**	**+1.2**
	2.4nm,0.7s,mb3.8,baz=295,slow=9.7,SNR=13						
TEIG	**Tepich**	**24.03**	**336**	P	**P**	**14 21 23.6**	**-0.1**
	4.9nm,0.6s,mb4.2						
CMIG	**Matias Romero**	**25.04**	**319**	P	**P**	**14 21 33.0**	**+0.2**
	5.5nm,0.5s,mb4.3,baz=114,slow=6.5,SNR=9.4						
MNTX	**Cornudas Mount**	**42.19**	**324**	*eP*	**P**	**14 24 00.1**	**-0.2**
	5.3nm,1.3s,mb4.0						
BNM	**Barren Site**	**44.69**	**326**	*eP*	**P**	**14 24 21.6**	**+1.3**
ANMO	**Albuquerque**	**45.19**	**326**	*eP*	**P**	**14 24 25.1**	**+0.9**
	7.8nm,0.9s,mb4.3						
SDCO	**Great Sand Dun**	**46.80**	**330**	*eP*	**P**	**14 24 36.8**	**0.0**
	7.6nm,0.7s,mb4.4						
WUAZ	**Wupatki**	**48.42**	**323**	*eP*	**P**	**14 24 50.5**	**+1.3**
	6.6nm,1.1s,mb4.2						
AGMN	**Agassiz Refuge**	**52.19**	**345**	*eP*	**P**	**14 25 15.6**	**-1.9**
PDAR	**Pinedale Array**	**52.63**	**331**	P	**P**	**14 25 20.7**	**0.0**
	0.7nm,0.6s,mb3.6,baz=128,slow=8.4,SNR=7.5						
PDAR				PcP	PcP	14 26 28.6	+0.3
	0.8nm,1.0s,baz=157,slow=5.6,SNR=3.2						
ULM	**Lac du Bonnet**	**53.99**	**346**	P	**P**	**14 25 28.7**	**-2.0**
	3.6nm,0.4s,mb4.4,baz=153,slow=8.8,SNR=16						
ULM				PcP	PcP	14 26 32.4	-1.1
	0.9nm,0.5s,baz=135,slow=8.6,SNR=2.5						
ULM	**Lac du Bonnet**	**53.99**	**346**	P	**P**	**14 25 28.7**	**-2.0**
ULM				PcP	PcP	14 26 32.4	-1.1
NVAR	**Mina Array Bea**	**54.54**	**321**	P	**P**	**14 25 35.7**	**+1.1**
	1.1nm,0.6s,mb3.8,baz=127,slow=6.4,SNR=10						
NVAR	**Mina Array Bea**	**54.54**	**321**	P	**P**	**14 25 35.7**	**+1.0**
WVOR	**Wild Horse Val**	**57.22**	**325**	*eP*	**P**	**14 25 54.0**	**+0.4**
	8.5nm,1.3s,mb4.4						
YKA	**Yellowknife Ar**	**69.75**	**343**	P	**P**	**14 27 14.2**	**-1.5**
	1.3nm,0.6s,mb3.8,baz=140,slow=6.0,SNR=32						
YKA	**Yellowknife Ar**	**69.75**	**343**	P	**P**	**14 27 14.2**	**-1.5**
TOA0	**Torodi Ar. Sit**	**80.34**	**76**	*eP*	**P**	**14 28 16.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**80.34**	**76**	P	**P**	**14 28 16.3**	**-0.1**
	0.6nm,0.3s,mb3.6,baz=282,slow=5.7,SNR=18						
VNA3	**Neumayer Olymp**	**81.51**	**162**	*eP*	**P**	**14 28 23.8**	**+1.2**
VNA3				*e*		14 28 28.6	
VNA2	**Neumayer--Watz**	**82.11**	**162**	*eP*	**P**	**14 28 26.3**	**+0.6**
VNA2				*e*		14 28 31.1	
ZAL	**Zalesovo**	**126.05**	**13**	PKP	PKPdf	14 35 04.9	-1.1
	0.9nm,0.8s,baz=204,slow=4.8,SNR=4.6						
CTA	**Charters Tower**	**131.53**	**241**	PKP	PKPdf	14 35 17.7	+1.3
	1.9nm,0.8s,baz=166,slow=4.2,SNR=5.1						
MKAR	**Makanchi Array**	**131.92**	**18**	PKP	PKPdf	14 35 17.2	0.0
	0.3nm,0.4s,baz=295,slow=2.6,SNR=8.2						
SONM	**Songino Array**	**133.91**	**356**	PKP	PKPdf	14 35 21.9	+1.1
	0.5nm,0.6s,baz=347,slow=1.0,SNR=2.6						
KSRS	**Korea Array**	**137.18**	**329**	PKP	PKPdf	14 35 27.9	+0.9
	1.1nm,0.6s,baz=16,slow=2.0,SNR=4.5						
ASAR	**Alice Springs**	**140.02**	**229**	PKhKP		14 35 24.5	
	0.4nm,0.4s,baz=123,slow=3.4,SNR=15						
ASAR				PKP	PKPdf	14 35 33.9	+1.7
	1.1nm,0.7s,baz=120,slow=2.1,SNR=13						
HHC	**Hu-ho-hao-te**	**140.10**	**349**	*e*PKP	PKPdf	14 35 30.7	-1.6
HHC				PP	PP	14 38 33.0	+1.7
HHC				PKS		14 39 06.3	
HHC				SKKS	SKKSac	14 45 06.6	-0.6
HHC				SS	SS	14 56 37.5	-1.6
WB2	**Warramunga Arr**	**141.67**	**234**	*eP*	PKPdf	14 35 31.4	-3.7
WRA	**Warramunga Arr**	**141.68**	**234**	PKhKP		14 35 31.2	
	0.9nm,0.7s,baz=116,slow=2.7,SNR=15						
WRA				PKP	PKPdf	14 35 36.3	+1.2
	1.0nm,0.5s,baz=112,slow=2.3,SNR=17						
LZH	**Lanzhou**	**145.76**	**357**	⇑PKP	PKPdf	14 35 44.5	+2.2
LZH				APKP		14 36 23.7	
LZH				XPKP		14 36 39.8	
KOLN	**Koldanda**	**148.66**	**33**	*eP*	PKPbc	14 35 51.6	+0.5
GKN	**Gorkha**	**149.02**	**31**	*eP*	PKPbc	14 35 53.2	+1.2
	19nm,1.0s						
KKN	**Kakani**	**149.52**	**30**	*eP*	PKPbc	14 35 54.4	+1.2
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**149.53**	**229**	*eP*	PKPbc	14 35 54.7	+1.5
	6.7nm,0.9s						
DMN	**Daman**	**149.58**	**31**	*eP*	PKPbc	14 35 54.7	+1.3
	13nm,0.6s						
GUN	**Gumba**	**149.72**	**29**	*eP*	PKPbc	14 35 55.9	+2.2
	9.9nm,0.5s						
PKI	**Pulchoki**	**149.77**	**30**	*eP*	PKPbc	14 35 54.6	+0.8
	13nm,0.7s						

ISCJB ***03*** *14:33:16.8±2.0, 3454N±009×319E±02, h7km±11km, Error ellipse: s-maj=22.9km s-min=15.3km az=19.7*
NIC ***03*** *14:33:18.6±0.2, 3461N×3196E, h15km, ML3.3, MW3.2*
CSEM ***03*** *14:33:21.7±0.4, 3475N×3222E, h15km, Mw3.2, Error ellipse: s-maj=9.2km s-min=3.6km az=57.0*
GRAL ***03*** *14:33:22.6±3.3, 3464N×3221E, h7km±27km, MD3.5*
ISC 03 14:33:18.1±1.9, 346N±01×319E±01, h14km±8km, n14, σ1§04/20, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.47**	**45**	*eP*	**Pg**	**14 33 27.1**	**-0.2**
PPCY	**Paphos**	**0.47**	**45**	⇓*iP*	**Pg**	**14 33 27.1**	**-0.2**
AKMC	**Akamas**	**0.57**	**34**	*eP*	**Pg**	**14 33 29.2**	**0.0**
SZAC	**Souni-Zanaja**	**0.80**	**75**	P	**Pg**	**14 33 33.8**	**+0.2**
	33nm,0.2s						
SZAC				S	**Sg**	**14 33 44.3**	**+0.2**
SZAC	**Souni-Zanaja**	**0.80**	**75**	*eP*	**Pg**	**14 33 33.8**	**+0.2**
ALFC	**Alevga**	**0.81**	**42**	P	**Pg**	**14 33 32.9**	**-0.8**
	59nm,0.2s						
ALFC				S	**Sg**	**14 33 44.3**	**0.0**
ALFC	**Alevga**	**0.81**	**42**	*eP*	**Pg**	**14 33 32.9**	**-0.8**
CSS	**Prodhromos**	**1.21**	**70**	P	**Pn**	**14 33 40.0**	**-0.5**
	5.7nm,0.4s						
CSS				S	**Sb**	**14 33 56.1**	**-0.1**
CSS	**Prodhromos**	**1.21**	**70**	*eP*	**Pn**	**14 33 40.0**	**-0.5**
MAMC	**Mammari**	**1.22**	**59**	*eP*	**Pn**	**14 33 40.2**	**-0.4**
PHNC	**Paralimni**	**1.78**	**75**	P	**Pg**	**14 33 52.6**	**+0.4**
PHNC				S	**Sn**	**14 34 12.9**	**+2.3**
PHNC	**Paralimni**	**1.78**	**75**	*eP*	**Pg**	**14 33 52.6**	**+0.4**
BHL	**Bhannes**	**3.14**	**101**	*eP*	**Pn**	**14 34 07.0**	**0.0**
BHL				*eS*	**Sn**	**14 34 41.1**	**-3.2**
HWQ	**Hawqa**	**3.32**	**94**	*eP*	**Pn**	**14 34 11.7**	**+2.2**
HWQ				*eS*	**Sn**	**14 34 47.0**	**-1.8**

STR ***03*** *14:48:04.4±0.0, 4301N×001E, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***03*** *14:48:04.0±0.1, 4303N×001W, h3km, Md1.6/3, Ml1.5/2, Error ellipse: s-maj=4.3km s-min=2.0km az=171.0*
MDD 03 14:48:04.3±0.5, 4302N×001E, h7km±5km, mbLg1.0/4, Error ellipse: s-maj=3.5km s-min=2.5km az=174.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**63**	Pg	Pg	14 48 05.9	0.0
LABF				Sg	Sg	14 48 07.0	-0.1
LABF	**Labassere**	**0.06**	**63**	P	Pg	14 48 05.9	0.0
LABF				S	Sg	14 48 07.0	0.0
VIEF	**Viey**	**0.14**	**174**	Pg	Pg	14 48 07.2	0.0
VIEF				Sg	Sg	14 48 09.2	0.0
EPF	**Esparros**	**0.24**	**88**	*e*Pg	Pg	14 48 08.8	-0.3
EPF				*e*Sg	Sg	14 48 12.4	0.0
	4.9nm,0.2s						
EPF	**Esparros**	**0.24**	**88**	Pg	Pg	14 48 08.8	-0.3
EPF				Lg		14 48 12.4	
	2.5nm,0.2s						
EBIE	**Bielsa**	**0.35**	**163**	Pg	Pg	14 48 10.9	-0.2
	0.9nm,0.1s,SNR=20						
EBIE				Lg		14 48 15.6	
	2.7nm,0.1s,SNR=4.0						
ETSF	**Etsaut**	**0.43**	**254**	*e*Pg	Pg	14 48 12.6	-0.1
ETSF				*e*Sg	Sg	14 48 18.5	+0.2
	6.9nm,0.3s						
ETSF	**Etsaut**	**0.43**	**254**	Pg	Pg	14 48 12.6	-0.1
ETSF				Lg		14 48 18.5	
	3.5nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	Pg	14 48 20.5	-1.2
SJPF				*e*Sg	Sg	14 48 31.7	-1.8
	1.3nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**276**	Pg	Pg	14 48 20.5	-1.2
SJPF				Lg		14 48 31.7	
	0.6nm,0.3s						
ESAC	**San Caprasio**	**1.35**	**195**	Pg	Pg	14 48 27.7	-2.4
	2.4nm,0.2s,SNR=4.0						
ESAC				Lg		14 48 49.9	
	1.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.65**	**78**	*e*Pg	Pg	14 48 35.5	-0.4
MTLF				*e*Sg	Sg	14 48 56.3	-1.0
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.65**	**78**	Pg	Pg	14 48 35.5	-0.4
MTLF				Lg		14 48 56.3	
	0.3nm,0.2s						
EPOB	**Poblet**	**1.85**	**154**	Lg		14 49 03.0	
	0.3nm,0.2s,SNR=7.9						

IDC 03 14:53:18.1±1.9, 017N×12688E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=169.3km s-min=24.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.28**	**160**	P	P	14 58 06.6	+0.5
	0.3nm,0.3s,baz=339,slow=11,SNR=20						
ASAR	**Alice Springs**	**24.66**	**164**	P	P	14 58 40.6	+0.2
	0.4nm,0.3s,baz=345,slow=11,SNR=15						
MKAR	**Makanchi Array**	**60.56**	**326**	P	P	15 03 30.5	+0.2
	0.3nm,0.4s,baz=125,slow=8.5,SNR=11						

IDC 03 15:40:28.9±56.0, 1535S×17863W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, Error ellipse: s-maj=1022.0km s-min=159.0km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.73**	**238**	P	P	15 48 02.0	-1.0
	1.2nm,0.4s,baz=97,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**44.95**	**257**	P	P	15 48 46.6	+1.1
	0.4nm,0.3s,baz=90,slow=8.1,SNR=32						
ASAR	**Alice Springs**	**45.34**	**252**	P	P	15 48 49.2	+0.6
	2.5nm,0.3s,baz=87,slow=8.0,SNR=131						

NEIC ***03*** *16:08:58.8, 3337S×70.11W, h5km, ML2.6(GUC), After GUC.*
GUC 03 16:08:58.8±0.9, 3337S×7011W, h5km±3km, MD3.6, ML2.6, 4C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.15**	**287**	*e*P	Pg	16 09 02.2	+0.4
FCH				*e*S	Sg	16 09 05.0	+1.0
FCH				AML	AML	16 09 05.4	
	comp=N,7μm,0.2s						
YECH	**El Yeso**	**0.29**	**175**	⇓*iP*	Pg	16 09 05.0	+0.6
YECH				*i* S	Sg	16 09 09.6	+1.2
YECH				AML	AML	16 09 10.3	
	comp=N,663nm,0.5s						
CLCH	**Cerro Calan**	**0.35**	**266**	*e*P	Pg	16 09 06.2	+0.6
CLCH				*i* S	Sg	16 09 11.5	+1.2
CLCH				AML	AML	16 09 13.5	
	comp=E,747nm,0.7s						
PCH	**Pirque**	**0.42**	**233**	*e*P	Pg	16 09 07.4	+0.6
PCH				*i* S	Sg	16 09 13.2	+0.9
SAN	**Santiago**	**0.47**	**260**	*i* S	Sg	16 09 14.7	+0.9
SAN				AML	AML	16 09 15.4	
	comp=E,653nm,0.3s						
ANTU	**Antumapu**	**0.48**	**246**	*i* P	Pg	16 09 08.4	+0.4
ANTU				*i* S	Sg	16 09 15.2	+1.0
ANTU				AML	AML	16 09 15.7	
	comp=E,764nm,0.3s						
LMEL	**Las Melosas**	**0.48**	**189**	⇓*iP*	Pg	16 09 08.3	+0.3
LMEL				*i* S	Sg	16 09 15.2	+1.0
LMEL				AML	AML	16 09 16.6	
	comp=N,530nm,0.1s						
LMEL	**Las Melosas**	**0.48**	**189**	⇓*iP*	Pg	16 09 08.3	+0.3
LMEL				*i* S	Sg	16 09 15.2	+1.0
PEL	**Peldehue**	**0.53**	**295**	⇑*iP*	Pg	16 09 08.9	-0.1
PEL				*i* S	Sg	16 09 16.4	+0.5
PEL				AML	AML	16 09 16.8	
	comp=N,1μm,0.2s						
CHCH	**Chadas Angostu**	**0.72**	**219**	⇑*iP*	Pg	16 09 12.7	+0.2
CHCH				*i* S	Sg	16 09 22.8	+0.9
TACH	**Talagante**	**0.74**	**248**	⇑*iP*	Pg	16 09 13.1	0.0
TACH				*i* S	Sg	16 09 23.0	+0.3
CACH	**El Canelo**	**0.84**	**208**	*e*P	Pg	16 09 15.4	+0.4
CACH				*i* S	Sg	16 09 27.4	+1.4
CICH	**Cipreses**	**0.98**	**195**	⇓*iP*	Pg	16 09 17.6	0.0
CICH				*i* S	Sg	16 09 30.9	+0.7
LNV	**Longovilo**	**1.23**	**241**	⇑*iP*	Pg	16 09 21.0	-1.4
SFDO	**San Fernando**	**1.45**	**211**	⇓*iP*	Pn	16 09 25.9	+0.3

NEIC ***03*** *16:09:28.4, 3887S×17538E, h164km, MG3.9(WEL), After WEL.*
WEL 03 16:09:28.7±0.3, 3886S×17541E, h160km±2km, ML3.5/13, 19C-17D, Error ellipse: s-maj=2.4km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.21**	**173**	⇓P	Pn	16 09 50.3	+0.1
TWVZ				S	Sn	16 10 06.6	+0.1
TWVZ	**Taurewa**	**0.21**	**173**	⇓PN	Pn	16 09 50.3	+0.2
TWVZ				SN	Sn	16 10 06.6	+0.1
WTVZ	**West Tongariro**	**0.29**	**150**	⇓P	Pn	16 09 50.6	+0.2
WTVZ				S	Sn	16 10 07.3	+0.4
WTVZ	**West Tongariro**	**0.29**	**150**	PN	Pn	16 09 50.6	+0.2
WTVZ				SN	Sn	16 10 07.3	+0.4
FWVZ	**Far West T-bar**	**0.41**	**164**	⇑P	Pn	16 09 51.2	+0.4
FWVZ				S	Sn	16 10 07.8	+0.2
FWVZ	**Far West T-bar**	**0.41**	**164**	⇑PN	Pn	16 09 51.2	+0.4
FWVZ				SN	Sn	16 10 07.8	+0.2
PKVZ	**Pokaka**	**0.43**	**186**	⇓PN	Pn	16 09 50.9	+0.1
PKVZ				SN	Sn	16 10 07.5	-0.2
TUVZ	**Tukino**	**0.45**	**155**	⇓PN	Pn	16 09 51.4	+0.5
TUVZ				SN	Sn	16 10 07.8	-0.1
TRVZ	**Turoa**	**0.45**	**166**	⇓PN	Pn	16 09 51.3	+0.4
WNVZ	**Wahianoa**	**0.49**	**162**	P	Pn	16 09 50.1	-1.0
WNVZ	**Wahianoa**	**0.49**	**162**	PN	Pn	16 09 50.1	-0.9
MTVZ	**Mangateitei**	**0.53**	**174**	PN	Pn	16 09 51.5	+0.2
MTVZ				SN	Sn	16 10 08.0	-0.4
HIZ	**Hauiti**	**0.55**	**309**	⇑P	Pn	16 09 51.3	-0.1
HIZ				S	Sn	16 10 08.9	+0.2
HIZ	**Hauiti**	**0.55**	**309**	⇓PN	Pn	16 09 51.3	-0.1
HIZ				SN	Sn	16 10 08.9	+0.2
VRZ	**Vera Road**	**0.57**	**242**	⇓P	Pn	16 09 51.4	-0.1
VRZ	**Vera Road**	**0.57**	**242**	⇓PN	Pn	16 09 51.4	-0.1
MOVZ	**Moawhango**	**0.61**	**154**	⇓P	Pn	16 09 51.6	-0.1
MOVZ	**Moawhango**	**0.61**	**154**	⇓PN	Pn	16 09 51.6	0.0
RAEZ	**Rainy Point**	**0.89**	**241**	⇑P	Pn	16 09 53.3	-0.3
RAEZ	**Rainy Point**	**0.89**	**241**	⇑PN	Pn	16 09 53.3	-0.2
BKZ	**Black Stump Fm**	**0.90**	**110**	⇑P	Pn

IDC 03 16:16:27.5±3.9, 2085N×14314E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=108.4km s-min=48.6km az=13.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	21.18	325	P	P	16 21 16.1	+1.7
	1.6nm,0.7s,baz=140,slow=8.5,SNR=6.1						
SONM	Songino Array	39.97	321	P	P	16 24 02.9	-0.8
	1.1nm,0.9s,baz=129,slow=7.2,SNR=6.7						
MKAR	Makanchi Array	55.25	313	P	P	16 26 01.8	-0.5
	0.7nm,0.9s,baz=83,slow=6.2,SNR=3.0						
YKA	Yellowknife Ar	77.22	28	P	P	16 28 23.0	-0.3
	0.4nm,0.6s,baz=296,slow=5.5,SNR=3.9						
BRTR	Keskin Array B	90.90	313	P	P	16 29 34.7	+1.6
	0.8nm,0.8s,baz=52,slow=6.6,SNR=4.5						

IDC 03 16:17:56.4±8.5, 676S×15102E, h108km±57km, mb2.9/3, mb1 3.0/4, mb1mx2.9/15, mbtmp2.9/4, Error ellipse: s-maj=97.8km s-min=55.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.64	235	P	Pn	16 19 04.0	-0.3
	0.6nm,0.3s,baz=317,slow=9.9,SNR=3.1						
PMG				S	Sn	16 19 58.4	+1.2
	1.1nm,0.3s,baz=315,slow=21,SNR=7.5						
WRA	Warramunga Arr	20.83	229	P	P	16 22 29.2	-0.1
	0.5nm,0.7s,baz=53,slow=10,SNR=6.9						
ASAR	Alice Springs	23.52	223	P	P	16 22 56.2	-0.4
	0.2nm,0.4s,baz=57,slow=9.0,SNR=15						
FITZ	Fitzroy Crossi	27.19	243	P	P	16 23 30.9	+1.2
	1.6nm,0.9s,baz=90,slow=6.1,SNR=3.0						
TORD	Torodi Ar. Bea	149.15	284	PKPbc	PKPbc	16 37 33.0	+0.9
	0.2nm,0.3s,baz=86,slow=2.6,SNR=4.1						

JMA 03 16:42:55.1±0.1, 3810N×14466E, h57km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.54	294	P	Pn	16 43 35.1	+1.2
OFUJ				eS	Sn	16 44 05.0	+1.4
JIO	Ouri	2.63	279	P	Pn	16 43 36.2	+1.1
JIO				S	Sn	16 44 06.8	+1.0
MIYJ	Miyakonagasawa	2.66	304	P	Pn	16 43 36.5	+1.0
MIYJ				eS	Sn	16 44 07.6	+1.0
JMK	Ichinoseki	2.83	289	P	Pn	16 43 39.3	+1.5
JMK				eS	Sn	16 44 11.9	+1.2
JOT	Ohata	4.30	321	P	Pn	16 43 59.4	+1.4
JOT				eS	Sn	16 44 46.9	+0.1
JCH	Churui	4.62	348	P	Pn	16 44 01.9	-0.4
JCH				eS	Sn	16 44 51.2	-3.4
JKB	Kayabe	4.70	325	eS	Sn	16 44 54.9	-1.7
JRY	Ryogami san	5.05	247	P	Pn	16 44 08.9	+0.6
JOD2	Odawara 2	5.30	239	eS	Sn	16 45 08.0	-3.3
NEM2	Nemuro 2	5.32	9	P	Pn	16 44 09.7	-2.3
NEM2				eS	Sn	16 45 05.2	-6.8
MAT	Matsushiro	5.37	255	P	Pn	16 44 15.3	+2.6
MAT				eS	Sn	16 45 19.3	+6.1
JTKR	Abashiri--Toko	5.89	355	eS	Sn	16 45 22.7	-3.2

*IDC **03** 16:45:19.4±8.7, 558S×15167E, h91km±61km, mb3.4/4, mb1 3.5/5, mb1mx3.3/15, mbtmp3.3/5, ML2.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/20, Error ellipse: s-maj=66.6km s-min=55.3km az=101.0*

NEIC 03 16:45:06.4±2.2, 531S×15215E, h10km, Error ellipse: s-maj=61.3km s-min=33.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.41	230	P	Pn	16 46 43.7	+2.9
	0.4nm,0.3s,baz=43,slow=8.1,SNR=3.6						
PMG				S	Sn	16 47 51.3	-2.7
	2.0nm,0.3s,baz=131,slow=23,SNR=6.7						
PMG	Port Moresby	6.41	230	ePn	Pn	16 46 43.2	+2.4
PMG				S	Sn	16 47 51.3	-2.7
WB2	Warramunga Arr	22.62	228	eP	P	16 50 06.5	-0.7
WRA	Warramunga Arr	22.62	228	P	P	16 50 06.6	-0.7
	1.3nm,0.8s,baz=52,slow=10.0,SNR=14						
ASAR	Alice Springs	25.34	222	P	P	16 50 33.6	+0.2
	1.1nm,0.7s,baz=52,slow=8.6,SNR=18						
STKA	Stephens Creek	28.22	199	P	P	16 50 59.5	+0.3
	1.0nm,0.6s,baz=31,slow=5.9,SNR=3.3						
STKA	Stephens Creek	28.22	199	eP	P	16 50 59.7	+0.4
FITZ	Fitzroy Crossi	28.85	242	P	P	16 51 04.2	-0.7
	1.7nm,0.9s,baz=80,slow=11,SNR=3.0						
NWAO	Narrogin (SRO)	42.57	225	LR	LR	17 11 19.5	
	comp=Z,63nm,19.6s,baz=76,slow=37						
TORD	Torodi Ar. Bea	149.85	287	PKPbc	PKPbc	17 04 59.2	+2.5
	0.5nm,0.5s,baz=95,slow=2.7,SNR=3.8						
TORD	Torodi Ar. Bea	149.85	287	PKPbc	PKPbc	17 04 59.2	+2.5

*NEIC **03** 16:46:25.0±0.7, 47.14N×152.79E, h10km, Error ellipse: s-maj=32.3km s-min=13.5km az=127.0*
*MOS **03** 16:46:26.6±2.6, 4676N×15352E, h33km, mb4.1/2, Error ellipse: s-maj=25.1km s-min=13.6km az=55.8*
*IDC **03** 16:46:30.8±8.1, 47.14N×152.66E, h58km±75km, mb3.3/7, mb1 3.5/8, mb1mx3.3/22, mbtmp3.3/8, ML3.3/1, Error ellipse: s-maj=38.4km s-min=19.4km az=116.0*
*ISCJB **03** 16:46:33.3±1.6, 47.1N±0.1×152.9E±0.2, h97km±15km, mb3.4/7, Error ellipse: s-maj=31.3km s-min=11.9km az=91.1*

ISC 03 16:46:35.2±1.4, 472N±01×1529E±02, h99km±13km, n21, σ0§63/19, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.12	30	ePN	Pn	16 47 35.5	-0.5
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	Yuzh-Kuril'sk	5.83	240	PN	Pn	16 47 58.7	-0.5
YSS	Yuzh-Sakhalins	6.92	272	ePN	Pn	16 48 14.4	+0.4
ASAJ	Asahikawa	7.82	251	P	Pn	16 48 26.9	+0.7
	comp=Z,0.5nm,0.3s,baz=90,slow=16,SNR=4.1						
ASAJ	Asahikawa	7.82	251	PN	Pn	16 48 27.0	+0.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	15.21	231	P	Pn	16 50 00.3	-4.2
	comp=Z,0.1nm,0.3s,baz=25,slow=13,SNR=2.6						
INK	Inuvik	41.40	33	P	P	16 54 11.2	-0.4
	comp=Z,1.0nm,0.7s,mb3.7,baz=238,slow=7.0,SNR=7.4						
INK	Inuvik	41.40	33	P	P	16 54 11.2	-0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	41.40	33	eP	P	16 54 12.5	+0.9
MKAR	Makanchi Array	46.62	297	PcP	PcP	16 56 26.4	+0.7
	comp=Z,0.2nm,0.3s,baz=68,slow=3.4,SNR=8.6						
BVAR	Borovoye Array	50.48	309	PcP	PcP	16 56 40.1	+0.4
	comp=Z,0.5nm,0.4s,baz=72,slow=3.0,SNR=5.7						
YKA	Yellowknife Ar	50.70	37	P	P	16 55 24.9	+0.4
	comp=Z,0.2nm,0.4s,mb3.5,baz=299,slow=7.1,SNR=5.4						
YKA	Yellowknife Ar	50.70	37	P	P	16 55 24.9	+0.4
FINES	FINESS Array B	63.61	335	P	P	16 56 54.8	-0.7
	comp=Z,0.7nm,0.4s,mb3.8,baz=43,slow=7.7,SNR=8.6						
FINES	FINESS Array B	63.61	335	P	P	16 56 54.8	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	64.64	54	P	P	16 57 03.3	+1.1
	comp=Z,0.6nm,0.8s,mb3.5,baz=75,slow=1.7,SNR=3.9						
WRA	Warramunga Arr	68.84	199	P	P	16 57 28.2	-0.7
	comp=Z,0.3nm,0.8s,mb3.2,baz=15,slow=6.6,SNR=3.8						
WRA	Warramunga Arr	68.84	199	P	P	16 57 28.2	-0.7
WRA	Warramunga Arr	68.84	199	P	P	16 57 28.3	-0.6
ASAR	Alice Springs	72.54	198	P	P	16 57 51.4	+0.1
	comp=Z,0.2nm,0.5s,mb3.2,baz=17,slow=6.1,SNR=8.5						
GERES	GERESS Array B	78.03	334	P	P	16 58 22.5	-0.3
	comp=Z,0.2nm,0.4s,mb3.2,baz=51,slow=7.7,SNR=3.4						

IDC 03 16:55:46.0±1.8, 670S×12996E, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, ML4.1/3, Error ellipse: s-maj=82.3km s-min=25.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.09	200	Pn	Pn	16 58 39.9	+0.4
	0.5nm,0.3s,baz=43,slow=12,SNR=18						
FITZ				Sn	Sn	17 00 41.9	-13
	1.8nm,0.3s,baz=92,slow=20,SNR=9.2						
WRA	Warramunga Arr	13.84	163	Pn	Pn	16 59 04.0	+0.7
	1.3nm,0.3s,baz=337,slow=14,SNR=77						
WRA				Sn	Sn	17 01 26.4	-11
	1.2nm,0.3s,baz=328,slow=23,SNR=10						
ASAR	Alice Springs	17.30	168	P	Pn	16 59 49.4	+0.6
	0.5nm,0.3s,baz=356,slow=14,SNR=34						
ASAR				S	Sn	17 02 51.3	-11
	0.4nm,0.3s,baz=346,slow=27,SNR=7.5						
STKA	Stephens Creek	27.31	158	P	P	17 01 32.2	-0.1
	0.4nm,0.3s,baz=340,slow=12,SNR=3.2						
MKAR	Makanchi Array	67.95	327	P	P	17 06 46.8	+0.2
	0.3nm,0.6s,baz=112,slow=8.7,SNR=4.8						

IDC 03 17:01:21.0±1.3, 2196N×14353E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.7/6, MS3.5/3, Ms1 3.5/3, ms1mx2.7/36, Error ellipse: s-maj=50.4km s-min=22.4km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.51	322	LR	LR	17 12 48.4	
	comp=Z,36nm,20.9s,baz=145,slow=34						
SONM	Songino Array	39.35	320	P	P	17 08 52.3	+0.3
	0.4nm,0.5s,baz=128,slow=7.2,SNR=4.9						
WRA	Warramunga Arr	42.60	193	P	P	17 09 19.1	+0.3
	1.0nm,0.7s,baz=16,slow=9.0,SNR=7.1						
ASAR	Alice Springs	46.30	192	P	P	17 09 48.5	+0.1
	0.5nm,0.7s,baz=18,slow=8.2,SNR=6.4						
ZAL	Zalesovo	54.22	321	P	P	17 10 48.5	+0.1
	1.0nm,0.3s,baz=2.0,slow=10,SNR=5.5						
MKAR	Makanchi Array	54.76	312	P	P	17 10 52.0	-0.4
	0.9nm,1.0s,baz=89,slow=9.1,SNR=3.7						
YKA	Yellowknife Ar	76.08	28	P	P	17 13 10.2	-0.2
	0.7nm,0.8s,baz=293,slow=5.4,SNR=4.9						
YKA				LR	LR	17 48 32.9	
	comp=Z,45nm,18.2s,baz=170,slow=37						
PDAR	Pinedale Array	86.98	45	LR	LR	17 46 06.5	
	comp=Z,55nm,21.8s,baz=148,slow=31						

*ISCJB **03** 17:15:11.3±0.4, 4760N±002×756E±003, h5km, Error ellipse: s-maj=3.5km s-min=3.1km az=95.6*
*ZUR **03** 17:15:11.9, 4759N×760E, h5km±1km, ML1.1*
*LEDBW **03** 17:15:11.9±0.1, 47.598N±0007×7600E±0007, h7km±1km, ML1.3, Error ellipse: s-maj=3.0km s-min=1.8km az=133.0*
*STR **03** 17:15:12.2±0.2, 4757N×754E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 17:15:12.1±0.2, 4759N×756E, h2km, Md2.0/3, Ml2.1/5, Error ellipse: s-maj=2.6km s-min=1.5km az=102.0*

ISC 03 17:15:11.1±0.8, 4758N±003×758E±004, h19km±8km, n21, σ0§49/30, 2C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	Basel-Blauen	0.12	202	⇑iPg	Pg	17 15 14.9	-0.2
BBS				Sg	Sg	17 15 17.2	-0.6
BALST	Balsthal	0.26	162	⇓iPg	Pg	17 15 17.2	+0.3
	49nm,0.1s						
BALST	Balsthal	0.26	162	Sg	Sg	17 15 21.1	+0.2
BALST	Balsthal	0.26	162	⇓iPg	Pg	17 15 17.2	+0.3
BOURR	Bourrignon	0.30	232	⇑iPg	Pg	17 15 18.3	+0.6
	36nm,0.6s						
BOURR	Bourrignon	0.30	232	Sg	Sg	17 15 22.6	+0.5
BOURR	Bourrignon	0.30	232	⇑iPg	Pg	17 15 18.3	+0.6
SULZ	Sulz-Cheisache	0.37	98	⇑iPg	Pg	17 15 18.8	0.0
	23nm,0.9s						
SULZ				*i* Sg	Sg	17 15 23.8	-0.3
	23nm,0.9s						
SULZ	Sulz-Cheisache	0.37	98	Sg	Sg	17 15 23.7	-0.4
SULZ	Sulz-Cheisache	0.37	98	⇑iPg	Pg	17 15 18.8	0.0
MOF	Molkenrain	0.41	313	Pg	Pg	17 15 19.7	+0.2
MOF				Sg	Sg	17 15 25.6	+0.4
MOF	Molkenrain	0.41	313	Sg	Sg	17 15 25.4	+0.2
MOF				SmS		17 15 29.9	
FELD	Feldberg im Sc	0.41	44	Sg	Sg	17 15 25.0	-0.4
HINF	Hinteralfeld	0.54	296	ePg	Pg	17 15 22.1	+0.1
HINF				eSg	Sg	17 15 29.5	+0.2
	8.5nm,0.2s						
SLE	Schleitheim	0.65	73	ePg	Pg	17 15 23.8	-0.1
	31nm,0.5s						
ECH	Echery	0.70	336	Pg	Pg	17 15 25.5	+0.7
CDF	Champ du Feu	0.86	346	ePg	Pg	17 15 28.3	+0.5
CDF				eSg	Sg	17 15 39.0	-0.2
	7.2nm,0.5s						
HAU	Haudompre	0.93	298	ePg	Pg	17 15 29.5	+0.3
HAU				eSg	Sg	17 15 41.9	+0.4
	9.8nm,0.4s						
CABF	La Chapelle	1.40	227	ePg	Pg	17 15 38.5	+0.3
CABF				eSg	Sg	17 15 56.9	+0.4
	2.2nm,0.3s						
SFTF	Sexfontaines	1.82	291	ePg	Pg	17 15 45.8	-0.3
SFTF				eSg	Sg	17 16 09.2	-0.5
	5.0nm,0.4s						
LOR	Lormes	2.54	264	ePg	Pg	17 15 58.9	-1.0
LOR				eSg	Sg	17 16 31.5	-1.4
	0.8nm,0.2s						

*IDC **03** 17:32:08.9±5.6, 407N×7643W, h52km±53km, mb3.1/3, mb1 3.4/5, mb1mx3.2/18, mbtmp3.3/5, ML2.8/2, Error ellipse: s-maj=40.1km s-min=21.2km az=86.0*
*ISCJB **03** 17:32:09.8±1.3, 42N±0.1×764W±0.1, h82km±15km, mb3.1/3, Error ellipse: s-maj=25.2km s-min=7.7km az=83.2*
*NEIC **03** 17:32:11.2±1.0, 4.19N×7624W, h76km±11km, mb3.0/1, Error ellipse: s-maj=18.3km s-min=10.3km az=122.0*

ISC 03 17:32:11.7±1.2, 42N±01×763W±01, h77km±14km, n11, σ0§90/14, mb3.1/3, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.12	71	P	Pn	17 32 44.4	-0.7
ROSC				S	Sn	17 33 11.5	+0.8
	9.7nm,0.3s,baz=67,slow=21,SNR=13						
ROSC	El Rosal	2.12	71	eP	Pn	17 32 43.6	-1.6
ROSC				S	Sn	17 33 11.5	+0.8
OTAV	Otavalo	4.43	208	eP	Pn	17 33 17.5	+1.1
OTAV				eS	Sn	17 34 06.5	-0.2
SDV	Santo Domingo	7.36	50	P	Pn	17 33 54.9	-1.5
	0.4nm,0.3s,baz=242,slow=17,SNR=3.2						
SDV				S	Sn	17 35 19.4	+1.0
	0.5nm,0.3s,baz=287,slow=21,SNR=2.0						
SDV	Santo Domingo	7.36	50	P	Pn	17 33 54.8	-1.6
SDV				S	Sn	17 35 19.4	+1.0
LPAZ	La Paz	21.88	158	P	P	17 36 57.1	-1.1
	0.8nm,0.9s,mb3.1,baz=330,slow=4.8,SNR=4.3						
LPAZ	La Paz	21.88	158	P	P	17 36 58.6	+0.4
	0.3nm,0.5s,mb2.9						
SIV	San Ignacio	25.09	143	P	P	17 37 29.0	0.0
	0.9nm,0.6s,mb3.4,baz=329,slow=8.8,SNR=5.8						
YKA	Yellowknife Ar	64.69	341	P	P	17 42 41.8	+0.3
	0.2nm,0.7s,mb3.0,baz=133,slow=6.2,SNR=4.1						
ASAR	Alice Springs	144.96	234	PKP	PKPdf	17 51 39.9	0.0
	0.4nm,0.6s,baz=129,slow=3.5,SNR=9.0						
WRA	Warramunga Arr	146.24	240	PKPbc	PKPbc	17 51 43.9	+0.6
	0.5nm,0.8s,baz=98,slow=2.6,SNR=5.4						

IDC 03 17:36:59.8±6.8, 2373N×10905W, h0km, mb3.3/1, mb1 4.0/3, mb1mx3.7/17, mbtmp3.6/3, ML3.2/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/12, Error ellipse: s-maj=102.3km s-min=28.6km az=167.0, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.21	288	Pn	Pn	17 37 24.3	+0.4
	14nm,0.3s,baz=342,slow=0.9,SNR=4.6						
LPIG				Sn	Sn	17 37 41.0	0.0
	63nm,0.3s,baz=284,slow=23,SNR=18						
CMIG	Matias Romero	14.83	114	LR	LR	17 46 24.1	
	comp=Z,137nm,21.5s,baz=12,slow=38						
NVAR	Mina Array Bea	16.64	334	Pn	Pn	17 40 58.1	+3.7
	0.1nm,0.3s,baz=140,slow=15,SNR=8.1						
PDAR	Pinedale Array	18.99	359	P	Pn	17 41 22.6	-0.8
	0.1nm,0.3s,baz=172,slow=11,SNR=23						
TEIG	Tepich	19.58	96	LR	LR	17 50 47.5	
	comp=Z,52nm,19.4s,baz=70,slow=42						
YBH	Yreka Blue Hor	21.26	331	LR	LR	17 50 35.2	
	comp=Z,108nm,19.8s,baz=154,slow=38						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	38.35	114	LR	LR	18 02 31.6	
	comp=Z,28nm,21.0s,baz=356,slow=40						
YKA	Yellowknife Ar	38.93	356	P	P	17 44 26.8	-0.4
	0.4nm,0.9s,baz=170,slow=7.3,SNR=4.6						

IDC 03 17:42:43.2±3.1, 433N×9416E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=123.3km s-min=27.4km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.99	108	Pn	Pn	17 44 00.8	+1.4
	0.9nm,0.3s,baz=311,slow=17,SNR=5.0						
PSI				Sn	Sn	17 44 55.0	-2.8
	0.6nm,0.3s,baz=173,slow=19,SNR=3.5						
MKAR	Makanchi Array	43.53	348	P	P	17 50 48.6	0.0
	0.3nm,0.4s,baz=163,slow=8.0,SNR=6.1						
WRA	Warramunga Arr	46.27	123	P	P	17 51 10.2	-0.1
	0.5nm,0.6s,baz=302,slow=9.2,SNR=6.8						
ASAR	Alice Springs	47.70	128	P	P	17 51 22.2	+0.8
	0.2nm,0.5s,baz=300,slow=7.6,SNR=4.4						

IDC 03 17:49:55.3±8.8, 2181N×14291E, h170km±83km, mb3.3/9, mb1 3.5/9, mb1mx3.4/20, mbtmp3.3/9, Error ellipse: s-maj=37.1km s-min=14.6km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.27	324	P	P	17 54 17.9	+0.2
	2.9nm,0.8s,baz=145,slow=8.5,SNR=9.1						
SONM	Songino Array	39.09	321	P	P	17 57 05.4	-0.4
	1.3nm,0.7s,baz=127,slow=7.0,SNR=10						
WRA	Warramunga Arr	42.33	192	P	P	17 57 32.6	+0.3
	0.9nm,0.7s,baz=15,slow=8.9,SNR=9.7						
ASAR	Alice Springs	46.04	192	P	P	17 58 01.8	-0.1
	0.5nm,0.6s,baz=16,slow=8.9,SNR=13						
ZAL	Zalesovo	53.98	322	P	P	17 59 01.4	-0.1
	1.4nm,0.9s,baz=14,slow=6.0,SNR=7.0						
MKAR	Makanchi Array	54.44	313	P	P	17 59 05.8	+0.9
	0.9nm,0.7s,baz=94,slow=8.3,SNR=5.3						
YKA	Yellowknife Ar	76.48	28	P	P	18 01 25.6	-0.7
	0.6nm,0.6s,baz=292,slow=5.9,SNR=10						
NVAR	Mina Array Bea	83.27	51	P	P	18 02 04.5	+1.7
	0.9nm,0.8s,baz=287,slow=5.4,SNR=3.5						
AKASG	Malin Array Be	87.27	324	P	P	18 02 21.9	-0.7
	0.1nm,0.2s,baz=50,slow=5.3,SNR=4.0						

*ISCJB **03** 18:44:10.2±0.5, 5027N±003×1881E±003, h0km, Error ellipse: s-maj=4.9km s-min=2.5km az=26.0*
*WAR **03** 18:44:11.5, 5024N×1890E, ML2.7, Mining Induced*
*PRU **03** 18:44:11.9, 5026N×1880E, h0km*
*CSEM **03** 18:44:11.6±0.2, 5028N×1887E, h1km, ML3.3/6, Error ellipse: s-maj=5.7km s-min=2.8km az=10.0*
*IPEC **03** 18:44:11.5±0.1, 5024N×1885E, h0km, ML2.2/4, Error ellipse: s-maj=2.4km s-min=0.8km az=169.0*

ISC 03 18:44:11.2±0.5, 5025N±003×1882E±003, h0km, n30, σ1§16/50, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.44	247	ePg	Pg	18 44 21.1	+1.5
RAC				eSg	Sg	18 44 28.2	+3.0
OKC	Ostrava-Krasne	0.60	226	ePG	Pg	18 44 23.5	+0.8
OKC				eSG	Sg	18 44 32.4	+1.9
	44nm,0.3s						
OKC	Ostrava-Krasne	0.60	226	ePg	Pg	18 44 23.8	+1.1
OKC				eSg	Sg	18 44 32.4	+1.9
	44nm,0.3s						
OJC	Ojcow	0.63	93	ePg	Pg	18 44 22.9	-0.4
OJC				eSg	Sg	18 44 31.1	-0.4
OJC	Ojcow	0.63	93	ePg	Pg	18 44 22.8	-0.5
OJC				eSg	Sg	18 44 30.9	-0.6
MORC	Moravsky Berou	0.95	240	⇓iP	Pg	18 44 30.3	+0.8
MORC	Moravsky Berou	0.95	240	ePg	Pg	18 44 30.0	+0.5
MORC				eSg	Sg	18 44 42.3	+0.5
	33nm,0.1s						
LIKS	Likavka	1.22	171	eSN	Sn	18 44 52.7	0.0
NIE	Niedzica	1.28	130	ePg	Pg	18 44 34.9	-0.8
NIE				eSg	Sg	18 44 52.1	-0.2
JAVC	Velka Javorina	1.58	209	eSg	Sg	18 45 03.0	+0.9
	13nm,0.3s						
DPC	Dobruska-Polom	1.60	274	ePG	Pg	18 44 40.9	-1.1
DPC				eSG	Sg	18 45 02.0	-0.8
	20nm,0.4s						
DPC	Dobruska-Polom	1.60	274	ePn	Pn	18 44 40.8	0.0
DPC	Dobruska-Polom	1.60	274	ePg	Pg	18 44 40.9	-1.1
DPC				eSg	Sg	18 45 02.6	-0.2
KSP	Ksiaz	1.72	291	ePn	Pn	18 44 42.9	+0.6
KSP				ePg	Pg	18 44 44.3	+0.2
KSP				eSg	Sg	18 45 07.8	+1.4
VRAC	Vranov	1.72	238	⇑iP	Pn	18 44 43.5	+1.0
VRAC	Vranov	1.72	238	ePn	Pn	18 44 43.2	+0.7
VRAC				eSg	Sg	18 45 05.6	-1.0
	34nm,0.3s						
VYHS	Vyhne	1.76	180	ePN	Pn	18 44 42.2	-0.8
VYHS				eSN	Sn	18 45 04.3	-1.8
STHS	Stebnicka Huta	1.78	117	ePN	Pn	18 44 44.2	+1.0
STHS				eSN	Sn	18 45 08.6	+2.1
UPC	Upice	1.81	279	ePG	Pg	18 44 45.0	-1.0
KRUC	Moravsky	1.98	234	ePn	Pn	18 44 46.3	+0.4
KRUC				eSg	Sg	18 45 12.7	-2.0
	11nm,0.2s						
KECS	Kecovo	2.08	148	ePN	Pn	18 44 46.0	-1.3
KECS				eSN	Sn	18 45 15.0	+1.1
CRVS	Cervenica-Dubn	2.19	127	ePN	Pn	18 44 50.6	+1.8
CRVS				eSN	Sn	18 45 21.5	+4.9
KOLS	Kolonicke sedl	2.61	119	ePN	Pn	18 44 58.5	+3.9
KOLS				eSN	Sn	18 45 25.5	-1.5
PVCC	Panska Ves	2.73	277	eSG	Sg	18 45 39.7	+0.6
	14nm,0.4s						
PRU	Pruhonice	2.77	266	ePG	Pg	18 45 00.2	-4.0
PRU				eSG	Sg	18 45 37.5	-2.6
KHC	Kasperske Hory	3.58	254	ePG	Pg	18 45 14.9	-5.0
KHC				eSG	Sg	18 46 05.0	-1.3
	11nm,0.5s						
CLL	Collm	3.84	288	eSg	Sg	18 46 15.0	+0.4
NKC	Novy Kostel	4.09	272	eSG	Sg	18 46 21.3	-1.3

SONM Songino Array 46.90 293 P P 19 02 47.4 +0.6
0.5nm,0.7s,mb3.5,baz=39,slow=7.4,SNR=4.5
ZAL Zalesovo 48.48 313 P P 19 02 58.7 -0.4
0.8nm,0.3s,mb4.3,baz=147,slow=12,SNR=3.2
FINES FINESS Array B 50.91 354 P P 19 03 17.4 -0.1
1.8nm,1.0s,mb4.0,baz=350,slow=5.8,SNR=4.1
MKAR Makanchi Array 55.60 311 P P 19 03 50.3 -1.8
0.5nm,0.5s,mb3.8,baz=35,slow=6.2,SNR=8.0
AKASG Malin Array Be 61.47 351 P P 19 04 30.3 -2.7
0.9nm,0.7s,mb4.0,baz=6.5,slow=6.7,SNR=5.8
GERES GERESS Array B 63.71 2 P P 19 04 47.5 -0.5
0.6nm,0.8s,mb3.7,baz=357,slow=2.7,SNR=3.5

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*NEIC **03** 19:04:27.4, 34.35N±2.532E, h35km, MD3.5(ATH), After ATH.*
*CSEM **03** 19:04:27.4, 34.35N±2.532E, h35km, MD3.5/5, After ATH*
ATH 03 19:04:27.4, 34.35N±2.532E, h35km±8km, MD3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.61**	**30**	*e*PN	Pn	19 04 39.5	0.0
XRY				*e*SN	Sn	19 04 50.0	+1.9
NPS	**Neapolis**	**0.94**	**15**	*e*PN	Pn	19 04 45.0	+0.9
GVD	**Gavdhos**	**1.13 296**		*e*PN	Pn	19 04 49.0	+2.3
VAM	**Vamos**	**1.40 319**		*e*PB	Pn	19 04 52.0	+1.6
KARP	**Karpathos**	**1.93**	**51**	*e*PN	Pn	19 05 00.0	+2.3

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*IDC **03** 19:27:06.3±0.7, 45.35S×1529W, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.4/16, mbtmp4.4/14, MS4.2/15, Ms1 4.2/15, ms1mx4.2/18, Error ellipse: s-maj=26.1km s-min=15.1km az=1.0*
*ISCJB **03** 19:27:08.2±0.4, 44.79S±0.007×1532W±0.10, h10km, mb4.6/23, MS4.3/17, Error ellipse: s-maj=10.7km s-min=9.3km az=102.9*
*NEIC **03** 19:27:09.7±0.4, 44.79S×1529W, h10km, mb4.9/12, Error ellipse: s-maj=14.0km s-min=10.3km az=158.0*
*GCMT **03** 19:27:09.7±0.3, 45.38S×1525W, h12km, MW5.1/70, Moment Tensor Solution. s24,c27; s70,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.95±.15; $M_{\theta\theta}$-0.34±.17; $M_{\phi\phi}$4.29±.12; $M_{r\theta}$-2.69±.56; $M_{r\phi}$0.08±.14; $M_{\theta\phi}$3.06±.46; Best double couple: $M_0$5.77000×10^{16} NP1:φs21.00000°, δ30.00000°, λ-48.00000°. NP2: φs155.00000°, δ68.00000°, λ-112.00000°. Principal axes: T 5.4180, Plg20.0000°, Azm261.0000°; N 0.7050, Plg20.0000°, Azm163.0000°; P -6.1230, Plg61.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **03** 19:27:11.6, 44.80S×1530W, h10km, mB5.4, Ms5.0, Msz4.5*
ISC 03 19:27:09.9±0.3, 44.81S±0.007×1528W±0.10, h10km, n73, σ1§04/44, mb4.6/23, MS4.3/17, 2C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**26.47 174**		*e*	**P**	**19 32 47.5**	**+0.4**
	baz=345,slow=8.6						
VNA2				*e*		19 32 53.5	
VNA2				*e*		19 32 55.9	
VNA2				*e*		19 33 01.3	
VNA3	**Neumayer Olymp**	**26.65 176**		*e*	**P**	**19 32 49.1**	**+0.4**
VNA3				*e*	pP	19 32 53.8	+2.0
VNA3				*e*		19 32 59.9	
VNA3				*e*		19 33 04.4	
SNAA	**Sanae**	**27.60 172**		P	**P**	**19 32 56.1**	**-1.2**
	0.9nm,0.9s,mb3.4,baz=348,slow=10,SNR=4.9						
SNAA				LR	LR	19 41 22.8	
	comp=Z,67nm,20.0s,MS3.2,baz=22,slow=32						
SNAA	**Sanae**	**27.60 172**		*e*	**P**	**19 32 56.3**	**-1.0**
SNAA				*e*	pP	19 33 00.3	0.0
SNAA	**Sanae**	**27.60 172**		*e*P	**P**	**19 32 56.2**	**-1.0**
	8.6nm,1.2s,mb4.3						
SUR	**Sutherland**	**30.57**	**79**	LR	LR	19 42 40.9	
	comp=Z,1um,18.2s,MS4.6,baz=220,slow=30						
PMSA	**Palmer Station**	**33.31 216**		*e*P	**P**	**19 33 46.3**	**-1.5**
USHA	**Ushuaia**	**34.93 234**		LR	LR	19 44 18.7	
	comp=Z,166nm,21.1s,MS3.8,baz=278,slow=30						
TRQA	**Tornquist**	**35.26 264**		*e*P	**P**	**19 34 05.0**	**+0.3**
	22nm,1.3s,mb4.9						
BOSA	**Boshof**	**35.88**	**77**	P	**P**	**19 34 09.3**	**-0.6**
	2.5nm,0.8s,mb4.2,baz=202,slow=11,SNR=2.9						
BOSA				LR	LR	19 45 51.9	
	comp=Z,430nm,19.0s,MS4.2,baz=228,slow=31						
BOSA	**Boshof**	**35.88**	**77**	P	**P**	**19 34 09.3**	**-0.6**
BOSA				LR	LR	19 45 51.9	
SYO	**Syowa Base**	**36.60 150⇓**		*e*pP	pP	19 34 15.7	-3.5
SYO	**Syowa Base**	**36.60 150⇑**		*e*sP	sP	19 34 17.0	-3.5
SYO	**Syowa Base**	**36.60 150⇑**		*e*PcP	PcP	19 36 38.0	-1.2
TSUM	**Tsumeb**	**37.38**	**58**	P	**P**	**19 34 23.3**	**+0.6**
	3.3nm,0.6s,mb4.3,baz=217,slow=7.9,SNR=7.0						
TSUM	**Tsumeb**	**37.38**	**58**	*e*P	**P**	**19 34 23.8**	**+1.1**
	18nm,1.4s,mb4.7						
LBTB	**Lobatse**	**38.40**	**73**	P	**P**	**19 34 31.3**	**-0.1**
	4.1nm,0.8s,mb4.2,baz=233,slow=12,SNR=5.4						
LBTB	**Lobatse**	**38.40**	**73**	*e*P	**P**	**19 34 31.0**	**-0.4**
	7.6nm,0.8s,mb4.5						
CFAA	**Coronel Fontan**	**42.93 269**		P	**P**	**19 35 07.5**	**-1.3**
	0.9nm,1.0s,mb3.5,baz=100,slow=6.8,SNR=6.7						
MATP	**Matopo**	**43.47**	**71**	P	**P**	**19 35 12.3**	**-0.9**
	3.6nm,0.7s,mb4.2,baz=237,slow=8.4,SNR=16						
MATP	**Matopo**	**43.47**	**71**	P	**P**	**19 35 12.3**	**-0.9**
MAW	**Mawson**	**45.19 148**		P	**P**	**19 35 20.4**	**-6.5**
	18nm,0.3s,mb5.3,baz=266,slow=11,SNR=198						
MAW				LR	LR	19 50 56.7	
	comp=Z,292nm,19.3s,MS4.2,baz=148,slow=32						
QSPA	**South Pole Qui**	**45.45 180**		*e*P	**P**	**19 35 30.2**	**+1.2**
	46nm,0.9s,mb5.3						
LSZ	**Lusaka**	**46.96**	**65**	*e*P	**P**	**19 35 41.7**	**+0.8**
SIV	**San Ignacio**	**47.96 292**		P	**P**	**19 35 48.2**	**-0.4**
	2.7nm,0.7s,mb4.4,baz=141,slow=8.3,SNR=14						
LIC	**Lamto**	**51.63**	**13**	*e*P	**P**	**19 36 14.3**	**-2.3**
	99nm,1.3s,mb5.3						
LIC	**Lamto**	**51.63**	**13**	*e*P	**P**	**19 36 14.3**	**-2.3**
	49nm,1.3s,mb5.3						
LPAZ	**La Paz**	**52.51 285**		P	**P**	**19 36 22.0**	**-1.1**
	1.2nm,0.6s,mb4.0,baz=114,slow=7.9,SNR=6.4						
LPAZ				LR	LR	19 58 46.6	
	comp=Z,658nm,18.2s,MS4.7,baz=290,slow=36						
LPAZ	**La Paz**	**52.51 285**		P	**P**	**19 36 22.0**	**-1.1**
LPAZ				LR	LR	19 58 46.6	
SAML	**Samuel**	**54.55 296**		*e*P	**P**	**19 36 38.3**	**+0.1**
	5.6nm,0.8s,mb4.7						
ARE	**Arequipa**	**54.72 282**		*e*P	**P**	**19 36 41.0**	**+1.7**
VNDA	**Vanda**	**57.93 179**		P	**P**	**19 37 01.4**	**-0.9**
	7.1nm,1.0s,mb4.6,baz=204,slow=6.5,SNR=11						
VNDA				LR	LR	19 59 23.5	
	comp=Z,155nm,19.2s,MS4.1,baz=158,slow=34						
VNDA	**Vanda**	**57.93 179**		*e*P	**P**	**19 37 03.4**	**+1.1**
	24nm,1.4s,mb5.0						
TOA0	**Torodi Ar. Sit**	**59.71**	**19**	*e*P	**P**	**19 37 14.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**59.71**	**19**	P	**P**	**19 37 14.7**	**+0.1**
	13nm,1.0s,mb4.9,baz=198,slow=6.7,SNR=58						
TORD				LR	LR	19 57 47.7	
	comp=Z,119nm,21.6s,MS4.0,baz=185,slow=31						
NNA	**Nana**	**61.54 282**		LR	LR	20 02 21.3	
	comp=Z,187nm,21.4s,MS4.2,baz=135,slow=34						
KMBO	**Kilima Mbogo**	**63.47**	**62**	LR	LR	20 03 12.2	
	comp=Z,483nm,19.1s,MS4.7,baz=273,slow=34						
OTAV	**Otavalo**	**71.44 290**		P	**P**	**19 38 32.8**	**+2.4**
	22nm,1.7s,mb4.8						
ROSC	**El Rosal**	**72.20 296**		P	**P**	**19 38 35.2**	**+0.2**
	2.8nm,0.5s,mb4.5,baz=86,slow=22,SNR=4.8						
ROSC				LR	LR	20 09 13.3	
	comp=Z,426nm,18.2s,MS4.8,baz=29,slow=35						
SDV	**Santo Domingo**	**73.02 302**		P	**P**	**19 38 40.1**	**+0.2**
	1.1nm,0.4s,mb4.1,baz=170,slow=17,SNR=3.0						
SDV	**Santo Domingo**	**73.02 302**		P	**P**	**19 38 40.1**	**+0.2**
KEST	**Kesra**	**83.22**	**20**	P	**P**	**19 39 38.0**	**+1.5**
	4.3nm,1.0s,mb4.5,baz=210,slow=5.4,SNR=10.0						
KEST				LR	LR	20 11 45.9	
	comp=Z,78nm,18.5s,MS4.1,baz=246,slow=32						
ESDC	**Sonseca Array**	**84.72**	**9**	P	**P**	**19 39 44.9**	**+0.8**
	5.4nm,1.0s,mb4.7,baz=182,slow=5.1,SNR=14						
ETSF	**Etsaut**	**88.31**	**11**	*e*P	**P**	**19 40 01.6**	**-0.1**
	51nm,1.3s,mb5.3						
ETSF	**Etsaut**	**88.31**	**11**	*e*P	**P**	**19 40 01.6**	**-0.1**
	26nm,1.3s,mb5.3						
TIP	**Timpagrande**	**88.45**	**24**	*e*P	**P**	**19 40 01.4**	**-0.9**
EPF	**Esparros**	**88.56**	**11**	*e*P	**P**	**19 40 02.1**	**-0.8**
SMRF	**Simiane la Rot**	**90.33**	**15**	*e*P	**P**	**19 40 09.8**	**-1.3**
	25nm,1.1s,mb5.2						
SMRF	**Simiane la Rot**	**90.33**	**15**	*e*P	**P**	**19 40 09.8**	**-1.3**
	25nm,1.1s,mb5.5						
TEIG	**Tepich**	**92.63 296**		LR	LR	20 18 28.2	
	comp=Z,156nm,21.8s,MS4.4,baz=140,slow=33						
RKT	**Rikitea**	**92.89 233**		*e*LR	LR	20 10 09.9	
	248nm,31.8s						
BR131	**Keskin Array S**	**94.95**	**36**	P	**P**	**19 40 34.7**	**+2.2**
	3.2nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**94.95**	**36**	P	**P**	**19 40 33.5**	**+1.1**
	1.7nm,1.0s,mb4.4,baz=188,slow=8.4,SNR=8.6						
BRTR				LR	LR	20 20 53.7	
	comp=Z,85nm,19.2s,MS4.2,baz=182,slow=34						
GERES	**GERESS Array B**	**96.66**	**19**	LR	LR	20 20 49.8	
	comp=Z,178nm,18.4s,MS4.6,baz=261,slow=33						
TBI	**Tubuai**	**100.32 222**		*e*LR	LR	20 13 40.1	
	206nm,29.5s						
PPT	**Papeete**	**105.28 225**		*e*PS	PS	19 54 50.8	-4.1
	45nm,26.0s						
PPT	**Papeete**	**105.28 225**		*e*SS	SS	20 00 32.8	-2.8
	58nm,29.0s						
PPT				*e*LR	LR	20 15 55.0	
	285nm,30.8s						
PDAR	**Pinedale Array**	**120.95 301**		PKP	PKPdf	19 45 59.5	-3.1
	0.8nm,1.0s,baz=116,slow=6.8,SNR=5.2						
BVAR	**Borovoye Array**	**121.82**	**45**	PKP	PKPdf	19 46 03.0	-1.2
	0.6nm,0.8s,baz=186,slow=1.5,SNR=5.3						
MKAR	**Makanchi Array**	**125.08**	**56**	PKP	PKPdf	19 46 07.8	-2.7
	1.3nm,0.9s,baz=190,slow=1.2,SNR=3.7						
KMI	**Kunming**	**126.84**	**90**	PKP	PKPdf	19 46 17.0	+3.2
KMI				XPKP		19 46 22.3	
KMI				PP	PP	19 48 16.6	+5.5
KMI				SS	SS	20 05 26.7	+9.0
KMI				LR	LR		
	comp=Z,69nm,29.4s,MS4.2						
ZAL	**Zalesovo**	**129.80**	**49**	PKP	PKPdf	19 46 16.8	-2.6
	comp=Z,0.5nm,0.6s,baz=217,slow=5.1,SNR=2.9						
CD2	**Chengdu**	**130.99**	**85**	*e*PKP	PKPdf	19 46 21.2	-0.5
YKA	**Yellowknife Ar**	**132.50 322**		PKP	PKPdf	19 46 21.6	-2.9
	comp=Z,0.8nm,0.7s,baz=112,slow=2.4,SNR=10.0						
SONM	**Songino Array**	**140.43**	**64**	PKP	PKPdf	19 46 37.0	-2.2
	comp=Z,1.1nm,0.9s,baz=232,slow=2.7,SNR=6.4						
HHC	**Hu-ho-hao-te**	**141.39**	**77**	*e*PKP	PKPdf	19 46 37.9	-3.1
HHC				PP	PP	19 49 44.4	+0.8
HHC				PKS		19 50 12.9	
HHC				SKS	SKSdf	19 53 45.8	-5.3
HHC				SKKS	SKKSac	19 56 36.0	-1.2
HHC				SS	SS	20 08 12.4	-0.8
HHC				PP	PP		
	comp=Z,168nm,9.5s						
HHC				LR	LR		
	comp=N,209nm,21.4s,MS5.1						
HHC				LR	LR		
	comp=E,288nm,20.2s,MS5.1						
DAWY	**Dawson**	**143.74 322**		*e*PKPpre		19 46 41.6	
BJI	**Beijing**	**144.28**	**80**	*e*PKP	PKPdf	19 46 50.4	+4.3
COLA	**College**	**147.22 324**		*e*PKPbc	PKPbc	19 46 52.1	-1.3
MCK	**McKinley**	**147.96 323**		*e*PKPdf	PKPdf	19 46 52.2	-0.1
TIXI	**Tiksi**	**148.10**	**21**	*e*PKPbc	PKPbc	19 46 54.0	-1.7
PMR	**Palmer**	**148.51 319**		*e*PKPbc	PKPbc	19 46 56.1	-0.7
KSRS	**Korea Array**	**151.51**	**92**	PKPbc	PKPbc	19 47 01.3	-2.8
	comp=E,1.2nm,0.9s,baz=210,slow=2.8,SNR=5.4						
KSRS				PKPab	PKPab	19 47 10.2	-2.3
	comp=E,3.2nm,0.9s,baz=251,slow=2.9,SNR=6.3						

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*ISCJB **03** 19:30:42.2±2.3, 6776N±006×1635W±0.1, h10km±15km, mb3.8/6, Error ellipse: s-maj=10.7km s-min=7.1km az=56.3*
*IDC **03** 19:30:43.6±1.5, 6794N×16392W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, Error ellipse: s-maj=58.8km s-min=21.6km az=23.0*
*NEIC **03** 19:30:43.9, 6771N×16342W, h10km, ML3.4(AEIC), After AEIC.*
ISC 03 19:30:43.9±2.7, 6778N±006×1636W±0.1, h11km±18km, n17, σ1§11/21, mb3.8/6, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.82 220**		P	**Pn**	**19 31 29.0**	**+0.1**
TNA				S	**Sn**	**19 32 04.8**	**+2.0**
GCSA	**Galena City Sc**	**4.07 135**		P	**Pn**	**19 31 46.1**	**0.0**
GCSA				S	**Sn**	**19 32 32.3**	**-1.5**
IM3	**Indian Mountai**	**4.27 110**		P	**Pn**	**19 31 49.1**	**+0.2**
IM3				S	**Sn**	**19 32 40.4**	**+1.6**
COLD	**Coldfoot**	**5.17**	**90**	P	**Pn**	**19 32 01.6**	**+0.4**
TT01	**Tatalina**	**5.82 144**		P	**Pn**	**19 32 09.2**	**-1.0**
TT01				S	**Sn**	**19 33 15.4**	**-1.5**
KTH	**Kantishna Hill**	**6.72 123**		P	**Pn**	**19 32 22.7**	**+0.2**
COLA	**College**	**6.96 107**		P	**Pn**	**19 32 25.3**	**-0.5**
TRF	**Thorofare Moun**	**7.00 122**		P	**Pn**	**19 32 26.4**	**+0.1**
SVW2	**Sparrevohn**	**7.54 149**		*e*Pn	**Pn**	**19 32 33.4**	**-0.4**
YKA	**Yellowknife Ar**	**20.77**	**81**	P	**P**	**19 35 27.1**	**+2.4**
	0.8nm,0.6s,baz=304,slow=10,SNR=9.6						
NVAR	**Mina Array Bea**	**38.49 116**		P	**P**	**19 38 08.6**	**+2.5**
	0.3nm,0.3s,mb3.5,baz=318,slow=8.9,SNR=3.9						
SONM	**Songino Array**	**46.90 293**		P	**P**	**19 39 14.6**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=38,slow=7.3,SNR=4.0						
ZAL	**Zalesovo**	**48.48 313**		P	**P**	**19 39 25.9**	**-0.6**
	0.7nm,0.6s,mb3.9,baz=110,slow=9.2,SNR=4.4						
ZAL	**Zalesovo**	**48.48 313**		P	**P**	**19 39 25.9**	**-0.6**
FINES	**FINESS Array B**	**50.89 354**		P	**P**	**19 39 44.0**	**-0.8**
	2.5nm,0.9s,mb4.1,baz=19,slow=8.8,SNR=4.7						
BVAR	**Borovoye Array**	**53.00 322**		P	**P**	**19 40 00.1**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=30,slow=5.4,SNR=4.2						
MKAR	**Makanchi Array**	**55.59 311**		P	**P**	**19 40 18.1**	**-1.5**
	0.6nm,0.5s,mb3.9,baz=38,slow=7.5,SNR=10						

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*ISCJB **03** 19:41:19.3±2.0, 49N±0.1×773W±0.1, h66km±19km, mb3.2/3, Error ellipse: s-maj=27.7km s-min=12.3km az=75.7*
*NEIC **03** 19:41:21.2±1.4, 488N×7737W, h67km±13km, mb3.6/1, Error ellipse: s-maj=19.3km s-min=12.3km az=123.0*
*IDC **03** 19:41:24.4±4.0, 494N×77.16W, h91km±34km, mb3.3/3, mb1 3.4/5, mb1mx3.2/17, mbtmp3.3/5, Error ellipse: s-maj=34.9km s-min=26.6km az=78.0*
ISC 03 19:41:21.6±1.8, 49N±01×773W±01, h70km±17km, n11, σ0§83/11, mb3.2/3, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.97**	**90**	P	**Pn**	**19 42 09.2**	**+2.8**
	4.3nm,0.3s,baz=270,slow=2.5,SNR=10.0						
ROSC	**El Rosal**	**2.97**	**90**	*e*Pn	**Pn**	**19 42 08.2**	**+1.8**
OTAV	**Otavalo**	**4.73 194**		*e*Pn	**Pn**	**19 42 30.2**	**-0.3**
SDV	**Santo Domingo**	**7.74**	**59**	P	**Pn**	**19 43 11.2**	**-0.4**
	1.0nm,0.3s,baz=301,slow=10,SNR=8.9						
SDV				S	**Sn**	**19 44 37.1**	**-0.6**
	0.6nm,0.3s,baz=306,slow=14,SNR=2.9						
SDV	**Santo Domingo**	**7.74**	**59**	*e*P	**Pn**	**19 43 11.1**	**-0.5**
SDV				S	**Sn**	**19 44 37.1**	**-0.6**
SAML	**Samuel**	**19.66 134**		*e*P	**Pn**	**19 45 46.0**	**-0.9**
	1.7nm,0.5s						
SIV	**San Ignacio**	**26.22 143**		P	**P**	**19 46 50.0**	**+0.1**
	0.6nm,0.5s,mb3.3,baz=324,slow=8.7,SNR=4.4						
YKA	**Yellowknife Ar**	**63.73 342**		P	**P**	**19 51 45.9**	**0.0**
	0.2nm,0.6s,mb3.1,baz=137,slow=5.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**78.22**	**78**	P	**P**	**19 53 14.3**	**+0.7**
	0.3nm,0.5s,mb3.3,baz=282,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**144.59 235**		PKP	PKPdf	20 00 50.5	+0.4
	1.0nm,0.6s,baz=121,slow=3.8,SNR=23						
WRA	**Warramunga Arr**	**145.75 241**		PKPbc	PKPbc	20 00 54.2	+1.5
	1.4nm,0.8s,baz=109,slow=3.4,SNR=8.0						

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*ISCJB **03** 19:51:02.6±0.5, 4751N±002×742E±003, h15km±8km, Error ellipse: s-maj=3.9km s-min=2.8km az=138.4*
*STR **03** 19:51:03.8±0.3, 4759N×761E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **03** 19:51:04.0, 4758N×760E, h5km±1km, ML1.7*
*LDG **03** 19:51:04.4±0.1, 4758N×753E, h2km, Md2.2/3, Ml2.3/17, Error ellipse: s-maj=1.5km s-min=0.9km az=87.0*
ISC 03 19:51:03.5±0.5, 4755N±002×752E±003, h18km±6km, n29, σ0§86/50, 2C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25 151**		*e*Sg	**Pg**	**19 51 09.4**	**+0.3**
	455nm,0.3s						
BALST	**Balsthal**	**0.25 151**		⇓*i*Pg	**Sg**	**19 51 13.1**	**+0.2**
	455nm,0.3s						
BOURR	**Bourrignon**	**0.25 231**		⇑*i*Pg	**Pg**	**19 51 10.5**	**+1.4**
	94nm,0.3s						
MOF	**Molkenrain**	**0.40 319**		Pg	**Pg**	**19 51 12.0**	**+0.4**
MOF				Sg	**Sg**	**19 51 17.7**	**+0.6**
SULZ	**Sulz-Cheisache**	**0.41**	**93**	⇓*i*Pg	**Pg**	**19 51 11.0**	**-0.8**
	140nm,0.5s						
SULZ				*i* Sg	**Sg**	**19 51 16.0**	**-1.4**
	140nm,0.5s						
LOMF	**Lomont**	**0.51 247**		Pg	**Pg**	**19 51 15.2**	**+1.5**
LOMF				Sg	**Sg**	**19 51 23.2**	**+2.7**
HINF	**Hinteralfeld**	**0.52 301**		*e*Pg	**Pg**	**19 51 14.2**	**+0.3**
HINF				*e*Sg	**Sg**	**19 51 21.2**	**+0.3**
	23nm,0.2s						
SLE	**Schleitheim**	**0.69**	**72**	⇑*i*Pg	**Pg**	**19 51 18.7**	**+1.6**
	210nm,0.4s						
ECH	**Echery**	**0.71 340**		Pg	**Pg**	**19 51 17.5**	**+0.2**
ECH				Sg	**Sg**	**19 51 26.4**	**-0.3**
CDF	**Champ du Feu**	**0.88 349**		*e*Pg	**Pg**	**19 51 20.6**	**+0.1**
CDF				*e*Sg	**Sg**	**19 51 31.2**	**-0.9**
	18nm,0.2s						
WIMIS	**Wimmis**	**0.89 175**		*e*Sg	**Sg**	**19 51 30.6**	**-2.0**
	27nm,0.6s						
HAU	**Haudompre**	**0.91 300**		*e*Pg	**Pg**	**19 51 21.3**	**+0.2**
HAU				*e*Sg	**Sg**	**19 51 34.4**	**+1.3**
	24nm,0.3s						
GIMEL	**Gimel**	**1.33 220**		⇓*i*Pg	**Pg**	**19 51 34.3**	**+5.2**
	31nm,1.4s						
CABF	**La Chapelle**	**1.36 227**		*e*Pg	**Pg**	**19 51 30.8**	**+1.2**
CABF				*e*Sg	**Sg**	**19 51 47.8**	**+0.5**
	5.9nm,0.3s						
SFTF	**Sexfontaines**	**1.79 292**		*e*Pg	**Pg**	**19 51 38.1**	**+0.2**
SFTF				*e*Sg	**Sg**	**19 52 01.2**	**0.0**
	2.3nm,0.2s						
MEZF	**Maizieres J'vi**	**1.91 301**		*e*Pg	**Pg**	**19 51 39.1**	**-1.0**
MEZF				*e*Sg	**Sg**	**19 52 04.5**	**-0.4**
	1.4nm,0.2s						
LPL	**La Plagne**	**2.11 195**		*e*Pg	**Pg**	**19 51 44.4**	**+0.5**
LPL				*e*Sg	**Sg**	**19 52 12.1**	**+0.8**
	1.1nm,0.3s						
LPG	**La Plagne**	**2.12 195**		*e*Pg	**Pg**	**19 51 44.5**	**+0.3**
LPG				*e*Sg	**Sg**	**19 52 12.8**	**+1.0**
	1.7nm,0.2s						
LOR	**Lormes**	**2.50 265**		*e*Pn	**Pn**	**19 51 44.7**	**+1.4**
LOR	**Lormes**	**2.50 265**		*e*Pg	**Pg**	**19 51 51.2**	**-0.2**
LOR				*e*Sg	**Sg**	**19 52 23.5**	**-0.4**
	4.8nm,0.3s						
SMF	**Signal de Mont**	**2.67 251**		*e*Pg	**Pg**	**19 51 54.0**	**-0.7**
SMF				*e*Sg	**Sg**	**19 52 28.9**	**-0.4**
	3.1nm,0.3s						
SSF	**Saint Saulge**	**2.77 261**		*e*Pn	**Pn**	**19 51 48.0**	**+1.0**
SSF	**Saint Saulge**	**2.77 261**		*e*Pg	**Pg**	**19 51 56.3**	**-0.3**
SSF				*e*Sg	**Sg**	**19 52 31.6**	**-1.0**
	8.7nm,0.6s						
ORIF	**Oris-en-Rattie**	**2.87 204**		*e*Pg	**Pg**	**19 51 58.2**	**-0.3**
ORIF				*e*Sg	**Sg**	**19 52 35.9**	**+0.2**
	1.0nm,0.3s						
MBDF	**Montbardon**	**2.87 191**		*e*Pg	**Pg**	**19 51 58.4**	**-0.2**
MBDF				*e*Sg	**Sg**	**19 52 35.6**	**-0.2**
	2.6nm,0.5s						
AVF	**Avril sur Loir**	**2.94 257**		*e*Pg	**Pg**	**19 51 59.3**	**-0.5**
AVF				*e*Sg	**Sg**	**19 52 37.2**	**-0.8**
	1.1nm,0.3s						
HYF	**Humbligny**	**3.32 267**		*e*Pg	**Pg**	**19 52 05.9**	**-1.3**
HYF				*e*Sg	**Sg**	**19 52 49.4**	**-0.8**
VIVF	**Saint-Julien-l**	**3.34 217**		*e*Pg	**Pg**	**19 52 07.1**	**-0.4**
VIVF				*e*Sg	**Sg**	**19 52 49.5**	**-1.3**
	1.7nm,0.3s						
BGF	**Bois d'Agland**	**3.34 254**		*e*Pg	**Pg**	**19 52 06.8**	**-0.7**
BGF				*e*Sg	**Sg**	**19 52 50.1**	**-0.8**
	3.0nm,0.3s						

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*IDC **03** 19:53:46.9±1.6, 6777N×16397W, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.6/23, mbtmp3.6/7, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/31, Error ellipse: s-maj=61.0km s-min=18.7km az=25.0*
*ISCJB **03** 19:53:47.6±2.7, 6772N±006×1634W±0.1, h22km±22km, mb3.6/6, MS3.4/2, Error ellipse: s-maj=9.7km s-min=8.9km az=37.2*
*NEIC **03** 19:53:48.5, 6760N×16332W, h10km, ML3.3(AEIC), After AEIC.*
ISC 03 19:53:49.1±3.0, 6772N±006×1635W±01, h19km±20km, n20, σ1§06/23, mb3.6/6, MS3.4/2, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.80 221**		P	**Pn**	**19 54 32.4**	**-0.4**
TNA				S	**Sn**	**19 55 08.0**	**+1.9**
GCSA	**Galena City Sc**	**4.01 135**		P	**Pn**	**19 54 49.3**	**-0.3**
GCSA				S	**Sn**	**19 55 35.7**	**-0.4**
IM3	**Indian Mountai**	**4.23 110**		P	**Pn**	**19 54 52.5**	**-0.1**
COLD	**Coldfoot**	**5.14**	**89**	P	**Pn

MOOW	**Moose Ponds**	**4.01 273**	*e*Pn	**Pn**	**20 08 48.0 +0.5**
MOOW			*e*Pg	**Pg**	**20 08 57.7 -4.0**
MOOW			*e*Sn	**Sn**	**20 09 36.5 +1.2**
SNOW	**Snow King Moun**	**4.04 269**	*e*Pn	**Pn**	**20 08 49.0 +1.2**
SNOW			*e*Pg	**Pg**	**20 08 58.5 -3.7**
SNOW			*e*Sn	**Sn**	**20 09 37.1 +1.3**
YNR	**Norris Junctio**	**4.07 287**	*e*Pn	**Pn**	**20 08 47.5 -0.7**
YNR			*e*Pg	**Pg**	**20 08 56.9 -5.8**
REDW	**Red Top Meadow**	**4.12 267**	*e*Pn	**Pn**	**20 08 49.3 +0.3**
REDW			*e*Pg	**Pg**	**20 09 03.1 -0.6**
REDW			*e*Sn	**Sn**	**20 09 37.2 -0.6**
REDW			*e*Sg	**Sg**	**20 09 57.1 0.0**
IMW	**Indian Meadow**	**4.16 275**	*e*Pn	**Pn**	**20 08 51.0 +1.6**
IMW			*e*Pg	**Pg**	**20 09 01.2 -3.2**
IMW			*e*Sn	**Sn**	**20 09 40.1 +1.4**
TPAW	**Teton Pass**	**4.18 269**	*e*Pn	**Pn**	**20 08 50.1 +0.4**
TPAW			*e*Pg	**Pg**	**20 09 01.5 -3.3**
TPAW			*e*Sn	**Sn**	**20 09 31.1 -8.2**
TPAW			*e*Sg	**Sg**	**20 09 57.8 -1.2**
YMR	**Madison River**	**4.26 285**	*e*Pn	**Pn**	**20 08 53.2 +2.4**
YMR			*e*Pg	**Pg**	**20 09 05.2 -1.1**
YMR			*e*Sn	**Sn**	**20 09 46.4 +5.2**
YMR			*e*Sg	**Sg**	**20 10 02.1 +0.5**
DCID1	**Drake Creek**	**4.34 271**	*e*Pn	**Pn**	**20 08 53.4 +1.4**
DCID1			*e*Pg	**Pg**	**20 09 08.1 +0.2**
DCID1			*e*Sn	**Sn**	**20 09 43.1 -0.2**
DCID1			*e*Sg	**Sg**	**20 09 59.9 -4.3**
RRI2	**Red Ridge**	**4.46 268**	*e*Pn	**Pn**	**20 08 43.8 -10**
RRI2			*e*Pg	**Pn**	**20 08 53.0 -0.6**
RRI2			*e*Sn	**Sn**	**20 09 47.6 +1.4**
QLMT	**Earthquake Lak**	**4.61 286**	*e*Pn	**Pn**	**20 08 56.3 +0.5**
QLMT			*e*Pg	**Pg**	**20 09 06.5 -6.7**
QLMT			*e*Sn	**Sn**	**20 09 48.0 -2.0**
SMCO	**Snowmass**	**4.70 197**	Pn	**Pn**	**20 08 43.9 -13**
SMCO			*e*Sn	**Sn**	**20 09 48.6 -3.5**
DGMT	**Dagmar**	**4.83 8**	*e*Pn	**Pn**	**20 08 58.7 -0.1**
DGMT			*e*Pg	**Pg**	**20 09 12.0 -5.4**
DGMT			*e*Sn	**Sn**	**20 10 02.6 +7.1**
DGMT			*e*Sg	**Sg**	**20 10 21.5 +1.4**
BOZ	**Bozeman (W)**	**4.98 295**	*e*Pn	**Pn**	**20 09 03.7 +2.9**
BOZ			*e*Pg	**Pg**	**20 09 14.4 -5.8**
BOZ			*e*Sn	**Sn**	**20 09 58.7 -0.4**
BOZ			*e*Sg	**Sb**	**20 10 13.1 -0.2**
HWUT	**Hardware Ranch**	**5.13 248**	*e*Pn	**Pn**	**20 09 02.7 -0.2**
	13nm,0.4s				
HWUT			*e*Pg	**Pg**	**20 09 15.3 -7.7**
HWUT			*e*Sn	**Sn**	**20 10 04.9 +2.2**
HWUT			*e*Sg	**Sg**	**20 10 21.8 -7.7**
EGMT	**Eagleton**	**5.37 325**	*e*Pn	**Pn**	**20 09 04.9 -1.3**
	14nm,0.5s				
EGMT			*e*Pg	**Pg**	**20 09 20.2 -7.5**
EGMT			*e*Sn	**Sn**	**20 10 13.0 +4.2**
EGMT			*e*Sg	**Sg**	**20 10 28.2 -9.2**
DLMT	**Dillon**	**5.54 290**	*e*Pn	**Pn**	**20 09 08.1 -0.4**
	3.9nm,0.4s				
DLMT			*e*Pg	**Pg**	**20 09 23.2 -7.8**
DLMT			*e*Sn	**Sn**	**20 10 16.6 +3.7**
DAU	**Daniels Canyon**	**5.57 236**	*e*Pn	**Pn**	**20 09 09.8 +0.9**
DAU			*e*Pg	**Pg**	**20 09 21.7 -10**
DAU			*e*Sn	**Sn**	**20 10 18.6 +5.1**
DAU			*e*Sg	**Sg**	**20 10 51.3 +7.7**
MCMT	**McKenzie Canyo**	**5.61 284**	*e*Pn	**Pn**	**20 09 10.2 +0.8**
MCMT			*e*Pg	**Pg**	**20 09 26.6 -5.6**
MCMT			*e*Sn	**Sn**	**20 10 14.3 -0.2**
MCMT			*e*Sg	**Sg**	**20 10 44.4 -0.4**
CTU	**Camp Tracy**	**5.71 241**	*e*Pn	**Pn**	**20 09 11.0 +0.2**
	9.1nm,0.5s				
CTU			*e*Pg	**Pb**	**20 09 20.5 -4.7**
CTU			*e*Sg	**Sg**	**20 10 45.5 -2.7**
SPUT	**South Promonto**	**5.86 249**	*e*Pn	**Pn**	**20 09 09.1 -3.7**
SPUT			*e*Pg	**Pg**	**20 09 28.8 -8.2**
SPUT			*e*Sn	**Sn**	**20 10 18.4 -2.2**
SPUT			*e*Sg	**Sb**	**20 10 40.6 +2.1**
HVU	**Hansel Valley**	**5.89 254**	*e*Pn	**Pn**	**20 09 13.8 +0.5**
	6.2nm,0.5s				
HVU			*e*Pg	**Pg**	**20 09 30.5 -7.2**
HVU			*e*Sn	**Sn**	**20 10 22.2 +0.7**
SDCO	**Great Sand Dun**	**5.94 182**	*e*Pn	**Pn**	**20 09 14.5 +0.5**
	4.2nm,0.5s				
SDCO			*e*Pg	**Pg**	**20 09 31.6 -7.0**
SDCO			*e*Sn	**Sn**	**20 10 22.1 -0.6**
SDCO			*e*Sg	**Sg**	**20 10 55.4 -0.2**
MPU	**Maple Canyon**	**6.04 235**	*e*Pn	**Pn**	**20 09 15.5 +0.1**
	7.8nm,0.5s				
MPU			*e*Pg	**Pg**	**20 09 33.7 -6.9**
PV10	**Paradox Valley**	**6.04 210**	*e*Pn	**Pn**	**20 09 17.4 +2.0**
PV10			*e*Pg	**Pb**	**20 09 29.2 -1.8**
PV10			*e*Sg	**Sg**	**20 11 01.2 +2.2**
SRU	**San Rafael**	**6.07 223**	*e*Pn	**Pn**	**20 09 16.4 +0.5**
	14nm,0.4s				
SRU			*e*Pg	**Pg**	**20 09 31.6 -10**
SRU			*e*Sn	**Sn**	**20 10 28.9 +3.0**
SRU			*e*Sg	**Sg**	**20 10 53.3 -6.6**
PV01	**Paradox Valley**	**6.10 206**	*e*Pn	**Pn**	**20 09 17.8 +1.6**
PV01			*e*Pg	**Pg**	**20 09 36.3 -5.5**
PV01			*e*Sg	**Sg**	**20 10 53.5 -7.3**
ECSD	**EROS,Sioux Fal**	**6.23 87**	*e*Pn	**Pn**	**20 09 18.6 +0.6**
	7.1nm,0.4s				
ECSD			*e*Pg	**Pg**	**20 09 41.1 -3.1**
ECSD			*e*Sn	**Sn**	**20 10 33.8 +3.9**
ECSD			*e*Sg	**Sg**	**20 11 03.8 -1.1**
TMUT	**Trail Mountain**	**6.29 228**	*e*Pn	**Pn**	**20 09 20.2 +1.5**
TMUT			*e*Pg	**Pg**	**20 09 41.2 -4.0**
TMUT			*e*Sg	**Sg**	**20 11 06.5 -0.2**
NLU	**North Lily Min**	**6.34 236**	*e*Pn	**Pn**	**20 09 18.6 -0.9**
NLU			*e*Pg	**Pg**	**20 09 38.7 -7.6**
CBKS	**Cedar Bluff**	**6.38 138**	*e*Pn	**Pn**	**20 09 20.7 +0.7**
	16nm,0.4s				
CBKS			*e*Pg	**Pg**	**20 09 47.4 +0.4**
CBKS			*e*Sn	**Sb**	**20 10 50.5 -3.0**
CBKS			*e*Sg	**Sg**	**20 11 14.2 +4.5**
BGU	**Big Grassy Mou**	**6.42 247**	*e*Pn	**Pn**	**20 09 20.2 -0.4**
BGU			*e*Pg	**Pg**	**20 09 42.2 -5.7**
BGU			*e*Sn	**Sn**	**20 10 36.3 +1.7**
BGU			*e*Sg	**Sg**	**20 11 08.7 -2.4**
CHMT	**Chamberlain Mo**	**6.53 302**	*e*Pn	**Pn**	**20 09 21.6 -0.4**
CHMT			*e*Pg	**Pg**	**20 09 42.3 -7.6**
CHMT			*e*Sn	**Sn**	**20 10 43.8 +6.7**
CHMT			*e*Sg	**Sg**	**20 11 10.1 -4.3**
DUG	**Dugway**	**6.66 241**	*e*Pn	**Pn**	**20 09 23.9 0.0**
	5.2nm,0.4s				
DUG			*e*Pg	**Pg**	**20 09 57.2 +4.8**
DUG			*e*Sn	**Sn**	**20 10 42.0 +1.6**
DUG			*e*Sg	**Sg**	**20 11 17.0 -1.6**
MVCO	**Mesa Verde**	**6.94 202**	*e*Pn	**Pn**	**20 09 28.3 +0.6**
	7.0nm,0.5s				
MVCO			*e*Pg	**Pg**	**20 09 55.5 -2.3**
MVCO			*e*Sg	**Sg**	**20 11 25.3 -2.3**
MSU	**Marysvale**	**7.38 228**	*e*Pn	**Pn**	**20 09 33.7 0.0**
MSU			*e*Pg	**Pg**	**20 10 02.5 -3.6**
MSU			*e*Sn	**Sn**	**20 11 00.4 +2.3**
KSU1	**Kansas State U**	**7.92 122**	Pn	**Pn**	**20 09 40.5 -0.6**
	15nm,0.6s				
KSU1			*e*Pg	**Pg**	**20 10 12.0 -4.5**
KSU1			*e*Sn	**Sn**	**20 11 12.1 +0.6**
KSU1			*e*Sg	**Sg**	**20 12 02.1 +2.9**
AGMN	**Agassiz Refuge**	**7.97 51**	*e*Pn	**Pn**	**20 09 40.4 -1.5**
	11nm,0.5s				
AGMN			*e*Pg	**Pg**	**20 10 09.0 -8.5**
AGMN			*e*Sn	**Sn**	**20 11 11.8 -0.9**
CCUT	**Cedar City**	**8.72 228**	*e*Pn	**Pn**	**20 09 53.2 +1.1**
ULM	**Lac du Bonnet**	**9.15 41**	Pn	**Pn**	**20 09 57.3 -0.7**
	0.5nm,0.3s,baz=224,slow=11,SNR=9.0				
ULM			Lg		20 12 32.5
	0.1nm,0.3s,baz=322,slow=22,SNR=3.0				
WUAZ	**Wupatki**	**9.44 212**	*e*Pn	**Pn**	**20 10 03.5 +1.5**
	2.8nm,0.4s				
WUAZ			Sn	**Sn**	**20 11 48.1 -0.8**
NVAR	**Mina Array Bea**	**11.19 246**	Pn	**Pn**	**20 10 27.6 +1.6**
	0.2nm,0.3s,baz=45,slow=12,SNR=3.7				
YBH	**Yreka Blue Hor**	**13.02 267**	Pn	**Pn**	**20 10 54.0 +3.0**
	0.2nm,0.3s,baz=40,slow=7.9,SNR=4.2				
YKA	**Yellowknife Ar**	**19.63 347**	P	**Pn**	**20 12 14.3 -1.8**
	0.1nm,0.3s,baz=151,slow=13,SNR=4.6				
ARCES	**ARCESS Array B**	**61.45 18**	P	**P**	**20 18 01.7 -1.3**
	4.8nm,0.9s,mb4.6,baz=324,slow=9.0,SNR=2.7				

*ISCJB **03** 20:20:34.9±0.8, 6758N±007×1634W±0.1, h10km, mb3.5/3, Error ellipse: s-maj=9.5km s-min=6.8km az=158.3*
*IDC **03** 20:20:36.0±1.6, 6823N×16379W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=64.9km s-min=21.1km az=12.0*
*NEIC **03** 20:20:36.4, 6743N×16338W, h1km, ML3.2(AEIC), After AEIC.*

ISC 03 20:20:36.5±0.8, 6759N±006×1635W±01, h10km, n16, σ0§95/21, mb3.5/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.70**	**223**	P	**Pn**	**20 21 19.8**	**-0.2**
TNA				S	**Sn**	**20 21 53.9**	**+1.2**
GCSA	**Galena City Sc**	**3.92**	**134**	P	**Pn**	**20 21 35.9**	**-0.9**
GCSA				S	**Sn**	**20 22 22.4**	**-0.3**
IM3	**Indian Mountai**	**4.18**	**108**	P	**Pn**	**20 21 41.1**	**+0.7**
COLD	**Coldfoot**	**5.14**	**88**	P	**Pn**	**20 21 54.8**	**+1.3**
TT01	**Tatalina**	**5.65**	**143**	P	**Pn**	**20 22 00.3**	**-0.2**
KTH	**Kantishna Hill**	**6.59**	**122**	P	**Pn**	**20 22 14.1**	**+0.5**
KTH				S	**Sn**	**20 23 28.7**	**-0.1**
COLA	**College**	**6.88**	**106**	P	**Pn**	**20 22 17.7**	**+0.3**
BM3	**Burnt Mountain**	**7.24**	**83**	P	**Pn**	**20 22 22.7**	**+0.3**
IL1	**Eielson Array**	**7.29**	**105**	P	**Pn**	**20 22 23.3**	**+0.3**
SVW2	**Sparrevohn**	**7.36**	**149**	*e*Pn	**Pn**	**20 22 24.5**	**+0.5**
SVW2				*e*Sn	**Sn**	**20 23 46.2**	**-1.4**
INK	**Inuvik**	**11.23**	**73**	Pn	**Pn**	**20 23 15.5**	**-1.6**
	0.2nm,0.3s,baz=258,slow=11,SNR=7.3						
INK				Sn	**Sn**	**20 25 14.7**	**-7.9**
	0.2nm,0.3s,baz=159,slow=15,SNR=4.4						
YKA	**Yellowknife Ar**	**20.77**	**81**	P	**P**	**20 25 18.4**	**+0.9**
	0.8nm,0.6s,baz=306,slow=10,SNR=13						
YKA	**Yellowknife Ar**	**20.77**	**81**	P	**P**	**20 25 18.4**	**+0.9**
NVAR	**Mina Array Bea**	**38.38**	**116**	P	**P**	**20 28 01.6**	**+3.7**
	0.9nm,0.7s,mb3.6,baz=337,slow=7.0,SNR=4.8						
SONM	**Songino Array**	**47.00**	**293**	P	**P**	**20 29 06.4**	**-1.4**
	0.2nm,0.5s,mb3.3,baz=20,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	**55.74**	**311**	P	**P**	**20 30 09.4**	**-3.9**
	0.5nm,0.6s,mb3.8,baz=32,slow=7.1,SNR=5.3						

*IDC **03** 20:23:04.3±2.0, 4401N×8388E, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.3/24, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=35.0km s-min=17.2km az=89.0*
*ISCJB **03** 20:23:05.8±0.9, 4400N±005×8353E±008, h10km, mb3.7/3, Error ellipse: s-maj=9.4km s-min=6.2km az=87.7*
*NNC **03** 20:23:09.1±1.1, 4410N×8344E, h21km±5km, mb3.3, mpv2.9, Error ellipse: s-maj=14.3km s-min=5.9km az=78.0*
*NEIC **03** 20:23:10.2±1.8, 4393N×8364E, h35km±15km, mb3.9/1, Error ellipse: s-maj=20.4km s-min=12.5km az=163.0*

ISC 03 20:23:07.2±0.9, 4398N±005×8375E±008, h10km, n16, σ1§22/27, mb3.7/3, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.99**	**340**	Pn	**Pn**	**20 23 55.7**	**+1.0**
	0.8nm,0.3s,baz=152,slow=11,SNR=94						
MK31				Sn	**Sn**	**20 24 32.1**	**+1.5**
	11nm,0.6s,baz=144,slow=26,SNR=5.0						
MK31				⇓Lg		20 24 39.0	
	9.8nm,0.2s,baz=153,slow=28,SNR=15						
MK31	**Makanchi Array**	**2.99**	**340**	*e*Pn	**Pn**	**20 23 56.1**	**+1.4**
MK31				*e*Pg	**Pg**	**20 24 04.3**	**-0.3**
MK31				*e*Sn	**Sn**	**20 24 30.4**	**-0.3**
MK31				*e*Sg	**Sg**	**20 24 41.7**	**-1.7**
MKAR	**Makanchi Array**	**2.99**	**340**	Pn	**Pn**	**20 23 55.5**	**+0.8**
	0.8nm,0.3s,baz=159,slow=14,SNR=30						
MKAR				Sn	**Sn**	**20 24 32.6**	**+1.9**
	7.0nm,0.3s,baz=160,slow=25,SNR=13						
MKAR				Lg		20 24 39.8	
	31nm,0.3s,baz=157,slow=27,SNR=26						
MKAR	**Makanchi Array**	**2.99**	**340**	Pn	**Pn**	**20 23 55.5**	**+0.8**
MKAR				Sn	**Sn**	**20 24 32.6**	**+1.9**
MKAR				Lg		20 24 39.8	
TKM2	**Tokmak 2**	**6.03**	**263**	⇓Lg		20 26 14.1	
	0.5nm,0.6s						
AAK	**Ala-Archa**	**6.88**	**262**	*e*Pn	**Pn**	**20 24 47.1**	**-1.1**
AAK				*e*Pg	**Pg**	**20 25 18.0**	**-1.0**
AAK				*e*Sn	**Sn**	**20 26 07.7**	**+1.1**
AAK				*e*Sg	**Sg**	**20 26 49.5**	**+1.3**
KURK	**Kurchatov**	**7.58**	**334**	⇑Pn	**Pn**	**20 24 57.2**	**-0.6**
	4.2nm,2.3s						
KURK				⇑Sn	**Sn**	**20 26 19.5**	**-4.3**
	1.3nm,1.0s						
KURK				⇓Lg		20 27 03.3	
	5.6nm,1.0s						
ZAL	**Zalesovo**	**9.99**	**4**	Pn	**Pn**	**20 25 30.2**	**-0.6**
	0.4nm,0.3s,baz=256,slow=5.6,SNR=4.1						
ZAL				Sn	**Sn**	**20 27 16.5**	**-6.4**
	0.5nm,0.3s,baz=303,slow=20,SNR=3.5						
ZAL				Lg		20 28 21.3	
	1.2nm,0.3s,baz=184,slow=5.0,SNR=4.6						
ZAL	**Zalesovo**	**9.99**	**4**	Pn	**Pn**	**20 25 30.2**	**-0.6**
ZAL				Sn	**Sn**	**20 27 16.5**	**-6.4**
ZAL				Lg		20 28 21.3	
BVAR	**Borovoye Array**	**12.64**	**320**	Pn	**Pn**	**20 26 06.7**	**-0.4**
	0.1nm,0.3s,baz=121,slow=17,SNR=2.4						
BRVK	**Borovoye**	**12.71**	**320**	*e*Pn	**Pn**	**20 26 09.9**	**+1.9**
	2.2nm,1.1s						
SONM	**Songino Array**	**16.21**	**68**	Pn	**Pn**	**20 26 57.0**	**+1.9**
	0.0nm,0.3s,baz=260,slow=11,SNR=5.0						
OBN	**Obninsk**	**31.97**	**307**	P	**P**	**20 29 31.6**	**-1.7**
PSZ	**Piszkesteto**	**43.45**	**299**	*e*P	**P**	**20 31 09.6**	**-0.7**
	0.9nm,0.4s,mb3.9						
NOA	**NORSAR Array B**	**44.77**	**319**	P	**P**	**20 31 20.3**	**-0.7**
	0.4nm,0.4s,mb3.6,baz=76,slow=8.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**75.31**	**274**	P	**P**	**20 34 49.5**	**-1.0**
	0.4nm,0.5s,mb3.6,baz=44,slow=5.3,SNR=9.9						

IDC 03 20:38:10.7±1.3, 2188N×14325E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/28, Error ellipse: s-maj=48.2km s-min=24.6km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.38**	**169**	LR	LR	20 42 28.9	
	comp=Z,38nm,18.9s,baz=84,slow=31						
SONM	**Songino Array**	**39.24**	**320**	P	P	20 45 40.9	+0.1
	0.4nm,0.7s,baz=116,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**42.46**	**192**	P	P	20 46 07.9	+0.5
	0.6nm,0.8s,baz=16,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**46.17**	**192**	P	P	20 46 37.0	-0.1
	0.3nm,0.7s,baz=12,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**54.62**	**313**	P	P	20 47 40.9	-0.2
	0.6nm,0.8s,baz=95,slow=9.4,SNR=3.4						
YKA	**Yellowknife Ar**	**76.27**	**28**	P	P	20 50 01.2	0.0
	0.2nm,0.4s,baz=294,slow=5.9,SNR=6.7						

*ISCJB **03** 20:52:14.3±0.1, 1398N±002×9124W±002, h61km, mb5.8/281, Error ellipse: s-maj=3.5km s-min=2.1km az=52.4*
*BJI **03** 20:52:15.9, 1400N×9120W, h61km, mB5.6, Ms5.9, Msz5.8*
*SZGRF **03** 20:52:15.4, 1373N×9007W, h33km, mb5.8, MS5.7, Near coast of Guatemala*
*GCMT **03** 20:52:15.9±0.1, 1390N×9177W, h47km, MW6.0/101, Moment Tensor Solution. s100,c225; s101,c312; Duration: 2s4 Moment tensor: Scale 1018Nm; Mrr-0.58±.01; Mθθ0.26±.01; Mφφ0.31±.01; Mrθ0.69±.01; Mθφ-0.40±.01; Mφr-0.66±.01; Best double couple: M0 1.14300×1018 NP1:φs141.00000°, δ17.00000°, λ-84.00000°. NP2:φs314.00000°, δ73.00000°, λ-92.00000°. Principal axes: T 1.2000, Plg28.0000°, Azm46.0000°; N -0.1140, Plg2.0000°, Azm315.0000°; P -1.0860, Plg62.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 20:52:15.9±0.1, 1399N×9121W, mb5.8/234, ME6.0, MW5.9, MD6.1(SNET) Error ellipse: s-maj=3.9km s-min=2.6km az=33.0, Moment Tensor Solution. s40 Moment tensor: Scale 1017Nm; Mrr-0.56; Mθθ-0.62; Mφφ1.17; Mrθ7.03; Mθφ-4.82; Mφr-6.15; Best double couple: M0 9.90000×1017 NP1:φs303.00000°, δ83.00000°, λ-105.00000°. NP2:φs189.00000°, δ16.00000°, λ-25.00000°. Principal axes: T 12.0000, Plg36.0000°, Azm46.0000°; N -4.2000, Plg15.0000°, Azm305.0000°; P -7.8000, Plg50.0000°, Azm197.0000°; Broadband fault plane solution: P waves. NP1:φs135.00000°, δ5.00000°, λ-90.00000°. NP2:φs315.00000°, δ85.00000°, λ-90.00000°. Principal axes: T Plg40.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg50.0000°, Azm225.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Antigua Guatemala; [IV] at Guatemala, Mixco and San Lucas Sacatepequez; [III] at Panajachel. Also felt at Alotenango, Barberena, Chichicastenango, Chimaltenango, Ciudad Vieja, Coban, Escuintla, Fraijanes, Jocotenango, Morales, Palin, Quetzaltenango, Retalhuleu, Salama, San Bartolome Milpas Altas, San Jose Pinula, San Pedro la Laguna, Santa Catarina Pinula and Santiago Sacatepequez. Felt [III] at San Salvador, El Salvador. Also felt at Tapachula, Mexico.
*CASC **03** 20:52:16.3±1.9, 1412N×9159W, h83km±28km, MD5.1, ML5.4*
*MOS **03** 20:52:16.9±1.0, 1413N×9129W, h73km, mb6.1/104, MS5.6/47, Error ellipse: s-maj=10.6km s-min=4.9km az=107.6*
*IDC **03** 20:52:16.9±0.5, 1420N×9113W, h60km±3km, mb5.2/26, mb1 5.3/26, mb1mx5.3/27, mbtmp5.2/26, MS5.3/20, Ms1 5.4/20, ms1mx5.3/24, Error ellipse: s-maj=14.2km s-min=8.2km az=60.0*
*BGS **03** 20:52:18.4, 1407N×9017W, h61km, mb5.8*

ISC 03 20:52:16.6±0.1, 1404N±002×9116W±002, h63km, h63km±5km: pP-P, n1137, σ1§03/1063, mb5.8/281, 185C-98D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.51**	**38**	⇑*i*P	**Pn**	**20 52 33.9**	**+5.0**
TER	**Terranova**	**0.53**	**61**	*e*P	**Pn**	**20 52 34.5**	**+5.4**
PCG	**Pacaya**	**0.64**	**57**	⇓*e*P	**Pn**	**20 52 36.5**	**+6.2**
GCG	**Guatemala City**	**0.81**	**48**	*e*P	**Pn**	**20 52 38.4**	**+6.0**
SNET	**Serv Nac Est T**	**1.91**	**100**	*e*P	x	20 52 52.5	
SNET				*i*		20 53 29.2	
	comp=Z,136μm,1.0s						
CCIG	**Comitan**	**2.42**	**337**	*e*P	**Pn**	**20 52 55.1**	**+1.3**
CCIG				*i* S	**Sn**	**20 53 29.6**	**+7.4**
TGUH	**Tegucigalpa,Un**	**3.77**	**89**	⇑*e*Pn	**Pn**	**20 53 18.2**	**+5.9**
CRIN	**San Cristobal**	**4.22**	**108**	⇑*e*P	**Pn**	**20 53 24.6**	**+6.2**
TELN	**Telica**	**4.45**	**108**	*e*P	**Pn**	**20 53 29.0**	**+7.4**
CNGN	**Cerro Negro**	**4.61**	**109**	⇑*e*P	**Pn**	**20 53 28.6**	**+4.9**
CNGN				*i*		20 54 36.5	
	comp=E,9μm,0.4s						
CMIG	**Matias Romero**	**4.70**	**311**	P	**Pn**	**20 53 21.0**	**-3.9**
	comp=E,158nm,0.3s,baz=125,slow=11,SNR=352						
CMIG				S	**Sn**	**20 54 11.7**	**-6.3**
	comp=E,790nm,0.3s,baz=70,slow=10,SNR=6.5						
CMIG				LR	LR	20 55 34.3	
	comp=E,33μm,19.1s,baz=147,slow=43						
CMIG	**Matias Romero**	**4.70**	**311**	P	**Pn**	**20 53 21.0**	**-3.9**
CMIG				*e*P		20 53 21.1	
CMIG				S	**Sn**	**20 54 11.7**	**-6.3**
CMIG				*i* S	**Sn**	**20 54 15.2**	**-2.9**
CMIG				LR	LR	20 55 34.3	
MOMJ	**Momotombo**	**4.79**	**109**	*e*P	**Pn**	**20 53 33.0**	**+6.9**
TUIG	**Tuzandepetl**	**5.06**	**322**	*e*P	**Pn**	**20 53 27.0**	**-2.9**
TUIG				*i* S	**Sn**	**20 54 21.5**	**-5.4**
XAVN	**Gruta Xavier**	**5.07**	**111**	*e*P	**Pn**	**20 53 36.8**	**+6.7**
MGAN	**Managua**	**5.15**	**111**	*e*P	**Pn**	**20 53 36.8**	**+5.8**
MGAN				*i*		20 54 38.3	
	comp=N,5μm,0.3s						
TICN	**Ticuantepe**	**5.20**	**112**	*e*P	**Pn**	**20 53 38.8**	**+6.9**
MASN	**Masaya**	**5.29**	**112**	⇓*e*P	**Pn**	**20 53 39.7**	**+6.6**
BOAB	**BOACO BROADBAN**	**5.58**	**106**	⇑*e*P	**Pn**	**20 53 41.7**	**+4.7**
SSNN	**San Juan del S**	**5.86**	**117**	*e*P	**Pn**	**20 53 47.9**	**+7.0**
CONN	**Concepcion**	**5.94**	**114**	*e*P	**Pn**	**20 53 48.8**	**+7.0**
MADN	**Villa Maderas**	**6.08**	**115**	*e*P	**Pn**	**20 53 50.7**	**+6.8**
VHO	**Vista Hermosa**	**6.16**	**300**	*e*P	**Pn**	**20 53 41.3**	**-3.6**
VHO				*i* S	**Sn**	**20 54 49.6**	**-4.2**
RIN3	**Volcan Rincon**	**6.51**	**119**	*e*P	**Pn**	**20 53 56.4**	**+6.7**
LIM1	**Limonal**	**6.66**	**119**	*i* P	**Pn**	**20 53 58.5**	**+6.7**
VCR	**Vista de Mar**	**6.66**	**125**	*e*P	**Pn**	**20 53 57.4**	**+5.5**
VCR	**Vista de Mar**	**6.66**	**125**	⇑*e*P	**Pn**	**20 53 57.5**	**+5.6**
TEIG	**Tepich**	**6.74**	**24**	P	**Pn**	**20 53 56.9**	**+4.1**
TEIG	**Tepich**	**6.74**	**24**	*e*Pn	**Pn**	**20 53 56.4**	**+3.6**
	comp=N,13μm,0.5s						
TEIG				*e*		20 54 06.6	
PNIG	**Pinotepa**	**7.12**	**290**	*i* P	**Pn**	**20 53 52.6**	**-5.5**
PNIG				*i* S	**Sn**	**20 54 58.2**	**-19**
JTS	**JuntasAbangare**	**7.12**	**121**	P	**Pn**	**20 54 02.9**	**+4.7**
	comp=N,46nm,0.3s,baz=312,slow=8.3,SNR=128						
JTS				S	**Sn**	**20 55 34.4**	**+17**
	comp=N,63nm,0.3s,baz=359,slow=22,SNR=2.0						
JTS	**JuntasAbangare**	**7.12**	**121**	⇑*i*P	**Pn**	**20 54 02.7**	**+4.6**
JTS	**JuntasAbangare**	**7.12**	**121**	*e*Pn	**Pn**	**20 54 02.9**	**+4.7**
	comp=N,4μm,0.8s						
JTS	**JuntasAbangare**	**7.12**	**121**	⇑*e*P	**Pn**	**20 54 03.4**	**+5.3**
JCR	**Jicaral**	**7.24**	**124**	*e*P	**Pn**	**20 54 05.7**	**+6.0**
VACR	**Volcan Arenal**	**7.26**	**119**	*e*P	**Pn**	**20 54 07.6**	**+7.6**
CAO	**Cobano**	**7.33**	**125**	⇑*e*P	**Pn**	**20 54 07.2**	**+6.2**
LVIG	**Laguna Verde**	**7.56**	**319**	*e*P	**Pn**	**20 54 00.0**	**-4.1**
LVIG				*i* S

RCC e
comp=E,6µm,17.2s
HKT Hockley 16.41 346 eP **Pn 20 56 02.4 -0.3**
HKT pmax pmax
comp=Z,720nm,1.3s
HKT Hockley 16.41 346 eP **Pn 20 56 02.4 -0.3**
comp=Z,716nm,1.4s
DWPF Disney 16.67 31⇑iPn **Pn 20 56 09.1 +3.1**
comp=Z,2µm,1.1s
DWPF eSn **Sn 20 59 11.2 +0.9**
MOAC Moa 16.80 65 eP **Pn 20 56 12.9 +5.3**
MOAC eS S 20 59 01.8 -19
comp=N,265nm,8.5s
MOAC e
comp=E,178nm,6.4s
MAIG Mazatlaan 17.07 304 iP **Pn 20 56 09.1 -1.9**
MASC Masc 17.29 67 eP **Pn 20 56 19.5 +5.9**
MASC eS **S 20 59 43.3 +12**
comp=N,14µm,7.3s
MASC e
comp=E,16µm,10.0s
BRAL Brewton 17.30 12 eP **Pn 20 56 19.3 +5.4**
comp=E,4µm,1.1s
JCT Junction City 18.19 335⇑iP **Pn 20 56 23.6 -1.1**
JCT eS **S 20 59 48.2 +0.1**
JCT pmax pmax
comp=Z,4µm,0.8s
JCT Junction City 18.19 335⇑iP **Pn 20 56 23.6 -1.1**
comp=Z,4µm,0.8s
JCT eS **S 20 59 48.2 0.0**
OTAV Otavalo 18.61 136 P **Pn 20 56 38.4 +8.6**
OTAV S **S 21 00 10.5 +13**
OTAV ScS ScS 21 08 17.3 +11
OTAV Otavalo 18.61 136⇓eP **Pn 20 56 38.0 +8.2**
comp=Z,127nm,1.0s
ROSC El Rosal 18.93 117 P **Pn 20 56 38.3 +4.7**
comp=Z,6.1nm,0.3s,baz=333,slow=0.9,SNR=236
ROSC El Rosal 18.93 117 eP **Pn 20 56 38.8 +5.2**
LTX Lajitas 19.12 325⇑eP **Pn 20 56 35.1 -0.7**
LTX eS **S 21 00 02.5 -5.3**
LTX pmax pmax
comp=Z,348nm,0.9s
LTX Lajitas 19.12 325⇑eP **Pn 20 56 35.1 -0.7**
comp=Z,348nm,0.9s
LTX eS **S 21 00 02.5 -5.3**
LRAL Lakeview Retre 19.28 11⇑iP **Pn 20 56 38.9 +1.2**
comp=Z,12nm,1.1s
LRAL eS **S 21 00 13.7 +2.6**
OXF Oxford 20.44 4 eP **P 20 56 49.1 +0.3**
OXF pmax pmax
comp=Z,3µm,1.1s
OXF Oxford 20.44 4 eP **P 20 56 49.1 +0.3**
comp=Z,3µm,1.1s
GOGA Godfrey 20.51 19 P **P 20 56 52.2 +2.7**
GOGA pmax pmax
comp=Z,270nm,0.9s
GOGA Godfrey 20.51 19⇑iP **P 20 56 52.2 +2.7**
comp=Z,273nm,0.8s
GOGA e 20 57 07.7
GOGA eS **S 21 00 41.4 +5.8**
MIAR Mount Ida 20.53 354 eP **P 20 56 49.0 -0.7**
MIAR pmax pmax
comp=Z,4µm,0.9s
MIAR Mount Ida 20.53 354 eP **P 20 56 49.0 -0.7**
comp=Z,4µm,0.8s
LPIG La Paz 20.65 302 P **P 20 56 50.3 -0.8**
comp=Z,360nm,1.1s,baz=180,slow=3.0,SNR=11
LPIG La Paz 20.65 302 P **P 20 56 50.3 -0.8**
UALR University of 20.67 357⇑eP **P 20 56 51.5 +0.3**
comp=Z,878nm,0.9s
UALR eS **S 21 00 39.8 +1.2**
SDV Santo Domingo 20.75 102 P **P 20 56 54.7 +2.5**
comp=Z,137nm,0.7s,baz=306,slow=5.7,SNR=131
SDV Santo Domingo 20.75 102 eP **P 20 56 54.1 +2.0**
comp=Z,450nm,1.0s
PLAL Pickwick Lake 21.03 7 eP **P 20 56 55.6 +0.5**
comp=Z,998nm,0.9s,mb6.1
PLAL eS **S 21 00 47.1 +1.3**
NHSC New Hope 21.45 26⇑eP **P 20 57 03.4 +3.7**
comp=Z,2µm,1.1s,mb6.4
NHSC eS **S 21 00 52.4 -1.5**
COW Cow Castle Cre 21.48 25 eP **P 20 57 04.2 +4.4**
WMOK Wichita Mounta 21.72 343⇑eP **P 20 57 02.0 -0.5**
WMOK eS **S 21 00 56.5 -2.8**
WMOK pmax pmax
comp=Z,130nm,0.7s,mb5.5
WMOK Wichita Mounta 21.72 343⇑eP **P 20 57 02.0 -0.5**
comp=Z,13nm,0.7s
WMOK eS **S 21 00 56.5 -2.8**
MNTX Cornudas Mount 21.88 326⇑eP **P 20 57 03.3 -0.9**
comp=Z,472nm,1.1s,mb5.8
MNTX eS **S 21 01 00.7 -1.5**
MYNC Murphy 21.88 16 PFAKE 20 57 20.0 +16
MYNC LR LR
comp=Z,24µm,20.0s
JSC Jenkinsville 22.05 22 eP **P 20 57 08.3 +2.3**
WVT Waverly 22.20 7 P **P 20 57 07.0 -0.6**
WVT pmax pmax
comp=Z,1µm,1.1s,mb6.2
WVT Waverly 22.20 7⇑eP **P 20 57 07.0 -0.6**
comp=Z,1µm,1.1s,mb6.2
WVT eS **S 21 01 08.2 -0.2**
UTMT University of 22.30 5⇑eP **P 20 57 08.5 -0.2**
comp=Z,2µm,1.0s,mb6.6
UTMT e 20 57 21.6
UTMT eS **S 21 01 08.0 -2.2**
PVMO Portageville 22.32 3 eP **P 20 57 09.7 +0.8**
comp=Z,2µm,1.0s,mb6.4
PVMO e 20 57 24.9
PVMO Sn **S 21 01 10.1 -0.4**
LHS Liberty Hill 22.40 23 eP **P 20 57 11.7 +2.0**
LHS e 20 57 27.0
TKL Tuckaleechee C 22.52 16 P **P 20 57 13.0 +2.0**
comp=Z,1µm,1.1s,mb6.3,baz=182,slow=11,SNR=510
TKL S **S 21 01 17.9 +4.0**
comp=Z,36nm,0.8s,baz=54,slow=11,SNR=2.2
TKL LR LR 21 06 57.1
comp=Z,28µm,21.7s,baz=203,slow=39
TKL Tuckaleechee C 22.52 16 P **P 20 57 13.0 +2.0**
TKL S **S 21 01 17.9 +4.0**
AMTX Amarillo 22.82 337⇑iP **P 20 57 12.7 -1.5**
comp=Z,1µm,0.9s,mb6.3
AMTX e 20 57 28.2
AMTX eS **S 21 01 17.0 -1.8**
TZTN Tazewell 23.42 16⇑iP **P 20 57 21.3 +1.2**
comp=Z,14nm,0.7s
TZTN e 20 57 36.6
TZTN eS **S 21 01 37.6 +9.2**
SIUC Southern Illin 23.64 4⇑iP **P 20 57 22.0 -0.1**
comp=Z,2µm,1.0s,mb6.5
SIUC e 20 57 37.6
SIUC e 20 57 45.3
SIUC eS **S 21 01 31.1 -0.9**
USIN University of 24.03 7⇑iP **P 20 57 25.6 -0.1**
comp=Z,744nm,0.8s,mb6.2
USIN e 20 57 41.5
USIN eS **S 21 01 42.4 +4.1**
CNNC Cliffs of the 24.26 27⇑iP **P 20 57 29.4 +1.7**
comp=Z,1µm,0.5s,mb6.6
CNNC ePcP PcP 21 01 13.5 +7.1
CNNC eS **S 21 01 46.4 +4.4**
CNNC LR LR
comp=Z,30µm,20.0s
BNM Barren Site 24.43 328 eP **P 20 57 30.1 +0.7**
BNM e 20 57 43.7
BNM PcP PcP 21 01 09.2 +2.4
ATAH Atahualpa 24.45 148 P **P 20 57 33.7 +4.2**
comp=Z,412nm,1.2s,mb5.8,baz=332,slow=6.9,SNR=80
WCI Wyandotte Cave 24.47 9⇑iP **P 20 57 29.8 +0.1**
WCI e 20 57 47.3
WCI 21 01 10.0
WCI eS **S 21 01 42.3 -3.2**
WCI pmax pmax
comp=Z,493nm,0.7s,mb6.0
WCI Wyandotte Cave 24.47 9⇑iP **P 20 57 29.8 +0.2**
comp=Z,493nm,0.7s,mb6.0
WCI e 20 57 47.3
WCI PcP PcP 21 01 10.0 +3.1
WCI eS **S 21 01 42.3 -3.2**
SLM Saint Louis 24.51 2 P **P 20 57 29.7 -0.3**
SLM pmax pmax
comp=Z,2µm,0.8s,mb6.6
SLM Saint Louis 24.51 2⇑eP **P 20 57 29.7 -0.3**
comp=Z,2µm,0.8s,mb6.6
SLM eS **S 21 01 43.5 -2.5**

Y22C IRIS PASSCAL I 24.53 327⇑P **P 20 57 30.7 +0.5**
baz=25,SNR=34
LPM Los Pinos Moun 24.56 328 eP **P 20 57 31.6 +1.1**
LPM e 20 57 44.5
CPD Cerro la Pandu 24.58 77⇓iP **P 20 57 30.8 +0.2**
CPD e 20 57 46.3
CPD e 21 01 08.3
CPD S **S 21 01 50.1 +2.9**
LENM Lemitar 24.63 327 eP **P 20 57 32.1 +1.1**
LENM e 20 57 45.4
LENM ePcP PcP 21 01 02.8 -4.4
ELN Prospectdale 24.89 20 eP **P 20 57 34.6 +1.2**
ELN e 20 57 54.5
LAZ Ladron 24.90 327 eP **P 20 57 35.1 +1.6**
LAZ e 20 57 50.7
LAZ ePcP PcP 21 01 06.8 -1.0
LAZ eScP ScP 21 04 47.3 +6.0
MTP Monte Pirata 24.93 77⇓eP **P 20 57 34.3 +0.5**
MTP e 20 57 49.7
MTP eS **S 21 02 05.2 +12**
ANMO Albuquerque 24.98 329 P **P 20 57 35.0 +0.8**
comp=Z,79nm,0.8s,mb5.3,baz=144,slow=11,SNR=160
ANMO ScP ScP 21 04 45.6 +4.1
comp=Z,19nm,0.9s,baz=130,slow=5.2,SNR=5.0
BLA Blacksburg 24.98 21⇑iP **P 20 57 35.7 +1.4**
BLA e 20 57 50.7
BLA eS **S 21 01 56.2 +2.6**
BLA pmax pmax
comp=Z,951nm,1.1s,mb6.2
BLA Blacksburg 24.98 21⇑iP **P 20 57 35.7 +1.4**
comp=Z,951nm,1.1s,mb6.2
BLA e 20 57 50.7
BLA eS **S 21 01 56.2 +2.6**
BLO Bloomington 25.36 8⇑eP **P 20 57 37.6 -0.2**
BLO e pP 20 57 50.8 -2.1
BLO eS **S 21 02 05.8 +6.2**
BLO pmax pmax
comp=Z,2µm,1.3s,mb6.4
BLO Bloomington 25.36 8⇑eP **P 20 57 37.6 -0.1**
comp=Z,2µm,1.3s,mb6.4
BLO e pP 20 57 50.8 -2.1
BLO ePcP PcP 21 01 27.4 +19
BLO eS **S 21 02 05.8 +6.1**
KSU1 Kansas State U 25.42 350⇑eP **P 20 57 37.3 -1.0**
comp=Z,274nm,0.8s,mb5.8
KSU1 e pP 20 57 52.4 -1.0
KSU1 ePcP PcP 21 01 11.0 +2.0
KSU1 eS **S 21 01 58.7 -1.8**
TUC Tucson 25.53 319 eP **P 20 57 39.6 +0.3**
TUC e pP 20 57 54.1 -0.3
TUC e 21 01 08.8
TUC eS **S 21 01 54.2 -8.1**
TUC pmax pmax
comp=Z,151nm,0.9s,mb5.5
TUC Tucson 25.53 319 eP **P 20 57 39.6 +0.3**
comp=Z,151nm,0.9s,mb5.5
TUC e pP 20 57 54.1 -0.3
TUC ePcP PcP 21 01 08.8 -0.4
TUC eS **S 21 01 54.2 -8.1**
CBKS Cedar Bluff 25.81 344⇑eP **P 20 57 40.1 -1.7**
CBKS e pP 20 57 56.5 -0.5
CBKS e 21 01 08.6
CBKS pmax pmax
comp=Z,323nm,1.0s,mb5.8
CBKS Cedar Bluff 25.81 344⇑eP **P 20 57 40.1 -1.7**
comp=Z,323nm,1.0s,mb5.8
CBKS e pP 20 57 56.5 -0.4
CBKS ePcP PcP 21 01 08.6 -1.3
CBKS eS **S 21 02 13.9 +7.2**
PCRV Puerto La Cruz 26.21 95 P **P 20 57 49.5 +4.1**
comp=Z,10nm,0.3s,mb4.8,baz=328,slow=2.6,SNR=9.8
116A Eloy 26.29 318⇓P **P 20 57 46.1 0.0**
baz=26,SNR=6.8
115A Sonoran Desert 26.72 318⇑P **P 20 57 50.0 +0.1**
baz=27,SNR=40
SDCO Great Sand Dun 26.83 334⇑eP **P 20 57 52.2 +1.3**
comp=Z,72nm,0.6s,mb5.4
SDCO e pP 20 58 07.0 +0.7
SDCO ePcP PcP 21 01 14.1 +1.8
SDCO eS **S 21 02 27.9 +5.1**
CBN Corbin 26.99 24⇑iP **P 20 57 54.4 +1.9**
comp=Z,1µm,1.3s,mb6.2
CBN e pP 20 58 10.0 +2.3
CBN ePcP PcP 21 01 09.9 -2.7
CBN eS **S 21 02 26.4 +1.0**
MCWV Mont Chateau 27.39 19⇑iP **P 20 57 57.0 +1.0**
comp=Z,411nm,1.2s,mb5.8
MCWV e pP 20 58 09.5 -1.7
MCWV eS **S 21 02 23.9 -7.8**
Z14A Wintersburg 27.60 318⇑P **P 20 57 58.2 +0.3**
baz=28,SNR=31
MVCO Mesa Verde 27.77 329⇑eP **P 20 57 59.9 +0.4**
comp=Z,620nm,1.3s,mb6.1
MVCO e pP 20 58 15.5 +0.8
MVCO ePcP PcP 21 01 13.6 -0.9
MVCO eS **S 21 02 37.2 -0.4**
MVCO Mesa Verde 27.77 329⇑P **P 20 57 60.0 +0.6**
baz=28,SNR=222
SCIA State Center 27.82 357⇓eP **P 20 57 59.0 -0.9**
comp=Z,171nm,0.8s,mb5.7
SCIA e pP 20 58 13.2 -2.0
X15A Humboldt 27.88 321⇑P **P 20 58 00.9 +0.5**
baz=28,SNR=133
Y14A Wickenburg 28.00 319 P **P 20 58 01.6 +0.1**
baz=28,SNR=72
WUAZ Wupatki 28.06 323 eP **P 20 58 03.2 +1.1**
comp=Z,281nm,1.0s,mb5.8
WUAZ e pP 20 58 18.1 +0.7
WUAZ ePcP PcP 21 01 17.5 +2.3
WUAZ eS **S 21 02 41.5 -0.8**
WUAZ Wupatki 28.06 323⇑P **P 20 58 02.8 +0.7**
baz=28,SNR=145
X14A Yava 28.27 320 P **P 20 58 04.3 +0.4**
baz=28,SNR=99
W15A Williams 28.36 322⇑P **P 20 58 05.3 +0.7**
baz=28,SNR=53
PV01 Paradox Valley 28.53 330 eP **P 20 58 06.6 +0.4**
PV01 e pP 20 58 23.6 +2.1
PV01 ePcP PcP 21 01 19.3 +2.9
ISCO Idaho Springs 28.63 336 P **P 20 58 07.2 +0.1**
ISCO pmax pmax
comp=Z,40nm,0.8s,mb5.2
ISCO Idaho Springs 28.63 336⇓iP **P 20 58 08.9 +1.8**
comp=Z,40nm,0.8s,mb5.2
ISCO e pP 20 58 22.9 +0.6
ISCO ePcP PcP 21 01 20.4 +3.8
ISCO S S 21 03 13.6 +23
GLA Glamis 28.67 315⇓iP **P 20 58 07.4 0.0**
GLA e pP 20 58 22.9 +0.2
GLA eS **S 21 02 54.8 +3.0**
GLA Glamis 28.67 315⇓P **P 20 58 07.5 +0.1**
baz=29,SNR=10
JFWS Jewell Farm 28.78 1 P **P 20 58 07.6 -0.8**
JFWS pmax pmax
comp=Z,310nm,1.0s,mb6.0
JFWS Jewell Farm 28.78 1⇑iP **P 20 58 07.3 -1.1**
comp=Z,307nm,1.0s,mb6.0
JFWS ePcP PcP 21 01 12.3 -4.7
JFWS eS S 21 03 19.3 +26
Y12C Blythe 28.88 317⇑P **P 20 58 09.3 0.0**
baz=29,SNR=7.1
W14A Seligman 28.88 321⇓P **P 20 58 09.8 +0.5**
baz=29,SNR=91
AAM Ann Arbor 28.90 12⇑iP **P 20 58 08.8 -0.6**
AAM pmax pmax
comp=Z,163nm,0.8s,mb5.8
AAM Ann Arbor 28.90 12⇑iP **P 20 58 08.8 -0.7**
comp=Z,163nm,0.8s,mb5.8
SSPA Standing Stone 28.92 21⇑iP **P 20 58 10.8 +1.2**
comp=Z,482nm,1.3s,mb6.1
SSPA eS **S 21 02 56.4 +0.7**
MVL Millersville 28.94 24⇑iP **P 20 58 11.2 +1.4**
MVL e pP 20 58 25.8 +0.6
MVL ePcP PcP 21 01 19.2 +1.8
MVL eS **S 21 03 00.6 +4.6**
X13A Yucca 28.95 319 P **P 20 58 10.2 +0.4**
baz=29,SNR=88
PV10 Paradox Valley 28.95 330 eP **P 20 58 10.0 +0.1**
PV10 e pP 20 58 24.3 -0.9
PV10 ePcP PcP 21 01 18.5 +1.1
PDMCI Parker Dam,Lak 28.96 318⇑P **P 20 58 10.4 +0.3**
baz=29,SNR=66
ALLY Alegheny Colle 29.12 17⇑iP **P 20 58 11.9 +0.5**
ALLY e pP 20 58 29.1 +2.3

SWSC Sam W. Stewart 29.27 314⇑P **P 20 58 12.9 +0.1**
baz=29,SNR=29
W13A Hualapai Mount 29.30 320⇑P **P 20 58 13.7 +0.6**
baz=29,SNR=126
DVTC Desert V Tower 29.33 313⇑P **P 20 58 13.5 +0.2**
baz=29,SNR=27
BC3 Big Chuckw Mtn 29.45 316 P **P 20 58 14.7 +0.4**
baz=30,SNR=49
NNA Nana 29.50 151 P **P 20 58 17.6 +2.8**
comp=Z,317nm,1.1s,mb6.0,SNR=6.6
NNA Nana 29.50 151 P **P 20 58 15.7 +0.9**
comp=Z,37nm,1.0s,mb5.1,baz=326,slow=7.3,SNR=9.7
NNA PcP PcP 21 01 20.7 +1.9
comp=Z,32nm,0.9s,baz=321,slow=3.8,SNR=8.6
NNA LR LR 21 07 02.8
comp=Z,2µm,20.9s,baz=342,slow=30
NNA Nana 29.50 151 eP **P 20 58 17.2 +2.4**
comp=Z,72nm,1.1s,mb5.3
IRM Iron Mountain 29.54 317 P **P 20 58 15.6 +0.5**
baz=30,SNR=70
NEE2 Needles Airpor 29.56 318⇑P **P 20 58 15.5 +0.1**
baz=30,SNR=6.5
MONP Monument Peak 29.68 314 P **P 20 58 16.5 +0.1**
baz=30,SNR=17
PHWY Pilot Hill 29.88 338⇑iP **P 20 58 18.2 +0.1**
PHWY eS **S 21 03 18.8 +8.1**
ECSD EROS,Sioux Fal 29.95 352⇑eP **P 20 58 17.5 -1.3**
comp=Z,59nm,0.8s,mb5.4
ECSD ePcP PcP 21 01 20.5 +0.5
BELC Belle Mtn. 30.01 316 P **P 20 58 19.6 +0.2**
baz=30,SNR=21
W12A Cal Nev Ari 30.05 319⇓P **P 20 58 20.1 +0.4**
baz=30,SNR=22
PFO Pinyon Flat Ob 30.10 315 P **P 20 58 20.6 +0.5**
comp=Z,28nm,1.0s,mb5.0,baz=124,slow=9.0,SNR=13
PFO pP pP 20 58 35.7 +0.2
comp=Z,54nm,1.0s,baz=103,slow=7.3,SNR=9.7
PFO PcP PcP 21 01 22.0 +1.6
comp=Z,47nm,1.0s,baz=110,slow=2.2,SNR=8.7
PFO ScP ScP 21 05 01.8 +4.7
comp=Z,7.3nm,0.9s,baz=352,slow=1.0,SNR=5.0
PFO LR LR 21 10 48.2
comp=Z,4µm,21.0s,baz=129,slow=37
PFO Pinyon Flat Ob 30.10 315 P **P 20 58 20.6 +0.5**
PFO *PP pP 20 58 35.7 +0.2
PFO 21 01 22.0
PFO Pinyon Flat Ob 30.10 315 P **P 20 58 20.6 +0.5**
PFO pP pP 20 58 35.7 +0.2
PFO PcP PcP 21 01 22.0 +1.6
PFO ScP ScP 21 05 01.8 +4.7
PFO LR LR 21 10 48.2
PFO Pinyon Flat Ob 30.10 315 P **P 20 58 20.6 +0.5**
baz=30,SNR=18
109C Camp Elliot, M 30.16 313⇑P **P 20 58 20.5 -0.2**
baz=30,SNR=6.6
BRNJ Basking Ridge 30.24 26⇑iP **P 20 58 23.3 +1.9**
BRNJ eS **S 21 03 16.9 +0.4**
GMRC Granite Mounta 30.25 317⇓P **P 20 58 22.0 +0.6**
baz=30,SNR=76
SRU San Rafael 30.25 329⇑eP **P 20 58 22.0 +0.6**
SRU e*PP pP 20 58 38.0 +1.2
SRU e 20 59 32.5
SRU eS **S 21 03 18.1 +1.5**
SRU pmax pmax
comp=Z,450nm,1.0s,mb6.2
SRU San Rafael 30.25 329⇑eP **P 20 58 22.0 +0.5**
comp=Z,450nm,1.0s,mb6.2
SRU epP pP 20 58 38.0 +1.2
SRU ePP PP 20 59 32.5 +1.9
SRU eS **S 21 03 18.1 +1.5**
BBSR BB Station 30.27 48 eP **P 20 58 23.6 +2.0**
comp=Z,446nm,1.1s,mb6.1
BBSR e pP 20 58 39.7 +2.8
BBSR LR LR
comp=Z,9µm,22.0s
V12A Nelson 30.31 320⇓P **P 20 58 22.7 +0.7**
baz=30,SNR=275
U12A Valley of Fire 30.57 321⇓P **P 20 58 25.1 +0.8**
baz=31,SNR=59
MURC Murrieta 30.61 314⇓P **P 20 58 24.7 +0.1**
baz=31,SNR=30
CCUT Cedar City 30.63 324⇑eP **P 20 58 26.8 +2.0**
CCUT epP pP 20 58 41.2 +1.1
CCUT eS **S 21 03 24.9 +2.4**
MSU Marysvale 30.66 327 eP **P 20 58 26.2 +1.2**
MSU e 21 01 24.1
MSU e 21 05 04.0
HEC Hector,Ludlow 30.72 317⇓P **P 20 58 26.2 +0.7**
baz=31,SNR=19
TMUT Trail Mountain 30.73 329⇓iP **P 20 58 27.1 +1.4**
TMUT epP pP 20 58 41.4 +0.3
TMUT eS **S 21 03 25.9 +1.7**
V11A Goodsprings 30.75 319 P **P 20 58 26.4 +0.6**
baz=31,SNR=83
PAL Palisades 30.79 26⇓eP **P 20 58 27.0 +0.8**
PAL e*PP pP 20 58 41.5 0.0
PAL eS **S 21 03 30.6 +5.6**
PAL pmax pmax
comp=Z,263nm,0.8s,mb6.1
PAL Palisades 30.79 26⇓eP **P 20 58 27.0 +0.8**
comp=Z,263nm,0.8s,mb6.1
PAL epP pP 20 58 41.5 -0.1
PAL eS **S 21 03 30.6 +5.6**
BBRC Big Bear Sol-O 30.79 315⇑P **P 20 58 27.1 +0.9**
baz=31
TUQ Turquoise Mtn. 30.82 318⇑P **P 20 58 26.8 +0.4**
baz=31,SNR=18
ARUT Antelope Range 30.84 324 eP **P 20 58 28.0 +1.4**
ARUT e 21 01 21.4
RWWY Rawlins 30.87 336 eP **P 20 58 28.3 +1.4**
comp=Z,210nm,1.0s,mb5.9
RWWY epP pP 20 58 42.8 +0.5
RWWY ePcP PcP 21 01 24.2 +1.8
BINY Binghamton 30.98 22⇑eP **P 20 58 28.9 +1.1**
comp=Z,1µm,1.3s,mb6.5
BINY epP pP 20 58 45.1 +1.9
BINY eS **S 21 03 29.8 +1.8**
BINY eScP ScP 21 04 52.9 -7.1
BINY LR LR
comp=Z,15µm,19.0s
U11A Corn Creek 31.09 320⇑P **P 20 58 29.4 +0.6**
baz=31,SNR=5.2
GLMI Grayling 31.18 9 PFAKE 21 05 30.0
GLMI LR LR
comp=Z,13µm,19.0s
RRX Edison Barstow 31.20 316⇓P **P 20 58 30.0 +0.2**
baz=31
SCI San Clemente I 31.25 312⇓P **P 20 58 29.9 -0.3**
baz=31
BFSC Mount Baldy St 31.28 315⇓P **P 20 58 30.7 +0.2**
baz=31,SNR=7.8
GSC Goldstone 31.31 317⇑eP **P 20 58 31.3 +0.5**
GSC e*PP pP 20 58 46.3 +0.1
GSC e 21 01 24.8
GSC Goldstone 31.31 317⇑eP **P 20 58 31.3 +0.6**
GSC epP pP 20 58 46.3 +0.1
GSC ePcP PcP 21 01 24.8 +1.3
GSC eScP ScP 21 05 06.2 +5.1
GSC Goldstone 31.31 317⇓P **P 20 58 31.2 +0.4**
baz=31,SNR=23
SHOC Shoshone 31.33 318⇓P **P 20 58 31.0 +0.1**
baz=31,SNR=6.1
CIS Catalina Islan 31.36 313⇓P **P 20 58 31.2 0.0**
baz=31
FMP Fort Macarthur 31.44 313⇓P **P 20 58 32.2 +0.3**
baz=32
MPU Maple Canyon 31.49 329 eP **P 20 58 32.7 +0.3**
comp=Z,241nm,1.0s,mb6.0
MPU epP pP 20 58 46.1 -1.6
MPU ePcP PcP 21 01 25.6 +1.5
DAU Daniels Canyon 31.61 330 eP **P 20 58 34.3 +0.9**
DAU e 21 01 27.0
DAU Daniels Canyon 31.61 330 eP **P 20 58 34.3 +0.9**
DAU ePP PP 20 59 47.9 +2.2
DAU ePcP PcP 21 01 27.0 +2.6
DAU eScP ScP 21 05 07.1 +5.0
NLU North Lily Min 31.67 328⇑eP **P 20 58 34.4 +0.5**
NLU epP pP 20 58 49.0 -0.3
NLU ePcP PcP 21 01 27.2 +2.7
NLU eS **S 21 03 40.7 +1.9**
NLU eScP ScP 21 04 59.2 -3.1
U10A Ash Meadows, A 31.68 319 P **P 20 58 35.0 +1.0**
baz=32,SNR=67
DECC Green Verdugo 31.76 314⇓P **P 20 58 35.0 +0.3**
baz=32,SNR=6.6

JLU Jordanelle 31.85 330 *eP* **P 20 58 36.2 +0.7**
JLU *e* 20 58 57.1
JLU *e*PP PP 20 59 49.5 +1.1
JLU *e*PcP PcP 21 01 27.7 +2.7
JLU *e*ScP ScP 21 05 08.1 +5.2
EDW2 Edwards Air Fo 31.87 315 ⇑P **P 20 58 35.6 0.0**
baz=32,SNR=9.6
RSSD Black Hills 31.93 342⇑*eP* **P 20 58 35.4 -0.8**
RSSD *e* 20 59 46.1
RSSD *e* 21 01 26.3
RSSD *e*S **S 21 03 41.0 -1.9**
RSSD pmax pmax
comp=Z,28nm,0.9s,mb5.1
RSSD Black Hills 31.93 342⇑*eP* **P 20 58 35.4 -0.9**
comp=Z,28nm,0.9s,mb5.1
RSSD *e*PP PP 20 59 46.1 -3.2
RSSD *e*PcP PcP 21 01 26.3 +1.1
RSSD *e*S **S 21 03 41.0 -1.8**
RSSD *e*ScP ScP 21 05 08.3 +5.1
LRMC Laurel Mountai 32.00 317 P **P 20 58 37.2 +0.4**
baz=32,SNR=30
FURC Furnace Creek, 32.05 319 P **P 20 58 37.8 +0.6**
baz=32,SNR=48
CTU Camp Tracy 32.07 330⇑*eP* **P 20 58 37.9 +0.5**
comp=Z,292nm,1.0s,mb6.1
CTU *e*pP pP 20 58 54.2 +1.4
CTU *e*PP PP 20 59 49.6 -1.2
CTU *e*PcP PcP 21 01 27.7 +2.1
SNCC San Nicolas Is 32.09 311 ⇑P **P 20 58 37.3 -0.3**
baz=32
BLG Laguna Peak 32.20 313 ⇑P **P 20 58 38.8 +0.2**
baz=32
MPMC Manual Prospec 32.21 318 ⇓P **P 20 58 39.0 +0.3**
baz=32,SNR=148
NOQ North Oquirrh 32.22 329⇑*eP* **P 20 58 39.4 +0.6**
comp=Z,880nm,1.4s,mb6.4
NOQ *e*pP pP 20 58 54.7 +0.6
NOQ *e*PcP PcP 21 01 29.1 +3.1
DUG Dugway 32.23 328⇓*eP* **P 20 58 40.2 +1.4**
DUG *e**PP pP 20 58 54.2 0.0
DUG *e* 20 59 58.5
DUG *e* 21 01 28.0
DUG *e*S **S 21 03 51.8 +4.3**
DUG pmax pmax
comp=Z,401nm,1.6s,mb6.0
DUG Dugway 32.23 328⇓*eP* **P 20 58 40.2 +1.4**
comp=Z,402nm,1.6s,mb6.0
DUG *e*pP pP 20 58 54.2 0.0
DUG *e*PP PP 20 59 58.5 +6.0
DUG *e*PcP PcP 21 01 28.0 +1.9
DUG *e*S **S 21 03 51.8 +4.3**
DUG Dugway 32.23 328 ⇑P **P 20 58 39.8 +1.0**
baz=32,SNR=109
OSI Osito Adit 32.23 314 ⇑P **P 20 58 38.8 0.0**
baz=32,SNR=7.6
DAC Darwin (Calif) 32.40 318 PFAKE 20 58 50.0 +10
DAC LR LR
comp=Z,7μm,20.0s
TRCR Troy Canyon 32.46 323⇑*eP* **P 20 58 42.6 +1.7**
TRCR *e*pP pP 20 58 56.7 +0.4
TRCR *e*PP PP 20 59 56.8 +1.7
TRCR *e*PcP PcP 21 01 22.8 -3.9
TRCR *e*S **S 21 03 47.1 -4.0**
TRCR *e*ScP ScP 21 05 05.0 0.0
Q12A Willow Creek R 32.49 324 ⇓P **P 20 58 41.8 +0.7**
baz=32,SNR=215
QUA2 Belchertown 32.50 26⇑*iP* **P 20 58 42.3 +1.1**
comp=Z,468nm,1.0s,mb6.4
QUA2 *e*pP pP 20 58 57.8 +1.2
QUA2 *e*PcP PcP 21 01 30.3 +3.5
QUA2 *e*S **S 21 03 55.1 +3.4**
BSC Santa Cruz Isl 32.54 313 ⇑P **P 20 58 41.5 0.0**
baz=32
ARVC Arvin 32.58 315 ⇓P **P 20 58 42.2 +0.4**
baz=33,SNR=13
ISA Isabella 32.63 316⇓*eP* **P 20 58 42.8 +0.4**
ISA *e**PP pP 20 58 58.7 +0.9
ISA *e* 21 01 27.8
ISA *e*S **S 21 03 55.7 +1.9**
ISA MLR MLR
comp=Z,1μm,20.0s
ISA Isabella 32.63 316⇓*eP* **P 20 58 42.8 +0.4**
ISA *e*pP pP 20 58 58.7 +0.9
ISA *e*PP PP 21 00 17.4 +20
ISA *e*PcP PcP 21 01 27.8 +0.6
ISA *e*S **S 21 03 55.7 +1.9**
ISA *e*ScP ScP 21 05 10.6 +5.0
ISA LR LR
comp=Z,1μm,20.0s
ISA Isabella 32.63 316 ⇓P **P 20 58 42.9 +0.6**
baz=33,SNR=23
HWUT Hardware Ranch 32.69 331⇓*eP* **P 20 58 43.4 +0.5**
comp=Z,469nm,1.4s,mb6.2
HWUT *e*pP pP 20 58 58.4 +0.2
HWUT *e*PcP PcP 21 01 28.2 +0.9
HWUT *e*S **S 21 03 52.5 -2.1**
HWUT *e*ScP ScP 21 05 06.4 +0.6
HWUT LR LR
comp=Z,5μm,22.0s
GRAC Grapevine Rang 32.69 319 ⇑P **P 20 58 44.0 +1.1**
baz=33,SNR=48
BW06 Boulder Array 32.72 335 PFAKE 20 59 00.0 +17
BW06 LR LR
comp=Z,3μm,20.0s
PDAR Pinedale Array 32.72 335 P **P 20 58 42.0 -1.1**
comp=Z,19nm,0.5s,mb5.3,baz=131,slow=10,SNR=93
PDAR PcP PcP 21 01 26.9 -0.5
comp=Z,14nm,0.7s,baz=111,slow=3.7,SNR=8.9
PDAR ScP ScP 21 05 09.0 +3.1
comp=Z,12nm,0.8s,baz=129,slow=4.1,SNR=9.3
PDAR PKiKP PKiKP 21 08 54.1 +0.1
comp=Z,2.1nm,0.6s,baz=127,slow=2.3,SNR=9.2
PDAR LR LR 21 13 45.1
comp=Z,3μm,20.4s,baz=154,slow=40
PDAR Pinedale Array 32.72 335 P **P 20 58 42.0 -1.1**
PDAR PcP PcP 21 01 26.9 -0.5
PDAR ScP ScP 21 05 09.0 +3.1
CWC Cottonwood Cre 32.82 318 ⇓P **P 20 58 44.5 +0.5**
baz=33,SNR=15
Q11A Duckwater 32.83 323 ⇓P **P 20 58 45.3 +1.2**
baz=33,SNR=234
SBC Santa Barbara 32.83 313 ⇑P **P 20 58 44.4 +0.3**
baz=33
P12A McGill 32.83 325 ⇑P **P 20 58 45.2 +1.1**
baz=33,SNR=380
ACCN Adirondack Com 32.87 24⇑*eP* **P 20 58 45.0 +0.5**
ACCN *e*pP pP 20 59 01.0 +1.1
ACCN *e*S **S 21 04 02.0 +4.4**
ACCN *e*ScP ScP 21 05 08.4 +2.0
BGU Big Grassy Mou 32.88 329⇓*eP* **P 20 58 45.6 +1.1**
BGU *e*pP pP 20 59 00.1 +0.2
BGU *e*PP PP 21 00 10.5 +11
BGU *e*PcP PcP 21 01 27.5 -0.3
BGU *e*S **S 21 03 56.5 -1.1**
SPUT South Promonto 32.88 330⇓*eP* **P 20 58 41.0 -3.5**
SPUT *e*pP pP 20 58 56.8 -3.1
SPUT *e*PP PP 20 59 56.1 -3.7
SPUT *e*PcP PcP 21 01 26.0 -1.8
SPUT *e*S **S 21 03 55.7 -1.9**
HRV Harvard--Oak R 33.03 27⇑*eP* **P 20 58 47.0 +1.2**
HRV *e**PP pP 20 59 03.0 +1.7
HRV pmax pmax
comp=Z,354nm,0.9s,mb6.3
HRV MLR MLR
comp=Z,23μm,22.0s
HRV Harvard--Oak R 33.03 27⇑*eP* **P 20 58 47.0 +1.1**
comp=Z,354nm,0.9s,mb6.3
HRV *e*pP pP 20 59 03.0 +1.7
HRV *e*PP PP 20 59 49.6 -12
HRV LR LR
comp=Z,23μm,22.0s
WES Weston 33.04 27⇓*eP* **P 20 58 48.0 +2.1**
WES *e**PP pP 20 59 01.8 +0.5
WES *e* 20 59 54.0
WES *e*S **S 21 04 00.9 +0.8**
WES pmax pmax
comp=Z,864nm,1.4s,mb6.5
WES MLR MLR
comp=Z,20μm,20.0s
WES Weston 33.04 27⇓*eP* **P 20 58 48.0 +2.1**
comp=Z,864nm,1.4s,mb6.5
WES *e*pP pP 20 59 01.8 +0.4
WES *e*PP PP 20 59 54.0 -7.6
WES *e*S **S 21 04 00.9 +0.8**
WES LR LR
comp=Z,20μm,20.0s
S09A Goldfield 33.05 320 ⇑P **P 20 58 46.6 +0.6**
baz=33,SNR=112
PKM Peak Mountain 33.14 314 ⇓P **P 20 58 46.9 +0.1**
baz=33,SNR=26
VES Vestal, Richgr 33.14 316 ⇓P **P 20 58 47.3 +0.5**
baz=33,SNR=22
NCB Newcomb 33.16 23⇑*eP* **P 20 58 47.6 +0.6**
comp=Z,329nm,0.8s,mb6.3
NCB *e*pP pP 20 59 03.2 +0.8
NCB *e*PP PP 21 00 03.0 +0.1
NCB *e*S **S 21 04 03.1 +1.1**
NCB LR LR
comp=Z,16μm,22.0s
TIN Tinemaha 33.27 318 ⇑P **P 20 58 48.6 +0.6**
baz=33,SNR=7.5
R09A Tonopah 33.28 321 ⇑P **P 20 58 48.9 +0.9**
baz=33,SNR=111
O12A Currie 33.30 326 ⇓P **P 20 58 49.5 +1.4**
baz=33,SNR=424
P11A Circle Ranch, 33.36 324 P **P 20 58 50.4 +1.7**
baz=33,SNR=136
HVU Hansel Valley 33.40 330⇑*eP* **P 20 58 49.2 +0.2**
HVU *e**PP pP 20 59 05.0 +0.5
HVU *e**SP sP 20 59 14.0 +2.2
HVU 21 00 07.0
HVU *e* 21 01 31.5
HVU pmax pmax
comp=Z,731nm,1.5s,mb6.4
HVU Hansel Valley 33.40 330⇑*eP* **P 20 58 49.2 +0.2**
comp=Z,731nm,1.5s,mb6.4
HVU *e*pP pP 20 59 05.0 +0.5
HVU *e*sP sP 20 59 14.0 +2.2
HVU PP PP 21 00 07.0 +1.5
HVU *e*PcP PcP 21 01 31.5 +2.2
HVU *e*S **S 21 04 15.9 +10**
HVU *e*ScP ScP 21 05 06.5 -1.7
N13A Wendover, West 33.43 327 ⇑P **P 20 58 50.5 +1.2**
baz=34,SNR=59
SMMC Simmler 33.48 314 ⇑P **P 20 58 50.4 +0.7**
baz=34,SNR=18
S08C White Mtn Res 33.50 319 ⇑P **P 20 58 51.3 +1.3**
baz=34,SNR=130
MIV Mineville/With 33.51 23 *eP* **P 20 58 51.1 +1.1**
MIV *e*pP pP 20 59 05.9 +0.5
RCTC Rector, Farmer 33.51 316 P **P 20 58 50.6 +0.6**
baz=34,SNR=22
HELL Mitchell Peak, 33.58 317 ⇑P **P 20 58 51.2 +0.6**
baz=34,SNR=80
LONY Lake Ozonia 33.59 22⇑*eP* **P 20 58 51.3 +0.6**
comp=Z,879nm,1.0s,mb6.6
LONY pP pP 20 59 06.8 +0.7
LONY *e*PP PP 21 00 07.5 -0.2
LONY S **S 21 04 08.8 +0.3**
LONY *e*ScP ScP 21 05 13.7 +4.7
LONY LR LR
comp=Z,18μm,21.0s
MTUM Tungsten Hills 33.67 319 *eP* **P 20 58 52.1 +0.7**
MTUM *e*pP pP 20 59 08.7 +1.9
MTUM *e*ScP ScP 21 05 13.4 +4.2
HNH Hanover 33.70 25 *eP* **P 20 58 52.8 +1.2**
comp=Z,5.1nm,0.8s
HNH *e*pP pP 20 59 07.4 +0.4
HNH *e*PP PP 21 00 09.2 +0.3
HNH *e*PcP PcP 21 01 31.9 +1.8
O11A Cowboy Ranch, 33.70 325 ⇓P **P 20 58 52.8 +1.1**
baz=34,SNR=368
V05C Boulder Hill, 33.71 315 ⇓P **P 20 58 52.5 +0.8**
baz=34
Q09A Carvers 33.72 322 ⇑P **P 20 58 52.9 +1.1**
baz=34,SNR=27
REDW Red Top Meadow 33.76 334⇑*eP* **P 20 58 52.0 -0.2**
comp=Z,0.5nm,0.1s
REDW *e*pP pP 20 59 08.1 +0.5
REDW *e*PcP PcP 21 01 30.6 +0.3
REDW *e*S **S 21 04 12.8 +1.6**
REDW *e*ScP ScP 21 05 10.3 +0.8
FFD Franklin Falls 33.77 26⇓*eP* **P 20 58 53.8 +1.6**
comp=Z,400nm,1.2s,mb6.2
FFD *e*pP pP 20 59 07.3 -0.4
FFD *e*S **S 21 04 14.1 +2.7**
M13A Montello 33.78 328 ⇑P **P 20 58 53.3 +0.9**
baz=34,SNR=149
SNOW Snow King Moun 33.80 334⇑*iP* **P 20 58 52.6 +0.1**
comp=Z,412nm,0.8s,mb6.4
SNOW *e*pP pP 20 59 07.3 -0.7
SNOW *e*PcP PcP 21 01 30.3 -0.1
SNOW *e*S **S 21 04 29.0 +17**
SNOW *e*ScP ScP 21 05 14.3 +4.7
EYMN Ely 33.80 360⇑*iP* **P 20 58 50.9 -1.7**
comp=Z,114nm,1.0s,mb5.8
EYMN *e*pP pP 20 59 07.6 -0.4
EYMN *e*PP PP 21 00 08.6 -1.4
EYMN *e*PcP PcP 21 01 31.4 +1.0
EYMN *e*S **S 21 04 06.5 -5.4**
EYMN LR LR
comp=Z,7μm,20.0s
P10A Eureka 33.81 324 ⇑P **P 20 58 54.3 +1.7**
baz=34,SNR=64
MSNY Massena 33.82 21 *eP* **P 20 58 53.1 +0.4**
MSNY *e* pP 20 59 07.5 -0.7
LOHW Long Hollow 33.85 334 *eP* **P 20 58 52.8 -0.3**
comp=Z,148nm,0.8s,mb6.0
LOHW *e*pP pP 20 59 09.7 +1.2
LOHW *e*PP PP 21 00 13.0 +2.4
LOHW *e*PcP PcP 21 01 32.5 +1.9
LOHW *e*S **S 21 04 07.5 -5.2**
LOHW *e*ScP ScP 21 05 12.3 +2.5
N12A Clover Valley, 33.87 327 ⇑P **P 20 58 53.8 +0.6**
baz=34,SNR=147
ELK Elko 33.90 326⇑*eP* **P 20 58 54.8 +1.4**
ELK *e**PP pP 20 59 09.1 +0.2
ELK *e* 21 01 32.3
ELK *e*S **S 21 04 18.2 +4.7**
ELK pmax pmax
comp=Z,241nm,1.1s
ELK MLR MLR
comp=Z,10μm,21.0s
ELK Elko 33.90 326⇑*eP* **P 20 58 54.8 +1.4**
comp=Z,241nm,1.1s,mb6.0
ELK *e*pP pP 20 59 09.1 +0.2
ELK *e*PP PP 21 00 16.9 +5.8
ELK *e*PcP PcP 21 01 32.2 +1.5
ELK *e*S **S 21 04 18.2 +4.8**
ELK *e*ScP ScP 21 05 06.7 -3.3
ELK LR LR
comp=Z,10μm,21.0s
TPAW Teton Pass 33.90 334⇑*eP* **P 20 58 53.3 -0.1**
comp=Z,359nm,1.1s,mb6.2
TPAW *e*pP pP 20 59 11.1 +2.2
TPAW *e*PcP PcP 21 01 31.6 +0.9
TPAW S **S 21 04 21.4 +8.0**
TPAW *e*ScP ScP 21 05 14.2 +4.2
RRI2 Red Ridge 33.95 333⇓*eP* **P 20 58 44.1 -10**
comp=Z,528nm,1.4s,mb6.3
RRI2 *e*PP PP 21 00 10.3 -1.3
RRI2 *e*PcP PcP 21 01 22.8 -8.1
RRI2 *e*S S 21 03 50.7 -23
RRI2 *e*ScP ScP 21 05 01.4 -8.8
R08A Mina 33.98 320 ⇓P **P 20 58 55.2 +1.1**
baz=34,SNR=32
MLAC Mammoth Lakes 34.01 319 ⇓P **P 20 58 55.3 +1.0**
baz=34,SNR=12
MOOW Moose Ponds 34.03 334 *eP* **P 20 58 54.8 +0.3**
comp=Z,53nm,1.8s,mb5.2
MOOW *e*pP pP 20 59 10.4 +0.4
MOOW *e*PP PP 21 00 13.6 +1.2
MOOW *e*PcP PcP 21 01 31.7 +0.7
MOOW *e*S **S 21 04 16.7 +1.3**
MOOW *e*ScP ScP 21 05 17.3 +6.8
DCID1 Drake Creek 34.09 334 *eP* **P 20 58 56.0 +0.9**
DCID1 *e*pP pP 20 59 10.7 +0.2
DCID1 *e*PcP PcP 21 01 32.0 +0.7
DCID1 *e*ScP ScP 21 05 15.2 +4.6
U05C Westside ANR, 34.12 316 ⇓P **P 20 58 55.4 +0.1**
baz=34
KCC Kaiser Creek 34.14 318 P **P 20 58 55.9 +0.4**
baz=34,SNR=67
NVAR Mina Array Bea 34.15 320 P **P 20 58 56.3 +0.7**
comp=Z,247nm,0.9s,mb6.1,baz=128,slow=8.5,SNR=141
NVAR pP pP 20 59 11.9 +0.8
comp=Z,366nm,0.9s,baz=137,slow=6.7,SNR=15
NVAR PcP PcP 21 01 32.6 +1.2
comp=Z,61nm,0.8s,baz=171,slow=1.4,SNR=9.9
NVAR pPcP 21 01 51.2
comp=Z,30nm,0.9s,baz=107,slow=2.1,SNR=3.6
NVAR ScP ScP 21 05 13.8 +2.9
comp=Z,4.4nm,0.6s,baz=40,slow=11,SNR=8.6
NVAR PKPPKP 21 32 13.8
comp=Z,0.4nm,0.6s,baz=122,slow=1.2,SNR=3.6
NVAR Mina Array Bea 34.15 320 P **P 20 58 56.3 +0.7**
NVAR pP pP 20 59 11.9 +0.8
NVAR PcP PcP 21 01 32.6 +1.2
NVAR pPcP 21 01 51.2
NVAR ScP ScP 21 05 13.8 +2.9
P09A Austin 34.16 323 ⇓P **P 20 58 56.3 +0.7**
baz=34
Q08A Gabbs 34.19 321 P **P 20 58 56.9 +1.0**
baz=34,SNR=123
PKD Parkfield 34.19 315 ⇑P **P 20 58 56.1 +0.1**
baz=34,SNR=25
M12A Wells 34.21 327 P **P 20 58 56.8 +0.7**
baz=34,SNR=530
T06C Millerton Lake 34.21 317 ⇓P **P 20 58 55.4 -0.7**
baz=34,SNR=24
N11A Elko Archery C 34.22 326 ⇑P **P 20 58 57.5 +1.3**
baz=34,SNR=33
IMW Indian Meadow 34.23 334 *eP* **P 20 58 56.2 0.0**
comp=Z,75nm,0.5s,mb5.9
IMW *e*pP pP 20 59 12.5 +0.8
IMW *e*PP PP 21 00 17.2 +2.5
IMW *e*PcP PcP 21 01 32.6 +1.0
IMW *e*ScP ScP 21 05 15.6 +4.4
V04C Ramage Ranch, 34.26 314 ⇓P **P 20 58 57.0 +0.5**
baz=34
LBNH Lisbon 34.28 25⇑*eP* **P 20 58 58.7 +2.0**
LBNH *e* 21 00 14.6
LBNH *e*S **S 21 04 26.5 +7.2**
LBNH pmax pmax
comp=Z,266nm,1.2s,mb6.0
LBNH MLR MLR
comp=Z,16μm,19.0s
LBNH Lisbon 34.28 25⇑*eP* **P 20 58 58.7 +2.0**
comp=Z,266nm,1.2s,mb6.0
LBNH *e*PP PP 21 00 14.6 -0.7
LBNH *e*S **S 21 04 26.5 +7.1**
LBNH *e*ScP ScP 21 05 16.4 +5.0
LBNH LR LR
comp=Z,16μm,19.0s
O10A Cortez Mining, 34.28 324 ⇓P **P 20 58 58.2 +1.5**
baz=34,SNR=289
AGMN Agassiz Refuge 34.38 354⇑*eP* **P 20 58 55.9 -1.6**
comp=Z,205nm,1.2s,mb5.9
AGMN *e*pP pP 20 59 13.2 +0.3
AGMN *e*PP PP 21 00 17.9 +1.6
AGMN *e*S **S 21 04 17.2 -3.5**
AGMN *e*ScP ScP 21 05 14.5 +2.8
AGMN LR LR
comp=Z,6μm,21.0s
R07C Lee Vining 34.41 319 ⇓P **P 20 58 59.0 +1.2**
baz=34,SNR=34
RLMT Red Lodge 34.58 337⇓*eP* **P 20 58 58.7 -0.6**
comp=Z,2μm,0.6s
RLMT *e*pP pP 20 59 13.6 -1.1
RLMT *e*PP PP 21 00 22.4 +3.8
RLMT LR LR
comp=Z,6μm,22.0s
U04C Hernandez Rese 34.58 315 ⇑P **P 20 58 59.3 0.0**
baz=35,SNR=30
O09A Fish Creek Ran 34.60 324 ⇓P **P 20 59 00.6 +1.2**
baz=35,SNR=266
M11A Holland Ranch, 34.68 327 ⇓P **P 20 59 01.4 +1.2**
baz=35,SNR=317
V03C Hunter Liggett 34.71 314 P **P 20 59 01.1 +0.6**
baz=35,SNR=17
LRV Little Rabbit 34.77 315 *eP* **P 20 59 01.5 +0.5**
LRV *e*pP pP 20 59 16.6 +0.1
Q07A Schurz 34.78 321 ⇓P **P 20 59 02.1 +1.2**
baz=35
YNR Norris Junctio 34.79 335 *eP* **P 20 59 01.7 +0.6**
YNR *e*pP pP 20 59 15.7 -0.8
YNR *e*PP PP 21 00 23.6 +2.7
YNR *e*S **S 21 04 32.5 +5.4**
T05C Eagle Field, D 34.79 316 ⇓P **P 20 59 01.1 0.0**
baz=35
S06C San Francisco 34.80 318 P **P 20 59 01.6 +0.3**
baz=35,SNR=50
P08A Dixie Valley 34.81 322 ⇑P **P 20 59 02.2 +0.9**
baz=35
S05C Merced 34.81 317 ⇑P **P 20 59 01.3 0.0**
baz=35
YMR Madison River 34.87 335 *eP* **P 20 59 02.5 +0.7**
comp=Z,159nm,0.9s,mb6.0
YMR *e*pP pP 20 59 18.4 +1.2
YMR *e*sP sP 20 59 24.8 +0.2
YMR *e*PcP PcP 21 01 33.4 -0.1
YMR *e*S **S 21 04 30.6 +2.2**
YMR *e*ScP ScP 21 05 17.2 +3.7
YMR LR LR 21 08 51.6
comp=Z,3μm,22.0s
LAO LASA Array 34.91 342 *eP* **P 20 59 01.8 -0.3**
comp=Z,105nm,1.2s,mb5.6
LAO *e*pP pP 20 59 14.5 -3.2
LAO *e*PP PP 21 00 24.5 +2.2
LAO *e*PcP PcP 21 01 32.1 -1.5
LAO *e* 21 01 50.9
LAO *e*ScP ScP 21 05 12.3 -1.4
LAO LR LR
comp=Z,3μm,21.0s
R06C Coleville 34.93 320 ⇓P **P 20 59 03.4 +1.2**
baz=35,SNR=42
HAST UC Hastings Re 35.12 315 P **P 20 59 03.7 -0.3**
baz=35,SNR=16
M10A I.L. Ranch, Tu 35.15 326 ⇓P **P 20 59 05.4 +1.2**
baz=35,SNR=533
QLMT Earthquake Lak 35.19 335 *eP* **P 20 59 05.4 +0.8**
QLMT *e*pP pP 20 59 20.0 -0.1
QLMT *e*PcP PcP 21 01 36.8 +2.4
QLMT *e*ScP ScP 21 05 19.6 +4.9
P07A Fallon 35.20 321 ⇑P **P 20 59 05.4 +0.8**
baz=35
O08A Rochester Mine 35.23 323 ⇓P **P 20 59 05.4 +0.5**
baz=35
CMB Columbia Colle 35.24 318 *eP* **P 20 59 05.2 +0.2**
CMB *e**PP pP 20 59 20.9 +0.4
CMB *e* 21 01 37.3
CMB pmax pmax
comp=Z,145nm,1.2s,mb5.8
CMB MLR MLR
comp=Z,4μm,21.0s
CMB Columbia Colle 35.24 318 *eP* **P 20 59 05.2 +0.2**
comp=Z,145nm,1.2s,mb5.8
CMB *e*pP pP 20 59 20.9 +0.4
CMB *e*PcP PcP 21 01 37.3 +2.7
CMB *e*ScP ScP 21 05 18.9 +4.1
CMB LR LR
comp=Z,4μm,21.0s
CMB Columbia Colle 35.24 318 P **P 20 59 05.2 +0.2**
baz=35,SNR=60
N09A Rock Creek Ran 35.24 324 ⇓P **P 20 59 06.4 +1.5**
baz=35,SNR=147
SAO San Andreas Ge 35.25 315 *eP* **P 20 59 04.8 -0.2**
SAO *e**PP pP 20 59 19.8 -0.7
SAO *e* 21 00 25.4
SAO *e* 21 01 35.9
SAO pmax pmax
comp=Z,97nm,1.0s,mb5.7
SAO MLR MLR
comp=Z,6μm,21.0s
SAO San Andreas Ge 35.25 315 *eP* **P 20 59 04.8 -0.2**
comp=Z,98nm,1.0s,mb5.7
SAO *e*pP pP 20 59 19.8 -0.7
SAO *e*PP PP 21 00 25.4 -0.5
SAO *e*PcP PcP 21 01 35.9 +1.3
SAO LR LR
comp=Z,6μm,21.0s
PACP Pacheco Peak 35.27 316 P **P 20 59 05.2 0.0**
baz=35,SNR=9.9
GCMT Greycliff 35.29 337 *eP* **P 20 59 04.3 -1.1**
GCMT *e*pP pP 20 59 21.1 +0.1
GCMT *e*PP PP 21 00 29.9 +3.5
R05C Kirkwood Meado 35.43 319 ⇑P **P 20 59 07.5 +0.9**
baz=36,SNR=98
HLID Hailey 35.53 330 *eP* **P 20 59 07.6 +0.1**
comp=Z,414nm,1.4s,mb6.2
HLID *e*pP pP 20 59 22.9 -0.1
HLID *e*PP PP 21 00 31.9 +2.8
HLID *e*PcP PcP 21 01 36.4 +1.0

HLID eS S 21 04 43.4 +4.8
HLID Hailey 35.53 330 ⇑P P 20 59 08.3 +0.8
baz=36,SNR=348
N08A GE Springer Mi 35.54 324 ⇑P P 20 59 08.1 +0.6
baz=36,SNR=127
S04C Ingram Canyon, 35.56 317 ⇓P P 20 59 07.7 0.0
baz=36,SNR=9.2
O07A Toulon 35.58 322 P P 20 59 08.5 +0.6
baz=36,SNR=153
WCN Washoe City 35.58 320 ⇓P P 20 59 08.8 +0.9
baz=36,SNR=20
MCMT McKenzie Canyo 35.79 333 P P 20 59 10.6 +0.9
BOZ Bozeman (W) 35.94 335 eP P 20 59 10.6 -0.4
BOZ e*PP pP 20 59 27.8 +1.3
BOZ e 21 01 38.4
BOZ eS S **21 04 44.6 -0.2**
BOZ e 21 05 18.1
BOZ pmax pmax
comp=Z,101nm,1.3s,mb5.6
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 35.94 335 eP P 20 59 10.6 -0.4
comp=Z,101nm,1.3s,mb5.6
BOZ epP pP 20 59 27.8 +1.3
BOZ ePcP PcP 21 01 38.4 +1.7
BOZ eS S **21 04 44.6 -0.2**
BOZ eScP ScP 21 05 18.1 +0.7
BOZ LR LR
comp=Z,2µm,19.0s
SAML Samuel 35.95 128 eP P 20 59 12.6 +1.6
comp=Z,212nm,1.1s,mb6.0
SAML ePcP PcP 21 01 38.1 +1.4
SAML LR LR
comp=Z,4µm,22.0s
DGMT Dagmar 35.98 345 eP P 20 59 09.9 -1.4
comp=Z,115nm,0.9s,mb5.8
DGMT epP pP 20 59 26.1 -0.8
DGMT ePcP PcP 21 01 38.3 +1.5
DGMT eS S **21 04 51.6 +6.2**
DGMT eScP ScP 21 05 20.7 +3.1
DGMT LR LR
comp=Z,5µm,20.0s
ARE Arequipa 36.01 147 eP P 20 59 15.0 +3.5
DLMT Dillon 36.11 334 eP P 20 59 12.5 +0.1
comp=Z,432nm,1.3s,mb6.2
DLMT epP pP 20 59 26.6 -1.4
DLMT esP sP 20 59 34.5 -0.7
DLMT ePcP PcP 21 01 38.2 +1.0
DLMT eScP ScP 21 05 21.6 +3.6
PKME Peaks-Kenny Pk 36.22 26 eP P 20 59 14.4 +1.0
comp=Z,651nm,1.0s,mb6.5
PKME epP pP 20 59 30.4 +1.5
PKME ePP PP 21 00 44.2 +7.5
PKME eS S **21 04 43.2 -5.8**
PKME LR LR
comp=Z,22µm,21.0s
ULM Lac du Bonnet 36.31 355 P P 20 59 12.4 -1.7
comp=Z,77nm,0.8s,mb5.7,baz=174,slow=9.0,SNR=94
ULM PcP PcP 21 01 37.4 -0.3
comp=Z,16nm,0.4s,baz=144,slow=11,SNR=8.5
ULM pPcP 21 01 54.9
comp=Z,72nm,1.0s,baz=230,slow=2.4,SNR=3.9
ULM ScP ScP 21 05 20.4 +1.7
comp=Z,15nm,0.7s,baz=221,slow=3.4,SNR=8.1
ULM LR LR 21 17 05.7
comp=Z,5µm,21.9s,baz=173,slow=41
ULM Lac du Bonnet 36.31 355 P P 20 59 12.4 -1.7
ULM PcP PcP 21 01 37.4 -0.3
ULM pPcP 21 01 54.9
ULM ScP ScP 21 05 20.4 +1.7
ULM LR LR 21 17 05.7
OHCM Honcut 36.69 319 eP P 20 59 18.2 +0.8
OHCM epP pP 20 59 33.4 +0.5
OHCM ePcP PcP 21 01 40.1 +1.2
WVOR Wild Horse Val 36.91 325 eP P 20 59 20.0 +0.7
WVOR e*PP pP 20 59 34.6 -0.3
WVOR e 21 00 43.1
WVOR e 21 01 41.0
WVOR eS S **21 05 04.7 +5.1**
WVOR pmax pmax
comp=Z,440nm,1.0s,mb6.2
WVOR MLR MLR
comp=Z,5µm,19.0s
WVOR Wild Horse Val 36.91 325 eP P 20 59 19.9 +0.7
comp=Z,440nm,1.0s,mb6.2
WVOR epP pP 20 59 34.6 -0.3
WVOR ePP PP 21 00 43.1 -1.3
WVOR ePcP PcP 21 01 41.0 +1.4
WVOR eS S **21 05 04.7 +5.0**
WVOR eScP ScP 21 05 25.7 +4.7
WVOR LR LR
comp=Z,5µm,19.0s
MCCM Marconi Confer 36.94 316 eP P 20 59 19.1 -0.4
comp=Z,178nm,1.1s,mb5.8
MCCM LR LR
comp=Z,6µm,21.0s
NSHM Saint Helena R 36.96 317 eP P 20 59 20.6 +1.0
NSHM epP pP 20 59 36.1 +0.9
NSHM ePP PP 21 00 44.4 -0.5
EGMT Eagleton 37.23 339 eP P 20 59 21.1 -0.9
comp=Z,243nm,1.3s,mb5.9
EGMT epP pP 20 59 37.8 +0.2
EGMT ePP PP 21 00 54.8 +7.0
EGMT ePcP PcP 21 01 41.6 +1.0
EGMT eScP ScP 21 05 20.3 -1.8
EGMT LR LR
comp=Z,4µm,21.0s
LBCM Butte Creek Ri 37.48 321 P P 20 59 24.4 +0.4
MOD Modoc 37.51 323 eP P 20 59 24.8 +0.4
comp=Z,173nm,1.1s,mb5.7
MOD epP pP 20 59 39.2 -0.7
MOD ePcP PcP 21 01 43.9 +2.5
MOD eScP ScP 21 05 27.8 +4.6
MOD LR LR
comp=Z,6µm,21.0s
HOPS Hopland 37.52 317 eP P 20 59 25.3 +0.8
comp=Z,128nm,1.2s,mb5.5
HOPS epP pP 20 59 41.7 +1.7
HOPS eS S **21 05 11.6 +2.7**
CHMT Chamberlain Mo 37.62 335 eP P 20 59 24.3 -1.0
CHMT epP pP 20 59 40.0 -0.9
CHMT eScP ScP 21 05 27.1 +3.5
LPAZ La Paz 37.76 142 P P 20 59 28.9 +2.4
comp=Z,32nm,1.1s,mb4.9,baz=335,slow=8.5,SNR=48
LPAZ PcP PcP 21 01 45.6 +3.5
comp=Z,72nm,1.3s,baz=324,slow=6.4,SNR=4.6
LPAZ LR LR 21 14 55.5
comp=Z,2µm,21.6s,baz=324,slow=36
LPAZ PKPPKP 21 32 12.3
comp=Z,2.5nm,1.1s,baz=184,slow=3.0,SNR=4.2
LPAZ La Paz 37.76 142 eP P 20 59 28.9 +2.4
LPAZ e 21 01 44.1
LPAZ pmax pmax
comp=Z,26nm,1.1s
LPAZ La Paz 37.76 142 eP P 20 59 28.9 +2.5
comp=Z,26nm,1.2s,mb4.8
LPAZ ePcP PcP 21 01 44.1 +1.9
MSO Missoula 37.84 334 eP P 20 59 26.5 -0.6
comp=Z,293nm,1.4s,mb5.8
MSO epP pP 20 59 42.1 -0.7
MSO ePcP PcP 21 01 42.3 -0.1
MSO eScP ScP 21 05 24.1 -0.3
BMO Blue Mountains 37.89 329 eP P 20 59 26.7 -0.9
comp=Z,374nm,1.3s,mb6.0
BMO epP pP 20 59 43.6 +0.4
BMO ePcP PcP 21 01 43.6 +1.1
BMO eScP ScP 21 05 28.1 +3.5
WDC Whiskeytown Da 38.06 320 eP P 20 59 27.2 -1.7
comp=Z,37nm,1.0s,mb5.1
WDC epP pP 20 59 42.1 -2.5
WDC ePcP PcP 21 01 42.4 -0.7
WDC eScP ScP 21 05 26.1 +0.8
WDC LR LR
comp=Z,3µm,20.0s
KCPM Cahto Peak 38.23 318 eP P 20 59 31.4 +1.0
KCPM epP pP 20 59 47.0 +0.9
KCPM ePcP PcP 21 01 46.9 +3.3
KCPM eScP ScP 21 05 28.3 +2.3
KIPM Iron Peak 38.23 318 eP P 20 59 31.0 +0.6
KIPM epP pP 20 59 46.7 +0.7
KIPM ePP PP 21 01 02.5 +3.7
KIPM ePcP PcP 21 01 45.3 +1.7
KIPM eS S **21 05 20.4 +0.8**
KIPM eScP ScP 21 05 31.2 +5.3

YBH Yreka Blue Hor 38.84 321 eP P 20 59 34.3 -1.2
YBH e*PP pP 20 59 50.9 -0.2
YBH e 21 01 47.3
YBH e 21 05 31.6
YBH pmax pmax
comp=Z,32nm,0.9s
YBH MLR MLR
comp=Z,7µm,21.0s
YBH Yreka Blue Hor 38.84 321 eP P 20 59 34.3 -1.2
comp=Z,32nm,0.9s,mb5.0
YBH epP pP 20 59 50.9 -0.3
YBH ePcP PcP 21 01 47.3 +1.8
YBH eScP ScP 21 05 31.6 +3.4
YBH LR LR
comp=Z,7µm,21.0s
BUOR Burton Butte 38.88 322 P P 20 59 36.4 +0.5
KHMM Horse Mountain 38.98 320 eP P 20 59 36.6 0.0
KHMM epP pP 20 59 52.6 +0.3
KHMM esP sP 20 59 59.2 -0.5
KHMM ePcP PcP 21 01 46.4 +0.4
KHMM eScP ScP 21 05 36.5 +7.8
VIPM Ingram Point 39.37 326 P P 20 59 40.0 +0.1
KRMB Red Mountain 39.45 320 eP P 20 59 41.3 +0.7
KRMB epP pP 20 59 55.3 -1.0
KRMB eS S **21 05 36.6 -1.3**
HUMO Hull Mountain 39.50 322 eP P 20 59 40.5 -0.5
comp=Z,28nm,0.8s,mb5.0
HUMO epP pP 20 59 56.1 -0.6
HUMO ePcP PcP 21 01 49.2 +1.6
HUMO eScP ScP 21 05 33.4 +2.6
WALA Waterton Lakes 39.62 336 eP P 20 59 42.7 +0.8
comp=Z,136nm,1.1s,mb5.6
WALA ePcP PcP 21 01 50.2 +2.2
KBO Bosley Butte 40.04 321 eP P 20 59 46.1 +0.7
KBO epP pP 21 00 02.0 +0.8
KBO ePcP PcP 21 01 53.2 +3.9
KBO eS S **21 05 42.8 -3.9**
HAWA Hanford 40.09 329 eP P 20 59 45.1 -0.8
comp=Z,63nm,0.8s,mb5.4
HAWA epP pP 20 59 59.2 -2.4
HAWA ePcP PcP 21 01 49.0 -0.4
HAWA eScP ScP 21 05 33.7 +0.6
NEW Newport 40.32 333 eP P 20 59 47.2 -0.6
NEW e*PP pP 21 00 03.4 -0.2
NEW e 21 01 50.8
NEW pmax pmax
comp=Z,158nm,1.1s
NEW Newport 40.32 333 eP P 20 59 47.2 -0.6
comp=Z,158nm,1.1s,mb5.7
NEW epP pP 21 00 03.4 -0.2
NEW ePcP PcP 21 01 50.8 +0.5
NEW eScP ScP 21 05 36.2 +2.2
SSOR Sweet Springs 40.60 325 P P 20 59 50.0 -0.1
COR Corvallis 40.90 325⇑eP P 20 59 53.2 +0.6
COR e*PP pP 21 00 07.4 -0.9
COR e 21 01 28.1
COR pmax pmax
comp=Z,739nm,1.2s,mb6.2
COR Corvallis 40.90 325⇑eP P 20 59 53.2 +0.7
comp=Z,739nm,1.2s,mb6.2
COR epP pP 21 00 07.4 -1.0
COR ePP PP 21 01 28.1 +0.3
SIV San Ignacio 42.13 134 P P 21 00 04.1 +1.5
comp=Z,35nm,0.6s,mb5.2,baz=312,slow=9.4,SNR=140
SIV PcP PcP 21 01 58.2 +2.0
comp=Z,24nm,0.6s,baz=297,slow=3.8,SNR=5.9
SIV pPcP 21 02 16.3
comp=Z,53nm,1.0s,baz=317,slow=1.5,SNR=3.4
SIV S S **21 06 23.9 +6.1**
comp=Z,10nm,1.2s,baz=309,slow=7.5,SNR=4.2
EDM Edmonton 42.86 340 eP P 21 00 07.2 -1.4
EDM e*PP pP 21 00 23.6 -0.8
EDM e 21 01 59.6
RPN Rapa Nui 44.56 203 P P 21 00 22.3 0.0
comp=Z,465nm,1.1s,mb6.2,baz=354,slow=5.9,SNR=8.8
RPN LR LR 21 14 12.0
comp=Z,5µm,18.4s,baz=204,slow=29
RPN Rapa Nui 44.56 203 P P 21 00 20.9 -1.4
comp=Z,795nm,1.2s,mb6.4
FCC Fort Churchill 44.69 358 eP P 21 00 21.9 -1.4
FCC e*PP pP 21 00 37.5 -1.7
FCC e 21 02 04.8
FCC eS S **21 06 54.3 -0.9**
FCC pmax pmax
comp=Z,482nm,1.1s,mb6.2
FCC Fort Churchill 44.69 358 eP P 21 00 21.9 -1.3
comp=Z,482nm,1.1s,mb6.2
FCC epP pP 21 00 37.5 -1.7
FCC ePcP PcP 21 02 04.8 0.0
FCC eScP ScP 21 05 51.9 +0.3
FCC eS S **21 06 54.3 -0.9**
SCHQ Schefferville 44.90 20 P P 21 00 24.2 -0.7
comp=Z,385nm,0.8s,mb6.3,baz=217,slow=6.2,SNR=551
SCHQ LR LR 21 20 13.2
comp=Z,21µm,21.0s,baz=217,slow=38
LCO Las Campanas 47.15 155 P P 21 00 44.3 +1.7
CMCH Combarbala 48.95 157 eP P 21 00 57.7 +1.2
ZON Zonda 50.20 155⇓iP P 21 01 07.7 +1.7
CFAA Coronel Fontan 50.44 154 P P 21 01 09.2 +1.5
comp=Z,16nm,1.1s,mb5.0,baz=334,slow=6.6,SNR=128
FCH Farellones 51.14 157⇓iP P 21 01 14.7 +1.6
YKA Yellowknife Ar 51.17 346 P P 21 01 11.9 -1.4
comp=Z,205nm,0.8s,mb6.1,baz=148,slow=7.3,SNR=812
YKA pP pP 21 01 29.3 -0.3
comp=Z,46nm,0.9s,baz=147,slow=7.7,SNR=3.1
YKA PcP PcP 21 02 28.0 0.0
comp=Z,46nm,0.8s,baz=150,slow=3.7,SNR=16
YKA pPcP 21 02 45.2
comp=Z,39nm,0.8s,baz=149,slow=3.7,SNR=7.0
YKA ScP ScP 21 06 19.5 +0.6
comp=Z,2.4nm,0.5s,baz=148,slow=4.4,SNR=6.3
YKA LR LR 21 26 35.8
comp=Z,4µm,20.6s,baz=145,slow=40
YKA PKPPKP 21 31 43.8
comp=Z,5.0nm,1.1s,baz=359,slow=2.8,SNR=12
YKA Yellowknife Ar 51.17 346 P P 21 01 11.9 -1.4
YKA *PP pP 21 01 29.3 -0.3
YKA 21 02 28.1
YKA Yellowknife Ar 51.17 346 P P 21 01 11.9 -1.4
YKA pP pP 21 01 29.3 -0.3
YKA PcP PcP 21 02 28.1 0.0
YKA pPcP 21 02 45.2
YKA ScP ScP 21 06 19.6 +0.6
YKA LR LR 21 26 35.8
YKA P'P' 21 31 43.8
MDZ Mendoza 51.30 156⇑iP P 21 01 16.0 +1.7
MDZ i S pP 21 01 26.0 -4.6
CRAG Craig 52.47 331 eP P 21 01 24.3 +1.3
CRAG epP pP 21 01 36.8 -2.5
CRAG LR LR
comp=Z,2µm,18.0s
WRAK Wrangell Islan 52.67 333 PFAKE 21 01 30.0 +5.5
WRAK LR LR
comp=Z,4µm,21.0s
DLBC Dease Lake 52.95 336 eP P 21 01 27.4 +0.8
DLBC epP pP 21 01 43.2 +0.4
DLBC ePcP PcP 21 02 36.2 +1.6
CCHI Chillan 53.49 161⇓iP P 21 01 31.9 +1.4
TAOE Nuku Hiva Isla 53.66 248 ePP PP 21 03 27.5 -5.6
comp=Z,1µm,28.2s
TAOE Nuku Hiva Isla 53.66 248 eS S 21 08 52.7 -8.2
comp=Z,6µm,27.1s
TAOE eSS SS 21 12 34.5 -7.6
comp=Z,4µm,29.5s
TAOE eLR LR 21 16 38.5
comp=Z,37µm,27.8s,baz=66
PTCN Pitcairn Islan 54.34 225 PFAKE 21 01 50.0 +13
PTCN LR LR
comp=Z,5µm,22.0s
SIT Sitka 54.38 332 eP P 21 01 37.3 +0.3
SIT pmax pmax
comp=Z,183nm,1.4s,mb5.8
SIT MLR MLR
comp=Z,5µm,20.0s
SIT Sitka 54.38 332 eP P 21 01 37.3 +0.3
comp=Z,183nm,1.4s,mb5.8
SIT LR LR
comp=Z,5µm,20.0s
SKAG Skagway 55.75 335 eP P 21 01 48.2 +1.4
comp=Z,142nm,0.9s,mb6.0
SKAG epP pP 21 02 04.6 +1.3
SKAG ePcP PcP 21 02 44.6 -0.8
SKAG eScP ScP 21 06 39.9 +1.0
RKT Rikitea 56.59 230 ePP PP 21 03 57.3 -1.9
comp=Z,597nm,30.8s
RKT Rikitea 56.59 230 eS S 21 09 32.4 -7.6
comp=Z,3µm,28.8s
RKT eSS SS 21 13 17.1 -11
comp=Z,1µm,32.2s
RKT eLR LR 21 18 00.1
comp=Z,17µm,27.8s,baz=48
RKT Rikitea 56.59 230 eP P 21 01 50.9 -2.0
RKT e 21 03 57.3
RKT eS S **21 09 32.4 -7.6**
RKT pmax pmax
comp=Z,393nm,1.1s,mb6.3
RKT Rikitea 56.59 230 eP P 21 01 50.9 -2.0
comp=Z,393nm,1.1s,mb6.3
RKT ePP PP 21 03 57.3 -1.9
RKT eS S **21 09 32.4 -7.6**
RKT eSS SS 21 13 17.1 -11
LPA La Plata 58.01 148eP P 21 02 02.0 -0.8
LPA epP pP 21 02 17.0 -2.4
LPA eS S **21 09 59.0 +0.4**
LPA
comp=Z,2µm,22.0s
TRQA Tornquist 58.61 153 eP P 21 02 07.5 +0.4
comp=Z,185nm,1.2s,mb6.0
TRQA epP pP 21 02 23.7 +0.1
TRQA ePcP PcP 21 02 56.6 0.0
TRQA LR LR
comp=Z,3µm,22.0s
SFJD Kangerlussuaq 59.23 17 i P P 21 02 09.5 -1.8
comp=Z,133nm,0.8s,mb6.0
SFJD i 21 05 57.9
SFJD i S S **21 10 13.4 -1.1**
SFJD
comp=Z,16µm,21.0s
SFJD Kangerlussuaq 59.23 17 i P P 21 02 09.5 -1.8
SFJD i 21 05 57.9
SFJD i S S **21 10 13.4 -1.1**
SFJD pmax pmax
comp=Z,130nm,0.8s,mb6.0
SFJD MLR MLR
comp=Z,16µm,21.0s
CAM4 Nova Friburgo 59.80 127⇓iP P 21 02 16.3 +1.1
CAM4 i 21 02 18.0
CAM4 i pP 21 02 34.9 +3.0
CAM4 i 21 02 54.6
CAM4 i 21 03 08.6
DAWY Dawson 59.94 338 eP P 21 02 15.2 -1.1
DAWY epP pP 21 02 31.8 -1.1
DAWY ePcP PcP 21 02 59.8 -2.1
DAWY eScP ScP 21 07 00.1 +2.6
CAM3 Guarapari 60.58 124⇓iP P 21 02 22.8 +2.2
CAM3 i 21 02 31.9
CAM3 i pP 21 02 39.6 +2.4
CAM3 i 21 02 46.4
INK Inuvik 60.63 343 eP P 21 02 19.9 -1.0
INK e*PP pP 21 02 36.9 -0.7
INK e 21 03 04.0
INK Inuvik 60.63 343 eP P 21 02 19.9 -1.0
comp=Z,9µm,1.0s
INK epP pP 21 02 36.9 -0.7
INK ePcP PcP 21 03 04.0 -0.7
INK eScP ScP 21 07 01.4 +1.0
RES Resolute Bay 60.67 359 eP P 21 02 19.1 -2.1
RES e*PP pP 21 02 36.4 -1.5
RES e 21 03 04.2
RES Resolute Bay 60.67 359 eP P 21 02 19.1 -2.1
comp=Z,4µm,0.8s
RES epP pP 21 02 36.4 -1.5
RES ePcP PcP 21 03 04.2 -0.6
RES eScP ScP 21 07 05.1 +4.4
EYAK Cordova Ski Ar 60.82 333 eP P 21 02 23.1 +0.8
EYAK epP pP 21 02 39.1 +0.2
EYAK ePcP PcP 21 03 04.9 -0.6
EGAK Eagle 60.98 338 eP P 21 02 22.1 -1.2
comp=Z,113nm,0.9s,mb6.0
EGAK epP pP 21 02 38.5 -1.4
EGAK PcP PcP 21 03 07.3 +1.2
EGAK ePP PP 21 04 38.8 +0.7
MENT Mentasta 61.03 335 eP P 21 02 23.1 -0.6
POHA Pohakuloa 61.55 285 eP P 21 02 25.9 -1.3
comp=Z,479nm,1.2s,mb6.5
SML Sawmill 62.48 333 eP P 21 02 32.8 -0.6
PMR Palmer 62.75 333 eP P 21 02 34.9 -0.3
PMR pmax pmax
comp=Z,526nm,1.4s,mb6.5
PMR MLR MLR
comp=Z,2µm,20.0s
PMR Palmer 62.75 333 eP P 21 02 34.9 -0.3
comp=Z,526nm,1.4s,mb6.5
PMR LR LR
comp=Z,2µm,20.0s
SLKM Skilak Lake 62.84 332 eP P 21 02 35.8 0.0
SLKM epP pP 21 02 51.8 -0.7
SLKM ePcP PcP 21 03 15.3 +1.6
VAH Vaihoa 62.96 245 eP P 21 02 35.4 -1.2
comp=Z,675nm,1.3s,mb6.6
VAH epP pP 21 02 49.2 -4.2
comp=Z,240nm,1.2s
PMOR Pomariorio Ree 63.10 245 eP P 21 02 36.4 -1.1
comp=Z,257nm,1.3s,mb6.2
KDAK Kodiak Island 63.11 328 LR LR 21 27 54.1
comp=Z,502nm,21.8s,baz=120,slow=34
KDAK Kodiak Island 63.11 328 eP P 21 02 38.0 +0.5
comp=Z,199nm,0.9s,mb6.2
KDAK epP pP 21 02 52.9 -1.4
MCK McKinley 63.50 335 P P 21 02 39.7 -0.4
MCK McKinley 63.50 335 PFAKE 21 02 50.0 +10
MCK LR LR
comp=Z,1µm,20.0s
COLA College 63.54 337⇑iP P 21 02 39.4 -1.0
KIP Kipapa 63.70 287 eP P 21 02 40.4 -1.1
TVO Taravao 65.44 243 eP P 21 02 51.7 -1.1
comp=Z,390nm,1.4s,mb6.2
TVO Taravao 65.44 243 eP P 21 02 51.7 -1.1
TVO pmax pmax
comp=Z,390nm,1.4s,mb6.2
SVW2 Sparrevohn 65.52 331 eP P 21 02 52.0 -1.3
SVW2 epP pP 21 03 08.9 -1.3
PPT Papeete 65.63 243 ePP PP 21 05 13.1 -6.0
comp=Z,543nm,29.0s
PPT Papeete 65.63 243 eS S 21 11 27.9 -7.0
comp=Z,5µm,30.8s
PPT eSS SS 21 15 40.7 -9.1
comp=Z,2µm,32.2s
PPT eLR LR 21 22 13.8
comp=Z,17µm,27.2s
PPT Papeete 65.63 243 LR LR 21 23 38.6
comp=Z,4µm,21.4s,baz=89,slow=29
PPT Papeete 65.63 243 eP P 21 02 52.3 -1.8
PPT eS S 21 11 27.9 -7.0
PPT pmax pmax
comp=Z,110nm,1.4s
PPT Papeete 65.63 243 eP P 21 02 52.3 -1.8
comp=Z,110nm,1.4s,mb5.7
PPT ePP PP 21 05 13.1 -6.0
PPT eS S 21 11 27.9 -7.0
PPT eSS SS 21 15 40.7 -9.1
PAE Paea 65.68 243 eP P 21 02 53.2 -1.1
comp=Z,521nm,1.4s,mb6.4
PAE Paea 65.68 243 eP P 21 02 53.2 -1.1
PAE pmax pmax
comp=Z,521nm,1.4s,mb6.4
CHGN Chignik 65.83 326 eP P 21 02 55.1 -0.3
IMA2 Indian Mountai 66.25 337 eP P 21 02 57.3 -0.7
IMA2 epP pP 21 03 14.2 -0.7
SDPT Sand Point 66.81 324 eP P 21 03 01.4 -0.2
comp=Z,307nm,0.6s,mb6.5
SDPT epP pP 21 03 19.3 +0.8
SDPT epP PP 21 05 20.3 -9.0
TBI Tubuai 68.06 237 eS S 21 11 57.7 -6.5
comp=Z,2µm,36.0s
TBI eSS SS 21 16 18.7 -8.7
comp=Z,1µm,36.0s
TBI eLR LR 21 23 20.6
comp=Z,14µm,28.2s,baz=61
TBI Tubuai 68.06 237 eP P 21 03 07.7 -1.8
comp=Z,392nm,1.2s,mb6.3
TBI ePP PP 21 05 34.9 -5.3
TBI eS S 21 11 57.7 -6.5
TBI eSS SS 21 16 18.7 -8.7
BORG Borgarnes 68.82 26 P P 21 03 14.2 0.0
comp=Z,32nm,0.7s,mb5.3,baz=243,slow=3.8,SNR=11
ALE Alert 69.47 4 P P 21 03 16.0 -2.2
comp=Z,872nm,1.0s,mb6.6,SNR=81

AKUT Akutan 69.73 323 *eP* **P 21 03 19.2 -0.6**
UNV Unalaska Valle 70.14 322 PFAKE 21 03 30.0 +7.7
UNV LR LR
comp=Z,7µm,21.0s
USHA Ushuaia 71.26 166 P **P 21 03 29.7 +0.5**
comp=Z,104nm,1.1s,mb5.7,baz=328,slow=6.2,SNR=12
EFI East Falkland 71.48 159 P **P 21 03 31.0 +0.5**
EFI pmax pmax
comp=Z,210nm,1.1s,mb6.0
EFI East Falkland 71.48 159 *eP* **P 21 03 31.0 +0.5**
comp=Z,210nm,1.1s,mb6.0
EFI *e*PP PP 21 06 07.5 -2.2
TNA Tin City 71.84 335 PFAKE 21 03 40.0 +7.4
TNA LR LR
comp=Z,2µm,21.0s
DAG Danmarks Havn 72.43 13⇑*iP* **P 21 03 34.3 -1.9**
comp=Z,272nm,1.0s,mb6.1
DAG
comp=Z,6µm,20.0s
DAG Danmarks Havn 72.43 13⇑*iP* **P 21 03 34.3 -1.9**
DAG pmax pmax
comp=Z,270nm,1.0s,mb6.1
DAG MLR MLR
comp=Z,6µm,20.0s
JMIC Jan Mayen 74.42 20 *e*S S 21 13 17.3 -0.4
JMIC AMS AMS 21 35 02.7
comp=Z,7µm,25.2s
EMAZ Mazaricos 74.89 49 P **P 21 03 51.1 +0.5**
comp=Z,132nm,1.9s,mb5.5
PMAFR Mafra 75.06 53 *e*LR LR 21 27 58.0
comp=Z,3µm,24.6s
STS Santiago 75.21 49 P **P 21 03 52.2 -0.3**
STS pmax pmax
comp=Z,141nm,1.2s,mb5.8
STS Santiago 75.21 49 P **P 21 03 52.2 -0.2**
comp=Z,140nm,1.2s,mb5.8
DCN Croghan 75.23 38 *eP* **P 21 03 50.0 -2.5**
RRH Rhenigidale 75.30 33⇑*eP* **P 21 03 51.7 -1.2**
RTO Tolsta 75.53 33⇑*eP* **P 21 03 53.3 -1.0**
PTEO Sao Teotonio 75.65 54 *eP* **P 21 03 55.4 +0.4**
comp=Z,120nm,1.5s,mb5.6
ELOB Lobios 75.68 50 P **P 21 03 55.3 +0.2**
comp=Z,123nm,1.3s,mb5.7
DLF Lyons Farm 75.68 38 *eP* **P 21 03 50.0 -5.1**
RRR Rubha Reidh 75.77 33⇑*eP* **P 21 03 54.4 -1.2**
GCL Cushendall 75.78 36 *eP* **P 21 03 54.5 -1.2**
KPL Plockton 75.89 34⇑*eP* **P 21 03 55.0 -1.3**
KPL AMb AMB 21 03 58.5
comp=Z,481nm,1.3s,mb6.3
PVIS Viseu 75.93 51 *eP* **P 21 03 56.0 -0.5**
comp=Z,84nm,1.9s,mb5.3
GMM Mts of Mourne 75.95 37 *eP* **P 21 03 55.5 -1.2**
PVRL Vila Real 76.00 51 *eP* **P 21 03 56.8 -0.1**
comp=Z,68nm,1.4s,mb5.4
KSB Sheil Bridge 76.02 34⇑*eP* **P 21 03 55.9 -1.1**
REB Eisgbhrachaidh 76.03 33⇑*eP* **P 21 03 56.0 -1.2**
GMK Mull of Kintyr 76.07 36 *eP* **P 21 03 56.1 -1.2**
KAC Achnashellach 76.07 34⇑*eP* **P 21 03 56.1 -1.2**
RSC Scourie 76.08 33 *eP* **P 21 03 56.8 -0.6**
EPON Pontenova 76.19 48 P **P 21 03 58.1 +0.1**
comp=Z,124nm,1.4s,mb5.7
PBEJ Beja 76.27 54 *eP* **P 21 03 57.9 -0.6**
comp=Z,67nm,1.4s,mb5.4
ERUA La Rua 76.30 49 P **P 21 03 58.3 -0.3**
ERUA pmax pmax
comp=Z,14nm,0.6s,mb5.1
ERUA La Rua 76.30 49 P **P 21 03 58.3 -0.4**
comp=Z,14nm,0.6s,mb5.1
PCBR Castelo Branco 76.35 52 *eP* **P 21 03 58.3 -0.6**
comp=Z,122nm,1.3s,mb5.7
PESTR Estremoz 76.38 53 *eP* **P 21 03 58.7 -0.4**
comp=Z,113nm,1.3s,mb5.6
PESTR *e*S S 21 13 43.3 +4.0
PESTR Estremoz 76.38 53 *e*LQ 21 25 10.5
PESTR *e*LR LR 21 28 33.5
comp=Z,2µm,17.8s
MDO Dochfour 76.58 34⇑*eP* **P 21 03 59.1 -1.1**
GAL1 Galloway 76.61 36 *eP* **P 21 03 59.4 -1.1**
GAL1 AMb AMB 21 04 01.5
comp=Z,236nm,1.3s,mb6.0
EGRO El Granado 76.63 54 P **P 21 04 00.5 0.0**
comp=Z,175nm,1.5s,mb5.8
MVH1 Achvaich 76.63 33⇑*eP* **P 21 03 59.5 -1.1**
ECAL Calabor 76.65 50 P **P 21 04 01.5 +0.9**
comp=Z,35nm,1.3s,mb5.1
EAB Aberfoyle 76.70 35 *eP* **P 21 03 59.7 -1.2**
ORE Reay 76.80 33⇑*eP* **P 21 04 01.0 -0.5**
GIM North Isle of 76.81 37⇑*eP* **P 21 04 00.6 -0.9**
EBAD Badajoz 76.84 53 P **P 21 04 02.4 +0.7**
comp=Z,39nm,1.4s,mb5.1
MLA1 Latheron 77.03 33⇑*eP* **P 21 04 01.9 -0.9**
GCD Castle Douglas 77.06 36 *eP* **P 21 04 01.4 -1.5**
HTL Hartland 77.15 40 *eP* **P 21 04 02.4 -1.0**
HTL AMb AMB 21 04 14.1
comp=Z,164nm,1.5s,mb5.7
MCD Coleburn Disti 77.16 34⇑*eP* **P 21 04 02.8 -0.7**
EMIN Mina Concepcio 77.24 54 P **P 21 04 05.0 +1.1**
comp=Z,82nm,1.6s,mb5.4
MME1 Meikle Cairn 77.34 34⇑*eP* **P 21 04 03.3 -1.2**
XDE Dent Fell 77.36 37 *eP* **P 21 04 03.6 -1.0**
EDI Edinburgh 77.37 35 *eP* **P 21 04 03.3 -1.4**
EDI AMb AMB 21 04 13.1
comp=Z,256nm,1.7s,mb5.9
ESK Eskdalemuir 77.43 36 *eP* **P 21 04 03.9 -1.2**
ESK AMb AMB 21 04 07.1
comp=Z,399nm,1.6s,mb6.1
ESK Eskdalemuir 77.43 36 *eP* **P 21 04 03.8 -1.2**
ESK pmax pmax
comp=Z,410nm,1.3s,mb6.2
ESK Eskdalemuir 77.43 36 *eP* **P 21 04 03.8 -1.2**
comp=Z,414nm,1.3s,mb6.2
ECK Cauldkaine Hil 77.49 36⇑*eP* **P 21 04 04.2 -1.1**
HEX Exmoor 77.57 40 *eP* **P 21 04 04.5 -1.3**
CKE Keswick 77.57 37⇑*eP* **P 21 04 05.6 -0.2**
EARI Arriondas 77.60 48 P **P 21 04 06.4 +0.5**
comp=Z,1µm,3.6s
LRW Lerwick 77.94 31 *eP* **P 21 04 07.2 -0.7**
LRW AMb AMB 21 04 09.6
comp=Z,165nm,1.7s,mb5.7
XSO Sourhope Farm 77.95 36 *eP* **P 21 04 06.9 -1.0**
MCH1 Michaelchurch 77.95 39 *eP* **P 21 04 05.7 -2.2**
MCH1 ⇑*eP* 21 04 05.7
MCH1 AMb AMB 21 04 11.8
comp=Z,116nm,1.6s,mb5.5
HLM1 Long Mynd 77.96 39⇑*eP* **P 21 04 06.6 -1.4**
ESPR Espera 78.01 55 P **P 21 04 08.6 +0.3**
comp=Z,114nm,1.4s,mb5.6
HGH Gray Hill 78.12 40 *eP* **P 21 04 07.8 -1.0**
EJIF Jimena Fronter 78.38 55 P **P 21 04 11.1 +0.8**
EJIF pmax pmax
comp=Z,108nm,1.4s,mb5.6
EJIF Jimena Fronter 78.38 55 P **P 21 04 11.1 +0.8**
comp=Z,108nm,1.4s,mb5.6
QUIF Quistinic 78.39 43 *eP* **P 21 04 09.2 -1.1**
comp=Z,311nm,1.4s,mb5.7
QUIF Quistinic 78.39 43 *eP* **P 21 04 09.2 -1.1**
QUIF pmax pmax
comp=Z,156nm,1.4s,mb5.8
QUIF Quistinic 78.39 43 *eP* **P 21 04 09.2 -1.1**
comp=Z,156nm,1.4s,mb5.8
LHO Holmfirth 78.44 38⇑*eP* **P 21 04 09.5 -1.1**
KWE Weaver Farm 78.52 38 *eP* **P 21 04 09.9 -1.1**
SSW Stow on the Wo 78.66 39 *eP* **P 21 04 10.9 -0.9**
KB1 Birley Grange 78.67 38⇑*eP* **P 21 04 10.7 -1.2**
SGMF Saint Gilles 78.75 43 *eP* **P 21 04 10.6 -1.7**
SWN1 Swindon 78.75 40 *eP* **P 21 04 10.7 -1.6**
SWN1 *e*P 21 04 10.7
SWN1 AMb AMB 21 04 14.0
comp=Z,276nm,1.4s,mb6.0
GUD Guadarrama 78.76 51 P **P 21 04 12.1 -0.3**
GUD pmax pmax
comp=Z,95nm,1.0s,mb5.7
GUD Guadarrama 78.76 51 P **P 21 04 12.1 -0.2**
comp=Z,95nm,1.0s,mb5.7
PAB San Pablo 78.78 52 PFAKE 21 04 20.0 +7.5
PAB LR LR
comp=Z,3µm,22.0s
KBS Kingsbay 78.81 11 *eP* **P 21 04 12.8 +0.2**
KBS AMb AMB 21 04 16.9
comp=Z,117nm,1.6s,mb5.6
KBS *e*S S 21 14 06.3 +0.7
KBS AMS AMS 21 42 18.5
comp=Z,3µm,19.1s
KBS Kingsbay 78.81 11*c iP* **P 21 04 13.0 +0.3**
KBS Kingsbay 78.81 11 *eP* **P 21 04 07.4 -5.2**
KBS ⇑*iP* 21 04 13.0
KBS LR LR
comp=Z,3µm,19.1s
EADA Adamuz 78.82 53 P **P 21 04 12.1 -0.6**
comp=Z,31nm,1.0s,mb5.2
EMIJ Mijas 78.92 55 P **P 21 04 14.0 +0.8**
comp=Z,88nm,1.1s,mb5.6
ESDC Sonseca Array 79.05 52 P **P 21 04 13.6 -0.4**
comp=Z,35nm,0.9s,mb5.3,baz=290,slow=4.6,SNR=73
ESDC PKKPbc PKKPbc 21 23 06.0 +0.5
comp=Z,0.8nm,0.6s,baz=222,slow=2.0,SNR=4.3
ESDC LR LR 21 34 55.3
comp=Z,2µm,20.4s,baz=280,slow=32
ESDC Sonseca Array 79.05 52 P **P 21 04 13.5 -0.4**
comp=Z,89nm,1.1s,mb5.6
ESLA Sonseca Array 79.05 52 PFAKE 21 04 30.0 +16
ESLA LR LR
comp=Z,19µm,19.0s
ELUQ Luque 79.16 54 P **P 21 04 15.6 +1.1**
ELUQ pmax pmax
comp=Z,25nm,1.1s,mb5.1
ELUQ Luque 79.16 54 P **P 21 04 15.6 +1.1**
comp=Z,25nm,1.1s,mb5.1
ASCN Ascension 79.25 101 *eP* **P 21 04 16.3 +1.2**
comp=Z,424nm,1.3s,mb6.2
ASCN *e*pP pP 21 04 32.6 +0.2
ELOJ Sierra Loja 79.31 54 P **P 21 04 15.9 +0.5**
ELOJ pmax pmax
comp=Z,95nm,1.5s,mb5.5
ELOJ Sierra Loja 79.31 54 P **P 21 04 15.8 +0.5**
comp=Z,94nm,1.5s,mb5.5
SKP1 Kophill 79.33 39 *eP* **P 21 04 14.1 -1.5**
EBAN Banos Encina 79.43 53 P **P 21 04 15.9 -0.1**
EBAN pmax pmax
comp=Z,35nm,0.8s,mb5.3
EBAN Banos Encina 79.43 53 P **P 21 04 15.9 -0.2**
comp=Z,34nm,0.8s,mb5.3
ERON Agron 79.61 54 P **P 21 04 17.4 +0.4**
comp=Z,33nm,0.8s,mb5.3
ECRI Cripan 79.66 49 P **P 21 04 17.4 +0.1**
ECRI pmax pmax
comp=Z,52nm,0.9s,mb5.5
ECRI Cripan 79.66 49 P **P 21 04 17.4 +0.1**
comp=Z,52nm,0.9s,mb5.5
MDT Midelt 79.67 59 P **P 21 04 17.4 0.0**
comp=Z,30nm,1.2s,mb5.1,baz=269,slow=6.0,SNR=13
ECOG Cogollos-Vega 79.75 54 P **P 21 04 18.2 +0.4**
ECOG pmax pmax
comp=Z,47nm,0.7s,mb5.5
ECOG Cogollos-Vega 79.75 54 P **P 21 04 18.2 +0.4**
comp=Z,47nm,0.7s,mb5.5
EGUA Guajares 79.83 55 P **P 21 04 19.1 +0.9**
comp=Z,4.4nm,0.8s
GRR Gorron 79.84 43 *eP* **P 21 04 17.0 -1.3**
comp=Z,244nm,1.1s,mb5.8
GRR Gorron 79.84 43 *eP* **P 21 04 17.0 -1.3**
GRR pmax pmax
comp=Z,122nm,1.1s,mb5.7
GRR Gorron 79.84 43 *eP* **P 21 04 17.0 -1.3**
comp=Z,122nm,1.1s,mb5.7
FLN La Foliniere 80.03 42 *eP* **P 21 04 18.2 -1.1**
comp=Z,68nm,0.8s,mb5.3
FLN *e*MLR
comp=Z,4µm,23.0s
FLN La Foliniere 80.03 42 *eP* **P 21 04 18.2 -1.1**
FLN pmax pmax
comp=Z,34nm,0.8s,mb5.3
FLN MLR MLR
comp=Z,4µm,23.0s
FLN La Foliniere 80.03 42 *eP* **P 21 04 18.2 -1.1**
comp=Z,34nm,0.8s,mb5.3
FLN LR LR
comp=Z,4µm,23.0s
EQES Quesada 80.05 53 P **P 21 04 20.4 +1.0**
comp=Z,96nm,1.5s,mb5.5
ELIZ Elizondo 80.28 48 P **P 21 04 20.7 +0.1**
ELIZ pmax pmax
comp=Z,49nm,1.2s,mb5.3
ELIZ Elizondo 80.28 48 P **P 21 04 20.7 +0.1**
comp=Z,49nm,1.2s,mb5.3
EALK Alkurruntz 80.28 48 P **P 21 04 22.3 +1.7**
comp=Z,89nm,1.3s,mb5.5
LDF La Druitiere 80.29 42 *eP* **P 21 04 19.5 -1.2**
comp=Z,275nm,1.2s,mb5.8
LDF La Druitiere 80.29 42 *eP* **P 21 04 19.5 -1.2**
LDF pmax pmax
comp=Z,138nm,1.2s,mb5.8
LDF La Druitiere 80.29 42 *eP* **P 21 04 19.5 -1.2**
comp=Z,138nm,1.2s,mb5.8
ETOR Torete 80.30 50 P **P 21 04 22.0 +1.3**
ETOR pmax pmax
comp=Z,41nm,1.1s,mb5.3
ETOR Torete 80.30 50 P **P 21 04 22.0 +1.3**
comp=Z,41nm,1.1s,mb5.3
EVIA Vianos 80.34 53 P **P 21 04 21.1 +0.1**
EVIA pmax pmax
comp=Z,47nm,1.1s,mb5.3
EVIA Vianos 80.34 53 P **P 21 04 21.1 +0.1**
comp=Z,47nm,1.1s,mb5.3
EBER Berja 80.35 54 P **P 21 04 20.9 -0.1**
comp=Z,67nm,0.9s,mb5.6
EHUE Huescar 80.42 53 P **P 21 04 21.5 +0.1**
SJPF Ste Jean 80.50 48 *eP* **P 21 04 21.2 -0.6**
comp=Z,173nm,1.2s,mb5.5
SJPF Ste Jean 80.50 48 *eP* **P 21 04 21.2 -0.6**
SJPF pmax pmax
comp=Z,87nm,1.2s,mb5.6
SJPF Ste Jean 80.50 48 *eP* **P 21 04 21.2 -0.6**
comp=Z,87nm,1.2s,mb5.6
MFF Saint Martin d 80.63 44 *eP* **P 21 04 21.1 -1.4**
comp=Z,239nm,1.5s,mb5.6
MFF Saint Martin d 80.63 44 *eP* **P 21 04 21.1 -1.4**
MFF pmax pmax
comp=Z,120nm,1.5s,mb5.6
MFF Saint Martin d 80.63 44 *eP* **P 21 04 21.1 -1.4**
comp=Z,120nm,1.5s,mb5.6
LARF Larrau 80.69 48 *eP* **P 21 04 22.7 -0.1**
ETSF Etsaut 81.02 48 *eP* **P 21 04 24.0 -0.6**
comp=Z,80nm,1.1s,mb5.3
ETSF Etsaut 81.02 48 *eP* **P 21 04 24.0 -0.6**
ETSF pmax pmax
comp=Z,40nm,1.1s,mb5.3
ETSF Etsaut 81.02 48 *eP* **P 21 04 24.0 -0.6**
comp=Z,40nm,1.1s,mb5.3
ETOB Tobarra 81.08 52 P **P 21 04 26.7 +1.8**
comp=Z,53nm,1.4s,mb5.3
BER Bergen 81.10 30 AMS AMS 21 36 30.5
comp=Z,3µm,23.3s
PMSA Palmer Station 81.24 169 PFAKE 21 04 40.0 +14
PMSA LR LR
comp=Z,4µm,22.0s
ESAC San Caprasio 81.31 49 P **P 21 04 26.2 +0.1**
comp=Z,205nm,2.2s,mb5.7
EMUR La Murta 81.47 53 P **P 21 04 27.4 +0.5**
comp=Z,35nm,1.1s,mb5.2
LFF La Frestale 81.56 46 *eP* **P 21 04 26.4 -1.0**
comp=Z,230nm,1.2s,mb5.7
LFF La Frestale 81.56 46 *eP* **P 21 04 26.4 -1.0**
LFF pmax pmax
comp=Z,115nm,1.2s,mb5.7
LFF La Frestale 81.56 46 *eP* **P 21 04 26.4 -1.0**
comp=Z,115nm,1.2s,mb5.7
EMOS Mosqueruela 81.57 51 P **P 21 04 27.8 +0.3**
comp=Z,50nm,1.7s,mb5.2
EBIE Bielsa 81.57 48 P **P 21 04 28.2 +0.7**
comp=Z,42nm,1.3s,mb5.2
MOL Molde 81.62 28 AMS AMS 21 39 11.2
comp=Z,2µm,22.1s
EPF Esparros 81.65 48 *eP* **P 21 04 27.0 -0.9**
comp=Z,174nm,1.4s,mb5.5
EPF Esparros 81.65 48 *eP* **P 21 04 27.0 -0.9**
EPF pmax pmax
comp=Z,87nm,1.4s,mb5.5
EPF Esparros 81.65 48 *eP* **P 21 04 27.0 -0.9**
comp=Z,87nm,1.4s,mb5.5
BILL Bilibino 81.72 338⇑*iP* **P 21 04 28.0 -0.3**
BILL *i* pP 21 04 45.3 -0.4
BILL *e*S S 21 14 32.9 -3.2
BILL pmax pmax
comp=Z,432nm,1.7s,mb6.1
BILL MLR MLR
comp=Z,2µm,22.0s
BILL Bilibino 81.72 338⇑*iP* **P 21 04 28.1 -0.2**
EGRA Graus 81.79 49 P **P 21 04 21.3 -7.4**
comp=Z,53nm,1.1s,mb5.4
BJO Bjornoya 81.86 15 AMS AMS 21 40 45.8
comp=Z,4µm,22.2s
RJF Les Rejaudoux 82.02 45 *eP* **P 21 04 28.7 -1.2**
comp=Z,226nm,1.4s,mb5.6
RJF *e*MLR
comp=Z,2µm,23.0s
RJF Les Rejaudoux 82.02 45 *eP* **P 21 04 28.7 -1.2**
RJF pmax pmax
comp=Z,113nm,1.4s,mb5.6
RJF MLR MLR
comp=Z,2µm,23.0s
RJF Les Rejaudoux 82.02 45 *eP* **P 21 04 28.7 -1.2**
comp=Z,113nm,1.4s,mb5.6
RJF LR LR
comp=Z,2µm,23.0s
ERTA Horta de San J 82.05 50 P **P 21 04 27.9 -2.2**
comp=Z,28nm,1.4s,mb5.0
TCF Toulx Ste Croi 82.29 44 *eP* **P 21 04 29.7 -1.6**
comp=Z,55nm,0.8s,mb5.2
TCF Toulx Ste Croi 82.29 44 *eP* **P 21 04 29.7 -1.6**
TCF pmax pmax
comp=Z,28nm,0.8s,mb5.2
TCF Toulx Ste Croi 82.29 44 *eP* **P 21 04 29.7 -1.6**
comp=Z,28nm,0.8s,mb5.2
SALF Salau 82.31 48 *eP* **P 21 04 31.0 -0.4**
HOPE Hope Point 82.31 151 PFAKE 21 04 40.0 +8.6
HOPE LR LR
comp=Z,727nm,20.0s
HYF Humbligny 82.37 43 *eP* **P 21 04 30.5 -1.2**
DOMB Dombas 82.45 28 *eP* **P 21 04 32.2 +0.1**
DOMB AMb AMB 21 04 34.2
comp=Z,111nm,1.2s,mb5.7
DOMB *e*pP pP 21 04 48.9 -0.6
CAF Calviac 82.48 46 *eP* **P 21 04 30.8 -1.5**
comp=Z,26nm,0.8s,mb4.9
CAF Calviac 82.48 46 *eP* **P 21 04 30.8 -1.5**
CAF pmax pmax
comp=Z,13nm,0.8s,mb4.9
CAF Calviac 82.48 46 *eP* **P 21 04 30.8 -1.5**
comp=Z,13nm,0.8s,mb4.9
VERF Verneugheol 82.59 45 *eP* **P 21 04 31.6 -1.2**
BGF Bois d'Agland 82.66 44 *eP* **P 21 04 31.7 -1.5**
comp=Z,74nm,0.8s,mb5.5
BGF Bois d'Agland 82.66 44 *eP* **P 21 04 31.7 -1.5**
BGF pmax pmax
comp=Z,37nm,0.8s,mb5.5
BGF Bois d'Agland 82.66 44 *eP* **P 21 04 31.7 -1.5**
comp=Z,37nm,0.8s,mb5.5
UCC Uccle 82.70 40 P **P 21 04 32.6 -0.8**
UCC AP pP 21 04 51.5 +0.6
SNF Seneffe 82.72 40 P **P 21 04 32.9 -0.6**
comp=Z,35nm,1.4s,mb5.2
EMIR Miracle 82.73 49 P **P 21 04 33.2 -0.4**
comp=Z,60nm,1.3s,mb5.5
BAIF Baives 82.77 40 *eP* **P 21 04 32.7 -1.1**
comp=Z,156nm,1.4s,mb5.6
BAIF Baives 82.77 40 *eP* **P 21 04 32.7 -1.1**
BAIF pmax pmax
comp=Z,78nm,1.4s,mb5.5
BAIF Baives 82.77 40 *eP* **P 21 04 32.7 -1.1**
comp=Z,78nm,1.4s,mb5.5
MTLF Montolieu 82.92 47 *eP* **P 21 04 33.4 -1.2**
comp=Z,115nm,1.2s,mb5.5
MTLF Montolieu 82.92 47 *eP* **P 21 04 33.4 -1.2**
MTLF pmax pmax
comp=Z,58nm,1.2s,mb5.5
MTLF Montolieu 82.92 47 *eP* **P 21 04 33.4 -1.2**
comp=Z,58nm,1.2s,mb5.5
PYM Petit Puy Mans 82.95 45 *eP* **P 21 04 34.7 0.0**
AVF Avril sur Loir 82.95 44 *eP* **P 21 04 32.9 -1.8**
comp=Z,179nm,1.5s,mb5.6
AVF Avril sur Loir 82.95 44 *eP* **P 21 04 32.9 -1.8**
AVF pmax pmax
comp=Z,90nm,1.5s,mb5.6
AVF Avril sur Loir 82.95 44 *eP* **P 21 04 32.9 -1.8**
comp=Z,90nm,1.5s,mb5.6
NSS Namsos 82.99 25 *eP* **P 21 04 33.9 -1.0**
NSS AMS AMS 21 41 23.2
comp=Z,5µm,21.4s
SSF Saint Saulge 82.99 43 *eP* **P 21 04 33.3 -1.6**
comp=Z,129nm,1.2s,mb5.5
SSF Saint Saulge 82.99 43 *eP* **P 21 04 33.3 -1.6**
SSF pmax pmax
comp=Z,65nm,1.2s,mb5.5
SSF Saint Saulge 82.99 43 *eP* **P 21 04 33.3 -1.6**
comp=Z,65nm,1.2s,mb5.5
DOU Dourbes 83.01 40 P **P 21 04 33.9 -1.1**
comp=Z,49nm,1.6s,mb5.3
DOU AP pP 21 04 51.8 -0.7
GIVF Givet 83.15 40 *eP* **P 21 04 34.5 -1.2**
comp=Z,182nm,1.3s,mb5.7
GIVF Givet 83.15 40 *eP* **P 21 04 34.5 -1.2**
GIVF pmax pmax
comp=Z,91nm,1.3s,mb5.7
GIVF Givet 83.15 40 *eP* **P 21 04 34.5 -1.2**
comp=Z,91nm,1.3s,mb5.6
LOR Lormes 83.18 43 *eP* **P 21 04 34.6 -1.3**
comp=Z,222nm,1.1s,mb5.8
LOR *e*MLR
comp=Z,2µm,20.2s
LOR Lormes 83.18 43 *eP* **P 21 04 34.6 -1.3**
LOR pmax pmax
comp=Z,111nm,1.1s,mb5.8
LOR MLR MLR
comp=Z,2µm,20.3s
LOR Lormes 83.18 43 *eP* **P 21 04 34.6 -1.3**
comp=Z,111nm,1.1s,mb5.8
LOR LR LR
comp=Z,2µm,20.3s
LBL Lubilhac 83.23 45 *eP* **P 21 04 35.7 -0.4**
SMF Signal de Mont 83.31 44 *eP* **P 21 04 34.8 -1.8**
comp=Z,186nm,1.4s,mb5.6
SMF Signal de Mont 83.31 44 *eP* **P 21 04 34.8 -1.8**
SMF pmax pmax
comp=Z,93nm,1.4s,mb5.6
SMF Signal de Mont 83.31 44 *eP* **P 21 04 34.8 -1.8**
comp=Z,93nm,1.4s,mb5.6
PLDF La Plantade 83.32 44 *eP* **P 21 04 36.8 +0.2**
KONO Kongsberg 83.36 30 *e*SKS 21 14 52.6
KONO Kongsberg 83.36 30 *eP* **P 21 04 36.0 -0.8**
BCLA Clavier 83.37 40 P **P 21 04 36.2 -0.7**
comp=Z,59nm,1.3s,mb5.5
BCLA AP pP 21 04 52.2 -2.1
MOR8 Moi Rana 83.44 23 *eP* **P 21 04 37.6 +0.4**
MOR8 AMb AMB 21 04 40.8
comp=Z,165nm,1.7s,mb5.8
BEBN Eben Emael 83.51 39 P **P 21 04 37.9 +0.3**
comp=Z,24nm,1.4s,mb5.1
EJON La Jonquera 83.60 48 P **P 21 04 39.1 +1.0**
comp=Z,25nm,1.0s,mb5.3
WIT Witteveen 83.61 37 *eP* **P 21 04 39.2 +1.1**
NAO01 NORSAR Array S 83.62 29 *eP* **P 21 04 38.7 +0.5**
comp=Z,72nm,1.1s,mb5.7
NAO01 *e*pP pP 21 04 56.1 +0.5
MEZF Maizieres J'vi 83.67 42 *eP* **P 21 04 37.4 -1.0**
comp=Z,208nm,1.1s,mb5.9
MEZF Maizieres J'vi 83.67 42 *eP* **P 21 04 37.4 -1.0**
comp=Z,208nm,1.1s,mb6.2
HGN Heimansgroeve 83.68 39 *eP* **P 21 04 37.1 -1.3**
comp=Z,108nm,1.4s,mb5.8
NB2 NORSAR Subarra 83.72 29 P **P 21 04 38.5 -0.2**
comp=Z,64nm,0.9s,mb5.8,baz=288,slow=5.3
NOA NORSAR Array B 83.72 29 P **P 21 04 38.8 +0.1**
comp=Z,21nm,0.7s,mb5.4,baz=290,slow=5.1,SNR=55
NOA pP pP 21 04 56.5 +0.4
comp=Z,38nm,1.0s,baz=289,slow=5.0,SNR=9.4
NOA LR LR 21 40 28.5
comp=Z,2µm,20.6s,baz=280,slow=35
NOA NORSAR Array B 83.72 29 P **P 21 04 38.8 +0.1**
NOA *PP pP 21 04 56.5 +0.4
TRO Tromso 83.73 19 *eP* **P 21 04 38.1 -0.6**
TRO *e*S S 21 14 54.8 -1.8
TRO *e*S S 21 14 56.8 +0.2
TRO AMS AMS 21 41 15.4
comp=Z,6µm,22.0s
MEM Membach 83.76 39 P **P 21 04 38.2 -0.7**
comp=Z,46nm,1.4s,mb5.4
MEM AP pP 21 04 53.0 -3.3
WTSB Winterswijk 83.90 38 *eP* **P 21 04 39.2 -0.4**
comp=Z,160nm,0.9s,mb6.2
LASF Ste Croix 83.92 46 *eP* **P 21 04 39.0 -0.7**
comp=Z,201nm,1.4s,mb5.7
MUD Monsted U'grnd 84.04 33 *i* P **P 21 04 40.1 -0.2**
comp=Z,51nm,1.1s,mb5.6
MUD
comp=Z,3µm,20.0s
MUD Monsted U'grnd 84.04 33 *eP* **P 21 04 40.1 -0.2**
MUD pmax pmax

comp=Z,51nm,1.1s,mb5.6
MUD MLR MLR
comp=Z,3µm,20.0s
MUD Monsted U'grnd 84.04 33 *e*P **P 21 04 40.1 -0.2**
comp=Z,51nm,1.1s,mb5.6
WLF Walferdange 84.09 40 *e*P **P 21 04 40.1 -0.4**
WLF Walferdange 84.09 40 P **P 21 04 39.7 -0.8**
comp=Z,45nm,1.3s,mb5.4
WLF XP pP 21 05 04.0 +6.0
WLF Walferdange 84.09 40 P **P 21 04 40.3 -0.2**
WLF pmax pmax
comp=Z,79nm,1.1s,mb5.8
WLF Walferdange 84.09 40 *e*P **P 21 04 40.3 -0.2**
comp=Z,79nm,1.1s,mb5.8
WLF *e*pP pP 21 04 57.0 -1.0
WLF PP PP 21 07 54.2 -1.0
VIVF Saint-Julien-l 84.30 45 *e*P **P 21 04 41.2 -0.4**
comp=Z,173nm,1.2s,mb5.8
VIVF Saint-Julien-l 84.30 45 *e*P **P 21 04 41.2 -0.4**
VIVF pmax pmax
comp=Z,86nm,1.2s,mb5.8
VIVF Saint-Julien-l 84.30 45 *e*P **P 21 04 41.2 -0.4**
comp=Z,86nm,1.2s,mb5.8
BUG Bochum--Univer 84.32 38 *e*P **P 21 04 42.5 +0.8**
comp=Z,101nm,1.3s,mb5.8
THEF They Montfort 84.34 42 *e*P **P 21 04 41.0 -0.8**
AFI Afiamalu 84.49 254 PFAKE 21 04 50.0 +7.4
AFI LR LR
comp=Z,2µm,21.0s
HAU Haudompre 84.64 42 *e*P **P 21 04 42.2 -1.1**
comp=Z,118nm,0.9s,mb5.7
HAU *e*MLR
comp=Z,4µm,22.8s
HAU Haudompre 84.64 42 *e*P **P 21 04 42.2 -1.1**
HAU pmax pmax
comp=Z,59nm,0.9s,mb5.7
HAU MLR MLR
comp=Z,4µm,22.8s
HAU Haudompre 84.64 42 *e*P **P 21 04 42.2 -1.1**
comp=Z,59nm,0.9s,mb5.7
HAU LR LR
comp=Z,4µm,22.8s
RUP Ruppelstein 84.65 40 *e*P **P 21 04 43.0 -0.4**
LIC Lamto 84.78 85 *e*P **P 21 04 44.4 +0.4**
comp=Z,52nm,0.6s,mb5.5
LIC *e*MLR
comp=Z,914nm,19.8s
LIC Lamto 84.78 85 *e*P **P 21 04 44.4 +0.4**
comp=Z,26nm,0.6s,mb5.5
LIC LR LR
comp=Z,460nm,19.8s
CABF La Chapelle 84.82 43 *e*P **P 21 04 43.4 -0.8**
comp=Z,174nm,1.3s,mb5.7
CABF La Chapelle 84.82 43 *e*P **P 21 04 43.4 -0.8**
CABF pmax pmax
comp=Z,87nm,1.3s,mb5.7
CABF La Chapelle 84.82 43 *e*P **P 21 04 43.4 -0.8**
comp=Z,87nm,1.3s,mb5.7
ABH Alteburg 84.91 40 *e*P **P 21 04 45.6 +0.9**
GRN Grenoble 84.94 45 *e*P **P 21 04 45.5 +0.7**
HINF Hinteralfeld 85.01 42 *e*P **P 21 04 43.9 -1.3**
comp=Z,102nm,1.1s,mb5.6
HINF Hinteralfeld 85.01 42 *e*P **P 21 04 43.9 -1.3**
HINF pmax pmax
comp=Z,51nm,1.1s,mb5.6
HINF Hinteralfeld 85.01 42 *e*P **P 21 04 43.9 -1.3**
comp=Z,51nm,1.1s,mb5.6
EMHD Djebel Mahouad 85.10 54 P **P 21 04 44.0 -1.6**
ECH Echery 85.11 42 *e*P **P 21 04 45.8 +0.1**
ORIF Oris-en-Rattie 85.11 45 *e*P **P 21 04 45.4 -0.3**
comp=Z,104nm,1.2s,mb5.5
ORIF *e*MLR
comp=Z,3µm,23.0s
ORIF Oris-en-Rattie 85.11 45 *e*P **P 21 04 45.4 -0.3**
ORIF pmax pmax
comp=Z,52nm,1.2s,mb5.5
ORIF Oris-en-Rattie 85.11 45 *e*P **P 21 04 45.4 -0.3**
comp=Z,52nm,1.2s,mb5.5
LOMF Lomont 85.12 43 *e*P **P 21 04 46.0 +0.3**
CDF Champ du Feu 85.13 41 *e*P **P 21 04 44.8 -1.0**
comp=Z,131nm,1.2s,mb5.6
CDF Champ du Feu 85.13 41 *e*P **P 21 04 44.8 -1.0**
CDF pmax pmax
comp=Z,66nm,1.2s,mb5.6
CDF Champ du Feu 85.13 41 *e*P **P 21 04 44.8 -1.0**
comp=Z,66nm,1.2s,mb5.6
SMRF Simiane la Rot 85.14 46 *e*P **P 21 04 45.8 -0.1**
comp=Z,136nm,1.2s,mb5.6
SMRF Simiane la Rot 85.14 46 *e*P **P 21 04 45.8 -0.1**
comp=Z,136nm,1.3s,mb5.9
MOF Molkenrain 85.19 42 *e*P **P 21 04 46.2 +0.1**
GDM Grand'Maison 85.20 45 *e*P **P 21 04 46.6 +0.4**
OG01 Vacheresse 85.29 44 *e*P **P 21 04 47.1 +0.5**
LANF Langenberg 85.31 41 *e*P **P 21 04 47.1 +0.4**
TNS Taunus Mts 85.37 39 *e*P **P 21 04 46.6 -0.4**
comp=Z,174nm,1.3s,mb6.0
TNS Taunus Mts 85.37 39 *e*P **P 21 04 46.6 -0.4**
TNS pmax pmax
comp=Z,174nm,1.3s,mb6.0
KTK1 Kautokeino 85.38 19 *e*P **P 21 04 46.3 -0.8**
KTK1 *e*pP pP 21 05 03.9 -0.6
OG25 Le Caire 85.39 46 *e*P **P 21 04 47.1 0.0**
STR Strasbourg 85.39 41 *e*P **P 21 04 46.7 -0.4**
RSL Roselend 85.42 44 *e*P **P 21 04 46.3 -1.0**
BBS Basel-Blauen 85.53 42 *e*P **P 21 04 46.9 -0.9**
LPL La Plagne 85.54 44 *e*P **P 21 04 47.7 -0.1**
comp=Z,248nm,1.6s,mb5.9
LPL La Plagne 85.54 44 *e*P **P 21 04 47.7 -0.1**
LPL pmax pmax
comp=Z,124nm,1.6s,mb5.9
LPL La Plagne 85.54 44 *e*P **P 21 04 47.7 -0.1**
comp=Z,124nm,1.6s,mb5.9
LPG La Plagne 85.56 44 *e*P **P 21 04 48.2 +0.3**
comp=Z,192nm,1.3s,mb5.8
LPG La Plagne 85.56 44 *e*P **P 21 04 48.2 +0.3**
LPG pmax pmax
comp=Z,96nm,1.3s,mb5.9
LPG La Plagne 85.56 44 *e*P **P 21 04 48.2 +0.3**
comp=Z,96nm,1.3s,mb5.9
BNI Bardonecchia 85.63 45 *e*P **P 21 04 48.6 +0.3**
BNI *e**PP pP 21 05 06.1 +0.3
BNI *e**SP sP 21 05 11.8 -0.8
BNI pmax pmax
comp=Z,49nm,1.1s,mb5.7
BNI Bardonecchia 85.63 45 *e*P **P 21 04 48.6 +0.3**
comp=Z,49nm,1.1s,mb5.7
BNI *e*pP pP 21 05 06.1 +0.3
BNI *e*sP sP 21 05 11.8 -0.8
FELD Feldberg im Sc 85.74 42 *e*P **P 21 04 48.2 -0.6**
TOD Tromm 85.77 40 *e*P **P 21 04 48.2 -0.7**
MBDF Montbardon 85.78 45 *e*P **P 21 04 48.6 -0.4**
comp=Z,59nm,0.9s,mb5.5
MBDF Montbardon 85.78 45 *e*P **P 21 04 48.6 -0.4**
MBDF pmax pmax
comp=Z,29nm,0.9s,mb5.5
MBDF Montbardon 85.78 45 *e*P **P 21 04 48.6 -0.4**
comp=Z,29nm,0.9s,mb5.5
BFO Black Forest 85.83 41 *e*P **P 21 04 48.1 -1.2**
comp=Z,91nm,1.3s,mb5.8
BFO Black Forest 85.83 41 *e*P **P 21 04 48.1 -1.2**
BFO pmax pmax
comp=Z,91nm,1.3s,mb5.8
ARCES ARCESS Array B 85.84 18 P **P 21 04 48.2 -1.1**
comp=Z,22nm,0.7s,mb5.5,baz=289,slow=4.7,SNR=119
ARCES pP pP 21 05 06.4 -0.5
comp=Z,10nm,0.8s,baz=291,slow=3.8,SNR=2.6
ARCES PP PP 21 08 05.3 -4.2
comp=Z,13nm,0.8s,baz=298,slow=4.7,SNR=7.0
ARCES LR LR 21 42 44.1
comp=Z,5µm,21.3s,baz=309,slow=35
ARCES ARCESS Array B 85.84 18 P **P 21 04 48.2 -1.1**
ARCES *PP pP 21 05 06.4 -0.4
ARCES 21 08 05.3
ARE0 ARCESS Array S 85.84 18 *e*P **P 21 04 48.5 -0.8**
ARE0 *e*pP pP 21 05 06.3 -0.5
ARE0 *e*sP sP 21 05 12.3 -1.4
ARE0 *e*PP PP 21 08 05.8 -3.6
SURF Saint Ours 85.87 45 *e*P **P 21 04 50.7 +1.2**
LMR La Mourre 85.97 46 *e*P **P 21 04 49.1 -0.8**
comp=Z,176nm,1.2s,mb5.8
LMR La Mourre 85.97 46 *e*P **P 21 04 49.1 -0.8**
LMR pmax pmax
comp=Z,88nm,1.2s,mb5.9
LMR La Mourre 85.97 46 *e*P **P 21 04 49.1 -0.8**
comp=Z,88nm,1.2s,mb5.9
RSP Reno Superiore 86.00 45 P **P 21 04 51.1 +1.0**

FRF La Foret Royal 86.00 46 *e*P **P 21 04 49.3 -0.8**
comp=Z,102nm,0.9s,mb5.7
FRF La Foret Royal 86.00 46 *e*P **P 21 04 49.3 -0.8**
FRF pmax pmax
comp=Z,51nm,0.9s,mb5.8
FRF La Foret Royal 86.00 46 *e*P **P 21 04 49.3 -0.8**
comp=Z,51nm,0.9s,mb5.8
COP Copenhagen 86.01 33 *i* P **P 21 04 46.8 -3.4**
COP
comp=Z,2µm,21.0s
COP Copenhagen 86.01 33 *e*P **P 21 04 46.8 -3.4**
COP LR LR
comp=Z,2µm,21.0s
CLZ Clausthal 86.06 38 *e*P **P 21 04 50.4 0.0**
comp=Z,182nm,1.4s,mb6.1
CLZ Clausthal 86.06 38 *e*P **P 21 04 50.4 0.0**
CLZ pmax pmax
comp=Z,182nm,1.4s,mb6.1
DOI San Damiano 86.17 45 P **P 21 04 51.2 +0.3**
DOI pmax pmax
comp=Z,70nm,1.0s,mb5.8
DOI San Damiano 86.17 45 P **P 21 04 51.2 +0.3**
comp=Z,70nm,1.0s,mb5.8
KEV Kevo 86.18 18 *e*p **P 21 04 49.1 -1.9**
comp=Z,12nm,0.7s,mb5.2
KEV Kevo 86.18 18 *e*P **P 21 04 49.8 -1.2**
KEV *e**PP pP 21 05 05.1 -3.4
KEV *e**SP sP 21 05 13.8 -1.6
KEV *e* 21 08 10.1
KEV pmax pmax
comp=Z,66nm,1.2s,mb5.7
KEV Kevo 86.18 18 *e*P **P 21 04 49.8 -1.2**
comp=Z,66nm,1.2s,mb5.7
KEV *e*pP pP 21 05 05.1 -3.5
KEV *e*sP sP 21 05 13.8 -1.6
KEV *e*PP PP 21 08 10.1 -2.2
SPAK Spaichingen-Ko 86.18 41 *e*P **P 21 04 50.1 -0.9**
STU Stuttgart 86.25 41 *e*P **P 21 04 52.3 +1.0**
STU Stuttgart 86.25 41 P **P 21 04 50.9 -0.4**
STU pmax pmax
comp=Z,57nm,1.0s,mb5.8
STU Stuttgart 86.25 41 *e*P **P 21 04 50.7 -0.6**
comp=Z,57nm,0.9s,mb5.8
STU *e*pP pP 21 05 08.4 -0.4
MVIF Mont Vial 86.27 46 *e*P **P 21 04 51.7 +0.3**
TOUF Mont Tournerai 86.30 46 *e*P **P 21 04 52.0 +0.4**
ORO Oropa 86.36 44 P **P 21 04 51.7 -0.2**
ORO pmax pmax
comp=Z,100nm,0.9s,mb6.0
ORO Oropa 86.36 44 P **P 21 04 51.7 -0.2**
comp=Z,100nm,0.9s,mb6.0
REVF Revere 86.46 46 *e*P **P 21 04 51.9 -0.5**
SBF Sospel 86.47 46 *e*P **P 21 04 51.5 -0.9**
comp=Z,262nm,1.3s,mb6.0
SBF Sospel 86.47 46 *e*P **P 21 04 51.5 -0.9**
SBF pmax pmax
comp=Z,131nm,1.3s,mb6.0
SBF Sospel 86.47 46 *e*P **P 21 04 51.5 -0.9**
comp=Z,131nm,1.3s,mb6.0
SAOF Saorge 86.52 46 *e*P **P 21 04 51.5 -1.2**
SET Setif 87.02 54 P **P 21 04 57.0 +1.9**
DAVA Damuels 87.13 42 *i* P **P 21 04 55.9 +0.3**
comp=Z,179nm,1.2s,mb6.2,SNR=46
MOX Moxa 87.17 38 *e*P **P 21 04 55.5 -0.4**
comp=Z,92nm,1.4s,mb5.8
MOX Moxa 87.17 38 *e*P **P 21 04 55.6 -0.3**
comp=Z,86nm,1.4s,mb5.8
MOX *e* pP 21 05 12.9 -0.5
MOX
comp=Z,2µm,20.0s
MOX Moxa 87.17 38 *e*P **P 21 04 55.6 -0.3**
MOX *e* pP 21 05 12.9 -0.5
MOX pmax pmax
comp=Z,86nm,1.4s,mb5.8
MOX MLR MLR
comp=Z,2µm,20.0s
GRFO Grafenberg 87.24 39 *e*P **P 21 04 56.4 +0.2**
GRFO *e**PP pP 21 05 14.5 +0.8
GRFO pmax pmax
comp=Z,130nm,1.2s,mb6.0
GRFO Grafenberg 87.24 39 *e*P **P 21 04 56.4 +0.3**
comp=Z,130nm,1.2s,mb6.0
GRFO *e*pP pP 21 05 14.5 +0.8
GRA1 Grafenberg Arr 87.24 39 *e*P **P 21 04 56.2 0.0**
comp=Z,147nm,1.2s,mb6.1
GRA1 *e* pP 21 05 12.7 -1.0
GRA1 *e*S S 21 15 21.1 -10
GRA1 *e*SS SS 21 21 10.3 -5.8
GRA1 LR LR
comp=Z,3µm,21.4s
GRF Grafenberg Arr 87.24 39 *e*P **P 21 04 56.2 0.0**
comp=Z,147nm,1.2s,mb6.1
GRF *e* pP 21 05 12.7 -1.0
GRF *e*S S 21 15 21.1 -10
GRF *e*SS SS 21 21 10.3 -5.8
GRF *e*L 21 39 51.0
comp=Z,3µm,21.4s
GRF Grafenberg Arr 87.24 39 *e*P **P 21 04 56.2 0.0**
GRF *e* pP 21 05 12.7 -1.0
GRF *e*S S 21 15 21.1 -10
GRF *e*SS SS 21 21 10.3 -5.8
GRF pmax pmax
comp=Z,147nm,1.2s,mb6.1
GRF MLR MLR
comp=Z,3µm,21.4s
DFRA Djebel Bou Aff 87.30 53 P **P 21 04 47.0 -9.4**
CMER Merouana 87.56 54 P **P 21 05 00.0 +2.3**
MANZ Manzenberg 87.69 39 *e*P **P 21 04 58.3 0.0**
FUR Furstenfeldbru 87.75 41 *e*P **P 21 04 58.2 -0.4**
comp=Z,61nm,1.3s,mb5.7
FUR Furstenfeldbru 87.75 41 *e*P **P 21 04 58.2 -0.4**
FUR pmax pmax
comp=Z,61nm,1.3s,mb5.7
TANN Tannenbergstha 87.76 38 *e*P **P 21 04 58.6 -0.1**
CLL Collm 87.79 38 *e*P **P 21 04 58.4 -0.4**
comp=Z,63nm,1.2s,mb5.7
CLL Collm 87.79 38⇓ *i*P **P 21 04 58.9 +0.1**
CLL *i* pP 21 05 14.3 -2.1
CLL *i* 21 05 27.5
CLL *e*S S 21 15 27.0 -9.3
CLL pmax pmax
comp=Z,63nm,1.2s,mb5.7
CLL MLR MLR
comp=Z,5µm,27.2s
CLL Collm 87.79 38⇓ *i*P **P 21 04 58.9 +0.1**
comp=Z,63nm,1.2s,mb5.7
CLL *i* pP 21 05 14.3 -2.1
CLL *i* 21 05 25.0
CLL *i* 21 05 27.5
CLL *e*S S 21 15 27.0 -9.3
CLL LR LR
comp=Z,5µm,27.2s
CLL Collm 87.79 38⇓ *i*P **P 21 04 58.9 +0.1**
comp=Z,63nm,1.2s,mb5.7
CLL *i* pP pP 21 05 14.3 -2.1
CLL *i* sP sP 21 05 25.0 +1.8
CLL *i* (sPcP) 21 05 27.5
CLL *e*SKKSac SKKSac 21 15 27.0 -4.5
CLL *e*PS 21 16 48.0
NKC Novy Kostel 87.81 39 *e*P **P 21 04 59.2 +0.3**
NKC *e*pP pP 21 05 16.4 -0.1
NKC *e*SKS 21 15 26.1
NKC AMS AMS 21 43 00.0
comp=Z,2µm,23.1s
NKC Novy Kostel 87.81 39 *e*P **P 21 04 59.2 +0.3**
NKC *e*pP pP 21 05 16.4 -0.1
NKC *e*S S 21 15 26.1 -10
ROTZ Rotzenmuhle 87.82 39 *e*P **P 21 04 59.1 +0.2**
CASM Ain Smara 87.85 53 P **P 21 05 00.0 +0.9**
MOTA Moosalm 87.90 42⇑ *i*P **P 21 04 59.0 -0.3**
comp=Z,72nm,1.1s,mb5.8,SNR=33
MOTA Moosalm 87.90 42⇑ *i*P **P 21 04 59.0 -0.3**
MOTA pmax pmax
comp=Z,72nm,1.1s,mb5.8
PGF Pioggiola 87.94 47 *e*P **P 21 04 58.5 -1.0**
comp=Z,167nm,1.3s,mb5.8
PGF Pioggiola 87.94 47 *e*P **P 21 04 58.5 -1.0**
PGF pmax pmax
comp=Z,83nm,1.3s,mb5.8
PGF Pioggiola 87.94 47 *e*P **P 21 04 58.5 -1.0**
comp=Z,83nm,1.3s,mb5.8
CAEH 'Ain El Ouahch 87.99 53 P **P 21 05 03.0 +3.3**
SQTA Sankt Quirin 88.01 42 *i* P **P 21 04 59.7 -0.1**
comp=Z,63nm,1.2s,mb5.7,SNR=22

SQTA Sankt Quirin 88.01 42 *i* P **P 21 04 59.7 -0.2**
SQTA pmax pmax
comp=Z,63nm,1.2s,mb5.7
CORF Corte 88.12 47 *e*P **P 21 05 00.4 0.0**
WATA Walderalm 88.21 42 *i* P **P 21 05 01.4 +0.6**
comp=Z,40nm,1.3s,mb5.5,SNR=11
WATA Walderalm 88.21 42 *i* P **P 21 05 01.4 +0.6**
WATA pmax pmax
comp=Z,40nm,1.3s,mb5.5
APPI Appiano 88.26 42 P **P 21 05 01.0 0.0**
WTTA Wattenberg 88.27 42⇓ *i*P **P 21 05 00.5 -0.6**
comp=Z,36nm,1.4s,mb5.4,SNR=8.8
WTTA Wattenberg 88.27 42⇓ *i*P **P 21 05 00.5 -0.6**
WTTA pmax pmax
comp=Z,36nm,1.4s,mb5.4
WET Wettzell 88.44 40 *e*P **P 21 05 02.1 +0.2**
comp=Z,129nm,1.4s,mb6.0
WET Wettzell 88.44 40 *e*P **P 21 05 02.1 +0.2**
WET pmax pmax
comp=Z,129nm,1.4s,mb6.0
CMAH Djebel Manchou 88.47 53 P **P 21 05 03.0 +1.0**
BRG Berggiesshubel 88.49 38 *e*P **P 21 05 02.0 -0.1**
comp=Z,44nm,1.3s,mb5.5
BRG Berggiesshubel 88.49 38 *e*P **P 21 05 01.7 -0.5**
comp=Z,26nm,1.3s,mb5.3
BRG *e* pP 21 05 17.9 -1.8
comp=Z,17nm,1.4s
BRG *e*pP pP 21 05 29.2 +9.4
comp=Z,26nm,1.4s
BRG SKS 21 15 29.0
BRG S S 21 16 12.0 +29
BRG
comp=N,1µm,24.6s
BRG
comp=E,1µm,19.6s
BRG
comp=Z,2µm,19.6s
BRG Berggiesshubel 88.49 38 *e*P **P 21 05 01.7 -0.4**
BRG *e* pP 21 05 17.9 -1.8
BRG *e**PP pP 21 05 29.2 +9.5
BRG 21 15 29.0
BRG pmax pmax
comp=Z,26nm,1.3s,mb5.3
BRG MLR MLR
comp=Z,2µm,19.5s
BRG Berggiesshubel 88.49 38 *e*P **P 21 05 01.7 -0.5**
comp=Z,26nm,1.3s,mb5.3
BRG *e* pP 21 05 17.9 -1.8
BRG *e*pP pP 21 05 29.2 +9.4
BRG SKS 21 15 29.0
BRG S S 21 16 12.0 +29
BRG LR LR
comp=Z,2µm,19.5s
CTI Castel Tesino 88.67 43 P **P 21 05 02.7 -0.3**
CTI pmax pmax
comp=Z,72nm,1.1s,mb5.9
CTI Castel Tesino 88.67 43 P **P 21 05 02.7 -0.3**
comp=Z,72nm,1.1s,mb5.9
KHC Kasperske Hory 88.88 39 *e*P **P 21 05 04.1 +0.2**
KHC *e*pP pP 21 05 19.5 -2.0
KHC *e*SKS 21 15 31.1
KHC AMS AMS 21 40 50.0
comp=Z,3µm,21.9s
PVCC Panska Ves 88.99 38 *e*P **P 21 05 04.2 -0.3**
PVCC AMS AMS 21 41 30.0
comp=Z,3µm,20.5s
SEY Seymchan 89.05 336*c* *i*P **P 21 05 04.4 -0.3**
SEY Seymchan 89.05 336⇑ *i*P **P 21 05 04.5 -0.2**
GEC2 GERESS Array S 89.05 40 *e*P **P 21 05 04.7 -0.1**
comp=Z,57nm,1.6s,mb5.7
GEC2 GERESS Array S 89.05 40 P **P 21 05 04.9 +0.1**
GERES GERESS Array B 89.05 40 P **P 21 05 04.1 -0.6**
comp=Z,8.6nm,0.9s,mb5.1,baz=298,slow=2.9,SNR=40
GERES PKKPbc PKKPbc 21 22 41.7 -0.4
comp=Z,1.7nm,0.9s,baz=122,slow=1.7,SNR=5.1
GERES LR LR 21 41 14.9
comp=Z,3µm,21.5s,baz=290,slow=33
VSL Villasalto 89.12 50 *e*P **P 21 05 05.0 -0.1**
comp=Z,87nm,1.3s,mb5.9
VSL *e*pP pP 21 05 21.8 -0.9
PRU Pruhonice 89.16 38 *e*P **P 21 05 04.2 -1.1**
PRU *e*pP pP 21 05 19.5 -3.4
PRU *e*SKS 21 15 32.2
PRU AMS AMS 21 36 40.0
comp=Z,3µm,24.9s
FVI Forni Avoltri 89.23 42 P **P 21 05 05.7 +0.1**
FVI pmax pmax
comp=Z,66nm,1.3s,mb5.8
FVI Forni Avoltri 89.23 42 P **P 21 05 05.7 +0.1**
comp=Z,66nm,1.3s,mb5.8
CSNT Castellina Chi 89.26 45 P **P 21 05 05.2 -0.5**
comp=Z,93nm,1.3s,mb6.0
APA Apatity 89.35 18⇓ *i*P **P 21 05 05.8 -0.4**
APA *i* *PP pP 21 05 29.2 +5.4
APA *e* 21 08 33.0
APA *i* S S 21 15 42.0 -9.1
APA *i* PS PS 21 17 12.0 +8.2
APA *i* SS SS 21 21 45.0 -1.9
APA pmax pmax
comp=Z,30nm,1.1s,mb5.5
APA MLR MLR
comp=Z,7µm,22.0s
KBA Koelnbreinsper 89.43 41⇑ *i*P **P 21 05 06.4 -0.1**
comp=Z,69nm,1.4s,mb5.8,SNR=19
KBA Koelnbreinsper 89.43 41⇑ *i*P **P 21 05 06.4 -0.2**
KBA pmax pmax
comp=Z,69nm,1.4s,mb5.8
GKP Gorka Klasztor 89.50 35 *e*P **P 21 05 06.0 -0.8**
GKP *e*pP pP 21 05 25.1 +0.6
GKP *e*PP PP 21 08 40.2 +1.4
GKP *e*S S 21 15 39.6 -13
GKP L 21 40 26.6
comp=Z,3.4nm,25.6s
TORD Torodi Ar. Bea 89.58 77 P **P 21 05 06.4 -0.8**
comp=Z,5.2nm,0.5s,mb5.1,baz=292,slow=4.3,SNR=90
TORD pP pP 21 05 25.7 +0.9
comp=Z,2.6nm,0.7s,baz=291,slow=5.5,SNR=3.0
TORD PKKPbc PKKPbc 21 22 42.0 +1.2
comp=Z,1.3nm,0.7s,baz=79,slow=1.4,SNR=5.7
TORD PKPPKP 21 30 49.5
comp=Z,1.5nm,1.0s,baz=88,slow=1.1,SNR=4.6
TORD LR LR 21 42 35.9
comp=Z,3µm,21.0s,baz=270,slow=34
GMNA Gemona 89.64 42 P **P 21 05 07.1 -0.4**
comp=Z,580nm,1.2s,mb6.8
CRE Caprese Michel 89.67 45 P **P 21 05 07.3 -0.3**
CRE pmax pmax
comp=Z,25nm,1.1s,mb5.5
CRE Caprese Michel 89.67 45 P **P 21 05 07.3 -0.3**
comp=Z,25nm,1.1s,mb5.5
PTCC Patocco-Chiusa 89.67 42 P **P 21 05 07.3 -0.4**
comp=Z,110nm,1.6s,mb5.9
MOA Molln 89.75 40⇑ *i*P **P 21 05 07.6 -0.4**
comp=Z,23nm,1.4s,mb5.3,SNR=11
ROBS Robic 89.83 42 *e*P **P 21 05 07.9 -0.5**
UPC Upice 89.85 38 *e*P **P 21 05 08.2 -0.3**
UPC *e*pP pP 21 05 23.7 -2.4
KAF Kangasniemi 89.87 25 *e*p **P 21 05 06.6 -2.0**
comp=Z,33nm,0.9s,mb5.7,baz=297,slow=4.4
KAF Kangasniemi 89.87 25 *e*P **P 21 05 06.6 -2.0**
KAF pmax pmax
comp=Z,33nm,0.9s,mb5.7
KSP Ksiaz 89.89 37 *e*P **P 21 05 09.8 +1.1**
KSP *e*pP pP 21 05 28.1 +1.8
KSP *e*S S 21 15 45.5 -11
KSP L 21 45 46.0
comp=Z,7.9nm,21.5s
KSP Ksiaz 89.89 37 *e*P **P 21 05 08.6 -0.1**
KSP *e*SKS 21 15 35.0
KSP LR LR
comp=Z,9µm,21.5s
DPC Dobruska-Polom 90.09 38 *e*P **P 21 05 09.7 +0.1**
DPC *e*pP pP 21 05 25.7 -1.6
DPC *e*SKKS SKKSac 21 15 45.2 -3.5
DPC AMS AMS 21 44 00.0
comp=Z,3µm,19.6s
DPC Dobruska-Polom 90.09 38 *e*P **P 21 05 09.7 +0.1**
DPC *e**PP pP 21 05 25.7 -1.6
DPC MLR MLR
comp=Z,3µm,19.6s
FINES FINESS Array B 90.11 25 P **P 21 05 08.8 -0.9**
comp=Z,39nm,1.1s,mb5.6,baz=308,slow=2.4,SNR=23
FINES pP pP 21 05 26.7 -0.6
comp=Z,14nm,0.9s,baz=326,slow=0.7,SNR=5.5
FINES PP PP 21 08 43.6 -0.1

comp=Z,6.7nm,0.8s,baz=332,slow=6.5,SNR=5.3
FINES LR LR 21 46 45.4
comp=Z,2µm,20.4s,baz=290,slow=36
FINES FINESS Array B 90.11 25 P **P 21 05 08.8 -0.9**
FINES *PP pP 21 05 26.7 -0.6
FINES 21 08 43.7
FIA1 FINESS Array S 90.11 25 *e*P **P 21 05 08.8 -0.9**
FIA1 *e*pP pP 21 05 25.9 -1.4
FIA1 *e*PP PP 21 08 38.1 -5.6
VOY Vojsko 90.15 42 *e*P **P 21 05 09.8 -0.1**
VOY *e* pP 21 05 27.5 0.0
VOY *e* 21 05 39.0 -29
VOY *e* 21 05 49.9
FSSB Fossombrone 90.21 45 P **P 21 05 10.0 -0.2**
TOLF Tolfa 90.21 46 P **P 21 05 10.0 -0.2**
KEST Kesra 90.22 53 P **P 21 05 10.6 +0.4**
comp=Z,20nm,1.1s,mb5.3,baz=237,slow=2.4,SNR=24
KEST LR LR 21 45 36.5
comp=Z,503nm,18.3s,baz=198,slow=36
ASS Assisi 90.33 45 P **P 21 05 09.8 -0.9**
ASS pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
ASS Assisi 90.33 45 P **P 21 05 09.8 -0.9**
comp=Z,3.0nm,0.8s,mb4.7
TIXI Tiksi 90.38 348 *e*P **P 21 05 04.7 -6.3**
TIXI *e* pP 21 05 24.7 -3.9
TIXI *e* 21 08 42.1
TIXI *e*S S 21 15 27.3 -33
TIXI *e*SP SP 21 17 06.0 -1.3
TIXI pmax pmax
comp=Z,60nm,1.1s,mb5.8
TIXI MLR MLR
comp=E,2µm,21.0s
TIXI Tiksi 90.38 348 ⇑*i*P **P 21 05 09.2 -1.8**
OBKA Obir 90.41 42 ⇑*i*P **P 21 05 10.3 -0.8**
comp=E,26nm,1.2s,mb5.4,SNR=6.7
SNTG Esanatoglia 90.47 45 P **P 21 05 10.9 -0.5**
comp=E,68nm,1.4s,mb5.8
LJU Ljubljana 90.56 42 *e*P **P 21 05 11.6 -0.2**
PET Petropavlovsk 90.58 325 *e*P **P 21 05 13.5 +1.6**
PET *e* 21 15 37.5
PET *e*S S 21 16 03.4 +1.0
PET *e*SS SS 21 22 08.0 +3.3
PET pmax pmax
comp=Z,89nm,0.9s,mb6.1
PET pmax pmax
comp=Z,400nm,19.6s
PET pmax pmax
comp=Z,200nm,15.8s
PET smax
comp=N,3µm,22.0s
PET smax
comp=E,1µm,12.8s
PET Petropavlovsk 90.58 325 *e*P **P 21 05 10.9 -1.0**
CEY Cerknica 90.60 42 *e*P **P 21 05 12.1 +0.1**
VRAC Vranov 90.65 39 P **P 21 05 12.5 +0.2**
VRAC Vranov 90.65 39 ⇓*i*P **P 21 05 11.9 -0.3**
NRCA Norcia 90.73 45 P **P 21 05 12.1 -0.5**
comp=E,19nm,1.2s,mb5.3
ARSA Arzberg 90.76 41 ⇑*i*P **P 21 05 12.2 -0.5**
comp=E,19nm,1.2s,mb5.3,SNR=7.2
MORC Moravsky Berou 91.04 38 P **P 21 05 14.1 0.0**
MORC Moravsky Berou 91.04 38 ⇓*i*P **P 21 05 14.2 +0.2**
AQU L'Aquila 91.09 46 P **P 21 05 15.0 +0.7**
AQU L'Aquila 91.09 46 P **P 21 05 14.9 +0.6**
comp=E,41nm,1.0s,mb5.7
AQU P 21 05 15.0
AQU L'Aquila 91.09 46 ⇑*i*P **P 21 05 14.1 -0.2**
BOJS Bojanci 91.23 42 *e*P **P 21 05 15.9 +1.0**
CRES Cresnjev 91.24 42 *e*P **P 21 05 14.8 -0.2**
SOP Sopron 91.25 40 ⇑*e*P **P 21 05 15.8 +0.8**
OKC Ostrava-Krasne 91.38 38 *e*P **P 21 05 15.2 -0.4**
OKC *e*pP pP 21 05 31.7 -1.5
OKC *e*SKS 21 15 47.0
OKC AMS AMS 21 45 00.0
comp=E,3µm,20.8s
OKC Ostrava-Krasne 91.38 38 *e*P **P 21 05 15.2 -0.4**
OKC *e*pP pP 21 05 31.7 -1.5
OKC *e*S S 21 15 47.0 -23
ZST Bratislava 91.39 39 *e*P **P 21 05 16.0 +0.3**
ZST *e*pP pP 21 05 32.9 -0.4
ZST *e*PP PP 21 08 56.3 +2.4
ZST Bratislava 91.39 39 *e*P **P 21 05 16.0 +0.3**
comp=E,30nm,1.1s,mb5.5
ZST *e* pP 21 05 32.9 -0.4
ZST *e*PP PP 21 08 56.3 +2.4
ZST LR LR
comp=Z,2µm,21.8s
MA2 Magadan 91.42 333 *e*P **P 21 05 15.8 0.0**
MA2 *e**PP pP 21 05 33.0 -0.4
MA2 *e*S S 21 16 07.0 -3.1
MA2 pmax pmax
comp=Z,50nm,1.0s,mb5.8
MA2 MLR MLR
comp=Z,6µm,26.9s
MA2 Magadan 91.42 333 *e*P **P 21 05 15.9 +0.1**
comp=Z,114nm,1.0s,mb6.2
MA2 *e*pP pP 21 05 32.6 -0.8
SMOL Smolenice 91.47 39 *e*P **P 21 05 17.0 +1.0**
SDI San Donato 91.60 46 P **P 21 05 16.3 -0.3**
SDI pmax pmax
comp=Z,34nm,1.1s,mb5.6
SDI San Donato 91.60 46 P **P 21 05 16.3 -0.3**
comp=Z,34nm,1.1s,mb5.6
FUNA Funafuti 91.69 262 PFAKE 21 05 30.0 +13
FUNA LR LR
comp=Z,8µm,20.0s
OJC Ojcow 92.19 37 *e*P **P 21 05 18.9 -0.5**
OJC *e*PP PP 21 08 59.6 -0.5
OJC *e*SKSac SKSac 21 15 41.2 -5.9
OJC L 21 47 08.7
comp=Z,17nm,21.5s
VYHS Vyhne 92.33 39 *e*P **P 21 05 19.7 -0.3**
VYHS *e*pP pP 21 05 38.5 +0.8
VYHS Vyhne 92.33 39 *e*P **P 21 05 19.7 -0.3**
comp=Z,20nm,1.4s,mb5.2
VYHS *e* pP 21 05 38.5 +0.8
VYHS LR LR
comp=Z,2µm,26.5s
SUW Suwalki 92.38 33 *e*P **P 21 05 19.6 -0.6**
SUW *e*pP pP 21 05 37.3 -0.6
SUW *e*PP PP 21 08 59.5 -2.1
SUW *e*SKS 21 15 42.8
SUW *e*S S 21 16 11.0 -7.7
SUW L 21 40 35.6
comp=Z,3.2nm,28.2s
SUW Suwalki 92.38 33 *e*P **P 21 05 19.6 -0.6**
SUW *e*PP pP 21 05 37.3 -0.6
SUW *e*PP PP 21 08 59.5 -2.1
SUW *e*SKS 21 15 42.8
SUW *e*S S 21 16 11.0 -7.7
NIE Niedzica 92.83 37 *e*P **P 21 05 22.7 +0.4**
NIE *e*PP PP 21 09 05.0 -0.2
PKSM Moragy 93.14 41 P **P 21 05 23.9 +0.2**
PSZ Piszkesteto 93.22 39 P **P 21 05 25.1 +1.0**
PSZ pmax pmax
comp=Z,44nm,1.3s,mb5.7
PSZ Piszkesteto 93.22 39 P **P 21 05 25.6 +1.5**
PSZ Piszkesteto 93.22 39 ⇑*i*P **P 21 05 25.6 +1.5**
PSZ Piszkesteto 93.22 39 ⇑*e*P **P 21 05 25.9 +1.8**
KECS Kecovo 93.34 38 *e*P **P 21 05 24.9 +0.3**
KECS *e* pP 21 05 42.2 -0.1
KECS *e* 21 09 05.0
KECS pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
KECS Kecovo 93.34 38 *e*P **P 21 05 24.9 +0.3**
comp=Z,7.9nm,1.2s,mb5.0
KECS *e* pP 21 05 42.2 -0.1
KECS *e*PP PP 21 09 05.0 -4.1
STHS Stebnicka Huta 93.38 37 *e*P **P 21 05 25.7 +0.8**
STHS *e* 21 09 12.3
STHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
STHS Stebnicka Huta 93.38 37 *e*P **P 21 05 25.7 +0.8**
comp=Z,6.1nm,1.3s,mb4.9
STHS *e* pP 21 05 38.2 -4.3
STHS *e*PP PP 21 09 12.3 +2.8
CRVS Cervenica-Dubn 93.74 38 *e*P **P 21 05 26.7 +0.2**
CRVS *e*sP sP 21 05 50.4 -0.6
CRVS *e*PP PP 21 09 11.1 -1.2
STON Ston 93.85 44 *i*P **P 21 05 25.3 -1.7**
RAO Raoul Island 93.97 241 PFAKE 21 05 40.0 +12
RAO LR LR
comp=Z,3µm,20.0s
KWP Kalwaria 94.14 37 *e*P **P 21 05 29.4 +1.1**
KWP *e*pP pP 21 05 44.9 -1.1
KWP *e*PP PP 21 09 16.5 +1.1
KWP *e*SKS 21 15 55.5
KWP L 21 39 24.5
comp=Z,2.8nm,33.3s
KWP Kalwaria 94.14 37 *e*P **P 21 05 29.4 +1.1**
KOLS Kolonicke sedl 94.20 37 *e*P **P 21 05 29.6 +1.0**
KOLS *e*sP sP 21 05 53.0 -0.1
KOLS *e*PP PP 21 09 16.5 +0.6
KOLS Kolonicke sedl 94.20 37 *e*P **P 21 05 29.6 +1.0**
KOLS *e* 21 05 53.0
KOLS *e*PP PP 21 09 16.6 +0.7
UZH Uzhgorod 94.35 38 ⇓*i*P **P 21 05 30.0 +0.7**
UZH *e**PP pP 21 05 48.0 +1.1
UZH *e* 21 09 20.0
UZH *e*PPP 21 11 21.0
UZH *e* 21 15 55.0
UZH *e*S S 21 16 31.0 -5.0
UZH *e*PS PS 21 17 55.0 -4.1
UZH *e*SS SS 21 22 55.0 -3.7
UZH *e*SSS 21 26 41.0
UZH MLR MLR
comp=Z,2µm,22.0s
MNK Minsk 94.50 31 *e*P **P 21 05 26.0 -4.0**
TIP Timpagrande 94.61 48 *e*P **P 21 05 28.7 -1.8**
TIP *e*pP pP 21 05 45.7 -2.4
LVV L'vov 94.81 36 *e*P **P 21 05 31.1 -0.3**
LVV *e**PP pP 21 06 00.1 +11
LVV *e* 21 16 01.5
LVV *e*S S 21 16 31.7 -8.4
LVV MLR MLR
comp=Z,1µm,21.0s
LVV MLR MLR
comp=N,400nm,20.0s
LVV MLR MLR
comp=E,900nm,20.0s
DIVS Divcibare 94.88 42 ⇑*i*P **P 21 05 31.8 +0.1**
BZS Buzias 95.28 41 P **P 21 05 34.1 +0.6**
BZS Buzias 95.28 41 ⇑*i*P **P 21 05 33.4 -0.1**
DRGR 95.43 39 P **P 21 05 34.0 -0.3**
DRGR 95.43 39 ⇑*i*P **P 21 05 33.8 -0.5**
KLMR Klimovskoe 95.71 22 *e*P **P 21 05 33.7 -1.8**
KLMR *e* 21 09 23.5
KLMR pmax pmax
comp=Z,64nm,1.4s,mb5.9
GZR Gura Zlata 96.11 40 P **P 21 05 37.4 +0.1**
GZR Gura Zlata 96.11 40 ⇓*i*P **P 21 05 37.3 0.0**
BURAR Bucovina Array 96.56 38 ⇓*i*P **P 21 05 38.5 -0.9**
KIEV Kiev 97.24 34 P **P 21 05 40.8 -1.6**
KIEV *e* pP 21 05 58.7 -1.4
KIEV pmax pmax
comp=Z,15nm,1.4s,mb5.2
KIEV Kiev 97.24 34 *e*P **P 21 05 40.8 -1.7**
comp=Z,8.1nm,1.0s,mb5.1
KIEV *e*pP pP 21 05 58.3 -1.8
KIEV *e*PP PP 21 09 38.1 -1.3
AKASG Malin Array Be 97.24 34 P **P 21 05 40.7 -1.8**
comp=Z,2.5nm,0.6s,mb4.8,baz=294,slow=4.1,SNR=21
AKASG pP pP 21 05 58.5 -1.6
comp=Z,2.6nm,0.7s,baz=291,slow=3.4,SNR=5.0
AKASG PP PP 21 09 37.9 -1.5
comp=Z,7.1nm,0.8s,baz=304,slow=7.4,SNR=7.8
AKASG PKKPbc PKKPbc 21 22 19.0 -2.0
comp=Z,2.2nm,0.9s,baz=86,slow=2.6,SNR=6.4
AKASG LR LR 21 49 26.0
comp=Z,2µm,21.8s,baz=310,slow=35
AKASG Malin Array Be 97.24 34 *i*P **P 21 05 40.7 -1.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 97.24 34 P **P 21 05 41.0 -1.5**
AKBB *e* pP 21 05 59.3 -0.8
AKBB Malin Array Si 97.24 34 *e*P **P 21 05 40.3 -2.2**
AKBB *e*pP pP 21 05 58.5 -1.7
VTS Vitosha 97.65 43 ⇓*i*P **P 21 05 44.4 +0.1**
YAK Yakutsk 97.67 342 *e*P **P 21 05 43.8 -0.6**
YAK pmax pmax
comp=Z,59nm,1.1s,mb6.0
YAK Yakutsk 97.67 342 *e*P **P 21 05 43.9 -0.5**
MLR Muntele Rosu 98.03 39 P **P 21 05 46.0 0.0**
comp=Z,9.7nm,1.0s,mb5.3,baz=337,slow=5.4,SNR=13
MLR PP PP 21 09 44.7 -0.8
comp=Z,15nm,1.1s,baz=71,slow=4.3,SNR=3.8
MLR PKKPbc PKKPbc 21 22 17.9 -0.9
comp=Z,5.1nm,1.0s,baz=241,slow=8.0,SNR=4.7
MLR Muntele Rosu 98.03 39 P **P 21 05 46.3 +0.3**
MLR Muntele Rosu 98.03 39 ⇑*i*P **P 21 05 46.7 +0.7**
OBN Obninsk 98.27 27 ⇓*i*P **P 21 05 46.2 -0.9**
OBN *i* 21 09 43.0
OBN *i* PPP 21 11 52.1
OBN *i* 21 16 20.7
OBN *i* PS PS 21 18 44.4 +2.5
OBN pmax pmax
comp=Z,56nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,2µm,20.0s
OBN Obninsk 98.27 27 *e*P **P 21 05 46.3 -0.8**
MOS Moscow 98.34 26 *e*P **P 21 05 46.2 -1.2**
MOS *e**PP pP 21 06 03.2 -1.9
MOS *e* 21 09 47.9
MOS pmax pmax
comp=Z,70nm,1.6s,mb5.9
MOS MLR MLR
comp=Z,2µm,21.0s
KIS Kishinev 98.98 37 *e*P pP 21 06 02.0 -6.0
KIS *e* 21 17 05.0
KIS *e* 21 18 52.0
KIS Kishinev 98.98 37 *e*P pP 21 06 02.0 -6.0
KIS LRM 22 20 12.0
comp=Z,1µm,20.0s
VNA3 Neumayer Olymp 100.47 161 *e*Pdiff Pdif 21 05 56.7 -0.2
VNA3 *e* 21 06 14.1
VNA3 *e* 21 06 20.2
VNA3 *e* 21 06 26.4
VNA3 *e* 21 06 31.4
VNA1 Neumayer--Stat 100.80 160 *e*Pdiff Pdif 21 06 02.7 +4.4
VNA1 *e* 21 06 18.7
VNA1 *e* 21 06 23.3
VNA1 *e* 21 06 32.1
VNA2 Neumayer--Watz 101.13 161 *e*Pdiff Pdif 21 05 58.5 -1.3
VNA2 *e* 21 06 16.2
VNA2 *e* 21 06 47.0
VNA2 *e* 21 06 55.8
SNZO South Karori 102.20 230 PFAKE 21 06 20.0 +15
SNZO LR LR
comp=Z,4µm,21.0s
YSS Yuzh-Sakhalins 102.47 325 *e*P Pdif 21 06 07.0 +1.2
YSS *e* 21 12 40.0
YSS *e* 21 16 44.0
YSS *e* 21 17 40.0
YSS Yuzh-Sakhalins 102.47 325 PFAKE 21 06 20.0 +14
YSS LR LR
comp=Z,1µm,19.0s
SNAA Sanae 102.69 161 P Pdif 21 06 06.4 -0.3
comp=Z,2.4nm,1.0s,baz=253,slow=3.5,SNR=8.7
SNAA pP 21 06 25.4
comp=Z,4.0nm,1.0s,baz=250,slow=5.0,SNR=6.4
SNAA PP PP 21 10 15.4 -5.4
comp=Z,5.2nm,1.2s,baz=303,slow=12,SNR=5.0
SNAA PKKPbc PKKPbc 21 22 05.9 +0.4
comp=Z,2.5nm,1.1s,baz=12,slow=5.4,SNR=9.3
SNAA Sanae 102.69 161 *e*Pdiff Pdif 21 06 06.1 -0.7
SNAA *e* 21 06 25.5
SNAA *e* 21 06 41.0
VRHR Novokhopersk 103.21 28 *e*P Pdif 21 06 10.9 +1.8
VRHR pmax pmax
comp=Z,5.0nm,0.4s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR MLR MLR
comp=Z,1µm,18.0s
VRHR MLR MLR
comp=E,1µm,24.0s
QSPA South Pole Qui 103.99 180 PFAKE 21 06 20.0 +7.4
QSPA LR LR
comp=Z,4µm,22.0s
ERM Erimo 105.13 321 PFAKE 21 10 40.0 +8.2
ERM LR LR
comp=Z,233nm,20.0s
ANN Anapa 105.17 35 *e*P Pdif 21 06 12.8 -5.0
ANN *e* 21 17 27.6
ANN pmax pmax
comp=Z,60nm,1.4s
ANN MLR MLR
comp=N,2µm,23.0s
ANN MLR MLR
comp=E,2µm,23.0s
ANN MLR MLR
comp=Z,3µm,23.0s
ANTO Ankara 105.26 41 PFAKE 21 10 40.0 +8.0
ANTO LR LR
comp=Z,1µm,22.0s
ARU Arti 105.37 17 PFAKE 21 10 40.0 +7.8
ARU LR LR
comp=Z,2µm,22.0s
BOD Bodaibo 105.45 346 *e*P Pdif 21 06 15.9 -3.1
BOD pmax pmax
comp=Z,6.0nm,2.2s
HABR Khabarovsk 105.48 330 *e*P Pdif 21 06 18.4 -0.8
HABR *e*S Sdif 21 18 06.6 -3.4
BRTR Keskin Array B 105.88 41 PKiKP PKiKP 21 10 34.1 +0.9
comp=Z,2.3nm,0.8s,baz=314,slow=2.8,SNR=6.4
BRTR PKKPbc PKKPbc 21 21 55.4 -0.5
comp=Z,2.2nm,0.8s,baz=140,slow=4.0,SNR=5.6
SBA Scott Base 106.18 192 PFAKE 21 10 40.0 +6.3
SBA LR LR
comp=Z,2µm,20.0s
VNDA Vanda 107.28 193 PP PP 21 10 53.9 -0.8
comp=Z,5.7nm,1.1s,baz=88,slow=6.1,SNR=5.4
VNDA Vanda 107.28 193 PFAKE 21 10 50.0 +14
VNDA LR LR
comp=Z,3µm,20.0s
KIV Kislovodsk 108.59 33 *e*P Pdif 21 06 34.2 +1.2
KIV *e* 21 11 01.2
KIV *e* 21 17 06.2
KIV *e*SP SP 21 20 23.3 +0.9
KIV *e*PS PS 21 20 27.9 -2.2
KIV *e*SS SS 21 26 28.4 +12
KIV pmax pmax
comp=Z,11nm,1.2s
KIV MLR MLR
comp=Z,2µm,20.0s
KIV Kislovodsk 108.59 33 PFAKE 21 10 50.0 +12
KIV LR LR
comp=Z,516nm,22.0s
MALT Malatya 109.73 40 *e*PKiKP PKiKP 21 10 40.7 +0.4
AKTK Aktyubinsk 110.34 20 PKPdf PKiKP 21 10 43.0 +1.5
AKTO Aktyubinsk 110.34 20 PKiKP PKiKP 21 10 43.0 +1.5
comp=Z,2.0nm,0.7s,baz=48,slow=4.8,SNR=4.2
HNR Honiara 110.44 265 PFAKE 21 10 50.0 +8.3
HNR LR LR
comp=Z,2µm,22.0s
MMAI Mount Meron Ar 110.79 46 PKiKP PKiKP 21 10 43.9 +1.6
comp=Z,0.6nm,0.3s,baz=31,slow=5.2,SNR=4.9
MMAI PP PP 21 11 16.8 -3.5
comp=Z,6.3nm,1.0s,baz=325,slow=6.6,SNR=4.8
MDJ Mudanjiang 110.87 330 PDIF Pdif 21 06 44.1 +1.0
MDJ LR LR
comp=N,1µm,21.3s
MDJ LR LR
comp=E,268nm,27.9s
MDJ LR LR
comp=Z,1µm,23.9s
BRVK Borovoye 111.29 12 PFAKE 21 10 50.0 +6.7
BRVK LR LR
comp=Z,794nm,21.0s
HIA Hailar 111.30 339 PFAKE 21 10 50.0 +6.7
HIA LR LR
comp=Z,2µm,22.0s
BVA0 Borovoye Array 111.34 12 *i*PKIKP PKiKP 21 10 43.5 +0.1
BVAR Borovoye Array 111.34 12 Pdiff Pdif 21 06 45.5 +0.2
comp=Z,0.5nm,0.7s,baz=279,slow=3.8,SNR=4.3
BVAR PKiKP PKiKP 21 10 44.1 +0.7
comp=Z,3.3nm,0.6s,baz=194,slow=1.3,SNR=18
BVAR PP PP 21 11 17.5 -6.8
comp=Z,6.8nm,0.8s,baz=4.0,slow=3.4,SNR=5.7
BVAR PKKPbc PKKPbc 21 21 45.0 +6.3
comp=Z,3.7nm,0.9s,baz=151,slow=4.6,SNR=6.5
BVAR Borovoye Array 111.34 12 P Pdif 21 06 45.5 +0.3
BVAR 21 10 44.1
MAJO Matsushiro 111.47 319 PFAKE 21 11 00.0 +16
MAJO LR LR
comp=Z,749nm,20.0s
MJAR Matsushiro Arr 111.47 319 PKKPab PKKPab 21 21 53.8 +5.9
comp=Z,2.5nm,0.9s,baz=244,slow=5.0,SNR=5.0
TSUM Tsumeb 111.94 105 PFAKE 21 11 00.0 +15
TSUM LR LR
comp=Z,2µm,22.0s
AB31 Akbulak array 112.00 20 *i*PKIKP PKiKP 21 10 44.9 +0.3
AB31 pmax pmax
comp=Z,12nm,1.0s
ZAL Zalesovo 112.21 3 PKiKP PKiKP 21 10 45.5 +0.5
ZAL PP PP 21 11 28.1 -2.3
comp=Z,6.7nm,0.9s,baz=108,slow=7.8,SNR=4.8
ZAL PKKPbc PKKPbc 21 21 41.8 +6.1
comp=Z,0.9nm,0.8s,baz=275,slow=6.5,SNR=4.3
ZAL Zalesovo 112.21 3 PKIKP PKiKP 21 10 45.5 +0.5
ZAL 21 11 28.1
EIL Elat 112.28 49 *e*PKiKP PKiKP 21 10 44.7 -0.5
GNI Garni 112.30 35 PKiKP PKiKP 21 10 44.8 -0.4
comp=Z,2.6nm,0.6s,baz=232,slow=23,SNR=4.2
GNI PP PP 21 11 29.1 -2.0
comp=Z,10nm,0.9s,baz=96,slow=8.8,SNR=4.1
TLY Talaya 113.30 350 *e*P Pdif 21 06 54.8 +0.9
TLY *e* 21 17 24.0
TLY *e*PS PS 21 21 05.4 -9.0
TLY *e*PPS 21 22 32.4
TLY *e*SS SS 21 27 15.0 -4.0
TLY pmax pmax
comp=Z,10.0nm,1.4s
TLY Talaya 113.30 350 PFAKE 21 11 00.0 +13
TLY LR LR
comp=Z,582nm,22.0s
CN2 Changchun 113.44 332 *e*PKP PKiKP 21 10 47.0 -0.4
CN2 PP PP 21 11 43.3 +4.1
CN2 SS SS 21 27 17.2 -3.6
CN2 LR LR
comp=N,1µm,21.0s
CN2 LR LR
comp=E,700nm,21.0s
CN2 LR LR
comp=Z,1µm,21.0s
ZAK Zakamensk 114.61 350 *e*PKIKP PKiKP 21 10 49.9 +0.3
ZAK pmax pmax
comp=Z,5.0nm,1.2s
KURK Kurchatov 114.90 7 PKIKP PKiKP 21 10 49.3 -0.9
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 114.90 7 *e*PKP PKiKP 21 10 49.9 -0.3
SUR Sutherland 115.83 119 PFAKE 21 11 00.0 +8.0
SUR LR LR
comp=Z,598nm,20.0s
ULN Ulaanbaatar 116.26 346 *e*PKIKP PKPdf 21 10 53.4 +0.6
SONM Songino Array 116.44 347 PKP PKPdf 21 10 53.5 +0.4
comp=Z,8.1nm,0.8s,baz=342,slow=1.2,SNR=29
SONM pPKP pPKPdf 21 11 10.5 -0.9
comp=Z,11nm,1.0s,baz=354,slow=1.3,SNR=8.0
SONM PP PP 21 11 57.0 -3.3
comp=Z,4.9nm,1.0s,baz=14,slow=3.0,SNR=5.9
SONM PKKPbc PKKPbc 21 21 21.1 -0.3
comp=Z,2.7nm,0.6s,baz=192,slow=3.2,SNR=14
SONM SKKP 21 25 17.1
comp=Z,2.4nm,1.1s,baz=211,slow=1.7,SNR=3.6
SONM Songino Array 116.44 347 PKIKP PKPdf 21 10 53.5 +0.4
SONM 21 11 10.5
SONM 21 11 57.0
KSRS Korea Array 116.97 326 PKP PKPdf 21 10 54.5 +0.4
comp=Z,20nm,0.9s,baz=8.3,slow=1.6,SNR=36
DRV Dumont d'Urvil 117.62 201 Pdif Pdif 21 07 19.0 +5.9
DRV Dumont d'Urvil 117.62 201 PP PP 21 12 06.0 -2.5
DRV SP SP 21 21 44.0 -2.4
DRV SS SS 21 28 15.0 -0.6
GUMO Guam 118.10 294 PFAKE 21 11 10.0 +14
GUMO LR LR
comp=Z,2µm,20.0s
DL2 Dalian 119.06 331 *e*PKP PKPdf 21 11 00.5 +2.3
DL2 PP PP
comp=Z,180nm,8.0s
DL2 LR LR
comp=N,410nm,23.0s
DL2 LR LR
comp=E,490nm,20.1s
DL2 LR LR
comp=Z,790nm,22.2s
MK31 Makanchi Array 119.16 5 *e*PKIKP PKPdf 21 10 58.1 -0.3
MK31 *e* 21 11 15.3
MKAR Makanchi Array 119.16 5 PKP PKPdf 21 10 58.2 -0.2

comp=Z,4.8nm,0.4s,baz=303,slow=3.5,SNR=89
MKAR pPKP pPKPdf 21 11 15.6 -1.0
comp=Z,19nm,0.9s,baz=347,slow=1.3,SNR=10
MKAR PKKPbc PKKPbc 21 21 13.3 +1.7
comp=Z,2.0nm,1.0s,baz=90,slow=4.9,SNR=4.4
MKAR Makanchi Array 119.16 5 PKIKP PKPdf 21 10 58.2 -0.2
MKAR 21 11 15.6
MKAR Makanchi Array 119.16 5 PKP PKPdf 21 10 58.2 -0.2
MKAR pPKP pPKPdf 21 11 15.6 -1.0
MKAR PKKPbc PKKPbc 21 21 13.3 +1.7
BOSA Boshof 119.64 115 PKP PKPdf 21 11 00.6 +1.3
comp=Z,62nm,0.9s,baz=297,slow=1.6,SNR=31
BOSA pPKP pPKPdf 21 11 19.6 +2.1
comp=Z,56nm,1.0s,baz=346,slow=1.1,SNR=6.3
BOSA PKKPbc PKKPbc 21 21 15.3 +5.4
comp=Z,2.4nm,0.7s,baz=164,slow=1.9,SNR=5.4
BOSA Boshof 119.64 115 PKIKP PKPdf 21 11 00.6 +1.3
BOSA 21 11 19.6
BOSA Boshof 119.64 115 PKP PKPdf 21 11 00.6 +1.3
BOSA pPKP pPKPdf 21 11 19.6 +2.1
BOSA PKKPbc PKKPbc 21 21 15.3 +5.4
LBTB Lobatse 119.86 111 *e*PKIKP PKPdf 21 11 01.7 +2.0
LBTB *e* 21 12 25.1
BJI Beijing 120.49 336 PKP PKPdf 21 11 02.3 +1.4
BJI PP PP 21 12 31.8 +3.5
BJI PP PP
comp=Z,477nm,5.1s
BJI LR LR
comp=N,784nm,28.0s
BJI LR LR
comp=E,703nm,24.3s
BJI LR LR
comp=Z,2μm,28.6s
BJT Baijiatuau 120.51 336 *e*PKIKP PKPdf 21 11 01.8 +0.8
BJT *e* 21 11 18.3
BJT MLR MLR
comp=Z,3μm,20.0s
KKAR Karatay Array 120.70 16 *e*PKIKP PKPdf 21 11 01.6 +0.3
KKAR pmax pmax
comp=Z,1.0nm,0.5s
HHC Hu-ho-hao-te 121.46 340 *e*PKP PKPdf 21 11 04.3 +1.5
HHC PP PP 21 12 35.2 +0.2
HHC PKS 21 14 39.5
HHC SKS SKSdf 21 18 05.3 -4.0
HHC LR LR
comp=N,863nm,27.4s
HHC LR LR
comp=E,766nm,28.5s
HHC LR LR
comp=Z,2μm,27.9s
USP Ospenovka 121.48 12 P PKPdf 21 11 03.8 +0.9
SNR=23
LSZ Lusaka 121.48 99 *e*PKIKP PKPdf 21 11 05.4 +2.6
LSZ *e* 21 11 22.3
LSZ *e* 21 12 33.3
LSZ Lusaka 121.48 99 *e*PKPdf PKPdf 21 11 05.4 +2.5
LSZ *ep*PKPdf pPKPdf 21 11 22.3 +1.1
LSZ *e*PP PP 21 12 33.3 -1.8
LSZ *e*SKPdf SKPdf 21 14 28.8 -4.0
CHMS Chumysh 121.79 12 P PKPdf 21 11 06.2 +2.8
SNR=16
EKS2 Erkin-Say 121.90 13 P PKPdf 21 11 07.0 +3.4
SNR=24
FRU Bishkek 121.92 12 *e*PKIKP PKPdf 21 11 06.0 +2.3
FRU *e* 21 11 22.0
FRU *e* 21 12 38.0
FRU pmax pmax
comp=Z,60nm,1.4s
TKM2 Tokmak 2 122.03 11 P PKPdf 21 11 04.9 +1.0
SNR=17
AAK Ala-Archa 122.08 12 P PKPdf 21 11 05.4 +1.4
SNR=14
AAK Ala-Archa 122.08 12 *e*PKP PKPdf 21 11 04.3 +0.3
KBK Karagaybulak 122.16 12 P PKPdf 21 11 05.7 +1.6
SNR=13
BTO Baotou 122.19 341 *e*PKP PKPdf 21 11 07.4 +3.2
AML Almayashu 122.39 13 P PKPdf 21 11 06.5 +1.9
SNR=24
WMQ Urumqi 122.41 1 *e*PDIF Pdif 21 07 34.5 +0.1
WMQ PKP PKPdf 21 11 05.4 +0.8
WMQ PP PP 21 12 45.7 +4.3
WMQ PKS 21 14 40.8
WMQ PP PP
comp=Z,316nm,7.0s
WMQ LR LR
comp=N,5μm,23.0s
WMQ LR LR
comp=E,1μm,22.0s
WMQ LR LR
comp=Z,5μm,22.0s
TAU Tasmania Unive 122.43 228 PFAKE 21 11 20.0 +15
TAU LR LR
comp=Z,961nm,22.0s
UCH Uchtor 122.48 13 P PKPdf 21 11 07.0 +2.2
SNR=27
KZA Kyzart 122.77 12 P PKPdf 21 11 09.2 +3.8
SNR=12
ULHL Ulahol 122.80 11 P PKPdf 21 11 09.0 +3.6
SNR=12
PMG Port Moresby 122.82 268 PFAKE 21 11 20.0 +15
PMG LR LR
comp=Z,2μm,20.0s
MAW Mawson 123.85 168 *e*PKP PKPdf 21 11 06.5 -0.9
comp=Z,9.8nm,0.5s
MAW *e* 21 11 24.1
MAW Mawson 123.85 168 PKP PKPdf 21 11 06.3 -1.1
comp=Z,8.5nm,0.5s,baz=223,slow=3.9,SNR=10
JOW Kunigami 124.16 317 PKP PKPdf 21 11 10.2 +2.3
comp=Z,38nm,0.9s,baz=68,slow=11,SNR=5.7
TOO Toolangi 124.77 234 *e*PKP PKPdf 21 11 09.4 +0.2
TOO *e* 21 11 25.3
CTA Charters Tower 125.00 255 *e*PKP PKPdf 21 11 09.9 +0.3
comp=Z,15nm,1.2s
CTA *e* 21 11 27.5
CTA Charters Tower 125.00 255 PKP PKPdf 21 11 10.2 +0.6
comp=Z,20nm,1.1s,baz=66,slow=1.5,SNR=10.0
CTAO Charters Tower 125.00 255 *e*PKIKP PKPdf 21 11 09.6 0.0
CTAO *e* 21 11 27.9
SSE Sheshan 125.41 326 PKP PKPdf 21 11 07.2 -3.2
SSE PP PP 21 13 06.2 +4.7
SSE PP PP
comp=Z,184nm,4.9s
SSE LR LR
comp=N,978nm,21.8s
SSE LR LR
comp=E,378nm,22.2s
SSE LR LR
comp=Z,1μm,21.2s
CASY Casey 125.83 191 PFAKE 21 11 20.0 +8.8
CASY LR LR
comp=Z,3μm,21.0s
GTA Gaotai 125.85 350 PKP PKPdf 21 11 12.6 +1.4
GTA PP PP 21 13 09.4 +4.9
GTA PKS 21 14 47.9
GTA PP PP
comp=Z,189nm,6.5s
GTA LR LR
comp=N,371nm,23.6s
GTA LR LR
comp=E,583nm,22.0s
GTA LR LR
comp=Z,565nm,20.5s
KMBO Kilima Mbogo 127.42 81 PKP PKPdf 21 11 17.7 +3.5
comp=Z,12nm,1.1s,baz=289,slow=3.0,SNR=18
LZH Lanzhou 128.16 345 ⇑PKP PKPdf 21 11 17.0 +1.4
LZH PP PP 21 13 24.5 +4.8
LZH SKS SKSdf 21 18 17.4 -4.5
LZH SKKS SKKSac 21 20 05.6 -5.9
LZH SS SS 21 30 25.3 -4.0
LZH PP PP
comp=Z,315nm,8.1s
LZH LR LR
comp=N,435nm,18.4s
LZH LR LR
comp=Z,798nm,20.3s
XAN Xi'an 128.50 339 PKP PKPdf 21 11 16.9 +0.6
XAN SS SS 21 30 29.5 -4.0
XAN PP PP
comp=Z,137nm,9.9s
XAN LR LR
comp=N,1μm,22.2s
XAN LR LR
comp=E,1μm,20.7s
XAN LR LR
comp=Z,2μm,21.7s

STKA Stephens Creek 128.79 240 *e*PKP PKPdf 21 11 17.0 +0.2
comp=Z,24nm,0.9s
STKA *e* 21 11 33.0
STKA Stephens Creek 128.79 240 PKP PKPdf 21 11 17.0 +0.2
comp=Z,34nm,1.0s,baz=85,slow=1.0,SNR=21
WHN Wuhan 129.32 331 ⇓PKP PKPdf 21 11 19.1 +1.3
WHN LR LR
comp=Z,3μm,20.1s
THN Thein Dam 132.11 15 *e*P PKPdf 21 11 24.0 +0.9
CD2 Chengdu 133.06 342 *e*PKP PKPdf 21 11 22.9 -2.0
CD2 PP PP 21 13 52.8 +1.3
CD2 PKS 21 14 57.8
CD2 SKS SKSdf 21 18 22.5 -8.3
CD2 PP PP
comp=Z,1μm,8.4s
CD2 LR LR
comp=N,3μm,25.2s
CD2 LR LR
comp=E,2μm,25.2s
CD2 LR LR
comp=Z,3μm,22.8s
NDI New Delhi 136.06 15 *e*P PKPdf 21 11 28.0 -2.5
NDI *e*P 21 11 32.4
GYA Guiyang 136.17 337 PDIF Pdif 21 08 33.8 -1.8
GYA PP PP 21 14 13.9 +2.8
GYA PKS 21 15 05.2
GYA SKS SKSdf 21 18 29.2 -7.0
GYA SKKS SKKSac 21 20 53.6 -6.9
GYA PP PP
comp=Z,2μm,10.2s
GYA LR LR
comp=N,3μm,20.9s
GYA LR LR
comp=E,3μm,21.4s
GYA LR LR
comp=Z,3μm,21.6s
WB2 Warramunga Arr 136.18 256 *e*PKP PKPdf 21 11 31.2 +0.4
WB2 *e*PKS 21 15 02.2
WRAB Tennant Creek 136.18 256 *i*PKIKP PKPdf 21 11 31.2 +0.4
WRA Warramunga Arr 136.19 256 PKhKP 21 11 22.9
comp=Z,3.9nm,0.7s,baz=92,slow=2.7,SNR=4.8
WRA PKP PKPdf 21 11 30.8 +0.1
comp=Z,11nm,0.8s,baz=85,slow=1.8,SNR=17
WRA pPKP pPKPdf 21 11 49.4 +0.4
comp=Z,36nm,1.1s,baz=79,slow=2.0,SNR=6.4
WRA PP PP 21 14 08.0 -3.3
comp=Z,16nm,1.3s,baz=91,slow=6.9,SNR=7.7
WRA SKPbc SKPbc 21 15 01.5 +4.1
comp=Z,1.7nm,0.8s,baz=96,slow=3.7,SNR=3.8
WRA SKPab 21 15 08.2
comp=Z,6.4nm,0.9s,baz=83,slow=2.3,SNR=6.2
WRA Warramunga Arr 136.19 256 PKHKP 21 11 22.9
WRA 21 11 30.8
WRA 21 11 49.4
WRA 21 14 08.0
ASAR Alice Springs 136.45 250 PKhKP 21 11 22.0
comp=Z,3.5nm,0.7s,baz=112,slow=3.2,SNR=4.6
ASAR PKP PKPdf 21 11 31.4 +0.2
comp=Z,7.1nm,0.6s,baz=102,slow=2.2,SNR=11
ASAR SKPbc SKPbc 21 15 01.4 +3.3
comp=Z,1.3nm,0.8s,baz=114,slow=2.2,SNR=2.6
ASAR SKPab 21 15 06.8
comp=Z,2.6nm,0.8s,baz=108,slow=2.5,SNR=5.1
ASAR Alice Springs 136.45 250 PKHKP 21 11 22.0
ASAR 21 11 31.4
ASAR Alice Springs 136.45 250 PKP PKPdf 21 11 22.0 -9.2
ASAR PKP PKPdf 21 11 31.4 +0.2
ASAR SKPbc SKPbc 21 15 01.4 +3.3
ASAR SKPab 21 15 06.8
LSA Lhasa 136.46 357 *e*PKIKP PKPdf 21 11 33.4 +2.1
LSA *e* 21 11 48.8
AJM Ajmer 137.42 19 *e*P PKPdf 21 11 33.0 -0.1
AJM AMS AMS 22 13 08.9
comp=Z,1μm,28.5s
AJM AMS AMS 22 13 12.5
comp=N,1μm,23.0s
TGY Tagaytay City 137.67 310 PKP PKPdf 21 11 33.9 +0.4
comp=N,94nm,0.4s,baz=238,slow=10.0,SNR=3.1
DAV Davao City (W) 137.94 298 PFAKE 21 11 50.0 +16
DAV LR LR
comp=Z,873nm,21.0s
GKN Gorkha 138.01 6 *e*P PKPdf 21 11 27.1 -7.0
KOLN Koldanda 138.13 7 *e*P PKPdf 21 11 28.1 -6.2
GUN Gumba 138.20 4 *e*P PKPdf 21 11 26.2 -8.3
KKN Kakani 138.27 5 *e*P PKPdf 21 11 26.8 -7.8
comp=Z,79nm,0.6s
DMN Daman 138.44 5 *e*P PKPdf 21 11 25.7 -9.2
PKI Pulchoki 138.50 5 *e*P PKPdf 21 11 25.5 -10
comp=Z,160nm,0.9s
KMI Kunming 138.78 341 PKP PKPdf 21 11 37.4 +1.9
KMI PP PP 21 14 29.3 +1.9
KMI PKS 21 15 12.6
KMI SKS SKSdf 21 18 33.0 -7.6
KMI SKKS SKKSac 21 21 12.3 -3.7
KMI SS SS 21 32 36.0 -1.6
KMI PP PP
comp=Z,363nm,4.9s
KMI LR LR
comp=N,1μm,28.1s
KMI LR LR
comp=E,983nm,24.8s
KMI LR LR
comp=Z,2μm,26.4s
ALBI Allahabad 140.29 10 *i*x x 21 11 38.0
FORT Forrest 140.34 239 *e*PKP PKPdf 21 11 28.6 -10
comp=Z,45nm,0.7s
SHL Shillong 140.52 356 *e*P PKPdf 21 11 38.3 -0.4
SHL *e*x x 21 15 18.0
IMP Imphal 141.09 353 *e*P PKPdf 21 11 41.0 +1.3
QIZ Qiongzhong 141.16 327 PKP PKPdf 21 11 44.5 +4.6
QIZ PKS 21 15 13.2
QIZ SKKS SKKSac 21 21 25.0 -5.0
QIZ LR LR
comp=N,1μm,27.5s
QIZ LR LR
comp=Z,2μm,24.2s
BHPL Bhopal 141.30 17 *e*P PKPdf 21 11 38.9 -1.2
BHPL AMS AMS 22 16 08.0
comp=Z,2μm,20.2s
BHPL AMS AMS 22 17 32.4
comp=N,1μm,17.5s
AGT Agartala 142.23 356 *i*x x 21 11 48.0
BOK Bokaro 142.28 4 *e*P PKPdf 21 11 39.3 -2.6
BOK AMS AMS 22 19 45.5
comp=Z,2μm,21.1s
AKL Akola 143.57 19 ⇓*i*P PKPdf 21 11 42.7 -1.4
AKL *i*x x 21 14 33.4
CAL Calcutta 143.64 1 *e*x PKPdf 21 11 48.2 +3.9
CAL *i*x x 21 15 17.8
NGP Nagpur 143.73 16 *e*P PKPdf 21 11 42.2 -2.2
POO Poona 144.42 25 *i*x PKPdf 21 11 41.5 -4.1
comp=Z,100nm,1.0s
FITZ Fitzroy Crossi 144.45 258 *e*PKP PKPdf 21 11 44.2 -1.5
comp=Z,103nm,1.0s
FITZ Fitzroy Crossi 144.45 258 PKP PKPdf 21 11 44.4 -1.2
comp=Z,44nm,0.9s,baz=109,slow=3.4,SNR=16
NANT Nan 145.34 340 ⇓P PKPbc 21 11 45.3 -1.9
comp=Z,1μm,1.0s
KAD Karad 145.65 25 *e*P PKPdf 21 11 47.2 -0.5
KAD AMS AMS 22 22 40.0
comp=Z,1μm,21.9s
MSEY Mahe Island 145.84 77 *e*PKPdf PKPdf 21 11 50.7 +2.7
MSEY *ep*PKPdf pPKPdf 21 12 07.4 +1.0
MSEY *e*SKPdf SKPdf 21 15 21.9 +5.1
MSEY LR LR
comp=Z,267nm,21.0s
CHG Chiang Mai 145.87 343 ⇑P PKPdf 21 11 49.3 +1.2
comp=Z,319nm,0.9s
CHTO Chiang Mai 145.87 343 *e*PKP2 PKPab 21 11 48.9 -0.4
CHTO *e* 21 15 09.3
CHTO Chiang Mai 145.87 343 *e*PKP PKPdf 21 11 48.9 +0.8
CHTO *ep*PKPdf pPKPdf 21 12 06.4 0.0
CHTO *e*PP PP 21 15 09.3 -1.0
CHTO *e*SKP 21 15 25.8
KKM Kota Kinabalu 146.29 305 P PKPab 21 11 54.4 +3.4
KKM Kota Kinabalu 146.29 305 *e*PKP PKPab 21 11 53.3 +2.4
GOA Goa 147.11 27 *e*P PKPdf 21 11 48.8 -1.5
HYB Hyderabad 147.13 18 ⇑*i*PKP PKPdf 21 11 52.5 +2.2
comp=Z,260nm,1.0s
HYB *ep*PKP pPKPdf 21 12 21.0 +12
HYB *e*PP PP 21 15 20.0 +2.2
HYB *e*SKS SKSdf 21 18 50.0 -3.5
HYB *e* 21 22 00.0
HYB Hyderabad 147.13 18 ⇑*e*P PKPdf 21 11 52.5 +2.2

VIS Vishakhapatnam 147.97 10 *e*P PKPdf 21 11 52.4 +0.8
VIS AMS AMS 22 26 28.0
comp=Z,2μm,17.6s
NWAO Narrogin (SRO) 148.04 229 *e*PKIKP PKPdf 21 11 52.4 +0.6
KLBR Kellerberrin 148.28 232 *e*PKP PKPdf 21 11 54.3 +2.1
comp=Z,197nm,1.2s
NST Nakhon Sawan 148.43 339 P PKPdf 21 11 55.0 +2.6
comp=Z,392nm,0.9s
MUN Mundaring 149.26 230 *e*PKP PKPdf 21 11 54.3 +0.6
MNGI Mangalore 149.81 28 *e*P PKPdf 21 11 54.5 -0.1
MNGI AMb AMB 21 46 41.5
comp=Z,241nm,18.8s
MDRS Chennai 151.75 18 *e*P PKPdf 21 11 58.6 +1.0
MDRS *ex* x 21 12 03.3
MDRS *ex* x 21 15 30.3
MDRS AMS AMS 22 26 28.1
comp=Z,1μm,26.3s
SALM Salem 152.38 23 *e*P PKPdf 21 12 00.0 +1.4
KSM Kuching 153.73 304 *e*PKPdf PKPdf 21 12 01.6 +1.1
KSM *es*PKPdf 21 12 23.9
PBA Port Blair 154.18 351 *e*P PKPdf 21 11 59.8 -1.4
PBA *ex* x 21 12 17.4
TRD Trivandrum 154.68 28 *e*P PKPdf 21 11 59.1 -2.8
SNG Songkhla 155.89 330 P PKPdf 21 12 05.0 +1.5
comp=Z,156nm,0.8s
KULM Kulim 157.50 328 *e*PKPdf PKPdf 21 12 06.9 +1.4
IPM Ipoh 157.98 326 P PKPdf 21 12 07.6 +1.5
KGM Kluang 158.54 317 P PKPdf 21 12 07.8 +1.0
PSI Prapat 160.50 328 PKP PKPdf 21 12 10.3 +1.2
comp=Z,49nm,1.1s,baz=252,slow=3.8,SNR=27
PSI PKPab PKPab 21 12 51.6 +1.0
comp=Z,102nm,0.9s,baz=319,slow=3.5,SNR=14

NEIC ***03*** *21:04:52.2±0.6, 6.56S×152.36E, h10km, mb4.4/2, Error ellipse: s-maj=13.9km s-min=9.9km az=154.0*
ISCJB ***03*** *21:04:55.7±1.9, 6.8S±0.1×152.47E±0.07, h50km±18km, mb4.3/10, Error ellipse: s-maj=17.5km s-min=10.8km az=149.5*
IDC ***03*** *21:04:58.2±4.5, 6.73S×152.44E, h62km±39km, mb4.1/8, mb1 4.3/10, mb1mx4.1/17, mbtmp4.1/10, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=27.7km s-min=24.0km az=176.0*
ISC 03 21:04:58.2±1.6, 67S±01×152.47E±0.07, h59km±15km, n24, σ1§04/24, mb4.3/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**243**	P	**Pn**	**21 06 20.9**	**-1.9**
	6.7nm,0.3s,baz=58,slow=5.1,SNR=25						
PMG				S	**Sn**	**21 07 31.0**	**+2.2**
	9.5nm,0.3s,baz=90,slow=14,SNR=9.3						
PMG				LR	LR	21 08 38.8	
	comp=Z,408nm,20.6s,baz=25,slow=38						
HNR	**Honiara**	**7.87**	**110**	Pn	**Pn**	**21 06 50.3**	**+0.3**
CTA	**Charters Tower**	**14.57**	**204**	P	**Pn**	**21 08 20.0**	**-1.1**
	0.2nm,0.3s,baz=36,slow=13,SNR=3.9						
CTAO	**Charters Tower**	**14.57**	**204**	*e*Pn	**Pn**	**21 08 21.0**	**-0.1**
	3.1nm,0.7s						
DZM	**Mont Dzumac**	**20.35**	**140**	P	**P**	**21 09 31.5**	**+1.8**
	3.3nm,0.6s,baz=46,slow=12,SNR=5.0						
WB2	**Warramunga Arr**	**21.94**	**232**	*e*P	**P**	**21 09 46.1**	**-0.7**
WB2	**Warramunga Arr**	**21.94**	**232**	*e*P	**P**	**21 09 46.5**	**-0.3**
WRA	**Warramunga Arr**	**21.95**	**232**	P	**P**	**21 09 46.3**	**-0.6**
	12nm,0.9s,mb4.3,baz=56,slow=10,SNR=33						
ASAR	**Alice Springs**	**24.52**	**225**	P	**P**	**21 10 12.3**	**+0.3**
	20nm,0.8s,mb4.7,baz=58,slow=8.9,SNR=128						
STKA	**Stephens Creek**	**26.99**	**201**	P	**P**	**21 10 34.0**	**-0.4**
	3.1nm,0.7s,mb3.9,baz=36,slow=10,SNR=7.0						
FITZ	**Fitzroy Crossi**	**28.48**	**244**	P	**P**	**21 10 47.4**	**-0.3**
	7.5nm,0.5s,mb4.6,baz=57,slow=7.8,SNR=57						
TSM	**Tawau**	**36.23**	**287**	P	**P**	**21 11 50.4**	**-5.1**
NACB	**Ninganchiao**	**43.02**	**317**	*e*P	**P**	**21 12 53.4**	**+1.5**
SONM	**Songino Array**	**67.79**	**328**	P	**P**	**21 15 50.0**	**+0.2**
	2.8nm,0.8s,mb4.3,baz=143,slow=5.3,SNR=4.8						
VNDA	**Vanda**	**70.91**	**178**	*e*P	**P**	**21 16 07.7**	**-1.4**
	3.9nm,1.1s,mb4.2						
SVW2	**Sparrevohn**	**78.73**	**23**	P	**P**	**21 16 54.8**	**+0.5**
MCK	**McKinley**	**82.77**	**23**	*e*P	**P**	**21 17 15.2**	**-0.6**
MAW	**Mawson**	**83.66**	**203**	P	**P**	**21 17 21.8**	**+1.4**
	2.4nm,0.9s,mb4.3						
COLA	**College**	**83.77**	**22**	*e*P	**P**	**21 17 19.8**	**-1.2**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
COLA	**College**	**83.77**	**22**	*e*P	**P**	**21 17 19.8**	**-1.2**
	comp=Z,7.7nm,0.8s,mb4.9						
NVAR	**Mina Array Bea**	**93.54**	**52**	P	**P**	**21 18 07.1**	**-0.6**
	comp=Z,0.3nm,0.5s,mb4.0,baz=232,slow=4.4,SNR=3.7						
NVAR	**Mina Array Bea**	**93.54**	**52**	P	**P**	**21 18 07.1**	**-0.6**
YKA	**Yellowknife Ar**	**97.29**	**28**	P	**P**	**21 18 25.1**	**+0.4**
	comp=Z,0.5nm,0.7s,mb4.0,baz=269,slow=4.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.54**	**285**	PKPbc	PKPbc	21 24 43.5	+0.2
	comp=Z,1.4nm,0.6s,baz=97,slow=2.2,SNR=12						

NIED ***03*** *21:08:00, 35.70N×140.70E, h50km, Mw4.7 Best double couple: M0 1.07000×10^16 NP1:φ=4.00000°, δ72.00000°, λ86.00000°. NP2:φ=197.00000°, δ19.00000°, λ102.00000°.*
BJI ***03*** *21:08:27.9, 35.40N×141.37E, h62km, mB5.1, mb4.8, Ms4.0, Msz3.9*
SZGRF ***03*** *21:08:31.2, 35.09N×141.42E, h33km, mb5.0, Near east coast of eastern Honshu, Japan*
ISCJB ***03*** *21:08:35.0±0.3, 35.67N±0.03×140.60E±0.04, h57km±2km, mb4.7/61, Error ellipse: s-maj=5.6km s-min=4.6km az=172.3*
MOS ***03*** *21:08:35.2±1.0, 35.61N×140.54E, h61km, mb4.9/31, Error ellipse: s-maj=11.0km s-min=6.0km az=116.7*
JMA ***03*** *21:08:35.2±0.1, 35.74N×140.65E, h49km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φ=207.00000°, δ17.00000°, λ106.00000°. NP2: φ=10.00000°, δ74.00000°, λ85.00000°. Principal axes: T Plg61.0000°, Azm273.0000°; N Plg5.0000°, Azm11.0000°; P Plg29.0000°, Azm104.0000°;*
JMA Felt III J1.
IDC ***03*** *21:08:36.7±1.9, 35.63N×140.52E, h57km±17km, mb4.2/23, mb1 4.4/25, mb1mx4.3/30, mbtmp4.3/25, MS3.7/4, Ms1 3.7/4, ms1mx3.2/33 Error ellipse: s-maj=17.6km s-min=9.5km az=77.0*
NEIC ***03*** *21:08:37.3±0.8, 35.64N×140.49E, h63km±6km, mb4.8/23, MW4.6(NIED), Error ellipse: s-maj=5.5km s-min=4.3km az=111.0*
NEIC Felt at Shisui.
ISC 03 21:08:35.6±0.3, 35.70N±003×140.62E±004, h48km±2km, n182, σ0§93/185, mb4.7/61, 9C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.20**	**89**	⇑P	**Pn**	**21 08 43.2**	**-0.5**
CHOJ				S	**Sn**	**21 08 48.9**	**-0.5**
JCN	**Nagara**	**0.44**	**231**	⇓P	**Pn**	**21 08 47.0**	**+1.0**
JCN				S	**Sn**	**21 08 56.0**	**+2.6**
JYT	**Yasato**	**0.63**	**327**	⇓P	**Pn**	**21 08 47.9**	**-0.5**
JYT				S	**Sn**	**21 08 56.9**	**-0.6**
BSO4	**Boso 4**	**0.74**	**198**	⇓P	**Pn**	**21 08 50.2**	**+0.4**
BSO4				S	**Sn**	**21 09 02.0**	**+1.9**
BSO3	**Boso 3**	**0.90**	**186**	P	**Pn**	**21 08 51.8**	**-0.1**
JHO	**Hitachi**	**0.91**	**358**	⇓P	**Pn**	**21 08 51.7**	**-0.4**
BSO1	**Boso 1**	**1.08**	**164**	P	**Pn**	**21 08 53.9**	**-0.5**
JAG	**Ashikaga**	**1.19**	**308**	⇓P	**Pn**	**21 08 55.5**	**-0.4**
JOD2	**Odawara 2**	**1.32**	**251**	⇓P	**Pn**	**21 08 58.0**	**+0.3**
JIM2	**Oshima 3**	**1.38**	**225**	P	**Pn**	**21 08 57.7**	**-0.7**
JRY	**Ryogami san**	**1.43**	**283**	⇓P	**Pn**	**21 08 59.9**	**+0.8**
MJAR	**Matsushiro Arr**	**2.12**	**294**	P	**Pn**	**21 09 09.7**	**+1.1**
	128nm,0.3s,baz=98,slow=14,SNR=711						
MJAR				LR	LR	21 09 46.4	
	comp=Z,2μm,21.7s,baz=95,slow=34						
MJAR	**Matsushiro Arr**	**2.12**	**294**	P	**Pn**	**21 09 09.7**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,128nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,2μm,21.7s						
MAJO	**Matsushiro**	**2.13**	**294**	*e*Pn	**Pn**	**21 09 10.5**	**+1.9**
MAJO				*e*Sn	**Sn**	**21 09 32.8**	**-1.0**
MAT	**Matsushiro**	**2.13**	**294**	P	**Pn**	**21 09 10.2**	**+1.5**
MAT				*e*S	**Sn**	**21 09 39.1**	**+5.2**
JHJ	**Hachijo jima 2**	**2.66**	**195**	P	**Pn**	**21 09 15.2**	**-0.8**
	comp=Z,360nm,0.3s,baz=184,slow=0.4,SNR=38						
JHJ				S	**Sn**	**21 09 46.7**	**-0.4**
	comp=Z,386nm,0.3s,baz=243,slow=22,SNR=9.3						

JHJ LR LR 21 09 49.3
comp=Z,732nm,19.2s,baz=229,slow=28
ERM Erimo 6.61 17 *e*P **Pn 21 10 08.1 -2.1**
JNU Nakatsue 8.45 255 P **Pn 21 10 39.8 +4.4**
comp=Z,1.5nm,0.3s,baz=287,slow=30,SNR=5.1
ASAJ Asahikawa 8.54 10 P **Pn 21 10 35.6 -1.0**
comp=Z,4.7nm,0.3s,baz=233,slow=10,SNR=6.9
ASAJ Asahikawa 8.54 10 P **Pn 21 10 35.7 -1.0**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
CBIJ Chichi jima 8.68 171 P **Pn 21 10 35.6 -2.9**
comp=Z,52nm,0.3s,baz=74,slow=5.3,SNR=14
YUK Yuzh-Kuril'sk 9.25 24 *e*P **Pn 21 10 43.0 -3.3**
KSRS Korea Array 10.36 283 P **Pn 21 11 05.8 +4.3**
baz=98,slow=14,SNR=26
KSRS LR LR 21 15 06.3
comp=Z,546nm,19.2s,baz=150,slow=38
YSS Yuzh-Sakhalins 11.36 7 *e*P **Pn 21 11 18.0 +2.8**
YSS Yuzh-Sakhalins 11.36 7 *e*P **Pn 21 11 17.4 +2.2**
HABR Khabarovsk 13.41 344 *e*P **Pn 21 11 37.9 -5.3**
HABR *e*S **Sn 21 14 06.6 -4.2**
JOW Kunigami 13.76 233 LR LR 21 16 40.8
comp=Z,355nm,20.7s,baz=330,slow=36
SNY Shenyang 14.63 300 ⇑P **Pn 21 12 05.1 +5.5**
SNY AMB AMB
comp=Z,36nm,0.7s
SNY AMB AMB
comp=Z,179nm,4.8s
SNY LR LR
comp=N,521nm,20.4s
SNY LR LR
comp=E,512nm,22.5s
SNY LR LR
comp=Z,775nm,22.2s
DL2 Dalian 15.45 288 P **Pn 21 12 14.5 +4.2**
DL2 S **S 21 15 07.5 -6.7**
DL2 AMB AMB
comp=Z,20nm,0.7s
DL2 AMB AMB
comp=Z,180nm,6.9s
DL2 LR LR
comp=N,290nm,14.9s
DL2 LR LR
comp=E,190nm,16.0s
DL2 LR LR
comp=Z,350nm,16.2s
BJI Beijing 19.76 290 *e*P **Pn 21 13 00.7 -2.6**
BJI AMB AMB
comp=Z,19nm,1.0s
BJI AMB AMB
comp=Z,477nm,5.1s
BJI LR LR
comp=N,534nm,33.5s
BJI LR LR
comp=E,629nm,33.5s
BJI LR LR
comp=Z,683nm,35.9s
BJT Baijiatuau 19.76 290 *e*P **Pn 21 13 00.0 -3.4**
BJT pmax pmax
comp=Z,15nm,0.6s
BJT Baijiatuau 19.76 290 *e*P **Pn 21 12 60.0 -3.4**
comp=Z,15nm,0.6s
YHNB Yeheng 19.90 242 *e*P **Pn 21 13 01.7 -3.4**
NACB Ninganchiao 20.05 240 *e*P **P 21 13 03.9 -0.8**
PET Petropavlovsk 21.49 31 *e*P **P 21 13 19.6 -0.6**
PET pmax pmax
comp=Z,37nm,1.1s,mb4.6
WHN Wuhan 22.56 264 P **P 21 13 31.2 -0.5**
MA2 Magadan 24.79 12 *e*P **P 21 13 54.3 +1.3**
MA2 pmax pmax
comp=Z,13nm,0.6s,mb4.6
MA2 Magadan 24.79 12 *e*P **P 21 13 54.2 +1.2**
comp=Z,13nm,0.6s,mb4.6
ENH Enshi 26.60 267 *e*P **P 21 14 08.9 -0.5**
YAK Yakutsk 27.24 349⇑*e*P **P 21 14 15.7 +0.6**
YAK pmax pmax
comp=Z,37nm,1.4s,mb4.7
YAK Yakutsk 27.24 349 *e*P **P 21 14 14.7 -0.4**
comp=Z,24nm,0.7s,mb4.8
ULN Ulaanbaatar 27.60 307⇑*e*P **P 21 14 19.8 +1.4**
ULN Ulaanbaatar 27.60 307 *e*P **P 21 14 17.8 -0.6**
comp=Z,9.5nm,0.9s,mb4.4
SONM Songino Array 28.03 306 P **P 21 14 21.8 -0.4**
comp=Z,5.1nm,0.7s,mb4.3,baz=106,slow=8.8,SNR=16
SONM Songino Array 28.03 306 P **P 21 14 21.8 -0.4**
SONM pmax pmax
comp=Z,5.0nm,0.7s
BOD Bodaibo 28.34 330 *e*P **P 21 14 24.3 -0.6**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
GTA Gaotai 32.37 289 *e*P **P 21 15 01.2 +0.7**
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.7
BILL Bilibino 35.49 16 P **P 21 15 28.1 +0.5**
BILL Bilibino 35.49 16 P **P 21 15 28.1 +0.5**
TIXI Tiksi 36.54 354 *e*P **P 21 15 35.3 -1.3**
TIXI pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
TIXI Tiksi 36.54 354 *e*P **P 21 15 35.3 -1.3**
comp=Z,2.6nm,0.6s,mb4.2
KRAR Krasnoyarsk 38.00 318 *e*P **P 21 15 49.4 +0.5**
CM31 Chiang Mai Arr 40.55 256 *e*P **P 21 16 09.9 -0.2**
comp=Z,1.9nm,0.3s,mb4.2
WMQ Urumqi 40.88 298 P **P 21 16 13.3 +0.3**
WMQ AMB AMB
comp=Z,26nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,239nm,5.6s
LSA Lhasa 41.70 276 *e*P **P 21 16 21.5 +1.8**
LSA pmax pmax
comp=Z,53nm,1.2s,mb5.0
LSA Lhasa 41.70 276 *e*P **P 21 16 21.4 +1.8**
comp=Z,53nm,1.2s,mb5.0
ZAL Zalesovo 42.37 313 P **P 21 16 25.6 +0.5**
comp=Z,5.1nm,0.8s,mb4.2,baz=16,slow=8.4,SNR=14
ZAL Zalesovo 42.37 313 P **P 21 16 25.6 +0.5**
ZAL pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 44.30 303 *e*P **P 21 16 40.9 +0.2**
MKAR Makanchi Array 44.30 303 P **P 21 16 40.9 +0.2**
comp=Z,10nm,0.6s,mb4.7,baz=84,slow=9.5,SNR=67
MKAR Makanchi Array 44.30 303 P **P 21 16 40.9 +0.2**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
PMG Port Moresby 45.28 171 P **P 21 16 48.7 +0.2**
KURK Kurchatov 46.26 309 P **P 21 16 55.5 -0.7**
KURK pmax pmax
comp=Z,17nm,0.9s,mb5.0
GUN Gumba 46.66 276 *e*P **P 21 16 59.9 +0.6**
comp=Z,66nm,0.8s,mb5.6
PKI Pulchoki 47.18 276 *e*P **P 21 17 03.4 0.0**
comp=Z,29nm,0.8s,mb5.2
KKN Kakani 47.19 277 *e*P **P 21 17 03.6 +0.1**
comp=Z,29nm,0.5s,mb5.5
DMN Daman 47.41 276 *e*P **P 21 17 04.8 -0.4**
GKN Gorkha 47.62 277 *e*P **P 21 17 06.9 0.0**
comp=Z,30nm,0.4s,mb5.7
KOLN Koldanda 48.56 277 *e*P **P 21 17 14.6 +0.5**
comp=Z,25nm,0.6s,mb5.5
KAKA Kakadu 48.76 191 *e*P **P 21 17 15.8 +0.2**
comp=Z,14nm,0.9s,mb5.0
TKM2 Tokmak 2 49.71 299 P **P 21 17 23.8 +0.9**
TKM2 pmax pmax
comp=Z,15nm,0.8s,mb5.1
PSI Prapat 50.56 239 P **P 21 17 28.4 -1.0**
comp=Z,4.3nm,0.6s,mb4.5,baz=60,slow=6.0,SNR=5.1
PSI Prapat 50.56 239 P **P 21 17 28.4 -0.9**
PSI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AAK Ala-Archa 50.57 299 *e*P **P 21 17 28.9 -0.5**
AAK pmax pmax
comp=Z,12nm,1.2s,mb4.7
AAK Ala-Archa 50.57 299 *e*P **P 21 17 28.9 -0.5**
comp=Z,4.5nm,0.5s,mb4.7
BVA0 Borovoye Array 51.00 313 *i* P **P 21 17 33.0 +0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 51.00 313 P **P 21 17 32.8 +0.1**
comp=Z,5.9nm,0.6s,mb4.7,baz=72,slow=7.1,SNR=16
BVAR Borovoye Array 51.00 313 P **P 21 17 32.8 +0.1**
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 51.06 313 P **P 21 17 33.0 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 51.06 313 *e*P **P 21 17 33.0 -0.1**
comp=Z,13nm,0.9s,mb4.8
KK31 Karatay Array 53.25 301 *i* P **P 21 17 49.0 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
KKAR Karatay Array 53.25 301 *i* P **P 21 17 49.0 -0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
EGAK Eagle 53.41 31 P **P 21 17 51.2 +0.7**
comp=Z,208nm,1.2s
FITZ Fitzroy Crossi 55.36 197 *e*P **P 21 18 04.6 -0.1**
comp=Z,19nm,0.6s,mb5.3
FITZ Fitzroy Crossi 55.36 197 P **P 21 18 04.7 0.0**
comp=Z,10.0nm,0.6s,mb5.0,baz=14,slow=9.4,SNR=26
WRAB Tennant Creek 55.64 187 *e*P **P 21 18 05.5 -1.2**
WB2 Warramunga Arr 55.65 187 *e*P **P 21 18 05.9 -0.9**
WRA Warramunga Arr 55.65 187 P **P 21 18 06.0 -0.8**
comp=Z,5.7nm,0.4s,mb4.9,baz=1.1,slow=7.5,SNR=48
WRA Warramunga Arr 55.65 187 P **P 21 18 06.0 -0.8**
WRA pmax pmax
comp=Z,6.0nm,0.4s
CTAO Charters Tower 55.74 174 *e*P **P 21 18 07.1 -0.3**
CTAO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CTAO Charters Tower 55.74 174 *e*P **P 21 18 07.1 -0.3**
comp=Z,2.5nm,0.6s,mb4.4
INK Inuvik 55.87 27 P **P 21 18 07.5 -0.8**
comp=Z,3.7nm,1.0s,mb4.4,baz=226,slow=3.9,SNR=5.2
INK Inuvik 55.87 27 *e*P **P 21 18 09.0 +0.7**
comp=Z,194nm,0.9s
ARU Arti 56.94 319⇑*i*P **P 21 18 15.4 -0.6**
ARU *e* 21 20 26.5
ARU *e*S **S 21 26 10.3 +3.8**
ARU pmax pmax
comp=Z,25nm,0.8s,mb5.3
ARU Arti 56.94 319 *e*P **P 21 18 15.7 -0.2**
comp=Z,29nm,0.8s,mb5.4
AB31 Akbulak array 58.31 311 *i* P **P 21 18 25.1 -0.5**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
AKTK Aktyubinsk 59.09 312 P **P 21 18 29.3 -1.8**
AKTO Aktyubinsk 59.09 312 P **P 21 18 29.3 -1.8**
comp=Z,7.3nm,0.9s,mb4.7,baz=75,slow=6.2,SNR=11
AKTO Aktyubinsk 59.09 312 P **P 21 18 29.9 -1.1**
ASAR Alice Springs 59.38 187 P **P 21 18 32.6 -0.4**
comp=Z,3.0nm,0.5s,mb4.6,baz=14,slow=9.4,SNR=38
ASAR Alice Springs 59.38 187 P **P 21 18 32.7 -0.3**
ASAR pmax pmax
comp=Z,3.0nm,0.5s
DLBC Dease Lake 60.07 37 P **P 21 18 37.4 -0.4**
RES Resolute Bay 64.05 14 P **P 21 19 04.3 -0.2**
comp=Z,234nm,0.9s
ARCES ARCESS Array B 65.02 339 P **P 21 19 10.7 -0.1**
comp=Z,12nm,0.9s,mb4.9,baz=61,slow=7.3,SNR=7.8
ARCES ARCESS Array B 65.02 339 P **P 21 19 10.7 -0.1**
ARCES pmax pmax
comp=Z,12nm,1.0s
ARE0 ARCESS Array S 65.02 339 *e*P **P 21 19 10.0 -0.8**
YKA Yellowknife Ar 65.28 30 P **P 21 19 12.4 -0.1**
comp=Z,1.0nm,0.8s,mb3.9,baz=302,slow=6.7,SNR=6.8
YKA Yellowknife Ar 65.28 30 P **P 21 19 12.4 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
FORT Forrest 67.17 192 *e*P **P 21 19 24.2 -0.4**
comp=Z,22nm,0.5s,mb5.4
STKA Stephens Creek 67.22 179 P **P 21 19 24.4 -0.5**
comp=Z,3.9nm,0.6s,mb4.6,baz=350,slow=4.9,SNR=5.8
OBN Obninsk 68.78 323⇓*i*P **P 21 19 34.4 -0.3**
OBN *e* 21 22 16.8
OBN pmax pmax
comp=Z,18nm,1.5s,mb4.8
OBN Obninsk 68.78 323 *e*P **P 21 19 34.4 -0.3**
comp=Z,7.9nm,0.4s,mb5.0
KAF Kangasniemi 69.20 333 *e*p **P 21 19 35.8 -1.5**
comp=Z,5.7nm,0.5s,mb4.8,baz=51,slow=5.8
KAF Kangasniemi 69.20 333 *e*P **P 21 19 35.8 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
VRSR Storozhevoye 69.50 319 *e*P **P 21 19 38.9 -0.2**
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
FINES FINESS Array B 69.70 332 P **P 21 19 40.0 -0.3**
comp=N,4.2nm,0.7s,mb4.5,baz=45,slow=7.3,SNR=23
FINES FINESS Array B 69.70 332 P **P 21 19 40.0 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.7s
KLBR Kellerberrin 70.29 201 *e*P **P 21 19 43.0 -1.0**
comp=Z,74nm,2.0s,mb5.3
ZEI Tsey 71.16 309 *e*P **P 21 19 48.5 -0.8**
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIV Kislovodsk 71.30 311⇑*i*P **P 21 19 51.6 +1.5**
KIV pmax pmax
comp=Z,47nm,1.5s,mb5.2
KIV Kislovodsk 71.30 311 P **P 21 19 50.5 +0.4**
comp=Z,21nm,0.8s,mb5.1
NEW Newport 71.54 44 *e*P **P 21 19 52.1 +0.6**
NWAO Narrogin (SRO) 71.69 201 P **P 21 19 52.0 -0.4**
comp=Z,7.1nm,0.6s,mb4.8,baz=54,slow=7.7,SNR=6.6
NWAO Narrogin (SRO) 71.69 201 P **P 21 19 52.1 -0.4**
NWAO pmax pmax
comp=Z,7.0nm,0.6s
GNI Garni 71.99 307 P **P 21 19 53.5 -0.7**
comp=Z,3.2nm,0.5s,mb4.5,baz=40,slow=5.4,SNR=5.1
GNI Garni 71.99 307 *e*P **P 21 19 55.4 +1.1**
GNI pmax pmax
comp=Z,21nm,1.5s
AKASG Malin Array Be 74.96 322 P **P 21 20 11.3 -0.4**
comp=Z,5.2nm,0.6s,mb4.7,baz=47,slow=5.9,SNR=44
AKASG Malin Array Be 74.96 322 P **P 21 20 11.3 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 74.96 322 P **P 21 20 11.3 -0.4**
AKBB Malin Array Si 74.96 322 *e*P **P 21 20 11.0 -0.7**
KIEV Kiev 74.97 322 *e*P **P 21 20 11.3 -0.5**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 74.97 322 *e*P **P 21 20 11.2 -0.5**
comp=Z,8.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 75.17 337 P **P 21 20 12.4 -0.5**
comp=Z,3.9nm,0.6s,mb4.5,baz=41,slow=5.9
NOA NORSAR Array B 75.17 337 P **P 21 20 12.7 -0.2**
comp=Z,10nm,0.9s,mb4.8,baz=39,slow=5.7,SNR=16
NOA NORSAR Array B 75.17 337 P **P 21 20 12.7 -0.2**
NOA pmax pmax
comp=Z,10.0nm,0.9s
CMB Columbia Colle 75.17 54 *e*P **P 21 20 14.1 +1.2**
HLID Hailey 75.75 46 *e*P **P 21 20 15.7 -0.6**
NVAR Mina Array Bea 76.31 52 P **P 21 20 21.3 +1.9**
comp=Z,1.8nm,0.7s,mb4.1,baz=304,slow=4.6,SNR=11
MALT Malatya 77.09 308⇑*i*P **P 21 20 25.4 +1.6**
ISA Isabella 77.78 55 P **P 21 20 28.7 +1.0**
HWUT Hardware Ranch 78.61 47 *e*P **P 21 20 33.2 +0.9**
comp=Z,4.5nm,1.2s,mb4.3
HWUT *e*PcP PcP 21 20 41.3 +0.1
DUG Dugway 78.72 48 *e*P **P 21 20 34.7 +1.8**
BURAR Bucovina Array 78.96 321⇓*i*P **P 21 20 33.5 -0.7**
BW06 Boulder Array 79.06 45 *e*P **P 21 20 35.5 +0.7**
PDAR Pinedale Array 79.06 45 P **P 21 20 35.2 +0.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=297,slow=1.5,SNR=11
BRTR Keskin Array B 79.25 311 P **P 21 20 36.8 +1.0**
comp=Z,3.3nm,0.8s,mb4.3,baz=107,slow=3.9,SNR=17
BRTR Keskin Array B 79.25 311 P **P 21 20 36.8 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 79.52 324 *e*P **P 21 20 37.2 -0.1**
STHS Stebnicka Huta 79.68 325 *e*P **P 21 20 38.6 +0.5**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
STHS Stebnicka Huta 79.68 325 *e*P **P 21 20 38.6 +0.5**
comp=Z,3.5nm,1.1s,mb4.2
OJC Ojcow 79.79 326 *e*P **P 21 20 39.1 +0.4**
CRVS Cervenica-Dubn 79.93 324 *e*P **P 21 20 39.8 +0.3**
KECS Kecovo 80.69 324 *e*P **P 21 20 41.2 -2.4**
OKC Ostrava-Krasne 80.81 326 *e*P **P 21 20 44.7 +0.5**
DPC Dobruska-Polom 81.24 328 *e*P **P 21 20 46.6 +0.1**
PSZ Piszkesteto 81.37 324⇑*i*P **P 21 20 48.1 +0.9**
VYHS Vyhne 81.46 325 *e*P **P 21 20 48.3 +0.7**
CLL Collm 81.93 330 *i* **P 21 20 50.0 -0.2**
CLL Collm 81.93 330 *i* P **P 21 20 50.0 -0.2**
comp=Z,11nm,1.0s,mb4.7
CLL *e*pP pP 21 21 07.0 +2.9
PV10 Paradox Valley 82.14 48 *e*P **P 21 20 52.9 +1.6**
MMAI Mount Meron Ar 82.21 305 P **P 21 20 52.9 +1.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=50,slow=5.7,SNR=5.4
PRU Pruhonice 82.28 328 *e*P **P 21 20 52.0 0.0**
BEO Belgrade 83.28 322⇓*i*P **P 21 20 48.5 -8.7**
KHC Kasperske Hory 83.34 328 *e*P **P 21 20 57.5 0.0**
VTS Vitosha 83.40 319⇑*i*P **P 21 20 58.3 +0.5**
GERES GERESS Array B 83.50 328 P **P 21 20 58.4 +0.1**
comp=Z,1.1nm,0.7s,mb4.1,baz=30,slow=6.2,SNR=8.9
GERES GERESS Array B 83.50 328 P **P 21 20 58.4 +0.1**
GERES pmax pmax
comp=Z,10.0nm,0.7s
GRUS Gruza 83.81 321⇓*i*P **P 21 20 59.8 -0.1**
GRA1 Grafenberg Arr 83.90 330 *e*P **P 21 20 00.8 +0.4**
GRF Grafenberg Arr 83.90 330 *e*P **P 21 20 00.8 +0.4**
comp=Z,9.0nm,0.9s,mb4.9
GRF Grafenberg Arr 83.90 330 *e*P **P 21 20 00.8 +0.4**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
GRF Grafenberg Arr 83.90 330 *e*P **P 21 20 00.8 +0.4**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
DIVS Divcibare 84.03 321⇓*i*P **P 21 20 60.0 -1.0**
ANMO Albuquerque 85.94 49 *e*P **P 21 21 12.3 +1.7**
SCHQ Schefferville 86.80 15 P **P 21 21 15.9 +1.1**
LTX Lajitas 91.45 52 P **P 21 21 36.4 -0.3**
TORD Torodi Ar. Bea 117.80 314 PKP PKPdf 21 27 16.4 -0.2
comp=Z,0.7nm,0.8s,baz=13,slow=2.5,SNR=4.2
TORD PP PP 21 28 25.9 -4.6
comp=Z,0.5nm,0.9s,baz=46,slow=6.2,SNR=2.8
VNA2 Neumayer--Watz 140.86 196 *e*PKPdf PKPdf 21 27 53.4 -6.8
baz=112,slow=2.8
VNA2 *e* 21 27 55.6
VNA2 *e* 21 28 06.6
VNA2 *e* 21 28 09.7
VNA2 *e* 21 28 13.7
VNA2 *e* 21 28 18.4
VNA3 Neumayer Olymp 141.11 195 *e*PKPdf PKPdf 21 27 54.0 -6.7
VNA3 *e* 21 27 56.8
VNA3 *e* 21 28 07.1
VNA3 *e* 21 28 13.4
VNA3 *e* 21 28 20.5
LPAZ La Paz 147.92 60 PKPbc PKPbc 21 28 17.5 +2.0
comp=Z,2.9nm,0.8s,baz=335,slow=4.9,SNR=14
LPAZ La Paz 147.92 60 PKP2 PKPab 21 28 17.5 -0.7
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 147.92 60 *e*PKPdf PKPdf 21 28 15.0 +2.5
LPAZ PKPbc PKPbc 21 28 17.5 +2.0

BJI 03 21:10:23.5, 3172N×10148E, h16km, ML2.7, Ms3.8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.11**	**112**	*e*P	Pn	21 10 57.0	-1.1
CD2				Smax			
	comp=N,100nm,1.0s						
CD2				Smax			
	comp=E,60nm,1.3s						

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*ISCJB **03** 21:13:23.2±0.3, 4845N±002×894E±003, h5km±4km, Error ellipse: s-maj=3.2km s-min=2.4km az=54.6*
*LEDBW **03** 21:13:24.8±0.2, 48441N±0006×9029E±0007, h7km±4km, ML1.6, Error ellipse: s-maj=2.6km s-min=2.2km az=85.0*
*LDG **03** 21:13:24.1±0.1, 4853N×901E, h2km, Md2.3/3, Ml2.2/13, Error ellipse: s-maj=2.2km s-min=1.3km az=80.0*
*BGR **03** 21:13:24.8±0.3, 4845N×901E, h5km, ML2.1/2, Error ellipse: s-maj=3.3km s-min=2.2km az=113.0*

ISC 03 21:13:24.0±0.3, 4846N±002×897E±002, h16km±3km, n36, σ0:77/62, 1C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBG	**Lerchenberg**	**0.24**	**331**	⇓P*	**Pg**	**21 13 30.1**	**+0.8**
LBG				*i* S*	**Sg**	**21 13 34.0**	**+1.1**
BUCH	**Bad Urach**	**0.26**	**92**⇑	*i*P*	**Pg**	**21 13 29.0**	**-0.6**
BUCH				*i* S*	**Sg**	**21 13 32.3**	**-1.1**
BUCH	**Bad Urach**	**0.26**	**92**⇑	*i*Pg	**Pg**	**21 13 29.0**	**-0.6**
BUCH				*i* Sg	**Sg**	**21 13 32.3**	**-1.1**
MSS	**Messtetten**	**0.28**	**181**⇑	*i*Pg	**Pg**	**21 13 30.2**	**+0.1**
MSS				*e*Sg	**Sg**	**21 13 34.1**	**-0.1**
STU	**Stuttgart**	**0.35**	**25**	*e*Sg	**Sg**	**21 13 35.9**	**-0.2**
SNR=3.0							
SPAK	**Spaichingen-Ko**	**0.38**	**199**	P*	**Pg**	**21 13 32.3**	**+0.5**
SPAK				S*	**Sg**	**21 13 37.1**	**+0.1**
GUT	**Gutenstein**	**0.40**	**166**⇓	*i*P*	**Pg**	**21 13 32.0**	**-0.2**
GUT				*i* S*	**Sg**	**21 13 37.1**	**-0.5**
BFO	**Black Forest**	**0.45**	**253**	*e*Pg	**Pg**	**21 13 33.9**	**+0.9**
SNR=5.4							
BFO				*e*Sg	**Sg**	**21 13 40.3**	**+1.2**
SNR=7.9							
SLE	**Schleitheim**	**0.76**	**205**	*e*Pg	**Pg**	**21 13 39.1**	**+0.2**
SNR=5.6							
SLE				*e*Sg	**Sg**	**21 13 49.0**	**0.0**
SNR=6.4							
SISB	**Singen-Schiene**	**0.77**	**180**	P*	**Pb**	**21 13 39.5**	**+0.4**
SISB				PmP		21 13 40.2	
SISB				S*	**Sb**	**21 13 49.5**	**+0.2**
HDH	**Heidenheim-Cha**	**0.83**	**81**⇓	*i*P*	**Pb**	**21 13 40.0**	**-0.2**
HDH				S*	**Sb**	**21 13 50.3**	**-0.8**
HDH				SmS		21 13 51.8	
KIZ	**Kirchzarten**	**0.86**	**235**	P*	**Pb**	**21 13 41.4**	**+0.7**
KIZ				PmP		21 13 41.9	
KIZ				S*	**Sb**	**21 13 52.7**	**+0.7**
KIZ	**Kirchzarten**	**0.86**	**235**	PmP		21 13 41.9	
FELD	**Feldberg im Sc**	**0.87**	**228**	Pg	**Pg**	**21 13 42.0**	**+1.0**
FELD				SmS		21 13 54.5	
SIND	**Sindeldorf**	**0.98**	**25**	P	**Pb**	**21 13 43.0**	**+0.3**
SIND				Sg	**Sg**	**21 13 56.3**	**+0.2**
SWS	**Schriesheim-Wi**	**1.04**	**350**	Pg	**Pg**	**21 13 45.1**	**+0.9**
SWS				Sg	**Sg**	**21 13 59.1**	**+1.2**
WILA	**Wila**	**1.04**	**182**	*e*Pg	**Pg**	**21 13 44.6**	**+0.4**
SNR=2.9							
WILA				*e*Sg	**Sg**	**21 13 58.1**	**+0.2**
SNR=6.4							
UBR	**Ueberruh**	**1.09**	**135**	P*	**Pb**	**21 13 45.1**	**+0.6**
UBR				S*	**Sb**	**21 13 59.0**	**+0.5**
SULZ	**Sulz-Cheisache**	**1.09**	**212**	*e*Pg	**Pg**	**21 13 45.6**	**+0.4**
SNR=4.6							
SULZ				*e*Sg	**Sg**	**21 13 59.9**	**+0.4**
SNR=4.8							
CDF	**Champ du Feu**	**1.13**	**268**	*e*Pg	**Pg**	**21 13 45.8**	**0.0**
CDF				*e*Sg	**Sg**	**21 14 01.2**	**+0.6**
14nm,0.2s							
LIENZ	**Alp Oberkamor**	**1.22**	**163**	*e*Sg	**Sg**	**21 14 03.5**	**+0.2**
SNR=4.0							
BALST	**Balsthal**	**1.41**	**218**	*e*Sg	**Sg**	**21 14 10.0**	**+0.4**
SNR=3.2							
HINF	**Hinteralfeld**	**1.56**	**246**	*e*Pg	**Pg**	**21 13 54.2**	**+0.2**
HINF				*e*Sg	**Sg**	**21 14 14.8**	**+0.6**
2.8nm,0.2s							
BOURR	**Bourrignon**	**1.58**	**228**	*e*Sg	**Sg**	**21 14 15.6**	**+0.6**
SNR=1.6							
TNS	**Taunus Mts**	**1.80**	**349**	*e*Sg	**Sg**	**21 14 22.7**	**+0.7**
SNR=1.5							
HAU	**Haudompre**	**1.81**	**256**	*e*Pn	**Pn**	**21 13 55.3**	**+0.8**
HAU	**Haudompre**	**1.81**	**256**	*e*Pg	**Pg**	**21 13 58.7**	**-0.1**
HAU				*e*Sg	**Sg**	**21 14 22.4**	**+0.1**
5.8nm,0.3s							
GRF	**Grafenberg Arr**	**1.93**	**49**	*e*Sg	**Sg**	**21 14 25.2**	**-0.9**
SNR=2.0							
SFTF	**Sexfontaines**	**2.63**	**266**	*e*Pg	**Pg**	**21 14 13.5**	**-1.1**
SFTF				*e*Sg	**Sg**	**21 14 47.9**	**-0.8**
3.2nm,0.3s							
CABF	**La Chapelle**	**2.69**	**228**	*e*Pg	**Pg**	**21 14 15.1**	**-0.5**
CABF				*e*Sg	**Sg**	**21 14 50.5**	**0.0**
0.9nm,0.3s							
GIVF	**Givet**	**3.17**	**303**	*e*Pg	**Pg**	**21 14 22.6**	**-2.3**
GIVF				*e*Sg	**Sg**	**21 15 02.6**	**-3.4**
2.2nm,0.3s							
LPL	**La Plagne**	**3.32**	**208**	*e*Pg	**Pg**	**21 14 27.9**	**+0.3**
LPL				*e*Sg	**Sg**	**21 15 10.4**	**-0.2**
0.3nm,0.3s							
LPG	**La Plagne**	**3.33**	**208**	*e*Pg	**Pg**	**21 14 27.5**	**-0.3**
LPG				*e*Sg	**Sg**	**21 15 11.1**	**+0.1**
0.6nm,0.2s							
LOR	**Lormes**	**3.64**	**253**	*e*Pg	**Pg**	**21 14 32.7**	**-1.1**
LOR				*e*Sg	**Sg**	**21 15 19.7**	**-1.3**
1.3nm,0.2s							
SSF	**Saint Saulge**	**3.94**	**251**	*e*Pg	**Pg**	**21 14 38.1**	**-1.4**

SSF *e*Sg **Sg** **21 15 29.3 -1.3**
0.3nm,0.2s
AVF **Avril sur Loir** **4.15 248** *e*Pg **Pg** **21 14 41.9 -1.6**
AVF *e*Sg **Sg** **21 15 36.0 -1.3**
0.9nm,0.4s

ISCJB ***03*** *21:34:50.7±0.5,266S±0.1×678E±0.1, h10km, mb4.0/13, Error ellipse: s-maj=15.3km s-min=12.9km az=42.7*
IDC ***03*** *21:34:51.2±0.7,2653S×6777E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, Error ellipse: s-maj=23.9km s-min=20.2km az=25.0*
NEIC ***03*** *21:34:52.3±0.4,2659S×6775E, h10km, mb4.3/4, Error ellipse: s-maj=12.2km s-min=10.3km az=203.0*
ISC 03 21:34:52.8±0.5,265S±01×678E±01,h10km,n23,σ0§66/22, mb4.0/13,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**37.59**	**257**	P	**P**	**21 42 07.6**	**+0.2**
	11nm,1.2s,mb4.4,baz=127,slow=5.1,SNR=3.0						
LBTB	**Lobatse**	**37.87**	**263**	*e*P	**P**	**21 42 10.2**	**+0.4**
LSZ	**Lusaka**	**38.48**	**279**	P	**P**	**21 42 15.3**	**+0.4**
	1.3nm,1.0s,mb3.6,baz=162,slow=3.2,SNR=3.9						
MAW	**Mawson**	**41.19**	**183**	P	**P**	**21 42 37.9**	**+0.4**
	1.4nm,0.7s,mb3.7,baz=309,slow=6.5,SNR=3.8						
MAW	**Mawson**	**41.19**	**183**	P	**P**	**21 42 36.7**	**-0.8**
	2.7nm,0.9s,mb3.9						
ASAR	**Alice Springs**	**59.37**	**103**	P	**P**	**21 44 55.3**	**+0.2**
	1.7nm,0.5s,mb4.3,baz=255,slow=6.1,SNR=22						
WRA	**Warramunga Arr**	**60.95**	**99**	P	**P**	**21 45 06.2**	**+0.2**
	2.6nm,0.9s,mb4.4,baz=253,slow=6.7,SNR=7.3						
WB2	**Warramunga Arr**	**60.96**	**99**	*e*P	**P**	**21 45 06.5**	**+0.5**
STKA	**Stephens Creek**	**63.53**	**114**	P	**P**	**21 45 23.6**	**+0.3**
VNDA	**Vanda**	**65.17**	**166**	P	**P**	**21 45 33.8**	**-0.2**
	2.2nm,1.0s,mb4.1,baz=271,slow=5.8,SNR=3.9						
VNDA	**Vanda**	**65.17**	**166**	*e*P	**P**	**21 45 31.9**	**-2.1**
	4.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**69.11**	**5**	P	**P**	**21 45 58.9**	**-0.1**
ENH	**Enshi**	**69.18**	**38**	*e*P	**P**	**21 45 59.4**	**0.0**
MALT	**Malatya**	**70.13**	**336**	*e*P	**P**	**21 46 05.6**	**+0.3**
	0.8nm,0.5s,mb3.9						
BRTR	**Keskin Array B**	**73.20**	**333**	P	**P**	**21 46 24.6**	**+0.8**
	1.6nm,1.2s,mb3.8,baz=149,slow=11,SNR=3.6						
KIV	**Kislovodsk**	**73.82**	**341**	*e*P	**P**	**21 46 27.7**	**+0.3**
	4.1nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**74.17**	**10**	P	**P**	**21 46 30.1**	**+0.7**
	0.4nm,0.7s,mb3.5,baz=213,slow=7.0,SNR=3.8						
SANT	**Santorini**	**74.20**	**326**	P	**P**	**21 46 27.9**	**-1.8**
TORD	**Torodi Ar. Bea**	**75.31**	**293**	P	**P**	**21 46 36.1**	**0.0**
	0.7nm,0.9s,mb3.6,baz=120,slow=4.5,SNR=4.0						
BRVK	**Borovoye**	**79.29**	**2**	P	**P**	**21 46 57.4**	**-1.1**
ZAL	**Zalesovo**	**81.49**	**10**	P	**P**	**21 47 09.7**	**-0.6**
	1.2nm,0.8s,mb3.9,baz=272,slow=5.2,SNR=6.3						
SONM	**Songino Array**	**81.78**	**25**	P	**P**	**21 47 12.0**	**+0.3**
	2.4nm,1.1s,mb4.0,baz=222,slow=3.8,SNR=7.9						
YKA	**Yellowknife Ar**	**144.02**	**2**	PKP	PKPdf	21 54 25.1	-3.4
	0.8nm,1.0s,baz=341,slow=4.9,SNR=3.9						

MOS 03 22:24:24.7±2.3,4298N×4697E,h10km,mb3.7/1,1C-2D, Error ellipse: s-maj=13.0km s-min=11.3km az=91.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.11**	**291**	*i* PG	Pg	22 24 27.2	-0.2
DBC				pmax	pmax		
	comp=Z,247nm,0.1s						
KRNR	**Karanay**	**0.16**	**197**	⇑*i*PG	Pg	22 24 28.2	0.0
KRNR				*i* S	Sg	22 24 32.4	+1.8
KRNR				pmax	pmax		
	comp=Z,50nm,0.2s						
BUJR	**Buynaksk**	**0.18**	**147**	⇓*i*PG	Pg	22 24 31.2	+2.5
BUJR				*e*S	Sg	22 24 38.5	+7.2
BUJR				pmax	pmax		
	comp=Z,52nm,0.2s						
DLMR	**Dylym**	**0.27**	**290**	⇓*i*PG	Pg	22 24 28.0	-2.1
DLMR				pmax	pmax		
	comp=Z,350nm,0.2s						
UNCR	**Uncukul**	**0.30**	**206**	*i* PG	Pg	22 24 31.0	+0.4
UNCR				*e*S	Sg	22 24 38.0	+3.4
UNCR				pmax	pmax		
	comp=Z,36nm,0.2s						
BTLR	**Botlikh**	**0.63**	**240**	*e*PG	Pg	22 24 38.2	+1.2
BTLR				*i* S	Sg	22 24 48.7	+3.4
KMKR	**Kumukh**	**0.85**	**174**	PG	Pg	22 24 41.5	+0.3
KMKR				*i* S	Sg	22 24 57.0	+4.7
KMKR				pmax	pmax		
	comp=Z,19nm,0.2s						
LACR	**Lac**	**1.97**	**266**	*e*PN	Pn	22 25 01.9	+3.8
LACR				*e*S	Sn	22 25 30.9	+8.0
ZEI	**Tsey**	**2.27**	**266**	*e*PN	Pn	22 25 05.9	+3.7
ZEI				*e*S	Sn	22 25 37.7	+7.5
DIGR	**Digorskoe uzhe**	**2.49**	**269**	*e*PN	Pn	22 25 09.2	+3.9
DIGR				*e*S	Sn	22 25 43.7	+8.0

ISCJB ***03*** *23:00:23.6±0.2,4845N±001×900E±002, h9km, Error ellipse: s-maj=2.2km s-min=1.8km az=102.0*
LEDBW ***03*** *23:00:25.4±0.1,48441N±0007×9032E±0007, h9km±3km, ML1.8, Error ellipse: s-maj=2.6km s-min=2.2km az=62.0*
BGR ***03*** *23:00:25.3±0.4,4846N×907E, h5km, ML2.2/9, Error ellipse: s-maj=4.4km s-min=3.3km az=162.0*
STR ***03*** *23:00:25.9±0.3,4848N×894E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***03*** *23:00:26.0±0.1,4846N×898E, h2km, Md2.5/3, Ml2.4/17, Error ellipse: s-maj=1.4km s-min=0.9km az=100.0*
ISC 03 23:00:24.3±0.2,4846N±001×900E±002,h17km±3km,n53, σ1§05/91,6C-4D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUCH	**Bad Urach**	**0.23**	**92**	⇑*i*P*	**Pg**	**23 00 29.8**	**+0.1**
BUCH				*i* S*	**Sg**	**23 00 33.1**	**-0.3**
BUCH	**Bad Urach**	**0.23**	**92**	⇑*i*Pg	**Pg**	**23 00 29.8**	**+0.1**
BUCH				*i* Sg	**Sg**	**23 00 33.1**	**-0.3**
LBG	**Lerchenberg**	**0.25**	**326**	⇓*i*P*	**Pg**	**23 00 30.9**	**+0.9**
LBG				*i* S*	**Sg**	**23 00 34.8**	**+1.0**
LBG				PmP		23 00 35.0	
LBG	**Lerchenberg**	**0.25**	**326**	⇓*i*Pg	**Pg**	**23 00 30.9**	**+0.9**
LBG				*i* Sg	**Sg**	**23 00 34.8**	**+1.0**
LBG	**Lerchenberg**	**0.25**	**326**	Px	Px	23 00 35.0	
STU	**Stuttgart**	**0.34**	**22**	*e*Pg	**Pg**	**23 00 31.9**	**+0.4**
	SNR=2.7						
STU				*e*Sg	**Sg**	**23 00 36.6**	**+0.3**
SPAK	**Spaichingen-Ko**	**0.38**	**202**	⇑*i*P*	**Pg**	**23 00 33.0**	**+0.7**
SPAK				S*	**Sg**	**23 00 37.8**	**+0.2**
SPAK	**Spaichingen-Ko**	**0.38**	**202**	⇑*i*Pg	**Pg**	**23 00 33.0**	**+0.7**
SPAK				Sg	**Sg**	**23 00 37.8**	**+0.2**
GUT	**Gutenstein**	**0.39**	**169**	⇓*i*P*	**Pg**	**23 00 32.8**	**+0.3**
GUT				S*	**Sg**	**23 00 37.9**	**0.0**
BFO	**Black Forest**	**0.47**	**255**	*e*Pg	**Pg**	**23 00 34.7**	**+0.9**
	SNR=6.0						
BFO				*e*Sg	**Sg**	**23 00 41.1**	**+1.1**
SISB	**Singen-Schiene**	**0.77**	**182**	P*	**Pb**	**23 00 40.1**	**+0.9**
SISB				PmP		23 00 40.9	
SISB				S*	**Sb**	**23 00 50.1**	**+0.7**
SISB	**Singen-Schiene**	**0.77**	**182**	PmP		23 00 40.9	
HDH	**Heidenheim-Cha**	**0.81**	**80**	⇓*i*P*	**Pb**	**23 00 40.7**	**+0.8**
HDH				S*	**Sb**	**23 00 50.9**	**+0.4**
HDH				SmS		23 00 52.4	
KIZ	**Kirchzarten**	**0.88**	**236**	P*	**Pb**	**23 00 41.9**	**+0.8**
KIZ				Pg	**Pg**	**23 00 42.5**	**+1.1**
KIZ				S*	**Sb**	**23 00 53.5**	**+0.9**
KIZ	**Kirchzarten**	**0.88**	**236**	P	**Pg**	**23 00 42.5**	**+1.1**
FELD	**Feldberg im Sc**	**0.89**	**229**	Pg	**Pg**	**23 00 42.6**	**+1.1**
FELD				Sg	**Sg**	**23 00 55.2**	**+2.0**
FELD	**Feldberg im Sc**	**0.89**	**229**	Sx	Sx	23 00 55.2	
FELD	**Feldberg im Sc**	**0.89**	**229**	Px	Px	23 00 42.6	
LANF	**Langenberg**	**0.95**	**304**	Sg	**Sg**	**23 00 57.5**	**+2.2**
SIND	**Sindeldorf**	**0.98**	**24**	P	**Pn**	**23 00 43.8**	**+0.6**
SIND				Pg	**Pg**	**23 00 44.1**	**+0.8**
SIND				S	**Sb**	**23 00 56.0**	**+0.6**
SIND				Sg	**Sg**	**23 00 57.3**	**+1.1**
SIND	**Sindeldorf**	**0.98**	**24**	Pn	**Pn**	**23 00 43.8**	**+0.6**
SIND				Sn	**Sb**	**23 00 56.0**	**+0.6**
SIND	**Sindeldorf**	**0.98**	**24**	P	**Pg**	**23 00 44.1**	**+0.8**
SIND				Sx	Sx	23 00 57.3	
SWS	**Schriesheim-Wi**	**1.05**	**349**	Pg	**Pg**	**23 00 45.9**	**+1.3**
SWS				Sg	**Sg**	**23 00 59.6**	**+1.2**
UBR	**Ueberruh**	**1.07**	**136**	P*	**Pb**	**23 00 45.7**	**+1.4**
UBR				S*	**Sb**	**23 00 59.9**	**+1.8**
CDF	**Champ du Feu**	**1.15**	**268**	*e*Pg	**Pg**	**23 00 47.3**	**+0.7**
CDF				*e*Sg	**Sg**	**23 01 02.0**	**+0.4**
	23nm,0.2s						
TOD	**Tromm**	**1.16**	**354**	Sg	**Sg**	**23 01 03.0**	**+1.1**
ECH	**Echery**	**1.25**	**260**	Pg	**Pg**	**23 00 49.2**	**+0.7**
ECH				Sg	**Sg**	**23 01 06.0**	**+1.1**
DAVA	**Damuels**	**1.31**	**153**	⇑*i*Pg	**Pg**	**23 00 50.6**	**+1.0**
DAVA				⇑*i*Sg	**Sg**	**23 01 07.6**	**+0.9**
	2.9nm,0.3s						
BBS	**Basel-Blauen**	**1.41**	**226**	Sg	**Sg**	**23 01 11.2**	**+1.3**
FUR	**Furstenfeldbru**	**1.54**	**100**	*e*Pn	**Pn**	**23 00 52.0**	**+1.0**
	SNR=1.3						
FUR				*e*Sg	**Sg**	**23 01 14.2**	**0.0**
HINF	**Hinteralfeld**	**1.58**	**247**	*e*Pg	**Pg**	**23 00 54.9**	**+0.2**
HINF				*e*Sg	**Sg**	**23 01 15.5**	**+0.3**
	3.9nm,0.2s						
MOTA	**Moosalm**	**1.80**	**127**	⇑*i*Pn	**Pg**	**23 00 58.7**	**-0.2**
MOTA				⇑*i*Sn	**Sg**	**23 01 21.3**	**-0.9**
TNS	**Taunus Mts**	**1.81**	**349**	*e*Sg	**Sg**	**23 01 23.3**	**+0.8**
HAU	**Haudompre**	**1.83**	**257**	*e*Pg	**Pg**	**23 00 59.3**	**-0.2**
HAU				*e*Sg	**Sg**	**23 01 23.0**	**-0.3**
	7.0nm,0.2s						
LOMF	**Lomont**	**1.83**	**234**	Pg	**Pg**	**23 01 00.2**	**+0.6**
GRF	**Grafenberg Arr**	**1.91**	**49**	*e*Pg	**Pg**	**23 01 01.2**	**+0.1**
	SNR=1.7						
GRF				*e*Sg	**Sg**	**23 01 24.6**	**-1.3**
MEZF	**Maizieres J'vi**	**2.63**	**272**	*e*Pg	**Pg**	**23 01 13.7**	**-1.0**
MEZF				*e*Sg	**Sg**	**23 01 48.1**	**-0.7**
	2.6nm,0.3s						
WET	**Wettzell**	**2.65**	**74**	*e*Sg	**Sg**	**23 01 47.4**	**-2.2**
SFTF	**Sexfontaines**	**2.66**	**266**	*e*Pg	**Pg**	**23 01 15.2**	**-0.1**
SFTF				*e*Sg	**Sg**	**23 01 49.1**	**-0.6**
	3.1nm,0.2s						
CABF	**La Chapelle**	**2.70**	**228**	*e*Pg	**Pg**	**23 01 15.9**	**-0.3**
CABF				*e*Sg	**Sg**	**23 01 50.9**	**-0.3**
	0.8nm,0.2s						
MOX	**Moxa**	**2.77**	**37**	*e*Pg	**Pg**	**23 01 16.8**	**-0.7**
	SNR=1.8						
MOX				*e*Sn	**Sn**	**23 01 40.4**	**-0.6**
MOX				*e*Sg	**Sg**	**23 01 51.8**	**-1.6**
GUNZ	**Gunzen**	**2.89**	**47**	*e*Pg	**Pg**	**23 01 19.2**	**-0.6**
	SNR=1.8						
GUNZ				*e*Sg	**Sg**	**23 01 55.9**	**-1.4**
WERD	**Werda**	**2.94**	**46**	*e*Sg	**Sg**	**23 01 56.0**	**-2.6**
TANN	**Tannenbergstha**	**2.99**	**48**	*e*Pg	**Pg**	**23 01 20.6**	**-1.0**
	SNR=1.6						
GEC2	**GERESS Array S**	**3.14**	**81**	*e*Sg	**Sg**	**23 02 03.7**	**-1.5**
LPL	**La Plagne**	**3.33**	**209**	*e*Pg	**Pg**	**23 01 27.8**	**-0.3**
LPL				*e*Sg	**Sg**	**23 02 10.7**	**-0.5**
	0.9nm,0.3s						
LPG	**La Plagne**	**3.34**	**208**	*e*Pg	**Pg**	**23 01 28.3**	**0.0**
LPG				*e*Sg	**Sg**	**23 02 10.8**	**-0.7**
	0.5nm,0.2s						
LOR	**Lormes**	**3.66**	**253**	*e*Pg	**Pg**	**23 01 33.8**	**-0.7**
LOR				*e*Sg	**Sg**	**23 02 20.4**	**-1.5**
	1.4nm,0.3s						
SMF	**Signal de Mont**	**3.94**	**245**	*e*Pg	**Pg**	**23 01 38.4**	**-1.3**
SMF				*e*Sg	**Sg**	**23 02 29.4**	**-1.4**
	0.9nm,0.2s						
SSF	**Saint Saulge**	**3.96**	**251**	*e*Pg	**Pg**	**23 01 39.0**	**-1.2**
SSF				*e*Sg	**Sg**	**23 02 29.7**	**-1.8**
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**4.17**	**249**	*e*Pg	**Pg**	**23 01 42.9**	**-1.3**
AVF				*e*Sg	**Sg**	**23 02 36.1**	**-2.1**
	0.6nm,0.3s						
HYF	**Humbligny**	**4.45**	**257**	*e*Pg	**Pg**	**23 01 48.3**	**-1.2**
HYF				*e*Sg	**Sg**	**23 02 45.0**	**-2.0**
BGF	**Bois d'Agland**	**4.58**	**248**	*e*Pg	**Pg**	**23 01 50.8**	**-1.3**
BGF				*e*Sg	**Sg**	**23 02 49.3**	**-2.2**
	0.8nm,0.2s						

IDC ***03*** *23:00:45.4±2.1,4657N×153.18E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=85.2km s-min=32.7km az=86.0*
ISCJB ***03*** *23:00:52.2±2.1,467N±02×1536E±03, h70km±15km, mb3.6/6, Error ellipse: s-maj=43.8km s-min=12.5km az=71.5*
MOS ***03*** *23:00:52.7±1.6,4668N×15351E, h72km, mb4.1/4, Error ellipse: s-maj=32.6km s-min=18.4km az=84.1*
ISC 03 23:00:54.2±1.9,467N±02×1536E±03,h74km±13km,n12, σ0§81/13,mb3.6/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.35**	**22**	*e*PN	**Pn**	**23 01 57.4**	**-0.5**
SKR				*e*S	**Sn**	**23 02 47.5**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**6.05**	**247**	*e*PN	**Pn**	**23 02 21.5**	**+0.5**
MKAR	**Makanchi Array**	**47.27**	**298**	P	**P**	**23 09 18.7**	**-1.4**
	1.3nm,0.9s,mb3.6,baz=70,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**47.27**	**298**	P	**P**	**23 09 18.7**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**23 11 21.1**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.5,baz=74,slow=7.4,SNR=5.2						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**23 11 21.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**23 11 48.6**	**+0.5**
	comp=Z,2.2nm,0.9s,mb4.0,baz=28,slow=6.5,SNR=2.8						
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**23 11 48.6**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**71.80**	**326**	P	**P**	**23 12 08.5**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=35,slow=6.2,SNR=7.8						
AKASG	**Malin Array Be**	**71.80**	**326**	P	**P**	**23 12 08.5**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.24**	**199**	P	**P**	**23 12 11.1**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.4,baz=9.6,slow=4.8,SNR=4.4						
GERES	**GERESS Array B**	**78.67**	**334**	P	**P**	**23 12 50.1**	**+1.8**
	comp=Z,0.2nm,0.6s,mb3.1,baz=43,slow=4.8,SNR=3.5						

ISCJB ***03*** *23:24:51.0±3.0,92S±0.1×161.1E±02, h67km±19km, mb4.1/10, Error ellipse: s-maj=32.4km s-min=20.3km az=174.8*
IDC ***03*** *23:24:50.4±5.2,9.12S×161.17E, h50km±38km, mb3.8/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.7/6, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/25, Error ellipse: s-maj=46.9km s-min=30.2km az=108.0*
NEIC ***03*** *23:24:51.2±2.7,9.13S×161.09E, h53km±18km, mb4.5/4, Error ellipse: s-maj=26.4km s-min=13.4km az=89.0*
ISC 03 23:24:50.3±3.6,92S±01×1612E±02,h47km±26km,n20, σ0§71/19,mb4.3/10,MS3.4/1,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.25**	**257**	P	**Pn**	**23 25 10.5**	**-0.8**
	125nm,0.3s,baz=30,slow=0.9,SNR=59						
HNR				S	**Sn**	**23 25 27.2**	**+0.2**
	339nm,0.3s,baz=85,slow=19,SNR=31						
PMG	**Port Moresby**	**13.84**	**268**	LR	LR	23 33 09.6	
	comp=Z,158nm,19.1s,baz=71,slow=36						
PMG	**Port Moresby**	**13.84**	**268**	*e*Pn	**Pn**	**23 28 04.2**	**+0.4**
CTA	**Charters Tower**	**18.06**	**231**	P	**Pn**	**23 28 58.3**	**+0.6**
	0.2nm,0.3s,baz=41,slow=15,SNR=3.3						
CTAO	**Charters Tower**	**18.06**	**231**	P	**Pn**	**23 28 58.4**	**+0.6**
	6.0nm,1.0s						
AFI	**Afiamalu**	**26.91**	**103**	LR	LR	23 38 26.0	
	comp=Z,97nm,20.2s,MS3.4,baz=329,slow=30						
WB2	**Warramunga Arr**	**28.05**	**245**	*e*P	**P**	**23 30 36.7**	**-0.4**
WRA	**Warramunga Arr**	**28.06**	**245**	P	**P**	**23 30 37.1**	**-0.1**
	2.1nm,0.6s,mb4.0,baz=68,slow=9.0,SNR=9.5						
STKA	**Stephens Creek**	**29.02**	**216**	P	**P**	**23 30 46.2**	**+0.6**
	1.9nm,0.9s,mb3.8,baz=45,slow=17,SNR=3.9						
STKA	**Stephens Creek**	**29.02**	**216**	P	**P**	**23 30 46.2**	**+0.6**
ASAR	**Alice Springs**	**29.80**	**238**	P	**P**	**23 30 52.0**	**-0.6**
	1.0nm,0.8s,mb3.6,baz=68,slow=8.7,SNR=10						
FITZ	**Fitzroy Crossi**	**35.61**	**252**	*e*P	**P**	**23 31 42.3**	**-1.1**
	3.6nm,0.4s,mb4.7						
TAU	**Tasmania Unive**	**35.76**	**198**	P	**P**	**23 31 44.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**46.89**	**233**	*e*P	**P**	**23 33 17.1**	**+1.2**
	4.4nm,0.6s,mb4.6						
CASY	**Casey**	**66.56**	**200**	*e*P	**P**	**23 35 36.1**	**+0.7**
	17nm,1.1s,mb5.0						
VNDA	**Vanda**	**68.35**	**180**	P	**P**	**23 35 46.8**	**+0.1**
HIA	**Hailar**	**68.56**	**332**	*e*P	**P**	**23 35 48.2**	**+0.2**
	2.2nm,0.3s,mb4.6						
SONM	**Songino Array**	**74.52**	**325**	P	**P**	**23 36 24.3**	**+0.4**
	1.0nm,0.9s,mb3.8,baz=140,slow=7.1,SNR=7.7						
MAW	**Mawson**	**84.77**	**202**	*e*P	**P**	**23 37 17.6**	**-1.9**
	2.8nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**89.08**	**318**	P	**P**	**23 37 40.5**	**+0.1**
	0.9nm,0.7s,mb4.2,baz=101,slow=6.4,SNR=4.8						

ISCJB ***03*** *23:45:51.1±0.5,4756N±003×750E±004, h5km, Error ellipse: s-maj=4.5km s-min=3.5km az=51.4*
ZUR ***03*** *23:45:52.2,4759N×760E, h5km±1km, ML1.0*
STR ***03*** *23:45:52.4±0.4,4758N×754E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***03*** *23:45:52.6±0.2,4759N×753E, h2km, Md2.2/3, Ml2.0/7, Error ellipse: s-maj=2.9km s-min=1.7km az=120.0*
ISC 03 23:45:51.8±0.5,4757N±003×754E±004,h5km,n13, σ0§72/23,3C-1D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**155**	⇓*i*Pg	**Pg**	**23 45 57.6**	**+0.8**
	31nm,0.2s						
BOURR	**Bourrignon**	**0.27**	**231**	⇑*i*Pg	**Pg**	**23 45 58.6**	**+1.5**
	36nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.39**	**95**	⇑*i*Pg	**Pg**	**23 45 59.2**	**-0.2**
	23nm,0.2s						
SULZ				*i* Sg	**Sg**	**23 46 04.1**	**-0.4**
	23nm,0.2s						
MOF	**Molkenrain**	**0.40**	**316**	Pg	**Pg**	**23 45 59.6**	**+0.1**
MOF				Sg	**Sg**	**23 46 05.8**	**+1.1**
HINF	**Hinteralfeld**	**0.53**	**299**	*e*Pg	**Pg**	**23 46 02.1**	**+0.1**
HINF				*e*Sg	**Sg**	**23 46 09.3**	**+0.4**
	9.2nm,0.2s						
SLE	**Schleitheim**	**0.68**	**72**	⇑*i*Pg	**Pg**	**23 46 04.2**	**-0.6**
	36nm,0.1s						
ECH	**Echery**	**0.70**	**339**	Pg	**Pg**	**23 46 06.0**	**+0.7**
ECH				Sg	**Sg**	**23 46 14.8**	**+0.4**
CDF	**Champ du Feu**	**0.87**	**348**	*e*Pg	**Pg**	**23 46 08.6**	**+0.2**
CDF				*e*Sg	**Sg**	**23 46 19.2**	**-0.5**
	6.4nm,0.4s						
HAU	**Haudompre**	**0.92**	**299**	*e*Pg	**Pg**	**23 46 09.4**	**0.0**
HAU				*e*Sg	**Sg**	**23 46 22.3**	**+1.0**
	11nm,0.4s						
CABF	**La Chapelle**	**1.38**	**227**	*e*Pg	**Pg**	**23 46 18.8**	**+0.6**
CABF				*e*Sg	**Sg**	**23 46 35.9**	**-0.2**
	4.4nm,0.3s						
SFTF	**Sexfontaines**	**1.80**	**292**	*e*Pg	**Pg**	**23 46 25.8**	**-0.6**
SFTF				*e*Sg	**Sg**	**23 46 49.3**	**-0.4**
	1.1nm,0.2s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pg	**Pg**	**23 46 27.3**	**-1.2**
MEZF				*e*Sg	**Sg**	**23 46 52.6**	**-0.8**
	1.3nm,0.3s						
LOR	**Lormes**	**2.52**	**265**	*e*Pg	**Pg**	**23 46 39.3**	**-0.8**
LOR				*e*Sg	**Sg**	**23 47 11.4**	**-1.3**
	1.3nm,0.3s						

IDC 03 23:46:42.6±0.9,4605N×15415E,h0km,mb3.7/7, mb1 4.0/7,mb1mx3.7/21,mbtmp3.7/7,Error ellipse: s-maj=31.5km s-min=22.4km az=123.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.91**	**298**	P	P	23 55 22.1	-0.4
	0.4nm,0.6s,baz=69,slow=8.2,SNR=8.0						
YKA	**Yellowknife Ar**	**51.06**	**37**	P	P	23 55 46.5	-0.1
	0.8nm,1.0s,baz=297,slow=7.2,SNR=4.1						
NVAR	**Mina Array Bea**	**62.12**	**63**	P	P	23 57 05.3	0.0
	0.2nm,0.4s,baz=298,slow=8.7,SNR=3.7						
PDAR	**Pinedale Array**	**64.58**	**54**	P	P	23 57 21.4	-0.3
	0.5nm,0.8s,baz=277,slow=2.4,SNR=4.0						
FINES	**FINESS Array B**	**64.98**	**335**	P	P	23 57 23.7	-0.5
	2.0nm,0.8s,baz=46,slow=6.0,SNR=6.5						
WRA	**Warramunga Arr**	**68.09**	**200**	P	P	23 57 43.8	-0.4
	0.7nm,0.7s,baz=22,slow=6.7,SNR=3.9						
ASAR	**Alice Springs**	**71.78**	**200**	P	P	23 58 07.2	+0.4
	0.5nm,0.7s,baz=11,slow=5.2,SNR=6.7						

SZGRF ***04*** *00:05:34.3,4772N×15878E, h33km, mb4.6, East of Kuril Islands, Russia*
ISCJB ***04*** *00:05:35.3±1.8,4775N±005×15458E±005, h23km±12km, mb4.5/57, MS3.7/5, Error ellipse: s-maj=8.9km s-min=5.2km az=124.8*
BJI ***04*** *00:05:36.0,4770N×15450E, h30km, mB5.0, mb4.4, Ms4.2, Msz3.9*
MOS ***04*** *00:05:38.6±1.1,4774N×15449E, h49km, mb4.6/34, Error ellipse: s-maj=9.4km s-min=5.8km az=96.4*
NEIC ***04*** *00:05:38.0±1.7,4772N×15454E, h30km±11km, mb4.6/34, Error ellipse: s-maj=5.2km s-min=3.7km az=158.0*
IDC ***04*** *00:05:40.7±3.9,4769N×15448E, h58km±36km, mb3.9/16, mb1 4.1/18, mb1mx4.0/25, mbtmp3.9/18, ML3.5/2, MS3.7/4, Ms1 3.8/4, ms1mx3.2/34, Error ell

BILL	**Bilibino**	**21.14**	**12**	*e*P	**P**		**00 10 21.4 +0.6**
	comp=Z,2.6nm,0.4s,mb3.9						
KSRS	**Korea Array**	**22.02**	**252**	P	**P**		**00 10 29.8 -0.5**
	comp=Z,8.6nm,0.8s,mb4.2,baz=58,slow=10,SNR=15						
KSRS				LR	LR		00 17 31.5
	comp=Z,33nm,21.1s,MS2.7,baz=70,slow=32						
HIA	**Hailar**	**22.94**	**287**	P	**P**		**00 10 40.3 +0.3**
TIXI	**Tiksi**	**26.73**	**342**	*e*P	**P**		**00 11 13.3 -1.7**
TIXI				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,186nm,13.0s,MS3.8						
BJT	**Baijiatuau**	**28.46**	**268**	*e*P	**P**		**00 11 29.4 -1.1**
BJT				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BJT	**Baijiatuau**	**28.46**	**268**	*e*P	**P**		**00 11 29.4 -1.1**
	comp=Z,3.3nm,0.3s,mb4.4						
SONM	**Songino Array**	**31.88**	**288**	P	**P**		**00 12 00.0 -0.7**
	comp=Z,0.9nm,1.0s,mb3.5,baz=24,slow=11,SNR=3.2						
SONM				PcP	PcP		00 14 49.7 -1.0
	comp=Z,0.8nm,0.9s,baz=74,slow=3.3,SNR=4.2						
SONM				LR	LR		00 25 47.9
	comp=Z,130nm,19.1s,MS3.6,baz=68,slow=38						
MCK	**McKinley**	**34.23**	**41**	*e*P	**P**		**00 12 21.8 +0.6**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MCK	**McKinley**	**34.23**	**41**	*e*P	**P**		**00 12 21.8 +0.6**
	comp=Z,2.0nm,0.7s,mb4.2						
COLA	**College**	**34.71**	**39**	*e*P	**P**		**00 12 25.3 -0.1**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
COLA	**College**	**34.71**	**39**	*e*P	**P**		**00 12 25.3 -0.1**
	comp=Z,7.5nm,0.9s,mb4.6						
GUMO	**Guam**	**35.05**	**196**	P	**P**		**00 12 27.0 -1.4**
NACB	**Ninganchiao**	**35.15**	**240**	P	**P**		**00 12 29.1 -0.1**
ENH	**Enshi**	**38.49**	**259**	*e*P	**P**		**00 12 59.5 +2.0**
	comp=Z,0.3nm,0.4s,mb3.4						
INK	**Inuvik**	**40.24**	**33**	P	**P**		**00 13 12.1 -0.1**
	comp=Z,7.0nm,0.9s,mb4.4,baz=285,slow=7.0,SNR=28						
INK	**Inuvik**	**40.24**	**33**	P	**P**		**00 13 12.1 -0.1**
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CD2	**Chengdu**	**41.91**	**265**	P	**P**		**00 13 25.9 0.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**42.78**	**305**	P	**P**		**00 13 32.9 -0.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=118,slow=2.6,SNR=3.1						
ZAL	**Zalesovo**	**42.78**	**305**	P	**P**		**00 13 32.9 -0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMI	**Kunming**	**46.36**	**260**	P	**P**		**00 14 01.6 0.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
MKAR	**Makanchi Array**	**47.29**	**297**	P	**P**		**00 14 06.9 -2.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=71,slow=6.9,SNR=6.5						
MKAR	**Makanchi Array**	**47.29**	**297**	P	**P**		**00 14 06.9 -2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**47.56**	**303**	⇓*i*P	**P**		**00 14 09.8 -1.2**
YKA	**Yellowknife Ar**	**49.50**	**38**	P	**P**		**00 14 25.4 -0.5**
	comp=Z,2.1nm,0.9s,mb4.2,baz=297,slow=7.5,SNR=9.7						
YKA	**Yellowknife Ar**	**49.50**	**38**	P	**P**		**00 14 25.4 -0.5**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
RES	**Resolute Bay**	**49.52**	**19**	*e*P	**P**		**00 14 26.1 0.0**
	comp=Z,138nm,0.9s						
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**		**00 14 35.3 -1.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=52,slow=8.6,SNR=11						
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**		**00 14 35.3 -1.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**50.95**	**309**	*e*P	**P**		**00 14 36.5 -0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**50.95**	**309**	*e*P	**P**		**00 14 36.5 -0.4**
	comp=Z,1.5nm,0.6s,mb4.1						
LSA	**Lhasa**	**51.16**	**273**	*e*P	**P**		**00 14 39.9 +1.5**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**51.16**	**273**	*e*P	**P**		**00 14 39.9 +1.5**
	comp=Z,3.3nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**54.21**	**296**	*e*P	**P**		**00 14 59.0 -1.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**54.21**	**296**	*e*P	**P**		**00 14 59.0 -1.9**
	comp=Z,1.4nm,0.7s,mb4.0						
ARU	**Arti**	**54.86**	**317**	⇓*i*P	**P**		**00 15 04.4 -1.3**
ARU				*e*			00 16 05.8
ARU				*e*			00 17 06.8
ARU				*e*S	**S**		**00 22 42.8 -1.5**
ARU				*e*SS	SS		00 26 31.9 +4.0
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ARU	**Arti**	**54.86**	**317**	*e*P	**P**		**00 15 05.1 -0.6**
	comp=Z,2.3nm,0.6s,mb4.4						
NEW	**Newport**	**55.78**	**54**	P	**P**		**00 15 12.1 -0.2**
JIRN	**Jiri**	**55.80**	**275**	*e*P	**P**		**00 15 12.5 +0.1**
	comp=Z,22nm,0.9s,mb5.2						
GUN	**Gumba**	**55.85**	**275**	*e*P	**P**		**00 15 12.9 +0.1**
KKN	**Kakani**	**56.33**	**276**	*e*P	**P**		**00 15 16.2 0.0**
DMN	**Daman**	**56.56**	**276**	*e*P	**P**		**00 15 18.3 +0.4**
	comp=Z,46nm,1.0s,mb5.5						
GKN	**Gorkha**	**56.62**	**276**	*e*P	**P**		**00 15 18.7 +0.4**
	comp=Z,32nm,1.0s,mb5.3						
WALA	**Waterton Lakes**	**57.03**	**52**	P	**P**		**00 15 20.7 -0.5**
ARCES	**ARCESS Array B**	**57.15**	**341**	LR	LR		00 46 51.1
	comp=Z,134nm,18.6s,MS4.1,baz=204,slow=43						
PMG	**Port Moresby**	**57.34**	**189**	P	**P**		**00 15 22.7 -0.7**
KOLN	**Koldanda**	**57.47**	**277**	*e*P	**P**		**00 15 24.8 +0.5**
	comp=Z,24nm,1.1s,mb5.2						
LRM	**Limekiln Ridge**	**59.80**	**54**	*e*P	**P**		**00 15 40.2 -0.3**
CMB	**Columbia Colle**	**60.09**	**65**	*e*P	**P**		**00 15 41.9 -0.6**
CMB				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
CMB	**Columbia Colle**	**60.09**	**65**	*e*P	**P**		**00 15 41.9 -0.6**
	comp=Z,1.9nm,1.2s,mb4.0						
HLID	**Hailey**	**60.13**	**57**	*e*P	**P**		**00 15 42.9 +0.1**
	comp=Z,7.1nm,1.3s,mb4.5						
HLID				*e*	pP		00 15 50.7 -3.2
QLMT	**Earthquake Lak**	**60.99**	**54**	*e*P	**P**		**00 15 49.1 +0.5**
NVAR	**Mina Array Bea**	**61.11**	**64**	P	**P**		**00 15 49.2 -0.2**
	comp=Z,1.4nm,0.8s,mb4.2,baz=300,slow=7.3,SNR=9.5						
IMW	**Indian Meadow**	**61.86**	**55**	*e*P	**P**		**00 15 55.5 +1.0**
	comp=Z,8.7nm,1.2s,mb4.8						
RRI2	**Red Ridge**	**62.00**	**55**	*e*P	**P**		**00 15 46.3 -9.2**
	comp=Z,14nm,1.2s,mb5.0						
MOOW	**Moose Ponds**	**62.06**	**55**	*e*P	**P**		**00 15 55.7 -0.2**
	comp=Z,7.1nm,1.4s,mb4.6						
TPAW	**Teton Pass**	**62.11**	**55**	*e*P	**P**		**00 15 57.3 +1.1**
LOHW	**Long Hollow**	**62.23**	**55**	*e*P	**P**		**00 15 58.2 +1.2**
	comp=Z,7.4nm,1.1s,mb4.7						
REDW	**Red Top Meadow**	**62.25**	**55**	*e*P	**P**		**00 15 58.1 +0.9**
KAF	**Kangasniemi**	**62.87**	**335**	*e*p	**P**		**00 15 59.4 -1.9**
HWUT	**Hardware Ranch**	**63.00**	**57**	*e*P	**P**		**00 16 02.1 0.0**
	comp=Z,4.0nm,1.0s,mb4.5						
HWUT				*e*	pP		00 16 11.5 -1.9
DUG	**Dugway**	**63.21**	**59**	*e*P	**P**		**00 16 03.7 +0.2**
DUG				*e*	pP		00 16 13.0 -1.8
DUG				*e*	pP		00 16 15.2 +0.4
DUG				*e*PP	PP		00 18 22.6 -0.2
BW06	**Boulder Array**	**63.36**	**55**	*e*P	**P**		**00 16 04.5 0.0**
	comp=Z,7.5nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**63.36**	**55**	P	**P**		**00 16 04.2 -0.3**
	comp=Z,4.8nm,1.0s,mb4.6,baz=298,slow=1.8,SNR=23						
FINES	**FINESS Array B**	**63.48**	**335**	P	**P**		**00 16 04.8 -0.5**
	comp=Z,1.7nm,0.4s,mb4.5,baz=39,slow=7.2,SNR=35						
FINES	**FINESS Array B**	**63.48**	**335**	P	**P**		**00 16 04.8 -0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**63.48**	**335**	P	**P**		**00 16 04.8 -0.5**
CCUT	**Cedar City**	**64.64**	**62**	*e*P	**P**		**00 16 13.1 +0.2**
CCUT				*e*	pP		00 16 22.7 -1.5
OBN	**Obninsk**	**64.96**	**326**	*e*P	**P**		**00 16 13.8 -1.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
OBN	**Obninsk**	**64.96**	**326**	P	**P**		**00 16 14.4 -0.6**
SRU	**San Rafael**	**65.25**	**59**	*e*P	**P**		**00 16 16.9 0.0**
RSSD	**Black Hills**	**65.42**	**51**	*e*P	**P**		**00 16 17.3 -0.7**
RSSD				*e*	pP		00 16 28.2 -1.0
RSSD				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
RSSD	**Black Hills**	**65.42**	**51**	*e*P	**P**		**00 16 17.3 -0.6**
	comp=Z,12nm,1.3s,mb4.8						
RSSD				*e*	pP		00 16 28.2 -1.1
PV10	**Paradox Valley**	**66.60**	**58**	*e*P	**P**		**00 16 25.9 +0.3**
PV10				*e*	pP		00 16 35.8 -1.1
PV10				*e*PP	PP		00 18 47.4 -5.1
PV01	**Paradox Valley**	**67.04**	**58**	*e*P	**P**		**00 16 28.0 -0.4**
PV01				*e*	pP		00 16 37.5 -2.2
NB2	**NORSAR Subarra**	**67.52**	**342**	P	**P**		**00 16 31.0 -0.4**
	comp=Z,1.8nm,0.7s,mb4.2,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.52**	**342**	P	**P**		**00 16 31.2 -0.2**
	comp=Z,5.9nm,1.0s,mb4.6,baz=27,slow=6.2,SNR=7.5						
NOA	**NORSAR Array B**	**67.52**	**342**	P	**P**		**00 16 31.2 -0.2**
NOA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ISCO	**Idaho Springs**	**67.55**	**55**	*e*P	**P**		**00 16 32.2 +0.6**
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
ISCO	**Idaho Springs**	**67.55**	**55**	*e*P	**P**		**00 16 32.2 +0.6**
	comp=Z,7.7nm,1.1s,mb4.7						
SDCO	**Great Sand Dun**	**69.05**	**57**	*e*P	**P**		**00 16 41.3 +0.3**
WB2	**Warramunga Arr**	**69.83**	**200**	*e*P	**P**		**00 16 43.9 -1.9**
WB2				*e*			00 16 51.6
WRA	**Warramunga Arr**	**69.83**	**200**	P	**P**		**00 16 43.7 -2.1**
	comp=Z,4.4nm,1.0s,mb4.4,baz=19,slow=6.9,SNR=15						
WRA	**Warramunga Arr**	**69.83**	**200**	P	**P**		**00 16 43.7 -2.1**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ANMO	**Albuquerque**	**70.47**	**59**	*e*P	**P**		**00 16 49.9 +0.2**
SUW	**Suwalki**	**70.51**	**332**	*e*P	**P**		**00 16 49.6 -0.4**
KIV	**Kislovodsk**	**70.73**	**315**	*e*P	**P**		**00 16 51.8 +0.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
KIV	**Kislovodsk**	**70.73**	**315**	*e*P	**P**		**00 16 52.2 +0.9**
AKASG	**Malin Array Be**	**71.18**	**327**	P	**P**		**00 16 53.1 -0.9**
	comp=Z,1.0nm,0.4s,mb4.1,baz=32,slow=6.0,SNR=9.3						
AKASG	**Malin Array Be**	**71.18**	**327**	P	**P**		**00 16 53.1 -0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.52**	**200**	P	**P**		**00 17 06.9 -1.1**
	comp=Z,3.6nm,0.9s,mb4.3,baz=14,slow=5.1,SNR=29						
ASAR	**Alice Springs**	**73.52**	**200**	P	**P**		**00 17 06.9 -1.1**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PALK	**Pallekele**	**73.77**	**263**	P	**P**		**00 17 10.3 +0.9**
KWP	**Kalwaria**	**74.39**	**330**	*e*P	**P**		**00 17 13.6 +0.5**
OJC	**Ojcow**	**74.84**	**332**	*e*P	**P**		**00 17 15.6 -0.1**
WMOK	**Wichita Mounta**	**74.97**	**55**	*e*P	**P**		**00 17 15.5 -0.9**
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WMOK	**Wichita Mounta**	**74.97**	**55**	*e*P	**P**		**00 17 15.5 -1.0**
	comp=Z,2.5nm,0.8s,mb4.2						
STHS	**Stebnicka Huta**	**75.06**	**331**	*e*P	**P**		**00 17 17.8 +0.8**
STHS				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
STHS	**Stebnicka Huta**	**75.06**	**331**	*e*P	**P**		**00 17 17.8 +0.8**
	comp=Z,6.5nm,0.9s,mb4.6						
KOLS	**Kolonicke sedl**	**75.13**	**330**	*e*P	**P**		**00 17 16.8 -0.6**
KOLS	**Kolonicke sedl**	**75.13**	**330**	*e*P	**P**		**00 17 16.9 -0.5**
BURAR	**Bucovina Array**	**75.21**	**327**	⇓*i*P	**P**		**00 17 17.8 0.0**
NIE	**Niedzica**	**75.36**	**331**	*e*P	**P**		**00 17 19.6 +0.9**
CRVS	**Cervenica-Dubn**	**75.43**	**330**	*e*P	**P**		**00 17 19.1 0.0**
OKC	**Ostrava-Krasne**	**75.69**	**333**	*e*P	**P**		**00 17 20.8 +0.2**
UPC	**Upice**	**75.74**	**334**	*e*P	**P**		**00 17 21.2 +0.3**
DPC	**Dobruska-Polom**	**75.79**	**334**	*e*P	**P**		**00 17 21.7 +0.5**
CLL	**Collm**	**75.88**	**336**	*e*P	**P**		**00 17 21.8 +0.1**
CLL	**Collm**	**75.88**	**336**	*i*P	**P**		**00 17 21.2 -0.5**
CLL				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
CLL	**Collm**	**75.88**	**336**	*i*P	**P**		**00 17 21.2 -0.5**
	comp=Z,13nm,0.9s,mb4.9						
MORC	**Moravsky Berou**	**75.93**	**333**	⇓P	**P**		**00 17 22.2 +0.2**
MORC	**Moravsky Berou**	**75.93**	**333**	⇓*i*P	**P**		**00 17 22.1 +0.1**
BRG	**Berggiesshubel**	**76.01**	**335**	*e*P	**P**		**00 17 22.3 -0.1**
BRG	**Berggiesshubel**	**76.01**	**335**	*e*P	**P**		**00 17 22.4 0.0**
	comp=Z,7.0nm,1.4s,mb4.4						
BRG	**Berggiesshubel**	**76.01**	**335**	*e*P	**P**		**00 17 22.4 0.0**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
CLZ	**Clausthal**	**76.08**	**338**	*e*P	**P**		**00 17 23.4 +0.6**
KECS	**Kecovo**	**76.12**	**330**	*e*P	**P**		**00 17 23.2 +0.2**
KECS				*e*			00 27 21.6
KECS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
KECS	**Kecovo**	**76.12**	**330**	*e*P	**P**		**00 17 23.2 +0.2**
	comp=Z,4.2nm,1.1s,mb4.3						
KECS				*e*			00 27 21.6
LTX	**Lajitas**	**76.15**	**62**	*e*P	**P**		**00 17 23.1 -0.1**
LTX				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
LTX	**Lajitas**	**76.15**	**62**	*e*P	**P**		**00 17 23.1 -0.2**
	comp=Z,13nm,1.2s,mb4.7						
TIRR	**Tirgusor**	**76.62**	**323**	⇑*i*P	**P**		**00 17 26.1 +0.2**
VRAC	**Vranov**	**76.63**	**333**	⇓*i*P	**P**		**00 17 26.5 +0.6**
PRU	**Pruhonice**	**76.64**	**335**	*e*P	**P**		**00 17 26.0 0.0**
VYHS	**Vyhne**	**76.65**	**331**	*e*P	**P**		**00 17 26.3 +0.3**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
VYHS	**Vyhne**	**76.65**	**331**	*e*P	**P**		**00 17 26.3 +0.3**
	comp=Z,3.7nm,1.2s,mb4.2						
MLR	**Muntele Rosu**	**76.73**	**326**	⇓*i*P	**P**		**00 17 27.3 +0.8**
PSZ	**Piszkesteto**	**76.81**	**331**	*e*P	**P**		**00 17 27.0 +0.1**
	comp=Z,4.2nm,0.8s,mb4.4						
PSZ	**Piszkesteto**	**76.81**	**331**	⇓*i*P	**P**		**00 17 27.4 +0.5**
DRGR		**76.81**	**328**	⇑*i*P	**P**		**00 17 26.9 -0.1**
TANN	**Tannenbergstha**	**76.83**	**336**	*e*P	**P**		**00 17 27.4 +0.3**
MOX	**Moxa**	**76.85**	**337**	*e*P	**P**		**00 17 27.4 +0.2**
SMOL	**Smolenice**	**77.08**	**332**	*e*P	**P**		**00 17 29.5 +1.0**
MALT	**Malatya**	**77.11**	**314**	*e*P	**P**		**00 17 30.3 +1.6**
MALT	**Malatya**	**77.11**	**314**	⇓*i*P	**P**		**00 17 30.3 +1.7**
ZST	**Bratislava**	**77.46**	**332**	*e*P	**P**		**00 17 31.4 +0.8**
ZST	**Bratislava**	**77.46**	**332**	*e*P	**P**		**00 17 31.5 +0.9**
ROTZ	**Rotzenmuhle**	**77.49**	**336**	*e*P	**P**		**00 17 31.4 +0.6**
KHC	**Kasperske Hory**	**77.68**	**335**	*e*P	**P**		**00 17 32.2 +0.4**
KHC				pP	pP		00 17 40.0 -3.3
KHC				x	x		00 19 49.0
KHC	**Kasperske Hory**	**77.68**	**335**	*e*P	**P**		**00 17 32.2 +0.4**
KHC				*e*			00 17 40.0
KHC	**Kasperske Hory**	**77.68**	**335**	*e*P	**P**		**00 17 32.2 +0.4**
KHC				*e*			00 17 40.0
KHC				*e*			00 19 49.0
GRA1	**Grafenberg Arr**	**77.83**	**337**	*e*P	**P**		**00 17 33.3 +0.7**
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**77.83**	**337**	*e*P	**P**		**00 17 33.3 +0.7**
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**77.83**	**337**	*e*P	**P**		**00 17 33.3 +0.7**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**77.83**	**337**	*e*P	**P**		**00 17 33.3 +0.7**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
WET	**Wettzell**	**77.87**	**335**	*e*P	**P**		**00 17 33.6 +0.7**
GEC2	**GERESS Array S**	**77.90**	**335**	*e*P	**P**		**00 17 33.4 +0.3**
GERES	**GERESS Array B**	**77.90**	**335**	P	**P**		**00 17 33.3 +0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=32,slow=5.3,SNR=12						
GERES	**GERESS Array B**	**77.90**	**335**	P	**P**		**00 17 33.3 +0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TNS	**Taunus Mts**	**78.05**	**338**	*e*P	**P**		**00 17 34.7 +0.8**
BZS	**Buzias**	**78.21**	**328**	⇓*i*P	**P**		**00 17 34.4 -0.4**
BRTR	**Keskin Array B**	**78.25**	**317**	P	**P**		**00 17 35.7 +0.7**
	comp=Z,4.6nm,0.9s,mb4.4,baz=66,slow=4.2,SNR=20						
BRTR	**Keskin Array B**	**78.25**	**317**	P	**P**		**00 17 35.7 +0.7**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ANTO	**Ankara**	**78.52**	**318**	*e*P	**P**		**00 17 37.3 +0.8**
ANTO				*e*			00 17 44.9
ANTO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ANTO	**Ankara**	**78.52**	**318**	*e*P	**P**		**00 17 37.3 +0.8**
	comp=Z,7.6nm,1.0s,mb4.6						
ANTO				*e*PcP	PcP		00 17 44.9 -0.5
STU	**Stuttgart**	**79.20**	**337**	P	**P**		**00 17 40.2 0.0**
BFO	**Black Forest**	**79.83**	**338**	*e*P	**P**		**00 17 44.8 +1.2**
CDF	**Champ du Feu**	**80.02**	**339**	*e*P	**P**		**00 17 44.2 -0.5**
GRUS	**Gruza**	**80.03**	**328**	⇓*i*P	**P**		**00 17 44.4 -0.4**
VTS	**Vitosha**	**80.23**	**326**	⇑*i*P	**P**		**00 17 46.0 +0.2**
LDF	**La Druitiere**	**81.48**	**343**	*e*P	**P**		**00 17 52.0 -0.5**
PPT	**Papeete**	**82.03**	**127**	LR	LR		00 50 19.3
	comp=Z,155nm,19.6s,MS4.4,baz=287,slow=33						
SMF	**Signal de Mont**	**82.49**	**340**	*e*P	**P**		**00 17 57.5 -0.3**
	comp=Z,17nm,1.1s,mb4.6						
SMF	**Signal de Mont**	**82.49**	**340**	*e*P	**P**		**00 17 57.5 -0.3**
SMF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
SMF	**Signal de Mont**	**82.49**	**340**	*e*P	**P**		**00 17 57.5 -0.3**
	comp=Z,8.4nm,1.1s,mb4.6						
LPG	**La Plagne**	**82.86**	**338**	*e*P	**P**		**00 18 00.3 +0.6**
	comp=Z,24nm,1.1s,mb4.8						
LPG	**La Plagne**	**82.86**	**338**	*e*P	**P**		**00 18 00.3 +0.6**
LPG				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
LPG	**La Plagne**	**82.86**	**338**	*e*P	**P**		**00 18 00.3 +0.6**
	comp=Z,12nm,1.1s,mb4.8						
LHS	**Liberty Hill**	**84.30**	**43**	*e*P	**P**		**00 18 08.6 +1.5**
CAF	**Calviac**	**84.52**	**341**	*e*P	**P**		**00 18 07.7 -0.5**
	comp=Z,47nm,1.6s,mb5.1						
CAF	**Calviac**	**84.52**	**341**	*e*P	**P**		**00 18 07.7 -0.5**
CAF				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.1						
CAF	**Calviac**	**84.52**	**341**	*e*P	**P**		**00 18 07.7 -0.5**
	comp=Z,23nm,1.5s,mb5.1						

*IDC **04** 00:07:50.2±0.8, 47.28N×153.19E, h0km, mb4.0/13, mb1 4.3/15, mb1mx4.1/25, mbtmp4.1/15, ML4.3/2, MS3.9/1, Ms1 3.9/1, ms1mx2.5/33, Error ellipse: s-maj=23.3km s-min=16.6km az=133.0*

*ISCJB **04** 00:07:54.1±1.3, 47.17N±0.009×153.2E±0.2, h39km±11km, mb4.1/13, MS3.7/1, Error ellipse: s-maj=21.5km s-min=8.1km az=80.7*

*MOS **04** 00:07:54.8±0.7, 47.30N×152.94E, h41km, mb4.5/8, Error ellipse: s-maj=25.6km s-min=13.4km az=74.1*

ISC 04 00:07:56.4±1.1, 4720N±009×1531E±01, h46km±10km, n42, σ0°77/43, mb4.1/13, MS3.7/1, 2C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**28**	*e*PN	**Pn**	**00 08 55.0**	**-0.3**
SKR				*e*S	**Sn**	**00 09 42.0**	**+1.0**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
KUR	**Kuril'sk**	**4.14**	**244**	*e*PN	**Pn**	**00 08 51.2**	**-5.9**
KUR				pmax	pmax		
	comp=N,170nm,0.7s						
KUR				pmax	pmax		
	comp=E,150nm,0.7s						
KUR				pmax	pmax		
	comp=Z,430nm,0.7s						
PET	**Petropavlovsk**	**6.83**	**29**	*e*PN	**Pn**	**00 09 38.7**	**+4.7**
PET				pmax	pmax		
	comp=Z,56nm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.08**	**272**	*e*PN	**Pn**	**00 09 44.0**	**+6.6**
YSS				*e*S	**Sn**	**00 11 04.0**	**+7.4**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				smax			
	comp=E,30nm,1.0s						
ASAJ	**Asahikawa**	**7.99**	**251**	Pn	**Pn**	**00 09 49.5**	**-0.4**
	comp=E,4.5nm,0.3s,baz=87,slow=21,SNR=8.1						
ASAJ	**Asahikawa**	**7.99**	**251**	PN	**Pn**	**00 09 49.5**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MAT	**Matsushiro**	**15.36**	**231**	P	**Pn**	**00 11 30.5**	**+0.5**
MJAR	**Matsushiro Arr**	**15.36**	**231**	Pn	**Pn**	**00 11 29.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=31,slow=8.4,SNR=10						
MJAR	**Matsushiro Arr**	**15.36**	**231**	P	**Pn**	**00 11 29.9**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.94**	**251**	P	**P**	**00 12 34.1**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=57,slow=9.9,SNR=5.0						
JNU	**Nakatsue**	**21.96**	**238**	LR	LR	00 20 50.2	
	comp=Z,295nm,18.5s,MS3.7,ba

YSS	**Yuzh-Sakhalins**	**7.96**	**258**	PN	**Pn**	**00 17 50.0**	**-3.3**
YSS				pmax	pmax		
comp=Z,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.96**	**258**	*e*Pn	**Pn**	**00 17 52.9**	**-0.5**
ASAJ	**Asahikawa**	**9.43**	**242**	Pn	**Pn**	**00 18 13.2**	**-0.5**
comp=Z,1.8nm,0.3s,baz=174,slow=21,SNR=4.2							
ASAJ				LR	LR	00 22 01.8	
comp=Z,69nm,20.4s,baz=26,slow=38							
KLR	**Kul'dur**	**14.62**	**279**	*e*P	**Pn**	**00 19 32.0**	**+7.4**
MAJO	**Matsushiro**	**17.19**	**228**	*e*P	**Pn**	**00 19 57.7**	**-0.1**
MAJO				pmax	pmax		
comp=Z,4.0nm,0.4s							
MAJO	**Matsushiro**	**17.19**	**228**	*e*Pn	**Pn**	**00 19 57.7**	**0.0**
comp=Z,4.0nm,0.4s							
MJAR	**Matsushiro Arr**	**17.19**	**228**	P	**Pn**	**00 19 58.1**	**+0.4**
comp=Z,0.2nm,0.3s,baz=42,slow=13,SNR=4.4							
MJAR				LR	LR	00 25 44.0	
comp=Z,156nm,20.2s,baz=60,slow=34							
CLNS	**Chul'man**	**19.05**	**305**	*e*P	**Pn**	**00 20 24.6**	**+4.0**
CLNS				pmax	pmax		
comp=Z,21nm,0.9s							
CLNS				pmax	pmax		
comp=N,18nm,0.8s							
CLNS				pmax	pmax		
comp=E,12nm,1.1s							
BILL	**Bilibino**	**19.82**	**13**	P	**Pn**	**00 20 27.8**	**-2.0**
KSRS	**Korea Array**	**22.28**	**248**	P	**P**	**00 20 48.2**	**-6.5**
comp=E,4.0nm,1.0s,mb3.8,baz=58,slow=10,SNR=5.1							
KSRS				LR	LR	00 29 21.2	
comp=E,38nm,18.4s,MS2.9,baz=65,slow=36							
BJT	**Baijiatuau**	**28.29**	**265**	P	**P**	**00 21 51.2**	**+0.2**
SONM	**Songino Array**	**31.24**	**286**	LR	LR	00 35 53.4	
comp=E,138nm,20.2s,MS3.6,baz=180,slow=38							
MCK	**McKinley**	**33.34**	**43**	*e*P	**P**	**00 22 36.4**	**+0.9**
MCK				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
MCK	**McKinley**	**33.34**	**43**	*e*P	**P**	**00 22 36.4**	**+0.9**
comp=Z,3.7nm,1.0s,mb4.3							
COLA	**College**	**33.79**	**41**	*e*P	**P**	**00 22 40.5**	**+1.1**
COLA				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
COLA	**College**	**33.79**	**41**	*e*P	**P**	**00 22 40.5**	**+1.1**
comp=Z,5.1nm,0.9s,mb4.5							
INK	**Inuvik**	**39.20**	**34**	P	**P**	**00 23 27.4**	**+1.8**
comp=Z,3.1nm,0.8s,mb4.1,baz=297,slow=5.3,SNR=5.8							
INK	**Inuvik**	**39.20**	**34**	*e*P	**P**	**00 23 27.7**	**+2.1**
comp=Z,88nm,0.6s							
MKAR	**Makanchi Array**	**46.45**	**296**	P	**P**	**00 24 24.2**	**-0.1**
comp=Z,0.5nm,0.6s,mb3.6,baz=62,slow=6.9,SNR=6.8							
RES	**Resolute Bay**	**48.27**	**19**	P	**P**	**00 24 37.5**	**-1.0**
YKA	**Yellowknife Ar**	**48.54**	**38**	P	**P**	**00 24 41.1**	**+0.5**
comp=Z,1.9nm,0.9s,mb4.1,baz=297,slow=7.6,SNR=10.0							
YKA	**Yellowknife Ar**	**48.54**	**38**	P	**P**	**00 24 41.1**	**+0.5**
YKA				pmax	pmax		
comp=Z,2.0nm,0.9s							
BVAR	**Borovoye Array**	**49.84**	**308**	P	**P**	**00 24 50.5**	**-0.1**
comp=Z,2.4nm,0.3s,mb4.7,baz=56,slow=8.3,SNR=32							
BVAR	**Borovoye Array**	**49.84**	**308**	P	**P**	**00 24 50.5**	**-0.1**
BVAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
BRVK	**Borovoye**	**49.88**	**308**	*e*P	**P**	**00 24 50.5**	**-0.4**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.5							
BRVK	**Borovoye**	**49.88**	**308**	*e*P	**P**	**00 24 50.5**	**-0.4**
comp=Z,1.9nm,0.4s,mb4.5							
LSA	**Lhasa**	**50.86**	**272**	P	**P**	**00 24 59.6**	**+1.4**
AAK	**Ala-Archa**	**53.38**	**295**	*e*P	**P**	**00 25 17.0**	**0.0**
ARU	**Arti**	**53.67**	**317**	*e*P	**P**	**00 25 18.9**	**-0.2**
ARU				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
ARU	**Arti**	**53.67**	**317**	*e*P	**P**	**00 25 18.9**	**-0.3**
comp=Z,1.5nm,0.4s,mb4.3							
YBH	**Yreka Blue Hor**	**55.99**	**64**	P	**P**	**00 25 33.9**	**-2.1**
comp=Z,0.8nm,0.6s,mb4.0,baz=334,slow=11,SNR=3.8							
YBH	**Yreka Blue Hor**	**55.99**	**64**	P	**P**	**00 25 33.9**	**-2.1**
YBH				pmax	pmax		
comp=Z,1.0nm,0.6s							
NVAR	**Mina Array Bea**	**60.70**	**64**	P	**P**	**00 26 06.6**	**-2.2**
comp=Z,1.1nm,0.7s,mb4.1,baz=294,slow=7.3,SNR=6.3							
FINES	**FINESS Array B**	**62.10**	**335**	P	**P**	**00 26 19.3**	**+1.0**
comp=Z,0.9nm,0.3s,mb4.3,baz=32,slow=7.9,SNR=17							
FINES	**FINESS Array B**	**62.10**	**335**	P	**P**	**00 26 19.3**	**+1.0**
FINES				pmax	pmax		
comp=Z,1.0nm,0.3s							
PDAR	**Pinedale Array**	**62.75**	**55**	P	**P**	**00 26 21.6**	**-1.0**
comp=Z,0.8nm,0.8s,mb3.9,baz=305,slow=3.2,SNR=6.4							
NOA	**NORSAR Array B**	**66.11**	**341**	P	**P**	**00 26 45.4**	**+0.8**
comp=Z,1.5nm,0.8s,mb4.1,baz=38,slow=9.0,SNR=2.6							
NOA	**NORSAR Array B**	**66.11**	**341**	P	**P**	**00 26 45.4**	**+0.8**
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**69.87**	**326**	P	**P**	**00 27 07.3**	**-0.9**
comp=Z,0.2nm,0.3s,mb3.6,baz=36,slow=6.2,SNR=4.8							
WB2	**Warramunga Arr**	**71.07**	**200**	P	**P**	**00 27 16.6**	**+1.0**
STHS	**Stebnicka Huta**	**73.72**	**330**	*e*P	**P**	**00 27 31.6**	**+0.2**
ASAR	**Alice Springs**	**74.77**	**199**	P	**P**	**00 27 39.3**	**+1.7**
comp=Z,0.4nm,0.7s,mb3.5,baz=6.5,slow=4.7,SNR=5.8							
KHC	**Kasperske Hory**	**76.30**	**335**	*e*P	**P**	**00 27 46.0**	**-0.3**
GERES	**GERESS Array B**	**76.53**	**334**	P	**P**	**00 27 47.8**	**+0.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=35,slow=4.9,SNR=9.4							
GERES	**GERESS Array B**	**76.53**	**334**	P	**P**	**00 27 47.8**	**+0.2**
GERES				pmax	pmax		
comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**77.05**	**317**	P	**P**	**00 27 50.6**	**0.0**
comp=Z,2.1nm,0.9s,mb4.1,baz=76,slow=3.0,SNR=11							
BRTR	**Keskin Array B**	**77.05**	**317**	P	**P**	**00 27 50.6**	**0.0**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.9s							
ALLY	**Alegheny Colle**	**77.70**	**39**	P	**P**	**00 27 52.2**	**-2.0**
CSS	**Prodhromos**	**81.09**	**314**	P	**P**	**00 28 12.3**	**-0.3**

*CSEM **04** 00:16:37.2, 6782N×2020E, h0km, ML3.2, Mining explosion. After UPP*
*UPP **04** 00:16:37.2, 6782N×2020E, h0km, ML3.2, Mining explosion.*

HEL 04 00:16:37.8±0.1, 6783N×2019E, h0km, ML1.7, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	*i* P		Pg	00 16 40.1	-0.3
KUA				*i* S		Sg	00 16 42.2	-0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P		Pg	00 16 45.6	-0.7
LANU	**Lannavaara**	**0.71**	**71**	*i* P		Pg	00 16 50.6	-0.9
LANU	**Lannavaara**	**0.71**	**71**	P		Pg	00 16 50.6	-0.9
baz=306								
DUNU	**Dundret**	**0.72**	**168**	*i* P		Pg	00 16 50.5	-1.1
DUNU	**Dundret**	**0.72**	**168**	P		Pg	00 16 50.5	-1.2
baz=71								
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P		Pg	00 16 52.0	-0.9
SALU	**Saltoluokta**	**0.79**	**236**	*i* P		Pg	00 16 52.2	-0.7
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P		Pg	00 17 00.0	-0.8
KIF				*e*S		Sg	00 17 16.0	-0.5
PAJU	**Pajala**	**1.39**	**124**	*e*P		Pg	00 17 02.3	-2.0
HARU	**Harads**	**1.70**	**169**	*e*P		Pn	00 17 08.0	-0.7
HARU	**Harads**	**1.70**	**169**	P		Pn	00 17 08.0	-0.7
baz=344								
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P		Pn	00 17 18.7	+0.4
SGF	**Sodankyl**	**2.45**	**96**	*e*P		Pn	00 17 19.2	+0.2
KEV	**Kevo**	**3.14**	**49**	*e*SG		Sg	00 18 13.1	-5.7

*CSEM **04** 00:23:15.7±1.1, 3801N×2639W, h4km±4km, ML2.2, Error ellipse: s-maj=9.6km s-min=1.5km az=40.0, After PDA*
*PDA **04** 00:23:15.7±1.1, 3801N×2639W, h4km±4km, MD3.0, ML2.2, Error ellipse: s-maj=9.6km s-min=1.5km az=40.0*

SVSA 04 00:23:15.7±1.1, 3801N×2639W, h4km±4km, MD3.0, ML2.2, Error ellipse: s-maj=9.6km s-min=1.5km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.49**	**105**	*e*P		Pg	00 23 24.2	-0.8
SET4				*e*S		Sg	00 23 30.4	-0.9
SET2	**Ginetes**	**0.49**	**109**	*e*P		Pg	00 23 24.4	-0.7
SET2				*e*S		Sg	00 23 30.7	-0.8
PFET	**Feteiras**	**0.51**	**111**	*e*P		Pg	00 23 24.7	-0.8
PFET				*e*S		Sg	00 23 31.6	-0.6
PSAN	**Santo Antonio**	**0.55**	**106**	*e*P		Pg	00 23 25.1	-1.1
PSAN				*e*S		Sg	00 23 32.1	-1.2
FAC	**Faja de Cima**	**0.63**	**111**	*e*S		Sg	00 23 34.4	-1.6
CML	**Cha da Macela**	**0.71**	**109**	*e*P		Pg	00 23 27.6	-1.7
CML				*e*S		Sg	00 23 36.3	-2.2
PVER	**Pico Vermelho**	**0.72**	**106**	*e*P		Pg	00 23 36.9	+7.3
PVER				*e*S		Sg	00 23 36.9	-2.1
PVER								
44nm,0.2s								
PVER	**Pico Vermelho**	**0.72**	**106**	*e*S		Sg	00 23 36.9	-2.1
PMAT	**Coroa da Mata**	**0.75**	**104**	*e*P		Pg	00 23 28.2	-1.9
PMAT				*e*S		Sg	00 23 37.6	-2.3
PMAT								
28nm,0.1s								
PMAT	**Coroa da Mata**	**0.75**	**104**	*e*P		Pg	00 23 28.2	-1.9
PMAT				*e*S		Sg	00 23 37.6	-2.3
LFA	**Lagoa do Fogo**	**0.76**	**108**	*e*P		Pg	00 23 28.2	-2.0
PRCH	**Ribeira Ch**	**0.77**	**111**	*e*P		Pg	00 23 28.6	-1.9
PRCH				*e*S		Sg	00 23 37.9	-2.6
PRCH								
46nm,0.2s								
PRCH	**Ribeira Ch**	**0.77**	**111**	*e*P		Pg	00 23 28.6	-1.9
PRCH				*e*S		Sg	00 23 37.9	-2.6
MESC	**Monte Escuro**	**0.78**	**106**	*e*S		Sg	00 23 38.8	-1.9
VIF	**Vila Franca**	**0.80**	**109**	*e*S		Sg	00 23 39.0	-2.3
VIF								
16nm,0.2s								
PCNG	**Congro**	**0.82**	**106**	*e*P		Sg	00 23 42.1	0.0
FRA1	**Furnas**	**0.86**	**107**	*e*P		Pg	00 23 29.6	-2.6
PFAD	**Fenais da Ajud**	**0.86**	**101**	*e*P		Pg	00 23 29.5	-2.7
PFAV	**Pico das Favas**	**0.89**	**323**	*e*S		Sg	00 23 40.9	-3.5
PFAV								
13nm,0.1s								
RIB2	**Ribeirinha**	**0.91**	**317**	*e*S		Sg	00 23 41.6	-3.2
RIB2								
59nm,0.1s								
MIRA	**Miradouro**	**0.91**	**104**	*e*P		Pg	00 23 30.3	-2.8
PVNV	**Vila Nova**	**0.97**	**322**	*e*S		Sg	00 23 42.8	-3.9
PVNV								
34nm,0.1s								
PPAD	**Pico dos Padre**	**0.99**	**315**	*e*S		Sg	00 23 43.5	-4.0
PPAD								
18nm,0.1s								
ASBA	**Santa Barbara**	**1.02**	**314**	*e*S		Sg	00 23 44.1	-4.5
ASBA								
84nm,0.2s								
PID	**Ribeirinha**	**1.43**	**288**	*e*P		Sb	00 24 00.0	-1.5
PSMN	**Pico do Norte,**	**1.45**	**133**	*e*S		Sb	00 23 54.7	-7.5
PMAN	**Manadas**	**1.48**	**296**	*e*P		Pg	00 23 53.0	+9.0
PGRA	**Graciosa**	**1.61**	**310**	*e*P		Sn	00 23 57.0	-9.3
ROSA	**Rosais**	**1.62**	**297**	*e*P		Pn	00 23 46.3	+1.2
ROSA				*e*S		Sn	00 24 04.0	-2.4
SRBC	**Serra Branca**	**1.65**	**309**	*e*P		Sn	00 24 10.3	+3.0
PICO	**Pico**	**1.68**	**288**	*e*P		Pn	00 23 46.5	+0.6
PICO				*e*S		Sn	00 24 05.7	-2.1
HOR	**Horta**	**1.84**	**287**	*e*P		Sn	00 24 09.4	-2.4
CALA	**Caldeira**	**1.91**	**288**	*e*P		Pn	00 23 50.0	+1.0
CALA				*e*S		Sn	00 24 11.2	-2.3
PCED	**Cedros**	**1.92**	**290**	*e*P		Pg	00 24 03.0	+10

IDC 04 00:24:26.3±2.2, 4597N×15401E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.9/5, Error ellipse: s-maj=81.2km s-min=32.4km az=82.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.85**	**298**	P		P	00 33 05.2	-0.7
0.7nm,0.7s,baz=59,slow=7.2,SNR=4.2								
BVAR	**Borovoye Array**	**51.83**	**310**	P		P	00 33 36.4	+0.3
0.2nm,0.4s,baz=54,slow=5.6,SNR=4.7								
FINES	**FINESS Array B**	**65.01**	**335**	P		P	00 35 06.4	-1.7
2.6nm,1.0s,baz=54,slow=7.3,SNR=6.3								
HFS	**Hagfors**	**69.40**	**340**	P		P	00 35 36.4	+0.4
4.1nm,0.9s,baz=88,slow=7.6,SNR=7.3								
ASAR	**Alice Springs**	**71.67**	**199**	P		P	00 35 49.8	-0.1
0.3nm,0.7s,baz=17,slow=5.7,SNR=5.1								

*BJI **04** 00:31:08.0, 3826N×7302E, h26km, ML3.8*
*ISCJB **04** 00:31:10.7±0.4, 3827N±003×73.13E±006, h119km±6km, mb3.9/14, Error ellipse: s-maj=7.6km s-min=4.3km az=173.3*
*MOS **04** 00:31:10.5±1.3, 3824N×7308E, h117km, mb4.1/10, Error ellipse: s-maj=14.1km s-min=8.3km az=98.8*
*NEIC **04** 00:31:10.4±1.4, 3817N×7306E, h101km±13km, mb4.0/5, Error ellipse: s-maj=13.5km s-min=7.8km az=200.0*
*IDC **04** 00:31:11.0±4.8, 3824N×7309E, h102km±40km, mb3.5/10, mb1 3.7/13, mb1mx3.5/26, mbtmp3.6/13, Error ellipse: s-maj=30.1km s-min=17.9km az=12.0*

ISC 04 00:31:11.8±0.4, 3826N±003×7315E±006, h117km±5km, n72, σ1§13/80, mb3.9/14, 3C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.54**	**60**	PG		**Pn**	**00 31 53.7**	**+1.8**
KSH				S		**Sn**	**00 32 24.1**	**+1.3**
KSH				Smax				
comp=N,1μm,0.2s								
KSH				Smax				
comp=E,1μm,0.4s								
AML	**Almayashu**	**3.89**	**6**	P		**Pn**	**00 32 09.4**	**-0.3**
SNR=164								
UCH	**Uchtor**	**4.10**	**14**	P		**Pn**	**00 32 12.8**	**+0.2**
SNR=159								
KZA	**Kyzart**	**4.14**	**22**	P		**Pn**	**00 32 13.0**	**-0.1**
SNR=77								
EKS2	**Erkin-Say**	**4.42**	**6**	P		**Pn**	**00 32 16.7**	**-0.2**
SNR=92								
AAK	**Ala-Archa**	**4.49**	**13**	P		**Pn**	**00 32 18.3**	**+0.5**
SNR=14								
AAK	**Ala-Archa**	**4.49**	**13**	*e*Pn		**Pn**	**00 32 17.1**	**-0.7**
AAK				*e*Sn		**Sn**	**00 33 07.0**	**-2.0**
CEP	**Cherat**	**4.54**	**193**	⇑P		**Pn**	**00 32 22.2**	**+3.7**
CEP				S		**Sn**	**00 33 10.0**	**-0.3**
CHCP	**Chirah Chowk**	**4.59**	**179**	P		**Pn**	**00 32 22.4**	**+3.2**
KBK	**Karagaybulak**	**4.60**	**17**	P		**Pn**	**00 32 20.3**	**+1.0**
SNR=5.4								
ULHL	**Ulahol**	**4.63**	**30**	P		**Pn**	**00 32 19.7**	**0.0**
SNR=54								
CHMS	**Chumysh**	**4.89**	**14**	P		**Pn**	**00 32 23.2**	**+0.1**
SNR=6.0								
TKM2	**Tokmak 2**	**5.01**	**21**	P		**Pn**	**00 32 24.9**	**+0.1**
SNR=7.3								
USP	**Ospenovka**	**5.11**	**11**	P		**Pn**	**00 32 26.2**	**+0.1**
SNR=6.9								
KK31	**Karatay Array**	**5.24**	**338**	⇑P		**Pn**	**00 32 26.3**	**-1.6**
comp=E,2.2nm,0.3s,baz=142,slow=11,SNR=118								
KK31				S		**Sn**	**00 33 21.7**	**-5.4**
comp=E,10nm,0.3s,baz=149,slow=23,SNR=13								
DLH	**Dalhousie**	**6.15**	**157**	*e*P		**Pn**	**00 32 46.0**	**+5.8**
DLH				*e*S		**Sn**	**00 33 50.0**	**+0.7**
THN	**Thein Dam**	**6.18**	**159**	*e*P		**Pn**	**00 32 42.8**	**+2.2**
THN				*e*S		**Sn**	**00 33 46.7**	**-3.2**
SBDP	**Sheikh Budin**	**6.25**	**199**	⇑P		**Pn**	**00 32 42.5**	**+1.0**
SARP	**Sargodha**	**6.34**	**184**	P		**Pn**	**00 32 43.5**	**+0.8**
DRP	**Derazinda**	**6.94**	**201**	⇓P		**Pn**	**00 32 52.3**	**+1.5**
SMLA	**Simla**	**7.85**	**154**	*e*x		x	00 33 14.0	
SMLA				*e*S		**Sn**	**00 34 22.0**	**-8.3**
KLP	**Kalpa**	**7.91**	**147**	*e*P		**Pn**	**00 33 02.6**	**-1.5**
KLP				*e*S		**Sn**	**00 34 25.4**	**-6.5**
KLP				AML		AML	00 34 36.9	
comp=N,50nm,0.6s								
KLP				AML		AML	00 34 40.1	
comp=E,63nm,0.5s								
KHET	**Khetri**	**10.40**	**167**	*e*S		**Sn**	**00 35 24.8**	**-7.4**
KHET				AML		AML	00 35 31.7	
comp=E,14nm,0.6s								
KHET				AML		AML	00 35 31.9	
comp=N,12nm,0.0s								
KUDL	**Kundal**	**10.47**	**164**	*e*S		**Sn**	**00 35 24.9**	**-9.0**
SONA	**Sohna**	**10.51**	**161**	*e*S		**Sn**	**00 35 25.9**	**-9.0**
SONA				AML		AML	00 35 34.2	
comp=E,32nm,0.4s								
SONA				AML		AML	00 35 34.6	
comp=N,13nm,0.3s								
MKAR	**Makanchi Array**	**10.87**	**35**	P		**Pn**	**00 33 44.4**	**+0.5**
comp=N,0.1nm,0.3s,baz=219,slow=17,SNR=2.4								
KOLN	**Koldanda**	**13.64**	**137**	*e*P		**Pn**	**00 34 19.1**	**-1.3**
comp=N,4.0nm,0.3s								
GKN	**Gorkha**	**14.04**	**133**	*e*P		**Pn**	**00 34 24.2**	**-1.2**
comp=N,22nm,0.4s								
GKN				*e*S		**Sn**	**00 36 50.0**	**-10**
KKN	**Kakani**	**14.57**	**132**	*e*P		**Pn**	**00 34 30.6**	**-1.6**
comp=N,12nm,0.4s								
BVAR	**Borovoye Array**	**14.89**	**354**	P		**Pn**	**00 34 37.9**	**+1.6**
comp=N,1.0nm,0.3s,baz=165,slow=8.9,SNR=28								
BVAR	**Borovoye Array**	**14.89**	**354**	P		**Pn**	**00 34 37.9**	**+1.6**
BVAR				pmax	pmax			
comp=Z,1.0nm,0.3s								
BRVK	**Borovoye**	**14.93**	**353**	*e*P		**Pn**	**00 34 38.9**	**+2.1**
BRVK				pmax	pmax			
comp=Z,4.0nm,0.6s								
BRVK	**Borovoye**	**14.93**	**353**	*e*P		**Pn**	**00 34 38.9**	**+2.1**
comp=Z,4.3nm,0.6s								
JIRN	**Jiri**	**15.20**	**130**	*e*P		**Pn**	**00 34 39.4**	**-0.8**
comp=Z,8.3nm,0.4s								
AKTK	**Aktyubinsk**	**16.25**	**323**	P		**Pn**	**00 34 51.8**	**-1.4**
AKTO	**Aktyubinsk**	**16.25**	**323**	P		**Pn**	**00 34 51.8**	**-1.4**
comp=Z,0.6nm,0.3s,baz=124,slow=12,SNR=11								
AKTO	**Aktyubinsk**	**16.25**	**323**	P		**Pn**	**00 34 51.8**	**-1.3**
AKTO				pmax	pmax			
comp=Z,1.0nm,0.3s								
LSA	**Lhasa**	**17.18**	**114**	P		**Pn**	**00 35 04.8**	**+0.2**
LSA				pmax	pmax			
comp=Z,3.0nm,0.6s								
LSA	**Lhasa**	**17.18**	**114**	Pn		**Pn**	**00 35 04.8**	**+0.2**
comp=Z,2.6nm,0.6s								
ZAL	**Zalesovo**	**17.60**	**23**	P		**Pn**	**00 35 08.6**	**-1.1**
comp=Z,2.9nm,0.3s,baz=256,slow=7.1,SNR=40								
ZAL	**Zalesovo**	**17.60**	**23**	P		**Pn**	**00 35 08.6**	**-1.0**
ZAL				pmax	pmax			
comp=Z,3.0nm,0.3s								
NVS	**Novosibirsk**	**17.94**	**19**	*e*P		**Pn**	**00 35 11.8**	**-2.0**
GNI	**Garni**	**22.06**	**284**	P		**P**	**00 35 57.6**	**+0.6**
SONM	**Songino Array**	**25.94**	**58**	P		**P**	**00 36 34.2**	**+1.0**
comp=Z,0.8nm,0.8s,mb3.2,baz=247,slow=7.7,SNR=6.9								
MALT	**Malatya**	**27.16**	**281**	P		**P**	**00 36 42.3**	**-1.8**
AKASG	**Malin Array Be**	**33.23**	**306**	P		**P**	**00 37 37.5**	**0.0**
comp=Z,0.1nm,0.3s,mb3.1,baz=81,slow=8.1,SNR=4.5								
ISP	**Isparta**	**33.36**	**283**	*e*P		**P**	**00 37 39.5**	**+0.8**
ISP				pmax	pmax			
comp=Z,2.0nm,0.3s,mb4.4								
ISP	**Isparta**	**33.36**	**283**	*e*P		**P**	**00 37 39.5**	**+0.8**
comp=Z,2.0nm,0.3s,mb4.4								
FINES	**FINESS Array B**	**37.02**	**324**	P		**P**	**00 38 10.6**	**+0.5**
comp=Z,1.0nm,0.4s,mb4.1,baz=120,slow=9.7,SNR=13								
FINES	**FINESS Array B**	**37.02**	**324**	P		**P**	**00 38 10.6**	**+0.5**
FINES				pmax	pmax			
comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**37.02**	**324**	P		**P**	**00 38 10.6**	**+0.5**
KAF	**Kangasniemi**	**37.11**	**325**	*e*p		**P**	**00 38 09.7**	**-1.2**
PSZ	**Piszkesteto**	**39.37**	**302**	P		**P**	**00 38 29.5**	**-0.3**
PSZ				pmax	pmax			
comp=Z,1.0nm,0.4s,mb4.0								
PSZ	**Piszkesteto**	**39.37**	**302**	P		**P**	**00 38 29.5**	**-0.3**
comp=Z,1.0nm,0.4s,mb4.0								
ARCES	**ARCESS Array B**	**40.20**	**336**	P		**P**	**00 38 37.3**	**+0.7**
comp=Z,2.5nm,0.7s,mb4.2,baz=110,slow=7.5,SNR=15								
ARCES	**ARCESS Array B**	**40.20**	**336**	P		**P**	**00 38 37.3**	**+0.7**
ARCES				pmax	pmax			
comp=Z,3.0nm,0.7s								
HFS	**Hagfors**	**42.77**	**321**	P		**P**	**00 38 57.5**	**-0.1**
comp=Z,1.5nm,0.6s,mb3.9,baz=88,slow=10,SNR=5.5								
HFS	**Hagfors**	**42.77**	**321**	P		**P**	**00 38 57.5**	**-0.1**
HFS				pmax	pmax			
comp=Z,2.0nm,0.6s								
HFS	**Hagfors**	**42.77**	**321**	P		**P**	**00 38 57.5**	**-0.1**
NACB	**Ninganchiao**	**43.28**	**94**	P		**P**	**00 39 02.4**	**+0.7**
TIXI	**Tiksi**	**43.50**	**22**	*e*P		**P**	**00 39 02.4**	**-1.1**
TIXI				pmax	pmax			
comp=Z,3.0nm,0.9s,mb4.0								
NOA	**NORSAR Array B**	**44.03**	**322**	P		**P**	**00 39 08.0**	**+0.3**
comp=Z,1.0nm,0.7s,mb3.6,baz=94,slow=7.5,SNR=2.6								
NOA	**NORSAR Array B**	**44.03**	**322**	P		**P**	**00 39 08.0**	**+0.3**
NOA				pmax	pmax			
comp=Z,1.0nm,0.7s								
WLF	**Walferdange**	**48.04**	**306**	*e*P		**P**	**00 39 39.3**	**+0.2**
WLF				pmax	pmax			
comp=Z,2.0nm,0.4s,mb4.3								
WLF	**Walferdange**	**48.04**	**306**	*e*P		**P**	**00 39 39.3**	**+0.2**
comp=Z,2.0nm,0.4s,mb4.3								
TORD	**Torodi Ar. Bea**	**67.46**	**269**	P		**P**	**00 41 55.9**	**+0.9**
comp=Z,0.3nm,0.4s,mb3.5,baz=51,slow=5.8,SNR=8.8								
INK	**Inuvik**	**71.89**	**10**	P		**P**	**00 42 22.4**	**+0.3**
comp=Z,1.6nm,0.4s,mb4.2,baz=335,slow=5.5,SNR=32								
INK	**Inuvik**	**71.89**	**10**	*e*P		**P**	**00 42 22.5**	**+0.4**
comp=Z,50nm,0.3s,mb5.8								
YKA	**Yellowknife Ar**	**79.40**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.22**	**297**	*i* P	Pg	01 54 33.2	-0.2
ACX				*i* S	Sg	01 54 36.3	+0.1
CAIG	**El Cayaco**	**0.60**	**298**	*i* P	Pg	01 54 40.2	-0.4
CAIG				*i* S	Sg	01 54 49.0	+0.6
MEIG	**Mezcala**	**1.16**	**5**	*i* P	Pg	01 54 48.5	-2.9
MEIG				*i* S	Sg	01 55 03.1	-3.2

*ISCJB **04** 02:24:28.2±0.4, 4063N±002×2341E±003, h7km±4km, Error ellipse: s-maj=4.2km s-min=2.9km az=173.9*
*NEIC **04** 02:24:28.7, 4059N×2337E, h22km, MD3.2(ATH), After ATH.*
*SKO **04** 02:24:29.0, 4066N×2344E, h0km*
*ATH **04** 02:24:28.7, 4059N×2337E, h22km±1km, MD3.2/5*
*CSEM **04** 02:24:28.5±0.1, 4065N×2342E, h10km, ML2.6, Error ellipse: s-maj=1.4km s-min=1.1km az=68.0*
*THE **04** 02:24:28.8, 4063N×2341E, h10km, ML2.6*

ISC 04 02:24:28.6±0.4, 4063N±002×2342E±003, h10km±4km, n32, σ0§82/56, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.20**	**345**	*e*Pg	**Pg**	**02 24 32.4**	**-0.3**
SOH				*e*Sg	**Sg**	**02 24 35.4**	**-0.1**
HORT	**Hortiatis**	**0.25**	**262**	*e*Pg	**Pg**	**02 24 33.6**	**0.0**
HORT				*e*Sg	**Sg**	**02 24 37.4**	**+0.4**
PLG	**Polygyros**	**0.26**	**176**	*e*Pg	**Pg**	**02 24 33.8**	**0.0**
PLG				*e*Sg	**Sg**	**02 24 38.0**	**+0.6**
PLG	**Polygyros**	**0.26**	**176**	*e*PB	**Pg**	**02 24 33.9**	**+0.1**
PLG				*e*SB	**Sg**	**02 24 37.8**	**+0.5**
THE	**Thessaloniki**	**0.35**	**270**	*e*Pg	**Pg**	**02 24 35.1**	**-0.3**
THE				*e*Sg	**Sg**	**02 24 40.1**	**0.0**
SRS	**Serrai**	**0.50**	**15**	*e*Pg	**Pg**	**02 24 37.6**	**-0.8**
SRS				*e*Sg	**Sg**	**02 24 46.3**	**+1.3**
OUR	**Ouranopolis**	**0.52**	**125**	*e*Pg	**Pg**	**02 24 38.4**	**-0.3**
KNT	**Kendrikon**	**0.66**	**323**	*e*Pg	**Pg**	**02 24 40.7**	**-0.7**
KNT				*e*Sg	**Sg**	**02 24 50.5**	**+0.5**
PAIG	**Paliouri**	**0.73**	**164**	*e*Pg	**Pg**	**02 24 41.7**	**-1.0**
PAIG				*e*Sg	**Sg**	**02 24 53.0**	**+0.7**
NVR	**Nevrokopi**	**0.79**	**25**	*e*PN	**Pn**	**02 24 45.6**	**-0.2**
NVR				*e*SN	**Sn**	**02 24 56.8**	**-0.9**
GRG	**Griva**	**0.84**	**293**	*e*Pg	**Pg**	**02 24 44.0**	**-0.7**
GRG				*e*Sg	**Sg**	**02 24 57.3**	**+1.6**
GRG	**Griva**	**0.84**	**293**	*e*Pg	**Pg**	**02 24 44.0**	**-0.8**
GRG				*e*Sg	**Sg**	**02 24 57.3**	**+1.6**
LIT	**Litokhoron**	**0.89**	**234**	*e*Pg	**Pg**	**02 24 45.6**	**-0.1**
LIT				*e*Sg	**Sg**	**02 24 57.9**	**+0.7**
VAY	**Valandovo**	**0.94**	**317**	*e*Pg	**Pg**	**02 24 45.8**	**-0.9**
VAY				*e*Sg	**Sg**	**02 25 00.0**	**+1.0**
VAY	**Valandovo**	**0.94**	**317**	*i* Pg	**Pg**	**02 24 46.1**	**-0.7**
VAY				*e*Sg	**Sg**	**02 24 58.2**	**-0.8**
VAY	**Valandovo**	**0.94**	**317**	*i* Pg	**Pg**	**02 24 46.1**	**-0.7**
VAY				*e*Sg	**Sg**	**02 24 58.2**	**-0.8**
VAY	**Valandovo**	**0.94**	**317**	*i* Pg	**Pg**	**02 24 46.0**	**-0.7**
VAY				*e*Sg	**Sg**	**02 24 58.1**	**-0.9**
NEO	**Neokhori**	**1.33**	**187**	*e*PN	**Pn**	**02 24 53.1**	**-0.2**
STIP	**Stip**	**1.41**	**319**	*e*Pg	**Pg**	**02 24 55.2**	**-0.5**
STIP				*e*Sg	**Sg**	**02 25 14.9**	**+0.9**
STIP	**Stip**	**1.41**	**319**	*i* Pg	**Pg**	**02 24 55.0**	**-0.7**
STIP				*e*Sg	**Sg**	**02 25 14.0**	**0.0**
STIP	**Stip**	**1.41**	**319**	*i* Pg	**Pg**	**02 24 55.0**	**-0.7**
STIP				*e*Sg	**Sg**	**02 25 14.0**	**0.0**
STIP	**Stip**	**1.41**	**319**	*i* Pg	**Pg**	**02 24 55.0**	**-0.7**
STIP				*e*Sg	**Sg**	**02 25 14.9**	**+0.9**
THL	**Klokotos Trika**	**1.52**	**226**	*e*PN	**Pn**	**02 24 55.7**	**-0.1**
BIA	**Bitola**	**1.64**	**284**	*e*Pg	**Pn**	**02 24 57.8**	**+0.3**
BIA	**Bitola**	**1.64**	**284**	*e*Pg	**Pn**	**02 24 57.8**	**+0.3**
BIA	**Bitola**	**1.64**	**284**	*e*Pg	**Pn**	**02 24 57.7**	**+0.2**
RDO	**Rodhopi**	**1.69**	**72**	*e*PN	**Pn**	**02 24 59.7**	**+1.6**
PLD	**Plovdiv**	**1.76**	**33**	*e*Pb	**Pb**	**02 24 59.8**	**-1.2**
PLD				*e*Sb	**Sb**	**02 25 24.7**	**+1.6**
KRUS	**Krusevo**	**1.80**	**295**	*e*Pn	**Pn**	**02 25 00.5**	**+0.8**
AGG	**Agios Georgios**	**1.81**	**208**	*e*Pb	**Pb**	**02 25 00.3**	**-1.6**
AGG				*e*Sb	**Sb**	**02 25 24.8**	**+0.1**
VTS	**Vitosha**	**1.96**	**355**	*e*Pb	**Pb**	**02 25 03.4**	**-1.0**
VTS				*e*Sb	**Sb**	**02 25 29.1**	**+0.1**
ALN	**Alexandroupoli**	**2.01**	**82**	*e*Pn	**Pn**	**02 25 02.2**	**-0.4**
ALN				*e*Sn	**Sn**	**02 25 31.1**	**+3.3**

*ISCJB **04** 02:39:23.2±0.3, 4845N±001×894E±002, h9km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=71.7*
*LEDBW **04** 02:39:24.5±0.1, 48443N±0004×9034E±0004, h10km±2km, ML1.7, Error ellipse: s-maj=1.4km s-min=1.2km az=52.0*
*BGR **04** 02:39:24.3±0.5, 4845N×906E, h5km, ML1.8/2, Error ellipse: s-maj=5.6km s-min=3.3km az=163.0*
*LDG **04** 02:39:25.1±0.1, 4842N×899E, h2km, Md2.3/3, Ml2.3/16, Error ellipse: s-maj=1.2km s-min=0.8km az=82.0*

ISC 04 02:39:23.5±0.3, 4844N±001×899E±002, h18km±3km, n57, σ1§02/94, 6C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUND	**Jungingen**	**0.11**	**162**	⇓*e*Pg	**Pg**	**02 39 27.3**	**0.0**
JUND				*e*Sg	**Sg**	**02 39 29.4**	**-0.4**
BUCH	**Bad Urach**	**0.24**	**87**	⇑*i*P*	**Pg**	**02 39 28.9**	**-0.2**
BUCH				*i* S*	**Sg**	**02 39 32.2**	**-0.7**
BUCH	**Bad Urach**	**0.24**	**87**	⇑*i*Pg	**Pg**	**02 39 28.9**	**-0.2**
BUCH				*i* Sg	**Sg**	**02 39 32.2**	**-0.7**
LBG	**Lerchenberg**	**0.26**	**330**	⇓*i*P*	**Pg**	**02 39 30.0**	**+0.6**
LBG				*i* S*	**Sg**	**02 39 33.9**	**+0.5**
LBG				PmP		02 39 34.2	
LBG	**Lerchenberg**	**0.26**	**330**	⇓*i*Pg	**Pg**	**02 39 30.0**	**+0.6**
LBG				*i* Sg	**Sg**	**02 39 33.9**	**+0.5**
LBG	**Lerchenberg**	**0.26**	**330**	Px	Px	02 39 34.2	
MSS	**Messtetten**	**0.26**	**184**	⇑*e*Pg	**Pg**	**02 39 30.1**	**+0.8**
MSS				*e*Sg	**Sg**	**02 39 34.0**	**+0.6**
STU	**Stuttgart** SNR=1.3	**0.36**	**22**	*e*Pg	**Pg**	**02 39 31.2**	**+0.1**
STU				*e*Sg	**Sg**	**02 39 35.3**	**-0.9**
SPAK	**Spaichingen-Ko** SNR=3.8	**0.36**	**202**	⇑P*	**Pg**	**02 39 32.1**	**+1.0**
SPAK				S*	**Sg**	**02 39 37.0**	**+0.7**
SPAK	**Spaichingen-Ko**	**0.36**	**202**	⇑Pg	**Pg**	**02 39 32.1**	**+1.0**
SPAK				Sg	**Sg**	**02 39 37.0**	**+0.7**
GUT	**Gutenstein**	**0.38**	**167**	⇓*i*P*	**Pg**	**02 39 31.9**	**+0.5**
GUT				PmP		02 39 35.5	
GUT				*i* S*	**Sg**	**02 39 37.0**	**+0.3**
GUT	**Gutenstein**	**0.38**	**167**	Px	Px	02 39 35.5	
BFO	**Black Forest**	**0.45**	**256**	⇑*i*P*	**Pb**	**02 39 33.8**	**+0.9**
BFO				S*	**Sb**	**02 39 40.3**	**+0.9**
BFO				SmS		02 39 43.4	
BFO	**Black Forest**	**0.45**	**256**	⇑*i*Pg	**Pb**	**02 39 33.8**	**+0.9**
BFO				Sg	**Sb**	**02 39 40.3**	**+0.9**
BFO				SmS		02 39 43.4	
SISB	**Singen-Schiene**	**0.75**	**181**	P*	**Pb**	**02 39 39.3**	**+1.2**
SISB				PmP		02 39 40.0	
SISB				S*	**Sb**	**02 39 49.3**	**+1.3**
HDH	**Heidenheim-Cha**	**0.82**	**79**	⇓P*	**Pg**	**02 39 39.8**	**+0.2**
HDH				PmP		02 39 40.3	
HDH				S*	**Sb**	**02 39 50.1**	**+0.1**
HDH				SmS		02 39 51.7	
HDH	**Heidenheim-Cha**	**0.82**	**79**	⇓Pg	**Pg**	**02 39 39.8**	**+0.2**
HDH				Sg	**Sb**	**02 39 50.1**	**+0.1**
HDH	**Heidenheim-Cha**	**0.82**	**79**	PmP		02 39 40.3	
HDH				SmS		02 39 51.7	
KIZ	**Kirchzarten**	**0.86**	**236**	P*	**Pn**	**02 39 41.0**	**+0.2**
KIZ				Pg	**Pg**	**02 39 41.7**	**+1.3**
KIZ				S*	**Sn**	**02 39 52.6**	**-0.3**
KIZ				SmS		02 39 54.5	
KIZ	**Kirchzarten**	**0.86**	**236**	Pn	**Pn**	**02 39 41.0**	**+0.2**
KIZ				Sn	**Sn**	**02 39 52.6**	**-0.3**
KIZ	**Kirchzarten**	**0.86**	**236**	P	**Pg**	**02 39 41.7**	**+1.3**
KIZ				SmS		02 39 54.5	
FELD	**Feldberg im Sc**	**0.87**	**230**	⇑P*	**Pn**	**02 39 41.2**	**+0.4**
FELD				Pg	**Pg**	**02 39 41.9**	**+1.5**
FELD	**Feldberg im Sc**	**0.87**	**230**	⇑Pn	**Pn**	**02 39 41.2**	**+0.4**
FELD	**Feldberg im Sc**	**0.87**	**230**	P	**Pg**	**02 39 41.9**	**+1.5**
LANF	**Langenberg**	**0.95**	**305**	Pg	**Pg**	**02 39 43.4**	**+1.4**
LANF				Sg	**Sg**	**02 39 56.7**	**+2.1**
LANF	**Langenberg**	**0.95**	**305**	Px	Px	02 39 43.4	
LANF				Sx	Sx	02 39 56.7	
SIND	**Sindeldorf**	**1.00**	**24**	⇓P	**Pn**	**02 39 42.9**	**+0.3**
SIND				Pg	**Pg**	**02 39 43.3**	**+0.4**
SIND				S	**Sb**	**02 39 55.2**	**+0.1**
SIND				Sg	**Sg**	**02 39 56.4**	**+0.3**
SIND	**Sindeldorf**	**1.00**	**24**	⇓Pn	**Pn**	**02 39 42.9**	**+0.3**
SIND				Sn	**Sb**	**02 39 55.2**	**+0.1**
SIND	**Sindeldorf**	**1.00**	**24**	P	**Pg**	**02 39 43.3**	**+0.4**
SIND				Sx	Sx	02 39 56.4	
SWS	**Schriesheim-Wi**	**1.06**	**350**	Pg	**Pg**	**02 39 45.0**	**+0.8**
SWS				Sg	**Sg**	**02 39 58.7**	**+0.6**
UBR	**Ueberruh**	**1.07**	**135**	P*	**Pb**	**02 39 44.8**	**+1.4**
UBR				Sg	**Sg**	**02 39 58.9**	**+0.7**
CDF	**Champ du Feu**	**1.14**	**269**	*e*Pg	**Pg**	**02 39 46.5**	**+0.9**
CDF				*e*Sg	**Sg**	**02 40 01.3**	**+0.7**
TOD	**Tromm**	**1.18**	**354**	Pg	**Pg**	**02 39 47.0**	**+0.7**
TOD				Sg	**Sg**	**02 40 02.1**	**+0.5**
TOD	**Tromm**	**1.18**	**354**	Px	Px	02 39 47.0	
TOD				S	**Sg**	**02 40 02.1**	**+0.5**
ECH	**Echery**	**1.24**	**260**	Sg	**Sg**	**02 40 05.2**	**+1.5**
BBS	**Basel-Blauen**	**1.39**	**226**	Pg	**Pg**	**02 39 51.1**	**+0.8**
BBS				Sg	**Sg**	**02 40 10.5**	**+1.9**
BBS	**Basel-Blauen**	**1.39**	**226**	Px	Px	02 39 51.1	
BBS				S	**Sg**	**02 40 10.5**	**+1.9**
FUR	**Furstenfeldbru** SNR=3.3	**1.55**	**99**	*e*Sg	**Sg**	**02 40 12.7**	**-0.9**
HINF	**Hinteralfeld** 4.4nm,0.3s	**1.56**	**247**	*e*Pg	**Pg**	**02 39 53.8**	**+0.2**
HINF				*e*Sg	**Sg**	**02 40 14.2**	**+0.3**
LOMF	**Lomont**	**1.82**	**234**	Pg	**Pg**	**02 39 59.8**	**+1.3**
LOMF	**Lomont**	**1.82**	**234**	Px	Px	02 39 59.8	
HAU	**Haudompre** 6.1nm,0.3s	**1.82**	**257**	*e*Pg	**Pg**	**02 39 59.1**	**+0.6**
HAU				*e*Sg	**Sg**	**02 40 22.1**	**0.0**
TNS	**Taunus Mts** SNR=1.7	**1.82**	**349**	*e*Sg	**Sg**	**02 40 22.4**	**+0.2**
GRF	**Grafenberg Arr** SNR=3.8	**1.93**	**49**	*e*Sg	**Sg**	**02 40 23.8**	**-1.9**
MEZF	**Maizieres J'vi** 0.8nm,0.2s	**2.62**	**273**	*e*Pg	**Pg**	**02 40 13.5**	**-0.3**
MEZF				*e*Sg	**Sg**	**02 40 47.3**	**-0.5**
SFTF	**Sexfontaines** 2.7nm,0.3s	**2.65**	**266**	*e*Pg	**Pg**	**02 40 14.2**	**-0.1**
SFTF				*e*Sg	**Sg**	**02 40 48.2**	**-0.4**
WET	**Wettzell** SNR=3.0	**2.67**	**73**	*e*Sg	**Sg**	**02 40 47.1**	**-2.1**
CABF	**La Chapelle** 0.4nm,0.2s	**2.68**	**228**	*e*Pg	**Pg**	**02 40 14.6**	**-0.4**
CABF				*e*Sg	**Sg**	**02 40 49.3**	**-0.5**
GUNZ	**Gunzen** SNR=1.7	**2.91**	**47**	*e*Sg	**Sg**	**02 40 54.8**	**-2.3**
LPL	**La Plagne** 0.5nm,0.4s	**3.31**	**209**	*e*Pg	**Pg**	**02 40 26.3**	**-0.6**
LPL				*e*Sg	**Sg**	**02 41 08.6**	**-1.1**
LPG	**La Plagne** 0.4nm,0.2s	**3.32**	**208**	*e*Pg	**Pg**	**02 40 26.6**	**-0.5**
LPG				*e*Sg	**Sg**	**02 41 09.1**	**-0.9**
LOR	**Lormes** 0.8nm,0.3s	**3.65**	**253**	*e*Pg	**Pg**	**02 40 32.6**	**-0.8**
LOR				*e*Sg	**Sg**	**02 41 19.4**	**-1.3**
SMF	**Signal de Mont** 1.3nm,0.3s	**3.92**	**245**	*e*Pg	**Pg**	**02 40 37.7**	**-0.9**
SMF				*e*Sg	**Sg**	**02 41 27.6**	**-1.8**
SSF	**Saint Saulge** 0.5nm,0.3s	**3.95**	**252**	*e*Pg	**Pg**	**02 40 37.9**	**-1.2**
SSF				*e*Sg	**Sg**	**02 41 28.4**	**-1.9**
AVF	**Avril sur Loir** 0.4nm,0.2s	**4.15**	**249**	*e*Pg	**Pg**	**02 40 41.8**	**-1.3**
AVF				*e*Sg	**Sg**	**02 41 35.1**	**-1.8**
HYF	**Humbligny**	**4.43**	**257**	*e*Pg	**Pg**	**02 40 47.0**	**-1.4**
HYF				*e*Sg	**Sg**	**02 41 43.7**	**-2.1**
BGF	**Bois d'Agland**	**4.57**	**248**	*e*Pg	**Pg**	**02 40 49.6**	**-1.4**
BGF				*e*Sg	**Sg**	**02 41 47.9**	**-2.3**

*ISCJB **04** 02:42:54.5±3.0, 8.11S±0.10×1189E±0.1, h13km±19km, mb4.1/11, MS3.6/3, Error ellipse: s-maj=21.8km s-min=10.0km az=93.9*
*IDC **04** 02:42:54.2±0.7, 8075×1192E, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.1/18, mbtmp4.1/9, ML4.2/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/32, Error ellipse: s-maj=34.7km s-min=10.0km az=51.0*
*NEIC **04** 02:42:59.4±0.6, 8155×1188E, h35km, mb4.4/5, Error ellipse: s-maj=18.1km s-min=9.8km az=55.0*

ISC 04 02:43:02.3±1.7, 815S±010×1191E±01, h61km±15km, n22, σ1§24/24, mb4.2/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 20nm,0.7s	**11.75**	**148**	*e*P	**Pn**	**02 45 45.2**	**-1.8**
FITZ				*e*S	**Sn**	**02 47 55.7**	**-0.8**
FITZ	**Fitzroy Crossi** 1.4nm,0.3s,baz=322,slow=14,SNR=32	**11.75**	**148**	Pn	**Pn**	**02 45 46.2**	**-0.9**
FITZ				Sn	**Sn**	**02 47 57.9**	**+1.4**
FITZ	0.5nm,0.3s,baz=176,slow=16,SNR=4.5			LR	LR	02 50 34.4	
KAKA	**Kakadu** 18nm,0.6s	**13.86**	**110**	*e*P	**Pn**	**02 46 15.4**	**-0.3**
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=307,slow=13,SNR=51	**18.83**	**130**	P	**Pn**	**02 47 18.1**	**-0.1**
WRA				S	**S**	**02 50 47.5**	**-0.5**
WRA	0.1nm,0.3s,baz=301,slow=21,SNR=6.5			LR	LR	02 55 20.8	
WB2	**Warramunga Arr** comp=Z,43nm,18.2s,baz=305,slow=39	**18.84**	**130**	*e*P	**Pn**	**02 47 18.1**	**-0.2**
WB2				*e*S	**S**	**02 50 46.7**	**-1.5**
ASAR	**Alice Springs** 3.2nm,0.6s,baz=335,slow=14,SNR=44	**20.95**	**139**	P	**P**	**02 47 42.0**	**+2.0**
ASAR				S	**S**	**02 51 41.8**	**+12**
KLBR	**Kellerberrin** 12nm,0.8s,mb4.4	**23.36**	**183**	*e*P	**P**	**02 48 04.5**	**-0.8**
MUN	**Mundaring**	**23.86**	**186**	*e*P	**P**	**02 48 16.4**	**+6.5**
FORT	**Forrest** 11nm,0.7s,mb4.4	**24.02**	**161**	*e*P	**P**	**02 48 13.7**	**+2.4**
NWAO	**Narrogin (SRO)** 8.5nm,0.8s,mb4.3	**24.72**	**184**	*e*P	**P**	**02 48 16.8**	**-0.9**
CTA	**Charters Tower** comp=Z,122nm,20.9s,baz=51,slow=40	**28.81**	**117**	LR	LR	03 01 58.8	
STKA	**Stephens Creek** 3.3nm,0.9s,mb4.2	**31.54**	**142**	*e*P	**P**	**02 49 20.0**	**+1.4**
STKA	**Stephens Creek** 3.6nm,0.6s,mb4.4,baz=333,slow=8.5,SNR=8.4	**31.54**	**142**	P	**P**	**02 49 20.4**	**+1.8**
STKA				LR	LR	03 02 13.7	
TOO	**Toolangi** comp=Z,69nm,19.0s,baz=24,slow=37	**37.79**	**145**	*e*P	**P**	**02 50 15.3**	**+2.8**
SONM	**Songino Array** 4.0nm,0.9s,mb4.2	**56.87**	**350**	P	**P**	**02 52 41.7**	**+1.0**
MKAR	**Makanchi Array** 1.9nm,0.9s,mb4.1,baz=164,slow=8.9,SNR=12	**63.76**	**333**	P	**P**	**02 53 27.0**	**-0.7**
MKAR	**Makanchi Array** 1.0nm,0.6s,mb4.0,baz=151,slow=6.3,SNR=10	**63.76**	**333**	P	**P**	**02 53 27.0**	**-0.7**
ZAL	**Zalesovo** 0.6nm,0.4s,mb4.0,baz=6.7,slow=4.6,SNR=2.8	**68.29**	**339**	P	**P**	**02 53 55.5**	**-1.3**
MAW	**Mawson** 1.8nm,0.7s,mb4.1,baz=51,slow=14,SNR=3.7	**70.07**	**200**	P	**P**	**02 54 07.4**	**-0.4**
VNDA	**Vanda** 1.5nm,1.1s,mb3.8,baz=39,slow=6.5,SNR=3.6	**72.80**	**171**	P	**P**	**02 54 23.8**	**-0.5**
KMBO	**Kilima Mbogo** comp=Z,47nm,18.4s,baz=89,slow=35	**81.79**	**270**	LR	LR	03 30 46.6	
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=31,slow=1.5,SNR=8.8	**118.42**	**281**	PKP	PKPdf	03 01 42.8	0.0

*ISCJB **04** 02:52:41.3±0.5, 1064N±003×6176W±003, h58km±5km, mb3.6/3, Error ellipse: s-maj=5.8km s-min=4.6km az=92.7*
*FUNV **04** 02:52:41.9, 1076N×6170W, h30km, MW3.8*
*NEIC **04** 02:52:43.8, 1063N×6166W, h35km, MD3.8(TRN), After TRN.*
NEIC Felt at Chaguanas, Mucurapo, Port-of-Spain, Saint Joseph and Tunapuna, Trinidad.
*TRN **04** 02:52:43.4, 1065N×6167W, h38km, MD3.8*
TRN Felt (II) and (III) in northern Trinidadfrom Port of Spain to Tacarigua.
*IDC **04** 02:52:43.3±2.5, 1076N×6193W, h83km±19km, mb3.2/3, mb1 3.6/5, mb1mx3.2/20, mbtmp3.3/5, Error ellipse: s-maj=32.4km s-min=14.7km az=132.0*

ISC 04 02:52:42.6±0.4, 1065N±003×6176W±003, h46km±6km, n35, σ1§24/61, mb3.6/3, 5C-3D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.05**	**6**	⇑*i*P	**Pn**	**02 52 50.1**	**+0.3**
TCE				*e*S	**Sn**	**02 52 54.7**	**-0.1**
TRN	**Trinidad (W)**	**0.35**	**90**	⇑*i*P	**Pn**	**02 52 51.4**	**-0.4**
TRN				*e*S	**Sn**	**02 52 56.4**	**-2.0**
TPP	**Pointe-a-Pierr**	**0.45**	**137**	⇑*i*P	**Pn**	**02 52 52.8**	**-0.1**
TPP				*e*S	**Sn**	**02 52 53.0**	**+0.4**
GUIV	**Guiria**	**0.46**	**270**	*e*P	**Pn**	**02 52 52.6**	**-0.4**
GUIV				*e*S	**Sn**	**02 53 00.1**	**-0.4**
ALNG	**Atlantic LNG**	**0.47**	**172**	⇓*i*P	**Pn**	**02 52 53.9**	**+0.7**
ALNG				*e*S	**Sn**	**02 53 00.8**	**+0.1**
ALNG	**Atlantic LNG**	**0.47**	**172**	*e*P	**Pn**	**02 52 53.9**	**+0.7**
ALNG				*e*S	**Sn**	**02 53 00.8**	**+0.1**
BUAY	**Buenos Aires**	**0.54**	**172**	⇓*i*P	**Pn**	**02 52 55.2**	**+1.2**
BUAY				*e*S	**Sn**	**02 53 02.2**	**-0.1**
TBH	**Brigand Hill**	**0.70**	**103**	*e*P	**Pn**	**02 52 55.7**	**-0.4**
TBH				*e*S	**Sn**	**02 53 04.8**	**-1.1**
TPR	**Prospect**	**1.10**	**61**	⇓*i*P	**Pn**	**02 53 01.9**	**+0.4**
TPR				*e*S	**Sn**	**02 53 14.6**	**-1.1**
GUNV	**Guanoco**	**1.26**	**248**	*e*P	**Pn**	**02 53 04.7**	**+1.0**
GUNV				*e*S	**Sn**	**02 53 21.5**	**+2.0**
CRUV	**Carupano**	**1.45**	**271**	*e*P	**Pn**	**02 53 05.2**	**-1.2**
CRUV				*e*S	**Sn**	**02 53 23.7**	**-0.5**
GRW	**Mount Saint Ca**	**1.51**	**4**	⇑*e*P	**Pn**	**02 53 07.3**	**+0.2**
GRW				*e*S	**Sn**	**02 53 25.4**	**-0.2**
ITEV	**Isla Los Testi**	**1.52**	**298**	*e*P	**Pn**	**02 53 06.9**	**-0.4**
ITEV				*e*S	**Sn**	**02 53 25.0**	**-0.9**
GRIC	**Isle de Caille**	**1.64**	**6**	*e*P	**Pn**	**02 53 09.6**	**+0.7**
GRIC				*e*S	**Sn**	**02 53 26.9**	**-1.9**
GRSS	**Sisters**	**1.65**	**5**	⇑*i*P	**Pn**	**02 53 09.5**	**+0.5**
GRSS				*e*S	**Sn**	**02 53 26.4**	**-2.6**
GRSS	**Sisters**	**1.65**	**5**	*e*P	**Pn**	**02 53 09.5**	**+0.5**
GRSS				*e*S	**Sn**	**02 53 26.4**	**-2.6**
FCV	**Fort Charlotte**	**2.55**	**11**	*e*P	**Pn**	**02 53 24.5**	**+3.1**
FCV				*e*S	**Sn**	**02 53 53.0**	**+1.9**
SVB	**Belmont**	**2.66**	**11**	*e*P	**Pn**	**02 53 25.0**	**+2.2**
SVB				*e*S	**Sn**	**02 53 55.9**	**+2.1**
BHS	**Barnard House**	**2.71**	**13**	*e*P	**Pn**	**02 53 25.6**	**+2.1**
BHS				*e*S	**Sn**	**02 53 59.4**	**+4.3**
SVV	**Soufriere Volc**	**2.71**	**11**	*e*P	**Pn**	**02 53 25.7**	**+2.1**
SVV				*e*S	**Sn**	**02 53 55.6**	**+0.5**
SSV	**Crater Summit**	**2.72**	**12**	*e*P	**Pn**	**02 53 25.1**	**+1.3**
SSV				*e*S	**Sn**	**02 53 59.0**	**+3.6**
PCRV	**Puerto La Cruz** 5.9nm,0.3s,baz=17,slow=22,SNR=35	**2.87**	**261**	P	**Pn**	**02 53 25.1**	**-0.7**
SLB	**Belfond**	**3.24**	**12**	*e*P	**Pn**	**02 53 32.2**	**+1.3**
SLB				*e*S	**Sn**	**02 54 06.3**	**-1.8**
BIM	**Bigot**	**3.91**	**10**	*e*P	**Pn**	**02 53 40.8**	**+0.8**
FDF	**Fort de France**	**4.11**	**8**	*e*P	**Pn**	**02 53 43.0**	**+0.2**
FDF				*e*S	**Sn**	**02 54 27.5**	**-2.0**
TBG	**Guadaloupe-3**	**5.18**	**1**	*e*P	**Pn**	**02 53 57.3**	**-0.1**
MGG	**Marie-Galante**	**5.26**	**5**	*e*P	**Pn**	**02 53 59.1**	**+0.6**
LZG	**Guadaloupe-1**	**5.46**	**360**	*e*P	**Pn**	**02 54 01.1**	**-0.3**
LZG				*e*S	**Sn**	**02 55 01.5**	**-1.4**
DEG	**La Desirade**	**5.67**	**7**	*e*P	**Pn**	**02 54 04.0**	**-0.3**
SDV	**Santo Domingo** 1.5nm,0.3s,baz=78,slow=7.7,SNR=13	**8.92**	**259**	P	**Pn**	**02 54 46.4**	**-2.4**
SDV				S	**Sn**	**02 56 22.2**	**-5.7**
SDV	**Santo Domingo** 4.7nm,0.3s,baz=18,slow=17,SNR=15	**8.92**	**259**	P	**Pn**	**02 54 46.4**	**-2.4**
SDV				S	**Sn**	**02 56 22.2**	**-5.7**
PDAR	**Pinedale Array** 0.7nm,0.8s,mb3.7,baz=117,slow=9.2,SNR=6.3	**52.38**	**316**	P	**P**	**03 01 46.4**	**-3.7**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,mb2.6,baz=286,slow=4.7,SNR=5.1	**62.00**	**81**	P	**P**	**03 02 56.3**	**-1.7**
YKA	**Yellowknife Ar** 0.4nm,0.6s,mb3.7,baz=110,slow=7.3,SNR=7.1	**64.01**	**336**	P	**P**	**03 03 06.3**	**-5.0**
YKA	**Yellowknife Ar**	**64.01**	**336**	P	**P**	**03 03 06.3**	**-5.0**

KRSC 04 03:02:02.8±0.9, 5233N×16067E, h14km±16km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.86**	**333**	*e*P	Pg	03 02 18.9	-0.6
SPN				*i* S	Sg	03 02 30.7	-0.2
NLC	**Nalytchevo**	**1.17**	**317**	*e*P	Pn	03 02 24.0	-0.7
NLC				*i* S	Sb	03 02 39.5	-0.2
RUS	**Russkaya**	**1.33**	**275**	*e*P	Pn	03 02 27.3	+0.4
RUS				*i* S	Sb	03 02 45.2	+0.9
PET	**Petropavlovsk**	**1.41**	**300**	*e*P	Pn	03 02 28.2	+0.2
PET				*i* S	Sn	03 02 46.6	+0.2
AVH	**Avacha**	**1.50**	**309**	*e*P	Pn	03 02 30.1	+0.8
GRL	**Gorelyy**	**1.60**	**279**	*e*P	Pn	03 02 32.7	+2.0
GRL				*i* S	Sn	03 02 54.3	+3.1
GNL	**Ganaly**	**2.

ISC 04 03:34:38.7±0.4,4588N±004×14996E±004,h110km±4km,h128km±2.9km:pP-P,n283,c0°95/299,mb4.5/41,64C-60D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.61**	**247**	⇑*iP*	**Pn**	**03 35 03.0**	**-3.7**
KUR				⇓*iP*		03 35 03.0	
KUR				AMB	AMB	03 35 04.2	
	547nm,0.6s						
KUR				AMB	AMB	03 35 04.2	
	456nm,0.6s						
KUR				AMB	AMB	03 35 04.2	
	2μm,0.6s						
KUR				AMB	AMB	03 35 04.4	
	9μm,1.6s						
KUR				*i* S	**Sn**	**03 35 25.2**	**-2.9**
KUR				A		03 35 27.2	
	30μm,2.0s						
KUR				A		03 35 27.2	
	33μm,2.0s						
KUR				A		03 35 30.2	
	5μm,0.7s						
KUR				A		03 35 30.2	
	6μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.44**	**239**	PN	**Pn**	**03 35 32.7**	**+2.1**
YUK				*i* S	**Sn**	**03 36 16.0**	**+5.3**
YUK				pmax	pmax		
	comp=Z,320nm,0.4s						
YUK				pmax	pmax		
	comp=E,120nm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,6μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.44**	**239**	*e*P	**Pn**	**03 35 32.7**	**+2.1**
YUK				AMB	AMB	03 35 33.0	
	comp=E,320nm,0.4s						
YUK				AMB	AMB	03 35 33.0	
	comp=E,120nm,0.5s						
YUK				*i* S	**Sn**	**03 36 16.8**	**+6.1**
YUK				A		03 36 19.6	
	comp=E,2μm,0.5s						
YUK				A		03 36 29.1	
	comp=E,5μm,1.0s						
YUK				A		03 36 29.1	
	comp=E,6μm,1.0s						
NEM2	**Nemuro 2**	**3.92**	**232**	P	**Pn**	**03 35 35.2**	**-1.7**
NEM2				*e*S	**Sn**	**03 36 18.5**	**-3.6**
JRA	**Rausu**	**3.95**	**242**	P	**Pn**	**03 35 38.1**	**+0.8**
JNK	**Nakash**	**4.38**	**240**	P	**Pn**	**03 35 43.3**	**+0.2**
JTKR	**Abashiri--Toko**	**4.70**	**248**	P	**Pn**	**03 35 48.2**	**+0.8**
JAK	**Akkeshi**	**4.75**	**234**	P	**Pn**	**03 35 46.4**	**-1.6**
JAK				*e*S	**Sn**	**03 36 38.0**	**-3.9**
JMP	**Maruseppu**	**5.05**	**251**	P	**Pn**	**03 35 54.2**	**+2.1**
YSS	**Yuzh-Sakhalins**	**5.10**	**285**	⇑*i*PN	**Pn**	**03 35 55.1**	**+2.4**
YSS				*e*S	**Sn**	**03 36 51.5**	**+1.1**
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				smax			
	comp=N,220nm,1.0s						
YSS				smax			
	comp=E,560nm,1.0s						
YSS				smax			
	comp=E,1μm,2.0s						
YSS	**Yuzh-Sakhalins**	**5.10**	**285**	*e*Pn	**Pn**	**03 35 54.9**	**+2.2**
YSS				*e*S	**Sn**	**03 36 57.6**	**+7.2**
YSS	**Yuzh-Sakhalins**	**5.10**	**285**	⇑*e*P	**Pn**	**03 35 55.1**	**+2.4**
YSS				AMB	AMB	03 35 57.5	
	comp=E,120nm,0.8s						
YSS				*e*S	**Sn**	**03 36 51.5**	**+1.1**
YSS				A		03 36 57.5	
	comp=E,220nm,1.0s						
YSS				A		03 36 57.5	
	comp=E,560nm,1.0s						
YSS				A		03 36 58.0	
	comp=E,1μm,2.0s						
JAR	**Ashorobuto**	**5.12**	**242**	P	**Pn**	**03 35 53.6**	**+0.5**
JOB	**Onbets**	**5.30**	**238**	P	**Pn**	**03 35 55.0**	**-0.5**
JOB				*e*S	**Sn**	**03 36 54.4**	**-1.0**
JKK2	**Kamakawa 2**	**5.50**	**251**	P	**Pn**	**03 35 59.8**	**+1.5**
ASAJ	**Asahikawa**	**5.51**	**254**	P	**Pn**	**03 36 00.9**	**+2.5**
	comp=E,7.6nm,0.3s,baz=72,slow=12,SNR=39						
ASAJ				S	**Sn**	**03 37 09.9**	**+9.4**
	comp=E,3.8nm,0.3s,baz=354,slow=7.2,SNR=3.6						
ASAJ	**Asahikawa**	**5.51**	**254**	P	**Pn**	**03 36 00.3**	**+1.9**
JWK2	**Keihoku**	**5.69**	**267**	P	**Pn**	**03 36 04.9**	**+4.2**
JCH	**Churui**	**5.75**	**238**	P	**Pn**	**03 36 00.2**	**-1.5**
JCH				*e*S	**Sn**	**03 37 04.0**	**-2.4**
JAB	**Ashibetsu**	**6.00**	**249**	P	**Pn**	**03 36 07.2**	**+2.2**
JEM	**Erimo**	**6.25**	**234**	P	**Pn**	**03 36 08.4**	**+0.1**
ERM	**Erimo**	**6.25**	**234**	*e*PN	**Pn**	**03 36 08.2**	**-0.1**
ERM				pmax	pmax		
	comp=Z,71nm,0.6s						
ERM	**Erimo**	**6.25**	**234**	*e*Pn	**Pn**	**03 36 08.2**	**-0.2**
	comp=Z,71nm,0.6s						
ERM				*e*S	**Sn**	**03 37 36.2**	**+18**
SKR	**Severo-Kuril's**	**6.32**	**38**	*e*PN	**Pn**	**03 36 07.2**	**-2.1**
SKR				*e*S	**Sn**	**03 37 19.5**	**-0.6**
SKR				pmax	pmax		
	comp=N,80nm,0.6s						
SKR				pmax	pmax		
	comp=E,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,110nm,0.6s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR	**Severo-Kuril's**	**6.32**	**38**	*e*P	**Pn**	**03 36 07.2**	**-2.1**
SKR				AMB	AMB	03 36 11.1	
	comp=E,80nm,0.6s						
SKR				AMB	AMB	03 36 11.1	
	comp=E,110nm,0.6s						
SKR				*e*S	**Sn**	**03 37 19.5**	**-0.6**
SKR				A		03 37 27.0	
	comp=E,90nm,0.5s						
SKR				A		03 37 27.0	
	comp=E,50nm,0.5s						
JEW	**Eniwo**	**6.81**	**247**	P	**Pn**	**03 36 18.9**	**+2.9**
TYV	**Tymovskoe**	**6.96**	**318**	*e*P	**Pn**	**03 36 20.0**	**+2.0**
TYV				AMB	AMB	03 36 21.8	
	comp=E,22nm,1.0s						
TYV				AMB	AMB	03 36 21.8	
	comp=E,46nm,1.0s						
TYV				*e*S	**Sn**	**03 37 42.8**	**+7.1**
TYV				A		03 37 46.0	
	comp=E,66nm,1.0s						
JNB	**Noboribetsu**	**7.26**	**245**	P	**Pn**	**03 36 23.1**	**+1.0**
JKB	**Kayabe**	**7.58**	**241**	P	**Pn**	**03 36 25.3**	**-1.2**
JSH	**Shimam**	**7.82**	**249**	P	**Pn**	**03 36 30.9**	**+1.3**
JYM2	**Yakumo 2**	**7.87**	**245**	P	**Pn**	**03 36 29.3**	**-1.0**
JSR	**Shiriuchi**	**8.16**	**241**	P	**Pn**	**03 36 32.8**	**-1.6**
JTM	**Tenmabayashi**	**8.24**	**235**	P	**Pn**	**03 36 32.5**	**-2.9**
JRG	**Rokugo**	**9.44**	**230**	P	**Pn**	**03 36 48.8**	**-2.9**
HABR	**Khabarovsk**	**10.48**	**290**	*e*PN	**Pn**	**03 37 08.3**	**+2.6**
HABR				*e*S	**Sn**	**03 39 08.6**	**+7.6**
JFY	**Yanaizu**	**11.42**	**226**	P	**Pn**	**03 37 15.1**	**-3.2**
KLR	**Kul'dur**	**12.75**	**292**	*e*PN	**Pn**	**03 37 34.8**	**-1.0**
KLR				pmax	pmax		
	comp=E,80nm,1.4s						
KLR				pmax	pmax		
	comp=Z,62nm,1.4s						
MJAR	**Matsushiro Arr**	**12.84**	**228**	P	**Pn**	**03 37 36.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=26,slow=13,SNR=4.5						
MAJO	**Matsushiro**	**12.85**	**228**	*e*PN	**Pn**	**03 37 35.9**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAJO	**Matsushiro**	**12.85**	**228**	*e*Pn	**Pn**	**03 37 35.9**	**-1.3**
	comp=Z,7.8nm,0.7s						
MDJ	**Mudanjiang**	**14.40**	**272**	P	**Pn**	**03 37 58.4**	**+1.1**
MDJ				S	**Sn**	**03 40 35.8**	**-0.3**
MDJ				PCP	PcP	03 43 04.7	-0.5
MDJ				SCP	ScP	03 46 26.6	-2.2
MDJ				PCS	PcS	03 46 40.3	+0.1
MDJ				SCS	ScS	03 50 03.4	-3.0
MDJ				AMB	AMB		
	comp=Z,13nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,119nm,5.7s						
MDJ				LR	LR		
	comp=N,43nm,16.5s						
MDJ				LR	LR		
	comp=E,97nm,32.0s						
MDJ				LR	LR		
	comp=Z,128nm,27.4s						
ZEA	**Zeya**	**16.58**	**307**	*e*P	**Pn**	**03 38 22.2**	**-2.3**
ZEA				AMB	AMB	03 38 24.0	
	comp=Z,58nm,1.2s						
ZEA				AMB	AMB	03 38 24.0	
	comp=Z,92nm,1.2s						
ZEA				AMB	AMB	03 38 24.0	
	comp=Z,59nm,1.0s						
CN2	**Changchun**	**17.49**	**272**	*e*P	**Pn**	**03 38 35.0**	**-0.6**
CN2				*e*S	**S**	**03 41 42.7**	**-7.9**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**18.45**	**251**	P	**P**	**03 38 46.1**	**+0.5**
	baz=51,slow=12,SNR=7.1						
KSRS				LR	LR	03 44 45.6	
	comp=Z,98nm,20.8s,baz=349,slow=33						
CLNS	**Chul'man**	**18.99**	**314**	*e*P	**P**	**03 38 50.8**	**-0.8**
CLNS				pmax	pmax		
	comp=Z,25nm,0.7s						
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
JNU	**Nakatsue**	**19.41**	**236**	LR	LR	03 46 03.6	
	comp=E,116nm,20.4s,baz=72,slow=35						
YAK	**Yakutsk**	**19.95**	**331**	*e*P	**P**	**03 39 06.6**	**+4.6**
YAK				*e*S	**S**	**03 42 38.3**	**-2.1**
YAK				pmax	pmax		
	comp=Z,262nm,0.8s						
YAK				pmax	pmax		
	comp=N,170nm,1.4s						
YAK				pmax	pmax		
	comp=E,109nm,1.1s						
YAK				smax			
	comp=N,328nm,3.1s						
YAK				smax			
	comp=E,225nm,4.1s						
YAK	**Yakutsk**	**19.95**	**331**	*e*P	**P**	**03 39 03.8**	**+1.8**
HIA	**Hailar**	**20.60**	**290**	*e*P	**P**	**03 39 09.6**	**+0.7**
BJT	**Baijiatuau**	**25.29**	**269**	*e*P	**P**	**03 39 54.9**	**+0.1**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**25.29**	**269**	*e*P	**P**	**03 39 54.9**	**+0.1**
	comp=Z,6.6nm,0.6s,mb4.2						
TIXI	**Tiksi**	**27.73**	**346**	*e*P	**P**	**03 40 13.4**	**-3.3**
TIXI				*e*	pP	03 40 39.6	-1.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
TIXI	**Tiksi**	**27.73**	**346**	*e*P	**P**	**03 40 13.7**	**-3.0**
HHC	**Hu-ho-hao-te**	**28.17**	**274**	*e*P	**P**	**03 40 21.2**	**+0.6**
HHC				AP	pP	03 40 47.5	+2.8
HHC				PP	PP	03 41 17.8	-8.4
HHC				S	**S**	**03 44 53.6**	**-4.4**
HHC				SS	SS	03 46 27.0	-34
HHC				PCS	PcS	03 47 13.4	-0.7
HHC				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,142nm,4.5s						
HHC				LR	LR		
	comp=N,190nm,16.1s						
HHC				LR	LR		
	comp=E,123nm,14.3s						
HHC				LR	LR		
	comp=Z,148nm,16.7s						
SONM	**Songino Array**	**29.56**	**290**	P	**P**	**03 40 34.4**	**+1.4**
	comp=Z,0.9nm,0.7s,mb3.5,baz=85,slow=8.8,SNR=5.8						
SONM	**Songino Array**	**29.56**	**290**	P	**P**	**03 40 34.4**	**+1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KDAK	**Kodiak Island**	**36.34**	**50**	P	**P**	**03 41 30.1**	**-1.8**
	comp=Z,16nm,0.8s,mb5.0,baz=263,slow=4.8,SNR=14						
GTA	**Gaotai**	**36.94**	**278**	P	**P**	**03 41 38.2**	**+1.2**
GTA				PP	PP	03 43 08.2	+5.0
GTA				PCP	PcP	03 43 57.7	+1.7
GTA				S	**S**	**03 47 12.7**	**-1.2**
GTA				XS	sS	03 48 01.7	+4.9
GTA				SS	SS	03 49 49.0	-11
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,84nm,5.3s						
GTA				LR	LR		
	comp=N,226nm,10.3s						
GTA				LR	LR		
	comp=E,172nm,11.4s						
GTA				LR	LR		
	comp=Z,116nm,14.5s						
SML	**Sawmill**	**38.10**	**43**	*e*P	**P**	**03 41 46.8**	**+0.1**
COLA	**College**	**38.17**	**38**	*e*P	**P**	**03 41 45.9**	**-1.4**
COLA	**College**	**38.17**	**38**	*e*P	**P**	**03 41 47.0**	**-0.4**
	comp=Z,18nm,1.2s,mb4.8						
CD2	**Chengdu**	**38.62**	**264**	*e*P	**P**	**03 41 50.5**	**-0.6**
CD2				XP	sP	03 42 33.3	+4.8
CD2				PP	PP	03 43 25.8	+4.2
CD2				S	**S**	**03 47 37.0**	**-2.3**
CD2				XS	sS	03 48 26.1	+3.7
CD2				SS	SS	03 50 25.0	-8.7
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,380nm,8.4s						
CD2				LR	LR		
	comp=Z,110nm,7.8s						
GYA	**Guiyang**	**39.39**	**256**	P	**P**	**03 41 58.3**	**+0.8**
GYA				AP	pP	03 42 28.0	+5.6
GYA				PP	PP	03 43 34.7	+4.7
GYA				PCP	PcP	03 44 05.0	+1.4
GYA				SCP	ScP	03 47 40.0	-2.1
GYA				S	**S**	**03 47 48.6**	**-2.2**
GYA				XS	sS	03 48 40.6	+6.6
GYA				SCS	ScS	03 51 50.6	-3.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,460nm,15.8s						
GYA				LR	LR		
	comp=E,490nm,16.0s						
GYA				LR	LR		
	comp=Z,480nm,16.2s						
ZAL	**Zalesovo**	**41.36**	**306**	PcP	PcP	03 44 09.3	-0.7
	comp=Z,1.2nm,0.5s,baz=18,slow=5.4,SNR=7.5						
ZAL				LR	LR	04 01 10.3	
	comp=Z,99nm,18.7s,baz=213,slow=38						
QIZ	**Qiongzhong**	**42.50**	**244**	P	**P**	**03 42 28.3**	**+5.3**
QIZ				*e*S	**S**	**03 48 34.4**	**-2.5**
QIZ				AMB	AMB		
	comp=Z,62nm,1.8s,mb5.0						
KMI	**Kunming**	**42.93**	**258**	P	**P**	**03 42 28.7**	**+2.2**
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
WMQ	**Urumqi**	**43.19**	**291**	*e*P	**P**	**03 42 30.2**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
WMQ				LR	LR		
	comp=N,66nm,20.0s						
WMQ				LR	LR		
	comp=E,65nm,20.0s						
WMQ				LR	LR		
	comp=Z,38nm,17.0s						
INK	**Inuvik**	**43.55**	**32**	P	**P**	**03 42 31.1**	**-0.3**
	comp=Z,1.8nm,0.3s,mb4.2,baz=284,slow=7.1,SNR=40						
INK	**Inuvik**	**43.55**	**32**	P	**P**	**03 42 31.1**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	**Makanchi Array**	**45.39**	**297**	*e*P	**P**	**03 42 45.5**	**-0.6**
MKAR	**Makanchi Array**	**45.39**	**297**	P	**P**	**03 42 45.7**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.8,baz=73,slow=7.0,SNR=15						
MKAR				PcP	PcP	03 44 23.4	-0.2
	comp=Z,1.8nm,0.7s,baz=64,slow=2.8,SNR=6.6						
MKAR				LR	LR	04 00 46.4	
	comp=Z,63nm,20.6s,baz=254,slow=35						
MKAR	**Makanchi Array**	**45.39**	**297**	P	**P**	**03 42 45.7**	**-0.4**
MKAR				PcP	PcP	03 44 23.4	-0.2
MKAR				LR	LR	04 00 46.4	
KURK	**Kurchatov**	**46.02**	**303**	*e*P	**P**	**03 42 49.1**	**-1.9**
LSA	**Lhasa**	**48.13**	**272**	*e*P	**P**	**03 43 11.2**	**+3.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**48.13**	**272**	*e*P	**P**	**03 43 11.2**	**+3.8**
	comp=Z,7.9nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**49.71**	**309**	P	**P**	**03 43 18.3**	**-1.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=66,slow=8.6,SNR=6.2						
BVAR				PcP	PcP	03 44 38.7	-0.3
	comp=Z,1.0nm,0.3s,baz=85,slow=5.1,SNR=6.9						
BVAR				LR	LR	04 07 32.8	
	comp=Z,58nm,20.3s,baz=216,slow=40						
BVAR	**Borovoye Array**	**49.71**	**309**	P	**P**	**03 43 18.3**	**-1.2**
BVAR						03 44 38.7	
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,58nm,20.3s						
BRVK	**Borovoye**	**49.75**	**309**	*e*P	**P**	**03 43 17.6**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**49.75**	**309**	*e*P	**P**	**03 43 17.6**	**-2.3**
	comp=Z,1.9nm,0.8s,mb4.1						
CHTO	**Chiang Mai**	**49.78**	**255**	*e*P	**P**	**03 43 20.6**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**49.78**	**255**	*e*P	**P**	**03 43 20.6**	**+0.6**
	comp=Z,6.4nm,0.9s,mb4.5						
RES	**Resolute Bay**	**52.34**	**18**	*e*P	**P**	**03 43 39.0**	**-0.2**
JIRN	**Jiri**	**52.82**	**273**	*e*P	**P**	**03 43 44.2**	**+1.5**
	comp=Z,43nm,0.6s						
GUN	**Gumba**	**52.88**	**273**	*e*P	**P**	**03 43 44.7**	**+1.5**
	comp=Z,19nm,0.5s,mb5.4						
YKA	**Yellowknife Ar**	**52.91**	**35**	P	**P**	**03 43 42.5**	**-0.9**
	comp=Z,4.3nm,1.0s,mb4.4,baz=300,slow=6.7,SNR=14						
YKA	**Yellowknife Ar**	**52.91**	**35**	P	**P**	**03 43 42.5**	**-0.9**
YKA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**52.91**	**35**	P	**P**	**03 43 42.5**	**-0.9**
KKN	**Kakani**	**53.38**	**274**	*e*P	**P**	**03 43 48.1**	**+1.3**
	comp=Z,26nm,0.7s,mb5.4						
PKI	**Pulchoki**	**53.42**	**273**	*e*P	**P**	**03 43 48.3**	**+1.2**
	comp=Z,24nm,0.8s,mb5.3						
DMN	**Daman**	**53.61**	**274**	*e*P	**P**	**03 43 50.1**	**+1.6**
	comp=Z,37nm,0.8s,mb5.5						
GKN	**Gorkha**	**53.69**	**274**	*e*P	**P**	**03 43 50.3**	**+1.2**
	comp=Z,34nm,0.6s,mb5.5						
ARU	**Arti**	**54.16**	**317**	⇓*iP*	**P**	**03 43 51.1**	**-1.4**
ARU				*e*		03 44 49.0	
ARU				*e*S	**S**	**03 51 22.6**	**+1.7**
ARU				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.6						
ARU	**Arti**	**54.16**	**317**	*e*P	**P**	**03 43 51.3**	**-1.2**
	comp=Z,4.9nm,0.6s,mb4.7						
KOLN	**Koldanda**	**54.56**	**275**	*e*P	**P**	**03 43 56.7**	**+1.3**
	comp=Z,40nm,0.7s,mb5.5						
AKTO	**Aktyubinsk**	**57.66**	**311**	LR	LR	04 10 27.3	
	comp=Z,71nm,19.8s,baz=226,slow=37						
A08A	**Turner Farm, O**	**57.87**	**51**	⇑P	**P**	**03 44 18.5**	**-0.4**
	baz=58						
ARCES	**ARCESS Array B**	**57.94**	**340**	P	**P**	**03 44 18.2**	**-1.1**
	comp=Z,5.3nm,1.0s,mb4.5,baz=43,slow=9.0,SNR=3.9						
ARCES	**ARCESS Array B**	**57.94**	**340**	P	**P**	**03 44 18.3**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
C07A	**Waterville**	**58.15**	**53**	⇓P	**P**	**03 44 19.9**	**-1.0**
	baz=58						
B08A	**Colville Reser**	**58.17**	**52**	⇓P	**P**	**03 44 20.6**	**-0.4**
	baz=58						
A09A	**Danville**	**58.23**	**51**	⇓P	**P**	**03 44 21.0**	**-0.4**
	baz=58						
F05A	**White Salmon**	**58.39**	**55**	⇓P	**P**	**03 44 22.2**	**-0.3**
	baz=58						
EDM	**Edmonton**	**58.48**	**44**	*e*P	**P**	**03 44 22.7**	**-0.5**
J02A	**Umpqua**	**58.60**	**59**	⇓P	**P**	**03 44 24.1**	**0.0**
	baz=58						
HOOD	**Mount Hood Mea**	**58.60**	**56**	*e*P	**P**	**03 44 24.9**	**+0.9**
H04A	**Detroit Lake**	**58.66**	**57**	P	**P**	**03 44 25.1**	**+0.6**
	baz=58,SNR=5.4						
G05A	**Wamic**	**58.84**	**56**	⇑P	**P**	**03 44 25.7**	**0.0**
	baz=59						
I04A	**Tendick Farm,**	**59.04**	**58**	⇓P	**P**	**03 44 27.1**	**0.0**
	baz=59						
C09A	**Chrisman Ranch**	**59.07**	**52**	⇑P	**P**	**03 44 26.6**	**-0.7**
	baz=59						
F07A	**Phinny Hill Vi**	**59.26**	**54**	⇓P	**P**	**03 44 28.2**	**-0.4**
	baz=59						
NEW	**Newport**	**59.43**	**51**	P	**P**	**03 44 29.4**	**-0.4**
	comp=Z,1.0nm,0.7s,mb4.0,baz=322,slow=7.6,SNR=4.5						
NEW	**Newport**	**59.43**	**51**	P	**P**	**03 44 29.4**	**-0.3**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.7s						
A11A	**Hall Mountain,**	**59.43**	**50**	⇓P	**P**	**03 44 29.9**	**+0.2**
	baz=59						
J04A	**Umpqua Nationa**	**59.55**	**58**	⇑P	**P**	**03 44 30.5**	**0.0**
	baz=59						
G07A	**Ruggs Ranch, H**	**59.77**	**55**	⇑P	**P**	**03 44 31.7**	**-0.4**
	baz=60						
E09A	**Wood Farm, Sta**	**59.90**	**53**	⇓P	**P**	**03 44 32.9**	**-0.1**
	baz=60						
J05A	**Fort Rock**	**60.03**	**57**	⇓P	**P**	**03 44 34.8**	**+0.9**
	baz=60						
YBH	**Yreka Blue Hor**	**60.08**	**60**	P	**P**	**03 44 35.1**	**+1.0**
	comp=Z,1.9nm,0.7s,mb4.3,baz=316,slow=4.8,SNR=8.9						
YBH	**Yreka Blue Hor**	**60.08**	**60**	P	**P**	**03 44 35.1**	**+0.9**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YBH	**Yreka Blue Hor**	**60.08**	**60**	⇓P	**P**	**03 44 34.2**	**+0.1**
	baz=60						
G08A	**Pilot Rock**	**60.16**	**54**	⇑P	**P**	**03 44 34.5**	**-0.3**
	baz=60						
M02C	**Callahan**	**60.19**	**60**	⇓P	**P**	**03 44 35.6**	**+0.7**
	baz=60						
I06A	**Prineville**	**60.24**	**56**	⇑P	**P**	**03 44 35.3**	**0.0**
	baz=60						
N02C	**Big Bar**	**60.26**	**61**	⇓P	**P**	**03 44 36.1**	**+0.7**
	baz=60						
L04A	**Klamath Falls**	**60.30**	**59**	⇓P	**P**	**03 44 37.0**	**+1.3**
	baz=60						
K05A	**Summer Lake**	**60.57**	**58**	⇓P	**P**	**03 44 38.1**	**+0.6**
	baz=60						
M04C	**Macdoel**	**60.57**	**59**	P	**P**	**03 44 38.4**	**+0.9**
	baz=60,SNR=6.6						
I07A	**Izee**	**60.57**	**56**	⇓P	**P**	**03 44 37.5**	**0.0**
	baz=60						
J06A	**Christmas Vall**	**60.69**	**57**	⇓P	**P**	**03 44 38.6**	**+0.3**
	baz=60						
M03C	**McCloud**	**60.70**	**60**	⇓P	**P**	**03 44 38.8**	**+0.4**
	baz=61						
F10A	**Beach Ranch, E**	**60.73**	**53**	⇓P	**P**	**03 44 37.3**	**-1.3**
	baz=61						
KCPM	**Cahto Peak**	**60.76**	**62**	*e*P	**P**	**03 44 39.2**	**+0.4**
H08A	**Prairie City**	**60.79**	**55**	⇓P	**P**	**03 44 38.0**	**-1.0**
	baz=61						
WDC	**Whiskeytown Da**	**60.87**	**61**	⇑P	**P**	**03 44 40.5**	**+1.0**
	baz=61						
K06A	**Valley Falls**	**60.90**	**57**	P	**P**	**03 44 40.8**	**+1.0**
	baz=61,SNR=6.1						
O02C	**Red Bluff**	**60.96**	**61**	⇑P	**P**	**03 44 40.5**	**+0.4**
	baz=61						
L05A	**Lakeview**	**61.01**	**58**	⇑P	**P**	**03 44 41.2**	**+0.6**
	baz=61						
P01C	**Double 8 Ranch**	**61.05**	**62**	⇓P	**P**	**03 44 39.9**	**-0.8**
	baz=61						
E11A	**Bogner Ranch,**	**61.07**	**52**	⇓P	**P**	**03 44 40.2**	**-0.7**
	baz=61						
J07A	**Hines**	**61.11**	**56**	⇑P	**P**	**03 44 41.1**	**0.0**

M06C	Likely Place G	61.73	59	⇓P		P	03 44 45.1	-0.3
	baz=62							
H10A	Noah's Angus R	61.84	54	⇓P		P	03 44 46.0	-0.1
	baz=62							
O04C	Chester	61.91	60	⇓P		P	03 44 46.3	-0.2
	baz=62							
L07A	Adell	61.91	58	P		P	03 44 47.6	+1.1
	baz=62,SNR=5.2							
ELFS	Eagle Lake Fie	61.94	60	⇑P		P	03 44 46.8	+0.1
	baz=62							
MNRC	McLaughlin Nat	61.96	62	⇑P		P	03 44 47.6	+0.7
	baz=62							
F12A	Elk City	61.96	52	⇑P		P	03 44 47.1	+0.2
	baz=62							
K08A	Mann Creek Ran	61.98	57	P		P	03 44 47.9	+0.9
	baz=62,SNR=5.5							
J09A	Fry Pan Ranch,	62.03	56	⇑P		P	03 44 48.2	+0.9
	baz=62							
D14A	Greenough	62.09	50	⇓P		P	03 44 47.3	-0.5
	baz=62							
E13A	Victor	62.12	51	⇓P		P	03 44 47.2	-0.7
	baz=62							
ORV	Oroville	62.12	61	⇓P		P	03 44 47.1	-0.8
	baz=62							
H11A	Donnelly	62.18	54	⇓P		P	03 44 47.4	-1.0
	baz=62							
O05C	Quincy	62.23	60	⇑P		P	03 44 48.4	-0.2
	baz=62							
L08A	Fields	62.39	57	P		P	03 44 50.6	+0.8
	baz=62,SNR=6.0							
N06A	Buffalo Meadow	62.40	59	⇑P		P	03 44 50.5	+0.7
	baz=62							
M07A	Soldier Meadow	62.40	58	P		P	03 44 50.6	+0.8
	baz=62,SNR=14							
F13A	Darby	62.45	52	⇓P		P	03 44 50.0	-0.1
	baz=62							
E14A	Clinton	62.51	51	⇑P		P	03 44 50.4	-0.1
	baz=62							
P05C	Yuba Gap, Truc	62.82	61	⇑P		P	03 44 52.1	-0.5
	baz=63							
L09A	Wilkinson Ranc	62.90	57	⇑P		P	03 44 53.1	0.0
	baz=63							
H12A	Diamond D Ranc	62.93	53	⇓P		P	03 44 52.6	-0.7
	baz=63							
G13A	Cobalt	62.93	52	⇑P		P	03 44 53.3	-0.1
	baz=63							
E15A	Deer Lodge	62.97	50	⇑P		P	03 44 53.5	-0.1
	baz=63							
LAVA	Lava Cap Winer	63.08	61	⇑P		P	03 44 53.8	-0.5
	baz=63							
KAF	Kangasniemi	63.29	334	*e*p		P	03 44 53.5	-2.2
O07A	Toulon	63.33	59	P		P	03 44 56.6	+0.6
	baz=63,SNR=7.3							
WCN	Washoe City	63.34	60	P		P	03 44 56.9	+0.8
	baz=63,SNR=5.1							
N08A	GE Springer Mi	63.39	58	⇓P		P	03 44 56.1	-0.3
	baz=63							
M09A	Marrel Ranch,	63.39	57	⇑P		P	03 44 56.4	0.0
	baz=63							
F15A	Butte	63.42	51	⇓P		P	03 44 56.4	-0.1
	baz=63							
LRM	Limekiln Ridge	63.45	51	*e*P		P	03 44 56.7	-0.1
R05C	Kirkwood Meado	63.52	61	⇑P		P	03 44 57.3	+0.1
	baz=63							
N09A	Rock Creek Ran	63.71	58	⇓P		P	03 44 59.1	+0.6
	baz=64							
CMB	Columbia Colle	63.75	62	P		P	03 44 59.2	+0.5
	baz=64,SNR=5.9							
HLID	Hailey	63.80	54	⇑P		P	03 44 58.0	-1.0
	baz=64							
PACP	Pacheco Peak	63.83	63	P		P	03 44 59.9	+0.7
	baz=64,SNR=5.3							
G15A	Dillon	63.85	51	⇓P		P	03 44 58.6	-0.7
	baz=64							
M10A	I.L. Ranch, Tu	63.86	57	⇓P		P	03 44 59.2	-0.3
	baz=64							
FINES	FINESS Array B	63.87	334	P		P	03 44 57.5	-2.1
	comp=Z,2.3nm,0.6s,mb4.2,baz=50,slow=9.1,SNR=10							
FINES	FINESS Array B	63.87	334			P	03 44 57.5	-2.0
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	FINESS Array B	63.87	334	P		P	03 44 57.5	-2.1
R06C	Coleville	64.01	61	⇑P		P	03 45 00.2	-0.2
	baz=64,SNR=5.9							
HAST	UC Hastings Re	64.06	64	P		P	03 45 01.1	+0.3
	baz=64,SNR=5.1							
S06C	San Francisco	64.17	62	⇓P		P	03 45 01.3	-0.2
	baz=64,SNR=5.5							
S05C	Merced	64.21	62	⇓P		P	03 45 01.6	-0.2
	baz=64							
O09A	Fish Creek Ran	64.33	58	⇑P		P	03 45 02.6	0.0
	baz=64							
M11A	Holland Ranch,	64.36	56	⇑P		P	03 45 03.6	+0.9
	baz=64							
V03C	Hunter Liggett	64.48	64	⇓P		P	03 45 03.1	-0.5
	baz=64							
R07C	Lee Vining	64.53	61	⇑P		P	03 45 04.9	+1.0
	baz=64							
U04C	Hernandez Rese	64.55	63	⇑P		P	03 45 03.8	-0.2
	baz=64							
O10A	Cortez Mining,	64.67	58	⇓P		P	03 45 04.7	0.0
	baz=64							
Q08A	Gabbs	64.72	60	P		P	03 45 05.5	+0.4
	baz=65,SNR=6.1							
NVAR	Mina Array Bea	64.77	60	P		P	03 45 06.1	+0.7
	comp=Z,3.8nm,0.8s,mb4.3,baz=293,slow=8.1,SNR=24							
NVAR	Mina Array Bea	64.77	60	P		P	03 45 06.1	+0.7
T06C	Millerton Lake	64.81	62	⇑P		P	03 45 05.8	+0.1
	baz=65							
KCC	Kaiser Creek	64.85	62	⇑P		P	03 45 05.7	-0.2
	baz=65							
M12A	Wells	64.87	56	⇑P		P	03 45 07.0	+0.9
	baz=65							
V04C	Ramage Ranch,	64.96	64	⇑P		P	03 45 06.8	+0.2
	baz=65							
PKD	Parkfield	64.97	64	⇑P		P	03 45 06.5	-0.2
	baz=65							
P10A	Eureka	65.11	58	⇑P		P	03 45 08.3	+0.7
	baz=65							
N12A	Clover Valley,	65.16	56	⇓P		P	03 45 08.9	+0.9
	baz=65							
M13A	Montello	65.34	55	⇑P		P	03 45 09.1	0.0
	baz=65							
S08C	White Mtn Res	65.44	61	⇓P		P	03 45 09.8	+0.1
	baz=65							
HELL	Mitchell Peak,	65.44	62	P		P	03 45 09.5	-0.3
	baz=65,SNR=12							
R09A	Tonopah	65.64	60	P		P	03 45 11.5	+0.5
	baz=66,SNR=8.7							
O12A	Currie	65.71	57	⇑P		P	03 45 11.8	+0.3
	baz=66							
CTAO	Charters Tower	65.74	184	*e*P		P	03 45 11.0	-0.7
CTAO				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.3							
CTAO	Charters Tower	65.74	184	*e*P		P	03 45 11.0	-0.7
	comp=Z,5.1nm,1.0s,mb4.3							
S09A	Goldfield	65.87	60	⇑P		P	03 45 12.0	-0.5
	baz=66							
VES	Vestal, Richgr	65.95	63	⇑P		P	03 45 12.5	-0.5
	baz=66							
PKM	Peak Mountain	66.09	64	⇓P		P	03 45 13.5	-0.4
	baz=66							
Q11A	Duckwater	66.09	58	⇑P		P	03 45 13.3	-0.6
	baz=66							
P12A	McGill	66.13	57	⇓P		P	03 45 14.8	+0.6
	baz=66							
CWC	Cottonwood Cre	66.18	62	⇑P		P	03 45 13.7	-0.8
	baz=66							
ISA	Isabella	66.44	63	⇓P		P	03 45 15.6	-0.5
	baz=66							
MPMC	Manual Prospec	66.79	62	P		P	03 45 18.5	+0.2
	baz=67,SNR=10							
DUG	Dugway	66.88	56	*e*P		P	03 45 19.2	+0.3
DUG				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.4							
DUG	Dugway	66.88	56	*e*P		P	03 45 19.2	+0.3
	comp=Z,7.6nm,1.3s,mb4.4							
DUG	Dugway	66.88	56	P		P	03 45 19.6	+0.7
	baz=67,SNR=6.6							
FURC	Furnace Creek,	66.91	61	⇓P		P	03 45 18.9	-0.2
	baz=67,SNR=6.8							
PDAR	Pinedale Array	67.01	52	P		P	03 45 19.9	+0.1
	comp=Z,2.0nm,0.7s,mb4.1,baz=258,slow=1.4,SNR=15							
WRA	Warramunga Arr	67.03	196	P		P	03 45 19.5	-0.4
	comp=Z,3.0nm,0.8s,mb4.2,baz=16,slow=6.9,SNR=14							
WRA	Warramunga Arr	67.03	196	P		P	03 45 19.5	-0.4
WRA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
LRMC	Laurel Mountai	67.04	62	⇑P		P	03 45 19.2	-0.8
	baz=67							
EDW2	Edwards Air Fo	67.25	63	P		P	03 45 21.6	+0.4
	baz=67,SNR=7.8							
U10A	Ash Meadows, A	67.26	61	⇓P		P	03 45 21.5	+0.1
	baz=67							
GSC	Goldstone	67.70	62	⇓P		P	03 45 23.9	-0.2
	baz=68							
BFSC	Mount Baldy St	67.87	63	⇑P		P	03 45 24.4	-0.8
	baz=68							
TUQ	Turquoise Mtn.	68.16	61	⇑P		P	03 45 26.8	-0.2
	baz=68							
V11A	Goodsprings	68.19	61	⇓P		P	03 45 27.0	-0.2
	baz=68							
HEC	Hector,Ludlow	68.31	62	P		P	03 45 28.4	+0.5
	baz=68,SNR=7.8							
NB2	NORSAR Subarra	68.32	340	P		P	03 45 26.4	-1.6
	comp=Z,2.3nm,0.7s,mb4.1,baz=29,slow=6.2							
NOA	NORSAR Array B	68.32	340	P		P	03 45 26.7	-1.3
	comp=Z,2.1nm,0.6s,mb4.2,baz=29,slow=6.6,SNR=9.6							
NOA				LR	LR		04 18 26.6	
	comp=Z,55nm,19.0s,baz=265,slow=38							
NOA	NORSAR Array B	68.32	340	P		P	03 45 26.7	-1.3
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NOA				MLR	MLR			
	comp=Z,55nm,19.0s							
MURC	Murrieta	68.58	64	⇓P		P	03 45 29.2	-0.4
	baz=68							
V12A	Nelson	68.62	60	⇓P		P	03 45 29.0	-0.8
	baz=68							
GMRC	Granite Mounta	68.75	62	⇑P		P	03 45 29.5	-1.1
	baz=69							
AFI	Afiamalu	68.80	140	LR	LR		04 15 55.6	
	comp=Z,72nm,18.8s,baz=344,slow=36							
PFO	Pinyon Flat Ob	69.04	63	⇑P		P	03 45 31.6	-0.8
	baz=69							
BELC	Belle Mtn.	69.06	63	⇑P		P	03 45 32.1	-0.5
	baz=69							
109C	Camp Elliot, M	69.11	64	⇑P		P	03 45 32.5	-0.4
	baz=69							
IRM	Iron Mountain	69.48	62	⇑P		P	03 45 34.7	-0.4
	baz=69							
W13A	Hualapai Mount	69.62	60	⇓P		P	03 45 35.5	-0.5
	baz=70							
BC3	Big Chuckw Mtn	69.63	62	⇑P		P	03 45 35.9	-0.2
	baz=70							
KIV	Kislovodsk	69.81	313	*e*P		P	03 45 42.0	+4.8
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.5							
X13A	Yucca	70.00	61	P		P	03 45 38.8	+0.5
	baz=70,SNR=5.8							
PDMCI	Parker Dam,Lak	70.01	61	⇓P		P	03 45 37.9	-0.5
	baz=70							
W14A	Seligman	70.03	60	P		P	03 45 39.5	+1.0
	baz=70,SNR=6.9							
Y12C	Blythe	70.14	62	⇑P		P	03 45 39.0	-0.2
	baz=70							
PV10	Paradox Valley	70.27	55	*e*P		P	03 45 40.6	+0.6
W15A	Williams	70.55	59	⇑P		P	03 45 43.0	+1.3
	baz=70							
X14A	Yava	70.65	60	⇑P		P	03 45 43.1	+0.7
	baz=70							
ASAR	Alice Springs	70.74	196	P		P	03 45 43.8	+0.9
	comp=Z,2.0nm,0.8s,mb4.0,baz=11,slow=5.8,SNR=16							
ASAR	Alice Springs	70.74	196	P		P	03 45 43.8	+1.0
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WUAZ	Wupatki	70.86	59	⇓P		P	03 45 44.6	+1.0
	baz=71							
Y14A	Wickenburg	70.94	61	⇑P		P	03 45 44.2	+0.1
	baz=71							
AKASG	Malin Array Be	71.02	325	P		P	03 45 43.8	-0.8
	comp=Z,0.9nm,0.4s,mb3.9,baz=35,slow=6.2,SNR=12							
AKASG	Malin Array Be	71.02	325	*i* P		P	03 45 43.7	-0.9
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
X15A	Humboldt	71.04	60	P		P	03 45 45.8	+1.1
	baz=71,SNR=5.4							
MVCO	Mesa Verde	71.38	56	⇓P		P	03 45 46.4	-0.3
	baz=71							
CLL	Collm	76.32	334	*e*P		P	03 46 16.0	+0.5
BRTR	Keskin Array B	77.49	315	P		P	03 46 22.5	+0.4
	comp=Z,0.4nm,0.5s,mb3.4,baz=50,slow=1.9,SNR=3.8							
BRTR				LR	LR		04 22 50.8	
	comp=Z,37nm,18.1s,baz=119,slow=37							
KHC	Kasperske Hory	78.03	332	*e*P		P	03 46 25.0	-0.1
KHC	Kasperske Hory	78.03	332	*e*P		P	03 46 24.6	-0.5
GERES	GERESS Array B	78.24	332	P		P	03 46 25.5	-0.7
	comp=Z,0.9nm,0.7s,mb3.6,baz=28,slow=6.0,SNR=6.8							
GERES	GERESS Array B	78.24	332	P		P	03 46 25.5	-0.7
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PPT	Papeete	83.46	123	LR	LR		04 16 11.3	
	comp=Z,100nm,21.1s,baz=307,slow=30							
TORD	Torodi Ar. Bea	114.65	326	PKP	PKiKP		03 53 05.0	-1.0
	comp=Z,0.2nm,0.4s,baz=9.6,slow=2.2,SNR=9.2							
TORD	Torodi Ar. Bea	114.65	326	PKP	PKiKP		03 53 05.0	-1.0
CFAA	Coronel Fontan	147.31	78	PKPbc	PKPbc		03 54 08.6	-0.7
	comp=Z,0.7nm,0.6s,baz=304,slow=3.8,SNR=15							
VNA2	Neumayer--Watz	152.59	196	*e*PKPdf	PKPbc		03 54 20.9	-1.3
VNA2				*e*			03 54 34.8	
VNA2				*e*			03 54 38.9	
VNA2				*e*			03 54 45.1	

IDC 04 03:36:59.4±1.1,2200N×14320E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/21,mbtmp3.7/7,Error ellipse: s-maj=46.3km s-min=20.1km az=81.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.12	320	P	P	03 44 27.2	-1.2
	0.4nm,0.6s,baz=109,slow=13,SNR=3.9						
WRA	Warramunga Arr	42.57	192	P	P	03 44 56.6	-0.4
	1.0nm,1.1s,baz=10,slow=8.2,SNR=4.9						
ASAR	Alice Springs	46.28	192	P	P	03 45 26.2	-0.4
	0.3nm,0.7s,baz=16,slow=9.7,SNR=6.9						
STKA	Stephens Creek	53.59	182	P	P	03 46 23.4	+1.2
	1.4nm,0.6s,baz=342,slow=14,SNR=3.1						
MKAR	Makanchi Array	54.50	312	P	P	03 46 30.1	+1.2
	0.9nm,1.0s,baz=106,slow=7.9,SNR=2.6						
BVAR	Borovoye Array	62.45	319	P	P	03 47 24.6	+0.3
	0.9nm,0.6s,baz=109,slow=8.2,SNR=4.3						
YKA	Yellowknife Ar	76.19	28	P	P	03 48 49.1	-0.3
	0.5nm,0.7s,baz=294,slow=5.9,SNR=7.0						

*ISCJB **04** 03:38:43.1±0.5,3562N±003×140.14E±005,h75km±4km, mb3.5/4,Error ellipse: s-maj=7.4km s-min=4.7km az=130.1*

*JMA **04** 03:38:43.9±0.2,3568N×140.13E,h68km±2km,M3.3 Broadband fault plane solution: P waves. NP1: ϕ_s=185.00000°,δ16.00000°,λ96.00000°. NP2: ϕ_s=359.00000°,δ74.00000°,λ88.00000°. Principal axes: T Plg61.0000°, Azm266.0000°; N Plg2.0000°, Azm359.0000°; P Plg29.0000°, Azm90.0000°;*

JMA Felt I J1.

*IDC **04** 03:38:45.4±2.0,3551N×13992E,h73km±17km,mb3.2/4, mb1 3.5/5,mb1mx3.3/21,mbtmp3.3/5,MS2.9/1,Ms1 2.9/1, ms1mx2.6/9 Error ellipse: s-maj=35.2km s-min=12.2km az=77.0*

ISC 04 03:38:44.1±0.5,3563N±003×14014E±005,h69km±4km, n20,σ0°83/33,mb3.5/4,3C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.21	166	⇑P	Pn	03 38 55.2	+0.6
JCN				*e*S	Sn	03 39 04.0	+1.7
TOK	Tokyo	0.32	281	P	Pn	03 38 55.6	+0.4
TOK				*e*S	Sn	03 39 04.1	+0.7
JYT	Yasato	0.60	4	⇑P	Pn	03 38 56.8	-1.0
JYT				*e*S	Sn	03 39 06.2	-1.7
BSO3	Boso 3	0.88	160	⇑P	Pn	03 39 00.9	-0.1
BSO3				*e*S	Sn	03 39 14.7	+1.2
JOD2	Odawara 2	0.93	247	⇓P	Pn	03 39 01.4	-0.3
JOD2				*e*S	Sn	03 39 14.0	-0.7
JAG	Ashikaga	0.97	325	⇓P	Pn	03 39 01.7	-0.5
JAG				*e*S	Sn	03 39 14.8	-0.8
JIM2	Oshima 3	1.08	213	P	Pn	03 39 02.8	-0.7
JIM2				*e*S	Sn	03 39 17.1	-0.8
JRY	Ryogami san	1.08	292	⇓P	Pn	03 39 03.9	+0.4
JRY				*e*S	Sn	03 39 18.9	+1.0
BSO1	Boso 1	1.19	144	P	Pn	03 39 04.4	-0.6
BSO1				*e*S	Sn	03 39 20.9	+0.4
JYN	Shimob	1.30	265	⇓P	Pn	03 39 06.5	+0.1
JYN				*e*S	Sn	03 39 23.6	+0.4
JKT	Katashina	1.35	328	P	Pn	03 39 06.6	-0.4
JKT				*e*S	Sn	03 39 23.4	-0.7
JIZS	Izushimoda	1.37	229	⇓P	Pn	03 39 07.2	-0.1
JIZS				*e*S	Sn	03 39 24.1	-0.7
MJAR	Matsushiro Arr	1.81	301	P	Pn	03 39 12.6	-0.5
	23nm,0.3s,baz=130,slow=15,SNR=71						
MAT	Matsushiro	1.81	301	P	Pn	03 39 13.8	+0.6
MAT				*e*S	Sn	03 39 37.5	+2.3
JHJ	Hachijo jima 2	2.52	187	P	Pn	03 39 22.6	-0.1
	22nm,0.3s,baz=173,slow=7.7,SNR=5.9						
JHJ				S	Sn	03 39 51.1	-1.2
	58nm,0.3s,baz=255,slow=24,SNR=7.8						
JOW	Kunigami	13.40	232	LR	LR	03 46 06.4	
	comp=Z,57nm,21.3s,baz=342,slow=34						
MKAR	Makanchi Array	44.01	303	P	P	03 46 45.2	+0.5
	0.6nm,0.8s,mb3.4,baz=80,slow=9.4,SNR=3.8						
WRA	Warramunga Arr	55.54	187	P	P	03 48 11.9	-0.3
	0.5nm,0.3s,mb4.0,baz=0.2,slow=7.5,SNR=12						
ASAR	Alice Springs	59.26	187	P	P	03 48 38.5	+0.1
	0.2nm,0.6s,mb3.4,baz=13,slow=9.9,SNR=3.3						
YKA	Yellowknife Ar	65.54	29	P	P	03 49 21.7	+1.4
	0.5nm,0.8s,mb3.4,baz=292,slow=6.0,SNR=3.1						

WEL 04 03:39:32.8±0.4,3785S×17616E,h189km±3km,ML3.5/8, Error ellipse: s-maj=4.7km s-min=3.0km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.85	119	PN	Pn	03 40 00.2	-0.2
URZ				SN	Sn	03 40 21.4	-0.4
MWZ	Matawai	1.18	115	PN	Pn	03 40 03.0	+0.2
MWZ				SN	Sn	03 40 26.8	+0.8
BKZ	Black Stump Fm	1.34	169	PN	Pn	03 40 04.3	+0.2
BKZ				SN	Sn	03 40 28.5	+0.1
WNVZ	Wahianoa	1.55	197	PN	Pn	03 40 06.5	+0.6
KNZ	Kokohu	1.67	135	PN	Pn	03 40 07.2	+0.2
WPHZ	Waipukurau	2.23	175	SN	Sn	03 40 42.9	-1.2
PXZ	Pawanui	2.25	166	PN	Pn	03 40 12.9	-0.2
BFZ	Birch Farm	2.83	179	PN	Pn	03 40 18.7	-1.1
BFZ				SN	Sn	03 40 54.9	-1.7
MRZ	Mangatainoka R	2.85	189	*e*PN	Pn	03 40 18.5	-1.5
MRZ				SN	Sn	03 40 54.3	-2.6
KIW	Kapiti Island	3.17	198	PN	Pn	03 40 22.2	-1.6
MTW	Mount Morrison	3.35	189	PN	Pn	03 40 23.9	-2.2
MTW				SN	Sn	03 41 03.2	-4.4
CAW	Cannon Point	3.37	194	PN	Pn	03 40 24.7	-1.6
TCW	Tory Channel	3.67	203	PN	Pn	03 40 28.0	-2.0
MQZ	McQueen's Vall	6.43	203	SN	Sn	03 42 10.3	-8.4

*IDC **04** 03:51:03.1±1.6,3928N×7291E,h0km,mb3.5/5,mb1 3.7/9, mb1mx3.5/25,mbtmp3.5/9,ML3.1/3,Error ellipse: s-maj=29.4km s-min=19.4km az=156.0*

*NEIC **04** 03:51:05.9±2.0,3952N×7280E,h10km,Error ellipse: s-maj=30.6km s-min=15.3km az=172.0*

*ISCJB **04** 03:51:07.5±0.5,3968N±004×7250E±009,h10km,mb3.4/5, Error ellipse: s-maj=10.4km s-min=5.0km az=25.7*

ISC 04 03:51:10.1±1.7,3972N±004×7252E±009,h17km±12km, n26,σ1°23/30,mb3.4/5,2C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	2.57	20	P	Pn	03 51 52.6	+1.7
	SNR=65						
UCH	Uchtor	2.93	30	P	Pn	03 51 56.4	+0.6
	SNR=27						
EKS2	Erkin-Say	3.09	18	P	Pn	03 51 59.9	+1.9
	SNR=16						
KZA	Kyzart	3.14	40	P	Pn	03 51 58.2	-0.5
	SNR=26						
AAK	Ala-Archa	3.27	27	P	Pn	03 52 01.6	+1.1
	SNR=12						
AAK	Ala-Archa	3.27	27	⇑*i*Pn	Pn	03 52 00.7	+0.1
AAK				*e*Sn	Sn	03 52 39.0	0.0
KBK	Karagaybulak	3.46	31	P	Pn	03 52 04.0	+0.9
	SNR=10						
CHMS	Chumysh	3.68	26	P	Pn	03 52 06.9	+0.7
	SNR=7.9						
KK31	Karatay Array	3.70	337	Pn	Pn	03 52 09.5	+3.0
	4.1nm,0.4s,baz=164,slow=15,SNR=178						
KK31				⇓Pg	Pg	03 52 20.2	-0.8
	7.2nm,0.3s,baz=137,slow=15,SNR=14						
KK31				⇓Sn	Sn	03 52 57.5	+7.8
	34nm,0.4s,baz=152,slow=24,SNR=7.8						
KK31				⇓Lg		03 53 08.8	
	40nm,0.5s,baz=149,slow=30,SNR=5.3						
ULHL	Ulahol	3.78	47	P	Pn	03 52 06.6	-1.0
	SNR=19						
USP	Ospenovka	3.84	22	P	Pn	03 52 09.3	+0.9
	SNR=5.9						
TKM2	Tokmak 2	3.95	35	P	Pn	03 52 09.8	-0.1
	SNR=14						
TKM2	Tokmak 2	3.95	35	⇑Pn	Pn	03 52 09.5	-0.4
	7.5nm,1.0s						
TKM2				⇓Lg		03 53 12.9	
	3.3nm,0.5s						
CEP	Cherat	5.91	185	P	Pn	03 52 37.6	+0.9
CEP				S	Sn	03 53 45.0	+1.0
CHCP	Chirah Chowk	6.08	174	P	Pn	03 52 37.8	-1.3
THW	Thamme Wali	6.94	185	P	Pn	03 52 51.3	+0.4
MKAR	Makanchi Array	10.03	42	Pn	Pn	03 53 30.6	-2.8
	0.0nm,0.3s,baz=224,slow=13,SNR=3.2						
BVAR	Borovoye Array	13.39	354	Pn	Pn	03 54 17.8	-1.4
	0.2nm,0.3s,baz=245,slow=42,SNR=3.2						
BVAR				Lg		03 58 20.9	
	baz=155,slow=26,SNR=3.6						
AKTK	Aktyubinsk	14.79	321	Pn	Pn	03 54 38.7	+0.2
AKTO	Aktyubinsk	14.79	321	Pn	Pn	03 54 38.7	+0.3
	0.2nm,0.3s,baz=126,slow=18,SNR=2.9						
ZAL	Zalesovo	16.48	26	Pn	Pn	03 54 57.3	-3.1
	0.6nm,0.3s,baz=268,slow=6.2,SNR=2.8						
SONM	Songino Array	25.61	60	P	P	03 56 33.7	-4.7
	0.2nm,0.7s,mb2.8,baz=255,slow=8.8,SNR=2.1						
FINES	FINESS Array B	35.55	323	P	P	03 58 05.8	-0.4
	2.2nm,0.9s,mb4.1,baz=106,slow=2.5,SNR=3.

WNVZ	Wahianoa	6.84	210	PN	Pn	03 56 52.1	+0.8
MOVZ	Moawhango	6.85	208	P	Pn	03 56 51.6	+0.3
MOVZ	Moawhango	6.85	208	ePN	Pn	03 56 51.4	0.0
PXZ	Pawanui	7.03	200	ePN	Pn	03 56 53.0	-0.4
PXZ				SN	S	03 58 16.4	-1.0
WPHZ	Waipukurau	7.18	202	ePN	Pn	03 56 54.7	-0.5
TSZ	Takapari Road	7.34	205	P	Pn	03 56 57.4	+0.4
TSZ	Takapari Road	7.34	205	ePN	Pn	03 56 57.0	0.0
BFZ	Birch Farm	7.81	201	P	Pn	03 57 03.2	+0.8
BFZ	Birch Farm	7.81	201	ePN	Pn	03 57 02.8	+0.4
BFZ				SN	S	03 58 33.5	-0.5
MRZ	Mangatainoka R	8.01	205	P	Pn	03 57 04.8	0.0
MRZ	Mangatainoka R	8.01	205	ePN	Pn	03 57 04.7	-0.1
MRZ				SN	S	03 58 35.6	-2.7
TIWZ	Tintock	8.01	203	ePN	Pn	03 57 05.0	+0.2
KIW	Kapiti Island	8.43	207	P	Pn	03 57 08.8	-0.9
KIW	Kapiti Island	8.43	207	PN	Pn	03 57 08.8	-0.9
MTW	Mount Morrison	8.48	203	P	Pn	03 57 08.2	-2.1
MTW	Mount Morrison	8.48	203	ePN	Pn	03 57 10.2	0.0
CAW	Cannon Point	8.58	206	P	Pn	03 57 11.2	-0.3
CAW	Cannon Point	8.58	206	PN	Pn	03 57 10.8	-0.7
MSWZ	Moikau Station	8.79	204	P	Pn	03 57 14.1	+0.1
MSWZ	Moikau Station	8.79	204	ePN	Pn	03 57 13.8	-0.2
SNZO	South Karori	8.89	206	Pn	Pn	03 57 17.5	+2.4
	69nm,1.3s						
TCW	Tory Channel	8.97	209	P	Pn	03 57 15.5	-0.6
TCW	Tory Channel	8.97	209	ePN	Pn	03 57 14.2	-1.9
TCW				SN	S	03 59 00.6	+1.4
TUWZ	Tuamarina	9.29	209	ePN	Pn	03 57 18.8	-1.1
TUWZ				SN	S	03 59 05.6	-0.5
NNZ	Nelson	9.36	212	SN	S	03 59 07.3	-0.2
THZ	Tophouse	10.01	212	eP	Pn	03 57 28.9	+0.6
THZ	Tophouse	10.01	212	ePN	Pn	03 57 28.7	+0.4
THZ				SN	S	03 59 21.6	-0.1
KHZ	Kahutara	10.29	208	eP	Pn	03 57 32.0	+0.4
KHZ	Kahutara	10.29	208	ePN	Pn	03 57 31.7	+0.1
KHZ				SN	S	03 59 28.8	+1.0
LTZ	Lake Taylor	11.11	211	eP	Pn	03 57 41.3	0.0
LTZ	Lake Taylor	11.11	211	ePN	Pn	03 57 41.3	+0.1
MQZ	McQueen's Vall	11.73	207	SN	S	03 59 59.1	+0.5
DZM	Mont Dzumac	16.45	310	P	P	03 58 31.8	-7.9
	0.2nm,0.3s,baz=279,slow=22,SNR=4.4						
ASAR	Alice Springs	41.32	271	P	P	04 02 21.9	+0.5
	0.5nm,0.6s,mb2.9,baz=106,slow=7.2,SNR=7.6						
WB2	Warramunga Arr	42.58	277	eP	P	04 02 31.4	-0.1
WRA	Warramunga Arr	42.59	277	P	P	04 02 30.5	-1.1
	0.8nm,0.3s,mb3.3,baz=115,slow=7.6,SNR=13						
MAW	Mawson	68.85	201	eP	P	04 05 44.8	+8.8
	2.8nm,0.8s,mb4.0						
FINES	FINESS Array B	147.33	337	PKPbc	PKPbc	04 14 10.3	-0.7
	0.4nm,0.4s,baz=47,slow=3.4,SNR=6.5						
FINES	FINESS Array B	147.33	337	PKPbc	PKPbc	04 14 10.3	-0.7

ISCJB ***04*** *03:58:38.1±0.8, 3527N±006×13906E±0.10, h178km±5km, mb3.4/1, Error ellipse: s-maj=14.4km s-min=8.7km az=118.7*
IDC ***04*** *03:58:38.5±1.8, 3491N×13862E, h152km±38km, mb3.2/1, Error ellipse: s-maj=106.9km s-min=27.4km az=60.0*
JMA ***04*** *03:58:39.4±0.1, 3526N×13905E, h172km±1km, M2.9*
ISC 04 03:58:39.1±0.8, 3527N±006×13907E±010, h175km±5km, n13, σ0§44/23, mb3.4/1, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	Odawara 2	0.02	125	P	Pn	03 59 02.3	+0.1
JOD2				eS	Sn	03 59 19.8	-0.1
JYN	Shimob	0.48	298	P	Pn	03 59 03.4	+0.2
JIZS	Izushimoda	0.58	196	P	Pn	03 59 03.6	0.0
JIZS				eS	Sn	03 59 22.7	+0.2
JIM2	Oshima 3	0.63	152	P	Pn	03 59 04.1	+0.2
JIM2				eS	Sn	03 59 23.0	+0.1
SHZ3	Shizuoka 3	0.73	254	P	Pn	03 59 04.4	-0.1
SHZ3				eS	Sn	03 59 23.7	-0.3
JRY	Ryogami san	0.75	350	P	Pn	03 59 05.3	+0.7
JRY				eS	Sn	03 59 24.5	+0.3
JAG	Ashikaga	1.19	15	P	Pn	03 59 08.0	+0.2
JAG				eS	Sn	03 59 29.3	-0.6
MJAR	Matsushiro Arr	1.45	331	P	Pn	03 59 09.8	-0.3
	7.9nm,0.3s,baz=170,slow=9.9,SNR=58						
MJAR				S	Sn	03 59 33.9	-0.1
MAT	Matsushiro	1.45	331	P	Pn	03 59 10.0	-0.1
MAT				S	Sn	03 59 33.7	-0.3
MAT	Matsushiro	1.45	331	P	Pn	03 59 09.9	-0.2
MAT				eS	Sn	03 59 33.5	-0.5
BSO1	Boso 1	1.68	111	P	Pn	03 59 12.8	+0.3
BSO1				eS	Sn	03 59 38.0	-0.2
SONM	Songino Array	27.27	307	P	P	04 04 08.1	+1.0
	baz=107,slow=9.7						
WRA	Warramunga Arr	55.09	185	P	P	04 07 51.8	-1.2
	0.4nm,0.5s,mb3.4,baz=2.6,slow=7.3,SNR=7.8						

ISCJB ***04*** *04:16:02.6±0.6, 3898N±002×2333E±004, h4km±5km, Error ellipse: s-maj=5.7km s-min=3.7km az=174.0*
NEIC ***04*** *04:16:03.3, 3900N×2330E, h21km, ML3.0(ATH), After ATH.*
ATH ***04*** *04:16:03.3, 3900N×2330E, h21km±1km, MD2.9/6, ML3.0*
CSEM ***04*** *04:16:03.5±0.1, 3895N×2333E, h2km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.0km az=74.0*
THE ***04*** *04:16:03.9, 3898N×2331E, h6km, ML2.8*
ISC 04 04:16:03.4±0.5, 3898N±002×2336E±005, h7km±4km, n23, σ0§97/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.34	342	ePB	Pg	04 16 10.5	+0.5
NEO				eSB	Sg	04 16 15.1	+0.6
XOR	Xorichti	0.41	342	ePg	Pg	04 16 11.6	+0.4
LKR	Lokris	0.43	220	ePB	Pg	04 16 12.2	+0.5
LKR				eSB	Sg	04 16 17.9	+0.5
AOS	Alonnisos	0.45	65	ePg	Pg	04 16 12.9	+0.9
AGG	Agios Georgios	0.80	273	ePg	Pg	04 16 17.9	-0.9
AGG				eSg	Sg	04 16 29.6	+0.5
PAIG	Paliouri	0.98	15	ePg	Pg	04 16 22.7	+0.6
PAIG				eSg	Sg	04 16 37.0	+2.2
PTL	Penteli	1.01	157	ePN	Pn	04 16 23.0	-1.0
ATH	Athens Observa	1.05	164	ePN	Pn	04 16 23.8	-0.7
THL	Klokotos Trika	1.19	300	ePN	Pn	04 16 25.6	-0.9
KVR	Kavouri	1.20	164	ePN	Pn	04 16 26.5	0.0
NAIG	Nisos Aigina	1.23	175	ePN	Pn	04 16 27.0	+0.1
LIT	Litokhoron	1.30	329	ePg	Pg	04 16 27.3	-1.1
LIT				eSg	Sg	04 16 46.2	+1.0
LIT	Litokhoron	1.30	329	ePg	Pg	04 16 27.3	-1.1
LIT				eSg	Sg	04 16 46.2	+0.9
PLG	Polygyros	1.39	3	ePg	Pg	04 16 28.8	-1.3
OUR	Ouranopolis	1.44	19	ePg	Pg	04 16 29.3	-1.6
HORT	Hortiatis	1.63	353	ePb	Pb	04 16 32.2	-1.5
HORT				eSb	Sb	04 16 53.9	-0.6
HORT	Hortiatis	1.63	353	ePb	Pb	04 16 32.2	-1.5
HORT				eSb	Sb	04 16 53.8	-0.6
LOS	Limnos	1.64	54	ePb	Pb	04 16 32.4	-1.6
SOH	Sokhos	1.84	360	ePb	Pb	04 16 35.6	-1.7
SOH				eSb	Sb	04 17 00.1	-0.5
GRG	Griva	2.10	340	ePn	Pn	04 16 38.7	-0.3
GRG				eSn	Sn	04 17 06.2	+0.8
SRS	Serrai	2.14	5	ePn	Pn	04 16 39.9	+0.3
SRS				eSn	Sn	04 17 06.8	+0.4
KNT	Kendrikon	2.21	351	ePn	Pn	04 16 41.2	+0.8
KNT				eSn	Sn	04 17 09.3	+1.3
APE	Apeiranthos	2.57	137	ePn	Pn	04 16 46.2	+0.8
APE				eSn	Sn	04 17 18.5	+1.6

KRSC 04 04:19:04.5±0.3, 5230N×15771E, h172km±32km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	Gorelyy	0.34	41	eP	Pn	04 19 28.8	+1.1
RUS	Russkaya	0.51	75	eP	Pn	04 19 29.0	+0.6
RUS				iS	Sn	04 19 47.7	+1.0
AVH	Avacha	1.15	32	eP	Pn	04 19 33.9	+1.3
AVH				iS	Sn	04 19 56.1	+1.9
NLC	Nalytchevo	1.32	48	eP	Pn	04 19 35.2	+1.1
NLC				iS	Sn	04 19 56.9	0.0
GNL	Ganaly	1.41	6	eP	Pn	04 19 35.0	+0.2
GNL				iS	Sn	04 19 57.4	-0.8
SPN	Mys Shipunski	1.62	59	eP	Pn	04 19 38.6	+1.7
SPN				iS	Sn	04 20 02.7	+0.7
MKZ	Mys Kozlova	3.30	45	eP	Pn	04 19 57.9	+1.4
MKZ				iS	Sn	04 20 36.3	-0.6
KMNR	Kamenistaya	3.77	22	eP	Pn	04 20 05.4	+3.0
BZMR	Bezymyannaya	3.99	23	eP	Pn	04 20 08.4	+3.2
ZLN	Zelenaya	4.14	25	eP	Pn	04 20 10.6	+3.4
CIRR	Tsirk	4.22	24	eP	Pn	04 20 11.2	+3.1
KRSR	Krestovskiy	4.27	22	eP	Pn	04 20 11.9	+3.2
BDR	Baidarnaya	4.74	24	eP	Pn	04 20 16.5	+1.7
SRKR	Sorokina	4.81	23	eP	Pn	04 20 18.2	+2.5
SMKR	Semkarok	4.82	26	eP	Pn	04 20 19.1	+3.2
KBTR	Krutoberegovo	4.93	35	eP	Pn	04 20 18.6	+1.3

ISCJB ***04*** *04:39:11.1±0.8, 54N±02×737W±0.1, h160km±7km, mb3.6/6, Error ellipse: s-maj=29.4km s-min=10.0km az=117.9*
IDC ***04*** *04:39:11.2±0.7, 528N×7363W, h151km±5km, mb3.5/6, mb1 3.7/8, mb1mx3.4/18, mbtmp3.5/8, Error ellipse: s-maj=25.5km s-min=11.0km az=142.0*
NEIC ***04*** *04:39:13.2±0.8, 563N×7375W, h144km±19km, mb3.7/1, Error ellipse: s-maj=46.7km s-min=12.7km az=141.0*
ISC 04 04:39:12.3±0.8, 54N±02×737W±01, h155km±7km, n11, σ0§53/13, mb3.6/6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	0.82	232	P	Pn	04 39 36.6	+0.5
	240nm,0.3s,baz=0.0,slow=0.8,SNR=984						
ROSC				S	Sn	04 39 53.9	-0.4
	210nm,0.3s,baz=76,slow=21,SNR=40						
SDV	Santo Domingo	4.62	41	P	Pn	04 40 21.1	+0.4
	14nm,0.3s,baz=253,slow=8.9,SNR=91						
SDV				S	Sn	04 41 13.7	-0.4
	19nm,0.3s,baz=62,slow=23,SNR=18						
OTAV	Otavalo	6.98	223	ePn	Pn	04 40 56.4	+4.5
	2.0nm,0.6s						
PCRV	Puerto La Cruz	10.15	61	P	Pn	04 41 33.8	-0.3
	0.9nm,0.3s,baz=196,slow=22,SNR=7.2						
PCRV				S	Sn	04 43 26.9	+0.3
	0.4nm,0.3s,baz=120,slow=13,SNR=2.3						
ULM	Lac du Bonnet	48.46	341	P	P	04 47 38.0	-1.0
	1.2nm,0.5s,mb3.8,baz=141,slow=6.5,SNR=3.4						
PDAR	Pinedale Array	48.93	325	P	P	04 47 43.2	+0.6
	0.4nm,0.8s,mb3.1,baz=125,slow=7.8,SNR=3.6						
SCHQ	Schefferville	49.62	5	P	P	04 47 48.5	+0.6
	1.6nm,0.6s,mb3.9,baz=183,slow=10,SNR=2.4						
YKA	Yellowknife Ar	64.43	340	P	P	04 49 31.6	-0.3
	2.0nm,0.6s,mb4.1,baz=133,slow=6.1,SNR=47						
TORD	Torodi Ar. Bea	74.58	78	P	P	04 50 33.7	-0.5
	0.4nm,0.9s,mb3.0,baz=288,slow=6.0,SNR=5.0						
ARCES	ARCESS Array B	88.22	20	P	P	04 51 46.1	+0.3
	1.9nm,0.8s,mb4.0,baz=312,slow=5.6,SNR=2.8						
WRA	Warramunga Arr	149.14	239	PKPbc	PKPbc	04 58 41.5	-0.8
	0.2nm,0.3s,baz=108,slow=3.0,SNR=10						

IDC 04 04:47:41.3±11.0, 1147S×16585E, h260km±109km, mb2.7/2, mb1 2.9/2, mb1mx2.8/14, mbtmp2.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/4, Error ellipse: s-maj=89.4km s-min=39.0km az=179.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.56	177	eP	Pn	04 50 05.4	-1.3
DZM				eS	S	04 52 09.5	+4.3
DZM	Mont Dzumac	10.56	177	P	Pn	04 50 07.0	+0.3
	5.6nm,0.3s,baz=29,slow=21,SNR=52						
DZM				S	S	04 52 05.6	+0.4
	0.3nm,0.3s,baz=210,slow=23,SNR=3.1						
AFI	Afiamalu	21.96	99	LR	LR	04 59 13.8	
	comp=Z,38nm,20.8s,baz=331,slow=32						
WRA	Warramunga Arr	31.43	251	P	P	04 53 38.7	+0.1
	0.4nm,0.9s,baz=81,slow=8.8,SNR=3.9						
ASAR	Alice Springs	32.69	244	P	P	04 53 49.9	+0.5
	0.3nm,0.7s,baz=84,slow=9.4,SNR=3.9						
ARCES	ARCESS Array B	116.76	345	PKP	PKPdf	05 05 54.0	-0.6
	9.1nm,1.0s,baz=30,slow=2.4,SNR=7.2						

IDC ***04*** *05:11:44.0±2.1, 4971N×1859E, h0km, mb1 3.6/3, mb1mx3.3/17, mbtmp3.5/3, ML2.6/2, Error ellipse: s-maj=37.9km s-min=11.3km az=142.0*
ISCJB ***04*** *05:11:43.3±0.3, 4989N±002×1842E±002, h0km, Error ellipse: s-maj=3.5km s-min=2.1km az=29.3*
NEIC ***04*** *05:11:44.2±0.5, 4994N×1848E, h5km, ML2.8(BUC), Error ellipse: s-maj=7.8km s-min=4.7km az=194.0*
CSEM ***04*** *05:11:44.6±0.1, 4989N×1846E, h0km, ML3.1/6, Error ellipse: s-maj=2.5km s-min=1.5km az=19.0*
IPEC ***04*** *05:11:44.9±0.1, 4988N×1849E, h9km±1km, ML2.2/3, Error ellipse: s-maj=1.1km s-min=0.7km az=171.0*
VIE ***04*** *05:11:46.2±0.8, 4976N×1834E, h0km, mb2.2/3, ML2.5/4, Error ellipse: s-maj=4.7km s-min=3.0km az=83.0 10 km SE of Ostrava Suspected Mining induced.*
ISC 04 05:11:44.3±0.3, 4988N±002×1843E±002, h0km, n52, σ1§08/88, 4C-13D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.19	257	ePG	Pg	05 11 49.5	+1.6
OKC				eSG	Sg	05 11 51.9	+1.6
	411nm,0.5s						
OKC	Ostrava-Krasne	0.19	257	ePg	Pg	05 11 49.3	+1.4
OKC				eSg	Sg	05 11 51.9	+1.6
RAC	Raciborz	0.26	324	ePg	Pg	05 11 51.1	+1.9
RAC				eSg	Sg	05 11 56.1	+3.6
MORC	Moravsky Berou	0.58	260	⇓P	Pg	05 11 56.1	+0.6
MORC				S	Sg	05 12 04.8	+1.7
MORC	Moravsky Berou	0.58	260	⇓iP	Pg	05 11 56.1	+0.6
MORC				S	Sg	05 12 04.8	+1.8
MORC	Moravsky Berou	0.58	260	ePg	Pg	05 11 56.0	+0.5
MORC				eSg	Sg	05 12 04.7	+1.7
	51nm,0.4s						
OJC	Ojcow	0.95	68	ePg	Pg	05 12 02.0	-0.5
OJC				eSg	Sg	05 12 14.6	-0.2
JAVC	Velka Javorina	1.13	206	ePn	Pn	05 12 07.0	-0.4
NIE	Niedzica	1.31	110	ePg	Pg	05 12 08.7	-0.7
NIE				eSg	Sg	05 12 27.5	+1.1
VRAC	Vranov	1.32	245	Pg	Pg	05 12 09.9	+0.2
	21nm,0.3s,baz=76,slow=15,SNR=73						
VRAC				Lg		05 12 29.0	
	14nm,0.3s,baz=155,slow=6.1,SNR=12						
VRAC	Vranov	1.32	245	⇓P	Pg	05 12 09.9	+0.2
VRAC				S	Sg	05 12 29.1	+2.2
VRAC	Vranov	1.32	245	⇓iP	Pn	05 12 09.9	-0.1
VRAC	Vranov	1.32	245	S	Sg	05 12 29.1	+2.2
VRAC	Vranov	1.32	245	ePn	Pn	05 12 09.9	-0.1
VRAC				eSg	Sg	05 12 27.8	+0.9
	35nm,0.3s						
VYHS	Vyhne	1.41	169	ePN	Pn	05 12 10.5	-0.8
VYHS				eSN	Sn	05 12 30.5	0.0
VYHS	Vyhne	1.41	169	ePn	Pn	05 12 10.6	-0.7
VYHS				eSg	Sg	05 12 29.2	-0.5
VYHS				eSn	Sn	05 12 30.5	0.0
DPC	Dobruska-Polom	1.44	290	ePG	Pg	05 12 11.7	-0.1
DPC				eSG	Sg	05 12 31.0	+0.5
	44nm,0.7s						
DPC	Dobruska-Polom	1.44	290	ePn	Pn	05 12 11.6	0.0
DPC	Dobruska-Polom	1.44	290	ePg	Pg	05 12 11.7	-0.1
DPC				eSg	Sg	05 12 31.0	+0.5
SMOL	Smolenice	1.52	206	ePN	Pn	05 12 12.1	-0.6
SMOL				eSN	Sn	05 12 33.4	+0.3
KRUC	Moravsky	1.56	239	ePn	Pn	05 12 13.3	0.0
KRUC				eSg	Sg	05 12 34.3	-0.1
	20nm,0.3s						
KSP	Ksiaz	1.67	306	ePn	Pn	05 12 14.9	0.0
KSP				ePg	Pg	05 12 16.7	+0.3
KSP				eSg	Sg	05 12 39.3	+1.2
UPC	Upice	1.68	293	ePG	Pg	05 12 16.0	-0.4
UPC				eSG	Sg	05 12 38.6	+0.4
STHS	Stebnicka Huta	1.89	103	ePN	Pn	05 12 20.1	+2.3
STHS				eSN	Sn	05 12 47.1	+4.8
ZST	Bratislava	1.90	208	ePN	Pn	05 12 17.8	-0.1
ZST				eSN	Sn	05 12 42.6	+0.1
KECS	Kecovo	1.94	135	ePG	Pg	05 12 20.5	-1.1
KECS				eSN	Sn	05 12 44.8	+1.1
PSZ	Piszkesteto	2.19	153	⇓P	Pn	05 12 21.4	-0.6
PSZ	Piszkesteto	2.19	153	⇓iP	Pn	05 12 21.4	-0.5
CRVS	Cervenica-Dubn	2.21	115	ePG	Pg	05 12 25.6	-1.1
CRVS				eSG	Sg	05 12 59.8	+4.5
PRU	Pruhonice	2.51	274	ePG	Pg	05 12 31.3	-1.2
PRU				eSG	Sg	05 13 03.3	-1.8
	18nm,0.8s						
PVCC	Panska Ves	2.56	286	eSG	Sg	05 13 06.1	-0.6
	35nm,0.6s						
CONA	Conrad Observa	2.58	222	⇑iPn	Pn	05 12 26.9	-0.5
CONA				⇓iSg	Sg	05 13 08.0	+0.7
	9.2nm,0.5s						
CONA	Conrad Observa	2.58	222	Pn	Pn	05 12 26.9	-0.5
CONA				Sg	Sg	05 13 08.0	+0.6
	9.2nm,0.5s						
KOLS	Kolonicke sedl	2.68	109	ePN	Pn	05 12 30.3	+1.6
KOLS				ePG	Pg	05 12 36.8	+1.0
BRG	Berggiesshubel	3.04	291	PG	Pg	05 12 40.3	-2.3
BRG				SG	Sg	05 13 20.6	-1.4
	6.1nm,0.5s						
KHC	Kasperske Hory	3.25	259	ePN	Pn	05 12 36.0	-0.5
KHC				ePG	Pg	05 12 43.5	-3.1
KHC				eSN	Sn	05 13 16.0	+0.1
KHC				eSG	Sg	05 13 26.4	-2.3
GEC2	GERESS Array S	3.26	253	ePn	Pn	05 12 38.0	+1.4
GEC2				eSn	Sn	05 13 20.1	+4.0
GEC2	GERESS Array S	3.26	253	ePn	Pn	05 12 38.0	+1.3
GERES	GERESS Array B	3.26	253	Pn	Pn	05 12 36.3	-0.3
	0.4nm,0.3s,baz=67,slow=14,SNR=9.2						
GERES				Pg	Pg	05 12 44.8	-2.0
	1.6nm,0.3s,baz=70,slow=14,SNR=18						
GERES				Lg		05 13 27.0	
	2.1nm,0.3s,baz=71,slow=30,SNR=10						
GERES	GERESS Array B	3.26	253	Pg	Pg	05 12 44.8	-2.0
MOA	Molln	3.42	235	⇑iPn	Pn	05 12 39.6	+0.8
MOA				⇑iSg	Sg	05 13 34.4	+0.3
	comp=Z,9.1nm,0.5s						
PKSM	Moragy	3.67	178	⇑iP	Pn	05 12 42.1	-0.2
CLL	Collm	3.74	295	ePg	Pg	05 12 55.0	-1.0
CLL				iSg	Sg	05 13 45.9	+1.4
	comp=Z,18nm,0.7s						
DRGR		4.21	136	⇓P	Pn	05 12 49.3	-0.4
DRGR		4.21	136	⇓iP	Pn	05 12 49.3	-0.4
BURAR	Bucovina Array	5.03	114	⇓P	Pn	05 13 00.7	-0.3
BURAR	Bucovina Array	5.03	114	⇓iP	Pn	05 13 00.7	-0.3
GZR	Gura Zlata	5.36	145	⇓P	Pn	05 13 05.8	+0.2
GZR	Gura Zlata	5.36	145	⇓iP	Pn	05 13 05.8	+0.2
FINES	FINESS Array B	12.36	17	Pn	Pn	05 14 37.7	-3.8
	comp=Z,0.2nm,0.3s,baz=195,slow=13,SNR=6.7						
FINES	FINESS Array B	12.36	17	Pn	Pn	05 14 37.7	-3.8
ARCES	ARCESS Array B	20.01	7	Pn	P	05 16 15.7	-2.8
	comp=Z,4.0nm,1.0s,baz=198,slow=15,SNR=3.4						

STR ***04*** *05:23:38.9±0.0, 4300N×006E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***04*** *05:23:38.8±0.1, 4302N×002W, h3km, Md1.8/3, Ml1.7/2, Error ellipse: s-maj=3.0km s-min=1.4km az=171.0*
MDD 04 05:23:39.1±0.5, 4302N×001W, h7km±6km, mbLg0.7/4, Error ellipse: s-maj=3.4km s-min=2.5km az=171.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.06	66	Pg	Pg	05 23 40.7	-0.1
LABF				Sg	Sg	05 23 42.1	+0.1
LABF	Labassere	0.06	66	P	Pg	05 23 40.8	0.0
LABF				S	Sg	05 23 42.1	+0.1
VIEF	Viey	0.14	171	Pg	Pg	05 23 41.8	-0.2
VIEF				Sg	Sg	05 23 44.0	0.0
VIEF	Viey	0.14	171	P	Pg	05 23 41.9	-0.1
VIEF				S	Sg	05 23 44.0	0.0
EPF	Esparros	0.25	88	ePg	Pg	05 23 43.9	-0.2
EPF				eSg	Sg	05 23 47.4	-0.1
	4.0nm,0.3s						
EPF	Esparros	0.25	88	Pg	Pg	05 23 43.9	-0.2
EPF				Lg		05 23 47.4	
	2.0nm,0.3s						
EBIE	Bielsa	0.35	162	Pg	Pg	05 23 45.6	-0.3
	0.5nm,0.0s,SNR=12						
EBIE				Lg		05 23 50.5	
	3.2nm,0.1s						
ETSF	Etsaut	0.42	253	ePg	Pg	05 23 47.3	0.0
ETSF				eSg	Sg	05 23 52.7	-0.2
	2.7nm,0.3s						
ETSF	Etsaut	0.42	253	Pg	Pg	05 23 47.3	0.0
ETSF				Lg		05 23 52.7	
	1.4nm,0.3s						
SJPF	Ste Jean	0.90	276	ePg	Pg	05 23 55.3	-1.1
SJPF				eSg	Sg	05 24 06.5	-1.5
	1.0nm,0.2s						
SJPF	Ste Jean	0.90	276	Pg	Pg	05 23 55.3	-1.1
SJPF				Lg		05 24 06.5	
	0.5nm,0.2s						
ESAC	San Caprasio	1.34	195	Pg	Pg	05 24 04.6	-0.2
	0.6nm,0.1s,SNR=7.9						
ESAC				Lg		05 24 23.3	
	0.6nm,0.1s,SNR=7.9						
EMIR	Miracle	1.58	134	Lg		05 24 28.6	
	SNR=7.9						
MTLF	Montolieu	1.66	78	ePg	Pg	05 24 10.1	-0.8
MTLF				eSg	Sg	05 24 31.3	-1.1
	2.6nm,0.4s						
MTLF	Montolieu	1.66	78	Pg	Pg	05 24 10.1	-0.8
MTLF				Lg		05 24 31.3	
	1.3nm,0.4s						

NEIC ***04*** *05:47:58.5, 1639N×9905W, h6km, MD3.8(MEX), After MEX.*
MEX 04 05:47:59.5±0.8, 1640N×9908W, h12km±12km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.91	90	eP	Pg	05 48 14.6	-2.5
PNIG				iS	Sg	05 48 25.3	-3.6
PNIG	Pinotepa	0.91	90	eP	Pg	05 48 14.7	-2.4

APE				*e*Sb	**Sg**	**05 53 21.1**	**+0.1**
APE				*e*Sg	**Sg**	**05 53 21.4**	**+0.4**
NPS	**Neapolis**	**1.26**	**176**	*e*PN	**Pn**	**05 53 27.6**	**+0.7**
NPS				*e*SN	**Sn**	**05 53 44.5**	**+0.7**
ZKR	**Zakros**	**1.52**	**157**	*e*Pg	**Pn**	**05 53 29.9**	**-0.5**
ZKR				*e*Sg	**Sn**	**05 53 50.3**	**+0.1**
VAM	**Vamos**	**1.54**	**224**	*e*PN	**Pn**	**05 53 31.5**	**+0.9**
VAM				*e*SN	**Sn**	**05 53 51.4**	**+0.8**
SMG	**Samos**	**1.59**	**42**	*e*PN	**Pn**	**05 53 30.3**	**-1.1**
SIVA	**Sivas**	**1.60**	**201**	*e*Pb	**Pn**	**05 53 31.1**	**-0.5**
SIVA				*e*Sb	**Sb**	**05 53 53.2**	**0.0**
BDRM	**Kayabasi**	**1.65**	**70**	*i* P	**Pg**	**05 53 35.0**	**+0.2**
BDRM				*i* S	**Sg**	**05 53 58.5**	**+2.2**
KARP	**Karpathos**	**1.66**	**125**	*e*PB	**Pn**	**05 53 32.0**	**-0.3**
KARN	**Karanos**	**1.71**	**229**	*e*Pb	**Pn**	**05 53 32.5**	**-0.5**
KARN				*e*Sb	**Sb**	**05 53 55.4**	**-0.7**
KVR	**Kavouri**	**1.90**	**314**	*e*PN	**Pn**	**05 53 37.5**	**+1.8**
KYTH	**Kithira**	**2.00**	**264**	*e*PB	**Pn**	**05 53 38.0**	**+0.9**
PTL	**Penteli**	**2.01**	**320**	*e*PN	**Pn**	**05 53 37.0**	**-0.1**
NAIG	**Nisos Aigina**	**2.03**	**308**	*e*PN	**Pb**	**05 53 41.0**	**+0.9**
URLA	**Izmir**	**2.03**	**25**	*i* P	**Pn**	**05 53 36.0**	**-1.4**
URLA				*i* S	**Sb**	**05 54 05.8**	**+0.4**
ATH	**Athens Observa**	**2.03**	**316**	*e*PN	**Pn**	**05 53 39.0**	**+1.6**
GVD	**Gavdhos**	**2.04**	**215**	*e*PB	**Pb**	**05 53 39.0**	**-1.3**
VLI	**Veliai**	**2.07**	**276**	*e*PN	**Pn**	**05 53 37.1**	**-0.9**
KDAG	**Bornova**	**2.34**	**36**	*i* P	**Pg**	**05 53 46.9**	**-1.2**
KDAG				*i* S	**Sg**	**05 54 22.9**	**+4.4**
AOS	**Alonnisos**	**2.94**	**335**	*e*Pn	**Pn**	**05 53 49.7**	**-0.2**
XOR	**Xorichti**	**3.38**	**328**	*e*Pn	**Pn**	**05 53 55.9**	**0.0**
LOS	**Limnos**	**3.42**	**355**	*e*Pn	**Pn**	**05 53 55.7**	**-0.9**
AGG	**Agios Georgios**	**3.54**	**316**	*e*Pn	**Pn**	**05 53 58.5**	**+0.3**
AGG				*e*Sn	**Sn**	**05 54 40.1**	**0.0**
PAIG	**Paliouri**	**3.69**	**338**	*e*Pn	**Pn**	**05 53 59.6**	**-0.7**

CSEM ***04*** *06:19:15.5, 6791N×2012E, h0km, ML3.4, Suspected Mining explosion. After UPP*
UPP ***04*** *06:19:15.5, 6791N×2012E, h0km, ML3.4, Suspected Mining explosion.*

HEL 04 06:19:15.9±0.1, 6791N×2011E, h0km, ML3.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**63**	*i* P	Pg	06 19 17.5	-0.2
NIKU	**Nikkaluokta**	**0.41**	**264**	*i* P	Pg	06 19 23.4	-0.3
LANU	**Lannavaara**	**0.72**	**78**	*i* P	Pg	06 19 29.2	-0.5
LANU	**Lannavaara**	**0.72**	**78**	P	Pg	06 19 29.2	-0.5
SALU	**Saltoluokta**	**0.81**	**230**	*i* P	Pg	06 19 30.3	-1.2
SALU	**Saltoluokta**	**0.81**	**230**	P	Pg	06 19 30.3	-1.2
	baz=76						
KIF	**Kilpisjarvi**	**1.13**	**13**	*e*P	Pg	06 19 39.5	+2.0
KIF				*e*S	Sg	06 19 57.4	+5.2
SGF	**Sodankyl**	**2.49**	**98**	*e*SG	Sg	06 20 32.3	-3.7
KEV	**Kevo**	**3.11**	**50**	*e*SG	Sg	06 20 50.8	-5.1

ISCJB ***04*** *06:20:56.4±2.1, 008N±006×1266E±0.1, h44km±18km, mb4.7/28, MS3.1/1, Error ellipse: s-maj=22.3km s-min=7.3km az=142.0*
IDC ***04*** *06:21:00.7±2.2, 002N×12668E, h69km±18km, mb4.2/13, mb1 4.3/14, mb1mx4.2/20, mbtmp4.2/14, MS3.0/2, Ms1 3.0/2, ms1mx2.7/25, Error ellipse: s-maj=35.4km s-min=8.7km az=74.0*
NEIC ***04*** *06:21:01.2±2.6, 007N×12677E, h75km±26km, mb4.6/10, Error ellipse: s-maj=15.7km s-min=6.2km az=76.0*
BJI ***04*** *06:21:01.2, 0.10N×12680E, h74km, mB5.2, mb4.8*

ISC 04 06:21:01.5±2.0, 005N±006×1267E±01, h76km±18km, n42, σ0§67/42, mb4.6/28, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.06**	**183**	*e*P	**Pn**	**06 25 07.4**	**+0.1**
	7.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.06**	**183**	P	**Pn**	**06 25 07.0**	**-0.3**
	0.5nm,0.3s,baz=14,slow=8.0,SNR=21						
FITZ				LR	LR	06 33 11.2	
	comp=Z,26nm,18.7s,baz=79,slow=40						
WRA	**Warramunga Arr**	**21.23**	**160**	P	**P**	**06 25 40.9**	**-0.2**
	12nm,0.6s,mb4.4,baz=338,slow=11,SNR=275						
WRA				S	**S**	**06 29 32.2**	**-0.6**
	3.0nm,1.1s,baz=334,slow=20,SNR=5.8						
WRA				ScP	ScP	06 33 14.9	+1.3
	0.8nm,1.0s,baz=333,slow=2.4,SNR=5.5						
WB2	**Warramunga Arr**	**21.23**	**160**	*e*P	**P**	**06 25 40.9**	**-0.3**
GUMO	**Guam**	**22.48**	**52**	LR	LR	06 33 48.9	
	comp=Z,81nm,21.9s,baz=88,slow=34						
ASAR	**Alice Springs**	**24.59**	**164**	P	**P**	**06 26 14.9**	**+0.5**
	18nm,0.6s,mb4.7,baz=343,slow=9.2,SNR=163						
ASAR				PcP	PcP	06 29 50.4	0.0
	1.1nm,0.6s,baz=345,slow=2.1,SNR=6.2						
ASAR				S	**S**	**06 30 31.1**	**+1.1**
	0.7nm,0.8s,baz=355,slow=20,SNR=3.9						
ASAR				ScP	ScP	06 33 24.7	+2.2
	0.6nm,0.7s,baz=354,slow=2.1,SNR=5.8						
KULM	**Kulim**	**26.52**	**282**	*e*P	**P**	**06 26 33.2**	**+1.3**
FORT	**Forrest**	**30.68**	**178**	*e*P	**P**	**06 27 09.4**	**+0.5**
	22nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**33.99**	**194**	P	**P**	**06 27 36.8**	**-1.1**
	5.5nm,0.7s,mb4.5,baz=12,slow=9.2,SNR=2.6						
STKA	**Stephens Creek**	**34.74**	**157**	*e*P	**P**	**06 27 44.9**	**+0.6**
	13nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**34.74**	**157**	P	**P**	**06 27 45.1**	**+0.8**
	16nm,0.7s,mb4.9,baz=328,slow=9.1,SNR=37						
KSRS	**Korea Array**	**37.24**	**2**	P	**P**	**06 28 05.8**	**+0.2**
	1.7nm,0.5s,mb4.2,baz=179,slow=9.4,SNR=5.8						
MJAR	**Matsushiro Arr**	**37.85**	**15**	P	**P**	**06 28 10.6**	**-0.3**
	2.1nm,0.5s,mb4.2,baz=182,slow=8.6,SNR=6.2						
MJAR	**Matsushiro Arr**	**37.85**	**15**	P	**P**	**06 28 10.6**	**-0.3**
BJT	**Baijiatuau**	**40.93**	**348**	*e*P	**P**	**06 28 36.3**	**-0.1**
	6.6nm,0.6s,mb4.6						
BJI	**Beijing**	**40.95**	**348**	*e*P	**P**	**06 28 37.3**	**+0.7**
BJI				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.0						
GTA	**Gaotai**	**46.25**	**331**	*e*P	**P**	**06 29 20.5**	**+1.3**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
JIRN	**Jiri**	**47.56**	**309**	*e*P	**P**	**06 29 28.6**	**-0.8**
	comp=Z,12nm,0.6s,mb4.9						
GUN	**Gumba**	**47.92**	**309**	*e*P	**P**	**06 29 31.4**	**-0.8**
	comp=Z,26nm,0.6s,mb5.2						
PKI	**Pulchoki**	**48.13**	**308**	*e*P	**P**	**06 29 33.3**	**-0.5**
KKN	**Kakani**	**48.33**	**308**	*e*P	**P**	**06 29 34.9**	**-0.5**
	comp=Z,14nm,0.8s,mb4.8						
GKN	**Gorkha**	**48.94**	**308**	*e*P	**P**	**06 29 39.7**	**-0.3**
	comp=Z,5.3nm,0.3s,mb4.9						
KOLN	**Koldanda**	**49.65**	**307**	*e*P	**P**	**06 29 45.2**	**-0.2**
	comp=Z,26nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**50.60**	**343**	*e*P	**P**	**06 29 53.1**	**+0.6**
	comp=Z,5.5nm,0.6s,mb4.8						
SONM	**Songino Array**	**50.77**	**342**	P	**P**	**06 29 54.4**	**+0.5**
	comp=Z,6.1nm,0.8s,mb4.7,baz=157,slow=8.5,SNR=41						
SONM				PcP	PcP	06 31 09.9	0.0
	comp=Z,0.9nm,0.6s,baz=149,slow=3.4,SNR=3.7						
WMQ	**Urumqi**	**55.73**	**327**	P	**P**	**06 30 31.8**	**+1.5**
WMQ				AP	pP	06 30 52.1	+2.6
WMQ				XP	sP	06 30 59.7	+1.7
WMQ				PCP	PcP	06 31 29.5	+0.8
WMQ				PP	PP	06 32 38.6	+3.3
WMQ				SCP	ScP	06 35 20.5	-0.4
WMQ				PCS	PcS	06 35 28.2	-0.8
WMQ				S	**S**	**06 38 11.1**	**0.0**
WMQ				XS	sS	06 38 44.0	+0.2
WMQ				SCS	ScS	06 40 10.1	-2.2
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,285nm,5.0s						
MK31	**Makanchi Array**	**60.56**	**326**	*e*P	**P**	**06 31 04.3**	**+0.4**
MKAR	**Makanchi Array**	**60.56**	**326**	P	**P**	**06 31 04.4**	**+0.4**
	comp=Z,4.8nm,0.4s,mb4.9,baz=122,slow=7.8,SNR=102						
AAK	**Ala-Archa**	**63.07**	**319**	*e*P	**P**	**06 31 21.2**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.1						
ZAL	**Zalesovo**	**63.85**	**334**	P	**P**	**06 31 25.3**	**-0.7**
	comp=Z,1.8nm,0.4s,mb4.3,baz=306,slow=1.1,SNR=5.2						
ZAL	**Zalesovo**	**63.85**	**334**	P	**P**	**06 31 25.3**	**-0.7**
KURK	**Kurchatov**	**64.83**	**328**	*e*P	**P**	**06 31 32.1**	**-0.2**
	comp=Z,22nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**70.38**	**328**	P	**P**	**06 32 06.9**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.1,baz=138,slow=9.1,SNR=12						
TIXI	**Tiksi**	**71.50**	**1**	*e*P	**P**	**06 32 12.7**	**-1.4**
	comp=Z,2.4nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**76.52**	**322**	P	**P**	**06 32 42.7**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.0,baz=97,slow=8.1,SNR=9.5						
VNDA	**Vanda**	**79.80**	**173**	P	**P**	**06 33 01.0**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.0,baz=308,slow=5.9,SNR=8.5						
VNDA	**Vanda**	**79.80**	**173**	*e*P	**P**	**06 33 01.2**	**-0.3**
	comp=Z,1.5nm,0.7s,mb3.9						
MAW	**Mawson**	**80.31**	**200**	P	**P**	**06 33 04.6**	**+0.4**
	comp=Z,1.9nm,0.9s,mb3.9,baz=81,slow=8.2,SNR=6.7						
SYO	**Syowa Base**	**89.00**	**201**	*e*PcP	PcP	06 33 50.0	+0.7
QSPA	**South Pole Qui**	**89.97**	**180**	*e*P	**P**	**06 33 52.6**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.5						
TORD	**Torodi Ar. Bea**	**123.95**	**286**	PKP	PKPdf	06 39 52.0	+1.1
	comp=Z,1.7nm,0.7s,baz=77,slow=1.9,SNR=18						

IDC 04 06:23:05.2±1.9, 035N×12716E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/25, Error ellipse: s-maj=106.4km s-min=26.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.39**	**185**	P	Pn	06 27 22.6	+0.9
	0.2nm,0.3s,baz=6.3,slow=9.2,SNR=4.4						
WRA	**Warramunga Arr**	**21.35**	**161**	P	P	06 27 54.7	+0.7
	1.8nm,0.3s,baz=339,slow=11,SNR=5.3						
PMG	**Port Moresby**	**22.14**	**116**	LR	LR	06 37 14.1	
	comp=Z,28nm,19.1s,baz=233,slow=38						
ASAR	**Alice Springs**	**24.75**	**165**	P	P	06 28 28.1	-0.3
	3.4nm,0.4s,baz=345,slow=11,SNR=7.7						
CTA	**Charters Tower**	**27.61**	**138**	LR	LR	06 39 07.8	
	comp=Z,47nm,20.5s,baz=50,slow=35						
STKA	**Stephens Creek**	**34.84**	**158**	P	P	06 29 58.1	+0.2
	2.1nm,0.5s,baz=331,slow=9.6,SNR=3.2						
DZM	**Mont Dzumac**	**44.30**	**123**	LR	LR	06 47 42.4	
	comp=Z,51nm,19.9s,baz=262,slow=33						
MKAR	**Makanchi Array**	**60.58**	**326**	P	P	06 33 17.8	+0.2
	0.5nm,0.6s,baz=115,slow=8.3,SNR=3.2						

UPP ***04*** *06:31:16.7, 6861N×11.17E, h0km, ML2.8, Suspected Mining explosion.*
HEL ***04*** *06:31:18.2±0.4, 6841N×11.18E, h10km, ML2.6, ML2.8(UPP), ML2.2(BER)*
NAO ***04*** *06:31:18.2±2.6, 6845N×1136E, ML2.2*
CSEM ***04*** *06:31:20.6±0.5, 6818N×1193E, h1km, ML2.2, Error ellipse: s-maj=12.0km s-min=3.6km az=130.0, Suspected Mining explosion.*

BER 04 06:31:17.3±4.5, 6847N×1085E, h1km±19km, MD2.6, ML2.2, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**1.06**	**108**	*e*P	Pg	06 31 37.9	+0.3
LOF				*e*		06 31 38.4	
LOF				*e*S	Sg	06 31 52.9	+1.6
LOF				AML	AML	06 31 54.3	
	comp=Z,202nm,0.1s						
STOK1	**Konsvik**	**2.17**	**155**	*e*P	Pn	06 31 51.8	-2.7
STOK1	**Konsvik**	**2.17**	**155**	*e*S	Sn	06 32 17.8	-4.2
STOK1	**Konsvik**	**2.17**	**155**	AML	AML	06 32 27.6	
	comp=Z,24nm,0.5s						
STOK1	**Konsvik**	**2.17**	**155**	AML	AML	06 32 27.6	
	comp=Z,24nm,0.5s						
STOK	**Stokkvaagen**	**2.31**	**158**	*e*P	Pn	06 31 54.1	-2.3
STOK	**Stokkvaagen**	**2.31**	**158**	*e*S	Sn	06 32 21.6	-3.9
STOK				AML	AML	06 32 22.3	
	comp=Z,18nm,0.3s						
STOK2	**Flostrand**	**2.35**	**154**	*e*P	Pn	06 31 54.7	-2.3
STOK2	**Flostrand**	**2.35**	**154**	*e*S	Sn	06 32 23.1	-3.5
STOK2	**Flostrand**	**2.35**	**154**	AML	AML	06 32 36.6	
	comp=Z,22nm,0.6s						
STOK2	**Flostrand**	**2.35**	**154**	AML	AML	06 32 36.6	
	comp=Z,22nm,0.6s						
MOR8	**Moi Rana**	**2.70**	**147**	*e*P	Pn	06 31 59.7	-2.2
MOR8				*e*S	Sn	06 32 32.0	-3.1
MOR8				AML	AML	06 32 33.3	
	comp=Z,30nm,0.1s						
SALU	**Saltoluokta**	**3.09**	**107**	*e*P	Pn	06 32 05.8	-1.4
NIKU	**Nikkaluokta**	**3.12**	**97**	*e*P	Pn	06 32 06.0	-1.6
TRO	**Tromso**	**3.13**	**64**	*e*Sg	Sg	06 32 53.4	-4.5
KUA	**Kurravaara**	**3.58**	**94**	*e*P	Pn	06 32 11.7	-2.2
KIF	**Kilpisjarvi**	**3.67**	**77**	*e*P	Pn	06 32 13.0	-2.1
KIF				*e*S	Sn	06 32 52.1	-6.9
DUNU	**Dundret**	**3.93**	**106**	*e*P	Pn	06 32 16.8	-2.0
NSS	**Namsos**	**3.98**	**173**	*e*P	Pn	06 32 17.4	-2.2
NSS				*e*S	Sn	06 33 02.7	-4.2
NSS				AML	AML	06 33 11.8	
	comp=Z,7.1nm,0.2s						
LANU	**Lannavaara**	**4.17**	**91**	*e*P	Pn	06 32 19.2	-2.8
KTK1	**Kautokeino**	**4.54**	**77**	*e*P	Pn	06 32 27.6	+0.4
HARU	**Harads**	**4.55**	**116**	*e*P	Pn	06 32 24.9	-2.4
PAJU	**Pajala**	**4.88**	**102**	*e*P	Pn	06 32 29.7	-2.2
SJUU	**Sjulsmark**	**5.16**	**120**	*e*P	Pn	06 32 33.7	-2.0
SVAU	**Svanoeiden**	**5.30**	**135**	*e*P	Pn	06 32 36.1	-1.6
ARA0	**ARCESS Array S**	**5.38**	**72**	Pn	Pn	06 32 37.1	-1.5
	baz=251,slow=12						
ARA0				Sn	Sn	06 33 36.9	-4.3
	baz=249,slow=22						
ARA0				Lg		06 34 00.2	
ARA0	**ARCESS Array S**	**5.38**	**72**	*e*P	Pn	06 32 37.1	-1.5
ARA0				*e*S	Sn	06 33 36.9	-4.3
ARA0				*e*SG	Sg	06 34 00.2	-10
ARA0	**ARCESS Array S**	**5.38**	**72**	Pn	Pn	06 32 37.1	-1.6
	SNR=50						
ARA0				Sn	Sn	06 33 36.9	-4.3
BREU	**Bredtraesk**	**5.56**	**142**	*e*P	Pn	06 32 39.6	-1.6
BURU	**Burvik**	**5.74**	**128**	*e*P	Pn	06 32 42.4	-1.2
SOLU	**Sollefteaa**	**5.87**	**150**	*e*P	Pn	06 32 44.4	-0.9
KEV	**Kevo**	**5.92**	**70**	*e*P	Pn	06 32 44.3	-1.8
KEV				*e*S	Sn	06 33 45.3	-9.2
SGF	**Sodankyl**	**5.99**	**93**	*e*P	Pn	06 32 44.0	-3.1
SGF				*e*S	Sn	06 33 47.5	-8.9
OUL	**Oulu**	**6.84**	**113**	*e*P	Pn	06 32 55.5	-3.3
OUL				*e*S	Sn	06 34 09.1	-8.3
OUL				MSN		06 34 11.5	
	comp=Z,1.1nm,0.3s						
VAF	**Ylistaro**	**7.30**	**133**	*e*P	Pn	06 33 03.1	-1.9
VAF				*e*S	Sn	06 34 21.1	-7.4
VAF				MSN		06 34 24.9	
	comp=Z,1.6nm,0.3s						
NB2	**NORSAR Subarra**	**7.47**	**179**	Pn	Pn	06 33 05.9	-1.5
	baz=358,slow=14						
NB2	**NORSAR Subarra**	**7.47**	**179**	*e*P	Pn	06 33 05.9	-1.5
KU4	**Liikasenvaara**	**7.50**	**98**	*e*P	Pn	06 33 04.5	-3.4
KU4				*e*S	Sn	06 34 24.1	-10
MSF	**Maaselka**	**7.51**	**101**	*e*P	Pn	06 33 04.7	-3.3
MSF				*e*S	Sn	06 34 23.8	-10
KU6	**Riekki**	**7.77**	**99**	*e*P	Pn	06 33 08.5	-3.0
KU6				*e*S	Sn	06 34 30.3	-10
KU6				MSN		06 34 34.7	
	comp=Z,0.8nm,0.4s						
KJN	**Kajaani**	**8.08**	**115**	*e*P	Pn	06 33 13.1	-2.7
KJN				*e*S	Sn	06 34 38.5	-9.3
KJN				MSN		06 34 42.1	
	comp=Z,1.3nm,0.3s						
HFS	**Hagfors**	**8.46**	**170**	Pn	Pn	06 33 19.1	-2.0
	baz=352,slow=14						
HFS	**Hagfors**	**8.46**	**170**	*e*P	Pn	06 33 19.1	-2.0
HFS	**Hagfors**	**8.46**	**170**	Pn	Pn	06 33 19.0	-2.0
	SNR=50						
SUF	**Sumiainen**	**8.55**	**125**	*e*P	Pn	06 33 18.8	-3.4
SUF				*e*S	Sn	06 34 49.8	-10
SUF				MSN		06 34 55.5	
	comp=Z,1.7nm,0.3s						
KEF	**Keuruu**	**8.61**	**131**	*e*P	Pn	06 33 20.0	-3.0
KEF				*e*S	Sn	06 34 51.9	-8.9
KEF				MSN		06 34 55.8	
	comp=Z,0.9nm,0.3s						
RAF	**Rauma**	**8.80**	**143**	*e*P	Pn	06 33 22.2	-3.4
RAF				*e*S	Sn	06 34 57.0	-8.4
RAF				MSN		06 34 58.8	
	comp=Z,0.9nm,0.3s						
KAF	**Kangasniemi**	**9.06**	**127**	*e*P	Pn	06 33 26.1	-3.1
KAF				*e*S	Sn	06 35 01.9	-10
KAF				MSN		06 35 06.1	
	comp=Z,0.7nm,0.3s						
FIA0	**FINESS Array S**	**9.53**	**130**	Pn	Pn	06 33 33.2	-2.5
	baz=328,slow=14						
FIA0				Sn	Sn	06 35 13.6	-10
FIA0	**FINESS Array S**	**9.53**	**130**	*e*S	Sn	06 35 14.5	-9.0
FIA0				MSN		06 35 17.3	
	comp=Z,0.4nm,0.3s						
PVF	**Pernaja**	**10.22**	**134**	*e*S	Sn	06 35 29.0	-11

NIED ***04*** *07:11:00, 4700N×15270E, h5km, Mw4.0 Best double couple: M1.30000×1015 NP1:ϕ=339.00000°, δ84.00000°, λ79.00000°. NP2:ϕ=218.00000°, δ12.00000°, λ149.00000°.*
ISCJB ***04*** *07:11:07.6±1.1, 4680N±009×1528E±01, h49km±10km, mb3.9/13, MS3.1/1, Error ellipse: s-maj=21.0km s-min=6.8km az=92.6*
JMA ***04*** *07:11:07.8±0.8, 4701N×15271E, h30km, M4.5*
MOS ***04*** *07:11:10.5±2.2, 4691N×15273E, h73km, mb4.4/7, Error ellipse: s-maj=20.2km s-min=12.0km az=59.5*
IDC ***04*** *07:11:14.7±3.6, 4683N×15270E, h95km±33km, mb3.5/14, mb1 3.7/16, mb1mx3.7/25, mbtmp3.6/16, MS3.0/2, Ms1 3.0/2, ms1mx2.5/27, Error ellipse: s-maj=19.5km s-min=15.5km az=125.0*

ISC 04 07:11:10.3±0.9, 4685N±010×1528E±01, h57km±8km, n44, σ1§25/48, mb3.9/13, MS3.1/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.79**	**247**	*e*PN	**Pn**	**07 12 02.5**	**-3.7**
KUR				*i* S	**Sn**	**07 12 49.0**	**-0.5**
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax			
	comp=N,340nm,0.6s						
KUR				smax			
	comp=E,380nm,0.6s						
SKR	**Severo-Kuril's**	**4.42**	**29**	*e*PN	**Pn**	**07 12 16.0**	**+1.1**
SKR				*e*S	**Sn**	**07 13 03.9**	**-1.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,100nm,0.6s						
SKR				smax			
	comp=E,80nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**243**	*e*PN	**Pn**	**07 12 37.0**	**+5.6**
YUK				*e*S	**Sn**	**07 13 40.1**	**+5.4**
YUK				smax			
	comp=N,230nm,0.5s						
YUK				smax			
	comp=E,280nm,0.5s						
NEM2	**Nemuro 2**	**6.08**	**238**	P	**Pn**	**07 12 35.3**	**-2.3**
NEM2				*e*S	**Sn**	**07 13 39.8**	**-6.0**
JRA	**Rausu**	**6.13**	**244**	P	**Pn**	**07 12 39.0**	**+0.7**
JTKR	**Abashiri--Toko**	**6.88**	**248**	P	**Pn**	**07 12 49.5**	**+1.0**
JAK	**Akkeshi**	**6.91**	**239**	P	**Pn**	**07 12 47.0**	**-2.0**
JMP	**Maruseppu**	**7.22**	**250**	P	**Pn**	**07 12 54.6**	**+1.5**
JAR	**Ashorobuto**	**7.30**	**244**	P	**Pn**	**07 12 54.4**	**0.0**
JOB	**Onbets**	**7.48**	**241**	*e*S	**Sn**	**07 14 15.1**	**-5.1**
ASAJ	**Asahikawa**	**7.67**	**253**	P	**Pn**	**07 13 01.6**	**+2.3**
	comp=E,1.3nm,0.3s,baz=89,slow=10,SNR=7.5						
ASAJ				LR	LR	07 15 46.5	
	comp=E,64nm,18.4s,baz=302,slow=36						
JKK2	**Kamakawa 2**	**7.67**	**251**	P	**Pn**	**07 13 00.8**	**+1.4**
JCH	**Churui**	**7.93**	**241**	P	**Pn**	**07 13 01.4**	**-1.6**
JCH				*e*S	**Sn**	**07 14 26.0**	**-5.3**
JNBK	**Urakawa-nobuka**	**8.49**	**241**	*e*S	**Sn**	**07 14 37.9**	**-7.1**
JNB	**Noboribetsu**	**9.45**	**247**	P	**Pn**	**07 13 23.7**	**0.0**
JYM2	**Yakumo 2**	**10.05**	**246**	P	**Pn**	**07 13 30.7**	**-1.3**
JTM	**Tenmabayashi**	**10.41**	**239**	*e*S	**Sn**	**07 15 22.3**	**-10**
MJAR	**Matsushiro Arr**	**14.96**	**232**	P	**Pn**	**07 14 41.8**	**+3.5**
	comp=E,0.5nm,0.3s,baz=33,slow=9.4,SNR=4.5						
MJAR	**Matsushiro Arr**	**14.96**	**232**	P	**Pn**	**07 14 41.8**	**+3.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.61**	**252**	P	**P**	**07 15 46.5**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=57,slow=12,SNR=5.6						
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**07 17 25.4**	**+2.2**
	comp=Z,0.6nm,0.8s,mb3.5,baz=62,slow=6.7,SNR=3.9						
SONM				LR	LR	07 29 51.7	
	comp=Z,42nm,19.8s,MS3.1,baz=3.4,slow=36						
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**07 17 25.4**	**+2.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,42nm,19.8s						
INK	**Inuvik**	**41.69**	**32**	P	**P**	**07 18 54.1**	**+0.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=285,slow=5.7,SNR=17						
INK	**Inuvik**	**41.69**	**32**	P	**P**	**07 18 54.2**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.70**	**297**	P	**P**	**07 19 32.5**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=67,slow=7.3,SNR=6.8						
MKAR				PcP	PcP	07 21 06.0	-0.3
	comp=Z,0.9nm,0.8

MOF			Sg	Sg	07 41 02.5	+1.1
HINF	**Hinteralfeld**	**0.52 297**	*e*Pg	Pg	07 40 58.9	-0.1
HINF			*e*Sg	Sg	07 41 05.9	+0.2
	8.6nm,0.2s					
ECH	**Echery**	**0.68 338**	Pg	Pg	07 41 02.4	+0.3
ECH			Sg	Sg	07 41 12.1	+1.1
CDF	**Champ du Feu**	**0.85 348**	*e*Pg	Pg	07 41 05.0	-0.3
CDF			*e*Sg	Sg	07 41 15.7	-0.6
	4.1nm,0.4s					
HAU	**Haudompre**	**0.91 298**	*e*Pg	Pg	07 41 06.0	-0.5
HAU			*e*Sg	Sg	07 41 19.1	+0.9
	11nm,0.4s					
CABF	**La Chapelle**	**1.39 226**	*e*Pg	Pg	07 41 15.4	-0.3
CABF			*e*Sg	Sg	07 41 32.4	-1.4
	2.1nm,0.3s					
SFTF	**Sexfontaines**	**1.79 291**	*e*Pg	Pg	07 41 22.5	-1.0
SFTF			*e*Sg	Sg	07 41 45.9	-0.8
	2.5nm,0.3s					
MEZF	**Maizieres J'vi**	**1.90 300**	*e*Pg	Pg	07 41 23.9	-1.7
MEZF			*e*Sg	Sg	07 41 49.3	-1.0
	8.3nm,0.3s					
LPL	**La Plagne**	**2.14 195**	*e*Pg	Pg	07 41 29.1	-1.1
LPL			*e*Sg	Sg	07 41 56.9	-1.1
	1.0nm,0.3s					
LPG	**La Plagne**	**2.16 195**	*e*Pg	Pg	07 41 29.3	-1.2
LPG			*e*Sg	Sg	07 41 57.7	-0.7
	0.6nm,0.3s					
LOR	**Lormes**	**2.52 264**	*e*Pg	Pg	07 41 35.8	-1.6
LOR			*e*Sg	Sg	07 42 08.2	-1.8
	1.1nm,0.2s					
SSF	**Saint Saulge**	**2.79 261**	*e*Pg	Pg	07 41 41.0	-1.6
SSF			*e*Sg	Sg	07 42 16.3	-2.5
	0.8nm,0.2s					

NIED ***04*** *07:57:00, 2420N×12530E, h38km, Mw3.9 Best double couple: M*$_0$*9.08000×10*^{14} *NP1:*ϕ_s*54.00000°,* δ*76.00000°,* λ*83.00000°. NP2:*ϕ_s*258.00000°,* δ*16.00000°,* λ*114.00000°.*
IDC ***04*** *07:57:47.2*±*1.1, 2420N×12497E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML3.5/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/31, Error ellipse: s-maj=54.6km s-min=18.2km az=68.0*
ISCJB ***04*** *07:57:51.7*±*0.9, 2433N*±*009×12526E*±*007, h51km*±*7km, mb3.8/6, MS3.0/2, Error ellipse: s-maj=16.3km s-min=8.8km az=125.8*
JMA ***04*** *07:57:51.0*±*0.2, 2420N×12526E, h16km*±*4km, M4.0*
ISC 04 07:57:52.5±**1.0, 2433N**±**008×12525E**±**007, h41km**±**9km, n17,** σ**0°50/18, mb3.8/6, MS3.0/2, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.45**	**19**	P	**Pn**	**07 58 02.2**	**-0.5**
JOGS				*e*S	**Sn**	**07 58 10.2**	**+0.4**
JMJ	**Miyako jima 2**	**0.48**	**5**	P	**Pn**	**07 58 02.6**	**-0.5**
JMJ				S	**Sn**	**07 58 11.0**	**+0.5**
JTJ	**Tarama**	**0.59**	**302**	P	**Pn**	**07 58 03.7**	**-0.8**
JTJ				*e*S	**Sn**	**07 58 12.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.01**	**272**	P	**Pn**	**07 58 10.0**	**-0.2**
JIJ				*e*S	**Sn**	**07 58 23.7**	**+0.5**
JKRS	**Kuro-shima**	**1.13**	**266**	P	**Pn**	**07 58 12.2**	**+0.3**
HATJ	**Hateruma jima**	**1.35**	**259**	P	**Pn**	**07 58 15.0**	**+0.2**
IRIF	**Iriomote-Funau**	**1.39**	**271**	P	**Pn**	**07 58 15.3**	**-0.1**
JOW	**Kunigami**	**3.70**	**47**	LR	LR	08 00 34.6	
	comp=Z,144nm,19.6s,baz=254,slow=42						
KSRS	**Korea Array**	**13.28**	**9**	LR	LR	08 06 52.8	
	comp=Z,36nm,19.0s,baz=195,slow=41						
MJAR	**Matsushiro Arr**	**16.50**	**39**	Pn	**Pn**	**08 01 44.7**	**+3.7**
	0.2nm,0.3s,baz=225,slow=12,SNR=3.5						
ASAJ	**Asahikawa**	**24.31**	**31**	LR	LR	08 13 21.0	
	comp=Z,49nm,20.4s,MS3.0,baz=125,slow=38						
SONM	**Songino Array**	**27.82**	**332**	P	**P**	**08 03 37.1**	**-0.8**
	0.3nm,0.3s,mb3.4,baz=154,slow=9.1,SNR=3.4						
SONM				LR	LR	08 14 55.4	
	comp=Z,51nm,19.0s,MS3.1,baz=67,slow=37						
MKAR	**Makanchi Array**	**40.85**	**314**	P	**P**	**08 05 30.6**	**+0.2**
	1.7nm,0.5s,mb4.0,baz=101,slow=10,SNR=40						
WRA	**Warramunga Arr**	**44.88**	**168**	P	**P**	**08 06 02.6**	**-0.4**
	0.9nm,0.5s,mb3.9,baz=348,slow=8.8,SNR=16						
ASAR	**Alice Springs**	**48.44**	**169**	P	**P**	**08 06 31.3**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=354,slow=8.1,SNR=14						
BVAR	**Borovoye Array**	**49.94**	**320**	P	**P**	**08 06 42.5**	**+0.3**
	0.4nm,0.4s,mb3.8,baz=121,slow=9.8,SNR=4.1						
FINES	**FINESS Array B**	**73.18**	**330**	P	**P**	**08 09 19.2**	**+0.2**
	2.4nm,0.8s,mb4.2,baz=90,slow=1.9,SNR=4.6						

FUNV 04 08:02:57.9, 1007N×6836W, h5km, MW3.4, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.63**	**54**	*e*P	Pg	08 03 09.0	-1.1
TURV				*e*S	Sg	08 03 17.7	-0.6
TURV	**Turiamo**	**0.63**	**54**	*e*P	Pg	08 03 09.0	-1.1
TURV				*e*S	Sg	08 03 17.8	-0.6
TEPV	**Terepaima**	**0.83**	**263**	*e*P	Pg	08 03 12.1	-1.7
TEPV				*e*S	Sg	08 03 24.0	-0.5
TEPV	**Terepaima**	**0.83**	**263**	*e*P	Pg	08 03 12.5	-1.3
TEPV				*e*S	Sg	08 03 24.2	-0.3
TEPV	**Terepaima**	**0.83**	**263**	*e*P	Pg	08 03 12.4	-1.3
TEPV				*e*S	Sg	08 03 23.2	-1.3
JACV	**Jacura**	**1.11**	**335**	*e*P	Pg	08 03 19.7	+0.5
JACV				*e*S	Sg	08 03 37.9	+4.3
JACV	**Jacura**	**1.11**	**335**	*e*S	Sg	08 03 33.9	+0.3
JACV	**Jacura**	**1.11**	**335**	*e*P	Pg	08 03 20.4	+1.2
JACV				*e*S	Sg	08 03 36.5	+2.9
BAUV	**El Baul**	**1.17**	**164**	*e*P	Pg	08 03 19.4	-0.8
BAUV				*e*S	Sg	08 03 34.6	-0.8
BAUV	**El Baul**	**1.17**	**164**	*e*P	Pg	08 03 19.3	-0.9
BAUV				*e*S	Sg	08 03 34.4	-0.9
SANV	**Sanarito**	**1.29**	**244**	*e*P	Pn	08 03 21.8	-0.8
SANV				*e*S	Sg	08 03 39.7	+0.3
SANV	**Sanarito**	**1.29**	**244**	*e*P	Pn	08 03 21.3	-1.3
OCUV	**OCUMARITO**	**1.54**	**88**	*e*P	Pn	08 03 26.7	+0.8
OCUV				*e*S	Sn	08 03 47.3	+1.1
SIQV	**Siquisique**	**1.54**	**292**	*e*P	Pn	08 03 24.6	-1.3
SIQV	**Siquisique**	**1.54**	**292**	*e*P	Pn	08 03 25.8	-0.2
SIQV				*e*S	Sn	08 03 46.7	+0.4
SIQV	**Siquisique**	**1.54**	**292**	*e*P	Pn	08 03 25.8	-0.1
SIQV				*e*S	Sn	08 03 47.1	+0.8
FUNV	**FUNVISIS**	**1.57**	**75**	*e*P	Pn	08 03 26.6	+0.2
FUNV				*e*S	Sn	08 03 47.4	+0.2
FUNV	**FUNVISIS**	**1.57**	**75**	*e*P	Pn	08 03 26.8	+0.3
CURV	**Curarigua**	**1.58**	**268**	*e*P	Pn	08 03 26.2	-0.4
CURV				*e*S	Sn	08 03 47.7	+0.4
CURV	**Curarigua**	**1.58**	**268**	*e*P	Pn	08 03 26.8	+0.3
CURV				*e*S	Sn	08 03 47.6	+0.3
BIRV	**Birongo**	**2.10**	**79**	*e*P	Pn	08 03 34.4	+0.7
BIRV				*e*S	Sn	08 04 01.5	+1.4
MERV	**Las Mercedes**	**2.19**	**112**	*e*P	Pn	08 03 34.7	-0.2
MERV				*e*S	Sn	08 04 01.8	-0.6
MERV	**Las Mercedes**	**2.19**	**112**	*e*P	Pn	08 03 35.0	0.0
MERV				*e*S	Sn	08 04 02.4	0.0
CUPV	**Cepira**	**2.53**	**90**	*e*P	Pn	08 03 39.9	+0.3
CUPV				*e*S	Sn	08 04 09.7	-1.2
CAOV	**Caicara del Or**	**3.39**	**143**	*e*P	Pn	08 03 50.2	-1.3

NEIC ***04*** *08:12:56.4, 3383S×7291W, h36km, MD4.1(GUC), After GUC.*
GUC 04 08:12:56.4±**0.9, 3383S×7291W, h36km**±**3km, MD4.1, ML4.1, 6C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.17**	**73**	⇓*i*P	Pn	08 13 17.0	+0.7
LCCH				*i* S	Sn	08 13 32.6	+1.6
LNV	**Longovilo**	**1.25**	**96**	*e*P	Pn	08 13 18.4	+1.0
LNV				*i* S	Sn	08 13 32.2	-0.8
IHA	**Instituto Hidr**	**1.33**	**53**	*e*P	Pn	08 13 19.3	+0.9
IHA				*i* S	Sn	08 13 37.0	+2.1
TACH	**Talagante**	**1.65**	**84**	⇓*i*P	Pn	08 13 23.7	+0.9
PACH	**Papudo**	**1.78**	**44**	*e*P	Pn	08 13 26.0	+1.3
ROCH	**El Roble**	**1.80**	**62**	*e*P	Pn	08 13 26.5	+1.6
NICH	**Los Niches**	**1.81**	**131**	*e*P	Pn	08 13 29.5	+4.4
CHCH	**Chadas Angostu**	**1.88**	**94**	*e*P	Pn	08 13 27.7	+1.7
SAN	**Santiago**	**1.91**	**79**	*e*P	Pn	08 13 27.7	+1.3
SAN				*i* S	Sn	08 13 51.5	+2.2
SAN				AML	AML	08 13 58.8	
	comp=E,2μm,0.7s						
SAN	**Santiago**	**1.91**	**79**	*e*P	Pn	08 13 27.7	+1.3
SAN				*i* S	Sn	08 13 51.5	+2.2
ANTU	**Antumapu**	**1.91**	**83**	*e*P	Pn	08 13 28.2	+1.8
ANTU				*e*S	Sn	08 13 51.6	+2.2
ANTU				AML	AML	08 13 57.5	
	comp=E,3μm,0.5s						
ANTU	**Antumapu**	**1.91**	**83**	*e*P	Pn	08 13 28.2	+1.8
ANTU				*e*S	Sn	08 13 51.6	+2.2
STL	**Santa Lucia**	**1.93**	**79**	⇑*i*P	Pn	08 13 27.6	+0.9
PEL	**Peldehue**	**1.98**	**70**	⇑*i*P	Pn	08 13 28.8	+1.4
PEL				*e*S	Sn	08 13 53.7	+2.8
PEL				AML	AML	08 14 06.7	
	comp=N,5μm,0.6s						
PCH	**Pirque**	**2.01**	**85**	*e*P	Pn	08 13 29.2	+1.5
PCH				*i* S	Sn	08 13 52.4	+0.8
CLCH	**Cerro Calan**	**2.02**	**78**	⇑*i*P	Pn	08 13 29.8	+1.8
CLCH				*i* S	Sn	08 13 54.6	+2.5
CLCH				AML	AML	08 14 03.8	
	comp=N,2μm,0.6s						
FCH	**Farellones**	**2.24**	**78**	⇑*i*P	Pn	08 13 33.1	+2.1
FCH				*i* S	Sn	08 14 01.6	+4.1
FCH				AML	AML	08 14 11.8	
	comp=N,983nm,0.4s						
LMEL	**Las Melosas**	**2.25**	**91**	⇑*i*P	Pn	08 13 33.2	+2.1
LMEL				*i* S	Sn	08 14 00.8	+3.2
LMEL				AML	AML	08 14 12.4	
	comp=N,1μm,0.7s						
LMEL	**Las Melosas**	**2.25**	**91**	⇑*i*P	Pn	08 13 33.2	+2.1
LMEL				*i* S	Sn	08 14 00.8	+3.2
JACH	**Jahuel**	**2.25**	**60**	*e*P	Pn	08 13 32.9	+1.7
CMCH	**Combarbala**	**3.10**	**32**	⇓*i*P	Pn	08 13 44.7	+1.9
MDZ	**Mendoza**	**3.52**	**76**	*e*P	Pn	08 13 48.2	-0.4
MDZ				*i* S	Sn	08 14 21.0	-8.1
ZON	**Zonda**	**4.23**	**59**	*e*P	Pn	08 14 02.6	+4.3

IDC 04 08:28:52.7±**5.0, 1002S×11772E, h314**±**65km, mb2.7/2, mb1 2.6/3, mb1mx2.5/16, mbtmp2.5/3, Error ellipse: s-maj=140.1km s-min=13.9km az=43.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.82**	**123**	P	P	08 32 49.7	-0.6
	0.1nm,0.3s,baz=298,slow=13,SNR=6.0						
WRA				S	S	08 36 08.5	+1.1
	0.1nm,0.3s,baz=295,slow=22,SNR=4.4						
ASAR	**Alice Springs**	**20.56**	**133**	P	P	08 33 09.1	+0.7
	0.7nm,0.8s,baz=309,slow=10,SNR=8.0						
MKAR	**Makanchi Array**	**64.80**	**334**	P	P	08 38 58.4	0.0
	0.3nm,0.4s,baz=154,slow=6.6,SNR=10						

CSEM ***04*** *08:32:51.2, 3930N×4458E, h12km, ML3.0, After NSSP*
NSSP ***04*** *08:32:51.2, 3930N×4458E, h12km, ML3.0*
ISK 04 08:33:11.2, 3942N×4412E, h5km, ML3.4, 3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.31**	**210**	*i* PG	Pg	08 33 17.6	+0.3
CLDR				*i* SG	Sg	08 33 22.6	+1.2
VRNZ	**Vardanashen**	**0.64**	**5**	⇓P	Pg	08 33 04.7	-19
VRNZ				S	Sg	08 33 12.7	-19
VNNZ	**Vanand**	**0.72**	**342**	P	Pg	08 33 04.3	-21
VNNZ				S	Sg	08 33 18.5	-16
PAAR	**P'arak'ar**	**0.76**	**15**	P	Pg	08 33 04.1	-22
PAAR				S	Sg	08 33 16.8	-19
AKSZ	**Araks**	**0.80**	**347**	P	Pg	08 33 05.7	-21
AKSZ				S	Sg	08 33 19.7	-17
ERE	**Yerevan**	**0.80**	**20**	P	Pg	08 33 25.0	-1.6
ERE				S	Sg	08 33 36.0	-1.0
ARUZ	**Aruch**	**0.87**	**359**	⇓P	Pg	08 33 06.3	-22
ARUZ				S	Sg	08 33 21.0	-18
GNI	**Garni**	**0.88**	**33**	PG	Pg	08 33 28.2	+0.2
AGRB	**Hanur-Agry**	**0.89**	**281**	*i* PG	Pg	08 33 28.5	+0.3
AMBZ	**Amberd**	**0.98**	**6**	⇓P	Pg	08 33 09.3	-21
AMBZ				S	Sg	08 33 24.8	-18
VANB	**Van**	**1.00**	**215**	PG	Pg	08 33 31.7	+1.4
KAPZ	**Kaputan**	**1.01**	**26**	S	Sg	08 33 23.9	-20
TVAN	**Van**	**1.04**	**212**	*i* P	Pg	08 33 31.9	+0.7
TVAN				*i* S	Sg	08 33 50.3	+5.5
DIGO	**Kars**	**1.15**	**330**	*i* P	Pg	08 33 34.6	+1.3
DIGO				*i* S	Sg	08 33 56.1	+7.9
KARS	**Kars**	**1.43**	**327**	PN	Pn	08 33 39.0	+1.2
STE	**Stepanavan**	**1.59**	**7**	P	Pn	08 33 41.0	+0.9
STE				S	Sn	08 34 09.0	+8.0
HKR	**Hakkari**	**1.86**	**189**	PN	Pn	08 33 45.0	+1.3
HAKT	**HAKKARI**	**1.88**	**190**	*i* P	Pn	08 33 45.8	+1.8
HAKT				*i* S	Sn	08 34 13.0	+4.9
ERZM	**Erzurum**	**2.18**	**284**	*i* P	Pn	08 33 53.0	+4.9
ERZM				*i* S	Sn	08 34 12.5	-2.9
EZM	**Erzurum**	**2.18**	**284**	*e*PN	Pn	08 33 49.5	+1.4
CUKT	**Cukurca**	**2.20**	**191**	*e*PN	Pn	08 33 49.3	+0.9
MARD	**Mardin**	**3.36**	**232**	*i* P	Pg	08 34 16.8	+1.2
MARD				*i* S	Sg	08 34 59.0	-0.1

IDC 04 08:45:37.4±**26.0, 518S×15157E, h132km**±**211km, mb3.6/3, mb1 3.8/3, mb1mx3.3/14, mbtmp3.6/3, Error ellipse: s-maj=123.3km s-min=108.7km az=63.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.07**	**226**	S	Sn	08 48 14.4	+1.4
	3.0nm,0.3s,baz=7.7,slow=24,SNR=9.2						
KAKA	**Kakadu**	**20.32**	**247**	*e*P	P	08 50 02.7	-0.3
	6.0nm,0.5s						
WB2	**Warramunga Arr**	**22.27**	**227**	*e*P	P	08 50 23.5	-0.3
WRA	**Warramunga Arr**	**22.28**	**227**	P	P	08 50 23.9	0.0
	1.3nm,0.4s,baz=54,slow=10.0,SNR=36						
ASAR	**Alice Springs**	**25.05**	**221**	P	P	08 50 50.3	+0.9
	1.4nm,0.3s,baz=54,slow=9.2,SNR=33						
FITZ	**Fitzroy Crossi**	**28.41**	**241**	*e*P	P	08 51 19.0	-0.4
	3.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**28.41**	**241**	P	P	08 51 19.1	-0.3
	1.0nm,0.5s,baz=61,slow=9.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**149.25**	**287**	PKPbc	PKPbc	09 05 11.2	+0.7
	0.3nm,0.5s,baz=62,slow=4.3,SNR=2.6						

NIED ***04*** *08:58:00, 4200N×13760E, h250km, Mw4.2 Best double couple: M*$_0$*1.96000×10*^{15} *NP1:*ϕ_s*204.00000°,* δ*81.00000°,* λ*92.00000°. NP2:*ϕ_s*9.00000°,* δ*9.00000°,* λ*75.00000°.*
IDC ***04*** *08:58:07.8*±*1.0, 4208N×13744E, h278km*±*10km, mb3.6/17, mb1 3.7/21, mb1mx3.7/28, mbtmp3.6/21, Error ellipse: s-maj=10.7km s-min=9.3km az=86.0*
BJI ***04*** *08:58:07.8, 4223N×13758E, h314km, mB4.4, mb4.1*
MOS ***04*** *08:58:07.7*±*0.7, 4214N×13747E, h292km, mb4.2/17, Error ellipse: s-maj=12.7km s-min=8.0km az=109.4*
ISCJB ***04*** *08:58:07.5*±*0.3, 4207N*±*004×13756E*±*006, h293km*±*4km, mb4.1/37, Error ellipse: s-maj=7.4km s-min=5.3km az=53.6*
NEIC ***04*** *08:58:08.6*±*0.6, 4212N×13739E, h286km*±*7km, mb4.2/14, Error ellipse: s-maj=9.0km s-min=8.5km az=47.0*
JMA ***04*** *08:58:08.4*±*0.3, 4203N×13761E, h298km, M4.3*
ISC 04 08:58:08.3±**0.3, 4208N**±**004×13757E**±**006, h288**km±**4km, n103,** σ**1°11/110, mb4.1/37, 3C-2D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.42**	**89**	P	**Pn**	**08 58 50.4**	**+0.7**
JOSM				S	**S**	**08 59 23.7**	**+1.2**
JKB	**Kayabe**	**2.59**	**93**	P	**Pn**	**08 58 59.9**	**+0.8**
JOT	**Ohata**	**2.70**	**104**	P	**Pn**	**08 59 00.6**	**+0.4**
JEW	**Eniwo**	**2.97**	**74**	P	**Pn**	**08 59 04.1**	**+1.3**
JEW				*e*S	**S**	**08 59 47.7**	**+1.4**
JANG	**Nango**	**3.43**	**119**	P	**Pn**	**08 59 07.1**	**-0.5**
JANG				*e*S	**S**	**08 59 53.5**	**-1.5**
JHR	**Hokuryu**	**3.47**	**60**	P	**Pn**	**08 59 09.6**	**+1.5**
JHR				*e*S	**S**	**08 59 56.3**	**+0.5**
ERM	**Erimo**	**4.16**	**89**	*e*Pn	**Pn**	**08 59 15.2**	**-0.4**
ERM				*e*Sn	**S**	**09 00 06.5**	**-3.0**
JMK	**Ichinoseki**	**4.18**	**137**	P	**Pn**	**08 59 15.1**	**-0.8**
ASAJ	**Asahikawa**	**4.21**	**59**	P	**Pn**	**08 59 17.0**	**+0.9**
	32nm,0.3s,baz=240,slow=9.5,SNR=142						
ASAJ				S	**S**	**09 00 09.6**	**-0.8**
	3.2nm,0.3s,baz=134,slow=32,SNR=10						
ASAJ	**Asahikawa**	**4.21**	**59**	P	**Pn**	**08 59 17.0**	**+0.9**
ASAJ				S	**S**	**09 00 09.6**	**-0.8**
ASAJ				smax	smax		
	comp=Z,32nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
JCH	**Churui**	**4.33**	**81**	P	**Pn**	**08 59 17.1**	**-0.4**
JCH				S	**S**	**09 00 09.8**	**-3.1**
JTKR	**Abashiri--Toko**	**5.01**	**66**	P	**Pn**	**08 59 25.9**	**+0.4**
JTKR				*e*S	**S**	**09 00 26.9**	**-0.5**
MAJO	**Matsushiro**	**5.55**	**175**	*e*P	**Pn**	**08 59 34.0**	**+2.1**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**5.55**	**175**	*e*Pn	**Pn**	**08 59 34.0**	**+2.2**
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**5.55**	**175**	P	**Pn**	**08 59 33.3**	**+1.4**
MJAR	**Matsushiro Arr**	**5.55**	**175**	P	**Pn**	**08 59 33.4**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=354,slow=11,SNR=13						
MJAR	**Matsushiro Arr**	**5.55**	**175**	P	**Pn**	**08 59 33.4**	**+1.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.12**	**36**	*i* P	**Pn**	**08 59 39.6**	**+0.9**
YSS	**Yuzh-Sakhalins**	**6.12**	**36**	*e*Pn	**Pn**	**08 59 40.3**	**+1.7**
JRY	**Ryogami san**	**6.14**	**170**	P	**Pn**	**08 59 38.5**	**-0.5**
JRY				S	**S**	**09 00 51.2**	**-0.8**
NEM2	**Nemuro 2**	**6.16**	**75**	P	**Pn**	**08 59 37.5**	**-1.6**
NEM2				S	**S**	**09 00 45.4**	**-6.8**
YUK	**Yuzh-Kuril'sk**	**6.38**	**69**	*e*P	**Pn**	**08 59 41.6**	**-0.2**
YUK				*e*S	**S**	**09 00 54.5**	**-2.7**
YUK				smax	smax		
	comp=N,410nm,0.5s						
YUK				smax	smax		
	comp=E,170nm,0.4s						
JOD2	**Odawara 2**	**6.91**	**170**	*e*S	**S**	**09 01 03.9**	**-5.1**
KSRS	**Korea Array**	**8.75**	**241**	P	**Pn**	**09 00 11.7**	**+0.8**
	baz=56,slow=12,SNR=13						
JHJ	**Hachijo jima 2**	**9.12**	**168**	P	**Pn**	**09 00 12.8**	**-2.7**
	comp=E,18nm,0.3s,baz=291,slow=8.8,SNR=5.7						
JHJ				S	**S**	**09 01 51.5**	**-7.5**
	comp=E,20nm,0.3s,baz=253,slow=19,SNR=4.7						
HIA	**Hailar**	**14.37**	**306**	*e*P	**Pn**	**09 01 18.3**	**-1.2**
HIA				pmax	pmax		
	comp=Z,11nm,0.5s						
HIA	**Hailar**	**14.37**	**306**	*e*Pn	**Pn**	**09 01 18.3**	**-1.2**
	comp=Z,11nm,0.5s						
CBIJ	**Chichi jima**	**15.42**	**164**	P	**Pn**	**09 01 29.9**	**-2.1**
	comp=Z,13nm,0.3s,baz=295,slow=21,SNR=4.7						
BJI	**Beijing**	**16.26**	**270**	*e*P	**P**	**09 01 39.5**	**-0.2**
BJI				AMB	AMB		
	comp=Z,17nm,1.0s						
BJI				LR	LR		
	comp=Z,88nm,14.2s						
CLNS	**Chul'man**	**16.87**	**335**	*e*P	**P**	**09 01 47.0**	**+0.7**
CLNS				pmax	pmax		
	comp=Z,19nm,0.8s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK	**Yakutsk**	**20.53**	**349**	⇑*e*P	**P**	**09 02 23.3**	**-2.1**
YAK				pmax	pmax		
	comp=Z,27nm,1.2s						
ULN	**Ulaanbaatar**	**22.26**	**295**	⇑*e*P	**P**	**09 02 40.3**	**-1.2**
ULN	**Ulaanbaatar**	**22.26**	**295**	*e*P	**P**	**09 02 39.6**	**-1.9**
	comp=Z,3.7nm,0.6s,mb3.9						
SONM	**Songino Array**	**22.70**	**295**	P	**P**	**09 02 44.7**	**-0.8**
	comp=Z,1.7nm,0.4s,mb3.7,baz=90,slow=9.1,SNR=14						
SONM	**Songino Array**	**22.70**	**295**	P	**P**	**09 02 44.7**	**-0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TIXI	**Tiksi**	**29.96**	**354**	⇓*i*P	**P**	**09 03 49.7**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
TIXI	**Tiksi**	**29.96**	**354**	*e*P	**P**	**09 03 49.7**	**-0.5**
	comp=Z,3.7nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**36.41**	**308**	P	**P**	**09 04 45.8**	**0.0**
	comp=Z,4.7nm,0.4s,mb4.3,baz=29,slow=7.2,SNR=8.4						
ZAL	**Zalesovo**	**36.41**	**308**	P	**P**	**09 04 45.8**	**0.0**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MK31	**Makanchi Array**	**39.06**	**296**	*e*P	**P**	**09 05 06.9**	**-0.9**
MKAR	**Makanchi Array**	**39.06**	**296**	P	**P**	**09 05 06.7**	**-1.2**
	comp=Z,2.5nm,0.5s,mb3.9,baz=82,slow=13,SNR=25						
MKAR	**Makanchi Array**	**39.06**	**296**	*i* P	**P**	**09 05 17.7**	**+10**
KURK	**Kurchatov**	**40.58**	**303**	*e*P	**P**	**09 05 19.6**	**-0.7**
KURK				*e*		09 07 01.0	
KURK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.3						
KURK	**Kurchatov**	**40.58**	**303**	*e*P	**P**	**09 05 19.6**	**-0.7**
	comp=Z,15nm,0.8s,mb4.3						
KURK				*e*PP	PP	09 07 01.0	+0.5
GUN	**Gumba**	**44.00**	**268**	*e*P	**P**	**09 05 47.4**	**-0.3**
	comp=Z,58nm,0.5s,mb5.0						
KKN	**Kakani**	**44.51**	**269**	*e*P	**P**	**09 05 51.7**	**0.0**
	comp=Z,20nm,0.5s,mb4.6						
PKI	**Pulchoki**	**44.54**	**268**	*e*P	**P**	**09 05 52.6**	**+0.7**
	comp=Z,13nm,0.5s,mb4.4	

comp=Z,4.0nm,0.6s
KIV Kislovodsk 65.41 306⇑ *e*P P 09 08 21.7 +1.2
KIV pmax pmax
comp=Z,19nm,0.9s,mb4.7
ASAR Alice Springs 65.50 184 P P 09 08 21.4 +0.3
comp=Z,1.0nm,0.5s,mb3.8,baz=355,slow=4.7,SNR=28
ASAR Alice Springs 65.50 184 P P 09 08 21.4 +0.4
ASAR pmax pmax
comp=Z,10.0nm,0.5s
ANN Anapa 67.94 311 *e*P P 09 08 32.3 -4.0
ANN *e* 09 08 57.3
ANN *e*S S 09 17 06.3 -5.1
ANN pmax pmax
comp=Z,25nm,0.9s,mb4.9
NB2 NORSAR Subarra 68.38 335 P P 09 08 38.4 -0.7
comp=Z,0.2nm,0.7s,mb3.0,baz=47,slow=6.5
NOA NORSAR Array B 68.38 335 P P 09 08 38.8 -0.3
comp=Z,1.5nm,0.7s,mb3.8,baz=40,slow=6.1,SNR=4.5
NOA NORSAR Array B 68.38 335 P P 09 08 38.8 -0.3
NOA pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 68.51 320 P P 09 08 39.3 -0.6
comp=Z,1.6nm,0.4s,mb4.1,baz=45,slow=6.6,SNR=11
AKASG Malin Array Be 68.51 320 P P 09 08 39.3 -0.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
BRTR Keskin Array B 73.33 309 P P 09 09 09.1 +0.4
comp=Z,1.6nm,0.6s,mb3.8,baz=99,slow=4.2,SNR=5.9
BRTR Keskin Array B 73.33 309 P P 09 09 09.1 +0.4
BRTR pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 73.69 176 P P 09 09 11.5 +0.7
comp=Z,2.6nm,0.6s,mb4.1,baz=332,slow=8.1,SNR=8.0
STKA Stephens Creek 73.69 176 *e*P P 09 09 11.7 +1.0
NVAR Mina Array Bea 74.30 52 P P 09 09 16.6 +2.3
comp=Z,0.8nm,0.6s,mb3.5,baz=303,slow=7.0,SNR=6.5
BW06 Boulder Array 76.19 44 *e*P P 09 09 25.9 +0.9
comp=Z,1.4nm,0.6s,mb3.8
PDAR Pinedale Array 76.19 44 P P 09 09 26.5 +1.5
comp=Z,1.4nm,0.7s,mb3.7,baz=323,slow=1.8,SNR=14
PV10 Paradox Valley 79.60 47 *e*P P 09 09 45.1 +1.4
TXAR Lajitas Array 89.28 50 P P 09 10 32.8 +0.9
comp=Z,0.4nm,0.6s,mb3.4,baz=308,slow=2.7,SNR=5.0
SNAA Sanae 144.58 200 PKP PKPdf 09 17 08.9 -1.6
comp=Z,0.7nm,0.4s,baz=227,slow=4.2,SNR=14
SNAA Sanae 144.58 200 *e*PKPdf PKPdf 09 17 08.8 -1.7
SNAA *e* 09 17 09.0
SNAA *e* 09 17 10.1
SNAA Sanae 144.58 200 PKIKP PKPdf 09 17 08.9 -1.6
SNAA pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 146.13 48 PKPbc PKPbc 09 17 16.4 +1.8
comp=Z,0.8nm,0.4s,baz=12,slow=4.2,SNR=6.7
LPAZ La Paz 146.13 48 PKP2 PKPab 09 17 16.4 +0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 146.13 48 *e*PKPbc PKPbc 09 17 16.6 +1.9
VNA2 Neumayer--Watz 146.20 200 *e*PKPdf PKPdf 09 17 14.0 +0.7
baz=120,slow=3.3
VNA2 *e* 09 17 14.6
VNA2 *e* 09 17 15.3
VNA2 *e* 09 17 18.0

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*ISCJB **04** 09:02:31.4±0.3, 5562N±002×110.16E±003, h10km, mb3.8/11, Error ellipse: s-maj=3.5km s-min=2.3km az=109.0*
*IDC **04** 09:02:31.2±1.0, 5578N×110.19E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.8/23, mbtmp3.8/10, ML3.9/2, Error ellipse: s-maj=26.5km s-min=18.7km az=73.0*
*MOS **04** 09:02:31.5±1.1, 5579N×11008E, h7km, mb4.1/7, Error ellipse: s-maj=10.5km s-min=6.3km az=69.7*
*NEIC **04** 09:02:33.0±0.7, 5586N×110.18E, h10km, mb4.2/2, Error ellipse: s-maj=13.0km s-min=10.0km az=81.0*
*BYKL **04** 09:02:33.3±0.3, 5566N×110.16E, h2km±4km*
ISC 04 09:02:33.0±0.3, 5566N±002×11018E±003, h10km, n81, σ1§59/136, mb3.8/11, 12C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**288**	*e*PG	**Pg**	**09 02 40.5**	**+0.1**
NIZ				*e*		09 02 46.0	
NIZ				pmax	pmax		
	comp=Z,2μm,0.4s						
NIZ				smax			
	comp=N,8μm,0.5s						
NIZ	**Nizh Angarsk**	**0.38**	**288**	⇑*i*Pg	**Pg**	**09 02 40.5**	**+0.1**
NIZ				Pmax		09 02 41.2	
	comp=N,2μm,0.8s						
NIZ				*e*Sg	**Sg**	**09 02 45.0**	**-0.5**
NIZ				*e*		09 02 46.9	
NIZ				max		09 02 47.2	
	comp=N,9μm,0.4s						
KMO	**Kumora**	**0.62**	**68**	*e*PG	**Pg**	**09 02 44.5**	**-0.5**
KMO				*e*		09 02 52.7	
KMO				pmax	pmax		
	comp=Z,879nm,0.2s						
KMO				smax			
	comp=E,6μm,0.9s						
KMO	**Kumora**	**0.62**	**68**	⇑*i*Pg	**Pg**	**09 02 44.5**	**-0.5**
KMO				Pmax		09 02 44.8	
	comp=E,860nm,0.2s						
KMO				*e*Sg	**Sg**	**09 02 52.6**	**-0.5**
KMO				Smax		09 02 57.4	
	comp=E,7μm,1.5s						
YLYR	**Ulyunkhan**	**0.97**	**144**	⇑*i*PG	**Pg**	**09 02 51.0**	**-0.6**
YLYR				*e*		09 03 03.7	
YLYR				pmax	pmax		
	comp=Z,508nm,0.3s						
YLYR				smax			
	comp=N,1μm,0.1s						
YLYR	**Ulyunkhan**	**0.97**	**144**	⇓*i*Pg	**Pg**	**09 02 51.1**	**-0.5**
	comp=N,449nm,0.5s						
YLYR				⇑*i*Pg	**Pg**	**09 02 51.1**	**-0.5**
	comp=N,294nm,0.5s						
YLYR				⇑*i*Pg	**Pg**	**09 02 51.1**	**-0.5**
	comp=N,368nm,0.5s						
YLYR				Pmax		09 02 56.7	
	comp=N,607nm,0.6s						
YLYR				*e*Sg	**Sg**	**09 03 04.0**	**-0.1**
YLYR				Smax		09 03 10.6	
	comp=N,2μm,1.0s						
YOA	**Uoyan**	**0.99**	**61**	⇓*i*PG	**Pg**	**09 02 51.3**	**-0.7**
YOA				*e*		09 03 05.8	
YOA				pmax	pmax		
	comp=Z,468nm,0.3s						
YOA				smax			
	comp=N,5μm,0.3s						
YOA	**Uoyan**	**0.99**	**61**	*e*Pg	**Pg**	**09 02 51.2**	**-0.8**
YOA				Pmax		09 02 55.2	
	comp=N,497nm,0.6s						
YOA				*e*Sg	**Sg**	**09 03 03.7**	**-1.2**
YOA				Smax		09 03 17.6	
	comp=N,5μm,0.7s						
SVKR	**Severomuysk**	**1.96**	**75**	*e*PN	**Pn**	**09 03 09.4**	**+3.2**
SVKR				*e*		09 03 36.2	
SVKR				pmax	pmax		
	comp=Z,1μm,0.7s						
SVKR				smax			
	comp=N,5μm,1.2s						
SVKR	**Severomuysk**	**1.96**	**75**	*e*Pn	**Pn**	**09 03 07.9**	**+1.7**
SVKR				*e*Pg	**Pg**	**09 03 09.2**	**-1.3**
SVKR				Pmax		09 03 10.4	
	comp=N,1μm,0.6s						
SVKR				*e*Sg	**Sg**	**09 03 36.2**	**+0.3**
SVKR				Smax		09 03 37.7	
	comp=N,5μm,0.8s						
SYVR	**Suvo**	**2.01**	**183**	*e*PN	**Pn**	**09 03 09.8**	**+2.9**
SYVR				*e*		09 03 36.9	
SYVR				pmax	pmax		
	comp=Z,475nm,0.5s						
SYVR				smax			
	comp=E,5μm,0.7s						
SYVR	**Suvo**	**2.01**	**183**	⇑*i*Pn	**Pn**	**09 03 09.6**	**+2.7**
SYVR				*e*Pg	**Pg**	**09 03 11.6**	**+0.1**
SYVR				Pmax		09 03 13.8	
	comp=E,547nm,0.5s						
SYVR				*e*Sg	**Sg**	**09 03 36.8**	**-0.7**
SYVR				*e*SgSg		09 03 38.8	
SYVR				max		09 03 39.2	
	comp=E,5μm,0.7s						
OGRR	**Ongureny**	**2.52**	**218**	*e*PN	**Pn**	**09 03 15.7**	**+1.8**
OGRR				*e*		09 03 19.2	
OGRR				*e*		09 03 50.9	
OGRR				pmax	pmax		
	comp=Z,129nm,0.7s						
OGRR				smax			
	comp=E,875nm,0.7s						
OGRR	**Ongureny**	**2.52**	**218**	*e*Pn	**Pn**	**09 03 15.8**	**+1.9**
OGRR				*e*Pg	**Pg**	**09 03 18.3**	**-2.9**
OGRR				Pmax		09 03 21.4	
	comp=E,121nm,0.4s						
OGRR				*e*Sn	**Sn**	**09 03 47.6**	**+3.0**
OGRR				*e*Sg	**Sg**	**09 03 50.9**	**-3.0**
OGRR				Smax		09 03 56.0	
	comp=E,909nm,0.6s						
MXMB	**Maximikha**	**2.54**	**200**	*e*Pn	**Pn**	**09 03 15.9**	**+1.6**
MXMB				*e*Pg	**Pg**	**09 03 18.4**	**-3.3**
MXMB				Pmax		09 03 23.5	
	comp=E,292nm,0.9s						
MXMB				*e*Sg	**Sg**	**09 03 52.2**	**-2.5**
MXMB				Smax		09 03 58.5	
	comp=E,2μm,0.8s						
BOD	**Bodaibo**	**3.02**	**43**	*e*PN	**Pn**	**09 03 21.6**	**+0.8**
BOD				*e*		09 03 27.0	
BOD				*e*		09 04 05.1	
BOD				pmax	pmax		
	comp=Z,73nm,0.5s						
BOD				smax			
	comp=N,494nm,0.8s						
BOD	**Bodaibo**	**3.02**	**43**	⇓*i*Pn	**Pn**	**09 03 22.4**	**+1.6**
BOD				*e*Pg	**Pg**	**09 03 26.4**	**-4.4**
BOD				Pmax		09 03 31.9	
	comp=N,89nm,0.8s						
BOD				*e*		09 03 59.2	
BOD				*e*Sg	**Sg**	**09 04 05.5**	**-4.5**
BOD				Smax		09 04 08.8	
	comp=N,487nm,1.1s						
NLYR	**Nelyaty**	**3.21**	**73**	*e*Pn	**Pn**	**09 03 24.8**	**+1.4**
NLYR				*e*Pg	**Pg**	**09 03 30.9**	**-3.5**
NLYR				*e*Sg	**Sg**	**09 04 12.9**	**-3.1**
TRG	**Tyrgan**	**3.67**	**219**	*e*PN	**Pn**	**09 03 31.6**	**+1.8**
TRG				*e*		09 03 40.2	
TRG				*e*		09 04 28.2	
TRG				pmax	pmax		
	comp=Z,58nm,0.3s						
TRG				smax			
	comp=E,483nm,0.5s						
TRG	**Tyrgan**	**3.67**	**219**	*e*Pn	**Pn**	**09 03 31.3**	**+1.5**
TRG				*e*		09 03 32.5	
TRG				*e*		09 03 35.1	
TRG				max		09 03 36.0	
	comp=E,167nm,0.4s						
TRG				*e*Sn	**Sn**	**09 04 15.1**	**+1.9**
TRG				*e*Sg	**Sg**	**09 04 26.4**	**-4.6**
TRG				Smax		09 04 33.4	
	comp=E,439nm,0.5s						
TRTB	**Turuntaevo**	**3.75**	**205**	*e*Pn	**Pn**	**09 03 32.7**	**+1.8**
TRTB				*e*Pg	**Pg**	**09 03 41.2**	**-3.6**
TRTB				Pmax		09 03 46.9	
	comp=E,69nm,0.8s						
TRTB				*e*Sn	**Sn**	**09 04 16.3**	**+1.2**
TRTB				*e*Sg	**Sg**	**09 04 28.8**	**-4.7**
TRTB				Smax		09 04 38.2	
	comp=E,481nm,1.3s						
FFNB	**Fofonovo**	**4.15**	**211**	*e*Pn	**Pn**	**09 03 38.5**	**+2.2**
FFNB				*e*Sn	**Sn**	**09 04 23.8**	**-1.0**
FFNB				*e*Sg	**Sg**	**09 04 40.9**	**-5.2**
FFNB				Smax		09 04 49.6	
	comp=E,1μm,0.6s						
CIT	**Chita**	**4.16**	**150**	*e*Pn	**Pn**	**09 03 39.0**	**+2.6**
CIT				⇑*i*Pg	**Pg**	**09 03 47.8**	**-4.8**
CIT				Pmax		09 03 48.9	
	comp=E,201nm,1.2s						
CIT				*e*Sn	**Sn**	**09 04 24.5**	**-0.6**
CIT				*i* Sg	**Sg**	**09 04 40.7**	**-5.7**
CIT				Smax		09 04 44.9	
	comp=E,420nm,1.0s						
KAB	**Kabansk**	**4.17**	**211**	*e*PN	**Pb**	**09 03 48.3**	**+1.8**
KAB				*e*		09 04 43.1	
KAB				pmax	pmax		
	comp=Z,117nm,0.2s						
KAB				smax			
	comp=E,2μm,1.1s						
KAB	**Kabansk**	**4.17**	**211**	*e*Sg	**Sg**	**09 04 41.5**	**-5.5**
KAB				Smax		09 05 03.4	
	comp=E,2μm,1.3s						
HRMR	**Khuramsha**	**4.47**	**207**	*e*Pn	**Pn**	**09 03 42.5**	**+1.7**
HRMR				*e*Pg	**Pg**	**09 03 55.4**	**-3.2**
HRMR				Pmax		09 03 56.7	
	comp=E,158nm,0.4s						
HRMR				*e*Sn	**Sn**	**09 04 35.4**	**+2.6**
HRMR				*e*Sg	**Sg**	**09 04 52.9**	**-3.6**
HRMR				Smax		09 04 57.4	
	comp=E,1μm,0.6s						
CRS	**Chara**	**4.68**	**71**	*e*PN	**Pb**	**09 03 58.6**	**+3.5**
CRS				*e*		09 04 59.3	
CRS				pmax	pmax		
	comp=Z,198nm,0.9s						
CRS				smax			
	comp=E,397nm,1.2s						
CRS	**Chara**	**4.68**	**71**	*e*Pn	**Pn**	**09 03 45.1**	**+1.5**
CRS				*e*Pg	**Pg**	**09 03 56.9**	**-5.6**
CRS				Pmax		09 04 00.4	
	comp=E,447nm,1.0s						
CRS				*e*Sg	**Sg**	**09 04 57.3**	**-5.8**
CRS				Smax		09 05 09.0	
	comp=E,492nm,1.3s						
IRK	**Irkutsk**	**4.89**	**228**	*e*PN	**Pn**	**09 03 48.0**	**+1.5**
IRK				*e*S	**Sn**	**09 04 43.4**	**+0.3**
IRK				*e*S	**Sg**	**09 05 03.6**	**-6.3**
IRK				smax			
	comp=E,1μm,0.8s						
IRK	**Irkutsk**	**4.89**	**228**	*e*Sn	**Sn**	**09 04 41.9**	**-1.2**
IRK				*e*Sg	**Sg**	**09 05 04.8**	**-5.1**
IRK				Smax		09 05 11.5	
	comp=E,1μm,0.8s						
LSTR	**Listvyanka**	**4.95**	**222**	*e*Pn	**Pn**	**09 03 48.4**	**+1.1**
LSTR				max		09 04 02.1	
	comp=E,40nm,0.6s						
LSTR				*e*Sn	**Sn**	**09 04 43.6**	**-1.0**
LSTR				*e*Sg	**Sg**	**09 05 06.5**	**-5.3**
LSTR				Smax		09 05 12.6	
	comp=E,434nm,1.5s						
TLY	**Talaya**	**5.56**	**227**	*e*Pn	**Pn**	**09 03 56.4**	**+0.6**
TLY				*e*Sn	**Sn**	**09 05 00.1**	**+0.2**
TLY	**Talaya**	**5.56**	**227**	*e*Pn	**Pn**	**09 03 57.0**	**+1.2**
TLY				max		09 04 18.0	
	comp=E,31nm,0.8s						
TLY				*e*Sn	**Sn**	**09 04 57.8**	**-2.0**
TLY				*e*Sg	**Sg**	**09 05 23.1**	**-8.5**
TLY				Smax		09 05 31.0	
	comp=E,285nm,1.4s						
KHNR	**Khani**	**5.60**	**73**	*e*Sg	**Sg**	**09 05 27.5**	**-5.3**
TUP	**Tupik**	**5.75**	**98**	*e*PN	**Pn**	**09 03 58.9**	**+0.5**
TUP				*e*		09 04 16.3	
TUP				*e*		09 05 30.4	
TUP				pmax	pmax		
	comp=Z,79nm,1.0s						
TUP				smax			
	comp=E,409nm,1.8s						
TUP	**Tupik**	**5.75**	**98**	*e*Pn	**Pn**	**09 03 59.1**	**+0.7**
TUP				*e*Pg	**Pg**	**09 04 16.2**	**-7.0**
TUP				Pmax		09 04 21.6	
	comp=E,97nm,1.8s						
TUP				*e*Sg	**Sg**	**09 05 33.0**	**-4.7**
TUP				Smax		09 05 55.8	
	comp=E,484nm,2.0s						
ARS	**Arshan**	**5.93**	**234**	⇑*i*Pn	**Pn**	**09 04 01.8**	**+1.0**
ARS				max		09 04 13.4	
	comp=E,81nm,0.7s						
ARS				*e*Sn	**Sn**	**09 05 06.8**	**-2.0**
ARS				*e*Sg	**Sg**	**09 05 37.1**	**-6.2**
ARS				Smax		09 05 42.7	
	comp=E,1μm,0.7s						
KPC	**Khapcheranga**	**6.11**	**166**	*e*PN	**Pn**	**09 04 06.9**	**+3.6**
KPC				*e*		09 04 24.7	
KPC	**Khapcheranga**	**6.11**	**166**	*e*Pn	**Pn**	**09 04 03.6**	**+0.3**
KPC				*e*Pg	**Pg**	**09 04 23.6**	**-6.4**
KPC				Pmax		09 04 25.5	
	comp=E,32nm,1.1s						
KPC				*e*Sg	**Sg**	**09 05 42.9**	**-6.3**
KPC				Smax		09 05 52.9	
	comp=E,429nm,1.1s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN	**Pn**	**09 04 14.0**	**+2.3**
ZAK				*e*		09 04 35.7	
ZAK				*e*S	**Sn**	**09 05 31.9**	**+3.5**
ZAK				*e*		09 06 03.0	
ZAK				pmax	pmax		
	comp=Z,16nm,0.5s						
ZAK				pmax	pmax		
	comp=N,275nm,1.5s						
ZAK	**Zakamensk**	**6.73**	**221**	⇓*i*Pn	**Pn**	**09 04 14.3**	**+2.6**
ZAK				max		09 04 19.0	
	comp=N,16nm,0.5s						
ZAK				*e*Sn	**Sn**	**09 05 27.1**	**-1.3**
ZAK				*e*Sg	**Sg**	**09 06 03.0**	**-5.8**
ZAK				Smax		09 06 07.1	
	comp=N,279nm,1.5s						
MOY	**Mondy**	**6.77**	**238**	*e*PN	**Pn**	**09 04 14.3**	**+2.0**
MOY				*e*		09 04 32.8	
MOY	**Mondy**	**6.77**	**238**	⇑*i*Pn	**Pn**	**09 04 14.7**	**+2.4**
MOY				max		09 04 15.4	
	comp=N,126nm,0.9s						
MOY				*e*Sn	**Sn**	**09 05 28.8**	**-0.6**
MOY				*e*Sg	**Sg**	**09 06 00.6**	**-10**
MOY				Smax		09 06 06.4	
	comp=N,393nm,1.5s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	**Pn**	**09 04 15.3**	**+1.8**
ORL				*e*S	**Sn**	**09 05 30.2**	**-1.3**
ORL				*e*S	**Sg**	**09 06 04.1**	**-8.8**
ORL				smax			
	comp=N,326nm,0.9s						
ORL	**Orlik**	**6.85**	**247**	*e*Sn	**Sn**	**09 05 31.8**	**+0.3**
ORL				*e*Sg	**Sg**	**09 06 05.1**	**-7.8**
ORL				Smax		09 06 08.5	
	comp=N,495nm,0.8s						
ULN	**Ulaanbaatar**	**8.04**	**195**	*e*Pn	**Pn**	**09 04 34.6**	**+4.8**
ULN				*e*Sg	Sn	09 06 44.4	+44
SONM	**Songino Array**	**8.18**	**198**	Pn	**Pn**	**09 04 34.4**	**+2.7**
	comp=N,1.0nm,0.3s,baz=13,slow=12,SNR=13						
SONM				Lg		09 06 54.6	
	comp=N,3.4nm,0.3s,baz=6.9,slow=29,SNR=5.7						
HIA	**Hailar**	**8.66**	**134**	*e*PN	**Pn**	**09 04 46.1**	**+7.8**
HIA	**Hailar**	**8.66**	**134**	*e*Sg	Sx	09 07 01.7	
TDJR	**Todzha**	**8.91**	**254**	*e*Pn	**Pn**	**09 04 44.0**	**+2.3**
TDJR				*e*Sg	Sn	09 07 07.0	+45
YAK	**Yakutsk**	**11.91**	**50**	*e*P	**Pn**	**09 05 24.6**	**+1.7**
ZAL	**Zalesovo**	**14.71**	**274**	Pn	**Pn**	**09 06 02.0**	**+1.0**
	comp=N,0.2nm,0.3s,baz=26,slow=14,SNR=5.9						
ZAL				Lg		09 10 17.0	
	comp=N,0.3nm,0.3s,baz=268,slow=12,SNR=3.3						
ZAL	**Zalesovo**	**14.71**	**274**	Pn	**Pn**	**09 06 02.0**	**+1.0**
ZAL				Lg		09 10 17.0	
TIXI	**Tiksi**	**17.91**	**19**	⇑*i*P	**Pn**	**09 06 41.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KURK	**Kurchatov**	**19.44**	**268***c*	*i*P	**Pn**	**09 07 00.1**	**-0.6**
KURK	**Kurchatov**	**19.44**	**268**	*e*P	**Pn**	**09 07 00.3**	**-0.5**
	comp=Z,14nm,1.0s						
MK31	**Makanchi Array**	**19.47**	**255**	*e*P	**Pn**	**09 07 00.2**	**-0.9**
MKAR	**Makanchi Array**	**19.47**	**255**	P	**Pn**	**09 07 00.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=59,slow=10,SNR=24						
MKAR	**Makanchi Array**	**19.47**	**255**	P	**Pn**	**09 07 00.1**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHKZ	**Chkalovo**	**22.76**	**282**	*e*P	**P**	**09 07 34.8**	**-0.5**
BVAR	**Borovoye Array**	**23.12**	**280**	P	**P**	**09 07 39.2**	**0.0**
	comp=Z,4.7nm,0.8s,mb4.0,baz=70,slow=12,SNR=8.6						
BVAR	**Borovoye Array**	**23.12**	**280**	P	**P**	**09 07 39.2**	**0.0**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**23.17**	**280**	*e*P	**P**	**09 07 37.8**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**23.17**	**280**	*e*P	**P**	**09 07 37.8**	**-1.8**
	comp=Z,4.1nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**26.40**	**255**	⇑*i*P	**P**	**09 08 11.5**	**+1.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.7						
ARCES	**ARCESS Array B**	**37.84**	**325**	P	**P**	**09 09 48.4**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.0,baz=78,slow=9.3,SNR=3.5						
ARCES	**ARCESS Array B**	**37.84**	**325**	P	**P**	**09 09 48.4**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**37.84**	**325**	P	**P**	**09 09 48.4**	**-1.3**
FINES	**FINESS Array B**	**41.36**	**314**	P	**P**	**09 10 16.5**	**-2.5**
	comp=Z,1.9nm,1.0s,mb3.7,baz=77,slow=9.0,SNR=3.8						
AKASG	**Malin Array Be**	**46.17**	**299**	P	**P**	**09 10 55.4**	**-2.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=44,slow=8.1,SNR=4.4						
AKASG	**Malin Array Be**	**46.17**	**299**	P	**P**	**09 10 55.4**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**47.41**	**319**	P	**P**	**09 11 07.0**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=48,slow=7.9						
NOA	**NORSAR Array B**	**47.41**	**319**	P	**P**	**09 11 06.8**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=48,slow=7.3,SNR=3.8						
NOA	**NORSAR Array B**	**47.41**	**319**	P	**P**	**09 11 06.8**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BUKP	**Musuan**	**49.10**	**160**	*e*P	**P**	**09 11 17.9**	**-2.5**
BRTR	**Keskin Array B**	**51.23**	**286**	P	**P**	**09 11 40.2**	**+3.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=61,slow=5.5,SNR=4.7						
BRTR	**Keskin Array B**	**51.23**	**286**	P	**P**	**09 11 40.3**	**+3.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**57.11**	**23**	P	**P**	**09 12 18.6**	**-1.0**
	comp=Z,0.3nm,0.7s,mb3.5,baz=332,slow=7.0,SNR=3.6						
YKA	**Yellowknife Ar**	**57.11**	**23**	P	**P**	**09 12 18.6**	**-1.0**
WRA	**Warramunga Arr**	**78.05**	**157**	P	**P**	**09 14 31.8**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=349,slow=6.3,SNR=5.6						
ASAR	**Alice Springs**	**81.56**	**158**	P	**P**	**09 14 50.8**	**0.0**
	comp=Z,0.2nm,0.6s,mb3.2,baz=2.8,slow=5.2,SNR=5.6						

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*MOS **04** 09:10:14.8±1.2, 5572N×110.12E, h11km, mb3.9/1, Error ellipse: s-maj=18.7km s-min=13.0km az=59.4*
BYKL 04 09:10:16.0±0.3, 5568N×11016E, h11km±4km, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**285**	*e*PG	Pg	09 10 23.1	-0.1
NIZ				*e*		09 10 28.9	
NIZ				pmax	pmax		
	comp=Z,850nm,0.4s						
NIZ				smax			
	comp=N,3μm,0.3s						
NIZ	**Nizh Angarsk**	**0.36**	**285**	⇑*i*Pg	Pg	09 10 23.2	0.0
NIZ				*e*Sg	Sg	09 10 27.1	-1.0
NIZ				*e*		09 10 28.9	
NIZ				Pmax			
	comp=N,187nm,0.2s						
NIZ				max			
	comp=N,3μm,0.3s						
KMO	**Kumora**	**0.62**	**70**	*e*PG	Pg	09 10 27.1	-1.0
KMO				*e*		09 10 35.3	
KMO				pmax	pmax		
	comp=Z,632nm,0.2s						
KMO				smax			
	comp=E,771nm,0.5s						
KMO	**Kumora**	**0.62**	**70**	⇑*i*Pg	Pg	09 10 27.2	-0.9
KMO				*i* Sg	Sg	09 10 35.3	-1.0
KMO				Pmax			
	comp=E,631nm,0.2s						
KMO				Smax			
	comp=E,983nm,1.0s						
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑*i*PG	Pg	09 10 33.8	-1.2
YLYR				*e*		09 10 47.1	
YLYR				pmax	pmax		
	comp=Z,200nm,0.2s						
YLYR				smax			
	comp=N,581nm,0.1s						
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑*i*Pg	Pg	09 10 33.8	-1.2
YLYR				*e*Pb	Pb	09 10 34.6	-0.5
YLYR				*e*Sg	Sg	09 10 47.0	-0.9
YLYR				max			
	comp=N,197nm,0.2s						
YLYR				max			
	comp=N,509nm,0.1s						
YOA	**Uoyan**	**0.99**	**62**	⇑*i*PG	Pg	09 10 34.2	-0.9
YOA				*i*		09 10 48.2	
YOA				pmax	pmax		
	comp=Z,256nm,0.2s						
YOA				smax			
	comp=N,1μm,0.3s						
YOA	**Uoyan**	**0.99**	**62**	*e*Pg	Pg	09

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SVKR				e		09 10 52.7	
SVKR				e		09 11 18.2	
SVKR				pmax	pmax		
	comp=Z,262nm,0.5s						
SVKR				smax			
	comp=N,1μm,0.2s						
SVKR	**Severomuysk**	**1.96**	**76**	ePn	Pn	09 10 50.4	+1.2
SVKR				ePg	Pg	09 10 52.0	-1.7
SVKR				eSg	Sg	09 11 18.4	-0.7
SVKR				Pmax			
	comp=N,252nm,0.3s						
SVKR				Smax			
	comp=N,1μm,0.5s						
SYVR	**Suvo**	**2.03**	**183**	ePN	Pn	09 10 52.3	+2.2
SYVR				e		09 11 19.9	
SYVR				pmax	pmax		
	comp=Z,67nm,0.5s						
SYVR				smax			
	comp=E,594nm,0.7s						
SYVR	**Suvo**	**2.03**	**183**	ePn	Pn	09 10 51.3	+1.2
SYVR				ePg	Pg	09 10 52.3	-2.6
SYVR				eSg	Sg	09 11 20.1	-1.1
SYVR				eSgSg		09 11 21.5	
SYVR				Pmax			
	comp=E,69nm,0.5s						
SYVR				max			
	comp=E,681nm,0.7s						
OGRR	**Ongureny**	**2.53**	**217**	ePn	Pn	09 10 58.8	+1.8
OGRR				ePg	Pg	09 11 01.0	-3.4
OGRR				e		09 11 03.9	
OGRR				eSn	Sn	09 11 29.3	+1.6
OGRR				eSg	Sg	09 11 33.8	-3.4
OGRR				max			
	comp=E,17nm,0.2s						
OGRR				Smax			
	comp=E,110nm,0.3s						
MXMB	**Maximikha**	**2.56**	**199**	eSg	Sg	09 11 36.8	-1.4
MXMB				Smax			
	comp=E,321nm,1.0s						
BOD	**Bodaibo**	**3.01**	**43**	ePN	Pn	09 11 03.5	-0.1
BOD				e		09 11 09.5	
BOD				e		09 11 47.6	
BOD				pmax	pmax		
	comp=Z,16nm,0.2s						
BOD				smax			
	comp=E,141nm,0.3s						
BOD	**Bodaibo**	**3.01**	**43**	ePn	Pn	09 11 04.5	+0.9
BOD				ePg	Pg	09 11 08.7	-5.0
BOD				eSn	Sn	09 11 41.7	+2.0
BOD				eSg	Sg	09 11 48.5	-4.3
BOD				Pmax			
	comp=E,17nm,0.3s						
BOD				Smax			
	comp=E,140nm,0.3s						
NLYR	**Nelyaty**	**3.21**	**73**	ePn	Pn	09 11 07.4	+1.0
NLYR				ePg	Pg	09 11 13.3	-4.2
NLYR				eSn	Sn	09 11 46.4	+1.8
NLYR				eSg	Sg	09 11 55.6	-3.5
TRG	**Tyrgan**	**3.68**	**219**	ePn	Pn	09 11 13.8	+0.9
TRG				eSn	Sn	09 11 58.3	+2.0
TRG				eSg	Sg	09 12 10.9	-3.4
TRG				max			
	comp=E,25nm,0.5s						
TRG				Smax			
	comp=E,78nm,0.4s						
TRTB	**Turuntaevo**	**3.77**	**204**	ePn	Pn	09 11 14.7	+0.7
TRTB				e		09 11 21.1	
TRTB				eSg	Sg	09 12 13.7	-3.2
TRTB				max			
	comp=E,8.0nm,0.2s						
TRTB				Smax			
	comp=E,61nm,1.1s						
FFNB	**Fofonovo**	**4.16**	**210**	eSn	Sn	09 12 07.5	-0.5
FFNB				eSg	Sg	09 12 23.9	-5.6
FFNB				Smax			
	comp=E,169nm,0.7s						
CIT	**Chita**	**4.18**	**150**	ePN	Pn	09 11 30.7	+11
CIT				e		09 12 23.8	
CIT				pmax	pmax		
	comp=Z,29nm,0.8s						
CIT				smax			
	comp=E,85nm,0.8s						
CIT	**Chita**	**4.18**	**150**	ePn	Pn	09 11 19.5	-0.2
CIT				ePg	Pg	09 11 30.6	-5.5
CIT				eSg	Sg	09 12 23.9	-6.3
CIT				Pmax			
	comp=E,18nm,0.7s						
CIT				Smax			
	comp=E,69nm,0.7s						
CRS	**Chara**	**4.68**	**72**	ePn	Pn	09 11 28.0	+1.4
CRS				ePg	Pg	09 11 40.1	-5.6
CRS				eSg	Sg	09 12 41.5	-4.8
CRS				Pmax			
	comp=E,66nm,0.8s						
CRS				Smax			
	comp=E,87nm,1.6s						
LSTR	**Listvyanka**	**4.96**	**222**	eSg	Sg	09 12 48.6	-6.5
LSTR				Smax			
	comp=E,45nm,0.5s						
TLY	**Talaya**	**5.57**	**227**	ePN	Pn	09 11 38.5	-0.3
TLY				e		09 11 56.0	
TLY				eS	Sn	09 12 41.7	-1.1
TLY				e		09 13 06.6	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TLY				smax			
	comp=E,38nm,1.1s						
TLY	**Talaya**	**5.57**	**227**	ePn	Pn	09 11 37.4	-1.4
TLY				eSn	Sn	09 12 41.7	-1.1
TLY				eSg	Sg	09 13 06.8	-8.0
TLY				Smax			
	comp=E,34nm,0.6s						
TUP	**Tupik**	**5.77**	**99**	ePN	Pn	09 11 41.8	+0.3
TUP				e		09 11 58.6	
TUP				eS	Sn	09 12 46.1	-1.6
TUP				e		09 13 12.5	
TUP				pmax	pmax		
	comp=Z,19nm,0.8s						
TUP				smax			
	comp=N,50nm,1.2s						
TUP	**Tupik**	**5.77**	**99**	ePn	Pn	09 11 41.7	+0.2
TUP				ePg	Pg	09 11 58.7	-7.8
TUP				eSg	Sg	09 13 14.4	-6.8
TUP				Pmax			
	comp=N,12nm,1.6s						
TUP				Smax			
	comp=N,84nm,2.1s						
ARS	**Arshan**	**5.93**	**234**	eSn	Sn	09 12 49.4	-2.3
ARS				eSg	Sg	09 13 20.0	-6.4
ARS				Smax			
	comp=N,186nm,0.8s						
KPC	**Khapcheranga**	**6.14**	**166**	ePG	Pg	09 12 07.7	-5.8
KPC				e		09 13 26.5	
KPC				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KPC				smax			
	comp=E,46nm,1.3s						
KPC	**Khapcheranga**	**6.14**	**166**	ePn	Pn	09 11 46.5	-0.1
KPC				ePg	Pg	09 12 06.3	-7.2
KPC				eSg	Sg	09 13 26.0	-7.0
KPC				Pmax			
	comp=E,3.0nm,0.4s						
KPC				Smax			
	comp=E,46nm,1.1s						
ZAK	**Zakamensk**	**6.73**	**221**	eSg	Sg	09 13 46.3	-5.8
ZAK				Smax			
	comp=E,15nm,0.6s						
MOY	**Mondy**	**6.77**	**237**	ePN	Pn	09 11 56.9	+1.7
MOY				e		09 12 15.9	
MOY				eS	Sn	09 13 10.9	-1.4
MOY				e		09 13 45.7	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MOY				smax			
	comp=N,61nm,0.7s						
MOY	**Mondy**	**6.77**	**237**	ePn	Pn	09 11 56.4	+1.2
MOY				eSn	Sn	09 13 11.9	-0.4
MOY				eSg	Sg	09 13 45.7	-7.5
MOY				max			
	comp=N,13nm,0.7s						
MOY				Smax			
	comp=N,58nm,1.5s						

BJI ***04*** *09:13:59.7, 56.10N×110.20E, h11km, mB5.2, mb4.7, Ms5.5, Msz5.4*
LDG ***04*** *09:14:02.6±0.4, 55.96N×109.74E, h10km, Mb5.3/32, Ms4.6/8, Error ellipse: s-maj=16.4km s-min=6.0km az=106.0*
MOS ***04*** *09:14:02.8±1.0, 55.75N×110.02E, h11km, mb5.3/121, MS5.0/39, Error ellipse: s-maj=5.3km s-min=3.7km az=105.9*
MOS Felt (III-IV) at Nizhneangarsk, Novii Uoyan, Ulyunkhan, Kumora; (III) at Severomuisk, Bodaibo, Verhnyaya Zaimka.
IDC ***04*** *09:14:02.8±0.4, 55.81N×110.18E, h0km, mb4.9/26, mb1 5.0/28, mb1mx5.0/28, mbtmp4.9/28, ML4.7/2, MS4.6/35, Ms1 4.6/35, ms1mx4.5/40, Error ellipse: s-maj=12.5km s-min=9.1km az=4.0*
ISCJB ***04*** *09:14:03.6±0.1, 55.74N±0.01×110.00E±0.02, h13km, mb5.1/236, MS4.9/73, Error ellipse: s-maj=2.2km s-min=1.6km az=117.4*
GCMT ***04*** *09:14:04.6±0.1, 55.71N×110.09E, h14km, MW5.2/99, Moment Tensor Solution. s72,c118; s99,c181; Duration: 1.0s Moment tensor: Scale 10^{17}Nm; M_{rr}-0.82±.02; $M_{\theta\theta}$0.24±.01; $M_{\phi\phi}$0.58±.01; $M_{r\theta}$-0.17±.03; $M_{\theta\phi}$0.32±.01; $M_{\phi r}$-0.25±.03; Best double couple: $M_0$0.85700×10^{17} NP1:ϕ_s210.00000°, δ35.00000°, λ-92.00000°. NP2:ϕ_s32.00000°, δ55.00000°, λ-89.00000°. Principal axes: T 0.8320, Plg10.0000°, Azm121.0000°; N 0.0490, Plg1.0000°, Azm211.0000°; P -0.8820, Plg80.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *09:14:04.6±0.1, 55.77N×110.08E, h10km, mb5.2/162 Error ellipse: s-maj=3.6km s-min=2.5km az=171.0*
NEIC Felt [IV] at Kumora, Nizhneangarsk, Novyy Uoyan and Ulyunkhan; [III] at Bodaybo, Severomuysk and Verkhnyaya Zaimka.
BYKL ***04*** *09:14:04.6±0.3, 55.67N×110.19E, FELT I=V-VI MSK at Verchnya Zaimka, V at Kichera, IV-V at Nizhneangarsk, IV at Kumora, Baykalskoe, Yanchukan, Severomuisk, Romanovka*
SZGRF ***04*** *09:14:13.0, 56.53N×110.09E, h33km, mb5.2, MS5.1, Lake Baykal, Russia, region*

ISC 04 09:14:05.1±0.1**, 55.75N**±0.01×**110.06E**±0.02**, h14**km±.6km**:pP-P, n895, σ0.87s**/966**, mb5.1**/236**, MS4.9**/73**, 151C-126D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.29**	**275**	ePG	**Pg**	**09 14 11.3**	**+0.1**
NIZ				e		09 14 16.7	
NIZ				pmax	pmax		
	comp=Z,16μm,0.6s						
NIZ				smax			
	comp=N,87μm,1.3s						
NIZ	**Nizh Angarsk**	**0.29**	**275**	⇑iPg	**Pg**	**09 14 11.3**	**+0.1**
NIZ				Pmax		09 14 12.1	
	comp=N,18μm,1.0s						
NIZ				eSg	**Sg**	**09 14 17.4**	**+2.0**
NIZ				Smax		09 14 18.9	
	comp=N,91μm,0.9s						
KMO	**Kumora**	**0.66**	**77**	ePG	**Pg**	**09 14 15.2**	**-2.8**
KMO				e		09 14 23.0	
KMO				pmax	pmax		
	comp=Z,18μm,0.2s						
KMO				smax			
	comp=E,272μm,1.3s						
KMO	**Kumora**	**0.66**	**77**	⇑iPg	**Pg**	**09 14 15.2**	**-2.8**
KMO				Pmax		09 14 15.8	
	comp=E,18μm,0.2s						
KMO				i Sg	**Sg**	**09 14 23.4**	**-3.4**
KMO				Smax		09 14 26.9	
	comp=E,255μm,1.1s						
YOA	**Uoyan**	**1.01**	**67**	⇓iPG	**Pg**	**09 14 22.1**	**-2.6**
YOA				e		09 14 36.1	
YOA				pmax	pmax		
	comp=Z,20μm,0.3s						
YOA				smax			
	comp=N,15μm,0.5s						
YOA	**Uoyan**	**1.01**	**67**	⇓iPg	**Pg**	**09 14 22.1**	**-2.6**
YOA				Pmax		09 14 23.2	
	comp=N,9μm,0.4s						
YOA				i Sg	**Sg**	**09 14 36.4**	**-1.6**
YOA				Smax		09 14 39.3	
	comp=N,26μm,1.0s						
YLYR	**Ulyunkhan**	**1.08**	**144**	⇑iPG	**Pg**	**09 14 21.8**	**-4.2**
YLYR				e		09 14 34.7	
YLYR				pmax	pmax		
	comp=Z,8μm,0.2s						
YLYR				smax			
	comp=N,23μm,0.3s						
YLYR	**Ulyunkhan**	**1.08**	**144**	⇑iPg	**Pg**	**09 14 21.8**	**-4.2**
YLYR				Pmax		09 14 23.7	
	comp=N,12μm,0.9s						
YLYR				eSg	**Sg**	**09 14 35.1**	**-5.0**
YLYR				Smax		09 14 38.1	
	comp=N,24μm,0.4s						
SVKR	**Severomuysk**	**2.00**	**78**	ePN	**Pn**	**09 14 38.7**	**+0.2**
SVKR				e		09 14 40.5	
SVKR				e		09 15 05.8	
SVKR				pmax	pmax		
	comp=Z,25μm,1.3s						
SVKR				smax			
	comp=N,308μm,1.0s						
SVKR	**Severomuysk**	**2.00**	**78**	⇑iPn	**Pn**	**09 14 38.7**	**+0.2**
SVKR				⇓iPg	**Pg**	**09 14 40.0**	**-3.6**
SVKR				Pmax		09 14 47.6	
	comp=N,17μm,0.5s						
SVKR				e		09 15 05.9	
SVKR				i Sg	**Sg**	**09 15 07.6**	**-2.0**
SVKR				Smax		09 15 09.8	
	comp=N,184μm,0.6s						
SYVR	**Suvo**	**2.10**	**181**	ePN	**Pn**	**09 14 40.3**	**+0.5**
SYVR				e		09 15 08.3	
SYVR				pmax	pmax		
	comp=Z,6μm,0.8s						
SYVR				smax			
	comp=N,44μm,0.8s						
SYVR	**Suvo**	**2.10**	**181**	⇑iPg	**Pg**	**09 14 40.4**	**-4.9**
SYVR				Pmax		09 14 46.3	
	comp=N,9μm,1.5s						
SYVR				e		09 14 51.8	
SYVR				eSg	**Sg**	**09 15 08.4**	**-4.1**
SYVR				Smax		09 15 11.7	
	comp=N,57μm,1.3s						
OGRR	**Ongureny**	**2.55**	**215**	ePN	**Pn**	**09 14 46.4**	**+0.4**
OGRR				e		09 14 50.7	
OGRR				e		09 15 22.6	
OGRR				pmax	pmax		
	comp=Z,1μm,0.6s						
OGRR				smax			
	comp=N,23μm,1.4s						
OGRR	**Ongureny**	**2.55**	**215**	⇑iPn	**Pn**	**09 14 46.4**	**+0.4**
	comp=N,905nm,1.4s						
OGRR				⇑iPn	**Pn**	**09 14 46.4**	**+0.4**
	comp=N,666nm,1.4s						
OGRR				⇓iPn	**Pn**	**09 14 46.4**	**+0.4**
	comp=N,1μm,1.4s						
OGRR				ePg	**Pg**	**09 14 50.9**	**-3.1**
OGRR				Pmax		09 14 59.2	
	comp=N,1μm,0.6s						
OGRR				eSn	**Sn**	**09 15 19.5**	**+2.7**
OGRR				eSg	**Sg**	**09 15 23.8**	**-3.2**
OGRR				Smax		09 15 26.1	
	comp=N,23μm,1.3s						
MXMB	**Maximikha**	**2.61**	**198**	⇑iPn	**Pn**	**09 14 46.6**	**-0.2**
MXMB				⇓iPg	**Pg**	**09 14 49.7**	**-5.4**
MXMB				Pmax		09 14 54.5	
	comp=N,6μm,1.2s						
MXMB				eSg	**Sg**	**09 15 24.9**	**-4.0**
MXMB				Smax		09 15 35.2	
	comp=N,35μm,1.3s						
MXMB				e		09 15 37.1	
BOD	**Bodaibo**	**3.00**	**45**	ePN	**Pn**	**09 14 52.9**	**+0.6**
BOD				e		09 14 58.1	
BOD				e		09 15 35.3	
BOD				pmax	pmax		
	comp=Z,3μm,0.6s						
BOD				smax			
	comp=N,42μm,1.0s						
BOD	**Bodaibo**	**3.00**	**45**	ePn	**Pn**	**09 14 52.9**	**+0.6**
BOD				ePg	**Pg**	**09 14 58.4**	**-4.3**
BOD				Pmax		09 15 10.2	
	comp=N,4μm,1.2s						
BOD				eSn	**Sn**	**09 15 29.9**	**+1.9**
BOD				eSg	**Sg**	**09 15 36.3**	**-5.3**
BOD				Smax		09 15 37.5	
	comp=N,42μm,1.0s						
NLYR	**Nelyaty**	**3.25**	**74**	ePN	**Pn**	**09 14 55.2**	**-0.4**
NLYR				e		09 15 01.6	
NLYR				e		09 15 42.9	
NLYR				pmax	pmax		
	comp=Z,1μm,0.7s						
NLYR				smax			
	comp=N,5μm,1.4s						
NLYR	**Nelyaty**	**3.25**	**74**	⇑iPn	**Pn**	**09 14 55.4**	**-0.2**
NLYR				ePg	**Pg**	**09 15 01.9**	**-5.5**
NLYR				⇓i		09 15 05.0	
NLYR				eSn	**Sn**	**09 15 34.8**	**+0.7**
NLYR				eSg	**Sg**	**09 15 43.3**	**-6.2**
NLYR				e		09 15 48.3	
TRG	**Tyrgan**	**3.70**	**218**	ePN	**Pn**	**09 15 02.2**	**+0.3**
TRG				e		09 15 10.7	
TRG				e		09 15 59.1	
TRG				pmax	pmax		
	comp=Z,1μm,0.6s						
TRG				smax			
	comp=E,6μm,0.8s						
TRG	**Tyrgan**	**3.70**	**218**	⇑iPn	**Pn**	**09 15 02.3**	**+0.4**
	comp=E,540nm,1.3s						
TRG				⇑iPn	**Pn**	**09 15 02.3**	**+0.4**
	comp=E,233nm,1.3s						
TRG				⇓iPn	**Pn**	**09 15 02.3**	**+0.4**
	comp=E,564nm,1.3s						
TRG				e		09 15 05.5	
TRG				max		09 15 13.5	
	comp=E,1μm,1.2s						
TRG				eSn	**Sn**	**09 15 46.2**	**+1.0**
TRG				eSg	**Sg**	**09 15 59.1**	**-4.9**
TRG				Smax		09 16 08.3	
	comp=E,7μm,1.8s						
TRTB	**Turuntaevo**	**3.81**	**203**	⇓iPn	**Pn**	**09 15 03.1**	**-0.2**
TRTB				⇓i		09 15 07.8	
TRTB				⇑iPg	**Pg**	**09 15 13.2**	**-4.8**
TRTB				Pmax		09 15 22.3	
	comp=E,1μm,0.8s						
TRTB				eSg	**Sg**	**09 16 03.4**	**-4.0**
TRTB				Smax		09 16 09.6	
	comp=E,14μm,1.3s						
FFNB	**Fofonovo**	**4.19**	**209**	ePn	**Pn**	**09 15 08.1**	**-0.5**
FFNB				e		09 15 12.5	
FFNB				max		09 15 28.9	
	comp=E,2μm,0.4s						
FFNB				eSn	**Sn**	**09 15 58.5**	**+1.2**
FFNB				eSg	**Sg**	**09 16 13.7**	**-5.9**
FFNB				Smax		09 16 17.5	
	comp=E,12μm,0.6s						
STDB	**Stepnoy Dvoret**	**4.20**	**213**	⇓iPn	**Pn**	**09 15 09.3**	**+0.6**
STDB				e		09 15 15.7	
STDB				e		09 15 21.9	
STDB				max		09 15 41.8	
	comp=E,2μm,1.4s						
STDB				eSg	**Sg**	**09 16 13.9**	**-6.0**
STDB				eSgSg		09 16 16.2	
STDB				max		09 16 28.1	
	comp=E,27μm,1.3s						
KAB	**Kabansk**	**4.22**	**210**	ePN	**Pb**	**09 15 20.2**	**+1.1**
KAB				e		09 16 13.6	
KAB				pmax	pmax		
	comp=Z,738nm,0.7s						
KAB				smax			
	comp=N,38μm,1.7s						
KAB	**Kabansk**	**4.22**	**210**	e	**Pb**	**09 15 19.7**	**+0.6**
KAB				max		09 15 38.4	
	comp=N,2μm,1.1s						
KAB				e		09 15 55.6	
KAB				eSg	**Sg**	**09 16 12.5**	**-8.0**
KAB				Smax		09 16 37.6	
	comp=N,42μm,1.4s						
CIT	**Chita**	**4.27**	**150**	ePN	**Pn**	**09 15 08.2**	**-1.5**
CIT				e		09 15 18.9	
CIT	**Chita**	**4.27**	**150**	ePn	**Pn**	**09 15 07.4**	**-2.3**
CIT				⇑iPg	**Pg**	**09 15 18.7**	**-8.2**
HRMR	**Khuramsha**	**4.52**	**205**	⇓i	**Pg**	**09 15 27.1**	**-4.6**
HRMR				e		09 16 07.0	
	comp=N,2μm,0.0s						
HRMR				eSg	**Sg**	**09 16 22.7**	**-7.6**
HRMR				Smax		09 16 35.3	
	comp=N,17μm,0.8s						
CRS	**Chara**	**4.71**	**72**	ePN	**Pb**	**09 15 27.9**	**+0.4**
CRS				e		09 16 30.1	
CRS				pmax	pmax		
	comp=Z,9μm,0.4s						
CRS				smax			
	comp=N,34μm,1.4s						
CRS	**Chara**	**4.71**	**72**	⇑iPn	**Pn**	**09 15 15.6**	**-0.2**
CRS				ePg	**Pg**	**09 15 27.8**	**-7.6**
CRS				Pmax		09 15 32.3	
	comp=N,4μm,1.5s						
CRS				eSg	**Sg**	**09 16 29.8**	**-6.7**
CRS				Smax		09 16 34.8	
	comp=N,37μm,1.5s						
IRK	**Irkutsk**	**4.90**	**227**	ePN	**Pn**	**09 15 17.2**	**-1.1**
IRK				eS	**Sn**	**09 16 14.4**	**-0.3**
IRK				eS	**Sg**	**09 16 35.8**	**-6.5**
IRK				smax			
	comp=N,17μm,0.7s						
IRK	**Irkutsk**	**4.90**	**227**	ePn	**Pn**	**09 15 18.3**	**0.0**
IRK				max		09 15 45.0	
	comp=N,1μm,0.8s						
IRK				eSg	**Sg**	**09 16 36.0**	**-6.3**
IRK				Smax		09 16 46.5	
	comp=N,17μm,0.7s						
LSTR	**Listvyanka**	**4.97**	**221**	ePN	**Pn**	**09 15 18.8**	**-0.5**
LSTR				eS	**Sn**	**09 16 15.3**	**-1.2**
LSTR				eS	**Sg**	**09 16 38.0**	**-6.7**
LSTR				smax			
	comp=N,7μm,1.7s						
LSTR	**Listvyanka**	**4.97**	**221**	eSn	**Sn**	**09 16 15.3**	**-1.2**
LSTR				e		09 16 32.7	
LSTR				eSg	**Sg**	**09 16 37.9**	**-6.8**
LSTR				Smax		09 16 43.7	
	comp=N,7μm,1.6s						
TLY	**Talaya**	**5.58**	**226**	Pn	**Pn**	**09 15 27.8**	**+0.2**
	comp=N,2μm,0.4s,SNR=58						
TLY	**Talaya**	**5.58**	**226**	⇑P	**Pn**	**09 15 27.3**	**-0.3**
	SNR=69						
TLY	**Talaya**	**5.58**	**226**	ePN	**Pn**	**09 15 26.4**	**-1.2**
TLY				e		09 15 44.6	
TLY				eS	**Sn**	**09 16 30.6**	**-0.9**
TLY				e		09 16 56.1	
TLY				pmax	pmax		
	comp=Z,351nm,0.4s						
TLY				smax			
	comp=E,2μm,0.6s						
TLY	**Talaya**	**5.58**	**226**	ePn	**Pn**	**09 15 27.0**	**-0.6**
TLY				eSn	**Sn**	**09 16 30.5**	**-1.0**
TLY	**Talaya**	**5.58**	**226**	⇓iPn	**Pn**	**09 15 26.3**	**-1.3**
TLY				e		09 15 47.0	
TLY				max		09 15 50.8	
	comp=E,676nm,0.8s						
TLY				eSn	**Sn**	**09 16 30.7**	**-0.8**
TLY				eSg	**Sg**	**09 16 55.8**	**-8.3**
TLY				Smax		09 17 03.9	
	comp=E,5μm,1.7s						
TUP	**Tupik**	**5.84**	**99**	ePN	**Pn**	**09 15 30.7**	**-0.5**
TUP				e		09 15 48.1	
TUP				eS	**Sn**	**09 16 34.5**	**-3.4**
TUP				e		09 17 02.1	
TUP				pmax	pmax		
	comp=Z,2μm,1.0s						
TUP				smax			
	comp=N,28μm,2.2s						
TUP	**Tupik**	**5.84**	**99**	⇑iPn	**Pn**	**09 15 29.6**	**-1.6**
TUP				e		09 15 33.7	
TUP				⇑ePg	**Pg**	**09 15 48.0**	**-8.9**
TUP				Pmax		09 15 50.6	
	comp=N,2μm,1.0s						
TUP				e		09 16 16.2	
TUP				e		09 16 34.0	
TUP				eSg	**Sg**	**09 17 01.5**	**-11**
TUP				Smax		09 17 12.6	
	comp=N,28μm,2.1s						
ARS	**Arshan**	**5.93**	**233**	⇓iPn	**Pn**	**09 15 32.1**	**-0.3**
ARS				max		09 15 39.1	
	comp=N,1μm,0.6s						

ARS *i* Sn **Sn** **09 16 38.6 -1.5**
ARS *e*Sg **Sg** **09 17 08.5 -6.8**
ARS Smax 09 17 19.0
comp=N,18μm,0.8s
KPC Khapcheranga 6.22 166 *e*PN **Pn** **09 15 34.7 -1.7**
KPC *e* 09 15 55.5
KPC *e* 09 17 14.6
KPC pmax pmax
comp=Z,640nm,1.2s
KPC smax
comp=E,8μm,1.3s
KPC Khapcheranga 6.22 166⇓*i*Pn **Pn** **09 15 34.9 -1.5**
KPC ⇑*i*Pg **Pg** **09 15 55.5 -8.7**
KPC Pmax 09 15 57.8
comp=E,643nm,1.2s
KPC *e*Sg **Sg** **09 17 13.7 -11**
KPC Smax 09 17 26.4
comp=E,8μm,1.2s
ZAK Zakamensk 6.75 220 *e*PN **Pn** **09 15 44.0 +0.3**
ZAK *e* 09 16 07.0
ZAK *e*S **Sn** **09 17 03.2 +2.8**
ZAK *e* 09 17 33.9
ZAK pmax pmax
comp=Z,218nm,0.9s
ZAK pmax pmax
comp=N,6μm,1.7s
ZAK Zakamensk 6.75 220⇓*i*Pn **Pn** **09 15 44.0 +0.3**
ZAK max 09 15 45.5
comp=N,223nm,1.0s
ZAK *e* 09 15 49.4
ZAK *e* 09 16 12.6
ZAK *e* 09 17 03.5
ZAK *e*Sg **Sg** **09 17 34.0 -7.7**
ZAK Smax 09 17 38.1
comp=N,6μm,1.7s
MOY Mondy 6.76 237 *e*PN **Pn** **09 15 44.8 +1.0**
MOY *e* 09 16 04.1
MOY *e*S **Sn** **09 16 59.3 -1.2**
MOY *e* 09 17 31.1
MOY pmax pmax
comp=Z,1μm,0.9s
MOY smax
comp=E,8μm,1.9s
MOY Mondy 6.76 237⇑*i*Pn **Pn** **09 15 45.0 +1.2**
comp=E,347nm,1.8s
MOY ⇑*i*Pn **Pn** **09 15 45.0 +1.2**
comp=E,430nm,1.8s
MOY ⇓*i*Pn **Pn** **09 15 45.0 +1.2**
comp=E,711nm,1.8s
MOY max 09 15 46.8
comp=E,2μm,1.2s
MOY ⇓*i* 09 15 50.8
MOY *i* Sn **Sn** **09 17 00.3 -0.2**
MOY *e*Sg **Sg** **09 17 34.8 -7.1**
MOY Smax 09 18 01.0
comp=E,7μm,1.7s
ORL Orlik 6.82 246 *e*PN **Pn** **09 15 45.8 +1.0**
ORL *e*S **Sg** **09 17 36.3 -7.8**
ORL smax
comp=E,5μm,1.5s
ORL Orlik 6.82 246⇑*i*Pn **Pn** **09 15 45.6 +0.8**
ORL max 09 15 55.0
comp=E,1μm,1.7s
ORL *e*Sn **Sn** **09 17 03.3 +1.1**
ORL *e*Sg **Sg** **09 17 37.7 -6.4**
ORL Smax 09 17 52.5
comp=E,8μm,1.6s
ORL *e*L 09 18 07.5
ULN Ulaanbaatar 8.11 194⇑*i*PN **Pn** **09 16 03.5 +1.1**
ULN Ulaanbaatar 8.11 194 *e*Pn **Pn** **09 16 02.2 -0.2**
ULN *e*S Sn 09 18 17.3 +43
NRGR Nerungri 8.23 78 *e*PN **Pn** **09 16 04.0 -0.1**
NRGR S **Sn** **09 17 32.9 -3.9**
NRGR smax
comp=N,1μm,1.2s
SONM Songino Array 8.24 197 Pn **Pn** **09 16 05.0 +0.7**
comp=N,4.7nm,0.3s,baz=16,slow=12,SNR=44
SONM Lg 09 18 23.4
comp=N,45nm,0.3s,baz=20,slow=27,SNR=8.8
SONM LR LR 09 19 40.5
comp=N,4μm,21.4s,baz=9.2,slow=41
CLNS Chul'man 8.33 76 *e*PN **Pn** **09 16 07.8 +2.4**
CLNS *e*PPP 09 16 35.3
CLNS pmax pmax
comp=Z,77nm,1.0s
CLNS pmax pmax
comp=N,31nm,0.8s
CLNS pmax pmax
comp=E,76nm,1.1s
CLNS MLR MLR
comp=Z,6μm,21.0s
CLNS MLR MLR
comp=N,5μm,22.0s
CLNS MLR MLR
comp=E,2μm,15.0s
HIA Hailar 8.77 134 *i* PN **Pn** **09 16 08.2 -3.3**
HIA Hailar 8.77 134 *e*Pn **Pn** **09 16 07.2 -4.3**
comp=E,65nm,0.6s
KRAR Krasnoyarsk 9.66 279⇑*i*P **Pn** **09 16 23.1 -0.6**
KRAR pmax pmax
comp=Z,702nm,1.0s
YAK Yakutsk 11.91 50 *e*P **Pn** **09 16 50.7 -3.8**
YAK pmax pmax
comp=Z,109nm,0.8s
YAK pmax pmax
comp=N,35nm,1.1s
YAK pmax pmax
comp=E,37nm,0.6s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=E,3μm,17.0s
YAK Yakutsk 11.91 50 *e*Pn **Pn** **09 16 51.5 -2.9**
ZAL Zalesovo 14.64 273 Pn **Pn** **09 17 33.1 +1.4**
comp=E,1.6nm,0.3s,baz=38,slow=12,SNR=85
ZAL Lg 09 21 50.5
comp=E,1.4nm,0.3s,baz=274,slow=22,SNR=2.9
ZAL Zalesovo 14.64 273 *i* P **Pn** **09 17 32.2 +0.5**
ZAL pmax pmax
comp=Z,35nm,0.9s
ZAL Zalesovo 14.64 273 Pn **Pn** **09 17 33.1 +1.4**
ZAL Lg 09 21 50.5
KLR Kul'dur 14.70 107 *e*P **Pn** **09 17 28.8 -3.8**
KLR *e* 09 20 16.0
KLR MLR MLR
comp=Z,47μm,11.0s
HHC Hu-ho-hao-te 14.94 176 *e*P **Pn** **09 17 36.7 +0.8**
HHC XP sP 09 17 42.8 -4.5
HHC PP 09 17 48.8
HHC S **Sn** **09 20 24.6 +3.4**
HHC SS 09 20 40.6
HHC AMB AMB
comp=Z,19nm,0.3s
HHC AMB AMB
comp=Z,213nm,3.9s
HHC LR LR
comp=N,12μm,10.7s
HHC LR LR
comp=E,4μm,8.3s
HHC LR LR
comp=Z,13μm,10.1s
BTO Baotou 15.15 180 *e*P **Pn** **09 17 42.0 +3.3**
BTO LR LR
comp=N,7μm,5.9s
BTO LR LR
comp=E,6μm,8.8s
NVS Novosibirsk 15.27 278 *i* P **Pn** **09 17 38.8 -1.4**
NVS *i* S **Sn** **09 20 29.1 -0.1**
CN2 Changchun 15.51 134 *e*P **Pn** **09 17 41.6 -1.7**
CN2 *e*XP sP 09 17 48.6 -4.9
CN2 *e*S **Sn** **09 20 33.7 -1.1**
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,240nm,5.0s
CN2 LR LR
comp=N,11μm,8.0s
CN2 LR LR
comp=E,5μm,8.0s
CN2 LR LR
comp=Z,13μm,9.0s
BJI Beijing 16.23 163 *e*P **Pn** **09 17 57.3 +4.6**
BJI AMB AMB
comp=Z,52nm,1.1s
BJI LR LR
comp=N,14μm,8.3s
BJI LR LR
comp=E,8μm,9.6s
BJI LR LR
comp=Z,6μm,17.1s
BJT Baijiatuau 16.25 163 *e*P **Pn** **09 17 53.1 +0.1**
BJT pmax pmax
comp=Z,86nm,1.2s
BJT Baijiatuau 16.25 163 *e*P **Pn** **09 17 53.1 +0.2**
comp=Z,86nm,1.2s
SNY Shenyang 16.49 142⇑P **Pn** **09 17 54.5 -1.5**
SNY AP pP 09 17 58.0 -4.6
SNY XP sP 09 18 01.2 -3.2
SNY PP 09 18 10.6
SNY S **Sn** **09 20 56.5 -2.3**
SNY XS sS 09 21 06.7 -10
SNY AMB AMB
comp=Z,10.0nm,1.0s
SNY AMB AMB
comp=Z,426nm,12.0s
SNY LR LR
comp=N,18μm,7.8s
SNY LR LR
comp=Z,17μm,8.4s
MDJ Mudanjiang 16.69 124 P **Pn** **09 17 58.4 -0.1**
MDJ AP pP 09 18 03.7 -1.0
MDJ XP sP 09 18 05.0 -1.6
MDJ S **Sn** **09 21 04.5 +1.0**
MDJ PCP PcP 09 22 46.4 -1.1
MDJ SCS ScS 09 30 01.2 +0.1
MDJ AMB AMB
comp=Z,20nm,1.9s
MDJ AMB AMB
comp=Z,283nm,8.4s
MDJ LR LR
comp=N,15μm,9.7s
MDJ LR LR
comp=E,8μm,8.1s
MDJ LR LR
comp=Z,18μm,8.9s
HABR Khabarovsk 16.93 105⇑*i*P **Pn** **09 18 02.6 +1.1**
HABR *e*S **Sn** **09 21 14.6 +5.3**
HABR pmax pmax
comp=Z,108nm,2.2s
GTA Gaotai 17.71 207 P **Pn** **09 18 12.8 +1.5**
GTA AP pP 09 18 16.6 +0.5
GTA XP sP 09 18 19.7 +1.7
GTA PP 09 18 28.1
GTA S **Sn** **09 21 32.2 +3.8**
GTA XS sS 09 21 37.5 -4.4
GTA SS 09 21 56.9
GTA PCP PcP 09 22 46.8 -2.4
GTA AMB AMB
comp=Z,15nm,1.2s
GTA AMB AMB
comp=Z,837nm,5.7s
GTA LR LR
comp=N,7μm,8.8s
GTA LR LR
comp=E,5μm,7.6s
GTA LR LR
comp=Z,7μm,9.9s
TIXI Tiksi 17.85 19⇑*i*P **Pn** **09 18 08.7 -4.3**
TIXI pmax pmax
comp=Z,248nm,1.4s
TIXI MLR MLR
comp=Z,2μm,15.0s
TIXI Tiksi 17.85 19 *e*Pn **Pn** **09 18 08.7 -4.3**
TIXI *e*S **Sn** **09 21 17.2 -15**
DL2 Dalian 18.54 151⇑*i*P **Pn** **09 18 21.6 +0.1**
DL2 S **Sn** **09 21 52.1 +3.6**
DL2 AMB AMB
comp=Z,40nm,1.0s
DL2 AMB AMB
comp=Z,550nm,4.1s
DL2 LR LR
comp=N,4μm,10.2s
DL2 LR LR
comp=E,4μm,10.2s
DL2 LR LR
comp=Z,5μm,10.4s
WMQ Urumqi 18.63 240 P **Pn** **09 18 23.0 +0.4**
WMQ XP sP 09 18 28.7 +0.6
WMQ PP 09 18 38.9
WMQ S **Sn** **09 21 48.5 -2.2**
WMQ SS 09 22 12.0
WMQ PCP PcP 09 22 50.1 -0.6
WMQ AMB AMB
comp=Z,49nm,1.5s
WMQ AMB AMB
comp=Z,1μm,5.2s
WMQ LR LR
comp=N,4μm,10.0s
WMQ LR LR
comp=E,4μm,9.0s
WMQ LR LR
comp=Z,2μm,15.0s
VLA Vladivostok 18.91 123 *e*P **Pn** **09 18 23.0 -2.9**
VLA *e* 09 21 57.7
VLA pmax pmax
comp=Z,43nm,0.7s
VLA MLR MLR
comp=Z,6μm,8.0s
KURK Kurchatov 19.38 268 P **Pn** **09 18 30.3 -1.2**
comp=Z,1μm,1.1s
KURK Kurchatov 19.38 268 P **Pn** **09 18 30.1 -1.4**
SNR=294
KURK Kurchatov 19.38 268⇑*e*P **Pn** **09 18 29.3 -2.2**
KURK Kurchatov 19.38 268 *e*P **Pn** **09 18 29.9 -1.6**
comp=Z,227nm,1.0s
MK31 Makanchi Array 19.43 254 *i* P **Pn** **09 18 30.4 -1.8**
MK31 pmax pmax
comp=Z,55nm,0.6s
MK31 Makanchi Array 19.43 254 *e*P **Pn** **09 18 30.6 -1.6**
MKAR Makanchi Array 19.43 254 P **Pn** **09 18 31.0 -1.2**
comp=Z,4.9nm,0.3s,baz=62,slow=8.5,SNR=232
MKAR S **Sn** **09 22 14.5 +4.6**
comp=Z,0.5nm,0.3s,baz=52,slow=9.5,SNR=2.6
MKAR Lg 09 24 18.2
baz=50,slow=21,SNR=5.4
MKAR LR LR 09 26 30.4
comp=Z,2μm,19.6s,baz=44,slow=38
MKAR Makanchi Array 19.43 254 P **Pn** **09 18 31.0 -1.2**
MKAR S **Sn** **09 22 14.5 +4.6**
MKAR pmax pmax
comp=Z,5.0nm,0.3s
MKAR smax
comp=N,1.0nm,0.3s
MKAR MLR MLR
comp=Z,2μm,19.6s
MKAR Makanchi Array 19.43 254 P **Pn** **09 18 31.0 -1.2**
MKAR S **Sn** **09 22 14.5 +4.6**
MKAR Lg 09 24 18.2
MKAR LR LR 09 26 30.4
LZH Lanzhou 20.12 195⇑P **P** **09 18 40.1 +1.6**
LZH AP 09 18 48.9
LZH XP sP 09 18 53.2 +8.8
LZH PP 09 19 00.3
LZH S **S** **09 22 19.3 -4.8**
LZH XS sS 09 22 33.2 +2.7
LZH SS 09 22 49.5
LZH AMB AMB
comp=Z,152nm,1.2s
LZH AMB AMB
comp=Z,641nm,4.5s
LZH LR LR
comp=N,6μm,7.2s
LZH LR LR
comp=Z,7μm,10.9s,MS5.3
TIA Tai'an 20.13 163 *e*P **P** **09 18 39.7 +1.1**
TIA S **S** **09 22 31.0 +6.7**
TIA LR LR
comp=N,4μm,11.0s
TIA LR LR
comp=E,3μm,9.0s
XAN Xi'an 21.72 183 P **P** **09 18 54.6 -1.2**
XAN S **S** **09 22 48.4 -7.4**
XAN AMB AMB
comp=Z,22nm,0.8s,mb4.6
XAN LR LR
comp=N,6μm,10.8s
XAN LR LR
comp=E,4μm,8.3s
XAN LR LR
comp=Z,11μm,11.1s,MS5.5
MA2 Magadan 21.86 63*c i*P **P** **09 18 58.2 +0.9**
MA2 *e*S **S** **09 23 00.0 +1.6**
MA2 pmax pmax
comp=Z,100nm,1.2s,mb5.1
MA2 MLR MLR
comp=Z,13μm,8.3s
KSRS Korea Array 21.92 139 P **P** **09 18 58.8 +0.9**
comp=Z,16nm,0.9s,mb4.5,baz=334,slow=9.4,SNR=22
KSRS Lg 09 25 42.7
comp=Z,18nm,1.2s,baz=345,slow=28,SNR=6.8
KSRS LR LR 09 26 46.0
comp=Z,731nm,19.3s,MS4.1,baz=327,slow=35
YSS Yuzh-Sakhalins 22.05 100⇑*e*P **P** **09 19 03.0 +3.6**
YSS *e*S **S** **09 23 04.0 +1.8**
YSS pmax pmax
comp=Z,190nm,2.0s,mb5.2
YSS MLR MLR
comp=Z,9μm,13.0s,MS5.3
YSS MLR MLR
comp=N,4μm,14.0s,MS5.5
YSS MLR MLR
comp=E,12μm,12.0s,MS5.5
YSS Yuzh-Sakhalins 22.05 100 *e*P **P** **09 18 59.8 +0.4**
comp=E,74nm,1.4s,mb4.9
SEY Seymchan 22.38 54⇓*i*P **P** **09 19 02.7 -0.2**
CHKZ Chkalovo 22.67 281 P **P** **09 19 05.2 -0.7**
CHKZ pmax pmax
comp=Z,265nm,1.4s,mb5.5
CHKZ Chkalovo 22.67 281 *e*P **P** **09 19 04.9 -1.0**
comp=Z,188nm,1.3s,mb5.4
CHKZ *e*S **S** **09 23 13.1 -1.0**
BVA0 Borovoye Array 23.04 280 *i* P **P** **09 19 09.2 -0.7**
BVA0 pmax pmax
comp=Z,187nm,1.9s,mb5.2
BVAR Borovoye Array 23.04 280 P **P** **09 19 10.3 +0.4**
comp=Z,43nm,0.7s,mb5.0,baz=70,slow=8.7,SNR=101
BVAR S **S** **09 23 20.4 +0.2**
comp=Z,22nm,1.1s,baz=70,slow=17,SNR=4.0
BVAR LR LR 09 29 00.8
comp=Z,3μm,20.4s,MS4.7,baz=319,slow=39
BVAR Borovoye Array 23.04 280 P **P** **09 19 10.3 +0.4**
BVAR S **S** **09 23 20.4 +0.3**
BVAR pmax pmax
comp=Z,43nm,0.7s
BVAR smax
comp=N,22nm,1.1s
BVAR MLR MLR
comp=Z,3μm,20.4s
BRVK Borovoye 23.09 280 P **P** **09 19 09.5 -0.8**
comp=Z,818nm,0.5s,SNR=66
BRVK Borovoye 23.09 280 P **P** **09 19 10.1 -0.3**
SNR=55
BRVK Borovoye 23.09 280 *e*P **P** **09 19 09.7 -0.6**
BRVK *e*S **S** **09 23 19.3 -1.6**
BRVK pmax pmax
comp=Z,98nm,0.8s,mb5.3
BRVK Borovoye 23.09 280 *e*P **P** **09 19 09.7 -0.6**
comp=Z,98nm,0.8s,mb5.3
BRVK *e*S **S** **09 23 19.3 -1.6**
ASAJ Asahikawa 23.73 106 LR LR 09 29 28.9
comp=Z,3μm,18.5s,MS4.8,baz=4.6,slow=39
AAA Alma-Ata 24.59 253 *e*P **P** **09 19 26.0 +1.3**
AAA pmax pmax
comp=Z,2μm,5.0s
AAA MLR MLR
comp=Z,17μm,10.0s,MS5.8
CD2 Chengdu 25.23 193 P **P** **09 19 30.9 +0.4**
CD2 AP pP 09 19 33.9 -0.9
CD2 XP sP 09 19 38.0 +1.5
CD2 PP 09 20 11.3
CD2 S **S** **09 23 53.0 -2.5**
CD2 SS 09 24 53.1
CD2 AMB AMB
comp=Z,50nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,400nm,8.3s
CD2 LR LR
comp=N,3μm,9.0s
CD2 LR LR
comp=E,6μm,11.0s
CD2 LR LR
comp=Z,3μm,8.4s
WHN Wuhan 25.38 171⇑P **P** **09 19 36.6 +4.8**
WHN S **S** **09 23 57.7 -0.2**
WHN LR LR
comp=Z,12μm,8.2s
TKM2 Tokmak 2 25.56 254 P **P** **09 19 34.2 +0.7**
TKM2 pmax pmax
comp=Z,122nm,1.1s,mb5.3
ULHL Ulahol 25.67 253 P **P** **09 19 37.5 +3.0**
SNR=15
SSE Sheshan 25.87 158 P **P** **09 19 37.6 +1.3**
SSE S **S** **09 24 06.5 +0.9**
SSE AMB AMB
comp=Z,26nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,203nm,5.6s
SSE LR LR
comp=N,7μm,12.4s,MS5.4
SSE LR LR
comp=E,2μm,12.2s,MS5.4
SSE LR LR
comp=Z,9μm,12.5s,MS5.5
USP Ospenovka 25.93 256 P **P** **09 19 37.1 +0.3**
SNR=23
CHMS Chumysh 25.97 256 P **P** **09 19 37.5 +0.3**
SNR=17
KBK Karagaybulak 26.09 255 P **P** **09 19 39.3 +0.9**
SNR=14
FRU Bishkek 26.16 255 *e*P **P** **09 19 39.8 +0.9**
FRU pmax pmax
comp=Z,125nm,1.4s,mb5.2
KZA Kyzart 26.32 253 P **P** **09 19 42.1 +1.7**
SNR=28
AAK Ala-Archa 26.36 255 P **P** **09 19 41.5 +0.8**
SNR=32
AAK Ala-Archa 26.36 255 P **P** **09 19 40.0 -0.7**
SNR=28
AAK Ala-Archa 26.36 255 P **P** **09 19 40.8 +0.1**
SNR=26
AAK Ala-Archa 26.36 255⇓*i*P **P** **09 19 40.0 -0.7**
AAK pmax pmax
comp=Z,53nm,1.2s,mb5.0
AAK MLR MLR
comp=Z,4μm,15.0s,MS5.1
AAK Ala-Archa 26.36 255 *e*P **P** **09 19 40.4 -0.4**
UCH Uchtor 26.62 254 P **P** **09 19 47.5 +4.4**
SNR=19
EKS2 Erkin-Say 26.73 256 P **P** **09 19 44.9 +0.8**
SNR=17
JNU Nakatsue 26.87 139 P **P** **09 19 51.1 +5.8**
comp=Z,81nm,1.0s,mb5.2,baz=243,slow=12,SNR=8.3
JNU LR LR 09 30 04.6
comp=Z,2μm,18.7s,MS4.6,baz=69,slow=36
SVE Sverdlovsk 26.98 293 *i* P **P** **09 19 45.0 -1.3**
MAT Matsushiro 27.07 123 S **S** **09 24 28.0 +3.4**
MJAR Matsushiro Arr 27.07 123 P **P** **09 19 47.1 -0.1**
comp=Z,1.8nm,0.8s,baz=323,slow=14,SNR=4.0
MJAR LR LR 09 30 54.1
comp=Z,2μm,18.4s,MS4.7,baz=320,slow=37
MJAR Matsushiro Arr 27.07 123 P **P** **09 19 47.1 -0.1**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR MLR MLR
comp=Z,2μm,18.4s
PET Petropavlovsk 27.97 75 *e*P **P** **09 19 56.5 +1.3**
PET *e*S **S** **09 24 42.4 +3.6**
PET pmax pmax
comp=Z,83nm,1.4s,mb5.2
PET MLR MLR
comp=Z,2μm,20.0s,MS4.6
PET MLR MLR
comp=Z,2μm,13.0s
PET Petropavlovsk 27.97 75 *e*P **P** **09 19 55.9 +0.7**
comp=Z,122nm,1.4s,mb5.3
BILL Bilibino 28.05 42⇓*i*P **P** **09 19 56.0 0.0**
BILL *e* 09 20 45.1
BILL *i* S **S** **09 24 47.2 +7.1**
BILL pmax pmax
comp=Z,26nm,0.9s,mb4.9
BILL MLR MLR
comp=Z,1μm,17.0s,MS4.5
BILL Bilibino 28.05 42 *e*P **P** **09 19 56.2 +0.2**
comp=Z,31nm,0.9s,mb4.9

SOKR Solikamsk 28.10 300 *e*P **P 09 19 56.6 +0.2**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.7
ARU Arti 28.19 293 ⇓*i*P **P 09 19 57.2 0.0**
ARU *e* 09 20 46.8
ARU *e*PPP 09 20 56.7
ARU *e*S **S 09 24 45.1 +2.8**
ARU *e*SS 09 26 02.9
ARU *e* 09 30 38.4
ARU pmax pmax
comp=Z,31nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,3μm,16.0s,MS5.0
ARU MLR MLR
comp=N,700nm,17.0s,MS4.8
ARU MLR MLR
comp=E,2μm,17.0s,MS4.8
ARU Arti 28.19 293 *e*P **P 09 19 56.8 -0.3**
comp=E,47nm,0.9s,mb5.1
KK31 Karatay Array 28.25 260 *i*P **P 09 19 53.8 -3.9**
KK31 pmax pmax
comp=Z,37nm,1.0s,mb5.0
KKAR Karatay Array 28.25 260 P **P 09 19 57.2 -0.5**
KKAR pmax pmax
comp=Z,18nm,0.9s,mb4.7
GYA Guiyang 29.37 186 P **P 09 20 10.1 +2.5**
GYA AP pP 09 20 14.8 +2.8
GYA XP sP 09 20 17.6 +3.9
GYA PP PP 09 21 06.8 -7.1
GYA PCP PcP 09 23 16.8 +3.1
GYA S **S 09 25 03.3 +2.5**
GYA SCP ScP 09 26 57.3 +2.3
GYA SCS ScS 09 30 50.4 +1.0
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,460nm,15.4s,MS4.4
GYA LR LR
comp=E,540nm,15.8s,MS4.4
AB31 Akbulak array 30.61 279 *i*P **P 09 20 18.1 -0.5**
AB31 pmax pmax
comp=Z,47nm,1.2s,mb5.2
JHJ Hachijo jima 2 30.62 125 LR LR 09 32 33.2
comp=Z,688nm,20.5s,MS4.3,baz=57,slow=36
KMI Kunming 31.06 193 P **P 09 20 22.7 +0.1**
KMI AP pP 09 20 27.2 +0.3
KMI XP sP 09 20 28.5 -0.2
KMI PP PP 09 21 26.0 -6.7
KMI S **S 09 25 28.3 +1.0**
KMI SS SS 09 27 17.3 -23
KMI AMB AMB
comp=Z,30nm,0.9s,mb5.1
KMI LR LR
comp=N,2μm,9.4s
KMI LR LR
comp=E,3μm,12.6s
KMI LR LR
comp=Z,2μm,11.5s,MS5.0
AKTK Aktyubinsk 31.07 282 P **P 09 20 22.1 -0.6**
AKTK LR LR 09 34 08.8
AKTO Aktyubinsk 31.07 282 P **P 09 20 22.1 -0.6**
comp=Z,10nm,0.8s,mb4.8,baz=62,slow=8.1,SNR=25
AKTO LR LR 09 34 08.8
comp=Z,2μm,19.4s,MS4.7,baz=228,slow=39
AKTO Aktyubinsk 31.07 282 P **P 09 20 22.2 -0.5**
AKTO pmax pmax
comp=Z,11nm,0.8s,mb4.7
AKTO MLR MLR
comp=Z,2μm,19.4s,MS4.7
QZH Quanzhou 31.40 165 *e*P **P 09 20 26.4 +0.8**
QZH S **S 09 25 32.1 -0.6**
QZH LR LR
comp=N,7μm,11.6s
QZH LR LR
comp=E,3μm,7.9s
QZH LR LR
comp=Z,8μm,11.1s,MS5.6
JOW Kunigami 31.77 148 LR LR 09 33 41.2
comp=Z,892nm,18.0s,MS4.5,baz=337,slow=37
GUN Gumba 32.80 222 *e*P **P 09 20 39.0 +1.1**
comp=Z,68nm,1.0s,mb5.5
SHL Shillong 32.94 211 *e*P **P 09 20 40.0 +0.9**
SHL AMb AMB 09 20 43.7
comp=Z,863nm,0.8s
SHL *ex* x 09 29 16.0
KKN Kakani 33.14 223 *e*P **P 09 20 42.0 +1.1**
comp=Z,148nm,0.9s,mb5.9
GKN Gorkha 33.20 224 *e*P **P 09 20 42.2 +0.8**
comp=Z,139nm,1.0s,mb5.8
PKI Pulchoki 33.29 222 *e*P **P 09 20 42.9 +0.8**
DMN Daman 33.37 223 *e*P **P 09 20 44.1 +1.2**
comp=Z,125nm,1.1s,mb5.8
KOLN Koldanda 33.82 225 *e*P **P 09 20 47.7 +0.9**
comp=Z,90nm,1.0s,mb5.7
APA Apatity 35.73 320 ⇑*i*P **P 09 21 02.6 -0.7**
APA *e*S **S 09 26 43.0 +3.2**
APA pmax pmax
comp=Z,60nm,1.1s,mb5.4
APA MLR MLR
comp=Z,2μm,14.0s,MS5.0
KLMR Klimovskoe 35.76 308 *e*P **P 09 21 02.8 -0.8**
KLMR *e*S **S 09 26 38.3 -1.9**
KLMR pmax pmax
comp=Z,61nm,1.0s,mb5.5
NDI New Delhi 35.78 235 *e*P **P 09 21 03.3 -0.4**
NDI AMb AMB 09 21 20.3
comp=Z,13nm,1.0s,mb4.8
BOK Bokaro 36.54 219 *e*P **P 09 21 10.9 +0.6**
BOK AMb AMB 09 21 12.8
comp=Z,27nm,1.1s,mb5.0
QIZ Qiongzhong 36.66 180 P **P 09 21 13.9 +2.7**
QIZ S **S 09 26 59.5 +5.6**
QIZ XS sS 09 27 03.1 +2.0
QIZ AMB AMB
comp=Z,33nm,1.6s,mb4.9
QIZ LR LR
comp=N,3μm,11.2s
QIZ LR LR
comp=Z,3μm,12.1s,MS5.3
CBIJ Chichi jima 36.82 128 LR LR 09 37 11.9
comp=Z,523nm,18.5s,MS4.3,baz=308,slow=38
CAL Calcutta 36.87 215 *ex* x 09 28 45.2
SPB4 Spitsbergen Ar 36.91 340 *e*P **P 09 21 12.6 -0.8**
KEV Kevo 37.15 325 *e*p **P 09 21 14.5 -0.9**
KBS Kingsbay 37.46 342 *e*S **S 09 27 07.0 +0.9**
KBS AMS AMS 09 38 56.7
comp=Z,977nm,16.6s,MS4.7
KBS Kingsbay 37.46 342 *e*P **P 09 21 17.0 -1.0**
KBS pmax pmax
comp=Z,14nm,0.8s,mb4.8
KBS Kingsbay 37.46 342 *e*P **P 09 21 17.0 -1.0**
comp=Z,14nm,0.8s,mb4.8
BJO Bjornoya 37.61 334 AMS AMS 09 39 45.1
comp=Z,1μm,18.4s,MS4.7
ARCES ARCESS Array B 37.72 325 P **P 09 21 19.5 -0.7**
comp=Z,7.7nm,0.6s,mb4.6,baz=68,slow=8.9,SNR=56
ARCES LR LR 09 40 41.7
comp=Z,1μm,19.3s,MS4.7,baz=56,slow=42
ARCES ARCESS Array B 37.72 325 P **P 09 21 19.5 -0.8**
ARCES pmax pmax
comp=Z,8.0nm,0.6s
ARCES MLR MLR
comp=Z,1μm,19.3s
ARCES ARCESS Array B 37.72 325 P **P 09 21 19.5 -0.7**
ARCES LR LR 09 40 41.7
ARE0 ARCESS Array S 37.72 325 *e*P **P 09 21 19.7 -0.6**
CHTO Chiang Mai 37.82 197 *e*P **P 09 21 21.2 +0.1**
CHTO pmax pmax
comp=Z,12nm,1.1s,mb4.5
CHTO Chiang Mai 37.82 197 *e*P **P 09 21 21.2 +0.1**
comp=Z,12nm,1.1s,mb4.5
TNA Tin City 38.49 41 *e*P **P 09 21 27.7 +0.9**
comp=Z,44nm,0.8s,mb5.2
KTK1 Kautokeino 38.67 325 *e*P **P 09 21 27.8 -0.5**
MOS Moscow 39.04 301 *e*P **P 09 21 29.7 -1.6**
MOS *e* 09 23 00.9
MOS *e*S **S 09 27 31.1 +1.1**
MOS pmax pmax
comp=Z,47nm,1.2s,mb5.1
MOS MLR MLR
comp=Z,2μm,12.0s,MS5.3
VRHR Novokhopersk 39.54 293 *e*P **P 09 21 34.7 -0.8**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.1
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR MLR MLR
comp=Z,5μm,13.0s,MS5.6
VRHR MLR MLR
comp=E,3μm,9.0s
TRO Tromso 39.76 327 *e*P **P 09 21 35.6 -1.8**
TRO *e*ScP ScP 09 27 29.0 -3.0
TRO AMS AMS 09 42 34.7
comp=Z,1μm,18.6s,MS4.8
OBN Obninsk 39.88 301 ⇓*i*P **P 09 21 37.4 -0.9**
OBN *e* 09 23 11.4
OBN *e*S **S 09 27 44.1 +1.5**
OBN *e*SS SS 09 30 30.7 -8.3
OBN pmax pmax
comp=Z,30nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,3μm,15.0s,MS5.3
BHPL Bhopal 40.40 230 *e*P **P 09 21 42.2 -0.4**
BHPL AMb AMB 09 21 44.2
comp=Z,48nm,1.0s,mb5.2
VRSR Storozhevoye 40.73 294 *d*i P **P 09 21 44.7 -0.7**
VRSR pmax pmax
comp=N,110nm,0.9s
VRSR pmax pmax
comp=E,110nm,0.9s
VRSR pmax pmax
comp=Z,60nm,0.9s,mb5.2
VRSR MLR MLR
comp=E,2μm,15.0s,MS5.2
VRSR MLR MLR
comp=Z,3μm,15.0s,MS5.3
VRSR MLR MLR
comp=N,2μm,17.0s,MS5.2
KAF Kangasniemi 40.81 314 *e*p **P 09 21 44.7 -1.4**
comp=N,9.3nm,0.3s,mb4.9,baz=60,slow=7.9
KAF Kangasniemi 40.81 314 *e*P **P 09 21 44.7 -1.4**
KAF pmax pmax
comp=Z,9.0nm,0.3s,mb4.9
FIA1 FINESS Array S 41.25 314 *e*P **P 09 21 49.1 -0.5**
FINES FINESS Array B 41.25 314 P **P 09 21 49.1 -0.6**
comp=Z,53nm,0.9s,mb5.2,baz=66,slow=9.2,SNR=67
FINES LR LR 09 40 14.2
comp=Z,627nm,21.7s,MS4.4,baz=37,slow=38
FINES FINESS Array B 41.25 314 *i*P **P 09 21 49.0 -0.7**
FINES pmax pmax
comp=Z,53nm,0.9s
MAK Makhachkala 41.29 279 *c*i P **P 09 21 54.2 +4.2**
MAK *i* 09 23 29.2
MAK *i*S SS 09 31 01.9 -5.2
MAK *i* 09 31 53.6
MAK pmax pmax
comp=Z,110nm,1.1s,mb5.4
MAK MLR MLR
comp=Z,5μm,12.0s,MS5.6
NGP Nagpur 41.56 226 *e*P **P 09 21 50.7 -1.6**
NGP AMb AMB 09 21 51.7
comp=Z,27nm,0.5s,mb5.1
ALE Alert 41.92 359 P **P 09 21 54.3 -0.9**
comp=Z,83nm,1.2s,mb5.2,SNR=7.2
VSU Vasula 42.59 310 ⇓*i*P **P 09 22 00.3 -0.3**
AKL Akola 42.81 229 *e*P **P 09 22 02.1 -0.4**
AKL AMb AMB 09 22 05.4
comp=Z,23nm,1.1s,mb4.8
MOR8 Moi Rana 43.01 324 *e*P **P 09 22 01.5 -2.5**
MOR8 AMb AMB 09 22 10.3
comp=Z,59nm,2.1s,mb5.0
MOR8 Moi Rana 43.01 324 *e*P **P 09 22 01.9 -2.1**
VIS Vishakhapatnam 43.04 219 *e*P **P 09 22 03.7 -0.6**
VIS AMb AMB 09 22 06.7
comp=Z,25nm,1.1s,mb4.8
IMA2 Indian Mountai 43.29 36 *e*P **P 09 22 06.3 0.0**
KIV Kislovodsk 43.31 284 P **P 09 22 07.7 +1.2**
comp=Z,399nm,0.9s,mb6.2,SNR=7.0
KIV Kislovodsk 43.31 284 P **P 09 22 08.0 +1.5**
SNR=17
KIV Kislovodsk 43.31 284 *e*P **P 09 22 07.1 +0.6**
KIV *e* 09 23 48.1
KIV *e*S **S 09 28 35.4 +1.9**
KIV pmax pmax
comp=Z,457nm,2.7s,mb5.7
KIV pmax pmax
comp=Z,86nm,1.0s,mb5.4
KIV MLR MLR
comp=Z,791nm,18.0s,MS4.7
KIV Kislovodsk 43.31 284 *e*P **P 09 22 07.4 +0.9**
comp=Z,69nm,0.9s,mb5.4
KIV *e* 09 23 47.9
ZEI Tsey 43.42 282 *e*P **P 09 22 06.6 -0.7**
ZEI *e**PP pP 09 22 10.0 -1.8
ZEI *e* 09 23 52.9
DUS Dusheti 43.42 280 P **P 09 22 07.1 -0.3**
MTA Mtatsminda 43.63 280 P **P 09 22 11.6 +2.5**
TBLG Delisi 43.64 280 P **P 09 22 12.8 +3.7**
ONI Oni 43.79 282 P **P 09 22 12.8 +2.4**
DAG Danmarks Havn 43.85 345 ⇑*i*P **P 09 22 09.1 -1.7**
comp=Z,15nm,0.7s,mb4.8
DAG Danmarks Havn 43.85 345 ⇑*i*P **P 09 22 09.1 -1.7**
DAG pmax pmax
comp=Z,15nm,0.7s,mb4.8
KZR Kazreti 44.05 280 P **P 09 22 12.3 -0.2**
MNK Minsk 44.39 304 *e*P **P 09 22 12.0 -3.2**
MNK *e* 09 24 02.0
GNI Garni 44.71 278 LR LR 09 40 46.9
comp=Z,595nm,21.5s,MS4.5,baz=216,slow=36
GNI Garni 44.71 278 ⇑*e*P **P 09 22 18.9 +1.2**
GNI pmax pmax
comp=Z,22nm,1.3s
GNI MLR MLR
comp=Z,1μm,15.0s
GNI Garni 44.71 278 *e*P **P 09 22 19.3 +1.6**
comp=Z,18nm,1.1s,mb4.8
NSS Namsos 44.82 323 AMS AMS 09 44 58.5
comp=Z,979nm,20.4s,MS4.7
HYB Hyderabad 45.12 225 *i*P **P 09 22 20.5 -0.5**
HYB Hyderabad 45.12 225 *e*P **P 09 22 20.5 -0.5**
SOC Sochi 45.18 285 *e*P **P 09 22 20.8 -0.7**
SOC *e**PP pP 09 22 25.4 -0.5
SOC *e* 09 24 02.2
SOC *e*PPP 09 24 46.1
SOC *e*S **S 09 29 02.8 +2.1**
SOC *e*SS SS 09 32 17.1 -6.3
SOC *e*SSS 09 33 18.0
SOC pmax pmax
comp=Z,36nm,1.0s,mb5.2
SOC MLR MLR
comp=Z,1μm,16.0s,MS5.0
UNV Unalaska Valle 45.36 56 *e*P **P 09 22 22.6 -0.2**
comp=Z,110nm,0.9s,mb5.7
SVW2 Sparrevohn 45.57 43 *e*P **P 09 22 25.6 +1.1**
ANN Anapa 45.62 288 *e*P **P 09 22 22.9 -2.0**
ANN *e* 09 24 00.0
ANN *e* 09 24 10.1
ANN *e*S **S 09 29 06.4 -0.6**
ANN pmax pmax
comp=Z,39nm,1.1s,mb5.2
ANN MLR MLR
comp=N,2μm,13.0s,MS5.2
ANN MLR MLR
comp=E,650nm,13.0s,MS5.2
ANN MLR MLR
comp=Z,2μm,13.0s,MS5.2
COLA College 45.95 36 ⇑*i*P **P 09 22 27.0 -0.5**
COLA College 45.95 36 *e*P **P 09 22 27.4 -0.2**
comp=Z,55nm,0.8s,mb5.5
COLA *e*PcP PcP 09 24 03.9 -0.4
AKASG Malin Array Be 46.06 299 P **P 09 22 27.7 -0.7**
comp=Z,17nm,0.6s,mb5.1,baz=45,slow=8.3,SNR=66
AKASG LR LR 09 43 43.1
comp=Z,2μm,18.4s,MS5.1,baz=40,slow=39
AKASG Malin Array Be 46.06 299 P **P 09 22 27.7 -0.7**
AKASG pmax pmax
comp=Z,17nm,0.6s
AKASG MLR MLR
comp=Z,2μm,18.4s
AKBB Malin Array Si 46.06 299 *e*P **P 09 22 27.7 -0.7**
KIEV Kiev 46.08 299 *e*P **P 09 22 27.7 -0.8**
KIEV pmax pmax
comp=Z,23nm,0.9s,mb5.1
KIEV Kiev 46.08 299 *e*P **P 09 22 27.7 -0.8**
comp=Z,23nm,0.9s,mb5.1
JMIC Jan Mayen 46.32 337 LR LR 09 44 29.0
comp=Z,697nm,18.0s,MS4.7,baz=281,slow=39
MCK McKinley 46.32 37 *e*P **P 09 22 30.6 +0.1**
MCK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MCK McKinley 46.32 37 *e*P **P 09 22 30.6 +0.2**
comp=Z,10nm,0.8s,mb4.8
ERZM Erzurum 46.76 280 *i*P **P 09 22 36.0 +2.1**
SUW Suwalki 46.84 306 *e*P **P 09 22 33.8 -0.7**
KAD Karad 47.03 230 *e*P **P 09 22 35.5 -0.6**
KAD AMb AMB 09 22 36.3
comp=Z,22nm,1.1s,mb5.0
SIM Simferopol' 47.29 290 *e*P **P 09 22 39.5 +1.4**
SIM pmax pmax
comp=Z,24nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,2μm,15.5s,MS5.1
NB2 NORSAR Subarra 47.30 319 P **P 09 22 37.5 -0.6**
comp=Z,27nm,0.8s,mb5.2,baz=49,slow=7.9
NOA NORSAR Array B 47.30 319 P **P 09 22 37.5 -0.6**
comp=Z,42nm,0.8s,mb5.4,baz=47,slow=7.3,SNR=85
NOA LR LR 09 44 25.4
comp=Z,637nm,19.1s,MS4.6,baz=40,slow=38
NOA NORSAR Array B 47.30 319 P **P 09 22 37.5 -0.6**
NOA pmax pmax
comp=Z,42nm,0.8s
NOA MLR MLR
comp=Z,637nm,19.1s
NAO01 NORSAR Array S 47.54 319 *e*P **P 09 22 39.1 -0.9**
comp=Z,24nm,0.8s,mb5.3
PMR Palmer 47.65 39 *e*P **P 09 22 40.9 +0.1**
PMR pmax pmax
comp=Z,41nm,0.8s,mb5.5
PMR Palmer 47.65 39 *e*P **P 09 22 40.9 +0.1**
comp=Z,40nm,0.8s,mb5.5
INK Inuvik 47.77 27 *e*P **P 09 22 41.0 -0.8**
comp=Z,1μm,1.2s
GRSN GIRESUNGRSN 47.77 284 *i*P **P 09 22 37.8 -3.9**
SML Sawmill 47.79 39 *e*P **P 09 22 41.7 -0.2**
EGAK Eagle 48.15 33 *e*P **P 09 22 44.6 -0.1**
comp=Z,30nm,0.8s,mb5.4
MSL Mosul 48.33 276 *ex* x 09 22 52.5
MSL *ex* x 09 24 32.5
MSL *ex* x 09 24 44.0
MSL *ex* x 09 25 19.0
MSL *ex* x 09 29 57.0
MDRS Chennai 48.44 220 *e*P **P 09 22 46.2 -0.8**
MDRS AMb AMB 09 22 46.7
comp=Z,77nm,0.2s
MENT Mentasta 48.61 36 *e*P **P 09 22 47.6 -0.6**
KIS Kishinev 48.68 296 *e*P **P 09 22 46.0 -2.8**
KIS *e* 09 24 48.0
KIS *e*S **S 09 29 54.0 +3.3**
KIS MLR MLR
comp=E,4μm,14.0s,MS5.7
KIS MLR MLR
comp=Z,7μm,14.0s,MS5.8
KIS MLR MLR
comp=N,3μm,13.0s,MS5.7
KIS MLR MLR
comp=Z,3μm,12.0s
KIS Kishinev 48.68 296 *e*P **P 09 22 46.0 -2.8**
KIS *e*S **S 09 29 54.0 +3.3**
KIS *e*SS SS 09 33 38.0 +17
KIS *e*LQ 09 39 54.0
KIS LRM 09 45 36.0
comp=Z,3μm,13.0s
RES Resolute Bay 48.78 9 *e*P **P 09 22 48.3 -1.3**
comp=Z,730nm,1.0s
KDAK Kodiak Island 48.88 45 P **P 09 22 49.8 -0.6**
comp=Z,17nm,0.8s,mb5.1,baz=117,slow=23,SNR=6.3
MARD Mardin 48.90 278 *i*P **P 09 22 52.2 +1.7**
LVV L'vov 49.17 301 *e*P **P 09 22 52.1 -0.5**
LVV *e* 09 24 49.7
LVV *e*PPP 09 25 37.5
LVV *e*S **S 09 29 56.3 -1.3**
LVV *e*SSS 09 34 47.9
LVV MLR MLR
comp=N,800nm,15.0s,MS5.0
LVV MLR MLR
comp=E,900nm,15.0s,MS5.0
LVV MLR MLR
comp=Z,1μm,15.0s,MS5.0
DAWY Dawson 49.19 33 *e*P **P 09 22 51.9 -0.9**
BOYT Boyabat 49.26 286 *i*P **P 09 22 54.7 +1.4**
MALT Malatya 49.50 281 *e*P **P 09 22 56.3 +1.2**
MALT pmax pmax
comp=Z,28nm,1.1s,mb5.2
MALT Malatya 49.50 281 *e*P **P 09 22 56.3 +1.2**
comp=Z,28nm,1.1s,mb5.2
MALT Malatya 49.50 281 ⇓*i*P **P 09 22 56.6 +1.5**
BHD Baghdad 49.80 272 *ex* x 09 22 56.0
CTKT Corum 49.88 286 *i*P **P 09 22 59.1 +1.1**
GUMO Guam 49.91 133 LR LR 09 43 53.3
comp=Z,278nm,19.4s,MS4.3,baz=348,slow=36
KWP Kalwaria 49.94 302 *e*P **P 09 22 58.8 +0.4**
GKP Gorka Klasztor 50.00 308 *e*P **P 09 22 58.9 0.0**
BALT Daday 50.01 288 *i*P **P 09 23 00.0 +1.1**
BURAR Bucovina Array 50.08 299 ⇓*i*P **P 09 22 59.6 +0.1**
CFR Carcaliu 50.26 294 P **P 09 23 03.4 +2.5**
VRI Vrincioaia 50.51 296 ⇑*i*P **P 09 23 03.6 +0.8**
PLOR Plostina 50.56 296 ⇑*i*P **P 09 23 03.9 +0.8**
TIRR Tirgusor 50.61 294 *e*P **P 09 23 03.4 -0.1**
TIRR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TIRR Tirgusor 50.61 294 *e*P **P 09 23 03.4 -0.1**
comp=Z,9.8nm,0.8s,mb4.8
TIRR Tirgusor 50.61 294 ⇓*i*P **P 09 23 03.5 0.0**
KOLS Kolonicke sedl 50.62 302 *e*P **P 09 23 03.6 0.0**
GZT Gaziantep 50.66 281 *i*P **P 09 23 05.0 +1.1**
ELDT Eldivan 50.71 287 *i*P **P 09 23 06.2 +1.9**
MIB Mutribah 50.72 266 *e*P **P 09 23 04.4 +0.1**
MIB AMb AMB 09 23 14.5
comp=Z,26nm,0.5s,mb5.4
STHS Stebnicka Huta 50.78 303 *e*P **P 09 23 05.8 +1.0**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 50.78 303 *e*P **P 09 23 05.8 +1.0**
comp=Z,7.0nm,0.8s,mb4.6
CDAG Cicekdag 50.81 285 *i*P **P 09 23 05.7 +0.7**
UZH Uzhgorod 50.82 301 *e*P **P 09 23 01.0 -4.1**
UZH *e*S **S 09 30 11.0 -10**
UZH *e* 09 32 54.0
UZH *e*SS SS 09 33 50.0 -5.1
UZH MLR MLR
comp=Z,2μm,18.0s,MS5.1
KULM Kulim 50.88 192 *e*P **P 09 23 05.8 +0.2**
OJC Ojcow 50.91 304 *e*P **P 09 23 05.4 -0.4**
KBD Kabd 50.99 266 *e*P **P 09 23 06.5 +0.1**
KBD AMb AMB 09 23 12.0
comp=Z,173nm,0.9s,mb6.0
CRVS Cervenica-Dubn 51.03 302 *e*P **P 09 23 06.3 -0.4**
CRVS *e* 09 25 39.0
BRTR Keskin Array B 51.14 286 P **P 09 23 08.2 +0.7**
comp=Z,25nm,1.0s,mb5.1,baz=72,slow=5.3,SNR=31
BRTR LR LR 09 49 27.7
comp=Z,535nm,20.0s,MS4.6,baz=242,slow=42
BRTR Keskin Array B 51.14 286 *i*P **P 09 23 08.1 +0.6**
BRTR pmax pmax
comp=Z,25nm,1.0s
AVNT Avonos 51.14 284 *i*P **P 09 23 08.2 +0.7**
AVNT Avonos 51.14 284 *i*P **P 09 23 11.3 +3.8**
MLR Muntele Rosu 51.17 296 P **P 09 23 08.0 +0.3**
comp=Z,11nm,0.7s,mb4.9,baz=137,slow=5.9,SNR=11
MLR Muntele Rosu 51.17 296 P **P 09 23 08.0 +0.3**
MLR pmax pmax
comp=Z,11nm,0.7s
MLR Muntele Rosu 51.17 296 P **P 09 23 08.7 +1.0**
MLR Muntele Rosu 51.17 296 ⇓*i*P **P 09 23 08.5 +0.8**
MUD Monsted U'grnd 51.19 316 *i*P **P 09 23 08.1 +0.2**
comp=Z,60nm,1.1s,mb5.4
MUD
comp=Z,1μm,16.0s
MUD Monsted U'grnd 51.19 316 *i*P **P 09 23 08.1 +0.2**
MUD pmax pmax
comp=Z,60nm,1.1s,mb5.4
MUD MLR MLR
comp=Z,1μm,16.0s,MS5.0
NAY Al-Naaiem 51.19 266 *e*P **P 09 23 07.8 -0.1**
NAY AMb AMB 09 23 09.7
comp=Z,52nm,1.0s,mb5.4
NIE Niedzica 51.22 303 *e*P **P 09 23 08.7 +0.6**
RDF Al-Radifah 51.27 265 *e*P **P 09 23 08.6 +0.2**
RDF AMb AMB 09 23 10.6
comp=Z,101nm,1.1s,mb5.7
SGKT Sivrigoynuk 51.40 288 *i*P **P 09 23 09.3 -0.1**
ANTO Ankara 51.50 286 *e*P **P 09 23 10.6 +0.4**

ANTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
ANTO Ankara 51.50 286 *e*P **P 09 23 10.6 +0.4**
comp=Z,14nm,0.8s,mb4.9
KECS Kecovo 51.79 302 *e*P **P 09 23 12.8 +0.4**
KECS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KECS Kecovo 51.79 302 *e*P **P 09 23 12.8 +0.4**
comp=Z,8.3nm,0.7s,mb4.8
DRGR 51.88 299 P **P 09 23 13.6 +0.5**
DRGR 51.88 299⇓*i*P **P 09 23 13.5 +0.4**
OKC Ostrava-Krasne 51.95 305 *e*P **P 09 23 13.4 -0.1**
OKC *e*pP pP 09 23 17.7 -0.3
OKC AMS AMS 09 47 50.0
comp=Z,2μm,12.1s
OKC Ostrava-Krasne 51.95 305 *e*P **P 09 23 13.4 -0.1**
OKC *e* pP 09 23 17.7 -0.3
KSP Ksiaz 52.10 307 *e*P **P 09 23 15.1 +0.4**
KSP Ksiaz 52.10 307 *e*P **P 09 23 14.5 -0.2**
KSP LR LR
comp=Z,2μm,20.2s,MS5.2
MORC Moravsky Berou 52.27 305 *e*P **P 09 23 15.9 -0.1**
MORC pmax pmax
comp=Z,13nm,0.9s,mb4.9
MORC Moravsky Berou 52.27 305 *e*P **P 09 23 15.9 -0.1**
comp=Z,13nm,0.9s,mb4.9
MORC Moravsky Berou 52.27 305⇓*i*P **P 09 23 16.2 +0.2**
DPC Dobruska-Polom 52.43 306 *e*P **P 09 23 17.6 +0.5**
DPC AMS AMS 09 49 30.0
comp=Z,2μm,9.3s
UPC Upice 52.46 307 *e*P **P 09 23 17.5 +0.1**
UPC *e*pP pP 09 23 21.8 -0.1
PSZ Piszkesteto 52.47 302 *e*P **P 09 23 17.9 +0.5**
PSZ pmax pmax
comp=Z,32nm,1.4s,mb5.1
PSZ Piszkesteto 52.47 302 *e*P **P 09 23 17.9 +0.5**
comp=Z,32nm,1.4s,mb5.1
PSZ Piszkesteto 52.47 302⇓*e*P **P 09 23 18.0 +0.6**
VYHS Vyhne 52.57 303 *i* P **P 09 23 18.7 +0.6**
VYHS pmax pmax
comp=Z,21nm,1.3s,mb4.9
VYHS Vyhne 52.57 303 *i* P **P 09 23 18.7 +0.6**
comp=Z,21nm,1.3s,mb4.9
GZR Gura Zlata 52.83 298 P **P 09 23 20.8 +0.7**
GZR Gura Zlata 52.83 298⇑*i*P **P 09 23 20.9 +0.8**
VRAC Vranov 53.04 305 P **P 09 23 22.5 +0.9**
VRAC Vranov 53.04 305⇓*i*P **P 09 23 22.0 +0.4**
PVCC Panska Ves 53.10 307 *e*P **P 09 23 22.4 +0.3**
PVCC AMS AMS 09 48 40.0
comp=Z,2μm,9.7s
BRG Berggiesshubel 53.13 308 *i* P **P 09 23 22.5 +0.2**
comp=Z,2.1nm,1.1s
BRG
comp=N,922nm,8.1s
BRG
comp=E,1μm,10.1s
BRG
comp=Z,2μm,8.9s
CLL Collm 53.24 309⇓*i*P **P 09 23 22.7 -0.4**
CLL pmax pmax
comp=Z,27nm,0.9s,mb5.2
CLL MLR MLR
comp=Z,3μm,9.4s
CLL Collm 53.24 309⇓*i*P **P 09 23 22.7 -0.4**
comp=Z,27nm,0.9s,mb5.2
CLL *i* 09 23 38.4
CLL Collm 53.24 309⇓*i*P **P 09 23 22.7 -0.4**
comp=Z,27nm,0.9s,mb5.2
CLL *i* x x 09 23 38.4
CLL *e*PPPP 09 26 44.0
BZS Buzias 53.25 299 P **P 09 23 23.6 +0.4**
BZS Buzias 53.25 299⇓*i*P **P 09 23 23.4 +0.2**
ULDT Uludag 53.27 289 *i* P **P 09 23 24.2 +0.8**
PRU Pruhonice 53.49 307 *e*P **P 09 23 25.2 +0.2**
PRU *e*pP pP 09 23 28.7 -0.8
PRU AMS AMS 09 50 10.0
comp=Z,1μm,12.8s
ZST Bratislava 53.59 304 *e*P **P 09 23 26.9 +1.2**
comp=Z,9.6nm,0.5s,mb5.0
ZST LR LR
comp=Z,3μm,15.3s,MS5.5
GDZ Gediz 53.84 288 *i* P **P 09 23 23.7 -3.9**
SART Tekirdag 53.92 291 *i* P **P 09 23 29.1 +1.0**
SKAG Skagway 53.92 35 *e*P **P 09 23 28.7 +0.6**
comp=Z,118nm,2.1s,mb5.5
TKTP Tekketepe 54.15 287 *i* P **P 09 23 28.8 -1.0**
BORG Borgarnes 54.22 337 LR LR 09 46 33.1
comp=Z,982nm,18.5s,MS4.9,baz=187,slow=36
SOP Sopron 54.22 304⇑*e*P **P 09 23 31.7 +1.4**
NKC Novy Kostel 54.26 308 *e*P **P 09 23 30.6 0.0**
NKC *e*pP pP 09 23 34.5 -0.6
NKC AMS AMS 09 51 30.0
comp=Z,2μm,10.4s
NKC Novy Kostel 54.26 308 *e*P **P 09 23 30.6 0.0**
NKC *e* pP 09 23 34.5 -0.6
PKSM Moragy 54.28 301⇓*i*P **P 09 23 30.7 0.0**
MOX Moxa 54.33 309 *e*P **P 09 23 31.2 +0.1**
comp=Z,36nm,1.0s,mb5.3
MOX
comp=Z,2μm,14.0s
MOX Moxa 54.33 309 *e*P **P 09 23 31.2 +0.1**
MOX pmax pmax
comp=Z,36nm,1.0s,mb5.3
MOX MLR MLR
comp=Z,2μm,14.0s,MS5.3
CONA Conrad Observa 54.37 304⇑*i*P **P 09 23 32.0 +0.7**
comp=Z,17nm,1.1s,mb4.9
KHC Kasperske Hory 54.55 307 *e*P **P 09 23 33.1 +0.4**
KHC *e*pP pP 09 23 37.1 -0.1
KHC *e*x x 09 23 50.5
KHC AMS AMS 09 50 20.0
comp=Z,2μm,12.0s
KHC Kasperske Hory 54.55 307 *e*P **P 09 23 33.1 +0.4**
KHC *e* pP 09 23 37.1 -0.1
KHC MLR MLR
comp=Z,2μm,12.0s,MS5.3
VTS Vitosha 54.61 295 P **P 09 23 33.7 +0.6**
VTS Vitosha 54.61 295⇓*i*P **P 09 23 33.3 +0.2**
GEC2 GERESS Array S 54.70 306 *e*P **P 09 23 34.0 +0.2**
GERES GERESS Array B 54.70 306 P **P 09 23 33.9 +0.1**
comp=Z,12nm,0.8s,mb5.0,baz=46,slow=7.6,SNR=45
GERES LR LR 09 49 03.4
comp=Z,956nm,20.8s,MS4.8,baz=96,slow=38
CSS Prodhromos 54.75 282 *e*P **P 09 23 34.6 +0.4**
comp=Z,48nm,0.9s,mb5.5
GRUS Gruza 54.94 298⇓*i*P **P 09 23 34.7 -0.8**
MMAI Mount Meron Ar 55.04 279 LR LR 09 50 28.4
comp=Z,505nm,18.3s,MS4.6,baz=30,slow=40
DIVS Divcibare 55.14 299⇓*i*P **P 09 23 36.5 -0.5**
MOA Molln 55.16 305 *i* P **P 09 23 38.1 +1.0**
comp=Z,24nm,1.1s,mb5.1,SNR=5.8
GRA1 Grafenberg Arr 55.19 309 *e*P **P 09 23 37.6 +0.2**
comp=Z,26nm,1.0s,mb5.2
GRA1 LR LR
comp=Z,1μm,18.7s,MS5.1
GRF Grafenberg Arr 55.19 309 *e*P **P 09 23 37.6 +0.2**
comp=Z,26nm,1.0s,mb5.2
GRF *e*L 09 49 20.0
comp=Z,1μm,18.7s
GRF Grafenberg Arr 55.19 309 *e*P **P 09 23 37.6 +0.2**
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,1μm,18.7s,MS5.1
GRF Grafenberg Arr 55.19 309 *e*P **P 09 23 37.6 +0.2**
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,1μm,18.7s,MS5.1
GRFO Grafenberg 55.20 309 *e*P **P 09 23 38.0 +0.6**
GRFO pmax pmax
comp=Z,18nm,0.9s,mb5.1
GRFO Grafenberg 55.20 309 *e*P **P 09 23 38.0 +0.7**
comp=Z,18nm,0.9s,mb5.1
WTSB Winterswijk 55.41 313 *e*P **P 09 23 38.3 -0.6**
comp=Z,59nm,1.0s,mb5.6
PERS Pernice 55.65 304 *i* P **P 09 23 41.4 +0.7**
VAY Valandovo 55.86 295 *e*P **P 09 23 41.1 -1.0**
VAY Valandovo 55.86 295 *e*P **P 09 23 41.1 -1.0**
URLA Izmir 55.92 289 *i* P **P 09 23 45.1 +2.5**
SKO Skopje 55.96 296 *e*P **P 09 23 41.8 -1.1**
SKO Skopje 55.96 296 *e*P **P 09 23 41.8 -1.1**
OBKA Obir 56.01 304 *i* P **P 09 23 44.2 +0.9**
comp=Z,42nm,0.7s,mb5.6,SNR=15
KBA Koelnbreinsper 56.16 305⇑*i*P **P 09 23 45.2 +0.9**
comp=Z,63nm,1.5s,mb5.4,SNR=13
KBA Koelnbreinsper 56.16 305⇑*i*P **P 09 23 45.2 +0.9**
KBA pmax pmax
comp=Z,63nm,1.5s,mb5.4
DLBC Dease Lake 56.42 33 *e*P **P 09 23 46.1 0.0**
BOJS Bojanci 56.42 303 *i* P **P 09 23 46.2 0.0**
KRUS Krusevo 56.50 296 *e*P **P 09 23 46.1 -0.6**
KRUS Krusevo 56.50 296 *e*P **P 09 23 46.1 -0.6**
PTCC Patocco-Chiusa 56.65 305 P **P 09 23 48.2 +0.4**
comp=Z,24nm,1.2s,mb5.1
HGN Heimansgroeve 56.67 313 *e*P **P 09 23 47.9 0.0**
comp=Z,41nm,1.1s,mb5.4
ROBS Robic 56.70 304 *i* P **P 09 23 47.6 -0.5**
BIA Bitola 56.72 295 *e*P **P 09 23 46.6 -1.7**
BIA Bitola 56.72 295 *e*P **P 09 23 46.6 -1.7**
MEM Membach 56.75 312 P **P 09 23 48.6 +0.1**
comp=Z,45nm,1.2s,mb5.4
WTTA Wattenberg 56.80 306 *i* P **P 09 23 49.7 +0.9**
comp=Z,29nm,1.0s,mb5.2,SNR=7.8
WTTA Wattenberg 56.80 306 *i* P **P 09 23 49.7 +0.8**
WTTA pmax pmax
comp=Z,29nm,1.0s,mb5.3
OHR Ohrid 56.92 296 *e*P **P 09 23 49.0 -0.7**
OHR Ohrid 56.92 296 *e*P **P 09 23 49.0 -0.7**
MOTA Moosalm 56.98 307⇑*i*P **P 09 23 51.2 +1.1**
comp=Z,18nm,1.1s,mb5.0,SNR=6.0
MOTA Moosalm 56.98 307⇑*i*P **P 09 23 51.2 +1.1**
MOTA pmax pmax
comp=Z,18nm,1.1s,mb5.0
YKA Yellowknife Ar 57.06 23 P **P 09 23 48.7 -2.0**
comp=Z,16nm,0.7s,mb5.1,baz=334,slow=7.1,SNR=97
YKA LR LR 09 49 46.9
comp=Z,333nm,19.3s,MS4.5,baz=355,slow=38
YKA PKP2bc 09 53 49.5
comp=Z,0.7nm,0.9s,baz=150,slow=1.7,SNR=5.7
YKA Yellowknife Ar 57.06 23 P **P 09 23 48.7 -2.0**
YKA LR LR 09 49 46.9
YKA ⇑*e* 09 53 49.5
BFO Black Forest 57.48 309 *e*P **P 09 23 53.0 -0.7**
BFO pmax pmax
comp=Z,14nm,0.9s,mb5.0
BFO Black Forest 57.48 309 *e*P **P 09 23 53.0 -0.6**
comp=Z,14nm,0.9s,mb5.0
DAVA Damuels 57.58 307⇑*i*P **P 09 23 55.2 +0.9**
comp=Z,17nm,0.9s,mb5.1
GIVF Givet 57.63 313 *e*P **P 09 23 53.4 -1.3**
DOU Dourbes 57.73 313 P **P 09 23 55.3 -0.1**
EIL Elat 57.81 276 *e*P **P 09 23 56.7 +0.7**
comp=Z,400nm,1.1s
CDF Champ du Feu 57.88 310 *e*P **P 09 23 55.6 -0.9**
comp=Z,45nm,1.1s,mb5.1
CDF Champ du Feu 57.88 310 *e*P **P 09 23 55.6 -0.9**
CDF pmax pmax
comp=Z,22nm,1.1s,mb5.1
CDF Champ du Feu 57.88 310 *e*P **P 09 23 55.6 -0.9**
comp=Z,22nm,1.1s,mb5.1
BAIF Baives 57.92 313 *e*P **P 09 23 55.6 -1.2**
comp=Z,24nm,0.9s,mb5.0
BAIF Baives 57.92 313 *e*P **P 09 23 55.6 -1.2**
BAIF pmax pmax
comp=Z,12nm,0.9s,mb4.9
BAIF Baives 57.92 313 *e*P **P 09 23 55.6 -1.2**
comp=Z,12nm,0.9s,mb4.9
HINF Hinteralfeld 58.52 310 *e*P **P 09 23 59.7 -1.2**
comp=Z,31nm,1.0s,mb5.0
HINF Hinteralfeld 58.52 310 *e*P **P 09 23 59.7 -1.2**
HINF pmax pmax
comp=Z,16nm,1.0s,mb5.0
HINF Hinteralfeld 58.52 310 *e*P **P 09 23 59.7 -1.2**
comp=Z,16nm,1.0s,mb5.0
HAU Haudompre 58.59 310 *e*P **P 09 23 59.5 -1.9**
comp=Z,29nm,1.0s,mb5.0
HAU *e*MLR
comp=Z,916nm,21.8s
HAU Haudompre 58.59 310 *e*P **P 09 23 59.5 -1.9**
HAU pmax pmax
comp=Z,15nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,920nm,21.8s,MS4.9
HAU Haudompre 58.59 310 *e*P **P 09 23 59.5 -1.9**
comp=Z,15nm,1.0s,mb5.0
HAU LR LR
comp=Z,920nm,21.8s,MS4.9
MEZF Maizieres J'vi 58.76 311 *e*P **P 09 24 00.8 -1.8**
RGNG Rignano Grg 59.11 300 P **P 09 24 04.8 -0.3**
NRCA Norcia 59.44 302 P **P 09 24 07.7 +0.4**
comp=Z,23nm,0.9s,mb5.2
AQU L'Aquila 59.66 301 *e*P **P 09 24 08.7 -0.2**
AQU pmax pmax
comp=Z,69nm,0.9s,mb5.7
AQU L'Aquila 59.66 301 *e*P **P 09 24 08.7 -0.2**
comp=Z,69nm,0.9s,mb5.7
SGO Sicignano 60.09 299 P **P 09 24 12.8 +1.0**
SGO pmax pmax
comp=Z,14nm,0.8s,mb5.0
SGO Sicignano 60.09 299 P **P 09 24 12.8 +1.0**
comp=Z,14nm,0.8s,mb5.0
LOR Lormes 60.23 311 *e*P **P 09 24 11.2 -1.6**
comp=Z,51nm,1.0s,mb5.2
LOR *e*MLR
comp=Z,717nm,21.8s
LOR Lormes 60.23 311 *e*P **P 09 24 11.2 -1.6**
LOR pmax pmax
comp=Z,26nm,1.0s,mb5.2
LOR MLR MLR
comp=Z,720nm,21.8s,MS4.8
LOR Lormes 60.23 311 *e*P **P 09 24 11.2 -1.6**
comp=Z,26nm,1.0s,mb5.2
LOR LR LR
comp=Z,720nm,21.8s,MS4.8
LPL La Plagne 60.34 308 *e*P **P 09 24 13.2 -0.3**
LPG La Plagne 60.34 308 *e*P **P 09 24 13.4 -0.1**
comp=Z,38nm,1.0s,mb5.1
LPG La Plagne 60.34 308 *e*P **P 09 24 13.4 -0.1**
LPG pmax pmax
comp=Z,19nm,1.0s,mb5.1
LPG La Plagne 60.34 308 *e*P **P 09 24 13.4 -0.1**
comp=Z,19nm,1.0s,mb5.1
TIP Timpagrande 60.42 297 *e*P **P 09 24 14.1 +0.1**
SSF Saint Saulge 60.54 311 *e*P **P 09 24 13.5 -1.4**
comp=Z,44nm,0.9s,mb5.3
SSF Saint Saulge 60.54 311 *e*P **P 09 24 13.5 -1.4**
SSF pmax pmax
comp=Z,22nm,0.9s,mb5.3
SSF Saint Saulge 60.54 311 *e*P **P 09 24 13.5 -1.4**
comp=Z,22nm,0.9s,mb5.3
BNI Bardonecchia 60.72 308 *e*P **P 09 24 16.0 -0.1**
BNI pmax pmax
comp=Z,37nm,1.1s,mb5.4
BNI Bardonecchia 60.72 308 *e*P **P 09 24 15.9 -0.2**
comp=Z,37nm,1.1s,mb5.4
SMF Signal de Mont 60.72 311 *e*P **P 09 24 14.6 -1.5**
comp=Z,80nm,1.1s,mb5.5
SMF Signal de Mont 60.72 311 *e*P **P 09 24 14.6 -1.5**
SMF pmax pmax
comp=Z,40nm,1.1s,mb5.5
SMF Signal de Mont 60.72 311 *e*P **P 09 24 14.6 -1.5**
comp=Z,40nm,1.1s,mb5.5
AVF Avril sur Loir 60.82 311 *e*P **P 09 24 15.3 -1.5**
comp=Z,32nm,0.9s,mb5.1
AVF Avril sur Loir 60.82 311 *e*P **P 09 24 15.3 -1.5**
AVF pmax pmax
comp=Z,16nm,0.9s,mb5.2
AVF Avril sur Loir 60.82 311 *e*P **P 09 24 15.3 -1.5**
comp=Z,16nm,0.9s,mb5.2
LDF La Druitiere 60.84 314 *e*P **P 09 24 15.1 -1.8**
comp=Z,55nm,0.8s,mb5.4
LDF La Druitiere 60.84 314 *e*P **P 09 24 15.1 -1.8**
LDF pmax pmax
comp=Z,27nm,0.8s,mb5.4
LDF La Druitiere 60.84 314 *e*P **P 09 24 15.1 -1.8**
comp=Z,27nm,0.8s,mb5.4
FLN La Foliniere 60.84 315 *e*P **P 09 24 15.0 -2.0**
comp=Z,66nm,0.9s,mb5.5
FLN *e*MLR
comp=Z,1μm,17.8s
FLN La Foliniere 60.84 315 *e*P **P 09 24 15.0 -2.0**
FLN pmax pmax
comp=Z,33nm,0.9s,mb5.5
FLN MLR MLR
comp=Z,1μm,17.8s,MS5.1
FLN La Foliniere 60.84 315 *e*P **P 09 24 15.0 -2.0**
comp=Z,33nm,0.9s,mb5.5
FLN LR LR
comp=Z,1μm,17.8s,MS5.1
MBDF Montbardon 60.93 307 *e*P **P 09 24 16.6 -1.0**
comp=Z,56nm,0.9s,mb5.4
MBDF Montbardon 60.93 307 *e*P **P 09 24 16.6 -1.0**
MBDF pmax pmax
comp=Z,28nm,0.9s,mb5.4
MBDF Montbardon 60.93 307 *e*P **P 09 24 16.6 -1.0**
comp=Z,28nm,0.9s,mb5.4
ORIF Oris-en-Rattie 61.18 308 *e*P **P 09 24 18.6 -0.7**
comp=Z,32nm,1.0s,mb5.1
ORIF *e*MLR
comp=Z,738nm,19.5s
ORIF Oris-en-Rattie 61.18 308 *e*P **P 09 24 18.6 -0.7**
ORIF pmax pmax
comp=Z,16nm,1.0s,mb5.1
ORIF Oris-en-Rattie 61.18 308 *e*P **P 09 24 18.6 -0.7**
comp=Z,16nm,1.0s,mb5.1
BGF Bois d'Agland 61.22 311 *e*P **P 09 24 18.2 -1.3**
GRR Gorron 61.30 315 *e*P **P 09 24 19.1 -0.9**
comp=Z,121nm,1.3s,mb5.6
GRR Gorron 61.30 315 *e*P **P 09 24 19.1 -0.9**
GRR pmax pmax
comp=Z,60nm,1.3s,mb5.6
GRR Gorron 61.30 315 *e*P **P 09 24 19.1 -0.9**
comp=Z,60nm,1.3s,mb5.6
SBF Sospel 61.30 306 *e*P **P 09 24 18.9 -1.2**
comp=Z,40nm,0.8s,mb5.3
SBF Sospel 61.30 306 *e*P **P 09 24 18.9 -1.2**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.3
SBF Sospel 61.30 306 *e*P **P 09 24 18.9 -1.2**
comp=Z,20nm,0.8s,mb5.3
PGF Pioggiola 61.60 304 *e*P **P 09 24 21.5 -0.6**
SOI Samo 61.62 297 P **P 09 24 22.0 -0.2**
TCF Toulx Ste Croi 61.70 311 *e*P **P 09 24 21.6 -1.1**
comp=Z,65nm,1.1s,mb5.4
TCF Toulx Ste Croi 61.70 311 *e*P **P 09 24 21.6 -1.1**
TCF pmax pmax
comp=Z,33nm,1.1s,mb5.4
TCF Toulx Ste Croi 61.70 311 *e*P **P 09 24 21.6 -1.1**
comp=Z,33nm,1.1s,mb5.4
VIVF Saint-Julien-l 61.76 309 *e*P **P 09 24 22.3 -0.9**
comp=Z,34nm,1.1s,mb5.1
VIVF Saint-Julien-l 61.76 309 *e*P **P 09 24 22.3 -0.9**
VIVF pmax pmax
comp=Z,17nm,1.1s,mb5.1
VIVF Saint-Julien-l 61.76 309 *e*P **P 09 24 22.3 -0.9**
comp=Z,17nm,1.1s,mb5.1
FRF La Foret Royal 61.90 307 *e*P **P 09 24 22.8 -1.3**
comp=Z,58nm,1.1s,mb5.3
FRF La Foret Royal 61.90 307 *e*P **P 09 24 22.8 -1.3**
FRF pmax pmax
comp=Z,29nm,1.1s,mb5.3
FRF La Foret Royal 61.90 307 *e*P **P 09 24 22.8 -1.3**
comp=Z,29nm,1.1s,mb5.3
SMRF Simiane la Rot 62.05 308 *e*P **P 09 24 24.4 -0.7**
comp=Z,50nm,1.2s,mb5.2
SMRF Simiane la Rot 62.05 308 *e*P **P 09 24 24.4 -0.7**
comp=Z,50nm,1.2s,mb5.5
SGMF Saint Gilles 62.08 316 *e*P **P 09 24 23.7 -1.6**
comp=Z,154nm,1.3s,mb5.7
SGMF Saint Gilles 62.08 316 *e*P **P 09 24 23.7 -1.6**
SGMF pmax pmax
comp=Z,77nm,1.3s,mb5.7
SGMF Saint Gilles 62.08 316 *e*P **P 09 24 23.7 -1.6**
comp=Z,77nm,1.3s,mb5.7
LMR La Mourre 62.14 307 *e*P **P 09 24 24.4 -1.3**
ROSF Rostrenen 62.29 316 *e*P **P 09 24 25.4 -1.3**
comp=Z,110nm,1.2s,mb5.6
ROSF Rostrenen 62.29 316 *e*P **P 09 24 25.4 -1.3**
ROSF pmax pmax
comp=Z,55nm,1.2s,mb5.6
ROSF Rostrenen 62.29 316 *e*P **P 09 24 25.4 -1.3**
comp=Z,55nm,1.2s,mb5.6
MFF Saint Martin d 62.43 313 *e*P **P 09 24 26.3 -1.4**
comp=Z,138nm,1.3s,mb5.6
MFF Saint Martin d 62.43 313 *e*P **P 09 24 26.3 -1.4**
MFF pmax pmax
comp=Z,69nm,1.3s,mb5.6
MFF Saint Martin d 62.43 313 *e*P **P 09 24 26.3 -1.4**
comp=Z,69nm,1.3s,mb5.6
QUIF Quistinic 62.59 316 *e*P **P 09 24 27.4 -1.3**
comp=Z,173nm,1.4s,mb5.7
QUIF Quistinic 62.59 316 *e*P **P 09 24 27.4 -1.3**
QUIF pmax pmax
comp=Z,87nm,1.4s,mb5.7
QUIF Quistinic 62.59 316 *e*P **P 09 24 27.4 -1.3**
comp=Z,87nm,1.4s,mb5.7
LASF Ste Croix 62.74 309 *e*P **P 09 24 29.3 -0.4**
comp=Z,104nm,1.4s,mb5.5
RJF Les Rejaudoux 62.77 311 *e*P **P 09 24 29.0 -1.0**
RJF *e*MLR
comp=Z,894nm,20.0s
RJF Les Rejaudoux 62.77 311 *e*P **P 09 24 29.0 -1.0**
RJF LR LR
comp=Z,890nm,20.0s,MS4.9
LFF La Frestale 63.40 311 *e*P **P 09 24 32.5 -1.6**
comp=Z,58nm,1.0s,mb5.4
LFF La Frestale 63.40 311 *e*P **P 09 24 32.5 -1.6**
LFF pmax pmax
comp=Z,29nm,1.0s,mb5.4
LFF La Frestale 63.40 311 *e*P **P 09 24 32.5 -1.6**
comp=Z,29nm,1.0s,mb5.4
VSL Villasalto 63.80 302 *e*P **P 09 24 36.4 -0.4**
comp=Z,17nm,1.1s,mb5.0
MTLF Montolieu 64.04 309 *e*P **P 09 24 37.0 -1.3**
comp=Z,94nm,1.5s,mb5.3
MTLF Montolieu 64.04 309 *e*P **P 09 24 37.0 -1.3**
MTLF pmax pmax
comp=Z,47nm,1.5s,mb5.3
MTLF Montolieu 64.04 309 *e*P **P 09 24 37.0 -1.3**
comp=Z,47nm,1.5s,mb5.3
FCC Fort Churchill 64.21 14 *e*P **P 09 24 37.5 -2.0**
FCC pmax pmax
comp=Z,16nm,0.9s,mb5.0
FCC Fort Churchill 64.21 14 *e*P **P 09 24 37.5 -2.0**
comp=Z,16nm,0.9s,mb5.0
EJON La Jonquera 64.46 308 P **P 09 24 40.7 -0.4**
comp=Z,27nm,0.6s,mb5.5
EPF Esparros 65.11 310 *e*P **P 09 24 44.2 -1.1**
comp=Z,43nm,1.0s,mb5.2
EPF Esparros 65.11 310 *e*P **P 09 24 44.2 -1.1**
EPF pmax pmax
comp=Z,22nm,1.0s,mb5.1
EPF Esparros 65.11 310 *e*P **P 09 24 44.2 -1.1**
comp=Z,22nm,1.0s,mb5.1
EBIE Bielsa 65.47 310 P **P 09 24 48.2 +0.6**
comp=Z,20nm,0.7s,mb5.3
ETSF Etsaut 65.60 311 *e*P **P 09 24 47.3 -1.2**
comp=Z,70nm,1.2s,mb5.3
ETSF Etsaut 65.60 311 *e*P **P 09 24 47.3 -1.2**
ETSF pmax pmax
comp=Z,35nm,1.2s,mb5.3
ETSF Etsaut 65.60 311 *e*P **P 09 24 47.3 -1.2**
comp=Z,35nm,1.2s,mb5.3
EDM Edmonton 65.67 27 *e*P **P 09 24 47.5 -1.4**
EPOB Poblet 66.14 309 P **P 09 24 51.7 -0.3**
comp=Z,85nm,0.9s,mb5.8
ESAC San Caprasio 66.52 310 P **P 09 24 54.6 +0.2**
comp=Z,459nm,1.8s,mb6.2
ELAN Lanestosa 66.53 313 P **P 09 24 54.3 -0.2**
comp=Z,418nm,2.3s,mb6.1
KEST Kesra 66.79 300 P **P 09 24 56.5 +0.3**
comp=Z,2.8nm,0.8s,mb4.4,baz=328,slow=7.2,SNR=5.8
KEST LR LR 09 57 29.8
comp=Z,251nm,18.7s,MS4.5,baz=350,slow=39
A05A Maple Falls 66.91 34 ⇑P **P 09 24 55.7 -1.2**
baz=67
A04A Legoe Bay, Lum 66.96 35 ⇓P **P 09 24 56.3 -0.9**
baz=67
EARI Arriondas 67.20 314 P **P 09 24 58.8 0.0**
comp=Z,445nm,2.1s,mb6.1
A07A Ashnola River, 67.41 33 ⇑P **P 09 24 59.4 -0.6**
baz=67
B06A Marblemount 67.53 34 ⇓P **P 09 24 59.9 -0.9**
baz=67
B05A Bryant 67.55 35 P **P 09 25 01.1 +0.1**
baz=67,SNR=6.2
EMOS Mosqueruela 67.63 309 P **P 09 25 01.8 +0.4**
comp=Z,357nm,2.5s,mb6.0
C04A Brinnon 67.75 36 ⇑P **P 09 25 01.8 -0.4**
baz=67
A08A Turner Farm, O 67.83 33 ⇓P **P 09 25 02.5 -0.2**
baz=68
ETOR Torete 67.94 311 P **P 09 25 03.6 +0.2**
ETOR pmax pmax
comp=Z,31nm,0.8s,mb5.4
ETOR Torete 67.94 311 P **P 09 25 03.6 +0.1**
comp=Z,31nm,0.8s,mb5.4

EPON **Pontenova** 67.96 316 P P 09 25 03.0 -0.5
comp=Z,444nm,2.4s,mb6.1
B07A **Winthrop** 68.01 33 ⇓P P 09 25 03.3 -0.5
baz=68
A09A **Danville** 68.02 32 P P 09 25 03.9 -0.1
baz=68,SNR=10
C05A **Tolt Reservoir** 68.18 35 ⇑P P 09 25 04.8 -0.2
baz=68
B08A **Colville Reser** 68.34 33 P P 09 25 06.0 0.0
baz=68,SNR=12
D05A **Enumclaw** 68.53 35 ⇓P P 09 25 07.1 -0.1
baz=68,SNR=6.5
E03A **Lebam** 68.57 37 ⇑P P 09 25 07.5 +0.2
baz=68
B09A **Rice** 68.64 32 P P 09 25 07.9 +0.1
baz=68,SNR=8.0
A11A **Hall Mountain,** 68.69 31 ⇑P P 09 25 08.3 +0.1
baz=68,SNR=8.2
C07A **Waterville** 68.71 34 P P 09 25 07.6 -0.6
baz=68,SNR=9.3
ERUA **La Rua** 68.74 315 P P 09 25 08.3 -0.1
ERUA pmax pmax
comp=Z,18nm,0.6s,mb5.2
ERUA **La Rua** 68.74 315 P P 09 25 08.3 -0.2
comp=Z,18nm,0.6s,mb5.2
EBEN **Beniarda** 68.88 308 P P 09 25 10.1 +0.7
comp=Z,133nm,1.5s,mb5.7
D06A **Cle Elum** 68.90 35 ⇑P P 09 25 09.0 -0.4
baz=69
C08A **Higginbotham F** 68.94 33 P P 09 25 09.3 -0.4
baz=69,SNR=9.8
ECAL **Calabor** 68.96 314 P P 09 25 09.9 +0.1
comp=Z,49nm,0.9s,mb5.4
GUD **Guadarrama** 68.98 312 P P 09 25 10.1 +0.2
GUD pmax pmax
comp=Z,11nm,0.8s,mb4.8
GUD **Guadarrama** 68.98 312 P P 09 25 10.1 +0.2
comp=Z,11nm,0.8s,mb4.8
EMAZ **Mazaricos** 68.99 317 P P 09 25 08.9 -1.1
comp=Z,68nm,1.0s,mb5.5
NEW **Newport** 69.09 32 eP P 09 25 10.4 -0.2
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW **Newport** 69.09 32 eP P 09 25 10.4 -0.3
comp=Z,5.0nm,0.8s,mb4.5
E05A **Randle** 69.16 35 ⇓P P 09 25 10.6 -0.5
baz=69
C09A **Chrisman Ranch** 69.16 33 ⇑P P 09 25 10.7 -0.3
baz=69,SNR=8.4
WALA **Waterton Lakes** 69.30 29 eP P 09 25 11.6 -0.3
comp=Z,12nm,0.9s,mb4.8
E06A **Yakima** 69.43 35 ⇑P P 09 25 12.3 -0.4
baz=69
C10A **Spilker Farm,** 69.44 32 ⇓P P 09 25 11.8 -0.9
baz=69
F04A **Amboy** 69.49 36 ⇓P P 09 25 12.9 -0.2
baz=69
ELOB **Lobios** 69.55 315 P P 09 25 14.1 +0.6
comp=Z,464nm,2.1s,mb6.0
EZAM **Zamans** 69.56 316 P P 09 25 14.0 +0.5
EZAM pmax pmax
comp=Z,36nm,0.7s,mb5.4
EZAM **Zamans** 69.56 316 P P 09 25 14.0 +0.4
comp=Z,36nm,0.7s,mb5.4
D08A **Wollman Farm,** 69.62 33 ⇑P P 09 25 13.5 -0.4
baz=69,SNR=11
PCAB **Cabril** 69.67 315 eP P 09 25 14.9 +0.7
ESDC **Sonseca Array** 69.71 311 P P 09 25 15.0 +0.5
comp=Z,22nm,0.9s,mb5.1,baz=28,slow=6.5,SNR=33
ESDC LR LR 09 59 37.9
comp=Z,648nm,20.1s,MS4.9,baz=35,slow=39
ESDC **Sonseca Array** 69.71 311 P P 09 25 15.1 +0.7
comp=Z,22nm,0.6s,mb5.3
ESLA **Sonseca Array** 69.71 311 eP P 09 25 14.5 +0.1
comp=Z,5.9nm,0.9s,mb4.5
SCHQ **Schefferville** 69.75 358 P P 09 25 14.2 -0.5
comp=Z,7.8nm,0.6s,mb4.8,baz=27,slow=4.5,SNR=5.8
SCHQ LR LR 09 58 04.8
comp=Z,255nm,18.3s,MS4.5,baz=288,slow=38
SCHQ **Schefferville** 69.75 358 eP P 09 25 13.7 -1.0
comp=Z,15nm,0.8s,mb5.0
E07A **Sunnyside** 69.78 34 ⇑P P 09 25 14.0 -0.9
baz=69,SNR=18
D09A **Jones Farm, Ri** 69.81 33 ⇓P P 09 25 14.8 -0.3
baz=70,SNR=18
F05A **White Salmon** 69.85 36 ⇓P P 09 25 15.0 -0.3
baz=70,SNR=6.1
PVRL **Vila Real** 69.91 315 eP P 09 25 16.4 +0.7
EVIA **Vianos** 69.94 310 P P 09 25 16.5 +0.7
EVIA pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
EVIA **Vianos** 69.94 310 P P 09 25 16.5 +0.6
comp=Z,5.5nm,0.5s,mb4.7
HAWA **Hanford** 70.03 34 eP P 09 25 16.4 +0.1
comp=Z,13nm,1.2s,mb4.5
E08A **Dider Farm, El** 70.09 34 ⇑P P 09 25 16.8 0.0
baz=70,SNR=7.4
G04A **Mulino** 70.11 37 ⇓P P 09 25 16.9 0.0
baz=70,SNR=12
D10A **Wagner Farm, O** 70.13 32 ⇓P P 09 25 16.8 -0.2
baz=70,SNR=8.9
F06A **Goldendale** 70.18 35 ⇓P P 09 25 17.2 -0.1
baz=70,SNR=8.8
E09A **Wood Farm, Sta** 70.35 33 P P 09 25 18.5 +0.1
baz=70,SNR=7.9
C13A **Hot Springs** 70.36 30 ⇓P P 09 25 18.2 -0.2
baz=70,SNR=5.5
PTO **Porto** 70.38 315 eP P 09 25 19.1 +0.5
D11A **Klaveano Farm,** 70.42 32 P P 09 25 18.7 -0.1
baz=70,SNR=11
PVIS **Viseu** 70.46 315 eP P 09 25 19.7 +0.7
EHUE **Huescar** 70.66 309 P P 09 25 20.9 +0.6
EHUE pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
EHUE **Huescar** 70.66 309 P P 09 25 20.9 +0.6
comp=Z,6.7nm,1.0s,mb4.5
H04A **Detroit Lake** 70.67 37 ⇑P P 09 25 20.2 -0.1
baz=70
E10A **Myers Farm, Un** 70.69 32 ⇓P P 09 25 20.3 -0.2
baz=70
G06A **Carlson Farm,** 70.70 35 P P 09 25 20.8 +0.3
baz=70,SNR=5.6
KAKA **Kakadu** 70.74 157 eP P 09 25 20.2 -0.6
comp=Z,26nm,0.9s,mb5.2
EQES **Quesada** 70.88 310 P P 09 25 22.3 +0.7
comp=Z,285nm,2.3s,mb5.8
EBAN **Banos Encina** 70.89 310 P P 09 25 22.5 +0.8
EBAN pmax pmax
comp=Z,17nm,0.8s,mb5.0
EBAN **Banos Encina** 70.89 310 P P 09 25 22.5 +0.8
comp=Z,16nm,0.8s,mb5.0
I03A **Eugene** 70.92 38 ⇑P P 09 25 21.8 -0.1
baz=71
D13A **Huson** 70.93 30 ⇑P P 09 25 21.7 -0.2
baz=71
G07A **Ruggs Ranch, H** 70.98 35 ⇓P P 09 25 22.1 -0.1
baz=71,SNR=6.3
H05A **Madras** 71.02 36 ⇓P P 09 25 22.2 -0.3
baz=71
PCBR **Castelo Branco** 71.03 314 eP P 09 25 23.0 +0.5
E11A **Bogner Ranch,** 71.08 32 P P 09 25 22.5 -0.3
baz=71,SNR=27
F10A **Beach Ranch, E** 71.12 33 ⇑P P 09 25 22.8 -0.3
baz=71,SNR=27
G08A **Pilot Rock** 71.19 34 P P 09 25 23.4 0.0
baz=71,SNR=6.5
D14A **Greenough** 71.21 30 P P 09 25 23.6 0.0
baz=71,SNR=64
EADA **Adamuz** 71.23 311 P P 09 25 24.0 +0.3
comp=Z,226nm,2.1s,mb5.7
H06A **Lindquist Farm** 71.24 35 ⇓P P 09 25 23.8 0.0
baz=71,SNR=11
MSO **Missoula** 71.31 30 eP P 09 25 24.4 +0.2
comp=Z,8.7nm,0.9s,mb4.7
J02A **Umpqua** 71.35 38 ⇓P P 09 25 24.7 +0.3
baz=71
EGMT **Eagleton** 71.35 27 eP P 09 25 23.6 -0.8
comp=Z,29nm,1.4s,mb5.0
EGMT **Eagleton** 71.35 27 ⇓P P 09 25 24.1 -0.4
baz=71
I04A **Tendick Farm,** 71.38 37 ⇑P P 09 25 24.5 -0.1
baz=71
D15A **Lincoln** 71.52 29 ⇓P P 09 25 24.9 -0.5
baz=71,SNR=8.8
F11A **Grangeville** 71.52 32 ⇑P P 09 25 25.2 -0.3
baz=71,SNR=16
ECOG **Cogollos-Vega** 71.54 310 P P 09 25 25.2 -0.4
ECOG pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
ECOG **Cogollos-Vega** 71.54 310 P P 09 25 25.2 -0.3
comp=Z,8.5nm,0.5s,mb4.9
J03A **Ideyld Park** 71.56 38 ⇓P P 09 25 25.9 +0.3
baz=71,SNR=7.0
E13A **Victor** 71.60 31 P P 09 25 25.9 -0.1
baz=71,SNR=21
ELUQ **Luque** 71.60 310 P P 09 25 27.2 +1.2
ELUQ pmax pmax
comp=Z,24nm,0.8s,mb5.2
ELUQ **Luque** 71.60 310 P P 09 25 27.2 +1.2
comp=Z,24nm,0.8s,mb5.2
EBAD **Badajoz** 71.76 313 P P 09 25 26.9 0.0
comp=Z,49nm,0.8s,mb5.5
E14A **Clinton** 71.82 30 ⇑P P 09 25 26.9 -0.4
baz=72,SNR=19
ERON **Agron** 71.86 310 P P 09 25 27.6 +0.1
comp=Z,10nm,0.8s,mb4.8
PMG **Port Moresby** 71.88 141 P P 09 25 28.2 +0.6
comp=Z,7.8nm,0.8s,mb4.7,baz=342,slow=3.9,SNR=7.1
PMG LR LR 09 55 39.9
comp=Z,305nm,20.4s,MS4.6,baz=312,slow=35
PMG **Port Moresby** 71.88 141 eP P 09 25 27.9 +0.3
comp=Z,15nm,0.9s,mb4.9
ELOJ **Sierra Loja** 71.90 310 P P 09 25 27.9 +0.1
ELOJ pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ELOJ **Sierra Loja** 71.90 310 P P 09 25 27.9 +0.1
comp=Z,6.6nm,0.6s,mb4.7
PESTR **Estremoz** 71.90 313 eP P 09 25 28.0 +0.2
K02A **Glendale** 71.90 39 ⇓P P 09 25 27.9 +0.1
baz=72,SNR=8.6
EGUA **Guajares** 71.91 309 P P 09 25 27.3 -0.5
EGUA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
EGUA **Guajares** 71.91 309 P P 09 25 27.3 -0.5
comp=Z,5.1nm,1.0s,mb4.4
F12A **Elk City** 71.91 32 P P 09 25 27.7 -0.1
baz=72,SNR=5.3
J04A **Umpqua Nationa** 71.97 37 ⇑P P 09 25 28.7 +0.5
baz=72,SNR=11
H08A **Prairie City** 71.97 34 ⇑P P 09 25 28.3 +0.1
baz=72,SNR=11
I06A **Prineville** 71.98 36 ⇑P P 09 25 28.7 +0.4
baz=72,SNR=12
E15A **Deer Lodge** 72.05 30 P P 09 25 28.5 -0.2
baz=72,SNR=9.8
I07A **Izee** 72.09 35 ⇑P P 09 25 29.0 +0.1
baz=72,SNR=13
BMO **Blue Mountains** 72.10 33 eP P 09 25 29.2 +0.2
comp=Z,13nm,0.8s,mb4.9
F13A **Darby** 72.15 31 P P 09 25 29.4 +0.1
baz=72,SNR=8.2
H09A **Durkee** 72.16 34 ⇑P P 09 25 29.4 +0.1
baz=72,SNR=9.8
ULM **Lac du Bonnet** 72.19 17 P P 09 25 27.8 -1.6
comp=Z,5.4nm,0.8s,mb4.5,baz=335,slow=7.2,SNR=9.7
ULM LR LR 09 58 39.0
comp=Z,264nm,18.9s,MS4.5,baz=358,slow=37
J05A **Fort Rock** 72.22 37 ⇑P P 09 25 30.1 +0.3
baz=72,SNR=8.4
HUMO **Hull Mountain** 72.23 38 eP P 09 25 30.2 +0.4
comp=Z,16nm,1.4s,mb4.7
HUMO **Hull Mountain** 72.23 38 ⇓P P 09 25 30.1 +0.4
baz=72
DGMT **Dagmar** 72.27 23 eP P 09 25 29.3 -0.7
comp=Z,33nm,0.8s,mb5.3
L02A **Cave Junction** 72.40 39 ⇓P P 09 25 31.1 +0.4
baz=72
EMIN **Mina Concepcio** 72.45 312 P P 09 25 31.0 -0.1
comp=Z,9.3nm,0.5s,mb5.0
H10A **Noah's Angus R** 72.51 33 ⇑P P 09 25 31.3 -0.1
baz=72
I08A **Drewsey** 72.55 35 ⇑P P 09 25 31.5 -0.1
baz=72
H11A **Donnelly** 72.63 33 ⇑P P 09 25 32.2 +0.1
baz=72,SNR=21
K04A **Chilquin** 72.65 37 ⇑P P 09 25 32.2 0.0
baz=72
EMIJ **Mijas** 72.66 310 P P 09 25 31.5 -0.8
comp=Z,58nm,1.1s,mb5.4
PBEJ **Beja** 72.73 313 eP P 09 25 33.2 +0.5
I09A **Lost Marbles R** 72.75 34 ⇑P P 09 25 33.1 +0.2
baz=72,SNR=19
J07A **Hines** 72.79 35 ⇑P P 09 25 33.1 0.0
baz=72,SNR=7.8
G13A **Cobalt** 72.81 31 ⇑P P 09 25 33.1 -0.1
baz=72,SNR=11
K05A **Summer Lake** 72.84 37 ⇑P P 09 25 33.7 +0.4
baz=72,SNR=7.5
ESPR **Espera** 72.87 311 P P 09 25 34.1 +0.5
comp=Z,26nm,0.8s,mb5.2
L04A **Klamath Falls** 72.98 38 ⇑P P 09 25 34.6 +0.4
baz=73,SNR=9.7
K06A **Valley Falls** 72.99 36 ⇓P P 09 25 34.3 +0.1
baz=73,SNR=9.3
EGRO **El Granado** 72.99 313 P P 09 25 33.7 -0.6
comp=Z,14nm,0.8s,mb4.9
DLMT **Dillon** 73.04 30 eP P 09 25 34.4 -0.1
comp=Z,31nm,1.1s,mb5.1
EJIF **Jimena Fronter** 73.05 310 P P 09 25 35.2 +0.6
EJIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
EJIF **Jimena Fronter** 73.05 310 P P 09 25 35.2 +0.6
comp=Z,9.0nm,0.7s,mb4.8
J08A **Circle Bar Ran** 73.07 35 ⇓P P 09 25 35.2 +0.4
baz=73,SNR=8.6
YBH **Yreka Blue Hor** 73.09 39 eP P 09 25 35.0 +0.2
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH **Yreka Blue Hor** 73.09 39 eP P 09 25 35.0 +0.2
comp=Z,5.1nm,0.8s,mb4.5
YBH **Yreka Blue Hor** 73.09 39 P P 09 25 35.3 +0.5
baz=73,SNR=5.5
H12A **Diamond D Ranc** 73.12 32 ⇓P P 09 25 35.1 +0.1
baz=73
G15A **Dillon** 73.25 30 P P 09 25 35.9 +0.1
baz=73,SNR=20
J09A **Fry Pan Ranch,** 73.31 34 ⇑P P 09 25 36.3 +0.1
baz=73,SNR=12
M02C **Callahan** 73.34 39 ⇓P P 09 25 36.7 +0.4
baz=73,SNR=13
M04C **Macdoel** 73.35 38 P P 09 25 36.9 +0.5
baz=73,SNR=8.2
I11A **Placerville** 73.37 33 ⇓P P 09 25 36.9 +0.4
baz=73,SNR=12
K07A **Rock Creek Ran** 73.42 36 ⇑P P 09 25 37.3 +0.5
baz=73,SNR=8.9
JCC **Jacoby Creek** 73.42 40 ⇓P P 09 25 37.7 +0.8
baz=73
L05A **Lakeview** 73.46 37 ⇑P P 09 25 37.4 +0.4
baz=73,SNR=7.4
KHMM **Horse Mountain** 73.48 40 eP P 09 25 37.7 +0.5
J10A **Berg Farm, Mel** 73.55 34 ⇑P P 09 25 37.4 -0.2
baz=73
K08A **Mann Creek Ran** 73.63 35 ⇓P P 09 25 38.0 -0.1
baz=73,SNR=12
N02C **Big Bar** 73.68 39 ⇓P P 09 25 38.7 +0.3
baz=73,SNR=5.8
M03C **McCloud** 73.70 38 ⇓P P 09 25 38.7 +0.2
baz=73
MOD **Modoc** 73.77 37 eP P 09 25 39.1 +0.3
comp=Z,7.5nm,0.9s,mb4.6
MOD **Modoc** 73.77 37 ⇑P P 09 25 38.9 +0.1
baz=73,SNR=14
WVOR **Wild Horse Val** 73.85 35 eP P 09 25 39.7 +0.4
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WVOR **Wild Horse Val** 73.85 35 eP P 09 25 39.7 +0.4
comp=Z,8.6nm,0.9s,mb4.7
K09A **Rome** 73.91 35 P P 09 25 40.3 +0.7
baz=74,SNR=13
M05C **Lookout** 73.96 38 ⇓P P 09 25 40.3 +0.3
baz=74,SNR=6.8
L07A **Adell** 73.99 36 ⇑P P 09 25 40.6 +0.5
baz=74,SNR=9.4
AGMN **Agassiz Refuge** 74.07 18 eP P 09 25 38.8 -1.8
comp=Z,12nm,0.8s,mb4.9
O01C **Eel River Cons** 74.09 40 ⇓P P 09 25 41.1 +0.4
baz=74
HLID **Hailey** 74.15 32 eP P 09 25 41.0 -0.1
comp=Z,7.4nm,1.1s,mb4.5
HLID **Hailey** 74.15 32 P P 09 25 41.0 0.0
baz=74,SNR=7.3
L08A **Fields** 74.16 35 ⇑P P 09 25 41.1 0.0
baz=74,SNR=5.6
WDC **Whiskeytown Da** 74.17 39 eP P 09 25 41.0 -0.2
WDC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WDC **Whiskeytown Da** 74.17 39 eP P 09 25 41.0 -0.2
comp=Z,7.4nm,0.9s,mb4.6
WDC **Whiskeytown Da** 74.17 39 P P 09 25 41.5 +0.3
baz=74,SNR=5.3
RLMT **Red Lodge** 74.17 28 eP P 09 25 41.3 +0.1
comp=Z,11nm,0.8s,mb4.8
M06C **Likely Place G** 74.33 37 ⇓P P 09 25 42.5 +0.4
baz=74
HATC **Hat Creek Radi** 74.34 38 ⇓P P 09 25 42.5 +0.3
baz=74,SNR=6.9
O02C **Red Bluff** 74.43 39 ⇑P P 09 25 43.4 +0.7
baz=74,SNR=8.1
KIPM **Iron Peak** 74.51 40 eP P 09 25 44.0 +0.9
L09A **Wilkinson Ranc** 74.54 35 ⇓P P 09 25 44.0 +0.7
baz=74,SNR=8.2
M07A **Soldier Meadow** 74.61 36 ⇑P P 09 25 44.3 +0.6
baz=74,SNR=22
FITZ **Fitzroy Crossi** 74.73 165 ⇓↑P P 09 25 43.5 -1.0
comp=Z,21nm,0.7s,mb5.2
ELFS **Eagle Lake Fie** 74.77 38 ⇑P P 09 25 45.4 +0.7
baz=74
P01C **Double 8 Ranch** 74.86 40 ⇑P P 09 25 45.6 +0.4
baz=74
O04C **Chester** 74.91 38 ⇑P P 09 25 45.8 +0.3
baz=75,SNR=10
GASB **Alder Springs** 74.92 40 ⇑P P 09 25 46.1 +0.6
baz=75,SNR=5.9
N06A **Buffalo Meadow** 74.96 37 P P 09 25 46.4 +0.7
baz=75,SNR=13
MOOW **Moose Ponds** 75.04 29 eP P 09 25 46.4 +0.1
comp=Z,13nm,1.1s,mb4.8
DCID1 **Drake Creek** 75.06 30 eP P 09 25 47.2 +0.9
DCID1 ePcP PcP 09 25 60.0 0.0
M09A **Marrel Ranch,** 75.14 35 ⇓P P 09 25 47.2 +0.4
baz=75,SNR=12
LOHW **Long Hollow** 75.20 29 eP P 09 25 47.5 +0.3
comp=Z,13nm,1.3s,mb4.7
N07B **Gerlach** 75.22 36 ⇑P P 09 25 47.7 +0.4
baz=75,SNR=7.5
TPAW **Teton Pass** 75.22 30 eP P 09 25 48.0 +0.7
comp=Z,41nm,1.4s,mb5.2
O05C **Quincy** 75.28 38 ⇑P P 09 25 48.0 +0.4
baz=75
SNOW **Snow King Moun** 75.30 29 eP P 09 25 48.6 +0.9
comp=Z,22nm,1.2s,mb5.0
M10A **I.L. Ranch, Tu** 75.35 34 ⇓P P 09 25 48.2 +0.2
baz=75,SNR=8.1
REDW **Red Top Meadow** 75.37 30 eP P 09 25 48.7 +0.5
comp=Z,18nm,1.1s,mb4.9
ORV **Oroville** 75.44 39 P P 09 25 48.3 -0.3
baz=75,SNR=5.7
O06A **Flanigan** 75.48 37 ⇓P P 09 25 48.6 -0.2
baz=75,SNR=5.4
N08A **GE Springer Mi** 75.50 36 ⇑P P 09 25 49.3 +0.4
baz=75,SNR=6.3
SUTB **Sutter Butte** 75.63 39 ⇑P P 09 25 49.3 -0.3
baz=75
N09A **Rock Creek Ran** 75.63 35 ⇑P P 09 25 50.1 +0.4
baz=75,SNR=6.1
M11A **Holland Ranch,** 75.67 34 ⇑P P 09 25 50.5 +0.7
baz=75,SNR=7.2
MNRC **McLaughlin Nat** 75.70 40 ⇑P P 09 25 50.6 +0.5
baz=75
O07A **Toulon** 75.81 37 ⇑P P 09 25 51.1 +0.4
baz=76,SNR=11
P06A **Stead Airport,** 75.89 38 ⇑P P 09 25 51.5 +0.4
baz=76
M12A **Wells** 75.95 33 ⇑P P 09 25 52.1 +0.6
baz=76
P05C **Yuba Gap, Truc** 75.98 38 ⇑P P 09 25 51.9 +0.3
baz=76
Q03C **Winters** 76.08 40 ⇑P P 09 25 52.8 +0.6
baz=76
Q04C **Lincoln** 76.12 39 ⇑P P 09 25 52.5 +0.1
baz=76
CVS **Carmenet Viney** 76.17 40 ⇓P P 09 25 53.0 +0.3
baz=76
N11A **Elko Archery C** 76.24 34 ⇑P P 09 25 53.6 +0.5
baz=76
HVU **Hansel Valley** 76.27 32 eP P 09 25 53.8 +0.5
HVU pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
HVU **Hansel Valley** 76.27 32 eP P 09 25 53.8 +0.5
comp=Z,7.9nm,0.9s,mb4.6
BW06 **Boulder Array** 76.28 29 eP P 09 25 52.4 -0.9
comp=Z,7.2nm,1.3s,mb4.4
PDAR **Pinedale Array** 76.28 29 P P 09 25 52.5 -0.8
comp=Z,2.8nm,0.8s,mb4.2,baz=21,slow=2.3,SNR=25
PDAR LR LR 10 04 22.0
comp=Z,303nm,18.3s,MS4.6,baz=349,slow=40
WCN **Washoe City** 76.28 38 ⇓P P 09 25 53.8 +0.5
baz=76
O09A **Fish Creek Ran** 76.36 35 ⇑P P 09 25 54.2 +0.4
baz=76,SNR=9.2
P07A **Fallon** 76.36 37 ⇓P P 09 25 54.1 +0.3
baz=76
RSSD **Black Hills** 76.41 25 eP P 09 25 53.4 -0.7
RSSD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
RSSD **Black Hills** 76.41 25 eP P 09 25 53.4 -0.7
comp=Z,10.0nm,0.8s,mb4.8
LAVA **Lava Cap Winer** 76.42 39 ⇑P P 09 25 54.0 -0.1
baz=76,SNR=6.6
N12A **Clover Valley,** 76.43 34 ⇑P P 09 25 54.3 +0.1
baz=76
ELK **Elko** 76.46 34 eP P 09 25 55.5 +1.1
ELK pmax pmax
comp=Z,10.0nm,0.8s
ELK **Elko** 76.46 34 eP P 09 25 55.5 +1.1
comp=Z,10.0nm,0.8s,mb4.8
O10A **Cortez Mining,** 76.47 35 ⇑P P 09 25 54.9 +0.4
baz=76,SNR=5.8
P08A **Dixie Valley** 76.49 36 ⇓P P 09 25 55.0 +0.4
baz=76
N13A **Wendover, West** 76.69 33 ⇓P P 09 25 56.5 +0.9
baz=76
R05C **Kirkwood Meado** 76.70 38 ⇓P P 09 25 56.3 +0.6
baz=76
BDM **Black Diamond** 76.73 40 ⇓P P 09 25 56.0 +0.1
baz=76
HWUT **Hardware Ranch** 76.78 31 eP P 09 25 56.5 +0.3
comp=Z,30nm,0.8s,mb5.3
Q07A **Schurz** 76.93 37 ⇑P P 09 25 57.5 +0.5
baz=77
P09A **Austin** 76.93 36 ⇓P P 09 25 57.2 +0.1
baz=77
O12A **Currie** 77.05 34 ⇑P P 09 25 58.1 +0.4
baz=77,SNR=12
WENL **Wente Brothers** 77.07 40 ⇑P P 09 25 58.1 +0.3
baz=77
R06C **Coleville** 77.08 38 ⇓P P 09 25 58.3 +0.4
baz=77
JRSC **Jasper Ridge** 77.08 40 ⇑P P 09 25 58.5 +0.6
baz=77
P10A **Eureka** 77.09 35 ⇑P P 09 25 58.4 +0.4
baz=77
Q08A **Gabbs** 77.29 36 P P 09 25 59.6 +0.5
baz=77,SNR=13
S04C **Ingram Canyon,** 77.33 40 ⇓P P 09 25 59.6 +0.3
baz=77
P11A **Circle Ranch,** 77.38 35 ⇓P P 09 26 00.0 +0.4
baz=77
S06C **San Francisco** 77.52 38 ⇓P P 09 26 00.4 +0.1
baz=77
NVAR **Mina Array Bea** 77.56 37 P P 09 26 00.9 +0.3
comp=Z,8.2nm,0.8s,mb4.7,baz=324,slow=4.5,SNR=35
Q09A **Carvers** 77.57 36 ⇓P P 09 26 01.0 +0.4
baz=77
R07C **Lee Vining** 77.61 38 ⇑P P 09 26 01.1 +0.3
baz=77,SNR=8.2
DUG **Dugway** 77.71 32 eP P 09 26 01.9 +0.5
DUG pmax pmax
comp=Z,12nm,0.9s,mb4.8
DUG **Dugway** 77.71 32 eP P 09 26 01.9 +0.5
comp=Z,12nm,0.9s,mb4.8
DUG **Dugway** 77.71 32 ⇓P P 09 26 01.5 +0.1
baz=77,SNR=11
P12A **McGill** 77.73 34 ⇑P P 09 26 02.1 +0.6
baz=77
JLU **Jordanelle** 77.74 31 eP P 09 26 02.2 +0.6
PACP **Pacheco Peak** 77.78 40 ⇓P P 09 26 02.6 +0.8
baz=78
DAU **Daniels Canyon** 77.97 31 eP P 09 26 03.8 +0.9
Q11A **Duckwater** 78.06 35 ⇑P P 09 26 03.5 +0.1
baz=78,SNR=8.7
MLAC **Mammoth Lakes** 78.09 38 ⇑P P 09 26 04.0 +0.5
baz=78

T05C Eagle Field, D 78.10 39 ⇑P P 09 26 04.0 +0.5
baz=78
R09A Tonopah 78.14 36 ⇓P P 09 26 03.5 -0.3
baz=78,SNR=21
Q12A Willow Creek R 78.15 34 ⇓P P 09 26 04.0 +0.1
baz=78,SNR=7.4
WRAB Tennant Creek 78.15 157 P P 09 26 02.2 -1.7
comp=Z,142nm,1.0s,mb5.8,SNR=11
WRAB Tennant Creek 78.15 157 ⇑iP P 09 26 02.2 -1.7
NLU North Lily Min 78.16 32 eP P 09 26 03.8 0.0
WRA Warramunga Arr 78.16 157 P P 09 26 02.5 -1.4
comp=Z,19nm,0.8s,mb5.1,baz=346,slow=6.1,SNR=80
WRA PKKPbc PKKPbc 09 45 01.7 -0.9
comp=Z,0.5nm,0.8s,baz=178,slow=1.8,SNR=4.2
WRA PKPPKP 09 53 08.4
comp=Z,0.9nm,0.9s,baz=168,slow=2.2,SNR=7.4
WRA LR LR 10 03 41.5
comp=Z,178nm,18.4s,MS4.4,baz=90,slow=38
WB2 Warramunga Arr 78.16 157 ⇓iP P 09 26 02.5 -1.4
KCC Kaiser Creek 78.20 38 ⇑P P 09 26 04.6 +0.4
baz=78
HAST UC Hastings Re 78.24 40 ⇑P P 09 26 04.7 +0.4
baz=78
T06C Millerton Lake 78.35 39 ⇓P P 09 26 05.4 +0.4
baz=78
ECSD EROS,Sioux Fal 78.35 19 eP P 09 26 03.8 -1.2
comp=Z,13nm,1.1s,mb4.8
LRV Little Rabbit 78.40 40 eP P 09 26 06.3 +1.1
S08C White Mtn Res 78.44 37 ⇑P P 09 26 05.6 +0.1
baz=78
S09A Goldfield 78.56 36 P P 09 26 06.5 +0.5
baz=78,SNR=13
PHWY Pilot Hill 78.72 27 eP P 09 26 07.2 +0.2
HELL Mitchell Peak, 78.88 38 ⇓P P 09 26 07.6 -0.3
baz=79
PKD Parkfield 79.00 40 ⇓P P 09 26 08.4 -0.1
baz=79
RCTC Rector, Farmer 79.14 39 P P 09 26 09.5 +0.3
baz=79,SNR=5.8
GRAC Grapevine Rang 79.16 37 ⇓P P 09 26 10.1 +0.7
baz=79,SNR=8.4
SRU San Rafael 79.39 31 eP P 09 26 10.6 -0.1
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SRU San Rafael 79.39 31 eP P 09 26 10.6 -0.1
comp=Z,5.1nm,0.8s,mb4.5
CWC Cottonwood Cre 79.43 38 ⇑P P 09 26 11.2 +0.3
baz=79
MSU Marysvale 79.45 32 eP P 09 26 12.0 +1.0
VES Vestal, Richgr 79.62 39 ⇑P P 09 26 12.0 +0.1
baz=79
ARUT Antelope Range 79.73 34 eP P 09 26 10.6 -1.9
SMMC Simmler 79.76 40 ⇓P P 09 26 12.9 +0.2
baz=79
FURC Furnace Creek, 79.82 37 ⇑P P 09 26 13.1 +0.1
baz=80
MPMC Manual Prospec 79.97 37 ⇓P P 09 26 14.3 +0.5
baz=80,SNR=6.1
ISA Isabella 79.99 38 eP P 09 26 13.3 -0.6
ISA Isabella 79.99 38 ⇓P P 09 26 13.8 -0.1
baz=80
U10A Ash Meadows, A 80.04 36 ⇓P P 09 26 14.3 +0.1
baz=80,SNR=10
ISCO Idaho Springs 80.10 27 eP P 09 26 14.8 +0.3
ISCO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ISCO Idaho Springs 80.10 27 eP P 09 26 14.8 +0.3
comp=Z,5.1nm,1.0s,mb4.4
PKM Peak Mountain 80.20 40 ⇓P P 09 26 15.5 +0.5
baz=80
JFWS Jewell Farm 80.21 15 eP P 09 26 14.0 -1.1
JFWS pmax pmax
comp=Z,25nm,0.8s,mb5.2
JFWS Jewell Farm 80.21 15 eP P 09 26 14.0 -1.1
comp=Z,25nm,0.8s,mb5.2
LRMC Laurel Mountai 80.43 38 ⇓P P 09 26 16.3 0.0
baz=80,SNR=15
PV10 Paradox Valley 80.50 30 eP P 09 26 17.6 +0.9
SHOC Shoshone 80.53 37 ⇓P P 09 26 16.9 +0.1
baz=80,SNR=6.3
U12A Valley of Fire 80.62 35 ⇓P P 09 26 17.7 +0.4
baz=80
OSI Osito Adit 80.84 39 ⇓P P 09 26 18.9 +0.4
baz=80
PV01 Paradox Valley 80.86 30 eP P 09 26 19.0 +0.4
EDW2 Edwards Air Fo 80.86 38 ⇓P P 09 26 18.8 +0.2
baz=80,SNR=7.5
V11A Goodsprings 80.87 36 ⇓P P 09 26 19.3 +0.6
baz=80
GSC Goldstone 80.89 37 eP P 09 26 19.3 +0.5
GSC Goldstone 80.89 37 P P 09 26 19.6 +0.8
baz=81,SNR=7.9
TUQ Turquoise Mtn. 81.07 36 ⇑P P 09 26 20.2 +0.5
baz=81
V12A Nelson 81.16 36 ⇓P P 09 26 20.3 +0.1
baz=81
DECC Green Verdugo 81.31 39 ⇑P P 09 26 20.9 -0.1
baz=81
KMBO Kilima Mbogo 81.31 255 P P 09 26 22.4 +1.4
comp=Z,13nm,1.0s,mb4.8,baz=23,slow=7.7,SNR=20
KMBO LR LR 10 05 13.4
comp=Z,252nm,18.1s,MS4.6,baz=73,slow=38
KMBO Kilima Mbogo 81.31 255 P P 09 26 22.2 +1.2
SNR=8.3
KMBO Kilima Mbogo 81.31 255 iP P 09 26 22.3 +1.3
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 81.31 255 eP P 09 26 21.8 +0.8
comp=Z,15nm,1.1s,mb4.8
HEC Hector,Ludlow 81.48 37 ⇑P P 09 26 22.1 +0.2
baz=81,SNR=7.5
CTAO Charters Tower 81.53 146 eP P 09 26 22.0 -0.2
CTAO pmax pmax
comp=Z,36nm,1.6s,mb5.0
CTAO Charters Tower 81.53 146 eP P 09 26 22.0 -0.1
comp=Z,36nm,1.6s,mb5.0
BFSC Mount Baldy St 81.56 38 ⇑P P 09 26 22.4 +0.1
baz=81,SNR=6.9
ASAR Alice Springs 81.67 158 P P 09 26 21.9 -1.0
comp=Z,10nm,0.8s,mb4.8,baz=349,slow=4.7,SNR=68
ASAR PKKPbc PKKPbc 09 44 54.0 -0.8
comp=Z,0.6nm,0.9s,baz=165,slow=2.4,SNR=4.5
ASAR PKPPKP 09 52 59.0
comp=Z,1.2nm,1.0s,baz=165,slow=2.3,SNR=5.5
MVCO Mesa Verde 81.74 30 eP P 09 26 23.4 +0.2
comp=Z,51nm,1.7s,mb5.2
MVCO Mesa Verde 81.74 30 ⇓P P 09 26 23.5 +0.2
baz=81,SNR=6.6
GMRC Granite Mounta 81.76 37 P P 09 26 23.9 +0.6
baz=81,SNR=5.6
BBRC Big Bear Sol-O 81.80 38 ⇓P P 09 26 24.0 +0.4
baz=82,SNR=7.9
W13A Hualapai Mount 82.05 35 ⇑P P 09 26 25.6 +0.7
baz=82,SNR=8.2
SDCO Great Sand Dun 82.06 28 eP P 09 26 25.1 +0.1
comp=Z,8.6nm,0.9s,mb4.7
W14A Seligman 82.20 34 ⇓P P 09 26 26.2 +0.4
baz=82
BINY Binghamton 82.29 5 eP P 09 26 25.3 -0.8
comp=Z,12nm,0.7s,mb4.9
MURC Murrieta 82.30 38 ⇑P P 09 26 26.3 +0.1
baz=82
BELC Belle Mtn. 82.35 37 P P 09 26 26.9 +0.4
baz=82,SNR=8.4
WUAZ Wupatki 82.46 33 eP P 09 26 27.5 +0.4
comp=Z,14nm,1.1s,mb4.8
WUAZ Wupatki 82.46 33 ⇑P P 09 26 27.4 +0.3
baz=82
IRM Iron Mountain 82.49 36 ⇑P P 09 26 27.8 +0.6
baz=82,SNR=13
W15A Williams 82.50 34 ⇓P P 09 26 28.1 +0.8
baz=82,SNR=5.7
X13A Yucca 82.53 35 ⇑P P 09 26 27.9 +0.5
baz=82,SNR=13
PFO Pinyon Flat Ob 82.55 38 ⇑P P 09 26 27.8 +0.3
baz=82
PDMCI Parker Dam,Lak 82.70 36 ⇑P P 09 26 28.9 +0.6
baz=82
KSU1 Kansas State U 82.82 21 eP P 09 26 27.7 -1.2
comp=Z,18nm,0.8s,mb5.2
BC3 Big Chuckw Mtn 82.85 37 ⇓P P 09 26 29.4 +0.3
baz=82
X14A Yava 82.95 35 ⇓P P 09 26 30.2 +0.6
baz=83
109C Camp Elliot, M 82.98 38 ⇑P P 09 26 30.3 +0.5
baz=83
Y12C Blythe 83.08 36 ⇓P P 09 26 30.8 +0.6
baz=83,SNR=5.9

X15A Humboldt 83.14 34 ⇑P P 09 26 31.1 +0.6
baz=83
MONP Monument Peak 83.21 38 ⇑P P 09 26 31.8 +0.8
baz=83
SWSC Sam W. Stewart 83.38 37 ⇑P P 09 26 32.1 +0.2
baz=83
DVTC Desert V Tower 83.53 38 ⇑P P 09 26 33.2 +0.5
baz=83
GLA Glamis 83.61 37 ⇑P P 09 26 33.8 +0.8
baz=83
Z14A Wintersburg 83.95 35 ⇑P P 09 26 35.4 +0.7
baz=84
BLO Bloomington 84.40 13 eP P 09 26 36.2 -0.8
BLO pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
BLO Bloomington 84.40 13 eP P 09 26 36.2 -0.8
comp=Z,7.5nm,0.6s,mb5.0
ANMO Albuquerque 84.43 29 eP P 09 26 37.8 +0.6
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 84.43 29 eP P 09 26 37.8 +0.6
comp=Z,7.3nm,0.9s,mb4.8
115A Sonoran Desert 84.79 35 ⇓P P 09 26 39.8 +0.8
baz=84
LPM Los Pinos Moun 84.98 30 eP P 09 26 40.7 +0.7
LENM Lemitar 85.02 30 eP P 09 26 40.6 +0.5
116A Eloy 85.09 34 ⇑P P 09 26 41.4 +0.9
baz=85
Y22C IRIS PASSCAL I 85.12 30 ⇓P P 09 26 41.6 +0.9
baz=85
BNM Barren Site 85.13 30 eP P 09 26 40.8 +0.1
WCI Wyandotte Cave 85.36 13 eP P 09 26 41.4 -0.4
WCI pmax pmax
comp=Z,27nm,0.8s,mb5.4
WCI Wyandotte Cave 85.36 13 eP P 09 26 41.4 -0.5
comp=Z,27nm,0.8s,mb5.4
USIN University of 85.44 14 eP P 09 26 41.9 -0.3
comp=Z,19nm,0.9s,mb5.2
SIUC Southern Illin 85.46 15 eP P 09 26 41.9 -0.5
comp=Z,40nm,0.9s,mb5.5
AMTX Amarillo 85.74 26 eP P 09 26 43.4 -0.4
comp=Z,14nm,0.9s,mb5.2
WMOK Wichita Mounta 86.56 23 eP P 09 26 47.9 +0.1
WMOK pmax pmax
comp=Z,23nm,1.0s,mb5.4
WMOK Wichita Mounta 86.56 23 eP P 09 26 47.9 +0.1
comp=Z,23nm,1.0s,mb5.3
WVT Waverly 87.22 14 eP P 09 26 49.4 -1.6
WVT pmax pmax
comp=Z,16nm,0.8s,mb5.3
WVT Waverly 87.22 14 eP P 09 26 49.4 -1.6
comp=Z,16nm,0.8s,mb5.3
FORT Forrest 87.55 165 eP P 09 26 51.5 -1.1
comp=Z,57nm,0.7s,mb5.9
MNTX Cornudas Mount 87.79 30 eP P 09 26 53.9 +0.1
comp=Z,4.7nm,1.1s,mb4.6
TOA0 Torodi Ar. Sit 89.26 292 eP P 09 27 00.3 -0.4
TOA0 ePP PP 09 30 32.3 +1.1
TORD Torodi Ar. Bea 89.26 292 P P 09 27 00.7 0.0
comp=Z,16nm,0.9s,mb5.3,baz=32,slow=4.1,SNR=70
TORD LR LR 10 13 14.4
comp=Z,352nm,20.0s,MS4.8,baz=25,slow=40
JCT Junction City 90.40 25 eP P 09 27 04.7 -1.3
JCT pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
JCT Junction City 90.40 25 eP P 09 27 04.7 -1.3
comp=Z,7.6nm,0.9s,mb5.0
JCT ePKP PKiKP 09 31 59.5 -1.6
GOGA Godfrey 90.45 11 eP P 09 27 05.5 -0.7
GOGA pmax pmax
comp=Z,15nm,0.8s,mb5.4
GOGA Godfrey 90.45 11 eP P 09 27 05.5 -0.8
comp=Z,14nm,0.8s,mb5.4
TXAR Lajitas Array 90.49 29 P P 09 27 07.3 +0.9
comp=Z,2.6nm,0.9s,mb4.6,baz=278,slow=1.2,SNR=15
TXAR LR LR 10 08 29.3
comp=Z,164nm,19.8s,MS4.5,baz=100,slow=36
TXAR Lajitas Array 90.49 29 P P 09 27 07.4 +0.9
TXAR pmax pmax
comp=Z,3.0nm,0.9s
TXAR MLR MLR
comp=Z,164nm,19.8s
STKA Stephens Creek 91.35 154 eP P 09 27 09.0 -1.4
comp=Z,6.7nm,0.7s,mb5.1
STKA Stephens Creek 91.35 154 P P 09 27 08.9 -1.5
comp=Z,9.4nm,0.8s,mb5.2,baz=355,slow=4.6,SNR=16
STKA LR LR 10 05 15.0
comp=Z,155nm,21.6s,MS4.4,baz=25,slow=34
AFI Afiamalu 94.84 107 LR LR 10 07 59.4
comp=Z,182nm,19.2s,MS4.6,baz=236,slow=34
TAOE Nuku Hiva Isla 108.38 78 eLR LR 10 04 11.6
comp=Z,1μm,23.7s
PPT Papeete 110.15 92 eSP SP 09 42 40.1 +2.5
comp=Z,47nm,24.5s
PPT eSS SS 09 48 44.5 +8.7
comp=Z,121nm,30.2s
PPT eLR LR 10 05 20.3
comp=Z,278nm,22.2s
TBI Tubuai 114.81 95 eSP SP 09 43 16.4 -4.0
comp=Z,120nm,29.2s
TBI eSS SS 09 49 45.2 +7.6
comp=Z,240nm,30.2s
TBI eLR LR 10 07 14.7
comp=Z,223nm,28.8s
RKT Rikitea 122.80 83 eLR LR 10 10 48.8
comp=Z,279nm,36.2s
MAW Mawson 127.92 201 PKP PKPdf 09 33 09.1 -1.3
comp=Z,3.7nm,0.9s,baz=355,slow=2.9,SNR=5.3
MAW Mawson 127.92 201 PKIKP PKPdf 09 33 09.1 -1.3
MAW pmax pmax
comp=Z,4.0nm,0.9s
SYO Syowa Base 134.53 208 ⇑ePKiKP PKiKP 09 33 26.2 +1.9
VNDA Vanda 136.80 166 PKP PKPdf 09 33 26.5 -0.7
comp=Z,1.1nm,0.9s,baz=342,slow=5.8,SNR=3.0
LPAZ La Paz 140.59 357 PKhKP 09 33 30.1
comp=Z,1.7nm,0.8s,baz=332,slow=4.0,SNR=3.9
LPAZ PKP PKPdf 09 33 34.3 +0.2
comp=Z,1.8nm,0.8s,baz=32,slow=11,SNR=5.9
LPAZ La Paz 140.59 357 iPKIKP PKPdf 09 33 30.1 -4.0
LPAZ 09 33 34.3
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 140.59 357 PKP PKPdf 09 33 30.1 -4.0
LPAZ ePKPdf PKPdf 09 33 34.6 +0.6
LPAZ ePP PP 09 36 34.3 +1.0
MAIT Maitri 143.64 214 ePKPdf PKPdf 09 33 32.9 -6.6
SNAA Sanae 148.43 214 PKPbc PKPbc 09 33 48.6 -2.6
comp=Z,12nm,1.0s,baz=98,slow=2.6,SNR=39
SNAA Sanae 148.43 214 ePKPdf PKPdf 09 33 49.0 +1.3
SNAA e 09 33 51.5
SNAA e 09 33 54.6
SNAA e 09 33 55.7
SNAA Sanae 148.43 214 ePKPbc PKPbc 09 33 49.1 -2.1
VNA2 Neumayer--Watz 149.84 216 ePKPdf PKPdf 09 33 53.1 +3.2
baz=77,slow=4.3
VNA2 e 09 33 55.6
VNA2 e 09 33 56.9
VNA2 e 09 33 58.8
VNA2 e 09 34 04.5
VNA2 e 09 34 13.8
VNA2 e 09 34 17.8
VNA1 Neumayer--Stat 150.12 216 ePKPdf PKPdf 09 33 53.3 +2.9
VNA1 e 09 33 54.0
VNA1 e 09 33 56.8
VNA1 e 09 34 04.0
VNA3 Neumayer Olymp 150.59 215 ePKPdf PKPdf 09 33 54.7 +3.6
VNA3 e 09 33 57.7
VNA3 e 09 34 05.0
CFAA Coronel Fontan 155.83 356 PKP PKPdf 09 33 58.5 -0.2
comp=Z,0.6nm,0.8s,baz=328,slow=4.0,SNR=8.9
CFAA PKPbc PKPdf 09 34 07.5 +8.9
comp=Z,0.7nm,0.9s,baz=322,slow=5.3,SNR=5.0
CFAA PKPab PKPab 09 34 23.9 -1.5
comp=Z,0.7nm,0.8s,baz=350,slow=4.6,SNR=6.3
CFAA Coronel Fontan 155.83 356 PKP PKPdf 09 33 58.5 -0.2
CFAA PKPbc PKPdf 09 34 07.5 +8.9
CFAA PKPab PKPab 09 34 23.9 -1.5

*ISCJB **04** 09:21:58.4±0.3,5564N±003×110.16E±004,h10km, mb3.8/10,Error ellipse: s-maj=4.2km s-min=2.8km az=95.5*
*MOS **04** 09:21:58.5±1.4,5594N×11002E,h3km,mb4.1/7,Error ellipse: s-maj=16.5km s-min=10.4km az=82.4*
*BYKL **04** 09:22:00.6±0.4,5570N×110.16E,h9km±7km*

*IDC **04** 09:22:00.4±0.8,5593N×11004E,h0km,mb3.9/10, mb1 4.1/12,mb1mx3.9/26,mbtmp3.9/12,ML4.0/1,Error ellipse: s-maj=21.7km s-min=20.0km az=75.0*
ISC 04 09:21:59.7±0.3,5565N±002×11015E±004,h10km,n52, σ1§47/70,mb3.8/10,4C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**291**	*e*PG	**Pg**	**09 22 07.5**	**+0.5**
NIZ				*e*		09 22 12.9	
NIZ				pmax	pmax		
	comp=Z,430nm,0.3s						
NIZ				smax			
	comp=E,4μm,0.9s						
NIZ	**Nizh Angarsk**	**0.37**	**291**	*e*Pg	**Pg**	**09 22 07.5**	**+0.5**
NIZ				Pmax		09 22 07.9	
	comp=E,350nm,0.4s						
NIZ				*e*Sg	**Sg**	**09 22 13.8**	**+1.9**
NIZ				Smax		09 22 14.6	
	comp=E,6μm,0.2s						
KMO	**Kumora**	**0.64**	**67**	*e*PG	**Pg**	**09 22 11.1**	**-1.1**
KMO				*e*		09 22 19.1	
KMO				pmax	pmax		
	comp=Z,359nm,0.3s						
KMO				smax			
	comp=N,2μm,0.9s						
KMO	**Kumora**	**0.64**	**67**	⇑*i*Pg	**Pg**	**09 22 11.1**	**-1.1**
KMO				Pmax		09 22 11.5	
	comp=N,375nm,0.3s						
KMO				*e*Sg	**Sg**	**09 22 19.1**	**-1.5**
KMO				Smax		09 22 27.8	
	comp=N,3μm,1.4s						
YLYR	**Ulyunkhan**	**0.96**	**143**	*e*PG	**Pg**	**09 22 18.6**	**+0.3**
YLYR				pmax	pmax		
	comp=Z,447nm,0.3s						
YLYR	**Ulyunkhan**	**0.96**	**143**	⇑*i*Pg	**Pg**	**09 22 18.5**	**+0.2**
YLYR				Pmax		09 22 18.9	
	comp=Z,453nm,0.6s						
YLYR				*e*Sg	**Sg**	**09 22 31.9**	**+1.0**
YLYR				Smax		09 22 39.1	
	comp=Z,1μm,0.2s						
YOA	**Uoyan**	**1.01**	**61**	*e*Pg	**Pg**	**09 22 18.3**	**-0.9**
YOA				Pmax		09 22 19.6	
	comp=Z,442nm,0.6s						
YOA				*e*Sg	**Sg**	**09 22 33.0**	**+0.6**
YOA				Smax		09 22 39.5	
	comp=Z,4μm,1.0s						
SVKR	**Severomuysk**	**1.98**	**75**	*e*PN	**Pn**	**09 22 35.5**	**+2.2**
SVKR				*e*		09 22 36.2	
SVKR				*e*S	**Sn**	**09 23 01.7**	**+3.6**
SVKR				*e*		09 23 03.1	
SVKR				pmax	pmax		
	comp=Z,686nm,1.6s						
SVKR				smax			
	comp=E,2μm,0.5s						
SVKR	**Severomuysk**	**1.98**	**75**	*e*Pn	**Pn**	**09 22 35.3**	**+2.0**
SVKR				⇑*i*Pg	**Pg**	**09 22 36.3**	**-1.4**
SVKR				Pmax		09 22 43.2	
	comp=E,414nm,0.4s						
SVKR				*e*Sg	**Sg**	**09 23 03.0**	**-0.4**
SVKR				Smax		09 23 04.7	
	comp=E,8μm,0.6s						
SYVR	**Suvo**	**1.99**	**183**	*e*PN	**Pn**	**09 22 37.3**	**+3.8**
SYVR				*e*		09 23 05.7	
SYVR				pmax	pmax		
	comp=Z,519nm,0.7s						
SYVR				smax			
	comp=E,3μm,0.6s						
SYVR	**Suvo**	**1.99**	**183**	*e*Pn	**Pn**	**09 22 34.6**	**+1.1**
SYVR				⇑*i*Pg	**Pg**	**09 22 37.4**	**-0.6**
SYVR				Pmax		09 22 37.9	
	comp=E,616nm,0.7s						
SYVR				*e*Sg	**Sg**	**09 23 05.6**	**+1.8**
SYVR				Smax		09 23 07.5	
	comp=E,3μm,0.6s						
OGRR	**Ongureny**	**2.50**	**218**	*e*PN	**Pn**	**09 22 44.0**	**+3.6**
OGRR				*e*		09 22 47.7	
OGRR				*e*		09 23 19.5	
OGRR				pmax	pmax		
	comp=Z,81nm,0.4s						
OGRR				smax			
	comp=N,585nm,0.4s						
OGRR	**Ongureny**	**2.50**	**218**	*e*Pn	**Pn**	**09 22 43.9**	**+3.5**
OGRR				*e*Pg	**Pg**	**09 22 46.3**	**-1.3**
OGRR				Pmax		09 22 50.6	
	comp=N,71nm,0.3s						
OGRR				*e*Sn	**Sn**	**09 23 15.8**	**+4.9**
OGRR				*e*Sg	**Sg**	**09 23 20.1**	**+0.2**
OGRR				Smax		09 23 21.4	
	comp=N,546nm,0.3s						
MXMB	**Maximikha**	**2.52**	**199**	*e*Pg	**Pg**	**09 22 46.6**	**-1.5**
MXMB				*e*Sg	**Sg**	**09 23 22.0**	**+1.2**
MXMB				Smax		09 23 26.8	
	comp=N,2μm,1.1s						
BOD	**Bodaibo**	**3.04**	**43**	*e*Pn	**Pn**	**09 22 48.8**	**+0.9**
BOD				*e*Pg	**Pg**	**09 22 53.7**	**-4.4**
BOD				Pmax		09 22 56.8	
	comp=N,60nm,0.5s						
BOD				*e*Sn	**Sn**	**09 23 25.6**	**+1.2**
BOD				*e*Sg	**Sg**	**09 23 32.7**	**-4.8**
BOD				Smax		09 23 36.8	
	comp=N,807nm,1.5s						
NLYR	**Nelyaty**	**3.23**	**72**	*e*Sg	**Sg**	**09 23 38.5**	**-4.9**
TRG	**Tyrgan**	**3.65**	**219**	*e*Sn	**Sn**	**09 23 42.3**	**+2.9**
TRG				*e*Sg	**Sg**	**09 23 54.7**	**-2.3**
TRG				Smax		09 23 57.5	
	comp=N,238nm,0.4s						
TRTB	**Turuntaevo**	**3.73**	**205**	*e*Sg	**Sg**	**09 23 57.9**	**-1.7**
TRTB				Smax		09 23 59.3	
	comp=N,280nm,0.9s						
FFNB	**Fofonovo**	**4.12**	**210**	*e*Sg	**Sg**	**09 24 08.3**	**-3.9**
FFNB				Smax		09 24 14.0	
	comp=N,579nm,0.5s						
CIT	**Chita**	**4.15**	**150**	*e*PN	**Pb**	**09 23 14.2**	**+1.3**
CIT				pmax	pmax		
	comp=Z,281nm,1.6s						
CIT	**Chita**	**4.15**	**150**	*e*Sg	**Sg**	**09 24 09.6**	**-3.5**
CIT				Smax		09 24 14.9	
	comp=Z,162nm,0.5s						
HRMR	**Khuramsha**	**4.45**	**207**	*e*Sg	**Sg**	**09 24 20.1**	**-2.5**
HRMR				Smax		09 24 25.9	
	comp=Z,591nm,0.7s						
CRS	**Chara**	**4.70**	**71**	*e*Sg	**Sg**	**09 24 25.3**	**-5.3**
IRK	**Irkutsk**	**4.86**	**228**	*e*Sg	**Sg**	**09 24 33.2**	**-2.7**
IRK				Smax		09 24 39.2	
	comp=Z,519nm,0.8s						
LSTR	**Listvyanka**	**4.92**	**222**	*e*Sg	**Sg**	**09 24 33.4**	**-4.5**
LSTR				Smax		09 24 39.9	
	comp=Z,97nm,1.1s						
TLY	**Talaya**	**5.54**	**227**	*e*PN	**Pb**	**09 23 39.5**	**+2.9**
TLY				*e*		09 24 52.7	
TLY				pmax	pmax		
	comp=Z,166nm,1.2s						
TLY				smax			
	comp=E,318nm,2.0s						
TUP	**Tupik**	**5.77**	**98**	*e*Sg	**Sg**	**09 25 00.2**	**-4.8**
TUP				Smax		09 25 04.7	
	comp=E,373nm,1.0s						
ARS	**Arshan**	**5.91**	**234**	*e*Sn	**Sn**	**09 24 35.6**	**+0.6**
ARS				*e*Sg	**Sg**	**09 25 04.2**	**-5.1**
ARS				Smax		09 25 11.6	
	comp=E,676nm,0.6s						
SONM	**Songino Array**	**8.16**	**198**	Pn	**Pn**	**09 24 04.9**	**+6.7**
	baz=2.8,slow=13,SNR=4.0						
SONM				Lg		09 26 20.6	
	comp=E,3.6nm,0.3s,baz=21,slow=30,SNR=7.0						
MKAR	**Makanchi Array**	**19.45**	**255**	P	**Pn**	**09 26 27.7**	**+0.1**
	comp=E,0.5nm,0.3s,baz=59,slow=7.7,SNR=7.1						
MKAR	**Makanchi Array**	**19.45**	**255**	P	**Pn**	**09 26 27.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**23.11**	**280**	P	**P**	**09 27 07.3**	**+1.5**
	comp=Z,3.8nm,0.8s,mb3.9,baz=75,slow=11,SNR=4.0						
BVAR	**Borovoye Array**	**23.11**	**280**	P	**P**	**09 27 07.3**	**+1.5**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KEV	**Kevo**	**37.27**	**325**	*e*p	**P**	**09 29 09.3**	**-2.4**
ARCES	**ARCESS Array B**	**37.84**	**325**	P	**P**	**09 29 15.3**	**-1.1**
	comp=Z,3.7nm,0.9s,mb4.1,baz=64,slow=8.6,SNR=5.7						
ARCES	**ARCESS Array B**	**37.84**	**325**	P	**P**	**09 29 15.4**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KAF	**Kangasniemi**	**40.92**	**314**	*e*p	**P**	**09 29 40.0**	**-2.2**
FINES	**FINESS Array B**	**41.36**	**314**	P	**P**	**09 29 45.5**	**-0.3**
	comp=Z,1.6nm,0.6s,mb3.8,baz=69,slow=7.6,SNR=4.3						

FINES FINESS Array B 41.36 314 P **P** **09 29 45.6 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 47.06 317 P **P** **09 30 31.0 -0.4**
comp=Z,2.8nm,0.7s,mb4.3,baz=58,slow=8.7,SNR=5.2
HFS Hagfors 47.06 317 P **P** **09 30 31.0 -0.5**
HFS pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 47.41 319 P **P** **09 30 33.7 -0.6**
comp=Z,1.1nm,0.8s,mb3.8,baz=52,slow=7.9,SNR=2.9
NOA NORSAR Array B 47.41 319 P **P** **09 30 33.7 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 47.84 27 P **P** **09 30 37.6 0.0**
comp=Z,0.9nm,0.8s,mb3.8,baz=315,slow=10.0,SNR=3.7
INK Inuvik 47.84 27 P **P** **09 30 37.6 0.0**
INK pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 57.13 23 P **P** **09 31 45.8 -0.7**
comp=Z,0.5nm,0.8s,mb3.6,baz=336,slow=7.4,SNR=3.3
YKA Yellowknife Ar 57.13 23 P **P** **09 31 45.8 -0.7**
YKA pmax pmax
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 77.61 37 P **P** **09 33 58.0 +1.8**
comp=Z,0.3nm,0.5s,mb3.4,baz=317,slow=3.7,SNR=2.3
WRA Warramunga Arr 78.04 157 P **P** **09 34 01.9 +3.3**
comp=Z,0.7nm,0.6s,mb3.7,baz=350,slow=6.0,SNR=5.2
WRA Warramunga Arr 78.04 157 P **P** **09 34 02.3 +3.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 81.55 158 P **P** **09 34 20.9 +3.4**
comp=Z,0.2nm,0.7s,mb3.2,baz=351,slow=4.7,SNR=4.2
ASAR Alice Springs 81.55 158 *eP* **P** **09 34 21.9 +4.3**

*MOS **04** 09:23:18.4±2.7,5588N×110.15E,h6km,mb3.9/1,Error ellipse: s-maj=28.3km s-min=22.1km az=78.6*
BYKL 04 09:23:20.3±0.6,5570N×11018E,h23km±8km,3C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**282**	*e*PG	Pb	09 23 28.0	-0.3
NIZ				*e*		09 23 33.7	
NIZ				pmax	pmax		
	comp=Z,629nm,0.4s						
NIZ				smax			
	comp=E,2μm,0.5s						
NIZ	**Nizh Angarsk**	**0.37**	**282**	*e*Pg	Pb	09 23 28.1	-0.2
NIZ				*e*Sg	Sb	09 23 33.7	0.0
NIZ				Pmax			
	comp=E,570nm,0.3s						
NIZ				Smax			
	comp=E,3μm,0.5s						
KMO	**Kumora**	**0.61**	**72**	*e*PG	Pb	09 23 31.5	-0.7
KMO				*e*		09 23 39.4	
KMO				pmax	pmax		
	comp=Z,951nm,0.3s						
KMO				smax			
	comp=N,2μm,0.8s						
KMO	**Kumora**	**0.61**	**72**	⇑*i*Pg	Pb	09 23 31.5	-0.7
KMO				*e*Sg	Sb	09 23 39.4	-0.9
KMO				Pmax			
	comp=N,944nm,0.3s						
KMO				Smax			
	comp=N,2μm,1.2s						
YOA	**Uoyan**	**0.97**	**63**	*e*Pg	Pb	09 23 39.0	+0.6
YOA				*e*Sg	Sb	09 23 52.0	+1.2
YOA				Smax			
	comp=N,4μm,0.5s						
YLYR	**Ulyunkhan**	**1.00**	**145**	⇑*i*PG	Pn	09 23 38.6	-0.3
YLYR				*e*		09 23 51.4	
YLYR				pmax	pmax		
	comp=Z,256nm,0.1s						
YLYR				smax			
	comp=N,939nm,0.2s						
YLYR	**Ulyunkhan**	**1.00**	**145**	⇑*i*Pg	Pn	09 23 38.6	-0.3
YLYR				*e*Pb	Pb	09 23 39.3	+0.4
YLYR				*e*Sg	Sb	09 23 51.8	+0.2
YLYR				max			
	comp=N,280nm,0.2s						
YLYR				Smax			
	comp=N,908nm,0.2s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*PN	Pn	09 23 55.6	+3.7
SVKR				*e*		09 23 56.5	
SVKR				*e*S	Sn	09 24 21.0	+5.3
SVKR				*e*		09 24 22.1	
SVKR				pmax	pmax		
	comp=Z,544nm,0.3s						
SVKR				smax			
	comp=N,4μm,0.9s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*Pg	Pn	09 23 56.1	+4.2
SVKR				*e*Sg	Sn	09 24 22.3	+6.6
SVKR				Pmax			
	comp=N,547nm,0.3s						
SVKR				Smax			
	comp=N,4μm,0.5s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	09 23 57.7	+4.4
SYVR				*e*		09 24 25.6	
SYVR				pmax	pmax		
	comp=Z,238nm,0.6s						
SYVR				smax			
	comp=E,935nm,0.7s						
SYVR	**Suvo**	**2.05**	**183**	*e*Pg	Pn	09 23 57.3	+4.0
SYVR				*e*Sg	Sn	09 24 25.5	+7.3
SYVR				Pmax			
	comp=E,214nm,0.6s						
SYVR				Smax			
	comp=E,1μm,1.0s						
OGRR	**Ongureny**	**2.55**	**217**	*e*Sg	Sn	09 24 39.4	+8.9
OGRR				Smax			
	comp=E,375nm,1.1s						
MXMB	**Maximikha**	**2.58**	**200**	*e*Sg	Sn	09 24 41.6	+10
MXMB				Smax			
	comp=E,701nm,1.1s						
BOD	**Bodaibo**	**2.99**	**43**	*e*Sn	Sn	09 24 44.8	+3.4
BOD				*e*Sg	Sn	09 24 52.4	+11
BOD				Smax			
	comp=E,307nm,0.4s						
NLYR	**Nelyaty**	**3.19**	**73**	*e*Sg	Sn	09 24 58.8	+12
TRG	**Tyrgan**	**3.71**	**219**	*e*Sn	Sn	09 25 00.4	+1.4
TRG				*e*Sg	Sn	09 25 15.7	+17
TRG				Smax			
	comp=E,218nm,1.1s						
TRTB	**Turuntaevo**	**3.79**	**204**	*e*Sg	Sn	09 25 16.7	+16
TRTB				Smax			
	comp=E,322nm,2.5s						
FFNB	**Fofonovo**	**4.18**	**210**	*e*Sg	Sn	09 25 29.6	+19
FFNB				Smax			
	comp=E,287nm,0.7s						
CIT	**Chita**	**4.19**	**150**	*e*Sg	Sn	09 25 29.6	+19
CIT				Smax			
	comp=E,165nm,0.7s						
HRMR	**Khuramsha**	**4.51**	**206**	*e*Sg	Sn	09 25 40.4	+22
HRMR				Smax			
	comp=E,803nm,1.0s						
ARS	**Arshan**	**5.95**	**234**	*e*Sn	Sn	09 25 52.2	-2.2
ARS				*e*Sg	Sn	09 26 24.1	+30
ARS				Smax			
	comp=E,585nm,0.8s						
BILL	**Bilibino**	**28.05**	**42**	*e*P	P	09 29 07.8	-2.0
BILL				pmax	pmax		
	comp=Z,7.0nm,1.9s						

IDC 04 09:31:21.4±0.8,4697N×15580E,h0km,mb3.7/10, mb1 3.9/11,mb1mx3.8/25,mbtmp3.7/11,ML2.8/1,Error ellipse: s-maj=25.7km s-min=19.2km az=140.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.72**	**238**	Pn	Pn	09 35 14.8	-2.1
	0.0nm,0.3s,baz=30,slow=13,SNR=3.2						
KSRS	**Korea Array**	**22.63**	**255**	P	P	09 36 25.2	+1.5
	1.0nm,0.7s,baz=59,slow=9.3,SNR=5.1						
MKAR	**Makanchi Array**	**48.47**	**298**	P	P	09 40 05.2	-0.4
	1.1nm,0.8s,baz=61,slow=5.7,SNR=5.5						
YKA	**Yellowknife Ar**	**49.64**	**38**	P	P	09 40 13.8	-0.8
	0.8nm,0.8s,baz=297,slow=7.5,SNR=4.7						
BVAR	**Borovoye Array**	**52.13**	**310**	P	P	09 40 32.3	-1.1
	1.3nm,0.6s,baz=55,slow=7.3,SNR=5.5						
PDAR	**Pinedale Array**	**63.12**	**55**	P	P	09 41 51.3	+0.5
	0.5nm,0.9s,baz=264,slow=3.6,SNR=3.2						
FINES	**FINESS Array B**	**64.61**	**336**	P	P	09 41 59.3	-1.4
	0.9nm,0.7s,baz=45,slow=10.0,SNR=2.8						
WRA	**Warramunga Arr**	**69.35**	**202**	P	P	09 42 30.2	-0.6
	0.4nm,0.8s,baz=18,slow=6.0,SNR=3.2						
ASAR	**Alice Springs**	**73.03**	**201**	P	P	09 42 53.2	+0.1
	0.3nm,0.9s,baz=19,slow=4.5,SNR=3.6						
TXAR	**Lajitas Array**	**75.77**	**62**	P	P	09 43 09.2	+0.1
	0.7nm,0.9s,baz=305,slow=3.2,SNR=4.9						
MMAI	**Mount Meron Ar**	**84.03**	**313**	P	P	09 43 55.5	+1.7
	2.8nm,0.5s,baz=46,slow=5.9,SNR=4.1						

*ISCJB **04** 09:31:27.9±0.3,5566N×002×11020E±003,h10km, mb3.8/12,Error ellipse: s-maj=3.7km s-min=2.3km az=108.9*
*IDC **04** 09:31:29.0±0.9,5587N×11007E,h0km,mb3.9/10, mb1 4.0/12,mb1mx3.8/26,mbtmp3.8/12,ML3.7/2,Error ellipse: s-maj=24.2km s-min=19.1km az=76.0*
*MOS **04** 09:31:28.3±1.2,5580N×110.11E,h9km,mb4.0/10,Error ellipse: s-maj=11.6km s-min=7.1km az=72.2*
*BYKL **04** 09:31:29.9±0.3,5570N×110.19E,h8km±5km*
*NEIC **04** 09:31:30.3±0.5,5584N×110.10E,h10km,mb4.0/3,Error ellipse: s-maj=10.5km s-min=8.5km az=113.0*
ISC 04 09:31:29.3±0.3,5570N±002×11020E±003,h10km,n72, σ1§42/114,mb3.8/12,7C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**281**	*e*PG	Pg	09 31 36.8	0.0
NIZ				*e*		09 31 42.5	
NIZ				pmax	pmax		
	comp=Z,372nm,0.3s						
NIZ				smax			
	comp=E,5μm,0.4s						
NIZ	**Nizh Angarsk**	**0.38**	**281**	⇑*i*Pg	Pg	09 31 36.8	0.0
NIZ				Pmax		09 31 37.5	
	comp=E,259nm,0.2s						
NIZ				*e*Sg	Sg	09 31 42.6	+0.7
NIZ				Smax		09 31 44.0	
	comp=E,7μm,0.2s						
KMO	**Kumora**	**0.59**	**71**	*e*PG	Pg	09 31 40.1	-0.7
KMO				*e*		09 31 48.0	
KMO				pmax	pmax		
	comp=Z,379nm,0.3s						
KMO				smax			
	comp=N,2μm,0.7s						
KMO	**Kumora**	**0.59**	**71**	⇑*i*Pg	Pg	09 31 40.2	-0.6
KMO				Pmax		09 31 40.6	
	comp=N,357nm,0.3s						
KMO				*e*Sg	Sg	09 31 48.1	-0.5
KMO				Smax		09 31 48.4	
	comp=N,2μm,0.3s						
YOA	**Uoyan**	**0.96**	**63**	*e*PG	Pg	09 31 47.8	0.0
YOA				*e*		09 32 01.9	
YOA				pmax	pmax		
	comp=Z,429nm,0.2s						
YOA				smax			
	comp=E,4μm,0.3s						
YOA	**Uoyan**	**0.96**	**63**	*e*Pg	Pg	09 31 47.3	-0.5
YOA				Pmax		09 31 51.1	
	comp=E,501nm,0.4s						
YOA				*e*Sg	Sg	09 32 01.8	+1.5
YOA				Smax		09 32 11.2	
	comp=E,4μm,0.7s						
YLYR	**Ulyunkhan**	**0.99**	**146**	⇑*i*PG	Pg	09 31 47.7	-0.8
YLYR				*e*		09 32 00.7	
YLYR				pmax	pmax		
	comp=Z,500nm,0.1s						
YLYR				smax			
	comp=N,1μm,0.1s						
YLYR	**Ulyunkhan**	**0.99**	**146**	⇑*i*Pg	Pg	09 31 47.7	-0.8
YLYR				Pmax		09 31 48.7	
	comp=N,526nm,0.2s						
YLYR				*e*Sg	Sg	09 32 01.1	-0.3
YLYR				Smax		09 32 02.1	
	comp=N,1μm,0.2s						
SVKR	**Severomuysk**	**1.94**	**76**	*e*PN	Pn	09 32 05.3	+3.0
SVKR				*e*		09 32 31.6	
SVKR				pmax	pmax		
	comp=Z,512nm,0.3s						
SVKR				smax			
	comp=N,7μm,0.6s						
SVKR	**Severomuysk**	**1.94**	**76**	*e*Pn	Pn	09 32 02.5	+0.2
SVKR				⇓*i*Pg	Pg	09 32 05.0	-1.4
SVKR				Pmax		09 32 05.4	
	comp=N,456nm,0.3s						
SVKR				*e*Sg	Sg	09 32 31.7	+0.2
SVKR				Smax		09 32 33.7	
	comp=N,7μm,0.5s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	09 32 06.3	+2.4
SYVR				*e*		09 32 34.2	
SYVR				pmax	pmax		
	comp=Z,594nm,0.6s						
SYVR				smax			
	comp=E,1μm,0.7s						
SYVR	**Suvo**	**2.05**	**183**	*e*	Pn	09 32 05.0	+1.1
SYVR				⇑*i*Pg	Pg	09 32 06.6	-2.1
SYVR				Pmax		09 32 07.0	
	comp=E,613nm,0.6s						
SYVR				*e*Sg	Sg	09 32 35.5	+0.2
SYVR				Smax		09 32 36.7	
	comp=E,1μm,0.6s						
OGRR	**Ongureny**	**2.56**	**217**	*e*PN	Pn	09 32 12.8	+1.9
OGRR				*e*		09 32 16.6	
OGRR				*e*		09 32 48.9	
OGRR				pmax	pmax		
	comp=Z,67nm,0.3s						
OGRR				smax			
	comp=E,512nm,0.7s						
OGRR	**Ongureny**	**2.56**	**217**	*e*Pn	Pn	09 32 12.8	+1.9
OGRR				*e*Pg	Pg	09 32 15.6	-2.8
OGRR				Pmax		09 32 16.8	
	comp=E,60nm,0.4s						
OGRR				*e*Sg	Sg	09 32 48.8	-2.8
OGRR				Smax		09 32 50.9	
	comp=E,519nm,0.3s						
MXMB	**Maximikha**	**2.59**	**200**	*e*Pg	Pg	09 32 16.5	-2.4
MXMB				Pmax		09 32 18.6	
	comp=E,109nm,0.5s						
MXMB				*e*Sg	Sg	09 32 51.7	-0.8
MXMB				Smax		09 32 53.8	
	comp=E,1μm,1.0s						
BOD	**Bodaibo**	**2.98**	**43**	*e*PN	Pn	09 32 17.9	+1.3
BOD				*e*		09 32 23.9	
BOD	**Bodaibo**	**2.98**	**43**	⇑*i*Pn	Pn	09 32 17.9	+1.3
BOD				*e*		09 32 21.0	
BOD				max		09 32 21.3	
	comp=E,49nm,0.4s						
BOD				*e*Sg	Sg	09 33 00.9	-4.2
BOD				*e*SgSg		09 33 04.1	
BOD				max		09 33 05.1	
	comp=E,621nm,0.4s						
NLYR	**Nelyaty**	**3.18**	**73**	*e*Pn	Pn	09 32 22.4	+3.0
NLYR				*e*Pg	Pg	09 32 27.8	-2.5
NLYR				*e*Sn	Sn	09 32 58.3	+0.9
NLYR				*i* Sg	Sg	09 33 09.0	-2.5
TRG	**Tyrgan**	**3.72**	**219**	*e*PN	Pn	09 32 28.8	+2.0
TRG				*e*		09 32 36.8	
TRG				*e*		09 33 25.2	
TRG				pmax	pmax		
	comp=Z,51nm,0.4s						
TRG				smax			
	comp=N,259nm,0.4s						
TRG	**Tyrgan**	**3.72**	**219**	*e*Pn	Pn	09 32 29.2	+2.4
TRG				max		09 32 31.7	
	comp=N,66nm,0.3s						
TRG				*e*Sn	Sn	09 33 12.2	+1.6
TRG				*e*Sg	Sg	09 33 24.0	-4.7
TRG				Smax		09 33 28.2	
	comp=N,258nm,0.4s						
TRTB	**Turuntaevo**	**3.80**	**205**	*e*Pn	Pn	09 32 28.6	+0.7
TRTB				*e*Pg	Pg	09 32 37.6	-4.5
TRTB				Pmax		09 32 38.3	
	comp=N,34nm,0.6s						
TRTB				*e*Sn	Sn	09 33 13.2	+0.6
TRTB				*e*Sg	Sg	09 33 26.2	-5.1
TRTB				Smax		09 33 26.7	
	comp=N,173nm,0.8s						
CIT	**Chita**	**4.19**	**150**	*e*PN	Pb	09 32 44.3	+1.2
CIT				*e*		09 33 37.9	
CIT				pmax	pmax		
	comp=Z,166nm,0.6s						
CIT				smax			
	comp=N,299nm,0.5s						
CIT	**Chita**	**4.19**	**150**	*e*Pn	Pn	09 32 33.7	+0.5
CIT				*e*Pg	Pg	09 32 44.6	-5.0
CIT				Pmax		09 32 45.2	
	comp=N,126nm,0.6s						
CIT				*i* Sg	Sg	09 33 38.4	-5.4
CIT				Smax		09 33 42.1	
	comp=N,196nm,0.6s						
FFNB	**Fofonovo**	**4.19**	**210**	*e*Sn	Sn	09 33 22.7	+0.4
FFNB				*e*Sg	Sg	09 33 39.4	-4.5
FFNB				Smax		09 33 42.3	
	comp=N,496nm,0.5s						
HRMR	**Khuramsha**	**4.52**	**207**	*e*Pn	Pn	09 32 40.8	+3.0
HRMR				*e*Pg	Pg	09 32 51.2	-4.6
HRMR				Pmax		09 32 53.6	
	comp=N,86nm,0.8s						
HRMR				*e*Sn	Sn	09 33 32.4	+2.1
HRMR				*e*Sg	Sg	09 33 49.1	-5.2
HRMR				Smax		09 33 56.9	
	comp=N,595nm,0.6s						
CRS	**Chara**	**4.65**	**72**	*e*PN	Pg	09 32 54.3	-4.1
CRS				*e*		09 33 55.0	
CRS				pmax	pmax		
	comp=Z,101nm,0.6s						
CRS				smax			
	comp=E,338nm,1.3s						
CRS	**Chara**	**4.65**	**72**	*e*Pg	Pg	09 32 54.3	-4.1
CRS				Pmax		09 32 56.1	
	comp=E,58nm,1.0s						
CRS				*e*Sg	Sg	09 33 53.7	-5.0
CRS				Smax		09 34 09.9	
	comp=E,337nm,1.5s						
IRK	**Irkutsk**	**4.93**	**228**	*e*Sn	Sn	09 33 39.5	-0.9
IRK				*e*Sg	Sg	09 34 03.3	-4.2
IRK				Smax		09 34 09.0	
	comp=E,502nm,0.9s						
LSTR	**Listvyanka**	**4.99**	**222**	*e*Sn	Sn	09 33 40.0	-2.0
LSTR				*e*Sg	Sg	09 34 01.7	-7.8
LSTR				Smax		09 34 07.1	
	comp=E,146nm,1.6s						
TLY	**Talaya**	**5.60**	**227**	*e*PN	Pb	09 33 08.7	+1.5
TLY				*e*S	Sn	09 33 55.3	-1.8
TLY				*e*		09 34 21.5	
TLY				pmax	pmax		
	comp=Z,24nm,0.8s						
TLY				smax			
	comp=E,132nm,1.4s						
TLY	**Talaya**	**5.60**	**227**	*e*Pn	Pn	09 32 54.5	+1.8
TLY				*e*S	Sg	09 34 22.8	-6.4
TLY	**Talaya**	**5.60**	**227**	*e*Pn	Pn	09 32 54.0	+1.3
TLY				max		09 33 12.6	
	comp=E,16nm,0.5s						
TLY				*e*Sn	Sn	09 33 55.3	-1.8
TLY				*e*Sg	Sg	09 34 21.6	-7.6
TLY				Smax		09 34 36.6	
	comp=E,80nm,0.7s						
TUP	**Tupik**	**5.75**	**99**	*e*PN	Pn	09 32 55.8	+1.1
TUP				*e*		09 33 13.7	
TUP				*e*S	Sn	09 33 59.4	-1.3
TUP				*e*		09 34 26.7	
TUP				pmax	pmax		
	comp=Z,82nm,1.1s						
TUP				smax			
	comp=N,367nm,0.9s						
TUP	**Tupik**	**5.75**	**99**	*e*Pn	Pn	09 32 55.5	+0.8
TUP				*e*		09 33 08.3	
TUP				max		09 33 15.9	
	comp=N,25nm,0.9s						
TUP				*e*Sg	Sg	09 34 28.7	-5.2
TUP				Smax		09 34 33.6	
	comp=N,185nm,0.8s						
ARS	**Arshan**	**5.96**	**234**	*e*Pn	Pn	09 32 58.7	+1.0
ARS				max		09 33 17.2	
	comp=N,56nm,0.4s						
ARS				*e*Sn	Sn	09 34 03.5	-2.5
ARS				*e*Sg	Sg	09 34 34.0	-6.8
ARS				Smax		09 34 51.6	
	comp=N,539nm,0.9s						
ZAK	**Zakamensk**	**6.77**	**221**	*e*PN	Pn	09 33 11.3	+2.6
ZAK				*e*		09 33 31.2	
ZAK				*e*S	Sn	09 34 26.6	+0.8
ZAK				*e*		09 34 58.5	
ZAK				pmax	pmax		
	comp=Z,19nm,0.5s						
ZAK				pmax	pmax		
	comp=E,113nm,1.5s						
ZAK	**Zakamensk**	**6.77**	**221**	*e*	Sn	09 34 30.0	+4.2
ZAK				*e*Sg	Sg	09 34 58.6	-7.9
ZAK				Smax		09 35 05.4	
	comp=E,60nm,0.6s						
MOY	**Mondy**	**6.80**	**237**	*e*PN	Pn	09 33 11.1	+2.0
MOY				*e*		09 33 30.6	
MOY				*e*S	Sn	09 34 25.4	-1.2
MOY	**Mondy**	**6.80**	**237**	*e*Pn	Pn	09 33 09.7	+0.6
MOY				max		09 33 17.5	
	comp=E,41nm,0.7s						
MOY				*e*Sn	Sn	09 34 26.7	+0.1
MOY				*e*Sg	Sg	09 34 59.9	-7.7
MOY				Smax		09 35 08.3	
	comp=E,162nm,2.6s						
ULN	**Ulaanbaatar**	**8.09**	**195**	⇑*e*PN	Pn	09 33 29.5	+2.7
SONM	**Songino Array**	**8.22**	**198**	Pn	Pn	09 33 30.3	+1.6
	comp=E,0.4nm,0.3s,baz=14,slow=13,SNR=5.9						
SONM				Pg	Pn	09 34 00.3	+32
	comp=E,0.9nm,0.3s,baz=5.6,slow=16,SNR=5.0						
SONM				Lg		09 35 50.1	
	comp=E,4.1nm,0.3s,baz=21,slow=29,SNR=13						
HIA	**Hailar**	**8.68**	**134**	*i* PN	Pn	09 33 35.2	+0.3
TIXI	**Tiksi**	**17.86**	**19**	*i* P	Pn	09 35 36.8	-1.1
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**19.46**	**268**	*i* P	Pn	09 35 56.9	-0.4
KURK	**Kurchatov**	**19.46**	**268**	*e*P	Pn	09 35 56.3	-0.9
	comp=Z,10.0nm,1.1s						
MK31	**Makanchi Array**	**19.50**	**254**	*e*P	Pn	09 35 56.9	-0.9
MKAR	**Makanchi Array**	**19.50**	**254**	P	Pn	09 35 57.2	-0.6
	comp=Z,0.6nm,0.3s,baz=61,slow=11,SNR=13						
MKAR	**Makanchi Array**	**19.50**	**254**	*e*P	Pn	09 35 57.8	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHKZ	**Chkalovo**	**22.76**	**281**	*e*P	P	09 36 31.9	+0.2
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
CHKZ	**Chkalovo**	**22.76**	**281**	*e*P	P	09 36 31.9	+0.2
	comp=Z,1.9nm,0.6s,mb3.7						
BVAR	**Borovoye Array**	**23.13**	**280**	P	P	09 36 36.3	+0.7
	comp=Z,2.5nm,0.7s,mb3.8,baz=66,slow=10,SNR=9.9						
BVAR	**Borovoye Array**	**23.13**	**280**	P	P	09 36 36.3	+0.7
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**23.18**	**280**	*e*P	P	09 36 36.7	+0.6
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**23.18**	**280**	*e*P	P	09 36 36.7	+0.6
	comp=Z,5.1nm,0.9s,mb4.0						
ARCES	**ARCESS Array B**	**37.81**	**325**	P	P	09 38 45.0	-0.9
	comp=Z,2.2nm,0.8s,mb4.0,baz=71,slow=8.5,SNR=5.2						
ARCES	**ARCESS Array B**	**37.81**	**325**	P	P	09 38 45.0	-0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**37.81**	**325**	P	P	09 38 45.0	-0.9
FINES	**FINESS Array B**	**41.34**	**314**	P	P	09 39 14.7	-0.6
	comp=Z,1.3nm,0.6s,mb3.8,baz=55,slow=7.0,SNR=5.2						
FINES	**FINESS Array B**	**41.34**	**314**	*i* P	P	09 39 14.6	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**47.03**	**317**	P	P	09 39 59.8	-1.1
	comp=Z,1.3nm,0.4s,mb4.2,baz=55,slow=8.0,SNR=6.1						
HFS	**Hagfors**	**47.03**	**317**	P	P	09 39 59.8	-1.1
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**47.38**	**319**	P	P	09 40 03.1	-0.6
	comp=Z,0.7nm,0.5s,mb3.9,baz=34,slow=6.4,SNR=2.6						
NOA	**NORSAR Array B**	**47.38**	**319**	P	P	09 40 03.1	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**47.77**	**27**	P	P	09 40 06.4	-0.3
	comp=Z,0.5nm,0.5s,mb3.8,baz=336,slow=3.5,SNR=4.3						
INK	**Inuvik**	**47.77**	**27**	P	P	09 40 06.4	-0.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**57.07**	**23**	P	P	09 41 14.7	-0.9
	comp=Z,0.5nm,0.8s,mb3.6,baz=331,slow=7.1,SNR=4.2						
YKA	**Yellowknife Ar**	**57.07**	**23**	P	P	09 41 14.7	-0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

YKA	**Yellowknife Ar**	**57.07**	**23**	P	**P**	**09 41 14.7**	**-0.9**
WRA	**Warramunga Arr**	**78.08**	**157**	P	**P**	**09 43 30.8**	**+2.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=349,slow=6.1,SNR=5.4						
WRA	**Warramunga Arr**	**78.08**	**157**	*i* P	**P**	**09 43 30.7**	**+2.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**81.59**	**158**	P	**P**	**09 43 49.9**	**+2.5**
	comp=Z,0.4nm,0.7s,mb3.4,baz=353,slow=4.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**89.35**	**293**	P	**P**	**09 44 25.3**	**-0.7**
	comp=Z,0.6nm,0.8s,mb4.0,baz=335,slow=6.5,SNR=3.7						

*NEIC **04** 09:58:18.8±8.1, 3582S×17942W, h33km±52km, mb4.9/4, Error ellipse: s-maj=37.8km s-min=15.4km az=60.0*
*ISCJB **04** 09:58:21.9±1.2, 3599S±007×1798W±01, h55km±10km, mb4.4/8, MS3.8/4, Error ellipse: s-maj=18.1km s-min=10.0km az=50.9*
*IDC **04** 09:58:21.1±2.3, 3555S×17966W, h45km±19km, mb4.1/4, mb1 4.3/5, mb1mx4.1/11, mbtmp4.2/5, ML4.2/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/27, Error ellipse: s-maj=25.1km s-min=14.6km az=160.0*
ISC 04 09:58:22.2±1.2, 3591S±007×1798W±01, h42km±9km, n59, σ1§21/62, mb4.4/8, MS3.8/4, 1C, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.26**	**222**	P	**Pn**	**09 58 58.4**	**+1.3**
MXZ	**Matakaoa Point**	**2.26**	**222**	PN	**Pn**	**09 58 58.3**	**+1.2**
MXZ				SN	**Sn**	**09 59 29.6**	**+5.9**
MXZ				SN	**Sn**	**09 59 30.2**	**+6.4**
MXZ				T		10 01 42.7	
PUZ	**Puketiti**	**2.68**	**216**	*e*P	**Pn**	**09 59 03.8**	**+1.0**
PUZ				S	**Sn**	**09 59 41.7**	**+7.7**
PUZ	**Puketiti**	**2.68**	**216**	*e*PN	**Pn**	**09 59 03.8**	**+0.9**
PUZ				SN	**Sn**	**09 59 40.6**	**+6.6**
MWZ	**Matawai**	**3.25**	**221**	P	**Pn**	**09 59 12.1**	**+1.5**
MWZ	**Matawai**	**3.25**	**221**	PN	**Pn**	**09 59 11.7**	**+1.1**
MWZ				SN	**Sn**	**09 59 54.7**	**+6.7**
URZ	**Urewera**	**3.43**	**226**	P	**Pn**	**09 59 15.1**	**+2.0**
	17nm,0.3s,baz=38,slow=6.5,SNR=73						
URZ				S	**Sn**	**09 59 59.3**	**+6.9**
	57nm,0.3s,baz=184,slow=9.5,SNR=8.6						
URZ	**Urewera**	**3.43**	**226**	*e*P	**Pn**	**09 59 14.3**	**+1.2**
URZ	**Urewera**	**3.43**	**226**	*e*PN	**Pn**	**09 59 14.3**	**+1.2**
KNZ	**Kokohu**	**3.72**	**212**	*e*P	**Pn**	**09 59 17.7**	**+0.6**
KNZ	**Kokohu**	**3.72**	**212**	PN	**Pn**	**09 59 17.4**	**+0.3**
BKZ	**Black Stump Fm**	**4.41**	**221**	*e*P	**Pn**	**09 59 27.3**	**+0.8**
BKZ				S	**Sn**	**10 00 22.1**	**+5.5**
BKZ	**Black Stump Fm**	**4.41**	**221**	*e*PN	**Pn**	**09 59 26.6**	**0.0**
BKZ				SN	**Sn**	**10 00 22.1**	**+5.5**
PXZ	**Pawanui**	**4.91**	**212**	*e*PN	**Pn**	**09 59 31.5**	**-1.8**
HIZ	**Hauiti**	**5.02**	**237**	PN	**Pn**	**09 59 37.1**	**+2.2**
BFZ	**Birch Farm**	**5.71**	**212**	*e*P	**Pn**	**09 59 42.8**	**-1.6**
BFZ	**Birch Farm**	**5.71**	**212**	PN	**Pn**	**09 59 42.5**	**-1.9**
BFZ				SN	**Sn**	**10 00 48.7**	**+0.2**
MRZ	**Mangatainoka R**	**5.99**	**216**	*e*P	**Pn**	**09 59 46.6**	**-1.7**
MRZ				S	**Sn**	**10 00 57.1**	**+1.4**
MRZ	**Mangatainoka R**	**5.99**	**216**	*e*PN	**Pn**	**09 59 46.0**	**-2.4**
MRZ				SN	**Sn**	**10 00 57.1**	**+1.4**
CAW	**Cannon Point**	**6.58**	**216**	P	**Pn**	**09 59 56.2**	**-0.2**
CAW	**Cannon Point**	**6.58**	**216**	*e*PN	**Pn**	**09 59 56.2**	**-0.3**
TCW	**Tory Channel**	**7.06**	**220**	SN	**Sn**	**10 01 22.3**	**+0.4**
TUWZ	**Tuamarina**	**7.39**	**220**	SN	**Sn**	**10 01 29.7**	**-0.3**
QRZ	**Quartz Range**	**7.79**	**229**	SN	**Sn**	**10 01 40.8**	**+1.0**
THZ	**Tophouse**	**8.18**	**222**	*e*P	**Pn**	**10 00 16.8**	**-1.5**
THZ	**Tophouse**	**8.18**	**222**	*e*PN	**Pn**	**10 00 16.1**	**-2.2**
THZ				SN	**Sn**	**10 01 47.7**	**-1.6**
KHZ	**Kahutara**	**8.32**	**217**	*e*PN	**Pn**	**10 00 18.8**	**-1.5**
KHZ				SN	**Sn**	**10 01 49.4**	**-3.5**
MQZ	**McQueen's Vall**	**9.73**	**214**	SN	**Sn**	**10 02 21.8**	**-5.6**
RPZ	**Rata Peaks**	**10.51**	**219**	P	**Pn**	**10 00 49.4**	**-0.9**
	1.0nm,0.3s,baz=86,slow=3.6,SNR=5.4						
RPZ				S	**Sn**	**10 02 41.2**	**-5.5**
	2.7nm,0.3s,baz=308,slow=18,SNR=7.2						
ODZ	**Otahua Downs**	**11.68**	**216**	*e*PN	**Pn**	**10 01 02.6**	**-3.7**
DZM	**Mont Dzumac**	**18.29**	**315**	P	**Pn**	**10 02 32.8**	**+0.2**
	1.2nm,0.3s,baz=124,slow=16,SNR=13						
DZM				LR	LR	10 07 02.4	
	comp=Z,271nm,19.2s,baz=48,slow=29						
STKA	**Stephens Creek**	**32.18**	**266**	P	**P**	**10 04 47.6**	**+1.6**
	4.2nm,0.9s,mb4.2,baz=114,slow=10,SNR=7.0						
STKA				LR	LR	10 17 56.2	
	comp=Z,168nm,19.6s,MS3.7,baz=24,slow=36						
STKA	**Stephens Creek**	**32.18**	**266**	*e*P	**P**	**10 04 47.7**	**+1.7**
CTA	**Charters Tower**	**33.68**	**289**	*e*P	**P**	**10 04 59.6**	**+0.5**
	14nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**33.68**	**289**	*e*P	**P**	**10 04 59.3**	**+0.2**
	19nm,1.0s,mb5.0						
PMG	**Port Moresby**	**39.99**	**303**	LR	LR	10 20 23.2	
	comp=Z,119nm,18.6s,MS3.8,baz=47,slow=33						
ASAR	**Alice Springs**	**41.66**	**274**	P	**P**	**10 06 06.0**	**-0.5**
	5.3nm,0.9s,mb4.2,baz=120,slow=7.2,SNR=40						
ASAR				ScP	ScP	10 11 49.5	+0.1
	0.9nm,1.0s,baz=143,slow=5.6,SNR=4.9						
ASAR				S	**S**	**10 12 20.2**	**+0.1**
	0.7nm,0.9s,baz=113,slow=14,SNR=5.1						
VNDA	**Vanda**	**42.48**	**186**	P	**P**	**10 06 14.9**	**+1.8**
	0.7nm,0.7s,mb3.4,baz=5.6,slow=9.0,SNR=3.6						
WB2	**Warramunga Arr**	**43.14**	**279**	*e*P	**P**	**10 06 17.8**	**-0.7**
WB2	**Warramunga Arr**	**43.14**	**279**	*e*P	**P**	**10 06 17.5**	**-1.0**
WRA	**Warramunga Arr**	**43.15**	**279**	P	**P**	**10 06 17.7**	**-0.9**
	7.0nm,0.5s,mb4.7,baz=120,slow=7.7,SNR=148						
WRA				S	**S**	**10 12 41.1**	**-0.9**
	0.8nm,0.8s,baz=122,slow=14,SNR=5.9						
WRA				LR	LR	10 24 49.8	
	comp=Z,117nm,18.1s,MS3.8,baz=125,slow=37						
WRA	**Warramunga Arr**	**43.15**	**279**	P	**P**	**10 06 17.7**	**-0.9**
WRA				S	**S**	**10 12 41.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**51.12**	**275**	*e*P	**P**	**10 07 20.2**	**-0.4**
	12nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.12**	**275**	LR	LR	10 29 14.9	
	comp=Z,135nm,19.3s,MS4.0,baz=84,slow=36						
QSPA	**South Pole Qui**	**54.22**	**180**	*e*P	**P**	**10 07 44.5**	**+1.0**
	9.7nm,0.7s,mb4.8						
MAW	**Mawson**	**66.65**	**202**	P	**P**	**10 09 12.6**	**+4.2**
	1.4nm,0.6s,mb4.2,baz=123,slow=7.4,SNR=5.6						
SYO	**Syowa Base**	**71.43**	**194⇑**	*e*P	**P**	**10 09 37.4**	**-0.7**
MKAR	**Makanchi Array**	**120.08**	**308**	PKP	PKPdf	10 17 05.2	-3.1
	0.9nm,0.8s,baz=119,slow=0.8,SNR=4.6						
ARCES	**ARCESS Array B**	**143.59**	**345**	PKP	PKPdf	10 17 47.6	-4.7
	5.2nm,0.9s,baz=42,slow=2.9,SNR=4.7						
KAF	**Kangasniemi**	**149.11**	**336**	*e*pkp	PKPdf	10 18 02.2	+0.6
MALT	**Malatya**	**149.58**	**286**	*e*PKPbc	PKPbc	10 18 06.0	-1.0
FINES	**FINESS Array B**	**149.67**	**335**	PKPbc	PKPbc	10 18 04.4	-2.8
	12nm,0.9s,baz=27,slow=4.7,SNR=14						
FINES				PKPab	PKPab	10 18 09.4	-3.0
	10nm,0.8s,baz=57,slow=5.1,SNR=16						
EIL	**Elat**	**150.26**	**268**	*e*PKPbc	PKPbc	10 18 08.1	-0.6
BRTR	**Keskin Array B**	**153.42**	**288**	PKP	PKPdf	10 18 06.1	-2.1
	0.2nm,0.4s,baz=97,slow=7.3,SNR=2.2						
BRTR				PKPbc	PKPbc	10 18 13.3	-2.5
	1.6nm,0.8s,baz=134,slow=3.6,SNR=5.0						
BRTR				PKPab	PKPab	10 18 26.2	-1.9
	2.0nm,0.9s,baz=101,slow=1.9,SNR=4.1						
NB2	**NORSAR Subarra**	**153.89**	**348**	PKP	PKPab	10 18 26.3	-3.8
	comp=Z,6.0nm,0.9s,baz=24,slow=2.5						
NOA	**NORSAR Array B**	**153.89**	**348**	PKPbc	PKPbc	10 18 12.6	-4.2
	comp=Z,3.7nm,1.1s,baz=25,slow=3.9,SNR=2.9						
NOA				PKPab	PKPab	10 18 26.5	-3.6
	comp=Z,2.3nm,1.0s,baz=22,slow=3.0,SNR=7.4						
AKASG	**Malin Array Be**	**154.44**	**314**	PKP	PKPdf	10 18 05.6	-4.1
	comp=Z,0.2nm,0.3s,baz=25,slow=2.0,SNR=2.0						
AKASG				PKPbc	PKPbc	10 18 15.1	-3.0
	comp=Z,1.0nm,0.4s,baz=70,slow=2.1,SNR=6.0						
AKASG	**Malin Array Be**	**154.44**	**314**	PKP	PKPdf	10 18 05.6	-4.1
AKASG				PKPbc	PKPbc	10 18 15.1	-3.0
TORD	**Torodi Ar. Bea**	**157.30**	**184**	PKP	PKPdf	10 18 13.2	-0.3
	comp=Z,0.4nm,0.8s,baz=180,slow=1.0,SNR=2.2						
TORD				PKPab	PKPab	10 18 43.8	-1.0
	comp=Z,0.6nm,0.7s,baz=168,slow=5.3,SNR=4.5						

*MOS **04** 10:06:34.8±1.7, 5569N×110.16E, h13km, mb3.8/1, Error ellipse: s-maj=35.4km s-min=23.3km az=71.4*
BYKL 04 10:06:34.8±0.4, 5572N×11016E, h11km±6km, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**279⇑**	*i*Pg	Pg	10 06 41.8	0.0
NIZ				*i* Sg	Sg	10 06 47.5	+0.9
NIZ				Pmax			
	60nm,0.1s						
NIZ				Smax			
	1μm,0.3s						
KMO	**Kumora**	**0.61**	**74**	*e*PG	Pg	10 06 45.3	-1.4
KMO				*e*		10 06 53.1	
KMO				pmax	pmax		
	comp=Z,108nm,0.3s						
KMO				smax			
	comp=N,783nm,0.8s						
KMO	**Kumora**	**0.61**	**74⇑**	*i*Pg	Pg	10 06 45.3	-1.4
KMO				*i* Sg	Sg	10 06 53.4	-1.3
KMO				Pmax			
	comp=N,105nm,0.3s						
KMO				Smax			
	comp=N,790nm,1.1s						
YOA	**Uoyan**	**0.97**	**64**	*e*Pg	Pg	10 06 51.8	-1.7
YOA				*e*Sg	Sg	10 07 05.3	-0.9
YOA				Pmax			
	comp=N,130nm,0.5s						
YOA				Smax			
	comp=N,966nm,0.3s						
YLYR	**Ulyunkhan**	**1.02**	**145⇑**	*i*PG	Pg	10 06 52.8	-1.7
YLYR				*e*		10 07 05.6	
YLYR				pmax	pmax		
	comp=Z,129nm,0.2s						
YLYR				smax			
	comp=N,465nm,0.2s						
YLYR	**Ulyunkhan**	**1.02**	**145⇑**	*i*Pg	Pg	10 06 52.8	-1.7
YLYR				*e*Sg	Sg	10 07 07.5	-0.3
YLYR				Pmax			
	comp=N,131nm,0.5s						
YLYR				Smax			
	comp=N,456nm,0.3s						
SVKR	**Severomuysk**	**1.95**	**77**	*e*Pg	Pg	10 07 10.3	-2.0
SVKR				*e*Sg	Sg	10 07 37.0	-0.6
SVKR				Pmax			
	comp=N,134nm,0.6s						
SVKR				Smax			
	comp=N,2μm,0.6s						
SYVR	**Suvo**	**2.07**	**183**	*e*PN	Pn	10 07 11.5	+2.0
SYVR				*e*		10 07 39.5	
SYVR				pmax	pmax		
	comp=Z,89nm,0.6s						
SYVR				smax			
	comp=E,772nm,0.6s						
SYVR	**Suvo**	**2.07**	**183**	*e*Pn	Pn	10 07 08.0	-1.5
SYVR				⇑*i*Pg	Pg	10 07 11.6	-2.9
SYVR				*e*		10 07 14.8	
SYVR				*e*Sg	Sg	10 07 39.5	-1.8
SYVR				Pmax			
	comp=E,100nm,0.7s						
SYVR				Smax			
	comp=E,849nm,0.5s						
OGRR	**Ongureny**	**2.56**	**217**	*e*Pn	Pn	10 07 18.1	+1.9
OGRR				*e*Pg	Pg	10 07 20.4	-3.5
OGRR				*e*Sg	Sg	10 07 54.0	-3.0
OGRR				Pmax			
	comp=E,15nm,0.4s						
OGRR				Smax			
	comp=E,95nm,0.5s						
MXMB	**Maximikha**	**2.60**	**199**	*e*Sg	Sg	10 07 56.6	-1.6
MXMB				Smax			
	comp=E,372nm,0.8s						
BOD	**Bodaibo**	**2.98**	**44**	*e*Pn	Pn	10 07 23.0	+1.0
BOD				*e*Pg	Pg	10 07 27.1	-4.9
BOD				*e*Sn	Sn	10 07 58.4	+0.6
BOD				*e*Sg	Sg	10 08 06.6	-4.0
BOD				Pmax			
	comp=E,12nm,0.2s						
BOD				Smax			
	comp=E,170nm,0.9s						
NLYR	**Nelyaty**	**3.20**	**74**	*e*Pg	Pg	10 07 32.5	-3.6
NLYR				*e*Sg	Sg	10 08 14.2	-3.4
NLYR				Pmax			
	comp=E,4.0nm,0.7s						
NLYR				Smax			
	comp=E,17nm,0.9s						
TRG	**Tyrgan**	**3.71**	**219**	*e*Pn	Pn	10 07 34.3	+2.2
TRG				*e*Sn	Sn	10 08 17.1	+1.3
TRG				*e*Sg	Sg	10 08 31.3	-2.8
TRG				max			
	comp=E,20nm,0.6s						
TRG				Smax			
	comp=E,53nm,0.8s						
TRTB	**Turuntaevo**	**3.80**	**204**	*e*	Pn	10 07 36.4	+3.1
TRTB				*e*Pg	Pg	10 07 41.8	-5.8
TRTB				*e*Sn	Sn	10 08 18.4	+0.4
TRTB				*i* Sg	Sg	10 08 31.5	-5.4
TRTB				Pmax			
	comp=E,6.0nm,0.6s						
TRTB				Smax			
	comp=E,38nm,1.0s						
FFNB	**Fofonovo**	**4.19**	**210**	*e*Sn	Sn	10 08 25.4	-2.2
FFNB				*e*Sg	Sg	10 08 44.0	-5.4
FFNB				Smax			
	comp=E,132nm,0.5s						
CIT	**Chita**	**4.21**	**150**	*e*Sg	Sg	10 08 46.0	-4.1
CIT				Smax			
	comp=E,63nm,1.0s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pn	10 08 00.6	+15
CRS				*e*		10 08 59.1	
CRS				pmax	pmax		
	comp=Z,24nm,0.8s						
CRS				smax			
	comp=E,76nm,1.5s						
CRS	**Chara**	**4.67**	**72**	*e*Pn	Pn	10 07 46.3	+1.1
CRS				*e*Pg	Pg	10 07 59.6	-4.6
CRS				*e*Sg	Sg	10 08 59.0	-5.7
CRS				Pmax			
	comp=E,19nm,1.1s						
CRS				Smax			
	comp=E,97nm,1.4s						
IRK	**Irkutsk**	**4.92**	**227**	*e*Sg	Sg	10 09 05.5	-7.3
IRK				Smax			
	comp=E,181nm,0.4s						
LSTR	**Listvyanka**	**4.99**	**221**	*e*Sn	Sn	10 08 46.7	-0.5
LSTR				*e*Sg	Sg	10 09 09.1	-5.8
TLY	**Talaya**	**5.60**	**226**	*e*PN	Pn	10 08 16.4	+18
TLY				*e*S	Sn	10 09 01.0	-1.3
TLY				*e*		10 09 26.9	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TLY				smax			
	comp=E,32nm,1.5s						
TLY	**Talaya**	**5.60**	**226**	*e*Pn	Pn	10 07 58.5	+0.5
TLY				*e*Sn	Sn	10 08 59.3	-3.0
TLY				*e*Sg	Sg	10 09 26.5	-8.0
TLY				Smax			
	comp=E,16nm,1.0s						
TUP	**Tupik**	**5.78**	**99**	*e*PN	Pn	10 08 00.1	-0.3
TUP				*e*		10 08 18.0	
TUP				*e*S	Sn	10 09 04.7	-1.9
TUP				*e*		10 09 32.8	
TUP				pmax	pmax		
	comp=Z,12nm,0.8s						
TUP				smax			
	comp=N,77nm,1.0s						
TUP	**Tupik**	**5.78**	**99**	*e*Sg	Sg	10 09 34.8	-5.4
TUP				Smax			
	comp=N,77nm,1.0s						
ARS	**Arshan**	**5.96**	**233**	*e*Pn	Pn	10 08 03.3	+0.4
ARS				*e*		10 08 23.7	
ARS				*e*Sn	Sn	10 09 10.7	-0.4
ARS				*e*Sg	Sg	10 09 39.3	-6.7
ARS				max			
	comp=N,14nm,0.5s						
ARS				Smax			
	comp=N,114nm,0.7s						
ZAK	**Zakamensk**	**6.76**	**221**	*e*Sg	Sg	10 10 06.2	-5.7
ZAK				Smax			
	comp=N,11nm,0.6s						
MOY	**Mondy**	**6.79**	**237**	*e*PN	Pn	10 08 15.8	+1.5
MOY				*e*		10 08 35.6	

*IDC **04** 10:09:00.2±3.2, 3315S×17906W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=71.1km s-min=38.6km az=53.0*
*NEIC **04** 10:09:00.6±2.1, 3328S×17843W, h30km, Error ellipse: s-maj=38.0km s-min=16.0km az=91.0*
*ISCJB **04** 10:09:12.3±1.5, 3376S±008×1797W±02, h82km±14km, mb4.0/3, Error ellipse: s-maj=23.9km s-min=11.2km az=46.6*
ISC 04 10:09:11.9±1.5, 3368S±009×1796W±02, h69km±14km, n33, σ1§26/43, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.24**	**204**	*e*P	**Pn**	**10 10 15.1**	**+1.1**
MXZ				S	**Sn**	**10 11 10.5**	**+8.2**
MXZ	**Matakaoa Point**	**4.24**	**204**	*e*PN	**Pn**	**10 10 15.0**	**+1.0**
MXZ				SN	**Sn**	**10 11 10.5**	**+8.3**
MWZ	**Matawai**	**5.21**	**206**	*e*P	**Pn**	**10 10 28.3**	**+1.1**
MWZ				S	**Sn**	**10 11 34.8**	**+8.9**
MWZ	**Matawai**	**5.21**	**206**	*e*PN	**Pn**	**10 10 28.0**	**+0.8**
MWZ				SN	**Sn**	**10 11 34.8**	**+8.9**
URZ	**Urewera**	**5.30**	**210**	Pn	**Pn**	**10 10 29.9**	**+1.4**
	4.2nm,0.3s,baz=4.7,slow=0.8,SNR=23						
URZ				Sn	**Sn**	**10 11 33.6**	**+5.3**
	6.4nm,0.3s,baz=291,slow=22,SNR=8.1						
URZ	**Urewera**	**5.30**	**210**	*e*P	**Pn**	**10 10 29.9**	**+1.4**
URZ	**Urewera**	**5.30**	**210**	*e*PN	**Pn**	**10 10 29.6**	**+1.1**
URZ				SN	**Sn**	**10 11 36.1**	**+7.8**
KNZ	**Kokohu**	**5.77**	**202**	P	**Pn**	**10 10 36.3**	**+1.3**
KNZ	**Kokohu**	**5.77**	**202**	PN	**Pn**	**10 10 36.3**	**+1.4**
OUZ	**Omahuta**	**5.86**	**253**	*e*P	**Pn**	**10 10 40.3**	**+4.2**
OUZ	**Omahuta**	**5.86**	**253**	PN	**Pn**	**10 10 39.6**	**+3.5**
BKZ	**Black Stump Fm**	**6.33**	**209**	P	**Pn**	**10 10 43.7**	**+1.2**
BKZ	**Black Stump Fm**	**6.33**	**209**	*e*PN	**Pn**	**10 10 43.1**	**+0.5**
BKZ				SN	**Sn**	**10 11 57.6**	**+4.2**
PXZ	**Pawanui**	**6.95**	**203**	PN	**Pn**	**10 10 50.3**	**-0.8**
PXZ				SN	**Sn**	**10 12 09.6**	**+0.9**
MRZ	**Mangatainoka R**	**7.97**	**208**	*e*P	**Pn**	**10 11 02.2**	**-2.8**
MRZ	**Mangatainoka R**	**7.97**	**208**	*e*PN	**Pn**	**10 11 02.2**	**-2.8**
MRZ				SN	**Sn**	**10 12 33.7**	**+0.1**
CAW	**Cannon Point**	**8.55**	**208**	P	**Pn**	**10 11 12.6**	**-0.3**
CAW	**Cannon Point**	**8.55**	**208**	*e*PN	**Pn**	**10 11 11.1**	**-1.8**
TCW	**Tory Channel**	**8.97**	**211**	SN	**Sn**	**10 12 59.3**	**+1.3**
NNZ	**Nelson**	**9.38**	**215**	SN	**Sn**	**10 13 08.6**	**+0.5**
THZ	**Tophouse**	**10.03**	**214**	P	**Pn**	**10 11 31.0**	**-2.1**
THZ	**Tophouse**	**10.03**	**214**	*e*PN	**Pn**	**10 11 31.0**	**-2.1**
THZ				SN	**Sn**	**10 13 23.5**	**-0.4**
KHZ	**Kahutara**	**10.27**	**210**	P	**Pn**	**10 11 34.4**	**-2.0**
KHZ	**Kahutara**	**10.27**	**210**	PN	**Pn**	**10 11 34.4**	**-2.1**
KHZ				SN	**Sn**	**10 13 28.7**	**-1.2**
LTZ	**Lake Taylor**	**11.12**	**213**	*e*PN	**Pn**	**10 11 46.2**	**-1.7**
LTZ				SN	**Sn**	**10 13 47.0**	**-3.5**
MQZ	**McQueen's Vall**	**11.71**	**209**	SN	**Sn**	**10 13 58.7**	**-6.1**
CTA	**Charters Tower**	**33.20**	**285**	P	**P**	**10 15 43.0**	**+1.1**
	1.6nm,0.5s,mb4.1,baz=132,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**41.73**	**271**	P	**P**	**10 16 54.4**	**+0.4**
	1.8nm,0.6s,mb4.0,baz=114,slow=7.2,SNR=44						
WRA	**Warramunga Arr**	**43.02**	**277**	P	**P**	**10 17 03.2**	**-1.3**
	1.5nm,0.6s,mb3.9,baz=116,slow=7.5,SNR=24						
VNA3	**Neumayer Olymp**	**75.12**	**177**	*e*	**P**	**10 20 46.5**	**0.0**
VNA3				*e*		10 20 49.1	
VNA2	**Neumayer--Watz**	**75.54**	**177**	*e*	**P**	**10 20 49.3**	**+0.4**
	baz=163,slow=5.4						
VNA2				*e*		10 20 52.0	
ANTO	**Ankara**	**153.45**	**293**	*e*PKPdf	PKPdf	10 28 49.9	-4.7
TORD	**Torodi Ar. Bea**	**159.52**	**183**	PKPab	PKPab	10 29 41.4	+0.6
	0.8nm,0.7s,baz=177,slow=3.4,SNR=5.8						

*ISCJB **04** 10:18:04.1±0.7, 563N±0.1×1615W±0.1, h137km±11km, mb3.5/8, Error ellipse: s-maj=23.5km s-min=8.4km az=135.7*
*NEIC **04** 10:18:06.0±0.6, 5615N×16155W, h144km±8km, MG3.5(AEIC), Error ellipse: s-maj=19.2km s-min=8.4km az=160.0*
*IDC **04** 10:18:06.3±4.0, 5634N×16143W, h140km±32km, mb3.3/8, mb1 3.4/10, mb1mx3.3/26, mbtmp3.2/10, Error ellipse: s-maj=40.1km s-min=18.3km az=20.0*
ISC 04 10:18:05.1±0.6, 563N±01×1615W±01, h133km±10km, n17, σ0§84/20, mb3.5/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.10**	**147**	*e*Pn	**Pn**	**10 18 29.5**	**+0.3**
SDPT				P		10 18 29.8	
SDPT				*e*Sn	**Sn**	**10 18 46.2**	**-1.4**
SDPT				S	**Sn**	**10 18 47.2**	**-0.4**
CHGN	**Chignik**	**1.74**	**88**	P	**Pn**	**10 18 39.2**	**+3.0**
FALS	**False Pass**	**1.77**	**218**	P	**Pn**	**10 18 36.8**	**+0.2**
FALS				S	**Sn**	**10 19 00.5**	**-0.1**
UNV	**Unalaska Valle**	**3.75**	**232**	P	**Pn**	**10 19 01.5**	**-0.1**
KDAK	**Kodiak Island**	**5.12**	**69**	P	**Pn**	**10 19 20.3**	**+0.5**
	3.9nm,0.3s,baz=241,slow=7.7,SNR=68						
KDAK				S	**Sn**	**10 20 17.1**	**-0.9**
	6.2nm,0.3s,baz=266,slow=23,SNR=16						
INK	**Inuvik**	**17.53**	**35**	P	**Pn**	**10 22 01.4**	**+0.1**
	0.1nm,0.3s,baz=236,slow=8.9,SNR=8.9						
YKA	**Yellowknife Ar**	**24.23**	**56**	P	**P**	**10 23 10.0**	**+0.6**
	0.4nm,0.5s,mb3.2,baz=273,slow=8.4,SNR=12						
YKA				sP	sP	10 23 45.3	-7.8
	2.2nm,1.1s,baz=276,slow=11,SNR=8.1						
YKA	**Yellowknife Ar**	**24.23**	**56**	P	**P**	**10 23 10.0**	**+0.6**
YKA				sP	sP	10 23 45.3	-7.8
PDAR	**Pinedale Array**	**35.46**	**90**	P	**P**	**10 24 49.5**	**+0.9**
	0.5nm,0.7s,mb3.3,baz=310,slow=4.2,SNR=5.1						
TXAR	**Lajitas Array**	**48.42**	**99**	P	**P**	**10 26 33.2**	**-0.5**
	1.4nm,1.0s,mb3.5,baz=313,slow=6.0,SNR=6.9						
TXAR	**Lajitas Array**	**48.42**	**99**	P	**P**	**10 26 33.2**	**-0.5**
SONM	**Songino Array**	**53.15**	**303**	P	**P**	**10 27 09.7**	**+0.5**
	0.6nm,0.8s,mb3.4,baz=54,slow=7.3,SNR=3.3						
SONM				PcP	PcP	10 28 16.4

comp=N,4μm,0.4s
YOA Uoyan 0.96 62 *e*Pg **Pg 10 39 03.0 -1.6**
YOA Pmax 10 39 05.4
comp=N,32nm,0.7s
YOA *e*Sg **Sg 10 39 17.1 -0.1**
YOA Smax 10 39 33.6
comp=N,4μm,0.7s
YLYR Ulyunkhan 0.99 146⇑ *i*PG **Pg 10 39 04.4 -0.7**
YLYR *e* 10 39 17.2
YLYR pmax pmax
comp=Z,665nm,0.2s
YLYR smax
comp=N,2μm,0.2s
YLYR Ulyunkhan 0.99 146⇑ *i*Pg **Pg 10 39 04.4 -0.7**
YLYR Pmax 10 39 04.8
comp=N,664nm,0.5s
YLYR *e* 10 39 05.2
YLYR *e*Sg **Sg 10 39 18.6 +0.7**
YLYR *e* 10 39 23.9
YLYR max 10 39 25.9
comp=N,2μm,0.4s
SVKR Severomuysk 1.94 76 *e*PN **Pn 10 39 20.7 +1.7**
SVKR *e* 10 39 21.7
SVKR *e* 10 39 48.5
SVKR pmax pmax
comp=Z,396nm,0.6s
SVKR smax
comp=N,10μm,0.7s
SVKR Severomuysk 1.94 76 *e*Pg **Pg 10 39 21.0 -2.2**
SVKR Pmax 10 39 28.3
comp=N,395nm,0.6s
SVKR *e*Sg **Sg 10 39 48.7 +0.3**
SVKR Smax 10 39 50.3
comp=N,10μm,0.5s
SYVR Suvo 2.04 183 *e*PN **Pn 10 39 23.0 +2.5**
SYVR *e* 10 39 51.7
SYVR pmax pmax
comp=Z,479nm,0.6s
SYVR smax
comp=E,4μm,0.6s
SYVR Suvo 2.04 183⇑ *i*Pg **Pg 10 39 23.3 -2.0**
SYVR Pmax 10 39 23.9
comp=E,529nm,0.6s
SYVR *e*Sg **Sg 10 39 51.5 -0.3**
SYVR Smax 10 39 53.6
comp=E,527nm,0.8s
OGRR Ongureny 2.55 217 *e*PN **Pn 10 39 29.4 +1.9**
OGRR *e* 10 39 33.3
OGRR *e* 10 40 05.6
OGRR pmax pmax
comp=Z,49nm,0.5s
OGRR smax
comp=E,525nm,1.0s
OGRR Ongureny 2.55 217 *e*Pn **Pn 10 39 29.4 +1.9**
OGRR *e*Pg **Pg 10 39 32.2 -2.8**
OGRR Pmax 10 39 37.4
comp=E,50nm,0.5s
OGRR *e*Sn **Sn 10 40 01.5 +2.9**
OGRR *e*Sg **Sg 10 40 05.7 -2.4**
OGRR Smax 10 40 07.9
comp=E,540nm,1.4s
MXMB Maximikha 2.58 200 *e*Pn **Pn 10 39 29.7 +1.8**
MXMB *e*Pg **Pg 10 39 32.9 -2.6**
MXMB Pmax 10 39 36.0
comp=E,216nm,1.3s
MXMB *e*Sg **Sg 10 40 07.0 -2.0**
MXMB Smax 10 40 12.8
comp=E,2μm,1.0s
BOD Bodaibo 2.99 43⇑ *i*PN **Pn 10 39 34.2 +0.7**
BOD *e* 10 40 18.9
BOD pmax pmax
comp=Z,64nm,0.5s
BOD smax
comp=N,488nm,0.5s
BOD Bodaibo 2.99 43 *e*Pn **Pn 10 39 34.6 +1.1**
BOD *e* 10 39 41.6
BOD max 10 39 47.9
comp=N,63nm,0.9s
BOD *e*Sn **Sn 10 40 11.2 +1.9**
BOD *e*Sg **Sg 10 40 17.8 -4.2**
BOD Smax 10 40 21.8
comp=N,671nm,1.2s
NLYR Nelyaty 3.19 73 *e*Pn **Pn 10 39 37.5 +1.3**
NLYR *e*Pg **Pg 10 39 42.8 -4.3**
NLYR *e*Sn **Sn 10 40 14.9 +0.7**
NLYR *e*Sg **Sg 10 40 25.7 -2.7**
TRG Tyrgan 3.71 219 *e*PN **Pn 10 39 45.1 +1.7**
TRG *e* 10 39 53.4
TRG *e*S **Sn 10 40 28.1 +1.0**
TRG *e* 10 40 41.9
TRG pmax pmax
comp=Z,36nm,0.7s
TRG smax
comp=E,350nm,0.6s
TRG Tyrgan 3.71 219 *e*Pn **Pn 10 39 45.1 +1.7**
TRG max 10 39 46.5
comp=E,58nm,0.1s
TRG *e*Sn **Sn 10 40 29.0 +1.9**
TRG *e*Sg **Sg 10 40 40.5 -4.7**
TRG Smax 10 40 48.5
comp=E,348nm,0.8s
TRTB Turuntaevo 3.79 205 *e*Pn **Pn 10 39 46.0 +1.5**
TRTB *e*Pg **Pg 10 39 53.2 -5.4**
TRTB Pmax 10 40 02.1
comp=E,50nm,1.1s
TRTB *e*Sn **Sn 10 40 30.4 +1.3**
TRTB *e*Sg **Sg 10 40 42.7 -5.0**
TRTB Smax 10 40 51.0
comp=E,230nm,0.9s
CIT Chita 4.18 150 *e*PN **Pn 10 39 50.9 +1.0**
CIT *e*S **Sn 10 40 39.5 +0.7**
CIT *e*S **Sg 10 40 55.2 -5.1**
CIT smax
comp=E,314nm,1.2s
CIT Chita 4.18 150 *e*Pn **Pn 10 39 51.0 +1.1**
CIT *e*Pg **Pg 10 40 00.0 -6.2**
CIT Pmax 10 40 02.2
comp=E,221nm,1.1s
CIT *e*Sg **Sg 10 40 55.6 -4.7**
CIT Smax 10 41 03.1
comp=E,315nm,1.2s
FFNB Fofonovo 4.18 211 *e*Pn **Pn 10 39 49.9 0.0**
FFNB *e*Sn **Sn 10 40 39.0 +0.2**
FFNB *e*Sg **Sg 10 40 55.4 -4.9**
FFNB Smax 10 41 00.0
comp=E,420nm,0.5s
STDB Stepnoy Dvoret 4.20 214 Smax 10 40 02.8
comp=E,944nm,1.0s
STDB *e*Sg **Sg 10 40 55.3 -5.5**
KAB Kabansk 4.21 211 *e*PN **Pb 10 40 01.9 +1.7**
KAB *e* 10 40 56.7
KAB pmax pmax
comp=Z,69nm,0.2s
KAB smax
comp=N,973nm,0.8s
KAB Kabansk 4.21 211 *e*Sg **Sg 10 40 57.5 -3.8**
KAB Smax 10 41 10.6
comp=N,904nm,0.8s
HRMR Khuramsha 4.51 207 *e*Pn **Pn 10 39 56.7 +2.3**
HRMR *e*Pg **Pg 10 40 06.4 -6.0**
HRMR Pmax 10 40 12.8
comp=N,68nm,0.5s
HRMR *e*Sn **Sn 10 40 44.2 -2.6**
HRMR *e*Sg **Sg 10 41 05.4 -5.4**
HRMR Smax 10 41 11.9
comp=N,714nm,0.5s
CRS Chara 4.66 72 *e*PN **Pg 10 40 11.1 -4.1**
CRS *e* 10 41 10.1
CRS pmax pmax
comp=Z,74nm,1.0s
CRS smax
comp=E,395nm,1.5s
CRS Chara 4.66 72 *e*Pn **Pn 10 39 57.8 +1.4**
CRS *e*Pg **Pg 10 40 09.5 -5.7**
CRS Pmax 10 40 12.9
comp=E,73nm,1.0s
CRS *e*Sg **Sg 10 41 10.1 -5.4**
CRS Smax 10 41 26.9
comp=E,395nm,1.5s
BTMB Babushkin 4.77 215 *e*Sg **Sg 10 41 12.3 -6.9**
BTMB Smax 10 41 23.6
comp=E,219nm,1.1s
IRK Irkutsk 4.92 228 *e*Sn **Sn 10 40 57.3 +0.3**
IRK *e*Sg **Sg 10 41 18.6 -5.4**
IRK Smax 10 41 23.3
comp=E,527nm,0.5s
LSTR Listvyanka 4.98 222 *e*Pn **Pn 10 40 02.8 +1.9**
LSTR max 10 40 06.3
comp=E,23nm,0.6s
LSTR *e*Sn **Sn 10 40 57.9 -0.6**
LSTR *e*Sg **Sg 10 41 21.0 -5.0**
LSTR Smax 10 41 23.2
comp=E,214nm,1.4s
TLY Talaya 5.60 227 *e*PN **Pn 10 40 11.6 +2.3**
TLY *e* 10 40 27.4
TLY *e*S **Sn 10 41 12.9 -0.8**
TLY *e* 10 41 38.7
TLY pmax pmax
comp=Z,21nm,0.6s
TLY smax
comp=E,123nm,1.3s
TLY Talaya 5.60 227 *e*Pn **Pn 10 40 10.1 +0.7**
comp=E,18nm,0.6s
TLY *e*Sn **Sn 10 41 12.6 -1.1**
TLY Talaya 5.60 227 *e*Pn **Pn 10 40 09.8 +0.5**
TLY max 10 40 31.5
comp=E,21nm,0.6s
TLY *e*Sn **Sn 10 41 11.6 -2.1**
TLY *e*Sg **Sg 10 41 41.0 -4.8**
TLY Smax 10 41 48.3
comp=E,127nm,1.3s
TUP Tupik 5.75 99 *e*PN **Pn 10 40 12.7 +1.3**
TUP *e* 10 40 29.7
TUP *e*S **Sn 10 41 16.2 -1.2**
TUP *e* 10 41 44.4
TUP pmax pmax
comp=Z,39nm,0.7s
TUP smax
comp=N,381nm,1.1s
TUP Tupik 5.75 99 *e*Pn **Pn 10 40 12.9 +1.5**
TUP *e*Pg **Pg 10 40 29.4 -6.8**
TUP Pmax 10 40 32.3
comp=N,24nm,0.6s
TUP *e*Sn **Sn 10 41 16.4 -1.0**
TUP *e*Sg **Sg 10 41 46.0 -4.6**
TUP Smax 10 41 50.0
comp=N,377nm,1.0s
ARS Arshan 5.96 234 *e*PN **Pn 10 40 15.3 +1.0**
ARS Arshan 5.96 234⇓ *i*Pn **Pn 10 40 14.4 +0.1**
ARS max 10 40 18.1
comp=N,49nm,0.6s
ARS *e*Sn **Sn 10 41 22.0 -0.6**
ARS *e*Sg **Sg 10 41 50.3 -7.0**
ARS Smax 10 41 57.7
comp=N,417nm,0.5s
KPC Khapcheranga 6.14 167 *e*PN **Pn 10 40 17.6 +0.7**
KPC *e* 10 40 37.0
KPC *e* 10 41 57.7
KPC pmax pmax
comp=Z,34nm,0.8s
KPC smax
comp=E,212nm,1.3s
KPC Khapcheranga 6.14 167 *e*Pn **Pn 10 40 18.0 +1.1**
KPC *e*Pg **Pg 10 40 36.8 -6.9**
KPC Pmax 10 40 39.0
comp=E,41nm,1.1s
KPC *e*Sg **Sg 10 41 55.6 -7.7**
KPC Smax 10 42 09.3
comp=E,212nm,1.4s
ZAK Zakamensk 6.76 221 *e*PN **Pn 10 40 27.5 +2.2**
ZAK *e* 10 40 49.3
ZAK *e*S **Sn 10 41 46.4 +4.1**
ZAK *e* 10 42 16.6
ZAK pmax pmax
comp=Z,7.0nm,0.6s
ZAK pmax pmax
comp=E,137nm,1.4s
ZAK Zakamensk 6.76 221 *e*Sn **Sn 10 41 40.0 -2.3**
ZAK *e*Sg **Sg 10 42 15.6 -7.4**
ZAK Smax 10 42 19.5
comp=E,137nm,1.4s
MOY Mondy 6.79 237 *e*PN **Pn 10 40 28.2 +2.4**
MOY *e* 10 40 48.3
MOY *e*S **Sn 10 41 43.4 +0.2**
MOY *e* 10 42 15.0
MOY pmax pmax
comp=Z,18nm,0.2s
MOY smax
comp=E,182nm,1.5s
MOY Mondy 6.79 237 *i* Pn **Pn 10 40 28.4 +2.6**
MOY max 10 40 37.7
comp=E,68nm,1.2s
MOY *e*Sn **Sn 10 41 43.8 +0.6**
MOY *e*Sg **Sg 10 42 15.3 -8.8**
MOY Smax 10 42 22.1
comp=E,181nm,1.5s
ULN Ulaanbaatar 8.08 195 *e*PN **Pn 10 40 46.5 +3.1**
ULN Ulaanbaatar 8.08 195 *e*Sg Sx 10 42 58.3
NRGR Nerungri 8.16 77 *e*Pn **Pn 10 40 36.4 -8.2**
SONM Songino Array 8.22 198 Pn **Pn 10 40 44.6 -0.7**
comp=E,0.3nm,0.3s,baz=8.4,slow=14,SNR=7.9
SONM Pg Pn 10 41 14.5 +29
comp=E,0.6nm,0.3s,baz=4.0,slow=16,SNR=8.2
SONM Sn **Sn 10 42 20.3 +2.1**
comp=E,0.5nm,0.3s,baz=16,slow=27,SNR=4.0
SONM Lg 10 43 02.3
comp=E,0.9nm,0.3s,baz=17,slow=22,SNR=4.2
SONM Songino Array 8.22 198 PG Px 10 41 14.5
SONM 10 42 20.3
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM smax
comp=N,1.0nm,0.3s
TNDR Tynda 8.28 88 *e*Sg Sx 10 43 03.3
HIA Hailar 8.67 134 *e*Sg Sx 10 43 14.5
TDJR Todzha 8.93 254 *e*Pn **Pn 10 40 57.8 +2.8**
TDJR *e* 10 42 43.2
TDJR *e*Sg Sn 10 43 19.6 +44
YAK Yakutsk 11.88 50 *i* P **Pn 10 41 33.1 -2.4**
ZAL Zalesovo 14.72 274 Pn **Pn 10 42 14.7 +0.4**
comp=N,0.4nm,0.3s,baz=32,slow=10,SNR=6.7
ZAL Lg 10 46 29.6
comp=N,0.3nm,0.3s,baz=136,slow=11,SNR=3.5
TIXI Tiksi 17.87 19 *i* P **Pn 10 42 50.4 -4.4**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TIXI Tiksi 17.87 19 *e*Pn **Pn 10 42 50.2 -4.6**
comp=Z,4.1nm,0.6s
KURK Kurchatov 19.45 268 *i* P **Pn 10 43 13.0 -1.0**
MK31 Makanchi Array 19.49 255 *e*P **Pn 10 43 13.9 -0.6**
MKAR Makanchi Array 19.49 255 P **Pn 10 43 13.8 -0.7**
comp=Z,0.6nm,0.3s,baz=63,slow=10,SNR=26
MKAR Makanchi Array 19.49 255 *i* P **Pn 10 43 14.3 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
CHKZ Chkalovo 22.76 282 *e*P **P 10 43 48.8 +0.4**
CHKZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
CHKZ Chkalovo 22.76 282 *e*P **P 10 43 48.8 +0.4**
comp=Z,6.8nm,1.0s,mb4.0
BVAR Borovoye Array 23.13 280 P **P 10 43 51.7 -0.7**
comp=Z,2.2nm,0.6s,mb3.8,baz=74,slow=11,SNR=14
BVAR LR LR 10 52 35.3
comp=Z,45nm,21.1s,MS2.9,baz=55,slow=36
ARCES ARCESS Array B 37.81 325 P **P 10 46 00.6 -2.0**
comp=Z,2.0nm,0.7s,mb3.9,baz=76,slow=8.5,SNR=2.5
ARCES LR LR 11 03 50.8
comp=Z,76nm,18.0s,MS3.5,baz=257,slow=40
FINES FINESS Array B 41.35 314 P **P 10 46 30.5 -1.6**
comp=Z,1.7nm,0.6s,mb3.9,baz=76,slow=8.0,SNR=5.1
FINES FINESS Array B 41.35 314 P **P 10 46 30.5 -1.6**
FINES pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 46.16 299 P **P 10 47 09.9 -0.9**
comp=Z,0.4nm,0.4s,mb3.7,baz=44,slow=8.5,SNR=6.2
YKA Yellowknife Ar 57.08 23 P **P 10 48 31.0 -1.4**
comp=Z,0.7nm,0.8s,mb3.8,baz=329,slow=7.0,SNR=6.9
NVAR Mina Array Bea 77.55 37 P **P 10 50 43.4 +1.3**
comp=Z,0.4nm,0.6s,mb3.5,baz=335,slow=5.1,SNR=3.7
NVAR Mina Array Bea 77.55 37 P **P 10 50 43.4 +1.3**
WRA Warramunga Arr 78.08 157 P **P 10 50 45.1 0.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=345,slow=6.0,SNR=5.7
WRA Warramunga Arr 78.08 157 P **P 10 50 45.1 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 81.38 255 P **P 10 51 01.7 -1.3**
comp=Z,0.6nm,0.3s,mb4.0,baz=72,slow=20,SNR=2.7
KMBO Kilima Mbogo 81.38 255 P **P 10 51 01.7 -1.3**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 81.38 255 P **P 10 51 01.7 -1.3**
ASAR Alice Springs 81.58 158 P **P 10 51 04.3 +0.3**
comp=Z,0.3nm,0.8s,mb3.3,baz=356,slow=5.4,SNR=6.0
VNA2 Neumayer--Watz 149.84 215 *e*PKPdf PKPdf 10 58 35.7 +4.1
baz=78,slow=2.2
VNA2 *e* 10 58 38.2
VNA2 *e* 10 58 44.0
VNA3 Neumayer Olymp 150.59 215 *e*PKPdf PKPdf 10 58 36.5 +3.7
VNA3 *e* 10 58 39.0

NIED ***04*** *10:43:00, 42.60N×142.70E, h44km, Mw3.9 Best double couple: M0 8.07000×10^14 NP1:φs 14.00000°, δ70.00000°, λ-147.00000°. NP2:φs 272.00000°, δ59.00000°, λ-23.00000°.*
MOS ***04*** *10:43:34.7±1.0, 42.50N×142.58E, h63km, mb4.1/3, Error ellipse: s-maj=23.1km s-min=12.0km az=84.9*
ISCJB ***04*** *10:43:35.2±0.3, 42.54N±0.03×142.65E±0.04, h63km±3km, mb3.6/9, Error ellipse: s-maj=5.2km s-min=4.4km az=117.1*
NEIC ***04*** *10:43:36.0, 42.59N×142.70E, h53km, MG3.7(JMA), After JMA.*
IDC ***04*** *10:43:37.0±2.0, 42.55N×142.60E, h64km±18km, mb3.3/9, mb1 3.6/12, mb1mx3.5/25, mbtmp3.5/12, MS3.0/1, Ms1 3.0/1, ms1mx2.7/14, Error ellipse: s-maj=22.0km s-min=14.5km az=108.0*
JMA ***04*** *10:43:36.0±0.1, 42.59N×142.70E, h53km±1km, M3.7*
ISC 04 10:43:36.2±0.3, 42.55N±0.03×142.65E±0.04, h57km±3km, n36, σ0 89/50, mb3.6/9, 9C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.28**	**165**	⇑P	**Pn**	**10 43 45.7**	**-0.1**
JNBK				*e*S	**Sn**	**10 43 53.3**	**+0.5**
JBT2	**Biratori 2**	**0.31**	**317**	⇑P	**Pn**	**10 43 45.1**	**-1.0**
JBT2				*e*S	**Sn**	**10 43 52.3**	**-0.8**
JCH	**Churui**	**0.53**	**83**	⇓P	**Pn**	**10 43 47.3**	**-0.9**
JCH				*e*S	**Sn**	**10 43 55.9**	**-1.0**
JFR	**Furan**	**0.61**	**356**	⇑P	**Pn**	**10 43 48.4**	**-0.8**
JFR				*e*S	**Sn**	**10 43 58.4**	**-0.2**
ERM	**Erimo**	**0.65**	**145**	*e*Pg	**Pn**	**10 43 49.9**	**+0.2**
ERM				*e*Sn	**Sn**	**10 44 02.2**	**+2.6**
JEM	**Erimo**	**0.65**	**145**	⇑P	**Pn**	**10 43 50.4**	**+0.7**
JEW	**Eniwo**	**0.93**	**288**	⇑P	**Pn**	**10 43 52.9**	**-0.3**
JEW				*e*S	**Sn**	**10 44 06.1**	**+0.3**
JOB	**Onbets**	**0.94**	**68**	⇓P	**Pn**	**10 43 53.0**	**-0.3**
JOB				*e*S	**Sn**	**10 44 06.1**	**+0.2**
JAB	**Ashibetsu**	**1.00**	**342**	⇑P	**Pn**	**10 43 53.8**	**-0.3**
JAB				*e*S	**Sn**	**10 44 08.3**	**+0.9**
JAR	**Ashorobuto**	**1.11**	**47**	⇓P	**Pn**	**10 43 54.7**	**-0.8**
JAR				*e*S	**Sn**	**10 44 08.6**	**-1.2**
JNB	**Noboribetsu**	**1.20**	**267**	⇑P	**Pn**	**10 43 56.0**	**-0.7**
JNB				*e*S	**Sn**	**10 44 11.2**	**-0.8**
JKK2	**Kamakawa 2**	**1.32**	**3**	⇑P	**Pn**	**10 43 58.5**	**+0.1**
JKK2				*e*S	**Sn**	**10 44 15.6**	**+0.6**
JHR	**Hokuryu**	**1.37**	**331**	⇑P	**Pn**	**10 43 59.7**	**+0.6**
JHR				*e*S	**Sn**	**10 44 18.4**	**+2.2**
JKB	**Kayabe**	**1.38**	**242**	⇓P	**Pn**	**10 43 58.6**	**-0.5**
JKB				*e*S	**Sn**	**10 44 15.9**	**-0.4**
ASAJ	**Asahikawa**	**1.56**	**358**	P	**Pn**	**10 44 02.0**	**+0.3**
65nm,0.3s,baz=208,slow=12,SNR=356							
YUK	**Yuzh-Kuril'sk**	**2.77**	**57**	*e*PN	**Pn**	**10 44 18.8**	**+0.7**
YUK				*i* S	**Sn**	**10 44 50.2**	**-0.2**
YUK				pmax	pmax		
comp=Z,190nm,0.5s							
YUK				smax			
comp=N,3μm,3.0s							
YUK				smax			
comp=E,3μm,2.0s							
YUK				smax			
comp=N,770nm,0.5s							
YUK				smax			
comp=E,380nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.40**	**1**	*e*PN	**Pn**	**10 44 42.0**	**+1.5**
MAT	**Matsushiro**	**6.92**	**211**	P	**Pn**	**10 45 15.9**	**+1.0**
MJAR	**Matsushiro Arr**	**6.92**	**211**	P	**Pn**	**10 45 15.3**	**+0.4**
comp=E,0.7nm,0.3s,baz=23,slow=14,SNR=11							
MJAR	**Matsushiro Arr**	**6.92**	**211**	PN	**Pn**	**10 45 15.3**	**+0.4**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**6.92**	**211**	P	**Pn**	**10 45 15.3**	**+0.4**
KSRS	**Korea Array**	**12.39**	**251**	P	**Pn**	**10 46 31.2**	**+1.5**
baz=62,slow=13,SNR=5.0							
KSRS				LR	LR	10 50 35.6	
comp=Z,61nm,19.2s,baz=182,slow=34							
JOW	**Kunigami**	**19.60**	**221**	P	**Pn**	**10 48 00.2**	**-1.3**
comp=Z,3.6nm,0.3s,baz=258,slow=20,SNR=5.5							
SONM	**Songino Array**	**25.93**	**294**	P	**P**	**10 49 03.8**	**+0.8**
comp=Z,0.3nm,0.4s,mb3.2,baz=81,slow=8.8,SNR=3.0							
MKAR	**Makanchi Array**	**42.22**	**297**	P	**P**	**10 51 22.9**	**-0.6**
comp=Z,0.7nm,0.7s,mb3.4,baz=79,slow=10,SNR=5.8							
MKAR	**Makanchi Array**	**42.22**	**297**	P	**P**	**10 51 23.0**	**-0.6**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**47.71**	**309**	P	**P**	**10 52 06.2**	**-1.0**
comp=Z,0.8nm,0.4s,mb4.1,baz=62,slow=10,SNR=5.4							
BVAR	**Borovoye Array**	**47.71**	**309**	P	**P**	**10 52 06.2**	**-1.0**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
YKA	**Yellowknife Ar**	**58.59**	**32**	P	**P**	**10 53 26.6**	**-0.5**
comp=Z,0.2nm,0.4s,mb3.5,baz=304,slow=6.5,SNR=6.8							
WRA	**Warramunga Arr**	**62.65**	**189**	P	**P**	**10 53 54.1**	**-0.7**
comp=Z,0.4nm,0.4s,mb3.9,baz=6.2,slow=6.8,SNR=11							
FINES	**FINESS Array B**	**64.40**	**332**	P	**P**	**10 54 05.0**	**-1.3**
comp=Z,0.9nm,0.6s,mb4.0,baz=74,slow=10,SNR=4.6							
FINES	**FINESS Array B**	**64.40**	**332**	P	**P**	**10 54 05.0**	**-1.3**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**66.38**	**189**	P	**P**	**10 54 18.9**	**-0.2**
comp=Z,0.4nm,0.9s,mb3.4,baz=7.8,slow=6.2,SNR=3.9							
PDAR	**Pinedale Array**	**73.17**	**47**	P	**P**	**10 55 01.6**	**+0.8**
comp=Z,0.4nm,0.5s,mb3.6,baz=194,slow=0.6,SNR=6.7							
TXAR	**Lajitas Array**	**86.03**	**53**	P	**P**	**10 56 12.0**	**+1.5**
comp=Z,0.4nm,0.8s,mb3.7,baz=271,slow=2.6,SNR=3.5							
TXAR	**Lajitas Array**	**86.03**	**53**	P	**P**	**10 56 12.0**	**+1.5**

IDC ***04*** *10:49:38.9±1.4, 45.83N×154.40E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, MS3.6/1, Ms1 3.6/1, ms1mx2.6/31, Error ellipse: s-maj=43.4km s-min=31.9km az=29.0*
ISCJB ***04*** *10:49:39.0±1.1, 45.7N±0.2×154.2E±0.2, h10km, mb3.7/6, MS3.6/1, Error ellipse: s-maj=28.3km s-min=23.4km az=8.1*
NEIC ***04*** *10:49:40.9±1.0, 45.74N×154.23E, h10km, mb4.2/1, Error ellipse: s-maj=26.7km s-min=21.9km az=183.0*
MOS ***04*** *10:49:42.6±2.3, 46.11N×154.32E, h33km, mb4.1/3, Error ellipse: s-maj=39.8km s-min=21.9km az=93.0*
ISC 04 10:49:40.8±1.1, 45.8N±0.2×154.2E±0.2, h10km, n12, σ0 65/12, mb3.7/6, MS3.6/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.08**	**14**	*e*PN	**Pn**	**10 50 50.0**	**-6.9**
SONM	**Songino Array**	**32.40**	**291**	P	**P**	**10 56 11.2**	**+0.5**
0.4nm,0.7s,mb3.4,baz=70,slow=9.3,SNR=2.5							
MKAR	**Makanchi Array**	**48.08**	**299**	P	**P**	**10 58 20.2**	**-0.3**
1.1nm,0.7s,mb4.0,baz=71,slow=8.3,SNR=6.5							
MKAR				LR	LR	11 21 51.5	
comp=Z,59nm,18.3s,MS3.6,baz=313,slow=40							
MKAR	**Makanchi Array**	**48.08**	**299**	P	**P**	**10 58 20.2**	**-0.3**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
MKAR				MLR	MLR		
comp=Z,59nm,18.3s							
RES	**Resolute Bay**	**51.52**	**18**	*e*P	**P**	**10 58 47.7**	**+1.1**
comp=Z,92nm,0.3s							
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**	**10 58 46.9**	**-0.8**
CHKZ				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**	**10 58 46.9**	**-0.8**
comp=Z,3.4nm,1.0s,mb4.2							
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**10 58 50.8**	**-0.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=51,slow=4.7,SNR=4.4							
BVAR	**Borovoye Array**	**52.08**	**310**	P	**P**	**10 58 50.8**	**0.0**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**71.53**	**200**	P	**P**	**11 01 02.2**	**+0.3**
comp=Z,0.5nm,1.1s,mb3.4,baz=20,slow=6.4,SNR=4.8							
ASAR	**Alice Springs**	**71.53**	**200**	P	**P**	**11 01 02.2**	**+0.3**

ASAR pmax pmax
comp=Z,1.0nm,1.1s
TXAR Lajitas Array 77.30 61 P P 11 01 34.6 -0.8
comp=Z,0.2nm,0.5s,mb3.3,baz=316,slow=5.0,SNR=3.4

IDC 04 10:49:54.9±1.0, 2797S×6552E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=48.3km s-min=24.6km az=6.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**35.74**	**265**	P	P	10 56 55.5	+0.1
	4.7nm,0.3s,baz=256,slow=13,SNR=18						
ASAR	**Alice Springs**	**60.99**	**103**	P	P	11 00 11.0	+1.0
	0.5nm,0.5s,baz=252,slow=6.0,SNR=12						
WRA	**Warramunga Arr**	**62.69**	**99**	P	P	11 00 21.3	-0.1
	0.8nm,1.1s,baz=247,slow=6.5,SNR=4.1						
ZAL	**Zalesovo**	**83.25**	**11**	P	P	11 02 22.9	-0.4
	1.1nm,0.6s,baz=218,slow=2.3,SNR=6.3						
SONM	**Songino Array**	**83.92**	**26**	P	P	11 02 25.9	-0.9
	0.4nm,0.9s,baz=233,slow=6.3,SNR=3.9						
YKA	**Yellowknife Ar**	**145.47**	**0**	PKPbc	PKPbc	11 09 34.3	-0.6
	1.0nm,0.6s,baz=345,slow=3.5,SNR=35						

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*ISK **04** 10:58:27.3, 3939N×3694E, h5km, ML3.7*
*ISCJB **04** 10:58:29.6±0.3, 3939N±002×3695E±003, h10km, Error ellipse: s-maj=3.3km s-min=2.9km az=36.9*
*CSEM **04** 10:58:31.1±0.0, 3938N×3697E, h40km, Mc2.6, Error ellipse: s-maj=1.3km s-min=1.2km az=173.0*
*NSSC **04** 10:58:37, 3932N×3834E, h39km*

ISC 04 10:58:30.2±0.3, 3937N±002×3696E±003, h10km, n48, σ1§12/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	**Karacayir**	**0.54**	**3**	*i* PG	**Pg**	**10 58 38.5**	**-2.2**
SVSK				*i* SG	**Sg**	**10 58 46.8**	**-1.1**
BNN	**Bunyan**	**1.01**	**239**	*i* PG	**Pg**	**10 58 47.0**	**-2.7**
BNN				*i* SG	**Sg**	**10 59 02.2**	**-0.6**
YOZ	**Yozgat**	**1.30**	**282**	*i* PN	**Pn**	**10 58 52.6**	**-1.7**
YOZ				*i* SN	**Sn**	**10 59 11.7**	**-0.1**
MYA	**Malataya**	**1.55**	**132**	*i* PN	**Pn**	**10 58 56.5**	**-1.3**
AVNT	**Avonos**	**1.75**	**251**	*i* P	**Pn**	**10 58 60.0**	**-0.5**
AVNT				*i* S	**Sn**	**10 59 24.5**	**+1.8**
ELZG	**Elazig**	**1.80**	**118**	*i* P	**Pn**	**10 59 00.3**	**-1.0**
ELZG				*i* S	**Sn**	**10 59 25.6**	**+1.4**
GRSN	**GIRESUNGRSN**	**1.84**	**32**	*i* P	**Pn**	**10 59 00.9**	**-1.0**
GRSN				*i* S	**Sn**	**10 59 27.0**	**+1.7**
KVT	**Kavak**	**1.84**	**338**	PN	**Pn**	**10 59 01.4**	**-0.4**
KMRS	**Kahramanmaras**	**1.87**	**182**	PN	**Pn**	**10 59 02.3**	**+0.2**
KELT	**Kelkit**	**1.93**	**66**	*i* P	**Pn**	**10 59 02.7**	**-0.3**
KELT				*i* S	**Sn**	**10 59 28.7**	**+1.4**
PTK	**Pertek**	**1.95**	**104**	PN	**Pn**	**10 59 02.5**	**-0.8**
CORM	**Corum**	**1.97**	**295**	PN	**Pn**	**10 59 03.1**	**-0.5**
CDAG	**Cicekdag**	**2.02**	**278**	*i* P	**Pn**	**10 59 04.7**	**+0.4**
CDAG				*i* S	**Sg**	**10 59 33.9**	**-1.2**
GZT	**Gaziantep**	**2.07**	**167**	*i* P	**Pn**	**10 59 04.2**	**-0.8**
CTKT	**Corum**	**2.08**	**307**	*i* P	**Pn**	**10 59 06.1**	**+0.9**
CTKT				*i* S	**Sg**	**10 59 39.3**	**+2.1**
KOZT	**Kozan**	**2.09**	**206**	PN	**Pn**	**10 59 05.7**	**+0.5**
ATAB	**Bozova**	**2.17**	**151**	*i* P	**Pn**	**10 59 08.9**	**+2.6**
ATAB				*i* S	**Sg**	**10 59 50.6**	**+11**
ATAB	**Bozova**	**2.17**	**151**	*i* P	**Pn**	**10 59 08.9**	**+2.6**
GAZ	**Gaziantep**	**2.21**	**175**	PN	**Pn**	**10 59 07.3**	**+0.5**
EZC	**Erzincan**	**2.24**	**79**	*i* PN	**Pn**	**10 59 02.4**	**-4.8**
URFA	**Urfa**	**2.42**	**142**	PN	**Pn**	**10 59 10.1**	**+0.3**
KAMT	**Kaman**	**2.52**	**271**	*e*PN	**Pn**	**10 59 09.9**	**-1.2**
CEYT	**Ceyhan**	**2.55**	**202**	*e*PN	**Pn**	**10 59 12.3**	**+0.8**
BOYT	**Boyabat**	**2.58**	**323**	*i* P	**Pn**	**10 59 12.8**	**+0.8**
KARA	**Karaisali**	**2.59**	**216**	*e*PN	**Pn**	**10 59 12.4**	**+0.3**
DIKM	**Dikmen**	**2.62**	**331**	*e*PN	**Pn**	**10 59 11.6**	**-0.9**
BYBT	**Boyabat**	**2.68**	**322**	*e*PN	**Pn**	**10 59 13.2**	**-0.2**
KTUT	**Trabzon**	**2.69**	**52**	*e*PN	**Pn**	**10 59 13.6**	**+0.2**
BINT	**Bingol**	**2.79**	**99**	*e*PN	**Pn**	**10 59 15.0**	**+0.2**
CANT	**Cankiri**	**2.85**	**297**	*e*PN	**Pn**	**10 59 15.0**	**-0.7**
COBT	**Iskenderun**	**2.90**	**191**	*i* P	**Pn**	**10 59 16.4**	**0.0**
MERS	**Mersin**	**3.16**	**218**	*e*PN	**Pn**	**10 59 20.4**	**+0.5**
SLMH	**Al Salmeh**	**3.25**	**166**	⇑P	**Pn**	**10 59 24.0**	**+2.9**
SLMH				⇑S	**Sn**	**10 59 58.0**	**-1.8**
SLMH	**Al Salmeh**	**3.25**	**166**	⇑*i*P	**Pn**	**10 59 24.4**	**+3.3**
ANTO	**Ankara**	**3.26**	**280**	*e*PN	**Pn**	**10 59 21.9**	**+0.6**
BNGL	**BINGOL**	**3.28**	**96**	*i* P	**Pb**	**10 59 27.2**	**-1.2**
DRBT	**Darb Altahta**	**3.37**	**137**	⇑P	**Pn**	**10 59 19.0**	**-3.9**
DRBT	**Darb Altahta**	**3.37**	**137**	⇑*i*P	**Pn**	**10 59 19.6**	**-3.3**
BZK	**Bozkurt**	**3.43**	**320**	*e*PN	**Pn**	**10 59 24.0**	**+0.4**
EZM	**Erzurum**	**3.44**	**80**	*e*PN	**Pn**	**10 59 24.6**	**+0.8**
BALT	**Daday**	**3.48**	**309**	*i* P	**Pn**	**10 59 25.3**	**+1.0**
MARD	**Mardin**	**3.64**	**123**	*i* P	**Pn**	**10 59 25.2**	**-1.3**
SAFT	**Safranbolu**	**3.76**	**301**	*e*PN	**Pn**	**10 59 29.0**	**+0.8**
WRDH	**Warideh**	**3.88**	**187**	⇑P	**Pn**	**10 59 37.0**	**+7.1**
WRDH				⇑S	**Sn**	**11 00 22.0**	**+6.5**
SGKT	**Sivrigoynuk**	**3.96**	**289**	*i* P	**Pn**	**10 59 32.2**	**+1.3**
KIZT	**Kizilcal**	**3.98**	**264**	*e*PN	**Pn**	**10 59 31.3**	**0.0**
KFRA	**Kufra**	**4.16**	**182**	⇑P	**Pn**	**10 59 40.0**	**+6.4**
BIDA	**Albida**	**4.38**	**187**	⇑P	**Pn**	**10 59 44.0**	**+7.3**
BIDA				⇑S	**Sn**	**11 00 32.0**	**+4.2**

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*ISCJB **04** 11:05:05.9±0.6, 3442N±003×3671E±004, h6km±7km, Error ellipse: s-maj=5.4km s-min=4.5km az=179.1*
*CSEM **04** 11:05:05.0±0.2, 3445N×3676E, h2km, Mc1.4, Error ellipse: s-maj=6.0km s-min=4.5km az=124.0*
*GRAL **04** 11:05:05.9±2.7, 3442N×3682E, h0km±549km, MD3.0*
*NSSC **04** 11:05:06, 3443N×3669E, h6km±5km*

ISC 04 11:05:06.2±0.6, 3443N±003×3672E±004, h12km±7km, n16, σ0§91/26, 6D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.28**	**290**	⇑P	**Pg**	**11 05 11.0**	**-0.9**
HAWK				⇑S	**Sg**	**11 05 15.0**	**-0.7**
HAWK	**Haweek**	**0.28**	**290**	⇑*i*P	**Pg**	**11 05 11.1**	**-0.8**
FKH	**Fakeheh**	**0.32**	**234**	*e*Pg	**Pg**	**11 05 10.9**	**-1.8**
FKH				*e*Sg	**Sg**	**11 05 16.2**	**-0.9**
MARH	**Ras Al Marh**	**0.44**	**206**	⇓P	**Pg**	**11 05 15.0**	**+0.1**
MARH				⇓S	**Sg**	**11 05 20.0**	**-0.9**
MARH	**Ras Al Marh**	**0.44**	**206**	⇓*i*P	**Pg**	**11 05 15.3**	**+0.4**
ROOS	**tl_alroos**	**0.54**	**118**	⇑P	**Pg**	**11 05 16.0**	**-0.7**
ROOS				⇑S	**Sg**	**11 05 25.0**	**+1.2**
ROOS	**tl_alroos**	**0.54**	**118**	⇑*i*P	**Pg**	**11 05 16.6**	**-0.1**
HWQ	**Hawqa**	**0.66**	**257**	*e*Pg	**Pg**	**11 05 19.9**	**+1.0**
HWQ				*e*Sg	**Sg**	**11 05 29.0**	**+1.5**
BIDA	**Albida**	**0.67**	**331**	⇑P	**Pg**	**11 05 19.0**	**-0.2**
BIDA				⇑S	**Sg**	**11 05 29.0**	**+1.0**
BIDA	**Albida**	**0.67**	**331**	⇑*i*P	**Pg**	**11 05 19.4**	**+0.2**
BHL	**Bhannes**	**1.02**	**240**	*e*Pg	**Pg**	**11 05 25.9**	**0.0**
BHL				*e*Sg	**Sg**	**11 05 41.3**	**+2.0**
WRDH	**Warideh**	**1.11**	**347**	⇓P	**Pb**	**11 05 27.0**	**-0.3**
WRDH				⇓S	**Sb**	**11 05 41.0**	**-0.6**
WRDH	**Warideh**	**1.11**	**347**	⇓*i*P	**Pb**	**11 05 27.3**	**0.0**
BRBR	**Barbar**	**1.20**	**212**	⇑P	**Pb**	**11 05 29.0**	**+0.2**
BRBR				⇑S	**Sb**	**11 05 44.0**	**-0.2**
BRBR	**Barbar**	**1.20**	**212**	⇑*i*P	**Pb**	**11 05 29.3**	**+0.5**
RCY	**Rachaya**	**1.20**	**219**	*e*Pg	**Pg**	**11 05 28.4**	**-0.9**
RCY				*e*Sg	**Sg**	**11 05 45.1**	**+0.2**

IDC 04 11:13:20.0±2.1, 848S×12817E, h0km, mb4.1/1, mb1 3.7/3, mb1mx3.5/14, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=267.9km s-min=30.7km az=64.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.87**	**153**	Pn	Pn	11 16 23.1	-1.0
	0.3nm,0.3s,baz=329,slow=14,SNR=26						
ASAR	**Alice Springs**	**16.07**	**161**	Pn	Pn	11 17 09.0	+1.7
	0.1nm,0.3s,baz=342,slow=9.2,SNR=16						
MKAR	**Makanchi Array**	**68.48**	**328**	P	P	11 24 24.2	+0.2
	0.9nm,0.4s,baz=134,slow=7.5,SNR=22						

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*GRAL **04** 11:18:25.9±2.6, 3390N×3673E, h12km±100km, MD3.0*
*ISCJB **04** 11:18:29.3±0.8, 3404N±005×3649E±005, h10km, Error ellipse: s-maj=7.1km s-min=5.2km az=142.0*
*CSEM **04** 11:18:30.4±4.0, 3421N×3650E, h2km, Mc1.6, Error ellipse: s-maj=112.1km s-min=9.9km az=149.0*
*NSSC **04** 11:18:32, 34.19N×3659E, h10km±4km*

ISC 04 11:18:29.6±0.8, 3406N±005×3648E±004, h10km, n11, σ0§96/18, 3D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.19**	**341**	*e*Pg	**Pg**	**11 18 32.3**	**-1.4**
FKH				*e*Sg	**Sg**	**11 18 40.7**	**+4.3**
HWQ	**Hawqa**	**0.49**	**297**	*e*Pg	**Pg**	**11 18 39.5**	**+0.2**
HWQ				*e*Sg	**Sg**	**11 18 50.2**	**+4.4**
ROOS	**tl_alroos**	**0.68**	**80**	⇑P	**Pg**	**11 18 42.0**	**-0.8**
ROOS				⇑S	**Sg**	**11 18 52.0**	**+0.3**
ROOS	**tl_alroos**	**0.68**	**80**	⇑*i*P	**Pg**	**11 18 43.0**	**+0.2**
BHL	**Bhannes**	**0.70**	**258**	*e*Pg	**Pg**	**11 18 42.4**	**-0.8**
BHL				*e*Sg	**Sg**	**11 18 52.6**	**+0.3**
BIDA	**Albida**	**0.96**	**352**	⇑P	**Pg**	**11 18 48.0**	**-0.2**
BIDA				⇑S	**Sg**	**11 19 02.0**	**+1.3**
BIDA	**Albida**	**0.96**	**352**	⇑*i*P	**Pg**	**11 18 48.2**	**0.0**
TCHB	**Talchebab**	**1.45**	**197**	⇑P	**Pg**	**11 19 01.0**	**+3.6**
TCHB				⇓S	**Sg**	**11 19 22.0**	**+5.9**
TCHB	**Talchebab**	**1.45**	**197**	⇑*i*P	**Pg**	**11 19 01.5**	**+4.1**
WRDH	**Warideh**	**1.45**	**358**	⇓P	**Pn**	**11 18 55.0**	**-0.9**
WRDH				⇑S	**Sn**	**11 19 15.0**	**+0.1**
WRDH	**Warideh**	**1.45**	**358**	⇓*i*P	**Pn**	**11 18 55.5**	**-0.4**

GUC 04 11:21:21.8±0.7, 2489S×6915W, h80km, ML3.8, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.66**	**316**	⇑*i*P	Pn	11 21 49.8	+0.6
ANCH				*i* S	Sn	11 22 10.9	+0.9
ANCH				AML	AML	11 22 15.3	
	comp=E,809nm,0.6s						
CEN1	**Los Morros**	**1.77**	**327**	⇓*i*P	Pn	11 21 50.8	+0.2
CEN1				*i* S	Sn	11 22 11.9	-0.6
CEN1				AML	AML	11 22 15.7	
	comp=E,438nm,0.4s						
CDCH	**Caldera**	**2.65**	**214**	*e*P	Pn	11 22 01.9	-0.5
CDCH				*i* S	Sn	11 22 33.6	0.0
CDCH				AML	AML	11 22 41.9	
	comp=N,317nm,0.3s						
CPCH	**Copiapo**	**2.69**	**203**	*e*P	Pn	11 22 03.6	+0.8
CPCH				*i* S	Sn	11 22 36.1	+1.6
CPCH				AML	AML	11 22 49.3	
	comp=N,3μm,0.1s						
VACH	**Vallenar**	**3.94**	**201**	*i* S	Sn	11 23 07.4	+2.4

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*IDC **04** 11:46:12.5±4.6, 2006S×16841E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, ML3.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=107.1km s-min=32.0km az=117.0*
*ISCJB **04** 11:46:15.2±6.6, 2005S±01×1682E±02, h19km±44km, mb3.8/5, MS3.0/2, Error ellipse: s-maj=32.5km s-min=18.3km az=45.4*
*NEIC **04** 11:46:17.2±5.3, 2057S×16885E, h56km±34km, Error ellipse: s-maj=74.6km s-min=48.8km az=131.0*

ISC 04 11:46:15.4±6.6, 2015S±01×1683E±02, h12km±40km, n12, σ0§88/14, mb3.8/5, MS3.0/2, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.68**	**221**	*e*P	**Pn**	**11 46 58.1**	**-0.1**
DZM				*e*S	**Sn**	**11 47 30.0**	**-0.6**
DZM	**Mont Dzumac**	**2.68**	**221**	Pn	**Pn**	**11 46 58.2**	**-0.1**
	8.8nm,0.3s,baz=138,slow=20,SNR=122						
DZM				Sn	**Sn**	**11 47 31.2**	**+0.6**
	49nm,0.3s,baz=255,slow=20,SNR=9.7						
CTA	**Charters Tower**	**20.74**	**266**	P	**P**	**11 50 59.2**	**+3.5**
	4.7nm,0.9s,baz=102,slow=12,SNR=5.1						
CTA				LR	LR	11 58 10.1	
	comp=Z,30nm,20.3s,MS2.6,baz=234,slow=34						
CTA	**Charters Tower**	**20.74**	**266**	P	**P**	**11 50 59.2**	**+3.5**
STKA	**Stephens Creek**	**26.70**	**238**	P	**P**	**11 51 53.0**	**-1.3**
	1.0nm,0.8s,mb3.4,baz=56,slow=7.3,SNR=1.9						
STKA	**Stephens Creek**	**26.70**	**238**	P	**P**	**11 51 53.0**	**-1.3**
WRA	**Warramunga Arr**	**31.92**	**264**	P	**P**	**11 52 39.6**	**-1.0**
	0.7nm,0.9s,mb3.5,baz=92,slow=8.2,SNR=5.1						
ASAR	**Alice Springs**	**32.11**	**257**	P	**P**	**11 52 43.1**	**+0.8**
	1.9nm,0.6s,mb4.1,baz=86,slow=8.6,SNR=44						
FITZ	**Fitzroy Crossi**	**40.32**	**265**	P	**P**	**11 53 53.2**	**+0.6**
	5.1nm,0.9s,mb4.2,baz=127,slow=9.0,SNR=6.5						
FITZ				LR	LR	12 11 02.9	
	comp=Z,43nm,20.9s,MS3.3,baz=104,slow=37						
SONM	**Songino Array**	**87.36**	**323**	P	**P**	**11 59 01.7**	**-0.5**
	0.6nm,0.8s,mb3.9,baz=134,slow=6.2,SNR=4.6						
VNA3	**Neumayer Olymp**	**88.94**	**181**	*e*	**P**	**11 59 10.2**	**+0.5**
VNA3				*e*		11 59 25.0	
VNA3				*e*		11 59 29.4	
VNA2	**Neumayer--Watz**	**89.22**	**181**	*e*	**P**	**11 59 11.2**	**+0.1**
	baz=194,slow=4.7						
VNA2				*e*		11 59 25.5	
VNA2				*e*		11 59 31.2	

IDC 04 11:54:24.2±1.2, 289N×12794E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=85.8km s-min=17.4km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.99**	**186**	*e*P	P	11 59 11.1	+2.1
	4.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.99**	**186**	P	P	11 59 10.4	+1.4
	0.5nm,0.3s,baz=0.7,slow=13,SNR=8.0						
WRA	**Warramunga Arr**	**23.55**	**165**	P	P	11 59 36.4	+0.1
	1.3nm,0.4s,baz=344,slow=11,SNR=52						
WB2	**Warramunga Arr**	**23.55**	**165**	*e*P	P	11 59 36.9	+0.6
ASAR	**Alice Springs**	**27.03**	**168**	P	P	12 00 07.0	-1.0
	0.2nm,0.3s,baz=342,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**36.93**	**160**	P	P	12 01 35.4	+0.6
	1.8nm,0.5s,baz=344,slow=8.8,SNR=13						
SONM	**Songino Array**	**48.48**	**341**	P	P	12 03 09.0	+0.4
	0.2nm,0.4s,baz=18,slow=42,SNR=2.9						
MKAR	**Makanchi Array**	**58.93**	**325**	P	P	12 04 25.2	+0.1
	0.7nm,0.6s,baz=115,slow=8.0,SNR=11						

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*NEIC **04** 11:55:44.1, 3063S×7139W, h78km, MD3.5(GUC), After GUC.*

GUC 04 11:55:44.1±0.8, 3063S×7139W, h78km±4km, MD3.5, ML3.6, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.17**	**81**	⇓*i*P	Pn	11 55 56.0	+0.5
OVCH				*i* S	Sn	11 56 04.3	+0.5
OVCH				AML	AML	11 56 05.5	
	comp=N,4μm,0.3s						
OVCH	**Ovalle**	**0.17**	**81**	⇓*i*P	Pn	11 55 56.0	+0.5
OVCH				*i* S	Sn	11 56 04.3	+0.5
CMCH	**Combarbala**	**0.63**	**148**	*e*P	Pn	11 55 59.3	+0.4
CMCH				*i* S	Sn	11 56 10.5	+0.7
CMCH				AML	AML	11 56 11.3	
	comp=N,7μm,0.7s						
CMCH	**Combarbala**	**0.63**	**148**	*e*P	Pn	11 55 59.3	+0.4
CMCH				*i* S	Sn	11 56 10.5	+0.7
TLL	**Tololo Astrono**	**0.69**	**48**	*e*P	Pn	11 56 00.5	+1.1
TLL				*i* S	Sn	11 56 12.3	+1.6
TLL				AML	AML	11 56 14.7	
	comp=N,2μm,0.6s						
TLL	**Tololo Astrono**	**0.69**	**48**	*e*P	Pn	11 56 00.5	+1.1
TLL				*i* S	Sn	11 56 12.3	+1.6
LSCH	**La Serena**	**0.73**	**10**	⇓*i*P	Pn	11 56 00.4	+0.4
LSCH				*i* S	Sn	11 56 12.2	+0.6
PTCH	**Petorca**	**1.67**	**167**	*i* P	Pn	11 56 12.1	+0.5
PTCH				*i* S	Sn	11 56 32.9	+0.6
PTCH				AML	AML	11 56 34.4	
	comp=E,893nm,0.4s						
PTCH	**Petorca**	**1.67**	**167**	*i* P	Pn	11 56 12.1	+0.5
PTCH				*i* S	Sn	11 56 32.9	+0.6
PACH	**Papudo**	**1.90**	**181**	*e*P	Pn	11 56 14.9	+0.3
VACH	**Vallenar**	**2.12**	**15**	⇑*i*P	Pn	11 56 18.1	+0.6
VACH				*i* S	Sn	11 56 43.4	+0.3
VACH				AML	AML	11 56 45.5	
	comp=N,2μm,0.3s						
VACH	**Vallenar**	**2.12**	**15**	⇑*i*P	Pn	11 56 18.1	+0.6
VACH				*i* S	Sn	11 56 43.4	+0.3
JACH	**Jahuel**	**2.15**	**162**	⇑*i*P	Pn	11 56 19.2	+1.3
JACH				*i* S	Sn	11 56 44.9	+1.1
ROCH	**El Roble**	**2.35**	**172**	*e*P	Pn	11 56 21.4	+0.7
PEL	**Peldehue**	**2.57**	**167**	⇑*i*P	Pn	11 56 24.4	+0.8
PEL				*i* S	Sn	11 56 54.6	+0.7
PEL				AML	AML	11 57 17.6	
	comp=E,279nm,0.4s						
LCCH	**Las Cruces**	**2.84**	**183**	⇓*i*P	Pn	11 56 27.2	0.0
LCCH				*i* S	Sn	11 56 59.0	-1.4
FCH	**Farellones**	**2.84**	**161**	*e*P	Pn	11 56 28.6	+1.4
FCH				*i* S	Sn	11 57 02.8	+2.3
FCH				AML	AML	11 57 06.0	
	comp=E,140nm,0.3s						
TACH	**Talagante**	**3.04**	**173**	*e*P	Pn	11 56 30.4	+0.5
PCH	**Pirque**	**3.07**	**166**	*e*P	Pn	11 56 31.2	+0.9
PCH				*i* S	Sn	11 57 07.0	+1.0
CHCH	**Chadas Angostu**	**3.35**	**169**	*e*P	Pn	11 56 34.9	+0.8
CHCH				*i* S	Sn	11 57 12.8	0.0

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*MOS **04** 12:01:52.0±0.8, 5570N×11023E, h10km, mb4.3/1, Error ellipse: s-maj=17.0km s-min=10.0km az=65.1*

BYKL 04 12:01:53.2±0.2, 5571N×11018E, h8km±4km, 6C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**280**	⇑*i*Pg	Pg	12 01 59.9	-0.5
NIZ				*e*Sg	Sg	12 02 05.5	+0.3
NIZ				Pmax			
	80nm,0.2s						
NIZ				Smax			
	1μm,0.5s						
KMO	**Kumora**	**0.60**	**72**	*e*PG	Pg	12 02 03.3	-1.5
KMO				*e*		12 02 11.2	
KMO				pmax	pmax		
	comp=Z,98nm,0.2s						
KMO				smax			
	comp=N,773nm,0.8s						
KMO	**Kumora**	**0.60**	**72**	⇑*i*Pg	Pg	12 02 03.3	-1.5
KMO				*i* Sg	Sg	12 02 11.4	-1.3
KMO				Pmax			
	comp=N,88nm,0.4s						
KMO				Smax			
	comp=N,540nm,0.2s						
YOA	**Uoyan**	**0.97**	**63**	*e*PG	Pg	12 02 10.1	-1.7
YOA				*e*		12 02 24.5	
YOA				pmax	pmax		
	comp=Z,152nm,0.2s						
YOA				smax			
	comp=N,1μm,0.4s						
YOA	**Uoyan**	**0.97**	**63**	*e*Pg	Pg	12 02 11.0	-0.8
YOA				*e*Sg	Sg	12 02 24.5	+0.2
YOA				Pmax			
	comp=N,142nm,0.3s						
YOA				Smax			
	comp=N,1μm,0.4s						
YLYR	**Ulyunkhan**	**1.01**	**146**	⇑*i*PG	Pg	12 02 11.0	-1.5
YLYR				*e*		12 02 23.9	
YLYR				pmax	pmax		
	comp=Z,194nm,0.4s						
YLYR				smax			
	comp=N,663nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**146**	⇑*i*Pg	Pg	12 02 11.0	-1.5
YLYR				*e*Sg	Sg	12 02 25.6	0.0
YLYR				*e*Sb	Sb	12 02 30.8	+4.5
YLYR				Pmax			
	comp=N,180nm,0.6s						
YLYR				max			
	comp=N,652nm,0.2s						
SVKR	**Severomuysk**	**1.94**	**77**	*e*PN	Pn	12 02 27.4	+0.9
SVKR				*e*		12 02 28.2	
SVKR				*e*		12 02 54.7	
SVKR				pmax	pmax		
	comp=Z,138nm,0.4s						
SVKR				smax			
	comp=N,3μm,0.6s						
SVKR	**Severomuysk**	**1.94**	**77**	*e*Pn	Pn	12 02 27.4	+0.9
SVKR				*e*Pg	Pg	12 02 28.4	-2.1
SVKR				*e*Sg	Sg	12 02 55.1	-0.6
SVKR				Pmax			
	comp=N,129nm,0.3s						
SVKR				Smax			
	comp=N,3μm,0.5s						
SYVR	**Suvo**	**2.06**	**183**	*e*PN	Pn	12 02 29.7	+1.6
SYVR				*e*		12 02 58.3	
SYVR				pmax	pmax		
	comp=Z,135nm,0.6s						
SYVR				smax			
	comp=E,1μm,6.0s						
SYVR	**Suvo**	**2.06**	**183**	⇑*i*Pg	Pg	12 02 29.9	-2.8
SYVR				*e*Sg	Sg	12 02 58.3	-1.1
SYVR				Pmax			
	comp=E,150nm,0.7s						
SYVR				Smax			
	comp=E,1μm,0.7s						
OGRR	**Ongureny**	**2.56**	**217**	*e*PN	Pn	12 02 36.1	+1.2
OGRR				*e*		12 02 39.7	
OGRR				*e*		12 03 11.6	
OGRR				pmax	pmax		
	comp=Z,22nm,0.6s						
OGRR				smax			
	comp=N,180nm,0.5s						
OGRR	**Ongureny**	**2.56**	**217**	*e*Pn	Pn	12 02 36.0	+1.1
OGRR				*e*Pg	Pg	12 02 39.0	-3.2
OGRR				*e*		12 03 09.2	
OGRR				*e*Sg	Sg	12 03 12.4	-3.0
OGRR				Pmax			
	comp=N,23nm,0.5s						
OGRR				Smax			
	comp=N,180nm,0.4s						
MXMB	**Maximikha**	**2.59**	**199**	*e*Sg	Sg	12 03 14.6	-1.8
MXMB				Smax			
	comp=N,576nm,0.8s						
BOD	**Bodaibo**	**2.98**	**43**	*e*Pn	Pn	12 02 41.0	+0.2
BOD				*e*		12 02 50.7	
BOD				*e*Sn	Sn	12 03 17.6	+0.9
BOD				*e*Sg	Sg	12 03 25.6	-3.4
BOD				max			

HRMR				*e*Pg	Pg	12 03 14.5	-5.2
HRMR				*e*Sn	Sn	12 03 55.5	+0.9
HRMR				*e*Sg	Sg	12 04 13.8	-4.4
HRMR				Pmax			
	comp=N,25nm,0.6s						
HRMR				Smax			
	comp=N,261nm,0.4s						
CRS	**Chara**	**4.66**	**72**	*e*PN	Pn	12 03 04.4	+0.6
CRS				*e*		12 03 15.3	
CRS				*e*		12 04 15.9	
CRS				pmax	pmax		
	comp=Z,46nm,2.5s						
CRS				smax			
	comp=E,112nm,1.6s						
CRS	**Chara**	**4.66**	**72**	*e*Pn	Pn	12 03 03.9	+0.1
CRS				*e*Pg	Pg	12 03 15.5	-7.0
CRS				*e*Sg	Sg	12 04 17.3	-5.6
CRS				Pmax			
	comp=E,13nm,0.6s						
CRS				Smax			
	comp=E,114nm,1.6s						
IRK	**Irkutsk**	**4.92**	**228**	*e*Sn	Sn	12 04 03.2	-1.3
IRK				*e*Sg	Sg	12 04 25.6	-5.6
IRK				Smax			
	comp=E,173nm,0.4s						
LSTR	**Listvyanka**	**4.99**	**222**	*e*Sn	Sn	12 04 03.8	-2.3
LSTR				*e*Sg	Sg	12 04 26.5	-6.8
LSTR				Smax			
	comp=E,85nm,1.3s						
TLY	**Talaya**	**5.60**	**227**	*e*PN	Pn	12 03 15.9	-0.9
TLY				*e*		12 03 32.2	
TLY				*e*S	Sn	12 04 19.5	-1.8
TLY				*e*		12 04 45.0	
TLY				pmax	pmax		
	comp=Z,11nm,0.8s						
TLY				smax			
	comp=E,43nm,1.1s						
TLY	**Talaya**	**5.60**	**227**	*e*Sn	Sn	12 04 18.2	-3.1
TLY				*e*Sg	Sg	12 04 46.0	-7.0
TLY				Smax			
	comp=E,47nm,1.6s						
TUP	**Tupik**	**5.76**	**99**	*e*PN	Pn	12 03 18.9	-0.1
TUP				*e*		12 03 36.3	
TUP				*e*S	Sn	12 04 23.8	-1.5
TUP				*e*		12 04 51.0	
TUP				pmax	pmax		
	comp=Z,17nm,0.7s						
TUP				smax			
	comp=N,100nm,1.1s						
TUP	**Tupik**	**5.76**	**99**	*e*Pn	Pn	12 03 18.7	-0.3
TUP				*e*Pg	Pg	12 03 35.9	-7.7
TUP				*e*Sn	Sn	12 04 22.2	-3.1
TUP				*e*Sg	Sg	12 04 51.3	-6.9
TUP				Pmax			
	comp=N,8.0nm,0.7s						
TUP				Smax			
	comp=N,100nm,1.1s						
ARS	**Arshan**	**5.96**	**234**	⇑*i*Pn	Pn	12 03 22.0	+0.3
ARS				*e*		12 03 24.3	
ARS				*e*Sn	Sn	12 04 28.9	-1.2
ARS				*e*Sg	Sg	12 04 57.1	-7.4
ARS				max			
	comp=N,22nm,0.6s						
ARS				Smax			
	comp=N,171nm,0.6s						
ZAK	**Zakamensk**	**6.76**	**221**	*e*PN	Pn	12 03 34.4	+1.7
ZAK				*e*		12 03 55.6	
ZAK				*e*S	Sn	12 04 50.4	+0.4
ZAK				*e*		12 05 23.7	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAK				pmax	pmax		
	comp=E,44nm,1.6s						
ZAK	**Zakamensk**	**6.76**	**221**	*e*Sg	Sg	12 05 23.5	-6.8
ZAK				Smax			
	comp=E,43nm,1.8s						
MOY	**Mondy**	**6.79**	**237**	*e*PN	Pn	12 03 35.1	+2.0
MOY				*e*		12 03 56.4	
MOY				*e*S	Sn	12 04 50.0	-0.7
MOY				*e*		12 05 24.4	
MOY				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MOY				smax			
	comp=E,48nm,1.2s						
MOY	**Mondy**	**6.79**	**237**	*e*Pn	Pn	12 03 34.6	+1.5
MOY				*e*Sn	Sn	12 04 49.3	-1.4
MOY				*e*Sg	Sg	12 05 22.2	-9.1
MOY				max			
	comp=E,22nm,0.6s						
MOY				Smax			
	comp=E,46nm,1.5s						
ORL	**Orlik**	**6.87**	**247**	*e*PN	Pn	12 03 35.1	+0.9
ORL				*e*S	Sn	12 05 28.5	+36
ORL				smax			
	comp=N,61nm,1.3s						
ORL	**Orlik**	**6.87**	**247**	*e*Pn	Pn	12 03 35.2	+1.0
ORL				*e*Sn	Sn	12 04 51.2	-1.4
ORL				*e*Sg	Sg	12 05 26.6	-7.2
ORL				max			
	comp=N,6.0nm,0.7s						
ORL				Smax			
	comp=N,62nm,1.3s						
TDJR	**Todzha**	**8.92**	**254**	*e*Pn	Pn	12 04 01.5	-0.8
TDJR				*e*		12 05 49.2	
TDJR				*e*Sg	Sn	12 06 29.3	+46

ISCJB ***04*** *12:27:05.9±1.2, 2989N±007×3627E±007, h0km, Error ellipse: s-maj=10.0km s-min=8.7km az=47.7*
HLW ***04*** *12:27:06.8, 2966N×3669E, h20km, Mb3.3*
GII ***04*** *12:27:07.0±0.6, 2991N×3619E, h0km±10km, ML1.7/3*
CSEM ***04*** *12:27:07.4±0.2, 2984N×3612E, h1km, ML1.7, Error ellipse: s-maj=3.4km s-min=2.7km az=111.0, Mining explosion.*

ISC 04 12:27:05.8±1.2, 2988N±007×3632E±007, h0km, n14, σ0°70/17, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.12**	**262**	Pg	**Pg**	**12 27 26.9**	**-0.3**
HRFI	**Mount Harif**	**1.13**	**278**	Pg	**Pg**	**12 27 26.8**	**-0.6**
HRFI				Sg	**Sg**	**12 27 43.2**	**+1.2**
ZFRI	**Zfri**	**1.20**	**304**	Pg	**Pg**	**12 27 28.5**	**-0.3**
EIL	**Elat**	**1.21**	**260**	Pg	**Pg**	**12 27 28.8**	**-0.3**
MBH	**Mount Berech**	**1.23**	**266**	Pg	**Pg**	**12 27 29.4**	**+0.1**
PRNI	**Paran**	**1.23**	**293**	Pg	**Pg**	**12 27 28.7**	**-0.8**
PRNI				Sg	**Sg**	**12 27 45.7**	**+0.2**
KMTI	**Karmit**	**1.40**	**280**	Pg	**Pg**	**12 27 32.4**	**-0.4**
KMTI				Sg	**Sg**	**12 27 50.4**	**-0.5**
HBST	**Basata**	**1.54**	**245**	P	**Pn**	**12 27 35.1**	**+0.7**
MZDA	**Masada**	**1.65**	**330**	Pn	**Pn**	**12 27 36.0**	**0.0**
SVTA	**Shivta**	**1.80**	**306**	Pn	**Pn**	**12 27 37.6**	**-0.6**
HDHB	**Dhahab**	**1.88**	**233**	P	**Pn**	**12 27 38.7**	**-0.6**
DRGI	**Dragot**	**1.89**	**335**	Pn	**Pn**	**12 27 39.9**	**+0.6**
HNKL	**Nakhl**	**2.03**	**272**	P	**Pn**	**12 27 43.4**	**+2.1**
HKAT	**Jabal Katrina**	**2.44**	**237**	P	**Pn**	**12 27 46.9**	**-0.1**

MOS ***04*** *13:28:24.5±1.4, 5571N×11028E, h7km, mb3.9/1, Error ellipse: s-maj=30.0km s-min=21.0km az=81.0*

BYKL 04 13:28:24.5±0.4, 5569N×11019E, h17km±6km, 4C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**283**	⇑*i*Pg	Pg	13 28 31.9	-0.4
NIZ				*e*Sg	Sg	13 28 37.5	0.0
NIZ				Pmax			
	112nm,0.3s						
NIZ				Smax			
	867nm,0.2s						
KMO	**Kumora**	**0.60**	**71**	⇑*i*Pg	Pg	13 28 35.2	-1.2
KMO				*e*Sg	Sg	13 28 43.2	-1.3
KMO				Pmax			
	238nm,0.3s						
KMO				Smax			
	530nm,1.4s						
YOA	**Uoyan**	**0.97**	**62**	*e*Pg	Pg	13 28 42.7	-0.6
YOA				*e*Sg	Sg	13 28 56.2	+0.1
YOA				Pmax			
	100nm,0.3s						
YOA				Smax			
	716nm,0.5s						
YLYR	**Ulyunkhan**	**0.99**	**145**	⇑*i*PG	Pg	13 28 42.3	-1.3
YLYR				*e*		13 28 55.1	
YLYR				pmax	pmax		
	comp=Z,78nm,0.1s						
YLYR				smax			
	comp=E,380nm,0.1s						
YLYR	**Ulyunkhan**	**0.99**	**145**	⇑*i*Pg	Pg	13 28 42.3	-1.3
YLYR				*e*		13 28 42.9	
YLYR				*e*Sg	Sg	13 28 55.4	-1.2
YLYR				max			
	comp=E,77nm,0.1s						
YLYR				Smax			
	comp=E,375nm,0.1s						
SVKR	**Severomuysk**	**1.94**	**76**	*e*PN	Pn	13 28 58.3	+1.6
SVKR				*e*		13 29 00.1	
SVKR				*e*		13 29 24.9	
SVKR				pmax	pmax		
	comp=Z,114nm,0.9s						
SVKR				smax			
	comp=N,799nm,0.6s						
SVKR	**Severomuysk**	**1.94**	**76**	*i* Sg	Sg	13 29 26.8	-0.3
SVKR				Smax			
	comp=N,799nm,0.5s						
SYVR	**Suvo**	**2.04**	**183**	*e*PN	Pn	13 29 01.2	+3.2
SYVR				*e*		13 29 29.0	
SYVR				pmax	pmax		
	comp=Z,39nm,0.5s						
SYVR				smax			
	comp=N,213nm,0.4s						
SYVR	**Suvo**	**2.04**	**183**	*e*Pg	Pg	13 29 00.9	-2.8
SYVR				*e*Sg	Sg	13 29 28.8	-1.3
SYVR				Pmax			
	comp=N,41nm,0.7s						
SYVR				Smax			
	comp=N,269nm,0.7s						
OGRR	**Ongureny**	**2.54**	**217**	*e*Pg	Pg	13 29 09.3	-4.0
OGRR				*e*Sg	Sg	13 29 43.5	-2.8
OGRR				Pmax			
	comp=N,9.0nm,0.5s						
OGRR				Smax			
	comp=N,61nm,0.3s						
BOD	**Bodaibo**	**2.99**	**43**	*e*	Pn	13 29 50.1	+39
BOD				*e*Sg	Sg	13 29 55.9	-4.8
BOD				Smax			
	comp=N,81nm,0.7s						
NLYR	**Nelyaty**	**3.19**	**73**	*e*Pn	Pn	13 29 15.0	+1.1
NLYR				*e*Pg	Pg	13 29 21.7	-4.0
NLYR				*e*Sg	Sg	13 30 03.1	-3.9
TRG	**Tyrgan**	**3.70**	**219**	*e*	Pn	13 30 07.8	+47
TRG				*e*Sg	Sg	13 30 20.9	-2.5
TRG				Smax			
	comp=N,35nm,0.4s						
TRTB	**Turuntaevo**	**3.78**	**205**	*e*Pn	Pn	13 29 20.9	-1.1
TRTB				*e*Pg	Pg	13 29 31.4	-5.6
TRTB				*e*Sg	Sg	13 30 22.5	-3.5
TRTB				Pmax			
	comp=N,11nm,0.7s						
TRTB				Smax			
	comp=N,34nm,1.6s						
FFNB	**Fofonovo**	**4.17**	**210**	*e*Sg	Sg	13 30 32.7	-5.9
FFNB				Smax			
	comp=N,83nm,0.6s						
CIT	**Chita**	**4.18**	**150**	*e*Pg	Pg	13 29 38.4	-6.2
CIT				*e*Sg	Sg	13 30 32.9	-5.8
CIT				Pmax			
	comp=N,16nm,0.7s						
CIT				Smax			
	comp=N,50nm,0.7s						
HRMR	**Khuramsha**	**4.50**	**207**	*e*	Pn	13 29 43.5	+12
HRMR				*e*Sg	Sg	13 30 44.7	-4.3
HRMR				Smax			
	comp=N,81nm,0.7s						
CRS	**Chara**	**4.66**	**72**	*e*Pn	Pn	13 29 34.7	+0.6
CRS				*e*Pg	Pg	13 29 47.9	-5.9
CRS				*e*Sg	Sg	13 30 49.1	-5.0
CRS				Pmax			
	comp=N,22nm,0.9s						
CRS				Smax			
	comp=N,68nm,2.0s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*Sg	Sg	13 30 59.4	-4.8
TLY	**Talaya**	**5.59**	**227**	*e*Sg	Sg	13 31 17.1	-6.8
TLY				Smax			
	comp=N,29nm,1.4s						
TUP	**Tupik**	**5.75**	**99**	*e*PN	Pn	13 29 49.4	+0.3
TUP				*e*		13 30 07.0	
TUP				*e*S	Sn	13 30 55.2	+0.5
TUP				*e*		13 31 21.6	
TUP				pmax	pmax		
	comp=Z,19nm,0.7s						
TUP				smax			
	comp=N,45nm,0.8s						
TUP	**Tupik**	**5.75**	**99**	*e*Pn	Pn	13 29 49.3	+0.2
TUP				*e*Pg	Pg	13 30 07.5	-7.2
TUP				*e*		13 30 34.4	
TUP				*e*Sg	Sg	13 31 23.8	-5.3
TUP				Pmax			
	comp=N,7.0nm,1.0s						
TUP				Smax			
	comp=N,30nm,0.6s						
KPC	**Khapcheranga**	**6.14**	**167**	*e*Sn	Sn	13 30 49.0	-15
KPC				*e*Sg	Sg	13 31 35.0	-6.6
KPC				Smax			
	comp=N,30nm,1.7s						
MOY	**Mondy**	**6.79**	**237**	*e*PN	Pn	13 30 06.5	+3.2
MOY				*e*		13 30 27.9	
MOY				*e*		13 31 54.3	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MOY				smax			
	comp=N,36nm,2.1s						
MOY	**Mondy**	**6.79**	**237**	*e*Sn	Sn	13 31 19.8	-0.4
MOY				*e*Sg	Sn	13 31 53.7	+34
MOY				Smax			
	comp=N,11nm,1.0s						
ORL	**Orlik**	**6.87**	**247**	*e*PN	Pn	13 30 07.2	+2.8
ORL				*e*S	Sn	13 31 57.9	+36
ORL				smax			
	comp=N,37nm,0.9s						
ORL	**Orlik**	**6.87**	**247**	*e*Pn	Pn	13 30 07.6	+3.2
ORL				*e*Sn	Sn	13 31 22.4	+0.2
ORL				*e*Sg	Sn	13 31 56.7	+35
ORL				Smax			
	comp=N,38nm,0.7s						

IDC 04 13:37:45.6±18.0, 2132S×17932E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=353.2km s-min=45.3km az=58.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**23.37**	**195**	P	P	13 42 55.8	0.0
	8.5nm,0.9s,baz=9.5,slow=15,SNR=2.8						
STKA	**Stephens Creek**	**35.18**	**245**	P	P	13 44 39.5	-1.8
	0.5nm,0.5s,baz=96,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**41.90**	**258**	P	P	13 45 38.1	+0.4
	0.9nm,0.5s,baz=95,slow=7.8,SNR=31						
WRA	**Warramunga Arr**	**42.01**	**264**	P	P	13 45 40.1	+1.4
	1.0nm,0.4s,baz=92,slow=8.4,SNR=61						

BJI ***04*** *13:39:55.1, 044S×9694E, h30km, mB5.2, mb4.7, Ms4.4, Msz4.0*
MOS ***04*** *13:39:59.6±0.9, 011N×9698E, h33km, mb4.8/11, Error ellipse: s-maj=14.1km s-min=7.8km az=95.3*
ISCJB ***04*** *13:40:00.3±0.4, 009N±005×9704E±006, h36km, mb4.7/47, MS3.6/16, Error ellipse: s-maj=9.0km s-min=5.3km az=111.1*
NEIC ***04*** *13:40:01.4±0.4, 014N×9699E, h30km, mb4.6/11, Error ellipse: s-maj=10.8km s-min=6.3km az=65.0*
IDC ***04*** *13:40:02.0±0.6, 008N×9687E, h36km±4km, mb4.2/16, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML4.0/1, MS3.5/11, Ms1 3.5/11, ms1mx3.3/32, Error ellipse: s-maj=22.1km s-min=11.7km az=61.0*

ISC 04 13:40:02.7±0.4, 010N±005×9704E±006, h38km, h38km±1.0km: pP-P, n87, σ1°16/88, mb4.7/47, MS3.6/16, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.28**	**35**	Pn	**Pn**	**13 40 49.5**	**-2.1**
	16nm,0.3s,baz=241,slow=6.4,SNR=41						
PSI				LR	LR	13 41 38.0	
	comp=Z,285nm,21.4s,baz=218,slow=29						
PPI	**Padang Panjang**	**3.40**	**99**	P	**Pn**	**13 40 53.0**	**-0.3**
	118nm,0.8s						
BSI	**Banda Aceh**	**5.64**	**342**	P	**Pn**	**13 41 28.7**	**+4.7**
	268nm,0.4s						
IPM	**Ipoh**	**5.90**	**42**	P	**Pn**	**13 41 27.1**	**-0.5**
KULM	**Kulim**	**6.29**	**35**	*e*Pn	**Pn**	**13 41 31.5**	**-1.5**
KGM	**Kluang**	**6.56**	**73**	P	**Pn**	**13 41 36.8**	**+0.2**
KSI	**Kapahiang**	**6.68**	**124**	P	**Pn**	**13 41 37.3**	**-1.0**
	363nm,0.8s						
NST	**Nakhon Sawan**	**15.78**	**11**	P	**Pn**	**13 43 44.5**	**+2.5**
CM31	**Chiang Mai Arr**	**18.34**	**6**	*e*Pn	**Pn**	**13 44 12.6**	**-1.5**
CHG	**Chiang Mai**	**18.69**	**6**	⇑P	**Pn**	**13 44 18.4**	**+0.1**
	25nm,0.9s						
CHTO	**Chiang Mai**	**18.69**	**6**	*e*P	**Pn**	**13 44 16.7**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,18nm,0.8s						
CHTO	**Chiang Mai**	**18.69**	**6**	*e*P	**Pn**	**13 44 16.7**	**-1.6**
	comp=Z,18nm,0.8s						
NANT	**Nan**	**18.93**	**11**	⇓P	**Pn**	**13 44 18.0**	**-3.2**
	comp=Z,338nm,1.0s						
KKM	**Kota Kinabalu**	**20.03**	**72**	*e*P	**P**	**13 44 31.2**	**-1.1**
TSM	**Tawau**	**21.23**	**78**	P	**P**	**13 44 47.7**	**+2.4**
QIZ	**Qiongzhong**	**22.62**	**33**	P	**P**	**13 45 01.7**	**+1.5**
QIZ				AMB	AMB		
	comp=Z,74nm,2.2s,mb4.7						
QIZ				LR	LR		
	comp=E,100nm,18.9s						
QIZ				LR	LR		
	comp=Z,84nm,23.4s,MS3.1						
KMI	**Kunming**	**25.48**	**12**	P	**P**	**13 45 29.0**	**+1.7**
KMI				AP	pP	13 45 40.5	+2.7
KMI				PP		13 46 11.3	
KMI				S	**S**	**13 49 52.4**	**+0.5**
KMI				SS		13 50 57.7	
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,266nm,4.6s						
KMI				LR	LR		
	comp=N,356nm,15.5s,MS4.0						
KMI				LR	LR		
	comp=E,139nm,13.8s,MS4.0						
KMI				LR	LR		
	comp=Z,327nm,15.5s,MS4.0						
JIRN	**Jiri**	**29.32**	**340**	*e*P	**P**	**13 46 02.8**	**+1.1**
	comp=Z,47nm,0.7s,mb5.3						
PKI	**Pulchoki**	**29.51**	**339**	*e*P	**P**	**13 46 06.2**	**+2.8**
	comp=Z,22nm,0.7s,mb5.0						
GUN	**Gumba**	**29.66**	**340**	*e*P	**P**	**13 46 05.6**	**+0.9**
	comp=Z,38nm,0.6s,mb5.3						
DMN	**Daman**	**29.66**	**338**	*e*P	**P**	**13 46 07.3**	**+2.6**
KKN	**Kakani**	**29.76**	**339**	*e*P	**P**	**13 46 06.3**	**+0.7**
	comp=Z,27nm,0.7s,mb5.1						
LSA	**Lhasa**	**29.97**	**350**	P	**P**	**13 46 08.8**	**+1.4**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.97**	**350**	*e*P	**P**	**13 46 08.9**	**+1.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.97**	**350**	*e*P	**P**	**13 46 08.9**	**+1.4**
	comp=Z,12nm,0.8s,mb4.7						
GKN	**Gorkha**	**30.19**	**338**	*e*P	**P**	**13 46 09.9**	**+0.5**
	comp=Z,50nm,0.8s,mb5.3						
KOLN	**Koldanda**	**30.39**	**336**	*e*P	**P**	**13 46 12.0**	**+0.9**
	comp=Z,56nm,0.7s,mb5.4						
CD2	**Chengdu**	**31.30**	**11**	*e*P	**P**	**13 46 20.1**	**+0.9**
CD2				AP	pP	13 46 29.6	-0.2
CD2				XP	sP	13 46 33.6	-0.7
CD2				PP	PP	13 47 24.2	-6.0
CD2				S	**S**	**13 51 24.5**	**+1.0**
CD2				XS	sS	13 51 40.2	-0.9
CD2				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
CD2				LR	LR		
	comp=N,460nm,16.8s,MS4.2						
CD2				LR	LR		
	comp=E,160nm,20.4s,MS4.2						
CD2				LR	LR		
	comp=Z,270nm,18.0s,MS4.0						
FITZ	**Fitzroy Crossi**	**33.43**	**124**	*e*P	**P**	**13 46 38.5**	**+0.7**
	comp=Z,9.0nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.43**	**124**	LR	LR	14 02 36.2	
	comp=Z,77nm,18.9s,MS3.4,baz=264,slow=40						
XAN	**Xi'an**	**35.56**	**17**	P	**P**	**13 46 55.6**	**-0.6**
XAN				AP	pP	13 47 04.7	-2.2
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
TLE	**Tual**	**36.09**	**100**	P	**P**	**13 46 59.1**	**-1.7**
	comp=Z,2μm,1.1s						
LZH	**Lanzhou**	**36.36**	**9**	*e*P	**P**	**13 47 02.9**	**-0.2**
LZH				AP	pP	13 47 13.5	-0.3
LZH				XP	sP	13 47 17.5	-0.9
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,80nm,4.0s						
NWAO	**Narrogin (SRO)**	**37.96**	**152**	P	**P**	**13 47 15.5**	**-1.2**
	comp=Z,9.4nm,0.9s,mb4.5,baz=228,slow=3.7,SNR=3.7						
NWAO				LR	LR	14 00 00.4	
	comp=Z,80nm,20.8s,MS3.5,baz=225,slow=32						
GTA	**Gaotai**	**39.21**	**3**	*e*P	**P**	**13 47 27.2**	**0.0**
GTA				AP	pP	13 47 37.9	0.0
GTA				XP	sP	13 47 41.3	-1.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**41.60**	**121**	P	**P**	**13 47 47.4**	**+0.5**
	comp=Z,7.6nm,0.8s,mb4.4,baz=299,slow=9.1,SNR=50						
WRA				S	**S**	**13 54 06.8**	**+6.3**
	comp=Z,0.2nm,0.8s,baz=126,slow=42,SNR=3.8						
WRAB	**Tennant Creek**	**41.61**	**121**	⇑*i*P	**P**	**13 47 46.9**	**-0.1**
WRAB	**Tennant Creek**	**41.61**	**121**	*e*P	**P**	**13 47 47.6**	**+0.6**
	comp=Z,10nm,1.0s,mb4.4						
WB2	**Warramunga Arr**	**41.61**	**121**	*e*P	**P**	**13 47 47.7**	**+0.7**
BTO	**Baotou**	**42.01**	**15**	*e*P	**P**	**13 47 46.8**	**-3.5**
FORT	**Forrest**	**42.55**	**139**	*e*P	**P**	**13 47 56.7**	**+2.0**
	comp=Z,15nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**42.66**	**16**	*e*P	**P**	**13 47 56.3**	**+0.8**
HHC				AP	pP	13 48 05.0	-1.4
HHC				XP	sP	13 48 09.1	-1.8
HHC				PP	PP	13 49 38.9	+4.1
HHC				PCS	PcS	13 53 38.6	-0.5
HHC				S	**S**	**13 54 16.6**	**+0.5**
HHC				XS	sS	13 54 34.5	+0.4
HHC				SS	SS	13 57 22.0	-5.2
HHC				AMB	AMB		
	comp=Z,19nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,181nm,4.9s						
HHC				LR	LR		
	comp=N,156nm,26.2s,MS4.0						
HHC				LR	LR		
	comp=E,203nm,26.2s,MS4.0						
HHC				LR	LR		
	comp=Z,124nm,20.2s						
ASAR	**Alice Springs**	**42.87**	**126**	P	**P**	**13 47 58.2**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.2,baz=295,slow=8.1,SNR=67						
BJT	**Baijiatuau**	**43.40**	**21**	*e*P	**P**	**13 48 02.7**	**+1.2**
BJT				pmax	pmax		
	comp=Z,17nm,0.8s						
BJT	**Baijiatuau**	**43.40**	**21**	*e*P	**P**	**13 48 02.6**	**+1.1**
	comp=Z,17nm,0.8s,mb4.8						
BJI	**Beijing**	**43.42**	**21**	*e*P	**P**	**13 48 02.9**	**+1.2**
BJI				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=Z,49nm,17.5s,MS3.5						
WMQ	**Urumqi**	**44.33**	**350**	*e*P	**P**	**13 48 10.6**	**+1.6**
WMQ				AP	pP	13 48 20.4	+0.5
WMQ				PP	PP	13 49 55.4	+2.7
WMQ				S	**S**	**13 54 41.8**	**+1.3**
WMQ				XS	sS	13 54 58.3	-0.2
WMQ				SS	SS	13 57 52.8	-7.0
WMQ				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.5						
WMQ				LR	LR		
	comp=N,64nm,19.0s,MS3.6						
WMQ				LR	LR		
	comp=E,17nm,18.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,49nm,19.0s,MS3.4						
JNU	**Nakatsue**	**45.74**	**41**	P	**P**	**13 48 21.9**	**+1.7**
	comp=Z,28nm,1.0s,mb5.2,baz=203,slow=20,SNR=2.9						

KSRS Korea Array 46.84 34 P P 13 48 29.1 +0.2
comp=Z,16nm,0.8s,mb5.0,baz=218,slow=8.9,SNR=40
KSRS LR LR 14 08 11.6
comp=Z,33nm,20.0s,MS3.3,baz=205,slow=36
AAK Ala-Archa 46.95 337 *e*P **P 13 48 30.0 +0.3**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
AAK Ala-Archa 46.95 337 *e*P **P 13 48 30.0 +0.3**
comp=Z,4.0nm,0.7s,mb4.5
SONM Songino Array 48.24 8 P **P 13 48 40.3 +0.5**
comp=Z,7.6nm,0.7s,mb4.8,baz=190,slow=8.5,SNR=16
SONM LR LR 14 11 29.0
comp=Z,79nm,19.9s,MS3.7,baz=181,slow=39
MK31 Makanchi Array 48.27 346 *e*P **P 13 48 39.7 -0.3**
MK31 *e* pP 13 48 51.1 +0.1
MKAR Makanchi Array 48.27 346 P **P 13 48 39.8 -0.1**
comp=Z,4.5nm,0.7s,mb4.6,baz=154,slow=7.9,SNR=32
MKAR pP pP 13 48 50.6 -0.3
comp=Z,14nm,0.6s,baz=159,slow=8.2,SNR=30
ULN Ulaanbaatar 48.37 9 *e*P **P 13 48 40.8 +0.1**
CN2 Changchun 50.35 27 *e*P **P 13 48 55.4 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
ZAK Zakamensk 50.38 5 *e*P **P 13 48 56.3 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
PMG Port Moresby 50.77 102 *i*P **P 13 48 58.2 -0.8**
CTA Charters Tower 52.16 116 LR LR 14 11 38.8
comp=Z,58nm,19.9s,MS3.6,baz=51,slow=36
CTAO Charters Tower 52.16 116 *e*P **P 13 49 10.4 +1.0**
CTAO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CTAO Charters Tower 52.16 116 *e*P **P 13 49 10.4 +1.0**
comp=Z,3.9nm,0.8s,mb4.4
MJAR Matsushiro Arr 52.61 42 P **P 13 49 11.7 -1.1**
comp=Z,3.4nm,1.0s,mb4.2,baz=230,slow=7.0,SNR=5.3
MJAR LR LR 14 13 17.2
comp=Z,54nm,21.4s,MS3.6,baz=15,slow=38
HIA Hailar 52.73 19 *i*P **P 13 49 13.5 -0.1**
STKA Stephens Creek 52.74 131 *e*P **P 13 49 15.1 +1.3**
comp=Z,5.0nm,0.8s,mb4.5
STKA *e* pP 13 49 25.8 +0.9
STKA Stephens Creek 52.74 131 P **P 13 49 15.2 +1.4**
comp=Z,9.2nm,0.9s,mb4.7,baz=309,slow=7.3,SNR=17
STKA pP pP 13 49 25.8 +0.9
comp=Z,9.3nm,0.9s,baz=317,slow=6.9,SNR=8.8
STKA LR LR 14 10 57.5
comp=Z,66nm,20.3s,MS3.7,baz=206,slow=35
KURK Kurchatov 52.81 345⇓ *e*P **P 13 49 13.8 -0.4**
KURK Kurchatov 52.81 345 *e*P **P 13 49 13.6 -0.7**
comp=Z,3.6nm,1.6s,mb4.0
VLA Vladivostok 52.99 32 *e*P **P 13 49 24.5 +9.0**
ZAL Zalesovo 54.61 351 P **P 13 49 27.4 0.0**
comp=Z,5.0nm,0.4s,mb4.9,baz=318,slow=4.2,SNR=14
ZAL pP pP 13 49 38.3 -0.2
comp=Z,10.0nm,0.5s,baz=302,slow=3.6,SNR=12
ATD Arta Tunnel 54.99 284 LR LR 14 09 13.4
comp=Z,23nm,19.2s,MS3.3,baz=64,slow=32
NVS Novosibirsk 55.73 350 *e*P **P 13 49 34.6 -0.9**
NVS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,6.0nm,1.3s
BVAR Borovoye Array 57.23 341 P **P 13 49 44.9 -1.3**
comp=E,1.1nm,0.6s,mb4.1,baz=156,slow=8.0,SNR=6.3
BVAR pP pP 13 49 55.8 -1.6
comp=E,3.5nm,0.6s,baz=145,slow=7.1,SNR=12
BRVK Borovoye 57.30 341 *e*P **P 13 49 45.5 -1.1**
CHKZ Chkalovo 57.72 342 *e*P **P 13 49 48.2 -1.4**
CHKZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CHKZ Chkalovo 57.72 342 *e*P **P 13 49 48.1 -1.4**
comp=Z,4.5nm,0.8s,mb4.5
ERM Erimo 58.82 39 *i*P **P 13 49 56.4 -0.9**
BOD Bodaibo 59.12 10 *e*P **P 13 49 58.6 -0.7**
BOD pmax pmax
comp=Z,8.0nm,1.8s,mb4.5
ARU Arti 64.13 337⇑ *i*P **P 13 50 31.5 -1.7**
ARU *e*PPP 13 54 22.2
ARU *e*S **S 13 59 07.0 -0.4**
ARU *e*SS SS 14 03 19.5 +2.6
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
YAK Yakutsk 66.52 16 *e*P **P 13 50 47.4 -1.2**
YAK pmax pmax
comp=Z,20nm,1.1s,mb5.1
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.6s
BRTR Keskin Array B 69.73 313 P **P 13 51 07.8 -1.0**
comp=E,0.8nm,0.6s,mb3.8,baz=139,slow=9.8,SNR=4.1
BRTR pP pP 13 51 18.6 -1.6
comp=E,0.9nm,0.6s,baz=143,slow=7.5,SNR=4.6
MAW Mawson 71.61 193 P **P 13 51 19.8 -0.4**
comp=E,1.8nm,0.7s,mb4.1,baz=275,slow=14,SNR=4.5
MAW LR LR 14 19 03.0
comp=E,39nm,18.9s,MS3.7,baz=244,slow=33
BOSA Boshof 74.09 240 LR LR 14 19 22.5
comp=E,79nm,18.2s,MS4.0,baz=104,slow=32
TIXI Tiksi 74.29 10 *i*P **P 13 51 34.5 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AKASG Malin Array Be 76.03 323 P **P 13 51 44.2 -1.8**
comp=Z,0.7nm,0.3s,mb4.0,baz=88,slow=5.1,SNR=6.4
AKASG pP pP 13 51 55.0 -2.6
comp=Z,2.6nm,0.6s,baz=90,slow=4.9,SNR=4.4
FINES FINESS Array B 80.90 333 P **P 13 52 11.6 -1.3**
comp=Z,1.6nm,0.7s,mb4.1,baz=123,slow=7.0,SNR=3.1
ARCES ARCESS Array B 83.51 340 P **P 13 52 26.0 -0.6**
comp=Z,10nm,1.1s,mb4.8,baz=101,slow=6.3,SNR=6.9
ARCES pP pP 13 52 37.8 -0.5
comp=Z,3.2nm,0.8s,baz=102,slow=4.4,SNR=2.3
TXAR Lajitas Array 144.68 32 PKP PKPdf 13 59 35.0 -0.2
comp=Z,1.3nm,0.8s,baz=343,slow=0.9,SNR=10

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*ISCJB **04** 13:40:29.0±0.3,5562N±002×11022E±003,h10km, mb3.6/11, Error ellipse: s-maj=3.7km s-min=2.3km az=108.6*
*IDC **04** 13:40:29.3±0.8,5573N×11028E,h0km,mb3.7/10, mb1 3.9/13,mb1mx3.8/25,mbtmp3.7/13,ML3.5/3, Error ellipse: s-maj=18.9km s-min=17.6km az=87.0*
*MOS **04** 13:40:29.5±1.1,5575N×110.17E,h12km,mb3.9/8, Error ellipse: s-maj=10.5km s-min=6.6km az=72.6*
*NEIC **04** 13:40:30.6±0.5,5571N×11025E,h10km,mb3.8/3, Error ellipse: s-maj=9.8km s-min=7.8km az=108.0*
*BYKL **04** 13:40:30.7±0.2,5571N×110.18E,h6km,3km*
ISC 04 13:40:30.5±0.3,5566N±002×11021E±003,h10km,n86, σ1§44/133,mb3.6/11,10C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.40**	**288**	*e*PG	**Pg**	**13 40 37.7**	**-0.6**
NIZ				*e*		13 40 43.4	
NIZ	comp=Z,900nm,0.2s			pmax	pmax		
NIZ	comp=E,5μm,0.5s			smax			
NIZ	**Nizh Angarsk**	**0.40**	**288**	*i*Pg	**Pg**	**13 40 37.7**	**-0.6**
NIZ	comp=E,229nm,0.3s			Pmax		13 40 38.5	
NIZ				*e*Sg	**Sg**	**13 40 43.6**	**0.0**
NIZ	comp=E,5μm,0.3s			Smax		13 40 45.0	
KMO	**Kumora**	**0.60**	**67**	*e*PG	**Pg**	**13 40 40.9**	**-1.3**
KMO				*e*		13 40 48.8	
KMO	comp=Z,194nm,0.4s			pmax	pmax		
KMO	comp=N,2μm,0.8s			smax			
KMO	**Kumora**	**0.60**	**67**	*i*Pg	**Pg**	**13 40 41.0**	**-1.2**
KMO	comp=N,199nm,0.4s			Pmax		13 40 41.4	
KMO	comp=N,2μm,1.1s			*e*Sg	**Sg**	**13 40 49.0**	**-1.1**
KMO				Smax		13 40 51.3	
YLYR	**Ulyunkhan**	**0.95**	**145⇑**	*i*PG	**Pg**	**13 40 48.6**	**-0.2**
YLYR				*e*		13 41 01.7	
YLYR	comp=Z,507nm,0.3s			pmax	pmax		
YLYR	comp=N,921nm,0.2s			smax			
YLYR	**Ulyunkhan**	**0.95**	**145⇓**	*i*Pg	**Pg**	**13 40 48.6**	**-0.2**
YLYR	comp=N,596nm,0.6s			⇑*i*Pg	**Pg**	**13 40 48.6**	**-0.2**
YLYR	comp=N,383nm,0.6s			⇑*i*Pg	**Pg**	**13 40 48.6**	**-0.2**
YLYR	comp=N,588nm,0.6s			Pmax		13 40 49.0	
YLYR	comp=N,499nm,0.5s			*e*Sg	**Sg**	**13 41 01.9**	**+0.7**
YLYR				*e*		13 41 08.1	
YLYR	comp=N,1μm,0.4s			max		13 41 09.2	
YOA	**Uoyan**	**0.98**	**60⇓**	*i*PG	**Pg**	**13 40 48.7**	**-0.6**
YOA				*i*		13 41 02.4	
YOA	comp=Z,190nm,0.3s			pmax	pmax		
YOA	comp=E,3μm,0.4s			smax			
YOA	**Uoyan**	**0.98**	**60**	*e*Pg	**Pg**	**13 40 48.7**	**-0.6**
YOA	comp=E,211nm,0.4s			Pmax		13 40 53.3	
YOA				*e*Sg	**Sg**	**13 41 02.4**	**+0.4**
YOA	comp=E,3μm,0.8s			Smax		13 41 10.0	
SVKR	**Severomuysk**	**1.94**	**75**	*e*PN	**Pn**	**13 41 05.8**	**+2.3**
SVKR				*e*		13 41 08.0	
SVKR				*e*		13 41 32.5	
SVKR	comp=Z,404nm,0.5s			pmax	pmax		
SVKR	comp=N,6μm,0.7s			smax			
SVKR	**Severomuysk**	**1.94**	**75**	*e*Pg	**Pg**	**13 41 05.9**	**-1.8**
SVKR	comp=N,406nm,0.5s			Pmax		13 41 12.5	
SVKR				*e*Sg	**Sg**	**13 41 32.8**	**-0.1**
SVKR	comp=N,6μm,0.5s			Smax		13 41 34.4	
SYVR	**Suvo**	**2.01**	**184**	*e*PN	**Pn**	**13 41 07.3**	**+2.9**
SYVR				*e*		13 41 36.0	
SYVR	comp=Z,479nm,0.6s			pmax	pmax		
SYVR	comp=E,3μm,0.6s			smax			
SYVR	**Suvo**	**2.01**	**184**	*e*	**Pn**	**13 41 07.0**	**+2.6**
SYVR				⇑*i*Pg	**Pg**	**13 41 07.5**	**-1.5**
SYVR	comp=E,520nm,0.6s			Pmax		13 41 08.2	
SYVR				*e*Sg	**Sg**	**13 41 36.0**	**+1.0**
SYVR	comp=E,3μm,0.6s			Smax		13 41 37.8	
OGRR	**Ongureny**	**2.53**	**218**	*e*PN	**Pn**	**13 41 13.9**	**+2.4**
OGRR				*e*		13 41 17.6	
OGRR				*e*		13 41 49.4	
OGRR	comp=Z,71nm,0.7s			pmax	pmax		
OGRR	comp=N,642nm,0.5s			smax			
OGRR	**Ongureny**	**2.53**	**218**	*e*Pn	**Pn**	**13 41 13.7**	**+2.2**
OGRR				*e*Pg	**Pg**	**13 41 16.5**	**-2.4**
OGRR	comp=N,58nm,0.5s			Pmax		13 41 20.2	
OGRR				*e*		13 41 46.9	
OGRR				*e*Sg	**Sg**	**13 41 50.1**	**-1.6**
OGRR	comp=N,642nm,0.4s			Smax		13 41 51.9	
MXMB	**Maximikha**	**2.55**	**200**	*e*	**Pn**	**13 41 15.9**	**+4.1**
MXMB				*e*Pg	**Pg**	**13 41 17.1**	**-2.2**
MXMB	comp=N,157nm,1.0s			Pmax		13 41 22.6	
MXMB				*e*Sg	**Sg**	**13 41 52.4**	**+0.1**
MXMB	comp=N,2μm,0.9s			Smax		13 41 57.0	
BOD	**Bodaibo**	**3.01**	**42**	*e*PN	**Pn**	**13 41 18.3**	**+0.1**
BOD				*e*		13 41 25.0	
BOD				*e*		13 42 04.1	
BOD	comp=Z,48nm,0.5s			pmax	pmax		
BOD	comp=N,514nm,0.5s			smax			
BOD	**Bodaibo**	**3.01**	**42**	*e*Pn	**Pn**	**13 41 18.6**	**+0.4**
BOD				*e*Pg	**Pg**	**13 41 23.7**	**-4.5**
BOD	comp=N,37nm,0.6s			Pmax		13 41 26.5	
BOD				*e*Sn	**Sn**	**13 41 54.9**	**+0.6**
BOD				*e*Sg	**Sg**	**13 42 02.0**	**-5.2**
BOD	comp=N,506nm,0.4s			Smax		13 42 06.1	
NLYR	**Nelyaty**	**3.19**	**73**	*e*Pn	**Pn**	**13 41 21.5**	**+0.8**
NLYR				*e*Pg	**Pg**	**13 41 27.7**	**-3.9**
NLYR				*e*Sg	**Sg**	**13 42 09.6**	**-3.3**
TRG	**Tyrgan**	**3.68**	**220**	*e*PN	**Pn**	**13 41 29.5**	**+2.0**
TRG				*e*		13 41 38.8	
TRG				*e*		13 42 26.7	
TRG	comp=Z,53nm,0.7s			pmax	pmax		
TRG	comp=E,256nm,0.6s			smax			
TRG	**Tyrgan**	**3.68**	**220**	*e*Pn	**Pn**	**13 41 29.5**	**+2.0**
TRG				⇓*i*		13 41 33.0	
TRG	comp=E,84nm,0.7s			max		13 41 34.6	
TRG				*e*Sn	**Sn**	**13 42 13.9**	**+3.0**
TRG				*e*Sg	**Sg**	**13 42 24.9**	**-3.9**
TRG	comp=E,257nm,0.9s			Smax		13 42 33.0	
TRTB	**Turuntaevo**	**3.76**	**205**	*e*Pn	**Pn**	**13 41 30.5**	**+2.0**
TRTB				*e*Pg	**Pg**	**13 41 38.9**	**-3.6**
TRTB	comp=E,48nm,1.0s			Pmax		13 41 46.3	
TRTB				*i*Sg	**Sg**	**13 42 27.7**	**-3.4**
TRTB	comp=E,221nm,1.0s			Smax		13 42 38.4	
CIT	**Chita**	**4.14**	**150**	*e*PN	**Pn**	**13 41 35.1**	**+1.3**
CIT				*e*S	**Sg**	**13 42 38.2**	**-5.4**
CIT	comp=N,248nm,0.9s			smax			
CIT	**Chita**	**4.14**	**150**	*e*Pn	**Pn**	**13 41 35.0**	**+1.2**
CIT				⇑*i*Pg	**Pg**	**13 41 45.8**	**-4.1**
CIT	comp=N,183nm,1.1s			Pmax		13 41 46.5	
CIT				*e*Sg	**Sg**	**13 42 42.4**	**-1.2**
CIT	comp=N,248nm,1.0s			Smax		13 42 49.0	
FFNB	**Fofonovo**	**4.15**	**211**	*e*Pn	**Pn**	**13 41 35.4**	**+1.5**
FFNB				*e*Sn	**Sn**	**13 42 23.6**	**+1.1**
FFNB				*i*Sg	**Sg**	**13 42 40.2**	**-3.6**
FFNB	comp=N,687nm,0.5s			Smax		13 42 44.4	
STDB	**Stepnoy Dvoret**	**4.17**	**215**	*e*Sg	**Sg**	**13 42 42.4**	**-2.0**
STDB	comp=N,796nm,1.1s			Smax		13 43 01.8	
KAB	**Kabansk**	**4.18**	**212**	*e*PN	**Pb**	**13 41 47.9**	**+3.8**
KAB				*e*		13 42 42.9	
KAB	comp=Z,100nm,0.6s			pmax	pmax		
KAB	comp=N,787nm,0.7s			smax			
KAB	**Kabansk**	**4.18**	**212**	*e*	**Pg**	**13 41 54.7**	**+4.1**
KAB				*e*Sg	**Sg**	**13 42 41.4**	**-3.4**
KAB	comp=N,736nm,1.0s			Smax		13 42 55.5	
HRMR	**Khuramsha**	**4.48**	**207**	*e*Pn	**Pn**	**13 41 41.5**	**+3.1**
HRMR				*e*Pg	**Pg**	**13 41 52.3**	**-3.9**
HRMR	comp=N,75nm,0.4s			Pmax		13 41 57.1	
HRMR				*e*Sg	**Sg**	**13 42 49.9**	**-4.3**
HRMR	comp=N,590nm,0.6s			Smax		13 42 55.6	
CRS	**Chara**	**4.66**	**71**	*e*PN	**Pn**	**13 41 41.9**	**+1.0**
CRS				*e*		13 41 54.6	
CRS				*e*		13 42 53.9	
CRS	comp=Z,48nm,0.7s			pmax	pmax		
CRS	comp=E,293nm,1.5s			smax			
CRS	**Chara**	**4.66**	**71**	*e*Pn	**Pn**	**13 41 41.9**	**+1.0**
CRS				*e*Pg	**Pg**	**13 41 54.8**	**-5.0**
CRS	comp=E,51nm,0.7s			Pmax		13 42 01.5	
CRS				*e*Sg	**Sg**	**13 42 55.4**	**-4.7**
CRS	comp=E,315nm,1.3s			Smax		13 43 10.9	
IRK	**Irkutsk**	**4.90**	**228**	*e*Sn	**Sn**	**13 42 40.8**	**-0.1**
IRK				*e*Sg	**Sg**	**13 43 03.6**	**-4.2**
IRK	comp=E,475nm,0.5s			Smax		13 43 11.6	
LSTR	**Listvyanka**	**4.96**	**222**	*e*Pn	**Pn**	**13 41 46.7**	**+1.7**
LSTR	comp=E,37nm,1.3s			max		13 41 50.2	
LSTR				*e*Sn	**Sn**	**13 42 42.1**	**-0.3**
LSTR				*e*Sg	**Sg**	**13 43 03.4**	**-6.3**
LSTR	comp=E,164nm,1.3s			Smax		13 43 09.6	
TLY	**Talaya**	**5.58**	**227**	*e*PN	**Pn**	**13 41 53.5**	**0.0**
TLY				*e*		13 42 10.4	
TLY				*e*		13 43 23.0	
TLY	comp=Z,21nm,0.5s			pmax	pmax		
TLY	comp=E,137nm,1.0s			smax			
TLY	**Talaya**	**5.58**	**227**	*e*Pn	**Pn**	**13 41 54.5**	**+1.0**
TLY	comp=E,18nm,0.4s						
TLY	**Talaya**	**5.58**	**227**	*e*Pn	**Pn**	**13 41 54.4**	**+0.9**
TLY				*e*Pg	**Pg**	**13 42 11.3**	**-6.0**
TLY	comp=E,16nm,0.4s			Pmax		13 42 15.8	
TLY				*e*Sg	**Sg**	**13 43 23.6**	**-5.9**
TLY	comp=E,139nm,1.0s			Smax		13 43 31.7	
TUP	**Tupik**	**5.74**	**98**	*e*PN	**Pn**	**13 41 56.4**	**+0.7**
TUP				*e*		13 42 13.6	
TUP				*e*S	**Sn**	**13 43 00.6**	**-1.0**
TUP				*e*		13 43 28.2	
TUP	comp=Z,43nm,0.9s			pmax	pmax		
TUP	comp=N,331nm,1.0s			smax			
TUP	**Tupik**	**5.74**	**98**	*e*Pn	**Pn**	**13 41 56.6**	**+0.9**
TUP				*e*Pg	**Pg**	**13 42 13.6**	**-6.7**
TUP	comp=N,17nm,0.6s			Pmax		13 42 16.5	
TUP				*e*Sg	**Sg**	**13 43 29.0**	**-5.6**
TUP	comp=N,328nm,0.8s			Smax		13 43 34.5	
ARS	**Arshan**	**5.94**	**234⇑**	*i*Pn	**Pn**	**13 41 59.7**	**+1.2**
ARS	comp=N,51nm,0.4s			max		13 42 05.7	
ARS				*e*Sn	**Sn**	**13 43 05.5**	**-1.1**
ARS				*e*Sg	**Sg**	**13 43 34.2**	**-7.0**
ARS	comp=N,393nm,0.6s			Smax		13 43 42.1	
KPC	**Khapcheranga**	**6.11**	**167**	*e*PN	**Pn**	**13 42 02.1**	**+1.3**
KPC				*e*		13 42 21.8	
KPC				*e*		13 43 42.0	
KPC	comp=Z,30nm,0.6s			pmax	pmax		
KPC	comp=E,150nm,1.3s			smax			
KPC	**Khapcheranga**	**6.11**	**167**	*e*Pn	**Pn**	**13 42 02.2**	**+1.4**
KPC				*e*Pg	**Pg**	**13 42 22.0**	**-5.4**
KPC	comp=E,35nm,1.1s			Pmax		13 42 23.2	
KPC				*e*Sg	**Sg**	**13 43 41.6**	**-4.9**
KPC	comp=E,150nm,1.1s			Smax		13 43 53.0	
ZAK	**Zakamensk**	**6.74**	**221**	*e*PN	**Pn**	**13 42 12.1**	**+2.7**
ZAK				*e*		13 42 33.3	
ZAK				*e*S	**Sn**	**13 43 30.6**	**+4.4**
ZAK				*e*		13 44 00.3	
ZAK	comp=Z,8.0nm,0.7s			pmax	pmax		
ZAK	comp=E,112nm,1.6s			pmax	pmax		
ZAK	**Zakamensk**	**6.74**	**221**	*e*Pn	**Pn**	**13 42 11.7**	**+2.3**
ZAK				*e*		13 43 31.1	
ZAK				*e*Sg	**Sg**	**13 43 59.8**	**-6.9**
ZAK	comp=E,112nm,1.4s			Smax		13 44 03.9	
MOY	**Mondy**	**6.78**	**238**	*e*PN	**Pn**	**13 42 12.8**	**+2.8**
MOY				*e*		13 42 35.1	
MOY				*e*		13 44 02.9	
MOY	comp=Z,4.0nm,0.2s			pmax	pmax		
MOY	comp=E,129nm,0.9s			smax			
MOY	**Mondy**	**6.78**	**238⇑**	*i*Pn	**Pn**	**13 42 12.5**	**+2.5**
MOY	comp=E,61nm,0.8s			max		13 42 18.6	
MOY				*e*Sn	**Sn**	**13 43 27.7**	**+0.5**
MOY				*e*Sg	**Sg**	**13 43 59.1**	**-9.0**
MOY	comp=E,130nm,1.2s			Smax		13 44 05.9	
ORL	**Orlik**	**6.87**	**247**	*e*PN	**Pn**	**13 42 13.4**	**+2.2**
ORL				*e*S	**Sg**	**13 44 04.6**	**-6.3**
ORL	comp=N,117nm,1.0s			smax			
ORL	**Orlik**	**6.87**	**247⇑**	*i*Pn	**Pn**	**13 42 13.4**	**+2.2**
ORL	comp=N,21nm,0.5s			max		13 42 16.1	
ORL				*e*Sn	**Sn**	**13 43 29.4**	**0.0**
ORL				*e*Sg	**Sg**	**13 44 03.8**	**-7.1**
ORL	comp=N,136nm,1.4s			Smax		13 44 12.4	
ULN	**Ulaanbaatar**	**8.04**	**195**	*i*PN	**Pn**	**13 42 34.9**	**+7.5**
ULN	**Ulaanbaatar**	**8.04**	**195**	Pn	**Pn**	**13 42 26.9**	**-0.5**
NRGR	**Nerungri**	**8.16**	**77**	*e*PN	**Pn**	**13 42 36.2**	**+7.2**
SONM	**Songino Array**	**8.18**	**198**	Pn	**Pn**	**13 42 31.2**	**+1.9**
SONM	comp=N,0.5nm,0.3s,baz=17,slow=12,SNR=9.9			Pg	Pn	13 42 59.4	+30
SONM	comp=N,0.7nm,0.3s,baz=1.5,slow=17,SNR=7.1			Lg		13 44 51.4	
TNDR	**Tynda**	**8.28**	**88**	*e*Sg	Sx	13 44 47.1	
TDJR	**Todzha**	**8.92**	**254**	*e*Sg	Sx	13 45 06.9	
ZAL	**Zalesovo**	**14.73**	**274**	Pn	**Pn**	**13 43 54.9**	**-4.0**
TIXI	**Tiksi**	**17.91**	**19**	*i*P	**Pn**	**13 44 37.9**	**-1.7**
TIXI	comp=Z,6.0nm,1.2s			pmax	pmax		
TIXI	**Tiksi**	**17.91**	**19**	*e*P	**Pn**	**13 44 34.5**	**-5.1**
KURK	**Kurchatov**	**19.46**	**269**	*e*P	**Pn**	**13 44 57.1**	**-1.4**
KURK	comp=Z,6.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov**	**19.46**	**269**	*e*P	**Pn**	**13 44 57.1**	**-1.4**
MK31	**Makanchi Array**	**19.49**	**255**	*e*P	**Pn**	**13 44 57.9**	**-0.9**
MKAR	**Makanchi Array**	**19.49**	**255**	P	**Pn**	**13 44 58.1**	**-0.7**
MKAR	**Makanchi Array**	**19.49**	**255**	*i*P	**Pn**	**13 44 58.7**	**-0.1**
CHKZ	**Chkalovo**	**22.77**	**282**	*e*P	**P**	**13 45 32.9**	**-0.1**
CHKZ	**Chkalovo**	**22.77**	**282**	*e*P	**P**	**13 45 32.9**	**-0.1**
BVAR	**Borovoye Array**	**23.14**	**280**	P	**P**	**13 45 37.1**	**+0.2**
BVAR	**Borovoye Array**	**23.14**	**280**	P	**P**	**13 45 37.1**	**+0.2**
BRVK	**Borovoye**	**23.19**	**280**	*e*P	**P**	**13 45 37.3**	**-0.1**
ARCES	**ARCESS Array B**	**37.85**	**325**	P	**P**	**13 47 46.1**	**-1.2**
ARCES	**ARCESS Array B**	**37.85**	**325**	P	**P**	**13 47 46.1**	**-1.2**
FINES	**FINESS Array B**	**41.38**	**314**	P	**P**	**13 48 15.9**	**-0.8**
FINES	**FINESS Array B**	**41.38**	**314**	*e*P	**P**	**13 48 16.1**	**-0.6**
AKASG	**Malin Array Be**	**46.19**	**299**	P	**P**	**13 48 54.3**	**-1.1**
AKASG	**Malin Array Be**	**46.19**	**299**	*i*P	**P**	**13 48 56.0**	**+0.6**
NOA	**NORSAR Array B**	**47.42**	**319**	P	**P**	**13 49 04.5**	**-0.6**
NOA	**NORSAR Array B**	**47.42**	**319**	P	**P**	**13 49 04.5**	**-0.6**
INK	**Inuvik**	**47.81**	**27**	*e*P	**P**	**13 49 07.3**	**-0.8**
BRTR	**Keskin Array B**	**51.25**	**286**	P	**P**	**13 49 36.3**	**+1.9**
BRTR	**Keskin Array B**	**51.25**	**286**	P	**P**	**13 49 36.3**	**+2.0**
YKA	**Yellowknife Ar**	**57.11**	**23**	P	**P**	**13 50 15.2**	**-1.8**
YKA	**Yellowknife Ar**	**57.11**	**23**	P	**P**	**13 50 15.2**	**-1.9**

comp=Z,0.2nm,0.3s,mb3.5,baz=44,slow=8.7,SNR=5.2
comp=Z,0.5nm,0.8s,mb4.6,baz=327,slow=6.8,SNR=5.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	57.11	23	P	P	13 50 15.2	-1.8
NVAR	Mina Array Bea	77.58	37	P	P	13 52 27.7	+1.0
	comp=Z,0.2nm,0.5s,mb3.3,baz=324,slow=5.6,SNR=3.1						
WRA	Warramunga Arr	78.04	157	P	P	13 52 29.6	+0.3
	comp=Z,0.6nm,1.0s,mb3.5,baz=349,slow=7.0,SNR=4.7						
WRA	Warramunga Arr	78.04	157	P	P	13 52 29.6	+0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	Alice Springs	81.55	158	P	P	13 52 48.2	0.0
	comp=Z,0.3nm,0.8s,mb3.3,baz=351,slow=4.9,SNR=4.3						
ASAR	Alice Springs	81.55	158	eP	P	13 52 53.7	+5.4
VNA2	Neumayer--Watz	149.82	215	e	PKPdf	14 00 20.2	+4.2
VNA2				e		14 00 22.6	
VNA2				e		14 00 24.6	
VNA3	Neumayer Olymp	150.57	215	e	PKPdf	14 00 20.2	+3.1
VNA3				e		14 00 24.6	

*ISCJB **04** 14:13:02.6±1.2, 192S±02×1777W±01, h540km±20km, mb3.5/8, Error ellipse: s-maj=23.9km s-min=16.5km az=150.8*
*IDC **04** 14:13:03.9±1.5, 19.15S×177.67W, h544km±20km, mb2.9/7, mb1 3.2/9, mb1mx3.1/16, mbtmp3.1/9, Error ellipse: s-maj=21.5km s-min=15.8km az=152.0*
*NEIC **04** 14:13:04.1±1.1, 19.19S×177.67W, h544km±15km, mb4.1/1, Error ellipse: s-maj=19.1km s-min=13.9km az=154.0*
ISC 04 14:13:03.5±1.2, **192S**±02×**1776W**±01, **h540**km±21km, **n18**, σ**1s05**/20, **mb3.5**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.67	47	P	P	14 14 58.7	+1.2
	7.4nm,0.3s,baz=317,slow=3.3,SNR=18						
AFI				S	S	14 16 29.2	-2.0
	2.3nm,0.3s,baz=17,slow=20,SNR=4.3						
AFI	Afiamalu	7.67	47	eP	P	14 14 59.0	+1.5
AFI				S	S	14 16 29.2	-2.0
URZ	Urewera	19.51	193	P	P	14 16 54.9	-0.5
	1.7nm,0.3s,baz=312,slow=13,SNR=9.0						
STKA	Stephens Creek	38.72	243	P	P	14 19 42.6	+1.4
	1.4nm,0.7s,mb3.6,baz=92,slow=9.8,SNR=5.0						
STKA	Stephens Creek	38.72	243	eP	P	14 19 42.5	+1.2
WB2	Warramunga Arr	45.18	261	eP	P	14 20 32.1	-0.1
WRAB	Tennant Creek	45.19	261	eP	P	14 20 32.2	0.0
WRA	Warramunga Arr	45.20	261	P	P	14 20 31.9	-0.4
	0.5nm,0.4s,mb3.4,baz=98,slow=7.8,SNR=27						
WRA				PcP	PcP	14 22 00.7	-0.3
	0.2nm,0.3s,baz=91,slow=4.0,SNR=6.2						
ASAR	Alice Springs	45.22	255	P	P	14 20 32.9	+0.5
	0.8nm,0.4s,mb3.6,baz=86,slow=8.3,SNR=57						
ASAR				PcP	PcP	14 22 00.8	-0.2
	0.6nm,0.5s,baz=101,slow=3.8,SNR=7.9						
ASAR				S	S	14 26 30.6	-2.5
	0.6nm,0.8s,baz=92,slow=15,SNR=7.6						
FITZ	Fitzroy Crossi	53.61	261	P	P	14 21 34.2	0.0
	1.1nm,0.8s,mb3.2,baz=127,slow=10						
VNDA	Vanda	59.19	185	P	P	14 22 13.4	+0.8
	1.1nm,1.0s,mb3.0,baz=74,slow=4.9,SNR=5.8						
VNDA	Vanda	59.19	185	eP	P	14 22 13.7	+1.1
QSPA	South Pole Qui	70.82	180	eP	P	14 23 26.4	+0.6
	5.6nm,0.8s,mb4.2						
MAW	Mawson	82.88	200	P	P	14 24 31.1	-0.4
	0.9nm,0.5s,mb3.5,baz=121,slow=12,SNR=5.4						
TXAR	Lajitas Array	86.03	57	P	P	14 24 48.6	+1.7
	0.4nm,0.6s,mb3.2,baz=219,slow=7.0,SNR=5.1						
VNA3	Neumayer Olymp	89.36	176	e	P	14 25 00.9	-1.6
VNA3				e		14 25 02.5	
VNA2	Neumayer--Watz	89.81	177	e	P	14 25 03.8	-0.8
	baz=181,slow=4.5						
VNA2				e		14 25 05.7	
ARCES	ARCESS Array B	127.76	350	PKP	PKPdf	14 31 06.0	-1.7
	3.6nm,0.9s,baz=46,slow=2.7,SNR=3.8						

IDC 04 14:26:21.6±12.0, **1380N**×**8932W**, **h0**km, **mb3.8**/5, **mb1 4.1**/5, **mb1mx3.8**/16, **mbtmp3.9**/5, **Error ellipse: s-maj=233.2km s-min=52.5km az=177.0, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	20.39	322	P	P	14 31 00.8	+0.9
	1.7nm,0.3s,baz=127,slow=12,SNR=5.7						
NVAR	Mina Array Bea	35.49	319	P	P	14 33 20.4	+0.5
	1.0nm,0.9s,baz=126,slow=7.3,SNR=5.5						
ULM	Lac du Bonnet	36.74	353	P	P	14 33 30.1	-0.5
	0.7nm,0.4s,baz=165,slow=16,SNR=1.9						
SCHQ	Schefferville	44.55	18	P	P	14 34 36.0	+0.8
	3.1nm,1.0s,baz=232,slow=12,SNR=5.8						
YKA	Yellowknife Ar	51.85	345	P	P	14 35 30.4	-1.1
	0.3nm,0.5s,baz=137,slow=7.1,SNR=11						

*ISCJB **04** 15:03:35.7±0.7, 4663N±0.10×1555E±02, h10km, mb3.7/9, Error ellipse: s-maj=17.7km s-min=12.8km az=64.9*
*IDC **04** 15:03:35.9±0.9, 46.55N×155.47E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.6/8, Error ellipse: s-maj=28.5km s-min=22.0km az=158.0*
*NEIC **04** 15:03:37.6±0.8, 46.69N×155.54E, h10km, mb4.4/1, Error ellipse: s-maj=21.3km s-min=16.8km az=133.0*
*MOS **04** 15:03:39.1±1.3, 46.57N×155.38E, h33km, mb3.9/4, Error ellipse: s-maj=38.5km s-min=25.4km az=106.0*
ISC 04 15:03:37.5±0.7, **4674N**±010×**1555E**±02, **h10**km, **n20**, σ**1s11**/20, **mb3.7**/9, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.97	6	ePN	Pb	15 04 46.5	-1.0
PET	Petropavlovsk	6.62	17	PN	Pn	15 05 13.1	-1.7
KSRS	Korea Array	22.35	255	P	P	15 08 34.8	-0.7
	1.2nm,0.8s,mb3.4,baz=33,slow=13,SNR=3.3						
SONM	Songino Array	32.86	290	P	P	15 10 13.7	+2.4
	0.7nm,0.9s,mb3.6,baz=54,slow=11,SNR=2.9						
SONM	Songino Array	32.86	290	P	P	15 10 13.7	+2.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	Inuvik	40.79	33	eP	P	15 11 19.8	+0.9
MKAR	Makanchi Array	48.37	298	P	P	15 12 18.3	-1.2
	comp=Z,0.2nm,0.5s,mb3.4,baz=80,slow=5.0,SNR=3.8						
MKAR	Makanchi Array	48.37	298	P	P	15 12 18.3	-1.2
CHKZ	Chkalovo	51.67	311	eP	P	15 12 44.9	+0.5
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	Chkalovo	51.67	311	eP	P	15 12 44.9	+0.5
	comp=Z,3.3nm,0.6s,mb4.4						
BRVK	Borovoye	52.15	310	eP	P	15 12 48.8	+0.8
NVAR	Mina Array Bea	61.00	64	P	P	15 13 51.9	+0.9
	comp=Z,0.5nm,0.7s,mb3.8,baz=299,slow=9.2,SNR=3.3						
NVAR	Mina Array Bea	61.00	64	P	P	15 13 51.9	+0.9
FINES	FINESS Array B	64.73	336	P	P	15 14 16.7	+0.9
	comp=Z,1.0nm,0.5s,mb4.2,baz=46,slow=8.2,SNR=7.0						
FINES	FINESS Array B	64.73	336	P	P	15 14 16.7	+0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	69.06	201	P	P	15 14 42.1	-1.3
	comp=Z,0.5nm,0.8s,mb3.5,baz=22,slow=6.9,SNR=3.3						
WRA	Warramunga Arr	69.06	201	P	P	15 14 42.1	-1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	72.74	201	P	P	15 15 05.0	-0.8
	comp=Z,0.4nm,0.8s,mb3.4,baz=18,slow=5.7,SNR=8.7						
TXAR	Lajitas Array	76.08	62	P	P	15 15 25.9	+0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=300,slow=4.5,SNR=8.8						
TXAR	Lajitas Array	76.08	62	P	P	15 15 25.9	+0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 04 15:14:26.9±7.1, **1714S**×**17907W**, **h0**km, **mb3.6**/2, **mb1 3.8**/2, **mb1mx3.5**/14, **mbtmp3.6**/2, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.7**/21, **Error ellipse: s-maj=338.2km s-min=54.4km az=145.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.96	259	LR	LR	15 30 30.4	
	comp=Z,28nm,19.9s,baz=50,slow=29						
WRA	Warramunga Arr	44.16	259	P	P	15 22 37.4	0.0
	0.2nm,0.8s,baz=95,slow=7.8,SNR=6.1						
ASAR	Alice Springs	44.40	254	P	P	15 22 39.9	+0.7
	0.7nm,0.4s,baz=89,slow=7.9,SNR=36						
GERES	GERESS Array B	146.71	345	PKPbc	PKPbc	15 34 10.0	-0.7
	0.3nm,0.4s,baz=28,slow=4.4,SNR=3.5						

*MOS **04** 15:23:34.8±0.6, 48.23N×154.03E, h33km, mb4.0/2, Error ellipse: s-maj=93.0km s-min=50.7km az=72.1*
*ISCJB **04** 15:23:38.8±2.2, 482N±02×1543E±02, h65km±21km, mb3.4/6, Error ellipse: s-maj=37.8km s-min=10.7km az=98.2*
*IDC **04** 15:23:40.2±5.8, 48.18N×154.28E, h62km±54km, mb3.3/6, mb1 3.7/7, mb1mx3.4/23, mbtmp3.5/7, ML2.7/1, Error ellipse: s-maj=41.9km s-min=22.1km az=127.0*
ISC 04 15:23:40.6±1.9, **483N**±02×**1543E**±02, **h67**km±18km, **n11**, σ**1s06**/12, **mb3.4**/6, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.71	25	ePN	Pn	15 24 23.5	+1.7
SKR				eS	Sn	15 24 52.0	-1.4
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,180nm,0.3s						
SKR				smax			
	comp=E,200nm,0.3s						
YSS	Yuzh-Sakhalins	7.91	265	ePN	Pn	15 25 34.0	+1.2
ASAJ	Asahikawa	9.11	247	P	Pn	15 25 47.5	-1.7
	comp=E,0.1nm,0.3s,baz=15,slow=16,SNR=2.1						
KSRS	Korea Array	22.03	250	P	P	15 28 30.4	+0.9
	comp=E,1.8nm,0.8s,mb3.5,baz=50,slow=11,SNR=5.2						
MKAR	Makanchi Array	46.97	297	P	P	15 32 04.2	-0.6
	comp=E,0.2nm,0.5s,mb3.1,baz=66,slow=8.9,SNR=3.8						
YKA	Yellowknife Ar	49.24	38	P	P	15 32 22.8	+0.5
	comp=E,0.8nm,0.8s,mb3.7,baz=296,slow=7.0,SNR=5.6						
YKA	Yellowknife Ar	49.24	38	P	P	15 32 22.8	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	70.19	200	P	P	15 34 45.2	-1.0
	comp=Z,1.3nm,0.9s,mb3.8,baz=16,slow=6.4,SNR=11						
WRA	Warramunga Arr	70.19	200	P	P	15 34 45.2	-1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	73.89	199	P	P	15 35 08.4	+0.1
	comp=Z,0.4nm,0.6s,mb3.3,baz=13,slow=5.5,SNR=13						
TXAR	Lajitas Array	76.07	62	P	P	15 35 21.1	+0.3
	comp=Z,0.2nm,0.4s,mb3.2,baz=309,slow=5.4,SNR=4.4						

*MOS **04** 15:33:35.9±2.3, 55.67N×110.50E, h8km, mb4.0/1, Error ellipse: s-maj=27.0km s-min=15.1km az=69.0*
BYKL 04 15:33:36.5±0.3, **5567N**×**11020E**, **h2**km±4km, **5C-1D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.39	286	ePg	Pg	15 33 43.7	-0.2
NIZ				eSg	Sg	15 33 49.5	+0.5
NIZ				Pmax			
	68nm,0.3s						
NIZ				Smax			
	507nm,0.3s						
KMO	Kumora	0.61	69	⇑iPg	Pg	15 33 47.2	-0.9
KMO				eSg	Sg	15 33 55.0	-1.0
KMO				Pmax			
	66nm,0.4s						
KMO				Smax			
	473nm,1.2s						
YLYR	Ulyunkhan	0.97	145	⇑iPG	Pg	15 33 54.1	-0.9
YLYR				e		15 34 07.1	
YLYR				pmax	pmax		
	comp=Z,69nm,0.1s						
YLYR				smax			
	comp=N,580nm,0.1s						
YLYR	Ulyunkhan	0.97	145	⇓iPg	Pg	15 33 54.1	-0.9
	comp=N,120nm,0.5s						
YLYR				⇑iPg	Pg	15 33 54.1	-0.9
	comp=N,74nm,0.5s						
YLYR				⇑iPg	Pg	15 33 54.1	-0.9
	comp=N,128nm,0.5s						
YLYR				eSg	Sg	15 34 07.2	-0.4
YLYR				Pmax			
	comp=N,66nm,0.2s						
YLYR				Smax			
	comp=N,474nm,0.2s						
YOA	Uoyan	0.98	61	ePG	Pg	15 33 53.6	-1.6
YOA				pmax	pmax		
	comp=Z,95nm,0.3s						
YOA	Uoyan	0.98	61	ePg	Pg	15 33 53.7	-1.5
YOA				eSg	Sg	15 34 08.3	+0.4
YOA				Pmax			
	comp=Z,129nm,0.3s						
YOA				Smax			
	comp=Z,716nm,0.4s						
SVKR	Severomuysk	1.94	75	ePN	Pn	15 34 10.9	+0.4
SVKR				e		15 34 11.9	
SVKR				e		15 34 36.6	
SVKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SVKR				smax			
	comp=N,498nm,0.6s						
SVKR	Severomuysk	1.94	75	ePn	Pn	15 34 11.0	+0.5
SVKR				ePg	Pg	15 34 12.1	-1.7
SVKR				eSg	Sg	15 34 38.0	-1.0
SVKR				Pmax			
	comp=N,95nm,0.3s						
SVKR				Smax			
	comp=N,505nm,0.6s						
SYVR	Suvo	2.02	183	ePN	Pn	15 34 12.8	+1.2
SYVR				eS	Sn	15 34 40.6	+3.2
SYVR				smax			
	comp=E,610nm,0.4s						
SYVR	Suvo	2.02	183	ePn	Pn	15 34 12.4	+0.8
SYVR				⇑iPg	Pg	15 34 12.9	-2.3
SYVR				eSg	Sg	15 34 40.2	-1.2
SYVR				Pmax			
	comp=E,146nm,0.6s						
SYVR				Smax			
	comp=E,598nm,0.4s						
OGRR	Ongureny	2.53	218	ePN	Pn	15 34 19.2	+0.6
OGRR				e		15 34 23.0	
OGRR				e		15 34 54.8	
OGRR				pmax	pmax		
	comp=Z,31nm,0.5s						
OGRR				smax			
	comp=E,192nm,0.4s						
OGRR	Ongureny	2.53	218	ePn	Pn	15 34 19.4	+0.8
OGRR				ePg	Pg	15 34 21.5	-3.5
OGRR				eSn	Sn	15 34 50.9	+0.9
OGRR				i Sg	Sg	15 34 54.8	-3.1
OGRR				Pmax			
	comp=E,25nm,0.2s						
OGRR				Smax			
	comp=E,192nm,0.3s						
MXMB	Maximikha	2.56	200	ePn	Pn	15 34 20.2	+1.2
MXMB				ePg	Pg	15 34 23.0	-2.5
MXMB				eSg	Sg	15 34 57.2	-1.5
MXMB				Pmax			
	comp=E,45nm,0.7s						
MXMB				Smax			
	comp=E,316nm,0.8s						
BOD	Bodaibo	3.00	43	ePn	Pn	15 34 24.8	-0.3
BOD				ePg	Pg	15 34 29.7	-4.4
BOD				eSn	Sn	15 35 01.3	-0.4
BOD				eSg	Sg	15 35 08.1	-4.9
BOD				Pmax			
	comp=E,16nm,0.3s						
BOD				Smax			
	comp=E,131nm,0.7s						
NLYR	Nelyaty	3.19	73	ePn	Pn	15 34 26.9	-0.8
NLYR				ePg	Pg	15 34 33.4	-4.3
NLYR				eSn	Sn	15 35 05.6	-0.7
NLYR				eSg	Sg	15 35 15.4	-3.7
TRG	Tyrgan	3.69	219	ePn	Pn	15 34 35.5	+1.0
TRG				e		15 34 37.7	
TRG				eSn	Sn	15 35 18.7	+0.1
TRG				eSg	Sg	15 35 30.0	-5.0
TRG				max			
	comp=E,20nm,0.8s						
TRG				Smax			
	comp=E,58nm,0.4s						
TRTB	Turuntaevo	3.77	205	ePn	Pn	15 34 35.8	+0.2
TRTB				ePg	Pg	15 34 43.2	-5.5
TRTB				eSn	Sn	15 35 22.2	+1.7
TRTB				eSg	Sg	15 35 33.2	-4.3
TRTB				Pmax			
	comp=E,11nm,0.6s						
TRTB				Smax			
	comp=E,49nm,0.7s						
CIT	Chita	4.16	150	ePg	Pg	15 34 50.6	-5.6
CIT				eSg	Sg	15 35 44.4	-5.7
CIT				Pmax			
	comp=E,19nm,0.7s						
CIT				Smax			
	comp=E,57nm,1.0s						
FFNB	Fofonovo	4.16	211	eSg	Sg	15 35 43.5	-6.7
FFNB				Smax			
	comp=E,138nm,0.5s						
KAB	Kabansk	4.19	212	eSg	Sg	15 35 45.9	-5.2
KAB				Smax			
	comp=E,105nm,0.6s						
HRMR	Khuramsha	4.49	207	ePn	Pn	15 34 46.3	+0.8
HRMR				ePg	Pg	15 34 56.0	-6.5
HRMR				e		15 35 41.8	
HRMR				eSg	Sg	15 35 54.4	-6.2
HRMR				Pmax			
	comp=E,22nm,0.6s						
HRMR				Smax			
	comp=E,159nm,0.8s						
CRS	Chara	4.66	71	ePN	Pn	15 34 59.3	+11
CRS				e		15 36 01.4	
CRS				pmax	pmax		
	comp=Z,28nm,1.2s						
CRS				smax			
	comp=E,86nm,1.9s						
CRS	Chara	4.66	71	ePn	Pn	15 34 47.4	-0.5
CRS				ePg	Pg	15 35 01.4	-4.4
CRS				eSg	Sg	15 36 01.4	-4.9
CRS				Pmax			
	comp=E,9.0nm,1.0s						
CRS				Smax			
	comp=E,86nm,1.8s						
LSTR	Listvyanka	4.96	222	eSn	Sn	15 35 45.4	-4.6
LSTR				eSg	Sg	15 36 09.5	-6.4
LSTR				Smax			
	comp=E,31nm,0.6s						
TLY	Talaya	5.58	227	ePN	Pn	15 34 58.3	-2.2
TLY				e		15 35 15.1	
TLY				eS	Sn	15 36 02.1	-3.1
TLY				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TLY				smax			
	comp=E,38nm,1.3s						
TLY	Talaya	5.58	227	eSn	Sn	15 36 02.3	-2.9
TLY				eSg	Sg	15 36 28.5	-7.2
TLY				Smax			
	comp=E,29nm,0.4s						
TUP	Tupik	5.75	99	ePN	Pn	15 35 02.0	-0.8
TUP				e		15 35 19.1	
TUP				eS	Sn	15 36 06.6	-2.7
TUP				e		15 36 33.2	
TUP				pmax	pmax		
	comp=Z,12nm,0.7s						
TUP				smax			
	comp=N,43nm,1.3s						
TUP	Tupik	5.75	99	eSg	Sg	15 36 34.1	-6.9
TUP				Smax			
	comp=N,27nm,0.5s						
ARS	Arshan	5.94	234	ePn	Pn	15 35 06.6	+1.1
ARS				e		15 35 29.1	
ARS				eSn	Sn	15 36 10.2	-4.0
ARS				eSg	Sg	15 36 39.1	-8.3
ARS				max			
	comp=N,14nm,0.5s						
ARS				Smax			
	comp=N,123nm,0.5s						
KPC	Khapcheranga	6.12	167	ePn	Pn	15 35 07.3	-0.6
KPC				ePg	Pg	15 35 27.2	-6.6
KPC				eSg	Sg	15 36 46.8	-6.3
KPC				Pmax			
	comp=N,3.0nm,0.7s						
KPC				Smax			
	comp=N,27nm,0.9s						
ZAK	Zakamensk	6.74	221	eSg	Sg	15 37 05.4	-7.6
ZAK				Smax			
	comp=N,31nm,1.2s						
MOY	Mondy	6.78	238	ePn	Pn	15 35 19.0	+2.0
MOY				ePg	Pg	15 35 38.6	-7.8
MOY				eSn	Sn	15 36 32.1	-2.7
MOY				eSg	Sg	15 37 06.8	-7.5
MOY				Pmax			
	comp=N,5.0nm,0.9s						
MOY				Smax			
	comp=N,34nm,1.4s						

OTT 04 15:34:01.0±1.2, **7865N**×**9294W**, **h18**km, **MN2.9**/1, **207km southwest from Eureka, Nu Sverdrup Seismic Zone., Queen Elizabeth Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EUNU	Eureka	1.86	38	PN	Pn	15 34 32.0	+0.2
EUNU				SN	Sn	15 34 57.7	+2.9
RES	Resolute Bay	4.02	187	PN	Pn	15 35 00.5	-1.1
RES				SN	Sn	15 35 46.4	-1.7
RES				LG		15 36 06.8	
RES				Trac		15 36 13.8	
	comp=Z,24nm,0.6s						
PINU	Pond Inlet	7.01	141	PN	Pn	15 35 37.5	-5.2
PINU				SN	Sn	15 37 00.3	-1.6
ILON	Igloolik, Nuna	9.79	156	PN	Pn	15 36 19.1	-1.7
ILON				SN	Sn	15 38 05.0	-5.3
INK	Inuvik	15.02	249	PN	Pn	15 37 25.6	-6.6

*NEIC **04** 16:25:56.0±1.3, 7.13N×80.09W, h10km, Error ellipse: s-maj=27.6km s-min=18.8km az=191.0*
*IDC **04** 16:25:57.8±1.8, 7.70N×79.92W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, ML2.5/1, Error ellipse: s-maj=89.3km s-min=31.9km az=44.0*
*ISCJB **04** 16:25:58.7±2.3, 7.1N±0.1×79.9W±0.1, h47km±21km, mb3.6/3, Error ellipse: s-maj=23.7km s-min=18.1km az=49.0*
ISC 04 16:26:03.2±1.6, **73N**±01×**799W**±01, **h58**km±17km, **n9**, σ**1s88**/8, **mb3.6**/3, **South of Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCIP	Isla Barro Col	1.84	3	eP	Pn	16 26 29.9	-2.5
BCIP				eS	Sn	16 26 56.0	+1.4
JTS	JuntasAbangare	5.78	301	eP	Pn	16 27 26.2	-0.1
	31nm,0.8s						
ROSC	El Rosal	6.08	113	Pn	Pn	16 27 32.3	+1.8
	2.3nm,0.3s,baz=102,slow=21,SNR=4.5						
SDV	Santo Domingo	9.34	80	ePn	Pn	16 28 14.0	-1.1
	14nm,0.7s						
PDAR	Pinedale Array	43.90	328	P	P	16 34 03.5	-0.5
	0.5nm,0.7s,mb3.3,baz=128,slow=12,SNR=3.5						
NVAR	Mina Array Bea	46.44	318	P	P	16 34 25.6	+1.4
	0.8nm,0.8s,mb3.7,baz=134,slow=6.5,SNR=4.2						
YKA	Yellowknife Ar	60.60	342	P	P	16 36 07.2	-0.7
	0.7nm,0.7s,mb3.9,baz=135,slow=7.0,SNR=10						
ASAR	Alice Springs	143.71	240	PKhKP		16 45 28.5	
	0.2nm,0.6s,baz=108,slow=3.4,SNR=3.2						
ASAR				PKP	PKPdf	16 45 33.2	+1.7
	0.4nm,0.7s,baz=111,slow=3.9,SNR=4.2						
WRA	Warramunga Arr	144.50	246	PKhKP		16 45 32.4	
	1.2nm,0.8s,baz=102,slow=3.2,SNR=10						
WRA				PKP	PKPdf	16 45 37.5	+4.5
	2.5nm,0.7s,baz=101,slow=3.2,SNR=18						

IDC 04 16:37:30.4±7.2, **2160S**×**17074E**, **h156**km±42km, **mb3.3**/2, **mb1 3.5**/3, **mb1mx3.2**/13, **mbtmp3.2**/3, **Error ellipse: s-maj=144.4km s-min=50.3km az=157.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.02	263	eP	Pn	16 38 30.1	-0.9
DZM				eS	Sn	16 39 19.0	+0.8
DZM	Mont Dzumac	4.02	263	P	Pn	16 38 30.2	-0.8
	2.2nm,0.3s,baz=157,slow=24,SNR=26						
DZM				S	Sn	16 39 19.4	+1.2
	6.4nm,0.3s,baz=311,slow=23,SNR=10						
ASAR	Alice Springs	34.01	259	P	P	16 43 59.3	0.0
	1.4nm,0.7s,baz=78,slow=9.6,SNR=33						
WRA	Warramunga Arr	34.03	266	P	P	16 43 59.5	0.0
	0.3nm,0.4s,baz=98,slow=8.5,SNR=13						
GERES	GERESS Array B	147.23	332	PKPbc	PKPbc	16 56 55.5	+0.2
	1.1nm,0.6s,baz=46,slow=2.8,SNR=4.1						

*MOS **04** 16:50:08.2±1.0, 55.70N×110.16E, h10km, mb4.0/1, Error ellipse: s-maj=17.2km s-min=9.7km az=65.8*

BYKL 04 16:50:09.4±0.2, 55.67N×110.18E, h7km±4km, 7C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**286**	*e*PG	Pg	16 50 16.2	-0.5
NIZ				*e*		16 50 21.9	
NIZ				pmax	pmax		
	comp=Z,838nm,0.4s						
NIZ				smax			
	comp=N,2μm,0.3s						
NIZ	**Nizh Angarsk**	**0.38**	**286**	⇑*i*Pg	Pg	16 50 16.2	-0.5
NIZ				*e*		16 50 20.4	
NIZ				*e*Sg	Sg	16 50 21.8	+0.1
NIZ				Pmax			
	comp=N,191nm,0.2s						
NIZ				Smax			
	comp=N,2μm,0.3s						
KMO	**Kumora**	**0.62**	**69**	*e*PG	Pg	16 50 20.1	-1.2
KMO				*e*		16 50 28.3	
KMO				pmax	pmax		
	comp=Z,421nm,0.2s						
KMO				smax			
	comp=N,953nm,0.9s						
KMO	**Kumora**	**0.62**	**69**	⇑*i*Pg	Pg	16 50 20.2	-1.1
KMO				*i* Sg	Sg	16 50 28.4	-0.9
KMO				Pmax			
	comp=N,422nm,0.3s						
KMO				Smax			
	comp=N,957nm,1.1s						
YLYR	**Ulyunkhan**	**0.97**	**144**	⇑*i*PG	Pg	16 50 26.9	-1.2
YLYR				*e*		16 50 39.9	
YLYR				pmax	pmax		
	comp=Z,199nm,0.2s						
YLYR				smax			
	comp=E,591nm,0.1s						
YLYR	**Ulyunkhan**	**0.97**	**144**	⇑*i*Pg	Pg	16 50 26.9	-1.2
YLYR				*e*		16 50 27.6	
YLYR				*e*Sg	Sg	16 50 40.0	-0.8
YLYR				max			
	comp=E,201nm,0.2s						
YLYR				Smax			
	comp=E,583nm,0.1s						
YOA	**Uoyan**	**0.99**	**61**	*e*PG	Pg	16 50 27.4	-0.9
YOA				*e*		16 50 41.6	
YOA				pmax	pmax		
	comp=Z,226nm,0.1s						
YOA				smax			
	comp=N,1μm,0.2s						
YOA	**Uoyan**	**0.99**	**61**	*e*Pg	Pg	16 50 27.4	-0.9
YOA				*e*Sg	Sg	16 50 41.3	+0.2
YOA				Pmax			
	comp=N,227nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.5s						
SVKR	**Severomuysk**	**1.96**	**75**	*e*PN	Pn	16 50 44.0	+1.0
SVKR				*e*		16 50 44.8	
SVKR				*e*		16 51 10.5	
SVKR				pmax	pmax		
	comp=Z,228nm,0.7s						
SVKR				smax			
	comp=N,1μm,0.7s						
SVKR	**Severomuysk**	**1.96**	**75**	*e*Pn	Pn	16 50 44.3	+1.3
SVKR				*e*Pg	Pg	16 50 45.1	-1.8
SVKR				*e*Sn	Sn	16 51 09.1	+1.3
SVKR				*e*Sg	Sg	16 51 11.7	-0.5
SVKR				Pmax			
	comp=N,211nm,0.3s						
SVKR				Smax			
	comp=N,1μm,0.6s						
SYVR	**Suvo**	**2.02**	**183**	*e*PN	Pn	16 50 45.3	+1.4
SYVR				*e*		16 51 12.9	
SYVR				pmax	pmax		
	comp=Z,114nm,0.5s						
SYVR				smax			
	comp=E,578nm,0.7s						
SYVR	**Suvo**	**2.02**	**183**	*e*Pn	Pn	16 50 44.2	+0.3
SYVR				⇑*i*Pg	Pg	16 50 45.4	-2.7
SYVR				*e*Sg	Sg	16 51 13.3	-1.0
SYVR				Pmax			
	comp=E,119nm,0.6s						
SYVR				Smax			
	comp=E,658nm,0.8s						
OGRR	**Ongureny**	**2.53**	**218**	*e*PN	Pn	16 50 51.8	+1.0
OGRR				*e*		16 50 55.2	
OGRR				*e*		16 51 27.0	
OGRR				pmax	pmax		
	comp=Z,27nm,0.3s						
OGRR				smax			
	comp=E,128nm,0.4s						
OGRR	**Ongureny**	**2.53**	**218**	*e*Pn	Pn	16 50 51.6	+0.8
OGRR				*e*Pg	Pg	16 50 53.3	-4.5
OGRR				*e*		16 51 24.1	
OGRR				*e*Sg	Sg	16 51 27.0	-3.5
OGRR				Pmax			
	comp=E,27nm,0.3s						
OGRR				Smax			
	comp=E,132nm,0.5s						
MXMB	**Maximikha**	**2.55**	**200**	*e*Pn	Pn	16 50 52.5	+1.3
MXMB				*e*Pg	Pg	16 50 55.7	-2.6
MXMB				*e*Sg	Sg	16 51 30.1	-1.3
MXMB				Pmax			
	comp=E,43nm,0.6s						
MXMB				Smax			
	comp=E,407nm,0.9s						
BOD	**Bodaibo**	**3.01**	**43**	*e*Pn	Pn	16 50 57.0	-0.5
BOD				*e*Pg	Pg	16 51 02.8	-4.3
BOD				*e*Sn	Sn	16 51 34.5	+0.7
BOD				*i* Sg	Sg	16 51 41.9	-4.3
BOD				Pmax			
	comp=E,18nm,0.2s						
BOD				Smax			
	comp=E,156nm,0.4s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*PN	Pn	16 51 05.3	+5.2
NLYR				*e*		16 51 47.0	
NLYR				pmax	pmax		
	comp=Z,94nm,0.6s						
NLYR				smax			
	comp=N,183nm,0.6s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*Pn	Pn	16 51 00.3	+0.2
NLYR				*e*Pg	Pg	16 51 05.9	-4.9
NLYR				*e*Sn	Sn	16 51 39.6	+1.1
NLYR				*e*Sg	Sg	16 51 48.6	-3.7
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	Pn	16 51 07.6	+0.9
TRG				*e*		16 51 10.9	
TRG				*e*Sn	Sn	16 51 52.8	+2.4
TRG				*e*Sg	Sg	16 52 03.2	-4.5
TRG				max			
	comp=N,24nm,0.4s						
TRG				Smax			
	comp=N,93nm,0.8s						
TRTB	**Turuntaevo**	**3.76**	**205**	*e*Pn	Pn	16 51 08.3	+0.5
TRTB				*e*Pg	Pg	16 51 16.1	-5.4
TRTB				*e*Sg	Sg	16 52 06.1	-4.1
TRTB				Pmax			
	comp=N,10.0nm,0.4s						
TRTB				Smax			
	comp=N,69nm,1.1s						
FFNB	**Fofonovo**	**4.16**	**211**	*e*Sg	Sg	16 52 17.6	-5.2
FFNB				Smax			
	comp=N,180nm,0.6s						
CIT	**Chita**	**4.17**	**150**	*e*Pn	Pn	16 51 12.1	-1.3
CIT				*e*Pg	Pg	16 51 22.5	-6.7
CIT				*e*Sn	Sn	16 52 01.4	-0.9
CIT				*e*Sg	Sg	16 52 17.7	-5.5
CIT				Pmax			
	comp=N,25nm,0.6s						
CIT				Smax			
	comp=N,94nm,0.8s						
KAB	**Kabansk**	**4.18**	**211**	*e*Sg	Sg	16 52 18.0	-5.8
KAB				Smax			
	comp=N,211nm,0.8s						
HRMR	**Khuramsha**	**4.48**	**207**	*e*Pn	Pn	16 51 19.1	+1.4
HRMR				*e*Pg	Pg	16 51 28.5	-6.7
HRMR				*e*		16 51 34.1	
HRMR				*e*Sg	Sg	16 52 27.8	-5.5
HRMR				max			
	comp=N,22nm,0.5s						
HRMR				Smax			
	comp=N,195nm,0.8s						
CRS	**Chara**	**4.67**	**71**	*e*Pn	Pn	16 51 20.7	+0.4
CRS				*e*Pg	Pg	16 51 33.1	-5.8
CRS				*e*Sg	Sg	16 52 34.9	-4.6
CRS				Pmax			
	comp=N,59nm,0.8s						
CRS				Smax			
	comp=N,79nm,1.4s						
IRK	**Irkutsk**	**4.89**	**228**	*e*Sn	Sn	16 52 19.1	-1.2
IRK				*e*Sg	Sg	16 52 40.3	-6.3
IRK				Smax			
	comp=N,145nm,0.8s						
LSTR	**Listvyanka**	**4.96**	**222**	*e*Sn	Sn	16 52 20.0	-1.8
LSTR				*e*Sg	Sg	16 52 45.1	-3.5
LSTR				Smax			
	comp=N,47nm,0.9s						
TLY	**Talaya**	**5.57**	**227**	*e*PN	Pn	16 51 32.0	-0.7
TLY				*e*S	Sn	16 52 34.7	-2.3
TLY				*e*S	Sn	16 53 00.0	+23
TLY				smax			
	comp=E,45nm,0.9s						
TLY	**Talaya**	**5.57**	**227**	*e*Sn	Sn	16 52 33.1	-3.9
TLY				*e*Sg	Sg	16 53 01.3	-7.0
TLY				Smax			
	comp=E,35nm,0.6s						
TUP	**Tupik**	**5.76**	**98**	*e*PN	Pn	16 51 52.1	+17
TUP				*e*S	Sn	16 52 39.8	-1.7
TUP				*e*		16 53 07.1	
TUP				pmax	pmax		
	comp=Z,24nm,0.7s						
TUP				smax			
	comp=N,77nm,1.0s						
TUP	**Tupik**	**5.76**	**98**	*e*Pn	Pn	16 51 34.8	-0.4
TUP				*e*Pg	Pg	16 51 52.2	-7.5
TUP				*e*Sg	Sg	16 53 08.2	-6.0
TUP				Pmax			
	comp=N,11nm,0.9s						
TUP				Smax			
	comp=N,77nm,1.1s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	Pn	16 51 37.8	+0.1
ARS				*e*S	Sn	16 52 43.1	-2.8
ARS	**Arshan**	**5.94**	**234**	*e*Pn	Pn	16 51 37.6	-0.1
ARS				*e*Pg	Pg	16 51 56.0	-7.1
ARS				*e*Sn	Sn	16 52 43.7	-2.2
ARS				*e*Sg	Sg	16 53 12.9	-7.1
ARS				Pmax			
	comp=N,23nm,0.6s						
ARS				Smax			
	comp=N,145nm,0.7s						
KPC	**Khapcheranga**	**6.12**	**166**	*e*PN	Pn	16 51 40.1	-0.2
KPC				*e*		16 52 00.6	
KPC				*e*		16 53 18.2	
KPC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KPC				smax			
	comp=E,47nm,0.4s						
KPC	**Khapcheranga**	**6.12**	**166**	*e*Pn	Pn	16 51 40.2	-0.1
KPC				*e*Pg	Pg	16 52 00.4	-6.3
KPC				*e*Sg	Sg	16 53 19.4	-6.6
KPC				Pmax			
	comp=E,4.0nm,0.9s						
KPC				Smax			
	comp=E,47nm,1.2s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN	Pn	16 51 51.3	+2.6
ZAK				*e*		16 52 12.6	
ZAK				*e*		16 53 40.1	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZAK				smax			
	comp=N,38nm,1.4s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*Sg	Sg	16 53 38.6	-7.0
ZAK				Smax			
	comp=N,36nm,1.4s						
MOY	**Mondy**	**6.77**	**237**	*e*PN	Pn	16 51 50.9	+1.7
MOY				*e*		16 52 12.2	
MOY				*e*S	Sn	16 53 05.3	-1.2
MOY				*e*		16 53 38.9	
MOY				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MOY				smax			
	comp=E,53nm,1.0s						
MOY	**Mondy**	**6.77**	**237**	⇑*i*Pn	Pn	16 51 50.9	+1.7
MOY				*e*Sn	Sn	16 53 05.4	-1.1
MOY				*i* Sg	Sg	16 53 39.7	-7.1
MOY				max			
	comp=E,12nm,0.5s						
MOY				Smax			
	comp=E,56nm,1.4s						
ORL	**Orlik**	**6.86**	**247**	*e*PN	Pn	16 51 51.3	+1.0
ORL				*e*S	Sn	16 53 07.4	-1.2
ORL				*e*S	Sn	16 53 41.7	+33
ORL				smax			
	comp=N,98nm,0.9s						
ORL	**Orlik**	**6.86**	**247**	⇑*i*Pn	Pn	16 51 51.5	+1.2
ORL				*e*Sn	Sn	16 53 07.3	-1.3
ORL				*e*Sg	Sg	16 53 41.8	-7.7
ORL				max			
	comp=N,5.0nm,0.4s						
ORL				Smax			
	comp=N,98nm,1.0s						
HIA	**Hailar**	**8.67**	**134**	*e*Sg	Sx	16 54 38.2	
TDJR	**Todzha**	**8.91**	**254**	*e*Sg	Sx	16 54 43.7	

IDC 04 16:50:56.3±3.5, 750N×12548E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.8/3, mbtmp3.6/3, Error ellipse: s-maj=340.5km s-min=27.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.62**	**162**	P	P	16 56 54.7	+0.3
	0.7nm,0.4s,baz=342,slow=9.4,SNR=26						
ASAR	**Alice Springs**	**32.05**	**165**	P	P	16 57 24.9	+0.3
	0.5nm,0.5s,baz=343,slow=6.4,SNR=29						
MKAR	**Makanchi Array**	**53.78**	**324**	P	P	17 00 20.6	+0.1
	2.0nm,1.2s,baz=119,slow=7.0,SNR=4.4						

*ISCJB **04** 16:51:59.9±0.3, 55.55N±002×110.15E±004, h10km, mb3.6/7, Error ellipse: s-maj=4.0km s-min=2.1km az=106.0*
*IDC **04** 16:52:00.7±1.9, 55.84N×110.18E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=40.5km s-min=22.8km az=109.0*
*MOS **04** 16:52:00.3±1.2, 55.77N×110.10E, h6km, mb4.1/4, Error ellipse: s-maj=11.2km s-min=6.9km az=64.7*
*BYKL **04** 16:52:02.2±0.2, 55.68N×110.16E, h6km±4km*
*NEIC **04** 16:52:03.3±4.4, 55.91N×110.11E, h16km±30km, mb3.8/3, Error ellipse: s-maj=13.9km s-min=9.1km az=133.0*

ISC 04 16:52:01.5±0.3, 55.62N±002×110.14E±003, h10km, n71, σ1§47/112, mb3.6/7, 6C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**296**	*e*PG	**Pg**	**16 52 09.1**	**+0.2**
NIZ				*e*		16 52 14.9	
NIZ				pmax	pmax		
	comp=Z,2μm,0.4s						
NIZ				smax			
	comp=N,4μm,0.3s						
NIZ	**Nizh Angarsk**	**0.38**	**296**	⇑*i*Pg	**Pg**	**16 52 09.1**	**+0.2**
NIZ				*e*Sg	**Sg**	**16 52 14.5**	**+0.6**
NIZ				Pmax			
	comp=N,370nm,0.2s						
NIZ				Smax			
	comp=N,5μm,0.4s						
KMO	**Kumora**	**0.66**	**65**	*e*PG	**Pg**	**16 52 13.1**	**-1.1**
KMO				*e*		16 52 21.3	
KMO				pmax	pmax		
	comp=Z,942nm,0.2s						
KMO				smax			
	comp=N,2μm,0.8s						
KMO	**Kumora**	**0.66**	**65**	⇑*i*Pg	**Pg**	**16 52 13.2**	**-1.0**
KMO				*i* Sg	**Sg**	**16 52 21.3**	**-1.6**
KMO				Pmax			
	comp=N,934nm,0.3s						
KMO				Smax			
	comp=N,2μm,1.0s						
YLYR	**Ulyunkhan**	**0.94**	**141**	⇑*i*PG	**Pg**	**16 52 19.8**	**+0.1**
YLYR				*e*		16 52 32.8	
YLYR				pmax	pmax		
	comp=Z,481nm,0.2s						
YLYR				smax			
	comp=N,1μm,0.1s						
YLYR	**Ulyunkhan**	**0.94**	**141**	⇑*i*Pg	**Pg**	**16 52 19.8**	**+0.1**
YLYR				⇓*i*Pb	**Pb**	**16 52 20.7**	**+0.8**
YLYR				*e*Sg	**Sg**	**16 52 33.3**	**+1.4**
YLYR				max			
	comp=N,476nm,0.2s						
YLYR				Smax			
	comp=N,1μm,0.1s						
YOA	**Uoyan**	**1.03**	**59**	⇓*i*PG	**Pg**	**16 52 20.1**	**-1.3**
YOA	**Uoyan**	**1.03**	**59**	*e*Pg	**Pg**	**16 52 20.0**	**-1.4**
YOA				*e*Sg	**Sg**	**16 52 34.7**	**-0.1**
YOA				Pmax			
	comp=N,359nm,0.2s						
YOA				Smax			
	comp=N,3μm,0.4s						
SYVR	**Suvo**	**1.96**	**182**	*e*PN	**Pn**	**16 52 38.4**	**+3.6**
SYVR				*e*		16 53 06.4	
SYVR				pmax	pmax		
	comp=Z,213nm,0.5s						
SYVR				smax			
	comp=E,2μm,0.7s						
SYVR	**Suvo**	**1.96**	**182**	*e*	**Pn**	**16 52 38.0**	**+3.2**
SYVR				⇑*i*Pg	**Pg**	**16 52 38.5**	**-0.6**
SYVR				*e*		16 52 40.4	
SYVR				*e*Sg	**Sg**	**16 53 06.1**	**+1.5**
SYVR				*e*		16 53 07.7	
SYVR				max			
	comp=E,227nm,0.5s						
SYVR				Smax			
	comp=E,2μm,0.8s						
SVKR	**Severomuysk**	**1.99**	**74**	*e*PN	**Pn**	**16 52 36.8**	**+1.6**
SVKR				*e*		16 52 37.8	
SVKR				*e*		16 53 04.3	
SVKR				pmax	pmax		
	comp=Z,587nm,0.8s						
SVKR				smax			
	comp=N,3μm,0.7s						
SVKR	**Severomuysk**	**1.99**	**74**	*e*Pn	**Pn**	**16 52 36.9**	**+1.7**
SVKR				*e*Pg	**Pg**	**16 52 38.1**	**-1.6**
SVKR				*e*Sg	**Sg**	**16 53 04.5**	**-1.0**
SVKR				Pmax			
	comp=N,461nm,0.3s						
SVKR				Smax			
	comp=N,3μm,0.9s						
OGRR	**Ongureny**	**2.47**	**218**	*e*PN	**Pn**	**16 52 44.7**	**+3.0**
OGRR				*e*		16 52 48.0	
OGRR				*e*		16 53 19.9	
OGRR				pmax	pmax		
	comp=Z,53nm,0.2s						
OGRR				smax			
	comp=N,361nm,0.6s						
OGRR	**Ongureny**	**2.47**	**218**	*e*Pn	**Pn**	**16 52 44.7**	**+3.0**
OGRR				*e*Pg	**Pg**	**16 52 46.9**	**-1.9**
OGRR				*e*Sn	**Sn**	**16 53 14.7**	**+2.8**
OGRR				*e*Sg	**Sg**	**16 53 19.9**	**-0.9**
OGRR				Pmax			
	comp=N,51nm,0.4s						
OGRR				Smax			
	comp=N,362nm,0.3s						
MXMB	**Maximikha**	**2.49**	**200**	*e*Pn	**Pn**	**16 52 45.4**	**+3.3**
MXMB				*e*Pg	**Pg**	**16 52 48.7**	**-0.6**
MXMB				*e*		16 52 50.9	
MXMB				*e*Sn	**Sn**	**16 53 16.0**	**+3.4**
MXMB				*e*Sg	**Sg**	**16 53 23.1**	**+1.5**
MXMB				max			
	comp=N,84nm,0.4s						
MXMB				Smax			
	comp=N,994nm,1.0s						
BOD	**Bodaibo**	**3.07**	**42**	*e*PN	**Pn**	**16 52 50.8**	**+0.8**
BOD				*e*		16 52 55.7	
BOD				*e*		16 53 34.2	
BOD				pmax	pmax		
	comp=Z,39nm,0.5s						
BOD				smax			
	comp=E,260nm,0.3s						
BOD	**Bodaibo**	**3.07**	**42**	*e*Pn	**Pn**	**16 52 50.8**	**+0.8**
BOD				*e*Pg	**Pg**	**16 52 56.0**	**-4.3**
BOD				*e*Sn	**Sn**	**16 53 27.3**	**+0.5**
BOD				*e*Sg	**Sg**	**16 53 34.4**	**-5.7**
BOD				Pmax			
	comp=E,35nm,0.5s						
BOD				Smax			
	comp=E,265nm,0.4s						
NLYR	**Nelyaty**	**3.24**	**72**	*e*Pn	**Pn**	**16 52 53.7**	**+1.3**
NLYR				*e*		16 52 57.3	
NLYR				*e*		16 53 02.7	
NLYR				*e*Sn	**Sn**	**16 53 32.1**	**+1.1**
NLYR				*e*Sg	**Sg**	**16 53 41.6**	**-4.0**
TRG	**Tyrgan**	**3.62**	**219**	*e*PN	**Pn**	**16 53 00.9**	**+3.2**
TRG				*e*		16 53 08.2	
TRG				*e*S	**Sn**	**16 53 43.6**	**+3.1**
TRG				*e*		16 53 57.0	
TRG				pmax	pmax		
	comp=Z,38nm,0.5s						
TRG				smax			
	comp=E,242nm,0.4s						
TRG	**Tyrgan**	**3.62**	**219**	*e*Pn	**Pn**	**16 53 00.6**	**+2.9**
TRG				*e*		16 53 03.8	
TRG				*e*Sn	**Sn**	**16 53 44.2**	**+3.7**
TRG				*e*Sg	**Sg**	**16 53 56.1**	**-1.8**
TRG				max			
	comp=E,7.0nm,0.4s						
TRG				Smax			
	comp=E,241nm,0.4s						
TRTB	**Turuntaevo**	**3.70**	**205**	*e*Pn	**Pn**	**16 53 01.2**	**+2.5**
TRTB				*e*Pg	**Pg**	**16 53 10.0**	**-2.4**
TRTB				*e*Sg	**Sg**	**16 53 59.3**	**-1.1**
TRTB				Pmax			
	comp=E,29nm,0.9s						
TRTB				Smax			
	comp=E,190nm,0.8s						
FFNB	**Fofonovo**	**4.09**	**211**	*e*Sg	**Sg**	**16 54 10.0**	**-3.0**
FFNB				Smax			
	comp=E,453nm,0.5s						
STDB	**Stepnoy Dvoret**	**4.11**	**214**	*e*Sg	**Sg**	**16 54 10.4**	**-3.1**
STDB				Smax			
	comp=E,720nm,1.3s						
KAB	**Kabansk**	**4.12**	**211**	*e*PN	**Pb**	**16 53 18.8**	**+4.6**
KAB				*e*		16 54 12.9	
KAB				pmax	pmax		
	comp=Z,57nm,0.5s						
KAB				smax			
	comp=E,603nm,0.9s						
KAB	**Kabansk**	**4.12**	**211**	*e*Sg	**Sg**	**16 54 12.9**	**-1.1**
KAB				Smax			
	comp=E,554nm,0.8s						
CIT	**Chita**	**4.13**	**149**	*e*Pn	**Pn**	**16 53 05.4**	**+0.8**
CIT				*e*Pg	**Pg**	**16 53 16.0**	**-4.6**
CIT				*e*Sg	**Sg**	**16 54 10.6**	**-3.5**
CIT				Pmax			
	comp=E,82nm,1.0s						
CIT				Smax			
	comp=E,196nm,0.8s						
HRMR	**Khuramsha**	**4.42**	**207**	*e*	**Sn**	**16 53 57.6**	**-2.5**
HRMR				*e*Sg	**Sg**	**16 54 20.1**	**-3.3**
HRMR				Smax			
	comp=E,424nm,0.8s						
CRS	**Chara**	**4.71**	**71**	*e*PN	**Pb**	**16 53 25.3**	**+1.1**
CRS				*e*		16 54 25.8	
CRS				pmax	pmax		
	comp=Z,132nm,0.8s						
CRS				smax			
	comp=N,173nm,1.1s						
CRS	**Chara**	**4.71**	**71**	*e*Pn	**Pn**	**16 53 14.2**	**+1.6**
CRS				*e*Pg	**Pg**	**16 53 26.0**	**-5.8**
CRS				*e*Sg	**Sg**	**16 54 27.6**	**-5.2**
CRS				Pmax			
	comp=N,132nm,0.8s						
CRS				Smax			
	comp=N,177nm,1.3s						
IRK	**Irkutsk**	**4.84**	**228**	*e*	**Sn**	**16 54 10.9**	**+0.4**
IRK				*e*Sg	**Sg**	**16 54 33.0**	**-3.9**
IRK				Smax			
	comp=N,331nm,0.4s						
LSTR	**Listvyanka**	**4.90**	**222**	*e*Sn	**Sn**	**16 54 13.3**	**+1.4**
LSTR				*e*Sg	**Sg**	**16 54 35.0**	**-3.8**
LSTR				Smax			
	comp=N,131nm,0.7s						
TLY	**Talaya**	**5.52**	**227**	*e*PN	**Pn**	**16 53 25.2**	**+1.5**
TLY				*e*		16 53 41.1	
TLY				*e*S	**Sn**	**16 54 27.7**	**+0.5**
TLY	**Talaya**	**5.52**	**227**	*e*Sn	**Sn**	**16 54 27.2**	**0.0**
TLY				*e*Sg	**Sg**	**16 54 54.6**	**-4.0**
TLY				Smax			
	comp=N,116nm,0.8s						
TUP	**Tupik**	**5.77**	**98**	*e*PN	**Pn**	**16 53 27.6**	**+0.4**

TUP e 16 53 44.8
TUP eS Sn **16 54 33.2 -0.2**
TUP e 16 55 00.5
TUP pmax pmax
comp=Z,57nm,0.9s
TUP smax
comp=N,171nm,0.9s
TUP Tupik 5.77 98 eSn **Sn 16 54 33.8 +0.4**
TUP eSg **Sg 16 55 00.7 -6.1**
TUP Smax
comp=N,171nm,1.0s
ARS Arshan 5.88 234 ePN **Pn 16 53 30.6 +1.9**
ARS eS **Sn 16 54 34.6 -1.6**
ARS Arshan 5.88 234 eSn **Sn 16 54 34.5 -1.7**
ARS eSg **Sg 16 55 06.3 -4.1**
ARS Smax
comp=N,401nm,0.8s
KPC Khapcheranga 6.08 166 eSg **Sg 16 55 11.8 -4.7**
KPC Smax
comp=N,112nm,1.1s
ZAK Zakamensk 6.68 221 ePN **Pn 16 53 43.6 +4.0**
ZAK e 16 54 03.9
ZAK e 16 55 31.6
ZAK pmax pmax
comp=Z,12nm,0.7s
ZAK smax
comp=N,82nm,1.3s
ZAK Zakamensk 6.68 221 eSg **Sg 16 55 31.3 -4.5**
ZAK Smax
comp=N,82nm,1.2s
MOY Mondy 6.72 238 ePN **Pn 16 53 44.8 +4.6**
MOY e 16 54 05.5
MOY eS **Sn 16 54 56.2 -0.6**
MOY e 16 55 31.6
MOY pmax pmax
comp=Z,15nm,0.3s
MOY smax
comp=N,127nm,1.3s
MOY Mondy 6.72 238 eSn **Sn 16 54 57.2 +0.4**
MOY eSg **Sg 16 55 31.3 -5.9**
MOY Smax
comp=N,121nm,1.5s
ORL Orlik 6.81 247 ePG **Pg 16 54 05.1 -6.8**
ORL eS **Sn 16 55 00.3 +1.2**
ORL e 16 55 34.7
ORL pmax pmax
comp=Z,18nm,0.6s
ORL smax
comp=N,242nm,1.0s
ORL Orlik 6.81 247 eSn **Sn 16 54 59.4 +0.3**
ORL eSg **Sg 16 55 33.8 -6.4**
ORL Smax
comp=N,242nm,1.0s
ULN Ulaanbaatar 7.99 195 *i* PN **Pn 16 54 00.0 +2.3**
SONM Songino Array 8.13 198 Pn **Pn 16 54 04.8 +5.3**
comp=N,0.5nm,0.3s,baz=8.9,slow=14,SNR=5.9
SONM Lg 16 56 23.3
comp=N,2.0nm,0.3s,baz=26,slow=30,SNR=8.0
NRGR Nerungri 8.21 77 ePN **Pn 16 54 04.0 +3.3**
NRGR S **Sn 16 55 30.9 -2.7**
NRGR smax
comp=E,48nm,0.6s
HIA Hailar 8.64 133 *i* PN **Pn 16 54 06.2 -0.4**
HIA Hailar 8.64 133 eSg Sx 16 56 31.2
TDJR Todzha 8.87 255 eSg Sx 16 56 36.8
ZAL Zalesovo 14.70 274 Pn **Pn 16 55 30.1 +0.7**
comp=E,0.3nm,0.3s,baz=32,slow=11,SNR=5.7
TIXI Tiksi 17.96 19 *i* P **Pn 16 56 09.5 -1.8**
TIXI pmax pmax
comp=Z,5.0nm,1.4s
TIXI Tiksi 17.96 19 ePn **Pn 16 56 08.5 -2.7**
comp=Z,3.3nm,0.5s
KURK Kurchatov 19.42 269⇑ *i*P **Pn 16 56 28.5 -0.5**
KURK Kurchatov 19.42 269 eP **Pn 16 56 28.4 -0.5**
comp=Z,9.1nm,1.1s
MK31 Makanchi Array 19.44 255 eP **Pn 16 56 29.3 +0.1**
MKAR Makanchi Array 19.44 255 P **Pn 16 56 29.1 -0.1**
comp=Z,0.6nm,0.3s,baz=61,slow=9.9,SNR=18
MKAR Makanchi Array 19.44 255 *i* P **Pn 16 56 29.6 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
CHKZ Chkalovo 22.74 282 eP **P 16 57 03.5 -0.2**
CHKZ pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
CHKZ Chkalovo 22.74 282 eP **P 16 57 03.5 -0.2**
comp=Z,3.4nm,0.9s,mb3.8
BVAR Borovoye Array 23.11 280 P **P 16 57 07.2 -0.3**
comp=Z,1.9nm,0.6s,mb3.7,baz=62,slow=10,SNR=8.0
BVAR Borovoye Array 23.11 280 P **P 16 57 07.2 -0.4**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 37.86 325 P **P 16 59 17.2 -1.2**
comp=Z,3.4nm,0.9s,mb4.1,baz=66,slow=9.0,SNR=3.7
ARCES ARCESS Array B 37.86 325 P **P 16 59 17.2 -1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 41.38 314 P **P 16 59 47.1 -0.6**
comp=Z,1.8nm,0.8s,mb3.7,baz=58,slow=7.2,SNR=5.4
FINES FINESS Array B 41.38 314 *i* P **P 16 59 47.5 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 46.17 299 P **P 17 00 25.7 -0.6**
comp=Z,0.1nm,0.3s,mb3.3,baz=44,slow=8.5,SNR=4.8
AKASG Malin Array Be 46.17 299 *i* P **P 17 00 27.6 +1.3**
AKASG Malin Array Be 46.17 299 P **P 17 00 25.7 -0.6**
YKA Yellowknife Ar 57.16 23 P **P 17 01 46.3 -2.2**
comp=Z,0.2nm,0.6s,mb3.3,baz=335,slow=7.2,SNR=2.8
TORD Torodi Ar. Bea 89.36 292 P **P 17 04 59.1 +0.9**
comp=Z,0.3nm,0.8s,mb3.7,baz=30,slow=3.8,SNR=2.2

GUC 04 16:55:37.4±0.8, 3316S×7024W, h6km±5km, MD3.5, ML2.1, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.17**	**194**⇑	*i*P	Pg	16 55 41.4	+0.6
FCH				*i* S	Sg	16 55 44.2	+1.1
FCH				AML	AML	16 55 44.5	
comp=E,704nm,0.2s							
CLCH	**Cerro Calan**	**0.34**	**227**⇑	*i*P	Pg	16 55 44.8	+0.8
CLCH				*i* S	Sg	16 55 49.3	+0.9
CLCH				AML	AML	16 55 53.2	
comp=N,516nm,0.3s							
PEL	**Peldehue**	**0.37**	**273**⇓	*i*P	Pg	16 55 44.8	+0.2
PEL				*i* S	Sg	16 55 50.1	+0.5
PEL				AML	AML	16 55 50.5	
comp=N,265nm,0.2s							
LMEL	**Las Melosas**	**0.68**	**177**	eP	Pg	16 55 50.1	-0.4
LMEL				*i* S	Sg	16 56 00.5	+1.1
LMEL				AML	AML	16 56 01.7	
comp=E,166nm,0.1s							
CHCH	**Chadas Angostu**	**0.84**	**204**	eP	Pg	16 55 53.5	-0.1
CHCH				*i* S	Sg	16 56 05.0	+0.6
LNV	**Longovilo**	**1.26**	**231**⇑	*i*P	Pn	16 56 00.3	-1.2

*ISCJB **04** 17:00:08.6±1.6, 675S×006×1296E±0.1, h189km±16km, mb3.9/11, Error ellipse: s-maj=16.9km s-min=9.3km az=155.9*
*IDC **04** 17:00:08.6±3.8, 666S×12953E, h170km±38km, mb3.5/10, mb1 3.8/14, mb1mx3.8/18, mbtmp3.7/14, Error ellipse: s-maj=28.1km s-min=13.4km az=78.0*
*NEIC **04** 17:00:09.5±1.7, 666S×12953E, h178km±18km, mb4.5/7, Error ellipse: s-maj=16.1km s-min=11.4km az=73.0*
ISC 04 17:00:09.8±1.4, 674S±006×1296E±01, h183km±14km, n26, σ1§13/34, mb3.9/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.56**	**155**	eP	**Pn**	**17 01 46.2**	**+2.0**
37nm,0.6s							
KAKA				eS	**Sn**	**17 02 56.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**11.94**	**199**	eP	**Pn**	**17 02 55.0**	**+0.7**
22nm,0.8s							
FITZ				eS	**Sn**	**17 05 02.4**	**-4.6**
FITZ	**Fitzroy Crossi**	**11.94**	**199**	P	**Pn**	**17 02 53.8**	**-0.6**
4.3nm,0.3s,baz=31,slow=11,SNR=115							
FITZ				S	**Sn**	**17 05 00.6**	**-6.4**
2.9nm,0.3s,baz=122,slow=16,SNR=4.4							
WRAB	**Tennant Creek**	**13.91**	**161**	ePn	**Pn**	**17 03 20.0**	**+0.8**
14nm,0.4s							
WRAB				eSn	**Sn**	**17 05 47.7**	**-6.4**
WRA	**Warramunga Arr**	**13.91**	**161**	P	**Pn**	**17 03 18.6**	**-0.6**
1.2nm,0.3s,baz=338,slow=12,SNR=43							
WRA				S	**Sn**	**17 05 47.6**	**-6.5**
2.2nm,0.3s,baz=335,slow=20,SNR=7.0							
WB2	**Warramunga Arr**	**13.91**	**161**	eP	**Pn**	**17 03 18.6**	**-0.7**
WB2				e		17 03 23.7	
WB2				eS	**Sn**	**17 05 48.4**	**-5.8**
WB2	**Warramunga Arr**	**13.91**	**161**	ePn	**Pn**	**17 03 19.2**	**-0.1**
WB2				eP		17 03 23.5	
WB2				e		17 03 23.7	
WB2				Sn	**Sn**	**17 05 47.9**	**-6.3**
ASAR	**Alice Springs**	**17.34**	**167**	P	**Pn**	**17 04 01.3**	**+0.4**
7.4nm,0.3s,baz=347,slow=11,SNR=506							
ASAR				S	**S**	**17 07 08.9**	**-1.4**
0.3nm,0.3s,baz=348,slow=21,SNR=8.9							
PMG	**Port Moresby**	**17.59**	**100**	P	**Pn**	**17 04 03.8**	**0.0**
0.1nm,0.3s,baz=299,slow=8.7,SNR=3.5							
CTA	**Charters Tower**	**20.91**	**131**	eP	**P**	**17 04 39.9**	**+1.9**
7.0nm,1.0s							
CTA	**Charters Tower**	**20.91**	**131**	P	**P**	**17 04 39.9**	**+1.9**
7.4nm,0.9s,baz=335,slow=8.5,SNR=7.8							
CTAO	**Charters Tower**	**20.91**	**131**	eP	**P**	**17 04 40.2**	**+2.2**
8.5nm,0.9s							
FORT	**Forrest**	**23.96**	**183**	eP	**P**	**17 05 08.7**	**+1.4**
11nm,0.5s,mb4.7							
STKA	**Stephens Creek**	**27.41**	**157**	eP	**P**	**17 05 39.6**	**+1.3**
1.4nm,0.4s,mb3.9							
STKA	**Stephens Creek**	**27.41**	**157**	P	**P**	**17 05 39.0**	**+0.7**
1.6nm,0.4s,mb4.0,baz=332,slow=9.8,SNR=11							
STKA	**Stephens Creek**	**27.41**	**157**	eP	**P**	**17 05 39.0**	**+0.8**
MJAR	**Matsushiro Arr**	**43.80**	**10**	P	**P**	**17 07 55.2**	**-2.2**
1.9nm,0.7s,mb3.9,baz=200,slow=11,SNR=4.6							
KSRS	**Korea Array**	**43.99**	**358**	P	**P**	**17 07 58.6**	**-0.2**
0.7nm,0.5s,mb3.6,baz=175,slow=9.8,SNR=5.3							
ULN	**Ulaanbaatar**	**57.89**	**342**	eP	**P**	**17 09 42.8**	**+0.3**
2.3nm,0.6s,mb4.2							
SONM	**Songino Array**	**58.07**	**342**	P	**P**	**17 09 43.7**	**0.0**
0.5nm,0.3s,mb3.8,baz=155,slow=6.6,SNR=7.0							
MK31	**Makanchi Array**	**67.79**	**327**	eP	**P**	**17 10 48.3**	**+0.4**
MKAR	**Makanchi Array**	**67.79**	**327**	P	**P**	**17 10 48.3**	**+0.5**
2.1nm,0.4s,mb4.2,baz=116,slow=8.3,SNR=59							
ZAL	**Zalesovo**		**71.17**	**334**	**P**	**17 11 06.5**	**-2.0**
0.6nm,0.6s,mb3.5,baz=338,slow=12,SNR=3.9							
VNDA	**Vanda**		**72.76**	**173**	**P**	**17 11 17.6**	**-0.4**
0.7nm,0.5s,mb3.6,baz=344,slow=3.5,SNR=9.7							
MAW	**Mawson**		**75.05**	**201**	**P**	**17 11 31.9**	**+0.7**
1.5nm,0.6s,mb3.8,baz=76,slow=11,SNR=4.2							
BVAR	**Borovoye Array**		**77.63**	**328**	**P**	**17 11 45.5**	**-0.3**
0.6nm,0.9s,mb3.2,baz=101,slow=3.0,SNR=3.9							

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*IDC **04** 17:23:45.5±0.6, 4758N×15629E, h0km, mb3.9/13, mb1 4.1/13, mb1mx4.0/24, mbtmp3.9/13, MS3.3/1, Ms1 3.3/1, ms1mx2.4/39, Error ellipse: s-maj=21.9km s-min=17.2km az=135.0*
*ISCJB **04** 17:23:46.3±3.7, 4758N±008×1563E±01, h17km±26km, mb3.9/16, Error ellipse: s-maj=18.0km s-min=11.2km az=75.9*
*NEIC **04** 17:23:47.1±0.4, 4764N×15634E, h10km, mb4.3/3, Error ellipse: s-maj=11.7km s-min=8.0km az=130.0*
*MOS **04** 17:23:50.2±1.2, 4757N×156.14E, h46km, mb4.2/10, Error ellipse: s-maj=18.1km s-min=10.4km az=94.4*
ISC 04 17:23:50.4±3.8, 4764N±008×1563E±01, h33km±26km, n37, σ0§79/37, mb3.9/16, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.05**	**358**	ePN	**Pn**	**17 24 35.5**	**-0.9**
SKR				pmax	pmax		
comp=Z,80nm,0.5s							
PET	**Petropavlovsk**	**5.60**	**15**	ePN	**Pn**	**17 25 17.4**	**+6.0**
PET				pmax	pmax		
comp=Z,29nm,0.4s							
PET				MLR	MLR		
comp=Z,1μm,16.0s							
PET	**Petropavlovsk**	**5.60**	**15**	ePn	**Pn**	**17 25 08.8**	**-2.5**
YSS	**Yuzh-Sakhalins**	**9.24**	**271**	PN	**Pn**	**17 26 03.3**	**+2.0**
ERM	**Erimo**	**10.89**	**244**	PN	**Pn**	**17 26 23.5**	**-0.5**
YAK	**Yakutsk**	**20.83**	**324**	*i* P	**P**	**17 28 28.8**	**-0.3**
YAK				pmax	pmax		
comp=Z,9.0nm,0.6s							
YAK	**Yakutsk**	**20.83**	**324**	eP	**P**	**17 28 24.7**	**-4.4**
comp=Z,8.0nm,0.6s							
BILL	**Bilibino**	**21.08**	**10**	eP	**P**	**17 28 33.5**	**+1.6**
BILL				pmax	pmax		
comp=Z,4.0nm,0.9s,mb3.8							
KSRS	**Korea Array**	**23.14**	**254**	P	**P**	**17 28 53.6**	**-0.2**
comp=Z,1.3nm,0.8s,mb3.4,baz=49,slow=9.3,SNR=2.9							
TIXI	**Tiksi**	**27.28**	**341**	*i* P	**P**	**17 29 31.7**	**0.0**
TIXI				pmax	pmax		
comp=Z,9.0nm,2.5s,mb3.9							
MK31	**Makanchi Array**	**48.46**	**298**	eP	**P**	**17 32 30.2**	**+0.5**
MKAR	**Makanchi Array**	**48.46**	**298**	P	**P**	**17 32 29.8**	**+0.1**
comp=Z,1.1nm,0.5s,mb4.1,baz=68,slow=8.7,SNR=13							
MKAR				LR	LR	17 53 54.2	
comp=Z,31nm,18.2s,baz=319,slow=37							
MKAR	**Makanchi Array**	**48.46**	**298**	*i* P	**P**	**17 32 30.3**	**+0.6**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**48.68**	**304**	*i* P	**P**	**17 32 31.1**	**-0.3**
YKA	**Yellowknife Ar**	**48.90**	**38**	P	**P**	**17 32 32.5**	**-0.6**
comp=Z,0.1nm,0.5s,mb3.1,baz=291,slow=7.0,SNR=3.9							
YKA	**Yellowknife Ar**	**48.90**	**38**	P	**P**	**17 32 32.5**	**-0.6**
CHKZ	**Chkalovo**	**51.52**	**311**	eP	**P**	**17 32 52.8**	**-0.1**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
CHKZ	**Chkalovo**	**51.52**	**311**	eP	**P**	**17 32 52.8**	**-0.1**
comp=Z,0.7nm,0.5s,mb3.9							
BVAR	**Borovoye Array**	**51.97**	**310**	P	**P**	**17 32 55.8**	**-0.5**
comp=Z,0.3nm,0.3s,mb3.6,baz=63,slow=7.8,SNR=5.1							
NVAR	**Mina Array Bea**	**60.09**	**65**	P	**P**	**17 33 55.3**	**+0.9**
comp=Z,0.9nm,0.7s,mb3.9,baz=304,slow=8.6,SNR=6.5							
PDAR	**Pinedale Array**	**62.46**	**56**	P	**P**	**17 34 10.7**	**+0.3**
comp=Z,1.2nm,0.9s,mb4.0,baz=318,slow=2.0,SNR=6.5							
FINES	**FINESS Array B**	**64.14**	**336**	P	**P**	**17 34 21.9**	**+0.4**
comp=Z,1.7nm,0.8s,mb4.1,baz=307,slow=1.0,SNR=4.5							
FINES	**FINESS Array B**	**64.14**	**336**	P	**P**	**17 34 21.9**	**+0.4**
FINES				pmax	pmax		
comp=Z,2.0nm,0.8s							
VRHR	**Novokhopersk**	**66.82**	**321**	eP	**P**	**17 34 37.8**	**-1.0**
WB2	**Warramunga Arr**	**70.10**	**202**	eP	**P**	**17 34 58.6**	**-0.7**
WRA	**Warramunga Arr**	**70.10**	**202**	P	**P**	**17 34 58.4**	**-0.9**
comp=Z,1.4nm,0.6s,mb4.0,baz=21,slow=6.6,SNR=18							
WRA	**Warramunga Arr**	**70.10**	**202**	P	**P**	**17 34 58.4**	**-0.9**
WRA				pmax	pmax		
comp=Z,1.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**70.98**	**211**	eP	**P**	**17 35 05.2**	**+0.5**
comp=Z,5.8nm,1.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**70.98**	**211**	P	**P**	**17 35 05.0**	**+0.2**
comp=Z,3.7nm,1.1s,mb4.2,baz=23,slow=5.4,SNR=7.7							
AKASG	**Malin Array Be**	**71.99**	**328**	P	**P**	**17 35 10.3**	**-0.5**
comp=Z,0.6nm,0.5s,mb3.8,baz=33,slow=6.2,SNR=5.7							
AKASG	**Malin Array Be**	**71.99**	**328**	P	**P**	**17 35 10.3**	**-0.5**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**73.78**	**201**	P	**P**	**17 35 21.4**	**+0.1**
comp=Z,2.5nm,0.8s,mb4.2,baz=12,slow=5.1,SNR=32							
ASAR	**Alice Springs**	**73.78**	**201**	eP	**P**	**17 35 21.4**	**0.0**
TXAR	**Lajitas Array**	**75.16**	**63**	P	**P**	**17 35 30.1**	**+0.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=300,slow=3.8,SNR=9.2							
TXAR	**Lajitas Array**	**75.16**	**63**	P	**P**	**17 35 30.1**	**+0.7**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**79.20**	**319**	P	**P**	**17 35 52.5**	**+0.4**
comp=Z,0.7nm,0.9s,mb3.6,baz=7.7,slow=10,SNR=3.6							
BRTR	**Keskin Array B**	**79.20**	**319**	P	**P**	**17 35 52.5**	**+0.4**
BRTR				pmax	pmax		
comp=Z,1.0nm,1.0s							

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*IDC **04** 17:25:21.6±1.3, 4755N×15642E, h0km, mb3.5/6, Error ellipse: s-maj=36.1km s-min=32.0km az=166.0*
*ISCJB **04** 17:25:24.8±1.0, 4774N±007×1565E±03, h35km, mb3.5/6, Error ellipse: s-maj=24.3km s-min=10.4km az=10.1*
*MOS **04** 17:25:24.3±0.7, 4769N×15649E, h38km, mb3.8/1, Error ellipse: s-maj=94.0km s-min=33.0km az=96.7*
ISC 04 17:25:26.7±1.0, 4775N±008×1564E±02, h35km, n8, σ0§82/9, mb3.5/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.94**	**357**	ePN	**Pn**	**17 26 10.5**	**-0.4**
SKR				eS	**Sn**	**17 26 44.5**	**-0.5**
SKR				smax			
comp=E,130nm,0.4s							
KSRS	**Korea Array**	**23.22**	**254**	P	**P**	**17 30 31.4**	**+0.7**
comp=E,1.2nm,0.9s,mb3.3,baz=77,slow=16,SNR=2.8							
MKAR	**Makanchi Array**	**48.45**	**298**	P	**P**	**17 34 06.2**	**+0.6**
comp=E,0.5nm,0.5s,mb3.8,baz=67,slow=8.5,SNR=2.5							
MKAR	**Makanchi Array**	**48.45**	**298**	P	**P**	**17 34 06.2**	**+0.6**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**51.93**	**310**	P	**P**	**17 34 32.3**	**+0.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=60,slow=7.9,SNR=2.7							
NVAR	**Mina Array Bea**	**59.99**	**65**	P	**P**	**17 35 30.9**	**+1.3**
comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=6.9,SNR=2.5							
WRA	**Warramunga Arr**	**70.23**	**202**	P	**P**	**17 36 34.7**	**-1.4**
comp=Z,0.3nm,0.9s,mb3.2,baz=24,slow=7.0,SNR=1.9							
ASAR	**Alice Springs**	**73.91**	**201**	P	**P**	**17 36 57.4**	**-0.7**
comp=Z,0.3nm,0.8s,mb3.3,baz=13,slow=8.6,SNR=2.7							

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*IDC **04** 17:33:31.5±0.8, 1267N×8848W, h0km, mb4.6/9, mb1 4.8/12, mb1mx4.5/21, mbtmp4.5/12, ML3.9/3, MS3.9/16, Ms1 3.9/16, ms1mx3.8/25, Error ellipse: s-maj=31.0km s-min=16.5km az=53.0*
*ISCJB **04** 17:33:34.8±0.9, 1240N±007×8878W±006, h43km±10km, mb4.8/36, MS4.1/17, Error ellipse: s-maj=12.9km s-min=7.4km az=82.2*
*BJI **04** 17:33:34.8, 1240N×8870W, h44km, mB5.2, Ms5.0, Msz4.6*
*CASC **04** 17:33:35.5±2.9, 1244N×8868W, h107km±53km, MD4.4, ML3.8, mb4.8(NEIC)*
*NEIC **04** 17:33:36.8±1.2, 1245N×8871W, h44km±10km, mb4.8/32, Error ellipse: s-maj=13.3km s-min=7.7km az=221.0*
ISC 04 17:33:37.1±0.8, 1244N±006×8871W±006, h47km±9km, n103, σ1§12/75, mb4.8/36, MS4.1/17, 5C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.07**	**23**⇑	eP	x	17 34 12.2	
VSM				eS	x	17 34 29.6	
BLLM	**Bellamira**	**1.10**	**24**⇑	eP	x	17 34 12.4	
BLLM				eS	x	17 34 30.9	
LCBS	**La Ceiba**	**1.24**	**348**⇑	eP	x	17 34 12.7	
LCBS				eS	x	17 34 30.6	
BOQS	**Boqueron**	**1.40**	**337**⇓	eP	x	17 34 15.0	
BOQS				eS	x	17 34 36.6	
CRIN	**San Cristobal**	**1.64**	**81**	eP	**Pn**	**17 34 03.5**	**0.0**
SNJE	**San Jose**	**1.67**	**328**⇑	eP	x	17 34 18.4	
SNJE				eS	x	17 34 41.3	
MTO2	**Montecristo 2**	**2.05**	**342**	eP	x	17 34 24.9	
MTO2				eS	x	17 34 53.3	
MOMJ	**Momotombo**	**2.12**	**91**	eP	**Pn**	**17 34 08.3**	**-1.6**
TGUH	**Tegucigalpa,Un**	**2.13**	**41**	ePn	**Pn**	**17 34 11.4**	**+1.2**
XAVN	**Gruta Xavier**	**2.34**	**97**	eP	**Pn**	**17 34 12.1**	**-1.0**
MGAN	**Managua**	**2.42**	**97**	eP	**Pn**	**17 34 13.5**	**-0.7**
MGAN				eS	**Sn**	**17 34 43.7**	**+1.2**
MGAN				*i*		17 34 45.4	
comp=N,755nm,0.2s							
TICN	**Ticuantepe**	**2.45**	**99**	eP	**Pn**	**17 34 13.5**	**-1.1**
TICN				eS	**Sn**	**17 34 45.1**	**+1.8**
APON	**Apoyo**	**2.63**	**101**	eP	**Pn**	**17 34 16.5**	**-0.5**
BOAB	**BOACO BROADBAN**	**2.97**	**89**	eP	**Pn**	**17 34 22.9**	**+1.2**
MADN	**Villa Maderas**	**3.27**	**108**	eP	**Pn**	**17 34 24.3**	**-1.5**
JTS	**JuntasAbangare**	**4.25**	**120**	Pn	**Pn**	**17 34 38.3**	**-1.1**
comp=N,7.0nm,0.3s,baz=317,slow=19,SNR=9.1							
JTS				Sn	**Sn**	**17 35 23.1**	**-4.6**
comp=N,13nm,0.3s,baz=251,slow=19,SNR=5.1							
JTS				LR	LR	17 36 38.4	
comp=N,662nm,21.6s,baz=311,slow=45							
JTS	**JuntasAbangare**	**4.25**	**120**	eP	**Pn**	**17 34 38.0**	**-1.3**
JCR	**Jicaral**	**4.37**	**126**	eP	**Pn**	**17 34 39.6**	**-1.2**
CGA2	**Cerro Gallo 2**	**4.81**	**120**	eP	**Pn**	**17 34 47.6**	**+0.7**
PRS1	**Puriscal**	**4.95**	**119**⇑	eP	**Pn**	**17 34 50.3**	**+1.3**
LCR2	**La Lucha 2**	**5.34**	**120**	eP	**Pn**	**17 34 54.8**	**+0.6**
CMIG	**Matias Romero**	**7.56**	**308**	Pn	**Pn**	**17 35 23.3**	**-1.3**
comp=N,2.2nm,0.3s,baz=114,slow=8.7,SNR=19							
CMIG				Sn	**Sn**	**17 36 44.6**	**-4.3**
comp=N,1.3nm,0.3s,baz=225,slow=20,SNR=2.5							
TEIG	**Tepich**	**7.75**	**3**	Pn	**Pn**	**17 35 30.1**	**+2.7**
TEIG				LR	LR	17 38 47.8	
comp=N,1μm,18.3s,baz=77,slow=42							
TEIG	**Tepich**	**7.75**	**3**	eP	**Pn**	**17 35 31.1**	**+3.7**
comp=N,48nm,0.8s							
ROSC	**El Rosal**	**16.08**	**117**	LR	LR	17 44 32.3	
comp=N,124nm,18.4s,baz=353,slow=41							
SDV	**Santo Domingo**	**18.11**	**99**	P	**Pn**	**17 37 44.6**	**-0.4**
comp=N,0.3nm,0.3s,baz=306,slow=5.4,SNR=6.7							
SDV	**Santo Domingo**	**18.11**	**99**	eP	**Pn**	**17 37 45.3**	**+0.2**
comp=N,8.6nm,0.8s							
HKT	**Hockley**	**18.64**	**340**	eP	**Pn**	**17 37 51.7**	**+0.2**
comp=N,8.9nm,0.9s							
LRAL	**Lakeview Retre**	**20.56**	**4**	eP	**P**	**17 38 13.8**	**+2.0**
comp=N,22nm,0.8s							
JCT	**Junction City**	**20.68**	**332**	eP	**P**	**17 38 13.0**	**-0.1**
comp=N,81nm,0.8s							
GOGA	**Godfrey**	**21.42**	**12**	eP	**P**	**17 38 21.6**	**+0.6**
comp=N,24nm,0.8s,mb4.6							
LTX	**Lajitas**	**21.82**	**323**	eP	**P**	**17 38 26.3**	**+0.9**
comp=N,30nm,0.8s,mb4.8							
TXAR	**Lajitas Array**	**21.82**	**323**	P	**P**	**17 38 26.4**	**+1.1**
comp=N,24nm,0.7s,mb4.7,baz=148,slow=11,SNR=191							
TXAR				PcP	PcP	17 42 27.1	+3.3
comp=N,1.2nm,0.8s,baz=160,slow=5.8,SNR=5.1							
TXAR				ScP	ScP	17 46 05.9	+8.8
comp=N,0.6nm,0.7s,baz=152,slow=4.1,SNR=6.7							
TXAR				LR	LR	17 48 51.3	
comp=N,145nm,18.6s,MS3.4,baz=0.0,slow=42							
ATAH	**Atahualpa**	**21.86**	**152**	P	**P**	**17 38 28.5**	**+2.7**
comp=N,5.2nm,0.4s,mb4.3,baz=15,slow=14,SNR=4.5							
ATAH				LR	LR	17 46 03.2	
comp=N,211nm,18.9s,MS3.6,baz=180,slow=34							
MIAR	**Mount Ida**	**22.45**	**349**	eP	**P**	**17 38 32.2**	**+0.2**
comp=N,75nm,0.9s,mb5.1							
PLAL	**Pickwick Lake**	**22.45**	**1**	eP	**P**	**17 38 31.8**	**-0.2**
comp=N,17nm,0.9s,mb4.5							
UALR	**University of**	**22.48**	**352**	eP	**P**	**17 38 32.5**	**+0.1**
comp=N,73nm,0.8s,mb5.2							
JSC	**Jenkinsville**	**22.77**	**16**	eP	**P**	**17 38 36.7**	**+1.3**
LPIG	**La Paz**	**23.53**	**303**	LR	LR	17 48 49.4	
comp=N,369nm,18.2s,MS3.9,baz=172,slow=39							
TKL	**Tuckaleechee C**	**23.54**	**10**	P	**P**	**17 38 42.9**	**-0.3**
comp=N,29nm,0.8s,mb4.8,baz=192,slow=12,SNR=21							
TKL				LR	LR	17 47 36.7	
comp=N,282nm,20.7s,MS3.7,baz=221,slow=36							
WVT	**Waverly**	**23.60**	**2**	eP	**P**	**17 38 43.4**	**-0.3**
comp=N,5.8nm,0.6s,mb4.2							
WMOK	**Wichita Mounta**	**24.01**	**339**	eP	**P**	**17 38 45.6**	**-1.8**

comp=N,1.5nm,0.7s,baz=154,slow=1.7,SNR=5.9
NVAR ScP ScP 17 46 52.8 +7.8
comp=N,1.4nm,0.7s,baz=116,slow=4.1,SNR=10
NVAR Mina Array Bea 36.91 320 P P 17 40 43.4 +2.1
NVAR PcP PcP 17 43 03.9 +1.9
NVAR ScP ScP 17 46 52.8 +7.8
LAO LASA Array 37.20 340 *eP* **P 17 40 41.2 -2.5**
comp=N,8.9nm,0.8s,mb4.7
YMR Madison River 37.34 334 *eP* **P 17 40 45.3 +0.3**
comp=N,1.8nm,1.1s,mb4.8
ULM Lac du Bonnet 38.16 353 P **P 17 40 49.5 -2.4**
comp=N,15nm,0.8s,mb4.7,baz=166,slow=8.1,SNR=22
ULM LR LR 17 57 47.9
comp=N,185nm,18.9s,MS3.9,baz=173,slow=38
ULM Lac du Bonnet 38.16 353 *eP* **P 17 40 50.0 -1.8**
comp=N,20nm,0.9s,mb4.8
DGMT Dagmar 38.17 343 *eP* **P 17 40 51.5 -0.4**
comp=N,43nm,0.8s,mb5.2
MCMT McKenzie Canyo 38.31 332 *eP* **P 17 40 54.4 +1.3**
EGMT Eagleton 39.59 338 *eP* **P 17 41 03.3 -0.5**
comp=N,11nm,0.7s,mb4.7
EDM Edmonton 45.18 339 *eP* **P 17 41 48.2 -1.0**
SCHQ Schefferville 45.65 18 P **P 17 41 50.6 -2.3**
comp=N,14nm,0.8s,mb5.0,baz=216,slow=7.5,SNR=13
SCHQ Schefferville 45.65 18 *eP* **P 17 41 51.2 -1.8**
comp=N,20nm,0.9s,mb5.0
FCC Fort Churchill 46.41 356 *eP* **P 17 41 57.8 -1.1**
comp=N,9.9nm,0.9s,mb4.7
YKA Yellowknife Ar 53.30 345 P **P 17 42 50.0 -1.3**
comp=N,7.5nm,0.8s,mb4.7,baz=142,slow=7.5,SNR=48
YKA PcP PcP 17 43 58.4 0.0
comp=N,0.9nm,0.6s,baz=146,slow=4.1,SNR=4.9
YKA LR LR 18 07 10.9
comp=N,93nm,18.6s,MS3.9,baz=100,slow=38
YKA Yellowknife Ar 53.30 345 P **P 17 42 50.0 -1.3**
YKA PcP PcP 17 43 58.4 0.0
YKA LR LR 18 07 10.9
RKT Rikitea 57.45 232 *eS* **S 17 51 15.9 +1.1**
comp=N,60nm,27.8s
RKT *e*LR LR 18 00 09.1
comp=N,107nm,26.2s
INK Inuvik 62.85 343 *eP* **P 17 43 56.7 -1.4**
comp=N,249nm,0.9s,mb6.3
PPT Papeete 67.08 245 *e*LR LR 18 04 34.0
comp=N,104nm,25.8s,baz=68
PPT Papeete 67.08 245 LR LR 18 05 58.1
comp=N,87nm,19.0s,MS4.0,baz=117,slow=29
TBI Tubuai 69.25 239 *eS* S 17 53 46.1 +4.2
comp=N,45nm,28.8s
TBI *e*LR LR 18 05 44.2
comp=N,95nm,29.0s
ESDC Sonseca Array 78.16 52 LR LR 18 15 04.0
comp=N,111nm,18.8s,MS4.2,baz=150,slow=32
NOA NORSAR Array B 83.97 29 LR LR 18 27 55.8
comp=N,108nm,18.7s,MS4.3,baz=80,slow=39
ARCES ARCESS Array B 86.59 19 P **P 17 46 14.6 -0.7**
comp=N,5.4nm,1.0s,mb4.7,baz=296,slow=4.9,SNR=2.6
ARCES LR LR 18 29 14.7
comp=N,88nm,20.3s,MS4.2,baz=94,slow=39
TORD Torodi Ar. Bea 87.61 77 LR LR 18 26 42.3
comp=N,50nm,18.0s,MS4.0,baz=335,slow=36
GERES GERESS Array B 88.74 40 LR LR 18 20 30.9
comp=N,122nm,19.8s,MS4.3,baz=283,slow=32
FINES FINESS Array B 90.52 26 LR LR 18 32 02.1
comp=N,109nm,18.1s,MS4.3,baz=183,slow=39
CN2 Changchun 115.96 333 *e*PKP PKPdf 17 52 15.2 +0.5
BOSA Boshof 116.79 116 PKP PKPdf 17 52 18.8 +2.5
comp=N,2.8nm,0.8s,baz=199,slow=6.9,SNR=3.8
SONM Songino Array 118.51 348 PKP PKPdf 17 52 20.0 +0.4
comp=N,0.8nm,0.7s,baz=313,slow=1.4,SNR=6.3
KSRS Korea Array 119.62 327 PKP PKPdf 17 52 22.8 +1.1
comp=N,1.0nm,0.7s,baz=5.6,slow=3.0,SNR=2.9
MKAR Makanchi Array 120.49 7 PKP PKPdf 17 52 23.6 +0.2
comp=N,0.3nm,0.6s,baz=321,slow=2.9,SNR=4.2
HHC Hu-ho-hao-te 123.76 342 *e*PKP PKPdf 17 52 24.4 -5.3
HHC PP PP 17 54 12.8 +0.1
HHC PKS 17 55 59.3
HHC PP PP
comp=Z,137nm,8.3s
HHC LR LR
comp=N,162nm,22.6s,MS4.8
HHC LR LR
comp=E,172nm,25.0s,MS4.8
HHC LR LR
comp=Z,165nm,21.4s,MS4.7
LZH Lanzhou 130.30 347 *e*PKP PKPdf 17 52 35.0 -7.2
LZH XPKP 17 53 03.7
LZH *e*PP PP 17 54 53.4 -2.6
LZH PP PP
comp=Z,79nm,8.1s
LZH LR LR
comp=N,147nm,18.2s
LZH LR LR
comp=Z,228nm,20.3s,MS4.9
CD2 Chengdu 135.27 345 *e*PKP PKPdf 17 52 49.4 -2.1
WB2 Warramunga Arr 138.08 254 *e*P PKPdf 17 53 04.2 +7.5
WRA Warramunga Arr 138.09 254 PKP PKPdf 17 52 59.0 +2.3
comp=Z,1.8nm,0.6s,baz=88,slow=1.9,SNR=26
ASAR Alice Springs 138.13 248 PKP PKPdf 17 52 57.5 +0.7
comp=Z,0.3nm,0.7s,baz=110,slow=3.5,SNR=7.5
GYA Guiyang 138.55 339 PDIF Pdif 17 50 05.8 -2.7
GYA PKP PKPdf 17 52 55.7 -1.9
GYA PP PP 17 55 50.1 +1.9
GYA PKS 17 56 30.3
GYA SKS SKSdf 17 59 57.2 -7.1
GYA SKKS SKKSac 18 02 32.7 -5.9
GYA SS SS 18 13 55.0 -3.5
GYA PP PP
comp=Z,120nm,7.6s
GYA LR LR
comp=N,140nm,20.8s,MS4.8
GYA LR LR
comp=E,130nm,21.4s,MS4.8
GYA LR LR
comp=Z,100nm,21.8s,MS4.5
KMI Kunming 141.03 343 PKP PKPdf 17 52 59.5 -2.6
KMI LR LR
comp=Z,33nm,20.5s,MS4.1
HYB Hyderabad 147.78 23 *i* PKP PKPdf 17 53 17.0 +3.2
HYB Hyderabad 147.78 23 *e*P PKPdf 17 53 17.0 +3.2
CHTO Chiang Mai 148.04 346 *e*PKPbc PKPbc 17 53 18.4 +1.0

MAN 04 17:44:16.3, 850N×12549E, h24km, mb3.6, ML4.7, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.74**	**214**	*e*P	Pb	17 44 31.0	+0.5
BUKP				*e*S	Sb	17 44 43.1	+2.8
CGP	**Cagayan de Oro**	**0.78**	**267**	⇑*i*P	Pb	17 44 31.1	-0.2
CGP				*i* S	Sb	17 44 42.3	+0.8
SCPH	**Surigao**	**1.28**	**0**	*e*P	Pn	17 44 37.2	-1.5
MATI	**Mati**	**1.72**	**154**	*e*P	Pn	17 44 44.4	-0.3
MSLP	**Maasin**	**1.74**	**339**	*e*P	Pn	17 44 44.3	-0.7
TBP	**Tagbilaran**	**2.00**	**307**	*e*P	Pn	17 44 49.3	+0.8
TBP				*e*S	Sn	17 45 13.8	+1.1
LLP	**Lapu-Lapu**	**2.35**	**320**	*e*P	Pn	17 44 54.5	+1.1
LLP				*e*S	Sn	17 45 22.8	+1.3

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*ISCJB **04** 17:54:11.4±0.6, 3340N±004×132.19E±004, h59km±5km, mb3.4/2, MS3.6/1, Error ellipse: s-maj=7.4km s-min=5.6km az=161.1*
*JMA **04** 17:54:12.3, 3342N×132.18E, h51km±1km, M3.4*
JMA Felt I J1.
*IDC **04** 17:54:13.5±1.8, 3349N×132.02E, h67km±19km, mb3.1/2, mb1 3.3/4, mb1mx3.0/24, mbtmp3.1/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/8, Error ellipse: s-maj=24.5km s-min=15.5km az=95.0*

ISC 04 17:54:12.4±0.5, 3342N±004×13218E±004, h50km±6km, n14, σ0°55/24, mb3.4/2, MS3.6/1, 2C-6D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.29**	**61**	⇑P	**Pn**	**17 54 21.4**	**0.0**
JNA				S	**Sn**	**17 54 28.0**	**+0.1**
UWA2	**Uwa jima 2**	**0.43**	**118**	⇓P	**Pn**	**17 54 22.7**	**-0.1**
UWA2				S	**Sn**	**17 54 30.2**	**-0.1**
JUS	**Usuki**	**0.50**	**226**	⇓P	**Pn**	**17 54 23.6**	**-0.1**
JUS				*e*S	**Sn**	**17 54 31.8**	**+0.1**
JKI	**Kunimi**	**0.55**	**293**	⇓P	**Pn**	**17 54 24.3**	**0.0**
JKI				*e*S	**Sn**	**17 54 32.9**	**+0.1**
JKU	**Kubokawa**	**0.75**	**98**	⇓P	**Pn**	**17 54 26.5**	**-0.3**
JKU				S	**Sn**	**17 54 37.3**	**0.0**
JTO	**Tosashimizu**	**0.77**	**136**	⇓P	**Pn**	**17 54 26.8**	**-0.2**
JTO				S	**Sn**	**17 54 37.1**	**-0.5**
JHM	**Kurahashi**	**0.78**	**22**	⇑P	**Pn**	**17 54 27.1**	**-0.1**
JHM				S	**Sn**	**17 54 38.1**	**+0.2**
JET	**Tanbara**	**0.81**	**63**	⇓P	**Pn**	**17 54 27.4**	**-0.2**
JET				*e*S	**Sn**	**17 54 38.5**	**-0.2**
JNU	**Nakatsue**	**1.13**	**255**	P	**Pn**	**17 54 32.4**	**+0.5**
	20nm,0.3s,baz=261,slow=22,SNR=188						
JNU				S	**Sn**	**17 54 46.4**	**+0.2**
	130nm,0.3s,baz=222,slow=12,SNR=50						
JHT	**Toyohira**	**1.26**	**9**	P	**Pn**	**17 54 33.9**	**+0.3**
KSRS	**Korea Array**	**5.32**	**320**	P	**Pn**	**17 55 29.8**	**+0.6**
	baz=138,slow=14,SNR=4.8						
KSRS				S	**Sn**	**17 56 27.3**	**-1.9**
	baz=147,slow=24,SNR=8.2						
MJAR	**Matsushiro Arr**	**5.85**	**56**	P	**Pn**	**17 55 37.9**	**+1.4**
	0.4nm,0.3s,baz=242,slow=14,SNR=6.8						
WRA	**Warramunga Arr**	**53.10**	**177**	P	**P**	**18 03 24.0**	**-0.8**
	0.6nm,0.9s,mb3.5,baz=355,slow=8.0,SNR=4.0						
WRA				LR	LR	18 24 22.0	
	comp=Z,62nm,21.5s,MS3.6,baz=245,slow=34						
ASAR	**Alice Springs**	**56.79**	**178**	P	**P**	**18 03 52.0**	**+0.6**
	0.2nm,0.6s,mb3.3,baz=357,slow=5.8,SNR=7.4						

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*ISCJB **04** 18:00:09.7±0.8, 2196N±009×145.1E±02, h10km, mb3.7/9, MS3.5/2, Error ellipse: s-maj=28.2km s-min=13.6km az=175.1*
*IDC **04** 18:00:09.8±0.8, 2196N×145.14E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/22, mbtmp3.7/8, MS3.4/3, Ms1 3.4/3, ms1mx2.9/31, Error ellipse: s-maj=31.1km s-min=18.9km az=91.0*
*NEIC **04** 18:00:11.3±0.5, 2198N×145.13E, h10km, mb4.1/2, Error ellipse: s-maj=22.4km s-min=11.7km az=97.0*

ISC 04 18:00:11.5±0.8, 2197N±009×1452E±02, h10km, n17, σ0°70/13, mb3.7/9, MS3.5/2, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.77**	**333**	Sn	**Sn**	**18 02 37.3**	**-6.1**
	6.1nm,0.3s,baz=231,slow=23,SNR=3.0						
GUMO	**Guam**	**8.34**	**182**	LR	LR	18 04 59.6	
	comp=Z,171nm,19.4s,baz=107,slow=35						
KSRS	**Korea Array**	**21.44**	**320**	P	**P**	**18 05 00.1**	**+0.4**
	1.9nm,0.9s,mb3.4,baz=148,slow=8.2,SNR=4.7						
PMG	**Port Moresby**	**31.24**	**176**	LR	LR	18 17 10.7	
	comp=Z,35nm,20.3s,MS3.0,baz=7.2,slow=33						
SONM	**Songino Array**	**40.31**	**319**	P	**P**	**18 07 49.9**	**+1.0**
	0.2nm,0.4s,mb3.2,baz=134,slow=8.3,SNR=2.8						
WRAB	**Tennant Creek**	**42.96**	**195**	*e*P	**P**	**18 08 10.9**	**+0.2**
	2.4nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**42.97**	**195**	*e*P	**P**	**18 08 10.9**	**+0.1**
WRA	**Warramunga Arr**	**42.97**	**195**	P	**P**	**18 08 11.0**	**+0.3**
	3.2nm,1.0s,mb4.0,baz=12,slow=8.4,SNR=22						
FITZ	**Fitzroy Crossi**	**44.17**	**207**	*e*P	**P**	**18 08 20.4**	**0.0**
	5.5nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**44.17**	**207**	P	**P**	**18 08 19.7**	**-0.7**
	2.1nm,0.8s,mb3.9,baz=14,slow=13,SNR=6.2						
ASAR	**Alice Springs**	**46.66**	**194**	P	**P**	**18 08 40.0**	**-0.2**
	0.4nm,0.4s,mb3.7,baz=12,slow=6.8,SNR=20						
MKAR	**Makanchi Array**	**55.86**	**312**	P	**P**	**18 09 47.9**	**-1.3**
	0.5nm,0.6s,mb3.7,baz=78,slow=8.0,SNR=3.4						
MKAR	**Makanchi Array**	**55.86**	**312**	P	**P**	**18 09 47.9**	**-1.3**
YKA	**Yellowknife Ar**	**75.36**	**28**	P	**P**	**18 11 54.1**	**-1.0**
	0.4nm,0.7s,mb3.5,baz=290,slow=5.8,SNR=4.5						
NVAR	**Mina Array Bea**	**81.54**	**52**	P	**P**	**18 12 30.1**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=286,slow=6.4,SNR=5.9						
PDAR	**Pinedale Array**	**85.91**	**45**	LR	LR	18 49 15.4	
	comp=Z,44nm,18.1s,MS3.9,baz=163,slow=34						
LPAZ	**La Paz**	**148.10**	**86**	PKPbc	PKPbc	18 19 59.0	+1.6
	1.6nm,0.6s,baz=262,slow=4.4,SNR=8.9						

GUC 04 18:13:00.5±0.6, 2623S×6910W, h105km±25km, ML3.8, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.59**	**224**	⇑*i*P	Pn	18 13 28.2	+0.1
CPCH				*i* S	Sn	18 13 49.8	+0.7
CPCH				AML	AML	18 13 52.4	
	comp=N,4μm,0.1s						
CDCH	**Caldera**	**1.76**	**241**	⇑*i*P	Pn	18 13 30.4	+0.2
CDCH				*i* S	Sn	18 13 53.2	+0.4
ANCH	**Antofagasta**	**2.80**	**335**	⇑*i*P	Pn	18 13 44.1	+0.5
ANCH				*i* S	Sn	18 14 17.3	+0.5
CEN1	**Los Morros**	**2.99**	**340**	⇑*i*P	Pn	18 13 45.2	-1.0
CEN1				*i* S	Sn	18 14 18.5	-3.0
CEN1				AML	AML	18 14 28.1	
	comp=E,101nm,0.3s						

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*CSEM **04** 18:16:52.2±0.9, 3697N×2436W, h0km, ML3.6, Error ellipse: s-maj=5.4km s-min=2.9km az=55.0, After PDA*
*PDA **04** 18:16:52.2±0.9, 3697N×2436W, h0km, MD3.5, ML3.6, Error ellipse: s-maj=5.4km s-min=2.9km az=55.0*

SVSA 04 18:16:52.2±0.9, 3697N×2436W, h0km, MD3.5, ML3.6, Error ellipse: s-maj=5.4km s-min=2.9km az=55.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.57**	**273**	*i* P	Pg	18 17 02.1	-1.0
PSMN				*e*S	Sg	18 17 09.9	-0.6
PSMN	**Pico do Norte,**	**0.57**	**273**	*e*S	Sg	18 17 09.9	-0.6
MIRA	**Miradouro**	**1.10**	**318**	*i* P	Pg	18 17 09.7	-3.5
MIRA				*i* S	Sg	18 17 23.4	-4.0
FRA1	**Furnas**	**1.11**	**314**	*e*P	Pg	18 17 10.1	-3.4
PCNG	**Congro**	**1.15**	**314**	*e*P	Pg	18 17 10.6	-3.6
PCNG				*e*S	Sg	18 17 24.3	-4.8
PCNG							
	222nm,0.4s						
PCNG	**Congro**	**1.15**	**314**	*e*P	Pg	18 17 10.6	-3.6
PCNG				*e*S	Sg	18 17 24.3	-4.8
VIF	**Vila Franca**	**1.16**	**312**	*e*P	Pg	18 17 11.0	-3.4
VIF				*e*S	Sg	18 17 24.7	-4.7
VIF							
	316nm,0.2s						
VIF	**Vila Franca**	**1.16**	**312**	*e*P	Pg	18 17 11.0	-3.4
VIF				*e*S	Sg	18 17 24.7	-4.7
PFAD	**Fenais da Ajud**	**1.16**	**319**	*e*P	Pg	18 17 10.7	-3.7
PFAD				*i* S	Sg	18 17 24.3	-5.1
PRCH	**Ribeira Ch**	**1.17**	**310**	*i* P	Pg	18 17 11.0	-3.7
PRCH				*e*S	Sg	18 17 24.9	-5.0
PRCH							
	870nm,0.3s						
MESC	**Monte Escuro**	**1.19**	**314**	*e*P	Pg	18 17 11.1	-4.0
MESC				*e*S	Sg	18 17 25.5	-5.1
LFA	**Lagoa do Fogo**	**1.20**	**312**	*i* P	Pg	18 17 11.5	-3.8
PMAT	**Coroa da Mata**	**1.23**	**314**	*e*P	Pg	18 17 11.9	-3.8
PMAT				*e*S	Sg	18 17 26.4	-5.2
PMAT							
	199nm,0.2s						
PMAT	**Coroa da Mata**	**1.23**	**314**	*e*P	Pg	18 17 11.9	-3.8
PMAT				*e*S	Sg	18 17 26.4	-5.2
PVER	**Pico Vermelho**	**1.24**	**312**	*e*P	Pg	18 17 11.8	-4.1
PVER				*e*S	Sg	18 17 26.4	-5.6
PVER							
	285nm,0.4s						
PVER	**Pico Vermelho**	**1.24**	**312**	*e*P	Pg	18 17 11.8	-4.1
PVER				*e*S	Sg	18 17 26.4	-5.6
CML	**Cha da Macela**	**1.24**	**310**	*e*P	Pg	18 17 11.9	-4.1
CML				*e*S	Sg	18 17 26.8	-5.2
PDA	**Ponta Delgada**	**1.30**	**307**	*e*P	Pg	18 17 13.0	-4.1
PDA				*i* S	Sg	18 17 27.8	-6.1
FAC	**Faja de Cima**	**1.31**	**308**	*e*P	Pg	18 17 12.9	-4.3
FAC				*e*S	Sg	18 17 28.3	-5.9
PSET	**Sete Cidades**	**1.38**	**308**	*e*P	Pg	18 17 13.5	-5.2
PSET				*e*S	Sg	18 17 30.6	-6.0
PSET							
	423nm,0.4s						
PSET	**Sete Cidades**	**1.38**	**308**	*e*P	Pg	18 17 13.5	-5.2
PSET				*e*S	Sg	18 17 30.6	-6.0
PSAN	**Santo Antonio**	**1.40**	**309**	*e*P	Pn	18 17 14.4	-4.6
PFET	**Feteiras**	**1.42**	**307**	*e*P	Pn	18 17 14.3	-4.9
SET2	**Ginetes**	**1.45**	**307**	*e*P	Pn	18 17 15.1	-4.5
PFAV	**Pico das Favas**	**2.77**	**310**	*e*P	Pn	18 17 34.7	-3.1
PFAV				*e*S	Sn	18 18 06.0	-6.0
PFAV							
	53nm,0.3s						
PFAV	**Pico das Favas**	**2.77**	**310**	*e*P	Pn	18 17 34.7	-3.1
PFAV				*e*S	Sn	18 18 06.0	-6.0
RIB2	**Ribeirinha**	**2.80**	**308**	*e*P	Pn	18 17 35.0	-3.3
RIB2				*e*S	Sn	18 18 06.4	-6.4
RIB2							
	101nm,0.3s						
RIB2	**Ribeirinha**	**2.80**	**308**	*e*P	Pn	18 17 35.0	-3.3
RIB2				*e*S	Sn	18 18 06.4	-6.4
ADH	**Angra Heroismo**	**2.83**	**307**	*e*P	Pn	18 17 34.0	-4.7
ADH				*e*S	Sn	18 18 05.5	-8.0
PVNV	**Vila Nova**	**2.85**	**310**	*e*P	Pn	18 17 35.3	-3.6
PVNV				*e*S	Sn	18 18 07.1	-6.8
PVNV							
	42nm,0.2s						
PVNV	**Vila Nova**	**2.85**	**310**	*e*P	Pn	18 17 35.3	-3.6
PVNV				*e*S	Sn	18 18 07.1	-6.8
PPAD	**Pico dos Padre**	**2.89**	**308**	*e*P	Pn	18 17 36.3	-3.2
PPAD				*e*S	Sn	18 18 08.2	-6.8
PPAD							
	33nm,0.2s						
PPAD	**Pico dos Padre**	**2.89**	**308**	*e*P	Pn	18 17 36.3	-3.2
PPAD				*e*S	Sn	18 18 08.2	-6.8
PBIS	**Biscoitos**	**2.91**	**309**	*e*S	Sn	18 18 08.3	-7.0
ASBA	**Santa Barbara**	**2.93**	**307**	*e*S	Sn	18 18 10.6	-5.3
PIED	**Piedade**	**3.27**	**297**	*e*P	Pn	18 17 40.6	-4.1
PID	**Ribeirinha**	**3.33**	**297**	*e*P	Pn	18 17 41.0	-4.5
PMAN	**Manadas**	**3.39**	**300**	*e*P	Sn	18 18 17.3	-10
PAMA	**Santo Amaro**	**3.48**	**301**	*e*P	Pn	18 17 43.5	-4.0
PBOI	**Pico dos Bois**	**3.51**	**296**	*e*P	Pn	18 17 44.0	-4.0
PTEI	**Pico do Teixo**	**3.52**	**297**	*e*P	Pn	18 17 47.2	-0.9
PGRA	**Graciosa**	**3.52**	**307**	*e*P	Sn	18 18 26.4	-4.2
ROSA	**Rosais**	**3.54**	**301**	*e*P	Pn	18 17 44.0	-4.4
PICO	**Pico**	**3.57**	**297**	*e*P	Pn	18 17 44.6	-4.2
PICO				*e*S	Sn	18 18 23.3	-8.4
PCND	**Candelaria**	**3.58**	**296**	*e*P	Pn	18 17 44.8	-4.2
CALA	**Caldeira**	**3.80**	**296**	*e*P	Pn	18 17 47.4	-4.6
CALA				*e*S	Sn	18 18 29.2	-8.2
PCED	**Cedros**	**3.82**	**297**	*e*P	Pn	18 17 47.6	-4.6

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*ISCJB **04** 18:21:45.0±5.4, 462N±0.1×1548E±0.1, h8km±33km, mb4.1/25, Error ellipse: s-maj=20.0km s-min=10.4km az=106.1*
*IDC **04** 18:21:45.5±0.7, 4617N×15477E, h0km, mb3.9/15, mb1 4.1/16, mb1mx4.0/24, mbtmp3.9/16, ML3.6/1, Error ellipse: s-maj=21.9km s-min=16.7km az=146.0*
*NEIC **04** 18:21:47.0±0.6, 4622N×15479E, h10km, mb4.4/5, Error ellipse: s-maj=15.6km s-min=11.8km az=140.0*
*MOS **04** 18:21:48.7±1.6, 4620N×15481E, h36km, mb4.3/17, Error ellipse: s-maj=17.1km s-min=10.7km az=92.5*

ISC 04 18:21:50.1±4.1, 463N±01×1549E±01, h30km±28km, n50, σ1°17/50, mb4.1/25, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.50**	**10**	*e*PN	**Pn**	**18 22 56.5**	**+0.3**
ASAJ	**Asahikawa**	**8.92**	**260**	Pn	**Pn**	**18 23 56.0**	**-0.9**
	0.8nm,0.3s,baz=318,slow=5.4,SNR=5.6						
ASAJ	**Asahikawa**	**8.92**	**260**	PN	**Pn**	**18 23 56.0**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.80**	**289**	*e*P	**Pn**	**18 25 33.0**	**+2.6**
KSRS	**Korea Array**	**21.82**	**256**	P	**P**	**18 26 39.0**	**-0.9**
	comp=Z,1.4nm,1.0s,mb3.4,baz=18,slow=24,SNR=3.0						
BILL	**Bilibino**	**22.61**	**11**	*e*P	**P**	**18 26 49.1**	**+0.8**
BILL				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
BILL	**Bilibino**	**22.61**	**11**	*e*P	**P**	**18 26 47.0**	**-1.3**
	comp=Z,14nm,1.1s,mb4.3						
TIXI	**Tiksi**	**28.27**	**343**	*e*P	**P**	**18 27 38.0**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
SONM	**Songino Array**	**32.63**	**291**	P	**P**	**18 28 19.4**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=98,slow=10,SNR=3.0						
IMA2	**Indian Mountai**	**33.50**	**35**	*e*P	**P**	**18 28 27.2**	**+0.4**
COLA	**College**	**35.77**	**38**	P	**P**	**18 28 44.0**	**-2.5**
INK	**Inuvik**	**41.42**	**32**	P	**P**	**18 29 34.8**	**+0.9**
	comp=Z,3.0nm,0.7s,mb4.0,baz=268,slow=6.8,SNR=15						
INK	**Inuvik**	**41.42**	**32**	P	**P**	**18 29 34.8**	**+1.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**41.42**	**32**	*e*P	**P**	**18 29 35.0**	**+1.2**
	comp=Z,114nm,0.8s						
ZAL	**Zalesovo**	**43.88**	**307**	P	**P**	**18 29 54.6**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.6,baz=45,slow=4.3,SNR=3.1						
ZAL	**Zalesovo**	**43.88**	**307**	P	**P**	**18 29 54.6**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.23**	**298**	P	**P**	**18 30 27.9**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.3,baz=66,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**48.23**	**298**	P	**P**	**18 30 27.9**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**48.63**	**305**	*e*P	**P**	**18 30 29.5**	**-1.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**48.63**	**305**	*e*P	**P**	**18 30 29.5**	**-1.6**
	comp=Z,5.1nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**50.59**	**37**	P	**P**	**18 30 46.8**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=296,slow=7.1,SNR=12						
YKA	**Yellowknife Ar**	**50.59**	**37**	P	**P**	**18 30 46.8**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.59**	**37**	P	**P**	**18 30 46.8**	**+0.7**
RES	**Resolute Bay**	**50.91**	**19**	*e*P	**P**	**18 30 48.8**	**+0.3**
	comp=Z,122nm,0.9s						
LSA	**Lhasa**	**51.50**	**275**	*e*P	**P**	**18 30 59.7**	**+6.8**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**51.50**	**275**	*e*P	**P**	**18 30 59.7**	**+6.8**
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**	**18 30 52.9**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**51.66**	**311**	*e*P	**P**	**18 30 52.9**	**-1.2**
	comp=Z,4.3nm,0.8s,mb4.4						
KKN	**Kakani**	**56.73**	**277**	*e*P	**P**	**18 31 32.7**	**+1.7**
	comp=Z,14nm,0.8s,mb5.1						
DMN	**Daman**	**56.97**	**277**	*e*P	**P**	**18 31 34.3**	**+1.6**
	comp=Z,17nm,0.7s,mb5.2						
GKN	**Gorkha**	**57.04**	**277**	*e*P	**P**	**18 31 34.2**	**+1.0**
	comp=Z,10nm,0.7s,mb5.0						
KOLN	**Koldanda**	**57.90**	**278**	*e*P	**P**	**18 31 40.4**	**+1.1**
	comp=Z,15nm,0.9s,mb5.0						
PDAR	**Pinedale Array**	**64.06**	**55**	P	**P**	**18 32 21.6**	**+0.6**
	comp=Z,1.1nm,1.0s,mb3.8,baz=343,slow=1.5,SNR=3.7						
FINES	**FINESS Array B**	**64.98**	**336**	P	**P**	**18 32 26.2**	**-0.9**
	comp=Z,1.9nm,0.8

BRTR pmax pmax
comp=Z,1.0nm,0.8s

*IDC **04** 18:36:25.6±2.0, 5573N×11047E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=40.5km s-min=23.5km az=113.0*
*NEIC **04** 18:36:26.8±0.7, 5581N×11048E, h10km, mb3.8/3, Error ellipse: s-maj=13.3km s-min=8.3km az=111.0*
*ISCJB **04** 18:36:27.1±0.3, 5560N±002×110.15E±003, h10km, mb3.6/6, Error ellipse: s-maj=3.7km s-min=2.3km az=117.0*
*MOS **04** 18:36:27.0±1.0, 5571N×110.18E, h11km, mb4.2/4, Error ellipse: s-maj=10.4km s-min=6.4km az=69.6*
*BYKL **04** 18:36:28.5±0.3, 5567N×110.12E, h4km±4km*

ISC 04 18:36:28.6±0.3, 5564N±002×11015E±003, h10km, n73, σ1§46/126, mb3.6/6, 9C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time (h m s)	Res (ISC)
NIZ	**Nizh Angarsk**	**0.37**	**292**	*e*PG	**Pg**	**18 36 35.5**	**-0.4**
NIZ				*e*		18 36 40.8	
NIZ				pmax	pmax		
	comp=Z,607nm,0.3s						
NIZ				smax			
	comp=N,3μm,0.4s						
NIZ	**Nizh Angarsk**	**0.37**	**292**	⇑*i*Pg	**Pg**	**18 36 35.5**	**-0.4**
NIZ				*e*Sg	**Sg**	**18 36 41.0**	**+0.2**
NIZ				Pmax			
	comp=N,536nm,0.3s						
NIZ				Smax			
	comp=N,4μm,0.3s						
KMO	**Kumora**	**0.65**	**67**	*e*PG	**Pg**	**18 36 39.7**	**-1.4**
KMO				*e*		18 36 47.9	
KMO				pmax	pmax		
	comp=Z,137nm,0.2s						
KMO				smax			
	comp=N,2μm,0.8s						
KMO	**Kumora**	**0.65**	**67**	⇑*i*Pg	**Pg**	**18 36 39.7**	**-1.4**
KMO				*e*		18 36 40.7	
KMO				*e*Sg	**Sg**	**18 36 48.1**	**-1.4**
KMO				max			
	comp=N,312nm,0.3s						
KMO				Smax			
	comp=N,2μm,0.8s						
YLYR	**Ulyunkhan**	**0.96**	**142**	⇑*i*PG	**Pg**	**18 36 46.2**	**-0.8**
YLYR				*e*		18 36 59.2	
YLYR				pmax	pmax		
	comp=Z,352nm,0.3s						
YLYR				smax			
	comp=N,2μm,0.2s						
YLYR	**Ulyunkhan**	**0.96**	**142**	⇑*i*Pg	**Pg**	**18 36 46.1**	**-0.9**
YLYR				*e*Pb	**Pb**	**18 36 47.0**	**-0.3**
YLYR				*e*Sg	**Sg**	**18 37 00.2**	**+0.7**
YLYR				*e*Sb	**Sb**	**18 37 04.8**	**+4.8**
YLYR				max			
	comp=N,332nm,0.5s						
YLYR				max			
	comp=N,2μm,0.1s						
YOA	**Uoyan**	**1.02**	**60**	⇑*i*PG	**Pg**	**18 36 46.8**	**-1.4**
YOA				*e*		18 37 01.0	
YOA				pmax	pmax		
	comp=Z,230nm,0.2s						
YOA				smax			
	comp=N,3μm,0.3s						
YOA	**Uoyan**	**1.02**	**60**	*e*Pg	**Pg**	**18 36 46.9**	**-1.3**
YOA				*e*Sg	**Sg**	**18 37 03.1**	**+1.7**
YOA				Pmax			
	comp=N,254nm,0.6s						
YOA				Smax			
	comp=N,3μm,0.4s						
SVKR	**Severomuysk**	**1.98**	**75**	*e*PN	**Pn**	**18 37 03.4**	**+1.2**
SVKR				*e*		18 37 05.7	
SVKR				*e*		18 37 30.3	
SVKR				pmax	pmax		
	comp=Z,343nm,0.4s						
SVKR				smax			
	comp=N,5μm,0.6s						
SVKR	**Severomuysk**	**1.98**	**75**	*e*Pn	**Pn**	**18 37 03.4**	**+1.2**
SVKR				*e*Pg	**Pg**	**18 37 04.9**	**-1.7**
SVKR				*e*		18 37 07.8	
SVKR				*e*Sg	**Sg**	**18 37 31.6**	**-0.7**
SVKR				max			
	comp=N,301nm,0.4s						
SVKR				Smax			
	comp=N,5μm,0.6s						
SYVR	**Suvo**	**1.98**	**183**	*e*PN	**Pn**	**18 37 04.5**	**+2.3**
SYVR				*e*		18 37 31.5	
SYVR				pmax	pmax		
	comp=Z,450nm,0.5s						
SYVR				smax			
	comp=N,2μm,0.5s						
SYVR	**Suvo**	**1.98**	**183**	*e*Pn	**Pn**	**18 37 03.5**	**+1.3**
SYVR				⇑*i*Pg	**Pg**	**18 37 04.7**	**-1.9**
SYVR				*e*Sg	**Sg**	**18 37 32.4**	**0.0**
SYVR				*e*		18 37 33.8	
SYVR				Pmax			
	comp=N,264nm,0.7s						
SYVR				max			
	comp=N,2μm,0.7s						
OGRR	**Ongureny**	**2.49**	**218**	*e*PN	**Pn**	**18 37 10.9**	**+1.8**
OGRR				*e*		18 37 14.5	
OGRR				*e*		18 37 46.5	
OGRR				pmax	pmax		
	comp=Z,67nm,0.7s						
OGRR				smax			
	comp=N,523nm,0.5s						
OGRR	**Ongureny**	**2.49**	**218**	*e*Pn	**Pn**	**18 37 10.6**	**+1.5**
OGRR				*e*Pg	**Pg**	**18 37 13.1**	**-3.2**
OGRR				*e*Sg	**Sg**	**18 37 46.7**	**-1.8**
OGRR				Pmax			
	comp=N,53nm,0.4s						
OGRR				Smax			
	comp=N,519nm,0.5s						
MXMB	**Maximikha**	**2.52**	**200**	*e*Pn	**Pn**	**18 37 11.1**	**+1.6**
MXMB				*e*Pg	**Pg**	**18 37 14.0**	**-2.8**
MXMB				*e*		18 37 17.6	
MXMB				*e*Sg	**Sg**	**18 37 47.9**	**-1.5**
MXMB				max			
	comp=N,211nm,0.8s						
MXMB				Smax			
	comp=N,1μm,0.7s						
BOD	**Bodaibo**	**3.05**	**43**	*e*PN	**Pn**	**18 37 16.5**	**-0.3**
BOD				*e*		18 37 22.3	
BOD				*e*		18 38 00.5	
BOD				pmax	pmax		
	comp=Z,38nm,0.4s						
BOD				smax			
	comp=N,442nm,0.5s						
BOD	**Bodaibo**	**3.05**	**43**	⇑*i*Pn	**Pn**	**18 37 17.6**	**+0.8**
BOD				*e*Pg	**Pg**	**18 37 21.1**	**-5.9**
BOD				*e*		18 37 54.6	
BOD				*e*Sg	**Sg**	**18 38 01.2**	**-5.3**
BOD				Pmax			
	comp=N,35nm,0.4s						
BOD				Smax			
	comp=N,461nm,1.1s						
NLYR	**Nelyaty**	**3.23**	**72**	*e*Pn	**Pn**	**18 37 20.0**	**+0.7**
NLYR				*e*		18 37 29.8	
NLYR				*e*Sn	**Sn**	**18 37 59.4**	**+1.5**
NLYR				*e*Sg	**Sg**	**18 38 08.4**	**-4.0**
TRG	**Tyrgan**	**3.65**	**219**	*e*PN	**Pn**	**18 37 27.0**	**+2.0**
TRG				*e*		18 37 34.9	
TRG				*e*S	**Sn**	**18 38 09.9**	**+1.8**
TRG				*e*		18 38 23.0	
TRG				pmax	pmax		
	comp=Z,34nm,0.3s						
TRG				smax			
	comp=E,199nm,0.3s						
TRG	**Tyrgan**	**3.65**	**219**	*e*Pn	**Pn**	**18 37 27.3**	**+2.3**
TRG				*e*		18 37 28.8	
TRG				*e*Sn	**Sn**	**18 38 10.2**	**+2.1**
TRG				*e*Sg	**Sg**	**18 38 21.0**	**-4.6**
TRG				max			
	comp=E,51nm,0.5s						
TRG				Smax			
	comp=E,163nm,0.2s						
TRTB	**Turuntaevo**	**3.72**	**205**	*e*Pn	**Pn**	**18 37 27.5**	**+1.4**
TRTB				*e*Pg	**Pg**	**18 37 35.5**	**-4.4**
TRTB				*e*		18 38 13.4	
TRTB				*e*Sg	**Sg**	**18 38 24.0**	**-4.2**
TRTB				Pmax			
	comp=E,42nm,0.7s						
TRTB				Smax			
	comp=E,233nm,1.1s						
FFNB	**Fofonovo**	**4.12**	**211**	*e*Pn	**Pn**	**18 37 32.6**	**+1.1**
FFNB				*e*		18 37 43.7	
FFNB				*e*Sg	**Sg**	**18 38 35.4**	**-5.4**
FFNB				Smax			
	comp=E,523nm,0.5s						
STDB	**Stepnoy Dvoret**	**4.13**	**214**	*e*Sg	**Sg**	**18 38 37.7**	**-3.6**
STDB				Smax			
	comp=E,697nm,1.0s						
CIT	**Chita**	**4.15**	**149**	*e*PN	**Pn**	**18 37 32.6**	**+0.7**
CIT				*e*		18 37 42.4	
CIT				*e*S	**Sn**	**18 38 21.5**	**+1.1**
CIT				*e*		18 38 36.2	
CIT				pmax	pmax		
	comp=Z,125nm,1.5s						
CIT				smax			
	comp=E,233nm,0.5s						
CIT	**Chita**	**4.15**	**149**	*e*Pn	**Pn**	**18 37 32.0**	**+0.1**
CIT				*e*Pg	**Pg**	**18 37 43.0**	**-5.0**
CIT				*e*Sn	**Sn**	**18 38 21.6**	**+1.2**
CIT				*e*Sg	**Sg**	**18 38 36.8**	**-4.9**
CIT				Pmax			
	comp=E,119nm,1.0s						
CIT				Smax			
	comp=E,212nm,0.6s						
KAB	**Kabansk**	**4.15**	**211**	*e*	**Pn**	**18 37 31.6**	**-0.3**
KAB				*e*Sg	**Sg**	**18 38 38.7**	**-3.0**
KAB				Smax			
	comp=E,694nm,1.1s						
HRMR	**Khuramsha**	**4.44**	**207**	*e*Pn	**Pn**	**18 37 37.8**	**+1.8**
HRMR				*e*Pg	**Pg**	**18 37 47.6**	**-6.1**
HRMR				*e*Sg	**Sg**	**18 38 46.3**	**-4.9**
CRS	**Chara**	**4.70**	**71**	*e*PN	**Pb**	**18 37 53.1**	**+2.0**
CRS				*e*		18 38 52.4	
CRS				pmax	pmax		
	comp=Z,59nm,1.1s						
CRS				smax			
	comp=N,213nm,1.5s						
CRS	**Chara**	**4.70**	**71**	*e*Pg	**Pg**	**18 37 52.5**	**-6.1**
CRS				*e*Sg	**Sg**	**18 38 54.4**	**-5.1**
CRS				Pmax			
	comp=N,59nm,1.1s						
CRS				Smax			
	comp=N,215nm,1.4s						
IRK	**Irkutsk**	**4.86**	**228**	*e*Sn	**Sn**	**18 38 38.7**	**+0.7**
IRK				*e*Sg	**Sg**	**18 39 00.0**	**-4.6**
IRK				Smax			
	comp=N,439nm,0.5s						
LSTR	**Listvyanka**	**4.92**	**222**	*e*Pn	**Pn**	**18 37 44.1**	**+1.6**
LSTR				*e*Sn	**Sn**	**18 38 40.1**	**+0.6**
LSTR				*e*Sg	**Sg**	**18 39 01.7**	**-4.8**
LSTR				max			
	comp=N,23nm,0.9s						
LSTR				Smax			
	comp=N,170nm,1.6s						
TLY	**Talaya**	**5.54**	**227**	*e*PN	**Pn**	**18 37 51.9**	**+0.9**
TLY				*e*		18 38 08.6	
TLY				*e*S	**Sn**	**18 38 54.2**	**-0.5**
TLY				*e*		18 39 19.5	
TLY				pmax	pmax		
	comp=Z,21nm,0.7s						
TLY				smax			
	comp=E,104nm,1.6s						
TLY	**Talaya**	**5.54**	**227**	*e*Pn	**Pn**	**18 37 51.5**	**+0.5**
	comp=E,22nm,0.7s						
TLY	**Talaya**	**5.54**	**227**	*e*Pn	**Pn**	**18 37 51.9**	**+0.9**
TLY				*e*Sn	**Sn**	**18 38 54.3**	**-0.4**
TLY				*e*Sg	**Sg**	**18 39 18.8**	**-7.5**
TLY				max			
	comp=E,8.0nm,0.3s						
TLY				Smax			
	comp=E,105nm,1.5s						
TUP	**Tupik**	**5.77**	**98**	*e*PN	**Pn**	**18 37 54.4**	**+0.2**
TUP				*e*		18 38 12.0	
TUP				*e*S	**Sn**	**18 38 59.7**	**-0.8**
TUP				*e*		18 39 27.0	
TUP				pmax	pmax		
	comp=Z,34nm,0.7s						
TUP				smax			
	comp=N,197nm,1.0s						
TUP	**Tupik**	**5.77**	**98**	*e*Pn	**Pn**	**18 37 54.4**	**+0.2**
TUP				*e*Pg	**Pg**	**18 38 11.8**	**-7.3**
TUP				*e*Sg	**Sg**	**18 39 28.2**	**-5.6**
TUP				Pmax			
	comp=N,19nm,0.9s						
TUP				Smax			
	comp=N,201nm,0.8s						
ARS	**Arshan**	**5.90**	**234**	*e*PN	**Pn**	**18 37 57.1**	**+1.1**
ARS				*e*S	**Sn**	**18 39 00.6**	**-3.1**
ARS	**Arshan**	**5.90**	**234**	*e*Pn	**Pn**	**18 37 57.0**	**+1.0**
ARS				*e*Sn	**Sn**	**18 39 02.0**	**-1.7**
ARS				*e*Sg	**Sg**	**18 39 29.9**	**-8.1**
ARS				max			
	comp=N,44nm,0.5s						
ARS				Smax			
	comp=N,350nm,0.8s						
KPC	**Khapcheranga**	**6.10**	**166**	*e*PN	**Pn**	**18 37 59.1**	**+0.4**
KPC				*e*		18 38 18.9	
KPC				*e*		18 39 38.1	
KPC				pmax	pmax		
	comp=Z,28nm,0.6s						
KPC				smax			
	comp=E,135nm,1.2s						
KPC	**Khapcheranga**	**6.10**	**166**	*e*Pn	**Pn**	**18 37 58.9**	**+0.2**
KPC				*e*Pg	**Pg**	**18 38 18.6**	**-6.7**
KPC				*e*Sg	**Sg**	**18 39 37.5**	**-6.8**
KPC				Pmax			
	comp=E,20nm,0.6s						
KPC				Smax			
	comp=E,134nm,1.0s						
ZAK	**Zakamensk**	**6.70**	**221**	*e*PN	**Pn**	**18 38 09.3**	**+2.3**
ZAK				*e*		18 38 30.6	
ZAK				*e*S	**Sn**	**18 39 26.3**	**+3.0**
ZAK				*e*		18 39 58.0	
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZAK				pmax	pmax		
	comp=N,62nm,1.3s						
ZAK	**Zakamensk**	**6.70**	**221**	⇑*i*Pn	**Pn**	**18 38 09.4**	**+2.4**
ZAK				*e*		18 38 33.9	
ZAK				*e*Sg	**Sg**	**18 39 58.1**	**-5.4**
ZAK				max			
	comp=N,9.0nm,0.8s						
ZAK				Smax			
	comp=N,67nm,1.6s						
MOY	**Mondy**	**6.74**	**238**	*e*PN	**Pn**	**18 38 10.1**	**+2.6**
MOY				*e*		18 38 32.6	
MOY				*e*S	**Sn**	**18 39 23.6**	**-0.7**
MOY	**Mondy**	**6.74**	**238**	*e*Pn	**Pn**	**18 38 10.4**	**+2.9**
MOY				*e*Sn	**Sn**	**18 39 23.7**	**-0.6**
MOY				*e*Sg	**Sg**	**18 39 55.3**	**-10**
MOY				max			
	comp=N,43nm,0.9s						
MOY				Smax			
	comp=N,95nm,1.0s						
ORL	**Orlik**	**6.83**	**247**	*e*PN	**Pn**	**18 38 10.8**	**+2.1**
ORL				*e*S	**Sn**	**18 39 25.7**	**-0.8**
ORL				*e*S	**Sg**	**18 39 58.8**	**-8.9**
ORL				smax			
	comp=N,128nm,1.0s						
ORL	**Orlik**	**6.83**	**247**	⇑*i*Pn	**Pn**	**18 38 10.9**	**+2.2**
ORL				*e*Sn	**Sn**	**18 39 27.2**	**+0.7**
ORL				*e*Sg	**Sg**	**18 39 58.8**	**-8.9**
ORL				max			
	comp=N,25nm,1.0s						
ORL				Smax			
	comp=N,136nm,1.4s						
ULN	**Ulaanbaatar**	**8.02**	**195**	*i* PN	**Pn**	**18 38 26.1**	**+1.0**
ULN	**Ulaanbaatar**	**8.02**	**195**	*e*Pn	**Pn**	**18 38 27.0**	**+1.9**
	comp=N,4.9nm,0.8s						
ULN	**Ulaanbaatar**	**8.02**	**195**	*e*Sg	Sx	18 40 39.6	
SONM	**Songino Array**	**8.15**	**198**	Pn	**Pn**	**18 38 28.3**	**+1.3**
	comp=N,0.8nm,0.3s,baz=16,slow=13,SNR=19						
SONM				Lg		18 40 47.3	
	comp=N,2.3nm,0.3s,baz=25,slow=32,SNR=8.1						
NRGR	**Nerungri**	**8.21**	**77**	*e*PN	**Pn**	**18 38 26.0**	**-1.7**
TDJR	**Todzha**	**8.88**	**254**	*e*Sg	Sx	18 41 01.9	
ZAL	**Zalesovo**	**14.70**	**274**	Pn	**Pn**	**18 39 58.0**	**+1.5**
	comp=N,0.2nm,0.3s,baz=43,slow=14,SNR=5.0						
TIXI	**Tiksi**	**17.94**	**19**	*i* P	**Pn**	**18 40 35.7**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**17.94**	**19**	*e*P	**Pn**	**18 40 32.1**	**-5.9**
	comp=Z,2.8nm,0.6s						
KURK	**Kurchatov**	**19.42**	**269**	*i* P	**Pn**	**18 40 55.5**	**-0.6**
MK31	**Makanchi Array**	**19.45**	**255**	*e*P	**Pn**	**18 40 55.1**	**-1.3**
MKAR	**Makanchi Array**	**19.45**	**255**	P	**Pn**	**18 40 55.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=69,slow=11,SNR=14						
MKAR	**Makanchi Array**	**19.45**	**255**	*i* P	**Pn**	**18 40 56.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**22.74**	**282**	*e*P	**P**	**18 41 29.6**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
CHKZ	**Chkalovo**	**22.74**	**282**	*e*P	**P**	**18 41 29.6**	**-1.2**
	comp=Z,3.2nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**23.11**	**280**	P	**P**	**18 41 34.4**	**-0.2**
	comp=Z,1.5nm,0.6s,mb3.6,baz=64,slow=10,SNR=13						
BVAR	**Borovoye Array**	**23.11**	**280**	P	**P**	**18 41 34.4**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**23.16**	**280**	*e*P	**P**	**18 41 34.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
BRVK	**Borovoye**	**23.16**	**280**	*e*P	**P**	**18 41 34.5**	**-0.6**
	comp=Z,2.3nm,0.7s,mb3.7						
FINES	**FINESS Array B**	**41.36**	**314**	P	**P**	**18 44 13.4**	**-1.3**
	comp=Z,2.0nm,0.8s,mb3.8,baz=61,slow=9.1,SNR=4.4						
FINES	**FINESS Array B**	**41.36**	**314**	*i* P	**P**	**18 44 14.1**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**46.16**	**299**	P	**P**	**18 44 52.0**	**-1.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=46,slow=8.4,SNR=4.3						
AKASG	**Malin Array Be**	**46.16**	**299**	*i* P	**P**	**18 44 54.2**	**+0.9**
AKASG	**Malin Array Be**	**46.16**	**299**	P	**P**	**18 44 52.0**	**-1.4**
YKA	**Yellowknife Ar**	**57.14**	**23**	P	**P**	**18 46 12.0**	**-3.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=334,slow=7.1,SNR=3.7						
YKA	**Yellowknife Ar**	**57.14**	**23**	*i* P	**P**	**18 46 13.3**	**-2.1**
YKA	**Yellowknife Ar**	**57.14**	**23**	P	**P**	**18 46 12.0**	**-3.4**

*ISK **04** 18:42:47.8, 3572N×2966E, h5km, MD3.6*
*ISCJB **04** 18:42:48.9±0.9, 3576N±002×2968E±003, h4km±7km, Error ellipse: s-maj=4.5km s-min=4.0km az=128.9*
*CSEM **04** 18:42:49.4±0.1, 3581N×2965E, h8km, MD3.6, Error ellipse: s-maj=1.7km s-min=1.3km az=88.0*
*NEIC **04** 18:42:51.0, 3599N×2973E, h10km, ML3.1(ATH), After ATH.*
*HLW **04** 18:42:52.2, 3595N×2961E, h33km, Mb3.6*
*ATH **04** 18:42:54.2, 3600N×2930E, h90km±5km*

ISC 04 18:42:50.6±0.9, 3582N±003×2966E±003, h6km±7km, n56, σ1§07/64, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time (h m s)	Res (ISC)
FETY	**Fethiye**	**0.94**	**330**	PG	**Pg**	**18 43 07.5**	**-1.1**
ELL	**Elmali**	**0.95**	**12**	PG	**Pg**	**18 43 09.1**	**+0.3**
ELL				SG	**Sg**	**18 43 22.6**	**+1.4**
DALT	**Dalyan (Mudla)**	**1.26**	**319**	PN	**Pn**	**18 43 12.6**	**-2.1**
ARG	**Arkhangelos**	**1.31**	**288**	*e*P	**Pn**	**18 43 14.0**	**-1.4**
ARG				*e*S	**Sb**	**18 43 29.5**	**-3.1**
ANTB	**Antalya**	**1.34**	**36**	PN	**Pn**	**18 43 15.1**	**-0.8**
GOLH	**Golhisar**	**1.42**	**357**	*i* P	**Pn**	**18 43 17.1**	**+0.2**
GOLH				*i* S	**Sn**	**18 43 35.6**	**-0.3**
YER	**Yerkesik**	**1.72**	**320**	PN	**Pn**	**18 43 20.1**	**-1.0**
BCK	**Bucak**	**1.80**	**24**	PN	**Pn**	**18 43 21.8**	**-0.3**
DAT	**Datca**	**1.91**	**299**	PN	**Pn**	**18 43 22.4**	**-1.4**
DNZL	**Cakiroluk**	**1.93**	**345**	*i* P	**Pg**	**18 43 31.9**	**+4.2**
DNZL				*i* S	**Sg**	**18 43 56.4**	**+3.7**
DENT	**Denizli**	**2.00**	**346**	PN	**Pn**	**18 43 24.8**	**-0.1**
KARP	**Karpathos**	**2.05**	**263**	*e*P	**Pn**	**18 43 25.8**	**+0.1**
KARP				*e*S	**Sn**	**18 43 47.0**	**-4.6**
MLSB	**Milas**	**2.12**	**315**	PN	**Pn**	**18 43 25.8**	**-0.7**
ISP	**Isparta**	**2.13**	**18**	*e*PN	**Pn**	**18 43 26.5**	**-0.3**
ISP	**Isparta**	**2.13**	**18**	*e*Pg	**Pg**	**18 43 28.9**	**-2.5**
BDRM	**Kayabasi**	**2.18**	**305**	*i* P	**Pn**	**18 43 25.9**	**-1.5**
BDRM				*i* S	**Sn**	**18 43 57.1**	**+2.5**
TKTP	**Tekketepe**	**2.28**	**13**	*i* P	**Pn**	**18 43 29.0**	**+0.2**
TKTP				*i* S	**Sn**	**18 44 00.2**	**+3.1**
KHL	**Karahalli**	**2.50**	**357**	*e*PN	**Pn**	**18 43 32.0**	**+0.2**
HDMB	**Hadim**	**2.55**	**63**	*e*PN	**Pn**	**18 43 31.0**	**-1.4**
SHUT	**Suhut-Afyon**	**2.82**	**14**	*e*PN	**Pn**	**18 43 36.5**	**+0.3**
ZKR	**Zakros**	**2.90**	**257**	P	**Pn**	**18 43 38.4**	**+1.1**
SMG	**Samos**	**2.95**	**311**	*e*P	**Pn**	**18 43 35.9**	**-2.1**
SMG				*e*S	**Sn**	**18 44 06.3**	**-7.4**
KONT	**Konya--Tatoy**	**3.03**	**45**	*e*PN	**Pn**	**18 43 39.0**	**-0.1**
CSS	**Prodhromos**	**3.12**	**105**	P	**Pn**	**18 43 40.3**	**0.0**
IZM	**Izmir**	**3.21**	**324**	*e*PN	**Pn**	**18 43 41.7**	**+0.1**
ALT	**Altintas**	**3.25**	**6**	*e*PN	**Pn**	**18 43 42.5**	**+0.4**
IKL	**Isikli**	**3.29**	**82**	*e*PN	**Pn**	**18 43 41.2**	**-1.5**
BLCB	**Balcova**	**3.31**	**322**	*e*PN	**Pn**	**18 43 43.2**	**+0.3**
NPS	**Neapolis**	**3.35**	**262**	*e*P	**Pn**	**18 43 42.3**	**-1.2**
AKS	**Akhisar**	**3.39**	**335**	*e*PN	**Pn**	**18 43 44.5**	**+0.4**
KIZT	**Kizilcal**	**3.53**	**29**	*e*PN	**Pn**	**18 43 45.8**	**-0.2**
APE	**Apeiranthos**	**3.56**	**292**	P	**Pn**	**18 43 46.5**	**+0.2**
ESKT	**Eskisehir**	**3.81**	**14**	*e*PN	**Pn**	**18 43 50.7**	**+0.8**
IDI	**Anoyia**	**3.93**	**264**	P	**Pn**	**18 43 51.7**	**+0.3**
MERS	**Mersin**	**4.06**	**74**	*e*PN	**Pn**	**18 43 52.4**	**-0.8**
IZI	**Iznik**	**4.51**	**358**	*e*PN	**Pn**	**18 44 00.6**	**+1.1**
YLV	**Yalova**	**4.75**	**357**	*e*PN	**Pn**	**18 44 04.0**	**+1.3**
OSMT	**Osmaniye**	**4.78**	**0**	*e*PN	**Pn**	**18 44 04.4**	**+1.4**
KAMT	**Kaman**	**4.79**	**41**	*e*PN	**Pn**	**18 44 03.1**	**-0.1**
BR131	**Keskin Array S**	**5.01**	**38**	*e*P	**Pn**	**18 44 06.1**	**-0.3**
BR131	**Keskin Array S**	**5.01**	**38**	*e*P	**Pn**	**18 44 06.1**	**-0.2**
HMAT	**Matruh**	**5.18**	**205**	P	**Pn**	**18 44 09.2**	**+0.6**
BHL	**Bhannes**	**5.28**	**109**	*e*Pn	**Pn**	**18 44 08.9**	**-1.1**
HWQ	**Hawqa**	**5.38**	**105**	*e*Pn	**Pn**	**18 44 10.8**	**-0.6**
VLI	**Velia**	**5.51**	**281**	P	**Pn**	**18 44 14.1**	**+1.0**
RCY	**Rachaya**	**5.58**	**113**	*e*Pn	**Pn**	**18 44 13.7**	**-0.5**
ENEZ	**Enez**	**5.63**	**332**	*e*PN	**Pn**	**18 44 16.3**	**+1.5**
SLUM		**5.69**	**222**	P	**Pn**	**18 44 16.0**	**+0.3**
CORM	**Corum**	**5.86**	**41**	*e*PN	**Pn**	**18 44 17.2**	**-0.7**
AMAG	**Maghara**	**5.96**	**149**	P	**Pn**	**18 44 20.1**	**+0.8**
EDRB	**Edirne**	**6.44**	**340**	*e*PN	**Pn**	**18 44 27.3**	**+1.4**
GLL	**Jalalah**	**6.46**	**164**	P	**Pn**	**18 44 27.3**	**+1.1**
SUZ		**6.53**	**155**	P	**Pn**	**18 44 28.9**	**+1.7**
HNKL	**Nakhl**	**6.90**	**147**	P	**Pn**	**18 44 33.2**	**+0.9**
SWA1		**7.34**	**208**	P	**Pn**	**18 44 38.9**	**+0.6**
HFRF	**Wahat Farafira**	**8.72**	**188**	P	**Pn**	**18 44 57.2**	**-0.1**

*ISCJB **04** 18:49:59.1±0.4, 4771N±005×15630E±009, h10km, mb4.3/33, MS3.6/8, Error ellipse: s-maj=9.0km s-min=6.4km az=66.8*
*IDC **04** 18:49:59.1±0.6, 4758N×15629E, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.2/25, mbtmp4.1/19, ML3.9/1, MS3.5/7, Ms1 3.6/7, ms1mx3.1/33, Error ellipse: s-maj=18.5km s-min=15.3km az=147.0*
*NEIC **04** 18:50:00.9±0.4, 4767N×15631E, h10km, mb4.5/11, Error ellipse: s-maj=10.0km s-min=8.6km az=119.0*
*BJI **04** 18:50:00.8, 4770N×15630E, h10km, mB4.8, mb4.2*
*MOS **04** 18:50:03.0±1.1, 4774N×15622E, h37km, mb4.5/17, Error ellipse: s-maj=12.8km s-min=8.6km az=99.1*

ISC 04 18:50:01.0±0.4, 4774N±005×15631E±009, h10km, n74, σ1§12/76, mb4.3/32, MS3.6/8, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time (h m s)	Res (ISC)
SKR	**Severo-Kuril's**	**2.95**	**358**	*e*PN	**Pn**	**18 50 46.5**	**-1.4**
SKR				*e*S	**Sn**	**18 51 21.8**	**-1.6**
SKR				pmax

MJAR Matsushiro Arr 17.43 237 Pn **Pn 18 53 59.1 -5.0**
comp=Z,0.1nm,0.3s,baz=35,slow=15,SNR=3.6
YAK Yakutsk 20.75 323 *eP* **P 18 54 41.4 -0.4**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,12nm,1.3s
YAK Yakutsk 20.75 323 *eP* **P 18 54 40.1 -1.7**
comp=E,17nm,0.8s
BILL Bilibino 20.98 10 *eP* **P 18 54 45.8 +1.4**
BILL *e* 18 54 55.9
BILL pmax pmax
comp=Z,8.0nm,0.9s
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.3
BILL Bilibino 20.98 10 *eP* **P 18 54 45.6 +1.2**
comp=Z,14nm,1.1s
CN2 Changchun 21.80 271 *eP* **P 18 54 58.6 +5.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
KSRS Korea Array 23.16 254 P **P 18 55 05.7 -1.9**
comp=Z,2.5nm,1.0s,mb3.6,baz=236,slow=36,SNR=2.7
TIXI Tiksi 27.18 341 *i P* **P 18 55 44.2 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,1.3s,mb3.8
TIXI Tiksi 27.18 341 *eP* **P 18 55 44.0 -0.6**
comp=Z,2.5nm,0.8s,mb3.8
SONM Songino Array 33.06 289 P **P 18 56 36.4 -0.3**
comp=Z,0.5nm,0.7s,mb3.6,baz=42,slow=11,SNR=5.4
SONM LR LR 19 10 18.0
comp=Z,58nm,20.3s,MS3.3,baz=57,slow=37
INK Inuvik 39.65 33 P **P 18 57 31.9 -1.0**
comp=Z,0.8nm,0.8s,mb3.5,baz=250,slow=12,SNR=3.8
INK Inuvik 39.65 33 *eP* **P 18 57 32.0 -0.9**
comp=Z,123nm,1.2s
GTA Gaotai 40.96 280 *eP* **P 18 57 46.8 +3.0**
GTA AP pP 18 57 54.3 +7.4
GTA XP sP 18 57 56.7 +8.6
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.0
ZAL Zalesovo 43.81 306 LR LR 19 17 47.8
comp=Z,73nm,19.1s,MS3.6,baz=61,slow=38
MK31 Makanchi Array 48.41 298 *eP* **P 18 58 43.4 +0.1**
MKAR Makanchi Array 48.41 298 P **P 18 58 43.5 +0.3**
comp=Z,2.1nm,0.5s,mb4.4,baz=68,slow=8.5,SNR=36
MKAR LR LR 19 20 22.2
comp=Z,48nm,18.9s,MS3.5,baz=0.6,slow=38
MKAR Makanchi Array 48.41 298 *i P* **P 18 58 44.0 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 48.62 304⇑*eP* **P 18 58 44.9 0.0**
KURK Kurchatov 48.62 304 *eP* **P 18 58 45.2 +0.4**
comp=Z,2.4nm,0.5s,mb4.5
YKA Yellowknife Ar 48.82 38 P **P 18 58 46.4 0.0**
comp=Z,0.4nm,0.8s,mb3.5,baz=297,slow=7.5,SNR=5.7
CHKZ Chkalovo 51.45 311 P **P 18 59 04.8 -1.6**
CHKZ Chkalovo 51.45 311 *eP* **P 18 59 05.5 -0.9**
comp=Z,2.2nm,0.5s,mb4.3
BVA0 Borovoye Array 51.90 310 *i P* **P 18 59 09.6 -0.1**
BVAR Borovoye Array 51.90 310 P **P 18 59 09.4 -0.3**
comp=Z,1.0nm,0.4s,mb4.1,baz=54,slow=7.6,SNR=19
BVAR Borovoye Array 51.90 310 P **P 18 59 09.4 -0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
LSA Lhasa 52.38 275 *eP* **P 18 59 14.5 +1.2**
LSA Lhasa 52.38 275 *eP* **P 18 59 15.6 +2.3**
LSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LSA Lhasa 52.38 275 *eP* **P 18 59 15.6 +2.4**
comp=Z,3.4nm,0.8s,mb4.3
AAK Ala-Archa 55.33 297 *eP* **P 18 59 35.4 +0.5**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 55.33 297 *eP* **P 18 59 35.4 +0.5**
comp=Z,3.1nm,0.8s,mb4.4
ARU Arti 55.74 318⇓*i P* **P 18 59 38.0 +0.2**
ARU *e* 19 01 37.0
ARU *eS* **S 19 07 26.8 +2.3**
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ARU Arti 55.74 318 *eP* **P 18 59 37.8 -0.1**
comp=Z,5.2nm,0.7s,mb4.7
KKN Kakani 57.55 277 *eP* **P 18 59 52.3 +1.6**
ARCES ARCESS Array B 57.62 342 P **P 18 59 52.0 +0.8**
comp=Z,6.4nm,1.1s,mb4.6,baz=26,slow=8.3,SNR=4.8
ARCES LR LR 19 33 14.9
comp=Z,69nm,18.4s,MS3.8,baz=277,slow=45
ARCES ARCESS Array B 57.62 342 P **P 18 59 52.0 +0.8**
ARCES pmax pmax
comp=Z,6.0nm,1.1s
ARCES MLR MLR
comp=Z,69nm,18.4s
DMN Daman 57.78 277 *eP* **P 18 59 53.1 +0.8**
GKN Gorkha 57.84 277 *eP* **P 18 59 53.6 +0.9**
comp=Z,8.2nm,0.6s,mb5.0
KOLN Koldanda 58.68 278 *eP* **P 18 59 59.7 +1.1**
comp=Z,10nm,1.0s,mb4.8
NVAR Mina Array Bea 60.05 65 P **P 19 00 08.6 +0.5**
comp=Z,1.9nm,0.7s,mb4.2,baz=298,slow=8.1,SNR=11
KLMR Klimovskoe 60.37 330 P **P 19 00 10.9 +0.6**
KLMR pmax pmax
comp=Z,72nm,2.8s,mb5.2
DUG Dugway 62.20 60 *eP* **P 19 00 23.3 +0.6**
PDAR Pinedale Array 62.40 56 P **P 19 00 24.4 +0.4**
comp=Z,1.5nm,0.9s,mb4.1,baz=284,slow=3.3,SNR=5.6
KAF Kangasniemi 63.44 336 *ep* **P 19 00 29.6 -1.3**
CCUT Cedar City 63.60 63 *eP* **P 19 00 32.9 +0.9**
KAKA Kakadu 63.83 206 *eP* **P 19 00 32.3 -1.2**
comp=Z,9.5nm,0.6s,mb5.0
FINES FINESS Array B 64.05 336 P **P 19 00 35.8 +0.9**
comp=Z,3.9nm,0.8s,mb4.5,baz=29,slow=7.6,SNR=10
FINES LR LR 19 33 24.4
comp=Z,96nm,18.6s,MS4.0,baz=325,slow=41
FINES FINESS Array B 64.05 336 P **P 19 00 35.8 +0.8**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,96nm,18.6s
NB2 NORSAR Subarra 67.97 343 P **P 19 01 02.5 +2.3**
comp=Z,9.2nm,1.2s,mb4.7,baz=24,slow=6.5
NOA NORSAR Array B 67.97 343 P **P 19 01 01.1 +0.9**
comp=Z,2.7nm,0.9s,mb4.3,baz=25,slow=6.5,SNR=3.9
NOA LR LR 19 34 14.0
comp=Z,63nm,18.2s,MS3.9,baz=190,slow=39
NOA NORSAR Array B 67.97 343 P **P 19 01 01.1 +0.9**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,63nm,18.2s
WB2 Warramunga Arr 70.19 202 *eP* **P 19 01 12.3 -1.7**
WRA Warramunga Arr 70.20 202 P **P 19 01 12.4 -1.6**
comp=Z,3.1nm,0.6s,mb4.4,baz=21,slow=6.6,SNR=9.9
WRA Warramunga Arr 70.20 202 P **P 19 01 12.4 -1.6**
WRA pmax pmax
comp=Z,3.0nm,0.6s
FITZ Fitzroy Crossi 71.07 211 *eP* **P 19 01 19.2 -0.1**
comp=Z,10nm,0.9s,mb4.8
KIV Kislovodsk 71.64 316 *eP* **P 19 01 26.6 +3.8**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,44nm,16.0s,MS3.8
AKASG Malin Array Be 71.91 328 P **P 19 01 24.1 -0.2**
comp=Z,1.0nm,0.4s,mb4.1,baz=32,slow=6.0,SNR=8.4
AKASG Malin Array Be 71.91 328 *i P* **P 19 01 25.2 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 73.87 201 P **P 19 01 35.4 -0.7**
comp=Z,5.3nm,0.9s,mb4.5,baz=14,slow=5.4,SNR=67
ASAR Alice Springs 73.87 201 P **P 19 01 35.4 -0.6**
ASAR pmax pmax
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 75.11 63 P **P 19 01 43.8 +0.6**
comp=Z,1.6nm,0.6s,mb4.1,baz=296,slow=4.4,SNR=15
TXAR Lajitas Array 75.11 63 P **P 19 01 43.8 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
KHC Kasperske Hory 78.26 336 *eP* **P 19 02 03.5 +2.5**
KHC PCP PcP 19 02 14.0 +3.6
KHC Kasperske Hory 78.26 336 *eP* **P 19 02 03.5 +2.5**
KHC *e* 19 02 14.0
GERES GERESS Array B 78.49 336 P **P 19 02 01.8 -0.5**
comp=Z,0.4nm,0.4s,mb3.7,baz=31,slow=5.0,SNR=3.2
BRTR Keskin Array B 79.13 319 P **P 19 02 05.5 -0.3**
comp=Z,1.6nm,1.0s,mb3.9,baz=66,slow=4.2,SNR=5.5
BRTR Keskin Array B 79.13 319 P **P 19 02 05.5 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 80.34 193 P **P 19 02 10.9 -1.5**
comp=Z,1.0nm,0.7s,mb3.8,baz=329,slow=16,SNR=3.2

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*CASC **04** 18:50:27.6±3.5, 1170N×8842W, h40km±999km, MD3.6, ML3.3, mb4.3(NEIC)*
*ISCJB **04** 18:50:29.2±2.6, 121N±01×8826W±007, h15km±18km, mb3.9/5, Error ellipse: s-maj=19.7km s-min=9.7km az=41.4*
*IDC **04** 18:50:30.3±1.7, 1282N×8743W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=101.2km s-min=20.6km az=55.0*
*NEIC **04** 18:50:35.0±3.7, 1228N×8797W, h48km±35km, mb4.3/1, Error ellipse: s-maj=63.4km s-min=15.7km az=62.0*
ISC 04 18:50:29.5±3.3, 122N±01×8820W±008, h5km±23km, n18, σ1§16/16, mb3.9/5, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.17**	**17**	*eP*		x		18 51 10.6	
CNCH				*eS*		x		18 51 33.3	
CRIN	**San Cristobal**	**1.25**	**64**	*eP*		**Pn**		**18 50 55.3**	**+1.8**
BLLM	**Bellamira**	**1.28**	**358**	⇓*iP*		x		18 51 12.0	
BLLM				*eS*		x		18 51 32.0	
MOMJ	**Momotombo**	**1.64**	**81**	*eP*		**Pn**		**18 50 58.6**	**-0.3**
LCBS	**La Ceiba**	**1.68**	**333**	*eP*		x		18 51 16.4	
LCBS				*eS*		x		18 51 39.2	
LFRS	**El Faro**	**1.69**	**330**	*eP*		x		18 51 16.7	
LFRS				*eS*		x		18 51 42.3	
MGAN	**Managua**	**1.91**	**90**	*eP*		**Pn**		**18 51 01.7**	**-0.9**
MGAN				*eS*		**Sn**		**18 51 27.1**	**+0.1**
MGAN				*i*				18 51 27.4	
	comp=N,281nm,0.2s								
TICN	**Ticuantepe**	**1.93**	**93**	*eP*		**Pn**		**18 51 02.9**	**+0.1**
TICN				*eS*		**Sn**		**18 51 27.6**	**+0.2**
APON	**Apoyo**	**2.10**	**96**	*eP*		**Pn**		**18 51 00.8**	**-4.4**
TGUH	**Tegucigalpa,Un**	**2.10**	**25**	*eP*		**Pn**		**18 51 05.8**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.49**	**83**	*eP*		**Pn**		**18 51 09.6**	**-1.0**
JTS	**JuntasAbangare**	**3.68**	**120**	Pn		**Pn**		**18 51 26.5**	**-0.5**
	comp=N,2.2nm,0.3s,baz=313,slow=19,SNR=1.5								
TXAR	**Lajitas Array**	**22.35**	**322**	P		**P**		**18 55 29.9**	**+1.7**
	comp=N,1.4nm,0.7s,mb3.5,baz=138,slow=11,SNR=15								
MIAR	**Mount Ida**	**22.82**	**348**	*eP*		**P**		**18 55 33.5**	**+0.3**
	comp=N,1.4nm,1.1s,mb4.3								
ULM	**Lac du Bonnet**	**38.51**	**352**	P		**P**		**18 57 49.8**	**-2.9**
	comp=N,3.3nm,0.7s,mb4.2,baz=173,slow=12,SNR=7.0								
SIV	**San Ignacio**	**38.75**	**136**	P		**P**		**18 57 56.4**	**+1.7**
	comp=N,1.3nm,0.8s,mb3.7,baz=310,slow=17,SNR=5.8								
YKA	**Yellowknife Ar**	**53.71**	**345**	P		**P**		**18 59 50.6**	**-1.7**
	comp=N,0.5nm,0.7s,mb3.6,baz=136,slow=7.9,SNR=8.6								
YKA				PcP		PcP		19 00 57.2	-1.3
	comp=N,0.3nm,0.7s,baz=141,slow=4.3,SNR=5.6								
YKA	**Yellowknife Ar**	**53.71**	**345**	P		**P**		**18 59 50.6**	**-1.7**
YKA				PcP		PcP		19 00 57.2	-1.3

IDC 04 18:50:41.1±9.3, 3365S×17897W, h51km±87km, mb3.2/2, mb1 3.5/3, mb1mx3.4/13, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=76.8km s-min=57.9km az=143.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.60**	**214**	P			Pn	18 52 02.1	+0.3
	2.4nm,0.3s,baz=350,slow=19,SNR=12								
URZ				S			Sn	18 53 05.1	+0.3
	3.5nm,0.3s,baz=43,slow=11,SNR=6.1								
URZ	**Urewera**	**5.60**	**214**	*eP**			Pn	18 52 02.4	+0.6
URZ				S*			Sn	18 53 04.9	+0.1
URZ				S*			Sn	18 53 05.0	+0.3
ASAR	**Alice Springs**	**42.23**	**271**	P			P	18 58 29.2	+0.1
	0.2nm,0.5s,baz=112,slow=7.8,SNR=8.3								
WRA	**Warramunga Arr**	**43.51**	**276**	P			P	18 58 39.9	+0.3
	0.2nm,0.3s,baz=117,slow=8.1,SNR=15								
FINES	**FINESS Array B**	**147.86**	**338**	PKPbc			PKPbc	19 10 18.9	-1.6
	1.4nm,0.9s,baz=35,slow=5.1,SNR=1.2								

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*IDC **04** 18:55:21.8±6.9, 2187N×14290E, h145km±64km, mb3.5/11, mb1 3.7/11, mb1mx3.6/23, mbtmp3.5/11, MS3.0/1, Ms1 3.0/1, ms1mx1.7/33, Error ellipse: s-maj=27.2km s-min=13.2km az=68.0*
*NEIC **04** 18:55:21.1±7.4, 2191N×14291E, h139km±69km, mb3.7/1, Error ellipse: s-maj=22.3km s-min=11.4km az=67.0*
*ISCJB **04** 18:55:23.3±7.1, 219N±01×1429E±02, h176km±68km, mb3.7/11, Error ellipse: s-maj=31.7km s-min=15.0km az=143.2*
ISC 04 18:55:25.1±6.1, 219N±01×1429E±02, h177km±59km, n17, σ0§62/15, mb3.7/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**11.52**	**347**	LR			LR	19 02 05.5	
	comp=Z,86nm,20.4s,baz=280,slow=35								
KSRS	**Korea Array**	**20.21**	**323**	P			**P**	**18 59 46.4**	**+0.2**
	2.7nm,0.7s,baz=140,slow=9.1,SNR=8.4								
HNR	**Honiara**	**35.34**	**150**	P			**P**	**19 02 03.5**	**+0.2**
	45nm,0.6s,baz=132,slow=2.4,SNR=7.5								
SONM	**Songino Array**	**39.03**	**320**	P			**P**	**19 02 33.9**	**-0.5**
	1.1nm,0.8s,mb3.5,baz=132,slow=5.8,SNR=6.7								
WRAB	**Tennant Creek**	**42.41**	**192**	*eP*			**P**	**19 03 02.6**	**+0.5**
	1.4nm,0.7s,mb3.7								
WRA	**Warramunga Arr**	**42.42**	**192**	P			**P**	**19 03 02.2**	**0.0**
	1.5nm,0.9s,mb3.6,baz=17,slow=8.7,SNR=7.9								
ASAR	**Alice Springs**	**46.13**	**191**	P			**P**	**19 03 30.7**	**-0.9**
	0.7nm,0.7s,mb3.4,baz=18,slow=9.4,SNR=8.7								
ZAL	**Zalesovo**	**53.91**	**322**	P			**P**	**19 04 29.9**	**-0.3**
	1.1nm,0.8s,mb3.6,baz=36,slow=4.6,SNR=7.0								
MKAR	**Makanchi Array**	**54.38**	**313**	P			**P**	**19 04 34.2**	**+0.7**
	0.7nm,0.7s,mb3.5,baz=107,slow=6.5,SNR=5.7								
BVAR	**Borovoye Array**	**62.36**	**319**	P			**P**	**19 05 29.4**	**+0.6**
	2.6nm,0.8s,mb4.1,baz=91,slow=7.9,SNR=11								
INK	**Inuvik**	**67.48**	**24**	P			**P**	**19 06 01.0**	**-0.8**
	1.6nm,1.1s,mb3.8,baz=274,slow=12,SNR=3.5								
YKA	**Yellowknife Ar**	**76.39**	**28**	P			**P**	**19 06 54.2**	**-0.6**
	1.2nm,0.8s,mb3.6,baz=294,slow=5.9,SNR=4.0								
YKA	**Yellowknife Ar**	**76.39**	**28**	P			**P**	**19 06 54.2**	**-0.6**
NVAR	**Mina Array Bea**	**83.21**	**51**	P			**P**	**19 07 32.7**	**+1.3**
	1.2nm,0.8s,mb3.7,baz=274,slow=6.1,SNR=7.9								
NVAR	**Mina Array Bea**	**83.21**	**51**	P			**P**	**19 07 32.7**	**+1.3**
BRTR	**Keskin Array B**	**90.03**	**313**	P			**P**	**19 08 04.2**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=140,slow=6.0,SNR=4.9								
LPAZ	**La Paz**	**150.17**	**85**	PKPbc			PKPbc	19 14 57.9	+3.0
	1.6nm,0.9s,baz=146,slow=2.9,SNR=3.9								
LPAZ				PKPab			PKPab	19 15 04.3	+2.8
	1.4nm,0.7s,baz=262,slow=7.1,SNR=4.2								

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*ISCJB **04** 18:59:30.4±0.6, 3840S×00317711E±008, h60km±3km, mb4.6/10, MS3.7/7, Error ellipse: s-maj=10.3km s-min=5.2km az=7.6*
*IDC **04** 18:59:32.9±0.9, 3827S×17721E, h54km±4km, mb4.3/3, mb1 4.5/4, mb1mx4.1/11, mbtmp4.3/4, MS3.7/8, Ms1 3.7/8, ms1mx3.5/19, Error ellipse: s-maj=36.8km s-min=16.7km az=8.0*
*WEL **04** 18:59:33.7±0.1, 3822S×17749E, h43km±1km, ML4.9/23, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*
WEL Felt from Bay of Plenty to Gisborne, maximum reported intensity MM 5.
*NEIC **04** 18:59:33.8, 3823S×17750E, h40km, mb4.8/7, ML4.9(WEL), After WEL.*
NEIC Felt in eastern Bay of Plenty.
ISC 04 18:59:32.1±0.5, 3839S±003×17761E±006, h50km±3km, n167, σ1§38/153, mb4.6/10, MS3.7/7, 13C-6D, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.08**	**311**	P			**Pn**	**18 59 40.2**	**+0.3**
MWZ				S			**Sn**	**18 59 45.4**	**0.0**
MWZ	**Matawai**	**0.08**	**311**	⇑P			**Pn**	**18 59 40.2**	**+0.4**
MWZ				SN			**Sn**	**18 59 45.4**	**0.0**
MWZ				SN			**Sn**	**18 59 45.7**	**+0.3**
URZ	**Urewera**	**0.41**	**288**	P			**Pn**	**18 59 41.6**	**-0.7**
	4μm,0.3s,baz=66,slow=4.3								
URZ				S			**Sn**	**18 59 48.3**	**-1.3**
	15μm,0.3s,baz=310,slow=20,SNR=117								
URZ	**Urewera**	**0.41**	**288**	P			**Pn**	**18 59 41.9**	**-0.4**
URZ	**Urewera**	**0.41**	**288**	⇓PN			**Pn**	**18 59 41.9**	**-0.4**
URZ				SN			**Sn**	**18 59 48.8**	**-0.9**
PUZ	**Puketiti**	**0.60**	**58**	P			**Pn**	**18 59 46.4**	**+1.8**
PUZ	**Puketiti**	**0.60**	**58**	PN			**Pn**	**18 59 46.2**	**+1.7**
KNZ	**Kokohu**	**0.63**	**175**	P			**Pn**	**18 59 48.1**	**+3.2**
KNZ	**Kokohu**	**0.63**	**175**	⇑PN			**Pn**	**18 59 48.1**	**+3.1**
EDRZ	**Edgecumbe**	**0.74**	**292**	P			**Pn**	**18 59 45.9**	**-0.4**
EDRZ	**Edgecumbe**	**0.74**	**292**	PN			**Pn**	**18 59 45.9**	**-0.4**
MARZ	**Manawahe**	**0.84**	**298**	P			**Pn**	**18 59 46.7**	**-0.9**
MARZ	**Manawahe**	**0.84**	**298**	⇑PN			**Pn**	**18 59 46.7**	**-0.9**
TAZ	**Tarawera**	**0.88**	**280**	P			**Pn**	**18 59 48.6**	**+0.4**
TAZ	**Tarawera**	**0.88**	**280**	⇑PN			**Pn**	**18 59 48.5**	**+0.4**
WIZ	**White Island**	**0.92**	**339**	P			**Pn**	**18 59 47.3**	**-1.4**
WIZ	**White Island**	**0.92**	**339**	⇑PN			**Pn**	**18 59 47.2**	**-1.5**
MKRZ	**Makatiti**	**0.93**	**285**	P			**Pn**	**18 59 48.7**	**-0.2**
MKRZ	**Makatiti**	**0.93**	**285**	PN			**Pn**	**18 59 48.7**	**-0.1**
MXZ	**Matakaoa Point**	**0.99**	**34**	P			**Pn**	**18 59 50.8**	**+1.1**
MXZ	**Matakaoa Point**	**0.99**	**34**	PN			**Pn**	**18 59 50.7**	**+1.0**
LIRZ	**Lichensteins R**	**1.04**	**291**	P			**Pn**	**18 59 49.7**	**-0.6**
LIRZ	**Lichensteins R**	**1.04**	**291**	PN			**Pn**	**18 59 49.5**	**-0.8**
PATZ	**Paeroa**	**1.06**	**270**	P			**Pn**	**18 59 51.1**	**+0.5**
UTU	**Utuhina**	**1.13**	**280**	P			**Pn**	**18 59 51.8**	**+0.2**
UTU	**Utuhina**	**1.13**	**280**	PN			**Pn**	**18 59 51.7**	**+0.2**
KARZ	**Kaharoa**	**1.14**	**288**	P			**Pn**	**18 59 51.0**	**-0.6**
KARZ	**Kaharoa**	**1.14**	**288**	⇑PN			**Pn**	**18 59 51.0**	**-0.6**
BKZ	**Black Stump Fm**	**1.17**	**228**	P			**Pn**	**18 59 54.0**	**+2.0**
BKZ	**Black Stump Fm**	**1.17**	**228**	PN			**Pn**	**18 59 53.9**	**+1.9**
TGRZ	**Tauranga**	**1.25**	**301**	P			**Pn**	**18 59 51.9**	**-1.3**
TGRZ	**Tauranga**	**1.25**	**301**	⇑PN			**Pn**	**18 59 51.8**	**-1.3**
HATZ	**Hinemaiaia**	**1.29**	**247**	P			**Pn**	**18 59 54.7**	**+1.0**
HATZ	**Hinemaiaia**	**1.29**	**247**	⇓PN			**Pn**	**18 59 54.6**	**+1.0**
WHTZ	**Whakaora**	**1.32**	**257**	P			**Pn**	**18 59 55.7**	**+1.6**
WHTZ	**Whakaora**	**1.32**	**257**	PN			**Pn**	**18 59 55.2**	**+1.0**
RITZ	**Rihia Road**	**1.49**	**246**	P			**Pn**	**18 59 58.0**	**+1.6**
RITZ	**Rihia Road**	**1.49**	**246**	PN			**Pn**	**18 59 57.9**	**+1.5**
WATZ	**Wairara**	**1.50**	**257**	P			**Pn**	**18 59 57.5**	**+0.9**
WATZ	**Wairara**	**1.50**	**257**	PN			**Pn**	**18 59 57.2**	**+0.6**
RATZ	**Rangitukua**	**1.52**	**251**	P			**Pn**	**18 59 58.1**	**+1.3**
RATZ	**Rangitukua**	**1.52**	**251**	PN			**Pn**	**18 59 58.1**	**+1.4**
MYRZ	**Mayor Island**	**1.55**	**315**	⇑PN			**Pn**	**18 59 55.6**	**-1.6**
KATZ	**Kakaramea**	**1.61**	**248**	P			**Pn**	**18 59 59.4**	**+1.4**
KATZ	**Kakaramea**	**1.61**	**248**	PN			**Pn**	**18 59 59.2**	**+1.2**
KRVZ	**Karewarewa**	**1.69**	**245**	⇓PN			**Pn**	**19 00 00.6**	**+1.4**
OTVZ	**Oturere**	**1.70**	**242**	⇓PN			**Pn**	**19 00 00.8**	**+1.5**
WTVZ	**West Tongariro**	**1.74**	**245**	PN			**Pn**	**19 00 01.1**	**+1.3**
PXZ	**Pawanui**	**1.74**	**199**	PN			**Pn**	**19 00 00.6**	**+0.8**
NGZ	**Ngauruhoe**	**1.75**	**243**	P			**Pn**	**19 00 01.6**	**+1.6**
NGZ	**Ngauruhoe**	**1.75**	**243**	PN			**Pn**	**19 00 01.4**	**+1.4**
TUVZ	**Tukino**	**1.76**	**239**	P			**Pn**	**19 00 01.8**	**+1.7**
TUVZ	**Tukino**	**1.76**	**239**	PN			**Pn**	**19 00 01.6**	**+1.5**
MOVZ	**Moawhango**	**1.77**	**234**	P			**Pn**	**19 00 01.6**	**+1.4**
MOVZ	**Moawhango**	**1.77**	**234**	PN			**Pn**	**19 00 01.6**	**+1.4**
TOZ	**Tahuroa Road**	**1.79**	**291**	P			**Pn**	**18 59 59.7**	**-0.8**
TOZ	**Tahuroa Road**	**1.79**	**291**	⇓PN			**Pn**	**18 59 59.6**	**-0.8**
WPVZ	**Whakapapa**	**1.81**	**243**	P			**Pn**	**19 00 02.3**	**+1.6**
WPVZ	**Whakapapa**	**1.81**	**243**	PN			**Pn**	**19 00 02.3**	**+1.6**
FWVZ	**Far West T-bar**	**1.82**	**241**	P			**Pn**	**19 00 02.5**	**+1.5**
FWVZ	**Far West T-bar**	**1.82**	**241**	⇑PN			**Pn**	**19 00 02.5**	**+1.5**
DRZ	**Dome Shelter**	**1.82**	**240**	P			**Pn**	**19 00 02.7**	**+1.7**
DRZ	**Dome Shelter**	**1.82**	**240**	PN			**Pn**	**19 00 02.6**	**+1.6**
WNVZ	**Wahianoa**	**1.83**	**239**	P			**Pn**	**19 00 02.7**	**+1.7**
WNVZ	**Wahianoa**	**1.83**	**239**	PN			**Pn**	**19 00 02.6**	**+1.5**
TWVZ	**Taurewa**	**1.83**	**247**	P			**Pn**	**19 00 02.2**	**+1.2**
TWVZ	**Taurewa**	**1.83**	**247**	*eP*N			**Pn**	**19 00 02.0**	**+0.9**
TRVZ	**Turoa**	**1.85**	**240**	PN			**Pn**	**19 00 02.7**	**+1.4**
WPHZ	**Waipukurau**	**1.90**	**208**	*eP*N			**Pn**	**19 00 03.1**	**+1.0**
MTVZ	**Mangateitei**	**1.94**	**239**	PN			**Pn**	**19 00 04.0**	**+1.4**
TSZ	**Takapari Road**	**2.10**	**217**	P			**Pn**	**19 00 05.7**	**+0.9**
TSZ	**Takapari Road**	**2.10**	**217**	PN			**Pn**	**19 00 05.4**	**+0.6**
HIZ	**Hauiti**	**2.16**	**266**	P			**Pn**	**19 00 06.7**	**+1.1**
HIZ	**Hauiti**	**2.16**	**266**	PN			**Pn**	**19 00 06.6**	**+1.0**
KUZ	**Kuaotunu**	**2.22**	**317**	P			**Pn**	**19 00 04.5**	**-1.9**
KUZ	**Kuaotunu**	**2.22**	**317**	⇑PN			**Pn**	**19 00 04.5**	**-2.0**
BFZ	**Birch Farm**	**2.52**	**204**	P			**Pn**	**19 00 10.6**	**+0.1**
RAEZ	**Rainy Point**	**2.67**	**249**	P			**Pn**	**19 00 15.2**	**+2.7**
RAEZ	**Rainy Point**	**2.67**	**249**	PN			**Pn**	**19 00 15.1**	**+2.6**
MRZ	**Mangatainoka R**	**2.76**	**214**	*eP*			**Pn**	**19 00 13.3**	**-0.5**
MRZ	**Mangatainoka R**	**2.76**	**214**	PN			**Pn**	**19 00 13.2**	**-0.6**
NEZ	**North Egmont**	**2.88**	**251**	P			**Pn**	**19 00 18.8**	**+3.4**
NEZ	**North Egmont**	**2.88**	**251**	PN			**Pn**	**19 00 18.6**	**+3.1**
NRZ	**Ngariki Road**	**3.02**	**251**	P			**Pn**	**19 00 20.2**	**+2.8**
NRZ	**Ngariki Road**	**3.02**	**251**	PN			**Pn**	**19 00 20.2**	**+2.9**
NWEZ	**Newall Road**	**3.05**	**252**	P			**Pn**	**19 00 21.3**	**+3.5**
NWEZ	**Newall Road**	**3.05**	**252**	PN			**Pn**	**19 00 21.3**	**+3.5**
MTW	**Mount Morrison**	**3.21**	**210**	P			**Pn**	**19 00 18.7**	**-1.2**
MTW	**Mount Morrison**	**3.21**	**210**	*eP*N			**Pn**	**19 00 18.5**	**-1.4**
KIW	**Kapiti Island**	**3.23**	**219**	P			**Pn**	**19 00 19.6**	**-0.6**
KIW	**Kapiti Island**	**3.23**	**219**	*eP*N			**Pn**	**19 00 19.4**	**-0.8**
CAW	**Cannon Point**	**3.35**	**215**	P			**Pn**	**19 00 20.5**	**-1.3**
CAW	**Cannon Point**	**3.35**	**215**	*eP*N			**Pn**	**19 00 20.3**	**-1.5**
TRWZ	**Traveller**	**3.35**	**206**	*eP*N			**Pn**	**19 00 20.4**	**-1.5**
PAWZ	**Paruwai Farm**	**3.43**	**209**	P			**

WRAB	**Tennant Creek**	**41.58**	**284**	*e*P	**P**	**19 07 14.2**	**-0.7**
	12nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**41.58**	**284**	P	**P**	**19 07 14.5**	**-0.4**
	4.8nm,0.6s,mb4.3,baz=124,slow=7.2,SNR=48						
WRA				ScP	ScP	19 12 53.5	-3.7
	1.1nm,0.8s,baz=121,slow=3.8,SNR=7.7						
WRA				LR	LR	19 24 12.5	
	comp=Z,145nm,20.5s,MS3.8,baz=125,slow=36						
RKT	**Rikitea**	**43.03**	**83**	*e*LR	LR	19 19 38.3	
	185nm,29.5s						
TAOE	**Nuku Hiva Isla**	**47.97**	**63**	*e*LR	LR	19 21 32.3	
	522nm,30.9s						
KLBR	**Kellerberrin**	**48.76**	**259**	*e*P	**P**	**19 08 11.4**	**-0.4**
	9.4nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**49.35**	**279**	⇑*i*P	**P**	**19 08 16.3**	**0.0**
	12nm,0.6s,mb5.1						
MAW	**Mawson**	**63.56**	**203**	LR	LR	19 35 34.8	
	comp=Z,112nm,19.1s,MS4.1,baz=245,slow=34						
SYO	**Syowa Base**	**68.50**	**195**	⇓*e*P	**P**	**19 10 30.4**	**+1.3**
SYO	**Syowa Base**	**68.50**	**195**	⇑*e*P	**P**	**19 10 38.8**	**+10**
VNA3	**Neumayer Olymp**	**70.55**	**178**	*e*PKPdf	**P**	**19 10 43.9**	**+2.2**
VNA3				*e*		19 10 52.2	
VNA3				*e*	pP	19 10 56.2	+0.2
VNA3				*e*		19 11 02.9	
VNA3				*e*		19 11 06.3	
VNA2	**Neumayer--Watz**	**70.93**	**178**	*e*PKPdf	**P**	**19 10 46.7**	**+2.7**
VNA2				*e*		19 10 54.2	
VNA2				*e*	pP	19 10 58.2	-0.1
VNA2				*e*	pP	19 11 04.8	+6.5
VNA2				*e*		19 11 09.3	
KSRS	**Korea Array**	**88.27**	**323**	P	**P**	**19 12 17.1**	**-0.9**
	1.9nm,0.7s,mb4.4,baz=144,slow=5.5,SNR=6.7						
KSRS				LR	LR	19 43 09.4	
	comp=Z,22nm,21.5s,MS3.5,baz=138,slow=30						
TXAR	**Lajitas Array**	**99.63**	**60**	LR	LR	19 52 57.9	
	comp=Z,34nm,18.7s,MS3.9,baz=5.0,slow=32						
YKA	**Yellowknife Ar**	**114.19**	**28**	PKP	PKiKP	19 18 05.2	-0.6
	0.7nm,0.5s,baz=261,slow=1.8,SNR=15						
YKA	**Yellowknife Ar**	**114.19**	**28**	PKP	PKiKP	19 18 05.2	-0.6
MKAR	**Makanchi Array**	**119.96**	**308**	PKP	PKPdf	19 18 15.3	-1.6
	1.1nm,0.6s,baz=192,slow=1.2,SNR=12						
MKAR	**Makanchi Array**	**119.96**	**308**	PKP	PKPdf	19 18 15.3	-1.6
ZAL	**Zalesovo**	**121.44**	**316**	PKP	PKPdf	19 18 17.8	-2.0
	0.6nm,0.5s,baz=344,slow=5.7,SNR=4.3						
KEV	**Kevo**	**144.89**	**343**	*e*pkp	PKPdf	19 19 01.3	-2.2
ARCES	**ARCESS Array B**	**145.41**	**343**	PKPbc	PKPbc	19 19 02.0	-2.4
	2.4nm,0.5s,baz=48,slow=3.3,SNR=23						
KAF	**Kangasniemi**	**150.45**	**333**	*e*pkp	PKPdf	19 19 15.2	+2.6
FINES	**FINESS Array B**	**150.96**	**332**	PKPbc	PKPbc	19 19 17.3	-1.9
	3.3nm,0.6s,baz=76,slow=3.3,SNR=16						
BRTR	**Keskin Array B**	**152.10**	**284**	PKP	PKPdf	19 19 15.1	-0.1
	1.9nm,0.7s,baz=186,slow=9.8,SNR=3.7						
BRTR				PKPbc	PKPbc	19 19 20.9	-0.9
	2.1nm,0.7s,baz=141,slow=4.8,SNR=17						
AKASG	**Malin Array Be**	**154.53**	**309**	PKPbc	PKPbc	19 19 25.6	-1.5
	2.1nm,0.6s,baz=67,slow=2.4,SNR=13						
AKASG				PKPab	PKPab	19 19 39.7	-2.0
	1.8nm,0.6s,baz=58,slow=3.6,SNR=8.7						
TORD	**Torodi Ar. Bea**	**154.60**	**189**	PKP	PKPdf	19 19 20.6	+1.9
	0.6nm,0.7s,baz=142,slow=1.1,SNR=4.3						
TORD				PKPbc	PKPbc	19 19 29.6	+2.3
	0.6nm,0.5s,baz=154,slow=3.4,SNR=9.2						
CLL	**Collm**	**163.14**	**325**	*e*PKPab	PKPab	19 20 20.0	+0.9

MOS 04 19:05:03.8±1.2, 4305N×4760E, h20km, mb3.6/1, Error ellipse: s-maj=30.6km s-min=19.5km az=147.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSR	**Manas**	**0.36**	**166**	*e*PG	Pb	19 05 13.0	+1.5
MNSR				*e*S	Sb	19 05 18.0	+1.2
MNSR				pmax	pmax		
	comp=Z,235nm,0.2s						
BUJR	**Buynaksk**	**0.43**	**238**	*i* PG	Pb	19 05 15.0	+2.4
BUJR				*i* S	Sb	19 05 24.1	+5.5
KRNR	**Karanay**	**0.56**	**246**	*e*PG	Pb	19 05 16.5	+1.7
KRNR				*i* S	Sb	19 05 28.5	+6.2
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
DBC	**Dubki**	**0.56**	**267**	*e*PG	Pb	19 05 16.0	+1.0
DBC				*i* S	Sb	19 05 28.5	+5.9
UNCR	**Uncukul**	**0.68**	**240**	PG	Pb	19 05 16.0	-1.0
UNCR				*e*S	Sb	19 05 28.0	+2.0
DLMR	**Dylym**	**0.71**	**272**	*e*PG	Pb	19 05 18.0	+0.5
DLMR				*e*S	Sb	19 05 31.0	+4.2

IDC 04 19:11:59.3±4.5, 2807S×6530E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=200.2km s-min=39.8km az=39.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**61.16**	**103**	P	P	19 22 15.9	+0.4
	0.7nm,0.9s,baz=237,slow=9.5,SNR=4.9						
BRTR	**Keskin Array B**	**73.61**	**335**	P	P	19 23 34.4	-0.1
	0.7nm,0.7s,baz=170,slow=6.1,SNR=4.1						
ZAL	**Zalesovo**	**83.40**	**11**	P	P	19 24 27.9	-0.5
	1.3nm,1.1s,baz=225,slow=7.1,SNR=5.1						
YKA	**Yellowknife Ar**	**145.58**	**360**	PKPbc	PKPbc	19 31 38.6	-1.0
	1.0nm,0.8s,baz=350,slow=3.5,SNR=10						

*MOS **04** 19:16:40.3±1.5, 5565N×110.11E, h14km, mb4.0/1, Error ellipse: s-maj=19.7km s-min=12.2km az=71.9*

BYKL 04 19:16:41.2±0.3, 5565N×11017E, h9km±4km, 4C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**290**	⇑*i*Pg	Pg	19 16 47.8	-0.8
NIZ				*e*		19 16 49.1	
NIZ				*e*Sg	Sg	19 16 53.2	-0.4
NIZ				max			
	116nm,0.3s						
NIZ				Smax			
	979nm,0.3s						
KMO	**Kumora**	**0.63**	**67**	*e*Sg	Sg	19 17 00.4	-1.2
KMO				Smax			
	262nm,0.9s						
YLYR	**Ulyunkhan**	**0.96**	**143**	*e*PG	Pg	19 16 58.5	-1.2
YLYR				*e*		19 17 11.5	
YLYR				pmax	pmax		
	comp=Z,86nm,0.2s						
YLYR				smax			
	comp=N,277nm,0.2s						
YLYR	**Ulyunkhan**	**0.96**	**143**	⇑*i*Pg	Pg	19 16 58.5	-1.2
YLYR				*e*Pb	Pb	19 16 59.2	-0.8
YLYR				*e*Sg	Sg	19 17 11.7	-0.5
YLYR				max			
	comp=N,80nm,0.2s						
YLYR				Smax			
	comp=N,275nm,0.2s						
YOA	**Uoyan**	**1.00**	**60**	*e*PG	Pg	19 17 00.9	+0.5
YOA				*i*		19 17 15.3	
YOA				pmax	pmax		
	comp=Z,177nm,0.3s						
YOA				smax			
	comp=N,694nm,0.4s						
SVKR	**Severomuysk**	**1.97**	**75**	*e*PN	Pn	19 17 16.5	+1.8
SVKR				*e*		19 17 17.9	
SVKR				*e*		19 17 42.8	
SVKR				pmax	pmax		
	comp=Z,85nm,0.6s						
SVKR				smax			
	comp=N,508nm,0.5s						
SVKR	**Severomuysk**	**1.97**	**75**	*e*Pg	Pg	19 17 16.6	-2.3
SVKR				*e*Sg	Sg	19 17 43.9	-0.5
SVKR				Pmax			
	comp=N,71nm,0.4s						
SVKR				Smax			
	comp=N,528nm,0.4s						
SYVR	**Suvo**	**2.00**	**183**	*e*PN	Pn	19 17 16.7	+1.6
SYVR				*e*		19 17 44.6	
SYVR				pmax	pmax		
	comp=Z,94nm,0.5s						
SYVR				smax			
	comp=N,332nm,0.4s						
SYVR	**Suvo**	**2.00**	**183**	*e*Pn	Pn	19 17 15.7	+0.6
SYVR				⇑*i*Pg	Pg	19 17 17.0	-2.5
SYVR				*e*Sg	Sg	19 17 44.2	-1.2
SYVR				Pmax			
	comp=N,49nm,0.5s						
SYVR				Smax			
	comp=N,383nm,0.7s						
OGRR	**Ongureny**	**2.51**	**218**	*e*Pn	Pn	19 17 23.1	+1.0
OGRR				*e*Pg	Pg	19 17 26.5	-2.7
OGRR				*e*Sn	Sn	19 17 55.1	+2.3
OGRR				*e*Sg	Sg	19 17 59.0	-2.7
OGRR				Pmax			
	comp=N,11nm,0.3s						
OGRR				Smax			
	comp=N,113nm,0.4s						
MXMB	**Maximikha**	**2.53**	**200**	*e*Pn	Pn	19 17 23.6	+1.1
MXMB				*e*Pg	Pg	19 17 26.2	-3.5
MXMB				*e*Sg	Sg	19 18 01.1	-1.5
MXMB				Pmax			
	comp=N,36nm,1.0s						
MXMB				Smax			
	comp=N,236nm,1.0s						
BOD	**Bodaibo**	**3.03**	**43**	*e*Pn	Pn	19 17 30.1	+0.8
BOD				*e*Pg	Pg	19 17 35.1	-4.2
BOD				*e*Sg	Sg	19 18 14.4	-4.2
BOD				Pmax			
	comp=N,7.0nm,0.3s						
BOD				Smax			
	comp=N,67nm,0.3s						
NLYR	**Nelyaty**	**3.21**	**73**	*e*Pn	Pn	19 17 32.6	+0.8
NLYR				*e*Pg	Pg	19 17 39.3	-3.5
NLYR				*e*		19 17 41.8	
NLYR				*i* Sg	Sg	19 18 20.6	-3.8
TRG	**Tyrgan**	**3.66**	**219**	*e*Pn	Pn	19 17 39.3	+1.3
TRG				*e*Sn	Sn	19 18 23.5	+2.2
TRG				*e*Sg	Sg	19 18 34.1	-4.8
TRG				max			
	comp=N,14nm,1.0s						
TRG				Smax			
	comp=N,41nm,0.4s						
TRTB	**Turuntaevo**	**3.74**	**205**	*e*Pn	Pn	19 17 39.7	+0.6
TRTB				*e*Pg	Pg	19 17 47.5	-5.4
TRTB				*e*Sg	Sg	19 18 36.3	-5.0
TRTB				Pmax			
	comp=N,8.0nm,0.2s						
TRTB				Smax			
	comp=N,44nm,1.1s						
FFNB	**Fofonovo**	**4.13**	**211**	*e*Sg	Sg	19 18 50.2	-3.8
FFNB				Smax			
	comp=N,107nm,0.6s						
CIT	**Chita**	**4.15**	**150**	*e*Pn	Pn	19 17 43.0	-1.7
CIT				*e*Pg	Pg	19 17 54.0	-6.7
CIT				*e*Sg	Sg	19 18 49.2	-5.3
CIT				Pmax			
	comp=N,13nm,0.7s						
CIT				Smax			
	comp=N,45nm,0.5s						
HRMR	**Khuramsha**	**4.46**	**207**	*e*Pn	Pn	19 17 50.7	+1.7
HRMR				*e*Pg	Pg	19 18 01.7	-4.9
HRMR				*e*Sg	Sg	19 18 58.9	-5.5
HRMR				Pmax			
	comp=N,15nm,0.7s						
HRMR				Smax			
	comp=N,118nm,0.5s						
CRS	**Chara**	**4.69**	**71**	*e*PN	Pn	19 17 51.2	-0.9
CRS				*e*		19 18 04.3	
CRS	**Chara**	**4.69**	**71**	*e*Pg	Pg	19 18 05.5	-5.4
CRS				*e*Sg	Sg	19 19 06.9	-4.7
CRS				Pmax			
	comp=N,8.0nm,0.8s						
CRS				Smax			
	comp=N,18nm,1.1s						
IRK	**Irkutsk**	**4.88**	**228**	*e*Sn	Sn	19 18 50.7	-0.6
IRK				*e*Sg	Sg	19 19 13.0	-4.8
IRK				Smax			
	comp=N,88nm,0.5s						
TLY	**Talaya**	**5.55**	**227**	*e*PN	Pn	19 18 02.7	-1.3
TLY				*e*		19 18 19.5	
TLY				*e*S	Sn	19 19 06.0	-2.0
TLY				*e*		19 19 31.8	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TLY				smax			
	comp=E,36nm,1.6s						
TLY	**Talaya**	**5.55**	**227**	*e*Sn	Sn	19 19 06.9	-1.1
TLY				*e*Sg	Sg	19 19 33.2	-6.3
TLY				Smax			
	comp=E,36nm,1.4s						
TUP	**Tupik**	**5.76**	**98**	*e*PN	Pn	19 18 06.7	-0.1
TUP				*e*		19 18 24.0	
TUP				*e*S	Sn	19 19 11.7	-1.3
TUP				*e*		19 19 38.6	
TUP				pmax	pmax		
	comp=Z,15nm,0.8s						
TUP				smax			
	comp=N,43nm,1.0s						
TUP	**Tupik**	**5.76**	**98**	*e*Pn	Pn	19 18 06.6	-0.2
TUP				*e*		19 18 11.9	
TUP				*e*Pg	Pg	19 18 23.2	-8.3
TUP				*e*Sg	Sg	19 19 40.0	-6.1
TUP				Pmax			
	comp=N,4.0nm,1.0s						
TUP				Smax			
	comp=N,60nm,1.7s						
ARS	**Arshan**	**5.92**	**234**	*e*PN	Pn	19 18 09.6	+0.6
ARS				*e*S	Sn	19 19 13.3	-3.6
ARS	**Arshan**	**5.92**	**234**	*e*Pn	Pn	19 18 09.4	+0.4
ARS				*e*Sn	Sn	19 19 13.4	-3.5
ARS				*e*Sg	Sg	19 19 46.3	-4.9
ARS				max			
	comp=N,7.0nm,0.4s						
ARS				Smax			
	comp=N,67nm,0.6s						
KPC	**Khapcheranga**	**6.11**	**166**	*e*PN	Pn	19 18 12.4	+0.8
KPC				*e*		19 18 31.6	
KPC				*e*		19 19 50.4	
KPC				pmax	pmax		
	comp=Z,30nm,2.5s						
KPC				smax			
	comp=E,25nm,0.9s						
KPC	**Khapcheranga**	**6.11**	**166**	*e*Pn	Pn	19 18 11.6	0.0
KPC				*e*Pg	Pg	19 18 31.2	-6.9
KPC				*i* Sg	Sg	19 19 50.0	-7.2
KPC				Pmax			
	comp=E,3.0nm,1.0s						
KPC				Smax			
	comp=E,17nm,0.6s						
ZAK	**Zakamensk**	**6.71**	**221**	*e*Sg	Sg	19 20 10.3	-6.4
MOY	**Mondy**	**6.76**	**238**	*e*Sn	Sn	19 19 36.0	-1.6
MOY				*e*Sg	Sg	19 20 10.6	-7.5
MOY				Smax			
	comp=E,9.0nm,0.9s						
ORL	**Orlik**	**6.84**	**247**	*e*PN	Pn	19 18 23.0	+1.3
ORL				*e*S	Sn	19 20 13.2	+33
ORL				smax			
	comp=N,28nm,1.7s						
ORL	**Orlik**	**6.84**	**247**	⇑*i*Pn	Pn	19 18 23.1	+1.4
ORL				*e*		19 18 31.0	
ORL				*e*Sn	Sn	19 19 39.5	-0.2
ORL				*e*Sg	Sg	19 20 11.8	-9.1
ORL				*e*L		19 20 31.8	
ORL				max			
	comp=N,3.0nm,0.4s						
ORL				Smax			
	comp=N,19nm,0.6s						

*NIED **04** 19:28:00, 3260N×131.10E, h145km, Mw3.8 Best double couple: M0=5.53000×10^14 NP1:φs=5.00000°, δ=55.00000°, λ=72.00000°. NP2:φs=214.00000°, δ=39.00000°, λ=113.00000°.*
*ISCJB **04** 19:28:19.6±0.4, 3251N±005×1310E±0.1, h166km±3km, mb3.6/12, Error ellipse: s-maj=14.9km s-min=8.4km az=15.5*
*IDC **04** 19:28:20.0±0.4, 3258N×13086E, h155km±3km, mb3.3/11, mb1 3.5/13, mb1mx3.4/25, mbtmp3.3/13, Error ellipse: s-maj=19.5km s-min=10.6km az=89.0*
*NEIC **04** 19:28:21.0±0.5, 3257N×13088E, h165km±5km, mb4.2/1, Error ellipse: s-maj=10.5km s-min=6.9km az=91.0*
*JMA **04** 19:28:21.8±0.1, 3262N×131.10E, h154km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs=233.00000°, δ=44.00000°, λ=126.00000°. NP2:φs=7.00000°, δ=55.00000°, λ=60.00000°. Principal axes: T Plg=65.0000°, Azm=221.0000°; N Plg=24.0000°, Azm=25.0000°; P Plg=6.0000°, Azm=118.0000°;*

ISC 04 19:28:20.8±0.4, 3254N±005×1309E±01, h162km±3km, n23, σ0=90/28, mb3.6/12, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU2	**Izumi 2**	**0.10**	**272**	⇑P	**Pn**	**19 28 43.0**	**+0.7**
JIU2				S	**Sn**	**19 28 58.7**	**0.0**
JKIT	**Kitakata**	**0.45**	**79**	⇑P	**Pn**	**19 28 43.1**	**-0.1**
JKIT				S	**Sn**	**19 28 58.8**	**-1.6**
JNU	**Nakatsue**	**0.58**	**356**	P	**Pn**	**19 28 44.4**	**+0.6**
	207nm,0.3s,baz=237,slow=12,SNR=1022						
JNU				S	**Sn**	**19 29 00.2**	**-1.2**
	71nm,0.3s,baz=258,slow=22,SNR=21						
JTZ	**Takazaki**	**0.65**	**168**	⇑P	**Pn**	**19 28 44.8**	**+0.6**
JTZ				S	**Sn**	**19 29 02.4**	**+0.2**
JSJ	**Shimokoshiki**	**1.34**	**230**	⇓P	**Pn**	**19 28 51.9**	**+2.2**
KSRS	**Korea Array**	**5.49**	**334**	P	**Pn**	**19 29 42.5**	**+1.8**
	baz=152,slow=14,SNR=44						
JOW	**Kunigami**	**6.14**	**203**	P	**Pn**	**19 29 49.5**	**+0.1**
	0.8nm,0.3s,baz=328,slow=18,SNR=2.5						
JOW				S	**Sn**	**19 30 56.7**	**-2.2**
	2.8nm,0.3s,baz=92,slow=28,SNR=8.4						
MJAR	**Matsushiro Arr**	**7.21**	**54**	P	**Pn**	**19 30 04.3**	**+0.7**
	0.9nm,0.3s,baz=271,slow=19,SNR=9.0						
SONM	**Songino Array**	**24.04**	**317**	P	**P**	**19 33 20.6**	**-0.2**
	1.1nm,1.0s,mb3.3,baz=129,slow=8.3,SNR=5.6						
MKAR	**Makanchi Array**	**39.42**	**306**	P	**P**	**19 35 34.8**	**0.0**
	0.2nm,0.6s,mb3.0,baz=102,slow=8.6,SNR=2.6						
BVAR	**Borovoye Array**	**47.35**	**314**	P	**P**	**19 36 37.9**	**-0.4**
	1.6nm,0.8s,mb3.7,baz=220,slow=41,SNR=3.7						
BVAR				PcP	PcP	19 38 06.0	-0.4
	1.3nm,0.6s,baz=123,slow=2.6,SNR=7.9						
FITZ	**Fitzroy Crossi**	**50.61**	**187**	*e*P	**P**	**19 37 03.9**	**+0.8**
	3.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**52.29**	**176**	P	**P**	**19 37 15.8**	**+0.3**
	1.5nm,0.7s,mb3.8,baz=354,slow=8.3,SNR=20						
WB2	**Warramunga Arr**	**52.29**	**176**	*e*P	**P**	**19 37 15.9**	**+0.4**
ASAR	**Alice Springs**	**55.96**	**177**	P	**P**	**19 37 42.8**	**+0.7**
	1.1nm,0.6s,mb3.9,baz=11,slow=13,SNR=29						
STKA	**Stephens Creek**	**64.86**	**170**	P	**P**	**19 38 42.5**	**0.0**
	1.0nm,0.6s,mb3.8,baz=342,slow=8.3,SNR=4.9						
STKA	**Stephens Creek**	**64.86**	**170**	P	**P**	**19 38 42.5**	**0.0**
FINES	**FINESS Array B**	**68.56**	**330**	P	**P**	**19 39 04.7**	**-1.2**
	5.3nm,1.1s,mb4.2,baz=84,slow=7.9,SNR=7.0						
YKA	**Yellowknife Ar**	**71.84**	**26**	P	**P**	**19 39 25.4**	**-0.4**
	0.2nm,0.7s,mb3.0,baz=300,slow=6.1,SNR=3.4						
YKA	**Yellowknife Ar**	**71.84**	**26**	P	**P**	**19 39 25.4**	**-0.4**
AKASG	**Malin Array Be**	**72.29**	**319**	P	**P**	**19 39 27.6**	**-0.9**
	1.2nm,0.4s,mb3.9,baz=54,slow=6.8,SNR=6.6						
GERES	**GERESS Array B**	**81.57**	**324**	P	**P**	**19 40 19.9**	**-0.5**
	0.4nm,0.6s,mb3.2,baz=27,slow=6.6,SNR=2.2						
NVAR	**Mina Array Bea**	**84.48**	**48**	P	**P**	**19 40 35.0**	**-0.4**
	0.4nm,0.7s,mb3.3,baz=316,slow=5.0,SNR=2.7						

MAN 04 19:35:50.4, 635N×12461E, h1km, mb2.9, ML4.3, MS2.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.81**	**36**	⇓*i*P	Pg	19 36 08.1	+2.1
KCP				*i* S	Sg	19 36 11.3	-5.1
BUKP	**Musuan**	**1.58**	**16**	*e*P	Pn	19 36 19.4	-0.2
MATI	**Mati**	**1.74**	**70**	*e*P	Pn	19 36 21.8	+0.1
CGP	**Cagayan de Oro**	**2.09**	**2**	⇑*e*P	Pn	19 36 27.3	+0.7
CGP				*e*S	Sn	19 36 48.2	-5.0

*IDC **04** 19:56:33.8±1.1, 3206S×7236W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, ML3.6/3, Error ellipse: s-maj=31.4km s-min=20.5km az=162.0*
*ISCJB **04** 19:56:38.9±0.8, 3206S±002×7206W±008, h43km±9km, mb4.0/2, Error ellipse: s-maj=11.0km s-min=3.9km az=169.1*
*NEIC **04** 19:56:39.7, 3206S×7193W, h46km, MD4.1(GUC), After GUC.*
*GUC **04** 19:56:39.7±0.8, 3206S×7193W, h46km±2km, MD4.1, ML4.0*

ISC 04 19:56:39.2±1.2, 3206S±002×7202W±007, h27km±8km, n38, σ0=57/60, mb4.0/2, 7C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.69**	**134**	⇓*i*P	**Pb**	**19 56 52.2**	**-0.3**
PTCH	**Petorca**	**0.94**	**103**	⇑*i*P	**Pn**	**19 56 56.3**	**-0.3**
PTCH				*i* S	**Sb**	**19 57 08.7**	**-0.4**
PTCH				AML	AML	19 57 09.3	
	comp=N,12μm,0.4s						
PTCH	**Petorca**	**0.94**	**103**	⇑*i*P	**Pn**	**19 56 56.3**	**-0.3**
PTCH				*i* S	**Sb**	**19 57 08.7**	**-0.4**
IHA	**Instituto Hidr**	**1.02**	**162**	⇓*i*P	**Pn**	**19 56 57.1**	**-0.6**
CMCH	**Combarbala**	**1.23**	**45**	⇓*i*P	**Pn**	**19 57 00.6**	**-0.1**
CMCH				*i* S	**Sn**	**19 57 16.5**	**0.0**
CMCH				AML	AML	19 57 18.1	
	comp=N,7μm,0.6s						
CMCH	**Combarbala**	**1.23**	**45**	⇓*i*P	**Pn**	**19 57 00.6**	**-0.1**
CMCH				*i* S	**Sn**	**19 57 16.5**	**0.0**
ROCH	**El Roble**	**1.25**	**137**	*e*P	**Pn**	**19 57 00.9**	**+0.1**
JACH	**Jahuel**	**1.36**	**118**	⇑*i*P	**Pn**	**19 57 02.5**	**+0.1**
JACH				*i* S	**Sn**	**19 57 19.2**	**-0.3**
PEL	**Peldehue**	**1.56**	**134**	⇑*i*P	**Pn**	**19 57 05.4**	**+0.2**
PEL				*i* S	**Sn**	**19 57 24.0**	**-0.5**
PEL				AML	AML	19 57 26.7	
	comp=E,5μm,0.3s						
OVCH	**Ovalle**	**1.60**	**26**	*e*P	**Pn**	**19 57 06.0**	**+0.2**
OVCH				*i* S	**Sn**	**19 57 25.6**	**0.0**
OVCH				AML	AML	19 57 31.0	
	comp=N,1μm,0.3s						
OVCH	**Ovalle**	**1.60**	**26**	*e*P	**Pn**	**19 57 06.0**	**+0.2**
OVCH				*i* S	**Sn**	**19 57 25.6**	**0.0**
RCDM	**Rinconada Maip**	**1.75**	**145**	*e*P	**Pn**	**19 57 07.7**	**-0.1**
RCDM				*i* S	**Sn**	**19 57 28.8**	**-0.5**
RCDM				AML	AML	19 57 30.7	
	comp=N,4μm,0.4s						
RCDM	**Rinconada Maip**	**1.75**	**145**	*e*P	**Pn**	**19 57 07.7**	**-0.1**
RCDM				*i* S	**Sn**	**19 57 28.8**	**-0.5**
SAN	**Santiago**	**1.80**	**141**	*e*P	**Pn**	**19 57 08.4**	**-0.1**
SAN				*i* S	**Sn**	**19 57 30.0**	**-0.4**
SAN				AML	AML	19 57 32.2	
	comp=E,2μm,0.2s						
SAN	**Santiago**	**1.80**	**141**	*e*P	**Pn**	**19 57 08.4**	**-0.1**
SAN				*i* S	**Sn**	**19 57 30.0**	**-0.4**
DSCH	**Colegio Aleman**	**1.81**	**138**	*i* S	**Sn**	**19 57 30.1**	**-0.6**
CLCH	**Cerro Calan**	**1.83**	**137**	⇑*i*P	**Pn**	**19 57 09.1**	**+0.3**
CLCH				*i* S	**Sn**	**19 57 30.8**	**-0.2**
CLCH				AML	AML	19 57 35.9	
	comp=E,2μm,0.7s						
TACH	**Talagante**	**1.83**	**151**	*e*P	**Pn**	**19 57 09.0**	**+0.1**
TACH				*i* S	**Sn**	**19 57 30.9**	**-0.3**
ANTU	**Antumapu**	**1.91**	**143**	*e*P	**Pn**	**19 57 10.3**	**+0.4**
ANTU				*i* S	**Sn**	**19 57 32.9**	**-0.1**
ANTU				AML	AML	19 57 35.2	
	comp=N,3μm,0.6s						
ANTU	**Antumapu**	**1.91**	**143**	*e*P	**Pn**	**19 57 10.3**	**+0.4**
ANTU				*i* S	**Sn**	**19 57 32.9**	**-0.1**
FCH	**Farellones**	**1.93**	**132**	⇓*i*P	**Pn**	**19 57 10.7**	**+0.5**
FCH				*i* S	**Sn**	**19 57 34.2**	**+0.6**
FCH				AML	AML	19 57

LPAZ La Paz 16.09 14 Pn **Pn 20 00 22.8 -0.8**
comp=E,0.1nm,0.3s,baz=180,slow=9.4,SNR=9.2
SIV San Ignacio 18.84 34 P **Pn 20 00 56.7 -0.9**
comp=E,0.5nm,0.3s,baz=209,slow=12,SNR=12
VNA3 Neumayer Olymp 51.15 158 *e* **P 20 05 41.5 +1.7**
VNA3 *e* 20 05 52.0
VNA3 *e* 20 06 02.5
VNA2 Neumayer--Watz 51.80 158 *e* **P 20 05 44.3 -0.3**
baz=289,slow=7.9
VNA2 *e* 20 05 55.5
VNA2 *e* 20 06 04.3
SNAA Sanae 53.38 158 P **P 20 05 55.1 -1.2**
comp=E,0.7nm,0.9s,mb3.6,baz=267,slow=8.1,SNR=6.8
TORD Torodi Ar. Bea 83.53 70 P **P 20 09 04.6 -0.1**
comp=E,1.9nm,0.7s,mb4.3,baz=243,slow=2.0,SNR=19
WRA Warramunga Arr 122.46 210 PKP PKPdf 20 15 31.3 -0.7
comp=E,0.4nm,0.5s,baz=169,slow=1.5,SNR=8.1
ZAL Zalesovo 152.56 30 PKPbc PKPbc 20 16 32.4 -0.7
comp=E,2.1nm,0.5s,baz=153,slow=4.0,SNR=11
MKAR Makanchi Array 155.44 46 PKPab PKPab 20 16 55.6 -0.1
comp=E,0.7nm,0.8s,baz=322,slow=3.7,SNR=4.3

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*IDC **04** 20:01:05.3±2.7, 4706N×15497E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.7/4, Error ellipse: s-maj=98.6km s-min=34.1km az=77.0*
*ISCJB **04** 20:01:10.5±1.5, 469N±02×1543E±04, h35km, mb3.7/4, Error ellipse: s-maj=40.4km s-min=19.9km az=46.2*
*MOS **04** 20:01:10.5±0.9, 4692N×15404E, h33km, mb4.0/3, Error ellipse: s-maj=78.4km s-min=34.1km az=89.5*
ISC 04 20:01:12.3±1.5, 469N±02×1542E±04, h35km, n8, σ0°84/8, mb3.7/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.97**	**18**	*e*PN		**Pn**	**20 02 11.2**	**+0.5**
MKAR	**Makanchi Array**	**47.55**	**298**	P		**P**	**20 09 45.0**	**+0.7**
1.1nm,1.0s,mb3.8,baz=64,slow=8.1,SNR=4.4								
MKAR	**Makanchi Array**	**47.55**	**298**	P		**P**	**20 09 45.0**	**+0.7**
MKAR				pmax	pmax			
comp=Z,1.0nm,1.0s								
BVAR	**Borovoye Array**	**51.34**	**310**	P		**P**	**20 10 13.4**	**+0.2**
comp=Z,0.6nm,0.5s,mb3.8,baz=62,slow=6.9,SNR=4.9								
BVAR	**Borovoye Array**	**51.34**	**310**	P		**P**	**20 10 13.4**	**+0.2**
BVAR				pmax	pmax			
comp=Z,1.0nm,0.5s								
FINES	**FINESS Array B**	**64.22**	**335**	P		**P**	**20 11 41.9**	**-1.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=32,slow=7.9,SNR=7.6								
FINES	**FINESS Array B**	**64.22**	**335**	P		**P**	**20 11 41.9**	**-1.7**
FINES				pmax	pmax			
comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**72.61**	**199**	P		**P**	**20 12 36.2**	**+0.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=13,slow=5.0,SNR=5.4								

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*CSEM **04** 20:04:09.7±0.1, 3660N×2672E, h145km±1km, ML3.7, Error ellipse: s-maj=3.0km s-min=2.1km az=6.0*
*HLW **04** 20:04:11.1, 3649N×2689E, h23km, Mb3.7*
*NEIC **04** 20:04:11.6, 3676N×2648E, h22km, MD3.4(ATH), After ATH.*
*ISCJB **04** 20:04:11.0±0.5, 3652N±004×2667E±004, h144km±6km, Error ellipse: s-maj=6.5km s-min=4.8km az=154.4*
*ATH **04** 20:04:11.6, 3676N×2648E, h22km±3km, MD3.4/9*
*THE **04** 20:04:14.6, 3649N×2651E, h165km, ML3.7*
ISC 04 20:04:11.8±0.6, 3653N±004×2668E±004, h141km±6km, n38, σ0°78/50, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.75**	**74**	PN		**Pn**	**20 04 33.9**	**+0.3**
BDRM	**Kayabasi**	**0.82**	**49**	*i* P		**Pn**	**20 04 34.2**	**0.0**
BDRM				*i* S		**Sn**	**20 04 49.9**	**-1.3**
SANT	**Santorini**	**0.99**	**261**	*e*Pg		**Pn**	**20 04 35.5**	**-0.1**
SANT				*e*Sg		**Sn**	**20 04 53.9**	**+0.1**
THR1	**Thera Island**	**0.99**	**261**	*e*Pg		**Pn**	**20 04 36.0**	**+0.4**
THR4	**Thira Island,**	**1.03**	**267**	*e*Pg		**Pn**	**20 04 36.7**	**+0.7**
THR3	**Thira Island,**	**1.04**	**264**	*e*Pg		**Pn**	**20 04 36.4**	**+0.4**
THR6	**Thira Island,**	**1.05**	**261**	*e*Pg		**Pn**	**20 04 36.6**	**+0.5**
KARP	**Karpathos**	**1.05**	**158**	⇑*i*PN		**Pn**	**20 04 36.8**	**+0.7**
KARP				*e*SN		**Sn**	**20 04 55.2**	**+0.5**
APE	**Apeiranthos**	**1.07**	**301**	*e*Pg		**Pn**	**20 04 36.1**	**-0.2**
APE				*e*Sg		**Sn**	**20 04 54.3**	**-0.6**
THR5	**Thira Island,**	**1.08**	**265**	*e*Pg		**Pn**	**20 04 37.0**	**+0.6**
MLSB	**Milas**	**1.17**	**49**	*e*PN		**Pn**	**20 04 37.3**	**+0.1**
ARG	**Arkhangelos**	**1.21**	**104**	*e*PN		**Pn**	**20 04 38.4**	**+0.8**
YER	**Yerkesik**	**1.42**	**64**	*e*PN		**Pn**	**20 04 39.4**	**-0.4**
YER				*e*SN		**Sn**	**20 04 58.0**	**-3.2**
ZKR	**Zakros**	**1.46**	**195**	*e*Pg		**Pn**	**20 04 41.1**	**+0.9**
ZKR				*e*Sg		**Sn**	**20 05 02.2**	**+0.3**
NPS	**Neapolis**	**1.53**	**215**	*e*PN		**Pn**	**20 04 41.3**	**+0.3**
NPS				*e*SN		**Sn**	**20 05 02.9**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.59**	**81**	*e*PN		**Pn**	**20 04 42.7**	**+1.0**
XRY	**Khrisi**	**1.83**	**206**	*e*PB		**Pn**	**20 04 45.1**	**+0.7**
FETY	**Fethiye**	**1.94**	**86**	*e*PN		**Pn**	**20 04 45.8**	**+0.2**
SIVA	**Sivas**	**2.14**	**226**	*e*Pn		**Pn**	**20 04 48.7**	**+0.7**
SIVA				*e*Sn		**Sn**	**20 05 14.0**	**-1.9**
DNZL	**Cakiroluk**	**2.22**	**58**	*i* P		**Pn**	**20 04 56.0**	**+7.0**
DNZL				*i* S		**Sn**	**20 05 23.6**	**+6.0**
VAM	**Vamos**	**2.30**	**242**	*e*PN		**Pn**	**20 04 50.4**	**+0.4**
GOLH	**Golhisar**	**2.42**	**72**	*i* P		**Pn**	**20 04 52.2**	**+0.8**
GOLH				*i* S		**Sn**	**20 05 21.0**	**-0.9**
KARN	**Karanos**	**2.50**	**244**	*e*Pn		**Pn**	**20 04 52.9**	**+0.4**
KARN				*e*Sn		**Sn**	**20 05 21.5**	**-2.3**
ELL	**Elmali**	**2.61**	**84**	*e*P		**Pn**	**20 04 54.6**	**+0.8**
GVD	**Gavdhos**	**2.70**	**232**	*e*PN		**Pn**	**20 04 55.7**	**+0.8**
KYTH	**Kithira**	**2.95**	**266**	*e*PN		**Pn**	**20 04 58.5**	**+0.4**
VLI	**Veliai**	**3.02**	**275**	*e*PN		**Pn**	**20 04 58.8**	**-0.2**
ITM	**Ithomi**	**3.87**	**281**	*e*PN		**Pn**	**20 05 10.6**	**+0.6**
AGG	**Agios Georgios**	**4.25**	**307**	*e*Pn		**Pn**	**20 05 15.0**	**-0.1**
VLS	**Valsamata**	**5.12**	**291**	*e*PN		**Pn**	**20 05 25.8**	**-0.8**
SLUM		**5.17**	**194**	P		**Pn**	**20 05 27.1**	**-0.1**
SLUM		**5.17**	**194**	P		**Pn**	**20 05 27.1**	**-0.2**
LKD	**Levkas**	**5.26**	**296**	*e*Pn		**Pn**	**20 05 28.2**	**-0.2**
LKD				*e*Sn		**Sn**	**20 06 23.7**	**-4.5**
HMAT	**Matruh**	**5.43**	**176**	P		**Pn**	**20 05 29.6**	**-1.2**
SWA1		**7.29**	**187**	P		**Pn**	**20 05 55.3**	**-0.4**
AMAG	**Maghara**	**8.01**	**135**	P		**Pn**	**20 06 03.7**	**-1.6**
SUZ		**8.43**	**141**	P		**Pn**	**20 06 10.1**	**-0.8**
HFRF	**Wahat Farafira**	**9.45**	**171**	P		**Pn**	**20 06 24.7**	**+0.1**

IDC 04 20:07:37.0±0.9, 4580N×15425E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.8/7, Error ellipse: s-maj=31.8km s-min=23.1km az=103.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.09**	**299**	P		P	20 16 16.7	-1.6
0.3nm,0.6s,baz=70,slow=7.5,SNR=6.1								
YKA	**Yellowknife Ar**	**51.22**	**37**	P		P	20 16 41.3	-0.8
0.2nm,0.5s,baz=293,slow=7.1,SNR=4.2								
FINES	**FINESS Array B**	**65.24**	**335**	P		P	20 18 19.2	-1.1
1.5nm,0.8s,baz=49,slow=5.8,SNR=5.4								
WRA	**Warramunga Arr**	**67.88**	**200**	P		P	20 18 36.6	-0.6
1.2nm,0.8s,baz=18,slow=6.5,SNR=7.5								
ASAR	**Alice Springs**	**71.57**	**200**	P		P	20 19 00.5	+0.5
1.0nm,0.8s,baz=20,slow=4.6,SNR=11								
AKASG	**Malin Array Be**	**72.78**	**327**	P		P	20 19 08.5	+1.4
0.2nm,0.3s,baz=32,slow=6.3,SNR=3.1								
TXAR	**Lajitas Array**	**77.27**	**61**	P		P	20 19 33.1	0.0
0.9nm,0.6s,baz=302,slow=3.6,SNR=9.2								

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*IDC **04** 20:34:34.8±1.6, 6455×14706E, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.9/16, mbtmp3.9/8, ML3.5/3, MS3.2/6, Ms1 3.1/6, ms1mx3.0/19, Error ellipse: s-maj=46.1km s-min=21.6km az=84.0*
*NEIC **04** 20:34:36.3±0.8, 636S×14698E, h10km, mb4.3/3, Error ellipse: s-maj=16.5km s-min=11.1km az=83.0*
*ISCJB **04** 20:34:39.6±3.1, 65S±0.1×1470E±0.1, h50km±26km, mb3.8/5, MS3.1/3, Error ellipse: s-maj=28.3km s-min=19.6km az=95.2*
ISC 04 20:34:41.7±2.9, 65S±02×1470E±02, h51km±24km, n19, σ0°64/15, mb3.8/5, MS3.1/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.89**	**176**	Pn		**Pn**	**20 35 24.4**	**-0.8**
16nm,0.3s,baz=33,slow=5.0,SNR=30								
PMG						Sn	**20 35 59.2**	**+0.5**
13nm,0.3s,baz=315,slow=15,SNR=4.5								
PMG					LR	LR	20 36 42.9	
comp=Z,322nm,18.8s,baz=355,slow=44								
HNR	**Honiara**	**13.17**	**104**	LR		LR	20 41 08.0	
comp=Z,44nm,19.9s,baz=180,slow=30								
CTA	**Charters Tower**	**13.52**	**183**	Pn		**Pn**	**20 37 51.0**	**+0.3**
0.3nm,0.3s,baz=11,slow=14,SNR=5.3								
CTA					LR	LR	20 42 55.7	
comp=Z,120nm,19.2s,baz=49,slow=37								
CTAO	**Charters Tower**	**13.52**	**183**	*e*P		**Pn**	**20 37 51.4**	**+0.7**
KAKA	**Kakadu**	**15.60**	**246**	*e*P		**Pn**	**20 38 18.3**	**+0.2**
12nm,0.5s								
WRAB	**Tennant Creek**	**18.12**	**221**	*e*P		**Pn**	**20 38 49.1**	**-0.6**
WB2	**Warramunga Arr**	**18.13**	**221**	*e*P		**Pn**	**20 38 49.4**	**-0.3**
WRA	**Warramunga Arr**	**18.14**	**221**	P		**Pn**	**20 38 49.3**	**-0.5**
0.2nm,0.3s,baz=48,slow=12,SNR=31								
ASAR	**Alice Springs**	**21.19**	**215**	P		**P**	**20 39 24.3**	**+1.4**
2.2nm,0.6s,mb3.7,baz=54,slow=8.1,SNR=42								
FITZ	**Fitzroy Crossi**	**23.79**	**239**	*e*P		**P**	**20 39 49.5**	**-0.1**
3.7nm,0.4s,mb4.2								
FITZ	**Fitzroy Crossi**	**23.79**	**239**	P		**P**	**20 39 49.2**	**-0.4**
1.4nm,0.7s,mb3.5,baz=55,slow=6.5,SNR=6.6								
FITZ					LR	LR	20 50 32.7	
comp=Z,60nm,20.2s,MS3.1,baz=78,slow=40								
STKA	**Stephens Creek**	**25.74**	**191**	*e*P		**P**	**20 40 07.7**	**+0.3**
3.0nm,0.8s,mb3.9								
STKA	**Stephens Creek**	**25.74**	**191**	P		**P**	**20 40 07.1**	**-0.3**
3.0nm,0.8s,mb3.9,baz=5.1,slow=7.5,SNR=9.1								
STKA					LR	LR	20 50 45.4	
comp=Z,75nm,19.8s,MS3.2,baz=23,slow=38								
KSRS	**Korea Array**	**47.21**	**339**	LR		LR	21 03 42.4	
comp=Z,20nm,18.1s,MS3.1,baz=330,slow=37								
SONM	**Songino Array**	**64.83**	**331**	P		**P**	**20 45 15.8**	**+0.6**
0.7nm,1.1s,mb3.6,baz=143,slow=4.7,SNR=3.5								
VNDA	**Vanda**	**71.41**	**177**	P		**P**	**20 45 55.8**	**-0.8**
0.9nm,0.6s,mb3.9,baz=327,slow=8.5,SNR=6.7								
TOA0	**Torodi Ar. Sit**	**145.19**	**284**	*e*PKPdf		PKPdf	20 54 15.0	+1.5
TORD	**Torodi Ar. Bea**	**145.19**	**284**	PKPbc		PKPbc	20 54 15.3	+2.1
3.2nm,0.7s,baz=65,slow=4.0,SNR=30								
TORD	**Torodi Ar. Bea**	**145.19**	**284**	PKPbc		PKPbc	20 54 15.3	+2.1

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*MOS **04** 20:44:07.9±1.7, 5565N×110.11E, h9km, mb4.0/1, Error ellipse: s-maj=28.1km s-min=15.3km az=67.9*
BYKL 04 20:44:07.2±0.3, 5565N×11014E, h1km±5km, 4C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**291**	⇑*i*Pg		Pg	20 44 13.9	-0.2
NIZ				*e*Sg		Sg	20 44 18.7	-0.1
NIZ				Pmax				
54nm,0.4s								
NIZ				Smax				
884nm,0.3s								
KMO	**Kumora**	**0.65**	**68**	⇑*i*Pg		Pg	20 44 18.1	-1.4
KMO				*e*Sg		Sg	20 44 26.5	-1.4
KMO				Pmax				
52nm,0.3s								
KMO				Smax				
283nm,1.4s								
YLYR	**Ulyunkhan**	**0.97**	**143**	⇑*i*Pg		Pg	20 44 24.5	-1.3
YLYR				*e*Pb		Pb	20 44 25.3	-1.5
YLYR				*e*Sg		Sg	20 44 37.6	-0.8
YLYR				max				
85nm,0.4s								
YLYR				Smax				
221nm,0.1s								
YOA	**Uoyan**	**1.01**	**61**	*e*PG		Pg	20 44 27.3	+0.6
YOA				*i*			20 44 41.9	
YOA				pmax	pmax			
comp=Z,80nm,0.3s								
YOA				smax				
comp=E,654nm,0.3s								
YOA	**Uoyan**	**1.01**	**61**	*e*Pg		Pg	20 44 25.6	-1.1
YOA				*e*Sg		Sg	20 44 40.2	+0.4
YOA				Pmax				
comp=E,82nm,0.3s								
YOA				Smax				
comp=E,651nm,0.4s								
SVKR	**Severomuysk**	**1.98**	**75**	*e*PN		Pn	20 44 42.7	+0.8
SVKR				*e*			20 45 08.6	
SVKR				pmax	pmax			
comp=Z,82nm,0.5s								
SVKR				smax				
comp=N,661nm,0.5s								
SVKR	**Severomuysk**	**1.98**	**75**	*e*Pn		Pn	20 44 42.6	+0.7
SVKR				*e*Pg		Pg	20 44 43.8	-1.4
SVKR				*e*			20 44 45.4	
SVKR				*e*Sg		Sg	20 45 09.9	-1.0
SVKR				max				
comp=N,87nm,0.5s								
SVKR				Smax				
comp=N,678nm,0.5s								
SYVR	**Suvo**	**2.00**	**182**	*e*PN		Pn	20 44 43.0	+0.9
SYVR				*e*			20 45 10.7	
SYVR				pmax	pmax			
comp=Z,116nm,0.5s								
SYVR				smax				
comp=N,380nm,0.4s								
SYVR	**Suvo**	**2.00**	**182**	⇑*i*Pg		Pg	20 44 42.9	-2.6
SYVR				*i* Sg		Sg	20 45 10.7	-0.7
SYVR				Pmax				
comp=N,70nm,0.6s								
SYVR				Smax				
comp=N,429nm,0.8s								
OGRR	**Ongureny**	**2.50**	**217**	*e*PN		Pn	20 44 49.7	+0.8
OGRR				*e*			20 44 53.4	
OGRR				*e*			20 45 25.2	
OGRR				pmax	pmax			
comp=Z,16nm,0.3s								
OGRR				smax				
comp=N,137nm,0.5s								
OGRR	**Ongureny**	**2.50**	**217**	⇓*i*Pn		Pn	20 44 49.5	+0.6
OGRR				*e*Pg		Pg	20 44 51.9	-3.1
OGRR				*e*Sg		Sg	20 45 25.1	-2.3
OGRR				Pmax				
comp=N,414nm,0.3s								
OGRR				Smax				
comp=N,2μm,0.4s								
MXMB	**Maximikha**	**2.53**	**199**	*e*Sg		Sg	20 45 25.7	-2.7
MXMB				Smax				
comp=N,245nm,0.5s								
BOD	**Bodaibo**	**3.04**	**43**	*e*Pn		Pn	20 44 55.8	-0.6
BOD				*e*Pg		Pg	20 45 01.2	-4.3
BOD				*e*Sn		Sn	20 45 33.0	-0.5
BOD				*e*Sg		Sg	20 45 40.1	-4.9
BOD				Pmax				
comp=N,8.0nm,0.5s								
BOD				Smax				
comp=N,90nm,0.3s								
TRG	**Tyrgan**	**3.65**	**219**	*e*Pn		Pn	20 45 05.2	+0.4
TRG				*e*Sn		Sn	20 45 49.3	+0.8
TRG				*e*Sg		Sg	20 45 59.5	-5.1
TRG				max				
comp=N,19nm,0.3s								
TRG				Smax				
comp=N,53nm,0.4s								
TRTB	**Turuntaevo**	**3.73**	**204**	*e*Pn		Pn	20 45 05.9	-0.1
TRTB				*e*Pg		Pg	20 45 14.0	-4.8
TRTB				*e*Sg		Sg	20 46 02.5	-4.7
TRTB				Pmax				
comp=N,9.0nm,0.4s								
TRTB				Smax				
comp=N,54nm,0.8s								
FFNB	**Fofonovo**	**4.13**	**210**	*e*Sg		Sg	20 46 14.8	-5.0
FFNB				Smax				
comp=N,109nm,0.5s								
CIT	**Chita**	**4.16**	**150**	*e*Pg		Pg	20 45 21.1	-5.8
CIT				*e*Sg		Sg	20 46 15.3	-5.5
CIT				Pmax				
comp=N,14nm,0.6s								
CIT				Smax				
comp=N,49nm,0.8s								
HRMR	**Khuramsha**	**4.45**	**206**	*e*Pn		Pn	20 45 16.7	+0.9
HRMR				*e*Pg		Pg	20 45 26.7	-5.8
HRMR				*e*Sg		Sg	20 46 24.2	-6.1
HRMR				Pmax				
comp=N,22nm,0.6s								
HRMR				Smax				
comp=N,161nm,0.7s								
CRS	**Chara**	**4.70**	**71**	*e*PN		Pn	20 45 31.9	+13
CRS	**Chara**	**4.70**	**71**	*e*Pn		Pn	20 45 21.3	+2.1
CRS				*e*Pg		Pg	20 45 31.9	-5.4
CRS				*e*Sg		Sg	20 46 31.4	-6.8
CRS				Pmax				
comp=N,7.0nm,0.7s								
CRS				Smax				
comp=N,38nm,1.1s								
LSTR	**Listvyanka**	**4.93**	**222**	*e*Sg		Sg	20 46 39.1	-6.3
LSTR				Smax				
comp=N,32nm,1.3s								
TLY	**Talaya**	**5.54**	**227**	*e*Sg		Sg	20 46 59.2	-6.0
TLY				Smax				
comp=N,29nm,1.4s								
TUP	**Tupik**	**5.78**	**98**	*e*PN		Pn	20 45 32.8	-1.2
TUP				*e*			20 45 49.5	
TUP				*e*S		Sn	20 46 37.4	-3.5
TUP				*e*			20 47 04.3	
TUP				pmax	pmax			
comp=Z,18nm,1.0s								
TUP				smax				
comp=N,50nm,1.0s								
TUP	**Tupik**	**5.78**	**98**	*e*Pn		Pn	20 45 32.9	-1.1
TUP				*e*Pg		Pg	20 45 50.4	-7.5
TUP				*e*Sg		Sg	20 47 06.4	-6.3
TUP				Pmax				
comp=N,4.0nm,0.8s								
TUP				Smax				
comp=N,56nm,1.6s								
ARS	**Arshan**	**5.91**	**234**	*e*PN		Pn	20 45 35.8	0.0
ARS				*e*S		Sn	20 46 38.9	-5.2
ARS	**Arshan**	**5.91**	**234**	*e*Pn		Pn	20 45 35.9	+0.1
ARS				*e*Pg		Pg	20 45 54.7	-5.6
ARS				*e*Sn		Sn	20 46 39.6	-4.5
ARS				*e*Sg		Sg	20 47 11.3	-5.6
ARS				Pmax				
comp=N,9.0nm,0.4s								
ARS				Smax				
comp=N,98nm,0.7s								
KPC	**Khapcheranga**	**6.11**	**166**	*e*PN		Pn	20 45 38.5	-0.1
KPC				*e*			20 45 58.4	
KPC				*e*			20 47 16.8	
KPC				pmax	pmax			
comp=Z,35nm,2.6s								
KPC				smax				
comp=E,32nm,1.3s								
KPC	**Khapcheranga**	**6.11**	**166**	*e*Pn		Pn	20 45 37.8	-0.8
KPC				*e*Pg		Pg	20 45 57.8	-6.5
KPC				*e*Sg		Sg	20 47 16.4	-7.0
KPC				Pmax				
comp=E,5.0nm,0.6s								
KPC				Smax				
comp=E,32nm,1.2s								
ZAK	**Zakamensk**	**6.70**	**221**	*e*Sg		Sg	20 47 37.6	-4.9
ZAK				Smax				
comp=E,31nm,1.9s								
MOY	**Mondy**	**6.74**	**237**	*e*Pn		Pn	20 45 49.7	+2.4
MOY				*e*Sn		Sn	20 47 00.9	-3.8
MOY				*e*Sg		Sg	20 47 34.6	-9.1
MOY				max				
comp=E,7.0nm,0.8s								
MOY				Smax				
comp=E,34nm,1.4s								
ORL	**Orlik**	**6.83**	**247**	*e*Sn		Sn	20 47 05.0	-1.8
ORL				*e*Sg		Sg	20 47 37.2	-9.3
ORL				Smax				
comp=E,18nm,0.7s								

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*CSEM **04** 21:16:36.8±0.1, 4303N×002W, h5km, ML1.3/2, Error ellipse: s-maj=3.1km s-min=1.4km az=172.0*
*STR **04** 21:16:36.7±0.0, 4301N×002E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **04** 21:16:36.6±0.1, 4303N×002W, h4km, Md1.6/3, Ml1.3/2, Error ellipse: s-maj=3.1km s-min=1.4km az=172.0*
MDD 04 21:16:37.2±0.4, 4302N×001W, h0km, mbLg0.5/3, Error ellipse: s-maj=2.7km s-min=2.1km az=156.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**65**	Pg		Pg	21 16 38.6	0.0
LABF				Sg		Sg	21 16 39.9	+0.4
LABF	**Labassere**	**0.07**	**65**	P		Pg	21 16 38.6	+0.1
LABF				S		Sg	21 16 39.9	+0.5
VIEF	**Viey**	**0.14**	**168**	Pg		Pg	21 16 39.8	0.0
VIEF				Sg		Sg	21 16 42.1	+0.5
VIEF	**Viey**	**0.14**	**168**	P		Pg	21 16 39.9	0.0
VIEF				S		Sg	21 16 42.1	+0.5
EPF	**Esparros**	**0.26**	**87**	*e*Pg		Pg	21 16 41.5	-0.7
EPF				*e*Sg		Sg	21 16 45.4	-0.1
2.8nm,0.2s								
EPF	**Esparros**	**0.26**	**87**	*e*Pg		Pg	21 16 41.5	-0.7
EPF				*e*Sg		Sg	21 16 45.4	-0.1
1.4nm,0.2s								
EBIE	**Bielsa**	**0.35**	**161**	Pg		Pg	21 16 43.5	-0.4
0.1nm,0.0s,SNR=7.9								
EBIE				Lg			21 16 48.4	
1.1nm,0.1s,SNR=12								
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg		Pg	21 16 44.9	-0.3
ETSF				*e*Sg		Sg	21 16 50.7	+0.1
2.6nm,0.2s								
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg		Pg	21 16 44.9	-0.3
ETSF				*e*Sg		Sg	21 16 50.7	+0.1
1.3nm,0.2s								
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg		Pg	21 16 53.4	-0.9
SJPF				*e*Sg		Sg	21 17 04.4	-1.5
0.7nm,0.2s								
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg		Pg	21 16 53.4	-0.9
SJPF				*e*Sg		Sg	21 17 04.4	-1.5
0.3nm,0.2s								
ESAC	**San Caprasio**	**1.34**	**195**	Lg			21 17 22.3	
0.9nm,0.1s,SNR=7.9								
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg		Pg	21 17 08.1	-1.0
MTLF				*e*Sg		Sg	21 17 29.0	-1.7
0.5nm,0.3s								
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg		Pg	21 17 08.1	-1.0
MTLF				*e*Sg		Sg	21 17 29.0	-1.7
0.2nm,0.3s								

IDC 04 21:19:47.0±1.9, 2884S×17833W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=64.0km s-min=16.6km az=31.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.54**	**139**	Pn		Pg	21 20 01.7	+4.3
125nm,0.3s,baz=102,slow=19,SNR=12								
TBI	**Tubuai**	**26.46**	**85**	*e*LR		LR	21 31 19.4	
86nm,31.5s								
HNR	**Honiara**	**28.09**	**309**	LR		LR	21 34 15.5	
comp=Z,26nm,18.9s

37nm,0.4s
MOF Molkenrain 0.41 311 Pg Pg 21 20 23.9 -0.2
MOF Sg Sg 21 20 29.8 +0.3
HINF Hinteralfeld 0.56 295 *e*Pg Pg 21 20 26.3 -0.5
HINF *e*Sg Sg 21 20 33.5 -0.5
5.9nm,0.2s
ECH Echery 0.70 335 Pg Pg 21 20 29.8 +0.3
ECH Sg Sg 21 20 38.4 -0.2
CDF Champ du Feu 0.86 345 *e*Pg Pg 21 20 32.8 +0.2
CDF *e*Sg Sg 21 20 44.4 +0.7
5.8nm,0.2s
HAU Haudompre 0.94 297 *e*Pg Pg 21 20 33.6 -0.6
HAU *e*Sg Sg 21 20 46.5 0.0
7.3nm,0.3s
CABF La Chapelle 1.42 227 *e*Pn Pn 21 20 38.9 -3.6
CABF La Chapelle 1.42 227 *e*Pg Pg 21 20 43.0 -0.3
CABF *e*Sg Sg 21 21 01.4 -0.3
1.7nm,0.3s
LOR Lormes 2.56 264 *e*Pn Pn 21 20 55.0 -3.2
LOR *e*Sg Sg 21 21 35.6 -2.7
2.3nm,0.3s
SSF Saint Saulge 2.83 261 *e*Sg Sg 21 21 43.5 -3.6
0.6nm,0.2s

*IDC **04** 21:38:43.5±1.3, 3315S×17926W, h0km, mb4.1/2, mb1 4.4/3, mb1mx4.0/13, mbtmp4.2/3, ML4.0/1, MS3.3/2, Ms1 3.2/2, ms1mx2.7/21, Error ellipse: s-maj=41.3km s-min=34.4km az=142.0*
*ISCJB **04** 21:38:49.4±1.3, 335S±01×1796W±02, h35km, mb4.0/2, MS3.3/1, Error ellipse: s-maj=22.5km s-min=14.2km az=31.1*
ISC 04 21:38:50.3±1.3, 334S±01×1794W±02, h35km, n15, σ0§59/8, mb4.0/2, MS3.3/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.60**	**209**	Pn	**Pn**	**21 40 11.8**	**+0.7**
	4.3nm,0.3s,baz=57,slow=3.2,SNR=33						
URZ				Sn	**Sn**	**21 41 13.8**	**-0.4**
	baz=278,slow=22,SNR=3.5						
URZ	**Urewera**	**5.60**	**209**	PG	**Pn**	**21 40 10.8**	**-0.3**
OUZ	**Omahuta**	**6.05**	**251**	PN	**Pn**	**21 40 18.1**	**+0.8**
DZM	**Mont Dzumac**	**16.83**	**309**	LR	LR	21 47 36.4	
	comp=Z,85nm,20.2s,baz=249,slow=32						
STKA	**Stephens Creek**	**32.73**	**262**	LR	LR	21 57 20.6	
	comp=Z,56nm,19.8s,MS3.3,baz=15,slow=34						
ASAR	**Alice Springs**	**41.84**	**271**	P	**P**	**21 46 37.1**	**+0.3**
	2.5nm,0.6s,mb4.0,baz=110,slow=7.5,SNR=36						
WRA	**Warramunga Arr**	**43.11**	**276**	P	**P**	**21 46 45.9**	**-1.2**
	0.9nm,0.3s,mb3.9,baz=116,slow=8.0,SNR=29						
VNA3	**Neumayer Olymp**	**75.39**	**177**	*e*	**P**	**21 50 30.3**	**0.0**
VNA3				*e*		21 50 32.3	
VNA3				*e*		21 50 35.1	
VNA2	**Neumayer--Watz**	**75.81**	**177**	*e*	**P**	**21 50 33.0**	**+0.3**
	baz=177,slow=5.1						
VNA2				*e*		21 50 35.0	
KAF	**Kangasniemi**	**146.93**	**338**	*e*p	PKPdf	21 58 24.0	-3.1
FINES	**FINESS Array B**	**147.50**	**337**	PKPbc	PKPbc	21 58 28.1	-2.5
	1.2nm,0.5s,baz=49,slow=5.4,SNR=11						
NB2	**NORSAR Subarra**	**151.50**	**349**	PKP	PKPdf	21 58 38.5	+4.1
	comp=Z,1.1nm,0.6s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**151.50**	**349**	PKPbc	PKPbc	21 58 37.6	-3.0
	comp=Z,1.7nm,0.7s,baz=14,slow=4.1,SNR=4.1						
HFS	**Hagfors**	**151.90**	**346**	PKPbc	PKPbc	21 58 38.9	-2.6
	comp=Z,2.2nm,0.7s,baz=352,slow=4.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**159.81**	**183**	PKPab	PKPab	21 59 24.5	0.0
	comp=Z,0.4nm,0.6s,baz=167,slow=4.0,SNR=6.9						

*ISCJB **04** 21:46:33.9±0.3, 4663N±002×1047E±003, h11km, Error ellipse: s-maj=3.1km s-min=2.6km az=125.6*
*CSEM **04** 21:46:33.3±0.1, 4659N×1043E, h25km, ML2.9/7, Error ellipse: s-maj=2.0km s-min=1.4km az=160.0*
*ZUR **04** 21:46:34.6, 4660N×1041E, h11km±1km, ML2.0/5*
*ROM **04** 21:46:34.5±0.2, 4662N×1041E, h9km±2km, Md2.3/7, Ml2.1/5, Error ellipse: s-maj=2.9km s-min=1.9km az=3.0*
*VIE **04** 21:46:34.8±0.5, 4666N×1047E, h8km, ML2.0/5, Error ellipse: s-maj=3.7km s-min=1.1km az=172.0 6 km WSW of Glorenza*
ISC 04 21:46:34.2±0.6, 4662N±002×1045E±003, h16km±8km, n20, σ0§50/34, 9C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUORN	**Ofenpass**	**0.13**	**269**	*i* Sg	**Pg**	**21 46 38.0**	**0.0**
	937nm,0.2s						
FUORN	**Ofenpass**	**0.13**	**269**	⇑*i*Pg	**Sg**	**21 46 40.7**	**+0.2**
	937nm,0.2s						
FUORN	**Ofenpass**	**0.13**	**269**	⇑*i*Pg	**Sg**	**21 46 40.7**	**+0.2**
	937nm,0.2s						
BRMO	**Bormio**	**0.16**	**199**	Pg	**Pg**	**21 46 38.2**	**-0.2**
BRMO				Sg	**Sg**	**21 46 40.6**	**-0.6**
	361nm,0.3s						
BERNI	**Berninapass**	**0.36**	**234**	⇑*i*Pg	**Pg**	**21 46 41.8**	**+0.1**
	259nm,0.1s						
DAVOX	**Davos**	**0.42**	**292**	⇑*i*Pg	**Pg**	**21 46 42.9**	**+0.1**
	378nm,0.4s						
DAVOX				*i* Sg	**Sg**	**21 46 48.9**	**+0.4**
	378nm,0.4s						
APPI	**Appiano**	**0.56**	**105**	Pg	**Pg**	**21 46 45.7**	**+0.4**
APPI				Sg	**Sg**	**21 46 52.7**	**-0.1**
	106nm,0.2s						
MABI	**Malga Bissina**	**0.57**	**175**	Pg	**Pg**	**21 46 45.8**	**+0.3**
MABI				Sg	**Sg**	**21 46 52.8**	**-0.4**
VDL	**Val di Lei**	**0.69**	**259**	⇑*i*Pg	**Pg**	**21 46 45.7**	**-2.0**
	80nm,0.2s						
DAVA	**Damuels**	**0.77**	**330**	⇓*i*Pg	**Pg**	**21 46 49.7**	**+0.4**
DAVA				⇓*i*Sg	**Sg**	**21 47 00.0**	**+0.6**
TUE	**Stuetta**	**0.77**	**259**	Pg	**Pg**	**21 46 48.9**	**-0.4**
TUE				Sg	**Sg**	**21 46 59.7**	**+0.1**
SQTA	**Sankt Quirin**	**0.79**	**41**	⇓*i*Pg	**Pg**	**21 46 49.7**	**0.0**
SQTA				⇓*i*Sg	**Sg**	**21 46 59.8**	**-0.4**
	11nm,0.2s						
MOTA	**Moosalm**	**0.85**	**32**	⇑*i*Pg	**Pg**	**21 46 50.7**	**-0.1**
MOTA				⇑*i*Sg	**Sg**	**21 47 02.3**	**+0.3**
	5.2nm,0.2s						
MOTA	**Moosalm**	**0.85**	**32**	Pg	**Pg**	**21 46 50.7**	**-0.1**
MOTA				Sg	**Sg**	**21 47 02.3**	**+0.3**
	5.2nm,0.2s						
MAGA	**Magasa**	**0.86**	**171**	Pg	**Pg**	**21 46 51.4**	**+0.5**
MAGA				Sg	**Sg**	**21 47 03.1**	**+0.9**
	120nm,0.4s						
CTI	**Castel Tesino**	**1.01**	**124**	Pg	**Pg**	**21 46 54.3**	**+0.4**
CTI				Sg	**Sg**	**21 47 07.7**	**+0.5**
	18nm,0.2s						
WTTA	**Wattenberg**	**1.04**	**51**	⇓*i*Pg	**Pg**	**21 46 54.3**	**0.0**
WTTA				⇓*i*Sg	**Sg**	**21 47 08.0**	**+0.1**
	2.6nm,0.2s						
WATA	**Walderalm**	**1.05**	**47**	⇑*i*Pg	**Pg**	**21 46 54.7**	**+0.1**
WATA				⇑*i*Sg	**Sg**	**21 47 08.3**	**-0.1**
	4.2nm,0.2s						
SEST	**Monte Rota**	**1.23**	**83**	Pg	**Pg**	**21 46 57.6**	**-0.3**
SEST				Sg	**Sg**	**21 47 13.5**	**-0.4**
	3μm,8.8s						
FVI	**Forni Avoltri**	**1.61**	**90**	Pg	**Pg**	**21 47 04.5**	**-0.7**
	3.0nm,0.2s						

IDC 04 21:56:16.6±30.0, 1678S×17438W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.2/4, Error ellipse: s-maj=587.3km s-min=157.9km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.54**	**241**	P	P	22 04 14.8	+0.9
	1.1nm,0.6s,baz=76,slow=4.2,SNR=4.0						
WRA	**Warramunga Arr**	**48.62**	**258**	P	P	22 05 02.0	-0.1
	1.5nm,0.5s,baz=97,slow=7.1,SNR=44						
ASAR	**Alice Springs**	**48.80**	**253**	P	P	22 05 03.7	+0.3
	6.1nm,0.5s,baz=88,slow=8.8,SNR=70						
FITZ	**Fitzroy Crossi**	**57.01**	**259**	P	P	22 06 04.7	+0.6
	0.6nm,0.4s,baz=96,slow=8.2,SNR=5.3						

*SKO **04** 22:10:14.7, 3900N×2216E, h0km*
*ATH **04** 22:10:17.8, 3917N×2241E, h8km±2km, MD3.3/5*
*ISCJB **04** 22:10:17.1±0.3, 3920N±002×2241E±003, h5km, Error ellipse: s-maj=3.3km s-min=2.5km az=66.6*
*CSEM **04** 22:10:17.6±0.1, 3917N×2244E, h2km, ML2.5, Error ellipse: s-maj=2.8km s-min=2.2km az=128.0*
*THE **04** 22:10:18.2, 3919N×2244E, h5km, ML2.5*
*NEIC **04** 22:10:18.2, 3919N×2244E, h5km, MD3.3(ATH), ML2.9(THE), After THE.*
ISC 04 22:10:17.8±0.4, 3920N±002×2243E±003, h4km±4km, n33, σ1§01/54, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.19**	**204**	*e*Pg	**Pg**	**22 10 21.6**	**+0.1**
AGG				*e*Sg	**Sg**	**22 10 25.3**	**+1.3**
THL	**Klokotos Trika**	**0.49**	**319**	⇑*i*PB	**Pg**	**22 10 27.1**	**-0.1**
THL				*e*SB	**Sg**	**22 10 34.8**	**+1.3**
EVR	**Evrytania**	**0.56**	**240**	*e*PB	**Pg**	**22 10 27.7**	**-0.8**
EVR				*e*SB	**Sg**	**22 10 36.1**	**+0.3**
XOR	**Xorichti**	**0.62**	**74**	*e*Pg	**Pg**	**22 10 30.2**	**+0.6**
NEO	**Neokhori**	**0.63**	**80**	*e*PB	**Pg**	**22 10 30.3**	**+0.5**
NEO				*e*SB	**Sg**	**22 10 39.7**	**+1.8**
LKR	**Lokris**	**0.70**	**141**	*e*PB	**Pg**	**22 10 31.0**	**-0.3**
LKR				*e*SB	**Sg**	**22 10 40.4**	**0.0**
LIT	**Litokhoron**	**0.90**	**3**	*e*Pg	**Pg**	**22 10 35.0**	**-0.1**
LIT				*e*Sg	**Sg**	**22 10 48.7**	**+1.9**
MEV	**Metsovon**	**1.10**	**303**	*e*Pg	**Pg**	**22 10 38.2**	**-0.6**
AOS	**Alonnisos**	**1.13**	**91**	*e*Pg	**Pg**	**22 10 39.0**	**-0.5**
PAIG	**Paliouri**	**1.21**	**53**	*e*Pg	**Pg**	**22 10 40.4**	**-0.7**
PAIG				*e*Sg	**Sg**	**22 10 59.4**	**+2.6**
PAIG	**Paliouri**	**1.21**	**53**	*e*Pg	**Pg**	**22 10 40.3**	**-0.7**
KZN	**Kozani**	**1.22**	**336**	*e*PB	**Pb**	**22 10 41.2**	**-0.2**
RLS	**Riolos of Patr**	**1.36**	**214**	*e*PG	**Pg**	**22 10 42.8**	**-1.2**
PLG	**Polygyros**	**1.41**	**33**	*e*Pg	**Pg**	**22 10 43.7**	**-1.2**
PLG				*e*Sg	**Sb**	**22 11 03.1**	**0.0**
PLG	**Polygyros**	**1.41**	**33**	*e*Pn	**Pn**	**22 10 43.6**	**-0.7**
PLG				P		22 10 43.7	
PLG				S	**Sb**	**22 11 03.1**	**0.0**
LKD	**Levkas**	**1.47**	**251**	*e*Pg	**Pg**	**22 10 44.5**	**-1.5**
LKD				*e*Sg	**Sg**	**22 11 05.2**	**+0.2**
HORT	**Hortiatis**	**1.49**	**20**	*e*Pg	**Pg**	**22 10 44.6**	**-1.8**
HORT				*e*Sg	**Sg**	**22 11 06.1**	**+0.4**
THE	**Thessaloniki**	**1.49**	**16**	*e*Pg	**Pg**	**22 10 45.3**	**-1.1**
THE				*e*Sg	**Sg**	**22 11 05.7**	**-0.1**
OUR	**Ouranopolis**	**1.65**	**46**	*e*Pb	**Pb**	**22 10 46.9**	**-1.9**
LSK	**Leskovik**	**1.70**	**305**	*i* Pn	**Pn**	**22 10 49.0**	**+0.7**
LSK				*i* Sn	**Sg**	**22 11 17.9**	**+5.4**
GRG	**Griva**	**1.76**	**359**	*e*Pb	**Pn**	**22 10 48.9**	**-0.2**
GRG				*e*Sb	**Sn**	**22 11 12.4**	**+0.5**
GRG	**Griva**	**1.76**	**359**	*e*Pb	**Pn**	**22 10 48.8**	**-0.3**
GRG				*e*Sb	**Sn**	**22 11 12.4**	**+0.5**
VLS	**Valsamata**	**1.76**	**235**	*e*PN	**Pn**	**22 10 51.1**	**+2.0**
SOH	**Sokhos**	**1.77**	**23**	*e*Pb	**Pn**	**22 10 49.2**	**0.0**
SOH				*e*Sb	**Sn**	**22 11 12.9**	**+0.7**
KNT	**Kendrikon**	**2.00**	**10**	*e*Pn	**Pn**	**22 10 52.5**	**+0.2**
KNT				*e*Sn	**Sn**	**22 11 17.8**	**0.0**
ITM	**Ithomi**	**2.05**	**191**	*e*PN	**Pn**	**22 10 54.3**	**+1.2**
KEK	**Kerkira**	**2.10**	**285**	*e*PN	**Pn**	**22 10 55.5**	**+1.7**
VAY	**Valandovo**	**2.12**	**3**	*e*Pn	**Pn**	**22 10 54.8**	**+0.7**
VAY				*e*Sn	**Sb**	**22 11 24.0**	**+0.4**
LOS	**Limnos**	**2.18**	**69**	*e*Pn	**Pn**	**22 10 53.6**	**-1.2**
OHR	**Ohrid**	**2.28**	**327**	*e*Pn	**Pn**	**22 10 54.2**	**-2.1**
OHR				*e*Sn	**Sn**	**22 11 24.1**	**-0.8**
OHR	**Ohrid**	**2.28**	**327**	*e*Pn	**Pn**	**22 10 54.2**	**-2.1**
OHR				*e*Sn	**Sn**	**22 11 24.1**	**-0.8**
OHR	**Ohrid**	**2.28**	**327**	*e*Pn	**Pn**	**22 10 54.1**	**-2.2**
OHR				*e*Sn	**Sn**	**22 11 24.1**	**-0.8**
ALN	**Alexandroupoli**	**3.25**	**57**	*e*Pn	**Pn**	**22 11 08.8**	**-0.9**

*THE **04** 22:24:22.6, 3849N×2173E, h10km, ML2.9*
*ISCJB **04** 22:24:23.8±0.6, 3859N±004×2172E±005, h10km, Error ellipse: s-maj=5.9km s-min=5.2km az=28.3*
*ATH **04** 22:24:25.6, 3873N×2190E, h20km±2km, MD3.3/4*
*NEIC **04** 22:24:25.6, 3873N×2190E, h20km, MD3.3(ATH), ML2.8(THE), After ATH.*
*CSEM **04** 22:24:26.0±0.1, 3868N×2191E, h5km, MD3.3, Error ellipse: s-maj=3.1km s-min=2.2km az=69.0*
ISC 04 22:24:24.7±0.6, 3861N±004×2178E±005, h10km, n35, σ1§33/49, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.31**	**4**	*e*PB	**Pg**	**22 24 30.1**	**-0.8**
EVR				*e*SB	**Sg**	**22 24 34.2**	**-0.9**
AGG	**Agios Georgios**	**0.60**	**46**	*e*Pg	**Pg**	**22 24 35.5**	**-0.9**
AGG				*e*Sg	**Sg**	**22 24 46.9**	**+2.7**
AGG	**Agios Georgios**	**0.60**	**46**	P	**Pg**	**22 24 34.8**	**-1.5**
AGG				S	**Sg**	**22 24 47.6**	**+3.3**
AGG	**Agios Georgios**	**0.60**	**46**	P	**Pg**	**22 24 34.8**	**-1.6**
AGG	**Agios Georgios**	**0.60**	**46**	*e*Pg	**Pg**	**22 24 35.5**	**-0.9**
AGG				*e*Sg	**Sg**	**22 24 46.9**	**+2.7**
RLS	**Riolos of Patr**	**0.60**	**204**	*e*PN	**Pg**	**22 24 40.0**	**+3.6**
RLS				*e*SN	**Sg**	**22 24 51.7**	**+7.5**
LKD	**Levkas**	**0.89**	**277**	*e*Pg	**Pn**	**22 24 38.1**	**-5.2**
LKD	**Levkas**	**0.89**	**277**	P	**Pn**	**22 24 37.1**	**-6.2**
LKD	**Levkas**	**0.89**	**277**	P	**Pn**	**22 24 37.1**	**-6.2**
LKD	**Levkas**	**0.89**	**277**	*e*Pg	**Pn**	**22 24 38.1**	**-5.2**
LKR	**Lokris**	**0.96**	**87**	*e*PB	**Pb**	**22 24 41.8**	**-1.6**
THL	**Klokotos Trika**	**0.97**	**11**	*e*PN	**Pn**	**22 24 41.8**	**-2.7**
MEV	**Metsovon**	**1.25**	**340**	*e*Pg	**Pg**	**22 24 47.7**	**-1.1**
JAN	**Janina**	**1.27**	**326**	*e*PN	**Pn**	**22 24 48.7**	**+0.1**
NEO	**Neokhori**	**1.33**	**58**	*e*PN	**Pn**	**22 24 49.1**	**-0.2**
XOR	**Xorichti**	**1.34**	**55**	*e*Pg	**Pg**	**22 24 49.3**	**-1.2**
ITM	**Ithomi**	**1.43**	**175**	*e*PN	**Pg**	**22 24 53.8**	**+1.6**
IGT	**Igoumenitsa**	**1.46**	**310**	*e*Pg	**Pg**	**22 24 51.5**	**-1.2**
LIT	**Litokhoron**	**1.59**	**20**	*e*Pb	**Pn**	**22 24 52.8**	**-0.1**
LIT				*e*Sb	**Sb**	**22 25 16.2**	**+1.9**
LIT	**Litokhoron**	**1.59**	**20**	P	**Pn**	**22 24 52.8**	**-0.1**
LIT				S	**Sb**	**22 25 17.3**	**+2.9**
AOS	**Alonnisos**	**1.73**	**70**	*e*Pb	**Pb**	**22 24 55.2**	**-1.4**
LSK	**Leskovik**	**1.79**	**330**	*i* Pg	**Pg**	**22 24 59.2**	**+0.1**
KEK	**Kerkira**	**1.90**	**306**	*e*PN	**Pn**	**22 24 59.5**	**+2.4**
PAIG	**Paliouri**	**1.98**	**48**	*e*Pn	**Pn**	**22 24 57.9**	**-0.4**
PAIG				*e*Sn	**Sb**	**22 25 26.4**	**+0.8**
PAIG	**Paliouri**	**1.98**	**48**	P	**Pn**	**22 24 57.1**	**-1.2**
PAIG	**Paliouri**	**1.98**	**48**	P	**Pn**	**22 24 57.1**	**-1.2**
PAIG	**Paliouri**	**1.98**	**48**	*e*Pn	**Pn**	**22 24 57.8**	**-0.5**
PAIG				*e*Sn	**Sb**	**22 25 26.4**	**+0.8**
VLI	**Veliai**	**2.10**	**154**	*e*PB	**Pb**	**22 25 02.8**	**0.0**
PLG	**Polygyros**	**2.19**	**36**	*e*Pn	**Pn**	**22 25 01.1**	**-0.1**
PLG				*e*Sn	**Sn**	**22 25 30.5**	**+2.3**
HORT	**Hortiatis**	**2.24**	**27**	*e*Pn	**Pn**	**22 25 01.9**	**+0.1**
HORT				*e*Sn	**Sn**	**22 25 32.9**	**+3.4**
GRG	**Griva**	**2.40**	**11**	*e*Pn	**Pn**	**22 25 04.7**	**+0.7**
GRG				*e*Sn	**Sn**	**22 25 37.0**	**+3.6**
GRG	**Griva**	**2.40**	**11**	*e*Pn	**Pn**	**22 25 04.7**	**+0.7**
GRG				*e*Sn	**Sn**	**22 25 37.0**	**+3.6**
OUR	**Ouranopolis**	**2.43**	**44**	*e*Pn	**Pn**	**22 25 03.4**	**-1.0**
SOH	**Sokhos**	**2.52**	**28**	*e*Pn	**Pn**	**22 25 06.3**	**+0.5**
SOH				*e*Sn	**Sn**	**22 25 39.8**	**+3.2**
KNT	**Kendrikon**	**2.69**	**18**	*e*Pn	**Pn**	**22 25 08.5**	**+0.4**

*ATH **04** 22:27:04.9, 3877N×2183E, h26km±1km, MD3.2/3*
*ISCJB **04** 22:27:05.1±0.6, 3870N±003×2189E±005, h11km±4km, Error ellipse: s-maj=7.0km s-min=4.4km az=82.0*
*THE **04** 22:27:05.4, 3864N×2191E, h10km, ML2.6*
*NEIC **04** 22:27:05.4, 3864N×2191E, h10km, MD3.2(ATH), ML2.4(THE), After THE.*
*CSEM **04** 22:27:06.1±0.1, 3874N×2182E, h15km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.1km az=134.0*
ISC 04 22:27:05.2±0.7, 3867N±004×2191E±005, h10km±4km, n19, σ1§00/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.26**	**343**	*e*PB	**Pg**	**22 27 10.0**	**-0.6**
EVR				*e*SB	**Sg**	**22 27 14.1**	**-0.1**
AGG	**Agios Georgios**	**0.49**	**43**	*e*Pg	**Pg**	**22 27 14.8**	**+0.1**
AGG				*e*Sg	**Sg**	**22 27 22.7**	**+1.5**
RLS	**Riolos of Patr**	**0.70**	**210**	*e*PN	**Pg**	**22 27 19.9**	**+1.2**
RLS				*e*SN	**Sg**	**22 27 31.5**	**+3.7**
LKR	**Lokris**	**0.86**	**91**	*e*PN	**Pn**	**22 27 22.8**	**-0.5**
THL	**Klokotos Trika**	**0.90**	**5**	*e*PN	**Pn**	**22 27 21.0**	**-2.9**
LKD	**Levkas**	**0.98**	**273**	*e*Pg	**Pg**	**22 27 23.6**	**-0.6**
LKD				*e*Sg	**Sg**	**22 27 38.8**	**+1.9**
VLS	**Valsamata**	**1.14**	**245**	*e*PN	**Pn**	**22 27 26.6**	**-0.6**
XOR	**Xorichti**	**1.22**	**55**	*e*Pg	**Pg**	**22 27 28.9**	**+0.1**
MEV	**Metsovon**	**1.24**	**335**	*e*Pg	**Pg**	**22 27 27.6**	**-1.3**
JAN	**Janina**	**1.29**	**321**	*e*PN	**Pn**	**22 27 27.1**	**-2.1**
LIT	**Litokhoron**	**1.50**	**17**	*e*Pg	**Pn**	**22 27 32.5**	**+0.2**
LIT				*e*Sg	**Sg**	**22 27 52.9**	**-0.7**
AOS	**Alonnisos**	**1.62**	**71**	*e*Pb	**Pn**	**22 27 33.2**	**-0.6**
PAIG	**Paliouri**	**1.87**	**47**	*e*Pb	**Pn**	**22 27 37.0**	**-0.2**
PAIG				*e*Sb	**Sb**	**22 28 02.1**	**-0.7**
PLG	**Polygyros**	**2.08**	**34**	*e*Pn	**Pn**	**22 27 39.4**	**-0.7**
PLG				*e*Sn	**Sn**	**22 28 06.0**	**-0.1**
HORT	**Hortiatis**	**2.14**	**25**	*e*Pn	**Pn**	**22 27 41.4**	**+0.5**
HORT				*e*Sn	**Sn**	**22 28 08.9**	**+1.4**
OUR	**Ouranopolis**	**2.32**	**43**	*e*Pn	**Pn**	**22 27 43.1**	**-0.2**
GRG	**Griva**	**2.32**	**9**	*e*Pn	**Pn**	**22 27 43.4**	**0.0**
GRG				*e*Sn	**Sn**	**22 28 13.6**	**+1.6**
SOH	**Sokhos**	**2.43**	**27**	*e*Pn	**Pn**	**22 27 45.2**	**+0.3**
SOH				*e*Sn	**Sn**	**22 28 15.4**	**+0.8**
KNT	**Kendrikon**	**2.61**	**17**	*e*Pn	**Pn**	**22 27 46.6**	**-0.7**
KNT				*e*Sn	**Sn**	**22 28 20.4**	**+1.3**

*ISK **04** 22:32:29.6, 3923N×2593E, h8km, MD3.3*
*ATH **04** 22:32:29.0, 39.13N×2590E, h16km±4km, MD3.5/6*
*CSEM **04** 22:32:29.4±0.1, 3920N×2597E, h5km, MD4.0, Error ellipse: s-maj=1.4km s-min=1.3km az=56.0*
*ISCJB **04** 22:32:29.0±0.5, 3920N±002×2587E±002, h7km±4km, Error ellipse: s-maj=3.2km s-min=2.7km az=59.6*
*NEIC **04** 22:32:29.0, 39.13N×2590E, h16km, MD3.2(ISK), MD4.0(ATH), ML2.9(THE), After ATH.*
*THE **04** 22:32:32.5, 3920N×2594E, h26km, ML2.7*
ISC 04 22:32:29.6±0.5, 3921N±002×2587E±002, h7km±3km, n67, σ0§96/94, 5C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.31**	**83**	⇓*i*PB	**Pg**	**22 32 35.9**	**+0.1**
PRK				*e*SB	**Sg**	**22 32 40.3**	**+0.4**
AYVA	**Ayvalik**	**0.64**	**81**	*i* P	**Pg**	**22 32 41.7**	**-0.3**
AYVA				*i* S	**Sg**	**22 32 50.4**	**0.0**
BOZC	**Bozcaada**	**0.65**	**12**	*i* P	**Pg**	**22 32 42.0**	**0.0**
BOZC				*i* S	**Sg**	**22 32 51.2**	**+0.7**
BOZC	**Bozcaada**	**0.65**	**12**	*i* P	**Pg**	**22 32 42.0**	**-0.1**
EZN	**Ezine**	**0.71**	**30**	*i* PG	**Pg**	**22 32 43.0**	**-0.3**
EZN				*i* SG	**Sg**	**22 32 53.0**	**+0.5**
LIA	**Limnos Island**	**0.87**	**322**	*e*PN	**Pn**	**22 32 47.1**	**-1.1**
LIA				*e*SN	**Sn**	**22 32 59.8**	**-1.4**
LOS	**Limnos**	**0.95**	**320**	*e*Pg	**Pg**	**22 32 48.8**	**+1.0**
URLA	**Izmir**	**1.02**	**146**	*i* P	**Pg**	**22 32 49.3**	**+0.1**
URLA				*i* S	**Sg**	**22 33 03.2**	**+0.8**
CANB	**Canakkale**	**1.22**	**48**	PN	**Pn**	**22 32 52.2**	**-0.9**
CANB				SN	**Sn**	**22 33 08.7**	**-1.2**
CANB	**Canakkale**	**1.22**	**48**	*i* P	**Pb**	**22 32 52.3**	**-0.8**
CANB				*i* S	**Sg**	**22 33 08.5**	**-0.5**
BLCB	**Balcova**	**1.23**	**132**	PN	**Pn**	**22 32 53.3**	**+0.1**
BLCB	**Balcova**	**1.23**	**132**	*e*Pg	**Pg**	**22 32 53.4**	**+0.1**
BLCB				*e*Sg	**Sg**	**22 33 08.4**	**-0.8**
BLCB	**Balcova**	**1.23**	**132**	*e*Pg	**Pg**	**22 32 53.4**	**+0.2**
BLCB				*e*Sg	**Sg**	**22 33 08.4**	**-0.8**
IZM	**Izmir**	**1.36**	**126**	PN	**Pn**	**22 32 55.3**	**+0.4**
KDAG	**Bornova**	**1.36**	**126**	*i* P	**Pn**	**22 32 54.5**	**-0.5**
KDAG				*i* S	**Sb**	**22 33 07.9**	**-5.0**
ENEZ	**Enez**	**1.54**	**8**	PN	**Pn**	**22 32 57.0**	**-0.5**
AKS	**Akhisar**	**1.55**	**102**	PN	**Pn**	**22 32 57.7**	**+0.1**
AOS	**Alonnisos**	**1.55**	**269**	*e*Pg	**Pg**	**22 32 58.0**	**-1.4**
SMG	**Samos**	**1.68**	**153**	*e*PN	**Pn**	**22 32 58.1**	**-0.7**
ALN	**Alexandroupoli**	**1.69**	**4**	*e*Pb	**Pb**	**22 32 59.3**	**-1.7**
ALN				*e*Sb	**Sb**	**22 33 19.9**	**-2.6**
BTOK	**Tokmak**	**1.76**	**71**	*i* P	**Pn**	**22 33 00.1**	**-0.4**
BTOK				*i* S	**Sn**	**22 33 22.4**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.79**	**34**	PN	**Pn**	**22 33 01.2**	**+0.4**
SART	**Tekirdag**	**1.79**	**34**	*i* P	**Pn**	**22 33 02.1**	**+1.3**
SART				*i* S	**Sn**	**22 33 26.3**	**+2.5**
OUR	**Ouranopolis**	**1.84**	**308**	*e*Pb	**Pn**	**22 33 01.5**	**-0.1**
PAIG	**Paliouri**	**1.84**	**294**	*e*Pb	**Pn**	**22 33 01.4**	**-0.2**
PAIG				*e*Sb	**Sb**	**22 33 25.9**	**-0.9**
EDC	**Edincik**	**1.91**	**53**	PN	**Pn**	**22 33 02.2**	**-0.4**
MFT	**Murefte**	**1.91**	**34**	PN	**Pn**	**22 33 02.9**	**+0.3**
MRMT	**Marmara Adasi**	**1.92**	**43**	PN	**Pn**	**22 33 03.2**	**+0.5**
BNT	**Bandirma**	**1.95**	**53**	PN	**Pn**	**22 33 02.8**	**-0.3**
RDO	**Rodhopi**	**1.95**	**353**	*e*PB	**Pb**	**22 33 04.2**	**-1.3**
NEO	**Neokhori**	**2

LUCF	Luceram	0.21 258	Pg		Pg	22 41 56.5	+0.3
LUCF			Sg		Sg	22 42 00.0	+0.4
REVF	Revere	0.28 224	Pg		Pg	22 41 57.5	+0.2
REVF			Sg		Sg	22 42 02.5	+1.2
TOUF	Mont Tournerai	0.29 286	Sg		Sg	22 42 02.7	+1.0
ENR	Entracque	0.33 332			Pg	22 41 58.8	+0.6
ENR	Entracque	0.33 332	eP		Pg	22 41 58.8	+0.6
MVIF	Mont Vial	0.35 263	Pg		Pg	22 41 59.0	+0.4
RORO		0.36 61	P		Pg	22 41 59.3	+0.6
STV	Sta Anna Valdi	0.38 324	Pg		Pg	22 41 59.6	+0.5
STV			Sg		Sg	22 42 04.8	+0.5
62nm,0.2s							
ROB	Roburent	0.40 26			Pg	22 41 59.9	+0.5
ROB	Roburent	0.40 26	eP		Pg	22 41 59.9	+0.5
FIN	Finale Ligure	0.50 57	⇑	/Pg	Pg	22 42 01.3	+0.1
28nm,0.2s							
DOI	San Damiano	0.63 334	Pg		Pg	22 42 04.2	+0.5
DOI			Sg		Sg	22 42 12.6	+0.5
104nm,0.2s							
PZZ	Prazzo	0.68 326			Pg	22 42 05.0	+0.3
PZZ	Prazzo	0.68 326	eP		Pg	22 42 05.0	+0.3
FRF	La Foret Royal	0.81 243	ePg		Pg	22 42 07.0	0.0
FRF			eSg		Sg	22 42 17.3	-0.4
70nm,0.2s							
FRF	La Foret Royal	0.81 243	ePg		Pg	22 42 07.0	0.0
FRF			eSg		Sg	22 42 17.3	-0.4
35nm,0.2s							
PCP	Pian Castagno	0.89 47			Pb	22 42 09.1	+0.7
PCP	Pian Castagno	0.89 47	eP		Pb	22 42 09.1	+0.7
PCP	Pian Castagno	0.89 47	P		Pb	22 42 08.5	+0.1
MBDF	Montbardon	1.00 322	ePg		Pg	22 42 10.6	-0.1
MBDF			eSg		Sg	22 42 24.0	+0.1
22nm,0.2s							
MBDF	Montbardon	1.00 322	ePg		Pg	22 42 10.6	-0.1
MBDF			eSg		Sg	22 42 24.0	+0.1
11nm,0.2s							
LMR	La Mourre	1.01 234	ePg		Pg	22 42 10.7	-0.3
LMR			eSg		Sg	22 42 24.1	-0.2
34nm,0.2s							
LMR	La Mourre	1.01 234	ePg		Pg	22 42 10.7	-0.3
LMR			eSg		Sg	22 42 24.1	-0.2
17nm,0.2s							
RRL	Cesana Torines	1.16 329	eP		Pn	22 42 13.4	+0.6
RSP	Reno Superiore	1.24 348	P		Pn	22 42 13.4	-0.6
SMRF	Simiane la Rot	1.49 272	ePg		Pg	22 42 18.8	-1.1
SMRF			eSg		Sg	22 42 40.4	+1.1
42nm,0.2s							
SMRF	Simiane la Rot	1.49 272	ePg		Pg	22 42 18.8	-1.1
SMRF			eSg		Sg	22 42 40.4	+1.1
21nm,0.2s							
LSD	Ceresole Reale	1.56 348	P		Pn	22 42 20.5	+2.2
ORIF	Oris-en-Rattie	1.59 309	ePg		Pg	22 42 21.5	-0.5
ORIF			eSg		Sg	22 42 43.3	+0.6
25nm,0.3s							
ORIF	Oris-en-Rattie	1.59 309	ePg		Pg	22 42 21.5	-0.5
ORIF			eSg		Sg	22 42 43.3	+0.6
12nm,0.3s							
LPG	La Plagne	1.68 338	ePg		Pg	22 42 22.1	-1.6
LPG			eSg		Sg	22 42 43.0	-2.5
11nm,0.4s							
LPG	La Plagne	1.68 338	ePg		Pg	22 42 22.1	-1.6
LPG			eSg		Sg	22 42 43.0	-2.5
5.3nm,0.4s							
LPL	La Plagne	1.70 338	ePg		Pg	22 42 22.1	-2.0
LPL			eSg		Sg	22 42 44.6	-1.6
10nm,0.4s							
LPL	La Plagne	1.70 338	ePg		Pg	22 42 22.1	-2.0
LPL			eSg		Sg	22 42 44.6	-1.6
5.1nm,0.4s							
PGF	Pioggiola	1.71 144	ePn		Pn	22 42 19.0	-1.4
PGF			eSn		Sn	22 42 37.6	-4.3
8.8nm,0.1s							
PGF	Pioggiola	1.71 144	ePn		Pn	22 42 19.0	-1.4
PGF			eSn		Sn	22 42 37.6	-4.3
4.4nm,0.1s							
ORX	Oropa	1.71 8	P		Pn	22 42 20.7	+0.2
GRAM		1.83 72	P		Pn	22 42 22.3	+0.1
VIVF	Saint-Julien-I	2.31 294	ePn		Pn	22 42 31.1	+2.4
VIVF			eSn		Sn	22 42 57.1	+0.3
VIVF			eSg		Sg	22 43 05.2	-0.5
18nm,0.5s							
VIVF	Saint-Julien-I	2.31 294	ePn		Pn	22 42 31.1	+2.4
VIVF			eSn		Sn	22 42 57.1	+0.3
VIVF			eSg		Sg	22 43 05.2	-0.5
8.9nm,0.5s							
LASF	Ste Croix	2.73 274	ePn		Pn	22 42 35.0	+0.6
LASF			eSn		Sn	22 43 05.3	-1.7
4.0nm,0.2s							
LASF			eSg		Sg	22 43 17.6	-1.4
LASF	Ste Croix	2.73 274	ePn		Pn	22 42 35.0	+0.6
LASF			eSn		Sn	22 43 05.3	-1.7
2.0nm,0.2s							
LASF			eSg		Sg	22 43 17.6	-1.4
MTLF	Montolieu	3.98 263	ePn		Pn	22 42 52.2	+0.6
MTLF			eSn		Sn	22 43 37.2	-0.6
2.6nm,0.3s							
MTLF	Montolieu	3.98 263	ePn		Pn	22 42 52.2	+0.6
MTLF			eSn		Sn	22 43 37.2	-0.6
1.3nm,0.3s							
CAF	Calviac	4.11 286	ePn		Pn	22 42 52.9	-0.5
HAU	Haudompre	4.17 348	ePn		Pn	22 42 55.7	+1.5

*IDC **04** 23:03:02.3±1.3,2135S×17442W,h0km,mb4.3/6, mb1 4.6/8,mb1mx4.2/17,mbtmp4.4/8,ML3.3/2,MS3.7/2, Ms1 3.7/2,ms1mx2.8/27,Error ellipse: s-maj=47.1km s-min=21.1km az=133.0*

*NEIC **04** 23:03:04.9±4.2,2127S×17438W,h18km±25km,mb4.5/14, Error ellipse: s-maj=12.3km s-min=7.0km az=136.0*

*ISCJB **04** 23:03:05.7±0.4,2131S±009×17451W±009,h33km, mb4.4/20,MS3.7/2,Error ellipse: s-maj=14.7km s-min=9.3km az=97.6*

ISC 04 23:03:02.4±5.7,2129S±009×17439W±009,h1km±35km, n53,σ0°87/38,mb4.4/20,MS3.7/2,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.75	19	Pn	Pn	23 04 55.7	-0.6
3.7nm,0.3s,baz=211,slow=22,SNR=3.8							
AFI				Sn	Sn	23 06 17.6	-7.0
4.2nm,0.3s,baz=73,slow=22,SNR=3.4							
DZM	Mont Dzumac	17.83	264	P	Pn	23 07 15.3	+3.6
0.5nm,0.3s,baz=75,slow=17,SNR=7.4							
URZ	Urewera	18.44	202	P	Pn	23 07 19.7	+0.5
0.7nm,0.3s,baz=104,slow=7.4,SNR=6.2							
TBI	Tubuai	23.15	100	eLR	LR	23 13 11.9	
79nm,22.8s							
PPT	Papeete	23.69	85	eLR	LR	23 13 25.5	
66nm,20.5s							
PPT	Papeete	23.69	85	LR	LR	23 14 51.7	
comp=Z,91nm,20.4s,MS3.2,baz=252,slow=30							
HNR	Honiara	27.36	292	eP	P	23 08 49.2	+0.2
48nm,0.7s,mb5.1							
RKT	Rikitea	36.47	100	eLR	LR	23 19 21.7	
72nm,29.2s							
CTAO	Charters Tower	36.77	265	eP	P	23 10 11.4	0.0
3.9nm,0.8s,mb4.3							
TAU	Tasmania Unive	38.49	227	eP	P	23 10 25.5	-0.5
25nm,1.0s,mb4.9							
PMG	Port Moresby	38.80	282	eP	P	23 10 28.7	+0.1
4.3nm,0.6s,mb4.4							
STKA	Stephens Creek	40.51	246	eP	P	23 10 42.0	-0.8
3.3nm,0.7s,mb4.1							
STKA	Stephens Creek	40.51	246	P	P	23 10 41.5	-1.4
4.5nm,0.7s,mb4.2,baz=94,slow=8.5,SNR=10							
STKA	Stephens Creek	40.51	246	eP	P	23 10 43.4	+0.5
ASAR	Alice Springs	47.62	257	P	P	23 11 40.0	0.0
6.7nm,0.8s,mb4.7,baz=91,slow=8.3,SNR=62							
WB2	Warramunga Arr	47.82	262	eP	P	23 11 38.9	-2.5
WB2	Warramunga Arr	47.82	262	eP	P	23 11 41.4	0.0
WRAB	Tennant Creek	47.82	262	eP	P	23 11 41.5	+0.1
5.7nm,0.9s,mb4.6							
WRA	Warramunga Arr	47.83	262	P	P	23 11 41.5	0.0
5.3nm,0.8s,mb4.6,baz=98,slow=7.4,SNR=35							
MIDW	Midway	49.30	357	P	P	23 11 53.1	+0.3
GUMO	Guam	52.92	307	P	P	23 12 19.9	-0.2
FITZ	Fitzroy Crossi	56.26	262	eP	P	23 12 44.6	+0.3
4.8nm,0.9s,mb4.5							
VNDA	Vanda	57.46	186	eP	P	23 12 53.6	+0.8
1.6nm,0.9s,mb4.0							
MJAR	Matsushiro Arr	72.88	322	P	P	23 14 33.2	+0.3
5.1nm,0.8s,mb4.5,baz=160,slow=6.2,SNR=9.5							
MAJO	Matsushiro	72.88	322	P	P	23 14 32.7	-0.3
CMB	Columbia Colle	77.80	41	P	P	23 15 00.6	-0.7
YSS	Yuzh-Sakhalins	78.14	332	P	P	23 15 02.2	-1.0
NVAR	Mina Array Bea	79.33	42	P	P	23 15 10.0	+0.3
0.5nm,0.6s,mb3.6,baz=235,slow=8.3,SNR=4.9							
NVAR	Mina Array Bea	79.33	42	P	P	23 15 10.0	+0.3
KSRS	Korea Array	79.73	317	P	P	23 15 13.9	+2.0
1.3nm,0.6s,mb4.0,baz=134,slow=7.1,SNR=5.0							
MAW	Mawson	81.95	199	P	P	23 15 21.7	-2.0
2.2nm,0.7s,mb4.2							
ARUT	Antelope Range	82.04	44	P	P	23 15 22.0	-2.2
PMR	Palmer	85.04	12	eP	P	23 15 38.9	-0.8
1.7nm,0.4s,mb4.5							
ANMO	Albuquerque	85.30	50	eP	P	23 15 42.4	+1.5
2.3nm,0.6s,mb4.5							
HWUT	Hardware Ranch	85.38	42	P	P	23 15 41.7	+0.3
NEW	Newport	86.08	34	LR	LR	23 50 36.4	
comp=Z,89nm,19.1s,MS4.2,baz=50,slow=33							
NEW	Newport	86.08	34	P	P	23 15 45.7	+0.9
DLMT	Dillon	86.86	38	eP	P	23 15 49.0	+0.4
6.0nm,0.7s,mb4.9							
SDCO	Great Sand Dun	87.35	48	eP	P	23 15 51.0	-0.1
0.8nm,0.7s,mb4.1							
ISCO	Idaho Springs	88.28	46	eP	P	23 15 56.2	+0.7
0.8nm,0.6s,mb4.1							
COLA	College	88.29	11	eP	P	23 15 55.7	+0.2
2.3nm,0.7s,mb4.5							
HIA	Hailar	91.31	323	P	P	23 16 09.7	0.0
LSA	Lhasa	103.94	297	Pdif	Pdif	23 17 07.5	+0.8
KURK	Kurchatov	116.86	317	ePKPdf	PKPdf	23 21 48.5	-0.2
CHKZ	Chkalovo	121.63	321	ePKPdf	PKPdf	23 21 57.1	-0.8
BRVK	Borovoye	121.91	320	ePKPdf	PKPdf	23 21 58.1	-0.3
ARU	Arti	127.75	326	PKPdf	PKPdf	23 22 09.5	-0.1
AKASG	Malin Array Be	145.28	333	PKPbc	PKPbc	23 22 41.5	0.0
2.0nm,0.6s,baz=39,slow=4.2,SNR=21							
MALT	Malatya	147.07	308	ePKP	PKPdf	23 22 48.1	+3.2
CLL	Collm	149.48	351	ePKPab	PKPab	23 22 58.0	-0.1
BRTR	Keskin Array B	149.84	314	PKPbc	PKPbc	23 22 54.9	+0.7
1.3nm,0.8s,baz=124,slow=3.2,SNR=10							
KHC	Kasperske Hory	151.50	349	ePKPbc	PKPbc	23 22 57.5	-0.6
GERES	GERESS Array B	151.75	349	PKPbc	PKPbc	23 22 58.6	-0.1
1.0nm,0.8s,baz=2.7,slow=5.7,SNR=5.3							

*ISCJB **04** 23:09:22.2±1.0,2328S±005×674W±0.1,h132km±13km, mb3.8/4,Error ellipse: s-maj=22.4km s-min=8.3km az=172.9*

*IDC **04** 23:09:23.1±1.8,2326S×6728W,h121km±17km,mb3.6/3, mb1 3.8/5,mb1mx3.5/17,mbtmp3.7/5,Error ellipse: s-maj=30.9km s-min=13.3km az=97.0*

*NEIC **04** 23:09:23.5±0.9,2323S×6741W,h127km±9km,mb3.8/2, Error ellipse: s-maj=16.1km s-min=8.3km az=85.0*

ISC 04 23:09:23.2±0.8,2330S±005×675W±01,h124km±11km,n14, σ1°05/15,mb3.9/4,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.00	355	P	Pn	23 11 04.9	+1.8
2.4nm,0.3s,baz=164,slow=7.1,SNR=29							
LPAZ				S	Sn	23 12 21.4	+0.1
0.4nm,0.3s,baz=255,slow=24,SNR=4.3							
ARE	Arequipa	7.79	330	eP	Pn	23 11 12.0	-1.8
ARE				eS	Sn	23 12 35.0	-5.3
CFAA	Coronel Fontan	8.30	185	P	Pn	23 11 22.9	+2.1
0.1nm,0.3s,baz=9.3,slow=9.4,SNR=13							
CFAA				S	Sn	23 12 51.4	-1.4
0.1nm,0.3s,baz=250,slow=19,SNR=3.9							
SIV	San Ignacio	9.43	41	P	Pn	23 11 35.1	-0.8
3.1nm,0.3s,baz=227,slow=10,SNR=37							
SIV				S	Sn	23 13 14.6	-5.6
0.2nm,0.3s,baz=317,slow=22,SNR=3.7							
TRQA	Tornquist	15.44	164	ePn	Pn	23 12 54.5	+0.4
1.3nm,0.4s							
SDV	Santo Domingo	32.14	354	P	P	23 15 39.3	+0.6
2.3nm,0.8s,mb4.0							
RCBR	Riachuelo	35.00	65	P	P	23 16 03.0	-0.5
TEIG	Tepich	47.79	333	P	P	23 17 48.4	+0.5
SNAA	Sanae	60.15	161	P	P	23 19 17.9	+0.3
0.4nm,0.6s,mb3.6,baz=279,slow=6.2,SNR=7.7							
TORD	Torodi Ar. Bea	76.71	69	P	P	23 21 00.7	+0.1
1.3nm,0.3s,mb4.1,baz=257,slow=5.8,SNR=69							
YKA	Yellowknife Ar	93.33	340	P	P	23 22 23.0	-1.0
0.3nm,0.6s,mb3.8,baz=131,slow=4.4,SNR=7.5							
ASAR	Alice Springs	128.91	205	PKP	PKPdf	23 28 16.8	+0.7
0.4nm,0.8s,baz=140,slow=1.7,SNR=5.3							
WRA	Warramunga Arr	132.05	208	PKP	PKPdf	23 28 23.3	+1.3
0.4nm,0.4s,baz=157,slow=1.7,SNR=4.6							
MKAR	Makanchi Array	146.25	39	PKPbc	PKPbc	23 28 48.8	-0.3
0.7nm,0.7s,baz=316,slow=3.3,SNR=4.0							

IDC 04 23:11:30.0±3.1,3356S×17865W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.7/13,mbtmp3.7/3,ML3.7/1,Error ellipse: s-maj=75.2km s-min=36.5km az=118.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.81	215	Pn	Pn	23 12 58.2	+0.8
2.3nm,0.3s,baz=316,slow=8.5,SNR=16							
URZ				Sn	Sn	23 14 03.0	-1.8
3.1nm,0.3s,baz=207,slow=23,SNR=8.6							
ASAR	Alice Springs	42.49	271	P	P	23 19 27.1	+0.3
0.4nm,0.7s,baz=117,slow=7.2,SNR=5.1							
WRA	Warramunga Arr	43.76	276	P	P	23 19 37.5	+0.3
0.4nm,0.3s,baz=115,slow=7.7,SNR=5.6							
FINES	FINESS Array B	147.88	338	PKPbc	PKPbc	23 31 15.3	-1.7
3.1nm,1.0s,baz=90,slow=1.9,SNR=5.2							

IDC 04 23:18:06.1±2.9,639S×14686E,h0km,mb2.9/1,mb1 3.3/3, mb1mx3.2/14,mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=67.4km s-min=33.0km az=84.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.02	174	Pn	Pn	23 18 56.5	+1.4
5.7nm,0.3s,baz=323,slow=3.2,SNR=9.4							
PMG				Sn	Sn	23 19 32.5	+0.6
6.8nm,0.3s,baz=144,slow=23,SNR=8.9							
WRA	Warramunga Arr	18.15	221	P	Pn	23 22 18.8	-0.8
0.1nm,0.3s,baz=50,slow=12,SNR=4.8							
ASAR	Alice Springs	21.22	215	P	P	23 22 53.8	+0.3
0.4nm,0.5s,baz=53,slow=7.7,SNR=9.3							
TORD	Torodi Ar. Bea	145.05	284	PKPbc	PKPbc	23 37 45.0	+0.3
0.2nm,0.4s,baz=63,slow=3.8,SNR=7.7							

*MOS **04** 23:48:58.5±0.8,698S×12975E,h59km,mb4.8/13,Error ellipse: s-maj=19.7km s-min=8.8km az=114.9*

*ISCJB **04** 23:48:59.1±1.8,700S±007×12980E±006,h65km±18km, mb4.6/22,Error ellipse: s-maj=12.5km s-min=8.2km az=71.1*

*IDC **04** 23:49:01.3±3.9,698S×12978E,h68km±37km,mb4.3/5, mb1 4.5/9,mb1mx4.2/17,mbtmp4.4/9,ML4.5/4,Error ellipse: s-maj=35.5km s-min=18.3km az=55.0*

*NEIC **04** 23:49:01.4±1.1,702S×12984E,h71km±11km,mb4.6/15, Error ellipse: s-maj=9.9km s-min=6.1km az=56.0*

ISC 04 23:49:01.7±1.4,701S±007×12985E±008,h73km±14km, n63,σ0°81/70,mb4.6/22,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.21	156	eP	Pn	23 50 34.4	+3.7
36nm,0.2s							
KAKA				eS	Sn	23 51 40.5	+0.2
FITZ	Fitzroy Crossi	11.76	200	eP	Pn	23 51 45.5	-1.0
24nm,0.3s							
FITZ				eS	Sn	23 53 45.8	-10
FITZ	Fitzroy Crossi	11.76	200	P	Pn	23 51 45.7	-0.8
4.6nm,0.3s,baz=32,slow=11,SNR=64							
FITZ				S	Sn	23 53 47.8	-8.2
4.9nm,0.3s,baz=73,slow=20,SNR=10							
WRAB	Tennant Creek	13.56	162	eP	Pn	23 52 10.1	-0.7
WRAB				pmax	pmax		
comp=Z,131nm,0.3s							
WRAB	Tennant Creek	13.56	162	ePn	Pn	23 52 10.1	-0.8
comp=Z,131nm,0.3s							
WRAB				eSn	Sn	23 54 29.3	-10
WRA	Warramunga Arr	13.57	162	P	Pn	23 52 10.0	-0.9
comp=Z,4.3nm,0.3s,baz=346,slow=13,SNR=95							
WRA				S	Sn	23 54 31.4	-8.5
comp=Z,7.7nm,0.3s,baz=334,slow=23,SNR=15							
WB2	Warramunga Arr	13.57	162	eP	Pn	23 52 10.0	-0.9
WB2				eS	Sn	23 54 29.6	-10
ASAR	Alice Springs	17.01	167	P	Pn	23 52 55.9	+1.1
comp=Z,2.1nm,0.3s,baz=336,slow=9.1,SNR=60							
ASAR				S	S	23 55 54.8	-14
comp=Z,1.7nm,0.3s,baz=352,slow=27,SNR=6.4							
PMG	Port Moresby	17.29	99	P	Pn	23 53 00.1	+1.9
comp=Z,0.9nm,0.3s,baz=262,slow=7.1,SNR=4.9							
PMG				S	S	23 56 07.3	-7.6
comp=Z,1.4nm,0.3s,baz=169,slow=23,SNR=7.2							
PMG	Port Moresby	17.29	99	eP	Pn	23 52 59.5	+1.2
PMG				S	S	23 56 07.3	-7.5
PMG				pmax	pmax		
comp=Z,20nm,0.8s							
PMG	Port Moresby	17.29	99	ePn	Pn	23 52 59.5	+1.2
comp=Z,20nm,0.8s							
PMG				e		23 53 16.3	
PMG				S	S	23 56 07.3	-7.6
KKM	Kota Kinabalu	18.80	313	eP	Pn	23 53 17.8	+1.3
KSM	Kuching	21.25	293	P	P	23 53 41.0	-0.8
STKA	Stephens Creek	27.06	158	⇓	/P	23 54 37.7	+0.5
comp=Z,3.0nm,0.3s,mb4.3							
STKA				eS	sS	23 59 48.7	+9.4
STKA	Stephens Creek	27.06	158	P	P	23 54 38.3	+1.1
comp=Z,4.4nm,0.4s,mb4.4,baz=330,slow=7.6,SNR=17							
NACB	Ninganchiao	32.03	346	eP	P	23 55 20.6	-0.6
PSI	Prapat	32.37	287	P	P	23 55 24.9	+0.7
comp=Z,9.1nm,0.8s,mb4.6,baz=127,slow=3.7,SNR=9.9							
YHNB	Yeheng	32.56	346	P	P	23 55 25.4	-0.5
COCO	West Island	32.94	258	P	P	23 55 30.9	+1.7
TAU	Tasmania Unive	38.93	159	P	P	23 56 20.8	+0.4
ENH	Enshi	41.91	333	P	P	23 56 45.7	+0.7
BJT	Baijiatuau	48.47	346	eP	P	23 57 36.9	0.0
BJT				pmax	pmax		
comp=Z,5.0nm,0.5s							
BJT	Baijiatuau	48.47	346	eP	P	23 57 36.9	-0.1
comp=Z,5.4nm,0.5s,mb4.6							
PALK	Pallekele	51.03	285	P	P	23 57 57.3	+0.9
LSA	Lhasa	52.11	316	P	P	23 58 05.5	+1.1
LSA				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
LSA	Lhasa	52.11	316	P	P	23 58 05.5	+1.2
comp=Z,2.5nm,0.6s,mb4.4							
JIRN	Jiri	54.48	311	eP	P	23 58 21.7	-0.1
comp=Z,3.8nm,0.2s,mb5.0							
GUN	Gumba	54.85	311	eP	P	23 58 24.2	-0.2
comp=Z,14nm,0.5s,mb5.3							
GKN	Gorkha	55.83	311	eP	P	23 58 31.0	-0.5
comp=Z,19nm,0.5s,mb5.4							
KOLN	Koldanda	56.50	310	eP	P	23 58 36.0	-0.2
comp=Z,7.2nm,0.5s,mb5.0							
HIA	Hailar	56.74	352	eP	P	23 58 38.5	+0.6
HIA				pmax	pmax		
comp=Z,2.0nm,0.4s							
HIA	Hailar	56.74	352	eP	P	23 58 38.5	+0.6
comp=Z,2.3nm,0.4s,mb4.6							
ULN	Ulaanbaatar	58.23	342	eP	P	23 58 48.9	+0.5
ULN				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
ULN	Ulaanbaatar	58.23	342	eP	P	23 58 48.9	+0.5
comp=Z,2.9nm,0.6s,mb4.5							
SONM	Songino Array	58.41	342	P	P	23 58 50.0	+0.4
comp=Z,1.5nm,0.4s,mb4.4,baz=160,slow=7.0,SNR=20							
MKAR	Makanchi Array	68.16	327	P	P	23 59 53.8	-0.3
comp=Z,6.2nm,0.4s,mb4.8,baz=115,slow=8.7,SNR=155							
YAK	Yakutsk	68.84	360	P	P	23 59 57.2	-1.1
AAK	Ala-Archa	70.45	320	eP	P	00 00 07.8	-0.5
AAK				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.4							
AAK	Ala-Archa	70.45	320	eP	P	00 00 07.8	-0.5
comp=Z,2.8nm,0.5s,mb4.3							
ZAL	Zalesovo	71.53	334	P	P	00 00 13.9	-0.9
comp=Z,2.4nm,0.6s,mb4.2,baz=338,slow=7.2,SNR=11							
KURK	Kurchatov	72.45	329	eP	P	00 00 19.9	-0.4
KURK				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.5							
KURK	Kurchatov	72.45	329	eP	P	00 00 19.9	-0.4
comp=Z,6.6nm,0.8s,mb4.5							
VNDA	Vanda	72.45	173	eP	P	00 00 20.0	-0.3
VNDA				pmax	pmax		
comp=Z,6.0nm,1.7s							
VNDA	Vanda	72.45	173	eP	P	00 00 20.0	-0.3
comp=Z,6.3nm,1.7s,mb4.2							
SBA	Scott Base	73.34	172	P	P	00 00 24.9	-0.7
BRVK	Borovoye	78.07	328	eP	P	00 00 51.8	-0.7
BRVK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
BRVK	Borovoye	78.07	328	eP	P	00 00 51.8	-0.7
comp=Z,3.5nm,0.8s,mb4.1							
CHKZ	Chkalovo	78.20	329	eP	P	00 00 52.3	-0.9
CHKZ				pmax	pmax		
comp=Z,21nm,1.3s,mb4.7							
CHKZ	Chkalovo	78.20	329	eP	P	00 00 52.3	-0.9
comp=Z,22nm,1.3s,mb4.7							
ARU	Arti	85.64	328	eP	P	00 01 30.8	-1.5
ARU				pmax	pmax		
comp=Z,13nm,1.4s,mb4.7							
ARU	Arti	85.64	328	eP	P	00 01 30.8	-1.5
comp=Z,13nm,1.4s,mb4.7							
PMR	Palmer	91.86	28	P	P	00 02 02.6	+0.8
MCK	McKinley	92.36	26	P	P	00 02 03.5	-0.6
KMBO	Kilima Mbogo	92.44	269	P	P	00 02 05.6	+1.1
KIV	Kislovodsk	92.78	314	eP	P	00 02 06.0	0.0
KIV				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.4							
KIV	Kislovodsk	92.78	314	eP	P	00 02 06.0	0.0
comp=Z,1.1nm,0.5s,mb4.4							
COLA	College	93.03	25	eP	P	00 02 07.5	+0.3
COLA				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.5							
COLA	College	93.03	25	eP	P	00 02 07.5	+0.3
comp=Z,1.4nm,0.4s,mb4.6							
MALT	Malatya	95.41	308	eP	P	00 02 18.5	+0.4
MALT				pmax	pmax		
comp=

ellipse: s-maj=0.0km s-min=0.0km az=1.0
*LDG **04** 23:58:34.0±0.1, 4301N×001W, h3km, Md1.9/2, Ml1.9/5, Error ellipse: s-maj=1.7km s-min=1.0km az=162.0*

MDD 04 23:58:34.4±0.3, 4301N×001W, h0km, mbLg1.2/6, Error ellipse: s-maj=2.1km s-min=1.9km az=118.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**59**	Pg	Pg	23 58 35.8	-0.1
LABF				Sg	Sg	23 58 37.1	+0.3
LABF	**Labassere**	**0.07**	**59**	P	Pg	23 58 35.9	0.0
LABF				S	Sg	23 58 37.2	+0.4
VIEF	**Viey**	**0.13**	**168**	Pg	Pg	23 58 36.8	-0.1
VIEF				Sg	Sg	23 58 38.9	+0.4
VIEF	**Viey**	**0.13**	**168**	P	Pg	23 58 36.9	0.0
VIEF				S	Sg	23 58 39.0	+0.4
EPF	**Esparros**	**0.26**	**85**	*e*Pg	Pg	23 58 38.9	-0.5
EPF				*e*Sg	Sg	23 58 42.7	-0.1
	22nm,0.2s						
EPF	**Esparros**	**0.26**	**85**	Pg	Pg	23 58 38.9	-0.5
EPF				Lg		23 58 42.7	
	11nm,0.2s						
RESF	**Ens**	**0.33**	**128**	P	Pg	23 58 40.4	-0.3
RESF				S	Sg	23 58 45.1	+0.1
EBIE	**Bielsa**	**0.34**	**160**	Pg	Pg	23 58 40.6	-0.4
	3.7nm,0.3s,SNR=21						
EBIE				Lg		23 58 45.5	
	3.9nm,0.0s,SNR=34						
ETSF	**Etsaut**	**0.41**	**255**	*e*Pg	Pg	23 58 42.0	-0.4
ETSF				*e*Sg	Sg	23 58 47.5	-0.3
	5.8nm,0.2s						
ETSF	**Etsaut**	**0.41**	**255**	Pg	Pg	23 58 42.0	-0.4
ETSF				Lg		23 58 47.5	
	2.9nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	23 58 51.0	-0.6
SJPF				*e*Sg	Sg	23 59 02.6	-0.6
	2.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	23 58 51.0	-0.6
SJPF				Lg		23 59 02.6	
	1.2nm,0.2s						
CSOR	**Sort**	**1.06**	**126**	P	Pg	23 58 54.5	-0.2
CSOR				S	Sg	23 59 08.4	0.0
	0.9nm,0.2s						
ELIZ	**Elizondo**	**1.12**	**278**	Lg		23 59 11.7	
	0.2nm,0.1s,SNR=4.0						
CORG	**Organya**	**1.25**	**128**	P	Pg	23 58 58.7	+0.2
CORG				S	Sg	23 59 14.3	-0.4
CAVN	**Les Avellanes**	**1.26**	**153**	P	Pg	23 58 58.1	-0.5
CAVN				S	Sg	23 59 14.9	0.0
	3.1nm,0.1s						
ESAC	**San Caprasio**	**1.33**	**195**	Pg	Pg	23 59 00.4	+0.5
	5.5nm,0.2s,SNR=7.9						
ESAC				Lg		23 59 18.3	
	0.4nm,0.1s,SNR=4.0						
CLLI	**Llivia**	**1.56**	**109**	P	Pn	23 59 04.3	+0.9
CLLI				S	Sn	23 59 23.9	-0.4
MTLF	**Montolieu**	**1.67**	**78**	*e*Pn	Pn	23 59 02.3	-2.6
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	23 59 05.2	-1.2
MTLF				*e*Sg	Sg	23 59 25.9	-2.1
	2.2nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	Pn	Pn	23 59 02.3	-2.6
MTLF				Pg	Pg	23 59 05.2	-1.2
MTLF				Lg		23 59 25.9	
	1.1nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	*e*Sg	Sg	23 59 50.3	-2.4
	0.6nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	Lg		23 59 50.3	
	0.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.55**	**25**	*e*Sg	Sg	23 59 53.6	-2.6
	1.3nm,0.3s						
RJF	**Les Rejaudoux**	**2.55**	**25**	Lg		23 59 53.6	
	0.6nm,0.3s						
LASF	**Ste Croix**	**3.01**	**68**	*e*Sg	Sg	00 00 07.7	-3.5
	1.0nm,0.3s						

MOS 05 00:11:38.0±1.7, 4243N×4763E, h8km, mb3.8/1, 1C, Error ellipse: s-maj=11.4km s-min=7.2km az=111.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGKR	**Sergokala**	**0.04**	**34**	*i*PG	Pg	00 11 39.0	-0.6
URKR	**Urkarakh**	**0.26**	**179**	*i*PG	Pg	00 11 43.0	-0.2
URKR				*i*S	Sg	00 11 48.0	+1.3
MNSR	**Manas**	**0.28**	**14**	*e*PG	Pg	00 11 43.0	-0.6
MNSR				*e*S	Sg	00 11 48.0	+0.6
MNSR				pmax	pmax		
	comp=Z,352nm,0.2s						
KMKR	**Kumukh**	**0.49**	**233**	*i*PG	Pg	00 11 49.0	+1.5
KMKR				*i*S	Sg	00 11 58.0	+4.0
KMKR				pmax	pmax		
	comp=Z,32nm,0.2s						
ARKR	**Arakani**	**0.50**	**291**	*i*PG	Pg	00 11 48.0	+0.3
ARKR				*e*S	Sg	00 11 57.0	+2.8
ARKR				pmax	pmax		
	comp=Z,35nm,0.2s						
MAK	**Makhachkala**	**0.54**	**350⇑**	*i*PG	Pg	00 11 53.0	+4.5
MAK				*i*		00 12 02.9	
MAK				pmax	pmax		
	comp=Z,41nm,0.2s						
MAK				smax			
	comp=N,242nm,0.5s						
MAK				smax			
	comp=E,282nm,0.5s						
MAK				MLR	MLR		
	comp=Z,1μm,23.0s						
BUJR	**Buynaksk**	**0.55**	**316**	*e*PG	Pg	00 11 50.0	+1.3
BUJR				*e*S	Sg	00 11 58.5	+2.6
DRN	**Derbent**	**0.66**	**127**	PG	Pg	00 11 53.7	+3.1
DRN				*i*S	Sg	00 12 06.2	+7.0
KRNR	**Karanay**	**0.67**	**307**	*e*PG	Pg	00 11 52.0	+1.2
KRNR				*i*S	Sg	00 12 02.5	+3.0
KRNR				pmax	pmax		
	comp=Z,30nm,0.2s						
UNCR	**Uncukul**	**0.68**	**295**	PG	Pg	00 11 53.0	+1.9
UNCR				*e*S	Sg	00 12 04.5	+4.6
UNCR				pmax	pmax		
	comp=Z,21nm,0.2s						
XNZR	**Khunzakh**	**0.69**	**280**	*e*PG	Pg	00 11 52.0	+0.7
XNZR				*e*S	Sg	00 12 03.5	+3.1
XNZR				pmax	pmax		
	comp=Z,44nm,0.2s						
DBC	**Dubki**	**0.83**	**315**	*e*PG	Pg	00 11 54.0	-0.1
DBC				*i*S	Sg	00 12 06.0	+1.1
AKT	**Akhty**	**0.95**	**175**	*i*PG	Pg	00 11 57.0	+0.8
AKT				*e*S	Sg	00 12 12.7	+4.1
AKT				pmax	pmax		
	comp=Z,63nm,0.2s						
BTLR	**Botlikh**	**1.07**	**283**	*e*PG	Pg	00 11 58.0	-0.5
BTLR				*i*S	Sg	00 12 13.5	+1.2

*ISCJB **05** 00:12:05.8±0.9, 3920N±003×2590E±006, h7km±6km, Error ellipse: s-maj=7.3km s-min=5.2km az=164.6*
*NEIC **05** 00:12:05.8, 39.16N×2593E, h21km, MD3.2(ISK), MD3.4(ATH), After ATH.*
*ATH **05** 00:12:05.8, 39.16N×2593E, h21km±1km, MD3.4/3*
*ISK **05** 00:12:06.4, 3923N×2600E, h10km, MD3.1*
*CSEM **05** 00:12:06.0±0.1, 3922N×2591E, h12km, MD3.1, Error ellipse: s-maj=2.8km s-min=1.7km az=84.0*

ISC 05 00:12:06.4±0.9, 3920N±003×2589E±006, h11km±5km, n23, σ0°69/31, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.30**	**81**	*e*PB	**Pg**	**00 12 12.5**	**0.0**
PRK				*e*SB	**Sg**	**00 12 17.0**	**+0.4**
AYVA	**Ayvalik**	**0.63**	**80**	*i*P	**Pg**	**00 12 18.5**	**-0.2**
AYVA				*i*S	**Sg**	**00 12 27.0**	**0.0**
BOZC	**Bozcaada**	**0.65**	**11**	*i*P	**Pg**	**00 12 18.8**	**-0.3**
BOZC				*i*S	**Sg**	**00 12 27.7**	**+0.1**
EZN	**Ezine**	**0.71**	**28**	PG	**Pg**	**00 12 19.7**	**-0.4**
EZN				SG	**Sg**	**00 12 29.3**	**-0.1**
LIA	**Limnos Island**	**0.88**	**322**	*e*PN	**Pn**	**00 12 23.8**	**-1.0**
URLA	**Izmir**	**1.01**	**146**	*i*P	**Pg**	**00 12 25.9**	**+0.1**
URLA				*i*S	**Sg**	**00 12 39.2**	**+0.3**
BLCB	**Balcova**	**1.22**	**132**	PN	**Pn**	**00 12 29.0**	**-0.4**
CANB	**Canakkale**	**1.22**	**48**	PN	**Pn**	**00 12 29.0**	**-0.4**
CANB				SN	**Sn**	**00 12 44.5**	**-1.4**
CANB	**Canakkale**	**1.22**	**48**	*i*P	**Pn**	**00 12 28.9**	**-0.5**
CANB				*i*S	**Sb**	**00 12 45.2**	**0.0**
IZM	**Izmir**	**1.34**	**126**	PN	**Pn**	**00 12 31.5**	**+0.4**
AKS	**Akhisar**	**1.54**	**101**	*e*PN	**Pn**	**00 12 33.0**	**-0.8**
ENEZ	**Enez**	**1.55**	**8**	PN	**Pn**	**00 12 33.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.79**	**33**	*e*PN	**Pn**	**00 12 37.4**	**+0.2**
SART	**Tekirdag**	**1.79**	**33**	*i*P	**Pn**	**00 12 38.7**	**+1.4**
SART				*i*S	**Sn**	**00 13 02.7**	**+2.8**
EDC	**Edincik**	**1.91**	**52**	*e*PN	**Pn**	**00 12 38.9**	**0.0**
BNT	**Bandirma**	**1.95**	**53**	*e*PN	**Pn**	**00 12 38.6**	**-0.8**
RDO	**Rodhopi**	**1.96**	**352**	*e*PN	**Pn**	**00 12 40.7**	**+1.1**
APE	**Apeiranthos**	**2.15**	**188**	*e*PN	**Pn**	**00 12 42.2**	**0.0**
DST	**Dursunbey**	**2.16**	**78**	*e*PN	**Pn**	**00 12 42.6**	**+0.2**
KCT	**Karacabey**	**2.18**	**60**	*e*PN	**Pn**	**00 12 41.8**	**-0.8**
EDRB	**Edirne**	**2.72**	**14**	*e*PN	**Pn**	**00 12 50.5**	**+0.4**
IZI	**Iznik**	**2.99**	**67**	*e*PN	**Pn**	**00 12 53.6**	**-0.1**
YLV	**Yalova**	**3.01**	**62**	*e*PN	**Pn**	**00 12 54.8**	**+0.8**

*IDC **05** 00:13:50.3±1.0, 5432N×15992E, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.6/23, mbtmp3.6/6, Error ellipse: s-maj=43.6km s-min=23.6km az=156.0*
*ISCJB **05** 00:14:01.9±0.4, 5427N±003×16056E±0.10, h93km±5km, mb3.5/6, Error ellipse: s-maj=10.0km s-min=3.3km az=38.9*
*KRSC **05** 00:14:01.9±0.9, 5431N×16041E, h71km±70km, ML4.0*
*MOS **05** 00:14:10.7±0.5, 5466N×15966E, h193km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=38.9km az=69.9*

ISC 05 00:14:02.8±0.4, 5428N±003×16054E±010, h88km±5km, n32, σ0°67/49, mb3.5/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.75**	**68**	*e*P	**Pn**	**00 14 19.2**	**-0.4**
MKZ				*i*S	**Sn**	**00 14 31.8**	**-0.4**
TUMR	**Tumrok**	**1.03**	**347**	*i*P	**Pn**	**00 14 22.5**	**-0.2**
TUMR				*i*S	**Sn**	**00 14 37.7**	**+0.1**
SPN	**Mys Shipunski**	**1.22**	**195**	*e*P	**Pn**	**00 14 24.5**	**-0.5**
SPN				*i*S	**Sn**	**00 14 41.0**	**-0.7**
NLC	**Nalytchevo**	**1.32**	**213**	*e*P	**Pn**	**00 14 25.8**	**-0.4**
NLC				*i*S	**Sn**	**00 14 43.4**	**-0.4**
AVH	**Avacha**	**1.48**	**227**	*e*P	**Pn**	**00 14 28.6**	**+0.5**
AVH				*i*S	**Sn**	**00 14 48.2**	**+0.9**
KMNR	**Kamenistaya**	**1.49**	**353**	*e*P	**Pn**	**00 14 28.4**	**+0.1**
KMNR				*i*S	**Sn**	**00 14 47.7**	**+0.1**
GNL	**Ganaly**	**1.64**	**250**	*e*P	**Pn**	**00 14 30.3**	**+0.1**
BZMR	**Bezymyannaya**	**1.66**	**359**	*e*P	**Pn**	**00 14 30.5**	**0.0**
KIRR	**Kirishev**	**1.68**	**356**	*e*P	**Pn**	**00 14 30.7**	**0.0**
KIRR				*i*S	**Sn**	**00 14 51.5**	**-0.4**
PET	**Petropavlovsk**	**1.69**	**222**	*e*PN	**Pn**	**00 14 31.1**	**+0.3**
PET				pmax	pmax		
	comp=Z,174nm,0.3s						
PET	**Petropavlovsk**	**1.69**	**222**	*e*P	**Pn**	**00 14 31.1**	**+0.3**
PET				*i*S	**Sn**	**00 14 52.5**	**+0.4**
KPT	**Kopyto**	**1.70**	**354**	*e*P	**Pn**	**00 14 30.7**	**-0.3**
ZLN	**Zelenaya**	**1.75**	**5**	*e*P	**Pn**	**00 14 32.1**	**+0.5**
ZLN				*i*S	**Sn**	**00 14 54.3**	**+0.8**
KOZ	**Kozyrevsk**	**1.82**	**348**	*e*P	**Pn**	**00 14 32.2**	**-0.4**
CIRR	**Tsirk**	**1.84**	**4**	*e*P	**Pn**	**00 14 33.3**	**+0.5**
KRSR	**Krestovskiy**	**1.94**	**0**	*e*P	**Pn**	**00 14 33.9**	**-0.2**
KLY	**Klyuchi**	**2.04**	**2**	*e*P	**Pn**	**00 14 35.8**	**+0.4**
KLY				*i*S	**Sn**	**00 15 00.5**	**+0.2**
SRDR	**Sredinnyy**	**2.09**	**347**	*e*P	**Pn**	**00 14 35.4**	**-0.8**
SRDR				*i*S	**Sn**	**00 14 59.8**	**-1.8**
RUS	**Russkaya**	**2.21**	**214**	*e*P	**Pn**	**00 14 37.5**	**-0.2**
RUS				*i*S	**Sn**	**00 15 03.6**	**-0.8**
GRL	**Gorelyy**	**2.27**	**221**	*e*P	**Pn**	**00 14 39.3**	**+0.7**
GRL				*i*S	**Sn**	**00 15 06.9**	**+1.0**
BDR	**Baidarnaya**	**2.32**	**9**	*e*P	**Pn**	**00 14 39.4**	**+0.2**
BDR				*i*S	**Sn**	**00 15 07.3**	**+0.2**
KBTR	**Krutoberegovo**	**2.33**	**33**	*e*P	**Pn**	**00 14 40.4**	**+1.1**
SMKR	**Semkarok**	**2.37**	**13**	*e*P	**Pn**	**00 14 39.9**	**+0.1**
SMKR				*i*S	**Sn**	**00 15 07.5**	**-0.6**
SRKR	**Sorokina**	**2.41**	**8**	*e*P	**Pn**	**00 14 40.8**	**+0.5**
SRKR				*i*S	**Sn**	**00 15 09.3**	**+0.3**
SKR	**Severo-Kuril's**	**4.50**	**219**	*e*PN	**Pn**	**00 15 20.0**	**+11**
SKR				*e*S	**Sn**	**00 16 07.5**	**+7.7**
SKR				smax			
	comp=N,100nm,0.4s						
SKR				smax			
	comp=E,80nm,0.4s						
YKA	**Yellowknife Ar**	**42.11**	**44**	P	**P**	**00 21 45.0**	**-1.2**
	comp=E,0.4nm,0.6s,mb3.3,baz=298,slow=8.2,SNR=5.5						
YKA	**Yellowknife Ar**	**42.11**	**44**	P	**P**	**00 21 45.0**	**-1.2**
MKAR	**Makanchi Array**	**47.89**	**295**	P	**P**	**00 22 27.1**	**-4.8**
	comp=E,0.3nm,0.6s,mb3.3,baz=47,slow=8.6,SNR=3.2						
NVAR	**Mina Array Bea**	**55.10**	**71**	P	**P**	**00 23 27.2**	**+1.5**
	comp=E,0.3nm,0.5s,mb3.6,baz=294,slow=6.8,SNR=3.3						
PDAR	**Pinedale Array**	**56.72**	**62**	P	**P**	**00 23 37.5**	**+0.2**
	comp=E,0.4nm,0.6s,mb3.6,baz=340,slow=4.8,SNR=3.0						
TXAR	**Lajitas Array**	**69.94**	**68**	P	**P**	**00 25 05.0**	**+0.5**
	comp=E,0.3nm,0.4s,mb3.5,baz=286,slow=4.9,SNR=6.5						
WRA	**Warramunga Arr**	**77.27**	**205**	P	**P**	**00 25 45.5**	**-2.0**
	comp=E,0.3nm,0.3s,mb3.5,baz=21,slow=6.1,SNR=7.8						

IDC 05 00:18:37.0±2.8, 860S×11111E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=138.3km s-min=21.0km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.14**	**119**	P	P	00 24 04.2	+0.5
	0.2nm,0.5s,baz=294,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**26.46**	**127**	P	P	00 24 15.9	+0.2
	0.4nm,0.7s,baz=302,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**56.34**	**356**	P	P	00 28 20.5	+0.8
	0.6nm,0.5s,baz=177,slow=8.3,SNR=10						
MKAR	**Makanchi Array**	**60.83**	**338**	P	P	00 28 51.1	0.0
	2.2nm,0.5s,baz=151,slow=7.4,SNR=20						
ZAL	**Zalesovo**	**66.15**	**343**	P	P	00 29 25.6	-0.6
	0.6nm,0.4s,baz=338,slow=11,SNR=2.7						

IDC 05 00:34:27.4±3.2, 968S×11255E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=173.1km s-min=27.9km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**118**	P	P	00 39 37.3	-0.4
	0.2nm,0.6s,baz=292,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**24.68**	**127**	P	P	00 39 50.8	+0.8
	0.5nm,0.7s,baz=305,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**62.37**	**337**	P	P	00 44 52.0	+0.2
	0.5nm,0.8s,baz=158,slow=6.0,SNR=4.6						

*UPP **05** 00:36:09.8, 6783N×2021E, h0km, ML2.8, Mining explosion.*
*CSEM **05** 00:36:09.8, 6783N×2021E, h0km, ML2.8, Mining explosion. After UPP*

HEL 05 00:36:10.5±0.1, 6784N×2017E, h0km, ML1.7, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**28**	*i*P	Pg	00 36 12.6	-0.4
KUA				*i*S	Sg	00 36 14.7	-0.1
NIKU	**Nikkaluokta**	**0.43**	**274**	*i*P	Pg	00 36 18.3	-0.5
LANU	**Lannavaara**	**0.72**	**72**	*i*P	Pg	00 36 23.2	-1.1
LANU	**Lannavaara**	**0.72**	**72**	P	Pg	00 36 23.2	-1.1
	baz=302						
DUNU	**Dundret**	**0.74**	**168**	*i*P	Pg	00 36 23.3	-1.3
DUNU	**Dundret**	**0.74**	**168**	P	Pg	00 36 23.3	-1.3
	baz=67						
SALU	**Saltoluokta**	**0.79**	**235**	*i*P	Pg	00 36 24.6	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	00 36 32.8	-0.6
KIF				*e*S	Sg	00 36 49.1	+0.2
PAJU	**Pajala**	**1.40**	**124**	*e*P	Pn	00 36 35.1	-2.1
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 36 40.7	-0.9
HARU	**Harads**	**1.71**	**169**	P	Pn	00 36 40.7	-0.9
	baz=338						
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	00 36 51.2	+0.1
SJUU	**Sjulsmark**	**2.41**	**166**	P	Pn	00 36 51.2	0.0
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	00 36 51.8	-0.1
SGF				*e*S	Sn	00 37 23.1	+0.5
SGF				MSG		00 37 27.8	
	comp=Z,3.7nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 37 01.2	-0.1
KEV				*e*S	Sn	00 37 39.4	0.0
KEV				MSG		00 37 45.3	
	comp=Z,1.6nm,0.2s						
BURU	**Burvik**	**3.31**	**171**	*e*P	Pn	00 37 03.9	+0.5
SVAU	**Svanoeiden**	**3.37**	**184**	*e*P	Pn	00 37 04.8	+0.4
OUL	**Oulu**	**3.59**	**138**	*e*PG	Pg	00 37 15.9	-3.5
OUL				*e*SG	Sg	00 38 02.2	-3.8

*CSEM **05** 00:37:46.1, 6783N×2020E, h0km, ML3.1, Mining explosion. After UPP*
*UPP **05** 00:37:46.1, 6783N×2020E, h0km, ML3.1, Mining explosion.*

HEL 05 00:37:46.9±0.1, 6784N×2017E, h0km, ML1.7, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**29**	*i*P	Pg	00 37 48.8	-0.5
KUA				*i*S	Sg	00 37 50.8	-0.2
NIKU	**Nikkaluokta**	**0.43**	**274**	*i*P	Pg	00 37 54.6	-0.6
NIKU				*i*S	Sg	00 38 00.6	-0.2
LANU	**Lannavaara**	**0.71**	**72**	*i*P	Pg	00 37 59.7	-1.0
LANU				*i*S	Sg	00 38 08.8	-1.1
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 37 59.7	-0.9
	baz=302						
LANU				S	Sg	00 38 08.8	-1.1
DUNU	**Dundret**	**0.74**	**168**	*i*P	Pg	00 37 59.6	-1.5
SALU	**Saltoluokta**	**0.79**	**235**	*i*P	Pg	00 38 01.0	-1.1
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	00 38 09.0	-0.7
KIF				*e*S	Sg	00 38 24.1	-1.0
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 38 11.4	-2.3
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	00 38 28.8	+1.2
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	00 38 28.7	+0.4
SGF				*e*S	Sn	00 38 59.3	+0.2
SGF				MSG		00 39 05.1	
	comp=Z,3.0nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 38 38.3	+0.7
KEV				*e*S	Sn	00 39 15.3	-0.4
KEV				MSG		00 39 30.6	
	comp=Z,1.6nm,0.3s						
OUL	**Oulu**	**3.60**	**138**	*e*SG	Sg	00 39 38.5	-4.0

*IDC **05** 00:50:08.2±3.9, 3462N×2534E, h22km±28km, mb3.4/3, mb1 3.2/6, mb1mx3.2/21, mbtmp3.2/6, ML3.4/3, Error ellipse: s-maj=25.0km s-min=18.4km az=143.0*
*CSEM **05** 00:50:09.0±0.4, 3456N×2530E, h40km, MD3.6, Error ellipse: s-maj=9.5km s-min=3.4km az=176.0*
*ISCJB **05** 00:50:09.5±0.9, 3472N±006×2532E±004, h29km±5km, mb3.5/3, Error ellipse: s-maj=10.1km s-min=5.3km az=176.4*
*ATH **05** 00:50:10.0, 3474N×2523E, h37km±5km, MD3.6/6*
*NEIC **05** 00:50:11.2, 3475N×2527E, h14km, MD3.6(ATH), ML3.1(THE), After THE.*
*THE **05** 00:50:11.2, 3475N×2527E, h13km*

ISC 05 00:50:10.0±0.8, 3472N±005×2531E±003, h25km±5km, n37, σ1°14/53, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.35**	**63**	*e*PB	**Pb**	**00 50 19.0**	**+1.2**
SIVA	**Sivas**	**0.51**	**306**	*e*Pg	**Pb**	**00 50 19.9**	**-0.5**
SIVA				*e*Sg	**Sb**	**00 50 27.5**	**+0.1**
SIVA	**Sivas**	**0.51**	**306**	P	**Pb**	**00 50 20.2**	**-0.2**
SIVA				S	**Sb**	**00 50 27.5**	**+0.1**
SIVA	**Sivas**	**0.51**	**306**	P	**Pb**	**00 50 20.2**	**-0.2**
SIVA				*e*Sg	**Sb**	**00 50 27.5**	**+0.1**
NPS	**Neapolis**	**0.60**	**24**	*e*PN	**Pn**	**00 50 22.9**	**0.0**
IDI	**Anoyia**	**0.67**	**329**	Pg	**Pb**	**00 50 22.9**	**-0.1**
	38nm,0.3s,baz=151,slow=14,SNR=349						
IDI				Lg		00 50 33.0	
	148nm,0.3s,baz=74,slow=20,SNR=54						
ZKR	**Zakros**	**0.84**	**62**	*e*Pg	**Pb**	**00 50 27.2**	**+1.2**
ZKR				*e*Sg	**Sb**	**00 50 39.5**	**+2.6**
GVD	**Gavdhos**	**1.02**	**277**	*e*Pg	**Pn**	**00 50 28.7**	**+0.1**
GVD				*e*Sg	**Sb**	**00 50 42.9**	**+1.0**
GVD	**Gavdhos**	**1.02**	**277**	*e*Pn	**Pn**	**00 50 28.2**	**-0.5**
GVD				S	**Sb**	**00 50 42.9**	**+1.0**
GVD	**Gavdhos**	**1.02**	**277**	*e*Pg	**Pn**	**00 50 28.7**	**0.0**
GVD				*e*Sg	**Sb**	**00 50 42.9**	**+1.1**
VAM	**Vamos**	**1.14**	**307**	*e*PN	**Pn**	**00 50 30.8**	**+0.4**
VAM				*e*SN	**Sn**	**00 50 45.4**	**+0.1**
KARN	**Karanos**	**1.33**	**301**	*e*Pg	**Pn**	**00 50 33.5**	**+0.5**
KARN				*e*Sg	**Sn**	**00 50 50.2**	**+0.3**
KARN	**Karanos**	**1.33**	**301**	*e*Pg	**Pn**	**00 50 33.5**	**+0.5**
KARN				*e*Sg	**Sn**	**00 50 50.2**	**+0.3**
THR6	**Thira Island,**	**1.64**	**2**	*e*Pg	**Pn**	**00 50 38.2**	**+1.0**
SANT	**Santorini**	**1.65**	**4**	*e*Pb	**Pb**	**00 50 38.6**	**-1.2**
SANT				*e*Sb	**Sb**	**00 50 59.3**	**-0.9**
THR1	**Thera Island**	**1.65**	**4**	*e*Pb	**Pb**	**00 50 38.5**	**-1.3**
THR3	**Thira Island,**	**1.69**	**2**	*e*Pb	**Pb**	**00 50 38.6**	**-1.8**
THR5	**Thira Island,**	**1.70**	**1**	*e*Pb	**Pb**	**00 50 38.6**	**-1.8**
KARP	**Karpathos**	**1.73**	**61**	*e*PB	**Pb**	**00 50 41.4**	**+0.4**
THR4	**Thira Island,**	**1.74**	**2**	*e*Pb	**Pb**	**00 50 38.9**	**-2.3**
APE	**Apeiranthos**	**2.35**	**4**	*e*Pn	**Pn**	**00 50 47.6**	**+0.6**
APE				*e*Sn	**Sn**	**00 51 16.1**	**+0.9**
APE	**Apeiranthos**	**2.35**	**4**	*e*Pn	**Pn**	**00 50 47.4**	**+0.4**
APE				P		00 50 47.6	
APE				S	**Sn**	**00 51 16.1**	**+0.9**
APE	**Apeiranthos**	**2.35**	**4**	*e*Pn	**Pn**	**00 50 47.4**	**+0.4**
APE				*e*Sn	**Sn**	**00 51 16.0**	**+0.9**
ARG	**Arkhangelos**	**2.74**	**56**	*e*PN	**Pn**	**00 50 54.2**	**+1.8**
VLI	**Veliai**	**2.78**	**317**	*e*PN	**Pn**	**00 50 52.7**	**-0.2**
SMG	**Samos**	**3.23**	**22**	P	**Pn**	**00 51 00.7**	**+1.6**
ITM	**

BOURR **Bourrignon** 0.30 234⇑ *i* Pg Pg 01 22 27.4 +0.5
49nm,0.9s
SULZ **Sulz-Cheisache** 0.36 97⇑ *i* Pg Pg 01 22 27.9 -0.1
42nm,1.8s
SULZ *i* Sg Sg 01 22 32.9 -0.2
42nm,1.8s
MOF **Molkenrain** 0.41 313 Pg Pg 01 22 29.0 0.0
MOF Sg Sg 01 22 34.6 0.0
HINF **Hinteralfeld** 0.55 297 *e*Pg Pg 01 22 31.2 -0.3
HINF *e*Sg Sg 01 22 38.7 -0.2
11nm,0.2s
SLE **Schleitheim** 0.65 72 *i* Pg Pg 01 22 32.9 -0.3
40nm,0.2s
ECH **Echery** 0.71 336 Pg Pg 01 22 34.3 -0.1
ECH Sg Sg 01 22 43.4 -0.3
CDF **Champ du Feu** 0.87 346 *e*Pg Pg 01 22 37.6 +0.2
CDF *e*Sg Sg 01 22 49.7 +0.9
4.4nm,0.3s
HAU **Haudompre** 0.94 298 *e*Pg Pg 01 22 39.0 +0.2
HAU *e*Sg Sg 01 22 50.6 -0.5
10nm,0.3s
CABF **La Chapelle** 1.40 227 *e*Pg Pg 01 22 47.7 +0.2
CABF *e*Sg Sg 01 23 05.6 -0.2
1.9nm,0.2s

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*IDC **05** 01:23:19.9±2.7, 2326N×14329E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx2.6/30, Error ellipse: s-maj=95.3km s-min=31.5km az=19.0*
*ISCJB **05** 01:23:22.5±0.6, 2315N×008×1432E±01, h35km, mb4.0/12, MS4.2/1, Error ellipse: s-maj=16.4km s-min=11.2km az=143.6*
*NEIC **05** 01:23:24.7±0.5, 2322N×14321E, h35km, mb4.3/7, Error ellipse: s-maj=13.9km s-min=9.6km az=68.0*

ISC 05 01:23:24.7±0.6, 2322N±008×1432E±01, h35km, n25, σ0°90/22, mb4.0/12, MS4.2/1, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	9.71	170	Pn	Pn	01 25 41.0	-0.9
JOW	**Kunigami**	13.99	288	LR	LR	01 30 41.9	
	comp=Z,67nm,21.8s,baz=153,slow=32						
NACB	**Ninganchiao**	19.80	277	P	Pn	01 27 53.0	-0.7
YSS	**Yuzh-Sakhalins**	23.68	359	P	P	01 28 32.5	-0.6
MDJ	**Mudanjiang**	24.07	336	P	P	01 28 35.8	-0.9
BJT	**Baijiatuau**	28.30	313	*e*P	P	01 29 12.8	-2.0
	5.1nm,0.5s,mb4.4						
ENH	**Enshi**	30.82	290	P	P	01 29 36.3	-0.9
PMG	**Port Moresby**	32.66	173	*e*P	P	01 29 54.3	+1.0
	9.8nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	37.80	320	*e*P	P	01 30 39.4	+1.8
	1.1nm,0.5s,mb3.8						
SONM	**Songino Array**	38.18	319	P	P	01 30 42.3	+1.6
	0.4nm,0.5s,mb3.4,baz=133,slow=6.8,SNR=5.5						
BILL	**Bilibino**	47.03	12	P	P	01 31 52.2	-0.4
TIXI	**Tiksi**	49.14	354	*e*P	P	01 32 08.4	-0.5
	5.4nm,0.9s,mb4.6						
ZAL	**Zalesovo**	53.04	321	P	P	01 32 37.9	-0.3
	1.3nm,0.9s,mb3.9,baz=352,slow=0.5,SNR=3.5						
MKAR	**Makanchi Array**	53.68	312	P	P	01 32 43.5	+0.6
	0.7nm,0.9s,mb3.6,baz=93,slow=9.2,SNR=4.0						
KURK	**Kurchatov**	56.37	316	*e*P	P	01 33 02.7	+0.4
	1.1nm,0.8s,mb3.9						
COLA	**College**	60.30	27	P	P	01 33 28.9	-0.9
CHKZ	**Chkalovo**	61.38	320	*e*P	P	01 33 37.8	+0.8
	3.6nm,1.3s,mb4.3						
BRVK	**Borovoye**	61.59	319	*e*P	P	01 33 39.0	+0.5
	1.6nm,0.8s,mb4.2						
ARU	**Arti**	68.05	323	*e*P	P	01 34 21.1	+0.5
YKA	**Yellowknife Ar**	75.11	28	P	P	01 35 03.6	+0.6
	0.4nm,0.6s,mb3.6,baz=293,slow=6.0,SNR=5.6						
YKA	**Yellowknife Ar**	75.11	28	P	P	01 35 03.6	+0.6
NVAR	**Mina Array Bea**	82.20	52	P	P	01 35 42.2	+0.2
	0.8nm,0.8s,mb3.7,baz=264,slow=4.4,SNR=4.8						
NVAR	**Mina Array Bea**	82.20	52	P	P	01 35 42.2	+0.2
GERES	**GERESS Array B**	95.29	329	LR	LR	02 22 08.0	
	comp=Z,66nm,18.0s,MS4.2,baz=283,slow=37						
LPAZ	**La Paz**	149.77	83	PKPbc	PKPbc	01 43 13.2	+2.3
	1.4nm,0.7s,baz=256,slow=4.2,SNR=6.5						

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*IDC **05** 01:25:47.7±0.7, 309S×13004E, h0km, mb4.2/10, mb1 4.4/13, mb1mx4.3/20, mbtmp4.3/13, ML3.9/3, MS3.6/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=31.4km s-min=12.7km az=69.0*
*ISCJB **05** 01:25:50.4±0.4, 3125S±005×13008E±009, h33km, mb4.3/18, MS3.6/6, Error ellipse: s-maj=14.2km s-min=5.6km az=137.8*
*BJI **05** 01:25:51.4, 2685S×13046E, h35km, mB4.8, mb4.3*
*NEIC **05** 01:25:52.5±0.3, 3135S×13009E, h35km, mb4.4/13, Error ellipse: s-maj=12.7km s-min=5.6km az=64.0*

ISC 05 01:25:49.4±3.1, 3115S±005×13010E±009, h12km±19km, n45, σ1°01/43, mb4.3/18, MS3.6/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	9.82	166	*e*P	Pn	01 28 10.8	+0.5
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	15.53	196	*e*P	Pn	01 29 27.4	-0.6
	24nm,0.9s						
FITZ	**Fitzroy Crossi**	15.53	196	Pn	Pn	01 29 27.1	-0.9
	0.6nm,0.3s,baz=27,slow=11,SNR=21						
FITZ				LR	LR	01 35 25.1	
	comp=Z,138nm,20.8s,baz=13,slow=37						
KKM	**Kota Kinabalu**	16.58	303	Pn	Pn	01 29 41.0	-0.6
WRAB	**Tennant Creek**	17.23	166	*e*Pn	Pn	01 29 48.7	-1.0
	20nm,0.9s						
WRAB				*e*Sn	Sn	01 33 01.0	-0.3
WRA	**Warramunga Arr**	17.24	166	P	Pn	01 29 48.6	-1.3
	0.6nm,0.3s,baz=346,slow=11,SNR=49						
WRA				S	Sn	01 33 05.9	+4.4
	0.2nm,0.3s,baz=345,slow=20,SNR=5.8						
WB2	**Warramunga Arr**	17.24	166	*e*P	Pn	01 29 45.7	-4.2
PMG	**Port Moresby**	18.07	111	P	Pn	01 29 59.8	-0.4
	0.4nm,0.3s,baz=154,slow=13,SNR=3.3						
PMG	**Port Moresby**	18.07	111	P	Pn	01 29 59.8	-0.4
ASAR	**Alice Springs**	20.77	170	P	P	01 30 31.2	+1.2
	37nm,0.6s,baz=349,slow=9.5,SNR=417						
ASAR				S	S	01 34 19.9	-1.7
	4.5nm,0.9s,baz=349,slow=21,SNR=7.7						
CTA	**Charters Tower**	23.09	138	*e*P	P	01 30 56.6	+1.7
	16nm,0.7s,mb4.6						
CTA	**Charters Tower**	23.09	138	P	P	01 30 56.7	+1.7
	7.3nm,0.6s,mb4.3,baz=324,slow=10,SNR=8.0						
CTAO	**Charters Tower**	23.09	138	*e*P	P	01 30 56.6	+1.7
	8.1nm,0.7s,mb4.3						
CTAO				*e*		01 31 03.4	
FORT	**Forrest**	27.59	184	*e*P	P	01 31 36.4	+0.1
	22nm,0.7s,mb4.9						
NACB	**Ninganchiao**	28.35	343	*e*P	P	01 31 42.8	-0.3
KULM	**Kulim**	30.57	286	P	P	01 32 00.3	-2.6
STKA	**Stephens Creek**	30.59	161	*e*P	P	01 32 03.8	+0.8
	4.5nm,0.8s,mb4.3						
STKA	**Stephens Creek**	30.59	161	P	P	01 32 04.1	+1.1
	4.2nm,0.5s,mb4.5,baz=331,slow=8.8,SNR=12						
STKA				LR	LR	01 43 55.0	
	comp=Z,118nm,19.9s,MS3.5,baz=204,slow=36						
PSI	**Prapat**	31.71	280	P	P	01 32 13.1	+0.3
	3.2nm,0.4s,mb4.5,baz=97,slow=3.4,SNR=6.6						
NWAO	**Narrogin (SRO)**	32.02	201	P	P	01 32 16.8	+1.2
JHJ	**Hachijo jima 2**	37.18	14	LR	LR	01 45 47.2	
	comp=Z,83nm,20.3s,MS3.5,baz=255,slow=32						
CHTO	**Chiang Mai**	37.61	307	*e*P	P	01 33 05.0	+1.2
	4.2nm,0.9s,mb4.2						
ENH	**Enshi**	38.60	331	P	P	01 33 10.1	-2.1
MJAR	**Matsushiro Arr**	40.17	10	LR	LR	01 49 25.8	
	comp=Z,75nm,18.0s,MS3.6,baz=210,slow=35						
KSRS	**Korea Array**	40.41	357	P	P	01 33 27.7	+0.4
	1.0nm,0.5s,mb3.8,baz=184,slow=9.7,SNR=3.8						
KSRS				LR	LR	01 48 25.8	
	comp=Z,52nm,19.9s,MS3.4,baz=323,slow=34						
LSA	**Lhasa**	49.52	314	P	P	01 34 40.6	+0.8
GTA	**Gaotai**	50.66	330	*e*P	P	01 34 49.2	+0.8
GTA				AP	pP	01 34 54.9	+2.6
GTA				XP	sP	01 34 58.8	+5.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
SONM	**Songino Array**	54.81	341	P	P	01 35 19.8	+0.6
	comp=Z,1.1nm,0.8s,mb3.9,baz=144,slow=6.8,SNR=7.1						
MKAR	**Makanchi Array**	65.06	326	P	P	01 36 29.6	+0.1
	comp=Z,1.4nm,0.7s,mb4.1,baz=114,slow=8.2,SNR=11						
ZAL	**Zalesovo**	68.17	333	P	P	01 36 49.4	-0.1
	comp=Z,0.9nm,0.4s,mb4.1,baz=356,slow=7.5,SNR=6.2						

KURK **Kurchatov** 69.28 328 *e*P P 01 36 56.3 0.0
comp=Z,5.6nm,0.8s,mb4.5
KURK *e* 01 37 07.4
TIXI **Tiksi** 74.63 360 *e*P P 01 37 26.8 -1.7
comp=Z,2.3nm,0.8s,mb4.2
BRVK **Borovoye** 74.92 327 *e*P P 01 37 30.4 +0.2
comp=Z,2.9nm,0.9s,mb4.2
BRVK *e*PcP PcP 01 37 43.3 -0.6
CHKZ **Chkalovo** 75.03 328 *e*P P 01 37 30.2 -0.5
comp=Z,3.3nm,1.2s,mb4.1
VNDA **Vanda** 76.27 173 P P 01 37 38.0 +0.1
comp=Z,0.7nm,0.6s,mb3.8,baz=306,slow=5.7,SNR=3.8
VNDA LR LR 02 10 18.1
comp=Z,65nm,19.3s,MS4.0,baz=214,slow=35
VNDA **Vanda** 76.27 173 P P 01 37 38.0 +0.1
VNDA LR LR 02 10 18.1
MAW **Mawson** 78.59 201 P P 01 37 51.0 +0.2
comp=Z,1.5nm,0.5s,mb4.2,baz=76,slow=9.3,SNR=8.0
ARU **Arti** 82.48 328 *e*P P 01 38 11.3 -0.3
comp=Z,3.3nm,0.8s,mb4.3
GNI **Garni** 88.43 310 P P 01 38 43.2 +1.9
COLA **College** 89.41 25 P P 01 38 44.4 -1.5
KIV **Kislovodsk** 90.27 314 *e*P P 01 38 51.4 +1.5
comp=Z,1.7nm,0.4s,mb4.7
KMBO **Kilima Mbogo** 92.78 269 LR LR 02 18 04.4
comp=Z,41nm,20.1s,MS3.9,baz=90,slow=34
EIL **Elat** 96.00 299 P P 01 39 16.0 -0.4
TORD **Torodi Ar. Bea** 128.05 284 PKP PKPdf 01 44 56.4 +1.1
comp=Z,0.5nm,0.8s,baz=90,slow=1.0,SNR=5.6
LPAZ **La Paz** 153.62 137 PKPbc PKPbc 01 45 49.5 +1.6
comp=Z,0.7nm,0.5s,baz=223,slow=5.3,SNR=5.0

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*ISCJB **05** 01:26:40.1±1.8, 1075N×006×872W±02, h50km±21km, mb4.0/16, Error ellipse: s-maj=25.7km s-min=10.4km az=164.4*
*CASC **05** 01:26:43.3±2.7, 1085N×8678W, h7km±19km, MD4.0, ML3.1, mb4.1(NEIC)*
*IDC **05** 01:26:50.8±3.6, 1233N×8810W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.8/8, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=75.7km s-min=44.5km az=8.0*
*NEIC **05** 01:26:56.2±0.6, 1240N×8800W, h35km, mb4.1/10, Error ellipse: s-maj=15.3km s-min=7.8km az=53.0*

ISC 05 01:26:41.3±1.9, 1076N±006×872W±02, h43km±24km, n43, σ1°16/38, mb4.0/16, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	1.39	68	*e*P	Pn	01 27 02.2	-2.0
TICN	**Ticuantepe**	1.56	36	*e*P	Pn	01 27 06.8	+0.3
TICN				*e*S	Sn	01 27 25.5	+0.1
XAVN	**Gruta Xavier**	1.60	31	*e*P	Pn	01 27 08.1	+0.9
XAVN				*e*S	Sn	01 27 26.8	+0.3
MGAN	**Managua**	1.64	33	*e*P	Pn	01 27 08.3	+0.7
MGAN				*e*S	Sn	01 27 26.7	-0.8
MGAN				*i*		01 27 31.7	
	comp=N,547nm,0.5s						
CONN	**Concepcion**	1.70	62	*e*P	Pn	01 27 06.8	-1.7
MOMJ	**Momotombo**	1.74	20	*e*P	Pn	01 27 11.0	+1.9
JCR	**Jicaral**	2.21	114	*e*P	Pn	01 27 15.2	-0.3
JTS	**JuntasAbangare**	2.22	102	*e*P	Pn	01 27 16.0	+0.3
BOAB	**BOACO BROADBAN**	2.23	41	*e*P	Pn	01 27 15.1	-0.6
LAJ	**Bijagual**	3.12	106	*e*P	Pn	01 27 23.5	-4.5
LCR2	**La Lucha 2**	3.27	108	*e*P	Pn	01 27 31.3	+1.3
TGUH	**Tegucigalpa,Un**	3.27	358	*e*Pn	Px	01 27 23.2	
TGUH				*e*Pg		01 27 36.0	
TGUH				Sn	Sx	01 27 46.6	
LCBS	**La Ceiba**	3.38	328	*e*P	x	01 27 39.4	
SNET	**Serv Nac Est T**	3.54	325	*e*P	x	01 27 38.6	
BOQS	**Boqueron**	3.61	325	*e*P	x	01 27 41.7	
RTR	**El Retiro**	3.95	322	*e*P	x	01 27 45.8	
TEIG	**Tepich**	9.47	354	LR	LR	01 32 11.6	
	comp=N,126nm,18.0s,baz=47,slow=41						
TEIG	**Tepich**	9.47	354	P	Pn	01 28 48.2	-6.9
CMIG	**Matias Romero**	9.78	311	Pn	Px	01 28 47.6	
	comp=N,0.2nm,0.3s,baz=45,slow=14,SNR=4.9						
LRAL	**Lakeview Retre**	22.17	0	*e*P	P	01 31 40.2	+6.7
GOGA	**Godfrey**	22.80	8	*e*P	P	01 31 44.8	+4.7
	comp=N,48nm,1.0s,mb4.9						
JCT	**Junction City**	22.87	331	*e*P	P	01 31 36.8	-4.2
	comp=N,7.8nm,0.8s,mb4.2						
LTX	**Lajitas**	24.06	323	*e*P	P	01 31 50.1	-2.4
	comp=N,3.6nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	24.06	323	P	P	01 31 49.9	-2.6
	comp=N,3.9nm,0.7s,mb3.9,baz=149,slow=12,SNR=50						
UALR	**University of**	24.36	350	*e*P	P	01 31 55.3	+0.1
	comp=N,7.2nm,0.8s,mb4.2						
MIAR	**Mount Ida**	24.39	347	*e*P	P	01 31 55.8	+0.3
	comp=N,9.3nm,0.9s,mb4.2						
TKL	**Tuckaleechee C**	24.97	7	P	P	01 32 06.9	+6.1
	comp=N,4.7nm,0.7s,mb4.1,baz=180,slow=7.1,SNR=4.5						
LPIG	**La Paz**	25.71	304	LR	LR	01 42 52.0	
	comp=N,54nm,19.2s,baz=9.3,slow=40						
WMOK	**Wichita Mounta**	26.11	338	*e*P	P	01 32 11.0	-0.1
	comp=N,3.2nm,0.6s,mb4.0						
MNTX	**Cornudas Mount**	26.80	324	*e*P	P	01 32 15.8	-1.5
	comp=N,1.2nm,0.7s,mb3.5						
SIUC	**Southern Illin**	26.90	356	P	P	01 32 18.0	-0.2
KSU1	**Kansas State U**	29.45	345	*e*P	P	01 32 41.3	+0.3
	comp=N,4.4nm,0.6s,mb4.4						
ANMO	**Albuquerque**	29.81	327	P	P	01 32 43.6	-0.6
TUC	**Tucson**	30.57	318	P	P	01 32 50.9	+0.1
PDAR	**Pinedale Array**	37.39	332	P	P	01 33 51.4	+1.5
	comp=N,0.4nm,0.8s,mb3.3,baz=128,slow=8.4,SNR=3.4						
PDAR	**Pinedale Array**	37.39	332	P	P	01 33 51.4	+1.5
NVAR	**Mina Array Bea**	39.16	320	P	P	01 34 06.0	+1.1
	comp=N,0.5nm,0.7s,mb3.3,baz=113,slow=6.5,SNR=3.9						
NVAR				PcP	PcP	01 36 24.1	+10
	comp=N,0.6nm,0.6s,baz=105,slow=5.1,SNR=4.7						
NVAR	**Mina Array Bea**	39.16	320	P	P	01 34 06.0	+1.1
NVAR				PcP	PcP	01 36 24.1	+10
ULM	**Lac du Bonnet**	40.02	351	P	P	01 34 12.5	+0.5
	comp=N,2.2nm,0.8s,mb4.0,baz=175,slow=9.6,SNR=3.9						
ULM	**Lac du Bonnet**	40.02	351	P	P	01 34 12.5	+0.5
SCHQ	**Schefferville**	46.81	16	P	P	01 35 11.9	+5.2
	comp=N,3.0nm,0.7s,mb4.3,baz=149,slow=5.9,SNR=3.3						
YKA	**Yellowknife Ar**	55.30	345	P	P	01 36 13.3	+2.9
	comp=N,0.8nm,0.7s,mb3.8,baz=144,slow=7.3,SNR=9.0						
INK	**Inuvik**	64.89	343	P	P	01 37 20.4	+4.2
	comp=N,1.1nm,0.8s,mb4.0,baz=51,slow=4.6,SNR=3.2						

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*NIED **05** 01:27:00, 4250N×14500E, h32km, Mw3.8 Best double couple: M0=4.83000×10^14 NP1:φ=256.00000°, δ73.00000°, λ-95.00000°. NP2:φ=94.00000°, δ18.00000°, λ-73.00000°.*
*ISCJB **05** 01:27:27.6±0.7, 4245N±004×14508E±005, h43km±7km, mb3.8/8, Error ellipse: s-maj=8.3km s-min=5.3km az=95.2*
*MOS **05** 01:27:28.3±1.2, 4239N×14510E, h54km, mb4.4/4, Error ellipse: s-maj=12.7km s-min=8.3km az=90.5*
*JMA **05** 01:27:28.9, 4253N×14500E, h45km±1km, M3.8*
*IDC **05** 01:27:30.9±3.2, 4244N×14501E, h56km±28km, mb3.4/6, mb1 3.6/8, mb1mx3.4/24, mbtmp3.4/8, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx1.9/18, Error ellipse: s-maj=26.6km s-min=18.4km az=83.0*
*NEIC **05** 01:27:30.7±0.8, 4239N×14505E, h56km±8km, mb4.3/2, Error ellipse: s-maj=9.6km s-min=6.2km az=110.0*

ISC 05 01:27:29.2±0.7, 4251N±004×14507E±006, h40km±7km, n42, σ1°08/54, mb3.8/8, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	0.56	331	P	Pn	01 27 40.0	-0.8
JAK				*e*S	Sn	01 27 48.1	-0.8
NEM2	**Nemuro 2**	0.99	30	P	Pn	01 27 46.6	0.0
NEM2				*e*S	Sn	01 27 59.3	-0.1
JOB	**Onbets**	0.99	294	P	Pn	01 27 45.9	-0.7
JOB				*e*S	Sn	01 27 58.0	-1.4
JNK	**Nakash**	1.11	347	P	Pn	01 27 47.4	-0.8
JNK				*e*S	Sn	01 28 00.6	-1.7
JAR	**Ashorobuto**	1.24	310	P	Pn	01 27 49.2	-0.8
JAR				*e*S	Sn	01 28 04.1	-1.4
JCH	**Churui**	1.27	275	P	Pn	01 27 50.5	+0.1
JCH				*e*S	Sn	01 28 06.5	+0.3
JRA	**Rausu**	1.43	2	P	Pn	01 27 52.4	-0.3
JRA				*e*S	Sn	01 28 09.6	-0.7
ERM	**Erimo**	1.50	252	*e*Pn	Pn	01 27 56.3	+2.7
ERM				*e*Sn	Sn	01 28 13.6	+1.6
YUK	**Yuzh-Kuril'sk**	1.63	20	⇓ *i* PN	Pn	01 27 55.5	+0.1
YUK				*i* S	Sn	01 28 15.5	+0.3
YUK				pmax	pmax		
	comp=N,220nm,0.5s						
YUK				pmax	pmax		
	comp=Z,400nm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,5μm,0.8s						
YUK				smax			
	comp=E,5μm,1.0s						
JTKR	**Abashiri--Toko**	1.69	330	P	Pn	01 27 56.3	+0.1
JTKR				*e*S	Sn	01 28 16.7	0.0
JNBK	**Urakawa-nobuka**	1.73	263	P	Pn	01 27 56.4	-0.4
ASAJ	**Asahikawa**	2.42	313	P	Pn	01 28 07.7	+1.5
	comp=E,18nm,0.3s,baz=132,slow=14,SNR=33						
ASAJ				S	Sn	01 28 37.6	+3.0
	comp=E,42nm,0.3s,baz=288,slow=30,SNR=27						
ASAJ	**Asahikawa**	2.42	313	PN	Pn	01 28 07.7	+1.5
ASAJ				S	Sn	01 28 37.6	+3.0
ASAJ				pmax	pmax		
	comp=Z,18nm,0.3s						
ASAJ				smax			
	comp=N,42nm,0.3s						
YSS	**Yuzh-Sakhalins**	4.74	340	PN	Pn	01 28 41.2	+3.0
YSS	**Yuzh-Sakhalins**	4.74	340	Pn	Pn	01 28 41.2	+3.0
MJAR	**Matsushiro Arr**	7.97	224	P	Pn	01 29 22.2	-0.2
	comp=N,0.8nm,0.3s,baz=32,slow=14,SNR=6.1						
MJAR	**Matsushiro Arr**	7.97	224	PN	Pn	01 29 22.2	-0.3
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	7.97	224	*e*PN	Pn	01 29 21.9	-0.6
MDJ	**Mudanjiang**	11.43	286	*e*Pn	Pn	01 30 10.0	+0.2
KLR	**Kul'dur**	11.46	310	*e*PN	Pn	01 30 11.3	+1.1
PET	**Petropavlovsk**	13.91	36	P	Pn	01 30 46.0	+2.3
MA2	**Magadan**	17.45	10	P	Pn	01 31 31.8	+2.3
HIA	**Hailar**	18.83	300	P	Pn	01 31 46.8	+0.4
YAK	**Yakutsk**	21.59	340	P	P	01 32 16.5	+0.9
BJT	**Baijiatuau**	21.82	273	P	P	01 32 18.0	0.0
SONM	**Songino Array**	27.57	295	P	P	01 33 13.5	+1.0
	comp=Z,0.6nm,0.7s,mb3.4,baz=84,slow=9.9,SNR=3.9						
SONM				LR	LR	01 44 24.5	
	comp=Z,30nm,21.6s,baz=28,slow=37						
GUMO	**Guam**	28.81	180	P	P	01 33 22.2	-1.3
MKAR	**Makanchi Array**	43.82	298	P	P	01 35 30.8	-0.4
	comp=Z,0.3nm,0.4s,mb3.3,baz=83,slow=10,SNR=9.3						
MKAR	**Makanchi Array**	43.82	298	P	P	01 35 30.8	-0.5
LSA	**Lhasa**	44.70	272	P	P	01 35 39.4	+1.1
KURK	**Kurchatov**	44.97	304	*e*P	P	01 35 40.0	-0.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
KURK	**Kurchatov**	44.97	304	*e*P	P	01 35 40.0	-0.5
	comp=Z,1.2nm,0.6s,mb3.9						
INK	**Inuvik**	48.24	30	P	P	01 36 05.8	-0.3
	comp=Z,0.7nm,0.4s,mb4.0,baz=314,slow=5.1,SNR=7.2						
INK	**Inuvik**	48.24	30	P	P	01 36 05.8	-0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PMG	**Port Moresby**	51.69	177	*e*P	P	01 36 31.0	-1.2
PMG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PMG	**Port Moresby**	51.69	177	*e*P	P	01 36 31.0	-1.3
	comp=Z,3.2nm,0.4s,mb4.6						
WRAB	**Tennant Creek**	62.91	191	P	P	01 37 49.5	-1.8
FINES	**FINESS Array B**	65.28	332	P	P	01 38 06.0	-1.0
	comp=Z,1.5nm,0.6s,mb4.2,baz=40,slow=7.6,SNR=10.0						
FINES	**FINESS Array B**	65.28	332	P	P	01 38 06.0	-0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	66.64	191	P	P	01 38 15.5	-0.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=22,slow=5.1,SNR=3.5						
PDAR	**Pinedale Array**	71.88	48	P	P	01 38 49.3	+1.2
	comp=Z,0.2nm,0.5s,mb3.3,baz=278,slow=7.2,SNR=3.1						
NWAO	**Narrogin (SRO)**	79.29	204	P	P	01 39 30.2	-0.3

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*STR **05** 01:54:24.9±0.3, 4758N×756E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 01:54:24.9±0.5, 4758N×756E, h2km, Md1.8/2, Ml2.1/3, Error ellipse: s-maj=8.6km s-min=4.5km az=119.0*

ZUR 05 01:54:24.7, 4759N×760E, h5km±1km, ML1.2, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	0.26	165	⇓ *i* Pg	Pg	01 54 30.8	+1.1
	45nm,0.1s						
BOURR	**Bourrignon**	0.32	233	⇑ *i* Pg	Pg	01 54 31.2	+0.4
	45nm,0.8s						
SULZ	**Sulz-Cheisache**	0.35	99	⇑ *i* Pg	Pg	01 54 31.6	+0.1
	42nm,1.7s						
SULZ				*e*Sg	Sg	01 54 36.7	+0.5
	42nm,1.7s						
MOF	**Molkenrain**	0.41	310	Pg	Pg	01 54 32.5	-0.2
MOF				Sg	Sg	01 54 38.4	+0.4
HINF	**Hinteralfeld**	0.56	295	*e*Pg	Pg	01 54 34.6	-0.8
HINF				*e*Sg	Sg	01 54 42.4	-0.2
	7.1nm,0.2s						
SLE	**Schleitheim**	0.63	73	*i* Pg	Pg	01 54 36.7	-0.1
	36nm,0.2s						
ECH	**Echery**	0.70	335	Pg	Pg	01 54 38.4	+0.3
ECH				Sg	Sg	01 54 47.5	+0.3
CDF	**Champ du Feu**	0.86	345	*e*Pg	Pg	01 54 41.2	+0.1
CDF				*e*Sg	Sg	01 54 52.0	-0.2
	5.7nm,0.3s						
HAU	**Haudompre**	0.94	297	*e*Pg	Pg	01 54 42.5	-0.3
HAU				*e*Sg	Sg	01 54 54.2	-0.8
	8.5nm,0.3s						
CABF	**La Chapelle**	1.42	227	*e

JMA 05 02:09:27.7±0.3, 2705N×12660E, h4km±4km, M3.6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.73**	**129**	P	Pg	02 09 42.0	+0.2
JAGN				S	Sg	02 09 51.7	+0.4
JKE	**Kume jima 2**	**0.74**	**167**	P	Pg	02 09 41.9	0.0
JKE				S	Sg	02 09 52.0	+0.5
JIH	**Iheya**	**1.22**	**90**	P	Pg	02 09 50.3	-0.8
JIH				S	Sg	02 10 06.4	-0.5
NAH1	**Naha**	**1.29**	**131**	P	Pg	02 09 52.0	-0.4
NAH1				S	Sg	02 10 08.3	-0.8
JJT2	**Tamagusuku 2**	**1.37**	**131**	P	Pn	02 09 53.7	+0.1
JJT2				S	Sb	02 10 11.9	+0.1
JOW	**Kunigami**	**1.51**	**98**	P	Pn	02 09 55.7	+0.2
JOW				S	Sn	02 10 15.6	0.0

*MOS **05** 02:10:09.3±0.9, 2171N×14298E, h289km, mb4.7/23, Error ellipse: s-maj=13.6km s-min=6.6km az=106.7*
*ISCJB **05** 02:10:10.3±0.6, 2168N±004×14297E±003, h297km±5km, mb4.5/72, Error ellipse: s-maj=5.7km s-min=5.0km az=29.6*
*BJI **05** 02:10:10.2, 2183N×14297E, h292km, mB4.7, mb4.5*
*IDC **05** 02:10:11.7±1.2, 2164N×14299E, h301km±11km, mb4.0/21, mb1 4.1/26, mb1mx4.1/30, mbtmp4.1/26, Error ellipse: s-maj=13.2km s-min=7.0km az=88.0*
*NEIC **05** 02:10:12.4±0.9, 2165N×14298E, h307km±9km, mb4.5/23, Error ellipse: s-maj=7.4km s-min=5.5km az=74.0*

ISC 05 02:10:11.5±0.6, 2172N±003×14300E±003, h295km±5km, h300km±11.3km; pP-P, n316, σ0°81/325, mb4.5/72, 80C-60D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**4.95**	**351**	P	**Pn**	**02 11 28.5**	**+0.3**
JHHJ				S	**S**	**02 12 27.9**	**-1.8**
CBIJ	**Chichi jima**	**5.40**	**352**	P	**Pn**	**02 11 33.2**	**-0.3**
112nm,0.3s,baz=218,slow=3.3,SNR=50							
CBIJ				S	**S**	**02 12 37.8**	**-1.8**
77nm,0.3s,baz=310,slow=23,SNR=8.8							
CBIJ	**Chichi jima**	**5.40**	**352**	P	**Pn**	**02 11 33.2**	**-0.4**
CBIJ				S	**S**	**02 12 37.7**	**-1.8**
GUMO	**Guam**	**8.28**	**167**	P	**Pn**	**02 12 08.7**	**+0.3**
29nm,0.3s,baz=169,slow=3.9,SNR=12							
GUMO	**Guam**	**8.28**	**167**	*e*P	**Pn**	**02 12 08.9**	**+0.5**
GUMO				pmax	pmax		
comp=Z,763nm,1.0s							
GUMO	**Guam**	**8.28**	**167**	*e*Pn	**Pn**	**02 12 08.9**	**+0.5**
comp=Z,763nm,1.0s							
JHJ2	**Mitsune**	**11.69**	**347**	P	**Pn**	**02 12 49.7**	**-0.7**
JHJ2				*e*S	**S**	**02 14 59.4**	**-1.3**
JHJ	**Hachijo jima 2**	**11.71**	**347**	P	**Pn**	**02 12 49.7**	**-0.9**
comp=Z,59nm,0.3s,baz=203,slow=14,SNR=16							
JHJ				S	**S**	**02 15 03.2**	**+2.1**
comp=Z,33nm,0.3s,baz=261,slow=24,SNR=4.9							
BSO1	**Boso 1**	**13.01**	**353**	P	**Pn**	**02 13 06.0**	**-0.3**
BSO1				*e*S	**S**	**02 15 32.0**	**+1.7**
JWZ	**Kozaga**	**13.41**	**333**	P	**Pn**	**02 13 13.2**	**+2.0**
JWZ				*e*S	**S**	**02 15 41.2**	**+1.7**
JIE	**Ise**	**13.79**	**338**	P	**Pn**	**02 13 16.6**	**+0.9**
JOD2	**Odawara 2**	**13.92**	**347**	P	**Pn**	**02 13 17.0**	**-0.3**
JOD2				S	**S**	**02 15 44.6**	**-6.2**
JTO	**Tosashimizu**	**14.32**	**323**	P	**Pn**	**02 13 23.8**	**+1.8**
JOW	**Kunigami**	**14.36**	**294**	P	**Pn**	**02 13 23.5**	**+1.0**
comp=Z,3.2nm,0.3s,baz=127,slow=14,SNR=5.1							
JRY	**Ryogami san**	**14.69**	**347**	P	**Pn**	**02 13 25.6**	**-0.8**
JRY				S	**S**	**02 16 00.2**	**-6.1**
MJAR	**Matsushiro Arr**	**15.35**	**345**	P	**Pn**	**02 13 32.9**	**-1.3**
comp=Z,6.5nm,0.3s,baz=164,slow=10,SNR=16							
MJAR				S	**S**	**02 16 18.7**	**-0.9**
comp=Z,1.1nm,0.3s,baz=150,slow=18,SNR=4.8							
MAJO	**Matsushiro**	**15.35**	**345**	*e*P	**Pn**	**02 13 32.7**	**-1.5**
MAJO				pmax	pmax		
comp=Z,28nm,0.4s							
MAJO	**Matsushiro**	**15.35**	**345**	*e*P	**Pn**	**02 13 32.7**	**-1.5**
comp=Z,28nm,0.4s							
MAT	**Matsushiro**	**15.35**	**345**	P	**Pn**	**02 13 32.9**	**-1.3**
MAT				S	**S**	**02 16 18.1**	**-1.5**
JSJ	**Shimokoshiki**	**15.46**	**313**	P	**Pn**	**02 13 35.9**	**+0.5**
JNU	**Nakatsue**	**15.63**	**319**	P	**Pn**	**02 13 37.5**	**+0.1**
comp=Z,3.1nm,0.3s,baz=196,slow=21,SNR=8.5							
JHS	**Saijyo**	**15.82**	**329**	P	**Pn**	**02 13 40.1**	**+0.4**
JHS				*e*S	**S**	**02 16 32.2**	**+3.1**
JMK	**Ichinoseki**	**17.24**	**355**	P	**P**	**02 13 54.8**	**+1.5**
JTU	**Tsushima**	**17.49**	**320**	P	**P**	**02 14 03.3**	**+7.4**
JOT	**Ohata**	**19.67**	**356**	P	**P**	**02 14 20.3**	**+1.1**
ERM	**Erimo**	**20.24**	**0**	*e*P	**P**	**02 14 26.2**	**+1.1**
ERM				pmax	pmax		
comp=Z,27nm,0.6s							
ERM	**Erimo**	**20.24**	**0**	*e*P	**P**	**02 14 26.2**	**+1.1**
comp=Z,27nm,0.6s							
KSRS	**Korea Array**	**20.40**	**324**	P	**P**	**02 14 27.2**	**+0.4**
comp=Z,23nm,0.6s,baz=149,slow=9.1,SNR=68							
KSRS				ScP	ScP	02 21 34.6	+1.0
comp=Z,2.2nm,0.8s,baz=72,slow=1.8,SNR=6.4							
JTKR	**Abashiri--Toko**	**22.20**	**2**	P	**P**	**02 14 44.4**	**+0.7**
SNY	**Shenyang**	**25.86**	**325**	⇓P	**P**	**02 15 16.1**	**-0.6**
SNY				AMB	AMB		
comp=Z,18nm,1.0s,mb4.5							
HABR	**Khabarovsk**	**27.44**	**348**	*e*P	**P**	**02 15 29.8**	**-1.0**
KLR	**Kul'dur**	**28.88**	**345**	*e*P	**P**	**02 15 40.1**	**-3.3**
ENH	**Enshi**	**31.22**	**293**	P	**P**	**02 16 01.9**	**-2.1**
comp=Z,0.4nm,0.5s							
XAN	**Xi'an**	**32.38**	**300**	P	**P**	**02 16 13.8**	**-0.2**
XAN				AMB	AMB		
comp=Z,14nm,0.7s,mb4.6							
HHC	**Hu-ho-hao-te**	**32.70**	**313**	*e*P	**P**	**02 16 17.1**	**+0.3**
HHC				AP	pP	02 17 19.2	+5.1
HHC				PP	PP	02 17 42.4	+4.8
HHC				S	**S**	**02 21 09.3**	**-1.5**
HHC				PCS	PcS	02 22 40.3	0.0
HHC				SS	SS	02 23 36.6	-8.3
HHC				AMB	AMB		
comp=Z,17nm,0.5s,mb4.8							
HHC				AMB	AMB		
comp=Z,71nm,3.8s							
HIA	**Hailar**	**33.11**	**332**	*e*P	**P**	**02 16 20.5**	**+0.1**
HIA				pmax	pmax		
comp=Z,5.0nm,0.6s							
HIA	**Hailar**	**33.11**	**332**	*e*P	**P**	**02 16 20.5**	**+0.1**
comp=Z,4.5nm,0.6s,mb4.2							
GYA	**Guiyang**	**33.44**	**285**	P	**P**	**02 16 24.0**	**+0.9**
GYA				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
CD2	**Chengdu**	**36.20**	**293**	*e*P	**P**	**02 16 47.7**	**+1.1**
CD2				AMB	AMB		
comp=Z,40nm,0.5s,mb5.2							
LZH	**Lanzhou**	**36.89**	**302**	*e*P	**P**	**02 16 53.0**	**+0.5**
LZH				AP	pP	02 17 48.5	-2.3
LZH				AMB	AMB		
comp=Z,38nm,1.0s,mb4.8							
LZH				AMB	AMB		
comp=Z,129nm,5.2s							
KMI	**Kunming**	**37.01**	**283**	P	**P**	**02 16 55.7**	**+2.3**
KMI				AMB	AMB		
comp=Z,9.0nm,0.7s,mb4.3							
ULN	**Ulaanbaatar**	**38.84**	**321**	*e*P	**P**	**02 17 09.3**	**+0.6**
SONM	**Songino Array**	**39.22**	**321**	P	**P**	**02 17 12.2**	**+0.5**
comp=Z,3.5nm,0.5s,mb4.1,baz=125,slow=7.2,SNR=48							
SONM				PcP	PcP	02 19 14.2	-0.1
comp=Z,1.5nm,0.6s,baz=123,slow=4.2,SNR=4.1							
GTA	**Gaotai**	**40.72**	**306**	⇑P	**P**	**02 17 25.0**	**+0.9**
GTA				PCP	PcP	02 19 20.1	+0.9
GTA				AMB	AMB		
comp=Z,7.0nm,0.4s,mb4.2							
CTA	**Charters Tower**	**41.67**	**175**	P	**P**	**02 17 31.4**	**-0.3**
comp=Z,6.0nm,0.8s,mb3.9,baz=2.5,slow=10,SNR=5.6							
CTAO	**Charters Tower**	**41.67**	**175**	*e*P	**P**	**02 17 31.2**	**-0.5**
ZAK	**Zakamensk**	**42.23**	**322**	*e*P	**P**	**02 17 36.2**	**0.0**
ZAK				pmax	pmax		
comp=Z,7.0nm,0.8s,mb3.9							
WRAB	**Tennant Creek**	**42.25**	**192**	*e*P	**P**	**02 17 35.9**	**-0.5**
WRAB				pmax	pmax		
comp=Z,5.0nm,0.4s,mb4.1							
WRAB	**Tennant Creek**	**42.25**	**192**	*e*P	**P**	**02 17 35.9**	**-0.5**
comp=Z,5.4nm,0.4s,mb4.1							
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**02 17 34.5**	**-2.0**
comp=Z,0.4nm,0.3s,baz=22,slow=8.2,SNR=28							
WRA				PcP	PcP	02 19 24.3	0.0
comp=Z,1.4nm,0.6s,baz=4.6,slow=3.4,SNR=4.7							
WRA				ScP	ScP	02 22 45.3	-0.9
comp=Z,1.2nm,0.8s,baz=11,slow=4.1,SNR=6.1							
WRA				S	**S**	**02 23 31.2**	**-3.1**
comp=Z,2.7nm,1.1s,baz=4.3,slow=14,SNR=7.6							
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**02 17 34.5**	**-2.0**
WRA						02 19 24.3	
WRA				S	**S**	**02 23 31.2**	**-3.1**
FITZ	**Fitzroy Crossi**	**43.07**	**205**	*e*P	**P**	**02 17 42.6**	**-0.3**
comp=Z,7.4nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**43.07**	**205**	P	**P**	**02 17 42.6**	**-0.3**
comp=Z,4.4nm,0.5s,mb4.0,baz=32,slow=10,SNR=24							
FITZ				PcP	PcP	02 19 27.4	+0.3
comp=Z,1.8nm,0.5s,baz=10.0,slow=1.5,SNR=3.6							
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**02 18 04.9**	**-0.8**
comp=Z,1.4nm,0.5s,mb3.6,baz=14,slow=12,SNR=32							
ASAR				S	**S**	**02 24 25.4**	**-2.2**
comp=Z,1.4nm,0.7s,baz=19,slow=21,SNR=10							
LSA	**Lhasa**	**47.07**	**291**	*e*P	**P**	**02 18 16.3**	**+2.1**
LSA				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.3							
LSA	**Lhasa**	**47.07**	**291**	*e*P	**P**	**02 18 16.3**	**+2.1**
comp=Z,10nm,0.6s,mb4.3							
BILL	**Bilibino**	**48.53**	**11**	*e*P	**P**	**02 18 22.8**	**-2.5**
BILL				pmax	pmax		
comp=Z,4.0nm,0.9s,mb3.8							
WMQ	**Urumqi**	**50.44**	**309**	P	**P**	**02 18 40.5**	**+0.9**
WMQ				AP	pP	02 19 43.9	+2.1
WMQ				PCP	PcP	02 19 53.5	+0.3
WMQ				PP	PP	02 20 41.5	+3.1
WMQ				S	**S**	**02 25 28.9**	**-1.0**
WMQ				XS	sS	02 27 23.2	+2.8
WMQ				AMB	AMB		
comp=Z,11nm,1.2s,mb4.1							
WMQ				AMB	AMB		
comp=Z,184nm,6.0s							
TIXI	**Tiksi**	**50.61**	**354**	*e*P	**P**	**02 18 38.9**	**-2.0**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.7s,mb3.7							
JIRN	**Jiri**	**51.59**	**289**	*e*P	**P**	**02 18 49.6**	**+1.5**
comp=Z,38nm,0.6s,mb4.9							
GUN	**Gumba**	**51.83**	**289**	*e*P	**P**	**02 18 51.2**	**+1.3**
comp=Z,26nm,0.5s,mb4.9							
PKI	**Pulchoki**	**52.28**	**289**	*e*P	**P**	**02 18 53.5**	**+0.3**
comp=Z,17nm,0.6s,mb4.5							
KKN	**Kakani**	**52.37**	**289**	*e*P	**P**	**02 18 55.0**	**+1.1**
DMN	**Daman**	**52.55**	**289**	*e*P	**P**	**02 18 55.0**	**-0.2**
comp=Z,20nm,0.7s,mb4.5							
GKN	**Gorkha**	**52.91**	**289**	*e*P	**P**	**02 18 58.4**	**+0.6**
comp=Z,16nm,0.3s,mb4.8							
STKA	**Stephens Creek**	**53.31**	**181**	*e*P	**P**	**02 18 59.7**	**-1.0**
comp=Z,3.3nm,0.7s,mb3.8							
STKA	**Stephens Creek**	**53.31**	**181**	P	**P**	**02 18 59.9**	**-0.8**
comp=Z,2.5nm,0.3s,mb4.0,baz=15,slow=6.2,SNR=12							
KOLN	**Koldanda**	**53.85**	**289**	*e*P	**P**	**02 19 05.3**	**+0.7**
comp=Z,8.0nm,0.3s,mb4.6							
ZAL	**Zalesovo**	**54.10**	**322**	P	**P**	**02 19 06.2**	**-0.1**
comp=Z,6.7nm,0.8s,mb4.0,baz=12,slow=7.4,SNR=35							
ZAL				PcP	PcP	02 20 06.4	-0.6
comp=Z,7.2nm,0.5s,baz=12,slow=4.1,SNR=10							
FORT	**Forrest**	**54.13**	**196**	*e*P	**P**	**02 19 06.1**	**-0.5**
comp=Z,14nm,0.6s,mb4.5							
MK31	**Makanchi Array**	**54.56**	**313**	⇑*e*P	**P**	**02 19 10.0**	**+0.3**
MK31				*e*		02 20 08.6	
MKAR	**Makanchi Array**	**54.56**	**313**	P	**P**	**02 19 10.2**	**+0.5**
comp=Z,6.9nm,0.5s,mb4.3,baz=89,slow=8.8,SNR=82							
MKAR				PcP	PcP	02 20 08.8	0.0
comp=Z,5.8nm,0.6s,baz=78,slow=4.3,SNR=13							
NVS	**Novosibirsk**	**55.19**	**323**	*i* P	**P**	**02 19 14.4**	**+0.3**
KURK	**Kurchatov**	**57.34**	**317**	*e*P	**P**	**02 19 28.7**	**-0.6**
KURK				*e*		02 20 18.8	
KURK				pmax	pmax		
comp=Z,14nm,0.8s,mb4.4							
KURK	**Kurchatov**	**57.34**	**317**	*e*P	**P**	**02 19 28.6**	**-0.7**
comp=Z,14nm,0.8s,mb4.5							
KURK				*e*PcP	PcP	02 20 18.8	-0.9
KDAK	**Kodiak Island**	**58.28**	**35**	P	**P**	**02 19 35.4**	**-0.4**
comp=Z,2.8nm,0.4s,mb4.0,baz=222,slow=4.1,SNR=14							
IMA2	**Indian Mountai**	**59.58**	**25**	*e*P	**P**	**02 19 42.8**	**-1.9**
PMR	**Palmer**	**60.62**	**31**	*e*P	**P**	**02 19 50.5**	**-1.1**
PMR				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.1							
PMR	**Palmer**	**60.62**	**31**	*e*P	**P**	**02 19 50.5**	**-1.1**
comp=Z,3.7nm,0.6s,mb4.1							
SML	**Sawmill**	**61.02**	**30**	*e*P	**P**	**02 19 54.2**	**-0.2**
MCK	**McKinley**	**61.05**	**28**	*e*P	**P**	**02 19 54.4**	**-0.1**
CHKZ	**Chkalovo**	**62.41**	**320**	*e*P	**P**	**02 20 03.6**	**0.0**
CHKZ				pmax	pmax		
comp=Z,13nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**62.41**	**320**	*e*P	**P**	**02 20 03.6**	**0.0**
comp=Z,13nm,0.6s,mb4.7							
BVA0	**Borovoye Array**	**62.55**	**319**	*i* P	**P**	**02 20 04.6**	**+0.1**
BVA0				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.0							
BRVK	**Borovoye**	**62.61**	**320**	*e*P	**P**	**02 20 05.2**	**+0.3**
KK31	**Karatay Array**	**62.91**	**308**	*i* P	**P**	**02 20 06.5**	**-0.3**
KK31				pmax	pmax		
comp=Z,15nm,0.8s,mb4.7							
KKAR	**Karatay Array**	**62.91**	**308**	*e*P	**P**	**02 20 06.5**	**-0.3**
KKAR				pmax	pmax		
comp=Z,12nm,0.8s,mb4.6							
INK	**Inuvik**	**67.62**	**24**	P	**P**	**02 20 36.1**	**-0.8**
comp=Z,2.8nm,0.6s,mb4.2,baz=259,slow=5.2,SNR=23							
INK	**Inuvik**	**67.62**	**24**	*e*P	**P**	**02 20 36.1**	**-0.8**
comp=Z,168nm,0.9s							
ARU	**Arti**	**69.15**	**324**	⇑*i*P	**P**	**02 20 45.9**	**-0.4**
ARU				*e*		02 21 05.9	
ARU				*e*		02 23 18.6	
ARU				*e*PPP		02 25 02.2	
ARU				*e*S	S	02 29 34.2	+6.7
ARU				pmax	pmax		
comp=Z,23nm,0.9s,mb4.9							
ARU	**Arti**	**69.15**	**324**	*e*P	**P**	**02 20 45.8**	**-0.5**
AKTO	**Aktyubinsk**	**70.44**	**317**	*i* P	**P**	**02 20 53.7**	**-0.5**
YKW3	**Yellowknife Ar**	**76.49**	**28**	*e*P	**P**	**02 21 28.8**	**-0.4**
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**02 21 28.6**	**-0.7**
comp=Z,6.9nm,0.6s,mb4.6,baz=292,slow=5.8,SNR=182							
C04A	**Brinnon**	**76.86**	**44**	⇑P	**P**	**02 21 32.3**	**+1.0**
baz=77							
RES	**Resolute Bay**	**77.09**	**13**	*e*P	**P**	**02 21 32.2**	**-0.4**
comp=Z,215nm,0.8s							
B05A	**Bryant**	**77.25**	**43**	⇑P	**P**	**02 21 33.9**	**+0.4**
baz=77							
K01A	**Sixes**	**77.35**	**49**	⇓P	**P**	**02 21 34.2**	**+0.1**
baz=77							
I02A	**Mapleton**	**77.43**	**48**	⇑P	**P**	**02 21 33.0**	**-1.4**
baz=77							
F04A	**Amboy**	**77.78**	**45**	⇓P	**P**	**02 21 36.1**	**-0.2**
baz=78							
J02A	**Umpqua**	**77.81**	**48**	⇑P	**P**	**02 21 36.9**	**+0.4**
baz=78							
I03A	**Eugene**	**77.82**	**47**	⇓P	**P**	**02 21 37.0**	**+0.4**
baz=78							
K02A	**Glendale**	**78.05**	**49**	⇑P	**P**	**02 21 38.6**	**+0.8**
baz=78							
A07A	**Ashnola River,**	**78.08**	**42**	⇓P	**P**	**02 21 38.4**	**+0.4**
baz=78							
L02A	**Cave Junction**	**78.17**	**49**	⇓P	**P**	**02 21 39.2**	**+0.8**
baz=78							
KEV	**Kevo**	**78.29**	**341**	*e*p	**P**	**02 21 37.7**	**-1.4**
comp=Z,16nm,0.6s,mb4.9							
KEV	**Kevo**	**78.29**	**341**	*e*P	**P**	**02 21 37.7**	**-1.4**
KEV				pmax	pmax		
comp=Z,16nm,0.6s,mb4.9							
H04A	**Detroit Lake**	**78.33**	**47**	⇑P	**P**	**02 21 40.1**	**+0.7**
baz=78							
B07A	**Winthrop**	**78.44**	**42**	⇓P	**P**	**02 21 40.3**	**+0.4**
baz=78							
I04A	**Tendick Farm,**	**78.47**	**47**	⇑P	**P**	**02 21 39.9**	**-0.2**
baz=78							
HUMO	**Hull Mountain**	**78.48**	**49**	*e*P	**P**	**02 21 42.2**	**+2.0**
comp=Z,2.5nm,0.5s,mb4.2							
HUMO	**Hull Mountain**	**78.48**	**49**	⇓P	**P**	**02 21 40.9**	**+0.8**
baz=78							
C07A	**Waterville**	**78.73**	**43**	⇑P	**P**	**02 21 41.3**	**-0.2**
baz=79							
G05A	**Wamic**	**78.73**	**46**	⇑P	**P**	**02 21 41.7**	**+0.1**
baz=79							
A08A	**Turner Farm, O**	**78.80**	**42**	⇑P	**P**	**02 21 42.0**	**+0.1**
baz=79							
N02C	**Big Bar**	**78.81**	**51**	⇑P	**P**	**02 21 42.4**	**+0.5**
baz=79							
ARCES	**ARCESS Array B**	**78.85**	**341**	P	**P**	**02 21 41.8**	**-0.4**
comp=Z,27nm,0.6s,mb5.2,baz=72,slow=8.4,SNR=146							
J04A	**Umpqua Nationa**	**78.86**	**48**	⇑P	**P**	**02 21 43.0**	**+0.7**
baz=79							
F06A	**Goldendale**	**78.92**	**45**	⇑P	**P**	**02 21 42.6**	**+0.1**
baz=79							
YBH	**Yreka Blue Hor**	**78.93**	**50**	*e*P	**P**	**02 21 43.8**	**+1.2**
YBH	**Yreka Blue Hor**	**78.93**	**50**	⇑P	**P**	**02 21 42.8**	**+0.1**
baz=79							
M02C	**Callahan**	**78.94**	**50**	⇑P	**P**	**02 21 43.1**	**+0.4**
baz=79							
B08A	**Colville Reser**	**78.97**	**42**	⇑P	**P**	**02 21 42.2**	**-0.6**
baz=79							
G06A	**Carlson Farm,**	**79.19**	**46**	⇓P	**P**	**02 21 43.5**	**-0.5**
baz=79							
A09A	**Danville**	**79.22**	**42**	⇑P	**P**	**02 21 43.9**	**-0.3**
baz=79							
E07A	**Sunnyside**	**79.25**	**44**	⇑P	**P**	**02 21 44.4**	**+0.1**
baz=79							
K04A	**Chilquin**	**79.33**	**48**	⇑P	**P**	**02 21 45.5**	**+0.7**
baz=79							
C08A	**Higginbotham F**	**79.34**	**43**	P	**P**	**02 21 45.0**	**+0.1**
baz=79,SNR=6.0							
L04A	**Klamath Falls**	**79.36**	**49**	⇓P	**P**	**02 21 45.1**	**+0.1**
baz=79							
O02C	**Red Bluff**	**79.39**	**51**	P	**P**	**02 21 46.2**	**+1.1**
baz=79,SNR=5.8							
WDC	**Whiskeytown Da**	**79.43**	**51**	⇑P	**P**	**02 21 45.8**	**+0.4**
baz=79							
J05A	**Fort Rock**	**79.44**	**48**	⇑P	**P**	**02 21 46.1**	**+0.7**
baz=79							
M03C	**McCloud**	**79.50**	**50**	⇓P	**P**	**02 21 45.8**	**+0.1**
baz=79							
M04C	**Macdoel**	**79.53**	**49**	⇓P	**P**	**02 21 46.0**	**+0.1**
baz=79							
H06A	**Lindquist Farm**	**79.56**	**46**	⇑P	**P**	**02 21 46.1**	**+0.1**
baz=79							
GASB	**Alder Springs**	**79.61**	**52**	⇓P	**P**	**02 21 46.8**	**+0.5**
baz=80							
D08A	**Wollman Farm,**	**79.68**	**43**	⇑P	**P**	**02 21 46.7**	**+0.1**
baz=80							
B09A	**Rice**	**79.68**	**42**	⇑P	**P**	**02 21 46.4**	**-0.3**
baz=80							
G07A	**Ruggs Ranch, H**	**79.82**	**45**	⇑P	**P**	**02 21 47.2**	**-0.2**
baz=80							
C09A	**Chrisman Ranch**	**79.83**	**43**	⇑P	**P**	**02 21 47.5**	**0.0**
baz=80							
K05A	**Summer Lake**	**79.87**	**48**	⇑P	**P**	**02 21 48.4**	**+0.7**
baz=80							
I06A	**Prineville**	**79.92**	**47**	P	**P**	**02 21 48.2**	**+0.3**
baz=80,SNR=5.6							
D09A	**Jones Farm, Ri**	**80.07**	**43**	⇑P	**P**	**02 21 48.5**	**-0.3**
baz=80							
MNRC	**McLaughlin Nat**	**80.08**	**52**	⇑P	**P**	**02 21 48.9**	**+0.1**
baz=80,SNR=5.8							
H07A	**Lands Inn, Kim**	**80.13**	**46**	⇑P	**P**	**02 21 49.1**	**+0.1**
baz=80							
HATC	**Hat Creek Radi**	**80.13**	**50**	⇑P	**P**	**02 21 49.2**	**+0.1**
baz=80							
L05A	**Lakeview**	**80.15**	**49**	⇑P	**P**	**02 21 49.2**	**+0.1**
baz=80							
M05C	**Lookout**	**80.17**	**49**	⇓P	**P**	**02 21 49.7**	**+0.4**
baz=80							
VRHR	**Novokhopersk**	**80.22**	**321**	*e*P	**P**	**02 21 48.4**	**-1.1**
VRHR				pmax	pmax		
comp=Z,9.0nm,0.5s,mb4.8							
VRHR				pmax	pmax		
comp=E,3.0nm,0.4s							
JOF	**Joensuu**	**80.22**	**334**	*e*p	**P**	**02 21 48.0**	**-1.5**
comp=E,22nm,0.3s,mb5.4							
CVS	**Carmenet Viney**	**80.25**	**53**	⇓P	**P**	**02 21 49.5**	**-0.2**
baz=80							
G08A	**Pilot Rock**	**80.28**	**45**	⇓P	**P**	**02 21 50.2**	**+0.4**
baz=80							
K06A	**Valley Falls**	**80.29**	**48**	⇓P	**P**	**02 21 50.0**	**+0.1**
baz=80							
I07A	**Izee**	**80.35**	**46**	⇓P	**P**	**02 21 49.0**	**-1.2**
baz=80							
E09A	**Wood Farm, Sta**	**80.37**	**44**	P	**P**	**02 21 50.7**	**+0.3**
baz=80,SNR=5.7							
ORV	**Oroville**	**80.53**	**51**	⇓P	**P**	**02 21 51.0**	**-0.2**
baz=80							
O04C	**Chester**	**80.57**	**50**	P	**P**	**02 21 52.1**	**+0.7**
baz=80,SNR=6.3							
MOD	**Modoc**	**80.57**	**49**	⇓P	**P**	**02 21 51.5**	**+0.1**
baz=80							
A11A	**Hall Mountain,**	**80.58**	**41**	⇓P	**P**	**02 21 51.8**	**+0.3**
baz=80							
M06C	**Likely Place G**	**80.69**	**49**	⇑P	**P**	**02 21 52.1**	**+0.1**
baz=81							
ELFS	**Eagle Lake Fie**	**80.72**	**50**	⇓P	**P**	**02 21 52.3**	**+0.1**
baz=81							
D10A	**Wagner Farm, O**	**80.73**	**43**	⇑P	**P**	**02 21 52.3**	**0.0**
baz=81							
J07A	**Hines**	**80.73**	**47**	⇑P	**P**	**02 21 52.6**	**+0.4**
baz=81							
H08A	**Prairie City**	**80.75**	**46**	⇑P	**P**	**02 21 52.1**	**-0.3**
baz=81							
K07A	**Rock Creek Ran**	**81.02**	**48**	P	**P**	**02 21 54.5**	**+0.8**
baz=81,SNR=6.5		

O07A Toulon 82.20 50 ⇓P P 02 21 59.7 -0.2
baz=82
KIV Kislovodsk 82.29 314⇑eP P 02 22 00.8 +0.5
KIV pmax pmax
comp=Z,32nm,1.1s,mb5.0
KIV Kislovodsk 82.29 314 eP P 02 22 01.1 +0.8
GNI Garni 82.31 310⇑eP P 02 22 01.4 +1.0
GNI pmax pmax
comp=Z,15nm,1.4s
GNI Garni 82.31 310 eP P 02 22 02.0 +1.6
S06C San Francisco 82.33 52 ⇓P P 02 22 00.4 -0.2
baz=82
L09A Wilkinson Ranc 82.36 48 ⇑P P 02 22 01.1 +0.4
baz=82
R06C Coleville 82.39 52 ⇑P P 02 22 01.0 +0.1
baz=82
J10A Berg Farm, Mel 82.43 46 ⇓P P 02 22 00.8 -0.3
baz=82
H11A Donnelly 82.44 45 ⇑P P 02 22 00.8 -0.3
baz=82
N08A GE Springer Mi 82.50 49 ⇑P P 02 22 01.5 +0.1
baz=82
F12A Elk City 82.52 44 ⇓P P 02 22 01.8 +0.3
baz=82
PKD Parkfield 82.52 54 ⇑P P 02 22 01.4 -0.2
baz=82
KAF Kangasniemi 82.63 335 ep P 02 22 00.0 -2.1
comp=Z,7.7nm,0.5s,mb4.8,baz=55,slow=4.8
KAF Kangasniemi 82.63 335 eP P 02 22 00.0 -2.1
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
T06C Milleton Lake 82.76 53 P P 02 22 02.8 +0.1
baz=83,SNR=8.1
I11A Placerville 82.79 46 ⇑P P 02 22 02.0 -0.9
baz=83
R07C Lee Vining 82.85 52 P P 02 22 04.4 +1.2
baz=83,SNR=6.5
KCC Kaiser Creek 82.93 53 ⇑P P 02 22 03.7 +0.1
baz=83
D14A Greenough 83.09 42 ⇓P P 02 22 03.5 -1.0
baz=83
FINES FINESS Array B 83.09 334 P P 02 22 03.0 -1.4
comp=Z,10nm,0.4s,mb5.0,baz=74,slow=5.1,SNR=196
FINES FINESS Array B 83.09 334 eP P 02 22 03.1 -1.3
F13A Darby 83.10 43 ⇑P P 02 22 03.2 -1.3
baz=83
H12A Diamond D Ranc 83.26 45 ⇓P P 02 22 04.1 -1.2
baz=83
NVAR Mina Array Bea 83.26 51 P P 02 22 05.6 +0.3
comp=Z,5.1nm,0.7s,mb4.5,baz=281,slow=6.8,SNR=44
CHMT Chamberlain Mo 83.32 42 eP P 02 22 04.6 -1.0
Q08A Gabbs 83.37 51 ⇑P P 02 22 05.9 +0.1
baz=83
O09A Fish Creek Ran 83.39 49 ⇓P P 02 22 05.7 -0.3
baz=83,SNR=6.7
G13A Cobalt 83.44 44 ⇓P P 02 22 05.6 -0.6
baz=83,SNR=9.0
PKM Peak Mountain 83.45 55 ⇑P P 02 22 06.1 -0.1
baz=83
S08C White Mtn Res 83.71 52 ⇓P P 02 22 07.7 +0.1
baz=84
O10A Cortez Mining, 83.83 49 ⇑P P 02 22 07.6 -0.6
baz=84
E15A Deer Lodge 83.90 42 ⇓P P 02 22 08.2 -0.3
baz=84,SNR=6.2
HLID Hailey 83.95 46 eP P 02 22 08.4 -0.4
HLID Hailey 83.95 46 ⇑P P 02 22 08.5 -0.3
baz=84,SNR=5.1
QRN Al-Qurain 84.05 298 eP P 02 22 09.5 +0.2
QRN AMb AMB 02 22 10.7
comp=Z,35nm,0.4s,mb5.5
P10A Eureka 84.12 50 ⇑P P 02 22 09.4 -0.3
baz=84
ISA Isabella 84.19 54 eP P 02 22 09.8 -0.2
ISA Isabella 84.19 54 ⇑P P 02 22 09.1 -0.8
baz=84
R09A Tonopah 84.23 51 ⇑P P 02 22 09.6 -0.6
baz=84,SNR=10.0
LRM Limekiln Ridge 84.28 43 eP P 02 22 11.0 +0.5
RDF Al-Radifah 84.29 299 eP P 02 22 10.5 +0.1
RDF AMb AMB 02 22 11.7
comp=Z,39nm,0.5s,mb5.5
NAY Al-Naaiem 84.42 299 eP P 02 22 11.1 -0.1
NAY AMb AMB 02 22 12.4
comp=Z,40nm,0.5s,mb5.5
MCMT McKenzie Canyo 84.45 44 eP P 02 22 11.6 +0.3
G15A Dillon 84.54 43 ⇑P P 02 22 11.7 0.0
baz=84,SNR=5.1
N12A Clover Valley, 84.63 48 ⇑P P 02 22 11.9 -0.3
baz=84,SNR=5.6
P11A Circle Ranch, 84.65 50 ⇓P P 02 22 12.7 +0.4
baz=84
MPMC Manual Prospec 84.77 53 P P 02 22 13.4 +0.5
baz=85,SNR=7.9
EDW2 Edwards Air Fo 84.85 55 ⇑P P 02 22 13.4 +0.1
baz=85
Q11A Duckwater 85.01 50 P P 02 22 14.4 +0.4
baz=85,SNR=5.6
M13A Montello 85.03 47 P P 02 22 14.7 +0.6
baz=85,SNR=10
FURC Furnace Creek, 85.08 53 P P 02 22 15.6 +1.2
baz=85,SNR=5.8
P12A McGill 85.28 49 P P 02 22 15.9 +0.5
baz=85,SNR=7.3
QLMT Earthquake Lak 85.36 43 eP P 02 22 16.9 +1.2
U10A Ash Meadows, A 85.49 53 P P 02 22 17.1 +0.7
baz=85,SNR=5.6
Q12A Willow Creek R 85.52 50 ⇓P P 02 22 16.6 0.0
baz=85
GSC Goldstone 85.58 54 ⇓P P 02 22 17.6 +0.7
baz=86
YMR Madison River 85.73 43 eP P 02 22 18.9 +1.3
comp=Z,15nm,1.0s,mb4.8
SHOC Shoshone 85.73 53 ⇑P P 02 22 17.7 +0.1
baz=86
MURC Murrieta 85.95 56 ⇑P P 02 22 18.5 -0.2
baz=86
IMW Indian Meadow 86.09 44 eP P 02 22 20.7 +1.3
comp=Z,6.8nm,1.0s,mb4.4
HEC Hector,Ludlow 86.12 54 ⇓P P 02 22 20.6 +1.0
baz=86
TUQ Turquoise Mtn. 86.19 53 ⇓P P 02 22 20.9 +1.0
baz=86
MOOW Moose Ponds 86.28 44 eP P 02 22 21.5 +1.2
SHPR Sheep Range 86.32 52 eP P 02 22 21.3 +0.9
DUG Dugway 86.45 48 eP P 02 22 21.6 +0.5
DUG pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
DUG Dugway 86.45 48 eP P 02 22 21.6 +0.5
comp=Z,6.6nm,0.8s,mb4.5
DUG Dugway 86.45 48 P P 02 22 21.7 +0.6
baz=86,SNR=8.4
PFO Pinyon Flat Ob 86.52 55 eP P 02 22 21.5 +0.1
PFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
PFO Pinyon Flat Ob 86.52 55 eP P 02 22 21.5 0.0
comp=Z,5.0nm,0.8s,mb4.4
PFO Pinyon Flat Ob 86.52 55 ⇑P P 02 22 21.5 +0.1
baz=86
RLMT Red Lodge 86.60 42 eP P 02 22 22.5 +0.6
comp=Z,4.9nm,0.6s,mb4.5
GMRC Granite Mounta 86.65 54 ⇓P P 02 22 22.5 +0.4
baz=86
HWUT Hardware Ranch 86.69 46 eP P 02 22 22.8 +0.5
comp=Z,5.1nm,1.0s,mb4.3
BELC Belle Mtn. 86.71 55 ⇓P P 02 22 22.4 +0.1
baz=87
MONP Monument Peak 86.83 56 P P 02 22 23.6 +0.6
baz=87,SNR=6.2
V12A Nelson 86.87 53 ⇓P P 02 22 23.2 +0.1
baz=87,SNR=5.8
FCC Fort Churchill 87.09 26 eP P 02 22 23.5 -0.7
FCC pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
FCC Fort Churchill 87.09 26 eP P 02 22 23.4 -0.7
comp=Z,4.7nm,0.6s,mb4.5
BC3 Big Chucky Mtn 87.27 55 ⇓P P 02 22 24.8 -0.2
baz=87
IRM Iron Mountain 87.29 54 ⇓P P 02 22 24.9 -0.2
baz=87
SWSC Sam W. Stewart 87.29 56 ⇓P P 02 22 24.6 -0.5
baz=87
AKASG Malin Array Be 87.39 324 P P 02 22 24.0 -1.6
comp=Z,5.1nm,0.5s,mb4.6,baz=53,slow=4.9,SNR=36
KIEV Kiev 87.40 324 eP P 02 22 23.6 -2.1
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
KIEV Kiev 87.40 324 eP P 02 22 23.6 -2.1
comp=Z,5.8nm,0.6s,mb4.6
PDAR Pinedale Array 87.50 45 P P 02 22 25.9 -0.2
comp=Z,0.5nm,0.5s,mb3.6,baz=214,slow=3.7,SNR=6.0
MALT Malatya 87.53 310 eP P 02 22 26.2 -0.1
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MALT Malatya 87.53 310 eP P 02 22 26.2 0.0
comp=Z,2.9nm,0.7s,mb4.2
MALT Malatya 87.53 310⇑iP P 02 22 26.9 +0.6
W13A Hualapai Mount 87.84 53 ⇓P P 02 22 27.5 -0.3
baz=88
Y12C Blythe 87.93 54 ⇑P P 02 22 27.6 -0.6
baz=88
PDMCI Parker Dam,Lak 87.99 54 ⇑P P 02 22 28.5 0.0
baz=88
X13A Yucca 88.10 53 ⇓P P 02 22 29.0 +0.1
baz=88
W14A Seligman 88.39 53 ⇑P P 02 22 31.0 +0.7
baz=88
SRU San Rafael 88.51 48 eP P 02 22 31.2 +0.3
SUW Suwalki 88.62 329 eP P 02 22 30.2 -1.2
X14A Yava 88.85 53 ⇓P P 02 22 32.5 0.0
baz=89
NB2 NORSAR Subarra 88.86 339 P P 02 22 30.7 -1.8
comp=Z,2.2nm,0.6s,mb4.2,baz=42,slow=5.1
NOA NORSAR Array B 88.86 339 P P 02 22 30.8 -1.7
comp=Z,3.7nm,0.9s,mb4.2,baz=48,slow=4.8,SNR=5.8
Y14A Wickenburg 89.00 54 P P 02 22 34.0 +0.9
baz=89,SNR=6.4
X15A Humboldt 89.33 53 ⇑P P 02 22 34.4 -0.3
baz=89
WUAZ Wupatki 89.51 52 ⇑P P 02 22 36.8 +1.3
baz=89
BRTR Keskin Array B 90.20 313 P P 02 22 37.9 -0.9
comp=Z,2.7nm,0.7s,mb4.2,baz=85,slow=3.0,SNR=20
MVCO Mesa Verde 90.80 49 ⇓P P 02 22 41.2 -0.4
baz=91
BURAR Bucovina Array 91.28 323⇓iP P 02 22 43.2 -0.5
PLOR Plostina 91.45 321⇓iP P 02 22 49.3 +4.8
ISCO Idaho Springs 91.53 46 eP P 02 22 45.9 +1.0
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ISCO Idaho Springs 91.53 46 eP P 02 22 45.9 +1.1
comp=Z,2.9nm,0.8s,mb4.3
GERES GERESS Array B 96.48 329 P P 02 23 05.7 -1.8
comp=Z,0.9nm,0.5s,mb4.1,baz=31,slow=5.6,SNR=7.8
TXAR Lajitas Array 98.18 54 P P 02 23 13.8 -1.3
comp=Z,0.4nm,0.8s,mb3.8,baz=239,slow=0.7,SNR=3.9
SNAA Sanae 126.33 193 ePKPdf PKPdf 02 28 37.5 -1.7
SNAA Sanae 126.33 193 ePKPdf PKPdf 02 28 37.6 -1.7
VNA2 Neumayer--Watz 127.83 192 ePKPdf PKPdf 02 28 41.6 -0.5
baz=196,slow=0.3
VNA3 Neumayer Olymp 127.98 191 ePKPdf PKPdf 02 28 41.6 -0.8
TORD Torodi Ar. Bea 128.60 309 PKP PKPdf 02 28 44.2 +0.7
comp=Z,1.2nm,0.5s,baz=31,slow=1.3,SNR=29
TORD PP PP 02 30 51.1 -2.0
comp=Z,0.7nm,0.9s,baz=18,slow=4.8,SNR=3.6
TORD SKPbc 02 31 36.9
comp=Z,0.5nm,0.6s,baz=36,slow=3.7,SNR=4.5
LPAZ La Paz 150.10 85 PKP PKPdf 02 29 23.5 +1.5
comp=Z,10nm,0.6s,baz=264,slow=3.1,SNR=14
LPAZ PKPbc PKPbc 02 29 29.2 +1.8
comp=Z,10nm,0.6s,baz=304,slow=3.6,SNR=53
LPAZ PKPab PKPab 02 29 36.6 +2.1
comp=Z,4.2nm,0.5s,baz=331,slow=3.0,SNR=9.1
CFAA Coronel Fontan 150.49 116 PKPbc PKPbc 02 29 28.0 -0.3
comp=Z,1.5nm,0.7s,baz=271,slow=2.5,SNR=21
SIV San Ignacio 156.53 80 PKP PKPdf 02 29 31.9 +0.7
comp=Z,1.5nm,1.0s,baz=201,slow=5.4,SNR=5.9

IDC 05 02:16:31.9±2.1,2258S×6877W,h0km,mb4.1/2, mb1 4.2/4,mb1mx3.8/16,mbtmp4.0/4,ML4.0/2,Error ellipse: s-maj=53.3km s-min=49.0km az=29.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	6.28	6	Pn	Pn	02 18 07.2	+1.5
	1.6nm,0.3s,baz=193,slow=7.8,SNR=43						
SIV	San Ignacio	9.78	49	Pn	Pn	02 18 53.2	-0.6
	1.0nm,0.3s,baz=245,slow=13,SNR=27						
TORD	Torodi Ar. Bea	77.59	70	P	P	02 28 30.3	+0.5
	1.5nm,0.6s,baz=254,slow=5.4,SNR=33						
YKA	Yellowknife Ar	92.24	341	P	P	02 29 42.4	-1.3
	0.2nm,0.4s,baz=137,slow=4.5,SNR=12						
MKAR	Makanchi Array	146.42	37	PKPbc	PKPbc	02 36 15.3	+0.6
	0.8nm,0.7s,baz=317,slow=5.0,SNR=3.7						

IDC 05 02:20:51.8±1.9,056S×12576E,h0km,mb3.6/3,mb1 3.9/4, mb1mx3.7/18,mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=126.3km s-min=25.7km az=67.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.44	180	Pn	Pn	02 24 56.5	+0.1
	0.2nm,0.3s,baz=21,slow=10,SNR=8.8						
WRA	Warramunga Arr	21.02	157	P	P	02 25 37.2	+0.2
	1.5nm,0.9s,baz=336,slow=11,SNR=6.8						
ASAR	Alice Springs	24.29	162	P	P	02 26 11.0	+0.2
	1.5nm,0.8s,baz=325,slow=7.4,SNR=11						
MKAR	Makanchi Array	60.55	327	P	P	02 31 04.2	+0.3
	0.3nm,0.5s,baz=136,slow=7.7,SNR=4.6						

*IDC **05** 02:31:29.0±0.7,4695N×15257E,h0km,mb3.8/11, mb1 4.0/11,mb1mx3.8/24,mbtmp3.8/11,MS3.6/1, Ms1 3.6/1,ms1mx2.7/34,Error ellipse: s-maj=25.1km s-min=19.7km az=116.0*
*MOS **05** 02:31:32.1±0.8,4699N×15241E,h33km,mb4.3/5,Error ellipse: s-maj=45.4km s-min=21.7km az=88.3*
*ISCJB **05** 02:31:36.9±2.8,470N±0.1×1526E±02,h73km±23km, mb3.6/11,Error ellipse: s-maj=26.8km s-min=19.7km az=70.4*

ISC 05 02:31:39.0±2.5,470N±01×1526E±02,h78km±21km,n20, σ0$44/20,mb3.6/11,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.35	31	ePN	Pn	02 32 43.0	+0.4
SKR				eS	Sn	02 33 31.6	-0.4
INK	Inuvik	41.62	33	P	P	02 39 19.8	+0.4
	0.9nm,0.6s,mb3.7,baz=306,slow=8.4,SNR=9.0						
INK	Inuvik	41.62	33	P	P	02 39 19.8	+0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	46.47	297	P	P	02 39 58.4	+0.3
	comp=Z,0.6nm,0.9s,mb3.3,baz=79,slow=7.5,SNR=2.7						
MKAR				PcP	PcP	02 41 32.1	+0.6
	comp=Z,0.3nm,0.4s,baz=63,slow=1.4,SNR=5.6						
MKAR	Makanchi Array	46.47	297	P	P	02 39 58.4	+0.2
MKAR						02 41 32.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	50.93	37	P	P	02 40 32.2	-0.2
	comp=Z,0.2nm,0.5s,mb3.4,baz=298,slow=7.2,SNR=7.3						
YKA				PcP	PcP	02 41 47.3	-0.4
	comp=Z,0.2nm,0.4s,baz=304,slow=3.6,SNR=5.5						
PMG	Port Moresby	56.39	186	LR	LR	03 02 06.9	
	comp=Z,45nm,18.5s,baz=166,slow=33						
FINES	FINESS Array B	63.62	334	P	P	02 42 01.6	-0.1
	comp=Z,0.5nm,0.4s,mb3.7,baz=46,slow=8.0,SNR=9.8						
FINES	FINESS Array B	63.62	334	P	P	02 42 01.7	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	64.89	54	P	P	02 42 10.3	+0.3
	comp=Z,0.5nm,0.7s,mb3.5,baz=4.8,slow=0.8,SNR=5.3						
NB2	NORSAR Subarra	67.84	341	P	P	02 42 28.8	0.0
	comp=Z,0.6nm,0.6s,mb3.6,baz=29,slow=6.5						
NOA	NORSAR Array B	67.84	341	P	P	02 42 28.8	0.0
	comp=Z,1.8nm,0.7s,mb4.0,baz=28,slow=6.4,SNR=3.6						
NOA	NORSAR Array B	67.84	341	P	P	02 42 28.8	0.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	Hagfors	68.06	339	P	P	02 42 29.9	-0.3
	comp=Z,2.1nm,0.4s,mb4.4,baz=53,slow=5.7,SNR=17						
HFS	Hagfors	68.06	339	P	P	02 42 29.9	-0.3
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	Warramunga Arr	68.65	198	P	P	02 42 32.8	-1.1
	comp=Z,0.2nm,0.6s,mb3.1,baz=12,slow=6.6,SNR=2.6						
AKASG	Malin Array Be	71.10	326	P	P	02 42 48.9	0.0
	comp=Z,1.0nm,0.4s,mb4.0,baz=36,slow=6.4,SNR=6.4						
AKASG	Malin Array Be	71.10	326	P	P	02 42 48.9	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	72.35	198	P	P	02 42 57.1	+0.7
	comp=Z,0.4nm,0.6s,mb3.4,baz=8.5,slow=6.6,SNR=3.4						
TXAR	Lajitas Array	77.69	60	P	P	02 43 27.2	+0.1
	comp=Z,0.4nm,0.4s,mb3.5,baz=304,slow=5.2,SNR=13						

IDC 05 02:34:05.0±8.8,2187N×14303E,h93km±79km,mb3.5/12, mb1 3.7/12,mb1mx3.6/24,mbtmp3.5/12,Error ellipse: s-maj=29.5km s-min=18.5km az=76.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.29	323	P	P	02 38 34.5	+1.4
	3.1nm,0.7s,baz=140,slow=7.9,SNR=10						
SONM	Songino Array	39.11	320	P	P	02 41 23.3	+0.1
	1.7nm,0.9s,baz=118,slow=8.3						
WRA	Warramunga Arr	42.41	192	P	P	02 41 50.4	+0.1
	1.6nm,1.1s,baz=13,slow=8.8,SNR=4.8						
ASAR	Alice Springs	46.12	192	P	P	02 42 19.3	-0.5
	0.2nm,0.4s,baz=14,slow=11,SNR=2.9						
ZAL	Zalesovo	53.99	322	P	P	02 43 18.8	-0.6
	1.2nm,0.8s,baz=0.3,slow=8.1,SNR=6.2						
MKAR	Makanchi Array	54.47	313	P	P	02 43 23.4	+0.5
	0.6nm,0.8s,baz=94,slow=9.2,SNR=3.5						
BVAR	Borovoye Array	62.45	319	P	P	02 44 18.2	0.0
	3.0nm,0.6s,baz=96,slow=9.1,SNR=15						
INK	Inuvik	67.47	24	P	P	02 44 49.5	-1.3
	2.1nm,1.0s,baz=282,slow=8.1,SNR=4.7						
AKTO	Aktyubinsk	70.34	317	P	P	02 45 08.2	-0.3
	0.9nm,0.8s,baz=105,slow=11,SNR=3.6						
YKA	Yellowknife Ar	76.37	28	P	P	02 45 43.3	-0.7
	1.1nm,0.8s,baz=293,slow=5.7,SNR=15						
NVAR	Mina Array Bea	83.15	51	P	P	02 46 21.6	+1.0
	1.2nm,0.9s,baz=270,slow=7.9,SNR=6.6						
BRTR	Keskin Array B	90.12	313	P	P	02 46 54.8	+0.2
	0.7nm,0.8s,baz=54,slow=6.3,SNR=4.3						
LPAZ	La Paz	150.07	85	PKPbc	PKPbc	02 53 46.5	+1.8
	0.5nm,0.5s,baz=284,slow=4.2,SNR=4.2						
LPAZ				PKPab	PKPab	02 53 53.7	+2.8
	1.6nm,0.8s,baz=207,slow=4.5,SNR=5.4						

IDC 05 02:37:44.7±7.5,2180N×14284E,h161km±68km,mb3.4/12, mb1 3.6/12,mb1mx3.6/23,mbtmp3.4/12,MS3.1/4, Ms1 3.1/4,ms1mx2.8/22,Error ellipse: s-maj=28.7km s-min=16.1km az=74.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.30	354	LR	LR	02 41 05.5	
	comp=Z,116nm,20.1s,baz=75,slow=38						
JHJ	Hachijo jima 2	11.59	347	LR	LR	02 43 55.1	
	comp=Z,81nm,19.2s,baz=53,slow=32						
JOW	Kunigami	14.19	294	LR	LR	02 46 01.8	
	comp=Z,145nm,19.8s,baz=98,slow=35						
KSRS	Korea Array	20.24	324	P	P	02 42 08.5	+1.2
	3.0nm,0.8s,baz=143,slow=8.3,SNR=8.0						
KSRS				LR	LR	02 48 38.8	
	comp=Z,38nm,19.4s,baz=135,slow=32						
SONM	Songino Array	39.05	321	P	P	02 44 55.5	-0.3
	1.1nm,0.7s,baz=128,slow=6.8,SNR=8.9						
WRA	Warramunga Arr	42.31	192	P	P	02 45 22.6	+0.1
	0.9nm,0.9s,baz=15,slow=8.8,SNR=4.6						
ASAR	Alice Springs	46.03	191	P	P	02 45 51.7	-0.3
	0.5nm,0.6s,baz=13,slow=7.4,SNR=6.0						
ZAL	Zalesovo	53.94	322	P	P	02 46 50.8	-0.8
	0.9nm,0.5s,baz=9.2,slow=12,SNR=5.1						
MKAR	Makanchi Array	54.39	313	P	P	02 46 55.8	+0.9
	0.7nm,0.8s,baz=90,slow=9.7,SNR=3.7						
BVAR	Borovoye Array	62.39	319	P	P	02 47 50.7	+0.4
	1.8nm,0.6s,baz=78,slow=6.8,SNR=11						
AKTO	Aktyubinsk	70.28	317	P	P	02 48 41.0	+0.6
	0.8nm,0.6s,baz=86,slow=16,SNR=4.7						
YKA	Yellowknife Ar	76.51	28	P	P	02 49 15.8	-1.1
	1.4nm,0.7s,baz=292,slow=5.9,SNR=18						
NVAR	Mina Array Bea	83.33	51	P	P	02 49 54.2	+0.8
	1.1nm,0.8s,baz=274,slow=6.3,SNR=8.1						
AKASG	Malin Array Be	87.24	324	P	P	02 50 12.3	-0.6
	0.2nm,0.4s,baz=47,slow=5.4,SNR=2.6						
BRTR	Keskin Array B	90.04	313	P	P	02 50 24.6	-1.4
	0.6nm,0.8s,baz=96,slow=3.9,SNR=4.0						
LPAZ	La Paz	150.24	85	PKPbc	PKPbc	02 57 19.2	+2.6
	1.9nm,0.8s,baz=329,slow=3.1,SNR=3.9						
LPAZ				PKPab	PKPab	02 57 25.7	+2.4
	0.9nm,0.5s,baz=296,slow=2.8,SNR=6.2						

*MOS **05** 02:51:36.5±0.8,5562N×11021E,h8km,mb4.2/1,Error ellipse: s-maj=33.7km s-min=16.6km az=70.1*

BYKL 05 02:51:36.0±0.4,5568N×11016E,h13km±7km,5C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.36	285	⇑iPg	Pg	02 51 43.5	+0.2
NIZ				iSg	Sg	02 51 48.9	+0.7
NIZ				Pmax			
	156nm,0.3s						
NIZ				Smax			
	787nm,0.2s						
KMO	Kumora	0.62	70	⇑iPg	Pg	02 51 47.5	-0.7
KMO				iSg	Sg	02 51 56.1	-0.3
KMO				Pmax			
	43nm,0.3s						
KMO				Smax			
	300nm,1.0s						
YLYR	Ulyunkhan	0.99	144	⇑iPG	Pg	02 51 54.0	-1.1
YLYR				e		02 52 06.7	
YLYR				pmax	pmax		
	comp=Z,90nm,0.1s						
YLYR				smax			
	comp=N,289nm,0.1s						
YLYR	Ulyunkhan	0.99	144	⇑iPg	Pg	02 51 54.0	-1.1
YLYR				ePb	Pb	02 51 54.8	-0.2
YLYR				iSg	Sg	02 52 07.2	-0.8
YLYR				max			
	comp=N,80nm,0.4s						
YLYR				Smax			
	comp=N,143nm,0.1s						
YOA	Uoyan	0.99	62	ePG	Pg	02 51 56.6	+1.5
YOA				i		02 52 10.6	
YOA				pmax	pmax		
	comp=Z,230nm,0.2s						
YOA				smax			
	comp=N,670nm,0.3s						
YOA	Uoyan	0.99	62	ePg	Pg	02 51 53.5	-1.6
YOA				eSg	Sg	02 52 06.3	-1.8
YOA				Pmax			
	comp=N,225nm,0.2s						
YOA				Smax			
	comp=N,607nm,0.4s						
SVKR	Severomuysk	1.96	76	ePg	Pg	02 52 12.2	-1.5
SVKR				eSg	Sg	02 52 38.9	-0.3
SVKR				Pmax			
	comp=N,58nm,0.3s						
SVKR				Smax			
	comp=N,677nm,0.6s						
SYVR	Suvo	2.03	183	ePN	Pn	02 52 12.4	+2.5
SYVR				e		02 52 39.8	
SYVR				pmax	pmax		
	comp=Z,54nm,0.6s						
SYVR				smax			
	comp=E,407nm,0.7s						
SYVR	Suvo	2.03	183	⇑iPg	Pg	02 52 12.5	-2.4
SYVR				iSg	Sg	02 52 39.8	-1.4
SYVR				Pmax			
	comp=E,25nm,0.4s						
SYVR				Smax			
	comp=E,243nm,0.8s						
OGRR	Ongureny	2.53	217	ePg	Pg	02 52 19.7	-4.7
OGRR				eSg	Sg	02 52 52.2	-5.0
OGRR				Pmax			
	comp=E,14nm,0.3s						
OGRR				Smax			
	comp=E,61nm,0.4s						
MXMB	Maximikha	2.56	199	ePg	Pg	02 52 22.8	-2.3
MXMB				eSg	Sg	02 52 56.6	-1.6
MXMB				Pmax			
	comp=E,9.0nm,0.2s						
MXMB				Smax			
	comp=E,192nm,1.4s						
BOD	Bodaibo	3.01	43	e	Pn	02 52 25.3	+1.9

BOD			*e*Pg	Pg	02 52 30.1	-3.6
BOD			*e*Sg	Sg	02 53 08.8	-4.0
BOD			Pmax			
	comp=E,7.0nm,0.2s					
BOD			Smax			
	comp=E,50nm,1.0s					
NLYR	**Nelyaty**	**3.21 73**	*e*Pg	Pg	02 52 32.8	-4.7
NLYR			*e*Sg	Sg	02 53 16.1	-3.0
TRG	**Tyrgan**	**3.68 219**	*e*Pn	Pn	02 52 35.4	+2.8
TRG			*e*Pg	Pg	02 52 41.2	-5.4
TRG			*e*Sg	Sg	02 53 30.9	-3.4
TRG			Pmax			
	comp=E,12nm,1.0s					
TRG			Smax			
	comp=E,33nm,0.4s					
TRTB	**Turuntaevo**	**3.77 204**	*e*Pg	Pg	02 52 41.8	-6.3
TRTB			*e*Sg	Sg	02 53 33.0	-3.9
TRTB			Pmax			
	comp=E,11nm,0.7s					
TRTB			Smax			
	comp=E,33nm,1.1s					
FFNB	**Fofonovo**	**4.16 210**	*e*Sg	Sg	02 53 46.1	-3.4
CIT	**Chita**	**4.18 150**	*e*Pg	Pg	02 52 50.5	-5.6
CIT			*e*Sg	Sg	02 53 44.4	-5.8
CIT			Pmax			
	comp=E,13nm,1.1s					
CIT			Smax			
	comp=E,38nm,0.6s					
HRMR	**Khuramsha**	**4.49 206**	*e*Pg	Pg	02 52 55.2	-6.7
HRMR			*e*Sg	Sg	02 53 54.8	-5.2
CRS	**Chara**	**4.68 72**	*e*Pg	Pg	02 52 58.6	-7.0
CRS			*e*Sg	Sg	02 54 01.1	-5.2
CRS			Pmax			
	comp=E,8.0nm,1.0s					
CRS			Smax			
	comp=E,38nm,1.2s					
LSTR	**Listvyanka**	**4.96 222**	*e*Sg	Sg	02 54 08.3	-6.8
TLY	**Talaya**	**5.57 227**	*e*PN	Pn	02 53 01.7	+3.1
TLY			*e*		02 53 17.6	
TLY			*e*S	Sn	02 54 03.2	+0.8
TLY			*e*		02 54 29.0	
TLY			pmax	pmax		
	comp=Z,5.0nm,0.5s					
TLY			smax			
	comp=E,33nm,0.9s					
TLY	**Talaya**	**5.57 227**	*e*Sg	Sg	02 54 27.2	-7.6
TLY			Smax			
	comp=E,14nm,1.0s					
TUP	**Tupik**	**5.77 99**	*e*Pn	Pn	02 53 01.8	+0.5
TUP			*e*Pg	Pg	02 53 19.7	-6.8
TUP			*e*Sg	Sg	02 54 34.9	-6.3
TUP			Pmax			
	comp=E,2.0nm,0.3s					
TUP			Smax			
	comp=E,21nm,0.8s					
ARS	**Arshan**	**5.93 234**	*e*PN	Pn	02 53 06.2	+2.7
ARS			*e*S	Sn	02 54 10.1	-1.2
ARS	**Arshan**	**5.93 234**	*e*Pn	Pn	02 53 06.2	+2.7
ARS			max		02 53 20.4	
	comp=E,9.0nm,0.4s					
ARS			*e*Sg	Sg	02 54 37.3	-9.1
ARS			Smax			
	comp=E,43nm,0.6s					
KPC	**Khapcheranga**	**6.14 166**	*e*Pn	Pn	02 53 07.1	+0.8
KPC			*e*Pg	Pg	02 53 25.4	-8.1
KPC			*e*Sg	Sg	02 54 46.3	-6.6
ZAK	**Zakamensk**	**6.73 221**	*e*Sg	Sg	02 55 04.7	-7.4
ZAK			Smax			
	comp=E,4.0nm,0.4s					
MOY	**Mondy**	**6.77 237**	*e*PG	Pg	02 53 38.4	-7.2
MOY			*e*S	Sn	02 54 30.4	-1.5
MOY			*e*		02 55 07.8	
MOY			pmax	pmax		
	comp=Z,1.0nm,0.2s					
MOY			smax			
	comp=E,37nm,1.1s					
MOY	**Mondy**	**6.77 237**	*e*Pn	Pn	02 53 17.2	+2.2
MOY			*e*Sg	Sg	02 55 06.7	-6.5
ORL	**Orlik**	**6.85 247**	*e*PN	Pn	02 53 18.4	+2.3
ORL			*e*S	Sn	02 54 33.4	-0.5
ORL			*e*S	Sg	02 55 09.1	-6.7
ORL			smax			
	comp=N,46nm,0.9s					
ORL	**Orlik**	**6.85 247**	*e*Pn	Pn	02 53 14.2	-1.9
ORL			max		02 53 33.4	
	comp=N,5.0nm,0.8s					
ORL			*e*Sg	Sg	02 55 07.9	-7.9
ORL			Smax			
	comp=N,22nm,0.7s					

NIED ***05*** *02:55:00, 24.20N×125.20E, h53km, Mw3.9 Best double couple: M0=6.68000×10^14 NP1:φs=68.00000°, δ=74.00000°, λ=83.00000°. NP2:φs=273.00000°, δ=17.00000°, λ=114.00000°.*

JMA 05 02:55:59.8±0.3, 24.21N×125.22E, h20km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.57**	**17**	P		Pb	02 56 11.2	+0.1
JOGS				S		Sb	02 56 19.7	+0.8
JMJ	**Miyako jima 2**	**0.61**	**6**	P		Pb	02 56 11.4	-0.3
JMJ				S		Sb	02 56 19.8	0.0
JTJ	**Tarama**	**0.64**	**312**	P		Pb	02 56 11.9	-0.3
JTJ				S		Sb	02 56 21.3	+0.6
JIJ	**Ishigaki jima**	**0.99**	**279**	P		Pb	02 56 18.2	-0.1
JIJ				*e*S		Sb	02 56 31.5	+0.5
JKRS	**Kuro-shima**	**1.11**	**272**	P		Pn	02 56 20.6	+0.5
JKRS				*e*S		Sb	02 56 35.4	+1.2
HATJ	**Hateruma jima**	**1.30**	**264**	P		Pn	02 56 23.2	+0.4
IRIF	**Iriomote-Funau**	**1.36**	**276**	P		Pn	02 56 23.9	+0.2

STR ***05*** *02:56:25.7±0.2, 43.01N×0.00E, h4km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***05*** *02:56:25.6±0.1, 43.01N×0.01W, h2km, Md2.0/2, Ml1.9/6, Error ellipse: s-maj=1.6km s-min=0.8km az=162.0*

MDD 05 02:56:26.1±0.3, 43.01N×0.01W, h0km, mbLg1.5/11, 1C, Error ellipse: s-maj=2.3km s-min=1.9km az=156.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**60**	Pg		Pg	02 56 27.5	-0.1
LABF				Sg		Sg	02 56 28.9	+0.4
LABF	**Labassere**	**0.07**	**60**	P		Pg	02 56 27.6	0.0
LABF				S		Sg	02 56 28.9	+0.4
VIEF	**Viey**	**0.13**	**168**	Pg		Pg	02 56 28.6	0.0
VIEF				Sg		Sg	02 56 30.6	+0.3
VIEF	**Viey**	**0.13**	**168**	P		Pg	02 56 28.7	0.0
VIEF				S		Sg	02 56 30.6	+0.3
EPF	**Esparros**	**0.26**	**85**	*e*Pg		Pg	02 56 30.7	-0.4
EPF				*e*Sg		Sg	02 56 34.5	0.0
	11nm,0.2s							
EPF	**Esparros**	**0.26**	**85**	Pg		Pg	02 56 30.7	-0.4
EPF				Lg			02 56 34.5	
	5.7nm,0.2s							
RESF	**Ens**	**0.33**	**128**	P		Pg	02 56 32.2	-0.3
RESF				S		Sg	02 56 36.8	+0.1
EBIE	**Bielsa**	**0.34**	**160**	⇑Pg		Pg	02 56 32.4	-0.4
	7.2nm,0.4s,SNR=18							
EBIE				Lg			02 56 37.1	
	11nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg		Pg	02 56 33.8	-0.3
ETSF				*e*Sg		Sg	02 56 39.1	-0.4
	10nm,0.2s							
ETSF	**Etsaut**	**0.42**	**255**	Pg		Pg	02 56 33.8	-0.3
ETSF				Lg			02 56 39.1	
	5.2nm,0.2s							
MELF	**Melles**	**0.58**	**103**	Pg		Pg	02 56 36.5	-0.8
MELF				Sg		Sg	02 56 44.8	-0.1
MELF	**Melles**	**0.58**	**103**	P		Pg	02 56 36.5	-0.8
MELF				S		Sg	02 56 44.3	-0.6
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg		Pg	02 56 42.5	-0.8
SJPF				*e*Sg		Sg	02 56 53.8	-1.1
	1.4nm,0.2s							
SJPF	**Ste Jean**	**0.89**	**277**	Pg		Pg	02 56 42.5	-0.8
SJPF				Lg			02 56 53.8	
	0.7nm,0.2s							
SALF	**Salau**	**0.92**	**105**	Pg		Pg	02 56 42.8	-1.0
SALF				Sg		Sg	02 56 55.2	-0.5
SALF	**Salau**	**0.92**	**105**	P		Pg	02 56 42.8	-0.9
SALF				S		Sg	02 56 54.9	-0.8
CSOR	**Sort**	**1.06**	**126**	P		Pg	02 56 45.7	-0.7
CSOR				S		Sg	02 57 00.0	-0.1
	1.4nm,0.2s							
ELIZ	**Elizondo**	**1.12**	**278**	Pg		Pg	02 56 48.3	+0.7
	0.6nm,0.2s,SNR=4.0							
ELIZ				Lg			02 57 02.1	
	0.5nm,0.2s,SNR=7.9							
CORG	**Organya**	**1.25**	**128**	P		Pg	02 56 50.2	0.0
CORG				S		Sg	02 57 06.5	0.0
CAVN	**Les Avellanes**	**1.26**	**153**	P		Pg	02 56 49.6	-0.7
CAVN				S		Sg	02 57 06.7	0.0
	8.5nm,0.2s							
ESAC	**San Caprasio**	**1.33**	**195**	Pg		Pg	02 56 52.3	+0.7
	2.9nm,0.2s,SNR=4.0							
ESAC				Lg			02 57 10.4	
	27nm,0.2s,SNR=13							
CLLI	**Llivia**	**1.56**	**109**	P		Pn	02 56 55.2	+0.1
CLLI				S		Sn	02 57 15.9	-0.1
	0.9nm,0.4s							
EMIR	**Miracle**	**1.58**	**133**	Lg			02 57 17.5	
	2.5nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg		Pg	02 56 56.8	-1.3
MTLF				*e*Sg		Sg	02 57 18.0	-1.7
	2.1nm,0.2s							
MTLF	**Montolieu**	**1.67**	**78**	Pg		Pg	02 56 56.8	-1.3
MTLF				Lg			02 57 18.0	
	1.1nm,0.2s							
EPOB	**Poblet**	**1.84**	**154**	Pg		Pg	02 56 59.4	-2.1
	0.4nm,0.2s,SNR=7.9							
EPOB				Lg			02 57 24.1	
	3.7nm,0.4s,SNR=7.9							
LFF	**La Frestale**	**2.00**	**15**	*e*Pg		Pg	02 57 02.8	-1.8
LFF				*e*Sg		Sg	02 57 29.2	-1.4
	2.0nm,0.2s							
LFF	**La Frestale**	**2.00**	**15**	Pg		Pg	02 57 02.8	-1.8
LFF				Lg			02 57 29.2	
	1.0nm,0.2s							
ERTA	**Horta de San J**	**2.07**	**173**	Lg			02 57 31.8	
	1.6nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.43**	**37**	*e*Pg		Pg	02 57 10.8	-2.0
CAF				*e*Sg		Sg	02 57 41.7	-2.6
	1.8nm,0.2s							
CAF	**Calviac**	**2.43**	**37**	Pg		Pg	02 57 10.8	-2.0
CAF				Lg			02 57 41.7	
	0.9nm,0.2s							
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg		Pg	02 57 12.8	-2.1
RJF				*e*Sg		Sg	02 57 45.8	-2.1
	1.2nm,0.2s							
RJF	**Les Rejaudoux**	**2.54**	**25**	Pg		Pg	02 57 12.8	-2.1
RJF				Lg			02 57 45.8	
	0.6nm,0.2s							
LASF	**Ste Croix**	**3.01**	**68**	*e*Sg		Sg	02 57 59.8	-3.1
	1.0nm,0.3s							
LASF	**Ste Croix**	**3.01**	**68**	Lg			02 57 59.8	
	0.5nm,0.3s							

NEIC ***05*** *03:06:41.1, 37.24S×176.76E, h247km, MG3.9(WEL), After WEL.*

WEL 05 03:06:41.2±0.3, 37.25S×176.78E, h245km±2km, ML3.9/18, 1C-1D, Error ellipse: s-maj=4.3km s-min=4.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.05**	**165**	P		Pn	03 07 16.0	0.0
URZ	**Urewera**	**1.05**	**165**	⇑PN		Pn	03 07 16.0	0.0
URZ				SN		S	03 07 43.0	-0.2
MWZ	**Matawai**	**1.24**	**152**	P		Pn	03 07 17.5	+0.3
MWZ				S		S	03 07 45.4	0.0
MWZ	**Matawai**	**1.24**	**152**	⇓PN		Pn	03 07 17.4	+0.3
MWZ				SN		S	03 07 45.2	-0.3
PUZ	**Puketiti**	**1.44**	**126**	*e*P		Pn	03 07 18.6	0.0
PUZ				S		S	03 07 47.2	-0.7
PUZ	**Puketiti**	**1.44**	**126**	*e*PN		Pn	03 07 18.6	0.0
PUZ				SN		S	03 07 46.7	-1.2
KNZ	**Kokohu**	**1.91**	**159**	P		Pn	03 07 22.7	+0.3
KNZ	**Kokohu**	**1.91**	**159**	PN		Pn	03 07 22.7	+0.2
BKZ	**Black Stump Fm**	**1.93**	**187**	P		Pn	03 07 22.7	+0.1
BKZ				S		S	03 07 55.7	+0.4
BKZ	**Black Stump Fm**	**1.93**	**187**	PN		Pn	03 07 22.7	+0.1
BKZ				SN		S	03 07 55.7	+0.4
NGZ	**Ngauruhoe**	**2.14**	**205**	P		Pn	03 07 25.0	+0.5
NGZ	**Ngauruhoe**	**2.14**	**205**	PN		Pn	03 07 25.5	+1.0
FWVZ	**Far West T-bar**	**2.23**	**205**	*e*P		Pn	03 07 26.2	+0.8
FWVZ	**Far West T-bar**	**2.23**	**205**	PN		Pn	03 07 26.2	+0.8
WNVZ	**Wahianoa**	**2.28**	**204**	P		Pn	03 07 26.3	+0.4
WNVZ	**Wahianoa**	**2.28**	**204**	PN		Pn	03 07 26.3	+0.4
MOVZ	**Moawhango**	**2.30**	**200**	P		Pn	03 07 26.1	0.0
MOVZ	**Moawhango**	**2.30**	**200**	PN		Pn	03 07 26.1	0.0
PXZ	**Pawanui**	**2.78**	**179**	*e*PN		Pn	03 07 30.3	-0.7
WPHZ	**Waipukurau**	**2.83**	**185**	PN		Pn	03 07 31.5	0.0
WAZ	**Wanganui**	**2.87**	**209**	*e*P		Pn	03 07 32.2	+0.2
WAZ	**Wanganui**	**2.87**	**209**	PN		Pn	03 07 32.2	+0.2
TSZ	**Takapari Road**	**2.88**	**193**	P		Pn	03 07 31.8	-0.3
TSZ	**Takapari Road**	**2.88**	**193**	PN		Pn	03 07 31.3	-0.8
BFZ	**Birch Farm**	**3.46**	**187**	*e*P		Pn	03 07 37.5	-1.0
BFZ	**Birch Farm**	**3.46**	**187**	*e*PN		Pn	03 07 37.4	-1.1
MRZ	**Mangatainoka R**	**3.54**	**195**	*e*P		Pn	03 07 38.2	-1.2
MRZ	**Mangatainoka R**	**3.54**	**195**	PN		Pn	03 07 37.6	-1.8
TIWZ	**Tintock**	**3.59**	**191**	PN		Pn	03 07 39.7	-0.4
KIW	**Kapiti Island**	**3.89**	**201**	P		Pn	03 07 42.0	-1.5
KIW	**Kapiti Island**	**3.89**	**201**	*e*PN		Pn	03 07 41.5	-2.0
MTW	**Mount Morrison**	**4.03**	**194**	P		Pn	03 07 42.8	-2.3
CAW	**Cannon Point**	**4.08**	**198**	P		Pn	03 07 44.0	-1.7
CAW	**Cannon Point**	**4.08**	**198**	*e*PN		Pn	03 07 43.7	-2.0
DUWZ	**D'Urville Isla**	**4.19**	**211**	PN		Pn	03 07 45.3	-1.7
TRWZ	**Traveller**	**4.23**	**191**	PN		Pn	03 07 45.7	-1.8
MRW	**Makara Radio**	**4.29**	**201**	P		Pn	03 07 46.7	-1.5
MRW	**Makara Radio**	**4.29**	**201**	PN		Pn	03 07 46.7	-1.5
MSWZ	**Moikau Station**	**4.33**	**195**	P		Pn	03 07 46.3	-2.4
MSWZ	**Moikau Station**	**4.33**	**195**	PN		Pn	03 07 46.3	-2.4
SNZO	**South Karori**	**4.37**	**201**	P		Pn	03 07 46.9	-2.2
SNZO	**South Karori**	**4.37**	**201**	PN		Pn	03 07 46.9	-2.2
TCW	**Tory Channel**	**4.41**	**205**	P		Pn	03 07 47.6	-2.1
TCW	**Tory Channel**	**4.41**	**205**	PN		Pn	03 07 47.6	-2.0
TUWZ	**Tuamarina**	**4.72**	**207**	PN		Pn	03 07 51.2	-2.2
NNZ	**Nelson**	**4.76**	**213**	*e*P		Pn	03 07 51.6	-2.3
NNZ	**Nelson**	**4.76**	**213**	*e*PN		Pn	03 07 51.5	-2.4
QRZ	**Quartz Range**	**4.87**	**221**	*e*P		Pn	03 07 52.3	-2.9
QRZ	**Quartz Range**	**4.87**	**221**	PN		Pn	03 07 52.1	-3.1
BSWZ	**Blackbirch Sta**	**5.00**	**206**	P		Pn	03 07 54.9	-1.9
BSWZ	**Blackbirch Sta**	**5.00**	**206**	*e*PN		Pn	03 07 54.7	-2.1
KHZ	**Kahutara**	**5.73**	**205**	P		Pn	03 08 03.8	-2.1
KHZ	**Kahutara**	**5.73**	**205**	PN		Pn	03 08 03.8	-2.1
LTZ	**Lake Taylor**	**6.52**	**211**	*e*PN		Pn	03 08 13.0	-2.8
MQZ	**McQueen's Vall**	**7.18**	**205**	*e*P		Pn	03 08 20.4	-3.7
MQZ	**McQueen's Vall**	**7.18**	**205**	PN		Pn	03 08 20.4	-3.7
MQZ				SN		S	03 09 40.1	-6.5
JCZ	**Jackson Bay**	**9.14**	**219**	*e*P		Pn	03 08 44.7	-4.2
JCZ	**Jackson Bay**	**9.14**	**219**	*e*PN		Pn	03 08 44.3	-4.6

NEIC ***05*** *03:21:11.6±0.7, 77.76N×94.05E, h30km, mb4.2/1, Error ellipse: s-maj=26.1km s-min=13.9km az=223.0*
IDC ***05*** *03:21:13.0±4.1, 75.5N×93.76E, h45km±37km, mb3.7/10, mb1 3.9/11, mb1mx3.6/23, mbtmp3.7/11, ML3.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/33, Error ellipse: s-maj=48.7km s-min=16.2km az=57.0*
ISCJB ***05*** *03:21:14.9±2.2, 76.7N±0.1×93.9E±0.1, h83km±23km, mb3.9/11, Error ellipse: s-maj=28.8km s-min=13.8km az=71.6*

ISC 05 03:21:16.4±1.8, 76.7N±02×93.9E±01, h78km±20km, n17, σ0=92/14, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.91**	**134**	P		**Pn**	**03 22 55.1**	**+0.1**
	0.6nm,0.3s,baz=328,slow=12,SNR=5.7							
PSI				LR		LR	03 25 50.2	
	comp=Z,133nm,21.4s,baz=298,slow=39							
PALK	**Pallekele**	**13.11**	**269**	Pn		**Pn**	**03 24 19.3**	**-0.1**
	1.8nm,0.4s							
MKAR	**Makanchi Array**	**40.29**	**348**	P		**P**	**03 28 45.5**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=167,slow=7.7,SNR=4.0							
MKAR				LR		LR	03 47 31.5	
	comp=Z,39nm,20.4s,baz=64,slow=39							
SONM	**Songino Array**	**41.46**	**13**	P		**P**	**03 28 56.3**	**+0.8**
	0.8nm,0.8s,mb3.6,baz=190,slow=8.7,SNR=6.6							
SONM				PcP		PcP	03 30 54.0	+2.1
	0.6nm,0.7s,baz=203,slow=5.0,SNR=5.8							
ZAL	**Zalesovo**	**46.77**	**353**	P		**P**	**03 29 38.6**	**+0.7**
	2.8nm,0.3s,mb4.5,baz=15,slow=13,SNR=6.1							
WRA	**Warramunga Arr**	**48.30**	**125**	P		**P**	**03 29 50.1**	**+0.4**
	1.3nm,0.6s,mb4.0,baz=307,slow=8.6,SNR=25							
WRA				PcP		PcP	03 31 17.4	+2.0
	0.3nm,0.7s,baz=310,slow=2.8,SNR=4.5							
WRAB	**Tennant Creek**	**48.30**	**125**	*e*P		**P**	**03 29 47.1**	**-2.7**
	0.9nm,0.4s,mb4.0							
BVAR	**Borovoye Array**	**49.16**	**341**	PcP		PcP	03 31 18.0	-0.6
	0.8nm,0.7s,baz=151,slow=1.5,SNR=3.6							
ASAR	**Alice Springs**	**49.92**	**130**	P		**P**	**03 30 02.7**	**+0.5**
	1.0nm,0.7s,mb3.9,baz=302,slow=7.4,SNR=19							
AKTK	**Aktyubinsk**	**52.07**	**332**	P		**P**	**03 30 17.6**	**-0.6**
AKTO	**Aktyubinsk**	**52.07**	**332**	P		**P**	**03 30 17.6**	**-0.6**
	0.8nm,0.8s,mb3.8,baz=54,slow=12,SNR=3.5							
FINES	**FINESS Array B**	**72.83**	**332**	P		**P**	**03 32 36.5**	**-0.2**
	3.3nm,1.0s,mb4.1,baz=81,slow=12,SNR=3.6							
ARCES	**ARCESS Array B**	**75.43**	**340**	P		**P**	**03 32 52.1**	**+0.3**
	4.3nm,0.9s,mb4.2,baz=79,slow=6.5,SNR=4.8							
GERES	**GERESS Array B**	**77.87**	**318**	P		**P**	**03 33 04.5**	**-1.1**
	1.1nm,0.8s,mb3.6,baz=93,slow=2.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**90.44**	**283**	P		**P**	**03 34 11.2**	**+1.9**
	0.5nm,1.0s,mb3.6,baz=91,slow=4.7,SNR=3.2							
NVAR	**Mina Array Bea**	**125.25**	**31**	PKP		PKPdf	03 40 10.2	+2.2
	0.3nm,0.5s,baz=318,slow=1.2,SNR=3.0							
PDAR	**Pinedale Array**	**125.49**	**21**	PKP		PKPdf	03 40 09.4	+1.0
	0.3nm,0.7s,baz=126,slow=1.2,SNR=3.0							

IDC 05 03:34:49.2±2.8, 984S×11915E, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=170.3km s-min=26.2km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**126**	P		Pn	03 38 57.3	-0.7
	0.1nm,0.3s,baz=302,slow=14,SNR=7.4							
ASAR	**Alice Springs**	**19.69**	**136**	P		Pn	03 39 21.0	-0.3
	0.1nm,0.3s,baz=315,slow=11,SNR=8.1							
SONM	**Songino Array**	**58.52**	**350**	P		P	03 44 48.1	+0.8
	0.3nm,0.4s,baz=171,slow=7.9,SNR=3.7							
MKAR	**Makanchi Array**	**65.26**	**333**	P		P	03 45 32.2	-0.5
	0.9nm,0.7s,baz=141,slow=6.5,SNR=6.4							

IDC ***05*** *03:43:09.5±1.5, 48.62N×154.81E, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=70.1km s-min=20.4km az=159.0*
ISCJB ***05*** *03:43:13.8±2.7, 48.6N±03×154.7E±03, h45km±23km, mb3.6/5, Error ellipse: s-maj=55.4km s-min=14.7km az=109.9*
MOS ***05*** *03:43:15.6±1.6, 48.82N×154.41E, h54km, mb3.9/1, Error ellipse: s-maj=53.5km s-min=22.9km az=59.3*

ISC 05 03:43:16.2±2.2, 48.7N±03×154.7E±03, h49km±19km, n10, σ0=50/10, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.22**	**25**	*e*PN		**Pn**	**03 43 50.5**	**0.0**
SKR				pmax		pmax		
	comp=Z,60nm,0.5s							
ASAJ	**Asahikawa**	**9.49**	**246**	Pn		**Pn**	**03 45 30.1**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=102,slow=18,SNR=3.7							
ASAJ	**Asahikawa**	**9.49**	**246**	PN		**Pn**	**03 45 30.1**	**-0.1**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**22.40**	**250**	P		**P**	**03 48 10.9**	**+0.5**
	comp=Z,2.5nm,0.7s,mb3.8,baz=50,slow=9.5,SNR=6.9							
MKAR	**Makanchi Array**	**47.00**	**296**	P		**P**	**03 51 42.0**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=61,slow=7.2,SNR=6.5							
YKA	**Yellowknife Ar**	**48.76**	**38**	P		**P**	**03 51 56.6**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.4,baz=296,slow=7.3,SNR=3.6							
YKA	**Yellowknife Ar**	**48.76**	**38**	P		**P**	**03 51 56.6**	**+0.6**
PDAR	**Pinedale Array**	**62.78**	**55**	P		**P**	**03 53 36.8**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.7,baz=308,slow=3.2,SNR=3.6							
TXAR	**Lajitas Array**	**75.65**	**62**	P		**P**	**03 54 55.1**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=302,slow=3.8,SNR=7.6							
TXAR	**Lajitas Array**	**75.65**	**62**	P		**P**	**03 54 55.2**	**-0.9**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							

ISCJB ***05*** *03:46:57.1±0.5, 55.53S±008×124.1W±02, h10km, mb4.3/8, MS4.7/8, Error ellipse: s-maj=18.2km s-min=9.8km az=130.7*
IDC ***05*** *03:46:57.4±1.1, 55.51S×124.14W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.2/13, mbtmp4.2/6, MS4.6/8, Ms1 4.6/8, ms1mx4.5/11, Error ellipse: s-maj=35.3km s-min=29.6km az=154.0*
NEIC ***05*** *03:46:59.0±0.7, 55.52S×124.06W, h10km, mb4.6/3, Error ellipse: s-maj=25.6km s-min=16.9km az=147.0*
GCMT ***05*** *03:46:59.0±0.1, 55.82S×124.11W, h17km, MW5.4/85, Moment Tensor Solution. s76,c131; s85,c151; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr=0.12±.03; Mθθ0.92±.03; Mφφ=0.79±.03; Mrθ0.15±.06; Mθφ1.27±.02; Mφr0.27±.06; Best double couple: M0=1.56100×10^17 NP1:φs=107.00000°, δ79.00000°, λ1.00000°. NP2:φs=17.00000°, δ89.00000°, λ169.00000°. Principal axes: T 1.6290, Plg8.0000°, Azm332.0000°; N -0.1360, Plg79.0000°, Azm192.0000°; P -1.4930, Plg7.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 03:46:58.5±0.5, 55.54S±008×124.1W±02, h10km, (h12km±.1km:pP-P), n32, σ0=83/19, mb4.3/8, MS4.7/8, 5D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**31.09**	**112**

comp=Z,1μm,19.8s,MS4.9,baz=165,slow=34
MAW Mawson 57.06 183 *e*P **P 03 56 44.3 -0.5**
5.6nm,0.9s,mb4.6
LPAZ La Paz 57.69 70 P **P 03 56 50.6 +1.4**
4.1nm,1.1s,mb4.3,baz=217,slow=5.1,SNR=3.5
SAML Samuel 66.44 70 *e*P **P 03 57 47.8 -0.1**
6.0nm,1.1s,mb4.5
STKA Stephens Creek 66.65 248 LR LR 04 20 05.5
comp=Z,606nm,21.8s,MS4.8,baz=24,slow=30
ROSC El Rosal 72.76 53 LR LR 04 25 03.5
comp=Z,137nm,18.9s,MS4.2,baz=85,slow=31
ASAR Alice Springs 77.27 247 P **P 03 58 52.5 -0.5**
6.4nm,1.1s,mb4.5,baz=134,slow=5.3,SNR=6.3
WRA Warramunga Arr 80.09 249 P **P 03 59 08.8 +0.3**
4.1nm,0.9s,mb4.3,baz=144,slow=4.9,SNR=7.6
WRA LR LR 04 31 04.2
comp=Z,358nm,19.0s,MS4.7,baz=170,slow=33
WRAB Tennant Creek 80.09 249 P **P 03 59 09.5 +1.0**
3.5nm,0.9s,mb4.3
BOSA Boshof 92.19 153 LR LR 04 34 14.9
comp=Z,285nm,21.7s,MS4.7,baz=145,slow=31
PDAR Pinedale Array 98.72 11 LR LR 04 36 32.2
comp=Z,284nm,19.4s,MS4.8,baz=232,slow=30
GUN Gumba 144.95 230 *e*P PKPdf 04 06 35.6 -0.3
49nm,1.1s
DMN Daman 145.02 229 *e*P PKPbc 04 06 35.9 +0.5
48nm,0.8s
KKN Kakani 145.11 230 *e*P PKPbc 04 06 36.1 +0.4
37nm,0.9s
GKN Gorkha 145.57 229 *e*P PKPdf 04 06 36.7 -0.3
KOLN Koldanda 145.80 227 *e*P PKPdf 04 06 37.3 -0.1
58nm,1.3s
SONM Songino Array 148.36 277 PKPbc PKPbc 04 06 45.8 +0.7
0.4nm,0.7s,baz=111,slow=5.0,SNR=3.4
GERES GERESS Array B 153.64 87 PKPbc PKPbc 04 06 56.8 -0.7
0.6nm,0.8s,baz=254,slow=3.6,SNR=3.0

BJI ***05*** *03:48:11.3, 267N×12658E, h26km, mB5.1, mb4.9, Ms4.7, Msz4.6*
ISCJB ***05*** *03:48:12.8±0.2, 259N±003×12658E±005, h31km, mb5.1/106, MS4.5/31, Error ellipse: s-maj=6.8km s-min=4.1km az=142.3*
MOS ***05*** *03:48:13.0±1.1, 267N×12665E, h33km, mb5.4/34, MS4.6/8, Error ellipse: s-maj=12.9km s-min=6.1km az=111.7*
IDC ***05*** *03:48:14.2±3.6, 263N×12669E, h27km±24km, mb4.5/25, mb1 4.5/25, mb1mx4.5/26, mbtmp4.5/25, MS4.2/8, Ms1 4.2/8, ms1mx4.0/23, Error ellipse: s-maj=19.5km s-min=9.0km az=77.0*
NEIC ***05*** *03:48:15.0±0.2, 262N×12667E, h35km, mb5.2/26, Error ellipse: s-maj=8.0km s-min=4.6km az=72.0*
GCMT ***05*** *03:48:15.0±0.3, 269N×12683E, h22km, MW5.2/56, Moment Tensor Solution. s48,c60; s56,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-6.36±.31; Mθθ3.30±.19; Mφφ3.06±.22; Mrθ-2.46±.33; Mrφ2.07±.13; Mθφ2.70±.34; Best double couple: M0=6.55200×10^16 NP1:φ=67.00000°, δ49.00000°, λ-60.00000°. NP2: φ=206.00000°, δ50.00000°, λ-120.00000°. Principal axes: T 5.2540, Plg0.0000°, Azm316.0000°; N 2.5960, Plg22.0000°, Azm226.0000°; P -7.8500, Plg68.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 03:48:15.1±0.2, 262N±003×12662E±005, h34km, h34km±1.3km; pP-P, n210, σ1§20/207, mb5.1/105, MS4.5/31, 12C-14D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GSPH	**General Santos**	**3.83**	**334**	⇓*i*P		**Pn**	**03 49 14.4**	**+2.9**
DAV	**Davao City (W)**	**4.54**	**347**	*e*Pn		**Pn**	**03 49 23.7**	**+2.3**
CTBH	**Cotabato--PC H**	**5.15**	**333**	⇑*e*P		**Pn**	**03 49 32.0**	**+2.3**
BUKP	**Musuan**	**5.45**	**344**	*e*P		**Pn**	**03 49 36.4**	**+2.5**
CGP	**Cagayan de Oro**	**6.11**	**342**	⇑*i*P		**Pn**	**03 49 37.6**	**-5.3**
AAI	**Ambon**	**6.46**	**166**	P		**Pn**	**03 49 53.6**	**+5.9**
	173nm,1.2s							
PCI	**Palu**	**7.63**	**243**	P		**Pn**	**03 50 11.8**	**+8.0**
	92nm,1.6s							
KKM	**Kota Kinabalu**	**10.92**	**289**	*e*Pn		**Pn**	**03 50 52.3**	**+3.5**
TGY	**Tagaytay City**	**12.72**	**334**	LR		LR	03 57 26.2	
	comp=Z,25nm,18.9s,baz=151,slow=43							
KMMI	**Kalianget**	**15.87**	**233**	P		pP	03 52 05.2	-2.8
	142nm,1.3s							
DNP	**Denpasar**	**15.98**	**225**	P		pP	03 52 08.6	-0.7
	306nm,1.0s							
NBBI	**Negara**	**16.20**	**228**	P		pP	03 52 12.2	+0.5
	188nm,1.0s							
KAKA	**Kakadu**	**16.29**	**159**	*e*P		**Pn**	**03 52 03.2**	**+2.0**
	120nm,0.9s							
KSM	**Kuching**	**16.34**	**266**	*e*Pn		**Pn**	**03 52 00.8**	**-1.1**
KRKI	**Karangkates**	**17.73**	**233**	P		pP	03 52 28.0	-0.7
	141nm,0.9s							
BJII	**Banjamegara**	**19.56**	**240**	P		**Pn**	**03 52 43.3**	**+2.0**
	81nm,1.6s							
FITZ	**Fitzroy Crossi**	**20.61**	**183**	*e*P		**P**	**03 52 51.2**	**-0.1**
	45nm,0.6s							
FITZ				*e*S		**S**	**03 56 41.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**20.61**	**183**	P		**P**	**03 52 52.3**	**+1.0**
	7.4nm,0.5s,baz=13,slow=11,SNR=32							
FITZ				S		**S**	**03 56 41.7**	**+1.8**
	3.6nm,1.0s,baz=3.5,slow=19,SNR=2.7							
GUMO	**Guam**	**21.08**	**58**	LR		LR	04 00 09.9	
	comp=Z,1μm,21.1s,MS4.2,baz=285,slow=34							
LEM	**Lembang**	**21.16**	**244**	P		pP	03 53 05.4	-0.9
	156nm,0.9s							
CBJI	**Citeko**	**21.68**	**245**	P		pP	03 53 13.8	+1.9
	154nm,1.1s							
NACB	**Ninganchiao**	**21.97**	**348**	P		**P**	**03 53 06.9**	**+0.9**
SBJI	**Serang**	**22.23**	**247**	P		**P**	**03 53 15.2**	**+6.5**
	372nm,1.3s,mb5.7							
QIZ	**Qiongzhong**	**23.14**	**316**	P		**P**	**03 53 18.6**	**+0.2**
QIZ				PP			03 53 50.7	
QIZ				S		**S**	**03 57 30.3**	**+3.0**
QIZ				AMB		AMB		
	comp=Z,25nm,1.2s,mb4.5							
QIZ				AMB		AMB		
	comp=Z,367nm,3.6s							
QIZ				LR		LR		
	comp=E,1μm,19.5s							
QIZ				LR		LR		
	comp=Z,2μm,18.4s,MS4.5							
QIZ	**Qiongzhong**	**23.14**	**316**	P		**P**	**03 53 18.2**	**-0.2**
	comp=Z,228nm,1.8s,mb5.3							
WRAB	**Tennant Creek**	**23.66**	**162**	P		**P**	**03 53 22.0**	**-1.4**
	comp=Z,789nm,1.2s,mb6.0,SNR=61							
WRAB	**Tennant Creek**	**23.66**	**162**	⇓*e*P		**P**	**03 53 22.1**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,55nm,0.3s,mb5.5							
WRAB	**Tennant Creek**	**23.66**	**162**	⇓*e*P		**P**	**03 53 22.1**	**-1.3**
	comp=Z,56nm,0.3s,mb5.5							
WRA	**Warramunga Arr**	**23.67**	**162**	P		**P**	**03 53 22.4**	**-1.1**
	comp=Z,68nm,0.7s,mb5.2,baz=343,slow=10.0,SNR=95							
WRA				S		**S**	**03 57 36.6**	**+0.8**
	comp=Z,7.5nm,1.2s,baz=339,slow=18,SNR=4.9							
WB2	**Warramunga Arr**	**23.67**	**162**	*e*P		**P**	**03 53 22.2**	**-1.3**
WB2				*e*S		**S**	**03 57 37.8**	**+1.9**
PMG	**Port Moresby**	**23.70**	**121**	P		**P**	**03 53 23.2**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=240,slow=21,SNR=3.6							
PMG	**Port Moresby**	**23.70**	**121**	*i* P		**P**	**03 53 21.7**	**-2.1**
PMG	**Port Moresby**	**23.70**	**121**	*e*P		**P**	**03 53 20.9**	**-2.9**
	comp=Z,17nm,0.9s,mb4.5							
GZH	**Guangzhou**	**24.07**	**329**	P		**P**	**03 53 29.0**	**+1.8**
GZH				LR		LR		
	comp=N,970nm,17.9s,MS4.5							
GZH				LR		LR		
	comp=E,1μm,17.3s,MS4.5							
GZH				LR		LR		
	comp=Z,1μm,17.0s,MS4.5							
JOW	**Kunigami**	**24.13**	**4**	P		**P**	**03 53 28.4**	**+0.7**
	comp=Z,50nm,0.9s,mb4.9,baz=198,slow=6.6,SNR=6.5							
ASAR	**Alice Springs**	**27.07**	**165**	P		**P**	**03 53 53.9**	**-0.5**
	comp=Z,6.4nm,0.6s,mb4.4,baz=337,slow=6.6,SNR=54							
ASAR				PcP		PcP	03 57 16.5	+1.7
	comp=Z,4.3nm,0.9s,baz=344,slow=2.3,SNR=5.7							
PSI	**Prapat**	**27.67**	**271**	P		**P**	**03 54 00.1**	**+0.4**
	comp=Z,4.3nm,0.4s,mb4.5,baz=108,slow=2.8,SNR=5.7							
PSI	**Prapat**	**27.67**	**271**	P		**P**	**03 54 00.1**	**+0.4**
SSE	**Sheshan**	**28.79**	**350**	P		**P**	**03 54 13.0**	**+3.3**
SSE				S		**S**	**03 59 01.4**	**+4.3**
SSE				AMB		AMB		
	comp=Z,19nm,0.8s,mb4.9							
SSE				AMB		AMB		
	comp=Z,159nm,6.9s							
SSE				LR		LR		
	comp=N,273nm,24.5s,MS4.1							
SSE				LR		LR		
	comp=E,479nm,24.5s,MS4.1							
SSE				LR		LR		
	comp=Z,640nm,22.0s,MS4.2							
CTA	**Charters Tower 29.67**	**140**	*e*P		**P**		**03 54 17.6**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.5							
CTA	**Charters Tower 29.67**	**140**	P		**P**		**03 54 17.4**	**-0.2**
	comp=Z,9.5nm,0.8s,mb4.6,baz=327,slow=11,SNR=5.2							
CTA	**Charters Tower 29.67**	**140**	*e*P		**P**		**03 54 17.6**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.5							
GYA	**Guiyang 30.47**	**323**	P		**P**		**03 54 28.4**	**+3.7**
GYA			PCP		PcP		03 57 26.2	+2.8
GYA			S		**S**		**03 59 27.5**	**+3.9**
GYA			SCS		ScS		04 04 59.6	+0.2
GYA			AMB		AMB			
	comp=Z,30nm,0.8s,mb5.1							
GYA			AMB		AMB			
	comp=Z,140nm,5.4s							
GYA			LR		LR			
	comp=N,540nm,16.4s,MS4.4							
GYA			LR		LR			
	comp=E,480nm,15.8s,MS4.4							
GYA			LR		LR			
	comp=Z,570nm,16.2s,MS4.3							
JNU	**Nakatsue 30.61**	**7**	P		**P**		**03 54 26.6**	**+0.7**
	comp=Z,31nm,0.9s,mb5.1,baz=218,slow=12,SNR=4.5							
CHTO	**Chiang Mai 31.51**	**303**	*e*P		**P**		**03 54 33.3**	**-0.5**
CHTO			pmax		pmax			
	comp=Z,13nm,1.1s,mb4.7							
CHTO	**Chiang Mai 31.51**	**303**	*e*P		**P**		**03 54 33.3**	**-0.5**
	comp=Z,13nm,1.1s,mb4.7							
KMI	**Kunming 32.09**	**316**	P		**P**		**03 54 40.3**	**+1.4**
KMI			AP		pP		03 54 50.5	+1.8
KMI			XP		sP		03 54 55.2	+2.4
KMI			S		**S**		**03 59 51.2**	**+2.3**
KMI			AMB		AMB			
	comp=Z,16nm,1.6s,mb4.6							
KMI			AMB		AMB			
	comp=Z,92nm,3.5s							
KMI			LR		LR			
	comp=N,625nm,22.7s,MS4.4							
KMI			LR		LR			
	comp=E,817nm,24.0s,MS4.4							
KMI			LR		LR			
	comp=Z,1μm,25.3s,MS4.5							
FORT	**Forrest 33.24**	**178**	*e*P		**P**		**03 54 49.3**	**+0.4**
	comp=Z,72nm,0.7s,mb5.7							
KSRS	**Korea Array 34.69**	**2**	P		**P**		**03 55 01.8**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=174,slow=9.6,SNR=11							
KSRS			PcP		PcP		03 57 36.2	+1.2
	comp=Z,6.4nm,1.0s,baz=177,slow=3.1,SNR=8.0							
KLBR	**Kellerberrin 35.05**	**193**	*e*P		**P**		**03 55 04.8**	**+0.2**
	comp=Z,106nm,1.6s,mb5.5							
XAN	**Xi'an 35.36**	**334**	P		**P**		**03 55 06.5**	**-0.8**
XAN			AP		pP		03 55 16.4	-0.7
XAN			S		**S**		**04 00 37.4**	**-2.0**
XAN			AMB		AMB			
	comp=Z,7.0nm,1.0s,mb4.5							
XAN			LR		LR			
	comp=N,253nm,16.3s,MS4.5							
XAN			LR		LR			
	comp=E,679nm,21.3s,MS4.5							
XAN			LR		LR			
	comp=Z,1μm,20.2s,MS4.6							
MJAR	**Matsushiro Arr 35.41**	**16**	P		**P**		**03 55 05.7**	**-2.0**
	comp=Z,4.1nm,0.8s,mb4.4,baz=206,slow=9.1,SNR=7.0							
MJAR			PcP		PcP		03 57 38.1	+1.0
	comp=Z,5.2nm,0.9s,baz=172,slow=2.8,SNR=6.6							
MAJO	**Matsushiro 35.41**	**16**	*e*P		**P**		**03 55 03.5**	**-4.3**
MAJO			pmax		pmax			
	comp=Z,107nm,1.6s,mb5.5							
MAJO	**Matsushiro 35.41**	**16**	*e*P		**P**		**03 55 03.5**	**-4.3**
	comp=Z,107nm,1.6s,mb5.5							
MAT	**Matsushiro 35.41**	**16**	P		**P**		**03 55 05.0**	**-2.8**
MAT			S		**S**		**04 00 46.0**	**+5.7**
CD2	**Chengdu 35.48**	**325**	P		**P**		**03 55 08.0**	**-0.3**
CD2			AP		pP		03 55 18.1	-0.1
CD2			XP		sP		03 55 22.5	+0.2
CD2			PP		PP		03 56 29.2	0.0
CD2			PCP		PcP		03 57 36.6	-0.7
CD2			S		**S**		**04 00 41.0**	**-0.2**
CD2			XS		sS		04 00 56.4	-1.1
CD2			SS		SS		04 03 01.4	-15
CD2			SCS		ScS		04 05 22.1	-3.0
CD2			AMB		AMB			
	comp=Z,30nm,0.6s,mb5.4							
CD2			AMB		AMB			
	comp=Z,90nm,7.9s							
CD2			LR		LR			
	comp=N,1μm,16.7s,MS4.8							
CD2			LR		LR			
	comp=E,960nm,16.9s,MS4.8							
CD2			LR		LR			
	comp=Z,830nm,14.9s,MS4.6							
MUN	**Mundaring 35.80**	**195**	*e*P		**P**		**03 55 12.6**	**+1.5**
DL2	**Dalian 36.40**	**353**	P		**P**		**03 55 17.4**	**+1.2**
DL2			*e*S		**S**		**04 00 57.0**	**+1.6**
DL2			AMB		AMB			
	comp=Z,40nm,1.2s,mb5.2							
DL2			AMB		AMB			
	comp=Z,100nm,3.9s							
DL2			LR		LR			
	comp=N,620nm,15.5s,MS4.6							
DL2			LR		LR			
	comp=E,400nm,15.6s,MS4.6							
DL2			LR		LR			
	comp=Z,490nm,18.7s,MS4.3							
NWAO	**Narrogin (SRO) 36.45**	**193**	P		**P**		**03 55 17.4**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8,baz=49,slow=9.3,SNR=3.0							
NWAO	**Narrogin (SRO) 36.45**	**193**	*e*P		**P**		**03 55 15.5**	**-1.1**
NWAO			pmax		pmax			
	comp=Z,68nm,1.4s							
NWAO	**Narrogin (SRO) 36.45**	**193**	*e*P		**P**		**03 55 15.5**	**-1.1**
	comp=Z,68nm,1.4s,mb5.4							
STKA	**Stephens Creek 37.14**	**159**	*e*P		**P**		**03 55 22.0**	**-0.5**
	comp=Z,39nm,0.8s,mb5.3							
STKA	**Stephens Creek 37.14**	**159**	P		**P**		**03 55 22.7**	**+0.2**
	comp=Z,45nm,0.7s,mb5.4,baz=332,slow=8.2,SNR=41							
BJT	**Baijiatuau 38.42**	**347**	*e*P		**P**		**03 55 32.8**	**-0.5**
BJT			pmax		pmax			
	comp=Z,63nm,1.1s							
BJT	**Baijiatuau 38.42**	**347**	*e*P		**P**		**03 55 32.8**	**-0.5**
	comp=Z,63nm,1.1s,mb5.3							
BJI	**Beijing 38.44**	**347**	*e*P		**P**		**03 55 33.0**	**-0.5**
BJI			AP		pP		03 55 41.9	-1.5
BJI			XP		sP		03 55 46.3	-1.2
BJI			S		**S**		**04 01 25.4**	**-0.9**
BJI			XS		sS		04 01 44.6	+1.9
BJI			AMB		AMB			
	comp=Z,45nm,1.1s,mb5.1							
BJI			LR		LR			
	comp=N,602nm,25.2s,MS4.5							
BJI			LR		LR			
	comp=E,510nm,22.6s,MS4.5							
BJI			LR		LR			
	comp=Z,1μm,25.3s,MS4.6							
SNY	**Shenyang 39.13**	**356**	⇓P		**P**		**03 55 39.4**	**+0.1**
SNY			PP		PP		03 57 16.2	+6.9
SNY			S		**S**		**04 01 42.0**	**+5.2**
SNY			AMB		AMB			
	comp=Z,28nm,1.2s,mb4.9							
SNY			AMB		AMB			
	comp=Z,222nm,3.7s							
SNY			LR		LR			
	comp=N,491nm,23.7s,MS4.5							
SNY			LR		LR			
	comp=E,517nm,19.5s,MS4.5							
SNY			LR		LR			
	comp=Z,617nm,21.9s,MS4.4							
LZH	**Lanzhou 39.41**	**330**	*e*P		**P**		**03 55 42.5**	**+0.9**
LZH			AP		pP		03 55 52.5	+1.0
LZH			XP		sP		03 55 55.0	-0.6
LZH			PP		PP		03 57 17.0	+4.7
LZH			PCP		PcP		03 57 50.0	+0.7
LZH			*e*S		**S**		**04 01 45.0**	**+4.1**
LZH			AMB		AMB			
	comp=Z,90nm,1.5s,mb5.3							
LZH			AMB		AMB			
	comp=Z,164nm,5.1s							
LZH			LR		LR			
	comp=N,975nm,17.4s							
LZH			LR		LR			
	comp=Z,2μm,19.7s,MS4.9							
HHC	**Hu-ho-hao-te 40.41**	**342**	*e*P		**P**		**03 55 52.1**	**+2.1**
HHC			AP		pP		03 56 01.6	+1.7
HHC			XP		sP		03 56 05.8	+1.8
HHC			PP		PP		03 57 30.8	+7.5
HHC			PCS		PcS		04 01 43.4	+0.3
HHC			S		**S**		**04 01 58.4**	**+2.4**
HHC			SCS		ScS		04 05 53.4	+0.1
HHC			AMB		AMB			
	comp=Z,12nm,0.8s,mb4.7							
HHC			AMB		AMB			
	comp=Z,166nm,5.2s							
HHC			LR		LR			
	comp=N,916nm,25.6s,MS4.6							
HHC			LR		LR			
	comp=E,362nm,22.6s,MS4.6							
HHC			LR		LR			
	comp=Z,2μm,28.5s							
SHL	**Shillong 40.45**	**308**	*e*P		**P**		**03 55 48.6**	**-1.7**
SHL			AMb		AMB		03 56 14.4	
	comp=Z,2μm,2.7s							
ARMA	**Armidale 40.61**	**146**	*e*P		**P**		**03 55 51.9**	**+0.4**
CN2	**Changchun 41.02**	**359**	*e*P		**P**		**03 55 54.4**	**-0.6**
CN2			*e*XP		sP		03 56 08.3	-0.7
CN2			*e*S		**S**		**04 02 06.8**	**+1.8**
CN2			AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
CN2			AMB		AMB			
	comp=Z,170nm,4.0s							
CN2			LR		LR			
	comp=N,290nm,21.0s,MS4.3							
CN2			LR		LR			
	comp=E,400nm,21.0s,MS4.3							
CN2			LR		LR			
	comp=Z,500nm,22.0s,MS4.3							
MDJ	**Mudanjiang 41.91**	**3**	P		**P**		**03 56 02.5**	**+0.3**
MDJ			AP		pP		03 56 11.5	-0.7
MDJ			XP		sP		03 56 15.4	-0.9
MDJ			PP		PP		03 57 39.7	+0.2
MDJ			PCP		PcP		03 57 57.6	+0.2
MDJ			S		**S**		**04 02 25.6**	**+7.5**
MDJ			AMB		AMB			
	comp=Z,35nm,1.6s,mb4.7							
MDJ			AMB		AMB			
	comp=Z,126nm,3.7s							
MDJ			LR		LR			
	comp=N,178nm,34.0s,MS4.1							
MDJ			LR		LR			
	comp=E,397nm,32.4s,MS4.1							
MDJ			LR		LR			
	comp=Z,395nm,23.2s							
LSA	**Lhasa 43.09**	**312**	P		**P**		**03 56 13.2**	**+1.3**
LSA			AMB		AMB			
	comp=Z,20nm,1.0s,mb4.8							
LSA	**Lhasa 43.09**	**312**	*e*P		**P**		**03 56 13.2**	**+1.3**
LSA			pmax		pmax			
	comp=Z,76nm,1.4s,mb5.2							
LSA	**Lhasa 43.09**	**312**	*e*P		**P**		**03 56 13.2**	**+1.3**
	comp=Z,76nm,1.4s,mb5.2							
TOO	**Toolangi 43.65**	**158**	*e*P		**P**		**03 56 16.8**	**+0.4**
	comp=Z,15nm,1.8s,mb4.4							
TOO	**Toolangi 43.65**	**158**	*e*P		**P**		**03 56 16.8**	**+0.4**
TOO			pmax		pmax			
	comp=Z,15nm,1.8s,mb4.4							
ASAJ	**Asahikawa 43.68**	**17**	P		**P**		**03 56 16.6**	**0.0**
	comp=Z,17nm,0.9s,mb4.8,baz=255,slow=27,SNR=3.9							
GTA	**Gaotai 43.99**	**330**	*e*P		**P**		**03 56 19.5**	**+0.4**
GTA			AP		pP		03 56 30.8	+1.7
GTA			XP		sP		03 56 35.2	+2.0
GTA			PP		PP		03 58 03.6	+1.7
GTA			PCP		PcP		03 58 06.3	+1.9
GTA			PCS		PcS		04 01 59.4	+2.0
GTA			S		**S**		**04 02 47.5**	**-1.3**
GTA			XS		sS		04 03 04.7	-0.6
GTA			SS		SS		04 05 55.7	-11
GTA			AMB		AMB			
	comp=Z,9.0nm,1.9s,mb4.2							
GTA			AMB		AMB			
	comp=Z,117nm,3.8s							
GTA			LR		LR			
	comp=N,752nm,20.6s,MS4.7							
GTA			LR		LR			
	comp=E,752nm,21.0s,MS4.7							
GTA			LR		LR			
	comp=Z,1μm,25.2s,MS4.7							
VIS	**Vishakhapatnam 45.03**	**293**	*e*P		**P**		**03 56 26.2**	**-1.2**
VIS			AMb		AMB		03 56 32.6	
	comp=Z,32nm,1.7s,mb4.9							
JIRN	**Jiri 45.94**	**307**	*e*P		**P**		**03 56 34.7**	**+0.1**
	comp=Z,152nm,1.6s,mb5.7							
HABR	**Khabarovsk 46.25**	**8**	*e*P		**P**		**03 56 35.9**	**-1.2**
HABR			*e*S		**S**		**04 03 22.5**	**+1.1**
HABR			pmax		pmax			
	comp=Z,102nm,2.1s,mb5.4							
GUN	**Gumba 46.29**	**307**	*e*P		**P**		**03 56 37.9**	**+0.5**
	comp=Z,51nm,0.8s,mb5.5							
YSS	**Yuzh-Sakhalins 46.34**	**15**	*i* P		**P**		**03 56 36.3**	**-1.4**
YSS			pmax		pmax			
	comp=Z,60nm,1.5s,mb5.3							
YSS			MLR		MLR			
	comp=Z,500nm,19.0s,MS4.5							
YSS	**Yuzh-Sakhalins 46.34**	**15**	*i* P		**P**		**03 56 36.4**	**-1.3**
PKI	**Pulchoki 46.53**	**306**	*e*P		**P**		**03 56 39.8**	**+0.6**
KLR	**Kul'dur 46.65**	**5**	*e*P		**P**		**03 56 34.8**	**-5.3**
KLR			pmax		pmax			
	comp=E,42nm,1.8s							
KLR			pmax		pmax			
	comp=Z,64nm,1.8s,mb5.2							
KKN	**Kakani 46.72**	**307**	*e*P		**P**		**03 56 41.3**	**+0.6**
	comp=Z,113nm,1.5s,mb5.6							
DMN	**Daman 46.79**	**306**	*e*P		**P**		**03 56 41.9**	**+0.7**
	comp=Z,64nm,1.1s,mb5.5							
HIA	**Hailar 46.85**	**354**	*i* P		**P**		**03 56 42.2**	**+0.5**
HIA	**Hailar 46.85**	**354**	*i* P		**P**		**03 56 42.2**	**+0.5**
GKN	**Gorkha 47.33**	**306**	*e*P		**P**		**03 56 45.2**	**-0.3**
	comp=Z,105nm,1.4s,mb5.6							
KOLN	**Koldanda 48.07**	**306**	*e*P		**P**		**03 56 51.5**	**+0.3**
	comp=Z,199nm,1.4s,mb5.9							
SONM	**Songino Array 48.31**	**342**	P		**P**		**03 56 53.3**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.6,baz=156,slow=5.8,SNR=29							
SONM			PcP		PcP		03 58 20.5	+1.0
	comp=Z,6.1nm,0.9s,baz=132,slow=2.0,SNR=5.3							
SONM			LR		LR		04 20 36.4	
	comp=Z,281nm,20.7s,MS4.2,baz=158,slow=40							
SONM	**Songino Array 48.31**	**342**	P		**P**		**03 56 53.3**	**+0.2**
SONM							03 58 20.5	
NGP	**Nagpur 49.80**	**296**	AMb		AMB		03 57 34.7	
	comp=Z,38nm,1.0s,mb5.4							
CIT	**Chita 50.43**	**350**	*e*P		**P**		**03 57 10.0**	**+0.7**
CIT			*e*				03 57 26.6	
CIT			pmax		pmax			
	comp=Z,92nm,1.8s,mb5.5							
ZAK	**Zakamensk 51.53**	**341**	*e*P		**P**		**03 57 17.4**	**-0.1**
ZAK			pmax		pmax			
	comp=Z,4.0nm,1.2s,mb4.2							
AKL	**Akola 51.53**	**294**	*e*P		**P**		**03 57 15.7**	**-1.9**
AKL			AMb		AMB		03 57 20.4	
	comp=Z,79nm,1.1s,mb5.6							
BHPL	**Bhopal 51.81**	**298**	*e*P		**P**		**03 57 18.2**	**-1.4**
BHPL			AMb		AMB		03 57 24.4	
	comp=Z,37nm,1.3s,mb5.2							

WMQ SS SS 04 08 43.5 -0.6
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,185nm,4.5s
WMQ LR LR
comp=N,907nm,19.0s,MS4.9
WMQ LR LR
comp=E,280nm,18.0s,MS4.9
WMQ LR LR
comp=Z,629nm,22.0s,MS4.6
SONA Sohna 53.61 304 *e*P **P 03 57 31.6 -1.3**
SONA AMb AMB 03 57 34.0
comp=Z,28nm,0.9s,mb5.2
NDI New Delhi 53.64 304 *e*P **P 03 57 31.6 -1.5**
NDI AMb AMB 03 57 35.6
comp=Z,37nm,2.3s,mb4.9
AYAN Aya Nagar 53.65 304⇑*i*P **P 03 57 32.4 -0.9**
AYAN AMb AMB 03 57 38.3
comp=Z,33nm,1.2s,mb5.1
POO Poona 54.00 291 *e*P **P 03 57 32.0 -3.8**
KUDL Kundal 54.07 303⇑*i*P **P 03 57 33.8 -2.5**
KUDL AMb AMB 03 57 35.3
comp=Z,31nm,1.8s,mb4.9
KHET Khetri 54.62 303 *e*P **P 03 57 38.4 -1.9**
KHET AMb AMB 03 57 43.4
comp=Z,35nm,1.4s,mb5.2
AJM Ajmer 55.13 301 *e*P **P 03 57 42.3 -1.7**
AJM AMb AMB 03 57 47.1
comp=Z,18nm,0.6s,mb5.3
BOD Bodaibo 55.94 352 *e*P **P 03 57 49.3 -0.5**
BOD pmax pmax
comp=Z,16nm,1.6s,mb4.8
DLH Dalhousie 56.00 308 *e*x **P 03 57 53.0 +2.8**
THN Thein Dam 56.16 308 *e*P **P 03 57 50.2 -1.1**
PET Petropavlovsk 56.79 23 *e*P **P 03 57 57.7 +1.9**
PET *e*S **S 04 05 47.1 +0.5**
PET pmax pmax
comp=Z,34nm,1.1s,mb5.3
PET smax
comp=N,100nm,11.1s
PET MLR MLR
comp=Z,300nm,20.0s,MS4.4
PET Petropavlovsk 56.79 23 *i*P **P 03 57 55.1 -0.7**
MK31 Makanchi Array 58.40 326 *i*P **P 03 58 05.1 -2.1**
MKAR Makanchi Array 58.40 326 P **P 03 58 07.3 +0.1**
comp=Z,8.2nm,0.8s,mb4.8,baz=125,slow=8.1,SNR=41
MKAR LR LR 04 24 38.6
comp=Z,610nm,21.8s,MS4.7,baz=118,slow=37
JASL Jaisalmer 58.48 300 *e*x **P 03 58 01.5 -6.3**
YAK Yakutsk 59.31 2 *e*P **P 03 58 12.1 -1.4**
YAK pmax pmax
comp=Z,53nm,0.9s,mb5.6
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK Yakutsk 59.31 2 *e*P **P 03 58 12.3 -1.2**
AAK Ala-Archa 61.10 318 *i*P **P 03 58 26.3 +0.5**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AAK Ala-Archa 61.10 318 *e*P **P 03 58 27.0 +1.3**
ZAL Zalesovo 61.53 333 P **P 03 58 28.8 +0.2**
comp=Z,3.4nm,0.9s,mb4.5,baz=350,slow=8.4,SNR=15
KURK Kurchatov 62.62 328 P **P 03 58 35.2 -0.7**
comp=Z,249nm,0.8s,SNR=22
KURK Kurchatov 62.62 328⇑*i*P **P 03 58 34.7 -1.2**
KURK pmax pmax
comp=Z,14nm,0.8s,mb5.1
KURK Kurchatov 62.62 328 *e*P **P 03 58 35.8 -0.1**
NVS Novosibirsk 62.81 333⇓*i*P **P 03 58 36.0 -1.2**
NVS *e*S **S 04 07 00.0 -4.1**
NVS pmax pmax
comp=Z,16nm,1.4s,mb5.0
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,12nm,1.5s
NVS smax
comp=N,10.0nm,1.8s
NVS smax
comp=E,14nm,1.8s
SEY Seymchan 63.13 13⇑*i*P **P 03 58 39.8 +0.4**
KK31 Karatay Array 63.97 317 *i*P **P 03 58 44.6 -0.3**
KKAR Karatay Array 63.97 317 *i*P **P 03 58 44.6 -0.3**
KKAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BVA0 Borovoye Array 68.19 327 *i*P **P 03 59 11.7 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
BRVK Borovoye 68.26 327 P **P 03 59 12.3 -0.1**
comp=Z,87nm,1.1s,mb5.7,SNR=8.5
BRVK Borovoye 68.26 327 *e*P **P 03 59 12.3 -0.1**
BRVK pmax pmax
comp=Z,18nm,1.0s,mb5.1
BRVK Borovoye 68.26 327 *e*P **P 03 59 12.3 -0.2**
comp=Z,18nm,1.0s,mb5.0
CHKZ Chkalovo 68.36 328 *e*P **P 03 59 12.9 -0.2**
CHKZ pmax pmax
comp=Z,11nm,1.0s,mb4.8
CHKZ Chkalovo 68.36 328 *e*P **P 03 59 12.9 -0.1**
comp=Z,11nm,1.0s,mb4.8
TIXI Tiksi 68.95 1⇑*i*P **P 03 59 13.6 -3.1**
TIXI pmax pmax
comp=Z,16nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,241nm,18.0s,MS4.5
TIXI Tiksi 68.95 1 *e*P **P 03 59 15.6 -1.1**
CASY Casey 69.71 187 P **P 03 59 22.6 +1.2**
comp=Z,6.9nm,0.6s,mb4.8
BILL Bilibino 70.65 15⇑*i*P **P 03 59 27.1 -0.1**
AB31 Akbulak array 72.94 321⇑*e*P **P 03 59 39.7 -1.2**
SVE Sverdlovsk 74.85 329⇓*e*P **P 03 59 51.0 -1.1**
SVE pmax pmax
comp=Z,100nm,1.8s,mb5.4
ARU Arti 75.81 328 P **P 03 59 57.9 +0.2**
comp=Z,192nm,0.9s,mb6.0,SNR=8.0
ARU Arti 75.81 328⇓*i*P **P 03 59 57.0 -0.7**
ARU *e* pP 04 00 07.6 -0.7
ARU *e* 04 02 47.2
ARU *e*PPP 04 04 31.0
ARU *e*S S 04 09 37.7 +0.3
ARU *e*SS SS 04 14 29.2 -0.5
ARU pmax pmax
comp=Z,30nm,0.9s,mb5.2
ARU Arti 75.81 328 *e*P **P 03 59 57.1 -0.6**
comp=Z,31nm,0.9s,mb5.2
ORR Orenburg 76.74 323⇑*i*P **P 04 00 03.7 +0.8**
ORR pmax pmax
comp=Z,60nm,1.3s,mb5.4
ORR MLR MLR
comp=Z,510nm,25.0s,MS4.7
SOKR Solikamsk 77.62 331 *e*P **P 04 00 01.3 -6.5**
SOKR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SOKR MLR MLR
comp=Z,340nm,17.0s,MS4.7
SVW2 Sparrevohn 81.82 29 *e*P **P 04 00 31.0 +0.4**
GNI Garni 82.11 310 P **P 04 00 33.8 +1.7**
comp=Z,0.9nm,0.3s,mb4.1,baz=140,slow=20,SNR=5.7
GNI LR LR 04 43 34.1
comp=Z,138nm,21.6s,MS4.3,baz=87,slow=40
GNI Garni 82.11 310⇓*e*P **P 04 00 33.3 +1.2**
GNI pmax pmax
comp=Z,20nm,1.5s
VNDA Vanda 82.34 173 P **P 04 00 33.5 +0.1**
comp=Z,5.4nm,1.0s,mb4.5,baz=316,slow=6.0,SNR=19
MAW Mawson 82.68 200 P **P 04 00 36.1 +1.0**
comp=Z,7.1nm,1.0s,mb4.6,baz=85,slow=5.0,SNR=6.5
ZEI Tsey 82.88 313 *e*P **P 04 00 36.9 +0.7**
ZEI pmax pmax
comp=Z,20nm,1.0s,mb5.1
IMA2 Indian Mountai 83.44 24 *e*P **P 04 00 39.5 +0.5**
KIV Kislovodsk 83.82 314 *e*P **P 04 00 42.7 +1.7**
KIV pmax pmax
comp=Z,12nm,0.9s,mb5.0
KIV MLR MLR
comp=Z,195nm,18.0s,MS4.5
SLKM Skilak Lake 84.36 30 *e*P **P 04 00 43.3 -0.4**
VRHR Novokhopersk 84.83 321 *e*P **P 04 00 46.6 +0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.3s,mb5.4
VRHR pmax pmax
comp=E,4.0nm,0.2s
PPT Papeete 84.88 108 *e*LR LR 04 27 28.8
comp=E,498nm,26.2s
PPT Papeete 84.88 108 LR LR 04 35 06.5
comp=E,178nm,18.5s,MS4.5,baz=164,slow=33
PMR Palmer 84.97 29 *e*P **P 04 00 46.7 -0.1**
PMR pmax pmax
comp=Z,51nm,1.2s,mb5.5
PMR Palmer 84.97 29 *e*P **P 04 00 46.7 -0.1**
comp=Z,51nm,1.2s,mb5.5
MCK McKinley 85.20 26 *e*P **P 04 00 47.7 -0.3**
SML Sawmill 85.36 28 *e*P **P 04 00 48.9 +0.1**
TBI Tubuai 85.45 114 *e*P **P 04 00 49.7 +0.5**
comp=Z,253nm,1.6s,mb6.1
TBI Tubuai 85.45 114 *e*LR LR 04 27 50.9
comp=Z,308nm,27.8s
SOC Sochi 85.97 313 *d*i*P **P 04 00 51.8 0.0**
SOC *e**PP pP 04 00 59.9 -2.6
SOC *e* 04 04 10.9
SOC *e*S SKSac 04 11 13.4 -1.6
SOC *e*SS SS 04 17 07.5 +6.3
SOC pmax pmax
comp=Z,25nm,0.8s,mb5.5
SOC MLR MLR
comp=Z,274nm,17.0s,MS4.7
PMOR Pomariorio Ree 86.31 105 *e*P **P 04 00 54.6 +1.1**
comp=Z,53nm,1.4s,mb5.6
KLMR Klimovskoe 86.31 331 P **P 04 00 52.2 -1.3**
KLMR pmax pmax
comp=Z,50nm,1.3s,mb5.6
VRSR Storozhevoye 86.36 321 *e*P **P 04 00 52.9 -0.8**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.5
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,40nm,1.0s
VAH Vaihoa 86.58 105 *e*P **P 04 00 55.7 +0.9**
comp=E,39nm,1.1s,mb5.5
MALT Malatya 86.97 308⇓*i*P **P 04 00 58.0 +1.3**
MALT pmax pmax
comp=Z,18nm,1.0s,mb5.3
MALT Malatya 86.97 308⇓*i*P **P 04 00 58.0 +1.3**
comp=Z,18nm,1.0s,mb5.2
MALT Malatya 86.97 308⇑*i*P **P 04 00 59.0 +2.3**
MOS Moscow 87.29 326 *e*P **P 04 00 56.4 -1.9**
MOS pmax pmax
comp=Z,69nm,1.1s,mb5.8
ANN Anapa 87.60 315 *e*P **P 04 00 59.5 -0.2**
ANN *e**PP pP 04 01 07.4 -3.1
ANN *e* 04 04 22.5
ANN *e*PPP 04 06 26.6
ANN *e*S SKSac 04 11 24.6 -0.5
ANN *e*SS SS 04 17 26.4 +1.4
ANN *e*SSS 04 20 54.5
ANN pmax pmax
comp=Z,58nm,1.4s,mb5.6
OBN Obninsk 87.90 325 *e*P **P 04 01 00.6 -0.6**
OBN *i* 04 01 16.3
OBN pmax pmax
comp=Z,48nm,1.5s,mb5.5
OBN Obninsk 87.90 325 *e*P **P 04 01 00.7 -0.5**
EGAK Eagle 88.60 25 *e*P **P 04 01 03.3 -1.3**
comp=Z,7.3nm,1.0s,mb5.0
APA Apatity 88.83 337⇓*e*P **P 04 01 12.6 +7.0**
APA *i* pP 04 01 25.2 +8.8
APA *e* 04 13 30.0
APA pmax pmax
comp=Z,16nm,1.0s,mb5.3
DAWY Dawson 89.42 26 *e*P **P 04 01 08.6 +0.3**
KMBO Kilima Mbogo 89.42 269 P **P 04 01 10.6 +2.3**
comp=Z,3.7nm,1.0s,mb4.7,baz=35,slow=7.4,SNR=8.4
BR131 Keskin Array S 90.64 310 *e*P **P 04 01 14.3 +0.2**
comp=Z,5.6nm,0.9s,mb4.9
BRTR Keskin Array B 90.64 310 P **P 04 01 14.4 +0.3**
comp=Z,5.0nm,0.9s,mb4.8,baz=126,slow=3.2,SNR=3.7
BRTR Keskin Array B 90.64 310⇑*e*P **P 04 01 14.3 +0.2**
ARCES ARCESS Array B 91.45 340 P **P 04 01 15.9 -1.9**
comp=Z,5.0nm,0.8s,mb4.9,baz=50,slow=9.7,SNR=5.7
AKASG Malin Array Be 92.68 321 P **P 04 01 22.3 -1.2**
comp=Z,0.5nm,0.3s,mb4.4,baz=74,slow=4.0,SNR=9.3
AKASG LR LR 04 48 25.0
comp=Z,189nm,20.8s,MS4.5,baz=10.0,slow=39
FINES FINESS Array B 92.75 332 P **P 04 01 23.6 -0.3**
comp=Z,5.1nm,1.2s,mb4.8,baz=79,slow=5.4,SNR=2.3
FINES LR LR 04 51 11.9
comp=Z,218nm,18.9s,MS4.6,baz=295,slow=41
TAOE Nuku Hiva Isla 93.59 99 *e*LR LR 04 31 39.6
comp=Z,1μm,23.4s
VRI Vrincioaia 95.02 316⇓*i*P **P 04 01 36.9 +2.7**
MLR Muntele Rosu 95.62 316 P **P 04 01 36.5 -0.5**
comp=Z,5.1nm,0.8s,mb5.0,baz=260,slow=9.9,SNR=4.5
BURAR Bucovina Array 95.75 318⇓*i*P **P 04 01 38.8 +1.2**
UZH Uzhgorod 97.47 320 *e*P **P 04 01 43.0 -2.4**
UZH *e* 04 01 57.3
RKT Rikitea 98.75 113 *e*SP SP 04 14 40.7 -2.8
comp=Z,82nm,24.0s
RKT *e*LR LR 04 34 01.7
comp=Z,258nm,28.8s
NOA NORSAR Array B 99.73 334 P Pdif 04 01 54.5 -1.0
comp=Z,2.4nm,0.9s,baz=62,slow=4.2,SNR=3.1
YKA Yellowknife Ar 100.55 24 P Pdif 04 01 58.0 -1.1
comp=Z,1.9nm,0.9s,baz=300,slow=4.6,SNR=16
YKA Yellowknife Ar 100.55 24 *i*P Pdif 04 01 58.7 -0.4
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 100.55 24 P Pdif 04 01 58.0 -1.1
MNTX Cornudas Mount 120.03 51 *e*PKPdf PKPdf 04 07 03.3 +1.2
TXAR Lajitas Array 122.36 53 PKP PKPdf 04 07 08.2 +1.6
comp=Z,1.5nm,1.0s,baz=203,slow=2.1,SNR=9.8
KSU1 Kansas State U 122.54 39 *e*PKPdf PKPdf 04 07 07.8 +0.8
TORD Torodi Ar. Bea 123.15 287 PKP PKPdf 04 07 09.4 +1.3
comp=Z,2.2nm,0.9s,baz=49,slow=1.9,SNR=9.6
JCT Junction City 124.86 50 *e*PKIKP PKPdf 04 07 11.7 +0.3
ROSC El Rosal 157.79 70 PKPab PKPab 04 08 42.7 +1.9
comp=Z,8.9nm,0.9s,baz=88,slow=12,SNR=6.2
SDV Santo Domingo 159.35 56 *e*PKPdf PKPdf 04 08 11.6 +1.7
LPAZ La Paz 160.12 134 PKP PKPdf 04 08 14.1 +3.3
comp=Z,2.0nm,0.9s,baz=20,slow=2.8,SNR=6.9
LPAZ PKPab PKPab 04 08 52.2 +1.3
comp=Z,2.8nm,1.0s,baz=270,slow=3.4,SNR=4.1
LPAZ La Paz 160.12 134 PKP PKPdf 04 08 14.1 +3.3
LPAZ PKPab PKPab 04 08 52.2 +1.3

ISCJB ***05*** *03:55:05.2±0.5, 4758N±003×754E±004, h5km, Error ellipse: s-maj=4.9km s-min=3.4km az=103.0*
ZUR ***05*** *03:55:05.6, 4758N×760E, h5km±1km, ML1.1*
STR ***05*** *03:55:05.6±0.4, 4758N×757E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***05*** *03:55:06.5±0.2, 4760N×753E, h2km, Md1.8/3, Ml2.0/4, Error ellipse: s-maj=4.3km s-min=2.3km az=103.0*
ISC 05 03:55:05.1±1.2, 4758N±003×757E±005, h18km±14km, n11, σ0º51/19, 1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**160**	*e*Sg	**Pg**	**03 55 11.0**	**+0.1**
	161nm,0.3s						
BALST	**Balsthal**	**0.25**	**160**⇓	*i*Pg	**Sg**	**03 55 14.8**	**-0.1**
	161nm,0.3s						
BOURR	**Bourrignon**	**0.29**	**232**	*i* Pg	**Pg**	**03 55 12.5**	**+0.9**
	3.8nm,0.1s						
SULZ	**Sulz-Cheisache**	**0.37**	**97**	*i* Pg	**Pg**	**03 55 12.6**	**-0.3**
	37nm,1.1s						
SULZ				*e*Sg	**Sg**	**03 55 17.6**	**-0.6**
	37nm,1.1s						
MOF	**Molkenrain**	**0.40**	**313**	Pg	**Pg**	**03 55 13.5**	**0.0**
MOF				Sg	**Sg**	**03 55 19.3**	**+0.2**
HINF	**Hinteralfeld**	**0.54**	**297**	*e*Pg	**Pg**	**03 55 15.8**	**-0.1**
HINF				*e*Sg	**Sg**	**03 55 23.0**	**-0.2**
	4.3nm,0.2s						
ECH	**Echery**	**0.70**	**337**	Pg	**Pg**	**03 55 19.2**	**+0.3**
ECH				Sg	**Sg**	**03 55 27.9**	**-0.3**
CDF	**Champ du Feu**	**0.86**	**347**	*e*Pg	**Pg**	**03 55 22.3**	**+0.4**
CDF				*e*Sg	**Sg**	**03 55 33.9**	**+0.6**
	4.1nm,0.2s						
HAU	**Haudompre**	**0.93**	**298**	*e*Pg	**Pg**	**03 55 23.2**	**0.0**
HAU				*e*Sg	**Sg**	**03 55 35.2**	**-0.3**
	6.4nm,0.3s						
CABF	**La Chapelle**	**1.40**	**227**	*e*Pg	**Pg**	**03 55 32.7**	**+0.6**
CABF				*e*Sg	**Sg**	**03 55 50.8**	**+0.5**
	1.0nm,0.2s						
LOR	**Lormes**	**2.54**	**264**	*e*Pg	**Pg**	**03 55 53.5**	**-0.3**
LOR				*e*Sg	**Sg**	**03 56 25.3**	**-1.4**
	2.0nm,0.3s						

IDC ***05*** *04:09:10.9±0.9, 4701N×15501E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.8/24, mbtmp3.8/12, ML3.8/2, MS4.3/2, Ms1 4.4/2, ms1mx3.5/29, Error ellipse: s-maj=24.3km s-min=20.2km az=143.0*
NEIC ***05*** *04:09:12.4±0.5, 4704N×15499E, h10km, mb4.5/5, Error ellipse: s-maj=13.1km s-min=9.5km az=128.0*
ISCJB ***05*** *04:09:15.3±1.7, 4701N±009×1549E±02, h45km±15km, mb3.8/13, MS4.5/2, Error ellipse: s-maj=21.3km s-min=11.7km az=74.7*
MOS ***05*** *04:09:15.5±0.7, 4700N×15480E, h46km, mb4.3/9, Error ellipse: s-maj=18.8km s-min=13.4km az=69.2*
ISC 05 04:09:17.5±1.5, 4704N±009×1549E±02, h50km±13km, n34, σ0º72/33, mb3.8/13, MS4.5/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.74**	**12**	*e*PN	**Pn**	**04 10 13.0**	**+0.4**
ASAJ	**Asahikawa**	**9.09**	**256**	Pn	**Pn**	**04 11 26.0**	**0.0**
	1.3nm,0.3s,baz=83,slow=26,SNR=5.0						
ASAJ	**Asahikawa**	**9.09**	**256**	PN	**Pn**	**04 11 26.0**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.75**	**243**	PN	**Pn**	**04 11 34.3**	**-0.8**
ERM				pmax	pmax		
	comp=Z,15nm,0.5s						
ERM	**Erimo**	**9.75**	**243**	Pn	**Pn**	**04 11 34.3**	**-0.8**
	comp=Z,15nm,0.5s						
MAJO	**Matsushiro**	**16.23**	**236**	P	**Pn**	**04 13 05.8**	**+3.8**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MAJO	**Matsushiro**	**16.23**	**236**	P	**Pn**	**04 13 05.8**	**+3.8**
	comp=Z,5.5nm,0.4s						
MJAR	**Matsushiro Arr**	**16.23**	**236**	Pn	**Pn**	**04 13 01.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=26,slow=15,SNR=4.9						
KSRS	**Korea Array**	**22.03**	**254**	P	**P**	**04 14 08.7**	**+0.9**
	comp=Z,1.4nm,0.6s,mb3.6,baz=55,slow=9.8,SNR=5.0						
SONM	**Songino Array**	**32.37**	**290**	P	**P**	**04 15 42.1**	**-0.1**
	comp=Z,0.5nm,0.9s,mb3.4,baz=61,slow=12,SNR=3.7						
ZAL	**Zalesovo**	**43.43**	**306**	P	**P**	**04 17 15.4**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.0,baz=51,slow=5.5,SNR=4.9						
ZAL	**Zalesovo**	**43.43**	**306**	P	**P**	**04 17 15.4**	**0.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
QIZ	**Qiongzhong**	**46.07**	**248**	*e*P	**P**	**04 17 41.5**	**+5.1**
	comp=Z,64nm,1.2s						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**04 17 50.9**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=72,slow=7.0,SNR=11						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**04 17 50.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**04 17 50.9**	**+0.5**
KURK	**Kurchatov**	**48.20**	**304**	*e*P	**P**	**04 17 53.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**48.20**	**304**	*e*P	**P**	**04 17 53.3**	**+0.3**
	comp=Z,6.2nm,0.8s,mb4.7						
YKA	**Yellowknife Ar**	**49.97**	**37**	P	**P**	**04 18 06.1**	**-0.4**
	comp=Z,0.1nm,0.5s,mb3.1,baz=295,slow=6.9,SNR=2.3						
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P	**P**	**04 18 15.0**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P	**P**	**04 18 15.0**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**64.28**	**335**	P	**P**	**04 19 48.3**	**+0.7**
	comp=Z,0.7nm,0.3s,mb4.1,baz=36,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**64.28**	**335**	P	**P**	**04 19 48.3**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRAB	**Tennant Creek**	**69.18**	**201**	P	**P**	**04 20 18.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**69.18**	**201**	P	**P**	**04 20 18.6**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**69.19**	**201**	P	**P**	**04 20 18.4**	**-0.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=14,slow=6.8,SNR=5.6						
WRA	**Warramunga Arr**	**69.19**	**201**	P	**P**	**04 20 18.4**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.96**	**327**	P	**P**	**04 20 36.1**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=33,slow=6.3,SNR=4.1						
AKASG	**Malin Array Be**	**71.96**	**327**	P	**P**	**04 20 36.1**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.88**	**200**	P	**P**	**04 20 42.1**	**+0.9**
	comp=Z,0.8nm,0.9s,mb3.6,baz=18,slow=4.8,SNR=5.5						
ASAR	**Alice Springs**	**72.88**	**200**	P	**P**	**04 20 42.1**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**76.30**	**62**	P	**P**	**04 21 01.5**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=302,slow=4.7,SNR=8.5						
TXAR				LR	LR	04 55 40.7	
	comp=Z,214nm,19.5s,MS4.5,baz=165,slow=37						
CLL	**Collm**	**76.69**	**337**	*e*P	**P**	**04 21 01.0**	**-2.2**
ESDC	**Sonseca Array**	**91.62**	**344**	LR	LR	05 08 56.3	
	comp=Z,135nm,18.3s,MS4.4,baz=40,slow=39						

NEIC ***05*** *04:20:15.3, 2899S×7078W, h73km, MG4.1(GUC), After GUC.*
GUC 05 04:20:15.3±0.7, 2899S×7078W, h73km±4km, ML4.1, 3C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.41**	**2**⇓	*i*P	Pn	04 20 28.1	+0.5
VACH				*i* S	Sn	04 20 37.1	+0.5
VACH				AML	AML	04 20 37.5	
	comp=N,25μm,0.1s						
LSCH	**La Serena**	**1.00**	**204**⇑	*i*P	Pn	04 20 34.0	0.0
LSCH				*i* S	Sn	04 20 48.6	+0.7
TLL	**Tololo Astrono**	**1.18**	**181**	*e*P	Pn	04 20 37.7	+1.6
TLL				*i* S	Sn	04 20 53.5	+1.8
CPCH	**Copiapo**	**1.67**	**13**	*e*P	Pn	04 20 42.8	+0.2
CPCH				*i* S	Sn	04 21 04.0	+0.9
CPCH				AML	AML	04 21 09.2	
	comp=E,6μm,0.1s						
CPCH	**Copiapo**	**1.67**	**13**	*e*P	Pn	04 20 42.8	+0.2
CPCH				*i* S	Sn	04 21 04.0	+0.9
CDCH	**Caldera**	**1.91**	**359**	*e*P	Pn	04 20 46.1	+0.4
CDCH				*e*S	Sn	04 21 09.6	+0.7
CMCH	**Combarbala**	**2.19**	**185**⇑	*i*P	Pn	04 20 50.0	+0.5
CMCH				*e*S	Sn	04 21 16.5	+0.9
CMCH				AML	AML	04 21 27.3	
	comp=E,460nm,0.8s						
CMCH	**Combarbala**	**2.19**	**185**⇑	*i*P	Pn	04 20 50.0	+0.5
CMCH				*e*S	Sn	04 21 16.5	+0.9

LDG ***05*** *04:36:23.3±0.2, 2113N×9309E, h10km, Mb5.1/23, Ms3.9/3, Error ellipse: s-maj=10.9km s-min=7.4km az=76.0*
SZGRF ***05*** *04:36:24.0, 2022N×9357E, h33km, mb5.1, Myanmar*
ISCJB ***05*** *04:36:27.0±0.2, 2111N±003×9350E±002, h47km, mb4.8/98, MS4.0/16, Error ellipse: s-maj=3.6km s-min=2.7km az=21.5*
MOS ***05*** *04:36:27.8±0.8, 2121N×9359E, h53km, mb5.2/50, Error ellipse: s-maj=9.0km s-min=4.2km az=122.6*
BJI ***05*** *04:36:28.6, 2104N×9352E, h76km, mB4.9, mb4.8, Ms4.2, Msz3.9*
IDC ***05*** *04:36:28.4±0.4, 2112N×9361E, h47km±3km, mb4.3/25, mb1 4.4/26, mb1mx4.4/27, mbtmp4.3/26, MS3.9/10, Ms1 3.9/10, ms1mx3.6/32, Error ellipse: s-maj=12.4km s-min=8.3km az=56.0*
NEIC ***05*** *04:36:29.9±0.6, 2115N×9357E, h58km±6km, mb4.9/54, Error ellipse: s-maj=5.0km s-min=3.1km az=49.0*
ISC 05 04:36:29.2±0.2, 2113N±003×9349E±002, h49km, h49km±1.0km: pP-P, n357, σ1º08/371, mb4.8/98, MS4.0/16, 20C-20D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**3.44**	**323**	*i* x	x	04 37 32.0	
AGT				*i* S	**Sn**	**04 38 06.0**	**+6.3**
IMP	**Imphal**	**3.66**	**6**	*e*P	**Pn**	**04 37 24.0**	**+0.7**
IMP				*i* x	x	04 38 20.0	
SHL	**Shillong**	**4.66**	**342**	*e*P	**Pn**	**04 37 38.5**	**+1.5**
SHL				*e*S	**Sn**	**04 38 36.0**	**+6.2**
CAL	**Calcutta**	**4.99**	**287**	*e*x	x	04 37 52.4	
CAL				*e*S	**Sn**	**04 38 34.2**	**-3.9**
CHTO	**Chiang Mai**	**5.62**	**113**	P	**Pn**	**04 37 50.7**	**+0.4**
	SNR=42						
CHTO	**Chiang Mai**	**5.62**	**113**	*e*P	**Pn**	**04 37 50.2**	**-0.1**

CHTO e 04 38 53.8
CHTO pmax pmax
comp=Z,227nm,0.6s
CHTO Chiang Mai 5.62 113 *e*Pn **Pn 04 37 50.2 0.0**
comp=Z,227nm,0.6s
CHTO *e*Sn **Sn 04 38 53.8 +0.3**
CM31 Chiang Mai Arr 5.78 116 *e*Pn **Pn 04 37 53.1 +0.7**
comp=Z,153nm,0.8s
CM31 *e*Sn **Sn 04 39 04.6 +7.2**
NANT Nan 7.17 108 ⇓P **Pn 04 38 09.0 -2.4**
comp=Z,1μm,1.0s
NST Nakhon Sawan 8.32 130 P **Pn 04 38 26.8 -0.4**
LSA Lhasa 8.79 347 P **Pn 04 38 34.2 +0.5**
LSA XS 04 40 16.1
LSA AMB AMB
comp=Z,30nm,0.8s
LSA LR LR
comp=N,170nm,5.0s
LSA LR LR
comp=E,550nm,7.0s
LSA LR LR
comp=Z,200nm,5.0s
LSA Lhasa 8.79 347 *e*P **Pn 04 38 34.2 +0.5**
LSA *e* 04 40 12.3
LSA pmax pmax
comp=Z,80nm,0.6s
LSA Lhasa 8.79 347 *e*Pn **Pn 04 38 34.2 +0.5**
comp=Z,80nm,0.6s
LSA *e*Sn **Sn 04 40 12.3 +0.9**
JIRN Jiri 9.30 316 *e*Pn **Pn 04 38 40.4 -0.2**
JIRN *e*Sn **Sn 04 40 21.0 -2.8**
comp=Z,501nm,0.6s
JIRN Jiri 9.30 316 *e*P **Pn 04 38 40.6 0.0**
comp=Z,139nm,0.6s
KMI Kunming 9.39 63 P **Pn 04 38 45.3 +3.4**
KMI PP 04 38 54.8
KMI XP 04 39 05.7
KMI S **Sn 04 40 29.8 +3.6**
KMI SS 04 40 46.7
KMI AMB AMB
comp=Z,22nm,0.9s
KMI AMB AMB
comp=Z,160nm,5.7s
KMI LR LR
comp=N,922nm,19.8s
KMI LR LR
comp=E,1μm,21.7s
KMI LR LR
comp=Z,1μm,20.9s
PBA Port Blair 9.45 184 *e*x x 04 38 34.8
PBA *e*x x 04 40 19.3
GUN Gumba 9.67 316 *e*Pn **Pn 04 38 45.6 -0.1**
GUN *e*Sn **Sn 04 40 28.7 -4.2**
comp=Z,959nm,0.8s
GUN Gumba 9.67 316 *e*P **Pn 04 38 45.4 -0.3**
PKI Pulchoki 9.77 313 *e*Pn **Pn 04 38 46.2 -0.8**
PKI *e*Sn **Sn 04 40 30.6 -4.6**
comp=Z,332nm,0.7s
PKI Pulchoki 9.77 313 *e*P **Pn 04 38 46.2 -0.8**
comp=Z,123nm,0.6s
KKN Kakani 9.99 313 *e*Pn **Pn 04 38 49.4 -0.7**
KKN *e*Sn **Sn 04 40 36.7 -4.1**
KKN Kakani 9.99 313 *e*P **Pn 04 38 49.5 -0.6**
DMN Daman 10.00 312 *e*Pn **Pn 04 38 49.4 -0.8**
DMN *e*Sn **Sn 04 40 36.1 -4.8**
DMN Daman 10.00 312 *e*P **Pn 04 38 49.4 -0.8**
comp=Z,178nm,0.8s
KKTK Khon Kaen 10.04 117 P **Pn 04 38 53.5 +2.7**
VIS Vishakhapatnam 10.17 252 *e*P **Pn 04 38 49.6 -2.9**
VIS AMb AMB 04 38 52.4
comp=Z,32nm,0.7s
VIS *e*S **Sn 04 40 33.0 -12**
GKN Gorkha 10.57 312 *e*Pn **Pn 04 38 56.6 -1.4**
GKN *e*Sn **Sn 04 40 49.9 -5.0**
comp=Z,233nm,0.5s
GKN Gorkha 10.57 312 *e*P **Pn 04 38 56.6 -1.4**
comp=Z,152nm,0.5s
KOLN Koldanda 11.17 308 *e*P **Pn 04 39 04.6 -1.6**
comp=Z,118nm,0.7s
DANN Dangsing 11.39 311 *e*Pn **Pn 04 39 07.6 -1.6**
DANN *e*Sn **Sn 04 41 08.4 -6.6**
ALBI Allahabad 11.52 293 *i* P **Pn 04 39 10.5 -0.5**
JBP Jabalpur 12.68 282 ⇑*i*P **Pn 04 39 30.3 +3.5**
JBP *i* S **Sn 04 41 40.2 -6.3**
GYA Guiyang 13.17 64 P **Pn 04 39 36.7 +3.1**
GYA AP 04 39 45.8
GYA XP 04 39 54.6
GYA S **Sn 04 41 59.9 +1.4**
GYA AMB AMB
comp=Z,20nm,0.9s
GYA AMB AMB
comp=Z,140nm,4.5s
GYA LR LR
comp=N,700nm,9.9s
GYA LR LR
comp=E,870nm,10.8s
GYA LR LR
comp=Z,760nm,10.4s
CD2 Chengdu 13.41 41 P **Pn 04 39 42.5 +5.7**
CD2 AP 04 39 52.1
CD2 S **Sn 04 42 12.5 +8.2**
CD2 XS 04 42 27.0
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,110nm,5.9s
CD2 LR LR
comp=N,1μm,7.4s
CD2 LR LR
comp=E,580nm,4.4s
CD2 LR LR
comp=Z,580nm,5.4s
NGP Nagpur 13.47 273 *e*P **Pn 04 39 35.6 -2.1**
comp=Z,124nm,1.3s
NGP *e*x x 04 39 55.5
NGP *e*x x 04 41 53.5
LGTI Lohaghat 14.55 307 *i* P **Pn 04 39 53.0 +0.8**
LGTI *e*x x 04 42 26.0
HYB Hyderabad 14.58 258 *i* P **Pn 04 39 50.0 -2.5**
comp=Z,50nm,1.0s
HYB *e*S **Sn 04 42 22.5 -10**
HYB Hyderabad 14.58 258 *e*P **Pn 04 39 50.0 -2.5**
HYB pmax pmax
comp=Z,100nm,1.0s
HYB Hyderabad 14.58 258 *e*P **Pn 04 39 50.0 -2.5**
comp=Z,100nm,1.0s
HYB *e*S **Sn 04 42 17.5 -15**
BHPL Bhopal 15.03 281 *e*P **Pn 04 39 56.6 -1.8**
BHPL AMb AMB 04 40 07.2
comp=Z,76nm,1.1s
AKL Akola 15.40 271 *e*P **Pn 04 40 02.4 -0.8**
AKL AMb AMB 04 40 10.6
comp=Z,35nm,1.6s
AKL *i* x x 04 42 38.7
AGRA Agra 15.43 296 *e*P **Pn 04 40 03.4 -0.2**
AGRA *e*x x 04 42 42.4
QIZ Qiongzhong 15.51 95 ⇑P **Pn 04 40 04.3 -0.3**
QIZ *e*S **S 04 42 54.3 -15**
QIZ AMB AMB
comp=Z,23nm,2.1s
QIZ LR LR
comp=N,806nm,12.7s
QIZ LR LR
comp=Z,831nm,25.4s
LATR Latur 16.16 263 *e*P **Pn 04 40 12.7 -0.3**
LATR *e*x x 04 42 55.6
SONA Sohna 16.50 299 *e*P **Pn 04 40 17.3 +0.1**
SONA AMb AMB 04 40 21.7
comp=Z,64nm,1.0s
SONA *e*x x 04 43 05.5
AYAN Aya Nagar 16.55 299 *e*P **Pn 04 40 18.0 +0.1**
NDI New Delhi 16.56 300 *e*P **Pn 04 40 20.0 +2.0**
NDI AMb AMB 04 40 22.1
comp=Z,72nm,1.8s
NDI *e*x x 04 43 05.0
KUDL Kundal 16.95 298 *e*P **Pn 04 40 22.0 -0.9**
KUDL AMb AMB 04 40 25.2
comp=Z,41nm,1.3s
KUDL *e*x x 04 43 03.9
SALM Salem 17.42 240 *e*P **Pn 04 40 26.0 -2.7**
SALM *e*x x 04 43 28.0
LZH Lanzhou 17.44 29 *e*P **Pn 04 40 27.5 -1.4**
LZH PP 04 40 40.6
LZH *e*S **S 04 43 38.0 -10**
LZH SS 04 44 04.0
LZH AMB AMB
comp=Z,13nm,1.0s
LZH AMB AMB
comp=Z,85nm,5.8s
LZH LR LR
comp=E,381nm,6.6s
LZH LR LR
comp=Z,370nm,8.0s
SDNR Sundarnagar 18.03 308 *e*P **Pn 04 40 39.0 +2.8**
comp=Z,14nm,0.4s
SDNR *e*x x 04 43 45.4
AJM Ajmer 18.04 291 *e*P **Pn 04 40 37.4 +1.1**
AJM AMb AMB 04 40 40.2
comp=Z,78nm,1.1s
AJM *i* x x 04 43 42.0
BHK Bhakra 18.40 307 *e*P **Pn 04 40 43.0 +2.4**
GZH Guangzhou 18.50 80 P **Pn 04 40 44.1 +2.2**
GZH LR LR
comp=N,870nm,9.9s
GZH LR LR
comp=E,623nm,21.0s
GZH LR LR
comp=Z,590nm,20.0s
PALK Pallekele 18.51 224 *e*P **Pn 04 40 41.4 -0.5**
comp=Z,15nm,0.8s
KAD Karad 18.62 262 *e*P **Pn 04 40 42.3 -1.0**
KAD AMb AMB 04 40 45.8
comp=Z,40nm,1.0s
POO Poona 18.66 265 ⇑*i*P **Pn 04 40 40.0 -3.7**
comp=Z,70nm,1.0s
XAN Xi'an 18.75 43 P **Pn 04 40 41.3 -3.5**
XAN S **S 04 44 06.5 -8.1**
XAN AMB AMB
comp=Z,14nm,0.8s
XAN LR LR
comp=N,180nm,16.1s
XAN LR LR
comp=E,285nm,13.8s
XAN LR LR
comp=Z,552nm,19.0s
PSI Prapat 18.97 163 P **Pn 04 40 46.6 -0.9**
comp=Z,1.3nm,0.3s,baz=332,slow=12,SNR=14
PSI LR LR 04 49 22.8
comp=Z,113nm,18.2s,baz=319,slow=41
GTA Gaotai 19.01 15 ⇓P **Pn 04 40 46.2 -1.8**
GTA AP *p*P 04 40 57.5 -0.7
GTA PP 04 41 04.2
GTA S **S 04 44 15.9 -4.2**
GTA SS 04 44 41.1
GTA AMB AMB
comp=Z,9.0nm,0.9s
GTA AMB AMB
comp=Z,112nm,3.8s
GTA LR LR
comp=N,292nm,13.0s
GTA LR LR
comp=E,258nm,11.1s
GTA LR LR
comp=Z,256nm,14.5s
THN Thein Dam 19.43 309 *e*P **Pn 04 40 51.2 -1.7**
THN *e*x x 04 44 19.8
BOM Bombay 19.56 267 *e*P **Pn 04 40 52.2 -2.3**
BOM *e*x x 04 41 00.9
comp=Z,116nm,0.9s
BOM *e*x x 04 44 14.5
MNGI Mangalore 19.60 248 *e*x x 04 39 27.6
MNGI AMb AMB 04 39 33.6
comp=Z,51nm,2.0s
WHN Wuhan 20.96 59 P **P 04 41 06.7 -1.3**
WHN LR LR
comp=Z,2μm,24.6s,MS4.3
WMQ Urumqi 23.14 349 P **P 04 41 31.2 0.0**
WMQ AP 04 41 46.4
WMQ PP 04 42 04.8
WMQ S **S 04 45 34.5 -4.3**
WMQ XS *s*S 04 45 58.3 -1.6
WMQ SS 04 46 21.4
WMQ SCS ScS 04 52 34.2 -4.0
WMQ AMB AMB
comp=Z,25nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,132nm,4.5s
WMQ LR LR
comp=N,144nm,28.0s,MS3.6
WMQ LR LR
comp=E,232nm,26.0s,MS3.6
WMQ LR LR
comp=Z,237nm,25.0s,MS3.5
KSH Kashi 23.68 325 P **P 04 41 38.0 +1.6**
KSH AP 04 41 52.8
KSH *e*XP *s*P 04 41 59.3 +4.6
KSH *e*PP 04 42 13.5
KSH *e*PPP 04 42 24.0
KSH *e*PCP PcP 04 45 22.3 +2.8
KSH *e*S **S 04 45 45.9 -1.8**
KSH *e*XS *s*S 04 46 10.6 +1.8
KSH *e*SCP ScP 04 48 53.3 -0.3
KSH *e*PCS PcS 04 49 00.3 +1.3
KSH SCS ScS 04 52 38.8 -1.5
KSH AMB AMB
comp=Z,1μm,6.1s
BTO Baotou 23.97 32 *e*P **P 04 41 36.7 -2.3**
HHC Hu-ho-hao-te 24.94 34 *e*P **P 04 41 48.0 +0.2**
HHC AP 04 42 02.1
HHC XP *s*P 04 42 09.3 +3.0
HHC PP 04 42 27.1
HHC S **S 04 46 05.3 -2.6**
HHC XS *s*S 04 46 30.6 +1.4
HHC SS 04 47 06.6
HHC AMB AMB
comp=Z,16nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,133nm,5.0s
HHC LR LR
comp=N,248nm,12.5s,MS4.0
HHC LR LR
comp=E,235nm,15.5s,MS4.0
HHC LR LR
comp=Z,359nm,18.4s,MS3.9
KSM Kuching 25.51 138 P **P 04 41 54.4 +1.4**
KZA Kyzart 25.93 328 P **P 04 41 58.9 +2.2**
SNR=6.7
TKM2 Tokmak 2 26.39 329 P **P 04 42 02.4 +1.4**
SNR=5.9
KBK Karagaybulak 26.50 328 P **P 04 42 04.3 +2.3**
SNR=9.3
KKM Kota Kinabalu 26.64 121 *e*P **P 04 42 04.0 +0.8**
AAK Ala-Archa 26.71 328 P **P 04 42 05.8 +2.0**
SNR=15
AAK Ala-Archa 26.71 328 P **P 04 42 04.1 +0.2**
comp=Z,132nm,1.0s,mb5.4,SNR=10
AAK Ala-Archa 26.71 328 P **P 04 42 05.5 +1.6**
SNR=7.3
AAK Ala-Archa 26.71 328*d* *i*P **P 04 42 04.7 +0.8**
AAK pmax pmax
comp=Z,35nm,1.2s,mb4.8
AAK Ala-Archa 26.71 328 *e*P **P 04 42 04.8 +0.9**
FRU Bishkek 26.80 328 *e*P **P 04 42 06.0 +1.3**
FRU MLR MLR
comp=Z,900nm,20.0s,MS4.3
CHMS Chumysh 26.86 329 P **P 04 42 06.3 +1.2**
SNR=7.2
BJT Baijiatuau 27.00 41 *e*P **P 04 42 05.8 -0.6**
BJT pmax pmax
comp=Z,13nm,0.7s
BJT Baijiatuau 27.00 41 *e*P **P 04 42 05.8 -0.6**
comp=Z,13nm,0.7s,mb4.6
BJI Beijing 27.01 41 *e*P **P 04 42 05.8 -0.8**
BJI AMB AMB
comp=Z,23nm,0.9s,mb4.7
BJI LR LR
comp=N,298nm,20.6s,MS4.0
BJI LR LR
comp=E,251nm,17.3s,MS4.0
BJI LR LR
comp=Z,330nm,24.2s
MK31 Makanchi Array 27.18 343 ⇓*i*P **P 04 42 08.1 +0.1**
MKAR Makanchi Array 27.18 343 P **P 04 42 08.3 +0.2**
comp=Z,7.8nm,1.0s,mb4.2,baz=151,slow=9.1,SNR=26
MKAR *p*P *p*P 04 42 20.2 -0.5
comp=Z,4.7nm,0.6s,baz=152,slow=9.0,SNR=9.9
MKAR ScP ScP 04 49 03.6 +0.1
comp=Z,0.3nm,0.4s,baz=45,slow=10,SNR=3.6
MKAR LR LR 04 55 51.2
comp=Z,164nm,21.0s,MS3.6,baz=14,slow=43
MKAR Makanchi Array 27.18 343 P **P 04 42 08.3 +0.3**
MKAR *PP *p*P 04 42 20.2 -0.5
MKAR Makanchi Array 27.18 343 P **P 04 42 08.3 +0.2**
MKAR *p*P *p*P 04 42 20.2 -0.5
MKAR ScP ScP 04 49 03.6 +0.1
MKAR LR LR 04 55 51.2
USP Ospenovka 27.18 329 P **P 04 42 09.5 +1.4**
SNR=10
SONM Songino Array 28.61 18 P **P 04 42 20.7 -0.1**
comp=Z,8.2nm,1.0s,mb4.4,baz=204,slow=10.0,SNR=32
SONM *p*P *p*P 04 42 32.8 -0.7
comp=Z,7.2nm,1.0s,baz=199,slow=10.0,SNR=9.7
SONM ScP ScP 04 49 06.4 -1.6
comp=Z,0.4nm,0.5s,baz=203,slow=2.9,SNR=3.8
SONM Songino Array 28.61 18 P **P 04 42 20.7 -0.1**
SONM *PP *p*P 04 42 32.8 -0.7
ZAK Zakamensk 30.20 12 *e*P **P 04 42 35.6 +0.7**
ZAK *e* *p*P 04 42 48.1 +0.4
KURK Kurchatov 31.76 342 P **P 04 42 48.3 -0.4**
comp=Z,54nm,0.9s,mb5.4,SNR=5.9
KURK Kurchatov 31.76 342 P **P 04 42 48.9 +0.2**
SNR=8.5
KURK Kurchatov 31.76 342*d* *i*P **P 04 42 48.5 -0.2**
KURK Kurchatov 31.76 342 *e*P **P 04 42 48.7 +0.1**
comp=Z,13nm,0.8s,mb4.8
JOW Kunigami 32.22 73 LR LR 04 56 18.2
comp=Z,251nm,21.2s,MS3.9,baz=26,slow=37
ZAL Zalesovo 33.42 351 P **P 04 43 03.6 +0.4**
comp=Z,4.6nm,0.8s,mb4.5,baz=298,slow=8.7,SNR=23
ZAL *p*P *p*P 04 43 16.4 +0.4
comp=Z,4.8nm,0.6s,baz=308,slow=7.8,SNR=5.6
ZAL Zalesovo 33.42 351 P **P 04 43 03.6 +0.4**
ZAL *p*P *p*P 04 43 16.4 +0.4
KSRS Korea Array 33.92 54 P **P 04 43 05.2 -2.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=240,slow=9.6,SNR=4.5
KSRS LR LR 04 58 32.7
comp=Z,174nm,21.7s,MS3.7,baz=219,slow=39
NVS Novosibirsk 34.54 350 ⇓*i*P **P 04 43 12.2 -0.7**
NVS *e* 04 45 40.3
NVS *i* S **S 04 48 29.9 -8.4**
NVS *e* 04 48 55.7
NVS pmax pmax
comp=N,20nm,1.3s
NVS pmax pmax
comp=E,18nm,1.3s
NVS pmax pmax
comp=Z,22nm,1.3s,mb4.9
NVS smax
comp=N,13nm,1.6s
NVS smax
comp=E,35nm,1.6s
CIT Chita 34.55 22 *e*P **P 04 43 10.9 -2.1**
CIT *e* *p*P 04 43 24.4 -1.4
CIT *e* 04 43 30.1
CIT pmax pmax
comp=Z,30nm,1.0s,mb5.2
CN2 Changchun 34.85 42 *e*P **P 04 43 17.0 +1.5**
CN2 *e*AP *p*P 04 43 32.1 +3.7
CN2 *e*S **S 04 48 42.4 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 LR LR
comp=N,290nm,20.0s,MS4.1
CN2 LR LR
comp=E,240nm,20.0s,MS4.1
CN2 LR LR
comp=Z,260nm,20.0s,MS4.0
HIA Hailar 34.99 30 ⇑*i*P **P 04 43 16.1 -0.7**
HIA Hailar 34.99 30 ⇑*e*P **P 04 43 15.6 -1.2**
comp=Z,21nm,0.7s,mb5.2
BVA0 Borovoye Array 36.46 336 *i* P **P 04 43 29.4 +0.1**
BVAR Borovoye Array 36.46 336 P **P 04 43 29.1 -0.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=138,slow=9.4,SNR=11
BVAR *p*P *p*P 04 43 42.8 +0.5
comp=Z,1.1nm,0.4s,baz=130,slow=11,SNR=4.2
BVAR PcP PcP 04 45 51.8 -0.7
comp=Z,2.4nm,0.7s,baz=131,slow=4.1,SNR=4.5
BRVK Borovoye 36.52 336 *e*P **P 04 43 29.8 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
BRVK Borovoye 36.52 336 *e*P **P 04 43 29.8 -0.1**
comp=Z,4.7nm,0.6s,mb4.5
CHKZ Chkalovo 36.89 337 *i* P **P 04 43 32.9 -0.1**
CHKZ pmax pmax
comp=Z,17nm,0.9s,mb4.9
CHKZ Chkalovo 36.89 337 *e*P **P 04 43 34.0 +0.9**
comp=Z,18nm,0.8s,mb5.0
WHFO Wadi Hawf 37.51 272 ⇓P **P 04 43 39.7 +1.4**
SNR=6.8
MDJ Mudanjiang 37.86 43 P **P 04 43 40.9 -0.3**
MDJ AMB AMB
comp=Z,10.0nm,1.5s,mb4.3
MDJ AMB AMB
comp=Z,88nm,4.4s
MDJ LR LR
comp=N,79nm,23.1s
MDJ LR LR
comp=E,85nm,32.3s
MDJ LR LR
comp=Z,137nm,26.1s,MS3.6
AB31 Akbulak array 38.69 325 *i* P **P 04 43 48.9 +0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
AKTK Aktyubinsk 40.38 325 P **P 04 44 02.0 -0.3**
AKTK *p*P *p*P 04 44 15.6 +0.2
AKTO Aktyubinsk 40.38 325 P **P 04 44 02.0 -0.3**
comp=Z,6.0nm,0.8s,mb4.4,baz=129,slow=7.2,SNR=20
AKTO *p*P *p*P 04 44 15.6 +0.2
comp=Z,6.0nm,0.8s,baz=142,slow=5.7,SNR=8.0
KLR Kul'dur 41.31 38 *e*P **P 04 44 05.2 -4.7**
MAJO Matsushiro 41.70 58 *e*P **P 04 44 12.1 -1.0**
MAT Matsushiro 41.70 58 P **P 04 44 11.6 -1.5**
MJAR Matsushiro Arr 41.70 58 P **P 04 44 11.4 -1.7**
comp=Z,5.9nm,0.7s,mb4.3,baz=268,slow=10,SNR=12
MJAR LR LR 05 03 33.7
comp=Z,181nm,19.9s,MS4.0,baz=235,slow=39
CLNS Chul'man 42.50 25 *e*P **P 04 44 19.7 +0.1**
CLNS pmax pmax
comp=Z,21nm,1.2s,mb4.6
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.9s
ORR Orenburg 42.76 325 *e*P **P 04 44 22.7 +0.9**
ORR pmax pmax
comp=Z,40nm,1.0s,mb5.1
HABR Khabarovsk 42.92 40 *e*P **P 04 44 21.1 -1.9**
HABR *e*S **S 04 50 43.9 -0.5**
ARU Arti 43.68 333 ⇓*i*P **P 04 44 29.0 -0.2**
ARU *e* 04 46 12.7
ARU *e*PPP 04 46 47.6
ARU *e*S **S 04 50 57.2 +1.6**
ARU *e*SS SS 04 54 20.9 +8.7
ARU *e*SSS 04 54 56.3
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.6
ARU Arti 43.68 333 *e*P **P 04 44 29.3 +0.1**
comp=Z,14nm,0.8s,mb4.8
MSEY Mahe Island 45.24 240 *e*P **P 04 44 43.9 +2.3**
GNI Garni 45.41 306 P **P 04 44 43.7 +0.7**
comp=Z,4.4nm,0.6s,mb4.4,baz=297,slow=4.3,SNR=4.4
GNI Garni 45.41 306 ⇑*i*P **P 04 44 44.7 +1.7**
GNI pmax pmax
comp=Z,14nm,1.4s
GNI Garni 45.41 306 *e*P **P 04 44 44.9 +1.9**
SOKR Solikamsk 46.41 335*c* *i*P **P 04 44 51.7 +0.8**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.2
ASAJ Asahikawa 46.47 49 LR LR 05 03 57.5
comp=Z,104nm,19.8s,MS3.8,baz=168,slow=36
ZEI Tsey 46.52 309 *e*P **P 04 44 53.0 +1.3**
ZEI *e**PP *p*P 04 45 05.3 +0.3
ZEI *e* 04 46 25.4
ZEI *e* 04 46 41.8
ZEI pmax pmax
comp=Z,33nm,1.1s,mb5.2
KIV Kislovodsk 47.62 311 *e*P **P 04 45 01.9 +1.6**
KIV *e**PP *p*P 04 45 19.5 +5.8
KIV pmax pmax
comp=Z,34nm,1.1s,mb5.3
KIV Kislovodsk 47.62 311 *e*P **P 04 45 01.9 +1.6**
comp=Z,34nm,1.1s,mb5.3
KIV *e*pP *p*P 04 45 19.5 +5.9
YAK Yakutsk 47.84 22 ⇑*e*P **P 04 45 01.2 -0.8**

YAK pmax pmax
comp=Z,19nm,0.7s,mb5.2
GUMO Guam 49.44 90 LR LR 05 05 08.7
comp=Z,179nm,18.7s,MS4.1,baz=264,slow=35
SOC Sochi 49.67 310*c i*P **P 04 45 16.8 +0.7**
SOC *e* 04 46 35.9
SOC *e*S **S 04 52 21.9 +0.7**
SOC *e**SS sS 04 52 49.0 +5.4
SOC *e* 04 55 02.6
SOC *e*SS SS 04 55 55.2 +1.3
SOC pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
MALT Malatya 50.07 303 *e*P **P 04 45 20.5 +1.4**
MALT pmax pmax
comp=Z,22nm,1.4s,mb5.0
MALT Malatya 50.07 303 *e*P **P 04 45 20.5 +1.4**
comp=Z,22nm,1.4s,mb5.0
MALT Malatya 50.07 303⇓*i*P **P 04 45 20.6 +1.5**
FITZ Fitzroy Crossi 50.12 139 *e*P **P 04 45 18.8 -0.7**
comp=Z,11nm,0.8s,mb4.9
FITZ Fitzroy Crossi 50.12 139 P **P 04 45 18.8 -0.7**
comp=Z,6.2nm,0.7s,mb4.7,baz=340,slow=4.0,SNR=16
ANN Anapa 51.48 311 *e*P **P 04 45 32.9 +3.2**
ANN pmax pmax
comp=Z,63nm,1.6s,mb5.3
EIL Elat 53.09 292 *e*P **P 04 45 42.5 +0.9**
EIL *e*pP pP 04 45 55.3 +0.2
BR131 Keskin Array S 53.86 304 *e*P **P 04 45 47.8 +0.5**
BR131 *e*pP pP 04 46 00.0 -0.8
BRTR Keskin Array B 53.86 304 P **P 04 45 47.2 0.0**
comp=Z,3.7nm,0.9s,mb4.3,baz=115,slow=7.2,SNR=19
BRTR pP pP 04 46 00.7 -0.1
comp=Z,2.9nm,0.9s,baz=127,slow=7.9,SNR=6.8
OBN Obninsk 54.12 324 *e*P **P 04 45 48.5 -0.7**
OBN *e* 04 47 51.4
OBN pmax pmax
comp=Z,32nm,1.1s,mb5.2
KLMR Klimovskoe 54.46 331 *e*P **P 04 45 50.0 -1.6**
KLMR pmax pmax
comp=Z,30nm,1.6s,mb5.0
TIXI Tiksi 54.48 13 *e*P **P 04 45 48.7 -3.1**
TIXI *e* pP 04 46 02.4 -2.9
TIXI *e*S **S 04 53 23.3 -3.8**
TIXI pmax pmax
comp=Z,15nm,1.2s,mb4.8
TIXI Tiksi 54.48 13 *e*P **P 04 45 49.3 -2.5**
TIXI *e*pP pP 04 46 03.4 -1.9
MA2 Magadan 55.58 31 *e*P **P 04 45 58.7 -1.0**
MA2 *e* pP 04 46 09.9 -3.4
MA2 pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
MUN Mundaring 57.11 157 *e*P **P 04 46 09.0 -1.6**
WRA Warramunga Arr 57.12 133 P **P 04 46 09.7 -1.0**
comp=Z,8.3nm,0.8s,mb4.8,baz=319,slow=7.5,SNR=115
WRA pP pP 04 46 22.9 -1.4
comp=Z,12nm,0.9s,baz=323,slow=7.2,SNR=12
WRA S **S 04 53 59.7 -2.5**
comp=Z,1.2nm,1.2s,baz=313,slow=14,SNR=4.9
WRAB Tennant Creek 57.12 133 *e*P **P 04 46 10.5 -0.2**
WRAB *e**PP pP 04 46 23.4 -0.9
WRAB pmax pmax
comp=Z,15nm,0.8s,mb5.1
WRAB Tennant Creek 57.12 133 *e*P **P 04 46 10.5 -0.2**
comp=Z,15nm,0.8s,mb5.1
WRAB *e*pP pP 04 46 23.4 -0.9
WB2 Warramunga Arr 57.13 133 *e*P **P 04 46 10.1 -0.7**
AKASG Malin Array Be 57.70 317 P **P 04 46 13.8 -1.0**
comp=Z,2.0nm,0.5s,mb4.4,baz=77,slow=6.1,SNR=19
AKASG pP pP 04 46 27.3 -1.1
comp=Z,2.8nm,0.6s,baz=83,slow=6.3,SNR=6.7
AKASG Malin Array Be 57.70 317 P **P 04 46 13.8 -1.0**
AKASG pP pP 04 46 27.3 -1.1
AKBB Malin Array Si 57.70 317 *e*P **P 04 46 13.4 -1.4**
KIEV Kiev 57.71 317 *e*P **P 04 46 13.6 -1.2**
KIEV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KIEV Kiev 57.71 317 *e*P **P 04 46 13.6 -1.3**
comp=Z,8.0nm,0.9s,mb4.8
TIRR Tirgusor 57.87 310⇓*i*P **P 04 46 16.7 +0.7**
JOF Joensuu 58.80 332 *e*p **P 04 46 20.3 -2.1**
comp=Z,16nm,0.8s,mb5.1
VRI Vrincioaia 59.09 312⇓*i*P **P 04 46 26.1 +1.7**
PLOR Plostina 59.14 312⇑*i*P **P 04 46 26.2 +1.4**
KMBO Kilima Mbogo 59.22 255 P **P 04 46 26.6 +1.2**
comp=Z,9.4nm,0.9s,mb4.8,baz=47,slow=10,SNR=28
KMBO pP pP 04 46 39.4 +0.4
comp=Z,7.1nm,0.9s,baz=51,slow=12,SNR=6.5
KMBO LR LR 05 11 01.6
comp=Z,137nm,18.5s,MS4.1,baz=276,slow=35
KMBO Kilima Mbogo 59.22 255 P **P 04 46 26.9 +1.5**
SNR=5.2
KMBO Kilima Mbogo 59.22 255⇑*e*P **P 04 46 26.6 +1.2**
KMBO Kilima Mbogo 59.22 255 *e*P **P 04 46 25.6 +0.3**
comp=Z,11nm,0.9s,mb4.9
KMBO *e*pP pP 04 46 39.2 +0.2
KMBO *e*sP sP 04 46 45.7 +1.1
ASAR Alice Springs 59.42 136 P **P 04 46 26.6 -0.2**
comp=Z,3.5nm,0.7s,mb4.5,baz=317,slow=6.8,SNR=12
MLR Muntele Rosu 59.63 311⇓*i*P **P 04 46 29.9 +1.7**
OPO Ambohidratompo 60.11 232 P **P 04 46 32.1 +0.6**
comp=Z,7.8nm,0.8s,mb4.8,baz=36,slow=7.7,SNR=12
OPO pP pP 04 46 46.2 +1.0
comp=Z,2.4nm,0.7s,baz=68,slow=5.2,SNR=3.1
BURAR Bucovina Array 60.15 314⇓*i*P **P 04 46 32.6 +0.8**
SANT Santorini 60.43 301 *e*P **P 04 46 33.1 -0.6**
SANT *e*pP pP 04 46 45.9 -1.5
PMG Port Moresby 60.82 114 *e*P **P 04 46 37.3 +1.0**
PMG *e**PP pP 04 46 50.1 0.0
FINES FINESS Array B 60.88 329 P **P 04 46 35.6 -1.1**
comp=Z,5.7nm,0.8s,mb4.8,baz=114,slow=6.3,SNR=18
FINES pP pP 04 46 49.2 -1.3
comp=Z,2.2nm,0.7s,baz=108,slow=4.7,SNR=2.8
FINES FINESS Array B 60.88 329 P **P 04 46 35.6 -1.1**
FINES pP pP 04 46 49.2 -1.3
KAF Kangasniemi 60.89 330 *e*p **P 04 46 36.0 -0.8**
baz=98,slow=6.5
LVV L'vov 60.97 316 *e*P **P 04 46 37.9 +0.5**
FORT Forrest 61.37 146 *e*P **P 04 46 40.4 +0.4**
comp=Z,12nm,0.8s,mb5.1
SUW Suwalki 61.64 321 *e*P **P 04 46 41.8 -0.1**
KWP Kalwaria 61.83 316 *e*P **P 04 46 43.6 +0.4**
DRGR 61.87 313⇓*i*P **P 04 46 44.1 +0.7**
UZH Uzhgorod 62.11 315 *e*P **P 04 46 45.0 0.0**
UZH *e* 04 47 08.0
VAY Valandovo 62.25 306 *e*P **P 04 46 43.7 -2.3**
VAY Valandovo 62.25 306 *e*P **P 04 46 43.7 -2.3**
CRVS Cervenica-Dubn 62.66 315 *e*P **P 04 46 49.5 +0.8**
ARCES ARCESS Array B 62.71 338 P **P 04 46 48.3 -0.7**
comp=Z,4.0nm,0.8s,mb4.6,baz=92,slow=7.3,SNR=8.6
ARCES pP pP 04 47 01.6 -1.3
comp=Z,6.4nm,0.8s,baz=82,slow=8.7,SNR=3.7
KRUS Krusevo 63.24 307 *e*P **P 04 46 50.2 -2.3**
KRUS Krusevo 63.24 307 *e*P **P 04 46 50.2 -2.3**
NIE Niedzica 63.40 316 *e*P **P 04 46 54.5 +0.9**
GRUS Gruza 63.42 309⇑*i*P **P 04 46 53.8 +0.1**
OJC Ojcow 63.70 317 *e*P **P 04 46 55.5 -0.1**
DIVS Divcibare 63.92 310⇑*i*P **P 04 46 57.2 +0.2**
BILL Bilibino 64.15 24⇑*e*P **P 04 46 58.4 -0.2**
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BILL Bilibino 64.15 24 *e*P **P 04 46 57.5 -1.0**
comp=Z,7.5nm,0.6s,mb4.9
VYHS Vyhne 64.41 315 *e*P **P 04 47 00.2 -0.1**
VYHS pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
VYHS Vyhne 64.41 315 *e*P **P 04 47 00.2 -0.1**
comp=Z,6.2nm,1.5s,mb4.4
PKSM Moragy 64.70 312⇑*i*P **P 04 47 02.1 -0.1**
OKC Ostrava-Krasne 64.78 316 *e*P **P 04 47 02.9 +0.2**
MORC Moravsky Berou 65.18 316⇓*i*P **P 04 47 05.2 0.0**
CTA Charters Tower 65.88 125 *e*P **P 04 47 13.1 +3.3**
comp=Z,4.2nm,0.9s,mb4.5
CTA Charters Tower 65.88 125 *e*P **P 04 47 13.1 +3.3**
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTAO Charters Tower 65.88 125 *e*P **P 04 47 13.1 +3.3**
CTAO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CTAO Charters Tower 65.88 125 *e*P **P 04 47 13.1 +3.3**
comp=Z,5.0nm,0.7s,mb4.7
KSP Ksiaz 65.90 317 *e*P **P 04 47 10.1 +0.2**
KSP Ksiaz 65.90 317 *e*P **P 04 47 09.6 -0.3**
DPC Dobruska-Polom 65.92 317 *e*P **P 04 47 10.5 +0.5**
DPC *e*pP pP 04 47 23.7 -0.2

UPC Upice 66.11 317 *e*P **P 04 47 10.1 -1.1**
KOGS Kog 66.33 313 *e*P **P 04 47 12.9 +0.2**
ARSA Arzberg 66.74 314⇑*i*P **P 04 47 15.7 +0.4**
comp=Z,5.8nm,0.8s,mb4.7
CRES Cresnjev 66.95 312 *i* P **P 04 47 17.1 +0.5**
PVCC Panska Ves 67.02 317 *e*P **P 04 47 16.9 -0.2**
PRU Pruhonice 67.09 317 *e*P **P 04 47 17.8 +0.3**
BRG Berggiesshubel 67.38 318 *i* P **P 04 47 19.5 +0.2**
comp=Z,1.1nm,1.2s,mb3.8
BRG *i* pP 04 47 33.4 +0.1
comp=Z,4.7nm,0.8s
BRG Berggiesshubel 67.38 318 *i* P **P 04 47 19.5 +0.1**
BRG *i* pP 04 47 33.4 +0.1
BRG pmax pmax
comp=Z,1.0nm,1.2s
MOA Molln 67.52 314⇑*i*P **P 04 47 20.4 +0.2**
comp=Z,15nm,1.1s,mb5.0
LJU Ljubljana 67.56 312 *e*P **P 04 47 21.2 +0.6**
CEY Cerknica 67.68 312 *e*P **P 04 47 21.6 +0.4**
GEC2 GERESS Array S 67.77 315 *e*P **P 04 47 21.5 -0.3**
GERES GERESS Array B 67.77 315 P **P 04 47 22.2 +0.4**
comp=Z,8.3nm,0.8s,mb4.8,baz=79,slow=6.9,SNR=38
GERES pP pP 04 47 35.1 -0.6
comp=Z,4.7nm,0.7s,baz=76,slow=6.2,SNR=10
KHC Kasperske Hory 67.81 316 *e*P **P 04 47 22.0 -0.1**
KHC *e*pP pP 04 47 35.2 -0.8
CLL Collm 67.92 318 *e*P **P 04 47 23.0 +0.2**
NB2 NORSAR Subarra 68.03 329 P **P 04 47 22.2 -1.2**
comp=Z,2.8nm,0.6s,mb4.5,baz=85,slow=6.5
NOA NORSAR Array B 68.03 329 P **P 04 47 22.5 -1.0**
comp=Z,5.9nm,0.8s,mb4.7,baz=86,slow=6.1,SNR=12
NOA pP pP 04 47 35.6 -1.8
comp=Z,5.0nm,0.7s,baz=86,slow=6.3,SNR=7.5
NOA LR LR 05 21 54.8
comp=Z,91nm,18.7s,MS4.0,baz=0.0,slow=40
NOA NORSAR Array B 68.03 329 P **P 04 47 22.5 -0.9**
NOA *PP pP 04 47 35.6 -1.8
CADS Cadrg 68.08 313 *e*P **P 04 47 23.5 -0.2**
NKC Novy Kostel 68.41 317 *e*P **P 04 47 26.4 +0.6**
GRA1 Grafenberg Arr 69.26 317 *e*P **P 04 47 31.9 +0.8**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 69.26 317 *e*P **P 04 47 31.9 +0.8**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 69.26 317 *e*P **P 04 47 31.9 +0.8**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 69.26 317 *e*P **P 04 47 31.9 +0.8**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
SQTA Sankt Quirin 69.66 314⇑*i*P **P 04 47 33.1 -0.4**
comp=Z,13nm,1.1s,mb4.8
SQTA Sankt Quirin 69.66 314⇑*i*P **P 04 47 33.1 -0.4**
SQTA pmax pmax
comp=Z,13nm,1.1s,mb4.8
MOTA Moosalm 69.70 314⇓*i*P **P 04 47 33.1 -0.8**
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 69.70 314⇓*i*P **P 04 47 33.1 -0.7**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
STKA Stephens Creek 70.00 138 *e*P **P 04 47 35.0 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
STKA Stephens Creek 70.00 138 P **P 04 47 35.3 -0.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=317,slow=10,SNR=5.2
STKA pP pP 04 47 48.7 -0.9
comp=Z,11nm,1.0s,baz=312,slow=8.2,SNR=8.8
DAVA Damuels 70.53 314⇑*i*P **P 04 47 39.1 +0.1**
comp=Z,17nm,0.9s,mb5.0
CDF Champ du Feu 72.04 316 *e*P **P 04 47 47.5 -0.5**
comp=Z,27nm,1.1s,mb4.8
CDF Champ du Feu 72.04 316 *e*P **P 04 47 47.5 -0.5**
CDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
CDF Champ du Feu 72.04 316 *e*P **P 04 47 47.5 -0.5**
comp=Z,14nm,1.1s,mb4.8
PGF Pioggiola 72.08 309 *e*P **P 04 47 48.2 -0.1**
comp=Z,77nm,1.0s,mb5.3
PGF Pioggiola 72.08 309 *e*P **P 04 47 48.2 -0.1**
PGF pmax pmax
comp=Z,39nm,1.0s,mb5.3
PGF Pioggiola 72.08 309 *e*P **P 04 47 48.2 -0.1**
comp=Z,39nm,1.0s,mb5.3
HINF Hinteralfeld 72.44 315 *e*P **P 04 47 49.9 -0.5**
WLF Walferdange 72.51 317 P **P 04 47 51.6 +0.8**
comp=Z,26nm,1.5s,mb4.9
HAU Haudompre 72.73 315 *e*P **P 04 47 51.6 -0.6**
comp=Z,18nm,0.9s,mb4.7
HAU Haudompre 72.73 315 *e*P **P 04 47 51.6 -0.6**
HAU pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
HAU Haudompre 72.73 315 *e*P **P 04 47 51.6 -0.6**
comp=Z,9.3nm,0.9s,mb4.7
SBF Sospel 72.91 311 *e*P **P 04 47 52.3 -0.9**
comp=Z,31nm,0.8s,mb5.0
SBF Sospel 72.91 311 *e*P **P 04 47 52.3 -0.9**
SBF pmax pmax
comp=Z,15nm,0.8s,mb5.0
SBF Sospel 72.91 311 *e*P **P 04 47 52.3 -0.9**
comp=Z,15nm,0.8s,mb5.0
LPG La Plagne 73.02 313 *e*P **P 04 47 54.3 +0.5**
comp=Z,20nm,0.9s,mb4.8
LPG La Plagne 73.02 313 *e*P **P 04 47 54.3 +0.5**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LPG La Plagne 73.02 313 *e*P **P 04 47 54.3 +0.5**
comp=Z,10nm,0.9s,mb4.8
LPL La Plagne 73.03 313 *e*P **P 04 47 54.1 +0.2**
comp=Z,36nm,1.0s,mb5.0
LPL La Plagne 73.03 313 *e*P **P 04 47 54.1 +0.2**
LPL pmax pmax
comp=Z,18nm,1.0s,mb5.0
LPL La Plagne 73.03 313 *e*P **P 04 47 54.1 +0.2**
comp=Z,18nm,1.0s,mb5.0
MBDF Montbardon 73.18 312 *e*P **P 04 47 54.6 -0.2**
comp=Z,62nm,1.4s,mb5.0
MBDF Montbardon 73.18 312 *e*P **P 04 47 54.6 -0.2**
MBDF pmax pmax
comp=Z,31nm,1.4s,mb5.0
MBDF Montbardon 73.18 312 *e*P **P 04 47 54.6 -0.2**
comp=Z,31nm,1.4s,mb5.0
CABF La Chapelle 73.22 314 *e*P **P 04 47 55.0 0.0**
KEST Kesra 73.39 302 P **P 04 47 55.8 -0.2**
comp=Z,4.6nm,0.9s,mb4.4,baz=15,slow=2.1,SNR=8.8
MEZF Maizieres J'vi 73.47 316 *e*P **P 04 47 56.3 -0.2**
FRF La Foret Royal 73.53 311 *e*P **P 04 47 56.7 -0.2**
comp=Z,54nm,0.9s,mb5.2
FRF La Foret Royal 73.53 311 *e*P **P 04 47 56.7 -0.2**
FRF pmax pmax
comp=Z,27nm,0.9s,mb5.2
FRF La Foret Royal 73.53 311 *e*P **P 04 47 56.7 -0.2**
comp=Z,27nm,0.9s,mb5.2
LSZ Lusaka 73.58 246 *e*P **P 04 47 58.1 +0.9**
LSZ pmax pmax
comp=Z,15nm,0.8s,mb5.0
LSZ Lusaka 73.58 246 *e*P **P 04 47 58.1 +0.9**
comp=Z,15nm,0.8s,mb5.0
BAIF Baives 73.65 318 *e*P **P 04 47 57.5 -0.1**
LMR La Mourre 73.68 311 *e*P **P 04 47 57.7 -0.1**
comp=Z,32nm,0.9s,mb5.0
LMR La Mourre 73.68 311 *e*P **P 04 47 57.7 -0.1**
LMR pmax pmax
comp=Z,16nm,0.9s,mb5.0
LMR La Mourre 73.68 311 *e*P **P 04 47 57.7 -0.1**
comp=Z,16nm,0.9s,mb4.9
LOR Lormes 74.54 315 *e*P **P 04 48 02.2 -0.6**
VIVF Saint-Julien-l 74.60 312 *e*P **P 04 48 03.4 +0.3**
comp=Z,60nm,1.2s,mb5.1
VIVF Saint-Julien-l 74.60 312 *e*P **P 04 48 03.4 +0.3**
VIVF pmax pmax
comp=Z,30nm,1.3s,mb5.1
VIVF Saint-Julien-l 74.60 312 *e*P **P 04 48 03.4 +0.3**
comp=Z,30nm,1.3s,mb5.1
SMF Signal de Mont 74.71 314 *e*P **P 04 48 03.2 -0.5**
comp=Z,35nm,0.9s,mb5.0
SMF Signal de Mont 74.71 314 *e*P **P 04 48 03.2 -0.5**
SMF pmax pmax
comp=Z,17nm,0.9s,mb5.0
SMF Signal de Mont 74.71 314 *e*P **P 04 48 03.2 -0.5**
comp=Z,17nm,0.9s,mb5.0
SSF Saint Saulge 74.83 315 *e*P **P 04 48 04.1 -0.3**
comp=Z,44nm,1.0s,mb5.0
SSF Saint Saulge 74.83 315 *e*P **P 04 48 04.1 -0.3**
SSF pmax pmax
comp=Z,22nm,1.0s,mb5.0
SSF Saint Saulge 74.83 315 *e*P **P 04 48 04.1 -0.3**
comp=Z,22nm,1.0s,mb5.0
AVF Avril sur Loir 75.00 315 *e*P **P 04 48 04.9 -0.5**

comp=Z,53nm,1.1s,mb5.1
AVF Avril sur Loir 75.00 315 *e*P **P 04 48 04.9 -0.5**
AVF pmax pmax
comp=Z,26nm,1.1s,mb5.1
AVF Avril sur Loir 75.00 315 *e*P **P 04 48 04.9 -0.5**
comp=Z,26nm,1.1s,mb5.1
HYF Humbligny 75.35 315 *e*P **P 04 48 07.7 +0.3**
LASF Ste Croix 75.36 312 *e*P **P 04 48 07.6 +0.1**
comp=Z,21nm,0.9s,mb4.8
BGF Bois d'Agland 75.40 315 *e*P **P 04 48 07.3 -0.4**
TCF Toulx Ste Croi 75.89 314 *e*P **P 04 48 10.7 +0.2**
comp=Z,36nm,0.9s,mb5.0
TCF Toulx Ste Croi 75.89 314 *e*P **P 04 48 10.7 +0.2**
TCF pmax pmax
comp=Z,18nm,0.9s,mb5.0
TCF Toulx Ste Croi 75.89 314 *e*P **P 04 48 10.7 +0.2**
comp=Z,18nm,0.9s,mb5.0
CAF Calviac 76.37 313 *e*P **P 04 48 13.3 +0.1**
comp=Z,44nm,1.3s,mb4.9
CAF Calviac 76.37 313 *e*P **P 04 48 13.3 +0.1**
CAF pmax pmax
comp=Z,22nm,1.3s,mb4.9
CAF Calviac 76.37 313 *e*P **P 04 48 13.3 +0.1**
comp=Z,22nm,1.3s,mb4.9
RJF Les Rejaudoux 76.63 314 *e*P **P 04 48 15.1 +0.4**
comp=Z,32nm,1.0s,mb4.9
RJF Les Rejaudoux 76.63 314 *e*P **P 04 48 15.1 +0.4**
RJF pmax pmax
comp=Z,16nm,1.0s,mb4.9
RJF Les Rejaudoux 76.63 314 *e*P **P 04 48 15.1 +0.4**
comp=Z,16nm,1.0s,mb4.9
MTLF Montolieu 76.71 311 *e*P **P 04 48 15.1 0.0**
comp=Z,36nm,1.1s,mb4.9
MTLF Montolieu 76.71 311 *e*P **P 04 48 15.1 0.0**
MTLF pmax pmax
comp=Z,18nm,1.1s,mb4.9
MTLF Montolieu 76.71 311 *e*P **P 04 48 15.1 0.0**
comp=Z,18nm,1.1s,mb4.9
LFF La Frestale 77.26 313 *e*P **P 04 48 17.8 -0.5**
EMIR Miracle 77.61 310 P **P 04 48 21.2 +1.0**
EPOB Poblet 78.09 310 P **P 04 48 23.3 +0.4**
comp=Z,32nm,1.1s,mb5.2
EBIE Bielsa 78.35 311 P **P 04 48 25.2 +0.9**
ERTA Horta de San J 78.75 310 P **P 04 48 26.5 0.0**
comp=Z,513nm,3.8s
ETSF Etsaut 78.78 312 *e*P **P 04 48 27.0 +0.3**
SJPF Ste Jean 79.17 312 *e*P **P 04 48 28.8 0.0**
EALK Alkurruntz 79.33 312 P **P 04 48 30.2 +0.5**
comp=Z,736nm,3.7s
LBTB Lobatse 80.32 239 *e*P **P 04 48 36.2 +1.1**
LBTB pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LBTB Lobatse 80.32 239 *e*P **P 04 48 36.2 +1.1**
comp=Z,6.3nm,0.7s,mb4.7
EHUE Huescar 81.93 307⇓P **P 04 48 44.3 +0.7**
EHUE pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
EHUE Huescar 81.93 307⇓P **P 04 48 44.3 +0.7**
comp=Z,8.9nm,0.9s,mb4.7
ENIJ Nijar 81.93 306 P **P 04 48 44.5 +0.9**
ENIJ pmax pmax
comp=Z,12nm,0.6s,mb5.0
ENIJ Nijar 81.93 306 P **P 04 48 44.5 +0.9**
comp=Z,12nm,0.6s,mb5.0
GUD Guadarrama 82.07 310 P **P 04 48 45.0 +0.7**
GUD pmax pmax
comp=Z,11nm,0.8s,mb4.8
GUD Guadarrama 82.07 310 P **P 04 48 45.0 +0.7**
comp=Z,11nm,0.8s,mb4.8
ESDC Sonseca Array 82.28 309 P **P 04 48 45.8 +0.4**
comp=Z,4.6nm,0.8s,mb4.5,baz=53,slow=5.6,SNR=13
ESDC Sonseca Array 82.28 309 P **P 04 48 45.4 0.0**
comp=Z,4.2nm,0.8s,mb4.4
EQES Quesada 82.29 307 P **P 04 48 45.4 0.0**
comp=Z,13nm,1.0s,mb4.8
BOSA Boshof 82.32 235 P **P 04 48 46.2 +0.6**
comp=Z,8.0nm,0.8s,mb4.7,baz=75,slow=5.5,SNR=12
BOSA pP pP 04 48 59.7 -0.2
comp=Z,11nm,0.8s,baz=80,slow=5.0,SNR=6.4
BOSA LR LR 05 24 10.4
comp=Z,81nm,18.0s,MS4.1,baz=50,slow=35
BOSA Boshof 82.32 235 *e*P **P 04 48 46.3 +0.7**
BOSA *e* pP 04 48 59.8 -0.1
BOSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BOSA Boshof 82.32 235 *e*P **P 04 48 46.3 +0.6**
comp=Z,7.4nm,0.7s,mb4.7
BOSA *e* pP 04 48 59.8 -0.1
MCK McKinley 82.61 23 *e*P **P 04 48 46.5 -0.7**
EBAN Banos Encina 82.69 308 P **P 04 48 47.6 +0.1**
EADA Adamuz 83.27 308 P **P 04 48 51.6 +1.1**
comp=Z,9.0nm,0.9s,mb4.8
PMR Palmer 83.72 25 *e*P **P 04 48 51.9 -1.0**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
PMR Palmer 83.72 25 *e*P **P 04 48 51.9 -1.0**
comp=Z,8.7nm,0.8s,mb4.9
INK Inuvik 84.49 16 *e*P **P 04 48 55.9 -0.9**
comp=Z,405nm,1.0s
PVIS Viseu 84.68 312 *e*P **P 04 48 59.3 +1.6**
comp=Z,31nm,1.3s,mb5.3
ESPR Espera 84.69 307 P **P 04 48 58.1 +0.2**
PCBR Castelo Branco 84.73 311 *e*P **P 04 48 59.0 +1.0**
comp=Z,24nm,1.1s,mb5.2
EBAD Badajoz 84.82 309 P **P 04 48 59.2 +0.7**
comp=Z,187nm,3.6s
EMIN Mina Concepcio 84.95 308 P **P 04 48 59.4 +0.3**
PESTR Estremoz 85.19 310 *e*P **P 04 49 01.8 +1.5**
EGRO El Granado 85.63 308 P **P 04 49 02.9 +0.3**
PBEJ Beja 85.72 309 *e*P **P 04 49 04.0 +1.1**
comp=Z,29nm,1.3s,mb5.3
TOA0 Torodi Ar. Sit 86.99 283⇓*i*P **P 04 49 09.8 +0.6**
TORD Torodi Ar. Bea 86.99 283 P **P 04 49 09.8 +0.6**
comp=Z,10nm,1.0s,mb5.0,baz=68,slow=4.3,SNR=46
TORD pP pP 04 49 22.3 -1.3
comp=Z,2.6nm,0.9s,baz=76,slow=3.7,SNR=3.5
TORD PP PP 04 52 30.7 -2.0
comp=Z,2.5nm,1.2s,baz=63,slow=6.0,SNR=5.1
TORD Torodi Ar. Bea 86.99 283 P **P 04 49 09.8 +0.6**
TORD pP pP 04 49 22.3 -1.3
TORD PP PP 04 52 30.7 -2.0
YKA Yellowknife Ar 93.73 13 P **P 04 49 39.2 -1.4**
comp=Z,1.6nm,0.8s,mb4.5,baz=329,slow=4.2,SNR=23
YKA pP pP 04 49 52.2 -2.9
comp=Z,1.3nm,0.8s,baz=330,slow=4.1,SNR=8.7
YKA PKKPbc PKKPbc 05 06 41.3 -3.3
comp=Z,0.2nm,0.7s,baz=151,slow=2.8,SNR=5.1
YKA Yellowknife Ar 93.73 13 P **P 04 49 39.2 -1.5**
YKA *PP pP 04 49 52.2 -2.9
YKA Yellowknife Ar 93.73 13 P **P 04 49 39.2 -1.4**
YKA pP pP 04 49 52.2 -2.9
YKA PKKPbc PKKPbc 05 06 41.3 -3.4
PDAR Pinedale Array 112.97 18 PKiKP PKiKP 04 55 00.8 0.0
comp=Z,0.4nm,0.7s,baz=20,slow=4.7,SNR=3.7
NVAR Mina Array Bea 113.67 27 PKiKP PKiKP 04 55 03.5 +1.4
comp=Z,0.4nm,0.6s,baz=162,slow=0.9,SNR=3.5
MSU Marysvale 115.97 22 *e*PKIKP PKPdf 04 55 07.9 +1.3
PPT Papeete 120.72 98 *e*LR LR 05 32 31.6
comp=Z,215nm,36.5s
TBI Tubuai 122.10 105 *e*LR LR 05 33 23.4
comp=Z,205nm,31.0s
JCT Junction City 127.12 14 *e*PKIKP PKPdf 04 55 28.6 +0.6
TXAR Lajitas Array 127.18 19 PKP PKPdf 04 55 27.8 -0.3
comp=Z,1.0nm,0.8s,baz=246,slow=1.6,SNR=12
TXAR pPKP pPKPdf 04 55 43.3 +0.3
comp=Z,0.9nm,0.7s,baz=206,slow=3.9,SNR=6.8
TXAR Lajitas Array 127.18 19 PKP PKPdf 04 55 27.8 -0.3
TXAR pPKP pPKPdf 04 55 43.3 +0.3
TGUH Tegucigalpa,Un 145.03 1 *e*PKPab PKPab 04 56 01.7 +1.2
SDV Santo Domingo 146.34 331 *e*PKPdf PKPdf 04 56 04.7 +1.4
ROSC El Rosal 151.55 334 PKPbc PKPbc 04 56 19.4 +1.5
comp=Z,22nm,0.8s,baz=99,slow=6.9,SNR=28
LPAZ La Paz 161.94 282 PKP PKPdf 04 56 25.9 +1.0
comp=Z,0.6nm,0.8s,baz=103,slow=3.7,SNR=6.0
LPAZ PKPab PKPab 04 57 11.6 +0.5
comp=Z,2.4nm,0.8s,baz=141,slow=1.0,SNR=9.2
LPAZ La Paz 161.94 282 PKP PKPdf 04 56 25.9 +1.0
LPAZ PKPab PKPab 04 57 11.6 +0.5

*ISCJB **05** 04:41:30.8±0.3,4756N±002×755E±002,h9km±4km,Error ellipse: s-maj=2.8km s-min=2.3km az=141.9*
*ZUR **05** 04:41:32.2,4759N×760E,h5km±1km,ML1.5*
*LEDBW **05** 04:41:32.2±0.1,47593N±0003×7607E±0004,h6km±1km, ML1.8,Error ellipse: s-maj=1.2km s-min=1.0km az=98.0*

*LDG **05** 04:41:32.7±0.1, 4759N×755E, h4km, Md2.0/3, Ml2.2/11, Error ellipse: s-maj=1.9km s-min=1.0km az=88.0*
*STR **05** 04:41:32.1±0.5, 4759N×759E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 05 04:41:31.5±0.3, 4758N±002×757E±002, h13km±4km, n51, σ0°71/69, 3C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WYH	**Wyhlen**	**0.10**	**107**	⇓*i*Pg	**Pg**	**04 41 34.0**	**-0.3**
WYH				*i* Sg	**Sg**	**04 41 35.4**	**-1.1**
BBS	**Basel-Blauen**	**0.12**	**199**	⇑*i*P*	**Pg**	**04 41 35.3**	**+0.6**
BBS	**Basel-Blauen**	**0.12**	**199**	⇑*i*Pg	**Pg**	**04 41 35.3**	**+0.6**
ENDD	**Endenburg**	**0.18**	**40**	⇑*i*Pg	**Pg**	**04 41 35.4**	**-0.2**
ENDD				*i* Sg	**Sg**	**04 41 37.7**	**-0.7**
BALST	**Balsthal**	**0.26**	**160**	*e*Sg	**Pg**	**04 41 37.5**	**+0.6**
	201nm,0.3s						
BALST	**Balsthal**	**0.26**	**160**	⇓*i*Pg	**Sg**	**04 41 41.4**	**+0.8**
	201nm,0.3s						
BOURR	**Bourrignon**	**0.29**	**231**	*i* Pg	**Pg**	**04 41 38.6**	**+1.1**
	14nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.37**	**98**	⇑*i*Pg	**Pg**	**04 41 39.1**	**+0.1**
	112nm,0.3s						
SULZ				*e*Sg	**Sg**	**04 41 44.3**	**+0.3**
	112nm,0.3s						
MOF	**Molkenrain**	**0.40**	**313**	Pg	**Pg**	**04 41 40.0**	**+0.5**
MOF				Sg	**Sg**	**04 41 45.9**	**+1.0**
MOF	**Molkenrain**	**0.40**	**313**	⇓*i*P*	**Pg**	**04 41 40.3**	**+0.8**
MOF				PmP		04 41 43.1	
MOF				S*	**Sg**	**04 41 46.0**	**+1.1**
MOF				SmS		04 41 50.8	
MOF	**Molkenrain**	**0.40**	**313**	⇓*i*Pg	**Pg**	**04 41 40.3**	**+0.8**
MOF				Sg	**Sg**	**04 41 46.0**	**+1.1**
MOF	**Molkenrain**	**0.40**	**313**	PmP		04 41 43.1	
MOF				SmS		04 41 50.8	
KIZ	**Kirchzarten**	**0.45**	**32**	⇑*i*P*	**Pg**	**04 41 40.3**	**0.0**
KIZ				*i* S*	**Sg**	**04 41 46.0**	**-0.3**
KIZ				SmS		04 41 50.4	
KIZ	**Kirchzarten**	**0.45**	**32**	⇑*i*Pg	**Pg**	**04 41 40.3**	**0.0**
KIZ				*i* Sg	**Sg**	**04 41 46.0**	**-0.3**
KIZ				SmS		04 41 50.4	
HINF	**Hinteralfeld**	**0.54**	**297**	*e*Pg	**Pg**	**04 41 42.4**	**+0.4**
HINF				*e*Sg	**Sg**	**04 41 49.7**	**+0.5**
	31nm,0.2s						
LOMF	**Lomont**	**0.55**	**246**	Pg	**Pg**	**04 41 43.3**	**+1.0**
LOMF	**Lomont**	**0.55**	**246**	P*	**Pb**	**04 41 43.5**	**+0.5**
LOMF				PmP		04 41 44.7	
LOMF	**Lomont**	**0.55**	**246**	Px	Px	04 41 44.7	
SLE	**Schleitheim**	**0.65**	**73**	*i* Sg	**Pg**	**04 41 43.9**	**-0.3**
	98nm,0.2s						
SLE	**Schleitheim**	**0.65**	**73**	*e*Pg	**Sg**	**04 41 52.8**	**0.0**
	98nm,0.2s						
ECH	**Echery**	**0.69**	**337**	Pg	**Pg**	**04 41 45.7**	**+0.7**
ECH				Sg	**Sg**	**04 41 54.5**	**+0.4**
ECH	**Echery**	**0.69**	**337**	PmP		04 41 46.2	
ECH	**Echery**	**0.69**	**337**	Px	Px	04 41 46.2	
CDF	**Champ du Feu**	**0.86**	**347**	*e*Pg	**Pg**	**04 41 48.7**	**+0.7**
CDF				*e*Sg	**Sg**	**04 41 59.5**	**+0.2**
	21nm,0.3s						
STEIN	**Stein am Rhein**	**0.89**	**84**	*i* Pg	**Pg**	**04 41 49.5**	**+0.9**
	9.0nm,0.2s						
BFO	**Black Forest**	**0.91**	**34**	P*	**Pg**	**04 41 49.0**	**-0.1**
BFO				PmP		04 41 49.4	
BFO				S*	**Sg**	**04 42 00.5**	**-0.4**
BFO				SmS		04 42 02.2	
BFO	**Black Forest**	**0.91**	**34**	SmS		04 42 02.2	
BFO	**Black Forest**	**0.91**	**34**	Pg	**Pg**	**04 41 49.0**	**-0.1**
BFO				Sg	**Sg**	**04 42 00.5**	**-0.4**
BFO	**Black Forest**	**0.91**	**34**	PmP		04 41 49.4	
HASLI	**Hasliberg**	**0.91**	**154**	*i* Pg	**Pg**	**04 41 50.0**	**+0.9**
	3.5nm,0.2s						
BNALP	**Bannalp**	**0.92**	**140**	*i* Pg	**Pg**	**04 41 49.8**	**+0.6**
	27nm,0.4s						
HAU	**Haudompre**	**0.93**	**298**	*e*Pg	**Pg**	**04 41 50.1**	**+0.7**
HAU				*e*Sg	**Sg**	**04 42 02.0**	**+0.5**
	25nm,0.3s						
SISB	**Singen-Schiene**	**0.95**	**83**	*e*P*	**Pb**	**04 41 50.0**	**+0.3**
SISB				PmP		04 41 50.4	
SISB				S*	**Sb**	**04 42 02.5**	**+0.2**
SISB	**Singen-Schiene**	**0.95**	**83**	Px	Px	04 41 50.4	
GUT	**Gutenstein**	**1.15**	**64**	Pg	**Pg**	**04 41 53.7**	**0.0**
GUT				Sg	**Sg**	**04 42 08.5**	**-0.2**
THEF	**They Montfort**	**1.25**	**302**	Sg	**Sg**	**04 42 12.6**	**+0.9**
LBG	**Lerchenberg**	**1.36**	**37**	Pg	**Pg**	**04 41 57.7**	**0.0**
LBG				Sg	**Sg**	**04 42 15.0**	**-0.4**
LBG	**Lerchenberg**	**1.36**	**37**	S	**Sg**	**04 42 15.0**	**-0.4**
CABF	**La Chapelle**	**1.40**	**227**	*e*Pg	**Pg**	**04 41 59.1**	**+0.7**
CABF				*e*Sg	**Sg**	**04 42 16.5**	**-0.1**
	4.9nm,0.3s						
BUCH	**Bad Urach**	**1.48**	**53**	Pg	**Pg**	**04 41 59.7**	**-0.3**
BUCH				Sg	**Sg**	**04 42 18.0**	**-1.2**
UBR	**Ueberruh**	**1.72**	**86**	Pg	**Pg**	**04 42 04.5**	**0.0**
UBR				Sg	**Sg**	**04 42 27.3**	**+0.4**
LPL	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**04 42 12.9**	**+0.4**
LPL				*e*Sg	**Sg**	**04 42 40.4**	**+0.1**
	1.2nm,0.3s						
LPG	**La Plagne**	**2.16**	**195**	*e*Sg	**Sg**	**04 42 41.1**	**+0.3**
	1.6nm,0.2s						
SIND	**Sindeldorf**	**2.23**	**37**	Sg	**Sg**	**04 42 41.3**	**-1.8**
LOR	**Lornes**	**2.54**	**264**	*e*Pg	**Pg**	**04 42 19.8**	**-0.3**
LOR				*e*Sg	**Sg**	**04 42 52.0**	**-1.0**
	2.8nm,0.2s						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pg	**Pg**	**04 42 22.5**	**-0.9**
SMF				*e*Sg	**Sg**	**04 42 57.3**	**-1.3**
	2.3nm,0.3s						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pn	**Pn**	**04 42 16.3**	**+0.2**
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**04 42 24.6**	**-0.7**
SSF				*e*Sg	**Sg**	**04 43 00.1**	**-1.7**
	1.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.91**	**204**	*e*Sg	**Sg**	**04 43 03.9**	**-1.0**
	2.5nm,0.4s						
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Pg	**Pg**	**04 42 28.0**	**-0.6**
AVF				*e*Sg	**Sg**	**04 43 06.0**	**-1.2**
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.38**	**217**	*e*Sg	**Sg**	**04 43 18.8**	**-1.4**
	1.9nm,0.3s						

*IDC **05** 04:54:17.9±0.7, 325S×12982E, h0km, mb4.2/10, mb1 4.4/13, mb1mx4.3/20, mbtmp4.3/13, ML4.0/2, MS3.9/9, Ms1 3.9/9, ms1mx3.6/24, Error ellipse: s-maj=30.2km s-min=10.8km az=71.0*
*ISCJB **05** 04:54:21.0±0.4, 3.13S±004×12995E±009, h33km, mb4.4/15, MS4.0/8, Error ellipse: s-maj=12.8km s-min=5.1km az=146.1*
*NEIC **05** 04:54:23.1±0.4, 3.19S×12995E, h35km, mb4.7/7, Error ellipse: s-maj=15.3km s-min=6.9km az=63.0*
*BJI **05** 04:54:23.0, 320S×13000E, h35km, mB5.1, mb4.5*
ISC 05 04:54:21.3±2.9, 316S±004×13001E±009, h22km±21km, n41, σ1°04/40, mb4.4/15, MS4.0/8, 3D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.79**	**166**	*e*P	**Pn**	**04 56 40.5**	**-0.3**
	29nm,0.6s						
KAKA				*e*S	**Sn**	**04 58 29.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**15.46**	**196**	*e*P	**Pn**	**04 57 59.4**	**+1.5**
	24nm,0.8s						
FITZ				*e*S	**Sn**	**05 00 50.2**	**+1.7**
FITZ	**Fitzroy Crossi**	**15.46**	**196**	Pn	**Pn**	**04 57 56.4**	**-1.5**
	0.2nm,0.3s,baz=30,slow=14,SNR=8.8						
FITZ				Sn	**Sn**	**05 00 49.4**	**+0.9**
	0.2nm,0.3s,baz=137,slow=16,SNR=1.8						
FITZ				LR	LR	05 03 56.2	
	comp=Z,245nm,21.9s,baz=179,slow=38						
WRAB	**Tennant Creek**	**17.20**	**166**	*e*Pn	**Pn**	**04 58 19.4**	**-0.8**
	15nm,0.8s						
WRA	**Warramunga Arr**	**17.21**	**166**	P	**Pn**	**04 58 18.7**	**-1.6**
	1.2nm,0.3s,baz=346,slow=11,SNR=58						
WRA				S	**Sn**	**05 01 30.3**	**-0.8**
	0.4nm,0.3s,baz=353,slow=24,SNR=3.5						
WB2	**Warramunga Arr**	**17.21**	**166**	*e*P	**Pn**	**04 58 19.1**	**-1.2**
WB2				*e*S	**Sn**	**05 01 31.8**	**+0.6**
PMG	**Port Moresby**	**18.14**	**111**	P	**Pn**	**04 58 34.0**	**+2.2**
	0.6nm,0.3s,baz=285,slow=4.0,SNR=7.9						
KSM	**Kuching**	**20.22**	**283**	*e*P	**P**	**04 58 48.0**	**-6.8**
ASAR	**Alice Springs**	**20.73**	**170**	P	**P**	**04 59 01.4**	**+1.0**
	21nm,0.5s,baz=345,slow=9.9,SNR=259						
ASAR				S	**S**	**05 02 49.6**	**-1.2**
	2.6nm,0.8s,baz=353,slow=23,SNR=5.5						
CTA	**Charters Tower**	**23.12**	**138**	*e*P	**P**	**04 59 27.2**	**+1.4**
	17nm,0.9s,mb4.5						
CTA	**Charters Tower**	**23.12**	**138**	P	**P**	**04 59 27.2**	**+1.3**
	2.7nm,0.5s,mb3.9,baz=306,slow=13,SNR=6.2						
JOW	**Kunigami**	**29.86**	**357**	LR	LR	05 11 28.2	
	comp=Z,225nm,19.9s,MS3.8,baz=139,slow=34						
KULM	**Kulim**	**30.50**	**286**	*e*P	**P**	**05 00 33.8**	**+1.0**
STKA	**Stephens Creek**	**30.58**	**160**	P	**P**	**05 00 33.9**	**+0.5**
	2.6nm,0.4s,mb4.5,baz=343,slow=8.6,SNR=9.3						
STKA				LR	LR	05 13 48.4	
	comp=Z,208nm,21.0s,MS3.8,baz=347,slow=38						
STKA	**Stephens Creek**	**30.58**	**160**	P	**P**	**05 00 33.9**	**+0.5**
STKA				LR	LR	05 13 48.4	
PSI	**Prapat**	**31.63**	**280**	P	**P**	**05 00 42.0**	**-0.7**
	4.4nm,0.7s,mb4.4,baz=84,slow=4.3,SNR=5.7						
PSI	**Prapat**	**31.63**	**280**	P	**P**	**05 00 42.0**	**-0.7**
NANT	**Nan**	**36.17**	**308**	⇓P	**P**	**05 01 21.0**	**-1.1**
	190nm,1.0s						
JHJ	**Hachijo jima 2**	**37.25**	**14**	LR	LR	05 14 35.5	
	comp=Z,192nm,19.3s,MS3.9,baz=292,slow=33						
CHG	**Chiang Mai**	**37.56**	**307**	⇓P	**P**	**05 01 35.7**	**+1.7**
	13nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**37.56**	**307**	*e*P	**P**	**05 01 35.2**	**+1.2**
	10nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**40.23**	**10**	LR	LR	05 16 16.6	
	comp=Z,121nm,18.6s,MS3.8,baz=180,slow=33						
KSRS	**Korea Array**	**40.45**	**357**	P	**P**	**05 01 56.9**	**-1.2**
	1.1nm,0.5s,mb3.8,baz=177,slow=9.9,SNR=3.8						
KSRS				LR	LR	05 17 28.9	
	comp=Z,104nm,19.8s,MS3.7,baz=62,slow=34						
LZH	**Lanzhou**	**46.06**	**330**	*e*P	**P**	**05 02 45.0**	**+1.5**
LZH				AP	pP	05 02 51.5	+1.2
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,118nm,4.8s						
GTA	**Gaotai**	**50.65**	**330**	*e*P	**P**	**05 03 19.7**	**+0.8**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**54.83**	**341**	P	**P**	**05 03 49.5**	**-0.3**
	comp=Z,2.4nm,0.9s,mb4.2,baz=156,slow=7.2,SNR=13						
MK31	**Makanchi Array**	**65.05**	**326**	*e*P	**P**	**05 04 58.6**	**-1.3**
MKAR	**Makanchi Array**	**65.05**	**326**	P	**P**	**05 04 59.1**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.2,baz=118,slow=7.6,SNR=16						
KURK	**Kurchatov**	**69.27**	**328**	*e*P	**P**	**05 05 26.1**	**-0.6**
	comp=Z,8.7nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**74.84**	**327**	P	**P**	**05 05 59.8**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=120,slow=8.8,SNR=8.3						
CHKZ	**Chkalovo**	**75.02**	**328**	*e*P	**P**	**05 06 00.7**	**-0.4**
	comp=Z,47nm,0.8s,mb5.5						
VNDA	**Vanda**	**76.24**	**173**	P	**P**	**05 06 08.3**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=299,slow=7.0,SNR=5.0						
VNDA				LR	LR	05 36 33.3	
	comp=Z,100nm,20.7s,MS4.1,baz=332,slow=33						
VNDA	**Vanda**	**76.24**	**173**	P	**P**	**05 06 08.3**	**+0.2**
VNDA				LR	LR	05 36 33.3	
MAW	**Mawson**	**78.51**	**201**	P	**P**	**05 06 21.6**	**+0.8**
	comp=Z,1.7nm,0.5s,mb4.2,baz=89,slow=6.6,SNR=4.9						
MAW				LR	LR	05 38 46.4	
	comp=Z,125nm,19.1s,MS4.3,baz=253,slow=34						
QSPA	**South Pole Qui**	**86.79**	**180**	*e*P	**P**	**05 07 08.7**	**+4.8**
	comp=Z,4.8nm,0.9s,mb4.7						
SYO	**Syowa Base**	**87.22**	**201**	⇓*e*P	**P**	**05 07 07.0**	**+1.0**
KMBO	**Kilima Mbogo**	**92.69**	**269**	LR	LR	05 47 16.2	
	comp=Z,94nm,18.7s,MS4.3,baz=94,slow=34						
DAWY	**Dawson**	**93.08**	**26**	*e*P	**P**	**05 07 33.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**127.98**	**284**	PKP	PKPdf	05 13 26.9	+1.4
	comp=Z,0.3nm,0.7s,baz=83,slow=2.5,SNR=2.6						
LPAZ	**La Paz**	**153.64**	**138**	PKPbc	PKPbc	05 14 21.9	+3.5
	comp=Z,0.9nm,0.3s,baz=74,slow=4.2,SNR=8.9						
LPAZ	**La Paz**	**153.64**	**138**	*e*PKPbc	PKPbc	05 14 20.9	+2.5

*NEIC **05** 04:59:17.1±0.5, 4623N×15278E, h10km, mb4.4/2, Error ellipse: s-maj=15.9km s-min=10.8km az=131.0*
*ISCJB **05** 04:59:18.8±1.6, 462N±0.1×1528E±0.1, h34km±13km, mb3.9/15, Error ellipse: s-maj=20.9km s-min=9.9km az=106.3*
*MOS **05** 04:59:19.3±1.2, 4621N×15270E, h43km, mb4.3/11, Error ellipse: s-maj=19.1km s-min=12.6km az=69.3*
*IDC **05** 04:59:22.1±3.7, 4621N×15277E, h48km±36km, mb3.6/14, mb1 3.8/16, mb1mx3.7/24, mbtmp3.7/16, ML3.6/2, Error ellipse: s-maj=22.1km s-min=18.4km az=133.0*
ISC 05 04:59:21.4±1.4, 462N±01×1528E±01, h42km±12km, n36, σ0°99/37, mb3.9/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.58**	**256**	*e*PN	**Pn**	**05 00 12.0**	**-2.3**
KUR				*i* S	**Sn**	**05 00 56.0**	**+0.7**
KUR				pmax	pmax		
	comp=Z,270nm,0.5s						
KUR				smax			
	comp=N,200nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
SKR	**Severo-Kuril's**	**4.98**	**25**	*e*PN	**Pn**	**05 00 34.1**	**+0.4**
ASAJ	**Asahikawa**	**7.50**	**257**	P	**Pn**	**05 01 08.9**	**+0.8**
	comp=E,0.7nm,0.3s,baz=306,slow=33,SNR=3.4						
ASAJ	**Asahikawa**	**7.50**	**257**	PN	**Pn**	**05 01 09.0**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.58**	**234**	P	**Pn**	**05 02 44.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=23,slow=13,SNR=4.3						
KSRS	**Korea Array**	**20.42**	**253**	P	**P**	**05 03 56.5**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=58,slow=12,SNR=4.1						
INK	**Inuvik**	**42.22**	**32**	P	**P**	**05 07 09.8**	**-0.4**
	comp=Z,1.4nm,0.7s,mb3.7,baz=224,slow=3.8,SNR=5.7						
INK	**Inuvik**	**42.22**	**32**	P	**P**	**05 07 09.8**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**42.22**	**32**	P	**P**	**05 07 09.8**	**-0.4**
MKAR	**Makanchi Array**	**46.98**	**298**	P	**P**	**05 07 47.1**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=65,slow=7.3,SNR=5.4						
MKAR	**Makanchi Array**	**46.98**	**298**	P	**P**	**05 07 47.1**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**50.59**	**310**	*e*P	**P**	**05 08 14.5**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
CHKZ	**Chkalovo**	**50.59**	**310**	*e*P	**P**	**05 08 14.5**	**-1.4**
	comp=Z,1.6nm,0.4s,mb4.3						
YKA	**Yellowknife Ar**	**51.49**	**36**	P	**P**	**05 08 21.8**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.4,baz=296,slow=6.9,SNR=5.7						
YKA	**Yellowknife Ar**	**51.49**	**36**	P	**P**	**05 08 21.8**	**-0.7**
ARCES	**ARCESS Array B**	**58.27**	**341**	P	**P**	**05 09 11.4**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=27,slow=8.2,SNR=3.6						
ARCES	**ARCESS Array B**	**58.27**	**341**	P	**P**	**05 09 11.4**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NVAR	**Mina Array Bea**	**62.89**	**62**	P	**P**	**05 09 44.2**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.9,baz=294,slow=6.8,SNR=4.0						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**05 09 52.0**	**-1.2**
	comp=Z,2.4nm,0.9s,mb4.2,baz=41,slow=6.1,SNR=6.2						
FINES	**FINESS Array B**	**64.41**	**335**	P	**P**	**05 09 52.0**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**67.94**	**199**	P	**P**	**05 10 14.8**	**-1.0**
	comp=Z,0.7nm,1.0s,mb3.6,baz=20,slow=6.6,SNR=3.5						
WRA	**Warramunga Arr**	**67.94**	**199**	P	**P**	**05 10 14.8**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NB2	**NORSAR Subarra**	**68.65**	**341**	P	**P**	**05 10 19.9**	**-0.3**
	comp=Z,0.2nm,0.6s,mb3.2,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.65**	**341**	P	**P**	**05 10 19.7**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=28,slow=6.1,SNR=4.0						
NOA	**NORSAR Array B**	**68.65**	**341**	P	**P**	**05 10 19.7**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**71.64**	**198**	P	**P**	**05 10 38.6**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=15,slow=4.0,SNR=3.9						
AKASG	**Malin Array Be**	**71.85**	**326**	P	**P**	**05 10 39.6**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.4,baz=32,slow=5.8,SNR=8.3						
AKASG	**Malin Array Be**	**71.85**	**326**	P	**P**	**05 10 39.6**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KWP	**Kalwaria**	**75.15**	**329**	*e*P	**P**	**05 11 00.3**	**+1.1**
KWP				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
KWP	**Kalwaria**	**75.15**	**329**	*e*P	**P**	**05 11 00.3**	**+1.1**
	comp=Z,1.7nm,0.3s,mb4.5						
TXAR	**Lajitas Array**	**77.96**	**60**	P	**P**	**05 11 15.4**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=298,slow=3.9,SNR=17						
TXAR	**Lajitas Array**	**77.96**	**60**	P	**P**	**05 11 15.4**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.61**	**317**	P	**P**	**05 11 20.2**	**+1.5**
	comp=Z,1.4nm,0.9s,mb3.9,baz=13,slow=1.6,SNR=7.2						
BRTR	**Keskin Array B**	**78.61**	**317**	P	**P**	**05 11 20.2**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**78.82**	**334**	P	**P**	**05 11 20.9**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=35,slow=3.6,SNR=2.7						
GERES	**GERESS Array B**	**78.82**	**334**	P	**P**	**05 11 20.9**	**+1.0**

*NEIC **05** 05:14:54.9, 1605N×9708W, h10km, MD3.6(MEX), After MEX.*
MEX 05 05:14:55.2±0.3, 1608N×9703W, h6km±9km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.94**	**109**	*i* P	Pg	05 15 11.2	-2.0
HUIG				*i* S	Sg	05 15 23.2	-2.1
VHO	**Vista Hermosa**	**1.03**	**16**	*e*P	Pg	05 15 12.3	-2.6
VHO				*i* S	Sg	05 15 25.9	-2.4
OXX	**Oaxaca**	**1.04**	**16**	*i* P	Pg	05 15 12.3	-2.9
OXX				*i* S	Sg	05 15 26.3	-2.4
UTMO	**Huajuapan**	**1.90**	**337**	*i* P	Pn	05 15 25.2	-2.9
UTMO				*i* S	Sn	05 15 48.0	-4.4
CMIG	**Matias Romero**	**2.29**	**64**	*i* P	Pn	05 15 30.1	-3.5
CMIG				*i* S	Sn	05 15 58.4	-3.8
CMIG	**Matias Romero**	**2.29**	**64**	*i* P	Pn	05 15 30.4	-3.2
CMIG				*i* S	Sn	05 16 01.1	-1.0

*ISCJB **05** 05:32:15.8±0.4, 2356S±004×6971W±006, h55km, mb4.1/9, Error ellipse: s-maj=7.5km s-min=5.5km az=25.9*
*NEIC **05** 05:32:16.8, 2366S×6985W, h50km, mb4.0/5, After GUC.*
*GUC **05** 05:32:16.7±0.6, 2363S×6985W, h50km, ML4.3*
*IDC **05** 05:32:17.2±0.7, 2321S×6992W, h59km±5km, mb3.8/7, mb1 3.9/8, mb1mx3.7/16, mbtmp3.8/8, Error ellipse: s-maj=27.6km s-min=18.4km az=70.0*
ISC 05 05:32:17.4±0.4, 2351S±004×6983W±006, h57km, h57km±2.8km: pP-P, n37, σ1°45/38, mb4.1/9, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.36**	**289**	⇑*i*P	**Pn**	**05 32 27.8**	**+0.1**
CEN1				*i* S	**Sn**	**05 32 35.6**	**+0.5**
CEN1				AML	AML	05 32 36.3	
	comp=E,16μm,0.5s						
ANCH	**Antofagasta**	**0.56**	**251**	⇓*i*P	**Pn**	**05 32 31.0**	**+1.2**
ANCH				*i* S	**Sn**	**05 32 39.7**	**+0.9**
ANCH				AML	AML	05 32 41.2	
	comp=E,48μm,0.4s						
ANCH	**Antofagasta**	**0.56**	**251**	⇓*i*P	**Pn**	**05 32 31.0**	**+1.2**
ANCH				*i* S	**Sn**	**05 32 39.7**	**+0.9**
CDCH	**Caldera**	**3.67**	**194**	*e*P	**Pn**	**05 33 10.6**	**-1.0**
CDCH				*i* S	**Sn**	**05 33 51.9**	**-1.6**
CDCH	**Caldera**	**3.67**	**194**	⇓*i*P	**Pn**	**05 33 10.7**	**-0.8**
CPCH	**Copiapo**	**3.87**	**187**	*e*P	**Pn**	**05 33 12.5**	**-1.8**
CPCH	**Copiapo**	**3.87**	**187**	*i* P	**Pn**	**05 33 12.6**	**-1.7**
VACH	**Vallenar**	**5.12**	**189**	*e*P	**Pn**	**05 33 31.1**	**-0.3**
VACH				*i* S	**Sn**	**05 34 27.5**	**-1.7**
LPAZ	**La Paz**	**7.36**	**13**	P	**Pn**	**05 34 01.9**	**-0.2**
	comp=E,1.2nm,0.3s,baz=197,slow=5.3,SNR=44						
LPAZ	**La Paz**	**7.36**	**13**	P	**Pn**	**05 34 01.9**	**-0.2**
CFAA	**Coronel Fontan**	**8.19**	**170**	P	**Pn**	**05 34 12.6**	**-0.9**
	comp=E,0.0nm,0.3s,baz=19,slow=22,SNR=24						
CFAA				S	**Sn**	**05 36 01.2**	**+17**
	comp=E,0.1nm,0.3s,baz=232,slow=19,SNR=1.7						
CFAA	**Coronel Fontan**	**8.19**	**170**	P	**Pn**	**05 34 12.6**	**-0.9**
CFAA				S	**Sn**	**05 36 01.2**	**+17**
SIV	**San Ignacio**	**11.13**	**49**	P	**Pn**	**05 34 51.7**	**-2.0**
	comp=E,1.0nm,0.3s,baz=247,slow=12,SNR=30						
NNA	**Nana**	**13.25**	**329**	*e*Pn	**Pn**	**05 35 22.5**	**-0.1**
	comp=E,9.5nm,0.8s						
SAML	**Samuel**	**15.81**	**25**	*e*P	**Pn**	**05 35 58.1**	**+1.8**
	comp=E,2.8nm,0.8s						
TRQA	**Tornquist**	**15.99**	**157**	*e*P	**Pn**	**05 36 04.0**	**+5.5**
	comp=E,3.2nm,0.6s						
**

RCDM				*i* S		Sn	06 09 16.2	+0.6
ANTU	**Antumapu**	**1.20**	**64**	⇓*i* P		Pn	06 09 03.5	+1.0
ANTU				*i* S		Sn	06 09 19.4	+1.7
ANTU				AML	AML		06 09 21.9	
	comp=E,502nm,0.2s							
ANTU	**Antumapu**	**1.20**	**64**	⇓*i* P		Pn	06 09 03.5	+1.0
ANTU				*i* S		Sn	06 09 19.4	+1.7
STL	**Santa Lucia**	**1.26**	**58**	*i* P		Pn	06 09 03.5	+0.2
STL				*i* S		Sn	06 09 20.0	+0.9
TALC	**Talca**	**1.31**	**170**	⇑*i* P		Pn	06 09 04.0	0.0
TALC				*i* S		Sn	06 09 20.4	+0.1
DSCH	**Colegio Aleman**	**1.33**	**58**	*eP*		Pn	06 09 04.8	+0.5
DSCH				*i* S		Sn	06 09 22.2	+1.3
CLCH	**Cerro Calan**	**1.35**	**59**	⇓*i* P		Pn	06 09 05.8	+1.2
CLCH				*i* S		Sn	06 09 22.8	+1.4
CLCH				AML	AML		06 09 25.9	
	comp=E,317nm,0.2s							
PEL	**Peldehue**	**1.41**	**47**	⇓*i* P		Pn	06 09 06.5	+1.1
PEL				*i* S		Sn	06 09 24.2	+1.4
PEL				AML	AML		06 09 26.4	
	comp=N,542nm,0.3s							
LMEL	**Las Melosas**	**1.45**	**80**	⇑*i* P		Pn	06 09 07.2	+1.3
LMEL				*i* S		Sn	06 09 26.0	+2.2
LMEL				AML	AML		06 09 29.6	
	comp=N,664nm,0.2s							
LMEL	**Las Melosas**	**1.45**	**80**	⇑*i* P		Pn	06 09 07.2	+1.3
LMEL				*i* S		Sn	06 09 26.0	+2.2
FCH	**Farellones**	**1.56**	**61**	⇓*i* P		Pn	06 09 08.8	+1.3
FCH				*i* S		Sn	06 09 28.5	+1.9
FCH				AML	AML		06 09 30.7	
	comp=N,330nm,0.3s							
PACH	**Papudo**	**1.62**	**15**	⇑*i* P		Pn	06 09 09.0	+0.8
PTCH	**Petorca**	**2.02**	**25**	⇑*i* P		Pn	06 09 14.7	+1.0
PTCH				*i* S		Sn	06 09 38.9	+1.1
PTCH				AML	AML		06 09 43.6	
	comp=N,335nm,0.9s							
PTCH	**Petorca**	**2.02**	**25**	⇑*i* P		Pn	06 09 14.7	+1.0
PTCH				*i* S		Sn	06 09 38.9	+1.1

IDC 05 06:16:45.9±1.9, 014N×12683E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=162.3km s-min=24.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.27**	**160**	P	P	06 21 34.4	+0.7
	1.0nm,0.4s,baz=339,slow=11,SNR=34						
ASAR	**Alice Springs**	**24.64**	**164**	P	P	06 22 08.5	+0.4
	1.5nm,0.5s,baz=337,slow=9.4,SNR=20						
STKA	**Stephens Creek**	**34.77**	**158**	P	P	06 23 37.7	-0.3
	0.8nm,0.3s,baz=303,slow=8.4,SNR=3.0						
MKAR	**Makanchi Array**	**60.56**	**326**	P	P	06 26 58.4	+0.2
	0.2nm,0.3s,baz=129,slow=7.3,SNR=5.1						

*BJI **05** 06:19:41.7, 726S×155.62E, h71km, mB5.0, mb4.5, Ms4.4, Msz4.1*
*ISCJB **05** 06:19:44.5±1.8, 672S±008×155.18E±006, h64km±16km, mb4.4/22, Error ellipse: s-maj=14.2km s-min=9.2km az=167.1*
*IDC **05** 06:19:46.5±2.9, 667S×155.13E, h69km±25km, mb4.1/12, mb1 4.3/16, mb1mx4.1/20, mbtmp4.1/16, MS3.8/10, Ms1 3.8/10, ms1mx3.6/26, Error ellipse: s-maj=19.8km s-min=16.2km az=176.0*
*NEIC **05** 06:19:46.6±1.1, 674S×155.17E, h72km±11km, mb4.5/10, Error ellipse: s-maj=10.7km s-min=7.6km az=160.0*
ISC 05 06:19:46.9±1.4, 674S±008×15522E±006, h72km±13km, n45, σ0°81/39, mb4.3/22, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.39**	**120**	P	**Pn**	**06 21 04.9**	**+0.1**
	16nm,0.3s,baz=94,slow=11,SNR=2.4						
HNR				S	**Sn**	**06 22 13.5**	**+8.0**
	32nm,0.3s,baz=272,slow=22,SNR=3.1						
HNR				LR	LR	06 23 09.4	
	comp=Z,1μm,19.7s,baz=359,slow=37						
PMG	**Port Moresby**	**8.40**	**251**	P	**Pn**	**06 21 45.6**	**-0.3**
	8.5nm,0.3s,baz=54,slow=8.7,SNR=21						
PMG				S	**Sn**	**06 23 20.3**	**+1.1**
	3.8nm,0.3s,baz=67,slow=20,SNR=14						
PMG				LR	LR	06 24 51.4	
	comp=Z,806nm,20.5s,baz=53,slow=36						
PMG	**Port Moresby**	**8.40**	**251**	*e*Pn	**Pn**	**06 21 45.7**	**-0.2**
	26nm,0.5s						
PMG				*e*Sn	**Sn**	**06 23 20.0**	**+0.8**
CTA	**Charters Tower**	**15.86**	**212**	P	**Pn**	**06 23 24.9**	**-0.9**
	0.4nm,0.3s,baz=38,slow=13,SNR=6.3						
CTA				LR	LR	06 28 57.1	
	comp=Z,422nm,18.9s,baz=47,slow=35						
CTAO	**Charters Tower**	**15.86**	**212**	*eP*	**Pn**	**06 23 25.1**	**-0.6**
	12nm,0.9s						
DZM	**Mont Dzumac**	**18.70**	**146**	P	**Pn**	**06 23 59.9**	**-0.6**
	0.7nm,0.3s,baz=163,slow=23,SNR=7.8						
DZM				LR	LR	06 29 17.1	
	comp=Z,236nm,21.5s,baz=200,slow=30						
DZM	**Mont Dzumac**	**18.70**	**146**	P	**Pn**	**06 23 59.9**	**-0.6**
DZM				LR	LR	06 29 17.1	
GUMO	**Guam**	**22.66**	**333**	LR	LR	06 32 00.7	
	comp=Z,132nm,20.2s,baz=76,slow=33						
KAKA	**Kakadu**	**23.21**	**253**	*eP*	**P**	**06 24 47.3**	**-0.3**
	6.5nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**24.13**	**235**	*eP*	**P**	**06 24 55.8**	**-0.2**
	11nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**24.13**	**235**	*eP*	**P**	**06 24 56.0**	**0.0**
WB2				*e*		06 25 07.2	
WRA	**Warramunga Arr**	**24.14**	**235**	P	**P**	**06 24 55.8**	**-0.2**
	11nm,0.9s,mb4.2,baz=60,slow=9.8,SNR=63						
WRA				PcP	PcP	06 28 36.4	+1.1
	1.1nm,0.4s,baz=60,slow=2.4,SNR=12						
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**06 25 16.7**	**-0.8**
	3.8nm,0.7s,mb4.1,baz=62,slow=8.6,SNR=43						
ASAR				PcP	PcP	06 28 41.4	+0.7
	1.0nm,0.7s,baz=61,slow=2.3,SNR=5.4						
STKA	**Stephens Creek**	**28.06**	**205**	P	**P**	**06 25 33.3**	**+1.9**
	2.3nm,0.5s,mb4.0,baz=52,slow=14,SNR=4.5						
STKA				LR	LR	06 36 11.0	
	comp=Z,259nm,20.1s,baz=31,slow=35						
FITZ	**Fitzroy Crossi**	**30.96**	**246**	*eP*	**P**	**06 25 56.5**	**-0.6**
	9.5nm,0.6s,mb4.7						
FITZ				*e*		06 26 06.1	
FITZ	**Fitzroy Crossi**	**30.96**	**246**	P	**P**	**06 25 56.1**	**-1.0**
	4.9nm,0.7s,mb4.4,baz=89,slow=6.7,SNR=20						
FITZ				LR	LR	06 38 34.7	
	comp=Z,235nm,21.3s,baz=83,slow=36						
FORT	**Forrest**	**34.92**	**223**	*eP*	**P**	**06 26 31.3**	**-0.3**
	16nm,0.7s,mb5.0						
URZ	**Urewera**	**37.12**	**151**	P	**P**	**06 26 51.6**	**+1.2**
	3.1nm,0.5s,mb4.5,baz=354,slow=10,SNR=3.2						
KKM	**Kota Kinabalu**	**40.94**	**287**	*eP*	**P**	**06 27 21.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**43.82**	**228**	LR	LR	06 46 52.0	
	comp=Z,187nm,20.0s,baz=158,slow=37						
KSRS	**Korea Array**	**50.82**	**332**	LR	LR	06 47 14.9	
	comp=Z,300nm,20.9s,baz=115,slow=32						
PPT	**Papeete**	**54.86**	**107**	*eS*	**S**	**06 36 54.6**	**+9.1**
	50nm,24.5s						
PPT				*e*LQ		06 42 57.4	
	164nm,24.2s						
PPT				*e*LR	LR	06 45 20.6	
	76nm,22.8s						
TBI	**Tubuai**	**55.58**	**114**	*e*LR	LR	06 45 36.8	
	217nm,31.8s						
NANT	**Nan**	**59.42**	**296**	⇓P	**P**	**06 29 41.0**	**-0.9**
	190nm,1.0s						
CHG	**Chiang Mai**	**60.99**	**296**	⇑P	**P**	**06 29 53.9**	**+1.2**
	13nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**60.99**	**296**	*eP*	**P**	**06 29 53.6**	**+0.9**
	17nm,1.1s,mb5.0						
TAOE	**Nuku Hiva Isla**	**64.01**	**97**	*e*LR	LR	06 49 36.0	
	192nm,24.1s						
GTA	**Gaotai**	**68.71**	**317**	*eP*	**P**	**06 30 43.8**	**+1.0**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
RKT	**Rikitea**	**68.83**	**112**	*e*S	S	06 39 50.9	+9.1
	comp=Z,68nm,29.5s						
RKT				*e*LR	LR	06 51 45.1	
	comp=Z,146nm,25.5s						
SONM	**Songino Array**	**69.24**	**327**	P	**P**	**06 30 46.1**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.1,baz=137,slow=6.2,SNR=15						
BILL	**Bilibino**	**75.01**	**4**	*eP*	**P**	**06 31 20.8**	**+0.2**
	comp=Z,12nm,1.1s,mb4.5						
WMQ	**Urumqi**	**78.79**	**317**	*eP*	**P**	**06 31 43.2**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.9						
WMQ				LR	LR		
	comp=N,51nm,20.0s						
WMQ				LR	LR		
	comp=E,42nm,20.0s						
WMQ				LR	LR		
	comp=Z,62nm,20.0s						
IMA2	**Indian Mountai**	**81.49**	**19**	*eP*	**P**	**06 31 57.0**	**+0.7**
MCK	**McKinley**	**81.74**	**22**	*eP*	**P**	**06 31 56.6**	**-1.0**
	comp=Z,4.3nm,0.9s,mb4.3						
COLA	**College**	**82.77**	**21**	*eP*	**P**	**06 32 01.7**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**83.23**	**180**	*eP*	**P**	**06 32 04.8**	**-0.5**
	comp=Z,7.1nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**83.36**	**319**	P	**P**	**06 32 05.5**	**-0.5**
	comp=Z,2.3nm,1.0s,mb4.0,baz=100,slow=5.2,SNR=6.8						
ZAL	**Zalesovo**	**84.10**	**326**	P	**P**	**06 32 09.0**	**-0.8**
	comp=Z,1.7nm,0.4s,mb4.3,baz=44,slow=10.0,SNR=4.3						
ZAL				LR	LR	07 11 22.0	
	comp=Z,64nm,19.5s,baz=262,slow=37						
MAW	**Mawson**	**84.71**	**203**	P	**P**	**06 32 13.1**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=51,slow=9.4,SNR=5.1						
NVAR	**Mina Array Bea**	**91.39**	**52**	P	**P**	**06 32 46.5**	**+1.7**
	comp=Z,0.8nm,0.7s,mb4.0,baz=271,slow=8.2,SNR=5.5						
YKA	**Yellowknife Ar**	**96.01**	**28**	P	**P**	**06 33 05.8**	**-0.2**
	comp=Z,0.6nm,0.4s,mb4.3,baz=266,slow=4.5,SNR=26						
PDAR	**Pinedale Array**	**98.37**	**48**	P	**P**	**06 33 16.5**	**-0.2**
	comp=Z,0.4nm,0.8s,mb4.0,baz=234,slow=4.3,SNR=2.9						
LPAZ	**La Paz**	**131.39**	**119**	PKP	PKPdf	06 38 53.0	+2.1
	comp=Z,3.3nm,1.3s,baz=260,slow=7.5,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**153.17**	**286**	*e*PKPbc	PKPbc	06 39 36.9	+0.6
TOA0				*e*PKPab	PKPab	06 39 49.3	+1.1
TORD	**Torodi Ar. Bea**	**153.17**	**286**	PKPbc	PKPbc	06 39 36.2	-0.1
	comp=Z,1.1nm,0.5s,baz=42,slow=2.3,SNR=20						
TORD				PKPab	PKPab	06 39 47.0	-1.2
	comp=Z,4.7nm,0.8s,baz=81,slow=2.8,SNR=14						

*ISCJB **05** 06:20:05.9±0.3, 4259N±002×109E±002, h3km±6km, Error ellipse: s-maj=3.1km s-min=2.4km az=53.1*
*STR **05** 06:20:06.9±0.2, 4258N×1.11E, h5km±1km, Ml1.9, Error ellipse: s-maj=1.9km s-min=1.5km az=43.0, PRXIMO*
*MDD **05** 06:20:07.4±0.2, 4257N×1.10E, h0km, mbLg1.8/23, Error ellipse: s-maj=1.9km s-min=1.5km az=43.0, PRXIMO*
*CSEM **05** 06:20:07.3±0.1, 4258N×109E, h2km, ML2.4/9, Error ellipse: s-maj=1.0km s-min=0.8km az=122.0*
*LDG **05** 06:20:07.8±0.1, 4261N×109E, h2km, Md2.2/3, Ml2.3/8, Error ellipse: s-maj=2.6km s-min=1.0km az=167.0*
ISC 05 06:20:06.6±0.3, 4259N±002×110E±002, h9km±5km, n59, σ0°75/94, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALF	**Salau**	**0.19**	**21**	Pg	**Pg**	**06 20 11.3**	**+0.8**
SALF				Sg	**Sg**	**06 20 14.1**	**+1.0**
SALF	**Salau**	**0.19**	**21**	P	**Pg**	**06 20 11.4**	**+0.9**
SALF				S	**Sg**	**06 20 14.3**	**+1.2**
CSOR	**Sort**	**0.21**	**173**	P	**Pg**	**06 20 11.1**	**+0.2**
CSOR				S	**Sg**	**06 20 14.0**	**+0.2**
	77nm,0.2s						
PAND	**Andorre**	**0.34**	**101**	P	**Pg**	**06 20 13.2**	**0.0**
PAND				S	**Sg**	**06 20 17.5**	**-0.2**
MLS	**Moulis**	**0.37**	**359**	Pg	**Pg**	**06 20 14.7**	**+0.8**
MLS				Sg	**Sg**	**06 20 19.9**	**+1.1**
MLS	**Moulis**	**0.37**	**359**	P	**Pg**	**06 20 14.7**	**+0.9**
MLS				S	**Sg**	**06 20 19.4**	**+0.6**
MELF	**Melles**	**0.38**	**319**	Pg	**Pg**	**06 20 14.8**	**+0.8**
MELF				Sg	**Sg**	**06 20 20.0**	**+0.9**
MELF	**Melles**	**0.38**	**319**	P	**Pg**	**06 20 14.9**	**+0.8**
MELF				S	**Sg**	**06 20 20.0**	**+0.9**
CORG	**Organya**	**0.39**	**155**	P	**Pg**	**06 20 14.4**	**+0.2**
CORG				S	**Sg**	**06 20 19.5**	**+0.2**
	26nm,0.2s						
GRBF	**Gourbit**	**0.41**	**51**	P	**Pg**	**06 20 15.2**	**+0.7**
RESF	**Ens**	**0.60**	**292**	P	**Pg**	**06 20 18.9**	**+0.6**
RESF				S	**Sg**	**06 20 26.6**	**+0.5**
CLLI	**Llivia**	**0.66**	**99**	P	**Pg**	**06 20 18.9**	**-0.3**
CLLI				S	**Sg**	**06 20 27.7**	**-0.1**
	5.3nm,0.1s						
VALF	**Valcebollere**	**0.70**	**105**	Pg	**Pg**	**06 20 19.7**	**-0.4**
VALF				Sg	**Sg**	**06 20 29.8**	**+0.5**
VALF	**Valcebollere**	**0.70**	**105**	P	**Pg**	**06 20 19.8**	**-0.3**
VALF				S	**Sg**	**06 20 29.9**	**+0.6**
EBIE	**Bielsa**	**0.71**	**278**	Pg	**Pg**	**06 20 20.5**	**+0.2**
	1.5nm,0.3s,SNR=19						
EBIE				Lg		06 20 29.6	
	5.3nm,0.3s,SNR=13						
EBIE	**Bielsa**	**0.71**	**278**	Pg	**Pg**	**06 20 20.5**	**+0.2**
	1.5nm,0.3s,SNR=19						
EPF	**Esparros**	**0.71**	**309**	*e*Pg	**Pg**	**06 20 20.6**	**+0.2**
EPF				*e*Sg	**Sg**	**06 20 30.1**	**+0.4**
	21nm,0.2s						
EPF	**Esparros**	**0.71**	**309**	*e*Pg	**Pg**	**06 20 20.6**	**+0.2**
EPF				*e*Sg	**Sg**	**06 20 30.1**	**+0.4**
	10nm,0.2s						
EMIR	**Miracle**	**0.74**	**155**	Pg	**Pg**	**06 20 20.9**	**0.0**
	2.9nm,0.3s,SNR=20						
EMIR				Lg		06 20 30.9	
	6.7nm,0.3s,SNR=10						
EMIR	**Miracle**	**0.74**	**155**	Pg	**Pg**	**06 20 20.9**	**+0.1**
	2.9nm,0.3s,SNR=20						
CAVN	**Les Avellanes**	**0.75**	**200**	P	**Pg**	**06 20 21.1**	**+0.1**
CAVN				S	**Sg**	**06 20 30.6**	**-0.1**
	17nm,0.2s						
CARF	**Carcanieres**	**0.75**	**80**	Pg	**Pg**	**06 20 21.2**	**+0.1**
CARF				Sg	**Sg**	**06 20 31.2**	**+0.3**
CARF	**Carcanieres**	**0.75**	**80**	P	**Pg**	**06 20 21.2**	**+0.1**
CARF				S	**Sg**	**06 20 30.9**	**+0.1**
VIEF	**Viey**	**0.85**	**291**	S	**Sg**	**06 20 34.3**	**+0.4**
CBRU	**Bruguera**	**0.85**	**110**	P	**Pg**	**06 20 22.7**	**-0.3**
CBRU				S	**Sg**	**06 20 34.9**	**+0.8**
	4.4nm,0.2s						
MTLF	**Montolieu**	**1.11**	**47**	*e*Pg	**Pg**	**06 20 28.3**	**+0.3**
MTLF				*e*Sg	**Sg**	**06 20 42.7**	**+0.2**
	6.2nm,0.2s						
MTLF	**Montolieu**	**1.11**	**47**	*e*Pg	**Pg**	**06 20 28.3**	**+0.3**
MTLF				*e*Sg	**Sg**	**06 20 42.7**	**+0.2**
	3.1nm,0.2s						
EPOB	**Poblet**	**1.23**	**181**	Pg	**Pg**	**06 20 29.9**	**-0.3**
	1.9nm,0.3s,SNR=15						
EPOB				Lg		06 20 46.0	
	7.4nm,0.3s,SNR=15						
EPOB	**Poblet**	**1.23**	**181**	Pg	**Pg**	**06 20 29.9**	**-0.3**
	1.9nm,0.3s,SNR=15						
ETSF	**Etsaut**	**1.26**	**285**	*e*Pn	**Pn**	**06 20 30.9**	**+0.6**
ETSF				*e*Sg	**Sg**	**06 20 47.3**	**+0.1**
	7.6nm,0.2s						
ETSF	**Etsaut**	**1.26**	**285**	*e*Pn	**Pn**	**06 20 30.9**	**+0.6**
ETSF				*e*Sg	**Sg**	**06 20 47.3**	**+0.1**
	3.8nm,0.2s						
CFON	**Fontmartina**	**1.29**	**129**	P	**Pn**	**06 20 31.0**	**+0.3**
CFON				S	**Sb**	**06 20 48.2**	**+0.6**
	16nm,0.2s						
SJAF	**Saint Jean de**	**1.32**	**94**	S	**Sb**	**06 20 49.3**	**+0.8**
EJON	**La Jonquera**	**1.33**	**95**	Pg	**Pg**	**06 20 32.1**	**0.0**
	1.2nm,0.1s,SNR=7.9						
EJON				Lg		06 20 50.1	
	3.5nm,0.3s,SNR=4.8						
EJON	**La Jonquera**	**1.33**	**95**	Pg	**Pg**	**06 20 32.1**	**0.0**
	1.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.45**	**234**	Pg	**Pg**	**06 20 34.1**	**-0.3**
	5.8nm,0.3s,SNR=11						
ESAC				Lg		06 20 52.7	
	28nm,0.3s,SNR=14						
ESAC	**San Caprasio**	**1.45**	**234**	Pg	**Pg**	**06 20 34.1**	**-0.3**
	5.8nm,0.3s,SNR=11						
ERTA	**Horta de San J**	**1.73**	**200**	Pg	**Pg**	**06 20 38.6**	**-1.0**
	1.2nm,0.1s,SNR=7.9						
ERTA				Lg		06 21 01.1	
	12nm,0.2s,SNR=15						
ERTA	**Horta de San J**	**1.73**	**200**	Pg	**Pg**	**06 20 38.6**	**-1.0**
	1.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**1.79**	**288**	*e*Pg	**Pg**	**06 20 41.1**	**+0.2**
SJPF				*e*Sg	**Sg**	**06 21 03.6**	**-0.5**
	5.7nm,0.3s						
SJPF	**Ste Jean**	**1.79**	**288**	*e*Pg	**Pg**	**06 20 41.1**	**+0.2**
SJPF				*e*Sg	**Sg**	**06 21 03.6**	**-0.5**
	2.8nm,0.3s						
IUSE	**Utxeti**	**1.98**	**281**	Lg		06 21 12.0	
	1.3nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**2.02**	**288**	Pg	**Pg**	**06 20 45.2**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
ELIZ				Lg		06 21 12.5	
	2.3nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.02**	**289**	Lg		06 21 13.0	
	8.8nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**2.37**	**354**	*e*Pg	**Pg**	**06 20 52.3**	**+0.4**
LFF				*e*Sg	**Sg**	**06 21 21.7**	**-0.9**
	5.3nm,0.3s						
LFF	**La Frestale**	**2.37**	**354**	*e*Pg	**Pg**	**06 20 52.3**	**+0.4**
LFF				*e*Sg	**Sg**	**06 21 21.7**	**-0.9**
	2.7nm,0.3s						
CAF	**Calviac**	**2.44**	**16**	*e*Pg	**Pg**	**06 20 52.9**	**-0.5**
CAF				*e*Sg	**Sg**	**06 21 23.7**	**-1.3**
	3.0nm,0.2s						
CAF	**Calviac**	**2.44**	**16**	*e*Pg	**Pg**	**06 20 52.9**	**-0.5**
CAF				*e*Sg	**Sg**	**06 21 23.7**	**-1.3**
	1.5nm,0.2s						
LASF	**Ste Croix**	**2.50**	**53**	*e*Pn	**Pn**	**06 20 49.1**	**+1.7**
LASF	**Ste Croix**	**2.50**	**53**	*e*Pg	**Pg**	**06 20 53.9**	**-0.6**
LASF				*e*Sg	**Sg**	**06 21 26.1**	**-0.9**
	1.8nm,0.2s						
LASF	**Ste Croix**	**2.50**	**53**	Pn	**Pn**	**06 20 49.1**	**+1.7**
LASF				Pg	**Pg**	**06 20 53.9**	**-0.6**
LASF				Lg		06 21 26.1	
	0.9nm,0.2s						
LASF	**Ste Croix**	**2.50**	**53**	*e*Pg	**Pg**	**06 20 53.9**	**-0.6**
LASF				*e*Sg	**Sg**	**06 21 26.1**	**-0.9**
	0.9nm,0.2s						
EMOS	**Mosqueruela**	**2.51**	**209**	Pg	**Pg**	**06 20 53.0**	**-1.8**
	0.1nm,0.2s,SNR=7.9						
EMOS				Lg		06 21 25.7	
	1.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.51**	**209**	Pg	**Pg**	**06 20 53.0**	**-1.7**
	0.1nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.73**	**6**	*e*Pg	**Pg**	**06 20 57.3**	**-1.7**
RJF				*e*Sg	**Sg**	**06 21 32.9**	**-1.5**
	3.3nm,0.3s						
RJF	**Les Rejaudoux**	**2.73**	**6**	*e*Pg	**Pg**	**06 20 57.3**	**-1.7**
RJF				*e*Sg	**Sg**	**06 21 32.9**	**-1.5**
	1.6nm,0.3s						
ETOR	**Torete**	**2.95**	**234**	Pg	**Pg**	**06 21 01.0**	**-2.0**
	2.3nm,0.2s,SNR=7.9						
ETOR				Lg		06 21 39.9	
	3.9nm,0.2s,SNR=7.9						
VIVF	**Saint-Julien-l**	**3.44**	**48**	*e*Pg	**Pg**	**06 21 11.4**	**-1.1**
VIVF				*e*Sg	**Sg**	**06 21 56.0**	**-1.2**
	1.3nm,0.2s						
VIVF	**Saint-Julien-l**	**3.44**	**48**	*e*Pg	**Pg**	**06 21 11.4**	**-1.1**
VIVF				*e*Sg	**Sg**	**06 21 56.0**	**-1.2**
	0.6nm,0.2s						

FUNV 05 06:20:17.2, 1212N×7006W, h11km, MW3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOV	**Isla Los Monje**	**0.85**	**286**	*eP*	Pg	06 20 33.1	-0.6
IMOV				*e*S	Sg	06 20 44.4	-0.4
DABV	**Dabajuro**	**1.32**	**205**	*eP*	Pn	06 20 41.3	-0.1
DABV				*e*S	Sb	06 20 58.7	0.0
SIQV	**Siquisique**	**1.48**	**170**	*eP*	Pn	06 20 43.6	-0.1
SIQV				*e*S	Sn	06 21 02.5	-0.6
JACV	**Jacura**	**1.58**	**130**	*eP*	Pn	06 20 44.4	-0.7
JACV				*e*S	Sn	06 21 05.5	-0.1
QARV	**Quebrada Arrib**	**1.95**	**193**	*eP*	Pn	06 20 49.8	-0.4
QARV				*e*S	Sn	06 21 14.2	-0.5
CURV	**Curarigua**	**2.10**	**177**	*eP*	Pn	06 20 51.8	-0.4
CURV				*e*S	Sn	06 21 16.7	-1.5
TEPV	**Terepaima**	**2.31**	**158**	*eP*	Pn	06 20 54.4	-0.7
SANV	**Sanarito**	**2.65**	**169**	*eP*	Pn	06 20 59.1	-0.7
SANV				*e*S	Sn	06 21 29.8	-2.1
VIRV	**Villa del Rosa**	**2.80**	**235**	*eP*	Pn	06 21 01.0	-0.9
VIGV	**El Vigia**	**3.50**	**202**	*eP*	Pn	06 21 10.5	-1.0
VIGV				*e*S	Sn	06 21 50.2	-2.7

*IDC **05** 06:32:03.2±0.8, 4684N×15527E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/23, mbtmp4.0/13, MS3.3/2, Ms1 3.3/2, ms1mx2.7/36, Error ellipse: s-maj=21.3km s-min=19.7km az=92.0*
*ISCJB **05** 06:32:06.3±1.9, 4708N±009×1553E±0.1, h33km±15km, mb4.1/18, MS3.6/2, Error ellipse: s-maj=17.8km s-min=14.0km az=59.3*
*MOS **05** 06:32:10.2±1.8, 4715N×15538E, h67km, mb4.3/11, Error ellipse: s-maj=19.2km s-min=9.8km az=95.3*
ISC 05 06:32:07.5±3.2, 4707N±008×1553E±01, h25km±22km, n36, σ1°01/36, mb4.1/18, MS3.6/2, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.66**	**8**	*e*PN	**Pn**	**06 33 02.5**	**0.0**
SKR				*e*S	**Sn**	**06 33 44.0**	**-0.9**
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
PET	**Petropavlovsk**	**6.35**	**19**	*e*PN	**Pn**	**06 33 37.6**	**-1.8**
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
ASAJ	**Asahikawa**	**9.36**	**256**	LR	LR	06 36 58.1	
	comp=Z,48nm,20.2s,baz=133,slow=32						
ERM	**Erimo**	**10.01**

WRA pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 71.63 315 *e*P **P 06 43 22.5 -4.2**
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
AKASG Malin Array Be 72.09 327 P **P 06 43 31.2 +1.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=34,slow=6.1,SNR=5.9
AKASG Malin Array Be 72.09 327 P **P 06 43 31.2 +1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 73.00 200 P **P 06 43 34.0 -1.0**
comp=Z,1.9nm,0.7s,mb4.2,baz=16,slow=5.7,SNR=25
ASAR Alice Springs 73.00 200 P **P 06 43 34.0 -0.9**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 76.05 62 P **P 06 43 52.5 -0.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=296,slow=4.6,SNR=7.2

*ISCJB **05** 06:47:20.6±0.4, 5889S±005×612W±0.1, h10km, mb4.7/16, MS4.3/19, Error ellipse: s-maj=8.8km s-min=6.8km az=129.5*
*IDC **05** 06:47:20.6±0.6, 5888S×6100W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.5/14, mbtmp4.5/11, ML5.4/2, MS4.3/19, Ms1 4.3/19, ms1mx4.3/22, Error ellipse: s-maj=31.2km s-min=13.9km az=73.0*
*NEIC **05** 06:47:22.5±0.3, 5890S×6107W, h10km, mb5.1/11, Error ellipse: s-maj=11.1km s-min=7.0km az=78.0*
*GCMT **05** 06:47:22.5±0.2, 5894S×6098W, h19km±1km, MW5.2/79, Moment Tensor Solution. s48,c70; s79,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.50±.16; $M_{\theta\theta}$5.00±.16; $M_{\phi\phi}$-5.50±.19; $M_{r\theta}$-2.12±.33; $M_{\theta\phi}$4.09±.13; $M_{r\phi}$2.38±.36; Best double couple: $M_0$7.31000×10^{16} NP1:ϕ_s208.00000°, δ67.00000°, λ-175.00000°. NP2: ϕ_s116.00000°, δ85.00000°, λ-23.00000°. Principal axes: T 6.6790, Plg13.0000°, Azm164.0000°; N 1.2620, Plg67.0000°, Azm285.0000°; P -7.9420, Plg19.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **05** 06:47:23.4, 5890S×6110W, h10km, mB5.2, Ms4.8, Msz4.5*
ISC 05 06:47:22.1±0.4, 5896S±004×612W±01, h10km, n61, σ1§07/41, mb4.7/16, MS4.3/19, 4C-1D, Drake Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**5.72**	**313**	Pn	**Pn**	**06 48 45.9**	**-1.1**
	9.6nm,0.3s,baz=154,slow=15,SNR=86						
USHA				Sn	**Sn**	**06 49 47.2**	**-5.5**
	50nm,0.3s,baz=292,slow=16,SNR=19						
PMSA	**Palmer Station**	**5.98**	**192**	Pn	**Pn**	**06 48 50.0**	**-0.6**
	81nm,0.3s,baz=17,slow=12,SNR=68						
PMSA				Sn	**Sn**	**06 49 55.5**	**-3.7**
	7.5nm,0.3s,baz=271,slow=19,SNR=2.8						
PMSA				LR	LR	06 50 55.6	
	comp=Z,2μm,19.2s,baz=172,slow=35						
PMSA	**Palmer Station**	**5.98**	**192**	*e*Pn	**Pn**	**06 48 50.5**	**-0.1**
	394nm,0.6s						
PMSA				*e*Sn	**Sn**	**06 49 57.7**	**-1.5**
EFI	**East Falkland**	**7.52**	**15**	*e*Pn	**Pn**	**06 49 10.8**	**-1.1**
	113nm,0.7s						
EFI				*e*Sn	**Sn**	**06 50 29.1**	**-8.0**
HOPE	**Hope Point**	**14.36**	**82**	*e*Pn	**Pn**	**06 50 44.9**	**-0.5**
	135nm,0.7s						
HOPE				*e*Sn	**Sn**	**06 53 26.4**	**+1.7**
TRQA	**Tornquist**	**20.93**	**358**	*e*P	**P**	**06 52 05.1**	**+0.3**
	150nm,1.1s						
VNA3	**Neumayer Olymp**	**24.01**	**141**	⇑*i*	**P**	**06 52 37.1**	**+0.2**
VNA3				*e*		06 52 38.7	
VNA3				*e*		06 52 43.8	
VNA3				*e*		06 52 47.0	
VNA3				*e*		06 54 04.4	
VNA1	**Neumayer--Stat**	**24.44**	**140**	⇑*i*	**P**	**06 52 41.9**	**+1.0**
VNA1				*e*		06 52 43.7	
VNA1				*e*		06 52 47.4	
VNA1				*e*		06 52 53.0	
VNA1				*e*		06 54 03.2	
VNA2	**Neumayer--Watz**	**24.73**	**141**	⇑*i*	**P**	**06 52 43.9**	**+0.3**
	baz=275,slow=11						
VNA2				*e*		06 52 45.7	
VNA2				*e*		06 52 49.8	
VNA2				*e*		06 52 54.2	
VNA2				*e*		06 54 04.7	
SNAA	**Sanae**	**26.20**	**142**	P	**P**	**06 52 57.3**	**+0.4**
	32nm,0.9s,mb4.9,baz=275,slow=7.5,SNR=119						
SNAA				LR	LR	07 01 14.8	
	comp=Z,198nm,21.9s,MS3.6,baz=275,slow=32						
SNAA	**Sanae**	**26.20**	**142**	⇑*i*	**P**	**06 52 57.1**	**+0.2**
SNAA				*e*	pP	06 52 58.7	-1.2
SNAA				*e*		06 53 03.3	
SNAA				*e*		06 53 06.9	
SNAA	**Sanae**	**26.20**	**142**	*e*P	**P**	**06 52 57.2**	**+0.3**
	308nm,1.4s,mb5.6						
CFAA	**Coronel Fontan**	**27.77**	**347**	P	**P**	**06 53 09.8**	**-1.1**
	4.6nm,1.0s,mb4.1,baz=173,slow=9.4,SNR=32						
CFAA				LR	LR	07 05 08.4	
	comp=Z,87nm,18.2s,MS3.4,baz=200,slow=38						
MAIT	**Maitri**	**30.99**	**142**	*e*P	**P**	**06 53 38.4**	**-1.1**
QSPA	**South Pole Qui**	**31.27**	**180**	*e*P	**P**	**06 53 42.6**	**+0.6**
	51nm,0.5s,mb5.6						
SYO	**Syowa Base**	**40.29**	**147**	⇓*e*P	**P**	**06 54 57.8**	**-1.6**
SBA	**Scott Base**	**40.32**	**194**	*e*P	**P**	**06 55 01.6**	**+2.0**
	33nm,1.3s,mb4.9						
VNDA	**Vanda**	**41.19**	**193**	P	**P**	**06 55 07.9**	**+1.1**
	3.6nm,1.0s,mb4.0,baz=151,slow=7.9,SNR=7.0						
VNDA				LR	LR	07 10 33.0	
	comp=Z,356nm,18.2s,MS4.3,baz=147,slow=34						
VNDA	**Vanda**	**41.19**	**193**	*e*P	**P**	**06 55 08.2**	**+1.4**
	11nm,1.3s,mb4.3						
SIV	**San Ignacio**	**42.90**	**0**	P	**P**	**06 55 20.0**	**-0.7**
	10nm,1.0s,mb4.5,baz=181,slow=7.7,SNR=32						
SIV				PP	PP	06 56 59.8	-0.5
	8.3nm,1.1s,baz=200,slow=8.9,SNR=4.8						
LPAZ	**La Paz**	**42.91**	**350**	P	**P**	**06 55 22.0**	**+1.2**
	4.7nm,0.8s,mb4.2,baz=141,slow=8.7,SNR=14						
LPAZ				LR	LR	07 14 35.6	
	comp=Z,359nm,19.1s,MS4.3,baz=152,slow=38						
LPAZ	**La Paz**	**42.91**	**350**	*e*P	**P**	**06 55 21.9**	**+1.0**
	7.5nm,0.8s,mb4.5						
ARE	**Arequipa**	**43.10**	**346**	*e*P	**P**	**06 55 23.0**	**+0.6**
MAW	**Mawson**	**47.26**	**154**	P	**P**	**06 55 54.5**	**-0.9**
	18nm,1.0s,mb5.0,baz=208,slow=7.9,SNR=19						
MAW				LR	LR	07 14 37.6	
	comp=Z,825nm,21.7s,MS4.7,baz=222,slow=35						
MAW	**Mawson**	**47.26**	**154**	*e*P	**P**	**06 55 55.1**	**-0.3**
	28nm,1.1s,mb5.1						
OTAV	**Otavalo**	**60.57**	**340**	*e*P	**P**	**06 57 34.6**	**+1.9**
	37nm,1.2s,mb5.4						
RKT	**Rikitea**	**62.13**	**271**	*e*S	**S**	**07 06 10.7**	**+2.3**
	112nm,31.7s						
RKT				*e*LR	LR	07 16 20.4	
	553nm,27.8s,baz=142						
BOSA	**Boshof**	**64.19**	**103**	P	**P**	**06 57 55.5**	**-1.5**
	4.8nm,0.9s,mb4.5,baz=164,slow=17,SNR=2.2						
BOSA				LR	LR	07 20 50.2	
	comp=Z,204nm,18.3s,MS4.3,baz=212,slow=31						
ROSC	**El Rosal**	**64.47**	**346**	P	**P**	**06 57 57.8**	**-1.0**
	4.3nm,0.9s,mb4.5,baz=289,slow=23,SNR=3.2						
ROSC				LR	LR	07 25 36.6	
	comp=Z,298nm,18.1s,MS4.5,baz=180,slow=36						
ROSC	**El Rosal**	**64.47**	**346**	*e*P	**P**	**06 57 59.4**	**+0.6**
LBTB	**Lobatse**	**67.32**	**101**	*e*P	**P**	**06 58 16.4**	**-0.7**
	14nm,1.0s,mb4.9						
TSUM	**Tsumeb**	**68.00**	**91**	*e*P	**P**	**06 58 21.6**	**+0.2**
	6.4nm,1.0s,mb4.6						
SDV	**Santo Domingo**	**68.05**	**350**	LR	LR	07 31 01.9	
	comp=Z,258nm,18.7s,MS4.5,baz=239,slow=39						
PCRV	**Puerto La Cruz**	**68.96**	**356**	LR	LR	07 28 56.5	
	comp=Z,568nm,21.0s,MS4.8,baz=351,slow=36						
TBI	**Tubuai**	**69.40**	**259**	*e*S	S	07 07 38.8	+1.5
	122nm,26.5s						
TBI				*e*LR	LR	07 19 29.1	
	590nm,31.0s,baz=153						
JTS	**JuntasAbangare**	**71.64**	**335**	LR	LR	07 26 55.8	
	comp=Z,268nm,18.3s,MS4.5,baz=86,slow=33						
PPT	**Papeete**	**74.28**	**262**	*e*S	S	07 08 34.8	+1.4
	107nm,32.0s						
PPT				*e*LR	LR	07 21 43.3	
	388nm,31.2s,baz=149						
PPT	**Papeete**	**74.28**	**262**	LR	LR	07 23 27.6	
	comp=Z,140nm,19.7s,MS4.3,baz=255,slow=29						
TAOE	**Nuku Hiva Isla**	**76.75**	**275**	*e*LR	LR	07 22 58.9	
	793nm,26.9s						
LSZ	**Lusaka**	**76.76**	**98**	*e*P	**P**	**06 59 14.0**	**+0.2**
	10.0nm,1.0s,mb4.7						
CMIG	**Matias Romero**	**80.64**	**328**	LR	LR	07 29 44.3	
	comp=Z,226nm,18.1s,MS4.6,baz=192,slow=32						
TEIG	**Tepich**	**81.98**	**334**	LR	LR	07 29 53.8	
	comp=Z,97nm,19.5s,MS4.2,baz=139,slow=31						
TORD	**Torodi Ar. Bea**	**87.91**	**60**	P	**P**	**07 00 10.4**	**-1.6**
	2.4nm,1.1s,mb4.3,baz=214,slow=4.8,SNR=5.7						
TORD				PP	PP	07 03 34.2	-3.8
	1.6nm,1.1s,baz=218,slow=7.7,SNR=4.1						
TORD				LR	LR	07 33 15.8	
	comp=Z,143nm,19.6s,MS4.4,baz=195,slow=31						
LPIG	**La Paz**	**92.13**	**316**	LR	LR	07 33 31.5	
	comp=Z,164nm,20.8s,MS4.5,baz=139,slow=30						
KMBO	**Kilima Mbogo**	**93.42**	**98**	LR	LR	07 36 48.5	
	comp=Z,206nm,20.3s,MS4.6,baz=125,slow=32						
TXAR	**Lajitas Array**	**94.76**	**324**	P	**P**	**07 00 44.7**	**+0.9**
	1.0nm,0.9s,mb4.2,baz=150,slow=5.1,SNR=7.5						
TXAR				LR	LR	07 37 42.7	
	comp=Z,157nm,18.0s,MS4.5,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**94.76**	**324**	P	**P**	**07 00 44.7**	**+0.9**
TXAR				LR	LR	07 37 42.7	
TKL	**Tuckaleechee C**	**96.12**	**342**	LR	LR	07 47 17.8	
	comp=Z,114nm,18.6s,MS4.4,baz=252,slow=37						
ASAR	**Alice Springs**	**96.73**	**194**	PP	PP	07 04 46.6	-0.8
	1.6nm,1.0s,baz=181,slow=8.2,SNR=7.3						
WRA	**Warramunga Arr**	**100.34**	**195**	P	Pdif	07 01 07.8	-1.2
	1.2nm,0.9s,baz=185,slow=3.6,SNR=7.5						
BRTR	**Keskin Array B**	**125.34**	**70**	PKP	PKPdf	07 06 23.2	+0.1
	0.4nm,0.6s,baz=180,slow=9.5,SNR=3.0						
YKA	**Yellowknife Ar**	**127.88**	**332**	PKP	PKPdf	07 06 25.8	-2.2
	1.5nm,0.8s,baz=151,slow=2.0,SNR=11						
AKASG	**Malin Array Be**	**131.51**	**58**	PKP	PKPdf	07 06 33.3	-1.5
	0.5nm,0.4s,baz=250,slow=1.9,SNR=4.9						
INK	**Inuvik**	**137.34**	**328**	*e*PKPdf	PKPdf	07 06 46.7	+0.9
LSA	**Lhasa**	**145.19**	**135**	*e*PKP	PKPdf	07 06 59.0	-0.9
LSA	**Lhasa**	**145.19**	**135**	*e*PKPbc	PKPbc	07 06 59.5	0.0
BRVK	**Borovoye**	**152.78**	**81**	*e*PKPbc	PKPbc	07 07 18.0	-1.2
BVAR	**Borovoye Array**	**152.81**	**81**	PKPbc	PKPbc	07 07 18.1	-1.1
	4.1nm,0.7s,baz=248,slow=2.2,SNR=21						
CHKZ	**Chkalovo**	**153.27**	**80**	*e*PKPbc	PKPbc	07 07 18.6	-1.7
WMQ	**Urumqi**	**155.69**	**115**	*e*PKP	PKPdf	07 07 18.5	+2.3
WMQ				LR	LR		
	comp=N,66nm,22.0s,MS4.4						
WMQ				LR	LR		
	comp=E,23nm,22.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,63nm,28.0s						
SONM	**Songino Array**	**166.66**	**141**	PKPab	PKPab	07 08 29.3	-1.0
	comp=Z,3.1nm,0.8s,baz=208,slow=4.6,SNR=21						

*STR **05** 06:49:05.2±0.2, 4309N×0.11W, h3km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 06:49:05.7±0.1, 4304N×0.12W, h2km, Md2.2/2, Ml2.3/4, Error ellipse: s-maj=3.2km s-min=2.0km az=169.0*
MDD 05 06:49:06.0±0.3, 4307N×012W, h0km, mbLg1.5/15, 1D, Error ellipse: s-maj=2.5km s-min=1.6km az=18.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.15**	**100**	Pg	Pg	06 49 08.3	-0.5
LABF				Sg	Sg	06 49 10.5	-0.2
LABF	**Labassere**	**0.15**	**100**	P	Pg	06 49 08.4	-0.5
LABF				S	Sg	06 49 10.6	-0.1
REYF	**Montagne du Re**	**0.20**	**269**	P	Pg	06 49 09.3	-0.5
REYF				S	Sg	06 49 12.5	+0.1
VIEF	**Viey**	**0.22**	**150**	Pg	Pg	06 49 10.0	-0.2
VIEF				Sg	Sg	06 49 13.3	+0.3
VIEF	**Viey**	**0.22**	**150**	P	Pg	06 49 10.1	-0.1
VIEF				S	Sg	06 49 13.1	+0.1
EPF	**Esparros**	**0.34**	**97**	*e*Pg	Pg	06 49 11.8	-0.8
EPF				*e*Sg	Sg	06 49 16.6	-0.4
	29nm,0.3s						
EPF	**Esparros**	**0.34**	**97**	Pg	Pg	06 49 11.8	-0.8
EPF				Lg		06 49 16.6	
	14nm,0.3s						
ETSF	**Etsaut**	**0.36**	**242**	*e*Pg	Pg	06 49 12.6	-0.4
ETSF				*e*Sg	Sg	06 49 16.9	-0.8
	39nm,0.3s						
ETSF	**Etsaut**	**0.36**	**242**	Pg	Pg	06 49 12.6	-0.4
ETSF				Lg		06 49 16.9	
	20nm,0.3s						
ATE	**Arette**	**0.42**	**272**	Pg	Pg	06 49 13.5	-0.6
ATE				Sg	Sg	06 49 19.7	+0.1
ATE	**Arette**	**0.42**	**272**	P	Pg	06 49 13.5	-0.6
ATE				S	Sg	06 49 19.2	-0.4
EBIE	**Bielsa**	**0.43**	**153**	⇓Pg	Pg	06 49 14.0	-0.3
	1.0nm,0.1s,SNR=18						
EBIE				Lg		06 49 20.1	
	6.1nm,0.1s,SNR=27						
SJPF	**Ste Jean**	**0.81**	**273**	*e*Pg	Pg	06 49 21.2	-0.3
SJPF				*e*Sg	Sg	06 49 32.4	+0.4
	2.4nm,0.3s						
SJPF	**Ste Jean**	**0.81**	**273**	Pg	Pg	06 49 21.2	-0.3
SJPF				Lg		06 49 32.4	
	1.2nm,0.3s						
IPRE	**Itoiz**	**0.94**	**254**	Lg		06 49 37.6	
	1.6nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.05**	**264**	Lg		06 49 40.5	
	1.5nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.37**	**191**	Pg	Pg	06 49 33.0	+0.7
	3.5nm,0.1s,SNR=7.9						
ESAC				Lg		06 49 51.1	
	34nm,0.3s,SNR=8.2						
EMIR	**Miracle**	**1.68**	**133**	Lg		06 50 01.9	
	3.7nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.73**	**80**	*e*Pg	Pg	06 49 38.1	-1.1
MTLF				*e*Sg	Sg	06 50 00.1	-1.6
	4.7nm,0.2s						
MTLF	**Montolieu**	**1.73**	**80**	Pg	Pg	06 49 38.1	-1.1
MTLF				Lg		06 50 00.1	
	2.3nm,0.2s						
EPOB	**Poblet**	**1.94**	**152**	Pg	Pg	06 49 41.2	-1.9
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		06 50 07.6	
	1.4nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.97**	**18**	*e*Pg	Pg	06 49 43.4	-0.3
LFF				*e*Sg	Sg	06 50 10.4	+1.2
	6.3nm,0.3s						
LFF	**La Frestale**	**1.97**	**18**	Pg	Pg	06 49 43.4	-0.3
LFF				Lg		06 50 10.4	
	3.2nm,0.3s						
ERTA	**Horta de San J**	**2.14**	**171**	Lg		06 50 13.5	
	1.9nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.43**	**40**	*e*Pg	Pg	06 49 50.9	-1.8
CAF				*e*Sg	Sg	06 50 22.2	-2.0
	2.4nm,0.2s						
CAF	**Calviac**	**2.43**	**40**	Pg	Pg	06 49 50.9	-1.8
CAF				Lg		06 50 22.2	
	1.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.52**	**27**	*e*Pg	Pg	06 49 53.8	-0.6
RJF				*e*Sg	Sg	06 50 27.0	-0.1
	2.5nm,0.3s						
RJF	**Les Rejaudoux**	**2.52**	**27**	Pg	Pg	06 49 53.8	-0.6
RJF				Lg		06 50 27.0	
	1.2nm,0.3s						
EMOS	**Mosqueruela**	**2.72**	**186**	Lg		06 50 34.7	
	1.1nm,0.1s,SNR=4.0						

IDC 05 06:53:32.9±1.7, 296S×13033E, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML3.9/2, Error ellipse: s-maj=80.2km s-min=25.2km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.73**	**197**	Pn	Pn	06 57 16.2	+0.4
	0.2nm,0.3s,baz=26,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**17.33**	**167**	P	Pn	06 57 34.7	-1.4
	0.7nm,0.3s,baz=347,slow=12,SNR=29						
ASAR	**Alice Springs**	**20.87**	**171**	P	P	06 58 16.6	+0.2
	6.0nm,0.4s,baz=345,slow=10,SNR=161						
STKA	**Stephens Creek**	**30.66**	**161**	P	P	06 59 49.5	+0.5
	1.2nm,0.3s,baz=339,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**65.07**	**326**	P	P	07 04 15.6	+0.4
	0.6nm,0.8s,baz=114,slow=7.1,SNR=4.2						
VNDA	**Vanda**	**76.39**	**173**	P	P	07 05 23.7	-0.4
	0.7nm,1.0s,baz=333,slow=4.4,SNR=3.1						

*ISCJB **05** 07:24:03.5±1.1, 12.17N±008×88.11W±007, h59km±12km, mb4.3/21, Error ellipse: s-maj=15.4km s-min=9.1km az=74.9*
*IDC **05** 07:24:03.9±4.9, 1244N×8790W, h33km±38km, mb3.8/7, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, ML3.3/3, Error ellipse: s-maj=43.5km s-min=18.8km az=42.0*
*CASC **05** 07:24:03.9±3.5, 12.12N×8806W, h20km±19km, MD4.1, mb4.5(NEIC)*
*NEIC **05** 07:24:04.4±1.5, 12.19N×8804W, h52km±14km, mb4.5/14, Error ellipse: s-maj=24.9km s-min=12.0km az=214.0*
ISC 05 07:24:05.1±0.9, 1225N±008×8807W±007, h51km±11km, n51, σ1§11/46, mb4.3/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.19**	**351**	*e*P	x	07 24 46.2	
VSM				*e*S	x	07 25 05.0	
BLLM	**Bellamira**	**1.20**	**352**	*e*P	x	07 24 46.1	
BLLM				*e*S	x	07 25 05.2	
MOMJ	**Momotombo**	**1.51**	**84**	*e*P	**Pn**	**07 24 29.4**	**-0.3**
MOMJ				*e*S	**Sn**	**07 24 52.4**	**+4.2**
XAVN	**Gruta Xavier**	**1.71**	**93**	*e*P	**Pn**	**07 24 32.1**	**-0.4**
XAVN				*e*S	**Sn**	**07 24 53.0**	**-0.2**
LBRS	**Las Brisas**	**1.76**	**328**	*e*P	x	07 24 52.8	
LBRS				*e*S	x	07 25 17.5	
MGAN	**Managua**	**1.79**	**93**	*e*P	**Pn**	**07 24 33.3**	**-0.2**
MGAN				*e*S	**Sn**	**07 24 56.5**	**+1.4**
TICN	**Ticuantepe**	**1.81**	**97**	*e*P	**Pn**	**07 24 33.9**	**0.0**
SNET	**Serv Nac Est T**	**1.82**	**322**	*e*P	x	07 24 30.1	
SNET				*e*S	x	07 24 53.0	
BOQS	**Boqueron**	**1.89**	**322**	*e*P	x	07 24 54.2	
BOQS				*e*S	x	07 25 19.9	
TGUH	**Tegucigalpa,Un**	**1.96**	**23**	*e*Pn	**Pn**	**07 24 36.7**	**+0.8**
SBLS	**San Blas**	**2.19**	**316**	*e*P	x	07 24 57.8	
SBLS				*e*S	x	07 25 26.3	
SNJE	**San Jose**	**2.19**	**317**	*e*P	x	07 24 58.6	
SNJE				*e*S	x	07 25 25.5	
RTR	**El Retiro**	**2.24**	**317**	*e*P	x	07 24 59.2	
RTR				*e*S	x	07 25 27.7	
BOAB	**BOACO BROADBAN**	**2.36**	**85**	*e*P	**Pn**	**07 24 40.7**	**-0.6**
BOAB				*e*S	**Sn**	**07 25 09.0**	**-0.1**
SSNN	**San Juan del S**	**2.38**	**113**	*e*P	**Pn**	**07 24 43.9**	**+2.3**
MTO2	**Montecristo 2**	**2.48**	**330**	*e*P	x	07 25 03.7	
MTO2				*e*S	x	07 25 34.4	
CONN	**Concepcion**	**2.49**	**106**	*e*P	**Pn**	**07 24 42.9**	**-0.2**
CONN				*e*S	**Sn**	**07 25 11.8**	**-0.5**
MADN	**Villa Maderas**	**2.62**	**108**	*e*P	**Pn**	**07 24 44.7**	**-0.2**
JTS	**JuntasAbangare**	**3.63**	**122**	Pn	**Pn**	**07 24 56.6**	**-2.1**
	1.8nm,0.3s,baz=302,slow=22,SNR=5.6						
JTS				Sn	**Sn**	**07 25 40.6**	**+0.3**
	5.2nm,0.3s,baz=279,slow=21,SNR=3.7						
JTS	**JuntasAbangare**	**3.63**	**122**	*e*Pn	**Pn**	**07 24 57.1**	**-1.6**
LCR2	**La Lucha 2**	**4.71**	**122**	*e*P	**Pn**	**07 25 14.1**	**+0.5**
BUS	**Buena Vista**	**5.01**	**122**	*e*P	**Pn**	**07 25 18.0**	**+0.3**
CMIG	**Matias Romero**	**8.16**	**307**	Pn	**Pn**	**07 25 59.2**	**-1.6**
	0.4nm,0.3s,baz=126,slow=7.7,SNR=15						
SDV	**Santo Domingo**	**17.47**	**99**	P	**Pn**	**07 28 04.7**	**-0.3**
	0.2nm,0.3s,baz=315,slow=9.4,SNR=3.7						
JCT	**Junction City**	**21.14**	**331**	*e*P	**P**	**07 28 45.3**	**-0.4**
	8.1nm,0.6s,mb4.2						
LTX	**Lajitas**	**22.35**	**322**	*e*P	**P**	**07 29 01.6**	**+3.0**
	5.2nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**22.35**	**322**	P	**P**	**07 28 58.5**	**-0.1**
	2.9nm,0.8s,mb3.8,baz=143,slow=11,SNR=30						
TXAR	**Lajitas Array**	**22.35**	**322**	P	**P**	**07 28 58.5**	**-0.1**
MIAR	**Mount Ida**	**22.75**	**348**	*e*P	**P**	**07 29 03.4**	**+0.6**
	19nm,0.8s,mb4.6						
UALR	**University of**	**22.76**	**351**	*e*P	**P**	**07 29 03.3**	**+0.4**
	10nm,0.8s,mb4.3						
TKL	**Tuckaleechee C**	**23.63**	**9**	P	**P**	**07 29 11.4**	**-0.1**
	6.6nm,0.7s,mb4.2,baz=170,slow=9.9,SNR=6.3						
WMOK	**Wichita Mounta**	**24.41**	**338**	*e*P	**P**	**07 29 18.3**	**-0.4**
	7.4nm,1.1s,mb4.0						
AMTX	**Amarillo**	**25.70**	**334**	*e*P	**P**	**07 29 30.2**	**-0.1**
	14nm,1.0s,mb4.5						
ANMO	**Albuquerque**	**28.09**	**327**	P	**P**	**07 29 53.6**	**+1.8**
	0.8nm,0.9s,mb3.4,baz=148,slow=7.3,SNR=3.8						
SDCO	**Great Sand Dun**	**29.79**	**331**	*e*P	**P**	**07 30 08.6**	**+1.7**
	5.1nm,1.1s,mb4.2						
RSSD	**Black Hills**	**34.60**	**340**	*e*P	**P**	**07 30 49.8**	**+0.7**
	2.2nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**35.66**	**332**	P	**P**	**07 30 59.0**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=128,slow=8.5,SNR=6.5						
PDAR				PcP	PcP	07 33 26.3	+0.6
	0.5nm,0.6s,baz=117,slow=5.4,SNR=5.3						
AGMN	**Agassiz Refuge**	**36.52**	**351**	*e*P	**P**	**07 31 04.0**	**-1.6**
	11nm,0.9s,mb4.7						
REDW	**Red Top Meadow**	**36.72**	**332**	*e*P	**P**	**07 31 07.0**	**-0.2**
	9.9nm,1.0s,mb4.6						
SNOW	**Snow King Moun**	**36.75**	**332**	*e*P	**P**	**07 31 07.9**	**+0.4**
	11nm,0.9s,mb4.7						
RLMT	**Red Lodge**	**37.43**	**335**	*e*P	**P**	**07 31 12.0**	**-1.2**
	26nm,0.9s,mb5.1						
NVAR	**Mina Array Bea**	**37.45**	**319**	P	**P**	**07 31 15.1**	**+1.6**
	0.7nm,0.8s,mb3.6,baz=116,slow=4.1,SNR=3.9						
NVAR				PcP	PcP	07 33 33.1	+2.0
	0.7nm,0.7s,baz=151,slow=3.8,SNR=5.7						
YMR	**Madison River**	**37.79**	**333**	*e*P	**P**	**07 31 14.7**	**-1.6**
	14nm,1.2s,mb4.5						
ULM	**Lac

SEDN	**First Sedna Si**	**11.32**	**258**	PN	Pn	07 29 56.4	-2.7
SEDN				SN	Sn	07 31 54.7	-10
SEDN				LG		07 32 59.1	
YRTN	**Rankin Inlet**	**11.91**	**257**	PN	Pn	07 30 05.0	-2.2
YRTN				SN	Sn	07 32 07.5	-12
YRTN				LG		07 33 19.3	
SCHQ	**Schefferville**	**13.15**	**182**	PN	Pn	07 30 21.3	-2.8
SCHQ				SN	Sn	07 32 35.3	-14
EUNU	**Eureka**	**13.25**	**345**	PN	Pn	07 30 31.3	+5.8
LG4Q	**La Grande 4**	**14.84**	**199**	PN	Pn	07 30 41.2	-6.0
LG4Q				SN	Sn	07 33 15.7	-15
FCC	**Fort Churchill**	**15.38**	**247**	PN	Pn	07 30 58.4	+4.0
FCC				SN	Sn	07 33 31.4	-13
FCC				LG		07 35 07.2	
SILO	**Sutton Inlier**	**16.12**	**223**	PN	Pn	07 30 58.4	-5.6
SILO				SN	Sn	07 33 48.0	-14
VIMO	**Victor Mine**	**17.36**	**218**	PN	Pn	07 31 14.7	-4.8

MAN 05 07:47:46.9, 999N×12614E, h13km, mb2.5, ML4.0, MS2.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.68**	**252**	*e*P	Pg	07 47 60.0	-0.1
SCPH				*e*S	Sg	07 48 10.5	+1.6
MSLP	**Maasin**	**1.27**	**277**	*e*P	Pn	07 48 10.0	-0.3
MSLP				*e*S	Sb	07 48 27.3	+0.3
PLP	**Palo**	**1.63**	**316**	*e*P	Pn	07 48 14.1	-1.2
PLP				*e*S	Sn	07 48 37.2	+1.0
CGP	**Cagayan de Oro**	**2.09**	**223**	⇓*i*P	Pn	07 48 14.5	-7.1
BUKP	**Musuan**	**2.35**	**207**	*e*P	Pn	07 48 25.6	+0.4

CASC 05 08:01:45.7±2.8, 1230N×8754W, h43km±46km, MD3.4, ML3.5, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.63**	**50**	*e*P	Pn	08 01 58.3	+0.1
CRIN				*e*S	Sn	08 02 09.4	+2.3
CRIN				*i*		08 02 09.7	
	comp=E,10μm,0.2s						
TELN	**Telica**	**0.76**	**66**	*e*P	Pn	08 02 01.4	+1.4
TELN				*e*S	Sn	08 02 11.5	+1.2
MOMJ	**Momotombo**	**0.99**	**84**	*e*P	Pn	08 02 03.0	-0.1
MOMJ				*e*S	Sn	08 02 16.2	+0.4
CNCH	**Conchagua**	**1.01**	**344**	*e*P	x	08 02 24.4	
CNCH				*e*S	x	08 02 36.2	
XAVN	**Gruta Xavier**	**1.20**	**97**	*e*P	Pn	08 02 05.8	-0.1
XAVN				*e*S	Sn	08 02 19.8	-1.2
MGAN	**Managua**	**1.28**	**97**	⇓*e*P	Pn	08 02 07.0	0.0
MGAN				*e*S	Sn	08 02 23.4	+0.4
MGAN				*i*		08 02 24.2	
	comp=E,564nm,0.4s						
TICN	**Ticuantepe**	**1.31**	**101**	*e*P	Pn	08 02 07.7	+0.2
TICN				*e*S	Sn	08 02 25.0	+1.2
BOAB	**BOACO BROADBAN**	**1.84**	**85**	⇓*e*P	Pn	08 02 14.3	-0.5
BOAB				*e*S	Sn	08 02 38.8	+1.9

*NEIC **05** 08:07:15.9, 4021S×17375E, h154km, MG4.3(WEL), After WEL.*

WEL 05 08:07:16.4±0.2, 4022S×17376E, h147km±2km, ML4.3/22, 17C-4D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.60**	**168**	⇑PN	Pn	08 07 38.2	+0.3
DUWZ				SN	Sn	08 07 54.0	-0.3
NRZ	**Ngariki Road**	**0.89**	**9**	P	Pn	08 07 40.2	+0.2
NRZ				S	Sn	08 07 58.3	+0.4
DFE	**Dawson Falls**	**0.93**	**17**	P	Pn	08 07 40.6	+0.3
DFE	**Dawson Falls**	**0.93**	**17**	PN	Pn	08 07 40.6	+0.4
NWEZ	**Newall Road**	**0.94**	**5**	P	Pn	08 07 40.7	+0.3
NWEZ	**Newall Road**	**0.94**	**5**	⇓PN	Pn	08 07 40.7	+0.3
NZE	**North Egmont**	**0.98**	**16**	P	Pn	08 07 40.3	-0.4
NNZ	**Nelson**	**1.04**	**196**	P	Pn	08 07 41.2	0.0
NNZ				S	Sn	08 07 58.9	-1.3
NNZ	**Nelson**	**1.04**	**196**	⇑PN	Pn	08 07 41.2	0.0
NNZ				SN	Sn	08 07 59.2	-1.0
RAEZ	**Rainy Point**	**1.05**	**28**	P	Pn	08 07 41.4	+0.1
RAEZ	**Rainy Point**	**1.05**	**28**	PN	Pn	08 07 41.4	+0.1
WAZ	**Wanganui**	**1.05**	**64**	P	Pn	08 07 42.0	+0.7
WAZ	**Wanganui**	**1.05**	**64**	PN	Pn	08 07 41.7	+0.4
TCW	**Tory Channel**	**1.07**	**159**	P	Pn	08 07 41.9	+0.4
TCW				S	Sn	08 07 59.5	-1.2
TCW	**Tory Channel**	**1.07**	**159**	⇑PN	Pn	08 07 41.8	+0.3
TCW				SN	Sn	08 07 59.4	-1.2
KIW	**Kapiti Island**	**1.09**	**127**	P	Pn	08 07 41.8	+0.1
KIW				S	Sn	08 07 59.3	-1.7
KIW	**Kapiti Island**	**1.09**	**127**	⇑PN	Pn	08 07 41.8	+0.1
KIW				SN	Sn	08 07 59.3	-1.7
QRZ	**Quartz Range**	**1.12**	**236**	P	Pn	08 07 41.5	-0.4
QRZ				S	Sn	08 07 59.4	-2.0
QRZ	**Quartz Range**	**1.12**	**236**	⇑PN	Pn	08 07 41.4	-0.5
QRZ				SN	Sn	08 07 59.4	-2.0
TUWZ	**Tuamarina**	**1.22**	**173**	PN	Pn	08 07 42.8	-0.1
MRW	**Makara Radio**	**1.24**	**145**	P	Pn	08 07 43.3	+0.2
MRW	**Makara Radio**	**1.24**	**145**	⇑PN	Pn	08 07 43.3	+0.2
SNZO	**South Karori**	**1.31**	**147**	P	Pn	08 07 43.8	0.0
SNZO	**South Karori**	**1.31**	**147**	⇑PN	Pn	08 07 43.8	0.0
WEL	**Wellington**	**1.32**	**145**	P	Pn	08 07 44.0	+0.2
WEL	**Wellington**	**1.32**	**145**	⇑PN	Pn	08 07 43.9	+0.1
VRZ	**Vera Road**	**1.34**	**36**	P	Pn	08 07 43.6	-0.4
VRZ	**Vera Road**	**1.34**	**36**	PN	Pn	08 07 43.6	-0.4
CAW	**Cannon Point**	**1.34**	**132**	P	Pn	08 07 44.2	+0.1
CAW	**Cannon Point**	**1.34**	**132**	⇑PN	Pn	08 07 44.2	+0.1
BHW	**Baring Head**	**1.46**	**145**	P	Pn	08 07 45.2	-0.1
BHW	**Baring Head**	**1.46**	**145**	⇑PN	Pn	08 07 45.2	-0.1
MRZ	**Mangatainoka R**	**1.46**	**108**	P	Pn	08 07 45.2	-0.1
MRZ	**Mangatainoka R**	**1.46**	**108**	⇑PN	Pn	08 07 45.2	-0.1
BSWZ	**Blackbirch Sta**	**1.50**	**177**	P	Pn	08 07 45.9	+0.2
BSWZ	**Blackbirch Sta**	**1.50**	**177**	PN	Pn	08 07 45.9	+0.2
PKVZ	**Pokaka**	**1.54**	**54**	PN	Pn	08 07 45.9	-0.2
MTVZ	**Mangateitei**	**1.56**	**58**	PN	Pn	08 07 46.3	0.0
MTW	**Mount Morrison**	**1.63**	**126**	P	Pn	08 07 47.0	-0.1
MTW	**Mount Morrison**	**1.63**	**126**	⇑PN	Pn	08 07 47.0	-0.1
MSWZ	**Moikau Station**	**1.65**	**137**	P	Pn	08 07 47.3	0.0
MSWZ	**Moikau Station**	**1.65**	**137**	⇑PN	Pn	08 07 47.3	-0.1
TRVZ	**Turoa**	**1.66**	**57**	PN	Pn	08 07 47.1	-0.3
WNVZ	**Wahianoa**	**1.67**	**59**	P	Pn	08 07 47.3	-0.3
WNVZ	**Wahianoa**	**1.67**	**59**	PN	Pn	08 07 47.3	-0.3
THZ	**Tophouse**	**1.68**	**202**	P	Pn	08 07 47.3	-0.3
THZ	**Tophouse**	**1.68**	**202**	PN	Pn	08 07 47.1	-0.5
DRZ	**Dome Shelter**	**1.68**	**57**	P	Pn	08 07 48.4	+0.7
DRZ	**Dome Shelter**	**1.68**	**57**	PN	Pn	08 07 47.3	-0.4
FWVZ	**Far West T-bar**	**1.68**	**56**	P	Pn	08 07 47.3	-0.4
FWVZ	**Far West T-bar**	**1.68**	**56**	⇑PN	Pn	08 07 47.3	-0.4
TSZ	**Takapari Road**	**1.70**	**85**	P	Pn	08 07 47.8	-0.1
TSZ	**Takapari Road**	**1.70**	**85**	PN	Pn	08 07 47.5	-0.4
WPVZ	**Whakapapa**	**1.71**	**54**	P	Pn	08 07 47.6	-0.4
WPVZ	**Whakapapa**	**1.71**	**54**	PN	Pn	08 07 47.5	-0.5
TIWZ	**Tintock**	**1.72**	**110**	PN	Pn	08 07 48.0	-0.1
PAWZ	**Paruwai Farm**	**1.72**	**133**	P	Pn	08 07 48.1	0.0
PAWZ	**Paruwai Farm**	**1.72**	**133**	⇑PN	Pn	08 07 48.1	-0.1
TWVZ	**Taurewa**	**1.73**	**49**	PN	Pn	08 07 47.6	-0.7
MOVZ	**Moawhango**	**1.74**	**63**	P	Pn	08 07 47.6	-0.7
MOVZ	**Moawhango**	**1.74**	**63**	PN	Pn	08 07 47.5	-0.8
TUVZ	**Tukino**	**1.74**	**58**	P	Pn	08 07 48.1	-0.3
TUVZ	**Tukino**	**1.74**	**58**	PN	Pn	08 07 48.1	-0.3
NGZ	**Ngauruhoe**	**1.76**	**55**	P	Pn	08 07 48.1	-0.5
NGZ	**Ngauruhoe**	**1.76**	**55**	PN	Pn	08 07 48.0	-0.6
OTVZ	**Oturere**	**1.81**	**55**	⇓PN	Pn	08 07 48.8	-0.3
KRVZ	**Karewarewa**	**1.84**	**53**	PN	Pn	08 07 49.0	-0.4
TRWZ	**Traveller**	**1.88**	**130**	⇑PN	Pn	08 07 49.8	-0.2
HIZ	**Hauiti**	**1.90**	**27**	P	Pn	08 07 49.4	-0.8
HIZ	**Hauiti**	**1.90**	**27**	⇓PN	Pn	08 07 49.4	-0.7
KATZ	**Kakaramea**	**1.94**	**51**	P	Pn	08 07 50.2	-0.5
KATZ	**Kakaramea**	**1.94**	**51**	PN	Pn	08 07 50.2	-0.4
BFZ	**Birch Farm**	**1.96**	**105**	P	Pn	08 07 50.5	-0.3
BFZ	**Birch Farm**	**1.96**	**105**	⇑PN	Pn	08 07 50.5	-0.3
RITZ	**Rihia Road**	**2.04**	**53**	P	Pn	08 07 51.8	0.0
RITZ	**Rihia Road**	**2.04**	**53**	PN	Pn	08 07 51.8	0.0
RATZ	**Rangitukua**	**2.06**	**50**	P	Pn	08 07 51.9	-0.1
RATZ	**Rangitukua**	**2.06**	**50**	PN	Pn	08 07 51.9	-0.1
WPHZ	**Waipukurau**	**2.06**	**87**	PN	Pn	08 07 51.8	-0.3
DSZ	**Denniston Nort**	**2.13**	**223**	P	Pn	08 07 52.1	-0.7
DSZ	**Denniston Nort**	**2.13**	**223**	PN	Pn	08 07 52.0	-0.8
WATZ	**Wairara**	**2.15**	**46**	P	Pn	08 07 52.7	-0.4
WATZ	**Wairara**	**2.15**	**46**	PN	Pn	08 07 52.7	-0.3
KHZ	**Kahutara**	**2.21**	**184**	P	Pn	08 07 53.5	-0.3
KHZ	**Kahutara**	**2.21**	**184**	PN	Pn	08 07 53.4	-0.4
HATZ	**Hinemaiaia**	**2.24**	**55**	P	Pn	08 07 53.1	-1.1
HATZ	**Hinemaiaia**	**2.24**	**55**	PN	Pn	08 07 53.1	-1.1
WHTZ	**Whakaora**	**2.30**	**48**	P	Pn	08 07 54.8	-0.1
WHTZ	**Whakaora**	**2.30**	**48**	PN	Pn	08 07 54.8	-0.1
BKZ	**Black Stump Fm**	**2.36**	**64**	P	Pn	08 07 54.4	-1.2
BKZ	**Black Stump Fm**	**2.36**	**64**	⇓PN	Pn	08 07 54.3	-1.3
PXZ	**Pawanui**	**2.39**	**87**	PN	Pn	08 07 55.4	-0.5
LTZ	**Lake Taylor**	**2.80**	**203**	*e*P	Pn	08 07 59.7	-1.4
LTZ	**Lake Taylor**	**2.80**	**203**	PN	Pn	08 07 59.7	-1.3
KNZ	**Kokohu**	**3.25**	**70**	*e*P	Pn	08 08 05.2	-1.7
KNZ	**Kokohu**	**3.25**	**70**	PN	Pn	08 08 05.2	-1.7
URZ	**Urewera**	**3.26**	**54**	P	Pn	08 08 04.1	-2.8
URZ	**Urewera**	**3.26**	**54**	PN	Pn	08 08 04.1	-2.8
CRLZ	**Canterbury Las**	**3.46**	**194**	P	Pn	08 08 07.3	-2.3
CRLZ	**Canterbury Las**	**3.46**	**194**	PN	Pn	08 08 07.2	-2.3
MWZ	**Matawai**	**3.48**	**59**	P	Pn	08 08 07.5	-2.3
MWZ	**Matawai**	**3.48**	**59**	PN	Pn	08 08 07.4	-2.3
MQZ	**McQueen's Vall**	**3.58**	**193**	P	Pn	08 08 08.5	-2.6
MQZ	**McQueen's Vall**	**3.58**	**193**	PN	Pn	08 08 08.5	-2.6
WVZ	**Waitaha Valley**	**3.65**	**217**	PN	Pn	08 08 09.8	-2.1
KUZ	**Kuaotunu**	**3.79**	**25**	*e*P	Pn	08 08 12.8	-1.0
KUZ	**Kuaotunu**	**3.79**	**25**	PN	Pn	08 08 12.8	-1.0
RPZ	**Rata Peaks**	**4.04**	**209**	*e*P	Pn	08 08 14.7	-2.3
RPZ	**Rata Peaks**	**4.04**	**209**	*e*PN	Pn	08 08 14.5	-2.5
PUZ	**Puketiti**	**4.10**	**60**	P	Pn	08 08 15.3	-2.6
PUZ	**Puketiti**	**4.10**	**60**	PN	Pn	08 08 15.0	-2.9
MXZ	**Matakaoa Point**	**4.43**	**55**	*e*P	Pn	08 08 19.8	-2.4
MXZ	**Matakaoa Point**	**4.43**	**55**	PN	Pn	08 08 19.7	-2.5
FOZ	**Fox Glacier**	**4.52**	**221**	*e*P	Pn	08 08 19.5	-3.9
FOZ	**Fox Glacier**	**4.52**	**221**	PN	Pn	08 08 19.2	-4.1
LBZ	**Lake Benmore**	**4.94**	**211**	*e*P	Pn	08 08 26.0	-2.9
LBZ	**Lake Benmore**	**4.94**	**211**	*e*PN	Pn	08 08 25.7	-3.2
ODZ	**Otahua Downs**	**5.34**	**204**	*e*P	Pn	08 08 31.6	-2.7
ODZ	**Otahua Downs**	**5.34**	**204**	PN	Pn	08 08 31.4	-2.9
JCZ	**Jackson Bay**	**5.35**	**222**	*e*P	Pn	08 08 31.2	-3.2
JCZ	**Jackson Bay**	**5.35**	**222**	PN	Pn	08 08 31.1	-3.3
WKZ	**Wanaka**	**5.79**	**216**	*e*P	Pn	08 08 36.2	-4.0
EAZ	**Earnscleugh**	**5.99**	**212**	*e*P	Pn	08 08 38.8	-4.1
EAZ	**Earnscleugh**	**5.99**	**212**	*e*PN	Pn	08 08 38.7	-4.2
MSZ	**Milford Sound**	**6.20**	**222**	*e*P	Pn	08 08 42.7	-3.0
TUZ	**Tuapeka**	**6.48**	**206**	*e*P	Pn	08 08 46.7	-2.8
MLZ	**Mavora Lakes**	**6.57**	**217**	*e*P	Pn	08 08 48.2	-2.4
WHZ	**Wether Hill Ro**	**7.09**	**215**	P	Pn	08 08 53.7	-3.9
SYZ	**Scrubby Hill**	**7.16**	**206**	PN	Pn	08 08 55.0	-3.5
APZ	**The Paps**	**7.83**	**210**	*e*PN	Pn	08 09 02.1	-5.4
WB2	**Warramunga Arr**	**39.22**	**289**	*e*P	P	08 14 29.8	-0.4
FITZ	**Fitzroy Crossi**	**46.78**	**284**	*e*P	P	08 15 30.6	-0.3
	1.5nm,0.4s						

BYKL 05 08:08:32.3±0.5, 5568N×11016E, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**285**	⇑*i*Pg		08 08 39.8	
NIZ				*i* Sg		08 08 46.3	
NIZ				Pmax			
	55nm,0.2s						
NIZ				Smax			
	483nm,0.2s						
KMO	**Kumora**	**0.62**	**70**	⇑*i*Pg		08 08 43.7	
KMO				*i* Sg		08 08 51.9	
KMO				Pmax			
	88nm,0.3s						
KMO				Smax			
	113nm,0.5s						
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑*i*Pg		08 08 50.4	
YLYR				*e*Pb		08 08 51.1	
YLYR				*i* Sg		08 09 03.5	
YLYR				max			
	55nm,0.2s						
YLYR				Smax			
	110nm,0.1s						
YOA	**Uoyan**	**0.99**	**62**	*e*Sg		08 09 05.2	
YOA				Smax			
	268nm,0.2s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pg		08 09 08.6	
SVKR				*e*Sg		08 09 35.6	
SVKR				Pmax			
	43nm,0.4s						
SVKR				Smax			
	260nm,0.8s						
SYVR	**Suvo**	**2.03**	**183**	⇑*i*Pg		08 09 09.0	
SYVR				*i* Sg		08 09 36.9	
SYVR				Pmax			
	22nm,0.6s						
SYVR				Smax			
	139nm,0.6s						
OGRR	**Ongureny**	**2.53**	**217**	*e*Pn		08 09 15.7	
OGRR				*e*Sg		08 09 51.4	
OGRR				max			
	5.0nm,0.2s						
OGRR				Smax			
	35nm,0.4s						
BOD	**Bodaibo**	**3.01**	**43**	*e*Pn		08 09 24.4	
BOD				*e*Sg		08 10 04.9	
BOD				max			
	4.0nm,0.2s						
BOD				Smax			
	28nm,0.4s						
NLYR	**Nelyaty**	**3.21**	**73**	*e*Pg		08 09 30.0	
NLYR				*e*Sg		08 10 12.2	
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn		08 09 32.4	
TRG				*e*Sg		08 10 26.9	
TRG				max			
	8.0nm,1.0s						
TRG				Smax			
	11nm,0.4s						
CIT	**Chita**	**4.18**	**150**	*e*Sg		08 10 41.8	
CIT				Smax			
	19nm,0.4s						
HRMR	**Khuramsha**	**4.49**	**206**	*e*Sg		08 10 51.5	
CRS	**Chara**	**4.68**	**72**	*e*Sg		08 10 57.0	
TLY	**Talaya**	**5.57**	**227**	*e*Sg		08 11 24.1	
TUP	**Tupik**	**5.77**	**99**	*e*Pg		08 10 14.7	
TUP				*e*Sg		08 11 29.4	
TUP				Pmax			
	2.0nm,0.3s						
TUP				Smax			
	8.0nm,0.7s						
ARS	**Arshan**	**5.93**	**234**	*e*Sg		08 11 36.1	
KPC	**Khapcheranga**	**6.14**	**166**	*e*Sg		08 11 42.1	
MOY	**Mondy**	**6.77**	**237**	*e*Sg		08 12 02.3	
ORL	**Orlik**	**6.85**	**247**	*e*Pn		08 10 15.3	
ORL				*e*Sg		08 12 02.3	
ORL				max			
	1.0nm,0.3s						
ORL				Smax			
	14nm,0.7s						
NGP	**Nagpur**	**41.56**	**227**	⇑*e*P	P	08 16 53.3	+18
NGP				*e*S		08 16 58.4	
NGP				*ex*		08 16 59.3	
	comp=E,21nm,0.2s						
DESE	**Dese**	**69.93**	**260**	*e*PN	PKiKP	08 25 25.4	+47
DESE				*e*SN		08 25 45.4	
SCG	**Saint Claude**	**108.24**	**352**	*e*P	Pdif	08 23 07.3	+1.9
TBG	**Guadaloupe-3**	**108.41**	**352**	⇓*e*P	Pdif	08 23 04.7	+5.3
TBG				*e*S		08 23 05.8	

*MOS **05** 08:08:48.9±1.5, 5565N×110.39E, h10km, mb4.3/1, Error ellipse: s-maj=33.1km s-min=20.4km az=68.8*

BYKL 05 08:08:48.5±0.3, 5567N×11021E, h18km±6km, 1C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.39**	**286**	*e*Pg	Pg	08 08 57.1	+0.5
NIZ				*e*Sg	Sg	08 09 01.4	-0.7
NIZ				Pmax			
	71nm,0.2s						
NIZ				Smax			
	983nm,0.3s						
KMO	**Kumora**	**0.60**	**68**	*e*Pg	Pg	08 08 59.4	-1.0
KMO				*e*Sg	Sg	08 09 07.6	-0.9
KMO				Pmax			
	178nm,0.4s						
KMO				Smax			
	493nm,0.8s						
YLYR	**Ulyunkhan**	**0.96**	**145**	*e*Pg	Pg	08 09 05.7	-1.5
YLYR				*e*Sg	Sg	08 09 19.3	-0.6
YLYR				Pmax			
	87nm,0.1s						
YLYR				Smax			
	169nm,0.4s						
YOA	**Uoyan**	**0.97**	**61**	⇑*i*PG	Pg	08 09 06.0	-1.4
YOA				*i*		08 09 20.9	
YOA				pmax	pmax		
	comp=Z,348nm,0.2s						
YOA				smax			
	comp=N,831nm,0.3s						
YOA	**Uoyan**	**0.97**	**61**	*e*Sg	Sg	08 09 20.5	+0.4
YOA				Smax			
	comp=N,833nm,0.3s						
SVKR	**Severomuysk**	**1.94**	**75**	*e*PN	Pn	08 09 23.9	+3.4
SVKR				*e*		08 09 24.4	
SVKR				*e*		08 09 50.3	
SVKR				pmax	pmax		
	comp=Z,154nm,0.3s						
SVKR				smax			
	comp=N,743nm,0.9s						
SVKR	**Severomuysk**	**1.94**	**75**	*e*Pg	Pg	08 09 24.0	-1.8
SVKR				*e*Sg	Sg	08 09 50.3	-0.7
SVKR				Pmax			
	comp=N,112nm,0.3s						
SVKR				Smax			
	comp=N,753nm,0.5s						
SYVR	**Suvo**	**2.02**	**184**	*e*PN	Pn	08 09 24.9	+3.3
SYVR				*e*		08 09 52.7	
SYVR				pmax	pmax		
	comp=Z,45nm,0.6s						
SYVR				smax			
	comp=E,291nm,0.6s						
SYVR	**Suvo**	**2.02**	**184**	*e*Pg	Pg	08 09 24.8	-2.5
SYVR				*e*Sg	Sg	08 09 52.6	-0.9
SYVR				Pmax			
	comp=E,44nm,0.5s						
SYVR				Smax			
	comp=E,349nm,0.6s						
OGRR	**Ongureny**	**2.54**	**218**	*e*Pg	Pg	08 09 33.8	-3.4
OGRR				*e*Sg	Sg	08 10 07.5	-2.6
OGRR				Pmax			
	comp=E,9.0nm,0.2s						
OGRR				Smax			
	comp=E,59nm,0.4s						
BOD	**Bodaibo**	**3.00**	**43**	*e*Sg	Sg	08 10 21.2	-3.7
BOD				Smax			
	comp=E,78nm,0.4s						
NLYR	**Nelyaty**	**3.19**	**73**	*e*Pg	Pg	08 09 45.7	-3.9
NLYR				*e*Sn	Sn	08 10 17.4	+2.2
NLYR				*e*Sg	Sg	08 10 27.6	-3.3
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	Pn	08 09 46.5	+1.8
TRG				*e*Sg	Sg	08 10 42.2	-4.9
TRG				max			
	comp=E,14nm,1.0s						
TRG				Smax			
	comp=E,29nm,0.4s						
TRTB	**Turuntaevo**	**3.77**	**205**	*e*Sg	Sg	08 10 46.4	-3.1
TRTB				Smax			
	comp=E,31nm,1.1s						
CIT	**Chita**	**4.16**	**150**	*e*Pg	Pg	08 10 03.1	-5.0
CIT				*e*Sg	Sg	08 10 57.1	-4.9
CIT				Pmax			
	comp=E,7.0nm,0.4s						
CIT				Smax			
	comp=E,49nm,0.8s						
HRMR	**Khuramsha**	**4.49**	**207**	*e*Sg	Sg	08 11 07.3	-5.3
HRMR				Smax			
	comp=E,63nm,0.6s						
CRS	**Chara**	**4.66**	**71**	*e*PN	Pn	08 09 58.4	+0.5
CRS				*e*		08 10 13.6	
CRS				*e*		08 11 14.6	
CRS				pmax	pmax		
	comp=Z,33nm,0.9s						
CRS				smax			
	comp=E,41nm,1.2s						
CRS	**Chara**	**4.66**	**71**	*e*Pn	Pn	08 09 58.3	+0.4
CRS				*e*Pg	Pg	08 10 11.4	-6.3
CRS				*e*Sg	Sg	08 11 12.1	-5.9
CRS				Pmax			
	comp=E,17nm,1.3s						
CRS				Smax			
	comp=E,42nm,1.7s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*Sg	Sg	08 11 20.7	-7.3
LSTR				Smax			
	comp=E,46nm,0.6s						
TLY	**Talaya**	**5.58**	**227**	*e*Sg	Sg	08 11 40.3	-7.4
TLY				Smax			
	comp=E,21nm,1.0s						
TUP	**Tupik**	**5.74**	**99**	*e*PN	Pn	08 10 14.3	+1.5
TUP				*e*		08 10 31.7	
TUP				*e*S	Sn	08 11 19.7	+1.5
TUP				*e*		08 11 46.3	
TUP				pmax	pmax		
	comp=Z,14nm,0.6s						
TUP				smax			
	comp=N,42nm,0.8s						
TUP	**Tupik**	**5.74**	**99**	*e*Pg	Pg	08 10 30.8	-7.6
TUP				*e*Sg	Sg	08 11 45.5	-7.2
TUP				Pmax			
	comp=N,8.0nm,1.1s						
TUP				Smax			
	comp=N,51nm,2.1s						
ARS	**Arshan**	**5.95**	**234**	*e*Sg	Sg	08 11 52.6	-6.8
ARS				Smax			
	comp=N,93nm,1.1s						
KPC	**Khapcheranga**	**6.12**	**167**	*e*PN	Pn	08 10 20.3	+2.3
KPC				*e*		08 10 39.9	
KPC				*e*		08 11 59.4	
KPC				pmax	pmax		
	comp=Z,27nm,1.9s						
KPC				smax			
	comp=E,126nm,1.0s						
KPC	**Khapcheranga**	**6.12**	**167**	*e*Pg	Pn	08 10 38.3	+20
KPC				*e*Sg	Sn	08 11 58.0	+30
KPC				Pmax			
	comp=E,2.0nm,0.6s						
KPC				Smax			
	comp=E,28nm,1.4s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*Sg	Sn	08 12 19.0	+36
ZAK				Sm

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
JTM				S	Sn	08 32 23.8	+0.7
JKB	**Kayabe**	**0.98**	**306**	⇓P	Pn	08 32 10.3	-0.5
JKB				eS	Sn	08 32 23.2	-0.7
JANG	**Nango**	**1.05**	**205**	⇑P	Pn	08 32 11.8	+0.1
JANG				S	Sn	08 32 25.5	+0.1
JEM	**Erimo**	**1.05**	**48**	P	Pn	08 32 11.6	-0.1
JEM				eS	Sn	08 32 25.2	-0.3
JNBK	**Urakawa-nobuka**	**1.07**	**27**	P	Pn	08 32 11.6	-0.4
JNBK				eS	Sn	08 32 25.4	-0.6
JSR	**Shiriuchi**	**1.28**	**280**	⇓P	Pn	08 32 15.1	+0.3
JNB	**Noboribetsu**	**1.40**	**326**	P	Pn	08 32 15.5	-0.8
JNB				S	Sn	08 32 32.5	-1.2
JBT2	**Biratori 2**	**1.47**	**7**	⇓P	Pn	08 32 18.0	+0.7
JYM2	**Yakumo 2**	**1.52**	**302**	⇓P	Pn	08 32 18.2	+0.1
JEW	**Eniwo**	**1.59**	**342**	P	Pn	08 32 18.9	-0.1
JEW				eS	Sn	08 32 38.3	-0.3
JCH	**Churui**	**1.60**	**36**	P	Pn	08 32 19.4	+0.3
JCH				eS	Sn	08 32 38.6	0.0
JFR	**Furan**	**1.88**	**11**	P	Pn	08 32 23.5	+0.6
ASAJ	**Asahikawa**	**2.82**	**7**	P	Pn	08 32 36.9	+1.1
	7.0nm,0.3s,baz=238,slow=13,SNR=30						
ASAJ				S	Sn	08 33 10.0	+1.5
	4.0nm,0.3s,baz=180,slow=31,SNR=7.3						
MJAR	**Matsushiro Arr**	**5.66**	**214**	P	Pn	08 33 11.2	-3.3
	0.2nm,0.3s,baz=32,slow=12,SNR=2.7						
SONM	**Songino Array**	**26.09**	**297**	P	P	08 37 23.0	+1.6
	0.2nm,0.4s,mb3.0,baz=96,slow=9.5,SNR=2.7						
MKAR	**Makanchi Array**	**42.43**	**298**	P	P	08 39 42.9	+0.6
	0.7nm,0.6s,mb3.5,baz=82,slow=13,SNR=6.4						
YKA	**Yellowknife Ar**	**59.86**	**32**	P	P	08 41 51.9	-0.9
	0.2nm,0.7s,mb3.3,baz=300,slow=6.1,SNR=3.0						
WRA	**Warramunga Arr**	**61.37**	**188**	P	P	08 42 02.3	-0.9
	0.6nm,0.4s,mb4.1,baz=6.5,slow=6.9,SNR=8.0						
ASAR	**Alice Springs**	**65.10**	**188**	P	P	08 42 26.9	-0.9
	0.3nm,0.6s,mb3.5,baz=9.3,slow=7.9,SNR=4.5						
PDAR	**Pinedale Array**	**74.31**	**47**	P	P	08 43 24.6	+0.1
	0.2nm,0.6s,mb3.2,baz=288,slow=3.6,SNR=2.7						

ISCJB ***05*** *08:32:42.4±4.8, 58S±01×15370E±0.10, h9km±31km, mb4.0/9, MS3.8/1, Error ellipse: s-maj=20.8km s-min=13.7km az=107.1*

IDC ***05*** *08:32:42.9±1.0, 581S×15366E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/18, mbtmp4.2/11, ML3.5/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/21, Error ellipse: s-maj=27.8km s-min=20.0km az=97.0*

ISC 05 08:32:42.7±5.6, 58S±01×15371E±010, h0km±36km, n16, σ0=72/15, mb4.2/9, MS3.8/1, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PMG	**Port Moresby**	**7.44**	**240**	Pn	Pn	08 34 33.2	+0.7
	7.4nm,0.3s,baz=45,slow=8.3,SNR=24						
PMG				Sn	Sn	08 35 58.5	+0.9
	3.5nm,0.3s,baz=145,slow=23,SNR=8.2						
PMG				LR	LR	08 36 37.3	
	comp=Z,248nm,19.0s,baz=238,slow=32						
CTA	**Charters Tower**	**15.99**	**206**	Pn	Pn	08 36 29.5	+0.6
	0.1nm,0.3s,baz=28,slow=14,SNR=6.0						
CTA				LR	LR	08 40 47.9	
	comp=Z,187nm,19.2s,baz=40,slow=30						
DZM	**Mont Dzumac**	**20.37**	**144**	P	P	08 37 21.9	+1.1
	11nm,0.8s,baz=46,slow=11,SNR=7.3						
KAKA	**Kakadu**	**22.09**	**250**	eP	P	08 37 38.8	-0.6
	14nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**23.52**	**231**	eP	P	08 37 53.9	-0.6
WRA	**Warramunga Arr**	**23.53**	**231**	P	P	08 37 54.1	-0.6
	1.6nm,1.0s,mb3.5,baz=61,slow=8.8,SNR=9.2						
ASAR	**Alice Springs**	**26.09**	**225**	P	P	08 38 17.4	-0.6
	1.8nm,0.8s,mb3.8,baz=58,slow=9.2,SNR=16						
STKA	**Stephens Creek**	**28.36**	**202**	P	P	08 38 37.5	-0.9
	2.4nm,0.8s,mb4.1,baz=42,slow=10,SNR=3.1						
FITZ	**Fitzroy Crossi**	**30.03**	**243**	eP	P	08 38 52.6	-0.6
	5.1nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.03**	**243**	P	P	08 38 52.5	-0.7
	3.4nm,0.7s,mb4.3,baz=103,slow=8.8,SNR=7.7						
JOW	**Kunigami**	**40.69**	**324**	LR	LR	08 53 41.4	
	comp=Z,132nm,19.7s,MS3.8,baz=26,slow=31						
SONM	**Songino Array**	**67.61**	**328**	P	P	08 43 42.0	+0.8
	0.4nm,0.4s,mb4.0,baz=145,slow=5.5,SNR=2.3						
VNDA	**Vanda**	**71.85**	**178**	P	P	08 44 06.8	-0.5
	1.9nm,0.9s,mb4.2,baz=328,slow=6.3,SNR=7.0						
MKAR	**Makanchi Array**	**81.64**	**319**	P	P	08 45 03.4	+0.8
	2.0nm,0.9s,mb4.3,baz=92,slow=8.2,SNR=12						
ZAL	**Zalesovo**	**82.45**	**326**	P	P	08 45 06.5	-0.4
	1.0nm,0.3s,mb4.4,baz=308,slow=3.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**151.46**	**287**	PKPbc	PKPbc	08 52 38.8	+0.3
	1.9nm,0.8s,baz=57,slow=2.3,SNR=10						
TORD				PKPab	PKPab	08 52 49.4	+2.5
	2.7nm,0.8s,baz=62,slow=2.1,SNR=9.9						

MOS 05 08:33:34.5±1.4, 4155N×4736E, h7km, mb3.6/1, 1C, Error ellipse: s-maj=42.7km s-min=17.7km az=101.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
AKT	**Akhty**	**0.28**	**104**	*i* PG	Pg	08 33 41.5	+1.4
AKT				*i* S	Sg	08 33 47.0	+3.2
AKT				pmax	pmax		
	comp=Z,139nm,0.2s						
KMKR	**Kumukh**	**0.61**	**341**	⇑*i*PG	Pg	08 33 46.0	-0.4
KMKR				*i* S	Sg	08 33 55.5	+1.1
KMKR				pmax	pmax		
	comp=Z,63nm,0.2s						
URKR	**Urkarakh**	**0.65**	**18**	*e*PG	Pg	08 33 48.0	+1.0
URKR				*i* S	Sg	08 33 58.0	+2.5
UNCR	**Uncukul**	**1.24**	**340**	*e*PG	Pg	08 33 58.0	-0.3
UNCR				*i* S	Sg	08 34 15.0	+0.6
KRNR	**Karanay**	**1.32**	**345**	*e*PG	Pg	08 34 00.5	+0.6
KRNR				*e*S	Sb	08 34 20.8	+4.0

NEIC ***05*** *08:38:22.0±4.2, 181.7S×172.61E, h4km±25km, mb5.3/60, Error ellipse: s-maj=9.5km s-min=5.3km az=160.0*

SZGRF ***05*** *08:38:22.1, 197.5S×173.27E, h33km, Vanuatu Islands region*

GCMT ***05*** *08:38:22.0±0.2, 181.0S×172.63E, h17km, MW5.1/77, Moment Tensor Solution. s55,c76; s77,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.73±.21; $M_{\theta\theta}$5.85±.15; $M_{\phi\phi}$-0.12±.14; $M_{r\theta}$-0.01±.33; $M_{\theta\phi}$-1.53±.10; $M_{\phi r}$-1.16±.38; Best double couple: $M_0$6.09700×10^{16} NP1:ϕ_s92.00000°, δ45.00000°, λ-107.00000°. NP2: ϕ_s295.00000°, δ47.00000°, λ-74.00000°. Principal axes: T 6.2250, Plg1.0000°, Azm14.0000°; N -0.2570, Plg12.0000°, Azm104.0000°; P -5.9680, Plg78.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***05*** *08:38:22.0, 177.5S×172.72E, h9km, mB5.3, mb5.0, Ms5.4, Msz4.4*

LDG ***05*** *08:38:23.6±0.2, 177.5S×172.05E, h10km, Mb5.3/2, Ms4.6/5, Error ellipse: s-maj=22.4km s-min=4.7km az=130.0*

MOS ***05*** *08:38:25.2±1.0, 181.3S×172.46E, h33km, mb5.4/38, Error ellipse: s-maj=10.7km s-min=7.9km az=139.3*

ISCJB ***05*** *08:38:27.8±1.7, 182.4S±005×172.45E±004, h58km±14km, mb5.2/88, MS4.2/25, Error ellipse: s-maj=9.1km s-min=6.0km az=137.7*

IDC ***05*** *08:38:29.1±3.3, 181.4S×172.55E, h59km±28km, mb4.7/19, mb1 4.8/21, mb1mx4.8/22, mbtmp4.7/21, ML3.3/2, MS4.0/19, Ms1 4.0/19, ms1mx4.0/20, Error ellipse: s-maj=16.3km s-min=14.7km az=129.0*

ISC 05 08:38:29.8±1.4, 1824S±005×17250E±004, h61km±13km, h9km±3.3km: pP-P, n621, σ0=64/433, mb5.2/88, 102C-119D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
DZM	**Mont Dzumac**	**6.85**	**235**	*e*P	Pn	08 40 06.5	-1.1
DZM	**Mont Dzumac**	**6.85**	**235**	P	Pn	08 40 07.6	0.0
	4.7nm,0.3s,baz=72,slow=20,SNR=29						
DZM				LR	LR	08 42 25.5	
	comp=Z,2μm,21.6s,baz=28,slow=34						
FUNA	**Funafuti**	**11.64**	**35**	*e*P	Pn	08 41 03.6	-9.5
	47nm,0.5s						
RAO	**Raoul Island**	**14.03**	**143**	LR	LR	08 46 03.0	
	comp=Z,490nm,19.6s,baz=336,slow=32						
HNR	**Honiara**	**15.00**	**304**	LR	LR	08 46 48.4	
	comp=Z,151nm,18.7s,baz=177,slow=33						
AFI	**Afiamalu**	**15.71**	**76**	P	Pn	08 42 07.6	+0.4
	0.9nm,0.3s,baz=306,slow=14,SNR=3.2						
AFI				LR	LR	08 46 56.0	
	comp=Z,669nm,19.0s,baz=254,slow=32						
URZ	**Urewera**	**20.35**	**170**	P	P	08 43 01.5	+0.4
	63nm,1.0s,baz=350,slow=8.1,SNR=7.7						
URZ				LR	LR	08 49 48.7	
	comp=Z,318nm,19.8s,baz=208,slow=33						
URZ	**Urewera**	**20.35**	**170**	P	P	08 43 01.5	+0.4
URZ				LR	LR	08 49 48.7	
ARMA	**Armidale**	**22.51**	**234**	⇓*i*P	P	08 43 26.0	+1.8
CTA	**Charters Tower**	**24.86**	**261**	⇓*i*P	P	08 43 47.7	+1.2
	40nm,0.8s,mb5.0						
CTA	**Charters Tower**	**24.86**	**261**	P	P	08 43 47.7	+1.2
	46nm,0.8s,mb5.1,baz=88,slow=11,SNR=54						
CTA				LR	LR	08 52 14.2	
	comp=Z,436nm,18.3s,baz=83,slow=33						
CTA	**Charters Tower**	**24.86**	**261**	⇓*i*P	P	08 43 47.7	+1.2
CTA				pmax	pmax		
	comp=Z,40nm,0.8s						
CTAO	**Charters Tower**	**24.86**	**261**	*e*P	P	08 43 47.7	+1.2
CTAO				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**24.86**	**261**	*e*P	P	08 43 47.7	+1.2
	comp=Z,63nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**25.43**	**182**	LR	LR	08 52 23.1	
	comp=Z,458nm,18.2s,baz=6.0,slow=33						
PMG	**Port Moresby**	**26.10**	**286**	P	P	08 43 57.2	-0.5
	comp=Z,14nm,0.9s,mb4.5,baz=93,slow=8.9,SNR=8.0						
PMG				LR	LR	08 53 26.6	
	comp=Z,322nm,18.6s,baz=79,slow=34						
PMG	**Port Moresby**	**26.10**	**286**	⇑*e*P	P	08 43 58.0	+0.2
PMG	**Port Moresby**	**26.10**	**286**	*e*P	P	08 43 58.1	+0.3
	comp=Z,23nm,1.0s,mb4.7						
RAR	**Rarotonga**	**26.25**	**101**	LR	LR	08 52 00.6	
	comp=Z,221nm,21.4s,baz=288,slow=31						
CNB	**Canberra Magne**	**26.66**	**226**	*e*P	P	08 44 04.2	+1.4
	comp=Z,25nm,1.0s,mb4.7						
TOO	**Toolangi**	**30.50**	**225**	*e*P	P	08 44 38.4	+1.4
	comp=Z,11nm,1.4s,mb4.4						
TOO	**Toolangi**	**30.50**	**225**	*e*P	P	08 44 38.4	+1.4
TOO				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.4						
STKA	**Stephens Creek**	**31.00**	**238**	⇓*i*P	P	08 44 42.4	+1.1
	comp=Z,33nm,0.8s,mb5.2						
STKA				*e*PCP	PcP	08 47 37.0	+0.9
STKA				*e*		08 51 20.0	
STKA	**Stephens Creek**	**31.00**	**238**	P	P	08 44 42.5	+1.1
	comp=Z,36nm,0.8s,mb5.3,baz=63,slow=8.2,SNR=63						
STKA				PcP	PcP	08 47 37.0	+0.9
	comp=Z,12nm,0.8s,baz=323,slow=1.2,SNR=9.5						
STKA				LR	LR	08 55 29.8	
	comp=Z,542nm,21.1s,baz=59,slow=33						
TBI	**Tubuai**	**35.85**	**105**	*e*LR	LR	08 54 45.5	
	comp=Z,200nm,27.5s						
PAE	**Paea**	**36.03**	**95**	*e*P	P	08 45 22.4	-2.7
	comp=Z,96nm,1.4s,mb5.5						
PAE	**Paea**	**36.03**	**95**	*e*P	P	08 45 22.4	-2.7
PAE				pmax	pmax		
	comp=Z,96nm,1.4s,mb5.5						
WB2	**Warramunga Arr**	**36.05**	**261**	⇓*i*P	P	08 45 24.6	-0.6
WB2				*e*PCP	PcP	08 47 50.8	+0.5
WRAB	**Tennant Creek**	**36.05**	**261**	P	P	08 45 24.0	-1.2
	comp=Z,211nm,1.0s,mb6.0,SNR=12						
WRAB	**Tennant Creek**	**36.05**	**261**	*e*P	P	08 45 24.5	-0.7
WRAB				*e*		08 47 50.8	
WRAB				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
WRAB	**Tennant Creek**	**36.05**	**261**	*e*P	P	08 45 24.5	-0.8
	comp=Z,38nm,1.0s,mb5.3						
WRAB				*e*PcP	PcP	08 47 50.8	+0.5
PPT	**Papeete**	**36.05**	**95**	*e*S	S	08 51 01.6	+1.7
	comp=Z,109nm,27.2s						
PPT				*e*LQ		08 53 28.2	
	comp=Z,511nm,25.2s						
PPT				*e*LR	LR	08 55 08.0	
	comp=Z,337nm,26.5s,baz=266						
PPT	**Papeete**	**36.05**	**95**	LR	LR	08 55 37.4	
	comp=Z,101nm,22.0s,baz=256,slow=29						
PPT	**Papeete**	**36.05**	**95**	*e*P	P	08 45 22.4	-2.8
PPT				*e*S	S	08 51 01.6	+1.7
PPT				pmax	pmax		
	comp=Z,54nm,1.4s						
PPT	**Papeete**	**36.05**	**95**	*e*P	P	08 45 22.4	-2.8
	comp=Z,54nm,1.4s,mb5.3						
PPT				*e*S	S	08 51 01.6	+1.7
PPT				*e*LQ		08 53 28.2	
WRA	**Warramunga Arr**	**36.06**	**261**	P	P	08 45 24.6	-0.7
	comp=Z,34nm,1.1s,mb5.2,baz=93,slow=8.6,SNR=73						
WRA				PcP	PcP	08 47 50.4	+0.1
	comp=Z,8.5nm,1.1s,baz=90,slow=2.9,SNR=10.0						
WRA				PKiKP	PKiKP	08 55 08.2	-1.8
	comp=Z,0.6nm,0.8s,baz=26,slow=0.2,SNR=6.2						
WRA				LR	LR	09 00 05.4	
	comp=Z,188nm,19.3s,baz=90,slow=36						
WRA	**Warramunga Arr**	**36.06**	**261**	P	P	08 45 24.6	-0.7
WRA				PcP	PcP	08 47 50.4	+0.1
TVO	**Taravao**	**36.33**	**95**	*e*P	P	08 45 24.6	-3.0
	comp=Z,42nm,0.9s,mb5.4						
TVO	**Taravao**	**36.33**	**95**	*e*P	P	08 45 24.6	-3.0
TVO				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
ASAR	**Alice Springs**	**36.37**	**255**	P	P	08 45 28.2	+0.2
	comp=Z,107nm,0.7s,mb5.9,baz=83,slow=9.1,SNR=1220						
ASAR				PcP	PcP	08 47 51.2	-0.1
	comp=Z,11nm,0.8s,baz=96,slow=3.4,SNR=15						
ASAR				PKiKP	PKiKP	08 55 08.2	-1.9
	comp=Z,0.2nm,0.6s,baz=22,slow=2.5,SNR=4.3						
ASAR	**Alice Springs**	**36.37**	**255**	P	P	08 45 28.2	+0.2
ASAR				PcP	PcP	08 47 51.2	-0.1
PMOR	**Pomariorio Ree**	**38.03**	**91**	*e*P	P	08 45 38.4	-3.7
	comp=Z,40nm,1.2s,mb5.0						
VAH	**Vaihoa**	**38.25**	**92**	*e*P	P	08 45 40.5	-3.4
	comp=Z,49nm,1.2s,mb5.1						
KAKA	**Kakadu**	**38.94**	**272**	*e*P	P	08 45 49.4	-0.3
	comp=Z,20nm,0.6s,mb5.0						
GUMO	**Guam**	**41.75**	**317**	LR	LR	09 00 48.6	
	comp=Z,107nm,20.2s,baz=111,slow=32						
FORT	**Forrest**	**42.07**	**244**	⇓*i*P	P	08 46 15.7	+0.2
	comp=Z,94nm,0.7s,mb5.5						
FITZ	**Fitzroy Crossi**	**44.43**	**263**	⇓*i*P	P	08 46 35.4	+0.9
	comp=Z,90nm,1.1s,mb5.4						
FITZ	**Fitzroy Crossi**	**44.43**	**263**	P	P	08 46 35.1	+0.6
	comp=Z,46nm,0.9s,mb5.2,baz=103,slow=6.1,SNR=55						
TAOE	**Nuku Hiva Isla**	**46.85**	**85**	*e*S	S	08 53 39.2	-0.5
	comp=Z,277nm,27.0s						
TAOE				*e*LR	LR	08 59 54.3	
	comp=Z,685nm,25.5s						
RKT	**Rikitea**	**49.17**	**105**	*e*LR	LR	09 01 05.4	
	comp=Z,156nm,25.2s						
KLBR	**Kellerberrin**	**50.93**	**244**	⇓*i*P	P	08 47 24.9	0.0
	comp=Z,128nm,0.9s,mb5.8						
NWAO	**Narrogin (SRO)**	**51.42**	**242**	*e*P	P	08 47 28.8	+0.3
NWAO				pmax	pmax		
	comp=Z,81nm,0.9s						
NWAO	**Narrogin (SRO)**	**51.42**	**242**	*e*P	P	08 47 28.8	+0.3
	comp=Z,81nm,0.9s,mb5.7						
MUN	**Mundaring**	**52.26**	**243**	*e*P	P	08 47 35.3	+0.5
VNDA	**Vanda**	**59.55**	**183**	P	P	08 48 26.0	-0.9
	comp=Z,2.5nm,0.7s,mb4.3,baz=0.8,slow=7.2,SNR=9.5						
VNDA				PcP	PcP	08 49 13.6	-0.1
	comp=Z,4.7nm,0.8s,baz=308,slow=3.8,SNR=7.3						
VNDA	**Vanda**	**59.55**	**183**	*e*P	P	08 48 25.8	-1.1
VNDA				pmax	pmax		
	comp=Z,23nm,1.7s						
VNDA	**Vanda**	**59.55**	**183**	*e*P	P	08 48 25.8	-1.1
	comp=Z,23nm,1.7s,mb4.9						
SBA	**Scott Base**	**59.71**	**181**	*e*P	P	08 48 28.2	+0.2
SBA				*e*		08 49 14.2	
SBA				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
SBA	**Scott Base**	**59.71**	**181**	*e*P	P	08 48 28.2	+0.2
	comp=Z,51nm,0.9s,mb5.5						
SBA				*e*PcP	PcP	08 49 14.2	-0.2
KKM	**Kota Kinabalu**	**60.53**	**288**	*e*P	P	08 48 34.2	+0.7
JOW	**Kunigami**	**62.04**	**315**	P	P	08 48 43.3	-0.5
	comp=Z,28nm,0.8s,mb5.4,baz=197,slow=5.8,SNR=4.1						
CASY	**Casey**	**62.28**	**204**	*e*P	P	08 48 43.7	-1.7
MJAR	**Matsushiro Arr**	**63.39**	**330**	P	P	08 48 51.4	-1.4
	comp=Z,25nm,1.2s,mb5.2,baz=162,slow=7.1,SNR=17						
MJAR				LR	LR	09 11 22.2	
	comp=Z,182nm,21.6s,baz=125,slow=31						
MAJO	**Matsushiro**	**63.39**	**330**	*e*P	P	08 48 52.6	-0.2
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
MAJO	**Matsushiro**	**63.39**	**330**	*e*P	P	08 48 52.6	-0.2
	comp=Z,9.6nm,0.6s,mb5.1						
MAT	**Matsushiro**	**63.39**	**330**	P	P	08 48 51.6	-1.2
KSRS	**Korea Array**	**69.49**	**323**	P	P	08 49 31.8	0.0
	comp=Z,9.0nm,1.1s,mb4.6,baz=141,slow=6.0,SNR=14						
KSRS				LR	LR	09 14 40.6	
	comp=Z,50nm,20.4s,baz=8.2,slow=31						
YSS	**Yuzh-Sakhalins**	**70.21**	**339**	⇑*e*P	P	08 49 35.7	-0.4
YSS				pmax	pmax		
	comp=Z,77nm,2.2s,mb5.2						
QSPA	**South Pole Qui**	**71.81**	**180**	*e*P	P	08 49 45.6	-0.3
	comp=Z,70nm,0.8s,mb5.6						
PET	**Petropavlovsk**	**71.97**	**351**	*e*P	P	08 49 45.7	-1.1
PET				*e*		08 52 21.7	
PET				*e*S	S	08 59 05.4	+2.0
PET				*e*PPS		08 59 45.6	
PET				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,8.2s						
PET				smax			
	comp=N,100nm,8.5s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
MDJ	**Mudanjiang**	**73.78**	**330**	P	P	08 49 58.6	+1.1
MDJ				AP	pP	08 50 02.0	-12
MDJ				XP	sP	08 50 03.2	-18
MDJ				PCP	PcP	08 50 13.7	+0.9
MDJ				S	S	08 59 32.9	+9.0
MDJ				SS	SS	09 04 13.9	+5.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,64nm,4.8s						
MDJ				LR	LR		
	comp=Z,116nm,37.0s						
DL2	**Dalian**	**74.14**	**321**	P	P	08 50 00.6	+1.0
DL2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
HABR	**Khabarovsk**	**74.34**	**335**	*e*P	P	08 50 01.1	+0.3
HABR				*e*S	S	08 59 35.4	+5.1
HABR				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.4						
CN2	**Changchun**	**75.27**	**327**	*e*P	P	08 50 06.2	+0.1
CN2				*e*AP	pP	08 50 13.2	-10
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
TIA	**Tai'an**	**75.30**	**317**	P	P	08 50 06.3	0.0
GYA	**Guiyang**	**77.83**	**303**	P	P	08 50 23.0	+2.4
GYA				PCP	PcP	08 50 33.2	+2.9
GYA				PP	PP	08 53 20.8	+4.0
GYA				S	S	09 00 15.3	+6.7
GYA				SKS		09 00 32.0	
GYA				SCS	ScS	09 00 39.4	+4.9
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,6.9s						
GYA				LR	LR		
	comp=N,670nm,19.4s						
GYA				LR	LR		
	comp=E,840nm,20.3s						
GYA				LR	LR		
	comp=Z,740nm,20.8s						
BJT	**Baijiatuau**	**78.15**	**319**	*e*P	P	08 50 23.1	+0.7
BJT				pmax	pmax		
	comp=Z,27nm,1.0s						
BJT	**Baijiatuau**	**78.15**	**319**	*e*P	P	08 50 23.1	+0.7
	comp=Z,27nm,1.0s,mb5.1						
BJI	**Beijing**	**78.16**	**319**	*e*P	P	08 50 22.8	+0.4
BJI				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
BJI				AMB	AMB		
	comp=Z,227nm,4.1s						
BJI				LR	LR		
	comp=Z,160nm,30.0s						
XAN	**Xi'an**	**79.76**	**311**	P	P	08 50 31.4	+0.2
XAN				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
KMI	**Kunming**	**80.41**	**300**	P	P	08 50 33.7	-1.0
KMI				AP	pP	08 50 37.6	-14
KMI				XP	sP	08 50 39.5	-19
KMI				LR	LR		
	comp=Z,26nm,28.2s						
MAW	**Mawson**	**80.50**	**201**	P	P	08 50 35.6	+0.4
	comp=Z,26nm,1.0s,mb5.1,baz=123,slow=6.5,SNR=28						
MAW				LR	LR	09 19 00.9	
	comp=Z,153nm,21.4s,baz=75,slow=30						
MAW	**Mawson**	**80.50**	**201**	*e*P	P	08 50 35.6	+0.4
MAW				pmax	pmax		
	comp=Z,51nm,1.3s						
MAW	**Mawson**	**80.50**	**201**	*e*P	P	08 50 35.6	+0.4
	comp=Z,51nm,1.3s,mb5.3						
CHTO	**Chiang Mai**	**81.08**	**293**	*e*P	P	08 50 39.1	+0.8
CHTO				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**81.08**	**293**	*e*P	P	08 50 39.1	+0.9
	comp=Z,11nm,1.1s,mb4.7						
KDAK	**Kodiak Island**	**81.09**	**18**	P	P	08 50 36.8	-1.5
	comp=Z,35nm,1.3s,mb5.1,baz=313,slow=2.5,SNR=6.8						
HHC	**Hu-ho-hao-te**	**81.52**	**318**	*e*P	P	08 50 40.8	+0.2
HHC				AP	pP	08 50 45.2	-12
HHC				XP	sP	08 50 47.6	-17
HHC				PP	PP	08 53 49.6	+2.1
HHC				S	S	09 00 52.6	+5.1
HHC				XS	sS	09 00 59.7	-17
HHC				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
HHC				AMB	AMB		
	comp=Z,256nm,4.5s						
HHC				LR	LR		
	comp=E,158nm,19.0s						
HHC				LR	LR		
	comp=Z,173nm,20.2s						
CD2	**Chengdu**	**82.12**	**306**	*e*P	P	08 50 44.2	+0.5
CD2				AP	pP	08 50 49.0

baz=83
MNRC McLaughlin Nat 83.20 45 ⇓P P 08 50 50.0 +0.6
baz=83,SNR=11
SCI San Clemente I 83.20 52 ⇓P P 08 50 50.1 +0.8
baz=83
PTRM Twissleman Ran 83.20 49 eP P 08 50 49.5 +0.2
S04C Ingram Canyon, 83.29 47 ⇑P P 08 50 50.2 +0.3
baz=83,SNR=6.0
KHMM Horse Mountain 83.35 43 eP P 08 50 50.8 +0.7
Q03C Winters 83.37 46 ⇓P P 08 50 51.0 +0.8
baz=84
GASB Alder Springs 83.40 45 ⇑P P 08 50 51.2 +0.8
baz=84,SNR=9.4
T05C Eagle Field, D 83.46 48 ⇑P P 08 50 51.4 +0.7
baz=84
CIS Catalina Islan 83.50 52 ⇑P P 08 50 51.9 +1.0
baz=84
V05C Boulder Hill, 83.52 49 ⇑P P 08 50 51.8 +0.8
baz=84
M01C Crescent City 83.60 42 ⇑P P 08 50 51.7 +0.3
baz=84
N02C Big Bar 83.60 43 ⇓P P 08 50 51.6 +0.1
baz=84,SNR=6.6
O02C Red Bluff 83.61 44 ⇑P P 08 50 52.0 +0.5
baz=84,SNR=20
SUTB Sutter Butte 83.82 45 ⇓P P 08 50 52.1 -0.4
baz=84
S05C Merced 83.91 48 ⇑P P 08 50 52.7 -0.3
baz=84,SNR=13
ARVC Arvin 83.96 50 ⇓P P 08 50 53.2 0.0
baz=84
WDC Whiskeytown Da 83.98 44 eP P 08 50 53.6 +0.2
WDC pmax pmax
comp=Z,29nm,1.4s,mb5.2
WDC Whiskeytown Da 83.98 44 eP P 08 50 53.6 +0.3
comp=Z,29nm,1.4s,mb5.2
WDC Whiskeytown Da 83.98 44 ⇑P P 08 50 53.2 -0.1
baz=84,SNR=10
SLKM Skilak Lake 84.04 18 eP P 08 50 52.5 -1.1
OHCM Honcut 84.07 45 eP P 08 50 53.5 -0.3
L02A Cave Junction 84.09 42 ⇓P P 08 50 53.9 0.0
baz=84,SNR=6.2
VES Vestal, Richgr 84.10 49 P P 08 50 53.5 -0.5
baz=84,SNR=5.7
MWC Mount Wilson 84.12 51 eP P 08 50 54.4 +0.3
ORV Oroville 84.17 45 ⇑P P 08 50 54.0 -0.4
baz=84,SNR=17
M02C Callahan 84.18 43 P P 08 50 54.9 +0.5
baz=84,SNR=20
T06C Millerton Lake 84.19 48 ⇓P P 08 50 54.3 -0.2
baz=84,SNR=18
CMB Columbia Colle 84.20 47 eP P 08 50 54.2 -0.3
CMB pmax pmax
comp=Z,29nm,1.1s,mb5.3
CMB Columbia Colle 84.20 47 eP P 08 50 54.2 -0.2
comp=Z,29nm,1.1s,mb5.3
CMB Columbia Colle 84.20 47 P P 08 50 54.3 -0.1
baz=84,SNR=17
RCTC Rector, Farmer 84.20 49 ⇑P P 08 50 53.9 -0.5
baz=84
109C Camp Elliot, M 84.25 53 ⇓P P 08 50 54.6 -0.1
baz=84
LAVA Lava Cap Winer 84.30 46 ⇑P P 08 50 54.9 -0.1
baz=84
LZH Lanzhou 84.39 311 eP P 08 50 56.5 +1.1
LZH AP pP 08 51 00.0 -13
LZH XP sP 08 51 01.5 -18
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,137nm,5.0s
BFSC Mount Baldy St 84.42 51 P P 08 50 55.4 -0.2
baz=85,SNR=9.3
YBH Yreka Blue Hor 84.45 43 eP P 08 50 56.0 +0.3
YBH pmax pmax
comp=Z,32nm,1.2s
YBH Yreka Blue Hor 84.45 43 eP P 08 50 56.0 +0.3
comp=Z,32nm,1.2s,mb5.3
YBH Yreka Blue Hor 84.45 43 P P 08 50 56.1 +0.4
baz=85,SNR=26
ISA Isabella 84.46 50 eP P 08 50 56.0 +0.2
comp=Z,0.1nm,1.3s
ISA Isabella 84.46 50 ⇓P P 08 50 56.0 +0.2
baz=85,SNR=32
EDW2 Edwards Air Fo 84.46 51 ⇓P P 08 50 55.7 -0.1
baz=85,SNR=16
K02A Glendale 84.47 42 ⇓P P 08 50 55.8 -0.1
baz=85,SNR=6.3
BAR Barrett 84.48 53 eP P 08 50 55.9 0.0
MURC Murrieta 84.48 52 ⇓P P 08 50 55.7 -0.2
baz=85,SNR=6.3
S06C San Francisco 84.50 47 ⇑P P 08 50 55.9 -0.1
baz=85,SNR=14
HELL Mitchell Peak, 84.53 49 P P 08 50 55.9 -0.2
baz=85,SNR=24
M03C McCloud 84.60 43 ⇑P P 08 50 56.6 +0.1
baz=85,SNR=16
KCC Kaiser Creek 84.61 48 ⇑P P 08 50 56.5 -0.1
baz=85,SNR=12
P05C Yuba Gap, Truc 84.65 46 ⇓P P 08 50 57.1 +0.3
baz=85,SNR=18
J02A Umpqua 84.73 41 P P 08 50 57.3 +0.1
baz=85,SNR=13
R05C Kirkwood Meado 84.73 47 ⇓P P 08 50 57.3 +0.2
baz=85,SNR=24
HUMO Hull Mountain 84.73 42 eP P 08 50 57.5 +0.3
comp=Z,27nm,1.0s,mb5.3
HUMO Hull Mountain 84.73 42 P P 08 50 57.6 +0.4
baz=85,SNR=26
O05C Quincy 84.76 45 ⇑P P 08 50 57.3 0.0
baz=85,SNR=5.4
MONP Monument Peak 84.77 53 ⇑P P 08 50 57.6 +0.3
baz=85,SNR=13
HATC Hat Creek Radi 84.81 44 ⇑P P 08 50 57.6 0.0
baz=85,SNR=12
O04C Chester 84.82 45 ⇓P P 08 50 57.6 0.0
baz=85,SNR=15
I02A Mapleton 84.90 40 ⇓P P 08 50 58.1 +0.1
baz=85,SNR=12
DVTC Desert V Tower 84.91 53 ⇓P P 08 50 58.4 +0.3
baz=85,SNR=5.5
LRMC Laurel Mountai 84.95 50 ⇓P P 08 50 58.5 +0.2
baz=85,SNR=11
BBRC Big Bear Sol-O 84.98 52 ⇑P P 08 50 58.4 0.0
baz=85
BUOR Burton Butte 85.02 43 P P 08 50 59.1 +0.5
M04C Macdoel 85.04 43 P P 08 50 59.0 +0.3
baz=85,SNR=20
BBOR Butler Butte 85.05 42 P P 08 50 59.0 +0.2
PFO Pinyon Flat Ob 85.05 52 P P 08 50 59.3 +0.6
comp=Z,39nm,1.0s,mb5.5,SNR=5.3
PFO Pinyon Flat Ob 85.05 52 eP P 08 50 58.6 -0.1
PFO Pinyon Flat Ob 85.05 52 P P 08 50 58.9 +0.1
baz=85,SNR=6.0
R06C Coleville 85.08 47 P P 08 50 59.2 +0.4
baz=85,SNR=26
WAKR Walker 85.08 47 eP P 08 50 59.2 +0.3
CWC Cottonwood Cre 85.10 49 ⇑P P 08 50 59.2 +0.2
baz=85
MLAC Mammoth Lakes 85.10 48 ⇓P P 08 50 59.6 +0.6
baz=85,SNR=5.3
H02A Toledo 85.15 40 ⇓P P 08 51 00.3 +1.0
baz=85
R07C Lee Vining 85.16 47 ⇑P P 08 50 59.7 +0.4
baz=85,SNR=14
MTUM Tungsten Hills 85.16 48 eP P 08 51 00.0 +0.7
L04A Klamath Falls 85.20 43 P P 08 50 59.6 +0.2
baz=85,SNR=18
ELFS Eagle Lake Fie 85.20 45 ⇑P P 08 50 59.6 +0.1
baz=85,SNR=13
I03A Eugene 85.23 41 ⇓P P 08 50 59.6 0.0
baz=85,SNR=6.9
PMR Palmer 85.23 17 eP P 08 50 58.6 -1.0
PMR pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
PMR Palmer 85.23 17 eP P 08 50 58.6 -1.0
comp=Z,7.4nm,0.7s,mb4.9
WCN Washoe City 85.23 46 ⇓P P 08 50 59.8 +0.2
baz=85,SNR=16
SWSC Sam W. Stewart 85.26 53 ⇓P P 08 50 60.0 +0.2
baz=85
M05C Lookout 85.28 44 ⇓P P 08 51 00.0 +0.1
baz=85,SNR=18
P06A Stead Airport, 85.31 46 ⇑P P 08 51 00.3 +0.3
baz=86,SNR=8.7
MPOR Mary's Peak 85.33 40 P P 08 51 00.5 +0.4
HOG Hogback Mounta 85.35 43 P P 08 51 00.8 +0.5

MPMC Manual Prospec 85.35 50 ⇓P P 08 51 00.4 +0.2
baz=86,SNR=12
DAC Darwin (Calif) 85.37 50 eP P 08 51 00.7 +0.3
DAC pmax pmax
comp=Z,27nm,1.6s,mb5.1
DAC Darwin (Calif) 85.37 50 eP P 08 51 00.7 +0.4
comp=Z,27nm,1.6s,mb5.1
S08C White Mtn Res 85.51 48 ⇓P P 08 51 01.4 +0.3
baz=86,SNR=28
K04A Chilquin 85.52 42 ⇓P P 08 51 01.1 0.0
baz=86,SNR=5.2
GSC Goldstone 85.52 51 eP P 08 51 01.6 +0.5
GSC Goldstone 85.52 51 ⇓P P 08 51 01.0 -0.1
baz=86,SNR=6.5
BELC Belle Mtn. 85.56 52 P P 08 51 01.6 +0.3
baz=86,SNR=23
J04A Umpqua Nationa 85.59 42 ⇓P P 08 51 01.7 +0.3
baz=86,SNR=13
O06A Flanigan 85.59 45 ⇑P P 08 51 01.6 +0.1
baz=86,SNR=15
M06C Likely Place G 85.65 44 P P 08 51 02.1 +0.4
baz=86,SNR=26
HEC Hector,Ludlow 85.67 51 P P 08 51 01.8 0.0
baz=86,SNR=5.6
I04A Tendick Farm, 85.67 41 ⇓P P 08 51 01.3 -0.6
baz=86,SNR=17
HBO Huckleberry Mo 85.76 41 P P 08 51 02.5 +0.2
L05A Lakeview 85.82 43 ⇑P P 08 51 02.9 +0.4
baz=86,SNR=24
BC3 Big Chuckw Mtn 85.82 53 P P 08 51 03.1 +0.5
baz=86,SNR=9.3
NVAR Mina Array Bea 85.84 47 P P 08 51 02.6 -0.1
comp=Z,13nm,1.1s,mb5.1,baz=239,slow=8.3,SNR=44
GRAC Grapevine Rang 85.86 49 ⇑P P 08 51 03.0 +0.3
baz=86,SNR=7.9
N06A Buffalo Meadow 85.86 45 ⇓P P 08 51 02.7 -0.1
baz=86,SNR=17
G03A Yamhill 85.91 40 ⇑P P 08 51 03.1 +0.1
baz=86
P07A Fallon 85.94 46 ⇓P P 08 51 03.6 +0.5
baz=86
FURC Furnace Creek, 85.99 50 ⇓P P 08 51 03.6 +0.1
baz=86,SNR=13
GLA Glamis 86.05 53 eP P 08 51 04.7 +1.0
GLA Glamis 86.05 53 ⇑P P 08 51 04.3 +0.5
baz=86,SNR=5.6
F03A Seaside 86.06 39 ⇓P P 08 51 03.4 -0.3
baz=86
MOD Modoc 86.10 44 eP P 08 51 03.9 -0.1
comp=Z,18nm,1.0s,mb5.3
MOD Modoc 86.10 44 ⇑P P 08 51 04.0 0.0
baz=86,SNR=35
K05A Summer Lake 86.11 43 ⇓P P 08 51 04.4 +0.4
baz=86,SNR=28
GMRC Granite Mounta 86.14 52 ⇓P P 08 51 04.0 -0.2
baz=86,SNR=7.2
BILL Bilibino 86.15 358 d iP P 08 51 02.7 -1.5
BILL pmax pmax
comp=Z,26nm,1.7s,mb5.2
BILL Bilibino 86.15 358 eP P 08 51 03.0 -1.2
comp=Z,18nm,1.1s,mb5.2
J05A Fort Rock 86.16 42 ⇑P P 08 51 04.4 +0.1
baz=86,SNR=53
SHOC Shoshone 86.17 50 ⇑P P 08 51 04.1 -0.1
baz=86
TUQ Turquoise Mtn. 86.23 51 ⇓P P 08 51 04.6 0.0
baz=86
O07A Toulon 86.23 46 P P 08 51 04.7 +0.1
baz=86,SNR=24
H04A Detroit Lake 86.26 41 ⇑P P 08 51 04.2 -0.5
baz=86,SNR=16
IRM Iron Mountain 86.27 52 ⇑P P 08 51 05.1 +0.3
baz=86,SNR=16
Q08A Gabbs 86.29 47 P P 08 51 04.9 0.0
baz=86,SNR=23
G04A Mulino 86.34 40 ⇓P P 08 51 04.8 -0.4
baz=86,SNR=8.5
U10A Ash Meadows, A 86.35 50 ⇑P P 08 51 05.5 +0.3
baz=86,SNR=13
TPH Tonopah 86.44 48 eP P 08 51 06.4 +0.8
TPH pmax pmax
comp=Z,29nm,1.2s,mb5.4
TPH Tonopah 86.44 48 eP P 08 51 06.4 +0.8
comp=Z,29nm,1.2s,mb5.4
N07B Gerlach 86.45 45 ⇑P P 08 51 05.8 +0.1
baz=87,SNR=16
C03A Quillayute Air 86.53 37 ⇓P P 08 51 05.5 -0.6
baz=87
K06A Valley Falls 86.56 43 ⇑P P 08 51 06.1 -0.1
baz=87,SNR=22
P08A Dixie Valley 86.56 46 ⇑P P 08 51 06.5 +0.2
baz=87
Y12C Blythe 86.57 53 ⇑P P 08 51 06.6 +0.3
baz=87,SNR=6.6
M07A Soldier Meadow 86.60 44 ⇓P P 08 51 06.5 +0.1
baz=87,SNR=21
R09A Tonopah 86.62 48 ⇑P P 08 51 06.6 +0.1
baz=87,SNR=9.1
CIT Chita 86.66 328 e P 08 51 06.7 0.0
CIT pmax pmax
comp=Z,49nm,1.9s,mb5.4
SYO Syowa Base 86.73 195 ⇑eP P 08 51 05.0 -2.1
SYO Syowa Base 86.73 195 ⇑ePcP PcP 08 51 08.6 -0.7
F04A Amboy 86.75 39 ⇑P P 08 51 06.7 -0.5
baz=87,SNR=6.8
V11A Goodsprings 86.76 51 ⇓P P 08 51 07.1 -0.1
baz=87,SNR=5.4
O08A Rochester Mine 86.78 46 ⇑P P 08 51 07.6 +0.3
baz=87
L07A Adell 86.79 44 P P 08 51 07.9 +0.5
baz=87,SNR=32
Q09A Carvers 86.80 47 ⇓P P 08 51 07.6 +0.2
baz=87
H05A Madras 86.84 41 ⇑P P 08 51 07.5 -0.1
baz=87,SNR=13
YAK Yakutsk 86.89 341 ⇑eP P 08 51 06.7 -1.1
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.4
YAK Yakutsk 86.89 341 eP P 08 51 06.9 -0.9
comp=Z,16nm,0.5s,mb5.5
E04A Onalaska 86.90 39 ⇓P P 08 51 08.0 +0.1
baz=87
HOOD Mount Hood Mea 86.91 40 eP P 08 51 08.0 +0.1
W12A Cal Nev Ari 86.95 51 ⇑P P 08 51 08.2 +0.1
baz=87
N08A GE Springer Mi 87.02 45 ⇑P P 08 51 08.4 0.0
baz=87,SNR=24
U11A Corn Creek 87.05 50 ⇓P P 08 51 08.8 +0.2
baz=87
G05A Wamic 87.08 40 ⇑P P 08 51 08.6 -0.2
baz=87,SNR=6.6
TDL Tradedollar La 87.08 39 P P 08 51 09.1 +0.3
PDMCI Parker Dam,Lak 87.08 53 ⇓P P 08 51 08.8 +0.1
baz=87,SNR=6.3
I06A Prineville 87.14 42 P P 08 51 09.2 +0.2
baz=87,SNR=32
V12A Nelson 87.14 51 ⇓P P 08 51 09.2 +0.2
baz=87
P09A Austin 87.15 47 ⇓P P 08 51 09.2 +0.1
baz=87
K07A Rock Creek Ran 87.16 43 P P 08 51 09.4 +0.3
baz=87,SNR=24
B04A Port Angeles 87.20 37 ⇓P P 08 51 09.2 -0.1
baz=87
SHPR Sheep Range 87.24 50 eP P 08 51 10.3 +0.8
C04A Brinnon 87.33 38 ⇓P P 08 51 09.8 -0.2
baz=88
O09A Fish Creek Ran 87.39 46 P P 08 51 10.6 +0.3
baz=88,SNR=15
H06A Lindquist Farm 87.44 41 ⇓P P 08 51 10.2 -0.3
baz=88,SNR=27
X13A Yucca 87.44 52 ⇑P P 08 51 10.4 -0.1
baz=88,SNR=5.5
J07A Hines 87.44 43 ⇑P P 08 51 10.4 -0.1
baz=88,SNR=12
WVOR Wild Horse Val 87.44 44 eP P 08 51 10.6 +0.1
WVOR pmax pmax
comp=Z,45nm,1.3s,mb5.5
WVOR Wild Horse Val 87.44 44 eP P 08 51 10.6 +0.1
comp=Z,45nm,1.3s,mb5.5
E05A Randle 87.46 39 ⇑P P 08 51 10.0 -0.6
baz=88
N09A Rock Creek Ran 87.47 46 ⇓P P 08 51 10.7 +0.1
baz=88,SNR=7.1
BMN Battle Mountai 87.48 46 eP P 08 51 11.1 +0.4
BMN pmax pmax
comp=Z,31nm,1.0s,mb5.5
BMN Battle Mountai 87.48 46 eP P 08 51 11.1 +0.3

comp=Z,31nm,1.0s,mb5.5
G06A Carlson Farm, 87.49 41 P P 08 51 10.4 -0.4
baz=88,SNR=7.3
L08A Fields 87.52 44 P P 08 51 11.2 +0.3
baz=88,SNR=38
PGC Sidney 87.53 37 eP P 08 51 10.0 -0.9
comp=Z,60nm,1.0s,mb5.8
W13A Hualapai Mount 87.60 52 P P 08 51 11.5 +0.2
baz=88,SNR=7.6
Z14A Wintersburg 87.61 54 ⇑P P 08 51 11.8 +0.4
baz=88
D05A Enumclaw 87.64 38 ⇑P P 08 51 11.5 0.0
baz=88
P10A Eureka 87.65 47 ⇓P P 08 51 11.7 +0.2
baz=88
I07A Izee 87.65 42 P P 08 51 11.7 +0.2
baz=88,SNR=25
WPW White Pass 87.65 39 P P 08 51 11.4 -0.1
U12A Valley of Fire 87.67 51 ⇑P P 08 51 11.8 +0.2
baz=88
K08A Mann Creek Ran 87.68 44 ⇓P P 08 51 11.7 +0.1
baz=88,SNR=24
M09A Marrel Ranch, 87.77 45 ⇑P P 08 51 12.3 +0.2
baz=88,SNR=16
Y14A Wickenburg 87.80 53 ⇓P P 08 51 12.2 0.0
baz=88
IMA2 Indian Mountai 87.81 13 eP P 08 51 11.4 -0.9
H07A Lands Inn, Kim 87.85 41 ⇑P P 08 51 12.3 -0.1
baz=88
RMW Rattlesnake Mo 87.88 38 P P 08 51 12.7 +0.1
Q11A Duckwater 87.88 48 P P 08 51 12.8 +0.2
baz=88,SNR=18
L09A Wilkinson Ranc 87.89 44 ⇑P P 08 51 12.8 +0.2
baz=88,SNR=14
115A Sonoran Desert 87.91 55 ⇓P P 08 51 12.9 +0.1
baz=88
O10A Cortez Mining, 87.92 46 ⇓P P 08 51 12.8 +0.1
baz=88,SNR=10
E06A Yakima 87.92 39 ⇑P P 08 51 12.5 -0.2
baz=88,SNR=8.8
J08A Circle Bar Ran 87.97 43 P P 08 51 13.1 0.0
baz=88,SNR=24
A04A Legoe Bay, Lum 87.99 37 ⇑P P 08 51 12.9 -0.2
baz=88,SNR=6.3
C05A Tolt Reservoir 88.06 38 ⇓P P 08 51 13.0 -0.5
baz=88,SNR=9.7
X14A Yava 88.10 53 ⇑P P 08 51 14.3 +0.7
baz=88,SNR=6.5
G07A Ruggs Ranch, H 88.11 41 P P 08 51 13.4 -0.2
baz=88,SNR=19
B05A Bryant 88.11 37 ⇓P P 08 51 13.3 -0.4
baz=88,SNR=6.6
P11A Circle Ranch, 88.11 47 ⇑P P 08 51 13.9 +0.2
baz=88,SNR=6.6
K09A Rome 88.16 44 P P 08 51 14.1 +0.2
baz=88,SNR=45
COLA College 88.21 16 eP P 08 51 11.8 -2.4
COLA College 88.21 16 eP P 08 51 11.0 -3.1
comp=Z,9.0nm,1.3s,mb4.8
W14A Seligman 88.25 52 ⇑P P 08 51 15.0 +0.6
baz=88,SNR=6.6
116A Eloy 88.26 55 ⇓P P 08 51 14.4 0.0
baz=88
SONM Songino Array 88.31 322 P P 08 51 14.8 +0.1
comp=Z,6.7nm,1.0s,mb4.8,baz=162,slow=4.6,SNR=31
D06A Cle Elum 88.32 39 ⇓P P 08 51 14.2 -0.4
baz=88,SNR=8.1
H08A Prairie City 88.38 42 ⇓P P 08 51 14.7 -0.3
baz=88,SNR=9.5
J09A Fry Pan Ranch, 88.44 43 ⇓P P 08 51 15.2 0.0
baz=89,SNR=44
A05A Maple Falls 88.49 37 ⇑P P 08 51 14.9 -0.6
baz=89
Q12A Willow Creek R 88.55 48 ⇓P P 08 51 15.8 +0.1
baz=89,SNR=8.0
G08A Pilot Rock 88.56 41 P P 08 51 15.8 0.0
baz=89,SNR=41
B06A Marblemount 88.59 37 ⇓P P 08 51 15.1 -0.9
baz=89
X15A Humboldt 88.60 53 P P 08 51 16.8 +0.8
baz=89,SNR=8.2
E07A Sunnyside 88.61 40 P P 08 51 15.9 -0.1
baz=89,SNR=14
P12A McGill 88.67 48 ⇑P P 08 51 16.8 +0.4
baz=89,SNR=7.3
GTA Gaotai 88.72 312 ⇓P P 08 51 17.3 +0.7
GTA AP pP 08 51 21.3 -13
GTA XP sP 08 51 24.5 -16
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.9
GTA AMB AMB
comp=Z,103nm,5.7s
I09A Lost Marbles R 88.73 43 ⇓P P 08 51 16.4 -0.2
baz=89,SNR=15
W15A Williams 88.85 52 ⇑P P 08 51 17.9 +0.8
baz=89
TUC Tucson 88.88 56 eP P 08 51 17.5 +0.2
TUC pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
TUC Tucson 88.88 56 eP P 08 51 17.5 +0.2
comp=Z,8.7nm,1.3s,mb4.9
C07A Waterville 89.02 39 P P 08 51 17.4 -0.6
baz=89,SNR=13
ARUT Antelope Range 89.02 50 eP P 08 51 18.7 +0.7
H09A Durkee 89.09 42 ⇓P P 08 51 18.1 -0.2
baz=89,SNR=18
J10A Berg Farm, Mel 89.11 43 ⇓P P 08 51 18.2 -0.2
baz=89
N12A Clover Valley, 89.16 46 ⇑P P 08 51 19.0 +0.3
baz=89,SNR=14
B07A Winthrop 89.36 38 ⇓P P 08 51 19.4 -0.2
baz=90,SNR=25
BMO Blue Mountains 89.40 42 eP P 08 51 19.3 -0.5
BMO pmax pmax
comp=Z,16nm,1.1s,mb5.3
BMO Blue Mountains 89.40 42 eP P 08 51 19.3 -0.5
comp=Z,16nm,1.1s,mb5.2
D08A Wollman Farm, 89.41 40 ⇑P P 08 51 19.4 -0.4
baz=90,SNR=19
F09A S2 Ranch, Elgi 89.41 41 ⇓P P 08 51 19.5 -0.3
baz=90,SNR=8.5
A07A Ashnola River, 89.49 37 ⇓P P 08 51 20.0 -0.1
baz=90,SNR=17
E09A Wood Farm, Sta 89.63 40 ⇓P P 08 51 20.4 -0.4
baz=90,SNR=22
H10A Noah's Angus R 89.64 42 P P 08 51 20.4 -0.5
baz=90,SNR=54
WUAZ Wupatki 89.65 52 eP P 08 51 21.1 +0.1
comp=Z,15nm,1.1s,mb5.2
WUAZ Wupatki 89.65 52 ⇑P P 08 51 21.6 +0.6
baz=90,SNR=8.6
C08A Higginbotham F 89.67 39 P P 08 51 20.6 -0.4
baz=90,SNR=15
N13A Wendover, West 89.74 47 ⇑P P 08 51 21.5 +0.2
baz=90
DLBC Dease Lake 89.76 26 eP P 08 51 21.0 -0.4
B08A Colville Reser 89.77 38 P P 08 51 20.7 -0.8
baz=90,SNR=25
D09A Jones Farm, Ri 89.78 40 ⇓P P 08 51 21.2 -0.3
baz=90,SNR=39
I11A Placerville 89.86 43 ⇑P P 08 51 21.7 -0.2
baz=90,SNR=37
F10A Beach Ranch, E 89.95 41 ⇓P P 08 51 21.7 -0.6
baz=90
M13A Montello 89.97 46 ⇓P P 08 51 22.5 +0.1
baz=90,SNR=33
EGAK Eagle 90.00 18 eP P 08 51 20.2 -2.3
comp=Z,6.3nm,0.8s,mb5.0
A08A Turner Farm, O 90.09 38 ⇑P P 08 51 22.7 -0.3
baz=90,SNR=28
C09A Chrisman Ranch 90.14 39 ⇑P P 08 51 22.7 -0.5
baz=90,SNR=5.9
H11A Donnelly 90.16 43 P P 08 51 23.2 -0.1
baz=90,SNR=37
MSU Marysvale 90.22 49 eP P 08 51 24.9 +1.3
E10A Myers Farm, Un 90.25 41 ⇓P P 08 51 23.8 +0.1
baz=90,SNR=8.4
SNAA Sanae 90.26 181 ⇓iP P 08 51 22.1 -1.7
SNAA e 08 51 23.2
SNAA e 08 51 26.2
SNAA e 08 51 29.2
SNAA Sanae 90.26 181 ⇑eP P 08 51 22.0 -1.8
SNAA Sanae 90.26 181 eP P 08 51 21.9 -1.9
comp=Z,36nm,1.0s,mb5.7
D10A Wagner Farm, O 90.41 40 ⇓P P 08 51 23.7 -0.8
baz=91,SNR=39
DUG Dugway 90.44 48 eP P 08 51 24.7 +0.1

DUG pmax pmax
comp=Z,19nm,1.4s,mb5.2
DUG Dugway 90.44 48 eP P 08 51 24.7 +0.1
comp=Z,19nm,1.4s,mb5.2
DUG Dugway 90.44 48 ⇓P P 08 51 24.6 0.0
baz=91,SNR=10
A09A Danville 90.50 38 P P 08 51 24.8 -0.1
baz=91,SNR=16
B09A Rice 90.50 39 ⇑P P 08 51 24.3 -0.6
baz=91,SNR=13
HLID Hailey 90.72 44 eP P 08 51 26.2 +0.3
comp=Z,13nm,1.0s,mb5.2
HLID Hailey 90.72 44 ⇓P P 08 51 26.0 +0.1
baz=91,SNR=18
C10A Spilker Farm, 90.73 39 ⇑P P 08 51 25.4 -0.6
baz=91
VNA3 Neumayer Olymp 90.74 179⇓iP P 08 51 24.4 -1.6
VNA3 e 08 51 25.3
VNA3 e 08 51 28.3
VNA3 e 08 51 31.4
E11A Bogner Ranch, 90.76 41 ⇑P P 08 51 24.8 -1.3
baz=91,SNR=16
H12A Diamond D Ranc 90.84 43 P P 08 51 26.4 0.0
baz=91,SNR=39
NLU North Lily Min 90.86 48 eP P 08 51 27.3 +0.7
D11A Klaveano Farm, 90.98 40 P P 08 51 26.4 -0.7
baz=91,SNR=41
B10A Chitwood Farm, 90.99 39 ⇑P P 08 51 26.6 -0.6
baz=91
NEW Newport 91.04 39 eP P 08 51 27.0 -0.4
NEW pmax pmax
comp=Z,20nm,1.0s
NEW Newport 91.04 39 eP P 08 51 27.0 -0.4
comp=Z,20nm,1.0s,mb5.4
VNA2 Neumayer--Watz 91.07 180⇓iP P 08 51 26.2 -1.3
baz=176,slow=3.7
VNA2 e 08 51 27.2
VNA2 e 08 51 30.2
VNA2 e 08 51 33.4
VNA2 e 08 51 35.0
F12A Elk City 91.10 42 P P 08 51 27.1 -0.6
baz=91,SNR=42
HVU Hansel Valley 91.10 46 eP P 08 51 27.9 +0.2
HVU pmax pmax
comp=Z,34nm,1.2s,mb5.5
HVU Hansel Valley 91.10 46 eP P 08 51 27.9 +0.2
comp=Z,34nm,1.2s,mb5.5
SPUT South Promonto 91.14 47 eP P 08 51 23.6 -4.2
MPU Maple Canyon 91.20 48 eP P 08 51 28.4 +0.2
comp=Z,19nm,1.2s,mb5.3
TMUT Trail Mountain 91.23 49 eP P 08 51 28.8 +0.5
ZAK Zakamensk 91.33 323⇓iP P 08 51 28.4 -0.3
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
VNA1 Neumayer--Stat 91.34 180⇓iP P 08 51 27.8 -1.0
VNA1 e 08 51 28.8
VNA1 e 08 51 31.6
VNA1 e 08 51 34.8
CTU Camp Tracy 91.38 47 eP P 08 51 29.2 +0.3
comp=Z,20nm,1.2s,mb5.3
G13A Cobalt 91.47 43 P P 08 51 29.5 +0.1
baz=92,SNR=11
JLU Jordanelle 91.56 48 eP P 08 51 30.4 +0.6
DAU Daniels Canyon 91.62 48 eP P 08 51 31.0 +0.9
SRU San Rafael 91.65 49 eP P 08 51 30.4 +0.2
SRU pmax pmax
comp=Z,18nm,1.3s,mb5.2
SRU San Rafael 91.65 49 eP P 08 51 30.4 +0.2
comp=Z,18nm,1.3s,mb5.2
F13A Darby 91.70 42 ⇑P P 08 51 29.8 -0.7
baz=92,SNR=13
TLY Talaya 91.72 324d iP P 08 51 29.6 -0.9
TLY pmax pmax
comp=Z,17nm,1.7s,mb5.1
TLY Talaya 91.72 324 eP P 08 51 29.9 -0.6
comp=Z,12nm,0.8s,mb5.3
A11A Hall Mountain, 91.80 39 ⇓P P 08 51 31.1 +0.2
baz=92,SNR=18
HWUT Hardware Ranch 91.86 47 eP P 08 51 31.3 +0.1
E13A Victor 92.06 42 ⇑P P 08 51 31.6 -0.5
baz=92
D13A Huson 92.16 41 ⇓P P 08 51 32.2 -0.4
baz=92
MCMT McKenzie Canyo 92.26 43 eP P 08 51 33.2 +0.2
BSMT Bassoo Peak 92.27 40 eP P 08 51 32.7 -0.4
F14A Wisdom 92.32 42 ⇓P P 08 51 33.2 -0.1
baz=92
MVCO Mesa Verde 92.44 52 ⇓P P 08 51 33.6 -0.2
baz=93
LAZ Ladron 92.48 55 eP P 08 51 34.2 +0.2
E14A Clinton 92.49 42 ⇑P P 08 51 33.4 -0.7
baz=93,SNR=8.5
LENM Lemitar 92.53 55 eP P 08 51 34.5 +0.3
G15A Dillon 92.63 43 ⇓P P 08 51 34.7 -0.1
baz=93,SNR=11
PV01 Paradox Valley 92.71 51 eP P 08 51 35.1 0.0
D14A Greenough 92.75 41 ⇑P P 08 51 34.9 -0.4
baz=93
BNM Barren Site 92.79 55 eP P 08 51 36.2 +0.7
CHMT Chamberlain Mo 92.84 41 eP P 08 51 35.1 -0.6
LPM Los Pinos Moun 92.84 55 eP P 08 51 36.5 +0.8
MNTX Cornudas Mount 92.95 58 eP P 08 51 36.5 +0.2
comp=Z,20nm,1.4s,mb5.4
REDW Red Top Meadow 93.02 45 eP P 08 51 37.3 +0.8
comp=Z,22nm,1.6s,mb5.3
E15A Deer Lodge 93.03 42 ⇓P P 08 51 36.1 -0.5
baz=93,SNR=5.6
SNOW Snow King Moun 93.12 45 eP P 08 51 38.0 +0.9
comp=Z,19nm,1.6s,mb5.3
IMW Indian Meadow 93.16 45 eP P 08 51 38.3 +1.1
QLMT Earthquake Lak 93.19 44 eP P 08 51 37.7 +0.3
ANMO Albuquerque 93.20 54 eP P 08 51 37.6 +0.2
ANMO pmax pmax
comp=Z,12nm,1.3s
ANMO Albuquerque 93.20 54 eP P 08 51 37.6 +0.2
comp=Z,12nm,1.3s,mb5.2
MOOW Moose Ponds 93.24 45 eP P 08 51 37.7 +0.2
comp=Z,27nm,2.1s,mb5.3
D15A Lincoln 93.35 41 ⇑P P 08 51 37.4 -0.7
baz=94
BOZ Bozeman (W) 93.38 43 eP P 08 51 38.2 0.0
LTX Lajitas 93.58 60 eP P 08 51 39.8 +0.7
LTX pmax pmax
comp=Z,15nm,1.0s,mb5.4
LTX Lajitas 93.58 60 eP P 08 51 39.8 +0.7
comp=Z,15nm,1.0s,mb5.4
TXAR Lajitas Array 93.58 60 P P 08 51 39.7 +0.6
comp=Z,9.7nm,0.9s,mb5.2,baz=228,slow=5.6,SNR=84
TXAR PKKPbc PKKPbc 09 08 45.2 +1.1
comp=Z,1.0nm,1.0s,baz=90,slow=5.0,SNR=6.0
TXAR LR LR 09 24 18.3
comp=Z,149nm,19.4s,baz=5.0,slow=29
TXAR Lajitas Array 93.58 60 P P 08 51 39.7 +0.6
TXAR PKKPbc PKKPbc 09 08 45.2 +1.1
TXAR LR LR 09 24 18.3
BW06 Boulder Array 93.68 46 eP P 08 51 39.4 -0.2
PDAR Pinedale Array 93.68 46 P P 08 51 38.5 -1.0
comp=Z,1.6nm,1.1s,mb4.4,baz=202,slow=1.6,SNR=6.7
PDAR PKKPbc PKKPbc 09 08 43.7 -0.1
comp=Z,0.4nm,0.7s,baz=90,slow=4.4,SNR=4.8
PDAR LR LR 09 24 15.7
comp=Z,99nm,20.3s,baz=257,slow=29
GDL2 Guadalupe Moun 93.93 58 eP P 08 51 41.7 +0.9
TIXI Tiksi 94.43 347 eP P 08 51 40.8 -2.2
TIXI pmax pmax
comp=Z,4.0nm,1.3s,mb4.7
INK Inuvik 94.64 18 P P 08 51 41.3 -2.7
comp=Z,2.1nm,1.0s,mb4.5,baz=279,slow=1.4,SNR=3.8
INK Inuvik 94.64 18 eP P 08 51 41.2 -2.8
comp=Z,828nm,1.9s
EDM Edmonton 95.30 36 eP P 08 51 46.3 -0.7
PHWY Pilot Hill 96.05 49 eP P 08 51 51.2 +0.8
RSSD Black Hills 97.92 46 eP P 08 51 57.0 -1.9
RSSD pmax pmax
comp=Z,6.0nm,1.3s,mb5.0
RSSD Black Hills 97.92 46 eP P 08 51 57.0 -1.9
comp=Z,5.7nm,1.3s,mb4.9
YKA Yellowknife Ar 98.38 27 P P 08 51 59.4 -1.5
comp=Z,2.2nm,0.8s,mb4.7,baz=253,slow=4.6,SNR=23
YKA PP PP 08 56 00.6 -0.8
comp=Z,1.0nm,1.1s,baz=244,slow=7.1,SNR=4.8
YKA PKiKP PKiKP 08 56 31.1 -1.8
comp=Z,0.2nm,0.6s,baz=253,slow=1.5,SNR=4.7
YKA PKKPbc PKKPbc 09 08 28.6 -2.5
comp=Z,0.3nm,0.8s,baz=72,slow=2.8,SNR=4.5
YKA LR LR 09 27 51.5
comp=Z,114nm,21.8s,baz=325,slow=30
YKA Yellowknife Ar 98.38 27 P P 08 51 59.4 -1.5
YKA PP PP 08 56 00.6 -0.8
ZAL Zalesovo 103.20 323 Pdiff Pdif 08 52 21.2 -1.2
comp=Z,1.1nm,0.4s,baz=88,slow=14,SNR=4.2
MKAR Makanchi Array 103.21 315 Pdiff Pdif 08 52 21.8 -0.6
comp=Z,1.0nm,0.7s,baz=103,slow=5.4,SNR=6.7
ARU Arti 118.22 325 ePKIKP PKPdf 08 57 07.8 -2.1
ARU Arti 118.22 325 ePKPdf PKPdf 08 57 07.8 -2.1
BOSA Boshof 123.68 215 PKP PKPdf 08 57 21.1 +0.7
comp=Z,5.6nm,0.9s,baz=294,slow=19,SNR=3.2
ARCES ARCESS Array B 124.86 346 PKP PKPdf 08 57 21.3 -1.4
comp=Z,10nm,0.7s,baz=52,slow=1.2,SNR=26
KLMR Klimovskoe 126.05 334 ePKIKP PKPdf 08 57 22.7 -2.3
OBN Obninsk 130.31 328⇑iPKIKP PKPdf 08 57 31.5 -1.6
OBN pmax pmax
comp=Z,20nm,1.3s
FINES FINESS Array B 130.79 339 PKP PKPdf 08 57 33.1 -0.9
comp=Z,5.6nm,1.0s,baz=4.1,slow=2.7,SNR=6.0
FINES FINESS Array B 130.79 339⇑iPKIKP PKPdf 08 57 33.0 -1.0
KIV Kislovodsk 130.90 313 i PKIKP PKPdf 08 57 34.0 -0.2
KMBO Kilima Mbogo 131.97 251 PKP PKPdf 08 57 37.9 +1.7
comp=Z,2.3nm,1.0s,baz=69,slow=20,SNR=5.0
NB2 NORSAR Subarra 135.22 347 PKPdf PKPdf 08 57 40.7 -1.6
comp=Z,2.4nm,0.8s,baz=26,slow=1.9
NOA NORSAR Array B 135.22 347 PKP PKPdf 08 57 40.4 -2.0
comp=Z,2.1nm,0.7s,baz=32,slow=2.0,SNR=6.3
HFS Hagfors 135.47 345 PKP PKPdf 08 57 41.7 -1.1
comp=Z,4.5nm,0.9s,baz=101,slow=3.0,SNR=4.3
AKASG Malin Array Be 136.43 327 PKP PKPdf 08 57 43.4 -1.2
comp=Z,3.5nm,0.9s,baz=46,slow=2.1,SNR=12
BRTR Keskin Array B 138.60 310 PKP PKPdf 08 57 47.0 -1.6
comp=Z,1.0nm,0.8s,baz=160,slow=3.9,SNR=4.3
BRTR Keskin Array B 138.60 310⇑iPKIKP PKPdf 08 57 48.7 +0.1
KOLS Kolonicke sedl 141.07 329 ePKP PKPdf 08 57 53.9 +0.8
DRGR 142.22 326⇓iP PKPdf 08 57 51.0 -4.1
OKC Ostrava-Krasne 142.36 333 ePKP PKPdf 08 57 54.7 -0.7
DPC Dobruska-Polom 142.74 335 ePKP PKPdf 08 57 53.0 -3.0
UPC Upice 142.74 335 ePKP PKPdf 08 57 52.1 -4.0
EKA Eskdalemuir Ar 142.82 356 PKP PKPdf 08 57 55.0 -1.2
comp=Z,1.2nm,0.7s,baz=3.6,slow=2.6,SNR=5.0
PSZ Piszkesteto 142.92 329⇑ePKP PKPdf 08 57 56.2 -0.2
VYHS Vyhne 143.02 331 ePKP PKPdf 08 57 54.2 -2.4
CLL Collm 143.22 338 i PKPdf PKPdf 08 57 52.8 -4.1
comp=Z,9.0nm,0.7s
CLL i pPKPdf pPKPdf 08 57 59.6 -15
BRG Berggiesshubel 143.24 337 eP PKPdf 08 57 54.0 -3.0
comp=Z,7.5nm,1.2s
VRAC Vranov 143.42 333 PKP PKPdf 08 57 54.8 -2.4
comp=Z,3.0nm,0.5s,baz=67,slow=6.5,SNR=3.1
BZS Buzias 143.55 325⇑iP PKPdf 08 57 55.2 -2.3
CLZ Clausthal 143.63 341 ePKPbc PKPdf 08 57 55.8 -1.8
PRU Pruhonice 143.73 336 ePKP PKPdf 08 57 55.5 -2.3
TANN Tannenbergstha 144.15 338 ePKPbc PKPdf 08 57 57.1 -1.4
MOX Moxa 144.25 339 ePKPbc PKPdf 08 57 57.5 -1.2
MOX Moxa 144.25 339 ePKP PKPdf 08 57 57.4 -1.3
comp=Z,25nm,1.2s
NKC Novy Kostel 144.31 338 ePKP PKPdf 08 57 57.5 -1.3
VTS Vitosha 144.41 320 eP PKPdf 08 57 58.0 -1.0
VTS Vitosha 144.41 320⇓iP PKPdf 08 57 57.9 -1.1
UBBA Unterbreizbach 144.63 341 ePKPbc PKPdf 08 57 58.4 -1.0
SOP Sopron 144.66 332⇑ePKP PKPdf 08 57 58.9 -0.5
PKSM Moragy 144.72 328⇓iP PKPdf 08 57 58.4 -1.1
ROTZ Rotzenmuhle 144.78 338 ePKPbc PKPdf 08 57 59.3 -0.3
CONA Conrad Observa 144.79 332⇓iPKPdf PKPdf 08 58 00.1 +0.5
comp=Z,18nm,1.0s,SNR=8.0
KHC Kasperske Hory 144.79 336 ePKP PKPdf 08 57 58.5 -1.1
BUG Bochum--Univer 144.87 344 ePKPbc PKPdf 08 57 59.5 -0.3
GEC2 GERESS Array S 144.97 335 ePKPbc PKPdf 08 57 59.4 -0.6
GERES GERESS Array B 144.97 335 PKP PKPdf 08 57 59.1 -0.8
comp=Z,6.3nm,0.6s,baz=34,slow=3.6,SNR=26
WET Wettzell 145.05 336 ePKPbc PKPbc 08 57 59.7 +0.1
OUR Ouranopolis 145.10 316 eP PKPbc 08 58 00.1 +0.3
BARS Barje 145.12 321 ePKP PKPdf 08 58 00.6 +0.4
GRF Grafenberg Arr 145.20 339 ePKPbc PKPbc 08 58 00.4 +0.3
SOH Sokhos 145.26 317 eP PKPbc 08 58 00.0 -0.3
DIVS Divcibare 145.40 324⇓iPKP PKPdf 08 57 58.6 -2.1
DIVS Divcibare 145.40 324 eP PKPdf 08 58 00.5 -0.2
ARSA Arzberg 145.45 332 i P PKPdf 08 58 01.0 +0.2
comp=Z,48nm,1.1s,SNR=15
APE Apeiranthos 145.49 310⇓iP PKPdf 08 57 59.6 -1.3
VAY Valandovo 145.50 318 eP PKPdf 08 57 58.0 -2.9
VAY Valandovo 145.50 318 ePKP PKPdf 08 57 59.5 -1.4
VAY Valandovo 145.50 318 ePKP PKPdf 08 57 59.5 -1.4
MOA Molln 145.53 334⇓iP PKPdf 08 58 01.4 +0.5
comp=Z,89nm,1.0s,SNR=24
TNS Taunus Mts 145.63 342 ePKPbc PKPbc 08 58 01.4 -0.1
KOGS Kog 145.71 330 ePKPbc PKPbc 08 58 01.3 -0.4
GRG Griva 145.81 318 eP PKPdf 08 58 01.0 -0.4
SANT Santorini 145.82 309 eP PKPdf 08 58 00.3 -1.1
SANT Santorini 145.82 309 ePKPdf PKPdf 08 58 01.2 -0.2
HGN Heimansgroeve 145.83 345 eP PKPdf 08 58 02.1 +0.7
comp=Z,66nm,1.7s
SKO Skopje 145.84 320 eP PKPdf 08 58 02.7 +1.2
SKO Skopje 145.84 320 ePKP PKPdf 08 58 00.9 -0.5
comp=Z,82nm,0.9s
SKO Skopje 145.84 320 ePKP PKPdf 08 58 00.9 -0.5
comp=Z,82nm,0.9s
BEBN Eben Emael 145.86 345 PKP PKPdf 08 58 02.5 +1.0
BBLS Bajina Basta - 145.87 324⇓iPKP PKPdf 08 58 03.2 +1.7
THR6 Thira Island, 145.87 309 eP PKPdf 08 58 00.6 -0.9
THR5 Thira Island, 145.89 309 eP PKPdf 08 58 01.2 -0.4
MEM Membach 145.95 345 PKP PKPdf 08 58 02.5 +0.9
TOD Tromm 146.07 341 PKP2 PKPab 08 58 03.2 -0.3
PERS Pernice 146.10 332 ePKPbc PKPbc 08 58 02.5 -0.4
XOR Xorichti 146.11 315 eP PKPdf 08 57 59.3 -2.6
UCC Uccle 146.17 346 PKP PKPdf 08 58 02.5 +0.5
LIT Litokhoron 146.20 316 eP PKPdf 08 58 02.2 +0.1
KRUS Krusevo 146.30 319 ePKP PKPdf 08 58 02.2 0.0
KRUS Krusevo 146.30 319 ePKP PKPdf 08 58 02.2 0.0
BIA Bitola 146.45 319 ePKP PKPdf 08 58 03.0 +0.6
BIA Bitola 146.45 319 ePKP PKPdf 08 58 03.0 +0.6
SNF Seneffe 146.46 346 PKP PKPdf 08 58 05.2 +2.7
FUR Furstenfeldbru 146.46 337 ePKPbc PKPbc 08 58 04.1 +0.2
KBA Koelnbreinsper 146.53 334⇓iP PKPdf 08 58 03.7 +1.1
comp=Z,45nm,0.9s,SNR=16
CRES Cresnjev 146.55 330 ePKPbc PKPbc 08 58 04.0 -0.2
STU Stuttgart 146.67 340 ePKPbc PKPbc 08 58 04.9 +0.3
GIVF Givet 146.71 346 ePKP1 PKPbc 08 58 04.0 -0.7
comp=Z,109nm,1.2s
OHR Ohrid 146.73 319 eP PKPdf 08 58 03.5 +0.6
OHR Ohrid 146.73 319 ePKP PKPdf 08 58 02.5 -0.5
comp=Z,80nm,0.7s
OHR ePKP PKPdf 08 58 04.2 +1.2
OHR Ohrid 146.73 319 ePKP PKPdf 08 58 02.5 -0.5
comp=Z,80nm,0.7s
OHR ePKP PKPdf 08 58 04.2 +1.2
DOU Dourbes 146.77 346 PKPbc PKPbc 08 58 05.2 +0.3
WLF Walferdange 146.78 344 PKPbc PKPbc 08 58 05.4 +0.5
LJU Ljubljana 146.81 332 ePKPbc PKPbc 08 58 04.8 -0.2
BOJS Bojanci 146.88 330 ePKPbc PKPbc 08 58 05.4 +0.2
BAIF Baives 146.89 346 ePKP1 PKPbc 08 58 04.5 -0.7
comp=Z,141nm,1.4s
LANF Langenberg 146.93 341 PKP PKPdf 08 58 05.7 +2.4
CADS Cadrg 147.02 332 ePKPbc PKPbc 08 58 04.6 -1.0
WATA Walderalm 147.03 336⇑iP PKPdf 08 58 04.9 +1.4
comp=Z,31nm,1.0s,SNR=6.2
PTCC Patocco-Chiusa 147.05 333 PKP PKPdf 08 58 04.8 +1.3
WTTA Wattenberg 147.07 336⇓iP PKPdf 08 58 05.7 +2.2
comp=Z,68nm,1.1s,SNR=14
VOY Vojsko 147.10 332 ePKPbc PKPbc 08 58 04.9 -0.9
VOY e 08 58 11.7
TIR Tirane 147.16 320 eP PKPdf 08 58 05.1 +1.4
MEV Metsovon 147.19 317 eP PKPdf 08 58 06.2 +2.5
GMNA Gemona 147.20 333 PKP PKPdf 08 58 05.4 +1.7
MOTA Moosalm 147.21 336⇑iP PKPdf 08 58 05.9 +2.2
comp=Z,47nm,1.0s,SNR=21
SQTA Sankt Quirin 147.27 336⇓iP PKPdf 08 58 06.3 +2.5
comp=Z,44nm,0.9s,SNR=14
BFO Black Forest 147.34 340 ePKPbc PKPbc 08 58 06.2 -0.2
CDF Champ du Feu 147.59 342 ePKP1 PKPbc 08 58 06.6 -0.5
comp=Z,119nm,1.1s
DAVA Damuels 147.71 338 i P PKPdf 08 58 07.8 +3.2
comp=Z,60nm,1.1s,SNR=12
ECH Echery 147.80 341 PKP PKPdf 08 58 05.9 +1.2
FELD Feldberg im Sc 147.84 340⇑eP PKPbc 08 58 07.8 0.0
IGT Igoumenitsa 147.91 317 eP PKPdf 08 58 06.5 +1.6
THEF They Montfort 148.13 343 PKP PKPbc 08 58 08.8 +0.2
MEZF Maizieres J'vi 148.14 344 ePKP1 PKPbc 08 58 08.4 -0.2
MOF Molkenrain 148.14 341 PKP PKPbc 08 58 08.3 -0.3
LKD Levkas 148.14 316 eP PKPbc 08 58 08.4 -0.2
BRMO Bormio 148.21 336 PKP PKPbc 08 58 09.0 +0.2
HAU Haudompre 148.23 342 ePKP1 PKPbc 08 58 08.1 -0.7
comp=Z,56nm,1.0s
HAU eMLR
comp=Z,216nm,17.5s
HAU Haudompre 148.23 342 ePKP PKPbc 08 58 08.1 -0.7
HAU LR LR
comp=Z,220nm,17.5s
HINF Hinteralfeld 148.25 341 ePKP1 PKPbc 08 58 08.1 -0.8
comp=Z,40nm,1.0s
BBS Basel-Blauen 148.36 340 PKP2 PKPab 08 58 07.6 -4.9
LOMF Lomont 148.68 341 PKP PKPbc 08 58 09.7 -0.3
FLN La Foliniere 149.03 351 ePKP1 PKPbc 08 58 10.0 -0.9
FLN eMLR
comp=Z,216nm,17.2s
FLN La Foliniere 149.03 351 ePKP PKPbc 08 58 10.0 -0.9
FLN LR LR
comp=Z,220nm,17.3s
LDF La Druitiere 149.13 350 ePKP1 PKPbc 08 58 10.1 -1.0
RGNG Rignano Grg 149.43 325 PKP PKPbc 08 58 11.5 -0.4
GRR Gorron 149.45 351 ePKP1 PKPbc 08 58 10.6 -1.3
CING Cingoli 149.45 330 PKP PKPbc 08 58 12.3 +0.4
CABF La Chapelle 149.56 341 ePKP1 PKPbc 08 58 12.1 -0.1
comp=Z,222nm,1.3s
LOR Lormes 149.58 345 ePKP1 PKPbc 08 58 11.7 -0.6
comp=Z,83nm,1.0s
LOR eMLR
comp=Z,228nm,19.5s
LOR Lormes 149.58 345 ePKP PKPbc 08 58 11.7 -0.6
LOR LR LR
comp=Z,230nm,19.5s
OG01 Vacheresse 149.63 340 PKP PKPbc 08 58 12.4 0.0
SNTG Esanatoglia 149.66 330 PKP PKPbc 08 58 12.6 +0.2
VMG Vicchio 149.76 332 PKP PKPbc 08 58 13.1 +0.4
ROSF Rostrenen 149.78 354 ePKP1 PKPbc 08 58 12.4 -0.3
SGMF Saint Gilles 149.79 353 ePKP1 PKPbc 08 58 11.9 -0.9
comp=Z,39nm,0.9s
SSF Saint Saulge 149.86 345 ePKP1 PKPbc 08 58 12.5 -0.4
comp=Z,96nm,1.0s
HYF Humbligny 149.87 346 ePKP1 PKPbc 08 58 12.9 -0.1
NRCA Norcia 149.89 329 PKP PKPbc 08 58 13.1 +0.1
ASS Assisi 149.94 330 PKP2 PKPbc 08 58 12.8 -0.3
AQU L'Aquila 150.10 328 ePKPbc PKPbc 08 58 13.6 0.0
AQU ePKPab PKPab 08 58 19.6 0.0
AVF Avril sur Loir 150.15 345 ePKP1 PKPbc 08 58 12.7 -0.9
comp=Z,122nm,1.6s
SMF Signal de Mont 150.17 344 ePKP1 PKPbc 08 58 12.9 -0.8
comp=Z,90nm,1.3s
CSNT Castellina Chi 150.26 332 PKP PKPbc 08 58 12.8 -1.1
OG05 Jujurieux 150.27 342 PKP PKPbc 08 58 14.1 +0.2
LPL La Plagne 150.33 340 ePKP1 PKPbc 08 58 14.1 0.0
comp=Z,64nm,1.0s
SGO Sicignano 150.34 323 PKIKP PKPbc 08 58 13.6 -0.5
VVLD Villa Vallelon 150.34 327 PKP PKPbc 08 58 13.5 -0.6
LPG La Plagne 150.34 340 ePKP1 PKPbc 08 58 14.2 +0.1
comp=Z,66nm,1.0s
SDI San Donato 150.36 327 PKIKP PKPbc 08 58 13.7 -0.4
TIP Timpagrande 150.37 320 ePKPbc PKPbc 08 58 14.1 0.0
BGF Bois d'Agland 150.50 345 ePKP1 PKPbc 08 58 13.8 -0.7
comp=Z,70nm,0.8s
BNI Bardonecchia 150.76 339 ePKIKP PKPbc 08 58 15.1 0.0
PLDF La Plantade 150.85 344 PKP PKPbc 08 58 15.6 +0.3
GRN Grenoble 150.90 341 PKP PKPbc 08 58 15.8 +0.4
AGO Saint Agoulin 150.90 345 PKP PKPbc 08 58 15.4 0.0
TCF Toulx Ste Croi 150.90 346 ePKP1 PKPbc 08 58 14.7 -0.7
comp=Z,81nm,1.1s
MBDF Montbardon 151.01 339 ePKP1 PKPbc 08 58 15.1 -0.6
comp=Z,58nm,0.8s
MFF Saint Martin d 151.07 349 ePKP1 PKPbc 08 58 15.0 -0.8
comp=Z,150nm,1.3s
ORIF Oris-en-Rattie 151.14 340 ePKP1 PKPbc 08 58 15.6 -0.4
comp=Z,62nm,0.7s
SURF Saint Ours 151.22 338 PKP PKPbc 08 58 16.9 +0.8
AUTN L'Aution 151.41 337 PKP PKPbc 08 58 16.4 -0.2
TOUF Mont Tournerai 151.47 337 PKP PKPbc 08 58 16.4 -0.3
SBF Sospel 151.53 337 ePKP1 PKPbc 08 58 15.8 -1.1
comp=Z,112nm,0.9s
VIVF Saint-Julien-l 151.57 342 ePKP1 PKPbc 08 58 16.5 -0.5
comp=Z,46nm,0.9s
MVIF Mont Vial 151.60 337 PKP PKPdf 08 58 16.6 +5.8
LBL Lubilhac 151.63 344 PKP PKPbc 08 58 15.6 -1.5
RJF Les Rejaudoux 151.99 346 ePKP1 PKPbc 08 58 17.2 -0.7
comp=Z,44nm,1.0s
PGF Pioggiola 152.00 333 ePKP1 PKPbc 08 58 17.1 -0.9
comp=Z,152nm,1.0s
FRF La Foret Royal 152.07 338 ePKP1 PKPbc 08 58 17.1 -1.0
comp=Z,58nm,1.0s
SMRF Simiane la Rot 152.08 340 ePKP1 PKPbc 08 58 17.9 -0.2
comp=Z,52nm,0.9s
CORF Corte 152.14 333 PKP PKPbc 08 58 17.8 -0.5
CAF Calviac 152.22 345 ePKP1 PKPbc 08 58 18.0 -0.4
LMR La Mourre 152.32 338 ePKP1 PKPbc 08 58 17.7 -1.0
comp=Z,55nm,1.0s
LFF La Frestale 152.50 347 ePKP1 PKPbc 08 58 18.4 -0.7
comp=Z,30nm,0.7s
LASF Ste Croix 152.53 342 ePKP1 PKPbc 08 58 18.7 -0.4
comp=Z,64nm,1.2s
MTLF Montolieu 153.66 344 ePKP1 PKPbc 08 58 21.0 -0.6
comp=Z,19nm,1.0s
ESDC Sonseca Array 158.42 353 PKPab PKPab 08 58 54.8 -0.1
comp=Z,1.6nm,0.6s,baz=2.8,slow=4.3,SNR=7.7
TORD Torodi Ar. Bea 169.81 242 PKP PKPdf 08 58 29.1 -1.2
comp=Z,4.2nm,1.0s,baz=1.7,slow=0.7,SNR=15
TORD PKPab PKPab 08 59 45.5 +0.6
comp=Z,7.3nm,1.1s,baz=109,slow=4.2,SNR=17
TORD PP PP 09 03 38.2 +3.4
comp=Z,0.9nm,1.1s,baz=150,slow=3.3,SNR=3.8

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*NIED **05** 09:34:00, 4650N×153.10E, h32km, Mw4.5 Best double couple: M0 6.76000×10^15 NP1:φs321.00000°, δ76.00000°, λ40.00000°. NP2:φs220.00000°, δ51.00000°, λ162.00000°.*
*SZGRF **05** 09:34:22.7, 4563N×15476E, h33km, mb5.4, East of Kuril Islands, Russia*
*BJI **05** 09:34:25.4, 4673N×153.13E, h35km, mB4.9, mb4.8, Ms4.5, Msz4.0*
*NEIC **05** 09:34:26.6±0.2, 4669N×15257E, h10km, mb5.0/79, Error ellipse: s-maj=6.6km s-min=3.6km az=164.0*
*JMA **05** 09:34:27.9±0.8, 4655N×15306E, h30km, M5.4*
*SKHL **05** 09:34:28.6±2.1, 4650N×15270E, h70km±35km, mb5.3/7, ms4.4/4, msh5.8/1*
*ISCJB **05** 09:34:29.2±0.1, 4648N±003×15264E±002, h50km, mb4.9/132, MS4.0/28, Error ellipse: s-maj=4.6km s-min=1.7km az=134.7*
*MOS **05** 09:34:29.1±1.0, 4660N×15261E, h44km, mb5.1/63, Error ellipse: s-maj=7.1km s-min=4.6km az=95.1*
*IDC **05** 09:34:31.5±0.5, 4669N×15253E, h50km±4km, mb4.5/27, mb1 4.6/27, mb1mx4.6/30, mbtmp4.5/27, MS3.9/15, Ms1 3.9/15, ms1mx3.6/37, Error ellipse: s-maj=13.8km s-min=10.3km az=142.0*
ISC 05 09:34:31.6±0.1, **4661N**±003×**15256E**±002, **h52km, h52km±.9km: pP-P, n566, σ0s97**/578, **mb4.9**/132, **MS4.0**/28, **87C-103D, Kuril Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
KUR Kuril'sk 3.55 249⇓iPN Pn 09 35 22.8 -1.4
KUR i S Sn 09 36 05.0 +0.1
KUR pmax pmax
comp=N,170nm,0.5s
KUR pmax pmax
comp=E,170nm,0.5s
KUR pmax pmax
comp=Z,680nm,0.5s
KUR smax
comp=N,3μm,0.6s
KUR smax
comp=E,1μm,0.6s
KUR smax
comp=N,8μm,2.0s
KUR smax
comp=E,8μm,2.0s
KUR Kuril'sk 3.55 249⇓iP Pn 09 35 22.8 -1.4
KUR AMB AMB 09 35 23.2
comp=E,167nm,0.5s
KUR AMB AMB 09 35 23.2
comp=E,684nm,0.5s
KUR eS Sn 09 36 05.0 +0.1
KUR A 09 36 13.0
comp=E,3μm,0.7s
KUR A 09 36 13.0
comp=E,1μm,0.7s
KUR A 09 36 14.0
comp=E,8μm,2.0s

SKR	**Severo-Kuril's**	**4.71 29**	*e*P	**Pn**	**09 35 39.0**	**-1.0**
SKR			AMB	AMB	09 35 42.5	
	comp=E,180nm,0.5s					
SKR			AMB	AMB	09 35 42.5	
	comp=E,110nm,0.3s					
SKR			AMB	AMB	09 35 42.5	
	comp=E,70nm,0.3s					
SKR			*e*S	**Sn**	**09 36 27.5**	**-5.8**
SKR			A		09 36 50.5	
	comp=E,240nm,0.6s					
SKR			A		09 36 50.5	
	comp=E,620nm,0.5s					
SKR			A		09 36 50.5	
	comp=E,80nm,0.5s					
SKR			AMS	AMS	09 37 44.0	
	comp=E,3μm,12.0s					
YUK	**Yuzh-Kuril'sk**	**5.38 244**⇑	*i*PN	**Pn**	**09 35 50.9**	**+1.6**
YUK			pmax	pmax		
	comp=N,570nm,0.5s					
YUK			pmax	pmax		
	comp=E,570nm,0.5s					
YUK			pmax	pmax		
	comp=Z,650nm,0.5s					
YUK	**Yuzh-Kuril'sk**	**5.38 244**⇑	*i*P	**Pn**	**09 35 50.9**	**+1.6**
YUK			AMB	AMB	09 35 53.7	
	comp=Z,570nm,0.5s					
YUK			AMB	AMB	09 35 53.7	
	comp=Z,650nm,0.5s					
NEM2	**Nemuro 2**	**5.82 239**	P	**Pn**	**09 35 54.7**	**-0.6**
NEM2			*e*S	**Sn**	**09 36 59.6**	**-1.1**
JRA	**Rausu**	**5.89 246**	P	**Pn**	**09 35 58.5**	**+2.3**
JNK	**Nakash**	**6.32 244**	P	**Pn**	**09 36 03.7**	**+1.6**
JNK			*e*S	**Sn**	**09 37 13.6**	**+0.6**
JTKR	**Abashiri--Toko**	**6.65 250**	P	**Pn**	**09 36 09.4**	**+2.8**
JAK	**Akkeshi**	**6.66 240**	P	**Pn**	**09 36 06.7**	**-0.1**
JAK			*e*S	**Sn**	**09 37 19.4**	**-1.9**
YSS	**Yuzh-Sakhalins**	**6.74 276**⇓	*e*PN	**Pn**	**09 36 11.0**	**+3.1**
YSS			*e*S	**Sn**	**09 37 27.9**	**+4.6**
YSS			pmax	pmax		
	comp=E,190nm,1.0s					
YSS			pmax	pmax		
	comp=Z,160nm,1.0s					
YSS			smax			
	comp=N,50nm,0.8s					
YSS			smax			
	comp=E,50nm,0.8s					
YSS			MLR	MLR		
	comp=N,600nm,17.0s					
YSS			MLR	MLR		
	comp=E,1μm,17.0s					
YSS			MLR	MLR		
	comp=Z,1μm,17.0s					
YSS	**Yuzh-Sakhalins**	**6.74 276**	*e*Pn	**Pn**	**09 36 11.6**	**+3.7**
YSS	**Yuzh-Sakhalins**	**6.74 276**⇓	*e*P	**Pn**	**09 36 11.0**	**+3.1**
YSS			AMB	AMB	09 36 13.8	
	comp=Z,160nm,1.0s					
YSS			AMB	AMB	09 36 13.8	
	comp=Z,190nm,1.0s					
YSS			*e*S	**Sn**	**09 37 27.9**	**+4.6**
YSS			A		09 37 29.4	
	comp=Z,50nm,0.8s					
YSS			*e*LQ		09 37 54.0	
YSS			AMS	AMS	09 38 39.0	
	comp=Z,1μm,17.0s					
YSS			AMS	AMS	09 38 39.0	
	comp=Z,600nm,17.0s					
YSS			AMS	AMS	09 38 39.0	
	comp=Z,1μm,17.0s					
JMP	**Maruseppu**	**6.99 251**	P	**Pn**	**09 36 14.7**	**+3.4**
JAR	**Ashorobuto**	**7.06 245**	P	**Pn**	**09 36 14.2**	**+1.9**
JAR			*e*S	**Sn**	**09 37 33.0**	**+1.8**
JSE	**Soyaes**	**7.17 260**	P	**Pn**	**09 36 19.0**	**+5.2**
JOB	**Onbets**	**7.23 242**	P	**Pn**	**09 36 15.2**	**+0.6**
JOB			*e*S	**Sn**	**09 37 34.4**	**-1.0**
JKK2	**Kamakawa 2**	**7.45 252**	P	**Pn**	**09 36 21.0**	**+3.4**
ASAJ	**Asahikawa**	**7.45 254**	P	**Pn**	**09 36 20.8**	**+3.2**
	comp=Z,9.1nm,0.3s,baz=82,slow=12,SNR=64					
ASAJ			LR	LR	09 39 04.3	
	comp=Z,656nm,20.0s,baz=46,slow=37					
ASAJ	**Asahikawa**	**7.45 254**	P	**Pn**	**09 36 21.6**	**+4.0**
ASAJ	**Asahikawa**	**7.45 254**	PN	**Pn**	**09 36 20.8**	**+3.2**
ASAJ			pmax	pmax		
	comp=Z,9.0nm,0.3s					
ASAJ			MLR	MLR		
	comp=Z,656nm,20.0s					
UGL	**Uglegorsk**	**7.48 293**	*e*P	**Pn**	**09 36 22.5**	**+4.5**
UGL			AMB	AMB	09 36 23.5	
	comp=Z,170nm,0.8s					
UGL			AMS	AMS	09 39 18.0	
	comp=Z,3μm,20.0s					
UGL			AMS	AMS	09 39 18.0	
	comp=Z,2μm,17.0s					
UGL			AMS	AMS	09 39 18.0	
	comp=Z,2μm,19.0s					
PET	**Petropavlovsk**	**7.53 29**	*e*PN	**Pn**	**09 36 17.9**	**-0.8**
PET			pmax	pmax		
	comp=Z,29nm,0.7s					
PET			MLR	MLR		
	comp=Z,200nm,17.0s					
PET	**Petropavlovsk**	**7.53 29**	*e*Pn	**Pn**	**09 36 18.5**	**-0.2**
JWK2	**Keihoku**	**7.54 264**	P	**Pn**	**09 36 25.1**	**+6.2**
JCH	**Churui**	**7.68 242**	P	**Pn**	**09 36 21.0**	**+0.2**
JCH			*e*S	**Sn**	**09 37 44.9**	**-1.5**
TYV	**Tymovskoe**	**7.81 307**	*e*P	**Pn**	**09 36 26.0**	**+3.5**
TYV			AMB	AMB	09 36 28.8	
	comp=Z,31nm,0.8s					
TYV			AMB	AMB	09 36 28.8	
	comp=Z,60nm,0.8s					
TYV			AMS	AMS	09 39 34.0	
	comp=Z,1μm,16.0s					
TYV			AMS	AMS	09 39 34.0	
	comp=Z,2μm,16.0s					
TYV			AMS	AMS	09 39 34.0	
	comp=Z,1μm,18.0s					
JFR	**Furan**	**7.87 248**	P	**Pn**	**09 36 25.2**	**+1.8**
JAB	**Ashibetsu**	**7.95 251**	P	**Pn**	**09 36 28.0**	**+3.5**
JEM	**Erimo**	**8.16 239**	P	**Pn**	**09 36 28.2**	**+0.9**
JEM			*e*S	**Sn**	**09 37 56.1**	**-2.0**
ERM	**Erimo**	**8.16 239**	Pn	**Pn**	**09 36 29.6**	**+2.3**
	comp=Z,1μm,0.5s,SNR=24					
ERM	**Erimo**	**8.16 239**	*e*PN	**Pn**	**09 36 28.2**	**+0.9**
ERM			pmax	pmax		
	comp=Z,241nm,0.6s					
ERM	**Erimo**	**8.16 239**	*e*Pn	**Pn**	**09 36 28.2**	**+0.9**
	comp=Z,241nm,0.6s					
ERM			*e*Sn	**Sn**	**09 37 57.0**	**-1.1**
JHR	**Hokuryu**	**8.18 253**	P	**Pn**	**09 36 31.7**	**+4.2**
JBT2	**Biratori 2**	**8.21 246**	P	**Pn**	**09 36 28.6**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.24 242**	P	**Pn**	**09 36 28.0**	**-0.5**
JNBK			*e*S	**Sn**	**09 37 59.0**	**-1.2**
JEW	**Eniwo**	**8.76 249**	P	**Pn**	**09 36 37.8**	**+2.2**
JNB	**Noboribetsu**	**9.21 247**	P	**Pn**	**09 36 41.9**	**+0.2**
JNB			*e*S	**Sn**	**09 38 23.2**	**-0.7**
OKH	**Okha**	**9.30 322**	*e*P	**Pn**	**09 36 41.5**	**-1.4**
OKH			*e*L		09 37 48.0	
OKH			AMS	AMS	09 40 15.8	
	comp=Z,2μm,17.0s					
JKB	**Kayabe**	**9.52 244**	P	**Pn**	**09 36 45.2**	**-0.8**
JKB			*e*S	**Sn**	**09 38 27.4**	**-4.2**
JSH	**Shimam**	**9.76 251**	P	**Pn**	**09 36 51.1**	**+1.8**
JYM2	**Yakumo 2**	**9.82 247**	P	**Pn**	**09 36 50.2**	**+0.2**
JYM2			*e*S	**Sn**	**09 38 38.6**	**-0.1**
NKL	**Nikolayevsk**	**10.07 315**	*e*P	**Pn**	**09 36 53.5**	**0.0**
NKL			AMB	AMB	09 36 55.0	
	comp=Z,83nm,1.1s					
NKL			AMB	AMB	09 36 55.0	
	comp=Z,100nm,1.1s					
NKL			AMB	AMB	09 36 55.0	
	comp=Z,120nm,1.1s					
NKL			*e*L		09 39 48.0	
NKL			AMS	AMS	09 41 33.0	
	comp=Z,800nm,16.0s					
NKL			AMS	AMS	09 41 33.0	
	comp=Z,1μm,16.0s					
JSR	**Shiriuchi**	**10.10 244**	P	**Pn**	**09 36 53.1**	**-0.8**
JSR			*e*S	**Sn**	**09 38 41.5**	**-4.3**
JTM	**Tenmabayashi**	**10.15 239**	P	**Pn**	**09 36 52.6**	**-2.0**
JTM			*e*S	**Sn**	**09 38 39.1**	**-7.9**
JANG	**Nango**	**10.16 236**	P	**Pn**	**09 36 51.8**	**-2.9**
JANG			*e*S	**Sn**	**09 38 38.0**	**-9.1**
JTH	**Tanohata**	**10.26 233**	P	**Pn**	**09 36 52.4**	**-3.6**
JTH			*e*S	**Sn**	**09 38 39.2**	**-10**
JOSM	**Okushiri--Mats**	**10.41 249**	P	**Pn**	**09 36 58.6**	**+0.5**
OFUJ	**Ofunato**	**10.97 231**	P	**Pn**	**09 37 02.5**	**-3.3**
OFUJ			*e*S	**Sn**	**09 38 57.4**	**-10**
JRG	**Rokugo**	**11.32 235**	P	**Pn**	**09 37 08.6**	**-1.9**
JIO	**Ouri**	**11.60 229**	P	**Pn**	**09 37 11.4**	**-3.0**
HABR	**Khabarovsk**	**11.98 285**	*e*PN	**Pn**	**09 37 23.4**	**+3.8**
HABR			*e*S	**Sn**	**09 39 40.9**	**+9.2**
JYA	**Atsumi**	**12.39 234**	P	**Pn**	**09 37 23.2**	**-2.0**
JFK	**Kawauchi**	**12.67 227**	P	**Pn**	**09 37 25.7**	**-3.3**
MA2	**Magadan**	**13.03 356**	*ce*PN	**Pn**	**09 37 34.9**	**+1.0**
MA2			pmax	pmax		
	comp=N,20nm,0.4s					
MA2			pmax	pmax		
	comp=Z,20nm,0.4s					
MA2			MLR	MLR		
	comp=Z,600nm,22.1s					
JFY	**Yanaizu**	**13.25 231**	P	**Pn**	**09 37 34.7**	**-2.2**
KLR	**Kul'dur**	**14.19 288**	*e*P	**Pn**	**09 37 50.6**	**+0.9**
KLR			MLR	MLR		
	comp=E,1μm,14.5s					
KLR			MLR	MLR		
	comp=Z,1μm,14.5s					
MAJO	**Matsushiro**	**14.69 232**	*e*P	**Pn**	**09 37 54.4**	**-1.9**
MAT	**Matsushiro**	**14.69 232**	P	**Pn**	**09 37 54.0**	**-2.3**
MAT	**Matsushiro**	**14.69 232**	P	**Pn**	**09 37 53.9**	**-2.4**
MJAR	**Matsushiro Arr**	**14.69 232**	P	**Pn**	**09 37 54.0**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=29,slow=13,SNR=17					
MJAR			LR	LR	09 43 51.1	
	comp=Z,185nm,21.1s,baz=40,slow=38					
MJAR	**Matsushiro Arr**	**14.69 232**	P	**Pn**	**09 37 54.0**	**-2.3**
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MJAR			MLR	MLR		
	comp=Z,185nm,21.1s					
MDJ	**Mudanjiang**	**16.19 271**	P	**Pn**	**09 38 17.2**	**+1.7**
MDJ			S	**S**	**09 41 16.7**	**-8.1**
MDJ			AMB	AMB		
	comp=Z,16nm,1.0s					
MDJ			AMB	AMB		
	comp=Z,76nm,4.5s					
MDJ			LR	LR		
	comp=N,103nm,22.0s					
MDJ			LR	LR		
	comp=E,190nm,24.1s					
MDJ			LR	LR		
	comp=Z,282nm,25.4s					
MDJ	**Mudanjiang**	**16.19 271**	*e*P	**Pn**	**09 38 19.2**	**+3.8**
	comp=Z,30nm,0.9s					
SEY	**Seymchan**	**16.36 360**	*e*P	**Pn**	**09 38 18.3**	**+0.7**
JFM	**Mihama**	**16.66 234**	P	**Pn**	**09 38 21.1**	**-0.4**
CN2	**Changchun**	**19.27 271**	*e*P	**Pn**	**09 38 53.0**	**-0.3**
CN2			*e*AP	pP	09 39 05.0	+1.4
CN2			*e*S	**S**	**09 42 21.2**	**-6.2**
CN2			AMB	AMB		
	comp=Z,20nm,0.6s					
CN2			LR	LR		
	comp=N,200nm,15.0s					
CN2			LR	LR		
	comp=E,330nm,15.0s					
CN2			LR	LR		
	comp=Z,370nm,16.0s					
CLNS	**Chul'man**	**19.82 311**	*e*P	**Pn**	**09 39 00.0**	**+0.2**
CLNS			pmax	pmax		
	comp=N,19nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,22nm,0.8s					
CLNS			pmax	pmax		
	comp=E,13nm,0.9s					
YAK	**Yakutsk**	**20.23 328**⇑	*e*P	**P**	**09 39 03.5**	**+1.1**
YAK			pmax	pmax		
	comp=Z,40nm,0.6s					
YAK	**Yakutsk**	**20.23 328**	*e*P	**P**	**09 39 03.6**	**+1.2**
	comp=Z,95nm,0.7s					
KSRS	**Korea Array**	**20.39 252**	P	**P**	**09 39 04.8**	**+0.8**
	comp=Z,14nm,0.7s,baz=56,slow=11,SNR=30					
KSRS			PcP	PcP	09 43 16.2	+1.3
	comp=Z,1.9nm,0.8s,baz=54,slow=2.2,SNR=5.2					
KSRS			LR	LR	09 45 55.2	
	comp=Z,172nm,20.9s,MS3.4,baz=14,slow=34					
KS15	**Wonju Array Si**	**20.42 252**	*e*Pn	**P**	**09 39 06.8**	**+2.4**
INCN	**Inchon**	**21.23 254**	*e*P	**P**	**09 39 14.6**	**+1.5**
	comp=Z,51nm,0.8s,mb4.9					
SNY	**Shenyang**	**21.25 268**	⇓P	**P**	**09 39 13.3**	**0.0**
SNY			S	**S**	**09 43 10.3**	**+3.7**
SNY			AMB	AMB		
	comp=Z,28nm,0.9s,mb4.6					
SNY			AMB	AMB		
	comp=Z,82nm,5.7s					
SNY			LR	LR		
	comp=N,309nm,19.5s,MS3.8					
SNY			LR	LR		
	comp=E,248nm,22.2s,MS3.8					
SNY			LR	LR		
	comp=Z,352nm,20.4s,MS3.7					
JNU	**Nakatsue**	**21.32 238**	P	**P**	**09 39 16.1**	**+2.0**
	comp=Z,43nm,0.8s,mb4.8,baz=240,slow=19,SNR=8.9					
JNU			LR	LR	09 47 32.8	
	comp=Z,381nm,20.1s,MS3.8,baz=82,slow=37					
HIA	**Hailar**	**22.05 289**	*e*P	**P**	**09 39 20.4**	**-1.5**
HIA			pmax	pmax		
	comp=Z,9.0nm,0.6s					
HIA	**Hailar**	**22.05 289**	*e*P	**P**	**09 39 20.4**	**-1.5**
	comp=Z,9.4nm,0.6s,mb4.4					
BILL	**Bilibino**	**22.61 13**	*e*P	**P**	**09 39 26.6**	**-1.2**
BILL			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2					
BILL			MLR	MLR		
	comp=Z,200nm,18.0s,MS3.6					
BILL	**Bilibino**	**22.61 13**	*e*P	**P**	**09 39 27.7**	**-0.1**
	comp=Z,8.5nm,0.6s,mb4.3					
CIT	**Chita**	**25.77 297**	*e*P	**P**	**09 39 57.9**	**+0.5**
CIT			*e*	pP	09 40 12.6	+2.1
BJI	**Beijing**	**27.09 269**	*e*P	**P**	**09 40 14.1**	**+4.7**
BJI			AMB	AMB		
	comp=Z,16nm,1.1s,mb4.5					
BJI			LR	LR		
	comp=N,198nm,21.0s,MS4.0					
BJI			LR	LR		
	comp=E,338nm,21.0s,MS4.0					
BJI			LR	LR		
	comp=Z,273nm,19.1s,MS3.8					
BJT	**Baijiatuau**	**27.11 269**	*e*P	**P**	**09 40 13.9**	**+4.4**
BJT			pmax	pmax		
	comp=Z,8.0nm,0.6s					
BJT	**Baijiatuau**	**27.11 269**	*e*P	**P**	**09 40 13.9**	**+4.4**
	comp=Z,8.1nm,0.6s,mb4.4					
TIXI	**Tiksi**	**27.49 344**	*e*P	**P**	**09 40 10.5**	**-2.5**
TIXI			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0					
TIXI			MLR	MLR		
	comp=Z,118nm,14.0s,MS3.6					
HHC	**Hu-ho-hao-te**	**29.92 274**	*e*P	**P**	**09 40 35.5**	**+0.9**
HHC			PP	PP	09 41 32.7	-10
HHC			S	**S**	**09 45 31.2**	**+2.8**
HHC			PCS	PcS	09 47 21.1	+1.5
HHC			AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.8					
HHC			LR	LR		
	comp=N,220nm,14.9s,MS4.0					
HHC			LR	LR		
	comp=E,203nm,17.8s,MS4.0					
HHC			LR	LR		
	comp=Z,272nm,17.8s,MS3.9					
ULN	**Ulaanbaatar**	**30.59 289**	*e*P	**P**	**09 40 44.8**	**+4.4**
ULN			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8					
ULN	**Ulaanbaatar**	**30.59 289**	*e*P	**P**	**09 40 44.8**	**+4.3**
	comp=Z,15nm,0.9s,mb4.8					
SONM	**Songino Array**	**31.02 289**	P	**P**	**09 40 42.8**	**-1.5**
	comp=Z,2.0nm,0.8s,mb4.0,baz=72,slow=7.0,SNR=11					
SONM			PcP	PcP	09 43 39.5	+0.4
	comp=Z,1.9nm,0.7s,baz=128,slow=2.2,SNR=5.4					
SONM			LR	LR	09 54 16.9	
	comp=Z,286nm,18.6s,MS4.0,baz=90,slow=38					
TLY	**Talaya**	**31.91 297**	*e*P	**P**	**09 40 50.9**	**-1.1**
TLY			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4					
TLY			MLR	MLR		
	comp=Z,232nm,16.0s,MS4.0					
TLY	**Talaya**	**31.91 297**	*e*P	**P**	**09 40 51.5**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.2					
ZAK	**Zakamensk**	**32.39 295**	*e*P	**P**	**09 40 55.5**	**-0.8**
IMA2	**Indian Mountain**	**34.14 36**	*e*P	**P**	**09 41 11.2**	**-0.4**
KDAK	**Kodiak Island**	**34.49 51**	P	**P**	**09 41 13.3**	**-1.2**
	comp=Z,18nm,0.7s,mb5.1,baz=275,slow=3.4,SNR=17					
KDAK	**Kodiak Island**	**34.49 51**	P	**P**	**09 41 13.3**	**-1.2**
XAN	**Xi'an**	**35.12 265**	P	**P**	**09 41 20.7**	**+0.7**
XAN			AP	pP	09 41 28.4	-5.0
XAN			AMB	AMB		
	comp=Z,24nm,0.8s,mb5.2					
PMR	**Palmer**	**35.96 44**	*e*P	**P**	**09 41 26.9**	**-0.3**
PMR			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6					
PMR	**Palmer**	**35.96 44**	*e*P	**P**	**09 41 26.9**	**-0.3**
	comp=Z,6.1nm,0.8s,mb4.6					
MCK	**McKinley**	**36.00 40**	*e*P	**P**	**09 41 27.2**	**-0.4**
SML	**Sawmill**	**36.33 43**	*e*P	**P**	**09 41 29.8**	**-0.6**
COLA	**College**	**36.48 38**	*i*P	**P**	**09 41 30.5**	**-1.2**
COLA	**College**	**36.48 38**	*e*P	**P**	**09 41 31.3**	**-0.4**
	comp=Z,14nm,0.8s,mb4.9					
KRAR	**Krasnoyarsk**	**37.37 307**	*e*P	**P**	**09 41 40.2**	**+1.0**
KRAR			pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7					
LZH	**Lanzhou**	**37.51 272**	*e*P	**P**	**09 41 42.5**	**+2.1**
LZH			AP	pP	09 41 56.0	+2.2
LZH			XP	sP	09 42 01.5	+1.6
LZH			AMB	AMB		
	comp=Z,38nm,1.0s,mb5.1					
LZH			AMB	AMB		
	comp=Z,85nm,4.2s					
GTA	**Gaotai**	**38.62 279**	⇓P	**P**	**09 41 50.9**	**+1.2**
GTA			AP	pP	09 42 05.4	+2.2
GTA			PP	PP	09 43 23.6	+4.8
GTA			PCP	PcP	09 44 02.5	+1.4
GTA			S	**S**	**09 47 43.9**	**+1.6**
GTA			SCP	ScP	09 47 49.6	+4.8
GTA			XS	sS	09 48 03.4	-1.6
GTA			AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5					
GTA			AMB	AMB		
	comp=Z,91nm,4.2s					
GTA			LR	LR		
	comp=N,113nm,15.3s,MS4.0					
GTA			LR	LR		
	comp=E,119nm,16.4s,MS4.0					
GTA			LR	LR		
	comp=Z,197nm,14.5s,MS4.1					
DAWY	**Dawson**	**40.19 39**	*e*P	**P**	**09 42 02.5**	**-0.3**
CD2	**Chengdu**	**40.49 265**	P	**P**	**09 42 05.3**	**0.0**
CD2			AP	pP	09 42 17.6	-1.2
CD2			PP	PP	09 43 42.8	+3.6
CD2			S	**S**	**09 48 10.2**	**-0.2**
CD2			XS	sS	09 48 30.8	-2.4
CD2			AMB	AMB		
	comp=Z,60nm,0.5s,mb5.6					
CD2			AMB	AMB		
	comp=Z,140nm,4.8s					
CD2			LR	LR		
	comp=N,200nm,10.8s,MS4.3					
CD2			LR	LR		
	comp=E,100nm,12.0s,MS4.3					
CD2			LR	LR		
	comp=Z,140nm,12.0s,MS4.0					
GYA	**Guiyang**	**41.31 257**⇑	*i*P	**P**	**09 42 12.3**	**+0.2**
GYA			AP	pP	09 42 27.2	+1.6
GYA			XP	sP	09 42 32.9	+1.2
GYA			PP	PP	09 43 52.8	+4.6
GYA			PCP	PcP	09 44 12.5	+2.7
GYA			SCP	ScP	09 47 56.7	+1.4
GYA			S	**S**	**09 48 23.6**	**+0.9**
GYA			XS	sS	09 48 46.8	+1.3
GYA			SCS	ScS	09 52 11.0	-0.3
GYA			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8					
GYA			AMB	AMB		
	comp=Z,120nm,4.8s					
GYA			LR	LR		
	comp=N,440nm,15.8s,MS4.6					
GYA			LR	LR		
	comp=E,450nm,16.4s,MS4.6					
GYA			LR	LR		
	comp=Z,480nm,15.9s,MS4.5					
INK	**Inuvik**	**41.97 32**	P	**P**	**09 42 17.5**	**0.0**
	comp=Z,5.4nm,0.5s,mb4.5,baz=298,slow=7.4,SNR=42					
INK	**Inuvik**	**41.97 32**	P	**P**	**09 42 17.5**	**0.0**
INK			pmax	pmax		
	comp=Z,5.0nm,0.5s					
INK	**Inuvik**	**41.97 32**	*e*P	**P**	**09 42 17.6**	**+0.1**
	comp=Z,236nm,0.6s,mb6.0					
ZAL	**Zalesovo**	**42.40 306**	P	**P**	**09 42 19.6**	**-1.3**
	comp=Z,3.2nm,0.5s,mb4.2,baz=43,slow=8.1,SNR=5.0					
ZAL			PcP	PcP	09 44 13.7	+0.3
	comp=Z,4.7nm,0.7s,baz=28,slow=4.1,SNR=13					
ZAL			LR	LR	10 01 41.2	
	comp=Z,573nm,18.5s,MS4.5,baz=38,slow=38					
ZAL	**Zalesovo**	**42.40 306**	P	**P**	**09 42 19.6**	**-1.3**
ZAL					09 44 13.7	
ZAL			pmax	pmax		
	comp=Z,3.0nm,0.5s					
ZAL			MLR	MLR		
	comp=Z,573nm,18.5s					
WMQ	**Urumqi**	**44.62 291**	P	**P**	**09 42 40.5**	**+1.7**
WMQ			*e*S	**S**	**09 49 16.0**	**+4.8**
WMQ			LR	LR		
	comp=N,145nm,24.0s,MS3.9					
WMQ			LR	LR		
	comp=E,115nm,23.0s,MS3.9					
WMQ			LR	LR		
	comp=Z,126nm,19.0s,MS3.9					
KMI	**Kunming**	**44.84 259**	P	**P**	**09 42 41.9**	**+1.3**
KMI			AP	pP	09 42 56.7	+2.4
KMI			PP	PP	09 44 28.0	+2.0
KMI			S	**S**	**09 49 16.2**	**+1.8**
KMI			SS	SS	09 52 31.1	-5.7
KMI			AMB	AMB		
	comp=Z,15nm,0.8s,mb4.9					
KMI			LR	LR		
	comp=Z,44nm,16.3s,MS3.5					
DLBC	**Dease Lake**	**45.96 46**	*e*P	**P**	**09 42 50.5**	**+1.1**
MK31	**Makanchi Array**	**46.67 297**	*e*P	**P**	**09 42 54.4**	**-0.6**
MKAR	**Makanchi Array**	**46.67 297**	P	**P**	**09 42 53.6**	**-1.4**
	comp=Z,6.3nm,0.6s,mb4.8,baz=64,slow=7.0,SNR=41					
MKAR			PcP	PcP	09 44 28.0	0.0
	comp=Z,4.4nm,0.6s,baz=61,slow=5.1,SNR=11					
MKAR			LR	LR	10 03 41.6	
	comp=Z,382nm,19.1s,MS4.4,baz=48,slow=38					
MKAR	**Makanchi Array**	**46.67 297**	*i*P	**P**	**09 42 54.5**	**-0.5**
MKAR			pmax	pmax		
	comp=Z,6.0nm,0.6s					
MKAR	**Makanchi Array**	**46.67 297**	P	**P**	**09 42 53.6**	**-1.4**
MKAR			PcP	PcP	09 44 28.0	0.0
MKAR			LR	LR	10 03 41.6	
KURK	**Kurchatov**	**47.12 304**	P	**P**	**09 42 57.4**	**-1.1**
	comp=Z,88nm,0.6s,mb5.9,SNR=12					
KURK	**Kurchatov**	**47.12 304**⇑	*e*P	**P**	**09 42 57.2**	**-1.3**
KURK	**Kurchatov**	**47.12 304**	*e*P	**P**	**09 42 57.1**	**-1.4**
	comp=Z,17nm,0.9s,mb5.0					
LSA	**Lhasa**	**49.90 273**	*e*P	**P**	**09 43 22.2**	**+2.3**
LSA	**Lhasa**	**49.90 273**	*e*P	**P**	**09 43 21.9**	**+2.0**
LSA			pmax	pmax		
	comp=Z,24nm,0.6s,mb5.4					
LSA	**Lhasa**	**49.90 273**	*e*P	**P**	**09 43 21.9**	**+2.0**
	comp=Z,24nm,0.6s,mb5.4					
ALE	**Alert**	**49.92 6**	P	**P**	**09 43 18.9**	**-1.1**
	comp=Z,61nm,0.6s,mb5.8,SNR=5.2					
CHKZ	**Chkalovo**	**50.23 310**	*e*P	**P**	**09 43 21.0**	**-1.4**
CHKZ			pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2					
CHKZ	**Chkalovo**	**50.23 310**	*e*P	**P**	**09 43 21.0**	**-1.4**
	comp=Z,14nm,0.5s,mb5.3					
NANT	**Nan**	**50.55 255**	⇓P	**P**	**09 43 24.0**	**-0.8**
	comp=Z,175nm,0.9s,mb6.0					
BRVK	**Borovoye**	**50.69 309**	*e*P	**P**	**09 43 25.0**	**-0.9**
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9					
BRVK	**Borovoye**	**50.69 309**	*e*P	**P**	**09 43 25.0**	**-0.8**
	comp=Z,8.9nm,0.6s,mb4.9					
YKW3	**Yellowknife Ar**	**51.23 36**	*e*P	**P**	**09 43 30.0**	**+0.2**
YKA	**Yellowknife Ar**	**51.26 36**	P	**P**	**09 43 29.7**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.3,baz=299,slow=7.0,SNR=61					
YKA			PcP	PcP

comp=Z,18nm,0.8s,mb5.1
SHL **Shillong** 51.99 268 *e*P P 09 43 34.8 -0.7
AAK **Ala-Archa** 53.55 296 *e*P P 09 43 46.6 -0.5
AAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AAK **Ala-Archa** 53.55 296 *e*P P 09 43 46.6 -0.5
comp=Z,10nm,0.9s,mb4.8
GUN **Gumba** 54.63 275 *e*P P 09 43 56.5 +1.5
comp=Z,38nm,0.5s,mb5.7
B05A **Bryant** 54.81 55 ⇑P P 09 43 55.3 -0.9
baz=55
ARU **Arti** 54.86 317 ⇓*i*P P 09 43 55.0 -1.6
ARU *e* 09 44 56.7
ARU *e* 09 45 55.3
ARU *e*S S 09 51 34.1 +0.1
ARU *e*SS SS 09 55 21.3 +3.5
ARU pmax pmax
comp=Z,13nm,1.5s,mb4.7
ARU **Arti** 54.86 317 *e*P P 09 43 55.6 -1.0
KKN **Kakani** 55.12 275 *e*P P 09 44 00.0 +1.5
comp=Z,94nm,0.7s,mb6.0
PKI **Pulchoki** 55.17 275 *e*P P 09 44 00.0 +1.1
comp=Z,58nm,0.8s,mb5.7
A07A **Ashnola River,** 55.33 53 ⇓P P 09 43 59.4 -0.7
baz=55
DMN **Daman** 55.35 275 *e*P P 09 44 01.8 +1.6
comp=Z,125nm,0.8s,mb6.0
GKN **Gorkha** 55.43 276 *e*P P 09 44 02.2 +1.5
comp=Z,184nm,0.9s
B07A **Winthrop** 55.80 54 ⇑P P 09 44 02.7 -0.7
baz=56
A08A **Turner Farm, O** 55.99 53 ⇑P P 09 44 04.7 0.0
baz=56
D06A **Cle Elum** 56.10 55 ⇓P P 09 44 04.9 -0.6
baz=56
HNR **Honiara** 56.18 171 LR LR 10 03 38.9
comp=Z,68nm,21.6s,MS3.7,baz=359,slow=31
C07A **Waterville** 56.26 54 ⇑P P 09 44 05.7 -0.9
baz=56
KOLN **Koldanda** 56.29 276 *e*P P 09 44 08.5 +1.7
comp=Z,117nm,0.8s,mb5.9
B08A **Colville Reser** 56.29 53 ⇓P P 09 44 05.9 -1.0
baz=56
A09A **Danville** 56.36 52 ⇑P P 09 44 07.0 -0.4
baz=56
J02A **Umpqua** 56.68 60 ⇓P P 09 44 09.7 +0.1
baz=56
H04A **Detroit Lake** 56.75 58 ⇑P P 09 44 10.2 +0.1
baz=56
DAG **Danmarks Havn** 56.77 358 ⇓*i*P P 09 44 08.5 -1.8
comp=Z,2.7nm,0.6s,mb4.5
DAG **Danmarks Havn** 56.77 358 ⇓*i*P P 09 44 08.5 -1.8
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
B09A **Rice** 56.91 53 ⇑P P 09 44 10.9 -0.4
baz=57
G05A **Wamic** 56.94 57 ⇓P P 09 44 11.8 +0.4
baz=57
E07A **Sunnyside** 57.02 55 ⇓P P 09 44 12.4 +0.3
baz=57
I04A **Tendick Farm,** 57.12 59 ⇑P P 09 44 13.2 +0.4
baz=57
C09A **Chrisman Ranch** 57.20 53 ⇓P P 09 44 13.0 -0.3
baz=57
D08A **Wollman Farm,** 57.26 54 ⇑P P 09 44 13.1 -0.6
baz=57
BOK **Bokaro** 57.27 271 *e*P P 09 44 11.2 -2.6
BOK AMb AMB 09 44 16.4
comp=Z,17nm,0.9s,mb5.1
H05A **Madras** 57.33 58 ⇓P P 09 44 14.0 -0.2
baz=57
KEV **Kevo** 57.35 340 *e*p P 09 44 12.4 -2.0
L02A **Cave Junction** 57.36 61 ⇓P P 09 44 15.8 +1.4
baz=57
HUMO **Hull Mountain** 57.48 61 ⇑P P 09 44 16.4 +1.1
baz=57
A11A **Hall Mountain,** 57.57 51 ⇓P P 09 44 16.2 +0.2
baz=57
D09A **Jones Farm, Ri** 57.60 54 ⇓P P 09 44 15.5 -0.6
baz=57
J04A **Umpqua Nationa** 57.62 60 ⇓P P 09 44 15.2 -1.1
baz=57
C10A **Spilker Farm,** 57.72 53 ⇓P P 09 44 16.0 -1.0
baz=58
H06A **Lindquist Farm** 57.80 57 ⇑P P 09 44 16.3 -1.2
baz=58
ARCES **ARCESS Array B** 57.86 341 P P 09 44 16.5 -1.4
comp=Z,1.7nm,0.4s,mb4.4,baz=29,slow=7.2,SNR=11
ARCES LR LR 10 11 05.2
comp=Z,131nm,18.9s,MS4.1,baz=63,slow=38
ARCES **ARCESS Array B** 57.86 341 P P 09 44 16.5 -1.5
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES MLR MLR
comp=Z,131nm,18.9s
ARCES **ARCESS Array B** 57.86 341 P P 09 44 16.5 -1.4
ARCES LR LR 10 11 05.2
G07A **Ruggs Ranch, H** 57.87 56 ⇓P P 09 44 17.8 -0.3
baz=58
E09A **Wood Farm, Sta** 58.01 55 ⇓P P 09 44 18.7 -0.3
baz=58
J05A **Fort Rock** 58.12 59 ⇓P P 09 44 20.2 +0.4
baz=58
YBH **Yreka Blue Hor** 58.14 61 *e*P P 09 44 20.5 +0.5
YBH **Yreka Blue Hor** 58.14 61 ⇑P P 09 44 19.5 -0.5
baz=58
D10A **Wagner Farm, O** 58.18 54 ⇓P P 09 44 19.9 -0.3
baz=58
G08A **Pilot Rock** 58.26 56 ⇓P P 09 44 20.2 -0.6
baz=58
N02C **Big Bar** 58.32 63 ⇑P P 09 44 20.4 -0.7
baz=58
H07A **Lands Inn, Kim** 58.33 57 ⇑P P 09 44 21.3 +0.1
baz=58
I06A **Prineville** 58.33 58 ⇓P P 09 44 21.3 +0.1
baz=58
L04A **Klamath Falls** 58.38 60 ⇑P P 09 44 21.7 +0.1
baz=58
E10A **Myers Farm, Un** 58.61 54 ⇓P P 09 44 22.9 -0.3
baz=58
F09A **S2 Ranch, Elgi** 58.62 55 ⇑P P 09 44 23.9 +0.6
baz=58
M04C **Macdoel** 58.64 61 ⇓P P 09 44 23.6 +0.2
baz=58
K05A **Summer Lake** 58.65 59 ⇑P P 09 44 24.2 +0.7
baz=58
I07A **Izee** 58.66 57 ⇓P P 09 44 23.6 +0.1
baz=58
D11A **Klaveano Farm,** 58.70 53 ⇑P P 09 44 23.2 -0.6
baz=58
WALA **Waterton Lakes** 58.82 50 *e*P P 09 44 25.2 +0.6
comp=Z,9.5nm,0.9s,mb4.8
F10A **Beach Ranch, E** 58.84 55 ⇓P P 09 44 25.2 +0.3
baz=59
H08A **Prairie City** 58.88 57 ⇓P P 09 44 24.9 -0.3
baz=59
K06A **Valley Falls** 58.98 59 P P 09 44 27.2 +1.4
baz=59,SNR=6.7
O02C **Red Bluff** 59.02 63 ⇓P P 09 44 26.3 +0.2
baz=59
L05A **Lakeview** 59.09 60 ⇓P P 09 44 27.0 +0.5
baz=59
E11A **Bogner Ranch,** 59.19 54 ⇓P P 09 44 25.9 -1.3
baz=59
J07A **Hines** 59.20 58 ⇑P P 09 44 27.7 +0.4
baz=59
M05C **Lookout** 59.31 61 ⇑P P 09 44 28.2 +0.2
baz=59
H09A **Durkee** 59.38 56 ⇓P P 09 44 29.5 +1.0
baz=59
HATC **Hat Creek Radi** 59.45 62 ⇑P P 09 44 28.5 -0.4
baz=59
BMO **Blue Mountains** 59.47 56 *e*P P 09 44 29.9 +0.8
MOD **Modoc** 59.49 60 *e*P P 09 44 30.0 +0.7
comp=Z,9.7nm,1.1s,mb4.8
MOD **Modoc** 59.49 60 ⇑P P 09 44 28.8 -0.5
baz=59
K07A **Rock Creek Ran** 59.64 59 ⇓P P 09 44 29.8 -0.5
baz=59
J08A **Circle Bar Ran** 59.69 58 ⇑P P 09 44 30.5 -0.2
baz=59
D13A **Huson** 59.70 52 ⇓P P 09 44 30.4 -0.3
baz=59
I09A **Lost Marbles R** 59.75 57 ⇓P P 09 44 30.8 -0.2
baz=60
H10A **Noah's Angus R** 59.94 56 ⇓P P 09 44 31.2 -1.2
baz=60
O04C **Chester** 59.97 62 ⇓P P 09 44 32.5 -0.1
baz=60
NDI **New Delhi** 60.06 281 *e*P P 09 44 32.0 -1.2
K08A **Mann Creek Ran** 60.06 58 ⇑P P 09 44 33.3 +0.1
baz=60
F12A **Elk City** 60.08 54 ⇓P P 09 44 33.0 -0.3
baz=60
J09A **Fry Pan Ranch,** 60.12 57 ⇓P P 09 44 34.3 +0.7
baz=60
WVOR **Wild Horse Val** 60.16 59 *e*P P 09 44 34.1 +0.2
WVOR pmax pmax
comp=Z,12nm,1.0s,mb4.9
WVOR **Wild Horse Val** 60.16 59 *e*P P 09 44 34.1 +0.2
comp=Z,12nm,1.0s,mb4.9
ORV **Oroville** 60.19 63 ⇓P P 09 44 33.0 -1.0
baz=60
D14A **Greenough** 60.23 52 P P 09 44 34.6 +0.2
baz=60,SNR=7.6
E13A **Victor** 60.25 53 ⇑P P 09 44 34.2 -0.3
baz=60
H11A **Donnelly** 60.29 55 ⇓P P 09 44 34.8 0.0
baz=60
N06A **Buffalo Meadow** 60.47 61 ⇑P P 09 44 35.6 -0.5
baz=60
L08A **Fields** 60.48 59 ⇑P P 09 44 35.9 -0.2
baz=60
M07A **Soldier Meadow** 60.48 60 P P 09 44 37.1 +1.1
baz=60,SNR=8.0
K09A **Rome** 60.53 58 ⇑P P 09 44 36.8 +0.4
baz=60
F13A **Darby** 60.57 53 ⇑P P 09 44 36.4 -0.3
baz=60
E14A **Clinton** 60.65 52 ⇑P P 09 44 37.2 0.0
baz=60
KULM **Kulim** 60.67 244 *e*P P 09 44 39.0 +1.6
D15A **Lincoln** 60.79 51 ⇓P P 09 44 38.4 +0.3
baz=60
I11A **Placerville** 60.81 56 ⇓P P 09 44 38.4 +0.1
baz=60
N07B **Gerlach** 60.97 60 ⇑P P 09 44 39.9 +0.5
baz=61
L09A **Wilkinson Ranc** 60.98 58 ⇑P P 09 44 39.0 -0.5
baz=61
H12A **Diamond D Ranc** 61.04 55 ⇓P P 09 44 39.6 -0.3
baz=61
G13A **Cobalt** 61.05 54 P P 09 44 40.0 +0.1
baz=61,SNR=5.3
FFC **Flin Flon** 61.09 40 *e*P P 09 44 39.0 -1.2
FFC pmax pmax
comp=Z,15nm,0.8s,mb5.2
FFC **Flin Flon** 61.09 40 *e*P P 09 44 39.0 -1.2
comp=Z,15nm,0.8s,mb5.2
E15A **Deer Lodge** 61.10 52 ⇓P P 09 44 40.6 +0.3
baz=61
LAVA **Lava Cap Winer** 61.14 63 ⇑P P 09 44 40.2 -0.4
baz=61
JOF **Joensuu** 61.29 334 *e*p P 09 44 40.3 -1.3
O07A **Toulon** 61.41 61 ⇑P P 09 44 42.6 +0.2
baz=61
WCN **Washoe City** 61.41 62 ⇑P P 09 44 42.0 -0.4
baz=61
N08A **GE Springer Mi** 61.47 60 ⇓P P 09 44 42.8 0.0
baz=61
M09A **Marrel Ranch,** 61.48 59 ⇑P P 09 44 42.7 -0.2
baz=61
LRM **Limekiln Ridge** 61.58 52 *e*P P 09 44 44.3 +0.8
FCC **Fort Churchill** 61.59 33 *e*P P 09 44 42.7 -0.9
FCC pmax pmax
comp=Z,17nm,0.6s,mb5.3
FCC **Fort Churchill** 61.59 33 *e*P P 09 44 42.6 -0.9
comp=Z,17nm,0.6s,mb5.4
N09A **Rock Creek Ran** 61.78 59 ⇑P P 09 44 44.5 -0.5
baz=62
CMB **Columbia Colle** 61.81 63 *e*P P 09 44 45.6 +0.5
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
CMB **Columbia Colle** 61.81 63 *e*P P 09 44 45.6 +0.5
comp=Z,9.9nm,1.1s,mb4.8
CMB **Columbia Colle** 61.81 63 ⇑P P 09 44 45.3 +0.3
baz=62
PACP **Pacheco Peak** 61.89 65 ⇓P P 09 44 45.6 0.0
baz=62
HLID **Hailey** 61.90 55 *e*P P 09 44 46.4 +0.7
comp=Z,5.0nm,1.1s,mb4.6
HLID **Hailey** 61.90 55 ⇑P P 09 44 46.1 +0.4
baz=62
G15A **Dillon** 61.97 53 ⇓P P 09 44 45.9 -0.3
baz=62
R06C **Coleville** 62.08 63 ⇑P P 09 44 47.4 +0.6
baz=62
WAKR **Walker** 62.10 63 *e*P P 09 44 47.6 +0.6
HAST **UC Hastings Re** 62.11 66 ⇓P P 09 44 46.5 -0.6
baz=62
BOZ **Bozeman (W)** 62.14 52 *e*P P 09 44 44.2 -3.1
S06C **San Francisco** 62.23 63 ⇑P P 09 44 48.2 +0.3
baz=62
S05C **Merced** 62.27 64 ⇓P P 09 44 47.9 -0.3
baz=62
O09A **Fish Creek Ran** 62.41 60 ⇓P P 09 44 49.6 +0.5
baz=62
V03C **Hunter Liggett** 62.54 66 ⇓P P 09 44 51.3 +1.3
baz=62
R07C **Lee Vining** 62.60 63 ⇓P P 09 44 51.9 +1.5
baz=62
U04C **Hernandez Rese** 62.61 65 ⇑P P 09 44 50.8 +0.3
baz=62
O10A **Cortez Mining,** 62.74 59 ⇓P P 09 44 52.4 +1.1
baz=62
QLMT **Earthquake Lak** 62.77 53 *e*P P 09 44 52.3 +0.8
QLMT *e* pP 09 45 05.7 -0.1
Q08A **Gabbs** 62.79 61 ⇑P P 09 44 51.9 +0.2
baz=62
NVAR **Mina Array Bea** 62.84 62 P P 09 44 52.5 +0.6
comp=Z,1.8nm,0.7s,mb4.3,baz=301,slow=6.7,SNR=12
NVAR pP pP 09 45 05.9 -0.3
comp=Z,5.5nm,0.7s,baz=294,slow=7.7,SNR=17
T06C **Millerton Lake** 62.87 64 ⇓P P 09 44 51.5 -0.6
baz=63
KCC **Kaiser Creek** 62.91 63 ⇑P P 09 44 53.1 +0.6
baz=63
VIS **Vishakhapatnam** 63.12 268 *e*P P 09 44 54.6 +0.7
P10A **Eureka** 63.19 60 ⇑P P 09 44 55.1 +0.8
baz=63
N12A **Clover Valley,** 63.25 58 ⇑P P 09 44 54.5 -0.2
baz=63
KAF **Kangasniemi** 63.41 335 *e*p P 09 44 54.0 -1.7
comp=Z,9.3nm,0.6s,mb5.1,baz=37,slow=6.2
KAF **Kangasniemi** 63.41 335 *e*P P 09 44 54.0 -1.7
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
M13A **Montello** 63.44 57 ⇓P P 09 44 55.1 -0.8
baz=63
BHPL **Bhopal** 63.46 276 *e*P P 09 44 56.8 +0.8
BHPL AMb AMB 09 44 58.0
comp=Z,40nm,0.8s,mb5.6
HELL **Mitchell Peak,** 63.50 64 ⇑P P 09 44 56.4 0.0
baz=63,SNR=6.0
S08C **White Mtn Res** 63.51 63 ⇑P P 09 44 56.7 +0.3
baz=63,SNR=5.3
IMW **Indian Meadow** 63.63 53 *e*P P 09 44 58.5 +1.2
comp=Z,13nm,1.1s,mb4.9
PSI **Prapat** 63.68 244 P P 09 44 58.3 +0.8
comp=Z,9.2nm,0.8s,mb4.8,baz=309,slow=1.8,SNR=7.6
PSI **Prapat** 63.68 244 P P 09 44 58.3 +0.8
PSI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DCID1 **Drake Creek** 63.69 54 *e*P P 09 44 59.2 +1.6
R09A **Tonopah** 63.70 61 ⇑P P 09 44 57.6 -0.1
baz=64
NGP **Nagpur** 63.74 274 *e*P P 09 44 56.8 -1.1
MOOW **Moose Ponds** 63.84 53 *e*P P 09 44 59.6 +1.1
comp=Z,13nm,1.4s,mb4.8
TPAW **Teton Pass** 63.89 54 *e*P P 09 45 00.4 +1.5
comp=Z,11nm,0.8s,mb4.9
TPAW *e* pP 09 45 14.3 +1.0
HVU **Hansel Valley** 63.97 56 *e*P P 09 45 00.6 +1.2
FINES **FINESS Array B** 64.00 335 P P 09 44 58.3 -1.3
comp=Z,15nm,0.5s,mb5.3,baz=42,slow=8.8,SNR=25
FINES LR LR 10 13 26.3
comp=Z,124nm,21.0s,MS4.1,baz=13,slow=36
FINES **FINESS Array B** 64.00 335 *i* P P 09 44 58.7 -1.0
FINES pmax pmax
comp=Z,15nm,0.5s
LOHW **Long Hollow** 64.00 53 *e*P P 09 45 00.2 +0.6
comp=Z,15nm,1.4s,mb4.8
SNOW **Snow King Moun** 64.02 54 *e*P P 09 45 00.8 +1.0
comp=Z,16nm,1.1s,mb5.0
REDW **Red Top Meadow** 64.03 54 *e*P P 09 45 01.3 +1.5
comp=Z,19nm,1.2s,mb5.0
Q11A **Duckwater** 64.17 60 ⇓P P 09 45 00.3 -0.4
baz=64
P12A **McGill** 64.21 59 ⇓P P 09 45 02.1 +1.1
baz=64
LAO **LASA Array** 64.33 49 *e*P P 09 45 02.8 +1.0
ISA **Isabella** 64.50 64 *e*P P 09 45 02.2 -0.7
ISA *e* pP 09 45 16.0 -1.2
ISA **Isabella** 64.50 64 ⇑P P 09 45 02.3 -0.6
baz=64
Q12A **Willow Creek R** 64.53 60 ⇓P P 09 45 03.0 -0.1
baz=64
ARVC **Arvin** 64.62 65 ⇓P P 09 45 03.1 -0.6
baz=64
HWUT **Hardware Ranch** 64.77 56 *e*P P 09 45 05.5 +0.9
HWUT *e* pP 09 45 19.2 +0.2
MPMC **Manual Prospec** 64.85 64 ⇓P P 09 45 05.5 +0.3
baz=65,SNR=5.9
DUG **Dugway** 64.97 57 *e*P P 09 45 06.2 +0.2
DUG pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
DUG **Dugway** 64.97 57 *e*P P 09 45 06.2 +0.2
comp=Z,4.4nm,1.2s,mb4.4
DUG **Dugway** 64.97 57 ⇑P P 09 45 05.8 -0.2
baz=65,SNR=6.1
FURC **Furnace Creek,** 64.97 63 ⇓P P 09 45 05.3 -0.6
baz=65,SNR=5.8
OSI **Osito Adit** 65.02 65 ⇓P P 09 45 06.0 -0.2
baz=65
LRMC **Laurel Mountai** 65.10 64 ⇓P P 09 45 06.6 -0.3
baz=65
BW06 **Boulder Array** 65.14 54 *e*P P 09 45 07.0 0.0
comp=Z,9.9nm,1.1s,mb4.8
PDAR **Pinedale Array** 65.14 54 P P 09 45 07.1 +0.1
comp=Z,2.9nm,0.9s,mb4.3,baz=300,slow=2.0,SNR=19
PDAR pP pP 09 45 21.6 +0.2
comp=Z,5.7nm,0.9s,baz=300,slow=2.9,SNR=13
OBN **Obninsk** 65.21 325 *e*P P 09 45 06.6 -0.9
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
EDW2 **Edwards Air Fo** 65.30 65 ⇓P P 09 45 08.5 +0.4
baz=65,SNR=6.2
U10A **Ash Meadows, A** 65.33 63 ⇑P P 09 45 09.2 +0.9
baz=65,SNR=5.5
AKL **Akola** 65.44 275 *e*P P 09 45 10.1 +1.1
AKL AMb AMB 09 45 29.4
comp=Z,15nm,0.2s,mb5.8
JLU **Jordanelle** 65.49 56 *e*P P 09 45 09.9 +0.6
JLU *e* pP 09 45 24.1 +0.3
DECC **Green Verdugo** 65.50 66 ⇑P P 09 45 07.9 -1.5
baz=65
MWC **Mount Wilson** 65.69 65 *e*P P 09 45 10.7 +0.1
DAU **Daniels Canyon** 65.73 56 *e*P P 09 45 11.8 +0.9
DAU *e* pP 09 45 25.6 +0.3
GSC **Goldstone** 65.76 64 *e*P P 09 45 11.6 +0.5
GSC *e* pP 09 45 25.7 +0.2
GSC **Goldstone** 65.76 64 ⇓P P 09 45 11.1 0.0
baz=66,SNR=5.1
MPU **Maple Canyon** 65.77 57 *e*P P 09 45 12.0 +0.8
BFSC **Mount Baldy St** 65.93 65 ⇓P P 09 45 11.9 -0.2
baz=66
SHPR **Sheep Range** 65.98 62 *e*P P 09 45 13.6 +1.1
TUQ **Turquoise Mtn.** 66.22 63 ⇓P P 09 45 14.7 +0.7
baz=66,SNR=5.5
V11A **Goodsprings** 66.26 63 ⇑P P 09 45 13.7 -0.6
baz=66
HEC **Hector,Ludlow** 66.37 64 ⇓P P 09 45 14.4 -0.6
baz=66
BBRC **Big Bear Sol-O** 66.37 65 ⇑P P 09 45 16.0 +1.0
baz=66,SNR=5.5
HYB **Hyderabad** 66.62 271 *i* P P 09 45 17.0 +0.4
comp=Z,35nm,0.8s,mb5.4
HYB **Hyderabad** 66.62 271 *e*P P 09 45 17.0 +0.4
comp=Z,64nm,0.8s,mb5.7
MURC **Murrieta** 66.64 65 ⇑P P 09 45 17.1 +0.4
baz=66,SNR=5.6
V12A **Nelson** 66.69 62 ⇑P P 09 45 16.1 -0.9
baz=66
GMRC **Granite Mounta** 66.81 64 ⇑P P 09 45 18.2 +0.3
baz=67,SNR=5.6
ULM **Lac du Bonnet** 66.88 40 P P 09 45 17.3 -0.9
comp=Z,5.4nm,0.7s,mb4.7,baz=307,slow=8.9,SNR=17
W12A **Cal Nev Ari** 66.95 63 ⇓P P 09 45 18.7 0.0
baz=67
SRU **San Rafael** 67.01 57 *e*P P 09 45 19.7 +0.6
SRU *e* pP 09 45 33.6 +0.1
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SRU **San Rafael** 67.01 57 *e*P P 09 45 19.7 +0.7
comp=Z,5.1nm,0.8s,mb4.6
SRU *e* pP 09 45 33.6 +0.1
PFO **Pinyon Flat Ob** 67.09 65 ⇑P P 09 45 20.0 +0.4
baz=67
BELC **Belle Mtn.** 67.12 64 ⇑P P 09 45 20.2 +0.4
baz=67
109C **Camp Elliot, M** 67.16 66 ⇓P P 09 45 20.5 +0.4
baz=67
RSSD **Black Hills** 67.20 49 *e*P P 09 45 19.9 -0.4
RSSD *e* pP 09 45 34.5 -0.2
RSSD pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
RSSD **Black Hills** 67.20 49 *e*P P 09 45 19.9 -0.4
comp=Z,7.8nm,0.6s,mb4.9
RSSD *e* pP 09 45 34.5 -0.3
IRM **Iron Mountain** 67.54 64 ⇓P P 09 45 22.8 +0.4
baz=67,SNR=6.2
BC3 **Big Chuckw Mtn** 67.69 64 ⇑P P 09 45 23.1 -0.2
baz=68
W13A **Hualapai Mount** 67.69 62 ⇑P P 09 45 22.2 -1.2
baz=67
X13A **Yucca** 68.06 63 ⇑P P 09 45 26.7 +1.0
baz=68,SNR=5.5
PDMCI **Parker Dam,Lak** 68.07 63 ⇑P P 09 45 25.5 -0.3
baz=68,SNR=5.6
W14A **Seligman** 68.10 62 ⇓P P 09 45 26.6 +0.6
baz=68,SNR=7.4
Y12C **Blythe** 68.20 64 ⇑P P 09 45 26.7 +0.1
baz=68
NB2 **NORSAR Subarra** 68.24 341 P P 09 45 25.9 -0.9
comp=Z,16nm,0.6s,mb5.2,baz=28,slow=6.5
NOA **NORSAR Array B** 68.24 341 P P 09 45 25.9 -0.9
comp=Z,11nm,0.5s,mb5.2,baz=28,slow=6.3,SNR=43
NOA **NORSAR Array B** 68.24 341 P P 09 45 25.9 -0.9
NOA pmax pmax
comp=Z,11nm,0.5s
WRAB **Tennant Creek** 68.25 198 *e*P P 09 45 26.0 -0.9
WRAB **Tennant Creek** 68.25 198 *e*P P 09 45 26.5 -0.4
comp=Z,5.4nm,0.8s,mb4.6
WRA **Warramunga Arr** 68.26 198 P P 09 45 26.7 -0.3
comp=Z,3.2nm,0.8s,mb4.4,baz=19,slow=6.8,SNR=12
WRA LR LR 10 11 09.1
comp=Z,60nm,21.6s,MS3.8,baz=85,slow=32
WRA **Warramunga Arr** 68.26 198 *i* P P 09 45 26.7 -0.2
WRA pmax pmax
comp=Z,3.0nm,0.8s
PV10 **Paradox Valley** 68.36 57 *e*P P 09 45 28.3 +0.7
PV10 *e* pP 09 45 42.5 +0.4
HFS **Hagfors** 68.45 339 P P 09 45 26.8 -1.3
comp=Z,22nm,0.5s,mb5.4,baz=55,slow=6.0,SNR=71
HFS **Hagfors** 68.45 339 P P 09 45 26.8 -1.4
HFS pmax pmax
comp=Z,22nm,0.5s
HFS **Hagfors** 68.45 339 P P 09 45 26.8 -1.3
GLA **Glamis** 68.48 64 ⇓P P 09 45 28.1 -0.2
baz=68
W15A **Williams** 68.62 61 ⇓P P 09 45 28.6 -0.6
baz=68
X14A **Yava** 68.72 62 ⇓P P 09 45 28.9 -0.9
baz=68,SNR=5.2
PV01 **Paradox Valley** 68.80 57 *e*P P 09 45 30.0 -0.3
WUAZ **Wupatki** 68.93 60 ⇓P P 09 45 31.1 0.0
baz=69
Y14A **Wickenburg** 69.01 63 ⇓P P 09 45 31.7 +0.1
baz=69
POO **Poona** 69.09 275 ⇑*i*P P 09 45 29.0 -3.1
comp=Z,30nm,1.0s,mb5.2
X15A **Humboldt** 69.11 62 ⇓P P 09 45 33.2 +1.0
baz=69,SNR=6.5
ISCO **Idaho Springs** 69.33 54 *e*P P 09 45 34.3 +0.7
ISCO *e* pP 09 45 48.6 +0.5
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ISCO **Idaho Springs** 69.33 54 *e*P P 09 45 34.3 +0.7
comp=Z,2.5nm,0.8s,mb4.2
ISCO *e* pP 09 45 48.5 +0.4

MVCO Mesa Verde 69.47 57 ⇑P P 09 45 34.1 -0.4
baz=69
DZM Mont Dzumac 69.50 166 LR LR 10 12 26.4
comp=Z,112nm,20.7s,MS4.1,baz=25,slow=33
KAD Karad 69.70 274 *eP* **P 09 45 36.8 +0.9**
115A Sonoran Desert 70.33 63 ⇓P P 09 45 37.9 -1.8
baz=70
KIV Kislovodsk 70.62 314 *eP* **P 09 45 42.0 +0.5**
KIV pmax pmax
comp=Z,16nm,0.7s,mb5.1
KIV MLR MLR
comp=Z,231nm,18.0s,MS4.5
116A Eloy 70.74 63 ⇓P P 09 45 40.5 -1.8
baz=70
SDCO Great Sand Dun 70.82 55 *eP* **P 09 45 45.2 +2.5**
comp=Z,3.7nm,0.8s,mb4.4
SDCO *e* pP 09 45 57.3 0.0
GOA Goa 71.21 273 *ex* x 09 45 11.3
GOA AMb AMB 09 45 38.2
comp=Z,40nm,1.4s,mb5.1
AKASG Malin Array Be 71.45 326 P **P 09 45 45.3 -1.2**
comp=Z,18nm,0.4s,mb5.3,baz=34,slow=6.2,SNR=77
AKASG LR LR 10 19 10.6
comp=Z,117nm,18.4s,MS4.2,baz=325,slow=38
AKASG Malin Array Be 71.45 326 *i* P **P 09 45 45.5 -1.0**
AKASG pmax pmax
comp=Z,18nm,0.4s
AKBB Malin Array Si 71.45 326 *eP* **P 09 45 45.2 -1.3**
KIEV Kiev 71.46 326 *eP* **P 09 45 45.2 -1.4**
KIEV pmax pmax
comp=Z,21nm,0.6s,mb5.2
KIEV Kiev 71.46 326 *eP* **P 09 45 45.2 -1.4**
comp=Z,21nm,0.6s,mb5.2
ASAR Alice Springs 71.96 198 P **P 09 45 50.5 +0.9**
comp=Z,4.9nm,0.7s,mb4.6,baz=11,slow=5.4,SNR=39
ASAR Alice Springs 71.96 198 P **P 09 45 50.5 +0.9**
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ANMO Albuquerque 72.23 58 *eP* **P 09 45 48.9 -2.3**
SCHQ Schefferville 73.58 23 P **P 09 45 57.4 -1.8**
comp=Z,2.8nm,0.7s,mb4.3,baz=311,slow=9.3,SNR=5.5
SCHQ Schefferville 73.58 23 P **P 09 45 57.4 -1.8**
TRD Trivandrum 73.98 265 *eP* **P 09 46 01.0 -0.6**
TRD AMb AMB 09 46 03.8
comp=Z,40nm,0.8s,mb5.4
SCIA State Center 74.28 45 *eP* **P 09 46 02.9 -0.4**
comp=Z,22nm,0.8s,mb5.1
SCIA *e* pP 09 46 16.7 -1.3
KWP Kalwaria 74.75 329 *eP* **P 09 46 06.4 +0.4**
AMTX Amarillo 75.02 55 *eP* **P 09 46 08.1 +0.5**
AMTX *e* pP 09 46 22.2 0.0
OJC Ojcow 75.26 331 *eP* **P 09 46 08.6 -0.3**
STHS Stebnicka Huta 75.44 330 *eP* **P 09 46 10.9 +0.9**
STHS pmax pmax
comp=Z,12nm,0.7s,mb4.9
STHS Stebnicka Huta 75.44 330 *eP* **P 09 46 10.9 +0.9**
comp=Z,12nm,0.7s,mb4.9
KOLS Kolonicke sedl 75.49 329 *eP* **P 09 46 10.2 -0.1**
BURAR Bucovina Array 75.49 326 ⇑*iP* **P 09 46 10.3 0.0**
CRVS Cervenica-Dubn 75.80 329 *eP* **P 09 46 12.0 -0.1**
CRVS Cervenica-Dubn 75.80 329 *eP* **P 09 46 12.1 0.0**
KSP Ksiaz 75.86 333 *eP* **P 09 46 12.2 -0.2**
OKC Ostrava-Krasne 76.13 332 *eP* **P 09 46 14.0 0.0**
UPC Upice 76.23 333 *eP* **P 09 46 14.5 0.0**
DPC Dobruska-Polom 76.28 333 *eP* **P 09 46 15.2 +0.4**
CFR Carcaliu 76.32 323 P **P 09 46 15.7 +0.7**
VRI Vrincioaia 76.34 324 ⇓*iP* **P 09 46 15.5 +0.4**
EKA Eskdalemuir Ar 76.38 346 P **P 09 46 15.2 -0.1**
comp=Z,3.0nm,0.5s,mb4.5,baz=22,slow=4.8,SNR=17
EKA Eskdalemuir Ar 76.38 346 P **P 09 46 15.3 -0.1**
EKA pmax pmax
comp=Z,3.0nm,0.5s
MORC Moravsky Berou 76.38 332 *eP* **P 09 46 15.2 -0.1**
comp=Z,10nm,0.9s,mb4.8
MORC Moravsky Berou 76.38 332 ⇑*iP* **P 09 46 15.5 +0.1**
CLL Collm 76.43 335 *i* P **P 09 46 14.7 -1.0**
CLL pmax pmax
comp=Z,33nm,0.8s,mb5.3
CLL Collm 76.43 335 *i* P **P 09 46 14.7 -1.0**
comp=Z,33nm,0.8s,mb5.3
KECS Kecovo 76.50 329 *eP* **P 09 46 16.0 0.0**
KECS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KECS Kecovo 76.50 329 *eP* **P 09 46 16.0 0.0**
comp=Z,6.5nm,1.0s,mb4.5
PVCC Panska Ves 76.66 334 *eP* **P 09 46 17.1 +0.2**
WMOK Wichita Mounta 76.75 53 *eP* **P 09 46 17.1 -0.3**
WMOK *e* pP 09 46 31.6 -0.5
TIRR Tirgusor 76.79 322 ⇑*iP* **P 09 46 17.7 0.0**
MLR Muntele Rosu 76.96 325 P **P 09 46 19.0 +0.4**
comp=Z,15nm,0.6s,mb5.1,baz=198,slow=7.8,SNR=23
MLR Muntele Rosu 76.96 325 P **P 09 46 20.1 +1.5**
MLR Muntele Rosu 76.96 325 ⇓*iP* **P 09 46 19.0 +0.4**
MALT Malatya 76.97 313 P **P 09 46 20.6 +1.9**
MALT Malatya 76.97 313 *eP* **P 09 46 20.3 +1.6**
comp=Z,14nm,0.9s,mb4.9
MALT Malatya 76.97 313 ⇓*iP* **P 09 46 20.3 +1.6**
VYHS Vyhne 77.06 330 *eP* **P 09 46 19.4 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VYHS Vyhne 77.06 330 *eP* **P 09 46 19.4 +0.2**
comp=Z,5.9nm,0.8s,mb4.6
VRAC Vranov 77.10 332 P **P 09 46 20.0 +0.6**
comp=Z,16nm,0.8s,mb5.0,baz=19,slow=6.3,SNR=11
VRAC Vranov 77.10 332 P **P 09 46 20.0 +0.6**
VRAC pmax pmax
comp=Z,16nm,0.8s
VRAC Vranov 77.10 332 ⇓P **P 09 46 19.9 +0.5**
VRAC Vranov 77.10 332 ⇓*iP* **P 09 46 19.9 +0.5**
DRGR 77.13 327 P **P 09 46 19.6 0.0**
DRGR 77.13 327 ⇓*iP* **P 09 46 19.7 +0.1**
PRU Pruhonice 77.14 334 *eP* **P 09 46 19.7 0.0**
PSZ Piszkesteto 77.19 330 *eP* **P 09 46 19.7 -0.2**
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
PSZ Piszkesteto 77.19 330 *eP* **P 09 46 19.7 -0.2**
comp=Z,8.9nm,0.9s,mb4.7
PSZ Piszkesteto 77.19 330 ⇓*iP* **P 09 46 19.7 -0.2**
MOX Moxa 77.42 336 *eP* **P 09 46 20.8 -0.4**
comp=Z,12nm,0.9s,mb4.8
MOX Moxa 77.42 336 *eP* **P 09 46 20.8 -0.4**
MOX pmax pmax
comp=Z,12nm,0.9s,mb4.8
NKC Novy Kostel 77.55 335 *eP* **P 09 46 22.1 +0.2**
LTX Lajitas 77.89 60 *eP* **P 09 46 24.3 +0.5**
LTX *e* pP 09 46 38.3 -0.3
LTX pmax pmax
comp=Z,13nm,0.8s,mb4.9
LTX Lajitas 77.89 60 *eP* **P 09 46 24.3 +0.5**
comp=Z,13nm,0.8s,mb4.9
LTX *e* pP 09 46 38.2 -0.3
TXAR Lajitas Array 77.89 60 P **P 09 46 24.1 +0.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=300,slow=4.1,SNR=45
TXAR pP pP 09 46 38.0 -0.6
comp=Z,11nm,0.7s,baz=300,slow=4.6,SNR=29
TXAR Lajitas Array 77.89 60 P **P 09 46 24.2 +0.4**
TXAR *PP pP 09 46 38.0 -0.6
TXAR pmax pmax
comp=Z,3.0nm,0.6s
ZST Bratislava 77.90 331 *eP* **P 09 46 25.0 +1.1**
ZST pmax pmax
comp=Z,15nm,0.9s,mb4.9
ZST Bratislava 77.90 331 *eP* **P 09 46 25.0 +1.1**
comp=Z,15nm,0.9s,mb4.9
KHC Kasperske Hory 78.20 334 *eP* **P 09 46 25.8 +0.3**
BR131 Keskin Array S 78.23 316 *eP* **P 09 46 26.7 +1.0**
comp=Z,12nm,0.9s,mb4.8
BRTR Keskin Array B 78.23 316 P **P 09 46 25.8 +0.1**
comp=Z,9.4nm,0.9s,mb4.7,baz=76,slow=3.9,SNR=37
BRTR Keskin Array B 78.23 316 *i* P **P 09 46 26.5 +0.8**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
GRA1 Grafenberg Arr 78.39 336 *eP* **P 09 46 26.8 +0.2**
comp=Z,34nm,0.7s,mb5.4
GRF Grafenberg Arr 78.39 336 *eP* **P 09 46 26.8 +0.2**
comp=Z,34nm,0.7s,mb5.4
GRF Grafenberg Arr 78.39 336 *eP* **P 09 46 26.8 +0.2**
GRF pmax pmax
comp=Z,34nm,0.7s,mb5.4
GRF Grafenberg Arr 78.39 336 *eP* **P 09 46 26.8 +0.2**
GRF pmax pmax
comp=Z,34nm,0.7s,mb5.4
GERES GERESS Array B 78.41 334 P **P 09 46 25.9 -0.8**
comp=Z,6.3nm,0.6s,mb4.7,baz=38,slow=5.0,SNR=16
GERES GERESS Array B 78.41 334 P **P 09 46 25.9 -0.8**
GERES pmax pmax
comp=Z,6.0nm,0.6s
ANTO Ankara 78.52 317 *eP* **P 09 46 28.5 +1.2**
ANTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ANTO Ankara 78.52 317 *eP* **P 09 46 28.5 +1.2**
comp=Z,8.7nm,0.7s,mb4.8
ANTO Ankara 78.52 317 ⇑*iP* **P 09 46 28.3 +1.0**
BZS Buzias 78.53 327 P **P 09 46 27.3 0.0**
BZS Buzias 78.53 327 ⇑*iP* **P 09 46 27.0 -0.3**
CONA Conrad Observa 78.54 332 ⇑*iP* **P 09 46 28.1 +0.7**
comp=Z,12nm,0.7s,mb4.9
MEM Membach 78.94 339 P **P 09 46 29.8 +0.1**
comp=Z,17nm,1.1s,mb4.9
PKSM Moragy 79.09 329 P **P 09 46 29.7 -0.8**
PKSM Moragy 79.09 329 ⇑*iP* **P 09 46 29.5 -1.0**
MOA Molln 79.12 333 ⇑*iP* **P 09 46 30.7 +0.1**
comp=Z,13nm,0.8s,mb4.9
ARSA Arzberg 79.25 332 ⇑*iP* **P 09 46 31.6 +0.3**
comp=Z,7.8nm,0.6s,mb4.8
BCLA Clavier 79.29 339 P **P 09 46 31.6 +0.1**
JCT Junction City 79.32 57 *eP* **P 09 46 31.5 -0.2**
JCT *e* pP 09 46 46.0 -0.5
JCT pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
JCT Junction City 79.32 57 *eP* **P 09 46 31.5 -0.2**
comp=Z,8.6nm,1.2s,mb4.6
JCT *e* pP 09 46 46.0 -0.5
GIVF Givet 79.70 340 *eP* **P 09 46 33.3 -0.5**
comp=Z,28nm,0.9s,mb4.9
GIVF Givet 79.70 340 *eP* **P 09 46 33.3 -0.5**
GIVF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GIVF Givet 79.70 340 *eP* **P 09 46 33.3 -0.5**
comp=Z,14nm,0.9s,mb4.9
PERS Pernice 79.92 332 *i* P **P 09 46 34.9 0.0**
KBA Koelnbreinsper 80.09 333 ⇓*iP* **P 09 46 37.0 +1.1**
comp=Z,33nm,0.6s,mb5.5
KBA Koelnbreinsper 80.09 333 ⇓*iP* **P 09 46 37.0 +1.1**
KBA pmax pmax
comp=Z,33nm,0.6s,mb5.4
OBKA Obir 80.22 332 ⇑*iP* **P 09 46 36.6 0.0**
comp=Z,13nm,0.8s,mb4.9
GOLS Golise 80.30 331 *eP* **P 09 46 36.6 -0.4**
WATA Walderalm 80.40 334 ⇓*iP* **P 09 46 38.3 +0.8**
comp=Z,12nm,0.8s,mb4.9
WATA Walderalm 80.40 334 ⇓*iP* **P 09 46 38.3 +0.8**
WATA pmax pmax
comp=Z,12nm,0.8s,mb4.9
WTTA Wattenberg 80.45 334 ⇑*iP* **P 09 46 38.3 +0.5**
comp=Z,32nm,0.5s,mb5.5
WTTA Wattenberg 80.45 334 ⇑*iP* **P 09 46 38.3 +0.5**
WTTA pmax pmax
comp=Z,32nm,0.5s,mb5.5
VTS Vitosha 80.47 325 P **P 09 46 38.5 +0.6**
VTS Vitosha 80.47 325 ⇓*iP* **P 09 46 38.3 +0.4**
MOTA Moosalm 80.54 335 ⇓*iP* **P 09 46 38.9 +0.7**
comp=Z,13nm,0.9s,mb4.8
MOTA Moosalm 80.54 335 ⇓*iP* **P 09 46 38.9 +0.6**
MOTA pmax pmax
comp=Z,13nm,0.9s,mb4.9
SQTA Sankt Quirin 80.62 334 ⇓*iP* **P 09 46 39.5 +0.8**
comp=Z,15nm,1.0s,mb4.9
SQTA Sankt Quirin 80.62 334 ⇓*iP* **P 09 46 39.5 +0.8**
SQTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
CDF Champ du Feu 80.64 337 *eP* **P 09 46 38.6 -0.2**
comp=Z,56nm,1.0s,mb5.2
CDF Champ du Feu 80.64 337 *eP* **P 09 46 38.6 -0.2**
CDF pmax pmax
comp=Z,28nm,1.0s,mb5.2
CDF Champ du Feu 80.64 337 *eP* **P 09 46 38.6 -0.2**
comp=Z,28nm,1.0s,mb5.2
VISS Visnje 80.74 332 *eP* **P 09 46 38.8 -0.6**
DAVA Damuels 80.95 335 ⇑*iP* **P 09 46 41.3 +0.8**
comp=Z,19nm,0.9s,mb5.0
MEZF Maizieres J'vi 81.13 339 *eP* **P 09 46 41.6 +0.2**
HAU Haudompre 81.26 338 *eP* **P 09 46 41.7 -0.4**
comp=Z,35nm,1.0s,mb5.0
HAU *e*MLR
comp=Z,171nm,17.5s
HAU Haudompre 81.26 338 *eP* **P 09 46 41.7 -0.4**
HAU pmax pmax
comp=Z,17nm,1.0s,mb4.9
HAU MLR MLR
comp=Z,170nm,17.5s,MS4.5
HAU Haudompre 81.26 338 *eP* **P 09 46 41.7 -0.4**
comp=Z,17nm,1.0s,mb4.9
HAU LR LR
comp=Z,170nm,17.5s,MS4.5
HINF Hinteralfeld 81.30 337 *eP* **P 09 46 41.8 -0.5**
VAY Valandovo 81.79 324 *eP* **P 09 46 41.5 -3.4**
VAY Valandovo 81.79 324 *eP* **P 09 46 41.5 -3.4**
LDF La Druitiere 82.24 342 *eP* **P 09 46 46.6 -0.7**
comp=Z,26nm,0.9s,mb4.9
LDF La Druitiere 82.24 342 *eP* **P 09 46 46.6 -0.7**
LDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
LDF La Druitiere 82.24 342 *eP* **P 09 46 46.6 -0.7**
comp=Z,13nm,0.9s,mb4.9
KRUS Krusevo 82.28 325 *eP* **P 09 46 44.5 -3.0**
KRUS Krusevo 82.28 325 *eP* **P 09 46 44.5 -3.0**
PPT Papeete 82.39 125 *e*LR LR 10 12 03.9
comp=Z,170nm,24.5s
PPT Papeete 82.39 125 LR LR 10 16 49.2
comp=Z,82nm,20.7s,MS4.1,baz=64,slow=31
BIA Bitola 82.54 325 *eP* **P 09 46 45.4 -3.5**
BIA Bitola 82.54 325 *eP* **P 09 46 45.4 -3.5**
LOR Lormes 82.57 339 *eP* **P 09 46 48.7 -0.3**
comp=Z,22nm,0.7s,mb5.0
LOR *e*MLR
comp=Z,182nm,21.0s
LOR Lormes 82.57 339 *eP* **P 09 46 48.7 -0.3**
LOR pmax pmax
comp=Z,11nm,0.7s,mb5.0
LOR MLR MLR
comp=Z,180nm,21.0s,MS4.4
LOR Lormes 82.57 339 *eP* **P 09 46 48.7 -0.3**
comp=Z,11nm,0.7s,mb5.0
LOR LR LR
comp=Z,180nm,21.0s,MS4.4
GRR Gorron 82.59 342 *eP* **P 09 46 48.6 -0.5**
CABF La Chapelle 82.61 337 *eP* **P 09 46 49.0 -0.2**
comp=Z,15nm,0.8s,mb4.8
CABF La Chapelle 82.61 337 *eP* **P 09 46 49.0 -0.2**
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CABF La Chapelle 82.61 337 *eP* **P 09 46 49.0 -0.2**
comp=Z,7.5nm,0.8s,mb4.8
OHR Ohrid 82.67 325 *eP* **P 09 46 45.9 -3.6**
OHR Ohrid 82.67 325 *eP* **P 09 46 45.9 -3.6**
SSF Saint Saulge 82.85 339 *eP* **P 09 46 50.1 -0.4**
comp=Z,17nm,0.9s,mb4.8
SSF Saint Saulge 82.85 339 *eP* **P 09 46 50.1 -0.4**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SSF Saint Saulge 82.85 339 *eP* **P 09 46 50.1 -0.4**
comp=Z,8.6nm,0.9s,mb4.8
AVF Avril sur Loir 83.14 339 *eP* **P 09 46 51.9 -0.1**
comp=Z,31nm,0.8s,mb5.1
AVF Avril sur Loir 83.14 339 *eP* **P 09 46 51.9 -0.1**
AVF pmax pmax
comp=Z,16nm,0.8s,mb5.1
AVF Avril sur Loir 83.14 339 *eP* **P 09 46 51.9 -0.1**
comp=Z,16nm,0.8s,mb5.1
SMF Signal de Mont 83.16 339 *eP* **P 09 46 52.0 0.0**
comp=Z,73nm,1.1s,mb5.3
SMF Signal de Mont 83.16 339 *eP* **P 09 46 52.0 0.0**
SMF pmax pmax
comp=Z,37nm,1.1s,mb5.3
SMF Signal de Mont 83.16 339 *eP* **P 09 46 52.0 0.0**
comp=Z,36nm,1.1s,mb5.3
LPL La Plagne 83.45 337 *eP* **P 09 46 54.3 +0.8**
comp=Z,15nm,0.7s,mb4.9
LPL La Plagne 83.45 337 *eP* **P 09 46 54.3 +0.8**
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LPL La Plagne 83.45 337 *eP* **P 09 46 54.3 +0.8**
comp=Z,7.4nm,0.6s,mb4.9
LPG La Plagne 83.46 337 *eP* **P 09 46 54.5 +0.9**
comp=Z,14nm,0.6s,mb4.9
LPG La Plagne 83.46 337 *eP* **P 09 46 54.5 +0.9**
LPG pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LPG La Plagne 83.46 337 *eP* **P 09 46 54.5 +0.9**
comp=Z,6.8nm,0.6s,mb4.8
APE Apeiranthos 84.11 320 ⇑*iP* **P 09 46 55.3 -1.6**
MBDF Montbardon 84.17 336 *eP* **P 09 46 57.2 0.0**
comp=Z,9.7nm,0.6s,mb4.8
MBDF Montbardon 84.17 336 *eP* **P 09 46 57.2 0.0**
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
MBDF Montbardon 84.17 336 *eP* **P 09 46 57.2 0.0**
comp=Z,4.8nm,0.6s,mb4.8
ORIF Oris-en-Rattie 84.23 337 *eP* **P 09 46 58.1 +0.6**
comp=Z,18nm,0.6s,mb5.0
ORIF *e*MLR
comp=Z,167nm,21.0s
ORIF Oris-en-Rattie 84.23 337 *eP* **P 09 46 58.1 +0.6**
ORIF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
ORIF Oris-en-Rattie 84.23 337 *eP* **P 09 46 58.1 +0.6**
comp=Z,9.1nm,0.6s,mb5.1
VIVF Saint-Julien-I 84.61 338 *eP* **P 09 46 59.9 +0.4**
comp=Z,18nm,0.9s,mb4.9
VIVF Saint-Julien-I 84.61 338 *eP* **P 09 46 59.9 +0.4**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
VIVF Saint-Julien-I 84.61 338 *eP* **P 09 46 59.9 +0.4**
comp=Z,8.9nm,0.9s,mb4.9
LMR La Mourre 85.52 336 *eP* **P 09 47 04.0 0.0**
comp=Z,40nm,1.1s,mb5.3
LMR La Mourre 85.52 336 *eP* **P 09 47 04.0 0.0**
LMR pmax pmax
comp=Z,20nm,1.1s,mb5.3
LMR La Mourre 85.52 336 *eP* **P 09 47 04.0 0.0**
comp=Z,20nm,1.1s,mb5.3
LASF Ste Croix 85.55 338 *eP* **P 09 47 03.9 -0.3**
comp=Z,32nm,1.3s,mb5.1
TIP Timpagrande 85.89 327 *eP* **P 09 47 05.4 -0.4**
TBI Tubuai 87.11 129 *e*LR LR 10 14 15.2
comp=Z,108nm,30.5s
ESDC Sonseca Array 91.57 342 P **P 09 47 31.3 -1.5**
comp=Z,0.3nm,0.2s,mb4.2,baz=6.6,slow=4.3,SNR=5.5
RKT Rikitea 95.26 118 *e*LR LR 10 18 00.7
comp=Z,115nm,29.0s
TORD Torodi Ar. Bea 115.02 328 PKP PKiKP 09 53 06.3 -0.4
comp=Z,0.8nm,0.5s,baz=20,slow=1.6,SNR=12
TORD pPKP 09 53 21.4
comp=Z,0.4nm,0.4s,baz=0.1,slow=2.0,SNR=2.9
VNDA Vanda 123.99 178 PKP PKPdf 09 53 22.3 -1.7
comp=Z,1.1nm,0.8s,baz=350,slow=5.1,SNR=7.1
VNDA pPKP pPKPdf 09 53 37.5 -2.1
comp=Z,0.8nm,0.6s,baz=318,slow=5.9,SNR=3.0
VNDA Vanda 123.99 178 PKIKP PKPdf 09 53 22.3 -1.7
VNDA 09 53 37.5
VNDA pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 131.89 211 pPKP pPKPdf 09 53 53.6 -1.0
comp=Z,2.3nm,0.6s,baz=184,slow=2.7,SNR=4.0
LPAZ La Paz 134.74 62 PKP PKPdf 09 53 44.0 -0.4
comp=Z,1.1nm,0.8s,baz=29,slow=4.2,SNR=4.6
LPAZ La Paz 134.74 62 PKIKP PKPdf 09 53 44.0 -0.4
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
QSPA South Pole Qui 136.35 180 *e*PKPdf PKPdf 09 53 47.5 +0.1
QSPA *e* 09 54 02.8
SNAA Sanae 152.31 196 PKPbc PKPbc 09 54 19.9 -1.7
comp=Z,1.6nm,0.7s,baz=195,slow=3.4,SNR=14
SNAA PKPab PKPab 09 54 30.0 -1.8
comp=Z,4.0nm,0.9s,baz=203,slow=4.7,SNR=3.8
SNAA pPKPbc pPKPbc 09 54 35.4 -1.7
comp=Z,2.6nm,0.6s,baz=211,slow=1.8,SNR=9.3
SNAA Sanae 152.31 196 *e*PKPdf PKPdf 09 54 13.6 -1.2
SNAA *e* 09 54 20.1
SNAA *e* 09 54 35.4
SNAA *e* 09 54 46.4
SNAA Sanae 152.31 196 *e*PKPbc PKPbc 09 54 19.9 -1.8
PMSA Palmer Station 153.08 146 PKPbc PKPbc 09 54 19.9 -3.5
comp=Z,12nm,0.5s,baz=300,slow=23,SNR=5.3
PMSA pPKPbc pPKPbc 09 54 37.9 -1.0
comp=Z,8.2nm,0.3s,baz=322,slow=21,SNR=2.2
VNA2 Neumayer--Watz 153.77 195 *e*PKPdf PKPdf 09 54 15.6 -1.3
VNA2 *e* 09 54 23.7
VNA2 *e* 09 54 38.6
VNA2 *e* 09 54 52.3
VNA2 *e* 09 54 58.5
VNA3 Neumayer Olymp 153.87 193 *e*PKPdf PKPdf 09 54 15.6 -1.5
VNA3 *e* 09 54 23.7
VNA3 *e* 09 54 37.3
VNA3 *e* 09 54 52.3
VNA3 *e* 09 54 58.3
VNA1 Neumayer--Stat 154.16 195 *e*PKPdf PKPdf 09 54 17.9 +0.4
VNA1 *e* 09 54 39.2
VNA1 *e* 09 54 54.2
VNA1 *e* 09 55 00.1

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*ISCJB **05** 09:35:27.6±1.9,3190S±007×1776W±03,h35km,mb4.5/3, MS3.7/2,Error ellipse: s-maj=40.0km s-min=5.3km az=25.0*

*IDC **05** 09:35:29.2±1.2,3163S×17809W,h0km,mb4.5/3, mb1 4.7/5,mb1mx4.2/14,mbtmp4.5/5,ML4.5/2,MS3.6/5, Ms1 3.7/5,ms1mx3.3/22,Error ellipse: s-maj=36.9km s-min=21.9km az=117.0*

ISC 05 09:35:29.3±1.9,3186S±007×1775W±03,h35km,n33, σ1§29/23,mb4.5/3,MS3.7/2,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.63**	**352**	Pn	**Pn**		**09 36 09.1**	**-0.1**
250nm,0.3s,baz=103,slow=8.1,SNR=13								
RAO				Sn	**Sn**		**09 36 38.7**	**-1.1**
719nm,0.3s,baz=64,slow=22,SNR=9.1								
RAO				LR	LR		09 37 02.9	
comp=Z,569nm,19.5s,baz=100,slow=39								
MXZ	**Matakaoa Point**	**6.66**	**210**	*e*PN	**Pn**		**09 37 04.6**	**+0.1**
MXZ				SN	**Sn**		**09 38 19.6**	**+0.5**
PUZ	**Puketiti**	**7.11**	**208**	*e*PN	**Pn**		**09 37 11.7**	**+1.0**
PUZ				SN	**Sn**		**09 38 33.0**	**+2.7**
MWZ	**Matawai**	**7.64**	**211**	PN	**Pn**		**09 37 17.9**	**-0.1**
MWZ				SN	**Sn**		**09 38 42.1**	**-1.2**
URZ	**Urewera**	**7.76**	**213**	Pn	**Pn**		**09 37 21.9**	**+2.1**
3.1nm,0.3s,baz=143,slow=3.1,SNR=11								
URZ				Sn	**Sn**		**09 38 46.9**	**+0.4**
9.1nm,0.3s,baz=170,slow=17,SNR=8.6								
URZ	**Urewera**	**7.76**	**213**	*e*PN	**Pn**		**09 37 18.9**	**-0.8**
URZ				SN	**Sn**		**09 38 45.8**	**-0.6**
WCZ	**Waipu Caves**	**7.91**	**237**	*e*PN	**Pn**		**09 37 27.0**	**+5.2**
OUZ	**Omahuta**	**8.16**	**243**	PN	**Pn**		**09 37 29.8**	**+4.7**
BKZ	**Black Stump Fm**	**8.78**	**212**	*e*PN	**Pn**		**09 37 32.7**	**-1.0**
BKZ				SN	**Sn**		**09 39 09.5**	**-1.9**
MRZ	**Mangatainoka R**	**10.41**	**211**	*e*PN	**Pn**		**09 37 50.7**	**-5.3**
MRZ				SN	Sx		09 39 44.2	
KIW	**Kapiti Island**	**10.87**	**212**	SN	Sx		09 39 56.7	
TCW	**Tory Channel**	**11.44**	**213**	SN	Sx		09 40 07.5	
NNZ	**Nelson**	**11.87**	**216**	SN	Sx		09 40 17.4	
THZ	**Tophouse**	**12.51**	**215**	*e*PN	**Pn**		**09 38 20.9**	**-4.0**
THZ				SN	Sx		09 40 34.0	
KHZ	**Kahutara**	**12.72**	**212**	*e*PN	**Pn**		**09 38 24.7**	**-3.0**
KHZ				SN	Sx		09 40 37.2	
LTZ	**Lake Taylor**	**13.60**	**214**	*e*PN	**Pn**		**09 38 32.8**	**-6.8**
LTZ				SN	Sx		09 40 56.8	
MQZ	**McQueen's Vall**	**14.15**	**211**	SN	Sx		09 41 09.7	
RPZ	**Rata Peaks**	**14.88**	**214**	Sn	Sx		09 41 27.6	
0.7nm,0.3s,baz=55,slow=17,SNR=4.8								
DZM	**Mont Dzumac**	**17.30**	**300**	LR	LR		09 44 32.1	
comp=Z,299nm,20.4s,baz=32,slow=32								
AFI	**Afiamalu**	**18.62**	**18**	LR	LR		09 45 12.9	
comp=Z,235nm,20.0s,baz=187,slow=31								
PPT	**Papeete**	**28.97**	**67**	*e*LR	LR		09 48 38.0	
84nm,27.5s								
STKA	**Stephens Creek**	**34.60**	**259**	P	**P**		**09 42 16.9**	**+2.1**
1.7nm,0.4s,mb4.3,baz=105,slow=15,SNR=9.4								
RKT	**Rikitea**	**38.51**	**88**	*e*LR	LR		09 53 04.0	
60nm,24.5s								
ASAR	**Alice Springs**	**43.48**	**268**	P	**P**		**09 43 29.9**	**+0.8**
3.7nm,0.5s,mb4.4,baz=106,slow=7.3,SNR=71								
WRA	**Warramunga Arr**	**44.60**	**273**	P	**P**		**09 43 38.7**	**+0.7**
4.2nm,0.3s,mb4.8,baz=111,slow=8.1,SNR=170								
VNDA	**Vanda**	**46.69**	**186**	LR	LR		09 59 00.0	
comp=Z,94nm,18.4s,MS3.8,baz=206,slow=30								
FITZ	**Fitzroy Crossi**	**52.80**	**271**	LR	LR		10 05 48.9	
comp=Z,68nm,19.3s,MS3.7,baz=104,slow=35								
KAF	**Kangasniemi**	**146.07**	**340**	*ep*	PKPdf		09 55 09.2	+4.6
FINES	**FINESS Array B**	**146.66**	**340**	PKPbc	PKPbc		09 55 10.2	+3.0
2.2nm,0.5s,baz=59,slow=4.0,SNR=14								
NOA	**NORSAR Array B**	**150.26**	**351**	PKPbc	PKPbc		09 55 20.6	+4.0
1.0nm,0.8s,baz=17,slow=4.2,SNR=3.7								
AKASG	**Malin Array Be**	**152.72**	**321**	PKPbc	PKPbc		09 55 26.9	+4.6

0.2nm,0.2s,baz=53,slow=1.4,SNR=5.6
BRTR Keskin Array B 153.65 296 PKPbc PKPbc 09 55 29.6 +5.3
0.7nm,0.8s,baz=92,slow=4.2,SNR=3.4
TORD Torodi Ar. Bea 161.36 178 PKPab PKPab 09 56 16.1 +5.8
1.9nm,1.1s,baz=172,slow=5.2,SNR=5.9

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*ISCJB **05** 09:38:23.7±0.4, 4082N±003×2806E±003, h4km±4km, Error ellipse: s-maj=4.6km s-min=3.1km az=141.1*
*CSEM **05** 09:38:23.4±0.1, 4085N×2802E, h15km, MD3.1, Error ellipse: s-maj=2.6km s-min=1.4km az=156.0*
*ISK **05** 09:38:23.6, 4082N×2803E, h12km, MD3.1*
*ATH **05** 09:38:41.0, 4035N×2590E, h10km, MD3.5/3*
ISC 05 09:38:24.3±0.4, 4083N±003×2805E±003, h11km±4km, n36, σ0°70/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.41**	**237**	*i* PG	**Pg**	**09 38 31.8**	**-0.7**
MRMT				*i* SG	**Sg**	**09 38 37.4**	**-0.6**
CTT	**Catalca**	**0.43**	**42**	*i* PG	**Pg**	**09 38 33.0**	**+0.3**
ELBA	**Catalca**	**0.43**	**42**	*i* P	**Pg**	**09 38 33.0**	**+0.3**
ELBA				*i* S	**Sg**	**09 38 39.2**	**+0.8**
BNT	**Bandirma**	**0.48**	**192**	*i* PG	**Pg**	**09 38 34.1**	**+0.3**
EDC	**Edincik**	**0.51**	**196**	*i* PG	**Pg**	**09 38 34.5**	**+0.3**
EDC				*i* SG	**Sg**	**09 38 40.2**	**-0.7**
MFT	**Murefte**	**0.58**	**266**	PG	**Pg**	**09 38 35.0**	**-0.7**
MFT				SG	**Sg**	**09 38 43.6**	**+0.2**
KCT	**Karacabey**	**0.61**	**157**	PG	**Pg**	**09 38 36.5**	**+0.3**
SART	**Tekirdag**	**0.68**	**258**	*i* P	**Pg**	**09 38 37.7**	**+0.3**
SART				*i* S	**Sg**	**09 38 46.9**	**+0.7**
RKY	**Sarkoy-Tekirda**	**0.68**	**258**	PG	**Pg**	**09 38 36.8**	**-0.7**
ISK	**Istanbul-Kandi**	**0.80**	**73**	PG	**Pg**	**09 38 39.3**	**-0.5**
BADT	**Buyukada**	**0.81**	**88**	PG	**Pg**	**09 38 39.9**	**-0.1**
KLYT	**Kilyos**	**0.86**	**60**	PG	**Pg**	**09 38 40.7**	**-0.2**
GEMT	**Gemlik**	**0.95**	**114**	PG	**Pg**	**09 38 42.8**	**+0.1**
YLV	**Yalova**	**1.04**	**104**	PG	**Pg**	**09 38 43.5**	**-0.8**
BTOK	**Tokmak**	**1.07**	**181**	*i* P	**Pb**	**09 38 44.9**	**0.0**
BTOK				*i* S	**Sg**	**09 38 58.7**	**-0.1**
BTOK	**Tokmak**	**1.07**	**181**	*i* P	**Pb**	**09 38 44.8**	**0.0**
CANB	**Canakkale**	**1.11**	**223**	PN	**Pn**	**09 38 44.8**	**-1.0**
IZI	**Iznik**	**1.19**	**114**	PN	**Pn**	**09 38 46.0**	**-0.9**
HRT	**Hereke**	**1.23**	**90**	*e*PN	**Pn**	**09 38 47.1**	**-0.3**
DST	**Dursunbey**	**1.30**	**160**	*e*PN	**Pn**	**09 38 48.8**	**+0.3**
ADVT	**Abdulvahap**	**1.34**	**107**	*e*PN	**Pn**	**09 38 48.3**	**-0.8**
EDRB	**Edirne**	**1.41**	**316**	*e*PN	**Pn**	**09 38 49.6**	**-0.4**
ENEZ	**Enez**	**1.44**	**267**	*e*PN	**Pn**	**09 38 50.4**	**0.0**
EZN	**Ezine**	**1.66**	**233**	*e*PN	**Pn**	**09 38 53.7**	**+0.3**
GPA	**Golpazari**	**1.81**	**107**	*e*PN	**Pn**	**09 38 55.8**	**+0.4**
BOZC	**Bozcaada**	**1.82**	**238**	*i* P	**Pn**	**09 38 58.2**	**+2.6**
BOZC				*i* S	**Sn**	**09 39 22.0**	**+3.3**
AYVA	**Ayvalik**	**1.84**	**215**	*i* P	**Pg**	**09 38 59.5**	**-0.2**
AYVA				*i* S	**Sg**	**09 39 23.4**	**-0.2**
AYVA	**Ayvalik**	**1.84**	**215**	*i* P	**Pg**	**09 38 59.5**	**-0.2**
RDO	**Rodhopi**	**1.93**	**280**	*e*PB	**Pn**	**09 38 57.0**	**-0.1**
AKS	**Akhisar**	**1.96**	**185**	*e*PN	**Pn**	**09 38 57.0**	**-0.5**
GDZ	**Gediz**	**2.06**	**147**	*i* P	**Pg**	**09 39 05.0**	**+1.2**
GDZ				*i* S	**Sg**	**09 39 34.0**	**+3.5**
BORA	**Eskisehir**	**2.07**	**117**	*i* P	**Pb**	**09 39 02.4**	**+0.5**
BORA				*i* S	**Sg**	**09 39 30.4**	**-0.4**
BORA	**Eskisehir**	**2.07**	**117**	*i* P	**Pb**	**09 39 02.3**	**+0.4**
PRK	**Paraskevi**	**2.09**	**221**	*e*PG	**Pb**	**09 39 02.2**	**-0.1**
IZM	**Izmir**	**2.51**	**194**	*e*PN	**Pn**	**09 39 04.8**	**-0.2**
SMG	**Samos**	**3.26**	**197**	*e*PN	**Pg**	**09 39 27.7**	**+0.9**

IDC 05 09:45:24.3±1.7, 259N×9566E, h21km±5km, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=52.2km s-min=15.9km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.27**	**86**	Pn	Pn	09 46 14.8	+0.6
	4.0nm,0.3s,baz=279,slow=6.8,SNR=17						
FITZ	**Fitzroy Crossi**	**35.98**	**126**	P	P	09 52 23.2	-0.3
	0.9nm,0.8s,baz=338,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**44.07**	**122**	P	P	09 53 31.6	+0.9
	1.2nm,0.8s,baz=298,slow=9.4,SNR=7.7						
WRA				pP	pP	09 53 37.7	+0.4
	0.3nm,0.4s,baz=302,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**45.45**	**127**	P	P	09 53 41.9	+0.2
	0.5nm,0.6s,baz=298,slow=8.1,SNR=8.3						
MKAR	**Makanchi Array**	**45.54**	**347**	P	P	09 53 42.3	-0.1
	2.3nm,0.5s,baz=155,slow=8.6,SNR=31						
MKAR				pP	pP	09 53 49.2	+0.1
	1.9nm,0.6s,baz=164,slow=7.9,SNR=6.5						
KSRS	**Korea Array**	**45.62**	**36**	P	P	09 53 42.5	-0.5
	0.4nm,0.5s,baz=216,slow=9.8,SNR=4.7						
SONM	**Songino Array**	**46.02**	**10**	P	P	09 53 46.2	0.0
	1.4nm,0.7s,baz=190,slow=9.3,SNR=11						
SONM				pP	pP	09 53 52.8	0.0
	1.4nm,0.8s,baz=190,slow=8.2,SNR=6.9						
ZAL	**Zalesovo**	**51.96**	**352**	P	P	09 54 31.9	+0.3
	1.7nm,0.4s,baz=124,slow=6.3,SNR=6.4						

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*ISCJB **05** 09:51:49.5±1.6, 474N±02×1452E±03, h423km±17km, mb2.9/5, Error ellipse: s-maj=36.4km s-min=26.0km az=80.4*
*IDC **05** 09:51:50.5±2.0, 4735N×145.15E, h418km±23km, mb2.7/5, mb1 3.0/7, mb1mx2.8/23, mbtmp2.7/7, Error ellipse: s-maj=33.2km s-min=20.1km az=119.0*
ISC 05 09:51:50.4±1.6, 474N±02×1452E±03, h418km±19km, n7, σ1°02/7, mb2.9/5, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**3.74**	**210**	P	**P**	**09 53 01.1**	**-0.1**
	0.6nm,0.3s,baz=273,slow=28,SNR=4.6						
KSRS	**Korea Array**	**16.12**	**238**	P	**P**	**09 55 14.8**	**+0.5**
	baz=41,slow=11,SNR=14						
MKAR	**Makanchi Array**	**41.78**	**293**	P	**P**	**09 59 00.9**	**-0.2**
	0.4nm,0.7s,mb2.9,baz=71,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**53.57**	**35**	P	**P**	**10 00 29.4**	**-0.9**
	0.2nm,0.7s,mb2.5,baz=305,slow=8.0,SNR=4.7						
YKA				PcP	PcP	10 01 30.3	-0.3
	0.1nm,0.4s,baz=306,slow=3.6,SNR=4.8						
WRA	**Warramunga Arr**	**67.72**	**191**	P	**P**	**10 02 03.7**	**-0.7**
	0.2nm,0.4s,mb3.1,baz=8.2,slow=6.6,SNR=3.5						
ASAR	**Alice Springs**	**71.44**	**191**	P	**P**	**10 02 26.9**	**0.0**
	0.2nm,0.5s,mb2.9,baz=5.3,slow=5.3,SNR=7.0						
TXAR	**Lajitas Array**	**81.75**	**55**	P	**P**	**10 03 25.2**	**+1.4**
	0.2nm,0.4s,mb3.2,baz=294,slow=3.6,SNR=6.5						

IDC 05 09:56:49.8±8.8, 683S×15130E, h64km±64km, mb3.1/3, mb1 3.3/4, mb1mx3.2/15, mbtmp3.1/4, ML2.1/1, Error ellipse: s-maj=90.5km s-min=57.3km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**238**	P	Pn	09 57 59.7	-0.3
	0.5nm,0.3s,baz=54,slow=19,SNR=2.3						
PMG				S	Sn	09 58 55.9	+1.3
	1.2nm,0.3s,baz=144,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**21.00**	**230**	P	P	10 01 27.7	-0.1
	0.2nm,0.4s,baz=56,slow=11,SNR=6.0						
WRA				pP	pP	10 01 37.4	-4.1
	0.6nm,0.6s,baz=53,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**23.65**	**223**	P	P	10 01 55.9	+0.6
	0.4nm,0.6s,baz=54,slow=7.8,SNR=7.6						
ASAR				pP	pP	10 02 05.4	-4.6
	0.5nm,0.5s,baz=56,slow=9.4,SNR=12						
FITZ	**Fitzroy Crossi**	**27.40**	**244**	P	P	10 02 29.1	-0.1
	1.6nm,1.0s,baz=60,slow=11,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.44**	**284**	PKPbc	PKPbc	10 16 32.5	+1.0
	0.2nm,0.5s,baz=67,slow=3.1,SNR=2.8						

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*LDG **05** 09:59:01.0±0.1, 4302N×001W, h5km, Md1.9/3, Ml1.6/2, Error ellipse: s-maj=2.0km s-min=1.0km az=171.0*
*STR **05** 09:59:01.1±0.0, 4300N×004E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 05 09:59:01.5±0.3, 4301N×001W, h0km, mbLg0.8/2, Error ellipse: s-maj=2.9km s-min=2.1km az=153.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**61**	Pg	Pg	09 59 02.9	0.0
LABF				Sg	Sg	09 59 04.3	+0.5
LABF	**Labassere**	**0.07**	**61**	P	Pg	09 59 03.0	+0.1
LABF				S	Sg	09 59 04.2	+0.4
VIEF	**Viey**	**0.13**	**169**	Pg	Pg	09 59 04.0	-0.1
VIEF				Sg	Sg	09 59 06.2	+0.4
VIEF	**Viey**	**0.13**	**169**	P	Pg	09 59 04.1	0.0
VIEF				S	Sg	09 59 06.1	+0.4
EPF	**Esparros**	**0.26**	**86**	*e*Pg	Pg	09 59 05.8	-0.7
EPF				*e*Sg	Sg	09 59 09.8	0.0
	1.3nm,0.2s						
EPF	**Esparros**	**0.26**	**86**	Pg	Pg	09 59 05.8	-0.7
EPF				Lg		09 59 09.8	
	0.6nm,0.2s						
EBIE	**Bielsa**	**0.35**	**161**	Pg	Pg	09 59 07.9	-0.2
	0.3nm,0.0s,SNR=18						
EBIE				Lg		09 59 12.5	
	3.0nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	09 59 09.2	-0.3
ETSF				*e*Sg	Sg	09 59 15.0	0.0
	2.9nm,0.3s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	Pg	09 59 09.2	-0.3
ETSF				Lg		09 59 15.0	
	1.4nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg	Pg	09 59 17.7	-1.0
SJPF				*e*Sg	Sg	09 59 29.6	-0.7
	1.6nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**277**	Pg	Pg	09 59 17.7	-1.0
SJPF				Lg		09 59 29.6	
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	09 59 32.1	-1.3
MTLF				*e*Sg	Sg	09 59 53.4	-1.6
	1.7nm,0.3s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	09 59 32.1	-1.3
MTLF				Lg		09 59 53.4	
	0.9nm,0.3s						

IDC 05 10:19:51.9±10.0, 2359S×17969E, h572km±123km, mb3.0/6, mb1 3.3/6, mb1mx3.1/13, mbtmp3.0/6, Error ellipse: s-maj=111.3km s-min=46.6km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.19**	**270**	P	P	10 25 25.9	+0.7
	3.3nm,0.5s,baz=97,slow=11,SNR=5.6						
STKA	**Stephens Creek**	**34.57**	**248**	P	P	10 25 53.7	0.0
	0.6nm,0.4s,baz=94,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**41.80**	**260**	P	P	10 26 52.5	+0.2
	0.8nm,0.5s,baz=100,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**42.14**	**266**	P	P	10 26 54.8	-0.1
	1.0nm,0.4s,baz=96,slow=8.4,SNR=30						
TXAR	**Lajitas Array**	**90.51**	**58**	P	P	10 31 53.9	+0.6
	0.3nm,0.7s,baz=215,slow=7.7,SNR=5.2						
PDAR	**Pinedale Array**	**92.67**	**44**	P	P	10 32 03.0	-0.2
	0.4nm,0.8s,baz=224,slow=6.3,SNR=3.0						
AKASG	**Malin Array Be**	**144.56**	**327**	PKP	PKPdf	10 38 23.2	-0.5
	0.8nm,0.4s,baz=42,slow=4.1,SNR=7.6						

DHMR 05 10:32:33.9±0.7, 1193N×4076E, h9km±47km, ML3.9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DESE	**Dese**	**1.36**	**234**	*e*PN	Pn	10 33 02.4	+3.2
DESE				*e*SN	Sn	10 33 22.4	+5.0
TRBA	**At Turbah**	**3.52**	**68**	*e*P	Pn	10 33 31.5	+2.7
TRBA				*i* S	Sn	10 34 16.4	+5.8
TRBA				AML	AML	10 34 30.5	
	comp=N,520nm,0.7s						
TRBA	**At Turbah**	**3.52**	**68**	*e*P	Pn	10 33 31.5	+2.7
TRBA				*i* S	Sn	10 34 16.4	+5.8
	comp=N,260nm,0.7s						
FURI	**Furi**	**3.64**	**214**	*e*P	Pb	10 33 41.0	+2.5
FURI				S	Sg	10 34 36.3	+5.5
UDYN	**Al 'Udayn**	**3.73**	**57**	*i* P	Pn	10 33 34.3	+2.7
UDYN				*i* S	Sn	10 34 22.0	+6.4
UDYN				AML	AML	10 34 38.8	
	comp=N,428nm,0.6s						
DHBB	**Dhamar BB**	**4.40**	**53**	*i* P	Pn	10 33 43.4	+2.4
DHBB				*i* S	Sn	10 34 37.9	+5.5
LBOS		**4.78**	**66**	*i* P	Pn	10 33 46.9	+0.7
LBOS				*i* S	Sn	10 34 43.1	+1.4
BDHA	**Al Bayda'**	**5.11**	**66**	*i* S	Sn	10 34 51.2	+1.5

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*ISCJB **05** 10:43:46.5±0.6, 2508N±009×12221E±005, h186km±5km, mb3.2/4, Error ellipse: s-maj=14.0km s-min=7.4km az=163.6*
*NEIC **05** 10:43:46.5±0.7, 2526N×12223E, h181km±7km, MG3.5(JMA), Error ellipse: s-maj=18.5km s-min=15.4km az=144.0*
*IDC **05** 10:43:48.5±3.8, 2536N×12250E, h201km±38km, mb3.0/4, mb1 3.2/5, mb1mx3.0/22, mbtmp3.0/5, Error ellipse: s-maj=36.5km s-min=19.1km az=77.0*
*JMA **05** 10:43:48.7±0.3, 2514N×12225E, h170km, M3.5*
ISC 05 10:43:47.5±0.6, 2511N±008×12220E±005, h180km±5km, n17, σ0°91/29, mb3.2/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**0.87**	**240**	*e*Pg	**Pn**	**10 44 14.3**	**+0.1**
YHNB				*e*Sg	**Sn**	**10 44 35.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.98**	**131**	P	**Pn**	**10 44 15.3**	**+0.3**
YOJ				*e*S	**Sn**	**10 44 35.8**	**-0.4**
NACB	**Ninganchiao**	**1.08**	**211**	*e*Pn	**Pn**	**10 44 15.7**	**0.0**
NACB				*e*Sn	**Sn**	**10 44 34.8**	**-2.8**
IRIF	**Iriomote-Funau**	**1.59**	**119**	P	**Pn**	**10 44 20.3**	**0.0**
IRIF				*e*S	**Sn**	**10 44 45.2**	**-0.4**
HATJ	**Hateruma jima**	**1.80**	**125**	P	**Pn**	**10 44 23.2**	**+0.8**
HATJ				*e*S	**Sn**	**10 44 50.0**	**+0.7**
JKRS	**Kuro-shima**	**1.86**	**117**	P	**Pn**	**10 44 23.5**	**+0.5**
JKRS				*e*S	**Sn**	**10 44 50.6**	**+0.1**
JIJ	**Ishigaki jima**	**1.92**	**112**	P	**Pn**	**10 44 23.7**	**+0.1**
JIJ				*e*S	**Sn**	**10 44 50.1**	**-1.5**
JTJ	**Tarama**	**2.32**	**101**	P	**Pn**	**10 44 28.7**	**+0.7**
JTJ				*e*S	**Sn**	**10 44 59.1**	**-0.4**
JMJ	**Miyako jima 2**	**2.82**	**95**	P	**Pn**	**10 44 34.9**	**+1.0**
JMJ				*e*S	**Sn**	**10 45 09.9**	**-0.2**
JOGS	**Gusukube**	**2.93**	**96**	P	**Pn**	**10 44 36.3**	**+1.1**
JOGS				*e*S	**Sn**	**10 45 12.3**	**-0.1**
JKE	**Kume jima 2**	**4.31**	**73**	P	**Pn**	**10 44 53.0**	**+0.5**
JKE				*e*S	**Sn**	**10 45 42.8**	**-0.6**
JOW	**Kunigami**	**5.73**	**71**	P	**Pn**	**10 45 09.4**	**-1.5**
	2.4nm,0.3s,baz=277,slow=29,SNR=5.5						
JOW				S	**Sn**	**10 46 10.8**	**-5.7**
	2.2nm,0.3s,baz=50,slow=17,SNR=5.1						
KSRS	**Korea Array**	**13.24**	**20**	P	**Pn**	**10 46 50.4**	**+1.8**
	baz=203,slow=11,SNR=8.5						
MKAR	**Makanchi Array**	**38.33**	**315**	P	**P**	**10 50 49.6**	**-1.2**
	0.5nm,0.7s,mb3.2,baz=102,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**46.31**	**164**	P	**P**	**10 51 55.1**	**0.0**
	0.8nm,0.6s,mb3.5,baz=347,slow=8.6,SNR=10						
ASAR	**Alice Springs**	**49.80**	**166**	P	**P**	**10 52 22.6**	**+0.7**
	0.4nm,0.7s,mb3.1,baz=354,slow=7.4,SNR=6.8						
YKA	**Yellowknife Ar**	**81.76**	**23**	P	**P**	**10 55 42.9**	**-3.1**
	0.2nm,0.6s,mb3.0,baz=312,slow=5.1,SNR=4.6						

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*STR **05** 10:54:00.0±0.0, 4228N×265E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 05 10:54:00.3±0.1, 4272N×282E, h14km, Md2.3/3, Ml2.1/2, Error ellipse: s-maj=1.8km s-min=1.6km az=104.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJAF	**Saint Jean de**	**0.24**	**168**	Pg	Pg	10 54 05.6	+0.1
SJAF				Sg	Sg	10 54 09.7	+0.6
FILF	**Fillols**	**0.25**	**230**	Pg	Pg	10 54 06.6	+1.0
FILF				Sg	Sg	10 54 11.5	+2.3
MTLF	**Montolieu**	**0.76**	**325**	*e*Pg	Pg	10 54 15.7	+0.6
MTLF				*e*Sg	Sg	10 54 25.1	+0.1
	8.3nm,0.2s						
LASF	**Ste Croix**	**1.55**	**29**	*e*Pg	Pg	10 54 29.3	-0.8
LASF				*e*Sg	Sg	10 54 49.4	-0.9
	4.1nm,0.5s						
EPF	**Esparros**	**1.85**	**281**	*e*Pg	Pg	10 54 34.9	-0.8
EPF				*e*Sg	Sg	10 54 58.7	-1.0
	3.5nm,0.4s						

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*IDC **05** 11:06:43.4±1.8, 2096S×169.12E, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/15, mbtmp4.3/8, ML3.6/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/24, Error ellipse: s-maj=59.7km s-min=24.4km az=151.0*
*NEIC **05** 11:06:47.4±1.2, 2109S×169.18E, h30km, mb4.4/2, Error ellipse: s-maj=41.7km s-min=15.9km az=154.0*
*BJI **05** 11:06:47.3, 21.10S×16920E, h30km, mB5.0, mb4.3*
*ISCJB **05** 11:06:49.4±0.7, 209S±01×168.78E±007, h35km, mb4.2/8, MS3.8/9, Error ellipse: s-maj=19.7km s-min=8.5km az=150.0*
ISC 05 11:06:51.2±0.7, 209S±01×16879E±007, h35km, n25, σ1°09/20, mb4.2/8, MS3.8/9, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.50**	**241**	*e*P	**Pn**	**11 07 26.7**	**-2.6**
DZM				*e*S	**Sn**	**11 07 57.9**	**-0.6**
DZM	**Mont Dzumac**	**2.50**	**241**	Pn	**Pn**	**11 07 27.6**	**-1.7**
	9.9nm,0.3s,baz=66,slow=19,SNR=82						
DZM				Sn	**Sn**	**11 07 59.4**	**+0.9**
	57nm,0.3s,baz=81,slow=22,SNR=10						
DZM				LR	LR	11 08 06.8	
	comp=Z,793nm,21.8s,baz=18,slow=31						
DZM	**Mont Dzumac**	**2.50**	**241**	Pn	**Pn**	**11 07 27.6**	**-1.7**
DZM				Sn	**Sn**	**11 07 59.4**	**+0.9**
AFI	**Afiamalu**	**19.78**	**73**	LR	LR	11 17 06.6	
	comp=Z,308nm,19.2s,baz=253,slow=32						
CTA	**Charters Tower**	**21.12**	**268**	*e*P	**P**	**11 11 34.8**	**+1.9**
	9.2nm,0.9s,mb4.1						
CTA	**Charters Tower**	**21.12**	**268**	P	**P**	**11 11 34.2**	**+1.3**
	8.5nm,1.0s,mb4.0,baz=83,slow=16,SNR=3.7						
CTA				LR	LR	11 19 17.9	
	comp=Z,242nm,19.0s,MS3.6,baz=60,slow=35						
CTAO	**Charters Tower**	**21.12**	**268**	*e*P	**P**	**11 11 34.5**	**+1.7**
	41nm,1.4s,mb4.6						
RPZ	**Rata Peaks**	**22.87**	**176**	LR	LR	11 19 27.2	
	comp=Z,71nm,19.7s,MS3.1,baz=344,slow=34						
PMG	**Port Moresby**	**23.75**	**295**	P	**P**	**11 12 00.9**	**+0.7**
	8.9nm,1.0s,mb4.2,baz=84,slow=7.8,SNR=5.7						
PMG				LR	LR	11 18 33.7	
	comp=Z,120nm,18.1s,MS3.4,baz=144,slow=30						
STKA	**Stephens Creek**	**26.65**	**240**	P	**P**	**11 12 27.3**	**+0.7**
	8.8nm,0.9s,mb4.3,baz=74,slow=11,SNR=5.1						
STKA				LR	LR	11 21 58.2	
	comp=Z,327nm,21.4s,MS3.9,baz=23,slow=34						
STKA	**Stephens Creek**	**26.65**	**240**	P	**P**	**11 12 27.3**	**+0.7**
STKA				*e*P		11 12 27.6	
STKA				LR	LR	11 21 58.2	
WRA	**Warramunga Arr**	**32.27**	**265**	P	**P**	**11 13 15.5**	**-1.0**
	1.8nm,0.7s,mb4.0,baz=91,slow=8.5,SNR=28						
WRA				LR	LR	11 26 45.1	
	comp=Z,204nm,19.3s,MS3.8,baz=95,slow=37						
ASAR	**Alice Springs**	**32.36**	**258**	P	**P**	**11 13 17.1**	**-0.1**
	7.6nm,0.8s,mb4.6,baz=95,slow=9.5,SNR=62						
TBI	**Tubuai**	**38.67**	**102**	*e*S	**S**	**11 20 05.6**	**-0.1**
	62nm,34.0s						
TBI				*e*LQ		11 22 57.3	
	269nm,29.5s						
TBI				*e*LR	LR	11 24 32.6	
	107nm,32.5s						
PPT	**Papeete**	**39.38**	**93**	*e*S	**S**	**11 20 16.6**	**+0.2**
	51nm,24.8s						
PPT				*e*LQ		11 23 19.0	
	318nm,27.5s						
PPT				*e*LR	LR	11 24 54.8	
	176nm,27.2s						
PPT	**Papeete**	**39.38**	**93**	LR	LR	11 25 38.2	
	comp=Z,124nm,19.0s,MS3.8,baz=243,slow=29						
FITZ	**Fitzroy Crossi**	**40.69**	**266**	LR	LR	11 31 56.5	
	comp=Z,210nm,18.6s,MS4.0,baz=100,slow=37						
NWAO	**Narrogin (SRO)**	**47.11**	**244**	LR	LR	11 37 13.8	
	comp=Z,278nm,18.7s,MS4.2,baz=235,slow=39						
RKT	**Rikitea**	**51.92**	**104**	*e*S	**S**	**11 23 18.1**	**+1.1**
	51nm,28.5s						
GTA	**Gaotai**	**87.93**	**314**	*e*P	**P**	**11 19 37.6**	**+0.3**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**88.25**	**323**	P	**P**	**11 19 38.0**	**-0.9**
	comp=Z,1.3nm,1.0s,mb4.1,baz=116,slow=3.4,SNR=4.9						
NVAR	**Mina Array Bea**	**90.18**	**49**	P	**P**	**11 19 44.5**	**-3.4**
	comp=Z,0.8nm,0.8s,mb4.1,baz=243,slow=4.1,SNR=4.9						
TXAR	**Lajitas Array**	**97.91**	**62**	LR	LR	11 59 23.1	
	comp=Z,77nm,18.1s,MS4.2,baz=40,slow=32						
BRG	**Berggiesshubel**	**144.12**	**333**	*e*P	PKPdf	11 26 19.6	-3.5
	comp=Z,6.7nm,1.1s						
GERES	**GERESS Array B**	**145.70**	**330**	PKPbc	PKPbc	11 26 25.2	-1.0
	comp=Z,5.5nm,1.0s,baz=46,slow=3.9,SNR=14						

WEL 05 11:07:58.5±0.4, 3552S×17934E, h268km±5km, ML3.6/6, Error ellipse: s-maj=11.2km s-min=8.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.20**	**202**	PN	Pn	11 08 44.3	+0.1
MXZ				SN	S	11 09 19.2	-1.3
PUZ	**Puketiti**	**2.69**	**199**	*e*PN	Pn	11 08 50.0	+1.1
PUZ				SN	S	11 09 28.2	-0.7
MWZ	**Matawai**	**3.16**	**207**	PN	Pn	11 08 54.7	+1.0
MWZ				SN	S	11 09 37.1	-0.6
URZ	**Urewera**	**3.27**	**212**	*e*PN	Pn	11 08 55.3	+0.4
URZ				SN	S	11 09 39.1	-0.6
BKZ	**Black Stump Fm**	**4.29**	**211**	*e*PN	Pn	11 09 07.4	+1.0
WPHZ	**Waipukurau**	**5.09**	**206**	SN	S	11 10 19.0	+1.3
BFZ	**Birch Farm**	**5.70**	**204**

233nm,0.3s,baz=20,slow=14,SNR=8.2
KDAK LR LR 11 26 29.7
comp=Z,886nm,21.5s,baz=50,slow=32
KDAK Kodiak Island 2.01 190 P **Pn 11 25 58.1 -1.0**
KDAK S **Sn 11 26 21.6 -1.6**
SVW2 Sparrevohn 2.26 308 *e*Pn **Pn 11 26 01.5 -1.0**
SVW2 *e*Pg **Pn 11 26 07.7 +5.2**
SVW2 *e*Sg **Sn 11 26 37.0 +7.7**
PMR Palmer 2.30 36 *e*Pn **Pn 11 26 02.4 -0.7**
PMR *e*Sg **Sn 11 26 38.1 +7.9**
KNK Knik Glacier 2.38 44 P **Pn 11 26 04.2 0.0**
GHO Glory Hole Cre 2.50 35 P **Pn 11 26 05.9 +0.1**
SML Sawmill 2.71 39 *e*Pn **Pn 11 26 08.5 -0.1**
SML *e*Sg **Sn 11 26 50.8 +11**
MID Middleton Isla 2.86 94 *e*P **Pn 11 26 11.3 +0.6**
EYAK Cordova Ski Ar 3.19 73 P **Pn 11 26 13.5 -1.6**
RAGM Ragged Mountai 3.69 77 P **Pn 11 26 20.5 -1.5**
TRF Thorofare Moun 3.79 11 P **Pn 11 26 23.4 0.0**
KTH Kantishna Hill 3.84 7 P **Pn 11 26 25.2 +1.1**
MCK McKinley 4.23 18 P **Pn 11 26 30.1 +0.6**
PAX Paxson 4.48 41 P **Pn 11 26 33.4 +0.6**
MENT Mentasta 5.08 48 *e*P **Pn 11 26 40.9 -0.1**
DOT Dot Lake 5.41 40 P **Pn 11 26 45.4 -0.1**
COLA College 5.47 19 *d i*P **Pn 11 26 46.5 +0.1**
COLA College 5.47 19 P **Pn 11 26 46.2 -0.2**
GCSA Galena City Sc 5.51 337 P **Pn 11 26 47.5 +0.5**
IL1 Eielson Array 5.55 23 P **Pn 11 26 47.7 +0.2**
BCA3 Beaver Creek A 5.89 51 P **Pn 11 26 51.9 -0.3**
IM3 Indian Mountai 6.39 353 P **Pn 11 26 57.6 -0.2**
PNL Peninsula 6.34 85 P **Pn 11 26 57.9 -0.4**
SDPT Sand Point 6.38 230 P **Pn 11 27 00.3 +1.5**
IMA2 Indian Mountai 6.39 354 *e*Pn **Pn 11 26 59.5 +0.6**
IMA2 *e*P 11 27 00.1
IMA2 *e*Sg **Sn 11 28 14.3 +4.0**
EGAK Eagle 7.11 40 P **Pn 11 27 08.8 0.0**
DAWY Dawson 7.32 48 P **Pn 11 27 11.2 -0.5**
COLD Coldfoot 7.54 5 P **Pn 11 27 14.7 0.0**
BM3 Burnt Mountain 8.35 20 P **Pn 11 27 24.9 -0.8**
SKAG Skagway 8.42 85 *e*Pn **Pn 11 27 26.1 -0.6**
24nm,0.5s
SKAG *e*Sn **Sn 11 28 53.8 -6.5**
WHY Whitehorse 8.53 77 P **Pn 11 27 28.0 -0.3**
SIT Sitka 9.12 100 P **Pn 11 27 34.0 -2.3**
TNA Tin City 9.36 315 *e*Pn **Pn 11 27 41.2 +1.6**
DLBC Dease Lake 11.33 87 *e*Pn **Pn 11 28 07.9 +1.4**
DLBC *e*Sn **Sn 11 30 09.0 -2.3**
INK Inuvik 11.71 35 P **Pn 11 28 10.8 -0.9**
1.3nm,0.3s,baz=225,slow=14,SNR=19
INK LR LR 11 33 12.6
comp=Z,131nm,18.7s,baz=46,slow=39
INK Inuvik 11.71 35 *e*Pn **Pn 11 28 11.5 -0.2**
YKA Yellowknife Ar 18.06 65 P **Pn 11 29 33.3 -0.5**
1.7nm,0.3s,baz=279,slow=9.6,SNR=144
YKA LR LR 11 37 05.0
comp=Z,47nm,18.5s,baz=310,slow=38
BILL Biiibino 19.78 312 *e*P **Pn 11 29 51.0 -3.4**
BILL pmax pmax
comp=Z,2.0nm,1.0s
NEW Newport 23.17 104 P **P 11 30 30.1 +1.6**
comp=Z,1.0nm,0.6s,mb3.3,baz=314,slow=12,SNR=4.0
NEW LR LR 11 39 45.3
comp=Z,74nm,19.3s,baz=134,slow=37
RES Resolute Bay 25.23 32 *e*P **P 11 30 47.0 -0.2**
comp=Z,138nm,0.6s
NVAR Mina Array Bea 30.13 120 P **P 11 31 33.0 +1.9**
comp=Z,0.8nm,0.7s,mb3.5,baz=321,slow=10,SNR=5.1
PDAR Pinedale Array 30.81 104 P **P 11 31 38.5 +1.4**
comp=Z,0.9nm,0.7s,mb3.6,baz=317,slow=5.5,SNR=7.7
TIXI Tiksi 32.00 324 *e*P **P 11 31 47.3 -0.2**
TIXI pmax pmax
comp=Z,10.0nm,2.9s,mb4.0
ULM Lac du Bonnet 32.57 82 P **P 11 31 52.7 +0.2**
comp=Z,1.1nm,0.7s,mb3.8,baz=289,slow=9.4,SNR=3.7
ULM Lac du Bonnet 32.57 82 P **P 11 31 52.7 +0.2**
SRU San Rafael 33.15 110 *e*P **P 11 31 59.5 +1.9**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SRU San Rafael 33.15 110 *e*P **P 11 31 59.5 +1.9**
comp=Z,6.3nm,0.8s,mb4.5
PV01 Paradox Valley 34.86 109 *e*P **P 11 32 13.4 +1.0**
WUAZ Wupatki 35.65 115 *e*P **P 11 32 21.7 +2.5**
MNTX Cornudas Mount 41.61 111 *e*P **P 11 33 09.6 +0.6**
comp=Z,1.7nm,0.6s,mb4.0
HABR Khabarovsk 42.09 288 *e*P **P 11 33 10.2 -2.8**
SCHQ Schefferville 43.24 57 P **P 11 33 21.8 -0.5**
comp=Z,1.9nm,0.6s,mb4.0,baz=252,slow=9.6,SNR=3.0
TXAR Lajitas Array 44.39 111 P **P 11 33 32.5 +1.0**
comp=Z,0.5nm,0.6s,mb3.5,baz=327,slow=5.9,SNR=7.9
JCT Junction City 45.29 106 *e*P **P 11 33 40.1 +1.4**
JCT pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
JCT Junction City 45.29 106 *e*P **P 11 33 40.1 +1.4**
comp=Z,9.1nm,0.9s,mb4.5
ARCES ARCESS Array B 50.99 1 P **P 11 34 20.4 -2.2**
comp=Z,6.7nm,1.0s,mb4.6,baz=359,slow=7.3,SNR=6.1
ARCES pP pP 11 34 38.3 -1.0
comp=Z,8.0nm,0.9s,baz=8.1,slow=7.5,SNR=2.7
SONM Songino Array 55.37 307 P **P 11 34 53.8 -1.1**
comp=Z,0.4nm,0.4s,mb3.8,baz=44,slow=6.4,SNR=3.2
SONM pP pP 11 35 09.9 -1.8
comp=Z,2.3nm,0.7s,baz=53,slow=6.6,SNR=8.4
ZAL Zalesovo 57.91 324 P **P 11 35 12.5 -0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=11,slow=16,SNR=3.5
NB2 NORSAR Subarra 58.83 9 P pP 11 35 35.2 -1.0
comp=Z,1.8nm,0.8s,baz=351,slow=6.9
NOA NORSAR Array B 58.83 9 P **P 11 35 17.9 -1.3**
comp=Z,0.9nm,0.7s,mb3.9,baz=350,slow=6.7,SNR=2.6
NOA pP pP 11 35 34.9 -1.3
comp=Z,3.1nm,0.8s,baz=352,slow=7.0,SNR=6.2
NOA NORSAR Array B 58.83 9 P **P 11 35 17.9 -1.3**
NOA pP pP 11 35 34.9 -1.3
FINES FINESS Array B 59.12 1 P **P 11 35 18.7 -2.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=23,slow=8.2,SNR=2.2
FINES pP pP 11 35 37.0 -1.3
comp=Z,4.1nm,0.8s,baz=19,slow=8.1,SNR=3.8
FINES FINESS Array B 59.12 1 P **P 11 35 18.7 -2.5**
FINES pP pP 11 35 37.0 -1.3
ARU Arti 61.66 341 *i*P **P 11 35 39.3 +0.8**
ARU *e* 11 37 54.4
ARU *e*S **S 11 44 00.0 +4.0**
ARU pmax pmax
comp=Z,8.0nm,2.2s,mb4.4
BVAR Borovoye Array 62.54 333 P **P 11 35 43.7 -0.8**
comp=Z,1.7nm,0.7s,mb4.1,baz=30,slow=6.8,SNR=7.1
BVAR pP pP 11 35 59.9 -1.7
comp=Z,3.1nm,0.9s,baz=47,slow=6.5,SNR=5.5
MKAR Makanchi Array 64.96 322 P **P 11 35 57.9 -2.5**
comp=Z,0.7nm,0.8s,mb3.6,baz=26,slow=4.9,SNR=5.9
MKAR Makanchi Array 64.96 322 *i* P **P 11 36 00.2 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
WMQ Urumqi 65.81 317 *e*P **P 11 36 07.0 +1.1**
LZH Lanzhou 66.11 301 *e*P **P 11 36 07.5 -0.3**
LZH XP sP 11 36 28.5 -3.8
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.7
PVCC Panska Ves 69.53 9 *e*pP pP 11 36 47.0 +0.3
NKC Novy Kostel 69.64 11 *e*pP pP 11 36 47.6 +0.2
UPC Upice 69.66 8 *e*pP pP 11 36 47.5 0.0
DPC Dobruska-Polom 69.84 8 *e*pP pP 11 36 49.1 +0.5
AKASG Malin Array Be 69.89 359 P **P 11 36 29.3 -2.2**
comp=Z,1.4nm,0.6s,mb4.0,baz=6.7,slow=6.2,SNR=5.4
AKASG pP pP 11 36 47.2 -1.8
comp=Z,2.7nm,0.5s,baz=2.9,slow=6.0,SNR=6.0
AKASG Malin Array Be 69.89 359 P **P 11 36 29.3 -2.2**
AKASG pP pP 11 36 47.2 -1.8
PRU Pruhonice 70.06 9 *e*pP pP 11 36 49.4 -0.6
OKC Ostrava-Krasne 70.47 7 *e*pP pP 11 36 52.7 +0.2
KHC Kasperske Hory 70.83 10 *e*pP pP 11 36 54.8 +0.1
STHS Stebnicka Huta 71.04 5 *e*pP pP 11 36 56.8 +0.8
GERES GERESS Array B 71.12 10 P **P 11 36 37.9 -1.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=344,slow=6.1,SNR=3.2
GERES pP pP 11 36 56.2 -0.3
comp=Z,2.2nm,0.7s,baz=345,slow=4.1,SNR=8.5
HAU Haudompre 71.14 15 *e*P pP 11 36 56.4 -0.2
comp=Z,10nm,0.6s
HINF Hinteralfeld 71.39 15 *e*P pP 11 36 57.9 -0.2
LOR Lormes 71.51 17 *e*P pP 11 36 58.7 -0.2
comp=Z,20nm,0.9s
SSF Saint Saulge 71.66 17 *e*P pP 11 36 59.6 -0.2
comp=Z,42nm,1.1s
VYHS Vyhne 71.84 6 *e*pP pP 11 37 00.9 0.0
AVF Avril sur Loir 71.90 18 *e*P pP 11 37 00.9 -0.3
comp=Z,19nm,0.9s
KECS Kecovo 71.94 5 *e*pP pP 11 37 01.7 +0.2
CABF La Chapelle 72.47 16 *e*P pP 11 37 04.9 +0.3
comp=Z,22nm,1.0s
KBA Koelnbreinsper 72.84 10 ⇑ *i*P pP 11 37 07.6 +0.8
comp=Z,17nm,0.8s
GYA Guiyang 73.00 293 P **P 11 36 51.8 +1.6**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
OBKA Obir 73.52 10 ⇑ *i*P pP 11 37 11.0 +0.2
comp=Z,25nm,0.8s
LPL La Plagne 73.64 15 *e*P pP 11 37 12.5 +1.0
comp=Z,11nm,1.0s
VIVF Saint-Julien-l 73.99 17 *e*P pP 11 37 13.8 +0.2
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 74.10 16 *e*P pP 11 37 14.5 +0.2
comp=Z,11nm,0.8s
SMRF Simiane la Rot 74.98 17 *e*P pP 11 37 20.3 +0.9
comp=Z,21nm,0.8s
MTLF Montolieu 75.08 19 *e*P pP 11 37 20.0 0.0
comp=Z,9.8nm,0.8s
SBF Sospel 75.35 15 *e*P pP 11 37 21.6 0.0
comp=Z,58nm,0.9s
LMR La Mourre 75.75 16 *e*P pP 11 37 24.0 +0.2
KMI Kunming 75.95 296 P **P 11 37 12.9 +5.6**
KMI AMB AMB
comp=Z,9.0nm,1.5s,mb4.3
LBTB Lobatse 145.23 4 PKPbc PKPbc 11 44 57.2 -0.2
comp=Z,1.8nm,0.5s,baz=21,slow=20,SNR=5.4
LBTB Lobatse 145.23 4 PKPbc PKPbc 11 44 57.2 -0.3
BOSA Boshof 148.80 5 PKPbc PKPbc 11 45 06.5 -1.1
comp=Z,0.9nm,0.4s,baz=356,slow=3.6,SNR=2.9
BOSA pPKPbc pPKPbc 11 45 25.1 -1.2
comp=Z,2.9nm,0.7s,baz=344,slow=3.9,SNR=2.3
BOSA Boshof 148.80 5 PKPbc PKPbc 11 45 06.5 -1.1
BOSA pPKPbc pPKPbc 11 45 25.1 -1.2

*ISCJB **05** 11:31:11.6±1.2,833N±006×83.13W±005,h5km±7km, mb3.5/2,Error ellipse: s-maj=11.4km s-min=6.0km az=79.9*
*CASC **05** 11:31:12.7±3.3,846N×8306W,h0km±6km,MD4.1*
*IDC **05** 11:31:14.3±3.0,9.17N×82.78W,h0km,mb3.5/2,mb1 3.9/4, mb1mx3.6/18,mbtmp3.8/4,ML4.1/2,Error ellipse: s-maj=101.4km s-min=24.3km az=19.0*
ISC 05 11:31:11.8±1.4,834N±007×8313W±006,h1km±7km,n24, σ0:98/35,mb3.5/2,4C-7D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.31**	**353**	⇓ *e*P		**Pg**	**11 31 18.0**	**+0.2**
ACR				*e*S		**Sg**	**11 31 21.8**	**0.0**
CTCR	**Cotoan**	**0.66**	**34**	⇓ *i*P		**Pg**	**11 31 24.3**	**-0.2**
CTCR				*e*S		**Sg**	**11 31 36.2**	**+3.2**
DVD	**David**	**0.68**	**82**	⇓ *i*P		**Pg**	**11 31 25.0**	**+0.2**
DVD				*e*S		**Sg**	**11 31 33.6**	**0.0**
BRU	**Baru**	**0.73**	**51**	⇓ *i*P		**Pg**	**11 31 26.0**	**+0.3**
CNI	**Changuinola**	**1.23**	**30**	⇓ *i*P		**Pg**	**11 31 33.9**	**-1.5**
BUS	**Buena Vista**	**1.35**	**333**	⇓ *e*P		**Pn**	**11 31 36.9**	**-0.9**
BUS				*e*S		**Sg**	**11 31 54.8**	**-0.6**
LCR2	**La Lucha 2**	**1.64**	**328**	⇑ *e*P		**Pn**	**11 31 40.9**	**-0.7**
LCR2				*e*S		**Sn**	**11 32 03.5**	**+0.2**
OCM	**Ochomogo**	**1.75**	**332**	*e*P		**Pn**	**11 31 42.3**	**-0.8**
OCM				*e*S		**Sn**	**11 32 06.9**	**+0.9**
IRZ2	**Volcan Irazu 2**	**1.78**	**335**	⇑ *e*P		**Pn**	**11 31 43.5**	**-0.2**
IRZ2				*e*S		**Sn**	**11 32 11.5**	**+4.6**
SJS	**Escuela Geolog**	**1.83**	**330**	⇑ *e*P		**Pn**	**11 31 44.3**	**0.0**
SJS				*e*S		**Sn**	**11 32 08.0**	**-0.1**
PRS1	**Puriscal**	**2.00**	**324**	⇓ *e*P		**Pn**	**11 31 46.4**	**-0.3**
PRS1				*e*S		**Sn**	**11 32 11.8**	**-0.6**
CGA2	**Cerro Gallo 2**	**2.12**	**322**	*e*P		**Pn**	**11 31 48.8**	**+0.4**
CGA2				*e*S		**Sn**	**11 32 16.1**	**+0.8**
POA2	**Poas 2**	**2.13**	**329**	*e*P		**Pn**	**11 31 49.1**	**+0.6**
EPA	**Esparza**	**2.18**	**319**	⇑ *e*P		**Pn**	**11 31 50.1**	**+0.9**
EPA				*e*S		**Sn**	**11 32 21.1**	**+4.3**
CAO	**Cobano**	**2.37**	**305**	*e*P		**Pn**	**11 31 51.5**	**-0.2**
JCR	**Jicaral**	**2.46**	**308**	*e*P		**Pn**	**11 31 54.4**	**+1.4**
VACR	**Volcan Arenal**	**2.61**	**324**	*e*P		**Pn**	**11 31 56.8**	**+1.7**
JTS	**JuntasAbangare**	**2.64**	**317**	Pn		**Pn**	**11 31 54.5**	**-1.0**
	60nm,0.3s,baz=101,slow=22,SNR=44							
JTS				Sn		**Sn**	**11 32 27.1**	**-1.1**
	23nm,0.3s,baz=328,slow=22,SNR=6.2							
JTS	**JuntasAbangare**	**2.64**	**317**	*e*P		**Pn**	**11 31 56.6**	**+1.1**
AZU	**Azuero**	**2.88**	**101**	*e*P		**Pn**	**11 32 00.1**	**+1.3**
SDV	**Santo Domingo**	**12.37**	**87**	Pn		**Pn**	**11 34 06.7**	**-2.2**
	0.7nm,0.3s,baz=270,slow=20,SNR=7.0							
YKA	**Yellowknife Ar**	**58.70**	**344**	P		**P**	**11 41 08.6**	**-2.3**
	0.4nm,0.7s,mb3.6,baz=139,slow=6.7,SNR=8.6							
TORD	**Torodi Ar. Bea**	**83.14**	**78**	P		**P**	**11 43 40.2**	**+0.9**
	0.3nm,0.7s,mb3.4,baz=272,slow=3.6,SNR=2.3							
WRA	**Warramunga Arr**	**141.98**	**248**	PKP		PKPdf	**11 50 50.6**	**+5.2**
	0.3nm,0.7s,baz=97,slow=1.7,SNR=4.4							

*SKO **05** 11:34:30.7,3955N×2170E,h1km*
*NEIC **05** 11:34:30.8,3952N×2190E,h26km,MD3.2(ATH),After ATH.*
*ATH **05** 11:34:30.8,3952N×2190E,h26km±2km,MD3.2/7*
*ISCJB **05** 11:34:31.9±0.4,3954N±002×2186E±004,h20km±6km, Error ellipse: s-maj=5.1km s-min=3.6km az=57.1*
*THE **05** 11:34:31.5,3955N×2185E,h6km,ML2.8*
*CSEM **05** 11:34:31.5±0.1,3953N×2179E,h25km,MD3.2,Error ellipse: s-maj=2.9km s-min=2.5km az=108.0*
ISC 05 11:34:31.5±0.4,3954N±002×2187E±003,h17km±3km,n27, σ0:97/43,3C,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.11**	**79**	⇑ *i*PB		**Pg**	**11 34 35.6**	**+0.5**
THL				*e*SB		**Sg**	**11 34 39.0**	**+1.4**
MEV	**Metsovon**	**0.55**	**296**	*e*Pg		**Pg**	**11 34 41.0**	**-1.5**
EVR	**Evrytania**	**0.63**	**185**	*e*PN		**Pg**	**11 34 42.9**	**-1.0**
EVR				*e*SN		**Sg**	**11 34 53.0**	**+0.7**
AGG	**Agios Georgios**	**0.63**	**146**	*e*Pg		**Pg**	**11 34 44.2**	**+0.3**
	comp=Z,6.0nm,0.0s							
AGG				*e*Sg		**Sg**	**11 34 52.8**	**+0.4**
LIT	**Litokhoron**	**0.73**	**40**	*e*Pg		**Pg**	**11 34 45.8**	**-0.1**
	comp=Z,0.0nm,0.0s							
LIT				*e*Sg		**Sg**	**11 34 56.4**	**+0.9**
KZN	**Kozani**	**0.77**	**354**	⇑ *i*PB		**Pb**	**11 34 45.7**	**-0.7**
KZN				*e*SN		**Sn**	**11 34 58.7**	**0.0**
JAN	**Janina**	**0.80**	**278**	⇑ *i*PN		**Pg**	**11 34 45.8**	**-1.3**
XOR	**Xorichti**	**1.04**	**99**	*e*Pg		**Pg**	**11 34 51.7**	**+0.1**
IGT	**Igoumenitsa**	**1.19**	**270**	*e*Pg		**Pg**	**11 34 53.5**	**-1.0**
IGT				*e*Sg		**Sg**	**11 35 10.9**	**+0.8**
LKD	**Levkas**	**1.27**	**229**	*e*Pg		**Pn**	**11 34 53.8**	**-0.6**
LKD				*e*Sg		**Sg**	**11 35 12.9**	**+0.4**
PAIG	**Paliouri**	**1.45**	**74**	*e*Pg		**Pn**	**11 34 56.7**	**-0.2**
PAIG				*e*Sg		**Sg**	**11 35 18.8**	**+0.6**
PLG	**Polygyros**	**1.47**	**55**	*e*Pg		**Pn**	**11 34 57.5**	**+0.3**
PLG				*e*Sg		**Sg**	**11 35 17.9**	**-0.9**
PLG	**Polygyros**	**1.47**	**55**	*e*PN		**Pn**	**11 34 57.4**	**+0.2**
GRG	**Griva**	**1.47**	**16**	*e*Pg		**Pn**	**11 34 57.3**	**+0.1**
GRG				*e*Sg		**Sg**	**11 35 18.4**	**-0.5**
RLS	**Riolos of Patr**	**1.52**	**192**	*e*PB		**Pn**	**11 34 56.9**	**-1.0**
BIA	**Bitola**	**1.53**	**344**	*e*Pg		**Pn**	**11 34 56.8**	**-1.2**
AOS	**Alonnisos**	**1.60**	**103**	*e*Pb		**Pb**	**11 34 59.4**	**-1.2**
KEK	**Kerkira**	**1.61**	**277**	*e*PN		**Pn**	**11 35 00.7**	**+1.5**
VLS	**Valsamata**	**1.69**	**217**	*e*PN		**Pn**	**11 35 01.4**	**+1.1**
SOH	**Sokhos**	**1.71**	**41**	*e*Pb		**Pb**	**11 35 01.2**	**-1.2**
SOH				*e*Sb		**Sb**	**11 35 24.6**	**+1.0**
OHR	**Ohrid**	**1.77**	**333**	*e*Pn		**Pn**	**11 35 02.1**	**+0.8**
OHR				*e*Sn		**Sn**	**11 35 23.8**	**+0.4**
OHR	**Ohrid**	**1.77**	**333**	*e*Pn		**Pn**	**11 35 02.1**	**+0.8**
OHR				*e*Sn		**Sn**	**11 35 23.8**	**+0.4**
OHR	**Ohrid**	**1.77**	**333**	*e*Pn		**Pn**	**11 35 02.0**	**+0.7**
OHR				*e*Sn		**Sn**	**11 35 23.7**	**+0.3**
KNT	**Kendrikon**	**1.80**	**26**	*e*Pb		**Pb**	**11 35 02.7**	**-1.2**
KNT				*e*Sb		**Sb**	**11 35 26.0**	**-0.2**
OUR	**Ouranopolis**	**1.80**	**63**	*e*Pb		**Pb**	**11 35 02.0**	**-2.1**
VAY	**Valandovo**	**1.85**	**16**	*e*Pn		**Pn**	**11 35 04.5**	**+2.0**
KRUS	**Krusevo**	**1.88**	**346**	*e*Pn		**Pn**	**11 35 04.0**	**+1.1**
KRUS				*e*Sn		**Sn**	**11 35 27.7**	**+1.4**

*THE **05** 11:39:20.7,3472N×2593E,h10km*
*ISCJB **05** 11:39:21.4±1.1,3478N±007×2589E±005,h12km±6km, Error ellipse: s-maj=12.7km s-min=5.9km az=134.9*
*NEIC **05** 11:39:22.2,3485N×2587E,h9km,MD3.3(ATH),After ATH.*
*ATH **05** 11:39:22.2,3485N×2587E,h9km±7km,MD3.3/6*
*CSEM **05** 11:39:22.8±0.4,3488N×2583E,h2km,MD3.3,Error ellipse: s-maj=8.1km s-min=4.0km az=166.0*
ISC 05 11:39:21.4±1.1,3479N±006×2585E±005,h7km±5km,n17, σ0:73/26,1C,Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.15**	**303**	*e*PG		**Pg**	**11 39 25.5**	**+0.9**
ZKR	**Zakros**	**0.44**	**43**	*e*Pg		**Pg**	**11 39 30.1**	**+0.2**
ZKR				*e*Sg		**Sg**	**11 39 36.8**	**+1.1**
NPS	**Neapolis**	**0.51**	**338**	⇑ *i*PB		**Pg**	**11 39 30.4**	**-0.8**
NPS				*e*SB		**Sg**	**11 39 37.4**	**-0.4**
SIVA	**Sivas**	**0.88**	**285**	*e*Pg		**Pg**	**11 39 37.9**	**-0.5**
SIVA				*e*Sg		**Sg**	**11 39 54.3**	**+4.5**
KARP	**Karpathos**	**1.31**	**55**	*e*PB		**Pb**	**11 39 46.2**	**-0.2**
GVD	**Gavdhos**	**1.45**	**272**	*e*PB		**Pb**	**11 39 50.0**	**+1.3**
VAM	**Vamos**	**1.48**	**295**	*e*PB		**Pb**	**11 39 50.0**	**+0.7**
THR6	**Thira Island,**	**1.60**	**347**	*e*Pb		**Pb**	**11 39 50.5**	**-0.9**
SANT	**Santorini**	**1.61**	**349**	*e*Pb		**Pb**	**11 39 50.3**	**-1.1**
SANT				*e*Sb		**Sb**	**11 40 12.5**	**+0.6**
SANT	**Santorini**	**1.61**	**349**	*e*Pn		**Pn**	**11 39 50.4**	**+0.2**
SANT				*e*Sn		**Sn**	**11 40 11.3**	**+0.1**
SANT	**Santorini**	**1.61**	**349**	*e*Pn		**Pn**	**11 39 50.4**	**+0.2**
SANT				*e*Sn		**Sn**	**11 40 11.3**	**+0.1**
SANT				*e*Sb		**Sb**	**11 40 12.5**	**+0.6**
THR3	**Thira Island,**	**1.65**	**347**	*e*Pb		**Pb**	**11 39 51.2**	**-1.0**
THR5	**Thira Island,**	**1.67**	**346**	*e*Pb		**Pn**	**11 39 50.5**	**-0.6**
KARN	**Karanos**	**1.70**	**292**	*e*Pb		**Pn**	**11 39 50.8**	**-0.7**
KARN				*e*Sb		**Sb**	**11 40 15.1**	**+0.6**
THR4	**Thira Island,**	**1.70**	**348**	*e*Pb		**Pn**	**11 39 51.4**	**-0.1**
APE	**Apeiranthos**	**2.29**	**354**	*e*Pn		**Pn**	**11 39 59.8**	**+0.2**
APE				*e*Sn		**Sn**	**11 40 29.0**	**+1.0**
VLI	**Veliai**	**3.05**	**310**	*e*PN		**Pn**	**11 40 09.4**	**-0.7**

IDC 05 11:52:02.9±12.0,2186N×14303E,h116km±118km, mb3.3/8,mb1 3.6/8,mb1mx3.5/21,mbtmp3.3/8,MS2.8/2, Ms1 2.8/2,ms1mx2.4/32,Error ellipse: s-maj=45.9km s-min=18.9km az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.41**	**168**	LR		LR	11 56 25.9	
	comp=Z,76nm,18.8s,baz=122,slow=31							
KSRS	**Korea Array**	**20.30**	**323**	P		P	11 56 29.9	+0.4
	2.0nm,0.8s,baz=144,slow=8.2,SNR=6.9							
KSRS				LR		LR	12 03 23.6	
	comp=Z,20nm,19.4s,baz=25,slow=34							
SONM	**Songino Array**	**39.13**	**320**	P		P	11 59 18.7	-0.3
	1.2nm,0.8s,baz=116,slow=6.8,SNR=6.1							
WRA	**Warramunga Arr**	**42.40**	**192**	P		P	11 59 45.7	-0.1
	0.7nm,0.8s,baz=15,slow=8.9,SNR=4.9							
ASAR	**Alice Springs**	**46.11**	**192**	P		P	12 00 15.8	+0.5
	0.4nm,0.8s,baz=15,slow=8.6,SNR=4.2							
ZAL	**Zalesovo**	**54.01**	**322**	P		P	12 01 15.2	+0.3
	0.9nm,0.3s,baz=27,slow=5.5,SNR=6.3							
MKAR	**Makanchi Array**	**54.49**	**313**	P		P	12 01 18.2	-0.2
	0.6nm,0.8s,baz=105,slow=9.1,SNR=2.9							
YKA	**Yellowknife Ar**	**76.38**	**28**	P		P	12 03 39.0	-0.4
	0.5nm,0.6s,baz=291,slow=5.9,SNR=9.2							
NVAR	**Mina Array Bea**	**83.15**	**51**	P		P	12 04 16.8	+0.9
	0.9nm,0.8s,baz=256,slow=6.1,SNR=5.5							

KRSC 05 11:54:17.9±0.6,5434N×16317E,h35km±35km,ML3.7,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.87**	**285**	*e*P		Pn	11 54 35.1	+1.5
MKZ				*i* S		Sn	11 54 47.9	+2.9
KBTR	**Krutoberegovo**	**1.88**	**354**	*e*P		Pn	11 54 47.9	+0.3
KBTR				*i* S		Sn	11 55 09.7	-0.4
TUMR	**Tumrok**	**1.99**	**300**	*e*P		Pn	11 54 51.7	+2.7
TUMR				*i* S		Sn	11 55 16.9	+4.2
ZLN	**Zelenaya**	**2.16**	**322**	*e*P		Pn	11 54 53.7	+2.3
KMNR	**Kamenistaya**	**2.21**	**311**	*e*P		Pn	11 54 54.5	+2.5
BZMR	**Bezymyannaya**	**2.22**	**317**	*e*P		Pn	11 54 54.3	+2.1
SPN	**Mys Shipunski**	**2.25**	**238**	*e*P		Pn	11 54 53.8	+1.2
SPN				*i* S		Sn	11 55 19.6	+0.6
CIRR	**Tsirk**	**2.26**	**323**	*e*P		Pn	11 54 55.4	+2.7
KIRR	**Kirishev**	**2.29**	**316**	*e*P		Pn	11 54 56.0	+2.8
KPT	**Kopyto**	**2.35**	**315**	*e*P		Pn	11 54 56.0	+2.0
KRSR	**Krestovskiy**	**2.40**	**323**	*e*P		Pn	11 54 56.5	+1.8
KLY	**Klyuchi**	**2.44**	**325**	*e*P		Pn	11 54 56.1	+0.8
KLY				*i* S		Sn	11 55 23.2	-0.8
SMKR	**Semkarok**	**2.45**	**337**	*e*P		Pn	11 54 57.0	+1.7
BDR	**Baidarnaya**	**2.50**	**334**	*e*P		Pn	11 54 58.0	+2.0
NLC	**Nalytchevo**	**2.56**	**244**	*e*P		Pn	11 54 58.5	+1.7
NLC				*i* S		Sn	11 55 28.2	+1.5
KOZ	**Kozyrevsk**	**2.56**	**314**	*e*P		Pn	11 54 59.4	+2.6
SRKR	**Sorokina**	**2.58**	**335**	*e*P		Pn	11 54 59.0	+1.8
SRDR	**Sredinnyy**	**2.80**	**317**	*e*P		Pn	11 55 02.4	+2.3
AVH	**Avacha**	**2.84**	**250**	*e*P		Pn	11 55 03.3	+2.6
PET	**Petropavlovsk**	**2.99**	**246**	*e*P		Pn	11 55 05.4	+2.6
PET				*i* S		Sn	11 55 39.8	+2.4
GNL	**Ganaly**	**3.15**	**260**	*e*P		Pn	11 55 08.2	+3.2
RUS	**Russkaya**	**3.38**	**237**	*e*P		Pn	11 55 10.1	+2.0
RUS				*i* S		Sn	11 55 47.6	+0.6
GRL	**Gorelyy**	**3.54**	**242**	*e*P		Pn	11 55 12.9	+2.6
GRL				*i* S		Sn	11 55 52.6	+1.8

After RSPR.

RSPR 05 12:05:10.2, 1893N×6872W, h176km±5km, MD3.8/9, MD3.8/9, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.72**	**116↑**	*eP*	Pn	12 05 44.5	+0.4
LSP				*eS*	Sn	12 06 11.2	+1.0
CRPR	**Cabo Rojo, PR**	**1.78**	**121↑**	*eP*	Pn	12 05 45.0	+0.3
CRPR				*eS*	Sn	12 06 11.7	+0.4
AOPR	**Arecibo Observ**	**1.95**	**107↑**	*eP*	Pn	12 05 46.7	+0.2
AOPR				*eS*	Sn	12 06 14.8	+0.3
GBPR	**Guanica, Bosqu**	**1.99**	**118**	*eS*	Sn	12 06 15.5	+0.2
OBIP	**Obispado Ponce**	**2.19**	**114↑**	*eP*	Pn	12 05 49.7	+0.6
OBIP				*eS*	Sn	12 06 20.5	+1.2
CELP	**Cerrillos**	**2.20**	**112↑**	*eP*	Pn	12 05 49.1	-0.1
CELP				*eS*	Sn	12 06 20.4	+0.9
ICM	**Isla Caja Muer**	**2.33**	**116↑**	*eP*	Pn	12 05 50.6	-0.1
ICM				*eS*	Sn	12 06 22.6	+0.6
CBYP	**Canovanas**	**2.79**	**103↑**	*eP*	Pn	12 05 56.9	+0.7
CBYP				*eS*	Sn	12 06 32.8	+1.0
CPD	**Cerro la Pandu**	**2.81**	**108↑**	*eP*	Pn	12 05 57.1	+0.8
CPD				*eS*	Sn	12 06 33.4	+1.3
HUMP	**Col San Antoni**	**2.83**	**106↑**	*eP*	Pn	12 05 56.7	+0.1
HUMP				*eS*	Sn	12 06 33.5	+0.8
MTP	**Monte Pirata**	**3.12**	**105↑**	*eP*	Pn	12 06 00.9	+0.8
MTP				*eS*	Sn	12 06 40.6	+1.7
TBVI	**Tortola**	**3.92**	**97**	*eS*	Sn	12 06 58.6	+1.6

IDC 05 12:11:08.4±3.4, 2189N×14315E, h43km±31km, mb3.6/9, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, ML4.0/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=31.3km s-min=17.2km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.26**	**351**	P	Pn	12 12 23.0	-1.4
	12nm,0.3s,baz=298,slow=18,SNR=6.1						
CBIJ				S	Sn	12 13 25.1	+1.3
	12nm,0.3s,baz=283,slow=23,SNR=5.2						
MJAR	**Matsushiro Arr**	**15.22**	**345**	LR	LR	12 19 56.9	
	comp=Z,201nm,20.5s,baz=100,slow=35						
KSRS	**Korea Array**	**20.34**	**323**	P	P	12 15 41.9	+0.9
	4.5nm,1.2s,baz=135,slow=13,SNR=6.4						
KSRS				LR	LR	12 22 15.5	
	comp=Z,56nm,19.5s,baz=358,slow=33						
ASAJ	**Asahikawa**	**22.18**	**359**	LR	LR	12 23 11.6	
	comp=Z,46nm,21.7s,baz=170,slow=33						
SONM	**Songino Array**	**39.17**	**320**	P	P	12 18 32.0	+0.1
	2.4nm,0.8s,baz=133,slow=7.2,SNR=12						
SONM				LR	LR	12 34 39.8	
	comp=Z,46nm,19.5s,baz=219,slow=36						
WRA	**Warramunga Arr**	**42.45**	**192**	P	P	12 18 59.0	0.0
	1.0nm,0.8s,baz=17,slow=8.6,SNR=7.6						
ASAR	**Alice Springs**	**46.16**	**192**	P	P	12 19 29.1	+0.4
	0.5nm,0.6s,baz=16,slow=10,SNR=13						
ZAL	**Zalesovo**	**54.05**	**322**	P	P	12 20 28.2	-0.2
	1.6nm,0.9s,baz=18,slow=7.4,SNR=9.8						
MKAR	**Makanchi Array**	**54.55**	**313**	P	P	12 20 32.4	+0.4
	0.7nm,0.9s,baz=98,slow=9.0,SNR=3.5						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	P	12 22 52.6	-0.1
	0.7nm,0.6s,baz=294,slow=5.8,SNR=13						
PPT	**Papeete**	**76.64**	**115**	LR	LR	12 53 28.5	
	comp=Z,119nm,19.6s,baz=266,slow=33						
NVAR	**Mina Array Bea**	**83.05**	**51**	P	P	12 23 30.0	+0.7
	1.0nm,0.9s,baz=286,slow=4.1,SNR=6.7						
BRTR	**Keskin Array B**	**90.19**	**313**	P	P	12 24 03.4	-0.7
	1.1nm,0.9s,baz=56,slow=4.9,SNR=4.6						

IDC 05 12:15:47.6±10.0, 1480S×16379E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, ML2.8/1, Error ellipse: s-maj=192.7km s-min=33.3km az=45.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.66**	**161**	Pn	Pn	12 17 40.0	-0.4
	0.1nm,0.3s,baz=342,slow=20,SNR=2.2						
DZM				Sn	Sn	12 19 11.0	+3.1
	0.1nm,0.3s,baz=324,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**26.45**	**226**	P	P	12 21 26.4	+0.2
	2.1nm,0.4s,baz=63,slow=10,SNR=13						
WRA	**Warramunga Arr**	**28.55**	**255**	P	P	12 21 45.4	+0.4
	0.5nm,0.5s,baz=87,slow=9.5,SNR=8.8						
ASAR	**Alice Springs**	**29.52**	**248**	P	P	12 21 54.0	+0.5
	2.0nm,0.5s,baz=74,slow=9.3,SNR=55						

ATH ***05*** *12:28:01.9, 3664N×2559E, h6km, MD3.3/7*
ISCJB ***05*** *12:28:02.2±0.6, 3667N±002×2564E±006, h11km±5km, Error ellipse: s-maj=7.7km s-min=4.1km az=14.8*
THE ***05*** *12:28:02.0, 3668N×2569E, h2km*
NEIC ***05*** *12:28:02.0, 3664N×2559E, h6km, MD3.3(ATH), After ATH.*
CSEM ***05*** *12:28:04.2±0.1, 3658N×2566E, h8km, MD3.3, Error ellipse: s-maj=3.6km s-min=1.8km az=138.0*

ISC 05 12:28:02.7±0.5, 3664N±003×2564E±005, h12km±5km, n21, σ0.88/32, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR4	**Thira Island,**	**0.27**	**228**	*eP*g	**Pg**	**12 28 09.0**	**+0.8**
THR3	**Thira Island,**	**0.30**	**221**	*eP*g	**Pg**	**12 28 09.2**	**+0.4**
THR3	**Thira Island,**	**0.30**	**221**	*eP*g	**Pg**	**12 28 09.1**	**+0.3**
SANT	**Santorini**	**0.30**	**209**	*eP*g	**Pg**	**12 28 09.1**	**+0.2**
SANT				*eS*g	**Sg**	**12 28 14.2**	**+1.2**
SANT	**Santorini**	**0.30**	**209**	*eP*g	**Pg**	**12 28 09.1**	**+0.2**
SANT				*eS*g	**Sg**	**12 28 14.3**	**+1.3**
THR5	**Thira Island,**	**0.32**	**227**	*eP*g	**Pg**	**12 28 09.1**	**-0.1**
THR6	**Thira Island,**	**0.34**	**215**	*eP*g	**Pg**	**12 28 10.1**	**+0.5**
APE	**Apeiranthos**	**0.44**	**348**	*eP*g	**Pg**	**12 28 09.8**	**-1.6**
APE				*eS*g	**Sg**	**12 28 15.9**	**-1.3**
APE	**Apeiranthos**	**0.44**	**348↑**	*i*Pb	**Pg**	**12 28 10.2**	**-1.2**
APE				*eS*g	**Sg**	**12 28 15.9**	**-1.4**
APE				*eS*b	**Sg**	**12 28 16.2**	**-1.1**
NISR	**Nisiros**	**1.20**	**91**	*eP*B	**Pb**	**12 28 25.2**	**-0.1**
NPS	**Neapolis**	**1.37**	**181↑**	*i*PB	**Pb**	**12 28 27.5**	**-0.8**
SMG	**Samos**	**1.43**	**41**	*eP*B	**Pb**	**12 28 30.0**	**+0.6**
SMG				*eS*B	**Sb**	**12 28 49.8**	**+2.2**
ZKR	**Zakros**	**1.59**	**163**	*eP*b	**Pb**	**12 28 30.9**	**-1.2**
ZKR				*eS*b	**Sb**	**12 28 51.5**	**-0.5**
ZKR	**Zakros**	**1.59**	**163**	*eP*b	**Pb**	**12 28 30.9**	**-1.1**
ZKR				*eS*b	**Sb**	**12 28 51.5**	**-0.6**
KARP	**Karpathos**	**1.64**	**131**	*eP*N	**Pn**	**12 28 31.5**	**+0.1**
SIVA	**Sivas**	**1.75**	**203**	*eP*b	**Pb**	**12 28 34.1**	**-0.7**
SIVA				*eS*b	**Sb**	**12 28 56.5**	**-0.3**
XRY	**Khrisi**	**1.76**	**179**	*eP*N	**Pg**	**12 28 36.5**	**0.0**
KARN	**Karanos**	**1.86**	**229**	*eP*b	**Pn**	**12 28 35.2**	**+0.8**
KARN				*eS*b	**Sb**	**12 29 00.2**	**+0.2**
KARN	**Karanos**	**1.86**	**229**	*eP*b	**Pb**	**12 28 35.2**	**-1.5**
KARN				*eS*b	**Sb**	**12 29 00.2**	**+0.2**
VLI	**Veliai**	**2.18**	**273**	*eP*N	**Pn**	**12 28 40.0**	**+1.2**
PHP	**Peshkopia**	**6.46**	**323**	*i*Pg	**Pg**	**12 30 06.4**	**0.0**

IDC 05 12:29:44.0±25.0, 4975S×10803E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.8/12, mbtmp3.6/3, Error ellipse: s-maj=797.7km s-min=32.2km az=104.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.98**	**47**	P	P	12 36 20.8	+0.3
	0.4nm,0.7s,baz=215,slow=7.8,SNR=3.6						
VNDA	**Vanda**	**34.30**	**162**	P	P	12 36 31.4	-0.6
	1.2nm,0.7s,baz=278,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**36.38**	**45**	P	P	12 36 49.6	-0.3
	0.7nm,0.9s,baz=203,slow=10,SNR=4.3						

IDC 05 12:31:50.8±2.5, 2152N×14469E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=264.4km s-min=39.1km az=110.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.44**	**195**	P	P	12 39 48.2	+1.0
	0.4nm,0.6s,baz=16,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**46.13**	**194**	P	P	12 40 16.4	-0.4
	0.3nm,0.6s,baz=19,slow=12,SNR=8.5						
YKA	**Yellowknife Ar**	**75.95**	**28**	P	P	12 43 39.2	-0.2
	0.3nm,0.5s,baz=292,slow=5.9,SNR=6.3						

ISCJB ***05*** *12:37:23.6±0.9, 199S±02×1782W±0.1, h600km, mb4.1/10, Error ellipse: s-maj=26.1km s-min=16.2km az=136.2*
IDC ***05*** *12:37:26.5±4.6, 1993S×17822W, h626km±62km, mb3.3/8, mb1 3.5/10, mb1mx3.3/18, mbtmp3.4/10, Error ellipse: s-maj=35.2km s-min=24.3km az=6.0*
NEIC ***05*** *12:37:26.2±3.5, 1990S×17822W, h621km±42km, mb4.3/4, Error ellipse: s-maj=28.6km s-min=21.7km az=199.0*

ISC 05 12:37:25.1±0.9, 199S±02×1782W±01, h600km, n15, σ0.66/14, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.52**	**259**	P	**P**	**12 40 27.6**	**-1.0**
	0.9nm,0.3s,baz=74,slow=15,SNR=9.5						
URZ	**Urewera**	**18.74**	**192**	P	**P**	**12 41 08.0**	**+0.7**
	3.0nm,0.3s,baz=288,slow=2.1,SNR=11						
CTA	**Charters Tower**	**33.38**	**263**	*eP*	**P**	**12 43 15.6**	**+0.3**
	7.1nm,0.3s,mb4.8						
CTA	**Charters Tower**	**33.38**	**263**	P	**P**	**12 43 15.7**	**+0.4**
	8.8nm,0.3s,mb4.8,baz=91,slow=11,SNR=26						
PMG	**Port Moresby**	**35.04**	**282**	P	**P**	**12 43 30.2**	**+1.1**
	2.9nm,0.5s,mb4.2,baz=70,slow=6.0,SNR=3.6						
STKA	**Stephens Creek**	**37.89**	**243**	P	**P**	**12 43 51.8**	**-0.7**
	1.7nm,0.4s,mb3.9,baz=93,slow=11,SNR=14						
ASAR	**Alice Springs**	**44.49**	**256**	P	**P**	**12 44 44.5**	**+0.1**
	7.6nm,0.5s,mb4.5,baz=89,slow=8.2,SNR=220						
WRAB	**Tennant Creek**	**44.50**	**262**	*eP*	**P**	**12 44 44.2**	**-0.3**
	2.2nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**44.51**	**261**	P	**P**	**12 44 44.3**	**-0.3**
	2.6nm,0.4s,mb4.1,baz=97,slow=7.4,SNR=193						
FORT	**Forrest**	**49.37**	**246**	*eP*	**P**	**12 45 20.1**	**-0.9**
	17nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.93**	**262**	*eP*	**P**	**12 45 47.8**	**+1.2**
	3.5nm,0.4s,mb4.0						
NWAO	**Narrogin (SRO)**	**58.48**	**243**	P	**P**	**12 46 24.9**	**+0.1**
	5.4nm,0.8s,mb3.7,baz=154,slow=12,SNR=3.4						
NVAR	**Mina Array Bea**	**80.72**	**44**	P	**P**	**12 48 36.6**	**-0.2**
	0.1nm,0.5s,baz=242,slow=7.1,SNR=3.7						
TXAR	**Lajitas Array**	**86.89**	**57**	P	**P**	**12 49 07.0**	**-0.2**
	0.4nm,0.7s,mb3.2,baz=233,slow=6.2,SNR=5.7						
AKASG	**Malin Array Be**	**142.41**	**331**	PKP	PKPdf	12 55 48.6	-1.8
	1.1nm,0.5s,baz=238,slow=15,SNR=5.5						

CSEM ***05*** *12:43:51.6, 3489N×2482E, h30km, MD3.2/3, After ATH*
THE ***05*** *12:43:51.2, 3472N×2480E, h10km*
ISCJB ***05*** *12:43:52.1±1.2, 348N±0.1×2474E±006, h23km±9km, Error ellipse: s-maj=18.1km s-min=8.2km az=162.2*
ATH ***05*** *12:43:52.3, 3490N×2482E, h10km, MD3.2/3*

ISC 05 12:43:52.0±1.3, 348N±01×2474E±006, h22km±11km, n11, σ0.77/14, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.22**	**15**	*eP*g	**Pb**	**12 43 57.4**	**-0.2**
SIVA				*eS*g	**Sb**	**12 44 02.5**	**+1.1**
GVD	**Gavdhos**	**0.54**	**274**	*eP*g	**Pb**	**12 44 03.9**	**+1.2**
GVD	**Gavdhos**	**0.54**	**274**	*eP*n	**Pn**	**12 44 04.0**	**-0.3**
VAM	**Vamos**	**0.75**	**324↑**	*i*PB	**Pb**	**12 44 06.2**	**-0.1**
XRY	**Khrisi**	**0.79**	**84**	*eP*B	**Pb**	**12 44 06.0**	**-1.0**
KARN	**Karanos**	**0.90**	**312**	*eP*g	**Pb**	**12 44 08.7**	**-0.2**
KARN				*eS*g	**Sb**	**12 44 25.2**	**+4.7**
ZKR	**Zakros**	**1.25**	**75**	*eP*g	**Pn**	**12 44 14.0**	**-0.2**
ZKR				*eS*g	**Sn**	**12 44 32.1**	**+1.7**
THR6	**Thira Island,**	**1.64**	**19**	*eP*b	**Pb**	**12 44 21.2**	**-0.3**
THR5	**Thira Island,**	**1.69**	**17**	*eP*b	**Pb**	**12 44 21.9**	**-0.4**
THR3	**Thira Island,**	**1.69**	**18**	*eP*b	**Pb**	**12 44 22.1**	**-0.3**
THR4	**Thira Island,**	**1.74**	**18**	*eP*b	**Pb**	**12 44 22.5**	**-0.7**

IDC ***05*** *12:49:16.2±0.9, 1908N×12126E, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/35, Error ellipse: s-maj=36.6km s-min=17.9km az=77.0*
ISCJB ***05*** *12:49:23.0±0.6, 1927N±004×12133E±0.10, h67km±9km, mb3.8/7, Error ellipse: s-maj=15.8km s-min=6.6km az=12.6*
MAN ***05*** *12:49:23.1, 1913N×12113E, h15km, mb2.9, ML4.3, MS6.0*
NEIC ***05*** *12:49:26.4±2.7, 1934N×12152E, h77km±22km, Error ellipse: s-maj=28.3km s-min=20.6km az=54.0*

ISC 05 12:49:24.6±0.6, 1923N±004×1214E±01, h66km±8km, n29, σ1.38/29, mb3.8/7, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.17**	**147**	*eP*	**Pn**	**12 49 44.5**	**-0.5**
APYP	**Conner**	**1.37**	**185**	*eP*	**Pn**	**12 49 45.1**	**-2.4**
APYP				*eS*	**Sn**	**12 50 03.5**	**-1.4**
CVP	**Callao Caves**	**1.58**	**164↓**	*eP*	**Pn**	**12 49 49.8**	**-0.6**
CVP				*eS*	**Sn**	**12 50 11.0**	**+1.1**
ABRA	**Dolores**	**1.69**	**202**	*eP*	**Pn**	**12 49 49.1**	**-2.8**
CAUP	**Cauayan**	**2.31**	**169**	*eP*	**Pn**	**12 50 01.9**	**+1.6**
PALP	**Palanan**	**2.38**	**155↑**	*eP*	**Pn**	**12 50 02.1**	**+0.9**
PALP				*eS*	**Sn**	**12 50 42.9**	**+14**
PALP	**Palanan**	**2.38**	**155**	*eP*	**Pn**	**12 50 02.3**	**+1.1**
BCPH	**Baguio City Da**	**2.93**	**195↑**	*i*P	**Pn**	**12 50 11.4**	**+2.6**
BCPH				*i* S	**Sn**	**12 50 44.3**	**+1.5**
BOLP	**Bolinao**	**3.16**	**206**	*eP*	**Pn**	**12 50 10.1**	**-1.7**
BALP	**Baler**	**3.48**	**177**	*eP*	**Pn**	**12 50 17.4**	**+1.2**
YHNB	**Yeheng**	**5.41**	**0**	Pn	**Pn**	**12 50 43.5**	**+0.8**
YHNB				*eS*n	**Sn**	**12 51 44.4**	**+0.8**
JOW	**Kunigami**	**9.88**	**39**	Pn	**Pn**	**12 51 44.0**	**+0.3**
	2.5nm,0.3s,baz=136,slow=26,SNR=4.1						
JNU	**Nakatsue**	**16.24**	**30**	Pn	**Pn**	**12 53 06.6**	**-1.8**
	0.2nm,0.3s,baz=214,slow=19,SNR=2.7						
JNU				LR	LR	13 00 01.4	
	comp=Z,198nm,19.7s,baz=49,slow=39						
KSRS	**Korea Array**	**19.04**	**16**	P	**Pn**	**12 53 41.5**	**-1.1**
	baz=196,slow=11,SNR=7.6						
KSRS				LR	LR	13 02 05.3	
	comp=Z,53nm,19.1s,baz=190,slow=40						
PSI	**Prapat**	**27.36**	**236**	LR	LR	13 05 33.6	
	comp=Z,52nm,19.5s,baz=43,slow=36						
SONM	**Songino Array**	**31.03**	**340**	P	**P**	**12 55 36.5**	**+0.6**
	0.2nm,0.4s,mb3.2,baz=197,slow=4.5,SNR=2.9						
SONM	**Songino Array**	**31.03**	**340**	P	**P**	**12 55 36.5**	**+0.6**
WRA	**Warramunga Arr**	**40.95**	**161**	P	**P**	**12 56 58.1**	**-2.6**
	0.3nm,0.3s,mb3.6,baz=352,slow=8.6,SNR=9.5						
MKAR	**Makanchi Array**	**42.11**	**320**	P	**P**	**12 57 11.4**	**+1.2**
	1.1nm,0.9s,mb3.6,baz=119,slow=7.6,SNR=4.7						
ASAR	**Alice Springs**	**44.35**	**163**	P	**P**	**12 57 29.2**	**+1.0**
	0.7nm,0.5s,mb3.7,baz=344,slow=6.8,SNR=23						
AKTK	**Aktyubinsk**	**58.49**	**318**	P	**P**	**12 59 13.6**	**-0.2**
AKTO	**Aktyubinsk**	**58.49**	**318**	P	**P**	**12 59 13.6**	**-0.2**
	1.0nm,0.5s,mb4.1,baz=108,slow=7.4,SNR=4.1						
PMR	**Palmer**	**73.05**	**30**	*eP*	**P**	**13 00 45.4**	**-2.1**
	8.2nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**87.45**	**23**	P	**P**	**13 02 05.9**	**+1.1**
	2.2nm,0.8s,mb4.1,baz=312,slow=4.6,SNR=29						
YKA	**Yellowknife Ar**	**87.45**	**23**	P	**P**	**13 02 05.9**	**+1.1**
TXAR	**Lajitas Array**	**115.05**	**43**	PKP	PKiKP	13 08 00.5	+2.5
	0.4nm,0.6s,baz=260,slow=1.2,SNR=4.9						
TXAR	**Lajitas Array**	**115.05**	**43**	PKP	PKiKP	13 08 00.5	+2.5
VNA2	**Neumayer--Watz**	**120.25**	**197**	*e*	PKPdf	13 08 08.8	+0.8
	baz=78,slow=1.3						
VNA2				*e*		13 08 15.5	
VNA2				*e*		13 08 20.9	
VNA3	**Neumayer Olymp**	**120.70**	**196**	*e*	PKPdf	13 08 10.0	+1.1

NEIC 05 12:54:44.7±1.5, 1992N×15626W, h17km±13km, MD3.5(HVO), 1C, Error ellipse: s-maj=25.9km s-min=8.2km az=53.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.70**	**103**	*eP*g	Pg	12 54 58.2	-0.3
POHA				*eS*g	Sg	12 55 07.2	-0.6
HKL	**Haleakala**	**0.78**	**360**	*eP*g	Pg	12 55 00.4	+0.3
HKL				*eS*g	Sg	12 55 13.1	+2.7
KHU	**Kahuku**	**0.90**	**138↑**	*i*Pg	Pg	12 55 02.5	+0.2
STCH	**Steam Cracks**	**1.19**	**116**	*eP*n	Pn	12 55 06.8	+0.3
STCH				*eS*g	Sg	12 55 25.5	+2.3
KIP	**Kipapa**	**2.22**	**313**	*eP*n	Pn	12 55 20.6	-0.2
KIP				*eS*n	Sn	12 55 47.6	-0.2

CSEM ***05*** *13:14:45.5, 5915N×1770E, h16km, ML3.6, Mining explosion. After UPP*

UPP 05 13:14:45.5, 5915N×1770E, h16km, ML3.6, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.22**	**133**	P	Pg	13 14 49.6	-1.0
ESKU	**Eskilstuna**	**0.68**	**277**	P	Pg	13 14 57.8	-0.9
NRTU	**Norrtaelje**	**0.71**	**42**	P	Pg	13 14 58.9	-0.5
BACU	**Backbrunna**	**0.76**	**337**	P	Pb	13 14 59.5	-0.9
VIKU	**Vikbolandet**	**0.83**	**219**	P	Pb	13 15 01.7	+0.1

IDC 05 13:26:19.1±3.2, 223N×9969W, h0km, mb3.9/5, mb1 4.3/5, mb1mx4.1/13, mbtmp3.9/5, MS3.7/14, Ms1 3.7/14, ms1mx3.5/18, Error ellipse: s-maj=131.9km s-min=65.1km az=78.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**16.68**	**61**	LR	LR	13 35 03.1	
	comp=Z,228nm,19.8s,baz=185,slow=31						
TEIG	**Tepich**	**21.07**	**31**	LR	LR	13 44 08.0	
	comp=Z,99nm,21.7s,baz=210,slow=34						
ATAH	**Atahualpa**	**23.14**	**114**	LR	LR	13 38 34.9	
	comp=Z,126nm,21.2s,baz=102,slow=32						
NNA	**Nana**	**26.74**	**122**	LR	LR	13 40 09.7	
	comp=Z,169nm,21.1s,baz=313,slow=31						
TXAR	**Lajitas Array**	**27.22**	**352**	P	P	13 32 06.5	+2.0
	1.5nm,0.8s,baz=177,slow=11,SNR=13						
SDV	**Santo Domingo**	**29.64**	**76**	LR	LR	13 42 17.0	
	comp=Z,70nm,18.6s,baz=186,slow=32						
RPN	**Rapa Nui**	**30.64**	**197**	LR	LR	13 40 52.9	
	comp=Z,32nm,18.8s,baz=232,slow=28						
PFO	**Pinyon Flat Ob**	**34.94**	**335**	LR	LR	13 45 58.0	
	comp=Z,149nm,18.2s,baz=160,slow=34						
LPAZ	**La Paz**	**36.20**	**122**	LR	LR	13 46 15.2	
	comp=Z,116nm,21.2s,baz=116,slow=33						
NVAR	**Mina Array Bea**	**39.85**	**337**	P	P	13 33 53.8	-0.4
	0.8nm,0.8s,baz=144,slow=8.2,SNR=5.2						
PDAR	**Pinedale Array**	**41.31**	**349**	P	P	13 34 06.3	0.0
	2.0nm,0.8s,baz=153,slow=7.1,SNR=15						
PDAR				PcP	PcP	13 36 05.2	+0.3
	0.5nm,0.8s,baz=132,slow=5.4,SNR=3.7						
PDAR				LR	LR	13 50 04.0	
	comp=Z,158nm,18.1s,baz=352,slow=34						
RKT	**Rikitea**	**42.62**	**232**	*e*LR	LR	13 45 54.1	
	100nm,29.2s						
RKT	**Rikitea**	**42.62**	**232**	*e*T		14 18 43.2	
	2.5nm,0.2s						
CFAA	**Coronel Fontan**	**44.99**	**141**	LR	LR	13 47 43.1	
	comp=Z,18nm,19.6s,baz=85,slow=28						
ULM	**Lac du Bonnet**	**47.95**	**3**	P	P	13 34 59.0	-0.4
	2.3nm,0.7s,baz=177,slow=10,SNR=5.2						
ULM				LR	LR	13 57 34.5	
	comp=Z,73nm,18.2s,baz=330,slow=39						
NEW	**Newport**	**48.26**	**344**	LR	LR	13 57 03.9	
	comp=Z,122nm,18.5s,baz=187,slow=38						
SCHQ	**Schefferville**	**58.85**	**22**	LR	LR	14 00 43.5	
	comp=Z,131nm,18.1s,baz=340,slow=35						
YKA	**Yellowknife Ar**	**61.15**	**352**	P	P	13 36 34.4	-0.8
	1.6nm,0.9s,baz=159,slow=6.8,SNR=12						
YKA				PcP	PcP	13 37 18.1	0.0
	0.8nm,1.0s,baz=156,slow=3.6,SNR=2.9						
YKA				LR	LR	14 04 24.1	
	comp=Z,58nm,18.5s,baz=215,slow=37						
NOA	**NORSAR Array B**	**98.03**	**27**	LR	LR	14 27 02.6	
	comp=Z,55nm,19.5s,baz=220,slow=37						

IDC 05 13:32:16.6±11.0, 152N×9856W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.9/14, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=477.1km s-min=204.3km az=73.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.09**	**350**	P	P	13 38 10.5	+0.6
	1.0nm,0.9s,baz=176,slow=11,SNR=9.0						
PDAR	**Pinedale Array**	**42.23**	**348**	P	P	13 40 11.4	-0.1
	1.4nm,0.9s,baz=144,slow=9.9,SNR=8.7						
YKA	**Yellowknife Ar**	**62.01**	**352**	P	P	13 42 38.6	0.0
	0.9nm,0.9s,baz=161,slow=6.3,SNR=6.5						

IDC 05 13:34:15.4±8.8, 632S×15127E, h88km±62km, mb3.1/2, mb1 3.4/3, mb1mx3.1/13, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=105.4km s-min=57.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**233**	P	Pn	13 35 29.6	+0.3
	1.3nm,0.3s,baz=43,slow=8.5,SNR=7.7						
PMG				S	Sn	13 36 27.5	+0.6
	1.4nm,0.3s,baz=169,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**21.30**	**229**	P	P	13 38 55.7	+0.7
	0.5nm,0.6s,baz=55,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**24.01**	**222**	P	P	13 39 22.2	+0.3
	1.3nm,0.7s,baz=55,slow=8.7,SNR=16					

MRZ			SN	S	13 47 11.1	+0.2
MRZ			SN	S	13 47 11.3	+0.5
TIWZ	**Tintock**	**5.83 202**	SN	S	13 47 12.0	+1.0
CAW	**Cannon Point**	**6.39 206**	*e*PN	Pn	13 46 08.2	+0.2
SNZO	**South Karori**	**6.70 207**	*e*PN	Pn	13 46 12.1	+0.3
SNZO			SN	S	13 47 31.7	+1.3
TCW	**Tory Channel**	**6.78 210**	SN	S	13 47 32.8	+0.5
NNZ	**Nelson**	**7.17 214**	SN	S	13 47 42.9	+1.9
THZ	**Tophouse**	**7.82 214**	*e*PN	Pn	13 46 27.8	+2.2
THZ			SN	S	13 47 58.1	+2.5
KHZ	**Kahutara**	**8.10 208**	*e*PN	Pn	13 46 30.6	+1.7
KHZ			SN	S	13 48 02.8	+1.0
LTZ	**Lake Taylor**	**8.92 212**	SN	S	13 48 21.0	+0.4
MQZ	**McQueen's Vall**	**9.53 208**	SN	S	13 48 33.8	-0.8

*IDC **05** 13:46:46.9±0.7, 4729N×15605E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/25, mbtmp4.0/16, ML3.7/1, MS3.3/5, Ms1 3.3/5, ms1mx2.8/40, Error ellipse: s-maj=21.8km s-min=15.6km az=158.0*
*ISCJB **05** 13:46:47.5±0.6, 4752N×1560E±0.1, h10km, mb4.1/21, MS3.5/4, Error ellipse: s-maj=12.0km s-min=7.6km az=72.0*
*NEIC **05** 13:46:48.8±0.5, 4735N×15609E, h10km, mb4.5/4, Error ellipse: s-maj=12.5km s-min=9.0km az=145.0*
*MOS **05** 13:46:51.1±1.1, 4747N×15597E, h40km, mb4.4/17, Error ellipse: s-maj=18.1km s-min=10.6km az=98.8*

ISC 05 13:46:49.1±0.6, 4751N±006×1560E±01, h10km, n48, σ1°03/50, mb4.1/21, MS3.5/4, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.18**	**2**	*e*PN	**Pn**	**13 47 38.5**	**-0.6**
SKR				*e*S	**Sn**	**13 48 16.7**	**-0.4**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,190nm,0.6s						
SKR				smax			
	comp=E,160nm,0.6s						
PET	**Petropavlovsk**	**5.79**	**16**	*e*PN	**Pn**	**13 48 14.1**	**-0.8**
PET				pmax	pmax		
	comp=Z,24nm,0.9s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
YSS	**Yuzh-Sakhalins**	**9.01 271**	*e*PN	**Pn**	**13 49 01.3**	**+2.1**
ASAJ	**Asahikawa**	**9.93 255**	Pn	**Pn**	**13 49 09.4**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=255,slow=7.6,SNR=7.1					
ASAJ				LR	LR	13 52 44.2	
	comp=Z,47nm,20.5s,baz=305,slow=36						
HABR	**Khabarovsk**	**14.04 282**	*e*P	**Pn**	**13 50 05.6**	**-2.4**
HABR				*e*S	**Sn**	**13 52 35.8**	**-8.0**
SEY	**Seymchan**	**15.59 354**	*e*P	**Pn**	**13 50 24.9**	**-4.0**
MJAR	**Matsushiro Arr**	**17.11 237**	P	**Pn**	**13 50 49.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=40,slow=11,SNR=4.8						
YAK	**Yakutsk**	**20.80 324**	*d*P	**P**	**13 51 29.3**	**-1.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BILL	**Bilibino**	**21.25**	**11**	*e*P	**P**	**13 51 36.7**	**+1.4**
BILL				pmax	pmax		
	comp=Z,25nm,1.8s,mb4.2						
BILL	**Bilibino**	**21.25**	**11**	*e*P	**P**	**13 51 36.8**	**+1.5**
	comp=Z,7.0nm,0.6s,mb4.2						
KSRS	**Korea Array**	**22.88 254**	P	**P**	**13 51 53.4**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.2,baz=52,slow=10,SNR=5.0						
TIXI	**Tiksi**	**27.33 342**	*e*P	**P**	**13 52 34.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**32.92 289**	LR	LR	14 07 23.7	
	comp=Z,49nm,18.5s,MS3.2,baz=202,slow=37						
INK	**Inuvik**	**39.96**	**33**	P	**P**	**13 54 23.2**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.1,baz=283,slow=5.7,SNR=7.7						
INK	**Inuvik**	**39.96**	**33**	P	**P**	**13 54 23.3**	**-0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZAL	**Zalesovo**	**43.76 306**	P	**P**	**13 54 55.1**	**+0.5**
	comp=Z,0.9nm,0.3s,mb3.9,baz=158,slow=20,SNR=4.1						
ZAL				LR	LR	14 14 13.6	
	comp=Z,37nm,18.6s,MS3.3,baz=301,slow=38						
ZAL	**Zalesovo**	**43.76 306**	P	**P**	**13 54 55.2**	**+0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,37nm,18.6s						
MKAR	**Makanchi Array**	**48.31 298**	P	**P**	**13 55 31.6**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=65,slow=7.8,SNR=16						
MKAR				LR	LR	14 18 36.7	
	comp=Z,35nm,18.5s,MS3.4,baz=265,slow=39						
MKAR	**Makanchi Array**	**48.31 298**	P	**P**	**13 55 31.6**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,35nm,18.5s						
KURK	**Kurchatov**	**48.56 304**	*e*P	**P**	**13 55 32.7**	**+0.2**
KURK	**Kurchatov**	**48.56 304**	*e*P	**P**	**13 55 33.2**	**+0.8**
	comp=Z,8.6nm,1.0s,mb4.7						
YKA	**Yellowknife Ar**	**49.14**	**38**	P	**P**	**13 55 37.0**	**+0.1**
	comp=Z,1.5nm,0.9s,mb4.0,baz=294,slow=7.2,SNR=10						
YKA	**Yellowknife Ar**	**49.14**	**38**	P	**P**	**13 55 37.0**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**49.14**	**38**	P	**P**	**13 55 37.0**	**+0.1**
CHKZ	**Chkalovo**	**51.42 311**	*e*P	**P**	**13 55 54.4**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.42 311**	*e*P	**P**	**13 55 54.4**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**51.87 310**	P	**P**	**13 55 58.9**	**+1.3**
	comp=Z,2.5nm,0.6s,mb4.3,baz=56,slow=7.4,SNR=22						
BVAR	**Borovoye Array**	**51.87 310**	P	**P**	**13 55 58.9**	**+1.3**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**55.23 297**	*e*P	**P**	**13 56 22.3**	**+0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
ARU	**Arti**	**55.76 318**	⇓*i*P	**P**	**13 56 26.1**	**+0.1**
ARU			*e*		13 58 29.1	
ARU			*e*S	**S**	**14 04 07.2**	**-5.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU	**Arti**	**55.76 318**	*e*P	**P**	**13 56 26.7**	**+0.7**
	comp=Z,9.2nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**60.35**	**64**	P	**P**	**13 56 59.0**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.9,baz=310,slow=6.9,SNR=6.7						
NVAR	**Mina Array Bea**	**60.35**	**64**	P	**P**	**13 56 59.0**	**+0.8**
PDAR	**Pinedale Array**	**62.72**	**56**	P	**P**	**13 57 14.3**	**+0.1**
	comp=Z,1.3nm,0.9s,mb4.1,baz=302,slow=2.8,SNR=7.3						
FINES	**FINESS Array B**	**64.17 336**	P	**P**	**13 57 24.1**	**+0.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=38,slow=7.2,SNR=5.8						
FINES				LR	LR	14 27 51.5	
	comp=Z,82nm,20.3s,MS3.9,baz=310,slow=38						
FINES	**FINESS Array B**	**64.17 336**	P	**P**	**13 57 24.1**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,82nm,20.3s						
NOA	**NORSAR Array B**	**68.12 342**	P	**P**	**13 57 49.2**	**0.0**
	comp=Z,3.6nm,1.1s,mb4.3,baz=26,slow=6.4,SNR=3.6						
NOA	**NORSAR Array B**	**68.12 342**	P	**P**	**13 57 49.2**	**0.0**
NOA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NOA	**NORSAR Array B**	**68.12 342**	P	**P**	**13 57 49.2**	**0.0**
WRA	**Warramunga Arr**	**69.90 202**	P	**P**	**13 57 57.5**	**-2.7**
	comp=Z,0.4nm,1.0s,mb3.3,baz=47,slow=8.4,SNR=3.2						
AKASG	**Malin Array Be**	**71.98 328**	P	**P**	**13 58 12.1**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=33,slow=6.6,SNR=4.1						
AKASG	**Malin Array Be**	**71.98 328**	P	**P**	**13 58 12.1**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**73.58 201**	P	**P**	**13 58 21.2**	**-1.1**
	comp=Z,0.8nm,0.9s,mb3.6,baz=17,slow=5.3,SNR=5.8						
ASAR	**Alice Springs**	**73.58 201**	P	**P**	**13 58 21.3**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**75.42**	**63**	P	**P**	**13 58 33.0**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.2,baz=304,slow=4.1,SNR=31						
TXAR	**Lajitas Array**	**75.42**	**63**	P	**P**	**13 58 33.1**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**79.15 318**	P	**P**	**13 58 54.4**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=146,slow=5.2,SNR=5.2						
BRTR	**Keskin Array B**	**79.15 318**	P	**P**	**13 58 54.4**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISK **05** 13:58:20.9, 3884N×2649E, h16km, MD2.9*
*ISCJB **05** 13:58:21.4±0.6, 3888N±002×2649E±005, h7km±5km, Error ellipse: s-maj=7.4km s-min=3.4km az=146.5*
*ATH **05** 13:58:21.5, 3882N×2631E, h7km, MD3.3/4*
*CSEM **05** 13:58:21.0±0.1, 3889N×2663E, h2km, MD2.9, Error ellipse: s-maj=4.5km s-min=1.6km az=54.0*
*NEIC **05** 13:58:21.5, 3882N×2631E, h7km, MD2.9(ISK), MD3.3(ATH), After ATH.*

ISC 05 13:58:21.9±0.5, 3887N±002×2648E±006, h14km±4km, n18, σ0°90/29, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.41**	**337**	⇓*i*PB	**Pg**	**13 58 29.9**	**-0.3**
PRK				*e*SB	**Sg**	**13 58 35.9**	**+0.2**
AYVA	**Ayvalik**	**0.47**	**20**	*i*P	**Pg**	**13 58 30.5**	**-0.7**
AYVA				*i*S	**Sg**	**13 58 37.4**	**-0.1**
URLA	**Izmir**	**0.51**	**170**	*i*P	**Pg**	**13 58 31.4**	**-0.7**
URLA				*i*S	**Sg**	**13 58 39.6**	**+0.6**
BLCB	**Balcova**	**0.65**	**137**	PG	**Pg**	**13 58 33.6**	**-1.1**
BLCB				SG	**Sg**	**13 58 42.8**	**-0.5**
IZM	**Izmir**	**0.77**	**127**	PG	**Pg**	**13 58 36.5**	**-0.5**
KDAG	**Bornova**	**0.77**	**127**	*i*P	**Pg**	**13 58 38.2**	**+1.3**
KDAG				*i*S	**Sg**	**13 58 48.1**	**+1.1**
EZN	**Ezine**	**0.96**	**353**	PG	**Pg**	**13 58 40.9**	**+0.4**
EZN				SG	**Sg**	**13 58 54.3**	**+1.1**
BOZC	**Bozcaada**	**1.03**	**341**	*i*P	**Pb**	**13 58 41.5**	**0.0**
BOZC				*i*S	**Sb**	**13 58 55.0**	**+0.1**
AKS	**Akhisar**	**1.04**	**89**	PN	**Pn**	**13 58 41.6**	**-0.5**
SMG	**Samos**	**1.19**	**166**	*e*PB	**Pn**	**13 58 42.2**	**-1.9**
SMG				*e*SB	**Sb**	**13 59 01.1**	**+1.6**
CANB	**Canakkale**	**1.23**	**21**	PN	**Pn**	**13 58 44.1**	**-0.6**
CANB				SN	**Sn**	**13 59 01.4**	**+0.2**
CANB	**Canakkale**	**1.23**	**21**	*i*P	**Pn**	**13 58 44.4**	**-0.4**
CANB				*i*S	**Sb**	**13 58 60.0**	**-0.8**
LIA	**Limnos Island**	**1.44**	**316**	*e*PB	**Pb**	**13 58 47.8**	**-0.7**
BTOK	**Tokmak**	**1.50**	**53**	*i*P	**Pn**	**13 58 47.2**	**-1.2**
BTOK				*i*S	**Sn**	**13 59 08.8**	**+1.0**
ENEZ	**Enez**	**1.88**	**352**	*e*PN	**Pn**	**13 58 53.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.90**	**16**	*e*PN	**Pn**	**13 58 54.7**	**+0.9**
MRMT	**Marmara Adasi**	**1.94**	**26**	*e*PN	**Pn**	**13 58 53.9**	**-0.5**
RDO	**Rodhopi**	**2.39**	**343**	*e*PN	**Pn**	**13 59 03.5**	**+2.9**

*IDC **05** 14:07:30.9±1.2, 1346N×12552E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML4.3/1, Error ellipse: s-maj=58.4km s-min=19.4km az=66.0*
*NEIC **05** 14:07:35.9±0.6, 1346N×12551E, h35km, mb4.5/2, Error ellipse: s-maj=22.0km s-min=10.8km az=62.0*
*ISCJB **05** 14:07:36.5±2.4, 133N±0.1×1249E±02, h50km±21km, mb3.9/8, Error ellipse: s-maj=39.4km s-min=9.0km az=127.1*
*MAN **05** 14:07:37.9, 1322N×12478E, h22km, mb2.9, ML4.3, MS2.4*

ISC 05 14:07:33.1±2.5, 1338N±005×1251E±01, h9km±13km, n18, σ0°87/20, mb3.9/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.97**	**207**	*e*P	**Pg**	**14 07 51.9**	**+0.1**
CNP				*e*S	**Sg**	**14 08 04.1**	**-0.2**
PLP	**Palo**	**2.21**	**183**	*e*P	**Pn**	**14 08 11.1**	**+1.3**
PLP				*e*S	**Sn**	**14 08 37.3**	**+0.1**
BOAC	**Boac**	**3.18**	**272**	*e*P	**Pn**	**14 08 21.3**	**-1.9**
MSLP	**Maasin**	**3.23**	**184**	*e*P	**Pn**	**14 08 31.5**	**+7.5**
POLP	**Polilio Island**	**3.36**	**294**	*e*P	**Pn**	**14 08 27.1**	**+1.5**
GUIM	**Jordan**	**3.68**	**222**	*e*P	**Pn**	**14 08 29.7**	**-0.4**
TGY	**Tagaytay City**	**4.12**	**281**	Pn	**Pn**	**14 08 41.7**	**+5.5**
	13nm,0.3s,baz=135,slow=17,SNR=2.4						
LUBP	**Lubang**	**4.74**	**275**	*e*P	**Pn**	**14 08 46.1**	**+1.4**
CAUP	**Cauayan**	**4.76**	**319**	*e*P	**Pn**	**14 08 43.6**	**-1.4**
WRA	**Warramunga Arr**	**34.34**	**164**	P	**P**	**14 14 20.1**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=342,slow=8.1,SNR=3.2						
SONM	**Songino Array**	**37.73**	**339**	P	**P**	**14 14 49.8**	**+0.7**
	0.6nm,0.5s,mb3.6,baz=160,slow=9.4,SNR=6.2						
ASAR	**Alice Springs**	**37.81**	**167**	P	**P**	**14 14 48.4**	**-1.4**
	0.3nm,0.5s,mb3.3,baz=340,slow=7.1,SNR=7.9						
MK31	**Makanchi Array**	**48.89**	**322**	*e*P	**P**	**14 16 19.3**	**+0.2**
MKAR	**Makanchi Array**	**48.89**	**322**	P	**P**	**14 16 19.2**	**+0.1**
	1.8nm,0.8s,mb4.1,baz=119,slow=8.5,SNR=7.1						
ZAL	**Zalesovo**	**51.38**	**331**	P	**P**	**14 16 37.8**	**-0.2**
	0.7nm,0.4s,mb4.0,baz=356,slow=13,SNR=3.4						
KURK	**Kurchatov**	**52.88**	**325**	*e*P	**P**	**14 16 49.1**	**-0.1**
	6.4nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**58.48**	**325**	P	**P**	**14 17 29.6**	**+0.1**
	0.7nm,0.4s,mb4.0,baz=124,slow=6.0,SNR=8.8						
BRVK	**Borovoye**	**58.55**	**325**	*e*P	**P**	**14 17 29.8**	**-0.2**
	2.0nm,0.7s,mb4.3						

*ISCJB **05** 14:07:52.7±0.5, 3923N±003×2239E±004, h3km±6km, Error ellipse: s-maj=5.2km s-min=3.8km az=70.7*
*NEIC **05** 14:07:53.8, 3922N×2239E, h7km, MD3.3(ATH), After ATH.*
*ATH **05** 14:07:53.8, 3922N×2239E, h7km, MD3.3/7*
*CSEM **05** 14:07:53.7±0.1, 3919N×2238E, h2km, ML2.7, Error ellipse: s-maj=2.2km s-min=1.7km az=161.0*
*THE **05** 14:07:54.4, 3918N×2244E, h9km, ML2.7*

ISC 05 14:07:53.4±0.4, 3920N±003×2241E±004, h12km±5km, n24, σ0°83/35, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.19**	**199**	*e*Pg	**Pg**	**14 07 57.3**	**-0.3**
AGG				*e*Sg	**Sg**	**14 08 01.6**	**+1.1**
AGG	**Agios Georgios**	**0.19**	**199**	*e*Pg	**Pg**	**14 07 57.3**	**-0.3**
AGG				*e*Sg	**Sg**	**14 08 01.5**	**+1.0**
THL	**Klokotos Trika**	**0.47**	**320**	⇑*i*PB	**Pg**	**14 08 02.8**	**+0.2**
EVR	**Evrytania**	**0.55**	**239**	⇑*i*PB	**Pg**	**14 08 03.5**	**-0.6**
EVR				*e*SB	**Sg**	**14 08 11.7**	**+0.4**
XOR	**Xorichti**	**0.63**	**75**	*e*Pg	**Pg**	**14 08 06.1**	**+0.5**
NEO	**Neokhori**	**0.64**	**81**	*e*PG	**Pg**	**14 08 06.2**	**+0.4**
NEO				*e*SB	**Sb**	**14 08 16.4**	**+1.0**
LKR	**Lokris**	**0.72**	**140**	*e*PB	**Pb**	**14 08 06.7**	**-1.1**
LKR				*e*SB	**Sb**	**14 08 18.6**	**+1.0**
LIT	**Litokhoron**	**0.90**	**4**	*e*Pg	**Pg**	**14 08 11.7**	**+1.0**
LIT				*e*Sg	**Sg**	**14 08 25.8**	**+3.4**
LIT	**Litokhoron**	**0.90**	**4**	*e*Pg	**Pg**	**14 08 11.6**	**+0.9**
MEV	**Metsovon**	**1.08**	**303**	*e*Pg	**Pg**	**14 08 13.9**	**-0.3**
AOS	**Alonnisos**	**1.14**	**91**	*e*Pg	**Pg**	**14 08 15.1**	**-0.2**
PAIG	**Paliouri**	**1.22**	**53**	*e*Pg	**Pg**	**14 08 16.3**	**-0.5**
PLG	**Polygyros**	**1.42**	**34**	*e*Pg	**Pg**	**14 08 19.1**	**-1.4**
PLG				*e*Sg	**Sg**	**14 08 39.5**	**+0.5**
PLG	**Polygyros**	**1.42**	**34**	*e*Pb	**Pn**	**14 08 18.0**	**-0.9**
PLG	**Polygyros**	**1.42**	**34**	*e*Pg	**Pn**	**14 08 19.1**	**+0.2**
PLG				*e*Sg	**Sg**	**14 08 39.5**	**+0.6**
LKD	**Levkas**	**1.46**	**251**	*e*Pg	**Pg**	**14 08 20.4**	**-1.0**
LKD				*e*Sg	**Sg**	**14 08 40.8**	**+0.5**
THE	**Thessaloniki**	**1.49**	**17**	*e*Pg	**Pg**	**14 08 20.9**	**-1.1**
HORT	**Hortiatis**	**1.49**	**21**	*e*Pg	**Pb**	**14 08 20.5**	**-0.4**
OUR	**Ouranopolis**	**1.66**	**47**	*e*Pb	**Pb**	**14 08 22.9**	**-0.9**
GRG	**Griva**	**1.75**	**360**	*e*Pb	**Pb**	**14 08 24.9**	**-0.5**
VLS	**Valsamata**	**1.75**	**235**	*e*PN	**Pg**	**14 08 28.0**	**+1.0**
SOH	**Sokhos**	**1.77**	**24**	*e*Pb	**Pb**	**14 08 25.1**	**-0.6**
SOH				*e*Sb	**Sb**	**14 08 48.0**	**+0.1**
KNT	**Kendrikon**	**1.99**	**11**	*e*Pn	**Pn**	**14 08 27.2**	**+0.4**
KNT				*e*Sn	**Sn**	**14 08 53.2**	**+1.5**
VLI	**Veliai**	**2.52**	**170**	*e*PN	**Pb**	**14 08 37.5**	**-1.0**

IDC 05 14:08:51.3±2.9, 888S×10861E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=126.0km s-min=28.5km az=46.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.20**	**117**	P	P	14 14 37.0	+0.4
	0.5nm,0.4s,baz=287,slow=12,SNR=6.3						
SONM	**Songino Array**	**56.50**	**358**	P	P	14 18 35.6	+0.5
	0.6nm,0.6s,baz=179,slow=8.9,SNR=4.9						
MKAR	**Makanchi Array**	**60.19**	**339**	P	P	14 19 00.8	-0.2
	1.1nm,0.5s,baz=141,slow=7.6,SNR=10						
BVAR	**Borovoye Array**	**69.71**	**337**	P	P	14 20 02.9	0.0
	1.2nm,0.6s,baz=150,slow=8.0,SNR=10						

*IDC **05** 14:13:29.3±1.2, 4652N×15502E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, MS3.7/2, Ms1 3.7/2, ms1mx2.7/41, Error ellipse: s-maj=34.2km s-min=30.2km az=107.0*
*NEIC **05** 14:13:30.9±0.8, 4655N×15498E, h10km, mb4.2/1, Error ellipse: s-maj=23.1km s-min=21.1km az=180.0*
*MOS **05** 14:13:33.8±0.6, 4657N×15506E, h49km, mb4.2/5, Error ellipse: s-maj=61.7km s-min=22.2km az=91.9*
*ISCJB **05** 14:13:36.1±3.2, 467N±02×155.1E±02, h62km±26km, mb3.8/8, Error ellipse: s-maj=32.5km s-min=24.2km az=122.3*

ISC 05 14:13:38.5±2.7, 468N±02×1551E±02, h66km±23km, n19, σ1°09/17, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.98**	**9**	*e*PN	**Pn**	**14 14 36.6**	**-0.4**
KSRS	**Korea Array**	**22.13**	**255**	P	**P**	**14 18 30.2**	**+1.8**
	1.6nm,0.8s,mb3.4,baz=60,slow=11,SNR=6.1						
KDAK	**Kodiak Island**	**33.02**	**51**	LR	LR	14 34 16.0	
	comp=Z,67nm,18.1s,baz=280,slow=38						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**14 22 26.3**	**-0.3**
	0.5nm,0.7s,mb3.5,baz=297,slow=7.1,SNR=5.4						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**14 22 26.3**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**14 22 26.3**	**-0.3**
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P	**P**	**14 22 35.9**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P	**P**	**14 22 35.9**	**-1.3**
	comp=Z,1.9nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**14 22 40.0**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=54,slow=7.1,SNR=6.5						
BVAR	**Borovoye Array**	**51.92**	**310**	P	**P**	**14 22 40.0**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.29**	**341**	P	**P**	**14 23 26.6**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.3,baz=7.6,slow=7.5,SNR=3.0						
ARCES	**ARCESS Array B**	**58.29**	**341**	P	**P**	**14 23 26.6**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**61.20**	**63**	P	**P**	**14 23 47.8**	**+1.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=280,slow=7.0,SNR=3.6						
NVAR	**Mina Array Bea**	**61.20**	**63**	P	**P**	**14 23 47.8**	**+1.5**
FINES	**FINESS Array B**	**64.61**	**336**	P	**P**	**14 24 09.6**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.8,baz=45,slow=7.0,SNR=7.4						
FINES	**FINESS Array B**	**64.61**	**336**	P	**P**	**14 24 09.6**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**64.61**	**336**	P	**P**	**14 24 09.6**	**+0.6**
CTA	**Charters Tower**	**67.01**	**189**	LR	LR	14 49 09.5	
	comp=Z,94nm,20.2s,baz=228,slow=32						
ASAR	**Alice Springs**	**72.68**	**200**	P	**P**	**14 24 57.3**	**-1.8**
	comp=Z,0.4nm,0.7s,mb3.4,baz=14,slow=5.0,SNR=6.3						

MOS 05 14:36:55.2±1.3, 4332N×4439E, h15km, mb3.9/1, 6C-4D, Error ellipse: s-maj=14.3km s-min=9.4km az=95.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**0.15**	**212**	⇓*i*PG	Pg	14 36 59.5	+0.4
ARNR				*i* S	Sg	14 37 03.2	+1.5
KORR	**Kora**	**0.33**	**225**	⇑*i*PG	Pg	14 37 02.9	+0.9
KORR				*i* S	Sg	14 37 08.2	+1.7
VLKR	**Vladikavkaz**	**0.34**	**142**	⇑*i*PG	Pg	14 37 04.5	+2.2
VLKR				*e*S	Sg	14 37 11.2	+4.2
SNJR	**Sundja**	**0.40**	**128**	⇑*i*PG	Pg	14 37 05.5	+2.3
SNJR				*e*S	Sg	14 37 13.0	+4.3
PRTR	**Priterechnaya**	**0.44**	**350**	⇑*i*PG	Pg	14 37 02.9	-1.1
LACR	**Lac**	**0.49**	**188**	⇑*i*PG	Pg	14 37 06.2	+1.2
LACR				*i* S	Sg	14 37 14.8	+3.1
ZEI	**Tsey**	**0.65**	**213**	*e*PG	Pg	14 37 08.1	+0.1
ZEI				*e*		14 37 18.0	
DIGR	**Digorskoe uzhe**	**0.72**	**235**	⇓*i*PG	Pg	14 37 10.0	+0.7
DIGR				*i* S	Sg	14 37 19.4	+0.6
KUBR	**Kubataba**	**0.86**	**305**	⇑*i*PG	Pg	14 37 13.5	+1.6
KUBR				*e*S	Sb	14 37 26.2	+3.1
BEYR	**Belyy Ugol+**	**1.33**	**302**	⇓*i*PG	Pg	14 37 20.3	-0.6
BEYR				*i* S	Sn	14 37 38.0	+1.2
KIV	**Kislovodsk**	**1.39**	**298**	⇓*i*PG	Pg	14 37 20.9	-1.0
KIV				*i* S	Sn	14 37 39.9	+1.8

*ISCJB **05** 14:50:31.5±0.8, 133N±0.1×8974W±008, h73km±9km, mb3.8/4, Error ellipse: s-maj=20.6km s-min=7.0km az=

couple: $M_0$1.48000×10^{15} NP1:ϕ_s257.00000°,δ88.00000°, λ,97.00000°. NP2:ϕ_s1.00000°,δ7.00000°,λ,14.00000°.

IDC 05 15:24:51.4±7.1,4609N×15281E,h74^{km}±73^{km},mb3.3/4, mb1 3.6/5,mb1mx3.3/23,mbtmp3.4/5,ML3.4/1,MS3.0/2, Ms1 3.0/2,ms1mx2.6/41,Error ellipse: s-maj=82.0km s-min=41.5km az=179.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.49**	**258**	P	Pn	15 26 37.9	0.0
	0.6nm,0.3s,baz=69,slow=18,SNR=2.8						
ASAJ				LR	LR	15 29 25.7	
	comp=Z,132nm,19.1s,baz=60,slow=37						
KSRS	**Korea Array**	**20.41**	**254**	P	P	15 29 22.4	+0.1
	1.3nm,0.8s,baz=52,slow=11,SNR=4.5						
KSRS				LR	LR	15 36 44.4	
	comp=Z,27nm,18.2s,baz=55,slow=35						
MKAR	**Makanchi Array**	**47.06**	**298**	P	P	15 33 15.6	0.0
	0.4nm,0.7s,baz=72,slow=9.3,SNR=3.7						
NOA	**NORSAR Array B**	**68.79**	**341**	P	P	15 35 47.0	-0.6
	1.1nm,1.0s,baz=28,slow=6.0,SNR=2.5						
TXAR	**Lajitas Array**	**78.00**	**60**	P	P	15 36 42.0	+0.3
	0.2nm,0.6s,baz=308,slow=3.0,SNR=3.7						

*IDC **05** 15:29:22.2±2.6,2685N×5639E,h0^{km},mb3.5/3,mb1 3.5/3, mb1mx3.3/23,mbtmp3.5/3,MS3.0/1,Ms1 3.0/1, ms1mx2.5/29,Error ellipse: s-maj=78.1km s-min=32.8km az=164.0*

*ISCJB **05** 15:29:24.7±1.7,2746N±004×564E±0.1,h0^{km}±13^{km}, mb3.5/3,MS2.9/1,Error ellipse: s-maj=16.7km s-min=7.0km az=17.9*

*CSEM **05** 15:29:26.0,2738N×5620E,h14^{km},ML3.8,After THR*

*THR **05** 15:29:26.0±0.6,2738N×5620E,h14^{km}±3^{km},ML3.8*

ISC 05 15:29:26.0±1.3,2741N±004×5633E±010,h1^{km}±10^{km},n12, σ0°88/14,mb3.5/3,MS2.9/1,2C-2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.14**	**266**	*e*Pg	**Pg**	**15 29 28.7**	**0.0**
BNDS				AML	AML	15 29 30.9	
	comp=N,57μm,0.2s						
BANOM	**Banah**	**1.48**	**181**	⇑P	**Pn**	**15 29 53.7**	**-0.1**
	SNR=116						
BANOM				⇓S	**Sg**	**15 30 13.7**	**+0.1**
KRBR	**Kerman**	**2.59**	**8**	*e*Pn	**Pn**	**15 30 10.7**	**+1.6**
KRBR				*e*Sg	**Sg**	**15 30 48.7**	**-0.6**
KRBR				AML	AML	15 30 50.5	
	comp=N,269nm,0.8s						
KRBR				AML	AML	15 30 51.0	
	comp=E,293nm,1.0s						
KRBR	**Kerman**	**2.59**	**8**	*e*Pn	**Pn**	**15 30 10.7**	**+1.6**
	SNR=52						
KRBR				*e*Sg	**Sg**	**15 30 48.7**	**-0.6**
	comp=E,293nm,1.0s,SNR=90						
ASHO	**Ashiyiah**	**2.72**	**185**	⇓P	**Pn**	**15 30 11.6**	**+0.7**
	SNR=6.3						
GHIR	**Ghir-Karzin**	**3.08**	**287**	*e*Pn	**Pn**	**15 30 15.2**	**-0.7**
NASN	**Na'in**	**6.18**	**331**	*e*Pn	**Pn**	**15 30 58.9**	**+0.6**
WHFO	**Wadi Hawf**	**9.73**	**195**	⇑P	**Pn**	**15 31 46.7**	**-0.5**
	SNR=7.8						
BRTR	**Keskin Array B**	**22.47**	**309**	P	**P**	**15 34 27.4**	**+0.8**
	comp=E,1.3nm,1.0s,mb3.3,baz=116,slow=13,SNR=3.8						
IDI	**Anoyia**	**27.89**	**294**	LR	LR	15 50 36.7	
	comp=E,28nm,18.7s,MS2.9,baz=154,slow=45						
SONM	**Songino Array**	**43.71**	**48**	P	**P**	**15 37 31.7**	**-1.0**
	comp=E,0.7nm,0.9s,mb3.4,baz=274,slow=8.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**52.79**	**266**	P	**P**	**15 38 39.5**	**-3.3**
	comp=E,0.8nm,0.5s,mb3.9,baz=62,slow=7.6,SNR=8.1						

IDC 05 15:47:41.7±2.6,966S×11824E,h0^{km},mb3.5/3,mb1 3.7/5, mb1mx3.6/18,mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=158.8km s-min=21.9km az=54.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.05**	**140**	Pn	Pn	15 50 20.1	-0.9
	0.3nm,0.3s,baz=15,slow=14,SNR=15						
FITZ				Sn	Sn	15 52 17.2	-8.0
	0.4nm,0.3s,baz=186,slow=19,SNR=6.5						
WRA	**Warramunga Arr**	**18.61**	**125**	P	Pn	15 51 59.6	-1.2
	0.1nm,0.3s,baz=299,slow=14,SNR=8.9						
WRA				S	Sn	15 55 15.6	-14
	0.1nm,0.3s,baz=289,slow=25,SNR=4.0						
ASAR	**Alice Springs**	**20.45**	**135**	P	P	15 52 22.4	+1.7
	0.8nm,0.4s,baz=314,slow=10,SNR=11						
SONM	**Songino Array**	**58.19**	**351**	P	P	15 57 37.9	+0.4
	0.5nm,0.7s,baz=171,slow=7.7,SNR=5.1						
MKAR	**Makanchi Array**	**64.70**	**334**	P	P	15 58 21.4	-0.1
	0.6nm,0.7s,baz=160,slow=6.7,SNR=6.5						

*ISCJB **05** 15:58:23.3±1.4,177S±05×178.1W±04,h590^{km}±40^{km}, mb4.1/7,Error ellipse: s-maj=83.8km s-min=34.8km az=121.2*

*IDC **05** 15:58:23.6±2.0,1760S×17824W,h550^{km}±57^{km},mb3.5/6, mb1 3.5/8,mb1mx3.3/19,mbtmp3.5/8,Error ellipse: s-maj=64.5km s-min=47.0km az=141.0*

*NEIC **05** 15:58:23.9±1.0,1774S×17826W,h555^{km}±23^{km},mb4.0/2, Error ellipse: s-maj=58.0km s-min=21.2km az=153.0*

ISC 05 15:58:23.9±1.4,178S±05×1782W±03,h552^{km}±31^{km},n15, σ0°53/15,mb4.1/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.28**	**59**	P	**P**	**16 00 13.8**	**-0.7**
	baz=218,slow=20						
AFI	**Afiamalu**	**7.28**	**59**	*e*P	**P**	**16 00 15.2**	**+0.6**
DZM	**Mont Dzumac**	**15.05**	**251**	P	**P**	**16 01 33.7**	**0.0**
	0.2nm,0.3s,baz=101,slow=17,SNR=3.2						
CTA	**Charters Tower**	**33.66**	**260**	P	**P**	**16 04 18.3**	**-0.9**
	3.8nm,0.8s,mb4.0,baz=100,slow=12,SNR=3.3						
CTA	**Charters Tower**	**33.66**	**260**	P	**P**	**16 04 18.3**	**-0.9**
CTAO	**Charters Tower**	**33.66**	**260**	*e*P	**P**	**16 04 19.1**	**-0.1**
	2.8nm,0.6s,mb4.0						
PMG	**Port Moresby**	**34.62**	**279**	P	**P**	**16 04 27.9**	**+0.6**
	6.8nm,0.8s,mb4.2,baz=110,slow=7.0,SNR=3.5						
PMG	**Port Moresby**	**34.62**	**279**	*e*P	**P**	**16 04 28.1**	**+0.8**
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**16 05 02.7**	**+0.6**
	4.6nm,0.5s,mb4.3,baz=102,slow=9.7,SNR=17						
STKA	**Stephens Creek**	**38.86**	**241**	*e*P	**P**	**16 05 02.9**	**+0.9**
WB2	**Warramunga Arr**	**44.83**	**259**	*e*P	**P**	**16 05 48.5**	**-0.5**
WRAB	**Tennant Creek**	**44.83**	**259**	*e*P	**P**	**16 05 48.6**	**-0.4**
	2.3nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**44.84**	**259**	P	**P**	**16 05 48.8**	**-0.3**
	1.9nm,0.5s,mb3.9,baz=92,slow=6.9,SNR=41						
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**16 05 50.4**	**0.0**
	23nm,0.5s,mb4.9,baz=85,slow=7.8,SNR=294						
FITZ	**Fitzroy Crossi**	**53.24**	**260**	P	**P**	**16 06 51.5**	**+0.4**
	1.1nm,0.6s,mb3.4,baz=121,slow=12,SNR=8.5						

*IDC **05** 15:58:49.0±0.5,1157N×8625W,h0^{km},mb4.5/19, mb1 4.7/20,mb1mx4.6/25,mbtmp4.6/20,MS5.1/21, Ms1 5.1/21,ms1mx4.9/28,Error ellipse: s-maj=21.6km s-min=10.5km az=58.0*

*CASC **05** 15:58:51.9±2.4,1105N×8679W,h20^{km}±8^{km},MD4.5, ML5.2,mb5.0(NEIC)*

*MOS **05** 15:58:53.3±1.1,1145N×8652W,h33^{km},mb5.1/21, MS4.9/14,Error ellipse: s-maj=14.8km s-min=5.7km az=114.7*

*NEIC **05** 15:58:54.4±0.3,1140N×8641W,h35^{km},mb5.0/57, MS4.9/14,Error ellipse: s-maj=8.8km s-min=4.6km az=224.0*

NEIC Felt [III] at Managua. Felt at Jinotepe and San Marcos. Also felt at Golfito, Costa Rica.

*BJI **05** 15:58:54.4,1140N×8640W,h35^{km},mB5.3,Ms5.5,Msz5.2*

*GCMT **05** 15:58:54.4±0.1,1092N×8685W,h33^{km},MW5.5/94, Moment Tensor Solution. s94,c179; s90,c168; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.86±.03; $M_{\theta\theta}$-1.40±.03; $M_{\phi\phi}$-0.46±.03; $M_{r\theta}$1.09±.03; $M_{\theta\phi}$1.15±.02; $M_{\phi r}$-0.90±.04; Best double couple: $M_0$2.46300×10^{17} NP1:ϕ_s128.00000°,δ63.00000°, λ,94.00000°. NP2:ϕ_s299.00000°,δ28.00000°,λ,83.00000°. Principal axes: T 2.3110, Plg72.0000°, Azm46.0000°; N 0.3040, Plg3.0000°, Azm306.0000°; P -2.6150, Plg17.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **05** 15:58:56.7±0.4,1141N±004×8635W±004,h73^{km}±3^{km}, mb4.8/67 Error ellipse: s-maj=8.2km s-min=4.2km az=90.4*

ISC 05 15:58:57.8±0.4,1142N±004×8634W±004,h65^{km}±3^{km}, n391,σ0°89/337,mb4.8/67,82C-64D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.50**	**105**	*e*P	**Pn**	**15 59 08.5**	**-1.6**
APON	**Apoyo**	**0.56**	**28**	*e*P	**Pn**	**15 59 11.9**	**+1.2**
MASN	**Masaya**	**0.59**	**18**	*e*P	**Pn**	**15 59 11.8**	**+0.7**
TICN	**Ticuantepe**	**0.62**	**10**	*e*P	**Pn**	**15 59 12.2**	**+0.9**
CONN	**Concepcion**	**0.71**	**78**	*e*P	**Pn**	**15 59 13.1**	**+0.6**
XAVN	**Gruta Xavier**	**0.72**	**1**	*e*P	**Pn**	**15 59 13.2**	**+0.6**
MGAN	**Managua**	**0.73**	**7**	*e*P	**Pn**	**15 59 13.6**	**+1.0**
MGAN				*e*S	**Sn**	**15 59 30.3**	**+6.8**
MGAN				*i*		15 59 32.3	
	comp=Z,70μm,0.6s						
MADN	**Villa Maderas**	**0.79**	**91**	*e*P	**Pn**	**15 59 13.9**	**+0.5**
MOMJ	**Momotombo**	**1.00**	**349**	*e*P	**Pn**	**15 59 15.8**	**-0.2**
TELN	**Telica**	**1.27**	**338**	*e*P	**Pn**	**15 59 19.5**	**0.0**
VCR	**Vista de Mar**	**1.46**	**152**	*e*P	**Pn**	**15 59 15.1**	**-7.0**
JTS	**JuntasAbangare**	**1.77**	**129**	Pn	**Pn**	**15 59 21.8**	**-4.3**
JTS				LR	LR	16 00 16.0	
	comp=Z,29μm,19.1s,baz=94,slow=48						
JTS	**JuntasAbangare**	**1.77**	**129**	*c i*P	**Pn**	**15 59 23.1**	**-3.0**
JTS	**JuntasAbangare**	**1.77**	**129**	*e*Pn	**Pn**	**15 59 21.8**	**-4.3**
JCR	**Jicaral**	**1.97**	**142**	⇑*e*P	**Pn**	**15 59 24.2**	**-4.7**
CGA2	**Cerro Gallo 2**	**2.31**	**127**	*e*P	**Pn**	**15 59 32.1**	**-1.4**
PRS1	**Puriscal**	**2.45**	**125**	*e*P	**Pn**	**15 59 34.4**	**-1.0**
LAJ	**Bijagual**	**2.67**	**125**	*e*P	**Pn**	**15 59 32.8**	**-5.6**
SJS	**Escuela Geolog**	**2.69**	**123**	*e*P	**Pn**	**15 59 39.1**	**+0.5**
BLLM	**Bellamira**	**2.73**	**317**	*e*P	x	15 59 38.8	
BLLM				*e*S	x	16 00 12.7	
VSM	**San Miguel**	**2.75**	**317**	*e*P	x	15 59 40.4	
VSM				*e*S	x	16 00 14.3	
TGUH	**Tegucigalpa,Un**	**2.77**	**341**	⇑*e*Pn	**Pn**	**15 59 39.3**	**-0.5**
LCR2	**La Lucha 2**	**2.84**	**126**	*e*P	**Pn**	**15 59 39.8**	**-0.9**
SNVI	**San Vicente**	**3.27**	**312**	*e*P	x	15 59 45.4	
SNVI				*e*S	x	16 00 24.6	
LBRS	**Las Brisas**	**3.50**	**311**	*e*P	x	15 59 48.9	
LBRS				*e*S	x	16 00 31.8	
SBLS	**San Blas**	**4.01**	**307**	*e*P	x	15 59 56.2	
SBLS				*e*S	x	16 00 41.7	
BCIP	**Isla Barro Col**	**6.78**	**109**	*e*Pn	**Pn**	**16 00 34.7**	**+0.1**
TEIG	**Tepich**	**8.95**	**348**	Pn	**Pn**	**16 01 03.2**	**-1.1**
TEIG				LR	LR	16 05 12.5	
	comp=Z,21μm,18.4s,baz=54,slow=43						
CMIG	**Matias Romero**	**10.02**	**305**	Pn	**Pn**	**16 01 15.3**	**-3.5**
	comp=Z,16nm,0.3s,baz=114,slow=15,SNR=71						
STH	**Stony Hill**	**11.34**	**53**	⇑*e*P	**Pn**	**16 01 44.4**	**+7.5**
VHO	**Vista Hermosa**	**11.53**	**300**	*e*P	**Pn**	**16 01 37.3**	**-2.2**
SOR	**Soroa**	**11.74**	**15**	*e*P	**Pn**	**16 01 49.2**	**+6.8**
MGV	**Manicaragua**	**12.24**	**29**	*e*P	**Pn**	**16 01 44.9**	**-4.3**
LMGC	**Las Mercedes**	**12.43**	**45**	*e*P	**Pn**	**16 01 58.6**	**+6.9**
CCCC	**Cccc**	**12.73**	**39**	*e*P	**Pn**	**16 02 01.6**	**+5.7**
RCC	**Rio Carpintero**	**13.32**	**49**	*e*P	**Pn**	**16 02 07.1**	**+3.2**
RCC				*e*			
	comp=E,5.7nm,20.4s						
ROSC	**El Rosal**	**13.55**	**118**	Pn	**Pn**	**16 02 16.5**	**+10**
	comp=E,2.2nm,0.3s,baz=100,slow=22,SNR=12						
ROSC				LR	LR	16 07 14.2	
	comp=E,6μm,18.2s,baz=334,slow=37						
ROSC	**El Rosal**	**13.55**	**118**	P	**Pn**	**16 02 07.3**	**+0.3**
ROSC				LR	LR	16 07 14.2	
OTAV	**Otavalo**	**13.60**	**144**	*e*P	**Pn**	**16 02 08.1**	**+0.5**
	comp=E,36nm,1.0s						
IIO	**Organos**	**14.43**	**306**	*i* P	**Pn**	**16 02 17.2**	**-1.3**
PLIG	**Platanillo**	**14.48**	**300**	*i* P	**Pn**	**16 02 17.6**	**-1.6**
CAIG	**El Cayaco**	**14.61**	**294**	*e*P	**Pn**	**16 02 19.9**	**-1.0**
SDV	**Santo Domingo**	**15.66**	**98**	Pn	**Pn**	**16 02 36.4**	**+1.9**
	comp=E,1.7nm,0.3s,baz=286,slow=5.0,SNR=19						
SDV	**Santo Domingo**	**15.66**	**98**	*e*P	**Pn**	**16 02 35.1**	**+0.7**
	comp=E,96nm,1.0s						
MOIG	**Morelia**	**16.48**	**302**	*e*P	**Pn**	**16 02 44.8**	**0.0**
BRAL	**Brewton**	**19.50**	**358**	*e*P	**Pn**	**16 03 22.1**	**+0.7**
	comp=E,1μm,1.9s						
ATAH	**Atahualpa**	**19.93**	**156**	P	**Pn**	**16 03 25.4**	**-1.1**
	comp=E,7.0nm,0.5s,baz=341,slow=3.7,SNR=6.5						
ATAH				LR	LR	16 10 17.2	
	comp=E,11μm,19.0s,baz=335,slow=34						
HKT	**Hockley**	**20.44**	**336**	*e*P	**P**	**16 03 29.6**	**-0.2**
HKT				pmax	pmax		
	comp=Z,99nm,1.0s						
HKT	**Hockley**	**20.44**	**336**	*e*P	**P**	**16 03 29.6**	**-0.2**
	comp=Z,99nm,1.0s						
CPD	**Cerro la Pandu**	**20.81**	**69**	*e*P	**P**	**16 03 38.0**	**+4.3**
MTP	**Monte Pirata**	**21.16**	**69**	*e*P	**P**	**16 03 38.6**	**+1.1**
PCRV	**Puerto La Cruz**	**21.35**	**91**	P	**P**	**16 03 39.7**	**+0.1**
	comp=Z,13nm,0.5s,mb4.5,baz=255,slow=6.3,SNR=6.0						
LRAL	**Lakeview Retre**	**21.52**	**358**	*e*P	**P**	**16 03 43.4**	**+2.0**
	comp=Z,428nm,1.8s,mb5.5						
NHSC	**New Hope**	**22.31**	**14**	*e*P	**P**	**16 03 53.2**	**+3.4**
	comp=Z,276nm,1.3s,mb5.4						
JCT	**Junction City**	**22.71**	**329**	*e*P	**P**	**16 03 52.7**	**-1.3**
JCT				pmax	pmax		
	comp=Z,28nm,0.7s,mb4.7						
JCT	**Junction City**	**22.71**	**329**	*e*P	**P**	**16 03 52.6**	**-1.4**
	comp=Z,28nm,0.7s,mb4.7						
OXF	**Oxford**	**23.16**	**354**	*e*P	**P**	**16 03 58.3**	**-0.3**
OXF				pmax	pmax		
	comp=Z,85nm,0.8s,mb5.1						
OXF	**Oxford**	**23.16**	**354**	*e*P	**P**	**16 03 58.3**	**-0.3**
	comp=Z,85nm,0.8s,mb5.1						
JSC	**Jenkinsville**	**23.22**	**11**	*e*P	**P**	**16 04 00.8**	**+1.5**
UALR	**University of**	**23.88**	**348**	*e*P	**P**	**16 04 04.5**	**-0.8**
	comp=Z,49nm,0.6s,mb5.0						
MIAR	**Mount Ida**	**23.95**	**345**	*e*P	**P**	**16 04 04.6**	**-1.3**
MIAR				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.0						
MIAR				MLR	MLR		
	comp=Z,5μm,22.0s						
MIAR	**Mount Ida**	**23.95**	**345**	*e*P	**P**	**16 04 04.6**	**-1.2**
	comp=Z,44nm,0.6s,mb5.0						
MIAR				LR	LR		
	comp=Z,5μm,22.0s						
LTX	**Lajitas**	**24.05**	**320**	*e*P	**P**	**16 04 05.9**	**-1.0**
LTX				pmax	pmax		
	comp=Z,39nm,0.7s,mb4.8						
LTX	**Lajitas**	**24.05**	**320**	*e*P	**P**	**16 04 05.9**	**-1.0**
	comp=Z,39nm,0.7s,mb4.8						
TXAR	**Lajitas Array**	**24.05**	**320**	P	**P**	**16 04 05.7**	**-1.2**
	comp=Z,19nm,0.7s,mb4.6,baz=138,slow=9.0,SNR=144						
TXAR				PcP	PcP	16 07 47.7	+0.8
	comp=Z,5.4nm,1.1s,baz=131,slow=5.3,SNR=4.2						
TXAR				ScP	ScP	16 11 28.5	+8.8
	comp=Z,2.3nm,0.9s,baz=123,slow=4.4,SNR=11						
TXAR	**Lajitas Array**	**24.05**	**320**	P	**P**	**16 04 05.7**	**-1.2**
TXAR						16 07 47.7	
TKL	**Tuckaleechee C**	**24.24**	**5**	P	**P**	**16 04 08.1**	**-0.4**
	comp=Z,4.2nm,0.4s,mb4.1,baz=106,slow=22,SNR=2.9						
TKL				LR	LR	16 13 43.4	
	comp=Z,4μm,21.4s,baz=203,slow=37						
WVT	**Waverly**	**24.64**	**357**	*e*P	**P**	**16 04 12.3**	**+0.1**
WVT				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
WVT				MLR	MLR		
	comp=Z,3μm,21.0s						
WVT	**Waverly**	**24.64**	**357**	*e*P	**P**	**16 04 12.3**	**+0.1**
	comp=Z,11nm,0.6s,mb4.5						
WVT				LR	LR		
	comp=Z,3μm,21.0s						
NNA	**Nana**	**25.09**	**158**	P	**P**	**16 04 16.8**	**+0.5**
	comp=Z,6.5nm,0.8s,mb4.1,baz=227,slow=17,SNR=2.2						
NNA				LR	LR	16 13 05.0	
	comp=Z,3μm,19.5s,baz=221,slow=34						
NNA	**Nana**	**25.09**	**158**	P	**P**	**16 04 16.4**	**+0.1**
	comp=Z,47nm,1.2s,mb4.8						
TZTN	**Tazewell**	**25.14**	**5**	*e*P	**P**	**16 04 18.6**	**+1.9**
	comp=Z,139nm,1.6s,mb5.1						
WMOK	**Wichita Mounta**	**25.83**	**336**	*e*P	**P**	**16 04 22.7**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,243nm,1.2s,mb5.5						
WMOK				MLR	MLR		
	comp=Z,2μm,21.0s						
WMOK	**Wichita Mounta**	**25.83**	**336**	*e*P	**P**	**16 04 22.7**	**-0.2**
	comp=Z,243nm,1.2s,mb5.5						
WMOK				LR	LR		
	comp=Z,2μm,21.0s						
LPIG	**La Paz**	**26.02**	**302**	LR	LR	16 15 42.4	
	comp=Z,2μm,18.8s,baz=122,slow=39						
ELN	**Prospectdale**	**26.18**	**10**	*e*P	**P**	**16 04 27.3**	**+1.2**
BLA	**Blacksburg**	**26.22**	**11**	*e*P	**P**	**16 04 27.7**	**+1.2**
SIUC	**Southern Illin**	**26.31**	**355**	*e*P	**P**	**16 04 27.0**	**-0.3**
	comp=Z,36nm,0.7s,mb4.9						
USIN	**University of**	**26.46**	**358**	P	**P**	**16 04 28.3**	**-0.4**
WCI	**Wyandotte Cave**	**26.69**	**0**	*e*P	**P**	**16 04 31.4**	**+0.6**
WCI				pmax	pmax		
	comp=Z,112nm,1.4s,mb5.2						
WCI				MLR	MLR		
	comp=Z,2μm,19.0s						
WCI	**Wyandotte Cave**	**26.69**	**0**	*e*P	**P**	**16 04 31.4**	**+0.6**
	comp=Z,112nm,1.4s,mb5.2						
WCI				LR	LR		
	comp=Z,2μm,19.0s						
MNTX	**Cornudas Mount**	**26.76**	**322**	*e*P	**P**	**16 04 30.1**	**-1.3**
	comp=Z,28nm,1.1s,mb4.7						
MNTX				LR	LR		
	comp=Z,1μm,19.0s						
AMTX	**Amarillo**	**27.21**	**332**	*e*P	**P**	**16 04 35.0**	**-0.4**
	comp=Z,140nm,1.2s,mb5.4						
KSU1	**Kansas State U**	**29.04**	**343**	*e*P	**P**	**16 04 52.1**	**+0.4**
	comp=Z,33nm,0.8s,mb5.0						
BNM	**Barren Site**	**29.24**	**324**	*e*P	**P**	**16 04 53.8**	**+0.3**
LPM	**Los Pinos Moun**	**29.36**	**324**	*e*P	**P**	**16 04 55.2**	**+0.7**
LENM	**Lemitar**	**29.45**	**324**	*e*P	**P**	**16 04 58.5**	**+3.1**
ANMO	**Albuquerque**	**29.72**	**325**	P	**P**	**16 04 58.3**	**+0.6**
	comp=Z,5.8nm,0.7s,mb4.3,baz=143,slow=8.4,SNR=9.5						
ANMO				LR	LR	16 20 52.9	
	comp=Z,2μm,18.7s,baz=252,slow=45						
ANMO	**Albuquerque**	**29.72**	**325**	*e*P	**P**	**16 04 58.1**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,14nm,0.9s						
ANMO				MLR	MLR		
	comp=Z,1μm,19.0s						
ANMO	**Albuquerque**	**29.72**	**325**	*e*P	**P**	**16 04 58.1**	**+0.3**
	comp=Z,14nm,0.9s,mb4.6						
ANMO				LR	LR		
	comp=Z,1μm,19.0s						
MVL	**Millersville**	**29.80**	**16**	*e*P	**P**	**16 04 57.0**	**-1.5**
SSPA	**Standing Stone**	**30.04**	**13**	*e*P	**P**	**16 05 01.6**	**+1.0**
	comp=Z,21nm,0.8s,mb4.8						
TUC	**Tucson**	**30.63**	**317**	P	**P**	**16 05 09.7**	**+3.9**
TUC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
TUC	**Tucson**	**30.63**	**317**	P	**P**	**16 05 09.7**	**+3.9**
	comp=Z,13nm,1.0s,mb4.6						
SDCO	**Great Sand Dun**	**31.34**	**330**	*e*P	**P**	**16 05 10.3**	**-1.7**
	comp=Z,16nm,0.7s,mb4.8						
ARE	**Arequipa**	**31.36**	**152**	P	**P**	**16 05 16.0**	**+3.8**
116A	**Eloy**	**31.41**	**316**	⇓P	**P**	**16 05 13.2**	**+0.6**
	baz=31						
JFWS	**Jewell Farm**	**31.56**	**355**	*e*P	**P**	**16 05 13.2**	**-0.7**
JFWS				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.2						
JFWS	**Jewell Farm**	**31.56**	**355**	*e*P	**P**	**16 05 13.2**	**-0.7**
	comp=Z,35nm,0.7s,mb5.2						
115A	**Sonoran Desert**	**31.84**	**316**	⇑P	**P**	**16 05 16.7**	**+0.3**
	baz=32						
MVCO	**Mesa Verde**	**32.50**	**326**	*e*P	**P**	**16 05 21.7**	**-0.5**
	comp=Z,20nm,0.8s,mb4.9						
MVCO	**Mesa Verde**	**32.50**	**326**	⇑P	**P**	**16 05 22.6**	**+0.5**
	baz=32						
LPAZ	**La Paz**	**32.90**	**146**	P	**P**	**16 05 28.1**	**+2.5**
	comp=Z,6.8nm,1.1s,mb4.4,baz=354,slow=6.1,SNR=5.7						
LPAZ				LR	LR	16 19 06.9	
	comp=Z,3μm,18.4s,baz=313,slow=37						
LPAZ	**La Paz**	**32.90**	**146**	*e*P	**P**	**16 05 27.5**	**+1.8**
LPAZ				pmax	pmax		
	comp=Z,22nm,1.4s						
LPAZ				MLR	MLR		
	comp=Z,3μm,19.0s						
LPAZ	**La Paz**	**32.90**	**146**	*e*P	**P**	**16 05 27.5**	**+1.8**
	comp=Z,22nm,1.4s,mb4.8						
LPAZ				LR	LR		
	comp=Z,3μm,19.0s						
X15A	**Humboldt**	**32.92**	**318**	⇑P	**P**	**16 05 25.8**	**-0.1**
	baz=33						
WUAZ	**Wupatki**	**33.02**	**321**	*e*P	**P**	**16 05 27.1**	**+0.4**
	comp=Z,25nm,1.0s,mb5.0						
WUAZ	**Wupatki**	**33.02**	**321**	⇓P	**P**	**16 05 26.8**	**+0.1**
	baz=33						
ISCO	**Idaho Springs**	**33.02**	**332**	*e*P	**P**	**16 05 27.9**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
ISCO				MLR	MLR		
	comp=Z,2μm,22.0s						
ISCO	**Idaho Springs**	**33.02**	**332**	*e*P	**P**	**16 05 27.9**	**+1.1**
	comp=Z,4.9nm,0.8s,mb4.4						
ISCO				LR	LR		
	comp=Z,2μm,22.0s						
Y14A	**Wickenburg**	**33.10**	**317**	⇓P	**P**	**16 05 27.4**	**0.0**
	baz=33						
PV01	**Paradox Valley**	**33.21**	**327**	P	**P**	**16 05 28.7**	**+0.3**
X14A	**Yava**	**33.34**	**318**	⇑P	**P**	**16 05 29.1**	**-0.4**
	baz=33						
W15A	**Williams**	**33.37**	**319**	⇑P	**P**	**16 05 29.8**	**0.0**
	baz=33

comp=Z,27nm,0.8s,mb5.2,baz=313,slow=9.1,SNR=58
SIV PcP PcP 16 08 21.5 +0.8
comp=Z,7.5nm,0.8s,baz=322,slow=4.6,SNR=4.9
DUG Dugway 36.99 325 *e*P **P 16 05 59.7 -1.2**
DUG pmax pmax
comp=Z,15nm,1.0s,mb4.9
DUG MLR MLR
comp=Z,3μm,20.0s
DUG Dugway 36.99 325 *e*P **P 16 05 59.7 -1.2**
comp=Z,15nm,1.0s,mb4.9
DUG LR LR
comp=Z,3μm,20.0s
DUG Dugway 36.99 325 ⇑P **P 16 06 02.1 +1.2**
baz=37
EDW2 Edwards Air Fo 37.04 314 ⇑P **P 16 06 02.2 +0.9**
baz=37,SNR=5.1
FURC Furnace Creek, 37.13 317 ⇓P **P 16 06 03.8 +1.7**
baz=37
LRMC Laurel Mountai 37.15 315 ⇑P **P 16 06 03.8 +1.5**
baz=37
PDAR Pinedale Array 37.19 331 P **P 16 06 01.9 -0.7**
comp=Z,2.8nm,0.6s,mb4.3,baz=128,slow=11,SNR=22
PDAR PcP PcP 16 08 22.0 +0.6
comp=Z,1.8nm,0.6s,baz=150,slow=5.5,SNR=7.0
PDAR ScP ScP 16 12 08.3 +5.6
comp=Z,0.9nm,0.9s,baz=123,slow=5.5,SNR=4.0
PDAR LR LR 16 24 13.8
comp=Z,2μm,20.9s,baz=141,slow=41
HWUT Hardware Ranch 37.32 328 *e*P **P 16 06 03.4 -0.3**
comp=Z,39nm,1.0s,mb5.3
MPMC Manual Prospec 37.33 316 ⇑P **P 16 06 04.8 +1.0**
baz=37
Q12A Willow Creek R 37.39 322 ⇑P **P 16 06 05.9 +1.5**
baz=37
SPUT South Promonto 37.57 327 *e*P **P 16 06 00.9 -4.8**
BGU Big Grassy Mou 37.61 326 *e*P **P 16 06 05.4 -0.7**
AGMN Agassiz Refuge 37.61 350 P **P 16 06 00.6 -5.6**
comp=Z,30nm,0.3s,mb5.6
Q11A Duckwater 37.77 321 ⇓P **P 16 06 08.3 +0.8**
baz=38
ISA Isabella 37.79 315 ⇓P **P 16 06 07.7 0.0**
baz=38
CWC Cottonwood Cre 37.93 316 ⇓P **P 16 06 09.7 +0.9**
baz=38
HVU Hansel Valley 38.07 327 *e*P **P 16 06 06.1 -3.9**
HVU pmax pmax
comp=Z,11nm,0.9s,mb4.7
HVU Hansel Valley 38.07 327 *e*P **P 16 06 06.1 -3.9**
comp=Z,11nm,0.9s,mb4.7
N13A Wendover, West 38.22 325 ⇑P **P 16 06 11.6 +0.3**
baz=38,SNR=6.1
REDW Red Top Meadow 38.26 331 *e*P **P 16 06 11.3 -0.3**
comp=Z,61nm,1.0s,mb5.4
SNOW Snow King Moun 38.29 331 *e*P **P 16 06 11.4 -0.5**
comp=Z,62nm,1.0s,mb5.4
R09A Tonopah 38.29 319 ⇑P **P 16 06 12.4 +0.5**
baz=38
LOHW Long Hollow 38.33 331 *e*P **P 16 06 09.9 -2.3**
comp=Z,10.0nm,0.7s,mb4.8
PKM Peak Mountain 38.35 313 ⇓P **P 16 06 12.5 +0.1**
baz=38
TPAW Teton Pass 38.40 331 *e*P **P 16 06 12.3 -0.5**
comp=Z,33nm,1.0s,mb5.1
MOOW Moose Ponds 38.50 331 *e*P **P 16 06 12.9 -0.7**
comp=Z,14nm,0.9s,mb4.8
M13A Montello 38.53 326 ⇓P **P 16 06 14.7 +0.8**
baz=39
S08C White Mtn Res 38.58 318 ⇑P **P 16 06 14.6 +0.3**
baz=39,SNR=6.1
SMMC Simmler 38.68 314 ⇑P **P 16 06 14.9 -0.3**
baz=39
N12A Clover Valley, 38.69 324 ⇑P **P 16 06 15.5 +0.3**
baz=39
HELL Mitchell Peak, 38.70 316 ⇑P **P 16 06 15.7 +0.3**
baz=39,SNR=8.6
IMW Indian Meadow 38.70 331 *e*P **P 16 06 16.5 +1.1**
comp=Z,7.7nm,0.6s,mb4.7
ELK Elko 38.73 324 P **P 16 06 16.1 +0.5**
ELK pmax pmax
comp=Z,22nm,1.1s
ELK MLR MLR
comp=Z,3μm,19.0s
ELK Elko 38.73 324 P **P 16 06 16.1 +0.5**
comp=Z,22nm,1.1s,mb4.9
ELK LR LR
comp=Z,3μm,19.0s
P10A Eureka 38.74 322 ⇓P **P 16 06 15.9 +0.2**
baz=39
RLMT Red Lodge 38.90 334 *e*P **P 16 06 17.8 +0.8**
comp=Z,6.9nm,0.7s,mb4.6
N11A Elko Archery C 39.06 324 ⇑P **P 16 06 18.9 +0.5**
baz=39
O10A Cortez Mining, 39.18 323 ⇓P **P 16 06 20.2 +0.8**
baz=39
NVAR Mina Array Bea 39.19 319 P **P 16 06 20.4 +1.0**
comp=Z,6.8nm,0.7s,mb4.6,baz=130,slow=7.1,SNR=39
NVAR PcP PcP 16 08 29.1 +1.5
comp=Z,6.1nm,0.6s,baz=124,slow=4.7,SNR=9.5
NVAR ScP ScP 16 12 18.0 +7.6
comp=Z,1.3nm,0.8s,baz=149,slow=3.8,SNR=5.3
Q08A Gabbs 39.20 320 ⇑P **P 16 06 19.9 +0.5**
baz=39
KCC Kaiser Creek 39.25 317 ⇑P **P 16 06 20.1 +0.3**
baz=39
PKD Parkfield 39.38 314 ⇓P **P 16 06 21.7 +0.8**
baz=39
ULM Lac du Bonnet 39.50 350 P **P 16 06 19.6 -2.4**
comp=Z,9.4nm,0.5s,mb4.9,baz=165,slow=9.1,SNR=25
ULM ScP ScP 16 12 16.2 +4.7
comp=Z,4.5nm,0.8s,baz=189,slow=3.4,SNR=7.3
ULM LR LR 16 25 28.4
comp=Z,1μm,20.7s,baz=321,slow=41
ULM Lac du Bonnet 39.50 350 *e*P **P 16 06 19.4 -2.6**
comp=Z,35nm,1.0s,mb5.1
O09A Fish Creek Ran 39.52 322 ⇑P **P 16 06 22.8 +0.6**
baz=40
GCMT Greycliff 39.60 334 *e*P **P 16 06 21.3 -1.5**
QLMT Earthquake Lak 39.64 332 *e*P **P 16 06 24.2 +1.1**
BMN Battle Mountai 39.70 322 *e*P **P 16 06 24.0 +0.3**
BMN pmax pmax
comp=Z,21nm,1.1s,mb4.9
BMN Battle Mountai 39.70 322 *e*P **P 16 06 24.0 +0.3**
comp=Z,21nm,1.1s,mb4.9
U04C Hernandez Rese 39.75 314 ⇓P **P 16 06 24.8 +0.7**
baz=40
S06C San Francisco 39.90 317 ⇓P **P 16 06 26.0 +0.7**
baz=40
R06C Coleville 39.99 318 ⇑P **P 16 06 26.2 +0.2**
baz=40,SNR=6.6
N09A Rock Creek Ran 40.14 322 ⇑P **P 16 06 27.7 +0.4**
baz=40
HLID Hailey 40.18 328 *e*P **P 16 06 27.5 -0.2**
comp=Z,7.8nm,0.8s,mb4.6
HLID LR LR
comp=Z,3μm,20.0s
HLID Hailey 40.18 328 ⇓P **P 16 06 28.6 +1.0**
baz=40,SNR=13
HAST UC Hastings Re 40.31 314 ⇓P **P 16 06 29.4 +0.7**
baz=40
MCMT McKenzie Canyo 40.31 331 *e*P **P 16 06 29.2 +0.5**
CMB Columbia Colle 40.34 317 ⇑P **P 16 06 29.9 +0.9**
baz=40
BOZ Bozeman (W) 40.35 332 *e*P **P 16 06 28.5 -0.6**
BOZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
BOZ Bozeman (W) 40.35 332 *e*P **P 16 06 28.5 -0.5**
comp=Z,6.4nm,0.7s,mb4.6
G15A Dillon 40.39 331 ⇑P **P 16 06 30.2 +0.8**
baz=40,SNR=7.0
R05C Kirkwood Meado 40.49 318 ⇑P **P 16 06 31.0 +0.8**
baz=40
O07A Toulon 40.55 321 ⇑P **P 16 06 31.5 +0.8**
baz=41
S04C Ingram Canyon, 40.70 316 ⇑P **P 16 06 32.7 +0.7**
baz=41
L09A Wilkinson Ranc 40.95 324 ⇑P **P 16 06 34.9 +0.9**
baz=41
LAVA Lava Cap Winer 40.96 318 ⇑P **P 16 06 34.8 +0.7**
baz=41
N07B Gerlach 40.97 321 ⇑P **P 16 06 34.5 +0.4**
baz=41
H12A Diamond D Ranc 41.10 329 ⇑P **P 16 06 35.5 +0.3**
baz=41,SNR=6.4
O06A Flanigan 41.15 320 ⇑P **P 16 06 36.1 +0.5**
baz=41,SNR=6.0
P05C Yuba Gap, Truc 41.17 318 ⇑P **P 16 06 36.0 +0.2**
baz=41
G13A Cobalt 41.18 330 ⇓P **P 16 06 36.3 +0.4**
baz=41
I11A Placerville 41.24 327 ⇓P **P 16 06 36.6 +0.2**
baz=41
F14A Wisdom 41.28 331 ⇓P **P 16 06 36.6 -0.1**
baz=41
E15A Deer Lodge 41.40 332 ⇑P **P 16 06 37.9 +0.2**
baz=42,SNR=6.1
K09A Rome 41.41 325 P **P 16 06 38.0 +0.2**
baz=41,SNR=17
L08A Fields 41.45 323 P **P 16 06 38.0 0.0**
baz=42,SNR=11
M07A Soldier Meadow 41.45 322 ⇓P **P 16 06 38.0 -0.1**
baz=42
N06A Buffalo Meadow 41.49 321 ⇑P **P 16 06 38.1 -0.3**
baz=42,SNR=5.8
F13A Darby 41.73 330 ⇑P **P 16 06 40.0 -0.3**
baz=42,SNR=12
OHCM Honcut 41.76 318 *e*P **P 16 06 41.5 +0.9**
WVOR Wild Horse Val 41.77 324 *e*P **P 16 06 39.3 -1.4**
H11A Donnelly 41.80 328 ⇑P **P 16 06 40.9 -0.1**
baz=42
D15A Lincoln 41.82 333 ⇓P **P 16 06 40.8 -0.2**
baz=42
J09A Fry Pan Ranch, 41.84 325 P **P 16 06 41.5 +0.2**
baz=42,SNR=18
K08A Mann Creek Ran 41.87 324 ⇓P **P 16 06 41.2 -0.3**
baz=42,SNR=28
ORV Oroville 41.88 318 ⇑P **P 16 06 41.9 +0.2**
baz=42
L07A Adell 41.93 323 ⇓P **P 16 06 41.6 -0.4**
baz=42,SNR=10
ELFS Eagle Lake Fie 41.97 320 ⇓P **P 16 06 42.4 +0.1**
baz=42,SNR=7.8
CHMT Chamberlain Mo 42.05 332 *e*P **P 16 06 42.2 -0.7**
E13A Victor 42.13 331 ⇓P **P 16 06 43.5 -0.1**
baz=42
F12A Elk City 42.15 330 P **P 16 06 43.2 -0.6**
baz=42,SNR=13
MNRC McLaughlin Nat 42.16 317 ⇓P **P 16 06 43.9 +0.1**
baz=42
J08A Circle Bar Ran 42.26 325 ⇑P **P 16 06 44.1 -0.5**
baz=42
K07A Rock Creek Ran 42.28 323 ⇑P **P 16 06 44.6 -0.3**
baz=42,SNR=5.5
D14A Greenough 42.29 332 ⇑P **P 16 06 45.5 +0.5**
baz=42
HATC Hat Creek Radi 42.54 320 ⇑P **P 16 06 48.1 +1.1**
baz=43
BMO Blue Mountains 42.58 327 *e*P **P 16 06 45.9 -1.4**
comp=Z,9.4nm,0.9s,mb4.5
M05C Lookout 42.65 321 ⇓P **P 16 06 48.6 +0.7**
baz=43
H09A Durkee 42.65 327 ⇓P **P 16 06 48.4 +0.5**
baz=43
D13A Huson 42.74 332 ⇓P **P 16 06 48.3 -0.2**
baz=43
GASB Alder Springs 42.74 318 ⇓P **P 16 06 49.4 +0.8**
baz=43
K06A Valley Falls 42.94 323 ⇓P **P 16 06 50.9 +0.7**
baz=43
E11A Bogner Ranch, 43.05 330 ⇑P **P 16 06 50.3 -0.8**
baz=43,SNR=9.6
O02C Red Bluff 43.05 318 ⇑P **P 16 06 50.8 -0.3**
baz=43
P01C Double 8 Ranch 43.06 317 ⇓P **P 16 06 51.0 -0.1**
baz=43
H08A Prairie City 43.10 326 ⇓P **P 16 06 51.7 +0.2**
baz=43
M03C McCloud 43.21 320 ⇓P **P 16 06 52.2 -0.2**
baz=43
C13A Hot Springs 43.22 332 ⇑P **P 16 06 52.9 +0.4**
baz=43
K05A Summer Lake 43.28 322 ⇑P **P 16 06 52.8 -0.1**
baz=43
I07A Izee 43.29 325 ⇑P **P 16 06 52.8 -0.3**
baz=43
F10A Beach Ranch, E 43.30 329 ⇓P **P 16 06 52.8 -0.3**
baz=43
M04C Macdoel 43.32 321 ⇓P **P 16 06 52.8 -0.5**
baz=43
F09A S2 Ranch, Elgi 43.47 328 ⇓P **P 16 06 54.1 -0.4**
baz=44
E10A Myers Farm, Un 43.59 329 ⇑P **P 16 06 54.2 -1.2**
baz=44
D11A Klaveano Farm, 43.60 330 ⇓P **P 16 06 54.1 -1.4**
baz=44
I06A Prineville 43.61 324 ⇓P **P 16 06 55.5 -0.1**
baz=44,SNR=5.3
H07A Lands Inn, Kim 43.64 325 P **P 16 06 54.9 -1.0**
baz=44,SNR=7.9
N02C Big Bar 43.73 319 ⇑P **P 16 06 56.4 -0.2**
baz=44
YBH Yreka Blue Hor 43.83 320 ⇑P **P 16 06 57.0 -0.4**
baz=44
D10A Wagner Farm, O 44.06 330 ⇓P **P 16 06 59.1 -0.2**
baz=44
E09A Wood Farm, Sta 44.13 328 ⇓P **P 16 06 59.1 -0.7**
baz=44
H06A Lindquist Farm 44.16 325 ⇓P **P 16 07 00.0 0.0**
baz=44
J04A Umpqua Nationa 44.30 322 ⇓P **P 16 07 01.1 0.0**
baz=44
RPN Rapa Nui 44.34 210 P **P 16 07 02.1 +0.6**
comp=Z,20nm,0.4s,mb5.2,baz=241,slow=13,SNR=2.5
D09A Jones Farm, Ri 44.58 329 ⇑P **P 16 07 03.1 -0.3**
baz=45
G06A Carlson Farm, 44.64 325 ⇓P **P 16 07 03.6 -0.2**
baz=45
I04A Tendick Farm, 44.80 323 ⇓P **P 16 07 05.0 -0.1**
baz=45
IRO Indian Ridge 44.83 323 P **P 16 07 04.9 -0.5**
NEW Newport 44.83 331 P **P 16 07 02.9 -2.5**
comp=Z,2.4nm,0.5s,mb4.2,baz=222,slow=22,SNR=3.3
NEW PcP PcP 16 08 45.8 -0.4
comp=Z,5.2nm,0.8s,baz=169,slow=5.2,SNR=3.7
GBL Gable Mountain 44.87 328 P **P 16 07 05.4 -0.3**
K02A Glendale 44.88 321 ⇑P **P 16 07 05.6 -0.2**
baz=45
D08A Wollman Farm, 44.89 329 ⇑P **P 16 07 05.6 -0.2**
baz=45
FFC Flin Flon 44.93 347 P **P 16 07 04.3 -1.8**
comp=Z,84nm,0.8s,mb5.5,SNR=7.1
A11A Hall Mountain, 44.97 332 ⇑P **P 16 07 06.1 -0.4**
baz=45
G05A Wamic 45.02 325 ⇑P **P 16 07 06.9 0.0**
baz=45
MDW Midway 45.04 328 P **P 16 07 06.3 -0.7**
E07A Sunnyside 45.05 327 ⇑P **P 16 07 07.0 -0.1**
baz=45,SNR=5.9
C09A Chesman Ranch 45.07 330 ⇓P **P 16 07 07.0 -0.2**
baz=45
BROR Big Rock Looko 45.10 323 P **P 16 07 07.1 -0.4**
VFP Flag Point 45.15 325 P **P 16 07 10.0 +2.1**
H04A Detroit Lake 45.19 324 ⇑P **P 16 07 07.6 -0.6**
baz=45,SNR=5.1
J02A Umpqua 45.26 322 ⇑P **P 16 07 08.3 -0.5**
baz=45
MXC Moxie City 45.30 327 P **P 16 07 09.2 +0.2**
I03A Eugene 45.42 322 ⇓P **P 16 07 09.1 -0.9**
baz=45
B09A Rice 45.43 330 ⇓P **P 16 07 09.6 -0.5**
baz=46
E06A Yakima 45.64 327 ⇓P **P 16 07 11.1 -0.6**
baz=46
WTV Waterville 45.84 329 P **P 16 07 13.2 -0.2**
C07A Waterville 45.89 329 ⇑P **P 16 07 13.6 -0.2**
baz=46
SCHQ Schefferville 45.96 16 P **P 16 07 12.9 -1.3**
comp=Z,9.2nm,0.4s,mb4.9,baz=226,slow=6.4,SNR=42
SCHQ LR LR 16 26 43.4
comp=Z,3μm,21.3s,baz=212,slow=37
SCHQ Schefferville 45.96 16 *e*P **P 16 07 12.4 -1.8**
comp=Z,11nm,0.4s,mb5.0
B08A Colville Reser 45.97 330 ⇑P **P 16 07 14.2 -0.2**
baz=46
A09A Danville 46.02 331 ⇑P **P 16 07 14.6 -0.2**
baz=46
E05A Randle 46.08 326 ⇓P **P 16 07 15.1 -0.1**
baz=46
CFAA Coronel Fontan 46.17 158 P **P 16 07 16.7 +0.8**
comp=Z,0.2nm,0.4s,baz=323,slow=14,SNR=2.9
G03A Yamhill 46.19 324 ⇑P **P 16 07 16.0 -0.1**
baz=46
A08A Turner Farm, O 46.34 330 ⇓P **P 16 07 17.0 -0.3**
baz=46
B07A Winthrop 46.43 329 ⇑P **P 16 07 17.9 0.0**
baz=46
D05A Enumclaw 46.59 327 ⇑P **P 16 07 18.9 -0.2**
baz=47
A07A Ashnola River, 46.95 330 ⇓P **P 16 07 21.8 -0.2**
baz=47
EDM Edmonton 46.97 338 *e*P **P 16 07 19.8 -2.3**
B05A Bryant 47.31 328 ⇑P **P 16 07 24.3 -0.5**
baz=47
C04A Brinnon 47.44 327 ⇑P **P 16 07 25.7 -0.1**
baz=48
FCC Fort Churchill 47.61 355 *e*P **P 16 07 25.7 -1.4**
FCC pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
FCC Fort Churchill 47.61 355 *e*P **P 16 07 25.7 -1.4**
comp=Z,7.7nm,0.7s,mb4.6
A05A Maple Falls 47.77 329 ⇑P **P 16 07 28.3 -0.1**
baz=48
B04A Port Angeles 47.93 327 ⇑P **P 16 07 29.1 -0.6**
baz=48
TRQA Tornquist 54.25 156 *e*P **P 16 08 15.9 -1.1**
comp=Z,48nm,1.5s,mb5.3
YKA Yellowknife Ar 54.89 344 P **P 16 08 19.4 -2.2**
comp=Z,3.0nm,0.6s,mb4.5,baz=143,slow=7.1,SNR=26
YKA ScP ScP 16 13 22.0 +6.2
comp=Z,0.7nm,0.7s,baz=144,slow=4.3,SNR=6.2
YKA LR LR 16 34 06.8
comp=Z,1μm,20.8s,baz=25,slow=39
TAOE Nuku Hiva Isla 57.18 252 *e*S **S 16 16 29.6 +1.0**
comp=Z,3μm,25.5s
TAOE *e*LR LR 16 25 15.1
comp=Z,5μm,23.9s,baz=71
DLBC Dease Lake 57.30 334 *e*P **P 16 08 37.8 -1.0**
RKT Rikitea 58.69 234 *e*S **S 16 16 49.6 +1.3**
comp=Z,2μm,26.2s
RKT *e*SS SS 16 20 42.1 0.0
comp=Z,371nm,29.0s
RKT *e*LR LR 16 26 00.7
comp=Z,2μm,24.8s
RES Resolute Bay 63.43 357 *e*P **P 16 09 18.4 -2.2**
comp=Z,114nm,0.5s
DAWY Dawson 64.16 337 *e*P **P 16 09 22.8 -2.7**
EGAK Eagle 65.18 337 *e*P **P 16 09 29.9 -2.2**
comp=Z,19nm,1.8s,mb4.6
COLA College 67.82 336 *e*P **P 16 09 50.0 +1.1**
PPT Papeete 68.77 246 *e*S S 16 18 55.4 +2.0
comp=Z,817nm,26.2s
PPT *e*LR LR 16 30 42.1
comp=Z,2μm,24.2s,baz=60
PPT Papeete 68.77 246 LR LR 16 32 56.8
comp=Z,1μm,18.4s,baz=70,slow=30
SVW2 Sparrevohn 70.08 331 *e*P **P 16 10 01.2 -1.7**
IMA2 Indian Mountai 70.51 336 P **P 16 10 05.0 -0.6**
TBI Tubuai 70.74 240 *e*S S 16 19 18.3 +1.8
comp=Z,1μm,26.8s
TBI *e*SS SS 16 23 51.6 +2.0
comp=Z,185nm,29.2s
TBI *e*LR LR 16 31 38.1
comp=Z,2μm,24.8s,baz=64
DAG Danmarks Havn 73.91 13 *i* P **P 16 10 25.0 -0.8**
DAG Danmarks Havn 73.91 13 *e*P **P 16 10 25.0 -0.8**
ESDC Sonseca Array 76.97 52 P **P 16 10 42.6 -0.7**
comp=Z,0.3nm,0.3s,baz=307,slow=6.5,SNR=3.1
ESDC LR LR 16 42 33.8
comp=Z,2μm,18.2s,baz=275,slow=34
ESDC Sonseca Array 76.97 52 P **P 16 10 42.6 -0.7**
ESDC LR LR 16 42 33.8
KBS Kingsbay 80.46 11 *e* **P 16 11 02.6 0.0**
KBS *i* 16 30 23.0
KBS AMS AMS 16 48 30.4
comp=Z,1μm,19.6s
KBS Kingsbay 80.46 11 *e*P **P 16 11 03.5 +1.0**
KBS *i* 16 30 23.0
KBS LR LR
comp=Z,1μm,19.6s
BER Bergen 80.99 30 AMS AMS 16 42 46.2
comp=Z,1μm,20.8s
BJO Bjornoya 83.17 15 AMS AMS 16 50 27.3
comp=Z,1μm,18.1s
NOA NORSAR Array B 83.73 29 LR LR 16 45 15.1
comp=Z,1μm,21.0s,baz=290,slow=33
TRO Tromso 84.61 20 AMS AMS 16 47 57.0
comp=Z,663nm,20.3s
TORD Torodi Ar. Bea 85.57 78 P **P 16 11 28.8 -0.1**
comp=Z,0.1nm,0.3s,baz=280,slow=5.8,SNR=3.3
TORD LR LR 16 46 08.6
comp=Z,754nm,21.7s,baz=275,slow=33
BILL Bilibino 85.87 339 *e*P **P 16 11 30.3 -0.1**
BILL pmax pmax
comp=Z,22nm,2.3s,mb4.7
BILL MLR MLR
comp=Z,2μm,24.0s
BILL Bilibino 85.87 339 *e*P **P 16 11 29.3 -1.1**
comp=Z,10nm,1.0s,mb4.7
ARCES ARCESS Array B 86.80 19 P **P 16 11 33.6 -1.3**
comp=Z,4.1nm,0.8s,mb4.4,baz=281,slow=5.5,SNR=7.8
ARCES LR LR 16 53 26.2
comp=Z,1μm,19.1s,baz=296,slow=38
CLL Collm 86.95 38 *e*pP pP 16 11 48.0 -5.7
CLL Lm 16 49 00.0
comp=Z,2μm,19.8s
KHC Kasperske Hory 87.85 40 *e*P **P 16 11 45.4 +5.3**
KEST Kesra 87.97 54 LR LR 16 46 42.9
comp=Z,455nm,20.6s,baz=92,slow=33
GERES GERESS Array B 88.01 41 P **P 16 11 40.3 -0.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=266,slow=40,SNR=2.3
GERES LR LR 16 49 04.0
comp=Z,2μm,19.1s,baz=276,slow=34
FINES FINESS Array B 90.41 26 LR LR 16 48 10.3
comp=Z,1μm,21.1s,baz=102,slow=33
TIXI Tiksi 93.85 349 *e*P **P 16 12 09.2 +1.2**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
TIXI MLR MLR
comp=Z,1μm,24.0s
AKASG Malin Array Be 96.73 35 LR LR 16 56 33.9
comp=Z,916nm,18.1s,baz=275,slow=36
SNAA Sanae 98.72 161 *e*P **P 16 12 37.0 +7.0**
MDJ Mudanjiang 115.42 332 PKP PKPdf 16 17 32.2 +0.1
MDJ PP PP
comp=Z,91nm,6.2s
MDJ LR LR
comp=N,186nm,27.9s
MDJ LR LR
comp=E,361nm,27.9s
MDJ LR LR
comp=Z,339nm,30.6s
TLY Talaya 116.57 353 *i* PKIKP PKPdf 16 17 42.7 +8.4
TLY *e* 16 18 39.8
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,639nm,25.0s
SONM Songino Array 119.93 350 PKP PKPdf 16 17 40.3 -0.5
comp=Z,1.3nm,0.6s,baz=231,slow=0.4,SNR=13
MKAR Makanchi Array 121.16 9 PKP PKPdf 16 17 42.4 -0.8
comp=Z,0.5nm,0.4s,baz=311,slow=2.8,SNR=22
KSRS Korea Array 121.72 328 PKP PKPdf 16 17 45.1 +0.9
comp=Z,4.7nm,0.9s,baz=5.3,slow=1.4,SNR=16
BJI Beijing 124.70 339 PKP PKPdf 16 17 51.4 +1.4
BJI PP PP 16 19 42.7 +4.9
BJI LR LR
comp=N,389nm,24.5s
BJI LR LR
comp=E,564nm,23.6s
BJI LR LR
comp=Z,915nm,28.7s
WMQ Urumqi 124.76 5 *e*PDIF Pdif 16 14 26.5 +0.7
WMQ PKP PKPdf 16 17 50.5 +0.4
WMQ XPKP 16 18 04.4
WMQ PP PP 16 19 43.1 +5.0
WMQ PKS 16 21 25.9
WMQ SKS SKSdf 16 24 57.3 +1.0
WMQ SKKS SKKSac 16 26 29.0 -1.8
WMQ S Sdif 16 27 32.0 +0.4
WMQ SS SS 16 36 33.2 +5.6
WMQ LR LR
comp=N,1μm,22.0s
WMQ LR LR
comp=E,646nm,20.0s
WMQ LR LR
comp=Z,956nm,22.0s
HHC Hu-ho-hao-te 125.42 343 *e*PKP PKPdf 16 17 51.4 +0.1
HHC XPKP 16 18 05.0
HHC PP PP 16 19 45.5 +2.9
HHC PKS 16 21 26.0
HHC SKS SKSdf 16 24 58.8 +1.3
HHC SKKS SKKSac 16 26 34.0 -1.0
HHC SS SS 16 36 36.8 +0.9

HHC				PP	PP		
	comp=Z,173nm,10.7s						
HHC				LR	LR		
	comp=N,328nm,25.0s						
HHC				LR	LR		
	comp=E,298nm,21.4s						
HHC				LR	LR		
	comp=Z,850nm,23.2s						
TIA	**Tai'an**	**127.71**	**336**	*e*PKP	PKPdf	16 17 57.7	+2.0
GTA	**Gaotai**	**129.11**	**354**	PKP	PKPdf	16 17 59.4	+1.0
GTA				XPKP		16 18 13.3	
GTA				PKS		16 21 34.9	
GTA				SKS	SKSdf	16 25 05.8	+1.4
GTA				PP	PP		
	comp=Z,225nm,5.7s						
GTA				LR	LR		
	comp=N,766nm,18.3s						
GTA				LR	LR		
	comp=E,520nm,19.5s						
GTA				LR	LR		
	comp=Z,890nm,20.6s						
SSE	**Sheshan**	**130.15**	**329**	PKP	PKPdf	16 18 01.2	+0.9
SSE				PP	PP	16 20 16.3	+2.6
SSE				PP	PP		
	comp=Z,50nm,12.0s						
SSE				LR	LR		
	comp=N,188nm,25.0s						
SSE				LR	LR		
	comp=E,314nm,25.0s						
SSE				LR	LR		
	comp=Z,311nm,23.6s						
STKA	**Stephens Creek**	**131.47**	**237**	PKP	PKPdf	16 18 02.2	-0.6
	comp=Z,3.0nm,0.8s,baz=180,slow=7.7,SNR=3.3						
STKA	**Stephens Creek**	**131.47**	**237**	PKP	PKPdf	16 18 02.2	-0.6
LZH	**Lanzhou**	**131.78**	**349**	*e*PKP	PKPdf	16 18 03.0	-0.4
LZH				XPKP		16 18 16.5	
LZH				PP	PP	16 20 30.2	+6.0
LZH				PKS		16 21 42.0	
LZH				SKS	SKSdf	16 25 07.0	-2.2
LZH				SKKS	SKKSac	16 27 14.2	-0.5
LZH				PP	PP		
	comp=Z,54nm,5.0s						
LZH				LR	LR		
	comp=N,471nm,18.2s						
LZH				LR	LR		
	comp=Z,1μm,20.0s						
CD2	**Chengdu**	**136.81**	**347**	*e*PKP	PKPdf	16 18 11.9	-1.0
CD2				XPKP		16 18 26.1	
CD2				PKS		16 21 46.7	
CD2				SKS	SKSdf	16 25 17.3	-0.7
CD2				SKKS	SKKSac	16 27 43.6	-1.5
CD2				SS	SS	16 38 53.5	-1.6
CD2				PP	PP		
	comp=Z,180nm,10.2s						
CD2				LR	LR		
	comp=N,790nm,21.6s						
CD2				LR	LR		
	comp=E,100nm,12.0s						
CD2				LR	LR		
	comp=Z,140nm,12.0s						
LSA	**Lhasa**	**139.05**	**3**	PKP	PKPdf	16 18 18.4	+1.4
ASAR	**Alice Springs**	**139.88**	**247**	PKhKP		16 18 10.6	
	comp=Z,0.3nm,0.5s,baz=108,slow=3.6,SNR=5.7						
ASAR				PKP	PKPdf	16 18 18.3	-0.2
	comp=Z,1.6nm,0.6s,baz=103,slow=1.8,SNR=23						
ASAR				SKPbc	SKPbc	16 21 58.7	+10
	comp=Z,0.8nm,0.8s,baz=92,slow=3.7,SNR=3.5						
ASAR	**Alice Springs**	**139.88**	**247**	PKHKP		16 18 10.6	
ASAR						16 18 18.3	
WB2	**Warramunga Arr**	**140.01**	**253**	*e*PKPdf	PKPdf	16 18 17.2	-1.5
WRAB	**Tennant Creek**	**140.01**	**253**	*i* PKIKP	PKIKPdf	16 18 19.1	+0.4
WRAB	**Tennant Creek**	**140.01**	**253**	*e*PKP	PKPdf	16 18 16.8	-1.9
WRAB				LR	LR		
	comp=Z,159nm,19.2s						
WRA	**Warramunga Arr**	**140.02**	**253**	PKhKP		16 18 12.3	
	comp=Z,0.4nm,0.6s,baz=91,slow=3.5,SNR=8.6						
WRA				PKP	PKPdf	16 18 17.7	-1.0
	comp=Z,2.9nm,0.7s,baz=92,slow=2.4,SNR=33						
WRA				SKPab		16 22 04.1	
	comp=Z,1.3nm,0.7s,baz=91,slow=2.6,SNR=6.4						
WRA	**Warramunga Arr**	**140.02**	**253**	PKHKP		16 18 12.3	
WRA						16 18 17.7	
GYA	**Guiyang**	**140.28**	**342**	PKP	PKPdf	16 18 18.7	-0.5
GYA				XPKP		16 18 34.5	
GYA				PP	PP	16 21 20.0	+2.4
GYA				PKS		16 21 53.6	
GYA				SKS	SKSdf	16 25 23.7	-0.1
GYA				SS	SS	16 39 37.4	+1.3
GYA				PP	PP		
	comp=Z,130nm,8.9s						
GYA				LR	LR		
	comp=N,240nm,20.8s						
GYA				LR	LR		
	comp=E,210nm,21.4s						
GYA				LR	LR		
	comp=Z,230nm,21.6s						
KMI	**Kunming**	**142.61**	**346**	PKP	PKPdf	16 18 22.0	-1.4
KMI				APKP		16 18 31.5	
KMI				XPKP		16 18 37.0	
KMI				PP	PP	16 21 32.6	+0.8
KMI				SS	SS	16 40 02.7	-0.5
KMI				PP	PP		
	comp=Z,133nm,4.6s						
KMI				LR	LR		
	comp=N,450nm,21.5s						
KMI				LR	LR		
	comp=E,385nm,20.2s						
KMI				LR	LR		
	comp=Z,478nm,24.0s						
KNA	**Kununurra**	**145.63**	**259**	*e*P	PKPdf	16 18 29.2	+0.5
	comp=Z,19nm,0.7s						
QIZ	**Qiongzhong**	**145.79**	**332**	PKP	PKPbc	16 18 33.5	+4.0
QIZ				APKP		16 18 43.7	
QIZ				PP	PP		
	comp=Z,331nm,4.4s						
QIZ				LR	LR		
	comp=Z,871nm,17.8s						
CAL	**Calcutta**	**145.85**	**9**	*e*P	PKPbc	16 18 33.8	+4.1
CAL				*ex*	x	16 19 43.0	
CAL				*e*S		16 20 01.9	
HYB	**Hyderabad**	**147.69**	**28**	*i* PKP	PKPdf	16 18 33.5	+1.4
HYB	**Hyderabad**	**147.69**	**28**	*e*P	PKPdf	16 18 33.5	+1.4
FITZ	**Fitzroy Crossi**	**148.41**	**254**	*e*P	PKPbc	16 18 37.4	+0.5
	comp=Z,24nm,0.9s						
NANT	**Nan**	**149.18**	**347**	⇓P	PKPdf	16 18 34.0	-0.6
	comp=Z,125nm,1.0s						
CHTO	**Chiang Mai**	**149.51**	**350**	*e*PKHKP		16 18 36.1	
NWAO	**Narrogin (SRO)**	**149.57**	**222**	PKP2	PKPab	16 18 42.1	-2.9
MUN	**Mundaring**	**150.84**	**222**	*e*P	PKPbc	16 18 41.3	-1.5
KKTK	**Khon Kaen**	**150.97**	**342**	P	PKPbc	16 18 45.5	+2.4
	comp=Z,556nm,0.7s						
PSI	**Prapat**	**164.93**	**339**	PKP	PKPdf	16 18 55.4	+1.1
	comp=Z,6.3nm,0.9s,baz=227,slow=7.1,SNR=9.5						
PSI	**Prapat**	**164.93**	**339**	PKP	PKPdf	16 18 55.4	+1.1

ISCJB ***05*** *16:24:26.9±0.4, 4310N×003W±003, h7km, Error ellipse: s-maj=4.0km s-min=2.8km az=146.7*
MDD ***05*** *16:24:28.4±0.4, 4302N×000E, h7km±5km, mbLg1.3/6, Error ellipse: s-maj=2.2km s-min=1.7km az=49.0, PRXIMO*
STR ***05*** *16:24:28.4±0.0, 4302N×001W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***05*** *16:24:28.1±0.1, 4301N×000W, h6km, Md1.9/3, Ml2.0/5, Error ellipse: s-maj=1.3km s-min=0.8km az=163.0*
ISC 05 16:24:27.3±0.7, 4303N±004×002E±003, h15km±6km, n22, σ0§39/36, 1C, France

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**65**	Pg		**Pg**	**16 24 30.1**	**0.0**
LABF				Sg		**Sg**	**16 24 31.3**	**-0.6**
LABF	**Labassere**	**0.04**	**65**	P		**Pg**	**16 24 30.1**	**0.0**
LABF				S		**Sg**	**16 24 31.4**	**-0.5**
VIEF	**Viey**	**0.14**	**179**	Pg		**Pg**	**16 24 31.3**	**+0.1**
VIEF				Sg		**Sg**	**16 24 33.4**	**-0.3**
VIEF	**Viey**	**0.14**	**179**	P		**Pg**	**16 24 31.3**	**+0.2**
VIEF				S		**Sg**	**16 24 33.5**	**-0.2**
EPF	**Esparros**	**0.23**	**89**	*e*Pg		**Pg**	**16 24 32.9**	**+0.4**
EPF				*e*Sg		**Sg**	**16 24 36.7**	**+0.7**
	13nm,0.2s							
EPF	**Esparros**	**0.23**	**89**	Pg		**Pg**	**16 24 32.9**	**+0.4**
EPF				Lg			16 24 36.7	
	6.4nm,0.2s							
REYF	**Montagne du Re**	**0.30**	**278**	P		**Pg**	**16 24 33.9**	**+0.2**
REYF				S		**Sg**	**16 24 38.3**	**+0.2**
EBIE	**Bielsa**	**0.35**	**165**	⇑Pg		**Pg**	**16 24 35.0**	**+0.4**
	1.9nm,0.0s,SNR=18							
EBIE				Lg			16 24 40.0	
	3.4nm,0.1s,SNR=19							
ETSF	**Etsaut**	**0.45**	**253**	*e*Pg		**Pg**	**16 24 36.4**	**+0.2**
ETSF				*e*Sg		**Sg**	**16 24 42.1**	**-0.1**
	20nm,0.3s							
ETSF	**Etsaut**	**0.45**	**253**	Pg		**Pg**	**16 24 36.4**	**+0.2**
ETSF				Lg			16 24 42.1	
	10nm,0.3s							
ATE	**Arette**	**0.53**	**276**	Pg		**Pg**	**16 24 38.0**	**+0.2**
ATE				Sg		**Sg**	**16 24 45.1**	**+0.2**
ATE	**Arette**	**0.53**	**276**	P		**Pg**	**16 24 37.8**	**-0.1**
ATE				S		**Sg**	**16 24 45.3**	**+0.4**
SJPF	**Ste Jean**	**0.92**	**276**	*e*Pg		**Pg**	**16 24 44.8**	**-0.3**
SJPF				*e*Sg		**Sg**	**16 24 56.5**	**-0.6**
	1.5nm,0.2s							
SJPF	**Ste Jean**	**0.92**	**276**	Pg		**Pg**	**16 24 44.8**	**-0.3**
SJPF				Lg			16 24 56.5	
	0.8nm,0.2s							
MTLF	**Montolieu**	**1.64**	**78**	*e*Pg		**Pg**	**16 24 59.0**	**+0.2**
MTLF				*e*Sg		**Sg**	**16 25 20.2**	**+0.1**
	3.8nm,0.3s							
MTLF	**Montolieu**	**1.64**	**78**	Pg		**Pg**	**16 24 59.0**	**+0.2**
MTLF				Lg			16 25 20.2	
	1.9nm,0.3s							
LFF	**La Frestale**	**1.98**	**15**	*e*Pg		**Pg**	**16 25 05.4**	**+0.1**
LFF				*e*Sg		**Sg**	**16 25 31.4**	**+0.4**
	4.2nm,0.3s							
LFF	**La Frestale**	**1.98**	**15**	Pg		**Pg**	**16 25 05.4**	**+0.1**
LFF				Lg			16 25 31.4	
	2.1nm,0.3s							
RJF	**Les Rejaudoux**	**2.52**	**25**	*e*Pg		**Pg**	**16 25 15.4**	**-0.2**
RJF				*e*Sg		**Sg**	**16 25 48.5**	**+0.3**
	3.3nm,0.4s							
RJF	**Les Rejaudoux**	**2.52**	**25**	Pg		**Pg**	**16 25 15.4**	**-0.2**
RJF				Lg			16 25 48.5	
	1.6nm,0.4s							
LASF	**Ste Croix**	**2.98**	**68**	*e*Pg		**Pg**	**16 25 23.7**	**-0.7**
LASF				*e*Sg		**Sg**	**16 26 02.1**	**-0.9**
	1.1nm,0.3s							
LASF	**Ste Croix**	**2.98**	**68**	Pg		**Pg**	**16 25 23.7**	**-0.7**
LASF				Lg			16 26 02.1	
	0.6nm,0.3s							

IDC ***05*** *16:33:01.2±4.3, 1523S×7148W, h163km±37km, mb3.1/2, mb1 3.1/4, mb1mx3.0/18, mbtmp3.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/11, Error ellipse: s-maj=95.2km s-min=43.6km az=18.0*
NEIC 05 16:33:01.8±3.0, 1540S×7141W, h174km±26km, Error ellipse: s-maj=54.2km s-min=38.4km az=184.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.28**	**106**	P		**Pn**	16 33 54.5	+0.9
	0.5nm,0.3s,baz=286,slow=10,SNR=18							
LPAZ				S		Sn	16 34 36.9	+3.0
	0.4nm,0.3s,baz=319,slow=20,SNR=6.4							
LPAZ	**La Paz**	**3.28**	**106**	*e*Pn		Pn	16 33 54.5	+1.0
LPAZ				Sn		Sn	16 34 34.5	+0.7
NNA	**Nana**	**6.28**	**302**	S		Sn	16 35 31.5	-12
	3.6nm,0.3s,baz=243,slow=20,SNR=6.9							
NNA				LR		LR	16 37 01.4	
	comp=Z,173nm,19.0s,baz=260,slow=39							
SIV	**San Ignacio**	**9.97**	**95**	P		Pn	16 35 20.6	-0.3
	0.2nm,0.3s,baz=285,slow=18,SNR=4.5							
TORD	**Torodi Ar. Bea**	**77.68**	**73**	P		P	16 44 40.4	+1.4
	0.4nm,0.7s,baz=260,slow=4.5,SNR=3.7							
YKA	**Yellowknife Ar**	**84.68**	**341**	P		P	16 45 15.2	-0.7
	0.3nm,0.6s,baz=134,slow=5.0,SNR=4.9							
YKA	**Yellowknife Ar**	**84.68**	**341**	P		P	16 45 15.2	-0.7
WRA	**Warramunga Arr**	**136.71**	**217**	PKP		PKPdf	16 52 04.0	+0.8
	0.3nm,0.4s,baz=137,slow=1.5,SNR=5.9							
SONM	**Songino Array**	**147.61**	**3**	PKPbc		PKPbc	16 52 26.1	+0.7
	0.6nm,0.5s,baz=320,slow=3.4,SNR=4.4							

ISCJB ***05*** *16:41:40.8±0.6, 3562N±004×140.12E±006, h77km±4km, mb3.7/3, Error ellipse: s-maj=8.7km s-min=4.9km az=117.4*
IDC ***05*** *16:41:40.2±1.0, 3485N×138.10E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=33.7km s-min=17.5km az=78.0*
NEIC ***05*** *16:41:41.0±1.1, 3484N×13847E, h10km, MG3.3(JMA), Error ellipse: s-maj=50.7km s-min=12.0km az=86.0*
JMA ***05*** *16:41:41.3±0.2, 3569N×140.14E, h68km±2km, M3.3*
JMA Felt I J1.
ISC 05 16:41:41.8±0.6, 3562N±004×14012E±006, h71km±5km, n18, σ0§69/31, mb3.7/3, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.21**	**161**	⇑P		**Pn**	**16 41 52.7**	**+0.2**
JCN				S		**Sn**	**16 42 01.3**	**+0.9**
TOK	**Tokyo**	**0.30**	**283**	P		**Pn**	**16 41 53.3**	**+0.2**
TOK				S		**Sn**	**16 42 02.1**	**+0.8**
BSO3	**Boso 3**	**0.88**	**158**	⇑P		**Pn**	**16 41 58.4**	**-0.4**
BSO3				S		**Sn**	**16 42 12.4**	**+1.0**
JOD2	**Odawara 2**	**0.91**	**247**	⇓P		**Pn**	**16 41 59.0**	**-0.2**
JOD2				S		**Sn**	**16 42 11.7**	**-0.5**
JAG	**Ashikaga**	**0.97**	**326**	⇓P		**Pn**	**16 41 59.1**	**-0.8**
JAG				S		**Sn**	**16 42 12.1**	**-1.3**
JIM2	**Oshima 3**	**1.06**	**212**	P		**Pn**	**16 42 00.5**	**-0.6**
JIM2				S		**Sn**	**16 42 14.7**	**-0.8**
JRY	**Ryogami san**	**1.07**	**292**	⇓P		**Pn**	**16 42 01.3**	**+0.2**
JRY				S		**Sn**	**16 42 16.3**	**+0.8**
BSO1	**Boso 1**	**1.19**	**144**	P		**Pn**	**16 42 02.3**	**-0.5**
BSO1				S		**Sn**	**16 42 18.4**	**-0.1**
JYN	**Shimob**	**1.29**	**265**	⇓P		**Pn**	**16 42 04.0**	**0.0**
JYN				S		**Sn**	**16 42 21.5**	**+0.8**
JKT	**Katashina**	**1.34**	**329**	⇓P		**Pn**	**16 42 04.1**	**-0.6**
JKT				S		**Sn**	**16 42 21.0**	**-0.9**
JIZS	**Izushimoda**	**1.36**	**229**	⇓P		**Pn**	**16 42 04.7**	**-0.2**
JIZS				S		**Sn**	**16 42 21.8**	**-0.4**
MJAR	**Matsushiro Arr**	**1.80**	**301**	Pn		**Pn**	**16 42 10.7**	**0.0**
	35nm,0.3s,baz=99,slow=15,SNR=155							
MAJO	**Matsushiro**	**1.80**	**301**	*e*Pn		**Pn**	**16 42 11.1**	**+0.3**
MAT	**Matsushiro**	**1.80**	**301**	P		**Pn**	**16 42 11.0**	**+0.2**
MAT				S		**Sn**	**16 42 36.1**	**+3.3**
JHJ	**Hachijo jima 2**	**2.51**	**186**	Pn		**Pn**	**16 42 20.4**	**+0.1**
	25nm,0.3s,baz=47,slow=18,SNR=19							
JHJ				Sn		**Sn**	**16 42 49.1**	**-0.8**
	87nm,0.3s,baz=92,slow=23,SNR=11							
MKAR	**Makanchi Array**	**44.00**	**303**	P		**P**	**16 49 42.9**	**+0.8**
	0.6nm,0.7s,mb3.4,baz=84,slow=10.0,SNR=5.1							
WRA	**Warramunga Arr**	**55.53**	**187**	P		**P**	**16 51 09.3**	**-0.3**
	1.0nm,0.4s,mb4.2,baz=1.8,slow=7.6,SNR=30							
ASAR	**Alice Springs**	**59.26**	**187**	P		**P**	**16 51 36.9**	**+1.0**
	0.2nm,0.5s,mb3.4,baz=4.7,slow=6.7,SNR=6.4							

KRSC ***05*** *16:45:02.6±1.7, 5923N×16232E, h15km±15km, ML4.7*
MOS ***05*** *16:45:08.9±2.3, 5882N×16163E, h10km, mb4.0/5, Error ellipse: s-maj=27.1km s-min=8.5km az=91.8*
ISCJB ***05*** *16:45:10.8±0.5, 5857N±003×161.1E±0.1, h10km, mb3.6/7, Error ellipse: s-maj=10.7km s-min=3.7km az=7.3*
IDC ***05*** *16:45:11.8±1.0, 5835N×16154E, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.5/6, Error ellipse: s-maj=36.5km s-min=28.8km az=156.0*
ISC 05 16:45:10.3±0.6, 5858N±003×1615E±02, h10km, n34, σ1§46/43, mb3.6/7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRKR	**Sorokina**	**1.94**	**185**	*e*P		**Pn**	**16 45 46.2**	**+2.9**
SMKR	**Semkarok**	**2.00**	**180**	*e*P		**Pb**	**16 45 47.1**	**+0.3**
SMKR				*i* S		**Sg**	**16 46 19.4**	**+4.7**
BDR	**Baidarnaya**	**2.02**	**184**	*e*P		**Pb**	**16 45 47.1**	**0.0**
BDR				*i* S		**Sg**	**16 46 19.6**	**+4.3**
KLY	**Klyuchi**	**2.32**	**191**	*e*P		**Pb**	**16 45 50.8**	**-1.3**
KLY				*i* S		**Sg**	**16 46 25.8**	**+1.1**
KRSR	**Krestovskiy**	**2.42**	**192**	*e*P		**Pb**	**16 45 52.7**	**-1.2**
KRSR				*i* S		**Sg**	**16 46 29.2**	**+1.2**
SRDR	**Sredinnyy**	**2.46**	**203**	*e*P		**Pb**	**16 45 54.6**	**0.0**
SRDR				*i* S		**Sg**	**16 46 32.4**	**+3.1**
KBTR	**Krutoberegovo**	**2.49**	**162**	*e*P		**Pb**	**16 45 52.9**	**-2.2**
CIRR	**Tsirk**	**2.50**	**189**	*e*P		**Pb**	**16 45 54.3**	**-1.0**
ZLN	**Zelenaya**	**2.60**	**188**	*e*P		**Pb**	**16 45 55.8**	**-1.1**
KOZR	**Kozyr**	**2.66**	**199**	PN		**Pb**	**16 45 57.2**	**-0.8**
KOZR				S		**Sg**	**16 46 36.9**	**+1.1**
KOZ	**Kozyrevsk**	**2.67**	**200**	*e*P		**Pb**	**16 45 57.2**	**-1.0**
KOZ				*i* S		**Sg**	**16 46 36.9**	**+0.7**
BZMR	**Bezymyannaya**	**2.71**	**192**	*e*P		**Pb**	**16 45 57.4**	**-1.4**
KIRR	**Kirishev**	**2.71**	**194**	*e*P		**Pb**	**16 45 57.6**	**-1.2**
KIRR				*i* S		**Sg**	**16 46 37.6**	**+0.4**
KPT	**Kopyto**	**2.71**	**195**	*e*P		**Pb**	**16 45 57.7**	**-1.1**
KPT				*i* S		**Sg**	**16 46 37.7**	**+0.4**
KMNR	**Kamenistaya**	**2.91**	**194**	*e*P		**Pb**	**16 46 00.3**	**-2.0**
TUMR	**Tumrok**	**3.38**	**193**	P		**Pb**	**16 46 07.6**	**-2.7**
MKZ	**Mys Kozlova**	**4.04**	**178**	*e*P		**Pn**	**16 46 15.5**	**+3.4**
GNL	**Ganaly**	**5.28**	**203**	*e*P		**Pn**	**16 46 34.3**	**+5.1**
SPN	**Mys Shipunski**	**5.56**	**189**	P		**Pn**	**16 46 37.4**	**+4.4**
SEY	**Seymchan**	**6.23**	**318**	*e*PN		**Pn**	**16 46 41.3**	**-1.0**
YAK	**Yakutsk**	**16.03**	**296**	*e*P		**Pn**	**16 48 56.5**	**+0.8**
YAK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KLR	**Kul'dur**	**19.70**	**255**	*e*P		**Pn**	**16 49 39.4**	**-1.7**
YKA	**Yellowknife Ar**	**38.72**	**48**	P		**P**	**16 52 34.2**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.5,baz=305,slow=8.1,SNR=6.8							
YKA	**Yellowknife Ar**	**38.72**	**48**	P		**P**	**16 52 34.2**	**-0.3**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**46.65**	**292**	P		**P**	**16 53 43.6**	**+4.8**
	comp=Z,0.2nm,0.5s,mb3.3,baz=45,slow=4.9,SNR=4.1							
NVAR	**Mina Array Bea**	**53.34**	**75**	P		**P**	**16 54 34.7**	**+5.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=296,slow=11,SNR=3.1							
PDAR	**Pinedale Array**	**54.32**	**65**	P		**P**	**16 54 39.1**	**+2.3**
	comp=Z,0.3nm,0.5s,mb3.4,baz=344,slow=4.2,SNR=3.7							
NOA	**NORSAR Array B**	**58.48**	**344**	P		**P**	**16 55 09.7**	**+3.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=18,slow=7.0,SNR=3.4							
NOA	**NORSAR Array B**	**58.48**	**344**	P		**P**	**16 55 09.7**	**+3.2**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**64.32**	**329**	*i* P		**P**	**16 55 47.7**	**+1.7**
AKASG				pmax	pmax			
	comp=Z,2.0nm,1.0s							
WRA	**Warramunga Arr**	**81.39**	**206**	P		**P**	**16 57 27.2**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=16,slow=5.4,SNR=3.8							
WRA	**Warramunga Arr**	**81.39**	**206**	P		**P**	**16 57 27.2**	**0.0**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**85.08**	**205**	P		**P**	**16 57 49.3**	**+3.0**
	comp=Z,0.6nm,1.0s,mb3.7,baz=5.0,slow=4.4,SNR=5.9							
ASAR	**Alice Springs**	**85.08**	**205**	P		**P**	**16 57 49.3**	**+3.0**
ASAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							

ISCJB ***05*** *16:46:14.1±1.4, 2322S±007×677W±02, h104km±19km, mb3.7/2, Error ellipse: s-maj=26.6km s-min=8.7km az=31.6*
IDC ***05*** *16:46:14.9±2.2, 2319S×6788W, h99km±19km, mb3.5/2, mb1 3.8/5, mb1mx3.5/17, mbtmp3.7/5, Error ellipse: s-maj=39.4km s-min=16.6km az=105.0*
NEIC ***05*** *16:46:15.6±1.1, 2316S×6786W, h108km±11km, mb3.5/1, Error ellipse: s-maj=26.4km s-min=10.0km az=95.0*
ISC 05 16:46:15.6±1.2, 2321S±007×678W±02, h102km±16km, n10, σ1§07/10, mb3.7/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.89**	**357**	P		**Pn**	**16 47 55.0**	**+1.1**
	3.3nm,0.3s,baz=206,slow=4.6,SNR=56							
LPAZ	**La Paz**	**6.89**	**357**	*e*Pn		**Pn**	**16 47 54.7**	**+0.7**
CFAA	**Coronel Fontan**	**8.37**	**183**	P		**Pn**	**16 48 14.2**	**+0.1**
	0.3nm,0.3s,baz=359,slow=13,SNR=29							
CFAA				S		**Sn**	**16 49 45.9**	**-1.0**
	0.1nm,0.3s,baz=200,slow=13,SNR=3.7							
SIV	**San Ignacio**	**9.56**	**43**	P		**Pn**	**16 48 30.0**	**-0.3**
	14nm,0.3s,baz=238,slow=12,SNR=164							
SIV				S		**Sn**	**16 50 15.1**	**-0.7**
	1.3nm,0.3s,baz=137,slow=22,SNR=7.8							
TRQA	**Tornquist**	**15.61**	**163**	P		**Pn**	**16 49 51.0**	**+1.2**
	2.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.96**	**69**	P		**P**	**16 57 58.1**	**+1.2**
	0.4nm,0.4s,mb3.5,baz=261,slow=5.5,SNR=8.1							
YKA	**Yellowknife Ar**	**93.14**	**340**	P		**P**	**16 59 15.9**	**-2.2**
	0.3nm,0.5s,mb3.9,baz=142,slow=4.3,SNR=5.6							
YKA	**Yellowknife Ar**	**93.14**	**340**	P		**P**	**16 59 15.9**	**-2.2**
WRA	**Warramunga Arr**	**131.99**	**208**	PKP		PKPdf	17 05 17.5	+0.5
	0.1nm,0.4s,baz=140,slow=1.5,SNR=6.5							
MKAR	**Makanchi Array**	**146.36**	**38**	PKPbc		PKPbc	17 05 43.3	-1.2
	1.1nm,1.1s,baz=327,slow=3.9,SNR=4.2							

STR ***05*** *16:54:23.8±0.3, 4759N×760E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 05 16:54:23.7±0.1, 4761N×760E, h2km, Md2.2/3, Ml1.9/8, Error ellipse: s-maj=1.4km s-min=0.7km az=76.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.40**	**308**	Pg		Pg	16 54 32.2	+0.8
MOF				Sg		Sg	16 54 37.8	+1.2
HINF	**Hinteralfeld**	**0.55**	**293**	*e*Pg		Pg	16 54 34.2	0.0
HINF				*e*Sg		Sg	16 54 41.4	+0.1
	3.6nm,0.2s							
ECH	**Echery**	**0.68**	**334**	Pg		Pg	16 54 36.9	+0.2
ECH				Sg		Sg	16 54 46.5	+1.0
CDF	**Champ du Feu**	**0.84**	**345**	*e*Pg		Pg	16 54 39.5	-0.2
CDF				*e*Sg		Sg	16 54 50.4	-0.2
	4.8nm,0.3s							
HAU	**Haudompre**	**0.94**	**296**	*e*Pg		Pg	16 54 41.5	-0.1
HAU				*e*Sg		Sg	16 54 53.6	-0.1
	4.7nm,0.3s							
**CAB

LIA	Limnos Island	1.18 171	*e*P	Pg	17 18 13.0	-1.7
SOH	Sokhos	1.24 259	*e*Pg	Pg	17 18 15.3	-0.5
SOH			*e*Sg	Sg	17 18 32.8	+0.9
PLG	Polygyros	1.34 240	*e*Pg	Pg	17 18 17.2	-0.6
PLG			*e*Sg	Sg	17 18 36.3	+1.1
PLG	Polygyros	1.34 240	*e*P	Pg	17 18 18.4	+0.6
PLG			*e*S	Sg	17 18 36.8	+1.6
PLG	Polygyros	1.34 240	*e*P	Pg	17 18 18.4	+0.6
PLG			*e*Sg	Sg	17 18 36.3	+1.1
HORT	Hortiatis	1.48 252	*e*Pg	Pn	17 18 19.1	-0.8
HORT			*e*Sg	Sg	17 18 40.2	+0.4
HORT	Hortiatis	1.48 252	*e*Pg	Pn	17 18 19.1	-0.7
HORT			*e*Sg	Sg	17 18 40.2	+0.4
PAIG	Paliouri	1.50 221	*e*Pg	Pn	17 18 19.0	-1.0
PAIG			*e*Sg	Sg	17 18 40.5	+0.3
EDRB	Edirne	1.56 59	PN	Pn	17 18 20.2	-0.7
KNT	Kendrikon	1.56 274	*e*Pg	Pn	17 18 20.4	-0.5
KNT			*e*Sg	Sg	17 18 42.8	+0.5
PGB	Panagyurishte	1.60 339	*i* P	Pn	17 18 21.0	-0.4
EZN	Ezine	1.62 139	PN	Pn	17 18 19.5	-2.2
KKB	Krupnik	1.62 300	*i* P	Pn	17 18 21.5	-0.2
RKY	Sarkoy-Tekirda	1.73 102	PN	Pn	17 18 23.6	+0.4
MFT	Murefte	1.78 98	*e*PN	Pn	17 18 23.9	0.0
VAY	Valandovo	1.82 279	*e*Pg	Pg	17 18 25.8	-1.3
VAY			*e*Sg	Sg	17 18 50.4	-0.2
VAY	Valandovo	1.82 279	*e*Pg	Pg	17 18 25.8	-1.3
VAY			*e*Sg	Sg	17 18 50.4	-0.2
VAY	Valandovo	1.82 279	*e*Pg	Pg	17 18 25.7	-1.3
VAY			*e*Sg	Sg	17 18 50.4	-0.2
JMB	Yambol	1.86 40	*e*Pb	Pb	17 18 25.9	-0.9
JMB			*e*Sb	Sb	17 18 51.4	+1.0
GRG	Griva	1.94 268	*e*Pb	Pn	17 18 25.7	-0.4
GRG			*e*Sb	Sb	17 18 52.2	-0.6
VTS	Vitosha	2.01 320	*i* P	Pb	17 18 29.2	-0.2
VTS	Vitosha	2.01 320	⇓*i*P	Pg	17 18 30.6	-0.1
MRMT	Marmara Adasi	2.05 102	*e*PN	Pn	17 18 28.0	+0.4
XOR	Xorichti	2.17 219	*e*Pn	Pn	17 18 28.4	-0.9
STIP	Stip	2.18 288	*e*Pg	Pg	17 18 33.6	-0.3
STIP			*e*Sg	Sg	17 19 02.1	0.0
SZH	Strazhica	2.32 18	*i* P	Pn	17 18 32.0	+0.7
BNT	Bandirma	2.36 106	*e*PN	Pn	17 18 32.1	+0.2
CTT	Catalca	2.63 87	*e*P	Pn	17 18 35.9	+0.4
AGG	Agios Georgios	2.87 226	*e*Pn	Pn	17 18 38.5	-0.3
AGG	Agios Georgios	2.87 226	*e*Pn	Pn	17 18 38.5	-0.4
TIRR	Tirgusor	4.24 36	⇓*i*P	Pb	17 19 09.4	+2.0
MLR	Muntele Rosu	4.48 9	⇑P	Pn	17 19 02.9	+1.7
MLR	Muntele Rosu	4.48 9	⇑*i*P	Pn	17 19 02.8	+1.7
GZR	Gura Zlata	4.61 341	⇓P	Pn	17 19 03.8	+1.0
GZR	Gura Zlata	4.61 341	⇓*i*P	Pn	17 19 03.8	+0.9
VRI	Vrincioaia	4.97 14	⇓*i*P	Pn	17 19 10.6	+2.8

*ISCJB **05** 17:20:27.0±0.5, 4106N±003×2497E±002, h0km±4km, Error ellipse: s-maj=4.3km s-min=2.7km az=152.7*
*SOF **05** 17:20:27.3, 41.13N×2502E, h5km, MD2.6*
*NEIC **05** 17:20:27.9, 41.16N×2518E, h42km, MD2.6(SOF), MD3.5(ATH), After ATH.*
*SKO **05** 17:20:27.8, 4108N×2490E, h35km*
*ATH **05** 17:20:28.3, 4106N×2507E, h25km, MD3.5/4*
*CSEM **05** 17:20:28.0±0.1, 4108N×2498E, h10km, MD3.5, Error ellipse: s-maj=2.1km s-min=1.3km az=176.0*
*THE **05** 17:20:28.4, 4101N×2498E, h2km, ML3.1*

ISC 05 17:20:27.9±0.4, 4108N±003×2497E±002, h5km±4km, n50, σ1§00/69, 3C-8D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	Rodhopi	0.44	81	⇑*i*PB	Pg	17 20 36.3	0.0
RDO				*e*SB	Sg	17 20 42.5	+0.5
RZN	Rozhen	0.64	343	*i* P	Pg	17 20 38.4	-1.7
KDZ	Kurdzhali	0.66	31	*i* Pg	Pg	17 20 38.8	-1.8
ALN	Alexandroupoli	0.84	102	*e*Pg	Pg	17 20 44.5	+0.6
ALN				*e*Sg	Sg	17 20 55.6	+0.8
ALN	Alexandroupoli	0.84	102	*e*Pg	Pg	17 20 44.5	+0.5
ALN				*e*Sg	Sg	17 20 55.6	+0.8
NVR	Nevrokopi	0.88	288	*e*PN	Pn	17 20 46.9	+0.1
ENEZ	Enez	0.96	110	PN	Pn	17 20 47.8	-0.2
ENEZ				SN	Sn	17 21 02.1	0.0
SRS	Serrai	1.04	273	*e*Pg	Pg	17 20 47.6	-0.2
SRS				*e*Sg	Sg	17 21 03.8	+2.5
PLD	Plovdiv	1.04	349	*e*Pg	Pg	17 20 48.0	+0.1
PLD				*e*Sg	Sg	17 21 05.8	+4.4
PLD	Plovdiv	1.04	349	*i* Pg	Pg	17 20 48.0	+0.1
OUR	Ouranopolis	1.05	225	*e*Pg	Pg	17 20 47.8	-0.3
DIM	Dimitrovgrad	1.06	24	*i* Pg	Pg	17 20 47.6	-0.6
MMB	Musomiste	1.06	299	*i* P	Pg	17 20 48.4	+0.1
LIA	Limnos Island	1.19	172	*e*PN	Pn	17 20 50.5	-0.6
LIA				*e*SN	Sn	17 21 06.7	-1.0
SOH	Sokhos	1.25	259	*e*Pg	Pg	17 20 51.3	-0.5
SOH				*e*Sg	Sg	17 21 09.6	+1.6
PLG	Polygyros	1.35	239	*e*Pg	Pg	17 20 52.9	-0.9
PLG				*e*Sg	Sg	17 21 12.5	+1.1
PLG	Polygyros	1.35	239	⇓*i*PN	Pg	17 20 54.2	+0.4
PLG				*e*SN	Sn	17 21 12.6	+0.9
PLG	Polygyros	1.35	239	⇓*i*P	Pg	17 20 54.2	+0.4
PLG				*e*Sg	Sg	17 21 12.5	+1.1
HORT	Hortiatis	1.50	252	*e*Pg	Pn	17 20 54.9	-0.4
HORT				*e*Sg	Sg	17 21 16.7	+0.7
PAIG	Paliouri	1.51	221	*e*Pg	Pn	17 20 54.6	-1.0
PAIG				*e*Sg	Sn	17 21 14.8	-0.8
EDRB	Edirne	1.54	60	PN	Pn	17 20 55.8	-0.1
KNT	Kendrikon	1.56	274	*e*Pg	Pn	17 20 56.2	0.0
KNT				*e*Sg	Sg	17 21 18.7	+0.6
PGB	Panagyurishte	1.59	338	*i* P	Pn	17 20 56.8	+0.2
KKB	Krupnik	1.62	300	*i* P	Pn	17 20 57.4	+0.4
EZN	Ezine	1.63	140	PN	Pn	17 20 56.9	-0.2
RKY	Sarkoy-Tekirda	1.72	102	*e*PN	Pn	17 20 59.6	+1.2
MFT	Murefte	1.78	99	*e*PN	Pn	17 20 59.6	+0.4
VAY	Valandovo	1.82	278	*e*Pb	Pn	17 21 00.0	+0.2
VAY	Valandovo	1.82	278	*e*Pg	Pn	17 20 59.6	-0.3
VAY				*e*Sg	Sb	17 21 24.3	-0.5
VAY	Valandovo	1.82	278	*e*Pg	Pn	17 20 59.6	-0.3
VAY				*e*Sg	Sb	17 21 24.3	-0.5
VAY	Valandovo	1.82	278	*e*Pg	Pn	17 20 59.5	-0.3
VAY				*e*Sg	Sb	17 21 24.3	-0.5
JMB	Yambol	1.84	41	*e*Pb	Pb	17 21 01.4	-0.6
JMB				*e*Sb	Sb	17 21 25.3	+0.1
JMB	Yambol	1.84	41	*i* Pg	Pb	17 21 01.5	-0.4
CANB	Canakkale	1.92	123	*e*PN	Pn	17 21 01.6	+0.5
GRG	Griva	1.94	267	*e*Pb	Pb	17 21 02.4	-1.3
GRG				*e*Sb	Sb	17 21 27.5	-0.8
VTS	Vitosha	2.00	320	*e*Pn	Pb	17 21 03.8	-0.9
VTS	Vitosha	2.00	320	*i* P	Pg	17 21 05.2	-1.0
VTS	Vitosha	2.00	320	⇑*i*P	Pg	17 21 05.0	-1.2
AOS	Alonnisos	2.08	204	*e*Pn	Pn	17 21 02.5	-0.9
LIT	Litokhoron	2.12	243	*e*Pn	Pn	17 21 03.0	-1.0
XOR	Xorichti	2.19	219	*e*Pn	Pn	17 21 04.1	-0.7
BNT	Bandirma	2.36	107	*e*PN	Pn	17 21 07.7	+0.5
CTT	Catalca	2.62	87	*e*P	Pn	17 21 11.4	+0.6
TIRR	Tirgusor	4.22	36	⇓*i*P	Pg	17 21 46.6	-2.2
MLR	Muntele Rosu	4.47	9	⇓P	Pn	17 21 38.7	+2.5
MLR	Muntele Rosu	4.47	9	⇓*i*P	Pn	17 21 38.7	+2.5
GZR	Gura Zlata	4.60	340	⇓*i*P	Pn	17 21 40.1	+2.1
PLOR	Plostina	4.92	14	⇑*i*P	Pn	17 21 45.5	+3.0
VRI	Vrincioaia	4.95	14	⇓P	Pn	17 21 46.1	+3.2
VRI	Vrincioaia	4.95	14	⇓*i*P	Pn	17 21 46.1	+3.2

*ISCJB **05** 17:23:33.8±1.0, 98S±02×1088E±03, h10km, mb3.7/7, Error ellipse: s-maj=52.7km s-min=15.8km az=106.3*
*IDC **05** 17:23:34.6±2.5, 972S×10892E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=119.2km s-min=21.3km az=48.0*
*NEIC **05** 17:23:35.8±0.9, 985S×10880E, h10km, mb4.2/2, Error ellipse: s-maj=49.1km s-min=14.7km az=53.0*

ISC 05 17:23:35.7±1.0, 99S±02×1087E±03, h10km, n9, σ0§95/9, mb3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warrumunga Arr	26.67	115	P	P	17 29 12.9	-1.8
	0.7nm,0.8s,mb3.2,baz=286,slow=12,SNR=4.3						
ASAR	Alice Springs	27.67	123	P	P	17 29 25.5	+1.8
	0.5nm,0.9s,mb3.1,baz=306,slow=10,SNR=3.9						
SONM	Songino Array	57.52	358	P	P	17 33 25.7	+0.6
	0.3nm,0.4s,mb3.6,baz=177,slow=9.2,SNR=4.6						
MK31	Makanchi Array	61.18	340	*e*P	P	17 33 51.5	+1.1
MKAR	Makanchi Array	61.18	340	P	P	17 33 50.2	-0.2
	0.6nm,0.6s,mb3.9,baz=147,slow=7.1,SNR=9.3						
BVAR	Borovoye Array	70.69	337	P	P	17 34 51.2	-0.5
	1.1nm,0.7s,mb3.9,baz=142,slow=8.4,SNR=12						
BRVK	Borovoye	70.75	337	*e*P	P	17 34 51.4	-0.6
	0.7nm,0.6s,mb3.8						
CHKZ	Chkalovo	71.10	337	*e*P	P	17 34 53.7	-0.4
	2.0nm,0.5s,mb4.3						
SBA	Scott Base	73.89	169	*e*P	P	17 35 10.8	0.0

*IDC **05** 17:29:00.1±3.2, 1861S×17387W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, ML2.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/29, Error ellipse: s-maj=142.0km s-min=29.7km az=139.0*

NEIC 05 17:29:01.6±1.7, 1851S×17389W, h10km, mb4.0/1, Error ellipse: s-maj=65.9km s-min=11.8km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.00	24	Pn	Pn	17 30 17.4	+0.7
	4.8nm,0.3s,baz=265,slow=22,SNR=7.8						
AFI				Sn	Sn	17 31 10.7	-3.8
	6.6nm,0.3s,baz=56,slow=22,SNR=2.9						
AFI	Afiamalu	5.00	24	P	Pn	17 30 16.7	0.0
AFI				Sn	Sn	17 31 10.7	-3.9
URZ	Urewera	21.19	200	LR	LR	17 39 34.2	
	comp=Z,74nm,18.5s,baz=290,slow=30						
CTAO	Charters Tower	37.59	261	*e*P	P	17 36 17.3	+1.1
	1.3nm,0.4s						
WB2	Warramunga Arr	48.74	259	*e*P	P	17 37 47.0	+0.6
WRAB	Tennant Creek	48.74	259	P	P	17 37 46.0	-0.3
WRA	Warramunga Arr	48.75	259	P	P	17 37 47.0	+0.6
	0.4nm,0.3s,baz=98,slow=7.3,SNR=14						
ASAR	Alice Springs	48.77	254	P	P	17 37 46.8	+0.2
	1.1nm,0.5s,baz=93,slow=7.9,SNR=39						
BVAR	Borovoye Array	120.02	321	PKP	PKPdf	17 47 52.2	-0.2
	0.6nm,0.7s,baz=107,slow=1.5,SNR=4.7						
BRTR	Keskin Array B	148.19	317	PKPbc	PKPbc	17 48 49.1	+1.4
	0.7nm,0.7s,baz=56,slow=2.6,SNR=4.5						
GERES	GERESS Array B	149.12	350	PKPbc	PKPbc	17 48 50.0	-0.1
	0.4nm,0.6s,baz=330,slow=3.4,SNR=3.5						

*NEIC **05** 17:34:13.9±0.9, 4546N×15170E, h10km, Error ellipse: s-maj=25.4km s-min=16.9km az=172.0*
*JMA **05** 17:34:14.8±0.8, 4564N×15184E, h30km, M4.1*
*BJI **05** 17:34:14.8, 4508N×15170E, h21km, mB4.8, mb4.3*
*ISCJB **05** 17:34:18.0±1.6, 444N±0.1×1519E±0.1, h108km±13km, mb3.8/15, Error ellipse: s-maj=27.6km s-min=10.3km az=115.7*
*IDC **05** 17:34:22.0±4.3, 4549N×15169E, h75km±40km, mb3.4/13, mb1 3.7/15, mb1mx3.6/24, mbtmp3.5/15, ML3.2/2, Error ellipse: s-maj=24.1km s-min=18.7km az=162.0*

ISC 05 17:34:20.1±1.4, 451N±02×1517E±01, h75km±16km, n34, σ1§16/38, mb3.8/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	4.60	250	P	Pn	17 35 25.8	-1.3
NEM2				*e*S	Sn	17 36 18.7	-0.5
JRA	Rausu	4.83	259	P	Pn	17 35 30.6	+0.4
JNK	Nakash	5.21	256	P	Pn	17 35 35.3	-0.2
JNK				*e*S	Sn	17 36 35.8	+1.6
JAK	Akkeshi	5.45	250	P	Pn	17 35 37.4	-1.3
JAK				*e*S	Sn	17 36 38.5	-1.5
JTKR	Abashiri--Toko	5.67	261	P	Pn	17 35 42.4	+0.7
JAR	Ashorobuto	5.96	255	P	Pn	17 35 46.0	+0.3
JMP	Maruseppu	6.04	263	P	Pn	17 35 47.8	+1.0
JCH	Churui	6.50	251	P	Pn	17 35 52.9	-0.1
JCH				*e*S	Sn	17 37 04.7	-1.0
ASAJ	Asahikawa	6.56	265	P	Pn	17 35 55.4	+1.5
	0.6nm,0.3s,baz=188,slow=3.5,SNR=4.8						
JNBK	Urakawa-nobuka	7.05	250	*e*S	Sn	17 37 18.9	-0.3
JNB	Noboribetsu	8.13	255	P	Pn	17 36 15.6	+0.3
JANG	Nango	8.84	241	*e*S	Sn	17 37 57.6	-5.3
JTH	Tanohata	8.88	238	*e*S	Sn	17 37 57.4	-6.6
OFUJ	Ofunato	9.55	235	*e*S	Sn	17 38 14.5	-5.9
CN2	Changchun	18.75	275	*e*P	Pn	17 38 33.5	-0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KSRS	Korea Array	19.37	255	P	Pn	17 38 44.0	+2.5
	baz=58,slow=12,SNR=5.2						
SONM	Songino Array	30.98	292	P	P	17 40 32.2	+2.0
	comp=Z,0.8nm,0.8s,mb3.5,baz=80,slow=7.4,SNR=6.1						
LZH	Lanzhou	36.96	273	*e*P	P	17 41 26.5	+4.6
LZH				AP	pP	17 41 29.5	-10
LZH				XP	sP	17 41 31.0	-18
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
GTA	Gaotai	38.27	280	*e*P	P	17 41 36.3	+3.4
GTA				AP	pP	17 41 48.2	-2.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
INK	Inuvik	43.60	31	P	P	17 42 14.9	-1.8
	comp=Z,1.4nm,0.8s,mb3.7,baz=285,slow=7.4,SNR=4.2						
INK	Inuvik	43.60	31	P	P	17 42 15.7	-1.1
	comp=Z,57nm,1.0s,mb5.3						
MKAR	Makanchi Array	46.84	298	P	P	17 42 42.4	0.0
	comp=Z,1.0nm,0.8s,mb3.6,baz=71,slow=7.8,SNR=5.4						
YKA	Yellowknife Ar	52.86	36	P	P	17 43 27.3	-0.7
	comp=Z,0.1nm,0.3s,mb3.3,baz=292,slow=8.3,SNR=3.5						
YKA	Yellowknife Ar	52.86	36	P	P	17 43 27.3	-0.7
ARCES	ARCESS Array B	59.10	341	P	P	17 44 11.5	-1.1
	comp=Z,5.3nm,1.0s,mb4.5,baz=46,slow=6.4,SNR=3.3						
NVAR	Mina Array Bea	64.11	61	P	P	17 44 48.9	+2.6
	comp=Z,0.5nm,0.5s,mb3.6,baz=282,slow=5.4,SNR=4.3						
FINES	FINESS Array B	65.12	334	P	P	17 44 52.2	-0.6
	comp=Z,2.5nm,0.7s,mb4.1,baz=19,slow=6.5,SNR=6.1						
FINES	FINESS Array B	65.12	334	P	P	17 44 52.2	-0.6
PDAR	Pinedale Array	66.55	52	P	P	17 45 01.5	-0.5
	comp=Z,0.2nm,0.6s,mb3.1,baz=325,slow=1.4,SNR=2.8						
WRA	Warramunga Arr	66.61	198	P	P	17 45 06.6	+4.1
	comp=Z,0.6nm,1.0s,mb3.4,baz=12,slow=6.8,SNR=5.2						
AKASG	Malin Array Be	72.37	326	P	P	17 45 35.6	-2.3
	comp=Z,0.6nm,0.5s,mb3.7,baz=32,slow=6.2,SNR=5.8						
BRTR	Keskin Array B	78.91	316	P	P	17 46 16.1	+0.8
	comp=Z,0.7nm,0.8s,mb3.5,baz=53,slow=5.6,SNR=3.6						
TXAR	Lajitas Array	79.19	59	P	P	17 46 17.7	+0.9
	comp=Z,0.3nm,0.5s,mb3.4,baz=295,slow=6.5,SNR=4.1						
GERES	GERESS Array B	79.51	333	P	P	17 46 18.4	-0.1
	comp=Z,0.3nm,0.5s,mb3.4,baz=346,slow=3.2,SNR=4.2						

*ISCJB **05** 17:49:39.9±0.7, 3590N±004×2902E±004, h26km±6km, Error ellipse: s-maj=6.7km s-min=5.4km az=91.7*
*CSEM **05** 17:49:39.6±0.1, 3599N×2901E, h20km, MD3.5, Error ellipse: s-maj=2.5km s-min=1.4km az=16.0*
*ISK **05** 17:49:39.8, 3599N×2897E, h19km, MD3.3*
*ATH **05** 17:49:41.2, 36.12N×2909E, h41km±4km, MD3.5/4*
*HLW **05** 17:49:44.2, 3566N×2944E, h30km, Mb3.3*

ISC 05 17:49:39.8±0.7, 3591N±003×2904E±004, h15km±5km, n33, σ1§28/41, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.50	61	*e*P	Pg	17 49 50.5	+0.8
KSL				*e*S	Sg	17 49 59.0	+2.6
FETY	Fethiye	0.73	3	*i* PG	Pg	17 49 53.1	-0.8
FETY				*i* SG	Sg	17 50 02.5	-1.1
ARG	Arkhangelos	0.81	293	*e*P	Pb	17 49 56.8	+1.4
ARG				*e*S	Sg	17 50 08.6	+2.6
DALT	Dalyan (Mudla)	0.92	339	*i* PG	Pg	17 49 56.5	-1.1
DALT				*i* SG	Sg	17 50 08.1	-1.7
ELL	Elmali	1.09	39	PG	Pg	17 50 00.3	-0.5
ELL				SG	Sg	17 50 15.6	+0.5
GOLH	Golhisar	1.39	17	*i* P	Pn	17 50 04.8	+0.2
GOLH				*i* S	Sn	17 50 23.6	+0.9
DAT	Datca	1.44	305	PN	Pn	17 50 04.3	-1.0
KARP	Karpathos	1.57	257	*e*P	Pg	17 50 09.5	-0.5
ANTB	Antalya	1.63	52	*e*PN	Pn	17 50 08.4	+0.5
MLSB	Milas	1.72	324	PN	Pn	17 50 08.4	-0.7
BDRM	Kayabasi	1.73	312	*i* P	Pn	17 50 11.2	+1.9
DNZL	Cakiroluk	1.78	0	*i* P	Pg	17 50 17.7	+3.7
DNZL				*i* S	Sg	17 50 39.0	+1.9
DENT	Denizli	1.84	360	PN	Pn	17 50 09.9	-0.9
BCK	Bucak	1.99	38	PN	Pn	17 50 13.5	+0.7
ISP	Isparta	2.26	31	*e*PN	Pn	17 50 16.1	-0.5
TKTP	Tekketepe	2.36	25	*i* P	Pn	17 50 17.4	-0.5
TKTP				*i* S	Sg	17 50 53.3	-2.4
KHL	Karahalli	2.44	9	*e*PN	Pn	17 50 19.0	-0.1
SMG	Samos	2.52	316	*e*P	Pn	17 50 19.9	-0.3
SHUT	Suhut-Afyon	2.90	24	*e*PN	Pn	17 50 25.2	-0.2
BLCB	Balcova	2.95	328	*e*PN	Pn	17 50 25.4	-0.6
AKS	Akhisar	3.13	342	*e*PN	Pn	17 50 28.2	-0.2
KONT	Konya--Tatoy	3.35	52	*e*PN	Pn	17 50 32.3	+0.8
KIZT	Kizilcal	3.73	36	*e*PN	Pn	17 50 36.8	0.0
IKL	Isikli	3.77	84	*e*PN	Pn	17 50 38.8	+1.4
ESKT	Eskisehir	3.88	21	*e*PN	Pn	17 50 39.5	+0.6
HMAT	Matruh	5.07	199	P	Pn	17 50 55.7	+0.6
SLUM		5.44	217	P	Pn	17 51 02.7	+2.4
AMAG	Maghara	6.30	145	P	Pn	17 51 09.4	-2.7
HHAG	Hagoal	6.47	156	P	Pn	17 51 12.0	-2.4
GLL	Jalalah	6.70	160	P	Pn	17 51 15.4	-2.1
SUZ		6.83	151	P	Pn	17 51 17.0	-2.5
SWA1		7.20	204	P	Pn	17 51 26.1	+1.8
HFRF	Wahat Farafira	8.75	184	P	Pn	17 51 45.7	0.0

*ISCJB **05** 18:04:11.9±4.2, 313S±0.1×179.1W±0.1, h27km±31km, mb4.3/9, MS3.3/1, Error ellipse: s-maj=21.4km s-min=16.0km az=74.5*
*NEIC **05** 18:04:11.8±4.9, 31.17S×17897W, h20km±31km, mb4.8/4, Error ellipse: s-maj=17.0km s-min=11.9km az=130.0*
*IDC **05** 18:04:15.1±2.4, 3130S×17897W, h47km±22km, mb4.0/6, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, ML4.0/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=32.8km s-min=21.1km az=140.0*

ISC 05 18:04:14.8±1.8, 313S±01×1791W±01, h37km±17km, n23, σ0§69/17, mb4.3/9, MS3.3/1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.24	27	P	Pn	18 04 49.4	0.0
	55nm,0.3s,baz=78,slow=21,SNR=6.2						
RAO	Raoul Island	2.24	27	*e*Pn	Pn	18 04 45.5	-3.9
URZ	Urewera	7.65	203	P	Pn	18 06 03.8	0.0
	1.4nm,0.3s,baz=65,slow=3.0,SNR=9.7						
RPZ	Rata Peaks	14.68	209	LR	LR	18 13 05.7	
	comp=Z,156nm,20.8s,baz=3.9,slow=36						
DZM	Mont Dzumac	15.85	302	P	Pn	18 08 00.8	+5.6
	0.2nm,0.3s,baz=86,slow=19,SNR=4.1						
CTA	Charters Tower	33.05	281	P	P	18 10 47.9	+1.2
	3.3nm,0.7s,mb4.4,baz=216,slow=17,SNR=3.4						
CTA	Charters Tower	33.05	281	P	P	18 10 47.9	+1.2
CTAO	Charters Tower	33.05	281	P	P	18 10 48.8	+2.0
	20nm,1.4s,mb4.9						
STKA	Stephens Creek	33.40	258	P	P	18 10 50.8	+1.0
	2.7nm,0.8s,mb4.2,baz=121,slow=8.9,SNR=4.9						
ASAR	Alice Springs	42.16	268	P	P	18 12 03.5	-0.3
	2.9nm,0.7s,mb4.0,baz=105,slow=7.6,SNR=40						
WB2	Warramunga Arr	43.22	274	*e*P	P	18 12 11.5	-0.8
WRAB	Tennant Creek	43.22	274	*e*P	P	18 12 11.3	-1.0
	7.0nm,0.9s,mb4.4						
WRA	Warramunga Arr	43.23	274	P	P	18 12 12.0	-0.4
	4.8nm,0.8s,mb4.3,baz=115,slow=7.1,SNR=28						
QSPA	South Pole Qui	58.84	180	*e*P	P	18 14 09.9	+0.2
	27nm,1.4s,mb5.1						
CBIJ	Chichi jima	68.82	323	LR	LR	18 42 55.3	
	comp=Z,18nm,18.8s,MS3.3,baz=130,slow=34						
SNAA	Sanae	77.31	179	*e*P	P	18 16 05.1	-0.4
	13nm,1.4s,mb4.7						
KSRS	Korea Array	84.42	320	P	P	18 16 43.5	0.0
	1.1nm,0.8s,mb4.0,baz=152,slow=5.7,SNR=4.4						
ISA	Isabella	87.56	45	*e*P	P	18 16 59.5	+0.5
NVAR	Mina Array Bea	89.49	43	P	P	18 17 07.9	-0.2
	0.2nm,0.4s,mb3.8,baz=221,slow=5.9,SNR=4.4						
MALT	Malatya	148.58	293	*e*PKPbc	PKPbc	18 23 57.5	-0.3
AKASG	Malin Array Be	151.42	321	PKPbc	PKPbc	18 24 02.5	-2.1
	0.1nm,0.3s,baz=46,slow=2.6,SNR=6.3						
BRTR	Keskin Array B	152.19	297	PKPbc	PKPbc	18 24 05.0	-1.4
	0.6nm,0.6s,baz=100,slow=4.1,SNR=5.0						
TORD	Torodi Ar. Bea	161.95	182	PKPab	PKPab	18 24 57.5	-0.8
	2.4nm,1.1s,baz=176,slow=2.6,SNR=8.4						

*ISCJB **05** 18:04:42.2±0.6, 4599N±008×15453E±009, h10km, mb4.1/20, Error ellipse: s-maj=13.7km s-min=5.2km az=103.9*
*IDC **05** 18:04:43.2±0.8, 4607N×15473E, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.9/26, mbtmp3.9/13, ML3.8/2, Error ellipse: s-maj=22.8km s-min=17.3km az=134.0*
*NEIC **05** 18:04

comp=Z,1.0nm,0.6s
MK31 Makanchi Array 48.21 299 P P 18 13 26.2 +1.6
MKAR Makanchi Array 48.21 299 P P 18 13 26.8 +2.2
comp=Z,1.2nm,0.7s,mb4.0,baz=66,slow=7.1,SNR=9.5
MKAR Makanchi Array 48.21 299 P P 18 13 26.8 +2.2
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 48.21 299 P P 18 13 26.8 +2.2
YKA Yellowknife Ar 50.89 37 P P 18 13 44.9 -0.1
comp=Z,0.8nm,0.6s,mb3.8,baz=295,slow=7.1,SNR=7.1
YKA Yellowknife Ar 50.89 37 P P 18 13 44.9 -0.2
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 50.89 37 P P 18 13 44.9 -0.1
LSA Lhasa 51.37 275 P P 18 13 51.9 +3.3
LSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LSA Lhasa 51.37 275 P P 18 13 51.9 +3.2
comp=Z,2.6nm,0.5s,mb4.4
CHKZ Chkalovo 51.70 311 *eP* **P 18 13 50.9 -0.3**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHKZ Chkalovo 51.70 311 *eP* **P 18 13 50.9 -0.3**
comp=Z,4.2nm,0.6s,mb4.5
BVAR Borovoye Array 52.13 310 P P 18 13 55.1 +0.8
comp=Z,0.9nm,0.5s,mb3.9,baz=50,slow=9.1,SNR=8.5
BVAR Borovoye Array 52.13 310 P P 18 13 55.1 +0.7
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 52.17 310 *eP* **P 18 13 54.7 0.0**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 52.17 310 *eP* **P 18 13 54.6 0.0**
comp=Z,2.5nm,0.6s,mb4.3
CM31 Chiang Mai Arr 53.23 258 *eP* **P 18 14 04.3 +1.8**
comp=Z,2.5nm,0.8s,mb4.2
ARU Arti 56.26 318 *eP* **P 18 14 24.5 +0.1**
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 56.26 318 *eP* **P 18 14 24.5 0.0**
comp=Z,3.9nm,0.6s,mb4.6
FINES FINESS Array B 65.15 336 P P 18 15 24.6 -0.5
comp=Z,1.1nm,0.6s,mb4.1,baz=25,slow=6.3,SNR=4.4
FINES FINESS Array B 65.15 336 P P 18 15 24.6 -0.4
FINES pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 68.16 201 P P 18 15 44.1 -0.2
WRAB pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
WRAB Tennant Creek 68.16 201 P P 18 15 44.0 -0.2
comp=Z,2.3nm,0.7s,mb4.3
WRA Warramunga Arr 68.17 201 P P 18 15 45.5 +1.1
comp=Z,1.5nm,0.6s,mb4.2,baz=21,slow=6.9,SNR=17
WRA Warramunga Arr 68.17 201 P P 18 15 45.5 +1.2
WRA pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 71.86 200 P P 18 16 08.4 +1.5
comp=Z,0.9nm,0.8s,mb3.7,baz=20,slow=6.3,SNR=11
ASAR Alice Springs 71.86 200 P P 18 16 08.5 +1.5
ASAR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 72.74 327 P P 18 16 11.6 -0.6
comp=Z,0.3nm,0.3s,mb3.7,baz=38,slow=6.1,SNR=4.9
TXAR Lajitas Array 76.94 61 P P 18 16 36.8 +0.3
comp=Z,0.9nm,0.7s,mb3.8,baz=319,slow=4.6,SNR=8.5
TXAR Lajitas Array 76.94 61 P P 18 16 36.8 +0.3
TXAR pmax pmax
comp=Z,1.0nm,0.7s

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*IDC **05** 18:21:34.7±1.6, 1304N×1244E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=164.2km s-min=20.4km az=68.0*
*ISCJB **05** 18:21:36.7±2.0, 1343N±005×12504E±009, h27km±14km, mb3.6/4, Error ellipse: s-maj=14.9km s-min=7.9km az=148.0*
*MAN **05** 18:21:38.5, 1336N×1248E, h23km, mb3.1, ML4.4, MS3.1*
ISC 05 18:21:36.3±1.6, 1340N±005×12504E±008, h9km±9km, n16, σ0°92/19, mb3.6/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataram**	**0.96**	**202**	*eP*	**Pg**	**18 21 54.7**	**0.0**
CNP				*eS*	**Sg**	**18 22 07.2**	**+0.1**
PLP	**Palo**	**2.22**	**181**	*eP*	**Pn**	**18 22 13.8**	**+0.5**
PLP				*eS*	**Sn**	**18 22 40.3**	**-0.5**
OCLP	**Ormoc**	**2.37**	**190**	*eP*	**Pn**	**18 22 16.9**	**+1.6**
RCP	**Roxas**	**2.89**	**231**	⇓*eP*	**Pn**	**18 22 22.4**	**0.0**
RCP				*eS*	**Sn**	**18 22 57.4**	**+0.1**
BOAC	**Boac**	**3.11**	**271**	*eP*	**Pn**	**18 22 23.9**	**-1.4**
OTRP	**Odiongan**	**3.12**	**251**	*eP*	**Pn**	**18 22 25.3**	**-0.2**
KALP	**Kalibo**	**3.14**	**237**	*eP*	**Pg**	**18 22 35.5**	**-1.0**
MSLP	**Maasin**	**3.25**	**183**	*eP*	**Pn**	**18 22 29.1**	**+1.8**
POLP	**Polillo Island**	**3.28**	**294**	*eP*	**Pn**	**18 22 28.6**	**+0.8**
GUIM	**Jordan**	**3.65**	**221**	*eP*	**Pn**	**18 22 32.7**	**-0.2**
LUBP	**Lubang**	**4.67**	**275**	*eP*	**Pn**	**18 22 48.0**	**+1.2**
CAUP	**Cauayan**	**4.69**	**319**	*eP*	**Pn**	**18 22 46.8**	**-0.4**
WRA	**Warramunga Arr**	**34.38**	**164**	P	**P**	**18 28 22.2**	**-1.3**
	0.1nm,0.3s,mb3.2,baz=341,slow=8.9,SNR=7.1						
SONM	**Songino Array**	**37.68**	**339**	P	**P**	**18 28 52.4**	**+0.6**
	0.8nm,0.5s,mb3.7,baz=158,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**37.85**	**167**	P	**P**	**18 28 51.4**	**-1.8**
	0.4nm,0.5s,mb3.4,baz=342,slow=6.8,SNR=21						
MKAR	**Makanchi Array**	**48.83**	**322**	P	**P**	**18 30 21.9**	**+0.1**
	1.0nm,0.5s,mb4.1,baz=114,slow=8.9,SNR=8.1						

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*ATH **05** 18:39:27.8, 3674N×2661E, h10km, MD3.3/3*
*HLW **05** 18:39:38.2, 3562N×2736E, h25km, Mb3.5*
CSEM 05 18:39:36.9±0.2, 3557N×2737E, h40km, ML3.5, 2C, Error ellipse: s-maj=6.7km s-min=3.7km az=119.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAP	**Karpathos**	**0.16**	**264**	*e*Pn	Pn	18 39 51.7	+7.8
KARP	**Karpathos**	**0.17**	**263**	*e*PB	Pn	18 39 51.7	+7.7
ARG	**Arkhangelos**	**0.89**	**43**	⇑*i*PB	Pn	18 39 52.9	0.0
NPS	**Neapolis**	**1.47**	**259**	⇑*i*PB	Pn	18 39 59.0	-1.9
SLUM		**4.45**	**205**	P	Pn	18 40 43.7	+2.0
HMAT	**Matruh**	**4.47**	**183**	P	Pn	18 40 44.8	+2.7
HBRG	**Burj al 'Arab**	**5.39**	**157**	P	Pn	18 40 57.1	+2.3
SWA1		**6.44**	**193**	P	Pn	18 41 11.6	+2.5
AMAG	**Maghara**	**6.93**	**133**	P	Pn	18 41 18.3	+2.4
GLL	**Jalalah**	**7.00**	**147**	P	Pn	18 41 19.6	+2.8
GLL	**Jalalah**	**7.00**	**147**	P	Pn	18 41 19.6	+2.7
SUZ		**7.33**	**140**	P	Pn	18 41 24.6	+3.2
HNKL	**Nakhl**	**7.91**	**133**	P	Pn	18 41 31.6	+2.3
HNKL	**Nakhl**	**7.91**	**133**	P	Pn	18 41 31.6	+2.3
HFRF	**Wahat Farafira**	**8.43**	**174**	P	Pn	18 41 39.5	+3.0

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*VIE **05** 18:55:59.6±0.9, 4763N×765E, h8km, ML2.4/1, Error ellipse: s-maj=10.6km s-min=5.1km az=20.0 10 km NNE of Basel*
*STR **05** 18:55:59.8±0.2, 4759N×761E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 18:55:59.9±0.1, 4757N×757E, h2km, Md2.2/3, Ml2.2/12, Error ellipse: s-maj=2.6km s-min=1.3km az=78.0*
ZUR 05 18:55:59.9, 4758N×760E, h5km±1km, ML1.6, 5C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇑*i*Pg	Pg	18 56 05.4	+0.5
	210nm,0.3s						
BOURR	**Bourrignon**	**0.31**	**233**	⇑*i*Pg	Pg	18 56 06.5	+0.5
	85nm,0.9s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	18 56 07.0	+0.2
	75nm,0.5s						
SULZ				*i* Sg	Sg	18 56 12.0	+0.6
	75nm,0.5s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	18 56 07.9	0.0
MOF				Sg	Sg	18 56 13.7	+0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	18 56 10.3	-0.3
HINF				*e*Sg	Sg	18 56 17.4	-0.4
	7.9nm,0.3s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	18 56 11.1	+0.2
LOMF				Sg	Sg	18 56 19.3	+1.0
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	18 56 11.9	-0.1
	214nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	18 56 13.9	+0.6
ECH				Sg	Sg	18 56 22.3	-0.1
CDF	**Champ du Feu**	**0.86**	**346**	*e*Pg	Pg	18 56 16.5	+0.1
CDF				*e*Sg	Sg	18 56 27.0	-0.5
	9.7nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	18 56 17.4	-0.6
HAU				*e*Sg	Sg	18 56 30.6	+0.4
	6.0nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	18 56 26.9	-0.2
CABF				*e*Sg	Sg	18 56 44.0	-1.5
	2.5nm,0.2s						
DAVA	**Damuels**	**1.58**	**100**	⇑*i*Pg	Pg	18 56 28.8	-1.4
DAVA				⇑*i*Sg	Sg	18 56 51.4	+0.8
	comp=Z,2.5nm,0.1s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	18 56 34.1	-0.9
SFTF				*e*Sg	Sg	18 56 57.3	-1.5
	6.2nm,0.4s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	Pg	18 56 39.9	-1.2
LPL				*e*Sg	Sg	18 57 07.8	-1.2
	0.9nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	18 56 40.2	-1.2
LPG				*e*Sg	Sg	18 57 08.6	-0.9
	1.1nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	18 56 47.2	-1.7
LOR				*e*Sg	Sg	18 57 19.6	-2.5
	3.3nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	18 56 50.0	-2.3
SMF				*e*Sg	Sg	18 57 24.5	-3.2
	1.9nm,0.2s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	18 56 52.5	-1.7
SSF				*e*Sg	Sg	18 57 27.9	-3.0
	2.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Pg	Pg	18 56 53.6	-2.3
ORIF				*e*Sg	Sg	18 57 31.3	-2.4
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**3.40**	**218**	*e*Pg	Pg	18 57 03.6	-1.5
VIVF				*e*Sg	Sg	18 57 45.0	-4.1
	1.6nm,0.2s						

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*ISCJB **05** 18:59:51.6±0.7, 4363N±004×10498W±007, h0km, mb4.5/1, Error ellipse: s-maj=7.4km s-min=5.1km az=35.3*
*IDC **05** 18:59:52.6±2.1, 4346N×10526W, h0km, mb4.3/1, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=48.1km s-min=8.6km az=153.0*
*NEIC **05** 18:59:53.8±0.6, 4356N×105.11W, h0km, ML3.1, Error ellipse: s-maj=8.6km s-min=5.8km az=125.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] WSW of Newcastle.
ISC 05 18:59:53.9±0.6, 4361N±004×10506W±006, h0km, n34, σ1°35/45, mb4.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**55**	*e*Pg	**Pg**	**19 00 13.6**	**+2.4**
PHWY	**Pilot Hill**	**2.33**	**187**	*e*Pn	**Pn**	**19 00 35.8**	**+2.3**
RWWY	**Rawlins**	**2.49**	**220**	*e*Pn	**Pn**	**19 00 36.8**	**+1.1**
RWWY				*e*Sn	**Sn**	**19 01 08.7**	**+2.0**
LAO	**LASA Array**	**3.18**	**345**	*e*Pn	**Pn**	**19 00 46.2**	**+1.0**
LAO				*e*Sn	**Sn**	**19 01 23.4**	**-0.5**
RLMT	**Red Lodge**	**3.37**	**298**	*e*Pn	**Pn**	**19 00 46.9**	**-0.9**
RLMT				*e*Sn	**Sn**	**19 01 29.7**	**+1.2**
BW06	**Boulder Array**	**3.39**	**257**	*e*Pn	**Pn**	**19 00 47.1**	**-1.0**
BW06				*e*Sn	**Sn**	**19 01 29.8**	**+0.8**
PDAR	**Pinedale Array**	**3.39**	**257**	Pn	**Pn**	**19 00 47.0**	**-1.1**
	5.9nm,0.3s,baz=71,slow=14,SNR=53						
PDAR				Lg		19 01 34.3	
	14nm,0.3s,baz=76,slow=32,SNR=16						
ISCO	**Idaho Springs**	**3.83**	**186**	*e*Pn	**Pn**	**19 00 52.1**	**-2.0**
ISCO				*e*Sn	**Sn**	**19 01 46.9**	**+7.1**
GCMT	**Greycliff**	**3.94**	**305**	*e*Pn	**Pn**	**19 00 55.2**	**-0.4**
GCMT				*e*Sn	**Sn**	**19 01 43.2**	**+0.7**
LOHW	**Long Hollow**	**4.02**	**272**	*e*Pn	**Pn**	**19 00 57.0**	**+0.2**
MOOW	**Moose Ponds**	**4.12**	**274**	*e*Pn	**Pn**	**19 00 56.2**	**-1.9**
SNOW	**Snow King Moun**	**4.14**	**270**	*e*Pn	**Pn**	**19 01 00.3**	**+2.0**
REDW	**Red Top Meadow**	**4.22**	**269**	*e*Pn	**Pn**	**19 00 59.9**	**+0.4**
YFT	**Old Faithful**	**4.25**	**283**	*e*Pn	**Pn**	**19 01 03.6**	**+3.8**
IMW	**Indian Meadow**	**4.27**	**276**	*e*Pn	**Pn**	**19 01 00.5**	**+0.4**
TPAW	**Teton Pass**	**4.28**	**270**	*e*Pn	**Pn**	**19 01 00.9**	**+0.6**
YMR	**Madison River**	**4.38**	**286**	*e*Pn	**Pn**	**19 01 05.3**	**+3.7**
YMR				*e*Sg	**Sg**	**19 02 08.4**	**-6.1**
DCID1	**Drake Creek**	**4.45**	**272**	Pn	**Pn**	**19 01 01.8**	**-0.8**
RRI2	**Red Ridge**	**4.56**	**269**	*e*Pn	**Pn**	**19 00 54.0**	**-10**
QLMT	**Earthquake Lak**	**4.74**	**287**	*e*Pn	**Pn**	**19 01 06.1**	**-0.4**
DGMT	**Dagmar**	**4.90**	**7**	*e*Pn	**Pn**	**19 01 09.6**	**+0.9**
DGMT				*e*Sg	**Sg**	**19 02 26.0**	**-5.2**
EGMT	**Eagleton**	**5.50**	**325**	*e*Pn	**Pn**	**19 01 15.4**	**-1.6**
	7.2nm,0.4s						
EGMT				*e*Sg	**Sg**	**19 02 41.5**	**-8.9**
DAU	**Daniels Canyon**	**5.61**	**237**	*e*Pn	**Pn**	**19 01 19.1**	**+0.5**
DLMT	**Dillon**	**5.67**	**291**	*e*Pn	**Pn**	**19 01 19.4**	**+0.1**
	6.2nm,0.7s						
MCMT	**McKenzie Canyo**	**5.72**	**285**	*e*Pn	**Pn**	**19 01 23.5**	**+3.4**
PV10	**Paradox Valley**	**6.03**	**211**	*e*Pn	**Pn**	**19 01 27.8**	**+3.5**
SRU	**San Rafael**	**6.09**	**224**	*e*Pn	**Pn**	**19 01 24.2**	**-0.9**
	7.2nm,0.6s						
SRU				*e*Sg	**Sg**	**19 02 59.5**	**-10**
DUG	**Dugway**	**6.71**	**242**	*e*Pn	**Pn**	**19 01 32.1**	**-1.6**
	2.0nm,0.6s						
MVCO	**Mesa Verde**	**6.91**	**203**	*e*Pg	**Pg**	**19 02 03.2**	**-3.1**
	2.7nm,0.5s						
MSU	**Marysvale**	**7.40**	**229**	*e*Pn	**Pn**	**19 01 44.0**	**+0.8**
MSU				*e*Pg	**Pg**	**19 02 12.8**	**-2.9**
ULM	**Lac du Bonnet**	**9.14**	**40**	Pn	**Pn**	**19 02 06.7**	**-0.3**
	1.5nm,0.3s,baz=234,slow=11,SNR=19						
ULM				Lg		19 04 39.5	
	0.3nm,0.3s,baz=327,slow=20,SNR=2.1						
ULM	**Lac du Bonnet**	**9.14**	**40**	Pn	**Pn**	**19 02 06.7**	**-0.3**
ULM				Lg		19 04 39.5	
YKA	**Yellowknife Ar**	**19.72**	**347**	P	**Pn**	**19 04 24.1**	**-2.3**
	0.1nm,0.3s,baz=155,slow=8.7,SNR=4.5						
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**19 10 11.4**	**-1.0**
	3.0nm,0.8s,mb4.5,baz=331,slow=7.2,SNR=3.7						

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*STR **05** 19:23:47.0±0.3, 4758N×753E, h5km±1km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 05 19:23:46.5±0.3, 4759N×754E, h2km, Md2.1/3, Ml2.0/5, Error ellipse: s-maj=5.0km s-min=2.7km az=106.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.38**	**314**	Pg	Pg	19 23 54.3	+0.5
MOF				Sg	Sg	19 24 00.2	+1.5
HINF	**Hinteralfeld**	**0.52**	**297**	*e*Pg	Pg	19 23 56.1	-0.3
HINF				*e*Sg	Sg	19 24 03.3	+0.3
	5.4nm,0.2s						
ECH	**Echery**	**0.68**	**338**	Pg	Pg	19 24 00.3	+0.8
ECH				Sg	Sg	19 24 09.7	+1.4
CDF	**Champ du Feu**	**0.84**	**348**	*e*Pg	Pg	19 24 02.5	-0.1
CDF				*e*Sg	Sg	19 24 13.1	-0.5
	4.5nm,0.3s						
HAU	**Haudompre**	**0.90**	**298**	*e*Pg	Pg	19 24 03.2	-0.6
HAU				*e*Sg	Sg	19 24 16.2	+0.7
	5.9nm,0.3s						
CABF	**La Chapelle**	**1.39**	**226**	*e*Pg	Pg	19 24 12.7	-0.5
CABF				*e*Sg	Sg	19 24 29.7	-1.5
	1.3nm,0.2s						
LOR	**Lormes**	**2.52**	**264**	*e*Pg	Pg	19 24 33.2	-1.5
LOR				*e*Sg	Sg	19 25 05.3	-2.1
	1.8nm,0.3s						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	Pg	19 24 38.5	-1.5
SSF				*e*Sg	Sg	19 25 13.5	-2.7
	0.6nm,0.2s						

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*STR **05** 19:30:49.5±0.5, 4758N×754E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 19:30:49.1±0.2, 4758N×755E, h2km, Md2.1/3, Ml1.9/5, Error ellipse: s-maj=3.7km s-min=2.1km az=103.0*
ZUR 05 19:30:49.4, 4759N×760E, h4km±1km, ML0.7, 2C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇓*i*P	Pg	19 30 54.7	+0.3
	16nm,0.1s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	19 30 55.8	+0.2
	3.0nm,0.1s						
SULZ	**Sulz-Cheisache**	**0.35**	**100**	⇑*i*Pg	Pg	19 30 56.3	+0.1
	4.7nm,0.7s						
SULZ				*i* Sg	Sg	19 31 01.3	+0.6
	4.7nm,0.7s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	19 30 56.4	-1.0
MOF				Sg	Sg	19 31 03.0	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	19 30 58.9	-1.2
HINF				*e*Sg	Sg	19 31 06.1	-1.2
	9.0nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	⇓*i*Pg	Pg	19 31 01.2	-0.2
	2.6nm,0.1s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	19 31 02.9	+0.1
ECH				Sg	Sg	19 31 12.4	+0.6
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pg	Pg	19 31 05.4	-0.4
CDF				*e*Sg	Sg	19 31 16.0	-0.9
	6.4nm,0.4s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	19 31 06.2	-1.3
HAU				*e*Sg	Sg	19 31 19.0	-0.8
	8.0nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	19 31 15.4	-1.3
CABF				*e*Sg	Sg	19 31 32.4	-2.7
	1.0nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	19 31 22.7	-1.9
SFTF				*e*Sg	Sg	19 31 46.1	-2.2
	2.4nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	19 31 36.0	-2.5
LOR				*e*Sg	Sg	19 32 08.3	-3.4
	1.5nm,0.3s						

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*IDC **05** 19:34:24.8±3.4, 1586N×9859W, h0km, mb3.9/5, mb1 4.2/7, mb1mx4.0/19, mbtmp3.9/7, ML3.6/2, MS3.6/7, Ms1 3.6/7, ms1mx3.4/29, Error ellipse: s-maj=56.2km s-min=21.0km az=5.0*
*ISCJB **05** 19:34:26.6±1.0, 1611N±005×9864W±003, h15km±6km, mb4.2/9, MS3.6/4, Error ellipse: s-maj=8.8km s-min=4.5km az=24.5*
*NEIC **05** 19:34:26.4±1.7, 1596N×9855W, h10km, mb4.4/8, MD4.5(MEX), Error ellipse: s-maj=27.4km s-min=8.2km az=184.0*
*MEX **05** 19:34:28.1±1.0, 1601N×9869W, h17km±8km, MD4.6*
ISC 05 19:34:27.6±1.0, 1619N±004×9863W±003, h9km±5km, n59, σ1°44/75, mb4.2/9, MS3.5/3, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**67**	*i* P	**Pg**	**19 34 38.3**	**+0.7**
PNIG				*i* S	**Sg**	**19 34 46.5**	**+2.1**
ACX	**Acapulco**	**1.41**	**299**	*i* P	**Pn**	**19 34 49.5**	**-3.9**
ACX				*i* S	**Sn**	**19 35 06.8**	**-5.2**
ACX	**Acapulco**	**1.41**	**299**	*i* P	**Pn**	**19 34 49.3**	**-4.1**
ACX				*i* S	**Sn**	**19 35 06.8**	**-5.2**
CAIG	**El Cayaco**	**1.79**	**299**	*e*P	**Pn**	**19 34 56.4**	**-2.2**
CAIG				*i* S	**Sn**	**19 35 15.4**	**-6.1**
UTMO	**Huajuapan**	**1.81**	**26**	*e*P	**Pn**	**19 34 58.9**	**-0.1**
UTMO				*i* S	**Sn**	**19 35 21.7**	**-0.3**
MEIG	**Mezcala**	**1.97**	**331**	*e*P	**Pn**	**19 35 00.6**	**-0.5**
MEIG				*i* S	**Sn**	**19 35 24.8**	**-1.2**
VHO	**Vista Hermosa**	**2.02**	**64**	⇑*i*P	**Pn**	**19 35 01.0**	**-0.7**
VHO				*i* S	**Sn**	**19 35 26.1**	**-1.0**
VHO	**Vista Hermosa**	**2.02**	**64**	*i* P	**Pn**	**19 35 01.0**	**-0.8**
VHO				*i* S	**Sn**	**19 35 28.1**	**+1.0**
OXX	**Oaxaca**	**2.03**	**64**	*i* P	**Pn**	**19 35 00.9**	**-1.0**
OXX				*i* S	**Sn**	**19 35 25.9**	**-1.5**
PLIG	**Platanillo**	**2.34**	**339**	*e*P	**Pn**	**19 35 06.0**	**-0.3**
PLIG				*i* S	**Sn**	**19 35 34.2**	**-1.0**
PLIG	**Platanillo**	**2.34**	**339**	*e*P	**Pn**	**19 35 06.5**	**+0.2**
PLIG				*i* S	**Sg**	**19 35 43.0**	**+0.2**
HUIG	**Huatulco**	**2.46**	**99**	*e*P	**Pn**	**19 35 05.8**	**-2.1**
HUIG				*i* S	**Sn**	**19 35 33.2**	**-4.8**
HUIG	**Huatulco**	**2.46**	**99**	*e*P	**Pn**	**19 35 06.1**	**-1.8**
HUIG				*i* S	**Sn**	**19 35 31.7**	**-6.4**
PPM	**Popocatepetl**	**2.86**	**0**	*e*P	**Pn**	**19 35 15.7**	**+2.4**
PPM				*i* S	**Sn**	**19 35 49.6**	**+1.7**
SZVM	**Salazar**	**3.20**	**347**	*e*P	**Pn**	**19 35 17.6**	**-0.4**
SZVM				*i* S	**Sn**	**19 35 57.5**	**+1.3**
IIO	**Organos**	**3.38**	**358**	*e*P	**Pb**	**19 35 28.3**	**+0.6**
IIO				*i* S	**Sg**	**19 36 13.4**	**-2.8**
PTVM	**Pico Tres Padr**	**3.42**	**352**	*i* P	**Pn**	**19 35 25.5**	**+4.5**
PTVM				*i* S	**Sn**	**19 36 08.4**	**+6.8**
PTVM	**Pico Tres Padr**	**3.42**	**352**	*i* P	**Pb**	**19 35 28.4**	**+0.1**
PTVM				*i* S	**Sg**	**19 36 15.6**	**-1.6**
CMIG	**Matias Romero**	**3.70**	**75**	Pn	**Pn**	**19 35 23.6**	**-1.3**
	8.2nm,0.3s,baz=256,slow=12,SNR=67						
CMIG				Lg		19 36 26.1	
	90nm,0.3s,baz=175,slow=19,SNR=12						
CMIG				LR	LR	19 37 17.5	
	comp=Z,703nm,19.9s,baz=84,slow=46						
CMIG	**Matias Romero**	**3.70**	**75**	*e*P	**Pn**	**19 35 23.1**	**-1.8**
CMIG				*i* S	**Sn**	**19 36 07.3**	**-1.2**
CMIG	**Matias Romero**	**3.70**	**75**	*e*P	**Pn**	**19 35 23.1**	**-1.8**
CMIG				Pn	**Pn**	**19 35 23.6**	**-1.3**
CMIG				*i* S	**Sn**	**19 36 07.3**	**-1.2**
CMIG				Lg		19 36 26.1	
CMIG				LR	LR	19 37 17.6	
MOIG	**Morelia**	**4.24**	**325**	*e*P	**Pn**	**19 35 30.4**	**-2.0**
MOIG				*e*S	**Sn**	**19 36 22.1**	**+0.2**
MOIG	**Morelia**	**4.24**	**325**	*e*P	**Pb**	**19 35 40.5**	**-1.7**
MOIG				*e*S	**Sb**	**19 36 33.7**	**+0.2**
MMIG	**Aquila**	**4.97**	**296**	*e*P	**Pn**	**19 35 41.0**	**-1.3**
MMIG				*i* S	**Sn**	**19 36 37.5**	**-2.4**
ANIG	**Ahuacatlan**	**7.39**	**312**	*i* S	**Sn**	**19 37 38.1**	**-1.4**
TEIG	**Tepich**	**10.62**	**66**	LR	LR	19 41 46.9	
	comp=Z,296nm,21.2s,baz=110,slow=41						
TEIG	**Tepich**	**10.62**	**66**	*e*Pn	**Pn**	**19 36 58.6**	**-1.3**
TEIG				*e*Sn	**Sn**	**19 38 51.3**	**-7.7**
TXAR	**Lajitas Array**	**13.88**	**341**	Pn	**Pn**	**19 37 47.3**	**+2.8**
	0.0nm,0.3s,baz=157,slow=8.0,SNR=6.5						
TXAR				Lg		19 41 55.4	
	0.0nm,0.3s,baz=155,slow=31,SNR=7.3						
TXAR				LR	LR	19

71nm,28.2s
TBI Tubuai 63.35 233 *e*T 20 53 31.0
15nm,0.2s

IDC 05 19:59:01.2±10.0, 220N×12760E, h75km±98km, mb3.3/4, mb1 3.5/4, mb1mx3.3/16, mbtmp3.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/21, Error ellipse: s-maj=137.4km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.97**	**164**	P	P	20 03 59.9	+0.5
	1.7nm,0.7s,baz=342,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.43**	**167**	P	P	20 04 31.2	+0.4
	0.4nm,0.6s,baz=357,slow=8.6,SNR=8.4						
ASAR				PcP	PcP	20 07 54.8	+0.4
	0.5nm,0.4s,baz=349,slow=2.1,SNR=11						
CBIJ	**Chichi jima**	**28.43**	**28**	LR	LR	20 14 38.8	
	comp=Z,94nm,21.4s,baz=129,slow=33						
STKA	**Stephens Creek**	**36.40**	**160**	P	P	20 05 57.4	-0.8
	1.2nm,0.6s,baz=352,slow=16,SNR=4.4						
MKAR	**Makanchi Array**	**59.30**	**325**	P	P	20 08 55.4	+0.3
	0.5nm,0.6s,baz=111,slow=7.5,SNR=6.3						

IDC 05 20:04:24.7±3.2, 942S×11758E, h0km, mb3.0/2, mb1 3.4/4, mb1mx3.3/18, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=250.4km s-min=24.4km az=50.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.65**	**139**	Pn	Pn	20 07 12.0	-0.2
	0.3nm,0.3s,baz=156,slow=14,SNR=11						
FITZ				Sn	Sn	20 09 08.9	-14
	0.4nm,0.3s,baz=184,slow=19,SNR=9.9						
WRA	**Warramunga Arr**	**19.27**	**125**	P	Pn	20 08 51.3	-0.5
	0.1nm,0.3s,baz=300,slow=13,SNR=4.2						
WRA				S	Sn	20 12 08.2	-20
	0.1nm,0.3s,baz=307,slow=24,SNR=4.4						
ASAR	**Alice Springs**	**21.07**	**134**	P	P	20 09 10.9	+0.4
	0.2nm,0.5s,baz=316,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**64.20**	**334**	P	P	20 15 01.4	+0.1
	0.2nm,0.5s,baz=145,slow=6.6,SNR=6.8						

ISCJB ***05*** *20:14:28.3±4.2, 3540S±005×1046W±0.1, h4km±25km, mb4.9/58, MS5.1/80, Error ellipse: s-maj=17.3km s-min=8.8km az=168.5*

IDC ***05*** *20:14:29.6±0.8, 3553S×10458W, h0km, mb4.7/11, mb1 4.8/11, mb1mx4.8/14, mbtmp4.6/11, MS5.1/20, Ms1 5.1/20, ms1mx4.9/25, Error ellipse: s-maj=26.8km s-min=22.9km az=136.0*

NEIC ***05*** *20:14:30.6±0.4, 3534S×10455W, h10km, mb5.1/48, MS5.1/60, MW5.8, Error ellipse: s-maj=13.9km s-min=9.7km az=79.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$1.41; $M_{r\theta}$-0.06; $M_{\theta\phi}$-5.70; $M_{\phi r}$-2.22; Best double couple: $M_0$6.30000×10^{17} NP1:ϕ_s188.00000°, δ88.00000°, λ21.00000°. NP2:ϕ_s97.00000°, δ69.00000°, λ177.00000°. Principal axes: T 6.2900, Plg16.0000°, Azm54.0000°; N 0.0200, Plg69.0000°, Azm194.0000°; P -6.3100, Plg13.0000°, Azm321.0000°;*

MOS ***05*** *20:14:30.4±2.0, 3519S×10441W, h10km, mb5.2/23, MS5.0/22 Error ellipse: s-maj=22.2km s-min=8.6km az=89.1*

GCMT ***05*** *20:14:30.6±0.1, 3551S×10470W, h15km, MW5.8/97, Moment Tensor Solution. s93,c194; s97,c285; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.80±.04; $M_{\theta\theta}$-1.20±.04; $M_{\phi\phi}$2.00±.05; $M_{r\theta}$-0.12±.13; $M_{\theta\phi}$-4.86±.04; $M_{\phi r}$-1.19±.14; Best double couple: $M_0$5.25800×10^{17} NP1:ϕ_s99.00000°, δ76.00000°, λ-178.00000°. NP2:ϕ_s9.00000°, δ88.00000°, λ-14.00000°. Principal axes: T 5.6420, Plg8.0000°, Azm55.0000°; N -0.7690, Plg76.0000°, Azm179.0000°; P -4.8740, Plg11.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***05*** *20:14:32.5, 3530S×10450W, h10km, mB5.1, Ms5.5, Msz5.2*

ISC 05 20:14:30.1±4.8, 3543S×005×1046W×01, h5km±29km, n242, σ1§51/121, mb4.9/58, MS5.1/80, 5C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.20**	**333**	LR	LR	20 19 20.0	
	comp=Z,19μm,20.7s,baz=143,slow=31						
RPN				T		20 25 59.1	
	289nm,0.3s,baz=246,slow=8.0,SNR=18						
RKT	**Rikitea**	**29.06**	**287**	*e*S	**S**	**20 25 18.8**	**-4.4**
	792nm,31.5s						
RKT				*e*LQ		20 26 45.8	
	9μm,33.0s						
USHA	**Ushuaia**	**31.56**	**139**	P	**P**	**20 20 55.7**	**+2.4**
	11nm,1.0s,mb4.6,baz=277,slow=9.7,SNR=2.7						
USHA				LR	LR	20 30 24.6	
	comp=Z,10μm,20.1s,MS5.5,baz=286,slow=30						
TRQA	**Tornquist**	**34.05**	**107**	P	**P**	**20 21 15.8**	**+0.6**
	23nm,1.4s,mb4.9						
TRQA				LR	LR		
	comp=Z,3μm,21.0s,MS5.0						
NNA	**Nana**	**34.30**	**54**	*e*P	**P**	**20 21 16.2**	**-1.0**
	comp=Z,18nm,0.8s,mb5.0						
NNA				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
ARE	**Arequipa**	**35.03**	**66**	*e*P	**P**	**20 21 24.0**	**+0.3**
EFI	**East Falkland**	**36.75**	**131**	*e*P	**P**	**20 21 37.6**	**-0.8**
EFI				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.3						
EFI				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.8						
EFI	**East Falkland**	**36.75**	**131**	*e*P	**P**	**20 21 37.6**	**-0.8**
	comp=Z,52nm,1.0s,mb5.3						
EFI				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
PAYG	**Puerto Ayora**	**37.06**	**24**	PFAKE		20 21 50.0	+9.0
PAYG				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
ATAH	**Atahualpa**	**37.14**	**47**	P	**P**	**20 21 43.1**	**+1.4**
	comp=Z,13nm,0.5s,mb5.0,baz=224,slow=3.3,SNR=12						
ATAH				LR	LR	20 32 05.5	
	comp=Z,2μm,21.2s,MS4.9,baz=52,slow=28						
LPAZ	**La Paz**	**37.68**	**69**	P	**P**	**20 21 47.2**	**+1.0**
	comp=Z,9.1nm,0.9s,mb4.5,baz=237,slow=5.9,SNR=22						
LPAZ				LR	LR	20 34 20.4	
	comp=Z,3μm,18.6s,MS5.2,baz=252,slow=32						
LPAZ	**La Paz**	**37.68**	**69**	*e*P	**P**	**20 21 46.7**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,48nm,1.4s						
LPAZ				MLR	MLR		
	comp=Z,4μm,19.0s						
LPAZ	**La Paz**	**37.68**	**69**	*e*P	**P**	**20 21 46.7**	**+0.5**
	comp=Z,48nm,1.4s,mb5.0						
LPAZ				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
PMSA	**Palmer Station**	**38.07**	**153**	LR	LR	20 33 34.6	
	comp=Z,5μm,18.8s,MS5.4,baz=300,slow=30						
PMSA	**Palmer Station**	**38.07**	**153**	PFAKE		20 22 00.0	+10
PMSA				LR	LR		
	comp=Z,7μm,21.0s,MS5.4						
TBI	**Tubuai**	**40.57**	**275**	*e*S	**S**	**20 28 18.0**	**-2.3**
	comp=Z,2μm,28.2s						
TBI				*e*S	**S**	**20 28 19.8**	**-0.5**
	comp=Z,823nm,30.0s						
TBI				*e*S	**S**	**20 28 22.3**	**+2.0**
	comp=Z,519nm,15.8s						
TBI				*e*LQ		20 31 30.3	
	comp=Z,18μm,44.8s						
TBI				*e*LR	LR	20 33 19.2	
	comp=Z,3μm,27.0s						
TAOE	**Nuku Hiva Isla**	**41.84**	**301**	*e*S	**S**	**20 28 39.7**	**+0.6**
	comp=Z,4μm,16.7s						
TAOE				*e*LQ		20 32 04.5	
	comp=Z,30μm,27.4s						
TAOE				*e*LQ		20 32 11.2	
	comp=Z,30μm,21.7s						
TAOE				*e*LR	LR	20 34 00.1	
	comp=Z,14μm,25.7s						
OTAV	**Otavalo**	**43.06**	**40**	*e*P	**P**	**20 22 30.3**	**-0.6**
	comp=Z,25nm,1.0s,mb4.9						
OTAV				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
SIV	**San Ignacio**	**43.34**	**75**	P	**P**	**20 22 33.0**	**0.0**
	comp=Z,9.7nm,0.8s,mb4.6,baz=228,slow=6.6,SNR=28						
PPT	**Papeete**	**43.58**	**282**	*e*S	**S**	**20 29 00.3**	**-4.4**
	comp=Z,3μm,28.8s						
PPT				*e*LQ		20 32 31.4	
	comp=Z,26μm,39.0s						
PPT				*e*LR	LR	20 34 39.9	
	comp=Z,2μm,29.8s						
JTS	**JuntasAbangare**	**49.12**	**26**	*e*P	**P**	**20 23 16.2**	**-2.4**
JTS				pmax	pmax		
	comp=Z,56nm,1.4s						
JTS				MLR	MLR		
	comp=Z,2μm,21.0s						
JTS	**JuntasAbangare**	**49.12**	**26**	*e*P	**P**	**20 23 16.2**	**-2.4**
	comp=Z,56nm,1.4s,mb5.4						
JTS				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
ROSC	**El Rosal**	**49.14**	**42**	P	**P**	**20 23 20.4**	**+1.7**
	comp=Z,38nm,0.9s,mb5.4,baz=99,slow=21,SNR=18						
ROSC				LR	LR	20 40 24.8	
	comp=Z,5μm,20.4s,MS5.5,baz=201,slow=32						
ROSC	**El Rosal**	**49.14**	**42**	*e*P	**P**	**20 23 18.9**	**+0.1**
RAR	**Rarotonga**	**49.99**	**271**	LR	LR	20 41 17.6	
	comp=Z,352nm,18.2s,MS4.4,baz=76,slow=32						
TGUH	**Tegucigalpa,Un**	**51.88**	**22**	*e*P	**P**	**20 23 40.4**	**+0.9**
	comp=Z,46nm,1.0s,mb5.4						
TGUH				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
SDV	**Santo Domingo**	**54.51**	**43**	*e*P	**P**	**20 23 56.0**	**-2.7**
	comp=Z,37nm,0.8s,mb5.5						
SDV				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
QSPA	**South Pole Qui**	**54.78**	**180**	*e*P	**P**	**20 24 00.9**	**+0.1**
	comp=Z,17nm,0.9s,mb5.1						
QSPA				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
SBA	**Scott Base**	**55.38**	**195**	*e*P	**P**	**20 24 05.7**	**+0.6**
SBA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
SBA				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.2						
SBA	**Scott Base**	**55.38**	**195**	*e*P	**P**	**20 24 05.7**	**+0.6**
	comp=Z,13nm,1.0s,mb4.9						
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
VNDA	**Vanda**	**56.48**	**195**	P	**P**	**20 24 17.3**	**+4.3**
	comp=Z,3.4nm,1.1s,mb4.3,baz=141,slow=6.5,SNR=2.9						
VNDA				LR	LR	20 43 46.7	
	comp=Z,2μm,18.1s,MS5.3,baz=98,slow=31						
VNDA	**Vanda**	**56.48**	**195**	P	**P**	**20 24 17.1**	**+4.1**
VNDA				pmax	pmax		
	comp=Z,11nm,1.4s						
VNDA				MLR	MLR		
	comp=Z,2μm,19.0s						
VNDA	**Vanda**	**56.48**	**195**	P	**P**	**20 24 17.1**	**+4.2**
	comp=Z,11nm,1.4s,mb4.7						
VNDA				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
TEIG	**Tepich**	**57.48**	**18**	*e*P	**P**	**20 24 18.5**	**-1.5**
	comp=Z,51nm,1.3s,mb5.4						
TEIG				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
VNA3	**Neumayer Olymp**	**58.45**	**158**	*e*	**P**	**20 24 24.6**	**-2.3**
VNA3				*e*		20 24 31.8	
VNA3				*e*		20 24 34.5	
VNA1	**Neumayer--Stat**	**59.07**	**157**	*e*	**P**	**20 24 32.1**	**+0.9**
VNA1				*e*		20 24 39.1	
VNA1				*e*		20 24 42.9	
VNA2	**Neumayer--Watz**	**59.26**	**158**	*e*	**P**	**20 24 29.7**	**-2.8**
	baz=251,slow=5.2						
VNA2				*e*	pP	20 24 32.8	-1.3
VNA2				*e*		20 24 37.4	
VNA2				*e*		20 24 45.6	
SNAA	**Sanae**	**60.35**	**159**	*e*	**P**	**20 24 40.3**	**+0.3**
SNAA				*e*		20 24 52.2	
SNAA	**Sanae**	**60.35**	**159**	⇑*i*P	**P**	**20 24 39.8**	**-0.2**
SNAA	**Sanae**	**60.35**	**159**	*e*P	**P**	**20 24 39.6**	**-0.4**
	comp=Z,31nm,1.4s,mb5.2						
URZ	**Urewera**	**60.89**	**242**	LR	LR	20 44 25.0	
	comp=Z,3μm,21.8s,MS5.3,baz=289,slow=30						
RAO	**Raoul Island**	**60.95**	**253**	LR	LR	20 43 43.6	
	comp=Z,1μm,21.9s,MS4.9,baz=14,slow=29						
RAO	**Raoul Island**	**60.95**	**253**	PFAKE		20 25 00.0	+16
RAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
SNZO	**South Karori**	**61.37**	**238**	PFAKE		20 25 00.0	+13
SNZO				LR	LR		
	comp=Z,4μm,20.0s,MS5.6						
RPZ	**Rata Peaks**	**62.88**	**234**	LR	LR	20 45 39.0	
	comp=Z,3μm,20.8s,MS5.4,baz=124,slow=30						
AFI	**Afiamalu**	**63.53**	**271**	LR	LR	20 44 57.7	
	comp=Z,634nm,20.4s,MS4.8,baz=301,slow=29						
LTX	**Lajitas**	**64.42**	**1**	*e*P	**P**	**20 25 06.2**	**-1.1**
LTX				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.2						
LTX				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0						
LTX	**Lajitas**	**64.42**	**1**	*e*P	**P**	**20 25 06.2**	**-1.1**
	comp=Z,31nm,1.4s,mb5.1						
LTX				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
TXAR	**Lajitas Array**	**64.42**	**1**	P	**P**	**20 25 08.8**	**+1.6**
	comp=Z,5.3nm,0.8s,mb4.6,baz=184,slow=8.5,SNR=31						
TXAR				LR	LR	20 48 37.5	
	comp=Z,818nm,18.3s,MS5.0,baz=185,slow=32						
TXAR	**Lajitas Array**	**64.42**	**1**	P	**P**	**20 25 08.8**	**+1.6**
TXAR				LR	LR	20 48 37.5	
BBGH	**Gun Hill**	**64.43**	**50**	PFAKE		20 25 20.0	+13
BBGH				LR	LR		
	comp=Z,5μm,21.0s,MS5.7						
CPD	**Cerro la Pandu**	**64.61**	**41**	*e*P	**P**	**20 25 07.7**	**-0.8**
NVL	**N'lazarevskaya**	**64.92**	**161**	*e*P	**P**	**20 25 11.8**	**+1.3**
NVL				*e*		20 27 44.2	
NVL				*i*S	**S**	**20 33 57.8**	**+5.2**
NVL				*e*SS	SS	20 38 13.9	+10
NVL				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.1						
JCT	**Junction City**	**65.71**	**5**	*e*P	**P**	**20 25 13.8**	**-1.9**
JCT				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
JCT	**Junction City**	**65.71**	**5**	*e*P	**P**	**20 25 13.8**	**-1.9**
	comp=Z,21nm,0.9s,mb5.2						
DRV	**Dumont d'Urvil**	**67.05**	**203**	P	**P**	**20 25 22.0**	**-2.2**
DRV				S	S	20 34 28.0	+9.4
DRV				L		20 42 00.0	
TUC	**Tucson**	**67.63**	**354**	*e*P	**P**	**20 25 27.3**	**-0.6**
TUC				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
TUC	**Tucson**	**67.63**	**354**	*e*P	**P**	**20 25 27.3**	**-0.6**
	comp=Z,13nm,1.3s,mb4.8						
BNM	**Barren Site**	**69.24**	**358**	*e*P	**P**	**20 25 38.6**	**+0.6**
LENM	**Lemitar**	**69.27**	**358**	*e*P	**P**	**20 25 41.6**	**+3.5**
LAZ	**Ladron**	**69.51**	**358**	*e*P	**P**	**20 25 37.4**	**-2.2**
WMOK	**Wichita Mounta**	**70.01**	**5**	*e*P	**P**	**20 25 43.3**	**+0.5**
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
WMOK				MLR	MLR		
	comp=Z,437nm,19.0s,MS4.7						
WMOK	**Wichita Mounta**	**70.01**	**5**	*e*P	**P**	**20 25 43.3**	**+0.6**
	comp=Z,8.2nm,1.0s,mb4.6						
WMOK				LR	LR		
	comp=Z,437nm,19.0s,MS4.7						
ANMO	**Albuquerque**	**70.03**	**358**	*e*P	**P**	**20 25 43.6**	**+0.7**
ANMO	**Albuquerque**	**70.03**	**358**	*e*P	**P**	**20 25 41.9**	**-1.0**
	comp=Z,8.4nm,1.1s,mb4.6						
ANMO				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
LRAL	**Lakeview Retre**	**70.08**	**16**	*e*P	**P**	**20 25 44.3**	**+1.1**
	comp=Z,20nm,1.1s,mb5.0						
MIAR	**Mount Ida**	**70.37**	**10**	*e*P	**P**	**20 25 42.8**	**-2.1**
MIAR				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
MIAR				MLR	MLR		
	comp=Z,749nm,20.0s,MS4.9						
MIAR	**Mount Ida**	**70.37**	**10**	*e*P	**P**	**20 25 42.8**	**-2.2**
	comp=Z,16nm,1.1s,mb4.9						
MIAR				LR	LR		
	comp=Z,749nm,20.0s,MS4.9						
OXF	**Oxford**	**71.01**	**13**	P	**P**	**20 25 46.0**	**-2.9**
OXF				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.2						
OXF				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.1						
OXF	**Oxford**	**71.01**	**13**	P	**P**	**20 25 46.0**	**-2.9**
	comp=Z,35nm,1.1s,mb5.2						
OXF				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
GSC	**Goldstone**	**71.28**	**349**	*e*P	**P**	**20 25 49.0**	**-1.5**
PLAL	**Pickwick Lake**	**71.73**	**14**	P	**P**	**20 25 50.5**	**-2.6**
	comp=Z,17nm,1.3s,mb4.8						
ISA	**Isabella**	**71.89**	**348**	*e*P	**P**	**20 25 55.6**	**+1.4**
ISA				MLR	MLR		
	comp=Z,308nm,22.0s,MS4.5						
DAC	**Darwin (Calif)**	**72.35**	**349**	*e*P	**P**	**20 25 55.2**	**-1.7**
DAC				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
DAC	**Darwin (Calif)**	**72.35**	**349**	*e*P	**P**	**20 25 55.2**	**-1.8**
	comp=Z,4.0nm,0.5s,mb4.6						
MVCO	**Mesa Verde**	**72.36**	**357**	*e*P	**P**	**20 25 54.4**	**-2.5**
	comp=Z,14nm,0.8s,mb4.9						
SDCO	**Great Sand Dun**	**72.81**	**359**	PFAKE		20 26 10.0	+10
SDCO				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
WVT	**Waverly**	**72.89**	**14**	P	**P**	**20 26 00.8**	**+0.7**
WVT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
WVT				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2						
WVT	**Waverly**	**72.89**	**14**	P	**P**	**20 26 00.8**	**+0.7**
	comp=Z,9.2nm,1.1s,mb4.6						
WVT				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
CCUT	**Cedar City**	**73.06**	**353**	*e*P	**P**	**20 25 59.8**	**-1.3**
PV01	**Paradox Valley**	**73.28**	**357**	*e*P	**P**	**20 26 02.9**	**+0.5**
PV10	**Paradox Valley**	**73.55**	**356**	*e*P	**P**	**20 26 04.2**	**+0.1**
MTUM	**Tungsten Hills**	**73.56**	**348**	*e*P	**P**	**20 26 07.4**	**+3.3**
MSU	**Marysvale**	**73.90**	**354**	*e*P	**P**	**20 26 08.6**	**+2.5**
TPH	**Tonopah**	**74.06**	**350**	*e*P	**P**	**20 26 08.6**	**+1.6**
TPH				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
TPH				MLR	MLR		
	comp=Z,537nm,19.0s,MS4.8						
TPH	**Tonopah**	**74.06**	**350**	*e*P	**P**	**20 26 08.6**	**+1.6**
	comp=Z,22nm,1.1s,mb5.0						
TPH				LR	LR		
	comp=Z,537nm,19.0s,MS4.8						
SRU	**San Rafael**	**74.37**	**355**	*e*P	**P**	**20 26 07.4**	**-1.4**
SRU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SRU	**San Rafael**	**74.37**	**355**	*e*P	**P**	**20 26 07.4**	**-1.4**
	comp=Z,9.9nm,0.9s,mb4.7						
KSU1	**Kansas State U**	**74.53**	**6**	*e*P	**P**	**20 26 11.6**	**+1.9**
	comp=Z,20nm,1.0s,mb5.0						
KSU1				LR	LR		
	comp=Z,608nm,21.0s,MS4.9						
CMB	**Columbia Colle**	**74.54**	**347**	*e*P	**P**	**20 26 07.1**	**-2.7**
CMB				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
CMB				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.2						
CMB	**Columbia Colle**	**74.54**	**347**	*e*P	**P**	**20 26 07.1**	**-2.7**
	comp=Z,31nm,1.4s,mb5.0						
CMB				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
NVAR	**Mina Array Bea**	**74.57**	**349**	P	**P**	**20 26 10.1**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=166,slow=6.9,SNR=6.2						
TMUT	**Trail Mountain**	**74.60**	**355**	*e*P	**P**	**20 26 11.6**	**+1.4**
CASY	**Casey**	**75.07**	**194**	PFAKE		20 26 20.0	+7.1
CASY				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
DUG	**Dugway**	**75.63**	**354**	*e*P	**P**	**20 26 16.9**	**+0.8**
DUG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
DUG	**Dugway**	**75.63**	**354**	*e*P	**P**	**20 26 16.9**	**+0.8**
	comp=Z,10nm,1.0s,mb4.7						
DAU	**Daniels Canyon**	**75.71**	**355**	P	**P**	**20 26 17.5**	**+0.9**
OHCM	**Honcut**	**76.01**	**347**	*e*P	**P**	**20 26 16.3**	**-1.9**
BMN	**Battle Mountai**	**76.37**	**350**	P	**P**	**20 26 17.6**	**-2.7**
BMN				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
BMN	**Battle Mountai**	**76.37**	**350**	P	**P**	**20 26 17.6**	**-2.7**
	comp=Z,31nm,1.4s,mb5.0						
DZM	**Mont Dzumac**	**76.73**	**252**	LR	LR	20 52 04.5	
	comp=Z,1μm,21.6s,MS5.1,baz=265,slow=29						
MAW	**Mawson**	**76.85**	**175**	P	**P**	**20 26 22.8**	**-0.3**
	comp=Z,5.7nm,1.0s,mb4.5,baz=201,slow=10,SNR=6.4						
MAW				LR	LR	20 57 08.4	
	comp=Z,761nm,20.1s,MS5.0,baz=184,slow=33						
MAW	**Mawson**	**76.85**	**175**	*e*P	**P**	**20 26 22.1**	**-0.9**
MAW				pmax	pmax		
	comp=Z,18nm,1.2s						
MAW				MLR	MLR		
	comp=Z,1μm,19.0s						
MAW	**Mawson**	**76.85**	**175**	*e*P	**P**	**20 26 22.1**	**-0.9**
	comp=Z,18nm,1.2s,mb4.9						
MAW				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
HWUT	**Hardware Ranch**	**76.92**	**355**	*e*P	**P**	**20 26 23.2**	**-0.2**
	comp=Z,9.3nm,1.1s,mb4.6						
HWUT				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
HVU	**Hansel Valley**	**77.20**	**354**	*e*P	**P**	**20 26 26.8**	**+1.8**
HVU				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
HVU	**Hansel Valley**	**77.20**	**354**	*e*P	**P**	**20 26 26.8**	**+1.8**
	comp=Z,9.6nm,1.2s,mb4.6						
PDAR	**Pinedale Array**	**77.95**	**356**	P	**P**	**20 26 30.1**	**+0.9**
	comp=Z,2.0nm,0.9s,mb4.1,baz=153,slow=6.1,SNR=11						
PDAR				LR	LR	20 56 01.5	
	comp=Z,340nm,21.4s,MS4.6,baz=186,slow=32						
TAU	**Tasmania Unive**	**78.15**	**226**	PFAKE		20 26 40.0	+10
TAU				LR	LR		
	comp=Z,423nm,19.0s,MS4.8						
MOD	**Modoc**	**78.29**	**348**	*e*P	**P**	**20 26 23.8**	**-7.3**
	comp=Z,16nm,1.3s,mb4.8						
WVOR	**Wild Horse Val**	**78.54**	**349**	*e*P	**P**	**20 26 32.4**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
WVOR	**Wild Horse Val**	**78.54**	**349**	*e*P	**P**	**20 26 32.4**	**0.0**
	comp=Z,27nm,1.3s,mb5.0						
YBH	**Yreka Blue Hor**	**78.56**	**346**	*e*P	**P**	**20 26 32.3**	**-0.3**
YBH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YBH	**Yreka Blue Hor**	**78.56**	**346**	*e*P	**P**	**20 26 32.3**	**-0.3**
	comp=Z,8.6nm,1.1s,mb4.6						
REDW	**Red Top Meadow**	**78.62**	**355**	*e*P	**P**	**20 26 33.9**	**+1.0**
	comp=Z,50nm,1.4s,mb5.3						
SNOW	**Snow King Moun**	**78.71**	**355**	*e*P	**P**	**20 26 34.2**	**+0.8**
	comp=Z,18nm,1.0s,mb5.0						
TPAW	**Teton Pass**	**78.75**	**355**	*e*P	**P**	**20 26 35.8**	**+2.2**
	comp=Z,26nm,1.0s,mb5.1						
LOHW	**Long Hollow**	**78.85**	**356**	*e*P	**P**	**20 26

SUR Sutherland 95.34 136 PFAKE 20 28 10.0 +15
SUR LR LR
comp=Z,489nm,21.0s,MS5.0
SCHQ Schefferville 95.58 21 LR LR 21 06 28.8
comp=Z,1μm,20.5s,MS5.3,baz=51,slow=33
SCHQ Schefferville 95.58 21 PFAKE 20 28 10.0 +14
SCHQ LR LR
comp=Z,3μm,19.0s,MS5.7
YKA Yellowknife Ar 97.91 355 P **P** **20 28 06.8 -0.1**
comp=Z,0.5nm,0.8s,mb4.1,baz=167,slow=4.9,SNR=3.3
YKA LR LR 21 08 17.6
comp=Z,611nm,19.3s,MS5.1,baz=20,slow=33
YKA Yellowknife Ar 97.91 355 P **P** **20 28 06.8 -0.1**
YKA LR LR 21 08 17.6
PMG Port Moresby 99.11 252 PFAKE 20 28 20.0 +7.7
PMG LR LR
comp=Z,672nm,22.0s,MS5.1
ASAR Alice Springs 99.25 232 P **P** **20 28 14.1 +1.2**
comp=Z,0.2nm,0.6s,mb3.9,baz=327,slow=10.0,SNR=2.9
NWAO Narrogin (SRO) 101.50 215 PFAKE 20 28 30.0 +7.0
NWAO LR LR
comp=Z,870nm,19.0s,MS5.3
WRAB Tennant Creek 101.57 235 PFAKE 20 28 40.0 +17
WRAB LR LR
comp=Z,309nm,20.0s,MS4.8
TSUM Tsumeb 102.86 125 *e*Pdif Pdif 20 28 33.4 +4.3
comp=Z,6.6nm,1.3s
TSUM LR LR
comp=Z,927nm,19.0s,MS5.3
PMR Palmer 103.20 340 PFAKE 20 28 40.0 +10
PMR LR LR
comp=Z,879nm,21.0s,MS5.3
LBTB Lobatse 103.64 135 PFAKE 20 28 40.0 +7.6
LBTB LR LR
comp=Z,875nm,22.0s,MS5.2
MCK McKinley 104.88 341 PFAKE 20 28 50.0 +12
MCK LR LR
comp=Z,341nm,21.0s,MS4.9
COLA College 105.53 342 PFAKE 20 33 00.0 +5.7
COLA LR LR
comp=Z,386nm,19.0s,MS5.0
LSZ Lusaka 112.61 130 PFAKE 20 33 20.0 +12
LSZ LR LR
comp=Z,662nm,20.0s,MS5.2
ESLA Sonseca Array 118.91 60 PFAKE 20 33 30.0 +10
ESLA LR LR
comp=Z,15μm,20.0s,MS6.6
BILL Bilibino 122.00 334 PFAKE 20 33 40.0 +14
BILL LR LR
comp=Z,495nm,21.0s,MS5.1
DAV Davao City (W) 126.12 251 PFAKE 20 33 50.0 +17
DAV LR LR
comp=Z,656nm,21.0s,MS5.3
COCO West Island 128.47 207 PFAKE 20 33 50.0 +12
COCO LR LR
comp=Z,149nm,20.0s,MS4.7
KMBO Kilima Mbogo 129.12 127 *i* PKIKP PKPdf 20 33 44.5 +5.3
YSS Yuzh-Sakhalins 129.47 305 PFAKE 20 33 50.0 +10
YSS LR LR
comp=Z,560nm,20.0s,MS5.2
MAJO Matsushiro 129.98 291 PFAKE 20 33 50.0 +9.2
MAJO LR LR
comp=Z,336nm,20.0s,MS5.0
MOTA Moosalm 131.61 55⇑ *i*PKPdf PKPdf 20 33 43.8 -0.2
comp=Z,50nm,2.0s
TIXI Tiksi 134.53 339⇑ *i*PKIKP PKPdf 20 33 49.7 +0.3
TIXI MLR MLR
comp=Z,200nm,21.0s,MS4.8
TIXI Tiksi 134.53 339 *e*PKPdf PKPdf 20 33 45.2 -4.2
YAK Yakutsk 137.19 326 *e*PKIKP PKPdf 20 33 53.1 -1.3
YAK MLR MLR
comp=Z,533nm,21.0s,MS5.2
DGAR Diego Garcia 137.30 176 PFAKE 20 34 10.0 +15
DGAR LR LR
comp=Z,158nm,21.0s,MS4.7
KSRS Korea Array 138.14 289 PKP PKPdf 20 33 57.4 +1.2
comp=Z,1.6nm,0.9s,baz=106,slow=4.0,SNR=4.6
MDJ Mudanjiang 138.16 300 PDIF Pdif 20 31 01.9 -4.0
MDJ PKP PKPdf 20 33 56.4 +0.2
MDJ LR LR
comp=N,99nm,27.6s,MS4.8
MDJ LR LR
comp=E,247nm,29.3s,MS4.8
MDJ LR LR
comp=Z,348nm,30.9s,MS4.9
MDJ Mudanjiang 138.16 300 *e*PKPdf PKPdf 20 33 58.3 +2.1
MDJ LR LR
comp=Z,325nm,19.0s,MS5.1
FINES FINESS Array B 139.64 34 PKP PKPdf 20 33 59.4 +0.5
comp=Z,4.5nm,1.1s,baz=193,slow=7.4,SNR=3.8
SSE Sheshan 141.72 277 PKP PKPdf 20 34 03.2 +0.6
SSE PP PP 20 37 10.9 +4.3
SSE SS SS 20 55 43.5 +4.9
SSE PP PP
comp=Z,21nm,12.0s
SSE LR LR
comp=N,459nm,25.0s,MS5.2
SSE LR LR
comp=E,178nm,25.0s,MS5.2
SSE LR LR
comp=Z,248nm,28.0s,MS4.8
KIEV Kiev 143.61 51 *e*PKIKP PKPdf 20 34 02.8 -3.2
AKASG Malin Array Be 143.62 51 PKhKP 20 34 01.4
comp=Z,0.8nm,0.5s,baz=272,slow=4.3,SNR=12
AKASG Malin Array Be 143.62 51 PKP PKPdf 20 34 01.4 -4.6
ISP Isparta 144.17 73 *e*P PKPdf 20 34 07.4 +0.5
SHUT Suhut-Afyon 144.32 71 *e*P PKPdf 20 34 06.8 -0.5
ESKT Eskisehir 144.69 70 *e*P PKPdf 20 34 07.5 -0.4
ESKT Eskisehir 144.69 70 *i* P PKPdf 20 34 03.4 -4.5
HIA Hailar 144.94 307 *e*PKHKP 20 34 04.5
HIA MLR MLR
comp=Z,487nm,21.0s
KIZT Kizilcal 145.40 71 *e*P PKPbc 20 34 08.5 -0.5
QIZ Qiongzhong 145.49 251 PKP PKPdf 20 34 13.7 +4.4
QIZ SS SS 20 56 22.4 +0.3
QIZ LR LR
comp=Z,726nm,36.7s,MS5.2
EIL Elat 145.61 88 *e*PKPdf PKPdf 20 34 10.4 +0.9
KONT Konya--Tatoy 145.63 73 *e*P PKPdf 20 34 09.6 +0.2
KLMR Klimovskoe 145.81 31 *e*PKIKP PKPdf 20 34 10.2 +0.4
CSS Prodhromos 145.82 78 *e*PKPdf PKPdf 20 34 08.7 -1.2
BOD Bodaibo 145.99 323 *e*PKIKP PKPdf 20 34 07.8 -2.3
BOD pmax pmax
comp=Z,23nm,1.5s
ANTO Ankara 146.22 70 *e*PKIKP PKPdf 20 34 09.6 -0.9
TIA Tai'an 146.33 284 *e*PKP PKPdf 20 34 10.5 -0.2
BALT Daday 146.81 67 *i* P PKPdf 20 34 11.3 -0.2
BR131 Keskin Array S 146.85 70 *e*PKPdf PKPdf 20 34 11.6 0.0
BR131 LR LR
comp=Z,426nm,19.0s,MS5.2
BRTR Keskin Array B 146.85 70 PKPbc PKPbc 20 34 11.7 -1.7
comp=Z,12nm,1.1s,baz=210,slow=3.0,SNR=18
OBN Obninsk 146.92 41⇑ *i*PKP2 PKPab 20 34 11.8 -3.2
OBN pmax pmax
comp=Z,111nm,1.2s
OBN Obninsk 146.92 41 *e*PKPbc PKPbc 20 34 11.3 -2.3
WHN Wuhan 147.10 273 *e*PKP PKPbc 20 34 17.4 +3.3
MOS Moscow 147.25 40 *e*PKP2 PKPab 20 34 15.4 -0.9
MOS *e*PPP 20 40 53.7
MOS pmax pmax
comp=Z,93nm,1.5s
MOS MLR MLR
comp=Z,1μm,22.0s,MS5.6
SIM Simferopol' 147.37 60 *e*PKP2 PKPab 20 34 17.9 +1.2
SIM SS SS 20 57 29.0 +46
SIM pmax pmax
comp=Z,25nm,1.0s
SIM MLR MLR
comp=Z,580nm,19.7s,MS5.4
CDAG Cicekdag 147.41 70 *i* P PKPdf 20 34 15.1 +2.6
BJI Beijing 147.62 291 PKP PKPdf 20 34 14.6 +1.8
BJI LR LR
comp=N,122nm,22.8s,MS5.1
BJI LR LR
comp=E,345nm,20.9s,MS5.1
BJI LR LR
comp=Z,456nm,24.0s,MS5.2
BJT Baijiatuau 147.62 290 *e*PKP2 PKPab 20 34 14.9 -2.8
BJT MLR MLR
comp=Z,589nm,22.0s
CORM Corum 147.66 69 *e*P PKPdf 20 34 12.7 -0.2
AVNT Avonos 147.69 72 *i* P PKPdf 20 34 12.9 -0.1
CTKT Corum 147.81 68 *i* P PKPdf 20 34 14.5 +1.3
CIT Chita 148.26 313 *e*PKP2 PKPab 20 34 15.8 -4.5
CIT pmax pmax
comp=Z,46nm,2.2s
KOZT Kozan 148.27 74 *e*P PKPbc 20 34 18.0 +0.7
HTY Hatay 148.30 77 *e*P PKPbc 20 34 18.8 +1.5
COBT Iskenderun 148.46 76 *i* P PKPbc 20 34 20.0 +2.3
BNN Bunyan 148.46 72 *e*P PKPdf 20 34 16.2 +2.0
KMRS Kahramanmaras 149.12 75 *e*P PKPbc 20 34 22.3 +2.8
SVSK Karacayir 149.45 70 *e*P PKPdf 20 34 19.7 +3.8
GZT Gaziantep 149.62 75 *i* P PKPdf 20 34 19.1 +3.0
VRSR Storozhevoye 149.68 47 *i* PKP2 PKPbc 20 34 19.7 -1.1
VRSR pmax pmax
comp=Z,50nm,1.6s
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.8s
ANN Anapa 149.74 60 *i* PKP2 PKPab 20 34 30.8 +4.5
ANN *e* 20 41 27.7
ANN pmax pmax
comp=Z,80nm,1.2s
MALT Malatya 150.42 73 *e*PKIKP PKPdf 20 34 20.0 +2.6
GRSN GIRESUNGRSN 150.46 68 *i* P PKPdf 20 34 20.5 +3.0
URFA Urfa 150.63 75 *e*P PKPbc 20 34 25.1 +2.0
ELZG Elazig 150.87 73 *i* P PKPbc 20 34 25.3 +1.6
VRHR Novokhopersk 151.17 47 *e*PKIKP PKPbc 20 34 26.5 +2.1
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.5s
HHC Hu-ho-hao-te 151.17 292 *e*PKP PKPdf 20 34 18.7 +0.2
HHC PKS 20 37 51.9
HHC PP PP 20 38 06.8 +4.4
HHC SKKS SKKSac 20 44 54.1 0.0
HHC SS SS 20 57 25.7 -0.2
HHC PP PP
comp=Z,132nm,9.5s
HHC LR LR
comp=N,254nm,22.6s,MS5.1
HHC LR LR
comp=E,280nm,23.8s,MS5.1
KELT Kelkit 151.19 70 *i* P PKPbc 20 34 26.3 +1.9
SOC Sochi 151.47 63 *i* PKIKP PKPbc 20 34 26.7 +1.6
SOC *e* 20 38 01.1
SOC *e*PPP 20 41 26.6
SOC *e*SS SS 20 57 29.1 -0.1
SOC pmax pmax
comp=Z,36nm,0.9s
GYA Guiyang 151.82 260 PKP PKPdf 20 34 19.7 +0.2
GYA PKP2 PKPab 20 34 37.0 +2.1
GYA PKS 20 37 52.8
GYA PP PP 20 38 10.0 +3.9
GYA SKS SKSdf 20 41 24.2 -3.4
GYA SKKS SKKSac 20 44 57.5 -0.1
GYA SS SS 20 57 35.0 +2.0
GYA PP PP
comp=Z,140nm,8.7s
GYA LR LR
comp=N,240nm,21.4s,MS5.1
GYA LR LR
comp=E,280nm,23.4s,MS5.1
GYA LR LR
comp=Z,260nm,22.7s,MS5.0
MARD Mardin 152.16 76 *i* P PKPbc 20 34 27.4 +0.7
BTO Baotou 152.34 291 *e*PKP PKPdf 20 34 17.0 -3.3
XAN Xi'an 152.47 277 PKP PKPdf 20 34 26.1 +5.6
SOKR Solikamsk 152.97 21 *e*PKIKP PKPdf 20 34 22.7 +1.5
SOKR pmax pmax
comp=Z,10.0nm,0.6s
ARTV Artvin 153.23 68 *i* P PKPbc 20 34 30.1 +1.0
ULN Ulaanbaatar 153.47 308⇑ *i*PKIKP PKPbc 20 34 28.2 -1.4
ULN Ulaanbaatar 153.47 308 *e*PKPdf PKPdf 20 34 27.5 +5.5
KIV Kislovodsk 153.57 61 *e*PKIKP PKPdf 20 34 23.8 +1.7
KIV *i* 20 34 31.2
KIV *e* 20 34 42.6
KIV *e* 20 38 10.9
KIV *e*PPP 20 41 44.6
KIV *e*SS SS 20 57 49.4 -2.9
KIV pmax pmax
comp=Z,11nm,1.2s
KIV Kislovodsk 153.57 61 *e*PKPdf PKPdf 20 34 20.0 -2.0
KIV *e*PKPab PKPab 20 34 43.3 +1.1
KIV LR LR
comp=Z,93nm,19.0s,MS4.6
GOF Gofitskoye 153.65 59 *e*PKP2 PKPab 20 34 42.9 +0.3
SONM Songino Array 153.90 308 PKP PKPdf 20 34 21.0 -1.5
comp=Z,1.1nm,0.9s,baz=211,slow=1.7,SNR=6.6
SONM PKPbc PKPbc 20 34 30.9 +0.4
comp=Z,3.6nm,0.9s,baz=120,slow=1.4,SNR=11
KMI Kunming 154.31 254 PKP PKPdf 20 34 24.3 +1.2
KMI PP PP
comp=Z,7.0nm,1.7s
DIGO Kars 154.34 69 *i* P PKPab 20 34 45.0 -0.5
ZEI Tsey 154.59 64 *e*PKIKP PKPdf 20 34 24.0 +0.5
ZAK Zakamensk 154.88 315 *e*PKIKP PKPbc 20 34 31.2 -1.4
ZAK pmax pmax
comp=Z,4.0nm,1.4s
GNI Garni 155.40 70 *e*PKPdf PKPdf 20 34 27.1 +2.5
GNI *e*PKPab PKPab 20 34 51.7 +1.7
GNI LR LR
comp=Z,354nm,22.0s,MS5.1
CD2 Chengdu 155.87 267 *e*PKP PKPdf 20 34 23.0 -2.2
CD2 APKP 20 34 29.0
CD2 XPKP 20 34 32.0
CD2 PP PP 20 38 31.6 +2.7
CD2 PP PP
comp=Z,180nm,10.8s
CD2 LR LR
comp=N,520nm,22.8s,MS5.4
CD2 LR LR
comp=E,290nm,22.8s,MS5.4
CD2 LR LR
comp=Z,360nm,26.4s,MS5.1
ARU Arti 156.08 23 *i* PKIKP PKPdf 20 34 26.6 +1.1
GTA Gaotai 160.21 289 PKP PKPdf 20 34 31.2 +0.6
GTA APKP 20 34 39.3
GTA SKS SKSdf 20 41 29.8 -6.7
GTA PP PP
comp=Z,115nm,8.8s
GTA LR LR
comp=N,428nm,23.3s
GTA LR LR
comp=E,297nm,19.1s
GTA LR LR
comp=Z,525nm,27.1s
ZAL Zalesovo 160.35 343 PKP PKPdf 20 34 28.7 -2.0
comp=Z,0.7nm,0.4s,baz=136,slow=1.8,SNR=4.4
AKTK Aktyubinsk 160.41 35 PKP PKPdf 20 34 31.3 +0.5
AKTO Aktyubinsk 160.41 35 PKP PKPdf 20 34 31.3 +0.5
comp=Z,3.6nm,1.1s,baz=54,slow=3.2,SNR=6.1
BVAR Borovoye Array 162.05 10 PKP PKPdf 20 34 32.2 -0.3
comp=Z,1.2nm,0.8s,baz=270,slow=34,SNR=4.4
BVAR PKPab PKPab 20 35 21.4 +2.5
comp=Z,0.8nm,0.6s,baz=323,slow=4.5,SNR=3.6
LSA Lhasa 165.54 251 *e*PKIKP PKPdf 20 34 36.9 +1.2
LSA MLR MLR
comp=Z,558nm,21.0s
WMQ Urumqi 167.35 315 *e*PKP PKPdf 20 34 38.2 +1.1
WMQ PKP2 PKPab 20 35 44.9 +2.7
WMQ PKS 20 38 09.4
WMQ PP PP 20 39 34.0 +3.6
WMQ SKS SKSdf 20 41 40.7 -0.9
WMQ SKKS SKKSac 20 46 20.1 +1.6
WMQ SS SS 21 00 18.0 +0.9
WMQ LR LR
comp=N,498nm,35.0s
WMQ LR LR
comp=E,886nm,39.0s
WMQ LR LR
comp=Z,679nm,27.0s

IDC 05 20:20:54.0±13.0, 018S×12401E, h0km, mb4.2/3, mb1 4.5/4, mb1mx3.9/18, mbtmp4.3/4, ML4.4/1, Error ellipse: s-maj=220.0km s-min=116.4km az=133.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.00**	**146**	*e*P	Pn	20 24 44.4	+17
9.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**17.88**	**175**	*e*P	Pn	20 25 04.5	+0.4
3.9nm,0.2s							
FITZ	**Fitzroy Crossi**	**17.88**	**175**	P	Pn	20 25 04.7	+0.6
0.9nm,0.3s,baz=19,slow=9.6,SNR=46							
WRA	**Warramunga Arr**	**22.09**	**153**	P	P	20 25 51.5	+0.8
3.5nm,0.5s,baz=332,slow=12,SNR=65							
ASAR	**Alice Springs**	**25.25**	**158**	P	P	20 26 20.8	-0.9
3.8nm,0.6s,baz=330,slow=8.0,SNR=79							
STKA	**Stephens Creek**	**35.65**	**154**	P	P	20 27 54.7	+1.1
3.8nm,0.7s,baz=332,slow=9.0,SNR=7.8							

*STR **05** 20:24:33.8±0.2, 4756N×751E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 05 20:24:33.5±0.3, 4758N×752E, h2km, Md2.0/3, Ml1.8/4, Error ellipse: s-maj=5.4km s-min=2.9km az=103.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.38**	**316**	Pg	Pg	20 24 41.2	+0.4
MOF				Sg	Sg	20 24 47.0	+1.3
HINF	**Hinteralfeld**	**0.51**	**298**	*e*Pg	Pg	20 24 43.2	-0.1
HINF				*e*Sg	Sg	20 24 50.6	+0.7
5.6nm,0.2s							
ECH	**Echery**	**0.68**	**339**	Pg	Pg	20 24 47.2	+0.6
CDF	**Champ du Feu**	**0.85**	**349**	*e*Pg	Pg	20 24 49.6	-0.2
CDF				*e*Sg	Sg	20 25 00.1	-0.7
3.6nm,0.3s							
HAU	**Haudompre**	**0.90**	**299**	*e*Pg	Pg	20 24 50.4	-0.3
HAU				*e*Sg	Sg	20 25 03.1	+0.7
3.5nm,0.2s							
CABF	**La Chapelle**	**1.38**	**226**	*e*Pg	Pg	20 24 59.7	-0.2
CABF				*e*Sg	Sg	20 25 16.6	-1.2
1.5nm,0.3s							
LOR	**Lormes**	**2.51**	**264**	*e*Pg	Pg	20 25 19.8	-1.8
LOR				*e*Sg	Sg	20 25 51.6	-2.5
0.5nm,0.2s							

*CSEM **05** 20:32:19.5, 1252N×4593E, h5km, ML3.7, After DHMR*
DHMR 05 20:32:19.5±0.3, 1252N×4593E, h5km±14km, ML3.7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**1.49**	**346**	*i* P	Pn	20 32 47.1	+0.2
BDHA				AML	AML	20 33 02.5	
comp=N,1μm,0.9s							
BDHA				*i* S	Sn	20 33 08.7	+2.1
BDHA	**Al Bayda'**	**1.49**	**346**	*i* P	Pn	20 32 47.1	+0.3
comp=N,603nm,0.9s							
BDHA				*i* S	Sn	20 33 08.7	+2.1
LBOS		**1.50**	**334**	*i* P	Pn	20 32 47.4	+0.5
LBOS				*i* S	Sn	20 33 09.0	+2.2
TRBA	**At Turbah**	**1.91**	**292**	*i* P	Pn	20 32 53.8	+1.2

*ISCJB **05** 20:33:28.4±0.6, 3816S±004×17684E±007, h135km±4km, mb3.6/3, Error ellipse: s-maj=9.3km s-min=6.1km az=25.1*
*IDC **05** 20:33:30.4±0.7, 3817S×17643E, h91km±12km, mb3.5/3, mb1 3.8/4, mb1mx3.6/11, mbtmp3.6/4, Error ellipse: s-maj=28.8km s-min=20.5km az=138.0*
*WEL **05** 20:33:31.0±0.1, 3801S×17677E, h108km±1km, ML4.4/25, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0*
*NEIC **05** 20:33:31.3, 3801S×17676E, h106km, MG4.4(WEL), After WEL.*
ISC 05 20:33:29.6±0.6, 3814S±004×17681E±007, h125km±4km, n131, σ1§43/142, mb3.9/3, 5C-10D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDRZ	**Edgecumbe**	**0.06**	**300**	P	**Pn**	**20 33 46.0**	**-0.5**
EDRZ	**Edgecumbe**	**0.06**	**300**	PN	**Pn**	**20 33 45.6**	**-0.8**
MARZ	**Manawahe**	**0.18**	**325**	P	**Pn**	**20 33 45.9**	**-0.8**
MARZ				S	**Sn**	**20 33 57.9**	**-1.7**
MARZ	**Manawahe**	**0.18**	**325**	⇑PN	**Pn**	**20 33 45.9**	**-0.8**
MARZ				SN	**Sn**	**20 33 57.9**	**-1.7**
TAZ	**Tarawera**	**0.25**	**248**	P	**Pn**	**20 33 47.1**	**+0.2**
URZ	**Urewera**	**0.27**	**117**	P	**Pn**	**20 33 46.7**	**-0.3**
725nm,0.3s,baz=262,slow=4.7,SNR=1581							
URZ				S	**Sn**	**20 33 58.7**	**-1.3**
360nm,0.3s,baz=63,slow=21,SNR=48							
URZ	**Urewera**	**0.27**	**117**	P	**Pn**	**20 33 46.6**	**-0.3**
URZ	**Urewera**	**0.27**	**117**	PN	**Pn**	**20 33 46.6**	**-0.3**
KARZ	**Kaharoa**	**0.46**	**285**	P	**Pn**	**20 33 46.9**	**-0.9**
KARZ				S	**Sn**	**20 33 59.5**	**-2.0**
KARZ	**Kaharoa**	**0.46**	**285**	⇑PN	**Pn**	**20 33 46.9**	**-0.8**
KARZ				SN	**Sn**	**20 33 59.5**	**-2.0**
PATZ	**Paeroa**	**0.49**	**241**	P	**Pn**	**20 33 48.4**	**+0.4**
PATZ	**Paeroa**	**0.49**	**241**	PN	**Pn**	**20 33 48.2**	**+0.2**
TGRZ	**Tauranga**	**0.59**	**313**	P	**Pn**	**20 33 47.4**	**-1.2**
TGRZ				S	**Sn**	**20 34 00.0**	**-3.0**
TGRZ	**Tauranga**	**0.59**	**313**	⇓PN	**Pn**	**20 33 47.4**	**-1.2**
TGRZ				SN	**Sn**	**20 33 59.9**	**-3.1**
MWZ	**Matawai**	**0.60**	**109**	P	**Pn**	**20 33 49.3**	**+0.7**
MWZ	**Matawai**	**0.60**	**109**	⇑PN	**Pn**	**20 33 49.3**	**+0.7**
WIZ	**White Island**	**0.68**	**27**	P	**Pn**	**20 33 48.3**	**-0.9**
WIZ	**White Island**	**0.68**	**27**	PN	**Pn**	**20 33 48.2**	**-1.1**
WHTZ	**Whakaora**	**0.85**	**231**	P	**Pn**	**20 33 51.6**	**+1.0**
WHTZ	**Whakaora**	**0.85**	**231**	PN	**Pn**	**20 33 51.5**	**+0.9**
HATZ	**Hinemaiaia**	**0.94**	**216**	P	**Pn**	**20 33 52.3**	**+0.9**
HATZ				S	**Sn**	**20 34 08.9**	**+1.0**
HATZ	**Hinemaiaia**	**0.94**	**216**	PN	**Pn**	**20 33 52.3**	**+0.9**
HATZ				SN	**Sn**	**20 34 08.4**	**+0.4**
MYRZ	**Mayor Island**	**0.97**	**332**	PN	**Pn**	**20 33 50.4**	**-1.2**
WATZ	**Wairara**	**1.02**	**236**	P	**Pn**	**20 33 52.9**	**+0.8**
WATZ	**Wairara**	**1.02**	**236**	PN	**Pn**	**20 33 52.8**	**+0.7**
BKZ	**Black Stump Fm**	**1.06**	**193**	P	**Pn**	**20 33 53.9**	**+1.4**
BKZ				S	**Sn**	**20 34 11.1**	**+1.2**
BKZ	**Black Stump Fm**	**1.06**	**193**	⇓PN	**Pn**	**20 33 53.9**	**+1.4**
BKZ				SN	**Sn**	**20 34 11.1**	**+1.2**
RATZ	**Rangitukua**	**1.09**	**228**	P	**Pn**	**20 33 53.9**	**+1.0**
RATZ	**Rangitukua**	**1.09**	**228**	PN	**Pn**	**20 33 53.8**	**+1.0**
TOZ	**Tahuroa Road**	**1.11**	**291**	P	**Pn**	**20 33 52.5**	**-0.5**
TOZ	**Tahuroa Road**	**1.11**	**291**	PN	**Pn**	**20 33 52.3**	**-0.8**
KNZ	**Kokohu**	**1.11**	**143**	P	**Pn**	**20 33 54.7**	**+1.6**
KNZ	**Kokohu**	**1.11**	**143**	⇑PN	**Pn**	**20 33 54.7**	**+1.6**
RITZ	**Rihia Road**	**1.12**	**221**	P	**Pn**	**20 33 54.7**	**+1.5**
PUZ	**Puketiti**	**1.15**	**87**	P	**Pn**	**20 33 54.1**	**+0.7**
PUZ	**Puketiti**	**1.15**	**87**	PN	**Pn**	**20 33 54.0**	**+0.6**
KATZ	**Kakaramea**	**1.21**	**226**	P	**Pn**	**20 33 55.2**	**+1.1**
KATZ	**Kakaramea**	**1.21**	**226**	PN	**Pn**	**20 33 55.1**	**+1.1**
MXZ	**Matakaoa Point**	**1.32**	**65**	P	**Pn**	**20 33 56.5**	**+1.3**
MXZ	**Matakaoa Point**	**1.32**	**65**	PN	**Pn**	**20 33 56.3**	**+1.0**
KRVZ	**Karewarewa**	**1.32**	**223**	PN	**Pn**	**20 33 56.8**	**+1.5**
OTVZ	**Oturere**	**1.36**	**221**	⇓PN	**Pn**	**20 33 57.5**	**+1.8**
WTVZ	**West Tongariro**	**1.36**	**224**	P	**Pn**	**20 33 57.2**	**+1.4**
WTVZ	**West Tongariro**	**1.36**	**224**	PN	**Pn**	**20 33 57.2**	**+1.4**
NGZ	**Ngauruhoe**	**1.40**	**222**	⇓PN	**Pn**	**20 33 57.9**	**+1.7**
TWVZ	**Taurewa**	**1.42**	**229**	P	**Pn**	**20 33 57.8**	**+1.4**
TWVZ	**Taurewa**	**1.42**	**229**	⇓PN	**Pn**	**20 33 57.8**	**+1.4**
TUVZ	**Tukino**	**1.45**	**218**	P	**Pn**	**20 33 58.4**	**+1.8**
TUVZ	**Tukino**	**1.45**	**218**	PN	**Pn**	**20 33 58.4**	**+1.8**
WPVZ	**Whakapapa**	**1.45**	**222**	P	**Pn**	**20 33 58.6**	**+1.9**
FWVZ	**Far West T-bar**	**1.49**	**221**	P	**Pn**	**20 33 58.9**	**+1.8**
FWVZ	**Far West T-bar**	**1.49**	**221**	PN	**Pn**	**20 33 58.5**	**+1.4**
DRZ	**Dome Shelter**	**1.50**	**220**	P	**Pn**	**20 33 59.3**	**+2.1**
DRZ	**Dome Shelter**	**1.50**	**220**	PN	**Pn**	**20 33 59.1**	**+1.9**
MOVZ	**Moawhango**	**1.51**	**213**	P	**Pn**	**20 33 58.6**	**+1.2**
MOVZ	**Moawhango**	**1.51**	**213**	⇓PN	**Pn**	**20 33 58.6**	**+1.2**
WNVZ	**Wahianoa**	**1.52**	**218**	P	**Pn**	**20 33 59.1**	**+1.6**
WNVZ	**Wahianoa**	**1.52**	**218**	⇓PN	**Pn**	**20 33 59.1**	**+1.7**
TRVZ	**Turoa**	**1.52**	**220**	⇓PN	**Pn**	**20 33 59.3**	**+1.8**
HIZ	**Hauiti**	**1.58**	**256**	P	**Pn**	**20 33 58.8**	**+0.6**
HIZ	**Hauiti**	**1.58**	**256**	⇓PN	**Pn**	**20 33 59.0**	**+0.8**
PKVZ	**Pokaka**	**1.62**	**224**	PN	**Pn**	**20 34 00.2**	**+1.6**
KUZ	**Kuaotunu**	**1.64**	**328**	P	**Pn**	**20 33 57.6**	**-1.2**
KUZ	**Kuaotunu**	**1.64**	**328**	PN	**Pn**	**20 33 57.5**	**-1.4**
VRZ	**Vera Road**	**1.88**	**238**	P	**Pn**	**20 34 03.4**	**+1.6**
VRZ	**Vera Road**	**1.88**	**238**	PN	**Pn**	**20 34 03.3**	**+1.5**
PXZ	**Pawanui**	**1.89**	**179**	PN	**Pn**	**20 34 02.9**	**+1.0**
TSZ	**Takapari Road**	**2.03**	**199**	P	**Pn**	**20 34 04.2**	**+0.6**
TSZ	**Takapari Road**	**2.03**	**199**	PN	**Pn**	**20 34 04.2**	**+0.6**
WAZ	**Wanganui**	**2.15**	**221**	P	**Pn**	**20 34 06.7**	**+1.6**
WAZ	**Wanganui**	**2.15**	**221**	PN	**Pn**	**20 34 06.7**	**+1.6**
RAEZ	**Rainy Point**	**2.21**	**238**	P	**Pn**	**20 34 08.2**	**+2.4**
RAEZ	**Rainy Point**	**2.21**	**238**	PN	**Pn**	**20 34 07.7**	**+1.9**
NEZ	**North Egmont**	**2.40**	**241**	P	**Pn**	**20 34 10.7**	**+2.4**
NEZ	**North Egmont**	**2.40**	**241**	PN	**Pn**	**20 34 10.3**	**+2.0**
NRZ	**Ngariki Road**	**2.55**	**241**	P	**Pn**	**20 34 12.1**	**+2.0**
BFZ	**Birch Farm**	**2.58**	**190**	P	**Pn**	**20 34 10.8**	**+0.3**
BFZ	**Birch Farm**	**2.58**	**190**	PN	**Pn**	**20 34 10.7**	**+0.3**
MRZ	**Mangatainoka R**	**2.69**	**200**	P	**Pn**	**20 34 11.8**	**-0.2**
MRZ	**Mangatainoka R**	**2.69**	**200**	⇓PN	**Pn**	**20 34 11.7**	**-0.3**
TIWZ	**Tintock**	**2.73**	**195**	PN	**Pn**	**20 34 12.5**	**+0.1**

WCZ	**Waipu Caves**	**2.95 317**	P	**Pn**	**20 34 15.2**	**-0.1**
WCZ	**Waipu Caves**	**2.95 317**	⇑PN	**Pn**	**20 34 15.2**	**-0.1**
KIW	**Kapiti Island**	**3.09 208**	PN	**Pn**	**20 34 16.5**	**-0.7**
MTW	**Mount Morrison**	**3.18 198**	P	**Pn**	**20 34 17.3**	**-1.0**
MTW	**Mount Morrison**	**3.18 198**	PN	**Pn**	**20 34 17.3**	**-1.0**
CAW	**Cannon Point**	**3.26 204**	P	**Pn**	**20 34 18.4**	**-0.9**
CAW	**Cannon Point**	**3.26 204**	PN	**Pn**	**20 34 18.4**	**-0.9**
TRWZ	**Traveller**	**3.37 194**	PN	**Pn**	**20 34 20.1**	**-0.7**
PAWZ	**Paruwai Farm**	**3.41 198**	P	**Pn**	**20 34 20.2**	**-1.2**
PAWZ	**Paruwai Farm**	**3.41 198**	PN	**Pn**	**20 34 20.2**	**-1.2**
DUWZ	**D'Urville Isla**	**3.47 219**	PN	**Pn**	**20 34 21.2**	**-1.0**
MSWZ	**Moikau Station**	**3.49 200**	PN	**Pn**	**20 34 21.1**	**-1.3**
MRW	**Makara Radio**	**3.49 207**	P	**Pn**	**20 34 21.1**	**-1.3**
MRW	**Makara Radio**	**3.49 207**	PN	**Pn**	**20 34 21.1**	**-1.3**
WEL	**Wellington**	**3.52 206**	P	**Pn**	**20 34 21.6**	**-1.1**
WEL	**Wellington**	**3.52 206**	PN	**Pn**	**20 34 21.6**	**-1.1**
SNZO	**South Karori**	**3.56 206**	P	**Pn**	**20 34 21.9**	**-1.4**
SNZO	**South Karori**	**3.56 206**	PN	**Pn**	**20 34 21.9**	**-1.4**
BHW	**Baring Head**	**3.59 204**	P	**Pn**	**20 34 22.3**	**-1.4**
BHW	**Baring Head**	**3.59 204**	PN	**Pn**	**20 34 22.3**	**-1.5**
TCW	**Tory Channel**	**3.64 212**	P	**Pn**	**20 34 23.0**	**-1.4**
TCW	**Tory Channel**	**3.64 212**	PN	**Pn**	**20 34 23.0**	**-1.4**
TUWZ	**Tuamarina**	**3.96 213**	PN	**Pn**	**20 34 27.1**	**-1.6**
NNZ	**Nelson**	**4.06 220**	*eP*	**Pn**	**20 34 28.2**	**-1.7**
CMWZ	**Cape Campbell**	**4.12 208**	P	**Pn**	**20 34 29.6**	**-1.2**
BSWZ	**Blackbirch Sta**	**4.22 211**	P	**Pn**	**20 34 30.4**	**-1.7**
BSWZ	**Blackbirch Sta**	**4.22 211**	PN	**Pn**	**20 34 30.4**	**-1.7**
QRZ	**Quartz Range**	**4.26 230**	*eP*	**Pn**	**20 34 31.4**	**-1.3**
QRZ	**Quartz Range**	**4.26 230**	PN	**Pn**	**20 34 31.4**	**-1.3**
THZ	**Tophouse**	**4.70 218**	P	**Pn**	**20 34 36.9**	**-1.6**
THZ	**Tophouse**	**4.70 218**	PN	**Pn**	**20 34 36.9**	**-1.7**
KHZ	**Kahutara**	**4.95 209**	P	**Pn**	**20 34 39.7**	**-2.2**
KHZ	**Kahutara**	**4.95 209**	PN	**Pn**	**20 34 39.7**	**-2.2**
DSZ	**Denniston Nort**	**5.27 225**	P	**Pn**	**20 34 43.8**	**-2.4**
LTZ	**Lake Taylor**	**5.79 215**	*eP*	**Pn**	**20 34 49.9**	**-3.2**
LTZ	**Lake Taylor**	**5.79 215**	PN	**Pn**	**20 34 49.9**	**-3.2**
MQZ	**McQueen's Vall**	**6.39 208**	P	**Pn**	**20 34 57.0**	**-4.3**
MQZ	**McQueen's Vall**	**6.39 208**	PN	**Pn**	**20 34 57.0**	**-4.3**
RPZ	**Rata Peaks**	**7.07 216**	P	**Pn**	**20 35 08.4**	**-2.0**
	4.1nm,0.3s,baz=49,slow=3.3,SNR=7.0					
RPZ			S	**Sn**	**20 36 25.9**	**-3.4**
	7.7nm,0.3s,baz=64,slow=15,SNR=8.9					
FOZ	**Fox Glacier**	**7.65 223**	*eP*	**Pn**	**20 35 15.4**	**-2.8**
LBZ	**Lake Benmore**	**7.99 217**	*eP*	**Pn**	**20 35 20.3**	**-2.6**
LBZ	**Lake Benmore**	**7.99 217**	PN	**Pn**	**20 35 20.3**	**-2.5**
ODZ	**Otahua Downs**	**8.30 212**	P	**Pn**	**20 35 23.7**	**-3.4**
ODZ	**Otahua Downs**	**8.30 212**	PN	**Pn**	**20 35 23.7**	**-3.4**
JCZ	**Jackson Bay**	**8.49 223**	*eP*	**Pn**	**20 35 28.0**	**-1.6**
EAZ	**Earnscleugh**	**9.04 216**	*eP*	**Pn**	**20 35 35.3**	**-1.7**
ASAR	**Alice Springs**	**39.19 279**	P	**P**	**20 40 47.3**	**+2.0**
	1.1nm,0.5s,mb3.9,baz=125,slow=8.6,SNR=18					
WRA	**Warramunga Arr**	**40.91 284**	P	**P**	**20 41 01.0**	**+1.5**
	0.9nm,0.7s,mb3.7,baz=126,slow=7.1,SNR=18					
FITZ	**Fitzroy Crossi**	**48.69 279**	P	**P**	**20 42 03.4**	**+2.3**
	0.8nm,0.5s,mb3.9,baz=156,slow=10.0,SNR=4.3					
TORD	**Torodi Ar. Bea**	**154.73 191**	PKPbc	PKPbc	20 53 22.2	+6.3
	0.5nm,0.9s,baz=167,slow=2.4,SNR=4.5					
TORD			PKPab	PKPab	20 53 34.8	+3.4
	0.2nm,0.3s,baz=158,slow=3.9,SNR=6.9					

*ISCJB **05** 20:51:21.5±0.3,6783N±002×2020E±006,h0km,Error ellipse: s-maj=3.4km s-min=3.1km az=90.7*
*NAO **05** 20:51:22.2±1.5,6785N×2049E,ML2.6*
*IDC **05** 20:51:22.4±1.1,6789N×2049E,h0km,mb1 3.2/3, mb1mx3.0/20,mbtmp3.2/3,ML2.7/3,Error ellipse: s-maj=17.7km s-min=6.1km az=121.0*
*CSEM **05** 20:51:22.1±0.1,6786N×2045E,h2km,ML3.3,Error ellipse: s-maj=4.5km s-min=3.5km az=54.0,Mining explosion.*
*UPP **05** 20:51:22.4,6783N×2020E,h1km,ML3.3,Mining explosion.*
*HEL **05** 20:51:23.0±0.1,6785N×2020E,h0km,ML2.1,ML3.3(UPP), ML2.4(BER),Explosion*
*BER **05** 20:51:24.7±4.4,6788N×2023E,h0km,ML2.4, ML2.6(NAO),Suspected explosion*

ISC 05 20:51:22.2±0.3,6782N±002×2025E±006,h0km,n38, σ1§11/60,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**14**	*i* P	**Pg**	**20 51 25.0**	**+0.2**
KUA				*i* S	**Sg**	**20 51 26.9**	**+0.3**
NIKU	**Nikkaluokta**	**0.46**	**276**	*i* P	**Pg**	**20 51 30.8**	**-0.3**
NIKU				*i* S	**Sg**	**20 51 36.9**	**-0.2**
LANU	**Lannavaara**	**0.69**	**70**	*i* P	**Pg**	**20 51 35.6**	**+0.1**
DUNU	**Dundret**	**0.71**	**170**	*i* P	**Pg**	**20 51 35.9**	**0.0**
MASU	**Masugnsbyn**	**0.76**	**118**	*i* P	**Pg**	**20 51 37.1**	**+0.3**
SALU	**Saltoluokta**	**0.80**	**237**	*i* P	**Pg**	**20 51 37.2**	**-0.4**
KIF	**Kilpisjarvi**	**1.21**	**9**	*eP*	**Pg**	**20 51 44.7**	**-0.6**
KIF				*e*SB	**Sb**	**20 52 00.9**	**-1.1**
PAJU	**Pajala**	**1.36**	**125**	*eP*	**Pg**	**20 51 47.7**	**-0.7**
KTK1	**Kautokeino**	**1.63**	**41**	*eP*	**Pn**	**20 51 52.0**	**-0.1**
KTK1				*e*Sg	**Sg**	**20 52 15.0**	**+0.5**
KTK1				AML	AML	20 52 16.9	
	comp=Z,57nm,0.4s						
KTK1	**Kautokeino**	**1.63**	**41**	*eP*	**Pn**	**20 51 52.0**	**-0.1**
	SNR=50						
KTK1				*e*Sg	**Sg**	**20 52 15.0**	**+0.5**
	comp=Z,57nm,0.4s,SNR=90						
HARU	**Harads**	**1.69**	**170**	*eP*	**Pn**	**20 51 53.1**	**+0.1**
HARU				*e*S	**Sn**	**20 52 16.4**	**+1.1**
TRO	**Tromso**	**1.88**	**346**	*eP*	**Pn**	**20 51 55.0**	**-0.6**
TRO				*e*Sg	**Sg**	**20 52 20.1**	**-2.6**
TRO				AML	AML	20 52 22.6	
	comp=Z,65nm,0.5s						
TRO	**Tromso**	**1.88**	**346**	*eP*	**Pn**	**20 51 55.0**	**-0.6**
	SNR=50						
TRO				*e*Sg	**Sg**	**20 52 20.1**	**-2.6**
	SNR=90						
SJUU	**Sjulsmark**	**2.39**	**166**	*eP*	**Pn**	**20 52 03.8**	**+1.3**
SGF	**Sodankyl**	**2.43**	**96**	*eP*	**Pn**	**20 52 03.4**	**+0.3**
SGF				*e*SB	**Sb**	**20 52 37.1**	**-0.1**
LOF	**Lofoten**	**2.55**	**280**	*e*Sg	**Sg**	**20 52 44.2**	**+0.2**
LOF				AML	AML	20 52 45.2	
	comp=Z,35nm,0.4s						
LOF	**Lofoten**	**2.55**	**280**	*e*Sg	**Sg**	**20 52 44.2**	**+0.1**
	SNR=90						
ARA0	**ARCESS Array S**	**2.58**	**46**	Pn	**Pn**	**20 52 05.3**	**+0.1**
	baz=226,slow=16						
ARA0				S	**Sn**	**20 52 39.8**	**+2.6**
	baz=227,slow=28						
ARA0	**ARCESS Array S**	**2.58**	**46**	*eP*	**Pn**	**20 52 05.3**	**+0.1**
ARA0				*e*S	**Sn**	**20 52 39.8**	**+2.6**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pg	**Pg**	**20 52 05.8**	**-5.8**
	comp=Z,2.2nm,0.3s,baz=227,slow=15,SNR=81						
ARCES				Lg		20 52 39.8	
	comp=Z,10nm,0.3s,baz=229,slow=24,SNR=14						
MOR8	**Moi Rana**	**2.82**	**237**	*e*Sg	**Sg**	**20 52 46.4**	**-6.4**
MOR8				AML	AML	20 52 46.4	
	comp=Z,62nm,0.4s						
KEV	**Kevo**	**3.13**	**49**	*eP*	**Pn**	**20 52 13.6**	**+0.8**
KEV				*e*S	**Sn**	**20 52 52.0**	**+1.2**
STOK	**Stokkvaagen**	**3.20**	**246**	*e*S	**Sn**	**20 52 54.8**	**+2.2**
OUL	**Oulu**	**3.56**	**138**	*eP*	**Pn**	**20 52 21.7**	**+3.0**
OUL				*e*SB	**Sb**	**20 53 09.4**	**-0.4**
MSF	**Maaselka**	**3.96**	**115**	*eP*	**Pn**	**20 52 24.7**	**+0.5**
MSF				*e*SG	**Sg**	**20 53 25.6**	**-3.9**
KU6	**Riekki**	**4.20**	**111**	*eP*	**Pn**	**20 52 29.2**	**+1.7**
KU6				*e*SG	**Sg**	**20 53 34.7**	**-2.5**
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**20 52 35.8**	**-0.7**
	baz=265,slow=18						
APA0				Sn	**Sn**	**20 53 31.8**	**-1.6**
	baz=284,slow=22						
APA0				Lg		20 53 49.8	
	baz=293,slow=28						
APA0	**Apatity Array**	**4.86**	**87**	*eP*	**Pn**	**20 52 35.8**	**-0.7**
APA0				*e*S	**Sn**	**20 53 31.8**	**-1.6**
APA0				*e*SG		20 53 49.8	
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**20 52 35.8**	**-0.7**
	SNR=50						
APA0				Sn	**Sn**	**20 53 31.8**	**-1.6**
	SNR=50						
FIA0	**FINESS Array S**	**6.87**	**156**	Pn	**Pn**	**20 53 05.0**	**+0.9**
	baz=6.7,slow=8.6						
FIA0				Sn	**Sn**	**20 54 21.2**	**-1.8**
	baz=351,slow=28						
FIA0				Lg		20 54 58.3	
	baz=346,slow=37						
FIA0	**FINESS Array S**	**6.87**	**156**	*eP*	**Pn**	**20 53 05.0**	**+0.9**
FIA0				*e*S	**Sn**	**20 54 21.2**	**-1.8**
FIA0				*e*SG		20 54 58.3	
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**20 53 05.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=353,slow=9.6,SNR=7.0						
FINES				Sn	**Sn**	**20 54 22.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=351,slow=24,SNR=8.0						
FINES				Lg		20 54 57.9	
	comp=Z,1.3nm,0.3s,baz=340,slow=26,SNR=11						
NB2	**NORSAR Subarra**	**7.84**	**214**	Pn	**Pn**	**20 53 17.3**	**-0.2**
	baz=26,slow=12						
NB2				Lg		20 55 26.7	
	baz=26,slow=37						
NB2	**NORSAR Subarra**	**7.84**	**214**	*eP*	**Pn**	**20 53 17.3**	**-0.2**
NB2				*e*SG		20 55 26.7	
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**20 53 17.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=15,slow=12,SNR=3.2						
NOA				Lg		20 55 32.1	
	comp=Z,1.2nm,0.3s,baz=86,slow=12,SNR=5.8						
HFS	**Hagfors**	**8.23**	**204**	Sn	**Sn**	**20 54 53.5**	**-3.0**
	baz=22,slow=22						
HFS				Lg		20 55 39.1	
	baz=27,slow=28						
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**20 53 21.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=17,slow=16,SNR=5.1						
HFS				Sn	**Sn**	**20 54 53.7**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=20,slow=22,SNR=6.9						
HFS				Lg		20 55 43.2	
	comp=Z,1.0nm,0.3s,baz=14,slow=28,SNR=6.8						
HFS	**Hagfors**	**8.23**	**204**	*e*S	**Sn**	**20 54 53.5**	**-3.0**
HFS				*e*SG		20 55 39.1	

*IDC **05** 20:54:23.2±0.7,4603N×154.18E,h0km,mb4.0/13, mb1 4.2/15,mb1mx4.1/26,mbtmp4.0/15,ML3.6/2,Error ellipse: s-maj=21.4km s-min=16.8km az=132.0*
*ISCJB **05** 20:54:23.3±0.6,4616N±008×15405E±009,h10km, mb4.4/34,MS4.0/2,Error ellipse: s-maj=13.3km s-min=6.5km az=121.4*
*NEIC **05** 20:54:24.5±0.6,4604N×154.12E,h10km,mb4.4/10,Error ellipse: s-maj=15.2km s-min=8.6km az=150.0*
*BJI **05** 20:54:25.0,4595N×15376E,h10km,mB4.8,mb4.4,Ms4.3, Msz4.2*
*SKHL **05** 20:54:27.7±0.3,4630N×15370E,h58km±22km,mb5.0/2*
*MOS **05** 20:54:28.6±1.8,4601N×15379E,h59km,mb4.4/19,Error ellipse: s-maj=10.1km s-min=9.8km az=162.0*

ISC 05 20:54:24.3±2.3,4618N±008×15409E±009,h5km±14km, h15km±1.6km:pP-P,n85,σ1§26/87,mb4.4/34,MS4.0/2,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.46**	**260**	*e*PN	**Pn**	**20 55 30.0**	**-2.5**
KUR				*i* S	**Sn**	**20 56 17.0**	**-7.7**
KUR				pmax	pmax		
	comp=Z,380nm,0.6s						
KUR				smax			
	comp=N,380nm,0.6s						
KUR				smax			
	comp=E,530nm,0.6s						
KUR	**Kuril'sk**	**4.46**	**260**	*eP*	**Pn**	**20 55 30.0**	**-2.5**
KUR				AMB	AMB	20 55 41.0	
	comp=E,380nm,0.6s						
KUR				*e*S	**Sn**	**20 56 17.0**	**-7.7**
KUR				A		20 56 23.4	
	comp=E,380nm,0.6s						
KUR				A		20 56 23.4	
	comp=E,532nm,0.6s						
SKR	**Severo-Kuril's**	**4.71**	**16**	*e*PN	**Pn**	**20 55 35.5**	**-0.4**
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**4.71**	**16**	*eP*	**Pn**	**20 55 35.5**	**-0.4**
SKR				AMB	AMB	20 55 39.7	
	comp=Z,30nm,0.5s						
SKR				AMB	AMB	20 55 39.7	
	comp=Z,60nm,0.5s						
SKR				*e*S	**Sn**	**20 56 26.1**	**-4.8**
YUK	**Yuzh-Kuril'sk**	**6.20**	**253**	*eP*	**Pn**	**20 55 52.5**	**-3.9**
YUK				*e*S	**Sn**	**20 57 02.4**	**-5.3**
YUK				A		20 57 12.0	
	comp=Z,380nm,0.5s						
YUK				A		20 57 12.0	
	comp=Z,200nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.85**	**280**	*e*PN	**Pn**	**20 56 17.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**7.85**	**280**	Pn	**Pn**	**20 56 19.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.85**	**280**	*e*rx	rx	20 56 24.0	
ASAJ	**Asahikawa**	**8.38**	**260**	Pn	**Pn**	**20 56 27.7**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=304,slow=30,SNR=3.1						
ASAJ	**Asahikawa**	**8.38**	**260**	PN	**Pn**	**20 56 27.7**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.89**	**246**	*e*PN	**Pn**	**20 56 31.4**	**-2.0**
HABR	**Khabarovsk**	**13.12**	**287**	*e*PN	**Pn**	**20 57 24.6**	**-6.6**
MAJO	**Matsushiro**	**15.30**	**237**	P	**Pn**	**20 57 56.8**	**-4.0**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s						
MAJO	**Matsushiro**	**15.30**	**237**	Pn	**Pn**	**20 57 56.8**	**-4.0**
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**15.30**	**237**	Pn	**Pn**	**20 58 01.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=29,slow=11,SNR=5.4						
KLR	**Kul'dur**	**15.33**	**290**	*eP*	**Pn**	**20 58 04.2**	**+2.9**
MDJ	**Mudanjiang**	**17.26**	**274**	P	**Pn**	**20 58 24.4**	**-1.6**
MDJ				AP	pP	20 58 28.7	-0.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s						
MDJ				LR	LR		
	comp=N,299nm,43.6s						
MDJ	**Mudanjiang**	**17.26**	**274**	Pn	**Pn**	**20 58 26.0**	**0.0**
	comp=N,19nm,1.1s						
CN2	**Changchun**	**20.35**	**274**	*eP*	**P**	**20 59 02.9**	**+1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**21.17**	**327**	*eP*	**P**	**20 59 09.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
KSRS	**Korea Array**	**21.28**	**255**	P	**P**	**20 59 12.7**	**+1.1**
	comp=Z,2.3nm,0.8s,mb3.5,baz=59,slow=10,SNR=8.5						
BILL	**Bilibino**	**22.81**	**12**	*eP*	**P**	**20 59 28.3**	**+0.5**
BILL				*e*		20 59 41.5	
BILL				*e*		21 03 15.0	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
BILL	**Bilibino**	**22.81**	**12**	*eP*	**P**	**20 59 29.4**	**+1.6**
	comp=Z,21nm,1.3s,mb4.4						
HIA	**Hailar**	**23.19**	**290**	*eP*	**P**	**20 59 29.0**	**-2.9**
BOD	**Bodaibo**	**26.87**	**310**	*eP*	**P**	**21 00 02.6**	**-3.3**
HHC	**Hu-ho-hao-te**	**31.01**	**276**	*eP*	**P**	**21 00 44.2**	**+1.5**
HHC				AP	pP	21 00 48.2	+3.9
HHC				XP	sP	21 00 50.5	+5.5
HHC				PP	PP	21 01 46.4	-6.2
HHC				S	**S**	**21 05 47.3**	**-0.6**
HHC				XS	sS	21 05 55.6	+4.9
HHC				PCS	PcS	21 07 23.6	+1.0
HHC				SS	SS	21 07 31.9	-28
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,91nm,5.1s						
HHC				LR	LR		
	comp=N,272nm,19.0s,MS4.0						
HHC				LR	LR		
	comp=E,144nm,20.2s,MS4.0						
HHC				LR	LR		
	comp=Z,139nm,20.2s,MS3.6						
ULN	**Ulaanbaatar**	**31.73**	**290**	*eP*	**P**	**21 00 51.6**	**+2.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**31.73**	**290**	*eP*	**P**	**21 00 51.6**	**+2.6**
	comp=Z,2.9nm,1.0s,mb4.1						
SONM	**Songino Array**	**32.16**	**291**	P	**P**	**21 00 53.3**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=76,slow=8.7,SNR=5.2						
SML	**Sawmill**	**35.93**	**43**	*eP*	**P**	**21 01 24.6**	**-0.9**
COLA	**College**	**36.17**	**38**	*eP*	**P**	**21 01 26.9**	**-0.7**
LZH	**Lanzhou**	**38.59**	**273**	*eP*	**P**	**21 01 48.0**	**-0.1**
LZH				AP	pP	21 01 51.5	+1.8
LZH				PCP	PcP	21 03 57.0	-3.5
LZH				*e*S	**S**	**21 07 43.0**	**-1.6**
LZH				SS	SS	21 10 23.0	-11
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,105nm,5.0s						
LZH				LR	LR		
	comp=E,169nm,11.5s						
LZH				LR	LR		
	comp=Z,344nm,14.5s,MS4.3						
GTA	**Gaotai**	**39.73**	**280**	*eP*	**P**	**21 02 01.6**	**+4.0**
GTA				AP	pP	21 02 06.9	+7.6
GTA				XP	sP	21 02 10.1	+10
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
CD2	**Chengdu**	**41.51**	**267**	*eP*	**P**	**21 02 10.8**	**-1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
INK	**Inuvik**	**41.78**	**32**	P	**P**	**21 02 15.4**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.7,baz=292,slow=4.4,SNR=5.1						
INK	**Inuvik**	**41.78**	**32**	P	**P**	**21 02 15.4**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**41.78**	**32**	*eP*	**P**	**21 02 13.7**	**-0.9**
	comp=Z,302nm,1.4s,mb5.7						
WMQ	**Urumqi**	**45.76**	**292**	*eP*	**P**	**21 02 47.6**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
MK31	**Makanchi Array**	**47.80**	**298**	*eP*	**P**	**21 03 01.8**	**-0.8**
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**	**21 03 02.6**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=70,slow=6.9,SNR=18						
MKAR	**Makanchi Array**	**47.80**	**298**	P	**P**	**21 03 02.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**48.24**	**304**	*eP*	**P**	**21 03 04.2**	**-1.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**48.24**	**304**	*eP*	**P**	**21 03 04.2**	**-1.8**
	comp=Z,2.5nm,0.8s,mb4.3						
LSA	**Lhasa**	**50.98**	**274**	P	**P**	**21 03 28.4**	**+1.5**
LSA	**Lhasa**	**50.98**	**274**	*eP*	**P**	**21 03 27.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
LSA	**Lhasa**	**50.98**	**274**	*eP*	**P**	**21 03 27.9**	**+1.0**
	comp=Z,2.5nm,0.5s,mb4.4						
YKA	**Yellowknife Ar**	**50.98**	**37**	P	**P**	**21 03 27.0**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=294,slow=7.1,SNR=7.8						
YKA	**Yellowknife Ar**	**50.98**	**37**	P	**P**	**21 03 27.0**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CHKZ	**Chkalovo**	**51.31**	**311**	*eP*	**P**	**21 03 27.5**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**51.31**	**311**	*eP*	**P**	**21 03 27.5**	**-1.8**
	comp=Z,3.6nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**	**21 03 32.7**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=64,slow=6.9,SNR=6.6						
BVAR	**Borovoye Array**	**51.74**	**310**	P	**P**	**21 03 32.7**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**54.69**	**297**	*eP*	**P**	**21 03 54.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**54.69**	**297**	*eP*	**P**	**21 03 54.2**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.4						
JIRN	**Jiri**	**55.67**	**276**	*eP*	**P**	**21 04 02.4**	**+1.1**
	comp=Z,18nm,0.9s,mb5.1						
GUN	**Gumba**	**55.73**	**276**	*eP*	**P**	**21 04 03.4**	**+1.6**
	comp=Z,14nm,0.8s,mb5.0						
ARU	**Arti**	**55.89**	**318**	*eP*	**P**	**21 04 02.2**	**-0.7**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ARU	**Arti**	**55.89**	**318**	*eP*	**P**	**21 04 02.2**	**-0.7**
	comp=Z,3.2nm,0.5s,mb4.6						
KKN	**Kakani**	**56.21**	**276**	*eP*	**P**	**21 04 06.4**	**+1.1**
	comp=Z,23nm,1.0s,mb5.2						
DMN	**Daman**	**56.45**	**276**	*eP*	**P**	**21 04 07.8**	**+0.9**
	comp=Z,12nm,0.7s,mb5.1						
GKN	**Gorkha**	**56.52**	**277**	*eP*	**P**	**21 04 08.2**	**+0.7**
	comp=Z,19nm,0.9s,mb5.1						
KOLN	**Koldanda**	**57.39**	**277**	*eP*	**P**	**21 04 14.5**	**+0.9**
	comp=Z,13nm,0.9s,mb5.0						
PBA	**Port Blair**	**61.91**	**257**	*eP*	x	21 04 10.5	
PBA				*e*S	x	21 04 15.5	
PBA				*ex*	x	21 04 17.0	
	comp=N,691nm,0.4s						
PBA				*ex*	x	21 04 17.1	
	comp=E,301nm,0.3s						
JOF	**Joensuu**	**62.15**	**334**	*ep*	**P**	**21 04 45.7**	**-0.6**
DUG	**Dugway**	**64.31**	**58**	P	**P**	**21 05 01.2**	**+0.5**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
DUG	**Dugway**	**64.31**	**58**	P	**P**	**21 05 01.1**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**64.84**	**335**	P	**P**	**21 05 03.4**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.3,baz=29,slow=4.4,SNR=10						
FINES	**FINESS Array B**	**64.84**	**335**	P	**P**	**21 05 05.2**	**+1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**64.84**	**335**	P	**P**	**21 05 03.4**	**-0.8**
WRA	**Warramunga Arr**	**68.19**	**200**	P	**P**	**21 05 23.9**	**-1.7**
	comp=Z,4.0nm,0.8s,mb4.5,baz=18

REDW	Red Top Meadow	4.12 267	*e*Pn	Pn	21 04 59.5	+1.4
YFT	Old Faithful	4.13 282	P	Pn	21 04 56.7	-1.5
IMW	Indian Meadow	4.16 275	*e*Pn	Pn	21 04 58.7	+0.1
TPAW	Teton Pass	4.18 269	*e*Pn	Pn	21 04 58.3	-0.6
QLMT	Earthquake Lak	4.61 286	*e*Pn	Pn	21 05 06.9	+2.0
DGMT	Dagmar	4.83 8	*e*Pn	Pn	21 05 08.6	+0.8
BOZ	Bozeman (W)	4.98 295	*e*Pn	Pn	21 05 08.0	-1.9
	2.7nm,0.4s					
HWUT	Hardware Ranch	5.13 248	*e*Pn	Pn	21 05 10.5	-1.5
	4.0nm,0.4s					
MCMT	McKenzie Canyo	5.61 284	*e*Pn	Pn	21 05 23.9	+5.4
HVU	Hansel Valley	5.90 254	*e*Pn	Pn	21 05 22.6	+0.1
ULM	Lac du Bonnet	9.14 41	Pn	Pn	21 06 05.2	-1.9
	1.6nm,0.3s,baz=232,slow=13,SNR=17					
YKA	Yellowknife Ar	19.62 347	P	Pn	21 08 27.6	+2.5
	0.2nm,0.3s,baz=154,slow=8.9,SNR=5.1					

NEIC 05 21:10:55.2±11.0, 3543S×17976E, h279km±25km, Error ellipse: s-maj=131.0km s-min=37.0km az=215.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.43	208	PN	Pn	21 11 41.2	-2.7
MXZ				SN	S	21 12 29.3	+6.7
PUZ	Puketiti	2.90	204	P	Pn	21 11 47.8	-0.6
PUZ				S	S	21 12 41.6	+11
PUZ	Puketiti	2.90	204	PN	Pn	21 11 47.4	-1.1
PUZ				SN	S	21 12 40.8	+10
MWZ	Matawai	3.41	211	P	Pn	21 11 53.4	-0.3
MWZ				S	S	21 12 50.0	+10
MWZ	Matawai	3.41	211	PN	Pn	21 11 53.2	-0.5
MWZ				SN	S	21 12 48.7	+8.3
URZ	Urewera	3.53	216	P	Pn	21 11 54.4	-0.7
URZ	Urewera	3.53	216	*e*PN	Pn	21 11 53.6	-1.5
URZ				SN	S	21 12 50.6	+7.7
KNZ	Kokohu	3.95	204	P	Pn	21 11 59.9	+0.2
KNZ	Kokohu	3.95	204	*e*PN	Pn	21 11 59.4	-0.3
KNZ				SN	S	21 13 01.6	+10
BKZ	Black Stump Fm	4.55	214	P	Pn	21 12 07.3	+0.7
BKZ	Black Stump Fm	4.55	214	*e*PN	Pn	21 12 05.8	-0.8
BKZ				SN	S	21 13 14.0	+10
HIZ	Hauiti	4.99	230	*e*P	Pn	21 12 13.4	+1.7
HIZ	Hauiti	4.99	230	PN	Pn	21 12 13.4	+1.7
FWVZ	Far West T-bar	5.08	220	P	Pn	21 12 14.0	+1.2
FWVZ	Far West T-bar	5.08	220	*e*PN	Pn	21 12 13.7	+0.8
MOVZ	Moawhango	5.09	218	P	Pn	21 12 13.1	+0.1
MOVZ	Moawhango	5.09	218	*e*PN	Pn	21 12 11.4	-1.5
WNVZ	Wahianoa	5.11	219	P	Pn	21 12 13.2	0.0
WNVZ	Wahianoa	5.11	219	*e*PN	Pn	21 12 13.1	-0.1
PXZ	Pawanui	5.13	206	*e*PN	Pn	21 12 14.0	+0.5
TSZ	Takapari Road	5.51	212	P	Pn	21 12 17.7	-0.3
TSZ	Takapari Road	5.51	212	*e*PN	Pn	21 12 16.1	-2.0
BFZ	Birch Farm	5.93	207	*e*P	Pn	21 12 23.8	+0.8
BFZ	Birch Farm	5.93	207	*e*PN	Pn	21 12 23.0	-0.1
BFZ				SN	S	21 13 44.4	+11
TIWZ	Tintock	6.15	209	*e*PN	Pn	21 12 25.8	+0.1
MRZ	Mangatainoka R	6.17	211	*e*P	Pn	21 12 26.0	-0.1
MRZ	Mangatainoka R	6.17	211	*e*PN	Pn	21 12 25.1	-0.9
MRZ				SN	S	21 13 46.9	+7.8
MTW	Mount Morrison	6.62	209	P	Pn	21 12 30.7	-0.9
MTW	Mount Morrison	6.62	209	*e*PN	Pn	21 12 32.1	+0.6
KIW	Kapiti Island	6.63	214	P	Pn	21 12 30.9	-0.7
KIW	Kapiti Island	6.63	214	*e*PN	Pn	21 12 30.6	-1.0
TRWZ	Traveller	6.76	207	*e*PN	Pn	21 12 33.5	+0.3
CAW	Cannon Point	6.76	212	P	Pn	21 12 32.7	-0.5
CAW	Cannon Point	6.76	212	*e*PN	Pn	21 12 32.1	-1.2
PAWZ	Paruwai Farm	6.84	208	P	Pn	21 12 35.2	+0.9
PAWZ	Paruwai Farm	6.84	208	*e*PN	Pn	21 12 33.9	-0.4
MSWZ	Moikau Station	6.94	209	P	Pn	21 12 36.2	+0.7
MSWZ	Moikau Station	6.94	209	*e*PN	Pn	21 12 34.8	-0.7
MRW	Makara Radio	7.02	213	P	Pn	21 12 36.8	+0.4
MRW	Makara Radio	7.02	213	*e*PN	Pn	21 12 36.4	0.0
DUWZ	D'Urville Isla	7.07	219	*e*PN	Pn	21 12 36.1	-0.8
SNZO	South Karori	7.08	213	P	Pn	21 12 36.2	-1.0
SNZO	South Karori	7.08	213	*e*PN	Pn	21 12 35.6	-1.6
SNZO				SN	S	21 14 08.4	+8.9
BHW	Baring Head	7.09	211	P	Pn	21 12 37.5	+0.2
BHW	Baring Head	7.09	211	*e*PN	Pn	21 12 36.6	-0.8
TCW	Tory Channel	7.20	215	P	Pn	21 12 38.2	-0.5
TCW	Tory Channel	7.20	215	*e*PN	Pn	21 12 37.0	-1.7
TUWZ	Tuamarina	7.53	216	PN	Pn	21 12 41.3	-1.4
NNZ	Nelson	7.65	219	*e*P	Pn	21 12 43.8	-0.4
NNZ	Nelson	7.65	219	PN	Pn	21 12 43.3	-0.9
NNZ				SN	S	21 14 21.4	+9.1
BSWZ	Blackbirch Sta	7.78	215	P	Pn	21 12 46.0	+0.1
BSWZ	Blackbirch Sta	7.78	215	*e*PN	Pn	21 12 45.4	-0.5
QRZ	Quartz Range	7.84	224	*e*P	Pn	21 12 45.0	-1.6
QRZ	Quartz Range	7.84	224	*e*PN	Pn	21 12 44.7	-1.8
THZ	Tophouse	8.29	218	*e*P	Pn	21 12 52.2	0.0
THZ	Tophouse	8.29	218	*e*PN	Pn	21 12 50.8	-1.4
KHZ	Kahutara	8.49	213	*e*P	Pn	21 12 54.9	+0.2
KHZ	Kahutara	8.49	213	*e*PN	Pn	21 12 53.7	-0.9
DSZ	Denniston Nort	8.86	222	*e*PN	Pn	21 12 57.3	-2.0
LTZ	Lake Taylor	9.36	216	*e*P	Pn	21 13 04.5	-1.0
LTZ	Lake Taylor	9.36	216	*e*PN	Pn	21 13 04.2	-1.3
MQZ	McQueen's Vall	9.91	211	P	Pn	21 13 11.4	-1.0
MQZ	McQueen's Vall	9.91	211	*e*PN	Pn	21 13 11.3	-1.0
MQZ				SN	S	21 15 11.0	+6.9
ODZ	Otahua Downs	11.85	213	*e*P	Pn	21 13 38.5	+2.2
ODZ	Otahua Downs	11.85	213	*e*PN	Pn	21 13 37.4	+1.1
JCZ	Jackson Bay	12.08	221	*e*P	Pn	21 13 38.3	-0.8
JCZ	Jackson Bay	12.08	221	*e*PN	Pn	21 13 37.9	-1.2

CASC 05 21:15:08.3±1.2, 852N×8305W, h5km, MD3.8, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.18	318⇓	*e*P	Pg	21 15 12.2	+0.3
ACR				*e*S	Sg	21 15 16.0	+1.6
LCR2	La Lucha 2	1.54	322⇑	*e*P	Pn	21 15 36.7	+0.2
LCR2				*e*S	Sn	21 15 59.1	+2.3
LAJ	Bijagual	1.71	322	*e*P	Pn	21 15 41.3	+2.6
LAJ				*e*S	Sn	21 16 07.2	+6.2
PRS1	Puriscal	1.92	320	*e*P	Pn	21 15 40.6	-1.0
PRS1				*e*S	Sn	21 16 06.2	+0.1
CGA2	Cerro Gallo 2	2.05	317	*e*P	Pn	21 15 43.7	+0.4
CGA2				*e*S	Sn	21 16 10.6	+1.3

IDC 05 21:15:16.1±3.6, 2149S×7039W, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.6/15, mbtmp3.7/2, ML3.4/1, Error ellipse: s-maj=124.0km s-min=44.5km az=101.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.59	23	Pn	Pn	21 16 39.9	-0.7
	0.6nm,0.3s,baz=227,slow=6.9,SNR=11						
LPAZ				Sn	Sn	21 17 50.5	+5.0
	baz=212,slow=22,SNR=1.5						
TORD	Torodi Ar. Bea	78.65	71	P	P	21 27 20.6	+0.7
	0.6nm,0.5s,baz=248,slow=5.7,SNR=22						
MKAR	Makanchi Array	146.42	35	PKPbc	PKPbc	21 34 58.6	-0.5
	0.1nm,0.3s,baz=300,slow=3.0,SNR=5.9						

ISCJB ***05*** *21:15:42.1±0.2, 4655N±001×671E±002, h5km±3km, Error ellipse: s-maj=2.5km s-min=2.1km az=157.5*
NEIC ***05*** *21:15:43.4, 4653N×680E, h8km, ML2.0(ROM), ML2.3(ZUR), ML2.5(STR), ML2.8(LDG), After ZUR. NEIC Felt at Vevey.*
ZUR ***05*** *21:15:43.4, 4653N×681E, h8km±1km, ML2.3/18*
CSEM ***05*** *21:15:43.1±0.1, 4651N×685E, h0km, ML2.9/16, Error ellipse: s-maj=1.7km s-min=0.9km az=112.0*
LDG ***05*** *21:15:43.8±0.1, 4652N×682E, h2km, Md2.6/5, Ml2.8/20, Error ellipse: s-maj=2.1km s-min=1.2km az=99.0*
STR ***05*** *21:15:43.3±0.4, 4650N×682E, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ROM ***05*** *21:15:44.3±0.5, 4643N×661E, h10km, Md2.3/4, Ml2.0/1, Error ellipse: s-maj=8.0km s-min=3.1km az=84.0*

ISC 05 21:15:43.2±0.2, 4654N±001×675E±002, h8km±2km, n117, σ0°86/192, 18C-10D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG01	Vacheresse	0.21	193	Pg	Pg	21 15 47.7	+0.2
OG01				Sg	Sg	21 15 51.4	+0.9
AIGLE	Aigle	0.24	145⇓	*i*Pg	Pg	21 15 47.5	-0.5
	2μm,0.4s						
TORNY	Torny	0.28	31	*i* Pg	Pg	21 15 48.9	+0.2
	714nm,0.6s						
TORNY	Torny	0.28	31	*i* P	Pg	21 15 49.2	+0.5
GIMEL	Gimel	0.34	269⇑	*i*Pg	Pg	21 15 50.3	+0.5
	602nm,0.5s						
GIMEL	Gimel	0.34	269⇑	*i*P	Pg	21 15 51.2	+1.4
GRYON	Gryon	0.38	139	*i* Pg	Pg	21 15 49.2	-1.4
	156nm,0.4s						
GRYON	Gryon	0.38	139	*i* P	Pg	21 15 50.3	-0.3
SENIN	Lac Senin	0.41	115⇑	*i*Pg	Pg	21 15 51.0	-0.3
	544nm,0.2s						
SALAN	Lac Salanfe	0.42	159⇓	*i*Pg	Pg	21 15 51.2	-0.2
	94nm,0.3s						
SALAN	Lac Salanfe	0.42	159⇓	*i*P	Pg	21 15 51.4	0.0
BRANT	Les Verrieres	0.45	334⇓	*i*P	Pg	21 15 51.4	-0.5
	247nm,0.6s						
BRANT	Les Verrieres	0.45	334⇓	*i*P	Pg	21 15 53.0	+1.1
CABF	La Chapelle	0.47	279	*e*Pg	Pg	21 15 53.3	+1.1
CABF				*e*Sg	Sg	21 16 05.8	+7.4
	83nm,0.3s						
EMV	Vieux Emosson	0.48	168	Pg	Pg	21 15 52.8	+0.2
EMV				Sg	Sg	21 15 59.3	+0.3
EMV	Vieux Emosson	0.48	168	*e*P	Pg	21 15 52.6	0.0
	281nm,2.3s						
EMV	Vieux Emosson	0.48	168	Pg	Pg	21 15 52.8	+0.2
EMV				Sg	Sg	21 15 59.3	+0.3
WIMIS	Wimmis	0.61	78⇓	*i*P	Pg	21 15 54.6	-0.4
	147nm,0.6s						
WIMIS	Wimmis	0.61	78⇓	*i*P	Pg	21 15 54.8	-0.2
LKBD	Leukerbad	0.62	104⇑	*i*P	Pg	21 15 53.3	-1.9
	89nm,0.2s						
LKBD	Leukerbad	0.62	104⇑	*i*P	Pg	21 15 54.6	-0.6
DIX	Grande Dixence	0.65	135⇑	*i*P	Pg	21 15 55.2	-0.4
	85nm,2.0s						
DIX	Grande Dixence	0.65	135⇑	*i*P	Pg	21 15 55.6	0.0
MRGE	Morge	0.80	164	Pg	Pg	21 15 58.5	0.0
	48nm,0.4s						
LOMF	Lomont	0.81	4	Pn	Pn	21 15 59.5	-1.4
RSL	Roselend	0.85	186	Pg	Pg	21 15 59.7	+0.1
MMK	Mattmark	0.97	120⇑	*e*P	Pg	21 15 55.6	-6.2
	40nm,2.4s						
MMK	Mattmark	0.97	120⇑	*e*P	Pg	21 16 01.4	-0.4
LPL	La Plagne	1.02	181	*e*Pg	Pg	21 16 02.9	+0.1
LPL				*e*Sg	Sg	21 16 17.3	+1.2
	22nm,0.3s						
LPL	La Plagne	1.02	181	*e*Pg	Pg	21 16 02.9	+0.1
LPL				*e*Sg	Sg	21 16 17.3	+1.2
	11nm,0.3s						
BALST	Balsthal	1.03	39	*e*P	Pg	21 15 58.5	-4.4
	214nm,0.7s						
BALST	Balsthal	1.03	39	*e*P	Pg	21 16 03.1	+0.2
OG05	Jujurieux	1.03	242	Pg	Pg	21 16 04.3	+1.4
LPG	La Plagne	1.04	180	*e*Pg	Pg	21 16 03.3	+0.1
LPG				*e*Sg	Sg	21 16 17.8	+1.1
	54nm,0.4s						
LPG	La Plagne	1.04	180	*e*Pg	Pg	21 16 03.3	+0.1
LPG				*e*Sg	Sg	21 16 17.8	+1.1
	27nm,0.4s						
BBS	Basel-Blauen	1.06	29	Pg	Pg	21 16 03.6	0.0
BBS				Sg	Sg	21 16 19.6	+2.2
LSD	Ceresole Reale	1.12	165	P	Pg	21 16 04.8	+0.2
ORX	Oropa	1.25	136	P	Pn	21 16 07.0	+0.2
ORO	Oropa	1.25	136	Pg	Pg	21 16 07.2	0.0
	37nm,0.2s						
HINF	Hinteralfeld	1.28	3	*e*Pg	Pg	21 16 07.8	0.0
HINF				*e*Sg	Sg	21 16 25.2	+0.8
	29nm,0.2s						
HINF	Hinteralfeld	1.28	3	*e*Pn	Pn	21 16 07.1	-0.2
HINF				*e*Pg	Pg	21 16 07.8	0.0
HINF				*e*Sg	Sg	21 16 25.2	+0.8
HINF	Hinteralfeld	1.28	3	*e*Pg	Pg	21 16 07.8	0.0
HINF				*e*Sg	Sg	21 16 25.2	+0.8
	14nm,0.2s						
MOF	Molkenrain	1.34	11	Pn	Pn	21 16 07.6	-0.5
MOF				Sg	Sg	21 16 27.8	+1.5
SULZ	Sulz-Cheisache	1.36	43	*e*P	Pn	21 16 01.4	-7.0
	201nm,0.5s						
SULZ	Sulz-Cheisache	1.36	43	*e*P	Pn	21 16 07.6	-0.8
RSP	Reno Superiore	1.43	166	P	Pn	21 16 10.3	+0.9
HAU	Haudompre	1.50	349	*e*Pg	Pg	21 16 11.7	-0.2
HAU				*e*Sg	Sg	21 16 31.9	+0.6
	50nm,0.2s						
HAU	Haudompre	1.50	349	*e*Pn	Pn	21 16 10.2	-0.1
HAU				*e*Pg	Pg	21 16 11.7	-0.2
HAU				*e*Sg	Sg	21 16 31.9	+0.6
HAU	Haudompre	1.50	349	*e*Pg	Pg	21 16 11.7	-0.2
HAU				*e*Sg	Sg	21 16 31.9	+0.6
	25nm,0.2s						
LLS	Linth-Limmern	1.58	78⇑	*e*P	Pn	21 16 07.6	-3.9
LLS	Linth-Limmern	1.58	78⇑	*e*P	Pn	21 16 12.0	+0.5
RRL	Cesana Torines	1.62	179	P	Pn	21 16 13.7	+1.8
ORIF	Oris-en-Rattie	1.73	201	*e*Pg	Pg	21 16 16.1	-0.3
ORIF				*e*Sg	Sg	21 16 39.3	+0.4
	15nm,0.3s						
ORIF	Oris-en-Rattie	1.73	201	*e*Pg	Pg	21 16 16.1	-0.3
ORIF				*e*Sg	Sg	21 16 39.3	+0.4
	7.5nm,0.3s						
THEF	They Montfort	1.77	343	Pn	Pn	21 16 13.8	-0.2
TUE	Stuetta	1.79	91	Pg	Pg	21 16 17.1	-0.5
MBDF	Montbardon	1.81	180	*e*Pg	Pg	21 16 17.3	-0.6
MBDF				*e*Sg	Sg	21 16 42.9	+1.5
	14nm,0.5s						
MBDF	Montbardon	1.81	180	*e*Pg	Pg	21 16 17.3	-0.6
MBDF				*e*Sg	Sg	21 16 42.9	+1.5
	7.1nm,0.5s						
PLONS	Plons	1.88	73	*i* P	Pn	21 16 12.3	-3.2
	85nm,0.4s						
PLONS	Plons	1.88	73	*i* P	Pn	21 16 15.8	+0.3
VDL	Val di Lei	1.88	91	*e*P	Pn	21 16 10.2	-5.3
	27nm,0.9s						
VDL	Val di Lei	1.88	91	*e*P	Pn	21 16 17.3	+1.8
CDF	Champ du Feu	1.91	10	*e*Pg	Pg	21 16 19.5	-0.3
CDF				*e*Sg	Sg	21 16 43.1	-1.4
	13nm,0.3s						
CDF	Champ du Feu	1.91	10	*e*Pn	Pn	21 16 15.1	-0.8
CDF				*e*Pg	Pg	21 16 19.5	-0.3
CDF				*e*Sg	Sg	21 16 43.1	-1.4
CDF	Champ du Feu	1.91	10	*e*Pg	Pg	21 16 19.5	-0.3
CDF				*e*Sg	Sg	21 16 43.1	-1.4
	6.5nm,0.3s						
SMF	Signal de Mont	2.01	274	*e*Pg	Pg	21 16 21.5	-0.3
SMF				*e*Sg	Sg	21 16 48.0	+0.1
	11nm,0.2s						
SMF	Signal de Mont	2.01	274	*e*Pn	Pn	21 16 17.5	+0.1
SMF				*e*Pg	Pg	21 16 21.5	-0.3
SMF				*e*Sg	Sg	21 16 48.0	+0.1
SMF	Signal de Mont	2.01	274	*e*Pg	Pg	21 16 21.5	-0.3
SMF				*e*Sg	Sg	21 16 48.0	+0.1
	5.6nm,0.2s						
SFTF	Sexfontaines	2.04	326	*e*Pg	Pg	21 16 22.1	-0.1
SFTF				*e*Sg	Sg	21 16 48.3	-0.3
	24nm,0.4s						
SFTF	Sexfontaines	2.04	326	*e*Pn	Pn	21 16 18.1	+0.4
SFTF				*e*Pg	Pg	21 16 22.1	-0.1
SFTF				*e*Sg	Sg	21 16 48.3	-0.3
SFTF	Sexfontaines	2.04	326	*e*Pg	Pg	21 16 22.1	-0.1
SFTF				*e*Sg	Sg	21 16 48.3	-0.3
	12nm,0.4s						
PZZ	Prazzo	2.05	173	P	Pn	21 16 20.2	+2.3
LOR	Lormes	2.12	291	*e*Pg	Pg	21 16 24.4	+0.6
LOR				*e*Sg	Sg	21 16 51.5	+0.3
	8.4nm,0.2s						
LOR	Lormes	2.12	291	*e*Pn	Pn	21 16 19.1	+0.3
LOR				*e*Pg	Pg	21 16 24.4	+0.6
LOR				*e*Sg	Sg	21 16 51.5	+0.3
LOR	Lormes	2.12	291	*e*Pg	Pg	21 16 24.4	+0.6
LOR				*e*Sg	Sg	21 16 51.5	+0.3
	4.2nm,0.2s						
VIVF	Saint-Julien-l	2.23	222	*e*Pg	Pg	21 16 25.9	0.0
VIVF				*e*Sg	Sg	21 16 53.8	-0.9
VIVF	Saint-Julien-l	2.23	222	*e*Pn	Pn	21 16 20.0	-0.3
VIVF				*e*Pg	Pg	21 16 25.9	0.0
VIVF				*e*Sg	Sg	21 16 53.8	-0.9
VIVF	Saint-Julien-l	2.23	222	*e*Pg	Pg	21 16 25.9	0.0
VIVF				*e*Sg	Sg	21 16 53.8	-0.9
DAVA	Damuels	2.27	70⇑	*i*Pn	Pn	21 16 20.5	-0.4
DAVA			⇑	*i*Pg	Pg	21 16 26.1	-0.6
DAVA	Damuels	2.27	70⇑	*i*Pn	Pn	21 16 20.5	-0.4
DAVA			⇑	*i*Pg	Pg	21 16 26.1	-0.6
DAVA			⇓	*i*Sn	Sn	21 16 48.1	-0.9
DAVA			⇑	*i*Sg	Sg	21 16 56.0	-0.1
	5.7nm,0.3s						
DAVA	Damuels	2.27	70⇑	*i*Pn	Pn	21 16 20.5	-0.4
DAVA			⇑	*i*Pg	Pg	21 16 26.1	-0.6
DAVA				*i* Sn	Sn	21 16 48.1	-0.9
DAVA				*i* Sg	Sg	21 16 56.0	-0.1
MEZF	Maizieres J'vi	2.28	330	*e*Sg	Sg	21 16 56.3	-0.1
	17nm,0.3s						
MEZF	Maizieres J'vi	2.28	330	*e*Sg	Sg	21 16 56.3	-0.1
	8.6nm,0.3s						
SSF	Saint Saulge	2.29	284	*e*Pg	Pg	21 16 27.1	0.0
SSF				*e*Sg	Sg	21 16 55.2	-1.6
	5.8nm,0.3s						
SSF	Saint Saulge	2.29	284	*e*Pn	Pn	21 16 21.5	+0.3
SSF				*e*Pg	Pg	21 16 27.1	0.0
SSF				*e*Sg	Sg	21 16 55.2	-1.6
SSF	Saint Saulge	2.29	284	*e*Pg	Pg	21 16 27.1	0.0
SSF				*e*Sg	Sg	21 16 55.2	-1.6
	2.9nm,0.3s						
AVF	Avril sur Loir	2.36	277	*e*Pg	Pg	21 16 28.1	-0.3
AVF				*e*Sg	Sg	21 16 59.0	+0.1
	5.4nm,0.4s						
AVF	Avril sur Loir	2.36	277	*e*Pn	Pn	21 16 22.5	+0.4
AVF				*e*Pg	Pg	21 16 28.1	-0.3
AVF				*e*Sg	Sg	21 16 59.0	+0.1
AVF	Avril sur Loir	2.36	277	*e*Pg	Pg	21 16 28.1	-0.3
AVF				*e*Sg	Sg	21 16 59.0	+0.1
	2.7nm,0.4s						
AGO	Saint Agoulin	2.56	260	Pn	Pn	21 16 23.1	-1.8
SMRF	Simiane la Rot	2.69	198	*e*Pg	Pg	21 16 35.9	+1.1
SMRF	Simiane la Rot	2.69	198	*e*Pn	Pn	21 16 26.4	-0.3
SMRF				*e*Pg	Pg	21 16 35.9	+1.1
SMRF	Simiane la Rot	2.69	198	*e*Pg	Pg	21 16 35.9	+1.1
BGF	Bois d'Agland	2.70	272	*e*Pg	Pg	21 16 35.6	+0.7
BGF				*e*Sg	Sg	21 17 09.5	-0.3
	11nm,0.3s						
BGF	Bois d'Agland	2.70	272	*e*Pn	Pn	21 16 27.0	+0.2
BGF				*e*Pg	Pg	21 16 35.6	+0.7
BGF				*e*Sg	Sg	21 17 09.5	-0.3
BGF	Bois d'Agland	2.70	272	*e*Pg	Pg	21 16 35.6	+0.7
BGF				*e*Sg	Sg	21 17 09.5	-0.3
	5.4nm,0.3s						
HYF	Humbligny	2.91	286	*e*Pn	Pn	21 16 30.7	+0.9
MOTA	Moosalm	3.09	73⇓	*i*Pn	Pn	21 16 32.2	+0.1
MOTA			⇓	*i*Sn	Sn	21 17 08.1	-1.2
TCF	Toulx Ste Croi	3.15	267	*e*Pg	Pg	21 16 43.3	-0.3
TCF				*e*Sg	Sg	21 17 23.0	-1.5
	2.7nm,0.3s						
TCF	Toulx Ste Croi	3.15	267	*e*Pg	Pg	21 16 43.3	-0.3
TCF				*e*Sg	Sg	21 17 23.0	-1.5
	1.4nm,0.3s						
LASF	Ste Croix	3.20	221	*e*Pg	Pg	21 16 42.9	-1.6
LASF				*e*Sg	Sg	21 17 24.5	-1.5
	12nm,0.4s						
LASF	Ste Croix	3.20	221	*e*Pn	Pn	21 16 33.4	-0.3
LASF				*e*Pg	Pg	21 16 42.9	-1.6
LASF				*e*Sg	Sg	21 17 24.5	-1.5
LASF	Ste Croix	3.20	221	*e*Pg	Pg	21 16 42.9	-1.6
LASF				*e*Sg	Sg	21 17 24.5	-1.5
	5.8nm,0.4s						
LMR	La Mourre	3.21	183	*e*Pg	Pg	21 16 42.8	-1.9
LMR				*e*Sg	Sg	21 17 22.0	-4.2
	2.0nm,0.3s						
LMR	La Mourre	3.21	183	*e*Pg	Pg	21 16 42.8	-1.9
LMR				*e*Sg	Sg	21 17 22.0	-4.2
	1.0nm,0.3s						
GIVF	Givet	3.79	341	*e*Pn	Pn	21 16 42.0	+0.1
BAIF	Baives	3.91	335	*e*Pn	Pn	21 16 44.4	+0.9
MTLF	Montolieu	4.54	227	*e*Pg	Pg	21 17 08.6	-1.5
MTLF				*e*Sg	Sg	21 18 06.2	-2.7
	7.4nm,0.7s						
MTLF	Montolieu	4.54	227	*e*Pn	Pn	21 16 53.0	+0.9
MTLF				*e*Pg	Pg	21 17 08.6	-1.5
MTLF				*e*Sg	Sg	21 18 06.2	-2.7
MTLF	Montolieu	4.54	227	*e*Pg	Pg	21 17 08.6	-1.5
MTLF				*e*Sg	Sg	21 18 06.2	-2.7
	3.7nm,0.7s						
MFF	Saint Martin d	4.76	273	*e*Pn	Pn	21 16 55.4	+0.3
LDF	La Druitiere	5.09	296	*e*Pn	Pn	21 17 00.8	+1.1
FLN	La Foliniere	5.37	297	*e*Pn	Pn	21 17 04.3	+0.7
GRR	Gorron	5.48	292	*e*Pn	Pn	21 17 05.6	+0.5
SGMF	Saint Gilles	6.55	289	*e*Pn	Pn	21 17 19.6	-0.1
QUIF	Quistinic	6.89	285	*e*Pn	Pn	21 17 23.9	-0.6
ROSF	Rostrenen	7.04	288	*e*Pn	Pn	21 17 26.6	+0.

LZH			AP	pP	21 35 14.0 +1.5
LZH			PP	PP	21 36 26.5 +3.0
LZH			PCP	PcP	21 37 20.0 +1.2
LZH			*e*S	**S**	**21 40 38.0 -1.9**
LZH			SS	SS	21 43 11.0 -12
LZH			AMB	AMB	
comp=Z,13nm,1.0s,mb4.7					
LZH			AMB	AMB	
comp=Z,73nm,4.4s					
LZH			LR	LR	
comp=E,336nm,14.6s					
LZH			LR	LR	
comp=Z,485nm,16.4s,MS4.4					
KMI	**Kunming**	**37.13 283**	P	**P**	**21 35 00.7 +0.6**
KMI			AMB	AMB	
comp=Z,5.0nm,2.0s,mb4.0					
KSM	**Kuching**	**37.87 242**	P	**P**	**21 35 00.4 -5.9**
SONM	**Songino Array**	**39.21 320**	P	**P**	**21 35 17.8 +0.3**
comp=Z,2.9nm,0.7s,mb4.1,baz=126,slow=7.1,SNR=19					
YAK	**Yakutsk**	**41.20 350**	*e*P	**P**	**21 35 33.9 -0.1**
YAK			pmax	pmax	
comp=Z,14nm,0.9s,mb4.6					
YAK			pmax	pmax	
comp=N,10.0nm,1.5s					
YAK	**Yakutsk**	**41.20 350**	*e*P	**P**	**21 35 33.2 -0.9**
comp=N,21nm,0.9s,mb4.8					
CTAO	**Charters Tower**	**41.80 176**	P	**P**	**21 35 38.5 -0.4**
CTAO			pmax	pmax	
comp=Z,14nm,1.2s,mb4.5					
CTAO	**Charters Tower**	**41.80 176**	P	**P**	**21 35 38.5 -0.4**
comp=Z,14nm,1.2s,mb4.5					
ZAK	**Zakamensk**	**42.21 322**	*e*P	**P**	**21 35 41.9 -0.4**
ZAK			pmax	pmax	
comp=Z,7.0nm,1.2s,mb4.2					
ZAK			pmax	pmax	
comp=Z,2.0nm,0.9s,mb3.8					
WRAB	**Tennant Creek**	**42.42 192**	*e*P	**P**	**21 35 42.7 -1.3**
WRAB			pmax	pmax	
comp=Z,16nm,1.4s,mb4.5					
WRAB	**Tennant Creek**	**42.42 192**	*e*P	**P**	**21 35 42.7 -1.3**
comp=Z,16nm,1.4s,mb4.5					
WB2	**Warramunga Arr**	**42.43 192**	*e*P	**P**	**21 35 42.2 -1.8**
WRA	**Warramunga Arr**	**42.44 192**	P	**P**	**21 35 44.8 +0.7**
comp=Z,2.7nm,0.8s,mb3.9,baz=14,slow=8.8,SNR=12					
ASAR	**Alice Springs**	**46.15 192**	P	**P**	**21 36 14.3 +0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=15,slow=9.8,SNR=12					
PSI	**Prapat**	**46.96 253**	P	**P**	**21 36 22.1 +2.0**
comp=Z,4.2nm,0.8s,mb4.4,baz=325,slow=9.7,SNR=4.9					
LSA	**Lhasa**	**47.17 291**	*e*P	**P**	**21 36 23.3 +1.5**
LSA			pmax	pmax	
comp=Z,6.0nm,1.1s,mb4.4					
LSA	**Lhasa**	**47.17 291**	*e*P	**P**	**21 36 23.3 +1.5**
comp=Z,6.2nm,1.1s,mb4.5					
BILL	**Bilibino**	**48.36 11**	*e*P	**P**	**21 36 30.2 -0.8**
BILL			pmax	pmax	
comp=Z,13nm,2.5s,mb4.5					
WMQ	**Urumqi**	**50.47 309**	P	**P**	**21 36 48.1 +1.0**
WMQ			AMB	AMB	
comp=Z,11nm,1.2s,mb4.8					
WMQ			LR	LR	
comp=N,283nm,21.0s,MS4.5					
WMQ			LR	LR	
comp=E,398nm,21.0s,MS4.5					
WMQ			LR	LR	
comp=Z,433nm,20.0s,MS4.5					
TIXI	**Tiksi**	**50.49 354**⇑	*e*P	**P**	**21 36 45.1 -2.1**
TIXI			pmax	pmax	
comp=Z,2.0nm,1.1s,mb4.1					
STKA	**Stephens Creek**	**53.45 182**	P	**P**	**21 37 08.1 -1.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=31,slow=5.9,SNR=2.6					
ZAL	**Zalesovo**	**54.09 322**	P	**P**	**21 37 13.7 -0.2**
comp=Z,3.3nm,1.0s,mb4.2,baz=12,slow=8.4,SNR=18					
MKAR	**Makanchi Array**	**54.58 313**	P	**P**	**21 37 18.0 +0.6**
comp=Z,1.4nm,0.8s,mb4.0,baz=93,slow=8.2,SNR=9.2					
MKAR	**Makanchi Array**	**54.58 313**	P	**P**	**21 37 18.0 +0.6**
NVS	**Novosibirsk**	**55.17 322**	*e*P	**P**	**21 37 20.8 -0.9**
NVS			pmax	pmax	
comp=N,6.0nm,1.8s					
NVS			pmax	pmax	
comp=E,11nm,1.8s					
NVS			pmax	pmax	
comp=Z,14nm,1.8s,mb4.7					
KURK	**Kurchatov**	**57.35 317**	*e*P	**P**	**21 37 36.7 -0.6**
KURK			pmax	pmax	
comp=Z,6.0nm,1.0s,mb4.6					
KURK	**Kurchatov**	**57.35 317**	*e*P	**P**	**21 37 36.7 -0.5**
comp=Z,5.9nm,1.0s,mb4.6					
MCK	**McKinley**	**60.85 28**	*e*P	**P**	**21 38 01.0 -0.4**
MCK			pmax	pmax	
comp=Z,6.0nm,1.3s,mb4.6					
MCK	**McKinley**	**60.85 28**	*e*P	**P**	**21 38 01.0 -0.4**
comp=Z,5.7nm,1.3s,mb4.5					
CHKZ	**Chkalovo**	**62.41 320**	*e*P	**P**	**21 38 11.6 -0.3**
CHKZ			pmax	pmax	
comp=Z,8.0nm,1.3s,mb4.7					
CHKZ	**Chkalovo**	**62.41 320**	*e*P	**P**	**21 38 11.6 -0.4**
comp=Z,8.4nm,1.3s,mb4.7					
BVAR	**Borovoye Array**	**62.54 319**	P	**P**	**21 38 13.1 +0.3**
comp=Z,6.3nm,0.8s,mb4.8,baz=92,slow=7.9,SNR=27					
BRVK	**Borovoye**	**62.61 319**	*e*P	**P**	**21 38 12.9 -0.4**
BRVK			pmax	pmax	
comp=Z,10.0nm,0.9s,mb5.0					
BRVK	**Borovoye**	**62.61 319**	*e*P	**P**	**21 38 12.9 -0.3**
comp=Z,9.7nm,0.9s,mb4.9					
INK	**Inuvik**	**67.42 24**	P	**P**	**21 38 44.8 +0.3**
comp=Z,4.1nm,1.0s,mb4.4,baz=270,slow=5.6,SNR=6.4					
INK	**Inuvik**	**67.42 24**	*e*P	**P**	**21 38 43.7 -0.8**
comp=Z,169nm,1.0s					
ARU	**Arti**	**69.13 324**⇓	*i*P	**P**	**21 38 53.4 -1.8**
ARU			*e*		21 39 15.0
ARU			*e*		21 41 25.7
ARU			*e*S	S	21 47 58.7 +2.1
ARU			pmax	pmax	
comp=Z,10.0nm,1.1s,mb4.7					
ARU	**Arti**	**69.13 324**	*e*P	**P**	**21 38 54.7 -0.5**
comp=Z,8.0nm,1.1s,mb4.6					
AKTK	**Aktyubinsk**	**70.44 317**	P	**P**	**21 39 03.3 0.0**
AKTO	**Aktyubinsk**	**70.44 317**	P	**P**	**21 39 03.3 0.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=109,slow=8.8,SNR=3.9					
YKA	**Yellowknife Ar**	**76.31 28**	P	**P**	**21 39 38.1 +0.3**
comp=Z,1.4nm,0.6s,mb4.0,baz=294,slow=5.5,SNR=16					
YKA	**Yellowknife Ar**	**76.31 28**	*i*P	**P**	**21 39 38.0 +0.2**
YKA			pmax	pmax	
comp=Z,1.0nm,0.6s					
PPT	**Papeete**	**76.60 115**	LR	LR	22 09 03.9
comp=Z,171nm,18.9s,MS4.4,baz=14,slow=32					
RES	**Resolute Bay**	**76.92 13**	*e*P	**P**	**21 39 40.7 -0.5**
comp=Z,308nm,1.1s					
ARCES	**ARCESS Array B**	**78.77 341**	P	**P**	**21 39 51.3 -0.2**
comp=Z,4.4nm,0.8s,mb4.4,baz=72,slow=9.7,SNR=3.6					
KIV	**Kislovodsk**	**82.31 314**⇑	*e*P	**P**	**21 40 09.9 -0.5**
KIV			pmax	pmax	
comp=Z,9.0nm,1.0s,mb4.7					
KIV	**Kislovodsk**	**82.31 314**	*e*P	**P**	**21 40 10.7 +0.3**
comp=Z,12nm,1.1s,mb4.7					
GNI	**Garni**	**82.34 310**⇑	*e*P	**P**	**21 40 12.5 +1.9**
GNI			pmax	pmax	
comp=Z,3.0nm,0.9s					
FINES	**FINESS Array B**	**83.03 334**	P	**P**	**21 40 14.7 +0.4**
comp=Z,1.3nm,0.8s,mb4.0,baz=72,slow=9.2,SNR=3.4					
NVAR	**Mina Array Bea**	**83.05 51**	P	**P**	**21 40 16.4 +2.1**
comp=Z,2.7nm,0.9s,mb4.3,baz=275,slow=7.1,SNR=12					
QLMT	**Earthquake Lak**	**85.14 44**	*e*P	**P**	**21 40 26.8 +1.8**
ANN	**Anapa**	**85.38 317**	*e*P	**P**	**21 40 29.8 +3.7**
ANN			pmax	pmax	
comp=Z,38nm,0.8s,mb5.6					
HWUT	**Hardware Ranch**	**86.47 46**	*e*P	**P**	**21 40 32.5 +0.9**
comp=Z,6.7nm,1.0s,mb4.8					
FCC	**Fort Churchill**	**86.89 26**	*e*P	**P**	**21 40 33.3 -0.3**
PDAR	**Pinedale Array**	**87.28 45**	P	**P**	**21 40 36.4 +0.9**
comp=Z,1.6nm,1.2s,mb4.1,baz=270,slow=3.0,SNR=5.0					
AKASG	**Malin Array Be**	**87.37 324**	P	**P**	**21 40 34.4 -1.5**
comp=Z,0.3nm,0.2s,mb4.1,baz=47,slow=4.8,SNR=5.3					
AKASG	**Malin Array Be**	**87.37 324**	P	**P**	**21 40 34.4 -1.5**
MALT	**Malatya**	**87.56 310**	*e*P	**P**	**21 40 35.6 -1.2**
MALT			pmax	pmax	
comp=Z,5.0nm,1.2s,mb4.6					
MALT	**Malatya**	**87.56 310**	*e*P	**P**	**21 40 35.6 -1.3**
comp=Z,4.7nm,1.2s,mb4.6					
BRTR	**Keskin Array B**	**90.23 313**	P	**P**	**21 40 48.1 -1.2**
comp=Z,2.4nm,1.0s,mb4.5,baz=72,slow=4.0,SNR=8.2					
LPAZ	**La Paz**	**149.93 85**	PKPbc	PKPbc	21 47 41.9 +3.0
comp=Z,3.3nm,1.1s,baz=5,4,slow=4.7,SNR=7.1					
LPAZ	**La Paz**	**149.93 85**	*e*PKPbc	PKPbc	21 47 41.7 +2.8

KRSC 05 21:55:17.2±0.7, 5329N×16057E, h37km±37km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.38**	**240**	*e*P	Pn	21 55 26.4	+0.1
SPN				*i*S	Sn	21 55 33.2	+0.7
NLC	**Nalytchevo**	**0.75**	**261**	*i*P	Pn	21 55 31.2	0.0
NLC				*i*S	Sn	21 55 41.4	+0.1
AVH	**Avacha**	**1.10**	**269**	*e*P	Pn	21 55 36.7	+0.6
AVH				*i*S	Sn	21 55 51.5	+1.4
PET	**Petropavlovsk**	**1.19**	**258**	*e*P	Pn	21 55 37.4	+0.1
PET				*i*S	Sn	21 55 52.4	+0.3
MKZ	**Mys Kozlova**	**1.44**	**28**	*e*P	Pn	21 55 39.6	-1.2
MKZ				*i*S	Sn	21 55 56.2	-2.3
RUS	**Russkaya**	**1.51**	**236**	*e*P	Pn	21 55 41.8	0.0
RUS				*i*S	Sn	21 55 59.8	-0.5
GNL	**Ganaly**	**1.62**	**286**	*e*P	Pn	21 55 44.1	+0.8
GRL	**Gorelyy**	**1.68**	**245**	*e*P	Pn	21 55 45.0	+0.9
GRL				*i*S	Sn	21 56 04.8	+0.4
TUMR	**Tumrok**	**2.01**	**353**	*e*P	Pn	21 55 49.6	+1.0
TUMR				*i*S	Sn	21 56 13.1	+0.5
KMNR	**Kamenistaya**	**2.48**	**356**	*e*P	Pn	21 55 56.4	+1.4
KMNR				*i*S	Sn	21 56 25.7	+1.6
BZMR	**Bezymyannaya**	**2.65**	**359**	*e*P	Pn	21 55 59.5	+2.1
BZMR				*i*S	Sn	21 56 30.1	+1.8
KIRR	**Kirishev**	**2.67**	**357**	*e*P	Pn	21 56 00.2	+2.5
KPT	**Kopyto**	**2.69**	**356**	*e*P	Pn	21 56 00.1	+2.2
KPT				*i*S	Sn	21 56 31.4	+2.1
ZLN	**Zelenaya**	**2.74**	**3**	*e*P	Pn	21 56 00.5	+1.9
ZLN				*i*S	Sn	21 56 32.6	+2.2
CIRR	**Tsirk**	**2.83**	**2**	*e*P	Pn	21 56 01.9	+2.0
CIRR				*i*S	Sn	21 56 34.7	+1.9
KRSR	**Krestovskiy**	**2.93**	**360**	*e*P	Pn	21 56 03.5	+2.2
KLY	**Klyuchi**	**3.03**	**1**	*e*P	Pn	21 56 04.6	+2.0
KLY				*i*S	Sn	21 56 39.4	+1.7
SRDR	**Sredinnyy**	**3.07**	**351**	*e*P	Pn	21 56 04.0	+0.8
SRDR				*i*S	Sn	21 56 38.7	0.0
BDR	**Baidarnaya**	**3.31**	**6**	*e*P	Pn	21 56 09.1	+2.7
BDR				*i*S	Sn	21 56 46.9	+2.4
SMKR	**Semkarok**	**3.34**	**9**	*e*P	Pn	21 56 08.5	+1.6
SMKR				*i*S	Sn	21 56 45.7	+0.4
SRKR	**Sorokina**	**3.39**	**6**	*e*P	Pn	21 56 09.5	+1.9
SRKR				*i*S	Sn	21 56 47.8	+1.3

*IDC **05** 22:32:24.6±2.3, 5188N×17026W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/25, mbtmp3.6/6, Error ellipse: s-maj=65.7km s-min=24.9km az=3.0*
*ISCJB **05** 22:32:29.4±2.2, 520N±02×170.1W±0.1, h44km±15km, mb3.6/6, Error ellipse: s-maj=40.5km s-min=8.7km az=148.7*
*NEIC **05** 22:32:30.5±1.2, 5202N×170.16W, h35km, ML3.1(AEIC), Error ellipse: s-maj=35.6km s-min=10.7km az=168.0*

ISC 05 22:32:31.1±2.1, 521N±02×1701W±01, h42km±15km, n10, σ0§48/12, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.50**	**275**	P	**Pn**	**22 33 08.7**	**-0.6**
ATKA				S	**Sn**	**22 33 39.3**	**+0.7**
UNV	**Unalaska Valle**	**2.84**	**49**	P	**Pn**	**22 33 13.6**	**-0.2**
UNV				S	**Sn**	**22 33 46.8**	**+0.1**
INK	**Inuvik**	**23.87**	**33**	P	**P**	**22 37 40.6**	**+0.1**
0.6nm,0.3s,mb3.5,baz=226,slow=6.0,SNR=4.2							
YKA	**Yellowknife Ar**	**30.80**	**48**	P	**P**	**22 38 43.2**	**+0.5**
0.5nm,0.5s,mb3.6,baz=272,slow=7.7,SNR=11							
YKA	**Yellowknife Ar**	**30.80**	**48**	P	**P**	**22 38 43.2**	**+0.5**
SONM	**Songino Array**	**51.05**	**301**	P	**P**	**22 41 29.0**	**-0.1**
0.6nm,0.8s,mb3.6,baz=67,slow=6.3,SNR=4.1							
TXAR	**Lajitas Array**	**53.23**	**88**	P	**P**	**22 41 45.5**	**+0.3**
0.3nm,0.7s,mb3.3,baz=306,slow=5.1,SNR=4.6							
TXAR	**Lajitas Array**	**53.23**	**88**	P	**P**	**22 41 45.5**	**+0.3**
MKAR	**Makanchi Array**	**63.67**	**313**	P	**P**	**22 42 57.0**	**-1.0**
0.5nm,0.8s,mb3.6,baz=39,slow=7.4,SNR=4.0							
BVAR	**Borovoye Array**	**63.68**	**324**	P	**P**	**22 42 58.2**	**+0.2**
1.0nm,0.4s,mb4.2,baz=49,slow=7.0,SNR=8.1							

*ISCJB **05** 22:35:59.2±0.5, 2416N±005×12166E±003, h37km±4km, mb4.2/28, MS3.8/7, Error ellipse: s-maj=8.5km s-min=4.0km az=28.5*
*JMA **05** 22:36:00.5±0.2, 2446N×12178E, h81km, M3.9*
*NIED **05** 22:36:00, 2450N×12180E, h26km, Mw4.4 Best double couple: M0=5.25000×10^15 NP1:φs=41.00000°, δ71.00000°, λ71.00000°. NP2:φs=267.00000°, δ27.00000°, λ133.00000°.*
*NEIC **05** 22:36:01.2, 2426N×12170E, h19km, mb4.4/10, ML4.9(TAP), After TAP.*
NEIC Recorded [4 TAP] in I-lan; [3 TAP] in Hua-lien; [2 TAP] in Nan-t'ou and T'ai-chung; [1 TAP] in Chang-hua, Hsin-chu and T'ao-yuan Counties.
*BJI **05** 22:36:02.0, 2423N×12132E, h19km, mB4.4, mb4.1, ML4.1, Ms4.1, Ms2.9*
*IDC **05** 22:36:05.8±5.8, 2401N×12181E, h103km±54km, mb3.7/13, mb1 3.8/14, mb1mx3.8/22, mbtmp3.7/14, MS3.7/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=31.8km s-min=13.6km az=66.0*

ISC 05 22:36:00.4±0.5, 2423N±005×12171E±003, h29km±3km, n65, σ1§20/70, mb4.2/28, MS3.8/7, 1C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.12**	**243**	⇓*i*P	**Pb**	**22 36 05.7**	**0.0**
NACB				*e*S	**Sb**	**22 36 10.1**	**+0.7**
YHNB	**Yeheng**	**0.54**	**326**	⇓*i*P	**Pb**	**22 36 10.9**	**-0.5**
YHNB				*e*S	**Sb**	**22 36 18.2**	**-0.6**
TATO	**Taipei**	**0.77**	**345**	⇓*i*P	**Pn**	**22 36 14.7**	**-0.5**
TATO				*e*S	**Sb**	**22 36 24.4**	**-0.8**
YOJ	**Yonaguni jima**	**1.21**	**79**	P	**Pn**	**22 36 21.3**	**0.0**
YOJ				*e*S	**Sn**	**22 36 36.8**	**+0.1**
IRIF	**Iriomote-Funau**	**1.85**	**86**	P	**Pn**	**22 36 29.8**	**-0.2**
IRIF				*e*S	**Sn**	**22 36 52.3**	**-0.1**
HATJ	**Hateruma jima**	**1.92**	**95**	P	**Pn**	**22 36 31.4**	**+0.3**
HATJ				*e*S	**Sn**	**22 36 54.7**	**+0.5**
JKRS	**Kuro-shima**	**2.10**	**89**	P	**Pn**	**22 36 33.9**	**+0.4**
JKRS				*e*S	**Sn**	**22 36 58.8**	**+0.2**
JIJ	**Ishigaki jima**	**2.23**	**86**	P	**Pn**	**22 36 34.8**	**-0.4**
JIJ				*e*S	**Sn**	**22 37 00.5**	**-1.2**
JTJ	**Tarama**	**2.76**	**81**	P	**Pn**	**22 36 42.8**	**+0.2**
QZH	**Quanzhou**	**2.93**	**285**⇑	*i*P	**Pn**	**22 36 44.2**	**-0.7**
QZH				S	**Sn**	**22 37 16.1**	**-2.9**
QZH				Smax			
comp=N,1μm,0.6s							
QZH				Smax			
comp=E,950nm,0.8s							
JOW	**Kunigami**	**6.47**	**65**	P	**Pn**	**22 37 33.2**	**-0.4**
comp=E,4.5nm,0.3s,baz=338,slow=29,SNR=6.2							
JOW				LR	LR	22 40 21.8	
comp=E,366nm,19.4s,baz=283,slow=39							
ENH	**Enshi**	**12.42**	**302**	P	**Pn**	**22 38 55.2**	**+0.1**
INCN	**Inchon**	**13.87**	**17**	*e*Pn	**Pn**	**22 39 18.1**	**+3.2**
KSRS	**Korea Array**	**14.22**	**21**	P	**Pn**	**22 39 26.0**	**+6.3**
baz=201,slow=12,SNR=26							
KSRS				LR	LR	22 45 11.1	
comp=E,95nm,18.9s,baz=359,slow=38							
XAN	**Xi'an**	**14.83**	**314**	P	**Pn**	**22 39 34.0**	**+6.0**
XAN				AMB	AMB		
comp=Z,5.0nm,1.2s							
XAN				LR	LR		
comp=N,203nm,5.5s							
XAN				LR	LR		
comp=E,252nm,5.5s							
XAN				LR	LR		
comp=Z,274nm,5.3s							
BJT	**Baijiatuau**	**16.42**	**345**	P	**Pn**	**22 39 50.6**	**+2.0**
CD2	**Chengdu**	**17.24**	**297**	P	**Pn**	**22 40 04.0**	**+5.1**
CD2				AMB	AMB		
comp=Z,20nm,0.5s							
JHJ	**Hachijo jima 2**	**18.15**	**57**	LR	LR	22 46 31.3	
comp=Z,242nm,19.9s,baz=336,slow=34							
CBIJ	**Chichi jima**	**18.68**	**77**	LR	LR	22 47 07.9	
comp=Z,172nm,21.1s,baz=114,slow=36							
MJAR	**Matsushiro Arr**	**18.76**	**45**	LR	LR	22 48 24.3	
comp=Z,163nm,20.6s,baz=210,slow=39							
LZH	**Lanzhou**	**19.41**	**312**	*e*P	**Pn**	**22 40 27.5**	**+2.1**
LZH				AP	pP	22 40 32.0	0.0
LZH				XP	sP	22 40 34.5	-1.3
LZH				AMB	AMB		
comp=Z,13nm,1.0s							
LZH				AMB	AMB		
comp=Z,80nm,4.0s							
LZH				LR	LR		
comp=E,253nm,10.8s							
LZH				LR	LR		
comp=Z,360nm,13.5s							
CN2	**Changchun**	**19.77**	**8**	*e*P	**Pn**	**22 40 37.4**	**+7.8**
CN2				AMB	AMB		
comp=Z,10.0nm,1.1s							
GTA	**Gaotai**	**23.90**	**315**	*e*P	**P**	**22 41 11.9**	**+0.4**
GTA				AP		22 41 15.7	
GTA				XP	sP	22 41 18.4	-5.2
GTA				AMB	AMB		
comp=Z,5.0nm,1.0s,mb3.9							
GTA				AMB	AMB		
comp=Z,150nm,3.8s							
GTA				LR	LR		
comp=N,103nm,11.5s,MS3.9							
GTA				LR	LR		
comp=E,240nm,14.9s,MS3.9							
GTA				LR	LR		
comp=Z,265nm,14.9s,MS3.8							
HIA	**Hailar**	**25.04**	**357**	*e*P	**P**	**22 41 22.5**	**+0.6**
comp=Z,4.2nm,0.5s,mb4.2							
ASAJ	**Asahikawa**	**26.18**	**36**	LR	LR	22 51 27.4	
comp=Z,110nm,19.5s,MS3.4,baz=334,slow=35							
ULN	**Ulaanbaatar**	**26.31**	**337**	P	**P**	**22 41 33.2**	**-0.2**
comp=Z,36nm,0.6s,mb5.1							
SONM	**Songino Array**	**26.52**	**337**	P	**P**	**22 41 35.0**	**-0.3**
comp=Z,1.9nm,0.8s,mb3.7,baz=156,slow=10,SNR=14							
SONM				LR	LR	22 53 04.7	
comp=Z,170nm,18.4s,MS3.6,baz=165,slow=38							
SONM	**Songino Array**	**26.52**	**337**	P	**P**	**22 41 35.0**	**-0.3**
SONM				LR	LR	22 53 04.7	
LSA	**Lhasa**	**27.73**	**288**	P	**P**	**22 41 48.2**	**+2.0**
LSA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.4							
LSA	**Lhasa**	**27.73**	**288**	*e*P	**P**	**22 41 47.8**	**+1.6**
comp=Z,3.5nm,0.6s,mb4.2							
YSS	**Yuzh-Sakhalins**	**28.24**	**31**	P	**P**	**22 41 52.4**	**+1.7**
JIRN	**Jiri**	**32.05**	**284**	*e*P	**P**	**22 42 25.7**	**+1.2**
comp=Z,7.4nm,0.7s,mb4.6							
GUN	**Gumba**	**32.32**	**284**	*e*P	**P**	**22 42 26.5**	**-0.3**
KKN	**Kakani**	**32.86**	**284**	*e*P	**P**	**22 42 32.0**	**+0.5**
comp=Z,7.9nm,0.7s,mb4.7							
DMN	**Daman**	**33.02**	**284**	*e*P	**P**	**22 42 34.6**	**+1.7**
GKN	**Gorkha**	**33.42**	**285**	*e*P	**P**	**22 42 34.6**	**-1.8**
comp=Z,7.9nm,0.9s,mb4.7							
KOLN	**Koldanda**	**34.34**	**284**	*e*P	**P**	**22 42 44.8**	**+0.4**
comp=Z,8.2nm,0.8s,mb4.7							
KAKA	**Kakadu**	**38.18**	**163**	*e*P	**P**	**22 43 15.1**	**-2.1**
comp=Z,4.9nm,0.6s,mb4.4							
MK31	**Makanchi Array**	**38.64**	**316**	*e*P	**P**	**22 43 20.8**	**-0.3**
MKAR	**Makanchi Array**	**38.64**	**316**	P	**P**	**22 43 20.9**	**-0.1**
comp=Z,1.6nm,0.6s,mb3.9,baz=107,slow=9.7,SNR=15							
MKAR				LR	LR	23 00 39.4	
comp=Z,149nm,18.7s,MS3.8,baz=260,slow=38							
MKAR	**Makanchi Array**	**38.64**	**316**	P	**P**	**22 43 20.9**	**-0.1**
MKAR				LR	LR	23 00 39.4	
ZAL	**Zalesovo**	**40.47**	**327**	P	**P**	**22 43 36.0**	**-0.3**
comp=Z,2.1nm,0.9s,mb3.9,baz=1.0,slow=8.6,SNR=5.7							
ZAL				LR	LR	23 02 01.8	
comp=Z,135nm,19.2s,MS3.8,baz=161,slow=38							
PMG	**Port Moresby**	**41.65**	**140**	*e*P	**P**	**22 43 46.4**	**+0.4**
comp=Z,12nm,1.1s,mb4.4							
KURK	**Kurchatov**	**42.37**	**320**	*e*P	**P**	**22 43 53.2**	**+1.3**
comp=Z,1.7nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**45.59**	**163**	P	**P**	**22 44 14.7**	**-3.0**
comp=Z,0.9nm,0.3s,mb4.1,baz=346,slow=8.4,SNR=7.0							
WB2	**Warramunga Arr**	**45.60**	**163**	*e*P	**P**	**22 44 14.4**	**-3.4**
BVAR	**Borovoye Array**	**47.94**	**321**	P	**P**	**22 44 36.0**	**-0.2**
comp=Z,1.3nm,0.6s,mb4.1,baz=98,slow=11,SNR=6.5							
CHKZ	**Chkalovo**	**48.00**	**321**	*e*P	**P**	**22 44 35.2**	**-1.4**
comp=Z,2.2nm,0.5s,mb4.4							
BRVK	**Borovoye**	**48.02**	**321**	P	**P**	**22 44 37.5**	**+0.8**
ASAR	**Alice Springs**	**49.06**	**165**	P	**P**	**22 44 40.6**	**-4.1**
comp=Z,0.6nm,0.6s,mb3.8,baz=12,slow=13,SNR=12							
ARU	**Arti**	**55.36**	**323**	*e*P	**P**	**22 45 30.4**	**-1.2**
comp=Z,2.4nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**58.94**	**160**	P	**P**	**22 45 51.2**	**-5.6**
comp=Z,2.0nm,0.8s,mb4.2,baz=339,slow=14,SNR=2.8							
KIV	**Kislovodsk**	**65.93**	**309**	*e*P	**P**	**22 46 44.0**	**+0.4**
comp=Z,4.7nm,0.8s,mb4.6							
COLA	**College**	**68.53**	**27**	P	**P**	**22 47 01.6**	**+1.5**
MALT	**Malatya**	**70.37**	**304**	*e*P	**P**	**22 47 12.0**	**+0.6**
comp=Z,1.5nm,0.7s,mb4.0							
TAU	**Tasmania Unive**	**70.85**	**160**	*e*P	**P**	**22 47 16.2**	**+1.8**
FINES	**FINESS Array B**	**71.65**	**330**	P	**P**	**22 47 17.7**	**-1.5**
comp=Z,2.5nm,0.9s,mb4.1,baz=72,slow=4.5,SNR=3.5							
FINES				LR	LR	23 20 24.0	
comp=Z,102nm,18.5s,MS4.1,baz=187,slow=37							
INK	**Inuvik**	**73.01**	**22**	P	**P**	**22 47 24.3**	**-2.9**
comp=Z,1.7nm,0.7s,mb4.1,baz=311,slow=7.0,SNR=5.4							
INK	**Inuvik**	**73.01**	**22**	P	**P**	**22 47 25.7**	**-1.6**
AKASG	**Malin Array Be**	**73.16**	**318**	P	**P**	**22 47 25.8**	**-2.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=59,slow=5.1,SNR=5.5							
BRTR	**Keskin Array B**	**73.53**	**307**	P	**P**	**22 47 30.1**	**-0.3**
comp=Z,2.1nm,0.9s,mb4.1,baz=108,slow=6.9,SNR=12							
NOA	**NORSAR Array B**	**78.41**	**332**	P	**P**	**22 47 55.5**	**

MWZ	Matawai	9.44 199	SN	Sn	23 00 06.0	+3.0
URZ	Urewera	9.50 201	P	Pn	22 58 29.3	+11
0.6nm,0.3s,baz=29,slow=10,SNR=4.1						
URZ			S	Sn	23 00 09.2	+4.8
2.2nm,0.3s,baz=342,slow=20,SNR=8.8						
BFZ	Birch Farm	11.98 199	SN	Sn	23 01 02.3	-1.4
MRZ	Mangatainoka R	12.17 201	SN	Sn	23 01 06.1	-2.0
KIW	Kapiti Island	12.57 203	*e*PN	Pn	22 59 02.1	+4.5
KIW			SN	Sn	23 01 14.9	-2.8
TCW	Tory Channel	13.10 204	SN	Sn	23 01 26.4	-4.0
NNZ	Nelson	13.45 207	PN	Pn	22 59 08.3	-0.3
NNZ			SN	Sn	23 01 34.8	-3.8
QRZ	Quartz Range	13.47 210	*e*PN	Pn	22 59 09.1	+0.1
THZ	Tophouse	14.10 207	*e*PN	Pn	22 59 16.3	-0.4
KHZ	Kahutara	14.42 204	*e*PN	Pn	22 59 22.2	+1.5
KHZ			SN	Sn	23 01 56.9	-5.0
LTZ	Lake Taylor	15.21 206	*e*PN	Pn	22 59 29.5	-0.9
DZM	Mont Dzumac	15.33 295	*e*P	Pn	22 59 34.1	+2.3
DZM	Mont Dzumac	15.33 295	P	Pn	22 59 34.1	+2.3
0.3nm,0.3s,baz=140,slow=16,SNR=4.8						
MQZ	McQueen's Vall	15.87 204	SN	S	23 02 26.5	-7.7
AFI	Afiamalu	16.69 24	S	Sx	23 02 23.0	
4.1nm,0.3s,baz=185,slow=22,SNR=4.4						
TAU	Tasmania Unive	30.40 234	P	P	23 02 02.6	+3.5
CTA	Charters Tower	33.13 278	*e*P	P	23 02 24.4	+1.3
7.3nm,1.2s,mb4.1						
CTAO	Charters Tower	33.13 278	*e*P	P	23 02 22.8	-0.2
6.2nm,0.6s,mb4.3						
STKA	Stephens Creek	34.19 256	*e*P	P	23 02 34.0	+1.8
4.2nm,0.5s,mb4.2						
STKA	Stephens Creek	34.19 256	P	P	23 02 33.7	+1.5
5.3nm,0.6s,mb4.2,baz=96,slow=8.9,SNR=18						
ASAR	Alice Springs	42.64 266	P	P	23 03 42.1	-0.4
3.5nm,0.5s,mb4.0,baz=98,slow=6.6,SNR=75						
WB2	Warramunga Arr	43.53 271	*e*P	P	23 03 48.9	-0.7
WRA	Warramunga Arr	43.54 271	P	P	23 03 49.4	-0.3
3.5nm,0.4s,mb4.0,baz=107,slow=7.9,SNR=19						
FORT	Forrest	45.79 254	*e*P	P	23 04 06.8	-0.7
10nm,0.5s,mb4.4						
KAKA	Kakadu	48.25 279	*e*P	P	23 04 25.2	-1.3
8.3nm,1.0s,mb4.0						
SBA	Scott Base	48.96 184	*e*P	P	23 04 36.4	+4.5
17nm,0.7s,mb4.5						
VNDA	Vanda	49.00 186	P	P	23 04 34.5	+2.3
1.9nm,0.6s,mb3.6,baz=35,slow=7.4,SNR=21						
FITZ	Fitzroy Crossi	51.84 269	*e*P	P	23 04 53.5	0.0
9.9nm,0.9s,mb4.2						
CASY	Casey	55.75 208	*e*P	P	23 05 21.9	+0.1
CASY	Casey	55.75 208	*e*P	P	23 05 22.0	+0.2
8.4nm,0.6s,mb4.5						
QSPA	South Pole Qui	60.67 180	*e*P	P	23 05 58.0	+2.1
12nm,0.7s,mb4.6						
MAW	Mawson	73.03 201	*e*P	P	23 07 14.1	+0.3
4.1nm,0.6s,mb4.2						
MAW	Mawson	73.03 201	P	P	23 07 14.3	+0.5
6.1nm,0.7s,mb4.3,baz=122,slow=8.1,SNR=16						
MAW	Mawson	73.03 201	*e*P	P	23 07 14.3	+0.5
4.3nm,0.5s,mb4.3						
MJAR	Matsushiro Arr	77.15 326	P	P	23 07 32.3	-5.1
3.1nm,0.8s,mb4.0,baz=151,slow=4.8,SNR=7.0						
SNAA	Sanae	79.13 179	*e*	P	23 07 47.4	-0.9
SNAA			*e*		23 07 48.9	
SNAA			*e*		23 07 54.9	
SNAA	Sanae	79.13 179	*e*P	P	23 07 47.7	-0.5
3.7nm,0.8s,mb4.1						
VNA3	Neumayer Olymp	79.30 176	*e*	P	23 07 48.5	-0.7
VNA3			*e*		23 07 50.2	
VNA3			*e*		23 07 57.5	
VNA3			*e*		23 08 09.4	
VNA2	Neumayer--Watz	79.73 177	*e*	P	23 07 51.0	-0.5
baz=184,slow=5.4						
VNA2			*e*		23 07 52.5	
VNA2			*e*		23 07 58.4	
VNA2			*e*		23 08 10.2	
VNA1	Neumayer--Stat	79.96 177	*e*	P	23 07 52.7	0.0
VNA1			*e*		23 07 54.4	
VNA1			*e*		23 08 06.3	
KSRS	Korea Array	83.27 320	P	P	23 08 07.2	-2.8
0.9nm,0.4s,mb3.8,baz=141,slow=6.6,SNR=5.4						
NVAR	Mina Array Bea	87.89 43	P	P	23 08 27.6	-5.1
0.9nm,0.7s,mb3.7,baz=230,slow=7.0,SNR=6.4						
MKAR	Makanchi Array	116.75 311	PKP	PKPdf	23 14 21.6	-4.8
0.6nm,0.5s,baz=216,slow=1.2,SNR=18						
KURK	Kurchatov	120.00 314	*e*PKPdf	PKPdf	23 14 27.7	-4.9
CHKZ	Chkalovo	125.25 317	*e*PKPdf	PKPdf	23 14 37.5	-5.2
BRVK	Borovoye	125.41 316	*e*PKPdf	PKPdf	23 14 38.0	-4.9
ARCES	ARCESS Array B	137.54 348	PKP	PKPdf	23 15 01.4	-4.5
3.1nm,0.9s,baz=351,slow=3.8,SNR=5.1						
JOF	Joensuu	141.33 339	*e*pkp	PKPdf	23 15 11.5	-1.2
KAF	Kangasniemi	143.46 341	*e*pkp	PKPdf	23 15 08.9	-7.6
FINES	FINESS Array B	144.06 340	PKP	PKPdf	23 15 10.2	-7.3
2.6nm,0.5s,baz=57,slow=3.8,SNR=22						
NB2	NORSAR Subarra	147.72 351	PKP	PKPdf	23 15 20.8	-3.0
comp=Z,1.8nm,0.6s,baz=13,slow=2.9						
NOA	NORSAR Array B	147.72 351	PKPbc	PKPbc	23 15 21.1	-5.7
comp=Z,3.6nm,0.7s,baz=16,slow=4.5,SNR=8.9						
AKASG	Malin Array Be	150.21 323	PKPbc	PKPbc	23 15 28.4	-4.7
comp=Z,4.1nm,0.4s,baz=45,slow=2.9,SNR=37						
AKASG			PKPab	PKPab	23 15 34.6	-5.3
comp=Z,0.6nm,0.4s,baz=42,slow=3.8,SNR=4.8						
AKBB	Malin Array Si	150.21 323	*e*PKPbc	PKPbc	23 15 28.2	-4.9
EIL	Elat	150.86 279	*e*PKPbc	PKPbc	23 15 32.4	-2.2
BRTR	Keskin Array B	151.67 300	PKPbc	PKPbc	23 15 33.0	-3.5
comp=Z,2.3nm,0.6s,baz=144,slow=5.7,SNR=12						
BRTR			PKPab	PKPab	23 15 43.5	-2.5
comp=Z,0.8nm,0.7s,baz=116,slow=33,SNR=3.6						
TORD	Torodi Ar. Bea	163.79 181	PKP	PKPdf	23 15 42.9	-2.0
comp=Z,1.1nm,1.1s,baz=153,slow=1.0,SNR=4.4						
TORD			PKPab	PKPab	23 16 37.9	-0.4
comp=Z,2.9nm,0.8s,baz=178,slow=2.6,SNR=17						
TORD	Torodi Ar. Bea	163.79 181	PKP	PKPdf	23 15 42.9	-2.0
TORD			PKPab	PKPab	23 16 37.9	-0.4

*STR **05** 23:06:24.0±0.5, 4745N×730E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 05 23:06:25.1±0.1, 4760N×751E, h2km, Md1.9/3, Ml1.9/4, Error ellipse: s-maj=2.4km s-min=1.3km az=104.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	Molkenrain	0.36	316	Pg	Pg	23 06 31.6	-0.4
MOF				Sg	Sg	23 06 38.3	+1.7
HINF	Hinteralfeld	0.49	297	*e*Pg	Pg	23 06 34.0	-0.6
HINF				*e*Sg	Sg	23 06 40.9	-0.1
3.6nm,0.3s							
ECH	Echery	0.66	339	Pg	Pg	23 06 38.7	+0.9
ECH				Sg	Sg	23 06 49.1	+2.7
CDF	Champ du Feu	0.83	349	*e*Pg	Pg	23 06 41.0	0.0
CDF				*e*Sg	Sg	23 06 51.5	-0.3
2.6nm,0.2s							
HAU	Haudompre	0.88	298	*e*Pg	Pg	23 06 41.8	-0.2
HAU				*e*Sg	Sg	23 06 53.3	-0.1
2.3nm,0.3s							
CABF	La Chapelle	1.38	225	*e*Pg	Pg	23 06 50.9	-0.7
CABF				*e*Sg	Sg	23 07 08.9	-0.6
2.1nm,0.3s							
LOR	Lormes	2.50	264	*e*Sg	Sg	23 07 43.9	-1.4
1.8nm,0.4s							

KRSC 05 23:18:25.1±1.3, 5090N×16023E, h15km±15km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.87	326	*e*P	Pn	23 18 56.7	+0.1
RUS				*i* S	Sn	23 19 19.8	-0.1
GRL	Gorelyy	2.13	322	*e*P	Pn	23 19 01.4	+1.3
GRL				*i* S	Sn	23 19 27.9	+1.6
SPN	Mys Shipunski	2.21	357	*e*P	Pn	23 19 02.3	+1.1
SPN				*i* S	Sn	23 19 29.3	+1.2
NLC	Nalytchevo	2.34	347	*e*P	Pn	23 19 04.9	+1.9
NLC				*i* S	Sn	23 19 33.6	+2.1
PET	Petropavlovsk	2.34	336	*e*P	Pn	23 19 03.9	+0.9
PET				*i* S	Sn	23 19 32.1	+0.6
AVH	Avacha	2.54	339	*e*P	Pn	23 19 08.3	+2.5
AVH				*i* S	Sn	23 19 40.1	+3.7
GNL	Ganaly	3.13	334	*e*P	Pn	23 19 16.1	+2.2
GNL				*i* S	Sn	23 19 53.3	+2.3
MKZ	Mys Kozlova	3.77	13	*e*P	Pn	23 19 23.7	+1.0
MKZ				*i* S	Sn	23 20 06.4	-0.5
TUMR	Tumrok	4.39	359	*e*P	Pn	23 19 34.3	+3.1
TUMR				*i* S	Sn	23 20 25.2	+3.1
KMNR	Kamenistaya	4.87	0	*e*P	Pn	23 19 42.0	+4.3
ZLN	Zelenaya	5.14	4	*e*P	Pn	23 19 45.3	+3.8
ZLN				*i* S	Sn	23 20 42.6	+2.1
SRDR	Sredinnyy	5.44	357	*e*P	Pn	23 19 49.0	+3.4
KBTR	Krutoberegovo	5.54	15	*e*P	Pn	23 19 48.5	+1.5
SMKR	Semkarok	5.74	7	*e*P	Pn	23 19 52.7	+3.0
SRKR	Sorokina	5.79	5	*e*P	Pn	23 19 53.8	+3.3

IDC 05 23:35:55.3±1.9, 955S×12607E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.5/14, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=167.8km s-min=29.0km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.06	143	Pn	Pn	23 39 01.0	-1.0
0.3nm,0.3s,baz=316,slow=13,SNR=4.0							
WRA				Sn	Sn	23 41 20.7	-7.3
0.7nm,0.3s,baz=313,slow=28,SNR=4.5							
ASAR	Alice Springs	15.91	153	Pn	Pn	23 39 42.0	+1.6
0.1nm,0.3s,baz=326,slow=10,SNR=5.8							
ASAR				Sn	Sn	23 42 39.4	+1.9
0.2nm,0.3s,baz=73,slow=13,SNR=6.4							
MKAR	Makanchi Array	68.31	329	P	P	23 46 58.4	+0.1
0.4nm,0.6s,baz=132,slow=6.5,SNR=5.5							

*CSEM **06** 00:06:13.0±0.1, 3361N×612W, h30km, ML3.2/4, Error ellipse: s-maj=4.0km s-min=2.0km az=94.0*
*NEIC **06** 00:06:14.4, 3388N×608W, h0km, MG4.3(MDD), After MDD.*
*CNRM **06** 00:06:15.6, 3355N×603W, h30km, MD3.1*

MDD 06 00:06:11.5±0.6, 3361N×617W, h0km, mb4.4/2, Error ellipse: s-maj=5.9km s-min=5.3km az=106.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIF	Mishlifen	0.81	104	P	Pg	00 06 27.5	+0.4
MIF				S	Sg	00 06 38.0	+0.3
MIF	Mishlifen	0.81	104	*i* P	Pg	00 06 27.5	+0.4
TGT	Taghat	1.04	64	P	Pg	00 06 31.0	-0.4
TGT				S	Sg	00 06 45.0	+0.2
TGT	Taghat	1.04	64	*i* P	Pg	00 06 31.0	-0.4
KIB	El Ksiba	1.04	174	P	Pg	00 06 32.0	+0.6
KIB				S	Sg	00 06 43.0	-1.9
KIB	El Ksiba	1.04	174	*i* P	Pg	00 06 32.0	+0.6
CZD	Col de Zad	1.11	121	P	Pg	00 06 31.0	-1.8
CZD				S	Sg	00 06 45.0	-2.2
CZD	Col de Zad	1.11	121	*i* P	Pg	00 06 31.0	-1.8
TZC	Tazercounte	1.48	190	P	Pn	00 06 38.0	-1.4
TZC				S	Sg	00 06 56.0	-3.2
TZC	Tazercounte	1.48	190	*e*P	Pn	00 06 38.0	-1.4
ZFT	Errachidia	2.20	135	P	Pn	00 06 48.0	-1.3
ZFT				S	Sn	00 07 10.0	-7.1
ZFT	Errachidia	2.20	135	*e*P	Pn	00 06 48.0	-1.3
CIA	Chichaoua	2.99	228	P	Pn	00 07 00.0	-0.1
CIA				S	Sn	00 07 35.0	-1.6
CIA	Chichaoua	2.99	228	*e*P	Pn	00 07 00.0	-0.1
EGRO	El Granado	4.05	345	Pn	Pn	00 07 14.1	-0.7
EGRO				Sn	Sn	00 07 56.6	-6.4
EGRO	El Granado	4.05	345	P	Pn	00 07 14.1	-0.7
2.2nm,0.1s,SNR=8.7							
EGRO				S	Sn	00 07 57.7	-5.3
2.1nm,0.1s,SNR=5.0							
EGRO	El Granado	4.05	345	Pn	Pn	00 07 14.1	-0.7
2.2nm,0.1s,SNR=8.7							
EGRO				Sn	Sn	00 07 56.6	-6.4
2.1nm,0.1s,SNR=5.0							
EMIN	Mina Concepcio	4.17	355	Pn	Pn	00 07 14.2	-2.1
EMIN				Sn	Sn	00 07 58.6	-7.1
EMIN	Mina Concepcio	4.17	355	P	Pn	00 07 14.3	-2.0
0.1nm,0.0s,SNR=7.9							
EMIN				S	Sn	00 08 01.7	-3.9
0.5nm,0.0s,SNR=7.9							
EMIN	Mina Concepcio	4.17	355	Pn	Pn	00 07 14.2	-2.1
EMIN				Sn	Sn	00 07 58.6	-7.1
0.5nm,0.0s,SNR=7.9							
EADA	Adamuz	4.73	15	Pn	Pn	00 07 21.6	-2.4
EADA				Sn	Sn	00 08 12.8	-6.7
EADA	Adamuz	4.73	15	P	Pn	00 07 21.6	-2.4
0.2nm,0.0s,SNR=6.1							
EADA				S	Sn	00 08 14.5	-5.0
0.4nm,0.0s,SNR=7.9							
EADA	Adamuz	4.73	15	Pn	Pn	00 07 21.6	-2.4
0.2nm,0.0s,SNR=6.1							
EADA				Sn	Sn	00 08 12.8	-6.7
0.4nm,0.0s,SNR=7.9							
EBAD	Badajoz	5.18	353	Pn	Pn	00 07 28.3	-1.9
EBAD				Sn	Sn	00 08 22.5	-8.2
EBAD	Badajoz	5.18	353	P	Pn	00 07 28.3	-1.9
1.7nm,0.1s,SNR=12							
EBAD				S	Sn	00 08 24.5	-6.1
0.7nm,0.1s,SNR=5.0							
EBAD	Badajoz	5.18	353	Pn	Pn	00 07 28.3	-1.9
1.7nm,0.1s,SNR=12							
EBAD				Sn	Sn	00 08 22.5	-8.1
0.7nm,0.1s,SNR=5.0							

*UCR **06** 00:10:28.5, 870N×82.16W, h13km, MD3.9*
*UPA **06** 00:10:30.6, 827N×8271W, h9km, MD3.3*

CASC 06 00:10:31.0±1.8, 829N×8273W, h6km±8km, MD3.8, 2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU	Baru	0.54	18	*e*P	Pg	00 10 42.7	+1.3
BRU				*e*S	Sg	00 10 51.8	+3.2
CTCR	Cotoan	0.61	357	*e*P	Pg	00 10 43.5	+0.8
CTCR				*e*S	Sg	00 10 53.6	+3.0
CNI	Changuinola	1.14	11	*e*P	Pg	00 10 52.3	-0.6
LCR2	La Lucha 2	1.92	319	↑*e*P	Pn	00 11 03.9	-0.4
LCR2				*e*S	Sn	00 11 28.6	0.0
LAJ	Bijagual	2.08	319	*e*P	Pn	00 11 09.1	+2.6
LAJ				*e*S	Sn	00 11 41.0	+8.2
PRS1	Puriscal	2.30	317	*e*P	Pn	00 11 08.6	-0.8
PRS1				*e*S	Sn	00 11 37.9	-0.2
PTP	Ponta Puerca	19.35	58	↑*i*P		00 10 35.3	

*STR **06** 00:23:34.2±0.7, 4760N×758E, h5km±1km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 06 00:23:34.0±0.2, 4759N×758E, h8km, Md1.7/2, Ml1.9/6, Error ellipse: s-maj=2.9km s-min=2.0km az=108.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	Molkenrain	0.40	311	Pg	Pg	00 23 41.8	+0.1
MOF				Sg	Sg	00 23 47.9	+0.9
HINF	Hinteralfeld	0.54	295	*e*Pg	Pg	00 23 44.2	-0.2
HINF				*e*Sg	Sg	00 23 51.6	+0.1
HINF				*e*Sn	Sg	00 23 55.1	+3.6
7.0nm,0.2s							
ECH	Echery	0.68	336	Pg	Pg	00 23 47.9	+0.7
ECH				Sg	Sg	00 23 56.1	0.0
CDF	Champ du Feu	0.84	346	*e*Pn	Pn	00 23 50.7	-1.5
CDF				*e*Sg	Sg	00 24 00.7	-0.5
CDF				*e*Sn	Sn	00 24 02.7	-2.0
5.1nm,0.3s							
HAU	Haudompre	0.93	297	*e*Pg	Pg	00 23 51.5	-0.3
HAU				*e*Sg	Sg	00 24 04.0	+0.1
5.5nm,0.3s							
CABF	La Chapelle	1.42	227	*e*Pg	Pg	00 24 00.9	-0.3
CABF				*e*Sg	Sg	00 24 17.9	-1.6
2.4nm,0.3s							
SFTF	Sexfontaines	1.82	291	*e*Sn	Sn	00 24 26.0	-2.7
SFTF				*e*Sg	Sg	00 24 31.5	-0.9
1.4nm,0.3s							
LOR	Lormes	2.55	264	*e*Sg	Sg	00 24 53.8	-2.0
0.8nm,0.2s							
SSF	Saint Saulge	2.82	261	*e*Sg	Sg	00 25 02.5	-2.1
0.6nm,0.3s							

*CSEM **06** 00:24:20.4, 6784N×2020E, h3km, ML3.2, Mining explosion. After UPP*
*UPP **06** 00:24:20.4, 6784N×2020E, h3km, ML3.2, Mining explosion.*

HEL 06 00:24:20.7±0.1, 6785N×2019E, h0km, ML3.2(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	27	*i* P	Pg	00 24 22.7	-0.4
NIKU	Nikkaluokta	0.44	273	*i* P	Pg	00 24 28.6	-0.5
LANU	Lannavaara	0.71	72	*i* P	Pg	00 24 33.7	-0.6
LANU	Lannavaara	0.71	72	P	Pg	00 24 33.7	-0.6
baz=303							
DUNU	Dundret	0.74	168	*i* P	Pg	00 24 33.8	-1.1
DUNU	Dundret	0.74	168	P	Pg	00 24 33.8	-1.1
baz=85							
SALU	Saltoluokta	0.80	235	*i* P	Pg	00 24 35.1	-0.8
KIF	Kilpisjarvi	1.19	11	*e*P	Pg	00 24 42.7	-0.7
KIF				*e*S	Sg	00 24 58.4	-0.4
PAJU	Pajala	1.40	125	*e*P	Pn	00 24 45.6	-1.8
HARU	Harads	1.72	169	*e*P	Pn	00 24 51.3	-0.6
SGF	Sodankyl	2.46	97	*e*PB	Pb	00 25 03.3	-2.4
SGF				*e*SB	Sb	00 25 35.1	-1.4

*CSEM **06** 00:25:52.1, 6782N×2021E, h3km, ML2.7, Mining explosion. After UPP*
*UPP **06** 00:25:52.1, 6782N×2021E, h3km, ML2.7, Mining explosion.*

HEL 06 00:25:52.5±0.1, 6782N×2021E, h0km, ML2.7(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	19	*i* P	Pg	00 25 55.0	-0.3
KUA				*i* S	Sg	00 25 57.1	-0.1
NIKU	Nikkaluokta	0.45	277	*i* P	Pg	00 26 00.4	-0.7
LANU	Lannavaara	0.71	70	*i* P	Pg	00 26 05.4	-0.7
DUNU	Dundret	0.71	169	*i* P	Pg	00 26 05.2	-1.0
SALU	Saltoluokta	0.79	237	*i* P	Pg	00 26 06.8	-0.8
KIF	Kilpisjarvi	1.21	10	*e*P	Pg	00 26 14.9	-0.8
KIF				*e*S	Sg	00 26 31.2	-0.2
PAJU	Pajala	1.38	124	*e*P	Pg	00 26 17.2	-1.7
HARU	Harads	1.69	169	*e*P	Pn	00 26 22.7	-0.5
SGF	Sodankyl	2.45	96	*e*PB	Pb	00 26 34.8	-2.6
SGF				*e*SG	Sg	00 27 09.3	-1.8

WEL 06 01:07:42.5±0.7, 3886S×17483E, h205km±11km, ML3.5/6, Error ellipse: s-maj=8.3km s-min=4.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	Mangatainoka R	1.89	163	PN	Pn	01 08 20.5	+0.2
MRZ				SN	Sn	01 08 48.3	-1.5
KIW	Kapiti Island	2.00	178	PN	Pn	01 08 21.6	+0.2
CAW	Cannon Point	2.26	175	PN	Pn	01 08 24.0	0.0
MTW	Mount Morrison	2.36	168	PN	Pn	01 08 24.9	-0.2
MRW	Makara Radio	2.37	182	PN	Pn	01 08 25.2	-0.1
TCW	Tory Channel	2.39	190	PN	Pn	01 08 25.8	+0.3
TCW				SN	Sn	01 08 58.6	-0.5
NNZ	Nelson	2.61	205	PN	Pn	01 08 27.8	-0.1
NNZ				SN	Sn	01 09 02.8	-0.6
QRZ	Quartz Range	2.65	221	PN	Pn	01 08 28.1	-0.3
KHZ	Kahutara	3.69	195	PN	Pn	01 08 40.2	-0.5

*STR **06** 01:12:52.1±0.2, 4757N×754E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **06** 01:12:52.0±0.4, 4760N×755E, h11km, Md2.0/3, Ml1.9/5, Error ellipse: s-maj=6.4km s-min=3.7km az=111.0*

ZUR 06 01:12:51.7, 4758N×760E, h4km±1km, ML1.0, 2C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.26	165	⇑*i*Pg	Pg	01 12 57.7	+1.0
143nm,0.3s							
BALST				*e*Sg	Sg	01 13 00.8	+0.8
143nm,0.3s							
BOURR	Bourrignon	0.31	233	⇑*i*Pg	Pg	01 12 58.1	+0.3
4.3nm,0.1s							
SULZ	Sulz-Cheisache	0.35	99	⇓*i*Pg	Pg	01 12 58.7	+0.2
2.9nm,0.1s							
MOF	Molkenrain	0.41	311	Pg	Pg	01 12 59.6	-0.1
MOF				Sg	Sg	01 13 05.4	+0.4
HINF	Hinteralfeld	0.56	295	*e*Pg	Pg	01 13 01.8	-0.6
HINF	Hinteralfeld	0.56	295	*e*Pn	Pg	01 13 03.3	+0.9
HINF				*e*Sn	Sg	01 13 12.4	+2.8
2.8nm,0.3s							
SLE	Schleitheim	0.63	73	⇓*i*Pg	Pg	01 13 03.7	-0.1
4.6nm,0.1s							
ECH	Echery	0.70	335	Pg	Pg	01 13 05.5	+0.4
ECH				Sg	Sg	01 13 14.8	+0.6
CDF	Champ du Feu	0.86	346	*e*Pn	Pn	01 13 08.4	-2.1
CDF				*e*Sg	Sg	01 13 18.3	-1.0
CDF				*e*Sn	Sn	01 13 20.2	-3.2
5.6nm,0.3s							
HAU	Haudompre	0.94	297	*e*Pg	Pg	01 13 09.1	-0.7
HAU				*e*Sg	Sg	01 13 21.9	-0.1
3.6nm,0.2s							
CABF	La Chapelle	1.42	227	*e*Pg	Pg	01 13 18.8	-0.1
CABF				*e*Sg	Sg	01 13 35.6	-1.7
1.3nm,0.2s							
SFTF	Sexfontaines	1.83	291	*e*Sg	Sg	01 13 49.3	-1.3
0.8nm,0.2s							
LOR	Lormes	2.56	264	*e*Sg	Sg	01 14 10.8	-3.1
1.5nm,0.3s							
SMF	Signal de Mont	2.73	251	*e*Sg	Sg	01 14 16.5	-3.0
0.8nm,0.2s							

*CSEM **06** 01:29:40.8±0.1, 3903N×4122E, h10km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.4km az=139.0*
*ISK **06** 01:29:40.8, 3903N×4122E, h8km, MD3.5*
*ISCJB **06** 01:29:41.6±0.6, 3906N±002×4122E±003, h5km±5km, Error ellipse: s-maj=4.2km s-min=3.7km az=147.8*

ISC 06 01:29:42.6±0.5, 3903N±002×4121E±003, h9km±4km, n28, σ0=97/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.09	210	*i* P	Pg	01 29 44.6	-0.3
BNGL				*i* S	Sg	01 30 00.2	+14
BTMT	Batman	0.87	165	*i* PG	Pg	01 29 58.5	-0.8
BTMT				*i* SG	Sg	01 30 11.7	+1.1
EZM	Erzurum	0.88	8	*i* PG	Pg	01 29 58.6	-0.9
BEST	Besiri	1.14	178	*i* P	Pb	01 30 03.8	-0.7
BEST				*i* S	Sg	01 30 19.9	+0.5
EZC	Erzincan	1

*CSEM **06** 01:32:26.2±0.1, 3374N×1392W, h10km, ML2.6, Error ellipse: s-maj=8.0km s-min=3.3km az=137.0*
*NEIC **06** 01:32:29.8, 3356N×1372W, h0km, MG4.5(MDD), After MDD.*
*INMG **06** 01:32:32.9±1.9, 3378N×1431W, h10km, ML2.6, Error ellipse: s-maj=9.2km s-min=3.3km az=133.0*

MDD 06 01:32:26.4±0.8, 3384N×1429W, h0km, mbLg3.2/4, Error ellipse: s-maj=29.6km s-min=7.6km az=145.0, PRXIMO, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**1.87**	**246**	*e*Pn	Pn	01 32 58.1	-1.6
PMPS				*e*Sn	Sn	01 33 18.6	-5.5
PMPS				A		01 33 21.3	
	34nm,0.2s						
PMPS	**Porto Santo**	**1.87**	**246**	*e*Pn	Pn	01 32 58.1	-1.6
PMPS				*e*Sn	Sn	01 33 18.6	-5.5
	34nm,0.2s						
PMAR	**Madeira**	**2.46**	**244**	*e*Pn	Pn	01 33 06.5	-1.3
PMAR				*e*Sn	Sn	01 33 32.6	-5.9
PMAR				A		01 33 39.3	
	66nm,0.2s						
CFUE	**Fuerteventura**	**5.18**	**177**	P	Pn	01 33 44.0	-1.2
	6.1nm,0.2s,SNR=7.9						
CFUE				S	Sn	01 34 36.3	-9.5
	7.4nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**5.57**	**199**	P	Pn	01 33 52.0	+1.5
EBAJ	**Bajamar**	**5.57**	**199**	P	Pn	01 33 52.0	+1.5
	76nm,0.3s,SNR=20						
PTEO	**Sao Teotonio**	**5.85**	**49**	*e*Pn	Pn	01 33 54.1	-0.3
PTEO				*e*Sn	Sn	01 34 55.9	-6.2
PMAFR	**Mafra**	**6.51**	**37**	*e*S	Sn	01 35 09.8	-8.6
EGRO	**El Granado**	**6.66**	**54**	P	Pn	01 34 05.2	-0.3
	1.3nm,0.1s,SNR=8.6						
EGRO				S	Sn	01 35 14.6	-7.4
	2.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**6.66**	**54**	P	Pn	01 34 05.2	-0.3
	1.3nm,0.1s,SNR=8.6						
EGRO				S	Sn	01 35 14.6	-7.4
	2.2nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**6.68**	**49**	*e*Pn	Pn	01 34 04.5	-1.3
PBEJ				*e*Sn	Sn	01 35 14.9	-7.7
EMIN	**Mina Concepcio**	**7.33**	**55**	P	Pn	01 34 13.9	-0.8
EMIN				S	Sn	01 35 29.3	-9.3
EMIN	**Mina Concepcio**	**7.33**	**55**	P	Pn	01 34 13.9	-0.8
	0.7nm,0.2s,SNR=11						
EMIN				S	Sn	01 35 31.1	-7.4
	1.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.33**	**55**	P	Pn	01 34 13.9	-0.8
	0.7nm,0.2s,SNR=11						
EMIN				S	Sn	01 35 29.3	-9.3
	1.0nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**7.38**	**45**	*e*Pn	Pn	01 34 15.1	-0.3
PESTR				*e*Sn	Sn	01 35 31.6	-8.2
ESPR	**Espera**	**7.53**	**64**	P	Pn	01 34 16.6	-0.8
	0.8nm,0.1s,SNR=18						
ESPR				S	Sn	01 35 37.5	-6.0
	5.7nm,0.3s,SNR=7.9						
ESPR	**Espera**	**7.53**	**64**	P	Pn	01 34 16.6	-0.8
	0.8nm,0.1s,SNR=18						
EBAD	**Badajoz**	**7.66**	**48**	P	Pn	01 34 18.6	-0.6
	2.1nm,0.1s,SNR=9.0						
EBAD				S	Sn	01 35 38.0	-8.6
	2.2nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**7.66**	**48**	P	Pn	01 34 18.6	-0.6
	2.1nm,0.1s,SNR=9.0						
PVIS	**Viseu**	**8.55**	**35**	*e*Pn	Pn	01 34 31.2	-0.2
PVIS				*e*Sn	Sn	01 35 58.4	-10
EADA	**Adamuz**	**8.98**	**58**	P	Pn	01 34 35.2	-2.1
	0.3nm,0.1s,SNR=8.6						
EADA				S	Sn	01 36 10.3	-8.9
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.98**	**58**	P	Pn	01 34 35.2	-2.1
	0.3nm,0.1s,SNR=8.6						
ESDC	**Sonseca Array**	**10.13**	**52**	P	Pn	01 34 51.8	-1.2
	1.0nm,0.1s,baz=238,slow=14,SNR=16						
ESDC				S	Sn	01 36 38.7	-8.7
	0.3nm,0.3s,baz=238,slow=24,SNR=3.9						
ESDC	**Sonseca Array**	**10.13**	**52**	P	Pn	01 34 51.8	-1.3
	1.0nm,0.1s,SNR=16						
ETOR	**Torete**	**11.97**	**51**	P	Pn	01 35 17.5	-0.8
	6.2nm,0.4s,SNR=8.4						

*IDC **06** 01:36:02.0±1.6, 2383N×1295E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.8/5, MS3.0/3, Ms1 3.0/3, ms1mx2.8/32, Error ellipse: s-maj=151.0km s-min=19.3km az=64.0*
*ISCJB **06** 01:36:07.6±1.0, 2373N±007×1278E±004, h46km±8km, mb3.8/6, MS3.2/2, Error ellipse: s-maj=12.4km s-min=5.1km az=37.8*
*NEIC **06** 01:36:09.6, 2385N×1276E, h21km, mb4.2/1, ML4.8(TAP), After TAP.*
NEIC Recorded [2 TAP] in Hua-lien, I-lan and Nan-t'ou; [1 TAP] in Chang-hua and T'ai-chung Counties.
*JMA **06** 01:36:10.5±0.1, 2396N×1292E, h84km±3km, M3.8*

ISC 06 01:36:08.8±1.3, 2375N±008×1278E±005, h39km±13km, n25, σ1§07/32, mb3.8/6, MS3.2/2, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.46**	**338**	⇑*i*P	Pn	01 36 18.4	-0.5
NACB				*e*S	Sn	01 36 24.7	-1.2
YHNB	**Yeheng**	**0.99**	**338**	*e*P	Pn	01 36 26.2	+0.1
YHNB				*e*S	Sn	01 36 37.7	-1.2
TATO	**Taipei**	**1.25**	**348**	*e*P	Pn	01 36 30.2	+0.5
TATO				*e*S	Sn	01 36 45.1	-0.2
YOJ	**Yonaguni jima**	**1.33**	**58**	P	Pn	01 36 31.4	+0.6
YOJ				*e*S	Sn	01 36 47.0	-0.3
IRIF	**Iriomote-Funau**	**1.88**	**72**	P	Pn	01 36 38.9	+0.6
IRIF				*e*S	Sn	01 37 00.2	-0.6
HATJ	**Hateruma jima**	**1.88**	**80**	P	Pn	01 36 39.3	+0.9
HATJ				*e*S	Sn	01 37 01.4	+0.6
JKRS	**Kuro-shima**	**2.10**	**76**	P	Pn	01 36 42.2	+0.8
JKRS				*e*S	Sn	01 37 05.5	-0.7
JIJ	**Ishigaki jima**	**2.25**	**74**	P	Pn	01 36 43.8	+0.4
JIJ				*e*S	Sn	01 37 08.8	-1.1
JTJ	**Tarama**	**2.81**	**71**	P	Pn	01 36 51.7	+0.5
JTJ				*e*S	Sn	01 37 23.0	-0.9
JMJ	**Miyako jima 2**	**3.38**	**71**	*e*S	Sn	01 37 37.3	-0.5
INCN	**Inchon**	**14.31**	**16**	Pn	Pn	01 39 29.8	+1.1
KSRS	**Korea Array**	**14.64**	**20**	LR	LR	01 45 43.2	
	comp=Z,21nm,18.1s,baz=200,slow=40						
BJT	**Baijiatuau**	**16.90**	**345**	Pn	Pn	01 40 02.8	+0.6
MDJ	**Mudanjiang**	**21.77**	**15**	*e*P	P	01 40 59.8	+2.7
	3.4nm,0.3s,mb4.2						
HIA	**Hailar**	**25.52**	**357**	P	P	01 41 35.9	+2.4
SONM	**Songino Array**	**26.98**	**337**	P	P	01 41 45.4	-1.4
	0.6nm,0.9s,mb3.1,baz=149,slow=11,SNR=3.5						
SONM				LR	LR	01 52 14.4	
	comp=Z,52nm,18.3s,MS3.1,baz=70,slow=36						
TLY	**Talaya**	**31.18**	**338**	*e*P	P	01 42 27.5	+3.5
MKAR	**Makanchi Array**	**39.03**	**316**	P	P	01 43 30.7	-0.8
	0.4nm,0.5s,mb3.5,baz=104,slow=9.0,SNR=11						
ZAL	**Zalesovo**	**40.91**	**327**	LR	LR	02 02 26.2	
	comp=Z,35nm,18.9s,MS3.2,baz=271,slow=39						
WRA	**Warramunga Arr**	**45.12**	**163**	P	P	01 44 19.9	-1.3
	0.7nm,0.3s,mb3.9,baz=344,slow=8.9,SNR=4.2						
CHKZ	**Chkalovo**	**48.41**	**322**	P	P	01 44 44.9	-2.1
BRVK	**Borovoye**	**48.42**	**321**	P	P	01 44 48.4	+1.3
ASAR	**Alice Springs**	**48.58**	**165**	P	P	01 44 48.1	-0.1
	0.6nm,0.3s,mb4.1,baz=339,slow=6.9,SNR=13						
STKA	**Stephens Creek**	**58.47**	**160**	P	P	01 45 59.9	-0.8
	1.3nm,0.5s,mb4.2,baz=348,slow=8.8,SNR=4.8						
STKA	**Stephens Creek**	**58.47**	**160**	P	P	01 45 59.9	-0.8

*ISCJB **06** 01:40:48.8±1.1, 476N±0.1×1540E±02, h10km, mb4.2/9, Error ellipse: s-maj=22.1km s-min=13.6km az=86.1*
*IDC **06** 01:40:49.7±21.0, 4764N×15395E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.5/24, mbtmp3.9/5, MS3.6/1, Ms1 3.6/1, ms1mx2.6/34, Error ellipse: s-maj=474.5km s-min=65.3km az=156.0*
*NEIC **06** 01:40:51.1±0.8, 4763N×15392E, h10km, mb4.4/3, Error ellipse: s-maj=16.4km s-min=10.0km az=133.0*
*MOS **06** 01:40:54.8±2.0, 4768N×15393E, h60km, mb4.2/8, Error ellipse: s-maj=22.5km s-min=16.6km az=118.3*

ISC 06 01:40:50.9±1.1, 477N±01×1539E±02, h10km, n23, σ0§47/22, mb4.2/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.18**	**28**	PN	Pn	01 42 21.7	-0.5
YSS	**Yuzh-Sakhalins**	**7.62**	**269**	PN	Pn	01 42 41.8	-0.2
BJT	**Baijiatuau**	**28.06**	**268**	P	P	01 46 42.3	-0.2
ULN	**Ulaanbaatar**	**31.13**	**288**	P	P	01 47 09.3	-0.4
TATO	**Taipei**	**34.18**	**240**	*e*P	P	01 47 35.8	-0.6
	35nm,0.5s,mb5.5						
ZAL	**Zalesovo**	**42.55**	**305**	P	P	01 48 47.1	+0.3
	0.6nm,0.5s,mb3.6,baz=30,slow=8.1,SNR=2.8						
ZAL	**Zalesovo**	**42.55**	**305**	P	P	01 48 47.1	+0.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TGY	**Tagaytay City**	**43.22**	**230**	LR	LR	02 04 01.8	
	comp=Z,76nm,20.8s,baz=3.2,slow=32						
MKAR	**Makanchi Array**	**47.02**	**297**	P	P	01 49 22.2	-0.2
	comp=Z,0.8nm,0.7s,mb3.7,baz=70,slow=6.5,SNR=8.7						
MKAR	**Makanchi Array**	**47.02**	**297**	P	P	01 49 22.3	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**47.33**	**303**	*e*P	P	01 49 25.3	+0.5
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**47.33**	**303**	*e*P	P	01 49 25.2	+0.4
	comp=Z,2.9nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	P	01 49 47.5	0.0
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
CHKZ	**Chkalovo**	**50.28**	**310**	*e*P	P	01 49 47.5	0.0
	comp=Z,2.2nm,0.4s,mb4.5						
BVAR	**Borovoye Array**	**50.72**	**309**	P	P	01 49 51.0	+0.3
	comp=Z,0.7nm,0.3s,mb4.0,baz=53,slow=8.0,SNR=16						
BVAR	**Borovoye Array**	**50.72**	**309**	P	P	01 49 51.0	+0.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**50.76**	**309**	*e*P	P	01 49 51.7	+0.6
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**50.76**	**309**	*e*P	P	01 49 51.7	+0.6
	comp=Z,0.9nm,0.5s,mb4.0						
PMG	**Port Moresby**	**57.12**	**188**	P	P	01 50 37.9	+0.3
FINES	**FINESS Array B**	**63.46**	**335**	P	P	01 51 20.1	-0.9
	comp=Z,0.7nm,0.4s,mb4.2,baz=32,slow=7.0,SNR=14						
FINES	**FINESS Array B**	**63.46**	**335**	P	P	01 51 20.1	-0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**67.81**	**340**	P	P	01 51 49.9	+0.8
	comp=Z,1.1nm,0.6s,mb4.0,baz=66,slow=7.2,SNR=6.1						
HFS	**Hagfors**	**67.81**	**340**	P	P	01 51 49.9	+0.8
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						

OTT 06 01:43:60.0±1.9, 4184N×5588W, h18km, ML2.7/4, Atlantic Offshore 560km southeast from Louisbourg, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**5.43**	**313**	PN	Pn	01 45 19.5	-0.5
GBN				SN	Sn	01 46 15.9	-6.0
GBN				Trac		01 46 21.1	
	comp=Z,0.7nm,0.1s						
CHEG	**Cheticamp, Nov**	**6.04**	**327**	PN	Pn	01 45 26.4	-2.1
CHEG				SN	Sn	01 46 25.7	-11
CHEG				Trac		01 46 33.4	
	comp=Z,0.6nm,0.1s						
SJNN	**Saint John's**	**6.19**	**20**	PN	Pn	01 45 30.3	-0.1
SJNN				Trac		01 46 35.9	
	comp=Z,4.7nm,0.1s						
DRLN	**Deer Lake**	**7.50**	**352**	PN	Pn	01 45 47.8	-0.7
DRLN				SN	Sn	01 46 57.6	-16
DRLN				Trac		01 47 02.5	
	comp=Z,0.4nm,0.1s						
LMN	**Caledonia Moun**	**7.60**	**305**	PN	Pn	01 45 48.6	-1.1
LMN				SN	Sn	01 47 07.1	-8.3
LMN				Trac		01 47 10.4	
	comp=Z,0.8nm,0.1s						
GGN	**Saint George**	**8.62**	**296**	PN	Pn	01 46 02.6	-1.2
GGN				SN	Sn	01 47 34.0	-6.6
GGN				Trac		01 47 34.8	
	comp=Z,0.8nm,0.1s						
EMMW	**East Machias**	**8.92**	**293**	SN	Sn	01 47 36.3	-12
GSQ	**Grosses Roches**	**10.60**	**316**	SN	Sn	01 48 23.5	-5.5
GSQ				Trac		01 48 42.0	
	comp=Z,0.9nm,0.3s						

*IDC **06** 01:54:22.0±2.9, 443S×13271E, h0km, mb3.2/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML3.8/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/16, Error ellipse: s-maj=131.1km s-min=28.0km az=79.0*
*ISCJB **06** 01:54:24.7±0.7, 470S±005×13259E±0.10, h35km, mb3.7/3, MS3.4/3, Error ellipse: s-maj=14.5km s-min=6.7km az=160.2*
*NEIC **06** 01:54:26.6±0.7, 455S×13266E, h35km, mb3.9/3, Error ellipse: s-maj=17.5km s-min=9.5km az=68.0*

ISC 06 01:54:26.9±0.7, 468S±005×13263E±010, h35km, n14, σ1§14/15, mb3.7/3, MS3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.98**	**207**	Pn	Pn	01 57 58.5	+2.5
	0.4nm,0.3s,baz=46,slow=11,SNR=13						
FITZ				Sn	Sn	02 00 40.8	0.0
	0.2nm,0.3s,baz=108,slow=20,SNR=5.2						
PMG	**Port Moresby**	**15.16**	**109**	Pn	Pn	01 57 58.8	+0.4
WRAB	**Tennant Creek**	**15.25**	**174**	*e*Pn	Pn	01 58 00.7	+1.2
	2.0nm,0.6s						
WRAB				*e*Sn	Sn	02 00 46.0	-1.2
WRA	**Warramunga Arr**	**15.26**	**174**	Pn	Pn	01 58 00.4	+0.8
	0.3nm,0.3s,baz=354,slow=13,SNR=3.4						
WRA				Sn	Sn	02 00 46.3	-1.1
	0.3nm,0.3s,baz=360,slow=24,SNR=4.9						
WB2	**Warramunga Arr**	**15.26**	**174**	*e*Pn	Pn	01 57 59.8	+0.2
WB2				*e*Sn	Sn	02 00 46.3	-1.1
ASAR	**Alice Springs**	**18.91**	**176**	P	Pn	01 58 48.0	+2.7
	0.2nm,0.3s,baz=359,slow=11,SNR=21						
CTA	**Charters Tower**	**20.26**	**140**	LR	LR	02 06 45.1	
	comp=Z,51nm,18.8s,MS2.9,baz=232,slow=36						
KULM	**Kulim**	**33.44**	**287**	*e*P	P	02 01 01.7	-0.7
RPZ	**Rata Peaks**	**51.53**	**145**	LR	LR	02 25 26.8	
	comp=Z,85nm,18.9s,MS3.8,baz=150,slow=36						
LSA	**Lhasa**	**52.43**	**313**	P	P	02 03 36.6	+0.7
RAO	**Raoul Island**	**52.73**	**123**	LR	LR	02 24 10.1	
	comp=Z,60nm,20.6s,MS3.6,baz=147,slow=34						
MKAR	**Makanchi Array**	**67.78**	**325**	P	P	02 05 20.8	-0.3
	0.1nm,0.4s,mb3.2,baz=118,slow=6.9,SNR=2.8						
KURK	**Kurchatov**	**71.95**	**327**	*e*P	P	02 05 46.0	-0.8
	1.5nm,0.6s,mb4.1						
BRVK	**Borovoye**	**77.61**	**327**	*e*P	P	02 06 18.0	-1.5
	0.9nm,0.6s,mb3.9						

CASC 06 02:02:34.1±1.9, 850N×8312W, h3km±5km, MD3.5, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.16**	**341**	⇑*e*P	Pg	02 02 38.2	+1.0
ACR				*e*S	Sg	02 02 41.0	+1.6
CTCR	**Cotoan**	**0.53**	**42**	⇑*i*P	Pg	02 02 44.9	+0.7
CTCR				*e*S	Sg	02 02 54.2	+3.1
BRU	**Baru**	**0.63**	**61**	*e*P	Pg	02 02 49.6	+3.5
BRU				*e*S	Sg	02 02 57.3	+3.0
DVD	**David**	**0.66**	**95**	*e*P	Pg	02 02 47.0	+0.2
CNI	**Changuinola**	**1.09**	**33**	*e*P	Pg	02 02 54.5	-0.4
LAJ	**Bijagual**	**1.68**	**324**	*e*P	Pn	02 03 06.7	+2.4
PRS1	**Puriscal**	**1.89**	**321**	*e*P	Pn	02 03 07.1	-0.1
PTP	**Ponta Puerca**	**19.56**	**59**	*e*P		02 02 42.2	

*MOS **06** 02:08:30.5±1.7, 5567N×110.15E, h8km, mb4.2/1, Error ellipse: s-maj=23.0km s-min=13.7km az=58.3*

BYKL 06 02:08:30.4±0.3, 5567N×11018E, h8km±5km, 4C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**286**	*e*PG	Pg	02 08 37.2	-0.5
NIZ				*e*		02 08 42.6	
NIZ				pmax	pmax		
	comp=Z,262nm,0.3s						
NIZ				smax			
	comp=N,1μm,0.3s						
NIZ	**Nizh Angarsk**	**0.38**	**286**	⇑*i*Pg	Pg	02 08 37.2	-0.5
NIZ				*i* Sg	Sg	02 08 43.0	+0.3
NIZ				Pmax			
	comp=N,217nm,0.2s						
NIZ				Smax			
	comp=N,1μm,0.3s						
KMO	**Kumora**	**0.62**	**69**	*e*PG	Pg	02 08 41.2	-1.1
KMO				*e*		02 08 49.2	
KMO				pmax	pmax		
	comp=Z,246nm,0.2s						
KMO				smax			
	comp=E,629nm,0.8s						
KMO	**Kumora**	**0.62**	**69**	⇑*i*Pg	Pg	02 08 41.3	-1.0
KMO				*i* Sg	Sg	02 08 49.6	-0.7
KMO				Pmax			
	comp=E,246nm,0.2s						
KMO				Smax			
	comp=E,629nm,1.1s						
YLYR	**Ulyunkhan**	**0.97**	**144**	⇑*i*Pg	Pg	02 08 47.7	-1.4
YLYR				*e*Pb	Pb	02 08 48.5	-1.0
YLYR				*i* Sg	Sg	02 09 00.8	-1.0
YLYR				*e*Sb	Sb	02 09 06.5	+4.0
YLYR				max			
	comp=E,71nm,0.1s						
YLYR				max			
	comp=E,368nm,0.1s						
YOA	**Uoyan**	**0.99**	**61**	*e*Sg	Sg	02 09 01.4	-0.7
YOA				Smax			
	comp=E,818nm,0.3s						
SVKR	**Severomuysk**	**1.96**	**75**	*e*PN	Pn	02 09 05.8	+1.9
SVKR				*e*		02 09 06.4	
SVKR				*e*S	Sn	02 09 32.2	+3.6
SVKR				*e*		02 09 33.0	
SVKR				pmax	pmax		
	comp=Z,164nm,0.5s						
SVKR				smax			
	comp=N,927nm,0.6s						
SVKR	**Severomuysk**	**1.96**	**75**	*e*Pg	Pg	02 09 06.4	-1.5
SVKR				*e*Sg	Sg	02 09 33.8	+0.6
SVKR				Pmax			
	comp=N,164nm,0.5s						
SVKR				Smax			
	comp=N,917nm,0.5s						
SYVR	**Suvo**	**2.02**	**183**	*e*PN	Pn	02 09 06.4	+1.7
SYVR				*e*		02 09 33.3	
SYVR				pmax	pmax		
	comp=Z,35nm,0.5s						
SYVR				smax			
	comp=E,476nm,0.7s						
SYVR	**Suvo**	**2.02**	**183**	⇑*i*Pg	Pg	02 09 05.9	-3.2
SYVR				*e*		02 09 09.8	
SYVR				*i* Sg	Sg	02 09 34.1	-1.2
SYVR				max			
	comp=E,38nm,0.6s						
SYVR				Smax			
	comp=E,536nm,0.7s						
OGRR	**Ongureny**	**2.53**	**218**	*e*Pn	Pn	02 09 12.6	+0.9
OGRR				*e*Pg	Pg	02 09 14.9	-3.9
OGRR				*e*Sn	Sn	02 09 44.5	+1.9
OGRR				*e*Sg	Sg	02 09 47.6	-3.9
OGRR				Pmax			
	comp=E,12nm,0.4s						
OGRR				Smax			
	comp=E,63nm,0.3s						
MXMB	**Maximikha**	**2.55**	**200**	*e*Sg	Sg	02 09 49.6	-2.8
MXMB				Smax			
	comp=E,190nm,1.0s						
BOD	**Bodaibo**	**3.01**	**43**	*e*Pn	Pn	02 09 19.3	+0.9
BOD				*e*Pg	Pg	02 09 23.4	-4.7
BOD				*e*Sn	Sn	02 09 56.2	+1.5
BOD				*e*Sg	Sg	02 10 02.5	-4.7
BOD				Pmax			
	comp=E,8.0nm,0.3s						
BOD				Smax			
	comp=E,58nm,0.5s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*Pn	Pn	02 09 21.7	+0.7
NLYR				*e*Pg	Pg	02 09 27.2	-4.6
NLYR				*e*		02 09 54.8	
NLYR				*e*Sg	Sg	02 10 10.1	-3.2
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	Pn	02 09 28.8	+1.2
TRG				*e*		02 09 31.7	
TRG				*e*Pg	Pg	02 09 36.4	-4.6
TRG				*e*Sn	Sn	02 10 12.4	+1.2
TRG				*e*Sg	Sg	02 10 24.8	-3.9
TRG				Pmax			
	comp=E,16nm,0.5s						
TRG				Smax			
	comp=E,45nm,0.4s						
TRTB	**Turuntaevo**	**3.76**	**205**	*e*Pn	Pn	02 09 28.6	-0.1
TRTB				max		02 09 34.2	
	comp=E,8.0nm,1.0s						
TRTB				*e*Sg	Sg	02 10 26.1	-5.1
TRTB				Smax			
	comp=E,47nm,0.8s						
FFNB	**Fofonovo**	**4.16**	**211**	*e*	Sn	02 10 24.6	+1.8
FFNB				*e*Sg	Sg	02 10 39.2	-4.6
FFNB				Smax			
	comp=E,94nm,0.4s						
CIT	**Chita**	**4.17**	**150**	*e*Sg	Sg	02 10 37.7	-6.5
CIT				Smax			
	comp=E,51nm,0.6s						
CRS	**Chara**	**4.67**	**71**	*e*PN	Pn	02 09 53.3	+12
CRS				*e*		02 10 55.5	
CRS				pmax	pmax		
	comp=Z,37nm,1.0s						
CRS				smax			
	comp=E,42nm,1.0s						
CRS	**Chara**	**4.67**	**71**	*e*Pg	Pg	02 09 53.4	-6.5
CRS				*e*Sg	Sg	02 10 56.0	-4.5
CRS				Pmax			
	comp=E,37nm,0.8s						
CRS				Smax			
	comp=E,53nm,2.7s						
LSTR	**Listvyanka**	**4.96**	**222**	*e*	rx	02 10 25.7	
LSTR				*e*Sg	Sg	02 11 03.4	-6.1
TLY	**Talaya**	**5.57**	**227**	*e*PN	Pn	02 09 53.0	-0.6
TLY				*e*		02 10 09.3	
TLY				*e*S	Sn	02 10 55.0	-2.8
TLY				*e*		02 11 20.4	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TLY				smax			
	comp=E,31nm,1.0s						
TLY	**Talaya**	**5.57**	**227**	*e*Sn	Sn	02 10 54.3	-3.5
TLY				*e*Sg	Sg	02 11 21.8	-7.5
TLY				Smax			
	comp=E,25nm,0.7s						
TUP	**Tupik**	**5.76**	**98**	*e*Pn	Pn	02 09 55.9	-0.2
TUP				*e*Pg	Pg	02 10 13.4	-7.3
TUP				*e*Sg	Sg	02 11 28.6	-6.6
TUP				Pmax			
	comp=E,6.0nm,0.7s						
TUP				Smax			
	comp=E,31nm,1.1s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	Pn	02 09 58.5	-0.1
ARS				*e*S	Sn	02 11 03.4	-3.3
ARS	**Arshan**	**5.94**	**234**	*e*Pn	Pn	02 09 58.5	-0.1
ARS				max		02 10 10.1	
	comp=E,12nm,0.7s						
ARS				*e*Sn	Sn	02 11 05.4	-1.3
ARS				*e*Sg	Sg	02 11 32.2	-8.7
ARS				Smax			
	comp=E,120nm,0.7s						
KPC	**Khapcheranga**

comp=Z,4.0nm,0.4s
MOY smax
comp=N,38nm,1.5s
MOY Mondy 6.77 237 *e*Pn Pn 02 10 11.3 +1.3
MOY max 02 10 15.6
comp=N,16nm,1.2s
MOY *e*Sn Sn 02 11 24.6 -2.7
MOY *e*Sg Sg 02 11 59.7 -8.1
MOY Smax
comp=N,38nm,1.4s
ORL Orlik 6.86 247 *e*PN Pn 02 10 12.2 +1.0
ORL *e*S Sn 02 11 26.3 -3.1
ORL smax
comp=N,58nm,1.3s
ORL Orlik 6.86 247 *e*Pn Pn 02 10 12.3 +1.1
ORL max 02 10 27.3
comp=N,7.0nm,1.4s
ORL *e*Sn Sn 02 11 27.4 -2.0
ORL *e*Sg Sg 02 12 03.1 -7.4
ORL Smax
comp=N,58nm,1.2s
TDJR Todzha 8.91 254 *e* Sn 02 12 25.5 +5.6
TDJR *e*Sg Sn 02 13 06.1 +46

ISCJB ***06*** *02:10:36.9±1.7, 467N×02×1549E±03, h10km, mb3.8/7, Error ellipse: s-maj=40.4km s-min=14.3km az=110.3*
IDC ***06*** *02:10:36.5±10.0, 4663N×155.11E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/22, mbtmp3.6/3, Error ellipse: s-maj=259.7km s-min=44.9km az=170.0*
MOS ***06*** *02:10:40.7±1.1, 4660N×15478E, h42km, mb4.1/4, Error ellipse: s-maj=27.5km s-min=19.0km az=88.2*
NEIC ***06*** *02:10:40.9±6.2, 47.12N×15496E, h10km, mb4.1/2, Error ellipse: s-maj=168.0km s-min=22.5km az=169.0*
ISC 06 02:10:39.1±1.7, 468N×02×1549E×03, h10km, n15, σ0°94/15, mb3.8/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.01**	**12**	*e*PN	**Pn**	**02 11 35.5**	**-5.0**
ERM	**Erimo**	**9.62**	**245**	*e*PN	**Pn**	**02 12 57.1**	**-0.5**
BILL	**Bilibino**	**22.12**	**11**	*e*P	**P**	**02 15 34.3**	**-0.4**
BILL				pmax	pmax		
comp=Z,3.0nm,1.0s,mb3.7							
TIXI	**Tiksi**	**27.80**	**343**	*e*P	**P**	**02 16 27.9**	**-0.3**
TIXI				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.4							
COLA	**College**	**35.38**	**38**	*e*P	**P**	**02 17 36.9**	**+2.0**
MK31	**Makanchi Array**	**47.99**	**298**	*e*P	**P**	**02 19 18.6**	**+0.5**
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**02 19 19.0**	**+0.9**
comp=Z,0.5nm,0.6s,mb3.7,baz=77,slow=6.2,SNR=5.0							
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**02 19 19.0**	**+0.9**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**48.34**	**304**	*e*P	**P**	**02 19 20.3**	**-0.5**
KURK	**Kurchatov**	**48.34**	**304**	*e*P	**P**	**02 19 21.7**	**+0.8**
comp=Z,0.7nm,0.4s,mb4.0							
YKA	**Yellowknife Ar**	**50.19**	**37**	P	**P**	**02 19 33.8**	**-1.1**
comp=Z,0.4nm,0.8s,mb3.5,baz=291,slow=7.2,SNR=3.7							
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**02 19 43.6**	**+0.1**
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
CHKZ	**Chkalovo**	**51.33**	**311**	*e*P	**P**	**02 19 43.5**	**0.0**
comp=Z,1.7nm,0.5s,mb4.2							
FINES	**FINESS Array B**	**64.53**	**335**	P	**P**	**02 21 15.4**	**-0.7**
comp=Z,1.0nm,0.5s,mb4.1,baz=43,slow=7.1,SNR=12							
FINES	**FINESS Array B**	**64.53**	**335**	P	**P**	**02 21 15.4**	**-0.8**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							

IDC ***06*** *02:15:00.5±3.6, 4587N×15251E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, MS2.7/1, Ms1 2.7/1, ms1mx2.3/31, Error ellipse: s-maj=104.1km s-min=37.4km az=7.0*
NEIC ***06*** *02:15:03.1±3.0, 4614N×15250E, h10km, mb4.1/1, Error ellipse: s-maj=87.7km s-min=30.2km az=186.0*
ISCJB ***06*** *02:15:05.5±1.7, 465N±02×1517E±03, h10km, mb3.9/11, Error ellipse: s-maj=31.7km s-min=16.2km az=79.4*
MOS ***06*** *02:15:11.0±2.5, 4631N×15149E, h72km, mb4.3/7, Error ellipse: s-maj=21.2km s-min=12.8km az=123.1*
ISC 06 02:15:07.6±3.9, 466N×02×1518E±03, h12km±24km, n26, σ0°97/26, mb3.9/11, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**6.19**	**276**	*e*PN	**Pn**	**02 16 34.9**	**-3.9**
ERM	**Erimo**	**7.69**	**236**	*e*PN	**Pn**	**02 16 58.6**	**-0.9**
HABR	**Khabarovsk**	**11.44**	**285**	*e*PN	**Pn**	**02 17 51.6**	**+0.8**
KSRS	**Korea Array**	**19.87**	**251**	LR	LR	02 26 49.6	
comp=Z,22nm,18.6s,baz=70,slow=35							
YAK	**Yakutsk**	**19.93**	**329**	*e*P	**Pn**	**02 19 38.2**	**-2.8**
YAK				pmax	pmax		
comp=Z,14nm,0.6s							
TIXI	**Tiksi**	**27.33**	**344**	*e*P	**P**	**02 20 52.2**	**-0.1**
TIXI				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.3							
MKAR	**Makanchi Array**	**46.16**	**297**	P	**P**	**02 23 32.9**	**+0.8**
comp=Z,0.2nm,0.4s,mb3.4,baz=66,slow=6.5,SNR=6.2							
KURK	**Kurchatov**	**46.65**	**303**	*i* P	**P**	**02 23 35.3**	**-0.6**
CHKZ	**Chkalovo**	**49.79**	**310**	*e*P	**P**	**02 24 00.9**	**+0.7**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
CHKZ	**Chkalovo**	**49.79**	**310**	*e*P	**P**	**02 24 00.9**	**+0.7**
comp=Z,1.0nm,0.4s,mb4.2							
BVAR	**Borovoye Array**	**50.21**	**309**	P	**P**	**02 24 04.5**	**+1.1**
comp=Z,0.3nm,0.4s,mb3.7,baz=72,slow=6.2,SNR=3.7							
ARU	**Arti**	**54.47**	**317**	⇑*i*P	**P**	**02 24 35.6**	**+0.6**
ARU				*e*		02 26 34.6	
ARU				*e*S	**S**	**02 32 12.8**	**-0.7**
ARU				*e*SS	SS	02 35 56.6	+0.7
ARU				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.2							
ARCES	**ARCESS Array B**	**57.66**	**340**	P	**P**	**02 24 58.3**	**+0.5**
comp=Z,5.5nm,1.0s,mb4.5,baz=41,slow=7.2,SNR=3.2							
ARCES	**ARCESS Array B**	**57.66**	**340**	P	**P**	**02 24 58.3**	**+0.5**
ARCES				pmax	pmax		
comp=Z,6.0nm,1.0s							
JOF	**Joensuu**	**61.03**	**333**	*e*p	**P**	**02 25 17.9**	**-3.2**
FINES	**FINESS Array B**	**63.75**	**334**	P	**P**	**02 25 38.9**	**-0.4**
comp=Z,2.0nm,0.6s,mb4.3,baz=32,slow=7.3,SNR=13							
FINES	**FINESS Array B**	**63.75**	**334**	P	**P**	**02 25 39.3**	**0.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.6s							
NB2	**NORSAR Subarra**	**68.04**	**341**	P	**P**	**02 26 06.9**	**0.0**
comp=Z,1.3nm,0.5s,mb4.2,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.04**	**341**	P	**P**	**02 26 07.3**	**+0.4**
comp=Z,1.7nm,0.6s,mb4.3,baz=28,slow=6.4,SNR=5.9							
NOA	**NORSAR Array B**	**68.04**	**341**	P	**P**	**02 26 07.3**	**+0.4**
NOA				pmax	pmax		
comp=Z,2.0nm,0.6s							
NOA	**NORSAR Array B**	**68.04**	**341**	P	**P**	**02 26 07.3**	**+0.4**
AKASG	**Malin Array Be**	**71.12**	**325**	P	**P**	**02 26 26.2**	**+0.3**
comp=Z,1.1nm,0.4s,mb4.2,baz=36,slow=6.4,SNR=6.2							
AKASG	**Malin Array Be**	**71.12**	**325**	P	**P**	**02 26 26.2**	**+0.2**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**78.15**	**333**	P	**P**	**02 27 06.3**	**-0.4**
comp=Z,0.5nm,0.5s,mb3.7,baz=32,slow=5.5,SNR=5.6							
GERES	**GERESS Array B**	**78.15**	**333**	P	**P**	**02 27 06.3**	**-0.4**
GERES				pmax	pmax		
comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**78.37**	**60**	P	**P**	**02 27 02.5**	**-5.4**
comp=Z,0.2nm,0.6s,mb3.2,baz=270,slow=3.5,SNR=3.7							

NEIC ***06*** *02:23:37.6, 3579S×17845E, h160km, MG4.5(WEL), After WEL.*
WEL 06 02:23:37.5±1.1, 3580S×17843E, h163km±14km, ML4.4/14, 4D, Error ellipse: s-maj=30.8km s-min=15.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.76**	**183**	⇓P	Pn	02 24 10.6	-0.1
MXZ	**Matakaoa Point**	**1.76**	**183**	⇓PN	Pn	02 24 10.6	-0.2
MXZ				SN	Sn	02 24 36.1	-0.2
PUZ	**Puketiti**	**2.27**	**183**	⇓P	Pn	02 24 17.1	+0.6
PUZ				S	Sn	02 24 45.9	-0.7
PUZ	**Puketiti**	**2.27**	**183**	⇓PN	Pn	02 24 17.1	+0.6
PUZ				SN	Sn	02 24 45.9	-0.7
MWZ	**Matawai**	**2.63**	**196**	*e*P	Pn	02 24 21.8	+1.0
MWZ				S	Sn	02 24 54.9	+0.6
MWZ	**Matawai**	**2.63**	**196**	*e*PN	Pn	02 24 21.8	+1.0
MWZ				SN	Sn	02 24 54.9	+0.6
URZ	**Urewera**	**2.67**	**203**	P	Pn	02 24 22.0	+0.7
URZ	**Urewera**	**2.67**	**203**	PN	Pn	02 24 22.0	+0.8
KNZ	**Kokohu**	**3.27**	**190**	P	Pn	02 24 28.6	-0.1
KNZ	**Kokohu**	**3.27**	**190**	PN	Pn	02 24 28.6	-0.1
BKZ	**Black Stump Fm**	**3.70**	**204**	P	Pn	02 24 35.0	+0.9
BKZ	**Black Stump Fm**	**3.70**	**204**	*e*PN	Pn	02 24 34.4	+0.3
FWVZ	**Far West T-bar**	**4.14**	**213**	P	Pn	02 24 41.0	+1.2
FWVZ	**Far West T-bar**	**4.14**	**213**	*e*PN	Pn	02 24 40.8	+1.0
WNVZ	**Wahianoa**	**4.18**	**212**	P	Pn	02 24 41.9	+1.6
WNVZ	**Wahianoa**	**4.18**	**212**	*e*PN	Pn	02 24 40.8	+0.4
MOVZ	**Moawhango**	**4.18**	**210**	P	Pn	02 24 40.5	+0.1
MOVZ	**Moawhango**	**4.18**	**210**	*e*PN	Pn	02 24 40.3	0.0
PXZ	**Pawanui**	**4.40**	**196**	PN	Pn	02 24 41.8	-1.5
TSZ	**Takapari Road**	**4.68**	**204**	P	Pn	02 24 45.7	-1.1
TSZ	**Takapari Road**	**4.68**	**204**	*e*PN	Pn	02 24 45.1	-1.7
BFZ	**Birch Farm**	**5.17**	**199**	P	Pn	02 24 52.0	-1.3
BFZ	**Birch Farm**	**5.17**	**199**	PN	Pn	02 24 51.3	-2.0
MRZ	**Mangatainoka R**	**5.35**	**204**	*e*P	Pn	02 24 53.7	-1.9
MRZ	**Mangatainoka R**	**5.35**	**204**	*e*PN	Pn	02 24 53.5	-2.1
KIW	**Kapiti Island**	**5.76**	**208**	P	Pn	02 24 59.6	-1.5
KIW	**Kapiti Island**	**5.76**	**208**	*e*PN	Pn	02 24 59.4	-1.7
MTW	**Mount Morrison**	**5.82**	**202**	P	Pn	02 24 59.8	-2.1
MTW	**Mount Morrison**	**5.82**	**202**	*e*PN	Pn	02 24 59.4	-2.5
CAW	**Cannon Point**	**5.92**	**205**	P	Pn	02 25 01.3	-1.9
CAW	**Cannon Point**	**5.92**	**205**	PN	Pn	02 25 01.3	-1.9
TRWZ	**Traveller**	**5.99**	**200**	*e*PN	Pn	02 25 01.7	-2.4
PAWZ	**Paruwai Farm**	**6.05**	**202**	P	Pn	02 25 02.5	-2.4
MSWZ	**Moikau Station**	**6.13**	**203**	P	Pn	02 25 03.8	-2.2
MSWZ	**Moikau Station**	**6.13**	**203**	*e*PN	Pn	02 25 02.9	-3.1
MRW	**Makara Radio**	**6.16**	**207**	P	Pn	02 25 04.4	-1.9
MRW	**Makara Radio**	**6.16**	**207**	*e*PN	Pn	02 25 04.1	-2.2
BHW	**Baring Head**	**6.25**	**205**	P	Pn	02 25 05.6	-2.0
BHW	**Baring Head**	**6.25**	**205**	*e*PN	Pn	02 25 05.3	-2.3
TCW	**Tory Channel**	**6.31**	**210**	P	Pn	02 25 06.6	-1.7
TCW	**Tory Channel**	**6.31**	**210**	*e*PN	Pn	02 25 06.1	-2.2
NNZ	**Nelson**	**6.70**	**215**	*e*P	Pn	02 25 09.3	-4.2
NNZ	**Nelson**	**6.70**	**215**	*e*PN	Pn	02 25 12.0	-1.5
NNZ				SN	Sn	02 26 25.9	-3.1
QRZ	**Quartz Range**	**6.83**	**221**	*e*P	Pn	02 25 13.9	-1.4
QRZ	**Quartz Range**	**6.83**	**221**	PN	Pn	02 25 13.9	-1.3
THZ	**Tophouse**	**7.35**	**214**	*e*P	Pn	02 25 20.7	-1.4
THZ	**Tophouse**	**7.35**	**214**	*e*PN	Pn	02 25 20.2	-2.0
THZ				SN	Sn	02 26 41.8	-2.7
KHZ	**Kahutara**	**7.62**	**208**	*e*P	Pn	02 25 23.6	-2.1
KHZ	**Kahutara**	**7.62**	**208**	*e*PN	Pn	02 25 23.0	-2.8
DSZ	**Denniston Nort**	**7.87**	**219**	*e*PN	Pn	02 25 26.2	-2.9
DSZ				SN	Sn	02 26 53.0	-4.1
LTZ	**Lake Taylor**	**8.45**	**213**	*e*P	Pn	02 25 34.2	-2.5
LTZ	**Lake Taylor**	**8.45**	**213**	*e*PN	Pn	02 25 33.5	-3.2
MQZ	**McQueen's Vall**	**9.06**	**208**	*e*PN	Pn	02 25 40.4	-4.4
ODZ	**Otahua Downs**	**10.97**	**210**	*e*P	Pn	02 26 07.5	-2.4
ODZ	**Otahua Downs**	**10.97**	**210**	*e*PN	Pn	02 26 06.8	-3.1

IDC 06 02:39:50.5±2.9, 343S×13604E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/12, mbtmp3.7/3, ML3.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/27, Error ellipse: s-maj=114.5km s-min=31.0km az=80.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.50**	**186**	Pn	Pn	02 43 44.0	+0.7
0.2nm,0.3s,baz=7.3,slow=12,SNR=4.4							
ASAR	**Alice Springs**	**20.22**	**186**	P	P	02 44 27.2	+0.1
2.6nm,0.7s,baz=9.9,slow=10,SNR=27							
RAO	**Raoul Island**	**50.63**	**126**	LR	LR	03 06 33.8	
comp=Z,80nm,19.0s,baz=107,slow=32							
MKAR	**Makanchi Array**	**68.75**	**324**	P	P	02 50 56.4	+0.2
0.1nm,0.3s,baz=121,slow=7.6,SNR=5.1							

ISCJB ***06*** *02:54:56.7±2.0, 38S±0.1×1520E±0.1, h491km±22km, mb3.8/15, Error ellipse: s-maj=24.7km s-min=15.0km az=127.6*
IDC ***06*** *02:54:57.7±2.4, 388S×15196E, h487km±29km, mb3.4/11, mb1 3.5/12, mb1mx3.4/20, mbtmp3.5/12, Error ellipse: s-maj=23.1km s-min=13.6km az=54.0*
NEIC ***06*** *02:54:57.2±1.4, 384S×15197E, h485km±15km, mb3.9/5, Error ellipse: s-maj=16.0km s-min=10.7km az=60.0*
ISC 06 02:54:57.4±1.9, 38S±01×1520E±01, h487km±21km, n20, σ0°63/20, mb3.8/15, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.34**	**221**	P	**P**	**02 56 46.5**	**-0.1**
4.6nm,0.3s,baz=24,slow=5.0,SNR=14							
PMG				S	**S**	**02 58 16.4**	**+0.3**
0.6nm,0.3s,baz=229,slow=19,SNR=2.9							
CTAO	**Charters Tower**	**17.10**	**199**	*e*P	**P**	**02 58 29.3**	**-0.4**
2.7nm,0.6s							
DZM	**Mont Dzumac**	**22.91**	**144**	P	**P**	**02 59 23.0**	**0.0**
6.0nm,0.6s,mb4.2,baz=285,slow=18,SNR=10							
WRAB	**Tennant Creek**	**23.51**	**226**	*e*P	**P**	**02 59 27.7**	**-0.6**
2.5nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**23.52**	**226**	P	**P**	**02 59 28.2**	**-0.2**
1.9nm,0.4s,mb3.9,baz=48,slow=9.2,SNR=30							
ASAR	**Alice Springs**	**26.35**	**220**	P	**P**	**02 59 52.9**	**-0.7**
1.3nm,0.4s,mb3.7,baz=55,slow=8.5,SNR=26							
URZ	**Urewera**	**41.21**	**150**	P	**P**	**03 01 59.2**	**+0.4**
3.4nm,0.4s,mb4.2,baz=32,slow=2.3,SNR=6.0							
RPZ	**Rata Peaks**	**43.15**	**160**	P	**P**	**03 02 14.9**	**+0.8**
7.0nm,0.5s,mb4.4,baz=357,slow=11,SNR=6.8							
KSRS	**Korea Array**	**46.79**	**334**	P	**P**	**03 02 42.3**	**+0.2**
2.3nm,0.8s,mb3.6,baz=150,slow=8.6,SNR=5.4							
SONM	**Songino Array**	**65.09**	**328**	P	**P**	**03 04 50.4**	**+1.2**
1.0nm,0.5s,mb3.8,baz=145,slow=5.4,SNR=16							
VNDA	**Vanda**	**73.82**	**178**	*e*P	**P**	**03 05 41.7**	**+0.1**
1.1nm,0.7s,mb3.5							
MKAR	**Makanchi Array**	**79.08**	**319**	P	**P**	**03 06 11.5**	**+0.9**
0.6nm,0.5s,mb3.4,baz=95,slow=7.2,SNR=13							
MKAR	**Makanchi Array**	**79.08**	**319**	P	**P**	**03 06 11.5**	**+0.9**
ZAL	**Zalesovo**	**79.92**	**326**	P	**P**	**03 06 14.7**	**-0.4**
1.3nm,0.5s,mb3.7,baz=336,slow=7.6,SNR=4.6							
COLA	**College**	**81.25**	**22**	*e*P	**P**	**03 06 21.3**	**-0.7**
2.2nm,0.6s,mb3.9							
AAK	**Ala-Archa**	**83.43**	**314**	*e*P	**P**	**03 06 33.8**	**+0.8**
2.2nm,0.6s,mb3.9							
QSPA	**South Pole Qui**	**86.12**	**180**	*e*P	**P**	**03 06 46.5**	**+0.3**
INK	**Inuvik**	**87.84**	**21**	P	**P**	**03 06 53.0**	**-1.3**
2.1nm,1.2s,mb3.7,baz=307,slow=5.1,SNR=3.2							
BVAR	**Borovoye Array**	**88.00**	**323**	P	**P**	**03 06 54.4**	**-0.7**
1.4nm,0.6s,mb3.9,baz=127,slow=6.1,SNR=6.6							
TORD	**Torodi Ar. Bea**	**149.25**	**289**	PKPbc	PKPbc	03 13 51.6	+1.1
0.8nm,0.6s,baz=64,slow=2.1,SNR=16							

ISCJB ***06*** *02:56:59.4±1.9, 40N±02×1262E±04, h65km±19km, mb4.3/17, Error ellipse: s-maj=71.9km s-min=9.7km az=141.9*
IDC ***06*** *02:57:03.5±9.6, 394N×12628E, h88km±89km, mb3.9/11, mb1 4.0/11, mb1mx3.8/21, mbtmp3.9/11, MS3.9/2, Ms1 3.9/2, ms1mx2.9/31, Error ellipse: s-maj=93.8km s-min=18.4km az=66.0*
NEIC ***06*** *02:57:04.6±4.2, 392N×12627E, h99km±40km, mb4.4/6, Error ellipse: s-maj=42.7km s-min=8.7km az=71.0*
ISC 06 02:57:01.2±1.8, 40N±01×1263E±04, h64km±17km, n27, σ0°43/25, mb4.3/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.07**	**342**	*e*P	**Pn**	**02 58 00.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.95**	**182**	P	**P**	**03 01 49.6**	**+0.1**
2.0nm,0.7s,mb3.7,baz=22,slow=8.8,SNR=7.9							
PMG	**Port Moresby**	**24.67**	**123**	LR	LR	03 11 17.8	
comp=Z,74nm,19.8s,baz=161,slow=35							
WRAB	**Tennant Creek**	**25.04**	**162**	*e*P	**P**	**03 02 18.9**	**-0.4**
10nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**25.05**	**162**	P	**P**	**03 02 19.2**	**-0.3**
12nm,0.8s,mb4.5,baz=343,slow=10,SNR=46							
WB2	**Warramunga Arr**	**25.05**	**162**	*e*P	**P**	**03 02 19.4**	**0.0**
WB2				*e*S	**S**	**03 06 47.0**	**+7.9**
ASAR	**Alice Springs**	**28.46**	**165**	P	**P**	**03 02 50.1**	**+0.1**
0.8nm,0.6s,mb3.6,baz=349,slow=7.4,SNR=14							
JHJ	**Hachijo jima 2**	**31.61**	**22**	LR	LR	03 13 52.6	
comp=Z,806nm,21.3s,baz=256,slow=32							
BJT	**Baijiatuau**	**37.03**	**347**	*e*P	**P**	**03 04 05.5**	**+0.7**
11nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**38.51**	**159**	*e*P	**P**	**03 04 18.0**	**+0.7**
7.3nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**38.51**	**159**	P	**P**	**03 04 17.5**	**+0.3**
7.3nm,0.6s,mb4.6,baz=334,slow=7.8,SNR=24							
STKA	**Stephens Creek**	**38.51**	**159**	*e*P	**P**	**03 04 18.0**	**+0.7**
ULN	**Ulaanbaatar**	**46.75**	**342**	*e*P	**P**	**03 05 24.1**	**+0.1**
1.5nm,0.7s,mb4.0							
SONM	**Songino Array**	**46.93**	**342**	P	**P**	**03 05 24.9**	**-0.5**
0.5nm,0.6s,mb3.7,baz=154,slow=7.6,SNR=3.7							
MK31	**Makanchi Array**	**57.11**	**325**	*e*P	**P**	**03 06 41.0**	**0.0**
MKAR	**Makanchi Array**	**57.11**	**325**	P	**P**	**03 06 41.2**	**+0.1**
1.8nm,0.6s,mb4.3,baz=114,slow=7.3,SNR=18							
MKAR	**Makanchi Array**	**57.11**	**325**	P	**P**	**03 06 41.2**	**+0.1**
ZAL	**Zalesovo**	**60.18**	**333**	P	**P**	**03 07 01.4**	**-1.0**
1.0nm,0.3s,mb4.3,baz=315,slow=4.3,SNR=3.1							
KURK	**Kurchatov**	**61.30**	**328**	*e*P	**P**	**03 07 09.8**	**-0.2**
4.8nm,0.7s,mb4.7							
BVAR	**Borovoye Array**	**66.88**	**327**	P	**P**	**03 07 47.3**	**+0.7**
0.8nm,0.5s,mb4.0,baz=134,slow=11,SNR=4.9							
BRVK	**Borovoye**	**66.95**	**327**	*e*P	**P**	**03 07 47.8**	**+0.8**
3.4nm,0.7s,mb4.5							
CHKZ	**Chkalovo**	**67.05**	**328**	*e*P	**P**	**03 07 47.8**	**+0.2**
1.2nm,0.6s,mb4.1							
AKTK	**Aktyubinsk**	**73.20**	**322**	P	**P**	**03 08 25.0**	**-0.3**
AKTO	**Aktyubinsk**	**73.20**	**322**	P	**P**	**03 08 25.0**	**-0.3**
0.9nm,0.5s,mb3.9,baz=107,slow=13,SNR=4.9							
ARCES	**ARCESS Array B**	**90.07**	**340**	P	**P**	**03 09 53.8**	**-0.3**
6.3nm,0.9s,mb4.9,baz=72,slow=6.7,SNR=3.0							
FINES	**FINESS Array B**	**91.41**	**332**	P	**P**	**03 10 00.2**	**-0.1**
3.0nm,0.9s,mb4.6,baz=99,slow=4.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**122.44**	**288**	PKP	PKPdf	03 15 48.3	-0.8
0.3nm,0.6s,baz=66,slow=2.0,SNR=4.1							

IDC ***06*** *03:17:39.5±4.8, 1944N×14542E, h137km±44km, mb3.4/6, mb1 3.6/7, mb1mx3.4/22, mbtmp3.4/7, Error ellipse: s-maj=65.0km s-min=21.9km az=116.0*
ISCJB ***06*** *03:17:40.0±3.4, 193N±02×1455E±05, h154km±31km, mb3.4/7, Error ellipse: s-maj=76.0km s-min=24.8km az=46.3*
NEIC ***06*** *03:17:40.3±2.4, 1936N×14551E, h145km±21km, mb3.9/1, Error ellipse: s-maj=48.6km s-min=15.7km az=113.0*
ISC 06 03:17:39.8±3.4, 194N±02×1454E±05, h139km±30km, n9, σ0°44/9, mb3.4/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.83**	**185**	P	**Pn**	**03 19 04.0**	**0.0**
11nm,0.3s,baz=38,slow=19,SNR=2.8							
WRAB	**Tennant Creek**	**40.59**	**196**	*e*P	**P**	**03 25 05.0**	**-0.7**
1.0nm,0.4s,mb3.8							
WRA	**Warramunga Arr**	**40.60**	**196**	P	**P**	**03 25 05.5**	**-0.3**
0.4nm,0.4s,mb3.4,baz=13,slow=8.6,SNR=14							
FITZ	**Fitzroy Crossi**	**42.05**	**209**	P	**P**	**03 25 18.1**	**+0.5**
0.9nm,0.6s,mb3.5,baz=45,slow=13,SNR=6.2							
ASAR	**Alice Springs**	**44.28**	**195**	P	**P**	**03 25 35.8**	**+0.3**
0.1nm,0.4s,mb2.8,baz=19,slow=8.8,SNR=2.9							
YKA	**Yellowknife Ar**	**77.48**	**28**	P	**P**	**03 29 19.2**	**-0.6**
0.5nm,0.5s,mb3.4,baz=285,slow=5.6,SNR=4.9							
NVAR	**Mina Array Bea**	**82.90**	**52**	P	**P**	**03 29 49.4**	**+0.6**
0.2nm,0.4s,mb3.2,baz=279,slow=6.0,SNR=6.2							
NVAR	**Mina Array Bea**	**82.90**	**52**	P	**P**	**03 29 49.4**	**+0.5**
FINES	**FINESS Array B**	**86.12**	**335**	P	**P**	**03 30 05.1**	**+0.1**
1.6nm,0.8s,mb3.8,baz=57,slow=5.1,SNR=4.0							

BJI ***06*** *03:26:01.7, 881N×12286E, h86km, mB5.2, mb4.9, Ms5.0, Msz4.8*
MAN ***06*** *03:26:03.9, 964N×122.19E, h25km, mb5.0, ML5.6, MS2.7*
MOS ***06*** *03:26:04.4±1.2, 973N×12254E, h43km, mb5.2/32, MS4.6/9, Error ellipse: s-maj=16.1km s-min=6.3km az=116.5*
ISCJB ***06*** *03:26:04.6±0.4, 959N±002×12228E±003, h43km±3km, mb4.9/99, MS4.7/47, Error ellipse: s-maj=4.5km s-min=3.7km az=143.6*
NEIC ***06*** *03:26:05.2±0.9, 960N×12241E, h36km±8km, mb5.1/54, MS4.7/2, Error ellipse: s-maj=6.2km s-min=4.1km az=70.0*
NEIC Felt [IV PIVS] at Iloilo, [III PIVS] at San Jose Antique and [I PIVS] at Dumarao, Panay. Felt [III PIVS] at Bacolod, Kabankalan and La Carlota; [II PIVS] at Ayungon, Dumaguete and Tanjay, Negros. Also felt [II PIVS] at Cebu City, Cebu.
IDC ***06*** *03:26:05.6±1.7, 952N×12233E, h40km±14km, mb4.5/22, mb1 4.7/24, mb1mx4.7/25, mbtmp4.6/24, ML4.7/2, MS4.6/28, Ms1 4.6/28, ms1mx4.5/36, Error ellipse: s-maj=20.2km s-min=8.7km az=73.0*
GCMT ***06*** *03:26:10.9±0.2, 971N×12223E, h28km, MW5.4/94, Moment Tensor Solution. s82,c143; s94,c172; Duration: 1ŝ3 Moment tensor: Scale 10^{17}N

comp=Z,2.6nm,0.3s,baz=186,slow=10.0,SNR=12
JOW LR LR 03 36 48.8
comp=Z,3μm,20.5s,baz=170,slow=36
KKTK Khon Kaen 20.15 291 P **P** **03 30 39.0 +2.2**
comp=Z,494nm,1.0s
KGM Kluang 20.34 249 P **P** **03 30 41.5 +2.6**
SSE Sheshan 21.43 357 P **P** **03 30 53.8 +3.2**
SSE AP 03 31 09.8
SSE S **S** **03 34 48.4 +2.3**
SSE AMB AMB
comp=Z,81nm,1.0s,mb5.0
SSE AMB AMB
comp=Z,581nm,12.0s
SSE LR LR
comp=N,922nm,16.3s,MS4.5
SSE LR LR
comp=E,1μm,16.3s,MS4.5
SSE LR LR
comp=Z,1μm,16.3s,MS4.5
IPM Ipoh 21.74 258 P **P** **03 30 55.4 +1.5**
KULM Kulim 21.91 260 *e*P **P** **03 30 57.0 +1.2**
GYA Guiyang 22.40 321⇑ *i*P **P** **03 31 02.0 +1.0**
GYA AP 03 31 20.4
GYA XP sP 03 31 30.9 +14
GYA PP 03 31 33.5
GYA S **S** **03 34 58.5 -6.4**
GYA AMB AMB
comp=Z,30nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,440nm,5.7s
GYA LR LR
comp=N,3μm,16.4s,MS5.0
GYA LR LR
comp=E,3μm,18.6s,MS5.0
GYA LR LR
comp=Z,3μm,17.9s,MS4.8
GUMO Guam 22.43 78 LR LR 03 38 17.4
comp=Z,1μm,20.4s,MS4.3,baz=250,slow=33
NST Nakhon Sawan 22.48 288 P **P** **03 31 01.0 -0.8**
NANT Nan 22.86 296⇑P **P** **03 31 03.2 -2.7**
comp=Z,138nm,1.0s,mb5.3
KMI Kunming 24.21 312 P **P** **03 31 20.3 +1.5**
KMI AP 03 31 38.0
KMI XP sP 03 31 47.7 +13
KMI PP 03 31 57.3
KMI PPP 03 32 09.0
KMI S **S** **03 35 29.3 -5.1**
KMI AMB AMB
comp=Z,10.0nm,1.4s,mb4.0
KMI AMB AMB
comp=Z,328nm,5.0s
KMI LR LR
comp=N,2μm,16.8s,MS4.9
KMI LR LR
comp=E,2μm,17.3s,MS4.9
KMI LR LR
comp=Z,4μm,16.5s,MS4.9
PSI Prapat 24.21 255 P **P** **03 31 19.7 +0.9**
comp=Z,57nm,1.1s,mb4.9,baz=61,slow=7.6,SNR=37
PSI LR LR 03 42 08.8
comp=Z,820nm,18.3s,MS4.2,baz=344,slow=40
KAKA Kakadu 24.32 155⇑ *i*P **P** **03 31 18.6 -1.2**
comp=Z,228nm,1.1s,mb5.5
CHG Chiang Mai 24.43 295⇑P **P** **03 31 24.9 +4.0**
comp=Z,24nm,1.1s,mb4.5
CHTO Chiang Mai 24.43 295 *e*P **P** **03 31 21.0 +0.1**
comp=Z,58nm,1.6s,mb4.8
JNU Nakatsue 24.72 17 P **P** **03 31 23.8 +0.3**
comp=Z,21nm,1.0s,mb4.6,baz=188,slow=13,SNR=4.9
CBIJ Chichi jima 25.59 44 LR LR 03 40 46.2
comp=Z,2μm,18.5s,MS4.6,baz=315,slow=34
TIA Tai'an 26.93 351 P **P** **03 31 47.0 +3.5**
XAN Xi'an 27.28 335 P **P** **03 31 51.9 +5.3**
XAN AMB AMB
comp=Z,11nm,1.6s,mb4.1
CD2 Chengdu 27.37 323⇓ *i*P **P** **03 31 47.5 +0.1**
CD2 AP pP 03 32 09.0 +10
CD2 XP sP 03 32 20.8 +17
CD2 PP 03 32 38.9
CD2 PCP PcP 03 35 04.3 -1.4
CD2 S **S** **03 36 18.8 -5.8**
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,210nm,4.5s
CD2 LR LR
comp=N,3μm,16.3s,MS5.2
CD2 LR LR
comp=E,3μm,13.9s,MS5.2
CD2 LR LR
comp=Z,4μm,15.9s,MS5.0
FITZ Fitzroy Crossi 27.70 173 *e*P **P** **03 31 50.8 +0.5**
comp=Z,21nm,0.8s,mb4.8
FITZ Fitzroy Crossi 27.70 173 P **P** **03 31 50.4 +0.1**
comp=Z,14nm,1.0s,mb4.6,baz=16,slow=8.7,SNR=17
FITZ LR LR 03 44 40.2
comp=Z,607nm,18.8s,MS4.2,baz=202,slow=40
KSRS Korea Array 28.21 9 P **P** **03 31 55.2 +0.3**
comp=Z,12nm,0.8s,mb4.6,baz=184,slow=10,SNR=31
KSRS PcP PcP 03 35 07.8 +0.1
comp=Z,2.1nm,0.7s,baz=200,slow=3.3,SNR=5.3
KSRS LR LR 03 44 23.9
comp=Z,980nm,19.1s,MS4.4,baz=193,slow=39
JHJ Hachijo jima 2 28.42 32 LR LR 03 41 59.9
comp=Z,1μm,18.3s,MS4.5,baz=230,slow=34
DL2 Dalian 29.21 359 P **P** **03 32 03.1 -0.7**
DL2 AP pP 03 32 21.3 +6.3
DL2 S **S** **03 36 50.8 -2.7**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
DL2 AMB AMB
comp=Z,110nm,7.8s
DL2 LR LR
comp=N,690nm,16.4s,MS4.4
DL2 LR LR
comp=E,270nm,13.1s,MS4.4
DL2 LR LR
comp=Z,750nm,16.7s,MS4.4
MAT Matsushiro 30.46 26 P **P** **03 32 11.8 -3.1**
MAT *e*S **S** **03 37 14.0 +0.9**
MJAR Matsushiro Arr 30.46 26 P **P** **03 32 12.3 -2.6**
comp=Z,6.8nm,0.9s,mb4.4,baz=200,slow=8.8,SNR=14
MJAR PcP PcP 03 35 13.0 -0.4
comp=Z,1.6nm,0.6s,baz=211,slow=4.8,SNR=5.6
MJAR LR LR 03 42 54.2
comp=Z,1μm,21.6s,MS4.5,baz=200,slow=33
BJT Baijiatuau 30.80 351 *e*P **P** **03 32 18.8 +0.9**
comp=Z,40nm,1.3s,mb5.1
BJI Beijing 30.82 351 *e*P **P** **03 32 17.8 -0.3**
BJI XP sP 03 32 45.3 +11
BJI S **S** **03 37 16.6 -2.2**
BJI XS sS 03 37 52.9 +15
BJI AMB AMB
comp=Z,17nm,1.0s,mb4.8
BJI AMB AMB
comp=Z,232nm,4.8s
BJI LR LR
comp=N,739nm,17.5s,MS4.6
BJI LR LR
comp=E,1μm,18.0s,MS4.6
BJI LR LR
comp=Z,910nm,27.3s
PMG Port Moresby 31.09 127 *e*P **P** **03 32 20.3 -0.1**
LZH Lanzhou 31.29 330 *e*P **P** **03 32 24.5 +2.4**
LZH AP pP 03 32 43.1 +10
LZH XP sP 03 32 54.9 +17
LZH PP PP 03 33 36.0 +2.8
LZH *e*S **S** **03 37 28.0 +2.0**
LZH XS sS 03 38 05.0 +20
LZH AMB AMB
comp=Z,25nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,141nm,4.0s
LZH LR LR
comp=E,3μm,16.4s
LZH LR LR
comp=Z,4μm,16.5s,MS5.1
WRAB Tennant Creek 31.62 158 P **P** **03 32 24.0 -1.1**
comp=Z,147nm,0.7s,mb5.9,SNR=10
WRAB Tennant Creek 31.62 158 *c i*P **P** **03 32 24.1 -1.0**
WRAB Tennant Creek 31.62 158 *e*P **P** **03 32 24.6 -0.5**
comp=Z,41nm,1.2s,mb5.1
WRA Warramunga Arr 31.63 158 P **P** **03 32 24.4 -0.7**
comp=Z,11nm,0.6s,mb4.8,baz=339,slow=9.4,SNR=59
WRA PcP PcP 03 35 16.8 +0.3
comp=Z,9.4nm,0.9s,baz=336,slow=3.0,SNR=12
WRA S **S** **03 37 27.1 -4.3**
comp=Z,2.6nm,1.1s,baz=346,slow=15,SNR=3.6
WRA ScP ScP 03 38 57.9 +1.4
comp=Z,1.9nm,0.9s,baz=342,slow=4.3,SNR=4.9
WB2 Warramunga Arr 31.63 158 *e*P **P** **03 32 24.0 -1.2**
WB2 *e*S **S** **03 37 32.3 +0.8**
WB2 *e*SCS ScS 03 42 53.8 -0.7
SNY Shenyang 32.14 2⇑P **P** **03 32 29.2 -0.4**
SNY AP pP 03 32 46.8 +5.9
SNY XP sP 03 32 55.6 +10
SNY PP PP 03 33 41.1 -1.6
SNY S **S** **03 37 39.3 0.0**
SNY SS SS 03 39 44.5 -14
SNY AMB AMB
comp=Z,29nm,1.0s,mb5.1
SNY AMB AMB
comp=Z,335nm,3.6s
SNY LR LR
comp=N,1μm,17.3s,MS4.8
SNY LR LR
comp=E,821nm,15.7s,MS4.8
SNY LR LR
comp=Z,1μm,19.6s,MS4.6
HHC Hu-ho-hao-te 32.57 345 *e*P **P** **03 32 34.4 +1.0**
HHC AP pP 03 32 52.2 +7.5
HHC PP PP 03 33 45.9 -1.6
HHC S **S** **03 37 44.0 -2.1**
HHC PCS PcS 03 39 03.3 -1.0
HHC SCS ScS 03 42 53.7 -5.5
HHC AMB AMB
comp=Z,16nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,280nm,6.7s
HHC LR LR
comp=N,2μm,16.3s,MS4.9
HHC LR LR
comp=E,1μm,16.4s,MS4.9
HHC LR LR
comp=Z,2μm,15.9s,MS4.8
SHL Shillong 32.98 303 *e*P **P** **03 32 36.8 -0.2**
SHL AMb AMB 03 32 56.1
comp=Z,454nm,0.6s
SHL *e*S **S** **03 37 58.4 +6.0**
VLA Vladivostok 34.44 12 P **P** **03 32 48.0 -1.7**
VLA *i* pP 03 32 57.2 -3.8
VLA pmax pmax
comp=Z,98nm,1.3s,mb5.6
VLA MLR MLR
comp=Z,900nm,18.6s,MS4.5
VLA Vladivostok 34.44 12 P **P** **03 32 48.0 -1.7**
comp=Z,98nm,1.3s,mb5.6
VLA *i* pP 03 32 57.2 -3.8
VLA LR LR
comp=Z,900nm,18.6s,MS4.5
ASAR Alice Springs 34.93 161 P **P** **03 32 54.2 +0.3**
comp=Z,21nm,0.6s,mb5.3,baz=342,slow=7.2,SNR=239
ASAR PcP PcP 03 35 26.2 +0.4
comp=Z,8.4nm,0.9s,baz=351,slow=2.1,SNR=9.1
ASAR S **S** **03 38 21.0 -1.5**
comp=Z,3.8nm,1.0s,baz=338,slow=12,SNR=8.8
ASAR ScP ScP 03 39 09.7 +1.7
comp=Z,3.1nm,0.9s,baz=346,slow=3.5,SNR=6.9
CAL Calcutta 35.02 296 *ex* x 03 38 10.7
GTA Gaotai 35.87 330 *e*P **P** **03 33 02.2 +0.2**
GTA AP pP 03 33 20.3 +7.0
GTA PP PP 03 34 25.6 +1.6
GTA S **S** **03 38 33.9 -3.1**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
GTA AMB AMB
comp=Z,199nm,6.1s
GTA LR LR
comp=N,2μm,15.6s,MS5.1
GTA LR LR
comp=E,2μm,16.4s,MS5.1
GTA LR LR
comp=Z,3μm,17.1s,MS5.1
BOK Bokaro 37.53 297 *e*P **P** **03 33 16.9 +0.8**
BOK AMb AMB 03 33 30.1
comp=Z,19nm,1.5s,mb4.6
CTA Charters Tower 37.73 141 *e*P **P** **03 33 17.8 0.0**
comp=Z,10nm,1.6s,mb4.3
CTA Charters Tower 37.73 141 P **P** **03 33 17.1 -0.7**
comp=Z,7.2nm,0.8s,mb4.5,baz=328,slow=12,SNR=4.8
CTA LR LR 03 49 31.0
comp=Z,714nm,21.2s,MS4.5,baz=121,slow=37
CTAO Charters Tower 37.73 141 *e*P **P** **03 33 17.6 -0.2**
comp=Z,32nm,1.3s,mb4.9
JIRN Jiri 38.48 303 *e*P **P** **03 33 24.7 +0.5**
comp=Z,99nm,1.1s,mb5.5
ASAJ Asahikawa 38.64 24 P **P** **03 33 25.6 +0.1**
comp=Z,68nm,1.1s,mb5.3,baz=253,slow=18,SNR=9.8
VIS Vishakhapatnam 38.69 286 *e*P **P** **03 33 25.4 -0.5**
VIS AMb AMB 03 33 49.4
comp=Z,40nm,1.7s,mb4.9
GUN Gumba 38.83 303 *e*P **P** **03 33 27.9 +0.8**
comp=Z,73nm,0.7s,mb5.5
PKI Pulchoki 39.10 302 *e*P **P** **03 33 29.9 +0.6**
comp=Z,56nm,1.0s,mb5.2
KKN Kakani 39.28 303 *e*P **P** **03 33 31.7 +0.8**
comp=Z,58nm,0.9s,mb5.3
DMN Daman 39.37 302 *e*P **P** **03 33 32.8 +1.2**
HIA Hailar 39.62 357 *e*P **P** **03 33 32.8 -0.8**
HIA Hailar 39.62 357 *e*P **P** **03 33 33.4 -0.2**
comp=Z,32nm,1.0s,mb5.0
GKN Gorkha 39.89 303 *e*P **P** **03 33 36.3 +0.4**
comp=Z,27nm,0.8s,mb5.0
HABR Khabarovsk 40.22 13 *e*P **P** **03 33 36.9 -1.7**
HABR *e*S **S** **03 39 39.1 -3.6**
ULN Ulaanbaatar 40.28 344⇑ *e*P **P** **03 33 39.1 -0.1**
ULN Ulaanbaatar 40.28 344 *e*P **P** **03 33 39.4 +0.3**
comp=Z,49nm,1.3s,mb5.1
KLR Kul'dur 40.30 10 *e*P **P** **03 33 35.1 -4.2**
KLR *e*S **S** **03 39 38.0 -6.0**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,92nm,1.8s,mb5.2
KLR pmax pmax
comp=Z,900nm,7.0s
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.0
KLR Kul'dur 40.30 10 *e*P **P** **03 33 35.1 -4.2**
KLR *e*S **S** **03 39 38.0 -6.0**
SONM Songino Array 40.44 343 P **P** **03 33 40.4 0.0**
comp=Z,10nm,1.1s,mb4.5,baz=165,slow=9.3,SNR=37
SONM ScP ScP 03 39 30.1 +1.4
comp=Z,0.7nm,1.0s,baz=186,slow=2.6,SNR=2.7
SONM LR LR 03 52 27.2
comp=Z,2μm,18.8s,MS5.0,baz=157,slow=39
FORT Forrest 40.50 172⇓ *i*P **P** **03 33 42.0 +1.0**
comp=Z,75nm,0.7s,mb5.4
FORT *e*PCP PcP 03 35 43.1 +0.1
KOLN Koldanda 40.68 302 *e*P **P** **03 33 43.2 +0.7**
comp=Z,56nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 41.10 21 *e*P **P** **03 33 45.2 -0.7**
YSS pmax pmax
comp=Z,80nm,1.2s,mb5.2
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.5
YSS MLR MLR
comp=N,500nm,17.0s
YSS Yuzh-Sakhalins 41.10 21 *e*P **P** **03 33 45.2 -0.7**
comp=N,80nm,1.2s,mb5.2
YSS LR LR
comp=Z,500nm,16.0s,MS4.5
KLBR Kellerberrin 41.17 186 *e*P **P** **03 33 46.9 +0.4**
comp=Z,29nm,0.9s,mb4.9
HNR Honiara 41.94 116 LR LR 03 49 49.5
comp=Z,494nm,20.0s,MS4.4,baz=359,slow=34
NWAO Narrogin (SRO) 42.55 186 LR LR 03 51 16.5
comp=Z,466nm,20.3s,MS4.4,baz=14,slow=36
NWAO Narrogin (SRO) 42.55 186 *e*P **P** **03 33 58.7 +1.0**
comp=Z,54nm,1.1s,mb5.2
NGP Nagpur 43.16 291 *e*P **P** **03 34 02.5 -0.2**
NGP AMb AMB 03 34 04.5
comp=Z,33nm,1.5s,mb4.8
HYB Hyderabad 43.20 285 *i* P **P** **03 34 04.5 +1.5**
HYB *e*sP sP 03 34 18.5 -0.9
HYB *e*S **S** **03 40 32.0 +5.2**
HYB *e*ScS ScS 03 43 58.0 -1.7
HYB Hyderabad 43.20 285 *e*P **P** **03 34 04.5 +1.5**
ZAK Zakamensk 43.63 342 *e*P **P** **03 34 05.2 -1.3**
TLY Talaya 44.68 344 *e*P **P** **03 34 20.1 +5.2**
TLY *e* 03 36 05.3
TLY *e*PPP 03 36 33.8
TLY *e*S **S** **03 40 47.6 -0.9**
TLY *e*SS SS 03 44 06.1 -3.5
TLY *e*SSS 03 44 56.3
TLY pmax pmax
comp=Z,33nm,1.2s,mb5.0
TLY MLR MLR
comp=Z,772nm,16.0s,MS4.7
TLY Talaya 44.68 344 *e*P **P** **03 34 15.4 +0.6**
comp=Z,13nm,0.7s,mb4.9
TLY *e* 03 36 05.3
TLY *e*PPP 03 36 33.8
TLY *e*S **S** **03 40 47.6 -0.9**
TLY *e*SS SS 03 44 06.1 -3.5
TLY *e*SSS 03 44 56.3
AKL Akola 44.98 290 *e*P **P** **03 34 15.8 -1.4**
AKL AMb AMB 03 34 21.0
comp=Z,35nm,1.3s,mb5.0
BHPL Bhopal 44.98 293 *e*P **P** **03 34 18.5 +1.2**
BHPL AMb AMB 03 34 27.4
comp=Z,40nm,1.4s,mb5.1
STKA Stephens Creek 45.16 157 *e*P **P** **03 34 18.2 -0.5**
comp=Z,16nm,0.6s,mb5.0
STKA *e* 03 36 05.5
STKA *e*S **S** **03 40 57.4 +2.1**
STKA Stephens Creek 45.16 157 P **P** **03 34 18.5 -0.2**
comp=Z,19nm,0.7s,mb5.1,baz=333,slow=7.7,SNR=32
MOY Mondy 45.45 341 *e*P **P** **03 34 21.8 +0.8**
WMQ Urumqi 45.46 325 *e*P **P** **03 34 23.5 +2.4**
WMQ XP sP 03 34 55.5 +18
WMQ PP PP 03 36 11.3 +3.4
WMQ PPP 03 36 57.0
WMQ SCP ScP 03 39 43.4 -5.6
WMQ PCS PcS 03 39 53.8 +0.2
WMQ S **S** **03 40 57.5 -2.2**
WMQ XS sS 03 41 37.4 +18
WMQ SCS ScS 03 44 07.3 -6.8
WMQ AMB AMB
comp=Z,15nm,1.1s,mb4.7
WMQ LR LR
comp=N,2μm,15.0s,MS5.3
WMQ LR LR
comp=E,1μm,15.0s,MS5.3
WMQ LR LR
comp=Z,763nm,22.0s
NDI New Delhi 46.33 301 *e*P **P** **03 34 27.6 -0.3**
NDI AMb AMB 03 34 34.4
comp=Z,22nm,2.0s,mb4.7
CLNS Chul'man 47.19 2 *e*P **P** **03 34 33.5 -1.1**
CLNS pmax pmax
comp=Z,26nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=E,24nm,0.8s
KAD Karad 47.35 285 *e*P **P** **03 34 35.3 -0.7**
KAD AMb AMB 03 34 46.2
comp=Z,37nm,1.8s,mb5.0
POO Poona 47.74 286 *e*P **P** **03 34 36.5 -2.4**
AJM Ajmer 48.06 297 *e*P **P** **03 34 40.2 -1.2**
AJM AMb AMB 03 34 51.4
comp=Z,30nm,1.7s,mb5.0
BOD Bodaibo 48.55 354 *e*P **P** **03 34 44.5 -0.7**
BOD pmax pmax
comp=Z,17nm,1.3s,mb4.9
BOD Bodaibo 48.55 354 *e*P **P** **03 34 44.5 -0.7**
comp=Z,17nm,1.3s,mb4.9
ARMA Armidale 48.72 146⇑ *i*P **P** **03 34 47.3 +0.8**
MK31 Makanchi Array 50.29 325 *i* P **P** **03 34 58.6 +0.1**
MK31 pmax pmax
comp=Z,60nm,1.4s,mb5.4
MK31 Makanchi Array 50.29 325 *i* P **P** **03 34 58.6 +0.1**
comp=Z,60nm,1.4s,mb5.4
MKAR Makanchi Array 50.29 325 P **P** **03 34 58.4 -0.1**
comp=Z,4.7nm,0.8s,mb4.6,baz=129,slow=8.3,SNR=34
MKAR PcP PcP 03 36 16.0 -0.8
comp=Z,5.3nm,1.0s,baz=144,slow=3.5,SNR=1.9
MKAR LR LR 03 57 40.7
comp=Z,1μm,18.2s,MS5.0,baz=117,slow=38
MKAR Makanchi Array 50.29 325 *i* P **P** **03 34 58.6 +0.1**
MKAR pmax pmax
comp=Z,84nm,1.4s
PET Petropavlovsk 52.28 27 *e*P **P** **03 35 18.2 +4.8**
PET *e*S **S** **03 42 38.0 +2.4**
PET pmax pmax
comp=Z,200nm,17.9s
PET Petropavlovsk 52.28 27 *e*P **P** **03 35 18.2 +4.8**
PET *e*S **S** **03 42 38.0 +2.4**
TKM2 Tokmak 2 52.50 318 *i* P **P** **03 35 16.3 +1.3**
TKM2 pmax pmax
comp=Z,47nm,1.7s,mb5.1
TKM2 Tokmak 2 52.50 318 *i* P **P** **03 35 16.3 +1.3**
comp=Z,47nm,1.7s,mb5.1
YAK Yakutsk 52.63 4 *e*P **P** **03 35 15.1 -0.9**
YAK *e**PP pP 03 35 32.3 +4.5
YAK *e* 03 36 25.2
YAK *e* 03 37 08.8
YAK *e*S **S** **03 42 35.3 -5.1**
YAK *e* 03 44 57.5
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=Z,47nm,1.1s,mb5.3
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK smax
comp=N,3.0nm,0.5s
YAK smax
comp=Z,10.0nm,0.4s
YAK smax
comp=E,2.0nm,0.5s
YAK MLR MLR
comp=Z,862nm,27.0s,MS4.7
YAK MLR MLR
comp=N,448nm,21.0s
YAK MLR MLR
comp=E,373nm,19.0s
YAK Yakutsk 52.63 4 *e*P **P** **03 35 15.1 -0.9**
comp=E,47nm,1.1s,mb5.3
YAK *e*pP pP 03 35 32.3 +4.5
YAK *e* 03 36 25.2
YAK *e* 03 37 08.8
YAK *e*S **S** **03 42 35.3 -5.1**
YAK *e* 03 44 57.5
YAK LR LR
comp=Z,860nm,27.0s,MS4.7
AAK Ala-Archa 53.12 317⇑ *e*P **P** **03 35 19.3 -0.3**
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
AAK Ala-Archa 53.12 317⇑ *e*P **P** **03 35 19.3 -0.3**
comp=Z,7.0nm,1.2s,mb4.5
ZAL Zalesovo 53.43 333 P **P** **03 35 20.6 -1.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=350,slow=3.8,SNR=14
ZAL LR LR 03 59 41.6
comp=Z,634nm,18.2s,MS4.7,baz=340,slow=38
DZM Mont Dzumac 53.48 127 LR LR 03 59 53.6
comp=Z,347nm,18.5s,MS4.4,baz=264,slow=38
KURK Kurchatov 54.49 327 P **P** **03 35 30.9 +1.3**
comp=Z,166nm,2.1s,mb5.6,SNR=8.6
KURK Kurchatov 54.49 327⇑ *e*P **P** **03 35 29.3 -0.3**
NVS Novosibirsk 54.72 333⇓ *i*P **P** **03 35 30.7 -0.5**
NVS *e* 03 45 13.8
NVS pmax pmax
comp=N,27nm,1.4s
NVS pmax pmax
comp=E,27nm,1.4s
NVS pmax pmax
comp=Z,33nm,1.4s,mb5.2
NVS Novosibirsk 54.72 333⇓ *i*P **P** **03 35 30.7 -0.5**
comp=Z,33nm,1.4s,mb5.2
NVS *e* 03 45 13.8
KK31 Karatay Array 56.01 316 *i* P **P** **03 35 41.1 +0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KK31 Karatay Array 56.01 316 *i* P **P** **03 35 41.1 +0.6**
comp=Z,10.0nm,0.6s,mb5.0
KKAR Karatay Array 56.01 316 *i* P **P** **03 35 41.1 +0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KKAR Karatay Array 56.01 316 *i* P **P** **03 35 41.1 +0.6**
comp=Z,7.0nm,0.7s,mb4.8
SEY Seymchan 57.48 16⇑ *e*P **P** **03 35 50.2 -0.8**
BVA2 Borovoye Array 60.06 327 P **P** **03 36 08.6 -0.3**
BRVK Borovoye 60.14 327 P **P** **03 36 09.9 +0.5**

comp=Z,104nm,0.9s,mb5.9,SNR=5.7
BRVK Borovoye 60.14 327 *e*P **P 03 36 09.9 +0.5**
comp=Z,16nm,0.8s,mb5.1
CHKZ Chkalovo 60.24 327 *i* P **P 03 36 07.4 -2.7**
CHKZ pmax pmax
comp=Z,21nm,1.8s,mb4.9
TIXI Tiksi 62.15 2 *e*P **P 03 36 18.5 -4.5**
TIXI *e*S **S 03 44 38.4 -7.0**
TIXI *e* 03 45 14.1
TIXI *e*SS SS 03 48 44.7 -4.0
TIXI pmax pmax
comp=Z,32nm,1.1s,mb5.4
TIXI MLR MLR
comp=Z,419nm,16.0s,MS4.7
TIXI Tiksi 62.15 2 *e*P **P 03 36 18.5 -4.5**
comp=Z,32nm,1.1s,mb5.4
TIXI *e*S **S 03 44 38.4 -7.0**
TIXI *e* 03 45 14.1
TIXI *e*SS SS 03 48 44.7 -4.0
TIXI LR LR
comp=Z,420nm,16.0s,MS4.7
AB31 Akbulak array 64.89 320 P **P 03 36 40.7 -0.4**
AB31 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AB31 Akbulak array 64.89 320 P **P 03 36 40.7 -0.4**
comp=Z,6.0nm,0.8s,mb4.7
BILL Biiibino 65.14 17*c i*P **P 03 36 41.7 -1.1**
BILL pmax pmax
comp=Z,44nm,1.7s,mb5.2
BILL Biiibino 65.14 17⇑ *i*P **P 03 36 41.7 -1.1**
comp=Z,44nm,1.7s,mb5.2
SVE Sverdlovsk 66.72 328 *e*P **P 03 36 52.0 -0.9**
ARU Arti 67.69 327⇓ *i*P **P 03 36 57.0 -2.1**
ARU *e* 03 37 14.9
ARU *e* 03 37 22.0
ARU *e* 03 39 25.2
ARU *e*S S 03 45 49.4 -4.1
ARU *e*SS SS 03 50 10.1 -4.9
ARU pmax pmax
comp=Z,16nm,1.5s,mb4.8
ARU Arti 67.69 327⇓ *i*P **P 03 36 57.0 -2.1**
comp=Z,16nm,1.5s,mb4.8
ARU *e* 03 37 14.9
ARU *e* 03 37 22.0
ARU *e* 03 39 25.2
ARU *e*S S 03 45 49.4 -4.1
ARU *e*SS SS 03 50 10.1 -4.9
ORR Orenburg 68.67 322 *e*P **P 03 37 05.6 +0.4**
ORR pmax pmax
comp=Z,40nm,2.3s,mb4.9
ORR MLR MLR
comp=Z,320nm,15.0s,MS4.7
RPZ Rata Peaks 69.03 144 LR LR 04 07 04.9
comp=Z,474nm,20.2s,MS4.7,baz=306,slow=36
MAK Makhachkala 72.44 312 *e*P **P 03 37 30.0 +1.8**
MAK *e* 03 37 46.2
MAK *e* 03 40 18.3
MAK *e*PPP 03 41 54.5
MAK *e*S S 03 46 47.9 -1.2
MAK *e* 03 47 28.8
MAK pmax pmax
comp=Z,136nm,1.6s,mb5.6
MAK Makhachkala 72.44 312 *e*P **P 03 37 30.0 +1.8**
comp=Z,136nm,1.6s,mb5.6
MAK *e* 03 37 46.2
MAK *e* 03 40 18.3
MAK *e*PPP 03 41 54.5
MAK *e*S S 03 46 47.9 -1.2
MAK *e* 03 47 28.8
GNI Garni 74.42 309 *e*P **P 03 37 47.5 +7.6**
GNI Garni 74.42 309 LR LR 04 14 29.4
comp=Z,267nm,20.4s,MS4.5,baz=262,slow=39
GNI Garni 74.42 309⇑ *e*P **P 03 37 37.9 -1.9**
GNI pmax pmax
comp=Z,17nm,1.3s
GNI Garni 74.42 309⇑ *e*P **P 03 37 37.9 -1.9**
comp=Z,17nm,1.3s,mb4.8
BHD Baghdad 74.77 302 *e*x x 03 37 47.0
BHD *e*x x 03 47 17.0
BHD *e*x x 03 55 40.0
CLDR Caldiran 75.05 308 *e*P **P 03 37 49.6 +6.1**
ZEI Tsey 75.08 312 *e*P **P 03 37 43.9 +0.2**
ZEI pmax pmax
comp=Z,15nm,1.2s,mb4.8
HKR Hakkari 75.20 306 *e*P **P 03 37 46.2 +1.8**
CUKT Cukurca 75.31 306 *e*P **P 03 37 43.4 -1.6**
ONI Oni 75.41 312 P **P 03 37 47.0 +1.4**
MSL Mosul 75.75 305 *e*x x 03 37 54.0
KIV Kislovodsk 75.97 313 P **P 03 37 50.8 +2.0**
comp=Z,137nm,0.8s,mb5.9,SNR=5.3
KIV Kislovodsk 75.97 313⇑ *e*P **P 03 37 48.2 -0.6**
KIV pmax pmax
comp=Z,18nm,0.9s,mb5.0
KIV Kislovodsk 75.97 313⇑ *e*P **P 03 37 48.2 -0.6**
comp=Z,18nm,0.9s,mb5.0
VRHR Novokhopersk 76.78 320 *e*P **P 03 37 53.4 +0.1**
VRHR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
VRHR pmax pmax
comp=E,4.0nm,0.4s
BTMT Batman 76.97 307 *e*P **P 03 37 56.6 +2.2**
EZM Erzurum 77.01 309 *e*P **P 03 37 57.2 +2.6**
SOC Sochi 78.13 313*c i*P **P 03 38 00.5 -0.4**
SOC *e* 03 38 08.0
SOC *e**PP pP 03 38 21.5 +8.3
SOC *e*PPP 03 42 51.7
SOC *e*S S 03 47 47.0 -5.2
SOC *e* 03 48 12.6
SOC *e**SS sS 03 48 38.5 +26
SOC *e*SSS 03 56 13.2
SOC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SOC MLR MLR
comp=Z,443nm,18.0s,MS4.8
SOC Sochi 78.13 313⇑ *i*P **P 03 38 00.5 -0.4**
comp=Z,10.0nm,0.7s,mb4.8
SOC *e* 03 38 08.0
SOC *e*pP pP 03 38 21.5 +8.3
SOC *e*PPP 03 42 51.7
SOC *e*S S 03 47 47.0 -5.2
SOC *e* 03 48 12.6
SOC *e*sS sS 03 48 38.5 +26
SOC *e*SSS 03 56 13.2
SOC LR LR
comp=Z,440nm,18.0s,MS4.8
KLMR Klimovskoe 78.19 330 P **P 03 37 58.7 -2.6**
KLMR pmax pmax
comp=Z,32nm,1.3s,mb5.1
VRSR Storozhevoye 78.31 320 *e*P **P 03 38 02.1 +0.2**
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=E,10.0nm,0.7s
VRSR Storozhevoye 78.31 320 *e*P **P 03 38 02.1 +0.2**
comp=E,10.0nm,0.9s,mb4.8
PTK Pertek 78.58 308 *e*P **P 03 38 05.3 +2.0**
IMA2 Indian Mountai 78.86 24 *e*P **P 03 38 04.1 -0.8**
URFA Urfa 79.12 306 *e*P **P 03 38 13.9 +7.6**
MOS Moscow 79.17 325 *e*P **P 03 38 05.3 -1.3**
MALT Malatya 79.37 307 *e*P **P 03 38 09.1 +1.4**
comp=E,53nm,1.8s,mb5.2
MALT Malatya 79.37 307⇑ *i*P **P 03 38 10.2 +2.5**
ANN Anapa 79.72 314 *e*P **P 03 38 11.9 +2.3**
OBN Obninsk 79.79 324 *e*P **P 03 38 09.0 -1.0**
OBN *i* 03 38 15.9
OBN *e* 03 41 15.4
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
OBN Obninsk 79.79 324 *e*P **P 03 38 09.0 -1.0**
comp=Z,24nm,1.2s,mb5.0
OBN *i* 03 38 15.9
OBN *e* 03 41 15.4
OBN LR LR
comp=Z,200nm,16.0s,MS4.5
SVSK Karacayir 80.36 309 *e*P **P 03 38 13.7 +0.6**
MCK McKinley 80.92 27 *e*P **P 03 38 15.1 -1.0**
comp=Z,13nm,0.8s,mb4.9
KVT Kavak 80.99 310 *e*P **P 03 38 17.8 +1.3**
COLA College 81.32 26 *e*P **P 03 38 15.8 -2.4**
BYBT Boyabat 81.92 311 *e*P **P 03 38 22.3 +0.9**

JOF Joensuu 82.01 332 *e*p **P 03 38 20.9 -0.9**
comp=Z,4.2nm,0.6s,mb4.5
JOF Joensuu 82.01 332 *e*P **P 03 38 20.9 -0.9**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SIM Simferopol' 82.06 314 *e*P **P 03 38 23.7 +1.6**
SIM pmax pmax
comp=Z,13nm,0.7s,mb5.0
SIM Simferopol' 82.06 314 *e*P **P 03 38 23.7 +1.6**
comp=Z,13nm,0.7s,mb5.0
KEV Kevo 82.93 340 *e*p **P 03 38 32.1 +5.5**
KAMT Kaman 82.94 309 *e*P **P 03 38 27.6 +0.9**
BR131 Keskin Array S 82.96 309 *e*P **P 03 38 26.8 0.0**
comp=Z,3.8nm,0.7s,mb4.5
BRTR Keskin Array B 82.96 309 P **P 03 38 26.6 -0.2**
comp=Z,4.3nm,0.8s,mb4.5,baz=105,slow=5.1,SNR=27
BRTR Keskin Array B 82.96 309⇑ *e*P **P 03 38 27.7 +0.9**
EIL Elat 83.07 299 *e*P **P 03 38 27.2 -0.1**
comp=Z,1μm,1.8s
ARCES ARCESS Array B 83.48 339 P **P 03 38 29.1 -0.4**
comp=Z,17nm,0.9s,mb5.1,baz=60,slow=7.2,SNR=12
ARCES LR LR 04 20 32.8
comp=Z,655nm,18.4s,MS5.0,baz=82,slow=39
SAFT Safranbolu 83.50 311 *e*P **P 03 38 30.4 +0.8**
ANTO Ankara 83.59 309 *e*P **P 03 38 27.4 -2.6**
comp=Z,30nm,1.4s,mb5.2
SPB4 Spitsbergen Ar 83.93 349 *e*P **P 03 38 31.4 -0.3**
HDMB Hadim 84.20 306 *e*P **P 03 38 39.9 +6.8**
KIZT Kizilcal 84.42 308 *e*P **P 03 38 34.9 +0.7**
KAF Kangasniemi 84.42 332 *e*p **P 03 38 31.8 -2.4**
AKASG Malin Array Be 84.63 320 P **P 03 38 34.8 -0.5**
comp=Z,10nm,0.9s,mb5.0,baz=74,slow=4.4,SNR=36
AKASG LR LR 04 18 48.0
comp=Z,348nm,18.3s,MS4.8,baz=85,slow=37
AKBB Malin Array Si 84.63 320 *e*P **P 03 38 34.6 -0.7**
KIEV Kiev 84.64 320 *e*P **P 03 38 34.7 -0.7**
comp=Z,13nm,1.0s,mb5.0
FINES FINESS Array B 84.64 331 P **P 03 38 34.7 -0.6**
comp=Z,8.0nm,0.9s,mb4.8,baz=60,slow=3.8,SNR=15
FINES LR LR 04 19 02.6
comp=Z,546nm,18.8s,MS5.0,baz=21,slow=38
FINES FINESS Array B 84.64 331 *i* P **P 03 38 34.7 -0.7**
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 84.64 331 P **P 03 38 34.7 -0.7**
FINES LR LR 04 19 02.6
MNK Minsk 84.88 324 *e*P **P 03 38 32.0 -4.6**
DAWY Dawson 85.06 26 *e*P **P 03 38 37.6 +0.1**
ESKT Eskisehir 85.12 309 *e*P **P 03 38 38.2 +0.4**
KMBO Kilima Mbogo 85.33 268 P **P 03 38 40.1 +1.3**
comp=Z,2.6nm,0.8s,mb4.4,baz=54,slow=23,SNR=9.5
KMBO LR LR 04 19 16.8
comp=Z,264nm,18.4s,MS4.7,baz=276,slow=37
KMBO Kilima Mbogo 85.33 268 *e*P **P 03 38 41.2 +2.4**
comp=Z,11nm,1.3s,mb4.8
SHUT Suhut-Afyon 85.49 308 *e*P **P 03 38 35.7 -3.9**
TIRR Tirgusor 86.15 314⇑ *i*P **P 03 38 42.8 -0.1**
INK Inuvik 86.34 21 *e*P **P 03 38 43.4 -0.5**
comp=Z,981nm,1.1s
VRI Vrincioaia 87.08 316⇑ *i*P **P 03 38 48.3 +0.9**
PLOR Plostina 87.13 316⇑ *i*P **P 03 38 48.5 +0.8**
MLR Muntele Rosu 87.69 316⇓ *i*P **P 03 38 51.0 +0.6**
MAW Mawson 87.75 199 P **P 03 38 49.0 -1.7**
comp=Z,1.2nm,0.7s,mb4.2,baz=20,slow=14,SNR=1.6
MAW LR LR 04 14 00.1
comp=Z,164nm,19.7s,MS4.5,baz=60,slow=33
BURAR Bucovina Array 87.76 318⇓ *i*P **P 03 38 51.6 +0.9**
LVV L'vov 88.07 320 *e*P **P 03 38 51.5 -0.7**
UZH Uzhgorod 89.45 319 *e*P **P 03 38 58.0 -0.7**
UZH *e* pP 03 39 10.0 -1.2
UZH *e*S S 03 49 40.0 -5.9
DRGR 89.61 317⇑ *i*P **P 03 39 00.0 +0.6**
VNDA Vanda 89.76 172 P **P 03 38 58.8 -1.4**
comp=Z,5.5nm,1.0s,mb4.8,baz=315,slow=5.5,SNR=11
VNDA LR LR 04 19 58.4
comp=Z,239nm,19.3s,MS4.6,baz=331,slow=36
VNDA Vanda 89.76 172 *e*P **P 03 38 59.4 -0.8**
comp=Z,10nm,1.2s,mb5.0
CRVS Cervenica-Dubn 89.91 320 *e*P **P 03 39 01.5 +0.7**
CRVS *e*pP pP 03 39 07.8 -5.6
STHS Stebnicka Huta 89.92 320 *e*P **P 03 39 03.0 +2.1**
STHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
STHS Stebnicka Huta 89.92 320 *e*P **P 03 39 03.0 +2.1**
comp=Z,3.0nm,1.0s,mb4.6
KECS Kecovo 90.65 319 *e*P **P 03 39 04.9 +0.6**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
KECS Kecovo 90.65 319 *e*P **P 03 39 04.9 +0.6**
comp=Z,2.2nm,1.0s,mb4.4
KECS *e* 03 39 11.6
HFS Hagfors 90.84 332 LR LR 04 24 13.2
comp=Z,820nm,18.2s,MS5.2,baz=51,slow=38
PPT Papeete 91.05 108 *e*SP SP 03 51 14.6 +6.1
comp=Z,235nm,24.2s
PPT *e*SS SS 03 56 12.5 +7.7
comp=Z,150nm,26.5s
PPT *e*LR LR 04 08 21.6
comp=Z,720nm,23.2s,baz=293
PPT Papeete 91.05 108 LR LR 04 12 29.3
comp=Z,431nm,19.7s,MS4.9,baz=273,slow=31
NB2 NORSAR Subarra 91.63 333 P **P 03 39 07.6 -1.2**
comp=Z,5.5nm,1.0s,mb4.8,baz=66,slow=4.6
NOA NORSAR Array B 91.63 333 P **P 03 39 07.5 -1.3**
comp=Z,2.2nm,0.9s,mb4.5,baz=65,slow=4.6,SNR=3.9
NOA LR LR 04 24 11.7
comp=Z,531nm,20.2s,MS5.0,baz=50,slow=38
TBI Tubuai 92.11 113 *e*PS PS 03 51 31.4 +5.9
comp=Z,221nm,27.0s
TBI Tubuai 92.11 113 *e*SS SS 03 56 29.6 +9.5
comp=Z,332nm,32.5s
TBI *e*LR LR 04 08 50.7
comp=Z,608nm,23.2s,baz=293
PKSM Moragy 92.47 318⇑ *i*P **P 03 39 12.6 -0.1**
RES Resolute Bay 92.83 9 *e*P **P 03 39 13.0 -1.3**
comp=Z,499nm,1.3s
BRG Berggieshubel 93.97 323 *e*P **P 03 39 19.5 -0.1**
comp=Z,4.0nm,0.9s,mb4.8
BRG *e* 03 39 24.7
comp=Z,1.1nm,0.5s
CLL Collm 94.37 324 *e*(P) **P 03 39 19.0 -2.5**
comp=Z,10.0nm,1.3s,mb5.1
CLL *e*PPPrev 04 04 45.0
CLL Lm 04 27 00.0
comp=Z,600nm,19.9s
GERES GERESS Array B 94.82 321 P **P 03 39 23.2 -0.3**
comp=Z,1.2nm,0.9s,mb4.3,baz=66,slow=3.3,SNR=8.1
GERES LR LR 04 27 57.9
comp=Z,378nm,19.1s,MS4.9,baz=79,slow=39
YKA Yellowknife Ar 95.93 23 P **P 03 39 28.0 -0.6**
comp=Z,3.3nm,0.9s,mb4.8,baz=302,slow=4.5,SNR=30
YKA PP PP 03 43 24.0 +3.0
comp=Z,0.4nm,0.9s,baz=303,slow=6.9,SNR=4.1
YKA PKKPbc PKKPbc 03 56 18.3 +1.7
comp=Z,0.2nm,0.4s,baz=130,slow=3.1,SNR=5.9
YKA LR LR 04 22 47.9
comp=Z,216nm,20.2s,MS4.6,baz=310,slow=35
YKA Yellowknife Ar 95.93 23⇑ *e*P **P 03 39 28.0 -0.6**
YKA Yellowknife Ar 95.93 23 P **P 03 39 28.1 -0.5**
YKA PP PP 03 43 24.1 +3.0
YKA PKKPbc PKKPbc 03 56 18.3 +1.7
YKA LR LR 04 22 47.9
TAOE Nuku Hiva Isla 98.79 98 *e*PS PS 03 52 42.9 +4.2
comp=Z,557nm,30.1s
TAOE Nuku Hiva Isla 98.79 98 *e*LR LR 04 12 03.6
comp=Z,2μm,24.1s,baz=298
RKT Rikitea 105.31 111 *e*PP PP 03 44 27.6 -4.5
comp=Z,44nm,27.5s
RKT Rikitea 105.31 111 *e*PS PS 03 53 55.2 +7.4
comp=Z,136nm,34.8s
RKT Rikitea 105.31 111 *e*SS SS 03 59 40.6 +15
comp=Z,137nm,31.0s
RKT *e*LR LR 04 14 51.5
comp=Z,408nm,24.5s,baz=298
RKT Rikitea 105.31 111 *e*PP PP 03 44 27.6 -4.5
RKT *e*PS PS 03 53 55.2 +7.4
RKT *e*SS SS 03 59 40.6 +15
NVAR Mina Array Bea 106.11 45 Pdiff Pdif 03 40 14.2 +0.2
comp=Z,0.5nm,0.8s,baz=273,slow=5.8,SNR=3.5
SDCO Great Sand Dun 115.09 40 *e*PKPdf PKiKP 03 44 44.3 +1.6
ANMO Albuquerque 116.07 43⇑ *i*PKIKP PKPdf 03 44 45.3 +0.7
ANMO Albuquerque 116.07 43 *e*PKPdf PKPdf 03 44 46.1 +1.5
TOA0 Torodi Ar. Sit 116.89 290 *e*PKPdf PKPdf 03 44 46.7 +0.5
TORD Torodi Ar. Bea 116.89 290 PKP PKPdf 03 44 46.1 -0.1
comp=Z,1.3nm,0.8s,baz=53,slow=1.8,SNR=7.0
TORD PP PP 03 45 57.7 +2.4
comp=Z,1.3nm,1.0s,baz=64,slow=7.0,SNR=3.6
MNTX Cornudas Mount 118.63 46 *e*PKPdf PKPdf 03 44 50.5 +0.9
LTX Lajitas 121.17 47 *e*PKPdf PKPdf 03 44 55.4 +0.9
TXAR Lajitas Array 121.17 47 PKP PKPdf 03 44 55.4 +1.0
comp=Z,3.1nm,0.9s,baz=249,slow=0.6,SNR=27
TXAR Lajitas Array 121.17 47 PKP PKPdf 03 44 55.4 +1.0
JCT Junction City 123.23 44 *e*PKPdf PKPdf 03 44 59.2 +0.8
WCI Wyandotte Cave 125.44 28 *e*PKPdf PKPdf 03 45 03.1 +0.5
HKT Hockley 126.22 42 *e*PKPdf PKPdf 03 45 04.8 +0.6
WVT Waverly 126.39 30 *e*PKPdf PKPdf 03 45 04.5 0.0
JTS JuntasAbangare 146.43 55 *e*PKPbc PKPbc 03 45 42.0 -0.7
CPD Cerro la Pandu 151.38 17 *e*PKPbc PKPbc 03 45 56.3 +1.0
TRQA Tornquist 151.38 173 *e*PKPbc PKPbc 03 45 55.4 0.0
SDV Santo Domingo 157.57 36 *e*PKPdf PKPdf 03 45 59.1 +1.3
ROSC El Rosal 158.06 50 PKP PKPdf 03 45 59.2 +0.7
comp=Z,3.0nm,0.6s,baz=100,slow=23,SNR=5.0
LPAZ La Paz 167.82 124 PKP PKPdf 03 46 09.9 +2.0
comp=Z,7.2nm,1.0s,baz=5.9,slow=1.7,SNR=20
LPAZ La Paz 167.82 124 *e*PKPdf PKPdf 03 46 10.5 +2.7

*CSEM **06** 03:43:46.6, 1244N×4593E, h10km, ML3.8, After DHMR*
DHMR 06 03:43:46.6±1.5, 1244N×4593E, h11km±15km, ML3.8, 2C-4D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.98**	**290**	⇓ *i*	P	Pg	03 44 05.4	-0.1
ADEN				*i*	S	Sg	03 44 18.8	+0.5
ADEN					AML	AML	03 44 23.2	
comp=N,3μm,0.7s								
ADEN	**Aden**	**0.98**	**290**	⇓ *i*	P	Pg	03 44 05.4	-0.1
ADEN				*i*	S	Sg	03 44 18.8	+0.5
comp=N,2μm,0.7s								
BDHA	**Al Bayda'**	**1.57**	**347**	⇑ *i*	P	Pn	03 44 14.7	+0.2
BDHA				*i*	S	Sn	03 44 38.2	+3.4
BDHA					AML	AML	03 44 38.5	
comp=E,2μm,0.5s								
LBOS		**1.57**	**335**	⇓ *i*	P	Pn	03 44 15.0	+0.5
LBOS				*i*	S	Sn	03 44 37.1	+2.2
TRBA	**At Turbah**	**1.94**	**294**	⇓ *i*	P	Pn	03 44 20.3	+0.9
TRBA				*i*	S	Sn	03 44 47.8	+4.0
TRBA					AML	AML	03 44 49.8	
comp=N,649nm,0.5s								
UDYN	**Al 'Udayn**	**2.44**	**309**	⇑ *i*	P	Pn	03 44 28.1	+1.7
UDYN				*i*	S	Sn	03 45 01.2	+4.9
DHBB	**Dhamar BB**	**2.60**	**325**	*i*	P	Pn	03 44 32.0	+3.5
DHBB				*i*	S	Sn	03 45 05.7	+5.5
DHBB	**Dhamar BB**	**2.60**	**325**	*i*	P	Pn	03 44 32.0	+3.4
DHBB				*i*	S	Sn	03 45 05.7	+5.6
HAJJ	**Hajjah**	**3.95**	**325**	*i*	S	Sn	03 45 39.5	+5.9

*ISCJB **06** 03:57:44.9±1.0, 348N±0.1×2708E±008, h102km±27km, Error ellipse: s-maj=17.6km s-min=11.2km az=20.5*
*CSEM **06** 03:57:45.1±0.2, 3481N×27.14E, h71km±8km, MD3.5, Error ellipse: s-maj=7.0km s-min=3.6km az=177.0*
*HLW **06** 03:57:46.5, 3476N×27.11E, h18km, Mb3.4*
*NEIC **06** 03:57:48.1, 3488N×2689E, h42km, MD3.5(ATH), After ATH.*
*ATH **06** 03:57:49.1, 3500N×2682E, h51km±6km, MD3.4/6*
ISC 06 03:57:46.9±1.0, 3479N±009×2704E±008, h75km±37km, n18, σ0§70/18, 1C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.77**	**8**	⇑ *i*	P	**Pn**	**03 58 02.4**	**-0.5**
XRY	**Khrisi**	**1.11**	**275**	*e*	P	**Pn**	**03 58 06.5**	**-0.5**
NPS	**Neapolis**	**1.26**	**293**	*e*	P	**Pn**	**03 58 08.4**	**-0.5**
ARG	**Arkhangelos**	**1.68**	**32**	*e*	P	**Pn**	**03 58 16.4**	**+2.0**
VAM	**Vamos**	**2.41**	**286**	*e*	P	**Pn**	**03 58 24.9**	**+0.8**
GVD	**Gavdhos**	**2.43**	**272**	*e*	P	**Pn**	**03 58 25.0**	**+0.6**
SLUM		**3.62**	**205**	P		**Pn**	**03 58 41.4**	**+0.8**
HMAT	**Matruh**	**3.68**	**179**	P		**Pn**	**03 58 41.8**	**+0.4**
VLI	**Veliai**	**3.85**	**301**	*e*	P	**Pn**	**03 58 42.2**	**-1.5**
SWA1		**5.62**	**192**	P		**Pn**	**03 59 08.4**	**+0.5**
KOT	**Kottamia**	**6.32**	**139**	P		**Pn**	**03 59 17.2**	**-0.1**
HHAG	**Hagoal**	**6.45**	**137**	P		**Pn**	**03 59 18.9**	**-0.3**
GLL	**Jalalah**	**6.53**	**141**	P		**Pn**	**03 59 20.1**	**-0.2**
AMAG	**Maghara**	**6.64**	**127**	P		**Pn**	**03 59 21.4**	**-0.4**
SUZ		**6.95**	**134**	P		**Pn**	**03 59 25.8**	**-0.3**
HFRF	**Wahat Farafira**	**7.69**	**171**	P		**Pn**	**03 59 36.1**	**-0.1**
GRB	**Gharib**	**8.14**	**141**	P		**Pn**	**03 59 42.0**	**-0.3**
HDK1	**Dakhla**	**9.44**	**167**	P		**Pn**	**03 59 59.9**	**-0.1**

IDC 06 04:25:22.9±8.3, 2124S×6813W, h113km±55km, mb3.5/2, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=83.0km s-min=33.9km az=40.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.93**	**0**	P		Pn	04 26 37.1	+2.3
0.6nm,0.3s,baz=178,slow=11,SNR=13								
LPAZ				S		Sn	04 27 31.7	+1.0
baz=307,slow=15,SNR=1.8								
SIV	**San Ignacio**	**8.49**	**53**	P		Pn	04 27 22.4	-0.7
3.1nm,0.3s,baz=254,slow=13,SNR=75								
TORD	**Torodi Ar. Bea**	**76.59**	**70**	P		P	04 37 01.6	+0.7
0.5nm,0.7s,baz=255,slow=5.7,SNR=5.8								
YKA	**Yellowknife Ar**	**91.19**	**340**	P		P	04 38 14.2	-1.0
0.4nm,0.6s,baz=135,slow=4.4,SNR=7.9								
MKAR	**Makanchi Array**	**145.00**	**36**	PKPbc		PKPbc	04 44 46.2	-0.2
0.5nm,0.6s,baz=331,slow=5.6,SNR=3.0								

*MOS **06** 04:37:26.8±0.7, 3662N×7075E, h259km, mb4.1/19, Error ellipse: s-maj=12.3km s-min=6.3km az=90.6*
*ISCJB **06** 04:37:27.9±0.3, 3665N±002×7080E±005, h265km±4km, mb3.9/25, Error ellipse: s-maj=6.3km s-min=3.5km az=153.3*
*BJI **06** 04:37:27.1, 3653N×7067E, h269km, mB4.6, mb4.2*
*NEIC **06** 04:37:28.2±1.3, 3657N×7075E, h260km±13km, mb4.1/8, Error ellipse: s-maj=10.1km s-min=8.0km az=212.0*
*IDC **06** 04:37:30.9±2.6, 3662N×7081E, h290km±26km, mb3.5/15, mb1 3.7/19, mb1mx3.5/26, mbtmp3.5/19, Error ellipse: s-maj=12.1km s-min=10.4km az=166.0*
*NNC **06** 04:37:33.8±1.9, 3720N×7075E, h243km±15km, mb2.9, mpv4.1, Error ellipse: s-maj=19.6km s-min=13.4km az=151.0*
ISC 06 04:37:28.9±0.3, 3669N±002×7081E±005, h263km±4km, n125, σ0§94/148, mb3.9/25, 12C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.00**	**162**	⇑ P		**Pn**	**04 38 22.7**	**+0.6**
CHCP	**Chirah Chowk**	**3.63**	**146**	P		**Pn**	**04 38 29.7**	**+0.6**
CHCP				S		**S**	**04 39 13.0**	**-3.9**
THW	**Thamme Wali**	**3.96**	**169**	⇑ P		**Pn**	**04 38 32.8**	**0.0**
SBDP	**Sheikh Budin**	**4.38**	**180**	P		**Pn**	**04 38 37.2**	**-0.5**
KSH	**Kashi**	**4.96**	**54**	P		**Pn**	**04 38 46.0**	**+1.5**
KSH				S		**S**	**04 39 43.0**	**-2.0**
KSH				Smax				
comp=N,2μm,0.8s								
KSH				Smax				
comp=E,2μm,0.8s								
DRP	**Derazinda**	**4.96**	**186**	P		**Pn**	**04 38 44.6**	**0.0**
SARP	**Sargodha**	**5.00**	**161**	P		**Pn**	**04 38 44.7**	**-0.4**
JMU	**Jammu**	**5.20**	**138**	*e*	P	**Pn**	**04 38 45.5**	**-2.0**
THN	**Thein Dam**	**5.87**	**135**	*e*	P	**Pn**	**04 38 55.5**	**-0.1**
THN				*ex*		x	04 40 03.8	
AML	**Almayashu**	**5.88**	**21**	P		**Pn**	**04 38 56.0**	**+0.3**
SNR=30								
UCH	**Uchtor**	**6.23**	**26**	P		**Pn**	**04 39 00.6**	**+0.5**
SNR=22								
KZA	**Kyzart**	**6.39**	**31**	P		**Pn**	**04 39 02.2**	**+0.1**
SNR=6.9								
EKS2	**Erkin-Say**	**6.39**	**20**	P		**Pn**	**04 39 02.4**	**+0.3**
SNR=13								
KK31	**Karatay Array**	**6.41**	**358**	⇓ P		**Pn**	**04 39 02.1**	**-0.3**
comp=E,56nm,0.7s,baz=177,slow=10,SNR=618								
KK31				⇑ S		**S**	**04 40 13.1**	**-4.3**
comp=E,31nm,0.8s,baz=182,slow=24,SNR=4.1								
KKAR	**Karatay Array**	**6.41**	**358**	*i* PN		**Pn**	**04 39 02.1**	**-0.2**
KKAR				pmax		pmax		
comp=Z,51nm,0.7s								
AAK	**Ala-Archa**	**6.58**	**24**	P		**Pn**	**04 39 05.0**	**+0.6**
SNR=24								
AAK	**Ala-Archa**	**6.58**	**24**	*d* i PN		**Pn**	**04 39 03.7**	**-0.8**
AAK	**Ala-Archa**	**6.58**	**24**	*e* Pn		**Pn**	**04 39 03.7**	**-0.8**

comp=Z,25nm,0.6s
AAK eSn S 04 40 11.2 -10
KBK Karagaybulak 6.76 27 P Pn 04 39 07.5 +0.8
SNR=7.8
CHMS Chumysh 6.99 24 P Pn 04 39 09.8 +0.2
SNR=5.9
BHK Bhakra 7.02 137 eP Pn 04 39 11.0 +1.0
USP Ospenovka 7.15 22 P Pn 04 39 11.2 -0.4
SNR=5.9
TKM2 Tokmak 2 7.23 29 P Pn 04 39 12.9 +0.3
SNR=7.3
TKM2 Tokmak 2 7.23 29 ⇑P Pn 04 39 12.0 -0.6
comp=Z,2.9nm,0.8s
TKM2 ⇑S **S 04 40 30.5 -5.5**
comp=Z,18nm,2.0s
TKM2 Tokmak 2 7.23 29 PN **Pn 04 39 12.6 0.0**
TKM2 pmax pmax
comp=Z,18nm,0.8s
SDNR Sundarnagar 7.27 134 eP Pn 04 39 12.0 -1.1
SDNR ex x 04 40 20.5
KLP Kalpa 8.03 128 eP Pn 04 39 22.2 -0.4
KLP ex x 04 40 54.5
KLP AML AML 04 40 55.5
comp=E,356nm,0.4s
KLP AML AML 04 40 59.4
comp=N,400nm,0.5s
KHET Khetri 9.57 152 eP Pn 04 39 40.7 -1.2
KHET eS **S 04 41 19.8 -10**
KHET AML AML 04 41 25.6
comp=E,44nm,0.8s
KHET AML AML 04 41 27.0
comp=N,43nm,0.6s
NDI New Delhi 9.63 144 eP Pn 04 39 42.3 -0.4
NDI ex x 04 41 17.0
NDI AML AML 04 41 26.9
comp=E,46nm,0.7s
NDI AML AML 04 41 29.1
comp=N,63nm,0.4s
JASL Jaisalmer 9.74 179 eP Pn 04 39 36.6 -7.4
JASL eS **S 04 41 19.3 -14**
JASL AML AML 04 41 34.7
comp=Z,44nm,0.3s
AYAN Aya Nagar 9.76 145 eP Pn 04 39 43.9 -0.4
AYAN eS **S 04 41 22.5 -12**
KUDL Kundal 9.78 149 eP Pn 04 39 41.6 -2.8
KUDL eS **S 04 41 24.1 -11**
KUDL AML AML 04 41 27.3
comp=E,62nm,0.5s
KUDL AML AML 04 41 28.7
comp=N,26nm,0.6s
AJM Ajmer 10.69 161 i P Pn 04 39 55.0 -0.9
AJM i x x 04 41 52.0
LGTI Lohaghat 10.71 130 i P Pn 04 39 55.8 -0.3
AGRA Agra 11.20 145 eP Pn 04 40 01.8 -0.5
AGRA eS **S 04 41 58.6 -9.0**
AGRA AML AML 04 42 09.1
comp=N,79nm,0.1s
AGRA AML AML 04 42 14.4
comp=E,81nm,0.2s
MK31 Makanchi Array 13.23 37 ⇓P Pn 04 40 28.7 +1.5
comp=E,3.2nm,0.6s,baz=216,slow=13,SNR=33
MK31 Makanchi Array 13.23 37 ePn Pn 04 40 28.5 +1.3
MKAR Makanchi Array 13.23 37 P Pn 04 40 28.0 +0.8
comp=E,0.4nm,0.3s,baz=214,slow=11,SNR=25
MKAR Makanchi Array 13.23 37 i P Pn 04 40 28.3 +1.1
MKAR pmax pmax
comp=Z,4.0nm,0.8s
KOLN Koldanda 14.00 126 eP Pn 04 40 36.6 +0.1
comp=Z,40nm,0.5s
GKN Gorkha 14.54 123 eP Pn 04 40 42.8 -0.2
comp=Z,85nm,0.5s
BHPL Bhopal 14.57 155 eP Pn 04 40 44.8 +1.4
BHPL ex x 04 43 21.3
WMQ Urumqi 14.72 56 eP Pn 04 40 45.2 0.0
WMQ AMB AMB
comp=Z,4.0nm,1.0s
AB31 Akbulak array 14.84 331 P Pn 04 40 45.5 -1.2
comp=Z,4.6nm,0.7s,baz=146,slow=12,SNR=30
AB31 ⇓S **S 04 43 24.3 -5.7**
comp=Z,7.3nm,1.1s,baz=154,slow=19,SNR=4.4
AB31 Akbulak array 14.84 331 i P Pn 04 40 45.5 -1.2
AB31 pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 15.10 19 eP Pn 04 40 49.3 -0.5
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 15.10 19 eP Pn 04 40 49.3 -0.4
comp=Z,8.5nm,1.0s
DMN Daman 15.11 123 eP Pn 04 40 50.2 +0.4
comp=Z,55nm,0.7s
KKN Kakani 15.11 122 eP Pn 04 40 50.0 +0.2
comp=Z,100nm,0.6s
PKI Pulchoki 15.34 122 eP Pn 04 40 53.2 +0.7
comp=Z,73nm,0.7s
GUN Gumba 15.45 120 eP Pn 04 40 54.8 +1.0
comp=Z,149nm,0.9s
JIRN Jiri 15.82 120 eP Pn 04 40 59.2 +1.0
comp=Z,116nm,0.7s
BVA0 Borovoye Array 16.34 359 ⇓P P 04 41 03.6 +1.1
comp=Z,2.7nm,1.1s,baz=166,slow=12,SNR=45
BVA0 S **S 04 43 58.9 -1.2**
comp=Z,2.8nm,1.2s,baz=165,slow=16,SNR=5.0
BVA0 Borovoye Array 16.34 359 i P P 04 41 03.6 +1.0
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 16.34 359 P P 04 41 03.7 +1.1
comp=Z,1.1nm,0.3s,baz=172,slow=12,SNR=25
BVAR S **S 04 43 58.8 -1.3**
comp=Z,0.1nm,0.3s,baz=184,slow=21,SNR=3.7
BVAR Borovoye Array 16.34 359 P P 04 41 03.7 +1.1
BVAR S **S 04 43 58.8 -1.3**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 16.37 359 eP P 04 41 03.4 +0.4
BRVK e 04 43 59.3
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 16.37 359 eP P 04 41 03.4 +0.4
comp=Z,13nm,0.8s
BRVK eSn **S 04 43 59.3 -1.5**
AKTK Aktyubinsk 16.54 330 P P 04 41 05.7 +0.9
AKTK S **S 04 44 03.0 -1.1**
AKTO Aktyubinsk 16.54 330 ⇑P P 04 41 05.2 +0.4
comp=Z,0.5nm,0.7s
AKTO ⇓S **S 04 44 02.2 -2.0**
comp=Z,0.5nm,0.9s
AKTO Aktyubinsk 16.54 330 P P 04 41 05.7 +0.9
comp=Z,1.6nm,0.3s,baz=139,slow=10,SNR=69
AKTO S **S 04 44 03.0 -1.1**
comp=Z,0.1nm,0.3s,baz=292,slow=20,SNR=9.5
AKTO Aktyubinsk 16.54 330 P P 04 41 05.7 +0.9
AKTO S **S 04 44 03.1 -1.1**
AKTO pmax pmax
comp=Z,2.0nm,0.3s
CHKZ Chkalovo 16.99 360 ⇓P P 04 41 10.0 +0.3
comp=Z,6.2nm,0.8s
CHKZ ⇑S **S 04 44 10.9 -2.2**
comp=Z,12nm,1.1s
CHKZ Chkalovo 16.99 360 eP P 04 41 10.7 +1.0
CHKZ eS **S 04 44 17.0 +3.9**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s
CHKZ Chkalovo 16.99 360 eP P 04 41 10.7 +1.0
comp=Z,8.4nm,0.8s
CHKZ eS **S 04 44 17.0 +3.9**
BOK Bokaro 18.27 131 ex x 04 41 24.5
POO Poona 18.29 171 ex x 04 41 22.0
ORR Orenburg 18.79 328 eP P 04 41 29.5 +0.4
ORR pmax pmax
comp=Z,40nm,1.6s
ZAL Zalesovo 19.79 25 P P 04 41 40.0 +0.2
comp=Z,1.5nm,0.3s,baz=254,slow=4.4,SNR=12
ZAL S **S 04 45 06.9 -1.2**
comp=Z,0.2nm,0.3s,baz=180,slow=24,SNR=5.8
ZAL Zalesovo 19.79 25 P P 04 41 40.0 +0.2
ZAL S **S 04 45 06.9 -1.2**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
NVS Novosibirsk 20.06 21 eP P 04 41 42.3 -0.3
NVS e 04 42 59.0
NVS eS **S 04 45 08.3 -4.9**
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS pmax pmax
comp=Z,6.0nm,0.8s
NVS smax
comp=N,24nm,1.5s
NVS smax
comp=E,11nm,1.5s
HYB Hyderabad 20.38 158 i P P 04 41 47.0 +1.0
HYB Hyderabad 20.38 158 eP P 04 41 47.0 +1.0
GNI Garni 20.69 288 P P 04 41 47.9 -1.3
comp=E,2.1nm,0.3s,baz=114,slow=10.0,SNR=2.7
GNI Garni 20.69 288 P P 04 41 47.9 -1.4
GNI pmax pmax
comp=Z,2.0nm,0.3s
GNI Garni 20.69 288 eP P 04 41 47.9 -1.3
comp=Z,8.7nm,1.0s
ARU Arti 21.40 341 ⇓i P P 04 41 56.2 -0.1
ARU eS **S 04 45 37.7 +2.2**
ARU pmax pmax
comp=Z,11nm,0.7s,mb4.3
ARU Arti 21.40 341 eP P 04 41 57.4 +1.1
ZEI Tsey 21.52 295 eP P 04 41 58.7 +1.4
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
KIV Kislovodsk 22.56 297⇑eP P 04 42 08.5 +1.6
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.0
SOC Sochi 24.65 296 eP P 04 42 26.5 +0.7
SOC e*PP 04 43 15.5
SOC eS **S 04 46 27.3 -0.1**
SOC e*SS sS 04 47 50.0 -6.8
SOC e 04 52 58.1
SOC pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
ZAK Zakamensk 26.98 49 eP P 04 42 47.6 +0.9
SONM Songino Array 28.36 56 P P 04 43 00.7 +1.9
comp=Z,2.1nm,0.6s,mb3.7,baz=264,slow=9.4,SNR=18
SONM Songino Array 28.36 56 P P 04 43 00.7 +1.9
SONM pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 28.80 56⇑eP P 04 43 03.6 +0.9
ULN Ulaanbaatar 28.80 56 eP P 04 43 04.3 +1.6
comp=Z,2.5nm,0.8s,mb3.7
BRTR Keskin Array B 29.23 287 P P 04 43 07.3 +0.8
comp=Z,1.8nm,0.8s,mb3.5,baz=97,slow=8.4,SNR=11
BRTR Keskin Array B 29.23 287 P P 04 43 07.4 +0.9
BRTR pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 29.69 319 eP P 04 43 10.3 -0.3
OBN pmax pmax
comp=Z,6.0nm,1.2s,mb4.0
AKASG Malin Array Be 32.71 309 P P 04 43 36.1 -0.8
comp=Z,1.4nm,0.6s,mb3.7,baz=81,slow=7.3,SNR=9.7
AKASG Malin Array Be 32.71 309 i P P 04 43 36.0 -0.9
JOF Joensuu 35.63 330 ep P 04 44 01.4 -0.5
comp=Z,6.9nm,0.4s,mb4.5
FINES FINESS Array B 37.24 326 P P 04 44 15.6 +0.1
comp=Z,3.4nm,0.6s,mb3.9,baz=106,slow=10,SNR=13
FINES FINESS Array B 37.24 326 P P 04 44 15.6 +0.1
FINES pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 37.38 327 ep P 04 44 20.6 +3.9
ARCES ARCESS Array B 40.91 338 P P 04 44 46.0 +0.2
comp=Z,9.0nm,0.8s,mb4.0,baz=105,slow=8.0,SNR=24
ARCES ARCESS Array B 40.91 338 P P 04 44 46.0 +0.2
ARCES pmax pmax
comp=Z,9.0nm,0.8s
TIP Timpagrande 42.18 290 eP P 04 44 56.8 +0.8
PSI Prapat 42.52 136 P P 04 44 58.6 -0.2
comp=Z,1.5nm,0.5s,mb3.5,baz=177,slow=3.7,SNR=3.5
YAK Yakutsk 43.90 36⇑eP P 04 45 10.0 +0.2
YAK pmax pmax
comp=Z,26nm,0.8s,mb4.5
NB2 NORSAR Subarra 44.14 323 P P 04 45 11.1 -0.5
comp=Z,2.2nm,0.6s,mb3.6,baz=96,slow=7.9
NOA NORSAR Array B 44.14 323 P P 04 45 11.1 -0.5
comp=Z,3.9nm,0.7s,mb3.7,baz=96,slow=7.8,SNR=12
NOA NORSAR Array B 44.14 323 P P 04 45 11.1 -0.5
NOA pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 45.66 22⇑eP P 04 45 22.9 -0.7
TIXI pmax pmax
comp=Z,5.0nm,0.9s,mb3.8
TIXI Tiksi 45.66 22 eP P 04 45 23.3 -0.3
comp=Z,6.3nm,0.7s,mb4.0
KEST Kesra 48.83 288 P P 04 45 49.4 +1.4
comp=Z,0.5nm,0.5s,mb3.1,baz=336,slow=23,SNR=8.5
ESDC Sonseca Array 57.23 298 P P 04 46 49.1 +0.1
comp=Z,0.7nm,0.6s,mb3.3,baz=60,slow=7.4,SNR=5.4
BILL Bilibino 58.51 26 eP P 04 46 57.8 0.0
BILL pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
TOA0 Torodi Ar. Sit 65.57 268 eP P 04 47 43.3 -1.3
TORD Torodi Ar. Bea 65.57 268 P P 04 47 43.4 -1.1
comp=Z,11nm,0.6s,mb4.8,baz=49,slow=5.9,SNR=288
TORD Torodi Ar. Bea 65.57 268 P P 04 47 43.4 -1.2
INK Inuvik 73.74 9 eP P 04 48 34.7 +0.4
comp=Z,64nm,0.6s
BOSA Boshof 77.79 220 P P 04 48 57.0 -0.2
comp=Z,2.6nm,0.8s,mb4.0,baz=357,slow=3.4,SNR=5.7
BOSA Boshof 77.79 220 P P 04 48 57.0 -0.1
BOSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
BOSA Boshof 77.79 220 P P 04 48 57.0 -0.2
YKA Yellowknife Ar 81.06 3 P P 04 49 14.6 -0.1
comp=Z,1.7nm,0.6s,mb4.0,baz=349,slow=5.4,SNR=27
YKA Yellowknife Ar 81.06 3⇑eP P 04 49 14.6 -0.1
WRA Warramunga Arr 82.22 122 P P 04 49 19.4 -1.3
comp=Z,1.4nm,0.7s,mb3.8,baz=325,slow=4.8,SNR=14
WRA Warramunga Arr 82.22 122 i P P 04 49 19.7 -1.1
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRAB Tennant Creek 82.22 122 eP P 04 49 21.8 +1.0
WRAB Tennant Creek 82.22 122 eP P 04 49 19.2 -1.5
comp=Z,1.4nm,0.6s,mb3.9
ASAR Alice Springs 84.49 125 P P 04 49 30.7 -1.6
comp=Z,1.2nm,0.7s,mb3.8,baz=317,slow=5.2,SNR=13
ASAR Alice Springs 84.49 125 P P 04 49 30.7 -1.6
ASAR pmax pmax
comp=Z,1.0nm,0.7s
VNA2 Neumayer--Watz 120.52 202 ePKPdf PKPdf 04 55 48.0 -1.1
baz=359,slow=2.4
VNA3 Neumayer Olymp 121.32 202 ePKPdf PKPdf 04 55 49.1 -1.6

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*ISCJB **06** 04:52:04.8±1.8, 7.03S±0.04×144.45E±0.06, h12km±11km, mb5.1/69, MS4.2/15, Error ellipse: s-maj=9.3km s-min=6.3km az=12.4*
*IDC **06** 04:52:04.3±0.6, 6.96S×144.43E, h0km, mb4.7/15, mb1 4.9/19, mb1mx4.9/20, mbtmp4.8/19, ML4.4/4, MS4.3/11, Ms1 4.3/11, ms1mx4.0/21, Error ellipse: s-maj=21.3km s-min=12.4km az=78.0*
*BJI **06** 04:52:05.1, 7.09S×145.05E, h34km, mB5.2, mb4.9, Ms5.2, Msz4.6*
*NEIC **06** 04:52:06.6±3.9, 7.01S×144.47E, h15km±24km, mb5.3/24, Error ellipse: s-maj=8.5km s-min=7.0km az=225.0*
*GCMT **06** 04:52:06.6±0.2, 7.09S×144.47E, h19km, MW5.1/80, Moment Tensor Solution. s55,c68; s80,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.75±.18; $M_{\theta\theta}$-4.51±.11; $M_{\phi\phi}$-0.23±.13; $M_{r\theta}$1.03±.22; $M_{\theta\phi}$1.04±.10; $M_{\phi r}$0.32±.30; Best double couple: $M_0$4.87000×10^{16} NP1:ϕ_s289.00000°,δ40.00000°,λ100.00000°. NP2: ϕ_s97.00000°,δ51.00000°,λ82.00000°. Principal axes: T 4.9000, Plg82.0000°, Azm324.0000°; N -0.0530, Plg6.0000°, Azm102.0000°; P -4.8410, Plg6.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 04:52:08.2±0.9, 6.92S×144.36E, h33km, mb5.3/27 Error ellipse: s-maj=17.4km s-min=8.3km az=107.3*
ISC 06 04:52:07.6±2.2**, 7.04S**±0.05×**144.59E**±0.05**, h20**km±15km**, h43**km±2.2km**:pP-P, n162,** σ1.06/157**, mb5.1**/68**, MS4.2**/15**,**
13C-2D, Near south coast of New Guinea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 3.46 133 Pn **Pn 04 53 01.5 +1.2**
43nm,0.3s,baz=346,slow=4.8,SNR=74
PMG Sn **Sn 04 53 39.3 -1.5**
39nm,0.3s,baz=57,slow=14,SNR=13
PMG Port Moresby 3.46 133⇑eP Pn 04 53 01.4 +1.0
PMG Port Moresby 3.46 133 ePn Pn 04 53 01.0 +0.6
CTA Charters Tower 13.07 173 eP Pn 04 55 15.6 +3.5
28nm,1.0s
CTA Charters Tower 13.07 173 Pn **Pn 04 55 12.3 +0.3**
0.8nm,0.3s,baz=346,slow=14,SNR=11
CTA Sn **Sn 04 57 51.1 +14**
1.1nm,0.3s,baz=294,slow=20,SNR=2.6
CTA Lg 04 59 19.6
0.7nm,0.3s,baz=253,slow=20,SNR=2.7
CTA LR LR 04 59 44.1
comp=Z,618nm,21.5s,baz=358,slow=35
CTA Charters Tower 13.07 173 P Pn 04 55 12.4 +0.3
CTA 04 57 51.1
CTA Charters Tower 13.07 173 Pn **Pn 04 55 12.3 +0.3**
CTA eP 04 55 15.6
CTA Sn **Sn 04 57 51.1 +14**
CTA Lg 04 59 19.6
CTA LR LR 04 59 44.1
CTAO Charters Tower 13.07 173 eP Pn 04 55 15.2 +3.1
CTAO pmax pmax
comp=Z,54nm,1.1s
CTAO Charters Tower 13.07 173 ePn Pn 04 55 15.2 +3.1
comp=Z,54nm,1.1s
KAKA Kakadu 13.22 244 eP Pn 04 55 09.6 -4.6
comp=Z,97nm,0.4s
KAKA eS **Sn 04 57 28.6 -12**
WRAB Tennant Creek 16.21 217 Pn **Pn 04 55 52.6 -1.6**
comp=Z,177nm,0.7s,SNR=33
WRAB Tennant Creek 16.21 217 eP Pn 04 55 52.8 -1.4
WRAB Tennant Creek 16.21 217 ePn Pn 04 55 52.6 -1.6
comp=Z,10μm,2.5s
WB2 Warramunga Arr 16.22 217 eP Pn 04 55 53.1 -1.2
WRA Warramunga Arr 16.23 217 Pn **Pn 04 55 53.2 -1.2**
comp=Z,3.2nm,0.3s,baz=32,slow=13,SNR=139
WRA Sn **Sn 04 58 41.9 -12**
comp=Z,1.6nm,0.3s,baz=43,slow=21,SNR=6.1
WRA Lg 05 00 38.2
comp=Z,2.0nm,0.3s,baz=36,slow=28,SNR=8.0
WRA LR LR 05 01 28.6
comp=Z,484nm,19.1s,baz=40,slow=35
ASAR Alice Springs 19.45 211 P Pn 04 56 34.4 +0.2
comp=Z,7.9nm,0.3s,baz=38,slow=10,SNR=551
ASAR S **Sn 05 00 04.9 -7.0**
comp=Z,0.5nm,0.3s,baz=43,slow=18,SNR=5.2
ASAR Lg 05 02 02.6
comp=Z,0.4nm,0.3s,baz=30,slow=27,SNR=4.1
ASAR Alice Springs 19.45 211 P Pn 04 56 34.4 +0.2
ASAR S **Sn 05 00 04.9 -7.0**
GUMO Guam 20.50 1 LR LR 05 04 30.5
comp=Z,494nm,18.5s,MS3.9,baz=266,slow=36
FITZ Fitzroy Crossi 21.49 237⇑i P P 04 56 53.8 -1.2
comp=Z,116nm,1.1s,mb5.1
FITZ eS **S 05 00 42.1 -10**
FITZ Fitzroy Crossi 21.49 237 P P 04 56 53.6 -1.4
comp=Z,33nm,0.9s,mb4.7,baz=69,slow=11,SNR=29
FITZ S **S 05 00 43.5 -8.8**
comp=Z,35nm,0.6s,baz=251,slow=19,SNR=6.1
FITZ Lg 05 03 17.8
comp=Z,64nm,0.9s,baz=100,slow=13,SNR=3.3
FITZ LR LR 05 05 49.0
comp=Z,1μm,20.2s,MS4.3,baz=62,slow=38
ARMA Armidale 24.18 165 eP P 04 57 24.9 +2.4
KAPI Kappang 24.78 273 P P 04 57 26.8 -1.2
comp=Z,468nm,1.2s,mb5.9,SNR=16
STKA Stephens Creek 24.87 186 eP P 04 57 29.4 +0.6
comp=Z,13nm,1.0s,mb4.4
STKA Stephens Creek 24.87 186 P P 04 57 28.6 -0.1
comp=Z,13nm,0.9s,mb4.4,baz=349,slow=8.6,SNR=13
STKA LR LR 05 08 26.3
comp=Z,3μm,19.2s,MS4.8,baz=129,slow=39
DZM Mont Dzumac 25.84 128 P P 04 57 39.7 +2.0
comp=Z,7.4nm,0.6s,mb4.4,baz=351,slow=13,SNR=9.3
DZM LR LR 05 07 04.0
comp=Z,414nm,18.3s,MS4.0,baz=3.1,slow=35
KSM Kuching 35.24 283 eP P 04 58 59.8 -0.9
JHJ Hachijo jima 2 40.20 354 LR LR 05 16 34.7
comp=Z,218nm,18.9s,MS4.0,baz=150,slow=37
RAO Raoul Island 41.64 127 P P 04 59 59.7 +5.3
comp=Z,236nm,0.6s,mb6.0,baz=291,slow=22,SNR=3.7
URZ Urewera 42.78 141 P P 05 00 05.7 +1.9
comp=Z,7.2nm,0.6s,mb4.6,baz=274,slow=7.1,SNR=6.1
QIZ Qiongzhong 42.94 308 P P 05 00 09.0 +4.0
QIZ S **S 05 06 36.8 +7.8**
QIZ AMB AMB
comp=Z,39nm,2.0s,mb4.8
MJAR Matsushiro Arr 43.76 353 P P 05 00 09.9 -1.8
comp=Z,1.7nm,0.5s,baz=176,slow=8.4,SNR=7.4
MJAR LR LR 05 16 31.4
comp=Z,173nm,21.3s,MS3.9,baz=160,slow=34
MAJO Matsushiro 43.76 353 eP P 05 00 11.1 -0.6
MAJO pmax pmax
comp=Z,48nm,1.4s,mb5.0
MAJO Matsushiro 43.76 353 eP P 05 00 11.1 -0.6
comp=Z,48nm,1.4s,mb5.0
MAT Matsushiro 43.76 353 P P 05 00 10.7 -1.0
MAT eS **S 05 06 36.0 -5.1**
KULM Kulim 45.52 284 eP P 05 00 25.2 -0.6
KSRS Korea Array 46.92 342 P P 05 00 36.9 +0.1
comp=Z,14nm,1.0s,mb4.9,baz=160,slow=8.9,SNR=44
WHN Wuhan 47.29 324 P P 05 00 39.0 -0.6
INCN Inchon 47.36 341 eP P 05 00 40.9 +0.8
comp=Z,61nm,1.0s,mb5.5
NST Nakhon Sawan 49.47 297 P P 05 00 57.0 +0.6
comp=Z,42nm,1.0s,mb5.4
GYA Guiyang 49.61 314⇑i P P 05 00 59.1 +1.6
GYA AP pP 05 01 11.8 +8.0
GYA XP sP 05 01 16.4 +10
GYA PCP PcP 05 02 21.7 +2.8
GYA PP PP 05 02 55.8 +3.9
GYA PPP 05 03 51.6
GYA SCP ScP 05 06 12.9 -0.3
GYA S **S 05 08 05.8 +1.1**
GYA XS sS 05 08 23.2 +8.0
GYA SCS ScS 05 10 46.4 -1.7
GYA SS SS 05 11 34.8 -2.1
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.5
GYA AMB AMB
comp=Z,210nm,6.3s
GYA LR LR
comp=N,540nm,17.6s,MS4.8
GYA LR LR
comp=E,580nm,17.4s,MS4.8
GYA LR LR
comp=Z,610nm,17.9s,MS4.7
NANT Nan 50.31 301 ⇑P P 05 01 01.8 -1.0
comp=Z,150nm,1.0s,mb6.0
KMI Kunming 51.77 310 P P 05 01 15.7 +1.9
KMI AP pP 05 01 26.9 +6.8
KMI XP sP 05 01 30.4 +7.8
KMI S **S 05 08 31.9 -2.7**
KMI AMB AMB
comp=Z,16nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,104nm,3.1s
KMI LR LR
comp=Z,121nm,20.5s,MS3.9
CHG Chiang Mai 51.81 300 ⇑P P 05 01 15.1 +1.0
comp=Z,23nm,1.0s,mb5.1
CHTO Chiang Mai 51.81 300 P P 05 01 15.5 +1.4
SNR=5.5
CHTO Chiang Mai 51.81 300 eP P 05 01 14.7 +0.6
CHTO pmax pmax
comp=Z,69nm,1.7s,mb5.3
CHTO Chiang Mai 51.81 300 eP P 05 01 14.7 +0.6
comp=Z,69nm,1.7s,mb5.3
XAN Xi'an 53.00 323 P P 05 01 22.8 -0.1
XAN AP pP 05 01 36.7 +7.4
XAN AMB AMB
comp=Z,19nm,1.6s,mb4.8
CN2 Changchun 53.49 343 eP P 05 01 26.4 -0.1
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
BJT Baijiatuau 53.67 333 eP P 05 01 27.5 -0.3
BJT pmax pmax
comp=Z,47nm,1.4s
BJT Baijiatuau 53.67 333 eP P 05 01 27.5 -0.4
comp=Z,47nm,1.4s,mb5.2
BJI Beijing 53.69 333 eP P 05 01 27.8 -0.1
BJI AMB AMB
comp=Z,23nm,1.3s,mb5.0
BJI LR LR
comp=Z,106nm,25.8s,MS3.8
YSS Yuzh-Sakhalins 53.78 358 eP P 05 01 29.4 +0.8
YSS pmax pmax
comp=Z,14nm,1.3s,mb4.7
CD2 Chengdu 54.32 316⇑i P P 05 01 33.3 +0.7
CD2 PP PP 05 03 36.5 +2.0
CD2 S **S 05 09 09.6 +0.2**
CD2 SS SS 05 12 51.3 -0.2

CD2				AMB	AMB	
	comp=Z,30nm,0.7s,mb5.3					
CD2				AMB	AMB	
	comp=Z,120nm,5.8s					
CD2				LR	LR	
	comp=N,330nm,13.2s,MS4.7					
CD2				LR	LR	
	comp=E,270nm,13.3s,MS4.7					
CD2				LR	LR	
	comp=Z,310nm,18.0s,MS4.4					
HHC	**Hu-ho-hao-te**	**56.50**	**330**	*e*P	**P**	**05 01 52.0 +3.8**
HHC				PCP	PcP	05 02 47.8 +2.9
HHC				PP	PP	05 03 59.2 +5.2
HHC				S	**S**	**05 09 43.4 +4.9**
HHC				SS	SS	05 13 31.1 +5.3
HHC				AMB	AMB	
	comp=Z,8.0nm,0.9s,mb4.8					
HHC				AMB	AMB	
	comp=Z,185nm,6.8s					
HHC				LR	LR	
	comp=N,232nm,17.2s					
HHC				LR	LR	
	comp=E,565nm,23.0s					
HHC				LR	LR	
	comp=Z,207nm,22.8s					
KLR	**Kul'dur**	**57.15**	**350**	*e*P	**P**	**05 01 49.0 -3.9**
KLR				pmax	pmax	
	comp=E,34nm,1.6s					
KLR				pmax	pmax	
	comp=Z,45nm,1.6s,mb5.2					
LZH	**Lanzhou**	**57.47**	**321**	*e*P	**P**	**05 01 56.7 +1.6**
LZH				AP	pP	05 02 08.8 +7.2
LZH				XP	sP	05 02 13.6 +10
LZH				AMB	AMB	
	comp=Z,41nm,1.1s,mb5.4					
LZH				AMB	AMB	
	comp=Z,130nm,5.3s					
HIA	**Hailar**	**60.13**	**341**	*e*P	**P**	**05 02 13.7 +0.1**
HIA				pmax	pmax	
	comp=Z,5.0nm,0.8s					
HIA	**Hailar**	**60.13**	**341**	*e*P	**P**	**05 02 13.7 0.0**
	comp=Z,5.2nm,0.8s,mb4.6					
GTA	**Gaotai**	**62.04**	**322**	*e*P	**P**	**05 02 27.6 +1.0**
GTA				AMB	AMB	
	comp=Z,10.0nm,1.7s,mb4.7					
LSA	**Lhasa**	**62.97**	**308**	P	**P**	**05 02 34.4 +1.6**
LSA				AMB	AMB	
	comp=Z,30nm,1.0s,mb5.4					
LSA	**Lhasa**	**62.97**	**308**	*e*P	**P**	**05 02 34.7 +1.9**
LSA				pmax	pmax	
	comp=Z,60nm,1.4s,mb5.5					
LSA	**Lhasa**	**62.97**	**308**	*e*P	**P**	**05 02 34.7 +1.8**
	comp=Z,60nm,1.4s,mb5.5					
CASY	**Casey**	**63.64**	**195**	*e*P	**P**	**05 02 36.6 -0.6**
	comp=Z,66nm,1.2s,mb5.5					
ULN	**Ulaanbaatar**	**63.90**	**333**	*e*P	**P**	**05 02 39.3 +0.4**
ULN				pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.7					
ULN	**Ulaanbaatar**	**63.90**	**333**	*e*P	**P**	**05 02 39.3 +0.4**
	comp=Z,7.2nm,1.0s,mb4.7					
SONM	**Songino Array**	**64.18**	**332**	P	**P**	**05 02 40.8 0.0**
	comp=Z,3.6nm,1.1s,mb4.3,baz=152,slow=5.1,SNR=19					
SONM				PKPPKP		05 31 39.9
	comp=Z,1.1nm,1.0s,baz=248,slow=1.6,SNR=6.1					
PPT	**Papeete**	**64.91**	**106**	*e*LQ		05 19 25.5
	comp=Z,730nm,31.8s					
PPT				*e*LR	LR	05 22 17.1
	comp=Z,307nm,24.2s					
PPT	**Papeete**	**64.91**	**106**	LR	LR	05 28 00.7
	comp=Z,201nm,18.6s,MS4.3,baz=93,slow=33					
PALK	**Pallekele**	**65.28**	**281**	*e*P	**P**	**05 02 48.4 +0.4**
	comp=Z,21nm,1.0s,mb5.1					
CLNS	**Chul'man**	**65.68**	**348**	*e*P	**P**	**05 02 49.1 -1.4**
CLNS				pmax	pmax	
	comp=Z,18nm,1.2s,mb5.0					
CLNS				pmax	pmax	
	comp=N,11nm,1.1s					
CLNS				pmax	pmax	
	comp=E,9.0nm,1.0s					
JIRN	**Jiri**	**66.10**	**304**	*e*P	**P**	**05 02 54.1 +0.8**
	comp=E,68nm,1.2s,mb5.6					
GUN	**Gumba**	**66.45**	**304**	*e*P	**P**	**05 02 56.5 +1.0**
	comp=E,200nm,1.3s,mb6.0					
PKI	**Pulchoki**	**66.71**	**304**	*e*P	**P**	**05 02 57.9 +0.7**
	comp=E,124nm,1.4s,mb5.8					
KKN	**Kakani**	**66.90**	**304**	*e*P	**P**	**05 02 59.2 +0.9**
	comp=E,132nm,1.0s,mb5.9					
DMN	**Daman**	**66.97**	**304**	*e*P	**P**	**05 03 00.0 +1.2**
	comp=E,178nm,1.1s,mb6.0					
ZAK	**Zakamensk**	**67.43**	**333**	*e*P	**P**	**05 03 01.8 +0.1**
ZAK				pmax	pmax	
	comp=Z,9.0nm,1.2s,mb4.7					
GKN	**Gorkha**	**67.50**	**304**	*e*P	**P**	**05 03 02.8 +0.6**
	comp=Z,176nm,1.2s,mb6.0					
TLY	**Talaya**	**68.19**	**334**	*e*P	**P**	**05 03 08.2 +1.7**
TLY				*e*		05 03 19.5
TLY				*e*S	S	05 12 10.0 +4.3
TLY				pmax	pmax	
	comp=Z,18nm,1.7s,mb4.8					
TLY				MLR	MLR	
	comp=Z,128nm,20.0s,MS4.2					
KOLN	**Koldanda**	**68.28**	**303**	*e*P	**P**	**05 03 07.8 +0.7**
	comp=Z,198nm,1.3s,mb6.0					
BOD	**Bodaibo**	**69.24**	**343**	*e*P	**P**	**05 03 11.9 -1.2**
BOD				pmax	pmax	
	comp=Z,10.0nm,1.4s,mb4.5					
MOY	**Mondy**	**69.36**	**333**	*e*P	**P**	**05 03 14.2 +0.4**
YAK	**Yakutsk**	**69.83**	**353⇑**	*e*P	**P**	**05 03 16.0 -0.7**
YAK				pmax	pmax	
	comp=Z,42nm,1.4s,mb5.2					
YAK	**Yakutsk**	**69.83**	**353**	*e*P	**P**	**05 03 16.1 -0.6**
	comp=Z,19nm,0.6s,mb5.2					
SEY	**Seymchan**	**70.03**	**4⇑**	*e*P	**P**	**05 03 18.4 +0.5**
VNDA	**Vanda**	**71.03**	**176**	P	**P**	**05 03 24.6 +0.5**
	comp=Z,15nm,1.1s,mb4.8,baz=328,slow=6.4,SNR=23					
VNDA				LR	LR	05 33 49.0
	comp=Z,332nm,18.2s,MS4.6,baz=345,slow=35					
VNDA	**Vanda**	**71.03**	**176**	*e*P	**P**	**05 03 24.5 +0.5**
VNDA				pmax	pmax	
	comp=Z,24nm,1.2s					
VNDA	**Vanda**	**71.03**	**176**	*e*P	**P**	**05 03 24.5 +0.5**
	comp=Z,24nm,1.2s,mb5.0					
WMQ	**Urumqi**	**72.04**	**320**	P	**P**	**05 03 30.8 +0.7**
WMQ				PCP	PcP	05 03 49.6 +1.0
WMQ				PP	PP	05 06 12.4 +2.2
WMQ				PPP		05 07 54.6
WMQ				S	S	05 12 51.8 +1.1
WMQ				SKS		05 13 30.5
WMQ				SS	SS	05 17 30.1 +2.4
WMQ				AMB	AMB	
	comp=Z,19nm,1.3s,mb4.9					
WMQ				AMB	AMB	
	comp=Z,208nm,4.8s					
WMQ				LR	LR	
	comp=Z,97nm,19.0s,MS4.1					
TAOE	**Nuku Hiva Isla**	**74.45**	**97**	*e*LR	LR	05 26 44.2
	comp=Z,421nm,30.4s					
BILL	**Bilibino**	**76.46**	**8**	*e*P	**P**	**05 03 55.8 -0.1**
BILL				pmax	pmax	
	comp=Z,3.0nm,0.6s,mb4.4					
BILL	**Bilibino**	**76.46**	**8**	*e*P	**P**	**05 03 55.8 -0.1**
	comp=Z,3.1nm,0.6s,mb4.4					
MK31	**Makanchi Array**	**76.79**	**321**	*i*P	**P**	**05 03 57.2 -0.5**
MK31				pmax	pmax	
	comp=Z,54nm,1.2s,mb5.3					
MK31	**Makanchi Array**	**76.79**	**321**	*e*P	**P**	**05 03 57.8 +0.1**
MKAR	**Makanchi Array**	**76.79**	**321**	P	**P**	**05 03 57.2 -0.5**
	comp=Z,12nm,0.9s,mb4.8,baz=114,slow=7.1,SNR=49					
MKAR	**Makanchi Array**	**76.79**	**321**	*i*P	**P**	**05 03 58.0 +0.3**
MKAR				pmax	pmax	
	comp=Z,12nm,0.9s					
MKAR	**Makanchi Array**	**76.79**	**321**	P	**P**	**05 03 57.2 -0.5**
RKT	**Rikitea**	**78.50**	**112**	*e*LR	LR	05 28 35.3
	comp=Z,311nm,35.0s					
ZAL	**Zalesovo**	**78.63**	**329**	P	**P**	**05 04 06.8 -1.2**
	comp=Z,3.3nm,0.9s,mb4.3,baz=7.9,slow=5.4,SNR=12					
TIXI	**Tiksi**	**79.22**	**355⇑**	*e*P	**P**	**05 04 10.0 -1.2**
TIXI				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.7					
KZA	**Kyzart**	**79.66**	**315**	P	**P**	**05 04 15.3 +1.6**
	SNR=11					
TKM2	**Tokmak 2**	**79.70**	**316**	*i*P	**P**	**05 04 14.3 +0.4**
TKM2				pmax	pmax	
	comp=Z,24nm,0.9s,mb5.1					
NVS	**Novosibirsk**	**79.87**	**329⇑**	*i*P	**P**	**05 04 13.8 -1.0**
NVS				pmax	pmax	
	comp=N,15nm,1.3s					
NVS				pmax	pmax	
	comp=E,23nm,1.3s					
NVS				pmax	pmax	
	comp=Z,35nm,1.3s,mb5.1					
KBK	**Karagaybulak**	**80.06**	**315**	P	**P**	**05 04 16.6 +0.8**
	SNR=5.1					
UCH	**Uchtor**	**80.23**	**315**	P	**P**	**05 04 18.1 +1.4**
	SNR=13					
CHMS	**Chumysh**	**80.31**	**316**	P	**P**	**05 04 17.5 +0.3**
	SNR=7.7					
MAW	**Mawson**	**80.37**	**203**	*e*P	**P**	**05 04 17.1 -0.4**
	comp=Z,7.6nm,1.0s,mb4.6					
MAW	**Mawson**	**80.37**	**203**	P	**P**	**05 04 16.8 -0.7**
	comp=Z,9.4nm,1.0s,mb4.7,baz=59,slow=6.7,SNR=10					
MAW				LR	LR	05 39 00.9
	comp=Z,231nm,18.1s,MS4.6,baz=66,slow=35					
MAW	**Mawson**	**80.37**	**203**	*e*P	**P**	**05 04 17.1 -0.4**
MAW				pmax	pmax	
	comp=Z,8.0nm,1.0s					
AAK	**Ala-Archa**	**80.37**	**315**	P	**P**	**05 04 18.2 +0.7**
	SNR=11					
AAK	**Ala-Archa**	**80.37**	**315**	P	**P**	**05 04 17.5 0.0**
	comp=Z,102nm,1.4s,mb5.6,SNR=8.7					
AAK	**Ala-Archa**	**80.37**	**315**	P	**P**	**05 04 17.3 -0.2**
	SNR=12					
AAK	**Ala-Archa**	**80.37**	**315**	*e*P	**P**	**05 04 16.8 -0.7**
AAK				pmax	pmax	
	comp=Z,29nm,1.4s,mb5.0					
AAK	**Ala-Archa**	**80.37**	**315**	*e*P	**P**	**05 04 16.8 -0.7**
	comp=Z,29nm,1.4s,mb5.0					
USP	**Ospenovka**	**80.57**	**316**	P	**P**	**05 04 19.1 +0.5**
	SNR=14					
KURK	**Kurchatov**	**80.62**	**324**	P	**P**	**05 04 18.9 +0.1**
	comp=Z,105nm,1.2s,mb5.6,SNR=8.9					
KURK	**Kurchatov**	**80.62**	**324⇓**	P	**P**	**05 04 18.9 0.0**
	SNR=6.7					
KURK	**Kurchatov**	**80.62**	**324⇑**	*e*P	**P**	**05 04 17.5 -1.3**
KURK	**Kurchatov**	**80.62**	**324**	*e*P	**P**	**05 04 18.4 -0.4**
	comp=Z,45nm,1.4s,mb5.2					
AML	**Almayashu**	**80.78**	**315**	P	**P**	**05 04 20.8 +1.1**
	SNR=17					
EKS2	**Erkin-Say**	**80.88**	**315**	P	**P**	**05 04 21.2 +1.0**
	SNR=9.3					
SVW2	**Sparrevohn**	**82.19**	**25**	*e*P	**P**	**05 04 27.8 +0.6**
PMR	**Palmer**	**85.18**	**26**	*e*P	**P**	**05 04 41.1 -1.4**
PMR				pmax	pmax	
	comp=Z,49nm,1.1s,mb5.5					
PMR	**Palmer**	**85.18**	**26**	*e*P	**P**	**05 04 41.1 -1.4**
	comp=Z,49nm,1.1s,mb5.5					
IMA2	**Indian Mountai**	**85.38**	**21**	*e*P	**P**	**05 04 42.9 -0.6**
SML	**Sawmill**	**85.62**	**26**	*e*P	**P**	**05 04 44.6 -0.1**
MCK	**McKinley**	**86.15**	**24**	*e*P	**P**	**05 04 46.4 -0.9**
MCK				pmax	pmax	
	comp=Z,41nm,1.1s,mb5.6					
MCK	**McKinley**	**86.15**	**24**	*e*P	**P**	**05 04 46.4 -0.9**
	comp=Z,41nm,1.1s,mb5.6					
BVA0	**Borovoye Array**	**86.20**	**324**	*i*P	**P**	**05 04 46.8 -0.7**
BVA0				pmax	pmax	
	comp=Z,4.0nm,1.2s,mb4.5					
BVAR	**Borovoye Array**	**86.20**	**324**	P	**P**	**05 04 46.8 -0.8**
	comp=Z,7.6nm,0.8s,mb5.0,baz=113,slow=5.6,SNR=31					
CHKZ	**Chkalovo**	**86.26**	**325**	*e*P	**P**	**05 04 46.8 -1.0**
CHKZ				pmax	pmax	
	comp=Z,29nm,1.6s,mb5.3					
CHKZ	**Chkalovo**	**86.26**	**325**	*e*P	**P**	**05 04 46.8 -1.1**
	comp=Z,29nm,1.6s,mb5.3					
BRVK	**Borovoye**	**86.27**	**324**	P	**P**	**05 04 47.3 -0.6**
	comp=Z,73nm,1.2s,mb5.8,SNR=6.1					
BRVK	**Borovoye**	**86.27**	**324**	⇓P	**P**	**05 04 47.7 -0.2**
	SNR=5.4					
BRVK	**Borovoye**	**86.27**	**324**	*e*P	**P**	**05 04 47.6 -0.3**
BRVK				pmax	pmax	
	comp=Z,25nm,1.3s,mb5.3					
BRVK	**Borovoye**	**86.27**	**324**	*e*P	**P**	**05 04 47.6 -0.3**
	comp=Z,25nm,1.3s,mb5.3					
COLA	**College**	**87.04**	**23**	*e*P	**P**	**05 04 50.3 -1.4**
COLA				pmax	pmax	
	comp=Z,57nm,1.4s,mb5.6					
COLA	**College**	**87.04**	**23**	*e*P	**P**	**05 04 50.3 -1.3**
	comp=Z,57nm,1.4s,mb5.6					
MENT	**Mentasta**	**88.03**	**26**	*e*P	**P**	**05 04 56.5 +0.1**
SYO	**Syowa Base**	**88.79**	**200⇑**	*e*P	**P**	**05 05 01.0 +1.0**
EGAK	**Eagle**	**89.69**	**24**	*e*P	**P**	**05 05 04.2 0.0**
	comp=Z,47nm,1.3s,mb5.7					
DAWY	**Dawson**	**90.23**	**25**	*e*P	**P**	**05 05 07.3 +0.6**
AB31	**Akbulak array**	**91.79**	**319**	*i*P	**P**	**05 05 12.2 -1.8**
AB31				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.7					
AKTK	**Aktyubinsk**	**93.19**	**320**	P	**P**	**05 05 18.6 -1.9**
AKTO	**Aktyubinsk**	**93.19**	**320**	P	**P**	**05 05 18.6 -1.9**
	comp=Z,2.8nm,0.8s,mb4.8,baz=88,slow=7.2,SNR=9.9					
AKTO	**Aktyubinsk**	**93.19**	**320**	*i*P	**P**	**05 05 18.1 -2.3**
INK	**Inuvik**	**93.50**	**22**	P	**P**	**05 05 20.3 -1.5**
	comp=Z,12nm,1.1s,mb5.2,baz=248,slow=6.1,SNR=16					
INK	**Inuvik**	**93.50**	**22**	*e*P	**P**	**05 05 21.4 -0.5**
	comp=Z,654nm,1.2s					
ARU	**Arti**	**93.61**	**326⇑**	*i*P	**P**	**05 05 20.0 -2.4**
ARU				*e*		05 09 04.3
ARU				*e*S	SKSac	05 15 51.8 -4.0
ARU				*e*SS	SS	05 22 44.9 -2.8
ARU				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.9					
WVOR	**Wild Horse Val**	**99.70**	**48**	*e*P	Pdif	05 05 51.6 +1.6
WVOR				pmax	pmax	
	comp=Z,5.0nm,1.1s,mb4.9					
WVOR	**Wild Horse Val**	**99.70**	**48**	*e*P	Pdif	05 05 51.5 +1.6
	comp=Z,4.9nm,1.1s					
NVAR	**Mina Array Bea**	**99.90**	**52**	P	Pdif	05 05 52.4 +1.5
	comp=Z,2.7nm,1.0s,baz=273,slow=4.7,SNR=5.3					
YKA	**Yellowknife Ar**	**101.20**	**28**	P	Pdif	05 05 56.2 -0.4
	comp=Z,5.6nm,1.1s,baz=277,slow=4.5,SNR=25					
YKA	**Yellowknife Ar**	**101.20**	**28**	*i*P	Pdif	05 05 57.2 +0.6
YKA				pmax	pmax	
	comp=Z,6.0nm,1.1s					
YKA	**Yellowknife Ar**	**101.20**	**28**	P	Pdif	05 05 56.2 -0.4
TXAR	**Lajitas Array**	**112.36**	**61**	PKiKP	PKiKP	05 10 42.5 +0.5
	comp=Z,0.9nm,1.0s,baz=117,slow=2.0,SNR=5.7					
WMOK	**Wichita Mounta**	**115.82**	**55**	*e*PKIKP	PKPdf	05 10 48.4 -0.3
TIP	**Timpagrande**	**123.35**	**313**	*e*PKPdf	PKPdf	05 11 03.0 -0.1
LPAZ	**La Paz**	**140.18**	**126**	PKhKP		05 11 33.9
	comp=Z,3.5nm,1.0s,baz=149,slow=1.0,SNR=8.1					
LPAZ	**La Paz**	**140.18**	**126**	PKP	PKPdf	05 11 33.9 -0.9
LPAZ				*e*PKPdf	PKPdf	05 11 37.8 +3.0
TOA0	**Torodi Ar. Sit**	**143.00**	**282**	*e*PKPdf	PKPdf	05 11 37.1 -2.8
TORD	**Torodi Ar. Bea**	**143.00**	**282**	PKhKP		05 11 35.8
	comp=Z,5.7nm,1.0s,baz=71,slow=3.2,SNR=24					
SDV	**Santo Domingo**	**145.08**	**85**	*e*PKPbc	PKPbc	05 11 45.0 +2.1

JMA 06 04:58:05.4±0.3, 2184N×12020E, h95km, M3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.67**	**44**	P	Pn	04 59 01.1	+1.0
YOJ				S	Sn	04 59 43.9	+1.5
HATJ	**Hateruma jima**	**3.99**	**56**	P	Pn	04 59 05.4	+1.1
HATJ				S	Sn	04 59 50.7	+0.7
IRIF	**Iriomote-Funau**	**4.09**	**52**	P	Pn	04 59 07.0	+1.3
IRIF				S	Sn	04 59 55.1	+2.7
JKRS	**Kuro-shima**	**4.24**	**55**	P	Pn	04 59 09.3	+1.5
JKRS				S	Sn	04 59 57.7	+1.5
JIJ	**Ishigaki jima**	**4.41**	**55**	P	Pn	04 59 11.0	+0.9
JIJ				S	Sn	05 00 01.6	+1.3
JTJ	**Tarama**	**4.99**	**55**	P	Pn	04 59 19.2	+1.3
JTJ				S	Sn	05 00 16.7	+2.4

*STR **06** 05:10:19.6±2.2, 4756N×784E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **06** 05:10:22.2±0.1, 4758N×756E, h10km, Md1.9/2, Ml2.0/4, Error ellipse: s-maj=2.8km s-min=1.6km az=87.0*

ZUR 06 05:10:22.1, 4758N×760E, h5km±1km, ML1.2, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	05 10 27.4	+0.3
	107nm,0.3s						
BALST				*i* Sg	Sg	05 10 31.2	+0.7
	107nm,0.3s						
BOURR	**Bourrignon**	**0.31**	**233**	⇑*i*Pg	Pg	05 10 28.5	+0.3
	4.6nm,0.1s						
SULZ	**Sulz-Cheisache**	**0.36**	**99**	*i* Pg	Pg	05 10 29.8	+0.8
	4.0nm,0.1s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	05 10 30.0	0.0
MOF				Sg	Sg	05 10 39.8	+4.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	05 10 32.3	-0.4
HINF				*e*Sg	Sg	05 10 39.5	-0.4
HINF				*e*Sn	Sg	05 10 42.9	+3.0
	6.8nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	*i* Pg	Pg	05 10 35.0	+0.7
	6.1nm,0.1s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	05 10 35.7	+0.2
ECH				Sg	Sg	05 10 44.3	-0.3
CDF	**Champ du Feu**	**0.86**	**346**	*e*Pn	Pn	05 10 38.7	-2.1
CDF				*e*Sn	Sn	05 10 50.4	-3.3
	6.7nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	05 10 48.9	-0.4
CABF				*e*Sg	Sg	05 11 06.4	-1.3
	1.9nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	05 11 19.6	-1.3
	0.6nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	05 11 41.5	-2.8
	1.9nm,0.2s						

*IDC **06** 05:34:21.3±0.8, 4779N×1544S E, h0km, mb3.8/14, mb1 4.1/15, mb1mx4.0/25, mbtmp3.8/15, ML3.6/1, Error ellipse: s-maj=22.5km s-min=17.2km az=141.0*
*NEIC **06** 05:34:22.8±0.5, 4779N×1544E, h10km, mb4.2/1, Error ellipse: s-maj=14.6km s-min=10.4km az=131.0*
*ISCJB **06** 05:34:24.0±2.2, 4781N±007×1543E±01, h29km±16km, mb3.9/17, Error ellipse: s-maj=16.5km s-min=7.9km az=76.1*
*MOS **06** 05:34:26.1±1.1, 4785N×1542 2E, h45km, mb4.2/10, Error ellipse: s-maj=14.5km s-min=9.2km az=85.6*

ISC 06 05:34:27.0±1.1, 4784N±007×1543E±01, h39km±9km, n41, σ0:93/43, mb3.9/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.07**	**22**	*e*PN	**Pn**	**05 35 12.9**	**-0.1**
SKR				*e*S	**Sn**	**05 35 48.5**	**0.0**
SKR				pmax	pmax		
	comp=Z,60nm,0.6s						
SKR				smax			
	comp=N,110nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.91**	**268**	*e*PN	**Pn**	**05 36 19.0**	**-0.4**
ASAJ	**Asahikawa**	**8.98**	**250**	Pn	**Pn**	**05 36 37.6**	**+3.6**
	comp=E,0.9nm,0.3s,baz=96,slow=18,SNR=3.1						
ASAJ	**Asahikawa**	**8.98**	**250**	PN	**Pn**	**05 36 37.7**	**+3.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.83**	**238**	*e*PN	**Pn**	**05 36 46.7**	**+0.9**
SEY	**Seymchan**	**15.16**	**357**	*e*P	**Pn**	**05 37 59.2**	**+0.9**
MJAR	**Matsushiro Arr**	**16.40**	**232**	Pn	**Pn**	**05 38 12.4**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=38,slow=11,SNR=5.4						
YAK	**Yakutsk**	**19.88**	**325**	*e*P	**Pn**	**05 38 54.4**	**-2.3**
YAK				pmax	pmax		
	comp=Z,17nm,0.5s						
BILL	**Bilibino**	**21.14**	**12**	*e*P	**P**	**05 39 09.4**	**+0.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.7						
KSRS	**Korea Array**	**21.93**	**251**	P	**P**	**05 39 18.4**	**+1.5**
	comp=Z,4.0nm,0.9s,mb3.8,baz=47,slow=11,SNR=10						
INK	**Inuvik**	**40.28**	**33**	P	**P**	**05 42 00.7**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.8,baz=246,slow=9.5,SNR=8.4						
INK	**Inuvik**	**40.28**	**33**	P	**P**	**05 42 00.7**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.18**	**297**	P	**P**	**05 42 55.6**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=69,slow=7.3,SNR=2.3						
KURK	**Kurchatov**	**47.46**	**303**	*i*P	**P**	**05 42 58.0**	**+0.2**
YKA	**Yellowknife Ar**	**49.55**	**38**	P	**P**	**05 43 14.1**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=8.2,SNR=4.3						
CHKZ	**Chkalovo**	**50.37**	**310**	*e*P	**P**	**05 43 19.8**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**50.37**	**310**	*e*P	**P**	**05 43 19.8**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**50.81**	**309**	P	**P**	**05 43 23.5**	**+0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=58,slow=9.6,SNR=6.6						
BVAR	**Borovoye Array**	**50.81**	**309**	P	**P**	**05 43 23.5**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**54.10**	**296**	*e*P	**P**	**05 43 46.8**	**-1.0**
AAK				pmax	pmax		
	comp=Z,16nm,2.3s,mb4.5						
ARU	**Arti**	**54.77**	**317**	*e*P	**P**	**05 43 52.9**	**+0.2**
ARU				*e*		05 45 51.6	
ARU				*e*S	**S**	**05 51 31.9**	**+1.3**
ARU				*e*SS	SS	05 55 15.9	+1.9
JOF	**Joensuu**	**60.72**	**334**	*e*p	**P**	**05 44 33.4**	**-1.1**
KAF	**Kangasniemi**	**62.80**	**335**	*e*p	**P**	**05 44 46.9**	**-1.5**
FINES	**FINESS Array B**	**63.40**	**335**	P	**P**	**05 44 52.0**	**-0.4**
	comp=Z,1.1nm,0.3s,mb4.4,baz=38,slow=7.4,SNR=24						
FINES	**FINESS Array B**	**63.40**	**335**	P	**P**	**05 44 52.0**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	**Pinedale Array**	**63.44**	**55**	P	**P**	**05 44 51.4**	**-1.3**
	comp=Z,0.5nm,0.9s,mb3.7,baz=296,slow=2.9,SNR=3.9						
NB2	**NORSAR Subarra**	**67.46**	**342**	P	**P**	**05 45 18.7**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.46**	**342**	P	**P**	**05 45 19.0**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=25,slow=6.4,SNR=5.2						
NOA	**NORSAR Array B**	**67.46**	**342**	P	**P**	**05 45 19.0**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**69.82**	**200**	P	**P**	**05 45 33.0**	**-0.4**
	comp=Z,0.8nm,0.9s,mb3.6,baz=16,slow=6.6,SNR=4.7						
WRA	**Warramunga Arr**	**69.82**	**200**	P	**P**	**05 45 33.0**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**71.10**	**327**	P	**P**	**05 45 41.4**	**+0.2**
	comp=Z,1.1nm,0.5

326nm,0.3s
BALST *e*Sg **Sg** **05 34 40.4 +0.6**
326nm,0.3s
BALST Balsthal 0.26 160 ⇑Pg **Pg** **05 34 36.8 +0.7**
BALST Sg **Sg** **05 34 40.5 +0.7**
BOURR Bourrignon 0.29 230 ⇑*i*Pg **Pg** **05 34 37.9 +1.2**
25nm,0.2s
BOURR Bourrignon 0.29 230 ⇑Pg **Pg** **05 34 37.8 +1.2**
SULZ Sulz-Cheisache 0.38 98 ⇑*i*Pg **Pg** **05 34 38.4 +0.2**
117nm,0.6s
SULZ *i* Sg **Sg** **05 34 43.4 +0.1**
117nm,0.6s
SULZ Sulz-Cheisache 0.38 98 ⇑*i*Pg **Pg** **05 34 38.4 +0.2**
SULZ *i* Sg **Sg** **05 34 43.3 +0.1**
MOF Molkenrain 0.40 313 Pg **Pg** **05 34 39.0 +0.5**
MOF Sg **Sg** **05 34 45.0 +1.2**
MOF Molkenrain 0.40 313 P* **Pg** **05 34 39.6 +1.1**
MOF PmP 05 34 42.2
MOF Molkenrain 0.40 313 PmP 05 34 42.2
FELD Feldberg im Sc 0.42 45 ⇑*i*P* **Pg** **05 34 39.0 +0.1**
FELD S* **Sg** **05 34 44.6 +0.1**
FELD Feldberg im Sc 0.42 45 ⇑*i*Pg **Pg** **05 34 39.0 +0.1**
FELD Sg **Sg** **05 34 44.6 +0.1**
KIZ Kirchzarten 0.44 33 ⇑*i*P* **Pg** **05 34 39.5 +0.1**
KIZ *e*S* **Sg** **05 34 45.1 -0.2**
KIZ SmS 05 34 49.0
KIZ Kirchzarten 0.44 33 ⇑*i*Pg **Pg** **05 34 39.5 +0.1**
KIZ *e*Sg **Sg** **05 34 45.1 -0.2**
KIZ Sx Sx 05 34 49.0
HINF Hinteralfeld 0.53 296 *e*Pg **Pg** **05 34 41.7 +0.6**
HINF *e*Sg **Sg** **05 34 48.7 +0.5**
HINF *e*Sn **Sg** **05 34 52.2 +4.0**
7.8nm,0.2s
LOMF Lomont 0.55 245 Pg **Pg** **05 34 42.4 +1.0**
LOMF Sg **Sg** **05 34 50.6 +1.9**
LOMF Lomont 0.55 245 ⇓*e*Pg **Pg** **05 34 42.7 +1.4**
SLE Schleitheim 0.66 73 ⇑P* **Pb** **05 34 43.3 -0.6**
SLE PmP 05 34 45.0
SLE S* **Sg** **05 34 51.8 -0.2**
SLE SmS 05 34 54.7
SLE Schleitheim 0.66 73 *i* Pg **Pg** **05 34 43.2 -0.2**
272nm,2.0s
SLE Schleitheim 0.66 73 PmP 05 34 45.0
SLE Sg **Sg** **05 34 51.8 -0.2**
SLE Sx Sx 05 34 54.7
ECH Echery 0.69 337 Pg **Pg** **05 34 45.3 +1.3**
ECH Sg **Sg** **05 34 53.7 +0.6**
ECH Echery 0.69 337 Pg **Pg** **05 34 44.5 +0.5**
TRULL Truellikon 0.76 85 *i* Pg **Pg** **05 34 46.4 +1.1**
24nm,0.2s
CDF Champ du Feu 0.85 347 *e*Pg **Pg** **05 34 47.4 +0.3**
CDF Champ du Feu 0.85 347 *e*Pn **Pn** **05 34 48.0 -0.3**
CDF *e*Sg **Sg** **05 34 57.9 -0.3**
CDF *e*Sn **Sn** **05 34 59.9 -0.7**
12nm,0.3s
BFO Black Forest 0.91 34 P* **Pg** **05 34 48.0 -0.1**
BFO PmP 05 34 48.6
BFO S* **Sg** **05 34 59.5 -0.5**
BFO SmS 05 35 01.4
BFO Black Forest 0.91 34 Pg **Pg** **05 34 48.0 -0.1**
BFO Sg **Sg** **05 34 59.5 -0.5**
BFO Black Forest 0.91 34 PmP 05 34 48.6
BFO SmS 05 35 01.4
WILA Wila 0.93 100 *i* Pg **Pg** **05 34 49.4 +0.9**
6.9nm,0.2s
SISB Singen-Schiene 0.95 83 P* **Pb** **05 34 49.2 +0.3**
SISB S* **Sb** **05 35 01.6 +0.1**
SISB SmS 05 35 03.0
GUT Gutenstein 1.16 64 Pg **Pg** **05 34 52.9 +0.1**
GUT Sg **Sg** **05 35 07.3 -0.6**
THEF They Montfort 1.24 302 Sg **Sg** **05 35 11.8 +1.1**
LIENZ Alp Oberkamor 1.34 102 *i* Sg **Pg** **05 34 58.5 +2.1**
51nm,0.3s
LBG Lerchenberg 1.36 37 Pg **Pg** **05 34 56.1 -0.7**
LBG Sg **Sg** **05 35 14.1 -0.4**
GIMEL Gimel 1.37 221 *i* Pg **Sg** **05 35 15.4 +0.5**
9.9nm,0.2s
CABF La Chapelle 1.40 227 *e*Pg **Pg** **05 34 58.2 +0.7**
CABF *e*Sg **Sg** **05 35 15.7 0.0**
6.5nm,0.2s
BUCH Bad Urach 1.48 54 Pg **Pg** **05 34 59.1 +0.1**
BUCH Sg **Sg** **05 35 18.1 -0.3**
MMK Mattmark 1.56 170 *e*Sg **Sg** **05 35 21.9 +1.2**
27nm,0.3s
DAVA Damuels 1.60 100 ⇑*i*Pn **Pn** **05 34 59.7 +1.1**
DAVA ⇓*i*Pg **Pg** **05 35 00.5 -0.8**
DAVA ⇓*i*Sg **Sg** **05 35 21.5 -0.7**
comp=Z,4.0nm,0.1s
UBR Ueberruh 1.72 86 Sg **Sg** **05 35 26.4 +0.3**
SFTF Sexfontaines 1.81 291 *e*Pg **Pg** **05 35 05.6 +0.3**
SFTF *e*Sg **Sg** **05 35 29.1 +0.3**
3.0nm,0.2s
LPL La Plagne 2.15 196 *e*Pg **Pg** **05 35 11.9 +0.2**
LPL *e*Sg **Sg** **05 35 39.3 -0.3**
1.1nm,0.2s
LPG La Plagne 2.16 195 *e*Pg **Pg** **05 35 11.9 -0.1**
LPG *e*Sg **Sg** **05 35 39.5 -0.5**
2.3nm,0.3s
SIND Sindeldorf 2.23 37 Sg **Sg** **05 35 41.4 -0.9**
LOR Lormes 2.54 264 *e*Pg **Pg** **05 35 19.1 -0.1**
LOR *e*Sg **Sg** **05 35 51.3 -0.7**
3.3nm,0.2s
SMF Signal de Mont 2.71 251 *e*Pg **Pg** **05 35 22.2 -0.3**
SMF *e*Sg **Sg** **05 35 55.8 -1.8**
4.1nm,0.3s
SSF Saint Saulge 2.81 261 *e*Sg **Sg** **05 35 59.3 -1.5**
3.0nm,0.3s
ORIF Oris-en-Rattie 2.91 204 *e*Sg **Sg** **05 36 02.5 -1.6**
3.9nm,0.4s
AVF Avril sur Loir 2.98 256 *e*Pg **Pg** **05 35 26.9 -0.8**
AVF *e*Sg **Sg** **05 36 04.4 -1.9**
0.7nm,0.2s
VIVF Saint-Julien-l 3.38 217 *e*Sg **Sg** **05 36 17.6 -1.7**
2.7nm,0.3s

IDC 06 05:59:23.6±3.9, **425N×9638E, h0**km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx3.4**/21, **mbtmp3.4**/4, **Error ellipse: s-maj=164.8km s-min=25.4km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.11**	**346**	P	P	06 07 33.5	0.0
	0.3nm,0.5s,baz=157,slow=9.8,SNR=8.7						
SONM	**Songino Array**	**44.27**	**10**	P	P	06 07 34.9	0.0
	0.3nm,0.5s,baz=189,slow=6.7,SNR=2.0						
WRA	**Warramunga Arr**	**44.37**	**124**	P	P	06 07 35.5	-0.1
	0.3nm,0.5s,baz=301,slow=9.4,SNR=2.8						
ASAR	**Alice Springs**	**45.91**	**129**	P	P	06 07 48.6	+0.8
	0.3nm,0.5s,baz=300,slow=7.6,SNR=6.8						

ISCJB ***06*** *06:00:14.7*±*0.6, 4756N*±*006*×*156.17E*±*008, h10*km*, mb4.2/24, MS3.2/1, Error ellipse: s-maj=10.0km s-min=6.6km az=115.9*

IDC ***06*** *06:00:14.0*±*0.8, 4733N*×*15623E, h0*km*, mb4.1/18, mb1 4.3/20, mb1mx4.2/25, mbtmp4.1/20, ML3.7/2, Error ellipse: s-maj=23.8km s-min=13.8km az=165.0*

NEIC ***06*** *06:00:15.2*±*0.5, 4728N*×*156.19E, h10*km*, mb4.9/4, Error ellipse: s-maj=11.6km s-min=7.7km az=154.0*

MOS ***06*** *06:00:19.8*±*1.0, 4745N*×*15602E, h53*km*, mb4.5/16, Error ellipse: s-maj=13.8km s-min=9.3km az=109.5*

ISC 06 06:00:16.0±0.5, **4751N**±006×**15619E**±008, **h10**km, **n60**, σ0**93**/64, **mb4.2**/24, **MS3.2**/1, **6C-1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.17**	**359**	*e*PN	**Pn**	**06 01 05.0**	**-1.0**
SKR				*e*S	**Sn**	**06 01 41.7**	**-2.1**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,180nm,0.5s						
PET	**Petropavlovsk**	**5.74**	**15**	*e*PN	**Pn**	**06 01 40.0**	**-1.2**
YSS	**Yuzh-Sakhalins**	**9.16**	**271**	*e*PN	**Pn**	**06 02 30.2**	**+2.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
ASAJ	**Asahikawa**	**10.08**	**255**	Pn	**Pn**	**06 02 40.8**	**0.0**
	comp=Z,0.7nm,0.3s,baz=103,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**10.08**	**255**	PN	**Pn**	**06 02 40.8**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.77**	**244**	*e*PN	**Pn**	**06 02 52.6**	**+2.4**
ERM	**Erimo**	**10.77**	**244**	*e*Pn	**Pn**	**06 02 55.9**	**+5.7**
ERM				*e*Sn	**Sn**	**06 04 48.6**	**-2.2**
HABR	**Khabarovsk**	**14.19**	**282**	*e*P	**Pn**	**06 03 36.8**	**-0.1**
HABR				*e*S	**Sn**	**06 06 14.9**	**+0.5**
AMKA	**Amchitka**	**15.50**	**67**	*e*Pn	**Pn**	**06 03 59.5**	**+4.9**
SEY	**Seymchan**	**15.60**	**354**	*e*P	**Pn**	**06 03 57.1**	**+1.2**
MJAR	**Matsushiro Arr**	**17.24**	**237**	P	**Pn**	**06 04 13.2**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=25,slow=12,SNR=2.7						
YAK	**Yakutsk**	**20.88**	**324**	⇑*e*P	**P**	**06 04 57.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
BILL	**Bilibino**	**21.21**	**10**	*e*P	**P**	**06 05 02.5**	**+0.6**
BILL				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.2						
BILL	**Bilibino**	**21.21**	**10**	*e*P	**P**	**06 05 03.4**	**+1.6**
	comp=Z,13nm,0.6s,mb4.5						
KSRS	**Korea Array**	**23.03**	**254**	P	**P**	**06 05 21.8**	**+0.6**
	comp=Z,3.3nm,0.9s,mb3.8,baz=50,slow=8.6,SNR=7.8						
TIXI	**Tiksi**	**27.37**	**342**	⇑*e*P	**P**	**06 06 00.9**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
TIXI	**Tiksi**	**27.37**	**342**	*e*P	**P**	**06 06 00.8**	**-0.5**
	comp=Z,148nm,1.1s						
SONM	**Songino Array**	**33.06**	**289**	P	**P**	**06 06 51.3**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=72,slow=9.3,SNR=2.5						
KRAR	**Krasnoyarsk**	**38.81**	**307**	*e*P	**P**	**06 07 41.7**	**+0.8**
KRAR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
INK	**Inuvik**	**39.87**	**33**	P	**P**	**06 07 50.0**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.1,baz=275,slow=11,SNR=26						
INK	**Inuvik**	**39.87**	**33**	P	**P**	**06 07 50.0**	**+0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	**Zalesovo**	**43.88**	**306**	P	**P**	**06 08 22.4**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.8,baz=140,slow=6.9,SNR=3.5						
ZAL	**Zalesovo**	**43.88**	**306**	P	**P**	**06 08 22.5**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**48.44**	**298**	*e*P	**P**	**06 08 59.3**	**+0.8**
MKAR	**Makanchi Array**	**48.44**	**298**	P	**P**	**06 08 58.6**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.3,baz=68,slow=7.9,SNR=26						
MKAR	**Makanchi Array**	**48.44**	**298**	⇑*e*P	**P**	**06 08 58.5**	**0.0**
KURK	**Kurchatov**	**48.68**	**304**	⇑*e*P	**P**	**06 09 00.3**	**-0.1**
KURK	**Kurchatov**	**48.68**	**304**	*e*P	**P**	**06 09 00.9**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.6						
YKA	**Yellowknife Ar**	**49.04**	**38**	P	**P**	**06 09 02.8**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=294,slow=7.4,SNR=9.7						
YKA				PcP	PcP	06 10 26.1	-0.7
	comp=Z,0.4nm,0.5s,baz=306,slow=3.5,SNR=6.3						
YKA	**Yellowknife Ar**	**49.04**	**38**	P	**P**	**06 09 02.8**	**-0.3**
YKA						06 10 26.1	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**06 09 26.1**	**+0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=48,slow=6.8,SNR=8.7						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**06 09 26.1**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**55.36**	**297**	⇑*e*P	**P**	**06 09 50.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
ARU	**Arti**	**55.85**	**318**	⇓*i*P	**P**	**06 09 53.9**	**+0.2**
ARU				*e*		06 11 55.6	
ARU				*e*S	**S**	**06 17 40.3**	**-0.7**
ARU				*e*SS	SS	06 21 24.8	-1.8
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
ARU	**Arti**	**55.85**	**318**	*e*P	**P**	**06 09 54.4**	**+0.7**
	comp=Z,7.2nm,0.3s,mb5.2						
KEV	**Kevo**	**57.31**	**341**	*e*p	**P**	**06 10 03.4**	**-0.6**
ARCES	**ARCESS Array B**	**57.81**	**342**	P	**P**	**06 10 07.8**	**+0.3**
	comp=Z,4.6nm,0.8s,mb4.6,baz=39,slow=6.9,SNR=8.7						
ARCES	**ARCESS Array B**	**57.81**	**342**	P	**P**	**06 10 07.8**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NVAR	**Mina Array Bea**	**60.22**	**64**	P	**P**	**06 10 24.9**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=298,slow=8.3,SNR=7.1						
JOF	**Joensuu**	**61.56**	**335**	*e*p	**P**	**06 10 33.3**	**-0.1**
PDAR	**Pinedale Array**	**62.59**	**56**	P	**P**	**06 10 40.6**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.1,baz=290,slow=2.4,SNR=11						
FINES	**FINESS Array B**	**64.22**	**336**	P	**P**	**06 10 51.5**	**+0.4**
	comp=Z,2.6nm,0.5s,mb4.5,baz=38,slow=6.4,SNR=16						
FINES	**FINESS Array B**	**64.22**	**336**	*i* P	**P**	**06 10 51.5**	**+0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ULM	**Lac du Bonnet**	**64.56**	**43**	P	**P**	**06 10 52.5**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.3,baz=331,slow=10,SNR=7.7						
NB2	**NORSAR Subarra**	**68.16**	**342**	P	**P**	**06 11 16.8**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.16**	**342**	P	**P**	**06 11 17.1**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=25,slow=6.5,SNR=4.5						
NOA	**NORSAR Array B**	**68.16**	**342**	P	**P**	**06 11 17.1**	**+0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**69.96**	**202**	P	**P**	**06 11 25.7**	**-1.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=21,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**69.96**	**202**	P	**P**	**06 11 25.7**	**-1.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.05**	**328**	P	**P**	**06 11 39.8**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.4,baz=32,slow=6.2,SNR=7.4						
AKASG	**Malin Array Be**	**72.05**	**328**	*i* P	**P**	**06 11 39.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**75.28**	**63**	P	**P**	**06 11 59.7**	**+0.5**
	comp=Z,1.8nm,0.7s,mb4.1,baz=300,slow=4.4,SNR=25						
TXAR	**Lajitas Array**	**75.28**	**63**	P	**P**	**06 11 59.7**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**75.28**	**63**	P	**P**	**06 11 59.7**	**+0.5**
KHC	**Kasperske Hory**	**78.43**	**336**	*e*P	**P**	**06 12 17.5**	**+0.5**
KHC	**Kasperske Hory**	**78.43**	**336**	⇑*e*P	**P**	**06 12 16.3**	**-0.7**
GERES	**GERESS Array B**	**78.66**	**336**	P	**P**	**06 12 18.2**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=42,slow=6.1,SNR=7.6						
GERES	**GERESS Array B**	**78.66**	**336**	P	**P**	**06 12 18.2**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**79.24**	**319**	P	**P**	**06 12 22.2**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=92,slow=3.3,SNR=7.2						
BRTR	**Keskin Array B**	**79.24**	**319**	P	**P**	**06 12 22.3**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISCJB ***06*** *06:17:34.9*±*3.0, 4724N*±*009*×*1540E*±*0.1, h8*km±*19*km*, mb4.4/33, Error ellipse: s-maj=19.4km s-min=7.1km az=100.6*

IDC ***06*** *06:17:35.0*±*0.9, 4721N*×*15391E, h0*km*, mb4.1/16, mb1 4.3/17, mb1mx4.2/24, mbtmp4.1/17, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/31, Error ellipse: s-maj=24.0km s-min=16.9km az=161.0*

NEIC ***06*** *06:17:37.1*±*4.2, 4721N*×*15394E, h13*km±*26*km*, mb4.6/9, Error ellipse: s-maj=15.4km s-min=9.2km az=142.0*

MOS ***06*** *06:17:39.0*±*1.5, 4717N*×*15397E, h44*km*, mb4.6/18, Error ellipse: s-maj=11.6km s-min=7.8km az=89.5*

ISC 06 06:17:40.9±2.7, **4736N**±009×**1540E**±01, **h34**km±19km, **n77**, σ1**9**11/80, **mb4.4**/33, **4C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.62**	**22**	*e*PN	**Pn**	**06 18 35.5**	**+1.0**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,220nm,0.5s						
SKR				pmax	pmax		
	comp=E,140nm,0.2s						
KUR	**Kuril'sk**	**4.72**	**245**	PN	**Pn**	**06 18 44.5**	**-5.2**
KUR				*e*S	**Sn**	**06 19 42.0**	**-1.2**
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,130nm,0.6s						
PET	**Petropavlovsk**	**6.42**	**26**	*e*PN	**Pn**	**06 19 12.3**	**-0.8**
PET				pmax	pmax		
	comp=Z,40nm,0.6s						
PET	**Petropavlovsk**	**6.42**	**26**	*e*Pn	**Pn**	**06 19 12.6**	**-0.4**
	comp=Z,23nm,0.5s						
PET				*e*Sn	**Sn**	**06 20 24.8**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.64**	**271**	⇑*i*PN	**Pn**	**06 19 33.8**	**+4.0**
ASAJ	**Asahikawa**	**8.57**	**252**	Pn	**Pn**	**06 19 44.4**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=94,slow=19,SNR=2.9						
ASAJ	**Asahikawa**	**8.57**	**252**	PN	**Pn**	**06 19 44.4**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.36**	**239**	*e*Pn	**Pn**	**06 19 52.2**	**-1.1**
ERM				*e*Sn	**Sn**	**06 21 25.6**	**-12**
MJAR	**Matsushiro Arr**	**15.90**	**233**	Pn	**Pn**	**06 21 18.2**	**-3.9**
	comp=Z,0.4nm,0.3s,baz=22,slow=14,SNR=4.3						
MJAR				LR	LR	06 28 08.4	
	comp=Z,120nm,19.0s,baz=25,slow=40						
YAK	**Yakutsk**	**20.13**	**326**	*e*P	**P**	**06 22 14.6**	**+2.7**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KSRS	**Korea Array**	**21.52**	**252**	P	**P**	**06 22 27.1**	**+0.1**
	comp=Z,1.4nm,0.6s,mb3.6,baz=51,slow=9.1,SNR=3.9						
BILL	**Bilibino**	**21.67**	**13**	*e*P	**P**	**06 22 27.8**	**-0.8**
BILL				pmax	pmax		
	comp=Z,16nm,2.1s,mb4.1						
SONM	**Songino Array**	**31.67**	**289**	P	**P**	**06 24 00.8**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.5,baz=64,slow=9.3,SNR=5.0						
SML	**Sawmill**	**35.14**	**44**	*e*P	**P**	**06 24 26.1**	**-5.1**
INK	**Inuvik**	**40.83**	**33**	P	**P**	**06 25 19.7**	**+0.5**
	comp=Z,4.1nm,0.5s,mb4.3,baz=288,slow=6.4,SNR=74						
INK	**Inuvik**	**40.83**	**33**	P	**P**	**06 25 19.7**	**+0.5**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**40.83**	**33**	P	**P**	**06 25 19.7**	**+0.5**
ZAL	**Zalesovo**	**42.73**	**305**	P	**P**	**06 25 33.8**	**-1.0**
	comp=Z,1.2nm,0.3s,mb4.0,baz=19,slow=7.0,SNR=4.1						
ZAL	**Zalesovo**	**42.73**	**305**	P	**P**	**06 25 33.8**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**47.17**	**297**	*e*P	**P**	**06 26 09.2**	**-0.8**
MKAR	**Makanchi Array**	**47.17**	**297**	P	**P**	**06 26 08.6**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=63,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**47.17**	**297**	⇑*e*P	**P**	**06 26 09.6**	**-0.4**
KURK	**Kurchatov**	**47.50**	**303**	*e*P	**P**	**06 26 11.6**	**-1.0**
KURK	**Kurchatov**	**47.50**	**303**	*e*P	**P**	**06 26 12.0**	**-0.6**
	comp=Z,3.0nm,0.7s,mb4.4						
RES	**Resolute Bay**	**50.08**	**19**	*e*P	**P**	**06 26 32.7**	**+0.3**
	comp=Z,210nm,0.9s						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**06 26 32.9**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=298,slow=7.5,SNR=17						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**06 26 32.9**	**+0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.09**	**37**	P	**P**	**06 26 32.9**	**+0.4**
CHKZ	**Chkalovo**	**50.48**	**310**	*e*P	**P**	**06 26 34.5**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**50.48**	**310**	*e*P	**P**	**06 26 34.5**	**-0.9**
	comp=Z,6.9nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**	**06 26 38.3**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.3,baz=61,slow=8.2,SNR=12						
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**	**06 26 38.3**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**50.95**	**309**	*e*P	**P**	**06 26 38.0**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**50.95**	**309**	*e*P	**P**	**06 26 38.0**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.2						
ARU	**Arti**	**54.95**	**317**	⇓*i*P	**P**	**06 27 08.0**	**-0.5**
ARU				*e*		06 28 05.2	
ARU				*e*S	**S**	**06 34 43.4**	**-4.5**
ARU				*e*SS	SS	06 38 24.1	-7.6
ARU				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
JIRN	**Jiri**	**55.47**	**275**	*e*P	**P**	**06 27 13.6**	**+1.4**
	comp=Z,20nm,0.8s,mb5.2						
KKN	**Kakani**	**56.00**	**275**	*e*P	**P**	**06 27 17.6**	**+1.6**
	comp=Z,12nm,0.5s,mb5.1						
PKI	**Pulchoki**	**56.05**	**275**	*e*P	**P**	**06 27 17.6**	**+1.2**
	comp=Z,8.9nm,0.5s,mb5.0						
DMN	**Daman**	**56.23**	**275**	*e*P	**P**	**06 27 19.1**	**+1.4**
	comp=Z,18nm,0.8s,mb5.2						
GKN	**Gorkha**	**56.30**	**276**	*e*P	**P**	**06 27 19.4**	**+1.3**
	comp=Z,16nm,0.5s,mb5.3						
KEV	**Kevo**	**56.96**	**341**	*e*p	**P**	**06 27 21.1**	**-1.8**
	comp=Z,6.1nm,0.8s,mb4.7						
KEV	**Kevo**	**56.96**	**341**	*e*P	**P**	**06 27 21.1**	**-1.8**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KOLN	**Koldanda**	**57.15**	**277**	*e*P	**P**	**06 27 25.4**	**+1.2**
	comp=Z,12nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**57.47**	**341**	P	**P**	**06 27 24.2**	**-2.2**
	comp=Z,3.6nm,0.8s,mb4.4,baz=26,slow=6.9,SNR=4.5						
ARCES	**ARCESS Array B**	**57.47**	**341**	P	**P**	**06 27 24.2**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JOF	**Joensuu**	**61.04**	**334**	*e*p	**P**	**06 27 49.5**	**-1.7**
KAF	**Kangasniemi**	**63.13**	**335**	*e*p	**P**	**06 28 03.9**	**-1.3**
	baz=35,slow=6.1						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**06 28 07.8**	**-1.3**
	comp=Z,2.7nm,0.4s,mb4.6,baz=39,slow=7.9,SNR=44						
FINES	**FINESS Array B**	**63.73**	**335**	*i* P	**P**	**06 28 08.8**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**06 28 07.8**	**-1.3**
PDAR	**Pinedale Array**	**63.93**	**55**	P	**P**	**06 28 10.2**	**-0.3**
	comp=Z,0.7nm,1.0s,mb3.7,baz=270,slow=3.0,SNR=4.6						
NB2	**NORSAR Subarra**	**67.83**	**341**	P	**P**	**06 28 35.6**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.6,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.83**	**341**	P	**P**	**06 28 35.9**	**+0.3**
	comp=Z,5.0nm,0.6s,mb4.7,baz=26,slow=6.3,SNR=20						
NOA	**NORSAR Array B**	**67.83**	**341**	P	**P**	**06 28 35.9**	**

MEX.

MEX 06 06:19:21.4±1.0, 1691N×10006W, h20km±15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.14**	**106**	*i* P	Pb	06 19 24.8	-1.0
ACX				*i* S	Sb	06 19 27.8	-1.0
CAIG	**El Cayaco**	**0.24**	**305**	*i* P	Pb	06 19 26.1	-1.1
CAIG				*i* S	Sb	06 19 30.0	-1.0
MEIG	**Mezcala**	**1.10**	**23**	*i* P	Pn	06 19 37.8	-3.9
MEIG				*i* S	Sb	06 19 50.4	-5.1
PLIG	**Platanillo**	**1.57**	**20**	*i* P	Pn	06 19 46.3	-1.8
PLIG				*i* S	Sn	06 20 04.7	-3.1
UTMO	**Huajuapan**	**2.34**	**67**	*i* P	Pn	06 19 55.9	-2.9
UTMO				*i* S	Sn	06 20 24.9	-2.1
IIO	**Organos**	**2.96**	**25**	*i* P	Pn	06 20 11.0	+3.8
IIO				*i* S	Sn	06 20 46.8	+4.7

*BJI **06** 06:39:41.9, 4572N×15335E, h18km, mB4.7, mb4.2*
*ISCJB **06** 06:39:44.5±1.5, 4625N±009×1537E±01, h45km±12km, mb4.2/22, MS2.8/2, Error ellipse: s-maj=18.2km s-min=7.8km az=103.3*
*NEIC **06** 06:39:44.2±3.5, 4632N×15372E, h26km±26km, mb4.6/4, Error ellipse: s-maj=20.1km s-min=9.9km az=153.0*
*MOS **06** 06:39:46.0±0.9, 4628N×15350E, h58km, mb4.5/10, Error ellipse: s-maj=15.1km s-min=12.6km az=76.3*
*IDC **06** 06:39:49.8±3.8, 4587N×15365E, h93km±36km, mb3.7/16, mb1 3.9/18, mb1mx3.9/25, mbtmp3.7/18, MS2.9/2, Ms1 2.9/2, ms1mx2.7/45, Error ellipse: s-maj=22.1km s-min=15.0km az=168.0*

ISC 06 06:39:47.0±1.2, 4626N±009×1536E±01, h53km±10km, h15km±5.1km:pP-P, n48, σ0§88/49, mb4.2/22, MS2.8/2, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.17**	**258**	*e*PN	**Pn**	**06 40 41.0**	**-7.1**
KUR				pmax	pmax		
	comp=Z,160nm,0.4s						
SKR	**Severo-Kuril's**	**4.72**	**20**	*e*PN	**Pn**	**06 40 56.0**	**+0.4**
SKR				*e*S	**Sn**	**06 41 49.0**	**-0.1**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,140nm,0.6s						
SKR				smax			
	comp=E,90nm,0.2s						
PET	**Petropavlovsk**	**7.51**	**24**	*e*Pn	**Pn**	**06 41 29.8**	**-4.1**
PET				*e*Sn	**Sn**	**06 42 53.0**	**-4.6**
ASAJ	**Asahikawa**	**8.09**	**259**	P	**Pn**	**06 41 42.3**	**+0.5**
	comp=E,0.7nm,0.3s,baz=57,slow=17,SNR=2.8						
ASAJ	**Asahikawa**	**8.09**	**259**	PN	**Pn**	**06 41 42.3**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.65**	**244**	*e*Pn	**Pn**	**06 41 50.2**	**+0.7**
ERM				*e*Sn	**Sn**	**06 43 14.8**	**-11**
KLR	**Kul'dur**	**15.01**	**289**	*e*P	**Pn**	**06 43 15.0**	**-0.8**
MJAR	**Matsushiro Arr**	**15.09**	**235**	P	**Pn**	**06 43 16.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=44,slow=9.2,SNR=6.9						
KSRS	**Korea Array**	**21.01**	**254**	P	**P**	**06 44 26.2**	**+0.2**
	comp=Z,0.7nm,0.3s,mb3.5,baz=56,slow=9.5,SNR=5.6						
KSRS				LR	LR	06 51 09.5	
	comp=Z,22nm,21.8s,MS2.5,baz=130,slow=32						
JNU	**Nakatsue**	**21.79**	**241**	LR	LR	06 52 55.0	
	comp=Z,61nm,20.1s,MS3.0,baz=265,slow=36						
BOD	**Bodaibo**	**26.58**	**310**	*e*P	**P**	**06 45 17.5**	**-2.5**
SONM	**Songino Array**	**31.84**	**290**	P	**P**	**06 46 06.7**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=54,slow=7.3,SNR=4.9						
LZH	**Lanzhou**	**38.27**	**273**	*e*P	**P**	**06 47 02.1**	**0.0**
LZH				AP	pP	06 47 07.1	-8.7
LZH				XP	sP	06 47 09.8	-12
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
EGAK	**Eagle**	**39.16**	**38**	*e*P	**P**	**06 47 08.2**	**-1.3**
	comp=Z,12nm,0.9s,mb4.6						
EGAK				*e*PcP	PcP	06 49 16.6	-1.5
GTA	**Gaotai**	**39.41**	**280**	*e*P	**P**	**06 47 12.7**	**+1.1**
GTA				AP	pP	06 47 16.8	-8.6
GTA				XP	sP	06 47 20.3	-11
GTA				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.2						
INK	**Inuvik**	**41.87**	**32**	P	**P**	**06 47 33.4**	**+1.5**
	comp=Z,4.9nm,0.6s,mb4.3,baz=290,slow=7.1,SNR=54						
INK	**Inuvik**	**41.87**	**32**	*e*P	**P**	**06 47 33.5**	**+1.6**
	comp=Z,78nm,0.5s						
MKAR	**Makanchi Array**	**47.49**	**298**	P	**P**	**06 48 16.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=70,slow=6.4,SNR=7.4						
MKAR	**Makanchi Array**	**47.49**	**298**	P	**P**	**06 48 16.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**51.03**	**311**	*e*P	**P**	**06 48 43.0**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.03**	**311**	*e*P	**P**	**06 48 43.0**	**-0.6**
	comp=Z,4.6nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**51.10**	**37**	P	**P**	**06 48 45.0**	**+0.8**
	comp=Z,3.4nm,0.8s,mb4.3,baz=294,slow=7.1,SNR=26						
YKA	**Yellowknife Ar**	**51.10**	**37**	P	**P**	**06 48 45.0**	**+0.8**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**51.10**	**37**	P	**P**	**06 48 45.0**	**+0.8**
BVAR	**Borovoye Array**	**51.45**	**310**	P	**P**	**06 48 45.8**	**-1.0**
	comp=Z,1.7nm,0.5s,mb4.3,baz=53,slow=5.7,SNR=12						
BVAR	**Borovoye Array**	**51.45**	**310**	P	**P**	**06 48 45.8**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**58.44**	**341**	P	**P**	**06 49 38.1**	**+0.9**
	comp=Z,2.1nm,0.7s,mb4.3,baz=51,slow=9.6,SNR=3.9						
ARCES	**ARCESS Array B**	**58.44**	**341**	P	**P**	**06 49 38.2**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**62.34**	**62**	P	**P**	**06 50 03.0**	**-0.9**
	comp=Z,0.7nm,0.5s,mb4.0,baz=305,slow=7.8,SNR=6.9						
REDW	**Red Top Meadow**	**63.63**	**54**	*e*P	**P**	**06 50 13.1**	**+0.6**
	comp=Z,15nm,1.6s,mb4.8						
FINES	**FINESS Array B**	**64.64**	**335**	P	**P**	**06 50 19.2**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=44,slow=7.0,SNR=19						
FINES	**FINESS Array B**	**64.64**	**335**	P	**P**	**06 50 19.2**	**+0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**64.74**	**54**	P	**P**	**06 50 19.6**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=298,slow=1.9,SNR=14						
SRU	**San Rafael**	**66.58**	**58**	*e*P	**P**	**06 50 31.5**	**0.0**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
SRU	**San Rafael**	**66.58**	**58**	*e*P	**P**	**06 50 31.5**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.5						
ULM	**Lac du Bonnet**	**66.66**	**41**	P	**P**	**06 50 31.5**	**-0.5**
	comp=Z,3.7nm,1.1s,mb4.3,baz=24,slow=7.6,SNR=3.6						
WRA	**Warramunga Arr**	**68.17**	**200**	P	**P**	**06 50 37.8**	**-3.9**
	comp=Z,0.6nm,0.9s,mb3.6,baz=16,slow=6.9,SNR=6.2						
WRA	**Warramunga Arr**	**68.17**	**200**	P	**P**	**06 50 37.8**	**-3.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.81**	**341**	P	**P**	**06 50 46.8**	**+1.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.81**	**341**	P	**P**	**06 50 47.0**	**+1.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=27,slow=6.5,SNR=4.2						
NOA	**NORSAR Array B**	**68.81**	**341**	P	**P**	**06 50 47.0**	**+1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.16**	**327**	P	**P**	**06 51 05.6**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.8,baz=33,slow=6.2,SNR=6.3						
CLL	**Collm**	**77.06**	**336⇑**	*e*P	**P**	**06 51 35.6**	**+1.2**
CLL				*e*pP	pP	06 51 43.0	-6.5
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**06 51 35.9**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=300,slow=4.2,SNR=23						
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**06 51 35.9**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**79.00**	**317**	P	**P**	**06 51 45.3**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=45,slow=5.4,SNR=5.9						
BRTR	**Keskin Array B**	**79.00**	**317**	P	**P**	**06 51 45.3**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CFAA	**Coronel Fontan**	**144.72**	**80**	PKP	PKPdf	06 59 14.5	-3.2
	comp=Z,0.5nm,0.6s,baz=301,slow=4.0,SNR=7.0						

BJI 06 06:44:31.7, 3452N×7869E, h15km, ML3.7, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.24**	**231**	*e*P	Pn	06 45 45.5	+24
	0.6nm,0.4s						
KSH	**Kashi**	**5.44**	**337**	*e*P	Pn	06 45 55.0	+2.8
KSH				*e*S	Sn	06 46 57.8	+3.3
KSH				Smax			
	comp=N,217nm,0.8s						
KSH				Smax			
	comp=E,312nm,1.2s						

*MOS **06** 06:50:53.6±1.1, 5487N×16138E, h38km, mb4.6/14, Error ellipse: s-maj=15.2km s-min=6.9km az=82.2*
*ISCJB **06** 06:50:54.0±0.3, 5459N±002×16178E±006, h41km, mb4.3/29, MS3.6/8, Error ellipse: s-maj=5.0km s-min=2.8km az=41.1*
*IDC **06** 06:50:55.3±0.6, 5477N×16126E, h41km±4km, mb4.0/21, mb1 4.2/21, mb1mx4.2/25, mbtmp4.0/21, MS3.6/9, Ms1 3.6/9, ms1mx3.4/38, Error ellipse: s-maj=16.0km s-min=11.4km az=155.0*
*NEIC **06** 06:50:55.4±0.2, 5479N×16131E, mb4.6/8, Error ellipse: s-maj=7.4km s-min=5.1km az=137.0*
*KRSC **06** 06:50:56.4±0.5, 5464N×16145E, h38km±28km, ML4.6*

ISC 06 06:50:55.5±0.3, 5462N±002×16170E±006, h43km, h43km±1.1km:pP-P, n110, σ1§30/119, mb4.3/29, MS3.6/8, 3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.06**	**161**	*i* P	**Pn**	**06 51 02.7**	**+0.4**
TUMR	**Tumrok**	**1.12**	**307**	*i* P	**Pn**	**06 51 14.7**	**+0.1**
TUMR				*i* S	**Sn**	**06 51 27.8**	**-1.0**
KMNR	**Kamenistaya**	**1.42**	**324**	*i* P	**Pn**	**06 51 19.7**	**+1.0**
KMNR				*i* S	**Sn**	**06 51 36.7**	**+0.5**
BZMR	**Bezymyannaya**	**1.49**	**333**	*e*P	**Pn**	**06 51 20.4**	**+0.6**
ZLN	**Zelenaya**	**1.50**	**340**	*i* P	**Pn**	**06 51 20.9**	**+1.1**
ZLN				*i* S	**Sn**	**06 51 38.8**	**+0.7**
KPT	**Kopyto**	**1.59**	**329**	*e*P	**Pn**	**06 51 22.1**	**+0.9**
CIRR	**Tsirk**	**1.60**	**341**	*i* P	**Pn**	**06 51 22.4**	**+1.2**
CIRR				*i* S	**Sn**	**06 51 40.7**	**+0.1**
KBTR	**Krutoberegovo**	**1.72**	**21**	*e*P	**Pn**	**06 51 24.8**	**+1.9**
KBTR				*i* S	**Sn**	**06 51 45.7**	**+2.1**
KRSR	**Krestovskiy**	**1.73**	**339**	*e*P	**Pn**	**06 51 23.6**	**+0.6**
KRSR				*i* S	**Sn**	**06 51 43.5**	**-0.4**
KOZR	**Kozyr**	**1.78**	**325**	PN	**Pn**	**06 51 25.0**	**+1.3**
KOZ	**Kozyrevsk**	**1.78**	**325**	*e*P	**Pn**	**06 51 25.0**	**+1.3**
KLY	**Klyuchi**	**1.80**	**341**	*i* P	**Pn**	**06 51 24.4**	**+0.4**
KLY				*i* S	**Sn**	**06 51 44.5**	**-1.2**
SPN	**Mys Shipunski**	**1.81**	**214**	*e*P	**Pn**	**06 51 24.0**	**-0.2**
SPN				*i* S	**Sn**	**06 51 44.2**	**-1.8**
SMKR	**Semkarok**	**1.98**	**356**	*e*P	**Pn**	**06 51 27.4**	**+1.0**
BDR	**Baidarnaya**	**1.98**	**352**	*e*P	**Pn**	**06 51 27.8**	**+1.4**
NLC	**Nalytchevo**	**2.01**	**225**	*e*P	**Pn**	**06 51 27.5**	**+0.7**
NLC				*i* S	**Sn**	**06 51 50.1**	**-0.6**
SRDR	**Sredinnyy**	**2.04**	**327**	*e*P	**Pn**	**06 51 28.0**	**+0.7**
SRKR	**Sorokina**	**2.07**	**352**	*e*P	**Pn**	**06 51 28.8**	**+1.2**
AVH	**Avacha**	**2.21**	**233**	*e*P	**Pn**	**06 51 31.2**	**+1.6**
AVH				*i* S	**Sn**	**06 51 56.4**	**+0.7**
GNL	**Ganaly**	**2.39**	**249**	*e*P	**Pn**	**06 51 33.5**	**+1.4**
PET	**Petropavlovsk**	**2.41**	**230⇓**	*e*PN	**Pn**	**06 51 33.5**	**+1.2**
PET				*e*S	**Sn**	**06 52 02.0**	**+1.4**
PET				pmax	pmax		
	comp=Z,320nm,0.5s						
PET				smax			
	comp=E,3μm,0.5s						
PET				smax			
	comp=N,3μm,0.6s						
PET				MLR	MLR		
	comp=Z,7μm,15.0s						
PET	**Petropavlovsk**	**2.41**	**230**	*e*Pn	**Pn**	**06 51 32.5**	**+0.1**
PET				*e*Sn	**Sn**	**06 52 02.1**	**+1.6**
PET	**Petropavlovsk**	**2.41**	**230**	*e*P	**Pn**	**06 51 33.6**	**+1.3**
PET				*i* S	**Sn**	**06 52 00.7**	**+0.1**
RUS	**Russkaya**	**2.90**	**222**	*e*P	**Pn**	**06 51 40.0**	**+1.0**
RUS				*i* S	**Sn**	**06 52 11.5**	**-1.1**
GRL	**Gorelyy**	**2.99**	**228**	*e*P	**Pn**	**06 51 42.6**	**+2.3**
GRL				*i* S	**Sn**	**06 52 16.8**	**+1.9**
SKR	**Severo-Kuril's**	**5.20**	**223**	*e*PN	**Pn**	**06 52 13.0**	**+2.3**
SKR				pmax	pmax		
	comp=Z,50nm,0.6s						
MA2	**Magadan**	**7.75**	**314**	*e*PN	**Pn**	**06 52 50.7**	**+5.0**
MA2				pmax	pmax		
	comp=Z,30nm,0.6s						
MA2				pmax	pmax		
	comp=E,20nm,0.5s						
BILL	**Bilibino**	**13.64**	**7**	*e*PN	**Pn**	**06 54 08.8**	**+2.6**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ASAJ	**Asahikawa**	**16.23**	**238**	P	**Pn**	**06 54 41.5**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=94,slow=6.4,SNR=6.3						
ASAJ				LR	LR	06 59 48.7	
	comp=Z,92nm,21.9s,baz=9.7,slow=33						
YAK	**Yakutsk**	**18.22**	**307**	*e*P	**Pn**	**06 55 04.4**	**-0.6**
YAK				pmax	pmax		
	comp=Z,29nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,18nm,1.5s						
KLR	**Kul'dur**	**19.15**	**266**	*e*P	**Pn**	**06 55 12.0**	**-4.2**
TIXI	**Tiksi**	**22.12**	**333**	*e*P	**P**	**06 55 45.7**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.2						
TIXI	**Tiksi**	**22.12**	**333**	*e*P	**P**	**06 55 45.7**	**-1.5**
	comp=Z,3.8nm,0.4s,mb4.2						
MAJO	**Matsushiro**	**24.24**	**231**	*e*P	**P**	**06 56 08.2**	**0.0**
MAJO				*e**PP		06 56 19.0	
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
MAJO	**Matsushiro**	**24.24**	**231**	*e*P	**P**	**06 56 08.2**	**0.0**
	comp=Z,15nm,0.6s,mb4.6						
MAJO				*e*pP		06 56 19.0	
MAT	**Matsushiro**	**24.24**	**231**	P	**P**	**06 56 07.2**	**-1.0**
MJAR	**Matsushiro Arr**	**24.24**	**231**	P	**P**	**06 56 07.6**	**-0.6**
	comp=Z,6.3nm,0.6s,mb4.3,baz=28,slow=8.6,SNR=19						
MJAR	**Matsushiro Arr**	**24.24**	**231**	P	**P**	**06 56 07.6**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
IMA2	**Indian Mountai**	**24.28**	**44**	*e*P	**P**	**06 56 08.8**	**+0.3**
BOD	**Bodaibo**	**26.28**	**297**	*e*P	**P**	**06 56 25.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.0						
KSRS	**Korea Array**	**28.68**	**247**	P	**P**	**06 56 48.7**	**+0.5**
	comp=Z,0.5nm,0.2s,mb3.8,baz=41,slow=6.9,SNR=4.1						
KSRS				LR	LR	07 07 12.5	
	comp=Z,29nm,20.4s,MS2.9,baz=110,slow=34						
JNU	**Nakatsue**	**30.51**	**238**	LR	LR	07 08 26.4	
	comp=Z,108nm,20.1s,MS3.5,baz=359,slow=35						
INK	**Inuvik**	**32.09**	**39**	P	**P**	**06 57 18.5**	**+0.2**
	comp=Z,4.3nm,0.6s,mb4.4,baz=289,slow=6.8,SNR=29						
INK				PcP	PcP	07 00 05.9	-1.0
	comp=Z,0.8nm,0.6s,baz=317,slow=1.1,SNR=4.3						
INK	**Inuvik**	**32.09**	**39**	P	**P**	**06 57 18.5**	**+0.2**
INK						07 00 05.9	
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**32.09**	**39**	*e*P	**P**	**06 57 18.1**	**-0.2**
SONM	**Songino Array**	**34.49**	**282**	P	**P**	**06 57 38.0**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=54,slow=8.5,SNR=5.2						
SONM				PcP	PcP	07 00 12.2	-1.4
	comp=Z,1.0nm,0.9s,baz=72,slow=2.5,SNR=5.0						
SONM				LR	LR	07 10 54.1	
	comp=Z,66nm,19.3s,MS3.4,baz=94,slow=35						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**06 58 37.7**	**+0.2**
	comp=Z,3.6nm,0.6s,mb4.2,baz=300,slow=7.9,SNR=42						
YKA				PcP	PcP	07 00 34.7	-0.3
	comp=Z,1.4nm,0.7s,baz=304,slow=3.5,SNR=12						
YKA				pPcP		07 00 47.1	
	comp=Z,1.5nm,0.7s,baz=306,slow=3.4,SNR=11						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**06 58 37.7**	**+0.2**
YKA				PcP	PcP	07 00 34.7	-0.3
YKA				pPcP		07 00 47.1	
RES	**Resolute Bay**	**41.55**	**23**	*e*P	**P**	**06 58 37.5**	**-1.2**
	comp=Z,335nm,0.9s						
ZAL	**Zalesovo**	**42.78**	**302**	LR	LR	07 18 32.7	
	comp=Z,90nm,19.6s,MS3.7,baz=84,slow=39						
EDM	**Edmonton**	**47.10**	**55**	*e*P	**P**	**06 59 23.1**	**0.0**
MKAR	**Makanchi Array**	**48.36**	**295**	P	**P**	**06 59 29.9**	**-2.9**
	comp=Z,0.7nm,0.5s,mb4.0,baz=53,slow=7.1,SNR=7.4						
MKAR				LR	LR	07 20 09.1	
	comp=Z,61nm,18.6s,MS3.6,baz=353,slow=36						
MKAR	**Makanchi Array**	**48.36**	**295**	P	**P**	**06 59 29.9**	**-2.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,61nm,18.6s						
BVAR	**Borovoye Array**	**50.19**	**308**	P	**P**	**06 59 43.9**	**-2.9**
	comp=Z,1.2nm,0.5s,mb4.2,baz=62,slow=8.4,SNR=7.5						
BVAR				sP	sP	07 00 01.6	-2.4
	comp=Z,1.5nm,0.6s,baz=36,slow=5.5,SNR=4.8						
BVAR				LR	LR	07 21 34.5	
	comp=Z,78nm,19.9s,MS3.7,baz=309,slow=37						
BVAR	**Borovoye Array**	**50.19**	**308**	P	**P**	**06 59 43.9**	**-2.9**
BVAR				*SP	sP	07 00 01.6	-2.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,78nm,19.9s						
KEV	**Kevo**	**51.67**	**342**	*e*p	**P**	**06 59 55.8**	**-2.1**
ARCES	**ARCESS Array B**	**52.13**	**342**	P	**P**	**06 59 59.2**	**-2.2**
	comp=Z,5.2nm,0.9s,mb4.4,baz=24,slow=9.3,SNR=5.1						
ARCES	**ARCESS Array B**	**52.13**	**342**	P	**P**	**06 59 59.2**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**52.13**	**342**	P	**P**	**06 59 59.9**	**-1.5**
ARU	**Arti**	**52.92**	**317**	*e*P	**P**	**07 00 09.4**	**+2.2**
ARU				*e*	pP	07 00 21.9	+2.5
ARU				*e*		07 01 14.4	
ARU				*e*		07 02 05.9	
ARU				*e*S	**S**	**07 07 34.6**	**+1.3**
NVAR	**Mina Array Bea**	**54.35**	**72**	P	**P**	**07 00 19.2**	**+1.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=301,slow=10.0,SNR=8.8						
NVAR				pP	pP	07 00 31.1	+1.1
	comp=Z,1.7nm,0.6s,baz=310,slow=7.6,SNR=9.7						
BW06	**Boulder Array**	**55.97**	**63**	*e*P	**P**	**07 00 30.8**	**+1.5**
	comp=Z,13nm,1.8s,mb4.7						
PDAR	**Pinedale Array**	**55.97**	**63**	P	**P**	**07 00 30.8**	**+1.4**
	comp=Z,1.4nm,0.8s,mb4.1,baz=323,slow=2.5,SNR=13						
JOF	**Joensuu**	**56.58**	**335**	*e*p	**P**	**07 00 30.3**	**-3.4**
	comp=Z,3.8nm,0.5s,mb4.7						
ULM	**Lac du Bonnet**	**57.09**	**48**	P	**P**	**07 00 37.7**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.4,baz=337,slow=8.0,SNR=6.4						
ULM	**Lac du Bonnet**	**57.09**	**48**	*e*P	**P**	**07 00 37.7**	**+0.4**
	comp=Z,1.2nm,0.4s,mb4.3						
AKTO	**Aktyubinsk**	**57.49**	**313**	PcP	PcP	07 01 31.1	-2.3
	comp=Z,2.2nm,0.6s,baz=55,slow=5.4,SNR=5.1						
AKTO				LR	LR	07 28 09.5	
	comp=Z,52nm,19.8s,MS3.6,baz=227,slow=39						
KAF	**Kangasniemi**	**58.45**	**337**	*e*p	**P**	**07 00 44.6**	**-2.3**
	baz=28,slow=6.5						
FINES	**FINESS Array B**	**59.09**	**337**	P	**P**	**07 00 48.6**	**-2.7**
	comp=Z,5.2nm,0.8s,mb4.6,baz=10,slow=12,SNR=21						
FINES				pP	pP	07 01 01.1	-2.7
	comp=Z,2.3nm,0.8s,baz=41,slow=7.5,SNR=1.8						
FINES	**FINESS Array B**	**59.09**	**337**	P	**P**	**07 00 48.6**	**-2.7**
FINES				*PP	pP	07 01 01.1	-2.7
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**59.09**	**337**	P	**P**	**07 00 48.8**	**-2.5**
NB2	**NORSAR Subarra**	**62.34**	**344**	P	**P**	**07 01 11.6**	**-1.8**
	comp=Z,1.9nm,0.5s,mb4.5,baz=20,slow=6.9						
NB2	**NORSAR Subarra**	**62.34**	**344**	P	**P**	**07 01 11.6**	**-1.8**
NOA	**NORSAR Array B**	**62.34**	**344**	P	**P**	**07 01 11.7**	**-1.7**
	comp=Z,3.1nm,0.6s,mb4.6,baz=20,slow=6.7,SNR=22						
NOA	**NORSAR Array B**	**62.34**	**344**	P	**P**	**07 01 11.7**	**-1.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SCHQ	**Schefferville**	**63.86**	**29**	P	**P**	**07 01 22.9**	**-0.6**
	comp=Z,3.6nm,0.6s,mb4.6,baz=297,slow=11,SNR=7.8						
AKASG	**Malin Array Be**	**67.79**	**330**	P	**P**	**07 01 45.9**	**-2.9**
	comp=Z,1.7nm,0.5s,mb4.3,baz=28,slow=6.9,SNR=4.8						
AKASG	**Malin Array Be**	**67.79**	**330**	P	**P**	**07 01 45.9**	**-2.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**67.79**	**330**	P	**P**	**07 01 45.9**	**-2.9**
TXAR	**Lajitas Array**	**69.18**	**69**	P	**P**	**07 01 58.7**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=294,slow=4.5,SNR=20						
TXAR				pP	pP	07 02 10.8	+0.7
	comp=Z,1.5nm,0.6s,baz=298,slow=4.4,SNR=11						
TXAR	**Lajitas Array**	**69.18**	**69**	P	**P**	**07 01 58.7**	**+1.2**
TXAR				*PP	pP	07 02 10.8	+0.7
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**69.18**	**69**	P	**P**	**07 01 58.7**	**+1.2**
TXAR				pP	pP	07 02 10.8	+0.7
CLL	**Collm**	**71.26**	**340⇓**	*i* P	**P**	**07 02 08.8**	**-1.4**
CLL				pmax	pmax		

SJG			eS	Sn	07 01 39.9	-3.2
AOPR	**Arecibo Observ**	**2.44 238**	⇑eP	Pn	07 01 18.4	-2.6
AOPR			eS	Sn	07 01 47.1	-3.5
CELP	**Cerrillos**	**2.47 231**	⇑eP	Pn	07 01 18.9	-2.5
CELP			eS	Sn	07 01 47.6	-3.6
ICM	**Isla Caja Muer**	**2.54 227**	⇑eP	Pn	07 01 20.4	-2.0
ICM			eS	Sn	07 01 49.5	-3.6
LSP	**Las Mesas**	**2.80 239**	⇑eP	Pn	07 01 23.8	-2.1
LSP			eS	Sn	07 01 56.6	-2.7
CRPR	**Cabo Rojo, PR**	**2.91 236**	⇑eP	Pn	07 01 24.9	-2.6
CRPR			eS	Sn	07 01 58.7	-3.4

CASC 06 07:04:53.5±2.3, 872N×8239W, h5km, MD4.0, 11C-1D, Fault plane solution: NP1:φ=284.33000°, δ87.50000°, λ-29.91000°, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU	**Baru**	**0.19 297**		⇑eP	Pg	07 04 59.0	+1.7
DVD	**David**	**0.29 193**		⇑iP	Pg	07 05 00.4	+1.3
DVD				eS	Sg	07 05 04.7	+1.8
CTCR	**Cotoan**	**0.41 295**		⇑iP	Pg	07 05 02.4	+1.0
CTCR				eS	Sg	07 05 11.2	+4.4
CNI	**Changuinola**	**0.70 349**		⇑iP	Pg	07 05 07.7	+0.6
ACR	**Cerro Adams**	**0.78 265**		⇑eP	Pg	07 05 08.0	-0.5
ACR				⇑iP		07 05 08.0	
ACR				eS	Sg	07 05 18.4	-0.1
ACR				eS	Sg	07 05 18.5	0.0
BUS	**Buena Vista**	**1.59 302**		eP	Pn	07 05 22.6	+0.3
BUS				⇑eP		07 05 22.5	
BUS				eS	Sn	07 05 42.5	-0.7
BUS				eS	Sn	07 05 44.2	+1.0
LCR2	**La Lucha 2**	**1.89 303**		⇑eP	Pn	07 05 26.9	+0.5
LCR2				⇑iP		07 05 27.0	
LCR2				eS	Sn	07 05 51.3	+0.6
LAJ	**Bijagual**	**2.06 304**		eP	Pn	07 05 34.0	+5.3
LAJ				eS	Sn	07 06 02.7	+7.9
PRS1	**Puriscal**	**2.28 304**		eP	Pn	07 05 32.2	+0.5
PRS1				eS	Sn	07 06 00.8	+0.6
AZU	**Azuero**	**2.28 114**		⇑eP	Pn	07 05 30.7	-1.1
AZU				eS	Sn	07 06 00.3	0.0
CGA2	**Cerro Gallo 2**	**2.42 302**		⇑eP	Pn	07 05 35.2	+1.4
CGA2				eS	Sn	07 06 04.7	+0.9
PTP	**Ponta Puerca**	**18.84**	**58**	⇓eP		07 05 07.2	
PTP				eS		07 05 18.0	

*ISCJB **06** 07:18:29.5±0.8, 2341S×007×17995W±0.10, h514km±13km, mb4.2/15, Error ellipse: s-maj=15.2km s-min=9.1km az=66.1*

*NEIC **06** 07:18:29.8±0.8, 2326S×17990W, h506km±10km, mb4.4/8, Error ellipse: s-maj=13.8km s-min=9.1km az=154.0*

*IDC **06** 07:18:31.0±1.4, 2343S×17989W, h517km±15km, mb3.8/11, mb1 4.0/11, mb1mx3.8/16, mbtmp3.8/11, Error ellipse: s-maj=18.9km s-min=14.0km az=2.0*

ISC 06 07:18:29.7±0.8, 2331S±009×1799W±01, h499km±13km, n32, σ0§74/27, mb4.2/15, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.18 164**		P	**P**	**07 20 08.6**	**+0.9**
RAO	172nm,0.3s,baz=82,slow=22,SNR=6.2			S	**S**	**07 21 27.7**	**-0.1**
AFI	**Afiamalu**	**12.11**	**41**	P	**P**	**07 21 08.6**	**-0.8**
AFI	54nm,0.3s,baz=84,slow=23,SNR=2.5 2.8nm,0.3s,baz=280,slow=14,SNR=4.2			S	**S**	**07 23 20.7**	**-0.2**
URZ	**Urewera**	**15.12 189**		P	**P**	**07 21 37.2**	**-3.9**
URZ	6.5nm,0.3s,baz=210,slow=24,SNR=7.4 3.2nm,0.3s,baz=309,slow=8.4,SNR=14			S	**S**	**07 24 11.5**	**-7.5**
RPZ	**Rata Peaks**	**21.68 198**		P	**P**	**07 22 43.4**	**-0.1**
CTA	**Charters Tower**	**31.57 269**		⇓iP	**P**	**07 24 11.6**	**+1.1**
CTA	**Charters Tower**	**31.57 269**		P	**P**	**07 24 11.6**	**+1.1**
CTAO	**Charters Tower**	**31.57 269**		eP	**P**	**07 24 11.2**	**+0.7**
PMG	**Port Moresby**	**34.39 288**		P	**P**	**07 24 35.6**	**+1.2**
STKA	**Stephens Creek**	**35.03 247**		⇓iP	**P**	**07 24 40.2**	**+0.4**
STKA	**Stephens Creek**	**35.03 247**		P	**P**	**07 24 39.9**	**+0.1**
WB2	**Warramunga Arr**	**42.53 265**		⇓iP	**P**	**07 25 40.1**	**-0.6**
WRAB	**Tennant Creek**	**42.53 265**		eP	**P**	**07 25 40.2**	**-0.5**
WRA	**Warramunga Arr**	**42.54 265**		P	**P**	**07 25 40.2**	**-0.5**
WRA	7.5nm,0.5s,mb4.4,baz=93,slow=8.5,SNR=103 1.8nm,0.9s,baz=101,slow=4.3,SNR=7.3			ScP	ScP	07 30 23.8	-1.2
WRA	1.1nm,0.7s,baz=100,slow=13,SNR=6.5			S	**S**	**07 31 20.7**	**-5.8**
KAKA	**Kakadu**	**46.35 275**		eP	**P**	**07 26 09.7**	**-0.5**
FORT	**Forrest**	**46.60 249**		eP	**P**	**07 26 11.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.97 265**		eP	**P**	**07 26 45.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**50.97 265**		P	**P**	**07 26 44.7**	**+0.1**
QSPA	**South Pole Qui**	**66.77 180**		eP	**P**	**07 28 30.3**	**-0.7**
MJAR	**Matsushiro Arr**	**71.46 325**		P	**P**	**07 28 58.3**	**-1.0**
KSRS	**Korea Array**	**77.85 320**		P	**P**	**07 29 36.2**	**+1.0**
NVAR	**Mina Array Bea**	**84.27**	**44**	P	**P**	**07 30 08.4**	**0.0**
TXAR	**Lajitas Array**	**90.04**	**58**	P	**P**	**07 30 37.0**	**+1.3**
PDAR	**Pinedale Array**	**92.20**	**44**	P	**P**	**07 30 45.8**	**+0.1**
ARCES	**ARCESS Array B**	**131.33 348**		PKP	PKPdf	07 36 43.5	-1.4
FINES	**FINESS Array B**	**137.92 342**		SKPbc	SKPbc	07 39 40.1	-3.8
NOA	**NORSAR Array B**	**141.51 351**		PKhKP		07 36 57.8	
AKASG	**Malin Array Be**	**144.52 328**		PKP	PKPdf	07 37 06.7	-2.1
AKASG	2.6nm,0.5s,baz=44,slow=4.2,SNR=15 1.1nm,0.6s,baz=43,slow=2.0,SNR=6.8			SKPbc	SKPbc	07 39 57.4	-3.2
AKASG	**Malin Array Be**	**144.52 328**		PKP	PKPdf	07 37 06.7	-2.2
AKASG				SKPbc	SKPbc	07 39 57.4	-3.2
AKBB	**Malin Array Si**	**144.52 328**		ePKPbc	PKPdf	07 37 07.3	-1.6
BRTR	**Keskin Array B**	**147.29 308**		PKPbc	PKPbc	07 37 16.1	-0.6
BRTR	2.0nm,0.6s,baz=138,slow=5.2,SNR=3.3 2.0nm,0.6s,baz=110,slow=4.2,SNR=7.3			PKPab	PKPab	07 37 20.4	+0.3
MMAI	**Mount Meron Ar**	**147.53 295**		PKPbc	PKPbc	07 37 17.7	+0.4
TORD	**Torodi Ar. Bea**	**169.78 189**		PKPab	PKPab	07 38 55.6	-1.9

*ISCJB **06** 07:18:31.8±0.5, 5137N±003×16.16E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.5km az=32.9*

*IDC **06** 07:18:33.9±1.1, 5140N×16.18E, h0km, mb1 3.6/4, mb1mx3.3/20, mbtmp3.5/4, ML3.0/4, Error ellipse: s-maj=20.7km s-min=9.8km az=109.0*

*WAR **06** 07:18:33.7, 5145N×16.17E, ML2.9, Mining Induced*

*CSEM **06** 07:18:33.5±0.2, 5141N×16.14E, h2km, ML3.3/7, Error ellipse: s-maj=3.1km s-min=1.9km az=35.0*

*IPEC **06** 07:18:33.0±0.4, 5146N×1639E, h0km, ML2.5/4, Error ellipse: s-maj=3.7km s-min=2.2km az=86.0*

*NEIC **06** 07:18:33.3±0.6, 5142N×16.16E, h5km, MG2.9(WAR), Error ellipse: s-maj=7.3km s-min=5.3km az=15.0*

*VIE **06** 07:18:34.8±0.5, 5124N×16.19E, h0km, mb2.4/4, ML2.8/4, Error ellipse: s-maj=3.4km s-min=3.1km az=174.0 59 km WNW of Breslau Suspected Mining induced.*

*PRU **06** 07:18:35.1, 5135N×16.11E, h0km*

ISC 06 07:18:33.0±0.5, 5141N±003×1615E±003, h0km, n35, σ1§11/60, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58 171**		iPg	**Pg**	**07 18 44.8**	**+0.7**
KSP				eSg	**Sg**	**07 18 52.1**	**+0.6**
KSP				eL		07 18 57.0	
KSP	**Ksiaz**	**0.58 171**		ePg	**Pg**	**07 18 44.7**	**+0.6**
KSP				eSg	**Sg**	**07 18 52.1**	**+0.6**
UPC	**Upice**	**0.91 186**		ePG	**Pg**	**07 18 51.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.07 174**		ePG	**Pg**	**07 18 53.7**	**+0.2**
DPC	53nm,0.7s			eSG	**Sg**	**07 19 08.1**	**+0.8**
DPC	**Dobruska-Polom**	**1.07 174**		ePg	**Pg**	**07 18 53.7**	**+0.2**
DPC				eSg	**Sg**	**07 19 08.0**	**+0.7**
PVCC	**Panska Ves**	**1.33 229**		ePG	**Pg**	**07 18 59.2**	**+0.6**
PVCC	151nm,0.4s			eSG	**Sg**	**07 19 17.4**	**+1.5**
BRG	**Berggiesshubel**	**1.49 250**		PN	**Pn**	**07 18 60.0**	**-1.1**
BRG				PG	**Pg**	**07 19 01.5**	**-0.1**
BRG	26nm,0.4s			SG	**Sg**	**07 19 21.8**	**+0.9**
PRU	**Pruhonice**	**1.75 216**		ePG	**Pg**	**07 19 05.9**	**-0.7**
PRU	60nm,0.8s			eSG	**Sg**	**07 19 29.6**	**+0.2**
RUE	**Ruedersdorf**	**1.82 307**		ePn	**Pn**	**07 19 05.4**	**-0.1**
RUE	**Ruedersdorf**	**1.82 307**		ePn	**Pn**	**07 19 05.4**	**-0.1**
MORC	**Moravsky Berou**	**1.86 151**		P	**Pn**	**07 19 05.9**	**-0.2**
MORC	**Moravsky Berou**	**1.86 151**		ePn	**Pn**	**07 19 05.9**	**-0.2**
MORC	25nm,0.4s			eSg	**Sg**	**07 19 30.5**	**-2.3**
CLL	**Collm**	**1.98 268**		ePn	**Pn**	**07 19 07.0**	**-0.7**
CLL				iPg	**Pg**	**07 19 10.7**	**-0.2**
CLL				iSg	**Sg**	**07 19 37.7**	**+1.2**
OKC	**Ostrava-Krasne**	**2.02 140**		eSG	**Sg**	**07 19 36.7**	**-1.4**
VRAC	**Vranov**	**2.12 172**		Pn	**Pn**	**07 19 10.6**	**+0.8**
VRAC	comp=Z,4.3nm,0.3s,baz=345,slow=10,SNR=6.9 comp=Z,5.6nm,0.3s,baz=250,slow=23,SNR=9.0			Lg		07 19 40.7	
VRAC	**Vranov**	**2.12 172**		ePn	**Pn**	**07 19 10.4**	**+0.6**
VRAC				eSg	**Sg**	**07 19 39.7**	**-1.6**
KRUC	**Moravsky**	**2.36 176**		ePg	**Pg**	**07 19 16.8**	**-1.4**
KRUC	comp=Z,17nm,0.3s			eSg	**Sg**	**07 19 48.6**	**-0.2**
OJC	**Ojcow**	**2.60 116**		ePg	**Pg**	**07 19 22.4**	**-0.5**
OJC	comp=Z,32nm,0.6s			eSg	**Sg**	**07 19 57.5**	**+0.8**
NKC	**Novy Kostel**	**2.63 245**		ePN	**Pn**	**07 19 17.0**	**+0.3**
NKC				ePG	**Pg**	**07 19 22.0**	**-1.4**
NKC				eSG	**Sg**	**07 19 58.4**	**+1.0**
JAVC	**Velka Javorina**	**2.74 158**		eSg	**Sg**	**07 20 02.7**	**+1.8**
KHC	**Kasperske Hory**	**2.82 217**		ePN	**Pn**	**07 19 19.2**	**-0.1**
KHC				ePG	**Pg**	**07 19 25.4**	**-1.6**
KHC				eSG	**Sg**	**07 20 02.2**	**-1.3**
MOX	**Moxa**	**2.96 257**		ePG	**Pg**	**07 19 29.5**	**-0.3**
MOX				eSG	**Sg**	**07 20 09.6**	**+1.4**
GEC2	**GERESS Array S**	**3.01 212**		ePn	**Pn**	**07 19 22.8**	**+0.8**
GEC2	**GERESS Array S**	**3.01 212**		ePn	**Pn**	**07 19 22.8**	**+0.8**
GERES	**GERESS Array B**	**3.01 212**		Pn	**Pn**	**07 19 23.2**	**+1.3**
GERES	comp=Z,0.6nm,0.3s,baz=30,slow=13,SNR=10.0 comp=Z,3.5nm,0.3s,baz=34,slow=14,SNR=33			Pg	**Pg**	**07 19 28.6**	**-2.1**
GERES	comp=Z,2.7nm,0.3s,baz=35,slow=28,SNR=7.1			Lg		07 20 07.8	
GERES	**GERESS Array B**	**3.01 212**		Pg	**Pg**	**07 19 28.6**	**-2.2**
NIE	**Niedzica**	**3.33 125**		eP	**Pg**	**07 19 37.7**	**+0.9**
NIE				eS	**Sg**	**07 20 21.8**	**+1.9**
VYHS	**Vyhne**	**3.40 148**		ePG	**Pg**	**07 19 36.7**	**-1.4**
VYHS				eSG	**Sg**	**07 20 27.3**	**+5.1**
CONA	**Conrad Observa**	**3.49 183**		⇓iPn	**Pn**	**07 19 28.2**	**-0.3**
CONA	comp=Z,14nm,0.5s			⇓iSg	**Sg**	**07 20 24.5**	**-0.7**
MOA	**Molln**	**3.77 200**		⇑iPn	**Pn**	**07 19 31.7**	**-0.7**
MOA	comp=Z,14nm,0.5s			⇑iSg	**Sg**	**07 20 34.8**	**+0.6**
STHS	**Stebnicka Huta**	**3.82 120**		ePG	**Pg**	**07 19 48.3**	**+2.0**
CRVS	**Cervenica-Dubn**	**4.24 124**		ePG	**Pg**	**07 19 56.4**	**+2.1**
CRVS				eSG	**Sg**	**07 21 02.1**	**+13**
AKASG	**Malin Array Be**	**8.27**	**90**	Pn	**Pn**	**07 20 33.9**	**-0.3**
FINES	**FINESS Array B**	**11.44**	**25**	Pn	**Pn**	**07 21 14.3**	**-3.4**
ARCES	**ARCESS Array B**	**18.72**	**10**	Pn	**Pn**	**07 22 47.3**	**-6.1**

*NIED **06** 07:24:00, 4700N×15330E, h32km, Mw4.2 Best double couple: M0 1.90000×10^15 NP1:φ=309.00000°, δ87.00000°, λ19.00000°. NP2:φ=217.00000°, δ71.00000°, λ176.00000°.*

*NEIC **06** 07:24:19.6±0.5, 4740N×15294E, h10km, mb4.4/5, Error ellipse: s-maj=13.7km s-min=6.1km az=144.0*

*SKHL **06** 07:24:19.9±1.8, 4670N×153.10E, h56km±22km, mb4.9/5*

*JMA **06** 07:24:19.5±0.6, 4698N×15325E, h30km, M4.9*

*ISCJB **06** 07:24:21.0±0.8, 4675N±006×15302E±007, h58km±7km, mb4.5/34, MS3.5/5, Error ellipse: s-maj=11.8km s-min=6.1km az=111.0*

*MOS **06** 07:24:21.7±1.2, 4691N×15299E, h59km, mb4.6/15, Error ellipse: s-maj=10.3km s-min=8.0km az=100.4*

*IDC **06** 07:24:27.2±3.3, 4694N×15291E, h90km±31km, mb4.0/19, mb1 4.2/21, mb1mx4.1/27, mbtmp4.0/21, MS3.4/6, Ms1 3.4/6, ms1mx3.1/30, Error ellipse: s-maj=21.5km s-min=13.5km az=169.0*

ISC 06 07:24:22.9±0.7, 4681N±006×15303E±007, h59km±6km, n133, σ1§32/146, mb4.5/34, MS3.5/5, 12C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.93 248**		ePN	**Pn**	**07 25 18.8**	**-1.9**
KUR				eS	**Sn**	**07 26 04.5**	**-1.0**
KUR	comp=Z,400nm,0.8s			pmax	pmax		
KUR	comp=N,550nm,0.5s			smax			
KUR	comp=E,100nm,0.5s			smax			
KUR	**Kuril'sk**	**3.93 248**		eP	**Pn**	**07 25 18.8**	**-1.9**
KUR	comp=E,400nm,0.8s			AMB	AMB	07 25 23.4	
KUR				eS	**Sn**	**07 26 04.5**	**-1.0**
KUR	comp=E,550nm,0.5s			A		07 26 15.2	
KUR	comp=E,100nm,0.5s			A		07 26 15.2	
SKR	**Severo-Kuril's**	**4.38**	**27**	eP	**Pn**	**07 25 25.9**	**-1.0**
SKR	comp=E,70nm,0.4s			AMB	AMB	07 25 27.5	
SKR				eS	**Sn**	**07 26 12.0**	**-4.6**
SKR	comp=E,590nm,0.2s			A		07 26 15.5	
SKR	comp=E,70nm,0.2s			A		07 26 15.5	
SKR	comp=E,170nm,0.5s			A		07 26 15.5	
YUK	**Yuzh-Kuril'sk**	**5.76 244**		ePN	**Pn**	**07 25 47.6**	**+1.8**
YUK				eS	**Sn**	**07 26 53.9**	**+3.4**
YUK	comp=Z,350nm,0.4s			pmax	pmax		
YUK	comp=N,650nm,0.5s			smax			
YUK	comp=E,890nm,0.5s			smax			
YUK	comp=N,3μm,1.0s			smax			
YUK	comp=E,4μm,0.8s			smax			
YUK	**Yuzh-Kuril'sk**	**5.76 244**		eP	**Pn**	**07 25 47.6**	**+1.8**
YUK				AMB	AMB	07 25 48.0	
YUK	comp=E,350nm,0.4s			eS	**Sn**	**07 26 53.9**	**+3.4**
YUK				A		07 27 14.5	
YUK	comp=E,650nm,0.5s			A		07 27 14.5	
YUK	comp=E,890nm,0.5s			A		07 27 15.0	
YUK	comp=E,4μm,0.8s			A		07 27 15.0	
YUK	comp=E,3μm,1.0s			A		07 27 15.0	
NEM2	**Nemuro 2**	**6.20 239**		P	**Pn**	**07 25 51.0**	**-0.9**
NEM2				eS	**Sn**	**07 26 59.4**	**-2.0**
JRA	**Rausu**	**6.27 246**		P	**Pn**	**07 25 54.8**	**+2.1**
JTKR	**Abashiri--Toko**	**7.02 249**		P	**Pn**	**07 26 05.4**	**+2.3**
JAK	**Akkeshi**	**7.04 240**		P	**Pn**	**07 26 02.5**	**-0.8**
JAK				eS	**Sn**	**07 27 18.2**	**-3.7**
YSS	**Yuzh-Sakhalins**	**7.05 275**		ePN	**Pn**	**07 26 06.0**	**+2.6**
YSS				eS	**Sn**	**07 27 24.0**	**+1.9**
YSS	comp=Z,20nm,0.8s			pmax	pmax		
YSS	comp=N,20nm,0.8s			smax			
YSS	comp=E,20nm,0.8s			smax			
YSS	comp=Z,400nm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.05 275**		Pn	**Pn**	**07 26 03.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**7.05 275**		eP	**Pn**	**07 26 06.0**	**+2.6**
YSS	comp=Z,20nm,0.8s			AMB	AMB	07 26 08.0	
YSS				eS	**Sn**	**07 27 24.0**	**+1.9**
YSS	comp=Z,20nm,0.8s			A		07 27 27.0	
YSS	comp=Z,400nm,15.0s			AMS	AMS	07 28 38.0	
PET	**Petropavlovsk**	**7.20**	**28**	ePn	**Pn**	**07 25 57.9**	**-7.6**
PET				eSn	**Sn**	**07 27 20.3**	**-5.5**
JMP	**Maruseppu**	**7.36 251**		P	**Pn**	**07 26 11.0**	**+3.3**
JAR	**Ashorobuto**	**7.44 245**		P	**Pn**	**07 26 10.2**	**+1.4**
JAR				eS	**Sn**	**07 27 33.0**	**+1.3**
JOB	**Onbets**	**7.61 242**		P	**Pn**	**07 26 11.6**	**+0.5**
JOB				eS	**Sn**	**07 27 34.4**	**-1.6**
ASAJ	**Asahikawa**	**7.82 254**		P	**Pn**	**07 26 17.3**	**+3.4**
ASAJ	comp=Z,4.5nm,0.3s,baz=65,slow=9.3,SNR=16 comp=Z,137nm,21.2s,baz=37,slow=36			LR	LR	07 29 04.6	
ASAJ	**Asahikawa**	**7.82 254**		P	**Pn**	**07 26 17.5**	**+3.6**
JKK2	**Kamakawa 2**	**7.82 252**		P	**Pn**	**07 26 16.8**	**+2.8**
JWK2	**Keihoku**	**7.89 263**		P	**Pn**	**07 26 20.7**	**+5.8**
TYV	**Tymovskoe**	**7.96 304**		eP	**Pn**	**07 26 17.0**	**+1.2**
TYV	comp=Z,22nm,0.8s			AMB	AMB	07 26 18.2	
TYV	comp=Z,13nm,1.0s			AMB	AMB	07 26 18.2	
JCH	**Churui**	**8.06 242**		P	**Pn**	**07 26 17.0**	**-0.3**
JCH				eS	**Sn**	**07 27 44.4**	**-2.6**
JFR	**Furan**	**8.25 248**		P	**Pn**	**07 26 21.8**	**+2.0**
JAB	**Ashibetsu**	**8.32 251**		P	**Pn**	**07 26 24.2**	**+3.3**
JEM	**Erimo**	**8.54 239**		P	**Pn**	**07 26 24.2**	**+0.4**
ERM	**Erimo**	**8.54 239**		⇑ePN	**Pn**	**07 26 24.9**	**+1.1**
ERM	**Erimo**	**8.54 239**		ePn	**Pn**	**07 26 24.7**	**+0.9**
ERM	comp=Z,42nm,0.5s			eSn	**Sn**	**07 27 59.2**	**+0.6**
JBT2	**Biratori 2**	**8.59 246**		P	**Pn**	**07 26 25.1**	**+0.6**
JNBK	**Urakawa-nobuka**	**8.62 242**		P	**Pn**	**07 26 23.9**	**-1.1**
JNBK				eS	**Sn**	**07 27 56.2**	**-4.5**
JNB	**Noboribetsu**	**9.59 247**		P	**Pn**	**07 26 37.9**	**-0.2**
JNB				eS	**Sn**	**07 28 22.3**	**-2.0**
JKB	**Kayabe**	**9.90 245**		P	**Pn**	**07 26 41.6**	**-0.8**
JKB				eS	**Sn**	**07 28 25.7**	**-6.3**
JSH	**Shimam**	**10.14 250**		P	**Pn**	**07 26 47.1**	**+1.4**
JYM2	**Yakumo 2**	**10.19 247**		P	**Pn**	**07 26 46.2**	**-0.2**
JSR	**Shiriuchi**	**10.48 244**		P	**Pn**	**07 26 48.9**	**-1.5**
JSR				eS	**Sn**	**07 28 39.3**	**-7.0**
JTM	**Tenmabayashi**	**10.53 239**		P	**Pn**	**07 26 48.6**	**-2.5**
JTM				eS	**Sn**	**07 28 38.6**	**-8.9**
JTH	**Tanohata**	**10.64 234**		eS	**Sn**	**07 28 38.6**	**-11**
JOSM	**Okushiri--Mats**	**10.78 249**		P	**Pn**	**07 26 54.5**	**0.0**
OFUJ	**Ofunato**	**11.35 231**		P	**Pn**	**07 26 58.8**	**-3.4**
JRG	**Rokugo**	**11.70 235**		P	**Pn**	**07 27 04.8**	**-2.2**
JRG				eS	**Sn**	**07 29 05.7**	**-10**
JIO	**Ouri**	**11.98 230**		P	**Pn**	**07 27 07.9**	**-2.9**
JIO				eS	**Sn**	**07 29 11.4**	**-11**
KLR	**Kul'dur**	**14.44 287**		eP	**Pn**	**07 27 44.8**	**+0.8**
MAJO	**Matsushiro**	**15.07 232**		eP	**Pn**	**07 27 57.8**	**+5.5**
MAJO	comp=Z,7.0nm,0.4s			pmax	pmax		
MAJO	**Matsushiro**	**15.07 232**		ePn	**Pn**	**07 27 57.8**	**+5.6**
MJAR	**Matsushiro Arr**	**15.07 232**		P	**Pn**	**07 27 57.3**	**+5.0**
MJAR	**Matsushiro Arr**	**15.07 232**		P	**Pn**	**07 27 57.3**	**+5.1**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax		
KSRS	**Korea Array**	**20.76 252**		P	**P**	**07 29 01.4**	**+2.6**
KSRS	comp=Z,3.3nm,0.5s,baz=58,slow=9.5,SNR=10 comp=Z,32nm,20.3s,MS2.7,baz=175,slow=34			LR	LR	07 36 21.4	
HIA	**Hailar**	**22.30 289**		⇑eP	**P**	**07 29 13.3**	**-1.9**
BILL	**Bilibino**	**22.34**	**13**	⇓eP	**P**	**07 29 16.9**	**+1.2**
BILL	comp=Z,18nm,2.1s,mb4.1			pmax	pmax		
ULN	**Ulaanbaatar**	**30.83 289**		⇓iP	**P**	**07 30 34.2**	**+1.0**
ULN	**Ulaanbaatar**	**30.83 289**		eP	**P**	**07 30 34.3**	**+1.1**
SONM	**Songino Array**	**31.26 289**		P	**P**	**07 30 36.7**	**-0.3**
SONM	comp=Z,0.8nm,0.8s,mb3.6,baz=69,slow=8.6,SNR=4.4 comp=Z,97nm,18.8s,MS3.5,baz=183,slow=38			LR	LR	07 44 13.0	
IMA2	**Indian Mountai**	**33.79**	**36**	eP	**P**	**07 30 58.2**	**-0.9**
COLA	**College**	**36.12**	**38**	d iP	**P**	**07 31 20.1**	**+0.9**
KRAR	**Krasnoyarsk**	**37.51 307**		⇑eP	**P**	**07 31 30.3**	**-0.7**
INK	**Inuvik**	**41.63**	**32**	P	**P**	**07 32 05.6**	**+0.3**
INK	**Inuvik**	**41.63**	**32**	eP	**P**	**07 32 04.0**	**-1.3**
ZAL	**Zalesovo**	**42.55 306**		PcP	PcP	07 34 04.8	+0.5
ZAL	comp=Z,5.6nm,0.7s,baz=283,slow=7.7,SNR=34 comp=Z,313nm,1.1s comp=Z,1.1nm,0.3s,baz=7.8,slow=5.1,SNR=5.2			LR	LR	07 51 34.8	
MK31	**Makanchi Array**	**46.87 297**		eP	**P**	**07 32 46.5**	**-0.6**
MKAR	**Makanchi Array**	**46.87 297**		P	**P**	**07 32 46.2**	**-0.9**
MKAR	comp=Z,7.9nm,0.7s,baz=242,slow=38 comp=Z,1.0nm,0.5s,mb4.0,baz=63,slow=7.3,SNR=7.5			PcP	PcP	07 34 19.5	+0.4
MKAR	comp=Z,0.7nm,0.6s,baz=64,slow=3.9,SNR=4.6			LR	LR	07 54 02.6	
MKAR	**Makanchi Array**	**46.87 297**		P	**P**	**07 32 46.2**	**-0.9**
MKAR	comp=Z,81nm,18.1s,MS3.7,baz=242,slow=38			LR	LR	07 34 19.5	
MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
MKAR	comp=Z,81nm,18.1s			MLR	MLR		
MKAR	**Makanchi Array**	**46.87 297**		P	**P**	**07 32 46.2**	**-0.9**
MKAR				PcP	PcP	07 34 19.5	+0.4
MKAR				LR	LR	07 54 02.6	
KURK	**Kurchatov**	**47.28 304**		eP	**P**	**07 32 49.0**	**-1.4**
KURK	comp=Z,3.0nm,0.8s,mb4.3			pmax	pmax		
KURK	**Kurchatov**	**47.28 304**		eP	**P**	**07 32 49.0**	**-1.3**
CHKZ	**Chkalovo**	**50.35 310**		eP	**P**	**07 33 12.9**	**-0.9**
CHKZ	comp=Z,2.9nm,0.8s,mb4.3 comp=Z,2.0nm,0.4s,mb4.5			pmax	pmax		
CHKZ	**Chkalovo**	**50.35 310**		eP	**P**	**07 33 12.9**	**-0.9**
BVAR	**Borovoye Array**	**50.78 309**		P	**P**	**07 33 16.9**	**-0.2**
BVAR	comp=Z,2.4nm,0.4s,mb4.6 comp=Z,0.9nm,0.3s,mb4.1,baz=49,slow=8.8,SNR=6.8			PcP	PcP	07 34 33.6	+0.3
BVAR	**Borovoye Array**	**50.78 309**		P	**P**	**07 33 16.9**	**-0.2**
BVAR	comp=Z,1.6nm,0.5s,baz=94,slow=2.1,SNR=5.0					07 34 33.6	
BVAR	comp=Z,1.0nm,0.3s			pmax	pmax		
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**07 33 18.4**	**+0.4**
YKA	comp=Z,2.7nm,0.6s,mb4.3,baz=296,slow=7.1,SNR=30 comp=Z,0.7nm,0.7s,baz=300,slow=3.5,SNR=5.1			PcP	PcP	07 34 34.0	+0.2
YKA	**Yellowknife Ar**	**50.91**	**37**	eP	**P**	**07 33 18.4**	**+0.4**
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**07 33 18.4**	**+0.4**
YKA				PcP	PcP	07 34 34.0	+0.2
JIRN	**Jiri**	**54.89 274**		eP	**P**	**07 33 49.1**	**+1.7**
GUN	**Gumba**	**54.94 275**		eP	**P**	**07 33 49.5**	**+1.8**
KKN	**Kakani**	**55.43 275**		eP	**P**	**07 33 53.3**	**+2.1**
PKI	**Pulchoki**	**55.48 275**		eP	**P**	**07 33 53.1**	**

JOF	Joensuu	61.26	334	*e*p	P	07 34 30.5 -1.4
NVAR	Mina Array Bea	62.45	62	P	P	07 34 41.2 +1.3
	comp=Z,1.0nm,0.6s,mb4.1,baz=298,slow=7.4,SNR=8.9					
KAF	Kangasniemi	63.37	335	*e*p	P	07 34 44.2 -1.8
	baz=37,slow=6.2					
FIA1	FINESS Array S	63.96	335	*e*P	P	07 34 48.7 -1.2
FIA1				*e*pP	pP	07 34 56.4 -9.4
FINES	FINESS Array B	63.96	335	P	P	07 34 48.7 -1.2
	comp=Z,4.9nm,0.4s,mb4.9,baz=41,slow=6.9,SNR=50					
FINES	FINESS Array B	63.96	335	*e*P	P	07 34 48.7 -1.2
PDAR	Pinedale Array	64.76	54	P	P	07 34 56.2 +1.1
	comp=Z,2.3nm,0.7s,mb4.3,baz=306,slow=2.0,SNR=23					
ULM	Lac du Bonnet	66.51	41	P	P	07 35 05.8 -0.6
	comp=Z,1.3nm,0.6s,mb4.1,baz=318,slow=6.9,SNR=4.6					
ULM	Lac du Bonnet	66.51	41	P	P	07 35 05.8 -0.6
NB2	NORSAR Subarra	68.15	341	P	P	07 35 16.0 -0.8
	comp=Z,4.8nm,0.6s,mb4.7,baz=27,slow=6.5					
NOA	NORSAR Array B	68.15	341	P	P	07 35 16.2 -0.6
	comp=Z,5.5nm,0.6s,mb4.8,baz=27,slow=6.3,SNR=22					
NOA	NORSAR Array B	68.15	341	P	P	07 35 16.2 -0.6
NOA				pmax	pmax	
	comp=Z,6.0nm,0.6s					
WRA	Warramunga Arr	68.55	199	P	P	07 35 19.6 +0.3
	comp=Z,0.4nm,0.6s,mb3.5,baz=12,slow=6.2,SNR=5.1					
WRA	Warramunga Arr	68.55	199	*e*P	P	07 35 20.2 +0.9
AKASG	Malin Array Be	71.47	326	P	P	07 35 36.3 -0.9
	comp=Z,8.4nm,0.4s,mb5.1,baz=34,slow=6.1,SNR=29					
AKASG	Malin Array Be	71.47	326	*e*P	P	07 35 36.2 -0.9
KIEV	Kiev	71.48	326	*e*P	P	07 35 36.2 -1.0
KIEV				pmax	pmax	
	comp=Z,9.0nm,0.6s,mb4.9					
KIEV	Kiev	71.48	326	*e*P	P	07 35 36.2 -1.0
	comp=Z,9.0nm,0.6s,mb4.9					
ANMO	Albuquerque	71.85	58⇑	*e*P	P	07 35 39.4 0.0
STHS	Stebnicka Huta	75.44	330	*e*P	P	07 36 01.6 +1.1
STHS				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.5					
KOLS	Kolonicke sedl	75.48	329	*e*P	P	07 36 01.1 +0.4
BURAR	Bucovina Array	75.51	326	⇓*i*P	P	07 36 00.8 -0.1
CRVS	Cervenica-Dubn	75.80	329	*e*P	P	07 36 01.4 -1.1
MORC	Moravsky Berou	76.36	332	⇑*i*P	P	07 36 05.6 -0.1
CLL	Collm	76.39	335	⇑*i*P	P	07 36 04.5 -1.4
CLL				pmax	pmax	
	comp=Z,12nm,1.1s,mb4.7					
CLL	Collm	76.39	335	⇑*i*P	P	07 36 04.5 -1.4
	comp=Z,12nm,1.1s,mb4.7					
KECS	Kecovo	76.49	330	*e*P	P	07 36 06.6 +0.1
KECS				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.3					
BRG	Berggiesshubel	76.50	335	*e*P	P	07 36 06.7 +0.1
	comp=Z,1.4nm,0.3s,mb4.3					
BRG	Berggiesshubel	76.50	335	*e*P	P	07 36 06.7 +0.2
BRG				pmax	pmax	
	comp=Z,1.0nm,0.3s,mb4.2					
MLR	Muntele Rosu	76.98	325	⇑*i*P	P	07 36 06.4 -2.8
VYHS	Vyhne	77.05	331	*e*P	P	07 36 09.8 +0.2
VYHS				pmax	pmax	
	comp=Z,3.0nm,1.0s,mb4.2					
MALT	Malatya	77.07	313	⇑*i*P	P	07 36 11.6 +1.9
DRGR		77.13	327	⇑P	P	07 36 10.2 +0.1
DRGR		77.13	327	⇑*i*P	P	07 36 10.1 0.0
TXAR	Lajitas Array	77.51	61	P	P	07 36 13.3 +1.1
	comp=Z,1.9nm,0.5s,mb4.3,baz=300,slow=4.9,SNR=81					
TXAR	Lajitas Array	77.51	61	P	P	07 36 13.3 +1.1
TXAR				pmax	pmax	
	comp=Z,2.0nm,0.5s					
KHC	Kasperske Hory	78.16	334	*e*P	P	07 36 15.5 -0.3
GZR	Gura Zlata	78.29	327	⇓*i*P	P	07 36 16.1 -0.4
BRTR	Keskin Array B	78.31	317	P	P	07 36 17.4 +0.8
	comp=Z,2.4nm,0.8s,mb4.2,baz=72,slow=4.0,SNR=11					
BRTR	Keskin Array B	78.31	317	*e*P	P	07 36 17.4 +0.8
GERES	GERESS Array B	78.38	334	P	P	07 36 16.8 -0.2
	comp=Z,1.0nm,0.4s,mb4.1,baz=28,slow=3.6,SNR=8.5					
GERES	GERESS Array B	78.38	334	P	P	07 36 16.8 -0.2
GERES				pmax	pmax	
	comp=Z,1.0nm,0.4s					
BZS	Buzias	78.53	328	⇑*i*P	P	07 36 16.8 -1.1
VTS	Vitosha	80.49	325	⇓*i*P	P	07 36 28.9 +0.4
PMOR	Pomariorio Ree	81.13	123	*e*T		09 05 58.7
	comp=Z,11nm,0.2s					
PPT	Papeete	82.24	126	*e*LR	LR	08 02 24.0
	comp=Z,52nm,24.2s					
MMAI	Mount Meron Ar	82.73	311	P	P	07 36 41.8 +1.5
	comp=Z,6.3nm,0.6s,mb4.8,baz=58,slow=7.9,SNR=8.8					
IDI	Anoyia	85.93	320	P	P	07 36 55.6 -1.0
	comp=Z,4.4nm,0.6s,mb4.9,baz=34,slow=14,SNR=4.7					
TBI	Tubuai	86.98	129	*e*T		09 13 22.7
	comp=Z,8.9nm,0.3s					
TORD	Torodi Ar. Bea	115.01	329	PKP	PKiKP	07 42 56.9 -0.2
	comp=Z,0.2nm,0.6s,baz=339,slow=2.8,SNR=3.8					
SNAA	Sanae	152.60	196	*e*PKPdf	PKPbc	07 44 11.9 -0.8
VNA2	Neumayer--Watz	154.05	195	*e*PKPdf	PKPdf	07 44 07.9 +0.2
VNA2				*e*		07 44 15.4
VNA2				*e*		07 44 30.5
VNA3	Neumayer Olymp	154.14	193	*e*PKPdf	PKPdf	07 44 08.2 +0.3
VNA3				*e*		07 44 15.7
VNA3				*e*		07 44 29.9

IDC 06 07:35:26.8±1.9, 723S×12840E, h0km, mb4.2/2, mb1 4.3/3, mb1mx3.9/13, mbtmp4.2/3, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=329.3km s-min=26.5km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.89	156	Pn	Pn	07 38 44.3	-0.6
	0.9nm,0.3s,baz=335,slow=14,SNR=33						
WRA				Sn	Sn	07 41 06.6	-13
	1.9nm,0.3s,baz=336,slow=22,SNR=9.0						
STKA	Stephens Creek	27.43	155	P	P	07 41 14.7	+0.4
	0.6nm,0.4s,baz=327,slow=8.6,SNR=5.8						
HNR	Honiara	31.28	96	LR	LR	07 53 17.6	
	comp=Z,42nm,18.3s,baz=360,slow=34						
MKAR	Makanchi Array	67.56	328	P	P	07 46 25.2	+0.1
	2.0nm,0.4s,baz=119,slow=8.1,SNR=17						

*IDC **06** 07:37:01.5±1.4, 4699N×15557E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=53.4km s-min=30.9km az=121.0*
*ISCJB **06** 07:37:05.0±1.1, 470N±02×1555E±04, h35km, mb3.7/5, Error ellipse: s-maj=45.6km s-min=24.8km az=59.3*
*MOS **06** 07:37:05.1±0.4, 4704N×15546E, h36km, mb4.0/4, Error ellipse: s-maj=99.9km s-min=43.3km az=71.1*

ISC 06 07:37:06.8±1.1, 471N±02×1555E±04, h35km, n10, σ0§20/10, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.62	6	*e*PN	Pn	07 38 13.0	+13
INK	Inuvik	40.49	33	P	P	07 44 42.2	+0.1
	0.8nm,0.5s,mb3.7,baz=295,slow=5.2,SNR=11						
INK	Inuvik	40.49	33	P	P	07 44 42.3	+0.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	49.67	38	P	P	07 45 54.7	-0.4
	comp=Z,0.4nm,0.6s,mb3.7,baz=294,slow=7.1,SNR=5.1						
FINES	FINESS Array B	64.42	336	P	P	07 47 39.4	0.0
	comp=Z,1.9nm,0.8s,mb4.2,baz=46,slow=9.9,SNR=3.7						
FINES	FINESS Array B	64.42	336	P	P	07 47 39.4	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	69.39	201	P	P	07 48 10.9	0.0
	comp=Z,0.5nm,0.8s,mb3.5,baz=20,slow=7.2,SNR=2.5						
WRA	Warramunga Arr	69.39	201	P	P	07 48 10.9	-0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	75.91	62	P	P	07 48 49.9	+0.2
	comp=Z,0.6nm,0.8s,mb3.5,baz=294,slow=3.5,SNR=6.5						
TXAR	Lajitas Array	75.91	62	P	P	07 48 49.9	+0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **06** 07:43:39.5±1.7, 2984S±008×1782W±04, h387km±16km, mb3.7/2, Error ellipse: s-maj=51.9km s-min=10.6km az=14.5*
*IDC **06** 07:43:43.3±1.3, 2953S×17909W, h335km±13km, mb3.5/2, mb1 3.7/3, mb1mx3.4/12, mbtmp3.5/3, Error ellipse: s-maj=32.0km s-min=22.9km az=127.0*

ISC 06 07:43:40.6±1.9, 2995S±008×1782W±04, h373km±16km, n17, σ0§78/17, mb3.6/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.74	20	P	Pn	07 44 27.9	0.0
	179nm,0.3s,baz=88,slow=22,SNR=12						
MXZ	Matakaoa Point	8.13	200	*e*PN	Pn	07 45 41.6	+5.0
MXZ				SN	S	07 47 11.6	+0.2
PUZ	Puketiti	8.62	199	*e*PN	Pn	07 45 46.2	+4.0
PUZ				SN	S	07 47 21.9	+0.1
URZ	Urewera	9.15	204	P	Pn	07 45 52.9	+4.4
	1.9nm,0.3s,baz=353,slow=4.6,SNR=25						
URZ				S	S	07 47 33.4	0.0
	4.5nm,0.3s,baz=286,slow=23,SNR=13						
URZ	Urewera	9.15	204	*e*PN	Pn	07 45 49.7	+1.2
URZ				SN	S	07 47 33.0	-0.4
MRZ	Mangatainoka R	11.83	204	*e*PN	Pn	07 46 20.0	0.0
MRZ				SN	S	07 48 27.2	-3.4
KIW	Kapiti Island	12.24	205	SN	Sx	07 48 36.1	
TCW	Tory Channel	12.79	206	SN	Sx	07 48 48.3	
THZ	Tophouse	13.80	209	PN	Pn	07 46 42.7	-0.3
KHZ	Kahutara	14.10	206	*e*PN	Pn	07 46 45.7	-0.8
KHZ				SN	S	07 49 17.0	+0.4
MQZ	McQueen's Vall	15.54	205	SN	Sx	07 49 47.2	
DZM	Mont Dzumac	15.86	296	P	P	07 47 03.0	-0.4
	0.8nm,0.3s,baz=137,slow=17,SNR=8.9						
STKA	Stephens Creek	34.40	256	P	P	07 49 55.5	+1.3
	1.8nm,0.4s,mb3.7,baz=78,slow=8.7,SNR=6.9						
WRA	Warramunga Arr	43.90	272	P	P	07 51 11.4	-0.4
	1.9nm,0.5s,mb3.5,baz=110,slow=7.6,SNR=33						
FINES	FINESS Array B	144.66	340	PKP	PKPdf	08 02 36.2	+2.9
	0.7nm,0.3s,baz=60,slow=4.6,SNR=15						
AKASG	Malin Array Be	150.83	323	PKPbc	PKPbc	08 02 53.7	+4.2
	0.5nm,0.4s,baz=42,slow=2.6,SNR=2.6						
TORD	Torodi Ar. Bea	163.28	180	PKPab	PKPab	08 04 01.9	+10
	0.3nm,0.5s,baz=170,slow=3.2,SNR=3.6						

*CSEM **06** 08:06:45.2, 1252N×4579E, h11km, ML3.6, After DHMR*

DHMR 06 08:06:45.2±1.6, 1252N×4579E, h12km±15km, ML3.6, 1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	Aden	0.83	288	*i* P	Pg	08 07 01.4	+0.2
ADEN				*i* S	Sg	08 07 11.8	-0.2
ADEN				AML	AML	08 07 20.0	
	comp=E,2μm,0.6s						
ADEN	Aden	0.83	288	*i* P	Pg	08 07 01.4	+0.2
ADEN				*i* S	Sg	08 07 11.8	-0.2
LBOS		1.45	339	⇓*i*P	Pn	08 07 11.6	+0.4
LBOS				*i* S	Sn	08 07 32.9	+2.8
BDHA	Al Bayda'	1.47	352	*i* P	Pn	08 07 11.4	0.0
BDHA				*i* S	Sn	08 07 33.1	+2.5
BDHA				AML	AML	08 07 33.9	
	comp=E,2μm,0.5s						
TRBA	At Turbah	1.78	294	*i* P	Pn	08 07 16.9	+1.1
TRBA				*i* S	Sn	08 07 42.2	+3.9
TRBA				AML	AML	08 07 45.7	
	comp=N,677nm,0.8s						
UDYN	Al 'Udayn	2.29	309	*i* S	Sn	08 07 54.5	+3.7
UDYN				AML	AML	08 08 10.1	
	comp=Z,326nm,0.5s						
DHBB	Dhamar BB	2.45	326	*i* P	Pn	08 07 27.9	+2.9
DHBB				*i* S	Sn	08 08 00.5	+5.5
HAJJ	Hajjah	3.81	326	*i* P	Pn	08 07 45.7	+2.0
HAJJ				*i* S	Sn	08 08 34.4	+5.9

KRSC 06 08:11:36.4±0.7, 5511N×16212E, h36km±36km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.60	202	*e*P	Pn	08 11 47.9	-0.5
MKZ				*i* S	Sn	08 11 56.9	0.0
TUMR	Tumrok	1.15	280	*e*P	Pn	08 11 57.6	+1.7
TUMR				*i* S	Sn	08 12 12.9	+2.5
KBTR	Krutoberegovo	1.17	20	*e*P	Pn	08 11 56.1	-0.1
KBTR				*i* S	Sn	08 12 10.7	-0.3
ZLN	Zelenaya	1.18	321	*e*P	Pn	08 11 57.7	+1.4
ZLN				*i* S	Sn	08 12 13.2	+2.1
BZMR	Bezymyannaya	1.24	312	*e*P	Pn	08 11 58.3	+1.1
BZMR				*i* S	Sn	08 12 15.0	+2.2
KMNR	Kamenistaya	1.25	302	*e*P	Pn	08 11 58.9	+1.5
KMNR				*i* S	Sn	08 12 15.6	+2.6
CIRR	Tsirk	1.27	323	*e*P	Pn	08 11 59.3	+1.6
CIRR				*i* S	Sn	08 12 16.2	+2.7
KIRR	Kirishev	1.32	311	*e*P	Pn	08 12 00.4	+2.1
KIRR				*i* S	Sn	08 12 17.8	+3.2
KPT	Kopyto	1.38	309	*e*P	Pn	08 12 01.3	+2.2
KPT				*i* S	Sn	08 12 19.8	+3.7
KRSR	Krestovskiy	1.42	322	*e*P	Pn	08 12 00.7	+1.1
KRSR				*i* S	Sn	08 12 18.5	+1.4
KLY	Klyuchi	1.46	326	*e*P	Pn	08 12 00.3	0.0
KLY				*i* S	Sn	08 12 17.6	-0.6
SMKR	Semkarok	1.52	346	*e*P	Pn	08 12 02.1	+1.0
SMKR				*i* S	Sn	08 12 20.4	+0.8
BDR	Baidarnaya	1.55	341	*e*P	Pn	08 12 03.0	+1.5
KOZ	Kozyrevsk	1.59	308	*e*P	Pn	08 12 04.4	+2.4
KOZ				*i* S	Sn	08 12 25.1	+3.7
SRKR	Sorokina	1.64	341	*e*P	Pn	08 12 04.0	+1.3
SRDR	Sredinnyy	1.82	313	*e*P	Pn	08 12 06.7	+1.5
SPN	Mys Shipunski	2.36	212	*e*P	Pn	08 12 13.5	+0.8
SPN				*i* S	Sn	08 12 40.0	-0.4
NLC	Nalytchevo	2.54	221	*e*P	Pn	08 12 16.8	+1.7
NLC				*i* S	Sn	08 12 46.5	+1.8
AVH	Avacha	2.71	228	*e*P	Pn	08 12 19.9	+2.4
GNL	Ganaly	2.82	242	*e*P	Pn	08 12 21.4	+2.4
PET	Petropavlovsk	2.92	226	*e*P	Pn	08 12 22.5	+2.1
PET				*i* S	Sn	08 12 56.4	+2.2
RUS	Russkaya	3.43	220	*e*P	Pn	08 12 29.3	+2.0
RUS				*i* S	Sn	08 13 08.1	+1.3
GRL	Gorelyy	3.51	225	*e*P	Pn	08 12 31.9	+3.5
GRL				*i* S	Sn	08 13 12.0	+3.3

WEL 06 08:12:05.1±0.9, 3656S×17811E, h158km±9km, ML3.6/6, Error ellipse: s-maj=18.8km s-min=10.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.02	171	PN	Pn	08 12 30.4	-0.2
MXZ				SN	Sn	08 12 49.0	-1.3
PUZ	Puketiti	1.52	175	PN	Pn	08 12 35.6	+0.3
PUZ				SN	Sn	08 12 57.9	-0.8
MWZ	Matawai	1.83	194	PN	Pn	08 12 39.5	+0.8
MWZ				SN	Sn	08 13 05.4	+0.7
URZ	Urewera	1.87	205	PN	Pn	08 12 39.9	+0.7
KNZ	Kokohu	2.48	188	PN	Pn	08 12 46.6	+0.3
MRZ	Mangatainoka R	4.55	205	PN	Pn	08 13 11.8	-0.9
MRZ				SN	Sn	08 14 03.0	-2.3
MQZ	McQueen's Vall	8.27	209	SN	Sn	08 15 26.9	-7.2

*ISCJB **06** 08:14:33.4±0.3, 5561N±002×110.17E±003, h13km, mb3.9/9, MS3.2/6, Error ellipse: s-maj=3.4km s-min=2.2km az=118.7*
*MOS **06** 08:14:33.4±1.3, 5576N×110.11E, h13km, mb4.6/3, Error ellipse: s-maj=9.8km s-min=6.6km az=68.7*
*NEIC **06** 08:14:35.9±0.8, 5583N×10997E, h10km, mb4.0/4, Error ellipse: s-maj=14.1km s-min=9.2km az=93.0*
*BYKL **06** 08:14:35.1±0.3, 5568N×110.13E, h5km±5km*
*IDC **06** 08:14:38.0±7.3, 5565N×11026E, h34km±63km, mb3.6/6, mb1 3.7/9, mb1mx3.5/24, mbtmp3.6/9, ML3.5/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/34, Error ellipse: s-maj=38.2km s-min=31.0km az=18.0*

ISC 06 08:14:34.9±0.3, 5563N±002×11019E±003, h13km, n83, σ1§48/131, mb3.9/9, MS3.2/6, 9C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.39	293	*e*PG	Pg	08 14 41.8	-1.0
NIZ				*e*		08 14 47.5	
NIZ				pmax	pmax		
	comp=Z,1μm,0.5s						
NIZ				smax			
	comp=N,8μm,0.3s						
NIZ	Nizh Angarsk	0.39	293	⇑*i*Pg	Pg	08 14 41.8	-1.0
NIZ				Pmax		08 14 43.6	
	comp=N,688nm,0.2s						
NIZ				*i* Sg	Sg	08 14 47.6	-0.5
NIZ				Smax		08 14 48.5	
	comp=N,9μm,0.4s						
KMO	Kumora	0.63	65	*e*PG	Pg	08 14 45.8	-1.4
KMO				*e*		08 14 54.0	
KMO				pmax	pmax		
	comp=Z,459nm,0.2s						
KMO				smax			
	comp=N,1μm,1.1s						
KMO	Kumora	0.63	65	⇑*i*Pg	Pg	08 14 45.9	-1.3
KMO				Pmax		08 14 46.6	
	comp=N,451nm,0.2s						
KMO				*i* Sg	Sg	08 14 54.2	-1.3
KMO				Smax		08 14 57.0	
	comp=N,4μm,1.0s						
YLYR	Ulyunkhan	0.94	143	*e*PG	Pg	08 14 52.4	-0.6
YLYR				*e*		08 15 05.7	
YLYR				pmax	pmax		
	comp=Z,529nm,0.1s						
YLYR				smax			
	comp=N,1μm,0.1s						
YLYR	Ulyunkhan	0.94	143	⇑*i*Pg	Pg	08 14 52.5	-0.5
YLYR				*e*		08 14 53.3	
YLYR				max		08 14 54.3	
	comp=N,524nm,0.8s						
YLYR				*e*Sg	Sg	08 15 05.7	+0.5
YLYR				Smax		08 15 08.8	
	comp=N,1μm,0.1s						
YOA	Uoyan	1.01	59	*e*PG	Pg	08 14 52.3	-2.0
YOA				*i*		08 15 07.0	
YOA				pmax	pmax		
	comp=Z,481nm,0.2s						
YOA				smax			
	comp=E,4μm,0.4s						
YOA	Uoyan	1.01	59	*e*Pg	Pg	08 14 54.0	-0.3
YOA				Pmax		08 14 56.3	
	comp=E,444nm,0.2s						
YOA				*e*Sg	Sg	08 15 07.7	+0.3
YOA				Smax		08 15 15.9	
	comp=E,4μm,1.0s						
SVKR	Severomuysk	1.96	74	*e*PN	Pn	08 15 10.4	+2.5
SVKR				*e*		08 15 36.6	
SVKR				pmax	pmax		
	comp=Z,561nm,0.4s						
SVKR				smax			
	comp=N,5μm,1.0s						
SVKR	Severomuysk	1.96	74	*e*Pg	Pg	08 15 11.3	-1.3
SVKR				Pmax		08 15 14.5	
	comp=N,565nm,0.3s						
SVKR				*e*Sg	Sg	08 15 38.4	+0.3
SVKR				Smax		08 15 40.5	
	comp=N,5μm,0.5s						
SYVR	Suvo	1.97	183	*e*PN	Pn	08 15 11.6	+3.6
SYVR				*e*		08 15 39.3	
SYVR				pmax	pmax		
	comp=Z,417nm,0.6s						
SYVR				smax			
	comp=E,5μm,0.7s						
SYVR	Suvo	1.97	183	*e*	Pn	08 15 10.5	+2.5
SYVR				⇑*i*Pg	Pg	08 15 11.0	-1.8
SYVR				Pmax		08 15 12.4	
	comp=E,436nm,0.7s						
SYVR				*i* Sg	Sg	08 15 39.0	+0.6
SYVR				Smax		08 15 41.7	
	comp=E,5μm,0.6s						
OGRR	Ongureny	2.49	218	*e*PN	Pn	08 15 17.5	+2.4
OGRR				*e*		08 15 21.3	
OGRR				*e*		08 15 52.2	
OGRR				pmax	pmax		
	comp=Z,103nm,0.8s						
OGRR				smax			
	comp=E,737nm,0.7s						
OGRR	Ongureny	2.49	218	⇓*i*Pn	Pn	08 15 17.6	+2.5
OGRR				*e*Pg	Pg	08 15 18.8	-3.9
OGRR				*e*		08 15 23.0	
OGRR				max		08 15 25.8	
	comp=E,103nm,0.8s						
OGRR				*e*Sn	Sn	08 15 48.8	+3.4
OGRR				*i* Sg	Sg	08 15 51.6	-3.4
OGRR				Smax		08 15 58.0	
	comp=E,664nm,0.6s						
MXMB	Maximikha	2.51	200	*e*Pg	Pg	08 15 21.0	-2.0
MXMB				*e*		08 15 25.5	
MXMB				max		08 15 25.8	
	comp=E,267nm,1.2s						
MXMB				*e*Sg	Sg	08 15 56.0	+0.4
MXMB				Smax		08 16 00.6	
	comp=E,2μm,0.8s						
BOD	Bodaibo	3.04	42	*e*PN	Pn	08 15 23.3	+0.6
BOD				*e*		08 15 29.0	
BOD				*e*S	Sn	08 16 00.1	+1.1
BOD				*e*		08 16 06.9	
BOD				pmax	pmax		
	comp=Z,27nm,0.1s						
BOD				smax			
	comp=N,410nm,0.9s						
BOD	Bodaibo	3.04	42	*e*Pn	Pn	08 15 23.8	+1.1
BOD				*e*		08 15 26.9	
BOD				max		08 15 33.9	
	comp=N,36nm,0.7s						
BOD				*e*Sn	Sn	08 16 00.9	+1.9
BOD				*e*Sg	Sg	08 16 07.5	-5.2
BOD				Smax		08 16 09.5	
	comp=N,411nm,1.1s						
NLYR	Nelyaty	3.21	72	*e*Pn	Pn	08 15 26.4	+1.4
NLYR				*e*Pg	Pg	08 15 32.1	-4.4
NLYR				*e*		08 15 35.6	
NLYR				*e*		08 16 07.6	
NLYR				*e*Sg	Sg	08 16 14.3	-3.8
NLYR				*e*		08 16 23.1	
TRG	Tyrgan	3.65	220	*e*PN	Pn	08 15 33.1	+2.1
TRG				*e*		08 15 42.1	
TRG				*e*		08 16 30.6	
TRG				pmax	pmax		
	comp=Z,48nm,0.6s						
TRG				smax			
	comp=E,433nm,0.4s						
TRG	Tyrgan	3.65	220	*e*Pn	Pn	08 15 33.7	+2.7
TRG				max		08 15 39.2	
	comp=E,63nm,0.2s						
TRG				*e*Sn	Sn	08 16 17.5	+3.6
TRG				*e*Sg	Sg	08 16 29.2	-2.9
TRG				Smax		08 16 35.5	
	comp=E,452nm,0.7s						
TRTB	Turuntaevo	3.72	205	⇓*i*Pn	Pn	08 15 34.0	+2.0
TRTB				*e*		08 15 46.1	
TRTB				max		08 15 49.5	
	comp=E,58nm,1.3s						
TRTB				*e*Sn	Sn	08 16 19.5	+3.8
TRTB				*i* Sg	Sg	08 16 32.5	-1.9
TRTB				Smax		08 16 39.9	
	comp=E,518nm,0.6s						
FFNB	Fofonovo	4.12	211	*e*Pn	Pn	08 15 41.8	+4.3
FFNB				*e*Sn	Sn	08 16 27.7	+2.2
FFNB				*e*Sg	Sg	08 16 43.2	-3.9
FFNB				Smax		08 16 51.6	
	comp=E,1μm,0.6s						
CIT	Chita	4.12	150	*e*PN	Pn	08 15 37.8	+0.2
CIT				*e*		08 15 49.2	
CIT				*e*		08 16 44.4	
CIT				pmax	pmax		
	comp=Z,181nm,1.0s						
CIT				smax	

CRS				pmax	pmax		
	comp=Z,221nm,0.8s						
CRS				smax			
	comp=E,255nm,1.2s						
CRS	Chara	4.69	71	ePn	Pn	08 15 46.8	+1.5
CRS				ePg	Pg	08 15 59.7	-4.9
CRS				Pmax		08 16 02.6	
	comp=E,221nm,1.0s						
CRS				eSg	Sg	08 17 00.4	-4.9
CRS				Smax		08 17 12.1	
	comp=E,374nm,1.1s						
IRK	Irkutsk	4.87	228	eSn	Sn	08 16 46.2	+2.3
IRK				eSg	Sg	08 17 05.6	-5.5
IRK				Smax		08 17 11.4	
	comp=E,988nm,0.5s						
LSTR	Listvyanka	4.92	222⇓	iPn	Pn	08 15 50.4	+1.8
LSTR				max		08 16 06.6	
	comp=E,34nm,0.7s						
LSTR				eSn	Sn	08 16 46.3	+0.9
LSTR				i Sg	Sg	08 17 06.4	-6.6
LSTR				Smax		08 17 14.9	
	comp=E,281nm,0.8s						
TLY	Talaya	5.54	227	ePN	Pn	08 15 56.9	-0.2
TLY				e		08 16 13.3	
TLY				eS	Sn	08 17 00.3	-0.3
TLY				e		08 17 25.4	
TLY				pmax	pmax		
	comp=Z,18nm,0.6s						
TLY				smax			
	comp=E,233nm,0.7s						
TLY	Talaya	5.54	227	ePn	Pn	08 15 57.6	+0.6
	comp=E,21nm,0.6s						
TLY				eSn	Sn	08 17 00.6	0.0
TLY	Talaya	5.54	227	ePn	Pn	08 15 58.3	+1.2
TLY				max		08 16 20.6	
	comp=E,19nm,0.6s						
TLY				eSn	Sn	08 17 01.1	+0.5
TLY				eSg	Sg	08 17 25.4	-7.4
TLY				Smax		08 17 35.3	
	comp=E,232nm,0.8s						
KHNR	Khani	5.61	73	ePg	Pg	08 16 16.3	-6.0
KHNR				eSg	Sg	08 17 29.2	-5.8
TUP	Tupik	5.75	98	ePN	Pn	08 16 00.4	+0.5
TUP				e		08 16 18.2	
TUP				eS	Sn	08 17 06.3	+0.6
TUP				e		08 17 33.9	
TUP				pmax	pmax		
	comp=Z,73nm,0.9s						
TUP				smax			
	comp=N,362nm,1.4s						
TUP	Tupik	5.75	98	ePn	Pn	08 16 00.6	+0.7
TUP				ePg	Pg	08 16 18.0	-6.9
TUP				Pmax		08 16 22.5	
	comp=N,78nm,1.7s						
TUP				eSg	Sg	08 17 34.0	-5.4
TUP				Smax		08 17 46.0	
	comp=N,365nm,2.3s						
ARS	Arshan	5.91	234	ePN	Pn	08 16 03.3	+1.2
ARS				eS	Sn	08 17 07.9	-1.8
ARS	Arshan	5.91	234	ePn	Pn	08 16 03.3	+1.2
ARS				max		08 16 15.4	
	comp=N,63nm,0.9s						
ARS				eSn	Sn	08 17 07.9	-1.8
ARS				eSg	Sg	08 17 37.3	-7.3
ARS				Smax		08 17 43.9	
	comp=N,1μm,0.8s						
KPC	Khapcheranga	6.08	166	ePG	Pg	08 16 27.3	-4.0
KPC				e		08 17 45.2	
KPC				pmax	pmax		
	comp=Z,36nm,0.5s						
KPC				smax			
	comp=E,343nm,1.2s						
KPC	Khapcheranga	6.08	166	ePn	Pn	08 16 06.3	+1.9
KPC				ePg	Pg	08 16 26.4	-4.9
KPC				Pmax		08 16 58.2	
	comp=E,26nm,0.7s						
KPC				eSg	Sg	08 17 45.2	-4.8
KPC				Smax		08 17 54.9	
	comp=E,343nm,1.2s						
ZAK	Zakamensk	6.70	221	ePN	Pn	08 16 15.7	+2.7
ZAK				e		08 16 37.0	
ZAK				e		08 18 03.8	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAK				smax			
	comp=N,166nm,1.1s						
ZAK	Zakamensk	6.70	221	ePn	Pn	08 16 15.7	+2.7
ZAK				max		08 16 20.7	
	comp=N,10.0nm,0.8s						
ZAK				e		08 17 34.1	
ZAK				eSg	Sg	08 18 05.2	-4.7
ZAK				Smax		08 18 09.2	
	comp=N,167nm,1.5s						
MOY	Mondy	6.75	238	ePN	Pn	08 16 15.9	+2.3
MOY				e		08 16 34.7	
MOY				eS	Sn	08 17 29.6	-0.8
MOY				e		08 18 01.6	
MOY				pmax	pmax		
	comp=Z,59nm,0.8s						
MOY				smax			
	comp=N,289nm,1.6s						
MOY	Mondy	6.75	238⇑	iPn	Pn	08 16 16.3	+2.7
MOY				max		08 16 17.5	
	comp=N,105nm,0.9s						
MOY				eSn	Sn	08 17 31.5	+1.1
MOY				i Sg	Sg	08 18 02.5	-9.0
MOY				Smax		08 18 10.7	
	comp=N,290nm,1.5s						
ORL	Orlik	6.84	247	ePN	Pn	08 16 17.1	+2.2
ORL				eS	Sg	08 18 06.7	-7.7
ORL				smax			
	comp=N,446nm,0.9s						
ORL	Orlik	6.84	247⇑	iPn	Pn	08 16 17.1	+2.2
ORL				max		08 16 18.3	
	comp=N,39nm,1.4s						
ORL				eSn	Sn	08 17 33.0	+0.4
ORL				i Sg	Sg	08 18 06.9	-7.5
ORL				Smax		08 18 10.3	
	comp=N,438nm,1.3s						
ULN	Ulaanbaatar	8.01	195⇑	iPN	Pn	08 16 34.6	+3.7
ULN	Ulaanbaatar	8.01	195	ePn	Pn	08 16 36.1	+5.1
ULN	Ulaanbaatar	8.01	195	ePg	Px	08 17 01.9	
ULN				eSg	Sx	08 18 46.5	
SONM	Songino Array	8.15	198	Pn	Pn	08 16 36.0	+3.2
	comp=N,0.6nm,0.3s,baz=11,slow=13,SNR=12						
SONM				Sn	Sn	08 18 03.8	-0.9
	comp=N,0.5nm,0.3s,baz=7.7,slow=15,SNR=2.6						
SONM				Lg		08 18 54.3	
	comp=N,6.3nm,0.3s,baz=18,slow=30,SNR=11						
SONM	Songino Array	8.15	198	PN	Pn	08 16 36.0	+3.2
SONM						08 18 03.8	
NRGR	Nerungri	8.19	77	ePN	Pn	08 16 24.7	-8.7
NRGR				S	Sn	08 18 04.9	-0.8
NRGR				smax			
	comp=E,58nm,0.6s						
HIA	Hailar	8.63	134	eSg	Sx	08 19 03.9	
KRAR	Krasnoyarsk	9.75	279⇑	eP	Pn	08 16 54.2	-0.6
ZAL	Zalesovo	14.72	274	Pn	Pn	08 18 01.9	-0.8
	comp=E,0.3nm,0.3s,baz=26,slow=6.9,SNR=8.1						
ZAL				LR	LR	08 23 55.2	
	comp=E,22nm,21.5s,baz=272,slow=38						
ZAL	Zalesovo	14.72	274	Pn	Pn	08 18 01.9	-0.8
ZAL				LR	LR	08 23 55.2	
HABR	Khabarovsk	16.82	105	eP	Pn	08 18 29.3	-0.8
HABR				eS	Sn	08 21 35.9	-0.9
TIXI	Tiksi	17.94	19	eP	Pn	08 18 42.5	-1.5
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	Tiksi	17.94	19	ePn	Pn	08 18 38.6	-5.5
	comp=Z,5.1nm,0.9s						
KURK	Kurchatov	19.44	269	deP	Pn	08 19 01.2	-1.1
KURK	Kurchatov	19.44	269	eP	Pn	08 19 01.2	-1.1
	comp=Z,7.6nm,0.8s						
MK31	Makanchi Array	19.47	255	eP	Pn	08 19 01.4	-1.1
MKAR	Makanchi Array	19.47	255	P	Pn	08 19 01.7	-0.8
	comp=Z,0.5nm,0.3s,baz=61,slow=10.0,SNR=46						
MKAR	Makanchi Array	19.47	255	i P	Pn	08 19 02.2	-0.3
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSRS	Korea Array	21.78	139	LR	LR	08 28 03.7	
	comp=Z,21nm,18.4s,MS2.6,baz=345,slow=37						
CHKZ	Chkalovo	22.77	282	eP	P	08 19 36.8	-0.1
CHKZ				e		08 23 40.6	
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
CHKZ	Chkalovo	22.77	282	eP	P	08 19 36.8	-0.1
	comp=Z,6.1nm,1.0s,mb4.0						
CHKZ				eSn	S	08 23 40.6	-5.1
BVAR	Borovoye Array	23.13	280	P	P	08 19 40.2	-0.6
	comp=Z,1.9nm,0.6s,mb3.7,baz=60,slow=8.8,SNR=11						
BRVK	Borovoye	23.18	280	eP	P	08 19 42.0	+0.7
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
BRVK	Borovoye	23.18	280	eP	P	08 19 42.0	+0.8
	comp=Z,5.8nm,0.9s,mb4.0						
ASAJ	Asahikawa	23.62	106	LR	LR	08 29 59.6	
	comp=Z,54nm,18.2s,MS3.0,baz=216,slow=39						
AAK	Ala-Archa	26.40	256⇓	eP	P	08 20 12.3	+1.3
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.5						
MJAR	Matsushiro Arr	26.94	123	LR	LR	08 31 24.8	
	comp=Z,69nm,20.2s,MS3.2,baz=260,slow=37						
ARU	Arti	28.31	293	eP	P	08 20 25.6	-2.5
ARU				e		08 21 11.3	
ARU				eS	S	08 25 12.5	-1.6
ARU				eSS		08 26 27.5	
ARU				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
JHJ	Hachijo jima 2	30.49	125	LR	LR	08 34 06.6	
	comp=Z,56nm,18.6s,MS3.2,baz=259,slow=38						
FINES	FINESS Array B	41.39	314	P	P	08 22 19.7	-1.0
	comp=Z,2.4nm,0.9s,mb3.9,baz=45,slow=6.2,SNR=4.9						
AKASG	Malin Array Be	46.19	300	P	P	08 22 58.0	-1.4
	comp=Z,0.6nm,0.3s,mb3.9,baz=44,slow=8.5,SNR=6.0						
NOA	NORSAR Array B	47.44	319	P	P	08 23 08.7	-0.5
	comp=Z,1.4nm,0.9s,mb3.9,baz=50,slow=6.9,SNR=3.6						
YKA	Yellowknife Ar	57.15	23	P	P	08 24 20.6	-0.7
	comp=Z,0.2nm,0.6s,mb3.4,baz=336,slow=7.0,SNR=2.9						
WRAB	Tennant Creek	78.01	157⇑	eP	P	08 26 35.1	+2.1
TORD	Torodi Ar. Bea	89.38	292	P	P	08 27 32.1	+1.0
	comp=Z,0.6nm,0.9s,mb3.9,baz=26,slow=2.8,SNR=4.1						
CPD	Cerro la Pandu	106.56	356	ePKPdf	PP	08 33 15.3	+1.5

*ISCJB **06** 08:20:48.5±0.6, 4302N±004×001W±004, h14$^{km}\pm4^{km}$, Error ellipse: s-maj=7.2km s-min=4.3km az=151.7*
*LDG **06** 08:20:49.7±0.1, 4302N×002W, h5^{km}, Md1.8/3, Ml1.8/2, Error ellipse: s-maj=1.6km s-min=0.7km az=171.0*
*MDD **06** 08:20:50.3±0.3, 4301N×002W, h0^{km}, mbLg1.1/4, Error ellipse: s-maj=2.2km s-min=2.0km az=109.0, PRXIMO*
*STR **06** 08:20:50.2±0.2, 4298N×0.13E, h5$^{km}\pm1^{km}$, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 06 08:20:49.0±0.8, **4301N**±006×**000W**±004, **h14**$^{km}\pm7^{km}$, **n14**, σ**0^{s}53**/22, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	Labassere	0.07	58	Pg	Pg	08 20 51.8	0.0
LABF				Sg	Sg	08 20 53.2	-0.6
LABF	Labassere	0.07	58	P	Pg	08 20 51.8	0.0
LABF				S	Sg	08 20 53.2	-0.7
VIEF	Viey	0.13	171	Pg	Pg	08 20 52.9	+0.4
VIEF				Sg	Sg	08 20 54.7	-0.3
VIEF	Viey	0.13	171	P	Pg	08 20 52.9	+0.4
VIEF				S	Sg	08 20 54.8	-0.2
EPF	Esparros	0.25	86	ePg	Pg	08 20 55.0	+0.6
EPF				eSg	Sg	08 20 58.7	+0.6
	10nm,0.2s						
EPF	Esparros	0.25	86	Pg	Pg	08 20 55.0	+0.6
EPF				Lg		08 20 58.7	
	5.1nm,0.2s						
EBIE	Bielsa	0.34	162	Pg	Pg	08 20 56.7	+0.7
	1.8nm,0.1s,SNR=16						
EBIE				Lg		08 21 01.3	
	3.0nm,0.1s,SNR=20						
ETSF	Etsaut	0.42	255	ePg	Pg	08 20 58.0	+0.5
ETSF				eSg	Sg	08 21 03.4	+0.2
	14nm,0.3s						
ETSF	Etsaut	0.42	255	Pg	Pg	08 20 58.0	+0.5
ETSF				Lg		08 21 03.4	
	7.2nm,0.3s						
SJPF	Ste Jean	0.90	277	ePg	Pg	08 21 06.3	-0.1
SJPF				eSg	Sg	08 21 17.9	-0.4
	1.5nm,0.2s						
SJPF	Ste Jean	0.90	277	Pg	Pg	08 21 06.3	-0.1
SJPF				Lg		08 21 17.9	
	0.8nm,0.2s						
MTLF	Montolieu	1.66	78	ePg	Pg	08 21 20.9	+0.1
MTLF				eSg	Sg	08 21 42.1	-0.3
	2.8nm,0.3s						
MTLF	Montolieu	1.66	78	Pg	Pg	08 21 20.9	+0.1
MTLF				Lg		08 21 42.1	
	1.4nm,0.3s						
EPOB	Poblet	1.84	154	Pg	Pg	08 21 23.1	-1.3
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg		08 21 49.2	
	0.2nm,0.1s,SNR=7.9						

*IDC **06** 08:37:25.9±0.8, 1505S×17332W, h0^{km}, mb3.9/7, mb1 4.3/7, mb1mx4.1/16, mbtmp3.9/7, MS3.5/6, Ms1 3.5/6, ms1mx3.3/24, Error ellipse: s-maj=41.3km s-min=18.7km az=129.0*
*ISCJB **06** 08:37:26.4±0.8, 153S±0.1×1730W±02, h10^{km}, mb4.0/8, MS3.5/5, Error ellipse: s-maj=23.1km s-min=13.7km az=42.1*
*NEIC **06** 08:37:27.4±0.6, 15.19S×173.10W, h10^{km}, mb4.8/1, Error ellipse: s-maj=18.2km s-min=13.8km az=132.0*
ISC 06 08:37:27.4±0.7, **152S**±01×**1731W**±01, **h10**^{km}, **n29**, σ**1^{s}02**/16, **mb4.0**/8, **MS3.5**/5, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.81	45	Pn	Pn	08 37 57.7	-0.9
	266nm,0.3s,baz=163,slow=1.2,SNR=151						
AFI				Sn	Sn	08 38 15.4	-6.2
	2μm,0.3s,baz=68,slow=20,SNR=26						
AFI				LR	LR	08 38 36.4	
	comp=Z,822nm,20.1s,baz=111,slow=38						
AFI	Afiamalu	1.81	45	ePn	Pn	08 37 57.6	-1.0
AFI				eSn	Sn	08 38 13.4	-8.2
RAR	Rarotonga	14.00	117	Pn	Pn	08 40 44.6	-1.1
	3.1nm,0.3s,baz=334,slow=16,SNR=6.3						
RAR				LR	LR	08 45 11.7	
	comp=Z,103nm,21.7s,baz=64,slow=33						
DZM	Mont Dzumac	20.55	248	LR	LR	08 48 14.9	
	comp=Z,53nm,20.8s,MS2.9,baz=200,slow=32						
PPT	Papeete	22.69	99	eLR	LR	08 47 49.1	
	86nm,28.0s						
PAE	Paea	22.69	99	eT		09 05 46.0	
	18nm,0.3s						
TBI	Tubuai	23.71	114	eLQ		08 47 21.4	
	180nm,29.5s						
TBI				eLR	LR	08 48 19.6	
	133nm,31.5s						
TBI	Tubuai	23.71	114	eT		09 07 00.3	
	7.4nm,0.3s						
URZ	Urewera	24.55	199	P	P	08 42 47.2	0.0
	5.1nm,0.3s,mb4.5,baz=354,slow=6.1,SNR=10						
VAH	Vaihoa	24.57	93	eT		09 08 08.6	
	3.4nm,0.3s						
HNR	Honiara	26.94	279	LR	LR	08 52 16.6	
	comp=Z,77nm,20.2s,MS3.2,baz=178,slow=33						
RKT	Rikitea	36.78	108	eLR	LR	08 54 21.9	
	48nm,27.5s						
RKT	Rikitea	36.78	108	eT		09 23 20.2	
	4.7nm,0.3s						
PMG	Port Moresby	39.21	274	LR	LR	08 58 57.0	
	comp=Z,69nm,19.1s,MS3.5,baz=26,slow=33						
STKA	Stephens Creek	44.39	240	LR	LR	09 01 37.3	
	comp=Z,122nm,20.9s,MS3.8,baz=204,slow=33						
WRA	Warramunga Arr	50.17	257	P	P	08 46 21.3	-1.9
	0.2nm,0.3s,mb3.6,baz=91,slow=6.9,SNR=5.7						
VNDA	Vanda	63.61	186	P	P	08 47 59.7	+1.3
	2.2nm,0.9s,mb4.2,baz=25,slow=5.0,SNR=5.6						
NVAR	Mina Array Bea	73.98	42	P	P	08 49 04.3	+1.2
	0.8nm,0.8s,mb3.7,baz=224,slow=9.2,SNR=5.6						
TXAR	Lajitas Array	80.26	56	P	P	08 49 39.9	+1.6
	0.9nm,1.0s,mb3.7,baz=216,slow=6.2,SNR=6.4						
TXAR	Lajitas Array	80.26	56	P	P	08 49 39.9	+1.6
MCMT	McKenzie Canyo	80.91	39	eP	P	08 49 42.4	+0.5
PDAR	Pinedale Array	81.92	42	P	P	08 49 47.4	+0.2
	0.8nm,0.8s,mb3.7,baz=199,slow=4.1,SNR=5.1						
COLA	College	82.11	11	eP	P	08 49 47.6	-0.6
	6.6nm,0.7s,mb4.7						
YKA	Yellowknife Ar	89.80	23	P	P	08 50 25.8	-0.4
	1.1nm,0.9s,mb4.2,baz=233,slow=4.4,SNR=9.5						
YKA				LR	LR	09 26 39.0	
	comp=Z,46nm,18.3s,MS3.9,baz=255,slow=33						
YKA	Yellowknife Ar	89.80	23	P	P	08 50 25.8	-0.4
YKA				LR	LR	09 26 39.0	
KHC	Kasperske Hory	145.72	352	eP	PKPdf	08 57 07.0	+0.9
GERES	GERESS Array B	145.98	352	PKPbc	PKPbc	08 57 07.6	+0.3
	0.4nm,0.3s,baz=10,slow=8.1,SNR=5.3						
BR131	Keskin Array S	146.18	321	ePKPdf	PKPdf	08 57 09.2	+2.3
BRTR	Keskin Array B	146.18	321	PKPbc	PKPbc	08 57 07.2	-0.7
	2.6nm,0.8s,baz=103,slow=2.7,SNR=10.0						

*LDG **06** 08:49:40.5±0.2, 4308N×121W, h6^{km}, Md2.0/3, Ml2.0/3, Error ellipse: s-maj=3.5km s-min=1.8km az=36.0*
*STR **06** 08:49:40.9±0.1, 43.18N×1.16W, h10$^{km}\pm1^{km}$, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 06 08:49:41.7±0.2, **4312N**×**117W**, **h0**^{km}, **mbLg1.3**/7, **Error ellipse: s-maj=2.3km s-min=1.2km az=9.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.04	267	ePg	Pg	08 49 42.3	-0.2
SJPF				eSg	Sg	08 49 43.0	-0.1
	322nm,0.3s						
SJPF	Ste Jean	0.04	267	Pg	Pg	08 49 42.3	-0.2
SJPF				Lg		08 49 43.0	
	161nm,0.3s						
LARF	Larrau	0.15	121	P	Pg	08 49 44.3	-0.3
LARF				S	Sg	08 49 47.1	+0.5
OSSF	Osses	0.16	333	Pg	Pg	08 49 44.4	-0.3
OSSF				Sg	Sg	08 49 46.6	-0.1
OSSF	Osses	0.16	333	P	Pg	08 49 44.5	-0.2
OSSF				S	Sg	08 49 46.7	0.0
ORDF	Ordiarp	0.20	60	Pg	Pg	08 49 45.3	-0.1
ORDF				Sg	Sg	08 49 48.5	+0.5
ORDF	Ordiarp	0.20	60	P	Pg	08 49 45.4	0.0
ORDF				S	Sg	08 49 48.5	+0.6
EALK	Alkurruntz	0.27	293	Pg	Pg	08 49 46.5	-0.4
	11nm,0.4s,SNR=7.5						
EALK				Lg		08 49 50.1	
	14nm,0.5s,SNR=5.0						
ELIZ	Elizondo	0.27	280	Pg	Pg	08 49 46.3	-0.5
	11nm,0.2s,SNR=11						
ELIZ				Lg		08 49 50.5	
	11nm,0.2s,SNR=16						
IUSE	Utxeti	0.33	239	Pg	Pg	08 49 47.6	-0.4
	11nm,0.3s,SNR=11						
IUSE				Lg		08 49 52.1	
	8.5nm,0.1s,SNR=7.9						
IPRE	Itoiz	0.34	204	Pg	Pg	08 49 48.1	-0.1
	4.1nm,0.3s,SNR=8.6						
IPRE				Lg		08 49 53.0	
	3.2nm,0.2s,SNR=7.9						
ATE	Arette	0.34	95	Pg	Pg	08 49 48.0	-0.3
ATE				Sg	Sg	08 49 53.6	+0.9
ATE	Arette	0.34	95	P	Pg	08 49 48.0	-0.3
ATE				S	Sg	08 49 53.1	+0.4
ETSF	Etsaut	0.49	116	ePg	Pg	08 49 50.2	-1.0
ETSF				eSg	Sg	08 49 56.9	-0.7
	9.3nm,0.2s						
ETSF	Etsaut	0.49	116	Pg	Pg	08 49 50.2	-1.0
ETSF				Lg		08 49 56.9	
	4.7nm,0.2s						
EBIE	Bielsa	1.05	114	Pg	Pg	08 50 01.4	-0.5
	1.0nm,0.2s,SNR=9.5						
EBIE				Lg		08 50 15.5	
	0.8nm,0.1s,SNR=5.0						
EPF	Esparros	1.11	94	ePg	Pg	08 50 01.7	-1.2
EPF				eSg	Sg	08 50 16.6	-0.7
	1.8nm,0.2s						
EPF	Esparros	1.11	94	Pg	Pg	08 50 01.7	-1.2
EPF				Lg		08 50 16.6	
	0.9nm,0.2s						
LFF	La Frestale	2.28	36	ePg	Pg	08 50 23.5	-2.0
LFF				eSg	Sg	08 50 54.1	-1.0
	7.4nm,0.4s						
LFF	La Frestale	2.28	36	Pg	Pg	08 50 23.5	-2.0
LFF				Lg		08 50 54.1	
	3.7nm,0.4s						
MTLF	Montolieu	2.48	84	ePg	Pg	08 50 27.7	-1.6
MTLF				eSg	Sg	08 50 59.4	-2.1
	0.7nm,0.2s						
MTLF	Montolieu	2.48	84	Pg	Pg	08 50 27.7	-1.6
MTLF				Lg		08 50 59.4	
	0.3nm,0.2s						

*NIED **06** 08:49:00, 4140N×14220E, h53^{km}, Mw3.9 Best double couple: $M_0$8.78000×10^{14} NP1:ϕ_s27.00000°, δ78.00000°, λ94.00000°. NP2:ϕ_s188.00000°, δ12.00000°, λ71.00000°.*
*MOS **06** 08:49:42.3±1.6, 4151N×142.10E, h56^{km}, mb4.0/1, Error ellipse: s-maj=20.4km s-min=12.4km az=82.5*
*ISCJB **06** 08:49:42.8±0.4, 4144N±003×142.19E±004, h64$^{km}\pm4^{km}$, mb3.9/10, Error ellipse: s-maj=6.1km s-min=3.8km az=90.7*
*JMA **06** 08:49:43.3±0.1, 4143N×142.17E, h58$^{km}\pm2^{km}$, M3.6*
JMA Felt I J1.
*NEIC **06** 08:49:43.4, 4143N×142.17E, h58^{km}, MG3.6(JMA), After JMA.*
*IDC **06** 08:49:45.9±2.2, 4144N×142.12E, h79$^{km}\pm16^{km}$, mb3.6/10, mb1 3.8/13, mb1mx3.7/24, mbtmp3.6/13, MS2.7/2, Ms1 2.7/2, ms1mx2.3/27, Error ellipse: s-maj=22.7km s-min=13.6km az=135.0*
ISC 06 08:49:43.6±0.4, **4145N**±003×**14219E**±004, **h58**$^{km}\pm4^{km}$, **n35**, σ**0^{s}84**/52, **mb3.9**/10, **3C-7D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOT	Ohata	0.86	266	⇓P	Pn	08 49 59.3	-0.5
JOT				eS	Sn	08 50 11.0	-0.7
ERM	Erimo	0.92	51	ePn	Pn	08 49 59.9	-0.6
ERM				eSn	Sn	08 50 12.1	-0.8
JEM	Erimo	0.92	51	⇑P	Pn	08 50 00.3	-0.2
JEM				eS	Sn	08 50 12.8	-0.2
JNBK	Urakawa-nobuka	0.93	26	⇑P	Pn	08 50 00.6	-0.1
JNBK				eS	Sn	08 50 13.3	0.0
JKB	Kayabe	0.98	297	⇓P	Pn	08 50 00.6	-0.6
JKB				eS	Sn	08 50 14.3	+0.1
JTM	Tenmabayashi	1.07	233	⇓P	Pn	08 50 02.3	-0.2
JTM				eS	Sn	08 50 16.3	-0.2
JANG	Nango	1.19	206	⇑P	Pn	08 50 03.4	-0.6
JANG				eS	Sn	08 50 18.4	-0.8
JSR	Shiriuchi	1.34	274	⇓P	Pn	08 50 06.0	0.0
JSR				eS	Sn	08 50 23.1	+0.3
JNB	Noboribetsu	1.34	320	⇓P	Pn	08 50 05.5	-0.5
JNB				eS	Sn	08 50 22.3	-0.5
JBT2	Biratori 2	1.34	5	P	Pn	08 50 06.4	+0.4
JBT2				eS	Sn	08 50 24.1	+1.3
JCH	Churui	1.46	36	⇓P	Pn	08 50 08.3	+0.7
JCH				eS	Sn	08 50 26.7	+1.0
JEW	Eniwo	1.50	339	⇓P	Pn	08 50 08.4	+0.2
JEW				eS	Sn	08 50 27.5	+0.8
JFR	Furan	1.74	10	P	Pn	08 50 11.9	+0.4
JOM	Ohasama	2.09	200	P	Pn	08 50 16.3	+0.2
JOM				eS	Sn	08 50 42.3	+1.3
JOSM	Okushiri--Mats	2.13	288	P	Pn	08 50 16.3	-0.5
JOSM				eS	Sn	08 50 41.6	-0.5
ASAJ	Asahikawa	2.69	6	P	Pn	08 50 25.9	+1.5
	20nm,0.3s,baz=225,slow=11,SNR=92						
ASAJ				S	Sn	08 50 59.7	+4.0
	13nm,0.3s,baz=338,slow=33,SNR=12						
ASAJ	Asahikawa	2.69	6	P	Pn	08 50 25.9	+1.5
ASAJ				S	Sn	08 50 59.7	+4.0
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				smax			
	comp=N,13nm,0.3s						
YUK	Yuzh-Kuril'sk	3.74	45	eP	Pn	08 50 38.1	-0.7
YUK				eS	Sn	08 51 19.0	-2.6
YUK				smax			
	comp=N,950nm,0.5s						
YUK				smax			
	comp=E,440nm,0.5s						
MJAR	Matsushiro Arr	5.80	214	P	Pn	08 51 08.9	+2.0
	comp=E,0.4nm,0.3s,baz=21,slow=15,SNR=4.6						
MJAR				LR	LR	08 53 33.3	
	comp=E,65nm,20.7s,baz=165,slow=40						
KSRS	Korea Array	11.73	255	P	Pn	08 52 31.0	+2.9
	baz=63,slow=13,SNR=8.3						
KSRS				LR	LR	08 56 32.7	

comp=E,47nm,19.8s,baz=85,slow=35
SONM Songino Array 26.09 296 P **P** **08 55 11.2 -0.5**
comp=E,1.3nm,0.5s,mb3.7,baz=86,slow=8.7,SNR=11
ZAL Zalesovo 39.53 309 P **P** **08 57 08.9 +0.3**
comp=E,2.7nm,0.4s,mb4.3,baz=20,slow=3.7,SNR=1.8
MKAR Makanchi Array 42.43 298 P **P** **08 57 32.2 -0.3**
comp=E,1.0nm,0.5s,mb3.7,baz=79,slow=10.0,SNR=9.0
KURK Kurchatov 43.80 305 *eP* **P** **08 57 43.4 -0.2**
INK Inuvik 50.21 29 P **P** **08 58 34.0 +0.5**
comp=E,2.0nm,0.5s,mb4.4,baz=290,slow=6.2,SNR=42
YKA Yellowknife Ar 59.72 32 P **P** **08 59 42.0 -0.2**
comp=E,0.1nm,0.4s,mb3.2,baz=304,slow=6.5,SNR=4.2
JOF Joensuu 62.38 331 *ep* **P** **08 59 58.9 -1.3**
KAF Kangasniemi 64.68 332 *ep* **P** **09 00 18.4 +3.0**
FINES FINESS Array B 65.21 332 P **P** **09 00 18.1 -0.7**
comp=E,0.8nm,0.4s,mb4.1,baz=40,slow=8.6,SNR=9.2
NB2 NORSAR Subarra 70.36 337 P **P** **09 00 50.4 -0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=36,slow=6.2
NOA NORSAR Array B 70.36 337 P **P** **09 00 50.4 -0.8**
comp=Z,1.7nm,0.7s,mb4.1,baz=36,slow=6.1,SNR=5.7
AKASG Malin Array Be 71.20 322 P **P** **09 00 55.9 -0.3**
comp=Z,1.1nm,0.5s,mb4.0,baz=44,slow=5.8,SNR=5.6
AKASG Malin Array Be 71.20 322 P **P** **09 00 55.9 -0.3**
NVAR Mina Array Bea 71.90 55 P **P** **09 01 01.2 +0.8**
comp=Z,0.4nm,0.5s,mb3.6,baz=289,slow=5.6,SNR=3.2
PDAR Pinedale Array 74.17 47 P **P** **09 01 13.9 0.0**
comp=Z,0.4nm,0.6s,mb3.5,baz=277,slow=3.7,SNR=4.4

*MOS **06** 09:16:05.0±1.3, 55.73N×110.05E, h10km, mb4.3/1, Error ellipse: s-maj=24.9km s-min=11.4km az=65.2*
BYKL 06 09:16:06.6±0.3, 55.68N×110.16E, h2km±6km, 6C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**285**	⇑*i*Pg	Pg	09 16 13.5	-0.1
NIZ				*i* Sg	Sg	09 16 19.2	+0.9
NIZ				Pmax			
	45nm,0.1s						
NIZ				Smax			
	710nm,0.3s						
KMO	**Kumora**	**0.62**	**70**	⇑*i*Pg	Pg	09 16 17.0	-1.5
KMO				*i* Sg	Sg	09 16 25.1	-1.5
KMO				Pmax			
	57nm,0.3s						
KMO				Smax			
	402nm,1.3s						
YLYR	**Ulyunkhan**	**0.99**	**144**	*e*PG	Pg	09 16 24.0	-1.6
YLYR				*e*		09 16 37.1	
YLYR				pmax	pmax		
	comp=Z,70nm,0.2s						
YLYR				smax			
	comp=N,358nm,0.2s						
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑*i*Pg	Pg	09 16 24.0	-1.6
YLYR				*i* Sg	Sg	09 16 37.2	-1.2
YLYR				Pmax			
	comp=N,81nm,0.2s						
YLYR				Smax			
	comp=N,437nm,0.2s						
YOA	**Uoyan**	**0.99**	**62**	*e*PG	Pg	09 16 23.8	-1.8
YOA				*i*		09 16 38.0	
YOA				pmax	pmax		
	comp=Z,120nm,0.2s						
YOA				smax			
	comp=E,566nm,0.4s						
YOA	**Uoyan**	**0.99**	**62**	*e*Pg	Pg	09 16 24.6	-1.0
YOA				*e*Sg	Sg	09 16 37.9	-0.5
YOA				Pmax			
	comp=E,146nm,0.3s						
YOA				Smax			
	comp=E,509nm,0.3s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*PN	Pn	09 16 41.7	+0.8
SVKR				*e*		09 17 07.5	
SVKR				pmax	pmax		
	comp=Z,95nm,0.5s						
SVKR				smax			
	comp=N,388nm,0.5s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pg	Pg	09 16 42.5	-1.7
SVKR				*e*Sg	Sg	09 17 09.1	-0.6
SVKR				Pmax			
	comp=N,98nm,0.5s						
SVKR				Smax			
	comp=N,402nm,0.7s						
SYVR	**Suvo**	**2.03**	**183**	*e*PN	Pn	09 16 42.7	+0.9
SYVR				*e*		09 17 11.4	
SYVR				pmax	pmax		
	comp=Z,176nm,0.6s						
SYVR				smax			
	comp=E,469nm,0.4s						
SYVR	**Suvo**	**2.03**	**183**	*e*	Pn	09 16 41.5	-0.3
SYVR				⇑*i*Pg	Pg	09 16 42.8	-2.7
SYVR				*i* Sg	Sg	09 17 11.3	-0.5
SYVR				Pmax			
	comp=E,183nm,0.6s						
SYVR				Smax			
	comp=E,462nm,0.6s						
OGRR	**Ongureny**	**2.53**	**217**	*e*PN	Pn	09 16 49.2	+0.6
OGRR				*e*S	Sn	09 17 21.8	+1.8
OGRR				smax			
	comp=E,186nm,0.9s						
OGRR	**Ongureny**	**2.53**	**217**	⇑*i*Pn	Pn	09 16 49.1	+0.5
OGRR				*e*Pg	Pg	09 16 51.8	-3.2
OGRR				*e*Sn	Sn	09 17 21.3	+1.3
OGRR				*i* Sg	Sg	09 17 24.8	-3.0
OGRR				Pmax			
	comp=E,33nm,0.6s						
OGRR				Smax			
	comp=E,168nm,0.4s						
MXMB	**Maximikha**	**2.56**	**199**	*e*Pn	Pn	09 16 51.9	+2.8
MXMB				*e*Pg	Pg	09 16 53.4	-2.2
MXMB				*e*Sg	Sg	09 17 27.7	-1.1
MXMB				Pmax			
	comp=E,44nm,0.5s						
MXMB				Smax			
	comp=E,290nm,0.8s						
BOD	**Bodaibo**	**3.01**	**43**	*e*Pn	Pn	09 16 55.0	-0.3
BOD				*e*Pg	Pg	09 16 58.9	-5.4
BOD				*e*		09 17 01.6	
BOD				*e*Sn	Sn	09 17 31.4	-0.6
BOD				*e*Sg	Sg	09 17 38.1	-5.3
BOD				max			
	comp=E,17nm,0.3s						
BOD				Smax			
	comp=E,102nm,0.9s						
NLYR	**Nelyaty**	**3.21**	**73**	*e*Pg	Pg	09 17 04.1	-4.0
NLYR				*e*Sg	Sg	09 17 46.5	-3.3
NLYR				*e*		09 17 59.4	
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	Pn	09 17 05.5	+1.0
TRG				*e*Sn	Sn	09 17 49.4	+0.9
TRG				*e*Sg	Sg	09 18 00.2	-4.7
TRG				max			
	comp=E,18nm,0.7s						
TRG				Smax			
	comp=E,72nm,0.3s						
TRTB	**Turuntaevo**	**3.77**	**204**	*e*Pn	Pn	09 17 05.5	-0.2
TRTB				*e*		09 17 09.1	
TRTB				*e*Pg	Pg	09 17 14.1	-4.7
TRTB				*e*Sg	Sg	09 18 03.1	-4.5
TRTB				Pmax			
	comp=E,19nm,1.1s						
TRTB				Smax			
	comp=E,68nm,1.1s						
FFNB	**Fofonovo**	**4.16**	**210**	*e*Sg	Sg	09 18 14.7	-5.5
FFNB				Smax			
	comp=E,139nm,0.8s						
CIT	**Chita**	**4.18**	**150**	*e*Pg	Pg	09 17 20.4	-6.3
CIT				*e*Sg	Sg	09 18 14.3	-6.6
CIT				Pmax			
	comp=E,31nm,1.4s						
CIT				Smax			
	comp=E,52nm,0.6s						
CRS	**Chara**	**4.68**	**72**	*e*Pg	Pg	09 17 31.5	-4.8
CRS				*e*		09 17 37.8	
CRS				*e*Sg	Sg	09 18 32.4	-4.6
CRS				max			
	comp=E,10.0nm,0.7s						
CRS				Smax			
	comp=E,45nm,1.3s						
LSTR	**Listvyanka**	**4.96**	**222**	*e*Pn	Pn	09 17 22.6	+0.6
LSTR				*e*		09 17 33.7	
LSTR				*e*Sn	Sn	09 18 15.4	-4.5
LSTR				*e*Sg	Sg	09 18 38.4	-7.4
LSTR				max			
	comp=E,12nm,0.7s						
LSTR				Smax			
	comp=E,59nm,1.4s						
TLY	**Talaya**	**5.57**	**227**	*e*PN	Pn	09 17 27.8	-2.7
TLY				*e*		09 17 45.3	
TLY				*e*S	Sn	09 18 32.0	-3.1
TLY				*e*		09 18 57.8	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TLY				smax			
	comp=E,39nm,0.8s						
TLY	**Talaya**	**5.57**	**227**	*e*Pn	Pn	09 17 30.0	-0.5
TLY				*e*Sn	Sn	09 18 32.0	-3.1
TLY				*e*Sg	Sg	09 18 58.2	-7.3
TLY				max			
	comp=E,4.0nm,0.6s						
TLY				Smax			
	comp=E,36nm,0.7s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	09 17 34.6	+1.4
TUP				*e*Pg	Pg	09 17 50.2	-6.9
TUP				*e*Sg	Sg	09 19 06.4	-5.5
TUP				Pmax			
	comp=E,2.0nm,0.6s						
TUP				Smax			
	comp=E,31nm,1.0s						
ARS	**Arshan**	**5.93**	**234**	*e*PN	Pn	09 17 34.8	-0.6
ARS				*e*S	Sn	09 18 39.6	-4.4
ARS	**Arshan**	**5.93**	**234**	*e*Pn	Pn	09 17 34.8	-0.6
ARS				*e*Sn	Sn	09 18 39.9	-4.1
ARS				*e*Sg	Sg	09 19 09.1	-8.0
ARS				max			
	comp=E,14nm,0.4s						
ARS				Smax			
	comp=E,159nm,0.8s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN	Pn	09 17 46.3	-0.2
ZAK				*e*		09 18 07.4	
ZAK				*e*S	Sn	09 19 00.8	-2.9
ZAK				*e*		09 19 34.7	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZAK				smax			
	comp=N,41nm,1.2s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*	Sn	09 19 05.9	+2.2
ZAK				*e*Sg	Sg	09 19 35.1	-7.8
ZAK				Smax			
	comp=N,43nm,2.0s						
MOY	**Mondy**	**6.77**	**237**	*e*PN	Pn	09 17 46.3	-0.6
MOY				*e*		09 18 05.4	
MOY				*e*S	Sn	09 19 00.3	-4.2
MOY	**Mondy**	**6.77**	**237**	*e*Pn	Pn	09 17 47.8	+0.9
MOY				*e*		09 17 51.9	
MOY				*e*		09 17 59.5	
MOY				*e*Sn	Sn	09 19 02.0	-2.5
MOY				*e*Sg	Sg	09 19 36.9	-7.0
MOY				max			
	comp=N,12nm,0.6s						
MOY				Smax			
	comp=N,50nm,1.1s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	Pn	09 17 48.1	+0.1
ORL				*e*S	Sg	09 19 39.7	-6.9
ORL				smax			
	comp=N,36nm,1.4s						
ORL	**Orlik**	**6.85**	**247**	⇑*i*Pn	Pn	09 17 48.4	+0.4
ORL				*e*Sn	Sn	09 19 04.6	-2.0
ORL				*i* Sg	Sg	09 19 39.8	-6.8
ORL				max			
	comp=N,5.0nm,0.8s						
ORL				Smax			
	comp=N,36nm,1.1s						

*ISCJB **06** 09:33:53.1±0.8, 7.16S±004×129.53E±007, h111km±9km, mb4.8/25, Error ellipse: s-maj=11.6km s-min=5.9km az=139.2*
*MOS **06** 09:33:54.1±1.5, 720S×129.34E, h116km, mb4.5/5, Error ellipse: s-maj=14.9km s-min=8.8km az=113.2*
*NEIC **06** 09:33:54.5±0.8, 7.155S×129.55E, h104km±10km, mb4.5/9, Error ellipse: s-maj=11.7km s-min=7.4km az=65.0*
*BJI **06** 09:33:54.5, 720S×129.50E, h103km, mB5.1, mb4.8*
*IDC **06** 09:33:56.2±4.3, 697S×129.52E, h118km±39km, mb4.2/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.2/9, MS3.3/4, Ms1 3.3/4, ms1mx2.8/22, Error ellipse: s-maj=23.4km s-min=13.8km az=64.0*
ISC 06 09:33:54.6±0.7, 715S±004×129.58E±007, h107km±8km, n66, σ1§16/68, mb4.8/25, 6C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.71**	**338**	P	**Pn**	**09 34 51.0**	**+1.1**
	159nm,0.7s						
KAKA	**Kakadu**	**6.20**	**153**	*e*P	**Pn**	**09 35 24.0**	**+0.4**
	99nm,0.4s						
KAKA				*e*S	**Sn**	**09 36 31.0**	**-2.1**
KNA	**Kununurra**	**8.58**	**185**	Pn	**Pn**	**09 35 55.8**	**-0.1**
BAKI	**Biak**	**8.80**	**48**	P	**Pn**	**09 35 58.9**	**0.0**
	775nm,1.0s						
KAPI	**Kappang**	**10.00**	**282**	Pn	**Pn**	**09 36 17.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.54**	**199**	*e*P	**Pn**	**09 36 33.7**	**-2.2**
	54nm,0.4s						
FITZ				*e*S	**Sn**	**09 38 33.5**	**-9.3**
FITZ	**Fitzroy Crossi**	**11.54**	**199**	P	**Pn**	**09 36 33.8**	**-2.1**
	6.8nm,0.3s,baz=36,slow=12,SNR=108						
FITZ				S	**Sn**	**09 38 34.4**	**-8.3**
	6.2nm,0.3s,baz=69,slow=18,SNR=11						
FITZ				LR	LR	09 40 29.9	
	comp=Z,63nm,21.0s,baz=17,slow=34						
JAY	**Jayapura**	**12.01**	**68**	P	**Pn**	**09 36 47.0**	**+4.9**
	106nm,0.4s						
WRAB	**Tennant Creek**	**13.52**	**160**	*e*P	**Pn**	**09 37 00.5**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,17nm,0.6s						
WRAB	**Tennant Creek**	**13.52**	**160**	*e*Pn	**Pn**	**09 37 00.5**	**-1.5**
	comp=Z,17nm,0.6s						
WRA	**Warramunga Arr**	**13.53**	**160**	P	**Pn**	**09 37 00.0**	**-2.0**
	comp=Z,2.5nm,0.3s,baz=343,slow=10.0,SNR=94						
WRA				S	**Sn**	**09 39 19.3**	**-12**
	comp=Z,5.4nm,0.3s,baz=340,slow=21,SNR=9.0						
WB2	**Warramunga Arr**	**13.53**	**160**	*e*P	**Pn**	**09 36 59.9**	**-2.2**
WB2				*e*S	**Sn**	**09 39 20.4**	**-11**
COEN	**Coen**	**14.97**	**118**	P	**Pn**	**09 37 21.9**	**+1.3**
ASAR	**Alice Springs**	**16.94**	**166**	P	**Pn**	**09 37 45.8**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=339,slow=8.8,SNR=59						
ASAR				S	**S**	**09 40 46.3**	**-7.6**
	comp=Z,3.5nm,0.3s,baz=343,slow=24,SNR=13						
PMG	**Port Moresby**	**17.54**	**99**	P	**Pn**	**09 37 54.3**	**+2.0**
	comp=Z,1.8nm,0.3s,baz=291,slow=7.8,SNR=16						
PMG				S	**S**	**09 40 56.3**	**-12**
	comp=Z,1.3nm,0.3s,baz=322,slow=22,SNR=5.7						
PMG	**Port Moresby**	**17.54**	**99**	*ce*P	**Pn**	**09 37 55.5**	**+3.2**
PMG	**Port Moresby**	**17.54**	**99**	*e*Pn	**Pn**	**09 37 54.4**	**+2.1**
	comp=Z,29nm,0.8s						
KKM	**Kota Kinabalu**	**18.70**	**314**	*e*P	**P**	**09 38 05.0**	**+0.4**
CTA	**Charters Tower**	**20.66**	**130**	*e*P	**P**	**09 38 28.7**	**+2.9**
	comp=Z,3.5nm,0.6s						
CTA	**Charters Tower**	**20.66**	**130**	P	**P**	**09 38 28.8**	**+3.0**
	comp=Z,5.5nm,0.9s,baz=283,slow=12,SNR=4.2						
CTA				LR	LR	09 47 47.3	
	comp=Z,102nm,18.6s,baz=230,slow=40						
CTA	**Charters Tower**	**20.66**	**130**	*e*P	**P**	**09 38 28.7**	**+2.9**
CTA				pmax	pmax		
	comp=Z,40nm,0.6s						
KSM	**Kuching**	**21.05**	**293**	*e*P	**P**	**09 38 29.9**	**0.0**
TGY	**Tagaytay City**	**22.79**	**338**	P	**P**	**09 38 47.1**	**-1.2**
	comp=Z,129nm,0.4s,baz=145,slow=9.4,SNR=4.0						
FORT	**Forrest**	**23.55**	**183**	*e*P	**P**	**09 38 56.4**	**+1.2**
	comp=Z,11nm,0.5s,mb4.5						
FORT				*e*S	**S**	**09 43 18.3**	**+17**
KLBR	**Kellerberrin**	**26.70**	**203**	*e*P	**P**	**09 39 25.6**	**+1.8**
	comp=Z,6.8nm,0.6s,mb4.3						
KLBR				*e*S	sS	09 44 29.6	-2.7
STKA	**Stephens Creek**	**27.03**	**157**	*e*P	**P**	**09 39 28.3**	**+1.6**
	comp=Z,1.2nm,0.4s,mb3.8						
STKA				*e*S	sS	09 44 35.0	-2.5
STKA	**Stephens Creek**	**27.03**	**157**	P	**P**	**09 39 28.3**	**+1.6**
	comp=Z,1.3nm,0.3s,mb3.9,baz=302,slow=6.4,SNR=5.8						
STKA				LR	LR	09 51 37.4	
	comp=Z,84nm,20.4s,baz=204,slow=39						
MUN	**Mundaring**	**27.67**	**205**	*e*P	**P**	**09 39 33.5**	**+1.1**
MUN				*e*S	sS	09 44 54.2	+6.7
NWAO	**Narrogin (SRO)**	**28.09**	**202**	P	**P**	**09 39 38.0**	**+1.8**
	comp=Z,1.8nm,0.3s,mb4.0,baz=56,slow=7.7,SNR=7.1						
NWAO				LR	LR	09 50 47.7	
	comp=Z,107nm,20.7s,baz=130,slow=36						
PSI	**Prapat**	**32.15**	**287**	P	**P**	**09 40 12.2**	**+0.2**
	comp=Z,22nm,0.8s,mb5.0,baz=129,slow=5.0,SNR=15						
GYA	**Guiyang**	**40.13**	**327**	P	**P**	**09 41 24.0**	**+4.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
KMI	**Kunming**	**41.37**	**322**	P	**P**	**09 41 35.6**	**+5.5**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
HHC	**Hu-ho-hao-te**	**50.56**	**342**	*e*P	**P**	**09 42 46.8**	**+4.6**
HHC				AP	pP	09 43 12.9	+5.4
HHC				XP	sP	09 43 25.7	+6.3
HHC				PCP	PcP	09 44 02.4	+3.9
HHC				PP	PP	09 44 46.0	+7.1
HHC				SCP	ScP	09 47 46.1	+1.4
HHC				PCS	PcS	09 47 58.3	+2.4
HHC				S	**S**	**09 49 53.8**	**+5.5**
HHC				SCS	ScS	09 52 23.1	+0.6
HHC				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.2						
HHC				AMB	AMB		
	comp=Z,81nm,6.1s						
HHC				LR	LR		
	comp=N,211nm,17.2s						
HHC				LR	LR		
	comp=E,788nm,22.4s						
HHC				LR	LR		
	comp=Z,111nm,21.4s						
CN2	**Changchun**	**50.85**	**356**	*e*P	**P**	**09 42 49.8**	**+5.4**
GTA	**Gaotai**	**53.91**	**332**	*e*P	**P**	**09 43 07.4**	**+0.5**
GTA				AP	pP	09 43 33.7	+1.2
GTA				XP	sP	09 43 47.1	+2.8
GTA				PP	PP	09 45 13.1	+4.0
GTA				S	**S**	**09 50 32.5**	**-1.5**
GTA				XS	sS	09 51 20.1	+2.1
GTA				SS	SS	09 54 14.6	-1.9
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.4						
GTA				AMB	AMB		
	comp=Z,142nm,4.6s						
GTA				LR	LR		
	comp=N,138nm,17.1s						
GTA				LR	LR		
	comp=E,218nm,19.0s						
GTA				LR	LR		
	comp=Z,108nm,12.5s						
JIRN	**Jiri**	**54.37**	**311**	*e*P	**P**	**09 43 09.9**	**-0.4**
	comp=Z,11nm,0.3s,mb5.4						
GUN	**Gumba**	**54.74**	**312**	*e*P	**P**	**09 43 12.6**	**-0.3**
	comp=Z,34nm,0.5s,mb5.7						
PKI	**Pulchoki**	**54.91**	**311**	*e*P	**P**	**09 43 14.0**	**-0.2**
	comp=Z,25nm,0.6s,mb5.5						
KKN	**Kakani**	**55.12**	**311**	*e*P	**P**	**09 43 15.4**	**-0.3**
	comp=Z,16nm,0.4s,mb5.4						
DMN	**Daman**	**55.15**	**311**	*e*P	**P**	**09 43 15.6**	**-0.3**
	comp=Z,11nm,0.4s,mb5.3						
GKN	**Gorkha**	**55.71**	**311**	*e*P	**P**	**09 43 19.4**	**-0.6**
	comp=Z,30nm,0.3s,mb5.8						
KOLN	**Koldanda**	**56.38**	**310**	*e*P	**P**	**09 43 24.3**	**-0.4**
	comp=Z,18nm,0.3s,mb5.6						
ULN	**Ulaanbaatar**	**58.28**	**342**	*ce*P	**P**	**09 43 37.2**	**-0.9**
SONM	**Songino Array**	**58.45**	**342**	P	**P**	**09 43 38.9**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.4,baz=157,slow=6.3,SNR=20						
WMQ	**Urumqi**	**63.29**	**327**	P	**P**	**09 44 12.6**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
MK31	**Makanchi Array**	**68.12**	**327**	*e*P	**P**	**09 44 42.7**	**-0.3**
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**09 44 42.5**	**-0.6**
	comp=Z,8.5nm,0.4s,mb5.0,baz=114,slow=8.7,SNR=185						
AAK	**Ala-Archa**	**70.39**	**320**	⇓*e*P	**P**	**09 44 56.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.3						
ZAL	**Zalesovo**	**71.54**	**334**	P	**P**	**09 45 02.3**	**-1.6**
	comp=Z,1.8nm,0.4s,mb4.2,baz=261,slow=8.0,SNR=5.8						
KURK	**Kurchatov**	**72.43**	**329**	*e*P	**P**	**09 45 08.4**	**-0.9**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**72.43**	**329**	*e*P	**P**	**09 45 08.4**	**-0.8**
	comp=Z,6.3nm,0.8s,mb4.5						
MAW	**Mawson**	**74.65**	**201**	P	**P**	**09 45 23.6**	**+1.3**
	comp=Z,5.2nm,0.6s,mb4.5,baz=64,slow=5.1,SNR=14						
MAW	**Mawson**	**74.65**	**201**	*e*P	**P**	**09 45 23.1**	**+0.8**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAW	**Mawson**	**74.65**	**201**	*e*P	**P**	**09 45 23.1**	**+0.8**
	comp=Z,4.5nm,0.6s,mb4.4						
TIXI	**Tiksi**	**78.64**	**360**	⇓*e*P	**P**	**09 45 45.8**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
SYO	**Syowa Base**	**83.37**	**201**	⇑*e*P	**P**	**09 46 10.4**	**+0.6**
SYO	**Syowa Base**	**83.37**	**201**	⇑*e*PcP	PcP	09 46 13.6	-0.4
ARU	**Arti**	**85.61**	**328**	⇑*i*P	**P**	**09 46 20.2**	**-0.9**
ARU				*e*		09 49 38.6	
ARU				*e*S	S	09 56 41.8	-2.5
ARU				*e*SS	SS	10 02 25.2	+2.7
ARU				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
ANN	**Anapa**	**96.50**	**314**	*e*P	**P**	**09 47 04.4**	**-7.6**
PDAR	**Pinedale Array**	**117.30**	**45**	PKP	PKPdf	09 52 28.2	+0.8
	comp=Z,0.2nm,0.5s,baz=300,slow=4.1,SNR=4.7						
ANMO	**Albuquerque**	**121.73**	**53**	⇑*i*PKIKP	PKPdf	09 52 37.1	+1.2
ULM	**Lac du Bonnet**	**122.80**	**33**	PKP	PKPdf	09 52 36.7	-1.3
	comp=Z,0.8nm,0.6s,baz=281,slow=5.2,SNR=2.6						
TXAR	**Lajitas Array**	**125.37**	**59**	PKP	PKPdf	09 52 44.2	+1.3
	comp=Z,0.2nm,0.5s,baz=206,slow=3.5,SNR=8.1						
TORD	**Torodi Ar. Bea**	**128.43**	**281**	PKP	PKPdf	09 52 48.8	+0.1
	comp=Z,0.8nm,0.6s,baz=86,slow=1.9,SNR=7.3						
LPAZ	**La Paz**	**150.85**	**143**	PKPbc	PKPbc	09 53 37.8	+3.2
	comp=Z,1.6nm,0.4s,baz=46,slow=5.1,SNR=8.4						
LPAZ	**La Paz**	**150.85**	**143**	*e*PKPbc	PKPbc	09 53 37.5	+2.9

*NEIC **06** 10:09:17.8, 1757N×95.11W, h136km, MD4.2(MEX), After MEX.*
MEX 06 10:09:17.8±1.2, 1758N×9512W, h136km±14km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.54**	**155**	*i* P	Pn	10 09 36.6	-1.1
CMIG				*i* S	Sn	10 09 50.2	-2.6
TUIG	**Tuzandepetl**	**0.80**	**56**	*i* P	Pn	10 09 38.9	-0.7
TUIG				*i* S	Sn	10 09 54.3	-1.7
OXX	**Oaxaca**	**1.61**	**252**	*i* P	Pn	10 09 47.0	-0.5
OXX				*i* S	Sn	10 10 09.1	-1.1
VHO	**Vista Hermosa**	**1.62**	**252**	*i* P	Pn	10 09 47.2	-0.4
VHO				*i* S	Sn	10 10 09.6	-0.9
HUIG	**Huatulco**	**2.04**	**208**	*e*P	Pn	10 09 50.5	-2.0
HUIG				*i* S	Sn	10 10 16.2	-2.8
LVIG	**Laguna Verde**	**2.46**	**330**	*i* P	Pn	10 09 55.4	-2.4
LVIG				*i* S	Sn	10 10 23.6	-4.9
UTMO	**Huajuapan**	**2.57**	**276**	*i* P	Pn	10 09 58.7	-0.4
UTMO				*i* S	Sn	10 10 28.1	-2.7
IIO	**Organos**	**3.96**	**301**	*i* P	Pn	10 10 18.8	+1.7
IIO				*i* S	Sn	10 11 03.5	+0.4
PLIG	**Platanillo**	**4.25**	**282**	*i* P	Pn	10 10 21.1	+0.2
PLIG				*i* S	Sn	10 11 06.5	-3.4
MEIG	**Mezcala**	**4.30**	**275**	*i* P	Pn	10 10 21.0	-0.7
MEIG				*i* S	Sn	10 11 08.6	-2.6
SZVM	**Salazar**	**4.40**	**294**	*e*P	Pn	10 10 23.6	+0.6
SZVM				*i* S	Sn	10 11 11.6	-2.0
ACX	**Acapulco**	**4.64**	**262**	*i* P	Pn	10 10 22.3	-3.8

**IDC 06 10:13:41.8±1.9, 5232S×13444W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/12,

comp=Z,92nm,18.0s,baz=30,slow=34
SONM Songino Array 141.71 288 PKP PKPdf 10 33 12.9 -2.3
0.4nm,0.9s,baz=122,slow=2.2,SNR=2.5

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*ISCJB **06** 10:27:04.1±0.3,4837N±002×179W±002,h3km±2km, Error ellipse: s-maj=3.3km s-min=2.2km az=42.7*
*LDG **06** 10:27:07.8±0.1,4843N×198W,h3km,Md3.0/3,Ml3.1/49, Error ellipse: s-maj=1.0km s-min=0.7km az=164.0*
*NEIC **06** 10:27:07.8,4843N×198W,h3km,ML2.7(BGS), ML3.1(LDG),After LDG.*
*CSEM **06** 10:27:08.0±0.1,4842N×198W,h8km,ML3.1/44,Error ellipse: s-maj=1.7km s-min=1.1km az=168.0*
*BGS **06** 10:27:09.2±1.0,4853N×223W,h2km,ML2.7*

ISC 06 10:27:06.4±0.3,4838N±002×190W±002,h12km±2km,n84, σ1°18/232,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGMF	**Saint Gilles**	**0.46**	**254**	*e*Pn	**Pg**	**10 27 16.2**	**+0.7**
SGMF				*e*Sg	**Sg**	**10 27 21.0**	**-0.6**
129nm,0.3s							
SGMF	**Saint Gilles**	**0.46**	**254**	*e*Pg	**Pg**	**10 27 16.0**	**+0.5**
SGMF				*e*Pn	**Pg**	**10 27 16.2**	**+0.7**
SGMF				*e*Sg	**Sg**	**10 27 21.0**	**-0.6**
SGMF	**Saint Gilles**	**0.46**	**254**	*e*Pn	**Pg**	**10 27 16.2**	**+0.7**
SGMF				*e*Sg	**Sg**	**10 27 21.0**	**-0.6**
64nm,0.3s							
GRR	**Gorron**	**0.69**	**89**	*e*Pn	**Pn**	**10 27 23.8**	**+1.8**
GRR				*e*Sg	**Sg**	**10 27 31.4**	**+2.5**
118nm,0.2s							
GRR				*e*Sn	**Sg**	**10 27 35.0**	**+6.1**
66nm,0.2s							
GRR	**Gorron**	**0.69**	**89**	*e*Pg	**Pg**	**10 27 22.2**	**+2.4**
GRR				*e*Pn	**Pn**	**10 27 23.8**	**+1.8**
GRR				*e*Sg	**Sg**	**10 27 31.4**	**+2.5**
GRR				*e*Sn	**Sg**	**10 27 35.0**	**+6.1**
GRR	**Gorron**	**0.69**	**89**	*e*Pn	**Pn**	**10 27 23.8**	**+1.8**
GRR				*e*Sg	**Sg**	**10 27 31.4**	**+2.5**
59nm,0.2s							
GRR				*e*Sn	**Sg**	**10 27 35.0**	**+6.1**
33nm,0.2s							
JRS	**Jersey**	**0.82**	**351**	*e*P	**Pg**	**10 27 21.8**	**-0.5**
JRS				*e*S	**Sg**	**10 27 31.3**	**-1.7**
JRS				AML	AML	10 27 35.3	
comp=E,321nm,0.2s							
JRS				AML	AML	10 27 35.4	
comp=Z,292nm,0.2s							
JRS	**Jersey**	**0.82**	**351**	P	**Pg**	**10 27 21.8**	**-0.5**
JRS				S	**Sg**	**10 27 31.3**	**-1.7**
JSA	**Saint Aubin**	**0.83**	**347**	*e*P	**Pg**	**10 27 21.9**	**-0.5**
JVM	**Valle D.L. Mar**	**0.86**	**346**	*e*P	**Pg**	**10 27 22.4**	**-0.7**
ROSF	**Rostrenen**	**0.92**	**268**	*e*Pg	**Pg**	**10 27 24.2**	**0.0**
ROSF				*e*Sg	**Sg**	**10 27 35.0**	**-1.2**
comp=Z,89nm,0.2s							
ROSF				*e*Sn	**Sn**	**10 27 37.7**	**-0.6**
comp=Z,108nm,0.2s							
ROSF	**Rostrenen**	**0.92**	**268**	*e*Pg	**Pg**	**10 27 24.2**	**0.0**
ROSF				*e*Sg	**Sg**	**10 27 35.0**	**-1.2**
comp=Z,45nm,0.2s							
ROSF				*e*Sn	**Sn**	**10 27 37.7**	**-0.6**
comp=Z,54nm,0.2s							
QUIF	**Quistinic**	**0.97**	**242**	*e*Pn	**Pn**	**10 27 26.5**	**+0.6**
QUIF				*e*Sg	**Sg**	**10 27 37.8**	**0.0**
comp=Z,237nm,0.3s							
QUIF	**Quistinic**	**0.97**	**242**	*e*Pg	**Pg**	**10 27 25.6**	**+0.5**
QUIF				*e*Pn	**Pn**	**10 27 26.5**	**+0.6**
QUIF				*e*Sg	**Sg**	**10 27 37.8**	**0.0**
QUIF	**Quistinic**	**0.97**	**242**	*e*Pn	**Pn**	**10 27 26.5**	**+0.6**
QUIF				*e*Sg	**Sg**	**10 27 37.8**	**0.0**
comp=Z,119nm,0.3s							
FLN	**La Foliniere**	**1.01**	**67**	*e*Pg	**Pg**	**10 27 27.4**	**+1.5**
baz=253							
FLN				*e*Sg	**Sg**	**10 27 41.1**	**+2.0**
comp=Z,113nm,0.3s							
FLN	**La Foliniere**	**1.01**	**67**	*e*Pg	**Pg**	**10 27 27.4**	**+1.5**
FLN				*e*Sg	**Sg**	**10 27 41.1**	**+2.0**
comp=Z,56nm,0.3s							
LDF	**La Druitiere**	**1.20**	**79**	*e*Pg	**Pg**	**10 27 31.3**	**+1.8**
LDF				*e*Sg	**Sg**	**10 27 46.9**	**+1.8**
comp=Z,121nm,0.2s							
LDF	**La Druitiere**	**1.20**	**79**	*e*Pg	**Pg**	**10 27 31.3**	**+1.8**
LDF				*e*Sg	**Sg**	**10 27 46.9**	**+1.8**
comp=Z,60nm,0.2s							
MFF	**Saint Martin d**	**2.14**	**146**	*e*Pg	**Pg**	**10 27 49.3**	**+1.8**
MFF				*e*Sg	**Sg**	**10 28 16.2**	**+1.0**
comp=Z,41nm,0.3s							
MFF	**Saint Martin d**	**2.14**	**146**	*e*Pn	**Pn**	**10 27 44.3**	**+2.3**
MFF				*e*Pg	**Pg**	**10 27 49.3**	**+1.8**
MFF				*e*Sg	**Sg**	**10 28 16.2**	**+1.0**
MFF	**Saint Martin d**	**2.14**	**146**	*e*Pg	**Pg**	**10 27 49.3**	**+1.8**
MFF				*e*Sg	**Sg**	**10 28 16.2**	**+1.0**
comp=Z,21nm,0.3s							
DYA	**Yadsworthy**	**2.45**	**328**	P	**Pb**	**10 27 51.8**	**+1.5**
DYA	**Yadsworthy**	**2.45**	**328**	*e*P	**Pn**	**10 27 46.7**	**+0.5**
DYA				*e*P		10 27 51.8	
CRQ2	**Rosemanowes 2**	**2.79**	**311**	*e*P	**Pn**	**10 27 49.6**	**-1.2**
CCA1	**Carnmenellis**	**2.83**	**311**	*e*P	**Pn**	**10 27 51.0**	**-0.5**
CCA1	**Carnmenellis**	**2.83**	**311**	*e*P	**Pn**	**10 27 51.0**	**-0.5**
comp=Z,16nm,0.7s							
TCF	**Toulx Ste Croi**	**3.49**	**125**	*e*Pg	**Pg**	**10 28 14.0**	**+0.7**
TCF				*e*Sn	**Sn**	**10 28 42.3**	**+0.5**
comp=Z,2.7nm,0.2s							
TCF				*e*Sg	**Sg**	**10 28 59.4**	**+0.9**
comp=Z,7.7nm,0.3s							
TCF	**Toulx Ste Croi**	**3.49**	**125**	*e*Pn	**Pn**	**10 28 02.7**	**+2.2**
TCF				*e*Pg	**Pg**	**10 28 14.0**	**+0.7**
TCF				*e*Sn	**Sn**	**10 28 42.3**	**+0.5**
TCF				*e*Sg	**Sg**	**10 28 59.4**	**+0.9**
TCF	**Toulx Ste Croi**	**3.49**	**125**	*e*Pg	**Pg**	**10 28 14.0**	**+0.7**
TCF				*e*Sn	**Sn**	**10 28 42.3**	**+0.5**
comp=Z,1.4nm,0.2s							
TCF				*e*Sg	**Sg**	**10 28 59.4**	**+0.9**
comp=Z,3.8nm,0.3s							
MCH1	**Michaelchurch**	**3.69**	**349**	*e*P	**Pn**	**10 28 04.3**	**+1.1**
MCH1				*e*S	**Sn**	**10 28 44.5**	**-2.2**
MCH1				AML	AML	10 29 02.5	
comp=N,15nm,0.7s							
MCH1				AML	AML	10 29 04.5	
comp=E,16nm,0.7s							
BGF	**Bois d'Agland**	**3.70**	**118**	*e*Pg	**Pg**	**10 28 17.9**	**+0.6**
BGF				*e*Sn	**Sn**	**10 28 47.1**	**+0.2**
comp=E,6.7nm,0.3s							
BGF				*e*Sg	**Sg**	**10 29 05.1**	**-0.1**
comp=E,27nm,0.4s							
BGF	**Bois d'Agland**	**3.70**	**118**	*e*Pn	**Pn**	**10 28 05.6**	**+2.2**
BGF				*e*Pg	**Pg**	**10 28 17.9**	**+0.6**
BGF				*e*Sn	**Sn**	**10 28 47.1**	**+0.2**
BGF				*e*Sg	**Sg**	**10 29 05.1**	**-0.1**
BGF	**Bois d'Agland**	**3.70**	**118**	*e*Pg	**Pg**	**10 28 17.9**	**+0.6**
BGF				*e*Sn	**Sn**	**10 28 47.1**	**+0.2**
comp=E,3.3nm,0.3s							
BGF				*e*Sg	**Sg**	**10 29 05.1**	**-0.1**
comp=E,13nm,0.4s							
RJF	**Les Rejaudoux**	**3.87**	**141**	*e*Pg	**Pg**	**10 28 20.4**	**-0.1**
RJF				*e*Sn	**Sn**	**10 28 50.6**	**-0.5**
comp=E,3.9nm,0.3s							
RJF				*e*Sg	**Sg**	**10 29 11.3**	**+0.7**
comp=E,12nm,0.2s							
RJF	**Les Rejaudoux**	**3.87**	**141**	*e*Pn	**Pn**	**10 28 07.5**	**+1.8**
RJF				*e*Pg	**Pg**	**10 28 20.4**	**-0.1**
RJF				*e*Sn	**Sn**	**10 28 50.6**	**-0.5**
RJF				*e*Sg	**Sg**	**10 29 11.3**	**+0.7**
RJF	**Les Rejaudoux**	**3.87**	**141**	*e*Pg	**Pg**	**10 28 20.4**	**-0.1**
RJF				*e*Sn	**Sn**	**10 28 50.6**	**-0.5**
comp=E,2.0nm,0.3s							
RJF				*e*Sg	**Sg**	**10 29 11.3**	**+0.7**
comp=E,6.1nm,0.2s							
SSF	**Saint Saulge**	**3.88**	**108**	*e*Pg	**Pg**	**10 28 20.6**	**-0.1**
SSF				*e*Sn	**Sn**	**10 28 51.5**	**+0.2**
comp=E,3.8nm,0.3s							
SSF				*e*Sg	**Sg**	**10 29 11.4**	**+0.4**
comp=E,14nm,0.4s							
SSF	**Saint Saulge**	**3.88**	**108**	*e*Pn	**Pn**	**10 28 07.7**	**+1.8**
SSF				*e*Pg	**Pg**	**10 28 20.6**	**-0.1**
SSF				*e*Sn	**Sn**	**10 28 51.5**	**+0.2**
SSF				*e*Sg	**Sg**	**10 29 11.4**	**+0.4**
SSF	**Saint Saulge**	**3.88**	**108**	*e*Pg	**Pg**	**10 28 20.6**	**-0.1**
SSF				*e*Sn	**Sn**	**10 28 51.5**	**+0.2**
comp=E,1.9nm,0.3s							
SSF				*e*Sg	**Sg**	**10 29 11.4**	**+0.4**
comp=E,7.1nm,0.4s							
AVF	**Avril sur Loir**	**3.89**	**112**	*e*Pg	**Pg**	**10 28 21.2**	**+0.2**
AVF				*e*Sn	**Sn**	**10 28 51.8**	**+0.1**
comp=E,1.4nm,0.2s							
AVF				*e*Sg	**Sg**	**10 29 12.0**	**+0.6**
comp=E,7.1nm,0.4s							
AVF	**Avril sur Loir**	**3.89**	**112**	*e*Pn	**Pn**	**10 28 07.6**	**+1.6**
AVF				*e*Pg	**Pg**	**10 28 21.2**	**+0.2**
AVF				*e*Sn	**Sn**	**10 28 51.8**	**+0.1**
AVF				*e*Sg	**Sg**	**10 29 12.0**	**+0.6**
AVF	**Avril sur Loir**	**3.89**	**112**	*e*Pg	**Pg**	**10 28 21.2**	**+0.2**
AVF				*e*Sn	**Sn**	**10 28 51.8**	**+0.1**
comp=E,0.7nm,0.2s							
AVF				*e*Sg	**Sg**	**10 29 12.0**	**+0.6**
comp=E,3.5nm,0.4s							
LFF	**La Frestale**	**3.89**	**151**	*e*Pg	**Pg**	**10 28 20.9**	**-0.1**
LFF				*e*Sn	**Sn**	**10 28 51.3**	**-0.4**
comp=E,6.6nm,0.2s							
LFF				*e*Sg	**Sg**	**10 29 11.4**	**0.0**
comp=E,28nm,0.3s							
LFF	**La Frestale**	**3.89**	**151**	*e*Pn	**Pn**	**10 28 08.0**	**+1.9**
LFF				*e*Pg	**Pg**	**10 28 20.9**	**-0.1**
LFF				*e*Sn	**Sn**	**10 28 51.3**	**-0.4**
LFF				*e*Sg	**Sg**	**10 29 11.4**	**0.0**
LFF	**La Frestale**	**3.89**	**151**	*e*Pg	**Pg**	**10 28 20.9**	**-0.1**
LFF				*e*Sn	**Sn**	**10 28 51.3**	**-0.4**
comp=E,3.3nm,0.2s							
LFF				*e*Sg	**Sg**	**10 29 11.4**	**0.0**
comp=E,14nm,0.3s							
LOR	**Lormes**	**4.03**	**104**	*e*Pg	**Pg**	**10 28 24.5**	**+0.8**
LOR				*e*Sn	**Sn**	**10 28 55.3**	**+0.1**
comp=E,2.0nm,0.2s							
LOR				*e*Sg	**Sg**	**10 29 15.9**	**-0.1**
comp=E,6.4nm,0.3s							
LOR	**Lormes**	**4.03**	**104**	*e*Pn	**Pn**	**10 28 09.6**	**+1.6**
LOR				*e*Pg	**Pg**	**10 28 24.5**	**+0.8**
LOR				*e*Sn	**Sn**	**10 28 55.3**	**+0.1**
LOR				*e*Sg	**Sg**	**10 29 15.9**	**-0.1**
LOR	**Lormes**	**4.03**	**104**	*e*Pg	**Pg**	**10 28 24.5**	**+0.8**
LOR				*e*Sn	**Sn**	**10 28 55.3**	**+0.1**
comp=E,1.0nm,0.2s							
LOR				*e*Sg	**Sg**	**10 29 15.9**	**-0.1**
comp=E,3.2nm,0.3s							
SMF	**Signal de Mont**	**4.26**	**112**	*e*Pg	**Pg**	**10 28 27.8**	**-0.2**
SMF				*e*Sn	**Sn**	**10 29 00.7**	**0.0**
comp=E,3.3nm,0.3s							
SMF				*e*Sg	**Sg**	**10 29 23.6**	**+0.4**
comp=E,6.5nm,0.3s							
SMF	**Signal de Mont**	**4.26**	**112**	*e*Pn	**Pn**	**10 28 12.4**	**+1.3**
SMF				*e*Pg	**Pg**	**10 28 27.8**	**-0.2**
SMF				*e*Sn	**Sn**	**10 29 00.7**	**0.0**
SMF				*e*Sg	**Sg**	**10 29 23.6**	**+0.4**
SMF	**Signal de Mont**	**4.26**	**112**	*e*Pg	**Pg**	**10 28 27.8**	**-0.2**
SMF				*e*Sn	**Sn**	**10 29 00.7**	**0.0**
comp=E,1.6nm,0.3s							
SMF				*e*Sg	**Sg**	**10 29 23.6**	**+0.4**
comp=E,3.2nm,0.3s							
BAIF	**Baives**	**4.34**	**65**	*e*Pg	**Pg**	**10 28 28.5**	**-1.0**
BAIF				*e*Sn	**Sn**	**10 29 01.0**	**-1.7**
comp=E,4.7nm,0.3s							
BAIF				*e*Sg	**Sg**	**10 29 24.1**	**-1.6**
comp=E,7.2nm,0.3s							
BAIF	**Baives**	**4.34**	**65**	*e*Pn	**Pn**	**10 28 12.6**	**+0.4**
BAIF				*e*Pg	**Pg**	**10 28 28.5**	**-1.0**
BAIF				*e*Sn	**Sn**	**10 29 01.0**	**-1.7**
BAIF				*e*Sg	**Sg**	**10 29 24.1**	**-1.6**
BAIF	**Baives**	**4.34**	**65**	*e*Pg	**Pg**	**10 28 28.5**	**-1.0**
BAIF				*e*Sn	**Sn**	**10 29 01.0**	**-1.7**
comp=E,2.3nm,0.3s							
BAIF				*e*Sg	**Sg**	**10 29 24.1**	**-1.6**
comp=E,3.6nm,0.3s							
CAF	**Calviac**	**4.40**	**140**	*e*Pg	**Pg**	**10 28 30.6**	**-0.2**
CAF				*e*Sn	**Sn**	**10 29 02.9**	**-1.4**
comp=E,3.9nm,0.2s							
CAF				*e*Sg	**Sg**	**10 29 27.4**	**-0.4**
comp=E,16nm,0.3s							
CAF	**Calviac**	**4.40**	**140**	*e*Pn	**Pn**	**10 28 13.9**	**+0.8**
CAF				*e*Pg	**Pg**	**10 28 30.6**	**-0.2**
CAF				*e*Sn	**Sn**	**10 29 02.9**	**-1.4**
CAF				*e*Sg	**Sg**	**10 29 27.4**	**-0.4**
CAF	**Calviac**	**4.40**	**140**	*e*Pg	**Pg**	**10 28 30.6**	**-0.2**
CAF				*e*Sn	**Sn**	**10 29 02.9**	**-1.4**
comp=E,2.0nm,0.2s							
CAF				*e*Sg	**Sg**	**10 29 27.4**	**-0.4**
comp=E,7.8nm,0.3s							
MEZF	**Maizieres J'vi**	**4.63**	**86**	*e*Pg	**Pg**	**10 28 34.4**	**-0.6**
MEZF				*e*Sn	**Sn**	**10 29 08.8**	**-1.0**
comp=E,15nm,0.4s							
MEZF				*e*Sg	**Sg**	**10 29 34.2**	**-0.8**
comp=E,16nm,0.4s							
MEZF	**Maizieres J'vi**	**4.63**	**86**	*e*Pn	**Pn**	**10 28 17.4**	**+1.3**
MEZF				*e*Pg	**Pg**	**10 28 34.4**	**-0.6**
MEZF				*e*Sn	**Sn**	**10 29 08.8**	**-1.0**
MEZF				*e*Sg	**Sg**	**10 29 34.2**	**-0.8**
MEZF	**Maizieres J'vi**	**4.63**	**86**	*e*Pg	**Pg**	**10 28 34.4**	**-0.6**
MEZF				*e*Sn	**Sn**	**10 29 08.8**	**-1.0**
comp=E,7.5nm,0.4s							
MEZF				*e*Sg	**Sg**	**10 29 34.2**	**-0.8**
comp=E,7.9nm,0.4s							
GIVF	**Givet**	**4.73**	**66**	*e*Pg	**Pg**	**10 28 35.7**	**-1.2**
GIVF				*e*Sn	**Sn**	**10 29 10.5**	**-1.7**
comp=E,7.0nm,0.3s							
GIVF				*e*Sg	**Sg**	**10 29 36.9**	**-1.3**
comp=E,5.1nm,0.2s							
GIVF	**Givet**	**4.73**	**66**	*e*Pn	**Pn**	**10 28 18.1**	**+0.6**
GIVF				*e*Pg	**Pg**	**10 28 35.7**	**-1.2**
GIVF				*e*Sn	**Sn**	**10 29 10.5**	**-1.7**
GIVF				*e*Sg	**Sg**	**10 29 36.9**	**-1.3**
GIVF	**Givet**	**4.73**	**66**	*e*Pg	**Pg**	**10 28 35.7**	**-1.2**
GIVF				*e*Sn	**Sn**	**10 29 10.5**	**-1.7**
comp=E,3.5nm,0.3s							
GIVF				*e*Sg	**Sg**	**10 29 36.9**	**-1.3**
comp=E,2.5nm,0.2s							
SJPF	**Ste Jean**	**5.29**	**175**	*e*Pn	**Pn**	**10 28 25.7**	**+0.4**
SJPF				*e*Sn	**Sn**	**10 29 24.3**	**-1.9**
comp=E,2.2nm,0.3s							
SJPF				*e*Sg	**Sg**	**10 29 55.2**	**-1.1**
comp=E,4.1nm,0.3s							
HAU	**Haudompre**	**5.53**	**91**	*e*Pg	**Pg**	**10 28 50.8**	**-1.4**
HAU				*e*Sn	**Sn**	**10 29 30.7**	**-1.2**
comp=E,3.8nm,0.3s							
HAU				*e*Sg	**Sg**	**10 30 02.6**	**-1.2**
comp=E,11nm,0.3s							
HAU	**Haudompre**	**5.53**	**91**	*e*Pn	**Pn**	**10 28 29.7**	**+1.2**
HAU				*e*Pg	**Pg**	**10 28 50.8**	**-1.4**
HAU				*e*Sn	**Sn**	**10 29 30.7**	**-1.2**
HAU				*e*Sg	**Sg**	**10 30 02.6**	**-1.2**
HAU	**Haudompre**	**5.53**	**91**	*e*Pg	**Pg**	**10 28 50.8**	**-1.4**
HAU				*e*Sn	**Sn**	**10 29 30.7**	**-1.2**
comp=E,1.9nm,0.3s							
HAU				*e*Sg	**Sg**	**10 30 02.6**	**-1.2**
comp=E,5.4nm,0.3s							
ETSF	**Etsaut**	**5.56**	**170**	*e*Pn	**Pn**	**10 28 30.0**	**+1.0**
ETSF				*e*Sn	**Sn**	**10 29 31.1**	**-1.8**
comp=E,1.0nm,0.3s							
ETSF				*e*Sg	**Sg**	**10 30 04.1**	**-0.9**
comp=E,4.0nm,0.5s							
EPF	**Esparros**	**5.58**	**163**	*e*Pn	**Pn**	**10 28 30.8**	**+1.6**
EPF				*e*Sn	**Sn**	**10 29 30.9**	**-2.3**
comp=E,2.3nm,0.3s							
EPF				*e*Sg	**Sg**	**10 30 03.9**	**-1.5**
comp=E,4.7nm,0.3s							
EPF	**Esparros**	**5.58**	**163**	*e*Pn	**Pn**	**10 28 30.8**	**+1.6**
EPF				*e*Sg	**Sg**	**10 30 03.9**	**-1.5**
comp=E,2.3nm,0.3s							
VIVF	**Saint-Julien-l**	**5.74**	**126**	*e*Pg	**Pg**	**10 28 54.7**	**-1.6**
VIVF				*e*Sg	**Sg**	**10 30 09.8**	**-0.7**
comp=E,3.5nm,0.4s							
VIVF	**Saint-Julien-l**	**5.74**	**126**	*e*Pn	**Pn**	**10 28 32.4**	**+1.0**
VIVF				*e*Pg	**Pg**	**10 28 54.7**	**-1.6**
VIVF				*e*Sg	**Sg**	**10 30 09.8**	**-0.7**
VIVF	**Saint-Julien-l**	**5.74**	**126**	*e*Pg	**Pg**	**10 28 54.7**	**-1.6**
VIVF				*e*Sg	**Sg**	**10 30 09.8**	**-0.7**
comp=E,1.8nm,0.4s							
MTLF	**Montolieu**	**5.80**	**149**	*e*Pg	**Pg**	**10 28 56.8**	**-0.7**
MTLF				*e*Sn	**Sn**	**10 29 37.4**	**-1.4**
comp=E,0.9nm,0.2s							
MTLF				*e*Sg	**Sg**	**10 30 10.9**	**-1.8**
comp=E,1.1nm,0.2s							
MTLF	**Montolieu**	**5.80**	**149**	*e*Pn	**Pn**	**10 28 33.1**	**+0.8**
MTLF				*e*Pg	**Pg**	**10 28 56.8**	**-0.7**
MTLF				*e*Sn	**Sn**	**10 29 37.4**	**-1.4**
MTLF				*e*Sg	**Sg**	**10 30 10.9**	**-1.8**
MTLF	**Montolieu**	**5.80**	**149**	*e*Pg	**Pg**	**10 28 56.8**	**-0.7**
MTLF				*e*Sn	**Sn**	**10 29 37.4**	**-1.4**
comp=E,0.4nm,0.2s							
MTLF				*e*Sg	**Sg**	**10 30 10.9**	**-1.8**
comp=E,0.6nm,0.2s							
LASF	**Ste Croix**	**5.87**	**135**	*e*Pg	**Pg**	**10 28 58.0**	**-0.8**
LASF				*e*Sg	**Sg**	**10 30 13.5**	**-1.4**
comp=E,2.1nm,0.3s							
LASF	**Ste Croix**	**5.87**	**135**	*e*Pg	**Pg**	**10 28 58.0**	**-0.8**
LASF				*e*Sg	**Sg**	**10 30 13.5**	**-1.4**
comp=E,1.0nm,0.3s							
HINF	**Hinteralfeld**	**5.89**	**92**	*e*Pg	**Pg**	**10 28 57.6**	**-1.6**
HINF				*e*Sn	**Sn**	**10 29 39.1**	**-1.8**
comp=E,3.4nm,0.3s							
HINF				*e*Sg	**Sg**	**10 30 14.1**	**-1.3**
comp=E,10nm,0.3s							
HINF	**Hinteralfeld**	**5.89**	**92**	*e*Pn	**Pn**	**10 28 34.6**	**+1.1**
HINF				*e*Pg	**Pg**	**10 28 57.6**	**-1.6**
HINF				*e*Sn	**Sn**	**10 29 39.1**	**-1.8**
HINF				*e*Sg	**Sg**	**10 30 14.1**	**-1.3**
HINF	**Hinteralfeld**	**5.89**	**92**	*e*Pg	**Pg**	**10 28 57.6**	**-1.6**
HINF				*e*Sn	**Sn**	**10 29 39.1**	**-1.8**
comp=E,1.7nm,0.3s							
HINF				*e*Sg	**Sg**	**10 30 14.1**	**-1.3**
comp=E,5.1nm,0.3s							
CDF	**Champ du Feu**	**6.11**	**86**	*e*Sg	**Sg**	**10 30 20.8**	**-1.7**
comp=E,6.8nm,0.4s							
CDF	**Champ du Feu**	**6.11**	**86**	*e*Sg	**Sg**	**10 30 20.8**	**-1.7**
comp=E,3.4nm,0.4s							

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*ISCJB **06** 10:39:07.8±3.5,49S±0.1×1535E±0.1,h110km±30km, mb4.0/11,Error ellipse: s-maj=22.8km s-min=21.0km az=92.4*
*IDC **06** 10:39:08.0±4.4,489S×15352E,h99km±39km,mb3.8/9, mb1 3.9/11,mb1mx3.7/19,mbtmp3.8/11,MS3.3/2, Ms1 3.3/2,ms1mx2.7/23,Error ellipse: s-maj=25.3km s-min=23.5km az=78.0*
*NEIC **06** 10:39:08.5±1.9,488S×15354E,h106km±16km,mb4.5/3, Error ellipse: s-maj=14.6km s-min=12.4km az=79.0*

ISC 06 10:39:08.3±2.8,49S±01×1535E±01,h101km±24km,n22, σ0°50/20,mb4.0/11,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.75**	**234**	P	**Pn**	**10 40 58.8**	**+0.4**
2.6nm,0.3s,baz=32,slow=5.1,SNR=6.8							
PMG				S	**Sn**	**10 42 23.8**	**-0.8**
13nm,0.3s,baz=47,slow=15,SNR=19							
HNR	**Honiara**	**7.82**	**126**	LR	LR	10 43 30.5	
comp=Z,76nm,19.6s,baz=179,slow=34							
CTA	**Charters Tower**	**16.70**	**204**	P	**Pn**	**10 42 57.0**	**+0.9**
0.1nm,0.3s,baz=8.7,slow=13,SNR=2.3							
CTA	**Charters Tower**	**16.70**	**204**	P	**Pn**	**10 42 57.0**	**+0.9**
DZM	**Mont Dzumac**	**21.19**	**145**	P	**P**	**10 43 44.8**	**-0.8**
6.9nm,1.0s,mb4.0,baz=102,slow=16,SNR=2.8							
KAKA	**Kakadu**	**22.23**	**248**	*e*P	**P**	**10 43 49.1**	**-7.5**
15nm,0.5s,mb4.6							
WRAB	**Tennant Creek**	**23.93**	**230**	*e*P	**P**	**10 44 12.9**	**+0.1**
6.7nm,0.7s,mb4.1							
WB2	**Warramunga Arr**	**23.93**	**230**	*e*P	**P**	**10 44 12.9**	**0.0**
WRA	**Warramunga Arr**	**23.94**	**230**	P	**P**	**10 44 13.2**	**+0.2**
4.4nm,0.6s,mb4.0,baz=54,slow=9.5,SNR=76							
ASAR	**Alice Springs**	**26.59**	**223**	P	**P**	**10 44 37.0**	**+0.1**
2.3nm,0.5s,mb4.0,baz=56,slow=9.1,SNR=73							
STKA	**Stephens Creek**	**29.10**	**201**	*e*P	**P**	**10 45 00.0**	**+0.7**
2.0nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**29.10**	**201**	P	**P**	**10 44 59.6**	**+0.2**
1.5nm,0.8s,mb3.7,baz=29,slow=14,SNR=4.8							
STKA	**Stephens Creek**	**29.10**	**201**	*e*P	**P**	**10 45 00.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**30.26**	**242**	*e*P	**P**	**10 45 09.1**	**-0.5**
7.2nm,0.5s,mb4.6							
FITZ	**Fitzroy Crossi**	**30.26**	**242**	P	**P**	**10 45 09.4**	**-0.2**
5.3nm,0.7s,mb4.3,baz=90,slow=7.3,SNR=16							
AFI	**Afiamalu**	**35.35**	**107**	LR	LR	10 55 57.6	
comp=Z,119nm,21.6s,baz=269,slow=29							
SONM	**Songino Array**	**66.77**	**327**	P	**P**	**10 49 48.9**	**+0.1**
0.2nm,0.4s,mb3.3,baz=153,slow=5.8,SNR=3.4							
CASY	**Casey**	**68.16**	**197**	*e*P	**P**	**10 49 57.3**	**-0.3**
MKAR	**Makanchi Array**	**80.85**	**319**	P	**P**	**10 51 11.4**	**+0.5**
0.3nm,0.4s,mb3.5,baz=102,slow=6.3,SNR=5.2							
ZAL	**Zalesovo**	**81.62**	**326**	P	**P**	**10 51 14.2**	**-0.8**
1.3nm,0.5s,mb4.1,baz=138,slow=6.0,SNR=3.1							
INK	**Inuvik**	**88.27**	**21**	P	**P**	**10 51 48.5**	**+0.2**
0.6nm,0.6s,mb3.8,baz=238,slow=7.7,SNR=7.0							
TORD	**Torodi Ar. Bea**	**151.01**	**288**	PKPbc	PKPbc	10 58 50.1	+0.8
1.0nm,0.5s,ba

NEM2 *e*S **Sn** **11 04 26.6 -1.8**
JRA Rausu 2.24 282 P **Pn** **11 04 11.7 -0.9**
JRA *e*S **Sn** **11 04 39.7 0.0**
JNK Nakash 2.50 273 P **Pn** **11 04 15.2 -0.9**
JNK *e*S **Sn** **11 04 45.6 -0.2**
JAK Akkeshi 2.58 260 P **Pn** **11 04 16.8 -0.3**
JAK *e*S **Sn** **11 04 47.5 -0.2**
JTKR Abashiri--Toko 3.12 280 P **Pn** **11 04 24.3 0.0**
JAR Ashorobuto 3.21 268 P **Pn** **11 04 25.9 +0.4**
JAR *e*S **Sn** **11 05 03.5 +0.7**
JOB Onbets 3.22 261 P **Pn** **11 04 25.8 +0.1**
JOB *e*S **Sn** **11 05 03.9 +0.8**
JMP Maruseppu 3.51 280 P **Pn** **11 04 30.1 +0.4**
JCH Churui 3.63 257 P **Pn** **11 04 31.2 0.0**
JCH *e*S **Sn** **11 05 12.6 -0.3**
JKK2 Kamakawa 2 3.94 277 P **Pn** **11 04 36.5 +1.0**
ASAJ Asahikawa 4.07 281 Pn **Pn** **11 04 38.0 +0.8**
1.2nm,0.3s,baz=107,slow=15,SNR=13
ASAJ Sn **Sn** **11 05 33.2 +9.4**
0.4nm,0.3s,baz=198,slow=20,SNR=2.3
JNBK Urakawa-nobuka 4.16 255 P **Pn** **11 04 38.9 +0.5**
JNBK *e*S **Sn** **11 05 25.5 -0.3**
JSE Soyaes 4.26 292 P **Pn** **11 04 39.4 -0.4**
JWK2 Keihoku 4.84 294 P **Pn** **11 04 49.0 +1.4**
JEW Eniwo 4.95 265 P **Pn** **11 04 51.3 +2.1**
JKB Kayabe 5.50 255 P **Pn** **11 04 57.5 +0.9**
JKB *e*S **Sn** **11 05 57.7 -0.7**
MKAR Makanchi Array 45.35 298 P **P** **11 11 47.7 +1.1**
0.3nm,0.6s,mb3.2,baz=82,slow=8.7,SNR=3.6
FINES FINESS Array B 65.42 333 P **P** **11 14 09.6 -1.1**
1.8nm,0.9s,mb3.9,baz=34,slow=7.1,SNR=6.1
NOA NORSAR Array B 70.09 339 P **P** **11 14 38.7 -1.3**
1.0nm,0.5s,mb3.9,baz=30,slow=6.3,SNR=2.8

*IDC **06** 11:07:17.5±5.5,4046S×17603E,h33km±43km,mb3.3/2, mb1 3.5/4,mb1mx3.4/12,mbtmp3.3/4,ML2.4/1,Error ellipse: s-maj=68.7km s-min=23.9km az=132.0*
*ISCJB **06** 11:07:18.2±0.6,4051S±003×176.10E±007,h66km±5km, mb3.5/2,Error ellipse: s-maj=9.3km s-min=4.2km az=45.8*
*WEL **06** 11:07:20.1±0.1,4047S×17606E,h56km±2km,ML3.2/18, Error ellipse: s-maj=1.6km s-min=0.6km az=90.0*
ISC 06 11:07:19.0±0.6,4051S±003×17609E±007,h60km±5km, n54,σ0§82/61,mb3.4/2,19C-6D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.21**	**147**	⇓P	**Pn**	**11 07 29.4**	**+0.9**
BFZ				SN	**Sn**	**11 07 36.3**	**+0.9**
BFZ				SN	**Sn**	**11 07 36.4**	**+1.0**
TIWZ	**Tintock**	**0.32**	**210**	⇓PN	**Pn**	**11 07 30.1**	**+0.8**
TIWZ				SN	**Sn**	**11 07 37.4**	**+0.8**
MRZ	**Mangatainoka R**	**0.42**	**248**	⇓PN	**Pn**	**11 07 30.1**	**-0.1**
MRZ				SN	**Sn**	**11 07 37.3**	**-1.0**
TSZ	**Takapari Road**	**0.46**	**347**	⇑PN	**Pn**	**11 07 29.6**	**-0.9**
TSZ				SN	**Sn**	**11 07 36.7**	**-2.2**
PXZ	**Pawanui**	**0.75**	**51**	PN	**Pn**	**11 07 34.4**	**+0.5**
MTW	**Mount Morrison**	**0.79**	**214**	⇑PN	**Pn**	**11 07 35.0**	**+0.6**
TRWZ	**Traveller**	**0.94**	**199**	⇑PN	**Pn**	**11 07 37.4**	**+1.1**
KIW	**Kapiti Island**	**0.97**	**248**	PN	**Pn**	**11 07 36.9**	**+0.3**
KIW				SN	**Sn**	**11 07 49.1**	**-0.5**
CAW	**Cannon Point**	**0.98**	**232**	⇑PN	**Pn**	**11 07 37.1**	**+0.2**
PAWZ	**Paruwai Farm**	**1.01**	**210**	⇑PN	**Pn**	**11 07 37.8**	**+0.6**
MSWZ	**Moikau Station**	**1.11**	**215**	PN	**Pn**	**11 07 38.7**	**+0.2**
MOVZ	**Moawhango**	**1.13**	**346**	⇑PN	**Pn**	**11 07 38.5**	**-0.2**
WAZ	**Wanganui**	**1.13**	**311**	⇑PN	**Pn**	**11 07 39.1**	**+0.3**
MTVZ	**Mangateitei**	**1.22**	**337**	PN	**Pn**	**11 07 40.0**	**+0.1**
WNVZ	**Wahianoa**	**1.24**	**342**	⇑PN	**Pn**	**11 07 40.3**	**+0.1**
TRVZ	**Turoa**	**1.27**	**341**	⇓PN	**Pn**	**11 07 41.0**	**+0.3**
TUVZ	**Tukino**	**1.28**	**345**	⇑PN	**Pn**	**11 07 41.2**	**+0.5**
MRW	**Makara Radio**	**1.28**	**235**	⇑PN	**Pn**	**11 07 40.6**	**-0.1**
BHW	**Baring Head**	**1.29**	**225**	⇑PN	**Pn**	**11 07 40.8**	**-0.2**
FWVZ	**Far West T-bar**	**1.31**	**341**	⇑PN	**Pn**	**11 07 41.6**	**+0.4**
SNZO	**South Karori**	**1.32**	**232**	⇑PN	**Pn**	**11 07 41.2**	**-0.1**
PKVZ	**Pokaka**	**1.34**	**334**	⇑PN	**Pn**	**11 07 41.7**	**+0.2**
WPVZ	**Whakapapa**	**1.36**	**342**	⇓PN	**Pn**	**11 07 42.4**	**+0.6**
BKZ	**Black Stump Fm**	**1.37**	**13**	⇑PN	**Pn**	**11 07 41.6**	**-0.3**
OTVZ	**Oturere**	**1.38**	**346**	⇑PN	**Pn**	**11 07 42.4**	**+0.4**
NGZ	**Ngauruhoe**	**1.38**	**344**	⇑PN	**Pn**	**11 07 42.5**	**+0.4**
WTVZ	**West Tongariro**	**1.44**	**344**	⇑PN	**Pn**	**11 07 43.2**	**+0.3**
KRVZ	**Karewarewa**	**1.45**	**346**	PN	**Pn**	**11 07 42.9**	**-0.1**
TWVZ	**Taurewa**	**1.52**	**340**	PN	**Pn**	**11 07 43.9**	**0.0**
RITZ	**Rihia Road**	**1.54**	**353**	PN	**Pn**	**11 07 44.6**	**+0.4**
TCW	**Tory Channel**	**1.55**	**242**	PN	**Pn**	**11 07 44.1**	**-0.3**
KATZ	**Kakaramea**	**1.56**	**348**	⇑PN	**Pn**	**11 07 44.7**	**+0.2**
RATZ	**Rangitukua**	**1.65**	**351**	PN	**Pn**	**11 07 45.7**	**0.0**
DUWZ	**D'Urville Isla**	**1.68**	**259**	PN	**Pn**	**11 07 46.2**	**+0.1**
VRZ	**Vera Road**	**1.72**	**323**	⇓PN	**Pn**	**11 07 46.9**	**+0.2**
RAEZ	**Rainy Point**	**1.79**	**312**	PN	**Pn**	**11 07 48.5**	**+1.0**
WATZ	**Wairara**	**1.81**	**351**	PN	**Pn**	**11 07 47.6**	**-0.3**
TUWZ	**Tuamarina**	**1.87**	**240**	PN	**Pn**	**11 07 48.0**	**-0.7**
NEZ	**North Egmont**	**1.97**	**308**	PN	**Pn**	**11 07 51.3**	**+1.3**
NRZ	**Ngariki Road**	**2.03**	**304**	PN	**Pn**	**11 07 52.0**	**+1.1**
NWEZ	**Newall Road**	**2.11**	**305**	PN	**Pn**	**11 07 53.2**	**+1.2**
NNZ	**Nelson**	**2.18**	**250**	PN	**Pn**	**11 07 52.7**	**-0.1**
HIZ	**Hauiti**	**2.21**	**334**	PN	**Pn**	**11 07 53.3**	**0.0**
URZ	**Urewera**	**2.38**	**20**	Pn	**Pn**	**11 07 54.0**	**-1.6**
1.1nm,0.3s,baz=350,slow=18,SNR=8.3							
URZ				Sn	**Sn**	**11 08 21.3**	**-2.3**
6.0nm,0.3s,baz=54,slow=15,SNR=21							
MWZ	**Matawai**	**2.44**	**28**	PN	**Pn**	**11 07 55.1**	**-1.2**
KHZ	**Kahutara**	**2.71**	**224**	PN	**Pn**	**11 07 58.8**	**-1.3**
THZ	**Tophouse**	**2.72**	**241**	PN	**Pn**	**11 07 59.4**	**-0.8**
QRZ	**Quartz Range**	**2.73**	**262**	PN	**Pn**	**11 07 59.8**	**-0.7**
MQZ	**McQueen's Vall**	**4.10**	**218**	PN	**Pn**	**11 08 17.3**	**-1.8**
WVZ	**Waitaha Valley**	**4.76**	**236**	SN	**Sn**	**11 09 18.4**	**-3.6**
RPZ	**Rata Peaks**	**4.93**	**228**	Pn	**Pn**	**11 08 28.8**	**-1.7**
0.2nm,0.3s,baz=89,slow=14,SNR=2.0							
RPZ				Sn	**Sn**	**11 09 21.0**	**-5.2**
1.5nm,0.3s,baz=2.0,slow=20,SNR=31							
ASAR	**Alice Springs**	**39.08**	**282**	P	**P**	**11 14 41.0**	**+0.9**
0.2nm,0.3s,mb3.3,baz=122,slow=6.8,SNR=12							
WRA	**Warramunga Arr**	**41.02**	**287**	P	**P**	**11 14 57.0**	**+0.8**
0.5nm,0.4s,mb3.5,baz=125,slow=8.3,SNR=15							
ARCES	**ARCESS Array B**	**147.06**	**341**	PKPbc	PKPbc	11 26 54.7	-0.3
8.6nm,1.0s,baz=90,slow=6.3,SNR=2.7							

*LDG **06** 11:29:46.6±0.2,4759N×758E,h11km±1km,Md2.2/3, Ml2.1/7,Error ellipse: s-maj=3.6km s-min=2.1km az=122.0*
*STR **06** 11:29:47.2±0.5,4758N×755E,h5km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR 06 11:29:46.9,4759N×760E,h5km±1km,ML1.3,2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	*i* Sg	Pg	11 29 48.3	-3.7
94nm,0.3s							
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	11 29 52.4	+0.4
94nm,0.3s							
BOURR	**Bourrignon**	**0.32**	**232**	⇑*i*Pg	Sg	11 29 56.2	-0.9
7.3nm,0.1s							
SULZ	**Sulz-Cheisache**	**0.36**	**100**	⇑*i*Pg	Pg	11 29 53.4	-0.4
47nm,0.2s							
SULZ				*i* Sg	Pg	11 29 53.9	+0.1
47nm,0.2s							
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	11 29 54.7	-0.1
MOF				Sg	Sg	11 30 00.5	+0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	11 29 56.8	-0.7
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn	Pg	11 29 58.3	+0.8
HINF				*e*Sn	Sg	11 30 07.5	+2.8
11nm,0.2s							
SLE	**Schleitheim**	**0.63**	**73**	*e*P	Pg	11 29 58.9	-0.1
7.1nm,0.1s							
ECH	**Echery**	**0.69**	**335**	Pg	Pg	11 30 00.8	+0.6
ECH				Sg	Sg	11 30 09.3	+0.1
CDF	**Champ du Feu**	**0.85**	**346**	*e*Pn	Pg	11 30 03.2	-0.1
CDF				*e*Sn	Sg	11 30 15.3	+1.0
7.1nm,0.2s							
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	11 30 04.2	-0.7
HAU				*e*Sg	Sg	11 30 16.5	-0.6
11nm,0.3s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	11 30 13.6	-0.5
CABF				*e*Sg	Sg	11 30 30.6	-1.9
1.5nm,0.2s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	11 30 44.2	-1.5
1.6nm,0.2s							
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	11 30 33.9	-2.0
LOR				*e*Sg	Sg	11 31 06.4	-2.7
2.7nm,0.3s							
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	11 30 38.9	-2.3
SSF				*e*Sg	Sg	11 31 14.7	-3.2
0.7nm,0.3s							

*IDC **06** 11:54:00.2±1.1,1394N×9376E,h0km,mb3.8/9,mb1 3.9/9, mb1mx3.7/21,mbtmp3.8/9,Error ellipse: s-maj=48.1km s-min=19.4km az=55.0*
*ISCJB **06** 11:54:03.0±0.8,138N±02×935E±0.1,h35km,mb3.8/9, Error ellipse: s-maj=24.6km s-min=10.7km az=49.5*
ISC 06 11:54:05.6±0.8,139N±02×9363E±010,h35km,n10, σ0§84/11,mb3.8/9,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.61**	**292**	*i* P	**Pn**	**11 56 35.7**	**+0.6**
VIS				*i* S	Sn	**11 58 31.5**	**-1.0**
MKAR	**Makanchi Array**	**34.11**	**346**	P	**P**	**12 00 47.1**	**+0.2**
1.0nm,0.7s,mb3.9,baz=164,slow=9.5,SNR=13							
SONM	**Songino Array**	**35.43**	**15**	P	**P**	**12 00 58.3**	**0.0**
0.2nm,0.5s,mb3.3,baz=203,slow=11,SNR=2.9							
ZAL	**Zalesovo**	**40.51**	**352**	P	**P**	**12 01 40.9**	**-0.3**
1.3nm,0.7s,mb3.6,baz=328,slow=8.2,SNR=6.4							
WRA	**Warramunga Arr**	**52.32**	**129**	P	**P**	**12 03 13.1**	**-0.7**
0.6nm,1.0s,mb3.5,baz=311,slow=8.0,SNR=4.3							
ASAR	**Alice Springs**	**54.29**	**133**	P	**P**	**12 03 28.2**	**-0.1**
0.2nm,0.6s,mb3.3,baz=309,slow=7.1,SNR=5.9							
BRTR	**Keskin Array B**	**58.21**	**308**	P	**P**	**12 03 58.1**	**+1.9**
1.0nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=4.9							
FINES	**FINESS Array B**	**67.17**	**331**	P	**P**	**12 04 55.2**	**-0.7**
1.6nm,0.9s,mb4.1,baz=111,slow=7.7,SNR=2.5							
ARCES	**ARCESS Array B**	**69.44**	**340**	P	**P**	**12 05 09.3**	**-0.9**
4.6nm,1.0s,mb4.4,baz=90,slow=7.2,SNR=4.0							
GERES	**GERESS Array B**	**73.03**	**317**	P	**P**	**12 05 33.0**	**+1.1**
0.5nm,0.2s,mb4.0,baz=91,slow=6.7,SNR=3.6							

*NIED **06** 11:56:00,2890N×14220E,h8km,Mw4.1 Best double couple: M0:1.39000×10^15 NP1:ϕs345.00000°,δ83.00000°, λ-62.00000°. NP2:ϕs88.00000°,δ29.00000°, λ-165.00000°.*
*ISCJB **06** 11:56:04.7±0.8,2893N±004×1424E±02,h10km,mb3.8/7, Error ellipse: s-maj=24.9km s-min=5.0km az=162.4*
*IDC **06** 11:56:04.4±1.2,2880N×14275E,h0km,mb3.7/7, mb1 3.8/10,mb1mx3.7/24,mbtmp3.7/10,ML3.3/3,MS2.9/2, Ms1 2.9/2,ms1mx2.6/35,Error ellipse: s-maj=38.1km s-min=14.9km az=83.0*
*JMA **06** 11:56:08.4±0.1,2887N×14222E,h50km,M3.7*
ISC 06 11:56:06.5±0.8,2888N±004×1425E±02,h10km,n20, σ1§27/28,mb3.8/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.80**	**189**	Pn	**Pn**	**11 56 37.1**	**-0.4**
20nm,0.3s,baz=257,slow=22,SNR=11							
CBIJ				Sn	**Sn**	**11 56 58.5**	**-1.8**
41nm,0.3s,baz=97,slow=24,SNR=17							
CBIJ	**Chichi jima**	**1.80**	**189**	P	**Pn**	**11 56 37.5**	**0.0**
CBIJ				S	**Sn**	**11 56 58.5**	**-1.9**
JHJ2	**Mitsune**	**4.80**	**332**	P	**Pn**	**11 57 19.0**	**+0.2**
JHJ2				*e*S	**Sn**	**11 58 11.7**	**-2.8**
JHJ	**Hachijo jima 2**	**4.82**	**332**	Pn	**Pn**	**11 57 21.5**	**+2.4**
2.7nm,0.3s,baz=248,slow=14,SNR=2.7							
JHJ				LR	LR	11 59 09.0	
comp=Z,157nm,18.2s,baz=52,slow=37							
BSO1	**Boso 1**	**5.90**	**348**	P	**Pn**	**11 57 34.0**	**+0.1**
BSO1				*e*S	**Sn**	**11 58 39.6**	**-1.9**
JOD2	**Odawara 2**	**6.99**	**337**	P	**Pn**	**11 57 50.4**	**+1.5**
JHU	**Hanno**	**7.46**	**340**	P	**Pn**	**11 57 55.2**	**-0.2**
JHU				S	**Sn**	**11 59 15.3**	**-4.7**
JRY	**Ryogami san**	**7.73**	**338**	P	**Pn**	**11 58 00.5**	**+1.4**
JRY				S	**Sn**	**11 59 24.4**	**-2.3**
JHO	**Hitachi**	**7.88**	**349**	P	**Pn**	**11 58 00.2**	**-0.9**
JHO				*e*S	**Sn**	**11 59 24.6**	**-5.7**
JAG	**Ashikaga**	**7.95**	**342**	P	**Pn**	**11 58 02.4**	**+0.4**
MJAR	**Matsushiro Arr**	**8.45**	**336**	Pn	**Pn**	**11 58 09.9**	**+1.0**
0.9nm,0.3s,baz=159,slow=11,SNR=9.7							
MAT	**Matsushiro**	**8.45**	**336**	P	**Pn**	**11 58 09.7**	**+0.8**
MAT				S	**Sn**	**11 59 42.5**	**-1.8**
KSRS	**Korea Array**	**14.88**	**309**	Pn	**Pn**	**11 59 41.0**	**+4.1**
baz=110,slow=12,SNR=3.5							
KSRS				LR	LR	12 04 56.4	
comp=Z,31nm,20.1s,baz=352,slow=35							
SONM	**Songino Array**	**33.64**	**314**	P	**P**	**12 02 48.9**	**+1.7**
0.4nm,0.4s,mb3.7,baz=121,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**49.17**	**190**	P	**P**	**12 04 54.2**	**-0.4**
3.3nm,0.9s,mb4.4,baz=11,slow=8.3,SNR=16							
MKAR	**Makanchi Array**	**49.56**	**308**	P	**P**	**12 04 58.4**	**+0.8**
0.6nm,0.6s,mb3.8,baz=88,slow=11,SNR=5.3							
ASAR	**Alice Springs**	**52.89**	**190**	P	**P**	**12 05 21.9**	**-0.7**
0.2nm,0.8s,mb3.1,baz=7.5,slow=6.6,SNR=3.5							
BVAR	**Borovoye Array**	**56.92**	**317**	P	**P**	**12 05 52.8**	**+1.0**
0.7nm,0.4s,mb4.0,baz=83,slow=8.4,SNR=7.2							
AKTO	**Aktyubinsk**	**64.95**	**315**	P	**P**	**12 06 46.8**	**+0.5**
1.1nm,0.7s,mb4.0,baz=45,slow=11,SNR=3.3							
YKA	**Yellowknife Ar**	**70.45**	**29**	P	**P**	**12 07 20.1**	**-1.0**
0.3nm,0.7s,mb3.3,baz=296,slow=6.5,SNR=5.1							

*GCMT **06** 12:05:44.0±0.3,4283S×4188E,h15km±1km,MW5.1/66, Moment Tensor Solution. s26,c34; s66,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.81±.20; Mθθ2.78±.19; Mϕϕ-1.98±.18; Mrθ-0.57±.33; Mϕθ4.70±.19; Mϕr-1.44±.39; Best double couple: M0:5.48800×10^16 NP1:ϕs283.00000°,δ73.00000°,λ-2.00000°. NP2: ϕs14.00000°,δ89.00000°,λ-163.00000°. Principal axes: T 5.8990, Plg11.0000°, Azm148.0000°; N -0.8280, Plg73.0000°, Azm19.0000°; P -5.0780, Plg13.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **06** 12:05:47.8±0.6,4306S±008×417E±02,h10km,mb4.5/10, MS4.3/4 Error ellipse: s-maj=21.3km s-min=10.3km az=158.3*
*IDC **06** 12:05:48.1±0.8,4304S×4186E,h0km,mb4.3/6,mb1 4.4/7, mb1mx4.1/16,mbtmp4.2/7,ML3.8/1,MS4.3/5,Ms1 4.3/5, ms1mx4.0/21,Error ellipse: s-maj=40.6km s-min=18.8km az=70.0*
*NEIC **06** 12:05:49.5±0.5,4304S×4176E,h10km,mb5.0/4,Error ellipse: s-maj=22.2km s-min=10.0km az=71.0*
ISC 06 12:05:49.4±0.6,4307S±008×417E±02,h10km,n21, σ1§10/15,mb4.5/10,MS4.3/4,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.60**	**312**	P	**Pn**	**12 10 17.0**	**-2.1**
0.2nm,0.3s,baz=141,slow=18,SNR=3.1							
BOSA				LR	LR	12 16 12.0	
comp=Z,1μm,20.6s,baz=142,slow=32							
LBTB	**Lobatse**	**22.35**	**319**	P	**P**	**12 10 48.1**	**+0.7**
48nm,1.4s,mb4.7							
OPO	**Ambohidratompo**	**24.86**	**12**	P	**P**	**12 11 10.8**	**-1.3**
6.0nm,0.9s,mb4.1,baz=182,slow=8.4,SNR=8.7							
MAW	**Mawson**	**27.08**	**162**	P	**P**	**12 11 32.5**	**+0.3**
3.7nm,0.5s,mb4.2,baz=309,slow=14,SNR=9.6							
MAW				LR	LR	12 19 33.7	
comp=Z,547nm,21.0s,MS4.1,baz=321,slow=30							
SNAA	**Sanae**	**35.83**	**202**	*e*	**P**	**12 12 49.0**	**-0.1**
SNAA				*e*	pP	12 12 51.7	-0.5
SNAA				*e*		12 12 57.0	
SNAA				*e*		12 13 01.4	
SNAA	**Sanae**	**35.83**	**202**	P	**P**	**12 12 49.5**	**+0.4**
16nm,0.8s,mb5.0							
VNA2	**Neumayer--Watz**	**36.84**	**204**	*e*	**P**	**12 12 57.4**	**-0.3**
baz=65,slow=9.6							
VNA2				*e*	pP	12 12 59.1	-1.7
VNA2				*e*		12 13 06.5	
VNA2				*e*		12 13 11.4	
VNA1	**Neumayer--Stat**	**37.00**	**205**	*e*	**P**	**12 13 00.7**	**+1.6**
VNA1				*e*		12 13 08.1	
VNA3	**Neumayer Olymp**	**37.64**	**204**	*e*	**P**	**12 13 04.1**	**-0.4**
VNA3				*e*		12 13 13.5	
VNA3				*e*		12 13 18.0	
KMBO	**Kilima Mbogo**	**41.95**	**353**	P	**P**	**12 13 41.4**	**+1.0**
0.4nm,0.3s,mb3.5,baz=56,slow=23,SNR=3.8							
QSPA	**South Pole Qui**	**47.14**	**180**	P	**P**	**12 14 20.5**	**-1.3**
17nm,1.0s,mb4.9							
VNDA	**Vanda**	**54.26**	**167**	P	**P**	**12 15 14.2**	**-1.3**
6.7nm,1.0s,mb4.5,baz=254,slow=9.3,SNR=11							
SBA	**Scott Base**	**54.84**	**168**	P	**P**	**12 15 20.2**	**+0.5**
17nm,1.0s,mb5.0							
TORD	**Torodi Ar. Bea**	**66.87**	**317**	P	**P**	**12 16 43.4**	**+1.7**
5.0nm,1.0s,mb4.5,baz=161,slow=5.8,SNR=6.1							
WRA	**Warramunga Arr**	**78.51**	**106**	P	**P**	**12 17 51.5**	**+0.6**
3.2nm,0.8s,mb4.3,baz=221,slow=4.7,SNR=4.2							
CFAA	**Coronel Fontan**	**81.86**	**234**	LR	LR	12 46 37.5	
comp=Z,38nm,21.5s,MS3.7,baz=139,slow=30							
ESDC	**Sonseca Array**	**92.15**	**326**	LR	LR	13 01 17.6	
comp=Z,215nm,19.4s,MS4.6,baz=160,slow=36							
RAO	**Raoul Island**	**99.34**	**146**	LR	LR	13 00 52.2	
comp=Z,348nm,18.1s,MS4.9,baz=162,slow=33							
TXAR	**Lajitas Array**	**149.12**	**255**	PKPbc	PKPbc	12 25 37.8	-0.1
3.5nm,1.1s,baz=143,slow=3.2,SNR=11							
YKA	**Yellowknife Ar**	**156.10**	**333**	PKP	PKPdf	12 25 43.5	-0.6
0.3nm,0.8s,baz=336,slow=1.2,SNR=2.5							
YKA	**Yellowknife Ar**	**156.10**	**333**	PKP	PKPdf	12 25 43.5	-0.6

*ISCJB **06** 12:06:37.9±0.2,473N±003×96.15E±003,h35km, mb4.9/119,MS4.8/58,Error ellipse: s-maj=4.5km s-min=3.1km az=80.4*
*MOS **06** 12:06:37.8±0.9,498N×9636E,h33km,mb5.2/51, MS4.8/18,Error ellipse: s-maj=11.5km s-min=5.2km az=124.3*
*IDC **06** 12:06:38.2±1.7,487N×9639E,h22km±10km,mb4.6/23, mb1 4.7/24,mb1mx4.7/24,mbtmp4.6/24,ML4.9/1,MS4.6/26, Ms1 4.6/26,ms1mx4.6/35,Error ellipse: s-maj=17.0km s-min=8.3km az=46.0*
*NEIC **06** 12:06:39.3±0.2,486N×9623E,h30km,mb5.1/52,Error ellipse: s-maj=8.1km s-min=4.5km az=220.0*
NEIC Felt [III] at Banda Aceh, Lhokseumawe and Takengon. Also felt at Ayer Itam, Malaysia.
*GCMT **06** 12:06:39.3±0.2,476N×9627E,h22km±1km,MW5.2/89, Moment Tensor Solution. s50,c66; s89,c147; Duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr-0.03±.02; Mθθ-0.82±.02; Mϕϕ0.85±.02; Mrθ-0.18±.03; Mϕθ0.15±.02; Mϕr-0.02±.03; Best double couple: M0:0.86800×10^17 NP1:ϕs141.00000°,δ80.00000°,λ-173.00000°. NP2: ϕs50.00000°,δ83.00000°,λ-10.00000°. Principal axes: T 0.8650, Plg2.0000°, Azm95.0000°; N 0.0050, Plg77.0000°, Azm196.0000°; P -0.8700, Plg12.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **06** 12:06:40.2,479N×9584E,h38km,mB5.2,mb4.9,Ms5.1, Msz4.9*
ISC 06 12:06:40.6±0.2,474N±003×9614E±003,h42km, h42km±3.0km:pP-P,n354,σ1§23/356,mb4.9/119,MS4.8/58, 22C-16D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.13**	**312**	P	**Pn**	**12 06 58.0**	**-1.9**
10μm,1.2s							
PSI	**Prapat**	**3.38**	**125**	Pn	**Pn**	**12 07 31.1**	**+0.2**
133nm,0.3s,baz=292,slow=9.7,SNR=336							
PSI				Sn	**Sn**	**12 08 11.8**	**+2.1**
150nm,0.3s,baz=303,slow=19,SNR=6.2							
PSI				Lg		12 08 24.4	
160nm,0.3s,baz=99,slow=4.3,SNR=8.2							
PSI				LR	LR	12 08 34.1	
comp=Z,3μm,20.2s,baz=271,slow=35							
PSI	**Prapat**	**3.38**	**125**	P	**Pn**	**12 07 31.1**	**+0.3**
PSI						12 08 11.8	
PSI	**Prapat**	**3.38**	**125**	Pn	**Pn**	**12 07 31.1**	**+0.2**
PSI				Sn	**Sn**	**12 08 11.8**	**+2.1**
PSI				Lg		12 08 24.4	
PSI				LR	LR	12 08 34.1	
PKT	**Phuket**	**3.90**	**31**	P	**Pn**	**12 07 39.0**	**+1.1**
KULM	**Kulim**	**4.53**	**83**	*e*Pn	**Pn**	**12 07 44.6**	**-2.0**
IPM	**Ipoh**	**4.88**	**93**	P	**Pn**	**12 07 49.2**	**-2.2**
SNG	**Songkhla**	**5.07**	**61**	P	**Sn**	**12 08 57.0**	**+5.7**
PPI	**Padang Panjang**	**6.69**	**140**	P	**Pn**	**12 08 15.4**	**-0.9**
270nm,1.0s							
PBA	**Port Blair**	**7.65**	**334**	*e*P	**Pn**	**12 08 27.5**	**-1.9**
PBA				*ex*	x	12 10 10.7	
KGM	**Kluang**	**7.66**	**110**	P	**Pn**	**12 08 27.0**	**-2.6**
NNT	**Nongplab**	**8.57**	**24**	P	**Pn**	**12 08 45.2**	**+3.1**
KSI	**Kapahiang**	**10.54**	**142**	P	**Pn**	**12 09 07.1**	**-1.9**
326nm,0.9s							
NST	**Nakhon Sawan**	**11.55**	**20**	P	**Pn**	**12 09 24.0**	**+1.1**
167nm,1.3s							
CHG	**Chiang Mai**	**14.25**	**11**	⇓P	**Pn**	**12 10 01.6**	**+1.9**
87nm,1.5s							
CHTO	**Chiang Mai**	**14.25**	**11**	P	**Pn**	**12 10 02.5**	**+2.8**
SNR=37							
CHTO	**Chiang Mai**	**14.25**	**11**	*e*P	**Pn**	**12 10 01.3**	**+1.6**
CHTO				pmax	pmax		
comp=Z,139nm,1.3s							
KSM	**Kuching**	**14.51**	**102**	*e*Pn	**

BOK Bokaro 21.37 333 *e*P **P** **12 11 25.4 +1.0**
BOK AMb AMB 12 11 48.8
comp=Z,61nm,1.2s,mb4.8
TSM Tawau 21.67 90 P **P** **12 11 26.9 -0.7**
MNGI Mangalore 22.57 293 *e*P **P** **12 11 38.4 +1.2**
MNGI *e*x x 12 11 46.2
comp=Z,239nm,1.5s
MNGI *i* x x 12 15 55.4
NGP Nagpur 23.27 316⇑*i*P **P** **12 11 43.7 -0.8**
NGP *e*x x 12 11 45.3
comp=Z,104nm,1.1s
NGP *e*x x 12 15 56.5
GYA Guiyang 23.83 24⇑*i*P **P** **12 11 50.6 +0.9**
GYA AP 12 12 01.8
GYA XP sP 12 12 07.4 +1.5
GYA PP 12 12 23.4
GYA PPP 12 12 34.0
GYA PCP PcP 12 15 35.2 +3.1
GYA S **S** **12 15 57.7 -4.9**
GYA SCP ScP 12 19 07.9 +0.9
GYA AMB AMB
comp=Z,80nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,420nm,3.9s
GYA LR LR
comp=N,2μm,14.7s,MS5.0
GYA LR LR
comp=E,4μm,13.8s,MS5.0
GYA LR LR
comp=Z,3μm,15.9s,MS4.8
PCI Palu 24.33 103 P **P** **12 11 55.1 +0.8**
comp=Z,190nm,1.4s,mb5.3
AKL Akola 24.44 312 *e*P **P** **12 11 55.9 +0.6**
AKL *e*x x 12 12 00.6
comp=Z,188nm,1.3s
AKL *i* x x 12 15 34.0
JIRN Jiri 24.69 338 *e*P **P** **12 11 58.2 +0.6**
KAD Karad 24.87 302 *e*P **P** **12 12 00.4 +1.2**
KAD AMb AMB 12 12 05.7
comp=Z,98nm,1.5s,mb5.1
PKI Pulchoki 24.90 337 *e*P **P** **12 11 59.7 +0.2**
comp=Z,36nm,0.9s,mb4.9
GUN Gumba 25.03 338 *e*P **P** **12 12 01.0 +0.3**
comp=Z,58nm,0.7s,mb5.2
DMN Daman 25.05 336 *e*P **P** **12 12 01.1 +0.2**
KKN Kakani 25.15 337 *e*P **P** **12 12 01.7 -0.1**
comp=Z,57nm,0.9s,mb5.1
LSA Lhasa 25.27 350 P **P** **12 12 03.5 +0.6**
LSA AP pP 12 12 12.4 -1.7
LSA S **S** **12 16 30.3 +4.5**
LSA AMB AMB
comp=Z,30nm,1.0s,mb4.8
LSA LR LR
comp=N,390nm,15.3s,MS4.7
LSA LR LR
comp=E,2μm,14.9s,MS4.7
LSA LR LR
comp=Z,990nm,15.4s,MS4.4
LSA Lhasa 25.27 350 *e*P **P** **12 12 04.7 +1.8**
LSA pmax pmax
comp=Z,34nm,0.6s,mb5.0
LSA Lhasa 25.27 350 *e*P **P** **12 12 04.7 +1.8**
comp=Z,34nm,0.6s,mb5.0
KAPI Kappang 25.50 112 P **P** **12 12 03.1 -1.8**
comp=Z,354nm,0.9s,mb5.9,SNR=9.5
GKN Gorkha 25.59 336 *e*P **P** **12 12 06.0 +0.2**
comp=Z,89nm,0.9s,mb5.3
POO Poona 25.73 304⇓*i*P **P** **12 12 06.0 -1.0**
comp=Z,40nm,1.0s,mb4.9
BHPL Bhopal 25.78 317 *e*P **P** **12 12 07.0 -0.5**
BHPL AMb AMB 12 12 15.6
comp=Z,51nm,0.9s,mb5.0
KOLN Koldanda 25.83 334 *e*P **P** **12 12 08.3 +0.4**
comp=Z,74nm,0.7s,mb5.3
TGY Tagaytay City 26.14 67 P **P** **12 12 13.0 +2.2**
comp=Z,54nm,0.6s,baz=194,slow=16,SNR=2.3
CD2 Chengdu 27.00 15 P **P** **12 12 19.8 +1.3**
CD2 AP pP 12 12 31.5 +1.7
CD2 XP sP 12 12 37.3 +2.5
CD2 PP 12 13 08.5
CD2 PPP 12 13 18.5
CD2 S **S** **12 16 50.5 -2.6**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
CD2 AMB AMB
comp=Z,150nm,4.5s
CD2 LR LR
comp=N,4μm,13.8s,MS5.4
CD2 LR LR
comp=E,7μm,13.8s,MS5.4
CD2 LR LR
comp=Z,4μm,14.4s,MS5.1
NDI New Delhi 29.82 325 *e*P **P** **12 12 43.1 -0.6**
NDI AMb AMB 12 12 50.3
comp=Z,40nm,1.0s,mb5.1
XAN Xi'an 31.48 21 P **P** **12 12 59.7 +1.4**
XAN S **S** **12 18 03.8 +0.3**
XAN AMB AMB
comp=Z,14nm,0.8s,mb4.8
XAN LR LR
comp=N,804nm,21.9s,MS4.8
XAN LR LR
comp=E,2μm,20.8s,MS4.8
XAN LR LR
comp=Z,2μm,12.0s
LZH Lanzhou 31.99 12 *e*P **P** **12 13 03.3 +0.5**
LZH AP pP 12 13 16.8 +2.7
LZH XP sP 12 13 21.6 +2.5
LZH PP PP 12 14 08.0 -7.5
LZH PCP PcP 12 15 56.7 +4.7
LZH *e*S **S** **12 18 15.0 +3.5**
LZH XS sS 12 18 36.0 +5.6
LZH AMB AMB
comp=Z,21nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,121nm,5.0s
LZH LR LR
comp=N,2μm,16.2s
LZH LR LR
comp=Z,1μm,18.2s,MS4.6
AAI Ambon 33.10 104 P **P** **12 13 11.9 -0.6**
comp=Z,102nm,1.0s,mb5.7
THN Thein Dam 33.53 328 *e*P **P** **12 13 15.2 -1.0**
comp=Z,1.9nm,0.5s,mb4.3
GTA Gaotai 34.67 5 *e*P **P** **12 13 26.3 +0.2**
GTA S **S** **12 18 53.8 +0.8**
GTA SCP ScP 12 19 44.9 +3.5
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,112nm,3.8s
GTA LR LR
comp=N,1μm,13.7s,MS4.9
GTA LR LR
comp=E,870nm,11.4s,MS4.9
GTA LR LR
comp=Z,888nm,18.3s
FITZ Fitzroy Crossi 36.90 129⇓*i*P **P** **12 13 43.6 -1.6**
comp=Z,50nm,0.6s,mb5.5
FITZ *e*S **S** **12 19 27.0 -0.1**
FITZ *e*SCP ScP 12 19 53.0 +3.4
FITZ Fitzroy Crossi 36.90 129 P **P** **12 13 44.0 -1.3**
comp=Z,25nm,0.7s,mb5.2,baz=313,slow=5.5,SNR=83
FITZ S **S** **12 19 27.0 -0.2**
comp=Z,5.0nm,1.1s,baz=338,slow=16,SNR=3.2
FITZ ScP ScP 12 19 53.3 +3.8
comp=Z,7.5nm,0.9s,baz=315,slow=3.9,SNR=7.7
FITZ LR LR 12 28 45.6
comp=Z,1μm,20.9s,MS4.6,baz=305,slow=36
BTO Baotou 37.83 17 *e*P **P** **12 13 55.3 +2.2**
BTO S **S** **12 19 42.8 +1.6**
BTO LR LR
comp=N,183nm,7.2s
BTO LR LR
comp=E,955nm,13.9s
HHC Hu-ho-hao-te 38.53 19 *e*P **P** **12 14 00.4 +1.4**
HHC AP pP 12 14 12.6 +2.1
HHC XP sP 12 14 17.9 +2.5
HHC PP PP 12 15 32.7 +5.1
HHC PCP PcP 12 16 13.1 +2.0
HHC S **S** **12 19 51.5 -0.3**
HHC SCP ScP 12 19 56.5 +0.8
HHC PCS PcS 12 20 01.5 +1.1
HHC XS sS 12 20 12.7 +1.7
HHC SS SS 12 22 33.3 -9.2
HHC SCS ScS 12 24 06.0 0.0
HHC AMB AMB
comp=Z,11nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,228nm,5.1s
HHC LR LR
comp=N,2μm,19.0s,MS5.0
HHC LR LR
comp=E,1μm,15.1s,MS5.0
HHC LR LR
comp=Z,2μm,14.7s,MS5.0
KSH Kashi 39.13 335 *e*P **P** **12 14 06.3 +2.3**
KSH AP pP 12 14 18.2 +2.7
KSH XP sP 12 14 23.6 +3.1
KSH PP PP 12 15 40.7 +6.5
KSH PPP 12 16 04.7
KSH PCP PcP 12 16 13.5 +0.5
KSH SCP ScP 12 19 58.2 +0.2
KSH S **S** **12 20 02.9 +2.0**
KSH PCS PcS 12 20 04.6 +1.9
KSH XS sS 12 20 23.0 +2.9
KSH SS SS 12 22 49.0 -5.6
KSH SCS ScS 12 24 08.5 -1.0
KSH AMB AMB
comp=Z,55nm,0.5s,mb5.5
KSH AMB AMB
comp=Z,1μm,5.4s
KSH LR LR
comp=N,3μm,9.1s
KSH LR LR
comp=E,7μm,16.6s
KSH LR LR
comp=Z,7μm,18.9s,MS5.5
BJT Baijiatuau 39.50 24 *e*P **P** **12 14 11.1 +4.0**
BJT pmax pmax
comp=Z,113nm,1.3s
BJT Baijiatuau 39.50 24 *e*P **P** **12 14 11.1 +4.1**
comp=Z,113nm,1.3s,mb5.4
BJI Beijing 39.52 24 *e*P **P** **12 14 11.2 +4.0**
BJI XP sP 12 14 30.1 +6.4
BJI PP PP 12 15 45.7 +7.3
BJI S **S** **12 20 16.6 +10**
BJI AMB AMB
comp=Z,60nm,1.3s,mb5.2
BJI LR LR
comp=N,2μm,15.1s,MS5.1
BJI LR LR
comp=E,2μm,16.1s,MS5.1
BJI LR LR
comp=Z,1μm,20.4s,MS4.7
WMQ Urumqi 39.63 350 P **P** **12 14 09.4 +1.2**
WMQ XP sP 12 14 22.2 -2.4
WMQ PP PP 12 15 42.8 +3.2
WMQ PPP 12 16 09.2
WMQ PCP PcP 12 16 16.0 +1.4
WMQ SCP ScP 12 19 59.8 -0.1
WMQ PCS PcS 12 20 05.2 +0.6
WMQ S **S** **12 20 09.8 +1.5**
WMQ SS SS 12 22 59.7 -4.8
WMQ SCS ScS 12 24 12.7 +0.2
WMQ AMB AMB
comp=Z,9.0nm,1.5s,mb4.3
WMQ AMB AMB
comp=Z,150nm,3.8s
WMQ LR LR
comp=N,678nm,20.0s,MS4.8
WMQ LR LR
comp=E,1μm,22.0s,MS4.8
WMQ LR LR
comp=Z,557nm,30.0s
KAKA Kakadu 40.02 116 *e*P **P** **12 14 10.4 -1.0**
comp=Z,16nm,0.6s,mb4.9
SMDO Samad 41.02 300 P **P** **12 14 22.7 +3.0**
SNR=8.9
BIDO Bidbid 41.12 301⇑P **P** **12 14 23.6 +3.1**
SNR=18
DL2 Dalian 41.13 31 P **P** **12 14 25.3 +4.8**
DL2 S **S** **12 20 36.8 +6.1**
DL2 XS sS 12 20 54.2 +4.2
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
DL2 AMB AMB
comp=Z,120nm,3.6s
DL2 LR LR
comp=N,320nm,14.7s,MS4.8
DL2 LR LR
comp=E,920nm,16.0s,MS4.8
DL2 LR LR
comp=Z,670nm,12.5s,MS4.7
MUN Mundaring 41.21 154 *e*P **P** **12 14 22.0 +0.8**
KLBR Kellerberrin 41.59 152 *e*P **P** **12 14 24.2 -0.2**
comp=Z,42nm,1.0s,mb5.0
BSY Bisya 41.65 299 P **P** **12 14 28.3 +3.4**
SNR=8.6
MSEY Mahe Island 41.68 258 *e*P **P** **12 14 29.2 +4.2**
HOQ Hoqain 41.84 300 P **P** **12 14 29.4 +2.9**
SNR=10
AAK Ala-Archa 42.35 336⇑*e*P **P** **12 14 30.0 -0.6**
AAK pmax pmax
comp=Z,13nm,1.7s,mb4.3
AAK MLR MLR
comp=Z,2μm,21.0s,MS4.9
AAK Ala-Archa 42.35 336 *e*P **P** **12 14 30.7 +0.2**
NWAO Narrogin (SRO) 42.47 153 P **P** **12 14 31.9 +0.3**
comp=Z,32nm,0.9s,mb5.0,baz=315,slow=9.5,SNR=13
NWAO LR LR 12 31 08.8
comp=Z,933nm,20.8s,MS4.7,baz=321,slow=35
NWAO Narrogin (SRO) 42.47 153 *e*P **P** **12 14 31.9 +0.4**
NWAO pmax pmax
comp=Z,32nm,0.9s
NWAO Narrogin (SRO) 42.47 153 *e*P **P** **12 14 31.9 +0.3**
comp=Z,32nm,0.9s,mb5.0
FRU Bishkek 42.47 336 *e*P pP 12 14 45.0 +1.8
FRU pmax pmax
comp=Z,60nm,1.8s,mb4.9
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.8
JNU Nakatsue 42.95 45 LR LR 12 32 33.1
comp=Z,4μm,18.8s,MS5.4,baz=101,slow=36
WHFO Wadi Hawf 43.44 291 P **P** **12 14 42.3 +3.0**
SNR=9.0
MK31 Makanchi Array 43.57 346 *e*P **P** **12 14 39.9 -0.5**
MKAR Makanchi Array 43.57 346 P **P** **12 14 39.8 -0.6**
comp=Z,3.4nm,0.7s,mb4.2,baz=163,slow=7.9,SNR=26
MKAR ScP ScP 12 20 19.3 +3.6
comp=Z,1.0nm,0.7s,baz=138,slow=6.2,SNR=5.1
MKAR LR LR 12 37 10.4
comp=Z,281nm,18.3s,MS4.2,baz=167,slow=42
MKAR Makanchi Array 43.57 346⇑*e*P **P** **12 14 39.7 -0.7**
MKAR Makanchi Array 43.57 346 P **P** **12 14 39.8 -0.6**
MKAR ScP ScP 12 20 19.3 +3.6
MKAR LR LR 12 37 10.4
KS15 Wonju Array Si 43.59 37 *e*P **P** **12 14 45.2 +4.6**
KSRS Korea Array 43.62 37 P **P** **12 14 41.8 +0.9**
comp=Z,5.5nm,0.6s,mb4.4,baz=218,slow=8.7,SNR=16
KSRS LR LR 12 31 52.5
comp=Z,490nm,20.8s,MS4.4,baz=229,slow=35
ABTO Aybut 43.76 290 P **P** **12 14 45.2 +3.3**
SNR=5.5
SONM Songino Array 43.83 10 P **P** **12 14 43.1 +0.6**
comp=Z,6.0nm,0.8s,mb4.4,baz=191,slow=8.7,SNR=42
SONM PcP PcP 12 16 29.1 +0.8
comp=Z,4.7nm,0.6s,baz=189,slow=3.5,SNR=8.7
SONM ScP ScP 12 20 19.6 +2.9
comp=Z,0.5nm,0.8s,baz=191,slow=3.4,SNR=3.9
SONM LR LR 12 34 44.5
comp=Z,1μm,18.4s,MS4.8,baz=188,slow=39
SONM Songino Array 43.83 10 P **P** **12 14 43.1 +0.6**
SONM 12 16 29.1
ULN Ulaanbaatar 43.98 11 *e*P **P** **12 14 44.0 +0.3**
ULN pmax pmax
comp=Z,11nm,1.0s,mb4.5
ULN Ulaanbaatar 43.98 11 *e*P **P** **12 14 44.0 +0.3**
comp=Z,11nm,1.0s,mb4.5
SNY Shenyang 44.31 30⇑P **P** **12 14 49.5 +3.2**
SNY AP pP 12 14 58.3 +0.3
SNY AMB AMB
comp=Z,28nm,1.7s,mb4.7
SNY AMB AMB
comp=Z,268nm,3.5s
SNY LR LR
comp=N,708nm,13.1s,MS5.0
SNY LR LR
comp=E,1μm,13.3s,MS5.0
SNY LR LR
comp=Z,987nm,13.3s,MS4.9
KKAR Karatay Array 44.44 333 *i* P **P** **12 14 49.5 +2.1**
KKAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
WRA Warramunga Arr 44.85 124 P **P** **12 14 49.8 -0.8**
comp=Z,24nm,0.6s,mb5.2,baz=301,slow=9.3,SNR=190
WRA ScP ScP 12 20 24.8 +3.9
comp=Z,6.5nm,0.9s,baz=308,slow=3.8,SNR=13
WRA S **S** **12 21 23.4 -1.8**
comp=Z,1.9nm,0.9s,baz=295,slow=16,SNR=3.5
WRA LR LR 12 35 13.1
comp=Z,863nm,20.6s,MS4.7,baz=275,slow=38
WRA Warramunga Arr 44.85 124 P **P** **12 14 49.8 -0.8**
WRA S **S** **12 21 23.4 -1.9**
WRAB Tennant Creek 44.85 124 P **P** **12 14 50.0 -0.7**
comp=Z,249nm,0.6s,mb6.2,SNR=43
WRAB Tennant Creek 44.85 124 *e*P **P** **12 14 50.0 -0.7**
WB2 Warramunga Arr 44.86 124⇓*i*P **P** **12 14 49.9 -0.8**
WB2 *e* 12 20 24.6
ZAK Zakamensk 45.88 6 *e*P **P** **12 14 57.5 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
ASAR Alice Springs 46.40 129 P **P** **12 15 02.9 0.0**
comp=Z,27nm,0.7s,mb5.3,baz=298,slow=7.9,SNR=382
ASAR ScP ScP 12 20 31.1 +3.8
comp=Z,5.1nm,0.8s,baz=301,slow=4.2,SNR=17
ASAR S **S** **12 21 49.0 +1.4**
comp=Z,3.2nm,1.0s,baz=297,slow=13,SNR=10
FORT Forrest 46.66 141 *e*P **P** **12 15 05.5 +0.5**
comp=Z,53nm,0.7s,mb5.6
FORT *e* 12 15 13.6
CN2 Changchun 46.70 29 *e*P **P** **12 15 06.8 +1.6**
CN2 *e*AP pP 12 15 20.8 +3.8
CN2 *e*S **S** **12 21 51.1 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,13.0s,MS5.1
CN2 LR LR
comp=E,900nm,13.0s,MS5.1
CN2 LR LR
comp=Z,1μm,15.0s,MS4.9
TLY Talaya 47.20 6 *e*P **P** **12 15 12.1 +2.9**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,1μm,23.0s,MS4.8
KURK Kurchatov 48.12 345 *e*P **P** **12 15 14.9 -1.4**
KURK pmax pmax
comp=Z,22nm,1.0s,mb5.1
KURK Kurchatov 48.12 345 *e*P **P** **12 15 14.9 -1.4**
comp=Z,22nm,1.0s,mb5.1
KURK *e*ScP ScP 12 20 38.6 +4.0
HIA Hailar 48.68 20 *e*P **P** **12 15 22.4 +1.8**
JHJ Hachijo jima 2 49.47 50 LR LR 12 35 59.4
comp=Z,401nm,20.1s,MS4.4,baz=257,slow=36
VLA Vladivostok 49.60 34⇑*e*P **P** **12 15 31.2 +3.6**
VLA pmax pmax
comp=Z,50nm,1.3s,mb5.4
VLA MLR MLR
comp=Z,700nm,17.0s,MS4.7
MAJO Matsushiro 49.87 45 *e*P **P** **12 15 32.2 +2.5**
MAJO pmax pmax
comp=Z,15nm,0.8s,mb5.1
MAJO Matsushiro 49.87 45 *e*P **P** **12 15 32.2 +2.5**
comp=Z,15nm,0.8s,mb5.1
MAT Matsushiro 49.87 45 P **P** **12 15 31.1 +1.4**
MAT S **S** **12 22 36.0 -0.7**
MJAR Matsushiro Arr 49.88 45 P **P** **12 15 28.0 -1.7**
comp=Z,1.2nm,0.7s,mb4.1,baz=208,slow=5.6,SNR=3.2
MJAR PcP PcP 12 16 50.1 +0.3
comp=Z,2.9nm,0.8s,baz=246,slow=4.9,SNR=4.5
MJAR LR LR 12 37 45.8
comp=Z,820nm,19.2s,MS4.8,baz=240,slow=38
MJAR Matsushiro Arr 49.88 45 P **P** **12 15 28.0 -1.7**
MJAR 12 16 50.1
ZAL Zalesovo 49.91 351 P **P** **12 15 28.9 -1.2**
comp=Z,4.8nm,0.7s,mb4.6,baz=288,slow=6.7,SNR=19
ZAL LR LR 12 42 18.6
comp=Z,573nm,18.2s,MS4.6,baz=292,slow=43
NVS Novosibirsk 51.03 350 *e*P **P** **12 15 36.7 -1.8**
NVS *e*S **S** **12 22 47.1 -5.7**
NVS pmax pmax
comp=Z,15nm,1.0s,mb4.9
NVS pmax pmax
comp=N,19nm,1.5s
NVS smax
comp=N,47nm,2.6s
NVS smax
comp=E,16nm,1.7s
KRAR Krasnoyarsk 51.19 358⇓*e*P **P** **12 15 39.1 -0.6**
KRAR pmax pmax
comp=Z,19nm,0.5s,mb5.3
RDF Al-Radifah 51.88 303 *e*P **P** **12 15 45.9 +1.1**
RDF AMb AMB 12 15 50.9
comp=Z,72nm,0.8s,mb5.6
UMR Umm Al-Rimmam 51.94 304 *e*P **P** **12 15 45.4 +0.2**
NAY Al-Naaiem 52.23 304 *e*P **P** **12 15 47.7 +0.3**
NAY AMb AMB 12 15 53.3
comp=Z,42nm,0.8s,mb5.4
MIB Mutribah 52.33 304 *e*P **P** **12 15 48.5 +0.3**
MIB AMb AMB 12 15 49.8
comp=Z,55nm,1.1s,mb5.4
BVA0 Borovoye Array 52.58 341 *i* P **P** **12 15 48.1 -1.9**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BRVK Borovoye 52.64 341 *e*P **P** **12 15 48.2 -2.3**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRVK Borovoye 52.64 341 *e*P **P** **12 15 48.2 -2.2**
comp=Z,6.5nm,0.9s,mb4.6
PMG Port Moresby 52.75 106 P **P** **12 15 50.1 -1.2**
comp=Z,29nm,0.8s,mb5.2,baz=284,slow=8.3,SNR=5.3
PMG Port Moresby 52.75 106 *e*P **P** **12 15 50.2 -1.1**
PMG pmax pmax
comp=Z,24nm,0.8s
PMG Port Moresby 52.75 106 *e*P **P** **12 15 50.2 -1.1**
comp=Z,24nm,0.8s,mb5.2
CHKZ Chkalovo 53.06 341 *e*P **P** **12 15 52.3 -1.2**
CHKZ pmax pmax
comp=Z,30nm,0.9s,mb5.2
CHKZ Chkalovo 53.06 341 *e*P **P** **12 15 52.3 -1.2**
comp=Z,30nm,0.9s,mb5.2
CHKZ *e*ScP ScP 12 20 58.8 +3.0
OPO Ambohidratompo 53.50 243 P **P** **12 16 00.3 +3.5**
comp=Z,1.4nm,0.5s,mb4.1,baz=109,slow=4.8,SNR=3.5
KLR Kul'dur 53.62 28 *e*P **P** **12 15 56.2 -1.5**
KLR *e*S **S** **12 23 28.0 -0.2**
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.5
AB31 Akbulak array 53.92 331 *i* P **P** **12 15 58.8 -1.0**
AB31 pmax pmax
comp=Z,13nm,0.9s,mb4.9
HABR Khabarovsk 54.74 31 *e*P **P** **12 16 02.9 -2.9**
HABR *e*S **S** **12 23 42.6 -0.7**
BOD Bodaibo 54.76 12 *e*P **P** **12 16 04.1 -1.9**
BOD pmax pmax
comp=Z,11nm,1.2s,mb4.8
CTA Charters Tower 55.06 118 *e*P **P** **12 16 08.2 0.0**
comp=Z,8.2nm,0.8s,mb4.8
CTA *e* 12 16 11.7
CTA Charters Tower 55.06 118 LR LR 12 40 22.3
comp=Z,1μm,21.7s,MS4.8,baz=285,slow=37
CTA Charters Tower 55.06 118 *e*P **P** **12 16 08.2 0.0**
CTA pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 55.06 118 *e*P **P** **12 16 08.3 +0.1**
CTAO pmax pmax
comp=Z,30nm,0.9s,mb5.3
CTAO Charters Tower 55.06 118 *e*P **P** **12 16 08.3 +0.1**
comp=Z,30nm,0.9s,mb5.3
AKTO Aktyubinsk 55.63 331 P **P** **12 16 09.1 -3.2**
STKA Stephens Creek 56.52 133⇓*i*P **P** **12 16 18.4 -0.2**
comp=Z,24nm,0.7s,mb5.3
STKA Stephens Creek 56.52 133 P **P** **12 16 18.5 -0.1**
comp=Z,27nm,0.7s,mb5.4,baz=311,slow=7.0,SNR=58
STKA LR LR 12 39 51.5
comp=Z,779nm,20.8s,MS4.8,baz=297,slow=35
GNI Garni 58.04 315 *e*P **P** **12 16 29.9 +0.6**
GNI pmax pmax
comp=Z,20nm,1.0s
GNI Garni 58.04 315 *e*P **P** **12 16 29.9 +0.6**
comp=Z,20nm,1.0s,mb5.1

YSS Yuzh-Sakhalins 58.08 36⇑ eP P 12 16 32.9 +3.3
YSS pmax pmax
comp=Z,50nm,1.3s,mb5.4
YSS MLR MLR
comp=Z,600nm,23.0s,MS4.6
YSS Yuzh-Sakhalins 58.08 36 eP P 12 16 34.1 +4.5
comp=Z,56nm,1.4s,mb5.4
SVE Sverdlovsk 59.03 338 eP P 12 16 41.0 +4.8
SVE MLR MLR
comp=N,1μm,22.0s
SVE MLR MLR
comp=Z,2μm,22.0s,MS5.2
KMBO Kilima Mbogo 59.12 266 P P 12 16 40.2 +3.4
comp=Z,13nm,0.9s,mb4.9,baz=53,slow=9.1,SNR=24
KMBO LR LR 12 37 11.0
comp=Z,679nm,21.9s,MS4.7,baz=276,slow=31
KMBO Kilima Mbogo 59.12 266 ⇑P P 12 16 40.7 +3.9
SNR=8.9
KMBO Kilima Mbogo 59.12 266 eP P 12 16 40.7 +3.9
KMBO pmax pmax
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 59.12 266 eP P 12 16 40.7 +3.9
comp=Z,18nm,1.0s,mb5.0
ARU Arti 59.53 337 eP P 12 16 36.9 -2.8
ARU e 12 17 21.8
ARU e 12 18 47.4
ARU eS S 12 24 45.1 -1.3
ARU eSS SS 12 28 40.3 -1.8
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.1
ARU MLR MLR
comp=N,500nm,22.0s,MS5.0
ARU MLR MLR
comp=E,1μm,19.0s,MS5.0
ARU Arti 59.53 337 eP P 12 16 46.1 +6.4
comp=E,11nm,0.8s,mb5.0
ZEI Tsey 59.67 318 eP P 12 16 39.0 -1.7
ZEI e*PP pP 12 16 50.3 -2.4
ZEI e 12 17 24.5
ZEI e 12 18 51.8
ZEI pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV Kislovodsk 60.96 318⇑ eP P 12 16 49.0 -0.5
KIV pmax pmax
comp=Z,29nm,1.7s,mb5.1
KIV MLR MLR
comp=Z,300nm,16.0s,MS4.5
ELZG Elazig 61.64 311 i P P 12 16 54.3 +0.3
KELT Kelkit 61.96 313 i P P 12 16 55.9 -0.3
MALT Malatya 62.00 311 eP P 12 16 56.7 +0.2
MALT e pP 12 17 10.3 +1.7
TOO Toolangi 62.22 137 eP P 12 16 58.8 +0.8
comp=Z,11nm,0.9s,mb5.0
TOO Toolangi 62.22 137 eP P 12 16 58.8 +0.8
TOO pmax pmax
comp=Z,11nm,0.9s,mb5.0
YAK Yakutsk 62.35 17 eP P 12 16 59.5 +0.7
YAK e*PP pP 12 17 05.5 -5.5
YAK e 12 17 30.3
YAK eS S 12 25 25.2 +2.8
YAK e*SS sS 12 25 45.4 +2.9
YAK eSS SS 12 29 19.1 -7.2
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,22nm,1.1s,mb5.2
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=N,297nm,5.3s
YAK smax
comp=Z,108nm,3.7s
YAK smax
comp=E,208nm,4.1s
YAK MLR MLR
comp=Z,1μm,18.0s,MS5.2
YAK MLR MLR
comp=N,711nm,14.0s,MS5.2
YAK MLR MLR
comp=E,1μm,17.0s,MS5.2
YAK Yakutsk 62.35 17 eP P 12 16 58.4 -0.4
comp=E,25nm,1.1s,mb5.3
GZT Gaziantep 62.38 310 i P P 12 16 59.9 +0.9
SOKR Solikamsk 62.42 339 eP P 12 16 52.0 -7.3
SOKR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SOKR MLR MLR
comp=Z,1μm,17.0s,MS5.1
EIL Elat 62.71 301 eP P 12 17 02.5 +1.3
SOC Sochi 62.81 317 eP P 12 16 59.8 -2.1
SOC e 12 17 35.9
SOC e 12 19 22.1
SOC ePPP 12 20 49.6
SOC eS S 12 25 25.6 -2.5
SOC e 12 26 47.1
SOC eSS SS 12 29 33.2 -0.2
SOC pmax pmax
comp=Z,14nm,0.7s,mb5.2
SOC MLR MLR
comp=Z,342nm,22.0s,MS4.5
GRSN GIRESUNGRSN 62.92 314 i P P 12 17 01.4 -1.2
COBT Iskenderun 63.16 309 i P P 12 17 03.6 -0.6
ARMA Armidale 63.49 127 eP P 12 17 07.9 +1.5
CNB Canberra Magne 63.85 133 eP P 12 17 08.3 -0.4
comp=Z,67nm,1.4s,mb5.5
ANN Anapa 64.77 318 eP P 12 17 11.4 -3.4
ANN eS S 12 25 43.9 -8.6
ANN pmax pmax
comp=Z,15nm,1.1s,mb4.9
AVNT Avonos 64.82 311 i P P 12 17 14.1 -1.0
CTKT Corum 65.36 313 i P P 12 17 17.7 -0.9
BOYT Boyabat 65.49 314 i P P 12 17 19.1 -0.4
BRTR Keskin Array B 65.97 311 P P 12 17 22.0 -0.5
comp=Z,4.7nm,0.6s,mb4.7,baz=127,slow=7.4,SNR=29
BRTR LR LR 12 50 24.9
comp=Z,265nm,20.7s,MS4.4,baz=103,slow=40
BRTR Keskin Array B 65.97 311 i P P 12 17 21.8 -0.8
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BR131 Keskin Array S 65.97 311 eP P 12 17 22.2 -0.4
comp=Z,8.2nm,0.7s,mb4.9
VRSR Storozhevoye 66.07 325 eP P 12 17 21.6 -1.6
VRSR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,1.0s
ELDT Eldivan 66.32 312 i P P 12 17 24.4 -0.4
BALT Daday 66.62 313 i P P 12 17 26.1 -0.6
SGKT Sivrigoynuk 67.36 312 i P P 12 17 27.6 -3.8
TKTP Tekketepe 68.12 309 i P P 12 17 35.2 -1.0
MOS Moscow 68.77 329 eP P 12 17 34.2 -6.1
GDZ Gediz 68.97 310 i P P 12 17 40.8 -0.7
OBN Obninsk 69.07 328⇑ iP P 12 17 40.7 -1.4
OBN i 12 18 01.6
OBN pmax pmax
comp=Z,39nm,2.5s,mb4.9
OBN MLR MLR
comp=Z,700nm,21.0s,MS4.9
ULDT Uludag 69.44 311 i P P 12 17 44.5 +0.1
TIXI Tiksi 69.92 11⇓ iP P 12 17 44.5 -2.8
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TIXI MLR MLR
comp=Z,690nm,15.0s,MS5.0
TIXI Tiksi 69.92 11 eP P 12 17 45.3 -2.1
comp=Z,11nm,0.9s,mb4.8
LSZ Lusaka 70.15 252 ⇓P P 12 17 52.0 +3.3
SNR=6.8
LSZ Lusaka 70.15 252 eP P 12 17 51.9 +3.1
LSZ pmax pmax
comp=Z,29nm,1.3s,mb5.0
LSZ Lusaka 70.15 252 eP P 12 17 51.9 +3.1
comp=Z,29nm,1.3s,mb5.0
BTOK Tokmak 70.20 311 i P P 12 17 48.8 -0.3
KDAG Bornova 70.55 309 i P P 12 17 51.2 0.0
TIRR Tirgusor 70.86 315 eP P 12 17 52.5 -0.6
TIRR pmax pmax
comp=Z,22nm,1.0s,mb5.0
TIRR Tirgusor 70.86 315 eP P 12 17 52.5 -0.6
comp=Z,22nm,1.0s,mb5.0
TIRR Tirgusor 70.86 315 ⇓iP P 12 17 52.5 -0.6
URLA Izmir 71.06 309 i P P 12 17 54.1 -0.2
CASY Casey 71.61 174 eP P 12 17 57.0 -0.6

AKASG Malin Array Be 71.83 322 P P 12 17 56.7 -2.3
comp=Z,0.9nm,0.4s,mb4.1,baz=88,slow=5.9,SNR=11
AKASG LR LR 12 54 48.5
comp=Z,492nm,18.4s,MS4.8,baz=105,slow=40
VRI Vrincioaia 72.33 317⇓iP P 12 18 02.5 +0.6
MLR Muntele Rosu 72.79 316⇑iP P 12 18 05.0 +0.3
DZM Mont Dzumac 73.69 114 LR LR 12 48 59.3
comp=Z,396nm,21.2s,MS4.7,baz=108,slow=35
BURAR Bucovina Array 73.69 318⇓iP P 12 18 10.5 +0.5
VTS Vitosha 74.25 313⇑iP P 12 18 13.6 +0.3
JOF Joensuu 74.51 335 ep P 12 18 14.8 0.0
comp=Z,7.9nm,0.7s,mb4.8
LBTB Lobatse 74.53 243 eP P 12 18 17.6 +2.7
LBTB pmax pmax
comp=Z,24nm,0.9s,mb5.1
LBTB Lobatse 74.53 243 eP P 12 18 17.6 +2.6
comp=Z,24nm,0.9s,mb5.1
VAY Valandovo 74.55 311 eP P 12 18 13.7 -1.4
VAY Valandovo 74.55 311 eP P 12 18 13.7 -1.4
LVV L'vov 74.88 320 eP P 12 18 23.1 +6.2
STIP Stip 74.89 312 eP P 12 18 15.7 -1.2
STIP Stip 74.89 312 eP P 12 18 15.7 -1.2
KRUS Krusevo 75.55 311 eP P 12 18 19.5 -1.2
KRUS Krusevo 75.55 311 eP P 12 18 19.5 -1.2
BOSA Boshof 75.65 239 P P 12 18 24.2 +2.9
comp=Z,15nm,0.9s,mb4.9,baz=82,slow=5.7,SNR=13
BOSA LR LR 12 51 28.1
comp=Z,282nm,18.2s,MS4.6,baz=81,slow=35
UZH Uzhgorod 75.80 319 e P 12 18 22.0 -0.2
UZH e 12 18 40.3
OHR Ohrid 75.86 311 eP P 12 18 20.5 -2.1
OHR Ohrid 75.86 311 eP P 12 18 20.5 -2.1
KOLS Kolonicke sedl 75.86 319 eP P 12 18 26.5 +4.0
KOLS epP pP 12 18 32.0 -3.0
KOLS esP sP 12 18 38.4 -1.3
MAW Mawson 75.91 193 P P 12 18 24.2 +1.4
comp=Z,5.5nm,0.8s,mb4.5,baz=80,slow=6.4,SNR=5.9
MAW LR LR 12 47 13.5
comp=Z,275nm,18.1s,MS4.6,baz=187,slow=32
MAW Mawson 75.91 193 eP P 12 18 24.0 +1.2
MAW pmax pmax
comp=Z,13nm,1.1s
MAW Mawson 75.91 193 eP P 12 18 24.0 +1.2
comp=Z,13nm,1.1s,mb4.8
CRVS Cervenica-Dubn 76.38 319 eP P 12 18 26.6 +1.1
CRVS epP pP 12 18 36.6 -1.3
FINES FINESS Array B 76.39 332 P P 12 18 24.4 -1.2
comp=Z,1.6nm,0.5s,mb4.2,baz=109,slow=5.4,SNR=7.1
FINES LR LR 12 58 13.0
comp=Z,345nm,18.4s,MS4.7,baz=120,slow=40
KAF Kangasniemi 76.47 333 ep P 12 18 23.3 -2.7
STHS Stebnicka Huta 76.60 320 eP P 12 18 27.5 +0.8
STHS e pP 12 18 37.7 -1.5
STHS pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
STHS Stebnicka Huta 76.60 320 eP P 12 18 27.5 +0.8
comp=Z,2.8nm,0.6s,mb4.4
STHS e pP 12 18 37.7 -1.5
KECS Kecovo 76.96 319 eP P 12 18 25.3 -3.5
KECS pmax pmax
comp=Z,48nm,3.4s
KECS Kecovo 76.96 319 eP P 12 18 25.3 -3.5
comp=Z,48nm,3.4s
NIE Niedzica 77.20 320 eP P 12 18 30.5 +0.4
PSZ Piszkesteto 77.28 318⇑iP P 12 18 31.2 +0.6
OJC Ojcow 77.64 320 eP P 12 18 32.6 0.0
PKSM Moragy 77.94 316⇓iP P 12 18 34.3 0.0
VYHS Vyhne 78.05 318 eP P 12 18 34.7 -0.2
VYHS e 12 18 50.0
VYHS pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
VYHS Vyhne 78.05 318 eP P 12 18 34.7 -0.2
VYHS esP sP 12 18 50.0 -2.1
VYHS e 13 15 53.5
VYHS Vyhne 78.05 318 eP P 12 18 34.7 -0.2
comp=Z,4.6nm,1.5s,mb4.2
VYHS e 12 18 50.0
BILL Bilibino 78.26 21⇓eP P 12 18 35.3 -0.7
BILL pmax pmax
comp=Z,11nm,1.6s,mb4.5
BILL MLR MLR
comp=Z,900nm,16.0s,MS5.2
KEV Kevo 78.43 341 ep P 12 18 39.8 +2.8
comp=Z,7.4nm,0.8s,mb4.7
KEV Kevo 78.43 341 eP P 12 18 39.8 +2.8
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TIP Timpagrande 78.79 309 eP P 12 18 38.9 0.0
ARCES ARCESS Array B 78.87 340 P P 12 18 38.1 -1.3
comp=Z,3.9nm,0.7s,mb4.5,baz=7.8,slow=2.7,SNR=11
ARCES LR LR 12 56 32.8
comp=Z,1μm,20.3s,MS5.2,baz=115,slow=38
MORC Moravsky Berou 79.03 320 eP P 12 18 39.9 -0.4
MORC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MORC Moravsky Berou 79.03 320 eP P 12 18 39.9 -0.3
comp=Z,9.2nm,1.0s,mb4.7
MORC Moravsky Berou 79.03 320⇓iP P 12 18 40.5 +0.2
ZST Bratislava 79.17 318 eP P 12 18 41.4 +0.4
ZST pmax pmax
comp=Z,12nm,1.2s,mb4.7
ZST Bratislava 79.17 318 eP P 12 18 41.4 +0.4
comp=Z,12nm,1.2s,mb4.7
CONA Conrad Observa 79.98 318⇑iP P 12 18 46.0 +0.6
comp=Z,6.8nm,1.6s,mb4.3
BOJS Bojanci 80.25 315 eP P 12 18 47.3 +0.4
PERS Pernice 80.41 316 eP P 12 18 47.5 -0.3
TSUM Tsumeb 80.79 250 eP P 12 18 53.1 +3.3
comp=Z,11nm,0.9s,mb4.8
VOY Vojsko 81.22 316 eP P 12 18 52.0 -0.1
VOY e 12 19 00.9
BRG Berggiesshubel 81.42 321 eP P 12 18 53.0 -0.1
comp=Z,3.2nm,0.8s,mb4.3
BRG Berggiesshubel 81.42 321 eP P 12 18 53.0 -0.1
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AQU L'Aquila 81.46 312 eP P 12 18 53.6 +0.3
AQU pmax pmax
comp=Z,66nm,1.3s,mb5.4
AQU L'Aquila 81.46 312 eP P 12 18 53.6 +0.3
comp=Z,66nm,1.3s,mb5.4
GERES GERESS Array B 81.47 319 P P 12 18 53.4 0.0
comp=Z,1.6nm,0.5s,mb4.2,baz=91,slow=6.7,SNR=17
GERES LR LR 12 56 22.5
comp=Z,231nm,19.9s,MS4.5,baz=93,slow=37
ROBS Robic 81.50 316 eP P 12 18 53.2 -0.4
KHC Kasperske Hory 81.57 319⇓eP P 12 18 52.7 -1.2
KBA Koelnbreinsper 81.64 317⇑iP P 12 18 53.5 -0.8
comp=Z,7.4nm,1.0s,mb4.6
KBA Koelnbreinsper 81.64 317⇑iP P 12 18 53.5 -0.8
KBA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CLL Collm 82.03 321 i sP sP 12 19 11.3 -2.3
comp=Z,15nm,1.2s
CLL Lm 13 01 00.0
comp=Z,400nm,20.6s
WTTA Wattenberg 82.81 317⇑iP P 12 18 59.8 -0.6
comp=Z,17nm,1.3s,mb4.9
WTTA Wattenberg 82.81 317⇑iP P 12 18 59.8 -0.6
WTTA pmax pmax
comp=Z,17nm,1.3s,mb4.9
MOX Moxa 82.89 320 eP P 12 19 00.7 -0.1
SYO Syowa Base 83.03 198⇑eP P 12 19 02.8 +1.3
SYO Syowa Base 83.03 198⇓epP pP 12 19 12.6 -1.5
NB2 NORSAR Subarra 83.42 331 P P 12 19 05.6 +2.0
comp=Z,6.2nm,1.0s,mb4.6,baz=91,slow=5.1
NOA NORSAR Array B 83.42 331 P P 12 19 04.9 +1.3
comp=Z,2.2nm,0.9s,mb4.2,baz=93,slow=5.4,SNR=3.3
NOA LR LR 13 00 53.1
comp=Z,455nm,19.0s,MS4.9,baz=95,slow=39
KEST Kesra 84.66 305 P P 12 19 11.1 +1.2
comp=Z,7.6nm,0.9s,mb4.8,baz=47,slow=0.9,SNR=11
PGF Pioggiola 84.72 312 eP P 12 19 10.2 0.0
comp=Z,94nm,1.3s,mb5.5
PGF Pioggiola 84.72 312 eP P 12 19 10.2 0.0
PGF pmax pmax
comp=Z,47nm,1.3s,mb5.5
PGF Pioggiola 84.72 312 eP P 12 19 10.2 0.0
comp=Z,47nm,1.3s,mb5.5
CDF Champ du Feu 85.73 318 eP P 12 19 14.4 -0.8
URZ Urewera 85.84 129 LR LR 12 55 32.8
comp=Z,521nm,21.6s,MS4.9,baz=198,slow=34
HINF Hinterlalfeld 86.04 318 eP P 12 19 16.3 -0.5
LPG La Plagne 86.22 315 eP P 12 19 17.8 +0.1
comp=Z,37nm,1.0s,mb5.3

LPG La Plagne 86.22 315 eP P 12 19 17.8 +0.1
LPG pmax pmax
comp=Z,19nm,1.0s,mb5.3
LPG La Plagne 86.22 315 eP P 12 19 17.8 +0.1
comp=Z,18nm,1.0s,mb5.3
LPL La Plagne 86.24 315 eP P 12 19 17.7 0.0
comp=Z,29nm,0.8s,mb5.2
LPL La Plagne 86.24 315 eP P 12 19 17.7 0.0
LPL pmax pmax
comp=Z,15nm,0.8s,mb5.3
LPL La Plagne 86.24 315 eP P 12 19 17.7 0.0
comp=Z,15nm,0.8s,mb5.3
MBDF Montbardon 86.25 314 eP P 12 19 16.9 -0.9
HAU Haudompre 86.37 318 eP P 12 19 17.7 -0.7
HAU eMLR
comp=Z,361nm,19.0s
HAU Haudompre 86.37 318 eP P 12 19 17.7 -0.7
HAU LR LR
comp=Z,360nm,19.0s,MS4.8
FRF La Foret Royal 86.40 313 eP P 12 19 18.5 0.0
LMR La Mourre 86.51 313 eP P 12 19 19.0 -0.1
CABF La Chapelle 86.63 316 eP P 12 19 19.5 -0.1
ORIF Oris-en-Rattie 86.87 315 eP P 12 19 21.1 +0.3
comp=Z,30nm,1.2s,mb5.1
ORIF eMLR
comp=Z,459nm,20.5s
ORIF Oris-en-Rattie 86.87 315 eP P 12 19 21.1 +0.3
ORIF pmax pmax
comp=Z,15nm,1.2s,mb5.1
ORIF Oris-en-Rattie 86.87 315 eP P 12 19 21.1 +0.3
comp=Z,15nm,1.2s,mb5.1
BAIF Baives 87.64 320 eP P 12 19 24.3 -0.3
VIVF Saint-Julien-l 87.73 315 eP P 12 19 25.0 0.0
LOR Lormes 88.10 317 eP P 12 19 26.3 -0.5
LOR eMLR
comp=Z,303nm,20.2s
LOR Lormes 88.10 317 eP P 12 19 26.3 -0.5
LOR LR LR
comp=Z,300nm,20.3s,MS4.7
SMF Signal de Mont 88.17 316 eP P 12 19 26.7 -0.4
comp=Z,28nm,0.9s,mb5.2
SMF Signal de Mont 88.17 316 eP P 12 19 26.7 -0.4
SMF pmax pmax
comp=Z,14nm,0.9s,mb5.2
SMF Signal de Mont 88.17 316 eP P 12 19 26.7 -0.4
comp=Z,14nm,0.9s,mb5.2
AVF Avril sur Loir 88.49 317 eP P 12 19 27.9 -0.7
comp=Z,17nm,1.0s,mb4.9
AVF Avril sur Loir 88.49 317 eP P 12 19 27.9 -0.7
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
AVF Avril sur Loir 88.49 317 eP P 12 19 27.9 -0.7
comp=Z,8.4nm,1.0s,mb4.9
VNDA Vanda 89.48 169 P P 12 19 33.2 0.0
comp=Z,2.9nm,0.7s,mb4.7,baz=290,slow=3.7,SNR=6.4
VNDA LR LR 12 54 09.2
comp=Z,254nm,20.4s,MS4.6,baz=344,slow=32
VNDA Vanda 89.48 169 eP P 12 19 33.6 +0.4
VNDA pmax pmax
comp=Z,27nm,1.7s
VNDA Vanda 89.48 169 eP P 12 19 33.5 +0.3
comp=Z,27nm,1.7s,mb5.3
CAF Calviac 89.57 315 eP P 12 19 34.1 +0.4
MTLF Montolieu 89.63 313 eP P 12 19 34.3 +0.4
RJF Les Rejaudoux 89.92 315 eP P 12 19 35.8 +0.5
RJF eMLR
comp=Z,415nm,19.2s
RJF Les Rejaudoux 89.92 315 eP P 12 19 35.8 +0.5
RJF LR LR
comp=Z,410nm,19.3s,MS4.9
LDF La Druitiere 90.62 319 eP P 12 19 38.3 -0.2
comp=Z,49nm,1.1s,mb5.5
LDF La Druitiere 90.62 319 eP P 12 19 38.3 -0.2
LDF pmax pmax
comp=Z,24nm,1.0s,mb5.5
LDF La Druitiere 90.62 319 eP P 12 19 38.3 -0.2
comp=Z,24nm,1.0s,mb5.5
FLN La Foliniere 90.83 319 eP P 12 19 39.5 0.0
comp=Z,71nm,1.4s,mb5.5
FLN eMLR
comp=Z,542nm,17.0s
FLN La Foliniere 90.83 319 eP P 12 19 39.5 0.0
FLN pmax pmax
comp=Z,35nm,1.4s,mb5.5
FLN MLR MLR
comp=Z,540nm,17.0s,MS5.0
FLN La Foliniere 90.83 319 eP P 12 19 39.5 0.0
comp=Z,35nm,1.4s,mb5.5
FLN LR LR
comp=Z,540nm,17.0s,MS5.0
GRR Gorron 91.13 319 eP P 12 19 41.1 +0.2
comp=Z,91nm,1.3s,mb5.6
GRR Gorron 91.13 319 eP P 12 19 41.1 +0.2
GRR pmax pmax
comp=Z,46nm,1.3s,mb5.7
GRR Gorron 91.13 319 eP P 12 19 41.1 +0.2
comp=Z,46nm,1.3s,mb5.6
TOA0 Torodi Ar. Sit 93.25 283 eP P 12 19 52.6 +1.8
TORD Torodi Ar. Bea 93.25 283 P P 12 19 52.7 +2.0
comp=Z,8.4nm,0.7s,mb5.3,baz=88,slow=4.9,SNR=29
TORD PP PP 12 23 36.2 +1.5
comp=Z,2.8nm,1.1s,baz=95,slow=7.7,SNR=3.8
TORD LR LR 13 01 21.9
comp=Z,315nm,19.0s,MS4.8,baz=90,slow=35
TORD Torodi Ar. Bea 93.25 283 P P 12 19 52.7 +2.0
TORD PP PP 12 23 36.1 +1.5
TORD LR LR 13 01 21.9
QSPA South Pole Qui 94.66 180 eP P 12 20 00.2 +3.0
comp=Z,9.1nm,1.2s,mb5.1
ESDC Sonseca Array 94.75 310 P P 12 19 58.3 +0.7
comp=Z,1.4nm,0.6s,mb4.6,baz=60,slow=3.9,SNR=5.3
YKA Yellowknife Ar 108.97 15 PKKPbc PKKPbc 12 36 13.8 +1.0
comp=Z,0.4nm,0.8s,baz=152,slow=2.7,SNR=3.7
YKA PKKPab PKKPab 12 36 27.6 +2.1
comp=Z,0.1nm,0.2s,baz=178,slow=1.7,SNR=4.7
EGMT Eagleton 122.75 20 eP PKPdf 12 25 31.9 0.0
MOD Modoc 122.95 32 ePKPdf PKPdf 12 25 33.8 +1.5
MCMT McKenzie Canyo 124.24 25 ePKPdf PKPdf 12 25 34.6 -0.1
ULM Lac du Bonnet 124.26 9 PKP PKPdf 12 25 34.8 0.0
comp=Z,8.0nm,0.8s,baz=1.4,slow=2.7,SNR=10
LAO LASA Array 125.10 19 ePKPdf PKPdf 12 25 38.1 +1.7
REDW Red Top Meadow 126.27 24 ePKPdf PKPdf 12 25 39.4 +0.8
NVAR Mina Array Bea 126.49 34 PKP PKPdf 12 25 41.2 +2.2
comp=Z,4.7nm,0.8s,baz=312,slow=1.7,SNR=20
PDAR Pinedale Array 127.29 24 PKP PKPdf 12 25 41.6 +1.1
comp=Z,1.5nm,0.5s,baz=91,slow=1.9,SNR=13
PDAR PKKPbc 12 35 03.2
comp=Z,1.0nm,1.2s,baz=169,slow=1.5,SNR=3.7
PDAR Pinedale Array 127.29 24 PKP PKPdf 12 25 41.6 +1.1
PDAR PKKPbc 12 35 03.2
DUG Dugway 127.97 28 ePKIKP PKPdf 12 25 43.7 +1.8
TRCR Troy Canyon 128.01 32 ePKPdf PKPdf 12 25 43.2 +1.2
MSU Marysvale 129.60 29 ePKIKP PKPdf 12 25 48.2 +3.2
PFO Pinyon Flat Ob 130.96 37 SKPbc SKPbc 12 29 10.8 +2.3
comp=Z,3.3nm,0.9s,baz=83,slow=1.4,SNR=5.7
PV10 Paradox Valley 131.16 26 ePKPdf PKPdf 12 25 49.4 +1.5
WUAZ Wupatki 132.35 31 ePKPdf PKPdf 12 25 53.6 +3.5
ANMO Albuquerque 135.16 27⇑iPKIKP PKPdf 12 25 57.9 +2.5
WVT Waverly 139.18 5 ePKIKP PKPdf 12 26 05.2 +2.3
MIAR Mount Ida 139.87 12 ePKIKP PKPdf 12 26 04.6 +0.5
TXAR Lajitas Array 141.15 28 SKPbc SKPbc 12 29 42.4 +2.4
comp=Z,1.6nm,1.0s,baz=22,slow=1.0,SNR=4.7
TXAR SKPab 12 29 54.8
comp=Z,1.6nm,0.9s,baz=288,slow=3.7,SNR=4.6
JCT Junction City 141.80 23 ePKIKP PKPdf 12 26 10.8 +3.2
MTP Monte Pirata 151.00 322 ePKPbc PKPbc 12 26 30.3 +1.5
SDV Santo Domingo 161.10 316 PKPab PKPab 12 27 20.9 +1.2
comp=Z,10nm,0.9s,baz=42,slow=3.7,SNR=8.2

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*ISCJB **06** 12:10:27.8±1.4,2987N±008×3627E±007,h0km,Error ellipse: s-maj=12.6km s-min=8.5km az=131.8*
*HLW **06** 12:10:28.1,2938N×3660E,h20km,Mb2.9*
*GII **06** 12:10:29.0±0.7,2991N×3618E,h0km±7km,ML2.1/3*
*CSEM **06** 12:10:30.5±0.4,2990N×3606E,h1km,ML2.1,Error ellipse: s-maj=7.7km s-min=4.1km az=132.0,Mining explosion.*

ISC 06 12:10:27.8±1.4,2987N±009×3632E±008,h0km,n11,
σ0§86/14,1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.13**	**279**	Pg	**Pg**	**12 10 48.6**	**-0.7**
HRFI				Sg	**Sg**	**12 11 04.5**	**+0.5**
ZFRI	**Zfri**	**1.20**	**305**	Pg	**Pg**	**12 10 50.3**	**-0.5**

EIL	**Elat**	**1.21 261**	Pg	**Pg**	**12 10 50.5**	**-0.4**
EIL			Sg	**Sg**	**12 11 07.3**	**+0.7**
PRNI	**Paran**	**1.24 293**	Pg	**Pg**	**12 10 50.5**	**-1.0**
PRNI			Sg	**Sg**	**12 11 07.0**	**-0.5**
HBST	**Basata**	**1.53 245** ⇓	P	**Pn**	**12 10 54.9**	**-1.4**
MZDA	**Masada**	**1.66 330**	Pn	**Pn**	**12 10 58.1**	**0.0**
YTIR	**Yattir**	**1.82 325**	Pn	**Pn**	**12 11 00.3**	**+0.1**
DSI	**Dead Sea**	**1.88 335**	Pn	**Pn**	**12 11 01.8**	**+0.6**
HNKL	**Nakhl**	**2.03 272**	P	**Pn**	**12 11 03.9**	**+0.7**
AMAG	**Maghara**	**2.80 287**	P	**Pn**	**12 11 16.8**	**+3.0**
SUZ		**3.03 270**	P	**Pn**	**12 11 17.5**	**+0.5**

*ISCJB **06** 12:14:16.9±0.9, 1936N±006×6466W±004, h39km±11km, mb3.7/5, MS3.5/2, Error ellipse: s-maj=9.9km s-min=5.7km az=178.0*
*NEIC **06** 12:14:18.1, 1934N×6471W, h5km, MD4.0(RSPR), After RSPR.*
*RSPR **06** 12:14:18.1, 1934N×6471W, h5km±31km, MD4.0/12, MD4.0/12*
*IDC **06** 12:14:19.4±3.2, 1926N×6454W, h51km±34km, mb3.4/5, mb1 3.9/7, mb1mx3.7/19, mbtmp3.6/7, ML4.0/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/25, Error ellipse: s-maj=26.1km s-min=17.6km az=15.0*

ISC 06 12:14:16.2±1.6, 1935N±005×6471W±004, h15km±11km, n31, σ0°79/43, mb3.7/5, MS3.5/2, 8C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.02 193**	⇓	*e*P	**Pb**	**12 14 34.7**	**-0.8**
MTP	**Monte Pirata**	**1.48 213**	⇓	*e*P	**Pn**	**12 14 41.4**	**-0.8**
MTP				*e*S	**Sn**	**12 15 00.4**	**-0.9**
CBYP	**Canovanas**	**1.53 226**	⇑	*e*P	**Pn**	**12 14 42.5**	**-0.5**
CBYP				*e*S	**Sn**	**12 15 02.1**	**-0.4**
CDVI	**St. Croix**	**1.59 182**	⇑	*e*P	**Pn**	**12 14 44.1**	**+0.3**
CDVI				*e*S	**Sn**	**12 15 04.0**	**0.0**
HUMP	**Col San Antoni**	**1.62 222**	⇓	*e*P	**Pn**	**12 14 43.5**	**-0.6**
HUMP				*e*S	**Sn**	**12 15 04.4**	**-0.3**
CPD	**Cerro la Pandu**	**1.73 222**	⇓	*e*P	**Pn**	**12 14 45.4**	**-0.4**
CPD				*e*S	**Sn**	**12 15 08.0**	**+0.4**
SJG	**San Juan**	**1.84 228**	⇑	*e*P	**Pn**	**12 14 47.2**	**0.0**
SJG				*e*S	**Sn**	**12 15 09.6**	**-0.7**
AOPR	**Arecibo Observ**	**2.18 243**	⇑	*e*P	**Pn**	**12 14 52.1**	**+0.1**
AOPR				*e*S	**Sn**	**12 15 18.0**	**-0.6**
CELP	**Cerrillos**	**2.18 235**	⇑	*e*P	**Pn**	**12 14 51.9**	**0.0**
CELP				*e*S	**Sn**	**12 15 18.9**	**+0.2**
ICM	**Isla Caja Muer**	**2.25 230**	⇑	*e*P	**Pn**	**12 14 53.6**	**+0.7**
ICM				*e*S	**Sn**	**12 15 20.5**	**+0.2**
GBPR	**Guanica, Bosqu**	**2.47 237**	⇑	*e*P	**Pn**	**12 14 56.5**	**+0.6**
GBPR	**Guanica, Bosqu**	**2.47 237**		*e*S	**Sn**	**12 15 25.1**	**-0.8**
LSP	**Las Mesas**	**2.54 243**	⇓	*e*P	**Pn**	**12 14 57.8**	**+1.0**
LSP				*e*S	**Sn**	**12 15 27.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.64 240**	⇑	*e*P	**Pn**	**12 14 58.6**	**+0.3**
CRPR				*e*S	**Sn**	**12 15 30.6**	**+0.6**
LZG	**Guadaloupe-1**	**4.24 138**		*e*P	**Pn**	**12 15 21.0**	**+0.8**
SCG	**Saint Claude**	**4.38 138**		*e*P	**Pn**	**12 15 22.4**	**+0.2**
SCG				*e*S	**Sn**	**12 16 14.0**	**+1.1**
MGG	**Marie-Galante**	**4.70 136**		*e*P	**Pn**	**12 15 24.4**	**-2.1**
PCRV	**Puerto La Cruz**	**9.12 180**	P		**Pn**	**12 16 27.8**	**+0.6**
	1.3nm,0.3s,baz=354,slow=11,SNR=5.1						
PCRV			S		**Sn**	**12 18 05.2**	**-4.4**
	0.9nm,0.3s,baz=3.3,slow=8.4,SNR=1.9						
PCRV			LR		LR	12 20 08.3	
	comp=Z,249nm,18.6s,baz=23,slow=39						
PCRV	**Puerto La Cruz**	**9.12 180**	P		**Pn**	**12 16 27.8**	**+0.6**
PCRV			S		**Sn**	**12 18 05.2**	**-4.4**
SDV	**Santo Domingo**	**11.88 210**	P		**Pn**	**12 17 08.3**	**+3.3**
	0.9nm,0.3s,baz=68,slow=11,SNR=7.6						
SDV			S		**Sn**	**12 19 18.3**	**+1.1**
	0.3nm,0.3s,baz=20,slow=15,SNR=2.9						
SDV			LR		LR	12 22 02.2	
	comp=Z,260nm,18.9s,baz=340,slow=39						
SDV	**Santo Domingo**	**11.88 210**	P		**Pn**	**12 17 08.3**	**+3.3**
SDV			S		**Sn**	**12 19 18.3**	**+1.1**
ROSC	**El Rosal**	**17.19 214**	P		**Pn**	**12 18 23.5**	**+7.7**
	1.5nm,0.3s,baz=274,slow=22,SNR=3.7						
ROSC			LR		LR	12 25 32.3	
	comp=Z,196nm,19.9s,baz=17,slow=39						
ATAH	**Atahualpa**	**29.45 209**	LR		LR	12 33 40.6	
	comp=Z,154nm,19.9s,MS3.6,baz=227,slow=39						
LPAZ	**La Paz**	**35.57 186**	LR		LR	12 37 16.3	
	comp=Z,66nm,19.0s,MS3.4,baz=218,slow=39						
TXAR	**Lajitas Array**	**36.72 293**	P		**P**	**12 21 23.9**	**+1.2**
	0.8nm,0.9s,mb3.6,baz=104,slow=11,SNR=6.5						
PDAR	**Pinedale Array**	**44.30 312**	P		**P**	**12 22 26.1**	**+0.7**
	0.8nm,0.7s,mb3.6,baz=108,slow=8.9,SNR=7.4						
NVAR	**Mina Array Bea**	**49.91 304**	P		**P**	**12 23 09.4**	**+0.2**
	0.2nm,0.3s,mb3.7,baz=96,slow=6.4,SNR=4.6						
YKA	**Yellowknife Ar**	**54.97 334**	P		**P**	**12 23 45.2**	**-1.4**
	1.1nm,0.7s,mb4.0,baz=111,slow=7.6,SNR=14						
TORD	**Torodi Ar. Bea**	**63.73 85**	P		**P**	**12 24 46.0**	**-1.2**
	0.8nm,0.8s,mb3.8,baz=281,slow=5.4,SNR=2.8						
WRA	**Warramunga Arr**	**162.05 265**	PKP		PKPdf	12 34 15.1	-1.8
	0.3nm,0.8s,baz=60,slow=1.3,SNR=3.2						
WRA			PKPab		PKPab	12 35 03.1	-0.2
	0.3nm,0.6s,baz=81,slow=4.2,SNR=5.4						
ASAR	**Alice Springs**	**162.16 253**	PKPab		PKPab	12 35 04.0	+0.1
	0.3nm,0.7s,baz=106,slow=5.3,SNR=4.7						

KRSC 06 12:17:59.8±2.2, 4915N×15696E, h15km±15km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**3.43**	**16**	*e*P	Pn	12 18 53.9	+1.2
RUS				*i* S	Sn	12 19 33.3	+0.2
GRL	**Gorelyy**	**3.48**	**11**	*e*P	Pn	12 18 55.2	+1.8
GRL				*i* S	Sn	12 19 35.5	+1.2
PET	**Petropavlovsk**	**4.02**	**15**	P	Pn	12 19 03.3	+2.5
PET				*i* S	Sn	12 19 49.3	+1.6
AVH	**Avacha**	**4.27**	**14**	*e*P	Pn	12 19 05.6	+1.4
SPN	**Mys Shipunski**	**4.40**	**25**	*e*P	Pn	12 19 08.2	+2.2
SPN				*i* S	Sn	12 19 57.7	+0.7
GNL	**Ganaly**	**4.59**	**7**	*e*P	Pn	12 19 08.9	+0.2
MKZ	**Mys Kozlova**	**6.17**	**27**	*e*P	Pn	12 19 31.1	+0.8
KBTR	**Krutoberegovo**	**7.91**	**24**	*e*P	Pn	12 19 54.8	+0.5

*ISCJB **06** 12:18:49.9±3.2, 5.1S±02×1513E±0.1, h178km±28km, mb4.0/6, Error ellipse: s-maj=31.2km s-min=22.4km az=159.1*
*IDC **06** 12:18:49.0±1.9, 5.15S×15134E, h159km±14km, mb3.7/6, mb1 3.9/7, mb1mx3.6/16, mbtmp3.7/7, Error ellipse: s-maj=26.5km s-min=14.7km az=137.0*

ISC 06 12:18:50.2±2.0, 52S±02×1514E±01, h167km±16km, n12, σ0°55/12, mb4.0/6, 1C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91 224**		P	**Pn**	**12 20 16.9**	**+1.1**
	3.1nm,0.3s,baz=345,slow=2.6,SNR=8.7						
PMG				S	**Sn**	**12 21 22.3**	**-0.3**
	35nm,0.3s,baz=149,slow=19,SNR=17						
KAKA	**Kakadu**	**20.11 247**	⇓	*i*P	**P**	**12 23 10.8**	**-0.2**
	20nm,0.6s						
WB2	**Warramunga Arr**	**22.11 227**	⇑	*i*P	**P**	**12 23 31.9**	**-0.3**
WRA	**Warramunga Arr**	**22.12 227**		P	**P**	**12 23 32.0**	**-0.2**
	6.9nm,0.6s,mb4.2,baz=47,slow=10,SNR=93						
WRA				S	**S**	**12 27 24.4**	**+0.6**
	0.6nm,0.7s,baz=44,slow=15,SNR=5.0						
WRA				ScP	ScP	12 30 46.5	+2.1
	0.8nm,0.6s,baz=49,slow=2.8,SNR=15						
DZM	**Mont Dzumac**	**22.26 140**		P	**P**	**12 23 33.1**	**-0.5**
	6.8nm,0.9s,mb4.1,baz=156,slow=19,SNR=4.4						
ASAR	**Alice Springs**	**24.91 221**		P	**P**	**12 23 58.5**	**+0.8**
	1.8nm,0.3s,mb4.1,baz=53,slow=9.3,SNR=76						
ASAR				ScP	ScP	12 30 55.0	+3.1
	1.1nm,1.0s,baz=53,slow=5.4,SNR=7.2						
FITZ	**Fitzroy Crossi**	**28.21 241**	⇓	*i*P	**P**	**12 24 27.1**	**-0.1**
	4.4nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**28.21 241**		P	**P**	**12 24 26.6**	**-0.6**
	2.8nm,0.5s,mb4.3,baz=130,slow=14,SNR=22						
SONM	**Songino Array**	**65.88 329**		P	**P**	**12 29 17.6**	**-0.3**
	0.5nm,0.7s,mb3.5,baz=152,slow=3.2,SNR=3.8						
NVAR	**Mina Array Bea**	**93.45 52**		P	**P**	**12 31 46.9**	**+0.3**
	0.8nm,0.8s,mb3.9,baz=270,slow=5.1,SNR=4.3						
PDAR	**Pinedale Array**	**100.17 48**		P	Pdif	12 32 16.3	-0.6
	0.3nm,0.5s,baz=186,slow=1.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.04 287**		PKPbc	PKPbc	12 38 18.6	+0.1
	0.3nm,0.5s,baz=82,slow=2.3,SNR=2.9						

*ISCJB **06** 12:19:18.8±1.1, 470N±0.1×1526E±02, h92km±11km, mb3.5/9, Error ellipse: s-maj=25.4km s-min=7.9km az=98.9*
*MOS **06** 12:19:20.7±0.8, 4721N×15254E, h107km, mb4.0/3, Error ellipse: s-maj=29.6km s-min=14.4km az=59.5*
*IDC **06** 12:19:21.7±4.1, 47.12N×15268E, h99km±37km, mb3.3/10, mb1 3.6/12, mb1mx3.4/24, mbtmp3.4/12, Error ellipse: s-maj=23.5km s-min=18.7km az=115.0*

ISC 06 12:19:20.4±1.0, 470N±01×1525E±02, h90km±9km, n35, σ19°32/45, mb3.5/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.36**	**32**	*e*PN	**Pn**	**12 20 23.7**	**-0.6**
SKR				*e*S	**Sn**	**12 21 05.5**	**-8.4**
YUK	**Yuzh-Kuril'sk**	**5.56**	**240**	PN	**Pn**	**12 20 42.5**	**+1.9**
NEM2	**Nemuro 2**	**6.04**	**235**	P	**Pn**	**12 20 45.6**	**-1.5**
NEM2				*e*S	**Sn**	**12 21 52.7**	**-2.0**
JRA	**Rausu**	**6.06**	**242**	P	**Pn**	**12 20 49.1**	**+1.7**
JRA				*e*S	**Sn**	**12 22 00.2**	**+4.9**
JNK	**Nakash**	**6.50**	**241**	P	**Pn**	**12 20 54.0**	**+0.6**
JAK	**Akkeshi**	**6.86**	**237**	P	**Pn**	**12 20 56.9**	**-1.4**
JAK				*e*S	**Sn**	**12 22 13.2**	**-1.7**
JMP	**Maruseppu**	**7.12**	**248**	P	**Pn**	**12 21 05.3**	**+3.5**
JAR	**Ashorobuto**	**7.23**	**242**	P	**Pn**	**12 21 04.3**	**+0.9**
JAR				*e*S	**Sn**	**12 22 27.8**	**+3.9**
JOB	**Onbets**	**7.42**	**239**	P	**Pn**	**12 21 05.9**	**0.0**
JOB				*e*S	**Sn**	**12 22 28.9**	**+0.4**
ASAJ	**Asahikawa**	**7.56**	**251**	P	**Pn**	**12 21 10.7**	**+2.9**
	0.9nm,0.3s,baz=86,slow=16,SNR=6.5						
ASAJ	**Asahikawa**	**7.56**	**251**	PN	**Pn**	**12 21 10.7**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.57**	**249**	P	**Pn**	**12 21 10.8**	**+2.8**
JCH	**Churui**	**7.87**	**239**	P	**Pn**	**12 21 11.5**	**-0.6**
JCH				*e*S	**Sn**	**12 22 39.3**	**-0.2**
JBT2	**Biratori 2**	**8.38**	**243**	P	**Pn**	**12 21 19.9**	**+1.0**
JNBK	**Urakawa-nobuka**	**8.43**	**239**	P	**Pn**	**12 21 18.5**	**-1.2**
JNBK				*e*S	**Sn**	**12 22 51.2**	**-2.0**
JNB	**Noboribetsu**	**9.36**	**245**	P	**Pn**	**12 21 32.8**	**+0.4**
JKB	**Kayabe**	**9.69**	**242**	P	**Pn**	**12 21 35.4**	**-1.5**
JKB				*e*S	**Sn**	**12 23 20.3**	**-3.7**
JYM2	**Yakumo 2**	**9.97**	**245**	P	**Pn**	**12 21 40.6**	**-0.1**
JANG	**Nango**	**10.38**	**234**	P	**Pn**	**12 21 42.0**	**-4.2**
JANG				*e*S	**Sn**	**12 23 33.6**	**-7.1**
MJAR	**Matsushiro Arr**	**14.94**	**231**	P	**Pn**	**12 22 50.4**	**+3.6**
	comp=Z,0.5nm,0.3s,baz=35,slow=11,SNR=5.9						
MJAR	**Matsushiro Arr**	**14.94**	**231**	P	**Pn**	**12 22 50.4**	**+3.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.51**	**251**	P	**P**	**12 23 53.4**	**+2.1**
	comp=Z,4.3nm,1.2s,baz=98,slow=28,SNR=3.2						
MKAR	**Makanchi Array**	**46.47**	**297**	P	**P**	**12 27 38.7**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=58,slow=7.2,SNR=3.9						
MKAR				PcP	PcP	12 29 12.4	+0.9
	comp=Z,0.3nm,0.5s,baz=70,slow=3.7,SNR=7.5						
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**12 28 11.5**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.5,baz=296,slow=6.6,SNR=3.7						
KAF	**Kangasniemi**	**63.03**	**335**	*e*p	**P**	**12 29 42.7**	**+4.8**
FINES	**FINESS Array B**	**63.62**	**334**	P	**P**	**12 29 41.7**	**-0.1**
	comp=Z,0.5nm,0.3s,mb3.9,baz=34,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**63.62**	**334**	P	**P**	**12 29 41.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	**Pinedale Array**	**64.90**	**54**	P	**P**	**12 29 49.8**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.4,baz=266,slow=2.4,SNR=3.7						
NOA	**NORSAR Array B**	**67.84**	**341**	P	**P**	**12 30 08.6**	**-0.3**
	comp=Z,2.0nm,0.9s,mb3.9,baz=26,slow=6.1,SNR=3.4						
NOA	**NORSAR Array B**	**67.84**	**341**	P	**P**	**12 30 08.6**	**-0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**68.64**	**198**	P	**P**	**12 30 14.3**	**+0.4**
	comp=Z,0.4nm,1.0s,mb3.2,baz=13,slow=6.4,SNR=2.6						
AKASG	**Malin Array Be**	**71.10**	**326**	P	**P**	**12 30 27.6**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=36,slow=5.8,SNR=4.0						
AKASG	**Malin Array Be**	**71.10**	**326**	P	**P**	**12 30 27.6**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.34**	**198**	P	**P**	**12 30 37.8**	**+1.4**
	comp=Z,0.4nm,0.7s,mb3.4,baz=13,slow=5.4,SNR=5.8						
TXAR	**Lajitas Array**	**77.70**	**60**	P	**P**	**12 31 07.0**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=296,slow=5.0,SNR=10						

*NEIC **06** 12:26:13.2, 2831S×70.18W, h92km, MG4.1(GUC), After GUC.*

GUC 06 12:26:13.2±0.7, 2831S×7018W, h92km±10km, ML4.1, 4C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.57**	**242**	⇑ *i*P	Pn	12 26 29.3	+0.6
VACH				*i* S	Sn	12 26 40.7	+0.4
VACH				AML	AML	12 26 41.4	
	comp=E,9μm,0.1s						
VACH	**Vallenar**	**0.57**	**242**	⇑ *i*P	Pn	12 26 29.3	+0.6
VACH				*i* S	Sn	12 26 40.7	+0.4
CPCH	**Copiapo**	**0.96**	**351**	⇑ *i*P	Pn	12 26 32.9	+0.4
CPCH				*i* S	Sn	12 26 47.6	+0.5
CPCH				AML	AML	12 26 49.2	
	comp=E,9μm,0.1s						
CPCH	**Copiapo**	**0.96**	**351**	⇑ *i*P	Pn	12 26 32.9	+0.4
CPCH				*i* S	Sn	12 26 47.6	+0.5
CDCH	**Caldera**	**1.36**	**335**	*e*P	Pn	12 26 37.3	+0.1
CDCH				*i* S	Sn	12 26 54.0	-1.4
TLL	**Tololo Astrono**	**1.93**	**196**	*e*P	Pn	12 26 45.4	+0.9
TLL				*i* S	Sn	12 27 10.1	+1.7

IDC 06 12:32:22.0±2.2, 1504S×7000W, h200km±36km, mb3.2/3, mb1 3.2/5, mb1mx3.1/18, mbtmp3.1/5, Error ellipse: s-maj=134.2km s-min=32.5km az=24.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.19**	**125**	P	Pn	12 33 03.4	+0.9
	2.2nm,0.3s,baz=318,slow=11,SNR=30						
LPAZ				S	Sn	12 33 35.6	+1.5
	2.2nm,0.3s,baz=191,slow=23,SNR=29						
SIV	**San Ignacio**	**8.66**	**97**	P	Pn	12 34 25.2	+1.4
	0.2nm,0.3s,baz=280,slow=16,SNR=3.2						
ULM	**Lac du Bonnet**	**68.88**	**343**	P	P	12 43 04.5	-0.4
	1.3nm,0.5s,baz=158,slow=5.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.28**	**72**	P	P	12 43 49.0	+0.5
	0.4nm,0.9s,baz=235,slow=5.1,SNR=2.4						
YKA	**Yellowknife Ar**	**84.78**	**341**	P	P	12 44 34.1	+0.4
	0.3nm,0.7s,baz=138,slow=5.4,SNR=5.4						

IDC 06 12:55:41.8±1.2, 2461S×11589W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.2/14, mbtmp4.0/5, MS4.3/10, Ms1 4.3/10, ms1mx4.0/19, Error ellipse: s-maj=50.5km s-min=33.5km az=54.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.42**	**114**	LR	LR	12 59 13.0	
	comp=Z,2μm,18.9s,baz=313,slow=33						
RPN				T		13 04 07.1	
	12nm,0.3s,baz=192,slow=4.8,SNR=3.0						
RKT	**Rikitea**	**17.52**	**271**	*e*P	Pn	12 59 37.1	-10
	196nm,28.8s						
RKT				*e*LR	LR	13 03 30.8	
	2μm,26.5s,baz=109						
TBI	**Tubuai**	**30.66**	**265**	*e*LR	LR	13 09 31.3	
	776nm,27.8s,baz=95						
PPT	**Papeete**	**32.14**	**276**	*e*LR	LR	13 10 12.7	
	1μm,26.2s,baz=102						
PPT	**Papeete**	**32.14**	**276**	LR	LR	13 10 51.2	
	comp=Z,508nm,21.3s,baz=171,slow=28						
RAR	**Rarotonga**	**40.44**	**266**	LR	LR	13 14 37.2	
	comp=Z,379nm,19.3s,baz=102,slow=28						
LPAZ	**La Paz**	**45.33**	**89**	P	P	13 04 03.1	+1.6
	2.8nm,0.8s,baz=289,slow=3.6,SNR=6.8						
AFI	**Afiamalu**	**53.51**	**271**	LR	LR	13 23 09.9	
	comp=Z,453nm,18.1s,baz=164,slow=31						
TXAR	**Lajitas Array**	**54.91**	**13**	P	P	13 05 14.5	+0.2
	0.4nm,0.8s,baz=196,slow=8.7,SNR=5.4						
NVAR	**Mina Array Bea**	**62.75**	**358**	P	P	13 06 09.9	+1.1
	1.0nm,0.7s,baz=196,slow=9.4,SNR=8.6						
VNDA	**Vanda**	**64.47**	**194**	LR	LR	13 27 01.2	
	comp=Z,210nm,20.4s,baz=152,slow=29						
PDAR	**Pinedale Array**	**67.30**	**5**	P	P	13 06 38.0	-0.4
	1.8nm,0.8s,baz=172,slow=5.7,SNR=17						
DZM	**Mont Dzumac**	**70.42**	**254**	LR	LR	13 29 58.3	
	comp=Z,167nm,19.6s,baz=50,slow=29						
YKA	**Yellowknife Ar**	**86.81**	**1**	P	P	13 08 26.9	-1.2
	1.5nm,0.7s,baz=174,slow=5.5,SNR=24						
STKA	**Stephens Creek**	**87.14**	**236**	LR	LR	13 43 30.2	
	comp=Z,108nm,18.6s,baz=208,slow=33						
MAW	**Mawson**	**88.06**	**180**	LR	LR	13 43 28.5	
	comp=Z,119nm,18.6s,baz=238,slow=33						
CTA	**Charters Tower**	**88.59**	**249**	LR	LR	13 41 01.6	
	comp=Z,103nm,19.7s,baz=52,slow=31						
PMG	**Port Moresby**	**92.37**	**259**	LR	LR	13 43 58.7	
	comp=Z,197nm,18.6s,baz=303,slow=31						
TORD	**Torodi Ar. Bea**	**120.28**	**89**	PKP	PKPdf	13 14 33.7	-1.2
	0.3nm,0.8s,baz=251,slow=1.6,SNR=2.4						
SONM	**Songino Array**	**139.44**	**316**	PKP	PKPdf	13 15 11.9	+0.8
	0.3nm,0.4s,baz=46,slow=4.2,SNR=3.7						
AKASG	**Malin Array Be**	**142.60**	**37**	PKP	PKPdf	13 15 15.9	-0.9
	0.2nm,0.3s,baz=272,slow=2.9,SNR=2.3						
KMBO	**Kilima Mbogo**	**143.49**	**131**	PKP	PKPdf	13 15 21.4	+3.0
	0.3nm,0.3s,baz=60,slow=24,SNR=2.1						
IDI	**Anoyia**	**144.60**	**63**	PKP	PKPdf	13 15 21.4	+1.1
	11nm,0.8s,baz=9.7,slow=5.7,SNR=4.9						
ZAL	**Zalesovo**	**146.88**	**338**	PKPbc	PKPbc	13 15 25.5	-0.5
	1.1nm,0.8s,baz=106,slow=4.4,SNR=7.2						
BRTR	**Keskin Array B**	**150.31**	**52**	PKPbc	PKPbc	13 15 34.6	-0.4
	1.4nm,0.8s,baz=285,slow=1.0,SNR=5.0						
BVAR	**Borovoye Array**	**151.23**	**352**	PKPbc	PKPbc	13 15 37.0	-0.2
	1.2nm,0.7s,baz=14,slow=1.8,SNR=6.5						
MKAR	**Makanchi Array**	**153.52**	**331**	PKPbc	PKPbc	13 15 42.2	-0.1
	1.0nm,0.8s,baz=44,slow=2.3,SNR=10.0						
AKTO	**Aktyubinsk**	**153.79**	**9**	PKPbc	PKPbc	13 15 43.0	+0.1
	0.6nm,0.5s,baz=0.0,slow=5.1,SNR=2.8						

IDC 06 13:01:13.4±8.4, 670S×14970E, h56km±64km, mb3.1/1, mb1 3.7/3, mb1mx3.3/14, mbtmp3.6/3, ML2.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/12, Error ellipse: s-maj=110.5km s-min=53.6km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**223**	P	Pn	13 02 07.8	0.0
	6.9nm,0.3s,baz=56,slow=5.5,SNR=26						
PMG				S	Sn	13 02 51.2	+1.2
	17nm,0.3s,baz=181,slow=22,SNR=16						
PMG				LR	LR	13 03 58.9	
	comp=Z,111nm,18.6s,baz=218,slow=45						
WB2	**Warramunga Arr**	**19.88**	**227**	*e*P	Pn	13 05 40.4	-1.7
WRA	**Warramunga Arr**	**19.89**	**227**	P	Pn	13 05 40.1	-2.1
	0.5nm,0.3s,baz=52,slow=11,SNR=28						
DZM	**Mont Dzumac**	**22.25**	**135**	LR	LR	13 13 19.3	
	comp=Z,266nm,19.6s,baz=350,slow=33						
ASAR	**Alice Springs**	**22.70**	**220**	P	P	13 06 09.7	-0.6
	0.8nm,0.6s,baz=53,slow=9.6,SNR=15						
TORD	**Torodi Ar. Bea**	**147.86**	**284**	PKPbc	PKPbc	13 20 53.5	+1.4
	0.5nm,0.7s,baz=45,slow=2.7,SNR=3.1						

*STR **06** 13:04:58.5±0.3, 4756N×763E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **06** 13:04:58.6±0.1, 4759N×759E, h8km, Md2.2/3, Ml2.2/10, Error ellipse: s-maj=1.5km s-min=1.0km az=96.0*

ZUR 06 13:04:58.8, 4758N×760E, h5km±1km, ML1.7/1, 2C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**165**	⇓ *i*Pg	Pg	13 05 04.2	+0.5
	170nm,2.4s						
BALST				*i* Sg	Sg	13 05 07.9	+0.8
	170nm,2.4s						
BOURR	**Bourrignon**	**0.31**	**233**	⇑ *i*Pg	Pg	13 05 05.3	+0.4
	14nm,0.1s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑ *i*Pg	Pg	13 05 05.8	+0.2
SULZ				*i* Sg	Sg	13 05 10.8	+0.5
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	13 05 06.8	0.0
MOF				Sg	Sg	13 05 12.4	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	13 05 09.0	-0.5
HINF				*e*Sg	Sg	13 05 16.2	-0.5

CELP			*e*S	Sn	13 26 28.8	-3.0
AOPR	**Arecibo Observ**	**2.29 249**	⇑*e*P	Pn	13 26 01.0	-3.3
AOPR			*e*S	Sn	13 26 29.1	-3.5
ICM	**Isla Caja Muer**	**2.31 237**	⇑*e*P	Pn	13 26 02.2	-2.2
ICM			*e*S	Sn	13 26 29.3	-3.7
GBPR	**Guanica, Bosqu**	**2.56 243**	*e*S	Sn	13 26 35.8	-3.4
GBPR	**Guanica, Bosqu**	**2.56 243**	⇑*e*P	Pn	13 26 05.5	-2.4
LSP	**Las Mesas**	**2.65 248**	⇑*e*P	Pn	13 26 07.3	-1.8
LSP			*e*S	Sn	13 26 38.4	-3.1
CRPR	**Cabo Rojo, PR**	**2.74 245**	⇑*e*P	Pn	13 26 07.2	-3.2
CRPR			*e*S	Sn	13 26 39.5	-4.2

ISCJB ***06*** *14:04:21.7±3.6, 40S±0.1×1308E±0.1, h38km±29km, mb4.2/5, Error ellipse: s-maj=27.0km s-min=19.5km az=66.1*
NEIC ***06*** *14:04:21.2±2.2, 372S×13074E, h35km, mb4.2/6, Error ellipse: s-maj=34.3km s-min=22.4km az=174.0*
IDC ***06*** *14:04:28.1±4.5, 438S×13351E, h0km, mb4.2/1, mb1 4.4/3, mb1mx4.0/12, mbtmp4.2/3, ML3.8/1, Error ellipse: s-maj=159.7km s-min=31.7km az=95.0*
ISC 06 14:04:23.7±2.2, 40S±01×1308E±01, h45km±16km, n14, σ0°79/19, mb4.2/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.85**	**170**	*e*P	**Pn**	**14 06 29.7**	**+0.7**
	11nm,0.4s						
KAKA				*e*S	**Sn**	**14 08 08.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**14.95**	**199**	*e*P	**Pn**	**14 07 51.6**	**-0.4**
	3.8nm,0.4s						
FITZ				*e*S	**Sn**	**14 10 36.4**	**0.0**
WRAB	**Tennant Creek**	**16.25**	**168**	*e*P	**Pn**	**14 08 08.4**	**-0.4**
	21nm,0.9s						
WRA	**Warramunga Arr**	**16.26**	**168**	Pn	**Pn**	**14 08 07.9**	**-1.0**
	0.4nm,0.3s,baz=355,slow=13,SNR=16						
WRA				Sn	**Sn**	**14 11 02.5**	**-5.7**
	0.5nm,0.3s,baz=359,slow=23,SNR=5.1						
WB2	**Warramunga Arr**	**16.27**	**168**	*e*P	**Pn**	**14 08 07.1**	**-1.8**
WB2				*e*S	**S**	**14 11 01.7**	**-18**
ASAR	**Alice Springs**	**19.83**	**172**	P	**Pn**	**14 08 52.8**	**+0.4**
	2.6nm,0.3s,baz=350,slow=10,SNR=258						
ASAR				S	**S**	**14 12 30.9**	**-0.5**
	0.2nm,0.3s,baz=358,slow=22,SNR=5.6						
CTA	**Charters Tower**	**21.99**	**138**	*e*P	**P**	**14 09 14.2**	**+0.3**
	6.6nm,1.6s,mb3.8						
FORT	**Forrest**	**26.81**	**185**	*e*P	**P**	**14 10 00.9**	**+1.2**
	7.3nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**29.57**	**161**	*e*P	**P**	**14 10 25.2**	**+1.0**
	3.4nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**29.57**	**161**	P	**P**	**14 10 24.7**	**+0.5**
	2.3nm,0.7s,mb4.0,baz=3.5,slow=7.6,SNR=4.4						
STKA	**Stephens Creek**	**29.57**	**161**	*e*P	**P**	**14 10 25.1**	**+0.9**
KLBR	**Kellerberrin**	**30.12**	**203**	*e*P	**P**	**14 10 29.8**	**+0.7**
	74nm,1.9s,mb5.1						
MUN	**Mundaring**	**31.08**	**205**	*e*P	**P**	**14 10 37.4**	**-0.1**
VNDA	**Vanda**	**75.36**	**173**	*e*P	**P**	**14 16 01.7**	**-0.7**
	0.6nm,0.5s,mb3.8						

NIED ***06*** *14:04:00, 42.20N×144.80E, h17km, Mw5.1 Best double couple: M0=4.74000×10^16 NP1:φs=276.00000°, δ=81.00000°, λ=-81.00000°. NP2:φs=50.00000°, δ=13.00000°, λ=-135.00000°.*
IDC ***06*** *14:04:44.8±0.5, 42.16N×144.82E, h0km, mb4.7/24, mb1 4.8/30, mb1mx4.8/33, mbtmp4.7/30, ML4.2/6, MS4.7/22, Ms1 4.7/22, ms1mx4.5/33, Error ellipse: s-maj=13.8km s-min=11.8km az=107.0*
BJI ***06*** *14:04:48.7, 42.27N×144.73E, h35km, mB5.1, mb4.8, Ms4.7, Msz4.6*
ISCJB ***06*** *14:04:48.4±0.2, 42.15N±002×144.78E±003, h36km, mb4.9/125, MS4.8/46, Error ellipse: s-maj=3.6km s-min=2.4km az=87.5*
MOS ***06*** *14:04:49.0±1.1, 42.23N×144.77E, h38km, mb5.2/58, MS4.9/30, Error ellipse: s-maj=7.2km s-min=4.2km az=108.8*
SKHL ***06*** *14:04:49.5±0.7, 42.20N×145.00E, h55km±12km, mb5.4/5, ms5.1/5, msh6.3/1*
JMA ***06*** *14:04:49.3, 42.24N×144.85E, h30km±1km, M5.0*
JMA Felt III J1.
SZGRF ***06*** *14:04:50.9, 42.92N×147.12E, h33km, mb4.9, Off southeast coast of Hokkaido, Japan*
NEIC ***06*** *14:04:50.4±0.2, 42.20N×144.73E, mb5.1/61, MS5.3/5, MW5.0(NIED), Error ellipse: s-maj=5.4km s-min=3.8km az=156.0*
NEIC Recorded [3 JMA] in the Kushiro area, [2 JMA] in eastern Hokkaido and [1 JMA] in south-central Hokkaido.
GCMT ***06*** *14:04:50.4±0.3, 42.34N×144.72E, h22km±1km, MW5.1/69, Moment Tensor Solution. s45,c61; s69,c119; Duration: 0 Moment tensor: Scale 10^16Nm; Mr=-3.21±.20; Mθθ=2.76±.13; Mφφ=0.44±.12; Mrθ=4.66±.33; Mrφ=0.03±.08; Mθφ=0.20±.16; Best double couple: M0=5.53800×10^16 NP1:φs=90.00000°, δ=16.00000°, λ=-88.00000°. NP2: φs=268.00000°, δ=74.00000°, λ=-91.00000°. Principal axes: T 5.3120, Plg29.0000°, Azm358.0000°; N 0.4450, Plg1.0000°, Azm268.0000°; P -5.7630, Plg61.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 14:04:50.6±0.2, 4222N±002×14475E±003, h38km, h38km±1.2km: pP-P, n344, σ1°04/358, mb4.9/125, MS4.8/46, 27C-18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.78**	**357**	⇑P	**Pn**	**14 05 03.9**	**-1.2**
JAK				*e*S	**Sn**	**14 05 15.8**	**+0.3**
JOB	**Onbets**	**0.96**	**316**	⇑P	**Pn**	**14 05 07.7**	**+0.1**
JCH	**Churui**	**1.10**	**292**	⇓P	**Pn**	**14 05 10.0**	**+0.5**
JCH				*e*S	**Sn**	**14 05 25.5**	**+2.0**
JEM	**Erimo**	**1.20**	**261**	P	**Pn**	**14 05 11.8**	**+0.9**
ERM	**Erimo**	**1.20**	**261**	*ce*PN	**Pn**	**14 05 12.0**	**+1.1**
ERM	**Erimo**	**1.20**	**261**	*e*Pn	**Pn**	**14 05 11.7**	**+0.8**
JAR	**Ashorobuto**	**1.30**	**327**	⇑P	**Pn**	**14 05 11.8**	**-0.4**
NEM2	**Nemuro 2**	**1.36**	**32**	⇑P	**Pn**	**14 05 11.3**	**-1.7**
NEM2				*e*S	**Sn**	**14 05 26.9**	**-2.9**
JNK	**Nakash**	**1.37**	**359**	⇑P	**Pn**	**14 05 11.8**	**-1.3**
JNK				*e*S	**Sn**	**14 05 28.7**	**-1.3**
JNBK	**Urakawa-nobuka**	**1.48**	**273**	P	**Pn**	**14 05 14.6**	**-0.2**
JRA	**Rausu**	**1.74**	**9**	⇑P	**Pn**	**14 05 16.9**	**-1.4**
JTKR	**Abashiri--Toko**	**1.86**	**341**	⇑P	**Pn**	**14 05 20.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.99**	**24**	⇑*i*PN	**Pn**	**14 05 19.8**	**-1.9**
YUK				*i* S	**Sn**	**14 05 43.0**	**-2.4**
YUK				pmax	pmax		
	comp=Z,16μm,1.6s						
YUK				pmax	pmax		
	comp=N,20μm,3.0s						
YUK				pmax	pmax		
	comp=Z,4μm,0.4s						
YUK				pmax	pmax		
	comp=N,4μm,0.5s						
YUK				pmax	pmax		
	comp=E,3μm,0.4s						
YUK				smax			
	comp=N,30μm,0.3s						
YUK				smax			
	comp=E,12μm,0.3s						
YUK				smax			
	comp=N,175μm,2.0s						
YUK				smax			
	comp=E,120μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**1.99**	**24**	*i* P	**Pn**	**14 05 19.8**	**-1.9**
YUK				AMB	AMB	14 05 21.2	
	comp=E,20μm,1.6s						
YUK				AMB	AMB	14 05 21.2	
	comp=E,16μm,1.6s						
YUK				AMB	AMB	14 05 23.8	
	comp=E,3μm,0.4s						
YUK				AMB	AMB	14 05 23.8	
	comp=E,4μm,0.4s						
YUK				*i* S	**Sn**	**14 05 43.0**	**-2.4**
YUK				A		14 05 47.5	
	comp=E,30μm,0.3s						
YUK				A		14 05 47.5	
	comp=E,12μm,0.3s						
YUK				A		14 06 07.0	
	comp=E,175μm,2.0s						
YUK				A		14 06 07.0	
	comp=E,120μm,2.0s						
YUK				AMS	AMS	14 06 22.0	
	comp=E,31μm,14.0s						
YUK				AMS	AMS	14 06 22.0	
	comp=E,43μm,14.0s						
JMP	**Maruseppu**	**2.06**	**331**	⇑P	**Pn**	**14 05 22.8**	**+0.2**
ASAJ	**Asahikawa**	**2.47**	**321**	Pn	**Pn**	**14 05 28.9**	**+0.6**
	comp=E,93nm,0.3s,baz=186,slow=15,SNR=127						
ASAJ				Sn	**Sn**	**14 06 00.1**	**+3.0**
	comp=E,287nm,0.3s,baz=112,slow=19,SNR=5.3						
ASAJ				LR	LR	14 06 48.9	
	comp=E,20μm,19.8s,baz=116,slow=49						
ASAJ	**Asahikawa**	**2.47**	**321**	PN	**Pn**	**14 05 28.9**	**+0.6**
ASAJ						14 06 00.1	
ASAJ				pmax	pmax		
	comp=Z,93nm,0.3s						
ASAJ				smax			
	comp=N,287nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,20μm,19.8s						
JTM	**Tenmabayashi**	**3.11**	**244**	⇓P	**Pn**	**14 05 37.2**	**+0.1**
KUR	**Kuril'sk**	**3.77**	**36**	⇓*i*PN	**Pn**	**14 05 42.3**	**-3.8**
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,1μm,1.0s						
KUR				pmax	pmax		
	comp=Z,4μm,1.0s						
KUR				pmax	pmax		
	comp=N,8μm,1.6s						
KUR				pmax	pmax		
	comp=E,7μm,1.6s						
KUR				pmax	pmax		
	comp=Z,14μm,1.6s						
KUR				MLR	MLR		
	comp=Z,27μm,14.0s						
KUR	**Kuril'sk**	**3.77**	**36**	*i* P	**Pn**	**14 05 42.3**	**-3.8**
KUR				AMB	AMB	14 06 10.0	
	comp=Z,2μm,1.0s						
KUR				AMB	AMB	14 06 10.0	
	comp=Z,1μm,1.0s						
KUR				AMB	AMB	14 06 10.0	
	comp=Z,4μm,1.0s						
KUR				AMB	AMB	14 06 10.0	
	comp=Z,8μm,1.6s						
KUR				AMB	AMB	14 06 10.0	
	comp=Z,7μm,1.6s						
KUR				AMB	AMB	14 06 10.0	
	comp=Z,14μm,1.6s						
KUR				*i* S	**Sn**	**14 06 25.0**	**-4.2**
KUR				A		14 06 26.4	
	comp=Z,2μm,0.4s						
KUR				A		14 06 26.4	
	comp=Z,3μm,0.4s						
KUR				A		14 07 03.0	
	comp=Z,41μm,3.0s						
KUR				A		14 07 03.0	
	comp=Z,20μm,3.0s						
KUR				AMS	AMS	14 07 18.0	
	comp=Z,27μm,14.0s						
JMK	**Ichinoseki**	**4.23**	**221**	P	**Pn**	**14 05 51.0**	**-1.4**
JIO	**Ouri**	**4.57**	**216**	P	**Pn**	**14 05 55.0**	**-2.2**
YSS	**Yuzh-Sakhalins**	**4.95**	**344**	*e*P	**Pn**	**14 06 03.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.95**	**344**	*i* P	**Pn**	**14 06 03.0**	**+0.7**
YSS				AMB	AMB	14 06 04.5	
	comp=Z,50nm,0.5s						
YSS				*e*S	**Sn**	**14 06 57.0**	**-1.3**
YSS				A		14 06 58.5	
	comp=Z,220nm,1.0s						
YSS				AMS	AMS	14 08 23.0	
	comp=Z,14μm,16.0s						
YSS				AMS	AMS	14 08 23.0	
	comp=Z,10μm,16.0s						
YSS				AMS	AMS	14 08 23.0	
	comp=Z,16μm,16.0s						
JHK	**Hiroka**	**6.64**	**224**	P	**Pn**	**14 06 25.2**	**-0.4**
JAG	**Ashikaga**	**7.09**	**217**	P	**Pn**	**14 06 30.0**	**-1.8**
UGL	**Uglegorsk**	**7.11**	**346**	*e*P	**Pn**	**14 06 34.5**	**+2.4**
UGL				AMB	AMB	14 06 46.2	
	comp=Z,90nm,0.7s						
UGL				AMS	AMS	14 09 51.0	
	comp=Z,17μm,15.0s						
UGL				AMS	AMS	14 09 51.0	
	comp=Z,4μm,15.0s						
UGL				AMS	AMS	14 09 51.0	
	comp=Z,18μm,15.0s						
JJN	**Nakama**	**7.20**	**227**	P	**Pn**	**14 06 34.3**	**+1.0**
MAJO	**Matsushiro**	**7.60**	**224**	*e*PN	**Pn**	**14 06 38.1**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,228nm,0.6s						
MAJO	**Matsushiro**	**7.60**	**224**	*e*Pn	**Pn**	**14 06 38.1**	**-0.7**
	comp=Z,228nm,0.6s						
MAT	**Matsushiro**	**7.60**	**224**	P	**Pn**	**14 06 37.7**	**-1.1**
MAT				*e*S	**Sn**	**14 08 03.2**	**-0.4**
MAT	**Matsushiro**	**7.60**	**224**	P	**Pn**	**14 06 38.2**	**-0.6**
MJAR	**Matsushiro Arr**	**7.60**	**224**	Pn	**Pn**	**14 06 38.2**	**-0.5**
	comp=Z,16nm,0.3s,baz=31,slow=13,SNR=360						
MJAR				LR	LR	14 10 11.8	
	comp=Z,4μm,19.6s,baz=40,slow=43						
JNG	**Nsakai**	**7.76**	**224**	P	**Pn**	**14 06 40.8**	**-0.1**
JTT	**Ttatey**	**8.02**	**228**	P	**Pn**	**14 06 44.8**	**+0.3**
JGN	**Niukaw**	**8.31**	**226**	P	**Pn**	**14 06 48.3**	**-0.2**
JNY	**Yasuok**	**8.71**	**220**	P	**Pn**	**14 06 53.7**	**-0.2**
JGM	**Miyama**	**9.02**	**226**	P	**Pn**	**14 06 58.0**	**-0.3**
HABR	**Khabarovsk**	**9.26**	**316**	⇓*i*PN	**Pn**	**14 07 02.5**	**+1.0**
HABR				pmax	pmax		
	comp=Z,55nm,2.4s						
HABR				MLR	MLR		
	comp=Z,8μm,18.0s						
VLA	**Vladivostok**	**9.52**	**280**	*e*PN	**Pn**	**14 07 08.6**	**+3.6**
VLA						14 09 00.0	
VLA				pmax	pmax		
	comp=Z,93nm,2.3s						
VLA				MLR	MLR		
	comp=Z,4μm,16.0s						
VLA	**Vladivostok**	**9.52**	**280**	*e*P	**Pn**	**14 07 06.4**	**+1.4**
JFM	**Mihama**	**9.55**	**229**	P	**Pn**	**14 07 06.1**	**+0.6**
JHJ	**Hachijo jima 2**	**9.90**	**205**	Pn	**Pn**	**14 07 06.0**	**-4.2**
	comp=Z,18nm,0.3s,baz=42,slow=17,SNR=18						
JHJ				Sn	**Sn**	**14 08 50.8**	**-9.2**
	comp=Z,54nm,0.3s,baz=245,slow=22,SNR=9.4						
JHJ				LR	LR	14 11 22.8	
	comp=Z,3μm,21.2s,baz=22,slow=40						
TSUJ	**Tsu 2**	**9.94**	**224**	P	**Pn**	**14 07 10.1**	**-0.7**
JIE	**Ise**	**10.04**	**222**	P	**Pn**	**14 07 10.7**	**-1.6**
OKH	**Okha**	**11.40**	**355**	*e*P	**Pn**	**14 07 31.0**	**+0.1**
OKH				AMS	AMS	14 13 10.0	
	comp=Z,9μm,15.0s						
OKH				AMS	AMS	14 13 10.0	
	comp=Z,6μm,15.0s						
OKH				AMS	AMS	14 13 10.0	
	comp=Z,7μm,15.0s						
KLR	**Kul'dur**	**11.47**	**312**	*e*PN	**Pn**	**14 07 31.8**	**+0.1**
KLR				*e*		14 09 44.0	
KLR				pmax	pmax		
	comp=E,200nm,2.2s						
KLR				pmax	pmax		
	comp=Z,160nm,2.2s						
KLR				MLR	MLR		
	comp=E,5μm,13.0s						
KLR				MLR	MLR		
	comp=Z,15μm,13.0s						
SKR	**Severo-Kuril's**	**11.53**	**39**	*e*P	**Pn**	**14 07 28.9**	**-3.7**
SKR				AMB	AMB	14 07 31.5	
	comp=Z,60nm,0.5s						
SKR				AMB	AMB	14 07 31.5	
	comp=Z,80nm,0.5s						
SKR				AMS	AMS	14 11 32.0	
	comp=Z,3μm,18.0s						
SKR				AMS	AMS	14 11 32.0	
	comp=Z,5μm,18.0s						
SKR				AMS	AMS	14 11 32.0	
	comp=Z,9μm,18.0s						
KSRS	**Korea Array**	**13.77**	**255**	Pn	**Pn**	**14 08 02.6**	**-0.6**
	baz=69,slow=12,SNR=21						
KSRS				LR	LR	14 13 20.3	
	comp=Z,2μm,18.7s,baz=61,slow=37						
CN2	**Changchun**	**14.21**	**283**	*e*P	**Pn**	**14 08 09.4**	**+0.2**
CN2				*e*AP		14 08 16.4	
CN2				*e*S	**Sn**	**14 10 45.2**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,16.0s						
CN2				LR	LR		
	comp=E,3μm,16.0s						
CN2				LR	LR		
	comp=Z,4μm,19.0s						
JNU	**Nakatsue**	**14.24**	**235**	Pn	**Pn**	**14 08 07.7**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=267,slow=14,SNR=3.7						
JNU				LR	LR	14 14 37.5	
	comp=Z,8μm,18.0s,baz=120,slow=42						
PET	**Petropavlovsk**	**14.28**	**36**	*e*P	**Pn**	**14 08 06.1**	**-4.0**
PET				*e*S	**Sn**	**14 10 46.9**	**-0.3**
PET				pmax	pmax		
	comp=Z,55nm,0.9s						
PET				pmax	pmax		
	comp=Z,200nm,10.3s						
PET				MLR	MLR		
	comp=Z,4μm,17.0s						
PET				MLR	MLR		
	comp=Z,4μm,19.0s						
PET	**Petropavlovsk**	**14.28**	**36**	*e*Pn	**Pn**	**14 08 03.7**	**-6.4**
CBIJ	**Chichi jima**	**15.23**	**189**	Pn	**Pn**	**14 08 18.6**	**-4.2**
	comp=Z,4.0nm,0.3s,baz=270,slow=20,SNR=4.1						
SNY	**Shenyang**	**15.74**	**276**	⇓P	**Pn**	**14 08 32.7**	**+3.3**
SNY				AP	pP	14 08 40.0	-2.5
SNY				S	**S**	**14 11 23.4**	**-13**
SNY				SS		14 11 41.4	
SNY				AMB	AMB		
	comp=Z,7.0nm,0.8s						
SNY				AMB	AMB		
	comp=Z,115nm,4.7s						
SNY				LR	LR		
	comp=N,1μm,16.1s						
SNY				LR	LR		
	comp=Z,949nm,20.4s						
MA2	**Magadan**	**17.78**	**10**	*e*P	**Pn**	**14 08 53.7**	**-1.3**
MA2				*e*S	**S**	**14 12 09.8**	**-8.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2				MLR	MLR		
	comp=Z,2μm,15.0s						
DL2	**Dalian**	**17.87**	**267**	P	**Pn**	**14 08 56.5**	**+0.4**
DL2				AP	pP	14 09 05.0	-1.1
DL2				XP	sP	14 09 10.5	-0.4
DL2				S	**S**	**14 12 14.0**	**-5.7**
DL2				XS	sS	14 12 23.9	-11
DL2				AMB	AMB		
	comp=Z,20nm,0.7s						
DL2				AMB	AMB		
	comp=Z,100nm,6.8s						
DL2				LR	LR		
	comp=N,240nm,15.5s						
DL2				LR	LR		
	comp=E,580nm,15.2s						
DL2				LR	LR		
	comp=Z,650nm,17.6s						
HIA	**Hailar**	**18.77**	**301**	*e*P	**Pn**	**14 09 05.7**	**-1.4**
HIA				pmax	pmax		
	comp=Z,23nm,0.7s						
HIA	**Hailar**	**18.77**	**301**	*e*P	**Pn**	**14 09 05.7**	**-1.4**
	comp=Z,23nm,0.7s						
SEY	**Seymchan**	**21.23**	**10**	⇑*e*P	**P**	**14 09 30.1**	**-3.1**
BJI	**Beijing**	**21.59**	**274**	*e*P	**P**	**14 09 36.9**	**-0.1**
BJI				XP	sP	14 09 52.3	+0.7
BJI				S	**S**	**14 13 31.4**	**-2.7**
BJI				AMB	AMB		
	comp=Z,97nm,0.9s,mb5.2						
BJI				LR	LR		
	comp=N,504nm,13.7s,MS4.6						
BJI				LR	LR		
	comp=E,2μm,15.4s,MS4.6						
BJI				LR	LR		
	comp=Z,1μm,19.1s,MS4.3						
BJT	**Baijiatuau**	**21.61**	**274**	*e*P	**P**	**14 09 36.8**	**-0.4**
BJT				pmax	pmax		
	comp=Z,19nm,0.6s						
BJT	**Baijiatuau**	**21.61**	**274**	*e*P	**P**	**14 09 36.8**	**-0.4**
	comp=Z,19nm,0.6s,mb4.7						
YAK	**Yakutsk**	**21.79**	**341**	*e*P	**P**	**14 09 34.3**	**-4.8**
YAK				*e*		14 09 50.5	
YAK				*e*S	**S**	**14 13 31.3**	**-6.6**
YAK				*e*SS		14 13 43.4	
YAK				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,9.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,12nm,0.8s						
YAK				smax			
	comp=N,722nm,2.1s						
YAK				smax			
	comp=Z,209nm,1.9s						
YAK				smax			
	comp=E,286nm,1.6s						
YAK				MLR	MLR		
	comp=Z,6μm,18.0s,MS5.0						
YAK				MLR	MLR		
	comp=N,3μm,15.0s,MS5.0						
YAK				MLR	MLR		
	comp=E,3μm,16.0s,MS5.0						
YAK	**Yakutsk**	**21.79**	**341**	*e*P	**P**	**14 09 34.0**	**-5.1**
	comp=E,96nm,0.8s,mb5.3						
SSE	**Sheshan**	**21.85**	**247**	P	**P**	**14 09 38.0**	**-1.8**
SSE				S	**S**	**14 13 36.5**	**-2.6**
SSE				XS	sS	14 13 53.7	-1.1
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,247nm,11.0s						
SSE				LR	LR		
	comp=N,847nm,18.3s,MS4.5						
SSE				LR	LR		
	comp=E,1μm,18.3s,MS4.5						
SSE				LR	LR		
	comp=Z,2μm,15.7s,MS4.6						
TIA	**Tai'an**	**22.18**	**263**	*e*P	**P**	**14 09 41.4**	**-1.8**
CIT	**Chita**	**23.22**	**306**	*e*P	**P**	**14 09 54.7**	**+0.4**
CIT				*e*		14 10 05.5	
CIT				*e*		14 10 19.0	
CIT				*e*		14 10 41.0	
CIT				*e*		14 14 08.0	
CIT				pmax	pmax		
	comp=Z,121nm,1.8s,mb5.0						
HHC	**Hu-ho-hao-te**	**24.80**	**278**	*e*P	**P**	**14 10 08.1**	**-0.8**
HHC				AP		14 10 19.8	
HHC				XP	sP	14 10 25.2	+1.2
HHC				PP		14 10 45.4	
HHC				PCP	PcP	14 13 45.5	+0.9
HHC				S	**S**	**14 14 24.1**	**-4.7**
HHC				XS	sS	14 14 43.9	-2.4
HHC				SS		14 15 21.6	
HHC				SCP	ScP	14 17 20.5	+0.1
HHC				PCS	PcS	14 17 25.8	+1.1
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.6						
HHC				AMB	AMB		
	comp=Z,117nm,5.9s						
HHC				LR	LR		
	comp=N,958nm,22.6s,MS4.4						
HHC				LR	LR		
	comp=E,895nm,23.3s,MS4.4						
HHC				LR	LR		
	comp=Z,784nm,18.4s,MS4.2						
BOD	**Bodaibo**	**24.88**	**319**	*e*P	**P**	**14 10 06.2**	**-3.4**
BTO	**Baotou**	**25.99**	**278**	*e*P	**P**	**14 10 20.1**	**+0.4**
BTO				S	**S**	**14 14 44.5**	**-3.3**
BTO				LR	LR		
	comp=E,256nm,15.1s						
WHN	**Wuhan**	**26.96**	**254**	P	**P**	**14 10 29.0**	**+0.5**
ULN	**Ulaanbaatar**	**27.04**	**295**	*e*P	**P**	**14 10 30.2**	**+1.1**
ULN				pmax	pmax		
	comp=Z,98nm,0.7s,mb5.5						
ULN	**Ulaanbaatar**	**27.04**	**295**	*e*P	**P**	**14 10 30.2**	**+1.1**
	comp=Z,98nm,0.7s,mb5.5						
SONM	**Songino Array**	**27.48**	**295**	P	**P**	**14 10 34.3**	**+1.1**
	comp=Z,17nm,0.7s,mb4.7,baz=84,slow=8.4,SNR=121						
SONM				LR	LR	14 22 31.0	
	comp=Z,1μm,18.4s,MS4.6,baz=207,slow=39						
QZH	**Quanzhou**	**27.62**	**240**	P	**P**	**14 10 37.0**	**+2.6**
QZH				S	**S**	**14 15 12.0**	**-1.4**
QZH				LR	LR		
	comp=N,1μm,13.0s,MS5.1						
QZH				LR	LR		
	comp=E,3μm,17.0s,MS5.1						
QZH				LR	LR		
	comp=Z,3μm,14.4s,MS4.9						
BILL	**Bilibino**	**28.33**	**17**	⇓*e*P	**P**	**14 10 40.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,35nm,2.2s,mb4.6						

BILL MLR MLR
comp=Z,2µm,17.0s,MS4.7
BILL Bilibino 28.33 17 *e*P **P 14 10 36.9 -3.8**
comp=Z,24nm,1.3s,mb4.7
GUMO Guam 28.52 180 LR LR 14 20 09.0
comp=Z,712nm,21.6s,MS4.2,baz=76,slow=32
IRK Irkutsk 28.91 304 *e*P **P 14 10 45.1 -0.8**
IRK *e* 14 11 39.3
IRK *e* 14 17 22.8
IRK pmax pmax
comp=Z,48nm,2.1s,mb4.9
XAN Xi'an 29.18 266 P **P 14 10 49.1 +0.9**
XAN AP pP 14 10 59.9 +1.0
XAN AMB AMB
comp=Z,6.0nm,1.2s,mb4.2
TLY Talaya 29.27 303 *e*P **P 14 10 50.9 +1.9**
TLY *e* pP 14 11 01.4 +1.7
TLY *e*S **S 14 15 47.5 +8.2**
TLY *e*SS SS 14 17 08.2 -36
TLY pmax pmax
comp=Z,16nm,1.3s,mb4.6
TLY MLR MLR
comp=Z,953nm,15.0s,MS4.5
ZAK Zakamensk 29.47 300 *e*P **P 14 10 51.1 +0.3**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.5
TIXI Tiksi 30.54 350 *e*P **P 14 10 55.3 -5.0**
TIXI *e* 14 11 56.7
TIXI pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
TIXI MLR MLR
comp=Z,2µm,17.0s,MS4.8
MOY Mondy 30.92 303 *e*P **P 14 11 04.6 +1.0**
MOY pmax pmax
comp=Z,89nm,2.2s,mb5.2
LZH Lanzhou 32.08 273 *e*P **P 14 11 14.0 +0.2**
LZH AP pP 14 11 23.0 -1.5
LZH XP sP 14 11 27.0 -2.1
LZH PP PP 14 12 18.0 -8.7
LZH PCP PcP 14 14 05.6 +3.0
LZH *e*S **S 14 16 24.0 +0.7**
LZH XS sS 14 16 36.0 -5.1
LZH AMB AMB
comp=Z,32nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,202nm,5.7s
LZH LR LR
comp=N,705nm,12.6s
LZH LR LR
comp=Z,836nm,14.9s,MS4.5
GTA Gaotai 33.83 281 *e*P **P 14 11 29.5 +0.4**
GTA AP pP 14 11 41.6 +1.8
GTA XP sP 14 11 46.6 +2.2
GTA PP PP 14 12 44.6 -1.5
GTA PCP PcP 14 14 09.1 +1.6
GTA S **S 14 16 50.3 -0.3**
GTA XS sS 14 17 09.6 +1.3
GTA SS SS 14 18 56.5 -21
GTA SCS ScS 14 21 51.9 +1.1
GTA AMB AMB
comp=Z,2.0nm,1.4s,mb3.9
GTA AMB AMB
comp=Z,190nm,5.3s
GTA LR LR
comp=N,687nm,24.0s
GTA LR LR
comp=E,762nm,15.2s
GTA LR LR
comp=Z,616nm,15.2s
CD2 Chengdu 34.50 264 P **P 14 11 35.6 +0.6**
CD2 AP pP 14 11 47.6 +1.9
CD2 XP sP 14 11 53.4 +3.1
CD2 PP PP 14 12 52.0 -1.5
CD2 S **S 14 16 59.1 -1.9**
CD2 XS sS 14 17 20.3 +1.5
CD2 SS SS 14 19 11.8 -20
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,140nm,3.8s
CD2 LR LR
comp=N,960nm,16.8s,MS4.8
CD2 LR LR
comp=E,830nm,13.8s,MS4.8
CD2 LR LR
comp=Z,900nm,16.8s,MS4.6
GYA Guiyang 34.84 255⇓ *i*P **P 14 11 38.0 +0.2**
GYA AP pP 14 11 50.8 +2.2
GYA PP PP 14 12 56.8 -0.4
GYA PPP 14 13 15.3
GYA PCP PcP 14 14 12.3 +1.9
GYA S **S 14 17 05.2 -0.9**
GYA SCP ScP 14 17 52.8 0.0
GYA SCS ScS 14 21 54.8 -1.4
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,580nm,17.2s,MS4.5
GYA LR LR
comp=E,490nm,16.8s,MS4.5
GYA LR LR
comp=Z,480nm,17.0s,MS4.3
KRAR Krasnoyarsk 35.76 311⇓ *i*P **P 14 11 45.9 +0.1**
KRAR pmax pmax
comp=Z,16nm,0.4s,mb5.3
KRAR MLR MLR
comp=Z,2µm,17.0s,MS4.9
QIZ Qiongzhong 37.51 243 P **P 14 12 02.0 +1.3**
QIZ S **S 14 17 45.6 -1.3**
QIZ XS sS 14 18 05.6 +0.8
QIZ AMB AMB
comp=Z,229nm,4.1s
QIZ LR LR
comp=N,1µm,18.1s,MS4.8
QIZ LR LR
comp=E,854nm,16.5s,MS4.8
QIZ LR LR
comp=Z,1µm,18.3s,MS4.7
KMI Kunming 38.46 257 P **P 14 12 10.0 +1.3**
KMI AP pP 14 12 21.6 +2.0
KMI XP sP 14 12 26.7 +2.6
KMI PP PP 14 13 42.2 +5.1
KMI PPP 14 14 03.8
KMI S **S 14 18 03.2 +1.8**
KMI XS sS 14 18 20.5 +1.2
KMI SS SS 14 20 40.6 -11
KMI SSS 14 21 13.9
KMI AMB AMB
comp=Z,21nm,0.8s,mb4.9
KMI AMB AMB
comp=Z,67nm,3.1s
KMI LR LR
comp=N,759nm,16.4s,MS4.8
KMI LR LR
comp=E,904nm,12.4s,MS4.8
KMI LR LR
comp=Z,933nm,14.3s,MS4.8
SVW2 Sparrevohn 39.88 41 *e*P **P 14 12 21.1 +0.5**
ZAL Zalesovo 40.55 308 P **P 14 12 26.0 -0.1**
comp=Z,4.0nm,0.6s,mb4.3,baz=27,slow=8.2,SNR=16
ZAL LR LR 14 31 08.8
comp=Z,1µm,18.6s,MS4.9,baz=34,slow=39
IMA2 Indian Mountai 40.93 33 *e*P **P 14 12 28.5 -0.7**
WMQ Urumqi 41.03 292 P **P 14 12 31.5 +1.4**
WMQ XP sP 14 12 47.4 +1.9
WMQ PP PP 14 14 10.0 +4.8
WMQ PCP PcP 14 14 29.8 +0.3
WMQ PPP 14 14 38.0
WMQ S **S 14 18 40.3 +0.4**
WMQ XS sS 14 19 00.3 +2.4
WMQ SS SS 14 21 37.9 -5.1
WMQ SCS ScS 14 22 29.3 -2.3
WMQ AMB AMB
comp=Z,22nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,159nm,4.0s
WMQ LR LR
comp=N,883nm,14.0s,MS5.1
WMQ LR LR
comp=E,2µm,16.0s,MS5.1
WMQ LR LR
comp=Z,972nm,18.0s,MS4.7

NVS Novosibirsk 41.32 310 *i*P **P 14 12 32.0 -0.5**
NVS *e*S **S 14 18 39.7 -4.5**
NVS pmax pmax
comp=Z,54nm,1.9s,mb4.8
NVS pmax pmax
comp=N,17nm,1.8s
NVS pmax pmax
comp=E,45nm,1.8s
NVS smax
comp=N,39nm,2.3s
KDAK Kodiak Island 41.58 46 P **P 14 12 33.8 -0.8**
comp=N,22nm,0.6s,mb4.9,baz=279,slow=6.6,SNR=13
SLKM Skilak Lake 42.53 42 *e*P **P 14 12 44.1 +1.8**
PMR Palmer 42.97 40 *e*P **P 14 12 46.5 +0.6**
PMR pmax pmax
comp=Z,48nm,1.1s,mb5.1
PMR Palmer 42.97 40 *e*P **P 14 12 46.5 +0.6**
comp=Z,48nm,1.1s,mb5.1
SML Sawmill 43.33 40 *e*P **P 14 12 48.0 -0.8**
COLA College 43.34 35⇑ *e*P **P 14 12 46.7 -2.2**
MK31 Makanchi Array 43.75 298 *i*P **P 14 12 52.1 -0.1**
MK31 pmax pmax
comp=Z,19nm,0.5s,mb5.1
MKAR Makanchi Array 43.75 298 P **P 14 12 52.5 +0.4**
comp=Z,4.6nm,0.6s,mb4.4,baz=85,slow=10,SNR=33
MKAR LR LR 14 33 19.8
comp=Z,480nm,18.1s,MS4.5,baz=188,slow=39
MKAR Makanchi Array 43.75 298 *i*P **P 14 12 52.7 +0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 44.48 272 P **P 14 13 00.7 +2.7**
LSA AP pP 14 13 09.2 +0.2
LSA XP sP 14 13 13.5 0.0
LSA PCP PcP 14 14 38.7 -2.3
LSA PP PP 14 14 47.4 +5.2
LSA S **S 14 19 34.9 +4.4**
LSA SCS ScS 14 22 53.0 +0.1
LSA LR LR
comp=N,250nm,16.4s,MS4.6
LSA LR LR
comp=E,610nm,16.8s,MS4.6
LSA LR LR
comp=Z,890nm,16.4s,MS4.8
LSA Lhasa 44.48 272 *e*P **P 14 13 00.2 +2.2**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
LSA Lhasa 44.48 272 *e*P **P 14 13 00.2 +2.2**
comp=Z,5.5nm,0.8s,mb4.3
KURK Kurchatov 44.94 305 P **P 14 13 02.1 +0.4**
comp=Z,184nm,0.6s,SNR=20
KURK Kurchatov 44.94 305*c i*P **P 14 13 01.2 -0.5**
KURK Kurchatov 44.94 305 *e*P **P 14 13 01.4 -0.3**
comp=Z,37nm,0.8s,mb5.3
EGAK Eagle 46.20 35 *e*P **P 14 13 11.1 -0.6**
comp=Z,29nm,0.7s,mb5.3
DAWY Dawson 47.07 36 *e*P **P 14 13 18.3 -0.2**
INK Inuvik 48.61 29 P **P 14 13 30.0 -0.4**
comp=Z,18nm,0.6s,mb5.3,baz=315,slow=6.3
INK Inuvik 48.61 29 P **P 14 13 30.0 -0.4**
INK pmax pmax
comp=Z,19nm,0.6s
INK Inuvik 48.61 29 *e*P **P 14 13 29.3 -1.1**
CHKZ Chkalovo 48.78 310 *e*P **P 14 13 31.3 -0.4**
CHKZ pmax pmax
comp=Z,28nm,0.8s,mb5.3
CHKZ Chkalovo 48.78 310 *e*P **P 14 13 31.3 -0.4**
comp=Z,28nm,0.8s,mb5.3
BVA0 Borovoye Array 49.12 310 *i*P **P 14 13 34.1 -0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BVAR Borovoye Array 49.12 310 P **P 14 13 34.8 +0.5**
comp=Z,5.6nm,0.4s,mb4.9,baz=72,slow=8.8,SNR=56
BVAR LR LR 14 36 03.4
comp=Z,1µm,18.3s,MS4.9,baz=319,slow=38
BRVK Borovoye 49.17 310 P **P 14 13 35.4 +0.7**
comp=Z,70nm,0.4s,mb6.0,SNR=8.1
BRVK Borovoye 49.17 310 *e*P **P 14 13 35.2 +0.5**
BRVK pmax pmax
comp=Z,39nm,1.1s,mb5.3
BRVK Borovoye 49.17 310 *e*P **P 14 13 35.2 +0.5**
comp=Z,39nm,1.1s,mb5.3
GUN Gumba 49.34 273 *e*P **P 14 13 37.2 +1.2**
comp=Z,53nm,0.5s,mb5.8
GUN Gumba 49.34 273 *e*P **P 14 13 35.1 -0.9**
comp=Z,53nm,0.5s,mb5.8
KKN Kakani 49.85 273 *e*P **P 14 13 40.0 +0.1**
comp=Z,19nm,0.6s,mb5.3
KKN Kakani 49.85 273 *e*P **P 14 13 37.8 -2.1**
comp=Z,19nm,0.6s,mb5.3
DMN Daman 50.08 273 *e*P **P 14 13 40.8 -0.8**
DMN Daman 50.08 273 *e*P **P 14 13 38.1 -3.5**
comp=Z,32nm,0.7s,mb5.5
GKN Gorkha 50.21 274 *e*P **P 14 13 42.2 -0.4**
comp=Z,24nm,0.5s,mb5.5
GKN Gorkha 50.21 274 *e*P **P 14 13 42.2 -0.4**
comp=Z,24nm,0.5s,mb5.5
AAK Ala-Archa 50.44 296⇑ *e*P **P 14 13 44.8 +0.5**
AAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
AAK MLR MLR
comp=Z,1µm,20.0s,MS4.8
KOLN Koldanda 51.11 274 *e*P **P 14 13 47.5 -1.9**
comp=Z,15nm,0.4s,mb5.2
KOLN Koldanda 51.11 274 *e*P **P 14 13 47.4 -2.0**
comp=Z,15nm,0.4s,mb5.2
KK31 Karatay Array 52.87 298 *i*P **P 14 14 02.6 +0.1**
KK31 pmax pmax
comp=Z,14nm,0.7s,mb5.0
KKAR Karatay Array 52.87 298 *i*P **P 14 14 02.6 +0.1**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
DLBC Dease Lake 52.99 41 *e*P **P 14 14 05.0 +1.6**
DLBC *e* pP 14 14 16.7 +2.1
SVE Sverdlovsk 53.05 317 *e*P **P 14 14 03.0 -0.8**
SVE MLR MLR
comp=N,800nm,18.0s,MS5.1
SVE MLR MLR
comp=E,1µm,18.0s,MS5.1
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.2
SOKR Solikamsk 53.87 321 *e*P **P 14 14 08.3 -1.5**
SOKR S **S 14 21 40.6 -1.6**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOKR MLR MLR
comp=Z,2µm,18.0s,MS5.2
ARU Arti 54.26 317 *e*P **P 14 14 12.5 -0.2**
ARU *e* 14 15 13.7
ARU *e* 14 16 11.4
ARU *e*S **S 14 21 50.7 +3.2**
ARU *e*SS SS 14 25 30.0 +0.3
ARU MLR MLR
comp=N,600nm,18.0s,MS5.0
ARU MLR MLR
comp=E,900nm,18.0s,MS5.0
ARU MLR MLR
comp=Z,1µm,18.0s,MS5.0
ARU Arti 54.26 317 *e*P **P 14 14 11.6 -1.1**
comp=Z,33nm,1.0s,mb5.2
NDI New Delhi 55.31 279 *e*P **P 14 14 20.0 -0.3**
KAKA Kakadu 55.82 195 *e*P **P 14 14 23.3 -0.6**
comp=Z,20nm,0.6s,mb5.3
SPB4 Spitsbergen Ar 55.95 349 *e*P **P 14 14 22.5 -2.3**
AB31 Akbulak array 56.65 309 P **P 14 14 30.1 +0.3**
AB31 pmax pmax
comp=Z,11nm,0.5s,mb5.1
PSI Prapat 56.66 239 P **P 14 14 30.9 +1.0**
comp=Z,8.2nm,0.7s,mb4.8,baz=38,slow=5.2,SNR=9.4
RES Resolute Bay 56.93 16 *e*P **P 14 14 30.0 -1.9**
comp=Z,776nm,0.6s
AKTK Aktyubinsk 57.20 311 P **P 14 14 33.8 0.0**
AKTO Aktyubinsk 57.20 311 P **P 14 14 33.8 0.0**
comp=Z,3.5nm,0.7s,mb4.5,baz=54,slow=10,SNR=12
YKA Yellowknife Ar 58.05 33 P **P 14 14 38.9 -0.8**
comp=Z,7.7nm,0.7s,mb4.9,baz=305,slow=6.3,SNR=19
ORR Orenburg 58.44 313 *e*P **P 14 14 43.9 +1.5**
ORR pmax pmax
comp=Z,40nm,1.4s,mb5.3
ORR MLR MLR
comp=Z,2µm,20.0s,MS5.2
APA Apatity 59.04 335⇓ *i*P **P 14 14 48.0 +1.4**
APA *i* pP 14 14 57.6 -0.3
APA pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KEV Kevo 59.52 339 *e*p **P 14 14 48.7 -1.3**
comp=Z,18nm,0.7s,mb5.2

KEV Kevo 59.52 339 *e*P **P 14 14 48.7 -1.3**
KEV pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARCES ARCESS Array B 60.06 339 P **P 14 14 53.5 -0.1**
comp=Z,5.1nm,0.8s,mb4.6,baz=42,slow=7.2,SNR=14
KLMR Klimovskoe 60.78 327 *e*P **P 14 14 59.1 +0.5**
KLMR pmax pmax
comp=Z,40nm,1.6s,mb5.3
DAG Danmarks Havn 60.82 356⇑ *i*P **P 14 14 57.6 -1.3**
comp=Z,5.6nm,0.5s,mb5.0
DAG Danmarks Havn 60.82 356⇑ *i*P **P 14 14 57.6 -1.3**
DAG pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
HYB Hyderabad 60.96 268 *i*P **P 14 15 01.0 +1.2**
HYB Hyderabad 60.96 268 *e*P **P 14 15 01.0 +1.2**
KTK1 Kautokeino 61.01 339 *e*P **P 14 15 00.7 +0.5**
KTK1 *e*pP pP 14 15 12.0 +0.5
TRO Tromso 61.65 341 *e*P **P 14 15 02.7 -1.8**
TRO *e*pP pP 14 15 14.3 -1.6
TRO Tromso 61.65 341 *e*P **P 14 15 03.0 -1.4**
FITZ Fitzroy Crossi 62.56 201 *e*P **P 14 15 10.5 0.0**
comp=Z,12nm,0.9s,mb5.0
WRAB Tennant Creek 62.58 191⇓ *i*P **P 14 15 10.5 -0.2**
WB2 Warramunga Arr 62.59 191⇓ *i*P **P 14 15 09.6 -1.1**
WRA Warramunga Arr 62.59 191 P **P 14 15 09.6 -1.2**
comp=Z,8.8nm,0.8s,mb4.9,baz=9.4,slow=6.9,SNR=27
WRA LR LR 14 41 32.4
comp=Z,262nm,19.4s,MS4.4,baz=15,slow=35
WRA Warramunga Arr 62.59 191 *i*P **P 14 15 09.6 -1.2**
WRA pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 62.62 332 *e*p **P 14 15 09.8 -1.1**
comp=Z,14nm,0.5s,mb5.4
HUMO Hull Mountain 64.56 55 *e*P **P 14 15 24.7 +1.0**
comp=Z,3.9nm,0.6s,mb4.6
MOS Moscow 64.64 323 *e*P **P 14 15 20.4 -3.9**
MOS pmax pmax
comp=Z,49nm,0.9s,mb5.5
MOS MLR MLR
comp=Z,1µm,18.0s,MS5.0
KAF Kangasniemi 64.88 333 *e*p **P 14 15 24.4 -1.5**
comp=Z,14nm,0.7s,mb5.1,baz=45,slow=6.2
KAF Kangasniemi 64.88 333 *e*P **P 14 15 24.4 -1.5**
KAF pmax pmax
comp=Z,14nm,0.7s,mb5.1
YBH Yreka Blue Hor 65.21 55 *e*P **P 14 15 29.4 +1.4**
YBH pmax pmax
comp=Z,21nm,1.2s
YBH Yreka Blue Hor 65.21 55 *e*P **P 14 15 29.4 +1.4**
comp=Z,21nm,1.2s,mb5.0
MOR8 Moi Rana 65.39 340 *e*P **P 14 15 27.2 -1.9**
MOR8 AMb AMB 14 15 35.4
comp=Z,46nm,0.8s,mb5.6
MOR8 *e*pP pP 14 15 37.4 -3.1
MOR8 Moi Rana 65.39 340 *e*P **P 14 15 27.2 -1.9**
comp=Z,46nm,0.8s,mb5.6
FIA1 FINESS Array S 65.43 332 *e*P **P 14 15 28.7 -0.7**
FINES FINESS Array B 65.43 332 P **P 14 15 28.8 -0.6**
comp=Z,19nm,0.6s,mb5.3,baz=51,slow=7.3,SNR=78
FINES LR LR 14 47 21.4
comp=Z,1µm,19.1s,MS5.1,baz=119,slow=39
FINES FINESS Array B 65.43 332 *i*P **P 14 15 28.7 -0.7**
FINES pmax pmax
comp=Z,19nm,0.6s
FINES FINESS Array B 65.43 332 P **P 14 15 28.8 -0.6**
FINES LR LR 14 47 21.4
OBN Obninsk 65.50 323 *e*P **P 14 15 29.7 -0.1**
OBN *i* pP 14 15 41.0 -0.3
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,1µm,16.0s,MS5.2
WDC Whiskeytown Da 65.98 56 *e*P **P 14 15 33.2 +0.2**
WDC pmax pmax
comp=Z,12nm,1.2s,mb4.8
WDC Whiskeytown Da 65.98 56 *e*P **P 14 15 33.2 +0.2**
comp=Z,12nm,1.2s,mb4.8
ASAR Alice Springs 66.31 191 P **P 14 15 35.0 -0.1**
comp=Z,4.4nm,0.8s,mb4.5,baz=15,slow=6.7,SNR=16
VRSR Storozhevoye 66.73 319 *e*P **P 14 15 38.0 +0.3**
VRSR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.5s
WVOR Wild Horse Val 67.25 53 *e*P **P 14 15 41.1 0.0**
MSO Missoula 67.25 47 *e*P **P 14 15 40.7 -0.4**
comp=E,7.3nm,1.1s,mb4.6
VSU Vasula 67.29 330⇑ *e*P **P 14 15 41.2 -0.1**
NSS Namsos 67.33 340 *e*P **P 14 15 39.9 -1.6**
NSS AMb AMB 14 15 42.1
comp=Z,46nm,1.9s,mb5.2
NSS *e*pP pP 14 15 50.5 -2.5
OHCM Honcut 67.37 57 *e*P **P 14 15 42.0 +0.2**
FCC Fort Churchill 68.22 29 *e*P **P 14 15 46.3 -0.9**
FCC pmax pmax
comp=Z,15nm,0.7s,mb5.1
FCC Fort Churchill 68.22 29 *e*P **P 14 15 46.2 -0.9**
comp=Z,15nm,0.7s,mb5.1
HRY Holter Researc 68.46 46 *e*P **P 14 15 49.3 +0.6**
GOF Gofitskoye 68.57 312 *e*P sP 14 16 05.5 +0.2
HLID Hailey 69.01 50 *e*P **P 14 15 52.7 +0.6**
comp=Z,17nm,1.3s,mb4.8
HLID *e* pP 14 16 04.0 +0.4
MCMT McKenzie Canyo 69.09 48 *e*P **P 14 15 53.9 +1.2**
BOZ Bozeman (W) 69.24 47 *e*P **P 14 15 54.5 +0.9**
BOZ *e* pP 14 16 05.4 +0.3
BOZ pmax pmax
comp=Z,15nm,0.6s,mb5.1
BOZ Bozeman (W) 69.24 47 *e*P **P 14 15 54.5 +0.9**
comp=Z,15nm,0.6s,mb5.1
BOZ *e* pP 14 16 05.4 +0.3
BMN Battle Mountai 69.31 54 P **P 14 15 55.5 +1.5**
BMN *e* pP 14 16 07.2 +1.7
BMN pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BMN Battle Mountai 69.31 54 P **P 14 15 55.5 +1.6**
comp=Z,4.1nm,0.7s,mb4.5
BMN *e* pP 14 16 07.2 +1.7
KIV Kislovodsk 69.46 311 *e*P **P 14 15 56.4 +1.5**
KIV *e* 14 16 20.8
KIV *e*S S 14 25 03.0 +3.5
KIV pmax pmax
comp=Z,26nm,0.7s,mb5.3
KIV MLR MLR
comp=Z,2µm,17.0s,MS5.4
KIV Kislovodsk 69.46 311 *e*P **P 14 15 56.6 +1.7**
comp=Z,27nm,0.6s,mb5.3
ZEI Tsey 69.52 309 *e*P **P 14 15 54.9 -0.3**
ZEI *e**PP pP 14 16 03.9 -2.9
ZEI *e* 14 18 30.4
ZEI pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
QLMT Earthquake Lak 69.87 47 P **P 14 15 57.7 +0.3**
QLMT *e* pP 14 16 10.2 +1.2
NVAR Mina Array Bea 69.89 56 P **P 14 15 58.8 +1.2**
comp=Z,5.6nm,0.7s,mb4.6,baz=291,slow=7.6,SNR=18
YMR Madison River 70.23 47 *e*P **P 14 16 00.4 +0.8**
comp=Z,13nm,0.8s,mb4.9
NB2 NORSAR Subarra 70.38 338 P **P 14 15 59.5 -1.0**
comp=Z,7.6nm,0.7s,mb4.7,baz=34,slow=6.5
NOA NORSAR Array B 70.38 338 P **P 14 15 59.9 -0.7**
comp=Z,8.1nm,0.6s,mb4.8,baz=35,slow=6.2,SNR=35
NOA LR LR 14 50 50.2
comp=Z,815nm,20.0s,MS5.0,baz=20,slow=39
GNI Garni 70.67 307⇑ *e*P **P 14 16 01.9 -0.4**
GNI pmax pmax
comp=Z,11nm,1.7s
GNI MLR MLR
comp=Z,300nm,22.0s
TPH Tonopah 70.78 56 *e*P **P 14 16 04.4 +1.4**
TPH pmax pmax
comp=Z,25nm,1.0s,mb5.1
TPH Tonopah 70.78 56 *e*P **P 14 16 04.4 +1.5**
comp=Z,25nm,1.0s,mb5.1
RLMT Red Lodge 70.85 46 *e*P **P 14 16 02.9 -0.5**
comp=Z,6.1nm,0.7s,mb4.6
MOOW Moose Ponds 70.95 48 *e*P **P 14 16 04.8 +0.8**
comp=Z,33nm,1.3s,mb5.1
MOOW *e* pP 14 16 16.5 +0.9
TPAW Teton Pass 71.00 48 *e*P **P 14 16 05.7 +1.3**
comp=Z,33nm,1.2s,mb5.1
LOHW Long Hollow 71.11 48 *e*P **P 14 16 05.7 +0.7**
comp=Z,43nm,1.6s,mb5.1

SNOW Snow King Moun 71.13 48 *e*P **P 14 16 06.4 +1.4**
comp=Z,38nm,1.3s,mb5.2
SNOW *e* pP 14 16 17.8 +1.2
REDW Red Top Meadow 71.14 48 *e*P **P 14 16 06.3 +1.2**
comp=Z,29nm,1.4s,mb5.0
REDW *e* pP 14 16 18.4 +1.7
SOC Sochi 71.34 312 *e*P **P 14 16 05.4 -1.0**
SOC *e* 14 16 25.5
SOC *e*PPP 14 20 27.7
SOC *e*S S 14 25 22.5 +0.9
SOC *e* 14 26 07.9
SOC *e*SS SS 14 29 56.1 -0.2
SOC pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
SOC MLR MLR
comp=Z,1μm,15.0s,MS5.2
DAC Darwin (Calif) 71.67 58 P **P 14 16 09.6 +1.2**
DAC pmax pmax
comp=Z,92nm,1.6s,mb5.5
DAC Darwin (Calif) 71.67 58 P **P 14 16 09.6 +1.2**
comp=Z,92nm,1.6s,mb5.5
AKASG Malin Array Be 71.75 323 P **P 14 16 08.2 -0.6**
comp=Z,4.9nm,0.6s,mb4.6,baz=41,slow=5.9,SNR=33
AKASG LR LR 14 51 27.1
comp=Z,674nm,18.7s,MS4.9,baz=25,slow=39
AKASG Malin Array Be 71.75 323 *i* P **P 14 16 08.6 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 71.75 323 *e*P **P 14 16 07.7 -1.2**
KIEV Kiev 71.77 323 *e*P **P 14 16 07.7 -1.2**
KIEV pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIEV Kiev 71.77 323 *e*P **P 14 16 07.7 -1.3**
comp=Z,11nm,0.6s,mb5.0
ANN Anapa 71.78 314 *e*P **P 14 16 09.8 +0.8**
ANN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ANN MLR MLR
comp=N,761nm,15.0s,MS5.2
ANN MLR MLR
comp=E,596nm,15.0s,MS5.2
ANN MLR MLR
comp=Z,506nm,15.0s,MS4.9
DUG Dugway 72.07 52 *e*P **P 14 16 11.2 +0.4**
DUG *e* pP 14 16 24.0 +1.7
DUG pmax pmax
comp=Z,24nm,1.1s,mb5.0
DUG Dugway 72.07 52 *e*P **P 14 16 11.2 +0.4**
comp=Z,24nm,1.1s,mb5.0
DUG *e* pP 14 16 24.0 +1.7
BW06 Boulder Array 72.24 48 *e*P **P 14 16 11.7 -0.1**
comp=Z,25nm,1.3s,mb5.0
PDAR Pinedale Array 72.24 48 P **P 14 16 12.2 +0.4**
comp=Z,5.2nm,0.6s,mb4.6,baz=255,slow=2.1,SNR=18
NLU North Lily Min 72.66 52 *e*P **P 14 16 15.0 +0.7**
ULM Lac du Bonnet 73.78 36 LR LR 14 52 16.0
comp=Z,293nm,19.1s,MS4.6,baz=16,slow=39
STKA Stephens Creek 73.79 183 *e*P **P 14 16 20.7 -0.2**
comp=Z,4.5nm,0.8s,mb4.5
STKA Stephens Creek 73.79 183 P **P 14 16 20.7 -0.2**
comp=Z,5.3nm,0.8s,mb4.5,baz=330,slow=8.2,SNR=9.0
STKA LR LR 14 46 33.3
comp=Z,317nm,18.9s,MS4.6,baz=288,slow=34
RSSD Black Hills 74.29 44 *e*P **P 14 16 23.9 +0.1**
RSSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
RSSD Black Hills 74.29 44 *e*P **P 14 16 23.9 +0.1**
comp=Z,6.4nm,0.6s,mb4.7
BURAR Bucovina Array 75.81 323 ⇓*i*P **P 14 16 33.3 +0.7**
KOLS Kolonicke sedl 76.10 325 *e*P **P 14 16 34.8 +0.5**
OJC Ojcow 76.13 327 *e*P **P 14 16 33.9 -0.6**
STHS Stebnicka Huta 76.16 326 *e*P **P 14 16 36.4 +1.8**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS Stebnicka Huta 76.16 326 *e*P **P 14 16 36.4 +1.8**
comp=Z,3.5nm,0.8s,mb4.3
UZH Uzhgorod 76.32 325 *e*P **P 14 16 39.0 +3.5**
CRVS Cervenica-Dubn 76.47 325 *e*P **P 14 16 40.1 +3.7**
CRVS *e*pP pP 14 16 48.1 +0.1
NIE Niedzica 76.55 326 *e*P **P 14 16 37.8 +1.0**
TIRR Tirgusor 76.63 319 ⇑*i*P **P 14 16 36.9 -0.4**
KSP Ksiaz 77.01 329 *e*P **P 14 16 39.5 +0.1**
KSP *e**PP pP 14 16 46.8 -4.3
MLR Muntele Rosu 77.05 321 ⇑*i*P **P 14 16 40.1 +0.4**
OKC Ostrava-Krasne 77.09 328 *e*P **P 14 16 41.1 +1.2**
OKC *e*pP pP 14 16 51.8 +0.3
OKC AMS AMS 14 52 50.0
comp=Z,1μm,18.3s
OKC Ostrava-Krasne 77.09 328 *e*P **P 14 16 41.1 +1.2**
OKC *e*pP pP 14 16 51.8 +0.3
KECS Kecovo 77.20 326 *e*P **P 14 16 41.0 +0.5**
KECS pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
KECS Kecovo 77.20 326 *e*P **P 14 16 41.0 +0.5**
comp=Z,1.0nm,0.7s,mb3.9
BRTR Keskin Array B 77.30 312 P **P 14 16 41.3 +0.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=49,slow=5.1,SNR=5.4
BRTR LR LR 14 55 33.5
comp=Z,372nm,20.0s,MS4.7,baz=304,slow=39
BRTR Keskin Array B 77.30 312 P **P 14 16 41.3 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR MLR MLR
comp=Z,372nm,20.0s
MORC Moravsky Berou 77.38 328 *e*P **P 14 16 41.4 -0.1**
MORC pmax pmax
comp=Z,22nm,1.1s,mb5.0
MORC Moravsky Berou 77.38 328 *e*P **P 14 16 41.4 -0.1**
comp=Z,22nm,1.1s,mb5.0
MORC Moravsky Berou 77.38 328 ⇓*i*P **P 14 16 42.6 +1.1**
UPC Upice 77.39 329 *e*P **P 14 16 42.3 +0.8**
UPC *e*pP pP 14 16 53.9 +0.7
DPC Dobruska-Polom 77.39 329 *e*P **P 14 16 41.6 0.0**
DPC *e*pP pP 14 16 53.8 +0.6
DPC AMS AMS 14 53 40.0
comp=Z,1μm,20.9s
CLL Collm 77.84 331 ⇓*i*P **P 14 16 44.3 +0.2**
CLL *i* pP 14 16 54.1 -1.6
CLL pmax pmax
comp=Z,19nm,1.3s,mb4.9
CLL MLR MLR
comp=Z,2μm,15.0s,MS5.5
CLL Collm 77.84 331 ⇓*i*P **P 14 16 44.3 +0.2**
comp=Z,19nm,1.3s,mb4.9
CLL *i* 14 16 49.6
CLL *i* pP 14 16 54.1 -1.6
CLL LR LR
comp=Z,2μm,15.0s,MS5.5
CLL Collm 77.84 331 ⇓*i*P **P 14 16 44.3 +0.2**
comp=Z,19nm,1.3s,mb4.9
CLL *i* x x 14 16 49.6
CLL *i* pP pP 14 16 54.1 -1.6
BRG Berggiesshubel 77.86 331 *e*P **P 14 16 42.6 -1.6**
BRG pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
BRG MLR MLR
comp=N,641nm,16.9s,MS5.1
BRG MLR MLR
comp=E,452nm,18.5s,MS5.1
BRG MLR MLR
comp=Z,1μm,21.4s,MS5.2
BRG Berggiesshubel 77.86 331 *e*P **P 14 16 42.6 -1.6**
comp=Z,7.3nm,1.6s,mb4.4
BRG LR LR
comp=Z,1μm,21.4s,MS5.2
VYHS Vyhne 77.88 327 *e*P **P 14 16 45.2 +0.9**
VYHS *e* 14 16 53.0
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS Vyhne 77.88 327 *e*P **P 14 16 45.2 +0.9**
comp=Z,3.6nm,0.9s,mb4.3
VYHS *e* 14 16 53.0
PSZ Piszkesteto 77.89 326 ⇑*i*P **P 14 16 37.4 -7.0**
PVCC Panska Ves 77.91 330 *e*P **P 14 16 45.1 +0.6**
PVCC *e*pP pP 14 16 55.3 -0.8
PVCC AMS AMS 14 54 00.0
comp=Z,2μm,18.7s
VRAC Vranov 78.13 328 ⇓*i*P **P 14 16 45.2 -0.5**
PRU Pruhonice 78.36 330 *e*P **P 14 16 47.3 +0.3**
PRU *e*pP pP 14 16 57.6 -1.0
PRU AMS AMS 14 54 30.0
comp=Z,2μm,21.1s
GZR Gura Zlata 78.59 322 ⇑*i*P **P 14 16 47.8 -0.4**
NKC Novy Kostel 78.93 331 *e*P **P 14 16 46.1 -4.0**
NKC AMS AMS 14 55 00.0
comp=Z,1μm,13.7s
NWAO Narrogin (SRO) 78.94 203 LR LR 14 48 27.9
comp=Z,149nm,21.5s,MS4.3,baz=133,slow=33
BZS Buzias 78.94 323 ⇑*i*P **P 14 16 47.5 -2.6**
KHC Kasperske Hory 79.42 330 *e*P **P 14 16 53.5 +0.7**
KHC *e*pP pP 14 17 02.8 -1.7
KHC AMS AMS 14 55 00.0
comp=Z,2μm,19.6s
GERES GERESS Array B 79.61 330 P **P 14 16 54.0 +0.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=48,slow=6.2,SNR=8.0
GERES LR LR 14 55 46.0
comp=Z,1μm,19.0s,MS5.3,baz=22,slow=38
SCHQ Schefferville 79.64 18 P **P 14 16 53.3 -0.6**
comp=Z,5.0nm,0.7s,mb4.6,baz=4.3,slow=6.9,SNR=8.0
SCHQ LR LR 14 53 05.1
comp=Z,533nm,18.1s,MS4.9,baz=348,slow=36
GRA1 Grafenberg Arr 79.82 331 *e*P **P 14 16 55.6 +0.7**
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 79.82 331 *e*P **P 14 16 55.7 +0.8**
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 79.82 331 *e*P **P 14 16 55.6 +0.7**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 79.82 331 *e*P **P 14 16 55.7 +0.8**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
VTS Vitosha 80.54 320 ⇓*i*P **P 14 16 51.7 -7.1**
WTTA Wattenberg 81.70 330 ⇑*i*P **P 14 17 05.2 +0.2**
comp=Z,17nm,1.2s,mb4.8
WTTA Wattenberg 81.70 330 ⇑*i*P **P 14 17 05.2 +0.2**
WTTA pmax pmax
comp=Z,17nm,1.2s,mb4.8
MOTA Moosalm 81.83 330 ⇑*i*P **P 14 17 06.3 +0.6**
comp=Z,4.3nm,0.9s,mb4.4
MOTA Moosalm 81.83 330 ⇑*i*P **P 14 17 06.3 +0.6**
MOTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CDF Champ du Feu 82.27 333 *e*P **P 14 17 08.0 0.0**
comp=Z,12nm,0.7s,mb4.6
CDF Champ du Feu 82.27 333 *e*P **P 14 17 08.0 0.0**
CDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CDF Champ du Feu 82.27 333 *e*P **P 14 17 08.0 0.0**
comp=Z,6.2nm,0.7s,mb4.7
HAU Haudompre 82.94 333 *e*P **P 14 17 11.2 -0.2**
HAU *e*MLR
comp=Z,825nm,17.2s
HAU Haudompre 82.94 333 *e*P **P 14 17 11.2 -0.2**
HAU LR LR
comp=Z,830nm,17.3s,MS5.2
PMOR Pomariorio Ree 84.02 116 *e*T 15 49 53.1
comp=Z,44nm,0.2s
SSF Saint Saulge 84.69 335 *e*P **P 14 17 20.2 -0.2**
PPT Papeete 84.77 119 *e*S S 14 27 46.2 +0.2
comp=Z,281nm,24.5s
PPT *e*LQ 14 34 20.7
comp=Z,372nm,25.5s
PPT *e*LR LR 14 36 47.9
comp=Z,592nm,24.2s,baz=34
PPT Papeete 84.77 119 *e*S S 14 27 46.3 +0.3
comp=Z,281nm,24.5s
PPT *e*LR LR 14 43 48.0
comp=Z,569nm,23.5s,baz=315
PPT Papeete 84.77 119 *e*T 15 50 49.4
comp=Z,8.8nm,0.3s
SMF Signal de Mont 84.95 334 *e*P **P 14 17 21.7 0.0**
comp=Z,29nm,1.0s,mb5.1
SMF Signal de Mont 84.95 334 *e*P **P 14 17 21.7 0.0**
SMF pmax pmax
comp=Z,15nm,1.0s,mb5.1
SMF Signal de Mont 84.95 334 *e*P **P 14 17 21.7 0.0**
comp=Z,15nm,1.0s,mb5.1
LPL La Plagne 84.96 332 *e*P **P 14 17 22.5 +0.7**
TXAR Lajitas Array 84.97 55 P **P 14 17 22.7 +0.9**
comp=Z,3.1nm,0.7s,mb4.6,baz=319,slow=2.6,SNR=3.9
LPG La Plagne 84.97 332 *e*P **P 14 17 22.6 +0.8**
comp=Z,21nm,0.8s,mb5.0
LPG La Plagne 84.97 332 *e*P **P 14 17 22.6 +0.8**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
LPG La Plagne 84.97 332 *e*P **P 14 17 22.6 +0.8**
comp=Z,10nm,0.8s,mb5.0
AVF Avril sur Loir 84.98 335 *e*P **P 14 17 21.9 0.0**
comp=Z,37nm,1.0s,mb5.2
AVF Avril sur Loir 84.98 335 *e*P **P 14 17 21.9 0.0**
AVF pmax pmax
comp=Z,19nm,1.0s,mb5.2
AVF Avril sur Loir 84.98 335 *e*P **P 14 17 21.9 0.0**
comp=Z,19nm,1.0s,mb5.2
BGF Bois d'Agland 85.35 335 *e*P **P 14 17 24.5 +0.8**
MBDF Montbardon 85.64 331 *e*P **P 14 17 26.9 +1.8**
comp=Z,17nm,0.7s,mb5.1
MBDF Montbardon 85.64 331 *e*P **P 14 17 26.9 +1.8**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
MBDF Montbardon 85.64 331 *e*P **P 14 17 26.9 +1.8**
comp=Z,8.6nm,0.7s,mb5.1
ORIF Oris-en-Rattie 85.78 332 *e*P **P 14 17 26.5 +0.6**
comp=Z,46nm,1.1s,mb5.3
ORIF *e*MLR
comp=Z,874nm,21.0s
ORIF Oris-en-Rattie 85.78 332 *e*P **P 14 17 26.5 +0.6**
ORIF pmax pmax
comp=Z,23nm,1.0s,mb5.4
ORIF Oris-en-Rattie 85.78 332 *e*P **P 14 17 26.5 +0.6**
comp=Z,23nm,1.0s,mb5.4
TCF Toulx Ste Croi 85.79 335 *e*P **P 14 17 25.5 -0.4**
VIVF Saint-Julien-l 86.25 333 *e*P **P 14 17 28.6 +0.4**
SIUC Southern Illin 86.49 40 *e*P **P 14 17 29.9 +0.6**
comp=Z,53nm,1.0s,mb5.7
MIAR Mount Ida 86.80 45 *e*P **P 14 17 31.0 +0.2**
MIAR *e* pP 14 17 43.1 +0.4
MIAR pmax pmax
comp=Z,25nm,1.1s,mb5.4
MIAR Mount Ida 86.80 45 *e*P **P 14 17 31.0 +0.2**
comp=Z,25nm,1.1s,mb5.3
MIAR *e* pP 14 17 43.1 +0.4
CAF Calviac 87.05 334 *e*P **P 14 17 32.0 -0.1**
comp=Z,26nm,0.8s,mb5.2
CAF Calviac 87.05 334 *e*P **P 14 17 32.0 -0.1**
CAF pmax pmax
comp=Z,13nm,0.8s,mb5.2
CAF Calviac 87.05 334 *e*P **P 14 17 32.0 -0.1**
comp=Z,13nm,0.8s,mb5.2
WVT Waverly 88.42 40 *e*P **P 14 17 38.9 +0.3**
WVT pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
WVT Waverly 88.42 40 *e*P **P 14 17 38.9 +0.2**
comp=Z,6.2nm,0.6s,mb5.0
TBI Tubuai 89.07 123 *e*LR LR 14 46 06.6
comp=Z,313nm,22.0s,baz=320
TBI Tubuai 89.07 123 *e*T 15 56 10.4
comp=Z,26nm,0.4s
ETSF Etsaut 89.70 335 *e*P **P 14 17 46.9 +2.2**
comp=Z,25nm,0.7s,mb5.3
ETSF Etsaut 89.70 335 *e*P **P 14 17 46.9 +2.2**
ETSF pmax pmax
comp=Z,12nm,0.7s,mb5.3
ETSF Etsaut 89.70 335 *e*P **P 14 17 46.9 +2.2**
comp=Z,12nm,0.7s,mb5.3
TZTN Tazewell 90.06 37 *e*P **P 14 17 46.5 +0.2**
comp=Z,43nm,1.4s,mb5.6
TKL Tuckaleechee C 90.70 38 P **P 14 17 49.9 +0.6**
comp=Z,2.5nm,0.5s,mb4.8,baz=170,slow=4.7,SNR=4.2
TKL LR LR 14 58 02.9
comp=Z,352nm,20.9s,MS4.8,baz=161,slow=35
TKL Tuckaleechee C 90.70 38 P **P 14 17 49.9 +0.6**
TKL LR LR 14 58 02.9
ESDC Sonseca Array 93.69 336 P **P 14 18 05.4 +2.3**
comp=Z,0.6nm,0.5s,mb4.2,baz=14,slow=3.9,SNR=4.2
ESDC LR LR 15 05 09.3
comp=Z,389nm,19.4s,MS4.9,baz=0.0,slow=39
RKT Rikitea 98.39 113 *e*LR LR 14 50 00.2
comp=Z,389nm,25.0s,baz=312
TORD Torodi Ar. Bea 115.28 320 PKP PKPdf 14 23 24.9 -3.0
comp=Z,0.4nm,0.6s,baz=88,slow=1.8,SNR=3.3
TORD PP PP 14 24 25.7 -3.1
comp=Z,1.0nm,0.8s,baz=14,slow=7.3,SNR=4.5
TORD PKKPbc PKKPbc 14 34 03.0 +0.7
comp=Z,0.8nm,0.8s,baz=207,slow=3.2,SNR=4.0
VNDA Vanda 119.93 176 PKP PKPdf 14 23 35.6 -1.3
comp=Z,0.9nm,0.6s,baz=336,slow=5.3,SNR=6.2
MAW Mawson 125.32 208 PKP PKPdf 14 23 46.7 -0.5
comp=Z,2.0nm,0.9s,baz=90,slow=2.0,SNR=3.5
LPAZ La Paz 141.79 57 PKhKP 14 24 15.4
comp=Z,1.1nm,0.5s,baz=270,slow=1.0,SNR=4.5
SNAA Sanae 146.46 198 *e*PKPdf PKPdf 14 24 25.8 -0.3
SNAA *e* 14 24 27.4
SNAA *e* 14 24 31.7
SNAA *e* 14 24 37.2
SNAA *e* 14 24 41.5
SNAA *e* 14 24 42.3
SNAA *e* 14 24 44.7
SNAA Sanae 146.46 198 *e*PKP PKPdf 14 24 25.4 -0.8
VNA2 Neumayer--Watz 148.01 197 *e*PKPdf PKPdf 14 24 27.4 -1.3
VNA2 *e* 14 24 30.6
VNA2 *e* 14 24 40.1
VNA2 *e* 14 24 49.2
VNA3 Neumayer Olymp 148.24 195 *e*PKPdf PKPdf 14 24 28.0 -1.1
VNA3 *e* 14 24 31.0
VNA3 *e* 14 24 41.9
VNA3 *e* 14 24 50.9
VNA1 Neumayer--Stat 148.41 197 *e*PKPdf PKPdf 14 24 28.9 -0.5
VNA1 *e* 14 24 31.8
VNA1 *e* 14 24 44.0
VNA1 *e* 14 24 53.0

JMA 06 14:06:45.2, 4225N×14489E, h25km±1km, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.76**	**349**	P	Pb	14 06 59.5	-0.3
JAK				*e*S	Sb	14 07 11.0	+1.3
NEM2	**Nemuro 2**	**1.28**	**29**	P	Pn	14 07 07.1	-0.4
NEM2				*e*S	Sn	14 07 23.5	-0.3
JNK	**Nakash**	**1.34**	**355**	P	Pn	14 07 07.8	-0.5
JNK				*e*S	Sn	14 07 24.7	-0.6

NIED ***06*** *14:07:00, 4220N×14490E, h17km, Mw4.3 Best double couple: M0=3.69000×10¹⁵ NP1:φs=276.00000°, δ78.00000°, λ-83.00000°. NP2:φs=68.00000°, δ14.00000°, λ-118.00000°.*

JMA 06 14:07:24.2, 4223N×14486E, h29km±1km, M4.4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.78**	**351**	P	Pb	14 07 38.9	-0.2
JAK				*e*S	Sb	14 07 50.8	+1.5
JOB	**Onbets**	**1.01**	**312**	P	Pn	14 07 42.6	+0.2
JOB				*e*S	Sn	14 07 56.8	+1.1
JCH	**Churui**	**1.17**	**290**	P	Pn	14 07 45.2	+0.6
JCH				*e*S	Sn	14 08 00.7	+1.0
JEM	**Erimo**	**1.28**	**261**	P	Pn	14 07 47.5	+1.3
JEM				*e*S	Sn	14 08 03.8	+1.4
NEM2	**Nemuro 2**	**1.31**	**30**	P	Pn	14 07 46.2	-0.3
NEM2				*e*S	Sn	14 08 02.6	-0.4
JAR	**Ashorobuto**	**1.33**	**323**	P	Pn	14 07 46.7	-0.2
JAR				*e*S	Sn	14 08 03.0	-0.6
JNK	**Nakash**	**1.36**	**356**	P	Pn	14 07 46.9	-0.3
JNK				*e*S	Sn	14 08 03.2	-1.0

IDC ***06*** *14:09:56.9±0.8, 2765N×111.42W, h0km, mb4.0/6, mb1 4.1/12, mb1mx4.0/25, mbtmp3.8/12, ML3.7/6, MS4.5/17, Ms1 4.4/17, ms1mx4.2/33, Error ellipse: s-maj=17.4km s-min=11.3km az=51.0*

ISCJB ***06*** *14:09:57.4±0.5, 2761N±004×11135W±003, h10km, mb4.4/13, MS4.4/15, Error ellipse: s-maj=6.8km s-min=3.4km az=41.7*

BJI ***06*** *14:09:57.0, 2768N×111.15W, h20km, mB5.5, mb5.0, Ms5.1, Msz4.7*

NEIC ***06*** *14:09:58.8±0.5, 2759N×11130W, h10km, mb4.5/24, Error ellipse: s-maj=8.4km s-min=5.1km az=49.0*

NEIC Felt at Guaymas, Sonora, Mexico.

GCMT ***06*** *14:09:58.8±0.3, 2762N×11138W, h14km±1km, MW5.0/81, Moment Tensor Solution. s36,c44; s81,c130; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.28±.12; Mθθ-4.24±.13; Mφφ3.96±.13; Mrθ-0.97±.25; Mrφ-1.41±.10; Mθφ1.32±.29; Best double couple: M0=4.64100×10¹⁶ NP1:φs37.00000°, δ70.00000°, λ7.00000°. NP2: φs304.00000°, δ83.00000°, λ160.00000°. Principal axes: T 4.6870, Plg19.0000°, Azm259.0000°; N -0.0970, Plg69.0000°, Azm107.0000°; P -4.5950, Plg9.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 14:09:59.2±0.5, 2758N±004×11133W±003, h10km, n263, σ1§31/252, mb4.4/13, MS4.4/15, 75C-89D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**3.58**	**165**	Pn	**Pn**	**14 10 55.1**	**+0.3**
	7.1nm,0.3s,baz=47,slow=2.3,SNR=3.5						
LPIG				Lg		14 11 56.0	
	12nm,0.3s,baz=11,slow=11,SNR=3.5						
LPIG				LR	LR	14 12 11.3	
	comp=Z,8μm,19.3s,baz=356,slow=37						
LPIG	**La Paz**	**3.58**	**165**	Pn	**Pn**	**14 10 55.1**	**+0.3**
LPIG				Lg		14 11 56.0	
LPIG				LR	LR	14 12 11.3	
TUC	**Tucson**	**4.74**	**6**	*e*Pn	**Pn**	**14 11 07.4**	**-3.4**
116A	**Eloy**	**4.98**	**356**	⇓P	**Pn**	**14 11 11.0**	**-3.0**
	baz=5.0,SNR=33						
115A	**Sonoran Desert**	**5.17**	**352**	⇓P	**Pn**	**14 11 13.5**	**-3.0**
	baz=5.2,SNR=14						
Z14A	**Wintersburg**	**5.93**	**347**	⇓P	**Pn**	**14 11 24.1**	**-3.0**
	baz=5.9						
GLA	**Glamis**	**6.24**	**332**	⇓P	**Pn**	**14 11 27.3**	**-4.0**
	baz=6.3,SNR=42						
Y14A	**Wickenburg**	**6.50**	**348**	⇑P	**Pn**	**14 11 32.2**	**-2.8**
	baz=6.5						
DVTC	**Desert V Tower**	**6.54**	**322**	⇓P	**Pn**	**14 11 33.0**	**-2.4**
	baz=6.6,SNR=16						
SWSC	**Sam W. Stewart**	**6.59**	**325**	⇑P	**Pn**	**14 11 33.6**	**-2.6**
	baz=6.6						
MNTX	**Cornudas Mount**	**6.61**	**50**	*e*Pn	**Pn**	**14 11 33.7**	**-2.7**
	122nm,0.7s						
MNTX				*e*Pg	**Pg**	**14 12 03.5**	**-2.2**
MNTX				*e*Sn	**Sn**	**14 12 51.7**	**-0.1**
Y12C	**Blythe**	**6.74**	**337**	⇓P	**Pn**	**14 11 34.6**	**-3.6**
	baz=6.8,SNR=31						
MONP	**Monument Peak**	**6.88**	**322**	⇓P	**Pn**	**14 11 37.9**	**-2.3**
	baz=6.9,SNR=8.7						
X15A	**Humboldt**	**6.93**	**354**	⇓P	**Pn**	**14 11 39.0**	**-1.8**
	baz=6.9,SNR=13						
LTX	**Lajitas**	**6.97**	**74**	*e*Pn	**Pn**	**14 11 40.3**	**-1.1**
	160nm,1.0s						
LTX				*e*Pg	**Pg**	**14 12 13.7**	**+1.0**
TXAR	**Lajitas Array**	**6.97**	**74**	Pn	**Pn**	**14 11 40.8**	**-0.6**
	0.7nm,0.3s,baz=250,slow=14,SNR=12						
TXAR				Lg		14 13 39.2	
	11nm,0.3s,baz=253,slow=30,SNR=4.6						
TXAR	**Lajitas Array**	**6.97**	**74**	Pn	**Pn**	**14 11 40.8**	**-0.6**
TXAR				Lg		14 13 39.2	
X14A	**Yava**	**7.00**	**349**	⇑P	**Pn**	**14 11 39.5**	**-2.2**
	baz=7.0,SNR=15						
BC3	**Big Chuckw Mtn**	**7.02**	**331**	⇑P	**Pn**	**14 11 40.2**	**-1.8**
	baz=7.0,SNR=12						
PDMCI	**Parker Dam,Lak**	**7.12**	**341**	P	**Pn**	**14 11 40.4**	**-3.1**
	baz=7.1,SNR=19						
109C	**Camp Elliot, M**	**7.28**	**318**	⇓P	**Pn**	**14 11 44.7**	**-0.8**
	baz=7.3						
IRM	**Iron Mountain**	**7.34**	**334**	P	**Pn**	**14 11 42.8**	**-3.5**
	baz=7.3,SNR=13						
PFO	**Pinyon Flat Ob**	**7.46**	**325**	Pn	**Pn**	**14 11 46.1**	**-1.9**
	0.8nm,0.3s,baz=138,slow=11,SNR=8.9						
PFO				Lg		14 13 57.8	
	0.3nm,0.3s,baz=9.0,slow=19,SNR=2.4						
PFO				LR	LR	14 14 26.8	
	comp=Z,5μm,19.8s,baz=306,slow=37						
PFO	**Pinyon Flat Ob**	**7.46**	**325**	*e*Pn	**Pn**	**14 11 44.3**	**-3.8**
	8.5nm,0.8s						
PFO	**Pinyon Flat Ob**	**7.46**	**325**	⇑P	**Pn**	**14 11 44.8**	**-3.3**
	baz=7.5						
BELC	**Belle Mtn.**	**7.56**	**329**	⇓P	**Pn**	**14 11 49.0**	**-0.4**
	baz=7.6						
LENM	**Lemitar**	**7.56**	**29**	Pn	**Pn**	**14 11 48.5**	**-1.0**
W15A	**Williams**	**7.62**	**354**	⇑P	**Pn**	**14 11 47.7**	**-2.6**
	baz=7.6						
LAZ	**Ladron**	**7.70**	**27**	*e*Pn	**Pn**	**14 11 50.5**	**-0.8**
BNM	**Barren Site**	**7.70**	**31**	Pn	**Pn**	**14 11 54.6**	**+3.2**
NEE2	**Needles Airpor**	**7.70**	**339**	⇑P	**Pn**	**14 11 48.6**	**-2.7**
	baz=7.7						
W14A	**Seligman**	**7.76**	**349**	⇓P	**Pn**	**14 11 50.6**	**-1.6**

baz=7.8,SNR=20
W13A **Hualapai Mount** 7.81 344 ⇓P Pn 14 11 51.4 -1.5
baz=7.8
LPM **Los Pinos Moun** 7.83 30 Pn Pn 14 11 59.8 +6.6
MURC **Murrieta** 7.85 321 ⇓P Pn 14 11 53.5 +0.1
baz=7.9
WUAZ **Wupatki** 7.92 360 Pn Pn 14 11 52.2 -2.1
42nm,0.9s
WUAZ **Wupatki** 7.92 360 ⇓P Pn 14 11 54.7 +0.4
baz=7.9
GMRC **Granite Mounta** 8.08 334 P Pn 14 11 53.7 -2.9
baz=8.1,SNR=18
W12A **Cal Nev Ari** 8.27 339 ⇑P Pn 14 11 57.8 -1.4
baz=8.3
HEC **Hector,Ludlow** 8.40 331 ⇑P Pn 14 12 00.1 -0.9
baz=8.4
CIS **Catalina Islan** 8.42 315 ⇑P Pn 14 12 00.8 -0.5
baz=8.4
ANMO **Albuquerque** 8.45 28 Pn Pn 14 12 03.3 +1.6
0.3nm,0.3s,baz=275,slow=12,SNR=3.2
ANMO Lg 14 14 24.5
2.8nm,0.3s,baz=340,slow=19,SNR=7.0
ANMO **Albuquerque** 8.45 28 Pn Pn 14 12 03.3 +1.6
ANMO Lg 14 14 24.5
BFSC **Mount Baldy St** 8.58 322 ⇑P Pn 14 12 02.3 -1.1
baz=8.6
V12A **Nelson** 8.66 341 ⇓P Pn 14 12 03.3 -1.2
baz=8.7
TUQ **Turquoise Mtn.** 8.76 335 ⇓P Pn 14 12 05.2 -0.7
baz=8.8
GSC **Goldstone** 9.01 330 ⇓P Pn 14 12 06.7 -2.6
baz=9.0
EDW2 **Edwards Air Fo** 9.24 324 ⇓P Pn 14 12 11.5 -1.1
baz=9.3
SHOC **Shoshone** 9.30 334 ⇑P Pn 14 12 11.7 -1.7
baz=9.3
LRMC **Laurel Mountai** 9.56 327 ⇓P Pn 14 12 15.7 -1.2
baz=9.6,SNR=7.6
U10A **Ash Meadows, A** 9.78 336 ⇓P Pn 14 12 18.5 -1.4
baz=9.8
MVCO **Mesa Verde** 9.90 13 *e*Pn Pn 14 12 21.4 -0.1
23nm,0.8s
MVCO **Mesa Verde** 9.90 13 ⇑P Pn 14 12 20.8 -0.7
baz=9.9
MPMC **Manual Prospec** 9.95 330 ⇓P Pn 14 12 21.5 -0.7
baz=10.0
FURC **Furnace Creek,** 10.03 334 ⇓P Pn 14 12 23.4 +0.1
baz=10.0
CCUT **Cedar City** 10.09 351 *e*Pn Pn 14 12 23.8 -0.3
ISA **Isabella** 10.10 325 ⇓P Pn 14 12 23.9 -0.4
baz=10
PKM **Peak Mountain** 10.29 317 ⇑P Pn 14 12 25.5 -1.4
baz=10
ARUT **Antelope Range** 10.34 351 *e*Pn Pn 14 12 28.5 +1.0
JCT **Junction City** 10.50 71 *e*Pn Pn 14 12 31.7 +1.9
69nm,1.0s
CWC **Cottonwood Cre** 10.53 329 ⇓P Pn 14 12 30.5 +0.4
baz=10
VES **Vestal, Richgr** 10.55 323 ⇑P Pn 14 12 30.9 +0.4
baz=11
GRAC **Grapevine Rang** 10.69 333 ⇓P Pn 14 12 32.9 +0.5
baz=11
PV01 **Paradox Valley** 10.78 12 *e*Pn Pn 14 12 40.3 +6.7
MSU **Marysvale** 10.93 357 *e*Pn Pn 14 12 37.4 +1.8
PV10 **Paradox Valley** 10.94 10 Pn Pn 14 12 34.9 -0.8
RCTC **Rector, Farmer** 10.99 324 ⇓P Pn 14 12 37.1 +0.6
baz=11
AMTX **Amarillo** 11.01 46 *e*Pn Pn 14 12 38.6 +1.9
53nm,1.0s
HELL **Mitchell Peak,** 11.17 326 ⇓P Pn 14 12 39.8 +0.9
baz=11
SDCO **Great Sand Dun** 11.26 24 Pn Pn 14 12 42.4 +2.2
28nm,0.8s
V04C **Ramage Ranch,** 11.42 317 ⇑P Pn 14 12 42.6 +0.2
baz=11
PKD **Parkfield** 11.44 319 ⇓P Pn 14 12 42.0 -0.6
baz=12
S08C **White Mtn Res** 11.45 332 ⇓P Pn 14 12 43.3 +0.6
baz=12
SRU **San Rafael** 11.52 3 *e*Pn Pn 14 12 45.0 +1.3
24nm,1.2s
R09A **Tonopah** 11.67 337 ⇑P Pn 14 12 46.6 +0.8
baz=12
TMUT **Trail Mountain** 11.69 0 *e*Pn Pn 14 12 49.2 +3.1
T06C **Millerton Lake** 11.77 325 ⇑P Pn 14 12 47.7 +0.6
baz=12
Q12A **Willow Creek R** 11.80 347 ⇓P Pn 14 12 47.3 -0.2
baz=12
Q11A **Duckwater** 11.80 343 ⇓P Pn 14 12 48.2 +0.6
baz=12
KCC **Kaiser Creek** 11.82 327 ⇑P Pn 14 12 48.5 +0.6
baz=12
MLAC **Mammoth Lakes** 11.85 330 ⇓P Pn 14 12 49.1 +0.9
baz=12
U04C **Hernandez Rese** 11.87 320 ⇑P Pn 14 12 48.9 +0.4
baz=12
P12A **McGill** 12.23 347 ⇑P Pn 14 12 54.0 +0.6
baz=12
NVAR **Mina Array Bea** 12.30 333 Pn Pn 14 12 54.4 0.0
0.2nm,0.3s,baz=156,slow=14,SNR=11
R07C **Lee Vining** 12.32 330 ⇑P Pn 14 12 56.3 +1.6
baz=12
HAST **UC Hastings Re** 12.34 318 ⇑P Pn 14 12 54.1 -0.8
baz=12
NLU **North Lily Min** 12.36 357 *e*Pn Pn 14 12 57.2 +2.0
MPU **Maple Canyon** 12.41 359 *e*Pn Pn 14 12 56.5 +0.7
8.2nm,0.9s
P11A **Circle Ranch,** 12.50 344 ⇑P Pn 14 12 57.2 +0.1
baz=12
S06C **San Francisco** 12.52 327 ⇓P Pn 14 12 57.5 +0.1
baz=12
Q08A **Gabbs** 12.53 336 ⇓P Pn 14 12 57.6 +0.1
baz=13
DUG **Dugway** 12.65 355 *e*Pn Pn 14 12 58.5 -0.6
14nm,1.1s
DUG **Dugway** 12.65 355 ⇓P Pn 14 13 00.1 +1.0
baz=13
P10A **Eureka** 12.75 342 ⇓P Pn 14 13 01.1 +0.6
baz=13
R06C **Coleville** 12.86 330 ⇓P Pn 14 13 03.1 +1.1
baz=13
CMB **Columbia Colle** 12.90 326 ⇓P Pn 14 13 03.3 +0.6
baz=13
NOQ **North Oquirrh** 13.06 357 Pn Pn 14 13 08.1 +3.3
76nm,1.3s
R05C **Kirkwood Meado** 13.29 329 ⇑P Pn 14 13 08.5 +0.6
baz=13
BGU **Big Grassy Mou** 13.39 354 *e*Pn Pn 14 13 08.8 -0.4
N13A **Wendover, West** 13.46 351 ⇑P Pn 14 13 11.9 +1.8
baz=14
O09A **Fish Creek Ran** 13.46 340 ⇓P Pn 14 13 10.4 +0.1
baz=14
N12A **Clover Valley,** 13.59 348 ⇓P Pn 14 13 13.1 +1.1
baz=14
WCN **Washoe City** 13.64 331 ⇑P Pn 14 13 13.5 +0.9
baz=14
BMN **Battle Mountai** 13.71 341 Pn Pn 14 13 13.1 -0.6
35nm,1.5s
SPUT **South Promonto** 13.73 356 Pn Pn 14 13 10.3 -3.6
HKT **Hockley** 13.80 76 P Pn 14 13 17.0 +2.1
33nm,1.6s
M13A **Montello** 13.95 351 ⇑P Pn 14 13 17.7 +0.8
baz=14
HWUT **Hardware Ranch** 14.00 359 Pn Pn 14 13 16.9 -0.7
78nm,1.5s
P05C **Yuba Gap, Truc** 14.01 329 ⇓P Pn 14 13 19.6 +1.8
baz=14
O07A **Toulon** 14.02 335 ⇑P Pn 14 13 19.2 +1.3
baz=14
N08A **GE Springer Mi** 14.32 339 ⇑P Pn 14 13 22.1 +0.2
baz=14
BEKR **Beckwourth** 14.36 331 ⇓P Pn 14 13 25.2 +2.6
baz=14
OHCM **Honcut** 14.45 327 Pn Pn 14 13 25.5 +1.7
N07B **Gerlach** 14.60 336 ⇓P Pn 14 13 28.4 +2.6
baz=15
ORV **Oroville** 14.63 327 ⇓P Pn 14 13 27.9 +1.6
baz=15
O05C **Quincy** 14.69 330 ⇑P Pn 14 13 28.9 +2.0
baz=15
M09A **Marrel Ranch,** 14.70 342 ⇑P Pn 14 13 29.3 +2.2
baz=15
CBKS **Cedar Bluff** 14.81 38 *e*P Pn 14 13 29.4 +0.8
48nm,1.0s
N06A **Buffalo Meadow** 14.89 334 ⇓P Pn 14 13 30.9 +1.2
baz=15
O04C **Chester** 15.05 330 ⇑P Pn 14 13 33.6 +1.6
baz=15
ELFS **Eagle Lake Fie** 15.14 332 ⇑P Pn 14 13 35.3 +2.2
baz=15
AHID **Auburn Hatcher** 15.16 1 P Pn 14 13 36.3 +3.0
M07A **Soldier Meadow** 15.21 337 ⇓P Pn 14 13 34.7 +0.7
baz=15
PDAR **Pinedale Array** 15.22 5 Pn Pn 14 13 37.2 +3.0
0.0nm,0.3s,baz=166,slow=12,SNR=4.5
PDAR Lg 14 17 56.0
baz=202,slow=31,SNR=2.9
PDAR LR LR 14 18 58.8
comp=Z,2μm,18.7s,baz=192,slow=36
L09A **Wilkinson Ranc** 15.31 342 ⇓P Pn 14 13 36.5 +1.2
baz=15
M06C **Likely Place G** 15.54 333 ⇑P Pn 14 13 39.9 +1.7
baz=16
HATC **Hat Creek Radi** 15.62 330 ⇑P Pn 14 13 40.6 +1.2
baz=16
L08A **Fields** 15.66 340 ⇓P Pn 14 13 39.7 -0.3
baz=16
O02C **Red Bluff** 15.74 326 ⇓P Pn 14 13 43.2 +2.2
baz=16
REDW **Red Top Meadow** 15.76 1 P Pn 14 13 44.1 +3.0
15nm,1.1s
KIPM **Iron Peak** 15.82 324 *e*P Pn 14 13 42.4 +0.4
L07A **Adell** 15.82 338 ⇓P Pn 14 13 42.9 +0.9
baz=16
TPAW **Teton Pass** 15.88 1 *e*P Pn 14 13 45.5 +2.7
26nm,1.0s
WDC **Whiskeytown Da** 15.93 327 *e*P Pn 14 13 42.4 -1.1
36nm,1.5s
WDC **Whiskeytown Da** 15.93 327 ⇑P Pn 14 13 44.0 +0.5
baz=16
M05C **Lookout** 15.94 332 ⇑P Pn 14 13 44.3 +0.8
baz=16
K09A **Rome** 15.96 343 ⇑P Pn 14 13 44.8 +1.0
baz=16
WVOR **Wild Horse Val** 15.97 340 *e*Pn Pn 14 13 43.9 -0.1
42nm,1.5s
DCID1 **Drake Creek** 15.98 0 *e*P Pn 14 13 47.8 +3.7
LOHW **Long Hollow** 16.01 2 *e*P Pn 14 13 46.3 +1.8
7.4nm,0.9s
MOD **Modoc** 16.07 335 *e*P Pn 14 13 45.7 +0.5
33nm,1.6s
MOD **Modoc** 16.07 335 ⇑P Pn 14 13 45.9 +0.8
baz=16
MOOW **Moose Ponds** 16.14 2 *e*P Pn 14 13 46.1 -0.1
17nm,1.1s
HLID **Hailey** 16.14 352 ⇓P Pn 14 13 47.4 +1.2
baz=16
K08A **Mann Creek Ran** 16.20 341 ⇑P Pn 14 13 46.3 -0.6
baz=16
M03C **McCloud** 16.29 330 ⇑P Pn 14 13 49.0 +1.0
baz=16
L05A **Lakeview** 16.39 334 ⇑P Pn 14 13 52.4 +3.0
baz=16
K07A **Rock Creek Ran** 16.40 339 ⇑P Pn 14 13 50.2 +0.7
baz=16,SNR=12
N02C **Big Bar** 16.49 326 ⇓P Pn 14 13 51.6 +1.0
baz=16
J09A **Fry Pan Ranch,** 16.57 343 ⇓P Pn 14 13 53.8 +2.2
baz=17
M04C **Macdoel** 16.58 331 ⇓P Pn 14 13 53.1 +1.3
baz=17,SNR=8.2
M02C **Callahan** 16.71 328 ⇑P Pn 14 13 53.7 +0.3
baz=17
MIAR **Mount Ida** 16.72 61 *e*P Pn 14 13 55.3 +1.8
14nm,0.9s
I11A **Placerville** 16.72 348 ⇓P Pn 14 13 56.3 +2.8
baz=17
J08A **Circle Bar Ran** 16.77 342 ⇓P Pn 14 13 56.0 +1.8
baz=17
KSU1 **Kansas State U** 16.81 43 P Pn 14 13 57.0 +2.3
86nm,0.9s
K06A **Valley Falls** 16.83 337 ⇓P Pn 14 13 58.3 +3.4
baz=17,SNR=7.4
YBH **Yreka Blue Hor** 16.92 330 ⇑P Pn 14 13 52.8 -3.2
baz=17
L04A **Klamath Falls** 16.92 332 ⇓P Pn 14 13 56.1 0.0
baz=17
K05A **Summer Lake** 17.00 335 ⇓P Pn 14 13 58.0 +1.0
baz=17,SNR=8.9
J07A **Hines** 17.03 340 ⇓P Pn 14 13 57.8 +0.4
baz=17
YMR **Mason River** 17.06 1 *e*P Pn 14 13 59.3 +1.5
68nm,1.7s
H12A **Diamond D Ranc** 17.17 351 ⇑P Pn 14 13 59.7 +0.5
baz=17
QLMT **Earthquake Lak** 17.22 360 *e*P Pn 14 13 59.1 -0.7
K04A **Chilquin** 17.22 333 ⇓P Pn 14 14 00.2 +0.4
baz=17
MCMT **McKenzie Canyo** 17.26 356 *e*P Pn 14 14 01.8 +1.5
H11A **Donnelly** 17.50 349 ⇓P Pn 14 14 04.0 +0.7
baz=18
RSSD **Black Hills** 17.52 18 *e*P Pn 14 14 02.3 -1.3
12nm,0.9s
G15A **Dillon** 17.58 357 ⇑P Pn 14 14 05.4 +1.2
baz=18,SNR=6.1
G13A **Cobalt** 17.64 353 ⇓P Pn 14 14 05.8 +0.8
baz=18
L02A **Cave Junction** 17.66 329 ⇑P Pn 14 14 05.9 +0.6
baz=18
I07A **Izee** 17.74 340 ⇓P Pn 14 14 06.4 +0.1
baz=18,SNR=5.6
I06A **Prineville** 17.83 339 ⇓P Pn 14 14 07.9 +0.5
baz=18
J04A **Umpqua Nationa** 17.90 334 ⇑P Pn 14 14 09.1 +0.9
baz=18
H08A **Prairie City** 17.90 343 ⇓P Pn 14 14 09.0 +0.7
baz=18
H07A **Lands Inn, Kim** 18.22 341 ⇓P Pn 14 14 13.0 +0.9
baz=18
F13A **Darby** 18.33 353 ⇓P Pn 14 14 13.2 -0.4
baz=18
I05A **Bend** 18.38 337 ⇑P Pn 14 14 14.3 +0.1
baz=18
CMIG **Matias Romero** 18.43 121 Pn Pn 14 14 15.1 +0.3
0.2nm,0.3s,baz=6.3,slow=9.2,SNR=2.5
H06A **Lindquist Farm** 18.58 340 ⇑P Pn 14 14 17.1 +0.5
baz=19
H05A **Madras** 18.79 338 ⇓P Pn 14 14 19.4 +0.3
baz=19
F09A **S2 Ranch, Elgi** 18.84 346 ⇓P Pn 14 14 19.3 -0.4
baz=19
E15A **Deer Lodge** 18.84 357 ⇓P Pn 14 14 19.7 -0.1
baz=19
G07A **Ruggs Ranch, H** 18.87 342 ⇓P Pn 14 14 19.6 -0.4
baz=19
E14A **Clinton** 18.88 355 ⇑P Pn 14 14 20.1 -0.1
baz=19
E13A **Victor** 18.97 354 ⇓P Pn 14 14 21.2 -0.1
baz=19
HRY **Holter Researc** 19.10 359 *e*P Pn 14 14 21.5 -1.4
G06A **Carlson Farm,** 19.12 340 ⇑P Pn 14 14 23.4 +0.3
baz=19,SNR=9.4
E11A **Bogner Ranch,** 19.14 350 ⇑P Pn 14 14 22.2 -1.1
baz=19
H04A **Detroit Lake** 19.16 336 ⇓P Pn 14 14 23.8 +0.2
baz=19
MSO **Missoula** 19.33 355 *e*P Pn 14 14 25.0 -0.6
21nm,1.5s
G05A **Wamic** 19.35 338 ⇑P Pn 14 14 24.5 -1.3
baz=19
CHMT **Chamberlain Mo** 19.36 356 *e*P Pn 14 14 25.5 -0.5
E10A **Myers Farm, Un** 19.42 348 ⇑P Pn 14 14 25.0 -1.7
baz=19
D15A **Lincoln** 19.45 358 ⇑P Pn 14 14 26.2 -0.9
baz=20
LAO **LASA Array** 19.50 11 *e*P Pn 14 14 26.6 -1.0
25nm,1.0s
D14A **Greenough** 19.55 356 ⇓P Pn 14 14 27.2 -1.1
baz=20
D13A **Huson** 19.64 354 ⇑P Pn 14 14 28.4 -0.9
baz=20
E09A **Wood Farm, Sta** 19.65 346 P Pn 14 14 27.0 -2.5
baz=20,SNR=6.0
D11A **Klaveano Farm,** 19.83 350 ⇑P Pn 14 14 29.9 -1.7
baz=20
OXF **Oxford** 20.00 64 *e*P Pn 14 14 31.4 -2.2
77nm,1.3s
D10A **Wagner Farm, O** 20.00 348 ⇑P Pn 14 14 30.9 -2.7
baz=20
E07A **Sunnyside** 20.11 343 ⇑P P 14 14 31.5 -1.5
baz=20
D09A **Jones Farm, Ri** 20.21 346 ⇓P P 14 14 32.4 -1.8
baz=20
C13A **Hot Springs** 20.23 354 ⇓P P 14 14 33.6 -0.7
baz=20
D08A **Wollman Farm,** 20.34 345 ⇓P P 14 14 33.7 -1.9
baz=20
E06A **Yakima** 20.41 341 ⇑P P 14 14 35.9 -0.5
baz=20
EGMT **Eagleton** 20.45 3 *e*P P 14 14 40.0 +3.2
100nm,1.6s
EGMT **Eagleton** 20.45 3 ⇓P P 14 14 35.0 -1.8
baz=20
SCIA **State Center** 20.58 41 P P 14 14 40.8 +2.6
41nm,0.8s
E05A **Randle** 20.66 339 ⇑P P 14 14 38.7 -0.3
baz=21
C10A **Spilker Farm,** 20.74 349 ⇑P P 14 14 39.0 -1.0
baz=21
SLM **Saint Louis** 20.78 53 *e*P P 14 14 43.1 +2.7
B13A **Whitefish** 20.91 354 ⇓P P 14 14 40.8 -1.0
baz=21
C09A **Chrisman Ranch** 20.91 347 ⇑P P 14 14 40.5 -1.2
baz=21
C08A **Higginbotham F** 21.06 345 ⇓P P 14 14 41.8 -1.5
baz=21
B12A **Libby** 21.12 352 ⇓P P 14 14 43.2 -0.9
baz=21
NEW **Newport** 21.14 349 P P 14 14 43.0 -1.3
7.3nm,0.8s,mb4.1,baz=167,slow=11,SNR=15
NEW LR LR 14 23 04.6
comp=Z,1μm,18.6s,MS4.4,baz=178,slow=37
NEW **Newport** 21.14 349 *e*P P 14 14 42.6 -1.7
13nm,0.9s,mb4.3
SIUC **Southern Illin** 21.14 56 *e*P P 14 14 43.2 -1.1
53nm,0.8s,mb4.9
PLAL **Pickwick Lake** 21.18 64 *e*P P 14 14 42.2 -2.4
20nm,0.8s,mb4.5
B10A **Chitwood Farm,** 21.19 349 ⇑P P 14 14 43.0 -1.8
baz=21
C07A **Waterville** 21.21 344 ⇓P P 14 14 43.8 -1.2
baz=21
D05A **Enumclaw** 21.29 340 ⇓P P 14 14 46.5 +0.6
baz=21
A13A **Flathead Natio** 21.46 354 ⇑P P 14 14 46.9 -0.7
baz=22
B09A **Rice** 21.48 348 ⇑P P 14 14 47.8 -0.1
baz=22
D04A **Dobbs Creek Ra** 21.48 338 ⇓P P 14 14 47.7 -0.2
baz=22
C05A **Tolt Reservoir** 21.66 341 ⇑P P 14 14 50.6 +0.8
baz=22
B08A **Colville Reser** 21.66 345 ⇓P P 14 14 48.6 -1.3
baz=22
WVT **Waverly** 21.67 61 *e*P P 14 14 49.4 -0.6
45nm,1.0s,mb4.9
LRAL **Lakeview Retre** 21.68 70 *e*P P 14 14 49.6 -0.5
20nm,0.8s,mb4.6
A11A **Hall Mountain,** 21.70 351 ⇑P P 14 14 49.1 -1.2
baz=22
B07A **Winthrop** 21.94 344 ⇓P P 14 14 52.1 -0.8
baz=22
C04A **Brinnon** 22.07 339 ⇑P P 14 14 54.0 -0.3
baz=22
A09A **Danville** 22.09 347 ⇑P P 14 14 54.4 0.0
baz=22
B05A **Bryant** 22.29 341 ⇑P P 14 14 56.6 0.0
baz=22
TEIG **Tepich** 22.29 104 LR LR 14 25 42.5
comp=Z,1μm,19.4s,MS4.4,baz=108,slow=42
B06A **Marblemount** 22.34 342 ⇓P P 14 14 56.9 -0.3
baz=22
A07A **Ashnola River,** 22.55 344 ⇑P P 14 14 58.3 -1.0
baz=23
C03A **Quillayute Air** 22.81 337 ⇓P P 14 15 04.2 +2.1
baz=23
AGMN **Agassiz Refuge** 23.93 26 P P 14 15 10.9 -2.5
28nm,1.2s,mb4.6
GOGA **Godfrey** 24.67 70 *e*P P 14 15 19.5 -0.6
31nm,1.3s,mb4.7
TKL **Tuckaleechee C** 24.75 64 P P 14 15 21.4 +0.5
20nm,1.0s,mb4.6,baz=216,slow=9.5,SNR=8.1
TKL LR LR 14 25 25.6
comp=Z,1μm,19.7s,MS4.4,baz=254,slow=38
TZTN **Tazewell** 25.12 62 P P 14 15 25.4 +1.2
17nm,1.0s,mb4.5
ULM **Lac du Bonnet** 25.54 23 P P 14 15 26.6 -1.4
5.2nm,1.1s,mb4.0,baz=247,slow=7.0,SNR=3.8
ULM LR LR 14 25 25.5
comp=Z,388nm,20.7s,MS3.9,baz=236,slow=36
EDM **Edmonton** 25.66 357 *e*P P 14 15 29.8 +0.7
YKA **Yellowknife Ar** 34.98 357 P P 14 16 50.7 -0.8
0.5nm,0.8s,mb3.5,baz=178,slow=8.0,SNR=2.0
YKA LR LR 14 31 46.1
comp=Z,1μm,21.8s,MS4.7,baz=180,slow=38
YKA **Yellowknife Ar** 34.98 357 P P 14 16 50.7 -0.9
YKA LR LR 14 31 46.1
ROSC **El Rosal** 41.83 116 LR LR 14 38 58.7
comp=Z,351nm,18.1s,MS4.3,baz=212,slow=42
SCHQ **Schefferville** 42.11 37 LR LR 14 36 23.1
comp=Z,466nm,18.4s,MS4.4,baz=256,slow=38
SDV **Santo Domingo** 42.64 108 LR LR 14 38 23.4
comp=Z,447nm,18.7s,MS4.4,baz=284,slow=40
PCRV **Puerto La Cruz** 47.14 102 LR LR 14 41 31.3
comp=Z,322nm,18.3s,MS4.3,baz=100,slow=40
NNA **Nana** 51.62 135 LR LR 14 38 43.7
comp=Z,166nm,18.6s,MS4.1,baz=80,slow=33
RPN **Rapa Nui** 54.42 178 LR LR 14 36 58.1
comp=Z,698nm,20.7s,MS4.7,baz=179,slow=30
RKT **Rikitea** 55.33 207 *e*LR LR 14 35 29.5
145nm,28.0s,baz=22
LPAZ **La Paz** 60.46 131 P P 14 20 10.2 +1.1
0.7nm,0.6s,mb3.9,baz=349,slow=16,SNR=2.4
LPAZ LR LR 14 44 51.0
comp=Z,171nm,18.0s,MS4.2,baz=324,slow=35
FINES **FINESS Array B** 84.85 19 P P 14 22 32.5 -1.6
1.3nm,0.8s,mb4.1,baz=309,slow=6.6,SNR=2.4
SONM **Songino Array** 97.63 335 LR LR 15 13 33.6
comp=Z,208nm,18.3s,MS4.7,baz=34,slow=39
ZAL **Zalesovo** 97.63 350 LR LR 15 10 34.0
comp=Z,263nm,21.4s,MS4.7,baz=92,slow=37
HHC **Hu-ho-hao-te** 101.14 328 *e*P Pdif 14 23 49.2 -0.5
HHC AP 14 23 54.1
HHC PP PP 14 27 59.7 +1.4
HHC SKS 14 34 26.2
HHC S Sdif 14 35 22.1 -6.7
HHC SS SS 14 42 24.0 -4.0
HHC AMB AMB
comp=Z,9.0nm,0.8s
HHC LR LR
comp=N,221nm,26.2s,MS5.1
HHC LR LR
comp=E,683nm,27.0s,MS5.1
HHC LR LR
comp=Z,98nm,29.7s,MS4.2
KMI **Kunming** 118.17 325 PKP PKPdf 14 28 45.7 -0.8
WRA **Warramunga Arr** 120.01 262 PKP PKPdf 14 28 49.9 -0.2
comp=Z,0.5nm,0.7s,baz=78,slow=2.2,SNR=5.3
ASAR **Alice Springs** 121.65 258 PKP PKPdf 14 28 51.5 -1.7
comp=Z,0.3nm,0.6s,baz=51,slow=3.5,SNR=3.1

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*ISCJB **06** 14:20:57.0±0.6,7675N±004×186E±03,h10km,Error ellipse: s-maj=9.2km s-min=4.5km az=132.3*
*NAO **06** 14:20:58.0±1.6,7670N×1922E,h8km±14km,ML3.1*
*CSEM **06** 14:20:58.0±0.2,7685N×2043E,h5km,ML3.1,Error ellipse: s-maj=9.2km s-min=2.1km az=70.0*
*BER **06** 14:21:01.3±3.5,7687N×1992E,h13km,MD2.5,ML3.1, ML3.1(NAO)*

ISC 06 14:20:58.1±0.6,7675N±004×189E±03,h10km,n12, σ1§54/21,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HOPEN	**Hopen**	1.45	96	*e*P		**Pn**	**14 21 26.8**	**+2.4**
HOPEN				*e*S		**Sn**	**14 21 43.0**	**-0.4**
HOPEN				AML		AML	14 21 43.8	
comp=N,2μm,0.2s								
SPA0	**Spitsbergen Ar**	1.54	341	Pn		**Pn**	**14 21 26.0**	**+0.5**
baz=150,slow=18								
SPA0				Pg		**Pg**	**14 21 27.6**	**+0.1**
baz=148,slow=18								
SPA0				Lg			14 21 48.1	
baz=159,slow=37								
SPA0	**Spitsbergen Ar**	1.54	341	Pg		**Pg**	**14 21 27.6**	**+0.1**
SNR=90								
BJO	**Bjornoya**	2.26	178	*e*Pg		**Pg**	**14 21 42.4**	**+1.1**
BJO				*e*Sg		**Sg**	**14 22 12.4**	**+1.9**
BJO				AML		AML	14 22 17.8	
comp=Z,164nm,0.8s								
BJO	**Bjornoya**	2.26	178	*e*Pg		**Pg**	**14 21 42.4**	**+1.1**
SNR=90								
BJO				*e*Sg		**Sg**	**14 22 12.4**	**+1.8**

SNR=90
KBS **Kingsbay** 2.63 330 Pn **Pn** 14 21 41.1 +0.5
KBS Pg **Pg** 14 21 48.6 +0.1
KBS Lg 14 22 22.6
KBS **Kingsbay** 2.63 330 *e*P **Pn** 14 21 40.9 +0.3
KBS *e*Sg **Sg** 14 22 21.6 -1.0
KBS AML AML 14 22 33.4
comp=Z,254nm,0.4s
KBS **Kingsbay** 2.63 330 Pg **Pg** 14 21 48.6 +0.1
ARA0 **ARCESS Array S** 7.50 162 Pn **Pn** 14 22 46.2 -1.2
baz=358,slow=12
ARA0 Sn **Sn** 14 24 04.4 -8.1
baz=0.9,slow=22
ARA0 **ARCESS Array S** 7.50 162 Pn **Pn** 14 22 46.2 -1.2
SNR=6.4
ARA0 Sn **Sn** 14 24 04.4 -8.1
SNR=9.3
KTK1 **Kautokeino** 7.88 168 *e*P **Pn** 14 22 54.4 +1.7
KTK1 AML AML 14 24 16.4
comp=Z,4.1nm,0.9s
KTK1 *e*S **Sn** 14 24 18.3 -3.6
APA0 **Apatity Array** 10.11 148 Pn **Pn** 14 23 19.8 -3.5
baz=333,slow=9.3

*BJI **06** 14:33:09.2, 1286N×9308E, h30km, mb4.0*
*IDC **06** 14:33:11.5±0.6, 1352N×9293E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/22, mbtmp4.2/13, MS3.7/1, Ms1 3.7/1, ms1mx2.7/29, Error ellipse: s-maj=24.7km s-min=15.5km az=53.0*
*ISCJB **06** 14:33:12.2±3.8, 1359N±009×9302E±007, h17km±27km, mb4.2/16, MS3.7/1, Error ellipse: s-maj=14.8km s-min=11.3km az=36.6*
*NEIC **06** 14:33:15.9±0.4, 1352N×9296E, h30km, mb4.2/3, Error ellipse: s-maj=12.1km s-min=8.4km az=52.0*
ISC 06 14:33:15.8±3.7, 1363N±008×9299E±007, h26km±26km, n33, σ0=91/30, mb4.2/16, MS3.7/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.98**	**187**	*e*P	x	14 33 43.9	
PBA				*e*S	x	14 33 54.4	
PBA				*e*x	x	14 33 55.3	
	comp=E,398nm,0.7s						
PBA				*e*x	x	14 33 56.1	
	comp=N,356nm,0.5s						
CHTO	**Chiang Mai**	**7.70**	**47**	*e*Pn	**Pn**	**14 35 07.9**	**+1.7**
	comp=N,17nm,1.0s						
CHTO				*e*Sn	**Sn**	**14 36 31.7**	**-0.9**
HYB	**Hyderabad**	**14.41**	**287**	*i* P	**Pn**	**14 36 40.0**	**+2.0**
HYB	**Hyderabad**	**14.41**	**287**	*e*P	**Pn**	**14 36 45.0**	**+7.0**
PKI	**Pulchoki**	**15.57**	**334**	*e*P	**Pn**	**14 36 53.6**	**+0.1**
	comp=N,22nm,0.6s						
GUN	**Gumba**	**15.68**	**336**	*e*P	**Pn**	**14 36 54.5**	**-0.4**
DMN	**Daman**	**15.73**	**333**	*e*P	**Pn**	**14 36 55.4**	**-0.2**
	comp=N,21nm,0.6s						
LSA	**Lhasa**	**16.08**	**354**	P	**Pn**	**14 37 05.0**	**+4.9**
GKN	**Gorkha**	**16.28**	**333**	*e*P	**Pn**	**14 37 01.2**	**-1.4**
	comp=N,12nm,0.3s						
KOLN	**Koldanda**	**16.57**	**330**	*e*P	**Pn**	**14 37 04.3**	**-2.0**
	comp=N,39nm,1.1s						
XAN	**Xi'an**	**24.94**	**33**	P	**P**	**14 38 38.2**	**+1.3**
XAN				AP		14 38 46.5	
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**34.26**	**347**	P	**P**	**14 40 00.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=167,slow=9.0,SNR=10						
SONM	**Songino Array**	**35.88**	**15**	P	**P**	**14 40 15.2**	**+1.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=199,slow=8.4,SNR=5.9						
SONM				PcP	PcP	14 42 41.8	+1.4
	comp=Z,0.7nm,0.6s,baz=182,slow=2.9,SNR=4.5						
KSRS	**Korea Array**	**39.10**	**46**	P	**P**	**14 40 41.6**	**+0.8**
	comp=Z,2.2nm,0.9s,mb3.9,baz=243,slow=9.9,SNR=7.4						
KSRS				LR	LR	15 00 16.9	
	comp=Z,100nm,18.3s,MS3.7,baz=349,slow=42						
ZAL	**Zalesovo**	**40.73**	**353**	P	**P**	**14 40 53.9**	**-0.4**
BVAR	**Borovoye Array**	**43.21**	**340**	P	**P**	**14 41 14.4**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=143,slow=7.1,SNR=2.9						
CHKZ	**Chkalovo**	**43.69**	**341**	*e*P	**P**	**14 41 18.8**	**+0.3**
	comp=Z,1.8nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**52.62**	**129**	P	**P**	**14 42 26.8**	**-0.7**
	comp=Z,3.0nm,0.6s,mb4.4,baz=303,slow=10,SNR=69						
WRA				PcP	PcP	14 43 37.6	+0.2
	comp=Z,1.4nm,0.5s,baz=318,slow=3.1,SNR=17						
WRAB	**Tennant Creek**	**52.62**	**129**	*e*P	**P**	**14 42 26.8**	**-0.7**
	comp=Z,3.5nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**52.63**	**129**	*e*P	**P**	**14 42 26.7**	**-0.9**
ASAR	**Alice Springs**	**54.54**	**132**	P	**P**	**14 42 41.0**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.4,baz=307,slow=6.9,SNR=58						
ASAR				PcP	PcP	14 43 45.0	+0.3
	comp=Z,0.9nm,0.8s,baz=311,slow=2.6,SNR=5.2						
BR131	**Keskin Array S**	**57.90**	**308**	*e*P	**P**	**14 43 05.9**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**57.90**	**308**	P	**P**	**14 43 05.7**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=125,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**67.13**	**331**	P	**P**	**14 44 06.9**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.3,baz=96,slow=5.9,SNR=7.4						
ARCES	**ARCESS Array B**	**69.50**	**340**	P	**P**	**14 44 22.2**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7,baz=89,slow=6.8,SNR=10						
GERES	**GERESS Array B**	**72.83**	**317**	P	**P**	**14 44 42.1**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=93,slow=5.9,SNR=12						
NOA	**NORSAR Array B**	**74.20**	**330**	P	**P**	**14 44 49.5**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=91,slow=5.7,SNR=3.9						
BOSA	**Boshof**	**77.74**	**236**	P	**P**	**14 45 11.3**	**+0.9**
	comp=Z,4.1nm,0.7s,mb4.5,baz=73,slow=4.3,SNR=8.9						
BOSA	**Boshof**	**77.74**	**236**	P	**P**	**14 45 11.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**88.19**	**283**	P	**P**	**14 46 05.5**	**+1.1**
	comp=Z,1.8nm,0.9s,mb4.3,baz=72,slow=4.0,SNR=9.4						
PDAR	**Pinedale Array**	**120.19**	**19**	PKP	PKPdf	14 52 03.8	-0.6
	comp=Z,0.4nm,0.7s,baz=0.0,slow=1.5,SNR=3.7						
NVAR	**Mina Array Bea**	**120.50**	**28**	PKP	PKPdf	14 52 07.1	+2.1
	comp=Z,0.4nm,0.7s,baz=281,slow=22,SNR=4.3						
TXAR	**Lajitas Array**	**134.36**	**20**	PKP	PKPdf	14 52 33.0	+1.6
	comp=Z,0.2nm,0.6s,baz=170,slow=3.0,SNR=4.1						

*ISCJB **06** 14:36:06.5±0.5, 3415N±005×7361E±009, h10km, mb3.3/4, Error ellipse: s-maj=12.1km s-min=3.7km az=115.2*
*IDC **06** 14:36:07.2±1.1, 3420N×7370E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.5/24, mbtmp3.5/8, ML2.5/1, Error ellipse: s-maj=29.2km s-min=23.6km az=70.0*
*NEIC **06** 14:36:09.0±0.8, 3423N×7357E, h10km, Error ellipse: s-maj=17.8km s-min=12.8km az=47.0*
*NDI **06** 14:36:09.8±3.6, 3421N×7339E, h10km, ML3.0*
ISC 06 14:36:08.4±0.5, 3419N±005×7361E±009, h10km, n21, σ1=23/28, mb3.3/4, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMU	**Jammu**	**1.82**	**144**	*e*S	**Sg**	**14 37 07.0**	**-0.1**
THN	**Thein Dam**	**2.49**	**134**	*e*P	**Pg**	**14 36 54.2**	**-1.9**
THN				*e*x	**Sg**	**14 37 28.6**	**+0.2**
DLH	**Dalhousie**	**2.57**	**129**	*e*P	**Pg**	**14 36 55.0**	**-2.7**
DLH				*e*x	**Sg**	**14 37 30.0**	**-1.0**
PONG	**Pong**	**2.97**	**138**	*e*x	**Sg**	**14 37 40.2**	**-3.8**
SDNR	**Sundarnagar**	**3.90**	**133**	*e*P	**Pn**	**14 37 13.0**	**+4.6**
SDNR				*e*S	**Sn**	**14 37 56.5**	**+2.3**
SMLA	**Simla**	**4.28**	**135**	*e*P	**Pn**	**14 37 16.0**	**+2.4**
SMLA				*e*S	**Sn**	**14 38 05.0**	**+1.4**
KHET	**Khetri**	**6.38**	**162**	*e*P	**Pn**	**14 37 43.5**	**+0.9**
KHET				*e*S	**Sn**	**14 38 54.5**	**-0.9**
KHET				AML	AML	14 38 56.6	
	comp=E,15nm,0.1s						
KHET				AML	AML	14 38 56.8	
	comp=N,19nm,0.1s						
KUDL	**Kundal**	**6.51**	**157**	*e*P	**Pn**	**14 37 44.4**	**0.0**
KUDL				*e*S	**Sn**	**14 38 56.9**	**-1.8**
KUDL				AML	AML	14 38 59.1	
	comp=N,11nm,0.3s						
KUDL				AML	AML	14 38 59.2	
	comp=E,12nm,0.3s						
SONA	**Sohna**	**6.63**	**152**	*e*S	**Sn**	**14 39 01.7**	**+0.2**
KK31	**Karatay Array**	**9.22**	**346**	⇑Pn	**Pn**	**14 38 22.7**	**+1.3**
	comp=E,1.0nm,0.3s,baz=166,slow=13,SNR=3.3						
KK31				⇑Sn	**Sn**	**14 40 02.4**	**-2.9**
	comp=E,0.6nm,0.3s,baz=186,slow=25,SNR=4.6						
MKAR	**Makanchi Array**	**14.20**	**25**	Pn	**Pn**	**14 39 29.3**	**-0.2**
	comp=E,0.0nm,0.3s,baz=204,slow=11,SNR=1.3						
LSA	**Lhasa**	**15.54**	**102**	P	**Pn**	**14 39 50.8**	**+3.2**
AB31	**Akbulak array**	**18.14**	**330**	P	**Pn**	**14 40 20.7**	**+0.3**
	comp=E,1.5nm,0.7s,baz=138,slow=13,SNR=12						
BVAR	**Borovoye Array**	**18.96**	**354**	P	**Pn**	**14 40 30.4**	**0.0**
	comp=E,0.4nm,0.3s,baz=163,slow=10,SNR=8.8						
AKTK	**Aktyubinsk**	**19.84**	**330**	P	**Pn**	**14 40 40.4**	**-0.6**
AKTO	**Aktyubinsk**	**19.84**	**330**	P	**Pn**	**14 40 40.4**	**-0.6**
	comp=E,0.9nm,0.3s,baz=129,slow=11,SNR=11						
SONM	**Songino Array**	**28.00**	**51**	P	**P**	**14 41 59.4**	**0.0**
	comp=E,0.6nm,0.8s,mb3.3,baz=217,slow=7.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**67.85**	**271**	P	**P**	**14 47 07.8**	**+1.0**
	comp=E,0.2nm,0.4s,mb3.5,baz=50,slow=5.8,SNR=4.4						
INK	**Inuvik**	**75.81**	**10**	*e*P	**P**	**14 47 54.2**	**-0.5**
WRA	**Warramunga Arr**	**78.95**	**123**	P	**P**	**14 48 13.0**	**+0.7**
	comp=E,0.2nm,0.6s,mb3.2,baz=313,slow=5.9,SNR=2.3						
ASAR	**Alice Springs**	**81.18**	**126**	P	**P**	**14 48 24.6**	**+0.3**
	comp=E,0.2nm,0.5s,mb3.3,baz=308,slow=5.1,SNR=6.3						

*NEIC **06** 14:37:40.6±0.8, 701N×7681W, h45km±9km, mb4.4/8, Error ellipse: s-maj=12.2km s-min=8.0km az=217.0*
*ISCJB **06** 14:37:42.3±0.8, 7.14N±008×7664W±005, h76km±6km, mb4.1/17, Error ellipse: s-maj=13.3km s-min=6.1km az=45.0*
*IDC **06** 14:37:42.4±2.0, 7.13N×7679W, h60km±19km, mb3.6/9, mb1 4.0/12, mb1mx3.9/20, mbtmp3.8/12, MS3.4/2, Ms1 3.4/2, ms1mx3.0/30, Error ellipse: s-maj=19.5km s-min=12.5km az=50.0*
ISC 06 14:37:43.5±0.8, 708N±008×7668W±005, h67km±6km, n127, σ0=75/131, mb4.1/17, 37C-43D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPD1	**Univ de Panama**	**1.97**	**318**	*e*P	**Pn**	**14 38 14.4**	**-0.2**
UPD1				*e*S	**Sn**	**14 38 39.7**	**+1.4**
ROSC	**El Rosal**	**3.22**	**133**	P	**Pn**	**14 38 31.3**	**-0.4**
	29nm,0.3s,baz=287,slow=4.9,SNR=34						
ROSC				S	**Sn**	**14 39 12.8**	**+4.0**
	27nm,0.3s,baz=107,slow=19,SNR=3.8						
ROSC	**El Rosal**	**3.22**	**133**	*e*Pn	**Pn**	**14 38 29.7**	**-2.0**
ROSC				S	**Sn**	**14 39 12.8**	**+4.0**
UPA	**Univ. de Panam**	**3.40**	**304**	*e*P	**Pn**	**14 38 34.8**	**+0.7**
UPA				*e*S	**Sn**	**14 39 13.4**	**+0.3**
BCIP	**Isla Barro Col**	**3.75**	**304**	*e*Pn	**Pn**	**14 38 33.3**	**-5.5**
SDV	**Santo Domingo**	**6.25**	**73**	P	**Pn**	**14 39 12.8**	**-0.4**
	20nm,0.3s,baz=328,slow=9.6,SNR=107						
SDV				S	**Sn**	**14 40 23.6**	**+0.4**
	37nm,0.3s,baz=328,slow=19,SNR=6.6						
SDV	**Santo Domingo**	**6.25**	**73**	*e*Pn	**Pn**	**14 39 12.3**	**-0.8**
SDV				*e*Sn	**Sn**	**14 40 23.3**	**+0.1**
SDV				S	**Sn**	**14 40 23.6**	**+0.4**
OTAV	**Otavalo**	**7.02**	**195**	*e*Pn	**Pn**	**14 39 19.1**	**-4.5**
	13nm,0.8s						
JTS	**JuntasAbangare**	**8.78**	**292**	P	**Pn**	**14 39 45.8**	**-1.8**
	0.9nm,0.3s,baz=90,slow=20,SNR=2.7						
JTS				LR	LR	14 43 14.8	
	comp=Z,268nm,19.1s,baz=63,slow=38						
JTS	**JuntasAbangare**	**8.78**	**292**	Pn	**Pn**	**14 39 45.6**	**-2.0**
JTS				LR	LR	14 43 14.8	
PCRV	**Puerto La Cruz**	**12.30**	**75**	P	**Pn**	**14 40 34.8**	**-0.9**
	5.4nm,0.3s,baz=205,slow=6.0,SNR=8.6						
PCRV				S	**Sn**	**14 42 46.1**	**-5.0**
	0.6nm,0.3s,baz=90,slow=20,SNR=3.4						
CCCC	**Cccc**	**14.08**	**356**	*e*P	**Pn**	**14 41 01.4**	**+1.9**
CPD	**Cerro la Pandu**	**15.12**	**43**	*e*P	**Pn**	**14 41 08.2**	**-4.9**
MTP	**Monte Pirata**	**15.41**	**44**	*e*P	**Pn**	**14 41 11.9**	**-5.0**
TEIG	**Tepich**	**17.24**	**320**	LR	LR	14 47 34.9	
	comp=Z,86nm,18.8s,baz=1.2,slow=35						
LPAZ	**La Paz**	**24.71**	**160**	P	**P**	**14 43 00.3**	**+2.0**
	1.3nm,1.0s,mb3.3,baz=338,slow=19,SNR=3.2						
SIV	**San Ignacio**	**27.65**	**146**	P	**P**	**14 43 25.7**	**+1.0**
	1.5nm,0.7s,mb3.7,baz=324,slow=9.0,SNR=4.5						
USIN	**University of**	**32.32**	**344**	*e*P	**P**	**14 44 06.2**	**+0.1**
	22nm,0.5s,mb5.1						
TXAR	**Lajitas Array**	**33.70**	**314**	P	**P**	**14 44 16.7**	**-1.4**
	0.2nm,0.5s,mb3.2,baz=129,slow=8.9,SNR=4.3						
TXAR				PcP	PcP	14 46 57.5	+1.0
	1.0nm,1.1s,baz=134,slow=7.1,SNR=4.1						
ANMO	**Albuquerque**	**38.97**	**320**	*e*P	**P**	**14 45 03.2**	**+0.2**
	1.0nm,0.6s,mb3.8						
PV01	**Paradox Valley**	**42.28**	**322**	*e*P	**P**	**14 45 31.4**	**+1.1**
WUAZ	**Wupatki**	**42.56**	**317**	*e*P	**P**	**14 45 33.3**	**+0.7**
	7.3nm,0.9s,mb4.4						
WUAZ	**Wupatki**	**42.56**	**317**	⇑P	**P**	**14 45 33.2**	**+0.6**
	baz=43						
X15A	**Humboldt**	**42.61**	**315**	⇓P	**P**	**14 45 33.8**	**+0.8**
	baz=43						
X14A	**Yava**	**43.06**	**314**	⇑P	**P**	**14 45 37.0**	**+0.4**
	baz=43						
W14A	**Seligman**	**43.58**	**315**	⇑P	**P**	**14 45 41.6**	**+0.8**
	baz=44						
PDMCI	**Parker Dam,Lak**	**43.87**	**313**	⇑P	**P**	**14 45 43.8**	**+0.6**
	baz=44						
BC3	**Big Chuckw Mtn**	**44.52**	**312**	⇓P	**P**	**14 45 49.2**	**+0.8**
	baz=44						
MONP	**Monument Peak**	**44.90**	**310**	⇓P	**P**	**14 45 51.9**	**+0.6**
	baz=45						
V12A	**Nelson**	**45.08**	**315**	⇓P	**P**	**14 45 53.7**	**+0.9**
	baz=45						
DAU	**Daniels Canyon**	**45.33**	**322**	*e*P	**P**	**14 45 55.1**	**+0.4**
PDAR	**Pinedale Array**	**45.84**	**326**	P	**P**	**14 45 58.6**	**-0.1**
	1.5nm,0.7s,mb3.8,baz=127,slow=8.1,SNR=13						
PDAR				PcP	PcP	14 47 33.3	-1.8
	1.1nm,1.0s,baz=151,slow=3.4,SNR=3.7						
ULM	**Lac du Bonnet**	**45.92**	**343**	P	**P**	**14 45 57.8**	**-1.6**
	4.5nm,0.6s,mb4.4,baz=162,slow=10,SNR=9.7						
DUG	**Dugway**	**46.15**	**321**	*e*P	**P**	**14 46 01.2**	**0.0**
	2.8nm,0.8s,mb4.0						
DUG	**Dugway**	**46.15**	**321**	⇓P	**P**	**14 46 01.4**	**+0.1**
	baz=46						
HWUT	**Hardware Ranch**	**46.25**	**324**	*e*P	**P**	**14 46 01.6**	**-0.3**
	2.7nm,0.8s,mb4.0						
Q12A	**Willow Creek R**	**46.79**	**319**	⇑P	**P**	**14 46 07.0**	**+0.8**
	baz=47						
FURC	**Furnace Creek,**	**46.87**	**315**	⇑P	**P**	**14 46 07.9**	**+1.1**
	baz=47						
REDW	**Red Top Meadow**	**46.95**	**326**	*e*P	**P**	**14 46 07.3**	**-0.2**
	16nm,1.1s,mb4.7						
P12A	**McGill**	**47.08**	**319**	⇓P	**P**	**14 46 09.3**	**+0.8**
	baz=47						
Q11A	**Duckwater**	**47.23**	**318**	⇓P	**P**	**14 46 10.3**	**+0.6**
	baz=47						
N13A	**Wendover, West**	**47.40**	**321**	⇓P	**P**	**14 46 10.9**	**-0.1**
	baz=48						
M13A	**Montello**	**47.67**	**322**	P	**P**	**14 46 13.3**	**+0.3**
	baz=48,SNR=5.3						
CWC	**Cottonwood Cre**	**47.72**	**314**	⇓P	**P**	**14 46 13.6**	**+0.2**
	baz=48						
R09A	**Tonopah**	**47.88**	**317**	⇓P	**P**	**14 46 14.9**	**+0.3**
	baz=48						
N12A	**Clover Valley,**	**47.92**	**321**	⇑P	**P**	**14 46 15.0**	**0.0**
	baz=48						
S08C	**White Mtn Res**	**48.28**	**315**	⇑P	**P**	**14 46 18.9**	**+1.1**
	baz=48						
HELL	**Mitchell Peak,**	**48.50**	**314**	⇓P	**P**	**14 46 20.3**	**+0.8**
	baz=48						
SMMC	**Simmler**	**48.62**	**312**	⇓P	**P**	**14 46 20.0**	**-0.4**
	baz=49						
Q08A	**Gabbs**	**48.77**	**317**	⇑P	**P**	**14 46 22.1**	**+0.5**
	baz=49						
NVAR	**Mina Array Bea**	**48.81**	**316**	P	**P**	**14 46 22.4**	**+0.5**
	0.9nm,0.5s,mb4.0,baz=125,slow=6.9,SNR=6.1						
NVAR				PcP	PcP	14 47 46.4	+0.7
	0.8nm,0.7s,baz=130,slow=3.8,SNR=3.6						
O09A	**Fish Creek Ran**	**48.94**	**319**	P	**P**	**14 46 23.5**	**+0.7**
	baz=49,SNR=8.9						
G15A	**Dillon**	**49.01**	**327**	⇓P	**P**	**14 46 23.9**	**+0.6**
	baz=49						
HLID	**Hailey**	**49.10**	**324**	*e*P	**P**	**14 46 24.0**	**-0.1**
	2.5nm,0.8s,mb4.2						
HLID	**Hailey**	**49.10**	**324**	P	**P**	**14 46 24.6**	**+0.5**
	baz=49,SNR=6.0						
R07C	**Lee Vining**	**49.17**	**315**	⇑P	**P**	**14 46 25.2**	**+0.7**
	baz=49,SNR=5.2						
N08A	**GE Springer Mi**	**49.87**	**319**	⇑P	**P**	**14 46 29.1**	**-0.8**
	baz=50						
F14A	**Wisdom**	**49.90**	**327**	⇓P	**P**	**14 46 29.9**	**-0.2**
	baz=50						
E15A	**Deer Lodge**	**49.90**	**328**	⇓P	**P**	**14 46 29.8**	**-0.3**
	baz=50						
G13A	**Cobalt**	**49.92**	**326**	⇑P	**P**	**14 46 30.0**	**-0.3**
	baz=50						
H12A	**Diamond D Ranc**	**49.95**	**325**	⇑P	**P**	**14 46 30.6**	**0.0**
	baz=50,SNR=5.9						
R05C	**Kirkwood Meado**	**50.17**	**316**	⇓P	**P**	**14 46 32.4**	**+0.2**
	baz=50						
I11A	**Placerville**	**50.22**	**323**	⇑P	**P**	**14 46 32.6**	**+0.1**
	baz=50						
D15A	**Lincoln**	**50.24**	**329**	⇑P	**P**	**14 46 32.7**	**0.0**
	baz=50						
M08A	**Happy Creek Ra**	**50.37**	**320**	⇑P	**P**	**14 46 33.5**	**-0.2**
	baz=50						
F13A	**Darby**	**50.41**	**326**	P	**P**	**14 46 34.0**	**0.0**
	baz=50,SNR=6.0						
K09A	**Rome**	**50.61**	**321**	⇓P	**P**	**14 46 35.5**	**-0.1**
	baz=51,SNR=14						
L08A	**Fields**	**50.73**	**320**	P	**P**	**14 46 36.6**	**+0.1**
	baz=51,SNR=13						
P05C	**Yuba Gap, Truc**	**50.81**	**316**	⇑P	**P**	**14 46 36.6**	**-0.4**
	baz=51						
M07A	**Soldier Meadow**	**50.85**	**319**	⇑P	**P**	**14 46 36.9**	**-0.4**
	baz=51						
F12A	**Elk City**	**50.90**	**326**	⇑P	**P**	**14 46 37.2**	**-0.5**
	baz=51						
BEKR	**Beckwourth**	**50.90**	**317**	⇓P	**P**	**14 46 37.9**	**+0.2**
	baz=51						
N06A	**Buffalo Meadow**	**50.97**	**318**	⇓P	**P**	**14 46 38.4**	**+0.2**
	baz=51						
J09A	**Fry Pan Ranch,**	**50.98**	**322**	P	**P**	**14 46 38.4**	**+0.1**
	baz=51,SNR=6.5						
WVOR	**Wild Horse Val**	**51.04**	**320**	*e*P	**P**	**14 46 38.3**	**-0.5**
	8.1nm,1.0s,mb4.7						
K08A	**Mann Creek Ran**	**51.10**	**321**	P	**P**	**14 46 39.4**	**+0.1**
	baz=51,SNR=7.0						
G11A	**Walters Elk Ra**	**51.26**	**325**	⇑P	**P**	**14 46 39.8**	**-0.6**
	baz=51						
L07A	**Adell**	**51.28**	**320**	P	**P**	**14 46 40.9**	**+0.4**
	baz=51,SNR=6.0						
D13A	**Huson**	**51.29**	**328**	⇑P	**P**	**14 46 40.3**	**-0.3**
	baz=51						
J08A	**Circle Bar Ran**	**51.43**	**322**	⇓P	**P**	**14 46 41.6**	**0.0**
	baz=52						
F11A	**Grangeville**	**51.48**	**325**	⇑P	**P**	**14 46 41.3**	**-0.8**
	baz=52						
ELFS	**Eagle Lake Fie**	**51.51**	**317**	⇓P	**P**	**14 46 41.4**	**-0.8**
	baz=52						
ORV	**Oroville**	**51.54**	**316**	⇓P	**P**	**14 46 41.9**	**-0.6**
	baz=52						
K07A	**Rock Creek Ran**	**51.56**	**320**	⇑P	**P**	**14 46 42.4**	**-0.2**
	baz=52						
O04C	**Chester**	**51.61**	**317**	⇓P	**P**	**14 46 42.6**	**-0.4**
	baz=52						
C13A	**Hot Springs**	**51.72**	**328**	⇑P	**P**	**14 46 43.8**	**-0.1**
	baz=52						
E11A	**Bogner Ranch,**	**51.79**	**326**	⇓P	**P**	**14 46 43.7**	**-0.7**
	baz=52						
B13A	**Whitefish**	**52.10**	**329**	⇓P	**P**	**14 46 46.5**	**-0.1**
	baz=52						
K06A	**Valley Falls**	**52.25**	**320**	⇓P	**P**	**14 46 47.0**	**-0.8**
	baz=52						
D11A	**Klaveano Farm,**	**52.27**	**327**	⇑P	**P**	**14 46 47.5**	**-0.5**
	baz=52						
F09A	**S2 Ranch, Elgi**	**52.38**	**324**	P	**P**	**14 46 48.9**	**+0.2**
	baz=52,SNR=8.2						
GASB	**Alder Springs**	**52.43**	**315**	⇓P	**P**	**14 46 49.9**	**+0.8**
	baz=52						
I07A	**Izee**	**52.45**	**322**	⇑P	**P**	**14 46 49.0**	**-0.2**
	baz=52						
O02C	**Red Bluff**	**52.71**	**316**	⇓P	**P**	**14 46 50.0**	**-1.2**
	baz=53						
M04C	**Macdoel**	**52.79**	**318**	⇑P	**P**	**14 46 51.8**	**0.0**
	baz=53						
D10A	**Wagner Farm, O**	**52.80**	**326**	⇓P	**P**	**14 46 51.0**	**-0.8**
	baz=53						
I06A	**Prineville**	**52.81**	**321**	⇓P	**P**	**14 46 51.6**	**-0.3**
	baz=53						
E09A	**Wood Farm, Sta**	**52.97**	**325**	⇓P	**P**	**14 46 53.0**	**-0.1**
	baz=53						
A12A	**Yaak River Ran**	**53.07**	**329**	⇓P	**P**	**14 46 54.0**	**+0.2**
	baz=53						
G07A	**Ruggs Ranch, H**	**53.17**	**323**	⇑P	**P**	**14 46 54.0**	**-0.6**
	baz=53						
N02C	**Big Bar**	**53.34**	**317**	⇓P	**P**	**14 46 53.9**	**-1.9**
	baz=53						
YBH	**Yreka Blue Hor**	**53.35**	**318**	⇓P	**P**	**14 46 54.0**	**-1.9**
	baz=53						
A11A	**Hall Mountain,**	**53.45**	**328**	⇑P	**P**	**14 46 57.3**	**+0.6**
	baz=54						
I05A	**Bend**	**53.58**	**321**	⇓P	**P**	**14 46 55.3**	**-2.2**
	baz=54						
J04A	**Umpqua Nationa**	**53.66**	**320**	⇑P	**P**	**14 46 57.8**	**-0.4**
	baz=54						
D08A	**Wollman Farm,**	**53.72**	**325**	⇑P	**P**	**14 46 58.6**	**0.0**
	baz=54						
G06A	**Carlson Farm,**	**53.74**	**323**	⇓P	**P**	**14 46 58.8**	**0.0**
	baz=54						
C09A	**Chrisman Ranch**	**53.78**	**326**	⇑P	**P**	**14 46 58.8**	**-0.2**
	baz=54						
I04A	**Tendick Farm,**	**54.12**	**320**	⇑P	**P**	**14 47 00.6**	**-0.9**
	baz=54						
C08A	**Higginbotham F**	**54.20**	**326**	⇓P	**P**	**14 47 03.1**	**+1.0**
	baz=54						
**H04A

*NEIC **06** 15:03:37.7, 2792S×7134W, h15km, mb4.4/1, ML4.5(GUC), After GUC.*
*GUC **06** 15:03:37.7±0.8, 2792S×7134W, h15km±13km, ML4.5*
*ISCJB **06** 15:03:39.3±1.0, 2790S±004×712W±0.1, h42km±9km, mb4.1/4, Error ellipse: s-maj=17.4km s-min=5.7km az=18.9*
*IDC **06** 15:03:44.9±3.0, 2792S×71.19W, h73km±24km, mb3.9/4, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, Error ellipse: s-maj=38.5km s-min=16.5km az=76.0*
ISC 06 15:03:36.3±1.6, 2788S±003×714W±01, h5km±9km, n27, σ1§26/33, mb4.1/4, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.88**	**142**	‖ *i*P	**Pg**	**15 03 53.3**	**0.0**
VACH				*i* S	**Sg**	**15 04 03.6**	**-1.1**
VACH				AML	AML	15 04 04.1	
	comp=N,29μm,0.4s						
VACH	**Vallenar**	**0.88**	**142**	‖ *i*P	**Pg**	**15 03 53.3**	**0.0**
VACH				*i* S	**Sg**	**15 04 03.6**	**-1.1**
CDCH	**Caldera**	**0.94**	**31**	‖ *i*P	**Pg**	**15 03 54.3**	**-0.1**
CDCH				*i* S	**Sg**	**15 04 07.5**	**+0.9**
CPCH	**Copiapo**	**1.05**	**60**	⇑ *i*P	**Pg**	**15 03 55.7**	**-0.7**
CPCH				*i* S	**Sg**	**15 04 10.0**	**-0.1**
CPCH				AML	AML	15 04 11.9	
	comp=E,24μm,0.1s						
CPCH	**Copiapo**	**1.05**	**60**	⇑ *i*P	**Pg**	**15 03 55.7**	**-0.7**
CPCH				*i* S	**Sg**	**15 04 10.0**	**-0.1**
LSCH	**La Serena**	**2.02**	**177**	*e*P	**Pn**	**15 04 10.8**	**-0.3**
LSCH				*i* S	**Sn**	**15 04 36.0**	**-0.6**
TLL	**Tololo Astrono**	**2.33**	**168**	*e*P	**Pn**	**15 04 16.4**	**+1.1**
TLL				*i* S	**Sn**	**15 04 46.0**	**+1.7**
TLL				AML	AML	15 04 53.4	
	comp=E,4μm,0.6s						
TLL	**Tololo Astrono**	**2.33**	**168**	*e*P	**Pn**	**15 04 16.4**	**+1.1**
TLL				*i* S	**Sn**	**15 04 46.0**	**+1.7**
OVCH	**Ovalle**	**2.72**	**177**	*i* P	**Pn**	**15 04 21.0**	**+0.4**
OVCH				AML	AML	15 05 06.7	
	comp=E,4μm,0.4s						
CFAA	**Coronel Fontan**	**4.61**	**144**	P	**Pn**	**15 04 49.0**	**+2.4**
	comp=E,2.0nm,0.3s,baz=317,slow=12,SNR=39						
CFAA				S	**Sn**	**15 05 43.1**	**+2.7**
	comp=E,2.2nm,0.3s,baz=314,slow=16,SNR=4.2						
MDZ	**Mendoza**	**5.44**	**157**	*e*P	**Pn**	**15 04 50.7**	**-7.3**
MDZ				*i* S	**Sn**	**15 05 56.9**	**-4.1**
LPAZ	**La Paz**	**11.92**	**15**	P	**Pn**	**15 06 31.2**	**+4.3**
	comp=E,0.2nm,0.3s,baz=158,slow=7.4,SNR=9.5						
LPAZ	**La Paz**	**11.92**	**15**	*e*P	**Pn**	**15 06 32.1**	**+5.2**
	comp=E,2.8nm,0.6s						
TRQA	**Tornquist**	**12.84**	**145**	*e*P	**Pn**	**15 06 41.6**	**+2.1**
	comp=E,11nm,0.8s						
SIV	**San Ignacio**	**15.20**	**41**	P	**Pn**	**15 07 16.2**	**+4.6**
	comp=E,0.5nm,0.3s,baz=244,slow=12,SNR=5.3						
VNA3	**Neumayer Olymp**	**54.84**	**160**	*e*	**P**	**15 13 06.4**	**-1.0**
VNA3				*e*		15 13 14.2	
VNA3				*e*		15 13 21.7	
VNA2	**Neumayer--Watz**	**55.46**	**159**	*e*	**P**	**15 13 09.8**	**-2.1**
VNA2				*e*		15 13 16.8	
VNA2				*e*		15 13 22.6	
SNAA	**Sanae**	**57.06**	**159**	P	**P**	**15 13 22.0**	**-1.3**
	comp=E,1.1nm,0.8s,mb3.9,baz=282,slow=7.0,SNR=14						
SNAA	**Sanae**	**57.06**	**159**	*e*	**P**	**15 13 21.9**	**-1.4**
SNAA				*e*		15 13 30.2	
SNAA	**Sanae**	**57.06**	**159**	*e*P	**P**	**15 13 21.8**	**-1.5**
	comp=E,3.6nm,1.0s,mb4.4						
TXAR	**Lajitas Array**	**64.74**	**329**	P	**P**	**15 14 16.9**	**+1.3**
	comp=E,0.5nm,0.7s,mb3.7,baz=145,slow=8.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**81.61**	**70**	P	**P**	**15 15 54.4**	**-0.9**
	comp=E,2.6nm,0.7s,mb4.3,baz=263,slow=4.8,SNR=15						
BOSA	**Boshof**	**82.43**	**118**	P	**P**	**15 15 58.2**	**-1.3**
	comp=E,2.3nm,0.6s,mb4.3,baz=203,slow=3.5,SNR=3.9						
ASAR	**Alice Springs**	**123.25**	**208**	PKP	PKPdf	15 22 33.5	-0.7
	comp=E,0.2nm,0.7s,baz=138,slow=1.3,SNR=4.2						
WRA	**Warramunga Arr**	**126.34**	**210**	PKP	PKPdf	15 22 40.0	-0.1
	comp=E,0.9nm,0.7s,baz=152,slow=1.6,SNR=8.9						
ZAL	**Zalesovo**	**148.65**	**27**	PKPbc	PKPbc	15 23 23.8	-0.6
	comp=E,2.0nm,0.6s,baz=167,slow=4.9,SNR=5.9						
MKAR	**Makanchi Array**	**152.02**	**41**	PKPbc	PKPbc	15 23 31.6	-0.9
	comp=E,1.6nm,0.7s,baz=334,slow=1.7,SNR=8.5						
MKAR				PKPab	PKPab	15 23 39.8	-2.1
	comp=E,1.4nm,0.9s,baz=317,slow=1.6,SNR=4.0						

*BJI **06** 15:12:17.4, 2170N×14372E, h35km, mB5.2, mb4.7, Ms4.2, Msz4.0*
*MOS **06** 15:12:21.5±1.1, 2192N×14292E, h33km, mb4.9/18, Error ellipse: s-maj=16.1km s-min=8.6km az=108.3*
*ISCJB **06** 15:12:22.4±1.5, 2190N±005×14301E±007, h37km±13km, mb4.5/40, MS3.9/19, Error ellipse: s-maj=10.4km s-min=8.3km az=143.5*
*NEIC **06** 15:12:23.8±0.2, 2193N×14304E, h35km, mb4.8/12, Error ellipse: s-maj=7.9km s-min=5.7km az=87.0*
*IDC **06** 15:12:26.2±3.5, 2191N×14308E, h58km±32km, mb4.0/17, mb1 4.2/19, mb1mx4.1/29, mbtmp4.0/19, ML3.7/2, MS3.8/20, Ms1 3.8/20, ms1mx3.6/38, Error ellipse: s-maj=20.4km s-min=11.9km az=88.0*
ISC 06 15:12:25.4±1.3, 2193N±005×14306E±007, h48km±11km, h29km±4.3km: pP-P, n85, σ0§97/75, mb4.5/40, MS3.9/19, 4C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.20**	**351**	P	**Pn**	**15 13 40.8**	**+0.1**
	9.1nm,0.3s,baz=303,slow=23,SNR=5.8						
CBIJ				S	**Sn**	**15 14 38.5**	**-0.7**
	5.4nm,0.3s,baz=301,slow=22,SNR=6.5						
CBIJ				LR	LR	15 15 20.9	
	comp=Z,341nm,18.1s,baz=146,slow=33						
GUMO	**Guam**	**8.47**	**168**	LR	LR	15 17 04.8	
	comp=Z,356nm,18.0s,baz=53,slow=33						
JHJ	**Hachijo jima 2**	**11.52**	**346**	LR	LR	15 19 09.8	
	comp=Z,254nm,20.7s,baz=127,slow=35						
JOW	**Kunigami**	**14.33**	**293**	LR	LR	15 21 13.3	
	comp=Z,274nm,19.1s,baz=194,slow=37						
MJAR	**Matsushiro Arr**	**15.16**	**345**	P	**Pn**	**15 15 56.7**	**+0.5**
	0.1nm,0.3s,baz=179,slow=13,SNR=4.5						
MJAR				LR	LR	15 21 12.5	
	comp=Z,412nm,20.6s,baz=150,slow=35						
KSRS	**Korea Array**	**20.26**	**323**	P	**P**	**15 16 59.0**	**+2.4**
	5.3nm,0.7s,baz=140,slow=8.9,SNR=20						
KSRS				LR	LR	15 23 31.3	
	comp=Z,148nm,19.1s,MS3.4,baz=155,slow=33						
ASAJ	**Asahikawa**	**22.13**	**359**	LR	LR	15 26 32.7	
	comp=Z,117nm,18.4s,MS3.3,baz=8.8,slow=38						
KLR	**Kul'dur**	**28.68**	**344**	*e*P	**P**	**15 18 14.0**	**-3.7**
QIZ	**Qiongzhong**	**31.22**	**271**	P	**P**	**15 18 40.0**	**-0.1**
QIZ				S	**S**	**15 23 47.2**	**+4.2**
QIZ				AMB	AMB		
	comp=Z,345nm,4.8s						
QIZ				LR	LR		
	comp=E,114nm,22.9s						
QIZ				LR	LR		
	comp=Z,119nm,23.3s,MS3.5						
PMG	**Port Moresby**	**31.40**	**172**	⇑ *e*P	**P**	**15 18 40.3**	**-1.4**
HHC	**Hu-ho-hao-te**	**32.59**	**313**	*e*P	**P**	**15 18 52.8**	**+0.6**
HHC				AP	pP	15 19 02.3	-2.5
HHC				PP	PP	15 20 01.1	-5.3
HHC				PCP	PcP	15 21 39.8	+2.2
HHC				S	**S**	**15 24 04.9**	**+0.5**
HHC				PCS	PcS	15 25 23.7	+1.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,291nm,6.0s						
HHC				LR	LR		
	comp=N,157nm,20.2s,MS4.1						
HHC				LR	LR		
	comp=E,398nm,22.4s,MS4.1						
HHC				LR	LR		
	comp=Z,186nm,23.8s,MS3.7						
HNR	**Honiara**	**35.30**	**150**	LR	LR	15 32 11.1	
	comp=Z,110nm,18.9s,MS3.6,baz=219,slow=34						
CD2	**Chengdu**	**36.16**	**293**	*e*P	**P**	**15 19 22.8**	**-0.3**
CD2				AP	pP	15 19 32.5	-3.3
CD2				XP	sP	15 19 36.8	-4.7
CD2				PP	PP	15 20 45.0	-0.9
CD2				S	**S**	**15 24 59.3**	**-0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.4s						
CD2				LR	LR		
	comp=N,260nm,15.6s,MS4.2						
CD2				LR	LR		
	comp=E,260nm,16.8s,MS4.2						
CD2				LR	LR		
	comp=Z,320nm,19.2s,MS4.1						
LZH	**Lanzhou**	**36.83**	**301**	*e*P	**P**	**15 19 30.5**	**+1.8**
LZH				AP	pP	15 19 39.5	-2.0
LZH				XP	sP	15 19 43.0	-4.1
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
KMI	**Kunming**	**37.01**	**283**	P	**P**	**15 19 31.2**	**+0.9**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**38.71**	**321**	*e*P	**P**	**15 19 43.8**	**-0.8**
ULN				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.5						
ULN	**Ulaanbaatar**	**38.71**	**321**	*e*P	**P**	**15 19 43.8**	**-0.8**
	comp=Z,13nm,1.4s,mb4.5						
SONM	**Songino Array**	**39.09**	**320**	P	**P**	**15 19 47.7**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.2,baz=128,slow=6.9,SNR=17						
SONM				LR	LR	15 35 25.0	
	comp=Z,141nm,18.6s,MS3.8,baz=52,slow=35						
GTA	**Gaotai**	**40.64**	**305**	*e*P	**P**	**15 20 01.7**	**+1.0**
GTA				AP	pP	15 20 07.4	-6.2
GTA				XP	sP	15 20 10.5	-8.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.7						
CTA	**Charters Tower**	**41.88**	**176**	P	**P**	**15 20 11.6**	**+0.8**
	comp=Z,18nm,1.1s,mb4.6,baz=7.2,slow=9.8,SNR=5.4						
CTAO	**Charters Tower**	**41.88**	**176**	*e*P	**P**	**15 20 11.8**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**41.88**	**176**	*e*P	**P**	**15 20 11.8**	**+1.0**
	comp=Z,17nm,1.1s,mb4.6						
ZAK	**Zakamensk**	**42.09**	**322**	*e*P	**P**	**15 20 12.1**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.2						
WRAB	**Tennant Creek**	**42.47**	**192**	*e*P	**P**	**15 20 15.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.6						
WRAB	**Tennant Creek**	**42.47**	**192**	*e*P	**P**	**15 20 15.2**	**-0.5**
	comp=Z,22nm,1.4s,mb4.6						
WRA	**Warramunga Arr**	**42.48**	**192**	P	**P**	**15 20 15.1**	**-0.7**
	comp=Z,5.5nm,1.0s,mb4.1,baz=17,slow=8.6,SNR=18						
WRA				LR	LR	15 37 34.7	
	comp=Z,83nm,19.1s,MS3.6,baz=350,slow=36						
FITZ	**Fitzroy Crossi**	**43.29**	**205**	P	**P**	**15 20 23.4**	**+1.2**
	comp=Z,3.4nm,0.8s,mb4.1,baz=56,slow=8.6,SNR=4.8						
FITZ				LR	LR	15 35 21.0	
	comp=Z,97nm,21.8s,MS3.7,baz=42,slow=32						
ASAR	**Alice Springs**	**46.19**	**192**	P	**P**	**15 20 44.6**	**-0.8**
	comp=Z,2.6nm,0.6s,mb4.3,baz=16,slow=10,SNR=45						
PSI	**Prapat**	**46.88**	**252**	P	**P**	**15 20 51.2**	**+0.5**
	comp=Z,2.1nm,0.3s,mb4.5,baz=164,slow=10,SNR=4.9						
PSI				LR	LR	15 41 43.6	
	comp=Z,105nm,18.3s,MS3.8,baz=217,slow=37						
LSA	**Lhasa**	**47.05**	**291**	P	**P**	**15 20 54.6**	**+2.5**
DZM	**Mont Dzumac**	**49.32**	**151**	LR	LR	15 39 18.4	
	comp=Z,88nm,20.4s,MS3.7,baz=73,slow=33						
WMQ	**Urumqi**	**50.34**	**309**	P	**P**	**15 21 18.5**	**+1.1**
WMQ				XP	sP	15 21 33.4	-2.7
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,212nm,6.0s						
WMQ				LR	LR		
	comp=N,71nm,21.0s,MS3.8						
WMQ				LR	LR		
	comp=E,61nm,19.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,64nm,25.0s						
TIXI	**Tiksi**	**50.41**	**354**	*e*P	**P**	**15 21 15.3**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**53.52**	**182**	P	**P**	**15 21 39.8**	**-1.3**
	comp=Z,3.7nm,0.8s,mb4.4,baz=2.5,slow=9.3,SNR=6.6						
STKA				LR	LR	15 45 11.4	
	comp=Z,131nm,19.1s,MS4.0,baz=202,slow=37						
STKA	**Stephens Creek**	**53.52**	**182**	*e*P	**P**	**15 21 40.5**	**-0.6**
ZAL	**Zalesovo**	**53.97**	**322**	P	**P**	**15 21 44.0**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.2,baz=356,slow=8.3,SNR=16						
MK31	**Makanchi Array**	**54.46**	**313**	*e*P	**P**	**15 21 48.1**	**+0.2**
MKAR	**Makanchi Array**	**54.46**	**313**	P	**P**	**15 21 48.2**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=96,slow=8.6,SNR=9.2						
MKAR	**Makanchi Array**	**54.46**	**313**	‖ *e*P	**P**	**15 21 48.4**	**+0.5**
MKAR	**Makanchi Array**	**54.46**	**313**	P	**P**	**15 21 48.2**	**+0.3**
NVS	**Novosibirsk**	**55.05**	**322**	*e*P	**P**	**15 21 49.2**	**-3.0**
KURK	**Kurchatov**	**57.23**	**317**	*e*P	**P**	**15 22 06.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**57.23**	**317**	*e*P	**P**	**15 22 06.7**	**-1.0**
	comp=Z,5.5nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**59.94**	**307**	*d i*P	**P**	**15 22 25.4**	**-1.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.4						
CHKZ	**Chkalovo**	**62.28**	**320**	*e*P	**P**	**15 22 41.6**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
CHKZ	**Chkalovo**	**62.28**	**320**	*e*P	**P**	**15 22 41.6**	**-0.8**
	comp=Z,11nm,1.2s,mb4.9						
BVAR	**Borovoye Array**	**62.42**	**319**	P	**P**	**15 22 43.3**	**0.0**
	comp=Z,6.9nm,0.8s,mb4.8,baz=90,slow=7.6,SNR=41						
BRVK	**Borovoye**	**62.48**	**319**	*e*P	**P**	**15 22 43.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2						
BRVK	**Borovoye**	**62.48**	**319**	*e*P	**P**	**15 22 43.9**	**+0.1**
	comp=Z,20nm,1.1s,mb5.2						
INK	**Inuvik**	**67.40**	**24**	P	**P**	**15 23 15.0**	**-0.7**
	comp=Z,4.4nm,1.1s,mb4.4,baz=256,slow=4.4,SNR=8.8						
INK	**Inuvik**	**67.40**	**24**	*e*P	**P**	**15 23 14.5**	**-1.2**
	comp=Z,300nm,1.3s,mb6.2						
ARU	**Arti**	**69.01**	**324**	⇑ *i*P	**P**	**15 23 24.1**	**-1.7**
ARU				*e*		15 23 43.5	
ARU				*e*		15 26 04.6	
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
AKTK	**Aktyubinsk**	**70.32**	**317**	P	**P**	**15 23 33.3**	**-0.6**
AKTO	**Aktyubinsk**	**70.32**	**317**	P	**P**	**15 23 33.3**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=77,slow=12,SNR=5.0						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	**P**	**15 24 08.2**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.2,baz=292,slow=5.8,SNR=20						
YKA				LR	LR	15 55 17.1	
	comp=Z,81nm,20.9s,MS4.0,baz=285,slow=34						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	**P**	**15 24 08.2**	**-0.9**
YKA				LR	LR	15 55 17.1	
PPT	**Papeete**	**76.73**	**115**	*e*LR	LR	15 47 41.4	
	comp=Z,140nm,26.5s						
PPT	**Papeete**	**76.73**	**115**	LR	LR	15 55 58.7	
	comp=Z,114nm,19.3s,MS4.2,baz=286,slow=34						
OBN	**Obninsk**	**81.23**	**326**	*e*P	**P**	**15 24 32.4**	**-3.7**
OBN				pmax	pmax		
	comp=Z,41nm,2.5s,mb4.9						
CMB	**Columbia Colle**	**81.71**	**52**	*e*P	**P**	**15 24 39.2**	**+0.5**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CMB	**Columbia Colle**	**81.71**	**52**	*e*P	**P**	**15 24 39.2**	**+0.5**
	comp=Z,5.9nm,1.0s,mb4.5						
KIV	**Kislovodsk**	**82.18**	**314**	⇑ *e*P	**P**	**15 24 35.6**	**-5.6**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
NVAR	**Mina Array Bea**	**83.09**	**51**	P	**P**	**15 24 46.8**	**+0.9**
	comp=Z,2.8nm,0.8s,mb4.4,baz=277,slow=7.4,SNR=17						
BOZ	**Bozeman (W)**	**84.68**	**43**	*e*P	**P**	**15 24 54.0**	**0.0**
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.6						
BOZ	**Bozeman (W)**	**84.68**	**43**	*e*P	**P**	**15 24 54.0**	**-0.1**
	comp=Z,7.7nm,1.5s,mb4.6						
QLMT	**Earthquake Lak**	**85.17**	**43**	*e*P	**P**	**15 24 57.2**	**+0.8**
ANN	**Anapa**	**85.26**	**317**	*e*P	**P**	**15 24 56.6**	**-0.3**
ANN				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.2						
YMR	**Madison River**	**85.54**	**43**	*e*P	**P**	**15 24 59.8**	**+1.5**
	comp=Z,6.6nm,0.8s,mb4.9						
DUG	**Dugway**	**86.27**	**48**	*e*P	**P**	**15 25 02.3**	**+0.4**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
DUG	**Dugway**	**86.27**	**48**	*e*P	**P**	**15 25 02.3**	**+0.4**
	comp=Z,7.1nm,1.0s,mb4.8						
HWUT	**Hardware Ranch**	**86.50**	**46**	*e*P	**P**	**15 25 03.2**	**+0.1**
	comp=Z,13nm,1.3s,mb5.0						
ARUT	**Antelope Range**	**86.86**	**50**	*e*P	**P**	**15 25 05.8**	**+1.0**
DAU	**Daniels Canyon**	**87.24**	**47**	*e*P	**P**	**15 25 07.2**	**+0.6**
PDAR	**Pinedale Array**	**87.31**	**45**	P	**P**	**15 25 06.8**	**-0.1**
	comp=Z,1.1nm,1.0s,mb4.0,baz=270,slow=3.0,SNR=6.3						
PDAR				LR	LR	15 57 54.2	
	comp=Z,80nm,19.4s,MS4.1,baz=329,slow=31						
MSU	**Marysvale**	**87.44**	**49**	*e*P	**P**	**15 25 08.5**	**+0.9**
NOA	**NORSAR Array B**	**88.69**	**339**	LR	LR	16 06 52.9	
	comp=Z,45nm,21.0s,MS3.9,baz=270,slow=37						
PV10	**Paradox Valley**	**89.70**	**48**	P	**P**	**15 25 18.7**	**+0.4**
BRTR	**Keskin Array B**	**90.10**	**313**	P	**P**	**15 25 19.4**	**-0.8**
	comp=Z,1.9nm,0.9s,mb4.4,baz=93,slow=2.5,SNR=8.0						
RKT	**Rikitea**	**91.46**	**114**	*e*LR	LR	15 54 35.1	
	comp=Z,84nm,31.2s						
SDCO	**Great Sand Dun**	**92.44**	**48**	*e*P	**P**	**15 25 31.7**	**+0.6**
	comp=Z,5.2nm,1.3s,mb4.7						
ANMO	**Albuquerque**	**93.16**	**50**	‖ *e*P	**P**	**15 25 33.5**	**-0.8**
GERES	**GERESS Array B**	**96.33**	**329**	LR	LR	16 11 39.3	
	comp=Z,120nm,19.9s,MS4.4,baz=312,slow=37						
TXAR	**Lajitas Array**	**98.01**	**54**	LR	LR	16 09 58.2	
	comp=Z,55nm,18.5s,MS4.1,baz=5.0,slow=35						
LPAZ	**La Paz**	**150.03**	**85**	PKPbc	PKPbc	15 32 12.1	+1.6
	comp=Z,3.0nm,0.8s,baz=319,slow=2.4,SNR=9.8						
LPAZ	**La Paz**	**150.03**	**85**	*e*PKPbc	PKPbc	15 32 11.9	+1.4

*IDC **06** 15:16:41.1±0.7, 2194N×143.12E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/25, mbtmp4.0/15, ML3.5/1, MS4.4/1, Ms1 4.4/1, ms1mx2.4/38, Error ellipse: s-maj=25.9km s-min=15.1km az=79.0*
*ISCJB **06** 15:16:44.6±0.6, 2197N±006×1430E±02, h33km, mb4.1/16, MS4.4/1, Error ellipse: s-maj=21.0km s-min=8.8km az=164.2*
*NEIC **06** 15:16:46.3±0.4, 2192N×14307E, h35km, mb4.5/3, Error ellipse: s-maj=16.4km s-min=10.2km az=74.0*
ISC 06 15:16:47.0±2.2, 2197N±009×1431E±02, h39km±19km, n23, σ0§69/21, mb4.1/16, MS4.4/1, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.17**	**351**	Pn	**Pn**	**15 18 02.2**	**+0.4**
	4.1nm,0.3s,baz=107,slow=19,SNR=3.7						
CBIJ				Sn	**Sn**	**15 18 59.5**	**-0.8**
	4.4nm,0.3s,baz=294,slow=19,SNR=3.2						
KSRS	**Korea Array**	**20.23**	**323**	P	**P**	**15 21 19.1**	**+0.3**
	1.0nm,0.7s,baz=142,slow=9.6,SNR=3.1						
ULN	**Ulaanbaatar**	**38.69**	**321**	*e*P	**P**	**15 24 08.0**	**+1.0**
	12nm,1.6s,mb4.4						
SONM	**Songino Array**	**39.06**	**320**	P	**P**	**15 24 10.8**	**+0.7**
	2.2nm,0.8s,mb3.9,baz=137,slow=4.8,SNR=11						
CTA	**Charters Tower**	**41.91**	**176**	P	**P**	**15 24 33.4**	**-0.3**
	6.0nm,0.9s,mb4.2,baz=322,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**42.51**	**192**	P	**P**	**15 24 38.0**	**-0.5**
	2.1nm,0.8s,mb3.9,baz=12,slow=8.8,SNR=7.6						
ASAR	**Alice Springs**	**46.22**	**192**	P	**P**	**15 25 08.6**	**+0.3**
	1.0nm,0.7s,mb3.8,baz=15,slow=9.1,SNR=8.1						
ZAL	**Zalesovo**	**53.94**	**322**	P	**P**	**15 26 07.4**	**+0.7**
	1.6nm,0.9s,mb4.0,baz=18,slow=5.6,SNR=7.0						
MKAR	**Makanchi Array**	**54.43**	**313**	P	**P**	**15 26 10.1**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=90,slow=8.5,SNR=5.5						
AFI	**Afiamalu**	**56.86**	**125**	LR	LR	15 44 57.4	
	comp=Z,346nm,20.4s,MS4.4,baz=278,slow=30						
CHKZ	**Chkalovo**	**62.26**	**320**	*e*P	**P**	**15 27 04.2**	**-0.7**
	4.0nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**62.40**	**319**	P	**P**	**15 27 06.5**	**+0.7**
	3.0nm,0.8s,mb4.5,baz=90,slow=7.4,SNR=12						
BRVK	**Borovoye**	**62.46**	**319**	*e*P	**P**	**15 27 06.4**	**+0.1**
	6.4nm,0.9s,mb4.8						
INK	**Inuvik**	**67.37**	**24**	P	**P**	**15 27 38.0**	**-0.2**
	1.8nm,1.0s,mb4.1,baz=190,slow=6.5,SNR=4.6						
INK	**Inuvik**	**67.37**	**24**	*e*P	**P**	**15 27 38.2**	**0.0**
YKA	**Yellowknife Ar**	**76.27**	**28**	P	**P**	**15 28 31.5**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=294,slow=5.6,SNR=9.6						
FINES	**FINESS Array B**	**82.89**	**334**	P	**P**	**15 29 05.7**	**-1.9**
	3.0nm,1.0s,mb4.3,baz=90,slow=5.6,SNR=3.6						
FINES	**FINESS Array B**	**82.89**	**334**	P	**P**	**15 29 05.7**	**-1.9**
NVAR	**Mina Array Bea**	**83.07**	**51**	P	**P**	**15 29 09.0**	**+0.5**
	1.8nm,0.8s,mb4.2,baz=278,slow=3.0,SNR=4.1						
PDAR	**Pinedale Array**	**87.28**	**45**	P	**P**	**15 29 30.2**	**+0.6**
	0.8nm,1.1s,mb3.9,baz=266,slow=7.8,SNR=3.2						
BRTR	**Keskin Array B**	**90.08**	**313**	P	**P**	**15 29 41.8**	**-1.0**
	1.0nm,0.8s,mb4.2,baz=62,slow=4.3,SNR=5.0						
LPAZ	**La Paz**	**150.03**	**85**	PKPbc	PKPbc	15 36 34.5	+1.2
	1.1nm,0.5s,baz=344,slow=3.9,SNR=5.6						
LPAZ	**La Paz**	**150.03**	**85**	PKPbc	PKPbc	15 36 34.5	+1.2

**IDC 06 15:23:16.6±13.0, 2184N×14300E, h140km±127km, mb3.1/

0.7nm,0.6s,mb3.8,baz=114,slow=7.5,SNR=9.9

MKAR	**Makanchi Array**	**69.61 327**	P	**P**	**15 39 13.4**	**-0.9**
ZAL	**Zalesovo**	**73.09 334**	P	**P**	**15 39 33.8**	**-1.6**

0.5nm,0.4s,mb3.8,baz=37,slow=3.6,SNR=4.4

BRVK	**Borovoye**	**79.54 328**	*e*P	**P**	**15 40 11.0**	**-0.9**

SKHL 06 15:50:49.4±0.2, 5522N×13528E, h8km±1km, mb3.5/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**2.55**	**213**		Pn	Pn	15 51 34.0	+2.9
EKMR					*e*Pg	Pg	15 51 36.1	-2.2
EKMR					AMB	AMB	15 51 37.0	
	8.0nm,0.4s							
EKMR					pPg		15 51 39.2	
EKMR					*e*Sg	Sg	15 52 10.0	-1.4
EKMR					A		15 52 15.5	
	30nm,0.4s							
EKMR					A		15 52 15.5	
	20nm,0.4s							
BMKR	**Bomnak**	**3.75**	**265**		*e*rx	rx	15 51 51.9	
BMKR					*e*Pg	Pg	15 51 56.1	-5.1
BMKR					AMB	AMB	15 51 57.3	
	4.0nm,0.3s							
BMKR					AMB	AMB	15 51 57.3	
	6.0nm,0.3s							
BMKR					sPg		15 51 59.0	
BMKR					*e*Sg	Sg	15 52 44.9	-4.8
BMKR					A		15 52 49.9	
	27nm,0.4s							
BMKR					A		15 52 49.9	
	50nm,0.4s							
BMKR					A		15 52 49.9	
	30nm,0.4s							
NKL	**Nikolayevsk**	**3.79**	**121**		*e*Sg	Sg	15 52 47.0	-4.1
GRNR	**Gornyy**	**4.51**	**171**		*e*Sg	Sg	15 53 09.9	-4.4
YASR	**Yasnyy**	**4.70**	**249**		*e*Pg	Pg	15 52 14.0	-5.4
YASR					AMB	AMB	15 52 15.7	
	3.0nm,0.4s							
YASR					*e*Sg	Sg	15 53 15.4	-4.8
YASR					A		15 53 27.6	
	10.0nm,0.5s							
KROS	**Kirovskiy**	**4.87**	**264**		*e*rx	rx	15 52 07.3	
KROS					*e*Pg	Pg	15 52 17.4	-5.3
KROS					AMB	AMB	15 52 18.0	
	3.0nm,0.4s							
KROS					pPg		15 52 20.3	
KROS					*e*Sg	Sg	15 53 21.6	-4.2
KROS					A		15 53 23.5	
	15nm,0.5s							
KROS					A		15 53 23.5	
	6.0nm,0.5s							
ZEA	**Zeya**	**4.91**	**256**		*e*Sg	Sg	15 53 21.6	-5.6
ZEA					A		15 53 25.7	
	30nm,1.0s							
KLR	**Kul'dur**	**6.38**	**201**		*e*rx	rx	15 54 14.0	
TUP	**Tupik**	**8.89**	**271**		*e*Sg	Sn	15 55 29.3	+51

*NIED **06** 16:22:00, 4220N×14490E, h17km, Mw3.6 Best double couple: M0:2.55000×10^14 NP1:φs:87.00000°, δ:60.00000°, λ:-96.00000°. NP2:φs:278.00000°, δ:31.00000°, λ:-81.00000°.*
*IDC **06** 16:22:17.9±3.2, 4215N×14541E, h0km, mb3.9/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=56.7km s-min=38.3km az=91.0*
*ISCJB **06** 16:22:23.6±1.2, 4216N±007×1450E±0.1, h46km±13km, mb3.8/2, Error ellipse: s-maj=14.3km s-min=9.9km az=75.0*
*JMA **06** 16:22:24.7, 4223N×14488E, h31km±1km, M3.5*

ISC 06 16:22:24.6±2.6, 4219N±007×1450E±01, h34km±27km, n12, σ0:57/18, mb3.8/2, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.83**	**346**	⇑		**Pn**	**16 22 39.5**	**-0.4**
JAK					*e*S	**Sn**	**16 22 51.6**	**+0.7**
JOB	**Onbets**	**1.10**	**311**	⇓	P	**Pn**	**16 22 43.3**	**-0.2**
JOB					*e*S	**Sn**	**16 22 57.7**	**+0.1**
JCH	**Churui**	**1.26**	**290**	⇓	P	**Pn**	**16 22 45.6**	**-0.2**
JCH					*e*S	**Sn**	**16 23 01.4**	**-0.1**
NEM2	**Nemuro 2**	**1.31**	**26**		P	**Pn**	**16 22 46.8**	**+0.4**
JEM	**Erimo**	**1.36**	**263**		P	**Pn**	**16 22 48.1**	**+1.0**
JNK	**Nakash**	**1.41**	**353**	⇓	P	**Pn**	**16 22 47.3**	**-0.5**
JNK					*e*S	**Sn**	**16 23 05.1**	**-0.1**
JAR	**Ashorobuto**	**1.42**	**322**	⇓	P	**Pn**	**16 22 47.3**	**-0.6**
JAR					*e*S	**Sn**	**16 23 04.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.65**	**274**		*e*S	**Pn**	**16 22 50.5**	**-0.6**
ASAJ	**Asahikawa**	**2.59**	**319**		Pn	**Pn**	**16 23 05.1**	**+1.0**
	3.1nm,0.3s,baz=189,slow=21,SNR=39							
ASAJ					Sn	**Sn**	**16 23 39.3**	**+4.9**
	7.2nm,0.3s,baz=308,slow=19,SNR=11							
MJAR	**Matsushiro Arr**	**7.69**	**225**		Pn	**Pn**	**16 24 13.9**	**-0.2**
	0.3nm,0.3s,baz=30,slow=14,SNR=8.6							
SONM	**Songino Array**	**27.64**	**295**		P	**P**	**16 28 09.8**	**+0.9**
	1.1nm,0.7s,mb3.6,baz=83,slow=7.8,SNR=7.6							
FINES	**FINESS Array B**	**65.53**	**332**		P	**P**	**16 33 03.7**	**-0.8**
	1.3nm,0.8s,mb4.0,baz=46,slow=8.2,SNR=6.3							

MAN 06 16:44:10.4, 1905N×12107E, h1km, mb2.5, ML4.0, MS7.4, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.84**	**211**	⇑	*i*P	Pg	16 44 27.5	+1.1
SGCP	**Mt. Cagua**	**1.22**	**131**		*e*P	Pg	16 44 33.8	0.0
ABRA	**Dolores**	**1.43**	**194**		*e*P	Pn	16 44 36.5	-1.0
ABRA					*e*S	Sg	16 44 57.1	+0.8
CVP	**Callao Caves**	**1.52**	**152**	⇑	*e*P	Pn	16 44 37.2	-1.4
CVP					*i* S	Sn	16 44 57.0	-2.0
CAUP	**Cauayan**	**2.21**	**161**		*e*P	Pn	16 44 51.0	+2.8
PALP	**Palanan**	**2.36**	**147**		*e*P	Pn	16 44 51.4	+1.2

*NEIC **06** 16:46:28.9, 1745N×10093W, h10km, MD3.7(MEX), After MEX.*

MEX 06 16:46:28.9±0.8, 1745N×10093W, h10km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.54**	**287**		*i* P	Pg	16 46 38.5	-0.8
ZIIG					*i* S	Sg	16 46 46.3	-0.1
CAIG	**El Cayaco**	**0.75**	**122**		*e*P	Pg	16 46 41.1	-2.3
CAIG					*i* S	Sg	16 46 51.5	-1.6
ACX	**Acapulco**	**1.13**	**121**		*e*P	Pb	16 46 47.8	-2.7
ACX					*i* S	Sg	16 47 01.5	-3.7
MEIG	**Mezcala**	**1.33**	**69**		*i* P	Pn	16 46 50.5	-3.2
MEIG					*i* S	Sb	16 47 06.5	-4.7
MMIG	**Aquila**	**2.45**	**290**		*i* P	Pn	16 47 05.4	-3.6
MMIG					*i* S	Sn	16 47 33.3	-5.7
IIO	**Organos**	**2.98**	**44**		*i* P	Pn	16 47 16.4	0.0
IIO					*i* S	Sn	16 47 54.2	+2.0

*CSEM **06** 17:08:14.8, 6804N×2005E, h17km, ML2.9, Suspected Mining explosion. After UPP*
*UPP **06** 17:08:14.8, 6804N×2005E, h17km, ML2.9, Suspected Mining explosion.*

HEL 06 17:08:15.9±0.2, 6793N×2010E, h0km, ML1.5, ML2.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.09**	**77**		*i* P	Pg	17 08 17.6	-0.1
NIKU	**Nikkaluokta**	**0.41**	**261**		*i* P	Pg	17 08 22.6	-1.2
LANU	**Lannavaara**	**0.72**	**80**		*i* P	Pg	17 08 28.4	-1.3
SALU	**Saltoluokta**	**0.83**	**228**		*i* P	Pg	17 08 31.2	-0.5
SALU	**Saltoluokta**	**0.83**	**228**		P	Pg	17 08 31.2	-0.5
MASU	**Masugnsbyn**	**0.87**	**123**		*e*P	Pg	17 08 31.1	-1.4
KIF	**Kilpisjarvi**	**1.11**	**13**		*e*PN	Pn	17 08 39.6	+1.0
KIF					*e*SN	Sn	17 08 56.5	+1.9
SGF	**Sodankyl**	**2.50**	**98**		*e*P	Pn	17 08 58.1	+0.3
SGF					*e*SG	Sg	17 09 33.3	-2.9
KEV	**Kevo**	**3.10**	**51**		*e*SB	Sb	17 09 47.9	-2.3
OUL	**Oulu**	**3.68**	**138**		*e*SB	Sb	17 10 01.9	-5.1
KU6	**Riekki**	**4.29**	**112**		*e*P	Pn	17 09 22.8	+0.4
KU6					*e*SB	Sb	17 10 25.1	+0.5

*NEIC **06** 17:10:53.1, 3294S×7193W, h10km, ML2.8(GUC), After GUC.*

GUC 06 17:10:53.1±0.8, 3294S×7193W, h10km±10km, MD3.5, ML2.8, 11C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.58**	**46**	⇑	*i*P	Pg	17 11 04.9	+0.5
PACH					*i* S	Sg	17 11 13.6	+1.7
ROCH	**El Roble**	**0.77**	**93**	⇑	*i*P	Pg	17 11 07.9	-0.1
ROCH					*i* S	Sg	17 11 19.0	+0.9
PEL	**Peldehue**	**1.06**	**101**	⇑	*i*P	Pg	17 11 12.9	-0.7
PEL					*i* S	Sg	17 11 27.2	-0.2
PEL					AML	AML	17 11 28.7	
	comp=E,908nm,0.4s							
RCDM	**Rinconada Maip**	**1.09**	**120**	⇑	*i*P	Pb	17 11 12.9	-1.1
RCDM					*i* S	Sg	17 11 27.7	-0.5
RCDM					AML	AML	17 11 30.2	
	comp=E,307nm,0.2s							
RCDM	**Rinconada Maip**	**1.09**	**120**	⇑	*i*P	Pb	17 11 12.9	-1.1
RCDM					*i* S	Sg	17 11 27.7	-0.5
TACH	**Talagante**	**1.09**	**131**	⇑	*i*P	Pb	17 11 12.5	-1.6
TACH					*i* S	Sg	17 11 27.3	-1.0
JACH	**Jahuel**	**1.15**	**77**	⇑	*i*P	Pb	17 11 14.1	-1.1
JACH					*i* S	Sb	17 11 29.9	-0.2
ANTU	**Antumapu**	**1.25**	**120**		*e*P	Pn	17 11 15.6	-1.0
ANTU					*i* S	Sb	17 11 32.3	-0.7
ANTU					AML	AML	17 11 38.5	
	comp=E,278nm,0.2s							
ANTU	**Antumapu**	**1.25**	**120**		*e*P	Pn	17 11 15.6	-1.0
ANTU					*i* S	Sb	17 11 32.3	-0.7
CLCH	**Cerro Calan**	**1.25**	**112**		*e*P	Pn	17 11 15.7	-0.9
CLCH					*i* S	Sb	17 11 33.0	+0.1
CLCH					AML	AML	17 11 36.5	
	comp=N,279nm,0.5s							
PCH	**Pirque**	**1.37**	**120**	⇑	*i*P	Pn	17 11 17.4	-0.8
PCH					*i* S	Sb	17 11 36.1	-0.1
FCH	**Farellones**	**1.43**	**106**	⇓	*i*P	Pn	17 11 18.7	-0.4
FCH					*i* S	Sn	17 11 37.9	0.0
FCH					AML	AML	17 11 43.3	
	comp=N,245nm,0.2s							
CHCH	**Chadas Angostu**	**1.46**	**133**		*e*P	Pn	17 11 18.7	-0.8
CHCH					*i* S	Sn	17 11 38.3	-0.3
CACH	**El Canelo**	**1.61**	**137**	⇑	*i*P	Pn	17 11 22.1	+0.5
CACH					*i* S	Sn	17 11 44.0	+1.6
LMEL	**Las Melosas**	**1.70**	**123**	⇑	*i*P	Pn	17 11 22.6	-0.2
LMEL					*i* S	Sn	17 11 45.9	+1.2
LMEL					AML	AML	17 11 51.7	
	comp=N,210nm,0.2s							
LMEL	**Las Melosas**	**1.70**	**123**	⇑	*i*P	Pn	17 11 22.6	-0.2
LMEL					*i* S	Sn	17 11 45.9	+1.2
SFDO	**San Fernando**	**1.83**	**156**		*e*P	Pn	17 11 23.6	-1.0
CICH	**Cipreses**	**1.86**	**138**		*i* S	Sn	17 11 49.5	+0.9

*ISCJB **06** 17:11:35.2±1.4, 1098N±006×6231W±004, h65km±16km, Error ellipse: s-maj=10.5km s-min=6.7km az=164.9*
*FUNV **06** 17:11:35.0, 1095N×6227W, h71km, MW2.4*
*TRN **06** 17:11:37.3, 1103N×6221W, h57km, MD2.8*

ISC 06 17:11:35.5±1.3, 1097N±006×6231W±004, h65km±15km, n7, σ0:62/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.33**	**165**		*e*P	**Pn**	**17 11 46.5**	**+0.1**
GUIV					*e*S	**Sn**	**17 11 54.3**	**-0.1**
TCE	**Chacachacare**	**0.61**	**116**		*e*P	**Pn**	**17 11 48.8**	**-0.3**
TCE					*e*S	**Sn**	**17 11 59.5**	**+0.4**
ITEV	**Isla Los Testi**	**0.89**	**295**		*e*P	**Pn**	**17 11 52.5**	**+0.1**
ITEV					*e*S	**Sn**	**17 12 05.5**	**+0.6**
TRN	**Trinidad (W)**	**0.95**	**110**		*e*P	**Pn**	**17 11 53.9**	**+0.8**
TRN					*e*S	**Sn**	**17 12 05.7**	**-0.4**
CRUV	**Carupano**	**0.96**	**252**		*e*P	**Pn**	**17 11 52.7**	**-0.5**
CRUV					*e*S	**Sn**	**17 12 06.2**	**-0.2**
GUNV	**Guanoco**	**1.02**	**218**		*e*P	**Pn**	**17 11 53.5**	**-0.5**
GUNV					*e*S	**Sn**	**17 12 07.7**	**0.0**
GRW	**Mount Saint Ca**	**1.34**	**28**		*e*P	**Pn**	**17 11 59.5**	**+1.3**
GRW					*e*S	**Sn**	**17 12 13.9**	**-1.3**

*MOS **06** 17:23:01.6±1.1, 5569N×110.10E, h10km, mb4.2/1, Error ellipse: s-maj=32.7km s-min=20.2km az=68.8*

BYKL 06 17:23:02.4±0.3, 5570N×11015E, h6km±6km, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**283**	⇑	*i*Pg	Pg	17 23 08.9	-0.3
NIZ					*i* Sg	Sg	17 23 14.9	+1.0
NIZ					Pmax			
	109nm,0.2s							
NIZ					Smax			
	1μm,0.3s							
KMO	**Kumora**	**0.62**	**72**	⇑	*i*Pg	Pg	17 23 12.9	-1.5
KMO					*i* Sg	Sg	17 23 21.2	-1.3
KMO					Pmax			
	65nm,0.2s							
KMO					Smax			
	269nm,0.6s							
YOA	**Uoyan**	**0.99**	**63**	⇑	*i*PG	Pg	17 23 20.5	-0.8
YOA					*i*		17 23 35.0	
YOA					pmax	pmax		
	comp=Z,63nm,0.2s							
YOA					smax			
	comp=E,401nm,0.4s							
YLYR	**Ulyunkhan**	**1.01**	**145**		*e*PG	Pg	17 23 20.0	-1.8
YLYR					*e*		17 23 33.0	
YLYR					pmax	pmax		
	comp=Z,104nm,0.3s							
YLYR					smax			
	comp=N,346nm,0.2s							
YLYR	**Ulyunkhan**	**1.01**	**145**	⇑	*i*Pg	Pg	17 23 20.0	-1.8
YLYR					*i* Sg	Sg	17 23 34.2	-0.6
YLYR					Pmax			
	comp=N,89nm,0.4s							
YLYR					Smax			
	comp=N,344nm,0.2s							
SVKR	**Severomuysk**	**1.96**	**76**		*e*PN	Pn	17 23 37.6	+1.4
SVKR					*e*		17 24 03.3	
SVKR					pmax	pmax		
	comp=Z,56nm,0.3s							
SVKR					smax			
	comp=N,726nm,0.7s							
SVKR	**Severomuysk**	**1.96**	**76**		*e*Pg	Pg	17 23 37.6	-2.5
SVKR					*e*Sg	Sg	17 24 04.9	-0.6
SVKR					Pmax			
	comp=N,54nm,0.3s							
SVKR					Smax			
	comp=N,730nm,0.5s							
SYVR	**Suvo**	**2.05**	**183**		*e*PN	Pn	17 23 38.6	+1.2
SYVR					*e*		17 24 06.9	
SYVR					pmax	pmax		
	comp=Z,54nm,0.6s							
SYVR					smax			
	comp=E,392nm,0.5s							
SYVR	**Suvo**	**2.05**	**183**	⇑	*i*Pg	Pg	17 23 38.7	-3.0
SYVR					*e*		17 23 42.0	
SYVR					*i* Sg	Sg	17 24 07.0	-1.2
SYVR					max			
	comp=E,57nm,0.7s							
SYVR					Smax			
	comp=E,539nm,0.6s							
OGRR	**Ongureny**	**2.54**	**217**		*e*Pn	Pn	17 23 44.7	+0.6
OGRR					*e*Pg	Pg	17 23 46.7	-4.4
OGRR					*e*		17 24 17.3	
OGRR					*e*Sg	Sg	17 24 20.4	-3.6
OGRR					Pmax			
	comp=E,10.0nm,0.3s							
OGRR					Smax			
	comp=E,83nm,0.3s							
MXMB	**Maximikha**	**2.58**	**199**		*e*Sg	Sg	17 24 23.3	-1.9
MXMB					Smax			
	comp=E,183nm,0.8s							
BOD	**Bodaibo**	**3.00**	**43**		*e*Pn	Pn	17 23 50.3	-0.2
BOD					*e*Pg	Pg	17 23 55.3	-4.6
BOD					*e*		17 23 58.7	
BOD					*e*Sn	Sn	17 24 27.5	+0.7
BOD					*e*Sg	Sg	17 24 35.6	-3.2
BOD					max			
	comp=E,6.0nm,0.3s							
BOD					Smax			
	comp=E,46nm,0.4s							

NLYR	**Nelyaty**	**3.21**	**73**	*e*	Pn	17 24 14.7	+21
NLYR				*e*Sg	Sg	17 24 41.1	-4.4
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	Pn	17 24 00.8	+0.8
TRG				*e*		17 24 04.6	
TRG				*e*Pg	Pg	17 24 08.8	-4.4
TRG				*e*		17 24 14.1	
TRG				*e*Sn	Sn	17 24 42.1	-1.8
TRG				*e*Sg	Sg	17 24 57.2	-3.9
TRG				max			
	comp=E,16nm,1.0s						
TRG				Smax			
	comp=E,44nm,0.5s						
TRTB	**Turuntaevo**	**3.78**	**204**	*e*Pn	Pn	17 24 01.7	+0.5
TRTB				*e*		17 24 05.0	
TRTB				*e*Pg	Pg	17 24 09.7	-5.2
TRTB				*e*Sg	Sg	17 24 58.4	-5.5
TRTB				Pmax			
	comp=E,5.0nm,0.2s						
TRTB				Smax			
	comp=E,27nm,1.0s						
CIT	**Chita**	**4.20**	**150**	*e*Pg	Pg	17 24 17.0	-5.9
CIT				*e*		17 24 47.8	
CIT				*e*Sg	Sg	17 25 13.1	-4.2
CIT				Pmax			
	comp=E,10.0nm,0.5s						
CIT				Smax			
	comp=E,37nm,1.2s						
CRS	**Chara**	**4.68**	**72**	*e*PN	Pn	17 24 26.9	+13
CRS				*e*		17 25 28.5	
CRS				pmax	pmax		
	comp=Z,21nm,2.0s						
CRS				smax			
	comp=E,52nm,2.6s						
CRS	**Chara**	**4.68**	**72**	*e*Pg	Pg	17 24 27.6	-4.5
CRS				*e*Sg	Sg	17 25 28.5	-4.2
CRS				Pmax			
	comp=E,7.0nm,1.2s						
CRS				Smax			
	comp=E,42nm,1.8s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*Sn	Sn	17 25 12.8	-2.4
LSTR				*e*Sg	Sg	17 25 34.1	-7.8
LSTR				Smax			
	comp=E,23nm,0.5s						
TLY	**Talaya**	**5.58**	**227**	*e*Sn	Sn	17 25 28.5	-1.9
TLY				*e*Sg	Sg	17 25 53.3	-8.3
TLY				Smax			
	comp=E,20nm,0.8s						
TUP	**Tupik**	**5.78**	**99**	*e*Pn	Pn	17 24 28.8	+0.2
TUP				*e*Pg	Pg	17 24 45.3	-7.8
TUP				*e*Sn	Sn	17 25 34.5	-0.7
TUP				*e*Sg	Sg	17 26 00.8	-7.1
TUP				Pmax			
	comp=E,2.0nm,0.4s						
TUP				Smax			
	comp=E,25nm,1.0s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	Pn	17 24 30.7	-0.2
ARS				*e*S	Sn	17 25 36.8	-2.4
ARS				*e*S	Sn	17 26 05.6	+26
ARS				smax			
	comp=E,49nm,0.6s						
ARS	**Arshan**	**5.94**	**234**	*e*Pn	Pn	17 24 30.6	-0.3
ARS				*e*		17 25 34.5	
ARS				*e*Sn	Sn	17 25 38.1	-1.1
ARS				*e*Sg	Sg	17 26 05.9	-7.2
ARS				max			
	comp=E,7.0nm,0.4s						
ARS				Smax			
	comp=E,48nm,0.7s						
KPC	**Khapcheranga**	**6.16**	**166**	*e*Pn	Pn	17 24 36.1	+2.2
KPC				*e*Pg	Pg	17 24 52.8	-7.5
KPC				*e*Sg	Sg	17 26 12.7	-7.4
KPC				Pmax			
	comp=E,4.0nm,0.6s						
KPC				Smax			
	comp=E,24nm,1.1s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*	Pb	17 26 05.5	+65
ZAK				*e*Sg	Sg	17 26 33.6	-5.4
ZAK				Smax			
	comp=E,4.0nm,0.6s						
MOY	**Mondy**	**6.77**	**237**	*e*Pn	Pn	17 24 43.5	+1.2
MOY				*e*		17 26 00.5	
MOY				*e*Sg	Sg	17 26 30.8	-9.1
MOY				max			
	comp=E,9.0nm,0.8s						
MOY				Smax			
	comp=E,18nm,1.8s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	Pn	17 24 44.4	+1.0
ORL				*e*S	Sn	17 26 33.8	+32
ORL				smax			
	comp=N,29nm,1.9s						
ORL	**Orlik**	**6.85**	**247**	*e*Pn	Pn	17 24 44.3	+0.9
ORL				*e*		17 24 50.2	
ORL				*e*Sn	Sn	17 25 59.2	-2.5
ORL				*e*Sg	Sg	17 26 34.5	-7.9
ORL				max			
	comp=N,5.0nm,1.6s						
ORL				Smax			
	comp=N,27nm,1.2s						
TDJR	**Todzha**	**8.90**	**254**	*e*		17 27 06.7	
TDJR				*e*Sg	Sn	17 27 38.1	+46

*PRU **06** 17:55:41.3, 50.10N×1833E, h0km*

WAR 06 17:55:39.9, 5005N×1845E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**281**		*e*Pg	Pg	17 55 43.6	+0.5
RAC					*e*Sg	Sg	17 55 46.8	+1.5
OKC	**Ostrava-Krasne**	**0.29**	**222**		*e*PG	Pg	17 55 45.6	+0.1
OKC					*e*SG	Sg	17 55 50.6	+1.3
	113nm,0.6s							
OJC	**Ojcow**	**0.88**	**79**		*e*Pg	Pg	17 55 56.2	-0.6
OJC					*e*Sg	Sg	17 56 08.4	+0.1
NIE	**Niedzica**	**1.36**	**117**		*e*Pg	Pg	17 56 06.1	0.0
NIE					*e*Sg	Sg	17 56 25.4	+1.6
DPC	**Dobruska-Polom**	**1.40**	**283**		*e*PG	Pg	17 56 05.5	-1.2
DPC					*e*SG	Sg	17 56 24.0	-0.9
	38nm,0.5s							
VYHS	**Vyhne**	**1.58**	**171**		*e*PN	Pn	17 56 08.6	-0.6
VYHS					*e*SN	Sn	17 56 30.4	+0.1
KSP	**Ksiaz**	**1.59**	**301**		*e*Pn	Pn	17 56 08.0	-1.3
KSP					*e*Pg	Pg	17 56 10.6	+0.2
KSP					*e*Sn	Sn	17 56 28.6	-1.9
KSP					*e*Sg	Sg	17 56 31.5	+0.5
UPC	**Upice**	**1.63**	**287**		*e*PG	Pg	17 56 09.2	-1.9
STHS	**Stebnicka Huta**	**1.92**	**108**		*e*PN	Pn	17 56 16.5	+2.7
STHS					*e*SN	Sn	17 56 44.2	+5.5
KECS	**Kecovo**	**2.06**	**139**		*e*PN	Pn	17 56 21.0	+5.2
KECS					*e*SN	Sn	17 56 46.1	+4.0
CRVS	**Cervenica-Dubn**	**2.28**	**119**		*e*PN	Pn	17 56 23.0	+4.3
CRVS					*e*SN	Sn	17 56 53.6	+6.1
PRU	**Pruhonice**	**2.52**	**270**		*e*PG	Pg	17 56 24.6	-3.6
PRU					*e*SG	Sg	17 56 58.8	-2.1
	10nm,0.7s							
PVCC	**Panska Ves**	**2.53**	**282**		*e*PG	Pg	17 56 26.2	-2.3
KHC	**Kasperske Hory**	**3.30**	**256**		*e*PG	Pg	17 56 39.9	-3.3
KHC					*e*SG	Sg	17 57 25.5	-0.5
	9.4nm,0.8s							
CLL	**Collm**	**3.69**	**292**		*i* Pg	Pg	17 56 51.3	+0.8
CLL					*e*Sg	Sg	17 57 37.0	-1.3
NKC	**Novy Kostel**	**3.87**	**275**		*e*SG	Sg	17 57 41.8	-2.3

MAN 06 17:58:49.2, 1832N×12084E, h20km, mb2.6, ML4.1, MS4.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.21**	**271**	⇑	*i*P	Pb	17 58 56.0	+1.5
APYP	**Conner**	**0.60**	**140**		*e*P	Pb	17 59 07.7	+6.7
ABRA	**Dolores**	**0.68**	**190**		*e*P	Pb	17 59 02.1	-0.3
ABRA				

LDG 06 18:27:17.3±0.2, 4759N×757E, h11km±1km, Md2.0/3, Ml1.8/7, Error ellipse: s-maj=3.4km s-min=2.0km az=120.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.39**	**311**	Pg	Pg	18 27 25.4	+0.3
MOF				Sg	Sg	18 27 31.1	+0.8
HINF	**Hinteralfeld**	**0.54**	**295**	*e*Pg	Pg	18 27 27.3	-0.4
HINF	**Hinteralfeld**	**0.54**	**295**	*e*Pn	Pg	18 27 29.0	+1.3
HINF				*e*Sg	Sg	18 27 34.4	-0.4
HINF				*e*Sn	Sg	18 27 38.0	+3.2
	7.4nm,0.2s						
ECH	**Echery**	**0.68**	**336**	Pg	Pg	18 27 31.1	+0.6
CDF	**Champ du Feu**	**0.84**	**347**	*e*Pn	Pn	18 27 33.8	-1.3
CDF				*e*Sg	Sg	18 27 43.7	-0.9
CDF				*e*Sn	Sn	18 27 45.6	-1.9
	4.7nm,0.4s						
HAU	**Haudompre**	**0.92**	**297**	*e*Pg	Pg	18 27 34.9	-0.2
HAU				*e*Sg	Sg	18 27 47.3	+0.2
	8.2nm,0.3s						
CABF	**La Chapelle**	**1.41**	**226**	*e*Pg	Pg	18 27 43.9	-0.5
CABF				*e*Sg	Sg	18 28 01.1	-1.6
	1.4nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Sg	Sg	18 28 14.7	-0.8
	0.8nm,0.2s						
LOR	**Lormes**	**2.54**	**264**	*e*Pg	Pg	18 28 04.5	-1.5
LOR				*e*Sg	Sg	18 28 36.6	-2.4
	1.0nm,0.3s						
SSF	**Saint Saulge**	**2.82**	**261**	*e*Pg	Pg	18 28 09.9	-1.4
SSF				*e*Sg	Sg	18 28 45.5	-2.3
	0.4nm,0.3s						

*BJI **06** 18:28:50.0, 1462N×1470E, h57km, mB4.8, mb4.4*
*NEIC **06** 18:28:56.5±2.4, 1443N×1460E, h57km±21km, mb4.6/2, Error ellipse: s-maj=25.9km s-min=11.3km az=83.0*
*ISCJB **06** 18:28:57.3±2.0, 1442N±008×1459E±0.1, h77km±16km, mb4.1/18, Error ellipse: s-maj=24.5km s-min=12.9km az=158.5*
*IDC **06** 18:28:57.0±3.3, 1445N×1460E, h59km±29km, mb3.8/12, mb1 3.9/12, mb1mx3.8/21, mbtmp3.8/12, MS3.4/6, Ms1 3.4/6, ms1mx3.0/38, Error ellipse: s-maj=29.8km s-min=14.3km az=87.0*

ISC 06 18:28:55.7±2.4, 1446N±008×1461E±01, h48km±21km, n29, σ1º00/26, mb4.2/18, MS3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.49**	**235**	P	**Pn**	**18 29 20.2**	**+0.1**
	196nm,0.3s,baz=97,slow=1.4,SNR=44						
GUMO				S	**Sn**	**18 29 38.7**	**+0.3**
	238nm,0.3s,baz=349,slow=21,SNR=21						
MJAR	**Matsushiro Arr**	**23.10**	**344**	P	**P**	**18 33 55.9**	**-1.5**
	1.0nm,0.8s,mb3.3,baz=329,slow=19,SNR=4.4						
MJAR				LR	LR	18 41 51.3	
	comp=Z,122nm,21.5s,MS3.3,baz=105,slow=34						
JNU	**Nakatsue**	**23.17**	**326**	LR	LR	18 41 46.1	
	comp=Z,77nm,18.4s,MS3.2,baz=59,slow=33						
PMG	**Port Moresby**	**23.74**	**177**	P	**P**	**18 34 04.7**	**+1.2**
	4.4nm,0.7s,mb4.0,baz=11,slow=10,SNR=2.7						
HNR	**Honiara**	**27.42**	**149**	LR	LR	18 42 53.9	
	comp=Z,74nm,19.4s,MS3.3,baz=359,slow=30						
KSRS	**Korea Array**	**28.04**	**328**	P	**P**	**18 34 41.8**	**-0.6**
	5.3nm,0.7s,mb4.3,baz=146,slow=9.7,SNR=21						
KSRS				LR	LR	18 44 43.4	
	comp=Z,35nm,18.2s,MS3.0,baz=125,slow=34						
CTA	**Charters Tower**	**34.33**	**180**	LR	LR	18 48 05.6	
	comp=Z,73nm,21.3s,MS3.4,baz=230,slow=34						
WRAB	**Tennant Creek**	**36.09**	**199**	P	**P**	**18 35 51.2**	**-1.6**
WRA	**Warramunga Arr**	**36.10**	**199**	P	**P**	**18 35 52.4**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=21,slow=9.5,SNR=8.2						
ASAR	**Alice Springs**	**39.73**	**198**	P	**P**	**18 36 24.0**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=24,slow=10.0,SNR=15						
STKA	**Stephens Creek**	**46.28**	**185**	P	**P**	**18 37 14.7**	**-1.8**
	2.1nm,0.9s,mb4.1,baz=284,slow=18,SNR=3.6						
SONM	**Songino Array**	**46.73**	**324**	P	**P**	**18 37 20.3**	**+0.3**
	1.9nm,0.6s,mb4.2,baz=138,slow=9.8,SNR=15						
SONM				PcP	PcP	18 38 53.0	+0.2
	0.4nm,0.6s,baz=136,slow=3.6,SNR=2.9						
SONM				LR	LR	18 55 49.2	
	comp=Z,59nm,18.8s,MS3.6,baz=172,slow=34						
LSA	**Lhasa**	**52.69**	**296**	P	**P**	**18 38 07.6**	**+2.3**
LSA	**Lhasa**	**52.69**	**296**	*e*P	**P**	**18 38 07.7**	**+2.5**
	4.1nm,0.6s,mb4.5						
KKN	**Kakani**	**57.77**	**294**	*e*P	**P**	**18 38 42.4**	**+0.5**
DMN	**Daman**	**57.93**	**294**	*e*P	**P**	**18 38 43.8**	**+0.8**
	7.0nm,0.6s,mb4.9						
GKN	**Gorkha**	**58.34**	**294**	*e*P	**P**	**18 38 46.0**	**+0.1**
	6.1nm,0.7s,mb4.7						
KOLN	**Koldanda**	**59.26**	**294**	*e*P	**P**	**18 38 52.3**	**0.0**
	7.5nm,0.8s,mb4.8						
MK31	**Makanchi Array**	**61.71**	**316**	*e*P	**P**	**18 39 09.4**	**+0.4**
MKAR	**Makanchi Array**	**61.71**	**316**	P	**P**	**18 39 09.1**	**+0.1**
	1.2nm,0.6s,mb4.2,baz=95,slow=7.9,SNR=17						
KURK	**Kurchatov**	**64.71**	**319**	*e*P	**P**	**18 39 27.8**	**-1.0**
	5.3nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**69.89**	**322**	*e*P	**P**	**18 40 00.8**	**-0.8**
BRVK	**Borovoye**	**70.07**	**321**	*e*P	**P**	**18 40 02.4**	**-0.3**
INK	**Inuvik**	**73.10**	**23**	P	**P**	**18 40 21.6**	**+0.7**
	1.3nm,0.7s,mb4.0,baz=250,slow=2.9,SNR=6.0						
YKA	**Yellowknife Ar**	**81.53**	**28**	P	**P**	**18 41 08.6**	**+0.5**
	0.9nm,0.7s,mb3.8,baz=286,slow=5.4,SNR=6.8						
NVAR	**Mina Array Bea**	**85.43**	**52**	P	**P**	**18 41 29.7**	**+1.6**
	0.7nm,0.6s,mb4.0,baz=260,slow=5.4,SNR=5.9						
ARCES	**ARCESS Array B**	**86.63**	**342**	P	**P**	**18 41 34.4**	**+0.3**
	11nm,1.2s,mb5.0,baz=74,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**90.88**	**335**	P	**P**	**18 41 51.4**	**-2.8**
	2.5nm,0.8s,mb4.6,baz=169,slow=31,SNR=2.1						
TORD	**Torodi Ar. Bea**	**135.35**	**306**	PKP	PKPdf	18 48 10.8	+0.7
	0.4nm,0.8s,baz=338,slow=3.4,SNR=2.6						

*NEIC **06** 18:49:28.3, 3973S×17407E, h203km, MG3.8(WEL), After WEL.*

WEL 06 18:49:29.7±0.5, 3974S×17410E, h190km±4km, ML3.5/11, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRZ	**Ngariki Road**	**0.42**	**343**	P	Pn	18 49 55.4	+0.1
NRZ	**Ngariki Road**	**0.42**	**343**	PN	Pn	18 49 55.4	+0.1
NEZ	**North Egmont**	**0.47**	**0**	PN	Pn	18 49 55.5	+0.1
NWEZ	**Newall Road**	**0.50**	**339**	P	Pn	18 49 55.7	+0.1
NWEZ	**Newall Road**	**0.50**	**339**	PN	Pn	18 49 55.7	+0.1
RAEZ	**Rainy Point**	**0.51**	**27**	PN	Pn	18 49 54.8	-0.8
WAZ	**Wanganui**	**0.69**	**92**	P	Pn	18 49 57.1	+0.7
WAZ				S	Sn	18 50 17.4	+0.3
WAZ	**Wanganui**	**0.69**	**92**	PN	Pn	18 49 57.1	+0.6
WAZ				SN	Sn	18 50 17.4	+0.3
VRZ	**Vera Road**	**0.80**	**40**	P	Pn	18 49 56.4	-0.7
VRZ	**Vera Road**	**0.80**	**40**	PN	Pn	18 49 56.4	-0.7
VRZ				SN	Sn	18 50 16.7	-1.5
PKVZ	**Pokaka**	**1.07**	**65**	PN	Pn	18 49 58.6	-0.2
DUWZ	**D'Urville Isla**	**1.07**	**187**	PN	Pn	18 49 58.9	+0.1
MTVZ	**Mangateitei**	**1.12**	**72**	PN	Pn	18 49 59.2	0.0
TRVZ	**Turoa**	**1.21**	**69**	PN	Pn	18 49 59.9	0.0
FWVZ	**Far West T-bar**	**1.23**	**67**	P	Pn	18 50 00.0	-0.1
FWVZ	**Far West T-bar**	**1.23**	**67**	PN	Pn	18 50 00.0	0.0
WNVZ	**Wahianoa**	**1.23**	**71**	P	Pn	18 50 00.1	0.0
WNVZ	**Wahianoa**	**1.23**	**71**	PN	Pn	18 50 00.1	0.0
KIW	**Kapiti Island**	**1.28**	**151**	P	Pn	18 50 00.6	+0.1
KIW	**Kapiti Island**	**1.28**	**151**	PN	Pn	18 50 00.6	+0.1
NGZ	**Ngauruhoe**	**1.29**	**65**	P	Pn	18 50 00.6	0.0
NGZ	**Ngauruhoe**	**1.29**	**65**	PN	Pn	18 50 00.6	-0.1
NGZ				SN	Sn	18 50 22.7	-1.9
TUVZ	**Tukino**	**1.29**	**69**	P	Pn	18 50 00.9	+0.3
TUVZ	**Tukino**	**1.29**	**69**	PN	Pn	18 50 00.9	+0.2
MOVZ	**Moawhango**	**1.32**	**76**	P	Pn	18 50 00.6	-0.3
MOVZ	**Moawhango**	**1.32**	**76**	PN	Pn	18 50 00.6	-0.3
MRZ	**Mangatainoka R**	**1.46**	**129**	P	Pn	18 50 02.0	-0.1
MRZ	**Mangatainoka R**	**1.46**	**129**	PN	Pn	18 50 02.0	-0.1
TSZ	**Takapari Road**	**1.47**	**103**	P	Pn	18 50 02.2	0.0
TSZ	**Takapari Road**	**1.47**	**103**	PN	Pn	18 50 02.2	0.0
TCW	**Tory Channel**	**1.48**	**175**	P	Pn	18 50 02.6	+0.4
TCW	**Tory Channel**	**1.48**	**175**	PN	Pn	18 50 02.6	+0.4
CAW	**Cannon Point**	**1.56**	**152**	P	Pn	18 50 03.0	+0.1
CAW	**Cannon Point**	**1.56**	**152**	PN	Pn	18 50 03.0	0.0
MRW	**Makara Radio**	**1.56**	**163**	P	Pn	18 50 03.1	+0.1
MRW	**Makara Radio**	**1.56**	**163**	PN	Pn	18 50 03.1	+0.1
NNZ	**Nelson**	**1.57**	**200**	P	Pn	18 50 02.9	-0.2
NNZ	**Nelson**	**1.57**	**200**	PN	Pn	18 50 02.9	-0.2
QRZ	**Quartz Range**	**1.62**	**227**	P	Pn	18 50 02.6	-0.9
QRZ	**Quartz Range**	**1.62**	**227**	PN	Pn	18 50 02.6	-0.9
TUWZ	**Tuamarina**	**1.69**	**184**	PN	Pn	18 50 04.1	-0.2
TIWZ	**Tintock**	**1.72**	**128**	SN	Sn	18 50 29.8	-1.7
BHW	**Baring Head**	**1.77**	**161**	P	Pn	18 50 04.6	-0.4
BHW	**Baring Head**	**1.77**	**161**	PN	Pn	18 50 04.9	-0.1
MTW	**Mount Morrison**	**1.78**	**143**	P	Pn	18 50 04.8	-0.3
MTW	**Mount Morrison**	**1.78**	**143**	PN	Pn	18 50 04.8	-0.3
MTW				SN	Sn	18 50 30.4	-2.2
MSWZ	**Moikau Station**	**1.89**	**153**	P	Pn	18 50 05.9	-0.3
MSWZ	**Moikau Station**	**1.89**	**153**	PN	Pn	18 50 05.9	-0.4
PAWZ	**Paruwai Farm**	**1.93**	**149**	SN	Sn	18 50 33.5	-1.9
BKZ	**Black Stump Fm**	**1.94**	**74**	P	Pn	18 50 06.2	-0.6
BKZ				S	Sn	18 50 33.1	-2.5
BKZ	**Black Stump Fm**	**1.94**	**74**	PN	Pn	18 50 06.2	-0.6
BKZ				SN	Sn	18 50 32.6	-3.0
BSWZ	**Blackbirch Sta**	**1.98**	**185**	P	Pn	18 50 07.3	+0.1
BSWZ	**Blackbirch Sta**	**1.98**	**185**	PN	Pn	18 50 07.3	+0.1
TRWZ	**Traveller**	**2.05**	**144**	PN	Pn	18 50 07.6	-0.3
THZ	**Tophouse**	**2.21**	**204**	*e*P	Pn	18 50 09.2	-0.5
THZ	**Tophouse**	**2.21**	**204**	PN	Pn	18 50 09.1	-0.6
KHZ	**Kahutara**	**2.71**	**189**	P	Pn	18 50 14.5	-0.8
KHZ	**Kahutara**	**2.71**	**189**	PN	Pn	18 50 14.5	-0.7
MWZ	**Matawai**	**3.02**	**63**	*e*P	Pn	18 50 17.4	-1.6
MWZ	**Matawai**	**3.02**	**63**	PN	Pn	18 50 17.4	-1.6
MQZ	**McQueen's Vall**	**4.11**	**195**	*e*PN	Pn	18 50 29.8	-2.6
MQZ				SN	Sn	18 51 15.1	-6.5
JCZ	**Jackson Bay**	**5.88**	**221**	PN	Pn	18 50 52.4	-2.8

JMA 06 18:55:20.4±0.1, 3188N×14134E, h0km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.78**	**314**	P	Pn	18 55 52.9	+0.5
JHJ2				S	Sn	18 56 16.5	+0.8
JHO	**Hitachi**	**4.76**	**353**	P	Pn	18 56 35.6	+2.2
JHO				S	Sn	18 57 30.0	+0.7
JFK	**Kawauchi**	**5.49**	**356**	S	Sn	18 57 47.3	+0.1
JMK	**Ichinoseki**	**7.06**	**359**	*e*S	Sn	18 58 27.4	+1.6

*IDC **06** 19:04:41.8±1.8, 4327N×10508W, h0km, mb4.1/4, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=48.3km s-min=9.4km az=150.0*
*ISCJB **06** 19:04:43.2±0.5, 4377N±004×10525W±007, h0km, mb4.2/4, Error ellipse: s-maj=7.7km s-min=5.3km az=68.9*
*NEIC **06** 19:04:44.8±0.3, 4376N×10524W, h0km, ML3.4, Error ellipse: s-maj=5.3km s-min=3.6km az=130.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 06 19:04:44.6±0.5, 4379N±004×10522W±007, h0km, n37, σ0º81/39, mb4.2/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**69**	*e*P	**Pg**	**19 05 03.5**	**+1.2**
PHWY	**Pilot Hill**	**2.49**	**184**	*e*Pn	**Pn**	**19 05 26.1**	**-0.3**
RWWY	**Rawlins**	**2.56**	**216**	*e*P	**Pn**	**19 05 27.7**	**+0.3**
RWWY				*e*S	**Sn**	**19 06 01.0**	**+1.8**
LAO	**LASA Array**	**2.98**	**347**	*e*Pn	**Pn**	**19 05 34.7**	**+1.5**
RLMT	**Red Lodge**	**3.19**	**296**	*e*Pn	**Pn**	**19 05 36.3**	**+0.3**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**19 05 37.8**	**-0.1**
	8.1nm,0.3s,baz=72,slow=16,SNR=118						
PDAR				Sn	**Sn**	**19 06 21.5**	**+3.3**
	9.6nm,0.3s,baz=78,slow=29,SNR=6.8						
BW06	**Boulder Array**	**3.33**	**254**	*e*Pn	**Pn**	**19 05 37.7**	**-0.3**
GCMT	**Greycliff**	**3.74**	**304**	*e*Pn	**Pn**	**19 05 44.2**	**+0.5**
LOHW	**Long Hollow**	**3.91**	**269**	*e*Pn	**Pn**	**19 05 46.4**	**+0.5**
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn	**Pn**	**19 05 47.7**	**+0.5**
MOOW	**Moose Ponds**	**4.00**	**271**	*e*Pn	**Pn**	**19 05 48.0**	**+0.9**
SNOW	**Snow King Moun**	**4.03**	**267**	*e*Pn	**Pn**	**19 05 51.7**	**+4.1**
YFT	**Old Faithful**	**4.10**	**281**	*e*Pg	**Pg**	**19 05 58.5**	**-4.7**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**19 05 48.6**	**-0.2**
TPAW	**Teton Pass**	**4.17**	**268**	*e*P	**Pn**	**19 05 49.6**	**+0.1**
BOZ	**Bozeman (W)**	**4.93**	**294**	*e*Pn	**Pn**	**19 05 59.3**	**-0.6**
HWUT	**Hardware Ranch**	**5.16**	**247**	*e*Pn	**Pn**	**19 06 02.5**	**-0.6**
	19nm,0.4s						
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**19 06 04.9**	**+0.1**
	32nm,0.7s						
DAU	**Daniels Canyon**	**5.62**	**235**	*e*Pn	**Pn**	**19 06 09.4**	**+0.1**
SPUT	**South Promonto**	**5.89**	**248**	*e*Pn	**Pn**	**19 06 08.8**	**-4.3**
HVU	**Hansel Valley**	**5.91**	**253**	*e*Pn	**Pn**	**19 06 13.4**	**-0.1**
	8.6nm,0.7s						
SRU	**San Rafael**	**6.14**	**222**	*e*Pn	**Pn**	**19 06 15.6**	**-1.1**
	17nm,0.5s						
PV01	**Paradox Valley**	**6.19**	**205**	*e*Pn	**Pn**	**19 06 18.0**	**+0.7**
TMUT	**Trail Mountain**	**6.35**	**227**	*e*Pn	**Pn**	**19 06 19.3**	**-0.1**
NLU	**North Lily Min**	**6.39**	**235**	*e*Pn	**Pn**	**19 06 19.8**	**-0.2**
BGU	**Big Grassy Mou**	**6.45**	**246**	*e*Pn	**Pn**	**19 06 19.9**	**-1.0**
DUG	**Dugway**	**6.70**	**240**	*e*Pn	**Pn**	**19 06 24.0**	**-0.3**
	5.5nm,0.4s						
MSU	**Marysvale**	**7.44**	**227**	*e*Pn	**Pn**	**19 06 34.3**	**-0.1**
CCUT	**Cedar City**	**8.78**	**228**	*e*Pn	**Pn**	**19 06 52.8**	**0.0**
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 06 56.2**	**-0.7**
	0.6nm,0.3s,baz=240,slow=11,SNR=7.1						
ULM				Lg		19 09 31.7	
	0.5nm,0.3s,baz=337,slow=22,SNR=2.5						
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 06 56.2**	**-0.7**
ULM				Lg		19 09 31.7	
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**19 07 24.5**	**-1.8**
	0.1nm,0.3s,baz=110,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**Pn**	**19 09 15.3**	**+0.6**
	0.2nm,0.5s,baz=156,slow=12,SNR=6.1						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 15 00.7**	**-1.6**
	3.3nm,0.8s,mb4.5,baz=340,slow=6.4,SNR=4.2						
FINES	**FINESS Array B**	**67.97**	**23**	P	**P**	**19 15 45.7**	**+0.3**
	3.4nm,1.0s,mb4.5,baz=337,slow=6.8,SNR=4.1						
AKASG	**Malin Array Be**	**77.89**	**28**	P	**P**	**19 16 43.6**	**-0.7**
	0.4nm,0.4s,mb4.0,baz=327,slow=5.5,SNR=4.9						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**19 17 43.6**	**-0.4**
	0.6nm,0.7s,mb4.0,baz=13,slow=4.8,SNR=5.7						

*IDC **06** 19:16:33.6±0.9, 1.16N×13227E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/18, mbtmp4.3/8, ML3.5/1, MS4.0/18, Ms1 4.0/18, ms1mx3.9/23, Error ellipse: s-maj=36.8km s-min=11.0km az=75.0*
*ISCJB **06** 19:16:36.4±0.4, 1.16N±005×13233E±008, h33km, mb4.6/23, MS4.0/20, Error ellipse: s-maj=11.5km s-min=7.1km az=153.8*
*MOS **06** 19:16:36.4±1.1, 1.18N×13226E, h33km, mb4.8/10, Error ellipse: s-maj=23.0km s-min=10.6km az=118.0*
*NEIC **06** 19:16:37.6±6.0, 1.11N×13229E, h28km±45km, mb4.9/8, Error ellipse: s-maj=18.2km s-min=11.5km az=61.0*
*BJI **06** 19:16:37.6, 1.10N×13230E, h28km, mB5.1, mb4.7, Ms4.4, Msz4.0*
*GCMT **06** 19:16:37.6±0.3, 129N×13234E, h26km±1km, MW5.0/68, Moment Tensor Solution. s24,c27; s68,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.63±.17; $M_{\theta\theta}$-2.72±.11; $M_{\phi\phi}$3.36±.14; $M_{r\theta}$-0.84±.26; $M_{\theta\phi}$1.28±.11; $M_{\phi r}$0.21±.26; Best double couple: $M_0$3.44100×10^{16} NP1:ϕ_s55.00000°, δ77.00000°, λ-13.00000°. NP2: ϕ_s148.00000°, δ78.00000°, λ-167.00000°. Principal axes: T 3.6190, Plg1.0000°, Azm281.0000°; N -0.3470, Plg72.0000°, Azm190.0000°; P -3.2640, Plg18.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 19:16:36.7±3.1, 118N±006×13240E±009, h21km±21km, n60, σ0º98/49, mb4.6/23, MS4.0/20, 2C-7D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**6.41**	**221**	P	**Pn**	**19 18 10.0**	**+0.2**
	163nm,0.6s						
PCI	**Palu**	**12.73**	**261**	P	**Pn**	**19 19 36.0**	**-0.5**
	66nm,0.9s						
KAKA	**Kakadu**	**13.80**	**180**	*i*P	**Pn**	**19 19 48.0**	**-3.1**
	31nm,0.5s						
PMG	**Port Moresby**	**18.07**	**126**	P	**Pn**	**19 20 49.1**	**+2.7**
	0.4nm,0.3s,baz=313,slow=9.2,SNR=17						
PMG				LR	LR	19 27 57.9	
	comp=Z,612nm,21.4s,baz=286,slow=38						
KMMI	**Kalianget**	**20.13**	**246**	P	**P**	**19 21 13.8**	**+4.5**
	39nm,1.8s						
FITZ	**Fitzroy Crossi**	**20.28**	**199**	*i*P	**P**	**19 21 09.7**	**-1.2**
	47nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.28**	**199**	P	**P**	**19 21 09.9**	**-1.1**
	23nm,1.0s,baz=30,slow=13,SNR=16						
FITZ				LR	LR	19 28 40.1	
	comp=Z,190nm,20.9s,MS3.4,baz=23,slow=36						
WRAB	**Tennant Creek**	**21.07**	**175**	*d*P	**P**	**19 21 19.5**	**+0.1**
WRAB	**Tennant Creek**	**21.07**	**175**	*e*P	**P**	**19 21 19.6**	**+0.2**
	91nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**21.08**	**175**	P	**P**	**19 21 19.5**	**0.0**
	69nm,0.9s,mb5.0,baz=353,slow=11,SNR=169						
WRA				S	**S**	**19 25 12.5**	**-0.6**
	3.7nm,0.9s,baz=354,slow=22,SNR=5.1						
WRA				LR	LR	19 30 06.6	
	comp=Z,330nm,18.0s,MS3.8,baz=350,slow=39						
WRA	**Warramunga Arr**	**21.08**	**175**	P	**P**	**19 21 19.5**	**0.0**
WRA				S	**S**	**19 25 12.5**	**-0.6**
WB2	**Warramunga Arr**	**21.08**	**175**	||*i*P	**P**	**19 21 19.9**	**+0.4**
KSM	**Kuching**	**22.09**	**271**	*e*P	**P**	**19 21 30.7**	**+0.3**
BJII	**Banjamegara**	**24.17**	**249**	P	**P**	**19 21 52.8**	**+1.4**
	55nm,1.5s,mb4.8						
ASAR	**Alice Springs**	**24.74**	**177**	P	**P**	**19 21 57.1**	**+0.5**
	139nm,0.9s,mb5.5,baz=354,slow=10,SNR=615						
ASAR				S	**S**	**19 26 25.6**	**+8.0**
	1.0nm,0.9s,baz=2.2,slow=26,SNR=5.1						
CTA	**Charters Tower**	**25.12**	**148**	LR	LR	19 33 00.1	
	comp=Z,772nm,18.2s,MS4.2,baz=327,slow=39						
CBIJ	**Chichi jima**	**27.43**	**19**	LR	LR	19 31 02.2	
	comp=Z,233nm,19.3s,MS3.8,baz=121,slow=32						
KSI	**Kapahiang**	**30.18**	**261**	P	**P**	**19 22 47.0**	**+1.6**
	40nm,0.9s,mb5.1						
FORT	**Forrest**	**32.05**	**187**	*e*P	**P**	**19 23 02.7**	**+0.8**
	22nm,0.8s,mb5.0						
JHJ	**Hachijo jima 2**	**32.52**	**12**	LR	LR	19 33 12.5	
	comp=Z,295nm,21.9s,MS3.9,baz=129,slow=31						
PSI	**Prapat**	**33.50**	**273**	P	**P**	**19 23 14.7**	**+0.1**
	8.8nm,0.7s,mb4.8,baz=127,slow=4.9,SNR=8.4						
STKA	**Stephens Creek**	**34.01**	**166**	*e*P	**P**	**19 23 16.3**	**-2.7**
	4.1nm,1.4s,mb4.2						
STKA	**Stephens Creek**	**34.01**	**166**	P	**P**	**19 23 20.0**	**+1.0**
	1.6nm,0.7s,mb4.1,baz=349,slow=5.2,SNR=4.2						
STKA				LR	LR	19 38 06.9	
	comp=Z,253nm,19.8s,MS4.0,baz=1.9,slow=38						
KLBR	**Kellerberrin**	**35.43**	**202**	*e*P	**P**	**19 23 31.2**	**-0.1**
	31nm,1.3s,mb5.1						
MJAR	**Matsushiro Arr**	**35.59**	**8**	LR	LR	19 35 07.7	
	comp=Z,281nm,22.0s,MS4.0,baz=190,slow=31						
KSRS	**Korea Array**	**36.33**	**354**	LR	LR	19 36 01.6	
	comp=Z,138nm,20.4s,MS3.7,baz=172,slow=32						
KMI	**Kunming**	**37.23**	**312**	P	**P**	**19 23 46.0**	**-0.7**
KMI				LR	LR		
	comp=N,244nm,18.6s,MS4.2						
KMI				LR	LR		
	comp=E,226nm,17.8s,MS4.2						
KMI				LR	LR		
	comp=Z,259nm,21.8s,MS4.0						
HABR	**Khabarovsk**	**47.16**	**2**	*e*P	**P**	**19 25 06.9**	**-0.7**
HABR				*e*S	**S**	**19 31 59.4**	**+0.4**
GTA	**Gaotai**	**48.28**	**326**	*e*P	**P**	**19 25 16.1**	**-0.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.1						
GTA				AMB	AMB		
	comp=Z,77nm,5.3s						
GTA				LR	LR		
	comp=N,142nm,18.3s,MS4.1						
GTA				LR	LR		
	comp=E,127nm,17.1s,MS4.1						
GTA				LR	LR		
	comp=Z,94nm,14.1s,MS3.9						
LSA	**Lhasa**	**48.39**	**310**	P	**P**	**19 25 17.8**	**+0.7**
LSA	**Lhasa**	**48.39**	**310**	*e*P	**P**	**19 25 17.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**48.39**	**310**	*e*P	**P**	**19 25 17.7**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.5						
SONM	**Songino Array**	**51.65**	**338**	P	**P**	**19 25 41.7**	**-0.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=154,slow=7.5,SNR=5.7

BOURR	**Bourrignon**	**0.28**	**230**	*i* Pg		**Pg**	**19 22 56.0**	**+0.9**
	31nm,0.5s							
SULZ	**Sulz-Cheisache**	**0.39**	**97**	⇓*i* Pg		**Pg**	**19 22 56.5**	**-0.5**
	51nm,0.3s							
SULZ				*i* Sg		**Sg**	**19 23 01.4**	**-0.9**
	51nm,0.3s							
MOF	**Molkenrain**	**0.39**	**315**	Pg		**Pg**	**19 22 57.5**	**+0.5**
HINF	**Hinteralfeld**	**0.53**	**298**	*e*Pg		**Pg**	**19 22 59.7**	**+0.2**
HINF				*e*Sg		**Sg**	**19 23 07.0**	**+0.4**
HINF				*e*Sn		**Sg**	**19 23 10.4**	**+3.8**
	8.6nm,0.2s							
SLE	**Schleitheim**	**0.67**	**73**	*i* Sg		**Pb**	**19 23 04.3**	**+2.1**
	40nm,0.2s							
SLE	**Schleitheim**	**0.67**	**73**	*i* Pg		**Sb**	**19 23 10.9**	**-0.3**
	40nm,0.2s							
ECH	**Echery**	**0.69**	**338**	Pg		**Pg**	**19 23 03.3**	**+0.7**
ECH				Sg		**Sg**	**19 23 11.8**	**0.0**
CDF	**Champ du Feu**	**0.86**	**348**	*e*Pn		**Pn**	**19 23 06.1**	**-0.2**
CDF				*e*Sg		**Sg**	**19 23 16.0**	**-1.0**
CDF				*e*Sn		**Sn**	**19 23 18.1**	**-0.3**
	9.6nm,0.3s							
HAU	**Haudompre**	**0.92**	**299**	*e*Pg		**Pg**	**19 23 07.1**	**+0.3**
HAU				*e*Sg		**Sg**	**19 23 19.3**	**+0.5**
	7.6nm,0.3s							
CABF	**La Chapelle**	**1.39**	**226**	*e*Pg		**Pg**	**19 23 16.2**	**+0.5**
CABF				*e*Sg		**Sg**	**19 23 33.8**	**0.0**
	3.1nm,0.3s							
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Sg		**Sg**	**19 23 47.1**	**+0.1**
	0.8nm,0.1s							
LOR	**Lormes**	**2.52**	**264**	*e*Pg		**Pg**	**19 23 37.0**	**-0.4**
LOR				*e*Sg		**Sg**	**19 24 09.1**	**-1.0**
	1.9nm,0.3s							
SSF	**Saint Saulge**	**2.80**	**261**	*e*Pg		**Pg**	**19 23 42.0**	**-0.6**
SSF				*e*Sg		**Sg**	**19 24 18.0**	**-0.8**
	0.7nm,0.3s							

*ISCJB **06** 19:49:31.2±0.6,4760N±004×761E±005,h16km±10km, Error ellipse: s-maj=6.4km s-min=4.9km az=68.9*
*ZUR **06** 19:49:31.4,4759N×760E,h5km±1km,Ml1.3*
*STR **06** 19:49:31.0±0.3,4757N×760E,h5km±1km,Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **06** 19:49:31.0±0.1,4758N×759E,h10km,Md1.9/3,Ml1.8/7, Error ellipse: s-maj=1.6km s-min=1.1km az=130.0*

ISC 06 19:49:30.6±0.6,4757N±003×756E±004,h19km±6km,n12, σ0§62/23,3C,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**158**	⇑*i* Pg		**Pg**	**19 49 36.8**	**+0.4**
	120nm,0.3s							
BOURR	**Bourrignon**	**0.28**	**232**	⇑*i* Pg		**Pg**	**19 49 37.8**	**+0.9**
	31nm,1.1s							
SULZ	**Sulz-Cheisache**	**0.38**	**96**	⇑*i* Pg		**Pg**	**19 49 38.4**	**-0.1**
	47nm,0.8s							
SULZ				*i* Sg		**Sg**	**19 49 43.3**	**-0.6**
	47nm,0.8s							
MOF	**Molkenrain**	**0.40**	**315**	Pg		**Pg**	**19 49 39.5**	**+0.5**
MOF				Sg		**Sg**	**19 49 44.9**	**+0.2**
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pg		**Pg**	**19 49 41.7**	**+0.3**
HINF				*e*Sg		**Sg**	**19 49 48.7**	**0.0**
HINF				*e*Sn		**Sg**	**19 49 52.3**	**+3.6**
	2.7nm,0.3s							
SLE	**Schleitheim**	**0.66**	**72**	*e*Pg		**Pg**	**19 49 43.3**	**-0.3**
	98nm,0.3s							
ECH	**Echery**	**0.70**	**338**	Pg		**Pg**	**19 49 45.4**	**+1.0**
ECH				Sg		**Sg**	**19 49 53.7**	**-0.1**
CDF	**Champ du Feu**	**0.87**	**347**	*e*Pn		**Pn**	**19 49 48.1**	**+0.4**
CDF				*e*Sg		**Sg**	**19 49 57.9**	**-1.1**
CDF				*e*Sn		**Sn**	**19 49 59.9**	**+0.2**
	3.7nm,0.3s							
HAU	**Haudompre**	**0.93**	**299**	*e*Pg		**Pg**	**19 49 48.7**	**+0.1**
HAU				*e*Sg		**Sg**	**19 50 01.1**	**+0.2**
	2.7nm,0.2s							
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg		**Pg**	**19 49 58.2**	**+0.8**
CABF				*e*Sg		**Sg**	**19 50 15.4**	**-0.1**
	2.2nm,0.3s							
LOR	**Lormes**	**2.53**	**265**	*e*Pg		**Pg**	**19 50 18.4**	**-0.7**
LOR				*e*Sg		**Sg**	**19 50 51.1**	**-0.8**
	1.4nm,0.2s							
SSF	**Saint Saulge**	**2.80**	**261**	*e*Pg		**Pg**	**19 50 23.5**	**-0.8**
SSF				*e*Sg		**Sg**	**19 51 00.0**	**-0.7**
	0.6nm,0.3s							

*ISCJB **06** 20:14:33.1±1.1,176S±02×1787W±01,h604km±18km, mb4.4/12,Error ellipse: s-maj=30.7km s-min=13.4km az=125.8*
*NEIC **06** 20:14:33.8±1.0,1756S×17866W,h603km±14km,mb4.5/7, Error ellipse: s-maj=26.6km s-min=11.1km az=152.0*
*IDC **06** 20:14:34.5±1.7,1758S×17865W,h605km±23km,mb3.7/7, mb1 3.9/9,mb1mx3.5/16,mbtmp3.7/9,Error ellipse: s-maj=25.8km s-min=14.6km az=155.0*

ISC 06 20:14:33.7±1.2,176S±02×1787W±01,h593km±18km,n22, σ0§80/19,mb4.4/12,5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.58**	**62**	P		**P**	**20 16 28.3**	**-0.5**
	5.9nm,0.3s,baz=88,slow=3.9,SNR=5.5							
DZM	**Mont Dzumac**	**14.69**	**250**	P		**P**	**20 17 39.6**	**+0.3**
	17nm,0.8s,baz=72,slow=20,SNR=9.2							
URZ	**Urewera**	**20.91**	**189**	P		**P**	**20 18 36.7**	**+0.9**
	3.8nm,0.3s,baz=169,slow=4.6,SNR=7.2							
ARMA	**Armidale**	**29.88**	**239**	*e*P		**P**	**20 19 54.8**	**+0.1**
CTA	**Charters Tower**	**33.25**	**260**	⇓*i* P		**P**	**20 20 23.9**	**+0.6**
	7.3nm,0.6s,mb4.5							
PMG	**Port Moresby**	**34.17**	**279**	P		**P**	**20 20 32.6**	**+1.6**
	43nm,0.8s,mb5.1,baz=94,slow=5.6,SNR=19							
STKA	**Stephens Creek**	**38.56**	**241**	⇓*i* P		**P**	**20 21 06.9**	**-0.1**
	14nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**38.56**	**241**	P		**P**	**20 21 07.0**	**0.0**
	17nm,0.8s,mb4.6,baz=91,slow=9.0,SNR=23							
WB2	**Warramunga Arr**	**44.43**	**259**	⇓*i* P		**P**	**20 21 52.9**	**-0.2**
WRAB	**Tennant Creek**	**44.44**	**259**	*e*P		**P**	**20 21 52.3**	**-0.8**
	6.6nm,0.4s,mb4.5							
WRA	**Warramunga Arr**	**44.44**	**259**	P		**P**	**20 21 52.8**	**-0.4**
	11nm,0.7s,mb4.5,baz=96,slow=7.2,SNR=206							
KAKA	**Kakadu**	**47.34**	**269**	⇓*i* P		**P**	**20 22 15.6**	**+0.5**
	14nm,0.3s,mb5.0							
FORT	**Forrest**	**49.91**	**244**	*e*P		**P**	**20 22 32.9**	**-1.2**
	15nm,0.5s,mb4.7							
FITZ	**Fitzroy Crossi**	**52.84**	**260**	⇓*i* P		**P**	**20 22 55.5**	**+0.4**
	2.6nm,0.3s,mb4.0							
KLBR	**Kellerberrin**	**58.74**	**243**	*e*P		**P**	**20 23 34.2**	**-1.6**
	13nm,0.8s,mb4.1							
TXAR	**Lajitas Array**	**86.04**	**58**	P		**P**	**20 26 13.6**	**+1.1**
	3.1nm,0.8s,mb4.0,baz=221,slow=6.1,SNR=28							
PDAR	**Pinedale Array**	**87.31**	**44**	P		**P**	**20 26 18.6**	**+0.2**
	2.3nm,0.9s,mb3.9,baz=227,slow=2.8,SNR=13							
YKA	**Yellowknife Ar**	**94.16**	**25**	P		**P**	**20 26 49.3**	**-0.8**
	0.3nm,0.5s,mb3.7,baz=234,slow=4.5,SNR=6.6							
YKA	**Yellowknife Ar**	**94.16**	**25**	P		**P**	**20 26 49.3**	**-0.8**
MKAR	**Makanchi Array**	**108.75**	**314**	PKiKP	PKiKP		20 31 55.1	-1.2
	0.2nm,0.8s,baz=234,slow=2.2,SNR=3.1							
BRTR	**Keskin Array B**	**144.40**	**315**	PKP	PKPdf		20 33 01.2	-2.0
	0.5nm,0.4s,baz=83,slow=3.1,SNR=5.4							
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	PKPbc		20 33 08.6	-2.8
	0.5nm,0.6s,baz=25,slow=4.4,SNR=4.2							

*NEIC **06** 20:35:47.0,3831N×2477E,h10km,ML3.2(ATH),After ATH.*
*ISCJB **06** 20:36:19.8±1.1,3471N±007×2492E±003,h6km±6km, Error ellipse: s-maj=11.2km s-min=4.6km az=1.0*
*THE **06** 20:36:20.3,3468N×2488E,h5km*
*ATH **06** 20:36:20.8,3477N×2493E,h12km±9km,MD3.2/3*
*CSEM **06** 20:36:21.4±0.2,3480N×2490E,h5km,MD3.2,Error ellipse: s-maj=4.9km s-min=1.9km az=169.0*

ISC 06 20:36:20.5±1.1,3471N±007×2491E±003,h12km±5km,n16, σ0§92/23,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.31**	**345**	*e*Pg		**Pg**	**20 36 26.8**	**0.0**
SIVA				*e*Sg		**Sg**	**20 36 32.9**	**+1.8**
IDI	**Anoyia**	**0.57**	**359**	P		**Pg**	**20 36 31.4**	**-0.3**
GVD	**Gavdhos**	**0.69**	**281**	*e*Pg		**Pg**	**20 36 33.8**	**0.0**
GVD				*e*Sg		**Sg**	**20 36 43.5**	**+0.6**
GVD	**Gavdhos**	**0.69**	**281**	*e*Pb		**Pb**	**20 36 34.0**	**-0.4**
GVD				*e*Sg		**Sg**	**20 36 43.5**	**+0.7**
NPS	**Neapolis**	**0.80**	**46**	*i* PG		**Pg**	**20 36 35.5**	**-0.4**
NPS				*e*SB		**Sg**	**20 36 44.3**	**-2.0**
VAM	**Vamos**	**0.90**	**320**	*i* PG		**Pg**	**20 36 36.9**	**-1.0**
VAM				*e*SB		**Sb**	**20 36 50.1**	**0.0**
KARN	**Karanos**	**1.06**	**310**	*e*Pg		**Pg**	**20 36 39.2**	**-1.7**
KARN				*e*Sg		**Sg**	**20 36 55.7**	**+0.9**
ZKR	**Zakros**	**1.15**	**69**	*e*Pg		**Pg**	**20 36 42.0**	**-0.5**
ZKR				*e*Sg		**Sg**	**20 36 59.0**	**+1.5**
ZKR	**Zakros**	**1.15**	**69**	P		**Pb**	**20 36 42.8**	**+0.5**
THR6	**Thira Island,**	**1.69**	**14**	*e*Pb		**Pn**	**20 36 49.5**	**-0.3**
THR1	**Thera Island**	**1.71**	**15**	*e*Pb		**Pn**	**20 36 50.2**	**+0.1**
SANT	**Santorini**	**1.71**	**15**	*e*Pb		**Pn**	**20 36 50.2**	**+0.1**
THR5	**Thira Island,**	**1.74**	**12**	*e*Pb		**Pn**	**20 36 50.4**	**0.0**
THR3	**Thira Island,**	**1.74**	**13**	*e*Pb		**Pn**	**20 36 50.3**	**-0.2**
KARP	**Karpathos**	**2.03**	**65**	*e*PN		**Pn**	**20 36 56.4**	**+1.9**
APE	**Apeiranthos**	**2.40**	**12**	*e*Pn		**Pn**	**20 36 59.2**	**-0.5**

*BJI **06** 20:39:46.9,5407S×15884E,h7km,mB6.0,mb5.6,Ms5.5, Msz5.3*
*IDC **06** 20:39:47.2±0.5,5397S×15904E,h0km,mb5.2/8, mb1 5.2/9,mb1mx5.2/11,mbtmp5.2/9,ML4.9/1,MS5.3/17, Ms1 5.3/17,ms1mx5.3/18,Error ellipse: s-maj=22.9km s-min=18.0km az=94.0*
*ISCJB **06** 20:39:47.5±0.3,5390S±004×15923E±007,h10km, mb5.5/29,MS5.4/135,Error ellipse: s-maj=7.0km s-min=3.6km az=91.4*
*GCMT **06** 20:39:49.1±0.1,5402S×15873E,h24km,MW5.7/96, Moment Tensor Solution. s86,c168; s96,c242; Duration: 1§8 Moment tensor: Scale 10^{17}Nm; M_{rr}2.62±.06; $M_{\theta\theta}$1.98±.05; $M_{\phi\phi}$-4.61±.05; $M_{r\theta}$1.56±.08; $M_{\theta\phi}$1.65±.04; $M_{\phi r}$1.99±.09; Best double couple: $M_0$4.97500×10^{17} NP1:ϕ_s132.00000°,δ48.00000°, λ31.00000°. NP2:ϕ_s20.00000°,δ68.00000°,λ133.00000°. Principal axes: T 4.6170, Plg48.0000°, Azm336.0000°; N 0.7080, Plg39.0000°, Azm180.0000°; P -5.3340, Plg12.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **06** 20:39:49.1±0.2,5398S×15900E,h10km,mb5.6/20, MS5.4/116,MW5.8 Error ellipse: s-maj=7.0km s-min=4.8km az=138.0,Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}2.11; $M_{\theta\theta}$1.38; $M_{\phi\phi}$-3.49; $M_{r\theta}$2.39; $M_{\theta\phi}$-1.78; $M_{\phi r}$3.54; Best double couple: $M_0$5.40000×10^{17} NP1:ϕ_s37.00000°,δ74.00000°, λ109.00000°. NP2:ϕ_s166.00000°,δ24.00000°,λ42.00000°. Principal axes: T 4.5900, Plg57.0000°, Azm331.0000°; N 1.5700, Plg18.0000°, Azm212.0000°; P -6.1600, Plg27.0000°, Azm112.0000°;*
*MOS **06** 20:39:53.6±2.0,5360S×15896E,h33km,mb5.7/16, MS5.4/22 Error ellipse: s-maj=19.1km s-min=9.2km az=99.2*

ISC 06 20:39:49.1±0.3,5394S±004×15914E±006,h10km,n489, σ1§24/146,mb5.5/29,MS5.4/135,38C-15D,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**9.08**	**42**	*e*PN		**Pn**	**20 41 58.6**	**-1.5**
APZ				SN		**Sn**	**20 43 39.3**	**-3.1**
SYZ	**Scrubby Hill**	**9.78**	**45**	PN		**Pn**	**20 42 08.4**	**-1.4**
SYZ				SN		**Sn**	**20 43 55.9**	**-3.8**
WHZ	**Wether Hill Ro**	**9.85**	**39**	*e*P		**Pn**	**20 42 09.9**	**-0.7**
WHZ				S		**Sn**	**20 44 01.9**	**+0.7**
WHZ	**Wether Hill Ro**	**9.85**	**39**	PN		**Pn**	**20 42 09.7**	**-0.9**
WHZ				SN		**Sn**	**20 44 01.9**	**+0.7**
DCZ	**Deep Cove**	**9.93**	**35**	*e*P		**Pn**	**20 42 16.0**	**+4.3**
DCZ	**Deep Cove**	**9.93**	**35**	*e*PN		**Pn**	**20 42 13.7**	**+2.0**
MLZ	**Mavora Lakes**	**10.39**	**38**	*e*P		**Pn**	**20 42 17.9**	**-0.3**
MLZ				S		**Sn**	**20 44 09.9**	**-4.8**
MLZ	**Mavora Lakes**	**10.39**	**38**	*e*PN		**Pn**	**20 42 17.5**	**-0.6**
MLZ				SN		**Sn**	**20 44 09.9**	**-4.8**
TUZ	**Tuapeka**	**10.46**	**44**	*e*P		**Pn**	**20 42 18.6**	**-0.4**
TUZ				S		**Sn**	**20 44 10.1**	**-6.1**
TUZ	**Tuapeka**	**10.46**	**44**	*e*PN		**Pn**	**20 42 18.6**	**-0.4**
TUZ				SN		**Sn**	**20 44 10.1**	**-6.1**
MSZ	**Milford Sound**	**10.89**	**35**	*e*P		**Pn**	**20 42 26.9**	**+1.9**
MSZ	**Milford Sound**	**10.89**	**35**	PN		**Pn**	**20 42 26.9**	**+1.9**
EAZ	**Earnscleugh**	**10.92**	**41**	*e*P		**Pn**	**20 42 25.5**	**+0.1**
EAZ				S		**Sn**	**20 44 24.2**	**-3.4**
EAZ	**Earnscleugh**	**10.92**	**41**	*e*PN		**Pn**	**20 42 25.0**	**-0.4**
EAZ				SN		**Sn**	**20 44 24.2**	**-3.4**
HHSZ	**Highcliff Hill**	**10.92**	**47**	PN		**Pn**	**20 42 25.4**	**+0.1**
WKZ	**Wanaka**	**11.15**	**39**	*e*P		**Pn**	**20 42 29.4**	**+0.9**
WKZ				S		**Sn**	**20 44 31.5**	**-1.7**
WKZ	**Wanaka**	**11.15**	**39**	PN		**Pn**	**20 42 29.1**	**+0.6**
WKZ				SN		**Sn**	**20 44 31.5**	**-1.7**
ODZ	**Otahua Downs**	**11.61**	**45**	*e*P		**Pn**	**20 42 34.3**	**-0.5**
ODZ				S		**Sn**	**20 44 41.7**	**-2.8**
ODZ	**Otahua Downs**	**11.61**	**45**	*e*PN		**Pn**	**20 42 33.5**	**-1.3**
ODZ				SN		**Sn**	**20 44 41.7**	**-2.8**
JCZ	**Jackson Bay**	**11.71**	**36**	*e*P		**Pn**	**20 42 38.0**	**+1.9**
JCZ				S		**Sn**	**20 44 45.7**	**-1.1**
JCZ	**Jackson Bay**	**11.71**	**36**	*e*PN		**Pn**	**20 42 36.7**	**+0.6**
JCZ				SN		**Sn**	**20 44 45.7**	**-1.1**
LBZ	**Lake Benmore**	**11.97**	**41**	*e*P		**Pn**	**20 42 38.9**	**-0.8**
LBZ				S		**Sn**	**20 44 49.0**	**-4.3**
LBZ	**Lake Benmore**	**11.97**	**41**	*e*PN		**Pn**	**20 42 38.6**	**-1.1**
LBZ				SN		**Sn**	**20 44 49.0**	**-4.3**
FOZ	**Fox Glacier**	**12.48**	**38**	*e*P		**Pn**	**20 42 48.8**	**+2.1**
FOZ				S		**Sn**	**20 45 08.0**	**+2.2**
FOZ	**Fox Glacier**	**12.48**	**38**	PN		**Pn**	**20 42 48.7**	**+2.0**
FOZ				SN		**Sn**	**20 45 08.0**	**+2.2**
RPZ	**Rata Peaks**	**12.87**	**42**	Pn		**Pn**	**20 42 53.6**	**+1.5**
	6.6nm,0.3s,baz=209,slow=6.3,SNR=24							
RPZ				Sn		**Sn**	**20 45 09.2**	**-6.1**
	5.4nm,0.3s,baz=286,slow=22,SNR=5.2							
RPZ				LR		LR	20 46 28.4	
	comp=Z,4μm,19.8s,baz=210,slow=31							
RPZ	**Rata Peaks**	**12.87**	**42**	*e*P		**Pn**	**20 42 54.7**	**+2.6**
RPZ	**Rata Peaks**	**12.87**	**42**	*e*PN		**Pn**	**20 42 54.7**	**+2.6**
TAU	**Tasmania Unive**	**13.52**	**320**	Pn		**Pn**	**20 42 59.2**	**-1.7**
	2μm,0.5s,SNR=73							
TAU	**Tasmania Unive**	**13.52**	**320**	*e*P		**Pn**	**20 42 59.1**	**-1.8**
TAU				pmax	pmax			
	comp=Z,180nm,0.6s							
TAU	**Tasmania Unive**	**13.52**	**320**	*e*P		**Pn**	**20 42 59.1**	**-1.8**
	comp=Z,180nm,0.6s							
MQZ	**McQueen's Vall**	**13.54**	**46**	*e*P		**Pn**	**20 43 01.7**	**+0.5**
MQZ	**McQueen's Vall**	**13.54**	**46**	PN		**Pn**	**20 43 01.4**	**+0.2**
KHZ	**Kahutara**	**14.97**	**45**	*e*P		**Pn**	**20 43 22.4**	**+1.8**
KHZ	**Kahutara**	**14.97**	**45**	PN		**Pn**	**20 43 21.8**	**+1.2**
THZ	**Tophouse**	**15.25**	**43**	*e*P		**Pn**	**20 43 25.8**	**+1.4**
THZ	**Tophouse**	**15.25**	**43**	*e*PN		**Pn**	**20 43 25.6**	**+1.2**
DRV	**Dumont d'Urvil**	**15.79**	**209**	P		**Pn**	**20 43 28.0**	**-3.5**
DRV				R			20 47 00.0	
SNZO	**South Karori**	**16.37**	**46**	*e*P		**Pn**	**20 43 41.5**	**+2.5**
	comp=Z,88nm,0.8s							
TOO	**Toolangi**	**18.88**	**325**	⇑*i* P		**Pn**	**20 44 11.1**	**+1.0**
	comp=Z,97nm,1.2s							
TOO				*e*S		**Sn**	**20 47 52.0**	**+11**
TOO	**Toolangi**	**18.88**	**325**	⇑*i* P		**Pn**	**20 44 11.1**	**+1.0**
TOO				pmax	pmax			
	comp=Z,97nm,1.2s							
CNB	**Canberra Magne**	**19.84**	**336**	⇑*i* P		**Pn**	**20 44 22.1**	**+0.5**
	comp=Z,188nm,1.0s							
URZ	**Urewera**	**19.93**	**45**	P		**Pn**	**20 44 22.5**	**-0.2**
	comp=Z,86nm,0.8s,baz=224,slow=5.2,SNR=35							
URZ				S		**Sn**	**20 47 59.2**	**-7.6**
	comp=Z,3.1nm,0.7s,baz=345,slow=23,SNR=3.2							
URZ				PcP	PcP		20 48 38.0	+0.3
	comp=Z,5.4nm,0.8s,baz=201,slow=10.0,SNR=3.7							
URZ				LR	LR		20 51 52.6	
	comp=Z,10μm,18.3s,baz=218,slow=36							
MKAZ	**Moumakai**	**20.15**	**40**	*e*P*		**P**	**20 44 27.8**	**+4.4**
RIV	**Riverview**	**20.89**	**341**	*e*P		**P**	**20 44 33.6**	**+2.2**
VNDA	**Vanda**	**23.70**	**179**	*e*P		**P**	**20 45 00.8**	**-0.4**
VNDA				LR	LR		20 52 32.3	
	comp=Z,12μm,19.8s,MS5.4,baz=4.7,slow=32							
VNDA	**Vanda**	**23.70**	**179**	*e*P		**P**	**20 45 00.8**	**-0.3**
VNDA				pmax	pmax			
	comp=Z,59nm,1.5s							
VNDA	**Vanda**	**23.70**	**179**	*e*P		**P**	**20 45 00.8**	**-0.3**
	comp=Z,59nm,1.5s,mb4.8							
ARMA	**Armidale**	**24.13**	**344**	*e*P		**P**	**20 45 06.5**	**+1.5**
SBA	**Scott Base**	**24.17**	**176**	*e*P		**P**	**20 45 08.0**	**+2.6**
SBA				pmax	pmax			
	comp=Z,168nm,1.9s,mb5.2							
SBA	**Scott Base**	**24.17**	**176**	*e*P		**P**	**20 45 08.0**	**+2.6**
	comp=Z,168nm,1.9s,mb5.2							
STKA	**Stephens Creek**	**25.39**	**323**	⇑*i* P		**P**	**20 45 16.9**	**+0.4**
	comp=Z,63nm,1.1s,mb5.1							
STKA				*e*PCP	PcP		20 48 49.1	+0.3
STKA	**Stephens Creek**	**25.39**	**323**	P		**P**	**20 45 17.3**	**+0.8**
	comp=Z,111nm,1.1s,mb5.3,baz=147,slow=10,SNR=70							
STKA				PcP	PcP		20 48 48.1	-0.6
	comp=Z,11nm,0.9s,baz=130,slow=5.4,SNR=3.3							
STKA				LR	LR		20 53 45.1	
	comp=Z,13μm,19.7s,MS5.5,baz=149,slow=33							
CASY	**Casey**	**26.40**	**223**	*e*P		**P**	**20 45 27.1**	**+1.4**
CASY				LR	LR			
	comp=Z,4μm,20.0s,MS4.9							
RAO	**Raoul Island**	**29.79**	**43**	LR		LR	20 57 04.6	
	comp=Z,2μm,18.6s,MS4.8,baz=208,slow=35							
FORT	**Forrest**	**32.17**	**303**	⇑*i* P		**P**	**20 46 17.2**	**+0.2**
	comp=Z,134nm,0.8s,mb5.8							
DZM	**Mont Dzumac**	**32.30**	**13**	*e*P		**P**	**20 46 20.7**	**+2.6**
DZM	**Mont Dzumac**	**32.30**	**13**	LR		LR	20 56 41.0	
	comp=Z,4μm,20.8s,MS5.1,baz=69,slow=31							
MIR	**Mirnyy**	**33.40**	**222**	*d i* P		**P**	**20 46 35.0**	**+7.3**
MIR				*i*			20 47 40.0	
MIR				pmax	pmax			
	comp=Z,500nm,2.0s,mb6.1							
CTA	**Charters Tower**	**35.21**	**339**	⇑*i* P		**P**	**20 46 43.9**	**+0.5**
	comp=Z,151nm,1.1s,mb5.8							
CTA	**Charters Tower**	**35.21**	**339**	⇑*i* P		**P**	**20 46 43.9**	**+0.5**
CTA				pmax	pmax			
	comp=Z,151nm,1.1s							
CTAO	**Charters Tower**	**35.21**	**339**	*e*P		**P**	**20 46 43.9**	**+0.5**
CTAO				pmax	pmax			
	comp=Z,301nm,1.1s,mb6.1							
CTAO				MLR	MLR			
	comp=Z,6μm,20.0s,MS5.4							
CTAO	**Charters Tower**	**35.21**	**339**	*e*P		**P**	**20 46 43.9**	**+0.5**
	comp=Z,301nm,1.1s,mb6.1							
CTAO				LR	LR			
	comp=Z,6μm,20.0s,MS5.4							
QSPA	**South Pole Qui**	**36.17**	**180**	*e*P		**P**	**20 46 52.0**	**+0.3**
	comp=Z,23nm,0.8s,mb5.2							
NWAO	**Narrogin (SRO)**	**36.26**	**288**	P		**P**	**20 46 51.5**	**-0.9**
	comp=Z,24nm,0.8s,mb5.2,baz=119,slow=7.7,SNR=12							
NWAO				PcP	PcP		20 49 16.9	-0.5
	comp=Z,12nm,0.9s,baz=168,slow=9.6,SNR=3.7							
NWAO	**Narrogin (SRO)**	**36.26**	**288**	P		**P**	**20 46 51.5**	**-0.9**
NWAO				PcP	PcP		20 49 16.9	-0.5
NWAO				LR	LR			
	comp=Z,7μm,20.0s,MS5.4							
KLBR	**Kellerberrin**	**36.97**	**290**	⇑*i* P		**P**	**20 46 57.9**	**-0.6**
	comp=Z,111nm,1.0s,mb5.7							
MUN	**Mundaring**	**37.54**	**288**	⇑*i* P		**P**	**20 47 03.0**	**-0.3**
WB2	**Warramunga Arr**	**38.89**	**321**	⇑*i* P		**P**	**20 47 13.6**	**-1.1**
WB2				*e*PCP	PcP		20 49 24.6	-0.9
WB2				*e*PCS	PcS		20 53 12.2	-2.7
WRA	**Warramunga Arr**	**38.89**	**321**	P		**P**	**20 47 13.6**	**-1.1**
	comp=Z,123nm,1.1s,mb5.6,baz=154,slow=7.3,SNR=175							
WRA				PcP	PcP		20 49 24.1	-1.4
	comp=Z,18nm,0.9s,baz=164,slow=2.8,SNR=20							
WRA				LR	LR		21 02 56.8	
	comp=Z,24μm,18.2s,MS6.1,baz=160,slow=36							
WRA	**Warramunga Arr**	**38.89**	**321**	P		**P**	**20 47 13.6**	**-1.1**
WRA							20 49 24.1	
WRAB	**Tennant Creek**	**38.90**	**321**	P		**P**	**20 47 13.0**	**-1.7**
	comp=Z,772nm,1.2s,mb6.3,SNR=48							
WRAB	**Tennant Creek**	**38.90**	**321**	*c i* P		**P**	**20 47 13.6**	**-1.1**
WRAB	**Tennant Creek**	**38.90**	**321**	*e*P		**P**	**20 47 13.5**	**-1.2**
	comp=Z,183nm,1.1s,mb5.7							
MAW	**Mawson**	**43.93**	**213**	P		**P**	**20 47 56.1**	**0.0**
	comp=Z,3.2nm,0.5s,baz=114,slow=11,SNR=9.4							
MAW				PcP	PcP		20 49 41.9	-0.1
	comp=Z,6.5nm,0.9s,baz=147,slow=4.4,SNR=8.7							
MAW				LR	LR		21 05 14.4	
	comp=Z,3μm,19.0s,MS5.2,baz=116,slow=35							
MAW	**Mawson**	**43.93**	**213**	*e*P		**P**	**20 47 56.9**	**+0.8**
MAW				pmax

comp=Z,7μm,27.5s,baz=215
KAPI Kappang 58.32 312 P **P 20 49 43.9 -0.3**
comp=Z,210nm,1.5s,mb6.0,SNR=16
PTCN Pitcairn Islan 58.90 91 PFAKE 20 50 00.0 +12
PTCN LR LR
comp=Z,4μm,21.0s,MS5.5
COCO West Island 64.03 286 PFAKE 20 50 30.0 +7.1
COCO LR LR
comp=Z,613nm,21.0s,MS4.8
TAOE Nuku Hiva Isla 65.84 71 *e*S S 20 59 23.3 +1.7
comp=Z,3μm,30.5s
TAOE *e*SS SS 21 03 29.9 -6.3
comp=Z,3μm,26.8s
TAOE *e*LR LR 21 10 19.1
comp=Z,11μm,24.2s,baz=222
DAV Davao City (W) 67.02 323 *e*P **P 20 50 42.3 +0.1**
DAV LR LR
comp=Z,2μm,19.0s,MS5.4
TSM Tawau 67.47 315 P **P 20 50 45.8 +0.7**
GUMO Guam 68.36 345 PFAKE 20 51 00.0 +9.4
GUMO LR LR
comp=Z,1μm,19.0s,MS5.1
KSM Kuching 68.38 306 *e*P **P 20 50 50.3 -0.5**
RPN Rapa Nui 69.40 108 LR LR 21 15 01.1
comp=Z,3μm,18.1s,MS5.5,baz=219,slow=30
KKM Kota Kinabalu 69.75 314 P **P 20 50 59.7 +0.4**
EFI East Falkland 70.25 156 PFAKE 20 51 10.0 +7.6
EFI LR LR
comp=Z,506nm,20.0s,MS4.8
KGM Kluang 72.32 300 P **P 20 51 15.7 +0.8**
IPM Ipoh 75.60 299 P **P 20 51 33.3 -0.8**
KULM Kulim 76.48 299 *e*P **P 20 51 38.5 -0.6**
TRQA Tornquist 81.75 148 PFAKE 20 52 20.0 +12
TRQA LR LR
comp=Z,908nm,20.0s,MS5.1
DGAR Diego Garcia 82.11 268 PFAKE 20 52 20.0 +10
DGAR LR LR
comp=Z,742nm,20.0s,MS5.0
QIZ Qiongzhong 84.07 314 ⇑P **P 20 52 20.2 +0.2**
QIZ AP pP 20 52 25.0 +1.7
QIZ PP PP 20 55 36.1 +2.2
QIZ PPP 20 57 27.8
QIZ S S 21 02 45.5 +1.0
QIZ XS sS 21 02 51.8 +1.8
QIZ SS SS 21 08 17.6 +4.7
QIZ AMB AMB
comp=Z,50nm,1.2s,mb5.5
QIZ AMB AMB
comp=Z,896nm,5.7s
QIZ LR LR
comp=N,758nm,27.4s,MS5.1
QIZ LR LR
comp=E,806nm,24.3s,MS5.1
QIZ LR LR
comp=Z,2μm,28.2s,MS5.3
QIZ Qiongzhong 84.07 314 PFAKE 20 52 30.0 +10
QIZ LR LR
comp=Z,1μm,19.0s,MS5.4
KKTK Khon Kaen 84.88 307 ⇑P **P 20 52 24.6 +0.5**
TATO Taipei 85.06 326 PFAKE 20 52 40.0 +15
TATO LR LR
comp=Z,1μm,19.0s,MS5.4
NANT Nan 88.01 306 ⇓P **P 20 52 38.1 -1.3**
comp=Z,312nm,1.0s,mb6.5
CM31 Chiang Mai Arr 88.56 305 PFAKE 20 52 50.0 +7.9
CM31 LR LR
comp=Z,2μm,20.0s,MS5.5
BOSA Boshof 88.63 219 P **P 20 52 41.1 -1.3**
comp=Z,3.7nm,0.7s,mb4.8,baz=119,slow=1.8,SNR=9.6
BOSA LR LR 21 27 28.4
comp=Z,1μm,18.4s,MS5.4,baz=156,slow=32
CHG Chiang Mai 88.87 305 ⇑P **P 20 52 43.8 +0.3**
comp=Z,55nm,1.1s,mb5.8
CHTO Chiang Mai 88.87 305 *e*P **P 20 52 43.4 -0.1**
CHTO pmax pmax
comp=Z,59nm,1.0s,mb5.9
CHTO MLR MLR
comp=Z,2μm,21.0s,MS5.5
CHTO Chiang Mai 88.87 305 *e*P **P 20 52 43.4 -0.1**
comp=Z,59nm,1.0s,mb5.9
CHTO LR LR
comp=Z,2μm,21.0s,MS5.5
PALK Pallekele 89.08 284 PFAKE 20 53 00.0 +16
PALK LR LR
comp=Z,579nm,21.0s,MS5.0
SSE Sheshan 90.83 328 P **P 20 52 53.4 +0.7**
SSE AMB AMB
comp=Z,45nm,1.1s,mb5.7
SSE AMB AMB
comp=Z,396nm,6.9s
SSE LR LR
comp=N,630nm,19.7s,MS5.1
SSE LR LR
comp=E,353nm,19.7s,MS5.1
SSE LR LR
comp=Z,1μm,20.0s,MS5.3
LBTB Lobatse 91.74 221 PFAKE 20 53 10.0 +13
LBTB LR LR
comp=Z,750nm,19.0s,MS5.2
MJAR Matsushiro Arr 91.91 343 P **P 20 52 58.4 +0.7**
comp=Z,35nm,1.0s,mb5.7,baz=176,slow=6.1,SNR=56
MJAR PP PP 20 56 37.0 +0.1
comp=Z,3.0nm,1.1s,baz=148,slow=7.4,SNR=4.5
MJAR LR LR 21 33 49.6
comp=Z,1μm,19.8s,MS5.3,baz=180,slow=35
MJAR Matsushiro Arr 91.91 343 P **P 20 52 58.4 +0.7**
MJAR 20 56 37.0
MAJO Matsushiro 91.92 343 *e*P **P 20 52 57.4 -0.3**
MAJO pmax pmax
comp=Z,76nm,1.1s,mb5.9
MAJO MLR MLR
comp=Z,1μm,21.0s,MS5.4
MAJO Matsushiro 91.92 343 *e*P **P 20 52 57.4 -0.3**
comp=Z,76nm,1.1s,mb5.9
MAJO LR LR
comp=Z,1μm,21.0s,MS5.4
MAT Matsushiro 91.92 343 P **P 20 52 57.3 -0.4**
KMI Kunming 92.52 311 P **P 20 53 01.6 +1.1**
KMI AP pP 20 53 08.3 +4.5
KMI XP sP 20 53 10.3 +5.3
KMI PP PP 20 56 43.7 +2.0
KMI PPP 20 58 46.8
KMI SKS 21 03 34.0
KMI S S 21 04 04.5 -0.2
KMI PS PS 21 05 18.3 +1.7
KMI SS SS 21 10 20.2 +4.2
KMI SSS 21 13 58.1
KMI AMB AMB
comp=Z,16nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,388nm,5.9s
KMI LR LR
comp=N,986nm,16.9s,MS5.5
KMI LR LR
comp=E,1μm,16.9s,MS5.5
KMI LR LR
comp=Z,1μm,19.5s,MS5.4
WHN Wuhan 92.63 323 ⇑P **P 20 53 01.5 +0.5**
ENH Enshi 94.21 319 PFAKE 20 53 20.0 +12
ENH LR LR
comp=Z,2.0nm,19.0s
MSEY Mahe Island 94.24 256 PFAKE 20 53 20.0 +12
MSEY LR LR
comp=Z,622nm,20.0s,MS5.1
KSRS Korea Array 94.93 336 P **P 20 53 11.7 +0.1**
comp=Z,6.7nm,1.0s,mb5.0,baz=163,slow=5.4,SNR=14
KSRS LR LR 21 34 57.3
comp=Z,875nm,19.8s,MS5.2,baz=160,slow=35
INCN Inchon 95.28 335 PFAKE 20 53 20.0 +6.8
INCN LR LR
comp=Z,971nm,20.0s,MS5.3
ERM Erimo 96.56 348 PFAKE 20 53 30.0 +11
ERM LR LR
comp=Z,227nm,19.0s,MS4.7
DL2 Dalian 97.96 331 P **P 20 53 26.2 +0.9**
DL2 PP PP 20 57 22.7 -1.3
DL2 *e*S S 21 04 49.3 -2.7
DL2 *e*SS SS 21 11 34.4 +1.0
DL2 AMB AMB
comp=Z,10.0nm,1.1s,mb5.3
DL2 AMB AMB
comp=Z,180nm,4.6s
DL2 LR LR
comp=N,810nm,23.4s,MS5.2
DL2 LR LR
comp=E,400nm,23.1s,MS5.2
DL2 LR LR
comp=Z,610nm,20.6s,MS5.1
HYB Hyderabad 98.49 288 *i* P **P 20 53 26.0 -1.7**
HYB Hyderabad 98.49 288 *e*P **P 20 53 26.0 -1.7**
NNA Nana 99.04 125 PFAKE 20 53 40.0 +10
NNA LR LR
comp=Z,312nm,22.0s,MS4.8
LPAZ La Paz 99.23 134 LR LR 21 28 18.6
comp=Z,927nm,21.2s,MS5.2,baz=188,slow=29
LPAZ La Paz 99.23 134 PFAKE 20 53 40.0 +9.0
LPAZ LR LR
comp=Z,979nm,21.0s,MS5.3
LSZ Lusaka 99.37 228 PFAKE 20 53 40.0 +8.3
LSZ LR LR
comp=Z,3μm,19.0s,MS5.8
BJT Baijiatuau 100.62 328 PFAKE 20 53 50.0 +13
BJT LR LR
comp=Z,1μm,20.0s,MS5.5
LZH Lanzhou 101.56 317 *e*P Pdif 20 53 41.5 +0.1
LZH AMB AMB
comp=Z,25nm,1.0s
LZH AMB AMB
comp=Z,117nm,4.0s
LSA Lhasa 101.82 304 PFAKE 20 53 50.0 +7.5
LSA LR LR
comp=Z,709nm,20.0s,MS5.2
HABR Khabarovsk 104.05 344 *e*P Pdif 20 53 51.7 -0.8
PET Petropavlovsk 106.59 360 PFAKE 20 58 20.0 +5.6
PET LR LR
comp=Z,1μm,20.0s,MS5.4
KMBO Kilima Mbogo 107.25 243 PFAKE 20 58 30.0 +14
KMBO LR LR
comp=Z,788nm,19.0s,MS5.3
HIA Hailar 108.07 334 PFAKE 20 58 30.0 +13
HIA LR LR
comp=Z,1μm,22.0s,MS5.4
OTAV Otavalo 108.67 117 PFAKE 20 58 30.0 +12
OTAV LR LR
comp=Z,788nm,20.0s,MS5.3
PFO Pinyon Flat Ob 113.34 65 PFAKE 20 58 40.0 +13
PFO LR LR
comp=Z,239nm,20.0s,MS4.8
MA2 Magadan 113.36 355 PFAKE 20 58 40.0 +13
MA2 LR LR
comp=Z,762nm,20.0s,MS5.3
JTS JuntasAbangare 113.41 105 PFAKE 20 58 40.0 +13
JTS LR LR
comp=Z,457nm,19.0s,MS5.1
MCCM Marconi Confer 113.51 57 PFAKE 20 58 40.0 +13
MCCM LR LR
comp=Z,659nm,19.0s,MS5.2
HOPS Hopland 114.07 57 PFAKE 20 58 40.0 +12
HOPS LR LR
comp=Z,1μm,20.0s,MS5.5
CMB Columbia Colle 114.68 59 PFAKE 20 58 40.0 +10
CMB LR LR
comp=Z,928nm,20.0s,MS5.4
DAC Darwin (Calif) 114.78 62 PFAKE 20 58 40.0 +10
DAC LR LR
comp=Z,2μm,19.0s,MS5.7
TLY Talaya 115.00 326 *e*P Pdif 20 54 44.9 +3.8
TLY *e* 20 59 32.1
TLY *e*PS PS 21 09 10.0 +1.5
TLY *e*PPS 21 10 22.1
TLY pmax pmax
comp=Z,7.0nm,1.0s
TLY MLR MLR
comp=Z,1μm,20.0s,MS5.5
NVAR Mina Array Bea 116.04 60 PKP PKPdf 20 58 30.8 -1.5
comp=Z,3.6nm,1.0s,baz=228,slow=4.4,SNR=11
NVAR PKKPbc PKKPbc 21 09 02.5 0.0
comp=Z,0.6nm,0.7s,baz=50,slow=7.2,SNR=4.4
NVAR Mina Array Bea 116.04 60 PKP PKPdf 20 58 30.8 -1.5
NVAR PKKPbc PKKPbc 21 09 02.5 0.0
HUMO Hull Mountain 116.90 54 *e*PKPdf PKPdf 20 58 33.4 -0.5
HUMO LR LR
comp=Z,801nm,20.0s,MS5.3
LTX Lajitas 117.24 77 PFAKE 20 58 50.0 +15
LTX LR LR
comp=Z,1μm,19.0s,MS5.6
TXAR Lajitas Array 117.24 77 PKKPab PKKPab 21 09 02.1 0.0
comp=Z,1.1nm,0.7s,baz=68,slow=4.1,SNR=12
MSKU Masuku 117.65 220 PFAKE 20 58 50.0 +15
MSKU LR LR
comp=Z,41nm,19.0s
MOD Modoc 117.66 56 PFAKE 20 58 50.0 +15
MOD LR LR
comp=Z,675nm,19.0s,MS5.3
YAK Yakutsk 117.94 345 *e*PKIKP PKPdf 20 58 33.2 -2.7
YAK Yakutsk 117.94 345 *e*PKP PKPdf 20 58 33.2 -2.7
CCUT Cedar City 117.96 64 *e*PKPdf PKPdf 20 58 36.8 +0.8
MNTX Cornudas Mount 118.02 74 *e*PKPdf PKPdf 20 58 35.7 -0.4
MNTX LR LR
comp=Z,1μm,22.0s,MS5.5
BMN Battle Mountai 118.10 59 PFAKE 20 58 50.0 +14
BMN LR LR
comp=Z,1μm,21.0s,MS5.5
ASCN Ascension 118.12 187 PFAKE 20 58 50.0 +14
ASCN LR LR
comp=Z,317nm,19.0s,MS5.0
COR Corvallis 118.24 52 PFAKE 20 58 50.0 +13
COR LR LR
comp=Z,903nm,19.0s,MS5.4
KVTX Kingsville 119.26 83 PFAKE 20 58 50.0 +12
KVTX LR LR
comp=Z,2μm,19.0s,MS5.8
MVU Marysvale 119.28 64 PFAKE 20 58 50.0 +11
MVU LR LR
comp=Z,852nm,20.0s,MS5.4
MSU Marysvale 119.30 64 *e*PKIKP PKPdf 20 58 39.6 +1.0
ELK Elko 119.34 60 PFAKE 20 58 50.0 +11
ELK LR LR
comp=Z,840nm,19.0s,MS5.4
KZA Kyzart 119.45 302 P PKPdf 20 58 39.2 +0.4
SNR=7.5
MK31 Makanchi Array 119.58 310 *e*PKIKP PKPdf 20 58 37.1 -2.0
MKAR Makanchi Array 119.58 310 PKP PKPdf 20 58 36.5 -2.6
comp=Z,5.4nm,0.9s,baz=311,slow=1.1,SNR=29
MKAR Makanchi Array 119.58 310 *i* PKIKP PKPdf 20 58 37.5 -1.6
MKAR pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 119.81 71 PFAKE 20 58 50.0 +10
ANMO LR LR
comp=Z,3μm,20.0s,MS5.9
UCH Uchtor 119.93 301 P PKPdf 20 58 39.7 -0.1
SNR=8.5
KBK Karagaybulak 120.03 302 P PKPdf 20 58 39.7 -0.3
SNR=7.5
SVW2 Sparrevohn 120.19 24 *e*PKPdf PKPdf 20 58 38.4 -1.8
DUG Dugway 120.20 62 PFAKE 20 58 50.0 +10
DUG LR LR
comp=Z,1μm,20.0s,MS5.5
AAK Ala-Archa 120.24 302 ⇑*i*PKIKP PKPdf 20 58 38.5 -1.8
AAK MLR MLR
comp=Z,223nm,22.0s,MS4.8
AML Almayashu 120.27 301 P PKPdf 20 58 40.0 -0.4
SNR=17
JCT Junction City 120.32 79 PFAKE 20 58 50.0 +9.5
JCT LR LR
comp=Z,1μm,19.0s,MS5.5
MVCO Mesa Verde 120.33 68 *e*PKPdf PKPdf 20 58 40.9 +0.4
MVCO LR LR
comp=Z,1μm,19.0s,MS5.5
CHMS Chumysh 120.37 302 P PKPdf 20 58 39.4 -1.3
SNR=6.0
EKS2 Erkin-Say 120.62 301 P PKPdf 20 58 41.3 +0.2
SNR=8.2
HDW Hoodsport 120.65 50 P PKPdf 20 58 41.2 0.0
MPU Maple Canyon 120.69 63 PFAKE 20 58 50.0 +8.8
MPU LR LR
comp=Z,1μm,19.0s,MS5.6
USP Ospenovka 120.70 302 P PKPdf 20 58 40.5 -0.7
SNR=5.7
EBG Ellensburg 121.25 52 P PKPdf 20 58 42.2 0.0
BMO Blue Mountains 121.31 56 PFAKE 20 58 50.0 +7.6
BMO LR LR
comp=Z,1μm,20.0s,MS5.5
HAWA Hanford 121.36 53 *e*PKPdf PKPdf 20 58 42.7 +0.2
HAWA LR LR
comp=Z,836nm,19.0s,MS5.4
MDW Midway 121.41 53 PKIKP PKPdf 20 58 42.4 -0.2
GBL Gable Mountain 121.54 53 PKIKP PKPdf 20 58 43.1 +0.2
BILL Bilibino 121.78 3 *i* PKIKP PKPdf 20 58 41.5 -1.8
BILL *e* 21 05 45.2
BILL *e*PS PS 21 10 02.0 -7.6
BILL pmax pmax
comp=Z,20nm,1.9s
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.8
BILL Bilibino 121.78 3 PFAKE 20 58 50.0 +6.7
BILL LR LR
comp=Z,741nm,21.0s,MS5.3
HLID Hailey 121.81 59 PFAKE 20 58 50.0 +6.6
HLID LR LR
comp=Z,572nm,20.0s,MS5.2
HWUT Hardware Ranch 121.87 62 PFAKE 20 58 50.0 +6.5
HWUT LR LR
comp=Z,1μm,19.0s,MS5.5
WTV Waterville 122.11 52 P PKPdf 20 58 43.3 -0.6
PMR Palmer 122.22 26 PFAKE 20 58 50.0 +5.8
PMR LR LR
comp=Z,696nm,20.0s,MS5.3
HKT Hockley 122.25 82 PFAKE 20 59 00.0 +16
HKT LR LR
comp=Z,2μm,19.0s,MS5.7
KRAR Krasnoyarsk 122.25 323 ⇓*i*PKIKP PKPdf 20 58 42.5 -1.7
KRAR MLR MLR
comp=Z,1μm,24.0s,MS5.5
AMTX Amarillo 122.46 74 PFAKE 20 59 00.0 +15
AMTX LR LR
comp=Z,2μm,20.0s,MS5.8
OD2 Odessa Site #2 122.47 53 P PKPdf 20 58 44.4 -0.2
AHID Auburn Hatcher 122.94 61 PFAKE 20 59 00.0 +14
AHID LR LR
comp=Z,1μm,19.0s,MS5.5
MCMT McKenzie Canyo 123.50 59 *e*PKPdf PKPdf 20 58 47.3 +0.7
BW06 Boulder Array 123.75 62 PFAKE 20 59 00.0 +13
BW06 LR LR
comp=Z,1μm,19.0s,MS5.6
ISCO Idaho Springs 123.77 67 PFAKE 20 59 00.0 +13
ISCO LR LR
comp=Z,908nm,19.0s,MS5.5
ZAL Zalesovo 123.79 317 PKP PKPdf 20 58 44.3 -2.9
comp=Z,1.5nm,0.9s,baz=8.0,slow=2.0,SNR=10.0
NEW Newport 123.84 53 PKP PKPdf 20 58 43.8 -3.5
comp=Z,5.7nm,0.8s,baz=258,slow=2.7,SNR=6.7
NEW Newport 123.84 53 PKP PKPdf 20 58 43.8 -3.5
NEW LR LR
comp=Z,835nm,20.0s,MS5.4
DLMT Dillon 124.01 58 *e*PKPdf PKPdf 20 58 47.5 -0.1
WMOK Wichita Mounta 124.01 76 *e*PKIKP PKPdf 20 58 46.7 -0.9
MCK McKinley 124.06 25 *e*PKIKP PKPdf 20 58 45.8 -1.9
MCK MLR MLR
comp=Z,495nm,20.0s,MS5.2
KURK Kurchatov 124.10 311 *e*PKIKP PKPdf 20 58 46.2 -1.6
KURK MLR MLR
comp=Z,255nm,21.0s,MS4.9
QLMT Earthquake Lak 124.22 59 *e*PKPdf PKPdf 20 58 49.2 +1.2
NATX Nacogdoches 124.26 82 PFAKE 20 59 00.0 +12
NATX LR LR
comp=Z,227nm,20.0s,MS4.8
YMR Madison River 124.35 60 *e*PKPdf PKPdf 20 58 49.1 +0.8
MSO Missoula 124.37 56 *e*PKPdf PKPdf 20 58 47.8 -0.5
MSO LR LR
comp=Z,721nm,20.0s,MS5.3
BSMT Bassoo Peak 124.67 55 P PKPdf 20 58 48.4 -0.5
BOZ Bozeman (W) 124.69 59 *e*PKIKP PKPdf 20 58 48.2 -0.7
BOZ MLR MLR
comp=Z,710nm,19.0s,MS5.3
CHMT Chamberlain Mo 124.77 56 *e*PKPdf PKPdf 20 58 48.8 -0.2
NVS Novosibirsk 125.07 317 *i* PKIKP PKPdf 20 58 45.8 -3.8
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=E,6.0nm,1.4s
COLA College 125.27 25 ⇑*e*PKIKP PKPdf 20 58 48.3 -1.7
COLA MLR MLR
comp=Z,837nm,19.0s,MS5.4
RLMT Red Lodge 125.53 60 PFAKE 20 59 00.0 +9.5
RLMT LR LR
comp=Z,1μm,19.0s,MS5.5
CBKS Cedar Bluff 126.33 72 *e*PKIKP PKPdf 20 58 52.1 +0.1
CBKS MLR MLR
comp=Z,1μm,20.0s,MS5.6
DAWY Dawson 126.88 29 *e*PKPdf PKPdf 20 58 51.2 -1.8
MIAR Mount Ida 126.89 80 PFAKE 20 59 00.0 +6.9
MIAR LR LR
comp=Z,846nm,19.0s,MS5.4
EGAK Eagle 126.93 28 *e*PKPdf PKPdf 20 58 51.3 -1.9
EGAK LR LR
comp=Z,808nm,21.0s,MS5.4
TIXI Tiksi 127.10 348 *i* PKIKP PKPdf 20 58 47.7 -5.8
TIXI *e* 20 58 56.5
TIXI pmax pmax
comp=Z,16nm,1.1s
TIXI Tiksi 127.10 348 *e*PKPdf PKPdf 20 58 49.8 -3.7
EGMT Eagleton 127.26 57 PFAKE 20 59 00.0 +6.2
EGMT LR LR
comp=Z,815nm,20.0s,MS5.4
LAO LASA Array 128.16 61 PFAKE 20 59 10.0 +14
LAO LR LR
comp=Z,1μm,19.0s,MS5.6
BRAL Brewton 128.19 88 PFAKE 20 59 10.0 +14
BRAL LR LR
comp=Z,850nm,21.0s,MS5.4
KSU1 Kansas State U 128.30 74 *e*PKPdf PKPdf 20 58 55.4 -0.4
KSU1 LR LR
comp=Z,2μm,19.0s,MS5.9
EDM Edmonton 128.97 51 *e*PKIKP PKPdf 20 58 55.1 -2.0
BBGH Gun Hill 129.18 128 PFAKE 20 59 10.0 +13
BBGH LR LR
comp=Z,2μm,22.0s,MS5.7
OXF Oxford 129.30 83 PFAKE 20 59 10.0 +12
OXF LR LR
comp=Z,618nm,19.0s,MS5.3
DWPF Disney 129.39 95 PFAKE 20 59 10.0 +12
DWPF LR LR
comp=Z,1μm,22.0s,MS5.5
BRVK Borovoye 129.49 309 *e*PKIKP PKPdf 20 58 56.3 -1.8
BRVK MLR MLR
comp=Z,188nm,20.0s,MS4.8
LRAL Lakeview Retre 129.68 87 PFAKE 20 59 10.0 +12
LRAL LR LR
comp=Z,731nm,19.0s,MS5.4
CHKZ Chkalovo 129.73 309 *e*PKIKP PKPdf 20 58 56.6 -1.9
PLAL Pickwick Lake 130.41 84 PFAKE 20 59 10.0 +10
PLAL LR LR
comp=Z,848nm,22.0s,MS5.4
LIC Lamto 130.72 201 *e*PKIKP PKPdf 20 58 59.5 -0.9
comp=Z,14nm,1.0s
LIC *e*MLR
comp=Z,2μm,19.2s
LIC Lamto 130.72 201 *e*PKPdf PKPdf 20 58 59.5 -0.9
LIC LR LR
comp=Z,810nm,19.3s,MS5.4
WVT Waverly 131.35 83 *e*P Pdif 20 55 56.2 +2.4
INK Inuvik 131.60 27 PKP PKPdf 20 58 59.9 -2.2
comp=Z,10nm,0.8s,baz=199,slow=3.5,SNR=31
INK Inuvik 131.60 27 *e*PKPdf PKPdf 20 58 59.7 -2.4
GOGA Godfrey 132.03 89 PFAKE 20 59 10.0 +7.1
GOGA LR LR
comp=Z,739nm,20.0s,MS5.4
HDIL Hopedale 133.46 78 PFAKE 20 59 20.0 +14
HDIL LR LR
comp=Z,955nm,20.0s,MS5.5
NHSC New Hope 133.76 92 PFAKE 20 59 20.0 +14
NHSC LR LR
comp=Z,538nm,21.0s,MS5.2
YKA Yellowknife Ar 134.13 40 PKhKP 20 58 52.3
comp=Z,0.6nm,0.8s,baz=232,slow=3.3,SNR=6.8
YKA PKP PKPdf 20 59 06.0 -0.8
comp=Z,2.6nm,0.8s,baz=244,slow=1.6,SNR=4.5
YKA PP PP 21 01 35.9 -1.7
comp=Z,0.1nm,0.5s,baz=215,slow=30,SNR=3.7
YKA Yellowknife Ar 134.13 40 PKIKP PKPdf 20 59 06.0 -0.8
YKA 21 01 35.9
JFWS Jewell Farm 134.43 74 PFAKE 20 59 20.0 +13
JFWS LR LR
comp=Z,1μm,20.0s,MS5.6
AGMN Agassiz Refuge 134.63 65 PFAKE 20 59 20.0 +12
AGMN LR LR
comp=Z,1μm,20.0s,MS5.5
GNI Garni 134.85 280 ⇑*i*PKIKP PKPdf 20 59 08.5 +0.3
GNI MLR MLR
comp=Z,800nm,17.0s
GNI Garni 134.85 280 PKPdf PKPdf 20 59 06.1 -2.1
GNI LR LR
comp=Z,631nm,20.0s,MS5.3
MAK Makhachkala 135.05 285 *i* PKIKP PKPdf 20 59 06.8 -1.7
MAK *i* PPP 21 04 50.7

MAK *i* PS PS 21 12 10.2 +5.1
MAK pmax pmax
comp=Z,148nm,1.8s
MAK MLR MLR
comp=Z,709nm,18.0s,MS5.4
TORD Torodi Ar. Bea 135.58 212 PKhKP 20 58 53.1
comp=Z,0.5nm,0.7s,baz=210,slow=2.1,SNR=3.5
TORD PKP PKPdf 20 59 08.0 -1.6
comp=Z,3.7nm,0.8s,baz=159,slow=1.3,SNR=13
TORD Torodi Ar. Bea 135.58 212 PKP PKPdf 20 59 08.0 -1.6
BLA Blacksburg 136.45 88 PFAKE 20 59 20.0 +8.9
BLA LR LR
comp=Z,957nm,22.0s,MS5.5
CNNC Cliffs of the 136.60 92 PFAKE 20 59 20.0 +8.6
CNNC LR LR
comp=Z,1μm,20.0s,MS5.6
EYMN Ely 136.79 68 PFAKE 20 59 20.0 +8.2
EYMN LR LR
comp=Z,1μm,19.0s,MS5.6
ARU Arti 136.96 307 *i* PKIKP PKPdf 20 59 11.3 -0.8
ARU *e* 21 01 52.0
ARU Arti 136.96 307⇑ *e*PKP PKPdf 20 59 11.0 -1.1
ARU LR LR
comp=Z,263nm,20.0s,MS5.0
ZEI Tsey 137.00 282 *e*PKIKP PKPdf 20 59 11.8 -0.4
ZEI *e* 21 01 54.9
MALT Malatya 137.35 273 *e*PKPdf PKPdf 20 59 10.3 -2.5
MALT Malatya 137.35 273⇑ *i*P PKPdf 20 59 12.1 -0.7
AAM Ann Arbor 137.84 79 PFAKE 20 59 20.0 +6.3
AAM LR LR
comp=Z,1μm,20.0s,MS5.6
MCWV Mont Chateau 138.40 85 PFAKE 20 59 30.0 +15
MCWV LR LR
comp=Z,1μm,22.0s,MS5.6
KIV Kislovodsk 138.42 283 *i* PKIKP PKPdf 20 59 13.6 -1.2
KIV *e* 21 02 02.7
KIV *e*SS SS 21 20 09.7 -7.9
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,485nm,20.0s,MS5.2
KIV Kislovodsk 138.42 283 *e*PKPdf PKPdf 20 59 13.3 -1.5
KIV LR LR
comp=Z,146nm,19.0s,MS4.7
CBN Corbin 138.91 89 PFAKE 20 59 30.0 +14
CBN LR LR
comp=Z,969nm,20.0s,MS5.5
SOC Sochi 139.92 281 *i* PKIKP PKPdf 20 59 19.7 +2.2
SOC *e*SS SS 21 20 30.1 -5.1
SOC pmax pmax
comp=Z,19nm,1.1s
SOC MLR MLR
comp=Z,859nm,20.0s,MS5.5
CDAG Cicekdag 140.60 272 *i* P PKPdf 20 59 14.2 -4.5
CTKT Corum 140.99 273 *i* P PKPdf 20 59 16.6 -2.8
BR131 Keskin Array S 141.10 271 *e*PKPpre 20 59 14.2
BR131 LR LR
comp=Z,594nm,19.0s,MS5.4
BRTR Keskin Array B 141.10 271 PKhKP 20 59 13.1
comp=Z,1.5nm,0.8s,baz=129,slow=4.3,SNR=5.3
BRTR PP PP 21 02 18.6 -2.4
comp=Z,1.6nm,0.9s,baz=156,slow=9.5,SNR=5.4
BRTR Keskin Array B 141.10 271 *i* PKP PKPdf 20 59 17.8 -1.9
BOYT Boyabat 141.42 274 *i* P PKPdf 20 59 19.2 -1.0
ANTO Ankara 141.69 271 PFAKE 20 59 30.0 +9.3
ANTO LR LR
comp=Z,944nm,20.0s,MS5.5
ANN Anapa 141.96 281 *i* PKIKP PKPdf 20 59 29.2 +8.0
ANN pmax pmax
comp=Z,42nm,1.2s
ANN MLR MLR
comp=Z,555nm,18.0s,MS5.4
ANN MLR MLR
comp=N,581nm,18.0s,MS5.5
ANN MLR MLR
comp=E,535nm,18.0s,MS5.5
BINY Binghamton 142.27 85 PFAKE 20 59 30.0 +8.2
BINY LR LR
comp=Z,1μm,20.0s,MS5.7
SGKT Sivrigoynuk 142.57 271 *i* P PKPdf 20 59 20.7 -1.6
ESKT Eskisehir 142.61 269 *i* P PKPdf 20 59 21.6 -0.8
GDZ Gediz 143.14 267 *i* P PKPdf 20 59 17.8 -5.5
KDAG Bornova 144.00 264 *i* P PKPdf 20 59 22.1 -2.7
ULDT Uludag 144.03 268 *i* P PKPdf 20 59 21.5 -3.4
BLCB Balcova 144.12 264 *e*P PKPdf 20 59 22.5 -2.5
VRSR Storozhevoye 144.36 291 *e*PKIKP PKPdf 20 59 22.3 -3.1
VRSR pmax pmax
comp=Z,10.0nm,1.0s
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,6.0nm,0.8s
NCB Newcomb 144.36 84 PFAKE 20 59 40.0 +15
NCB LR LR
comp=Z,1μm,19.0s,MS5.6
URLA Izmir 144.37 264 *i* P PKPdf 20 59 21.9 -3.6
BTOK Tokmak 144.43 267 *i* P PKPdf 20 59 22.7 -2.9
LONY Lake Ozonia 144.52 83 PFAKE 20 59 40.0 +14
LONY LR LR
comp=Z,1μm,19.0s,MS5.7
HRV Harvard--Oak R 145.07 88 PFAKE 20 59 40.0 +14
HRV LR LR
comp=Z,1μm,19.0s,MS5.7
ELBA Catalca 145.07 269 *i* P PKPbc 20 59 24.1 -2.0
RES Resolute Bay 145.15 27 *e*PKIKP PKPdf 20 59 23.9 -2.9
CANB Canakkale 145.17 266 *i* P PKPbc 20 59 24.6 -1.8
SART Tekirdag 145.53 267 *i* P PKPdf 20 59 25.7 -1.8
BOZC Bozcaada 145.65 265 *i* P PKPdf 20 59 25.8 -1.8
LBNH Lisbon 145.87 85 PFAKE 20 59 40.0 +12
LBNH LR LR
comp=Z,2μm,21.0s,MS5.8
LOS Limnos 146.28 264 *e*P PKPdf 20 59 27.9 -0.8
ALN Alexandroupoli 146.33 267 *e*P PKPdf 20 59 28.5 -0.3
AOS Alonnisos 146.49 262 *e*P PKPdf 20 59 28.7 -0.4
PSN Preselentsi 146.75 272 *e*P PKPdf 20 59 29.0 -0.5
PRD Provadia 146.93 271 *e*P PKPdf 20 59 30.0 +0.2
XOR Xorichti 147.03 262 *e*P PKPdf 20 59 30.3 +0.3
TIRR Tirgusor 147.06 274 *e*PKPdf PKPdf 20 59 29.5 -0.6
TIRR Tirgusor 147.06 274⇑ *i*P PKPdf 20 59 30.3 +0.3
MOS Moscow 147.13 297 *e*PKIKP PKPdf 20 59 29.6 -0.6
MOS pmax pmax
comp=Z,114nm,1.2s
MOS MLR MLR
comp=N,1μm,21.0s
MOS MLR MLR
comp=Z,1μm,21.0s,MS5.7
KDZ Kurdzhali 147.17 267 *e*P PKPdf 20 59 30.0 -0.2
OUR Ourranopolis 147.19 264 *e*P PKPdf 20 59 28.9 -1.4
AGG Agios Georgios 147.30 261 *e*P PKPdf 20 59 31.4 +0.9
OBN Obninsk 147.46 296⇑ *i*PKIKP PKPdf 20 59 29.3 -1.4
OBN *i* 20 59 40.9
OBN pmax pmax
comp=Z,146nm,0.8s
OBN Obninsk 147.46 296 *e*PKPdf PKPdf 20 59 29.8 -1.0
OBN LR LR
comp=Z,222nm,22.0s,MS4.9
HARR Harsova 147.47 274⇓ *i*P PKPab 20 59 35.1 -0.2
PLG Polygyros 147.53 264 *e*P PKPdf 20 59 29.7 -1.1
CFR Carcaliu 147.62 275 PKP2 PKPab 20 59 35.8 -0.1
KLMR Klimovskoe 147.81 307 *e*PKHKP PKPdf 20 59 29.2 -2.1
SZH Strazhica 147.83 270 *e*P PKPdf 20 59 32.0 +0.7
PLD Plovdiv 147.87 267 *e*P PKPdf 20 59 32.8 +1.4
PLD Plovdiv 147.87 267 *e*P PKPdf 20 59 32.0 +0.6
SOH Sokhos 147.87 264 *e*P PKPdf 20 59 31.0 -0.4
HORT Hortiatis 147.87 264 *e*P PKPdf 20 59 32.4 +1.0
LIT Litokhoron 147.91 262 *e*P PKPdf 20 59 31.3 -0.1
PKME Peaks-Kenny Pk 148.00 86 PFAKE 20 59 40.0 +8.4
PKME LR LR
comp=Z,2μm,21.0s,MS5.8
LKD Levkas 148.07 259 *e*P PKPdf 20 59 32.0 +0.3
MMB Musomiste 148.12 266 *e*P PKPdf 20 59 33.0 +1.2
KIS Kishinev 148.20 278 *e*PKIKP PKPdf 20 59 33.0 +1.1
KIS *e* 21 03 04.0
KIS pmax pmax
comp=Z,140nm,1.4s
KIS pmax pmax
comp=Z,900nm,12.0s
KIS pmax pmax
comp=Z,700nm,12.0s
KIS Kishinev 148.20 278 *e*PKP PKPdf 20 59 33.0 +1.1
comp=Z,140nm,1.4s
KIS Kishinev 148.20 278 *e*PP PP 21 03 04.0 +0.6
KNT Kendrikon 148.35 264 *e*P PKPdf 20 59 33.5 +1.4
ZIMR 148.40 270 PKIKP PKPbc 20 59 34.2 -1.5

BUC1 Bucharest 148.40 272 PKP2 PKPbc 20 59 35.0 -0.8
MEV Metsovon 148.45 261 *e*P PKPbc 20 59 35.8 -0.1
PGB Panagyurishte 148.45 267 *e*P PKPdf 20 59 33.0 +0.7
GRG Griva 148.51 264 *e*P PKPbc 20 59 34.6 -1.4
VAY Valandovo 148.64 264 *e*P PKPdf 20 59 33.6 +0.9
VAY Valandovo 148.64 264 *e*PKP PKPdf 20 59 33.8 +1.2
VAY Valandovo 148.64 264 *e*PKP PKPdf 20 59 33.8 +1.2
KKB Krupnik 148.68 266 *e*P PKPdf 20 59 34.0 +1.3
IGT Igoumenitsa 148.80 259 *e*P PKPbc 20 59 35.9 -0.9
VRI Vrincioaia 148.83 275 P PKPbc 20 59 36.0 -0.8
VRI Vrincioaia 148.83 275⇓ *i*P PKPbc 20 59 35.1 -1.8
IAS Iasi 149.03 278 P PKPbc 20 59 36.5 -0.9
IAS Iasi 149.03 278⇑ *i*P PKPbc 20 59 36.7 -0.7
VTS Vitosha 149.04 267 *e*P PKPdf 20 59 35.4 +2.1
VTS Vitosha 149.04 267 *e*P PKPdf 20 59 35.0 +1.7
VTS Vitosha 149.04 267⇑ *i*P PKPbc 20 59 35.4 -2.0
MLR Muntele Rosu 149.09 274 P PKPbc 20 59 36.8 -0.8
MLR Muntele Rosu 149.09 274⇑ *i*P PKPbc 20 59 35.9 -1.6
STIP Stip 149.10 264 *e*PKP PKPbc 20 59 35.3 -2.2
STIP Stip 149.10 264 *e*PKP PKPbc 20 59 35.3 -2.2
BIA Bitola 149.18 263 *e*P PKPbc 20 59 36.4 -1.4
BIA Bitola 149.18 263 *e*PKP PKPbc 20 59 35.6 -2.1
BIA Bitola 149.18 263 *e*PKP PKPbc 20 59 35.6 -2.1
SNX Sinaia 149.26 273⇓ *i*P PKPbc 20 59 37.6 -0.4
KRUS Krusevo 149.45 263 *e*PKP PKPbc 20 59 36.4 -2.0
KRUS Krusevo 149.45 263 *e*PKP PKPbc 20 59 36.4 -2.0
MTUR Matau 149.46 272⇓ *i*P PKPbc 20 59 36.9 -1.5
OHR Ohrid 149.55 262 *e*P PKPbc 20 59 37.8 -0.9
OHR Ohrid 149.55 262 *e*PKP PKPbc 20 59 36.6 -2.0
OHR Ohrid 149.55 262 *e*PKP PKPbc 20 59 36.6 -2.0
SKO Skopje 149.71 264 *e*P PKPbc 20 59 38.2 -0.9
SKO Skopje 149.71 264 *e*PKP PKPbc 20 59 37.1 -1.9
SKO Skopje 149.71 264 *e*PKP PKPbc 20 59 37.1 -1.9
AKASG Malin Array Be 149.73 285 PKP PKPdf 20 59 32.2 -2.2
comp=Z,22nm,0.7s,baz=85,slow=2.2,SNR=16
AKASG PKPbc PKPbc 20 59 36.8 -2.3
comp=Z,22nm,0.7s,baz=87,slow=2.4,SNR=112
AKASG Malin Array Be 149.73 285 PKP PKPdf 20 59 32.2 -2.2
AKASG PKPbc PKPbc 20 59 36.8 -2.3
BARS Barje 150.00 266 *e*PKP PKPbc 20 59 39.0 -0.8
BURAR Bucovina Array 150.62 277⇑ *i*P PKPbc 20 59 40.5 -0.8
TIP Timpagrande 150.63 255 *e*PKPbc PKPbc 20 59 40.8 -0.5
LVZ Lovozero 150.84 320 *i* PKIKP PKPdf 20 59 35.3 -0.8
GZR Gura Zlata 150.90 271 PKIKP PKPbc 20 59 40.3 -1.6
GZR Gura Zlata 150.90 271⇑ *i*P PKPbc 20 59 41.2 -0.7
GRUS Gruza 151.28 267⇑ *i*PKP PKPbc 20 59 40.7 -2.1
APA Apatity 151.32 320⇑ *i*PKIKP PKPbc 20 59 40.5 -2.4
APA *i* 20 59 48.0
APA pmax pmax
comp=Z,68nm,1.0s
DRGR 151.68 273⇑ PKIKP PKPbc 20 59 42.1 -1.6
DRGR 151.68 273⇑ *i*P PKPbc 20 59 42.0 -1.7
BZS Buzias 151.71 270⇓ *i*P PKPbc 20 59 42.2 -1.6
DIVS Divcibare 151.82 266⇑ *i*PKP PKPbc 20 59 42.1 -2.0
DIVS Divcibare 151.82 266 *e*P PKPbc 20 59 43.0 -1.0
MNK Minsk 151.98 291⇓ *e*PKIKP PKPbc 20 59 41.0 -3.4
MNK pmax pmax
comp=Z,280nm,1.0s
JOF Joensuu 152.01 310 *e*pkp PKPbc 20 59 41.8 -2.7
JOF Joensuu 152.01 310 *e*pkp PKPab 20 59 48.5 -5.3
PUL Pulkovo 152.03 303 *i* PKIKP PKPbc 20 59 41.3 -3.2
KEST Kesra 152.21 241 PKPbc PKPbc 20 59 43.7 -1.2
comp=Z,7.6nm,0.9s,baz=306,slow=0.9,SNR=11
LVV L'vov 152.35 280 *e*PKIKP PKPbc 20 59 44.1 -1.1
LVV *e* 20 59 52.7
SPB4 Spitsbergen Ar 152.41 344 *e*PKPbc PKPbc 20 59 43.9 -1.5
KBS Kingsbay 152.54 347 PFAKE 20 59 50.0 +11
KBS LR LR
comp=Z,1μm,19.0s,MS5.7
UZH Uzhgorod 152.83 277 *e*PKIKP PKPbc 20 59 44.7 -1.6
UZH *e* 20 59 52.3
KOLS Kolonicke sedl 152.98 277 *e*PKIKP PKPbc 20 59 46.4 -0.2
KOLS *e* 20 59 54.9
KOLS Kolonicke sedl 152.98 277 *e*PKP PKPbc 20 59 46.3 -0.3
KOLS *e* 20 59 54.9
KWP Kalwaria 153.04 279 *e*PKP PKPbc 20 59 45.6 -1.2
KEV Kevo 153.40 325 *e*pkp PKPbc 20 59 44.6 -3.0
KEV Kevo 153.40 325 PFAKE 20 59 50.0 +10
KEV LR LR
comp=Z,967nm,20.0s,MS5.6
CRVS Cervenica-Dubn 153.44 277 *e*PKP PKPbc 20 59 46.6 -1.0
CRVS *e* 20 59 59.3
SCHQ Schefferville 153.58 69 PKPbc PKPbc 20 59 46.7 -1.3
comp=Z,8.8nm,0.9s,baz=223,slow=1.4,SNR=5.3
PKSM Moragy 153.79 269 PKIKP PKPbc 20 59 47.0 -1.4
PKSM Moragy 153.79 269⇓ *i*P PKPbc 20 59 47.8 -0.6
STHS Stebnicka Huta 153.80 277 *e*PKIKP PKPbc 20 59 47.3 -1.1
STHS *e* 20 59 57.1
STHS Stebnicka Huta 153.80 277 *e*PKP PKPbc 20 59 47.3 -1.1
STHS *e* 20 59 57.0
KECS Kecovo 153.82 275 *e*PKP PKPbc 20 59 47.7 -0.8
PSZ Piszkesteto 153.90 273 *e*PKIKP PKPbc 20 59 47.8 -0.8
PSZ Piszkesteto 153.90 273⇑ *i*P PKPbc 20 59 48.3 -0.3
PSZ Piszkesteto 153.90 273⇓ *e*pPKP PKPbc 20 59 47.9 -0.7
ARCES ARCESS Array B 153.96 325 PKPbc PKPbc 20 59 46.5 -2.3
comp=Z,14nm,0.8s,baz=79,slow=2.6,SNR=14
ARE0 ARCESS Array S 153.96 325 PKPdf PKPdf 20 59 38.3 -2.4
ARE0 *e*PKPbc PKPbc 20 59 47.4 -1.4
KAF Kangasniemi 154.26 307 *e*pkp PKPbc 20 59 46.9 -2.5
KAF Kangasniemi 154.26 307 *e*pkp PKPab 21 00 01.5 -1.8
FINES FINESS Array B 154.33 306 PKPbc PKPbc 20 59 47.4 -2.1
comp=Z,14nm,0.7s,baz=101,slow=6.0,SNR=25
FINES FINESS Array B 154.33 306 *i* PKIKP PKPbc 20 59 48.0 -1.6
FINES pmax pmax
comp=Z,14nm,0.7s
NIE Niedzica 154.35 277 *e*PKP PKPbc 20 59 49.5 -0.1
SUW Suwalki 154.41 288 *e*PKP PKPbc 20 59 48.5 -1.2
SUW *e* 21 00 02.6
VYHS Vyhne 154.80 274 *e*PKIKP PKPbc 20 59 49.9 -0.7
VYHS *e* 21 00 04.4
VYHS Vyhne 154.80 274 *e*PKP PKPbc 20 59 49.8 -0.8
VYHS *e* 21 00 04.4
OJC Ojcow 154.99 278 *e*PKP PKPdf 20 59 49.1 +6.9
ZST Bratislava 155.68 272 *e*PKP PKPdf 20 59 46.0 +2.9
OKC Ostrava-Krasne 155.80 276 *e*PKPAB PKPab 21 00 08.1 -1.8
OKC AMS AMS 22 15 00.0
MORC Moravsky Berou 156.13 276⇓ *i*P PKPab 21 00 10.6 -0.7
ARSA Arzberg 156.16 269⇑ *i*P PKPab 21 00 10.8 -0.6
comp=Z,26nm,0.9s
DAG Danmarks Havn 157.06 359 *i* P PKPdf 20 59 52.0 +7.1
DAG Danmarks Havn 157.06 359 *e*PKIKP PKPdf 20 59 52.0 +7.1
DPC Dobruska-Polom 157.08 276 *e*PKPAB PKPab 21 00 15.2 -0.2
DPC AMS AMS 22 14 50.0
UPC Upice 157.32 276 *e*PKPAB PKPab 21 00 15.5 -1.0
UPC *e*pPKP pPKPab 21 00 24.0 +4.2
PRU Pruhonice 157.98 274 *e*PKPAB PKPab 21 00 18.5 -0.8
PRU AMS AMS 22 14 20.0
comp=Z,900nm,28.5s
GEC2 GERESS Array S 157.99 271 *e*P PKPab 21 00 17.2 -2.1
GERES GERESS Array B 157.99 271 PKP PKPdf 20 59 45.6 -0.5
comp=Z,0.4nm,0.7s,baz=147,slow=36,SNR=3.4
GERES PKPab PKPab 21 00 17.3 -2.1
comp=Z,3.6nm,0.7s,baz=121,slow=5.1,SNR=19
PVCC Panska Ves 158.18 276 *e*PKPAB PKPab 21 00 19.6 -0.6
PVCC AMS AMS 22 15 30.0
KHC Kasperske Hory 158.19 271 *e*PKPAB PKPab 21 00 18.8 -1.4
KHC *e*pPKP pPKPab 21 00 24.2 +0.6
KHC AMS AMS 22 16 10.0
WET Wettzell 158.61 271 *e*P PKPab 21 00 19.7 -2.3
BRG Berggiesshubel 158.68 276 *e*P PKPab 21 00 21.1 -1.2
BRG Berggiesshubel 158.68 276 *e*PKP PKPab 21 00 21.0 -1.4
comp=Z,6.7nm,1.1s
BRG PP PP 21 03 55.0 -7.6
BRG *e* 21 14 25.0
BRG Berggiesshubel 158.68 276 *e*PKP2 PKPab 21 00 21.0 -1.3
BRG pmax pmax
comp=Z,7.0nm,1.1s
ROTZ Rotzenmuhle 159.27 272 *e*P PKPab 21 00 24.4 -0.5
NKC Novy Kostel 159.32 273 *e*PKPAB PKPab 21 00 24.1 -1.0
NKC AMS AMS 22 14 30.0
comp=Z,1μm,22.1s
TANN Tannenbergstha 159.38 274 *e*P PKPab 21 00 24.2 -1.2
CLL Collm 159.39 277 *e*P PKPab 21 00 23.7 -1.7
CLL Collm 159.39 277 *i* PKP2 PKPab 21 00 23.9 -1.5
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 159.39 277 *i* PKPab PKPab 21 00 23.9 -1.5
comp=Z,12nm,1.1s
DAVA Damuels 159.51 264⇑ *i*P PKPab 21 00 25.1 -0.8
comp=Z,30nm,1.6s
GRF Grafenberg Arr 159.82 271 *e*P PKPab 21 00 25.8 -1.5
comp=Z,15nm,0.9s

GRF Grafenberg Arr 159.82 271 *e*PKP2 PKPab 21 00 25.8 -1.5
GRF pmax pmax
comp=Z,15nm,0.9s
GRFO Grafenberg 159.82 271 PFAKE 21 00 00.0 +12
GRFO LR LR
comp=Z,1μm,22.0s,MS5.7
MBDF Montbardon 159.89 254 *e*PKP2 PKPab 21 00 27.2 -0.4
comp=Z,22nm,0.8s
MOX Moxa 159.97 274 *e*P PKPab 21 00 26.7 -1.2
LPG La Plagne 160.36 256 *e*PKP2 PKPab 21 00 28.1 -1.5
comp=Z,16nm,1.0s
LPL La Plagne 160.38 256 *e*PKP2 PKPab 21 00 28.9 -0.8
comp=Z,8.4nm,0.8s
ORIF Oris-en-Rattie 160.51 253 *e*PKP2 PKPab 21 00 29.9 -0.4
comp=Z,12nm,0.9s
ORIF *e*MLR
comp=Z,2μm,20.5s
SFJD Kangerlussuaq 160.62 36 PFAKE 21 00 00.0 +11
SFJD LR LR
comp=Z,1μm,19.0s
BFO Black Forest 160.93 265 *e*P PKPab 21 00 30.2 -1.9
BFO Black Forest 160.93 265 PFAKE 21 00 00.0 +11
BFO LR LR
comp=Z,356nm,19.0s
LASF Ste Croix 161.11 249 *e*PKP2 PKPab 21 00 31.9 -1.0
CABF La Chapelle 161.36 258 *e*PKP2 PKPab 21 00 32.9 -1.1
NB2 NORSAR Subarra161.51 305 PKP PKPab 21 00 32.6 -2.0
comp=Z,17nm,1.1s,baz=83,slow=4.4
NB2 NORSAR Subarra161.51 305 PKP PKPab 21 00 32.6 -2.0
baz=83,slow=4.4
NOA NORSAR Array B161.51 305 PKPab PKPab 21 00 32.3 -2.3
comp=Z,8.5nm,0.9s,baz=76,slow=4.5,SNR=13
TNS Taunus Mts 161.68 270 *e*P PKPab 21 00 34.2 -1.2
ESDC Sonseca Array 161.71 226 PKPdf 20 59 48.3 -2.0
comp=Z,0.9nm,0.8s,baz=338,slow=0.6,SNR=5.0
ESLA Sonseca Array 161.71 226 PFAKE 21 00 00.0 +10
ESLA LR LR
comp=Z,8μm,20.0s
PAB San Pablo 161.76 225 PFAKE 21 00 00.0 +10
PAB LR LR
comp=Z,1μm,21.0s
HAU Haudompre 161.94 262 *e*PKP2 PKPab 21 00 35.3 -1.2
HAU *e*MLR
comp=Z,873nm,21.0s
KONO Kongsberg 162.48 301 PFAKE 21 00 00.0 +8.9
KONO LR LR
comp=Z,2μm,21.0s
CAF Calviac 162.64 248 *e*PKP2 PKPab 21 00 39.3 -0.3
comp=Z,24nm,0.9s
SMF Signal de Mont 162.68 255 *e*PKP2 PKPab 21 00 38.1 -1.6
comp=Z,14nm,0.8s
LOR Lormes 163.00 257 *e*PKP2 PKPab 21 00 39.8 -1.4
comp=Z,15nm,0.8s
LOR *e*MLR
comp=Z,1μm,19.5s
AVF Avril sur Loir 163.03 255 *e*PKP2 PKPab 21 00 39.6 -1.7
comp=Z,32nm,1.3s
SSF Saint Saulge 163.10 256 *e*PKP2 PKPab 21 00 40.3 -1.3
comp=Z,23nm,0.9s
SJPF Ste Jean 163.14 238 *e*PKP2 PKPab 21 00 40.8 -1.0
RJF Les Rejaudoux 163.18 248 *e*PKP2 PKPab 21 00 41.0 -1.0
comp=Z,33nm,1.0s
RJF *e*MLR
comp=Z,2μm,20.8s
BGF Bois d'Agland 163.19 254 *e*PKP2 PKPab 21 00 41.0 -1.0
LFF La Frestale 163.37 246 *e*PKP2 PKPab 21 00 41.7 -1.1
GIVF Givet 163.77 267 *e*PKP2 PKPab 21 00 43.3 -1.3
MFF Saint Martin d 164.90 249 *e*PKP2 PKPab 21 00 48.6 -0.9
LDF La Druitiere 165.98 256 *e*PKP2 PKPab 21 00 53.5 -0.8
FLN La Foliniere 166.27 256 *e*PKP2 PKPab 21 00 54.9 -0.7
FLN *e*MLR
comp=Z,2μm,22.0s

CSEM ***06*** *20:46:18.7±0.4, 3502N×2322E, h60km, MD3.1, Error ellipse: s-maj=10.3km s-min=5.0km az=90.0*
HLW ***06*** *20:46:19.5, 3507N×2325E, h33km, Mb2.8*
ISCJB ***06*** *20:46:19.6±1.0, 3504N±005×233E±0.1, h75km±11km, Error ellipse: s-maj=16.8km s-min=8.7km az=173.2*
THE ***06*** *20:46:19.4, 35.14N×2308E, h21km*
ATH ***06*** *20:46:20.3, 35.16N×2321E, h14km, MD3.1/4*
NEIC ***06*** *20:46:20.3, 35.16N×2321E, h14km, MD3.1(ATH), After ATH.*

ISC 06 20:46:20.9±1.0, 3507N±005×233E±01, h65km±14km, n16, σ0°79/20, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.60**	**56**	*e*Pg	**Pn**	**20 46 32.3**	**-1.9**
KARN				*e*Sg	**Sn**	**20 46 43.5**	**-0.5**
GVD	**Gavdhos**	**0.67**	**109**	*e*Pg	**Pn**	**20 46 34.9**	**-0.2**
GVD				*e*Sg	**Sn**	**20 46 47.0**	**+1.5**
GVD	**Gavdhos**	**0.67**	**109**	*e*Pg	**Pn**	**20 46 35.0**	**-0.1**
GVD				*e*Sg	**Sn**	**20 46 47.0**	**+1.5**
VAM	**Vamos**	**0.80**	**65**	*e*PG	**Pn**	**20 46 36.2**	**-0.4**
SIVA	**Sivas**	**1.23**	**92**	*e*Pg	**Pn**	**20 46 42.4**	**+0.4**
KYTH	**Kithira**	**1.23**	**350**	*e*PB	**Pn**	**20 46 41.8**	**-0.3**
VLI	**Veliai**	**1.68**	**350**	*e*PB	**Pn**	**20 46 50.0**	**+2.0**
THR6	**Thira Island,**	**2.13**	**52**	*e*Pn	**Pn**	**20 46 53.8**	**-0.3**
THR5	**Thira Island,**	**2.13**	**50**	*e*Pn	**Pn**	**20 46 54.4**	**+0.2**
THR3	**Thira Island,**	**2.16**	**51**	*e*Pn	**Pn**	**20 46 54.9**	**+0.4**
THR1	**Thera Island**	**2.18**	**53**	*e*Pn	**Pn**	**20 46 54.3**	**-0.5**
APE	**Apeiranthos**	**2.69**	**41**	*e*Pn	**Pn**	**20 47 01.4**	**-0.4**
APE				*e*Sn	**Sn**	**20 47 33.6**	**+0.5**
HMAT	**Matruh**	**5.08**	**140**	P	**Pn**	**20 47 34.4**	**+0.1**
SWA1		**6.13**	**160**	P	**Pn**	**20 47 48.5**	**-0.2**
SWA1		**6.13**	**160**	P	**Pn**	**20 47 48.5**	**-0.3**
HFRF	**Wahat Farafira**	**8.98**	**150**	P	**Pn**	**20 48 27.5**	**-0.2**

CSEM ***06*** *21:03:48.3±0.2, 3488N×2726E, h5km, ML3.0, Error ellipse: s-maj=8.7km s-min=3.5km az=59.0*
THE ***06*** *21:03:52.6, 3506N×2705E, h2km*
HLW ***06*** *21:03:54.7, 34.76N×2681E, h33km, Mb3.0*

ISC 06 21:03:48.6±3.7, 3509N±007×273E±02, h16km±23km, n12, σ0°91/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.87**	**272**	*e*Pg	**Pg**	**21 04 06.2**	**+0.7**
ZKR				*e*Sg	**Sg**	**21 04 16.8**	**-0.1**
THR1	**Thera Island**	**1.95**	**311**	*e*Pb	**Pb**	**21 04 23.3**	**-0.5**
SANT	**Santorini**	**1.95**	**311**	*e*Pb	**Pb**	**21 04 23.7**	**0.0**
THR6	**Thira Island,**	**1.98**	**310**	*e*Pb	**Pb**	**21 04 24.1**	**-0.2**
THR3	**Thira Island,**	**2.01**	**311**	*e*Pb	**Pb**	**21 04 24.1**	**-0.7**
THR5	**Thira Island,**	**2.05**	**311**	*e*Pb	**Pb**	**21 04 24.9**	**-0.6**
APE	**Apeiranthos**	**2.42**	**325**	*e*Pn	**Pn**	**21 04 30.8**	**+3.2**
GVD	**Gavdhos**	**2.63**	**265**	*e*Pn	**Pn**	**21 04 31.9**	**+1.5**
SLUM		**3.99**	**206**	P	**Pn**	**21 04 47.5**	**-1.6**
HMAT	**Matruh**	**3.99**	**182**	P	**Pn**	**21 04 49.3**	**+0.2**
SWA1		**5.96**	**193**	P	**Pn**	**21 05 15.7**	**-0.6**
HFRF	**Wahat Farafira**	**7.97**	**173**	P	**Pn**	**21 05 44.6**	**+0.8**

ISCJB ***06*** *21:14:44.3±0.5, 4313N±003×002W±003, h6km, Error ellipse: s-maj=4.0km s-min=3.2km az=86.8*
LDG ***06*** *21:14:45.6±0.1, 4303N×002W, h6km, Md1.8/3, ML1.6/5, Error ellipse: s-maj=1.1km s-min=0.8km az=152.0*
MDD ***06*** *21:14:46.1±0.3, 4302N×003W, h0km, mbLg0.9/3, Error ellipse: s-maj=2.8km s-min=2.1km az=153.0, PRXIMO*
STR ***06*** *21:14:46.1±0.1, 4300N×004E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 06 21:14:45.0±0.7, 4306N±004×002W±004, h12km±9km, n19, σ0°36/30, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**102**	Pg	**Pg**	**21 14 47.8**	**+0.4**
LABF				Sg	**Sg**	**21 14 49.1**	**-0.1**
LABF	**Labassere**	**0.07**	**102**	P	**Pg**	**21 14 47.8**	**+0.4**
LABF				S	**Sg**	**21 14 49.1**	**-0.1**
VIEF	**Viey**	**0.18**	**171**	Pg	**Pg**	**21 14 48.9**	**-0.1**
VIEF				Sg	**Sg**	**21 14 50.9**	**-0.9**
VIEF	**Viey**	**0.18**	**171**	P	**Pg**	**21 14 48.9**	**-0.1**
VIEF				S	**Sg**	**21 14 51.0**	**-0.8**
EPF	**Esparros**	**0.26**	**97**	*e*Pg	**Pg**	**21 14 50.9**	**+0.5**
EPF				*e*Sg	**Sg**	**21 14 54.7**	**+0.6**
	8.3nm,0.3s						
EPF	**Esparros**	**0.26**	**97**	Pg	**Pg**	**21 14 50.9**	**+0.5**
EPF				Lg		21 14 54.7	
	4.2nm,0.3s						
EBIE	**Bielsa**	**0.39**	**163**	Pg	**Pg**	**21 14 52.7**	**-0.1**

0.2nm,0.1s,SNR=32
EBIE Lg 21 14 57.5
4.3nm,0.1s,SNR=6.8
ETSF Etsaut 0.43 248 *e*Pg **Pg 21 14 54.0 +0.5**
ETSF *e*Sg **Sg 21 14 59.3 0.0**
6.3nm,0.2s
ETSF Etsaut 0.43 248 Pg **Pg 21 14 54.0 +0.5**
ETSF Lg 21 14 59.3
3.2nm,0.2s
SJPF Ste Jean 0.89 274 *e*Pg **Pg 21 15 02.3 +0.1**
SJPF *e*Sg **Sg 21 15 13.8 0.0**
1.8nm,0.3s
SJPF Ste Jean 0.89 274 Pg **Pg 21 15 02.3 +0.1**
SJPF Lg 21 15 13.8
0.9nm,0.3s
MTLF Montolieu 1.66 80 *e*Pg **Pg 21 15 16.9 +0.1**
MTLF *e*Sg **Sg 21 15 38.3 0.0**
1.0nm,0.2s
MTLF Montolieu 1.66 80 Pg **Pg 21 15 16.9 +0.1**
MTLF Lg 21 15 38.3
0.0nm,0.2s
LFF La Frestale 1.96 16 *e*Pg **Pg 21 15 22.7 +0.2**
LFF *e*Sg **Sg 21 15 48.0 +0.1**
1.3nm,0.3s
LFF La Frestale 1.96 16 Pg **Pg 21 15 22.7 +0.2**
LFF Lg 21 15 48.0
0.6nm,0.3s
CAF Calviac 2.39 38 *e*Pg **Pg 21 15 30.4 -0.5**
CAF *e*Sg **Sg 21 16 01.9 0.0**
0.4nm,0.2s
CAF Calviac 2.39 38 Pg **Pg 21 15 30.4 -0.5**
CAF Lg 21 16 01.9
0.2nm,0.2s
RJF Les Rejaudoux 2.50 26 *e*Pg **Pg 21 15 32.3 -0.6**
RJF *e*Sg **Sg 21 16 05.0 -0.3**
0.7nm,0.2s
RJF Les Rejaudoux 2.50 26 Pg **Pg 21 15 32.3 -0.6**
RJF Lg 21 16 05.0
0.3nm,0.2s

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*NEIC **06** 21:45:38.5, 3827S×17585E, h176km, MG3.9(WEL), After WEL.*

WEL 06 21:45:38.0±0.4, 3826S×17586E, h181km±3km, ML3.8/14, 1D, Error ellipse: s-maj=2.9km s-min=2.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTVZ	**Oturere**	**0.92**	**190**	SN	Sn	21 46 27.1	+0.9
URZ	**Urewera**	**0.98**	**90**	P	Pn	21 46 05.6	-0.1
URZ	**Urewera**	**0.98**	**90**	⇓PN	Pn	21 46 05.5	-0.2
URZ				SN	Sn	21 46 26.8	-0.3
TUVZ	**Tukino**	**1.02**	**189**	P	Pn	21 46 06.3	+0.3
TUVZ	**Tukino**	**1.02**	**189**	PN	Pn	21 46 06.3	+0.3
TUVZ				SN	Sn	21 46 27.1	-0.4
FWVZ	**Far West T-bar**	**1.02**	**194**	*e*P	Pn	21 46 06.7	+0.7
FWVZ	**Far West T-bar**	**1.02**	**194**	PN	Pn	21 46 06.2	+0.2
BKZ	**Black Stump Fm**	**1.03**	**152**	P	Pn	21 46 06.3	+0.2
BKZ				S	Sn	21 46 27.2	-0.5
BKZ	**Black Stump Fm**	**1.03**	**152**	PN	Pn	21 46 06.3	+0.2
BKZ				SN	Sn	21 46 27.2	-0.5
WNVZ	**Wahianoa**	**1.09**	**191**	P	Pn	21 46 06.7	+0.2
WNVZ	**Wahianoa**	**1.09**	**191**	PN	Pn	21 46 06.7	+0.2
MOVZ	**Moawhango**	**1.15**	**184**	P	Pn	21 46 06.7	-0.3
MOVZ				S	Sn	21 46 28.0	-1.3
MOVZ	**Moawhango**	**1.15**	**184**	PN	Pn	21 46 06.7	-0.3
MOVZ				SN	Sn	21 46 28.0	-1.3
MWZ	**Matawai**	**1.31**	**94**	P	Pn	21 46 08.6	+0.2
MWZ				S	Sn	21 46 32.0	+0.2
MWZ	**Matawai**	**1.31**	**94**	PN	Pn	21 46 08.6	+0.2
MWZ				SN	Sn	21 46 32.0	+0.2
KUZ	**Kuaotunu**	**1.52**	**356**	P	Pn	21 46 10.2	0.0
KUZ	**Kuaotunu**	**1.52**	**356**	PN	Pn	21 46 10.2	-0.1
KNZ	**Kokohu**	**1.61**	**119**	P	Pn	21 46 11.4	+0.3
KNZ	**Kokohu**	**1.61**	**119**	PN	Pn	21 46 11.4	+0.3
WAZ	**Wanganui**	**1.64**	**204**	P	Pn	21 46 11.0	-0.5
TSZ	**Takapari Road**	**1.80**	**178**	P	Pn	21 46 12.4	-0.6
TSZ	**Takapari Road**	**1.80**	**178**	PN	Pn	21 46 12.4	-0.7
PUZ	**Puketiti**	**1.90**	**85**	P	Pn	21 46 14.1	0.0
PUZ	**Puketiti**	**1.90**	**85**	PN	Pn	21 46 14.1	0.0
PXZ	**Pawanui**	**1.93**	**157**	PN	Pn	21 46 13.2	-1.3
MRZ	**Mangatainoka R**	**2.41**	**185**	P	Pn	21 46 17.8	-1.9
MRZ	**Mangatainoka R**	**2.41**	**185**	PN	Pn	21 46 17.8	-1.9
BFZ	**Birch Farm**	**2.44**	**173**	PN	Pn	21 46 18.5	-1.5
TIWZ	**Tintock**	**2.51**	**180**	SN	Sn	21 46 50.5	-3.7
KIW	**Kapiti Island**	**2.70**	**196**	P	Pn	21 46 20.7	-2.4
KIW	**Kapiti Island**	**2.70**	**196**	PN	Pn	21 46 20.7	-2.4
MTW	**Mount Morrison**	**2.91**	**185**	P	Pn	21 46 22.8	-2.8
MTW	**Mount Morrison**	**2.91**	**185**	PN	Pn	21 46 22.8	-2.8
CAW	**Cannon Point**	**2.91**	**192**	P	Pn	21 46 23.3	-2.3
CAW	**Cannon Point**	**2.91**	**192**	PN	Pn	21 46 23.3	-2.4
DUWZ	**D'Urville Isla**	**2.95**	**210**	PN	Pn	21 46 23.3	-2.8
MRW	**Makara Radio**	**3.10**	**196**	PN	Pn	21 46 25.1	-2.8
TRWZ	**Traveller**	**3.14**	**182**	PN	Pn	21 46 25.7	-2.7
MSWZ	**Moikau Station**	**3.19**	**188**	P	Pn	21 46 26.0	-3.0
MSWZ	**Moikau Station**	**3.19**	**188**	PN	Pn	21 46 26.0	-3.0
TCW	**Tory Channel**	**3.19**	**202**	P	Pn	21 46 26.2	-2.9
TCW	**Tory Channel**	**3.19**	**202**	PN	Pn	21 46 26.2	-2.9
TUWZ	**Tuamarina**	**3.49**	**204**	PN	Pn	21 46 29.7	-3.1
NNZ	**Nelson**	**3.52**	**212**	*e*P	Pn	21 46 30.0	-3.1
NNZ	**Nelson**	**3.52**	**212**	PN	Pn	21 46 30.0	-3.1
QRZ	**Quartz Range**	**3.63**	**224**	*e*P	Pn	21 46 30.6	-3.9
QRZ	**Quartz Range**	**3.63**	**224**	PN	Pn	21 46 30.6	-4.0
BSWZ	**Blackbirch Sta**	**3.77**	**203**	P	Pn	21 46 33.0	-3.3
BSWZ	**Blackbirch Sta**	**3.77**	**203**	PN	Pn	21 46 33.0	-3.2
THZ	**Tophouse**	**4.17**	**212**	*e*P	Pn	21 46 37.7	-3.6
THZ	**Tophouse**	**4.17**	**212**	PN	Pn	21 46 37.7	-3.6
KHZ	**Kahutara**	**4.52**	**202**	P	Pn	21 46 42.1	-3.6
KHZ	**Kahutara**	**4.52**	**202**	PN	Pn	21 46 42.1	-3.6
DSZ	**Denniston Nort**	**4.67**	**221**	*e*P	Pn	21 46 43.2	-4.6
LTZ	**Lake Taylor**	**5.28**	**210**	P	Pn	21 46 51.0	-4.6
LTZ	**Lake Taylor**	**5.28**	**210**	PN	Pn	21 46 51.0	-4.6
MQZ	**McQueen's Vall**	**5.96**	**203**	*e*P	Pn	21 46 58.9	-5.6
MQZ	**McQueen's Vall**	**5.96**	**203**	PN	Pn	21 46 58.9	-5.6
ODZ	**Otahua Downs**	**7.82**	**208**	*e*P	Pn	21 47 24.1	-4.8
ODZ	**Otahua Downs**	**7.82**	**208**	PN	Pn	21 47 24.1	-4.8

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*CSEM **06** 21:48:04.5±0.3, 3510N×1.15W, h2km, mb3.8/11, Error ellipse: s-maj=7.3km s-min=3.1km az=3.0*
*MDD **06** 21:48:05.5±1.2, 3502N×1.11W, h0km, mb3.8/12, Error ellipse: s-maj=13.2km s-min=6.4km az=176.0, PRXIMO*
*CRAAG **06** 21:48:07.3, 3524N×1.14W, Ml2.8*
*ISCJB **06** 21:48:10.7±0.7, 3546N±004×142W±005, h10km, Error ellipse: s-maj=6.3km s-min=4.4km az=91.4*
*NEIC **06** 21:48:12.6, 3528N×137W, h25km, MG3.8(MDD), After MDD.*

ISC 06 21:48:11.6±0.7, 3542N±004×146W±005, h10km, n39, σ1°23/59, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	**Oulhaca**	**0.17**	**168**	P	**Pg**	**21 48 15.0**	**-0.3**
ODZI	**Dziouia**	**0.23**	**124**	P	**Pg**	**21 48 10.0**	**-6.3**
USTO	**Oran**	**0.81**	**67**	P	**Pg**	**21 48 24.0**	**-3.1**
EMLI	**Melilla**	**1.22**	**265**	P	**Pn**	**21 48 34.0**	**-0.7**
	30nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**21 48 50.1**	**-0.5**
	88nm,0.2s,SNR=7.9						
EMEL	**Melilla**	**1.23**	**265**	P	**Pn**	**21 48 34.0**	**-0.8**
	30nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**21 48 50.1**	**-0.6**
	88nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.66**	**339**	P	**Pn**	**21 48 40.5**	**-0.3**
	3.8nm,0.1s,SNR=8.4						
ENIJ				S	**Sn**	**21 49 02.0**	**-0.1**
	42nm,0.4s,SNR=4.5						
EBER	**Berja**	**1.88**	**322**	P	**Pn**	**21 48 43.7**	**0.0**
	SNR=7.9						
EBER				S	**Sn**	**21 49 09.3**	**+1.9**
	4.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.88**	**322**	P	**Pn**	**21 48 43.7**	**0.0**
	SNR=7.9						
EBER				S	**Sn**	**21 49 09.3**	**+1.9**
	4.6nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.39**	**319**	P	**Pn**	**21 48 52.0**	**+1.2**
	2.3nm,0.3s,SNR=25						
EMUR	**La Murta**	**2.43**	**4**	P	**Pn**	**21 48 50.6**	**-0.7**
	3.8nm,0.2s,SNR=12						
EMUR				S	**Sn**	**21 49 18.0**	**-3.0**
	5.4nm,0.3s						
EMUR	**La Murta**	**2.43**	**4**	P	**Pn**	**21 48 50.6**	**-0.6**
	3.8nm,0.2s,SNR=12						
EMUR				S	**Sn**	**21 49 18.0**	**-3.0**
	5.4nm,0.3s						
ERON	**Agron**	**2.48**	**311**	P	**Pn**	**21 48 53.2**	**+1.2**
	1.7nm,0.1s,SNR=11						
ECOG	**Cogollos-Vega**	**2.52**	**318**	P	**Pn**	**21 48 53.5**	**+1.0**
	1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.71**	**332**	P	**Pn**	**21 48 57.0**	**+1.9**
	2.1nm,0.1s,SNR=40						
EQES				S	**Sn**	**21 49 31.6**	**+3.6**
	44nm,0.4s,SNR=11						
EQES	**Quesada**	**2.71**	**332**	P	**Pn**	**21 48 57.0**	**+1.9**
	2.1nm,0.1s,SNR=40						
EQES				S	**Sn**	**21 49 31.6**	**+3.6**
	44nm,0.4s,SNR=11						
ELOJ	**Sierra Loja**	**2.78**	**309**	P	**Pn**	**21 48 56.8**	**+0.7**
	1.0nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.92**	**294**	P	**Pn**	**21 48 57.2**	**-0.8**
	1.8nm,0.2s,SNR=13						
EMIJ				S	**Sn**	**21 49 31.6**	**-1.5**
	1.2nm,0.2s						
ETOB	**Tobarra**	**3.22**	**359**	P	**Pn**	**21 49 02.8**	**+0.6**
ETOB				S	**Sn**	**21 49 38.7**	**-1.9**
ETOB	**Tobarra**	**3.22**	**359**	P	**Pn**	**21 49 02.8**	**+0.6**
	11nm,0.3s,SNR=15						
ETOB				S	**Sn**	**21 49 42.4**	**+1.8**
	1.5nm,0.2s						
ETOB	**Tobarra**	**3.22**	**359**	P	**Pn**	**21 49 02.8**	**+0.6**
	11nm,0.3s,SNR=15						
ETOB				S	**Sn**	**21 49 38.7**	**-1.9**
	1.5nm,0.2s						
EBAN	**Banos Encina**	**3.31**	**326**	P	**Pn**	**21 49 06.0**	**+2.6**
	1.2nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**21 49 42.6**	**-0.3**
	0.6nm,0.2s,SNR=4.0						
EVIA	**Vianos**	**3.32**	**346**	P	**Pn**	**21 49 05.8**	**+2.3**
	2.5nm,0.2s,SNR=6.1						
EVIA				S	**Sn**	**21 49 42.7**	**-0.3**
	2.8nm,0.3s						
EVIA	**Vianos**	**3.32**	**346**	P	**Pn**	**21 49 05.8**	**+2.2**
	2.5nm,0.2s,SNR=6.1						
EVIA				S	**Sn**	**21 49 42.7**	**-0.4**
	2.8nm,0.3s						
EBEN	**Beniarda**	**3.43**	**16**	P	**Pn**	**21 49 06.6**	**+1.6**
EBEN				S	**Sn**	**21 49 43.1**	**-2.5**
EADA	**Adamuz**	**3.71**	**319**	P	**Pn**	**21 49 09.1**	**+0.1**
EADA				P		21 49 15.1	
EADA				S	**Sn**	**21 49 52.0**	**-0.7**
EADA	**Adamuz**	**3.71**	**319**	P	**Pn**	**21 49 15.1**	**+6.2**
	SNR=4.0						
EADA	**Adamuz**	**3.71**	**319**	P	**Pn**	**21 49 09.1**	**+0.2**
ESPR	**Espera**	**3.84**	**293**	P	**Pn**	**21 49 11.2**	**+0.5**
ESPR	**Espera**	**3.84**	**293**	P	**Pn**	**21 49 11.1**	**+0.4**
ESDC	**Sonseca Array**	**4.69**	**336**	P	**Pn**	**21 49 22.7**	**+0.3**
	0.2nm,0.2s,baz=148,slow=12,SNR=5.4						
ESDC				S	**Sn**	**21 50 14.9**	**-1.9**
	baz=153,slow=22,SNR=7.9						
ESDC	**Sonseca Array**	**4.69**	**336**	P	**Pn**	**21 49 22.7**	**+0.3**
	0.2nm,0.2s,SNR=5.4						
ESDC				S	**Sn**	**21 50 14.9**	**-1.9**
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.80**	**301**	P	**Pn**	**21 49 23.0**	**-0.9**
EMIN	**Mina Concepcio**	**4.80**	**301**	P	**Pn**	**21 49 23.0**	**-0.9**
ETOR	**Torete**	**5.41**	**355**	P	**Pn**	**21 49 33.2**	**+0.9**
	0.8nm,0.3s,SNR=7.9						
ETOR	**Torete**	**5.41**	**355**	P	**Pn**	**21 49 33.2**	**+0.9**
EBAD	**Badajoz**	**5.55**	**309**	P	**Pn**	**21 49 33.9**	**-0.2**
EBAD	**Badajoz**	**5.55**	**309**	P	**Pn**	**21 49 33.9**	**-0.3**
ERTA	**Horta de San J**	**5.71**	**14**	P	**Pn**	**21 49 36.0**	**-0.3**
ERTA	**Horta de San J**	**5.71**	**14**	P	**Pn**	**21 49 36.0**	**-0.4**

IGQ 06 21:51:44.0, 104S×7828W, h16km±2km, Mb4.0, Ms3.8, 8C-9D, Error ellipse: s-maj=2.3km s-min=0.8km az=13.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.11**	**260**	⇑P	Pg	21 51 47.9	+0.5
TAMB	**Tambo**	**0.35**	**346**	⇑P	Pg	21 51 51.9	+0.6
RUN5	**Runtun**	**0.40**	**201**	P	Pg	21 51 52.4	+0.3
RUN5				S	Sg	21 51 57.3	-0.2
VC1	**Cotopaxi 1**	**0.41**	**343**	⇑P	Pg	21 51 53.1	+0.7
JUIV	**Juive**	**0.42**	**206**	⇓P	Pg	21 51 52.9	+0.4
JUIV				S	Sg	21 51 58.6	+0.3
CAMI	**Rancho Maria**	**0.42**	**328**	⇓P	Pg	21 51 53.4	+0.8
ULBA	**Ulba**	**0.43**	**197**	⇓P	Pg	21 51 52.8	+0.2
ULBA				S	Sg	21 51 58.0	-0.4
BILB	**Tungurahua vol**	**0.45**	**209**	⇑P	Pg	21 51 53.4	+0.3
PATA	**Patacocha**	**0.48**	**198**	⇑P	Pg	21 51 54.1	+0.5
ARRY	**Arrayan**	**0.49**	**201**	⇓P	Pg	21 51 54.0	+0.1
ARRY				S	Sg	21 51 59.8	-0.7
IGUA	**Igualata**	**0.57**	**219**	P	Pg	21 51 55.6	+0.4
IGUA				S	Sg	21 52 04.2	+1.2
ANTI	**Antisana**	**0.60**	**11**	⇑P	Pg	21 51 56.0	+0.2
JUA2	**San Juan 2**	**0.88**	**338**	P	Pb	21 52 01.9	+1.0
JUA2				S	Sb	21 52 12.1	-0.3
GGP	**Refugio Guagua**	**0.92**	**340**	⇑P	Pb	21 52 01.9	+0.5
PINO	**Pino**	**0.94**	**339**	⇓P	Pb	21 52 02.8	+1.0
PINO				S	Sb	21 52 17.9	+4.0
CAYR	**Refugio Cayamb**	**1.08**	**15**	⇓P	Pb	21 52 05.3	+1.0
CAYR				S	Sb	21 52 18.3	+0.1
LAV3	**Lava3-Reventad**	**1.14**	**35**	⇑P	Pn	21 52 06.3	+1.1
LAV3				S	Sb	21 52 20.9	+1.1
CAYA	**Cayambe**	**1.14**	**15**	⇓P	Pn	21 52 06.1	+0.8
CONE	**Cono NE Rev Vo**	**1.16**	**33**	⇓P	Pn	21 52 06.7	+1.3
CONE				S	Sb	21 52 21.1	+0.8
COTA	**Cotacachi**	**1.37**	**358**	P	Pn	21 52 13.2	+4.9
COTA				S	Sn	21 52 28.9	+2.8
COTA				⇓P		13 21 54.9	

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*MDD **06** 21:53:35.5±1.1, 3637N×8.10W, h0km, mbLg2.5/17, Error ellipse: s-maj=9.9km s-min=5.2km az=39.0, PRXIMO*
*ISCJB **06** 21:53:36.6±0.8, 3651N±005×794W±004, h10km, Error ellipse: s-maj=7.7km s-min=3.1km az=63.0*
*NEIC **06** 21:53:36.6, 3629N×8.17W, h20km, MN2.5(MDD), After MDD.*
*CSEM **06** 21:53:36.2±0.3, 3633N×792W, h8km, ML3.4/5, Error ellipse: s-maj=7.3km s-min=3.0km az=41.0*
*INMG **06** 21:53:37.5±1.1, 3631N×8.17W, h18km±9km, ML2.3, Error ellipse: s-maj=8.8km s-min=2.6km az=39.0*

ISC 06 21:53:37.1±0.8, 3649N±004×799W±004, h10km, n57, σ0°98/104, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**1.06**	**34**	P	**Pg**	**21 53 58.7**	**+1.3**
	30nm,0.1s,SNR=7.9						
ERIP				S	**Sg**	**21 54 15.4**	**+4.1**
	25nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.12**	**21**	⇑P	**Pb**	**21 53 59.5**	**+1.0**
	7.1nm,0.0s,SNR=18						
EGRO				S	**Sb**	**21 54 16.0**	**+2.9**
	18nm,0.1s,SNR=11						
EGRO	**El Granado**	**1.12**	**21**	P	**Pb**	**21 53 59.5**	**+1.0**
	7.1nm,0.0s,SNR=18						
EGRO				S	**Sb**	**21 54 16.0**	**+2.9**
	18nm,0.1s,SNR=11						
PTEO	**Sao Teotonio**	**1.21**	**331**	*e*P	**Pn**	**21 53 58.5**	**-1.5**
PTEO				*e*S	**Sb**	**21 54 15.3**	**-0.4**
PTEO				A		21 54 17.5	
	16nm,0.2s						
PTEO	**Sao Teotonio**	**1.21**	**331**	P	**Pn**	**21 53 58.5**	**-1.5**
PTEO				S	**Sb**	**21 54 15.3**	**-0.4**
	7.8nm,0.2s						
PBEJ	**Beja**	**1.54**	**4**	*e*Pn	**Pn**	**21 54 04.7**	**+0.2**
PBEJ				*e*Sn	**Sn**	**21 54 25.8**	**+1.2**
PBEJ				A		21 54 28.3	
	16nm,0.2s						
PBEJ	**Beja**	**1.54**	**4**	*e*Pn	**Pn**	**21 54 04.7**	**+0.2**
PBEJ				*e*Sn	**Sn**	**21 54 25.8**	**+1.2**
	16nm,0.2s						
EMIN	**Mina Concepcio**	**1.65**	**39**	⇑P	**Pn**	**21 54 06.6**	**+0.4**
	2.0nm,0.1s,SNR=18						
EMIN				S	**Sn**	**21 54 29.0**	**+1.6**
	3.5nm,0.1s,SNR=6.6						
EMIN	**Mina Concepcio**	**1.65**	**39**	P	**Pn**	**21 54 06.6**	**+0.4**
	2.0nm,0.1s,SNR=18						
EMIN				S	**Sn**	**21 54 29.0**	**+1.6**
	3.5nm,0.1s,SNR=6.6						
ESPR	**Espera**	**1.76**	**77**	P	**Pn**	**21 54 07.5**	**-0.1**
	11nm,0.2s,SNR=108						
ESPR				S	**Sn**	**21 54 30.7**	**+0.7**
	45nm,0.2s						
ESPR	**Espera**	**1.76**	**77**	P	**Pn**	**21 54 07.5**	**-0.1**
	11nm,0.2s,SNR=108						
ESPR				S	**Sn**	**21 54 30.7**	**+0.7**
	45nm,0.2s						
EJIF	**Jimena Fronter**	**2.03**	**90**	P	**Pn**	**21 54 10.9**	**-0.4**
	3.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**21 54 35.8**	**-1.0**
	1.9nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.03**	**90**	P	**Pn**	**21 54 10.9**	**-0.5**
	3.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**21 54 35.8**	**-1.0**
	1.9nm,0.2s,SNR=7.9						
MOE	**Montemor**	**2.05**	**352**	*e*Pn	**Pn**	**21 54 11.4**	**-0.2**
MOE				*e*Sn	**Sn**	**21 54 37.5**	**+0.3**
EBAD	**Badajoz**	**2.39**	**19**	P	**Pn**	**21 54 16.5**	**+0.2**
	4.0nm,0.1s,SNR=7.1						
EBAD				S	**Sn**	**21 54 47.5**	**+1.9**
	4.5nm,0.1s						
EBAD	**Badajoz**	**2.39**	**19**	P	**Pn**	**21 54 16.5**	**+0.2**
	4.0nm,0.1s,SNR=7.1						
EBAD				S	**Sn**	**21 54 47.5**	**+1.9**
	4.5nm,0.1s						
PESTR	**Estremoz**	**2.39**	**7**	*e*Pn	**Pn**	**21 54 17.2**	**+0.9**
PESTR				*e*Sn	**Sn**	**21 54 46.1**	**+0.4**
PESTR				A		21 54 52.1	
	4.0nm,0.2s						
PESTR	**Estremoz**	**2.39**	**7**	*e*Pn	**Pn**	**21 54 17.2**	**+0.9**
PESTR				*e*Sn	**Sn**	**21 54 46.1**	**+0.4**
	4.0nm,0.2s						
PLOU	**Loures**	**2.56**	**339**	*e*Pn	**Pn**	**21 54 18.6**	**-0.1**
PLOU				*e*Sn	**Sn**	**21 54 48.7**	**-1.2**
PLOU				A		21 54 52.3	
	14nm,0.2s						
PLOU	**Loures**	**2.56**	**339**	*e*Pn	**Pn**	**21 54 18.6**	**-0.1**
PLOU				*e*Sn	**Sn**	**21 54 48.7**	**-1.2**
	14nm,0.2s						
EMIJ	**Mijas**	**2.59**	**87**	P	**Pn**	**21 54 18.0**	**-1.0**
	0.5nm,0.1s,SNR=8.8						
EMIJ				S	**Sn**	**21 54 49.4**	**-1.2**
	4.2nm,0.2s,SNR=5.5						
EMIJ	**Mijas**	**2.59**	**87**	P	**Pn**	**21 54 18.0**	**-1.1**
	0.5nm,0.1s,SNR=8.8						
EMIJ				S	**Sn**	**21 54 49.4**	**-1.2**
	4.2nm,0.2s,SNR=5.5						
PMAFR	**Mafra**	**2.67**	**338**	*e*Pn	**Pn**	**21 54 19.7**	**-0.4**
PMAFR				*e*Sn	**Sn**	**21 54 51.3**	**-1.1**
PMAFR				A		21 54 52.2	
	30nm,0.2s						
PMAFR	**Mafra**	**2.67**	**338**	*e*Pn	**Pn**	**21 54 19.7**	**-0.4**
PMAFR				*e*Sn	**Sn**	**21 54 51.3**	**-1.1**
	30nm,0.2s						
ELOJ	**Sierra Loja**	**3.15**	**77**	P	**Pn**	**21 54 27.6**	**+0.9**
	0.7nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**21 55 03.9**	**-0.4**
	1.6nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.15**	**77**	P	**Pn**	**21 54 27.6**	**+0.9**
	0.7nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**21 55 03.9**	**-0.4**
	1.6nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**3.17**	**69**	P	**Pn**	**21 54 27.6**	**+0.6**
	1.3nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**21 55 04.8**	**+0.1**
	1.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.19**	**57**	P	**Pn**	**21 54 27.9**	**+0.5**
	1.7nm,0.1s,SNR=58						
EADA				S	**Sn**	**21 55 06.2**	**+0.8**
	7.8nm,0.1s,SNR=7.3						
EADA	**Adamuz**	**3.19**	**57**	P	**Pn**	**21 54 27.9**	**+0.6**
	1.7nm,0.1s,SNR=58						
EADA				S	**Sn**	**21 55 06.2**	**+0.7**
	7.8nm,0.1s,SNR=7.3						
PCBR	**Castelo Branco**	**3.37**	**7**	*e*Pn	**Pn**	**21 54 29.8**	**+0.1**
PCBR				*e*Sn	**Sn**	**21 55 09.9**	**+0.1**
PCBR				A		21 55 11.8	
	4.8nm,0.2s						
PCBR	**Castelo Branco**	**3.37**	**7**	*e*Pn	**Pn**	**21 54 29.8**	**+0.1**
PCBR				*e*Sn	**Sn**	**21 55 09.9**	**+0.1**
	4.8nm,0.2s						
ERON	**Agron**	**3.40**	**80**	P	**Pn**	**21 54 30.9**	**+0.7**
	1.4nm,0.1s,SNR=7.6						
ECOG	**Cogollos-Vega**	**3.63**	**76**	P	**Pn**	**21 54 34.1**	**+0.8**
	2.6nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**21 55 16.0**	**-0.3**
	1.3nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.72**	**78**	P	**Pn**	**21 54 35.3**	**+0.8**
	1.2nm,0.1s,SNR=28						
EQUE				S	**Sn**	**21 55 16.9**	**-1.5**
	1.3nm,0.2s,SNR=5.1						
EQUE	**Quentar**	**3.72**	**78**	P	**Pn**	**21 54 35.3**	**+0.7**
	1.2nm,0.1s,SNR=28						
EQUE				S	**Sn**	**21 55 16.9**	**-1.5**
	1.3nm,0.2s,SNR=5.1						
EBAN	**Banos Encina**	**3.74**	**62**	P	**Pn**	**21 54 35.1**	**+0.2**
	4.2nm,0.1s,SNR=13						
EBAN				S	**Sn**	**21 55 18.8**	**-0.2**
	2.6nm,0.1s						
EQES	**Quesada**	**4.14**	**70**	P	**Pn**	**21 54 40.9**	**+0.5**
EQES				S	**Sn**	**21 55 28.5**	**-0.3**
EQES	**Quesada**	**4.14**	**70**	P	**Pn**	**21 54 40.9**	**+0.5**
	1.5nm,0.1s,SNR=22						
EQES				S	**Sn**	**21 55 28.5**	**-0.4**
	0.6nm,0.1s,SNR=4.9						
EQES	**Quesada**	**4.14**	**70**	P	**Pn**	**21 54 40.8**	**+0.4**
EQES				S	**Sn**	**21 55 28.5**	**-0.4**
	0.6nm,0.1s,SNR=4.9					

ISC 06 21:55:04.7±1.6,96S±04×1086E±04,h35km,n14,σ0§45/14, mb4.1/10,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.61	119	P	Pn	21 59 19.5	+0.1
	0.1nm,0.3s,baz=305,slow=9.5,SNR=3.7						
WRA	Warramunga Arr	26.93	115	P	P	22 00 42.7	0.0
	1.2nm,1.0s,mb3.4,baz=286,slow=12,SNR=7.3						
WRAB	Tennant Creek	26.94	115	eP	P	22 00 43.1	+0.4
	1.6nm,0.8s,mb3.6						
STKA	Stephens Creek	37.80	131	P	P	22 02 16.9	-0.7
	1.5nm,0.6s,mb3.9,baz=315,slow=11,SNR=4.9						
STKA	Stephens Creek	37.80	131	eP	P	22 02 17.4	-0.1
LSA	Lhasa	42.48	337	P	P	22 02 57.1	+0.8
GUN	Gumba	43.23	330	eP	P	22 03 03.1	+0.7
KKN	Kakani	43.43	329	eP	P	22 03 03.9	-0.1
	2.7nm,0.5s,mb4.2						
GKN	Gorkha	43.93	329	eP	P	22 03 07.7	-0.4
	7.8nm,0.8s,mb4.5						
KOLN	Koldanda	44.28	328	eP	P	22 03 10.6	-0.3
	9.9nm,1.0s,mb4.5						
SONM	Songino Array	57.16	358	P	P	22 04 47.1	-0.8
	0.9nm,0.5s,mb4.0,baz=174,slow=8.1,SNR=9.5						
MKAR	Makanchi Array	60.80	340	P	P	22 05 13.2	+0.1
	2.5nm,0.5s,mb4.6,baz=146,slow=8.1,SNR=12						
KURK	Kurchatov	65.41	340	eP	P	22 05 44.0	+0.3
	4.1nm,0.8s,mb4.5						
CHKZ	Chkalovo	70.72	337	eP	P	22 06 16.6	-0.4
	1.2nm,0.6s,mb4.0						

*ISCJB **06** 22:09:03.8±0.3,3726S±006×52.16E±009,h10km, mb4.3/27,MS4.0/10, Error ellipse: s-maj=10.7km s-min=8.2km az=133.1*
*IDC **06** 22:09:03.7±0.6,3722S×52.14E,h0km,mb4.1/14, mb1 4.2/15,mb1mx4.1/19,mbtmp4.1/15,ML3.7/1,MS4.0/10, Ms1 4.0/10,ms1mx3.8/26, Error ellipse: s-maj=23.3km s-min=16.8km az=45.0*
*BJI **06** 22:09:03.5,3720S×52.10E,h10km,mb4.3*
*NEIC **06** 22:09:05.5±0.3,3724S×52.11E,h10km,mb4.6/10, Error ellipse: s-maj=10.9km s-min=7.3km az=54.0*

ISC 06 22:09:07.0±6.2,3726S±006×521E±01,h21km±43km, h21km±2.1km:pP-P,n64,σ0§91/51,mb4.3/27,MS4.0/10, 4C-2D,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	19.11	346	P	Pn	22 13 29.3	-0.1
	0.3nm,0.3s,baz=171,slow=9.5,SNR=4.0						
BOSA	Boshof	24.05	283	P	P	22 14 19.4	-1.3
	3.9nm,0.9s,mb3.9,baz=122,slow=8.9,SNR=5.3						
BOSA				LR	LR	22 21 57.2	
	comp=Z,262nm,19.1s,MS3.7,baz=141,slow=32						
BOSA	Boshof	24.05	283	eP	P	22 14 21.3	+0.6
	4.6nm,0.8s,mb4.0						
BOSA				LR	LR	22 21 57.2	
LBTB	Lobatse	25.66	291	LR	LR	22 23 00.2	
	comp=Z,184nm,18.9s,MS3.6,baz=137,slow=33						
LBTB	Lobatse	25.66	291	eP	P	22 14 34.1	-1.2
	2.1nm,0.7s,mb3.8						
SUR	Sutherland	26.07	271	LR	LR	22 22 55.0	
	comp=Z,223nm,18.8s,MS3.7,baz=23,slow=32						
MATP	Matopo	26.50	303	P	P	22 14 44.2	+1.3
	2.5nm,0.9s,mb3.7,baz=153,slow=12,SNR=3.8						
MATP				LR	LR	22 23 42.8	
	comp=Z,535nm,20.4s,MS4.1,baz=128,slow=33						
MAW	Mawson	31.00	172	P	P	22 15 23.1	+0.1
	2.1nm,0.7s,mb4.0,baz=350,slow=12,SNR=3.6						
MAW				LR	LR	22 24 19.9	
	comp=Z,465nm,21.9s,MS4.1,baz=67,slow=30						
MAW	Mawson	31.00	172	eP	P	22 15 23.3	+0.3
	12nm,1.4s,mb4.5						
MAW				LR	LR	22 24 19.9	
KMBO	Kilima Mbogo	38.47	336	LR	LR	22 30 11.9	
	comp=Z,426nm,21.4s,MS4.2,baz=93,slow=33						
KMBO	Kilima Mbogo	38.47	336	P	P	22 16 28.8	+1.3
CASY	Casey	43.93	150	P	P	22 17 13.4	+1.1
SNAA	Sanae	44.20	202	P	P	22 17 13.7	-0.8
	1.3nm,1.0s,mb3.6,baz=93,slow=6.6,SNR=8.4						
SNAA	Sanae	44.20	202	e	P	22 17 14.6	+0.1
SNAA				e	pP	22 17 20.5	-0.4
VNA2	Neumayer--Watz	45.37	203	e	P	22 17 23.5	-0.3
	baz=43,slow=6.3						
VNA2				e	pP	22 17 30.8	+0.5
VNA2				e		22 17 38.2	
VNA3	Neumayer Olymp	46.17	203	e	P	22 17 27.8	-2.3
VNA3				e		22 17 36.4	
VNA3				e		22 17 41.9	
COCO	West Island	47.11	70	eP	P	22 17 37.0	-0.5
ATD	Arta Tunnel	49.30	348	LR	LR	22 37 33.4	
	comp=Z,113nm,18.8s,MS3.9,baz=110,slow=35						
NWAO	Narrogin (SRO)	52.54	106	P	P	22 18 18.1	-0.7
QSPA	South Pole Qui	52.93	180	eP	P	22 18 21.6	-0.2
	9.0nm,1.1s,mb4.6						
VNDA	Vanda	58.02	166	LR	LR	22 40 44.5	
	comp=Z,227nm,19.7s,MS4.3,baz=234,slow=33						
VNDA	Vanda	58.02	166	P	P	22 18 59.4	+1.1
	1.3nm,0.8s,mb4.0						
KRKI	Karangkates	61.60	78	P	P	22 19 21.1	-1.8
	359nm,0.5s						
FITZ	Fitzroy Crossi	66.35	95	P	P	22 19 53.8	-0.4
	2.8nm,0.8s,mb4.3,baz=262,slow=7.1,SNR=3.4						
TORD	Torodi Ar. Bea	68.95	306	P	P	22 20 11.6	+1.1
	2.0nm,0.8s,mb4.1,baz=116,slow=5.3,SNR=15						
TAU	Tasmania Unive	69.17	128	eP	P	22 20 12.8	+0.8
KOLN	Koldanda	71.13	29	eP	P	22 20 23.3	-0.7
	84nm,1.8s,mb5.4						
STKA	Stephens Creek	71.17	116	P	P	22 20 24.8	+0.5
	2.6nm,0.9s,mb4.2,baz=249,slow=14,SNR=4.2						
STKA				LR	LR	22 44 46.7	
	comp=Z,110nm,20.9s,MS4.1,baz=206,slow=30						
DMN	Daman	71.59	31	eP	P	22 20 26.7	0.0
	13nm,0.9s,mb4.9						
GKN	Gorkha	71.75	30	eP	P	22 20 27.1	-0.6
	52nm,1.5s,mb5.2						
KKN	Kakani	71.82	31	eP	P	22 20 27.5	-0.6
GUN	Gumba	72.17	31	eP	P	22 20 30.3	+0.1
	46nm,1.1s,mb5.3						
WRA	Warramunga Arr	72.20	102	P	P	22 20 31.0	+0.6
	2.9nm,0.8s,mb4.2,baz=234,slow=5.2,SNR=30						
WB2	Warramunga Arr	72.21	102	eP	P	22 20 31.2	+0.7
WRAB	Tennant Creek	72.22	102	eP	P	22 20 31.5	+1.0
	6.6nm,0.8s,mb4.6						
LSA	Lhasa	76.00	34	P	P	22 20 53.6	+1.0
LSA	Lhasa	76.00	34	eP	P	22 20 53.7	+1.1
	13nm,1.0s,mb4.8						
GNI	Garni	77.33	354	eP	P	22 21 01.5	+1.5
	4.5nm,0.8s,mb4.5						
BRTR	Keskin Array B	78.46	346	P	P	22 21 05.5	-0.9
	0.8nm,0.9s,mb3.6,baz=180,slow=4.6,SNR=3.8						
KIV	Kislovodsk	81.28	353	eP	P	22 21 22.5	+0.8
	10nm,1.1s,mb4.7						
AAK	Ala-Archa	82.09	16	eP	P	22 21 26.0	+0.1
	26nm,1.8s,mb4.9						
AAK				ePcP	PcP	22 21 32.4	+1.1
KEST	Kesra	82.75	326	LR	LR	22 56 50.8	
	comp=Z,82nm,19.9s,MS4.1,baz=226,slow=35						
MLR	Muntele Rosu	85.68	342	⇑P	P	22 21 44.3	+0.1
MLR	Muntele Rosu	85.68	342	⇑iP	P	22 21 44.3	+0.1
VRI	Vrincioaia	85.84	343	⇓P	P	22 21 45.1	+0.1
VRI	Vrincioaia	85.84	343	⇓iP	P	22 21 45.1	+0.1
BURAR	Bucovina Array	87.84	342	⇑P	P	22 21 56.1	+1.3
BURAR	Bucovina Array	87.84	342	⇑iP	P	22 21 56.1	+1.3
MKAR	Makanchi Array	87.95	20	P	P	22 21 54.0	-1.3
	0.4nm,0.7s,mb3.8,baz=212,slow=7.7,SNR=3.6						
GTA	Gaotai	88.01	35	eP	P	22 21 55.9	+0.3
GTA				AP	pP	22 22 01.2	-1.3
GTA				XP	sP	22 22 03.9	-1.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.4						
AKASG	Malin Array Be	89.87	346	P	P	22 22 02.5	-1.8
	comp=Z,0.2nm,0.3s,mb4.0,baz=168,slow=4.9,SNR=4.1						
CHKZ	Chkalovo	91.97	11	P	P	22 22 14.4	+0.3
GERES	GERESS Array B	92.26	336	P	P	22 22 15.1	-0.4
	comp=Z,0.4nm,0.7s,mb3.9,baz=232,slow=6.6,SNR=3.6						
ARU	Arti	93.48	4	P	P	22 22 21.4	+0.3
ZAL	Zalesovo	95.11	19	P	P	22 22 27.7	-0.9
	comp=Z,1.1nm,0.6s,mb4.5,baz=256,slow=4.2,SNR=6.3						
ZAL	Zalesovo	95.11	19	P	P	22 22 27.7	-0.9
SONM	Songino Array	97.57	34	P	P	22 22 38.8	-0.9
	comp=Z,0.3nm,0.3s,mb4.2,baz=259,slow=1.5,SNR=3.6						
WCI	Wyandotte Cave	147.28	285	PKP	PKPdf	22 28 44.1	-2.5
INK	Inuvik	148.74	4	PKPbc	PKPbc	22 28 51.8	-1.0
	comp=Z,4.0nm,0.8s,baz=27,slow=6.0,SNR=17						
COLA	College	149.92	17	ePKPdf	PKPdf	22 28 50.2	-0.7
YKA	Yellowknife Ar	153.43	346	PKP	PKPdf	22 28 55.2	-0.9
	comp=Z,0.5nm,1.1s,baz=20,slow=2.0,SNR=3.2						
YKA				PKPbc	PKPbc	22 29 02.9	-0.8
	comp=Z,1.3nm,0.8s,baz=20,slow=2.1,SNR=14						
YKA	Yellowknife Ar	153.43	346	PKP	PKPdf	22 28 55.2	-0.9
YKA				PKPbc	PKPbc	22 29 02.9	-0.8
TXAR	Lajitas Array	158.29	256	PKP	PKPdf	22 29 03.9	+1.3
	comp=Z,1.0nm,0.9s,baz=141,slow=4.2,SNR=9.7						
NVAR	Mina Array Bea	172.31	282	PKP	PKPdf	22 29 14.8	+0.5
	comp=Z,0.6nm,0.8s,baz=258,slow=3.6,SNR=3.6						

*CSEM **06** 22:10:10.9,4340N×4583E,h125km,mb4.0, After OBN*
*MOS **06** 22:10:10.9±1.1,4340N×4583E,h125km,mb4.0/1, Error ellipse: s-maj=16.4km s-min=9.3km az=24.3*
*ISCJB **06** 22:10:11.4±0.8,4350N±005×4589E±004,h117km±7km, Error ellipse: s-maj=8.4km s-min=4.1km az=34.5*

ISC 06 22:10:11.8±0.8,4350N±005×4590E±004,h117km±7km, n35,σ1§08/65,3C,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	Dylym	0.68	128	iP	Pn	22 10 30.5	-0.2
DLMR				eS	Sn	22 10 44.5	-0.5
DLMR				pmax	pmax		
	comp=Z,175nm,0.2s						
DLMR	Dylym	0.68	128	iP	Pn	22 10 30.5	-0.2
	comp=Z,175nm,0.2s						
DLMR				eS	Sn	22 10 44.5	-0.5
DBC	Dubki	0.83	125	iP	Pn	22 10 31.5	-0.4
DBC				iS	Sn	22 10 47.0	-0.2
DBC				pmax	pmax		
	comp=Z,62nm,0.1s						
DBC	Dubki	0.83	125	iP	Pn	22 10 31.5	-0.4
	comp=Z,62nm,0.1s						
DBC				iS	Sn	22 10 47.0	-0.2
BTLR	Botlikh	0.86	164	eP	Pn	22 10 32.5	+0.3
BTLR				iS	Sn	22 10 47.0	-0.7
TRKR	Terskaya	0.88	285	iP	Pn	22 10 33.5	+1.1
TRKR				iS	Sn	22 10 49.6	+1.6
SNJR	Sundja	0.90	242	iP	Pn	22 10 32.8	+0.2
SNJR				iS	Sn	22 10 49.5	+1.1
KRNR	Karanay	0.99	132	eP	Pn	22 10 32.5	-1.0
KRNR				iS	Sn	22 10 49.0	-0.9
KRNR				pmax	pmax		
	comp=Z,35nm,0.1s						
KRNR	Karanay	0.99	132	eP	Pn	22 10 32.5	-1.0
	comp=Z,35nm,0.1s						
KRNR				iS	Sn	22 10 49.0	-0.9
UNCR	Uncukul	1.02	140	eP	Pn	22 10 33.0	-0.7
UNCR				eS	Sn	22 10 49.5	-0.9
UNCR				pmax	pmax		
	comp=Z,29nm,0.2s						
UNCR	Uncukul	1.02	140	eP	Pn	22 10 33.0	-0.7
	comp=Z,29nm,0.2s						
UNCR				eS	Sn	22 10 49.5	-0.9
XNZR	Khunzakh	1.12	148	eP	Pn	22 10 36.5	+1.7
XNZR				iS	Sn	22 10 54.8	+2.6
ARKR	Arakani	1.20	138	iP	Pn	22 10 34.5	-1.1
ARKR				iS	Sn	22 10 52.5	-1.2
ARKR				pmax	pmax		
	comp=Z,35nm,0.2s						
ARKR	Arakani	1.20	138	iP	Pn	22 10 34.5	-1.1
	comp=Z,35nm,0.2s						
ARKR				iS	Sn	22 10 52.5	-1.2
PRTR	Priterechnaya	1.20	283	iP	Pn	22 10 36.5	+0.8
PRTR				iS	Sn	22 10 54.8	+1.0
ARNR	Ardon	1.22	256	iP	Pn	22 10 36.5	+0.6
ARNR				iS	Sn	22 10 54.6	+0.5
MAK	Makhachkala	1.29	114	⇑iP	Pn	22 10 40.3	+3.7
MAK				e		22 10 59.6	
MAK				pmax	pmax		
	comp=Z,30nm,0.1s						
MAK				smax			
	comp=N,119nm,0.2s						
MAK				smax			
	comp=E,100nm,0.2s						
MAK	Makhachkala	1.29	114	iP	Pn	22 10 40.3	+3.7
	comp=E,30nm,0.1s						
MAK				eS	Sn	22 10 59.6	+4.2
LACR	Lac	1.35	241	iP	Pn	22 10 36.5	-0.8
LACR				iS	Sn	22 10 54.8	-1.9
KORR	Kora	1.40	254	iP	Pn	22 10 38.0	+0.2
KORR				iS	Sn	22 10 57.3	-0.4
KMKR	Kumukh	1.62	147	iP	Pn	22 10 39.0	-1.5
KMKR				iS	Sn	22 11 02.5	+0.2
KMKR				pmax	pmax		
	comp=Z,19nm,0.2s						
KMKR	Kumukh	1.62	147	iP	Pn	22 10 39.0	-1.5
	comp=Z,19nm,0.2s						
KMKR				iS	Sn	22 11 02.5	+0.2
ZEI	Tsey	1.64	244	iP	Pn	22 10 39.7	-0.9
ZEI				iS	Sn	22 10 59.8	-2.8
DUS	Dusheti	1.66	213	P	Pn	22 10 42.6	+1.7
DUS				S	Sn	22 11 05.4	+2.4
DIGR	Digorskoe uzhe	1.80	251	iP	Pn	22 10 41.9	-0.7
DIGR				eS	Sn	22 11 03.8	-2.3
KUBR	Kubataba	1.83	280	iP	Pn	22 10 43.1	+0.1
URKR	Urkarakh	1.84	136	iP	Pn	22 10 43.5	+0.4
URKR				eS	Sn	22 11 08.5	+1.5
MTA	Mtatsminda	1.98	205	P	Pn	22 10 45.0	+0.3
MTA				S	Sn	22 11 09.3	-0.7
GOR	Gori	2.00	222	P	Pn	22 10 45.5	+0.3
GOR				S	Sn	22 11 12.0	+1.3
GOR	Gori	2.00	222	P	Pn	22 10 45.6	+0.5
GOR				S	Sn	22 11 10.7	0.0
ONI	Oni	2.02	244	P	Pn	22 10 45.6	+0.3
ONI				S	Sn	22 11 10.0	-0.9
DGRG	David-gareji	2.08	191	P	Pn	22 10 47.5	+1.4
DGRG				S	Sn	22 11 12.9	+0.6
PYA	Pyatigorsk	2.13	286	⇑iP	Pn	22 10 46.1	-0.6
BEYR	Belyy Ugol+	2.29	284	iP	Pn	22 10 48.2	-0.6
KIV	Kislovodsk	2.38	282	⇑eP	Pn	22 10 49.3	-0.5

*IDC **06** 22:18:09.6±1.7,885S×10859E,h0km,mb4.1/6,mb1 4.2/6, mb1mx4.0/17,mbtmp4.1/6, Error ellipse: s-maj=85.9km s-min=20.7km az=50.0*
*NEIC **06** 22:18:11.1±0.6,881S×10863E,h10km,mb4.4/4, Error ellipse: s-maj=22.0km s-min=8.9km az=51.0*
*ISCJB **06** 22:18:14.8±1.9,89S±02×1085E±01,h57km±14km, mb4.2/10, Error ellipse: s-maj=32.1km s-min=12.4km az=69.3*

ISC 06 22:18:16.9±1.6,88S±01×1086E±01,h52km±13km,n20, σ0§98/19,mb4.2/10,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	1.83	36	P	Pn	22 18 46.9	+1.0
	353nm,1.2s						
LEM	Lembang	2.21	333	P	Pn	22 18 53.1	+2.0
	575nm,1.1s						
CBJI	Citeko	2.96	324	P	Pn	22 18 59.4	-1.9
	654nm,0.5s						
KSI	Kapahiang	7.88	310	P	Pn	22 20 09.2	+0.4
	58nm,0.8s						
KSM	Kuching	10.36	9	Pn	Pn	22 20 39.4	-3.4
WRA	Warramunga Arr	27.22	117	P	P	22 23 55.4	-0.3
	1.3nm,0.8s,mb3.5,baz=289,slow=11,SNR=9.2						
WRAB	Tennant Creek	27.22	117	eP	P	22 23 55.6	-0.2
	7.1nm,1.2s,mb4.1						
PMG	Port Moresby	38.05	94	P	P	22 25 30.5	+0.3
STKA	Stephens Creek	38.24	132	P	P	22 25 31.8	-0.1
	2.2nm,0.7s,mb4.0,baz=300,slow=7.9,SNR=6.4						
SONM	Songino Array	56.44	358	P	P	22 27 54.1	+0.9
	1.2nm,0.4s,mb4.2,baz=176,slow=7.8,SNR=7.7						
MK31	Makanchi Array	60.13	339	eP	P	22 28 19.0	0.0
MKAR	Makanchi Array	60.13	339	P	P	22 28 19.1	+0.1
	2.3nm,0.5s,mb4.5,baz=150,slow=8.2,SNR=58						
KURK	Kurchatov	64.75	339	eP	P	22 28 49.5	-0.3
	3.0nm,1.0s,mb4.3						
ZAL	Zalesovo	65.68	345	P	P	22 28 54.7	-1.1
	1.4nm,0.3s,mb4.4,baz=331,slow=5.0,SNR=6.3						
ZAL	Zalesovo	65.68	345	P	P	22 28 54.7	-1.1
BRVK	Borovoye	69.72	336	eP	P	22 29 21.2	0.0
CHKZ	Chkalovo	70.07	337	eP	P	22 29 23.6	+0.2
	5.2nm,0.9s,mb4.5						
CHKZ				e	pP	22 29 37.8	-0.2
ARU	Arti	76.94	334	eP	P	22 30 03.4	-0.4
	2.9nm,0.8s,mb4.3						
BRTR	Keskin Array B	84.22	312	P	P	22 30 44.0	+1.2
	0.4nm,0.5s,mb3.8,baz=127,slow=7.9,SNR=3.5						
TXAR	Lajitas Array	143.50	52	PKP	PKPdf	22 37 45.1	-0.5
	0.3nm,0.8s,baz=268,slow=6.3,SNR=3.2						

JMA 06 22:24:25.1±0.3,2701N×12714E,h102km±3km,M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.43	168	P	Pn	22 24 40.7	+0.1
JAGN				S	Sn	22 24 52.5	+0.3
JIH	Iheya	0.74	88	P	Pn	22 24 43.4	+0.4
JIH				S	Sn	22 24 56.5	0.0
JKE	Kume jima 2	0.75	205	P	Pn	22 24 43.1	0.0
JKE				S	Sn	22 24 56.2	-0.5
NAH1	Naha	0.94	148	P	Pn	22 24 45.1	+0.1
NAH1				eS	Sn	22 25 00.0	0.0
JJT2	Tamagusuku 2	1.02	148	P	Pn	22 24 46.3	+0.4
JOW	Kunigami	1.03	100	P	Pn	22 24 46.0	+0.1
JOW				S	Sn	22 25 00.7	-1.0
JTK	Tokunoshima	1.79	64	P	Pn	22 24 54.7	-0.3
JTK				S	Sn	22 25 16.7	-1.0
JAM	Amami Oshima	2.59	57	P	Pn	22 25 04.9	-0.6
JAM				eS	Sn	22 25 35.1	-1.4
JMZ	Minamidaito 2	3.85	107	P	Pn	22 25 20.8	-1.4
JMZ				S	Sn	22 26 00.3	-6.1

*ISCJB **06** 22:26:58.2±0.2,4754N±001×750E±001,h0km, Error ellipse: s-maj=1.8km s-min=1.3km az=147.9*
*CSEM **06** 22:27:00.7±0.0,4758N×759E,h1km,ML2.7/20, Error ellipse: s-maj=0.9km s-min=0.6km az=170.0*
*LDG **06** 22:27:00.8±0.0,4759N×758E,h7km,Md2.9/3,Ml2.6/23, Error ellipse: s-maj=1.1km s-min=0.7km az=143.0*
*NEIC **06** 22:27:00.8,4758N×760E,h5km,ML2.3(STR), ML2.4(ZUR),ML2.4(LEDBW),ML2.6(LDGW), After ZUR.*
*STR **06** 22:27:00.5±0.2,4758N×760E,h5km±1km,Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **06** 22:27:00.8,4758N×760E,h5km±1km,ML2.2*
*LEDBW **06** 22:27:00.9±0.1,47597N±0003×7601E±0003,h5km,ML2.4, Error ellipse: s-maj=1.0km s-min=0.8km az=125.0*
*BGR **06** 22:27:01.1±0.2,4759N×760E,h5km,ML2.2/3, Error ellipse: s-maj=2.2km s-min=2.2km az=167.0*

ISC 06 22:26:59.6±0.2,4757N±001×754E±001,h0km,n141, σ1§19/282,28C-7D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	Weil am Rhein	0.05	56	⇓iPg	Pg	22 27 01.9	+1.4
WEIL				iSg	Sg	22 27 03.0	+1.8
BBS	Basel-Blauen	0.10	191	⇑iP*	Pg	22 27 04.0	+2.4
BBS	Basel-Blauen	0.10	191	⇑iP	Pg	22 27 04.0	+2.4
BBS	Basel-Blauen	0.10	191	⇑iPg	Pg	22 27 04.0	+2.4
BBS	Basel-Blauen	0.10	191	Pg	Pg	22 27 03.9	+2.3
BBS	Basel-Blauen	0.10	191	Pb	Pg	22 27 04.0	+2.4
BBS				Sg	Sg	22 27 05.1	+2.2
WYH	Wyhlen	0.11	98	⇑Pg	Pg	22 27 02.7	+1.0
WYH				iSg	Sg	22 27 04.1	+0.9
ENDD	Endenburg	0.20	42	⇑iPg	Pg	22 27 04.0	+0.6
ENDD				iSg	Sg	22 27 06.4	+0.3
BALST	Balsthal	0.25	155	ePg	Pg	22 27 06.2	+1.7
	SNR=5.1						
BALST				eSg	Sg	22 27 09.7	+1.9
	SNR=14						
BALST	Balsthal	0.25	155	eSg	Pg	22 27 06.2	+1.8
BALST	Balsthal	0.25	155	⇑iPg	Sg	22 27 10.0	+2.3
BALST	Balsthal	0.25	155	⇑ePg	Pg	22 27 06.2	+1.8
BALST				Sg	Sg	22 27 09.9	+2.1
BOURR	Bourrignon	0.27	231	ePg	Pg	22 27 07.3	+2.5
	SNR=38						
BOURR	Bourrignon	0.27	231	⇑iPg	Pg	22 27 07.3	+2.5
	228nm,0.5s						
BOURR	Bourrignon	0.27	231	⇑iPg	Pg	22 27 07.3	+2.5
BREM	Bremgarten	0.35	10	⇓Pg	Pg	22 27 07.7	+1.3
BREM				Sg	Sg	22 27 12.9	+2.0
SULZ	Sulz-Cheisache	0.39	95	iPg	Pg	22 27 07.8	+0.7
	411nm,0.6s						
SULZ				iSg	Sg	22 27 12.8	+0.6
	411nm,0.6s						
SULZ	Sulz-Cheisache	0.39	95	⇑iPg	Pg	22 27 07.8	+0.7
SULZ				iSg	Sg	22 27 12.8	+0.6
MOF	Molkenrain	0.40	316	eP*	Pg	22 27 09.0	+1.8
MOF				PmP		22 27 11.4	
MOF				S*	Sg	22 27 14.4	+2.1
MOF	Molkenrain	0.40	316	Pg	Pg	22 27 08.8	+1.6
MOF				Sg	Sg	22 27 14.5	+2.2
FELD	Feldberg im Sc	0.44	45	⇑iP*	Pg	22 27 08.5	+0.4
FELD				S*	Sg	22 27 14.1	+0.3
FELD	Feldberg im Sc	0.44	45	⇑iP	Pg	22 27 08.5	+0.4
FELD				S	Sg	22 27 14.1	+0.3
FELD	Feldberg im Sc	0.44	45	⇑iPg	Pg	22 27 08.5	+0.4
FELD				Sg	Sg	22 27 14.1	+0.3
FELD	Feldberg im Sc	0.44	45	Pg	Pg	22 27 08.4	+0.3
FELD				Sg	Sg	22 27 13.9	+0.1
KIZ	Kirchzarten	0.47	33	⇑iP*	Pg	22 27 09.0	+0.4
KIZ				iS*	Sg	22 27 14.6	0.0
KIZ				SmS		22 27 19.1	
KIZ	Kirchzarten	0.47	33	⇑iP	Pg	22 27 09.0	+0.5
KIZ				iS	Sg	22 27 14.6	0.0
KIZ				S	Sg	22 27 19.2	+4.6
KIZ	Kirchzarten	0.47	33	⇑iPg	Pg	22 27 09.0	+0.4
KIZ				iSg	Sg	22 27 14.6	0.0
KIZ				SmS		22 27 19.1	
HINF	Hinteralfeld	0.53	299	ePn	Pg	22 27 12.7	+3.0
HINF				eSg	Sg	22 27 18.3	+1.8
HINF				eSn	Sg	22 27 21.7	+5.2
	28nm,0.3s						
HINF	Hinteralfeld	0.53	299	ePg	Pg	22 27 11.1	+1.4
HINF				ePn	Pg	22 27 12.7	+3.0
HINF				eSg	S

HAU *e*Sg **Sg** **22 27 30.6 +1.6**
13nm,0.2s
BFO Black Forest 0.93 34 P* **Pg** **22 27 17.7 +0.2**
BFO ⇑*i*PmP 22 27 18.1
BFO S* **Sg** **22 27 29.4 -0.1**
BFO SmS 22 27 30.9
BFO Black Forest 0.93 34 ⇑*i*PmP 22 27 18.1
BFO SmS 22 27 30.9
BFO Black Forest 0.93 34 Pg **Pg** **22 27 17.7 +0.2**
BFO Sg **Sg** **22 27 29.4 -0.1**
WILA Wila 0.94 99 *e*Pg **Pg** **22 27 18.4 +0.7**
SNR=13
WILA *e*Sg **Sg** **22 27 30.5 +0.7**
SNR=19
WILA Wila 0.94 99 *e*Pg **Pg** **22 27 18.4 +0.8**
616nm,0.4s
BRANT Les Verrieres 0.96 230 ⇑*i*P **Pg** **22 27 20.0 +2.0**
135nm,1.1s
SISB Singen-Schiene 0.97 82 P* **Pb** **22 27 18.5 -0.8**
SISB PmP 22 27 19.3
SISB S* **Sb** **22 27 31.1 -1.6**
SISB SmS 22 27 32.5
WEIN Weingarten 0.98 92 ⇑*i*Pg **Pg** **22 27 19.0 +0.6**
243nm,0.2s
SPAK Spaichingen-Ko 1.00 57 P **Pg** **22 27 18.9 +0.2**
GUT Gutenstein 1.18 64 ⇑*e*Pn **Pn** **22 27 21.2 -2.1**
THEF They Montfort 1.24 303 Pn **Pn** **22 27 23.9 -0.2**
THEF Sg **Sg** **22 27 41.1 +1.7**
THEF They Montfort 1.24 303 Pn **Pn** **22 27 24.5 +0.4**
FUSIO Fusio 1.35 145 *e*P **Pg** **22 27 26.2 +0.7**
22nm,1.0s
LIENZ Alp Oberkamor 1.35 101 *e*Pg **Pg** **22 27 25.4 -0.1**
SNR=5.5
LIENZ *e*Sg **Sg** **22 27 42.5 -0.6**
SNR=11
LIENZ Alp Oberkamor 1.35 101 ⇓*i*P **Pg** **22 27 25.4 -0.2**
238nm,0.3s
CABF La Chapelle 1.38 227 *e*Pg **Pg** **22 27 27.7 +1.7**
CABF *e*Sg **Sg** **22 27 45.2 +1.4**
11nm,0.2s
CABF La Chapelle 1.38 227 *e*Pn **Pn** **22 27 25.8 -0.3**
CABF *e*Pg **Pg** **22 27 27.7 +1.7**
CABF *e*Sg **Sg** **22 27 45.2 +1.4**
CABF La Chapelle 1.38 227 *e*Pg **Pg** **22 27 27.7 +1.7**
CABF *e*Sg **Sg** **22 27 45.2 +1.4**
5.3nm,0.2s
LBG Lerchenberg 1.38 37 Pn **Pn** **22 27 23.6 -2.5**
LBG Pg **Pg** **22 27 25.6 -0.6**
LBG Sg **Sg** **22 27 43.5 -0.5**
LBG Lerchenberg 1.38 37 Px Px 22 27 25.6
TUBL Tuebingen-Lenn 1.41 47 Pg **Pg** **22 27 28.4 +1.8**
TUBL Sg **Sg** **22 27 46.0 +1.1**
TUBL Tuebingen-Lenn 1.41 47 Px Px 22 27 28.4
TUBL S **Sg** **22 27 46.0 +1.1**
BUCH Bad Urach 1.50 53 Pn **Pn** **22 27 25.5 -2.3**
BUCH Pg **Pg** **22 27 28.6 +0.1**
BUCH Sg **Sg** **22 27 47.6 -0.4**
BUCH Bad Urach 1.50 53 Pn **Pn** **22 27 25.5 -2.3**
BUCH Pg **Pg** **22 27 28.6 +0.1**
BUCH Sg **Sg** **22 27 47.6 -0.4**
BUCH Bad Urach 1.50 53 P **Pg** **22 27 28.6 +0.1**
BUCH S **Sg** **22 27 47.6 -0.4**
BUCH Bad Urach 1.50 53 Pn **Pn** **22 27 25.5 -2.3**
DAVA Damuels 1.61 99 ⇑*i*Sn **Sn** **22 27 48.6 -2.2**
DAVA ⇑*i*Sg **Sn** **22 27 50.9 +0.1**
comp=Z,12nm,0.1s
DAVA Damuels 1.61 99 ⇑*i*Pn **Pn** **22 27 29.1 -0.2**
DAVA ⇑*i*Sn **Sn** **22 27 48.6 -2.2**
DAVA ⇑*i*Sn **Sn** **22 27 50.9 +0.1**
12nm,0.1s
STU Stuttgart 1.64 42 *e*Pg **Pg** **22 27 31.1 +0.1**
STU *e*Sg **Sg** **22 27 51.2 -1.1**
SNR=2.3
UBR Ueberruh 1.74 85 ⇓*e*Pn **Pn** **22 27 30.9 -0.1**
UBR ⇑Pg **Pg** **22 27 33.4 +0.4**
UBR Sg **Sg** **22 27 55.7 +0.1**
UBR Ueberruh 1.74 85 *e*Pn **Pn** **22 27 30.9 -0.2**
UBR Pg **Pg** **22 27 33.4 +0.4**
UBR Sg **Sg** **22 27 55.7 +0.1**
UBR Ueberruh 1.74 85 ⇑P **Pg** **22 27 33.4 +0.4**
UBR S **Sg** **22 27 55.7 +0.1**
UBR Ueberruh 1.74 85 ⇓*e*Pn **Pn** **22 27 30.9 -0.1**
RFYF Reffroy 1.75 308 *e*Pn **Pn** **22 27 30.1 -1.0**
baz=123
RFYF Reffroy 1.75 308 *e*Pg **Pg** **22 27 33.6 +0.5**
baz=120
RFYF *e*Sn **Sn** **22 27 51.3 -2.8**
RFYF *e*Sg **Sg** **22 27 56.2 +0.5**
12nm,0.3s
RFYF Reffroy 1.75 308 *e*Pn **Pn** **22 27 30.1 -1.0**
RFYF *e*Pg **Pg** **22 27 33.6 +0.5**
RFYF *e*Sn **Sn** **22 27 51.3 -2.8**
RFYF *e*Sg **Sg** **22 27 56.2 +0.5**
RFYF Reffroy 1.75 308 *e*Pg **Pg** **22 27 33.6 +0.5**
RFYF *e*Sg **Sg** **22 27 56.2 +0.5**
5.9nm,0.3s
DAVOX Davos 1.78 115 *e*P **Pn** **22 27 32.2 +0.6**
47nm,0.5s
SFTF Sexfontaines 1.80 292 *e*Pn **Pn** **22 27 31.3 -0.6**
baz=111
SFTF Sexfontaines 1.80 292 *e*Pg **Pg** **22 27 34.9 +0.8**
baz=113
SFTF *e*Sn **Sn** **22 27 53.1 -2.3**
SFTF *e*Sg **Sg** **22 27 58.2 +0.7**
9.3nm,0.3s
SFTF Sexfontaines 1.80 292 *e*Pn **Pn** **22 27 31.3 -0.6**
SFTF *e*Pg **Pg** **22 27 34.9 +0.8**
SFTF *e*Sn **Sn** **22 27 53.1 -2.3**
SFTF *e*Sg **Sg** **22 27 58.2 +0.7**
SFTF Sexfontaines 1.80 292 *e*Pg **Pg** **22 27 34.9 +0.8**
SFTF *e*Sg **Sg** **22 27 58.2 +0.7**
4.7nm,0.3s
MEZF Maizieres J'vi 1.91 300 *e*Pn **Pn** **22 27 33.1 -0.3**
baz=123
MEZF *e*Sn **Sn** **22 27 55.3 -2.9**
MEZF *e*Sg **Sg** **22 28 01.4 +0.3**
10nm,0.4s
MEZF Maizieres J'vi 1.91 300 *e*Pn **Pn** **22 27 33.1 -0.3**
MEZF *e*Sg **Sg** **22 28 01.4 +0.3**
5.1nm,0.4s
HDH Heidenheim-Cha 2.06 59 S **Sn** **22 27 58.2 -3.6**
LPL La Plagne 2.12 195 *e*Pg **Pg** **22 27 41.1 +0.8**
LPL *e*Sg **Sg** **22 28 08.8 +0.9**
3.8nm,0.3s
LPL La Plagne 2.12 195 *e*Pn **Pn** **22 27 36.6 +0.3**
LPL *e*Pg **Pg** **22 27 41.1 +0.8**
LPL *e*Sg **Sg** **22 28 08.8 +0.9**
LPL La Plagne 2.12 195 *e*Pg **Pg** **22 27 41.1 +0.8**
LPL *e*Sg **Sg** **22 28 08.8 +0.9**
1.9nm,0.3s
LPG La Plagne 2.14 195 *e*Pg **Pg** **22 27 41.6 +1.0**
LPG *e*Sg **Sg** **22 28 09.2 +0.9**
10nm,0.4s
LPG La Plagne 2.14 195 *e*Pg **Pg** **22 27 41.6 +1.0**
LPG *e*Sg **Sg** **22 28 09.2 +0.9**
5.2nm,0.4s
RETA Reutte 2.19 91 ⇑*i*Pg **Pg** **22 27 41.7 +0.2**
SIND Sindeldorf 2.25 37 Pg **Pg** **22 27 42.3 -0.5**
SIND Sg **Sg** **22 28 10.2 -1.8**
MOTA Moosalm 2.43 94 ⇓*i*Pn **Pn** **22 27 39.5 -1.1**
MOTA ⇑*i*Sg **Sg** **22 28 17.0 -0.7**
3.5nm,0.2s
LOR Lormes 2.52 265 *e*Pg **Pg** **22 27 47.9 +0.1**
baz=86
LOR *e*Sg **Sg** **22 28 20.4 -0.1**
12nm,0.2s
LOR Lormes 2.52 265 *e*Pn **Pn** **22 27 40.6 -1.1**
LOR *e*Pg **Pg** **22 27 47.9 +0.1**
LOR *e*Sg **Sg** **22 28 20.4 -0.1**
LOR Lormes 2.52 265 *e*Pg **Pg** **22 27 47.9 +0.1**
LOR *e*Sg **Sg** **22 28 20.4 -0.1**
5.9nm,0.2s
SQTA Sankt Quirin 2.52 97 ⇓*i*Pn **Pn** **22 27 40.8 -0.9**
SQTA ⇑*i*Sn **Sn** **22 28 10.7 -2.4**
SQTA ⇑*i*Sg **Sg** **22 28 19.7 -0.8**
9.6nm,0.3s
FUR Furstenfeldbru 2.59 75 *e*Sg **Sg** **22 28 22.0 -0.7**
SNR=3.6
SMF Signal de Mont 2.69 251 *e*Pg **Pg** **22 27 51.3 +0.2**
SMF *e*Sg **Sg** **22 28 25.4 -0.6**
11nm,0.3s
SMF Signal de Mont 2.69 251 *e*Pg **Pg** **22 27 51.3 +0.2**
SMF *e*Sg **Sg** **22 28 25.4 -0.6**
5.6nm,0.3s
TNS Taunus Mts 2.73 12 *e*Sg **Sg** **22 28 26.5 -0.7**
SNR=2.3
SSF Saint Saulge 2.79 261 *e*Pg **Pg** **22 27 53.2 +0.1**
SSF *e*Sg **Sg** **22 28 29.4 +0.1**
7.9nm,0.4s
SSF Saint Saulge 2.79 261 *e*Pn **Pn** **22 27 44.9 -0.6**
SSF *e*Pg **Pg** **22 27 53.2 +0.1**
SSF *e*Sg **Sg** **22 28 29.4 +0.1**
SSF Saint Saulge 2.79 261 *e*Pg **Pg** **22 27 53.2 +0.1**
SSF *e*Sg **Sg** **22 28 29.4 +0.1**
4.0nm,0.4s
ORIF Oris-en-Rattie 2.89 204 *e*Pg **Pg** **22 27 54.6 -0.3**
ORIF *e*Sg **Sg** **22 28 32.1 -0.3**
4.2nm,0.2s
ORIF Oris-en-Rattie 2.89 204 *e*Pn **Pn** **22 27 45.9 -0.9**
ORIF *e*Pg **Pg** **22 27 54.6 -0.3**
ORIF *e*Sg **Sg** **22 28 32.1 -0.3**
ORIF Oris-en-Rattie 2.89 204 *e*Pg **Pg** **22 27 54.6 -0.3**
ORIF *e*Sg **Sg** **22 28 32.1 -0.3**
2.1nm,0.2s
MBDF Montbardon 2.89 191 *e*Sg **Sg** **22 28 32.2 -0.2**
4.8nm,0.5s
MBDF Montbardon 2.89 191 *e*Sg **Sg** **22 28 32.2 -0.2**
2.4nm,0.5s
AVF Avril sur Loir 2.96 256 *e*Pg **Pg** **22 27 56.3 0.0**
AVF *e*Sn **Sn** **22 28 21.7 -2.3**
AVF *e*Sg **Sg** **22 28 34.1 -0.6**
1.5nm,0.2s
AVF Avril sur Loir 2.96 256 *e*Pn **Pn** **22 27 47.4 -0.4**
AVF *e*Pg **Pg** **22 27 56.3 0.0**
AVF *e*Sn **Sn** **22 28 21.7 -2.3**
AVF *e*Sg **Sg** **22 28 34.1 -0.6**
AVF Avril sur Loir 2.96 256 *e*Pg **Pg** **22 27 56.3 0.0**
AVF *e*Sn **Sn** **22 28 21.7 -2.3**
AVF *e*Sg **Sg** **22 28 34.1 -0.6**
0.8nm,0.2s
GIVF Givet 3.11 326 *e*Pn **Pn** **22 27 50.5 +0.6**
GIVF *e*Sg **Sg** **22 28 38.1 -1.4**
6.3nm,0.5s
GIVF Givet 3.11 326 *e*Pn **Pn** **22 27 50.5 +0.6**
GIVF *e*Sg **Sg** **22 28 38.1 -1.4**
3.2nm,0.5s
BAIF Baives 3.33 320 *e*Sg **Sg** **22 28 44.8 -1.7**
0.6nm,0.3s
BAIF Baives 3.33 320 *e*Sg **Sg** **22 28 44.8 -1.7**
0.3nm,0.3s
HYF Humbligny 3.34 267 *e*Pn **Pn** **22 27 52.0 -1.1**
HYF *e*Sg **Sg** **22 28 47.0 +0.1**
VIVF Saint-Julien-l 3.36 217 *e*Pg **Pg** **22 28 03.4 -0.6**
VIVF *e*Sg **Sg** **22 28 46.8 -0.8**
4.2nm,0.3s
VIVF Saint-Julien-l 3.36 217 *e*Pn **Pn** **22 27 51.8 -1.6**
VIVF *e*Pg **Pg** **22 28 03.4 -0.6**
VIVF *e*Sg **Sg** **22 28 46.8 -0.8**
VIVF Saint-Julien-l 3.36 217 *e*Pg **Pg** **22 28 03.4 -0.6**
VIVF *e*Sg **Sg** **22 28 46.8 -0.8**
2.1nm,0.3s
BGF Bois d'Agland 3.36 254 *e*Pg **Pg** **22 28 03.5 -0.6**
BGF *e*Sg **Sg** **22 28 47.6 0.0**
9.0nm,0.4s
BGF Bois d'Agland 3.36 254 *e*Pn **Pn** **22 27 52.2 -1.2**
BGF *e*Pg **Pg** **22 28 03.5 -0.6**
BGF *e*Sg **Sg** **22 28 47.6 0.0**
BGF Bois d'Agland 3.36 254 *e*Pg **Pg** **22 28 03.5 -0.6**
BGF *e*Sg **Sg** **22 28 47.6 0.0**
4.5nm,0.4s
TCF Toulx Ste Croi 3.87 253 *e*Pg **Pg** **22 28 13.2 -0.6**
TCF *e*Sn **Sn** **22 28 43.1 -3.4**
TCF *e*Sg **Sg** **22 29 03.4 -0.5**
3.3nm,0.4s
TCF Toulx Ste Croi 3.87 253 *e*Pn **Pn** **22 27 59.4 -0.9**
TCF *e*Pg **Pg** **22 28 13.2 -0.6**
TCF *e*Sn **Sn** **22 28 43.1 -3.4**
TCF *e*Sg **Sg** **22 29 03.4 -0.5**
TCF Toulx Ste Croi 3.87 253 *e*Pg **Pg** **22 28 13.2 -0.6**
TCF *e*Sn **Sn** **22 28 43.1 -3.4**
TCF *e*Sg **Sg** **22 29 03.4 -0.5**
1.6nm,0.4s
WET Wettzell 3.90 64 *e*Sg **Sg** **22 29 02.1 -2.6**
GEC2 GERESS Array S 4.32 70 *e*Sn **Sn** **22 28 52.0 -5.5**
SNR=2.7
LASF Ste Croix 4.34 218 *e*Pg **Pg** **22 28 21.4 -1.3**
LASF *e*Sn **Sn** **22 28 54.9 -3.1**
LASF *e*Sg **Sg** **22 29 17.7 -1.2**
2.2nm,0.3s
LASF Ste Croix 4.34 218 *e*Pn **Pn** **22 28 05.5 -1.2**
LASF *e*Pg **Pg** **22 28 21.4 -1.3**
LASF *e*Sn **Sn** **22 28 54.9 -3.1**
LASF *e*Sg **Sg** **22 29 17.7 -1.2**
LASF Ste Croix 4.34 218 *e*Pg **Pg** **22 28 21.4 -1.3**
LASF *e*Sn **Sn** **22 28 54.9 -3.1**
LASF *e*Sg **Sg** **22 29 17.7 -1.2**
1.1nm,0.3s
MTLF Montolieu 5.64 223 *e*Pg **Pg** **22 28 45.6 -2.1**
MTLF *e*Sg **Sg** **22 29 58.7 -2.2**
0.4nm,0.3s
MTLF Montolieu 5.64 223 *e*Pn **Pn** **22 28 23.6 -1.1**
MTLF *e*Pg **Pg** **22 28 45.6 -2.1**
MTLF *e*Sg **Sg** **22 29 58.7 -2.2**
MTLF Montolieu 5.64 223 *e*Pg **Pg** **22 28 45.6 -2.1**
MTLF *e*Sg **Sg** **22 29 58.7 -2.2**
0.2nm,0.3s

*ISCJB **06** 22:44:42.4±0.9, 3473N±007×25.12E±003, h9km±6km, Error ellipse: s-maj=11.4km s-min=4.5km az=0.9*
*THE **06** 22:44:43.0, 3475N×2510E, h10km*
*NEIC **06** 22:44:44.2, 3489N×2510E, h5km, MD3.3(ATH), After ATH.*
*ATH **06** 22:44:44.2, 3489N×2510E, h5km, MD3.3/5*
*CSEM **06** 22:44:44.4±0.2, 3482N×2508E, h2km, MD3.3, Error ellipse: s-maj=4.4km s-min=2.2km az=171.0*

ISC 06 22:44:43.0±1.0, 3474N±007×2511E±003, h13km±6km, n22, σ1§14/38, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.37**	**318**	*e*Pg	**Pg**	**22 44 49.4**	**-1.0**
SIVA				*e*Sg	**Sg**	**22 44 56.3**	**+0.9**
XRY	**Khrisi**	**0.50**	**74**	*e*PG	**Pg**	**22 44 53.5**	**+0.7**
NPS	**Neapolis**	**0.67**	**38**	*e*PG	**Pg**	**22 44 54.8**	**-1.1**
GVD	**Gavdhos**	**0.85**	**277**	*e*Pg	**Pg**	**22 44 59.8**	**+0.4**
GVD				*e*Sg	**Sg**	**22 45 12.8**	**+2.4**
GVD	**Gavdhos**	**0.85**	**277**	P	**Pg**	**22 44 59.8**	**+0.4**
GVD				*e*Pb	**Pb**	**22 45 00.0**	**+0.4**
GVD				S	**Sg**	**22 45 12.8**	**+2.4**
GVD	**Gavdhos**	**0.85**	**277**	*e*Pb	**Pb**	**22 45 00.0**	**+0.4**
GVD				*e*Sg	**Sg**	**22 45 12.8**	**+2.4**
ZKR	**Zakros**	**0.98**	**67**	*e*Pg	**Pg**	**22 45 01.6**	**-0.3**
ZKR				*e*Sg	**Sg**	**22 45 16.4**	**+1.6**
ZKR	**Zakros**	**0.98**	**67**	*e*Pg	**Pg**	**22 45 01.6**	**-0.4**
ZKR				*e*Sg	**Sg**	**22 45 16.4**	**+1.6**
VAM	**Vamos**	**1.00**	**312**	*e*PG	**Pg**	**22 45 00.6**	**-1.7**
VAM				*e*SB	**Sb**	**22 45 14.1**	**-1.1**
KARN	**Karanos**	**1.18**	**304**	*e*Pg	**Pg**	**22 45 03.6**	**-2.1**
KARN				*e*Sg	**Sg**	**22 45 22.7**	**+1.7**
THR6	**Thira Island,**	**1.63**	**8**	*e*Pb	**Pb**	**22 45 12.4**	**-0.5**
SANT	**Santorini**	**1.65**	**10**	*e*Pb	**Pb**	**22 45 12.8**	**-0.5**
SANT				*e*Sb	**Sb**	**22 45 34.9**	**+0.9**
SANT	**Santorini**	**1.65**	**10**	*e*Pn	**Pn**	**22 45 11.1**	**-0.6**
SANT				*e*Sn	**Sn**	**22 45 33.3**	**+0.5**
SANT	**Santorini**	**1.65**	**10**	*e*Pn	**Pn**	**22 45 11.1**	**-0.6**
SANT	**Santorini**	**1.65**	**10**	*e*Pb	**Pb**	**22 45 12.8**	**-0.5**
SANT				*e*Sn	**Sn**	**22 45 33.3**	**+0.5**
SANT				*e*Sb	**Sb**	**22 45 34.9**	**+0.9**
THR1	**Thera Island**	**1.65**	**10**	*e*Pb	**Pb**	**22 45 12.0**	**-1.3**
THR3	**Thira Island,**	**1.68**	**8**	*e*Pb	**Pb**	**22 45 12.8**	**-1.0**
THR5	**Thira Island,**	**1.69**	**7**	*e*Pb	**Pb**	**22 45 13.1**	**-0.8**
KARP	**Karpathos**	**1.86**	**64**	*e*PN	**Pg**	**22 45 19.0**	**+0.2**
APE	**Apeiranthos**	**2.35**	**8**	*e*Pn	**Pn**	**22 45 22.1**	**+0.8**
APE				*e*Sn	**Sn**	**22 45 51.5**	**+1.5**
APE	**Apeiranthos**	**2.35**	**8**	*e*PN	**Pn**	**22 45 23.4**	**+2.1**
APE	**Apeiranthos**	**2.35**	**8**	P	**Pn**	**22 45 22.1**	**+0.8**
APE				*e*Pn	**Pn**	**22 45 23.4**	**+2.1**
APE				S	**Sn**	**22 45 51.5**	**+1.5**

*IDC **06** 23:05:17.0±1.0, 592S×15385E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.1/16, mbtmp4.1/10, ML3.7/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/24, Error ellipse: s-maj=30.0km s-min=21.7km az=98.0*
*NEIC **06** 23:05:18.5±0.5, 594S×15393E, h10km, mb4.6/7, Error ellipse: s-maj=12.3km s-min=11.3km az=60.0*
*BJI **06** 23:05:18.4, 590S×15390E, h10km, mb4.2*
*ISCJB **06** 23:05:20.8±0.6, 604S±008×15388E±009, h35km, mb4.2/14, MS4.0/1, Error ellipse: s-maj=14.0km s-min=9.3km az=80.9*

ISC 06 23:05:22.2±0.5, 601S±007×15396E±007, h35km, n29, σ1§20/28, mb4.2/14, MS4.0/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.83**	**120**	Pn	**Pn**	**23 06 57.9**	**-2.0**
PMG	**Port Moresby**	**7.54**	**243**	Pn	**Pn**	**23 07 09.6**	**+0.1**
7.3nm,0.3s,baz=51,slow=7.9,SNR=18							
PMG				Sn	**Sn**	**23 08 33.0**	**-0.7**
1.9nm,0.3s,baz=101,slow=14,SNR=4.8							
PMG				LR	LR	23 09 48.0	
comp=Z,323nm,20.4s,baz=41,slow=36							
PMG	**Port Moresby**	**7.54**	**243**	*e*Pn	**Pn**	**23 07 10.1**	**+0.6**
PMG				*e*Sn	**Sn**	**23 08 35.3**	**+1.6**
CTA	**Charters Tower**	**15.87**	**207**	LR	LR	23 14 07.2	
comp=Z,220nm,21.1s,baz=50,slow=33							
CTAO	**Charters Tower**	**15.87**	**207**	P	**Pn**	**23 09 03.1**	**+0.4**
DZM	**Mont Dzumac**	**20.01**	**144**	P	**P**	**23 09 53.6**	**+1.9**
5.7nm,0.7s,baz=342,slow=20,SNR=2.5							
KAKA	**Kakadu**	**22.24**	**251**	*e*P	**P**	**23 10 13.9**	**-1.9**
10nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**23.55**	**232**	*e*P	**P**	**23 10 29.1**	**-0.3**
WRA	**Warramunga Arr**	**23.57**	**232**	P	**P**	**23 10 28.8**	**-0.7**
3.4nm,0.7s,mb3.9,baz=58,slow=8.9,SNR=21							
WRA				PcP	PcP	23 14 17.2	+3.3
0.7nm,0.9s,baz=69,slow=2.4,SNR=3.3							
FITZ	**Fitzroy Crossi**	**30.13**	**244**	*e*P	**P**	**23 11 27.6**	**-1.0**
9.3nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**30.13**	**244**	P	**P**	**23 11 27.7**	**-0.9**
4.5nm,0.8s,mb4.2,baz=61,slow=6.4,SNR=5.4							
KSRS	**Korea Array**	**49.60**	**333**	P	**P**	**23 14 07.3**	**-2.5**
0.6nm,0.4s,mb4.0,baz=156,slow=9.1,SNR=3.0							
GTA	**Gaotai**	**67.33**	**317**	*e*P	**P**	**23 16 15.9**	**+2.4**
GTA				AP	pP	23 16 23.2	-1.1
GTA				XP	sP	23 16 26.9	-1.5
GTA				AMB	AMB		
comp=Z,3.0nm,1.0s,mb4.3							
SONM	**Songino Array**	**67.96**	**328**	P	**P**	**23 16 17.4**	**-0.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=136,slow=3.8,SNR=4.7							
LSA	**Lhasa**	**69.87**	**304**	P	**P**	**23 16 31.2**	**+1.8**
LSA	**Lhasa**	**69.87**	**304**	*e*P	**P**	**23 16 30.3**	**+0.9**
comp=Z,2.4nm,0.6s,mb4.3							
VNDA	**Vanda**	**71.58**	**178**	P	**P**	**23 16 38.6**	**-1.2**
comp=Z,0.7nm,0.9s,mb3.6,baz=14,slow=4.2,SNR=2.8							
VNDA				LR	LR	23 42 33.3	
comp=Z,87nm,19.6s,MS4.0,baz=137,slow=31							
VNDA	**Vanda**	**71.58**	**178**	*e*P	**P**	**23 16 42.3**	**+2.5**
comp=Z,1.4nm,0.9s,mb3.9							
VNDA				LR	LR	23 42 33.3	
MK31	**Makanchi Array**	**81.99**	**319**	*e*P	**P**	**23 17 38.7**	**+0.2**
MKAR	**Makanchi Array**	**81.99**	**319**	P	**P**	**23 17 38.6**	**+0.2**
comp=Z,1.0nm,0.7s,mb3.8,baz=94,slow=8.0,SNR=11							
ZAL	**Zalesovo**	**82.81**	**326**	P	**P**	**23 17 41.9**	**-0.8**
comp=Z,0.8nm,0.6s,mb4.0,baz=56,slow=2.1,SNR=4.1							
MAW	**Mawson**	**84.90**	**203**	P	**P**	**23 17 57.9**	**+4.4**
KURK	**Kurchatov**	**85.43**	**322**	*e*P	**P**	**23 17 56.5**	**+0.4**
comp=Z,6.2nm,0.9s,mb4.7							
AAK	**Ala-Archa**	**86.33**	**313**	P	**P**	**23 18 01.9**	**+1.3**
CHKZ	**Chkalovo**	**90.86**	**324**	*e*P	**P**	**23 18 22.1**	**+0.1**
comp=Z,2.5nm,0.7s,mb4.7							
BVAR	**Borovoye Array**	**90.90**	**323**	P	**P**	**23 18 22.0**	**-0.2**
comp=Z,1.5nm,0.7s,mb4.4,baz=73,slow=5.0,SNR=7.2							
BRVK	**Borovoye**	**90.97**	**323**	*e*P	**P**	**23 18 22.2**	**-0.3**
comp=Z,3.1nm,0.7s,mb4.8							
TORD	**Torodi Ar. Bea**	**151.77**	**287**	PKPbc	PKPbc	23 25 14.5	+1.5
comp=Z,1.8nm,0.8s,baz=50,slow=2.4,SNR=12							
TORD	**Torodi Ar. Bea**	**151.77**	**287**	PKPbc	PKPbc	23 25 14.5	+1.5

IDC 06 23:13:49.3±3.2, 609S×15425E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/13, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=95.3km s-min=33.4km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.76**	**244**	Pn	Pn	23 15 43.0	-0.4
2.3nm,0.3s,baz=34,slow=7.3,SNR=4.0							
KAKA	**Kakadu**	**22.49**	**251**	*e*P	P	23 18 47.0	-3.2
15nm,0.5s							
WRA	**Warramunga Arr**	**23.75**	**233**	P	P	23 19 02.9	-0.4
0.9nm,0.9s,baz=59,slow=8.8,SNR=5.0							
SONM	**Songino Array**	**68.18**	**327**	P	P	23 24 52.0	+0.6
0.4nm,0.8s,baz=117,slow=10,SNR=2.5							
MKAR	**Makanchi Array**	**82.24**	**319**	P	P	23 26 11.6	-0.8
0.3nm,0.7s,baz=94,slow=5.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**152.07**	**287**	PKPbc	PKPbc	23 33 49.0	+2.4
0.8nm,1.0s,baz=79,slow=1.3,SNR=5.8							

*ISCJB **06** 23:14:08.2±0.4, 3865N±002×838W±003, h8km±4km, Error ellipse: s-maj=4.5km s-min=3.6km az=123.1*
*MDD **06** 23:14:09.5±0.3, 3864N×841W, h0km, mbLg2.0/8, Error ellipse: s-maj=4.2km s-min=2.4km az=60.0, PRXIMO*
*INMG **06** 23:14:09.7±0.8, 3864N±3km, h2km±3km, ML1.9, Error ellipse: s-maj=1.4km s-min=1.2km az=62.0*
*IGIL **06** 23:14:09.3, 3863N×840W, h0km, ML1.6*

ISC 06 23:14:08.8±0.4, 3864N±002×840W±004, h9km±5km, n22, σ0§47/36, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOE	**Montemor**	**0.12**	**162**	*i* Pg	**Pg**	**23 14 11.6**	**0.0**
MOE				*e*Sg	**Sg**	**23 14 13.0**	**-0.5**
ALMR	**Almeirim**	**0.54**	**345**	*e*P	**Pg**	**23 14 19.1**	**-0.2**
ALMR				*e*S	**Sg**	**23 14 26.0**	**-0.3**
ALMR				*e*S	**Sg**	**23 14 26.0**	**-0.3**
ALMR				AML	AML	23 14 29.1	
comp=N,30nm,0.3s							
ALMR	**Almeirim**	**0.54**	**345**	P	**Pg**	**23 14 19.1**	**-0.2**
SNR=7.9							
ALMR				S	**Sg**	**23 14 26.0**	**-0.3**
SNR=7.9							
PLOU	**Loures**	**0.64**	**293**	*e*Pg	**Pg**	**23 14 21.4**	**+0.2**
PLOU				*e*Sg	**Sg**	**23 14 29.7**	**+0.1**
PLOU				A		23 14 33.8	
comp=N,39nm,0.2s							
PLOU	**Loures**	**0.64**	**293**	Pg	**Pg**	**23 14 21.4**	**+0.2**
PLOU				Lg		23 14 29.7	
PESTR	**Estremoz**	**0.67**	**70**	*e*P	**Pg**	**23 14 22.2**	**+0.4**
PESTR				*e*S	**Sg**	**23 14 31.3**	**+0.7**
PESTR				A		23 14 32.6	
comp=N,10nm,0.1s							
PBEJ	**Beja**	**0.74**	**145**	*e*P	**Pg**	**23 14 22.9**	**-0.2**
PBEJ				*e*S	**Sg**	**23 14 33.4**	**+0.7**
PBEJ				A		23 14 37.6	
comp=N,14nm,0.1s							
PBEJ	**Beja**	**0.74**	**145**	P	**Pg**	**23 14 22.9**	**-0.2**
PBEJ				S	**Sg**	**23 14 33.4**	**+0.7**
comp=N,6.9nm,0.1s							
PMAFR	**Mafra**	**0.76**	**295**	*e*P	**Pg**	**23 14 23.4**	**-0.1**
PMAFR				*e*S	**Sg**	**23 14 33.7**	**+0.3**
PMAFR				A		23 14 36.6	
comp=N,80nm,0.2s							
EBAD	**Badajoz**	**1.09**	**83**	Pg	**Pg**	**23 14 30.0**	**+0.3**
comp=N,2.6nm,0.1s,SNR=18							
EBAD				Lg		23 14 44.6	
comp=N,35nm,0.2s,SNR=28							
PTEO	**Sao Teotonio**	**1.12**	**193**	*e*P	**Pg**	**23 14 30.4**	**+0.1**
PTEO				*e*S	**Sg**	**23 14 45.3**	**+0.4**
PTEO				A		23 14 47.8	
comp=N,30nm,0.3s							
PTEO	**Sao Teotonio**	**1.12**	**193**	P	**Pg**	**23 14 30.4**	**+0.1**
PTEO				S	**Sg**	**23 14 45.3**	**+0.4**
comp=N,15nm,0.3s							
EGRO	**El Granado**	**1.32**	**146**	Pg	**Pg**	**23 14

EMIN	**Mina Concepcio**	**1.61**	**122**	Pg	**Pg**	**23 14 39.2**	**-0.6**
	comp=N,6.9nm,0.3s,SNR=12						
EMIN				Lg		23 15 01.1	
	comp=N,2.1nm,0.1s,SNR=12						
PVIS	**Viseu**	**2.11**	**10**	*e*Pg	**Pg**	**23 14 48.1**	**-1.3**
PVIS				*e*Sg	**Sg**	**23 15 16.8**	**0.0**
PVIS				A		23 15 21.7	
	comp=N,5.3nm,0.3s						
PVIS	**Viseu**	**2.11**	**10**	Pg	**Pg**	**23 14 48.1**	**-1.3**
PVIS				Lg		23 15 16.8	
ESPR	**Espera**	**2.68**	**130**	Pn	**Pn**	**23 14 51.9**	**-0.2**
	comp=N,0.6nm,0.1s,SNR=4.0						
ESPR				Lg		23 15 37.2	
	comp=N,1.6nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**2.69**	**11**	A		23 15 38.6	
	comp=N,3.8nm,0.1s						
EADA	**Adamuz**	**3.04**	**98**	Sn	**Sn**	**23 15 33.1**	**-0.5**
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Lg		23 15 45.4	
	comp=N,1.3nm,0.2s,SNR=5.5						
ESDC	**Sonseca Array**	**3.60**	**72**	Pn	**Pn**	**23 15 05.3**	**+0.5**
	comp=N,0.3nm,0.2s,baz=256,slow=13,SNR=19						
ESDC				Sn	**Sn**	**23 15 46.9**	**-0.6**
	comp=N,0.2nm,0.2s,baz=258,slow=24,SNR=4.7						
ESDC				Lg		23 16 00.7	
	baz=256,slow=29,SNR=5.9						

ISCJB ***06*** *23:14:05.8±3.2, 592S±009×1536E±0.1, h48km±27km, mb4.5/23, MS4.2/1, Error ellipse: s-maj=19.7km s-min=14.3km az=127.4*
IDC ***06*** *23:14:09.3±4.7, 596S×15355E, h68km±40km, mb3.9/10, mb1 4.1/12, mb1mx4.0/17, mbtmp4.0/12, ML3.6/2, MS4.1/1, Ms1 4.1/1, ms1mx3.2/16, Error ellipse: s-maj=30.9km s-min=19.7km az=70.0*
NEIC ***06*** *23:14:09.2±2.2, 593S×15360E, h67km±18km, mb4.6/10, Error ellipse: s-maj=17.3km s-min=11.3km az=67.0*
BJI ***06*** *23:14:09.2, 590S×15360E, h36km, mB5.0, mb4.6*
ISC 06 23:14:09.5±2.7, 597S±009×1536E±01, h66km±22km, n40, σ0.96/36, mb4.4/23, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.25**	**242**	P	**Pn**	**23 15 53.1**	**+0.3**
	5.4nm,0.3s,baz=42,slow=8.5,SNR=9.3						
PMG				S	**Sn**	**23 17 13.2**	**-0.4**
	1.8nm,0.3s,baz=98,slow=14,SNR=4.0						
CTA	**Charters Tower**	**15.75**	**206**	P	**Pn**	**23 17 48.0**	**+0.8**
	0.2nm,0.3s,baz=30,slow=14,SNR=4.7						
DZM	**Mont Dzumac**	**20.25**	**143**	P	**P**	**23 18 39.0**	**-0.3**
	10nm,0.9s,baz=322,slow=12,SNR=3.7						
WRAB	**Tennant Creek**	**23.31**	**232**	*e*P	**P**	**23 19 11.4**	**-0.2**
	14nm,1.1s,mb4.2						
WB2	**Warramunga Arr**	**23.31**	**232**	*e*P	**P**	**23 19 11.5**	**-0.2**
WRA	**Warramunga Arr**	**23.32**	**232**	P	**P**	**23 19 11.3**	**-0.5**
	6.2nm,0.9s,mb3.9,baz=55,slow=9.9,SNR=14						
WRA	**Warramunga Arr**	**23.32**	**232**	P	**P**	**23 19 11.3**	**-0.5**
STKA	**Stephens Creek**	**28.12**	**202**	P	**P**	**23 19 54.2**	**-1.0**
	1.3nm,0.6s,mb3.6,baz=15,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**28.12**	**202**	P	**P**	**23 19 54.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**29.84**	**244**	*e*P	**P**	**23 20 10.0**	**-0.4**
	13nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**29.84**	**244**	P	**P**	**23 20 08.8**	**-1.6**
	7.5nm,0.8s,mb4.4,baz=97,slow=5.3,SNR=9.4						
FORT	**Forrest**	**34.42**	**221**	*e*P	**P**	**23 20 50.7**	**+0.2**
	20nm,0.6s,mb5.1						
KSRS	**Korea Array**	**49.41**	**333**	P	**P**	**23 22 51.6**	**-0.9**
	1.0nm,0.4s,mb4.1,baz=147,slow=7.0,SNR=4.2						
KMI	**Kunming**	**58.31**	**304**	P	pP	23 24 07.9	-6.8
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH	**Lanzhou**	**62.63**	**316**	*e*P	**P**	**23 24 32.0**	**+5.0**
LZH				AP	pP	23 24 38.0	-6.3
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
GTA	**Gaotai**	**67.06**	**317**	*e*P	**P**	**23 24 56.7**	**+0.9**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb3.9						
ULN	**Ulaanbaatar**	**67.41**	**328**	P	**P**	**23 24 54.0**	**-3.9**
	comp=Z,4.6nm,1.1s,mb4.2						
SONM	**Songino Array**	**67.74**	**328**	P	**P**	**23 24 59.9**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=147,slow=4.3,SNR=6.1						
SONM	**Songino Array**	**67.74**	**328**	P	**P**	**23 24 59.9**	**-0.1**
LSA	**Lhasa**	**69.57**	**305**	P	**P**	**23 25 12.8**	**+1.4**
LSA	**Lhasa**	**69.57**	**305**	*e*P	**P**	**23 25 12.8**	**+1.4**
	comp=Z,4.7nm,0.9s,mb4.3						
VNDA	**Vanda**	**71.64**	**178**	P	**P**	**23 25 23.8**	**-0.2**
	comp=Z,2.0nm,1.0s,mb3.9,baz=338,slow=3.2,SNR=5.4						
VNDA	**Vanda**	**71.64**	**178**	*e*P	**P**	**23 25 24.7**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0						
GUN	**Gumba**	**73.42**	**301**	*e*P	**P**	**23 25 35.9**	**+1.3**
	comp=Z,28nm,0.9s,mb5.1						
DMN	**Daman**	**74.00**	**301**	*e*P	**P**	**23 25 40.4**	**+2.4**
GKN	**Gorkha**	**74.50**	**301**	*e*P	**P**	**23 25 41.5**	**+0.6**
	comp=Z,16nm,0.9s,mb4.8						
KOLN	**Koldanda**	**75.33**	**301**	*e*P	**P**	**23 25 45.4**	**-0.3**
	comp=Z,15nm,0.9s,mb4.7						
MK31	**Makanchi Array**	**81.74**	**319**	*e*P	**P**	**23 26 21.2**	**+0.3**
MKAR	**Makanchi Array**	**81.74**	**319**	P	**P**	**23 26 21.9**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=96,slow=6.2,SNR=4.9						
ZAL	**Zalesovo**	**82.58**	**326**	P	**P**	**23 26 23.5**	**-1.8**
	comp=Z,1.3nm,0.6s,mb4.0,baz=2.9,slow=8.6,SNR=7.4						
QSPA	**South Pole Qui**	**84.00**	**180**	*e*P	**P**	**23 26 33.6**	**+1.0**
	comp=Z,9.5nm,0.8s,mb4.7						
MAW	**Mawson**	**84.81**	**203**	P	**P**	**23 26 36.5**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.0,baz=122,slow=6.6,SNR=3.6						
MAW	**Mawson**	**84.81**	**203**	P	**P**	**23 26 37.4**	**+0.6**
KURK	**Kurchatov**	**85.19**	**322**	*e*P	**P**	**23 26 38.1**	**-0.6**
	comp=Z,8.9nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**90.63**	**324**	*e*P	**P**	**23 27 02.9**	**-1.8**
	comp=Z,3.7nm,1.0s,mb4.5						
BRVK	**Borovoye**	**90.73**	**323**	*e*P	**P**	**23 27 04.0**	**-1.1**
	comp=Z,2.4nm,0.5s,mb4.6						
PDAR	**Pinedale Array**	**99.03**	**48**	LR	LR	00 10 09.7	
	comp=Z,71nm,18.3s,baz=74,slow=34						
TOA0	**Torodi Ar. Sit**	**151.43**	**287**	*e*PKPbc	PKPbc	23 33 56.4	+0.6
TORD	**Torodi Ar. Bea**	**151.43**	**287**	PKPbc	PKPbc	23 33 56.5	+0.7
	comp=Z,3.8nm,0.7s,baz=40,slow=1.9,SNR=19						
TORD	**Torodi Ar. Bea**	**151.43**	**287**	PKPbc	PKPbc	23 33 56.5	+0.7

LDG ***06*** *23:18:55.1±0.1, 4758N×759E, h9km, Md2.3/3, Ml2.1/16, Error ellipse: s-maj=1.2km s-min=0.8km az=99.0*
STR ***06*** *23:18:55.0±0.3, 4758N×760E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR 06 23:18:55.4, 4759N×760E, h5km±1km, ML1.4, 4C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165⇑**	*i*Pg	Pg	23 19 00.8	+0.4
	205nm,0.7s						
BOURR	**Bourrignon**	**0.32**	**233⇑**	*i*Pg	Pg	23 19 01.8	+0.3
	40nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i* Sg	Pg	23 19 02.3	+0.1
	70nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.35**	**99⇑**	*i*Pg	Sg	23 19 07.3	+0.4
	70nm,0.2s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	23 19 02.6	-0.7
MOF				Sg	Sg	23 19 09.0	+0.3
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	23 19 05.5	-0.6
HINF				*e*Sg	Sg	23 19 12.7	-0.6
HINF				*e*Sn	Sg	23 19 16.3	+3.0
	3.9nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	23 19 06.5	+0.1
LOMF				Sg	Sg	23 19 14.4	+0.5
SLE	**Schleitheim**	**0.63**	**73⇑**	*i*Pg	Pg	23 19 07.2	-0.3
	183nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	23 19 09.3	+0.5
ECH				Sg	Sg	23 19 17.7	-0.1
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pg	Pg	23 19 11.5	-0.3
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn	Pn	23 19 12.0	-2.1
CDF				*e*Sg	Sg	23 19 21.9	-1.0
CDF				*e*Sn	Sn	23 19 23.8	-3.2
	7.7nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	23 19 12.6	-0.9
HAU				*e*Sg	Sg	23 19 25.4	-0.3
	6.0nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	23 19 22.2	-0.4
CABF				*e*Sg	Sg	23 19 39.7	-1.4
	2.5nm,0.2s						
RFYF	**Reffroy**	**1.77**	**307**	*e*Pg	Pg	23 19 27.9	-1.3
RFYF				*e*Sg	Sg	23 19 50.9	-1.2
	3.0nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	23 19 29.3	-1.2
SFTF				*e*Sg	Sg	23 19 52.7	-1.5
	3.8nm,0.3s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sg	Sg	23 19 55.9	-1.8
	1.9nm,0.4s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	Pg	23 19 35.1	-1.6
LPL				*e*Sg	Sg	23 20 03.2	-1.4
	0.5nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	23 19 35.5	-1.5
LPG				*e*Sg	Sg	23 20 03.9	-1.2
	2.7nm,0.4s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	23 19 42.4	-2.0
LOR				*e*Sg	Sg	23 20 15.0	-2.6
	4.0nm,0.3s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	23 19 45.8	-2.0
SMF				*e*Sg	Sg	23 20 19.7	-3.5
	4.2nm,0.4s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	23 19 47.7	-2.0
SSF				*e*Sg	Sg	23 20 24.1	-2.3
	1.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Pg	Pg	23 19 49.3	-2.1
ORIF				*e*Sg	Sg	23 20 26.5	-2.8
	1.6nm,0.3s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Pg	Pg	23 19 50.6	-2.4
AVF				*e*Sg	Sg	23 20 28.6	-3.3
	0.5nm,0.3s						
VIVF	**Saint-Julien-l**	**3.40**	**218**	*e*Pg	Pg	23 19 58.2	-2.4
VIVF				*e*Sg	Sg	23 20 41.5	-3.2
	1.0nm,0.3s						

NIED ***06*** *23:27:00, 4130N×14270E, h26km, Mw4.2 Best double couple: M0=2.31000×10^15 NP1:φ=168.00000°, δ=62.00000°, λ=115.00000°. NP2:φ=302.00000°, δ=37.00000°, λ=51.00000°.*
BJI ***06*** *23:27:40.3, 4094N×14337E, h25km, mB5.1, mb4.6*
JMA ***06*** *23:27:47.0±0.2, 4134N×14269E, h23km±4km, M4.2*
JMA Felt II J1.
ISCJB ***06*** *23:27:48.2±0.5, 4138N±003×14268E±004, h44km±4km, mb4.4/37, MS4.1/1, Error ellipse: s-maj=6.9km s-min=3.7km az=95.3*
MOS ***06*** *23:27:48.1±0.9, 4159N×14264E, h36km, mb4.7/10, Error ellipse: s-maj=11.1km s-min=7.3km az=95.8*
NEIC ***06*** *23:27:48.6±1.2, 4159N×14260E, h26km±8km, mb4.5/10, MW4.2(NIED), Error ellipse: s-maj=10.1km s-min=6.2km az=139.0*
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.
IDC ***06*** *23:27:51.9±2.3, 4136N×14261E, h62km±20km, mb3.9/20, mb1 4.1/23, mb1mx4.0/30, mbtmp3.9/23, MS3.4/6, Ms1 3.4/6, ms1mx3.2/28, Error ellipse: s-maj=17.3km s-min=14.0km az=162.0*
ISC 06 23:27:49.4±0.5, 4143N±003×14268E±004, h38km±4km, n98, σ1.910/105, mb4.4/37, MS4.1/1, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.69**	**31**	*e*P	**Pn**	**23 28 00.8**	**-1.9**
ERM				*e*S	**Sn**	**23 28 11.6**	**-0.6**
JEM	**Erimo**	**0.69**	**31**	P	**Pn**	**23 28 01.2**	**-1.5**
JEM				*e*S	**Sn**	**23 28 11.0**	**-1.2**
JNBK	**Urakawa-nobuka**	**0.86**	**4**	||P	**Pn**	**23 28 04.3**	**-0.6**
JNBK				*e*S	**Sn**	**23 28 17.0**	**+0.8**
JOT	**Ohata**	**1.23**	**269**	||P	**Pn**	**23 28 08.7**	**-1.3**
JOT				*e*S	**Sn**	**23 28 24.0**	**-1.4**
JCH	**Churui**	**1.29**	**23**	||P	**Pn**	**23 28 10.9**	**0.0**
JCH				*e*S	**Sn**	**23 28 28.1**	**+1.1**
JKB	**Kayabe**	**1.32**	**291**	||P	**Pn**	**23 28 10.1**	**-1.2**
JKB				*e*S	**Sn**	**23 28 27.3**	**-0.3**
JBT2	**Biratori 2**	**1.37**	**350**	P	**Pn**	**23 28 12.5**	**+0.5**
JBT2				*e*S	**Sn**	**23 28 30.5**	**+1.5**
JTM	**Tenmabayashi**	**1.37**	**243**	||P	**Pn**	**23 28 10.9**	**-1.2**
JTM				*e*S	**Sn**	**23 28 28.3**	**-0.7**
JNB	**Noboribetsu**	**1.61**	**311**	||P	**Pn**	**23 28 14.5**	**-0.8**
JNB				*e*S	**Sn**	**23 28 35.5**	**+0.7**
JEW	**Eniwo**	**1.68**	**328**	P	**Pn**	**23 28 17.1**	**+0.8**
JEW				*e*S	**Sn**	**23 28 38.6**	**+2.0**
JSR	**Shiriuchi**	**1.70**	**274**	P	**Pn**	**23 28 15.8**	**-0.8**
JOB	**Onbets**	**1.71**	**30**	P	**Pn**	**23 28 17.5**	**+0.8**
JOB				*e*S	**Sn**	**23 28 40.4**	**+3.1**
JFR	**Furan**	**1.74**	**358**	P	**Pn**	**23 28 18.4**	**+1.3**
ASAJ	**Asahikawa**	**2.69**	**359**	P	**Pn**	**23 28 33.0**	**+2.8**
	24nm,0.3s,baz=209,slow=11,SNR=42						
ASAJ				LR	LR	23 30 01.2	
	comp=Z,384nm,22.0s,baz=193,slow=47						
YUK	**Yuzh-Kuril'sk**	**3.51**	**41**	*e*P	**Pn**	**23 28 41.5**	**+0.1**
YUK				*i* S	**Sn**	**23 29 21.6**	**0.0**
YUK				smax			
	comp=N,4μm,1.0s						
YUK				smax			
	comp=E,3μm,0.6s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**5.37**	**43**	*e*P	**Pn**	**23 29 05.0**	**-1.9**
KUR				*i* S	**Sn**	**23 30 04.5**	**-3.0**
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,230nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.53**	**1**	P	**Pn**	**23 29 05.1**	**-4.0**
MAJO	**Matsushiro**	**5.99**	**217**	*e*P	**Pn**	**23 29 17.4**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,59nm,0.6s						
MAJO	**Matsushiro**	**5.99**	**217**	*e*Pn	**Pn**	**23 29 17.4**	**+1.9**
	comp=Z,59nm,0.6s						
MAT	**Matsushiro**	**5.99**	**217**	P	**Pn**	**23 29 16.9**	**+1.4**
MAT				*e*S	**Sn**	**23 30 23.1**	**+0.3**
MJAR	**Matsushiro Arr**	**5.99**	**217**	P	**Pn**	**23 29 17.1**	**+1.6**
	comp=Z,6.8nm,0.3s,baz=32,slow=12,SNR=61						
MJAR				LR	LR	23 32 01.2	
	comp=Z,441nm,19.8s,baz=25,slow=42						
JHJ	**Hachijo jima 2**	**8.61**	**196**	LR	LR	23 33 51.2	
	comp=Z,71nm,18.2s,baz=7.0,slow=42						
KLR	**Kul'dur**	**10.95**	**319**	*e*P	**Pn**	**23 30 23.8**	**+0.3**
KSRS	**Korea Array**	**12.08**	**256**	P	**Pn**	**23 30 41.6**	**+2.8**
	baz=72,slow=13,SNR=8.7						
KSRS				LR	LR	23 34 52.5	
	comp=Z,127nm,20.1s,baz=348,slow=35						
JNU	**Nakatsue**	**12.52**	**232**	LR	LR	23 35 08.1	
	comp=Z,407nm,19.0s,baz=198,slow=35						
INCN	**Inchon**	**13.01**	**258**	Pn	**Pn**	**23 30 51.0**	**-0.6**
BJT	**Baijiatuau**	**20.12**	**275**	*e*P	**P**	**23 32 18.1**	**-1.9**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BJT	**Baijiatuau**	**20.12**	**275**	*e*P	**P**	**23 32 18.1**	**-1.9**
	comp=Z,6.4nm,0.3s						
YAK	**Yakutsk**	**22.07**	**344**	*e*P	**P**	**23 32 39.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,17nm,0.4s,mb4.8						
YAK	**Yakutsk**	**22.07**	**344**	*e*P	**P**	**23 32 39.5**	**-1.5**
	comp=Z,17nm,0.4s,mb4.8						
YHNB	**Yeheng**	**24.35**	**233**	P	**P**	**23 33 06.2**	**+2.5**
BOD	**Bodaibo**	**24.51**	**322**	*e*P	**P**	**23 33 02.9**	**-2.2**
ULN	**Ulaanbaatar**	**25.98**	**296**	*e*P	**P**	**23 33 18.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
ULN	**Ulaanbaatar**	**25.98**	**296**	*e*P	**P**	**23 33 18.9**	**+0.4**
	comp=Z,2.1nm,0.7s,mb3.8						
SONM	**Songino Array**	**26.43**	**296**	P	**P**	**23 33 22.8**	**+0.3**
	comp=Z,1.4nm,0.5s,mb3.7,baz=87,slow=8.7,SNR=10						
GTA	**Gaotai**	**32.45**	**281**	*e*P	**P**	**23 34 15.9**	**-0.1**
GTA				AP	pP	23 34 20.8	-5.8
GTA				XP	sP	23 34 24.2	-7.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.0						
ZAL	**Zalesovo**	**39.83**	**309**	P	**P**	**23 35 18.8**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=22,slow=9.9,SNR=8.4						
MK31	**Makanchi Array**	**42.76**	**298**	*e*P	**P**	**23 35 43.2**	**+0.2**
MKAR	**Makanchi Array**	**42.76**	**298**	P	**P**	**23 35 43.2**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.0,baz=83,slow=11,SNR=16						
MKAR	**Makanchi Array**	**42.76**	**298**	P	**P**	**23 35 43.2**	**+0.1**
LSA	**Lhasa**	**42.95**	**271**	P	**P**	**23 35 46.4**	**+1.8**
LSA	**Lhasa**	**42.95**	**271**	*e*P	**P**	**23 35 45.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**42.95**	**271**	*e*P	**P**	**23 35 45.4**	**+0.9**
	comp=Z,4.1nm,0.6s,mb4.3						
KDAK	**Kodiak Island**	**43.24**	**45**	P	**P**	**23 35 47.1**	**+0.2**
	comp=Z,16nm,0.8s,mb4.8,baz=326,slow=15,SNR=7.4						
KURK	**Kurchatov**	**44.12**	**305**	P	**P**	**23 35 53.5**	**-0.5**
KURK	**Kurchatov**	**44.12**	**305**	*e*P	**P**	**23 35 53.6**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**44.12**	**305**	*e*P	**P**	**23 35 53.6**	**-0.4**
	comp=Z,4.8nm,0.6s,mb4.4						
JIRN	**Jiri**	**47.73**	**272**	*e*P	**P**	**23 36 23.0**	**+0.6**
	comp=Z,23nm,0.7s,mb5.3						
GUN	**Gumba**	**47.83**	**272**	*e*P	**P**	**23 36 23.6**	**+0.4**
	comp=Z,45nm,0.5s						
CHKZ	**Chkalovo**	**48.12**	**311**	*e*P	**P**	**23 36 25.5**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**48.12**	**311**	*e*P	**P**	**23 36 25.5**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.5						
KKN	**Kakani**	**48.34**	**273**	*e*P	**P**	**23 36 27.6**	**+0.4**
	comp=Z,21nm,0.6s,mb5.3						
PKI	**Pulchoki**	**48.36**	**272**	*e*P	**P**	**23 36 27.5**	**+0.2**
BVA0	**Borovoye Array**	**48.43**	**310**	*e*P	**P**	**23 36 28.7**	**+0.8**
BVAR	**Borovoye Array**	**48.43**	**310**	P	**P**	**23 36 27.6**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.4,baz=75,slow=9.4,SNR=15						
BRVK	**Borovoye**	**48.48**	**310**	*e*P	**P**	**23 36 29.2**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**48.48**	**310**	*e*P	**P**	**23 36 29.2**	**+0.9**
	comp=Z,2.0nm,0.5s,mb4.4						
DMN	**Daman**	**48.57**	**273**	*e*P	**P**	**23 36 28.9**	**0.0**
	comp=Z,9.2nm,0.4s,mb5.1						
GKN	**Gorkha**	**48.71**	**273**	*e*P	**P**	**23 36 29.6**	**-0.5**
	comp=Z,9.5nm,0.4s,mb5.2						
KOLN	**Koldanda**	**49.62**	**274**	*e*P	**P**	**23 36 36.8**	**-0.1**
	comp=Z,21nm,0.8s,mb5.2						
INK	**Inuvik**	**50.05**	**29**	P	**P**	**23 36 40.5**	**+0.2**
	comp=Z,3.7nm,0.4s,mb4.7,baz=308,slow=6.7,SNR=56						
INK	**Inuvik**	**50.05**	**29**	P	**P**	**23 36 40.5**	**+0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
INK	**Inuvik**	**50.05**	**29**	*e*P	**P**	**23 36 40.8**	**+0.5**
	comp=Z,131nm,0.5s						
AB31	**Akbulak array**	**55.93**	**308**	*i* P	**P**	**23 37 23.7**	**+0.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AKTK	**Aktyubinsk**	**56.53**	**310**	P	**P**	**23 37 28.0**	**+0.1**
AKTO	**Aktyubinsk**	**56.53**	**310**	P	**P**	**23 37 28.0**	**+0.2**
	comp=Z,0.6nm,0.3s,mb4.1,baz=69,slow=11,SNR=4.0						
RES	**Resolute Bay**	**58.11**	**15**	*e*P	**P**	**23 37 38.5**	**-0.5**
	comp=Z,139nm,0.7s						
YKA	**Yellowknife Ar**	**59.54**	**32**	P	**P**	**23 37 48.8**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=306,slow=6.4,SNR=8.4						
KEV	**Kevo**	**59.70**	**339**	*e*p	**P**	**23 37 48.1**	**-1.9**
ARCES	**ARCESS Array B**	**60.25**	**339**	P	**P**	**23 37 52.6**	**-1.2**
	comp=Z,4.1nm,0.9s,mb4.4,baz=41,slow=8.1,SNR=4.4						
WB2	**Warramunga Arr**	**61.54**	**189**	*e*P	**P**	**23 38 02.0**	**-0.6**
WRA	**Warramunga Arr**	**61.54**	**189**	P	**P**	**23 38 01.3**	**-1.3**
	comp=Z,1.2nm,0.7s,mb4.2,baz=7.9,slow=6.9,SNR=19						
JOF	**Joensuu**	**62.57**	**331**	*e*p	**P**	**23 38 07.8**	**-1.7**
	comp=Z,1.1nm,0.4s,mb4.3						
KAF	**Kangasniemi**	**64.87**	**332**	*e*p	**P**	**23 38 21.5**	**-3.1**
	comp=Z,6.2nm,0.7s,mb4.8,baz=47,slow=6.1						
KAF	**Kangasniemi**	**64.87**	**332**	*e*P	**P**	**23 38 21.5**	**-3.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**65.40**	**332**	P	**P**	**23 38 27.5**	**-0.6**
	comp=Z,1.8nm,0.5s,mb4.3,baz=49,slow=6.1,SNR=16						
FINES	**FINESS Array B**	**65.40**	**332**	P	**P**	**23 38 27.5**	**-0.6**
NEW	**Newport**	**66.33**	**46**	P	**P**	**23 38 33.8**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=333,slow=16,SNR=3.3						
KIV	**Kislovodsk**	**68.80**	**310**	*e*P	**P**	**23 38 50.4**	**+0.8**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**68.80**	**310**	*e*P	**P**	**23 38 50.4**	**+0.8**
	comp=Z,9.9nm,0.9s,mb4.7						
HFS	**Hagfors**	**70.50**	**336**	P	**P**	**23 39 00.1**	**0.0**
	comp=Z,1.2nm,0.3s,mb4.3,baz=39,slow=5.8,SNR=16						
NB2	**NORSAR Subarra**	**70.52**	**337**	P	**P**	**23 38 59.2**	**-1.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**70.52**	**337**	P	**P**	**23 39 00.1**	**-0.2**
	comp

YUK			A			00 17 22.5	
	comp=E,3μm,1.0s						
YUK			A			00 17 29.2	
	comp=E,760nm,0.6s						
YUK			A			00 17 29.2	
	comp=E,730nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.02 275**	⇑*e*PN	**Pn**		**00 16 19.0**	**+3.1**
YSS			*e*S	**Sn**		**00 17 36.0**	**+1.6**
YSS			pmax	pmax			
	comp=E,30nm,0.9s						
YSS			pmax	pmax			
	comp=Z,30nm,0.9s						
YSS			smax				
	comp=E,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.02 275**	*e*Pn	**Pn**		**00 16 11.9**	**-3.9**
	comp=E,28nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.02 275**	*e*P	**Pn**		**00 16 19.0**	**+3.1**
YSS			AMB	AMB		00 16 20.3	
	comp=E,30nm,0.9s						
YSS			*e*S	**Sn**		**00 17 36.0**	**+1.6**
YSS			A			00 17 38.0	
	comp=E,40nm,0.5s						
PET	**Petropavlovsk**	**7.18 28**	*e*PN	**Pn**		**00 16 17.1**	**-0.9**
PET	**Petropavlovsk**	**7.18 28**	Pn	**Pn**		**00 16 17.0**	**-1.0**
PET			*e*Sn	**Sn**		**00 17 37.2**	**-0.9**
ASAJ	**Asahikawa**	**7.81 253**	Pn	**Pn**		**00 16 29.6**	**+3.0**
	comp=E,4.1nm,0.3s,baz=73,slow=15,SNR=13						
ASAJ			LR	LR		00 19 15.5	
	comp=E,160nm,20.4s,baz=17,slow=37						
ERM	**Erimo**	**8.54 239**	*e*PN	**Pn**		**00 16 36.6**	**-0.1**
ERM			pmax	pmax			
	comp=Z,20nm,0.6s						
ERM	**Erimo**	**8.54 239**	*e*Pn	**Pn**		**00 16 36.6**	**0.0**
	comp=Z,20nm,0.6s						
ERM			*e*Sn	**Sn**		**00 18 04.3**	**-7.3**
HABR	**Khabarovsk**	**12.21 284**	*e*PN	**Pn**		**00 17 26.2**	**-0.8**
MA2	**Magadan**	**12.82 355**	*e*PN	**Pn**		**00 17 38.1**	**+2.9**
MA2			pmax	pmax			
	comp=Z,14nm,0.5s						
MA2	**Magadan**	**12.82 355**	*e*Pn	**Pn**		**00 17 38.1**	**+2.9**
	comp=Z,14nm,0.5s						
KLR	**Kul'dur**	**14.41 287**	*e*P	**Pn**		**00 18 03.2**	**+6.3**
MJAR	**Matsushiro Arr**	**15.08 232**	Pn	**Pn**		**00 18 03.3**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=42,slow=9.3,SNR=4.4						
MAJO	**Matsushiro**	**15.08 232**	P	**Pn**		**00 18 01.7**	**-4.0**
YAK	**Yakutsk**	**20.20 327**	⇑*e*P	**P**		**00 19 07.9**	**+1.3**
YAK			pmax	pmax			
	comp=Z,13nm,0.6s						
YAK	**Yakutsk**	**20.20 327**	P	**P**		**00 19 05.5**	**-1.1**
KSRS	**Korea Array**	**20.75 252**	P	**P**		**00 19 11.8**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=48,slow=14,SNR=5.4						
KSRS			LR	LR		00 26 04.8	
	comp=Z,38nm,19.7s,MS2.8,baz=55,slow=34						
SNY	**Shenyang**	**21.57 267**	⇑P	**P**		**00 19 22.4**	**+1.0**
SNY			S	**S**		**00 23 20.9**	**+3.0**
SNY			AMB	AMB			
	comp=Z,16nm,0.6s,mb4.6						
SNY			AMB	AMB			
	comp=Z,140nm,4.7s						
INCN	**Inchon**	**21.58 254**	P	**P**		**00 19 20.4**	**-1.2**
TIXI	**Tiksi**	**27.35 344**	⇓*e*P	**P**		**00 20 17.7**	**+1.1**
TIXI			pmax	pmax			
	comp=Z,6.0nm,2.5s,mb3.7						
ULN	**Ulaanbaatar**	**30.80 289**	P	**P**		**00 20 45.6**	**-1.5**
SONM	**Songino Array**	**31.23 289**	P	**P**		**00 20 49.2**	**-1.7**
	comp=Z,0.6nm,0.7s,mb3.5,baz=79,slow=8.2,SNR=3.7						
SONM			LR	LR		00 34 26.4	
	comp=Z,82nm,20.0s,MS3.4,baz=69,slow=38						
TLY	**Talaya**	**32.07 297**	*e*P	**P**		**00 21 03.3**	**+5.0**
TLY			pmax	pmax			
	comp=Z,25nm,1.9s,mb4.7						
TLY			MLR	MLR			
	comp=Z,68nm,13.0s,MS3.5						
COLA	**College**	**36.11 38**	⇓*e*P	**P**		**00 21 35.0**	**+1.7**
GTA	**Gaotai**	**38.88 279**	*e*P	**P**		**00 21 59.1**	**+2.3**
GTA			AMB	AMB			
	comp=Z,4.0nm,1.1s,mb4.1						
CD2	**Chengdu**	**40.81 265**	⇓*i*P	**P**		**00 22 13.4**	**+0.6**
CD2			AMB	AMB			
	comp=Z,20nm,0.7s,mb4.9						
INK	**Inuvik**	**41.61 32**	P	**P**		**00 22 18.6**	**-0.7**
	comp=Z,2.9nm,0.4s,mb4.2,baz=282,slow=6.2,SNR=16						
INK	**Inuvik**	**41.61 32**	*e*P	**P**		**00 22 18.7**	**-0.7**
	comp=Z,95nm,0.4s,mb5.8						
ZAL	**Zalesovo**	**42.51 306**	PcP	PcP		00 24 19.1	+0.3
	comp=Z,0.9nm,0.5s,baz=20,slow=4.8,SNR=5.7						
ZAL			LR	LR		00 42 14.2	
	comp=Z,120nm,18.2s,MS3.8,baz=1.8,slow=39						
MK31	**Makanchi Array**	**46.83 297**	*e*P	**P**		**00 23 00.3**	**-0.8**
MK31			*e*			00 24 33.1	
MKAR	**Makanchi Array**	**46.83 297**	P	**P**		**00 23 00.1**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=71,slow=7.7,SNR=15						
MKAR			PcP	PcP		00 24 33.4	-0.2
	comp=Z,1.1nm,0.8s,baz=72,slow=1.0,SNR=5.8						
MKAR			LR	LR		00 43 59.9	
	comp=Z,99nm,19.9s,MS3.8,baz=357,slow=38						
MKAR	**Makanchi Array**	**46.83 297**	⇑*e*P	**P**		**00 23 00.2**	**-0.9**
KURK	**Kurchatov**	**47.25 304**	P	**P**		**00 23 02.9**	**-1.5**
LSA	**Lhasa**	**50.19 273**	*e*P	**P**		**00 23 28.0**	**+1.0**
LSA			pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**50.19 273**	*e*P	**P**		**00 23 28.0**	**+1.0**
	comp=Z,4.3nm,0.5s,mb4.7						
CHKZ	**Chkalovo**	**50.31 310**	*e*P	**P**		**00 23 26.3**	**-1.6**
CHKZ			pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**50.31 310**	*e*P	**P**		**00 23 26.3**	**-1.6**
	comp=Z,1.4nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**50.74 309**	P	**P**		**00 23 29.8**	**-1.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=44,slow=8.0,SNR=6.0						
BVAR			PcP	PcP		00 24 47.4	-0.3
	comp=Z,1.1nm,0.6s,baz=65,slow=2.6,SNR=5.8						
BRVK	**Borovoye**	**50.78 309**	*e*P	**P**		**00 23 30.9**	**-0.5**
BRVK			pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**50.78 309**	*e*P	**P**		**00 23 30.9**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0						
YKA	**Yellowknife Ar**	**50.89 37**	P	**P**		**00 23 33.2**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.1,baz=296,slow=7.1,SNR=14						
YKA			PcP	PcP		00 24 48.3	0.0
	comp=Z,0.5nm,0.6s,baz=304,slow=3.8,SNR=4.4						
YKA	**Yellowknife Ar**	**50.89 37**	⇑*e*P	**P**		**00 23 33.2**	**+0.9**
YKA	**Yellowknife Ar**	**50.89 37**	P	**P**		**00 23 33.2**	**+0.9**
YKA			PcP	PcP		00 24 48.3	0.0
JIRN	**Jiri**	**54.86 274**	*e*P	**P**		**00 24 02.6**	**+1.0**
	comp=Z,17nm,0.5s,mb5.3						
GUN	**Gumba**	**54.92 275**	*e*P	**P**		**00 24 02.7**	**+0.8**
	comp=Z,10nm,0.5s,mb5.2						
KKN	**Kakani**	**55.40 275**	*e*P	**P**		**00 24 06.2**	**+0.8**
	comp=Z,16nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.45 275**	*e*P	**P**		**00 24 06.1**	**+0.3**
DMN	**Daman**	**55.64 275**	*e*P	**P**		**00 24 08.4**	**+1.3**
GKN	**Gorkha**	**55.71 276**	*e*P	**P**		**00 24 08.3**	**+0.7**
KOLN	**Koldanda**	**56.56 276**	*e*P	**P**		**00 24 14.4**	**+0.7**
	comp=Z,13nm,0.9s,mb5.0						
KEV	**Kevo**	**57.23 340**	*e*p	**P**		**00 24 16.5**	**-1.9**
ARCES	**ARCESS Array B**	**57.74 341**	P	**P**		**00 24 21.7**	**-0.4**
	comp=Z,6.6nm,1.0s,mb4.6,baz=27,slow=8.2,SNR=5.0						
ARCES			LR	LR		00 56 37.7	
	comp=Z,55nm,18.6s,MS3.7,baz=254,slow=44						
ARCES	**ARCESS Array B**	**57.74 341**	P	**P**		**00 24 21.7**	**-0.4**
ARCES			LR	LR		00 56 37.7	
JOF	**Joensuu**	**61.21 334**	*e*p	**P**		**00 24 44.3**	**-1.7**
NVAR	**Mina Array Bea**	**62.46 62**	P	**P**		**00 24 55.6**	**+1.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=304,slow=7.2,SNR=5.8						
KAF	**Kangasniemi**	**63.32 335**	*e*p	**P**		**00 24 58.7**	**-1.4**
	comp=Z,3.7nm,0.6s,mb4.7,baz=37,slow=6.2						
KAF	**Kangasniemi**	**63.32 335**	*e*P	**P**		**00 24 58.7**	**-1.4**
KAF			pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.7						
RRI2	**Red Ridge**	**63.39 54**	P	**P**		**00 24 52.8**	**-7.8**
	comp=Z,5.7nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**63.92 335**	P	**P**		**00 25 03.4**	**-0.7**
	comp=Z,3.8nm,0.4s,mb4.8,baz=39,slow=7.4,SNR=44						
FINES	**FINESS Array B**	**63.92 335**	⇑*e*P	**P**		**00 25 03.4**	**-0.7**
PDAR	**Pinedale Array**	**64.75 54**	P	**P**		**00 25 10.9**	**+1.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=301,slow=1.4,SNR=12						
ULM	**Lac du Bonnet**	**66.50 41**	P	**P**		**00 25 20.9**	**+0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=296,slow=9.9,SNR=3.9						
NB2	**NORSAR Subarra**	**68.11 341**	P	**P**		**00 25 29.4**	**-1.6**
	comp=Z,3.8nm,0.6s,mb4.6,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.11 341**	P	**P**		**00 25 30.5**	**-0.5**
	comp=Z,4.6nm,0.6s,mb4.7,baz=28,slow=6.4,SNR=15						
WRAB	**Tennant Creek**	**68.57 199**	P	**P**		**00 25 33.2**	**-0.6**
WRAB			pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**68.57 199**	P	**P**		**00 25 33.2**	**-0.6**
	comp=Z,3.9nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**68.58 199**	P	**P**		**00 25 32.6**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=14,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**68.58 199**	⇑*e*P	**P**		**00 25 34.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**69.19 208**	P	**P**		**00 25 37.4**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.8,baz=50,slow=7.9,SNR=3.7						
AKASG	**Malin Array Be**	**71.42 326**	P	**P**		**00 25 50.1**	**-1.2**
	comp=Z,5.2nm,0.4s,mb4.8,baz=34,slow=6.2,SNR=16						
STHS	**Stebnicka Huta**	**75.39 330**	*e*P	**P**		**00 26 15.6**	**+0.9**
STHS			pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3						
STHS	**Stebnicka Huta**	**75.39 330**	*e*P	**P**		**00 26 15.6**	**+0.9**
	comp=Z,3.2nm,0.7s,mb4.4						
KOLS	**Kolonicke sedl**	**75.44 329**	*e*P	**P**		**00 26 15.3**	**+0.3**
BURAR	**Bucovina Array**	**75.47 326**	⇑*i*P	**P**		**00 26 15.3**	**+0.2**
CRVS	**Cervenica-Dubn**	**75.75 329**	*e*P	**P**		**00 26 16.1**	**-0.7**
MORC	**Moravsky Berou**	**76.32 332**	⇑*i*P	**P**		**00 26 20.3**	**+0.3**
CLL	**Collm**	**76.35 335**	*i* P	**P**		**00 26 19.4**	**-0.7**
	comp=Z,5.0nm,0.7s,mb4.5						
KECS	**Kecovo**	**76.45 330**	*e*P	**P**		**00 26 21.1**	**+0.4**
KECS			pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2						
KECS	**Kecovo**	**76.45 330**	*e*P	**P**		**00 26 21.1**	**+0.4**
	comp=Z,2.8nm,1.0s,mb4.2						
MLR	**Muntele Rosu**	**76.94 325**	⇑*i*P	**P**		**00 26 24.8**	**+1.3**
VYHS	**Vyhne**	**77.00 331**	*e*P	**P**		**00 26 24.4**	**+0.5**
VYHS			pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2						
VYHS	**Vyhne**	**77.00 331**	*e*P	**P**		**00 26 24.4**	**+0.5**
	comp=Z,2.9nm,1.0s,mb4.2						
VRAC	**Vranov**	**77.03 332**	⇓*i*P	**P**		**00 26 24.5**	**+0.5**
DRGR		**77.09 327**	⇓*i*P	**P**		**00 26 24.4**	**+0.1**
TXAR	**Lajitas Array**	**77.51 60**	P	**P**		**00 26 27.9**	**+1.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=299,slow=4.7,SNR=38						
KHC	**Kasperske Hory**	**78.12 334**	⇓*e*P	**P**		**00 26 30.2**	**+0.1**
BR131	**Keskin Array S**	**78.27 317**	*e*P	**P**		**00 26 31.5**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**78.27 317**	P	**P**		**00 26 31.5**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=92,slow=4.7,SNR=11						
BRTR	**Keskin Array B**	**78.27 317**	⇑*e*P	**P**		**00 26 31.5**	**+0.6**
GERES	**GERESS Array B**	**78.34 334**	P	**P**		**00 26 31.0**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=34,slow=5.0,SNR=7.3						
BZS	**Buzias**	**78.49 327**	⇑*i*P	**P**		**00 26 32.3**	**+0.2**
VTS	**Vitosha**	**80.45 325**	⇑⇑P	**P**		**00 26 43.4**	**+0.6**
VTS	**Vitosha**	**80.45 325**	⇑⇑P	**P**		**00 26 43.3**	**+0.5**
QUA2	**Belchertown**	**82.56 32**	*e*P	**P**		**00 26 52.9**	**-1.0**
SNAA	**Sanae**	**152.62 196**	*e*PKPdf	PKPdf		00 34 25.8	+5.5
SNAA			*e*			00 34 40.2	
SNAA			*e*			00 34 50.7	
VNA2	**Neumayer--Watz**	**154.08 195**	*e*PKPdf	PKPdf		00 34 24.4	+2.0
VNA2			*e*			00 34 29.3	
VNA2			*e*			00 34 43.7	
VNA2			*e*			00 34 57.8	
VNA2			*e*			00 35 13.0	
VNA3	**Neumayer Olymp**	**154.17 193**	*e*PKPdf	PKPdf		00 34 24.4	+1.8
VNA3			*e*			00 34 29.3	
VNA3			*e*			00 34 43.5	
VNA3			*e*			00 34 57.8	
VNA3			*e*			00 35 12.6	
VNA1	**Neumayer--Stat**	**154.46 194**	*e*PKPdf	PKPdf		00 34 26.8	+3.8

IDC ***07*** *00:21:48.5±1.5,226N×12786E,h0km,mb4.0/7,mb1 4.1/7, mb1mx3.9/17,mbtmp4.0/7,Error ellipse: s-maj=179.9km s-min=18.8km az=67.0*

ISCJB ***07*** *00:21:51.9±0.5,226N±008×1278E±0.1,h35km,mb4.2/17, Error ellipse: s-maj=17.0km s-min=8.8km az=111.3*

NEIC ***07*** *00:21:53.6±0.3,222N×12778E,h35km,mb4.3/11,Error ellipse: s-maj=11.0km s-min=5.6km az=55.0*

ISC 07 00:21:53.8±0.5,223N±008×1278E±01,h35km,n27, σ0§60/26,mb4.2/17,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.15**	**289**	Pn	**Pn**	**00 24 42.7**	**-1.7**
KSM	**Kuching**	**17.49**	**268**	P	**Pn**	**00 25 54.7**	**-0.2**
PMG	**Port Moresby**	**22.49**	**121**	*e*P	**P**	**00 26 49.9**	**-0.2**
	7.4nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**22.95**	**164**	*e*P	**P**	**00 26 55.3**	**+0.4**
	2.7nm,0.7s,mb3.8						
WRA	**Warramunga Arr**	**22.95**	**164**	P	**P**	**00 26 54.7**	**-0.2**
	1.5nm,0.6s,mb3.6,baz=343,slow=9.9,SNR=7.0						
WB2	**Warramunga Arr**	**22.95**	**164**	*e*P	**P**	**00 26 55.1**	**+0.1**
KULM	**Kulim**	**27.25**	**277**	P	**P**	**00 27 35.5**	**+0.9**
STKA	**Stephens Creek**	**36.36**	**160**	*e*P	**P**	**00 28 54.0**	**-0.5**
	2.4nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**36.36**	**160**	P	**P**	**00 28 54.6**	**+0.1**
	3.7nm,0.8s,mb4.4,baz=335,slow=7.9,SNR=7.6						
LSA	**Lhasa**	**44.22**	**312**	*e*P	**P**	**00 30 04.3**	**+4.7**
	4.4nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**48.87**	**342**	*e*P	**P**	**00 30 36.1**	**+0.1**
	2.7nm,0.9s,mb4.3						
SONM	**Songino Array**	**49.05**	**341**	P	**P**	**00 30 37.4**	**0.0**
	0.5nm,0.5s,mb3.8,baz=162,slow=6.6,SNR=5.9						
MK31	**Makanchi Array**	**59.38**	**325**	*e*P	**P**	**00 31 52.8**	**+0.2**
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**00 31 53.1**	**+0.5**
	3.5nm,0.6s,mb4.6,baz=118,slow=8.1,SNR=44						
AAK	**Ala-Archa**	**62.17**	**318**	*e*P	**P**	**00 32 11.4**	**-0.2**
	1.2nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**62.40**	**333**	P	**P**	**00 32 13.1**	**0.0**
	0.5nm,0.3s,mb4.1,baz=17,slow=7.2,SNR=3.9						
ZAL	**Zalesovo**	**62.40**	**333**	P	**P**	**00 32 13.1**	**0.0**
KURK	**Kurchatov**	**63.57**	**328**	*e*P	**P**	**00 32 21.1**	**+0.2**
	3.6nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**69.15**	**327**	P	**P**	**00 32 56.3**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=111,slow=8.1,SNR=7.6						
BRVK	**Borovoye**	**69.22**	**327**	*e*P	**P**	**00 32 56.9**	**-0.1**
	1.2nm,0.4s,mb4.2						
CHKZ	**Chkalovo**	**69.31**	**328**	*e*P	**P**	**00 32 57.1**	**-0.5**
	0.8nm,0.7s,mb3.8						
AKTK	**Aktyubinsk**	**75.49**	**322**	P	**P**	**00 33 35.1**	**+0.8**
AKTO	**Aktyubinsk**	**75.49**	**322**	P	**P**	**00 33 35.1**	**+0.8**
	0.5nm,0.4s,mb3.8,baz=230,slow=6.8,SNR=3.5						
VNDA	**Vanda**	**81.81**	**173**	P	**P**	**00 34 09.0**	**-0.2**
PMR	**Palmer**	**84.75**	**28**	P	**P**	**00 34 22.8**	**-1.5**
	6.4nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**84.94**	**314**	*e*P	**P**	**00 34 26.0**	**+0.8**
	3.2nm,0.8s,mb4.5						
TORD	**Torodi Ar. Bea**	**124.39**	**287**	PKP	PKPdf	00 40 50.0	+1.0
	0.4nm,0.7s,baz=113,slow=1.9,SNR=2.9						

PDG ***07*** *01:04:47.9±0.8,4304N×2088E,h11km±2km*

PRU ***07*** *01:04:47.4,4296N×2070E,h0km*

NEIC ***07*** *01:04:47.9,4304N×2088E,h11km,ML3.3(CSEM), ML3.3(PDG),After PDG.*

NEIC Felt at Kosovska Mitrovica.

IDC ***07*** *01:04:47.2±1.0,4304N×2080E,h0km,mb3.5/4,mb1 3.7/9, mb1mx3.6/21,mbtmp3.5/9,ML3.5/5,Error ellipse: s-maj=13.1km s-min=10.1km az=17.0*

BEO ***07*** *01:04:48.0±0.5,4306N×2088E,h8km*

ISCJB ***07*** *01:04:47.7±0.3,4309N±001×2087E±002,h15km±2km, mb3.4/4,Error ellipse: s-maj=2.3km s-min=1.8km az=104.6*

CSEM ***07*** *01:04:47.2±0.1,4306N×2086E,h10km,ML3.3,Error ellipse: s-maj=1.5km s-min=1.1km az=36.0*

SKO ***07*** *01:04:48.8,4295N×2088E,h3km,M3.0,ML3.3*

SOF ***07*** *01:04:52.6,4295N×2147E,h10km,MD3.5*

ISC 07 01:04:48.4±0.3,4306N±001×2089E±002,h9km±2km,n178, σ1§04/243,mb3.4/4,26C-31D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS	**Barje**	**0.72**	**109**	⇑*i*Pg	**Pg**	**01 05 02.6**	**+0.2**
BARS				Sg	**Sg**	01 05 12.2	+0.4
BARS	**Barje**	**0.72**	**109**	P	**Pg**	01 05 06.6	+4.3
BARS				Sg	**Sg**	01 05 12.2	+0.4
SJES	**Sjenica**	**0.73**	**287**	Pg	**Pg**	01 05 00.5	-1.9
SJES				Sg	**Sg**	01 05 09.7	-2.2
IVA	**Berane**	**0.75**	**256**	⇓*i*Pg	**Pg**	01 05 01.9	-1.0
IVA				*e*Sg	**Sg**	01 05 12.5	-0.2
PVY	**Plav**	**0.82**	**236**	⇓*i*Pg	**Pg**	01 05 02.8	-1.4
PVY				*e*Sg	**Sg**	01 05 14.8	0.0
GRUS	**Gruza**	**0.84**	**351**	⇑*i*Pg	**Pg**	01 05 03.7	-0.8
GRUS				Sg	**Sg**	01 05 15.3	-0.2
BOLS	**Boljevac**	**1.09**	**45**	⇓*i*Pg	**Pg**	01 05 10.0	+0.6
BOLS				Sg	**Sg**	01 05 23.3	-0.3
PLE	**Pljevlja**	**1.13**	**284**	⇑*i*Pg	**Pg**	01 05 09.0	-1.0
PLE				*e*Sg	**Sg**	01 05 25.6	+0.9
SKO	**Skopje**	**1.16**	**159**	*e*P	**Pb**	**01 05 10.0**	**-0.6**
SKO	**Skopje**	**1.16**	**159**	*e*Pn	**Pn**	**01 05 09.7**	**-1.1**
SKO				*e*Sn	**Sn**	**01 05 24.8**	**-2.0**
SKO				*e*Lg		01 05 25.5	
	comp=N,776nm,0.3s						
SKO				*e*Lg		01 05 26.0	
	comp=E,449nm,0.3s						
SKO	**Skopje**	**1.16**	**159**	*e*Pn	**Pn**	**01 05 09.7**	**-1.1**
SKO				*e*Sn	**Sn**	**01 05 24.8**	**-2.0**
SKO				*e*Lg		01 05 25.5	
	comp=N,776nm,0.3s						
SKO				*e*Lg		01 05 26.0	
	comp=E,449nm,0.3s						
SKO	**Skopje**	**1.16**	**159**	P	**Pb**	**01 05 09.4**	**-1.2**
SKO	**Skopje**	**1.16**	**159**	*e*Pn	**Pn**	**01 05 09.6**	**-1.2**
SKO				*e*Sn	**Sn**	**01 05 24.7**	**-2.1**
DIVS	**Divcibare**	**1.23**	**328**	⇑*i*Pg	**Pg**	**01 05 10.7**	**-1.2**
DIVS				Sg	**Sg**	**01 05 28.9**	**+1.0**
DIVS	**Divcibare**	**1.23**	**328**	*e*P	**Pn**	**01 05 10.6**	**-1.1**
SVIS	**Svilajnac**	**1.26**	**11**	⇑*i*Pg	**Pg**	**01 05 10.8**	**-1.7**
SVIS				Sg	**Sg**	**01 05 29.5**	**+0.5**
SVIS	**Svilajnac**	**1.26**	**11**	P	**Pn**	**01 05 11.0**	**-1.2**
TTG	**Podgorica**	**1.36**	**243**	⇓*i*Pg	**Pn**	**01 05 12.6**	**-0.9**
TTG				*e*Sg	**Sg**	**01 05 33.1**	**+1.1**
NKY	**Niksic**	**1.41**	**261**	⇓*i*Pg	**Pn**	**01 05 13.4**	**-0.9**
NKY				*e*Sg	**Sg**	**01 05 34.6**	**+0.8**
UPM	**Unac-Piva**	**1.46**	**276**	⇑*i*Pg	**Pn**	**01 05 15.1**	**+0.1**
UPM				*e*Sg	**Sg**	**01 05 35.9**	**+0.6**
ULC	**Ulcinj**	**1.64**	**229**	⇑*i*Pn	**Pn**	**01 05 18.0**	**+0.6**
ULC				*e*Sn	**Sn**	**01 05 40.3**	**+1.8**
BUM	**Brajici-Budva**	**1.65**	**243**	⇑*i*Pn	**Pn**	**01 05 17.9**	**+0.3**
BUM				*e*Sn	**Sn**	**01 05 40.7**	**+1.7**
STIP	**Stip**	**1.67**	**144**	*e*P	**Pn**	**01 05 16.4**	**-1.4**
STIP	**Stip**	**1.67**	**144**	*e*Pn	**Pn**	**01 05 16.4**	**-1.4**
STIP				*e*Sn	**Sn**	**01 05 36.7**	**-2.6**
STIP				*e*Lg		01 05 39.6	
	comp=N,92nm,0.5s						
STIP				*e*Lg		01 05 42.5	
	comp=E,116nm,0.6s						
STIP	**Stip**	**1.67**	**144**	*e*Pn	**Pn**	**01 05 16.4**	**-1.4**
STIP				*e*Sn	**Sn**	**01 05 36.7**	**-2.6**
STIP				*e*Lg		01 05 39.6	
	comp=N,92nm,0.5s						
STIP				*e*Lg		01 05 42.5	
	comp=E,116nm,0.6s						
STIP	**Stip**	**1.67**	**144**	*e*Pn	**Pn**	**01 05 16.3**	**-1.5**
STIP				*e*Sn	**Sn**	**01 05 36.6**	**-2.7**
KRUS	**Krusevo**	**1.71**	**171**	*e*Pn	**Pn**	**01 05 18.4**	**+0.1**
KRUS	**Krusevo**	**1.71**	**171**	*e*Pn	**Pn**	**01 05 18.4**	**+0.1**
KRUS	**Krusevo**	**1.71**	**171**	*e*Pn	**Pn**	**01 05 18.4**	**0.0**
BRY	**Bratogost**	**1.73**	**266**	⇓*i*Pn	**Pn**	**01 05 18.8**	**+0.2**
BRY				*e*Sn	**Sn**	**01 05 42.4**	**+1.5**
BRY	**Bratogost**	**1.73**	**266**	⇓*i*Pn	**Pn**	**01 05 18.8**	**+0.1**
BRY				*e*Sn	**Sn**	**01 05 42.3**	**+1.4**
VTS	**Vitosha**	**1.77**	**105**	*e*P	**Pn**	**01 05 19.9**	**+0.8**
VTS	**Vitosha**	**1.77**	**105**	⇑*i*P	**Pn**	**01 05 19.5**	**+0.3**
VTS	**Vitosha**	**1.77**	**105**	*i* Pg	**Pn**	**01 05 19.4**	**+0.2**
BEO	**Belgrade**	**1.79**	**350**	⇑*i*Pg	**Pn**	**01 05 20.0**	**+0.5**
BEO	**Belgrade**	**1.79**	**350**	P	**Pn**	**01 05 20.9**	**+1.4**
HCY	**Herceg Novi**	**1.87**	**252**	⇓*i*Pn	**Pn**	**01 05 20.3**	**-0.2**
HCY

DRGR		**3.95**	**18**	⇑*iP*		**Pn**	**01 05 48.7**	**-0.5**
DRGR		**3.95**	**18**	P		**Pn**	**01 05 48.4**	**-0.8**
SNX	**Sinaia**	**4.04**	**54**	⇓*iP*		**Pn**	**01 05 51.4**	**+1.0**
XOR	**Xorichti**	**4.08**	**154**	*eP*		**Pn**	**01 05 50.6**	**-0.3**
XOR	**Xorichti**	**4.08**	**154**	P		**Pn**	**01 05 50.3**	**-0.6**
AGG	**Agios Georgios**	**4.18**	**164**	*eP*		**Pn**	**01 05 52.5**	**+0.2**
AGG	**Agios Georgios**	**4.18**	**164**	P		**Pn**	**01 05 52.3**	**0.0**
JMB	**Yambol**	**4.23**	**96**	*eP*		**Pn**	**01 05 53.0**	**-0.1**
JMB	**Yambol**	**4.23**	**96**	*i P*		**Pn**	**01 05 52.8**	**-0.3**
LKD	**Levkas**	**4.35**	**182**	*eP*		**Pn**	**01 05 54.5**	**-0.1**
LKD	**Levkas**	**4.35**	**182**	*eP*		**Pn**	**01 05 54.5**	**-0.2**
MLR	**Muntele Rosu**	**4.37**	**54**	Pn		**Pn**	**01 05 56.3**	**+1.3**
	comp=E,2.2nm,0.3s,baz=209,slow=3,6,SNR=26							
MLR				Sn		**Sn**	**01 06 49.2**	**+3.2**
	comp=E,3.1nm,0.3s,baz=322,slow=18,SNR=3.7							
MLR				Lg			01 07 08.9	
	comp=E,3.9nm,0.3s,baz=144,slow=19,SNR=6.7							
MLR	**Muntele Rosu**	**4.37**	**54**	⇑*iP*		**Pn**	**01 05 56.0**	**+1.1**
MLR	**Muntele Rosu**	**4.37**	**54**	P		**Pn**	**01 05 56.2**	**+1.3**
ALN	**Alexandroupoli**	**4.41**	**118**	*eP*		**Pn**	**01 05 55.8**	**+0.3**
AOS	**Alonnisos**	**4.49**	**149**	*eP*		**Pn**	**01 05 56.2**	**-0.4**
BUD	**Budapest**	**4.62**	**344**	⇓*ePn*		**Pn**	**01 05 58.4**	**0.0**
BUD				*eSn*		**Sn**	**01 06 52.4**	**+0.3**
BOJS	**Bojanci**	**4.73**	**303**	*i Pn*		**Pn**	**01 06 00.7**	**+0.8**
KOGS	**Kog**	**4.73**	**317**	P		**Pn**	**01 06 00.0**	**0.0**
PRD	**Provadia**	**4.76**	**86**	*i P*		**Pn**	**01 06 01.3**	**+0.9**
CESS	**Cesta pri Krsk**	**4.85**	**309**	*i Pn*		**Pn**	**01 06 02.1**	**+0.4**
CESS				*i Sn*		**Sn**	**01 06 54.8**	**-3.2**
PENC	**Penc**	**4.87**	**347**	*eP*		**Pn**	**01 06 01.9**	**+0.1**
PSZ	**Piszkesteto**	**4.91**	**352**	*ePn*		**Pn**	**01 06 02.2**	**-0.2**
PSZ				*eSn*		**Sn**	**01 06 57.8**	**-1.5**
PSZ	**Piszkesteto**	**4.91**	**352**	⇑*iP*		**Pn**	**01 06 02.1**	**-0.3**
PSZ	**Piszkesteto**	**4.91**	**352**	*ePn*		**Pn**	**01 06 02.2**	**-0.2**
PSZ				*eSn*		**Sn**	**01 06 55.8**	**-3.5**
PLOR	**Plostina**	**4.98**	**54**	⇑*iP*		**Pn**	**01 06 04.1**	**+0.8**
VRI	**Vrincioaia**	**5.03**	**54**	⇓P		**Pn**	**01 06 05.0**	**+1.0**
VRI	**Vrincioaia**	**5.03**	**54**	⇓*iP*		**Pn**	**01 06 05.0**	**+1.0**
KECS	**Kecovo**	**5.43**	**357**	*ePN*		**Pn**	**01 06 12.0**	**+2.4**
KECS				*e*			01 06 20.0	
KECS	**Kecovo**	**5.43**	**357**	*eSN*		**Sn**	**01 07 08.2**	**-4.0**
BURAR	**Bucovina Array**	**5.48**	**32**	⇑*iP*		**Pn**	**01 06 11.9**	**+1.7**
BURAR	**Bucovina Array**	**5.48**	**32**	P		**Pn**	**01 06 13.1**	**+2.9**
SOP	**Sopron**	**5.54**	**328**	*eSn*		**Sn**	**01 07 14.5**	**-0.4**
TIRR	**Tirgusor**	**5.62**	**73**	P		**Pn**	**01 06 12.3**	**+0.1**
TIRR	**Tirgusor**	**5.62**	**73**	⇑*iP*		**Pn**	**01 06 12.4**	**+0.2**
TIRR	**Tirgusor**	**5.62**	**73**	P		**Pn**	**01 06 12.3**	**+0.1**
VYHS	**Vyhne**	**5.62**	**346**	*ePN*		**Pn**	**01 06 12.9**	**+0.7**
VYHS				*e*			01 06 30.2	
VYHS	**Vyhne**	**5.62**	**346**	*ePn*		**Pn**	**01 06 12.9**	**+0.7**
	comp=E,9.9nm,0.6s							
VYHS				*e*			01 06 30.2	
VYHS				*eSn*		**Sn**	**01 07 15.0**	**-1.9**
VYHS	**Vyhne**	**5.62**	**346**	*ePn*		**Pn**	**01 06 12.9**	**+0.7**
VYHS				*eSn*		**Sn**	**01 07 15.0**	**-1.9**
ARSA	**Arzberg**	**5.66**	**320**	*i Pn*		**Pn**	**01 06 12.7**	**0.0**
	SNR=17							
ARSA				⇓*iSn*		**Sn**	**01 07 16.2**	**-1.5**
ARSA	**Arzberg**	**5.66**	**320**	*i Pn*		**Pn**	**01 06 12.6**	**0.0**
OBKA	**Obir**	**5.68**	**310**	⇓*iSn*		**Sn**	**01 07 17.7**	**-0.6**
OBKA	**Obir**	**5.68**	**310**	*i Pn*		**Pn**	**01 06 13.6**	**+0.7**
	SNR=11							
OBKA				⇓*iSn*		**Sn**	**01 07 17.7**	**-0.6**
OBKA	**Obir**	**5.68**	**310**	Pn		**Pn**	**01 06 13.6**	**+0.6**
	comp=E,10.0nm,6.0s							
ZST	**Bratislava**	**5.78**	**334**	*ePn*		**Pn**	**01 06 15.1**	**+0.7**
	comp=E,14nm,0.4s							
ZST				*eSn*		**Sn**	**01 07 16.6**	**-4.3**
VOY	**Vojsko**	**5.82**	**303**	*ePn*		**Pn**	**01 06 15.3**	**+0.4**
VOY				*e*			01 06 36.4	
CRVS	**Cervenica-Dubn**	**5.86**	**4**	*ePN*		**Pn**	**01 06 16.4**	**+0.6**
CRVS				*e*PG			01 06 44.2	
KOLS	**Kolonicke sedl**	**5.95**	**9**	*ePN*		**Pn**	**01 06 22.1**	**+5.4**
KOLS				*e*PG		**Pg**	**01 06 42.1**	**-0.3**
KOLS				*e*SN		**Sn**	**01 07 21.8**	**-3.3**
KOLS				*e*SG		**Sg**	**01 08 03.6**	**+4.1**
CADS	**Cadrg**	**6.01**	**304**	*i Pn*		**Pn**	**01 06 17.5**	**+0.1**
CONA	**Conrad Observa**	**6.02**	**326**	⇑*iPn*		**Pn**	**01 06 17.0**	**-0.6**
CONA				⇓*iSn*		**Sn**	**01 07 24.9**	**-1.7**
STHS	**Stebnicka Huta**	**6.36**	**2**	*ePN*		**Pn**	**01 06 24.3**	**+1.9**
STHS				*e*SN		**Sn**	**01 07 34.6**	**-0.6**
STHS				*e*SG		**Sg**	**01 08 19.8**	**+7.1**
NIE	**Niedzica**	**6.38**	**357**	*eP*		**Pn**	**01 06 26.2**	**+3.7**
MOA	**Molln**	**6.68**	**318**	P		**Pn**	**01 06 28.8**	**+2.1**
KBA	**Koelnbreinsper**	**6.69**	**310**	⇓*iPn*		**Pn**	**01 06 27.3**	**+0.5**
KBA				⇑*iSn*		**Sn**	**01 07 42.3**	**-0.8**
VRAC	**Vranov**	**6.92**	**336**	Pn		**Pn**	**01 06 30.8**	**+0.7**
	comp=E,0.7nm,0.3s,baz=151,slow=10,SNR=3.8							
VRAC				Sn		**Sn**	**01 07 46.9**	**-2.1**
	comp=E,1.1nm,0.3s,baz=101,slow=7.5,SNR=4.5							
VRAC	**Vranov**	**6.92**	**336**	⇑*iP*		**Pn**	**01 06 31.0**	**+0.9**
ABTA	**Abfaltersbach**	**7.00**	**305**	⇓*iPn*		**Pn**	**01 06 32.3**	**+1.2**
ABTA				⇑*iSn*		**Sn**	**01 07 51.1**	**+0.3**
GEC2	**GERESS Array S**	**7.65**	**322**	*ePn*		**Pn**	**01 06 42.1**	**+2.1**
GEC2				*eSn*		**Sn**	**01 08 12.5**	**+5.6**
GERES	**GERESS Array B**	**7.65**	**322**	Pn		**Pn**	**01 06 41.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=150,slow=14,SNR=14							
GERES				Sn		**Sn**	**01 08 06.5**	**-0.4**
	comp=E,0.3nm,0.3s,baz=128,slow=22,SNR=2.6							
WTTA	**Wattenberg**	**7.78**	**306**	⇓*iPn*		**Pn**	**01 06 43.7**	**+2.0**
	SNR=17							
WTTA				⇓*iSn*		**Sn**	**01 08 09.7**	**-0.2**
WATA	**Walderalm**	**7.85**	**306**	⇓*iSn*		**Sn**	**01 08 11.2**	**-0.4**
WATA	**Walderalm**	**7.85**	**306**	⇓*iPn*		**Pn**	**01 06 43.1**	**+0.4**
	SNR=9.8							
WATA				⇓*iSn*		**Sn**	**01 08 11.2**	**-0.4**
WATA	**Walderalm**	**7.85**	**306**	Pn		**Pn**	**01 06 43.1**	**+0.4**
	comp=E,9.0nm,8.0s							
KHC	**Kasperske Hory**	**7.92**	**323**	*ePN*		**Pn**	**01 06 44.1**	**+0.4**
KHC				*e*SN		**Sn**	**01 08 09.4**	**-4.0**
DPC	**Dobruska-Polom**	**7.94**	**338**	*ePN*		**Pn**	**01 06 44.9**	**+0.9**
SQTA	**Sankt Quirin**	**8.01**	**305**	⇓*iPn*		**Pn**	**01 06 46.9**	**+1.9**
	SNR=19							
SQTA				⇑*iSn*		**Sn**	**01 08 13.0**	**-2.7**
SQTA	**Sankt Quirin**	**8.01**	**305**	⇓*iPn*		**Pn**	**01 06 46.9**	**+1.9**
SQTA				*i Sn*		**Sn**	**01 08 13.0**	**-2.7**
SQTA	**Sankt Quirin**	**8.01**	**305**	⇓*iPn*		**Pn**	**01 06 46.8**	**+1.9**
MOTA	**Moosalm**	**8.13**	**305**	⇓*iSn*		**Sn**	**01 08 18.6**	**-0.1**
MOTA	**Moosalm**	**8.13**	**305**	⇑*iPn*		**Pn**	**01 06 48.0**	**+1.4**
	SNR=8.5							
MOTA				⇓*iSn*		**Sn**	**01 08 18.6**	**-0.1**
MOTA	**Moosalm**	**8.13**	**305**	Pn		**Pn**	**01 06 48.0**	**+1.4**
	comp=E,8.0nm,5.0s							
IDI	**Anoyia**	**8.36**	**157**	Pn		**Pn**	**01 06 51.3**	**+1.6**
	comp=E,0.3nm,0.3s,baz=307,slow=15,SNR=5.3							
IDI				Sn		**Sn**	**01 08 25.1**	**+0.9**
	comp=E,0.2nm,0.3s,baz=289,slow=19,SNR=2.2							
AKASG	**Malin Array Be**	**9.53**	**34**	Pn		**Pn**	**01 07 06.5**	**+0.6**
	comp=E,0.4nm,0.3s,baz=222,slow=13,SNR=4.7							
AKASG				Lg			01 09 52.4	
	baz=225,slow=28,SNR=4.3							
AKASG	**Malin Array Be**	**9.53**	**34**	Pn		**Pn**	**01 07 06.5**	**+0.6**
AKASG				Lg			01 09 52.4	
TORD	**Torodi Ar. Bea**	**34.10**	**215**	P		**P**	**01 11 33.1**	**-0.3**
	comp=E,0.3nm,0.6s,mb3.4,baz=22,slow=8.5,SNR=3.5							
ZAL	**Zalesovo**	**42.33**	**52**	P		**P**	**01 12 42.8**	**+0.1**
	comp=E,1.2nm,0.6s,mb3.7,baz=190,slow=6.5,SNR=8.6							
MKAR	**Makanchi Array**	**42.66**	**63**	P		**P**	**01 12 45.2**	**-0.1**
	comp=E,0.2nm,0.4s,mb3.2,baz=275,slow=7.9,SNR=3.5							
YKA	**Yellowknife Ar**	**68.91**	**340**	P		**P**	**01 15 52.9**	**-0.8**
	comp=E,0.2nm,0.6s,mb3.3,baz=37,slow=5.5,SNR=6.3							

*ISCJB **07** 01:10:48.4±1.0, 3479N±007×25.12E±003, h11km±6km, Error ellipse: s-maj=12.6km s-min=4.7km az=171.4*
*THE **07** 01:10:48.8, 3482N×2510E, h10km*
*NEIC **07** 01:10:48.8, 3482N×2510E, h0km, MD3.3(ATH), After THE.*
*ATH **07** 01:10:50.2, 3496N×2501E, h17km±4km, MD3.3/4*
*CSEM **07** 01:10:50.4±0.2, 3496N×2505E, h2km, MD3.3, Error ellipse: s-maj=5.2km s-min=2.1km az=162.0*

ISC 07 01:10:48.7±1.2, 3477N±008×2511E±004, h11km±6km, n15, σ0§95/24, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.35**	**316**	*ePg*	**Pg**	**01 10 55.1**	**-0.6**
SIVA				*e*Sg	**Sg**	**01 11 00.5**	**+0.1**
NPS	**Neapolis**	**0.65**	**40**	*ePN*	**Pg**	**01 11 00.3**	**-0.9**
NPS				*e*SN	**Sg**	**01 11 09.6**	**-0.1**
GVD	**Gavdhos**	**0.84**	**275**	*ePg*	**Pg**	**01 11 05.3**	**+0.3**
GVD				*e*Sg	**Sg**	**01 11 18.2**	**+2.3**
GVD	**Gavdhos**	**0.84**	**275**	*eP*	**Pg**	**01 11 05.3**	**+0.3**
GVD				*e*S	**Sg**	**01 11 19.6**	**+3.7**
ZKR	**Zakros**	**0.97**	**69**	*ePg*	**Pg**	**01 11 06.9**	**-0.5**
ZKR				*e*Sg	**Sg**	**01 11 22.3**	**+2.2**
VAM	**Vamos**	**0.98**	**311**	*ePN*	**Pg**	**01 11 05.9**	**-1.7**
KARN	**Karanos**	**1.16**	**303**	*ePg*	**Pb**	**01 11 09.0**	**-1.8**
KARN				*e*Sg	**Sg**	**01 11 27.2**	**+1.0**
THR6	**Thira Island,**	**1.60**	**8**	*ePg*	**Pn**	**01 11 16.9**	**0.0**
THR1	**Thera Island**	**1.62**	**10**	*ePg*	**Pn**	**01 11 17.3**	**+0.1**
THR3	**Thira Island,**	**1.66**	**8**	*ePg*	**Pn**	**01 11 17.5**	**-0.1**
KARP	**Karpathos**	**1.85**	**65**	*ePN*	**Pg**	**01 11 23.9**	**-0.3**
APE	**Apeiranthos**	**2.32**	**8**	*ePn*	**Pn**	**01 11 27.0**	**+0.2**
APE				*e*Sn	**Sn**	**01 11 55.7**	**+0.4**
APE	**Apeiranthos**	**2.32**	**8**	*ePN*	**Pn**	**01 11 27.5**	**+0.7**
APE	**Apeiranthos**	**2.32**	**8**	P	**Pn**	**01 11 27.0**	**+0.2**
APE				*e*Pn	**Pn**	**01 11 27.5**	**+0.7**
APE				S	**Sn**	**01 11 55.7**	**+0.4**
VLI	**Veliai**	**2.63**	**318**	*ePN*	**Pn**	**01 11 31.4**	**+0.4**

*NEIC **07** 01:23:29.4, 1682N×9481W, h109km, MD4.1(MEX), After MEX.*

MEX 07 01:23:28.5±0.8, 1681N×9478W, h114km±6km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.30**	**340**	*i P*	Pn	01 23 43.9	-0.9
CMIG				*i* S	Sn	01 23 54.9	-2.0
TUIG	**Tuzandepetl**	**1.26**	**15**	*i P*	Pn	01 23 51.4	-1.4
TUIG				*i* S	Sn	01 24 09.7	-1.6
HUIG	**Huatulco**	**1.65**	**231**	*i P*	Pn	01 23 55.6	-1.7
HUIG				*i* S	Sn	01 24 17.9	-1.3
OXX	**Oaxaca**	**1.88**	**279**	*i P*	Pn	01 24 00.8	+0.6
OXX				*i* S	Sn	01 24 23.8	-0.6
VHO	**Vista Hermosa**	**1.89**	**278**	*eP*	Pn	01 24 00.1	-0.1
VHO				*i* S	Sn	01 24 23.1	-1.4
VHO	**Vista Hermosa**	**1.89**	**278**	*eP*	Pn	01 24 00.2	-0.1
VHO				*i* S	Sn	01 24 23.1	-1.4
CCIG	**Comitan**	**2.59**	**101**	*eP*	Pn	01 24 09.3	+0.2
CCIG				*i* S	Sn	01 24 39.6	-0.8
CCIG	**Comitan**	**2.59**	**101**	*eP*	Pn	01 24 10.9	+1.7
CCIG				*i* S	Sn	01 24 39.1	-1.4
UTMO	**Huajuapan**	**3.06**	**290**	*i P*	Pn	01 24 15.2	-0.3
UTMO				*i* S	Sn	01 24 50.5	-1.1
PNIG	**Pinotepa**	**3.24**	**263**	*i P*	Pn	01 24 15.6	-2.1
PNIG				*i* S	Sn	01 24 52.4	-3.4
PNIG	**Pinotepa**	**3.24**	**263**	*i P*	Pn	01 24 15.6	-2.1
PNIG				*i* S	Sn	01 24 51.8	-4.0
SCIG	**Sabancuy**	**4.04**	**57**	*i P*	Pn	01 24 26.6	-1.8
SCIG				*i* S	Sn	01 25 10.9	-3.9
IIO	**Organos**	**4.66**	**307**	*i P*	Pn	01 24 37.1	+0.4
IIO				*i* S	Sn	01 25 30.2	+0.4
MEIG	**Mezcala**	**4.75**	**284**	*i P*	Pn	01 24 37.3	-0.7
MEIG				*i* S	Sn	01 25 28.1	-4.0
PLIG	**Platanillo**	**4.77**	**290**	*i P*	Pn	01 24 38.3	+0.1
PLIG				*i* S	Sn	01 25 28.8	-3.7
PLIG	**Platanillo**	**4.77**	**290**	*i P*	Pn	01 24 39.1	+0.8
PLIG				*i* S	Sn	01 25 26.3	-6.2
TEIG	**Tepich**	**7.04**	**60**	*i P*	Pn	01 25 06.8	-2.1
TEIG				*i* S	Sn	01 26 24.3	-3.1

*ISCJB **07** 01:44:19.3±0.2, 4755N±001×751E±002, h0km, Error ellipse: s-maj=2.1km s-min=1.5km az=146.8*
*CSEM **07** 01:44:21.5±0.1, 4757N×760E, h1km, ML2.5/18, Error ellipse: s-maj=1.1km s-min=0.9km az=6.0*
*VIE **07** 01:44:21.6±0.8, 4774N×775E, h8km, ML2.5/2, Error ellipse: s-maj=6.6km s-min=4.1km az=22.0 22 km ENE of Sierentz*
*LDG **07** 01:44:21.9±0.1, 4758N×758E, h9km, Md2.4/3, Ml2.4/23, Error ellipse: s-maj=1.1km s-min=0.8km az=148.0*
*STR **07** 01:44:21.7±0.3, 4758N×758E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **07** 01:44:22.1±0.0, 47595N±0003×7602E±0003, h5km, ML2.0, Error ellipse: s-maj=1.0km s-min=0.8km az=132.0*
*ZUR **07** 01:44:22.0, 4758N×760E, h5km±1km, ML1.9*
*BGR **07** 01:44:24.6±1.8, 4767N×763E, h5km, ML2.1, Error ellipse: s-maj=18.9km s-min=11.1km az=45.0*

ISC 07 01:44:21.0±0.2, 4757N±001×755E±002, h0km, n90, σ1§09/152, 12C-6D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.04**	**59**	⇓*iPg*	**Pg**	**01 44 23.1**	**+1.3**
WEIL				*i* Sg	**Sg**	**01 44 24.2**	**+1.9**
WYH	**Wyhlen**	**0.11**	**101**	⇑*iPg*	**Pg**	**01 44 23.9**	**+0.9**
WYH				*i* Sg	**Sg**	**01 44 25.3**	**+0.9**
BBS	**Basel-Blauen**	**0.11**	**194**	⇑*iP**	**Pg**	**01 44 25.1**	**+2.0**
BBS	**Basel-Blauen**	**0.11**	**194**	⇑*iPg*	**Pg**	**01 44 25.1**	**+2.0**
BBS	**Basel-Blauen**	**0.11**	**194**	Pg	**Pg**	**01 44 25.0**	**+1.9**
BBS				Sg	**Sg**	**01 44 26.2**	**+1.7**
ENDD	**Endenburg**	**0.19**	**42**	⇑*iPg*	**Pg**	**01 44 25.2**	**+0.5**
ENDD				*i* Sg	**Sg**	**01 44 27.5**	**+0.4**
BALST	**Balsthal**	**0.26**	**157**	⇓*iPg*	**Pg**	**01 44 25.9**	**0.0**
	393nm,0.3s						
BALST	**Balsthal**	**0.26**	**157**	⇓*ePg*	**Pg**	**01 44 27.4**	**+1.5**
BALST				Sg	**Sg**	**01 44 31.1**	**+1.9**
BOURR	**Bourrignon**	**0.28**	**231**	⇑*iPg*	**Pg**	**01 44 27.4**	**+1.0**
	134nm,0.4s						
BOURR	**Bourrignon**	**0.28**	**231**	⇑*iPg*	**Pg**	**01 44 28.4**	**+2.1**
SULZ	**Sulz-Cheisache**	**0.39**	**96**	⇑*iPg*	**Pg**	**01 44 28.4**	**0.0**
	177nm,0.6s						
SULZ				*i* Sg	**Pg**	**01 44 29.0**	**+0.6**
	177nm,0.6s						
SULZ	**Sulz-Cheisache**	**0.39**	**96**	⇑*iPg*	**Pg**	**01 44 29.0**	**+0.6**
SULZ				*i* Sg	**Sg**	**01 44 33.9**	**+0.5**
SULZ	**Sulz-Cheisache**	**0.39**	**96**	Pb	**Pg**	**01 44 29.0**	**+0.6**
MOF	**Molkenrain**	**0.40**	**315**	Pg	**Pg**	**01 44 29.9**	**+1.3**
MOF				Sg	**Sg**	**01 44 35.2**	**+1.5**
MOF	**Molkenrain**	**0.40**	**315**	Pg	**Pg**	**01 44 29.8**	**+1.2**
MOF				Sg	**Sg**	**01 44 35.8**	**+2.0**
MOF				SmS		01 44 40.6	
FELD	**Feldberg im Sc**	**0.43**	**45**	⇑*iP**	**Pg**	**01 44 29.6**	**+0.3**
FELD	**Feldberg im Sc**	**0.43**	**45**	⇑*iPg*	**Pg**	**01 44 29.6**	**+0.3**
KIZ	**Kirchzarten**	**0.46**	**33**	⇑*iP**	**Pg**	**01 44 30.1**	**+0.3**
KIZ				PmP		01 44 32.6	
KIZ				*i S**	**Sg**	**01 44 35.8**	**+0.1**
KIZ	**Kirchzarten**	**0.46**	**33**	⇑*iPg*	**Pg**	**01 44 30.1**	**+0.3**
KIZ				*i* Sg	**Sg**	**01 44 35.8**	**+0.1**
HINF	**Hinteralfeld**	**0.53**	**298**	*ePg*	**Pg**	**01 44 32.1**	**+0.9**
HINF				*e*Sg	**Sg**	**01 44 39.3**	**+1.3**
HINF				*e*Sn	**Sg**	**01 44 43.1**	**+5.1**
	7.2nm,0.2s						
HINF	**Hinteralfeld**	**0.53**	**298**	*ePg*	**Pg**	**01 44 32.1**	**+0.9**
HINF				*e*Sg	**Sg**	**01 44 39.3**	**+1.3**
HINF				*e*Sn	**Sg**	**01 44 43.1**	**+5.1**
	3.6nm,0.2s						
LOMF	**Lomont**	**0.54**	**246**	Pg	**Pg**	**01 44 33.0**	**+1.7**
LOMF				Sg	**Sg**	**01 44 41.0**	**+2.8**
LOMF	**Lomont**	**0.54**	**246**	Pg	**Pg**	**01 44 33.3**	**+2.0**
SLE	**Schleitheim**	**0.67**	**73**	⇑*eP**	**Pg**	**01 44 33.9**	**+0.1**
SLE				PmP		01 44 35.6	
SLE				S*	**Sg**	**01 44 42.4**	**0.0**
SLE				SmS		01 44 44.3	
SLE	**Schleitheim**	**0.67**	**73**	PmP		01 44 35.6	
SLE				Sg	**Sg**	**01 44 42.4**	**0.0**
SLE				SmS		01 44 44.3	
SLE	**Schleitheim**	**0.67**	**73**	⇑*iPg*	**Pg**	**01 44 36.8**	**+3.0**
	415nm,0.2s						
SLE				Sb	**Sg**	**01 44 42.4**	**0.0**
ECH	**Echery**	**0.70**	**338**	Pg	**Pg**	**01 44 35.7**	**+1.4**
ECH	**Echery**	**0.70**	**338**	PmP		01 44 36.0	
ECH	**Echery**	**0.70**	**338**	PmP		01 44 36.0	
CDF	**Champ du Feu**	**0.86**	**348**	*ePg*	**Pg**	**01 44 38.2**	**+0.7**
CDF	**Champ du Feu**	**0.86**	**348**	*ePn*	**Pn**	**01 44 38.6**	**-1.8**
CDF				*e*Sg	**Sg**	**01 44 48.3**	**-0.4**
CDF				*e*Sn	**Sg**	**01 44 50.6**	**+1.9**
	16nm,0.3s						
CDF	**Champ du Feu**	**0.86**	**348**	*ePn*	**Pn**	**01 44 38.6**	**-1.8**
CDF				*e*Sg	**Sg**	**01 44 48.3**	**-0.4**
CDF				*e*Sn	**Sg**	**01 44 50.6**	**+1.9**
	8.1nm,0.3s						
HAU	**Haudompre**	**0.92**	**299**	*ePg*	**Pg**	**01 44 39.2**	**+0.6**
HAU				*e*Sg	**Sg**	**01 44 51.5**	**+1.0**
	30nm,0.4s						
HAU	**Haudompre**	**0.92**	**299**	*ePg*	**Pg**	**01 44 39.2**	**+0.6**
HAU				*e*Sg	**Sg**	**01 44 51.5**	**+1.0**
	15nm,0.4s						
BNALP	**Bannalp**	**0.92**	**139**	*ePg*	**Pg**	**01 44 39.5**	**+0.8**
	31nm,0.5s						
BFO	**Black Forest**	**0.92**	**34**	P*	**Pg**	**01 44 38.8**	**+0.1**
BFO				PmP		01 44 39.2	
BFO				SmS		01 44 51.9	
BFO	**Black Forest**	**0.92**	**34**	PmP		01 44 39.2	
BFO	**Black Forest**	**0.92**	**34**	Pg	**Pg**	**01 44 38.8**	**+0.1**
BFO				SmS		01 44 51.9	
WILA	**Wila**	**0.94**	**99**	⇑*iP*	**Pg**	**01 44 34.7**	**-4.2**
	326nm,0.6s						
SISB	**Singen-Schiene**	**0.96**	**83**	P*	**Pb**	**01 44 39.6**	**-1.0**
SISB				PmP		01 44 40.2	
SISB				SmS		01 44 53.8	
SISB	**Singen-Schiene**	**0.96**	**83**	PmP		01 44 40.2	
SISB	**Singen-Schiene**	**0.96**	**83**	Pn	**Pb**	**01 44 39.6**	**-1.0**
SISB				SmS		01 44 53.8	
BRANT	**Les Verrieres**	**0.97**	**230**	*i Pg*	**Pg**	**01 44 40.1**	**+0.5**
	51nm,0.2s						
WEIN	**Weingarten**	**0.97**	**92**	⇑*iPg*	**Pg**	**01 44 40.1**	**+0.4**
	149nm,0.2s						
GÜT	**Gutenstein**	**1.17**	**64**	Pn	**Pn**	**01 44 42.3**	**-2.3**
THEF	**They Montfort**	**1.24**	**303**	Pg	**Pg**	**01 44 44.6**	**-0.1**
THEF				Sg	**Sg**	**01 45 02.0**	**+1.2**
LBG	**Lerchenberg**	**1.38**	**37**	Sg	**Sg**	**01 45 04.7**	**-0.5**
CABF	**La Chapelle**	**1.39**	**227**	*ePg*	**Pg**	**01 44 48.8**	**+1.2**
CABF				*e*Sg	**Sg**	**01 45 06.2**	**+0.7**
	14nm,0.4s						
CABF	**La Chapelle**	**1.39**	**227**	*ePg*	**Pg**	**01 44 48.8**	**+1.2**
CABF				*e*Sg	**Sg**	**01 45 06.2**	**+0.7**
	6.8nm,0.4s						
TUBL	**Tuebingen-Lenn**	**1.40**	**47**	Pg	**Pg**	**01 44 49.5**	**+1.7**
BUCH	**Bad Urach**	**1.50**	**53**	Pg	**Pg**	**01 44 49.8**	**+0.1**
BUCH				Sg	**Sg**	**01 45 08.7**	**-0.4**
DAVA	**Damuels**	**1.61**	**99**	⇓*iPg*	**Pg**	**01 44 50.2**	**-1.6**
DAVA				⇑*iSg*	**Sg**	**01 45 12.0**	**-0.7**
	6.6nm,0.1s						
STU	**Stuttgart**	**1.63**	**42**	*e*Sg	**Sg**	**01 45 12.5**	**-0.9**
UBR	**Ueberruh**	**1.73**	**85**	⇑*iPg*	**Pg**	**01 44 54.5**	**+0.3**
UBR				Sg	**Sg**	**01 45 16.9**	**+0.1**
UBR	**Ueberruh**	**1.73**	**85**	⇑*iP*	**Pg**	**01 44 54.5**	**+0.3**
UBR				S	**Sg**	**01 45 16.9**	**+0.1**
RFYF	**Reffroy**	**1.75**	**308**	*ePg*	**Pg**	**01 44 54.8**	**+0.3**
RFYF				*e*Sg	**Sg**	**01 45 17.4**	**+0.3**
	8.4nm,0.2s						
RFYF	**Reffroy**	**1.75**	**308**	*ePg*	**Pg**	**01 44 54.8**	**+0.3**
RFYF				*e*Sg	**Sg**	**01 45 17.4**	**+0.3**
	4.2nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**291**	*ePg*	**Pg**	**01 44 55.9**	**+0.3**
SFTF				*e*Sn	**Sn**	**01 45 13.9**	**-3.0**
	2.5nm,0.2s						
SFTF			

HARU	**Harads**	1.02 172	P	Pg	01 50 47.8	-1.5
	baz=355					
SJUU	**Sjulsmark**	1.71 166	*e*P	Pn	01 51 00.1	-0.7
KIF	**Kilpisjarvi**	1.84 2	*e*P	Pn	01 51 02.6	+0.1
KIF			*e*S	Sn	01 51 26.5	-0.1
LILU	**Lilltraesk**	1.92 190	*e*P	Pn	01 51 03.5	-0.2
LILU	**Lilltraesk**	1.92 190	P	Pn	01 51 03.5	-0.1
	baz=7.0					

NIED ***07*** *01:51:00, 46.30N×152.00E, h32km, Mw4.1 Best double couple: M0=1.44000×10^15 NP1:φ=125.00000°, δ=78.00000°, λ=-18.00000°. NP2:φ=219.00000°, δ=72.00000°, λ=-168.00000°.*
IDC ***07*** *01:51:34.0±0.8, 46.16N×151.88E, h0km, mb3.8/13, mb1 4.1/14, mb1mx4.0/23, mbtmp3.8/14, ML3.7/1, MS3.3/5, Ms1 3.3/5, ms1mx2.8/36, Error ellipse: s-maj=26.2km s-min=18.4km az=163.0*
NEIC ***07*** *01:51:35.7±0.5, 46.21N×151.83E, h10km, mb4.1/3, Error ellipse: s-maj=13.5km s-min=9.4km az=141.0*
JMA ***07*** *01:51:39.7±0.7, 46.26N×152.01E, h30km, M4.5*
MOS ***07*** *01:51:39.7±1.6, 46.02N×151.96E, h58km, mb4.2/2, Error ellipse: s-maj=12.9km s-min=11.0km az=51.1*
ISCJB ***07*** *01:51:41.1±1.0, 45.92N±0.008×151.93E±0.10, h71km±8km, mb3.9/17, Error ellipse: s-maj=16.1km s-min=7.2km az=107.7*

ISC 07 01:51:43.1±0.9, 4596N±008×15191E±010, h73km±7km, n57, σ1°38/61, mb3.9/17, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	2.93	257	*e*PN	**Pn**	**01 52 24.0**	**-3.4**
KUR				*e*S	**Sn**	**01 53 01.5**	**+0.1**
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR				smax			
	comp=N,540nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
YUK	**Yuzh-Kuril'sk**	4.70	248	*e*PN	**Pn**	**01 52 54.0**	**+2.5**
YUK				*e*S	**Sn**	**01 53 45.6**	**+0.9**
YUK				smax			
	comp=N,230nm,0.6s						
YUK				smax			
	comp=E,300nm,0.7s						
NEM2	**Nemuro 2**	5.11	242	P	**Pn**	**01 52 56.2**	**-0.8**
NEM2				*e*S	**Sn**	**01 53 52.3**	**-2.3**
SKR	**Severo-Kuril's**	5.49	29	*e*PN	**Pn**	**01 53 02.9**	**+0.6**
JNK	**Nakash**	5.64	248	P	**Pn**	**01 53 05.2**	**+0.8**
JAK	**Akkeshi**	5.95	243	P	**Pn**	**01 53 07.5**	**-1.1**
JAK				*e*S	**Sn**	**01 54 13.0**	**-2.3**
JTKR	**Abashiri--Toko**	6.01	254	P	**Pn**	**01 53 11.3**	**+1.9**
JAR	**Ashorobuto**	6.39	248	P	**Pn**	**01 53 15.6**	**+1.0**
JAR				*e*S	**Sn**	**01 54 28.2**	**+2.2**
YSS	**Yuzh-Sakhalins**	6.40	282	PN	**Pn**	**01 53 15.8**	**+1.1**
JOB	**Onbets**	6.54	245	P	**Pn**	**01 53 15.4**	**-1.2**
JKK2	**Kamakawa 2**	6.83	255	P	**Pn**	**01 53 22.9**	**+2.3**
ASAJ	**Asahikawa**	6.85	258	Pn	**Pn**	**01 53 21.6**	**+0.8**
	comp=E,1.4nm,0.3s,baz=99,slow=11,SNR=6.6						
ASAJ				LR	LR	01 55 57.0	
	comp=E,111nm,19.2s,baz=341,slow=38						
ASAJ	**Asahikawa**	6.85	258	PN	**Pn**	**01 53 21.6**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,111nm,19.2s						
JCH	**Churui**	6.98	244	P	**Pn**	**01 53 22.4**	**-0.3**
JCH				*e*S	**Sn**	**01 54 39.6**	**-1.0**
ERM	**Erimo**	7.44	241	*e*PN	**Pn**	**01 53 29.4**	**+0.5**
ERM				*e*		01 54 53.2	
ERM				pmax	pmax		
	comp=Z,23nm,0.6s						
ERM	**Erimo**	7.44	241	*e*Pn	**Pn**	**01 53 29.4**	**+0.5**
	comp=Z,23nm,0.6s						
ERM				*e*Sn	**Sn**	**01 54 53.2**	**+1.4**
JEM	**Erimo**	7.44	241	P	**Pn**	**01 53 29.8**	**+0.9**
JEM				*e*S	**Sn**	**01 54 49.3**	**-2.5**
JNBK	**Urakawa-nobuka**	7.54	244	P	**Pn**	**01 53 29.2**	**-1.2**
JKB	**Kayabe**	8.84	246	P	**Pn**	**01 53 47.4**	**-0.6**
MJAR	**Matsushiro Arr**	13.94	232	LR	LR	02 00 18.8	
	comp=Z,70nm,20.1s,baz=340,slow=37						
MAJO	**Matsushiro**	13.94	232	*e*P	**Pn**	**01 54 55.6**	**-1.5**
KLR	**Kul'dur**	13.98	291	*e*P	**Pn**	**01 54 56.4**	**-1.3**
KSRS	**Korea Array**	19.77	253	P	**Pn**	**01 56 07.5**	**-1.8**
	baz=54,slow=12,SNR=5.7						
YAK	**Yakutsk**	20.55	329	*e*P	**P**	**01 56 17.9**	**+2.2**
YAK				pmax	pmax		
	comp=Z,34nm,0.9s						
YAK				pmax	pmax		
	comp=N,16nm,1.1s						
YAK				pmax	pmax		
	comp=E,14nm,1.4s						
YAK	**Yakutsk**	20.55	329	P	**P**	**01 56 10.9**	**-4.7**
	comp=E,20nm,0.5s						
NACB	**Ninganchiao**	32.67	239	*e*P	**P**	**01 58 07.8**	**-0.3**
ZAL	**Zalesovo**	42.41	306	LR	LR	02 18 56.2	
	comp=E,87nm,18.9s,baz=359,slow=39						
INK	**Inuvik**	42.76	32	P	**P**	**01 59 31.2**	**-2.0**
	comp=E,1.6nm,1.0s,mb3.7,baz=284,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	46.56	298	P	**P**	**02 00 03.3**	**-0.2**
	comp=E,0.9nm,0.8s,mb3.5,baz=68,slow=8.0,SNR=6.0						
MKAR				PcP	PcP	02 01 36.1	-0.4
	comp=E,0.8nm,0.8s,baz=68,slow=3.3,SNR=4.4						
MKAR				LR	LR	02 20 24.3	
	comp=E,31nm,20.5s,baz=173,slow=37						
MKAR	**Makanchi Array**	46.56	298	P	**P**	**02 00 03.3**	**-0.1**
MKAR						02 01 36.1	
CHKZ	**Chkalovo**	50.30	310	*e*P	**P**	**02 00 29.4**	**-2.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	50.30	310	*e*P	**P**	**02 00 29.4**	**-2.8**
	comp=Z,0.6nm,0.4s,mb3.9						
BVAR	**Borovoye Array**	50.71	309	P	**P**	**02 00 35.3**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=97,slow=6.2,SNR=3.9						
BRVK	**Borovoye**	50.76	310	*e*P	**P**	**02 00 33.8**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	50.76	310	*e*P	**P**	**02 00 33.8**	**-1.8**
	comp=Z,1.4nm,0.7s,mb4.1						
YKA	**Yellowknife Ar**	52.05	36	P	**P**	**02 00 44.2**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=296,slow=6.8,SNR=8.9						
YKA	**Yellowknife Ar**	52.05	36	P	**P**	**02 00 44.2**	**-1.1**
JIRN	**Jiri**	54.17	274	*e*P	**P**	**02 01 02.3**	**+1.4**
	comp=Z,11nm,0.8s,mb4.9						
GUN	**Gumba**	54.23	275	*e*P	**P**	**02 01 03.6**	**+2.3**
KKN	**Kakani**	54.73	275	*e*P	**P**	**02 01 06.8**	**+1.9**
DMN	**Daman**	54.96	275	*e*P	**P**	**02 01 08.2**	**+1.6**
GKN	**Gorkha**	55.04	276	*e*P	**P**	**02 01 08.5**	**+1.4**
PMG	**Port Moresby**	55.28	186	LR	LR	02 22 52.9	
	comp=Z,50nm,19.9s,baz=225,slow=34						
KOLN	**Koldanda**	55.90	276	*e*P	**P**	**02 01 15.2**	**+1.9**
	comp=Z,16nm,0.8s,mb5.1						
NVAR	**Mina Array Bea**	63.54	61	P	**P**	**02 02 06.6**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.5,baz=291,slow=8.6,SNR=4.7						
FINES	**FINESS Array B**	64.39	334	P	**P**	**02 02 09.4**	**-2.0**
	comp=Z,1.4nm,0.8s,mb3.8,baz=50,slow=7.4,SNR=2.8						
PDAR	**Pinedale Array**	65.89	53	P	**P**	**02 02 20.9**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.7,baz=187,slow=1.2,SNR=7.7						
WRA	**Warramunga Arr**	67.50	198	P	**P**	**02 02 32.5**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.5,baz=6.6,slow=5.8,SNR=3.2						
NOA	**NORSAR Array B**	68.70	341	P	**P**	**02 02 37.5**	**-1.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=27,slow=5.7,SNR=3.2						
AKASG	**Malin Array Be**	71.73	326	P	**P**	**02 02 55.2**	**-2.1**
	comp=Z,0.7nm,0.4s,mb3.8,baz=33,slow=5.7,SNR=4.4						
BURAR	**Bucovina Array**	75.78	326	⇑*i*P	**P**	**02 03 21.1**	**+0.1**
MLR	**Muntele Rosu**	77.22	324	⇑*i*P	**P**	**02 03 29.5**	**+0.3**
BRTR	**Keskin Array B**	78.38	316	P	**P**	**02 03 36.0**	**+0.3**
	comp=Z,1.8nm,0.9s,mb3.8,baz=32,slow=7.3,SNR=8.6						
TXAR	**Lajitas Array**	78.61	60	P	**P**	**02 03 37.5**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.7,baz=303,slow=4.3,SNR=10						
GERES	**GERESS Array B**	78.79	333	P	**P**	**02 03 37.3**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.7,baz=32,slow=5.2,SNR=7.8						
VTS	**Vitosha**	80.73	324	⇓*i*P	**P**	**02 03 48.6**	**+0.3**
MAW	**Mawson**	131.10	211	*e*P	PKPdf	02 10 51.9	+5.5
	comp=Z,2.0nm,0.9s						

NIED ***07*** *02:10:00, 33.50N×129.00E, h11km, Mw3.7 Best double couple: M0=4.02000×10^14 NP1:φ=18.00000°, δ=76.00000°, λ=-165.00000°. NP2:φ=284.00000°, δ=75.00000°, λ=-14.00000°.*
ISCJB ***07*** *02:10:47.8±1.4, 33.48N±0.003×128.94E±0.005, h6km±9km, mb3.3/2, Error ellipse: s-maj=7.0km s-min=5.2km az=150.9*
IDC ***07*** *02:10:47.9±1.4, 33.49N×128.95E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=22.4km s-min=12.1km az=37.0*
JMA ***07*** *02:10:49.6, 33.47N×128.96E, h20km±1km, M4.1*
JMA Felt I J1.

ISC 07 02:10:48.9±0.8, 3347N±003×12899E±005, h7km±6km, n11, σ0°63/20, mb3.3/2, 1C-4D, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	0.70	62	⇓P	**Pg**	**02 11 03.2**	**+0.8**
JII				S	**Sg**	**02 11 12.6**	**+1.0**
JFU	**Fukue jima 2**	0.84	194	⇓P	**Pg**	**02 11 04.9**	**-0.1**
JFU				S	**Sg**	**02 11 15.9**	**+0.1**
JUR	**Ureshino**	0.89	115	⇑P	**Pg**	**02 11 06.5**	**+0.5**
JUR				S	**Sg**	**02 11 18.0**	**+0.4**
JTU	**Tsushima**	1.11	18	⇓P	**Pg**	**02 11 09.3**	**-0.9**
JTU				*e*S	**Sg**	**02 11 24.3**	**-0.2**
JFI	**Itaya**	1.17	92	⇓P	**Pg**	**02 11 10.8**	**-0.6**
JFI				S	**Sg**	**02 11 26.3**	**-0.4**
JTA	**Tamana**	1.39	111	P	**Pn**	**02 11 14.7**	**-0.1**
JTA				S	**Sb**	**02 11 33.1**	**-0.1**
JHD	**Hondo**	1.39	136	P	**Pn**	**02 11 14.7**	**-0.1**
JHD				S	**Sb**	**02 11 33.4**	**+0.1**
JNU	**Nakatsue**	1.62	102	Pg	**Pg**	**02 11 19.0**	**-1.0**
	60nm,0.3s,baz=273,slow=25,SNR=89						
JNU				Lg		02 11 40.0	
	687nm,0.3s,baz=228,slow=19,SNR=36						
KSRS	**Korea Array**	4.07	348	Pn	**Pn**	**02 11 52.0**	**+0.4**
	baz=164,slow=14,SNR=13						
KSRS				Pg	**Pg**	**02 12 01.1**	**-5.8**
	baz=174,slow=14,SNR=8.8						
KSRS				Sn	**Sn**	**02 12 38.9**	**-0.6**
	baz=176,slow=24,SNR=4.6						
KSRS				Lg		02 12 52.5	
	baz=170,slow=31,SNR=16						
SONM	**Songino Array**	22.24	317	P	**P**	**02 15 47.8**	**+1.5**
	0.5nm,0.8s,mb3.0,baz=108,slow=9.3,SNR=2.3						
WRA	**Warramunga Arr**	53.36	174	P	**P**	**02 20 08.3**	**-0.6**
	0.8nm,0.9s,mb3.7,baz=354,slow=8.2,SNR=3.2						

IDC 07 02:22:18.5±0.8, 672N×7296W, h162km±13km, mb3.0/2, mb1 3.5/4, mb1mx3.2/19, mbtmp3.3/4, Error ellipse: s-maj=45.7km s-min=8.0km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	2.30	217	P	Pn	02 23 00.1	+2.4
	34nm,0.3s,baz=82,slow=2.4,SNR=132						
ROSC				S	Sn	02 23 29.0	+0.9
	22nm,0.3s,baz=87,slow=18,SNR=9.2						
SDV	**Santo Domingo**	3.15	47	P	Pn	02 23 09.9	+1.7
	27nm,0.3s,baz=238,slow=4.2,SNR=161						
SDV				S	Sn	02 23 47.0	+0.3
	7.6nm,0.3s,baz=12,slow=11,SNR=12						
TXAR	**Lajitas Array**	36.65	312	P	P	02 29 09.7	+0.3
	0.3nm,0.7s,baz=129,slow=9.7,SNR=3.6						
YKA	**Yellowknife Ar**	63.42	340	P	P	02 32 30.6	-0.2
	0.5nm,0.5s,baz=133,slow=6.5,SNR=18						
WRA	**Warramunga Arr**	150.43	241	PKPbc	PKPbc	02 41 51.3	+0.5
	0.4nm,1.0s,baz=108,slow=2.7,SNR=8.0						

STR ***07*** *02:30:20.5±0.5, 4759N×758E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***07*** *02:30:20.8±0.2, 4760N×755E, h8km, Md1.9/1, Ml1.8/6, Error ellipse: s-maj=3.6km s-min=2.0km az=107.0*

ZUR 07 02:30:20.3, 4758N×760E, h5km±1km, ML0.7/1, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	0.25	166	⇓*i*Pg	Pg	02 30 25.7	+0.5
	2.3nm,0.1s						
BOURR	**Bourrignon**	0.32	234	⇑*i*Pg	Pg	02 30 26.8	+0.4
	2.1nm,0.1s						
SULZ	**Sulz-Cheisache**	0.35	99	⇑*i*Pg	Pg	02 30 27.3	+0.2
	23nm,0.3s						
MOF	**Molkenrain**	0.42	311	Pg	Pg	02 30 28.3	-0.1
MOF				Sg	Sg	02 30 34.1	+0.3
HINF	**Hinteralfeld**	0.56	295	*e*Pg	Pg	02 30 30.5	-0.6
HINF	**Hinteralfeld**	0.56	295	*e*Pn	Pg	02 30 32.0	+0.9
HINF				*e*Sg	Sg	02 30 37.7	-0.6
HINF				*e*Sn	Sg	02 30 41.5	+3.2
	3.4nm,0.2s						
SLE	**Schleitheim**	0.63	73	*i* Pg	Pg	02 30 32.3	-0.1
	1.7nm,0.1s						
ECH	**Echery**	0.70	335	Pg	Pg	02 30 34.0	+0.2
ECH				Sg	Sg	02 30 42.7	-0.2
CDF	**Champ du Feu**	0.86	345	*e*Pg	Pg	02 30 37.1	+0.3
CDF				*e*Sg	Sg	02 30 46.9	-1.1
CDF				*e*Sn	Sn	02 30 49.0	-2.9
	3.4nm,0.3s						
HAU	**Haudompre**	0.95	297	*e*Pg	Pg	02 30 37.8	-0.7
HAU				*e*Sg	Sg	02 30 50.2	-0.6
	4.6nm,0.2s						
CABF	**La Chapelle**	1.42	227	*e*Pg	Pg	02 30 47.2	-0.3
CABF				*e*Sg	Sg	02 31 04.7	-1.2
	1.1nm,0.3s						
SFTF	**Sexfontaines**	1.84	291	*e*Sg	Sg	02 31 17.8	-1.5
	0.6nm,0.3s						
LOR	**Lormes**	2.56	264	*e*Pg	Pg	02 31 08.0	-1.4
LOR				*e*Sg	Sg	02 31 39.8	-2.8
	0.8nm,0.2s						
SSF	**Saint Saulge**	2.84	261	*e*Pg	Pg	02 31 12.8	-1.8
SSF				*e*Sg	Sg	02 31 48.9	-2.5
	0.5nm,0.3s						

NEIC ***07*** *02:37:57.5, 16.19N×97.98W, h5km, MD3.9(MEX), After MEX.*

MEX 07 02:37:56.8±0.5, 1618N×9802W, h9km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.24	335	*i* P	Pg	02 38 01.1	-0.5
PNIG				*i* S	Sg	02 38 04.7	-0.1
VHO	**Vista Hermosa**	1.52	54	*e*P	Pn	02 38 21.3	-2.8
VHO				*i* S	Sn	02 38 39.1	-4.9
VHO	**Vista Hermosa**	1.52	54	*e*P	Pn	02 38 21.3	-2.8
VHO				*i* S	Sn	02 38 39.8	-4.3
OXX	**Oaxaca**	1.54	54	*i* P	Pn	02 38 21.1	-3.2
OXX				*i* S	Sn	02 38 38.7	-5.7
OXX	**Oaxaca**	1.54	54	*i* P	Pn	02 38 22.1	-2.2
OXX				*i* S	Sn	02 38 40.7	-3.7
UTMO	**Huajuapan**	1.66	7	*i* P	Pn	02 38 23.2	-2.8
UTMO				*i* S	Sn	02 38 42.8	-4.6
HUIG	**Huatulco**	1.89	102	*i* P	Pn	02 38 25.6	-3.6
HUIG				*i* S	Sn	02 38 48.0	-5.0
HUIG	**Huatulco**	1.89	102	*i* P	Pn	02 38 25.4	-3.8
HUIG				*i* S	Sn	02 38 48.6	-4.4
ACX	**Acapulco**	1.94	291	*i* P	Pn	02 38 30.1	+0.2
ACX				*i* S	Sn	02 38 54.2	-0.2
MEIG	**Mezcala**	2.32	319	*e*P	Pn	02 38 32.7	-2.3
MEIG				*i* S	Sn	02 38 58.0	-5.7
CAIG	**El Cayaco**	2.32	292	*e*P	Pn	02 38 31.9	-3.3
CAIG				*i* S	Sn	02 38 59.5	-4.2
CAIG	**El Cayaco**	2.32	292	*i* P	Pn	02 38 38.5	+3.3
CAIG				*i* S	Sn	02 39 06.6	+2.9
PLIG	**Platanillo**	2.62	328	*e*P	Pn	02 38 37.1	-2.1
PLIG				*i* S	Sn	02 39 07.4	-3.8
PLIG	**Platanillo**	2.62	328	*i* P	Pn	02 38 42.1	+2.8
PLIG				*i* S	Sn	02 39 16.3	+5.2
YAIG	**Yautepec**	2.85	340	*i* P	Pn	02 38 40.5	-1.9
YAIG				*i* S	Sn	02 39 13.5	-3.4
YAIG	**Yautepec**	2.85	340	*i* P	Pn	02 38 45.7	+3.2
YAIG				*i* S	Sn	02 39 21.8	+4.9
CMIG	**Matias Romero**	3.14	73	*e*P	Pn	02 38 43.2	-3.2
CMIG				*i* S	Sn	02 39 20.1	-3.9
PTVM	**Pico Tres Padr**	3.55	343	*i* P	Pn	02 38 49.8	-2.3

NIED ***07*** *02:55:00, 45.70N×151.90E, h32km, Mw4.4 Best double couple: M0=4.73000×10^15 NP1:φ=319.00000°, δ=84.00000°, λ=23.00000°. NP2:φ=227.00000°, δ=67.00000°, λ=173.00000°.*
BJI ***07*** *02:55:49.8, 45.51N×151.97E, h17km, mB4.8, mb4.5, Ms4.4, Msz4.0*
JMA ***07*** *02:55:51.8±0.6, 45.71N×151.95E, h30km, M4.9*
SKHL ***07*** *02:55:53.7±0.7, 45.20N×152.00E, h49km±17km, mb4.6/2*
ISCJB ***07*** *02:55:54.4±0.8, 45.32N±0.006×151.63E±0.006, h37km±7km, mb4.4/54, MS3.7/14, Error ellipse: s-maj=10.7km s-min=5.6km az=135.8*
NEIC ***07*** *02:55:54.3±6.6, 45.54N×151.49E, h18km±42km, mb4.4/21, Error ellipse: s-maj=15.4km s-min=7.3km az=176.0*
MOS ***07*** *02:55:55.1±1.1, 45.45N×151.60E, h40km, mb4.6/23, Error ellipse: s-maj=9.3km s-min=7.7km az=116.4*
IDC ***07*** *02:55:55.7±8.2, 45.45N×151.50E, h33km±62km, mb3.9/19, mb1 4.1/21, mb1mx4.0/29, mbtmp3.9/21, ML3.8/2, MS3.8/9, Ms1 3.8/9, ms1mx3.4/33, Error ellipse: s-maj=22.3km s-min=16.4km az=170.0*

ISC 07 02:55:56.8±0.7, 4547N±007×15158E±006, h38km±6km, h19km±5.6km: pP-P, n158, σ1°21/171, mb4.4/53, MS3.7/14, 7C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	2.63	266	*e*PN	**Pn**	**02 56 35.0**	**-1.7**
KUR				*i* S	**Sn**	**02 57 06.0**	**-1.4**
KUR				pmax	pmax		
	comp=N,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,860nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
KUR	**Kuril'sk**	2.63	266	*e*P	**Pn**	**02 56 35.0**	**-1.7**
KUR				AMB	AMB	02 56 36.5	
	comp=E,150nm,0.6s						
KUR				*i* S	**Sn**	**02 57 06.0**	**-1.4**
KUR				A		02 57 15.5	
	comp=E,860nm,0.7s						
KUR				A		02 57 15.5	
	comp=E,260nm,0.7s						
YUK	**Yuzh-Kuril'sk**	4.32	253	PN	**Pn**	**02 57 00.5**	**+0.6**
YUK				*e*S	**Sn**	**02 57 55.5**	**+6.5**
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=E,1μm,0.8s						
YUK				smax			
	comp=N,180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	4.32	253	*e*P	**Pn**	**02 57 00.5**	**+0.6**
YUK				*e*S	**Sn**	**02 57 55.5**	**+6.5**
YUK				A		02 58 11.4	
	comp=N,2μm,1.0s						
YUK				A		02 58 11.7	
	comp=N,180nm,0.8s						
YUK				A		02 58 11.7	
	comp=N,1μm,0.8s						
NEM2	**Nemuro 2**	4.68	245	P	**Pn**	**02 57 04.0**	**-0.9**
NEM2				*e*S	**Sn**	**02 57 57.8**	**-0.2**
JRA	**Rausu**	4.85	254	P	**Pn**	**02 57 09.0**	**+1.8**
JAK	**Akkeshi**	5.53	246	P	**Pn**	**02 57 15.7**	**-0.9**
JAK				*e*S	**Sn**	**02 58 18.1**	**-0.8**
JTKR	**Abashiri--Toko**	5.67	257	P	**Pn**	**02 57 20.0**	**+1.5**
JAR	**Ashorobuto**	6.00	252	P	**Pn**	**02 57 24.2**	**+1.1**
JAR				*e*S	**Sn**	**02 58 32.7**	**+2.1**
SKR	**Severo-Kuril's**	6.04	29	*e*PN	**Pn**	**02 57 23.0**	**-0.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
JMP	**Maruseppu**	6.04	259	P	**Pn**	**02 57 25.6**	**+2.1**
JOB	**Onbets**	6.13	248	P	**Pn**	**02 57 24.9**	**+0.1**
JOB				*e*S	**Sn**	**02 58 33.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	6.30	287	⇓*i*PN	**Pn**	**02 57 31.0**	**+3.8**
YSS				S	**Sn**	**02 58 42.4**	**+4.5**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				pmax	pmax		
	comp=E,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	6.30	287	*e*Pn	**Pn**	**02 57 31.0**	**+3.9**
	comp=E,30nm,0.8s						
JKK2	**Kamakawa 2**	6.50	259	P	**Pn**	**02 57 32.4**	**+2.6**
ASAJ	**Asahikawa**	6.54	261	Pn	**Pn**	**02 57 33.2**	**+2.8**
	comp=E,2.4nm,0.3s,baz=69,slow=12,SNR=14						
ASAJ				LR	LR	03 00 13.8	
	comp=E,446nm,18.1s,baz=45,slow=40						
ASAJ	**Asahikawa**	6.54	261	PN	**Pn**	**02 57 33.2**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,446nm,18.2s						
JCH	**Churui**	6.58	247	P	**Pn**	**02 57 30.5**	**-0.4**
JCH				*e*S	**Sn**	**02 58 43.4**	**-1.2**
JFR	**Furan**	6.85	254	P	**Pn**	**02 57 37.8**	**+3.2**
JEM	**Erimo**	7.01	243	P	**Pn**	**02 57 37.9**	**+1.0**
ERM	**Erimo**	7.01	243	*e*PN	**Pn**	**02 57 37.8**	**+0.9**
ERM				pmax	pmax		
	comp=Z,76nm,0.4s						
ERM	**Erimo**	7.01	243	*e*Pn	**Pn**	**02 57 37.8**	**+0.9**
	comp=Z,76nm,0.4s						
ERM				*e*Pg	**Pn**	**02 57 54.0**	**+17**
ERM				*e*Sg	Sn	02 59 29.4	+34
JNBK	**Urakawa-nobuka**	7.13	247	P	**Pn**	**02 57 37.7**	**-0.8**
JNBK				*e*S	**Sn**	**02 58 57.8**	**-0.5**
JBT2	**Biratori 2**	7.16	251	P	**Pn**	**02 57 39.6**	**+0.7**
JNB	**Noboribetsu**	8.18	252	P	**Pn**	**02 57 53.1**	**+0.3**
JNB				*e*S	**Sn**	**02 59 23.4**	**-0.5**
JKB	**Kayabe**	8.44	249	P	**Pn**	**02 57 56.1**	**-0.4**
JKB				*e*S	**

HHC SCP ScP 03 08 43.3 +3.1
HHC PCS PcS 03 08 45.7 +1.2
HHC SCS ScS 03 12 36.4 +1.8
HHC AMB AMB
comp=Z,15nm,0.7s,mb4.8
HHC AMB AMB
comp=Z,128nm,6.3s
HHC LR LR
comp=N,142nm,17.8s,MS4.1
HHC LR LR
comp=E,317nm,13.4s,MS4.1
HHC LR LR
comp=Z,253nm,15.7s,MS3.9
SONM Songino Array 30.77 291 P **P 03 02 06.2 -2.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=12,slow=7.7,SNR=3.5
SONM LR LR 03 15 34.1
comp=Z,104nm,18.9s,MS3.5,baz=9.2,slow=38
TLY Talaya 31.84 299 *eP* **P 03 02 24.7 +6.8**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,165nm,16.0s,MS3.8
LZH Lanzhou 36.87 272 *eP* **P 03 03 03.0 +1.5**
LZH AP pP 03 03 11.0 -1.3
LZH XP sP 03 03 15.0 -1.9
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,121nm,4.9s
GTA Gaotai 38.13 280 ⇓P **P 03 03 13.4 +1.3**
GTA AP pP 03 03 20.1 -2.8
GTA XP sP 03 03 22.5 -5.0
GTA AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
CD2 Chengdu 39.71 265 P **P 03 03 26.2 +0.8**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
EGAK Eagle 40.66 37 *eP* **P 03 03 33.9 +0.7**
comp=Z,14nm,1.6s,mb4.3
ZAL Zalesovo 42.52 306 LR LR 03 21 18.2
comp=Z,63nm,19.0s,MS3.5,baz=82,slow=36
INK Inuvik 43.30 32 P **P 03 03 54.6 -0.1**
comp=Z,0.9nm,0.7s,mb3.6,baz=328,slow=4.9,SNR=10
INK Inuvik 43.30 32 *eP* **P 03 03 54.5 -0.2**
comp=Z,57nm,0.6s,mb5.5
KMI Kunming 43.96 259 P **P 03 04 01.8 +1.7**
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.5
KMI LR LR
comp=Z,25nm,21.3s,MS3.1
WMQ Urumqi 44.40 292 P **P 03 04 05.2 +1.6**
WMQ PP PP 03 05 50.7 +3.1
WMQ *eS* **S 03 10 39.0 +3.4**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,203nm,6.5s
WMQ LR LR
comp=N,36nm,20.0s,MS3.5
WMQ LR LR
comp=E,43nm,21.0s,MS3.5
WMQ LR LR
comp=Z,54nm,21.0s,MS3.4
MK31 Makanchi Array 46.59 298 *eP* **P 03 04 20.6 -0.3**
MKAR Makanchi Array 46.59 298 P **P 03 04 20.7 -0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=60,slow=5.4,SNR=15
MKAR PcP PcP 03 05 53.9 -0.6
comp=Z,0.8nm,0.6s,baz=62,slow=3.3,SNR=4.5
MKAR LR LR 03 24 56.4
comp=Z,161nm,18.6s,MS4.0,baz=349,slow=37
MKAR Makanchi Array 46.59 298 P **P 03 04 20.7 -0.2**
MKAR 03 05 53.9
KURK Kurchatov 47.19 304⇑ *eP* **P 03 04 23.8 -1.8**
CHKZ Chkalovo 50.45 310 *eP* **P 03 04 48.9 -1.7**
CHKZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CHKZ Chkalovo 50.45 310 *eP* **P 03 04 48.9 -1.7**
comp=Z,1.6nm,0.6s,mb4.2
CHTO Chiang Mai 50.78 256 *eP* **P 03 04 54.7 +1.6**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CHTO Chiang Mai 50.78 256 *eP* **P 03 04 54.7 +1.5**
comp=Z,4.8nm,0.8s,mb4.5
BVAR Borovoye Array 50.85 310 P **P 03 04 52.8 -0.9**
comp=Z,0.5nm,0.5s,mb3.7,baz=10,slow=8.8,SNR=4.1
BVAR PcP PcP 03 06 09.0 -0.9
comp=Z,1.0nm,0.5s,baz=64,slow=3.4,SNR=5.2
BRVK Borovoye 50.90 310 *eP* **P 03 04 49.3 -4.7**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 50.90 310 *eP* **P 03 04 49.3 -4.6**
comp=Z,3.7nm,0.9s,mb4.3
YKA Yellowknife Ar 52.59 36 P **P 03 05 05.9 -0.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=298,slow=7.1,SNR=9.8
AAK Ala-Archa 53.45 296⇓ *iP* **P 03 05 12.5 -0.4**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 53.45 296 *eP* **P 03 05 12.2 -0.7**
comp=Z,5.6nm,0.9s,mb4.5
JIRN Jiri 53.98 274 *eP* **P 03 05 19.1 +2.3**
comp=Z,10nm,0.2s,mb5.4
GUN Gumba 54.05 275 *eP* **P 03 05 19.8 +2.5**
comp=Z,5.2nm,0.2s,mb5.0
PKI Pulchoki 54.59 275 *eP* **P 03 05 22.6 +1.4**
GKN Gorkha 54.86 276 *eP* **P 03 05 24.5 +1.3**
comp=Z,24nm,0.8s,mb5.3
HNR Honiara 55.16 170 LR LR 03 29 32.6
comp=Z,58nm,18.7s,MS3.7,baz=359,slow=37
KOLN Koldanda 55.73 276 *eP* **P 03 05 30.7 +1.2**
KEV Kevo 58.19 340 *ep* **P 03 05 42.6 -4.3**
AKTK Aktyubinsk 58.78 312 P **P 03 05 51.0 -0.1**
AKTO Aktyubinsk 58.78 312 P **P 03 05 51.0 -0.1**
comp=Z,0.9nm,0.5s,mb4.1,baz=45,slow=9.8,SNR=5.6
MOD Modoc 60.66 59 *eP* **P 03 06 04.8 +0.9**
comp=Z,0.8nm,0.6s,mb4.0
WVOR Wild Horse Val 61.34 58 *eP* **P 03 06 09.3 +0.8**
WVOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
WVOR Wild Horse Val 61.34 58 *eP* **P 03 06 09.2 +0.7**
comp=Z,1.8nm,0.8s,mb4.2
JOF Joensuu 62.01 333 *ep* **P 03 06 08.2 -4.8**
CMB Columbia Colle 62.93 62 *eP* **P 03 06 20.0 +0.8**
CMB pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
CMB Columbia Colle 62.93 62 *eP* **P 03 06 20.0 +0.8**
comp=Z,1.4nm,0.6s,mb4.3
BOZ Bozeman (W) 63.38 51 *eP* **P 03 06 23.3 +1.1**
BOZ pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BOZ Bozeman (W) 63.38 51 *eP* **P 03 06 23.3 +1.1**
comp=Z,1.0nm,0.7s,mb4.0
NVAR Mina Array Bea 63.98 61 P **P 03 06 26.8 +0.6**
comp=Z,1.3nm,0.6s,mb4.1,baz=298,slow=7.2,SNR=13
KAF Kangasniemi 64.15 335 *ep* **P 03 06 24.1 -3.2**
baz=38,slow=6.2
FINES FINESS Array B 64.74 334 P **P 03 06 29.7 -1.4**
comp=Z,3.2nm,0.6s,mb4.5,baz=36,slow=8.1,SNR=10
FINES FINESS Array B 64.74 334 *iP* **P 03 06 29.7 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
TPAW Teton Pass 65.12 53 *eP* **P 03 06 34.9 +1.3**
comp=Z,3.2nm,0.8s,mb4.4
DUG Dugway 66.17 56 *eP* **P 03 06 41.4 +1.1**
DUG pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
DUG Dugway 66.17 56 *eP* **P 03 06 41.4 +1.0**
comp=Z,2.6nm,0.9s,mb4.3
PDAR Pinedale Array 66.37 53 P **P 03 06 41.8 +0.1**
comp=Z,0.3nm,0.7s,mb3.4,baz=318,slow=2.0,SNR=3.7
WRA Warramunga Arr 66.96 198 P **P 03 06 44.6 -0.8**
comp=Z,1.5nm,0.7s,mb4.1,baz=16,slow=6.6,SNR=9.6
SRU San Rafael 68.21 56 *eP* **P 03 06 53.5 +0.2**
SRU pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
SRU San Rafael 68.21 56 *eP* **P 03 06 53.5 +0.2**
comp=Z,2.2nm,0.8s,mb4.2
NB2 NORSAR Subarra 69.09 341 P **P 03 06 57.2 -1.6**
comp=Z,2.2nm,0.6s,mb4.3,baz=28,slow=6.2
NOA NORSAR Array B 69.09 341 P **P 03 06 57.6 -1.2**
comp=Z,3.1nm,0.7s,mb4.4,baz=27,slow=6.4,SNR=8.5
NOA LR LR 03 43 10.4
comp=Z,43nm,18.4s,MS3.7,baz=290,slow=41
HFS Hagfors 69.28 339 P **P 03 06 58.8 -1.1**
comp=Z,4.6nm,0.5s,mb4.7,baz=59,slow=4.0,SNR=24
KIV Kislovodsk 70.92 314 *eP* **P 03 07 10.1 +0.1**
KIV pmax pmax
comp=Z,18nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,35nm,17.0s,MS3.7
KIV Kislovodsk 70.92 314 *eP* **P 03 07 10.2 +0.1**
comp=Z,8.9nm,0.9s,mb4.7
AKASG Malin Array Be 72.01 326 P **P 03 07 14.7 -1.9**
comp=Z,1.0nm,0.4s,mb4.1,baz=33,slow=6.0,SNR=12
AKASG Malin Array Be 72.01 326 *iP* **P 03 07 15.6 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
GNI Garni 72.54 310⇓ *iP* **P 03 07 20.3 +0.6**
GNI pmax pmax
comp=Z,11nm,1.3s
KWP Kalwaria 75.37 328 *eP* **P 03 07 36.5 +0.2**
OJC Ojcow 75.92 330 *eP* **P 03 07 39.5 +0.1**
BURAR Bucovina Array 76.06 326⇑ *iP* **P 03 07 40.0 -0.2**
STHS Stebnicka Huta 76.08 329 *eP* **P 03 07 41.3 +1.0**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 76.08 329 *eP* **P 03 07 41.3 +1.0**
comp=Z,5.3nm,0.8s,mb4.5
KOLS Kolonicke sedl 76.11 328 *eP* **P 03 07 40.4 -0.1**
NIE Niedzica 76.41 330 *eP* **P 03 07 42.7 +0.5**
CRVS Cervenica-Dubn 76.43 329 *eP* **P 03 07 42.5 +0.2**
OKC Ostrava-Krasne 76.81 331 *eP* **P 03 07 44.0 -0.5**
UPC Upice 76.94 333 *eP* **P 03 07 43.9 -1.3**
DPC Dobruska-Polom 76.98 332 *eP* **P 03 07 45.7 +0.3**
MORC Moravsky Berou 77.06 331 *eP* **P 03 07 46.0 +0.1**
MORC pmax pmax
comp=Z,12nm,1.4s,mb4.6
MORC Moravsky Berou 77.06 331 *eP* **P 03 07 46.0 +0.1**
comp=Z,12nm,1.4s,mb4.6
MORC Moravsky Berou 77.06 331⇑ *iP* **P 03 07 46.6 +0.7**
KECS Kecovo 77.13 329 *eP* **P 03 07 43.9 -2.4**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 77.13 329 *eP* **P 03 07 43.9 -2.4**
comp=Z,2.2nm,0.8s,mb4.1
CLL Collm 77.18 335 *iP* **P 03 07 45.7 -0.9**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLL Collm 77.18 335 *iP* **P 03 07 45.7 -0.9**
comp=Z,11nm,1.0s,mb4.7
EKA Eskdalemuir Ar 77.32 346 P **P 03 07 46.8 -0.6**
comp=Z,2.1nm,0.7s,mb4.2,baz=17,slow=4.4,SNR=7.9
MLR Muntele Rosu 77.49 324 P **P 03 07 48.2 -0.1**
comp=Z,3.6nm,0.7s,mb4.4,baz=67,slow=7.7,SNR=9.2
MLR Muntele Rosu 77.49 324 P **P 03 07 48.2 -0.1**
MLR pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 77.49 324⇓ P **P 03 07 49.6 +1.3**
MLR Muntele Rosu 77.49 324⇓ *iP* **P 03 07 49.6 +1.3**
DRGR 77.71 327⇑ *iP* **P 03 07 49.4 -0.1**
VYHS Vyhne 77.71 330 *eP* **P 03 07 49.8 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
VYHS Vyhne 77.71 330 *eP* **P 03 07 49.8 +0.3**
comp=Z,3.1nm,1.2s,mb4.1
VRAC Vranov 77.78 332 P **P 03 07 49.7 -0.3**
comp=Z,5.2nm,0.8s,mb4.5,baz=18,slow=7.1,SNR=6.2
VRAC Vranov 77.78 332 P **P 03 07 49.7 -0.2**
VRAC pmax pmax
comp=Z,5.0nm,0.8s
VRAC Vranov 77.78 332⇓ P **P 03 07 50.3 +0.4**
VRAC Vranov 77.78 332⇓ *iP* **P 03 07 50.3 +0.4**
PRU Pruhonice 77.86 333 *eP* **P 03 07 50.2 -0.2**
ZST Bratislava 78.57 331 *eP* **P 03 07 55.1 +0.8**
ZST pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ZST Bratislava 78.57 331 *eP* **P 03 07 55.1 +0.8**
comp=Z,6.1nm,1.1s,mb4.4
BR131 Keskin Array S 78.58 316 *eP* **P 03 07 54.6 +0.3**
comp=Z,2.1nm,1.0s,mb4.0
BRTR Keskin Array B 78.58 316 P **P 03 07 54.4 +0.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=73,slow=4.6,SNR=11
KHC Kasperske Hory 78.92 333 *eP* **P 03 07 56.4 +0.2**
TXAR Lajitas Array 79.06 59 P **P 03 07 56.2 -0.8**
comp=Z,0.5nm,0.6s,mb3.6,baz=290,slow=4.0,SNR=7.1
TXAR Lajitas Array 79.06 59 P **P 03 07 56.2 -0.8**
BZS Buzias 79.11 327⇑ *iP* **P 03 07 57.6 +0.3**
GERES GERESS Array B 79.13 333 P **P 03 07 56.1 -1.2**
comp=Z,1.0nm,0.8s,mb3.8,baz=28,slow=6.0,SNR=7.7
VTS Vitosha 81.00 324⇓ *iP* **P 03 08 08.1 +0.7**
CDF Champ du Feu 81.43 337 *eP* **P 03 08 07.6 -2.1**
PPT Papeete 82.29 125 LR LR 03 45 03.4
comp=Z,61nm,18.6s,MS4.0,baz=311,slow=36
GRR Gorron 83.47 342 *eP* **P 03 08 17.0 -3.3**
SMF Signal de Mont 83.97 338 *eP* **P 03 08 20.5 -2.4**
comp=Z,26nm,1.1s,mb5.0
LPG La Plagne 84.23 336 *eP* **P 03 08 23.5 -0.8**
comp=Z,44nm,1.4s,mb5.1
LFF La Frestale 86.35 340 *eP* **P 03 08 32.2 -2.6**
KEST Kesra 92.27 330 LR LR 03 52 27.1
comp=Z,44nm,19.2s,MS3.9,baz=267,slow=37
MDT Midelt 99.14 340 LR LR 03 53 55.6
comp=Z,94nm,22.0s,MS4.2,baz=132,slow=35
VNA2 Neumayer–Watz 152.49 195 *e*PKPdf PKPdf 03 15 47.6 +5.7
baz=77,slow=0.2
VNA2 *e* 03 15 56.4
VNA2 *e* 03 16 23.7
VNA3 Neumayer Olymp 152.61 193 *e*PKPdf PKPdf 03 15 47.6 +5.5
VNA3 *e* 03 16 22.8

IDC 07 03:08:28.8±41.0, 17575×17904W, h610km±445km, mb2.9/2, mb1 3.1/2, mbLmx2.7/13, mbtmp2.9/2, Error ellipse: s-maj=268.3km s-min=130.4km az=63.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.27**	**241**	P	P	03 14 58.7	0.0
	1.4nm,0.5s,baz=81,slow=7.6,SNR=6.7						
WRA	**Warramunga Arr**	**44.11**	**259**	P	P	03 15 45.1	+0.4
	0.6nm,0.5s,baz=92,slow=7.6,SNR=9.3						
BRTR	**Keskin Array B**	**144.12**	**315**	PKP	PKPdf	03 26 56.0	-0.1
	0.5nm,0.6s,baz=53,slow=2.0,SNR=4.5						
GERES	**GERESS Array B**	**147.13**	**344**	PKPbc	PKPbc	03 27 04.0	-0.5
	0.4nm,0.5s,baz=30,slow=2.4,SNR=3.9						

IDC 07 03:17:49.5±5.4, 4688N×15570E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.6/21, mbtmp3.9/5, Error ellipse: s-maj=141.8km s-min=41.2km az=15.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**49.75**	**37**	P	P	03 26 42.7	-0.8
	0.5nm,0.5s,baz=294,slow=7.1,SNR=11						
ARCES	**ARCESS Array B**	**58.31**	**342**	P	P	03 27 45.2	-0.9
	3.4nm,0.9s,baz=38,slow=6.1,SNR=3.5						
FINES	**FINESS Array B**	**64.67**	**336**	P	P	03 28 28.3	-0.8
	2.3nm,0.9s,baz=46,slow=6.0,SNR=3.9						
NOA	**NORSAR Array B**	**68.67**	**342**	P	P	03 28 54.4	-0.2
	1.0nm,0.9s,baz=29,slow=8.0,SNR=2.9						
TXAR	**Lajitas Array**	**75.87**	**62**	P	P	03 29 38.3	+0.6
	0.5nm,0.8s,baz=284,slow=6.1,SNR=3.8						

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*ISCJB **07** 03:21:30.5±1.0, 3694N±005×2338E±004, h6km±10km, Error ellipse: s-maj=8.5km s-min=4.0km az=51.5*
*ATH **07** 03:21:30.5, 3692N×2335E, h20km±4km, MD3.3/4, ML3.0*
*NEIC **07** 03:21:30.5, 3692N×2335E, h20km, ML3.0(ATH), After ATH.*
*CSEM **07** 03:21:31.2±0.1, 3695N×2332E, h2km, ML3.0, Error ellipse: s-maj=2.4km s-min=1.8km az=100.0*
*THE **07** 03:21:35.8, 3702N×2347E, h22km*

ISC 07 03:21:30.5±1.1, 3691N±005×2342E±004, h3km±11km, n30, σ0.95/40, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.43**	**244**	*e*PB	**Pg**	03 21 38.4	**-0.3**
VLI				*e*SB	**Sg**	03 21 43.6	**-0.6**
KYTH	**Kithira**	**0.69**	**206**	*e*PN	**Pg**	03 21 44.5	**+0.7**
ATH	**Athens Observa**	**1.09**	**13**	*e*PN	**Pn**	03 21 51.2	**-1.4**
ITM	**Ithomi**	**1.22**	**283**	*e*PN	**Pn**	03 21 53.0	**-1.4**
VAM	**Vamos**	**1.62**	**157**	*e*PN	**Pn**	03 22 00.2	**+0.2**
THR5	**Thira Island,**	**1.63**	**107**	*e*Pb	**Pb**	03 22 01.4	**+0.3**
THR3	**Thira Island,**	**1.67**	**107**	*e*Pb	**Pb**	03 22 02.9	**+1.0**
THR6	**Thira Island,**	**1.69**	**108**	*e*Pb	**Pb**	03 22 02.0	**-0.1**
APE	**Apeiranthos**	**1.70**	**84**	*e*Pb	**Pb**	03 22 02.0	**-0.4**
APE				*e*Sb	**Sb**	03 22 22.7	**-1.4**
APE	**Apeiranthos**	**1.70**	**84**	*e*Pn	**Pn**	03 22 01.5	**+0.5**
APE	**Apeiranthos**	**1.70**	**84**	*e*Pb	**Pb**	03 22 02.0	**-0.4**
APE				*e*Sb	**Sb**	03 22 22.7	**-1.5**
SANT	**Santorini**	**1.73**	**107**	*e*Pb	**Pb**	03 22 03.3	**+0.4**
SANT				*e*Sb	**Sb**	03 22 25.3	**+0.3**
THR1	**Thera Island**	**1.73**	**107**	*e*Pb	**Pb**	03 22 02.9	**+0.1**
LKR	**Lokris**	**1.77**	**349**	*e*PN	**Pn**	03 22 01.7	**-0.3**
GVD	**Gavdhos**	**2.13**	**165**	*e*Pn	**Pg**	03 22 10.5	**-0.8**
GVD				*e*Sn	**Sg**	03 22 37.1	**-2.0**
AGG	**Agios Georgios**	**2.28**	**338**	*e*Pn	**Pn**	03 22 09.6	**+0.6**
AGG				*e*Sn	**Sn**	03 22 36.5	**-1.1**
AOS	**Alonnisos**	**2.29**	**9**	*e*Pn	**Pn**	03 22 08.9	**-0.2**
EVR	**Evrytania**	**2.38**	**328**	*e*PB	**Pn**	03 22 10.7	**+0.4**
NEO	**Neokhori**	**2.40**	**356**	*e*PN	**Pn**	03 22 10.8	**+0.1**
NPS	**Neapolis**	**2.42**	**132**	*e*PB	**Pn**	03 22 12.5	**+1.6**
XOR	**Xorichti**	**2.46**	**356**	*e*Pn	**Pn**	03 22 11.8	**+0.3**
LKD	**Levkas**	**2.83**	**310**	*e*Pn	**Pn**	03 22 18.6	**+2.0**
LKD				*e*Sn	**Sn**	03 22 50.5	**-0.7**
PAIG	**Paliouri**	**3.02**	**4**	*e*Pn	**Pn**	03 22 19.0	**-0.2**
PAIG				*e*Sn	**Sn**	03 22 54.5	**-1.5**
LOS	**Limnos**	**3.29**	**23**	*e*Pn	**Pn**	03 22 23.9	**+1.0**
OUR	**Ouranopolis**	**3.45**	**7**	*e*Pn	**Pn**	03 22 24.7	**-0.4**
PLG	**Polygyros**	**3.46**	**0**	*e*Pn	**Pn**	03 22 25.4	**+0.2**
PLG				*e*Sn	**Sn**	03 23 04.9	**-1.9**
IGT	**Igoumenitsa**	**3.57**	**318**	*e*Pn	**Pn**	03 22 28.1	**+1.3**
IGT				*e*Sn	**Sn**	03 23 10.0	**+0.5**
HORT	**Hortiatis**	**3.69**	**356**	*e*Pn	**Pn**	03 22 29.1	**+0.7**
GRG	**Griva**	**4.12**	**349**	*e*Pn	**Pn**	03 22 35.8	**+1.5**
KNT	**Kendrikon**	**4.27**	**355**	*e*Pn	**Pn**	03 22 37.6	**+1.2**

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*NIED **07** 03:29:00, 4630N×15220E, h32km, Mw3.9 Best double couple: M0 9.09000×10^14 NP1:φ0=130.00000°, δ76.00000°, λ-29.00000°. NP2:φ0=228.00000°, δ61.00000°, λ-165.00000°.*
*BJI **07** 03:29:31.6, 4598N×15204E, h14km, mB4.7, mb4.2, Ms4.3, Msz4.1*
*NEIC **07** 03:29:33.0±0.6, 4627N×15201E, h10km, mb4.2/3, Error ellipse: s-maj=15.8km s-min=9.4km az=142.0*
*JMA **07** 03:29:34.7±0.6, 4633N×15217E, h30km, M4.7*
*MOS **07** 03:29:36.1±1.1, 4606N×15206E, h54km, mb4.2/5, Error ellipse: s-maj=12.6km s-min=9.4km az=71.3*
*ISCJB **07** 03:29:37.3±0.9, 4590N±008×15199E±008, h66km±8km, mb4.2/24, Error ellipse: s-maj=15.4km s-min=6.9km az=119.0*
*SKHL **07** 03:29:37.3±1.3, 4590N×15210E, h66km±14km, mb4.7/2*
*IDC **07** 03:29:41.1±3.5, 4616N×15187E, h81km±32km, mb3.6/15, mb1 3.9/18, mb1mx3.7/26, mbtmp3.7/18, MS2.7/2, Ms1 2.7/2, ms1mx2.1/36, Error ellipse: s-maj=21.8km s-min=16.5km az=161.0*

ISC 07 03:29:38.4±0.7, 4600N±008×15202E±009, h59km±7km, n81, σ1.936/96, mb4.2/24, MS3.6/2, 5C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.02**	**257**	⇓ *iP*N	**Pn**	**03 30 20.5**	**-3.2**
KUR				*i* S	**Sn**	**03 30 56.5**	**-2.1**
KUR				pmax	pmax		
	comp=Z,270nm,0.5s						
KUR				smax			
	comp=N,680nm,0.5s						
KUR				smax			
	comp=E,230nm,0.5s						
KUR	**Kuril'sk**	**3.02**	**257**	*i* P	**Pn**	**03 30 20.5**	**-3.2**
KUR				AMB	AMB	03 30 23.0	
	comp=E,270nm,0.5s						
KUR				*i* S	**Sn**	**03 30 56.5**	**-2.1**
KUR				A		03 31 06.5	
	comp=E,680nm,0.5s						
KUR				A		03 31 06.5	
	comp=E,230nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.79**	**248**	*e*P	**Pn**	**03 30 49.2**	**+1.2**
YUK				*i* S	**Sn**	**03 31 44.1**	**+2.0**
YUK				A		03 31 57.5	
	comp=E,2μm,0.8s						
YUK				A		03 31 57.5	
	comp=E,2μm,0.8s						
YUK				A		03 32 05.2	
	comp=E,930nm,0.5s						
YUK				A		03 32 05.2	
	comp=E,600nm,0.5s						
NEM2	**Nemuro 2**	**5.20**	**242**	P	**Pn**	**03 30 53.0**	**-0.5**
NEM2				*e*S	**Sn**	**03 31 51.4**	**-0.7**
JRA	**Rausu**	**5.31**	**250**	P	**Pn**	**03 30 57.1**	**+2.0**
SKR	**Severo-Kuril's**	**5.42**	**29**	*e*PN	**Pn**	**03 30 55.0**	**-1.6**
JNK	**Nakash**	**5.73**	**248**	P	**Pn**	**03 31 01.8**	**+0.9**
JNK				*e*S	**Sn**	**03 32 06.3**	**+1.1**
JAK	**Akkeshi**	**6.04**	**243**	P	**Pn**	**03 31 04.4**	**-0.7**
JAK				*e*S	**Sn**	**03 32 11.2**	**-1.6**
JTKR	**Abashiri--Toko**	**6.10**	**253**	P	**Pn**	**03 31 07.7**	**+1.8**
JMP	**Maruseppu**	**6.46**	**255**	P	**Pn**	**03 31 13.3**	**+2.5**
YSS	**Yuzh-Sakhalins**	**6.47**	**282**	*e*Pn	**Pn**	**03 31 11.8**	**+0.8**
	comp=E,17nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.47**	**282**	*e*P	**Pn**	**03 31 12.0**	**+1.0**
YSS				AMB	AMB	03 31 13.1	
	comp=E,20nm,0.6s						
JAR	**Ashorobuto**	**6.48**	**248**	P	**Pn**	**03 31 12.4**	**+1.3**
JAR				*e*S	**Sn**	**03 32 25.1**	**+1.5**
JOB	**Onbets**	**6.63**	**245**	P	**Pn**	**03 31 13.3**	**+0.2**
JOB				*e*S	**Sn**	**03 32 26.7**	**-0.6**
JKK2	**Kamakawa 2**	**6.92**	**255**	P	**Pn**	**03 31 19.3**	**+2.2**
ASAJ	**Asahikawa**	**6.94**	**258**	P	**Pn**	**03 31 20.0**	**+2.6**
	comp=E,4.1nm,0.3s,baz=83,slow=17,SNR=17						
ASAJ	**Asahikawa**	**6.94**	**258**	PN	**Pn**	**03 31 20.0**	**+2.6**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JCH	**Churui**	**7.08**	**244**	P	**Pn**	**03 31 18.8**	**-0.4**
JCH				*e*S	**Sn**	**03 32 36.3**	**-1.9**
JFR	**Furan**	**7.30**	**251**	P	**Pn**	**03 31 24.0**	**+1.6**
JAB	**Ashibetsu**	**7.41**	**254**	P	**Pn**	**03 31 26.5**	**+2.7**
JEM	**Erimo**	**7.53**	**241**	P	**Pn**	**03 31 26.5**	**+1.0**
JEM				*e*S	**Sn**	**03 32 47.3**	**-2.1**
ERM	**Erimo**	**7.53**	**241**	*e*PN	**Pn**	**03 31 26.0**	**+0.5**
ERM				pmax	pmax		
	comp=Z,36nm,0.6s						
ERM	**Erimo**	**7.53**	**241**	*e*Pn	**Pn**	**03 31 26.0**	**+0.5**
	comp=Z,36nm,0.6s						
ERM				*e*Sn	**Sn**	**03 32 47.3**	**-2.1**
JBT2	**Biratori 2**	**7.63**	**248**	P	**Pn**	**03 31 27.2**	**+0.3**
JNBK	**Urakawa-nobuka**	**7.63**	**244**	P	**Pn**	**03 31 26.2**	**-0.7**
JNBK				*e*S	**Sn**	**03 32 49.2**	**-2.7**
JNB	**Noboribetsu**	**8.64**	**250**	P	**Pn**	**03 31 40.6**	**-0.1**
JNB				*e*S	**Sn**	**03 33 15.6**	**-1.0**
JKB	**Kayabe**	**8.93**	**246**	P	**Pn**	**03 31 44.0**	**-0.6**
JKB				*e*S	**Sn**	**03 33 19.0**	**-4.7**
JSH	**Shimam**	**9.22**	**253**	P	**Pn**	**03 31 49.5**	**+0.9**
JYM2	**Yakumo 2**	**9.24**	**249**	P	**Pn**	**03 31 49.1**	**+0.2**
JANG	**Nango**	**9.51**	**237**	P	**Pn**	**03 31 49.5**	**-3.1**
JANG				*e*S	**Sn**	**03 33 28.4**	**-10**
JTM	**Tenmabayashi**	**9.52**	**241**	*e*S	**Sn**	**03 33 32.6**	**-5.6**
JTH	**Tanohata**	**9.60**	**234**	*e*S	**Sn**	**03 33 32.1**	**-7.9**
OFUJ	**Ofunato**	**10.30**	**231**	P	**Pn**	**03 32 00.6**	**-2.8**
JIO	**Ouri**	**10.93**	**230**	P	**Pn**	**03 32 08.9**	**-3.0**
JIO				*e*S	**Sn**	**03 34 05.0**	**-7.5**
MJAR	**Matsushiro Arr**	**14.03**	**233**	P	**Pn**	**03 32 54.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=54,slow=5.5,SNR=4.1						
JHJ	**Hachijo jima 2**	**15.93**	**220**	LR	LR	03 38 48.8	
	comp=Z,30nm,21.0s,baz=40,slow=34						
KSRS	**Korea Array**	**19.86**	**253**	P	**Pn**	**03 34 05.8**	**-0.7**
	baz=56,slow=12,SNR=7.8						
KSRS				LR	LR	03 42 09.1	
	comp=Z,22nm,18.7s,baz=15,slow=38						
YAK	**Yakutsk**	**20.56**	**329**⇓	*e*P	**P**	**03 34 14.1**	**+2.0**
YAK				pmax	pmax		
	comp=Z,54nm,0.8s						
BILL	**Bilibino**	**23.29**	**14**⇑	*e*P	**P**	**03 34 39.6**	**-1.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
HHC	**Hu-ho-hao-te**	**29.60**	**275**	*e*P	**P**	**03 35 38.0**	**+0.2**
HHC				AP	pP	03 35 42.3	-10
HHC				XP	sP	03 35 45.0	-14
HHC				PP	PP	03 36 33.4	-12
HHC				PCP	PcP	03 38 45.7	+4.4
HHC				S	**S**	**03 40 29.2**	**+0.5**
HHC				SS	SS	03 42 02.1	-34
HHC				SCP

HHC					AMB	AMB		
	comp=Z,95nm,5.9s							
HHC					LR	LR		
	comp=N,245nm,20.2s,MS4.0							
HHC					LR	LR		
	comp=E,320nm,20.2s,MS4.0							
HHC					LR	LR		
	comp=Z,176nm,17.8s,MS3.7							
COLA	**College**	**37.19**	**38**	‖ *e*P	**P**		**03 36 42.9**	**-0.8**
INK	**Inuvik**	**42.69**	**32**	P	**P**		**03 37 28.1**	**-1.2**
	comp=Z,2.7nm,1.2s,mb3.9,baz=297,slow=6.7,SNR=9.8							
INK	**Inuvik**	**42.69**	**32**	P	**P**		**03 37 28.1**	**-1.2**
INK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
INK	**Inuvik**	**42.69**	**32**	*e*P	**P**		**03 37 28.6**	**-0.7**
	comp=Z,53nm,0.8s,mb5.3							
KMI	**Kunming**	**44.36**	**259**	P	**P**		**03 37 44.6**	**+1.8**
KMI				AMB	AMB			
	comp=Z,9.0nm,0.5s,mb4.8							
WMQ	**Urumqi**	**44.49**	**291**	*e*P	**P**		**03 37 45.6**	**+1.8**
WMQ				LR	LR			
	comp=N,35nm,20.0s,MS3.3							
WMQ				LR	LR			
	comp=E,14nm,22.0s,MS3.3							
WMQ				LR	LR			
	comp=Z,32nm,15.0s							
MKAR	**Makanchi Array**	**46.62**	**298**	P	**P**		**03 37 58.6**	**-1.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=80,slow=10.0,SNR=6.3							
MKAR				PcP	PcP		03 39 33.1	-0.6
	comp=Z,0.6nm,0.6s,baz=101,slow=1.2,SNR=4.8							
KURK	**Kurchatov**	**47.15**	**304** ⇑	*e*P	**P**		**03 38 04.6**	**-0.1**
KURK	**Kurchatov**	**47.15**	**304**	*e*P	**P**		**03 38 04.8**	**0.0**
	comp=Z,1.4nm,0.4s,mb4.2							
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**		**03 38 27.5**	**-1.7**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**		**03 38 27.5**	**-1.7**
	comp=Z,2.1nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**50.75**	**309**	P	**P**		**03 38 32.0**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=57,slow=7.8,SNR=6.1							
YKA	**Yellowknife Ar**	**51.97**	**36**	P	**P**		**03 38 41.2**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=295,slow=6.9,SNR=9.6							
YKA	**Yellowknife Ar**	**51.97**	**36**	*e*P	**P**		**03 38 41.1**	**-0.3**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**51.97**	**36**	P	**P**		**03 38 41.2**	**-0.3**
JIRN	**Jiri**	**54.25**	**274**	*e*P	**P**		**03 38 59.8**	**+1.6**
	comp=Z,12nm,0.6s,mb5.0							
GUN	**Gumba**	**54.31**	**275**	*e*P	**P**		**03 38 59.7**	**+1.1**
	comp=Z,9.3nm,0.5s,mb5.0							
KKN	**Kakani**	**54.80**	**275**	*e*P	**P**		**03 39 03.4**	**+1.2**
	comp=Z,11nm,0.7s,mb5.0							
DMN	**Daman**	**55.04**	**275**	*e*P	**P**		**03 39 05.3**	**+1.4**
GKN	**Gorkha**	**55.12**	**276**	*e*P	**P**		**03 39 05.6**	**+1.1**
	comp=Z,26nm,0.8s,mb5.3							
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**		**03 39 25.3**	**-1.8**
	comp=Z,1.5nm,0.5s,mb4.2,baz=38,slow=6.6,SNR=5.6							
NVAR	**Mina Array Bea**	**63.45**	**61**	P	**P**		**03 40 02.5**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.9,baz=296,slow=5.6,SNR=5.1							
FINES	**FINESS Array B**	**64.39**	**334**	P	**P**		**03 40 06.0**	**-2.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=46,slow=6.8,SNR=9.7							
FINES	**FINESS Array B**	**64.39**	**334**	*e*P	**P**		**03 40 06.0**	**-2.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**65.80**	**53**	P	**P**		**03 40 18.4**	**+1.2**
	comp=Z,1.0nm,0.9s,mb3.9,baz=315,slow=1.7,SNR=7.3							
WRA	**Warramunga Arr**	**67.56**	**198**	P	**P**		**03 40 29.2**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.5,baz=16,slow=6.9,SNR=3.3							
NB2	**NORSAR Subarra**	**68.69**	**341**	P	**P**		**03 40 33.9**	**-1.7**
	comp=Z,0.7nm,0.4s,mb3.9,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.69**	**341**	P	**P**		**03 40 34.4**	**-1.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=29,slow=6.6,SNR=3.4							
AKASG	**Malin Array Be**	**71.74**	**326**	P	**P**		**03 40 52.4**	**-1.9**
	comp=Z,1.5nm,0.4s,mb4.3,baz=33,slow=5.9,SNR=5.3							
BURAR	**Bucovina Array**	**75.79**	**326** ⇑	*i*P	**P**		**03 41 17.8**	**-0.1**
MORC	**Moravsky Berou**	**76.74**	**332** ⇓	*i*P	**P**		**03 41 23.1**	**-0.2**
EKA	**Eskdalemuir Ar**	**76.88**	**346**	P	**P**		**03 41 23.1**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=19,slow=4.5,SNR=5.5							
MALT	**Malatya**	**77.10**	**312** ⇑	P	**P**		**03 41 26.7**	**+1.4**
MALT	**Malatya**	**77.10**	**312** ⇑	*i*P	**P**		**03 41 26.6**	**+1.3**
MLR	**Muntele Rosu**	**77.24**	**324** ⇓	*i*P	**P**		**03 41 26.8**	**+0.7**
BR131	**Keskin Array S**	**78.41**	**316**	*e*P	**P**		**03 41 33.1**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.8							
BRTR	**Keskin Array B**	**78.41**	**316**	P	**P**		**03 41 32.6**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=82,slow=3.6,SNR=9.7							
TXAR	**Lajitas Array**	**78.52**	**60**	P	**P**		**03 41 33.9**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=301,slow=4.1,SNR=8.2							
KHC	**Kasperske Hory**	**78.58**	**334** ‖	*e*P	**P**		**03 41 33.4**	**-0.1**
GERES	**GERESS Array B**	**78.79**	**333**	P	**P**		**03 41 34.1**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=28,slow=6.0,SNR=8.8							
TORD	**Torodi Ar. Bea**	**115.33**	**328**	PKP	PKPdf		03 48 13.3	+0.1
	comp=Z,0.3nm,0.6s,baz=34,slow=2.4,SNR=3.1							

*STR **07** 03:55:29.8±0.2, 4759N×759E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 03:55:29.8±0.1, 4759N×757E, h9km, Md2.0/3, Ml2.0/9, Error ellipse: s-maj=2.3km s-min=1.3km az=79.0*

ZUR 07 03:55:29.8, 4758N×760E, h5km±1km, ML1.2, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓ *i*Pg		Pg	03 55 35.1	+0.3
	94nm,0.1s							
BOURR	**Bourrignon**	**0.31**	**233**	⇑ *i*Pg		Pg	03 55 36.2	+0.3
	4.1nm,0.1s							
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑ *i*Pg		Pg	03 55 36.8	+0.2
	47nm,0.7s							
SULZ				*e*Sg		Sg	03 55 41.8	+0.6
	47nm,0.7s							
MOF	**Molkenrain**	**0.41**	**311**	Pg		Pg	03 55 37.8	0.0
MOF				Sg		Sg	03 55 43.4	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg		Pg	03 55 40.1	-0.4
HINF				*e*Sg		Sg	03 55 47.2	-0.5
HINF				*e*Sn		Sg	03 55 50.8	+3.1
	6.4nm,0.2s							
LOMF	**Lomont**	**0.57**	**246**	Pg		Pg	03 55 40.9	+0.1
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg		Pg	03 55 41.7	-0.2
	3.9nm,0.1s							
ECH	**Echery**	**0.70**	**335**	Pg		Pg	03 55 43.5	+0.2
ECH				Sg		Sg	03 55 52.2	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn		Pn	03 55 46.5	-2.0
CDF				*e*Sg		Sg	03 55 56.3	-1.1
CDF				*e*Sn		Sn	03 55 58.3	-3.1
	4.2nm,0.3s							
HAU	**Haudompre**	**0.94**	**297**	*e*Pg		Pg	03 55 47.6	-0.3
HAU				*e*Sg		Sg	03 55 59.6	-0.6
	9.4nm,0.2s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg		Pg	03 55 56.8	-0.2
CABF				*e*Sg		Sg	03 56 14.2	-1.2
	1.2nm,0.2s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg		Pg	03 56 04.1	-0.8
SFTF				*e*Sg		Sg	03 56 27.3	-1.4
	3.5nm,0.4s							
LPL	**La Plagne**	**2.15**	**196**	*e*Pg		Pg	03 56 10.0	-1.0
LPL				*e*Sg		Sg	03 56 38.1	-0.8
	1.3nm,0.4s							
LPG	**La Plagne**	**2.17**	**196**	*e*Pg		Pg	03 56 10.3	-1.0
LPG				*e*Sg		Sg	03 56 38.3	-1.1
	0.4nm,0.3s							
LOR	**Lormes**	**2.56**	**264**	*e*Pg		Pg	03 56 16.7	-2.2
LOR				*e*Sg		Sg	03 56 49.2	-2.8
	1.6nm,0.3s							
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg		Pg	03 56 20.4	-1.8
SMF				*e*Sg		Sg	03 56 54.6	-3.0
	0.8nm,0.2s							
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg		Pg	03 56 22.1	-2.0
SSF				*e*Sg		Sg	03 56 57.9	-2.9
	1.6nm,0.5s							

*IDC **07** 03:58:10.7±1.0, 3682N×7072E, h0km, mb3.9/14, mb1 4.1/18, mb1mx4.0/26, mbtmp4.0/18, ML4.0/4, MS3.1/2, Ms1 3.1/2, ms1mx2.8/24, Error ellipse: s-maj=22.7km s-min=14.6km az=4.0*
*BJI **07** 03:58:18.1, 3741N×7048E, h72km, mB4.7, mb4.6, Ms4.2, Msz4.1*
*ISCJB **07** 03:58:19.5±0.6, 3715N±003×7078E±005, h81km±7km, mb4.0/22, Error ellipse: s-maj=7.4km s-min=4.3km az=128.9*
*NEIC **07** 03:58:19.1±2.3, 3723N×7068E, h52km±19km, mb4.4/7, Error ellipse: s-maj=20.3km s-min=9.6km az=199.0*
*MOS **07** 03:58:19.0±1.2, 3727N×7069E, h66km, mb4.6/7, Error ellipse: s-maj=12.2km s-min=6.2km az=88.4*

ISC 07 03:58:21.7±0.5, 3720N±003×7075E±005, h83km±5km, n83, σ1§48/92, mb4.0/22, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.50**	**164**	P		**Pn**	**03 59 15.6**	**+1.7**
CHCP	**Chirah Chowk**	**4.09**	**149**	P		**Pn**	**03 59 24.7**	**+2.8**
KSH	**Kashi**	**4.71**	**59**	P		**Pn**	**03 59 33.5**	**+3.2**
KSH				S		**Sn**	**04 00 29.4**	**+5.7**
KSH				Smax				
	comp=N,2μm,0.8s							
KSH				Smax				
	comp=E,3μm,1.0s							
SBDP	**Sheikh Budin**	**4.89**	**179**	P		**Pn**	**03 59 32.7**	**-0.1**
AML	**Almayashu**	**5.42**	**24**	P		**Pn**	**03 59 40.8**	**+0.8**
	SNR=75							
JMU	**Jammu**	**5.63**	**141**	*e*S		**Sn**	**04 00 46.0**	**0.0**
UCH	**Uchtor**	**5.80**	**29**	P		**Pn**	**03 59 46.1**	**+1.0**
	SNR=20							
KKAR	**Karatay Array**	**5.90**	**358**	PN		**Pn**	**03 59 45.5**	**-1.0**
KKAR				S		**Sn**	**04 00 50.9**	**-1.7**
KKAR				pmax		pmax		
	comp=Z,11nm,0.3s							
KKAR				smax				
	comp=Z,25nm,0.4s							
EKS2	**Erkin-Say**	**5.93**	**22**	P		**Pn**	**03 59 47.7**	**+0.8**
	SNR=32							
KZA	**Kyzart**	**5.98**	**34**	P		**Pn**	**03 59 48.5**	**+0.9**
	SNR=22							
AAK	**Ala-Archa**	**6.14**	**27**	P		**Pn**	**03 59 51.0**	**+1.2**
	SNR=35							
KBK	**Karagaybulak**	**6.33**	**29**	P		**Pn**	**03 59 53.8**	**+1.4**
	SNR=17							
FRU	**Bishkek**	**6.36**	**27**	*e*PN		**Pn**	**03 59 54.0**	**+1.2**
FRU				pmax		pmax		
	comp=Z,90nm,1.8s							
CHMS	**Chumysh**	**6.55**	**27**	P		**Pn**	**03 59 56.2**	**+0.8**
	SNR=30							
ULHL	**Ulahol**	**6.58**	**38**	P		**Pn**	**03 59 57.3**	**+1.6**
	SNR=6.7							
USP	**Ospenovka**	**6.70**	**24**	P		**Pn**	**03 59 57.8**	**+0.3**
	SNR=36							
TKM2	**Tokmak 2**	**6.81**	**32**	P		**Pn**	**04 00 00.5**	**+1.5**
	SNR=11							
SDNR	**Sundarnagar**	**7.67**	**136**	*e*P		**Pn**	**04 00 10.0**	**-0.7**
SDNR				*e*S		**Sn**	**04 01 33.0**	**-2.9**
DDI	**Dehra Dun**	**9.17**	**136**	*e*P		**Pn**	**04 00 32.0**	**+0.9**
DDI				*e*S		**Sn**	**04 02 11.0**	**-1.5**
NDI	**New Delhi**	**10.08**	**146**	*e*P		**Pn**	**04 00 45.0**	**+1.4**
NDI				*e*S		**Sn**	**04 02 28.0**	**-6.8**
LGTI	**Lohaghat**	**11.08**	**131**	*e*P		**Pn**	**04 00 54.5**	**-2.6**
LGTI				*e*S		**Sn**	**04 02 54.3**	**-4.9**
MK31	**Makanchi Array**	**12.85**	**38**	*e*P		**Pn**	**04 01 19.7**	**-1.4**
MKAR	**Makanchi Array**	**12.85**	**38**	Pn		**Pn**	**04 01 19.5**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=224,slow=14,SNR=12							
MKAR				LR		LR	04 06 34.5	
	comp=Z,73nm,18.8s,baz=40,slow=38							
MKAR	**Makanchi Array**	**12.85**	**38**	*i* P		**Pn**	**04 01 20.2**	**-0.9**
MKAR				pmax		pmax		
	comp=Z,105nm,1.4s							
MKAR	**Makanchi Array**	**12.85**	**38**	Pn		**Pn**	**04 01 19.5**	**-1.6**
MKAR				LR		LR	04 06 34.5	
KOLN	**Koldanda**	**14.34**	**127**	*e*P		**Pn**	**04 01 37.2**	**-3.5**
	comp=Z,54nm,0.8s							
WMQ	**Urumqi**	**14.48**	**58**	P		**Pn**	**04 01 42.0**	**-0.4**
WMQ				S		**Sn**	**04 04 18.5**	**-3.1**
WMQ				SS			04 04 38.8	
WMQ				AMB		AMB		
	comp=Z,28nm,1.0s							
WMQ				LR		LR		
	comp=N,158nm,30.0s							
WMQ				LR		LR		
	comp=E,33nm,22.0s							
KURK	**Kurchatov**	**14.64**	**20**	*e*P		**Pn**	**04 01 40.8**	**-3.6**
KURK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KURK	**Kurchatov**	**14.64**	**20**	*e*Pn		**Pn**	**04 01 40.8**	**-3.6**
	comp=Z,5.6nm,0.6s							
GKN	**Gorkha**	**14.86**	**124**	*e*P		**Pn**	**04 01 43.2**	**-4.1**
	comp=Z,139nm,0.7s							
BHPL	**Bhopal**	**15.06**	**156**	*e*P		**Pn**	**04 01 53.0**	**+3.2**
BHPL				AMb		AMB	04 01 55.9	
	comp=Z,12nm,0.6s							
KKN	**Kakani**	**15.43**	**123**	*e*P		**Pn**	**04 01 50.4**	**-4.1**
	comp=Z,53nm,0.6s							
DMN	**Daman**	**15.43**	**124**	*e*P		**Pn**	**04 01 51.2**	**-3.4**
	comp=Z,41nm,0.6s							
PKI	**Pulchoki**	**15.66**	**124**	*e*P		**Pn**	**04 01 53.7**	**-3.7**
	comp=Z,56nm,0.7s							
GUN	**Gumba**	**15.75**	**122**	*e*P		**Pn**	**04 01 54.3**	**-4.3**
	comp=Z,191nm,0.8s							
BVA0	**Borovoye Array**	**15.82**	**359**	*i* P		**Pn**	**04 01 56.7**	**-2.8**
BVA0				pmax		pmax		
	comp=Z,3.0nm,1.1s							
BVAR	**Borovoye Array**	**15.82**	**359**	Pn		**Pn**	**04 01 57.0**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=173,slow=13,SNR=35							
BRVK	**Borovoye**	**15.86**	**359**	*e*P		**Pn**	**04 01 56.6**	**-3.4**
BRVK				pmax		pmax		
	comp=Z,298nm,1.5s							
BRVK	**Borovoye**	**15.86**	**359**	*e*Pn		**Pn**	**04 01 56.6**	**-3.4**
	comp=Z,298nm,1.5s							
BRVK				*e*S		**S**	**04 05 02.0**	**-2.3**
AKTK	**Aktyubinsk**	**16.07**	**329**	Pn		**Pn**	**04 01 59.6**	**-3.0**
AKTO	**Aktyubinsk**	**16.07**	**329**	Pn		**Pn**	**04 01 59.6**	**-3.0**
	comp=Z,1.4nm,0.3s,baz=137,slow=13,SNR=39							
JIRN	**Jiri**	**16.12**	**122**	*e*P		**Pn**	**04 01 59.0**	**-4.3**
	comp=Z,64nm,0.5s							
CHKZ	**Chkalovo**	**16.47**	**360**	*e*P		**Pn**	**04 02 05.4**	**-2.2**
CHKZ				pmax		pmax		
	comp=Z,14nm,1.1s							
CHKZ	**Chkalovo**	**16.47**	**360**	*e*P		**Pn**	**04 02 05.4**	**-2.2**
	comp=Z,14nm,1.1s							
ORR	**Orenburg**	**18.33**	**327**	*e*P		**Pn**	**04 02 28.2**	**-2.1**
ORR				pmax		pmax		
	comp=Z,30nm,0.8s							
LSA	**Lhasa**	**18.58**	**108**	P		**Pn**	**04 02 34.0**	**+0.8**
LSA	**Lhasa**	**18.58**	**108**	*e*P		**Pn**	**04 02 33.6**	**+0.4**
LSA				pmax		pmax		
	comp=Z,12nm,0.6s							
LSA	**Lhasa**	**18.58**	**108**	*e*P		**Pn**	**04 02 33.5**	**+0.3**
	comp=Z,12nm,0.6s							
ZAL	**Zalesovo**	**19.35**	**26**	P		**Pn**	**04 02 40.3**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=270,slow=9.4,SNR=7.7							
NVS	**Novosibirsk**	**19.60**	**22**	*e*S		**S**	**04 06 21.2**	**+1.3**
GNI	**Garni**	**20.49**	**286**	P		**P**	**04 02 52.4**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=83,slow=8.1,SNR=2.0							
GNI	**Garni**	**20.49**	**286**	*e*P		**P**	**04 02 56.5**	**+3.6**
GNI				pmax		pmax		
	comp=Z,19nm,0.9s							
GNI	**Garni**	**20.49**	**286**	*e*P		**P**	**04 02 56.5**	**+3.6**
	comp=Z,19nm,0.9s							
ARU	**Arti**	**20.90**	**341**	⇓ *i*P		**P**	**04 02 58.2**	**+0.9**
ARU				*e*			04 03 17.9	
ARU				*e*SS			04 06 33.8	
ARU				pmax		pmax		
	comp=Z,21nm,0.8s							
ARU				MLR		MLR		
	comp=Z,200nm,19.0s							
ARU				MLR		MLR		
	comp=N,60nm,15.0s							
ARU				MLR		MLR		
	comp=E,100nm,16.0s							
ARU	**Arti**	**20.90**	**341**	*e*P		**P**	**04 02 57.2**	**-0.1**
	comp=E,23nm,0.8s							
ZEI	**Tsey**	**21.27**	**294**	*e*P		**P**	**04 03 08.8**	**+7.6**
KIV	**Kislovodsk**	**22.29**	**296**	*e*P		**P**	**04 03 12.2**	**+0.2**
KIV				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.3							
KIV	**Kislovodsk**	**22.29**	**296**	*e*P		**P**	**04 03 12.2**	**+0.1**
	comp=Z,13nm,0.8s,mb4.3							
GTA	**Gaotai**	**22.88**	**76**	⇑ P		**P**	**04 03 18.8**	**+0.6**
GTA				AMB		AMB		
	comp=Z,29nm,0.9s,mb4.6							
ZAK	**Zakamensk**	**26.69**	**50**	*e*P		**P**	**04 03 52.3**	**-0.6**
ZAK				*e*			04 04 17.1	
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb3.6							
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.0							
CD2	**Chengdu**	**27.97**	**93**	*e*P		**P**	**04 04 05.9**	**+1.6**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.4							
SONM	**Songino Array**	**28.11**	**56**	P		**P**	**04 04 06.8**	**+1.2**
	comp=Z,2.2nm,0.6s,mb3.8,baz=264,slow=8.7,SNR=14							
ULN	**Ulaanbaatar**	**28.55**	**57**	*e*P		**P**	**04 04 10.6**	**+1.0**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.1							
ULN	**Ulaanbaatar**	**28.55**	**57**	*e*P		**P**	**04 04 10.6**	**+1.0**
	comp=Z,4.4nm,0.8s,mb4.1							
KMI	**Kunming**	**29.77**	**105**	P		**P**	**04 04 23.6**	**+3.3**
KMI				AMB		AMB		
	comp=Z,5.0nm,0.9s,mb4.1							
HHC	**Hu-ho-hao-te**	**31.71**	**71**	*e*P		**P**	**04 04 38.8**	**+1.3**
HHC				AP		pP	04 05 00.8	+4.0
HHC				PP		PP	04 05 46.8	-3.7
HHC				PCP		PcP	04 07 29.3	+2.1
HHC				S		**S**	**04 09 39.1**	**-2.0**
HHC				SCP		ScP	04 11 03.1	+0.1
HHC				PCS		PcS	04 11 13.0	+1.2
HHC				SS		SS	04 11 35.0	-25
HHC				SCS		ScS	04 14 59.0	-2.3
HHC				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
HHC				LR		LR		
	comp=N,325nm,23.8s							
HHC				LR		LR		
	comp=E,274nm,20.2s							
HHC				LR		LR		
	comp=Z,299nm,21.4s							
AKASG	**Malin Array Be**	**32.35**	**308**	P		**P**	**04 04 43.8**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.5,baz=79,slow=7.3,SNR=4.0							
MLR	**Muntele Rosu**	**34.27**	**298**	P		**P**	**04 05 00.2**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.8,baz=312,slow=17,SNR=2.6							
JOF	**Joensuu**	**35.16**	**330**	*e*p		**P**	**04 05 06.6**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.1							
JOF	**Joensuu**	**35.16**	**330**	*e*P		**P**	**04 05 06.6**	**-0.8**
JOF				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.1							
FINES	**FINESS Array B**	**36.79**	**326**	P		**P**	**04 05 22.2**	**+0.9**
	comp=Z,1.9nm,0.5s,mb4.3,baz=122,slow=8.3,SNR=12							
KAF	**Kangasniemi**	**36.93**	**327**	*e*p		**P**	**04 05 22.8**	**+0.3**
ARCES	**ARCESS Array B**	**40.42**	**337**	P		**P**	**04 05 52.7**	**+1.0**
	comp=Z,3.2nm,0.9s,mb4.2,baz=102,slow=8.4,SNR=4.5							
HFS	**Hagfors**	**42.39**	**321**	P		**P**	**04 06 07.8**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.0,baz=93,slow=15,SNR=5.3							
NOA	**NORSAR Array B**	**43.70**	**323**	P		**P**	**04 06 18.6**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.7,baz=96,slow=7.8,SNR=3.2							
KSRS	**Korea Array**	**44.85**	**71**	P		**P**	**04 06 27.8**	**+0.2**
	comp=Z,1.8nm,0.7s,mb3.9,baz=280,slow=7.5,SNR=4.9							
KSRS				LR		LR	04 27 28.0	
	comp=Z,21nm,19.0s,baz=280,slow=39							
TIXI	**Tiksi**	**45.20**	**22**	*e*P		**P**	**04 06 32.6**	**+2.3**
TIXI				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.5							
KEST	**Kesra**	**48.62**	**288**	P		**P**	**04 06 57.0**	**+0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=70,slow=18,SNR=2.8							
MJAR	**Matsushiro Arr**	**52.89**	**69**	P		**P**	**04 07 30.3**	**+1.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=292,slow=7.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	**65.53**	**268**	P		**P**	**04 08 55.9**	**-0.4**
	comp=Z,0.9nm,1.1s,mb3.5,baz=46,slow=4.5,SNR=5.3							
YKA	**Yellowknife Ar**	**80.55**	**3**	P		**P**	**04 10 25.7**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.7,baz=351,slow=5.5,SNR=12							
YKA	**Yellowknife Ar**	**80.55**	**3**	P		**P**	**04 10 25.7**	**+0.8**
WRA	**Warramunga Arr**	**82.53**	**122**	P		**P**	**04 10 34.7**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.7,baz=326,slow=5.3,SNR=6.7							

IDC 07 03:58:27.3±1.1, 3701N×7058E, h0km, mb4.0/14, mb1 4.2/18, mb1mx4.1/26, mbtmp4.1/18, ML4.2/4, 2D, Error ellipse: s-maj=22.8km s-min=17.0km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.08**	**38**	Pn		Pn	04 01 33.4	-1.0
	0.3nm,0.3s,baz=222,slow=14,SNR=7.5							
BVAR	**Borovoye Array**	**16.01**	**360**	Pn		Pn	04 02 10.6	-3.2
	0.9nm,0.3s,baz=171,slow=10,SNR=6.9							
AKTO	**Aktyubinsk**	**16.17**	**330**	Pn		Pn	04 02 14.7	-1.1
	1.0nm,0.3s,baz=138,slow=16,SNR=5.7							
ZAL	**Zalesovo**	**19.58**	**26**	P		Pn	04 02 56.8	-1.3
	2.4nm,0.3s,baz=247,slow=10,SNR=5.9							
NVS	**Novosibirsk**	**19.83**	**22**	*e*P		Pn	04 02 59.0	-2.0
NVS				pmax		pmax		
	comp=N,21nm,1.1s							
NVS				pmax		pmax		
	comp=Z,20nm,1.1s							
NVS			

σ0970/13, mb3.7/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.40**	**299**	P	**P**	**04 41 03.4**	**-1.1**
	0.4nm,0.9s,mb3.5,baz=62,slow=7.5,SNR=3.6						
KURK	**Kurchatov**	**48.77**	**305**	*e*P	**P**	**04 41 08.8**	**+1.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**48.77**	**305**	*e*P	**P**	**04 41 08.8**	**+1.5**
	comp=Z,1.3nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**50.22**	**37**	P	**P**	**04 41 18.2**	**-0.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=295,slow=8.2,SNR=3.6						
CHKZ	**Chkalovo**	**51.75**	**311**	*e*P	**P**	**04 41 29.2**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**51.75**	**311**	*e*P	**P**	**04 41 29.2**	**-0.7**
	comp=Z,1.2nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**52.19**	**310**	P	**P**	**04 41 33.6**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=79,slow=7.5,SNR=3.7						
BRVK	**Borovoye**	**52.23**	**310**	*e*P	**P**	**04 41 33.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**52.23**	**310**	*e*P	**P**	**04 41 33.3**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**61.20**	**63**	P	**P**	**04 42 37.4**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.6,baz=311,slow=5.8,SNR=3.5						
PDAR	**Pinedale Array**	**63.67**	**55**	P	**P**	**04 42 53.1**	**-0.6**
	comp=Z,0.1nm,0.4s,mb3.2,baz=335,slow=8.3,SNR=2.3						
FINES	**FINESS Array B**	**64.91**	**336**	P	**P**	**04 43 02.1**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=32,slow=5.0,SNR=7.8						
TXAR	**Lajitas Array**	**76.29**	**62**	P	**P**	**04 44 11.7**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=308,slow=4.1,SNR=10						

CASC 07 04:42:49.2±2.6, 1049N×8627W, h0km±6km, MD3.9, ML3.3, 4C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.89**	**28**	*e*P	Pg	04 43 07.6	+1.3
RIN3	**Volcan Rincon**	**0.93**	**71**	*e*P	Pg	04 43 07.1	+0.2
LIM1	**Limonal**	**1.02**	**78⇑**	*e*P	Pg	04 43 08.9	+0.2
MADN	**Villa Maderas**	**1.16**	**38⇑**	*e*P	Pg	04 43 12.1	+0.6
CONN	**Concepcion**	**1.24**	**31⇑**	*e*P	Pg	04 43 12.9	0.0
JCR	**Jicaral**	**1.31**	**119⇓**	*e*P	Pg	04 43 12.4	-1.9
JTS	**JuntasAbangare**	**1.31**	**99**	*e*P	Pg	04 43 11.9	-2.5
JTS				*e*S	Sg	04 43 31.1	-0.3
CAO	**Cobano**	**1.39**	**124**	*e*P	Pn	04 43 16.1	+0.2
TICN	**Ticuantepe**	**1.53**	**1**	*e*P	Pn	04 43 17.5	-0.3
TICN				*e*S	Sn	04 43 36.9	-1.5
VACR	**Volcan Arenal**	**1.57**	**91**	*e*P	Pn	04 43 17.0	-1.3
FORC	**Fortuna**	**1.57**	**91**	*i*P	Pn	04 43 18.1	-0.3
MGAN	**Managua**	**1.64**	**1**	*e*P	Pn	04 43 18.6	-0.7
MGAN				*e*S	Sn	04 43 43.8	+2.6
MGAN				*i*		04 43 50.8	
	comp=E,298nm,0.3s						
XAVN	**Gruta Xavier**	**1.65**	**358**	*e*P	Pn	04 43 18.9	-0.5
EPA	**Esparza**	**1.72**	**107**	*e*P	Pn	04 43 21.0	+0.6
CGA2	**Cerro Gallo 2**	**1.84**	**105**	*e*P	Pn	04 43 21.5	-0.5
MOMJ	**Momotombo**	**1.92**	**352**	*e*P	Pn	04 43 22.5	-0.7
PRS1	**Puriscal**	**1.99**	**105**	*e*P	Pn	04 43 23.6	-0.5
POA2	**Poas 2**	**2.01**	**99**	*e*P	Pn	04 43 28.3	+3.9
BOAB	**BOACO BROADBAN**	**2.03**	**17⇑**	*e*P	Pn	04 43 23.8	-0.9
BOAB				*e*S	Sn	04 43 53.7	+3.0
LAJ	**Bijagual**	**2.21**	**106**	*e*P	Pn	04 43 21.8	-5.2
OCM	**Ochomogo**	**2.35**	**104**	*e*P	Pn	04 43 29.2	+0.2
LCR2	**La Lucha 2**	**2.35**	**108**	*e*P	Pn	04 43 29.9	+0.8

*ISCJB **07** 04:44:54.5±0.2, 4952N±002×8147W±003, h10km, mb3.8/9, Error ellipse: s-maj=2.8km s-min=1.8km az=110.6*
*IDC **07** 04:44:57.8±0.8, 4960N×8160W, h0km, mb3.8/8, mb1 4.1/11, mb1mx3.8/26, mbtmp3.9/11, ML3.2/3, Error ellipse: s-maj=14.3km s-min=8.3km az=159.0*
*OTT **07** 04:44:59.2±0.1, 4951N×8153W, h16km, MN4.2/17*
OTT 62km northwest from Cochrane, Ontario Felt. Felt at Cochrane, Kapuskasing, Smooth Rock Falls, Iroquois Falls and Timmins, On Eastern Background Seismic Zone.
*NEIC **07** 04:44:59.3, 4952N×8154W, h16km, mb3.9/6, MN4.2(OTT), After OTT.*
NEIC Felt at Cochrane, Iroquois Falls, Kapuskasing, Smooth Rock Falls and Timmins.

ISC 07 04:44:57.0±0.2, 4951N±001×8152W±002, h10km, n143, σ1958/276, mb3.8/9, 1C-2D, Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPO	**Kapuskasing**	**0.65**	**265**	Pg	**Pg**	**04 45 10.9**	**+1.4**
KAPO				Sg	**Sg**	**04 45 19.1**	**+1.1**
KAPO	**Kapuskasing**	**0.65**	**265**	⇓PG	**Pg**	**04 45 10.9**	**+1.4**
KAPO				SG	**Sg**	**04 45 19.0**	**+1.0**
KAPO				Trac		04 45 19.6	
	comp=Z,3μm,0.1s						
OTRO	**Otter Rapids**	**0.68**	**354**	Pg	**Pg**	**04 45 11.7**	**+1.5**
OTRO				Sg	**Sg**	**04 45 20.6**	**+1.5**
OTRO	**Otter Rapids**	**0.68**	**354**	⇑PG	**Pg**	**04 45 11.7**	**+1.5**
OTRO				SG	**Sg**	**04 45 20.6**	**+1.5**
OTRO				Trac		04 45 28.2	
	comp=Z,1μm,0.0s						
TIMO	**Timmins Ontari**	**1.05**	**172**	Pg	**Pg**	**04 45 18.6**	**+1.4**
TIMO				Sg	**Sg**	**04 45 32.5**	**+1.6**
TIMO	**Timmins Ontari**	**1.05**	**172**	PG	**Pg**	**04 45 18.6**	**+1.4**
TIMO				SG	**Sg**	**04 45 32.0**	**+1.1**
TIMO				Trac		04 45 35.4	
	comp=Z,180nm,0.1s						
MALO	**McAlpine Lake**	**1.25**	**65**	Pg	**Pg**	**04 45 22.0**	**+0.9**
MALO				Sg	**Sg**	**04 45 38.3**	**+0.9**
MALO	**McAlpine Lake**	**1.25**	**65**	⇓PG	**Pg**	**04 45 22.0**	**+0.9**
MALO				SG	**Sg**	**04 45 38.3**	**+0.9**
MALO				Trac		04 45 39.0	
	comp=Z,543nm,0.1s						
KILO	**Kirkland Lake**	**1.56**	**130**	Pn	**Pn**	**04 45 27.0**	**+2.2**
KILO				Sn	**Sn**	**04 45 46.6**	**+1.6**
KILO	**Kirkland Lake**	**1.56**	**130**	PG	**Pg**	**04 45 27.1**	**+0.2**
KILO				SG	**Sg**	**04 45 46.7**	**-0.3**
KILO				Trac		04 45 48.7	
	comp=Z,395nm,0.2s						
MSNO	**Moosonee Ontar**	**1.88**	**18**	Pn	**Pn**	**04 45 30.6**	**+1.4**
MSNO				Sn	**Sn**	**04 45 54.2**	**+1.2**
MSNO	**Moosonee Ontar**	**1.88**	**18**	PN	**Pn**	**04 45 31.4**	**+2.2**
MSNO				SG	**Sg**	**04 45 55.8**	**-1.7**
MSNO				Trac		04 45 58.3	
	comp=Z,2μm,0.1s						
HSMO	**Haileybury Sch**	**2.47**	**149**	Pn	**Pn**	**04 45 39.6**	**+2.3**
HSMO				Pg	**Pg**	**04 45 43.6**	**-0.7**
HSMO				Sn	**Sn**	**04 46 08.4**	**+1.0**
HSMO				Sg	**Sg**	**04 46 14.9**	**-1.4**
HSMO	**Haileybury Sch**	**2.47**	**149**	PN	**Pn**	**04 45 39.8**	**+2.5**
HSMO				PG	**Pg**	**04 45 43.3**	**-1.0**
HSMO				SN	**Sn**	**04 46 08.4**	**+1.0**
HSMO				SG	**Sg**	**04 46 13.6**	**-2.7**
HSMO				Trac		04 46 17.4	
	comp=Z,186nm,0.2s						
SUNO	**Sudbury Onapin**	**2.87**	**178**	Pn	**Pn**	**04 45 44.6**	**+1.9**
SUNO				Sn	**Sn**	**04 46 18.1**	**+0.8**
SUNO				Sg	**Sg**	**04 46 28.5**	**-0.6**
SUNO	**Sudbury Onapin**	**2.87**	**178**	PN	**Pn**	**04 45 44.8**	**+2.0**
SUNO				SG	**Sg**	**04 46 28.5**	**-0.6**
SUNO				Trac		04 46 35.0	
	comp=Z,205nm,0.2s						
VLDQ	**Val d'Or**	**3.03**	**116**	Pn	**Pn**	**04 45 44.2**	**-0.8**
VLDQ				Sn	**Sn**	**04 46 16.4**	**-4.9**
VLDQ	**Val d'Or**	**3.03**	**116**	PN	**Pn**	**04 45 44.2**	**-0.8**
VLDQ				SN	**Sn**	**04 46 16.4**	**-4.9**
VLDQ				SG	**Sg**	**04 46 25.0**	**-9.3**
VLDQ				Trac		04 46 31.4	
	comp=Z,483nm,0.3s						
PNPO	**Pukaskwa Natio**	**3.26**	**256**	Pn	**Pn**	**04 45 49.6**	**+1.4**
PNPO				Sn	**Sn**	**04 46 26.5**	**-0.6**
PNPO	**Pukaskwa Natio**	**3.26**	**256**	PN	**Pn**	**04 45 49.7**	**+1.4**
PNPO				SN	**Sn**	**04 46 26.5**	**-0.6**
PNPO				SG	**Sg**	**04 46 37.1**	**-4.7**
PNPO				Trac		04 46 41.7	
	comp=Z,196nm,0.1s						
EEO	**Eldee**	**3.30**	**149**	Pn	**Pn**	**04 45 50.6**	**+1.8**
EEO				Sn	**Sn**	**04 46 28.0**	**-0.1**
EEO	**Eldee**	**3.30**	**149**	PN	**Pn**	**04 45 50.6**	**+1.8**
EEO				SN	**Sn**	**04 46 28.0**	**-0.1**
EEO				Trac		04 46 41.8	
	comp=Z,204nm,0.2s						
GTO	**Geraldton**	**3.55**	**276**	Pn	**Pn**	**04 45 53.9**	**+1.7**
GTO				Sn	**Sn**	**04 46 32.8**	**-1.3**
GTO	**Geraldton**	**3.55**	**276**	PN	**Pn**	**04 45 53.9**	**+1.7**
GTO				SN	**Sn**	**04 46 33.8**	**-0.3**
GTO				SG	**Sg**	**04 46 46.5**	**-4.4**
GTO				Trac		04 46 52.2	
	comp=Z,321nm,0.2s						
VIMO	**Victor Mine**	**3.60**	**338**	Pn	**Pn**	**04 45 54.2**	**+1.3**
VIMO				Sn	**Sn**	**04 46 34.1**	**-1.3**
VIMO	**Victor Mine**	**3.60**	**338**	PN	**Pn**	**04 45 54.2**	**+1.3**
VIMO				SN	**Sn**	**04 46 36.0**	**+0.6**
VIMO				SG	**Sg**	**04 46 48.9**	**-3.8**
VIMO				Trac		04 46 50.9	
	comp=Z,158nm,0.2s						
NANO	**Nakina Ontario**	**3.62**	**286**	Pn	**Pn**	**04 45 54.5**	**+1.4**
NANO				Sn	**Sn**	**04 46 34.9**	**-1.0**
NANO	**Nakina Ontario**	**3.62**	**286**	PN	**Pn**	**04 45 54.5**	**+1.4**
NANO				SN	**Sn**	**04 46 35.9**	**-0.1**
NANO				SG	**Sg**	**04 46 47.7**	**-5.6**
NANO				Trac		04 46 51.8	
	comp=Z,275nm,0.2s						
RSPO	**Restoule Provi**	**3.63**	**160**	Pn	**Pn**	**04 45 55.0**	**+1.7**
RSPO				Sn	**Sn**	**04 46 35.1**	**-1.1**
RSPO	**Restoule Provi**	**3.63**	**160**	PN	**Pn**	**04 45 55.0**	**+1.7**
RSPO				SN	**Sn**	**04 46 35.1**	**-1.1**
RSPO				Trac		04 46 55.3	
	comp=Z,270nm,0.3s						
KLBO	**Killbear Provi**	**4.25**	**167**	Pn	**Pn**	**04 46 03.4**	**+1.7**
KLBO				Sn	**Sn**	**04 46 50.6**	**-0.7**
KLBO	**Killbear Provi**	**4.25**	**167**	PN	**Pn**	**04 46 03.4**	**+1.7**
KLBO				SN	**Sn**	**04 46 50.6**	**-0.7**
KLBO				Trac		04 47 12.5	
	comp=Z,120nm,0.2s						
TOBO	**Tobermory, Bru**	**4.28**	**180**	Pn	**Pn**	**04 46 03.5**	**+1.3**
TOBO				Sn	**Sn**	**04 46 51.8**	**-0.4**
TOBO				Sg	**Sg**	**04 47 13.3**	**-1.2**
TOBO	**Tobermory, Bru**	**4.28**	**180**	PN	**Pn**	**04 46 03.5**	**+1.3**
TOBO				SN	**Sn**	**04 46 51.8**	**-0.4**
TOBO				SG	**Sg**	**04 47 13.3**	**-1.2**
TOBO				Trac		04 47 17.5	
	comp=Z,91nm,0.2s						
BUKO	**Buck Lake**	**4.31**	**160**	Pn	**Pn**	**04 46 04.0**	**+1.4**
BUKO				Sn	**Sn**	**04 46 52.2**	**-0.7**
BUKO	**Buck Lake**	**4.31**	**160**	PN	**Pn**	**04 46 04.0**	**+1.4**
BUKO				SN	**Sn**	**04 46 52.2**	**-0.7**
BUKO				Trac		04 47 15.2	
	comp=Z,190nm,0.3s						
CRLO	**Chalk River**	**4.45**	**140**	Pn	**Pn**	**04 46 06.0**	**+1.4**
CRLO				Sn	**Sn**	**04 46 55.2**	**-1.2**
CRLO	**Chalk River**	**4.45**	**140**	PN	**Pn**	**04 46 06.0**	**+1.4**
CRLO				SN	**Sn**	**04 46 55.2**	**-1.2**
CRLO				Trac		04 47 21.9	
	comp=Z,102nm,0.2s						
GRQ	**Grand Remous**	**4.78**	**125**	PN	**Pn**	**04 46 10.7**	**+1.7**
GRQ				SN	**Sn**	**04 47 02.1**	**-2.3**
GRQ				SG	**Sg**	**04 47 23.9**	**-6.4**
GRQ				Trac		04 47 28.1	
	comp=Z,191nm,0.3s						
SADO	**Sadowa**	**5.01**	**160**	Pn	**Pn**	**04 46 13.6**	**+1.3**
SADO				Sn	**Sn**	**04 47 08.4**	**-1.7**
SADO	**Sadowa**	**5.01**	**160**	PN	**Pn**	**04 46 13.6**	**+1.3**
SADO				SN	**Sn**	**04 47 08.4**	**-1.7**
SADO				Trac		04 47 38.1	
	comp=Z,90nm,0.3s						
CLWO	**Collingwood**	**5.13**	**170**	Pn	**Pn**	**04 46 15.6**	**+1.7**
CLWO				Sn	**Sn**	**04 47 11.6**	**-1.4**
CLWO	**Collingwood**	**5.13**	**170**	PN	**Pn**	**04 46 15.6**	**+1.7**
CLWO				SN	**Sn**	**04 47 11.6**	**-1.4**
CLWO				Trac		04 47 43.4	
	comp=Z,249nm,0.4s						
TBO	**Thunder Bay**	**5.25**	**264**	Pn	**Pn**	**04 46 16.4**	**+0.8**
TBO				Sn	**Sn**	**04 47 13.7**	**-2.6**
TBO	**Thunder Bay**	**5.25**	**264**	PN	**Pn**	**04 46 16.4**	**+0.8**
TBO				SN	**Sn**	**04 47 13.7**	**-2.6**
TBO				Trac		04 47 44.8	
	comp=Z,155nm,0.3s						
BRCO	**Bruce Peninsul**	**5.26**	**179**	Pn	**Pn**	**04 46 16.8**	**+1.1**
BRCO				Sn	**Sn**	**04 47 14.6**	**-1.9**
BRCO	**Bruce Peninsul**	**5.26**	**179**	PN	**Pn**	**04 46 16.8**	**+1.1**
BRCO				SN	**Sn**	**04 47 14.6**	**-1.9**
BRCO				Trac		04 47 47.8	
	comp=Z,253nm,0.3s						
LDIO	**Lac des Isle M**	**5.29**	**269**	Pn	**Pn**	**04 46 16.9**	**+0.9**
LDIO				Sn	**Sn**	**04 47 14.4**	**-2.7**
LDIO	**Lac des Isle M**	**5.29**	**269**	PN	**Pn**	**04 46 16.9**	**+0.9**
LDIO				SN	**Sn**	**04 47 14.4**	**-2.7**
LDIO				Trac		04 47 46.5	
	comp=Z,3μm,0.3s						
SILO	**Sutton Inlier**	**5.40**	**338**	Pn	**Pn**	**04 46 18.7**	**+1.1**
SILO				Sn	**Sn**	**04 47 17.8**	**-2.1**
SILO	**Sutton Inlier**	**5.40**	**338**	PN	**Pn**	**04 46 18.7**	**+1.1**
SILO				SN	**Sn**	**04 47 17.8**	**-2.1**
SILO				Trac		04 47 50.5	
	comp=Z,47nm,0.2s						
GAC	**Glen Almond**	**5.58**	**131**	Pn	**Pn**	**04 46 21.2**	**+1.2**
GAC				Sn	**Sn**	**04 47 22.0**	**-2.2**
GAC	**Glen Almond**	**5.58**	**131**	PN	**Pn**	**04 46 21.2**	**+1.2**
GAC				PN	**Pn**	**04 46 21.3**	**+1.2**
GAC				SN	**Sn**	**04 47 21.6**	**-2.7**
GAC				SN	**Sn**	**04 47 22.0**	**-2.2**
GAC				Trac		04 47 54.5	
	comp=Z,197nm,0.4s						
GAC				Trac		04 47 54.6	
	comp=Z,172nm,0.3s						
TRQ	**Mont Tremblant**	**5.72**	**122**	Pn	**Pn**	**04 46 22.8**	**+0.8**
TRQ				Sn	**Sn**	**04 47 25.2**	**-2.5**
TRQ	**Mont Tremblant**	**5.72**	**122**	PN	**Pn**	**04 46 22.8**	**+0.8**
TRQ				SN	**Sn**	**04 47 25.2**	**-2.5**
TRQ				Trac		04 47 59.1	
	comp=Z,137nm,0.4s						
PKRO	**Pickering**	**5.79**	**162**	Pn	**Pn**	**04 46 24.3**	**+1.3**
PKRO				Sn	**Sn**	**04 47 27.3**	**-2.2**
PKRO	**Pickering**	**5.79**	**162**	PN	**Pn**	**04 46 24.3**	**+1.3**
PKRO				SN	**Sn**	**04 47 27.3**	**-2.2**
PKRO				Trac		04 48 03.6	
	comp=Z,413nm,0.3s						
ALFO	**Alfred**	**5.93**	**128**	Pn	**Pn**	**04 46 26.1**	**+1.2**
ALFO				Sn	**Sn**	**04 47 30.4**	**-2.5**
ALFO	**Alfred**	**5.93**	**128**	PN	**Pn**	**04 46 26.1**	**+1.2**
ALFO				SN	**Sn**	**04 47 30.4**	**-2.5**
ALFO				Trac		04 48 05.3	
	comp=Z,142nm,0.4s						
MPPO	**Murphy's Point**	**5.94**	**141**	Pn	**Pn**	**04 46 26.2**	**+1.2**
MPPO				Sn	**Sn**	**04 47 30.6**	**-2.5**
MPPO	**Murphy's Point**	**5.94**	**141**	PN	**Pn**	**04 46 26.2**	**+1.2**
MPPO				SN	**Sn**	**04 47 30.6**	**-2.5**
MPPO				Trac		04 48 06.2	
	comp=Z,167nm,0.5s						
PKLO	**Pickle Lake**	**5.98**	**293**	Pn	**Pn**	**04 46 25.8**	**+0.3**
PKLO				Sn	**Sn**	**04 47 30.1**	**-3.9**
PKLO	**Pickle Lake**	**5.98**	**293**	PN	**Pn**	**04 46 25.8**	**+0.3**
PKLO				SN	**Sn**	**04 47 30.1**	**-3.9**
PKLO				Trac		04 48 04.3	
	comp=Z,155nm,0.2s						
ACTO	**Acton**	**5.98**	**170**	Pn	**Pn**	**04 46 27.1**	**+1.5**
ACTO				Sn	**Sn**	**04 47 32.1**	**-2.0**
ACTO	**Acton**	**5.98**	**170**	PN	**Pn**	**04 46 27.1**	**+1.5**
ACTO				SN	**Sn**	**04 47 32.1**	**-2.0**
ACTO				Trac		04 48 09.3	
	comp=Z,96nm,0.3s						
LG4Q	**La Grande 4**	**6.20**	**45**	Pn	**Pn**	**04 46 29.2**	**+0.7**
LG4Q				Sn	**Sn**	**04 47 35.8**	**-3.7**
LG4Q	**La Grande 4**	**6.20**	**45**	PN	**Pn**	**04 46 29.2**	**+0.7**
LG4Q				SN	**Sn**	**04 47 35.8**	**-3.7**
LG4Q				Trac		04 48 18.2	
	comp=Z,107nm,0.3s						
RD01	**Burlington**	**6.21**	**169**	PN	**Pn**	**04 46 29.5**	**+0.8**
RD01				SN	**Sn**	**04 47 39.1**	**-0.6**
RD01				SG	**Sg**	**04 48 09.5**	**-6.8**
RD01				Trac		04 48 14.8	
	comp=Z,211nm,0.3s						
RD02	**Waterdown**	**6.29**	**169**	PN	**Pn**	**04 46 32.4**	**+2.5**
RD02				SN	**Sn**	**04 47 42.9**	**+1.0**
RD02				Trac		04 48 13.4	
	comp=Z,198nm,0.4s						
RD02				SG	**Sg**	**04 48 14.4**	**-4.7**
MUMO	**Musselwhite Mi**	**6.40**	**302**	Pn	**Pn**	**04 46 32.2**	**+0.9**
MUMO				Sn	**Sn**	**04 47 40.1**	**-4.3**
MUMO	**Musselwhite Mi**	**6.40**	**302**	PN	**Pn**	**04 46 32.2**	**+0.9**
MUMO				SN	**Sn**	**04 47 40.1**	**-4.3**
MUMO				Trac		04 48 20.4	
	comp=Z,27nm,0.2s						
RD03	**Mount Hope**	**6.42**	**170**	SN	**Sn**	**04 47 44.5**	**-0.4**
RD03				SG	**Sg**	**04 48 09.9**	**-13**
RD03				Trac		04 48 16.8	
	comp=Z,15nm,0.0s						
RD04	**Stoney Creek**	**6.48**	**168**	PN	**Pn**	**04 46 32.9**	**+0.5**
RD04				SN	**Sn**	**04 47 43.2**	**-3.1**
RD04				SG	**Sg**	**04 48 15.9**	**-9.1**
RD04				Trac		04 48 23.0	
	comp=Z,63nm,0.2s						
DPQ	**Saint Jean**	**6.50**	**112**	Pn	**Pn**	**04 46 33.1**	**+0.4**
DPQ				Sn	**Sn**	**04 47 43.4**	**-3.6**
DPQ	**Saint Jean**	**6.50**	**112**	PN	**Pn**	**04 46 33.1**	**+0.4**
DPQ				SN	**Sn**	**04 47 43.4**	**-3.6**
DPQ				Trac		04 48 20.8	
	comp=Z,102nm,0.3s						
ATKO	**Atikokan Iron**	**6.65**	**268**	Pn	**Pn**	**04 46 35.3**	**+0.6**
ATKO				Sn	**Sn**	**04 47 46.5**	**-4.0**
ATKO	**Atikokan Iron**	**6.65**	**268**	PN	**Pn**	**04 46 35.3**	**+0.6**
ATKO				SN	**Sn**	**04 47 46.5**	**-4.0**
ATKO				Trac		04 48 31.9	
	comp=Z,2μm,0.3s						
EYMN	**Ely**	**6.78**	**260**	*e*Pn	**Pn**	**04 46 36.4**	**-0.2**
	16nm,0.3s						
EYMN				*e*Sn	**Sn**	**04 47 48.9**	**-4.9**
EYMN	**Ely**	**6.78**	**260**	PN	**Pn**	**04 46 36.7**	**+0.2**
EYMN				SN	**Sn**	**04 47 49.6**	**-4.2**
EYMN				Trac		04 48 36.5	
	comp=Z,10nm,0.5s						
SOLO	**Sioux Lookout**	**6.86**	**278**	Pn	**Pn**	**04 46 37.1**	**-0.6**
SOLO				Pg	**Pg**	**04 47 02.7**	**-5.8**
SOLO				Sn	**Sn**	**04 47 51.6**	**-4.3**
SOLO	**Sioux Lookout**	**6.86**	**278**	PN	**Pn**	**04 46 37.1**	**-0.6**
SOLO				PG	**Pg**	**04 47 02.7**	**-5.8**
SOLO				SN	**Sn**	**04 47 51.6**	**-4.3**
SOLO				Trac		04 48 36.5	
	comp=Z,119nm,0.3s						
DAQ	**Lac Daran**	**6.97**	**99**	Pn	**Pn**	**04 46 38.9**	**-0.3**
DAQ				Sn	**Sn**	**04 47 55.4**	**-3.1**
DAQ	**Lac Daran**	**6.97**	**99**	PN	**Pn**	**04 46 38.9**	**-0.3**
DAQ				SN	**Sn**	**04 47 53.5**	**-5.0**
DAQ				SG	**Sg**	**04 48 34.8**	**-6.0**
DAQ				Trac		04 48 35.6	
	comp=Z,75nm,0.3s						
SNQN	**Sanikiliuq**	**7.18**	**10**	PN	**Pn**	**04 46 42.6**	**+0.5**
SNQN				SN	**Sn**	**04 47 59.9**	**-3.8**
SNQN				SG	**Sg**	**04 48 37.0**	**-11**
SNQN				Trac		04 48 40.2	
	comp=Z,65nm,0.6s						
AAM	**Ann Arbor**	**7.36**	**192**	Lg		04 48 46.9	
NCB	**Newcomb**	**7.47**	**135**	*e*Pn	**Pn**	**04 46 47.2**	**+1.3**
	18nm,0.3s						
NCB				*e*Sn	**Sn**	**04 48 07.1**	**-3.6**
NCB				Lg		04 48 50.3	
PLIO	**Pelee Island,**	**7.79**	**186**	Pn	**Pn**	**04 46 51.1**	**+0.7**
PLIO				Sn	**Sn**	**04 48 14.8**	**-4.0**
PLIO	**Pelee Island,**	**7.79**	**186**	PN	**Pn**	**04 46 51.1**	**+0.7**
PLIO				SN	**Sn**	**04 48 14.8**	**-4.0**
PLIO				Trac		04 49 00.7	
	comp=Z,44nm,0.4s						
ALLY	**Alegheny Colle**	**7.92**	**172**	Lg		04 49 01.1	
EPLO	**Experimental L**	**7.94**	**276**	Pn	**Pn**	**04 46 52.4**	**0.0**
EPLO				Sn	**Sn**	**04 48 16.6**	**-5.6**
EPLO	**Experimental L**	**7.94**	**276**	PN	**Pn**	**04 46 52.4**	**0.0**
EPLO				SN	**Sn**	**04 48 16.6**	**-5.6**
EPLO				Trac		04 49 19.2	
	comp=Z,1μm,0.3s						
RLKO	**Red Lake**	**8.00**	**286**	Pn	**Pn**	**04 46 52.9**	**-0.3**
RLKO				Sn	**Sn**	**04 48 18.6**	**-5.1**
RLKO	**Red Lake**	**8.00**	**286**	PN	**Pn**	**04 46 52.9**	**-0.3**
RLKO				SN	**Sn**	**04 48 18.6**	**-5.1**
RLKO				Trac		04 49 16.7	
	comp=Z,142nm,0.3s						
ACCN	**Adirondack Com**	**8.18**	**136**	*e*Pn	**Pn**	**04 46 58.6**	**+2.9**
ACCN				*e*Sn	**Sn**	**04 48 24.8**	**-3.3**
ACCN				Lg		04 49 06.7	
BINY	**Binghamton**	**8.26**	**150**	*e*Pn	**Pn**	**04 46 58.6**	**+1.8**
BINY				*ep*Pn		04 47 01.2	
BINY				*e*Sn	**Sn**	**04 48 30.2**	**0.0**
BINY				Lg		04 49 11.6	
MNQ	**Manicouagan**	**8.28**	**78**	Pn	**Pn**	**04 46 56.5**	**-0.5**
MNQ				Sn	**Sn**	**04 48 25.6**	**-5.0**
MNQ	**Manicouagan**	**8.28**	**78**	PN	**Pn**	**04 46 56.5**	**-0.5**
MNQ				SN	**Sn**	**04 48 24.3**	**-6.2**
MNQ				SG	Sn	04 49 15.8	+45
MNQ				Trac		04 49 17.8	
	comp=Z,94nm,0.4s						
LBNH	**Lisbon**	**8.42**	**125**	*e*Pn	**Pn**	**04 47 01.7**	**+2.7**
LBNH				*e*Sn	**Sn**	**04 48 30.7**	**-3.4**
LBNH				Lg		04 49 17.9	
HNH	**Hanover**	**8.60**	**129**	*e*Pn	**Pn**	**04 47 05.2**	**+3.6**
HNH				*e*Sn	**Sn**	**04 48 33.8**	**-4.8**
HNH				Lg		04 49 20.0	
JFWS	**Jewell Farm**	**8.94**	**226**

SEDN	**First Sedna Si**	**14.76**	**343**	PN	**Pn**	**04 48 21.1**	**-4.7**
SEDN				SN	**Sn**	**04 50 53.0**	**-16**
SEDN				LG		04 52 32.2	
RSSD	**Black Hills**	**16.30**	**259**	*e*Pn	**Pn**	**04 48 45.6**	**-0.4**
	3.0nm,0.4s						
RSSD				*e*Sn	**Sn**	**04 51 32.6**	**-14**
LAO	**LASA Array**	**16.72**	**270**	*e*Pn	**Pn**	**04 48 50.7**	**-0.6**
	14nm,0.7s						
LAO				*e*P		04 48 53.9	
QILN	**Qililugaq Expl**	**17.38**	**354**	PN	**Pn**	**04 48 56.3**	**-3.2**
QILN				SN	**Sn**	**04 51 56.9**	**-16**
EGMT	**Eagleton**	**18.63**	**276**	*e*P	**Pn**	**04 49 17.5**	**+2.5**
	5.1nm,0.6s						
EGMT				*e*Sn	**Sn**	**04 52 31.0**	**-12**
EGMT				Lg		04 54 40.0	
RLMT	**Red Lodge**	**19.27**	**267**	*e*P	**Pn**	**04 49 24.8**	**+2.2**
	7.8nm,0.9s						
ILON	**Igloolik, Nuna**	**19.93**	**360**	PN	**Pn**	**04 49 30.9**	**+0.4**
ILON				SN	**Sn**	**04 52 57.7**	**-17**
PDAR	**Pinedale Array**	**20.49**	**261**	P	**P**	**04 49 37.3**	**+2.3**
	0.7nm,0.5s,baz=65,slow=13,SNR=4.6						
PDAR				S	**S**	**04 53 16.1**	**-8.2**
	0.3nm,0.5s,baz=56,slow=21,SNR=3.1						
PDAR				Lg		04 55 47.0	
	2.5nm,0.8s,baz=57,slow=30,SNR=5.7						
PDAR	**Pinedale Array**	**20.49**	**261**	P	**P**	**04 49 37.3**	**+2.3**
PDAR				S	**S**	**04 53 16.1**	**-8.2**
PDAR				Lg		04 55 47.0	
REDW	**Red Top Meadow**	**21.05**	**264**	*e*P	**P**	**04 49 39.8**	**-1.3**
	2.3nm,0.6s,mb3.7						
RRI2	**Red Ridge**	**21.36**	**265**	*e*P	**P**	**04 49 36.4**	**-8.0**
	2.7nm,0.7s,mb3.7						
YKA	**Yellowknife Ar**	**22.30**	**318**	P	**P**	**04 49 54.6**	**+0.2**
	1.8nm,0.7s,mb3.6,baz=106,slow=9.7,SNR=16						
YKA				S	**S**	**04 53 51.7**	**-8.1**
	0.9nm,0.6s,baz=106,slow=21,SNR=7.8						
YKA				Lg		04 56 29.8	
	4.1nm,0.7s,baz=107,slow=30,SNR=6.5						
YKA	**Yellowknife Ar**	**22.30**	**318**	P	**P**	**04 49 54.6**	**+0.2**
YKA				S	**S**	**04 53 51.7**	**-8.1**
YKA				Lg		04 56 29.8	
TXAR	**Lajitas Array**	**26.26**	**228**	P	**P**	**04 50 33.0**	**+0.7**
	0.9nm,0.6s,mb3.5,baz=55,slow=6.6,SNR=3.8						
INK	**Inuvik**	**31.44**	**326**	P	**P**	**04 51 20.0**	**+1.5**
	1.3nm,1.0s,mb3.7,baz=121,slow=5.9,SNR=3.6						
ARCES	**ARCESS Array B**	**50.01**	**26**	P	**P**	**04 53 51.8**	**+0.3**
	7.8nm,1.0s,mb4.7,baz=311,slow=8.2,SNR=4.1						
FINES	**FINESS Array B**	**55.23**	**34**	P	**P**	**04 54 30.5**	**+0.4**
	3.4nm,1.0s,mb4.3,baz=312,slow=6.9,SNR=3.2						
BVAR	**Borovoye Array**	**75.11**	**17**	P	**P**	**04 56 40.5**	**+1.2**
	0.6nm,0.5s,mb3.8,baz=0.0,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**75.73**	**86**	P	**P**	**04 56 43.8**	**+1.0**
	0.4nm,0.8s,mb3.4,baz=299,slow=7.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**75.73**	**86**	P	**P**	**04 56 43.8**	**+1.0**

OTT 07 04:59:09.3±0.1, 4952N×8155W, h17km, MN2.6/14, 1D, 63km northwest from Cochrane, Ontario Aftershock. Eastern Background Seismic Zone., Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPO	**Kapuskasing**	**0.63**	**264**	∥PG	Pg	04 59 21.0	-0.7
KAPO				SG	Sg	04 59 29.1	-1.0
KAPO				Trac		04 59 29.6	
	comp=Z,127nm,0.1s						
OTRO	**Otter Rapids**	**0.67**	**356**	PG	Pg	04 59 21.8	-0.6
OTRO				SG	Sg	04 59 30.6	-0.7
OTRO				Trac		04 59 32.5	
	comp=Z,71nm,0.0s						
TIMO	**Timmins Ontari**	**1.07**	**171**	PG	Pg	04 59 28.7	-1.2
TIMO				SG	Sg	04 59 42.5	-1.4
TIMO				Trac		04 59 49.0	
	comp=Z,16nm,0.1s						
MALO	**McAlpine Lake**	**1.26**	**66**	PG	Pg	04 59 32.1	-1.5
MALO				SG	Sg	04 59 48.3	-1.9
MALO				Trac		04 59 49.1	
	comp=Z,25nm,0.1s						
KILO	**Kirkland Lake**	**1.58**	**130**	PN	Pn	04 59 36.8	+0.4
KILO				PG	Pg	04 59 37.5	-2.2
KILO				SN	Sn	04 59 56.6	+0.1
KILO				SG	Sg	04 59 58.0	-2.1
KILO				Trac		05 00 01.8	
	comp=Z,6.9nm,0.1s						
MSNO	**Moosonee Ontar**	**1.87**	**18**	PN	Pn	04 59 40.8	+0.2
MSNO				SG	Sg	05 00 06.4	-3.2
MSNO				Trac		05 00 08.4	
	comp=Z,50nm,0.1s						
HSMO	**Haileybury Sch**	**2.49**	**149**	PN	Pn	04 59 49.6	+0.7
HSMO				SN	Sn	05 00 17.3	-1.6
HSMO				Trac		05 00 24.8	
	comp=Z,5.5nm,0.1s						
HSMO				SG	Sg	05 00 26.9	-2.4
SUNO	**Sudbury Onapin**	**2.88**	**177**	PN	Pn	04 59 54.5	+0.1
SUNO				SN	Sn	05 00 27.8	-0.8
SUNO				Trac		05 00 39.9	
	comp=Z,3.6nm,0.1s						
VLDQ	**Val d'Or**	**3.05**	**116**	PN	Pn	04 59 53.9	-2.8
VLDQ				SN	Sn	05 00 26.2	-6.5
VLDQ				Trac		05 00 41.1	
	comp=Z,10nm,0.2s						
PNPO	**Pukaskwa Natio**	**3.25**	**255**	PN	Pn	04 59 59.4	0.0
PNPO				SN	Sn	05 00 36.7	-1.0
PNPO				Trac		05 00 51.8	
	comp=Z,7.0nm,0.1s						
EEO	**Eldee**	**3.32**	**149**	PN	Pn	05 00 00.3	-0.1
EEO				SN	Sn	05 00 38.1	-1.4
EEO				Trac		05 00 52.7	
	comp=Z,4.3nm,0.2s						
GTO	**Geraldton**	**3.53**	**276**	Trac		05 01 02.3	
	comp=Z,9.8nm,0.2s						
VIMO	**Victor Mine**	**3.58**	**338**	PN	Pn	05 00 04.6	+0.6
VIMO				SN	Sn	05 00 45.0	-0.9
VIMO				Trac		05 01 02.7	
	comp=Z,2.6nm,0.2s						
NANO	**Nakina Ontario**	**3.60**	**285**	PN	Pn	05 00 05.2	+0.9
NANO				SN	Sn	05 00 44.8	-1.6
NANO				Trac		05 01 01.9	
	comp=Z,4.7nm,0.2s						
RSPO	**Restoule Provi**	**3.65**	**160**	PN	Pn	05 00 04.8	-0.2
RSPO				SN	Sn	05 00 45.4	-2.2
RSPO				Trac		05 01 05.2	
	comp=Z,2.9nm,0.2s						
KLBO	**Killbear Provi**	**4.26**	**167**	PN	Pn	05 00 12.6	-0.8
KLBO				SN	Sn	05 01 00.1	-2.6
KLBO				Trac		05 01 24.6	
	comp=Z,2.0nm,0.2s						
TOBO	**Tobermory, Bru**	**4.30**	**180**	PN	Pn	05 00 13.7	-0.2
TOBO				SN	Sn	05 01 03.3	-0.3
TOBO				Trac		05 01 26.2	
	comp=Z,2.1nm,0.1s						
BUKO	**Buck Lake**	**4.33**	**160**	PN	Pn	05 00 14.4	+0.1
BUKO				SN	Sn	05 01 01.7	-2.7
BUKO				Trac		05 01 25.7	
	comp=Z,1.8nm,0.2s						
CRLO	**Chalk River**	**4.47**	**140**	PN	Pn	05 00 15.2	-1.1
CRLO				SN	Sn	05 01 05.0	-2.9
CRLO				Trac		05 01 32.9	
	comp=Z,2.8nm,0.2s						
GRQ	**Grand Remous**	**4.80**	**125**	PN	Pn	05 00 20.6	-0.1
GRQ				SN	Sn	05 01 12.3	-3.6
GRQ				Trac		05 01 20.7	
	comp=Z,1.9nm,0.1s						
SADO	**Sadowa**	**5.03**	**160**	PN	Pn	05 00 23.4	-0.4
SADO				SN	Sn	05 01 17.5	-4.0
SADO				Trac		05 01 45.6	
	comp=Z,1.0nm,0.1s						
CLWO	**Collingwood**	**5.14**	**170**	SN	Sn	05 01 19.5	-4.9
CLWO				Trac		05 01 55.9	
	comp=Z,3.3nm,0.3s						
TBO	**Thunder Bay**	**5.24**	**263**	PN	Pn	05 00 26.0	-0.8
TBO				SN	Sn	05 01 23.1	-3.7
TBO				Trac		05 02 00.0	
	comp=Z,2.8nm,0.2s						
SILO	**Sutton Inlier**	**5.38**	**339**	PN	Pn	05 00 28.4	-0.4
SILO				SN	Sn	05 01 28.0	-2.3
SILO				Trac		05 01 37.4	
	comp=Z,0.5nm,0.1s						
GAC	**Glen Almond**	**5.60**	**131**	PN	Pn	05 00 31.4	-0.4
GAC				PN	Pn	05 00 31.9	+0.1
GAC				SN	Sn	05 01 31.8	-4.0
GAC				Trac		05 02 04.8	
	comp=Z,1.5nm,0.3s						
GAC				Trac		05 02 04.8	
	comp=Z,1.7nm,0.3s						
TRQ	**Mont Tremblant**	**5.75**	**122**	PN	Pn	05 00 33.6	-0.2
TRQ				SN	Sn	05 01 34.8	-4.4
TRQ				Trac		05 01 41.2	
	comp=Z,0.8nm,0.1s						
PKRO	**Pickering**	**5.81**	**162**	SN	Sn	05 01 35.4	-5.5
PKRO				Trac		05 01 43.1	
	comp=Z,11nm,0.3s						
PKLO	**Pickle Lake**	**5.96**	**293**	PN	Pn	05 00 38.1	+1.5
PKLO				Trac		05 02 14.5	
	comp=Z,2.5nm,0.2s						
MPPO	**Murphy's Point**	**5.96**	**141**	PN	Pn	05 00 36.9	+0.2
MPPO				Trac		05 02 21.4	
	comp=Z,1.2nm,0.2s						
LG4Q	**La Grande 4**	**6.20**	**46**	PN	Pn	05 00 39.1	-0.9
LG4Q				SN	Sn	05 01 45.8	-4.7
LG4Q				Trac		05 02 27.6	
	comp=Z,1.5nm,0.2s						
DPQ	**Saint Jean**	**6.52**	**112**	PN	Pn	05 00 45.1	+0.7
DPQ				SN	Sn	05 01 54.5	-3.9
DPQ				Trac		05 02 03.5	
	comp=Z,0.7nm,0.1s						
ATKO	**Atikokan Iron**	**6.63**	**268**	SN	Sn	05 01 57.5	-3.5
ATKO				Trac		05 02 40.3	
	comp=Z,26nm,0.2s						
SOLO	**Sioux Lookout**	**6.84**	**278**	SN	Sn	05 01 58.2	-8.1
SOLO				Trac		05 02 58.3	
	comp=Z,1.1nm,0.1s						
DAQ	**Lac Daran**	**6.99**	**99**	SN	Sn	05 02 03.6	-6.3
DAQ				Trac		05 03 00.5	
	comp=Z,0.8nm,0.1s						
MNQ	**Manicouagan**	**8.29**	**78**	SN	Sn	05 02 36.2	-5.7
MNQ				Trac		05 02 41.4	
	comp=Z,0.6nm,0.1s						
ULM	**Lac du Bonnet**	**9.28**	**280**	SN	Sn	05 02 56.6	-10
ULM				Trac		05 03 42.5	
	comp=Z,0.6nm,0.2s						
SCHQ	**Schefferville**	**10.48**	**54**	PN	Pn	05 01 36.4	-2.3
SCHQ				SN	Sn	05 03 26.8	-8.8
SCHQ				Trac		05 03 43.8	
	comp=Z,0.2nm,0.1s						

*IDC **07** 05:20:52.5±0.6, 4724N×2737W, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.4/25, mbtmp4.3/21, ML4.3/2, MS4.3/23, Ms1 4.3/23, ms1mx4.2/27, Error ellipse: s-maj=18.9km s-min=12.4km az=10.0*

*MOS **07** 05:20:52.2±0.9, 4709N×2735W, h10km, mb4.8/54, Error ellipse: s-maj=9.1km s-min=5.1km az=155.0*

*CSEM **07** 05:20:52.7±0.1, 4731N×2730W, h10km, mb4.8/72, Ms4.1, Mw5.0, Error ellipse: s-maj=4.7km s-min=1.1km az=5.0*

*BJI **07** 05:20:52.4, 47.10N×2730W, h10km, mB5.2, mb5.0, Ms5.1, Msz4.7*

*ISCJB **07** 05:20:52.7±0.2, 47.16N±005×2732W±002, h10km, mb4.6/105, MS4.3/31, Error ellipse: s-maj=7.4km s-min=2.1km az=11.0*

*NEIC **07** 05:20:54.5±0.2, 47.11N×2730W, h10km, mb4.8/80, Error ellipse: s-maj=7.1km s-min=2.4km az=184.0*

*GCMT **07** 05:20:54.5±0.2, 4724N×2720W, h12km, MW5.0/87, Moment Tensor Solution. s43,c55; s87,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.64±.09; $M_{\theta\theta}$=0.41±.10; $M_{\phi\phi}$=3.23±.07; $M_{r\theta}$=0.50±.32; $M_{\theta\phi}$=-0.33±.07; $M_{r\phi}$=0.93±.25; Best double couple: M_0=3.60400×10^{16} NP1:ϕ_s=346.00000°, δ=38.00000°, λ=-103.00000°. NP2: ϕ_s=182.00000°, δ=53.00000°, λ=-80.00000°. Principal axes: T 3.3770, Plg7.0000°, Azm265.0000°; N 0.4550, Plg8.0000°, Azm356.0000°; P -3.8320, Plg79.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **07** 05:20:58.4, 4659N×2708W, h33km, mb4.6, MS4.4, Northern Mid-Atlantic Ridge*

ISC 07 05:20:53.8±2.5, 4719N±005×2728W±003, h4km±15km, h14km±1.3km: pP-P, n575, σ0s83/561, mb4.6/105, MS4.3/31, 97C-100D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTO	**Porto**	**14.69**	**107**	*e*P	**Pn**	**05 24 19.5**	**-2.8**
PCAB	**Cabril**	**14.79**	**105**	*e*P	**Pn**	**05 24 23.7**	**+0.1**
PCBR	**Castelo Branco**	**16.11**	**110**	*e*P	**Pn**	**05 24 43.1**	**+2.1**
PESTR	**Estremoz**	**16.59**	**113**	*e*P	**Pn**	**05 24 48.2**	**+1.0**
SGMF	**Saint Gilles**	**16.66**	**77**	*e*P	**Pn**	**05 24 48.0**	**0.0**
	735nm,1.8s						
SGMF	**Saint Gilles**	**16.66**	**77**	*e*P	**Pn**	**05 24 48.0**	**0.0**
SGMF				pmax	pmax		
	comp=Z,368nm,1.8s						
SGMF	**Saint Gilles**	**16.66**	**77**	*e*P	**Pn**	**05 24 48.0**	**0.0**
	comp=Z,368nm,1.8s						
PTEO	**Sao Teotonio**	**16.72**	**118**	*e*P	**Pn**	**05 24 46.3**	**-2.5**
EKA	**Eskdalemuir Ar**	**17.09**	**53**	P	**Pn**	**05 24 52.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=249,slow=12,SNR=8.9						
GRR	**Gorron**	**17.77**	**76**	*e*P	**Pn**	**05 25 01.5**	**-0.4**
	comp=Z,216nm,1.6s						
GRR	**Gorron**	**17.77**	**76**	*e*P	**Pn**	**05 25 01.5**	**-0.4**
GRR				pmax	pmax		
	comp=Z,108nm,1.6s						
GRR	**Gorron**	**17.77**	**76**	*e*P	**Pn**	**05 25 01.5**	**-0.4**
	comp=Z,108nm,1.6s						
BORG	**Borgarnes**	**17.90**	**8**	LR	LR	05 30 18.0	
	comp=Z,222nm,19.4s,baz=276,slow=32						
BORG	**Borgarnes**	**17.90**	**8**	*e*P	**Pn**	**05 25 05.1**	**+1.6**
	comp=Z,26nm,0.9s						
BORG	**Borgarnes**	**17.90**	**8**	*e*P	**Pn**	**05 25 05.1**	**+1.6**
	comp=Z,26nm,0.9s						
FLN	**La Foliniere**	**17.98**	**75**	*e*P	**Pn**	**05 25 04.6**	**+0.1**
	comp=Z,409nm,1.7s						
FLN				*e*MLR			
	comp=Z,3μm,21.2s						
FLN	**La Foliniere**	**17.98**	**75**	*e*P	**Pn**	**05 25 04.6**	**+0.1**
FLN				pmax	pmax		
	comp=Z,204nm,1.7s						
FLN	**La Foliniere**	**17.98**	**75**	*e*P	**Pn**	**05 25 04.6**	**+0.1**
	comp=Z,204nm,1.7s						
LDF	**La Druitiere**	**18.23**	**76**	*e*P	**Pn**	**05 25 08.0**	**+0.3**
	comp=Z,122nm,1.3s						
LDF	**La Druitiere**	**18.23**	**76**	*e*P	**Pn**	**05 25 08.0**	**+0.3**
LDF				pmax	pmax		
	comp=Z,61nm,1.3s						
LDF	**La Druitiere**	**18.23**	**76**	*e*P	**Pn**	**05 25 08.0**	**+0.3**
	comp=Z,61nm,1.3s						
ESDC	**Sonseca Array**	**18.48**	**105**	P	**Pn**	**05 25 10.4**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=294,slow=13,SNR=24						
ESDC				LR	LR	05 30 55.0	
	comp=Z,1μm,19.2s,baz=300,slow=32						
SJPF	**Ste Jean**	**18.79**	**93**	*e*P	**Pn**	**05 25 14.9**	**+0.5**
	comp=Z,161nm,1.7s						
SJPF	**Ste Jean**	**18.79**	**93**	*e*P	**Pn**	**05 25 14.9**	**+0.5**
SJPF				pmax	pmax		
	comp=Z,81nm,1.7s						
SJPF	**Ste Jean**	**18.79**	**93**	*e*P	**Pn**	**05 25 14.9**	**+0.5**
	comp=Z,81nm,1.7s						
ETSF	**Etsaut**	**19.32**	**93**	*e*P	**Pn**	**05 25 20.9**	**+0.1**
LFF	**La Frestale**	**19.53**	**86**	*e*P	**Pn**	**05 25 23.0**	**-0.4**
EPF	**Esparros**	**19.89**	**92**	*e*P	**Pn**	**05 25 26.9**	**-0.7**
	comp=Z,76nm,1.3s						
EPF	**Esparros**	**19.89**	**92**	*e*P	**Pn**	**05 25 26.9**	**-0.7**
EPF				pmax	pmax		
	comp=Z,38nm,1.3s						
EPF	**Esparros**	**19.89**	**92**	*e*P	**Pn**	**05 25 26.9**	**-0.7**
	comp=Z,38nm,1.3s						
RJF	**Les Rejaudoux**	**19.96**	**85**	*e*P	**Pn**	**05 25 27.5**	**-0.9**
	comp=Z,167nm,1.6s						
RJF				*e*MLR			
	comp=Z,2μm,22.0s						
RJF	**Les Rejaudoux**	**19.96**	**85**	*e*P	**Pn**	**05 25 27.5**	**-0.9**
RJF				pmax	pmax		
	comp=Z,83nm,1.6s						
RJF	**Les Rejaudoux**	**19.96**	**85**	*e*P	**Pn**	**05 25 27.5**	**-0.9**
	comp=Z,83nm,1.6s						
TCF	**Toulx Ste Croi**	**20.18**	**82**	*e*P	**P**	**05 25 28.9**	**-0.3**
	comp=Z,215nm,1.5s						
TCF	**Toulx Ste Croi**	**20.18**	**82**	*e*P	**P**	**05 25 28.9**	**-0.3**
TCF				pmax	pmax		
	comp=Z,108nm,1.5s						
TCF	**Toulx Ste Croi**	**20.18**	**82**	*e*P	**P**	**05 25 28.9**	**-0.3**
	comp=Z,108nm,1.5s						
HYF	**Humbligny**	**20.27**	**79**	*e*P	**P**	**05 25 30.2**	**+0.1**
CAF	**Calviac**	**20.44**	**86**	*e*P	**P**	**05 25 33.1**	**+1.1**
	comp=Z,37nm,1.1s						
CAF	**Calviac**	**20.44**	**86**	*e*P	**P**	**05 25 33.1**	**+1.1**
CAF				pmax	pmax		
	comp=Z,18nm,1.1s						
CAF	**Calviac**	**20.44**	**86**	*e*P	**P**	**05 25 33.1**	**+1.1**
	comp=Z,18nm,1.1s						
BGF	**Bois d'Agland**	**20.55**	**81**	*e*P	**P**	**05 25 33.3**	**+0.1**
	comp=Z,126nm,1.1s						
BGF	**Bois d'Agland**	**20.55**	**81**	*e*P	**P**	**05 25 33.3**	**+0.1**
BGF				pmax	pmax		
	comp=Z,63nm,1.1s						
BGF	**Bois d'Agland**	**20.55**	**81**	*e*P	**P**	**05 25 33.3**	**+0.1**
	comp=Z,63nm,1.1s						
AVF	**Avril sur Loir**	**20.84**	**80**	*e*P	**P**	**05 25 35.8**	**-0.6**
	comp=Z,38nm,0.9s						
AVF	**Avril sur Loir**	**20.84**	**80**	*e*P	**P**	**05 25 35.8**	**-0.6**
AVF				pmax	pmax		
	comp=Z,19nm,0.9s						
AVF	**Avril sur Loir**	**20.84**	**80**	*e*P	**P**	**05 25 35.8**	**-0.6**
	comp=Z,19nm,0.9s						
PYM	**Petit Puy Mans**	**20.85**	**83**	*e*P	**P**	**05 25 39.9**	**+3.4**
AGO	**Saint Agoulin**	**20.86**	**82**	*e*P	**P**	**05 25 37.4**	**+0.8**
AGO	**Saint Agoulin**	**20.86**	**82**	*e*P	**P**	**05 25 40.6**	**+4.0**
SSF	**Saint Saulge**	**20.89**	**79**	*e*P	**P**	**05 25 36.3**	**-0.6**
	comp=Z,135nm,1.4s						
SSF	**Saint Saulge**	**20.89**	**79**	*e*P	**P**	**05 25 36.3**	**-0.6**
SSF				pmax	pmax		
	comp=Z,67nm,1.4s						
SSF	**Saint Saulge**	**20.89**	**79**	*e*P	**P**	**05 25 36.3**	**-0.6**
	comp=Z,67nm,1.4s						
BAIF	**Baives**	**20.93**	**70**	*e*P	**P**	**05 25 37.2**	**-0.2**
	comp=Z,110nm,1.2s						
BAIF	**Baives**	**20.93**	**70**	*e*P	**P**	**05 25 37.2**	**-0.2**
BAIF				pmax	pmax		
	comp=Z,55nm,1.2s						
BAIF	**Baives**	**20.93**	**70**	*e*P	**P**	**05 25 37.2**	**-0.2**
	comp=Z,55nm,1.2s						
SNF	**Seneffe**	**20.95**	**69**	P	**P**	**05 25 37.6**	**+0.1**
	comp=Z,38nm,1.3s						
SNF	**Seneffe**	**20.95**	**69**	P	**P**	**05 25 37.6**	**0.0**
	comp=Z,38nm,1.3s						
UCC	**Uccle**	**20.98**	**68**	P	**P**	**05 25 37.4**	**-0.5**
MTLF	**Montolieu**	**21.05**	**90**	*e*P	**P**	**05 25 39.2**	**+0.5**
	comp=Z,160nm,1.7s,mb4.8						
MTLF	**Montolieu**	**21.05**	**90**	*e*P	**P**	**05 25 39.2**	**+0.5**
MTLF				pmax	pmax		
	comp=Z,80nm,1.7s,mb4.8						
MTLF	**Montolieu**	**21.05**	**90**	*e*P	**P**	**05 25 39.2**	**+0.5**
	comp=Z,80nm,1.7s,mb4.8						
LOR	**Lormes**	**21.08**	**78**	*e*P	**P**	**05 25 38.9**	**-0.1**
	comp=Z,103nm,1.0s,mb4.8						
LOR				*e*MLR			
	comp=Z,988nm,17.8s						
LOR	**Lormes**	**21.08**	**78**	*e*P	**P**	**05 25 38.9**	**-0.1**
LOR				pmax	pmax		
	comp=Z,52nm,1.0s,mb4.8						
LOR				MLR	MLR		
	comp=Z,990nm,17.8s,MS4.2						
LOR	**Lormes**	**21.08**	**78**	*e*P	**P**	**05 25 38.9**	**-0.1**
	comp=Z,52nm,1.0s,mb4.8						
LOR				LR	LR		
	comp=Z,990nm,17.8s,MS4.2						
LBL	**Lubilhac**	**21.15**	**84**	*e*P	**P**	**05 25 40.5**	**+0.7**
LBL	**Lubilhac**	**21.15**	**84**	*e*P	**P**	**05 25 43.2**	**+3.4**
DOU	**Dourbes**	**21.18**	**70**	P	**P**	**05 25 40.1**	**+0.1**
	comp=Z,34nm,1.6s,mb4.4						
SMF	**Signal de Mont**	**21.20**	**80**	*e*P	**P**	**05 25 40.0**	**-0.3**
	comp=Z,125nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**21.20**	**80**	*e*P	**P**	**05 25 40.0**	**-0.3**
SMF				pmax	pmax		
	comp=Z,63nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**21.20**	**80**	*e*P	**P**	**05 25 40.0**	**-0.3**
	comp=Z,63nm,1.2s,mb4.8						
PLDF	**La Plantade**	**21.21**	**82**	*e*P	**P**	**05 25 38.9**	**-1.5**
PLDF	**La Plantade**	**21.21**	**82**	*e*P	**P**	**05 25 39.4**	**-1.0**
GIVF	**Givet**	**21.32**	**70**	*e*P	**P**	**05 25 41.4**	**-0.2**
	comp=Z,83nm,0.9s,mb4.8						
GIVF	**Givet**	**21.32**	**70**	*e*P	**P**	**05 25 41.4**	**-0.2**
GIVF				pmax	pmax		
	comp=Z,41nm,0.9s,mb4.8						
GIVF	**Givet**	**21.32**	**70**	*e*P	**P**	**05 25 41.4**	**-0.2**
	comp=Z,42nm,0.9s,mb4.8						
BCLA	**Clavier**	**21.61**	**69**	P	**P**	**05 25 43.9**	**-0.7**
MEZF	**Maizieres J'vi**	**21.66**	**75**	*e*P	**P**	**05 25 45.4**	**+0.2**
	comp=Z,340nm,1.4s,mb5.3						
MEZF	**Maizieres J'vi**	**21.66**	**75**	*e*P	**P**	**05 25 45.4**	**+0.2**
	comp=Z,170nm,1.4s,mb5.3						
BEBN	**Eben Emael**	**21.82**	**68**	P	**P**	**05 25 49.6**	**+2.7**
BEBN	**Eben Emael**	**21.82**	**68**	P	**P**	**05 25 49.5**	**+2.6**
LASF	**Ste Croix**	**21.92**	**87**	*e*P	**P**	**05 25 47.9**	**-0.1**
	comp=Z,117nm,1.4s,mb4.8						
LASF	**Ste Croix**	**21.92**	**87**	*e*P	**P**	**05 25 47.9**	**-0.1**
	comp=Z,58nm,1.4s,mb4.8						
HGN	**Heimansgroeve**	**21.98**	**68**	*e*P	**P**	**05 25 52.5**	**+3.9**
	comp=Z,43nm,1.8s,mb4.6						
MEM	**Membach**	**22.04**	**69**	P	**P**	**05 25 49.4**	**+0.1**
	comp=Z,40nm,1.6s,mb4.6						
VIVF	**Saint-Julien-l**	**22.23**	**84**	*e*P	**P**	**05 25 51.1**	**-0.2**
	comp=Z,85nm,1.5s,mb4.7						
VIVF	**Saint-Julien-l**	**22.23**	**84**	*e*P	**P**	**05 25 51.1**	**-0.2**
VIVF				pmax	pmax		
	comp=Z,43nm,1.5s,mb4.7						
VIVF	**Saint-Julien-l**	**22.23**	**84**	*e*P	**P**	**05 25 51.1**	**-0.2**
	comp=Z,42nm,1.5s,mb4.7						
MDT	**Midelt**	**22.42**	**122**	P	**P**	**05 25 55.5**	**+2.2**
	comp=Z,9.8nm,0.9s,mb4.2,baz=325,slow=9.9,SNR=8.2						
MDT				LR	LR	05 32 52.4	
	comp=Z,416nm,18.8s,MS3.9,baz=138,slow=32						
WTSB	**Winterswijk**	**22.48**	**65**	*e*P	**P**	**05 25 59.3**	**+5.4**
	comp=Z,64nm,1.6s,mb4.8						
HAU	**Haudompre**	**22.59**	**75**	*e*P	**P**	**05 25 54.5**	**-0.7**
	comp=Z,58nm,1.1s,mb4.6						
HAU				*e*MLR			
	com

LPG La Plagne 23.45 82 *eP* **P 05 26 03.0 -1.2**
LPG pmax pmax
comp=Z,12nm,1.1s,mb4.2
LPG La Plagne 23.45 82 *eP* **P 05 26 03.0 -1.2**
comp=Z,12nm,1.1s,mb4.2
MBDF Montbardon 23.69 83 *eP* **P 05 26 05.8 -0.8**
comp=Z,26nm,1.0s,mb4.3
MBDF Montbardon 23.69 83 *eP* **P 05 26 05.8 -0.8**
MBDF pmax pmax
comp=Z,13nm,1.0s,mb4.3
MBDF Montbardon 23.69 83 *eP* **P 05 26 05.8 -0.8**
comp=Z,13nm,1.0s,mb4.3
FELD Feldberg im Sc 23.71 75 *eP* **P 05 26 10.9 +4.1**
TOD Tromm 23.94 71 *eP* **P 05 26 09.5 +0.6**
SBF Sospel 24.43 85 *eP* **P 05 26 13.2 -0.1**
KONO Kongsberg 24.90 46 *eP* **P 05 26 18.8 +1.2**
DAVA Damuels 25.08 76⇑ *iP* **P 05 26 20.4 +1.2**
comp=Z,31nm,1.2s,mb4.7
GRA1 Grafenberg Arr 25.48 70 *eP* **P 05 26 23.9 +1.0**
comp=Z,22nm,1.4s,mb4.5
GRA1 LR LR
comp=Z,1µm,21.7s,MS4.4
GRF Grafenberg Arr 25.48 70 *eP* **P 05 26 23.9 +1.0**
comp=Z,22nm,1.4s,mb4.5
GRF *eL* 05 35 13.1
comp=Z,1µm,21.7s
GRF Grafenberg Arr 25.48 70 *eP* **P 05 26 23.9 +1.0**
GRF pmax pmax
comp=Z,22nm,1.4s,mb4.5
GRF MLR MLR
comp=Z,1µm,21.7s,MS4.4
GRF Grafenberg Arr 25.48 70 *eP* **P 05 26 23.9 +1.0**
GRF pmax pmax
comp=Z,22nm,1.4s,mb4.5
GRF MLR MLR
comp=Z,1µm,21.7s,MS4.4
JMIC Jan Mayen 25.50 14 LR LR 05 34 11.6
comp=Z,392nm,19.7s,MS3.9,baz=246,slow=31
MOX Moxa 25.59 68 *eP* **P 05 26 24.5 +0.6**
MOX
comp=Z,600nm,19.0s
MOX Moxa 25.59 68 *eP* **P 05 26 24.5 +0.6**
comp=Z,600nm,19.0s
FETA Feichten 25.71 76⇑ *iP* **P 05 26 25.1 +0.2**
comp=Z,20nm,1.4s,mb4.5
FETA Feichten 25.71 76 P **P 05 26 25.1 +0.1**
comp=Z,20nm,1.4s,mb4.5
SCHQ Schefferville 25.75 302 P **P 05 26 23.4 -1.9**
comp=Z,6.1nm,0.9s,mb4.1,baz=69,slow=7.0,SNR=3.8
SCHQ LR LR 05 34 29.4
comp=Z,558nm,20.5s,MS4.1,baz=0.5,slow=32
SQTA Sankt Quirin 25.97 76⇓ *iP* **P 05 26 28.7 +1.3**
comp=Z,14nm,1.1s,mb4.4
SQTA Sankt Quirin 25.97 76⇓ *iP* **P 05 26 28.7 +1.3**
SQTA pmax pmax
comp=Z,14nm,1.1s,mb4.4
NB2 NORSAR Subarra 26.02 44 P **P 05 26 27.8 0.0**
comp=Z,1.7nm,0.8s,mb3.6,baz=255,slow=10
NOA NORSAR Array B 26.02 44 P **P 05 26 27.9 +0.2**
comp=Z,3.9nm,0.9s,mb3.9,baz=255,slow=9.4,SNR=4.2
NOA LR LR 05 35 27.1
comp=Z,321nm,18.5s,MS3.9,baz=275,slow=34
WTTA Wattenberg 26.25 75⇑ *iP* **P 05 26 31.7 +1.9**
comp=Z,21nm,1.2s,mb4.5
WTTA Wattenberg 26.25 75⇑ *iP* **P 05 26 31.8 +2.0**
WTTA pmax pmax
comp=Z,21nm,1.2s,mb4.5
WTTA Wattenberg 26.25 75 P **P 05 26 31.7 +1.9**
comp=Z,21nm,1.2s,mb4.5
CLL Collm 26.38 66 *eP* **P 05 26 32.0 +1.0**
CLL *i* 05 26 40.0
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
CLL MLR MLR
comp=Z,800nm,18.1s,MS4.3
CLL Collm 26.38 66 *eP* **P 05 26 32.0 +1.0**
comp=Z,6.0nm,1.0s,mb4.1
CLL *i* (sP) sP 05 26 40.0 +7.1
comp=Z,22nm,1.3s
CLL Lm 05 35 00.0
comp=Z,800nm,18.1s
HFS Hagfors 27.02 46 LR LR 05 35 37.5
comp=Z,333nm,21.8s,MS3.9,baz=255,slow=33
BRG Berggiesshubel 27.02 67 *eP* **P 05 26 36.3 -0.6**
comp=Z,11nm,1.8s,mb4.1
BRG
comp=N,572nm,19.6s
BRG
comp=E,445nm,21.4s
BRG
comp=Z,638nm,20.1s
KHC Kasperske Hory 27.09 71 *eP* **P 05 26 38.4 +0.9**
GERES GERESS Array B 27.23 71 P **P 05 26 39.1 +0.4**
comp=Z,3.1nm,1.0s,mb3.8,baz=289,slow=8.2,SNR=12
GERES LR LR 05 37 12.9
comp=Z,1µm,18.3s,MS4.5,baz=268,slow=36
PRU Pruhonice 27.55 69 *eP* **P 05 26 45.1 +3.6**
VRAC Vranov 28.99 69 LR LR 05 38 10.4
comp=Z,1µm,18.7s,MS4.6,baz=264,slow=36
KEST Kesra 29.48 99 P **P 05 26 58.6 -0.1**
comp=Z,3.2nm,0.8s,mb4.1,baz=324,slow=7.9,SNR=7.8
KEST LR LR 05 38 04.7
comp=Z,494nm,18.0s,MS4.2,baz=208,slow=35
MORC Moravsky Berou 29.49 68 *eP* **P 05 26 59.3 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MORC Moravsky Berou 29.49 68 *eP* **P 05 26 59.3 +0.4**
comp=Z,3.5nm,0.9s,mb4.1
MORC Moravsky Berou 29.49 68 *eP* **P 05 26 59.3 +0.4**
comp=Z,3.5nm,0.9s,mb4.1
DAG Danmarks Havn 29.90 4⇑ *iP* **P 05 27 03.8 +1.3**
comp=Z,4.0nm,1.0s,mb4.1
DAG Danmarks Havn 29.90 4⇑ *iP* **P 05 27 03.8 +1.3**
DAG pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
VYHS Vyhne 30.62 70 *eP* **P 05 27 09.8 +0.9**
VYHS pmax pmax
comp=Z,1.0nm,0.9s,mb3.6
VYHS Vyhne 30.62 70 *eP* **P 05 27 09.8 +0.9**
comp=Z,1.1nm,0.9s,mb3.7
PSZ Piszkesteto 31.46 71 *eP* **P 05 27 17.3 +1.0**
PSZ pmax pmax
comp=Z,12nm,1.1s,mb4.6
PSZ Piszkesteto 31.46 71 *eP* **P 05 27 17.3 +1.0**
comp=Z,12nm,1.1s,mb4.6
PSZ Piszkesteto 31.46 71 *eP* **P 05 27 17.3 +1.0**
comp=Z,12nm,1.1s,mb4.6
KECS Kecovo 31.68 70 *eP* **P 05 27 19.2 +1.0**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
KECS Kecovo 31.68 70 *eP* **P 05 27 19.1 +0.9**
KECS Kecovo 31.68 70 *eP* **P 05 27 19.2 +1.0**
comp=Z,1.9nm,0.7s,mb4.0
STHS Stebnicka Huta 31.92 68 *eP* **P 05 27 21.9 +1.6**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
STHS Stebnicka Huta 31.92 68 *eP* **P 05 27 21.9 +1.6**
comp=Z,4.0nm,1.1s,mb4.2
CRVS Cervenica-Dubn 32.19 69 *eP* **P 05 27 20.1 -2.6**
FINES FINESS Array B 33.18 45 P **P 05 27 30.3 -1.0**
comp=Z,5.5nm,0.9s,mb4.5,baz=266,slow=9.0,SNR=7.6
FINES LR LR 05 39 59.2
comp=Z,368nm,19.2s,MS4.1,baz=83,slow=35
KAF Kangasniemi 33.30 44 *ep* **P 05 27 30.4 -2.0**
VSU Vasula 33.62 50⇓ *eP* **P 05 27 34.7 -0.4**
ARCES ARCESS Array B 33.94 30 P **P 05 27 37.3 -0.7**
comp=Z,21nm,1.2s,mb5.0,baz=274,slow=6.8,SNR=4.4
ARCES LR LR 05 39 30.1
comp=Z,298nm,19.4s,MS4.0,baz=257,slow=33
JOF Joensuu 35.62 42 *ep* **P 05 27 50.8 -1.7**
AKASG Malin Array Be 36.51 63 P **P 05 27 58.4 -1.7**
comp=Z,4.3nm,0.8s,mb4.3,baz=283,slow=8.8,SNR=12
AKASG LR LR 05 44 07.1
comp=Z,564nm,18.6s,MS4.4,baz=295,slow=38
AKBB Malin Array Si 36.51 63 *eP* **P 05 27 59.5 -0.6**
OBN Obninsk 39.53 54⇑ *eP* **P 05 28 25.5 -0.1**
OBN *e* 05 30 05.8
OBN pmax pmax
comp=Z,44nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.5
SANT Santorini 40.09 86 *eP* **P 05 28 29.8 -0.5**
SANT Santorini 40.09 86 *eP* **P 05 28 29.8 -0.4**
TOA0 Torodi Ar. Sit 41.71 135 *eP* **P 05 28 41.9 -1.7**
TOA0 Torodi Ar. Sit 41.71 135 *eP* **P 05 28 41.9 -1.7**
TORD Torodi Ar. Bea 41.71 135 P **P 05 28 42.0 -1.5**
comp=Z,16nm,1.1s,mb4.6,baz=332,slow=8.1,SNR=50
TORD LR LR 05 44 56.5
comp=Z,931nm,18.2s,MS4.7,baz=325,slow=35
BR131 Keskin Array S 43.85 77 *eP* **P 05 29 01.5 +0.5**
comp=Z,2.0nm,0.6s,mb4.0
BR131 Keskin Array S 43.85 77 *eP* **P 05 29 01.5 +0.5**
comp=Z,2.0nm,0.6s,mb4.0
BRTR Keskin Array B 43.85 77 P **P 05 29 00.9 -0.1**
comp=Z,3.8nm,0.8s,mb4.2,baz=295,slow=5.7,SNR=23
ULM Lac du Bonnet 43.91 300 P **P 05 28 59.5 -1.9**
comp=Z,12nm,1.1s,mb4.5,baz=76,slow=5.4,SNR=7.1
ULM LR LR 05 45 37.5
comp=Z,300nm,19.9s,MS4.2,baz=68,slow=34
LIC Lamto 45.06 148 *eP* **P 05 29 09.4 -1.3**
LIC *e*MLR
comp=Z,371nm,21.8s
LIC Lamto 45.06 148 *eP* **P 05 29 09.4 -1.3**
LIC LR LR
comp=Z,190nm,21.8s,MS4.0
MALT Malatya 47.76 76 *eP* **P 05 29 32.3 +0.4**
MALT pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
MALT Malatya 47.76 76 *eP* **P 05 29 32.3 +0.5**
comp=Z,8.2nm,1.2s,mb4.6
MALT Malatya 47.76 76 *eP* **P 05 29 32.3 +0.4**
comp=Z,8.2nm,1.2s,mb4.6
YKA Yellowknife Ar 48.51 322 P **P 05 29 36.3 -1.4**
comp=Z,2.2nm,1.0s,mb4.2,baz=64,slow=7.7,SNR=13
YKA PcP PcP 05 31 01.2 -2.4
comp=Z,0.8nm,0.9s,baz=58,slow=4.1,SNR=6.5
YKA LR LR 05 48 02.4
comp=Z,93nm,21.3s,MS3.7,baz=50,slow=34
YKA Yellowknife Ar 48.51 322 *i P* **P 05 29 37.0 -0.7**
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 48.51 322 P **P 05 29 36.3 -1.4**
YKA PcP PcP 05 31 01.2 -2.4
YKA LR LR 05 48 02.4
YKA Yellowknife Ar 48.51 322 PcP PcP 05 31 01.2 -2.5
ZEI Tsey 48.94 68 *eP* **P 05 29 41.5 +0.5**
ZEI pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ARU Arti 50.54 46⇓ *iP* **P 05 29 53.1 -0.1**
ARU *e* 05 31 06.7
ARU *e*S **S 05 37 09.2 +1.3**
ARU *e*SS SS 05 40 46.1 +4.3
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.7
GNI Garni 50.87 70⇓ *iP* **P 05 29 55.6 -0.1**
GNI pmax pmax
comp=Z,9.0nm,1.3s
LAO LASA Array 51.65 301 *eP* **P 05 30 02.6 +1.1**
LAO LASA Array 51.65 301 *eP* **P 05 30 02.6 +1.1**
RSSD Black Hills 51.69 297 *eP* **P 05 30 01.4 -0.4**
RSSD pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
RSSD Black Hills 51.69 297 *eP* **P 05 30 01.4 -0.4**
comp=Z,4.8nm,1.2s,mb4.3
EDM Edmonton 52.24 311 *eP* **P 05 30 05.9 0.0**
SDV Santo Domingo 52.97 238 *eP* **P 05 30 10.3 -1.0**
comp=Z,4.4nm,1.0s,mb4.3
SDV Santo Domingo 52.97 238 *eP* **P 05 30 10.3 -1.0**
comp=Z,4.4nm,1.0s,mb4.3
EGMT Eagleton 52.99 304 *eP* **P 05 30 11.6 +0.2**
comp=Z,32nm,1.2s,mb5.1
EGMT Eagleton 52.99 304⇓ **P 05 30 11.7 +0.2**
baz=53,SNR=8.0
EGMT Eagleton 52.99 304 *eP* **P 05 30 11.6 +0.1**
comp=Z,32nm,1.2s,mb5.1
WMOK Wichita Mounta 53.63 284 *eP* **P 05 30 15.7 -0.5**
WMOK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
WMOK Wichita Mounta 53.63 284 *eP* **P 05 30 15.7 -0.5**
comp=Z,6.1nm,1.2s,mb4.4
PHWY Pilot Hill 54.12 294 *eP* **P 05 30 20.3 +0.5**
PHWY Pilot Hill 54.12 294 *eP* **P 05 30 20.3 +0.5**
GCMT Greycliff 54.15 301 *eP* **P 05 30 19.9 0.0**
GCMT Greycliff 54.15 301 *eP* **P 05 30 19.9 -0.1**
RLMT Red Lodge 54.28 300 *eP* **P 05 30 20.6 -0.4**
comp=Z,25nm,1.4s,mb5.0
RLMT Red Lodge 54.28 300 *eP* **P 05 30 20.6 -0.4**
comp=Z,25nm,1.4s,mb5.0
WALA Waterton Lakes 54.75 306 *eP* **P 05 30 23.8 -0.5**
comp=Z,21nm,1.0s,mb5.1
WALA Waterton Lakes 54.75 306 *eP* **P 05 30 23.8 -0.5**
comp=Z,21nm,1.0s,mb5.1
RWWY Rawlins 54.98 296 *eP* **P 05 30 27.0 +1.0**
comp=Z,42nm,1.1s,mb5.4
RWWY Rawlins 54.98 296 *eP* **P 05 30 27.0 +1.0**
comp=Z,42nm,1.1s,mb5.4
ISCO Idaho Springs 55.08 293 *eP* **P 05 30 27.3 +0.6**
ISCO pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ISCO Idaho Springs 55.08 293 *eP* **P 05 30 27.3 +0.6**
comp=Z,3.7nm,1.2s,mb4.7
ISCO Idaho Springs 55.08 293 *eP* **P 05 30 27.3 +0.6**
comp=Z,9.7nm,1.2s,mb4.7
D15A Lincoln 55.10 304⇑ **P 05 30 27.4 +0.5**
baz=55,SNR=19
BOZ Bozeman (W) 55.37 302 *eP* **P 05 30 28.5 -0.3**
BOZ pmax pmax
comp=Z,14nm,1.0s,mb5.0
BOZ Bozeman (W) 55.37 302 *eP* **P 05 30 28.5 -0.3**
comp=Z,14nm,1.0s,mb4.9
BOZ Bozeman (W) 55.37 302 *eP* **P 05 30 28.5 -0.3**
comp=Z,14nm,1.0s,mb4.9
B13A Whitefish 55.44 306⇓ **P 05 30 28.9 -0.4**
baz=55
AMTX Amarillo 55.45 286 *eP* **P 05 30 30.1 +0.6**
AMTX Amarillo 55.45 286 *eP* **P 05 30 30.0 +0.6**
E15A Deer Lodge 55.51 303⇑ **P 05 30 30.3 +0.5**
baz=55
CHMT Chamberlain Mo 55.58 304 *eP* **P 05 30 30.0 -0.3**
CHMT Chamberlain Mo 55.58 304 *eP* **P 05 30 30.0 -0.3**
YFT Old Faithful 55.59 300 *eP* **P 05 30 31.7 +1.3**
YFT Old Faithful 55.59 300 *eP* **P 05 30 31.7 +1.3**
D14A Greenough 55.63 304⇑ **P 05 30 30.1 -0.6**
baz=56
A12A Yaak River Ran 55.77 307⇑ **P 05 30 31.3 -0.4**
baz=56
PDAR Pinedale Array 55.79 298 P **P 05 30 30.9 -0.9**
comp=Z,6.6nm,0.9s,mb4.6,baz=64,slow=6.2,SNR=37
PDAR LR LR 05 52 20.7
comp=Z,292nm,19.3s,MS4.4,baz=65,slow=34
BW06 Boulder Array 55.79 298 *eP* **P 05 30 31.0 -0.9**
comp=Z,13nm,1.1s,mb4.9
BW06 Boulder Array 55.79 298 *eP* **P 05 30 31.0 -0.8**
comp=Z,13nm,1.1s,mb4.9
C13A Hot Springs 55.89 305⇓ **P 05 30 32.3 -0.3**
baz=56,SNR=6.6
BSMT Bassoo Peak 55.91 306 *eP* **P 05 30 33.1 +0.4**
BSMT Bassoo Peak 55.91 306 *eP* **P 05 30 33.1 +0.4**
LOHW Long Hollow 55.93 299 *eP* **P 05 30 32.4 -0.5**
comp=Z,14nm,1.2s,mb4.9
LOHW Long Hollow 55.93 299 *eP* **P 05 30 32.4 -0.4**
comp=Z,14nm,1.2s,mb4.9
MOOW Moose Ponds 55.93 300 *eP* **P 05 30 32.4 -0.5**
comp=Z,15nm,1.1s,mb4.9
B12A Libby 56.00 307⇓ **P 05 30 33.3 -0.1**
baz=56
E14A Clinton 56.00 304⇓ **P 05 30 33.8 +0.5**
baz=56,SNR=12
MSO Missoula 56.02 304 *eP* **P 05 30 32.6 -0.8**
comp=Z,5.0nm,1.0s,mb4.5
MSO Missoula 56.02 304 *eP* **P 05 30 32.6 -0.9**
comp=Z,5.0nm,1.0s,mb4.5
DLMT Dillon 56.09 302 *eP* **P 05 30 34.0 0.0**
comp=Z,25nm,1.3s,mb5.1
DLMT Dillon 56.09 302 *eP* **P 05 30 34.0 0.0**
comp=Z,25nm,1.3s,mb5.1
SNOW Snow King Moun 56.10 299 *eP* **P 05 30 34.3 +0.2**
comp=Z,39nm,1.4s,mb5.2
SNOW Snow King Moun 56.10 299 *eP* **P 05 30 34.3 +0.2**
comp=Z,39nm,1.4s,mb5.2
G15A Dillon 56.14 302⇓ **P 05 30 34.8 +0.4**
baz=56,SNR=18
A11A Hall Mountain, 56.14 307⇑ **P 05 30 34.1 -0.3**
baz=56,SNR=8.0
D13A Huson 56.16 305⇑ **P 05 30 34.1 -0.4**
baz=56
TPAW Teton Pass 56.21 299 *eP* **P 05 30 34.4 -0.4**
comp=Z,33nm,1.5s,mb5.2
SDCO Great Sand Dun 56.21 291 *eP* **P 05 30 35.3 +0.4**
SDCO Great Sand Dun 56.21 291 *eP* **P 05 30 35.3 +0.4**
REDW Red Top Meadow 56.22 299 *eP* **P 05 30 35.3 +0.4**
comp=Z,65nm,1.4s,mb5.5
REDW Red Top Meadow 56.22 299 *eP* **P 05 30 35.3 +0.4**
comp=Z,65nm,1.4s,mb5.5
F14A Wisdom 56.28 303⇑ **P P 05 30 35.1 -0.2**
baz=56
E13A Victor 56.38 304⇓ **P P 05 30 35.9 -0.2**
baz=56,SNR=10
B11A Sandpoint 56.44 307⇑ **P P 05 30 35.9 -0.6**
baz=56
MCMT McKenzie Canyo 56.55 302 *eP* **P 05 30 37.8 +0.6**
MCMT McKenzie Canyo 56.55 302 *eP* **P 05 30 37.8 +0.6**
F13A Darby 56.84 303⇓ **P P 05 30 39.3 0.0**
baz=57,SNR=6.4
NEW Newport 56.95 307 *eP* **P P 05 30 39.8 -0.4**
NEW pmax pmax
comp=Z,22nm,1.4s
NEW Newport 56.95 307 *eP* **P 05 30 39.8 -0.3**
comp=Z,22nm,1.4s,mb5.0
NEW Newport 56.95 307 *eP* **P 05 30 39.8 -0.4**
comp=Z,22nm,1.4s,mb5.0
B10A Chitwood Farm, 56.99 307⇑ **P P 05 30 40.0 -0.4**
baz=57
DAWY Dawson 57.05 331 *eP* **P 05 30 40.7 -0.2**
DAWY Dawson 57.05 331 *eP* **P 05 30 40.7 -0.1**
G13A Cobalt 57.19 303⇓ **P P 05 30 42.1 +0.3**
baz=57,SNR=12
D11A Klaveano Farm, 57.23 306⇑ **P P 05 30 41.4 -0.7**
baz=57
C10A Spilker Farm, 57.31 307⇓ **P P 05 30 42.3 -0.4**
baz=57
A09A Danville 57.33 309⇓ **P P 05 30 42.4 -0.4**
baz=57
F12A Elk City 57.38 304⇓ **P P 05 30 43.1 0.0**
baz=57,SNR=11
B09A Rice 57.42 308⇓ **P P 05 30 43.4 0.0**
baz=57,SNR=14
E11A Bogner Ranch, 57.57 305⇑ **P P 05 30 43.9 -0.6**
baz=57,SNR=9.2
HWUT Hardware Ranch 57.68 298 *eP* **P 05 30 44.6 -0.7**
comp=Z,18nm,1.1s,mb5.0
A08A Turner Farm, O 57.71 309⇑ **P P 05 30 45.1 -0.3**
baz=58,SNR=6.1
D10A Wagner Farm, O 57.75 306⇑ **P P 05 30 45.0 -0.7**
baz=58
F11A Grangeville 57.81 304⇓ **P P 05 30 45.9 -0.3**
baz=58,SNR=12
C09A Chrisman Ranch 57.85 307⇓ **P P 05 30 45.8 -0.7**
baz=58
CHKZ Chkalovo 57.86 44 *eP* **P P 05 30 46.1 -0.4**
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CHKZ Chkalovo 57.86 44 *eP* **P 05 30 46.1 -0.4**
comp=Z,4.9nm,1.0s,mb4.5
H12A Diamond D Ranc 57.87 302⇓ **P P 05 30 47.2 +0.6**
baz=58,SNR=12
E10A Myers Farm, Un 57.99 305⇓ **P P 05 30 47.1 -0.4**
baz=58
PV10 Paradox Valley 58.07 294 *eP* **P 05 30 48.9 +0.9**
PV10 Paradox Valley 58.07 294 *eP* **P 05 30 48.8 +0.8**
BRVK Borovoye 58.07 45 *eP* **P P 05 30 48.7 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BRVK Borovoye 58.07 45 *eP* **P P 05 30 48.6 +0.6**
comp=Z,6.5nm,1.0s,mb4.6
BRVK Borovoye 58.07 45 *eP* **P P 05 30 48.7 +0.7**
comp=Z,6.5nm,1.0s,mb4.6
B08A Colville Reser 58.09 308 P **P P 05 30 47.8 -0.4**
baz=58,SNR=6.3
HLID Hailey 58.20 301 *eP* **P P 05 30 49.3 +0.4**
comp=Z,14nm,1.2s,mb4.9
HLID Hailey 58.20 301⇑ **P P 05 30 50.0 +1.1**
baz=58,SNR=15
HLID Hailey 58.20 301 *eP* **P P 05 30 49.3 +0.4**
comp=Z,14nm,1.2s,mb4.9
DAU Daniels Canyon 58.21 297 *eP* **P P 05 30 49.8 +0.8**
JLU Jordanelle 58.21 297 *eP* **P P 05 30 49.2 +0.2**
JLU Jordanelle 58.21 297 *eP* **P P 05 30 49.2 +0.2**
A07A Ashnola River, 58.24 309⇑ **P P 05 30 49.3 +0.1**
baz=58,SNR=5.9
C08A Higginbotham F 58.28 308⇓ **P P 05 30 48.5 -1.0**
baz=58
HVU Hansel Valley 58.30 299 *eP* **P P 05 30 50.1 +0.5**
D09A Jones Farm, Ri 58.31 307⇓ **P P 05 30 49.0 -0.7**
baz=58
ROSC El Rosal 58.36 239 LR LR 05 52 02.6
comp=Z,204nm,21.4s,MS4.2,baz=212,slow=32
F10A Beach Ranch, E 58.37 305⇑ **P P 05 30 49.4 -0.7**
baz=58
SPUT South Promonto 58.39 298 *eP* **P P 05 30 45.6 -4.7**
SPUT South Promonto 58.39 298 *eP* **P P 05 30 45.6 -4.6**
MVCO Mesa Verde 58.44 292 *eP* **P P 05 30 51.0 +0.5**
comp=Z,12nm,1.3s,mb4.8
MVCO Mesa Verde 58.44 292⇑ **P P 05 30 50.0 -0.6**
baz=58
MVCO Mesa Verde 58.44 292 *eP* **P P 05 30 51.0 +0.4**
comp=Z,12nm,1.3s,mb4.8
H11A Donnelly 58.44 303⇓ **P P 05 30 50.0 -0.6**
baz=58
B07A Winthrop 58.45 309⇓ **P P 05 30 50.1 -0.6**
baz=58
ANMO Albuquerque 58.52 289⇓ *iP* **P P 05 30 50.5 -0.7**
ANMO Albuquerque 58.52 289 *eP* **P P 05 30 52.4 +1.3**
ANMO Albuquerque 58.52 289 *eP* **P P 05 30 52.4 +1.2**
E09A Wood Farm, Sta 58.55 306⇓ **P P 05 30 50.7 -0.6**
baz=58
MPU Maple Canyon 58.68 297 *eP* **P P 05 30 52.8 +0.5**
MPU Maple Canyon 58.68 297 *eP* **P P 05 30 52.8 +0.6**
TMUT Trail Mountain 58.85 296 *eP* **P P 05 30 53.8 +0.3**
TMUT Trail Mountain 58.85 296 *eP* **P P 05 30 53.8 +0.3**
C07A Waterville 58.88 308⇓ **P P 05 30 52.7 -1.0**
baz=59,SNR=11
I11A Placerville 58.88 302⇓ **P P 05 30 54.0 +0.3**
baz=59,SNR=9.9
F09A S2 Ranch, Elgi 58.91 305⇑ **P P 05 30 53.5 -0.3**
baz=59,SNR=13
H10A Noah's Angus R 58.93 303⇑ **P P 05 30 52.9 -1.1**
baz=59
BGU Big Grassy Mou 58.97 298 *eP* **P P 05 30 53.6 -0.7**
BGU Big Grassy Mou 58.97 298 *eP* **P P 05 30 53.6 -0.7**
NLU North Lily Min 58.98 297 *eP* **P P 05 30 56.3 +1.9**
NLU North Lily Min 58.98 297 *eP* **P P 05 30 56.3 +1.9**
E08A Dider Farm, El 59.07 306⇑ **P P 05 30 54.1 -0.9**
baz=59
BMO Blue Mountains 59.08 304 *eP* **P P 05 30 54.2 -0.9**
comp=Z,6.1nm,1.2s,mb4.5
BMO Blue Mountains 59.08 304 *eP* **P P 05 30 54.2 -0.9**
comp=Z,6.1nm,1.2s,mb4.5
BNM Barren Site 59.12 288 *eP* **P P 05 30 55.9 +0.5**
COLA College 59.13 335⇑ *iP* **P P 05 30 55.4 0.0**
D07A Quincy 59.14 307⇓ **P P 05 30 54.2 -1.3**
baz=59
DUG Dugway 59.28 297 *eP* **P P 05 30 56.4 -0.1**
DUG pmax pmax
comp=Z,27nm,1.1s,mb5.2
DUG Dugway 59.28 297 *eP* **P P 05 30 56.4 -0.1**
comp=Z,27nm,1.1s,mb5.2
DUG Dugway 59.28 297⇑ **P P 05 30 57.1 +0.7**
baz=59
DUG Dugway 59.28 297 *eP* **P P 05 30 56.4 -0.1**
comp=Z,27nm,1.1s,mb5.2
F08A Pendleton 59.33 306⇑ **P P 05 30 56.2 -0.6**
baz=59
M13A Montello 59.38 299⇑ **P P 05 30 56.9 -0.3**
baz=59
H09A Durkee 59.40 304⇑ **P P 05 30 56.9 -0.4**
baz=59
E07A Sunnyside 59.46 307⇑ **P P 05 30 56.9 -0.8**
baz=59
D06A Cle Elum 59.61 308⇓ **P P 05 30 58.0 -0.7**
baz=60
J10A Berg Farm, Mel 59.65 302⇓ **P P 05 30 58.0 -1.0**
baz=60
N13A Wendover, West 59.72 299⇓ **P P 05 30 58.9 -0.6**
baz=60
G08A Pilot Rock 59.74 305⇑ **P P 05 30 58.5 -1.1**
baz=60,SNR=5.2
M12A Wells 59.80 300⇑ **P P 05 30 59.7 -0.3**
baz=60
IMA2 Indian Mountai 59.83 338 *eP* **P P 05 30 59.7 -0.6**
IMA2 Indian Mountai 59.83 338 *eP* **P P 05 30 59.7 -0.6**
I09A Lost Marbles R 59.87 303⇓ **P P 05 30 59.9 -0.5**
baz=60
F07A Phinny Hill Vi 59.91 306⇑ **P P 05 31 00.5 -0.2**
baz=60
MSU Marysvale 59.93 295 *eP* **P P 05 31 01.6 +0.7**
H08A Prairie City 60.06 304⇓ **P P 05 31 01.1 -0.8**
baz=60
E06A Yakima 60.08 307⇑ **P P 05 31 01.3 -0.7**
baz=60

G07A	Ruggs Ranch, H	60.16	306	⇑P	P	05 31 01.9 -0.6
	baz=60					
N12A	Clover Valley,	60.22	299	⇓P	P	05 31 02.7 -0.2
	baz=60,SNR=5.5					
LTX	Lajitas	60.23	282	eP	P	05 31 03.5 +0.5
LTX				pmax	pmax	
	comp=Z,5.0nm,1.4s,mb4.3					
LTX	Lajitas	60.23	282	eP	P	05 31 03.5 +0.5
	comp=Z,5.5nm,1.4s,mb4.4					
LTX	Lajitas	60.23	282	eP	P	05 31 03.5 +0.5
	comp=Z,5.5nm,1.4s,mb4.4					
TXAR	Lajitas Array	60.23	282	P	P	05 31 02.1 -0.9
	comp=Z,0.9nm,0.8s,mb3.9,baz=65,slow=7.1,SNR=4.8					
TXAR				LR	LR	05 56 20.3
	comp=Z,338nm,20.6s,MS4.5,baz=0,0,slow=35					
J09A	Fry Pan Ranch,	60.26	303	⇑P	P	05 31 02.9 -0.3
	baz=60					
TIXI	Tiksi	60.26	8	⇑iP	P	05 31 02.8 -0.4
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.3s,mb4.6					
TIXI	Tiksi	60.26	8	eP	P	05 31 03.3 +0.1
MCK	McKinley	60.29	334	eP	P	05 31 04.0 +0.6
MCK				pmax	pmax	
	comp=Z,7.0nm,1.3s,mb4.5					
MCK	McKinley	60.29	334	eP	P	05 31 04.0 +0.6
	comp=Z,7.3nm,1.3s,mb4.5					
MCK	McKinley	60.29	334	eP	P	05 31 04.0 +0.6
	comp=Z,7.3nm,1.3s,mb4.5					
M11A	Holland Ranch,	60.30	300	⇑P	P	05 31 04.7 +1.2
	baz=60					
I08A	Drewsey	60.38	304	⇑P	P	05 31 03.7 -0.3
	baz=60					
ELK	Elko	60.40	299	eP	P	05 31 04.4 +0.2
O12A	Currie	60.40	298	⇑P	P	05 31 05.0 +0.8
	baz=60					
F06A	Goldendale	60.46	307	P	P	05 31 04.2 -0.3
	baz=60					
E05A	Randle	60.49	308	⇓P	P	05 31 04.2 -0.6
	baz=60					
H07A	Lands Inn, Kim	60.52	305	⇓P	P	05 31 04.1 -0.8
	baz=60					
K09A	Rome	60.65	302	⇓P	P	05 31 06.9 +1.0
	baz=60,SNR=11					
N11A	Elko Archery C	60.65	299	⇑P	P	05 31 06.9 +1.0
	baz=60					
J08A	Circle Bar Ran	60.67	303	⇑P	P	05 31 06.4 +0.4
	baz=60,SNR=6.7					
M10A	I.L. Ranch, Tu	60.69	301	⇑P	P	05 31 06.7 +0.6
	baz=61					
D04A	Dobbs Creek Ra	60.71	309	⇓P	P	05 31 05.5 -0.8
	baz=61					
G06A	Carlson Farm,	60.71	306	⇑P	P	05 31 05.7 -0.6
	baz=61					
JTS	JuntasAbangare	60.74	252	⇑eP	P	05 31 03.7 -2.8
F05A	White Salmon	60.75	307	⇓P	P	05 31 05.2 -1.4
	baz=61					
I07A	Izee	60.80	304	⇓P	P	05 31 06.5 -0.4
	baz=61					
H06A	Lindquist Farm	60.85	305	⇓P	P	05 31 07.1 -0.2
	baz=61,SNR=8.5					
P12A	McGill	61.00	298	P	P	05 31 08.7 +0.4
	baz=61,SNR=14					
O11A	Cowboy Ranch,	61.03	299	⇓P	P	05 31 08.7 +0.2
	baz=61					
L09A	Wilkinson Ranc	61.04	302	P	P	05 31 09.4 +0.9
	baz=61,SNR=8.2					
K08A	Mann Creek Ran	61.06	303	P	P	05 31 09.9 +1.2
	baz=61,SNR=6.1					
ARUT	Antelope Range	61.16	296	eP	P	05 31 09.3 0.0
Q12A	Willow Creek R	61.22	297	⇑P	P	05 31 10.7 +1.0
	baz=61,SNR=7.9					
CCUT	Cedar City	61.26	295	eP	P	05 31 10.6 +0.6
CCUT	Cedar City	61.26	295	eP	P	05 31 10.6 +0.6
M09A	Marrel Ranch,	61.28	301	⇓P	P	05 31 11.2 +1.0
	baz=61,SNR=11					
WUAZ	Wupatki	61.30	292	eP	P	05 31 11.3 +1.0
	comp=Z,15nm,1.3s,mb5.0					
WUAZ	Wupatki	61.30	292	P	P	05 31 11.6 +1.3
	baz=61,SNR=7.3					
WUAZ	Wupatki	61.30	292	eP	P	05 31 11.3 +1.0
	comp=Z,15nm,1.3s,mb5.0					
L08A	Fields	61.32	302	⇑P	P	05 31 11.5 +1.0
	baz=61,SNR=6.6					
WVOR	Wild Horse Val	61.34	302	eP	P	05 31 10.2 -0.3
WVOR				pmax	pmax	
	comp=Z,17nm,1.1s,mb5.1					
WVOR	Wild Horse Val	61.34	302	eP	P	05 31 10.2 -0.4
	comp=Z,17nm,1.1s,mb5.1					
WVOR	Wild Horse Val	61.34	302	eP	P	05 31 10.1 -0.4
	comp=Z,17nm,1.1s,mb5.1					
H05A	Madras	61.41	306	⇓P	P	05 31 11.6 +0.7
	baz=61					
O10A	Cortez Mining,	61.44	299	⇑P	P	05 31 12.0 +0.8
	baz=61					
P11A	Circle Ranch,	61.46	298	⇓P	P	05 31 11.9 +0.6
	baz=61					
E03A	Lebam	61.47	309	⇑P	P	05 31 11.7 +0.3
	baz=61					
K07A	Rock Creek Ran	61.53	303	⇓P	P	05 31 11.8 0.0
	baz=61					
J06A	Christmas Vall	61.69	304	⇑P	P	05 31 13.1 +0.2
	baz=62					
N09A	Rock Creek Ran	61.69	300	⇑P	P	05 31 13.3 +0.4
	baz=62					
M08A	Happy Creek Ra	61.81	301	⇓P	P	05 31 14.7 +1.0
	baz=62,SNR=5.5					
P10A	Eureka	61.84	299	⇓P	P	05 31 14.9 +1.0
	baz=62					
Q11A	Duckwater	61.84	298	⇓P	P	05 31 14.1 +0.2
	baz=62,SNR=7.9					
F03A	Seaside	61.86	308	⇑P	P	05 31 14.3 +0.3
	baz=62					
H04A	Detroit Lake	61.91	306	⇓P	P	05 31 13.8 -0.6
	baz=62					
O09A	Fish Creek Ran	61.92	300	⇑P	P	05 31 14.7 +0.2
	baz=62,SNR=5.3					
L07A	Adell	62.01	303	⇑P	P	05 31 15.7 +0.6
	baz=62					
K06A	Valley Falls	62.03	304	⇑P	P	05 31 15.2 0.0
	baz=62					
W15A	Williams	62.08	293	⇑P	P	05 31 16.3 +0.8
	baz=62					
N08A	GE Springer Mi	62.09	301	⇓P	P	05 31 16.2 +0.6
	baz=62					
J05A	Fort Rock	62.28	305	⇓P	P	05 31 17.3 +0.4
	baz=62					
M07A	Soldier Meadow	62.31	302	⇓P	P	05 31 17.5 +0.4
	baz=62					
K05A	Summer Lake	62.44	304	⇑P	P	05 31 18.2 +0.2
	baz=62					
X15A	Humboldt	62.50	292	P	P	05 31 20.0 +1.6
	baz=62,SNR=6.2					
H03A	Soap Creek Ran	62.52	307	⇓P	P	05 31 19.1 +0.7
	baz=62					
W14A	Seligman	62.57	293	P	P	05 31 20.4 +1.6
	baz=62,SNR=10					
N07B	Gerlach	62.58	301	⇓P	P	05 31 19.5 +0.6
	baz=62					
I04A	Tendick Farm,	62.60	306	⇑P	P	05 31 18.7 -0.4
	baz=62					
MOD	Modoc	62.63	303	eP	P	05 31 19.1 -0.1
	comp=Z,4.4nm,1.0s,mb4.5					
MOD	Modoc	62.63	303	P	P	05 31 19.2 0.0
	baz=62,SNR=6.2					
MOD	Modoc	62.63	303	eP	P	05 31 19.1 -0.1
	comp=Z,4.4nm,1.0s,mb4.5					
U12A	Valley of Fire	62.70	295	⇑P	P	05 31 19.4 -0.2
	baz=63					
Q09A	Carvers	62.77	299	⇓P	P	05 31 20.3 +0.2
	baz=63					
J04A	Umpqua Nationa	62.79	305	⇑P	P	05 31 19.9 -0.4
	baz=63					
L05A	Lakeview	62.84	303	⇓P	P	05 31 20.2 -0.4
	baz=63					
O07A	Toulon	62.92	301	⇑P	P	05 31 21.6 +0.4
	baz=63					
X14A	Yava	62.93	292	⇑P	P	05 31 22.0 +0.8
	baz=63,SNR=5.8					
TUC	Tucson	62.98	289	eP	P	05 31 21.5 0.0
TUC				pmax	pmax	
	comp=Z,23nm,1.8s,mb5.0					
TUC	Tucson	62.98	289	eP	P	05 31 21.5 0.0
	comp=Z,23nm,1.8s,mb5.0					
TUC	Tucson	62.98	289	eP	P	05 31 21.5 0.0
	comp=Z,23nm,1.8s,mb5.0					
SHPR	Sheep Range	63.03	295	eP	P	05 31 22.7 +0.8
SHPR	Sheep Range	63.03	295	eP	P	05 31 22.7 +0.8
R09A	Tonopah	63.08	298	P	P	05 31 22.0 -0.2
	baz=63,SNR=24					
N06A	Buffalo Meadow	63.10	302	⇓P	P	05 31 22.8 +0.4
	baz=63,SNR=6.8					
W13A	Hualapai Mount	63.15	293	⇑P	P	05 31 23.2 +0.6
	baz=63,SNR=6.6					
M06C	Likely Place G	63.18	302	⇑P	P	05 31 23.5 +0.6
	baz=63,SNR=5.7					
Q08A	Gabbs	63.20	299	P	P	05 31 23.6 +0.6
	baz=63,SNR=17					
I02A	Mapleton	63.25	307	⇓P	P	05 31 21.7 -1.6
	baz=63					
Y14A	Wickenburg	63.34	292	⇓P	P	05 31 24.5 +0.6
	baz=63					
V12A	Nelson	63.34	295	⇓P	P	05 31 23.9 0.0
	baz=63,SNR=5.2					
X13A	Yucca	63.44	293	⇓P	P	05 31 25.2 +0.6
	baz=63					
M05C	Lookout	63.47	303	⇑P	P	05 31 25.0 +0.2
	baz=63,SNR=8.5					
O06A	Flanigan	63.48	301	⇑P	P	05 31 25.3 +0.4
	baz=63					
S09A	Goldfield	63.51	298	⇓P	P	05 31 25.4 +0.4
	baz=63					
J02A	Umpqua	63.53	306	⇓P	P	05 31 23.0 -2.2
	baz=63					
KURK	Kurchatov	63.53	43	⇑iP	P	05 31 24.0 -1.2
KURK	Kurchatov	63.53	43	eP	P	05 31 23.8 -1.4
	comp=Z,3.1nm,0.9s,mb4.3					
KURK	Kurchatov	63.53	43	eP	P	05 31 23.8 -1.4
	comp=Z,3.1nm,0.9s,mb4.3					
M04C	Macdoel	63.59	304	⇓P	P	05 31 25.0 -0.6
	baz=63,SNR=6.5					
V11A	Goodsprings	63.63	295	⇓P	P	05 31 26.7 +0.8
	baz=64					
R08A	Mina	63.63	299	⇓P	P	05 31 25.9 0.0
	baz=64					
HUMO	Hull Mountain	63.68	305	⇓P	P	05 31 24.6 -1.6
	baz=64					
Z14A	Wintersburg	63.68	291	⇑P	P	05 31 26.5 +0.4
	baz=64					
ELFS	Eagle Lake Fie	63.70	302	⇓P	P	05 31 27.0 +0.6
	baz=64,SNR=5.5					
U10A	Ash Meadows, A	63.81	296	⇓P	P	05 31 27.6 +0.6
	baz=64,SNR=7.4					
PDMCI	Parker Dam,Lak	63.83	293	⇑P	P	05 31 27.7 +0.6
	baz=64					
K02A	Glendale	63.87	305	⇑P	P	05 31 26.9 -0.6
	baz=64					
WCN	Washoe City	63.99	300	⇑P	P	05 31 28.3 0.0
	baz=64					
HATC	Hat Creek Radi	64.00	303	⇓P	P	05 31 28.5 +0.2
	baz=64					
ZAL	Zalesovo	64.01	38	P	P	05 31 27.2 -1.2
	comp=Z,1.2nm,0.3s,mb4.5,baz=130,slow=10.0,SNR=3.1					
ZAL	Zalesovo	64.01	38	P	P	05 31 27.2 -1.2
GRAC	Grapevine Rang	64.07	297	⇑P	P	05 31 28.7 0.0
	baz=64					
M03C	McCloud	64.08	303	⇑P	P	05 31 28.4 -0.4
	baz=64					
FURC	Furnace Creek,	64.10	296	P	P	05 31 29.3 +0.3
	baz=64,SNR=11					
O04C	Chester	64.11	302	⇓P	P	05 31 29.2 +0.2
	baz=64					
YBH	Yreka Blue Hor	64.11	304	⇓P	P	05 31 27.4 -1.6
	baz=64					
SHOC	Shoshone	64.12	296	⇑P	P	05 31 29.4 +0.4
	baz=64					
S08C	White Mtn Res	64.23	298	⇓P	P	05 31 30.0 +0.2
	baz=64,SNR=6.8					
L02A	Cave Junction	64.33	305	⇑P	P	05 31 29.3 -1.2
	baz=64					
M02C	Callahan	64.42	304	⇑P	P	05 31 30.4 -0.6
	baz=64					
Y12C	Blythe	64.42	293	⇓P	P	05 31 31.5 +0.4
	baz=64					
GMRC	Granite Mounta	64.46	294	⇓P	P	05 31 31.7 +0.4
	baz=64					
OTAV	Otavalo	64.49	240	eP	P	05 31 32.1 +0.6
	comp=Z,58nm,2.0s,mb5.3					
OTAV	Otavalo	64.49	240	eP	P	05 31 32.2 +0.7
	comp=Z,58nm,2.0s,mb5.3					
P05C	Yuba Gap, Truc	64.49	301	⇓P	P	05 31 32.0 +0.4
	baz=64					
MLAC	Mammoth Lakes	64.54	298	⇓P	P	05 31 32.4 +0.6
	baz=64					
IRM	Iron Mountain	64.55	293	⇑P	P	05 31 32.1 +0.2
	baz=64					
TIN	Tinemaha	64.55	298	⇓P	P	05 31 32.1 +0.2
	baz=64					
R05C	Kirkwood Meado	64.58	300	⇑P	P	05 31 31.9 -0.2
	baz=64					
DAC	Darwin (Calif)	64.67	297	eP	P	05 31 32.5 -0.2
DAC				pmax	pmax	
	comp=Z,14nm,1.2s,mb4.9					
DAC	Darwin (Calif)	64.67	297	eP	P	05 31 32.5 -0.2
	comp=Z,14nm,1.2s,mb4.8					
MPMC	Manual Prospec	64.75	296	P	P	05 31 33.6 +0.3
	baz=65,SNR=16					
GSC	Goldstone	64.83	295	⇓P	P	05 31 34.5 +0.8
	baz=65,SNR=11					
HEC	Hector,Ludlow	64.85	295	⇓P	P	05 31 34.5 +0.6
	baz=65					
ORV	Oroville	64.85	302	⇑P	P	05 31 32.8 -1.0
	baz=65					
LAVA	Lava Cap Winer	64.93	301	⇓P	P	05 31 33.8 -0.6
	baz=65					
S06C	San Francisco	64.98	299	P	P	05 31 35.1 +0.4
	baz=65,SNR=13					
OHCM	Honcut	64.98	301	eP	P	05 31 34.4 -0.4
OHCM	Honcut	64.98	301	eP	P	05 31 34.3 -0.4
KCC	Kaiser Creek	65.03	298	⇑P	P	05 31 35.2 +0.2
	baz=65					
N02C	Big Bar	65.05	304	⇑P	P	05 31 34.6 -0.6
	baz=65					
BC3	Big Chuckw Mtn	65.07	293	⇑P	P	05 31 35.3 0.0
	baz=65					
GLA	Glamis	65.07	292	⇓P	P	05 31 35.1 -0.2
	baz=65					
O02C	Red Bluff	65.18	303	⇓P	P	05 31 35.8 -0.2
	baz=65					
BELC	Belle Mtn.	65.18	294	⇑P	P	05 31 36.2 +0.2
	baz=65					
CMB	Columbia Colle	65.20	300	⇑P	P	05 31 35.9 -0.2
	baz=65					
KHMM	Horse Mountain	65.25	304	eP	P	05 31 33.5 -3.0
KHMM	Horse Mountain	65.25	304	eP	P	05 31 33.5 -3.0
LRMC	Laurel Mountai	65.26	296	⇑P	P	05 31 36.7 +0.2
	baz=65					
HELL	Mitchell Peak,	65.28	298	P	P	05 31 36.6 0.0
	baz=65,SNR=22					
T06C	Millerton Lake	65.47	298	⇑P	P	05 31 38.1 +0.2
	baz=65,SNR=9.4					
ISA	Isabella	65.61	297	⇑P	P	05 31 39.9 +1.0
	baz=66,SNR=12					
S05C	Merced	65.62	299	⇑P	P	05 31 39.5 +0.6
	baz=66					
KRAR	Krasnoyarsk	65.63	32	eP	P	05 31 39.9 +1.0
RCTC	Rector, Farmer	65.65	298	⇓P	P	05 31 39.5 +0.5
	baz=66					
PFO	Pinyon Flat Ob	65.73	294	eP	P	05 31 39.8 +0.2
PFO				pmax	pmax	
	comp=Z,8.0nm,1.2s,mb4.6					
PFO	Pinyon Flat Ob	65.73	294	eP	P	05 31 39.8 +0.2
	comp=Z,7.6nm,1.2s,mb4.6					
PFO	Pinyon Flat Ob	65.73	294	⇓P	P	05 31 40.2 +0.6
	baz=66					
PFO	Pinyon Flat Ob	65.73	294	eP	P	05 31 39.8 +0.2
	comp=Z,7.6nm,1.2s,mb4.6					
SWSC	Sam W. Stewart	65.76	293	⇓P	P	05 31 40.3 +0.6
	baz=66					
EDW2	Edwards Air Fo	65.84	296	⇓P	P	05 31 40.9 +0.6
	baz=66					
MNRC	McLaughlin Nat	65.84	302	⇑P	P	05 31 39.9 -0.4
	baz=66					
VES	Vestal, Richgr	65.87	297	⇑P	P	05 31 40.9 +0.4
	baz=66					
P01C	Double 8 Ranch	65.97	303	⇓P	P	05 31 41.5 +0.4
	baz=66					
KDAK	Kodiak Island	66.03	331	eP	P	05 31 43.3 +1.8
KDAK	Kodiak Island	66.03	331	eP	P	05 31 43.3 +1.8
BFSC	Mount Baldy St	66.06	295	⇓P	P	05 31 42.1 +0.4
	baz=66					
S04C	Ingram Canyon,	66.11	300	⇓P	P	05 31 41.6 -0.4
	baz=66					
HOPS	Hopland	66.13	302	eP	P	05 31 47.8 +5.6
HOPS	Hopland	66.13	302	⇑P	P	05 31 42.2 0.0
	baz=66					
DVTC	Desert V Tower	66.14	293	⇓P	P	05 31 43.0 +0.8
	baz=66					
ARVC	Arvin	66.19	296	⇑P	P	05 31 42.9 +0.4
	baz=66					
MURC	Murrieta	66.20	294	⇓P	P	05 31 42.8 +0.2
	baz=66					
WENL	Wente Brothers	66.28	300	⇓P	P	05 31 44.0 +0.8
	baz=66					
PACP	Pacheco Peak	66.41	299	⇑P	P	05 31 44.4 +0.4
	baz=66					
U04C	Hernandez Rese	66.55	299	P	P	05 31 46.1 +1.3
	baz=66,SNR=5.2					
PKM	Peak Mountain	66.94	297	⇓P	P	05 31 48.4 +1.1
	baz=67					
HAST	UC Hastings Re	66.99	299	⇑P	P	05 31 46.7 -0.9
	baz=67					
AAK	Ala-Archa	67.00	52	⇓eP	P	05 31 46.9 -0.8
AAK				pmax	pmax	
	comp=Z,9.0nm,1.7s,mb4.5					
AAK	Ala-Archa	67.00	52	eP	P	05 31 46.5 -1.2
	comp=Z,8.3nm,1.6s,mb4.5					
AAK	Ala-Archa	67.00	52	eP	P	05 31 46.9 -0.8
	comp=Z,9.0nm,1.7s,mb4.5					
MK31	Makanchi Array	68.02	44	eP	P	05 31 53.6 -0.5
MKAR	Makanchi Array	68.02	44	P	P	05 31 53.1 -1.0
	comp=Z,1.6nm,0.8s,mb4.1,baz=320,slow=5.6,SNR=11					
MKAR				LR	LR	06 01 12.8
	comp=Z,286nm,20.0s,MS4.5,baz=331,slow=36					
YAK	Yakutsk	69.58	11	⇓iP	P	05 32 02.5 -1.3
YAK				pmax	pmax	
	comp=Z,29nm,1.3s,mb5.0					
YAK	Yakutsk	69.58	11	iP	P	05 32 02.5 -1.3
	comp=Z,29nm,1.3s,mb5.0					
BOD	Bodaibo	70.55	21	eP	P	05 32 06.6 -3.2
BOD				pmax	pmax	
	comp=Z,11nm,1.4s,mb4.6					
BOD	Bodaibo	70.55	21	eP	P	05 32 06.6 -3.2
	comp=Z,11nm,1.4s,mb4.6					
WMQ	Urumqi	72.78	43	eP	P	05 32 25.1 +1.9
WMQ				AMB	AMB	
	comp=Z,5.0nm,2.0s,mb4.1					
WMQ				AMB	AMB	
	comp=Z,188nm,5.0s					
WMQ				LR	LR	
	comp=N,907nm,14.0s,MS5.2					
WMQ				LR	LR	
	comp=E,352nm,14.0s,MS5.2					
WMQ				LR	LR	
	comp=Z,333nm,26.0s					
LPAZ	La Paz	73.04	221	P	P	05 32 26.1 +1.3
	comp=Z,2.4nm,1.1s,mb4.0,baz=29,slow=10,SNR=3.6					
LPAZ				LR	LR	06 00 17.5
	comp=Z,139nm,20.0s,MS4.2,baz=197,slow=32					
LPAZ	La Paz	73.04	221	eP	P	05 32 22.7 -2.1
LPAZ				pmax	pmax	
	comp=Z,5.0nm,1.3s					
LPAZ	La Paz	73.04	221	eP	P	05 32 22.7 -2.1
	comp=Z,4.6nm,1.3s,mb4.2					
LPAZ	La Paz	73.04	221	eP	P	05 32 22.7 -2.1
	comp=Z,5.0nm,1.3s,mb4.3					
CLNS	Chul'man	73.78	15	eP	P	05 32 25.5 -3.6
CLNS				pmax	pmax	
	comp=N,3.0nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,11nm,1.0s,mb4.7					
CLNS				pmax	pmax	
	comp=E,9.0nm,0.9s					
KMBO	Kilima Mbogo	73.80	110	P	P	05 32 29.8 +0.5
	comp=E,1.3nm,0.8s,mb3.9,baz=334,slow=12,SNR=3.9					
KMBO				LR	LR	06 05 16.7
	comp=E,312nm,20.2s,MS4.6,baz=95,slow=36					
KMBO	Kilima Mbogo	73.80	110	eP	P	05 32 29.8 +0.5
KMBO	Kilima Mbogo	73.80	110	eP	P	05 32 29.8 +0.5
SONM	Songino Array	77.11	30	P	P	05 32 48.0 -0.3
	comp=E,2.7nm,1.0s,mb4.1,baz=324,slow=6.2,SNR=14					
LSZ	Lusaka	79.53	126	eP	P	05 33 00.6 -1.1
LSZ				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.4					
LSZ	Lusaka	79.53	126	eP	P	05 33 00.6 -1.1
	comp=Z,3.7nm,0.8s,mb4.4					
LSZ	Lusaka	79.53	126	eP	P	05 33 00.6 -1.1
	comp=Z,4.0nm,0.8s,mb4.4					
GTA	Gaotai	81.74	39	eP	P	05 33 12.6 -0.9
GTA				AP	pP	05 33 17.2 +2.2
GTA				XP	sP	05 33 19.4 +3.9
GTA				PP	PP	05 36 21.6 +1.3
GTA				AMB	AMB	
	comp=Z,5.0nm,1.3s,mb4.3					
GTA				AMB	AMB	
	comp=Z,104nm,4.6s					
GTA				LR	LR	
	comp=N,219nm,19.0s,MS4.7					
GTA				LR	LR	
	comp=E,197nm,17.9s,MS4.7					
GTA				LR	LR	
	comp=Z,343nm,19.0s,MS4.7					
KLR	Kul'dur	82.26	14	eP	P	05 33 12.8 -3.5
HHC	Hu-ho-hao-te	85.02	30	eP	P	05 33 29.5 -0.9
HHC				AP	pP	05 33 34.4 +2.5
HHC				XP	sP	05 33 36.6 +4.2
HHC				AMB	AMB	
	comp=Z,13nm,0.6s,mb5.2					
HHC				AMB	AMB	
	comp=Z,55nm,4.3s					
HHC				LR	LR	
	comp=N,190nm,16.7s,MS4.7					
HHC				LR	LR	
	comp=E,212nm,20.2s,MS4.7					
HHC				LR	LR	
	comp=Z,143nm,19.0s,MS4.4					
LZH	Lanzhou	86.25	38	eP	P	05 33 37.0 +0.5
LZH				AP	pP	05 33 40.0 +2.0
LZH				XP	sP	05 33 42.0 +3.5
LZH				AMB	AMB	
	comp=Z,32nm,1.0s,mb5.5					
CN2	Changchun	86.25	19	eP	P	05 33 33.9 -2.6
CN2				AMB	AMB	
	comp=Z,10.0nm,0.9s,mb5.0					
BOSA	Boshof	89.06	136	LR	LR	06 13 29.6
	comp=Z,234nm,18.1s,MS4.7,baz=348,slow=35					
CD2	Chengdu	90.64	40	eP	P	05 33 57.1 -0.3
CD2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb5.3					
TIA	Tai'an	91.06	28	eP	P	05 34 03.2 +3.9
KMI	Kunming	95.10	44	P	P	05 34 18.1 +0.1
KMI				AMB	AMB	
	comp=Z,6.0nm,0.6s,mb5.2					
GYA	Guiyang	95.75	40	P	P	05 34 20.8 -0.2
GYA				AP	pP	05 34 24.8 +2.4
GYA				XP	sP	05 34 27.9 +4.9
GYA				AMB	AMB	
	comp=Z,20nm,0.8s,mb5.6					
GYA				AMB	AMB	
	comp=Z,120nm,5.4s					
GYA				LR	LR	
	comp=N,430nm,20.8s,MS5.1					
GYA				LR	LR	
	comp=E,480nm,21.4s,MS5.1					
GYA				LR	LR	
	comp=Z,390nm,21.0s,MS4.9					
TAOE	Nuku Hiva Isla	111.95	281	eLR	LR	06 12 47.8
	comp=Z,631nm,24.6s					
RKT	Rikitea	118.45	266	eSS	SS	05 57 25.7 +9.3
	comp=Z,52nm,30.8s					
RKT				eLR	LR	06 15 58.8
	comp=Z,121nm,29.2s					
PPT	Papeete	124.54	282	eSS	SS	05 58 40.4 +6.1
	comp=Z,41nm,25.0s					
PPT				eLR	LR	06 18 43.3
	comp=Z,239nm,26.2s					
TBI	Tubuai	128.47	277	eLR	LR	06 20 36.5
	comp=Z,188nm,39.5s					
WRAB	Tennant Creek	148.96	35	ePKP2	PKPab	05 40 42.4 -4.5
WRA	Warramunga Arr	148.97	35	PKPbc	PKPbc	05 40 40.6 -2.3
	comp=Z,1.7nm,0.7s,baz=341,slow=3.0,SNR=12					
VNDA	Vanda	149.35	184	PKPbc	PKPbc	05 40 41.7 -2.1
	comp=Z,5.4nm,1.1s,baz=289,slow=1.8,SNR=9.0					
VNDA	Vanda	149.35

ACX				*i* S	Sg	05 23 31.2	+0.5
MEIG	**Mezcala**	**1.56**	**32**	*i* P	Pn	05 23 37.0	-2.7
MEIG				*i* S	Sn	05 23 55.1	-5.3
PLIG	**Platanillo**	**2.02**	**27**	*i* P	Pn	05 23 43.4	-2.6
PLIG				*i* S	Sn	05 24 06.8	-4.8

NIED ***07*** *05:36:00,2590N×12850E,h14km,Mw4.8 Best double couple: M₀1.79000×10¹⁶ NP1:φs40.00000°,δ56.00000°, λ91.00000°. NP2:φs217.00000°,δ34.00000°,λ88.00000°.*
IDC ***07*** *05:36:32.9±0.7,2592N×12825E,h0km,mb4.6/16, mb1 4.7/19,mb1mx4.7/24,mbtmp4.6/19,ML4.1/3,MS4.0/13, Ms1 4.0/13,ms1mx3.8/29,Error ellipse: s-maj=24.6km s-min=14.2km az=84.0*
BJI ***07*** *05:36:35.0,2581N×12851E,h38km,mB4.7,mb4.8,Ms4.7, Msz4.5*
JMA ***07*** *05:36:35.1±0.2,2587N×12850E,h48km,M5.0*
ISCJB ***07*** *05:36:35.6±0.7,2588N±003×12838E±003,h31km±4km, mb4.9/79,MS4.4/24,Error ellipse: s-maj=5.0km s-min=3.4km az=97.3*
MOS ***07*** *05:36:36.9±1.2,2598N×12830E,h33km,mb5.1/33, MS4.5/6,Error ellipse: s-maj=11.1km s-min=5.5km az=116.2*
GCMT ***07*** *05:36:37.3±0.4,2574N×12850E,h28km±1km,MW4.9/61, Moment Tensor Solution. s21,c25; s61,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.01±.18; Mθθ-1.14±.11; Mφφ-0.87±.11; Mrθ1.54±.16; Mθφ-1.13±.07; Mφr1.04±.15; Best double couple: M₀2.78900×10¹⁶ NP1:φs222.00000°,δ24.00000°,λ80.00000°. NP2: φs54.00000°,δ66.00000°,λ95.00000°. Principal axes: T 2.7290, Plg69.0000°, Azm332.0000°; N 0.1100, Plg4.0000°, Azm232.0000°; P -2.8480, Plg21.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *05:36:37.3±0.2,2592N×12832E,mb4.9/45,MW4.8(NIED) Error ellipse: s-maj=6.8km s-min=5.7km az=92.0*
SZGRF ***07*** *05:36:53.1,2774N×12724E,h26km,mb5.4,Ryukyu Islands, Japan*

ISC 07 05:36:37.1±0.8,2591N±003×12834E±003,h27km±4km, h27km±1.1km:pP-P,n245,σ1§21/267,mb4.9/79,MS4.4/24, 15C-9D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.58**	**293**	P	**Pb**	**05 36 49.3**	**+0.6**
JJT2				S	**Sb**	**05 36 59.7**	**+3.2**
NAH1	**Naha**	**0.65**	**296**	P	**Pb**	**05 36 50.1**	**+0.2**
NAH1				S	**Sb**	**05 37 00.1**	**+1.4**
JOW	**Kunigami**	**0.92**	**356**	Pn	**Pn**	**05 36 52.6**	**-1.5**
	1μm,0.3s,baz=163,slow=15,SNR=856						
JOW				Sn	**Sn**	**05 37 07.6**	**+1.2**
	2μm,0.3s,baz=108,slow=18,SNR=29						
JOW	**Kunigami**	**0.92**	**356**	P	**Pn**	**05 36 52.6**	**-1.5**
JOW				*e*S	**Sb**	**05 37 05.6**	**-0.5**
JIH	**Iheya**	**1.17**	**343**	P	**Pn**	**05 36 56.8**	**-0.8**
JIH				*e*S	**Sn**	**05 37 13.1**	**+0.5**
JAGN	**Aguni-jima**	**1.20**	**304**	P	**Pn**	**05 36 58.0**	**0.0**
JAGN				*e*S	**Sn**	**05 37 14.9**	**+1.6**
JKE	**Kume jima 2**	**1.46**	**287**	P	**Pn**	**05 37 01.3**	**-0.3**
JKE				*e*S	**Sn**	**05 37 20.6**	**+0.8**
JTK	**Tokunoshima**	**1.94**	**16**	P	**Pn**	**05 37 06.5**	**-1.7**
JTK				*e*S	**Sn**	**05 37 30.0**	**-1.7**
JMZ	**Minamidaito 2**	**2.59**	**91**	P	**Pn**	**05 37 13.2**	**-4.0**
JMZ				S	**Sn**	**05 37 41.0**	**-6.8**
JAM	**Amami Oshima**	**2.73**	**24**	P	**Pn**	**05 37 17.4**	**-1.7**
JAM				S	**Sn**	**05 37 48.9**	**-2.3**
JZK	**Kikaishima**	**2.80**	**31**	P	**Pn**	**05 37 19.2**	**-0.8**
JZK				*e*S	**Sn**	**05 37 50.7**	**-2.2**
JOGS	**Gusukube**	**2.90**	**247**	P	**Pn**	**05 37 21.4**	**+0.1**
JOGS				*e*S	**Sn**	**05 37 56.4**	**+1.2**
JMJ	**Miyako jima 2**	**2.97**	**249**	P	**Pn**	**05 37 22.7**	**+0.4**
JMJ				*e*S	**Sn**	**05 37 55.7**	**-1.3**
JTJ	**Tarama**	**3.53**	**250**	P	**Pn**	**05 37 29.6**	**-0.5**
JTJ				S	**Sn**	**05 38 10.0**	**-1.0**
JIJ	**Ishigaki jima**	**4.11**	**249**	P	**Pn**	**05 37 36.5**	**-1.5**
JIJ				*e*S	**Sn**	**05 38 22.5**	**-2.7**
JKRS	**Kuro-shima**	**4.27**	**248**	P	**Pn**	**05 37 38.1**	**-2.1**
JKRS				*e*S	**Sn**	**05 38 27.8**	**-1.4**
IRIF	**Iriomote-Funau**	**4.47**	**250**	P	**Pn**	**05 37 43.2**	**+0.2**
YOJ	**Yonaguni jima**	**5.04**	**254**	P	**Pn**	**05 37 49.7**	**-1.2**
NACB	**Ninganchiao**	**6.36**	**256**	*e*Pn	**Pn**	**05 38 06.9**	**-2.1**
YHNB	**Yeheng**	**6.43**	**260**	*e*Pn	**Pn**	**05 38 10.7**	**+0.8**
JNU	**Nakatsue**	**7.51**	**16**	Pn	**Pn**	**05 38 24.6**	**-0.2**
	4.8nm,0.3s,baz=228,slow=12,SNR=15						
SSE	**Sheshan**	**8.14**	**311**	P	**Pn**	**05 38 33.5**	**+0.1**
SSE				AMB	AMB		
	comp=Z,52nm,0.6s						
SSE				AMB	AMB		
	comp=Z,174nm,4.1s						
SSE				LR	LR		
	comp=N,3μm,11.5s						
SSE				LR	LR		
	comp=E,2μm,11.5s						
SSE				LR	LR		
	comp=Z,4μm,12.4s						
QZH	**Quanzhou**	**8.87**	**266**	P	**Pn**	**05 38 43.1**	**-0.3**
QZH				*e*S	**Sn**	**05 40 20.4**	**-2.0**
QZH				AMB	AMB		
	comp=Z,60nm,0.6s						
QZH				LR	LR		
	comp=N,3μm,15.4s						
QZH				LR	LR		
	comp=E,2μm,12.1s						
QZH				LR	LR		
	comp=Z,3μm,13.4s						
KSRS	**Korea Array**	**11.51**	**358**	Pn	**Pn**	**05 39 20.0**	**+0.4**
	baz=176,slow=14,SNR=14						
KSRS				LR	LR	05 44 04.5	
	comp=Z,1μm,18.2s,baz=179,slow=39						
JHJ	**Hachijo jima 2**	**12.28**	**52**	LR	LR	05 43 00.6	
	comp=Z,370nm,21.0s,baz=268,slow=31						
CBIJ	**Chichi jima**	**12.45**	**82**	LR	LR	05 43 32.3	
	comp=Z,251nm,21.7s,baz=127,slow=34						
MAT	**Matsushiro**	**13.54**	**36**	P	**Pn**	**05 39 47.3**	**+0.1**
MAT				S	**Sn**	**05 42 24.0**	**+7.3**
MJAR	**Matsushiro Arr**	**13.54**	**36**	Pn	**Pn**	**05 39 47.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=273,slow=9.4,SNR=4.8						
SNY	**Shenyang**	**16.35**	**347**	⇑P	**Pn**	**05 40 28.1**	**+3.4**
SNY				AP	pP	05 40 38.4	+3.8
SNY				XP	sP	05 40 44.4	+6.3
SNY				AMB	AMB		
	comp=Z,14nm,1.3s						
SNY				AMB	AMB		
	comp=Z,270nm,3.5s						
SNY				LR	LR		
	comp=E,1μm,17.3s						
SNY				LR	LR		
	comp=Z,1μm,15.7s						
BJT	**Baijiatuau**	**17.36**	**327**	*e*P	**Pn**	**05 40 37.5**	**+0.2**
BJT				pmax	pmax		
	comp=Z,25nm,0.6s						
BJT	**Baijiatuau**	**17.36**	**327**	*e*P	**Pn**	**05 40 37.5**	**+0.2**
	comp=Z,25nm,0.6s						
VLA	**Vladivostok**	**17.41**	**9**	*e*P	**Pn**	**05 40 36.2**	**-1.7**
VLA				pmax	pmax		
	comp=Z,35nm,0.7s						
VLA				MLR	MLR		
	comp=Z,500nm,13.3s						
CN2	**Changchun**	**18.00**	**353**	*e*P	**Pn**	**05 40 47.9**	**+2.6**
CN2				*e*XP	sP	05 41 00.2	+3.9
CN2				*e*S	**Sn**	**05 44 05.3**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,12.0s						
CN2				LR	LR		
	comp=E,800nm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
QIZ	**Qiongzhong**	**18.41**	**252**	*e*P	**Pn**	**05 40 52.5**	**+2.3**
QIZ				AP	pP	05 41 01.3	+3.9
QIZ				S	**Sn**	**05 44 20.1**	**+5.1**
QIZ				XS	sS	05 44 27.9	-2.7
QIZ				SS		05 44 40.5	
QIZ				AMB	AMB		
	comp=Z,34nm,1.4s						
QIZ				LR	LR		
	comp=N,1μm,20.0s						
QIZ				LR	LR		
	comp=E,497nm,21.2s						
QIZ				LR	LR		
	comp=Z,1μm,19.3s						
MDJ	**Mudanjiang**	**18.69**	**3**	P	**Pn**	**05 40 54.2**	**+0.6**
MDJ				AP	pP	05 41 00.0	-0.4
MDJ				S	**Sn**	**05 44 24.0**	**+2.2**
MDJ				XS	sS	05 44 37.1	+0.9
MDJ				PCP	PcP	05 45 19.4	-1.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,78nm,4.8s						
MDJ				LR	LR		
	comp=N,292nm,8.8s						
MDJ				LR	LR		
	comp=E,315nm,11.7s						
MDJ				LR	LR		
	comp=Z,548nm,11.3s						
GYA	**Guiyang**	**19.46**	**276**	⇑*i*P	**Pn**	**05 41 03.8**	**+0.8**
GYA				AP	pP	05 41 10.6	+1.6
GYA				XP	sP	05 41 16.8	+4.4
GYA				PP		05 41 22.0	
GYA				PPP		05 41 30.9	
GYA				S	**Sn**	**05 44 35.6**	**-4.9**
GYA				SS		05 45 01.9	
GYA				PCP	PcP	05 45 24.4	+2.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,250nm,5.7s						
GYA				LR	LR		
	comp=N,1μm,15.8s						
GYA				LR	LR		
	comp=E,1μm,13.2s						
GYA				LR	LR		
	comp=Z,1μm,12.8s						
GUMO	**Guam**	**19.78**	**125**	LR	LR	05 48 48.4	
	comp=Z,64nm,18.3s,baz=73,slow=37						
HHC	**Hu-ho-hao-te**	**20.40**	**321**	*e*P	**P**	**05 41 12.3**	**+0.5**
HHC				AP		05 41 21.1	
HHC				PP		05 41 33.2	
HHC				S	**S**	**05 44 53.8**	**-5.1**
HHC				PCP	PcP	05 45 24.6	+0.9
HHC				SCP	ScP	05 48 57.0	-1.2
HHC				PCS	PcS	05 49 01.0	-0.3
HHC				AMB	AMB		
	comp=Z,26nm,1.2s						
HHC				AMB	AMB		
	comp=Z,116nm,5.2s						
HHC				LR	LR		
	comp=N,1μm,12.4s,MS4.7						
HHC				LR	LR		
	comp=E,1μm,12.5s,MS4.7						
HHC				LR	LR		
	comp=Z,2μm,12.2s,MS4.7						
BTO	**Baotou**	**21.14**	**318**	*e*P	**P**	**05 41 18.5**	**-1.3**
CD2	**Chengdu**	**22.17**	**289**	P	**P**	**05 41 29.2**	**-1.7**
CD2				PP		05 41 57.0	
CD2				S	**S**	**05 45 26.5**	**-7.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,90nm,4.8s						
CD2				LR	LR		
	comp=N,2μm,12.6s,MS4.9						
CD2				LR	LR		
	comp=E,2μm,12.6s,MS4.9						
CD2				LR	LR		
	comp=Z,3μm,13.8s,MS4.8						
KMI	**Kunming**	**23.11**	**274**	P	**P**	**05 41 42.3**	**+1.5**
KMI				AP		05 41 50.2	
KMI				XP	sP	05 41 53.7	+2.0
KMI				PP		05 42 11.8	
KMI				S	**S**	**05 45 45.6**	**-4.7**
KMI				SS		05 46 31.2	
KMI				SSS		05 46 45.9	
KMI				AMB	AMB		
	comp=Z,51nm,0.9s,mb5.0						
KMI				AMB	AMB		
	comp=Z,135nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,14.8s,MS4.6						
KMI				LR	LR		
	comp=E,793nm,11.5s,MS4.6						
KMI				LR	LR		
	comp=Z,797nm,13.8s,MS4.3						
HABR	**Khabarovsk**	**23.12**	**11**	*e*P	**P**	**05 41 36.0**	**-5.0**
HABR				*e*S	**S**	**05 45 37.7**	**-13**
LZH	**Lanzhou**	**23.26**	**302**	*e*P	**P**	**05 41 41.0**	**-1.4**
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,158nm,5.0s						
LZH				LR	LR		
	comp=N,1μm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,14.4s,MS4.6						
KLR	**Kul'dur**	**23.43**	**6**	*e*P	**P**	**05 41 39.8**	**-4.4**
YSS	**Yuzh-Sakhalins**	**23.91**	**25κ**	*i*P	**P**	**05 41 49.7**	**+1.1**
YSS				*i* *PP		05 41 57.0	
YSS				S	**S**	**05 46 06.0**	**+2.7**
YSS				pmax	pmax		
	comp=N,130nm,1.2s						
YSS				pmax	pmax		
	comp=Z,220nm,1.2s,mb5.5						
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.0						
YSS	**Yuzh-Sakhalins**	**23.91**	**25**	*e*P	**P**	**05 41 49.5**	**+0.9**
	comp=Z,108nm,0.8s,mb5.3						
GTA	**Gaotai**	**27.40**	**306**	⇑P	**P**	**05 42 19.4**	**-0.8**
GTA				PP		05 43 07.0	
GTA				PPP		05 43 18.8	
GTA				S	**S**	**05 46 56.3**	**-2.4**
GTA				AMB	AMB		
	comp=Z,123nm,0.6s,mb5.6						
GTA				AMB	AMB		
	comp=Z,159nm,7.2s						
GTA				LR	LR		
	comp=N,718nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=E,862nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=Z,1μm,16.0s,MS4.6						
SONM	**Songino Array**	**27.87**	**327**	P	**P**	**05 42 23.3**	**-1.2**
	comp=Z,17nm,0.8s,mb4.7,baz=143,slow=8.6,SNR=52						
CHTO	**Chiang Mai**	**28.05**	**261**	*e*P	**P**	**05 42 27.3**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**28.05**	**261**	*e*P	**P**	**05 42 27.3**	**+1.3**
	comp=Z,12nm,0.8s,mb4.6						
TLY	**Talaya**	**31.84**	**330**	*e*P	**P**	**05 43 02.7**	**+3.2**
TLY				*e*S	**S**	**05 48 01.7**	**-6.7**
TLY				*e*SS	SS	05 50 19.3	-6.0
TLY				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
TLY				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.7						
LSA	**Lhasa**	**33.02**	**285**	*e*P	**P**	**05 43 10.9**	**+1.0**
LSA				*e**PP	pP	05 43 19.0	+1.1
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
LSA	**Lhasa**	**33.02**	**285**	*e*P	**P**	**05 43 10.9**	**+1.0**
	comp=Z,11nm,0.6s,mb5.0						
LSA				*e*pP	pP	05 43 19.0	+1.1
KULM	**Kulim**	**33.50**	**237**	*e*P	**P**	**05 43 13.7**	**-0.3**
PET	**Petropavlovsk**	**35.31**	**32**	*e*P	**P**	**05 43 33.1**	**+3.3**
PET				pmax	pmax		
	comp=Z,49nm,1.7s,mb5.2						
YAK	**Yakutsk**	**36.12**	**1**	*e*P	**P**	**05 43 35.0**	**-1.7**
YAK				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.4						
YAK	**Yakutsk**	**36.12**	**1**	*e*P	**P**	**05 43 35.8**	**-0.9**
	comp=Z,32nm,0.7s,mb5.4						
WMQ	**Urumqi**	**37.39**	**309**	P	**P**	**05 43 47.4**	**-0.1**
WMQ				PP	PP	05 45 13.7	+0.7
WMQ				PCP	PcP	05 46 06.6	+0.6
WMQ				S	**S**	**05 49 33.3**	**-0.7**
WMQ				SCP	ScP	05 49 50.1	-1.3
WMQ				PCS	PcS	05 49 52.4	-2.1
WMQ				SS	SS	05 52 05.7	-13
WMQ				SCS	ScS	05 53 56.2	-3.3
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,60nm,3.0s						
WMQ				LR	LR		
	comp=N,356nm,11.0s,MS4.7						
WMQ				LR	LR		
	comp=E,599nm,11.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,330nm,26.0s						
JIRN	**Jiri**	**37.54**	**282**	*e*P	**P**	**05 43 49.6**	**+0.8**
	comp=Z,37nm,0.7s,mb5.2						
JIRN	**Jiri**	**37.54**	**282**	*e*P	**P**	**05 43 49.8**	**+1.0**
	comp=Z,37nm,0.7s,mb5.2						
GUN	**Gumba**	**37.78**	**283**	*e*P	**P**	**05 43 51.7**	**+0.9**
	comp=Z,113nm,1.0s,mb5.6						
GUN	**Gumba**	**37.78**	**283**	*e*P	**P**	**05 43 51.8**	**+1.0**
	comp=Z,110nm,1.0s,mb5.5						
PKI	**Pulchoki**	**38.24**	**282**	*e*P	**P**	**05 43 55.3**	**+0.6**
	comp=Z,109nm,0.8s,mb5.6						
PKI	**Pulchoki**	**38.24**	**282**	*e*P	**P**	**05 43 55.4**	**+0.7**
	comp=Z,111nm,0.8s,mb5.6						
KKN	**Kakani**	**38.32**	**283**	*e*P	**P**	**05 43 56.1**	**+0.7**
	comp=Z,147nm,0.9s,mb5.7						
KKN	**Kakani**	**38.32**	**283**	*e*P	**P**	**05 43 56.1**	**+0.7**
	comp=Z,138nm,0.9s,mb5.7						
DMN	**Daman**	**38.50**	**282**	*e*P	**P**	**05 43 57.6**	**+0.7**
	comp=Z,108nm,1.0s,mb5.5						
DMN	**Daman**	**38.50**	**282**	*e*P	**P**	**05 43 57.7**	**+0.8**
	comp=Z,115nm,1.0s,mb5.6						
KAKA	**Kakadu**	**38.60**	**174**	*e*P	**P**	**05 43 56.9**	**-0.8**
	comp=Z,16nm,1.4s,mb4.5						
GKN	**Gorkha**	**38.86**	**283**	*e*P	**P**	**05 44 00.4**	**+0.5**
	comp=Z,147nm,0.9s,mb5.7						
GKN	**Gorkha**	**38.86**	**283**	*e*P	**P**	**05 44 00.5**	**+0.6**
	comp=Z,156nm,0.9s,mb5.7						
KOLN	**Koldanda**	**39.80**	**283**	*e*P	**P**	**05 44 08.6**	**+0.8**
	comp=Z,121nm,0.9s,mb5.7						
KOLN	**Koldanda**	**39.80**	**283**	*e*P	**P**	**05 44 08.7**	**+0.9**
	comp=Z,120nm,0.9s,mb5.6						
SEY	**Seymchan**	**40.29**	**17**	*e*P	**P**	**05 44 12.0**	**+0.2**
MK31	**Makanchi Array**	**41.82**	**312**	*e*P	**P**	**05 44 23.8**	**-0.6**
MKAR	**Makanchi Array**	**41.82**	**312**	P	**P**	**05 44 23.5**	**-0.9**
	comp=Z,6.6nm,0.5s,mb4.5,baz=93,slow=9.3,SNR=54						
MKAR				PcP	PcP	05 46 20.7	+0.6
	comp=Z,2.7nm,0.7s,baz=88,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**41.82**	**312**	P	**P**	**05 44 23.5**	**-0.9**
MKAR				PcP	PcP	05 46 20.7	+0.6
ZAL	**Zalesovo**	**42.57**	**323**	P	**P**	**05 44 29.2**	**-1.2**
	comp=Z,3.8nm,0.7s,mb4.2,baz=359,slow=7.9,SNR=12						
NVS	**Novosibirsk**	**43.76**	**324**	*e*P	**P**	**05 44 38.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**43.83**	**184**	*e*P	**P**	**05 44 41.0**	**+0.3**
	comp=Z,8.5nm,0.8s,mb4.5						
FITZ				*e*pP	pP	05 44 49.3	+0.4
KURK	**Kurchatov**	**45.12**	**317**	*c i*P	**P**	**05 44 49.9**	**-1.1**
KURK	**Kurchatov**	**45.12**	**317**	*e*P	**P**	**05 44 49.6**	**-1.4**
	comp=Z,39nm,1.3s,mb5.1						
TIXI	**Tiksi**	**45.77**	**0**	*e*P	**P**	**05 44 52.9**	**-3.3**
TIXI				*e*S	**S**	**05 51 32.9**	**-5.2**
TIXI				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,291nm,14.0s,MS4.4						
TIXI	**Tiksi**	**45.77**	**0**	*e*P	**P**	**05 44 54.7**	**-1.5**
	comp=Z,11nm,0.3s,mb5.2						
WRAB	**Tennant Creek**	**45.94**	**172**	*e*P	**P**	**05 44 57.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**45.94**	**172**	*e*P	**P**	**05 44 57.5**	**0.0**
	comp=Z,11nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**45.95**	**172**	P	**P**	**05 44 57.7**	**+0.1**
	comp=Z,8.8nm,0.7s,mb4.8,baz=353,slow=8.6,SNR=41						
WRA				LR	LR	06 04 34.9	
	comp=Z,79nm,18.5s,MS3.7,baz=0.0,slow=37						
WB2	**Warramunga Arr**	**45.95**	**172**	*e*P	**P**	**05 44 57.5**	**-0.1**
WB2				*e*pP	pP	05 45 05.5	-0.3
WB2				*e*sP	sP	05 45 10.6	+1.5
AAK	**Ala-Archa**	**46.73**	**305**	⇑*i*P	**P**	**05 45 03.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**46.73**	**305**	*e*P	**P**	**05 45 02.7**	**-1.0**
	comp=Z,4.3nm,0.8s,mb4.4						
BILL	**Bilibino**	**47.94**	**18**	*b e*P	**P**	**05 45 15.3**	**+2.2**
BILL				*e*	pP	05 45 21.3	-0.1
BILL				pmax	pmax		
	comp=Z,27nm,1.7s,mb5.0						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.2						
BILL	**Bilibino**	**47.94**	**18**	*e*P	**P**	**05 45 12.6**	**-0.5**
	comp=Z,18nm,1.0s,mb5.1						
CTA	**Charters Tower**	**48.92**	**157**	*e*P	**P**	**05 45 21.6**	**+0.9**
	comp=Z,7.4nm,0.7s,mb4.8						
CTA				*e*pP	pP	05 45 29.6	+0.6
CTA	**Charters Tower**	**48.92**	**157**	*e*P	**P**	**05 45 21.6**	**+0.9**
CTA				*e**PP	pP	05 45 29.6	+0.6
CTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	**48.92**	**157**	*e*P	**P**	**05 45 21.2**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**48.92**	**157**	*e*P	**P**	**05 45 21.2**	**+0.5**
	comp=Z,12nm,0.8s,mb5.0						
KK31	**Karatay Array**	**49.68**	**306**	*i* P	**P**	**05 45 27.0**	**+0.6**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
KKAR	**Karatay Array**	**49.68**	**306**	*i* P	**P**	**05 45 27.0**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**50.55**	**319**	*e*P	**P**	**05 45 32.4**	**-0.7**
CHKZ				*e*		05 46 55.7	
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**50.55**	**319**	*e*P	**P**	**05 45 32.4**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.6						
CHKZ				*e*PcP	PcP	05 46 55.7	+5.1
BVA0	**Borovoye Array**	**50.58**	**318**	*i* P	**P**	**05 45 33.4**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
BRVK	**Borovoye**	**50.65**	**319**	*e*P	**P**	**05 45 33.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
BRVK	**Borovoye**	**50.65**	**319**	*e*P	**P**	**05 45 33.8**	**0.0**
	comp=Z,28nm,0.8s,mb5.2						
SVE	**Sverdlovsk**	**56.57**	**322**	*e*P	**P**	**05 46 13.0**	**-4.2**
SVE				MLR	MLR		
	comp=E,800nm,14.0s						
SVE				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.1						
AB31	**Akbulak array**	**56.94**	**313**	P	**P**	**05 46 19.6**	**-0.2**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ARU	**Arti**	**57.70**	**322**	⇑*i*P	**P**	**05 46 24.3**	**-0.9**
ARU				*e*		05 46 37.7	
ARU				*e*		05 47 16.4	
ARU				*e*		05 48 29.0	
ARU				*e*S	**S**	**05 54 13.9**	**-8.3**
ARU				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS4.8						
ARU				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,600nm,18.0s,MS4.8						
ARU	**Arti**	**57.70**	**322**	*e*P	**P**	**05 46 24.7**	**-0.5**
	comp=E,12nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**58.84**	**167**	*e*P	**P**	**05 46 32.7**	**-0.5**
	comp=E,1.6nm,0.6s,mb4.2						
STKA				*e*pP	pP	05 46 41.5	-0.1
STKA	**Stephens Creek**	**58.84**	**167**	P	**P**	**05 46 33.0**	**-0.2**
	comp=E,2.3nm,0.7s,mb4.3,baz=316,slow=7.5,SNR=4.6

COLA **College** 64.25 28 *eP* **P** 05 47 10.5 +0.8
COLA **College** 64.25 28 *eP* **P** 05 47 09.8 +0.2
comp=Z,4.0nm,0.6s,mb4.6
ZEI **Tsey** 69.01 308 *eP* **P** 05 47 40.5 +0.5
ZEI *e**PP pP 05 47 56.1 +7.5
ZEI pmax pmax
comp=Z,15nm,0.6s,mb5.1
INK **Inuvik** 69.14 23 *eP* **P** 05 47 40.6 -0.3
comp=Z,486nm,1.4s
GNI **Garni** 69.14 305 *eP* **P** 05 47 42.3 +1.4
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI **Garni** 69.14 305 *eP* **P** 05 47 42.2 +1.4
comp=Z,9.0nm,0.9s,mb4.7
KIV **Kislovodsk** 69.52 310 *eP* **P** 05 47 44.6 +1.4
KIV pmax pmax
comp=Z,41nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,160nm,17.0s,MS4.3
KIV **Kislovodsk** 69.52 310 *eP* **P** 05 47 44.3 +1.1
comp=Z,18nm,0.6s,mb5.2
KIV *e*pP pP 05 47 53.5 +1.7
KEV **Kevo** 69.77 339 *ep* **P** 05 47 43.4 -1.4
comp=Z,16nm,0.8s,mb5.0
KEV **Kevo** 69.77 339 *eP* **P** 05 47 43.4 -1.4
KEV pmax pmax
comp=Z,16nm,0.8s,mb5.0
OBN **Obninsk** 70.14 322 ⇑P **P** 05 47 47.0 0.0
OBN *e* pP 05 47 55.9 +0.3
OBN 05 48 16.0
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.7
ARCES **ARCESS Array B** 70.34 339 P **P** 05 47 47.6 -0.6
comp=Z,4.7nm,0.8s,mb4.5,baz=79,slow=6.3,SNR=6.9
ARCES LR LR 06 24 10.6
comp=Z,224nm,18.3s,MS4.5,baz=260,slow=41
JOF **Joensuu** 70.37 331 *ep* **P** 05 47 47.2 -1.2
comp=Z,7.7nm,0.7s,mb4.7
AFI **Afiamalu** 70.42 117 LR LR 06 11 04.2
comp=Z,52nm,21.9s,MS3.7,baz=283,slow=29
SOC **Sochi** 71.68 310c *iP* **P** 05 47 56.8 +0.4
SOC *e**PP pP 05 48 11.6 +6.6
SOC *eS* S 05 57 07.3 -7.1
SOC *e* 05 57 59.8
SOC pmax pmax
comp=Z,24nm,0.9s,mb5.1
SOC MLR MLR
comp=Z,329nm,21.0s,MS4.6
KAF **Kangasniemi** 72.83 331 *ep* **P** 05 48 01.8 -1.4
baz=65,slow=5.5
ANN **Anapa** 72.84 312 *eP* **P** 05 48 03.3 0.0
ANN pmax pmax
comp=Z,33nm,1.3s,mb5.1
MARD **Mardin** 72.97 304 *iP* **P** 05 47 58.3 -5.8
FINES **FINESS Array B** 73.19 331 P **P** 05 48 05.2 -0.2
comp=Z,6.1nm,0.6s,mb4.7,baz=74,slow=6.3,SNR=23
FINES LR LR 06 26 19.6
comp=Z,168nm,20.5s,MS4.3,baz=47,slow=41
FINES **FINESS Array B** 73.19 331⇑*eP* **P** 05 48 05.1 -0.3
ELZG **Elazig** 73.90 305 *iP* **P** 05 48 08.8 -0.7
MALT **Malatya** 74.37 305 *eP* **P** 05 48 14.0 +1.7
MALT pmax pmax
comp=Z,69nm,1.5s,mb5.4
MALT **Malatya** 74.37 305 *eP* **P** 05 48 13.9 +1.6
comp=Z,69nm,1.5s,mb5.4
DAG **Danmarks Havn** 75.58 353⇓*iP* **P** 05 48 18.1 -1.2
comp=Z,3.0nm,0.8s,mb4.3
DAG **Danmarks Havn** 75.58 353⇓*eP* **P** 05 48 18.1 -1.2
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BOYT **Boyabat** 75.77 309 *iP* **P** 05 48 18.4 -2.0
AKASG **Malin Array Be** 75.84 320 P **P** 05 48 20.5 -0.2
comp=Z,15nm,0.6s,mb5.1,baz=58,slow=6.4,SNR=84
AKASG **Malin Array Be** 75.84 320 P **P** 05 48 20.5 -0.2
AKBB **Malin Array Si** 75.84 320 *eP* **P** 05 48 20.5 -0.3
RES **Resolute Bay** 75.84 11 *eP* **P** 05 48 20.4 -0.4
comp=Z,561nm,0.6s
RES *e*pP pP 05 48 32.7 +3.3
KIEV **Kiev** 75.85 320 *eP* **P** 05 48 20.6 -0.2
KIEV pmax pmax
comp=Z,20nm,0.6s,mb5.2
KIEV **Kiev** 75.85 320 *eP* **P** 05 48 20.6 -0.2
comp=Z,20nm,0.6s,mb5.2
CTKT **Corum** 76.15 309 *iP* **P** 05 48 20.3 -2.2
BALT **Daday** 76.78 310 *iP* **P** 05 48 23.2 -2.9
AVNT **Avonos** 76.80 307 *iP* **P** 05 48 24.1 -2.1
ELDT **Eldivan** 77.16 309 *iP* **P** 05 48 28.0 -0.3
BR131 **Keskin Array S** 77.31 308 *eP* **P** 05 48 29.9 +0.9
comp=Z,8.7nm,0.7s,mb4.8
BR131 *e*pP pP 05 48 38.2 +0.4
BRTR **Keskin Array B** 77.31 308 P **P** 05 48 30.1 +1.0
comp=Z,14nm,0.8s,mb4.9,baz=96,slow=5.2,SNR=78
ANTO **Ankara** 77.85 308⇑*iP* **P** 05 48 33.2 +1.1
SGKT **Sivrigoynuk** 78.08 309 *iP* **P** 05 48 33.7 +0.3
YKA **Yellowknife Ar** 78.77 25 *iP* **P** 05 48 37.2 +0.1
comp=Z,2.1nm,0.8s,mb4.1,baz=307,slow=5.6,SNR=22
YKA **Yellowknife Ar** 78.77 25 P **P** 05 48 37.2 0.0
TIRR **Tirgusor** 78.92 314 *eP* **P** 05 48 37.9 -0.1
TIRR *e**PP pP 05 48 47.0 +0.3
TIRR pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TIRR **Tirgusor** 78.92 314 *eP* **P** 05 48 37.9 -0.1
comp=Z,7.0nm,1.1s,mb4.5
TIRR *e*pP pP 05 48 47.0 +0.3
HFS **Hagfors** 79.15 332 P **P** 05 48 38.7 -0.6
comp=Z,4.0nm,0.6s,mb4.5,baz=77,slow=6.4,SNR=8.8
ESKT **Eskisehir** 79.36 309 *iP* **P** 05 48 37.6 -2.9
VRI **Vrincioaia** 79.38 316⇓*iP* **P** 05 48 42.6 +2.0
PSN **Preselentsi** 79.41 313 *iP* **P** 05 48 49.9 +9.2
CSS **Prodhromos** 79.44 304 *eP* **P** 05 48 41.2 +0.4
comp=Z,32nm,0.8s,mb5.3
CSS *e*pP pP 05 48 49.5 -0.1
PLOR **Plostina** 79.44 316⇑*iP* **P** 05 48 42.5 +1.6
BURAR **Bucovina Array** 79.53 318⇓*iP* **P** 05 48 42.6 +1.2
NB2 **NORSAR Subarra** 79.64 334 P **P** 05 48 41.3 -0.7
comp=Z,4.9nm,0.6s,mb4.6,baz=53,slow=5.6
NOA **NORSAR Array B** 79.64 334 P **P** 05 48 41.5 -0.4
comp=Z,7.5nm,0.7s,mb4.7,baz=52,slow=5.5,SNR=25
NOA LR LR 06 31 03.2
comp=Z,159nm,18.8s,MS4.4,baz=90,slow=41
PRD **Provadia** 80.13 313 *iP* **P** 05 48 53.7 +9.1
ULDT **Uludag** 80.29 310 *iP* **P** 05 48 44.3 -1.2
ISP **Isparta** 80.31 307 *eP* **P** 05 48 45.5 -0.1
TKTP **Tekketepe** 80.36 308 *iP* **P** 05 48 43.3 -2.5
KOLS **Kolonicke sedl** 80.66 320 *eP* **P** 05 48 47.7 +0.3
KOLS *e*pP pP 05 48 53.9 -2.2
STHS **Stebnicka Huta** 81.01 321 *eP* **P** 05 48 51.5 +2.2
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
STHS **Stebnicka Huta** 81.01 321 *eP* **P** 05 48 51.5 +2.2
comp=Z,2.1nm,0.8s,mb4.1
SZH **Strazhica** 81.06 314 *iP* **P** 05 48 50.4 +0.8
CRVS **Cervenica-Dubn** 81.14 320 *eP* **P** 05 48 51.2 +1.2
CRVS *e*pP pP 05 48 57.6 -1.1
CRVS **Cervenica-Dubn** 81.14 320 *eP* **P** 05 48 51.2 +1.2
CRVS *e* pP 05 48 57.7 -1.0
OJC **Ojcow** 81.43 322 *eP* **P** 05 48 52.4 +0.9
DRGR 81.43 318⇓*iP* **P** 05 48 52.8 +1.3
PVL **Pavlikeni** 81.47 314 *iP* **P** 05 48 53.2 +1.4
NIE **Niedzica** 81.54 321 *eP* **P** 05 48 53.4 +1.3
DIM **Dimitrovgrad** 81.88 313 *iP* **P** 05 48 55.2 +1.3
KECS **Kecovo** 81.91 320 *eP* **P** 05 48 54.5 +0.4
KECS pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
KECS **Kecovo** 81.91 320 *eP* **P** 05 48 54.5 +0.4
comp=Z,1.8nm,1.3s
GZR **Gura Zlata** 82.06 317⇑*iP* **P** 05 48 56.0 +1.1
KDZ **Kurdzhali** 82.14 312 *iP* **P** 05 48 54.6 -0.7
PGB **Panagyurishte** 82.54 314 *iP* **P** 05 48 58.7 +1.3
VYHS **Vyhne** 82.85 321 *eP* **P** 05 49 00.4 +1.4
VYHS *e* pP 05 49 08.1 +0.4
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
VYHS **Vyhne** 82.85 321 *eP* **P** 05 49 00.4 +1.4
comp=Z,4.9nm,1.1s,mb4.5
VYHS *e* pP 05 49 08.1 +0.4
MORC **Moravsky Berou** 82.90 322 *eP* **P** 05 48 59.6 +0.3
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MORC **Moravsky Berou** 82.90 322 *eP* **P** 05 48 59.6 +0.4
comp=Z,4.2nm,0.9s,mb4.5
VTS **Vitosha** 83.14 314 *iP* **P** 05 49 01.9 +1.4

DPC **Dobruska-Polom** 83.26 323 *eP* **P** 05 49 03.3 +2.2
MMB **Musomiste** 83.28 313 *iP* **P** 05 49 01.8 +0.6
KKB **Krupnik** 83.57 314 *iP* **P** 05 49 03.5 +0.8
VRAC **Vranov** 83.67 322 P **P** 05 49 04.2 +0.9
comp=Z,6.1nm,0.7s,mb4.9,baz=46,slow=3.4,SNR=5.4
RAR **Rarotonga** 83.98 117 LR LR 06 19 19.8
comp=Z,58nm,20.4s,MS4.0,baz=208,slow=30
VAY **Valandovo** 84.17 313 *eP* **P** 05 49 03.7 -2.1
VAY **Valandovo** 84.17 313 *eP* **P** 05 49 03.7 -2.1
BRG **Berggiesshubel** 84.23 325 *eP* **P** 05 49 05.8 -0.3
comp=Z,4.9nm,1.1s,mb4.5
BRG **Berggiesshubel** 84.23 325 *eP* **P** 05 49 05.8 -0.3
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
STIP **Stip** 84.24 314 *eP* **P** 05 49 04.0 -2.1
STIP **Stip** 84.24 314 *eP* **P** 05 49 04.0 -2.1
PRU **Pruhonice** 84.41 324 *epP* pP 05 49 16.1 +0.4
DIVS **Divcibare** 84.43 317⇓*iP* **P** 05 49 07.8 +0.7
CLL **Collm** 84.47 325 *iP* **P** 05 49 08.0 +0.7
CLL *i* *PP pP 05 49 15.9 -0.1
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
CLL **Collm** 84.47 325 *iP* **P** 05 49 08.0 +0.7
comp=Z,9.0nm,0.7s,mb5.0
CLL *i* pP pP 05 49 15.9 -0.1
CLL **Collm** 84.47 325 *iP* **P** 05 49 08.0 +0.7
comp=Z,9.0nm,0.7s,mb5.0
CLL *i* PcP PcP 05 49 10.6 -0.3
CLL *i* pP pP 05 49 15.9 -0.1
comp=Z,14nm,0.8s
CLL *i* sP sP 05 49 20.2 +1.0
SKO **Skopje** 84.59 314 *eP* **P** 05 49 05.6 -2.3
SKO **Skopje** 84.59 314 *eP* **P** 05 49 05.6 -2.3
KRUS **Krusevo** 85.01 314 *eP* **P** 05 49 07.8 -2.2
KRUS **Krusevo** 85.01 314 *eP* **P** 05 49 07.8 -2.2
BIA **Bitola** 85.14 313 *eP* **P** 05 49 08.5 -2.1
BIA **Bitola** 85.14 313 *eP* **P** 05 49 08.5 -2.1
NKC **Novy Kostel** 85.38 325 *eP* **P** 05 49 12.4 +0.5
KHC **Kasperske Hory** 85.42 323 *eP* **P** 05 49 15.4 +3.4
OHR **Ohrid** 85.44 314 *eP* **P** 05 49 09.9 -2.3
OHR **Ohrid** 85.44 314 *eP* **P** 05 49 09.9 -2.3
CLZ **Clausthal** 85.48 327 *eP* **P** 05 49 16.8 +4.4
comp=Z,38nm,1.3s,mb5.4
CLZ *e*pP pP 05 49 24.3 +3.2
CLZ **Clausthal** 85.48 327 *eP* **P** 05 49 16.8 +4.4
CLZ *e**PP pP 05 49 24.3 +3.2
CLZ pmax pmax
comp=Z,38nm,1.3s,mb5.4
GERES **GERESS Array B** 85.51 323 P **P** 05 49 13.5 +1.0
comp=Z,2.9nm,0.6s,mb4.7,baz=53,slow=4.8,SNR=17
GERES LR LR 06 31 06.8
comp=Z,318nm,19.1s,MS4.7,baz=85,slow=38
NEW **Newport** 85.79 38 *eP* **P** 05 49 14.1 +0.2
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW **Newport** 85.79 38 *eP* **P** 05 49 14.1 +0.2
comp=Z,1.9nm,0.7s,mb4.4
GVD **Gavdhos** 86.29 307 *eP* **P** 05 49 16.9 +0.5
comp=Z,32nm,0.9s,mb5.5
GRA1 **Grafenberg Arr** 86.34 325 *eP* **P** 05 49 20.8 +4.2
comp=Z,47nm,1.3s,mb5.6
GRA1 *e*pP pP 05 49 28.4 +3.0
GRF **Grafenberg Arr** 86.34 325 *eP* **P** 05 49 20.8 +4.2
comp=Z,47nm,1.3s,mb5.6
GRF *e*pP pP 05 49 28.4 +3.0
GRF **Grafenberg Arr** 86.34 325 *eP* **P** 05 49 20.8 +4.2
GRF *e**PP pP 05 49 28.4 +3.0
GRF pmax pmax
comp=Z,47nm,1.3s,mb5.6
GRF **Grafenberg Arr** 86.34 325 *eP* **P** 05 49 20.8 +4.2
GRF *e**PP pP 05 49 28.4 +3.0
GRF pmax pmax
comp=Z,47nm,1.3s,mb5.6
MOD **Modoc** 87.46 44 *eP* **P** 05 49 23.2 +1.1
comp=Z,2.9nm,1.0s,mb4.5
DAVA **Damuels** 88.50 323⇑*iP* **P** 05 49 30.5 +3.5
comp=Z,8.7nm,0.6s,mb5.3
DAVA **Damuels** 88.50 323⇑*iPcP* PcP 05 49 30.5 +1.9
comp=Z,8.7nm,0.6s
CDF **Champ du Feu** 89.17 325 *eP* **P** 05 49 34.0 +3.8
comp=Z,19nm,1.1s,mb5.0
CDF **Champ du Feu** 89.17 325 *eP* **P** 05 49 34.0 +3.8
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
CDF **Champ du Feu** 89.17 325 *eP* **P** 05 49 34.0 +3.8
comp=Z,9.6nm,1.1s,mb5.0
HLID **Hailey** 90.07 40 *eP* **P** 05 49 35.9 +1.5
comp=Z,2.4nm,1.1s,mb4.4
NVAR **Mina Array Bea** 90.65 46 P **P** 05 49 38.1 +1.0
comp=Z,0.2nm,0.5s,baz=251,slow=5.6,SNR=3.0
LPL **La Plagne** 91.31 323 *eP* **P** 05 49 44.2 +4.1
comp=Z,5.3nm,0.6s,mb4.8
LPL **La Plagne** 91.31 323 *eP* **P** 05 49 44.2 +4.1
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
LPL **La Plagne** 91.31 323 *eP* **P** 05 49 44.2 +4.1
comp=Z,2.7nm,0.6s,mb4.8
LPG **La Plagne** 91.31 323 *eP* **P** 05 49 43.7 +3.5
PDAR **Pinedale Array** 93.35 39 P **P** 05 49 50.6 +1.1
comp=Z,0.6nm,0.8s,mb4.1,baz=5.7,slow=1.5,SNR=3.8
VNA2 **Neumayer--Watz** 128.50 197 *ePdiff* Pdif 05 52 28.0 +1.6
VNA2 *e* 05 52 32.5
VNA2 *e* 05 52 37.0
VNA2 *e* 05 52 46.8
VNA2 *e* 05 52 54.3
SDV **Santo Domingo** 140.79 31 *ePKPdf* PKPdf 05 56 05.1 +0.8
SDV *epPKPdf* pPKPdf 05 56 14.8 +1.5

NEIC ***07*** *05:53:27.7, 2760S×71.11W, h43km, MG4.3(GUC), After GUC.*

GUC 07 05:53:27.7±0.9, 2760S×7111W, h43km±6km, ML4.3, 4C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.58**	**25**	⇑*iP*	Pn	05 53 40.0	+0.4
CDCH				*i* S	Sn	05 53 48.5	+0.4
CPCH	**Copiapo**	**0.71**	**70**	⇑*iP*	Pn	05 53 42.3	+0.9
CPCH				*i* S	Sn	05 53 52.1	+0.9
CPCH				AML	AML	05 53 54.8	
	comp=E,33μm,0.1s						
CPCH	**Copiapo**	**0.71**	**70**	⇑*iP*	Pn	05 53 42.3	+0.9
CPCH				*i* S	Sn	05 53 52.1	+0.9
VACH	**Vallenar**	**1.02**	**162**	*eP*	Pn	05 53 46.6	+1.1
VACH				*i* S	Sn	05 54 00.2	+1.6
LSCH	**La Serena**	**2.30**	**183**	*eP*	Pn	05 54 04.2	+1.1
LSCH				*i* S	Sn	05 54 31.2	+1.0
TLL	**Tololo Astrono**	**2.57**	**174**	⇑*iP*	Pn	05 54 09.5	+2.7
TLL				*i* S	Sn	05 54 39.5	+2.7
TLL				AML	AML	05 54 52.6	
	comp=N,326nm,0.4s						
TLL	**Tololo Astrono**	**2.57**	**174**	P	Pn	05 54 09.5	+2.7
TLL				*i* S	Sn	05 54 39.5	+2.7
CMCH	**Combarbala**	**3.56**	**179**	*eP*	Pn	05 54 21.1	+0.7
CMCH				AML	AML	05 55 18.8	
	comp=E,951nm,0.9s						

VIE ***07*** *06:03:44.3±0.8, 4778N×778E, h8km, mb1.9/1, ML2.6/1, Error ellipse: s-maj=9.1km s-min=4.3km az=27.0 25 km SSW of Freiburg*
STR ***07*** *06:03:44.5±0.2, 4759N×761E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***07*** *06:03:44.8±0.1, 4760N×758E, h10km, Md2.4/3, Ml2.3/12, Error ellipse: s-maj=1.9km s-min=1.0km az=84.0*

ZUR 07 06:03:44.7, 4759N×760E, h5km±1km, ML1.7, 5C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇑*iPg*	Pg	06 03 50.1	+0.4
	335nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*iPg*	Pg	06 03 51.2	+0.4
	94nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i* Sg	Pg	06 03 51.7	+0.2
	126nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*iPg*	Sg	06 03 56.7	+0.5
	126nm,0.2s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	06 03 52.8	+0.2
MOF				Sg	Sg	06 03 58.4	+0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	06 03 55.0	-0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn	Pg	06 03 56.7	+1.3
HINF				*e*Sg	Sg	06 04 02.0	-0.6
HINF				*e*Sn	Sg	06 04 05.7	+3.1
	16nm,0.4s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	06 03 55.9	+0.2
LOMF				Sg	Sg	06 04 04.2	+1.0
SLE	**Schleitheim**	**0.63**	**73**	⇑*iPg*	Pg	06 03 56.6	-0.2
	357nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	06 03 58.5	+0.4
ECH				Sg	Sg	06 04 07.0	-0.1
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pg	Pg	06 04 00.9	-0.2
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn	Pn	06 04 01.4	-2.0
CDF				*e*Sg	Sg	06 04 11.3	-0.9
CDF				*e*Sn	Sn	06 04 13.2	-3.1
	15nm,0.2s						
STEIN	**Stein am Rhein**	**0.86**	**84**	*e*Pg	Pg	06 04 01.7	+0.4
	37nm,0.3s						
BNALP	**Bannalp**	**0.91**	**142**	*e*Pg	Pg	06 04 02.7	+0.5
	27nm,0.3s						
HASLI	**Hasliberg**	**0.91**	**155**	*e*Pg	Pg	06 04 02.8	+0.6
	76nm,0.4s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	06 04 02.2	-0.6
HAU				*e*Sg	Sg	06 04 14.3	-0.7
	12nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	06 04 11.6	-0.3
CABF				*e*Sg	Sg	06 04 28.8	-1.6
	5.5nm,0.2s						
DAVA	**Damuels**	**1.58**	**100**	⇓*iPg*	Pg	06 04 13.0	-2.0
DAVA				⇑*iSg*	Sg	06 04 34.4	-1.0
	comp=Z,4.6nm,0.1s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	06 04 18.8	-1.0
SFTF				*e*Sg	Sg	06 04 42.0	-1.5
	4.5nm,0.3s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	Pg	06 04 25.2	-0.8
LPL				*e*Sg	Sg	06 04 53.1	-0.8
	1.4nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	06 04 25.5	-0.8
LPG				*e*Sg	Sg	06 04 53.4	-1.0
	4.4nm,0.4s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	06 04 32.2	-1.5
LOR				*e*Sg	Sg	06 05 04.9	-2.0
	4.6nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	06 04 35.5	-1.6
SMF				*e*Sg	Sg	06 05 10.2	-2.3
	5.5nm,0.3s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	06 04 37.7	-1.3
SSF				*e*Sg	Sg	06 05 13.6	-2.1
	4.2nm,0.5s						
MBDF	**Montbardon**	**2.92**	**192**	*e*Pg	Pg	06 04 38.8	-1.8
MBDF				*e*Sg	Sg	06 05 16.9	-1.5
	1.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Pg	Pg	06 04 38.6	-2.1
ORIF				*e*Sg	Sg	06 05 17.0	-1.6
	1.4nm,0.2s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Pg	Pg	06 04 40.6	-1.7
AVF				*e*Sg	Sg	06 05 18.0	-3.2
	0.7nm,0.2s						
VIVF	**Saint-Julien-l**	**3.40**	**218**	*e*Pg	Pg	06 04 48.0	-1.9
VIVF				*e*Sg	Sg	06 05 31.9	-2.1
	2.2nm,0.3s						

CASC 07 06:13:20.3±2.1, 1044N×8620W, h0km±6km, MD3.8, ML2.9, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.64**	**119**	*eP*	Pg	06 13 33.4	+0.8
RIN3	**Volcan Rincon**	**0.88**	**67**	⇑*eP*	Pg	06 13 37.8	+0.7
RIN3				*eS*	Sg	06 13 51.4	+3.0
SSNN	**San Juan del S**	**0.91**	**22**	*eP*	Pg	06 13 39.6	+1.9
LIM1	**Limonal**	**0.96**	**75**	*iP*	Pg	06 13 39.0	+0.2
LIM1				*i* S	Sg	06 13 53.8	+2.6
MADN	**Villa Maderas**	**1.16**	**34**	*eP*	Pg	06 13 43.3	+0.7
JCR	**Jicaral**	**1.22**	**119**	*eP*	Pg	06 13 41.5	-2.2
JTS	**JuntasAbangare**	**1.23**	**97**	*eS*	Sg	06 14 01.0	+1.1
CONN	**Concepcion**	**1.25**	**27**	*eP*	Pg	06 13 44.7	+0.5
CAO	**Cobano**	**1.30**	**124**	*eP*	Pg	06 13 45.7	+0.3
VACR	**Volcan Arenal**	**1.50**	**89**	*eP*	Pn	06 13 47.2	-1.1
TICN	**Ticuantepe**	**1.58**	**359**	*eP*	Pn	06 13 49.6	+0.1
MGAN	**Managua**	**1.69**	**358**	*eP*	Pn	06 13 51.2	+0.1
MGAN				*eS*	Sn	06 14 14.4	+0.9
MGAN				*i*		06 14 25.8	
	comp=E,118nm,0.4s						
XAVN	**Gruta Xavier**	**1.70**	**356**	*eP*	Pn	06 13 51.3	+0.1
CGA2	**Cerro Gallo 2**	**1.76**	**104**	*eP*	Pn	06 13 52.6	+0.6
PRS1	**Puriscal**	**1.91**	**104**	*eP*	Pn	06 13 53.7	-0.4
POA2	**Poas 2**	**1.93**	**98**	*eP*	Pn	06 13 56.6	+2.2
BOAB	**BOACO BROADBAN**	**2.06**	**15**	⇑*eP*	Pn	06 13 54.8	-1.4
LAJ	**Bijagual**	**2.12**	**106**	*eP*	Pn	06 13 52.2	-4.8
OCM	**Ochomogo**	**2.27**	**104**	*eP*	Pn	06 13 58.7	-0.3
LCR2	**La Lucha 2**	**2.27**	**108**	⇑*eP*	Pn	06 13 59.2	+0.2

NIED ***07*** *06:28:00, 2590N×12850E, h11km, Mw4.3 Best double couple: M0:3.14000×10^15 NP1:φ0±53.00000°, δ52.00000°, λ98.00000°. NP2:φ0±221.00000°, δ39.00000°, λ80.00000°.*
IDC ***07*** *06:28:21.6±1.1, 2593N×12835E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx1.7/35, Error ellipse: s-maj=38.3km s-min=17.7km az=86.0*
NEIC ***07*** *06:28:23.0±0.7, 2588N×12836E, h10km, MG3.6(JMA), Error ellipse: s-maj=18.8km s-min=12.8km az=84.0*
ISCJB ***07*** *06:28:23.1±1.0, 2588N±005×12857E±004, h25km±6km, mb3.6/8, Error ellipse: s-maj=8.1km s-min=6.5km az=22.3*
JMA ***07*** *06:28:23.5±0.2, 2586N×12854E, h40km, M3.6*

ISC 07 06:28:23.7±1.2, 2591N±005×12853E±004, h18km±8km, n21, σ0=90/28, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.74**	**288**	P	**Pg**	**06 28 38.0**	**-0.3**
JJT2				*eS*	**Sg**	**06 28 48.6**	**+0.5**
NAH1	**Naha**	**0.81**	**291**	P	**Pb**	**06 28 38.9**	**-0.4**
NAH1				*eS*	**Sb**	**06 28 49.3**	**-0.6**
JOW	**Kunigami**	**0.94**	**346**	Pn	**Pn**	**06 28 41.3**	**-0.8**
	76nm,0.3s,baz=169,slow=15,SNR=23						
JOW				Sn	**Sn**	**06 28 54.5**	**-0.6**
	279nm,0.3s,baz=147,slow=17,SNR=21						
JOW	**Kunigami**	**0.94**	**346**	P	**Pb**	**06 28 41.2**	**-0.3**
JOW				*eS*	**Sb**	**06 28 54.5**	**+0.8**
JIH	**Iheya**	**1.23**	**336**	P	**Pn**	**06 28 45.8**	**-0.2**
JIH				*eS*	**Sb**	**06 29 01.7**	**-0.1**
JAGN	**Aguni-jima**	**1.34**	**300**	P	**Pn**	**06 28 46.9**	**-0.6**
JAGN				*eS*	**Sn**	**06 29 04.9**	**0.0**
JKE	**Kume jima 2**	**1.62**	**285**	P	**Pn**	**06 28 50.3**	**-1.1**
JTK	**Tokunoshima**	**1.90**	**11**	P	**Pn**	**06 28 55.3**	**+0.1**
JMZ	**Minamidaito 2**	**2.42**	**92**	P	**Pn**	**06 29 01.7**	**-0.7**
JMZ				*eS*	**Sn**	**06 29 29.4**	**-2.2**
JAM	**Amami Oshima**	**2.67**	**21**	P	**Pn**	**06 29 05.8**	**+0.1**
JAM				*eS*	**Sn**	**06 29 37.2**	**-0.3**
JNU	**Nakatsue**	**7.47**	**15**	Pn	**Pn**	**06 30 13.7**	**+1.9**
	0.6nm,0.3s,baz=202,slow=12,SNR=2.1						
KSRS	**Korea Array**	**11.52**	**358**	LR	LR	06 36 14.1	
	comp=Z,127nm,18.2s,baz=170,slow=41						
SONM	**Songino Array**	**27.97**	**327**	P	**P**	**06 34 14.7**	**+1.5**
	1.4nm,0.8s,mb3.6,baz=137,slow=10,SNR=8.9						
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**06 36 12.5**	**-0.9**
	0.4nm,0.5s,mb3.3,baz=91,slow=10,SNR=8.2						
WRA	**Warramunga Arr**	**45.93**	**172**	P	**P**	**06 36 46.0**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=353,slow=8.5,SNR=7.8						
HKL	**Haleakala**	**68.40**	**77**	*eP*	**P**	**06 39 26.4**	**+2.2**
FINES	**FINESS Array B**	**73.27**	**331**	P	**P**	**06 39 53.9**	**+0.1**
	1.2nm,0.7s,mb3.9,baz=69,slow=7.6,SNR=2.7						
AKASG	**Malin Array Be**	**75.95**	**320**	P	**P**	**06 40 08.8**	**-0.7**
	0.2nm,0.2s,mb3.6,baz=59,slow=6.3,SNR=5.1						
BRTR	**Keskin Array B**	**77.44**	**308**	P	**P**	**06 40 18.8**	**+0.9**
	1.1nm,0.8s,mb3.8,baz=108,slow=4.0,SNR=5.8						
YKA	**Yellowknife Ar**	**78.70**	**25**	P	**P**	**06 40 26.0**	**+1.2**
	0.1nm,0.8s,mb2.8,baz=309,slow=5.5,SNR=2.6						
NOA	**NORSAR

s-min=4.2km az=60.0,Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; M_{rr}2.22; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$-1.29; $M_{r\theta}$-0.12; $M_{\theta\phi}$-1.08; $M_{\phi r}$-0.05; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s222.00000°,δ47.00000°, λ92.00000°. NP2:ϕ_s39.00000°,δ44.00000°,λ88.00000°. Principal axes: T 2.2200, Plg88.0000°, Azm172.0000°; N -0.0100, Plg1.0000°, Azm40.0000°; P -2.2100, Plg2.0000°, Azm310.0000°;

NEIC *Felt at Dili.*

GCMT ***07*** *06:34:54.3±0.1,9.00S×126.93E,h15km,MW5.7/103, Moment Tensor Solution. s99,c195; s103,c299; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}3.34±.04; $M_{\theta\theta}$-3.51±.03; $M_{\phi\phi}$0.16±.04; $M_{r\theta}$1.39±.07; $M_{\theta\phi}$-1.31±.03; $M_{\phi r}$0.32±.08; Best double couple: $M_0$3.90500×10^{17} NP1:ϕ_s250.00000°,δ34.00000°, λ86.00000°. NP2:ϕ_s74.00000°,δ56.00000°,λ93.00000°. Principal axes: T 3.6130, Plg79.0000°, Azm354.0000°; N 0.5780, Plg2.0000°, Azm253.0000°; P -4.1970, Plg11.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***07*** *06:34:55.2±0.2,880S±003×126.74E±004,h25km, mb5.4/108,MS5.3/187 Error ellipse: s-maj=5.5km s-min=3.8km az=122.2*

MOS ***07*** *06:34:57.7±1.3,860S×126.77E,h33km,mb5.5/52, MS5.2/46,Error ellipse: s-maj=10.3km s-min=6.0km az=116.4*

ISC 07 06:34:57.4±0.2,883S±003×126.77E±004,h27km, h27km±1.9km:pP-P,n514,σ1§33/303,mb5.4/108,MS5.3/187, 24C-4D,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAI	**Ambon**	**5.30**	**16**	P			**Pn**	**06 36 19.5**	**+4.7**
	2μm,1.0s								
WSI	**Waingapu**	**6.44**	**262**	P			**Pn**	**06 36 24.8**	**-5.6**
	4μm,0.5s								
KAKA	**Kakadu**	**6.78**	**125**	*e*P			**Pn**	**06 36 32.9**	**-2.1**
	471nm,0.6s								
KAKA				*e*S			**Sn**	**06 37 47.5**	**-3.8**
KAPI	**Kappang**	**7.93**	**298**	Pn			**Pn**	**06 36 54.2**	**+3.3**
	701nm,0.7s,SNR=19								
FITZ	**Fitzroy Crossi**	**9.28**	**187**	||*i*P		**Pn**	**06 37 05.1**	**-4.3**
	721nm,0.6s								
FITZ				*e*S			**Sn**	**06 38 44.5**	**-8.4**
FITZ	**Fitzroy Crossi**	**9.28**	**187**	Pn			**Pn**	**06 37 06.7**	**-2.7**
	43nm,0.3s,baz=22,slow=11,SNR=451								
FITZ				Sn			**Sn**	**06 38 44.6**	**-8.3**
	49nm,0.3s,baz=105,slow=20,SNR=5.1								
FITZ				LR			LR	06 40 55.6	
	comp=Z,17μm,19.8s,baz=12,slow=39								
BAKI	**Biak**	**12.00**	**51**	P			**Pn**	**06 37 48.0**	**+1.3**
	949nm,0.6s								
WRAB	**Tennant Creek**	**13.25**	**147**	Pn			**Pn**	**06 37 57.0**	**-6.7**
	4μm,0.7s								
WRAB	**Tennant Creek**	**13.25**	**147**	*e*Pn			**Pn**	**06 37 57.8**	**-5.9**
WRA	**Warramunga Arr**	**13.25**	**147**	Pn			**Pn**	**06 37 57.9**	**-5.8**
	26nm,0.3s,baz=321,slow=14,SNR=213								
WRA				Sn			**Sn**	**06 40 18.4**	**-12**
	72nm,0.3s,baz=320,slow=22,SNR=9.7								
WB2	**Warramunga Arr**	**13.26**	**147**	||*i*P		**Pn**	**06 37 57.2**	**-6.6**
WB2				*e*S			**Sn**	**06 40 17.4**	**-13**
KRKI	**Karangkates**	**14.17**	**272**	P			**Pn**	**06 38 20.3**	**+4.0**
	534nm,0.6s								
JAY	**Jayapura**	**15.22**	**66**	P			**Pn**	**06 38 38.6**	**+8.2**
	116nm,0.7s								
TSM	**Tawau**	**15.77**	**325**	P			**Pn**	**06 38 40.7**	**+3.2**
DAV	**Davao City (W)**	**15.84**	**356**	Pn			**Pn**	**06 38 37.4**	**-1.1**
	204nm,0.3s								
BUKP	**Musuan**	**16.69**	**354**	*e*P			**Pn**	**06 38 56.9**	**+7.6**
BJII	**Banjamegara**	**16.95**	**274**	P			**Pn**	**06 38 53.5**	**+0.9**
	93nm,1.4s								
CGP	**Cagayan de Oro**	**17.30**	**353**	*e*P			**Pn**	**06 38 58.2**	**+1.3**
KKM	**Kota Kinabalu**	**18.14**	**324**	P			**Pn**	**06 39 10.7**	**+3.4**
KKM	**Kota Kinabalu**	**18.14**	**324**	*e*Pn			**Pn**	**06 39 09.3**	**+2.0**
SNPH	**Sibulan**	**18.39**	**349**	*e*P			**Pn**	**06 39 16.0**	**+5.6**
SCPH	**Surigao**	**18.54**	**356**	*e*P			**Pn**	**06 39 15.7**	**+3.5**
MSLP	**Maasin**	**18.94**	**354**	*e*P			**Pn**	**06 39 23.1**	**+6.2**
LEM	**Lembang**	**19.07**	**275**	P			**Pn**	**06 39 18.3**	**-0.4**
	213nm,0.7s								
KSM	**Kuching**	**19.34**	**301**	*e*P			**Pn**	**06 39 21.7**	**0.0**
BATP	**Bataraza**	**19.66**	**333**	*e*P			**Pn**	**06 39 27.6**	**+2.0**
CBJI	**Citeko**	**19.88**	**276**	P			**Pn**	**06 39 24.8**	**-3.5**
	604nm,0.7s								
PLP	**Palo**	**19.95**	**355**	*e*P			**Pn**	**06 39 30.0**	**+0.9**
PMG	**Port Moresby**	**20.14**	**93**	P			**P**	**06 39 30.9**	**+1.5**
	237nm,1.0s,baz=285,slow=5.3,SNR=48								
PMG				S			**S**	**06 43 12.9**	**-1.3**
	18nm,0.6s,baz=304,slow=18,SNR=4.7								
PMG	**Port Moresby**	**20.14**	**93**	*e*P			**P**	**06 39 31.8**	**+2.4**
PMG				pmax			pmax		
	comp=Z,362nm,1.1s								
PMG				MLR			MLR		
	comp=Z,13μm,19.0s								
PMG	**Port Moresby**	**20.14**	**93**	*e*P			**P**	**06 39 31.8**	**+2.4**
	comp=Z,362nm,1.1s								
PMG				LR			LR		
	comp=Z,13μm,19.0s,MS5.3								
RCP	**Roxas**	**20.65**	**349**	⇑*e*P			**P**	**06 39 43.6**	**+8.7**
ENPP	**El Nido**	**21.20**	**340**	*e*P			**P**	**06 39 44.6**	**+3.7**
OTRP	**Odiongan**	**21.58**	**347**	*e*P			**P**	**06 39 51.8**	**+6.9**
BUSP	**Coron**	**21.70**	**342**	*e*P			**P**	**06 39 43.5**	**-2.7**
FORT	**Forrest**	**21.87**	**177**	*e*P			**P**	**06 39 47.3**	**-0.7**
	comp=Z,400nm,1.4s,mb5.7								
FORT				*e*S			**S**	**06 43 37.8**	**-10**
CTA	**Charters Tower**	**21.91**	**123**	⇑*i*P			**P**	**06 39 49.1**	**+0.6**
	comp=Z,73nm,0.9s,mb5.1								
CTA				*e*S			**S**	**06 43 50.8**	**+1.8**
CTA	**Charters Tower**	**21.91**	**123**	P			**P**	**06 39 48.5**	**0.0**
	comp=Z,48nm,0.8s,mb5.0,baz=303,slow=12,SNR=21								
CTA				S			**S**	**06 43 52.1**	**+3.1**
	comp=Z,12nm,0.7s,baz=114,slow=20,SNR=2.6								
CTA	**Charters Tower**	**21.91**	**123**	⇑*i*P			**P**	**06 39 49.1**	**+0.6**
CTA				*e*S			**S**	**06 43 50.8**	**+1.8**
CTA				pmax			pmax		
	comp=Z,73nm,0.9s								
CTAO	**Charters Tower**	**21.91**	**123**	*e*P			**P**	**06 39 49.2**	**+0.7**
CTAO				pmax			pmax		
	comp=Z,366nm,1.3s,mb5.7								
CTAO				MLR			MLR		
	comp=Z,11μm,22.0s,MS5.2								
CTAO	**Charters Tower**	**21.91**	**123**	*e*P			**P**	**06 39 49.2**	**+0.7**
	comp=Z,366nm,1.3s,mb5.7								
CTAO				*e*Sn			**S**	**06 43 59.9**	**+11**
CTAO				LR			LR		
	comp=Z,11μm,22.0s,MS5.2								
LUBP	**Lubang**	**23.34**	**344**	*e*P			**P**	**06 40 04.8**	**+1.2**
TGY	**Tagaytay City**	**23.51**	**346**	P			**P**	**06 40 08.4**	**+3.1**
	comp=Z,125nm,0.3s,baz=180,slow=5.1,SNR=2.6								
KLBR	**Kellerberrin**	**24.15**	**199**	*e*P			**P**	**06 40 10.0**	**-1.1**
	comp=Z,250nm,1.3s,mb5.5								
KLBR				*e*S			**S**	**06 44 31.4**	**+3.9**
BALP	**Baler**	**24.95**	**348**	*e*P			**P**	**06 40 18.5**	**0.0**
MUN	**Mundaring**	**25.03**	**202**	*e*P			**P**	**06 40 17.2**	**-2.0**
MUN				*e*S			**S**	**06 44 52.1**	**+10**
NWAO	**Narrogin (SRO)**	**25.55**	**199**	P			**P**	**06 40 23.0**	**-0.9**
	comp=Z,35nm,0.5s,mb5.1,baz=33,slow=8.4,SNR=35								
NWAO				LR			LR	06 50 30.8	
	comp=Z,7μm,19.8s,MS5.2,baz=13,slow=37								
NWAO	**Narrogin (SRO)**	**25.55**	**199**	*e*P			**P**	**06 40 23.2**	**-0.7**
NWAO				*e*S			**S**	**06 44 58.6**	**+8.7**
NWAO				pmax			pmax		
	comp=Z,78nm,0.7s								
NWAO				MLR			MLR		
	comp=Z,6μm,19.0s								
NWAO	**Narrogin (SRO)**	**25.55**	**199**	*e*P			**P**	**06 40 23.2**	**-0.7**
	comp=Z,78nm,0.7s,mb5.3								
NWAO				*e*S			**S**	**06 44 58.6**	**+8.8**
NWAO				LR			LR		
	comp=Z,6μm,19.0s,MS5.1								
KGM	**Kluang**	**25.74**	**294**	P			**P**	**06 40 27.4**	**+1.8**
BCPH	**Baguio City Da**	**25.79**	**346**	⇑*e*P			**P**	**06 40 27.3**	**+1.3**
STKA	**Stephens Creek**	**26.75**	**151**	⇑*i*P			**P**	**06 40 34.0**	**-0.7**
	comp=Z,39nm,0.6s,mb5.1								
STKA				*e*S			**S**	**06 45 08.6**	**-0.3**
STKA	**Stephens Creek**	**26.75**	**151**	P			**P**	**06 40 34.5**	**-0.2**
	comp=Z,61nm,0.9s,mb5.2,baz=324,slow=8.9,SNR=47								
STKA				S			**S**	**06 45 13.1**	**+4.3**
	comp=Z,13nm,0.9s,baz=316,slow=17,SNR=1.3								
CVP	**Callao Caves**	**26.81**	**350**	*e*P			**P**	**06 40 34.0**	**-1.3**
GUMO	**Guam**	**28.62**	**39**	PFAKE				06 41 00.0	+8.5
GUMO				LR			LR		
	comp=Z,4μm,21.0s,MS5.0								
IPM	**Ipoh**	**28.87**	**296**	P			**P**	**06 40 57.5**	**+3.8**
KULM	**Kulim**	**29.58**	**297**	*e*P			**P**	**06 40 59.0**	**-1.0**
COCO	**West Island**	**29.61**	**261**	*e*P			**P**	**06 40 54.6**	**-5.6**
	comp=Z,37nm,0.5s,mb5.4								
COCO				LR			LR		
	comp=Z,1μm,22.0s,MS4.5								
PSI	**Prapat**	**30.07**	**291**	P			**P**	**06 41 03.3**	**-1.0**
	comp=Z,28nm,0.9s,mb5.0,baz=118,slow=7.8,SNR=17								
PSI				LR			LR	06 53 09.3	
	comp=Z,7μm,21.4s,MS5.3,baz=124,slow=37								
ARMA	**Armidale**	**31.63**	**136**	⇑*i*P			**P**	**06 41 19.1**	**+1.0**
ARMA				*e*S			**S**	**06 46 30.0**	**+4.5**
QIZ	**Qiongzhong**	**32.33**	**329**	⇑P			**P**	**06 41 24.1**	**-0.1**
QIZ				AP			pP	06 41 29.4	-2.7
QIZ				S			**S**	**06 46 35.0**	**-1.4**
QIZ				XS			sS	06 47 00.7	+11
QIZ				AMB			AMB		
	comp=Z,26nm,1.6s,mb4.8								
QIZ				AMB			AMB		
	comp=Z,435nm,12.1s								
QIZ				LR			LR		
	comp=N,2μm,16.9s,MS5.1								
QIZ				LR			LR		
	comp=E,3μm,17.1s,MS5.1								
QIZ				LR			LR		
	comp=Z,4μm,28.9s								
QIZ	**Qiongzhong**	**32.33**	**329**	PFAKE				06 41 40.0	+16
QIZ				LR			LR		
	comp=Z,3μm,19.0s,MS5.0								
HNR	**Honiara**	**32.76**	**94**	*e*P			**P**	**06 41 30.7**	**+2.7**
HNR				pmax			pmax		
	comp=Z,231nm,0.9s,mb6.1								
HNR				MLR			MLR		
	comp=Z,3μm,21.0s,MS5.0								
HNR	**Honiara**	**32.76**	**94**	*e*P			**P**	**06 41 30.7**	**+2.7**
	comp=Z,231nm,0.9s,mb6.1								
HNR				LR			LR		
	comp=Z,3μm,21.0s,MS5.0								
NACB	**Ninganchiao**	**33.19**	**351**	*e*P			**P**	**06 41 30.6**	**-1.2**
TOO	**Toolangi**	**33.24**	**152**	*e*P			**P**	**06 41 33.9**	**+1.6**
	comp=Z,36nm,0.9s,mb5.3								
TOO				*e*S			**S**	**06 46 54.0**	**+3.3**
TOO	**Toolangi**	**33.24**	**152**	*e*P			**P**	**06 41 33.9**	**+1.6**
TOO				*e*S			**S**	**06 46 54.0**	**+3.3**
TOO				pmax			pmax		
	comp=Z,36nm,0.9s,mb5.3								
CNB	**Canberra Magne**	**33.49**	**145**	*e*P			**P**	**06 41 35.4**	**+1.0**
	comp=Z,31nm,1.0s,mb5.2								
RIV	**Riverview**	**33.51**	**141**	*e*P			**P**	**06 41 36.4**	**+1.8**
YHNB	**Yeheng**	**33.71**	**351**	*e*P			**P**	**06 41 34.7**	**-1.6**
TATO	**Taipei**	**33.99**	**351**	PFAKE				06 41 50.0	+11
TATO				LR			LR		
	comp=Z,3μm,21.0s,MS5.0								
GZH	**Guangzhou**	**34.34**	**338**	P			**P**	**06 41 46.1**	**+4.4**
GZH				S			**S**	**06 47 18.5**	**+11**
GZH				LR			LR		
	comp=N,3μm,16.2s,MS5.2								
GZH				LR			LR		
	comp=E,1μm,15.9s,MS5.2								
GZH				LR			LR		
	comp=Z,5μm,16.2s,MS5.4								
BSI	**Banda Aceh**	**34.45**	**293**	P			**P**	**06 41 48.9**	**+6.2**
	comp=Z,35nm,1.2s,mb5.2								
QZH	**Quanzhou**	**34.50**	**347**	P			**P**	**06 41 43.0**	**-0.2**
QZH				S			**S**	**06 47 06.0**	**-4.1**
QZH				AMB			AMB		
	comp=Z,190nm,1.3s,mb5.9								
QZH				LR			LR		
	comp=E,830nm,3.8s								
QZH				LR			LR		
	comp=Z,6μm,21.1s,MS5.3								
JOW	**Kunigami**	**35.48**	**2**	LR			LR	06 56 43.1	
	comp=Z,2μm,19.9s,MS5.0,baz=21,slow=37								
NST	**Nakhon Sawan**	**35.90**	**313**	P			**P**	**06 41 55.0**	**-0.2**
NANT	**Nan**	**37.62**	**317**	⇑P			**P**	**06 42 08.0**	**-1.8**
	comp=Z,788nm,1.0s,mb6.4								
TAU	**Tasmania Unive**	**38.43**	**155**	*e*P			**P**	**06 42 18.0**	**+1.3**
TAU				pmax			pmax		
	comp=Z,69nm,1.3s,mb5.2								
TAU				MLR			MLR		
	comp=Z,3μm,19.0s,MS5.1								
TAU	**Tasmania Unive**	**38.43**	**155**	*e*P			**P**	**06 42 18.0**	**+1.4**
	comp=Z,69nm,1.3s,mb5.2								
TAU				LR			LR		
	comp=Z,3μm,19.0s,MS5.1								
CM31	**Chiang Mai Arr**	**38.59**	**315**	*e*P			**P**	**06 42 19.4**	**+1.4**
	comp=Z,27nm,0.7s,mb5.1								
CM31				LR			LR		
	comp=Z,4μm,21.0s,MS5.2								
CBIJ	**Chichi jima**	**38.72**	**22**	LR			LR	06 56 02.9	
	comp=Z,2μm,21.6s,MS4.8,baz=321,slow=33								
CHG	**Chiang Mai**	**38.83**	**315**	⇑P			**P**	**06 42 20.2**	**+0.2**
	comp=Z,70nm,0.8s,mb5.4								
CHTO	**Chiang Mai**	**38.83**	**315**	P			**P**	**06 42 20.5**	**+0.5**
	SNR=29								
CHTO	**Chiang Mai**	**38.83**	**315**	*e*P			**P**	**06 42 20.1**	**+0.1**
CHTO				pmax			pmax		
	comp=Z,79nm,1.1s,mb5.4								
CHTO	**Chiang Mai**	**38.83**	**315**	*e*P			**P**	**06 42 20.3**	**+0.2**
	comp=Z,79nm,1.1s,mb5.3								
CHTO				*ep*P			pP	06 42 31.4	+3.3
CHTO				LR			LR		
	comp=Z,3μm,20.0s,MS5.1								
SSE	**Sheshan**	**40.06**	**353**	P			**P**	**06 42 29.9**	**-0.4**
SSE				S			**S**	**06 48 36.5**	**+1.9**
SSE				XS			sS	06 48 50.2	+2.4
SSE				AMB			AMB		
	comp=Z,32nm,0.7s,mb5.2								
SSE				AMB			AMB		
	comp=Z,367nm,9.6s								
SSE				LR			LR		
	comp=N,948nm,21.8s,MS4.8								
SSE				LR			LR		
	comp=E,990nm,21.8s,MS4.8								
SSE				LR			LR		
	comp=Z,2μm,25.0s,MS4.8								
GYA	**Guiyang**	**40.15**	**331**	⇑*i*P			**P**	**06 42 31.4**	**+0.4**
GYA				XP			sP	06 42 47.3	+5.0
GYA				PP			PP	06 44 11.0	+7.4
GYA				S			**S**	**06 48 38.0**	**+2.1**
GYA				XS			sS	06 48 57.3	+8.1
GYA				SS			SS	06 51 30.8	-3.3
GYA				SCS			ScS	06 52 35.0	-0.8
GYA				AMB			AMB		
	comp=Z,50nm,1.0s,mb5.2								
GYA				AMB			AMB		
	comp=Z,560nm,7.5s								
GYA				LR			LR		
	comp=N,2μm,16.7s,MS5.2								
GYA				LR			LR		
	comp=E,2μm,17.3s,MS5.2								
GYA				LR			LR		
	comp=Z,1μm,16.7s,MS4.8								
DZM	**Mont Dzumac**	**40.31**	**114**	P			**P**	**06 42 32.3**	**-0.1**
	comp=Z,9.3nm,0.7s,mb4.6,baz=266,slow=13,SNR=10.0								
DZM				LR			LR	06 58 58.3	
	comp=Z,6μm,19.8s,MS5.5,baz=104,slow=36								
WHN	**Wuhan**	**40.92**	**344**	⇑P			**P**	**06 42 37.8**	**+0.4**
WHN				S			**S**	**06 48 45.2**	**-2.3**
WHN				LR			LR		
	comp=Z,5μm,18.0s,MS5.4								
KMI	**Kunming**	**41.07**	**326**	⇑P			**P**	**06 42 40.2**	**+1.5**
KMI				AP			pP	06 42 47.4	+0.7
KMI				XP			sP	06 42 50.0	0.0
KMI				PP			PP	06 44 19.0	+5.4
KMI				PCP			PcP	06 44 40.7	+2.7
KMI				PCS			PcS	06 48 30.7	+1.6
KMI				S			**S**	**06 48 52.4**	**+2.7**
KMI				SS			SS	06 51 49.2	-3.3
KMI				AMB			AMB		
	comp=Z,57nm,1.0s,mb5.2								
KMI				AMB			AMB		
	comp=Z,435nm,3.1s								
KMI				LR			LR		
	comp=N,2μm,15.2s,MS5.3								
KMI				LR			LR		
	comp=E,3μm,15.2s,MS5.3								
KMI				LR			LR		
	comp=Z,4μm,24.3s								
JNU	**Nakatsue**	**41.90**	**5**	LR			LR	06 58 35.4	
	comp=Z,6μm,21.9s,MS5.5,baz=105,slow=34								
CD2	**Chengdu**	**45.26**	**332**	P			**P**	**06 43 12.2**	**-0.3**
CD2				AP			pP	06 43 19.8	-0.8
CD2				XP			sP	06 43 23.1	-0.8
CD2				PP			PP	06 44 58.8	+0.3
CD2				S			**S**	**06 49 50.1**	**-1.0**
CD2				AMB			AMB		
	comp=Z,30nm,0.5s,mb5.4								
CD2				AMB			AMB		
	comp=Z,750nm,10.2s								
CD2				LR			LR		
	comp=N,6μm,18.4s,MS5.6								
CD2				LR			LR		
	comp=E,4μm,16.8s,MS5.6								
CD2				LR			LR		
	comp=Z,3μm,21.6s,MS5.2								
TIA	**Tai'an**	**45.71**	**349**	*e*P			**P**	**06 43 15.2**	**-0.9**
XAN	**Xi'an**	**45.88**	**339**	P			**P**	**06 43 16.3**	**-1.1**
XAN				AP			pP	06 43 29.4	+3.9
XAN				AMB			AMB		
	comp=Z,37nm,1.6s,mb5.1								
XAN				AMB			AMB		
	comp=Z,442nm,12.0s								
XAN				LR			LR		
	comp=N,1μm,16.7s,MS5.1								
XAN				LR			LR		
	comp=E,1μm,16.7s,MS5.1								
XAN				LR			LR		
	comp=Z,3μm,16.7s,MS5.3								
KS15	**Wonju Array Si**	**46.04**	**1**	*e*P			**P**	**06 43 20.0**	**+1.3**
KSRS	**Korea Array**	**46.05**	**1**	P			**P**	**06 43 18.6**	**-0.2**
	comp=Z,6.4nm,0.5s,mb4.8,baz=179,slow=9.2,SNR=24								
KSRS				PP			PP	06 45 10.9	+3.9
	comp=Z,5.2nm,0.9s,baz=193,slow=4.5,SNR=4.6								
KSRS				LR			LR	07 01 06.1	
	comp=Z,2μm,20.3s,MS5.0,baz=193,slow=34								
INCN	**Inchon**	**46.07**	**360**	PFAKE				06 43 30.0	+11
INCN				LR			LR		
	comp=Z,2μm,19.0s,MS5.0								
IMP	**Imphal**	**46.27**	**317**	*e*P			**P**	**06 43 21.0**	**+0.5**
MAJO	**Matsushiro**	**46.40**	**13**	*e*P			**P**	**06 43 20.6**	**-0.9**
MAJO	**Matsushiro**	**46.40**	**13**	*e*P			**P**	**06 43 19.7**	**-1.7**
MAJO				LR			LR		
	comp=Z,2μm,19.0s,MS5.1								
MAT	**Matsushiro**	**46.40**	**13**	P			**P**	**06 43 19.5**	**-2.0**
MAT				S			**S**	**06 50 07.0**	**-0.4**
MJAR	**Matsushiro Arr**	**46.40**	**13**	P			**P**	**06 43 20.2**	**-1.2**
	comp=Z,17nm,0.8s,mb5.1,baz=187,slow=9.1,SNR=20								
MJAR				LR			LR	07 01 40.5	
	comp=Z,2μm,20.0s,MS5.0,baz=190,slow=35								
AGT	**Agartala**	**47.55**	**314**	*i* P			**P**	**06 43 33.0**	**+2.5**
AGT				*i* x			x	06 44 03.0	
DL2	**Dalian**	**47.73**	**355**	P			**P**	**06 43 31.0**	**-0.9**
DL2				AP			pP	06 43 43.2	+3.1
DL2				*e*S			**S**	**06 50 22.0**	**-4.5**
DL2				AMB			AMB		
	comp=Z,30nm,0.7s,mb5.4								
DL2				AMB			AMB		
	comp=Z,300nm,4.8s								
DL2				LR			LR		
	comp=N,1μm,18.3s,MS5.0								
DL2				LR			LR		
	comp=E,1μm,15.6s,MS5.0								
DL2				LR			LR		
	comp=Z,830nm,14.8s,MS4.8								
SHL	**Shillong**	**48.18**	**316**	*e*P			**P**	**06 43 37.6**	**+2.2**
SHL				*e*S			**S**	**06 50 33.1**	**+0.3**
PALK	**Pallekele**	**48.62**	**288**	*e*P			**P**	**06 43 39.3**	**+0.5**
	comp=Z,0.5nm,0.5s								
PALK				LR			LR		
	comp=Z,2μm,19.0s								
CAL	**Calcutta**	**48.88**	**310**	||*i*P		**P**	**06 43 40.8**	**+0.1**
BJT	**Baijiatuau**	**49.58**	**349**	*e*P			**P**	**06 43 45.0**	**-1.1**
BJT				pmax			pmax		
	comp=Z,31nm,0.9s								
BJT				MLR			MLR		
	comp=Z,2μm,20.0s								
BJT	**Baijiatuau**	**49.58**	**349**	*e*P			**P**	**06 43 45.0**	**-1.1**
	comp=Z,31nm,0.9s,mb5.3								
BJT				LR			LR		
	comp=Z,2μm,20.0s,MS5.0								
BJI	**Beijing**	**49.60**	**349**	P			**P**	**06 43 44.8**	**-1.5**
BJI				PP			PP	06 45 40.8	+0.1
BJI				S			**S**	**06 50 55.2**	**+2.4**
BJI				AMB			AMB		
	comp=Z,12nm,0.7s,mb5.0								
BJI				AMB			AMB		
	comp=Z,571nm,8.0s								
BJI				LR			LR		
	comp=N,659nm,16.0s,MS5.1								
BJI				LR			LR		
	comp=E,1μm,16.0s,MS5.1								
BJI				LR			LR		
	comp=Z,1μm,21.1s								
LZH	**Lanzhou**	**49.62**	**336**	*e*P			**P**	**06 43 46.5**	**+0.1**
LZH				AP			pP	06 43 53.0	-1.6
LZH				XP			sP	06 43 56.0	-1.8
LZH				PCP			PcP	06 45 10.4	+2.8
LZH				PP			PP	06 45 44.0	+3.1
LZH				*e*S			**S**	**06 51 00.3**	**+7.2**
LZH				XS			sS	06 51 11.2	+4.6
LZH				SS			SS	06 54 24.0	-1.3
LZH				AMB			AMB		
	comp=Z,56nm,1.5s,mb5.4								
LZH				AMB			AMB		
	comp=Z,472nm,5.2s								
LZH				LR			LR		
	comp=N,2μm,16.4s								
LZH				LR			LR		
	comp=Z,2μm,18.0s,MS5.2								
VIS	**Vishakhapatnam**	**50.37**	**302**	*e*P			**P**	**06 43 50.0**	**-2.1**
VIS				AMb			AMB	06 44 07.3	
	comp=Z,85nm,0.8s,mb5.8								
MDRS	**Chennai**	**51.07**	**295**	*e*x			x	06 43 49.7	
MDRS				AMb			AMB	06 44 05.9	
	comp=Z,223nm,1.3s,mb5.9								
HHC	**Hu-

VLA MLR MLR
comp=Z,2μm,18.0s,MS5.2
CN2 Changchun 52.40 359 *e*P **P** **06 44 10.8 +3.5**
CN2 *e*XP sP 06 44 19.6 +0.9
CN2 *e*S **S** **06 51 35.5 +4.0**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.3
CN2 LR LR
comp=E,1μm,17.0s,MS5.3
CN2 LR LR
comp=Z,2μm,18.0s,MS5.1
ERM Erimo 52.78 15 PFAKE 06 44 20.0 +10
ERM LR LR
comp=Z,441nm,20.0s,MS4.5
SNZO South Karori 53.20 136 PFAKE 06 44 30.0 +17
SNZO LR LR
comp=Z,8μm,19.0s,MS5.8
MDJ Mudanjiang 53.26 3 P **P** **06 44 15.3 +1.7**
MDJ AP pP 06 44 21.6 -0.3
MDJ XP sP 06 44 24.3 -0.8
MDJ PCP PcP 06 45 22.3 +1.1
MDJ PP PP 06 46 15.7 +1.8
MDJ S **S** **06 51 46.3 +3.1**
MDJ SS SS 06 55 28.7 +5.7
MDJ AMB AMB
comp=Z,12nm,1.5s,mb4.6
MDJ AMB AMB
comp=Z,328nm,3.8s
MDJ LR LR
comp=N,1μm,20.4s,MS5.0
MDJ LR LR
comp=E,1μm,22.9s,MS5.0
MDJ LR LR
comp=Z,1μm,29.7s
JIRN Jiri 53.46 314 *e*P **P** **06 44 15.5 +0.4**
comp=Z,185nm,1.0s,mb6.0
DGAR Diego Garcia 53.75 267 *e*P **P** **06 44 17.6 +0.4**
DGAR pmax pmax
comp=Z,95nm,0.6s,mb5.9
DGAR MLR MLR
comp=Z,813nm,19.0s,MS4.8
DGAR Diego Garcia 53.75 267 *e*P **P** **06 44 17.6 +0.4**
comp=Z,95nm,0.6s,mb5.9
DGAR LR LR
comp=Z,813nm,19.0s,MS4.8
GUN Gumba 53.83 314 *e*P **P** **06 44 17.7 -0.1**
comp=Z,233nm,0.8s,mb6.2
PKI Pulchoki 53.96 314 *e*P **P** **06 44 18.9 +0.1**
comp=Z,90nm,0.8s,mb5.8
GTA Gaotai 54.12 334 P **P** **06 44 20.1 +0.1**
GTA AP pP 06 44 26.3 -1.9
GTA XP sP 06 44 29.4 -2.1
GTA PP PP 06 46 23.3 +1.7
GTA S **S** **06 51 55.3 +0.3**
GTA SS SS 06 55 36.5 -0.2
GTA AMB AMB
comp=Z,19nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,460nm,6.9s
GTA LR LR
comp=N,839nm,19.8s,MS5.1
GTA LR LR
comp=E,2μm,19.0s,MS5.1
GTA LR LR
comp=Z,2μm,18.6s,MS5.3
KKN Kakani 54.19 314 *e*P **P** **06 44 20.7 +0.3**
comp=Z,198nm,1.0s,mb6.0
DMN Daman 54.20 313 *e*P **P** **06 44 20.4 -0.2**
comp=Z,273nm,1.2s,mb6.0
HYB Hyderabad 54.31 299 *i* P **P** **06 44 19.5 -1.8**
comp=Z,50nm,1.0s,mb5.4
HYB *e*PP PP 06 46 24.0 +0.7
HYB *e*S **S** **06 51 56.0 -1.5**
HYB Hyderabad 54.31 299 *e*P **P** **06 44 19.5 -1.8**
HYB *e*S **S** **06 51 56.0 -1.5**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.4
HYB Hyderabad 54.31 299 *e*P **P** **06 44 19.5 -1.8**
comp=Z,50nm,1.0s,mb5.4
HYB *e*S **S** **06 51 56.0 -1.5**
ASAJ Asahikawa 54.62 14 P **P** **06 44 22.9 -0.7**
comp=Z,16nm,0.6s,mb5.2,baz=224,slow=7.1,SNR=7.5
ASAJ LR LR 07 08 09.1
comp=Z,1μm,20.2s,MS4.9,baz=214,slow=36
ASAJ Asahikawa 54.62 14 P **P** **06 44 22.9 -0.7**
ASAJ pmax pmax
comp=Z,16nm,0.6s
ASAJ MLR MLR
comp=Z,1μm,20.2s
GKN Gorkha 54.77 313 *e*P **P** **06 44 24.2 -0.5**
comp=Z,116nm,0.7s,mb6.0
ALBI Allahabad 55.38 309 *e*P **P** **06 44 30.5 +1.4**
KOLN Koldanda 55.39 313 *e*P **P** **06 44 28.8 -0.3**
comp=Z,228nm,0.8s,mb6.3
NGP Nagpur 55.53 303 *i* P **P** **06 44 29.2 -1.0**
NGP *e*x x 06 44 36.9
comp=Z,106nm,1.5s
NGP *e*S **S** **06 52 14.9 +1.0**
RAO Raoul Island 55.55 119 PFAKE 06 44 40.0 +10
RAO LR LR
comp=Z,5μm,20.0s,MS5.6
AKL Akola 57.03 302⇑ *i*P **P** **06 44 40.7 -0.2**
AKL *e*x x 06 44 55.4
comp=Z,141nm,1.6s
AKL *i* x x 06 46 07.3
YSS Yuzh-Sakhalins 57.34 13 *αe*P **P** **06 44 43.0 0.0**
YSS *e*S **S** **06 52 34.0 -3.8**
YSS *e*SS SS 06 56 26.0 -1.3
YSS pmax pmax
comp=Z,30nm,0.8s,mb5.4
YSS MLR MLR
comp=N,900nm,18.0s,MS5.0
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.0
YSS MLR MLR
comp=E,900nm,20.0s,MS5.0
YSS Yuzh-Sakhalins 57.34 13 *e*P **P** **06 44 42.8 -0.2**
comp=E,21nm,0.6s,mb5.3
YSS LR LR
comp=Z,1μm,21.0s,MS5.0
HABR Khabarovsk 57.52 7 *e*P **P** **06 44 40.8 -3.5**
HABR *e*S **S** **06 52 31.6 -8.6**
KLR Kul'dur 57.98 4 *e*P **P** **06 44 45.0 -2.5**
KLR *e*S **S** **06 52 53.0 +6.8**
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.2
KLR MLR MLR
comp=Z,2μm,15.0s,MS5.4
KAD Karad 58.09 297 *e*P **P** **06 44 46.2 -2.1**
KAD AMb AMB 06 44 56.1
comp=Z,93nm,1.3s,mb5.7
HIA Hailar 58.18 355 *e*P **P** **06 44 51.5 +2.6**
HIA pmax pmax
comp=Z,52nm,1.4s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 58.18 355 *e*P **P** **06 44 51.5 +2.5**
comp=Z,52nm,1.4s,mb5.4
HIA LR LR
comp=Z,2μm,20.0s,MS5.3
CASY Casey 58.44 188 *e*P **P** **06 44 52.3 +1.6**
comp=Z,13nm,0.9s,mb5.0
CASY LR LR
comp=Z,3μm,20.0s,MS5.5
DRV Dumont d'Urvil 58.46 174 P **P** **06 44 49.0 -1.9**
DRV S **S** **06 52 51.0 -1.4**
DRV SS SS 06 56 46.0 +1.1
DRV R 07 03 00.0
LGTI Lohaghat 58.77 312 *e*P **P** **06 44 55.0 +2.0**
POO Poona 58.85 298 *e*x x 06 44 49.0
POO *e*x x 06 46 03.2
POO AMb AMB 06 46 12.6
comp=Z,76nm,0.9s,mb5.8
ULN Ulaanbaatar 59.09 345 P **P** **06 44 55.4 +0.2**
SNR=15
ULN Ulaanbaatar 59.09 345 *e*P **P** **06 44 55.2 -0.1**
ULN pmax pmax
comp=Z,27nm,0.8s,mb5.3
ULN MLR MLR
comp=Z,1μm,20.0s,MS5.1
ULN Ulaanbaatar 59.09 345 *e*P **P** **06 44 55.2 -0.1**
comp=Z,28nm,0.8s,mb5.3
ULN LR LR
comp=Z,1μm,20.0s,MS5.1
SONM Songino Array 59.24 344 P **P** **06 44 56.0 -0.3**
comp=Z,13nm,0.7s,mb5.1,baz=157,slow=6.7,SNR=44
SONM PKP2bc 07 14 42.6
comp=Z,0.3nm,0.4s,baz=321,slow=3.9,SNR=5.6
SONM Songino Array 59.24 344 P **P** **06 44 56.0 -0.3**
SONM ⇑*e* 07 14 42.6
AFI Afiamalu 60.33 101 PFAKE 06 45 20.0 +16
AFI LR LR
comp=Z,2μm,21.0s,MS5.2
NDI New Delhi 60.62 310 *e*P **P** **06 45 04.9 -0.9**
NDI AMb AMB 06 45 12.8
comp=Z,115nm,1.6s,mb5.8
AJM Ajmer 61.56 306 *e*P **P** **06 45 10.8 -1.4**
AJM AMb AMB 06 45 18.1
comp=Z,91nm,2.2s,mb5.5
CIT Chita 61.66 351 *e*P **P** **06 45 15.9 +3.0**
CIT *e* 06 46 01.2
CIT pmax pmax
comp=Z,54nm,1.5s,mb5.5
ZAK Zakamensk 62.41 343 *e*P **P** **06 45 17.4 -0.5**
WMQ Urumqi 63.25 329 P **P** **06 45 23.0 -0.5**
WMQ XP sP 06 45 32.9 -2.1
WMQ PCP PcP 06 46 00.2 -0.4
WMQ PP PP 06 47 40.9 -1.7
WMQ PPP 06 49 14.3
WMQ PCS PcS 06 50 01.3 -2.9
WMQ S **S** **06 53 51.7 -1.9**
WMQ PS 06 54 12.2
WMQ SCS ScS 06 55 11.1 -3.6
WMQ SS SS 06 58 00.1 +0.1
WMQ AMB AMB
comp=Z,41nm,1.4s,mb5.4
WMQ AMB AMB
comp=Z,478nm,5.8s
WMQ LR LR
comp=N,2μm,17.0s,MS5.3
WMQ LR LR
comp=E,1μm,17.0s,MS5.3
WMQ LR LR
comp=Z,1μm,30.0s
TLY Talaya 63.48 344 *e*P **P** **06 45 25.4 +0.4**
TLY *e*S **S** **06 54 02.0 +5.6**
TLY *e*PS 06 54 17.3
TLY pmax pmax
comp=Z,18nm,1.1s,mb5.1
TLY Talaya 63.48 344 *e*P **P** **06 45 25.3 +0.3**
comp=Z,96nm,1.8s,mb5.6
TLY LR LR
comp=Z,361nm,19.0s,MS4.6
THN Thein Dam 63.64 313 *e*P **P** **06 45 25.4 -0.7**
comp=Z,1.8nm,0.8s
IRK Irkutsk 63.82 345 *e*P **P** **06 45 28.7 +1.5**
IRK pmax pmax
comp=Z,82nm,1.7s,mb5.5
MOY Mondy 64.22 342 *e*P **P** **06 45 30.7 +0.8**
MOY pmax pmax
comp=Z,99nm,2.5s,mb5.4
CLNS Chul'man 65.45 359 *e*P **P** **06 45 41.8 +3.9**
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS MLR MLR
comp=E,1μm,14.0s,MS5.2
CLNS MLR MLR
comp=Z,900nm,14.0s,MS5.1
CLNS MLR MLR
comp=N,200nm,13.0s,MS5.2
BOD Bodaibo 67.23 353 *e*P **P** **06 45 48.0 -1.3**
BOD pmax pmax
comp=Z,25nm,1.2s,mb5.1
KSH Kashi 67.26 319 P **P** **06 45 51.9 +2.4**
KSH AP pP 06 45 58.2 +0.3
KSH XP sP 06 46 01.6 +0.5
KSH PCP PcP 06 46 19.2 +2.0
KSH PP PP 06 48 21.7 +3.9
KSH PCS 06 50 23.3
KSH S S 06 54 44.3 +1.6
KSH SCS ScS 06 55 44.9 -0.6
KSH SS SS 06 59 06.0 +3.6
KSH AMB AMB
comp=Z,1μm,5.0s
KSH LR LR
comp=N,4μm,13.3s
KSH LR LR
comp=E,3μm,9.6s
KSH LR LR
comp=Z,8μm,30.6s
PET Petropavlovsk 67.33 20 *e*P **P** **06 45 50.3 +0.4**
PET *e*PS 06 55 23.2
PET pmax pmax
comp=Z,35nm,0.6s,mb5.6
PET MLR MLR
comp=Z,1μm,19.0s,MS5.1
PET MLR MLR
comp=Z,1μm,16.0s
PET Petropavlovsk 67.33 20 *i* P **P** **06 45 49.4 -0.5**
PET LR LR
comp=Z,1μm,22.0s,MS5.2
MK31 Makanchi Array 68.06 329 *e*P **P** **06 45 54.0 -0.5**
MKAR Makanchi Array 68.06 329 P **P** **06 45 53.9 -0.6**
comp=Z,28nm,0.7s,mb5.4,baz=127,slow=7.5,SNR=281
MKAR LR LR 07 18 34.8
comp=Z,967nm,18.6s,MS5.1,baz=137,slow=38
AAK Ala-Archa 69.92 322 P **P** **06 46 05.5 -0.6**
SNR=8.7
AAK Ala-Archa 69.92 322 *e*P **P** **06 46 05.0 -1.1**
AAK pmax pmax
comp=Z,13nm,0.8s,mb4.9
AAK MLR MLR
comp=Z,318nm,20.0s,MS4.6
AAK Ala-Archa 69.92 322 *e*P **P** **06 46 05.0 -1.0**
comp=Z,13nm,0.8s,mb4.9
AAK LR LR
comp=Z,318nm,20.0s,MS4.6
FRU Bishkek 69.95 322 *e*P **P** **06 46 07.2 +0.9**
FRU *e* 06 46 29.8
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.2
YAK Yakutsk 70.68 1 *e*P **P** **06 46 09.7 -1.0**
YAK *e**PP pP 06 46 20.3 +1.1
YAK *e* 06 46 31.3
YAK *e* 06 48 50.9
YAK *e*S S 06 55 17.9 -5.3
YAK *e* 06 56 06.1
YAK *e*SS SS 06 59 55.0 -0.2
YAK *e*SSS 07 03 04.7
YAK pmax pmax
comp=Z,56nm,0.9s,mb5.5
YAK pmax pmax
comp=N,35nm,1.4s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK smax
comp=E,359nm,4.3s
YAK smax
comp=N,158nm,2.3s
YAK MLR MLR
comp=E,424nm,16.0s,MS5.2
YAK MLR MLR
comp=Z,1μm,16.0s,MS5.3
YAK MLR MLR
comp=N,1μm,21.0s,MS5.2
YAK Yakutsk 70.68 1 *e*P **P** **06 46 09.9 -0.8**
comp=N,44nm,0.7s,mb5.5
YAK LR LR
comp=Z,1μm,19.0s,MS5.2
MSEY Mahe Island 70.83 268 PFAKE 06 46 20.0 +8.4
MSEY LR LR
comp=Z,790nm,22.0s,MS4.9
VNDA Vanda 71.05 172 P **P** **06 46 12.5 -0.4**
comp=Z,3.4nm,0.6s,mb4.5,baz=321,slow=6.7,SNR=14
VNDA LR LR 07 17 00.6
comp=Z,3μm,19.5s,MS5.5,baz=340,slow=36
VNDA Vanda 71.05 172 P **P** **06 46 13.4 +0.5**
VNDA pmax pmax
comp=Z,19nm,1.0s
VNDA Vanda 71.05 172 *e*P **P** **06 46 13.1 +0.2**
comp=Z,19nm,1.0s,mb5.0
VNDA LR LR
comp=Z,3μm,20.0s,MS5.5
ZAL Zalesovo 71.85 335 P **P** **06 46 16.6 -1.2**
comp=Z,27nm,0.7s,mb5.3,baz=342,slow=4.6,SNR=64
ZAL LR LR 07 19 28.7
comp=Z,1μm,19.3s,MS5.2,baz=175,slow=37
SBA Scott Base 71.97 172 *e*P **P** **06 46 19.4 +0.9**
SBA pmax pmax
comp=Z,24nm,1.2s,mb5.0
SBA MLR MLR
comp=Z,3μm,19.0s,MS5.5
SBA Scott Base 71.97 172 *e*P **P** **06 46 19.4 +0.8**
comp=Z,24nm,1.2s,mb5.0
SBA LR LR
comp=Z,3μm,19.0s,MS5.5
MAW Mawson 72.09 201 *e*P **P** **06 46 19.4 +0.2**
comp=Z,17nm,1.2s,mb4.8
MAW *e*S S 06 55 41.5 +2.0
MAW Mawson 72.09 201 P **P** **06 46 18.5 -0.7**
comp=Z,9.8nm,0.8s,mb4.8,baz=68,slow=8.0,SNR=9.0
MAW LR LR 07 16 57.2
comp=Z,2μm,19.4s,MS5.3,baz=64,slow=35
MAW Mawson 72.09 201 *e*P **P** **06 46 20.5 +1.3**
MAW pmax pmax
comp=Z,54nm,1.3s
KURK Kurchatov 72.45 330 P **P** **06 46 20.8 -0.6**
SNR=24
KURK Kurchatov 72.45 330 *e*P **P** **06 46 20.4 -1.0**
KURK pmax pmax
comp=Z,101nm,1.1s,mb5.7
KURK MLR MLR
comp=Z,407nm,21.0s,MS4.7
KURK Kurchatov 72.45 330 *e*P **P** **06 46 20.4 -1.0**
comp=Z,101nm,1.1s,mb5.7
KURK LR LR
comp=Z,407nm,21.0s,MS4.7
KK31 Karatay Array 72.65 320 *i* P **P** **06 46 22.3 -0.3**
KKAR Karatay Array 72.65 320 P **P** **06 46 22.2 -0.4**
NVS Novosibirsk 73.14 335⇑ *i*P **P** **06 46 23.4 -2.1**
NVS *e*S S 06 55 46.3 -5.2
NVS pmax pmax
comp=Z,112nm,1.4s,mb5.6
NVS pmax pmax
comp=N,93nm,1.5s
NVS pmax pmax
comp=E,77nm,1.5s
NVS smax
comp=E,27nm,1.6s
NVS smax
comp=N,30nm,1.8s
SMY Shemya 73.36 28 PFAKE 06 46 40.0 +13
SMY LR LR
comp=Z,2μm,20.0s,MS5.5
SEY Seymchan 74.21 12⇑ *e*P **P** **06 46 30.6 -1.2**
HATD Hatta, Dubai 76.46 298 ⇑P **P** **06 46 45.0 +0.3**
SNR=6.9
ADK Adak 77.41 32 PFAKE 06 47 00.0 +10
ADK LR LR
comp=Z,1μm,19.0s,MS5.3
BVA0 Borovoye Array 77.94 329 *i* P **P** **06 46 52.0 -1.0**
BVA0 pmax pmax
comp=Z,12nm,1.0s,mb4.8
BVAR Borovoye Array 77.94 329 P **P** **06 46 52.3 -0.7**
comp=Z,22nm,0.6s,mb5.2,baz=132,slow=7.8,SNR=66
BRVK Borovoye 78.01 329 P **P** **06 46 52.8 -0.6**
SNR=31
BRVK Borovoye 78.01 329 *e*P **P** **06 46 52.6 -0.8**
BRVK pmax pmax
comp=Z,66nm,1.0s,mb5.5
BRVK MLR MLR
comp=Z,306nm,20.0s,MS4.6
BRVK Borovoye 78.01 329 *e*P **P** **06 46 52.6 -0.8**
comp=Z,66nm,1.0s,mb5.5
BRVK LR LR
comp=Z,306nm,20.0s,MS4.6
CHKZ Chkalovo 78.18 330 *e*P **P** **06 46 53.3 -1.0**
CHKZ pmax pmax
comp=Z,46nm,0.8s,mb5.5
CHKZ Chkalovo 78.18 330 *e*P **P** **06 46 53.3 -1.0**
comp=Z,46nm,0.8s,mb5.5
ABKT Ailbek 78.98 311 P **P** **06 46 54.5 -4.2**
comp=Z,219nm,0.9s,mb6.1,SNR=7.7
TIXI Tiksi 80.32 1 *e*P **P** **06 47 03.3 -2.7**
TIXI *e*S S 06 57 03.4 -6.5
TIXI *e*SSS 07 05 38.8
TIXI pmax pmax
comp=Z,15nm,0.7s,mb5.0
TIXI Tiksi 80.32 1⇑ *e*P **P** **06 47 04.7 -1.3**
comp=Z,1.9nm,0.7s
TIXI *e*PP PP 06 50 07.7 -1.1
TIXI LR LR
comp=Z,1μm,20.0s
TBI Tubuai 80.87 112 *e*S S 06 57 12.5 -3.2
comp=Z,327nm,30.2s
TBI *e*SS SS 07 02 29.8 +0.1
comp=Z,506nm,34.8s
TBI *e*LR LR 07 12 38.5
comp=Z,2μm,28.8s
QSPA South Pole Qui 81.16 180 *e*PKPdf **P** **06 47 10.1 -0.4**
PAE Paea 81.36 107 *e*P **P** **06 47 12.2 +0.6**
comp=Z,40nm,0.9s,mb5.4
PAE Paea 81.36 107 *e*P **P** **06 47 12.2 +0.6**
PAE pmax pmax
comp=Z,40nm,0.9s,mb5.3
PPT Papeete 81.38 106 *e*S S 06 57 18.3 -2.7
comp=Z,329nm,26.5s
PPT *e*SS SS 07 02 36.5 -0.7
comp=Z,524nm,26.2s
PPT *e*LR LR 07 12 53.9
comp=Z,3μm,32.5s
PPT Papeete 81.38 106 LR LR 07 21 33.1
comp=Z,732nm,18.5s,MS5.1,baz=264,slow=34
PPT Papeete 81.38 106 *e*P **P** **06 47 11.9 +0.2**
PPT *e*S S 06 57 18.3 -2.7
PPT *e*SS SS 07 02 36.5 -0.7
PPT pmax pmax
comp=Z,31nm,1.4s
PPT Papeete 81.38 106 *e*P **P** **06 47 11.9 +0.2**
comp=Z,31nm,1.4s,mb5.0
PPT *e*S S 06 57 18.3 -2.7
PPT *e*SS SS 07 02 36.5 -0.7
BILL Bilibino 81.63 14 P **P** **06 47 12.0 -1.0**
BILL *e* 06 47 24.8
BILL pmax pmax
comp=Z,21nm,1.7s,mb4.8
BILL MLR MLR
comp=Z,700nm,18.0s,MS5.1
BILL Bilibino 81.63 14 *e*P **P** **06 47 13.1 +0.1**
comp=Z,13nm,0.8s,mb4.9
BILL LR LR
comp=Z,1μm,20.0s,MS5.2
TVO Taravao 81.66 107 *e*P **P** **06 47 14.0 +0.8**
comp=Z,99nm,1.4s,mb5.5
TVO Taravao 81.66 107 *e*P **P** **06 47 14.0 +0.8**
TVO pmax pmax
comp=Z,99nm,1.4s,mb5.5
AB31 Akbulak array 81.97 323 *i* P **P** **06 47 13.6 -1.2**
PMOR Pomariorio Ree 83.29 104 *e*P **P** **06 47 22.1 +0.5**
comp=Z,44nm,1.5s,mb5.3
AKTK Aktyubinsk 83.58 323 *i* P **P** **06 47 22.2 -0.9**
AKTO Aktyubinsk 83.58 323 *i* P **P** **06 47 22.2 -0.9**
UNV Unalaska Valle 83.77 33 PFAKE 06 47 40.0 +16
UNV LR LR
comp=Z,5μm,19.0s,MS6.0
SVE Sverdlovsk 84.69 330⇑ *e*P **P** **06 47 28.0 -0.8**
SVE *e* 06 50 48.0
SVE *e*S S 06 58 00.0 +5.3
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.8
SVE MLR MLR
comp=Z,1μm,20.0s,MS5.2
ARU Arti 85.58 329 *i* P **P** **06 47 32.6 -0.7**
ARU pmax pmax
comp=Z,55nm,1.7s,mb5.5
ARU Arti 85.58 329 *e*P **P** **06 47 32.3 -0.9**
comp=Z,50nm,1.3s,mb5.6
ARU LR LR
comp=Z,320nm,22.0s,MS4.7
ORR Orenburg 85.93 324 P **P** **06 47 34.4 -0.6**
ORR pmax pmax
comp=Z,110nm,0.9s,mb6.1
SDPT Sand Point 87.59 33 *e*P **P** **06 47 44.7 +1.6**

comp=Z,497nm,2.2s,mb6.3
SOKR Solikamsk 87.65 331 *e*P **P** **06 47 44.3 +0.9**
SOKR S S 06 58 29.3 +5.8
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
SOKR MLR MLR
comp=Z,900nm,18.0s,MS5.2
TNA Tin City 88.11 22 PFAKE 06 48 00.0 +14
TNA LR LR
comp=Z,628nm,19.0s,MS5.0
MAK Makhachkala 88.19 314 *i* P **P** **06 47 44.3 -1.6**
MAK *e*S S 06 58 10.5 -18
MAK *e*SSS 07 07 49.6
MAK pmax pmax
comp=Z,213nm,1.7s,mb6.1
MAK MLR MLR
comp=Z,810nm,19.0s,MS5.2
BHD Baghdad 88.49 304 *e*x x 06 47 48.0
KMBO Kilima Mbogo 89.35 269 P **P** **06 47 53.6 +2.2**
comp=Z,4.4nm,0.6s,mb5.0,baz=50,slow=7.5,SNR=18
KMBO LR LR 07 28 13.7
comp=Z,1μm,19.9s,MS5.4,baz=96,slow=36
KMBO Kilima Mbogo 89.35 269 P **P** **06 47 54.3 +2.9**
SNR=21
KMBO Kilima Mbogo 89.35 269 *i* P **P** **06 47 53.5 +2.1**
KMBO pmax pmax
comp=Z,4.0nm,0.6s
KMBO Kilima Mbogo 89.35 269 *e*P **P** **06 47 53.8 +2.4**
comp=Z,66nm,1.5s,mb5.7
KMBO LR LR
comp=Z,2μm,22.0s,MS5.5
GNI Garni 89.59 311 ⇑ *i*P **P** **06 47 51.4 -1.1**
GNI pmax pmax
comp=Z,20nm,1.3s
GNI Garni 89.59 311 P **P** **06 47 53.9 +1.3**
comp=Z,4.0nm,0.6s,mb4.9
GNI LR LR
comp=Z,721nm,22.0s,MS5.1
NVL N'lazarevskaya 89.67 197 *e*P Px 06 48 13.1
NVL *e*S S 06 58 44.1 +1.6
NVL *e*PS PS 07 00 20.7 +30
NVL pmax pmax
comp=Z,21nm,1.5s,mb5.2
NVL MLR MLR
comp=Z,2μm,19.0s,MS5.7
ZEI Tsey 90.74 313 *e*P **P** **06 47 58.1 +0.2**
ZEI *i* pP 06 48 05.9 -0.7
ZEI *e* 06 51 36.1
ZEI pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
TAOE Nuku Hiva Isla 91.68 99 *e*LR LR 07 17 32.4
comp=Z,2μm,21.9s
SVW2 Sparrevohn 91.76 28 *e*P **P** **06 48 02.6 0.0**
KIV Kislovodsk 91.83 314 *e*P **P** **06 47 59.8 -3.1**
KIV *e* 06 51 36.8
KIV *e* 06 58 29.6
KIV *e*SS SS 07 05 03.8 -6.5
KIV *e*SSS 07 08 47.2
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
KIV pmax pmax
comp=Z,119nm,5.0s
KIV Kislovodsk 91.83 314 PFAKE 06 48 10.0 +7.1
KIV LR LR
comp=Z,164nm,22.0s,MS4.4
KDAK Kodiak Island 92.45 32 PFAKE 06 48 20.0 +14
KDAK LR LR
comp=Z,526nm,22.0s,MS4.9
SNAA Sanae 93.13 194 LR LR 07 30 01.1
comp=Z,1μm,19.9s,MS5.3,baz=308,slow=36
SNAA Sanae 93.13 194 *e*P **P** **06 48 11.2 +2.2**
SNAA *e* 06 48 31.4
SNAA *e* 06 48 42.6
SNAA *e* 06 51 49.8
SNAA *e* 06 52 17.2
SNAA Sanae 93.13 194 *e*P **P** **06 48 09.9 +0.9**
SNAA pmax pmax
comp=Z,17nm,0.9s
SNAA Sanae 93.13 194 *e*P **P** **06 48 09.9 +0.9**
comp=Z,18nm,0.9s,mb5.5
IMA2 Indian Mountai 93.79 24 *e*P **P** **06 48 12.2 +0.2**
SOC Sochi 93.89 313 *e*P **P** **06 48 10.2 -2.2**
SOC *e* 06 52 02.5
SOC *e*PPP 06 54 00.9
SOC *e*S SKSac 06 58 41.5 -3.9
SOC *e*SS SS 07 05 40.1 +0.3
SOC *e*SSS 07 09 20.7
SOC pmax pmax
comp=Z,11nm,0.7s,mb5.4
SOC MLR MLR
comp=Z,690nm,22.0s,MS5.1
RKT Rikitea 94.08 114 *e*PS PS 07 00 39.6 -0.4
comp=Z,542nm,29.2s
RKT Rikitea 94.08 114 *e*SKSac SKSac 06 58 44.9 -1.5
comp=Z,644nm,28.0s
RKT *e*SS SS 07 05 45.0 +2.4
comp=Z,342nm,27.8s
RKT *e*LR LR 07 18 36.6
comp=Z,1μm,24.2s
SLKM Skilak Lake 94.19 30 *e*P **P** **06 48 12.4 -1.4**
VNA2 Neumayer--Watz 94.72 194 *e*P **P** **06 48 18.8 +2.5**
VNA2 *e* 06 48 22.0
VNA2 *e* pP 06 48 28.2 +3.2
VNA2 *e* 06 48 37.8
VNA2 *e* 06 48 49.6
VNA2 *e* 06 48 57.5
VNA2 *e* 06 51 53.9
VNA2 *e* 06 52 11.9
VNA2 *e* 06 52 17.7
VNA2 *e* 06 53 00.0
PMR Palmer 94.90 29 *e*P **P** **06 48 15.8 -1.3**
PMR pmax pmax
comp=Z,9.0nm,0.6s,mb5.4
PMR Palmer 94.90 29 *e*P **P** **06 48 15.8 -1.3**
comp=Z,8.8nm,0.6s,mb5.4
VNA3 Neumayer Olymp 95.01 193 *e*P **P** **06 48 19.6 +2.0**
VNA3 *e* 06 48 23.1
VNA3 *e* 06 48 38.9
VNA3 *e* 06 51 57.7
VNA3 *e* 06 52 13.9
VNA3 *e* 06 53 00.0
VNA1 Neumayer--Stat 95.12 194 *e*P **P** **06 48 18.9 +0.8**
VNA1 *e* 06 48 21.8
VNA1 *e* 06 52 00.2
VNA1 *e* 06 52 17.2
VNA1 *e* 06 52 22.3
SML Sawmill 95.31 28 *e*P **P** **06 48 17.8 -1.1**
MCK McKinley 95.33 26 P **P** **06 48 13.1 -5.9**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MCK MLR MLR
comp=Z,485nm,20.0s,MS5.0
MCK McKinley 95.33 26 P **P** **06 48 13.1 -6.0**
comp=Z,3.7nm,0.9s,mb4.8
MCK LR LR
comp=Z,485nm,20.0s,MS5.0
ANN Anapa 95.68 314 *e*P **P** **06 48 17.4 -3.2**
BOSA Boshof 95.78 240 P **P** **06 48 21.0 -0.1**
comp=Z,5.4nm,0.6s,mb5.2,baz=188,slow=2.3,SNR=14
BOSA Boshof 95.78 240 *e*P **P** **06 48 22.3 +1.2**
BOSA pmax pmax
comp=Z,16nm,1.1s,mb5.4
BOSA MLR MLR
comp=Z,2μm,20.0s,MS5.5
BOSA Boshof 95.78 240 *e*P **P** **06 48 22.3 +1.2**
comp=Z,16nm,1.1s,mb5.4
BOSA LR LR
comp=Z,2μm,20.0s,MS5.5
LSZ Lusaka 95.87 254 *e*P **P** **06 48 23.3 +1.8**
LSZ pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
LSZ MLR MLR
comp=Z,2μm,22.0s,MS5.5
LSZ Lusaka 95.87 254 *e*P **P** **06 48 23.3 +1.8**
comp=Z,5.2nm,0.7s,mb5.1
LSZ LR LR
comp=Z,2μm,22.0s,MS5.5
COLA College 95.97 25 P **P** **06 48 20.9 -1.0**
COLA pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
COLA MLR MLR
comp=Z,978nm,19.0s,MS5.3
COLA College 95.97 25 P **P** **06 48 20.9 -1.0**
comp=Z,2.0nm,0.6s,mb4.7
COLA LR LR
comp=Z,978nm,19.0s,MS5.3
LBTB Lobatse 96.29 244 LR LR 07 27 15.9
comp=Z,3μm,21.2s,MS5.7,baz=119,slow=33
LBTB Lobatse 96.29 244 *e*P **P** **06 48 24.7 +1.3**
LBTB pmax pmax
comp=Z,15nm,1.2s,mb5.3
LBTB MLR MLR
comp=Z,3μm,21.0s,MS5.7
LBTB Lobatse 96.29 244 *e*P **P** **06 48 24.7 +1.3**
comp=Z,15nm,1.2s,mb5.3
LBTB LR LR
comp=Z,3μm,21.0s,MS5.7
OBN Obninsk 97.28 325 P **P** **06 48 32.0 +4.1**
OBN *e* 06 52 33.2
OBN MLR MLR
comp=Z,700nm,21.0s,MS5.1
OBN Obninsk 97.28 325 PFAKE 06 48 40.0 +12
OBN LR LR
comp=Z,231nm,22.0s,MS4.6
BR131 Keskin Array S 97.97 309 *e*P **P** **06 48 31.3 +0.3**
comp=Z,0.8nm,0.3s,mb4.7
BR131 LR LR
comp=Z,719nm,22.0s,MS5.1
BRTR Keskin Array B 97.97 309 P **P** **06 48 30.8 -0.3**
comp=Z,0.9nm,0.6s,mb4.5,baz=114,slow=5.8,SNR=6.6
BRTR LR LR 07 40 33.3
comp=Z,496nm,21.3s,MS5.0,baz=130,slow=40
BRTR Keskin Array B 97.97 309 ⇑ *e*P **P** **06 48 31.1 +0.1**
PTCN Pitcairn Islan 98.02 117 PFAKE 06 48 40.0 +8.8
PTCN LR LR
comp=Z,1μm,19.0s,MS5.4
SUR Sutherland 98.54 235 LR LR 07 27 17.4
comp=Z,865nm,20.4s,MS5.2,baz=117,slow=32
SUR Sutherland 98.54 235 *e*P **P** **06 48 35.5 +1.9**
comp=Z,17nm,1.1s,mb5.5
ANTO Ankara 98.63 309 PFAKE 06 48 50.0 +16
ANTO LR LR
comp=Z,585nm,20.0s,MS5.1
EGAK Eagle 98.81 26 PFAKE 06 48 50.0 +15
EGAK LR LR
comp=Z,1μm,21.0s,MS5.4
AKASG Malin Array Be 101.55 320 P Pdif 06 48 44.7 -2.3
comp=Z,1.4nm,0.6s,baz=76,slow=4.2,SNR=6.0
AKASG Malin Array Be 101.55 320 *i* P Pdif 06 48 46.2 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 101.55 320 P Pdif 06 48 44.7 -2.3
KIEV Kiev 101.56 320 PFAKE 06 49 00.0 +13
KIEV LR LR
comp=Z,1μm,21.0s,MS5.3
KEV Kevo 101.61 339 PFAKE 06 49 00.0 +13
KEV LR LR
comp=Z,1μm,19.0s,MS5.5
INK Inuvik 101.75 22 PKKPbc PKKPbc 07 04 53.5 -0.1
comp=Z,0.6nm,0.5s,baz=100,slow=4.3,SNR=6.5
ARCES ARCESS Array B 102.16 339 P Pdif 06 48 48.6 -1.1
comp=Z,4.6nm,0.9s,baz=6.3,slow=12,SNR=3.9
KBS Kingsbay 103.29 350 PFAKE 06 49 10.0 +15
KBS LR LR
comp=Z,1μm,21.0s,MS5.4
TSUM Tsumeb 104.89 247 PFAKE 06 49 10.0 +8.2
TSUM LR LR
comp=Z,2μm,20.0s,MS5.7
PMSA Palmer Station 106.15 175 PFAKE 06 53 30.0 +11
PMSA LR LR
comp=Z,3μm,19.0s,MS5.8
PSZ Piszkesteto 107.81 317 *e*PKPdf PKiKP 06 53 21.9 -0.3
NB2 NORSAR Subarra 109.92 332 PKiK 06 53 27.4
comp=Z,4.6nm,1.0s,baz=72,slow=1.9
COR Corvallis 110.33 46 PFAKE 06 53 40.0 +13
COR LR LR
comp=Z,1μm,20.0s,MS5.5
RGN Rugen 110.67 325 *e*PP PP 06 54 10.1 +5.8
RGN *e*SP SP 07 03 35.5 +4.1
YKA Yellowknife Ar 110.79 26 Pdiff Pdif 06 49 29.7 +1.7
comp=Z,0.3nm,0.7s,baz=293,slow=4.8,SNR=4.0
YKA PKiKP PKiKP 06 53 27.4 -0.4
comp=Z,0.9nm,0.5s,baz=291,slow=2.1,SNR=26
YKA PKKPbc PKKPbc 07 04 25.6 -0.2
comp=Z,0.8nm,0.7s,baz=107,slow=3.4,SNR=10
YKA Yellowknife Ar 110.79 26 P Pdif 06 49 29.7 +1.7
YKA 06 53 27.4
YKA Yellowknife Ar 110.79 26 Pdif Pdif 06 49 29.7 +1.6
YKA PKPdf PKiKP 06 53 27.4 -0.4
YKA PKKPbc PKKPbc 07 04 25.6 -0.2
HUMO Hull Mountain 110.84 48 PFAKE 06 53 40.0 +12
HUMO LR LR
comp=Z,1μm,22.0s,MS5.5
RUE Ruedersdorf 110.90 323 *e*SP SP 07 03 37.7 +4.2
YBH Yreka Blue Hor 111.13 49 PFAKE 06 53 40.0 +12
YBH LR LR
comp=Z,2μm,21.0s,MS5.7
KONO Kongsberg 111.14 331 PFAKE 06 53 40.0 +12
KONO LR LR
comp=Z,2μm,20.0s,MS5.6
BRG Berggiesshubel 111.16 321 *e*PP PP 06 54 13.0 +5.2
BRG *e*SP SP 07 03 42.3 +6.5
BRG Berggiesshubel 111.16 321 *e*P PKiKP 06 53 10.9 -18
comp=Z,7.2nm,1.3s
BRG *e* 06 53 34.1
comp=Z,3.3nm,0.9s
BRG *e* 07 00 21.0
BRG *e* 07 03 46.0
BRG *e* 07 04 54.0
BRG *e* 07 10 06.0
BRG Berggiesshubel 111.16 321 PKIKP PKiKP 06 53 34.1 +5.6
HOPS Hopland 111.16 52 PFAKE 06 53 40.0 +11
HOPS LR LR
comp=Z,1μm,20.0s,MS5.5
WDC Whiskeytown Da 111.40 50 PFAKE 06 53 40.0 +11
WDC LR LR
comp=Z,1μm,21.0s,MS5.4
CLL Collm 111.64 322 *e*PP PP 06 54 18.0 +6.8
CLL *e*SP SP 07 03 47.3 +7.0
CLL Collm 111.64 322 *e*PP PP 06 54 12.0 +0.8
CLL *e*PS PS 07 03 46.0 +2.4
CLL *e*PPS 07 04 58.0
CLL *e*SS SS 07 10 24.0 +39
CLL LmV 07 56 00.0
comp=Z,800nm,18.4s
GEC2 GERESS Array S 111.73 319 *e*PP PP 06 54 15.9 +4.0
GEC2 *e*SP SP 07 03 48.9 +7.7
GERES GERESS Array B 111.73 319 PKiKP PKiKP 06 53 30.1 +0.5
comp=Z,1.2nm,0.5s,baz=69,slow=2.0,SNR=9.2
TANN Tannenbergstha 112.18 321 *e*PP PP 06 54 23.1 +8.0
TANN *e*SP SP 07 03 54.0 +8.8
WET Wettzell 112.20 320 *e*PP PP 06 54 20.2 +5.0
WET *e*SP SP 07 03 55.1 +10
ROTZ Rotzenmuhle 112.49 320 *e*PP PP 06 54 21.7 +4.4
ROTZ *e*SP SP 07 03 58.5 +10
MANZ Manzenberg 112.50 321 *e*PP PP 06 54 21.7 +4.3
MANZ *e*SP SP 07 03 58.0 +10
BSEG Bad Segeberg 112.54 325 *e*SP SP 07 03 55.7 +7.1
MSKU Masuku 112.59 265 PFAKE 06 53 40.0 +8.8
MSKU LR LR
comp=Z,111nm,21.0s,MS4.4
HAWA Hanford 112.65 43 PFAKE 06 53 40.0 +8.7
HAWA LR LR
comp=Z,1μm,21.0s,MS5.4
MOX Moxa 112.65 321 *e*PP PP 06 54 24.6 +6.2
MOX *e*SP SP 07 03 58.6 +9.0
SAO San Andreas Ge 112.67 54 PFAKE 06 53 40.0 +8.6
SAO LR LR
comp=Z,872nm,19.0s,MS5.4
MOD Modoc 112.89 48 *e*PKPdf PKiKP 06 53 33.8 +2.0
MOD LR LR
comp=Z,1μm,20.0s,MS5.4
NRDL Niedersach Rie 113.07 324 *e*PP PP 06 54 25.3 +3.9
NRDL *e*SP SP 07 04 00.1 +6.7
CLZ Clausthal 113.09 323 *e*PP PP 06 54 27.5 +5.9
CLZ *e*SP SP 07 04 03.4 +10
GRF Grafenberg Arr 113.13 320 *e*PP PP 06 54 26.0 +4.2
GRF *e*SP SP 07 04 04.4 +10
GRF *e*SSS 07 14 17.0
GRF *e*L 07 49 43.6
comp=Z,714nm,21.2s
GRFO Grafenberg 113.13 320 PFAKE 06 53 40.0 +7.8
GRFO LR LR
comp=Z,1μm,20.0s,MS5.4
CMB Columbia Colle 113.37 52 PFAKE 06 53 50.0 +17
CMB LR LR
comp=Z,910nm,20.0s,MS5.4
WTTA Wattenberg 113.42 318 ⇑ *i*P PKiKP 06 53 33.7 +0.9
comp=Z,16nm,1.1s
FUR Furstenfeldbru 113.46 319 *e*PP PP 06 54 30.4 +6.2
FUR *e*SP SP 07 04 07.5 +11
UBBA Unterbreizbach 113.59 322 *e*PP PP 06 54 31.1 +5.9
UBBA *e*SP SP 07 04 08.8 +11
PTRM Twissleman Ran 113.78 55 *e*PKPdf PKiKP 06 53 44.5 +11
HLG Helgoland 113.83 326 *e*PP PP 06 54 34.0 +7.2
HLG *e*SP SP 07 04 09.7 +9.3
NEW Newport 113.84 41 PFAKE 06 53 50.0 +16
NEW LR LR
comp=Z,1μm,19.0s,MS5.5
PAHR Pah Rah Range 113.91 51 *e*PKPdf PKiKP 06 53 35.5 +1.8
WVOR Wild Horse Val 114.02 47 *e*PKIKP PKiKP 06 53 35.9 +1.9
WVOR MLR MLR
comp=Z,1μm,21.0s,MS5.5
BMO Blue Mountains 114.49 45 PFAKE 06 53 50.0 +15
BMO LR LR
comp=Z,673nm,20.0s,MS5.2
IBBN Ibbenburen 114.50 324 *e*PP PP 06 54 35.5 +3.9
IBBN *e*SP SP 07 04 18.4 +12
DAVA Damuels 114.58 318 ⇓ *i*P PKiKP 06 53 36.2 +1.2
comp=Z,22nm,1.6s
STU Stuttgart 114.65 320 *e*PP PP 06 54 39.1 +6.5
STU *e*SP SP 07 04 20.5 +13
TNS Taunus Mts 114.71 322 *e*PP PP 06 54 39.1 +6.0
TNS *e*SP SP 07 04 21.4 +13
NVAR Mina Array Bea 114.94 52 PKP PKiKP 06 53 37.5 +1.8
comp=Z,1.0nm,0.6s,baz=274,slow=2.6,SNR=7.1
NVAR PKKPbc PKKPbc 07 04 18.3 +6.4
comp=Z,0.9nm,0.8s,baz=166,slow=2.4,SNR=6.3
NVAR Mina Array Bea 114.94 52 PKP PKiKP 06 53 37.5 +1.8
NVAR PKKPbc PKKPbc 07 04 18.3 +6.4
RPN Rapa Nui 114.97 125 PFAKE 06 53 50.0 +14
RPN LR LR
comp=Z,388nm,19.0s,MS5.0
BUG Bochum--Univer 115.06 323 *e*PP PP 06 54 41.3 +5.8
BUG *e*SP SP 07 04 25.7 +14
BFO Black Forest 115.32 320 *e*PP PP 06 54 38.4 +1.0
BFO *e*SP SP 07 04 32.7 +19
BMN Battle Mountai 115.43 49 PFAKE 06 53 50.0 +13
BMN LR LR
comp=Z,802nm,20.0s,MS5.3
HOPE Hope Point 115.56 191 PFAKE 06 53 50.0 +13
HOPE LR LR
comp=Z,1.0nm,21.0s
DAC Darwin (Calif) 115.81 54 PFAKE 06 53 50.0 +13
DAC LR LR
comp=Z,924nm,20.0s,MS5.4
TPH Tonopah 115.83 52 PFAKE 06 53 50.0 +13
TPH LR LR
comp=Z,821nm,19.0s,MS5.4
MSO Missoula 116.29 42 *e*PKPdf PKPdf 06 53 38.5 +0.2
MSO LR LR
comp=Z,545nm,19.0s,MS5.2
WLF Walferdange 116.29 321 *e*PP PP 06 54 47.8 +3.6
WLF *e*SP SP 07 04 27.5 +4.6
PGF Pioggiola 116.30 313 *e*PKIKP PKPdf 06 53 39.0 +0.7
HINF Hinteralfeld 116.42 319 *e*PKIKP PKPdf 06 53 38.7 +0.1
comp=Z,6.7nm,0.5s
HAU Haudompre 116.68 320 *e*PKIKP PKPdf 06 53 39.6 +0.5
HAU *e*MLR
comp=Z,1μm,22.5s
HAU Haudompre 116.68 320 *e*PKPdf PKPdf 06 53 39.6 +0.5
HAU LR LR
comp=Z,1μm,22.5s,MS5.4
CHMT Chamberlain Mo 116.72 42 *e*PKPdf PKPdf 06 53 39.7 +0.6
HLID Hailey 116.81 46 *e*PKPdf PKPdf 06 53 41.2 +1.9
HLID LR LR
comp=Z,913nm,19.0s,MS5.4
ELK Elko 116.85 49 PFAKE 06 53 50.0 +11
ELK LR LR
comp=Z,835nm,21.0s,MS5.3
SBF Sospel 117.10 315 *e*PKIKP PKPdf 06 53 41.0 +1.1
PFO Pinyon Flat Ob 117.11 57 *e*PKIKP PKPdf 06 53 41.8 +1.9
PFO MLR MLR
comp=Z,305nm,19.0s,MS4.9
LPG La Plagne 117.14 317 *e*PKIKP PKPdf 06 53 41.1 +1.1
comp=Z,10.0nm,0.7s
LPL La Plagne 117.15 317 *e*PKIKP PKPdf 06 53 41.0 +1.0
comp=Z,9.9nm,0.6s
CABF La Chapelle 117.27 318 *e*PKIKP PKPdf 06 53 41.2 +1.0
comp=Z,11nm,0.6s
MBDF Montbardon 117.33 316 *e*PKIKP PKPdf 06 53 41.5 +1.2
comp=Z,12nm,0.8s
MCMT McKenzie Canyo 117.57 44 *e*PKPdf PKPdf 06 53 42.5 +1.7
SHPR Sheep Range 117.72 53 *e*PKPdf PKPdf 06 53 44.9 +3.8
FRF La Foret Royal 117.73 315 *e*PKIKP PKPdf 06 53 41.5 +0.4
ORIF Oris-en-Rattie 117.89 316 *e*PKIKP PKPdf 06 53 42.2 +0.8
comp=Z,11nm,0.6s
ORIF *e*MLR
comp=Z,1μm,23.0s
BOZ Bozeman (W) 118.17 43 *e*PKIKP PKPdf 06 53 43.5 +1.6
BOZ MLR MLR
comp=Z,916nm,21.0s,MS5.4
SMRF Simiane la Rot 118.36 315 *e*PKIKP PKPdf 06 53 43.4 +1.1
comp=Z,14nm,0.7s
HVU Hansel Valley 118.42 47 *e*PKIKP PKPdf 06 53 43.8 +1.4
LOR Lormes 118.51 319 *e*PKIKP PKPdf 06 53 43.2 +0.6
LOR *e*MLR
comp=Z,483nm,18.5s
LOR Lormes 118.51 319 *e*PKPdf PKPdf 06 53 43.2 +0.6
LOR LR LR
comp=Z,480nm,18.5s,MS5.2
QLMT Earthquake Lak 118.54 44 *e*PKPdf PKPdf 06 53 43.9 +1.2
EGMT Eagleton 118.62 40 PFAKE 06 54 00.0 +17
EGMT LR LR
comp=Z,817nm,19.0s,MS5.4
SMF Signal de Mont 118.73 319 *e*PKIKP PKPdf 06 53 43.4 +0.4
VIVF Saint-Julien-l 118.73 317 *e*PKIKP PKPdf 06 53 43.1 +0.1
DUG Dugway 118.78 49 *e*PKIKP PKPdf 06 53 44.6 +1.5
DUG MLR MLR
comp=Z,744nm,20.0s,MS5.3
SPUT South Promonto 118.78 48 *e*PKPdf PKPdf 06 53 40.8 -2.3
SSF Saint Saulge 118.81 319 *e*PKIKP PKPdf 06 53 43.9 +0.7
comp=Z,10nm,0.6s
YMR Madison River 118.91 44 *e*PKPdf PKPdf 06 53 44.9 +1.5
YMR LR LR
comp=Z,947nm,19.0s,MS5.4
AVF Avril sur Loir 119.00 319 *e*PKIKP PKPdf 06 53 43.9 +0.4
comp=Z,5.6nm,0.5s
RRI2 Red Ridge 119.04 45 *e*PKPdf PKPdf 06 53 35.4 -8.3
YFT Old Faithful 119.06 44 *e*PKPdf PKPdf 06 53 50.7 +7.0
DCID1 Drake Creek 119.07 45 *e*PKPdf PKPdf 06 53 44.3 +0.7
TPAW Teton Pass 119.26 45 *e*PKPdf PKPdf 06 53 45.2 +1.1
MOOW Moose Ponds 119.33 45 *e*PKPdf PKPdf 06 53 46.1 +1.9
HWUT Hardware Ranch 119.34 47 *e*PKPdf PKPdf 06 53 45.7 +1.5
HWUT LR LR
comp=Z,1μm,20.0s,MS5.5
AHID Auburn Hatcher 119.36 46 *e*PKPdf PKPdf 06 53 49.5 +5.3
AHID LR LR
comp=Z,841nm,22.0s,MS5.3
REDW Red Top Meadow 119.37 45 *e*PKPdf PKPdf 06 53 45.9 +1.6
NLU North Lily Min 119.38 49 *e*PKPdf PKPdf 06 53 45.6 +1.4
BGF Bois d'Agland 119.41 319 *e*PKIKP PKPdf 06 53 45.3 +1.0
comp=Z,24nm,0.6s
SNOW Snow King Moun 119.41 45 *e*PKPdf PKPdf 06 53 46.1 +1.8
GCMT Greycliff 119.43 42 *e*PKPdf PKPdf 06 53 45.7 +1.4
LOHW Long Hollow 119.47 45 *e*PKPdf PKPdf 06 53 46.2 +1.8
LASF Ste Croix 119.52 316 *e*PKIKP PKPdf 06 53 45.3 +0.8
EFI East Falkland 119.59 177 PFAKE 06 54 00.0 +15
EFI LR LR
comp=Z,389nm,20.0s,MS5.0
MVU Marysvale 119.62 51 PFAKE 06 54 00.0 +15
MVU LR LR
comp=Z,982nm,22.0s,MS5.4
MSU Marysvale 119.64 51 *e*PKIKP PKPdf 06 53 47.5 +2.7
JLU Jordanelle 119.69 48 *e*PKPdf PKPdf 06 53 46.2 +1.4
MPU Maple Canyon 119.70 49 *e*PKPdf PKPdf 06 53 45.9 +1.0
MPU LR LR
comp=Z,1μm,20.0s,MS5.5
DAU Daniels Canyon 119.88 48 *e*PKIKP PKPdf 06 53 48.4 +3.2
TCF Toulx Ste Croi 119.91 319 *e*PKIKP PKPdf 06 53 46.1 +0.8
comp=Z,18nm,0.9s
TMUT Trail Mountain 120.19 50 *e*PKPdf PKPdf 06 53 47.6 +1.8
BW06 Boulder Array 120.45 45 *e*PKPdf PKPdf 06 53 47.6 +1.3
BW06 LR LR
comp=Z,1μm,19.0s,MS5.5
PDAR Pinedale Array 120.45 45 PKP PKPdf 06 53 47.5 +1.2
comp=Z,2.4nm,0.7s,baz=219,slow=0.4,SNR=20
PDAR PKKPbc PKKPbc 07 03 54.0 +1.8
comp=Z,0.8nm,0.7s,baz=107,slow=6.9,SNR=6.1
CAF Calviac 120.47 317 *e*PKIKP PKPdf 06 53 47.6 +1.2
comp=Z,6.9nm,0.5s
FLN La Foliniere 120.68 322 *e*PKIKP PKPdf 06 53 47.3 +0.5
FLN *e*MLR

comp=Z,530nm,18.5s
FLN La Foliniere 120.68 322 *e*PKPdf PKPdf 06 53 47.3 +0.5
FLN LR LR
comp=Z,530nm,18.5s,MS5.2
SRU San Rafael 120.75 50 *e*PKIKP PKPdf 06 53 48.1 +1.2
SRU San Rafael 120.75 50 *e*PKPdf PKPdf 06 53 48.4 +1.5
MTLF Montolieu 120.88 316 *e*PKIKP PKPdf 06 53 47.4 +0.3
comp=Z,2.8nm,0.5s
WUAZ Wupatki 120.92 54 *e*PKPdf PKPdf 06 53 49.7 +2.4
WUAZ LR LR
comp=Z,885nm,20.0s,MS5.4
GRR Gorron 121.06 322 *e*PKIKP PKPdf 06 53 48.1 +0.6
comp=Z,19nm,0.6s
MFF Saint Martin d 121.31 320 *e*PKIKP PKPdf 06 53 48.7 +0.7
comp=Z,18nm,0.6s
LAO LASA Array 121.34 40 *e*PKPdf PKPdf 06 53 50.3 +2.2
LAO LR LR
comp=Z,1μm,19.0s,MS5.5
LFF La Frestale 121.35 318 *e*PKIKP PKPdf 06 53 49.4 +1.4
comp=Z,17nm,0.7s
TUC Tucson 122.02 57 *e*PKIKP PKPdf 06 53 51.1 +1.8
TUC MLR MLR
comp=Z,1μm,22.0s,MS5.5
PV10 Paradox Valley 122.06 50 *e*PKPdf PKPdf 06 53 51.3 +1.8
EPF Esparros 122.28 316 *e*PKIKP PKPdf 06 53 51.4 +1.6
comp=Z,5.2nm,0.6s
RWWY Rawlins 122.44 46 *e*PKPdf PKPdf 06 53 50.3 +0.2
PV01 Paradox Valley 122.48 50 *e*PKPdf PKPdf 06 53 51.8 +1.6
ROSF Rostrenen 122.54 323 *e*PKIKP PKPdf 06 53 50.8 +0.5
MVCO Mesa Verde 122.78 51 *e*PKPdf PKPdf 06 53 52.9 +2.1
MVCO LR LR
comp=Z,718nm,20.0s,MS5.3
ETSF Etsaut 122.94 316 *e*PKIKP PKPdf 06 53 53.5 +2.4
comp=Z,16nm,0.7s
SJPF Ste Jean 123.32 316 *e*PKIKP PKPdf 06 53 53.5 +1.7
RSSD Black Hills 123.76 42 *e*PKIKP PKPdf 06 53 53.1 +0.4
PHWY Pilot Hill 123.81 46 *e*PKPdf PKPdf 06 53 53.9 +1.1
ISCO Idaho Springs 124.19 48 *e*PKIKP PKPdf 06 53 54.8 +1.3
ISCO MLR MLR
comp=Z,926nm,20.0s,MS5.4
LAZ Ladron 124.56 54 *e*PKPdf PKPdf 06 53 57.0 +2.8
SDCO Great Sand Dun 124.92 50 *e*PKPdf PKPdf 06 53 56.9 +2.0
SDCO LR LR
comp=Z,971nm,22.0s,MS5.4
ANMO Albuquerque 124.96 53 *e*PKIKP PKPdf 06 53 56.6 +1.6
ANMO MLR MLR
comp=Z,859nm,19.0s
LPM Los Pinos Moun 124.98 54 *e*PKPdf PKPdf 06 53 57.4 +2.4
BNM Barren Site 125.03 54 *e*PKPdf PKPdf 06 53 57.1 +2.0
ULM Lac du Bonnet 125.71 32 PKP PKPdf 06 53 56.5 +0.1
comp=Z,3.9nm,0.7s,baz=328,slow=3.4,SNR=11
ULM Lac du Bonnet 125.71 32 *e*PKPdf PKPdf 06 53 56.5 +0.1
ULM LR LR
comp=Z,1μm,19.0s,MS5.7
TOA0 Torodi Ar. Sit 125.99 280 *e*PKPdf PKPdf 06 53 58.7 +1.7
TORD Torodi Ar. Bea 125.99 280 PKP PKPdf 06 53 58.9 +1.9
comp=Z,8.3nm,0.6s,baz=77,slow=1.6,SNR=86
ESDC Sonseca Array 126.49 313 PKP PKPdf 06 53 59.7 +1.8
comp=Z,0.3nm,0.4s,baz=31,slow=3.4,SNR=4.4
ESLA Sonseca Array 126.49 313 PFAKE 06 54 10.0 +12
ESLA LR LR
comp=Z,4μm,20.0s,MS6.1
MNTX Cornudas Mount 126.63 57 *e*PKPdf PKPdf 06 53 59.8 +1.6
MNTX LR LR
comp=Z,1μm,22.0s,MS5.5
GDL2 Guadalupe Moun 127.35 56 *e*PKPdf PKPdf 06 54 04.2 +4.7
LTX Lajitas 128.61 59 PFAKE 06 54 20.0 +18
LTX LR LR
comp=Z,1μm,22.0s,MS5.5
TXAR Lajitas Array 128.61 59 PKP PKPdf 06 54 04.1 +2.2
comp=Z,0.8nm,0.6s,baz=332,slow=1.8,SNR=6.9
AMTX Amarillo 128.74 52 PFAKE 06 54 20.0 +18
AMTX LR LR
comp=Z,1μm,20.0s,MS5.6
CBKS Cedar Bluff 128.80 47 PFAKE 06 54 20.0 +18
CBKS LR LR
comp=Z,1μm,19.0s,MS5.6
EYMN Ely 129.39 33 PFAKE 06 54 20.0 +17
EYMN LR LR
comp=Z,1μm,21.0s,MS5.5
KSU1 Kansas State U 130.90 45 *e*PKPdf PKPdf 06 54 07.7 +1.4
KSU1 *e*SKPbc SKPbc 06 57 32.7 +4.0
KSU1 LR LR
comp=Z,892nm,20.0s,MS5.5
WMOK Wichita Mounta 131.04 51 PKIKP PKPdf 06 54 06.2 -0.4
WMOK Wichita Mounta 131.04 51 *e*PKPdf PKPdf 06 54 08.1 +1.5
WMOK LR LR
comp=Z,980nm,19.0s,MS5.5
JCT Junction City 131.57 57 *e*PKIKP PKPdf 06 54 09.5 +1.9
JCT MLR MLR
comp=Z,952nm,19.0s,MS5.5
SCIA State Center 131.82 40 PFAKE 06 54 20.0 +12
SCIA LR LR
comp=Z,956nm,21.0s,MS5.5
LIC Lamto 132.16 270 *e*PKIKP PKPdf 06 54 10.9 +2.2
LIC *e*MLR
comp=Z,2μm,22.2s
LIC Lamto 132.16 270 *e*PKPdf PKPdf 06 54 10.9 +2.2
LIC LR LR
comp=Z,1μm,22.3s,MS5.5
TRQA Tornquist 132.65 171 PFAKE 06 54 20.0 +10
TRQA LR LR
comp=Z,2μm,19.0s,MS5.8
SCHQ Schefferville 132.86 11 PKP PKPdf 06 54 11.3 +1.3
comp=Z,2.3nm,0.7s,baz=326,slow=3.6,SNR=6.4
SCHQ Schefferville 132.86 11 PKP PKPdf 06 54 11.3 +1.3
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.7
JFWS Jewell Farm 133.10 37 PFAKE 06 54 20.0 +10
JFWS LR LR
comp=Z,1μm,20.0s,MS5.5
KVTX Kingsville 133.97 60 PFAKE 06 54 30.0 +18
KVTX LR LR
comp=Z,952nm,19.0s,MS5.5
HKT Hockley 135.00 56 PFAKE 06 54 30.0 +16
HKT LR LR
comp=Z,860nm,20.0s,MS5.5
HDIL Hopedale 135.03 39 PFAKE 06 54 30.0 +16
HDIL LR LR
comp=Z,923nm,19.0s,MS5.5
GLMI Grayling 135.04 32 PFAKE 06 54 10.0 -4.1
GLMI LR LR
comp=Z,903nm,20.0s,MS5.5
AAM Ann Arbor 137.27 34 PFAKE 06 54 30.0 +12
AAM LR LR
comp=Z,1μm,21.0s,MS5.6
ASCN Ascension 137.84 248 PFAKE 06 54 30.0 +11
ASCN LR LR
comp=Z,158nm,20.0s,MS4.8
OXF Oxford 138.14 47 PFAKE 06 54 30.0 +10
OXF LR LR
comp=Z,991nm,21.0s,MS5.5
WCI Wyandotte Cave 138.27 40 *e*PKIKP PKPdf 06 54 19.0 -1.1
WCI MLR MLR
comp=Z,880nm,20.0s,MS5.5
WVT Waverly 138.43 44 *e*PKPdf PKPdf 06 54 19.0 -1.4
WVT *e*SKPbc SKPbc 06 57 54.0 +1.0
WVT LR LR
comp=Z,691nm,19.0s,MS5.4
PLAL Pickwick Lake 138.86 45 *e*PKPdf PKPdf 06 54 23.3 +2.2
PLAL LR LR
comp=Z,1μm,19.0s,MS5.7
LONY Lake Ozonia 139.83 24 PFAKE 06 54 40.0 +17
LONY LR LR
comp=Z,896nm,20.0s,MS5.5
NCB Newcomb 140.51 24 *e*PKPdf PKPdf 06 54 23.4 -0.8
NCB LR LR
comp=Z,1μm,22.0s,MS5.6
LRAL Lakeview Retre 140.62 47 *e*PKPdf PKPdf 06 54 18.9 -5.4
LRAL LR LR
comp=Z,1μm,19.0s,MS5.7
TZTN Tazewell 141.03 40 *e*PKPdf PKPdf 06 54 22.0 -3.1
LBNH Lisbon 141.16 22 PFAKE 06 54 40.0 +15
LBNH LR LR
comp=Z,1μm,20.0s,MS5.6
MCWV Mont Chateau 141.18 33 PFAKE 06 54 40.0 +15
MCWV LR LR
comp=Z,2μm,19.0s,MS5.8
BINY Binghamton 141.20 27 PFAKE 06 54 40.0 +15
BINY LR LR
comp=Z,1μm,21.0s,MS5.6
SSPA Standing Stone 141.49 31 PFAKE 06 54 40.0 +14
SSPA LR LR
comp=Z,929nm,20.0s,MS5.5
BRAL Brewton 141.55 50 *e*PKPdf PKPdf 06 54 28.0 +1.9
BRAL LR LR
comp=Z,918nm,19.0s,MS5.5
ELN Prospectdale 142.32 37 *e*PKPdf PKPdf 06 54 28.8 +1.3
BLA Blacksburg 142.53 37 *e*PKIKP PKPdf 06 54 28.7 +0.9
BLA MLR MLR
comp=Z,896nm,20.0s,MS5.5
HRV Harvard--Oak R 142.79 23 PFAKE 06 54 40.0 +12
HRV LR LR
comp=Z,889nm,21.0s,MS5.5
GOGA Godfrey 142.92 44 *e*PKIKP PKPdf 06 54 29.4 +0.9
GOGA MLR MLR
comp=Z,1μm,20.0s,MS5.6
SDMD Soldier's Deli 142.94 31 *e*PKPdf PKPdf 06 54 24.9 -3.7
WES Weston 142.99 22 PFAKE 06 54 40.0 +11
WES LR LR
comp=Z,1μm,21.0s,MS5.6
CBN Corbin 143.56 33 PFAKE 06 54 40.0 +10
CBN LR LR
comp=Z,1μm,20.0s,MS5.6
JSC Jenkinsville 143.89 41 *e*PKIKP PKPdf 06 54 29.6 -0.6
LHS Liberty Hill 144.06 41 *e*PKIKP PKPdf 06 54 30.2 -0.3
TEIG Tepich 144.32 68 *e*PKPdf PKPdf 06 54 31.2 +0.3
TEIG LR LR
comp=Z,675nm,20.0s,MS5.4
LVC Limon Verde 145.18 154 *e*PKPbc PKPbc 06 54 35.1 +3.1
LVC LR LR
comp=Z,1μm,22.0s,MS5.6
NHSC New Hope 145.32 42 *e*PKPdf PKPdf 06 54 33.8 +1.2
NHSC LR LR
comp=Z,753nm,20.0s,MS5.5
CNNC Cliffs of the 145.37 37 *e*PKPdf PKPdf 06 54 33.1 +0.4
CNNC LR LR
comp=Z,850nm,20.0s,MS5.5
TGUH Tegucigalpa,Un 146.26 78 *e*PKPbc PKPbc 06 54 37.5 +2.2
TGUH LR LR
comp=Z,737nm,21.0s,MS5.4
DWPF Disney 147.24 50 *e*PKPbc PKPbc 06 54 39.5 +1.3
DWPF LR LR
comp=Z,757nm,21.0s,MS5.5
CAM4 Nova Friburgo 147.29 198 *e*P PKPdf 06 54 39.5 +3.5
CAM4 *i* 06 54 41.7
CAM4 *i* 06 54 44.3
CAM4 *i* 06 54 49.9
CAM4 *i* 06 54 52.6
CAM4 *i* 06 54 59.7
CAM4 *i* 06 55 07.9
CAM4 *i* 06 55 17.6
CAM3 Guarapari 148.08 203 *e*P PKPdf 06 54 43.8 +6.5
CAM3 *i* 06 54 49.4
CAM3 *i* 06 54 54.4
CAM3 *i* 06 55 03.9
CAM3 *i* 06 55 25.7
SOR Soroa 148.25 61 *e*P PKPdf 06 54 42.4 +4.8
JTS JuntasAbangare 148.69 85 *e*PKPbc PKPbc 06 54 43.2 +1.1
JTS *e*PKPab PKPab 06 54 47.2 +1.4
JTS LR LR
comp=Z,259nm,21.0s,MS5.0
NNA Nana 148.72 131 *e*PKPbc PKPbc 06 54 44.4 +2.2
NNA LR LR
comp=Z,322nm,20.0s,MS5.1
ARE Arequipa 149.05 144 *e*PKP2 PKPab 06 54 46.0 -1.2
LPAZ La Paz 151.01 149 PKPbc PKPbc 06 54 50.8 +3.1
comp=Z,17nm,0.8s,baz=233,slow=1.6,SNR=24
LPAZ La Paz 151.01 149 PKIKP PKPdf 06 54 50.8 +8.8
LPAZ pmax pmax
comp=Z,17nm,0.8s
LPAZ La Paz 151.01 149 *e*PKPbc PKPbc 06 54 51.0 +3.2
LPAZ *e*PKPab PKPab 06 54 59.7 +4.4
LPAZ LR LR
comp=Z,1μm,22.0s,MS5.6
OTAV Otavalo 153.47 107 *e*PKPdf PKPdf 06 54 47.9 +2.2
OTAV *e*PKPbc PKPbc 06 54 57.0 +3.7
OTAV LR LR
comp=Z,584nm,21.0s,MS5.4
ROSC El Rosal 158.69 99 *e*PKPdf PKPdf 06 54 55.1 +2.6
SDV Santo Domingo 162.81 88 *e*PKPdf PKPdf 06 54 58.6 +1.7
SDV LR LR
comp=Z,644nm,21.0s
BBGH Gun Hill 172.46 55 PFAKE 06 55 20.0 +16
BBGH LR LR
comp=Z,1μm,20.0s

IDC ***07*** *06:50:14.4±0.9, 887S×1264E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.2/15, mbtmp4.4/7, ML4.6/1, Error ellipse: s-maj=44.4km s-min=21.0km az=62.0*
ISCJB ***07*** *06:50:15.8±0.5, 9.15S±006×12679E±008, h35km, mb4.5/12, Error ellipse: s-maj=12.9km s-min=6.3km az=117.9*
NEIC ***07*** *06:50:15.3±0.5, 896S×1265E, h10km, mb4.6/1, Error ellipse: s-maj=17.4km s-min=9.3km az=57.0*
ISC 07 06:50:18.4±0.5, 909S±006×12680E±008, h35km, n22, σ1§13/25, mb4.5/12, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.60**	**124**	*e*P		**Pn**	**06 51 55.0**	**+2.0**
KAKA	18nm,0.3s							
				*e*S		**Sn**	**06 53 07.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**9.03**	**187**	*e*P		**Pn**	**06 52 27.4**	**+1.2**
FITZ	35nm,0.4s							
				*e*S		**Sn**	**06 54 05.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**9.03**	**187**	Pn		**Pn**	**06 52 27.5**	**+1.3**
FITZ	5.0nm,0.3s,baz=33,slow=12,SNR=12							
				Sn		**Sn**	**06 54 06.8**	**+0.1**
WRA	**Warramunga Arr**	**13.02**	**147**	Pn		**Pn**	**06 53 19.3**	**-1.5**
WRA	3.8nm,0.3s,baz=319,slow=14,SNR=17							
				Sn		**Sn**	**06 55 38.9**	**-5.5**
WB2	**Warramunga Arr**	**13.03**	**147**	*e*P		**Pn**	**06 53 19.5**	**-1.4**
WB2	6.8nm,0.3s,baz=319,slow=23,SNR=11							
				*e*S		**Sn**	**06 55 37.1**	**-7.5**
PMG	**Port Moresby**	**20.10**	**93**	P		**P**	**06 54 53.3**	**+4.3**
PMG	11nm,0.7s,baz=282,slow=4.0,SNR=4.7							
STKA	**Stephens Creek**	**26.51**	**151**	P		**P**	**06 55 56.0**	**+3.4**
STKA	1.9nm,0.6s,mb3.8,baz=324,slow=12,SNR=3.3							
RAMN	**Ramite**	**52.95**	**314**	*e*		**P**	**06 59 37.9**	**+6.7**
RAMN	0.9nm,0.4s,mb4.0							
JIRN	**Jiri**	**53.66**	**314**	*e*P		**P**	**06 59 37.5**	**+1.0**
JIRN	6.8nm,0.6s,mb4.7							
GUN	**Gumba**	**54.03**	**314**	*e*P		**P**	**06 59 40.5**	**+1.3**
GUN	14nm,0.6s,mb5.0							
PKI	**Pulchoki**	**54.16**	**314**	*e*P		**P**	**06 59 41.2**	**+1.0**
PKI	9.0nm,0.5s,mb5.0							
GKN	**Gorkha**	**54.97**	**314**	*e*P		**P**	**06 59 46.5**	**+0.5**
GKN	7.4nm,0.3s,mb5.2							
KOLN	**Koldanda**	**55.58**	**313**	*e*P		**P**	**06 59 50.6**	**+0.2**
KOLN	23nm,1.0s,mb5.1							
SONM	**Songino Array**	**59.49**	**344**	P		**P**	**07 00 17.5**	**-0.4**
SONM	0.7nm,0.5s,mb3.9,baz=169,slow=7.3,SNR=5.4							
MK31	**Makanchi Array**	**68.29**	**329**	*e*P		**P**	**07 01 15.3**	**-0.5**
MKAR	**Makanchi Array**	**68.29**	**329**	P		**P**	**07 01 15.5**	**-0.3**
MKAR	2.4nm,0.5s,mb4.5,baz=125,slow=7.0,SNR=6.4							
MKAR	**Makanchi Array**	**68.29**	**329**	P		**P**	**07 01 15.5**	**-0.3**
MKAR	0.3nm,0.5s,baz=62,slow=1.6,SNR=7.1							
ZAL	**Zalesovo**	**72.10**	**335**	P		**P**	**07 01 38.0**	**-1.2**
ZAL	2.9nm,0.5s,mb4.5,baz=22,slow=4.2,SNR=10							
KURK	**Kurchatov**	**72.69**	**330**	*e*P		**P**	**07 01 41.9**	**-0.7**
KURK	2.7nm,0.5s,mb4.4							
BVAR	**Borovoye Array**	**78.17**	**329**	P		**P**	**07 02 12.4**	**-1.8**
BVAR	1.3nm,0.6s,mb4.1,baz=91,slow=7.2,SNR=6.2							
TORD	**Torodi Ar. Bea**	**126.07**	**280**	PKP		PKPdf	07 09 19.9	+3.1
TORD	0.3nm,0.5s,baz=62,slow=1.6,SNR=7.1							
LPAZ	**La Paz**	**150.77**	**150**	PKPbc		PKPbc	07 10 12.3	+5.3
LPAZ	1.4nm,0.6s,baz=220,slow=2.0,SNR=6.4							

NEIC ***07*** *06:54:40.3±1.9, 4686N×1526E, h10km, mb4.0/1, Error ellipse: s-maj=52.3km s-min=13.3km az=179.0*
ISCJB ***07*** *06:54:44.6±1.4, 47.1N±0.1×1527E±02, h45km±11km, mb4.3/12, Error ellipse: s-maj=26.4km s-min=7.7km az=104.8*
MOS ***07*** *06:54:46.0±1.6, 4686N×1528E, h71km, mb4.1/1, Error ellipse: s-maj=18.5km s-min=11.9km az=61.7*
IDC ***07*** *06:54:51.0±4.3, 4708N×1527E, h86km±46km, mb3.6/10, mb1 3.9/11, mb1mx3.7/23, mbtmp3.7/11, ML3.9/1, Error ellipse: s-maj=50.6km s-min=20.0km az=171.0*
ISC 07 06:54:46.2±1.2, 470N±01×1527E±01, h48km±10km, n31, σ1§11/33, mb4.3/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**244**	*e*PN		**Pn**	**06 55 42.0**	**-0.7**
KUR				*i* S		**Sn**	**06 56 26.5**	**-0.1**
KUR					pmax	pmax		
	comp=Z,90nm,0.5s							
KUR					smax			
	comp=N,170nm,0.6s							
KUR					smax			
	comp=E,150nm,0.6s							
SKR	**Severo-Kuril's**	**4.27**	**30**	*e*PN		**Pn**	**06 55 50.0**	**+1.3**
SKR				*e*S		**Sn**	**06 56 36.0**	**-1.3**
SKR					pmax	pmax		
	comp=Z,220nm,1.0s							
SKR					smax			
	comp=N,110nm,0.3s							
SKR					smax			
	comp=E,110nm,0.3s							
YSS	**Yuzh-Sakhalins**	**6.83**	**273**	*e*PN		**Pn**	**06 56 30.0**	**+6.2**
ASAJ	**Asahikawa**	**7.69**	**251**	P		**Pn**	**06 56 39.6**	**+4.0**
	comp=E,1.7nm,0.3s,baz=49,slow=11,SNR=8.1							
ASAJ	**Asahikawa**	**7.69**	**251**	PN		**Pn**	**06 56 39.6**	**+4.0**
ASAJ					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ADK	**Adak**	**20.37**	**65**	P		**P**	**06 59 16.9**	**-1.8**
ADK					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ADK	**Adak**	**20.37**	**65**	P		**P**	**06 59 16.9**	**-1.8**
	comp=Z,6.0nm,0.8s							
KSRS	**Korea Array**	**20.64**	**251**	P		**P**	**06 59 25.8**	**+4.1**
	comp=Z,1.3nm,0.6s,baz=53,slow=11,SNR=4.9							
BILL	**Bilibino**	**22.17**	**13**	*i* P		**P**	**06 59 40.7**	**+2.7**
PMR	**Palmer**	**35.57**	**44**	*e*P		**P**	**07 01 39.8**	**+1.0**
	comp=Z,18nm,0.8s,mb5.0							
SML	**Sawmill**	**35.94**	**44**	*e*P		**P**	**07 01 42.4**	**+0.5**
INK	**Inuvik**	**41.55**	**33**	P		**P**	**07 02 29.6**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.7,baz=290,slow=8.0,SNR=18							
MKAR	**Makanchi Array**	**46.58**	**297**	P		**P**	**07 03 09.6**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=69,slow=7.9,SNR=5.5							
KURK	**Kurchatov**	**46.99**	**303**	*i* P		**P**	**07 03 03.5**	**-9.0**
YKA	**Yellowknife Ar**	**50.85**	**37**	P		**P**	**07 03 42.2**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=298,slow=7.2,SNR=7.4							
YKA	**Yellowknife Ar**	**50.85**	**37**	*e*P		**P**	**07 03 42.2**	**+0.2**
YKA	**Yellowknife Ar**	**50.85**	**37**	P		**P**	**07 03 42.2**	**+0.2**
JOF	**Joensuu**	**60.96**	**333**	*e*p		**P**	**07 04 51.9**	**-2.4**
KAF	**Kangasniemi**	**63.08**	**335**	*e*p		**P**	**07 05 07.4**	**-1.1**
FINES	**FINESS Array B**	**63.67**	**335**	P		**P**	**07 05 12.2**	**-0.2**
	comp=Z,1.8nm,0.4s,mb4.5,baz=45,slow=7.6,SNR=16							
FINES	**FINESS Array B**	**63.67**	**335**	*e*P		**P**	**07 05 12.3**	**-0.1**
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**07 05 19.9**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=309,slow=1.9,SNR=4.0							
NB2	**NORSAR Subarra**	**67.87**	**341**	P		**P**	**07 05 39.2**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.4,baz=27,slow=6.2							
NOA	**NORSAR Array B**	**67.87**	**341**	P		**P**	**07 05 39.6**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.4,baz=28,slow=6.3,SNR=9.0							
AKASG	**Malin Array Be**	**71.17**	**326**	P		**P**	**07 05 59.5**	**-0.4**
	comp=Z,2.9nm,0.3s,mb4.6,baz=35,slow=6.1,SNR=13							
AKASG	**Malin Array Be**	**71.17**	**326**	*e*P		**P**	**07 05 59.5**	**-0.3**
TXAR	**Lajitas Array**	**77.57**	**60**	P		**P**	**07 06 37.0**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=315,slow=4.8,SNR=5.3							
BRTR	**Keskin Array B**	**78.01**	**316**	P		**P**	**07 06 40.5**	**+1.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=12,slow=6.8,SNR=4.3							
BRTR	**Keskin Array B**	**78.01**	**316**	*e*P		**P**	**07 06 40.2**	**+0.7**
NHSC	**New Hope**	**87.11**	**42**	*e*P		**P**	**07 07 26.8**	**0.0**
	comp=Z,2.6nm,0.4s,mb4.8							
TGUH	**Tegucigalpa,Un**	**98.95**	**58**	*e*P		**P**	**07 08 17.6**	**-3.8**
	comp=Z,7.8nm,0.4s,mb5.6							

CASC 07 07:07:42.4±3.2, 1203N×8790W, h20km±22km, MD3.7, ML2.9, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.24**	**3**	*e*P		x	07 08 11.4	
CNCH				*e*S		x	07 08 27.3	
MOMJ	**Momotombo**	**1.38**	**74**	*e*P		Pn	07 08 06.1	-0.4
BLLM	**Bellamira**	**1.45**	**347**	*e*P		x	07 08 14.5	
BLLM				*e*S		x	07 08 35.3	
MGAN	**Managua**	**1.62**	**86**	*e*P		Pn	07 08 10.8	+1.0
MGAN				*e*S		Sn	07 08 30.1	+0.1
MGAN				*i*			07 08 33.5	
	comp=E,132nm,0.5s							
TICN	**Ticuantepe**	**1.63**	**90**	*e*P		Pn	07 08 11.4	+1.5
SNVI	**San Vicente**	**1.82**	**330**	*e*P		x	07 08 20.9	
SNVI				*e*S		x	07 08 45.0	
LCBS	**La Ceiba**	**1.93**	**327**	*e*P		x	07 08 21.5	
LCBS				*e*S		x	07 08 47.0	
SNET	**Serv Nac Est T**	**2.10**	**322**	*e*P		x	07 08 14.7	
BOAB	**BOACO BROADBAN**	**2.22**	**79**	*e*P		Pn	07 08 18.1	0.0
BOAB				*e*S		Sn	07 08 43.5	-1.4

ISCJB ***07*** *07:11:11.9±3.8, 559S±01×273W±03, h100km±36km, mb4.4/7, Error ellipse: s-maj=26.8km s-min=18.9km az=106.2*
IDC ***07*** *07:11:14.9±6.9, 5593S×2756W, h114km±63km, mb4.3/5, mb1 4.3/6, mb1mx4.0/12, mbtmp4.3/6, Error ellipse: s-maj=30.6km s-min=16.6km az=54.0*
NEIC ***07*** *07:11:17.9±4.5, 5589S×2727W, h143km±41km, mb4.9/1, Error ellipse: s-maj=22.9km s-min=14.5km az=52.0*
ISC 07 07:11:13.6±3.9, 560S±01×274W±03, h104km±37km, n20, σ0§55/15, mb4.4/7, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.94**	**158⇑**	*i* P		**Pn**	**07 15 04.7**	**+0.6**
VNA1				*e*			07 15 06.7	
VNA1				*e*			07 15 14.6	
VNA3	**Neumayer Olymp**	**17.13**	**160⇑**	*i* P		**Pn**	**07 15 05.8**	**-0.7**
VNA3				*e*			07 15 07.9	
VNA3				*e*			07 15 15.8	
VNA2	**Neumayer--Watz**	**17.33**	**158⇑**	*i* P		**Pn**	**07 15 08.7**	**-0.3**
	baz=314,slow=12							
VNA2				*e*			07 15 11.2	
SNAA	**Sanae**	**18.89**	**156**	P		**P**	**07 15 25.8**	**0.0**
	4.0nm,0.3s,baz=305,slow=9.8,SNR=377							
SNAA	**Sanae**	**18.89**	**156⇑**	*i* P		**P**	**07 15 25.5**	**-0.3**
SNAA				*e*			07 15 27.3	
SNAA				*e*			07 15 35.7	
PMSA	**Palmer Station**	**19.85**	**229**	P		**P**	**07 15 40.6**	**+4.3**
	1.4nm,0.3s,baz=261,slow=5.8,SNR=5.3							
QSPA	**South Pole Qui**	**34.29**	**180**	*e*P		**P**	**07 17 50.6**	**+0.7**
	12nm,0.6s,mb4.9							
CFAA	**Coronel Fontan**	**37.39**	**293**	P		**P**	**07 18 16.4**	**+0.1**
	0.2nm,0.6s,mb3.2,baz=152,slow=8.5,SNR=3.5							
CFAA	**Coronel Fontan**	**37.39**	**293**	P		**P**	**07 18 16.4**	**+0.1**
MAW	**Mawson**	**40.31**	**144**	P		**P**	**07 18 40.9**	**+0.3**
	5.6nm,0.6s,mb4.6,baz=241,slow=7.2,SNR=8.4							
VNDA	**Vanda**	**46.66**	**183**	P		**P**	**07 19 32.0**	**+0.3**
	7.0nm,0.6s,mb4.6,baz=186,slow=6.7,SNR=73							
LPAZ	**La Paz**	**50.21**	**305**	P		**P**	**07 19 58.5**	**-0.4**
	2.0nm,0.7s,mb4.2,baz=134,slow=5.0,SNR=9.2							
TOA0	**Torodi Ar. Sit**	**73.04**	**30**	*e*P		**P**	**07 22 32.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.04**	**30**	P		**P**	**07 22 32.6**	**+0.4**
	8.6nm,0.5s,mb4.8,baz=201,slow=6.5,SNR=162							
STKA	**Stephens Creek**	**92.02**	**171**	P		**P**	**07 24 09.8**	**-1.0**
	2.0nm,0.6s,mb4.5,baz=168,slow=7.0,SNR=6.1							
WRA	**Warramunga Arr**	**102.84**	**162**	P		Pdif	07 24 59.0	-0.7
	0.3nm,0.6s,baz=195,slow=4.3,SNR=4.7							
WRA				PP		PP	07 29 12.8	-1.9
	0.8nm,0.9s,baz=185,slow=6.3,SNR=4.9							
YKA	**Yellowknife Ar**	**136.00**	**318**	PKP		PKPdf	07 30 20.3	-2.0
	0.3nm,0.4s,baz=131,slow=2.2,SNR=13							
YKA	**Yellowknife Ar**	**136.00**	**318**	PKP		PKPdf	07 30 20.3	-2.1
INK	**Inuvik**	**145.64**	**321**	*e*PKPdf		PKPdf	07 30 37.8	-1.9
SONM	**Songino Array**	**150.86**	**86**	PKP		PKPdf	07 30 47.1	-1.2
	0.1nm,0.5s,baz=225,slow=3.4,SNR=2.3							
SONM				PKPbc		PKPbc	07 30 53.0	-0.9
	0.8nm,0.5s,baz=204,slow=4.2,SNR=6.6							

CASC 07 07:34:23.9±2.3, 1034N×8622W, h3km±12km, MD3.5, ML3.0, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RIN3	**Volcan Rincon**	**0.94**	**62⇑**	*e*P		Pg	07 34 42.0	+0.1
RIN3				*e*S		Sg	07 34 58.3	+4.3
SSNN	**San Juan del S**	**1.01**	**21**	*e*P		Pg	07 34 44.0	+0.8
LIM1	**Limonal**	**1.01**	**69**	*i* P		Pg	07 34 42.

APON	**Apoyo**	**1.57**	**5**	*e*P	Pn	07 34 52.7	0.0
BOAB	**BOACO BROADBAN**	**2.16**	**14**	*e*P	Pn	07 34 60.0	-0.9
BOAB				*e*S	Sn	07 35 30.6	+2.4

*STR **07** 07:44:11.2±0.2, 4759N×758E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 07:44:11.1±0.1, 4759N×758E, h9km, Md2.2/3, Ml2.2/8, Error ellipse: s-maj=2.2km s-min=1.2km az=78.0*
ZUR 07 07:44:11.3, 4759N×760E, h5km±1km, ML1.5, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Pg	07 44 16.7	+0.3
	125nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**232**	⇑*i*Pg	Pg	07 44 17.8	+0.4
	36nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.35**	**100**	*i*Pg	Pg	07 44 18.3	+0.2
	75nm,0.4s						
SULZ				*i* Sg	Sg	07 44 23.3	+0.5
	75nm,0.4s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	07 44 19.3	+0.1
MOF				Sg	Sg	07 44 24.7	+0.1
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	07 44 21.4	-0.5
HINF				*e*Sg	Sg	07 44 28.6	-0.6
HINF				*e*Sn	Sg	07 44 32.1	+2.9
	14nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	07 44 23.2	-0.2
	89nm,0.3s						
ECH	**Echery**	**0.69**	**335**	Pg	Pg	07 44 25.0	+0.4
ECH				Sg	Sg	07 44 33.7	0.0
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn	Pn	07 44 27.8	-2.2
CDF				*e*Sg	Sg	07 44 37.7	-1.0
CDF				*e*Sn	Sn	07 44 39.7	-3.2
	12nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	07 44 28.7	-0.7
HAU				*e*Sg	Sg	07 44 40.8	-0.8
	11nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	07 44 38.1	-0.5
CABF				*e*Sg	Sg	07 44 55.2	-1.8
	2.5nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	07 44 45.1	-1.3
SFTF				*e*Sg	Sg	07 45 08.2	-1.9
	3.9nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Pg	Pg	07 44 46.9	-1.6
MEZF				*e*Sg	Sg	07 45 11.6	-2.0
	5.2nm,0.3s						
LPL	**La Plagne**	**2.16**	**196**	*e*Pg	Pg	07 44 51.1	-1.5
LPL				*e*Sg	Sg	07 45 19.4	-1.2
	1.4nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	07 44 51.6	-1.3
LPG				*e*Sg	Sg	07 45 19.7	-1.4
	1.5nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	07 44 58.4	-2.0
LOR				*e*Sg	Sg	07 45 30.6	-2.9
	2.5nm,0.2s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	07 45 03.6	-2.0
SSF				*e*Sg	Sg	07 45 39.6	-2.8
	1.1nm,0.2s						

*IDC **07** 08:32:25.5±1.3, 1568S×6621W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=48.8km s-min=12.8km az=169.0*
*ISCJB **07** 08:32:28.4±1.0, 161S±02×662W±01, h33km, mb3.7/2, Error ellipse: s-maj=23.3km s-min=13.2km az=147.3*
*NEIC **07** 08:32:29.9±1.0, 1595S×6622W, h35km, Error ellipse: s-maj=25.0km s-min=14.2km az=161.0*
NEIC Felt at Cochabamba.
ISC 07 08:32:30.8±1.6, 160S±02×662W±01, h44km±22km, n6, σ1§10/8, mb3.7/2, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.84**	**260**	Pn	**Pn**	**08 32 59.8**	**-0.1**
	24nm,0.3s,baz=110,slow=16,SNR=646						
LPAZ				Lg		08 33 28.0	
	95nm,0.3s,baz=278,slow=15,SNR=29						
LPAZ	**La Paz**	**1.84**	**260**	*e*Pn	**Pn**	**08 32 59.7**	**-0.2**
LPAZ				*e*Sn	**Sn**	**08 33 27.8**	**+5.9**
SIV	**San Ignacio**	**4.97**	**91**	Pn	**Pn**	**08 33 42.5**	**-0.4**
	2.6nm,0.3s,baz=266,slow=12,SNR=66						
SIV				Sn	**Sn**	**08 34 42.6**	**+3.6**
	6.4nm,0.3s,baz=297,slow=18,SNR=9.0						
SIV				Lg		08 35 04.6	
	4.0nm,0.3s,baz=356,slow=22,SNR=6.8						
LVC	**Limon Verde**	**7.06**	**200**	*e*Pn	**Pn**	**08 34 11.7**	**+0.2**
	6.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.14**	**71**	P	**P**	**08 43 55.8**	**-0.9**
	0.7nm,0.7s,mb3.7,baz=257,slow=6.0,SNR=3.8						
YKA	**Yellowknife Ar**	**86.88**	**340**	P	**P**	**08 45 11.6**	**+0.8**
	0.3nm,0.6s,mb3.7,baz=124,slow=4.7,SNR=6.3						

*IDC **07** 08:53:28.9±2.1, 924S×10885E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, Error ellipse: s-maj=104.2km s-min=21.8km az=54.0*
*NEIC **07** 08:53:30.7±1.4, 9.12S×109.00E, h10km, mb4.3/2, Error ellipse: s-maj=56.9km s-min=14.4km az=48.0*
*ISCJB **07** 08:53:32.2±1.8, 92S±03×1089E±04, h35km, mb4.1/6, Error ellipse: s-maj=70.3km s-min=17.6km az=95.9*
ISC 07 08:53:34.4±1.8, 91S±03×1090E±04, h35km, n8, σ0§53/8, mb4.1/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.76**	**116**	P	**P**	**08 59 11.3**	**+0.4**
	14nm,0.7s,mb3.6,baz=289,slow=11,SNR=11						
WRA				PcP	PcP	09 02 33.8	+0.5
	0.3nm,0.9s,baz=295,slow=1.6,SNR=5.2						
PMG	**Port Moresby**	**37.68**	**94**	P	**P**	**09 00 45.6**	**-0.7**
	3.8nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**37.77**	**131**	P	**P**	**09 00 47.2**	**+0.1**
	3.9nm,0.6s,mb4.3,baz=306,slow=9.2,SNR=14						
STKA	**Stephens Creek**	**37.77**	**131**	P	**P**	**09 00 47.2**	**+0.1**
SONM	**Songino Array**	**56.77**	**358**	P	**P**	**09 03 15.6**	**+0.7**
	0.6nm,0.5s,mb3.9,baz=173,slow=7.6,SNR=5.6						
MKAR	**Makanchi Array**	**60.56**	**339**	P	**P**	**09 03 41.4**	**+0.1**
	2.2nm,0.5s,mb4.5,baz=151,slow=7.7,SNR=39						
CHKZ	**Chkalovo**	**70.50**	**337**	*e*P	**P**	**09 04 44.6**	**-0.9**
	1.5nm,0.6s,mb4.1						
AKUT	**Akutan**	**94.57**	**36**	P	**P**	**09 06 51.6**	**+0.3**
	93nm,0.4s						

*ISCJB **07** 09:06:25.3±4.3, 30S±02×1295E±03, h45km±41km, mb4.0/5, Error ellipse: s-maj=58.5km s-min=22.9km az=136.2*
*IDC **07** 09:06:27.8±6.3, 3.10S×129.23E, h45km±59km, mb3.8/5, mb1 4.0/7, mb1mx3.9/16, mbtmp3.9/7, ML4.0/2, Error ellipse: s-maj=106.7km s-min=20.8km az=70.0*
*NEIC **07** 09:06:28.4±2.2, 304S×129.41E, h56km±22km, mb4.2/3, Error ellipse: s-maj=35.9km s-min=12.9km az=68.0*
ISC 07 09:06:28.7±3.2, 31S±02×1294E±03, h57km±31km, n13, σ0§47/12, mb4.0/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.05**	**163**	*e*P	**Pn**	**09 08 50.2**	**-0.1**
	20nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.41**	**194**	*e*P	**Pn**	**09 10 02.8**	**+0.3**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.41**	**194**	P	**Pn**	**09 10 02.8**	**+0.3**
	0.4nm,0.3s,baz=19,slow=9.4,SNR=11						
WRAB	**Tennant Creek**	**17.46**	**164**	*e*Pn	**Pn**	**09 10 28.1**	**-0.1**
	7.2nm,0.6s						
WRA	**Warramunga Arr**	**17.46**	**164**	P	**Pn**	**09 10 27.6**	**-0.6**
	0.8nm,0.3s,baz=347,slow=12,SNR=30						
WB2	**Warramunga Arr**	**17.46**	**164**	*e*P	**Pn**	**09 10 28.5**	**+0.2**
STKA	**Stephens Creek**	**30.88**	**160**	P	**P**	**09 12 40.4**	**+0.8**
	2.6nm,0.9s,mb4.1,baz=338,slow=12,SNR=2.9						
SONM	**Songino Array**	**54.54**	**341**	P	**P**	**09 15 51.1**	**+0.3**
	1.3nm,1.0s,mb3.9,baz=152,slow=6.2,SNR=5.5						
SONM				PcP	PcP	09 16 55.3	+1.8
	0.6nm,0.8s,baz=179,slow=2.6,SNR=3.5						
MKAR	**Makanchi Array**	**64.64**	**326**	P	**P**	**09 16 59.7**	**-0.6**
	1.1nm,0.6s,mb4.1,baz=118,slow=7.4,SNR=10						
MKAR	**Makanchi Array**	**64.64**	**326**	P	**P**	**09 16 59.7**	**-0.6**
ZAL	**Zalesovo**	**67.81**	**333**	P	**P**	**09 17 21.1**	**+0.4**
	0.9nm,0.4s,mb4.2,baz=144,slow=13,SNR=4.2						
VNDA	**Vanda**	**76.41**	**173**	P	**P**	**09 18 11.4**	**-0.6**
	0.9nm,0.8s,mb3.8,baz=319,slow=7.8,SNR=2.8						

TORD	**Torodi Ar. Bea**	**127.39**	**284**	PKP	PKPdf	09 25 28.5	+1.6
	0.7nm,0.9s,baz=79,slow=1.8,SNR=3.4						

*CSEM **07** 09:12:00.5, 44.41N×42.14E, h24km, mb4.3, After OBN*
MOS 07 09:12:00.5±2.7, 44.41N×42.14E, h24km, mb4.3/1, Error ellipse: s-maj=18.7km s-min=7.7km az=131.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIV	**Kislovodsk**	**0.60**	**139**	*e*PG	Pb	09 12 10.3	-2.0
BEYR	**Belyy Ugol+**	**0.62**	**129**	*i* Pg	Pb	09 12 10.2	-2.6
PYA	**Pyatigorsk**	**0.76**	**119**	*e*PG	Pb	09 12 12.2	-2.8
SHAR	**Shatzhatmas**	**0.76**	**150**	*i* PG	Pb	09 12 13.6	-1.5
KUBR	**Kubataba**	**1.10**	**123**	*e*Pg	Pn	09 12 18.7	-1.6
PRTR	**Priterechnaya**	**1.68**	**112**	*e*Pn	Pn	09 12 25.7	-2.6
PRTR				*e*Sg	Sn	09 12 53.1	+4.1
DIGR	**Digorskoe uzhe**	**1.83**	**145**	*i* Pn	Pn	09 12 32.8	+2.3
DIGR				*i* Sg	Sn	09 12 58.5	+5.6
KORR	**Kora**	**1.92**	**133**	*i* Pn	Pn	09 12 35.8	+4.1
KORR				*e*Sg	Sn	09 13 03.6	+8.5
SOC	**Sochi**	**1.93**	**246**	*e*PN	Pn	09 12 33.1	+1.2
SOC				pmax	pmax		
	comp=Z,41nm,0.6s						
SOC	**Sochi**	**1.93**	**246**	*e*Pn	Pn	09 12 33.1	+1.2
	comp=Z,41nm,0.6s						
ARNR	**Ardon**	**1.97**	**127**	*e*Pn	Pn	09 12 37.1	+4.8
ARNR				*e*Sg	Sn	09 13 06.0	+10
ONI	**Oni**	**2.06**	**152**	P	Pn	09 12 37.9	+4.3
ONI				S	Sn	09 13 07.4	+8.9
ZEI	**Tsey**	**2.07**	**141**	*e*PN	Pn	09 12 35.9	+2.1
ZEI				*e*		09 13 05.9	
ZEI				pmax	pmax		
	comp=Z,23nm,0.1s						
ZEI				smax			
	comp=N,118nm,0.2s						
ZEI	**Tsey**	**2.07**	**141**	*e*Pn	Pn	09 12 35.9	+2.1
	comp=N,23nm,0.1s						
ZEI				*e*Sg	Sn	09 13 05.9	+7.0
	comp=N,118nm,0.2s						
LACR	**Lac**	**2.22**	**135**	*i* Pn	Pn	09 12 39.5	+3.7
LACR				*i* Sn	Sn	09 13 10.0	+7.5
ANN	**Anapa**	**3.39**	**278**	*e*PN	Pn	09 12 53.3	+1.5
ANN				*e*S	Sn	09 13 38.1	+6.9
ANN				pmax	pmax		
	comp=Z,18nm,0.3s						
ANN				smax			
	comp=E,33nm,1.2s						
ANN	**Anapa**	**3.39**	**278**	*e*Pn	Pn	09 12 53.3	+1.5
	comp=E,18nm,0.3s						
ANN				*e*Sn	Sn	09 13 38.1	+6.9
AAK	**Ala-Archa**	**23.45**	**83**	*e*P	P	09 17 11.7	+3.5
AAK				pmax	pmax		
	comp=Z,3.0nm,2.1s						
AAK	**Ala-Archa**	**23.45**	**83**	*e*P	P	09 17 11.7	+3.5
	comp=Z,3.0nm,2.1s						
KURK	**Kurchatov**	**25.22**	**62**	*i* P	P	09 17 26.4	+2.0

IDC 07 09:26:32.0±0.9, 2146S×6806W, h122km±14km, mb3.5/2, mb1 3.5/4, mb1mx3.3/16, mbtmp3.4/4, Error ellipse: s-maj=35.3km s-min=11.8km az=104.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.40**	**214**	P	Pn	09 26 58.5	+0.2
	39nm,0.3s,baz=90,slow=4.2,SNR=967						
LVC				S	Sn	09 27 18.9	+0.5
	29nm,0.3s,baz=90,slow=22,SNR=22						
LPAZ	**La Paz**	**5.14**	**359**	P	Pn	09 27 48.1	+1.3
	0.6nm,0.3s,baz=175,slow=6.2,SNR=14						
LPAZ				S	Sn	09 28 47.0	+1.9
	0.1nm,0.3s,baz=9.3,slow=24,SNR=2.2						
SIV	**San Ignacio**	**8.56**	**52**	P	Pn	09 28 31.9	-1.2
	1.2nm,0.3s,baz=241,slow=13,SNR=32						
TORD	**Torodi Ar. Bea**	**76.59**	**70**	P	P	09 38 10.0	+1.0
	1.3nm,0.6s,baz=256,slow=5.4,SNR=19						
YKA	**Yellowknife Ar**	**91.41**	**340**	P	P	09 39 23.1	-1.2
	0.1nm,0.5s,baz=135,slow=4.4,SNR=6.8						

*NEIC **07** 09:32:36.5, 17.14N×94.41W, h157km, MD3.9(MEX), After MEX.*
MEX 07 09:32:36.3±1.0, 1715N×9441W, h158km±10km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.46**	**263**	*i* P	Pn	09 32 57.4	-1.0
CMIG				*i* S	Sn	09 33 12.7	-2.5
HUIG	**Huatulco**	**2.13**	**230**	*e*P	Pn	09 33 11.4	-2.0
HUIG				*i* S	Sn	09 33 40.6	-1.3
OXX	**Oaxaca**	**2.22**	**269**	*i* P	Pn	09 33 14.8	+0.4
OXX				*i* S	Sn	09 33 42.7	-1.1
VHO	**Vista Hermosa**	**2.23**	**268**	*e*P	Pn	09 33 14.3	-0.2
VHO				*i* S	Sn	09 33 42.2	-1.8
TPIG	**Tehuac#an**	**3.09**	**295**	*i* P	Pn	09 33 23.6	-1.4
TPIG				*i* S	Sn	09 33 59.7	-3.1
UTMO	**Huajuapan**	**3.31**	**282**	*i* P	Pn	09 33 26.4	-1.5
UTMO				*i* S	Sn	09 34 05.6	-2.3

*HLW **07** 09:34:01.8, 31.57N×35.95E, h20km, Mb3.6*
*GII **07** 09:34:13.5±0.1, 30.85N×34.99E, h0km, ML2.5/7*
*CSEM **07** 09:34:13.9±0.3, 30.84N×34.99E, h0km±1km, ML2.5, Error ellipse: s-maj=1.6km s-min=1.1km az=69.0, Mining explosion.*
*ISCJB **07** 09:34:14.4±0.3, 3085N±002×3502E±003, h0km, Error ellipse: s-maj=3.8km s-min=2.2km az=10.4*
ISC 07 09:34:14.9±0.3, 3086N±002×3501E±003, h0km, n27, σ0§95/44, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASH	**Mash'abbe Sade**	**0.24**	**305**	Pg	**Pg**	**09 34 19.4**	**0.0**
ZFRI	**Zfri**	**0.33**	**155**	Pg	**Pg**	**09 34 21.2**	**-0.1**
ZFRI	**Zfri**	**0.33**	**155**	Pg	**Pg**	**09 34 21.5**	**+0.2**
ZFRI				Sg	**Sg**	**09 34 26.4**	**+0.7**
ZFRI	**Zfri**	**0.33**	**155**	Pg	**Pg**	**09 34 21.2**	**-0.1**
ZFRI				Sg	**Sg**	**09 34 26.4**	**+0.8**
RMNI	**Mount Ramon**	**0.34**	**220**	Pg	**Pg**	**09 34 21.0**	**-0.4**
RMNI				Sg	**Sg**	**09 34 26.8**	**+1.0**
RTMI	**Retamim**	**0.34**	**305**	Pg	**Pg**	**09 34 21.3**	**-0.1**
RTMI				Sg	**Sg**	**09 34 26.6**	**+0.8**
SVTA	**Shivta**	**0.35**	**282**	Pg	**Pg**	**09 34 20.9**	**-0.7**
SVTA				Sg	**Sg**	**09 34 26.4**	**+0.4**
SVTA	**Shivta**	**0.35**	**282**	Pg	**Pg**	**09 34 20.8**	**-0.7**
SVTA				Sg	**Sg**	**09 34 26.4**	**+0.4**
PRNI	**Paran**	**0.50**	**181**	Pg	**Pg**	**09 34 24.6**	**+0.1**
PRNI				Sg	**Sg**	**09 34 32.2**	**+1.1**
YTIR	**Yattir**	**0.51**	**10**	Pg	**Pg**	**09 34 24.6**	**-0.2**
YTIR	**Yattir**	**0.51**	**10**	Pg	**Pg**	**09 34 24.5**	**-0.2**
KZIT	**Kziot**	**0.53**	**275**	Pg	**Pg**	**09 34 24.6**	**-0.5**
KZIT				Sg	**Sg**	**09 34 33.1**	**+1.1**
MZDA	**Masada**	**0.54**	**34**	Pg	**Pg**	**09 34 25.1**	**-0.2**
MZDA				Sg	**Sg**	**09 34 33.6**	**+1.3**
AMAZ	**Amatzia**	**0.68**	**353**	Pg	**Pg**	**09 34 27.4**	**-0.5**
AMAZ				Sg	**Sg**	**09 34 37.9**	**+1.2**
DSI	**Dead Sea**	**0.78**	**24**	Pg	**Pg**	**09 34 30.3**	**+0.5**
KMTI	**Karmit**	**0.79**	**198**	Pg	**Pg**	**09 34 29.0**	**-1.0**
KMTI				Sg	**Sg**	**09 34 41.1**	**+0.8**
DRGI	**Dragot**	**0.80**	**24**	Pg	**Pg**	**09 34 30.1**	**-0.2**
HRFI	**Mount Harif**	**0.82**	**179**	Pg	**Pg**	**09 34 29.6**	**-1.0**
HRFI				Sg	**Sg**	**09 34 42.0**	**+0.8**
AQBJ	**Aqaba**	**1.13**	**178**	Pg	**Pg**	**09 34 35.0**	**-1.5**
EIL	**Elat**	**1.19**	**183**	Pg	**Pg**	**09 34 37.0**	**-0.6**
EIL				Sg	**Sg**	**09 34 53.3**	**+0.3**
HNKL	**Nakhl**	**1.28**	**224**	P	**Pg**	**09 34 38.2**	**-1.4**
HMDT	**Nahal Hemdat**	**1.46**	**17**	Pn	**Pn**	**09 34 41.4**	**-1.0**
HMDT				Sn	**Sn**	**09 35 02.8**	**+0.5**
AMAG	**Maghara**	**1.57**	**263**	P	**Pn**	**09 34 41.1**	**-2.9**
MMLI	**Mount Malkishu**	**1.61**	**12**	Pn	**Pn**	**09 34 43.1**	**-1.5**
MMLI				Sn	**Sn**	**09 35 06.5**	**+0.4**
OFRI	**'Ofer**	**1.76**	**359**	Pn	**Pn**	**09 34 45.5**	**-1.1**
HDHB	**Dhahab**	**2.15**	**189**	P	**Pn**	**09 34 48.3**	**-3.8**
HDHB				S	**Sn**	**09 35 21.9**	**+2.4**
MMA2	**Mount Meron ar**	**2.17**	**9**	Pn	**Pn**	**09 34 51.9**	**-0.4**
MMA2				Sn	**Sn**	**09 35 21.1**	**+1.2**

IDC 07 09:34:45.3±10.0, 945S×12704E, h130km±121km, mb3.1/2, mb1 3.6/4, mb1mx3.4/14, mbtmp3.4/4, ML4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/19, Error ellipse: s-maj=73.9km s-min=47.8km az=2.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.70**	**189**	*e*P	Pn	09 36 47.6	-0.6
	17nm,0.4s						
FITZ				*e*S	Sn	09 38 25.6	+1.0
FITZ	**Fitzroy Crossi**	**8.70**	**189**	P	Pn	09 36 48.0	-0.2
	2.2nm,0.3s,baz=18,slow=11,SNR=30						
FITZ				S	Sn	09 38 26.5	+1.9
	5.1nm,0.3s,baz=255,slow=21,SNR=9.0						
FITZ				LR	LR	09 40 28.0	
	comp=Z,78nm,21.7s,baz=344,slow=39						
WRA	**Warramunga Arr**	**12.59**	**147**	P	Pn	09 37 39.6	-0.1
	0.7nm,0.3s,baz=317,slow=13,SNR=33						
WRA				S	Sn	09 39 58.5	0.0
	0.9nm,0.3s,baz=322,slow=22,SNR=14						
WB2	**Warramunga Arr**	**12.59**	**147**	*e*P	Pn	09 37 39.5	-0.3
WB2				*e*S	Sn	09 40 00.1	+1.5
SONM	**Songino Array**	**59.90**	**344**	P	P	09 44 37.2	-0.2
	0.2nm,0.6s,baz=163,slow=5.4,SNR=2.7						
MKAR	**Makanchi Array**	**68.72**	**329**	P	P	09 45 35.5	+0.6
	0.7nm,0.7s,baz=129,slow=7.3,SNR=6.1						

*STR **07** 09:40:50.4±0.1, 4757N×761E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 09:40:50.5±0.2, 4759N×757E, h9km, Ml2.4/6, Error ellipse: s-maj=3.7km s-min=2.3km az=106.0*
ZUR 07 09:40:50.5, 4758N×760E, h5km±1km, ML1.4, 2C, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOURR	**Bourrignon**	**0.31**	**233**	⇑*i*Pg	Pg	09 40 57.0	+0.4
	16nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	09 40 57.5	+0.2
	75nm,0.3s						
SULZ				*i* Sg	Sg	09 41 02.5	+0.5
	75nm,0.3s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	09 40 58.5	0.0
MOF				Sg	Sg	09 41 04.2	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	09 41 00.8	-0.4
HINF				*e*Sg	Sg	09 41 07.8	-0.6
HINF				*e*Sn	Sg	09 41 11.5	+3.1
	4.4nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	09 41 01.6	+0.1
ECH	**Echery**	**0.70**	**335**	Pg	Pg	09 41 04.2	+0.3
ECH				Sg	Sg	09 41 14.2	+1.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	09 41 07.0	-2.2
CDF				*e*Sg	Sg	09 41 16.9	-1.2
CDF				*e*Sn	Sn	09 41 19.0	-3.2
	8.7nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	09 41 08.1	-0.5
HAU				*e*Sg	Sg	09 41 20.4	-0.5
	11nm,0.3s						
GIMEL	**Gimel**	**1.39**	**221**	*e*P	Pn	09 41 17.2	+0.7
	31nm,1.0s						
GIMEL				*e*S	Sb	09 41 35.7	+0.7
	31nm,1.0s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	09 41 17.4	-0.3
CABF				*e*Sg	Sg	09 41 34.8	-1.3
	7.9nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	09 41 48.1	-1.3
	2.7nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Pn	Pn	09 41 22.4	-1.7
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	09 41 37.6	-1.9
LOR				*e*Sg	Sg	09 42 10.2	-2.5
	3.5nm,0.2s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	09 41 42.4	-2.4
SSF				*e*Sg	Sg	09 42 18.0	-3.5
	2.6nm,0.4s						

*IDC **07** 09:44:20.9±2.4, 37.13S×177.47E, h146km±18km, mb4.0/4, mb1 4.1/4, mb1mx3.8/12, mbtmp4.0/4, Error ellipse: s-maj=48.1km s-min=28.9km az=29.0*
*ISCJB **07** 09:44:22.0±0.6, 3746S±005×17729E±008, h172km±3km, mb4.3/5, Error ellipse: s-maj=10.0km s-min=8.8km az=13.2*
*WEL **07** 09:44:22.4±0.2, 37.17S×177.26E, h148km±2km, ML4.9/23, Error ellipse: s-maj=1.6km s-min=1.3km az=0.0*
WEL Felt from Coromandel to Bay of Plenty, maximum reported intensity MM 4.
*NEIC **07** 09:44:22.6, 37.17S×177.26E, h146km, mb4.5/3, After WEL.*
ISC 07 09:44:23.2±0.6, 3746S±005×17728E±007, h163km±3km, n137, σ1§53/143, mb4.3/5, 6C-5D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.71**	**222**	P	**Pn**	**09 44 46.6**	**-0.6**
MARZ	**Manawahe**	**0.71**	**222**	PN	**Pn**	**09 44 46.6**	**-0.6**
URZ	**Urewera**	**0.81**	**189**	P	**Pn**	**09 44 47.8**	**-0.1**
	80nm,0.3s,baz=284,slow=3.1,SNR=499						
URZ				S	**Sn**	**09 45 06.7**	**0.0**
	132nm,0.3s,baz=203,slow=22,SNR=46						
URZ	**Urewera**	**0.81**	**189**	P	**Pn**	**09 44 47.8**	**0.0**
URZ	**Urewera**	**0.81**	**189**	⇓PN	**Pn**	**09 44 47.8**	**-0.1**
URZ				SN	**Sn**	**09 45 06.7**	**0.0**
MXZ	**Matakaoa Point**	**0.83**	**97**	P	**Pn**	**09 44 46.3**	**-1.7**
MXZ				S	**Sn**	**09 45 04.9**	**-2.0**
MXZ	**Matakaoa Point**	**0.83**	**97**	⇓PN	**Pn**	**09 44 46.3**	**-1.7**
MXZ				SN	**Sn**	**09 45 04.9**	**-2.0**
TGRZ	**Tauranga**	**0.85**	**251**	P	**Pn**	**09 44 46.7**	**-1.4**
TGRZ	**Tauranga**	**0.85**	**251**	⇑PN	**Pn**	**09 44 46.7**	**-1.4**
TGRZ				SN	**Sn**	**09 45 05.3**	**-1.8**
MWZ	**Matawai**	**0.89**	**167**	P	**Pn**	**09 44 48.7**	**+0.3**
MWZ		

PXZ	Pawanui	2.58 187	PN	Pn	09 45 06.7	+0.7
TSZ	Takapari Road	2.79 201	P	Pn	09 45 08.5	0.0
TSZ	Takapari Road	2.79 201	PN	Pn	09 45 08.5	0.0
WCZ	Waipu Caves	2.80 302	eP	Pn	09 45 05.3	-3.4
WCZ	Waipu Caves	2.80 302	⇑PN	Pn	09 45 05.3	-3.4
RAEZ	Rainy Point	2.91 230	eP	Pn	09 45 11.8	+1.9
WAZ	Wanganui	2.91 217	P	Pn	09 45 11.0	+1.0
WAZ	Wanganui	2.91 217	PN	Pn	09 45 11.0	+1.1
NEZ	North Egmont	3.08 233	P	Pn	09 45 14.2	+2.1
NEZ	North Egmont	3.08 233	PN	Pn	09 45 14.2	+2.1
NRZ	Ngariki Road	3.22 234	eP	Pn	09 45 15.5	+1.6
NWEZ	Newall Road	3.23 235	P	Pn	09 45 16.0	+2.0
NWEZ	Newall Road	3.23 235	PN	Pn	09 45 16.0	+2.0
BFZ	Birch Farm	3.31 194	P	Pn	09 45 15.0	0.0
MRZ	Mangatainoka R	3.46 202	P	Pn	09 45 16.3	-0.5
MRZ	Mangatainoka R	3.46 202	PN	Pn	09 45 16.3	-0.6
TIWZ	Tintock	3.48 198	PN	Pn	09 45 17.0	-0.2
OUZ	Omahuta	3.72 306	eP	Pn	09 45 15.3	-4.9
KIW	Kapiti Island	3.86 208	P	Pn	09 45 21.2	-0.8
KIW	Kapiti Island	3.86 208	PN	Pn	09 45 21.0	-0.9
MTW	Mount Morrison	3.94 200	P	Pn	09 45 21.7	-1.3
MTW	Mount Morrison	3.94 200	PN	Pn	09 45 21.7	-1.3
CAW	Cannon Point	4.02 205	P	Pn	09 45 22.9	-1.2
CAW	Cannon Point	4.02 205	PN	Pn	09 45 22.9	-1.2
TRWZ	Traveller	4.12 197	PN	Pn	09 45 24.4	-0.9
PAWZ	Paruwai Farm	4.17 200	P	Pn	09 45 24.5	-1.5
PAWZ	Paruwai Farm	4.17 200	PN	Pn	09 45 24.5	-1.5
DUWZ	D'Urville Isla	4.23 217	PN	Pn	09 45 25.8	-1.0
MSWZ	Moikau Station	4.25 201	P	Pn	09 45 25.4	-1.6
MSWZ	Moikau Station	4.25 201	PN	Pn	09 45 25.4	-1.5
MRW	Makara Radio	4.26 207	P	Pn	09 45 25.6	-1.5
MRW	Makara Radio	4.26 207	PN	Pn	09 45 25.6	-1.5
WEL	Wellington	4.28 206	P	Pn	09 45 26.3	-1.2
WEL	Wellington	4.28 206	PN	Pn	09 45 26.3	-1.2
BHW	Baring Head	4.36 205	P	Pn	09 45 26.8	-1.6
BHW	Baring Head	4.36 205	PN	Pn	09 45 26.8	-1.6
TCW	Tory Channel	4.41 211	P	Pn	09 45 27.6	-1.5
TCW	Tory Channel	4.41 211	PN	Pn	09 45 27.6	-1.5
TUWZ	Tuamarina	4.73 212	PN	Pn	09 45 31.3	-1.9
NNZ	Nelson	4.81 218	P	Pn	09 45 32.5	-1.9
NNZ	Nelson	4.81 218	PN	Pn	09 45 32.5	-1.9
QRZ	Quartz Range	4.99 226	P	Pn	09 45 34.6	-2.1
QRZ	Quartz Range	4.99 226	PN	Pn	09 45 34.6	-2.1
BSWZ	Blackbirch Sta	4.99 211	P	Pn	09 45 35.6	-1.1
BSWZ	Blackbirch Sta	4.99 211	PN	Pn	09 45 35.6	-1.1
THZ	Tophouse	5.46 217	eP	Pn	09 45 40.7	-2.2
THZ	Tophouse	5.46 217	PN	Pn	09 45 40.7	-2.2
KHZ	Kahutara	5.72 209	eP	Pn	09 45 44.3	-2.0
KHZ	Kahutara	5.72 209	PN	Pn	09 45 44.3	-2.0
DSZ	Denniston Nort	6.01 223	eP	Pn	09 45 47.5	-2.6
LTZ	Lake Taylor	6.55 214	eP	Pn	09 45 54.8	-2.5
LTZ	Lake Taylor	6.55 214	PN	Pn	09 45 54.8	-2.5
CRLZ	Canterbury Las	7.06 209	eP	Pn	09 46 01.7	-2.3
CRLZ	Canterbury Las	7.06 209	PN	Pn	09 46 01.7	-2.3
MQZ	McQueen's Vall	7.16 208	eP	Pn	09 46 01.9	-3.5
MQZ	McQueen's Vall	7.16 208	PN	Pn	09 46 01.9	-3.5
RPZ	Rata Peaks	7.83 215	P	Pn	09 46 12.9	-1.4
	8.0nm,0.3s,baz=25,slow=1.0,SNR=28					
RPZ	Rata Peaks	7.83 215	eP	Pn	09 46 11.9	-2.4
FOZ	Fox Glacier	8.39 221	eP	Pn	09 46 18.2	-3.5
FOZ	Fox Glacier	8.39 221	PN	Pn	09 46 18.2	-3.5
LBZ	Lake Benmore	8.75 216	eP	Pn	09 46 23.3	-3.1
ODZ	Otahua Downs	9.07 211	eP	Pn	09 46 27.8	-2.8
ODZ	Otahua Downs	9.07 211	PN	Pn	09 46 27.8	-2.8
JCZ	Jackson Bay	9.23 222	eP	Pn	09 46 29.1	-3.7
WKZ	Wanaka	9.63 218	eP	Pn	09 46 31.8	-6.3
MLZ	Mavora Lakes	10.42 218	eP	Pn	09 46 46.5	-2.0
WHZ	Wether Hill Ro	10.93 217	eP	Pn	09 46 51.6	-3.5
STKA	Stephens Creek	29.75 270	eP	P	09 50 15.9	+1.7
	3.3nm,1.0s,mb4.0					
STKA	Stephens Creek	29.75 270	P	P	09 50 14.7	+0.5
	4.7nm,1.1s,mb4.2,baz=96,slow=12,SNR=4.7					
CTA	Charters Tower	32.03 294	P	P	09 50 35.1	+0.8
	4.3nm,0.8s,mb4.2,baz=120,slow=12,SNR=3.9					
WB2	Warramunga Arr	41.10 283	eP	P	09 51 50.4	-0.6
WRA	Warramunga Arr	41.11 283	P	P	09 51 50.6	-0.4
	3.4nm,0.5s,mb4.2,baz=121,slow=7.8,SNR=43					
FITZ	Fitzroy Crossi	48.95 279	eP	P	09 52 53.1	+0.3
	8.6nm,0.7s,mb4.5					
FITZ	Fitzroy Crossi	48.95 279	P	P	09 52 53.2	+0.4
	4.3nm,0.6s,mb4.2,baz=137,slow=8.5,SNR=10					
QSPA	South Pole Qui	52.66 180	eP	P	09 53 24.8	+4.3
	6.1nm,0.6s,mb4.5					
SNAA	Sanae	71.17 180	e	P	09 55 25.8	+1.7
SNAA			e		09 55 28.8	
VNA3	Neumayer Olymp	71.48 178	e	P	09 55 27.7	+1.7
VNA3			e		09 55 30.9	
VNA2	Neumayer--Watz	71.86 178	e	P	09 55 30.4	+2.2
	baz=177,slow=5.0					
VNA2			e		09 55 33.8	
VNA1	Neumayer--Stat	72.12 178	e	P	09 55 32.6	+2.8
VNA1			e		09 55 35.6	
ARCES	ARCESS Array B	144.44 343	PKP	PKPdf	10 03 36.3	-3.6
	5.4nm,0.9s,baz=48,slow=1.8,SNR=5.1					
FINES	FINESS Array B	150.02 332	PKPbc	PKPbc	10 03 53.2	-1.2
	1.4nm,0.8s,baz=102,slow=2.4,SNR=2.9					
FINES			PKPab	PKPab	10 03 56.8	-3.8
	2.1nm,0.9s,baz=66,slow=6.5,SNR=3.7					
TORD	Torodi Ar. Bea	155.47 190	PKPab	PKPab	10 04 24.8	+1.2
	2.1nm,0.9s,baz=169,slow=3.2,SNR=8.4					

*NEIC **07** 10:31:29.4, 44.37S×16821E, h7km, ML4.4(WEL), After WEL.*

WEL 07 10:31:29.8±0.2, 44.41S×166.26E, h5km, ML4.4/23, 3D, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.35	222	P	Pg	10 31 37.1	+0.5
MSZ				S	Sg	10 31 42.1	+0.9
MSZ	Milford Sound	0.35	222	PG	Pg	10 31 37.1	+0.4
MSZ				SG	Sg	10 31 41.9	+0.7
JCZ	Jackson Bay	0.49	47	P	Pg	10 31 39.7	+0.4
JCZ				S	Sg	10 31 46.6	+0.8
JCZ	Jackson Bay	0.49	47	⇓PG	Pg	10 31 39.6	+0.3
JCZ				SG	Sg	10 31 46.6	+0.8
WKZ	Wanaka	0.68	128	P	Pg	10 31 43.3	+0.3
WKZ	Wanaka	0.68	128	⇓P*	Pb	10 31 43.3	-0.9
WKZ				SG	Sg	10 31 52.2	+0.3
MLZ	Mavora Lakes	0.94	184	P	Pg	10 31 47.9	+0.1
MLZ	Mavora Lakes	0.94	184	⇓P*	Pb	10 31 47.9	-0.7
MLZ				S*	Sb	10 32 01.1	-0.2
EAZ	Earnscleugh	1.11	138	P	Pg	10 31 50.7	-0.4
EAZ	Earnscleugh	1.11	138	P*	Pb	10 31 50.7	-0.8
DCZ	Deep Cove	1.32	216	P*	Pb	10 31 53.3	-1.8
FOZ	Fox Glacier	1.34	51	eP	Pn	10 31 55.5	+0.4
FOZ	Fox Glacier	1.34	51	PN	Pn	10 31 55.5	+0.4
LBZ	Lake Benmore	1.38	90	P	Pn	10 31 55.9	+0.1
LBZ	Lake Benmore	1.38	90	PN	Pn	10 31 55.9	+0.1
WHZ	Wether Hill Ro	1.50	188	eP	Pn	10 31 56.8	-0.6
WHZ	Wether Hill Ro	1.50	188	PN	Pn	10 31 56.8	-0.6
ODZ	Otahua Downs	1.81	111	eP	Pn	10 32 01.5	-0.2
ODZ	Otahua Downs	1.81	111	PN	Pn	10 32 01.5	-0.3
RPZ	Rata Peaks	2.13	72	P	Pn	10 32 06.1	0.0
RPZ	Rata Peaks	2.13	72	PN	Pn	10 32 06.1	0.0
SYZ	Scrubby Hill	2.21	164	PN	Pn	10 32 07.3	+0.1
WVZ	Waitaha Valley	2.24	54	PN	Pn	10 32 06.6	-0.9
MQZ	McQueen's Vall	3.25	79	eP	Pn	10 32 20.4	-1.0
MQZ	McQueen's Vall	3.25	79	PN	Pn	10 32 20.4	-0.9
LTZ	Lake Taylor	3.34	62	eP	Pn	10 32 21.7	-1.0
DSZ	Denniston Nort	3.72	45	P	Pn	10 32 27.8	-0.1
DSZ	Denniston Nort	3.72	45	PN	Pn	10 32 27.8	-0.1
THZ	Tophouse	4.31	54	P	Pn	10 32 35.4	-0.7
THZ	Tophouse	4.31	54	PN	Pn	10 32 35.4	-0.7
KHZ	Kahutara	4.33	64	PN	Pn	10 32 36.3	-0.1
QRZ	Quartz Range	4.77	43	P	Pn	10 32 41.8	-0.6
QRZ	Quartz Range	4.77	43	PN	Pn	10 32 41.8	-0.6
NNZ	Nelson	4.94	51	eP	Pn	10 32 44.7	0.0
TCW	Tory Channel	5.46	56	P	Pn	10 32 53.1	+1.3
WCZ	Waipu Caves	9.66	31	PN	Pn	10 33 48.6	-0.8

IDC 07 10:33:37.2±1.7, 2768S×6588E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, MS3.6/4, Ms1 3.6/4, ms1mx3.4/23, Error ellipse: s-maj=65.8km s-min=34.3km az=16.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	35.72	259	LR	LR	10 53 10.4	
	comp=Z,66nm,20.5s,baz=232,slow=33						
KMBO	Kilima Mbogo	38.06	309	LR	LR	10 53 12.4	
	comp=Z,37nm,20.2s,baz=84,slow=31						
MAW	Mawson	39.99	182	LR	LR	10 53 37.9	
	comp=Z,74nm,18.9s,baz=242,slow=30						
WRA	Warramunga Arr	62.42	99	P	P	10 44 02.3	+0.4
	0.7nm,1.0s,baz=247,slow=6.2,SNR=6.2						
TORD	Torodi Ar. Bea	74.23	294	P	P	10 45 16.4	+0.4
	0.2nm,0.4s,baz=101,slow=2.9,SNR=3.2						
MKAR	Makanchi Array	75.59	12	P	P	10 45 23.0	-0.8
	0.5nm,0.8s,baz=178,slow=3.8,SNR=3.6						
ZAL	Zalesovo	82.91	11	P	P	10 46 03.8	0.0
	1.3nm,0.4s,baz=189,slow=1.0,SNR=3.7						
SONM	Songino Array	83.52	26	P	P	10 46 07.1	+0.1
	0.7nm,0.9s,baz=207,slow=4.8,SNR=4.6						
JHJ	Hachijo jima 2	92.57	54	LR	LR	11 20 41.4	
	comp=Z,141nm,21.6s,baz=352,slow=30						
YKA	Yellowknife Ar	145.18	0	PKPbc	PKPbc	10 53 15.1	-1.2
	1.2nm,0.5s,baz=346,slow=3.5,SNR=54						

*NEIC **07** 10:58:18.0, 25.19S×117.41E, h14km, ML3.3(AUST), After AUST.*

AUST 07 10:58:18.1, 2519S×117.41E, h14km, ML3.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEEK	Meekatharra	1.81	143	eP	Pn	10 58 47.2	-1.5
MEEK				eS	Sn	10 59 09.9	-1.5
	256nm,0.2s						
GIRL	Giralia	3.86	310	eP	Pn	10 59 15.3	-1.7
GIRL				eS	Sn	10 59 57.3	-4.7
	73nm,0.2s						
MORW	Morawa	4.05	197	eP	Pn	10 59 16.9	-2.8
MORW				eS	Sn	11 00 02.4	-4.5
	31nm,0.2s						
BLDU	Ballidu	5.44	186	eP	Pn	10 59 36.1	-2.6
BLDU				eS	Sn	11 00 34.3	-6.8
	5.9nm,0.3s						
BLDU	Ballidu	5.44	186	eP	Pn	10 59 36.1	-2.6
	5.9nm,0.3s						
BLDU				eS	Sn	11 00 34.3	-6.8
KLBR	Kellerberrin	6.39	177	eP	Pn	10 59 49.1	-2.6
KLBR				eS	Sn	11 00 57.2	-7.2
	25nm,0.4s						
KLBR	Kellerberrin	6.39	177	eP	Pn	10 59 49.1	-2.6
	25nm,0.4s						
KLBR				eS	Sn	11 00 57.2	-7.2
MUN	Mundaring	6.85	189	eP	Pn	10 59 55.3	-2.8
MUN				eS	Sn	11 01 07.9	-7.9
KMBL	Kambalda	7.31	148	eP	Pn	11 00 01.9	-2.5
KMBL				eS	Sn	11 01 18.2	-8.9
	65nm,0.5s						
KMBL	Kambalda	7.31	148	eP	Pn	11 00 01.9	-2.5
	65nm,0.5s						
KMBL				eS	Sn	11 01 18.2	-8.9
NWAO	Narrogin (SRO)	7.71	181	eP	Pn	11 00 06.6	-3.3
RKGY	Rocky Gully	9.40	182	eP	Pn	11 00 30.4	-2.6
RKGY				eS	Sn	11 02 06.3	-12
	70nm,1.4s						
FORT	Forrest	10.93	123	eP	Pn	11 00 48.8	-5.3
FORT				eS	Sn	11 02 44.2	-12
	5.7nm,0.4s						
FORT	Forrest	10.93	123	eP	Pn	11 00 48.8	-5.3
	5.7nm,0.4s						
FORT				eS	Sn	11 02 44.2	-12

*ISCJB **07** 11:01:31.0±1.0, 607S±004×154.24E±004, h55km±9km, mb5.2/79, MS4.5/31, Error ellipse: s-maj=6.8km s-min=6.3km az=99.3*
*MOS **07** 11:01:31.8±1.2, 596S×154.11E, h62km, mb5.4/19, Error ellipse: s-maj=10.5km s-min=7.5km az=81.4*
*BJI **07** 11:01:33.8, 587S×154.56E, h90km, mB5.2, mb5.2*
*IDC **07** 11:01:34.2±2.1, 599S×154.23E, h78km±19km, mb4.6/17, mb1 4.7/21, mb1mx4.7/22, mbtmp4.7/21, MS4.4/16, Ms1 4.4/16, ms1mx4.2/21, Error ellipse: s-maj=13.5km s-min=11.4km az=53.0*
*NEIC **07** 11:01:36.1±1.2, 6.14S×154.19E, h87km±11km, mb5.1/32, Error ellipse: s-maj=7.0km s-min=6.7km az=150.0*
*GCMT **07** 11:01:36.1±0.1, 621S×154.36E, h44km, MW5.3/85, Moment Tensor Solution. s85,c132; s77,c123; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.16±.02; $M_{\theta\theta}$-0.64±.01; $M_{\phi\phi}$-0.51±.02; $M_{r\theta}$-0.13±.01; $M_{\theta\phi}$0.62±.01; M_{ϕ}0.16±.01; Best double couple: $M_0$1.20100×10^{17} NP1:ϕ_s131.00000°, δ40.00000°, λ88.00000°. NP2:ϕ_s314.00000°, δ50.00000°, λ92.00000°. Principal axes: T 1.1780, Plg85.0000°, Azm241.0000°; N 0.0480, Plg2.0000°, Azm132.0000°; P -1.2240, Plg5.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 11:01:33.8±0.9, 609S±004×154.28E±004, h63km±8km, h44km±1.4km: pP-P, n180, σ1§20/182, mb5.2/79, 7C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.52	121	P	Pn	11 03 08.8	+1.8
	46nm,0.3s,baz=232,slow=0.7,SNR=13						
HNR				S	Sn	11 04 25.3	+5.3
	22nm,0.3s,baz=97,slow=10,SNR=4.4						
HNR	Honiara	6.52	121	eP	Pn	11 03 09.7	+2.7
HNR				e		11 04 26.8	
HNR				pmax	pmax		
	comp=Z,915nm,0.9s						
HNR	Honiara	6.52	121	ePn	Pn	11 03 09.7	+2.6
	comp=Z,915nm,0.9s						
HNR				eSn	Sn	11 04 26.8	+6.8
PMG	Port Moresby	7.79	245	P	Pn	11 03 25.2	+0.7
	comp=Z,30nm,0.3s,baz=60,slow=6.8,SNR=47						
PMG				S	Sn	11 04 53.1	+2.0
	comp=Z,42nm,0.3s,baz=31,slow=20,SNR=21						
PMG				LR	LR	11 06 25.1	
	comp=Z,7μm,20.9s,baz=346,slow=37						
PMG	Port Moresby	7.79	245	d iP	Pn	11 03 24.8	+0.4
PMG	Port Moresby	7.79	245	ePn	Pn	11 03 25.1	+0.6
PMG				eSn	Sn	11 04 36.1	-15
CTA	Charters Tower	15.95	209	eP	Pn	11 05 13.9	-0.3
	comp=Z,22nm,0.7s						
CTA				esP	sP	11 05 31.8	-6.1
CTA				eS	S	11 08 21.1	+0.3
CTA	Charters Tower	15.95	209	P	Pn	11 05 15.2	+1.1
	comp=Z,1.2nm,0.3s,baz=43,slow=11,SNR=17						
CTA				LR	LR	11 09 04.6	
	comp=Z,1μm,21.7s,baz=24,slow=28						
CTA	Charters Tower	15.95	209	eP	Pn	11 05 13.9	-0.3
CTA				pmax	pmax		
	comp=Z,22nm,0.7s						
CTAO	Charters Tower	15.95	209	eP	Pn	11 05 14.9	+0.7
CTAO				pmax	pmax		
	comp=Z,77nm,0.9s						
CTAO	Charters Tower	15.95	209	eP	Pn	11 05 14.9	+0.7
	comp=Z,77nm,0.9s						
DZM	Mont Dzumac	19.76	145	eP	Pn	11 05 56.2	-4.4
DZM	Mont Dzumac	19.76	145	P	Pn	11 05 58.0	-2.6
	comp=Z,3.0nm,0.3s,baz=327,slow=10,0,SNR=29						
DZM				LR	LR	11 10 57.9	
	comp=Z,399nm,20.6s,baz=357,slow=28						
GUMO	Guam	21.67	334	LR	LR	11 14 03.6	
	comp=Z,508nm,18.2s,baz=261,slow=35						
KAKA	Kakadu	22.52	251	eP	P	11 06 27.7	-0.5
	comp=Z,56nm,0.6s,mb5.2						
WRAB	Tennant Creek	23.76	233	P	P	11 06 35.0	-5.3
	comp=Z,388nm,1.3s,mb5.7,SNR=5.6						
WRAB	Tennant Creek	23.76	233	eP	P	11 06 40.9	+0.5
WB2	Warramunga Arr	23.76	233	eP	P	11 06 34.5	-5.9
WB2				e		11 06 41.5	
WB2				eS	PcP	11 10 19.8	-2.7
WRA	Warramunga Arr	23.77	233	P	P	11 06 39.4	-1.1
	comp=Z,35nm,1.0s,mb4.8,baz=58,slow=9.3,SNR=94						
WRA				PcP	PcP	11 10 22.4	-0.1
	comp=Z,3.5nm,0.6s,baz=53,slow=2.4,SNR=5.0						
WRA				LR	LR	11 15 51.2	
	comp=Z,2μm,20.9s,baz=55,slow=36						
WRA	Warramunga Arr	23.77	233	P	P	11 06 39.4	-1.0
WRA						11 10 22.4	
ARMA	Armidale	24.33	186	⇑iP	P	11 06 46.1	+0.6
ARMA				epP		11 06 59.9	
RIV	Riverview	27.75	186	eP	P	11 07 16.9	+0.5
STKA	Stephens Creek	28.27	203	eP	P	11 07 20.2	-0.8
	comp=Z,9.5nm,0.6s,mb4.6						
STKA				eS	S	11 12 05.0	+2.5
STKA	Stephens Creek	28.27	203	P	P	11 07 20.2	-0.8
	comp=Z,14nm,0.8s,mb4.7,baz=6.5,slow=7.5,SNR=21						
STKA				PcP	PcP	11 10 32.5	-0.4
	comp=Z,4.7nm,0.9s,baz=333,slow=6.2,SNR=3.0						
STKA				LR	LR	11 18 31.4	
	comp=Z,2μm,20.5s,baz=13,slow=36						
CNB	Canberra Magne	29.43	188	eP	P	11 07 31.5	+0.1
	comp=Z,14nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	30.39	244	eP	P	11 07 39.5	-0.3
	comp=Z,34nm,1.3s,mb4.9						
FITZ				epP	pP	11 07 49.7	-5.5
FITZ				eS	S	11 12 36.2	+0.3
FITZ	Fitzroy Crossi	30.39	244	P	P	11 07 39.6	-0.2
	comp=Z,14nm,0.9s,mb4.7,baz=113,slow=7.1,SNR=9.0						
TOO	Toolangi	32.34	193	eP	P	11 07 57.6	+0.6
	comp=Z,5.3nm,0.8s,mb4.4						
TOO	Toolangi	32.34	193	eP	P	11 07 57.6	+0.6
TOO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
AFI	Afiamalu	34.28	106	LR	LR	11 18 47.6	
	comp=Z,571nm,20.7s,baz=359,slow=30						
KAPI	Kappang	34.38	270	P	P	11 08 14.7	0.0
	comp=Z,156nm,1.2s,mb5.8,SNR=7.5						
FORT	Forrest	34.77	222	eP	P	11 08 17.7	-0.4
	comp=Z,23nm,0.5s,mb5.4						
TAU	Tasmania Unive	37.18	188	eP	P	11 08 39.3	+0.6
	comp=Z,368nm,2.0s,mb5.9						
TAU				e	pP	11 08 51.1	-3.3
TSM	Tawau	37.79	285	P	P	11 08 45.0	+1.2
URZ	Urewera	38.14	150	P	P	11 08 46.3	-0.4
	comp=Z,17nm,0.5s,mb5.0,baz=250,slow=2.0,SNR=17						
RPZ	Rata Peaks	40.27	161	P	P	11 09 03.8	-0.7
	comp=Z,28nm,0.8s,mb5.0,baz=295,slow=5.1,SNR=7.9						
JHJ	Hachijo jima 2	41.35	341	P	P	11 09 11.7	-1.8
	comp=Z,56nm,0.7s,mb5.3,baz=136,slow=6.4,SNR=5.5						
KLBR	Kellerberrin	42.54	229	eP	P	11 09 22.1	-1.0
	comp=Z,33nm,0.9s,mb5.1						
NWAO	Narrogin (SRO)	43.57	227	P	P	11 09 30.8	-0.6
	comp=Z,13nm,1.0s,mb4.6,baz=40,slow=4.8,SNR=3.6						
NACB	Ninganchiao	43.82	315	eP	P	11 09 33.9	+0.4
NACB				e		11 09 43.7	
MUN	Mundaring	43.88	229	eP	P	11 09 33.7	-0.2
YHNB	Yeheng	44.29	315	eP	P	11 09 38.0	+0.8
YHNB				e	pP	11 09 48.7	-4.5
KSM	Kuching	44.55	278	eP	P	11 09 39.4	+0.1
MJAR	Matsushiro Arr	45.00	342	P	P	11 09 39.7	-3.2
	comp=Z,4.3nm,0.8s,mb4.3,baz=171,slow=8.9,SNR=8.8						
MJAR				LR	LR	11 27 45.7	
	comp=Z,136nm,19.5s,baz=190,slow=35						
MAT	Matsushiro	45.01	342	P	P	11 09 41.6	-1.3
MAT				S	S	11 16 16.0	-0.9
QZH	Quanzhou	46.45	313	⇑iP	P	11 09 54.8	+0.5
QZH				S	S	11 16 41.1	+3.4
QZH				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.9						
QZH				LR	LR		
	comp=Z,850nm,24.1s						
SSE	Sheshan	48.66	321	P	P	11 10 13.2	+1.7
SSE				S	S	11 17 12.8	+3.8
SSE				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,351nm,4.2s						
SSE				LR	LR		
	comp=N,214nm,26.6s						
SSE				LR	LR		
	comp=E,153nm,26.6s						
SSE				LR	LR		
	comp=Z,310nm,27.0s						
KSRS	Korea Array	49.81	332	P	P	11 10 18.6	-1.6
	comp=Z,8.2nm,0.8s,mb4.8,baz=148,slow=6.9,SNR=18						
KSRS				LR	LR	11 29 49.9	
	comp=Z,112nm,18.7s,baz=151,slow=34						
QIZ	Qiongzhong	50.39	301	P	P	11 10 25.9	+1.3
QIZ				AP	pP	11 10 44.0	+3.1
QIZ				S	S	11 17 34.9	+1.7
QIZ				PS		11 17 56.9	
QIZ				XS	sS	11 18 10.4	+10
QIZ				SS	SS	11 21 07.4	-0.2
QIZ				AMB	AMB		
	comp=Z,344nm,4.5s						
QIZ				LR	LR		
	comp=E,458nm,22.0s						
QIZ				LR	LR		
	comp=Z,703nm,21.2s						
INCN	Inchon	50.44	331	eP	P	11 10 26.3	+1.3
	comp=Z,69nm,0.7s,mb5.8						
INCN				e		11 10 34.7	
KGM	Kluang	51.52	277	P	P	11 10 33.9	+0.8
WHN	Wuhan	52.80	316	P	P	11 10 43.2	+0.6
WHN				LR	LR		
	comp=Z,2μm,29.8s						
YSS	Yuzh-Sakhalins	53.79	350	i P	P	11 10 50.5	+0.6
YSS				pmax	pmax		
	comp=Z,38nm,2.0s,mb5.0						
IPM	Ipoh	54.20	280	P	P	11 10 53.7	+0.8
KULM	Kulim	54.73	281	eP	P	11 10 56.3	-0.3
KULM				e		11 11 06.9	
PPT	Papeete	55.93	107	eS	S	11 18 49.3	+0.9
	comp=Z,279nm,23.0s						
PPT				eLQ		11 25 15.7	
	comp=Z,353nm,28.5s						
PPT				eLR	LR	11 27 42.6	
	comp=Z,610nm,27.8s						
PPT	Papeete	55.93	107	LR	LR	11 29 52.9	
	comp=Z,182nm,19.5s,baz=266,slow=30						
CN2	Changchun	56.08	335	eP	P	11 11 07.0	+0.6
CN2	

KLR pmax pmax
comp=Z,92nm,1.8s,mb5.5
KMI Kunming 58.93 304 P **P** **11 11 28.0 +1.6**
KMI PP PP 11 13 41.2 +4.0
KMI PPP 11 15 01.6
KMI S **S** **11 19 30.5 +2.8**
KMI SS SS 11 23 22.8 +0.7
KMI AMB AMB
comp=Z,46nm,1.2s,mb5.4
KMI AMB AMB
comp=Z,215nm,3.7s
KMI LR LR
comp=N,198nm,16.4s
KMI LR LR
comp=E,377nm,19.0s
KMI LR LR
comp=Z,518nm,20.8s
PET Petropavlovsk 59.01 3 *e*P **P** **11 11 31.9 +5.0**
PET *e* 11 13 36.8
PET *e*S **S** **11 19 35.4 +6.7**
PET pmax pmax
comp=Z,100nm,19.4s
PET pmax pmax
comp=Z,100nm,19.1s
CM31 Chiang Mai Arr 59.76 295 *e*P **P** **11 11 33.8 +1.6**
comp=Z,53nm,1.1s,mb5.5
CM31 *e* pP 11 11 45.1 -3.7
CHG Chiang Mai 59.87 296 ⇓P **P** **11 11 34.2 +1.3**
comp=Z,39nm,1.3s,mb5.3
CHTO Chiang Mai 59.87 296 *e*P **P** **11 11 34.1 +1.2**
CHTO pmax pmax
comp=Z,45nm,1.2s,mb5.4
CHTO Chiang Mai 59.87 296 *e*P **P** **11 11 34.1 +1.2**
comp=Z,45nm,1.2s,mb5.4
CHTO *e* 11 11 44.4
CD2 Chengdu 60.69 310 P **P** **11 11 39.2 +0.7**
CD2 PP PP 11 13 55.2 +2.4
CD2 S **S** **11 19 51.4 +1.0**
CD2 AMB AMB
comp=Z,60nm,0.6s,mb5.9
CD2 AMB AMB
comp=Z,240nm,4.4s
CD2 LR LR
comp=N,450nm,17.4s
CD2 LR LR
comp=E,620nm,21.6s
CD2 LR LR
comp=Z,650nm,21.6s
HHC Hu-ho-hao-te 60.95 324 *e*P **P** **11 11 43.5 +3.2**
HHC PCP PcP 11 12 26.2 +3.1
HHC PP PP 11 14 00.0 +5.0
HHC PCS PcS 11 16 27.6 +1.7
HHC S **S** **11 19 57.9 +4.2**
HHC AMB AMB
comp=Z,19nm,0.6s,mb5.4
HHC AMB AMB
comp=Z,192nm,6.3s
HHC LR LR
comp=N,223nm,23.8s
HHC LR LR
comp=E,295nm,23.8s
HHC LR LR
comp=Z,383nm,17.7s
DRV Dumont d'Urvil 61.28 186 P **P** **11 11 39.0 -3.5**
HIA Hailar 62.81 335 *e*P **P** **11 11 50.7 -2.0**
HIA *e* pP 11 12 02.7 -6.9
HIA pmax pmax
comp=Z,29nm,1.0s
HIA Hailar 62.81 335 *e*P **P** **11 11 50.7 -2.0**
comp=Z,29nm,1.0s,mb5.4
HIA *e* pP 11 12 02.7 -6.8
LZH Lanzhou 63.18 316 *e*P **P** **11 11 56.0 +0.8**
LZH PCP PcP 11 12 28.0 -4.2
LZH PP PP 11 14 20.1 +5.4
LZH *e*S **S** **11 20 22.0 +0.2**
LZH XS sS 11 20 59.2 +8.9
LZH AMB AMB
comp=Z,44nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,153nm,5.0s
LZH LR LR
comp=N,872nm,16.4s
LZH LR LR
comp=Z,1μm,17.6s
TAOE Nuku Hiva Isla 65.00 97 *e*LR LR 11 31 45.8
comp=Z,1μm,24.8s
IMP Imphal 66.22 300 *e*P **P** **11 12 14.0 -1.0**
CLNS Chul'man 67.16 343 *e*P **P** **11 12 17.5 -3.5**
CLNS pmax pmax
comp=Z,19nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CASY Casey 67.23 198 *e*P **P** **11 12 20.2 -1.2**
CIT Chita 67.49 334 *e*P **P** **11 12 21.7 -1.4**
CIT pmax pmax
comp=Z,46nm,1.0s,mb5.5
GTA Gaotai 67.60 317 P **P** **11 12 24.2 +0.5**
GTA PP PP 11 14 56.7 +3.3
GTA S S 11 21 20.4 +4.6
GTA AMB AMB
comp=Z,19nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,224nm,7.2s
GTA LR LR
comp=N,249nm,19.0s
GTA LR LR
comp=E,193nm,20.5s
GTA LR LR
comp=Z,239nm,20.9s
ULN Ulaanbaatar 67.87 328⇑*e*P **P** **11 12 24.2 -1.2**
ULN Ulaanbaatar 67.87 328 *e*P **P** **11 12 24.9 -0.5**
comp=Z,27nm,1.0s,mb5.2
ULN *e* pP 11 12 37.8 -4.6
SONM Songino Array 68.20 327 P **P** **11 12 26.0 -1.5**
comp=Z,17nm,1.0s,mb5.1,baz=142,slow=5.0,SNR=35
SONM LR LR 11 43 48.4
comp=Z,344nm,19.3s,baz=302,slow=37
SHL Shillong 68.23 300 *e*x x 11 12 21.6
RKT Rikitea 69.93 112 *e*S S 11 21 43.0 -0.4
comp=Z,114nm,26.0s
RKT *e*LR LR 11 34 04.5
comp=Z,813nm,30.8s,baz=295
LSA Lhasa 70.18 304 P **P** **11 12 40.8 +1.0**
LSA AMB AMB
comp=Z,40nm,0.8s,mb5.4
LSA LR LR
comp=E,300nm,20.1s
LSA LR LR
comp=Z,410nm,21.0s
LSA Lhasa 70.18 304 *e*P **P** **11 12 40.5 +0.7**
LSA pmax pmax
comp=Z,33nm,0.8s,mb5.3
LSA Lhasa 70.18 304 *e*P **P** **11 12 40.5 +0.8**
comp=Z,33nm,0.8s,mb5.3
LSA *e* 11 12 52.2
YAK Yakutsk 70.53 348⇑*e*P **P** **11 12 39.8 -2.1**
YAK pmax pmax
comp=Z,48nm,1.2s,mb5.3
ZAK Zakamensk 71.36 328 *e*P **P** **11 12 45.9 -1.0**
ZAK *e* pP 11 12 59.0 -5.1
ZAK pmax pmax
comp=Z,21nm,1.0s,mb5.0
VNDA Vanda 71.50 178 P **P** **11 12 47.0 -0.8**
comp=Z,5.7nm,0.8s,mb4.5,baz=336,slow=6.4,SNR=16
VNDA LR LR 11 41 47.2
comp=Z,234nm,18.2s,baz=357,slow=34
VNDA Vanda 71.50 178 *e*P **P** **11 12 46.7 -1.1**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 71.50 178 *e*P **P** **11 12 46.7 -1.0**
comp=Z,7.1nm,0.9s,mb4.6
VNDA *e* 11 12 58.4
BOD Bodaibo 71.52 339 *e*P **P** **11 12 45.0 -2.9**
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.8
TLY Talaya 71.93 330 *e*P **P** **11 12 50.4 +0.1**
TLY *e* 11 15 34.8
TLY *e*S S 11 22 02.4 -4.2
TLY pmax pmax
comp=Z,16nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,149nm,17.0s
TLY Talaya 71.93 330 *e*P **P** **11 12 49.9 -0.4**
comp=Z,17nm,1.0s,mb4.9

IRK Irkutsk 71.95 330 *e*P **P** **11 12 50.9 +0.4**
IRK pmax pmax
comp=Z,33nm,1.4s,mb5.1
BOK Bokaro 72.96 297 *e*P **P** **11 12 56.9 +0.4**
BOK AMb AMB 11 12 59.9
comp=Z,69nm,1.4s,mb5.4
VIS Vishakhapatnam 73.89 290 *e*P **P** **11 13 02.1 +0.1**
VIS AMb AMB 11 13 07.4
comp=Z,46nm,1.5s,mb5.2
GUN Gumba 74.05 301 *e*P **P** **11 13 02.9 0.0**
comp=Z,149nm,0.9s,mb5.9
PKI Pulchoki 74.36 301 *e*P **P** **11 13 05.0 +0.3**
comp=Z,160nm,1.1s,mb5.8
BILL Bilibino 74.44 5⇓*e*P **P** **11 13 03.0 -2.1**
BILL pP 11 13 16.0 -6.4
BILL *e* 11 13 28.7
BILL pmax pmax
comp=Z,27nm,1.0s,mb5.1
BILL MLR MLR
comp=Z,100nm,14.0s
BILL Bilibino 74.44 5 *e*P **P** **11 13 03.2 -2.0**
comp=Z,23nm,0.9s,mb5.1
KKN Kakani 74.53 301 *e*P **P** **11 13 05.4 -0.2**
comp=Z,97nm,0.9s,mb5.7
DMN Daman 74.63 301 *e*P **P** **11 13 06.4 +0.2**
comp=Z,273nm,1.0s,mb6.1
GKN Gorkha 75.13 301 *e*P **P** **11 13 08.7 -0.4**
KOLN Koldanda 75.96 300 *e*P **P** **11 13 13.2 -0.7**
comp=Z,133nm,0.8s,mb5.9
SVW2 Sparrevohn 77.44 22 *e*P **P** **11 13 23.1 +0.9**
WMQ Urumqi 77.69 317 P **P** **11 13 23.0 -0.6**
WMQ XP sP 11 13 56.1 +8.2
WMQ PP PP 11 16 21.1 +1.7
WMQ PPP 11 18 09.8
WMQ S S 11 23 06.0 -4.7
WMQ SKS 11 23 23.0
WMQ SCS ScS 11 23 30.0 -7.0
WMQ XS sS 11 23 45.5 +5.4
WMQ PS 11 23 58.3
WMQ SS SS 11 28 09.9 -1.6
WMQ AMB AMB
comp=Z,14nm,1.4s,mb4.7
WMQ AMB AMB
comp=Z,334nm,4.4s
WMQ LR LR
comp=N,192nm,26.0s
WMQ LR LR
comp=E,141nm,26.0s
WMQ LR LR
comp=Z,252nm,25.0s
HYB Hyderabad 78.31 289 *i* P **P** **11 13 26.5 -0.5**
HYB *e*PcP PcP 11 13 39.0 +2.8
HYB Hyderabad 78.31 289 *e*P **P** **11 13 26.5 -0.5**
HYB *e* pP 11 13 39.0 -5.4
TRD Trivandrum 78.44 280 *e*P **P** **11 13 27.1 -0.7**
TRD AMb AMB 11 13 44.3
comp=Z,51nm,0.9s,mb5.4
NGP Nagpur 78.53 293 *e*P **P** **11 13 25.6 -2.6**
NGP AMb AMB 11 13 28.7
comp=Z,66nm,1.8s,mb5.3
SLKM Skilak Lake 79.21 25 *e*P **P** **11 13 32.0 0.0**
LGTI Lohaghat 79.22 301 *i* P **P** **11 13 33.0 +0.9**
TIXI Tiksi 79.37 352 *e*P **P** **11 13 30.0 -2.8**
TIXI *e* pP 11 13 43.1 -7.1
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TIXI MLR MLR
comp=Z,101nm,16.0s
TIXI Tiksi 79.37 352 *e*P **P** **11 13 31.9 -0.9**
comp=Z,25nm,1.7s,mb4.9
TIXI *e* pP 11 13 44.4 -5.8
PMR Palmer 80.25 24 *e*P **P** **11 13 37.6 0.0**
PMR pmax pmax
comp=Z,40nm,1.0s,mb5.3
PMR Palmer 80.25 24 *e*P **P** **11 13 37.6 0.0**
comp=Z,40nm,1.0s,mb5.3
AKL Akola 80.32 292 *e*P **P** **11 13 37.9 -0.1**
BHPL Bhopal 80.41 295 *e*P **P** **11 13 37.7 -0.7**
SML Sawmill 80.69 24 *e*P **P** **11 13 40.8 +0.8**
IMA2 Indian Mountai 81.18 19 *e*P **P** **11 13 42.6 0.0**
MCK McKinley 81.49 22 *e*P **P** **11 13 44.1 -0.1**
MCK pmax pmax
comp=Z,25nm,0.8s,mb5.2
MCK McKinley 81.49 22 *e*P **P** **11 13 44.1 -0.1**
comp=Z,25nm,0.8s,mb5.2
NDI New Delhi 81.65 300 *e*P **P** **11 13 44.1 -1.0**
NDI AMb AMB 11 13 46.4
comp=Z,56nm,1.3s,mb5.3
MK31 Makanchi Array 82.26 319 *e*P **P** **11 13 46.2 -2.1**
MKAR Makanchi Array 82.26 319 P **P** **11 13 46.3 -2.0**
comp=Z,8.2nm,0.8s,mb4.7,baz=102,slow=7.3,SNR=21
MKAR LR LR 11 50 27.4
comp=Z,157nm,18.0s,baz=125,slow=36
MKAR Makanchi Array 82.26 319 P **P** **11 13 46.3 -2.0**
MKAR LR LR 11 50 27.4
KAD Karad 82.41 288 *e*P **P** **11 13 47.6 -1.5**
KAD AMb AMB 11 13 50.3
comp=Z,55nm,0.9s,mb5.5
COLA College 82.50 21⇓*i* P **P** **11 13 45.5 -4.0**
COLA College 82.50 21 *e*P **P** **11 13 45.9 -3.6**
comp=Z,23nm,0.8s,mb5.2
ZAL Zalesovo 83.05 326 P **P** **11 13 50.0 -2.4**
comp=Z,3.1nm,0.7s,mb4.4,baz=3.7,slow=6.1,SNR=16
ZAL LR LR 11 49 03.8
comp=Z,166nm,20.2s,baz=182,slow=34
MENT Mentasta 83.12 24 *e*P **P** **11 13 53.7 +1.0**
AJM Ajmer 83.48 297 *i* P **P** **11 13 54.0 -0.6**
NVS Novosibirsk 84.21 327 *e*P **P** **11 13 59.8 +1.5**
NVS pmax pmax
comp=Z,31nm,1.4s,mb5.2
NVS pmax pmax
comp=N,17nm,1.5s
NVS pmax pmax
comp=E,24nm,1.5s
MAW Mawson 84.95 203 *e*P **P** **11 14 00.9 -1.2**
comp=E,12nm,0.7s,mb5.1
MAW Mawson 84.95 203 P **P** **11 14 00.6 -1.4**
comp=E,19nm,0.9s,mb5.2,baz=85,slow=7.2,SNR=30
MAW Mawson 84.95 203 *e*P **P** **11 14 00.9 -1.2**
MAW pmax pmax
comp=Z,12nm,0.7s
EGAK Eagle 84.96 23 *e*P **P** **11 14 00.8 -1.3**
comp=Z,28nm,0.9s,mb5.4
DAWY Dawson 85.36 24 *e*P **P** **11 14 05.2 +1.1**
KURK Kurchatov 85.69 322 P **P** **11 14 03.3 -2.4**
comp=Z,29nm,0.4s,mb5.9,SNR=5.3
KURK Kurchatov 85.69 322 *e*P **P** **11 14 03.9 -1.8**
KURK pmax pmax
comp=Z,31nm,1.4s,mb5.3
KURK Kurchatov 85.69 322 *e*P **P** **11 14 03.9 -1.9**
comp=Z,31nm,1.4s,mb5.3
FRU Bishkek 86.57 314 *e*P pP 11 14 22.0 -5.7
FRU pmax pmax
comp=Z,150nm,2.8s,mb5.7
AAK Ala-Archa 86.62 313⇑*e*P **P** **11 14 07.8 -2.5**
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
AAK Ala-Archa 86.62 313 *e*P **P** **11 14 10.0 -0.3**
comp=Z,8.6nm,1.1s,mb4.9
YBH Yreka Blue Hor 88.81 48 *e*P **P** **11 14 21.7 +0.9**
INK Inuvik 89.13 21 *e*P **P** **11 14 22.2 -0.1**
comp=Z,525nm,1.3s
CMB Columbia Colle 90.04 52 *e*P **P** **11 14 27.6 +1.1**
MOD Modoc 90.62 48 *e*P **P** **11 14 30.5 +1.3**
CHKZ Chkalovo 91.12 324 *e*P **P** **11 14 31.3 -0.2**
CHKZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
CHKZ Chkalovo 91.12 324 *e*P **P** **11 14 31.3 -0.3**
comp=Z,4.7nm,0.9s,mb4.8
BRVK Borovoye 91.22 323 *e*P **P** **11 14 32.1 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BRVK Borovoye 91.22 323 *e*P **P** **11 14 32.1 +0.1**
comp=Z,7.0nm,1.0s,mb5.0
BRVK *e* 11 14 44.3
MTUM Tungsten Hills 91.39 53 *e*P **P** **11 14 34.3 +1.5**
NVAR Mina Array Bea 91.72 52 P **P** **11 14 34.3 0.0**
comp=Z,14nm,0.9s,mb5.3,baz=242,slow=3.3,SNR=38
TPH Tonopah 92.53 52 *e*P **P** **11 14 40.2 +2.1**
PFO Pinyon Flat Ob 92.72 57 P **P** **11 14 38.0 -0.9**
comp=Z,82nm,0.9s,mb6.2,SNR=8.7
SYO Syowa Base 92.94 199⇓*e*P **P** **11 14 38.0 -2.0**
SYO Syowa Base 92.94 199⇑/pP pP 11 15 02.6 +4.9
YKA Yellowknife Ar 95.87 28 P **P** **11 14 51.2 -2.2**
comp=Z,2.8nm,0.9s,mb4.7,baz=268,slow=4.7,SNR=24

YKA PKKPbc PKKPbc 11 31 40.0 -1.8
comp=Z,0.6nm,0.6s,baz=90,slow=2.7,SNR=12
YKA LR LR 11 54 47.2
comp=Z,275nm,18.6s,baz=270,slow=33
YKA Yellowknife Ar 95.87 28 P **P** **11 14 51.2 -2.2**
YKA PKKPbc PKKPbc 11 31 40.0 -1.8
YKA LR LR 11 54 47.2
WUAZ Wupatki 97.03 55 *e*P **P** **11 15 01.4 +2.7**
comp=Z,8.3nm,1.1s,mb5.1
TMUT Trail Mountain 97.30 51 *e*P **P** **11 15 01.0 +1.2**
PDAR Pinedale Array 98.62 48 P **P** **11 15 03.6 -2.1**
comp=Z,1.9nm,0.8s,mb4.7,baz=237,slow=2.2,SNR=16
PDAR LR LR 11 52 28.4
comp=Z,624nm,20.7s,baz=277,slow=31
PV10 Paradox Valley 98.98 52 *e*P **P** **11 15 09.8 +2.4**
OBN Obninsk 110.61 327 *e*PS PS 11 30 05.0 -1.9
OBN SSS 11 40 06.0
OBN MLR MLR
comp=Z,200nm,17.0s
BRTR Keskin Array B 117.26 312 PP PP 11 21 22.6 -0.6
comp=Z,1.0nm,0.8s,baz=58,slow=5.4,SNR=3.0
BOSA Boshof 120.02 232 PKP PKPdf 11 20 16.7 -0.5
comp=Z,2.0nm,0.6s,baz=133,slow=12,SNR=6.0
GERES GERESS Array B 125.92 329 PKP PKPdf 11 20 28.4 -0.1
comp=Z,0.2nm,0.2s,baz=71,slow=5.8,SNR=3.5
LPAZ La Paz 132.51 119 PKP PKPdf 11 20 42.1 +1.1
comp=Z,1.6nm,0.6s,baz=36,slow=3.3,SNR=8.0
SDV Santo Domingo 135.40 84 *e*PKPdf PKPdf 11 20 45.4 -1.1
TOA0 Torodi Ar. Sit 152.10 287 *e*PKPbc PKPbc 11 21 21.2 -0.8
TOA0 *e*PKPab PKPab 11 21 32.1 +0.4
TORD Torodi Ar. Bea 152.10 287 PKP PKPdf 11 21 13.4 -1.9
comp=Z,0.8nm,1.0s,baz=306,slow=3.5,SNR=3.6
TORD PKPbc PKPbc 11 21 21.3 -0.7
comp=Z,2.5nm,0.4s,baz=76,slow=1.7,SNR=37
TORD Torodi Ar. Bea 152.10 287 PKP PKPdf 11 21 13.4 -1.9
TORD PKPbc PKPbc 11 21 21.3 -0.7

IDC 07 11:31:11.0±2.4, 2866S×17669W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.8/11, mbtmp4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/17, Error ellipse: s-maj=64.9km s-min=33.5km az=159.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22**	**241**	Pn	Pn	11 31 35.8	+0.5
	124nm,0.3s,baz=71,slow=23,SNR=8.3						
RAO				Sn	Sn	11 31 51.7	-0.8
	265nm,0.3s,baz=92,slow=23,SNR=9.8						
DZM	**Mont Dzumac**	**16.59**	**289**	LR	LR	11 39 41.7	
	comp=Z,183nm,20.4s,baz=25,slow=31						
STKA	**Stephens Creek**	**36.01**	**254**	P	P	11 38 14.8	+1.1
	2.6nm,1.0s,baz=89,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	**45.21**	**270**	P	P	11 39 29.6	-0.1
	1.4nm,0.6s,baz=110,slow=7.8,SNR=12						
TORD	**Torodi Ar. Bea**	**164.49**	**174**	PKPab	PKPab	11 52 10.9	-0.4
	0.3nm,0.6s,baz=167,slow=2.0,SNR=2.5						

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*ATH **07** 11:35:36.5, 4021N×1955E, h12km±1km, MD3.5/5*
*NEIC **07** 11:35:36.5, 4021N×1955E, h12km, MD3.5(ATH), After ATH.*
*SKO **07** 11:35:41.4, 4004N×1990E, h6km, M2.4, ML2.8*
CSEM 07 11:35:37.8±0.9, 4019N×1956E, h5km, MD3.5, Error ellipse: s-maj=19.7km s-min=6.9km az=80.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.36**	**73**	*i* Pg	Pg	11 35 43.8	-1.0
TPE				*i* Sg	Sg	11 35 48.1	-1.4
SRN	**Sarande**	**0.46**	**132**	*i* Pg	Pg	11 35 44.9	-1.8
SRN				*i* Sg	Sg	11 35 50.1	-2.5
KEK	**Kerkira**	**0.51**	**159**	*e*PB	Pg	11 35 46.8	-0.8
KEK				*e*SB	Sg	11 35 54.6	+0.3
JAN	**Janina**	**1.13**	**118**	*e*PG	Pg	11 35 57.9	-1.5
JAN				*e*SB	Sb	11 36 13.8	-0.9
OHR	**Ohrid**	**1.32**	**45**	*e*Pn	Pn	11 36 04.0	+1.1
OHR				*e*Sn	Sn	11 36 21.3	+0.6
OHR				*e*Lg		11 36 24.3	
	comp=E,181nm,0.5s						
OHR				*e*Lg		11 36 25.1	
	comp=N,125nm,0.5s						
OHR	**Ohrid**	**1.32**	**45**	*e*Pn	Pn	11 36 04.0	+1.1
OHR				*e*Sn	Sn	11 36 21.3	+0.6
OHR				*e*Lg		11 36 24.3	
	comp=E,181nm,0.5s						
OHR				*e*Lg		11 36 25.1	
	comp=N,125nm,0.5s						
OHR	**Ohrid**	**1.32**	**45**	*e*Pn	Pn	11 36 03.9	+1.1
OHR				*e*Sn	Sn	11 36 21.3	+0.5
BIA	**Bitola**	**1.58**	**58**	*e*Pn	Pn	11 36 06.3	-0.1
BIA				*e*Sn	Sn	11 36 27.0	-0.2
BIA				*e*Lg		11 36 28.8	
	comp=E,69nm,0.6s						
BIA				*e*Lg		11 36 32.1	
	comp=N,75nm,0.6s						
BIA	**Bitola**	**1.58**	**58**	*e*Pn	Pn	11 36 06.3	-0.1
BIA				*e*Sn	Sn	11 36 27.0	-0.2
BIA				*e*Lg		11 36 28.8	
	comp=E,69nm,0.6s						
BIA				*e*Lg		11 36 32.1	
	comp=N,75nm,0.6s						
BIA	**Bitola**	**1.58**	**58**	*e*Pn	Pn	11 36 06.2	-0.2
BIA				*e*Sn	Sn	11 36 27.0	-0.2
KZN	**Kozani**	**1.70**	**85**	*e*PN	Pn	11 36 08.4	+0.3
KRUS	**Krusevo**	**1.74**	**47**	*e*Pn	Pn	11 36 10.6	+1.9
KRUS				*e*Sn	Sn	11 36 34.2	+3.0
THL	**Klokotos Trika**	**1.99**	**108**	*e*PN	Pn	11 36 12.7	+0.6
THL				*e*SN	Sn	11 36 38.3	+0.9
EVR	**Evrytania**	**2.15**	**125**	*e*PN	Pn	11 36 14.8	+0.4
VLS	**Valsamata**	**2.16**	**158**	*e*PN	Pn	11 36 15.3	+0.8
VAY	**Valandovo**	**2.55**	**63**	*e*Pn	Pn	11 36 21.9	+2.1
VAY				*e*Sn	Sn	11 36 50.7	-0.6
VAY				*e*Lg		11 36 57.2	
	comp=E,83nm,1.6s						
VAY				*e*Lg		11 36 58.0	
	comp=N,60nm,1.1s						
VAY	**Valandovo**	**2.55**	**63**	*e*Pn	Pn	11 36 21.9	+2.1
VAY				*e*Sn	Sn	11 36 50.7	-0.6
VAY				*e*Lg		11 36 57.2	
	comp=E,83nm,1.6s						
VAY				*e*Lg		11 36 58.0	
	comp=N,60nm,1.1s						
VAY	**Valandovo**	**2.55**	**63**	*e*Pn	Pn	11 36 21.9	+2.1
VAY				*e*Sn	Sn	11 36 50.6	-0.6
PLG	**Polygyros**	**2.98**	**85**	*e*PN	Pn	11 36 25.5	-0.2

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*STR **07** 11:57:40.5±0.5, 4759N×757E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 07 11:57:40.8±0.2, 4760N×756E, h10km, Md2.2/1, Ml2.1/5, Error ellipse: s-maj=3.3km s-min=2.1km az=102.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.38**	**311**	Pg	Pg	11 57 48.3	0.0
MOF				Sg	Sg	11 57 54.0	+0.7
HINF	**Hinteralfeld**	**0.52**	**294**	*e*Pg	Pg	11 57 50.8	-0.2
HINF	**Hinteralfeld**	**0.52**	**294**	*e*Pn	Pg	11 57 52.6	+1.6
HINF				*e*Sg	Sg	11 57 57.8	0.0
HINF				*e*Sn	Sg	11 58 01.4	+3.6
	7.8nm,0.2s						
ECH	**Echery**	**0.67**	**336**	Pg	Pg	11 57 54.1	+0.4
ECH				Sg	Sg	11 58 02.7	+0.2
CDF	**Champ du Feu**	**0.83**	**347**	*e*Pg	Pg	11 57 56.6	-0.2
CDF	**Champ du Feu**	**0.83**	**347**	*e*Pn	Pn	11 57 57.0	-1.5
CDF				*e*Sg	Sg	11 58 06.9	-0.7
CDF				*e*Sn	Sn	11 58 09.0	-1.8
	3.4nm,0.3s						
HAU	**Haudompre**	**0.91**	**297**	*e*Pg	Pg	11 57 58.2	-0.1
HAU				*e*Sg	Sg	11 58 10.5	+0.3
	14nm,0.4s						
CABF	**La Chapelle**	**1.41**	**226**	*e*Pn	Pn	11 58 05.5	-1.1
CABF	**La Chapelle**	**1.41**	**226**	*e*Pg	Pg	11 58 07.4	-0.5
CABF				*e*Sg	Sg	11 58 24.8	-1.5
	2.0nm,0.3s						
SFTF	**Sexfontaines**	**1.80**	**290**	*e*Sg	Sg	11 58 38.1	-0.6
	1.9nm,0.2s						
LOR	**Lormes**	**2.53**	**264**	*e*Sg	Sg	11 58 59.6	-2.6
	1.6nm,0.2s						

*CSEM **07** 11:58:19.8±0.1, 1224N×4611E, h2km, mb4.6/4, Mw4.9, Error ellipse: s-maj=4.2km s-min=3.9km az=176.0*
*MOS **07** 11:58:20.7±0.9, 1201N×4643E, h10km, mb4.8/4, Error ellipse: s-maj=26.7km s-min=11.4km az=75.2*
*BJI **07** 11:58:21.0, 1244N×4615E, h10km, mB5.2, mb4.3*
*IDC **07** 11:58:21.2±1.2, 1201N×4638E, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/23, mbtmp3.9/14, ML3.3/1, MS4.1/19, Ms1 4.0/19, ms1mx3.9/30, Error ellipse: s-maj=26.6km s-min=22.6km az=3.0*
*ISCJB **07** 11:58:21.1±0.5, 1224N±005×4599E±003, h10km, mb4.2/20, MS4.1/19, Error ellipse: s-maj=7.6km s-min=4.5km az=32.2*
*GCMT **07** 11:58:23.1±0.5, 1215N×4629E, h22km±1km, MW4.9/59, Moment Tensor Solution. s21,c25; s59,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.20±.14; Mθθ-0.53±.12; Mφφ0.72±.13; Mrθ0.70±.21; Mθφ-2.70±.11; Mφr~0.54±.21; Best double couple: M=2.89200×10^16 NP1:φs188.00000°, δ76.00000°, λ7.00000°. NP2: φs96.00000°, δ83.00000°, λ166.00000°. Principal axes: T 3.0930, Plg15.0000°, Azm51.0000°; N -0.4010, Plg75.0000°, Azm251.0000°; P -2.6920, Plg5.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 11:58:23.1±0.9, 1227N×4599E, h10km, mb4.3/4 Error ellipse: s-maj=13.9km s-min=10.9km az=161.0*
*DHMR **07** 11:58:25.6±1.1, 1259N×4588E, h14km±7km, ML4.0*

ISC 07 11:58:22.7±0.5, 1225N±005×4596E±003, h10km, n63, σ1§19/65, mb4.2/20, MS4.1/19, 1C-4D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.08 299**		⇓*iP*	**Pb**	**11 58 42.2**	**-1.3**
ADEN				*i* S	**Sg**	**11 58 54.9**	**-2.7**
ADEN				AML	AML	11 58 59.9	
	comp=N,3μm,0.5s						
ADEN	**Aden**	**1.08 299**		*i* P	**Pb**	**11 58 42.2**	**-1.3**
ADEN				*i* S	**Sg**	**11 58 54.9**	**-2.7**
LBOS		**1.75 337**		⇓*eP*	**Pn**	**11 58 51.6**	**-1.5**
LBOS				*i* S	**Sn**	**11 59 11.2**	**-4.3**
BDHA	**Al Bayda'**	**1.75 348**		⇓*iP*	**Pn**	**11 58 51.3**	**-1.9**
BDHA				*e*P		11 58 51.5	
BDHA				AML	AML	11 59 05.8	
	comp=N,6μm,0.8s						
BDHA				*i* S	**Sn**	**11 59 10.5**	**-5.0**
BDHA	**Al Bayda'**	**1.75 348**		*e*P	**Pn**	**11 58 51.5**	**-1.7**
BDHA				*i* S	**Sn**	**11 59 10.5**	**-5.0**
TRBA	**At Turbah**	**2.04 299**		⇓*e*P	**Pn**	**11 58 57.1**	**0.0**
TRBA				AML	AML	11 59 14.9	
	comp=Z,1μm,0.6s						
TRBA				*i* S	**Sn**	**11 59 22.9**	**+0.3**
UDYN	**Al 'Udayn**	**2.58 312**		⇑*e*P	**Pn**	**11 59 05.0**	**+0.5**
UDYN				*i* S	**Sn**	**11 59 36.3**	**+0.4**
DHBB	**Dhamar BB**	**2.76 327**		*e*P	**Pn**	**11 59 07.9**	**+0.8**
DHBB				*i* S	**Sn**	**11 59 41.1**	**+0.7**
ATD	**Arta Tunnel**	**3.13 257**		Pn	**Pn**	**11 59 12.3**	**+0.3**
	comp=Z,11nm,0.3s,baz=259,slow=20,SNR=20						
ATD				Sn	**Sg**	**12 00 03.7**	**+0.6**
	baz=74,slow=20,SNR=2.2						
ATD	**Arta Tunnel**	**3.13 257**		Pn	**Pn**	**11 59 12.3**	**+0.3**
ATD				Sn	**Sg**	**12 00 03.7**	**+0.6**
HAJJ	**Hajjah**	**4.12 327**		*e*P	**Pn**	**11 59 26.7**	**+1.0**
HAJJ				*i* S	**Sn**	**12 00 14.1**	**+0.2**
HAJJ				AML	AML	12 01 05.3	
	comp=Z,856nm,0.8s						
HAJJ	**Hajjah**	**4.12 327**		*e*P	**Pn**	**11 59 26.7**	**+1.0**
HAJJ				*i* S	**Sn**	**12 00 14.1**	**+0.2**
DESE	**Dese**	**6.29 260**		*e*PN	**Pn**	**12 00 03.3**	**+7.8**
DESE				*e*S	**Sg**	**12 01 43.2**	**-1.5**
KMBO	**Kilima Mbogo**	**15.85 214**		Pn	**Pn**	**12 02 06.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=222,slow=24,SNR=5.5						
KMBO				LR	LR	12 07 55.4	
	comp=Z,713nm,19.5s,baz=91,slow=36						
KMBO	**Kilima Mbogo**	**15.85 214**		*e*P	**Pn**	**12 02 07.0**	**+1.1**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KMBO	**Kilima Mbogo**	**15.85 214**		*e*P	**Pn**	**12 02 07.0**	**+1.1**
	comp=Z,5.9nm,1.1s						
KMBO	**Kilima Mbogo**	**15.85 214**		*e*P	**Pn**	**12 02 07.0**	**+1.1**
	comp=Z,5.9nm,1.1s						
EIL	**Elat**	**20.12 331**		*e*P	**P**	**12 03 00.9**	**+4.1**
	comp=Z,107nm,0.9s						
EIL	**Elat**	**20.12 331**		*e*P	**P**	**12 03 00.9**	**+4.2**
	comp=Z,107nm,0.9s						
BHD	**Baghdad**	**20.97 356**		*ex*	x	12 03 10.0	
BHD				*ex*	x	12 07 06.5	
BHD				*ex*	x	12 10 13.0	
BHD				*ex*	x	12 11 37.0	
BHD				*ex*	x	12 13 19.0	
ASF	**Jabal al Asfar**	**21.50 339**		P	**P**	**12 03 15.8**	**+4.1**
	comp=Z,1.2nm,0.4s,mb3.7,baz=14,slow=6.1,SNR=4.7						
ASF				LR	LR	12 11 21.6	
	comp=Z,709nm,19.5s,MS4.1,baz=197,slow=36						
MMAI	**Mount Meron Ar**	**22.82 337**		P	**P**	**12 03 31.0**	**+5.4**
	comp=Z,1.9nm,0.4s,mb3.9,baz=295,slow=44,SNR=3.2						
MMAI				LR	LR	12 11 48.3	
	comp=Z,649nm,19.5s,MS4.1,baz=150,slow=35						
GNI	**Garni**	**27.81 358**		LR	LR	12 16 03.9	
	comp=Z,270nm,20.0s,MS3.8,baz=175,slow=38						
BRTR	**Keskin Array B**	**29.45 340**		P	**P**	**12 04 31.3**	**+4.7**
	comp=Z,0.7nm,0.7s,mb3.5,baz=151,slow=7.4,SNR=4.4						
BRTR				LR	LR	12 16 41.6	
	comp=Z,497nm,18.7s,MS4.2,baz=121,slow=37						
BR131	**Keskin Array S**	**29.45 340**		*e*P	**P**	**12 04 29.4**	**+2.8**
	comp=Z,6.4nm,1.4s,mb4.2						
BR131	**Keskin Array S**	**29.45 340**		*e*P	**P**	**12 04 29.4**	**+2.8**
	comp=Z,6.4nm,1.4s,mb4.2						
KOLN	**Koldanda**	**38.41 61**		*e*P	**P**	**12 05 43.6**	**-0.7**
	comp=Z,42nm,1.1s,mb5.1						
AAK	**Ala-Archa**	**39.10 34**		*e*P	**P**	**12 05 50.7**	**+0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
AAK	**Ala-Archa**	**39.10 34**		*e*P	**P**	**12 05 50.7**	**+0.6**
	comp=Z,8.7nm,1.2s,mb4.4						
AAK	**Ala-Archa**	**39.10 34**		*e*P	**P**	**12 05 50.7**	**+0.6**
	comp=Z,8.7nm,1.2s,mb4.4						
AKTK	**Aktyubinsk**	**39.34 12**		P	**P**	**12 05 53.8**	**+1.7**
AKTK	**Aktyubinsk**	**39.34 12**		P	**P**	**12 05 53.8**	**+1.7**
AKTO	**Aktyubinsk**	**39.34 12**		P	**P**	**12 05 53.8**	**+1.7**
	comp=Z,1.3nm,0.7s,mb3.8,baz=214,slow=11,SNR=3.1						
GKN	**Gorkha**	**39.36 61**		*e*P	**P**	**12 05 52.8**	**+0.6**
DMN	**Daman**	**39.66 61**		*e*P	**P**	**12 05 52.9**	**-1.8**
KKN	**Kakani**	**39.85 61**		*e*P	**P**	**12 05 55.4**	**-0.9**
	comp=Z,12nm,0.6s,mb4.8						
ORR	**Orenburg**	**39.90 9**		*e*P	**P**	**12 05 57.7**	**+0.9**
ORR				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.8						
ORR	**Orenburg**	**39.90 9**		*e*P	**P**	**12 05 57.7**	**+0.9**
	comp=Z,30nm,1.4s,mb4.8						
GUN	**Gumba**	**40.39 61**		*e*P	**P**	**12 06 00.1**	**-0.7**
KEST	**Kesra**	**40.45 312**		LR	LR	12 26 44.0	
	comp=Z,97nm,18.4s,MS3.7,baz=192,slow=42						
AKASG	**Malin Array Be**	**40.71 344**		P	**P**	**12 06 07.0**	**+3.6**
	comp=Z,0.2nm,0.2s,mb3.3,baz=153,slow=7.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**43.15 276**		P	**P**	**12 06 26.9**	**+3.5**
	comp=Z,1.4nm,0.9s,mb3.7,baz=102,slow=6.4,SNR=7.1						
BVAR	**Borovoye Array**	**45.12 21**		P	**P**	**12 06 39.1**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.8,baz=271,slow=32,SNR=6.1						
GERES	**GERESS Array B**	**45.22 330**		P	**P**	**12 06 42.3**	**+2.3**
	comp=Z,2.9nm,0.8s,mb4.1,baz=142,slow=6.6,SNR=13						
BOSA	**Boshof**	**45.29 206**		LR	LR	12 24 41.2	
	comp=Z,170nm,21.3s,MS4.0,baz=41,slow=35						
MK31	**Makanchi Array**	**46.03 34**		*e*P	**P**	**12 06 45.5**	**-0.9**
MKAR	**Makanchi Array**	**46.03 34**		P	**P**	**12 06 45.7**	**-0.7**
	comp=Z,2.5nm,1.0s,mb4.1,baz=214,slow=5.7,SNR=10						
MKAR				LR	LR	12 28 09.5	
	comp=Z,299nm,20.5s,MS4.2,baz=255,slow=39						
NVS	**Novosibirsk**	**51.54 27**		*e*P	**P**	**12 07 28.8**	**0.0**
ZAL	**Zalesovo**	**51.67 28**		P	**P**	**12 07 28.5**	**-1.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=266,slow=3.5,SNR=5.5						
ZAL				LR	LR	12 33 02.4	
	comp=Z,232nm,18.7s,MS4.2,baz=233,slow=40						
GTA	**Gaotai**	**54.55 50**		*e*P	**P**	**12 07 54.9**	**+4.0**
GTA				AP	pP	12 07 58.9	+4.8
GTA				XP	sP	12 08 01.7	+6.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.2						
NOA	**NORSAR Array B**	**54.89 340**		LR	LR	12 31 55.4	
	comp=Z,171nm,20.3s,MS4.1,baz=255,slow=36						
ARCES	**ARCESS Array B**	**58.70 352**		LR	LR	12 36 59.0	
	comp=Z,117nm,18.6s,MS4.0,baz=0.5,slow=39						
SONM	**Songino Array**	**61.27 42**		P	**P**	**12 08 38.2**	**+0.1**
	comp=Z,3.0nm,1.2s,mb4.3,baz=240,slow=7.5,SNR=7.8						
SONM				LR	LR	12 36 41.8	
	comp=Z,155nm,20.2s,MS4.2,baz=313,slow=38						
TIXI	**Tiksi**	**76.22 19**		*e*P	**P**	**12 10 09.5**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,175nm,19.0s,MS4.4						
TIXI	**Tiksi**	**76.22 19**		*e*P	**P**	**12 10 09.5**	**-1.8**
	comp=Z,175nm,19.0s						
KSRS	**Korea Array**	**76.33 54**		LR	LR	12 48 02.5	
	comp=Z,43nm,18.3s,MS3.8,baz=145,slow=39						
YAK	**Yakutsk**	**76.33 29**		*e*P	**P**	**12 10 16.2**	**+4.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.7s						
MAW	**Mawson**	**80.58 174**		LR	LR	12 41 24.1	
	comp=E,102nm,18.5s,MS4.2,baz=250,slow=32						
NWAO	**Narrogin (SRO)**	**81.38 126**		LR	LR	12 36 35.4	
	comp=E,87nm,20.6s,MS4.1,baz=258,slow=28						
FITZ	**Fitzroy Crossi**	**84.18 110**		LR	LR	12 40 21.9	
	comp=E,80nm,19.2s,MS4.1,baz=308,slow=30						
MJAR	**Matsushiro Arr**	**84.60 54**		P	**P**	**12 10 56.8**	**+0.5**
	comp=E,2.4nm,0.9s,mb4.3,baz=295,slow=4.5,SNR=5.1						
MJAR				LR	LR	12 52 02.0	
	comp=E,87nm,18.2s,MS4.2,baz=195,slow=38						
ASAJ	**Asahikawa**	**86.28 46**		LR	LR	12 50 32.1	
	comp=E,97nm,20.8s,MS4.2,baz=41,slow=36						
WRA	**Warramunga Arr**	**92.61 110**		P	**P**	**12 11 34.0**	**-0.5**
	comp=E,1.7nm,0.9s,mb4.5,baz=293,slow=4.0,SNR=5.3						
WRA				LR	LR	12 46 39.0	
	comp=E,54nm,20.1s,MS4.0,baz=180,slow=31						

*HLW **07** 12:28:37.8, 3000N×3682E, h14km, Mb2.9*
*ISCJB **07** 12:28:42.5±1.0, 2991N±005×3626E±006, h0km, Error ellipse: s-maj=8.9km s-min=6.5km az=89.7*
*GII **07** 12:28:43.4±0.0, 2992N×3623E, h0km, ML1.9/4*
*CSEM **07** 12:28:43.9±0.2, 2988N×3616E, h2km, ML1.9, Error ellipse: s-maj=5.0km s-min=2.1km az=131.0, Mining explosion.*

ISC 07 12:28:42.4±1.0, 2991N±006×3631E±006, h0km, n19, σ0§81/25, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.10 261**		Pg	**Pg**	**12 29 03.6**	**0.0**
HRFI	**Mount Harif**	**1.11 277**		Pg	**Pg**	**12 29 02.7**	**-0.9**
HRFI				Sg	**Sg**	**12 29 18.6**	**+0.6**
ZFRI	**Zfri**	**1.17 304**		Pg	**Pg**	**12 29 04.2**	**-0.6**
EIL	**Elat**	**1.20 259**		Pg	**Pg**	**12 29 05.2**	**-0.2**
EIL				Sg	**Sg**	**12 29 21.5**	**+0.6**
PRNI	**Paran**	**1.21 292**		Pg	**Pg**	**12 29 04.6**	**-1.0**
PRNI				Sg	**Sg**	**12 29 21.4**	**+0.1**
PRNI	**Paran**	**1.21 292**		Pg	**Pg**	**12 29 04.6**	**-1.0**
PRNI				Sg	**Sg**	**12 29 21.3**	**0.0**
KMTI	**Karmit**	**1.38 279**		Pn	**Pn**	**12 29 07.7**	**-1.3**
RMNI	**Mount Ramon**	**1.50 298**		Pn	**Pn**	**12 29 10.0**	**-0.6**
HBST	**Basata**	**1.53 244**		P	**Pn**	**12 29 11.0**	**0.0**
MZDA	**Masada**	**1.62 330**		Pn	**Pn**	**12 29 12.0**	**-0.1**
SVTA	**Shivta**	**1.78 305**		Pn	**Pn**	**12 29 14.4**	**0.0**
YTIR	**Yattir**	**1.78 325**		Pn	**Pn**	**12 29 14.4**	**+0.1**
DSI	**Dead Sea**	**1.84 335**		Pn	**Pn**	**12 29 15.8**	**+0.7**
DRGI	**Dragot**	**1.85 335**		Pn	**Pn**	**12 29 15.8**	**+0.4**
HDHB	**Dhahab**	**1.89 232**		P	**Pn**	**12 29 15.0**	**-0.9**
HDHB				S	**Sn**	**12 29 42.9**	**+2.5**
KZIT	**Kziot**	**1.93 302**		Pn	**Pn**	**12 29 16.9**	**+0.5**
KZIT				Sn	**Sn**	**12 29 41.6**	**+0.3**
HNKL	**Nakhl**	**2.02 271**		P	**Pn**	**12 29 17.6**	**-0.1**
HMDT	**Nahal Hemdat**	**2.43 344**		Pn	**Pn**	**12 29 25.2**	**+1.9**
AMAG	**Maghara**	**2.78 286**		P	**Pn**	**12 29 27.1**	**-1.0**

*ISCJB **07** 12:45:46.7±1.8, 3456N±010×367E±0.1, h0km, Error ellipse: s-maj=14.5km s-min=11.6km az=125.9*
*GII **07** 12:45:47.3±152.0, 3437N×3696E, h0km*
*GRAL **07** 12:45:48.5±1.9, 3436N×3678E, h0km±415km, MD2.7*
*CSEM **07** 12:45:48.0±0.4, 3473N×3619E, h1km, ML2.7, Error ellipse: s-maj=29.4km s-min=5.1km az=116.0, Mining explosion.*

ISC 07 12:45:46.8±1.9, 346N±01×368E±01, h0km, n9, σ0§95/17, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.44 221**		*e*Pg	**Pg**	**12 45 53.5**	**-1.8**
FKH				*e*Sg	**Sg**	**12 45 58.6**	**-2.3**
HWQ	**Hawqa**	**0.72 246**		*e*Pg	**Pg**	**12 46 00.6**	**-0.1**
HWQ				*e*Sg	**Sg**	**12 46 10.4**	**+0.4**
HWQ	**Hawqa**	**0.72 246**		*e*Pg	**Pg**	**12 46 00.6**	**-0.1**
HWQ				*e*Sg	**Sg**	**12 46 10.4**	**+0.3**
BHL	**Bhannes**	**1.12 234**		*e*Pg	**Pg**	**12 46 08.6**	**+0.2**
KSDI	**Kefar Szold**	**1.65 214**		Pn	**Pn**	**12 46 16.7**	**-0.3**
KSDI				Sn	**Sn**	**12 46 40.5**	**+1.7**
KSHT	**Keshet**	**1.77 206**		Pn	**Pn**	**12 46 18.3**	**-0.3**
KSHT				Sn	**Sn**	**12 46 41.8**	**0.0**
MMC7	**Mount Meron ar**	**1.91 217**		Pn	**Pn**	**12 46 21.0**	**+0.4**
MMC7				Sn	**Sn**	**12 46 47.2**	**+1.8**
MMA3	**Mount Meron ar**	**1.92 216**		Pn	**Pn**	**12 46 20.5**	**-0.2**
MMA3				Sn	**Sn**	**12 46 45.9**	**+0.4**
MMLI	**Mount Malkishu**	**2.40 208**		Pn	**Pn**	**12 46 27.5**	**+0.1**
MMLI				Sn	**Sn**	**12 46 57.0**	**-0.4**

*STR **07** 12:55:39.8±0.3, 4759N×762E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 12:55:40.2±0.2, 4759N×759E, h9km, Md2.2/1, Ml2.3/6, Error ellipse: s-maj=3.4km s-min=2.2km az=108.0*

ZUR 07 12:55:40.1, 4758N×760E, h4km±1km, ML1.5, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26 166**		⇓*iP*g	Pg	12 55 45.5	+0.4
	219nm,0.3s						
BALST				*e*Sg	Sg	12 55 49.3	+0.9
	219nm,0.3s						
BOURR	**Bourrignon**	**0.32 233**		*i* Pg	Pg	12 55 46.6	+0.4
	49nm,1.2s						
MOF	**Molkenrain**	**0.41 310**		Pg	Pg	12 55 48.0	-0.1
MOF				Sg	Sg	12 55 53.9	+0.4
HINF	**Hinteralfeld**	**0.56 295**		*e*Pg	Pg	12 55 50.5	-0.3
HINF				*e*Sg	Sg	12 55 57.7	-0.3
HINF				*e*Sn	Sg	12 56 01.3	+3.3
	22nm,0.2s						
LOMF	**Lomont**	**0.57 246**		Pg	Pg	12 55 51.2	+0.1
LOMF				Sg	Sg	12 55 59.5	+0.9
ECH	**Echery**	**0.70 335**		Pg	Pg	12 55 53.5	0.0
ECH				Sg	Sg	12 56 02.5	-0.1
CDF	**Champ du Feu**	**0.86 345**		*e*Pn	Pn	12 55 56.8	-2.1
CDF				*e*Sg	Sg	12 56 06.8	-0.9
CDF				*e*Sn	Sn	12 56 08.9	-2.9
	19nm,0.3s						
HAU	**Haudompre**	**0.94 297**		*e*Pn	Pn	12 55 57.8	-2.3
HAU				*e*Sg	Sg	12 56 10.6	+0.1
	21nm,0.3s						
GIMEL	**Gimel**	**1.39 221**		⇑*iP*g	Pg	12 56 06.8	0.0
GIMEL				*e*Sg	Sg	12 56 25.3	+0.5
CABF	**La Chapelle**	**1.42 227**		*e*Pg	Pg	12 56 07.0	-0.3
CABF				*e*Sg	Sg	12 56 24.4	-1.3
	4.6nm,0.3s						
SFTF	**Sexfontaines**	**1.83 291**		*e*Sg	Sg	12 56 37.7	-1.3
	5.0nm,0.3s						
LOR	**Lormes**	**2.56 264**		*e*Sg	Sg	12 56 59.8	-2.6
	2.2nm,0.2s						
SSF	**Saint Saulge**	**2.83 261**		*e*Sg	Sg	12 57 08.9	-2.3
	1.3nm,0.3s						

*ISCJB **07** 13:27:25.3±0.3, 3452N±003×2633E±004, h55km±6km, mb4.0/7, Error ellipse: s-maj=6.2km s-min=3.9km az=93.2*
*CSEM **07** 13:27:25.2±0.1, 3442N×2617E, h39km±1km, Mw2.9, Error ellipse: s-maj=3.0km s-min=1.0km az=47.0*
*NEIC **07** 13:27:26.6, 3460N×2619E, h37km±1km, MD3.7(ATH), After ATH.*
*ATH **07** 13:27:26.6, 3460N×2619E, h37km±1km, MD3.7/8*
*THE **07** 13:27:28.8, 3468N×2624E, h29km*
*IDC **07** 13:27:28.4±2.5, 3492N×2585E, h42km±20km, mb3.8/7, mb1 3.7/9, mb1mx3.5/20, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=30.2km s-min=13.7km az=162.0*
*GII **07** 13:27:35.6±1.0, 3416N×2677E, h25km±30km, ML3.4/4, Mw2.9/1*
*HLW **07** 13:27:37.8, 3378N×2655E, h41km, Mb3.7*

ISC 07 13:27:26.8±0.3, 3454N±003×2629E±004, h41km±7km, n56, σ1§49/69, mb4.0/7, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.58 354**		*e*Pg	**Pn**	**13 27 39.0**	**+0.3**
ZKR				*e*Sg	**Sn**	**13 27 48.2**	**+1.2**
XRY	**Khrisi**	**0.59 305**		⇓*i*PB	**Pn**	**13 27 37.2**	**-1.6**
XRY				*e*SB	**Sn**	**13 27 45.8**	**-1.6**
NPS	**Neapolis**	**0.91 323**		*e*PN	**Pn**	**13 27 42.5**	**-0.6**
NPS				*e*SN	**Sn**	**13 27 53.8**	**-1.3**
KARP	**Karpathos**	**1.24 35**		*e*PN	**Pn**	**13 27 49.2**	**+1.6**
SIVA	**Sivas**	**1.31 292**		*e*Pg	**Pn**	**13 27 49.6**	**+1.0**
IDI	**Anoyia**	**1.37 304**		P	**Pn**	**13 27 46.0**	**-3.4**
	0.3nm,0.3s,baz=127,slow=13,SNR=3.1						
IDI				S	**Sn**	**13 27 56.5**	**-10**
	15nm,0.3s,baz=119,slow=19,SNR=27						
IDI	**Anoyia**	**1.37 304**		P	**Pn**	**13 27 46.0**	**-3.4**
IDI				S	**Sn**	**13 27 56.5**	**-10**
GVD	**Gavdhos**	**1.84 280**		*e*Pb	**Pn**	**13 27 56.4**	**+0.5**
GVD	**Gavdhos**	**1.84 280**		*e*Pn	**Pn**	**13 27 56.5**	**+0.7**
VAM	**Vamos**	**1.92 297**		*e*PN	**Pn**	**13 27 57.6**	**+0.6**
SANT	**Santorini**	**1.95 340**		*e*Pb	**Pn**	**13 27 56.9**	**-0.5**
SANT				*e*Sb	**Sn**	**13 28 19.0**	**-1.7**
SANT	**Santorini**	**1.95 340**		*e*Pn	**Pn**	**13 27 57.0**	**-0.4**
SANT	**Santorini**	**1.95 340**		*e*Pn	**Pn**	**13 27 57.0**	**-0.4**
SANT				*e*Sb	**Sn**	**13 28 19.0**	**-1.7**
THR1	**Thera Island**	**1.95 340**		*e*Pb	**Pn**	**13 27 57.1**	**-0.2**
THR6	**Thira Island,**	**1.96 338**		*e*Pb	**Pn**	**13 27 57.5**	**+0.1**
THR3	**Thira Island,**	**2.00 339**		*e*Pb	**Pn**	**13 27 58.0**	**-0.1**
THR5	**Thira Island,**	**2.03 338**		*e*Pb	**Pn**	**13 27 58.2**	**-0.2**
ARG	**Arkhangelos**	**2.25 41**		*e*PN	**Pn**	**13 28 03.9**	**+2.4**
APE	**Apeiranthos**	**2.60 347**		*e*Pn	**Pn**	**13 28 06.2**	**-0.1**
APE				*e*Sn	**Sn**	**13 28 34.5**	**-2.1**
APE	**Apeiranthos**	**2.60 347**		*e*PN	**Pn**	**13 28 07.0**	**+0.7**
APE				*e*SN	**Sn**	**13 28 37.1**	**+0.4**
SMG	**Samos**	**3.20 8**		*e*PN	**Pn**	**13 28 15.6**	**+1.1**
HMAT	**Matruh**	**3.50 169**		P	**Pn**	**13 28 18.4**	**-0.3**
SWA1		**5.28 185**		P	**Pn**	**13 28 43.6**	**+0.5**
AGG	**Agios Georgios**	**5.49 326**		*e*Pn	**Pn**	**13 28 45.5**	**-0.4**
CSS	**Prodhromos**	**5.81 84**		*e*Pn	**Pn**	**13 28 52.1**	**+1.6**
KOT	**Kottamia**	**6.57 133**		P	**Pn**	**13 29 01.8**	**+1.0**
HHAG	**Hagoal**	**6.72 131**		P	**Pn**	**13 29 04.1**	**+1.3**
GLL	**Jalalah**	**6.75 136**		P	**Pn**	**13 29 04.0**	**+0.7**
SUZ		**7.26 128**		P	**Pn**	**13 29 11.6**	**+1.3**
ZAF		**7.47 133**		P	**Pn**	**13 29 13.6**	**+0.4**
HFRF	**Wahat Farafira**	**7.57 166**		P	**Pn**	**13 29 14.5**	**0.0**
SLTI	**Sal'it**	**7.67 105**		Sn	**Sn**	**13 30 37.9**	**-3.6**
MMA4	**Mount Meron ar**	**7.74 99**		Sn	**Sn**	**13 30 41.6**	**-1.5**
MMAI	**Mount Meron Ar**	**7.74 99**		P	**Pn**	**13 29 18.4**	**+1.5**
	1.6nm,0.3s,baz=275,slow=11,SNR=3.7						
MMAI				S	**Sn**	**13 30 43.2**	**-0.1**
	5.6nm,0.3s,baz=295,slow=22,SNR=6.7						
BRTR	**Keskin Array B**	**7.83 46**		P	**Pn**	**13 29 20.7**	**+2.6**
	0.1nm,0.3s,baz=228,slow=13,SNR=3.6						
BRTR				S	**Sn**	**13 30 47.4**	**+2.0**
	0.1nm,0.3s,baz=201,slow=28,SNR=4.6						
AMAZ	**Amatzia**	**7.84 110**		Sn	**Sn**	**13 30 42.4**	**-3.3**
MMLI	**Mount Malkishu**	**7.91 103**		Sn	**Sn**	**13 30 44.8**	**-2.7**
HRI	**Mount Hermon**	**7.96 97**		Sn	**Sn**	**13 30 47.5**	**-1.0**
HNKL	**Nakhl**	**7.97 123**		P	**Pn**	**13 29 21.8**	**+1.7**
YTIR	**Yattir**	**8.07 111**		Sn	**Sn**	**13 30 48.8**	**-2.4**
DSI	**Dead Sea**	**8.19 109**		Pn	**Pn**	**13 29 24.8**	**+1.8**
DSI				Sn	**Sn**	**13 30 51.3**	**-2.9**
MZDA	**Masada**	**8.28 110**		Sn	**Sn**	**13 30 53.1**	**-3.4**
PRNI	**Paran**	**8.47 117**		Sn	**Sn**	**13 30 57.0**	**-4.0**
HRFI	**Mount Harif**	**8.66 119**		Sn	**Sn**	**13 31 02.5**	**-3.3**
EIL	**Elat**	**8.80 121**		Pn	**Pn**	**13 29 33.8**	**+2.3**
EIL				Sn	**Sn**	**13 31 05.8**	**-3.5**
HDHB	**Dhahab**	**9.16 127**		P	**Pn**	**13 29 37.6**	**+1.2**
HDK1	**Dakhla**	**9.36 162**		P	**Pn**	**13 29 37.9**	**-1.2**
GTR	**Jabal at Tayr**	**9.73 157**		P	**Pn**	**13 29 43.7**	**-0.4**
AKASG	**Malin Array Be**	**16.30 7**		P	**Pn**	**13 31 10.1**	**-2.5**
	0.6nm,0.3s,baz=198,slow=11,SNR=

KNK	Knik Glacier	1.29	73	P	Pn	13 35 07.6	+0.1
SML	Sawmill	1.50	59	P	Pn	13 35 10.0	0.0
SVW2	Sparrevohn	2.21	273	P	Pn	13 35 19.4	+0.3
TRF	Thorofare Moun	2.43	8	P	Pn	13 35 22.9	+0.9
KTH	Kantishna Hill	2.51	1	P	Pn	13 35 23.5	+0.5
EYAK	Cordova Ski Ar	2.64	99	P	Pn	13 35 24.4	-0.3
MCK	McKinley	2.86	19	P	Pn	13 35 28.5	+0.8
KDAK	Kodiak Island	3.38	194	P	Pn	13 35 34.8	+0.2
	1.9nm,0.3s,baz=3.8,slow=15,SNR=37						
KDAK				S	Sn	13 36 13.6	-0.2
	8.1nm,0.3s,baz=265,slow=22,SNR=11						
KDAK	Kodiak Island	3.38	194	P	Pn	13 35 35.3	+0.7
MENT	Mentasta	3.93	58	eP	Pn	13 35 42.6	+0.5
COLA	College	4.10	19	P	Pn	13 35 44.9	+0.5
IL1	Eielson Array	4.18	25	P	Pn	13 35 45.9	+0.4
BCA3	Beaver Creek A	4.79	61	P	Pn	13 35 54.6	+0.8
IM3	Indian Mountai	5.10	347	P	Pn	13 35 56.6	-1.3
IMA2	Indian Mountai	5.17	348	eP	Pn	13 35 59.2	+0.3
EGAK	Eagle	5.85	46	P	Pn	13 36 08.2	+0.1
DAWY	Dawson	6.17	56	P	Pn	13 36 12.2	-0.2
COLD	Coldfoot	6.21	3	P	Pn	13 36 13.0	0.0
INK	Inuvik	10.41	38	P	Pn	13 37 10.8	+0.7
	0.2nm,0.3s,baz=252,slow=15,SNR=18						
INK				S	Sn	13 39 02.5	-2.2
	0.1nm,0.3s,baz=244,slow=15,SNR=2.3						
YKA	Yellowknife Ar	17.15	69	P	Pn	13 38 40.2	+2.9
	0.1nm,0.3s,baz=276,slow=9.9,SNR=6.4						
ULM	Lac du Bonnet	31.97	84	P	P	13 41 00.1	-0.5
	2.1nm,0.8s,mb3.9,baz=324,slow=8.7,SNR=3.2						
SONM	Songino Array	54.95	307	P	P	13 44 03.1	-1.7
	0.2nm,0.6s,mb3.3,baz=40,slow=7.6,SNR=2.2						

MAN 07 14:22:02.5, 594N×12435E, h33km, mb3.9, ML4.9, MS4.3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.62	76	⇑eP	Pn	14 22 19.2	+4.2
CTBH	Cotabato--PC H	1.28	356	⇑eP	Pn	14 22 22.2	-1.9
CTBH				i S	Sn	14 22 36.0	-4.0
BUKP	Musuan	2.05	20	eP	Pn	14 22 34.8	0.0
CGP	Cagayan de Oro	2.52	8	⇓iP	Pn	14 22 42.5	+1.4
CGP				i S	Sn	14 23 12.0	+1.3

MEX 07 14:27:32.0±0.3, 1641N×9831W, h20km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.18	96	i P	Pb	14 27 35.9	-0.9
PNIG				i S	Sb	14 27 39.1	-1.0
UTMO	Huajuapan	1.49	19	i P	Pn	14 27 54.8	-2.9
UTMO				i S	Sn	14 28 12.3	-4.2
OXX	Oaxaca	1.66	66	eP	Pn	14 27 57.0	-3.0
OXX				i S	Sn	14 28 17.0	-3.7
MEIG	Mezcala	1.96	320	eP	Pn	14 28 01.5	-2.5
MEIG				i S	Sn	14 28 24.5	-3.5

IDC 07 14:28:19.0±4.0, 1731S×17544E, h0km, mb3.7/2, mb1 4.2/2, mb1mx3.8/12, mbtmp3.7/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/23, Error ellipse: s-maj=240.5km s-min=36.2km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.77	76	LR	LR	14 35 02.2	
	comp=Z,450nm,19.6s,baz=247,slow=32						
HNR	Honiara	16.98	296	LR	LR	14 36 20.4	
	comp=Z,35nm,20.1s,baz=179,slow=28						
URZ	Urewera	20.92	176	LR	LR	14 40 30.8	
	comp=Z,142nm,18.4s,baz=146,slow=35						
RAR	Rarotonga	23.71	103	LR	LR	14 40 30.4	
	comp=Z,181nm,18.6s,baz=25,slow=31						
RPZ	Rata Peaks	26.58	187	LR	LR	14 42 11.6	
	comp=Z,150nm,20.6s,baz=286,slow=31						
CTA	Charters Tower	27.76	260	LR	LR	14 43 23.5	
	comp=Z,201nm,21.9s,baz=29,slow=33						
PMG	Port Moresby	28.58	282	LR	LR	14 44 41.8	
	comp=Z,153nm,18.6s,baz=105,slow=34						
PPT	Papeete	33.35	96	eS	S	14 39 58.0	-22
	53nm,25.5s						
PPT				eLQ		14 42 16.7	
	296nm,24.5s						
PPT				eLR	LR	14 43 37.7	
	423nm,25.0s,baz=265						
PPT	Papeete	33.35	96	LR	LR	14 44 40.4	
	comp=Z,179nm,21.7s,baz=266,slow=29						
TBI	Tubuai	33.40	106	eLQ		14 42 06.4	
	403nm,27.2s						
TBI				eLR	LR	14 43 39.0	
	141nm,26.5s						
STKA	Stephens Creek	33.85	238	LR	LR	14 47 20.3	
	comp=Z,170nm,19.2s,baz=28,slow=34						
WRA	Warramunga Arr	38.97	260	P	P	14 35 47.2	+0.4
	0.9nm,0.7s,baz=92,slow=8.7,SNR=11						
WRA				LR	LR	14 51 31.4	
	comp=Z,102nm,18.6s,baz=150,slow=36						
RKT	Rikitea	46.72	106	eLR	LR	14 49 44.6	
	116nm,29.8s						
VNDA	Vanda	60.61	183	LR	LR	14 58 41.3	
	comp=Z,94nm,19.4s,baz=322,slow=30						
MJAR	Matsushiro Arr	64.07	327	LR	LR	15 05 25.3	
	comp=Z,46nm,18.2s,baz=35,slow=35						
ASAJ	Asahikawa	68.11	335	LR	LR	15 07 18.3	
	comp=Z,69nm,18.6s,baz=168,slow=34						
KSRS	Korea Array	70.47	321	LR	LR	15 05 15.5	
	comp=Z,34nm,21.4s,baz=52,slow=31						
NVAR	Mina Array Bea	83.17	46	P	P	14 40 47.6	+0.7
	0.6nm,0.7s,baz=242,slow=5.7,SNR=4.4						
TXAR	Lajitas Array	90.70	60	LR	LR	15 16 27.4	
	comp=Z,70nm,19.2s,baz=150,slow=32						
GERES	GERESS Array B	145.22	339	PKPbc	PKPbc	14 47 57.1	-1.1
	1.4nm,0.9s,baz=100,slow=2.2,SNR=3.8						

*MOS **07** 14:29:32.2±1.2, 5575N×110.12E, h17km, mb4.3/1, Error ellipse: s-maj=15.2km s-min=9.2km az=71.5*

BYKL 07 14:29:33.1±0.3, 5570N×11016E, h8km±5km, 6C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.36	282	ePG	Pg	14 29 39.6	-0.5
NIZ				e		14 29 44.9	
NIZ				pmax	pmax		
	comp=Z,272nm,0.2s						
NIZ				smax			
	comp=N,1μm,0.2s						
NIZ	Nizh Angarsk	0.36	282	⇑iPg	Pg	14 29 39.6	-0.5
NIZ				e		14 29 44.9	
NIZ				i Sg	Sg	14 29 45.7	+0.9
NIZ				Pmax			
	comp=N,91nm,0.4s						
NIZ				Smax			
	comp=N,1μm,0.2s						
KMO	Kumora	0.62	72	⇑iPg	Pg	14 29 43.5	-1.5
KMO				i Sg	Sg	14 29 51.8	-1.3
KMO				Pmax			
	comp=N,113nm,0.3s						
KMO				Smax			
	comp=N,722nm,1.1s						
YOA	Uoyan	0.98	63	⇑iPG	Pg	14 29 50.8	-1.2
YOA				e		14 30 04.9	
YOA				pmax	pmax		
	comp=Z,130nm,0.2s						
YOA				smax			
	comp=N,1μm,0.3s						
YOA	Uoyan	0.98	63	ePg	Pg	14 29 50.9	-1.1
YOA				eSg	Sg	14 30 05.3	+0.6
YOA				Pmax			
	comp=N,169nm,0.2s						
YOA				Smax			
	comp=N,662nm,0.4s						
YLYR	Ulyunkhan	1.00	145	⇑iPG	Pg	14 29 51.0	-1.4
YLYR				e		14 30 04.1	
YLYR				pmax	pmax		
	comp=Z,127nm,0.1s						
YLYR				smax			
	comp=E,575nm,0.3s						
YLYR	Ulyunkhan	1.00	145	⇑iPg	Pg	14 29 51.0	-1.4
YLYR				i Sg	Sg	14 30 04.8	-0.7
YLYR				Pmax			
	comp=E,122nm,0.1s						
YLYR				Smax			
	comp=E,565nm,0.3s						
SVKR	Severomuysk	1.96	76	ePN	Pn	14 30 06.4	-0.2
SVKR				e		14 30 08.8	
SVKR				e		14 30 35.3	
SVKR				pmax	pmax		
	comp=Z,170nm,0.3s						
SVKR				smax			
	comp=N,2μm,0.7s						
SVKR	Severomuysk	1.96	76	ePn	Pn	14 30 06.6	0.0
SVKR				ePg	Pg	14 30 09.1	-1.6
SVKR				eSg	Sg	14 30 35.8	-0.3
SVKR				Pmax			
	comp=N,193nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.5s						
SYVR	Suvo	2.05	183	ePN	Pn	14 30 09.7	+1.9
SYVR				e		14 30 38.4	
SYVR				pmax	pmax		
	comp=Z,106nm,0.4s						
SYVR				smax			
	comp=E,916nm,0.7s						
SYVR	Suvo	2.05	183	⇑iPg	Pg	14 30 09.7	-2.7
SYVR				i Sg	Sg	14 30 38.3	-0.6
SYVR				Pmax			
	comp=E,142nm,0.8s						
SYVR				Smax			
	comp=E,1μm,0.9s						
OGRR	Ongureny	2.54	217	ePN	Pn	14 30 15.7	+1.1
OGRR				e		14 30 19.6	
OGRR				e		14 30 51.8	
OGRR				pmax	pmax		
	comp=Z,25nm,0.3s						
OGRR				smax			
	comp=E,151nm,0.3s						
OGRR	Ongureny	2.54	217	ePn	Pn	14 30 16.0	+1.4
OGRR				ePg	Pg	14 30 18.9	-2.9
OGRR				eSn	Sn	14 30 48.4	+2.6
OGRR				eSg	Sg	14 30 52.4	-2.4
OGRR				Pmax			
	comp=E,25nm,0.3s						
OGRR				Smax			
	comp=E,151nm,0.2s						
MXMB	Maximikha	2.58	199	ePn	Pn	14 30 17.2	+2.1
MXMB				ePg	Pg	14 30 18.9	-3.6
MXMB				eSg	Sg	14 30 53.4	-2.5
MXMB				Pmax			
	comp=E,26nm,0.4s						
MXMB				Smax			
	comp=E,360nm,0.6s						
BOD	Bodaibo	3.00	43	ePn	Pn	14 30 21.3	+0.4
BOD				ePg	Pg	14 30 26.4	-4.2
BOD				eSn	Sn	14 30 55.7	-1.3
BOD				eSg	Sg	14 31 05.2	-4.2
BOD				Pmax			
	comp=E,18nm,0.3s						
BOD				Smax			
	comp=E,101nm,0.3s						
NLYR	Nelyaty	3.21	73	eSg	Sg	14 31 12.9	-3.1
TRG	Tyrgan	3.70	219	ePn	Pn	14 30 32.0	+1.5
TRG				e		14 30 34.4	
TRG				eSn	Sn	14 31 15.0	+0.7
TRG				eSg	Sg	14 31 27.8	-4.1
TRG				max			
	comp=E,32nm,0.5s						
TRG				Smax			
	comp=E,83nm,0.4s						
TRTB	Turuntaevo	3.78	204	ePn	Pn	14 30 32.7	+1.0
TRTB				e		14 30 45.1	
TRTB				e		14 31 18.7	
TRTB				eSg	Sg	14 31 29.4	-5.2
TRTB				max			
	comp=E,18nm,0.5s						
TRTB				Smax			
	comp=E,55nm,1.2s						
FFNB	Fofonovo	4.17	210	eSg	Sg	14 31 40.3	-6.9
FFNB				Smax			
	comp=E,161nm,0.6s						
STDB	Stepnoy Dvoret	4.19	214	eSg	Sg	14 31 43.2	-4.4
STDB				Smax			
	comp=E,261nm,0.7s						
CIT	Chita	4.20	150	ePN	Pn	14 30 37.2	-0.2
CIT				e		14 30 48.0	
CIT				e		14 31 42.5	
CIT				pmax	pmax		
	comp=Z,54nm,1.0s						
CIT				smax			
	comp=N,88nm,0.9s						
CIT	Chita	4.20	150	ePn	Pn	14 30 37.2	-0.2
CIT				ePg	Pg	14 30 48.1	-5.4
CIT				eSg	Sg	14 31 43.2	-4.7
CIT				Pmax			
	comp=N,23nm,0.8s						
CIT				Smax			
	comp=N,90nm,1.0s						
KAB	Kabansk	4.20	211	e	Pn	14 31 17.3	+40
KAB				eSg	Sg	14 31 44.1	-4.0
KAB				Smax			
	comp=N,219nm,0.8s						
HRMR	Khuramsha	4.50	206	ePn	Pn	14 30 44.0	+2.4
HRMR				eSg	Sg	14 31 51.0	-6.7
HRMR				max			
	comp=N,28nm,0.5s						
HRMR				Smax			
	comp=N,142nm,0.8s						
CRS	Chara	4.67	72	ePN	Pn	14 30 44.6	+0.7
CRS				e		14 30 58.1	
CRS				e		14 31 58.1	
CRS				pmax	pmax		
	comp=Z,30nm,1.2s						
CRS				smax			
	comp=E,67nm,1.5s						
CRS	Chara	4.67	72	ePn	Pn	14 30 44.7	+0.8
CRS				ePg	Pg	14 30 58.0	-4.6
CRS				eSg	Sg	14 31 58.2	-5.0
CRS				Pmax			
	comp=E,30nm,1.1s						
CRS				Smax			
	comp=E,68nm,2.0s						
IRK	Irkutsk	4.91	228	eSn	Sn	14 31 44.9	+0.8
IRK				eSg	Sg	14 32 07.3	-3.3
IRK				Smax			
	comp=E,206nm,0.5s						
LSTR	Listvyanka	4.97	222	ePn	Pn	14 30 48.8	+0.8
LSTR				eSn	Sn	14 31 46.1	+0.4
LSTR				eSg	Sg	14 32 05.8	-6.9
LSTR				max			
	comp=E,10.0nm,1.0s						
LSTR				Smax			
	comp=E,48nm,0.5s						
TLY	Talaya	5.58	227	ePN	Pn	14 30 54.4	-2.0
TLY				e		14 31 11.4	
TLY				eS	Sn	14 31 58.6	-2.2
TLY				e		14 32 23.6	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TLY				smax			
	comp=E,40nm,0.9s						
TLY	Talaya	5.58	227	ePn	Pn	14 30 56.3	-0.1
TLY				eSn	Sn	14 31 59.3	-1.5
TLY				eSg	Sg	14 32 24.4	-8.0
TLY				max			
	comp=E,9.0nm,0.9s						
TLY				Smax			
	comp=E,40nm,1.0s						
TUP	Tupik	5.77	99	ePN	Pn	14 30 59.0	0.0
TUP				e		14 31 16.2	
TUP				eS	Sn	14 32 03.2	-2.2
TUP				e		14 32 30.2	
TUP				pmax	pmax		
	comp=Z,12nm,0.7s						
TUP				smax			
	comp=N,72nm,0.9s						
TUP	Tupik	5.77	99	ePn	Pn	14 30 59.6	+0.6
TUP				ePg	Pg	14 31 16.2	-7.5
TUP				eSg	Sg	14 32 32.2	-6.2
TUP				Pmax			
	comp=N,4.0nm,0.7s						
TUP				Smax			
	comp=N,90nm,3.0s						
ARS	Arshan	5.94	234	ePN	Pn	14 31 01.5	+0.1
ARS				eS	Sn	14 32 08.8	-0.8
ARS	Arshan	5.94	234	ePn	Pn	14 31 01.7	+0.3
ARS				eSn	Sn	14 32 08.5	-1.1
ARS				eSg	Sg	14 32 39.7	-4.2
ARS				max			
	comp=N,19nm,0.3s						
ARS				Smax			
	comp=N,161nm,0.8s						
KPC	Khapcheranga	6.16	166	ePN	Pn	14 31 04.4	+0.1
KPC				e		14 31 24.1	
KPC				e		14 32 45.5	
KPC				pmax	pmax		
	comp=Z,27nm,0.4s						
KPC				smax			
	comp=E,47nm,1.0s						
KPC	Khapcheranga	6.16	166	ePn	Pn	14 31 04.3	0.0
KPC				ePg	Pg	14 31 22.6	-8.4
KPC				eSg	Sg	14 32 42.2	-8.5
KPC				Pmax			
	comp=E,17nm,2.0s						
KPC				Smax			
	comp=E,47nm,1.0s						
ZAK	Zakamensk	6.75	221	ePN	Pn	14 31 14.2	+1.8
ZAK				e		14 31 35.0	
ZAK				e		14 33 02.3	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZAK				smax			
	comp=N,51nm,1.5s						
ZAK	Zakamensk	6.75	221	eSg	Sg	14 33 02.7	-7.0
ZAK				Smax			
	comp=N,51nm,1.7s						
MOY	Mondy	6.78	237	ePN	Pn	14 31 14.0	+1.2
MOY				e		14 31 33.6	
MOY				e		14 33 00.4	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MOY				smax			
	comp=N,54nm,1.8s						
MOY	Mondy	6.78	237	ePn	Pn	14 31 14.6	+1.8
MOY				eSn	Sn	14 32 29.1	-1.1
MOY				eSg	Sg	14 33 03.9	-6.8
MOY				max			
	comp=N,32nm,1.1s						
MOY				Smax			
	comp=N,54nm,1.5s						
ORL	Orlik	6.86	247	ePN	Pn	14 31 15.5	+1.6
ORL				eS	Sn	14 33 05.3	+33
ORL				smax			
	comp=N,55nm,1.3s						
ORL	Orlik	6.86	247	ePn	Pn	14 31 13.2	-0.7
ORL				eSn	Sn	14 32 31.0	-1.2
ORL				eSg	Sg	14 33 03.8	-9.4
ORL				max			
	comp=N,11nm,0.9s						
ORL				Smax			
	comp=N,54nm,0.9s						
TDJR	Todzha	8.91	254	ePn	Pn	14 31 42.5	+0.5
TDJR				eSg	Sn	14 34 05.2	+43

*NEIC **07** 14:31:33.4, 3774S×17637E, h203km, MG4.0(WEL), After WEL.*

WEL 07 14:31:33.7±0.3, 3773S×17635E, h200km±3km, ML3.9/15, 4C-2D, Error ellipse: s-maj=1.8km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.07	267	P	Pn	14 32 00.4	+0.6
TGRZ	Tauranga	0.07	267	PN	Pn	14 32 00.4	+0.5
URZ	Urewera	0.80	132	P	Pn	14 32 02.2	0.0
URZ	Urewera	0.80	132	⇑PN	Pn	14 32 02.2	0.0
URZ				SN	Sn	14 32 24.2	-0.1
KUZ	Kuaotunu	1.10	332	P	Pn	14 32 03.7	-0.4
KUZ	Kuaotunu	1.10	332	⇓PN	Pn	14 32 03.7	-0.4
MWZ	Matawai	1.11	124	P	Pn	14 32 04.2	0.0
MWZ				S	Sn	14 32 27.7	-0.1
MWZ	Matawai	1.11	124	⇑PN	Pn	14 32 04.2	0.0
MWZ				SN	Sn	14 32 27.7	-0.1
HIZ	Hauiti	1.42	236	P	Pn	14 32 06.8	+0.1
HIZ	Hauiti	1.42	236	⇓PN	Pn	14 32 06.8	+0.1
BKZ	Black Stump Fm	1.44	176	P	Pn	14 32 06.8	-0.1
BKZ	Black Stump Fm	1.44	176	⇑PN	Pn	14 32 06.8	0.0
BKZ				SN	Sn	14 32 31.7	-0.9
WTVZ	West Tongariro	1.51	203	P	Pn	14 32 07.6	+0.1
WTVZ	West Tongariro	1.51	203	PN	Pn	14 32 07.6	+0.2
TWVZ	Taurewa	1.52	208	P	Pn	14 32 07.7	+0.1
TWVZ	Taurewa	1.52	208	PN	Pn	14 32 07.7	+0.2
OTVZ	Oturere	1.53	200	PN	Pn	14 32 07.8	+0.1
PUZ	Puketiti	1.54	104	P	Pn	14 32 07.7	-0.1
PUZ	Puketiti	1.54	104	PN	Pn	14 32 07.7	-0.1
MXZ	Matakaoa Point	1.56	85	P	Pn	14 32 07.9	0.0
MXZ				S	Sn	14 32 34.4	-0.1
MXZ	Matakaoa Point	1.56	85	PN	Pn	14 32 07.9	0.0
MXZ				SN	Sn	14 32 34.4	-0.1
NGZ	Ngauruhoe	1.56	202	PN	Pn	14 32 08.4	+0.5
WPVZ	Whakapapa	1.61	203	P	Pn	14 32 08.6	+0.3
WPVZ	Whakapapa	1.61	203	PN	Pn	14 32 08.6	+0.3
TUVZ	Tukino	1.64	199	P	Pn	14 32 08.8	+0.2
TUVZ	Tukino	1.64	199	PN	Pn	14 32 08.8	+0.2
FWVZ	Far West T-bar	1.65	202	P	Pn	14 32 09.2	+0.5
FWVZ	Far West T-bar	1.65	202	PN	Pn	14 32 09.2	+0.4
KNZ	Kokohu	1.66	142	⇑PN	Pn	14 32 09.3	+0.5
TRVZ	Turoa	1.69	202	PN	Pn	14 32 09.6	+0.5
WNVZ	Wahianoa	1.71	200	P	Pn	14 32 09.2	-0.1
WNVZ	Wahianoa	1.71	200	PN	Pn	14 32 09.2	0.0
MOVZ	Moawhango	1.74	195	PN	Pn	14 32 09.1	-0.5
PKVZ	Pokaka	1.75	207	PN	Pn	14 32 09.7	0.0
WAZ	Wanganui	2.29	207	eP	Pn	14 32 14.8	-0.4
WAZ	Wanganui	2.29	207	PN	Pn	14 32 14.8	-0.4
PXZ	Pawanui	2.34	170	PN	Pn	14 32 15.1	-0.6
TSZ	Takapari Road	2.35	187	P	Pn	14 32 15.0	-0.9
TSZ	Takapari Road	2.35	187	PN	Pn	14 32 15.0	-0.9
MRZ	Mangatainoka R	2.99	191	P	Pn	14 32 21.1	-2.1
MRZ	Mangatainoka R	2.99	191	PN	Pn	14 32 21.1	-2.1
KIW	Kapiti Island	3.33	199	P	Pn	14 32 24.7	-2.5
KIW	Kapiti Island	3.33	199	PN	Pn	14 32 24.7	-2.4
MTW	Mount Morrison	3.49	191	P	Pn	14 32 26.5	-2.7
MTW	Mount Morrison	3.49	191	PN	Pn	14 32 26.5	-2.6
CAW	Cannon Point	3.52	196	P	Pn	14 32 27.2	-2.3
CAW	Cannon Point	3.52	196	PN	Pn	14 32 27.2	-2.4
TRWZ	Traveller	3.70	188	PN	Pn	14 32 29.5	-2.3
PAWZ	Paruwai Farm	3.72	191	P	Pn	14 32 29.5	-2.5
PAWZ	Paruwai Farm	3.72	191	PN	Pn	14 32 29.5	-2.5
MRW	Makara Radio	3.73	200	P	Pn	14 32 29.3	-2.7
MRW	Makara Radio	3.73	200	PN	Pn	14 32 29.3	-2.7
MSWZ	Moikau Station	3.78	193	P	Pn	14 32 29.9	-2.8
MSWZ	Moikau Station	3.78	193	PN	Pn	14 32 29.9	-2.9
TCW	Tory Channel	3.83	204	P	Pn	14 32 30.4	-3.0
TCW	Tory Channel	3.83	204	PN	Pn	14 32 30.4	-2.9
TUWZ	Tuamarina	4.14	206	PN	Pn	14 32 33.9	-3.3
NNZ	Nelson	4.18	212	eP	Pn	14 32 34.4	-3.3
NNZ	Nelson	4.18	212	PN	Pn	14 32 34.4	-3.2
QRZ	Quartz Range	4.29	223	eP	Pn	14 32 35.7	-3.3
BSWZ	Blackbirch Sta	4.42	205	P	Pn	14 32 37.2	-3.5
BSWZ	Blackbirch Sta	4.42	205	PN	Pn	14 32 37.2	-3.4
THZ	Tophouse	4.83	212	P	Pn	14 32 42.0	-3.9
THZ	Tophouse	4.83	212	PN	Pn	14 32 42.0	-3.9
KHZ	Kahutara	5.16	204	eP	Pn	14 32 46.4	-3.7
KHZ	Kahutara	5.16	204	PN	Pn	14 32 46.4	-3.7
LTZ	Lake Taylor	5.94	210	eP	Pn	14 32 55.6	-4.5
MQZ	McQueen's Vall	6.60	204	eP	Pn	14 33 03.4	-5.3
MQZ	McQueen's Vall	6.60	204	PN	Pn	14 33 03.4	-5.3
ODZ	Otahua Downs	8.47	209	eP	Pn	14 33 28.5	-4.6

CASC 07 14:32:24.4±2.5, 1134N×8541W, h4km±5km, MD3.8, ML3.7, 6C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	Villa Maderas	0.14	300	⇑iP	Pg	14 32 28.7	+1.5
CONN	Concepcion	0.31	317	⇑iP	Pg	14 32 31.6	+1.2
SSNN	San Juan del S	0.44	263	⇑eP	Pg	14 32 31.5	-1.3
SSNN				eS	Sg	14 32 40.8	+2.3
RIN3	Volcan Rincon	0.55	177	eP	Pg	14 32 34.7	-0.2
APON	Apoyo	0.86	312	⇑eP	Pg	14 32 41.4	+0.4
APON				eS	Sg	14 32 55.0	+2.8
TICN	Ticuantepe	1.06	311	eP	Pg	14 32 44.8	0.0
TICN				eS	Sg	14 33 01.3	+2.7
BOAB	BOACO BROADBAN	1.13	347	eP	Pg	14 32 44.4	-1.7
BOAB				i		14 33 02.1	
	comp=N,1μm,0.1s						
MGAN	Managua	1.15	314	⇓iP	Pg	14 32 46.1	-0.3

MGAN				*e*S	Sg	14 33 01.4	0.0
XAVN	**Gruta Xavier**	**1.21**	**312**	*e*P	Pg	14 32 46.0	-1.5
XAVN				*e*S	Sg	14 33 05.0	+1.8
JCR	**Jicaral**	**1.51**	**169**	*e*P	Pn	14 32 52.0	-0.2
MOMJ	**Momotombo**	**1.54**	**314**	*e*P	Pn	14 32 51.7	-0.9
MOMJ				*e*S	Sn	14 33 13.5	+0.5
EPA	**Esparza**	**1.56**	**149**	*e*P	Pn	14 32 52.7	-0.2
CGA2	**Cerro Gallo 2**	**1.61**	**145**	*e*P	Pn	14 32 53.1	-0.4
CGA2				*e*S	Sn	14 33 15.6	+0.9
POA2	**Poas 2**	**1.62**	**135**	*e*P	Pn	14 32 53.7	0.0
CAO	**Cobano**	**1.65**	**170**	*e*P	Pn	14 32 54.2	0.0
PRS1	**Puriscal**	**1.72**	**141⇑**	*e*P	Pn	14 32 56.2	+1.1
LAJ	**Bijagual**	**1.94**	**139⇑**	*e*P	Pn	14 32 56.8	-1.2
LAJ				*e*S	Sn	14 33 21.8	-1.0
IRZ2	**Volcan Irazu 2**	**2.01**	**132**	*e*P	Pn	14 32 60.0	+0.9
OCM	**Ochomogo**	**2.02**	**135**	*e*P	Pn	14 32 57.3	-1.9
LCR2	**La Lucha 2**	**2.10**	**139⇓**	*e*P	Pn	14 33 00.8	+0.5
LCR2				*e*S	Sn	14 33 28.4	+1.5

*IDC **07** 14:59:23.8±5.0, 46.79N×155.48E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=139.2km s-min=30.2km az=179.0*
*ISCJB **07** 14:59:26.3±5.8, 47.41N±0.1×155.5E±0.3, h7km±38km, mb3.9/6, Error ellipse: s-maj=31.2km s-min=17.1km az=57.3*
*MOS **07** 14:59:30.9±1.9, 47.39N×155.38E, h46km, mb4.2/5, Error ellipse: s-maj=53.7km s-min=19.3km az=87.1*
ISC 07 14:59:32.7±4.1, 475N±02×1555E±02, h41km±30km, n13, σ1§14/14, mb3.9/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.26**	**8**	*e*PN	**Pn**	**15 00 24.0**	**+2.7**
SKR				*e*S	**Sn**	**15 00 58.5**	**-0.4**
PET	**Petropavlovsk**	**5.94**	**19**	*e*PN	**Pn**	**15 00 56.9**	**-1.3**
PET				pmax	pmax		
	comp=Z,26nm,1.0s						
ZAL	**Zalesovo**	**43.51**	**306**	P	**P**	**15 07 30.8**	**-1.3**
	comp=Z,1.0nm,0.3s,mb4.0,baz=200,slow=2.1,SNR=3.4						
ZAL	**Zalesovo**	**43.51**	**306**	P	**P**	**15 07 30.8**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**15 08 07.8**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.8,baz=71,slow=9.1,SNR=5.1						
MKAR	**Makanchi Array**	**48.03**	**298**	P	**P**	**15 08 07.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.40**	**38**	P	**P**	**15 08 18.8**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=296,slow=6.8,SNR=5.1						
YKA	**Yellowknife Ar**	**49.40**	**38**	P	**P**	**15 08 18.8**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**63.04**	**55**	P	**P**	**15 09 54.9**	**-0.8**
	comp=Z,0.6nm,0.9s,mb3.7,baz=289,slow=4.5,SNR=4.4						
FINES	**FINESS Array B**	**64.07**	**336**	P	**P**	**15 10 02.4**	**0.0**
	comp=Z,2.9nm,1.0s,mb4.3,baz=38,slow=9.0,SNR=6.8						
FINES	**FINESS Array B**	**64.07**	**336**	P	**P**	**15 10 02.4**	**0.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NOA	**NORSAR Array B**	**68.06**	**342**	P	**P**	**15 10 29.7**	**+1.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=312,slow=12,SNR=3.3						
NOA	**NORSAR Array B**	**68.06**	**342**	P	**P**	**15 10 29.7**	**+1.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*MOS **07** 15:01:16.1±1.1, 55.72N×110.12E, h15km, mb4.2/1, Error ellipse: s-maj=15.6km s-min=9.4km az=74.4*
BYKL 07 15:01:16.7±0.3, 5571N×11014E, h3km±5km, 6C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**281**	*e*PG	Pg	15 01 23.3	0.0
NIZ				*e*		15 01 28.5	
NIZ				pmax	pmax		
	comp=Z,215nm,0.2s						
NIZ				smax			
	comp=N,1μm,0.2s						
NIZ	**Nizh Angarsk**	**0.34**	**281⇑**	*i*Pg	Pg	15 01 23.2	-0.1
NIZ				*i* Sg	Sg	15 01 28.4	+0.6
NIZ				*e*		15 01 29.7	
NIZ				Pmax			
	comp=N,211nm,0.2s						
NIZ				max			
	comp=N,1μm,0.2s						
KMO	**Kumora**	**0.62**	**73⇑**	*i*Pg	Pg	15 01 27.1	-1.6
KMO				*i* Sg	Sg	15 01 35.4	-1.4
KMO				Pmax			
	comp=N,91nm,0.3s						
KMO				Smax			
	comp=N,611nm,1.0s						
YOA	**Uoyan**	**0.99**	**64⇓**	*i*PG	Pg	15 01 34.8	-0.8
YOA				*i*		15 01 48.6	
YOA				pmax	pmax		
	comp=Z,108nm,0.3s						
YOA				smax			
	comp=N,874nm,0.4s						
YOA	**Uoyan**	**0.99**	**64**	*e*Pg	Pg	15 01 34.8	-0.8
YOA				*e*Sg	Sg	15 01 48.2	-0.2
YOA				Pmax			
	comp=N,185nm,0.4s						
YOA				Smax			
	comp=N,873nm,0.6s						
YLYR	**Ulyunkhan**	**1.02**	**145⇑**	*i*PG	Pg	15 01 34.6	-1.7
YLYR				*e*		15 01 47.7	
YLYR				pmax	pmax		
	comp=Z,72nm,0.1s						
YLYR				smax			
	comp=N,568nm,0.2s						
YLYR	**Ulyunkhan**	**1.02**	**145⇑**	*i*Pg	Pg	15 01 34.6	-1.7
YLYR				*i* Sg	Sg	15 01 49.4	-0.1
YLYR				Pmax			
	comp=N,70nm,0.1s						
YLYR				Smax			
	comp=N,561nm,0.2s						
SVKR	**Severomuysk**	**1.97**	**77**	*e*PN	Pn	15 01 52.1	+1.2
SVKR				*e*		15 01 54.2	
SVKR				*e*S	Sn	15 02 14.5	-1.6
SVKR				*e*		15 02 19.2	
SVKR				pmax	pmax		
	comp=Z,147nm,0.3s						
SVKR				smax			
	comp=N,2μm,0.7s						
SVKR	**Severomuysk**	**1.97**	**77**	*e*Pg	Pg	15 01 52.3	-2.1
SVKR				*e*Sg	Sg	15 02 19.2	-0.7
SVKR				Pmax			
	comp=N,149nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.5s						
SYVR	**Suvo**	**2.06**	**182**	*e*PN	Pn	15 01 53.3	+1.1
SYVR	**Suvo**	**2.06**	**182**	*e*	Pn	15 01 52.3	+0.1
SYVR				⇑*i*Pg	Pg	15 01 53.3	-2.8
SYVR				*i* Sg	Sg	15 02 21.9	-0.9
SYVR				Pmax			
	comp=N,133nm,0.9s						
SYVR				Smax			
	comp=N,1μm,0.9s						
OGRR	**Ongureny**	**2.54**	**217**	*e*PN	Pn	15 01 59.6	+0.7
OGRR				*e*		15 02 03.3	
OGRR				*e*		15 02 35.9	
OGRR				pmax	pmax		
	comp=Z,22nm,0.2s						
OGRR				smax			
	comp=E,168nm,0.5s						
OGRR	**Ongureny**	**2.54**	**217⇑**	*i*Pn	Pn	15 01 59.5	+0.6
OGRR				*e*Pg	Pg	15 02 02.5	-3.0
OGRR				*e*Sn	Sn	15 02 32.1	+1.8
OGRR				*i* Sg	Sg	15 02 36.5	-1.9
OGRR				*e*		15 03 03.3	
OGRR				max			
	comp=E,22nm,0.3s						
OGRR				Smax			
	comp=E,169nm,0.3s						
MXMB	**Maximikha**	**2.58**	**199**	*e*Pn	Pn	15 02 01.1	+1.7
MXMB				*e*Pg	Pg	15 02 02.7	-3.5
MXMB				*e*Sg	Sg	15 02 37.6	-2.1
MXMB				Pmax			
	comp=E,47nm,0.4s						
MXMB				Smax			
	comp=E,442nm,0.8s						
BOD	**Bodaibo**	**3.00**	**44**	*e*Pn	Pn	15 02 05.4	+0.3
BOD				*e*Pg	Pg	15 02 10.2	-4.0
BOD				*e*Sn	Sn	15 02 42.6	+1.1
BOD				*e*Sg	Sg	15 02 49.1	-3.9
BOD				Pmax			
	comp=E,10.0nm,0.2s						
BOD				Smax			
	comp=E,94nm,0.4s						
NLYR	**Nelyaty**	**3.21**	**74**	*e*Pg	Pg	15 02 14.5	-3.8
NLYR				*e*Sg	Sg	15 02 56.4	-3.5
NLYR				*e*		15 03 03.7	
TRG	**Tyrgan**	**3.70**	**219**	*e*Pn	Pn	15 02 15.4	+0.7
TRG				*e*		15 02 17.8	
TRG				*e*Pg	Pg	15 02 23.1	-4.5
TRG				*e*Sn	Sn	15 03 00.3	+1.5
TRG				*e*Sg	Sg	15 03 12.3	-3.2
TRG				Pmax			
	comp=E,30nm,0.4s						
TRG				Smax			
	comp=E,108nm,0.3s						
TRTB	**Turuntaevo**	**3.79**	**204**	*e*Pn	Pn	15 02 16.4	+0.4
TRTB				*e*		15 02 18.6	
TRTB				*e*Pg	Pg	15 02 24.1	-5.2
TRTB				*e*		15 03 03.1	
TRTB				*e*Sg	Sg	15 03 13.7	-4.7
TRTB				Pmax			
	comp=E,13nm,0.5s						
TRTB				Smax			
	comp=E,54nm,0.5s						
FFNB	**Fofonovo**	**4.18**	**210**	*e*Pn	Pn	15 02 21.6	+0.3
FFNB				*e*Sg	Sg	15 03 24.1	-6.8
FFNB				Smax			
	comp=E,183nm,0.6s						
KAB	**Kabansk**	**4.21**	**211**	*e*Sg	Sg	15 03 28.6	-3.2
KAB				Smax			
	comp=E,226nm,0.4s						
CIT	**Chita**	**4.21**	**150**	*e*PN	Pn	15 02 21.0	-0.8
CIT				*e*		15 02 31.8	
CIT				*e*		15 03 26.3	
CIT				pmax	pmax		
	comp=Z,45nm,0.5s						
CIT				smax			
	comp=N,83nm,0.8s						
CIT	**Chita**	**4.21**	**150**	*e*Pg	Pg	15 02 31.6	-5.8
CIT				*e*Sg	Sg	15 03 27.0	-5.0
CIT				Pmax			
	comp=N,50nm,1.1s						
CIT				Smax			
	comp=N,83nm,1.9s						
HRMR	**Khuramsha**	**4.51**	**206**	*e*Pn	Pn	15 02 27.4	+1.6
HRMR				*e*Pg	Pg	15 02 37.3	-5.8
HRMR				*e*Sg	Sg	15 03 34.4	-7.1
HRMR				Pmax			
	comp=N,33nm,0.7s						
HRMR				Smax			
	comp=N,143nm,0.8s						
CRS	**Chara**	**4.68**	**72**	*e*PN	Pn	15 02 41.2	+13
CRS				*e*		15 03 40.5	
CRS				pmax	pmax		
	comp=Z,34nm,0.9s						
CRS				smax			
	comp=E,65nm,1.5s						
CRS	**Chara**	**4.68**	**72**	*e*	Pn	15 02 27.9	-0.3
CRS				*e*Pg	Pg	15 02 40.1	-6.3
CRS				*e*		15 02 41.9	
CRS				*e*		15 02 48.1	
CRS				*e*Sg	Sg	15 03 41.5	-5.6
CRS				max			
	comp=E,22nm,0.7s						
CRS				Smax			
	comp=E,65nm,1.9s						
IRK	**Irkutsk**	**4.91**	**227**	*e*Sn	Sn	15 03 28.6	0.0
IRK				*e*Sg	Sg	15 03 49.0	-5.2
IRK				Smax			
	comp=E,218nm,0.5s						
LSTR	**Listvyanka**	**4.97**	**221**	*e*Pn	Pn	15 02 32.9	+0.7
LSTR				*e*Sn	Sn	15 03 27.5	-2.7
LSTR				*e*Sg	Sg	15 03 49.4	-7.0
LSTR				max			
	comp=E,22nm,1.0s						
LSTR				Smax			
	comp=E,49nm,1.4s						
TLY	**Talaya**	**5.58**	**226**	*e*PN	Pn	15 02 39.0	-1.6
TLY				*e*		15 02 55.1	
TLY				*e*S	Sn	15 03 41.9	-3.4
TLY				*e*		15 04 06.4	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TLY				smax			
	comp=E,45nm,1.1s						
TLY	**Talaya**	**5.58**	**226**	*e*Pn	Pn	15 02 39.9	-0.7
TLY				*e*Sn	Sn	15 03 43.8	-1.5
TLY				*e*Sg	Sg	15 04 07.4	-8.6
TLY				max			
	comp=E,4.0nm,0.3s						
TLY				Smax			
	comp=E,44nm,1.3s						
TUP	**Tupik**	**5.79**	**99**	*e*PN	Pn	15 02 42.4	-1.0
TUP				*e*		15 02 59.8	
TUP				*e*S	Sn	15 03 47.7	-2.6
TUP				*e*		15 04 14.3	
TUP				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TUP				smax			
	comp=N,63nm,1.1s						
TUP	**Tupik**	**5.79**	**99**	*e*Pn	Pn	15 02 43.1	-0.3
TUP				*e*Pg	Pg	15 02 59.7	-7.8
TUP				*e*Sg	Sg	15 04 15.9	-6.6
TUP				Pmax			
	comp=N,6.0nm,0.9s						
TUP				Smax			
	comp=N,67nm,1.2s						
ARS	**Arshan**	**5.94**	**233**	*e*PN	Pn	15 02 45.3	-0.2
ARS				*e*S	Sn	15 03 52.4	-1.7
ARS	**Arshan**	**5.94**	**233**	*e*Pn	Pn	15 02 45.4	-0.1
ARS				*e*Sn	Sn	15 03 52.1	-2.0
ARS				*e*Sg	Sg	15 04 18.5	-9.0
ARS				max			
	comp=N,25nm,0.4s						
ARS				Smax			
	comp=N,164nm,0.7s						
KPC	**Khapcheranga**	**6.17**	**166**	*e*PN	Pn	15 02 48.0	-0.7
KPC				*e*		15 03 07.2	
KPC	**Khapcheranga**	**6.17**	**166**	*e*Pn	Pn	15 02 47.8	-0.9
KPC				*e*Pg	Pg	15 03 07.5	-7.4
KPC				*e*Sg	Sg	15 04 27.7	-7.1
KPC				Pmax			
	comp=N,11nm,1.5s						
KPC				Smax			
	comp=N,43nm,1.3s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*PN	Pn	15 02 57.6	+1.0
ZAK				*e*		15 03 18.8	
ZAK				*e*		15 04 45.9	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAK				smax			
	comp=N,34nm,1.3s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*Pn	Pn	15 02 57.9	+1.3
ZAK				*e*		15 03 01.1	
ZAK				*e*Sg	Sg	15 04 45.9	-7.5
ZAK				max			
	comp=N,5.0nm,0.7s						
ZAK				Smax			
	comp=N,34nm,1.8s						
MOY	**Mondy**	**6.77**	**237**	*e*PN	Pn	15 02 58.4	+1.4
MOY				*e*S	Sn	15 04 12.4	-2.2
MOY				*e*S	Sn	15 04 43.4	+29
MOY				smax			
	comp=N,47nm,1.0s						
MOY	**Mondy**	**6.77**	**237**	*e*Pn	Pn	15 02 58.4	+1.4
MOY				*e*Sn	Sn	15 04 14.5	-0.1
MOY				*e*Sg	Sg	15 04 47.8	-6.4
MOY				max			
	comp=N,28nm,1.0s						
MOY				Smax			
	comp=N,49nm,2.1s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	Pn	15 02 59.0	+1.0
ORL				*e*S	Sn	15 04 14.6	-1.9
ORL				*e*S	Sn	15 04 48.2	+32
ORL				smax			
	comp=N,52nm,1.5s						
ORL	**Orlik**	**6.85**	**247**	*e*Pn	Pn	15 02 59.1	+1.1
ORL				*e*Sn	Sn	15 04 15.0	-1.5
ORL				*e*Sg	Sg	15 04 46.9	-10
ORL				max			
	comp=N,7.0nm,0.8s						
ORL				Smax			
	comp=N,51nm,1.0s						
TDJR	**Todzha**	**8.90**	**254**	*e*	Pn	15 03 30.1	+4.0
TDJR				*e*		15 05 13.9	
TDJR				*e*Sg	Sn	15 05 52.8	+46

*ISCJB **07** 16:03:41.5±0.8, 470N±0.1×1555E±0.1, h10km, mb4.0/17, Error ellipse: s-maj=19.9km s-min=9.3km az=111.1*
*IDC **07** 16:03:42.0±1.2, 46.99N×155.72E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.9/26, mbtmp3.9/14, ML3.4/2, Error ellipse: s-maj=30.3km s-min=18.7km az=149.0*
*NEIC **07** 16:03:43.5±0.8, 4706N×15561E, h10km, mb4.4/5, Error ellipse: s-maj=19.7km s-min=10.2km az=143.0*
*MOS **07** 16:03:45.8±1.2, 4701N×15539E, h39km, mb4.6/4, Error ellipse: s-maj=16.4km s-min=13.2km az=97.4*
ISC 07 16:03:43.3±0.8, 471N±01×1556E±01, h10km, n34, σ1§04/35, mb4.0/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.65**	**5**	*e*PN	**Pn**	**16 04 35.5**	**-4.3**
KUR	**Kuril'sk**	**5.68**	**254**	*e*PN	**Pn**	**16 05 05.0**	**-2.7**
PET	**Petropavlovsk**	**6.29**	**17**	*e*PN	**Pn**	**16 05 13.1**	**-3.0**
PET	**Petropavlovsk**	**6.29**	**17**	*e*Pn	**Pn**	**16 05 13.0**	**-3.1**
PET				*e*Sn	**Sn**	**16 06 16.2**	**-12**
YSS	**Yuzh-Sakhalins**	**8.79**	**274**	PN	**Pn**	**16 05 49.3**	**-1.1**
ASAJ	**Asahikawa**	**9.59**	**257**	Pn	**Pn**	**16 06 01.2**	**-0.1**
	0.3nm,0.3s,baz=82,slow=19,SNR=2.7						
MJAR	**Matsushiro Arr**	**16.66**	**237**	Pn	**Pn**	**16 07 35.4**	**-1.4**
	0.3nm,0.3s,baz=29,slow=13,SNR=5.0						
MJAR	**Matsushiro Arr**	**16.66**	**237**	Pn	**Pn**	**16 07 35.4**	**-1.4**
BILL	**Bilibino**	**21.74**	**11**	*e*P	**P**	**16 08 34.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
BILL	**Bilibino**	**21.74**	**11**	*e*P	**P**	**16 08 34.4**	**-0.4**
	comp=Z,13nm,1.1s,mb4.3						
KSRS	**Korea Array**	**22.52**	**255**	P	**P**	**16 08 45.0**	**+1.8**
	comp=Z,1.4nm,0.6s,mb3.5,baz=59,slow=10,SNR=5.3						
INK	**Inuvik**	**40.47**	**33**	P	**P**	**16 11 22.2**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=289,slow=8.1,SNR=5.5						
INK	**Inuvik**	**40.47**	**33**	P	**P**	**16 11 22.2**	**+0.1**
ZAL	**Zalesovo**	**43.83**	**306**	P	**P**	**16 11 49.5**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.7,baz=343,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**16 12 25.6**	**+0.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=69,slow=8.3,SNR=7.4						
KURK	**Kurchatov**	**48.61**	**304**	*e*P	**P**	**16 12 26.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KURK	**Kurchatov**	**48.61**	**304**	*e*P	**P**	**16 12 26.9**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.5						
YKA	**Yellowknife Ar**	**49.65**	**38**	P	**P**	**16 12 35.6**	**+0.5**
	comp=Z,0.9nm,0.6s,mb4.0,baz=294,slow=7.1,SNR=6.5						
RES	**Resolute Bay**	**49.99**	**19**	*e*P	**P**	**16 12 38.4**	**+0.7**
	comp=Z,72nm,0.6s						
CHKZ	**Chkalovo**	**51.53**	**311**	*e*P	**P**	**16 12 49.0**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**51.53**	**311**	*e*P	**P**	**16 12 49.0**	**-0.3**
	comp=Z,3.9nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**16 12 53.4**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.2,baz=46,slow=7.3,SNR=12						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**16 12 53.1**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**16 12 53.1**	**+0.2**
	comp=Z,3.0nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**55.22**	**297**	P	**P**	**16 13 16.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**55.22**	**297**	P	**P**	**16 13 16.5**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**58.12**	**342**	P	**P**	**16 13 37.1**	**+0.1**
	comp=Z,4.3nm,0.9s,mb4.5,baz=24,slow=8.9,SNR=3.7						
ARCES	**ARCESS Array B**	**58.12**	**342**	P	**P**	**16 13 37.1**	**+0.1**
AKTK	**Aktyubinsk**	**59.78**	**313**	P	**P**	**16 13 50.2**	**+1.6**
AKTO	**Aktyubinsk**	**59.78**	**313**	P	**P**	**16 13 50.2**	**+1.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=64,slow=7.4,SNR=3.8						
PDAR	**Pinedale Array**	**63.17**	**55**	P	**P**	**16 14 10.8**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.4,baz=279,slow=2.9,SNR=3.5						
FINES	**FINESS Array B**	**64.48**	**336**	P	**P**	**16 14 20.3**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=46,slow=5.5,SNR=6.6						
NOA	**NORSAR Array B**	**68.47**	**342**	P	**P**	**16 14 44.7**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.1,baz=38,slow=4.5,SNR=3.3						
WRA	**Warramunga Arr**	**69.39**	**201**	P	**P**	**16 14 51.5**	**+0.1**
	comp=Z,0.8nm,0.9s,mb3.6,baz=24,slow=6.7,SNR=3.6						

*STR **07** 16:45:49.6±0.8, 4757N×759E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 16:45:49.9±0.2, 4759N×758E, h8km, Md1.9/3, Ml2.1/5, Error ellipse: s-maj=3.5km s-min=2.3km az=101.0*
ZUR 07 16:45:49.8, 4758N×760E, h5km±1km, ML1.1, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**165⇓**	*i*Pg	Pg	16 45 55.2	+0.4
	71nm,0.1s						
BALST				*e*Sg	Sg	16 45 59.2	+1.1
	71nm,0.1s						
BOURR	**Bourrignon**	**0.31**	**233⇑**	*i*Pg	Pg	16 45 56.3	+0.4
	36nm,0.6s						
SULZ	**Sulz-Cheisache**	**0.35**	**99⇑**	*i*Pg	Pg	16 45 56.8	+0.2
	28nm,0.6s						
SULZ				*i* Sg	Sg	16 46 01.7	+0.5
	28nm,0.6s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	16 45 57.7	-0.1
MOF				Sg	Sg	16 46 03.4	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	16 46 00.3	-0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	16 46 02.1	+1.6
HINF				*e*Sg	Sg	16 46 07.3	-0.5
HINF				*e*Sn	Sg	16 46 11.0	+3.2
	6.0nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	16 46 01.0	+0.2
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	16 46 01.8	-0.1
	80nm,0.2s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	16 46 03.6	+0.3
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	16 46 06.5	-2.0
CDF				*e*Sg	Sg	16 46 16.6	-0.8
CDF				*e*Sn	Sn	16 46 18.6	-2.8
	5.5nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	16 46 07.3	-0.6
HAU				*e*Sg	Sg	16 46 19.9	-0.3
	8.0nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	16 46 16.7	-0.3
CABF				*e*Sg	Sg	16 46 33.7	-1.7
	2.2nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	16 46 47.5	-1.2
	1.0nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Pn	Pn	16 46 29.9	-2.0
LOR				*e*Sg	Sg	16 47 09.3	-2.7
	1.2nm,0.2s						

*NIED **07** 16:59:00, 27.10N×126.60E, h8km, Mw3.7 Best double couple: M0:4.58000×10^14 NP1:φs:359.00000°, δ:76.00000°, λ:-148.00000°. NP2:φs:260.00000°, δ:59.00000°, λ:-17.00000°.*
JMA 07 16:59:30.1±0.2, 2706N×12660E, h12km±3km, M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.74**	**129**	P	Pg	16 59 44.3	-0.2
JAGN				S	Sg	16 59 54.0	-0.2
JKE	**Kume jima 2**	**0.75**	**167**	P	Pg	16 59 44.4	-0.2
JKE				S	Sg	16 59 54.5	+0.1
JIH	**Iheya**	**1.22**	**91**	P	Pn	16 59 52.2	-0.8
JIH				S	Sb	17 00 08.3	-0.5
NAH1	**Naha**	**1.30**	**

Error ellipse: s-maj=2.0km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.29**	**326**	P	Pg	17 13 04.5	+0.6
QRZ				S	Sg	17 13 08.2	+0.5
QRZ				S	Sg	17 13 08.6	+0.9
QRZ	**Quartz Range**	**0.29**	**326**	⇓PG	Pg	17 13 04.5	+0.6
QRZ				SG	Sg	17 13 08.2	+0.5
NNZ	**Nelson**	**0.51**	**108**	P	Pg	17 13 08.2	+0.1
NNZ				S	Sg	17 13 15.7	+1.0
NNZ	**Nelson**	**0.51**	**108**	⇓PG	Pg	17 13 08.2	+0.1
NNZ				SG	Sg	17 13 15.7	+1.0
THZ	**Tophouse**	**0.71**	**170**	P	Pg	17 13 11.6	-0.4
THZ	**Tophouse**	**0.71**	**170**	P*	Pb	17 13 11.6	-1.6
DUWZ	**D'Urville Isla**	**0.93**	**74**	P*	Pb	17 13 15.9	-1.1
TUWZ	**Tuamarina**	**0.98**	**112**	P*	Pb	17 13 16.4	-1.4
DSZ	**Denniston Nort**	**0.98**	**226**	P	Pg	17 13 17.1	-0.1
DSZ	**Denniston Nort**	**0.98**	**226**	P*	Pb	17 13 17.1	-0.8
BSWZ	**Blackbirch Sta**	**1.07**	**128**	P	Pg	17 13 19.0	0.0
BSWZ	**Blackbirch Sta**	**1.07**	**128**	P*	Pb	17 13 19.0	-0.4
TCW	**Tory Channel**	**1.17**	**98**	P	Pg	17 13 19.9	-0.9
CMWZ	**Cape Campbell**	**1.30**	**122**	P	Pn	17 13 24.2	+1.0
KHZ	**Kahutara**	**1.48**	**156**	P	Pn	17 13 26.8	+1.2
MRW	**Makara Radio**	**1.49**	**97**	P	Pn	17 13 26.4	+0.6
SNZO	**South Karori**	**1.50**	**100**	P	Pn	17 13 26.5	+0.5
WEL	**Wellington**	**1.54**	**99**	P	Pn	17 13 27.2	+0.6
BHW	**Baring Head**	**1.64**	**103**	P	Pn	17 13 28.6	+0.7
KIW	**Kapiti Island**	**1.65**	**84**	P	Pn	17 13 29.0	+1.0
LTZ	**Lake Taylor**	**1.75**	**191**	*eP*	Pn	17 13 30.0	+0.6
LTZ	**Lake Taylor**	**1.75**	**191**	PN	Pn	17 13 29.5	+0.1
CAW	**Cannon Point**	**1.76**	**92**	P	Pn	17 13 30.7	+1.2
MSWZ	**Moikau Station**	**1.92**	**101**	P	Pn	17 13 32.7	+0.9
NRZ	**Ngariki Road**	**1.95**	**28**	P	Pn	17 13 33.3	+1.2
MTW	**Mount Morrison**	**2.09**	**94**	P	Pn	17 13 35.5	+1.5
WAZ	**Wanganui**	**2.15**	**53**	*eP*	Pn	17 13 37.2	+2.3
MRZ	**Mangataitoka R**	**2.19**	**80**	*eP*	Pn	17 13 37.6	+2.2
VRZ	**Vera Road**	**2.48**	**39**	*eP*	Pn	17 13 40.7	+1.3
WVZ	**Waitaha Valley**	**2.50**	**216**	PN	Pn	17 13 39.3	-0.4
MQZ	**McQueen's Vall**	**2.64**	**181**	*eP*	Pn	17 13 41.2	-0.4
FWVZ	**Far West T-bar**	**2.81**	**51**	P	Pn	17 13 47.3	+3.4
MOVZ	**Moawhango**	**2.84**	**55**	P	Pn	17 13 46.6	+2.3
WPVZ	**Whakapapa**	**2.84**	**50**	P	Pn	17 13 47.3	+2.9
TWVZ	**Taurewa**	**2.87**	**47**	P	Pn	17 13 48.2	+3.4
WTVZ	**West Tongariro**	**2.92**	**49**	P	Pn	17 13 49.0	+3.5
RPZ	**Rata Peaks**	**2.93**	**205**	*eP*	Pn	17 13 45.4	-0.2
HIZ	**Hauiti**	**3.02**	**33**	*eP*	Pn	17 13 47.3	+0.4
FOZ	**Fox Glacier**	**3.37**	**221**	*eP*	Pn	17 13 49.7	-2.0
FOZ	**Fox Glacier**	**3.37**	**221**	PN	Pn	17 13 49.7	-1.9
LBZ	**Lake Benmore**	**3.82**	**209**	*eP*	Pn	17 13 57.1	-0.7
JCZ	**Jackson Bay**	**4.21**	**223**	*eP*	Pn	17 14 02.5	-0.7
JCZ	**Jackson Bay**	**4.21**	**223**	PN	Pn	17 14 02.5	-0.7
ODZ	**Otahua Downs**	**4.26**	**200**	*eP*	Pn	17 14 02.6	-1.4
ODZ	**Otahua Downs**	**4.26**	**200**	PN	Pn	17 14 02.6	-1.4
WKZ	**Wanaka**	**4.65**	**115**	*eP*	Pn	17 14 08.9	-0.3
MSZ	**Milford Sound**	**5.05**	**223**	P	Pn	17 14 14.3	-0.5
MSZ	**Milford Sound**	**5.05**	**223**	PN	Pn	17 14 14.3	-0.4
WCZ	**Waipu Caves**	**5.27**	**14**	*eP*	Pn	17 14 18.1	+0.4

*ATH **07** 17:16:16.0, 35.11N×2887E, h30km±7km, MD3.6/8*
*NEIC **07** 17:16:16.0, 35.11N×2887E, h30km, MD3.6(ATH), After ATH.*
*ISCJB **07** 17:16:16.2±0.3, 3502N±004×2891E±004, h80km±21km, Error ellipse: s-maj=7.3km s-min=4.7km az=23.3*
*CSEM **07** 17:16:16.5±0.2, 35.10N×2894E, h20km, MD3.6, Error ellipse: s-maj=4.2km s-min=2.3km az=141.0*
*HLW **07** 17:16:19.2, 3482N×2892E, h33km, Mb3.5*
*THE **07** 17:16:19.3, 3524N×2889E, h28km*

ISC 07 17:16:17.8±0.4, 3503N±004×2891E±004, h54km±42km, n38, σ0°73/47, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.35**	**332**	*e*PN	**Pn**	**17 16 39.6**	**-0.6**
ARG				*e*SN	**Sn**	**17 16 56.8**	**-0.3**
KARP	**Karpathos**	**1.52**	**291**	*e*PN	**Pn**	**17 16 42.9**	**+0.3**
KARP				*e*SN	**Sn**	**17 17 01.2**	**0.0**
FETY	**Fethiye**	**1.61**	**5**	PN	**Pn**	**17 16 43.7**	**-0.2**
FETY				SN	**Sn**	**17 17 03.6**	**0.0**
DALT	**Dalyan (Mudla)**	**1.75**	**353**	PN	**Pn**	**17 16 45.6**	**-0.1**
DAT	**Datca**	**2.01**	**328**	*e*PN	**Pn**	**17 16 49.7**	**+0.4**
YER	**Yerkesik**	**2.16**	**347**	*e*PN	**Pn**	**17 16 52.0**	**+0.7**
ZKR	**Zakros**	**2.21**	**273**	*e*Pn	**Pn**	**17 16 52.3**	**+0.3**
ZKR				*e*Sn	**Sn**	**17 17 18.3**	**+0.2**
MLSB	**Milas**	**2.44**	**338**	*e*PN	**Pn**	**17 16 55.1**	**0.0**
XRY	**Khrisi**	**2.64**	**268**	*e*PN	**Pn**	**17 16 58.5**	**+0.6**
SANT	**Santorini**	**3.11**	**297**	*e*Pn	**Pn**	**17 17 04.0**	**-0.3**
SANT				*e*Sn	**Sn**	**17 17 38.4**	**-1.9**
THR1	**Thera Island**	**3.11**	**297**	*e*Pn	**Pn**	**17 17 04.1**	**-0.2**
THR6	**Thira Island,**	**3.15**	**296**	*e*Pn	**Pn**	**17 17 04.9**	**0.0**
SMG	**Samos**	**3.15**	**329**	*e*PN	**Pn**	**17 17 04.4**	**-0.5**
SMG				*e*SN	**Sn**	**17 17 40.5**	**-0.8**
THR3	**Thira Island,**	**3.17**	**297**	*e*Pn	**Pn**	**17 17 04.9**	**-0.2**
THR5	**Thira Island,**	**3.21**	**297**	*e*Pn	**Pn**	**17 17 05.6**	**-0.1**
SIVA	**Sivas**	**3.36**	**271**	*e*Pn	**Pn**	**17 17 08.7**	**+0.9**
SIVA				*e*Sn	**Sn**	**17 17 47.4**	**+1.0**
APE	**Apeiranthos**	**3.41**	**308**	*e*Pn	**Pn**	**17 17 08.0**	**-0.4**
APE				*e*Sn	**Sn**	**17 17 45.1**	**-2.6**
CSS	**Prodhromos**	**3.63**	**90**	*e*Pn	**Pn**	**17 17 12.6**	**+1.1**
CSS				*e*Sn	**Sn**	**17 17 54.4**	**+1.3**
VAM	**Vamos**	**3.87**	**277**	*e*PN	**Pn**	**17 17 16.0**	**+1.3**
GVD	**Gavdhos**	**3.96**	**269**	*e*PN	**Pn**	**17 17 17.5**	**+1.5**
IKL	**Isikli**	**4.08**	**71**	*e*P	**Pn**	**17 17 17.8**	**+0.2**
KARN	**Karanos**	**4.10**	**277**	*e*Pn	**Pn**	**17 17 19.1**	**+1.2**
HMAT	**Matruh**	**4.21**	**202**	P	**Pn**	**17 17 18.8**	**-0.6**
SLUM		**4.69**	**222**	P	**Pn**	**17 17 25.8**	**-0.2**
VLI	**Veliai**	**5.13**	**291**	*e*PN	**Pn**	**17 17 32.3**	**+0.3**
HNAT	**Natroun**	**5.57**	**164**	P	**Pn**	**17 17 38.2**	**+0.2**
FYM	**Al Fayyum**	**5.62**	**161**	P	**Pn**	**17 17 38.4**	**-0.3**
AYT	**Al 'Ayyat**	**5.64**	**160**	P	**Pn**	**17 17 38.3**	**-0.6**
AMAG	**Maghara**	**5.67**	**139**	P	**Pn**	**17 17 38.3**	**-1.2**
HSAF	**As Saff**	**5.84**	**157**	P	**Pn**	**17 17 41.2**	**-0.5**
GLL	**Jalalah**	**5.93**	**156**	P	**Pn**	**17 17 42.4**	**-0.5**
ITM	**Ithomi**	**6.04**	**293**	*e*PN	**Pn**	**17 17 45.7**	**+1.2**
SUZ		**6.14**	**146**	P	**Pn**	**17 17 45.7**	**-0.2**
SWA1		**6.35**	**206**	P	**Pn**	**17 17 48.3**	**-0.4**
ZNM		**6.56**	**148**	P	**Pn**	**17 17 51.4**	**-0.2**
HNKL	**Nakhl**	**6.65**	**138**	P	**Pn**	**17 17 52.7**	**-0.1**
HFRF	**Wahat Farafira**	**7.87**	**184**	P	**Pn**	**17 18 09.0**	**-0.5**
HHRG	**Al Ghardaqah**	**8.75**	**152**	P	**Pn**	**17 18 21.5**	**-0.1**

*NEIC **07** 17:25:44.9, 1063N×8502W, h21km, MD4.2(CASC), ML3.7(UCR), After CASC.*
NEIC Felt at Bijagua, Guatuso and Tilaran.

CASC 07 17:25:45.0±2.0, 1058N×8500W, h6km±5km, MD3.6, ML3.3, 8C-7D, Fault plane solution: NP1:φ=75.00000°, δ=90.00000°, λ=15.00000°., Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIM1	**Limonal**	**0.28**	**296**	⇑*i*P	Pg	17 25 50.6	+0.2
LIM1				*i* S	Sg	17 25 54.7	+0.6
FORC	**Fortuna**	**0.34**	**108**	⇑*i*P	Pg	17 25 52.1	+0.5
FORC				*i* S	Sg	17 25 57.2	+1.0
JCR	**Jicaral**	**0.73**	**189**	⇓*e*P	Pg	17 25 59.2	+0.2
JCR				*e*S	Sg	17 26 10.5	+2.0
JCR	**Jicaral**	**0.73**	**189**	⇓*e*P	Pg	17 25 59.4	+0.3
JCR				⇓*e*P		17 25 59.4	
JCR				*e*S	Sg	17 26 10.3	+1.7
JCR				*e*S	Sg	17 26 10.3	+1.7
CGA2	**Cerro Gallo 2**	**0.77**	**137**	⇑*e*P	Pg	17 25 59.5	-0.3
CGA2	**Cerro Gallo 2**	**0.77**	**137**	⇑*e*P	Pg	17 25 59.5	-0.2
CGA2				*e*S	Sg	17 26 09.9	+0.2
VCR	**Vista de Mar**	**0.77**	**234**	⇓*e*P	Pg	17 25 59.9	+0.2
VCR	**Vista de Mar**	**0.77**	**234**	⇓*e*P	Pg	17 25 59.9	+0.2
VCR				⇓*e*P		17 25 59.9	
PRS1	**Puriscal**	**0.90**	**131**	⇑*e*P	Pg	17 26 02.6	+0.3
PRS1				*e*S	Sg	17 26 17.7	+3.8
PRS1	**Puriscal**	**0.90**	**131**	⇑*e*P	Pg	17 26 02.7	+0.4
MADN	**Villa Maderas**	**0.98**	**328**	*e*P	Pg	17 26 02.9	-0.8
MADN				*e*S	Sg	17 26 17.6	+1.1
LAJ	**Bijagual**	**1.12**	**129**	⇓*e*P	Pg	17 26 03.2	-3.2
LAJ				*e*S	Sg	17 26 16.4	-4.6
SJS	**Escuela Geolog**	**1.13**	**124**	*e*P	Pg	17 26 06.2	-0.4
CONN	**Concepcion**	**1.16**	**328**	*e*P	Pg	17 26 05.1	-2.1
CONN				*e*S	Sg	17 26 24.4	+2.2
LCR2	**La Lucha 2**	**1.28**	**130**	⇑*e*P	Pn	17 26 07.8	-1.7
QCR	**Quepos**	**1.41**	**144**	⇑*e*P	Pn	17 26 10.1	-1.1
QCR				*e*S	Sb	17 26 28.6	-1.3
BUS	**Buena Vista**	**1.59**	**130**	*e*P	Pn	17 26 13.1	-0.6
BUS				*e*S	Sn	17 26 38.2	+3.7
BUS	**Buena Vista**	**1.59**	**130**	*e*P	Pn	17 26 12.8	-0.8
BUS				*e*S	Sn	17 26 35.5	+1.0
APON	**Apoyo**	**1.69**	**322**	*e*P	Pn	17 26 15.2	+0.1
TICN	**Ticuantepe**	**1.89**	**320**	*e*P	Pn	17 26 18.6	+0.8
TICN				*e*S	Sn	17 26 42.6	+0.8
MOMJ	**Momotombo**	**2.36**	**320**	*e*P	Pn	17 26 24.7	+0.4
MOMJ				*i*		17 26 50.0	
	comp=Z,22nm,0.5s						

*ISCJB **07** 17:26:30.0±0.4, 4754N±002×757E±003, h12km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=88.6*
*VIE **07** 17:26:29.9±1.1, 4762N×755E, h8km, ML2.5/1, Error ellipse: s-maj=12.4km s-min=5.8km az=18.0 8 km SE of Sierentz*
*STR **07** 17:26:31.7±0.2, 4758N×762E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **07** 17:26:32.1, 4758N×760E, h5km±1km, ML1.7*
*LDG **07** 17:26:32.4±0.1, 4758N×756E, h10km, Md2.1/3, Ml2.4/13, Error ellipse: s-maj=1.4km s-min=1.1km az=148.0*

ISC 07 17:26:30.8±0.4, 4756N±002×760E±003, h18km±5km, n28, σ1§14/43, 3C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.23**	**163**	⇑*i*Pg	**Pg**	**17 26 34.4**	**-1.8**
	326nm,0.2s						
BOURR	**Bourrignon**	**0.30**	**237**	*i* Pg	**Pg**	**17 26 36.9**	**-0.4**
	98nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.35**	**95**	⇑*i*Pg	**Pg**	**17 26 37.5**	**-0.7**
	145nm,0.3s						
MOF	**Molkenrain**	**0.43**	**313**	Pg	**Pg**	**17 26 40.1**	**+0.5**
MOF				Sg	**Sg**	**17 26 45.8**	**+0.3**
LOMF	**Lomont**	**0.56**	**249**	Pg	**Pg**	**17 26 43.2**	**+1.3**
LOMF				Sg	**Sg**	**17 26 51.6**	**+2.1**
HINF	**Hinteralfeld**	**0.56**	**298**	*e*Pg	**Pg**	**17 26 42.4**	**+0.4**
HINF	**Hinteralfeld**	**0.56**	**298**	*e*Pn	**Pg**	**17 26 44.2**	**+2.2**
HINF				*e*Sg	**Sg**	**17 26 49.6**	**0.0**
HINF				*e*Sn	**Sg**	**17 26 53.3**	**+3.7**
	32nm,0.2s						
SLE	**Schleitheim**	**0.64**	**71**	⇓*i*Pg	**Pg**	**17 26 40.7**	**-2.7**
	272nm,0.2s						
ECH	**Echery**	**0.72**	**336**	Pg	**Pg**	**17 26 45.5**	**+0.6**
ECH				Sg	**Sg**	**17 26 54.5**	**0.0**
TRULL	**Truellikon**	**0.74**	**83**	*e*P	**Pb**	**17 26 44.3**	**-0.8**
	89nm,0.2s						
STEIN	**Stein am Rhein**	**0.87**	**82**	*e*P	**Pb**	**17 26 45.0**	**-2.3**
	33nm,0.4s						
CDF	**Champ du Feu**	**0.88**	**346**	*e*Pg	**Pg**	**17 26 48.5**	**+0.6**
CDF	**Champ du Feu**	**0.88**	**346**	*e*Pn	**Pn**	**17 26 48.9**	**+0.7**
CDF				*e*Sn	**Sn**	**17 27 00.8**	**+0.2**
	8.0nm,0.2s						
HASLI	**Hasliberg**	**0.89**	**154**	*e*P	**Pb**	**17 26 46.6**	**-1.0**
	54nm,0.6s						
WIMIS	**Wimmis**	**0.89**	**179**	*e*P	**Pb**	**17 26 49.2**	**+1.5**
	22nm,0.5s						
TORNY	**Torny**	**0.90**	**209**	⇓*i*P	**Pb**	**17 26 49.9**	**+2.1**
	116nm,0.2s						
HAU	**Haudompre**	**0.95**	**298**	*e*Pg	**Pg**	**17 26 49.7**	**+0.4**
HAU				*e*Sg	**Sg**	**17 27 02.5**	**+0.7**
	37nm,0.3s						
CABF	**La Chapelle**	**1.40**	**228**	*e*Pg	**Pg**	**17 26 59.0**	**+1.2**
CABF				*e*Sg	**Sg**	**17 27 16.4**	**+0.4**
	4.7nm,0.2s						
DAVA	**Damuels**	**1.57**	**99**	⇓*i*Pg	**Pg**	**17 27 00.5**	**-0.6**
DAVA				⇑*i*Sg	**Sg**	**17 27 23.5**	**+1.8**
	comp=Z,2.7nm,0.1s						
SFTF	**Sexfontaines**	**1.84**	**292**	*e*Sg	**Sg**	**17 27 29.7**	**-0.3**
	7.1nm,0.2s						
MEZF	**Maizieres J'vi**	**1.95**	**300**	*e*Sg	**Sg**	**17 27 33.1**	**-0.5**
	2.8nm,0.2s						
LPL	**La Plagne**	**2.13**	**197**	*e*Pg	**Pg**	**17 27 12.6**	**+1.0**
LPL				*e*Sg	**Sg**	**17 27 39.7**	**+0.5**
	1.7nm,0.3s						
LPG	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**17 27 13.2**	**+1.3**
LPG				*e*Sg	**Sg**	**17 27 40.0**	**+0.3**
	2.0nm,0.3s						
LOR	**Lormes**	**2.55**	**265**	*e*Pg	**Pg**	**17 27 19.7**	**-0.1**
LOR				*e*Sg	**Sg**	**17 27 51.5**	**-1.4**
	4.3nm,0.2s						
SMF	**Signal de Mont**	**2.72**	**252**	*e*Pg	**Pg**	**17 27 22.7**	**-0.3**
SMF				*e*Sg	**Sg**	**17 27 56.3**	**-2.0**
	3.4nm,0.3s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	**Pg**	**17 27 25.0**	**0.0**
SSF				*e*Sg	**Sg**	**17 28 00.4**	**-1.2**
	1.5nm,0.2s						
AVF	**Avril sur Loir**	**2.99**	**257**	*e*Pg	**Pg**	**17 27 27.6**	**-0.6**
AVF				*e*Sg	**Sg**	**17 28 05.0**	**-2.0**
	0.6nm,0.2s						
VIVF	**Saint-Julien-l**	**3.38**	**218**	*e*Sg	**Sg**	**17 28 17.7**	**-1.6**
	1.6nm,0.2s						

CASC 07 17:48:05.0±2.4, 1059N×8502W, h6km±5km, MD3.6, ML3.1, 8C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIM1	**Limonal**	**0.25**	**296**	*i* P	Pg	17 48 10.5	+0.5
LIM1				*i* S	Sg	17 48 14.8	+1.4
JTS	**JuntasAbangare**	**0.30**	**167**	⇑*e*P	Pg	17 48 10.1	-0.8
JTS				*e*S	Sg	17 48 14.7	-0.2
VACR	**Volcan Arenal**	**0.36**	**108**	*e*P	Pg	17 48 12.2	+0.2
FORC	**Fortuna**	**0.37**	**108**	*e*P	Pg	17 48 11.9	-0.2
RIN3	**Volcan Rincon**	**0.41**	**300**	⇑*e*P	Pg	17 48 12.7	-0.2
EPA	**Esparza**	**0.73**	**145**	*e*P	Pg	17 48 18.3	-0.7
JCR	**Jicaral**	**0.74**	**187**	⇓*e*P	Pg	17 48 19.3	+0.1
JCR				*e*S	Sg	17 48 30.4	+1.7
VCR	**Vista de Mar**	**0.75**	**233**	*e*P	Pg	17 48 19.8	+0.3
CGA2	**Cerro Gallo 2**	**0.79**	**136**	⇑*e*P	Pg	17 48 19.8	-0.4
CGA2				⇑*e*S	Sg	17 48 30.0	-0.3
POA2	**Poas 2**	**0.86**	**118**	*e*P	Pg	17 48 21.5	0.0
CAO	**Cobano**	**0.88**	**185**	⇑*e*P	Pg	17 48 21.2	-0.7
CAO				*e*S	Sg	17 48 31.9	-1.5
PRS1	**Puriscal**	**0.92**	**131**	*e*P	Pg	17 48 22.7	0.0
MADN	**Villa Maderas**	**0.96**	**328**	*e*P	Pg	17 48 23.4	0.0
CONN	**Concepcion**	**1.14**	**329**	*e*P	Pg	17 48 25.8	-1.0
LAJ	**Bijagual**	**1.14**	**129**	⇑*e*P	Pg	17 48 23.3	-3.6
LAJ				*e*S	Sg	17 48 36.2	-5.5
OCM	**Ochomogo**	**1.25**	**123**	*e*P	Pb	17 48 27.9	-1.1
IRZ2	**Volcan Irazu 2**	**1.27**	**119**	*e*P	Pn	17 48 27.4	-1.8
IRZ2				*e*S	Sg	17 48 48.8	+3.1
LCR2	**La Lucha 2**	**1.31**	**130**	⇑*e*P	Pn	17 48 27.9	-1.8
LCR2				*e*S	Sb	17 48 47.8	+0.8
VTU	**Volcan Turrial**	**1.36**	**114**	*e*P	Pn	17 48 28.4	-2.1
BUS	**Buena Vista**	**1.61**	**129**	⇑*e*P	Pn	17 48 34.5	+0.5
BUS				*e*S	Sn	17 48 56.8	+1.7
APON	**Apoyo**	**1.67**	**322**	*e*P	Pn	17 48 35.9	+1.1
TICN	**Ticuantepe**	**1.86**	**321**	*e*P	Pn	17 48 38.5	+1.1
BOAB	**BOACO BROADBAN**	**.96**	**341**	*e*P	Pn	17 48 38.7	0.0
BOAB				*e*S	Sn	17 49 04.5	+0.9

*STR **07** 17:48:11.5±0.7, 4757N×759E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 17:48:12.2±0.2, 4759N×756E, h9km, Md1.8/3, Ml2.0/4, Error ellipse: s-maj=3.3km s-min=2.0km az=109.0*

ZUR 07 17:48:12.0, 4758N×760E, h4km±1km, ML1.1, 2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Pg	17 48 17.3	+0.3
	10nm,0.2s						
BOURR	**Bourrignon**	**0.32**	**233**	*i* Pg	Pg	17 48 18.4	+0.3
	5.0nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Pg	17 48 18.9	+0.1
	33nm,0.8s						
SULZ				*e*Sg	Sg	17 48 23.9	+0.5
	33nm,0.8s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	17 48 19.9	-0.1
MOF				Sg	Sg	17 48 25.8	+0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	17 48 22.3	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	17 48 24.4	+1.7
HINF				*e*Sg	Sg	17 48 29.6	-0.3
HINF				*e*Sn	Sg	17 48 33.1	+3.2
	4.6nm,0.2s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	17 48 25.5	+0.1
ECH				Sg	Sg	17 48 34.4	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	17 48 28.9	-1.9
CDF				*e*Sg	Sg	17 48 39.2	-0.4
	6.3nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	17 48 29.5	-0.6
HAU				*e*Sg	Sg	17 48 41.8	-0.6
	6.9nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	17 48 38.8	-0.4
CABF				*e*Sg	Sg	17 48 55.9	-1.7
	1.8nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	17 49 31.4	-2.9
	2.0nm,0.3s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Sg	Sg	17 49 40.5	-2.5
	0.6nm,0.2s						

*NEIC **07** 17:52:08.1, 1940N×6428W, h46km, MD3.6(RSPR), After RSPR.*

RSPR 07 17:52:08.1, 1940N×6428W, h46km±18km, MD3.6/8, MD3.6/8, 10C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDVI	**St. Croix**	**1.70**	**196**	⇑*e*P	Pn	17 52 34.6	-0.7
CDVI				*e*S	Sn	17 52 55.2	-0.7
CBYP	**Canovanas**	**1.87**	**233**	⇑*e*P	Pn	17 52 36.3	-1.2
CBYP				*e*S	Sn	17 52 58.5	-1.4
HUMP	**Col San Antoni**	**1.94**	**230**	⇑*e*P	Pn	17 52 37.4	-1.2
HUMP				*e*S	Sn	17 53 00.5	-1.2
CPD	**Cerro la Pandu**	**2.06**	**229**	*e*Pn	Pn	17 52 38.4	-1.7
CPD				*e*Sn	Sn	17 52 59.1	-5.5
SJG	**San Juan**	**2.18**	**234**	⇑*e*P	Pn	17 52 40.8	-1.1
SJG				*e*S	Sn	17 53 07.0	-0.7
CELP	**Cerrillos**	**2.54**	**239**	⇑*e*P	Pn	17 52 46.0	-0.8
CELP				*e*S	Sn	17 53 16.2	-0.4
AOPR	**Arecibo Observ**	**2.56**	**246**	⇑*e*P	Pn	17 52 46.5	-0.7
AOPR				*e*S	Sn	17 53 16.7	-0.4
OBIP	**Obispado Ponce**	**2.58**	**239**	⇑*e*P	Pn	17 52 46.7	-0.7
OBIP				*e*S	Sn	17 53 16.5	-1.1
ICM	**Isla Caja Muer**	**2.60**	**235**	⇑*e*P	Pn	17 52 47.4	-0.2
ICM				*e*S	Sn	17 53 17.4	-0.5
LSP	**Las Mesas**	**2.92**	**246**	⇑*e*P	Pn	17 52 51.7	-0.3
LSP				*e*S	Sn	17 53 25.5	-0.4
CRPR	**Cabo Rojo, PR**	**3.02**	**243**	⇑*e*P	Pn	17 52 53.0	-0.4
CRPR				*e*S	Sn	17 53 27.7	-0.5

CASC 07 18:07:57.8±2.2, 1060N×8502W, h6km±4km, MD3.5, ML2.9, 7C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIM1	**Limonal**	**0.25**	**292**	⇑*i*P	Pg	18 08 03.5	+0.8
LIM1				*i* S	Sg	18 08 07.6	+1.5
JTS	**JuntasAbangare**	**0.32**	**169**	⇑*e*P	Pg	18 08 03.1	-0.8
JTS				*e*S	Sg	18 08 07.5	-0.6
VACR	**Volcan Arenal**	**0.36**	**111**	*e*P	Pg	18 08 05.5	+0.8
VACR				*e*S	Sg	18 08 11.0	+1.6
FORC	**Fortuna**	**0.36**	**111**	⇓*i*P	Pg	18 08 05.3	+0.4
FORC				*i* S	Sg	18 08 11.0	+1.3
RIN3	**Volcan Rincon**	**0.40**	**298**	⇑*e*P	Pg	18 08 06.0	+0.4
EPA	**Esparza**	**0.74**	**146**	*e*P	Pg	18 08 11.6	-0.4
EPA				*e*S	Sg	18 08 22.0	+0.5
JCR	**Jicaral**	**0.75**	**187**	⇓*e*P	Pg	18 08 12.2	-0.1
JCR				*e*S	Sg	18 08 22.9	+0.8
VCR	**Vista de Mar**	**0.77**	**232**	⇑*e*P	Pg	18 08 12.7	+0.1
CGA2	**Cerro Gallo 2**	**0.80**	**137**	⇑*e*P	Pg	18 08 12.5	-0.5
CGA2				*e*S	Sg	18 08 23.7	+0.3
POA2	**Poas 2**	**0.86**	**119**	*e*P	Pg	18 08 13.2	-1.2

LSA	**Lhasa**	44.84	313	*e*P	P	18 38 18.0 +1.8
	4.5nm,0.7s,mb3.9					
JIRN	**Jiri**	47.66	307	*e*P	P	18 38 39.0 +0.9
	18nm,0.5s,mb4.7					
GUN	**Gumba**	48.01	307	*e*P	P	18 38 41.4 +0.5
	29nm,0.6s,mb4.8					
KKN	**Kakani**	48.44	307	*e*P	P	18 38 44.4 +0.3
	8.1nm,0.6s,mb4.2					
DMN	**Daman**	48.50	307	*e*P	P	18 38 45.2 +0.6
GKN	**Gorkha**	49.04	307	*e*P	P	18 38 49.1 +0.4
KOLN	**Koldanda**	49.78	306	*e*P	P	18 38 55.1 +0.8
	31nm,0.7s,mb4.8					
SONM	**Songino Array**	49.96	341	P	P	18 38 56.1 +0.4
	0.7nm,0.6s,mb3.2,baz=162,slow=8.0,SNR=4.4					
MKAR	**Makanchi Array**	60.16	326	P	P	18 40 08.3 -0.3
	1.5nm,0.4s,mb4.0,baz=115,slow=8.0,SNR=40					
KURK	**Kurchatov**	64.37	328	*e*P	P	18 40 35.6 -0.9
BVAR	**Borovoye Array**	69.94	327	P	P	18 41 10.8 -0.8
	1.0nm,0.6s,mb3.6,baz=137,slow=7.7,SNR=7.5					
VNDA	**Vanda**	80.85	173	P	P	18 42 13.2 -0.3
	1.2nm,0.7s,mb3.6,baz=334,slow=5.3,SNR=4.2					
ARCES	**ARCESS Array B**	93.12	340	P	P	18 43 11.3 -1.9
	6.3nm,1.0s,mb4.6,baz=67,slow=9.3,SNR=3.8					
TORD	**Torodi Ar. Bea**	124.62	287	PKP	PKPdf	18 48 57.5 -0.1
TORD	**Torodi Ar. Bea**	124.62	287	PKP	PKPdf	18 48 57.5 -0.1

ISCJB ***07*** *18:45:04.0±0.4,4752N±002×755E±004,h15km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=114.4*
ZUR ***07*** *18:45:05.5,4758N×760E,h5km±1km,ML1.3*
STR ***07*** *18:45:05.6±0.3,4754N×752E,h5km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***07*** *18:45:05.3±0.2,4757N×758E,h9km,Md2.1/3,Ml2.1/10, Error ellipse: s-maj=3.2km s-min=1.8km az=97.0*

ISC 07 18:45:04.7±0.6,4754N±002×756E±004,h16km±7km,n22, σ1§04/30,2C-2D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	0.22	156	*i* Sg	Pg	18 45 09.2	-0.6
	98nm,0.1s						
BALST	**Balsthal**	0.22	156	⇓*i* Pg	Sg	18 45 10.8	-2.4
	98nm,0.1s						
BOURR	**Bourrignon**	0.27	237	*e*Sg	Pg	18 45 11.9	+1.4
	45nm,0.7s						
BOURR	**Bourrignon**	0.27	237	⇑*i* Pg	Sg	18 45 14.8	+0.4
	45nm,0.7s						
SULZ	**Sulz-Cheisache**	0.38	91	*i* Sg	Pg	18 45 12.4	0.0
SULZ	**Sulz-Cheisache**	0.38	91	⇑*i* Pg	Sg	18 45 16.9	-0.7
MOF	**Molkenrain**	0.43	318	Pg	Pg	18 45 13.4	+0.1
MOF				Sg	Sg	18 45 19.2	+0.1
HINF	**Hinteralfeld**	0.55	301	*e*Pg	Pg	18 45 15.7	0.0
HINF	**Hinteralfeld**	0.55	301	*e*Pn	Pg	18 45 17.8	+2.1
HINF				*e*Sg	Sg	18 45 22.9	-0.2
HINF				*e*Sn	Sg	18 45 26.6	+3.5
SLE	**Schleitheim**	0.67	70	⇓*i* Pg	Pg	18 45 20.3	+2.4
	67nm,0.2s						
ECH	**Echery**	0.73	338	Pg	Pg	18 45 19.1	+0.1
ECH				Sg	Sg	18 45 29.4	+0.7
CDF	**Champ du Feu**	0.90	348	*e*Pn	Pn	18 45 22.2	-0.5
CDF				*e*Sg	Sg	18 45 32.1	-1.8
	11nm,0.2s						
WILA	**Wila**	0.92	97	*i* Sg	Pb	18 45 18.5	-3.9
	67nm,0.5s						
WILA	**Wila**	0.92	97	*e*Pg	Pg	18 45 23.0	+0.4
	67nm,0.5s						
HAU	**Haudompre**	0.94	300	*e*Pg	Pg	18 45 23.5	+0.5
HAU				*e*Sg	Sg	18 45 35.8	+0.4
	14nm,0.3s						
CABF	**La Chapelle**	1.37	228	*e*Pg	Pg	18 45 32.4	+1.3
CABF				*e*Sg	Sg	18 45 49.5	+0.6
	2.7nm,0.2s						
LPL	**La Plagne**	2.10	196	*e*Sg	Sg	18 46 13.3	+1.0
	0.7nm,0.2s						
LPG	**La Plagne**	2.12	196	*e*Sg	Sg	18 46 13.6	+0.8
	0.8nm,0.2s						
LOR	**Lormes**	2.53	265	*e*Pg	Pg	18 45 52.5	-0.7
LOR				*e*Sg	Sg	18 46 25.0	-1.0
	2.6nm,0.3s						
SMF	**Signal de Mont**	2.69	252	*e*Sg	Sg	18 46 30.4	-0.9
	1.4nm,0.3s						
SSF	**Saint Saulge**	2.80	262	*e*Sg	Sg	18 46 33.7	-1.0
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	3.35	218	*e*Sg	Sg	18 46 51.1	-1.2
	1.2nm,0.3s						

STR ***07*** *19:02:24.4±1.4,4757N×770E,h5km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***07*** *19:02:25.5±0.2,4757N×758E,h10km,Md2.0/3,Ml2.1/6, Error ellipse: s-maj=3.4km s-min=2.1km az=107.0*

ZUR 07 19:02:25.7,4758N×760E,h5km±1km,ML1.4,1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	0.26	165	⇓*i* P	Pg	19 02 31.7	+1.0
	112nm,0.2s						
BALST				*e*Sg	Sg	19 02 34.7	+0.7
	112nm,0.2s						
BOURR	**Bourrignon**	0.31	233	*i* Pg	Pg	19 02 32.1	+0.3
	31nm,0.7s						
SULZ	**Sulz-Cheisache**	0.35	99	*i* P	Pg	19 02 32.7	+0.2
	47nm,0.2s						
SULZ				*i* Sg	Sg	19 02 37.6	+0.5
	47nm,0.2s						
MOF	**Molkenrain**	0.41	311	Pg	Pg	19 02 33.5	-0.2
MOF				Sg	Sg	19 02 39.1	0.0
HINF	**Hinteralfeld**	0.56	295	*e*Pg	Pg	19 02 35.9	-0.5
HINF	**Hinteralfeld**	0.56	295	*e*Pn	Pg	19 02 38.0	+1.6
HINF				*e*Sg	Sg	19 02 43.3	-0.3
HINF				*e*Sn	Sg	19 02 46.9	+3.3
	1.9nm,0.1s						
LOMF	**Lomont**	0.57	246	Pg	Pg	19 02 37.3	+0.6
LOMF				Sg	Sg	19 02 46.5	+2.3
SLE	**Schleitheim**	0.63	73	*i* Pg	Pg	19 02 37.6	-0.2
	112nm,0.2s						
SLE				*i* Sg	Sg	19 02 46.3	+0.3
	112nm,0.2s						
ECH	**Echery**	0.70	335	Pg	Pg	19 02 38.9	-0.2
TRULL	**Truellikon**	0.73	84	*e*Pg	Pg	19 02 40.2	+0.4
	56nm,0.2s						
TRULL				*i* Sg	Sg	19 02 50.3	+1.0
	56nm,0.2s						
CDF	**Champ du Feu**	0.86	345	*e*Pn	Pn	19 02 42.2	-2.2
CDF				*e*Sg	Sg	19 02 53.6	+0.3
	4.9nm,0.3s						
HAU	**Haudompre**	0.94	297	*e*Pg	Pg	19 02 43.4	-0.4
HAU				*e*Sg	Sg	19 02 56.1	0.0
	2.9nm,0.2s						
CABF	**La Chapelle**	1.42	227	*e*Pg	Pg	19 02 52.7	-0.2
CABF				*e*Sg	Sg	19 03 10.0	-1.3
	3.1nm,0.3s						
LPG	**La Plagne**	2.17	196	*e*Sg	Sg	19 03 33.9	-1.4
	1.1nm,0.2s						
LOR	**Lormes**	2.56	264	*e*Sg	Sg	19 03 45.4	-2.5
	3.0nm,0.2s						
SMF	**Signal de Mont**	2.73	251	*e*Sg	Sg	19 03 50.1	-3.4
	1.3nm,0.3s						

NIED ***07*** *19:10:00,4650N×154.10E,h11km,Mw6.4 Best double couple: M0 3.83000×10^18 NP1:φs217.00000°,δ51.00000°, λ-114.00000°. NP2:φs72.00000°,δ45.00000°, λ-64.00000°.*
BGS ***07*** *19:10:18.2,4535N×155.09E,h16km,mb6.2,MS5.9*
IDC ***07*** *19:10:19.3±0.4,4614N×154.48E,h0km,mb5.7/34, mb1 5.7/37,mb1mx5.7/37,mbtmp5.7/37,ML5.0/3,MS6.2/23, Ms1 6.2/23,ms1mx6.0/37,Error ellipse: s-maj=11.2km s-min=8.8km az=148.0*
ISCJB ***07*** *19:10:20.2±0.1,4607N±002×154.40E±002,h16km, mb6.2/414,MS6.3/121,Error ellipse: s-maj=3.1km s-min=1.7km az=138.4*
NEIC ***07*** *19:10:21.9±0.1,4615N×154.39E,h16km,mb6.3/273, ME6.5,MS6.1/33,MW6.3,MW6.5(MOS),Error ellipse: s-maj=3.1km s-min=2.2km az=176.0,Moment Tensor Solution. s88 Moment tensor: Scale 10^18Nm; Mrr=3.14; Mθθ=2.80; Mφφ=0.34; Mrθ=-1.60; Mθφ=1.02; Mφr=0.18; Best double couple: M0 3.50000×10^18 NP1:φs81.00000°, δ58.00000°,λ-78.00000°. NP2:φs239.00000°,δ34.00000°, λ-109.00000°. Principal axes: T 3.4900, Plg13.0000°, Azm163.0000°; N 0.1000, Plg10.0000°, Azm255.0000°; P -3.5900, Plg74.0000°, Azm23.0000°; Broadband fault plane solution: P waves. NP1:φs113.00000°,δ52.00000°, λ-39.00000°. NP2:φs230.00000°,δ60.00000°, λ-135.00000°. Principal axes: T Plg5.0000°, Azm350.0000°; N Plg0.0000°, Azm0.0000°; P Plg52.0000°, Azm86.0000°; Two events about 3 seconds apart. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Recorded [1 JMA] in eastern and southwestern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.
GCMT ***07*** *19:10:21.9±0.1,4624N×154.44E,h15km,MW6.4/112, Moment Tensor Solution. s108,c257; s112,c484; Duration: 3s7 Moment tensor: Scale 10^18Nm; Mrr=4.19±.02; Mθθ=2.63±.02; Mφφ=1.56±.02; Mrθ=0.27±.05; Mθφ=2.38±.01; Mφr=0.67±.06; Best double couple: M0=4.42400×10^18 NP1:φs57.00000°,δ41.00000°, λ-82.00000°. NP2:φs226.00000°,δ49.00000°, λ-97.00000°. Principal axes: T 4.5810, Plg4.0000°, Azm321.0000°; N -0.3130, Plg5.0000°, Azm231.0000°; P -4.2680, Plg83.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SKHL ***07*** *19:10:22.2±1.1,4620N×154.40E,h43km±12km,mb6.4/5, mbh7.0/6,mbv7.1/6,ms6.4/5,msh6.8/4*
JMA ***07*** *19:10:23.1±0.8,4648N×154.12E,h30km,M6.4*
JMA Felt I J1.
BJI ***07*** *19:10:23.2,4626N×153.80E,h16km,mB6.6,mb5.9,Ms6.4, Msz6.3*
MOS ***07*** *19:10:24.1±0.9,4610N×154.31E,h46km,mb6.5/124, MS6.5/49,Error ellipse: s-maj=6.0km s-min=3.7km az=102.1 Broadband fault plane solution: P waves. M0 6.30000×10^18 NP1:φs74.00000°,δ37.00000°, λ-55.00000°. NP2:φs213.00000°,δ60.00000°, λ-114.00000°. Principal axes: T Plg12.0000°, Azm320.0000°; N Plg20.0000°, Azm225.0000°; P Plg66.0000°, Azm78.0000°;*
SZGRF ***07*** *19:10:30.5,4672N×153.15E,h33km,mb6.4,MS6.4,Kuril Islands, Russia*

ISC 07 19:10:22.1±0.1,4618N±002×15438E±002,h17km, h17km±7km:pP-P,n1494,σ1§01/1498,mb6.2/414, MS6.3/121,56C-235D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	4.65	14	*e*PN	Pn	19 11 29.0	-2.6
SKR				pmax	pmax		
	comp=N,490nm,0.9s						
SKR				pmax	pmax		
	comp=E,1μm,0.9s						
SKR				pmax	pmax		
	comp=Z,3μm,0.9s						
SKR				pmax	pmax		
	comp=N,46μm,8.0s						
SKR				pmax	pmax		
	comp=Z,38μm,8.0s						
SKR				pmax	pmax		
	comp=E,28μm,6.0s						
SKR				MLR	MLR		
	comp=N,183μm,18.0s						
SKR				MLR	MLR		
	comp=Z,398μm,18.0s						
SKR	**Severo-Kuril's**	4.65	14	*e*P	Pn	19 11 29.1	-2.5
SKR				AMB	AMB	19 11 33.0	
	comp=Z,490nm,0.9s						
SKR				AMB	AMB	19 11 33.0	
	comp=Z,1μm,0.9s						
SKR				AMB	AMB	19 11 33.0	
	comp=Z,3μm,0.9s						
SKR				AMB	AMB	19 11 39.0	
	comp=Z,46μm,8.0s						
SKR				AMB	AMB	19 11 39.0	
	comp=Z,28μm,8.0s						
SKR				AMB	AMB	19 11 39.0	
	comp=Z,38μm,8.0s						
SKR				*e*S	Sn	19 12 19.5	-5.7
SKR				A		19 12 27.5	
	comp=Z,6μm,0.5s						
SKR				A		19 12 27.5	
	comp=Z,10μm,0.5s						
SKR				A		19 12 38.0	
	comp=Z,98μm,8.0s						
SKR				A		19 12 38.0	
	comp=Z,136μm,8.0s						
SKR				AMS	AMS	19 13 20.0	
	comp=Z,183μm,18.0s						
SKR				AMS	AMS	19 13 20.0	
	comp=Z,398μm,18.0s						
KUR	**Kuril'sk**	4.66	261	⇓*i* PN	Pn	19 11 29.0	-2.6
KUR				pmax	pmax		
	comp=Z,14μm,0.9s						
KUR				pmax	pmax		
	comp=N,32μm,6.0s						
KUR				pmax	pmax		
	comp=Z,80μm,6.0s						
KUR				MLR	MLR		
	comp=N,230μm,14.0s						
KUR				MLR	MLR		
	comp=E,338μm,14.0s						
KUR				MLR	MLR		
	comp=Z,478μm,14.0s						
KUR	**Kuril'sk**	4.66	261	*i* P	Pn	19 11 29.0	-2.6
KUR				AMB	AMB	19 11 39.8	
	comp=Z,14μm,0.9s						
KUR				AMB	AMB	19 11 46.0	
	comp=Z,32μm,6.0s						
KUR				AMB	AMB	19 11 46.0	
	comp=Z,80μm,6.0s						
KUR				*i* S	Sn	19 12 19.8	-5.5
KUR				A		19 12 25.0	
	comp=Z,80μm,2.0s						
KUR				A		19 12 25.0	
	comp=Z,88μm,2.0s						
KUR				AMS	AMS	19 13 44.0	
	comp=Z,230μm,14.0s						
KUR				AMS	AMS	19 13 44.0	
	comp=Z,338μm,14.0s						
KUR				AMS	AMS	19 13 44.0	
	comp=Z,478μm,14.0s						
YUK	**Yuzh-Kuril'sk**	6.40	253	⇑*i* PN	Pn	19 11 56.5	+1.0
YUK				pmax	pmax		
	comp=N,20μm,2.0s						
YUK				pmax	pmax		
	comp=Z,30μm,2.0s						
YUK				pmax	pmax		
	comp=Z,5μm,0.6s						
YUK				pmax	pmax		
	comp=N,2μm,0.5s						
YUK				pmax	pmax		
	comp=E,1μm,0.5s						
YUK				MLR	MLR		
	comp=Z,237μm,17.0s						
YUK				MLR	MLR		
	comp=N,375μm,14.0s						
YUK				MLR	MLR		
	comp=E,142μm,14.0s						
YUK	**Yuzh-Kuril'sk**	6.40	253	*i* P	Pn	19 11 56.5	+1.0
YUK				AMB	AMB	19 12 04.5	
	comp=E,12μm,2.0s						
YUK				AMB	AMB	19 12 04.5	
	comp=E,20μm,2.0s						
YUK				AMB	AMB	19 12 04.5	
	comp=E,30μm,2.0s						
YUK				AMB	AMB	19 12 16.5	
	comp=E,2μm,0.6s						
YUK				AMB	AMB	19 12 16.5	
	comp=E,1μm,0.6s						
YUK				AMB	AMB	19 12 16.5	
	comp=E,5μm,0.6s						
YUK				*i* S	Sn	19 13 04.0	-4.1
YUK				A		19 13 12.5	
	comp=E,35μm,1.0s						
YUK				A		19 13 12.5	
	comp=E,41μm,1.0s						
YUK				A		19 13 16.5	
	comp=E,49μm,0.8s						
YUK				A		19 13 16.5	
	comp=E,6μm,0.8s						
YUK				AMS	AMS	19 15 38.0	
	comp=E,375μm,17.0s						
YUK				AMS	AMS	19 15 38.0	
	comp=E,142μm,17.0s						
YUK				AMS	AMS	19 15 38.0	
	comp=E,237μm,17.0s						
NEM2	**Nemuro 2**	6.76	248	P	Pn	19 11 58.4	-2.1
NEM2				*e*S	Sn	19 13 10.2	-6.8
JRA	**Rausu**	6.93	254	P	Pn	19 12 02.6	-0.2
JRA				*e*S	Sn	19 13 17.7	-3.5
JNK	**Nakash**	7.33	253	P	Pn	19 12 07.8	-0.6
JNK				*e*S	Sn	19 13 26.5	-4.7
PET	**Petropavlovsk**	7.39	21	α *i* PN	Pn	19 12 06.3	-2.9
PET				pmax	pmax		
	comp=Z,6μm,7.1s						
PET				pmax	pmax		
	comp=Z,813nm,1.0s						
PET				pmax	pmax		
	comp=Z,8μm,9.0s						
PET				MLR	MLR		
	comp=Z,203μm,18.0s						
PET				MLR	MLR		
	comp=Z,162μm,16.0s						
PET	**Petropavlovsk**	7.39	21	*e*Pn	Pn	19 12 06.0	-3.2
JAK	**Akkeshi**	7.61	249	P	Pn	19 12 10.3	-1.8
JAK				*e*S	Sn	19 13 30.1	-7.8
JTKR	**Abashiri--Toko**	7.73	257	P	Pn	19 12 13.9	0.0
YSS	**Yuzh-Sakhalins**	8.05	280	*c i* PN	Pn	19 12 20.0	+1.8
YSS				pmax	pmax		
	comp=E,2μm,1.2s						
YSS				pmax	pmax		
	comp=Z,1μm,1.2s						
YSS				pmax	pmax		
	comp=N,160nm,0.5s						
YSS				MLR	MLR		
	comp=Z,182μm,16.0s						
YSS				MLR	MLR		
	comp=N,57μm,12.0s						
YSS				MLR	MLR		
	comp=E,139μm,15.0s						
YSS	**Yuzh-Sakhalins**	8.05	280	*e*Pn	Pn	19 12 20.3	+2.1
YSS	**Yuzh-Sakhalins**	8.05	280	*i* P	Pn	19 12 20.8	+2.6
YSS				AMB	AMB	19 12 22.2	
	comp=E,160nm,0.8s						
YSS				AMB	AMB	19 12 22.2	
	comp=E,2μm,0.8s						
YSS				AMB	AMB	19 12 22.2	
	comp=E,1μm,0.8s						
YSS				AMB	AMB	19 12 28.0	
	comp=E,17μm,7.0s						
YSS				AMB	AMB	19 12 28.0	
	comp=E,12μm,7.0s						
YSS				*e*S	Sn	19 13 49.8	+1.0
YSS				A		19 13 55.0	
	comp=E,2μm,1.2s						
YSS				AMS	AMS	19 16 09.0	
	comp=E,49μm,14.0s						
YSS				AMS	AMS	19 16 09.0	
	comp=E,146μm,14.0s						
YSS				AMS	AMS	19 16 09.0	
	comp=E,164μm,14.0s						
JAR	**Ashorobuto**	8.08	253	P	Pn	19 12 17.8	-0.9
JAR				*e*S	Sn	19 13 45.2	-4.4
JMP	**Maruseppu**	8.09	258	P	Pn	19 12 19.2	+0.4
JOB	**Onbets**	8.21	250	P	Pn	19 12 19.3	-1.1
JOB				*e*S	Sn	19 13 46.2	-6.6
JSE	**Soyaes**	8.36	266	P	Pn	19 12 23.5	+1.0
JKK2	**Kamakawa 2**	8.55	259	P	Pn	19 12 25.8	+0.7
ASAJ	**Asahikawa**	8.58	260	Pn	Pn	19 12 26.6	+1.1
	comp=E,41nm,0.3s,baz=93,slow=16,SNR=68						
ASAJ				Sn	Sn	19 14 04.3	+2.5
	baz=178,slow=30,SNR=1.3						
ASAJ				LR	LR	19 16 01.3	
	comp=E,71μm,19.6s,baz=74,slow=40						
ASAJ	**Asahikawa**	8.58	260	P	Pn	19 12 26.3	+0.8
ASAJ	**Asahikawa**	8.58	260	PN	Pn	19 12 26.6	+1.1
ASAJ				pmax	pmax		
	comp=Z,41nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,71μm,19.6s						
JCH	**Churui**	8.65	250	P	Pn	19 12 24.9	-1.6
JCH				*e*S	Sn	19 13 56.0	-7.7
JWK2	**Keihoku**	8.77	269	P	Pn	19 12 31.6	+3.5
UGL	**Uglegorsk**	8.80	294	*c i* PN	Pn	19 12 31.0	+2.4
UGL				pmax	pmax		
	comp=Z,2μm,1.0s						
UGL	**Uglegorsk**	8.80	294	*i* P	Pn	19 12 31.0	+2.4
UGL				AMB	AMB	19 12 35.5	
	comp=Z,2μm,1.0s						
UGL				AMB	AMB	19 12 42.0	
	comp=Z,11μm,4.5s						
UGL				AMB	AMB	19 12 42.0	
	comp=Z,26μm,4.5s						
UGL				AMB	AMB	19 12 42.0	
	comp=Z,28μm,4.5s						
UGL				A		19 14 14.0	
	comp=Z,1μm,0.6s						
UGL				A		19 14 14.0	
	comp=Z,600nm,0.6s						
UGL				A		19 14 30.0	
	comp=Z,48μm,8.0s						
UGL				A		19 14 30.0	
	comp=Z,28μm,8.0s						
JFR	**Furan**	8.92	254	P	Pn	19 12 30.3	+0.1
JFR				*e*S	Sn	19 14 03.7	-6.6
JSS	**Shosan**	9.01	263	P	Pn	19 12 37.2	+5.8
JAB	**Ashibetsu**	9.04	257	P	Pn	19 12 33.0	+1.2
JEM	**Erimo**	9.08	247	P	Pn	19 12 31.5	-0.9
JEM				*e*S	Sn	19 14 07.0	-7.2
ERM	**Erimo**	9.08	247	*e*PN	Pn	19 12 32.2	-0.2
ERM	**Erimo**	9.08	247	*e*Pn	Pn	19 12 32.1	-0.3
	comp=Z,2μm,0.8s						
JNBK	**Urakawa-nobuka**	9.21	249	P	Pn	19 12 32.3	-1.8
JNBK				*e*S	Sn	19 14 08.3	-9.0
JBT2	**Biratori 2**	9.23	253	P	Pn	19 12 33.3	-1.2
JBT2				*e*S	Sn	19 14 08.2	-10
JYG	**Yagishiri**	9.29	264	P	Pn	19 12 37.7	+2.4
JHR	**Hokuryu**	9.29	259	P	Pn	19 12 37.1	+1.8
JEW	**Eniwo**	9.82	255	P	Pn	19 12 43.2	+0.7
JNB	**Noboribetsu**	10.25	254	P	Pn	19 12 47.4	-1.0
JNB				*e*S	Sn	19 14 35.7	-7.2
JSK	**Shakotan**	10.28	259	P	Pn	19 12 50.1	+1.3
OKH	**Okha**	10.43	319	*i* PN	Pn	19 12 50.0	-0.8
OKH				pmax	pmax		
	comp=Z,55μm,13.0s						
OKH	**Okha**	10.43	319	*e*P	Pn	19 12 50.0	-0.8
OKH				AMB	AMB	19 13 08.0	
	comp=Z,25μm,10.0s						
OKH				AMB	AMB	19 13 08.0	
	comp=Z,28μm,10.0s						
OKH				AMB	AMB	19 13 08.0	
	comp=Z,55μm,10.0s						
OKH				A		19 14 58.0	
	comp=Z,37μm,10.0s						
OKH				A		19 14 58.0	
	comp=Z,36μm,10.0s						
OKH				AMS	AMS	19 19 36.0	
	comp=Z,123μm,13.0s						
OKH				AMS	AMS	19 19 36.0	
	comp=Z,187μm,13.0s						
JKB	**Kayabe**	10.52	251	P	Pn	19 12 49.7	-2.4
JKB				*e*S	Sn	19 14 37.3	-12
JSH	**Shimam**	10.84	256	P	Pn	19 12 56.6	+0.1
JYM2	**Yakumo 2**	10.85	253	P	Pn	19 12 54.8	-1.8
JANG	**Nango**	11.02	243	P	Pn	19 12 55.0	-3.9
JANG				*e*S	Sn	19 14 48.7	-13
JTM	**Tenmabayashi**	11.06	246	P	Pn	19 12 57.0	-2.5
JTM				*e*S	Sn	19 14 50.4	-12
JTH	**Tanohata**	11.07	240	P	Pn	19 12 55.6	-4.0
JTH				*e*S	Sn	19 14 49.9	-13
JSR	**Shiriuchi**	11.10	250	P	Pn	19 12 57.4	-2.6
JSR				*e*S	Sn	19 14 51.1	-13
JOSM	**Okushiri--Mats**	11.46	254	P	Pn	19 13 03.5	-1.5
JOSM				*e*S	Sn	19 15 03.7	-8.9
OFUJ	**Ofunato**	11.74	237	P	Pn	19 13 05.0	-3.7
OFUJ				*e*S	Sn	19 15 06.3	-13
JRG	**Rokugo**	12.15	241	P	Pn	19 13 11.0	-3.4
JRG				*e*S	Sn	19 15 19.4	-10
JIO	**Ouri**	12.34	236	P	Pn	19 13 12.9	-4.1
JIO				*e*S	Sn	19 15 19.9	-14
JOG2	**Oga 2**	12.36	245	P	Pn	19 13 15.3	-2.0
JYA	**Atsumi**	13.21	240	P	Pn	19 13 25.8	-3.1
JFK	**Kawauchi**	13.37	234	P	Pn	19 13 26.4	-4.6
JFK				*e*S	Sn	19 15 44.7	-14

MA2 Magadan 13.59 352 *i* P **Pn 19 13 30.2 -3.9**
MA2 *e* 19 16 04.8
MA2 pmax pmax
comp=Z,300nm,1.2s
MA2 pmax pmax
comp=N,200nm,1.3s
JFY Yanaizu 14.00 236 P **Pn 19 13 37.0 -2.7**
JFY *e*S **Sn 19 16 03.8 -11**
SMY Shemya 14.38 56 *e*P **Pn 19 13 47.4 +2.6**
SMY pmax pmax
comp=Z,365nm,0.6s
SMY Shemya 14.38 56 *e*P **Pn 19 13 47.4 +2.6**
comp=Z,365nm,0.6s
MAJO Matsushiro 15.47 237 *e*P **Pn 19 13 57.2 -2.2**
MAJO pmax pmax
comp=Z,940nm,0.9s
MAJO Matsushiro 15.47 237 *e*Pn **Pn 19 13 57.2 -2.3**
comp=Z,940nm,0.9s
MAT Matsushiro 15.47 237 P **Pn 19 13 57.0 -2.4**
MAT S **Sn 19 16 54.0 +3.6**
MJAR Matsushiro Arr 15.47 237 Pn **Pn 19 13 57.2 -2.2**
comp=Z,1.9nm,0.3s,baz=30,slow=12,SNR=42
MJAR Sn **Sn 19 16 45.6 -4.7**
comp=Z,3.3nm,0.3s,baz=49,slow=22,SNR=1.9
KLR Kul'dur 15.52 290⇓ *i*P **Pn 19 13 57.2 -2.9**
KLR *e* 19 16 58.0
VLA Vladivostok 16.28 267 *de*P **Pn 19 14 07.5 -2.4**
VLA *e* 19 17 17.8
VLA pmax pmax
comp=Z,204nm,1.0s
VLA MLR MLR
comp=Z,111μm,17.0s
VLA Vladivostok 16.28 267⇑ *i*P **Pn 19 14 08.5 -1.4**
SEY Seymchan 16.83 357 *e*P **Pn 19 14 14.2 -2.6**
SEY Seymchan 16.83 357 *e*P **Pn 19 14 14.3 -2.5**
JHJ Hachijo jima 2 17.18 226 P **Pn 19 14 22.4 +1.1**
comp=Z,13nm,0.3s,baz=191,slow=5.4,SNR=19
JHJ S **Sn 19 17 16.9 -15**
comp=Z,113nm,0.3s,baz=225,slow=23,SNR=4.9
AMKA Amchitka 17.19 63 *e*P **Pn 19 14 25.7 +4.3**
MDJ Mudanjiang 17.46 274 P **Pn 19 14 23.4 -1.4**
MDJ AP pP 19 14 25.6 -5.1
MDJ XP sP 19 14 27.2 -5.7
MDJ S **Sn 19 17 36.2 -2.5**
MDJ PCP PcP 19 19 05.0 -0.2
MDJ SCP ScP 19 22 38.1 -1.4
MDJ SCS ScS 19 26 20.9 +1.4
MDJ AMB AMB
comp=Z,188nm,1.0s
MDJ AMB AMB
comp=Z,5μm,7.3s
MDJ LR LR
comp=N,50μm,14.8s
MDJ LR LR
comp=E,54μm,14.7s
MDJ LR LR
comp=Z,76μm,15.2s
ADK Adak 19.74 63 *e*P **Pn 19 14 51.9 -0.5**
CN2 Changchun 20.55 274⇑ P **P 19 14 58.3 -1.5**
CN2 *e*S **S 19 18 42.3 -6.7**
CN2 LR LR
comp=N,74μm,15.0s,MS6.3
CN2 LR LR
comp=E,63μm,15.0s,MS6.3
CN2 LR LR
comp=Z,92μm,17.0s,MS6.2
CLNS Chul'man 21.05 311 *e*P **P 19 15 03.4 -1.8**
CLNS *e* 19 15 18.7
CLNS *e*PPP 19 15 28.3
CLNS *e*S **S 19 18 55.5 -3.4**
CLNS *e* 19 19 07.8
CLNS *e*SS 19 19 29.9
CLNS pmax pmax
comp=Z,644nm,1.2s,mb5.8
CLNS pmax pmax
comp=N,994nm,1.7s
CLNS pmax pmax
comp=E,341nm,0.9s
CLNS smax
comp=E,780nm,1.1s
CLNS smax
comp=N,3μm,1.3s
CLNS smax
comp=Z,326nm,1.3s
CLNS MLR MLR
comp=N,43μm,14.0s,MS6.5
CLNS MLR MLR
comp=Z,179μm,14.0s,MS6.6
CLNS MLR MLR
comp=E,138μm,15.0s,MS6.5
NRGR Nerungri 21.09 311 *i*P **P 19 15 04.3 -1.3**
YAK Yakutsk 21.27 327 *c i*P **P 19 15 04.1 -3.5**
YAK *e* 19 15 20.8
YAK *e*S **S 19 18 54.1 -9.2**
YAK *e*SS 19 19 15.5
YAK pmax pmax
comp=Z,429nm,1.0s,mb5.7
YAK pmax pmax
comp=N,310nm,1.6s
YAK pmax pmax
comp=E,236nm,1.3s
YAK smax
comp=N,8μm,2.9s
YAK smax
comp=Z,3μm,2.5s
YAK smax
comp=E,5μm,2.1s
YAK MLR MLR
comp=Z,91μm,18.0s,MS6.2
YAK MLR MLR
comp=N,96μm,16.0s,MS6.3
YAK MLR MLR
comp=E,36μm,13.0s,MS6.3
YAK Yakutsk 21.27 327 *e*P **P 19 15 04.2 -3.4**
comp=E,988nm,1.0s,mb6.1
YAK *e*S **S 19 18 58.2 -5.0**
CBIJ Chichi jima 21.37 211 P **P 19 15 09.6 +1.0**
comp=E,610nm,0.9s,mb5.9,baz=335,slow=6.1,SNR=14
CBIJ S **S 19 18 52.0 -13**
comp=E,168nm,0.7s,baz=70,slow=23,SNR=3.0
KSRS Korea Array 21.48 255 P **P 19 15 11.9 +2.1**
comp=E,118nm,0.9s,mb5.2,baz=59,slow=9.9,SNR=83
KSRS S **S 19 19 11.8 +4.5**
comp=E,20nm,0.7s,baz=69,slow=19,SNR=7.1
KS15 Wonju Array Si 21.51 256 *e*P **P 19 15 12.3 +2.1**
JNU Nakatsue 22.20 242 P **P 19 15 19.5 +1.9**
comp=E,87nm,0.8s,mb5.2,baz=259,slow=22,SNR=13
JNU LR LR 19 22 22.5
comp=E,104μm,21.1s,MS6.2,baz=66,slow=32
INCN Inchon 22.33 257⇓ P **P 19 15 20.6 +1.6**
SNR=36
INCN Inchon 22.33 257 *e*P **P 19 15 20.2 +1.2**
comp=E,2μm,1.1s,mb6.4
INCN LR LR
comp=Z,41μm,19.0s,MS5.9
SNY Shenyang 22.50 270⇑ P **P 19 15 19.9 -0.8**
SNY S **S 19 19 27.2 0.0**
SNY SS 19 20 00.9
SNY AMB AMB
comp=Z,377nm,1.2s,mb5.7
SNY AMB AMB
comp=Z,25μm,6.7s
SNY LR LR
comp=E,73μm,15.7s
SNY LR LR
comp=Z,79μm,17.2s,MS6.2
BILL Bilibino 22.76 12α *i*P **P 19 15 21.5 -2.0**
BILL *e* 19 15 53.1
BILL *i*S **S 19 19 31.7 -0.2**
BILL *e*SS 19 20 09.9
BILL pmax pmax
comp=Z,6μm,1.6s,mb6.7
BILL MLR MLR
comp=Z,59μm,16.0s,MS6.1
BILL Bilibino 22.76 12 *e*P **P 19 15 21.5 -2.0**
comp=Z,5μm,1.3s,mb6.8
BILL LR LR
comp=Z,67μm,19.0s,MS6.1
HIA Hailar 23.38 290 *e*P **P 19 15 25.4 -4.6**
HIA pmax pmax
comp=Z,871nm,1.3s
HIA Hailar 23.38 290 *e*P **P 19 15 25.4 -4.6**
comp=Z,871nm,1.3s,mb6.0
SPIA Saint Paul Isl 24.26 50 *e*P **P 19 15 39.2 +1.0**
DL2 Dalian 25.07 265 *i*P **P 19 15 46.9 +1.3**
DL2 S **S 19 20 08.6 -0.6**
DL2 AMB AMB
comp=Z,540nm,0.9s,mb6.1
DL2 AMB AMB
comp=Z,10μm,6.4s
DL2 LR LR
comp=N,17μm,15.5s,MS5.8
DL2 LR LR
comp=E,12μm,15.8s,MS5.8
DL2 LR LR
comp=Z,17μm,13.7s,MS5.7
UNV Unalaska Valle 26.01 59 *e*P **P 19 15 52.0 -2.2**
BOD Bodaibo 27.02 310 *e*P **P 19 16 00.0 -3.3**
BOD pmax pmax
comp=Z,804nm,1.2s,mb6.1
CIT Chita 27.08 297 *e*P **P 19 16 02.3 -1.5**
CIT *e* 19 20 28.6
CIT pmax pmax
comp=Z,913nm,2.1s,mb5.9
FALS False Pass 27.83 56 *e*P **P 19 16 16.4 +5.9**
TNA Tin City 28.03 33 *e*P **P 19 16 14.1 +1.8**
TIXI Tiksi 28.26 343 *e*P **P 19 16 06.6 -7.8**
TIXI pmax pmax
comp=N,122nm,1.2s
TIXI pmax pmax
comp=E,154nm,1.2s
TIXI pmax pmax
comp=Z,275nm,1.2s,mb5.8
TIXI pmax pmax
comp=Z,9μm,8.5s
TIXI MLR MLR
comp=E,60μm,16.0s,MS6.3
TIXI MLR MLR
comp=Z,90μm,16.0s,MS6.5
TIXI MLR MLR
comp=N,38μm,17.0s,MS6.3
TIXI Tiksi 28.26 343 *e*P **P 19 16 11.8 -2.6**
TIXI LR LR
comp=Z,61μm,19.0s,MS6.2
JOW Kunigami 28.31 236 P **P 19 16 14.9 +0.2**
comp=Z,130nm,0.9s,mb5.6,baz=39,slow=7.4,SNR=14
JOW PcP PcP 19 19 27.6 +0.1
comp=Z,45nm,0.9s,baz=158,slow=3.3,SNR=3.6
JOW S **S 19 20 58.2 -2.2**
comp=Z,11nm,0.7s,baz=358,slow=26,SNR=1.2
BJI Beijing 28.35 271 P **P 19 16 15.9 +0.7**
BJI S **S 19 20 59.1 -2.0**
BJI AMB AMB
comp=Z,357nm,1.7s,mb5.7
BJI AMB AMB
comp=Z,15μm,7.9s
BJI LR LR
comp=E,6μm,16.9s
BJI LR LR
comp=Z,49μm,15.5s,MS6.2
BJT Baijiatuau 28.37 271 *e*P **P 19 16 15.1 -0.2**
BJT pmax pmax
comp=Z,2μm,1.5s
BJT Baijiatuau 28.37 271 *e*P **P 19 16 15.1 -0.2**
comp=Z,2μm,1.5s,mb6.6
MIDW Midway 28.55 119 PFAKE 19 16 30.0 +13
MIDW LR LR
comp=Z,31μm,19.0s,MS5.9
TIA Tai'an 29.51 264⇓ P **P 19 16 26.0 +0.6**
TIA AP pP 19 16 34.0 +3.4
TIA XP sP 19 16 38.0 +5.3
TIA S **S 19 21 20.0 +0.8**
TIA AMB AMB
comp=Z,657nm,2.0s,mb6.0
TIA AMB AMB
comp=Z,1μm,5.0s
TIA LR LR
comp=N,22μm,13.0s,MS6.0
TIA LR LR
comp=E,17μm,14.0s,MS6.0
SDPT Sand Point 29.52 55 *e*P **P 19 16 25.1 -0.4**
SSE Sheshan 29.73 251 P **P 19 16 28.3 +0.9**
SSE XP sP 19 16 32.7 -1.9
SSE S **S 19 21 23.4 +0.7**
SSE AMB AMB
comp=Z,221nm,1.2s,mb5.8
SSE AMB AMB
comp=Z,4μm,6.8s
SSE LR LR
comp=N,20μm,19.9s,MS5.9
SSE LR LR
comp=E,22μm,19.9s,MS5.9
SSE LR LR
comp=Z,44μm,17.2s,MS6.2
HHC Hu-ho-hao-te 31.21 276 *e*P **P 19 16 42.4 +1.9**
HHC AP pP 19 16 46.8 +1.1
HHC XP sP 19 16 49.4 +1.6
HHC PP PP 19 17 44.9 -6.1
HHC PCP PcP 19 19 37.5 +2.5
HHC S **S 19 21 46.9 +0.9**
HHC XS sS 19 21 52.4 -2.1
HHC SCP ScP 19 23 18.9 +1.7
HHC PCS PcS 19 23 20.8 +1.6
HHC SS SS 19 23 29.4 -30
HHC SCS ScS 19 27 14.9 +0.5
HHC AMB AMB
comp=Z,253nm,0.8s,mb6.1
HHC LR LR
comp=N,50μm,17.4s,MS6.3
HHC LR LR
comp=E,37μm,16.4s,MS6.3
HHC LR LR
comp=Z,48μm,15.9s,MS6.3
ULN Ulaanbaatar 31.91 291⇑ P **P 19 16 46.8 +0.2**
SNR=213
ULN Ulaanbaatar 31.91 291⇑ *i*P **P 19 16 45.8 -0.9**
ULN LR LR
comp=Z,51μm,19.0s,MS6.2
SVW2 Sparrevohn 32.29 44 *e*P **P 19 16 50.1 +0.2**
SONM Songino Array 32.35 291 P **P 19 16 50.0 -0.5**
comp=Z,37nm,1.0s,mb5.2,baz=71,slow=8.9,SNR=69
SONM S **S 19 22 01.8 -1.9**
comp=Z,7.2nm,1.1s,baz=83,slow=16,SNR=1.3
SONM LR LR 19 31 26.1
comp=Z,60μm,18.8s,MS6.3,baz=76,slow=39
SONM P3KPbc 19 48 17.1
comp=Z,1.8nm,1.0s,baz=252,slow=4.2,SNR=7.4
SONM P3KP 19 49 35.1
comp=Z,0.8nm,0.8s,baz=204,slow=3.2,SNR=2.7
SONM Songino Array 32.35 291 P **P 19 16 50.0 -0.5**
SONM S **S 19 22 01.8 -1.9**
SONM Songino Array 32.35 291 P **P 19 16 50.0 -0.5**
SONM S **S 19 22 01.8 -1.9**
SONM LR LR 19 31 26.1
SONM *e* 19 48 17.1
SONM PKKKP 19 49 35.1
BTO Baotou 32.38 276 *e*P **P 19 16 51.7 +0.9**
BTO AMB AMB
comp=Z,178nm,1.4s,mb5.7
BTO LR LR
comp=N,4μm,15.7s,MS5.5
BTO LR LR
comp=E,7μm,14.5s,MS5.5
IRK Irkutsk 32.73 299 *e*P **P 19 16 52.6 -1.3**
IRK *e* 19 19 37.3
IRK *e*S **S 19 22 05.0 -4.7**
IRK pmax pmax
comp=Z,385nm,1.4s,mb6.1
TLY Talaya 33.22 298⇑ P **P 19 16 58.0 0.0**
SNR=74
TLY Talaya 33.22 298 *c i*P **P 19 16 55.5 -2.6**
TLY *e* 19 18 04.1
TLY *e* 19 19 36.1
TLY *e*S **S 19 22 13.8 -3.4**
TLY *e*SS SS 19 24 11.7 -29
TLY pmax pmax
comp=Z,588nm,1.7s,mb6.2
TLY MLR MLR
comp=Z,85μm,15.0s,MS6.6
TLY Talaya 33.22 298 *e*P **P 19 16 57.6 -0.5**
GUMO Guam 33.46 197 PFAKE 19 17 10.0 +10
GUMO LR LR
comp=Z,18μm,19.0s,MS5.8
ZAK Zakamensk 33.71 296 *e*P **P 19 17 01.7 -0.7**
ZAK *e* 19 18 19.4
ZAK *e* 19 19 42.1
ZAK pmax pmax
comp=Z,221nm,1.3s,mb5.9
ZAK pmax pmax
comp=Z,63nm,1.8s,mb5.2
TATO Taipei 33.74 243 *e*P **P 19 17 09.4 +6.7**
comp=Z,373nm,1.5s,mb6.1
IMA2 Indian Mountai 33.76 35 *e*P **P 19 17 02.6 -0.2**
KDAK Kodiak Island 33.79 50 P **P 19 17 02.1 -1.0**
comp=Z,582nm,0.9s,mb6.5,baz=287,slow=4.6,SNR=134
KDAK PcP PcP 19 19 42.0 -0.1
comp=Z,41nm,0.7s,baz=153,slow=8.0,SNR=4.0
KDAK Kodiak Island 33.79 50 *e*P **P 19 17 01.7 -1.4**
KDAK LR LR
comp=Z,6μm,20.0s,MS5.3
YHNB Yeheng 34.04 242 *e*P **P 19 17 04.6 -0.7**
WHN Wuhan 34.65 257⇓ P **P 19 17 10.6 +0.1**
WHN S **S 19 22 32.0 -7.3**
WHN AMB AMB
comp=Z,11μm,7.3s
WHN LR LR
comp=Z,122μm,16.3s,MS6.7
MOY Mondy 34.84 299 *e*P **P 19 17 11.2 -0.9**
MOY *e* 19 18 34.4
MOY pmax pmax
comp=Z,440nm,2.1s,mb6.0
SLKM Skilak Lake 34.90 45 *e*P **P 19 17 12.4 -0.3**
SLKM Skilak Lake 34.90 45 *e*P **P 19 17 12.2 -0.5**
PMR Palmer 35.41 43 *e*P **P 19 17 16.9 -0.2**
PMR pmax pmax
comp=Z,620nm,1.0s,mb6.5
PMR Palmer 35.41 43 *e*P **P 19 17 16.0 -1.1**
comp=Z,385nm,1.0s,mb6.3
MCK McKinley 35.52 40 *e*P **P 19 17 18.0 -0.1**
QZH Quanzhou 35.58 246 *i*P **P 19 17 19.3 +0.8**
QZH S **S 19 22 55.3 +1.6**
QZH AMB AMB
comp=Z,1μm,0.8s,mb6.8
QZH AMB AMB
comp=Z,10μm,6.4s
QZH LR LR
comp=N,22μm,16.2s,MS6.2
QZH LR LR
comp=E,32μm,17.6s,MS6.2
QZH LR LR
comp=Z,47μm,15.8s,MS6.3
SML Sawmill 35.78 43 *e*P **P 19 17 20.2 -0.1**
COLA College 36.05 38 *e*P **P 19 17 22.7 +0.2**
COLA pmax pmax
comp=Z,2μm,1.4s,mb6.8
COLA MLR MLR
comp=Z,18μm,19.0s,MS5.9
COLA College 36.05 38 *e*P **P 19 17 22.7 +0.2**
comp=Z,2μm,1.4s,mb6.8
COLA LR LR
comp=Z,18μm,19.0s,MS5.9
XAN Xi'an 36.35 267 P **P 19 17 25.4 +0.3**
XAN AP pP 19 17 30.6 +0.3
XAN S **S 19 23 05.8 +0.4**
XAN AMB AMB
comp=Z,141nm,1.7s,mb5.6
XAN AMB AMB
comp=Z,6μm,8.9s
XAN LR LR
comp=N,17μm,16.9s,MS6.1
XAN LR LR
comp=E,19μm,16.9s,MS6.1
XAN LR LR
comp=Z,45μm,15.6s,MS6.3
EYAK Cordova Ski Ar 37.10 45 *e*P **P 19 17 31.8 +0.2**
MENT Mentasta 37.89 41 *e*P **P 19 17 38.7 +0.5**
LZH Lanzhou 38.78 273 *e*P **P 19 17 47.4 +1.6**
LZH AP pP 19 17 48.9 -2.1
LZH PP PP 19 19 17.0 +2.4
LZH PCP PcP 19 19 58.8 +1.8
LZH *e*S **S 19 23 38.0 -4.5**
LZH AMB AMB
comp=Z,333nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=E,46μm,14.4s
LZH LR LR
comp=Z,63μm,16.0s,MS6.5
EGAK Eagle 38.91 38 *e*P **P 19 17 46.4 -0.3**
comp=Z,586nm,0.9s,mb6.3
EGAK LR LR
comp=Z,24μm,21.0s,MS6.0
CVP Callao Caves 39.14 234⇓ *e*P **P 19 17 48.0 -0.7**
DAWY Dawson 39.73 39 *e*P **P 19 17 54.0 +0.4**
CAUP Cauayan 39.75 234 *e*P **P 19 17 54.8 +1.0**
ABRA Dolores 39.81 236 *e*P **P 19 17 53.5 -0.9**
GTA Gaotai 39.93 280 P **P 19 17 57.3 +2.0**
GTA AP pP 19 18 01.3 +0.8
GTA XP sP 19 18 04.1 +1.5
GTA PP PP 19 19 33.3 +6.2
GTA PCP PcP 19 20 01.7 +1.1
GTA SCP ScP 19 23 49.3 +0.5
GTA PCS PcS 19 23 52.0 +1.2
GTA S **S 19 24 03.7 +4.1**
GTA XS sS 19 24 10.9 +2.6
GTA SCS ScS 19 28 01.3 -0.5
GTA AMB AMB
comp=Z,78nm,1.5s,mb5.2
GTA AMB AMB
comp=Z,11μm,7.6s
GTA LR LR
comp=N,47μm,15.6s,MS6.5
GTA LR LR
comp=E,22μm,15.2s,MS6.5
GTA LR LR
comp=Z,29μm,14.1s,MS6.3
HKC Hong Kong 40.29 248 P **P 19 17 57.0 -1.3**
HKC S **S 19 24 04.0 -1.0**
BALP Baler 40.86 233 *e*P **P 19 18 03.1 0.0**
BCPH Baguio City Da 40.90 235⇑ *e*P **P 19 18 03.4 0.0**
POLP Polillo Island 41.49 232 *e*P **P 19 18 08.4 +0.2**
INK Inuvik 41.67 32 P **P 19 18 10.3 +0.6**
comp=Z,132nm,0.8s,mb5.6,baz=281,slow=7.1,SNR=228
INK S **S 19 24 29.3 +3.8**
comp=Z,8.8nm,1.1s,baz=126,slow=18,SNR=1.8
INK Inuvik 41.67 32 P **P 19 18 10.3 +0.7**
INK S **S 19 24 29.3 +3.8**
INK pmax pmax
comp=Z,133nm,0.8s
INK smax
comp=N,9.0nm,1.1s
INK Inuvik 41.67 32 *e*P **P 19 18 10.1 +0.4**
CD2 Chengdu 41.71 267⇓ *i*P **P 19 18 10.4 +0.4**
CD2 AP pP 19 18 15.1 -0.2
CD2 XP sP 19 18 17.8 +0.4
CD2 PP PP 19 19 48.4 +1.9
CD2 PPP 19 20 22.0
CD2 S **S 19 24 26.0 -0.2**
CD2 XS sS 19 24 39.1 +4.3
CD2 SS SS 19 27 24.9 -6.9
CD2 AMB AMB
comp=Z,110nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,12μm,6.5s
CD2 LR LR
comp=N,25μm,17.4s,MS6.3
CD2 LR LR
comp=E,30μm,17.4s,MS6.3
CD2 LR LR
comp=Z,27μm,15.6s,MS6.2
SKAG Skagway 42.44 45 *e*P **P 19 18 15.6 -0.4**
comp=Z,4μm,2.6s,mb6.6
GYA Guiyang 42.45 259⇓ *i*P **P 19 18 15.9 -0.2**
GYA AP pP 19 18 19.8 -1.6
GYA PP PP 19 19 59.2 +4.7
GYA PCP PcP 19 20 11.9 +3.1
GYA PPP 19 20 31.7
GYA SCP ScP 19 24 01.4 +2.6
GYA S **S 19 24 39.3 +2.1**
GYA SS SS 19 27 41.7 -4.8
GYA SCS ScS 19 28 18.0 +0.9
GYA AMB AMB
comp=Z,800nm,1.0s,mb6.3
GYA AMB AMB
comp=Z,5μm,8.1s
GYA LR LR
comp=N,29μm,15.6s,MS6.3
GYA LR LR
comp=E,14μm,16.4s,MS6.3
GYA LR LR
comp=Z,31μm,17.0s,MS6.3
TGY Tagaytay City 42.55 232 P **P 19 18 17.7 +0.9**
comp=Z,219nm,0.3s,baz=185,slow=9.5,SNR=4.3
TGY Tagaytay City 42.55 232⇓ *e*P **P 19 18 21.6 +4.8**
BOAC Boac 42.59 231 *e*P **P 19 18 16.6 -0.6**

PLP Palo 42.91 225 *e*P **P 19 18 20.4 +0.7**
SIT Sitka 43.09 49 *e*P **P 19 18 23.0 +1.8**
SIT pmax pmax
comp=Z,1μm,1.8s,mb6.3
SIT Sitka 43.09 49 *e*P **P 19 18 23.0 +1.8**
comp=Z,1μm,1.8s,mb6.3
LUBP Lubang 43.23 233 *e*P **P 19 18 21.8 -0.6**
OTRP Odiongan 43.41 230 *e*P **P 19 18 24.4 +0.6**
ZAL Zalesovo 43.67 307 P **P 19 18 24.6 -1.3**
comp=Z,47nm,0.6s,mb5.4,baz=48,slow=6.8,SNR=116
ZAL PcP PcP 19 20 11.8 -1.1
comp=Z,72nm,0.9s,baz=29,slow=2.5,SNR=8.2
ZAL LR LR 19 38 49.2
comp=Z,91μm,18.8s,MS6.7,baz=42,slow=39
ZAL Zalesovo 43.67 307 *i* P **P 19 18 24.6 -1.3**
ZAL pmax pmax
comp=Z,470nm,0.6s
ZAL Zalesovo 43.67 307 P **P 19 18 24.6 -1.3**
ZAL PcP PcP 19 20 11.8 -1.1
ZAL LR LR 19 38 49.2
MSLP Maasin 43.86 224 *e*P **P 19 18 27.4 0.0**
NVS Novosibirsk 44.23 308⇑*i*P **P 19 18 29.2 -1.2**
NVS *e*PP pP 19 18 42.3 +6.6
NVS *i* 19 20 14.6
NVS *i* S **S 19 24 57.5 -5.6**
NVS *e*SS SS 19 28 15.9 -5.3
NVS *e*SSS 19 29 10.0
NVS pmax pmax
comp=Z,790nm,1.9s,mb6.1
NVS pmax pmax
comp=N,352nm,2.0s
NVS pmax pmax
comp=E,733nm,2.0s
NVS smax
comp=N,820nm,2.0s
NVS smax
comp=E,215nm,1.8s
GUIM Jordan 44.57 228 *e*P **P 19 18 33.8 +0.7**
BUSP Coron 44.68 231 *e*P **P 19 18 34.1 +0.1**
CRAG Craig 44.75 50 *e*P **P 19 18 36.1 +1.5**
comp=E,431nm,0.9s,mb6.3
WRAK Wrangell Islan 44.84 49 *e*P **P 19 18 36.8 +1.5**
comp=E,489nm,1.4s,mb6.1
CUYO Cuyo Island 45.20 230 *e*P **P 19 18 39.4 +1.3**
DLBC Dease Lake 45.37 46 *e*P **P 19 18 41.2 +1.7**
CGP Cagayan de Oro 45.40 223 *e*P **P 19 18 38.1 -1.5**
QIZ Qiongzhong 45.44 249 ⇓P **P 19 18 41.1 +1.1**
QIZ AP pP 19 18 46.1 +0.7
QIZ S **S 19 25 23.2 +2.5**
QIZ XS sS 19 25 32.3 +2.9
QIZ AMB AMB
comp=Z,95nm,2.0s,mb5.3
QIZ AMB AMB
comp=Z,6μm,8.2s
QIZ LR LR
comp=N,25μm,19.2s,MS6.2
QIZ LR LR
comp=E,13μm,17.0s,MS6.2
QIZ LR LR
comp=Z,26μm,16.7s,MS6.2
QIZ Qiongzhong 45.44 249 *e*P **P 19 18 41.7 +1.7**
comp=Z,214nm,1.3s,mb5.8
BUKP Musuan 45.72 223 *e*P **P 19 18 42.5 +0.2**
ENPP El Nido 45.76 232 *e*P **P 19 18 42.6 0.0**
KIP Kipapa 45.77 106 *e*P **P 19 18 43.6 +1.0**
KIP pmax pmax
comp=Z,299nm,0.8s,mb6.3
KIP Kipapa 45.77 106 *e*P **P 19 18 43.6 +1.0**
comp=Z,299nm,0.8s,mb6.3
WMQ Urumqi 45.95 292 P **P 19 18 45.3 +1.2**
WMQ PCP PcP 19 20 22.0 +1.2
WMQ PP PP 19 20 32.6 +0.8
WMQ PPP 19 21 16.0
WMQ SCP ScP 19 24 16.4 +3.3
WMQ S **S 19 25 30.0 +2.0**
WMQ PS 19 25 36.7
WMQ SCS ScS 19 28 40.4 +1.2
WMQ SS SS 19 28 45.8 -7.0
WMQ AMB AMB
comp=Z,285nm,1.0s,mb6.2
WMQ AMB AMB
comp=Z,12μm,6.0s
WMQ LR LR
comp=N,35μm,16.0s,MS6.7
WMQ LR LR
comp=E,64μm,15.0s,MS6.7
WMQ LR LR
comp=Z,44μm,16.0s,MS6.5
MATI Mati 45.99 221 *e*P **P 19 18 43.8 -0.6**
KMI Kunming 46.01 261 ⇓P **P 19 18 45.1 +0.6**
KMI AP pP 19 18 48.7 -1.1
KMI XP sP 19 18 49.8 -2.1
KMI PCP PcP 19 20 22.0 +1.0
KMI PP PP 19 20 32.7 +0.3
KMI PPP 19 21 17.8
KMI SCP ScP 19 24 15.7 +2.4
KMI PCS PcS 19 24 16.9 +1.6
KMI S **S 19 25 28.5 -0.4**
KMI XS sS 19 25 33.4 -4.2
KMI SCS ScS 19 28 40.0 +0.4
KMI SS SS 19 28 43.9 -10
KMI SSS 19 29 45.4
KMI AMB AMB
comp=Z,98nm,1.7s,mb5.5
KMI AMB AMB
comp=Z,7μm,5.9s
KMI LR LR
comp=N,24μm,17.4s,MS6.3
KMI LR LR
comp=E,21μm,16.5s,MS6.3
KMI LR LR
comp=Z,27μm,18.4s,MS6.2
CTBH Cotabato--PC H 46.68 223⇓*e*P **P 19 18 51.3 +1.4**
MK31 Makanchi Array 47.98 298 *e*P **P 19 18 59.7 -0.2**
MKAR Makanchi Array 47.98 298 P **P 19 18 59.9 0.0**
comp=Z,291nm,0.9s,mb6.3,baz=69,slow=6.6,SNR=214
MKAR PcP PcP 19 20 28.0 0.0
comp=Z,43nm,0.7s,baz=50,slow=4.7,SNR=2.1
MKAR S **S 19 25 52.5 -4.6**
comp=Z,22nm,1.2s,baz=53,slow=18,SNR=3.3
MKAR LR LR 19 41 09.6
comp=Z,110μm,18.2s,MS6.9,baz=242,slow=38
MKAR P4KPbc 19 56 40.3
comp=Z,0.4nm,0.8s,baz=36,slow=2.7,SNR=2.7
MKAR Makanchi Array 47.98 298 *i* P **P 19 18 59.9 0.0**
MKAR pmax pmax
comp=Z,291nm,0.9s
MKAR Makanchi Array 47.98 298 P **P 19 18 59.9 0.0**
MKAR PcP PcP 19 20 27.9 0.0
MKAR S **S 19 25 52.5 -4.6**
MKAR LR LR 19 41 09.6
KKH Kailua Kona 48.33 106 *e*P **P 19 19 03.6 +0.9**
KURK Kurchatov 48.41 305 ⇓P **P 19 19 02.5 -0.7**
SNR=203
KURK Kurchatov 48.41 305*c i*P **P 19 19 02.1 -1.1**
POHA Pohakuloa 48.59 106 *e*P **P 19 19 05.6 +0.9**
comp=Z,563nm,0.8s,mb6.7
BATP Bataraza 48.64 232 *e*P **P 19 19 06.5 +1.5**
KHU Kahuku 48.89 106 *e*P **P 19 19 07.5 +0.6**
ALE Alert 50.22 6 P **P 19 19 16.0 -1.1**
comp=Z,2μm,1.0s,mb7.1,SNR=25
YKW3 Yellowknife Ar 50.82 37 *e*P **P 19 19 21.2 -0.4**
YKA Yellowknife Ar 50.86 37 P **P 19 19 21.8 -0.1**
comp=Z,26nm,0.6s,mb5.3,baz=296,slow=7.2,SNR=146
YKA PcP PcP 19 20 38.4 0.0
comp=Z,36nm,0.7s,baz=294,slow=3.7,SNR=7.9
YKA LR LR 19 42 26.6
comp=Z,16μm,21.0s,MS6.0,baz=275,slow=38
YKA Yellowknife Ar 50.86 37 *i* P **P 19 19 21.7 -0.2**
YKA pmax pmax
comp=Z,260nm,0.6s
YKA Yellowknife Ar 50.86 37 P **P 19 19 21.8 -0.1**
YKA PcP PcP 19 20 38.4 0.0
YKA LR LR 19 42 26.6
RES Resolute Bay 51.10 19 *e*P **P 19 19 24.0 +0.3**
LSA Lhasa 51.18 274 P **P 19 19 26.2 +1.9**
LSA AP pP 19 19 35.4 +5.7
LSA PCP PcP 19 20 44.2 +4.6
LSA PP PP 19 21 21.7 +0.6
LSA SCP ScP 19 24 38.2 +2.9
LSA PCS PcS 19 24 42.2 +4.9
LSA S **S 19 26 33.6 -8.2**
LSA XS sS 19 26 52.9 +2.2
LSA SCS ScS 19 29 14.6 +0.4
LSA SS SS 19 30 13.4 -3.8
LSA AMB AMB
comp=Z,160nm,0.7s,mb6.1
LSA AMB AMB
comp=Z,8μm,8.0s
LSA LR LR
comp=N,18μm,31.3s
LSA LR LR
comp=E,22μm,36.7s
LSA LR LR
comp=Z,19μm,22.1s
LSA Lhasa 51.18 274 *e*P **P 19 19 26.6 +2.3**
LSA pmax pmax
comp=Z,483nm,0.6s,mb6.6
LSA Lhasa 51.18 274 *e*P **P 19 19 26.6 +2.3**
comp=Z,483nm,0.6s,mb6.6
CHKZ Chkalovo 51.46 311 P **P 19 19 25.5 -1.0**
CHKZ pmax pmax
comp=Z,231nm,0.9s,mb6.1
CHKZ Chkalovo 51.46 311 *e*P **P 19 19 26.4 0.0**
NANT Nan 51.66 257 ⇓P **P 19 19 26.1 -1.9**
comp=Z,1μm,1.0s,mb6.9
KKM Kota Kinabalu 51.79 231 P **P 19 19 30.4 +1.5**
KKM Kota Kinabalu 51.79 231 *e*P **P 19 19 28.7 -0.2**
BVA0 Borovoye Array 51.89 310 *i* P **P 19 19 29.8 +0.1**
BVA0 pmax pmax
comp=Z,196nm,2.2s,mb5.7
BVAR Borovoye Array 51.89 310 P **P 19 19 29.4 -0.2**
comp=Z,151nm,1.0s,mb5.9,baz=53,slow=7.7,SNR=247
BVAR PcP PcP 19 20 42.2 -0.1
comp=Z,78nm,0.8s,baz=78,slow=3.5,SNR=6.2
BVAR P4KPbc 19 56 56.7
comp=Z,2.7nm,0.9s,baz=64,slow=3.4,SNR=9.5
BVAR Borovoye Array 51.89 310 P **P 19 19 29.4 -0.2**
BVAR PcP PcP 19 20 42.2 -0.1
BRVK Borovoye 51.93 310 ⇑P **P 19 19 30.1 +0.1**
SNR=92
BRVK Borovoye 51.93 310⇑*i*P **P 19 19 29.3 -0.7**
KKTK Khon Kaen 51.99 253 PG **P 19 19 31.0 +0.6**
IMP Imphal 52.31 268 *e*P **P 19 19 33.0 +0.2**
IMP *ex* x 19 24 06.0
TSM Tawau 52.38 228 P **P 19 19 34.8 +1.6**
CHG Chiang Mai 52.85 258 ⇓P **P 19 19 36.3 -0.4**
comp=Z,150nm,0.9s,mb5.9
CHTO Chiang Mai 52.85 258 P **P 19 19 37.9 +1.1**
SNR=67
CHTO Chiang Mai 52.85 258 *e*P **P 19 19 36.7 0.0**
comp=Z,254nm,1.0s,mb6.1
KBS Kingsbay 53.19 352 *e*P **P 19 19 38.2 -1.1**
KBS *e*S **S 19 27 07.5 -1.9**
KBS *e*SS SS 19 30 51.7 +2.8
KBS AMS AMS 19 48 24.5
comp=Z,8μm,16.4s,MS5.8
KBS Kingsbay 53.19 352 *e*P **P 19 19 38.0 -1.3**
SHL Shillong 53.23 270 *e*P **P 19 19 37.5 -2.1**
SHL *i* x x 19 27 41.0
SPB4 Spitsbergen Ar 53.33 350 *e*P **P 19 19 40.2 -0.1**
ULHL Ulahol 54.00 296 P **P 19 19 47.5 +2.3**
SNR=24
TKM2 Tokmak 2 54.03 297 P **P 19 19 46.7 +1.2**
SNR=118
NST Nakhon Sawan 54.25 254 P **P 19 19 48.0 +0.9**
comp=Z,92nm,1.1s,mb5.6
GTK Gangtok 54.39 274 *e*P **P 19 19 45.0 -3.1**
CHMS Chumysh 54.51 298 P **P 19 19 49.9 +0.9**
SNR=112
USP Ospenovka 54.52 298 P **P 19 19 50.1 +1.1**
SNR=267
KBK Karagaybulak 54.58 297 P **P 19 19 50.6 +1.2**
SNR=191
KZA Kyzart 54.71 296 P **P 19 19 52.5 +2.2**
SNR=224
AGT Agartala 54.76 269 *i* x x 19 19 54.0
AGT *i* x x 19 22 00.0
AAI Ambon 54.81 213 P **P 19 19 50.8 -0.3**
SVE Sverdlovsk 54.84 318⇓*i*P **P 19 19 50.0 -1.3**
SVE *e* 19 21 56.0
SVE *e*S **S 19 27 28.0 -3.7**
SVE *e* 19 29 38.0
SVE *e*SSS 19 33 18.0
SVE pmax pmax
comp=Z,760nm,2.0s,mb6.4
SVE MLR MLR
comp=N,23μm,16.0s,MS6.5
SVE MLR MLR
comp=E,22μm,16.0s,MS6.5
SVE MLR MLR
comp=Z,41μm,16.0s,MS6.6
AAK Ala-Archa 54.87 297 P **P 19 19 52.6 +1.1**
SNR=242
AAK Ala-Archa 54.87 297 P **P 19 19 52.0 +0.5**
SNR=209
AAK Ala-Archa 54.87 297⇑*i*P **P 19 19 51.2 -0.3**
AAK pmax pmax
comp=Z,618nm,1.4s,mb6.4
AAK MLR MLR
comp=Z,76μm,19.0s,MS6.8
AAK Ala-Archa 54.87 297⇑*i*P **P 19 19 51.3 -0.2**
SLGI Shiliguri 54.93 273 *e*P **P 19 19 53.0 +1.1**
WRW Wenatchee Ridg 54.94 55 P **P 19 19 52.0 -0.1**
UCH Uchtor 55.08 297 P **P 19 19 55.5 +2.4**
SNR=64
SOKR Solikamsk 55.08 322*c i*P **P 19 19 56.5 +3.4**
SOKR S **S 19 27 35.2 +0.2**
SOKR SSS 19 31 14.8
SOKR pmax pmax
comp=Z,800nm,1.0s,mb6.7
SOKR MLR MLR
comp=Z,37μm,18.0s,MS6.5
SLFW Sugar Loaf 55.19 55 P **P 19 19 54.0 +0.1**
COR Corvallis 55.29 59 *e*P **P 19 19 54.7 +0.1**
COR pmax pmax
comp=Z,312nm,1.0s,mb6.3
COR Corvallis 55.29 59 *e*P **P 19 19 54.7 +0.2**
comp=Z,312nm,1.0s,mb6.3
EKS2 Erkin-Say 55.30 298 P **P 19 19 55.8 +1.2**
SNR=217
TBM Table Mountain 55.47 56 P **P 19 19 56.1 +0.3**
HNR Honiara 55.58 173 *e*P **P 19 19 58.3 +1.6**
HNR pmax pmax
comp=Z,465nm,1.0s,mb6.5
HNR Honiara 55.58 173 *e*P **P 19 19 58.3 +1.6**
comp=Z,465nm,1.0s,mb6.5
KEBM Edson Butte 55.61 62 *e*P **P 19 19 58.4 +1.5**
EBG Ellensburg 55.62 56 P **P 19 19 57.3 +0.3**
AML Almayashu 55.64 297 P **P 19 19 59.0 +1.9**
SNR=122
KSH Kashi 55.68 293 P **P 19 20 00.0 +2.6**
KSH AP pP 19 20 04.7 +1.9
KSH XP sP 19 20 06.9 +2.1
KSH PCP PcP 19 20 59.1 +2.4
KSH PP PP 19 22 06.5 +4.8
KSH PPP 19 23 20.7
KSH SCP ScP 19 24 55.4 +0.5
KSH PCS PcS 19 24 57.1 +0.2
KSH S **S 19 27 44.4 +1.5**
KSH XS sS 19 27 51.3 -0.5
KSH SCS ScS 19 29 45.5 -0.4
KSH SS SS 19 31 29.2 +1.0
KSH LR LR
comp=N,39μm,10.6s,MS7.0
KSH LR LR
comp=E,65μm,12.2s,MS7.0
PMG Port Moresby 55.71 189*d i*P **P 19 19 57.2 -0.4**
PMG Port Moresby 55.71 189 *e*P **P 19 19 57.4 -0.2**
comp=E,522nm,1.7s,mb6.3
HOOD Mount Hood Mea 55.86 58 *e*P **P 19 19 59.9 +1.2**
JIRN Jiri 55.87 276 *e*P **P 19 20 00.4 +1.7**
comp=E,2μm,0.9s,mb7.1
PCI Palu 55.88 223 P **P 19 19 56.3 -2.5**
GUN Gumba 55.92 276 *e*P **P 19 20 00.6 +1.5**
comp=E,3μm,1.1s,mb7.2
BJO Bjornoya 55.93 347 *e*P **P 19 20 01.2 +2.0**
BJO *e*S **S 19 27 45.1 -1.1**
BJO *e*SS SS 19 31 36.3 +4.2
BJO AMS AMS 19 51 35.4
comp=Z,14μm,17.6s,MS6.1
BJO1 Bjornoya 55.96 347 *e*P **P 19 20 01.2 +1.8**
BJO1 *e* 19 27 43.7
BJO1 *i* 19 32 29.1
BJO1 LR LR
comp=Z,14μm,17.6s,MS6.1
ARU Arti 56.02 318 P **P 19 19 59.1 -0.7**
comp=Z,5μm,0.9s,SNR=83
ARU Arti 56.02 318⇓*i*P **P 19 19 59.5 -0.3**
ARU *e* 19 20 57.4
ARU *e*S **S 19 27 47.6 +0.2**
ARU *e* 19 29 47.2
ARU *e*SSS 19 33 42.3
ARU pmax pmax
comp=Z,912nm,1.0s,mb6.8
ARU MLR MLR
comp=N,14μm,16.0s,MS6.3
ARU MLR MLR
comp=E,16μm,16.0s,MS6.3
ARU MLR MLR
comp=Z,30μm,16.0s,MS6.5
ARU Arti 56.02 318 *e*P **P 19 19 59.3 -0.5**
comp=Z,1μm,1.1s,mb6.8
KBO Bosley Butte 56.04 62 *e*P **P 19 20 00.8 +0.9**
EDM Edmonton 56.08 46 *e*P **P 19 19 60.0 -0.3**
HBO Huckleberry Mo 56.29 60 P **P 19 20 02.6 +0.8**
BKCOR Black Crater 56.41 59 P **P 19 20 03.4 +0.8**
KKN Kakani 56.41 277 *e*P **P 19 20 04.0 +1.4**
comp=Z,3μm,1.2s,mb7.2
KKN Kakani 56.41 277 *e*P **P 19 20 04.2 +1.6**
comp=Z,1μm,0.8s,mb7.0
OD2 Odessa Site #2 56.42 55 P **P 19 20 02.1 -0.6**
PKI Pulchoki 56.46 276 *e*P **P 19 20 04.2 +1.2**
comp=Z,2μm,1.1s,mb7.1
HUMO Hull Mountain 56.59 61 *e*P **P 19 20 04.4 +0.5**
comp=Z,292nm,1.4s,mb6.1
KRMB Red Mountain 56.62 63 *e*P **P 19 20 04.6 +0.5**
DMN Daman 56.65 276 *e*P **P 19 20 05.9 +1.6**
comp=Z,2μm,1.0s,mb7.2
GKN Gorkha 56.72 277 *e*P **P 19 20 06.2 +1.4**
comp=Z,4μm,1.2s
GKN Gorkha 56.72 277 *e*P **P 19 20 06.2 +1.4**
comp=Z,5μm,1.2s
NEW Newport 56.82 53 *e*P **P 19 20 05.2 -0.4**
NEW pmax pmax
comp=Z,199nm,1.3s
NEW Newport 56.82 53 *e*P **P 19 20 05.2 -0.4**
comp=Z,199nm,1.3s,mb6.0
KKAR Karatay Array 57.04 300 *i* P **P 19 20 07.4 +0.3**
KKAR pmax pmax
comp=Z,1μm,1.4s,mb6.7
KHMM Horse Mountain 57.10 63 *e*P **P 19 20 10.4 +2.9**
YBH Yreka Blue Hor 57.24 62 *e*P **P 19 20 09.6 +1.1**
DAG Danmarks Havn 57.25 358⇑*i*P **P 19 20 07.1 -1.4**
comp=Z,78nm,1.0s,mb5.7
DAG
comp=Z,17μm,21.0s
KOLN Koldanda 57.59 278 *e*P **P 19 20 12.5 +1.6**
comp=Z,2μm,0.9s,mb7.0
LHEM Herd Peak 57.60 62 P **P 19 20 12.0 +0.9**
LVZ Lovozero 57.63 337 P **P 19 20 11.4 +0.1**
comp=Z,4μm,1.1s,SNR=11
LVZ Lovozero 57.63 337*c i*P **P 19 20 14.7 +3.4**
LVZ *e*PPP 19 23 48.1
LVZ *i* S **S 19 28 07.2 -1.6**
LVZ pmax pmax
comp=Z,990nm,1.4s,mb6.7
LVZ pmax pmax
comp=N,377nm,1.5s
LVZ pmax pmax
comp=E,161nm,1.2s
LVZ smax
comp=N,3μm,4.5s
LVZ smax
comp=Z,2μm,4.0s
LVZ smax
comp=E,5μm,4.8s
LVZ MLR MLR
comp=N,20μm,17.0s,MS6.4
LVZ MLR MLR
comp=Z,33μm,17.0s,MS6.5
LVZ MLR MLR
comp=E,13μm,16.0s,MS6.4
LVZ Lovozero 57.63 337 *e*P **P 19 20 10.4 -0.9**
CAL Calcutta 57.66 270 *e*P **P 19 20 12.4 +0.9**
CAL *e*S **S 19 28 10.0 +0.9**
CAL AMP 19 50 08.1
comp=Z,10μm,15.9s
VLK Valmikinagar 57.69 277 *i* P **P 19 20 09.0 -2.6**
VLK *ex* x 19 20 11.0
KIPM Iron Peak 57.88 64 *e*P **P 19 20 13.6 +0.7**
KCPM Cahto Peak 57.88 64 *e*P **P 19 20 13.5 +0.5**
WDC Whiskeytown Da 58.01 63 *e*P **P 19 20 14.4 +0.5**
WALA Waterton Lakes 58.13 51 *e*P **P 19 20 14.9 +0.2**
KEV Kevo 58.17 341 *e*p **P 19 20 16.1 +1.1**
KEV Kevo 58.17 341 *e*P **P 19 20 14.9 -0.1**
KEV pmax pmax
comp=Z,720nm,1.2s,mb6.6
KEV Kevo 58.17 341 P **P 19 20 13.0 -2.0**
APA Apatity 58.20 337⇑*i*P **P 19 20 15.3 0.0**
APA *i* 19 20 26.0
APA *i* 19 20 36.0
APA *i* 19 22 28.6
APA *i* PPP 19 23 54.0
APA *i* S **S 19 28 14.0 -2.2**
APA *i* PS 19 28 39.0
APA pmax pmax
comp=Z,91nm,1.0s,mb5.8
BSMT Bassoo Peak 58.35 52 *e*P **P 19 20 17.6 +1.3**
BOK Bokaro 58.54 272 *e*P **P 19 20 18.2 +0.6**
BOK AMb AMB 19 20 25.8
comp=Z,700nm,1.3s,mb6.5
BOK *e*S **S 19 28 23.2 +2.6**
HOPS Hopland 58.61 65 *e*P **P 19 20 18.1 0.0**
comp=Z,182nm,1.3s,mb6.0
MOD Modoc 58.61 61 *e*P **P 19 20 18.6 +0.4**
comp=Z,80nm,0.9s,mb5.8
BMO Blue Mountains 58.67 56 *e*P **P 19 20 18.7 +0.2**
comp=Z,185nm,1.1s,mb6.0
ARCES ARCESS Array B 58.67 341 P **P 19 20 18.1 -0.5**
comp=Z,34nm,0.7s,mb5.5,baz=40,slow=6.9,SNR=72
ARCES LR LR 19 52 47.0
comp=Z,21μm,18.1s,MS6.3,baz=288,slow=43
ARE0 ARCESS Array S 58.67 341 *e*P **P 19 20 19.1 +0.5**
PTH Pithoragarh 58.79 281 *e*P **P 19 20 21.0 +1.6**
PTH *ex* x 19 21 03.2
FUNA Funafuti 58.81 151 *e*P **P 19 20 19.3 -0.3**
comp=Z,3μm,2.3s,mb6.8
FUNA LR LR
comp=Z,13μm,20.0s,MS6.1
LGTI Lohaghat 58.83 281 *i* P **P 19 20 21.5 +1.8**
KSM Kuching 58.84 234 *e*P **P 19 20 20.3 +0.6**
NSHM Saint Helena R 59.18 65 *e*P **P 19 20 21.9 -0.2**
MCCM Marconi Confer 59.23 66 *e*P **P 19 20 21.5 -0.9**
comp=Z,222nm,1.4s,mb6.0
MCCM LR LR
comp=Z,5μm,20.0s,MS5.7
WVOR Wild Horse Val 59.30 59 *e*P **P 19 20 23.3 +0.4**
WVOR pmax pmax
comp=Z,282nm,1.4s,mb6.1
WVOR Wild Horse Val 59.30 59 *e*P **P 19 20 23.3 +0.3**
comp=Z,282nm,1.4s,mb6.1
OHCM Honcut 59.40 64 *e*P **P 19 20 20.5 -3.1**
MSO Missoula 59.41 53 *e*P **P 19 20 23.8 +0.1**
comp=Z,349nm,1.4s,mb6.2
AB31 Akbulak array 59.46 311 *i* P **P 19 20 23.8 -0.2**
AB31 pmax pmax
comp=Z,531nm,0.9s,mb6.6
KAPI Kappang 59.52 221 P **P 19 20 22.8 -1.7**
KTK1 Kautokeino 59.59 342 *e*P **P 19 20 25.5 +0.6**
KTK1 AMb AMB 19 20 33.4
comp=Z,2μm,1.4s,mb6.9
KTK1 Kautokeino 59.59 342 *e*P **P 19 20 25.5 +0.6**
comp=Z,2μm,1.4s,mb6.9
SRNI Srinagar 59.59 289 *e*P **P 19 20 28.5 +3.6**
CHMT Chamberlain Mo 59.74 52 *e*P **P 19 20 25.8 -0.1**
AKTK Aktyubinsk 59.76 313 P **P 19 20 26.6 +0.6**
AKTO Aktyubinsk 59.76 313 P **P 19 20 26.6 +0.6**
comp=Z,63nm,0.8s,mb5.7,baz=60,slow=7.9,SNR=62
AKTO Aktyubinsk 59.76 313 P **P 19 20 26.3 +0.3**
AKTO pmax pmax
comp=Z,3μm,4.0s
DDI Dehra Dun 59.78 284 *e*P **P 19 20 27.6 +1.4**
SDNR Sundarnagar 59.78 285 *e*P **P 19 20 27.0 +0.8**
SDNR *e*S **S 19 28 40.0 +3.4**
DLH Dalhousie 59.81 287 *e*P **P 19 20 26.0 -0.4**
DLH *e*P 19 20 26.0
SAC San Andreas 59.86 66 *e*P **P 19 20 27.9 +1.1**
TRO Tromso 59.98 344 *e*P **P 19 20 26.0 -1.6**
TRO *e* 19 24 20.8
TRO *e*S **S 19 28 40.7 +1.5**
TRO AMS AMS 19 52 58.0
comp=Z,14μm,16.3s,MS6.2
TRO Tromso 59.98 344 *e*P **P 19 20 23.4 -4.1**

TRO e 19 24 20.8
TRO i 19 28 41.3
TRO LR LR
comp=Z,14μm,16.3s,MS6.2
SGF Sodankyl 60.06 339 P **P** **19 20 27.3 -0.9**
PONG Pong 60.18 286 eP **P** **19 20 27.5 -1.5**
BHK Bhakra 60.20 286 eP **P** **19 20 32.0 +2.9**
ALBI Allahabad 60.38 277 eP **P** **19 20 28.5 -1.9**
HRY Holter Researc 60.65 52 eP **P** **19 20 33.9 +1.8**
ORR Orenburg 60.67 315 i P **P** **19 20 32.7 +0.4**
ORR 19 22 43.7
ORR PPP 19 24 15.2
ORR S **S** **19 28 36.2 -12**
ORR pmax pmax
comp=Z,670nm,1.3s,mb6.6
ORR MLR MLR
comp=Z,52μm,16.0s,MS6.8
LRM Limekiln Ridge 60.84 53 eP **P** **19 20 33.8 +0.3**
CMB Columbia Colle 60.87 64 P **P** **19 20 33.8 +0.1**
CMB pmax pmax
comp=Z,120nm,0.9s,mb6.0
CMB Columbia Colle 60.87 64 eP **P** **19 20 33.7 0.0**
comp=Z,116nm,0.8s,mb6.1
BWNR Bhubaneshwar 60.90 270 ex x 19 21 54.0
EGMT Eagleton 60.97 50 eP **P** **19 20 34.1 -0.2**
comp=Z,369nm,1.1s,mb6.4
SAO San Andreas Ge 60.98 66 P **P** **19 20 34.6 +0.2**
SAO pmax pmax
comp=Z,150nm,1.5s,mb5.9
SAO San Andreas Ge 60.98 66 eP **P** **19 20 34.0 -0.4**
comp=Z,154nm,1.6s,mb5.9
SAO LR LR
comp=Z,5μm,20.0s,MS5.6
DLMT Dillon 61.04 54 eP **P** **19 20 34.9 0.0**
comp=Z,111nm,0.8s,mb6.0
KLMR Klimovskoe 61.04 329 eP **P** **19 20 34.8 0.0**
KLMR e 19 23 48.7
KLMR eS **S** **19 28 51.2 -1.7**
KLMR eSS SS 19 32 51.8 -0.7
KLMR pmax pmax
comp=Z,2μm,1.4s,mb7.1
KLMR MLR MLR
comp=Z,35μm,19.0s,MS6.5
HLID Hailey 61.11 56 eP **P** **19 20 35.6 +0.4**
comp=Z,117nm,0.9s,mb6.0
MCMT McKenzie Canyo 61.23 54 eP **P** **19 20 35.9 -0.2**
BMN Battle Mountai 61.35 60 eP **P** **19 20 37.4 +0.4**
BMN pmax pmax
comp=Z,287nm,1.1s,mb6.3
BMN Battle Mountai 61.35 60 eP **P** **19 20 37.4 +0.5**
comp=Z,287nm,1.1s,mb6.3
NDI New Delhi 61.37 283 eP **P** **19 20 36.4 -0.7**
NDI AMb AMB 19 20 47.2
comp=Z,910nm,1.2s,mb6.8
NDI eS **S** **19 28 57.8 +0.7**
BOZ Bozeman (W) 61.41 53 eP **P** **19 20 37.6 +0.3**
BOZ pmax pmax
comp=Z,400nm,1.2s,mb6.4
BOZ Bozeman (W) 61.41 53 eP **P** **19 20 37.6 +0.3**
comp=Z,400nm,1.2s,mb6.4
LRV Little Rabbit 61.46 66 eP **P** **19 20 38.0 +0.4**
KULM Kulim 61.63 246 eP **P** **19 20 39.4 +0.6**
KAKA Kakadu 61.86 204⇓ i P **P** **19 20 39.7 -0.6**
comp=Z,244nm,0.7s,mb6.4
NVAR Mina Array Bea 61.92 63 PKP2ab 19 50 05.7
comp=Z,17nm,0.5s,baz=131,slow=7.6,SNR=61
IPM Ipoh 62.01 245 P **P** **19 20 42.3 +0.9**
QLMT Earthquake Lak 62.02 53 eP **P** **19 20 41.7 +0.3**
PBA Port Blair 62.11 257 eP **P** **19 20 38.4 -3.6**
PBA AMb AMB 19 20 42.0
comp=Z,478nm,2.1s,mb6.2
JOF Joensuu 62.23 334 ep **P** **19 20 42.1 -0.7**
LOF Lofoten 62.29 344 eP **P** **19 20 44.6 +1.3**
LOF epP pP 19 20 50.1 +1.4
LOF AMb AMB 19 20 54.3
comp=Z,1μm,2.5s,mb6.6
LOF Lofoten 62.29 344 eP **P** **19 20 44.6 +1.3**
comp=Z,1μm,2.5s,mb6.6
ELK Elko 62.35 59 eP **P** **19 20 44.2 +0.5**
ELK pmax pmax
comp=Z,104nm,1.1s
ELK Elko 62.35 59 eP **P** **19 20 44.2 +0.5**
comp=Z,104nm,1.1s,mb5.9
YMR Madison River 62.38 53 eP **P** **19 20 44.3 +0.5**
comp=Z,238nm,1.0s,mb6.3
GCMT Greycliff 62.40 52 eP **P** **19 20 44.6 +0.7**
PECR Pechory 62.42 324⇑ i P **P** **19 20 43.0 -1.1**
PECR e 19 24 39.0
PECR eS **S** **19 29 07.4 -2.9**
PECR i 19 30 37.0
PECR pmax pmax
comp=Z,320nm,2.0s,mb6.1
PECR pmax pmax
comp=Z,13μm,8.0s
PECR pmax pmax
comp=N,5μm,6.0s
PECR pmax pmax
comp=E,4μm,6.0s
PECR smax
comp=N,7μm,10.0s
PECR smax
comp=E,6μm,10.0s
PECR MLR MLR
comp=Z,35μm,16.0s,MS6.6
PECR MLR MLR
comp=N,24μm,15.0s,MS6.6
PECR MLR MLR
comp=E,21μm,15.0s,MS6.6
MTUM Tungsten Hills 62.43 64 eP **P** **19 20 44.5 +0.3**
PTRM Twisleman Ran 62.45 66 eP **P** **19 20 44.8 +0.5**
JMIC Jan Mayen 62.49 354 P **P** **19 20 45.2 +0.6**
comp=E,107nm,0.9s,mb6.0,baz=157,slow=7.7,SNR=2.7
JMIC Jan Mayen 62.49 354 eP **P** **19 20 49.9 +5.3**
JMIC eS **S** **19 29 12.8 +1.5**
JMIC eSS SS 19 33 22.3 +7.1
JMIC AMS AMS 19 48 19.9
comp=Z,5μm,19.6s,MS5.7
JMIC Jan Mayen 62.49 354 P **P** **19 20 45.2 +0.6**
JMIC eP pP 19 20 49.9 -0.2
JMIC e 19 29 19.8
JMIC LR LR
comp=Z,5μm,19.6s,MS5.7
KGM Kluang 62.51 241 P **P** **19 20 47.0 +2.2**
YNR Norris Junctio 62.51 53 eP **P** **19 20 45.8 +1.0**
YFT Old Faithful 62.59 54 eP **P** **19 20 47.0 +1.8**
LKWY Lake 62.76 53 PFAKE 19 21 00.0 +14
LKWY LR LR
comp=Z,18μm,19.0s,MS6.3
TPH Tonopah 62.81 62 P **P** **19 20 47.2 +0.5**
TPH pmax pmax
comp=Z,260nm,1.0s,mb6.3
TPH Tonopah 62.81 62 eP **P** **19 20 47.0 +0.3**
comp=Z,260nm,1.0s,mb6.3
IMW Indian Meadow 62.88 54 eP **P** **19 20 48.1 +0.9**
comp=Z,222nm,1.1s,mb6.2
DCID1 Drake Creek 62.93 54 eP **P** **19 20 48.8 +1.3**
RRI2 Red Ridge 63.01 55 eP **P** **19 20 38.7 -9.3**
comp=Z,385nm,0.8s,mb6.6
RLMT Red Lodge 63.03 52 eP **P** **19 20 48.9 +0.7**
comp=Z,240nm,1.1s,mb6.2
JBP Jabalpur 63.04 276⇓ eP **P** **19 20 49.0 +0.7**
JBP ex x 19 20 57.7
comp=Z,714nm,1.5s
JBP eS **S** **19 29 19.5 +1.4**
MOOW Moose Ponds 63.08 54 eP **P** **19 20 49.1 +0.6**
comp=Z,744nm,1.7s,mb6.5
TPAW Teton Pass 63.13 54 eP **P** **19 20 50.0 +1.1**
comp=Z,449nm,1.0s,mb6.5
HVU Hansel Valley 63.16 57 eP **P** **19 20 49.3 +0.3**
HVU pmax pmax
comp=Z,78nm,0.9s,mb5.8
HVU Hansel Valley 63.16 57 eP **P** **19 20 49.3 +0.3**
comp=Z,78nm,0.9s,mb5.8
LOHW Long Hollow 63.25 54 eP **P** **19 20 50.5 +0.8**
comp=Z,1μm,1.7s,mb6.7
SNOW Snow King Moun 63.26 54 eP **P** **19 20 50.4 +0.7**
comp=Z,523nm,1.3s,mb6.5
REDW Red Top Meadow 63.26 54 eP **P** **19 20 50.6 +0.9**
comp=Z,1μm,1.5s,mb6.8
AHID Auburn Hatcher 63.50 55 eP **P** **19 20 51.3 0.0**
comp=Z,358nm,1.4s,mb6.2
BGU Big Grassy Mou 63.55 58 eP **P** **19 20 51.6 0.0**
SPUT South Promonto 63.64 57 eP **P** **19 20 47.6 -4.6**
LAO LASA Array 63.67 49 eP **P** **19 20 52.8 +0.3**
comp=Z,273nm,0.9s,mb6.3

DAC Darwin (Calif) 63.71 64 eP **P** **19 20 52.2 -0.5**
DAC pmax pmax
comp=Z,89nm,1.1s,mb5.7
DAC Darwin (Calif) 63.71 64 eP **P** **19 20 52.2 -0.5**
comp=Z,89nm,1.1s,mb5.7
MOR8 Moi Rana 63.82 343 eP **P** **19 20 51.9 -1.5**
MOR8 epP pP 19 20 57.6 -1.3
MOR8 AMb AMB 19 21 01.6
comp=Z,1μm,1.7s,mb6.6
MOR8 Moi Rana 63.82 343 eP **P** **19 20 51.9 -1.5**
comp=Z,1μm,1.7s,mb6.6
STOK Stokkvaagen 63.97 344 eP **P** **19 20 54.6 +0.2**
STOK epP pP 19 20 59.8 -0.1
STOK AMb AMB 19 21 03.9
comp=Z,1μm,2.0s,mb6.6
STOK Stokkvaagen 63.97 344 eP **P** **19 20 56.0 +1.6**
comp=Z,1μm,2.0s,mb6.6
HWUT Hardware Ranch 63.97 56 eP **P** **19 20 54.5 +0.1**
comp=Z,440nm,1.5s,mb6.3
DUG Dugway 64.14 58 P **P** **19 20 55.8 +0.3**
DUG pmax pmax
comp=Z,500nm,1.4s,mb6.3
DUG Dugway 64.14 58 eP **P** **19 20 55.6 +0.1**
comp=Z,497nm,1.4s,mb6.3
NOQ North Oquirrh 64.25 57 eP **P** **19 20 56.5 +0.3**
comp=Z,539nm,1.2s,mb6.5
KAF Kangasniemi 64.32 336 ep **P** **19 20 56.6 -0.1**
baz=37,slow=6.1
VIS Vishakhapatnam 64.36 269 eP **P** **19 20 57.5 +0.5**
VIS AMb AMB 19 21 05.1
comp=Z,423nm,2.1s,mb6.1
VIS eS **S** **19 29 37.1 +2.5**
BW06 Boulder Array 64.37 54 eP **P** **19 20 57.1 +0.1**
comp=Z,188nm,1.0s,mb6.1
PDAR Pinedale Array 64.37 54 P **P** **19 20 57.1 +0.1**
comp=Z,107nm,0.9s,mb5.9,baz=264,slow=1.7,SNR=297
CTU Camp Tracy 64.44 57 eP **P** **19 20 57.7 +0.2**
comp=Z,118nm,0.9s,mb5.9
AJM Ajmer 64.54 282 eP **P** **19 20 58.2 +0.1**
AJM eS **S** **19 29 38.7 +2.1**
JLU Jordanelle 64.68 57 eP **P** **19 20 59.2 +0.2**
NLU North Lily Min 64.73 58 eP **P** **19 20 59.6 +0.2**
BHPL Bhopal 64.75 278 eP **P** **19 20 59.8 +0.2**
BHPL AMb AMB 19 21 06.9
comp=Z,1μm,1.4s,mb6.7
BHPL eS **S** **19 29 42.4 +3.0**
DAU Daniels Canyon 64.91 57 eP **P** **19 21 01.1 +0.5**
FIA1 FINESS Array S 64.92 335 eP **P** **19 20 59.6 -1.1**
FINES FINESS Array B 64.92 335 P **P** **19 21 00.2 -0.4**
comp=Z,62nm,0.5s,mb5.9,baz=45,slow=3.7,SNR=145
FINES S **S** **19 29 41.4 -0.1**
comp=Z,1.1nm,0.5s,baz=24,slow=13,SNR=2.4
FINES LR LR 19 53 58.4
comp=Z,28μm,18.3s,MS6.5,baz=39,slow=40
FINES FINESS Array B 64.92 335 i P **P** **19 20 59.7 -0.9**
FINES pmax pmax
comp=Z,62nm,0.5s
MPU Maple Canyon 64.95 58 eP **P** **19 21 01.1 +0.3**
comp=Z,174nm,0.9s,mb6.1
PUL Pulkovo 64.95 332 c i P **P** **19 21 04.3 +3.5**
PUL eS **S** **19 29 37.8 -4.0**
PUL eSS SS 19 33 45.9 -7.6
PUL eSSS 19 36 42.5
PUL pmax pmax
comp=Z,903nm,1.1s,mb6.7
PUL pmax pmax
comp=N,2μm,1.4s
PUL pmax pmax
comp=E,1μm,1.4s
PUL smax
comp=N,3μm,9.8s
PUL smax
comp=Z,6μm,17.1s
PUL smax
comp=E,6μm,12.1s
PUL MLR MLR
comp=E,20μm,17.0s,MS6.5
PUL MLR MLR
comp=Z,26μm,17.0s,MS6.5
PUL MLR MLR
comp=N,17μm,18.0s,MS6.5
PUL Pulkovo 64.95 332 eP **P** **19 21 01.2 +0.4**
NGP Nagpur 65.02 275⇓ i P **P** **19 20 59.7 -1.5**
NGP ex x 19 21 08.4
comp=Z,547nm,1.2s
NGP eS S 19 29 42.1 -0.6
NGP AMP 19 53 22.6
comp=Z,14μm,15.3s
ARUT Antelope Range 65.30 61 P **P** **19 21 02.9 -0.2**
ARUT Antelope Range 65.30 61 eP **P** **19 21 03.0 -0.1**
CCUT Cedar City 65.50 61 eP **P** **19 21 04.8 +0.4**
SFJD Kangerlussuaq 65.56 11 P **P** **19 21 04.4 -0.3**
SFJD pmax pmax
comp=Z,340nm,1.0s,mb6.3
SFJD Kangerlussuaq 65.56 11 eP **P** **19 21 04.3 -0.4**
comp=Z,340nm,0.9s,mb6.4
MSU Marysvale 65.59 59 P **P** **19 21 05.7 +0.7**
MSU Marysvale 65.59 59 eP **P** **19 21 05.6 +0.6**
NSS Namsos 65.77 343 eP **P** **19 21 09.0 +2.9**
NSS eS S 19 29 52.8 +1.0
NSS eSS SS 19 34 07.7 +1.5
NSS AMS AMS 19 56 04.1
comp=Z,19μm,16.8s,MS6.4
NSS Namsos 65.77 343 eP **P** **19 21 10.0 +3.9**
NSS e 19 29 55.7
NSS i 19 34 36.9
NSS LR LR
comp=Z,19μm,16.8s,MS6.4
SRU San Rafael 66.19 58 eP **P** **19 21 08.9 +0.2**
comp=Z,270nm,0.8s,mb6.3
OBN Obninsk 66.27 326 k eP **P** **19 21 08.3 -1.0**
OBN i 19 21 24.2
OBN i 19 21 38.8
OBN i S S 19 29 56.4 -1.5
OBN eSS SS 19 34 14.3 +0.2
OBN pmax pmax
comp=Z,1μm,1.0s,mb6.9
OBN MLR MLR
comp=Z,22μm,19.0s,MS6.4
OBN Obninsk 66.27 326 eP **P** **19 21 08.6 -0.7**
comp=Z,2μm,1.4s,mb6.9
CTA Charters Tower 66.36 188⇓ i P **P** **19 21 08.8 -1.1**
comp=Z,25nm,0.8s,mb5.3
CTA ePKPPKP 19 49 43.1
CTAO Charters Tower 66.36 188 eP **P** **19 21 08.9 -1.0**
comp=Z,719nm,2.0s,mb6.4
ULM Lac du Bonnet 66.38 41 P **P** **19 21 09.4 -0.6**
comp=Z,75nm,0.7s,mb5.8,baz=311,slow=6.9,SNR=69
ULM PKPPKP 19 49 37.9
comp=Z,3.1nm,0.8s,baz=278,slow=4.4,SNR=3.6
ULM LR LR 19 53 25.5
comp=Z,9μm,18.4s,MS6.0,baz=220,slow=39
ULM Lac du Bonnet 66.38 41 eP **P** **19 21 08.9 -1.1**
comp=Z,163nm,0.9s,mb6.1
RWWY Rawlins 66.40 54 eP **P** **19 21 04.5 -5.7**
comp=Z,453nm,1.4s,mb6.3
RSSD Black Hills 66.52 50 eP **P** **19 21 10.7 -0.2**
RSSD pmax pmax
comp=Z,268nm,0.9s,mb6.3
RSSD Black Hills 66.52 50 eP **P** **19 21 10.7 -0.2**
comp=Z,268nm,0.9s,mb6.3
AKL Akola 66.73 276⇑ i P **P** **19 21 13.6 +1.4**
AKL ex x 19 21 22.8
comp=Z,570nm,1.0s
AKL i S S 19 30 03.9 +0.4
VSU Vasula 67.12 333 i P **P** **19 21 13.8 -1.0**
VRHR Novokhopersk 67.12 321 eP **P** **19 21 14.7 -0.1**
VRHR eS S 19 30 06.1 -2.1
VRHR pmax pmax
comp=Z,210nm,0.6s,mb6.3
VRHR pmax pmax
comp=E,130nm,1.3s
VRHR smax
comp=E,3μm,9.3s
VRHR smax
comp=Z,2μm,9.1s
VRHR MLR MLR
comp=Z,18μm,18.0s,MS6.3
VRHR MLR MLR
comp=E,11μm,15.0s
AFI Afiamalu 67.14 144 eP **P** **19 21 14.6 -0.3**
AFI pmax pmax
comp=Z,405nm,1.5s,mb6.2
AFI Afiamalu 67.14 144 eP **P** **19 21 14.6 -0.3**
comp=Z,405nm,1.5s,mb6.2
ASH Ashkhabad 67.49 302 i P **P** **19 21 12.5 -4.6**

ASH S S 19 30 15.0 +2.3
PV10 Paradox Valley 67.54 58 eP **P** **19 21 17.4 0.0**
PHWY Pilot Hill 67.64 53 eP **P** **19 21 17.5 -0.5**
ABKT Ailbek 67.64 302 P **P** **19 21 19.5 +1.4**
comp=Z,3μm,0.9s
AGMN Agassiz Refuge 67.76 43 eP **P** **19 21 17.9 -0.9**
comp=Z,600nm,1.4s,mb6.4
HYB Hyderabad 67.89 272⇓ i P **P** **19 21 19.5 -0.1**
comp=Z,177nm,0.8s,mb6.1
HYB ePP PP 19 23 52.0 +2.7
HYB eS S 19 30 16.0 -1.4
HYB LR LR
comp=Z,17nm,16.0s
HYB Hyderabad 67.89 272⇓ eP **P** **19 21 19.5 -0.1**
HYB eS S 19 30 18.0 +0.6
HYB pmax pmax
comp=Z,177nm,0.8s,mb6.1
HYB Hyderabad 67.89 272⇓ eP **P** **19 21 19.5 -0.1**
comp=Z,177nm,0.8s,mb6.1
HYB eS S 19 30 18.0 +0.6
PV01 Paradox Valley 67.98 58 eP **P** **19 21 20.0 -0.2**
WUAZ Wupatki 68.04 61 eP **P** **19 21 20.9 +0.3**
comp=Z,321nm,1.5s,mb6.1
VRSR Storozhevoye 68.09 322 d i P **P** **19 21 20.8 -0.1**
VRSR eS S 19 30 19.2 -0.6
VRSR pmax pmax
comp=Z,140nm,1.1s,mb5.9
VRSR pmax pmax
comp=N,180nm,1.0s
VRSR pmax pmax
comp=E,150nm,1.0s
VRSR smax
comp=N,4μm,5.1s
VRSR smax
comp=Z,4μm,10.6s
VRSR smax
comp=E,4μm,6.3s
VRSR MLR MLR
comp=Z,37μm,17.0s,MS6.7
VRSR MLR MLR
comp=N,21μm,16.0s,MS6.6
VRSR MLR MLR
comp=E,23μm,18.0s,MS6.6
VORD Divnogorie 68.23 322 eP **P** **19 21 19.8 -2.0**
VORD e 19 21 45.6
VORD eS S 19 30 16.9 -4.6
VORD pmax pmax
comp=Z,90nm,0.9s,mb5.8
VORD pmax pmax
comp=N,20nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.5s
VORD MLR MLR
comp=Z,45μm,17.0s,MS6.8
VORD MLR MLR
comp=N,25μm,16.0s,MS6.7
VORD MLR MLR
comp=E,33μm,18.0s,MS6.7
WRAB Tennant Creek 68.26 200 eP **P** **19 21 21.1 -0.8**
WRAB pmax pmax
comp=Z,508nm,1.0s,mb6.5
WRAB Tennant Creek 68.26 200 eP **P** **19 21 21.1 -0.8**
comp=Z,508nm,1.0s,mb6.5
WB2 Warramunga Arr 68.27 200⇓ i P **P** **19 21 21.1 -0.9**
WB2 ePKPPKP 19 49 33.9
WRA Warramunga Arr 68.27 200 P **P** **19 21 21.1 -0.9**
comp=Z,122nm,0.9s,mb6.0,baz=21,slow=6.7,SNR=292
WRA PKP2bc 19 49 35.1
comp=Z,10nm,1.2s,baz=185,slow=2.7,SNR=9.6
WRA LR LR 19 50 56.7
comp=Z,10μm,19.1s,MS6.0,baz=25,slow=36
WRA Warramunga Arr 68.27 200 P **P** **19 21 21.1 -0.9**
WRA ⇑ e 19 49 35.1
WRA LR LR 19 50 56.7
MOL Molde 68.40 344 eP **P** **19 21 21.2 -1.6**
MOL eS S 19 30 25.4 +1.9
MOL AMS AMS 19 57 47.6
comp=Z,11μm,17.2s,MS6.1
MOL Molde 68.40 344 eP **P** **19 21 21.2 -1.6**
MOL e 19 30 31.6
MOL i 19 44 22.8
MOL LR LR
comp=Z,11μm,17.2s,MS6.1
ISCO Idaho Springs 68.56 55 P **P** **19 21 24.5 +0.7**
ISCO pmax pmax
comp=Z,480nm,1.4s,mb6.2
ISCO Idaho Springs 68.56 55 eP **P** **19 21 24.3 +0.5**
comp=Z,476nm,1.4s,mb6.2
DOMB Dombas 68.59 343 eP **P** **19 21 24.1 +0.1**
DOMB epP pP 19 21 29.6 +0.1
DOMB AMb AMB 19 21 31.7
comp=Z,610nm,1.2s,mb6.4
DOMB Dombas 68.59 343 eP **P** **19 21 24.1 +0.1**
comp=Z,610nm,1.2s,mb6.4
LATR Latur 68.59 275 eP **P** **19 21 21.2 -2.8**
MVCO Mesa Verde 68.64 58 eP **P** **19 21 24.3 0.0**
comp=Z,128nm,0.8s,mb5.9
DZM Mont Dzumac 68.80 168 eP **P** **19 21 23.1 -2.2**
NB2 NORSAR Subarra 69.05 342 P **P** **19 21 26.0 -0.9**
comp=Z,547nm,0.9s,mb6.5,baz=29,slow=6.5
NOA NORSAR Array B 69.05 342 P **P** **19 21 27.6 +0.8**
comp=Z,32nm,0.8s,mb5.3,baz=154,slow=17,SNR=54
NOA PKP2bc 19 49 34.2
comp=Z,7.4nm,0.9s,baz=203,slow=3.2,SNR=6.3
NOA LR LR 19 56 47.6
comp=Z,16μm,18.1s,MS6.3,baz=15,slow=40
NOA NORSAR Array B 69.05 342 P **P** **19 21 27.6 +0.8**
NOA ⇑ e 19 49 34.2
NOA LR LR 19 56 47.6
FITZ Fitzroy Crossi 69.06 209⇓ i P **P** **19 21 27.0 0.0**
comp=Z,235nm,1.0s,mb6.1
FITZ ePKPPKP 19 49 38.6
FITZ Fitzroy Crossi 69.06 209 LR LR 19 48 32.3
comp=Z,4μm,20.9s,MS5.6,baz=22,slow=33
FITZ PKP2bc 19 49 38.3
comp=Z,8.1nm,0.9s,baz=194,slow=4.8,SNR=7.4
HFA0 Hagfors New Ar 69.29 340 P **P** **19 21 27.1 -1.2**
NAO01 NORSAR Array S 69.29 342 eP **P** **19 21 29.0 +0.6**
comp=Z,281nm,0.9s,mb6.2
BORG Borgarnes 69.36 358 P **P** **19 21 29.7 +0.9**
comp=Z,215nm,1.0s,mb6.0,baz=9.4,slow=3.5,SNR=12
BORG Borgarnes 69.36 358 eP **P** **19 21 29.9 +1.0**
comp=Z,1μm,1.8s,mb6.6
BHV Bhavnagar 69.37 280 eP **P** **19 21 30.0 +1.1**
IZAR Zarasai 69.47 332 eP **P** **19 21 29.4 -0.1**
IZAR AMb AMB 19 21 35.4
comp=Z,4μm,0.9s
IDID Didziasalis 69.66 331 eP **P** **19 21 30.5 -0.1**
IDID AMb AMB 19 21 37.2
comp=Z,6μm,0.9s
MDRS Chennai 69.71 268⇓ i P **P** **19 21 30.7 -0.3**
IIGN Ignalina 69.81 331 eP **P** **19 21 31.5 -0.1**
IIGN AMb AMB 19 21 38.1
comp=Z,7μm,0.9s
MNK Minsk 69.95 330 eP **P** **19 21 29.0 -3.4**
MNK eS S 19 30 37.0 -4.8
MNK eSS SS 19 35 08.0 -3.0
MNK eSSS 19 38 18.0
MNK pmax pmax
comp=Z,280nm,1.6s,mb5.9
MNK MLR MLR
comp=E,37μm,17.0s
MNK MLR MLR
comp=Z,24μm,17.0s,MS6.5
HYA Hoyanger 69.95 344 eP **P** **19 21 33.3 +0.9**
HYA AMb AMB 19 21 42.1
comp=Z,733nm,1.3s,mb6.5
HYA Hoyanger 69.95 344 eP **P** **19 21 33.3 +0.9**
comp=Z,733nm,1.3s,mb6.5
SDCO Great Sand Dun 70.03 56 eP **P** **19 21 32.6 -0.3**
comp=Z,412nm,1.5s,mb6.1
EYMN Ely 70.04 41 eP **P** **19 21 31.9 -1.0**
comp=Z,283nm,1.3s,mb6.0
BHJ Bhuj 70.06 283⇓ eP **P** **19 21 34.2 +1.1**
BHJ eS S 19 30 47.0 +3.9
BHJ AMS AMS 19 56 50.7
comp=Z,18μm,16.6s,MS6.4
MAK Makhachkala 70.10 312 i P **P** **19 21 27.5 -5.9**
MAK e 19 24 05.8
MAK ePPP 19 25 49.9
MAK eS S 19 30 34.1 -10
MAK i 19 31 13.1
MAK pmax pmax
comp=Z,2μm,1.4s,mb6.8
MAK pmax pmax

comp=Z,1μm,1.3s,mb6.7
MAK pmax pmax
comp=N,1μm,2.1s
MAK pmax pmax
comp=E,2μm,2.3s
MAK smax
comp=E,13μm,8.9s
MAK smax
comp=N,10μm,6.7s
MAK MLR MLR
comp=Z,88μm,16.0s,MS7.1
MAK MLR MLR
comp=N,79μm,18.0s,MS7.3
MAK MLR MLR
comp=E,125μm,20.0s,MS7.3
OSL Oslo 70.15 342 *e*P **P 19 21 34.1 +0.5**
OSL AMb AMB 19 21 41.3
comp=Z,761nm,1.4s,mb6.4
OSL Oslo 70.15 342 *e*P **P 19 21 38.2 +4.5**
comp=Z,761nm,1.4s,mb6.4
SUE Sulen 70.32 345 *e*P **P 19 21 35.6 +0.9**
SUE *e*pP pP 19 21 40.0 -0.2
SUE AMb AMB 19 21 44.3
comp=Z,547nm,1.3s,mb6.3
SUE Sulen 70.32 345 *e*P **P 19 21 40.1 +5.4**
comp=Z,547nm,1.3s,mb6.3
POO Poona 70.39 277⇓*i*P **P 19 21 32.0 -3.1**
comp=Z,770nm,1.0s,mb6.6
POO *i* S S 19 30 44.0 -2.9
POO *i* SCS ScS 19 31 35.5 -1.8
POO *i* x x 19 35 16.0
TUC Tucson 70.56 63 P **P 19 21 36.1 -0.1**
TUC Tucson 70.56 63 *e*P **P 19 21 35.4 -0.7**
TUC pmax pmax
comp=Z,262nm,1.8s,mb5.9
TUC Tucson 70.56 63 *e*P **P 19 21 35.4 -0.7**
comp=Z,262nm,1.8s,mb5.9
KONO Kongsberg 70.65 342 *e*P **P 19 21 39.5 +2.7**
KONO *e*S S 19 30 51.1 +1.0
KONO *e*SS SS 19 35 30.2 +8.5
KONO Kongsberg 70.65 342 *e*P **P 19 21 36.2 -0.5**
KONO *e*P pP 19 21 39.5 -2.8
KONO *e* 19 30 58.1
KONO LR LR
comp=Z,207μm,18.0s,MS7.4
ASK Askoy 70.77 344 *e*P **P 19 21 32.9 -4.6**
ASK AMb AMB 19 21 39.8
comp=Z,880nm,1.5s,mb6.5
ASK Askoy 70.77 344 *e*P **P 19 21 32.9 -4.6**
comp=Z,880nm,1.5s,mb6.5
RUND Rundenannen 70.80 344 *e*P **P 19 21 40.6 +2.9**
RUND AMb AMB 19 21 51.3
comp=Z,3μm,1.7s,mb7.0
RUND Rundenannen 70.80 344 *e*P **P 19 21 40.6 +2.9**
comp=Z,3μm,1.7s,mb7.0
BER Bergen 70.84 344 *e*P **P 19 21 33.1 -4.8**
BER *e*P pP 19 21 37.9 -5.5
BER AMb AMB 19 21 55.6
comp=Z,1μm,1.7s,mb6.5
BER *e*S S 19 30 54.9 +2.7
BER *e*SS SS 19 35 26.3 +1.7
BER AMS AMS 20 00 17.9
comp=Z,16μm,16.1s,MS6.4
BER Bergen 70.84 344 *e*P **P 19 21 33.1 -4.8**
BER *e* 19 21 41.1
BER MLR MLR
comp=Z,16μm,16.1s,MS6.4
BER Bergen 70.84 344 *e*P **P 19 21 33.1 -4.8**
BER *e*P 19 21 41.0
BER *i* 19 31 02.1
BER *e* 19 35 59.2
BER LR LR
comp=Z,16μm,16.1s,MS6.4
BOM Bombay 70.85 278 *i* P **P 19 21 38.8 +0.8**
BOM *e*x x 19 21 45.3
comp=Z,582nm,1.2s
BOM *e*S S 19 30 55.0 +2.6
EGD Espegrend 70.96 344 *e*P **P 19 21 34.3 -4.4**
EGD AMb AMB 19 21 55.9
comp=Z,1μm,1.8s,mb6.5
EGD Espegrend 70.96 344 *e*P **P 19 21 34.3 -4.4**
comp=Z,1μm,1.8s,mb6.5
KAD Karad 70.99 275 *e*P **P 19 21 39.0 +0.2**
KAD AMb AMB 19 21 46.4
comp=Z,579nm,1.6s,mb6.2
KAD *e*S S 19 30 56.2 +2.2
ODD1 Odda 71.03 343 *e*P **P 19 21 38.8 -0.2**
ODD1 AMb AMB 19 21 46.3
comp=Z,593nm,1.8s,mb6.2
ODD1 Odda 71.03 343 *e*P **P 19 21 38.8 -0.2**
comp=Z,593nm,1.8s,mb6.2
LAZ Ladron 71.36 60 *e*P **P 19 21 41.7 +0.7**
ANMO Albuquerque 71.38 59*d i*P **P 19 21 41.2 0.0**
ANMO Albuquerque 71.38 59 *e*P **P 19 21 41.3 +0.1**
comp=Z,114nm,1.0s,mb5.8
BLS5 Blasjo 71.51 343 *e*P **P 19 21 43.7 +1.8**
BLS5 AMb AMB 19 21 56.0
comp=Z,196nm,1.4s,mb5.8
BLS5 Blasjo 71.51 343 *e*P **P 19 21 43.7 +1.8**
comp=Z,196nm,1.4s,mb5.8
LENM Lemitar 71.62 60 *e*P **P 19 21 43.0 +0.4**
LPM Los Pinos Moun 71.72 59 *e*P **P 19 21 43.4 +0.2**
KIV Kislovodsk 71.82 315 P **P 19 21 45.1 +1.3**
SNR=432
KIV Kislovodsk 71.82 315*d i*P **P 19 21 44.6 +0.8**
KIV *e* 19 22 03.5
KIV *e* 19 24 24.1
KIV *e*PPP 19 26 07.6
KIV *e*S S 19 31 03.6 0.0
KIV pmax pmax
comp=Z,3μm,2.3s,mb6.8
KIV pmax pmax
comp=Z,1μm,1.1s,mb6.8
KIV MLR MLR
comp=Z,43μm,18.0s,MS6.8
KIV Kislovodsk 71.82 315 *e*P **P 19 21 43.7 -0.1**
comp=Z,2μm,1.5s,mb6.9
BNM Barren Site 71.83 60 *e*P **P 19 21 44.1 +0.2**
KMY Karmoy 71.94 344 *e*P **P 19 21 43.6 -0.9**
ZEI Tsey 72.08 314 *e*P **P 19 21 45.5 +0.1**
ZEI *e* 19 24 24.3
ZEI *e*S S 19 31 11.3 +4.7
ZEI pmax pmax
comp=Z,583nm,1.4s,mb6.3
ZEI smax
comp=N,196nm,2.3s
ZEI MLR MLR
comp=Z,56μm,16.0s,MS6.9
STAV Stavanger 72.11 344 *e*P **P 19 21 46.3 +0.8**
STAV *e*pP pP 19 21 50.9 -0.2
STAV AMb AMB 19 21 54.0
comp=Z,501nm,1.5s,mb6.2
STAV Stavanger 72.11 344 *e*P **P 19 21 46.3 +0.8**
comp=Z,501nm,1.5s,mb6.2
WAL1 Walls 72.13 348 *e*P **P 19 21 47.1 +1.4**
DUS Dusheti 72.17 313 P pP 19 21 53.0 +1.5
LRW Lerwick 72.18 347 P **P 19 21 47.1 +1.2**
LRW AMb AMB 19 21 56.7
comp=Z,318nm,1.6s,mb6.0
LRW Lerwick 72.18 347 *e*P **P 19 21 47.1 +1.2**
LRW AMb AMB 19 21 56.7
comp=Z,318nm,1.6s,mb6.0
LRW AMS AMS 19 56 39.4
comp=Z,3μm,18.0s,MS5.7
DGRG David-gareji 72.29 312 P **P 19 21 47.4 +0.8**
DGRG S S 19 31 11.5 +2.6
SNART Snartemo 72.36 343 *e*P **P 19 21 47.6 +0.6**
SNART AMb AMB 19 21 56.7
comp=Z,375nm,1.1s,mb6.2
MTA Mtatsminda 72.41 312 P **P 19 21 48.2 +0.8**
MTA S S 19 31 11.3 +1.0
GOA Goa 72.49 274 *e*x x 19 21 44.1
GOA AMb AMB 19 21 50.2
comp=Z,420nm,2.0s,mb6.0
AKASG Malin Array Be 72.50 327 P **P 19 21 47.3 -0.6**
comp=Z,67nm,0.5s,mb5.8,baz=34,slow=6.2,SNR=134
AKASG PP PP 19 24 29.0 -0.1
comp=Z,42nm,1.1s,baz=33,slow=9.3,SNR=4.0
AKASG S S 19 31 08.9 -2.5
comp=Z,6.6nm,1.0s,baz=30,slow=12,SNR=4.1
AKASG PKP2ab 19 49 22.3
comp=Z,0.2nm,0.2s,baz=239,slow=2.3,SNR=4.6
AKASG LR LR 19 56 14.0
comp=Z,32μm,18.1s,MS6.6,baz=30,slow=38
AKASG Malin Array Be 72.50 327 P **P 19 21 47.3 -0.6**
AKASG 19 24 29.0
AKASG S S 19 31 08.9 -2.5
AKBB Malin Array Si 72.50 327 P **P 19 21 46.9 -1.0**
AKBB Malin Array Si 72.50 327 *e*P **P 19 21 46.7 -1.1**
KIEV Kiev 72.51 327 P **P 19 21 46.9 -1.1**
KIEV pmax pmax
comp=Z,750nm,1.2s,mb6.5
KIEV Kiev 72.51 327 *e*P **P 19 21 46.8 -1.2**
comp=Z,747nm,1.3s,mb6.5
CBKS Cedar Bluff 72.52 52 P **P 19 21 46.9 -1.1**
CBKS pmax pmax
comp=Z,150nm,1.0s,mb5.9
CBKS Cedar Bluff 72.52 52 *e*P **P 19 21 46.6 -1.4**
comp=Z,150nm,1.0s,mb5.9
KZR Kazreti 72.83 312 P **P 19 21 52.1 +2.3**
BSD Bornholm Skovb 73.42 337⇑*i*P **P 19 21 53.8 +0.4**
comp=Z,834nm,1.6s,mb6.4
BSD *i* S S 19 31 21.4 -0.5
BSD
comp=Z,22μm,18.0s
BSD Bornholm Skovb 73.42 337⇑*i*P **P 19 21 53.8 +0.4**
BSD *i* S S 19 31 21.4 -0.5
BSD pmax pmax
comp=Z,830nm,1.6s,mb6.4
BSD MLR MLR
comp=Z,22μm,18.0s,MS6.5
PALK Pallekele 73.49 263 ⇓P **P 19 21 53.9 +0.2**
SNR=15
PALK Pallekele 73.49 263 *e*P **P 19 21 52.5 -1.3**
comp=Z,186nm,1.2s,mb5.9
SCHQ Schefferville 73.49 23 P **P 19 21 53.4 -0.4**
comp=Z,122nm,0.8s,mb5.9,baz=344,slow=5.6,SNR=53
SCHQ LR LR 19 56 47.8
comp=Z,9μm,20.6s,MS6.0,baz=345,slow=38
SCHQ Schefferville 73.49 23 *e*P **P 19 21 53.0 -0.7**
comp=Z,240nm,0.9s,mb6.1
SOC Sochi 73.54 316*d i*P **P 19 21 54.4 +0.4**
SOC *i* 19 22 08.5
SOC *e* 19 24 40.0
SOC *e*PPP 19 26 26.5
SOC *i* S S 19 31 23.5 +0.3
SOC *e* 19 32 07.1
SOC pmax pmax
comp=Z,1μm,1.5s,mb6.6
SOC pmax pmax
comp=Z,8μm,3.3s
SOC Sochi 73.54 316 *i* P **P 19 21 54.7 +0.7**
GNI Garni 73.56 311 P **P 19 21 55.5 +1.3**
GNI Garni 73.56 311 P **P 19 21 56.1 +1.9**
comp=Z,21nm,0.6s,mb5.3,baz=359,slow=3.0,SNR=52
GNI S S 19 31 26.4 +2.9
comp=Z,1.9nm,0.6s,baz=260,slow=13,SNR=2.1
GNI Garni 73.56 311 P **P 19 21 56.2 +2.0**
SNR=79
GNI Garni 73.56 311⇓*i*P **P 19 21 55.8 +1.6**
GNI pmax pmax
comp=Z,1μm,1.5s
GNI MLR MLR
comp=Z,22μm,17.0s
GNI Garni 73.56 311 *e*P **P 19 21 56.0 +1.8**
comp=Z,2μm,1.5s,mb6.8
COP Copenhagen 73.57 339 *i* P **P 19 21 58.9 +4.7**
comp=Z,331nm,1.0s,mb6.2
COP *i* 19 22 14.2
COP *i* S S 19 31 26.7 +3.2
COP *e* 19 36 22.7
COP *i* 19 40 17.9
COP
comp=Z,8μm,21.0s
COP Copenhagen 73.57 339 *i* P **P 19 21 58.9 +4.7**
COP *i* 19 22 14.2
COP *i* S S 19 31 26.7 +3.2
COP pmax pmax
comp=Z,330nm,1.0s,mb6.2
COP MLR MLR
comp=Z,8μm,21.0s,MS6.0
MNGI Mangalore 73.57 272 *i* P **P 19 21 53.4 -0.8**
MNGI AMb AMB 19 21 59.6
comp=Z,228nm,0.0s
MNGI *i* S S 19 31 22.0 -1.5
MNGI *e*x x 19 58 54.1
comp=Z,11μm,17.6s
MUD Monsted U'grnd 73.66 341 *i* P **P 19 21 57.5 +2.8**
comp=Z,293nm,1.2s,mb6.1
MUD *i* S S 19 31 31.1 +6.6
MUD *i* 19 36 06.9
MUD
comp=Z,24μm,18.0s
MUD Monsted U'grnd 73.66 341 *i* P **P 19 21 57.5 +2.8**
MUD *i* S S 19 31 31.1 +6.6
MUD *i* 19 36 06.9
MUD pmax pmax
comp=Z,290nm,1.2s,mb6.1
MUD MLR MLR
comp=Z,24μm,18.0s,MS6.5
ANN Anapa 73.69 319*d i*P **P 19 21 54.6 -0.3**
ANN *e* 19 24 38.2
ANN *e*PPP 19 26 23.0
ANN *i* S S 19 31 25.2 +0.4
ANN *i* 19 32 06.3
ANN pmax pmax
comp=Z,2μm,1.9s,mb6.7
ANN pmax pmax
comp=Z,6μm,5.3s
ANN MLR MLR
comp=Z,25μm,18.0s,MS6.5
SCIA State Center 73.69 46 *e*P **P 19 21 54.3 -0.6**
comp=Z,380nm,0.8s,mb6.4
KSU1 Kansas State U 74.00 50 *e*P **P 19 21 55.1 -1.7**
comp=Z,145nm,0.8s,mb6.0
KARS Kars 74.08 312 P **P 19 21 59.1 +1.9**
DIGO Kars 74.08 312 *i* P **P 19 21 59.5 +2.3**
ORE Reay 74.08 348 *e*P **P 19 21 57.6 +0.4**
WAR Warsaw 74.11 332 *e*P **P 19 21 58.7 +1.4**
WAR *e*PcP PcP 19 22 02.5 -10
WAR *e*S S 19 31 30.1 +0.5
WAR L 19 59 23.7
comp=Z,29nm,17.5s
BCA Borcka 74.20 314 P **P 19 21 58.6 +0.6**
AMTX Amarillo 74.23 56 *e*P **P 19 21 57.6 -0.4**
comp=Z,170nm,1.0s,mb5.9
ARTV Artvin 74.24 314 *i* P **P 19 21 56.9 -1.2**
MLA1 Latheron 74.26 348 *e*P **P 19 21 59.0 +0.8**
MNTX Cornudas Mount 74.29 61 *e*P **P 19 21 58.3 -0.2**
comp=Z,198nm,1.3s,mb5.9
MNTX LR LR
comp=Z,6μm,20.0s,MS5.8
RGN Rugen 74.35 338 *e*P **P 19 21 58.4 -0.4**
comp=Z,436nm,0.8s,mb6.4
RGN Rugen 74.35 338 *e*P **P 19 21 59.8 +1.0**
comp=Z,442nm,0.9s,mb6.4
JFWS Jewell Farm 74.39 44 P **P 19 21 58.0 -1.0**
JFWS pmax pmax
comp=Z,110nm,0.8s,mb5.8
JFWS Jewell Farm 74.39 44 *e*P **P 19 21 57.1 -1.9**
comp=Z,115nm,0.8s,mb5.9
GKP Gorka Klasztor 74.39 335 *e*P **P 19 21 58.4 -0.6**
GKP *e*PcP pP 19 22 04.8 +0.2
GKP *e*S S 19 31 36.8 +4.0
GKP L 19 58 25.3
comp=Z,38nm,19.5s
RSC Scourie 74.47 349 *e*P **P 19 22 00.8 +1.3**
REB Eisghbrachaidh 74.70 349 *e*P **P 19 22 01.1 +0.3**
CLDR Caldiran 74.73 311 P **P 19 22 02.8 +1.8**
AGRB Hanur-Agry 74.90 312 P **P 19 22 03.9 +2.0**
MCD Coleburn Disti 74.94 348 *e*P **P 19 22 02.6 +0.4**
RRR Rubha Reidh 75.03 349 *e*P **P 19 22 03.7 +1.0**
SIM Simferopol' 75.06 321*de*P **P 19 22 04.0 +1.1**
SIM *e* 19 24 52.0
SIM *e*PPP 19 26 38.0
SIM *i* S S 19 31 42.0 +1.7
SIM pmax pmax
comp=Z,266nm,1.1s,mb6.1
SIM pmax pmax
comp=Z,2μm,8.9s
SIM MLR MLR
comp=Z,37μm,16.4s,MS6.8
RRH Rhenigidale 75.08 350 *e*P **P 19 22 03.7 +0.7**
LVV L'vov 75.13 329*d i*P **P 19 22 03.9 +0.6**
LVV *e* 19 22 22.7
LVV *e* 19 24 58.3
LVV *e*PPP 19 26 44.9
LVV *e*S S 19 31 41.7 +0.6
LVV *e*PS 19 32 18.5
LVV *e*SS SS 19 36 34.5 +4.3
LVV MLR MLR
comp=E,6μm,16.0s,MS6.3
LVV MLR MLR
comp=N,12μm,18.0s,MS6.3
LVV MLR MLR
comp=Z,17μm,18.0s,MS6.4
MME1 Meikle Cairn 75.15 348 *e*P **P 19 22 04.3 +0.8**
TRD Trivandrum 75.20 267 *e*P **P 19 22 03.6 -0.1**
TRD *e*Amb AMB 19 22 09.9
comp=Z,371nm,1.5s,mb6.1
TRD *e*S S 19 31 43.3 +1.5
MDO Dochfour 75.24 348 *e*P **P 19 22 04.2 +0.3**
KAC Achnashellach 75.31 349 *e*P **P 19 22 04.7 +0.4**
VANB Van 75.42 311 P pP 19 22 09.9 -0.6
TVAN Van 75.46 311 *i* P **P 19 22 06.9 +1.8**
KTUT Trabzon 75.47 315 P **P 19 22 04.0 -1.2**
ERZM Erzurum 75.48 313 *i* P **P 19 22 07.6 +2.3**
EZM Erzurum 75.49 313 P **P 19 22 07.3 +2.0**
MACK Trabzon 75.50 315 *i* P **P 19 22 07.7 +2.3**
KPL Plockton 75.51 349 P **P 19 22 06.8 +1.4**
KPL AMb AMB 19 22 14.1
comp=Z,740nm,1.0s,mb6.6
KPL Plockton 75.51 349⇑*e*P **P 19 22 06.8 +1.4**
KPL AMb AMB 19 22 14.1
comp=Z,740nm,1.0s,mb6.6
KPL AMS AMS 20 02 01.1
comp=Z,6μm,19.0s,MS5.9
KSB Sheil Bridge 75.61 349 *e*P **P 19 22 06.5 +0.5**
KIS Kishinev 75.66 325 *e*P **P 19 22 04.0 -2.3**
KIS *i* S S 19 31 45.0 -1.8
KIS pmax pmax
comp=Z,13μm,7.0s
KIS MLR MLR
comp=Z,38μm,15.0s,MS6.8
KIS Kishinev 75.66 325⇓*i*P **P 19 22 04.0 -2.3**
comp=Z,2μm,2.0s,mb6.7
KIS Kishinev 75.66 325 *i* PcP pP 19 22 10.0 -1.9
KIS Kishinev 75.66 325 *i* PP PP 19 24 58.0 +2.1
comp=Z,2μm,8.0s
BSEG Bad Segeberg 75.68 339 *e*P **P 19 22 06.0 -0.4**
comp=Z,426nm,1.5s,mb6.2
BSEG Bad Segeberg 75.68 339 *e*P **P 19 22 06.0 -0.4**
BSEG pmax pmax
comp=Z,426nm,1.5s,mb6.2
KWP Kalwaria 75.76 330 *e*P **P 19 22 07.1 +0.2**
KWP *e*PcP pP 19 22 12.3 -0.2
KWP *e*S S 19 31 53.5 +5.5
KWP L 19 59 35.3
comp=Z,35nm,18.0s
KWP Kalwaria 75.76 330 *e*P pP 19 22 07.1 -5.4
KWP *e*PcP PcP 19 22 12.3 -7.2
KWP *e*S S 19 31 53.5 +5.5
KAR1 Arisaig 75.94 349 *e*P **P 19 22 08.8 +0.8**
HKR Hakkari 75.98 310 P **P 19 22 08.2 0.0**
WMOK Wichita Mounta 75.99 54 P **P 19 22 07.7 -0.5**
WMOK pmax pmax
comp=Z,120nm,1.0s,mb5.8
WMOK Wichita Mounta 75.99 54 *e*P **P 19 22 07.4 -0.8**
comp=Z,118nm,1.0s,mb5.8
IAS Iasi 75.99 326⇓*i*P **P 19 22 09.9 +1.7**
HAKT HAKKARI 76.02 310 *i* P **P 19 22 10.5 +2.2**
RUE Ruedersdorf 76.08 336 *e*P **P 19 22 08.1 -0.6**
comp=Z,531nm,1.1s,mb6.4
RUE Ruedersdorf 76.08 336 *e*P **P 19 22 08.8 +0.1**
comp=Z,212nm,0.8s,mb6.1
OJC Ojcow 76.24 332 *e*P **P 19 22 09.5 -0.1**
OJC *e*pP pP 19 22 13.4 -1.8
OJC *e*S S 19 31 49.0 -4.3
OJC *e*SS SS 19 36 37.9 -9.1
OJC L 20 00 58.6
comp=Z,81nm,18.1s
OJC Ojcow 76.24 332⇓*e*P **P 19 22 09.5 -0.1**
OJC *e*S S 19 31 49.0 -4.3
OJC MLR MLR
comp=Z,81μm,18.1s,MS7.1
GRSN GIRESUNGRSN 76.25 316 *i* P **P 19 22 09.8 +0.1**
ARMA Armidale 76.28 182⇓*i*P **P 19 22 10.2 +0.3**
CUKT Cukurca 76.30 310 P **P 19 22 11.1 +1.1**
BNGL BINGOL 76.31 312 *i* P **P 19 22 11.2 +1.1**
KELT Kelkit 76.36 314 *i* P **P 19 22 11.6 +1.2**
EZC Erzincan 76.39 314 P **P 19 22 12.9 +2.5**
STHS Stebnicka Huta 76.44 331 *e*P **P 19 22 10.9 +0.1**
STHS pmax pmax
comp=Z,243nm,1.0s,mb6.1
STHS Stebnicka Huta 76.44 331 *e*P **P 19 22 10.9 +0.1**
comp=Z,243nm,1.0s,mb6.1
STHS *e*PP PP 19 24 54.2 -8.4
STHS *e*S S 19 31 54.4 -1.1
EAB Aberfoyle 76.45 348 *e*P **P 19 22 11.4 +0.6**
ESY Stoneypath 76.45 347 *e*P **P 19 22 11.9 +1.1**
KOLS Kolonicke sedl 76.50 330 *e*P **P 19 22 11.7 +0.6**
KOLS *e*pP pP 19 22 19.1 +2.4
KOLS *e*PP PP 19 25 03.3 +0.3
KOLS *e*S S 19 31 56.7 +0.6
LPIG La Paz 76.51 69 LR LR 19 52 48.2
comp=Z,3μm,19.5s,MS5.7,baz=321,slow=33
EDI Edinburgh 76.53 347 P **P 19 22 11.4 +0.1**
EDI AMb AMB 19 22 12.2
comp=Z,303nm,1.7s,mb5.9
EDI Edinburgh 76.53 347 *e*P **P 19 22 11.4 +0.1**
EDI AMb AMB 19 22 12.2
comp=Z,303nm,1.7s,mb5.9
EDI AMS AMS 20 02 18.5
comp=Z,7μm,17.7s,MS6.0
BURAR Bucovina Array 76.54 327⇓*i*P **P 19 22 11.2 -0.1**
EAU Auchinoon 76.64 347⇑*e*P **P 19 22 12.6 +0.7**
EBL Broad Law 76.65 347 *e*P **P 19 22 12.7 +0.7**
BTMT Batman 76.71 312 *e*P **P 19 22 13.8 +1.5**
SIRT Sirnak 76.73 311 P **P 19 22 12.9 +0.5**
UZH Uzhgorod 76.75 330⇑*i*P **P 19 22 12.0 -0.5**
UZH *i* pP 19 22 17.0 -1.1
UZH *i* 19 22 32.0
UZH *i* 19 25 05.0
UZH *e*PPP 19 26 55.0
UZH *i* S S 19 32 00.0 +1.1
UZH *i* 19 32 23.0
NIE Niedzica 76.76 331 *e*P **P 19 22 12.8 +0.2**
NIE e pP 19 22 17.5 -0.6
NIE Niedzica 76.76 331⇓*e*P **P 19 22 12.8 +0.2**
NIE *e* pP 19 22 17.5 -0.6
POB1 Observatory 76.79 348 *e*P **P 19 22 13.0 +0.3**
KSP Ksiaz 76.80 334 *e*P **P 19 22 12.8 0.0**
KSP *e*PcP PcP 19 22 21.2 -2.8
KSP *e*S S 19 32 05.5 +6.1
KSP L 20 01 43.2
comp=Z,68nm,17.8s
KSP Ksiaz 76.80 334⇓*e*P **P 19 22 12.5 -0.3**
KSP *e**PP pP 19 22 17.3 -1.1
KSP *e* 19 25 07.0
KSP *e*S S 19 31 56.0 -3.4
KSP *e*SS SS 19 36 59.0 +3.5
KSP MLR MLR
comp=Z,78μm,17.9s,MS7.1
CRVS Cervenica-Dubn 76.81 330 *e*P **P 19 22 12.7 -0.2**
CRVS *e*pP pP 19 22 21.7 +3.3
CRVS *e*PCP PcP 19 22 31.0 +6.9
CRVS *e*S S 19 32 00.5 +1.0
PGBU Glenifferbraes 76.83 348 P **P 19 22 14.0 +1.0**
PGBU Amb AMB 19 22 21.9
comp=Z,465nm,1.0s,mb6.3
PGBU Glenifferbraes 76.83 348 *e*P **P 19 22 14.0 +1.0**
PGBU Amb AMB 19 22 21.9
comp=Z,465nm,1.0s,mb6.3
PGBU AMS AMS 19 58 41.0
comp=Z,2μm,19.4s,MS5.4
RAC Raciborz 76.87 333 *e*P **P 19 22 13.2 0.0**
RAC *e*S S 19 31 59.0 -1.2
RAC MLR MLR
comp=Z,20μm,20.0s,MS6.4
LTX Lajitas 77.01 61 *e*P **P 19 22 13.9 -0.1**
LTX pmax pmax
comp=Z,264nm,0.8s,mb6.2
LTX Lajitas 77.01 61 *e*P **P 19 22 13.8 -0.1**
comp=Z,264nm,0.8s,mb6.2
TXAR Lajitas Array 77.01 61 P **P 19 22 13.9 0.0**
comp=Z,142nm,0.8s,mb5.9,baz=300,slow=3.8,SNR=417
TXAR S S 19 32 06.8 +5.1
comp=Z,0.3nm,0.6s,baz=309,slow=14,SNR=1.2
TXAR PKKPbc PKKPbc 19 41 22.1 +0.4
comp=Z,2.1nm,0.8s,baz=142,slow=5.9,SNR=8.5
TXAR Lajitas Array 77.01 61 P **P 19 22 14.0 0.0**
TXAR S S 19 32 06.8 +5.1

BANOM **Banah** 77.01 294 P P 19 22 15.0 +1.0
SNR=47
BEST **Besiri** 77.05 312 *i* P P 19 22 16.6 +2.4
EKA **Eskdalemuir Ar** 77.09 347 P P 19 22 14.1 -0.4
comp=Z,33nm,0.7s,mb5.4,baz=23,slow=5.1,SNR=33
OKC **Ostrava-Krasne** 77.10 333⇓*e*P P 19 22 14.3 -0.2
OKC *ep*P pP 19 22 19.0 -1.1
OKC *e*S S 19 32 03.0 +0.3
OKC AMS AMS 19 59 50.0
comp=Z,18μm,16.5s
OKC **Ostrava-Krasne** 77.10 333 *e*P P 19 22 14.3 -0.2
OKC *ep*P pP 19 22 19.0 -1.1
OKC *e*S S 19 32 03.0 +0.3
ESK **Eskdalemuir** 77.12 347 P P 19 22 15.9 +1.3
ESK AMb AMB 19 22 22.8
comp=Z,415nm,1.3s,mb6.2
ESK **Eskdalemuir** 77.12 347 *e*P P 19 22 15.9 +1.3
ESK AMb AMB 19 22 22.8
comp=Z,415nm,1.3s,mb6.2
ESK AMS AMS 20 05 03.9
comp=Z,10μm,16.2s,MS6.2
ESK **Eskdalemuir** 77.12 347 *e*P P 19 22 14.0 -0.6
comp=Z,326nm,1.3s,mb6.1
DIKM **Dikmen** 77.13 318 P P 19 22 15.4 +0.8
UPC **Upice** 77.18 334⇓*e*P P 19 22 14.8 -0.1
UPC *ep*P pP 19 22 19.7 -0.8
KVT **Kavak** 77.20 317 P P 19 22 16.5 +1.5
DPC **Dobruska-Polom** 77.22 334⇓*i*P P 19 22 15.2 0.0
DPC *ep*P pP 19 22 20.0 -0.8
DPC *e*S S 19 32 06.4 +2.4
DPC AMS AMS 20 01 10.0
comp=Z,40μm,17.8s
ECK **Cauldkaine Hil** 77.24 347 *e*P P 19 22 15.9 +0.6
PTK **Pertek** 77.25 314 P P 19 22 17.2 +1.9
MSL **Mosul** 77.29 309 *i* x x 19 22 18.0
MSL *ex* x 19 22 36.0
MSL *ex* x 19 32 07.5
MSL *ex* x 19 32 30.0
MSL *ex* x 19 33 07.5
MSL *ex* x 19 33 24.0
CLL **Collm** 77.34 336 *e*P P 19 22 15.0 -0.9
comp=Z,864nm,1.6s,mb6.4
CLL *e* 19 22 35.3
CLL *e*PP PP 19 25 12.9 +2.8
CLL *e*S S 19 32 06.7 +1.4
CLL *e*ScS ScS 19 32 33.9 +0.9
CLL *e*PS 19 32 43.8
CLL *e*SS SS 19 37 21.6 +18
CLL *e*SSS 19 40 29.8
CLL *e*LR LR 19 47 28.5
CLL *e*L 20 02 32.2
comp=Z,23μm,18.0s
CLL **Collm** 77.34 336⇓*i*P P 19 22 15.3 -0.6
CLL *i* pP 19 22 19.6 -1.8
CLL *e*S S 19 32 06.0 +0.7
CLL pmax pmax
comp=Z,335nm,1.4s,mb6.1
CLL MLR MLR
comp=Z,24μm,16.4s,MS6.6
CLL **Collm** 77.34 336⇓*i*P P 19 22 15.3 -0.6
comp=Z,335nm,1.4s,mb6.1
CLL *i* pP 19 22 19.6 -1.8
CLL *e*S S 19 32 06.0 +0.7
CLL LR LR
comp=Z,24μm,16.4s,MS6.6
CLL **Collm** 77.34 336⇓*i*P P 19 22 15.3 -0.6
comp=Z,335nm,1.4s,mb6.1
CLL *i* pP pP 19 22 19.6 -1.8
comp=Z,840nm,1.6s
CLL *ep*Plp pP 19 22 20.0 -1.4
CLL *i* (sPcP) 19 22 34.3
CLL *e*PP PP 19 25 07.0 -3.1
CLL *e*S S 19 32 06.0 +0.7
CLL *e*SKSac SKSac 19 32 30.0 +1.9
CLL *e*ScS ScS 19 32 37.0 +4.0
CLL *e*(SS) 19 37 32.0
CLL *e*SSS 19 40 46.0
MORC **Moravsky Berou** 77.35 333 P P 19 22 15.8 -0.1
MORC pmax pmax
comp=Z,420nm,1.2s,mb6.2
MORC **Moravsky Berou** 77.35 333 ⇓P P 19 22 16.0 +0.1
MORC **Moravsky Berou** 77.35 333⇓*i*P P 19 22 16.0 +0.1
XAL **Allendale** 77.40 346 *e*P P 19 22 16.4 +0.3
VRI **Vrincioaia** 77.41 325⇓*i*P P 19 22 16.5 +0.3
BRG **Berggiesshubel** 77.46 336 *e*P P 19 22 15.7 -0.8
comp=Z,283nm,1.3s,mb6.0
BRG **Berggiesshubel** 77.46 336⇓*i*P P 19 22 16.2 -0.4
comp=Z,130nm,1.5s,mb5.6
BRG *i* pP 19 22 20.5 -1.6
comp=Z,427nm,2.0s
BRG *i* 19 22 35.5
comp=Z,159nm,1.2s
BRG *i* PP PP 19 25 07.7 -3.5
comp=Z,28nm,1.2s
BRG S S 19 32 05.0 -1.7
BRG *e* 19 32 51.4
comp=Z,181nm,3.0s
BRG SS SS 19 37 27.0 +21
BRG *e*PKPPKP 19 49 18.0
comp=Z,8.3nm,1.4s
BRG
comp=N,16μm,16.3s
BRG
comp=E,4μm,18.8s
BRG
comp=Z,21μm,16.4s
BRG **Berggiesshubel** 77.46 336⇓*i*P P 19 22 16.2 -0.3
BRG *i* pP 19 22 20.5 -1.6
BRG *i* 19 22 35.5
BRG *i* 19 25 07.7
BRG S S 19 32 05.0 -1.7
BRG *e* 19 32 51.4
BRG pmax pmax
comp=Z,130nm,1.5s,mb5.6
BRG MLR MLR
comp=Z,21μm,16.4s,MS6.5
BRG **Berggiesshubel** 77.46 336⇓*i*P P 19 22 16.2 -0.4
comp=Z,130nm,1.5s,mb5.6
BRG *i* pP 19 22 20.5 -1.6
BRG *i* 19 22 35.5
BRG *i* PP PP 19 25 07.7 -3.5
BRG S S 19 32 05.0 -1.7
BRG *e* 19 32 51.4
BRG SS SS 19 37 27.0 +21
BRG *e*P'P' 19 49 18.0
BRG LR LR
comp=Z,21μm,16.4s,MS6.5
BZK **Bozkurt** 77.46 319 P P 19 22 16.2 -0.3
BOYT **Boyabat** 77.47 318 *i* P P 19 22 17.5 +0.9
LIKS **Likavka** 77.47 332 *e*P P 19 22 15.5 -1.1
LIKS *e* 19 22 23.7
LIKS *e* 19 22 33.9
LIKS pmax pmax
comp=Z,200nm,0.9s,mb6.0
LIKS **Likavka** 77.47 332 *e*P P 19 22 15.5 -1.1
comp=Z,200nm,0.9s,mb6.0
LIKS *e* 19 22 23.7
LIKS *e* 19 22 33.9
KECS **Kecovo** 77.50 331 *i* P P 19 22 16.4 -0.3
KECS *e* pP 19 22 23.4 +1.1
KECS *e*S S 19 32 02.8 -4.3
KECS pmax pmax
comp=Z,90nm,0.9s,mb5.7
KECS **Kecovo** 77.50 331 *i* P P 19 22 16.4 -0.3
comp=Z,90nm,0.9s,mb5.7
KECS *e* pP 19 22 23.4 +1.1
KECS *e*S S 19 32 02.8 -4.3
BIDO **Bidbid** 77.53 291 P P 19 22 18.8 +1.9
SNR=72
CLZ **Clausthal** 77.57 338 *e*P P 19 22 17.0 -0.1
comp=Z,2μm,2.1s,mb6.6
CLZ **Clausthal** 77.57 338 *e*P P 19 22 17.0 -0.1
CLZ pmax pmax
comp=Z,2μm,2.1s,mb6.6
WIT **Witteveen** 77.58 341 *e*P P 19 22 18.7 +1.5
comp=Z,1μm,2.9s,mb6.3
DIY **Diyarbakir** 77.58 312 P P 19 22 20.0 +2.8
FBE **Freiberg** 77.59 336 *e*P P 19 22 16.6 -0.6
comp=Z,548nm,1.5s,mb6.3
PVCC **Panska Ves** 77.59 335⇓*e*P P 19 22 17.1 -0.1
PVCC *ep*P pP 19 22 22.4 -0.4
PVCC *e*S S 19 32 07.9 -0.1
PVCC AMS AMS 20 01 10.0
comp=Z,31μm,17.1s

WBK **Wadi Bani Khal** 77.62 290 P P 19 22 19.5 +2.1
SNR=68
SVSK **Karacayir** 77.65 316 P P 19 22 18.4 +0.8
SLM **Saint Louis** 77.65 46 P P 19 22 16.9 -0.7
SLM pmax pmax
comp=Z,260nm,1.1s,mb6.1
SLM **Saint Louis** 77.65 46 *e*P P 19 22 16.7 -0.9
comp=Z,258nm,1.1s,mb6.1
COCO **West Island** 77.66 238 P P 19 22 20.3 +2.7
comp=Z,1μm,1.2s,mb6.7,SNR=6.8
COCO **West Island** 77.66 238 *e*P P 19 22 18.4 +0.8
comp=Z,744nm,1.5s,mb6.4
MARD **Mardin** 77.74 312 *i* P P 19 22 19.3 +1.2
ELZG **Elazig** 77.76 314 *i* P P 19 22 20.4 +2.2
GCL **Cushendall** 77.78 349 *e*P P 19 22 19.6 +1.4
GAL1 **Galloway** 77.78 348 P P 19 22 18.6 +0.3
GAL1 AMb AMB 19 22 27.1
comp=Z,546nm,1.0s,mb6.4
GAL1 **Galloway** 77.78 348 *e*P P 19 22 18.6 +0.3
GAL1 *e*P 19 22 18.6
GAL1 AMb AMB 19 22 27.1
comp=Z,546nm,1.0s,mb6.4
GAL1 AMS AMS 20 01 37.8
comp=Z,8μm,18.5s,MS6.1
IBBN **Ibbenburen** 77.79 340 *e*P P 19 22 17.9 -0.5
comp=Z,642nm,1.3s,mb6.4
CKE **Keswick** 77.81 347 *e*P P 19 22 19.0 +0.5
TIRR **Tirgusor** 77.89 324 *e*P P 19 22 18.6 -0.4
comp=Z,1μm,1.6s,mb6.5
TIRR **Tirgusor** 77.89 324⇓*i*P P 19 22 18.9 0.0
HATD **Hatta, Dubai** 77.89 293 P P 19 22 19.7 +0.8
SNR=73
SMDO **Samad** 77.90 291 P P 19 22 20.3 +1.3
SNR=73
AAM **Ann Arbor** 77.92 40 *e*P P 19 22 18.9 -0.2
AAM pmax pmax
comp=Z,185nm,1.1s,mb5.9
AAM **Ann Arbor** 77.92 40 *e*P P 19 22 18.9 -0.1
comp=Z,185nm,1.1s,mb5.9
XDE **Dent Fell** 77.94 347 *e*P P 19 22 20.1 +0.9
HOQ **Hoqain** 78.01 291 P P 19 22 20.3 +0.7
SNR=84
MLR **Muntele Rosu** 78.03 326 P P 19 22 19.7 0.0
comp=Z,65nm,0.6s,mb5.7,baz=167,slow=7.3,SNR=93
MLR S S 19 32 14.6 +1.9
comp=Z,5.4nm,1.0s,baz=172,slow=12,SNR=2.6
MLR **Muntele Rosu** 78.03 326 P P 19 22 19.7 0.0
MLR S S 19 32 14.6 +1.8
MLR pmax pmax
comp=Z,65nm,0.6s
MLR smax
comp=N,5.0nm,1.0s
MLR **Muntele Rosu** 78.03 326 ⇓P P 19 22 19.8 +0.1
MLR **Muntele Rosu** 78.03 326⇓*i*P P 19 22 19.8 +0.1
PRA **Prague** 78.04 335 ⇓P P 19 22 19.0 -0.7
PRA pP pP 19 22 24.0 -1.3
ASHO **Ashiyiah** 78.04 293 P P 19 22 20.8 +1.0
SNR=74
VYHS **Vyhne** 78.05 332 *e*P P 19 22 19.7 -0.1
VYHS *e* pP 19 22 24.7 -0.7
VYHS *e* 19 22 41.5
VYHS *e* 19 25 18.4
VYHS *e*S S 19 32 15.0 +2.1
VYHS pmax pmax
comp=Z,656nm,2.3s,mb6.2
VYHS MLR MLR
comp=Z,12μm,19.5s,MS6.2
VYHS **Vyhne** 78.05 332 *e*P P 19 22 19.7 -0.1
VYHS *ep*P pP 19 22 24.7 -0.7
VYHS *e*PCP PcP 19 22 41.5 +12
VYHS *e*PP PP 19 25 18.4 +2.4
VYHS *e*S S 19 32 15.0 +2.1
VYHS **Vyhne** 78.05 332 *e*P P 19 22 19.7 -0.1
comp=Z,656nm,2.3s,mb6.2
VYHS *e* pP 19 22 24.7 -0.7
VYHS *e* 19 22 41.5
VYHS *e*PP PP 19 25 18.4 +2.4
VYHS *e*S S 19 32 15.0 +2.1
VYHS LR LR
comp=Z,12μm,19.5s,MS6.2
VRAC **Vranov** 78.06 333 P P 19 22 20.1 +0.2
comp=Z,34nm,0.6s,mb5.5,baz=30,slow=6.2,SNR=52
VRAC **Vranov** 78.06 333 P P 19 22 20.1 +0.3
VRAC pmax pmax
comp=Z,340nm,0.6s
VRAC **Vranov** 78.06 333 ⇓P P 19 22 20.2 +0.4
PRU **Pruhonice** 78.08 335⇓*i*P P 19 22 19.7 -0.3
PRU *ep*P pP 19 22 24.4 -1.1
PRU *e*S S 19 32 13.7 +0.4
PRU AMS AMS 20 00 50.0
comp=Z,28μm,17.7s
BALT **Daday** 78.08 319 *i* P P 19 22 20.6 +0.6
JAVC **Velka Javorina** 78.11 332 P P 19 22 21.2 +1.1
CTKT **Corum** 78.15 317 *i* P P 19 22 21.2 +0.8
DRGR 78.16 328⇓*i*P P 19 22 20.3 -0.1
MYA **Malataya** 78.17 314 P P 19 22 22.0 +1.5
TOS **Tosya** 78.18 318 P P 19 22 21.8 +1.2
PSZ **Piszkesteto** 78.19 331 *e*P P 19 22 20.6 0.0
PSZ pmax pmax
comp=Z,595nm,1.5s,mb6.3
PSZ **Piszkesteto** 78.19 331 *e*P P 19 22 20.6 0.0
comp=Z,594nm,1.5s,mb6.3
PSZ **Piszkesteto** 78.19 331⇓*i*P P 19 22 20.9 +0.3
PSZ **Piszkesteto** 78.19 331⇓*e*P P 19 22 21.0 +0.4
TANN **Tannenbergstha** 78.30 336 *e*P P 19 22 20.9 -0.3
comp=Z,567nm,2.0s,mb6.2
WERD **Werda** 78.31 336 *e*P P 19 22 20.8 -0.4
comp=Z,795nm,1.9s,mb6.3
MOX **Moxa** 78.32 337 *e*P P 19 22 20.8 -0.5
comp=Z,646nm,1.8s,mb6.2
MOX **Moxa** 78.32 337 *e*P P 19 22 21.2 -0.1
comp=Z,640nm,1.9s,mb6.2
MOX
comp=Z,20μm,21.0s
MOX **Moxa** 78.32 337 *e*P P 19 22 21.2 -0.1
MOX pmax pmax
comp=Z,640nm,1.9s,mb6.2
MOX MLR MLR
comp=Z,20μm,21.0s,MS6.4
KRUC **Moravsky** 78.33 333 P P 19 22 21.5 +0.1
WTSB **Winterswijk** 78.34 340⇓*e*P P 19 22 21.0 -0.4
comp=Z,29nm,1.6s
JMDO **Jabal Madar** 78.35 290 P P 19 22 22.6 +1.1
SNR=76
GUNZ **Gunzen** 78.38 336 *e*P P 19 22 21.3 -0.3
comp=Z,810nm,1.9s,mb6.3
WERN **Wernitzgruen** 78.43 336 *e*P P 19 22 21.6 -0.3
comp=Z,251nm,1.1s,mb6.1
NKC **Novy Kostel** 78.46 336⇓*i*P P 19 22 21.9 -0.2
NKC *ep*P pP 19 22 26.3 -1.4
NKC *e*S S 19 32 18.6 +1.2
NKC AMS AMS 20 03 40.0
comp=Z,24μm,15.9s
NKC **Novy Kostel** 78.46 336⇓*i*P P 19 22 21.9 -0.2
NKC *ep*P pP 19 22 26.3 -1.4
NKC *e*S S 19 32 18.6 +1.2
SMOL **Smolenice** 78.49 332 *e*P P 19 22 23.8 +1.6
JCT **Junction City** 78.50 58 P P 19 22 21.9 -0.4
JCT pmax pmax
comp=Z,360nm,1.1s,mb6.2
JCT **Junction City** 78.50 58 *e*P P 19 22 21.5 -0.8
comp=Z,359nm,1.1s,mb6.2
JCT LR LR
comp=Z,7μm,19.0s,MS6.0
STKA **Stephens Creek** 78.55 191 *e*P P 19 22 21.9 -0.7
comp=Z,40nm,0.9s,mb5.3
STKA **Stephens Creek** 78.55 191 P P 19 22 21.9 -0.7
comp=Z,45nm,0.8s,mb5.4,baz=346,slow=7.4,SNR=69
STKA LR LR 19 54 59.7
comp=Z,10μm,19.8s,MS6.2,baz=9.6,slow=34
GMM **Mts of Mourne** 78.57 348⇑*e*P P 19 22 23.1 +0.4
CORM **Corum** 78.58 317 P P 19 22 22.7 0.0
UBBA **Unterbreizbach** 78.60 338 *e*P P 19 22 22.3 -0.5
comp=Z,373nm,1.4s,mb6.1
LHO **Holmfirth** 78.60 346 *e*P P 19 22 23.6 +0.7
PSN **Preseletnsi** 78.62 323 *i* P P 19 22 23.6 +0.6
SAFT **Safranbolu** 78.64 319 P P 19 22 23.5 +0.4
URFA **Urfa** 78.65 313 P P 19 22 25.1 +2.0
BSY **Bisya** 78.68 291 P P 19 22 24.1 +0.8
SNR=70
AWI1 **Witton** 78.68 344 *e*P P 19 22 24.5 +1.2
ARQ **Araqi** 78.70 292 P P 19 22 24.3 +0.9
SNR=42
BUG **Bochum--Univer** 78.71 340 *e*P P 19 22 23.0 -0.5
comp=Z,448nm,1.2s,mb6.3

CANT **Cankiri** 78.71 318 *e*P P 19 22 24.6 +1.1
MANZ **Manzenberg** 78.78 336 *e*P P 19 22 23.6 -0.2
comp=Z,220nm,1.4s,mb5.9
KBI1 **Birley Grange** 78.83 346 *e*P P 19 22 24.8 +0.7
BHD **Baghdad** 78.83 307 *i* x x 19 22 24.0
BHD *i* x x 19 22 31.0
BHD *ex* x 19 32 23.0
BHD *ex* x 19 32 36.0
BHD *ex* x 19 33 08.5
BUD **Budapest** 78.86 331⇓*e*P P 19 22 24.5 +0.2
SIUC **Southern Illin** 78.87 46 *e*P P 19 22 23.6 -0.7
comp=Z,686nm,1.5s,mb6.4
ZST **Bratislava** 78.87 332 *i* P P 19 22 24.7 +0.4
ZST *e* pP 19 22 29.1 -0.8
ZST *e* 19 22 45.4
ZST *e*S S 19 32 27.1 +5.3
ZST *e* 19 32 55.2
ZST pmax pmax
comp=Z,169nm,1.2s,mb5.8
ZST MLR MLR
comp=Z,25μm,19.0s,MS6.6
ZST **Bratislava** 78.87 332 *i* P P 19 22 24.7 +0.4
ZST *ep*P pP 19 22 29.1 -0.8
ZST *e*PCP PcP 19 22 45.4 +12
ZST *e*S S 19 32 27.1 +5.3
ZST *e*SCS ScS 19 32 55.2 +10
ZST **Bratislava** 78.87 332 *i* P P 19 22 24.7 +0.4
comp=Z,169nm,1.2s,mb5.8
ZST *e* pP 19 22 29.1 -0.8
ZST *e* 19 22 45.4
ZST *e*S S 19 32 27.1 +5.3
ZST *e*ScS ScS 19 32 55.2 +10
ZST LR LR
comp=Z,25μm,19.0s,MS6.6
RAR **Rarotonga** 78.88 137 LR LR 19 52 01.5
comp=Z,13μm,20.0s,MS6.2,baz=354,slow=32
ELDT **Eldivan** 78.89 318 *i* P P 19 22 26.0 +1.6
AEU **East Anglia Un** 78.92 344 *e*P P 19 22 24.7 +0.1
ROTZ **Rotzenmuhle** 78.95 336 *e*P P 19 22 24.8 0.0
comp=Z,348nm,1.4s,mb6.1
MIAR **Mount Ida** 79.01 51 *e*P P 19 22 24.0 -1.1
MIAR pmax pmax
comp=Z,164nm,1.1s,mb5.9
MIAR **Mount Ida** 79.01 51 *e*P P 19 22 24.0 -1.1
comp=Z,164nm,1.1s,mb5.9
BNN **Bunyan** 79.04 316 P P 19 22 26.1 +0.8
VKA **Vienna** 79.06 333 *i* P P 19 22 27.9 +2.5
BLO **Bloomington** 79.06 44 P P 19 22 25.1 -0.3
BLO pmax pmax
comp=Z,640nm,1.6s,mb6.3
BLO **Bloomington** 79.06 44 *e*P P 19 22 24.6 -0.8
comp=Z,642nm,1.6s,mb6.3
KWE **Weaver Farm** 79.11 346 *e*P P 19 22 26.4 +0.7
KHC **Kasperske Hory** 79.13 335⇓*i*P P 19 22 25.8 +0.1
KHC *ep*P pP 19 22 30.3 -1.0
KHC *e*S S 19 32 25.3 +0.8
KHC AMS AMS 20 00 50.0
comp=Z,28μm,18.1s
CDAG **Cicekdag** 79.14 317 *i* P P 19 22 25.4 -0.4
KDZE **Karadeniz Ereo** 79.14 320 P P 19 22 24.1 -1.7
GRA1 **Grafenberg Arr** 79.29 337 *e*P P 19 22 26.7 +0.1
comp=Z,432nm,1.1s,mb6.3
GRA1 *e*PP PP 19 25 27.7 +1.3
GRA1 *e*S S 19 32 29.5 +3.2
GRA1 *e*P'P' 19 49 22.3
GRA1 LR LR
comp=Z,16μm,18.6s,MS6.4
GRF **Grafenberg Arr** 79.29 337 *e*P P 19 22 26.7 +0.1
comp=Z,432nm,1.1s,mb6.3
GRF *e*PP PP 19 25 27.7 +1.3
GRF *e*S S 19 32 29.5 +3.2
GRF *e*P'P'df 19 49 22.3
GRF *e*L 20 01 38.5
comp=Z,16μm,18.6s
GRF **Grafenberg Arr** 79.29 337 *e*P P 19 22 26.7 +0.1
GRF *e* 19 25 27.7
GRF *e*S S 19 32 29.5 +3.2
GRF pmax pmax
comp=Z,432nm,1.1s,mb6.3
GRF MLR MLR
comp=Z,16μm,18.6s,MS6.4
GRF **Grafenberg Arr** 79.29 337 *e*P P 19 22 26.7 +0.1
GRF *e* 19 25 27.7
GRF *e*S S 19 32 29.5 +3.2
GRF pmax pmax
comp=Z,432nm,1.1s,mb6.3
GRF MLR MLR
comp=Z,16μm,18.6s,MS6.4
GRFO **Grafenberg** 79.29 337 *e*P P 19 22 26.7 0.0
comp=Z,398nm,1.1s,mb6.3
GRFO **Grafenberg** 79.29 337 *e*P P 19 22 26.7 0.0
GRFO pmax pmax
comp=Z,398nm,1.1s,mb6.3
WET **Wettzell** 79.32 335 *e*P P 19 22 26.8 0.0
comp=Z,933nm,1.8s,mb6.4
WET **Wettzell** 79.32 335 *e*P P 19 22 26.8 0.0
WET pmax pmax
comp=Z,933nm,1.8s,mb6.4
GZR **Gura Zlata** 79.32 328⇓*i*P P 19 22 26.4 -0.4
PRD **Provadia** 79.34 324 *i* P P 19 22 27.4 +0.5
MSNY **Massena** 79.34 33 *e*P P 19 22 25.6 -1.3
GEC2 **GERESS Array S** 79.35 335 *e*P P 19 22 26.5 -0.4
comp=Z,6μm,4.7s
GEC2 **GERESS Array S** 79.35 335 P P 19 22 26.8 -0.1
GERES **GERESS Array B** 79.35 335 P P 19 22 26.7 -0.3
comp=Z,41nm,0.9s,mb5.4,baz=31,slow=4.6,SNR=95
GERES PP PP 19 25 25.3 -1.5
comp=Z,16nm,1.0s,baz=39,slow=8.6,SNR=4.0
GERES PKKPbc PKKPbc 19 41 13.7 -2.8
comp=Z,1.8nm,0.9s,baz=222,slow=1.8,SNR=8.4
GERES PKP2ab 19 49 11.0
comp=Z,0.7nm,0.8s,baz=215,slow=1.6,SNR=3.4
GERES LR LR 20 02 36.3
comp=Z,29μm,18.1s,MS6.7,baz=19,slow=40
GERES **GERESS Array B** 79.35 335 P P 19 22 26.7 -0.2
GERES 19 25 25.3
GZT **Gaziantep** 79.35 314 *i* P P 19 22 28.3 +1.4
BR131 **Keskin Array S** 79.40 318 *e*P P 19 22 27.7 +0.4
comp=Z,161nm,0.9s,mb6.0
BRTR **Keskin Array B** 79.40 318 P P 19 22 27.6 +0.4
comp=Z,41nm,0.8s,mb5.4,baz=72,slow=3.2,SNR=115
BRTR PP PP 19 25 26.2 -1.1
comp=Z,12nm,0.7s,baz=47,slow=5.8,SNR=3.1
BRTR S S 19 32 31.4 +4.0
comp=Z,0.2nm,0.4s,baz=17,slow=13,SNR=1.7
BRTR PKKP PKKPbc 19 40 58.9 -18
comp=Z,0.9nm,0.8s,baz=197,slow=3.9,SNR=3.6
BRTR PKKPbc PKKPbc 19 41 14.5 -1.9
comp=Z,1.5nm,0.7s,baz=212,slow=2.5,SNR=4.4
BRTR PKP2ab 19 49 05.8
comp=Z,1.7nm,1.0s,baz=179,slow=4.9,SNR=5.5
BRTR LR LR 20 04 56.7
comp=Z,11μm,18.3s,MS6.2,baz=226,slow=41
BRTR **Keskin Array B** 79.40 318 P P 19 22 27.6 +0.4
BRTR 19 25 26.2
BRTR S S 19 32 31.4 +4.0
BRTR 19 40 58.9
BRTR pmax pmax
comp=Z,41nm,0.8s
BRTR MLR MLR
comp=Z,11μm,18.3s
BRTR **Keskin Array B** 79.40 318 P P 19 22 27.6 +0.4
BRTR PP PP 19 25 26.2 -1.1
BRTR S S 19 32 31.4 +4.0
BRTR PKKP PKKPdf 19 40 58.9 -6.2
BRTR PKKPbc PKKPbc 19 41 14.5 -1.9
BRTR P'P'ab 19 49 05.8
BRTR LR LR 20 04 56.7
USIN **University of** 79.45 45 *e*P P 19 22 26.8 -0.7
comp=Z,434nm,1.2s,mb6.3
SBD1 **Bryn Du** 79.45 346 *e*P P 19 22 28.4 +0.9
SGKT **Sivrigoynuk** 79.45 319 *i* P P 19 22 28.5 +1.0
SOP **Sopron** 79.50 333⇓*e*P P 19 22 28.2 +0.4
CONA **Conrad Observa** 79.50 333⇓*i*P P 19 22 28.5 +0.7
comp=Z,298nm,1.5s,mb6.0
TNS **Taunus Mts** 79.54 339 *e*P P 19 22 27.8 -0.2
comp=Z,259nm,1.0s,mb6.1
TNS **Taunus Mts** 79.54 339 *e*P P 19 22 27.8 -0.2
TNS pmax pmax
comp=Z,259nm,1.0s,mb6.1
BZS **Buzias** 79.56 328⇑*i*P P 19 22 27.4 -0.7
DLF **Lyons Farm** 79.57 348 *e*P P 19 22 25.8 -2.3
KMRS **Kahramanmaras** 79.57 314 P P 19 22 29.4 +1.3
AVNT **Avonos** 79.57 316 *i* P P 19 22 29.9 +1.8

DSB Dublin 79.59 348 *eP* **P 19 22 28.3 0.0**
comp=Z,174nm,0.8s,mb6.0
DCN Croghan 79.62 349 *eP* **P 19 22 26.0 -2.4**
KAMT Kaman 79.65 317 P **P 19 22 28.8 +0.2**
HGN Heimansgroeve 79.66 340⇓*eP* **P 19 22 28.6 -0.1**
comp=Z,308nm,1.7s,mb6.0
HGN *e*PP PP 19 25 25.0 -4.5
HGN *ex* x 19 28 53.1
HGN *i S* S 19 32 37.6 +7.4
HGN *e*SS SS 19 37 20.5 -18
HGN *ex* x 19 46 10.7
GAZ Gaziantep 79.67 314 P **P 19 22 29.6 +0.8**
ANTO Ankara 79.68 318 P **P 19 22 28.9 +0.2**
ANTO Ankara 79.68 318 P **P 19 22 29.7 +1.0**
SNR=39
ANTO Ankara 79.68 318 P **P 19 22 29.6 +0.8**
ANTO pmax pmax
comp=Z,590nm,1.3s,mb6.4
ANTO Ankara 79.68 318 ⇓P **P 19 22 29.7 +1.0**
ANTO Ankara 79.68 318 ⇓*iP* **P 19 22 29.7 +0.9**
BEBN Eben Emael 79.69 340 P **P 19 22 28.4 -0.4**
comp=Z,189nm,1.3s,mb5.9
RIV Riverview 79.69 183 *eP* **P 19 22 29.5 +0.7**
HLM1 Long Mynd 79.76 346⇑*eP* **P 19 22 30.1 +0.9**
LONY Lake Ozonia 79.77 33 *eP* **P 19 22 27.9 -1.4**
comp=Z,100nm,0.9s,mb5.8
HENT Hendek 79.78 320 *i P* **P 19 22 30.1 +0.8**
MEM Membach 79.78 340 P **P 19 22 29.0 -0.3**
comp=Z,362nm,1.1s,mb6.2
ZIMR 79.79 325 ⇓*iP* **P 19 22 30.3 +1.0**
CRAR CRAIOVA 79.84 326 ⇓*iP* **P 19 22 29.6 0.0**
SZH Strazhica 79.89 324 *i P* **P 19 22 29.9 0.0**
WCI Wyandotte Cave 79.91 44 *eP* **P 19 22 29.3 -0.7**
WCI pmax pmax
comp=Z,317nm,1.0s,mb6.2
WCI Wyandotte Cave 79.91 44 *eP* **P 19 22 29.3 -0.8**
comp=Z,317nm,1.0s,mb6.2
TAOE Nuku Hiva Isla 79.92 114 *e*LR LR 19 47 06.6
comp=Z,49µm,29.2s,baz=333
KBD Kabd 79.96 302 *eP* **P 19 22 31.3 +1.0**
KBD AMb AMB 19 22 37.2
comp=Z,3µm,1.2s,mb7.1
ALLY Alegheny Colle 79.98 38 *eP* **P 19 22 28.8 -1.6**
UCC Uccle 79.98 341 P **P 19 22 31.1 +0.7**
PMOR Pomariorio Ree 80.01 124 *eP* **P 19 22 30.2 -0.3**
comp=Z,86nm,1.0s,mb5.7
TOD Tromm 80.02 338 *eP* **P 19 22 30.7 +0.1**
SIND Sindeldorf 80.04 337 P **P 19 22 30.9 +0.2**
DJES Djerdap 80.06 327⇑*iP* **P 19 22 28.8 -2.0**
MOA Molln 80.07 334⇓*iP* **P 19 22 31.0 +0.1**
comp=Z,6µm,5.0s
ABH Alteburg 80.08 339 *eP* **P 19 22 31.1 +0.2**
PKSM Moragy 80.10 331 ⇓*iP* **P 19 22 30.2 -0.8**
UTMT University of 80.11 47 *eP* **P 19 22 30.8 -0.3**
comp=Z,541nm,0.9s,mb6.5
SSW Stow on the Wo 80.12 345⇑*eP* **P 19 22 31.6 +0.5**
KOZT Kozan 80.12 315 P **P 19 22 32.6 +1.5**
BCLA Clavier 80.12 341 P **P 19 22 30.2 -1.0**
comp=Z,260nm,1.1s,mb6.1
QRN Al-Qurain 80.14 301 *eP* **P 19 22 31.8 +0.5**
QRN AMb AMB 19 22 43.3
comp=Z,981nm,1.1s,mb6.7
SWS Schriesheim-Wi 80.16 338 P **P 19 22 32.0 +0.7**
PVL Pavlikeni 80.17 325 *i P* **P 19 22 31.9 +0.5**
ARSA Arzberg 80.21 333 ⇓*iP* **P 19 22 31.8 +0.2**
comp=Z,6µm,4.8s
FORT Forrest 80.22 203 ⇓*iP* **P 19 22 31.4 -0.3**
comp=Z,137nm,0.8s,mb5.9
RDF Al-Radifah 80.23 302 *eP* **P 19 22 32.3 +0.6**
RDF AMb AMB 19 22 38.8
comp=Z,2µm,1.2s,mb6.9
KLYT Kilyos 80.25 321 P **P 19 22 31.5 -0.3**
SNF Seneffe 80.27 341 P **P 19 22 31.7 -0.3**
comp=Z,230nm,1.5s,mb5.9
JMB Yambol 80.28 324 *eP* **P 19 22 31.0 -1.1**
JMB Yambol 80.28 324 *i P* **P 19 22 32.6 +0.6**
MCH1 Michaelchurch 80.28 346 P **P 19 22 33.0 +1.0**
MCH1 AMb AMB 19 22 40.0
comp=Z,329nm,2.1s,mb5.9
MCH1 Michaelchurch 80.28 346 *eP* **P 19 22 33.0 +1.0**
MCH1 *eP* 19 22 33.0
MCH1 AMb AMB 19 22 40.0
comp=Z,329nm,2.1s,mb5.9
MCH1 AMS AMS 20 05 41.7
comp=Z,5µm,17.3s,MS5.9
HRT Hereke 80.32 321 P **P 19 22 31.7 -0.5**
VAH Vaihoa 80.35 124 *eP* **P 19 22 31.9 -0.5**
comp=Z,101nm,1.1s,mb5.7
RUP Ruppelstein 80.37 339 *eP* **P 19 22 31.9 -0.6**
ISK Istanbul-Kandi 80.39 321 *eP* **P 19 22 32.7 +0.1**
NCB Newcomb 80.45 33 *eP* **P 19 22 31.8 -1.2**
comp=Z,174nm,1.0s,mb5.9
NATX Nacogdoches 80.51 54 PFAKE 19 22 40.0 +6.8
NATX LR LR
comp=Z,8µm,20.0s,MS6.1
CEYT Ceyhan 80.53 315 *eP* **P 19 22 34.4 +1.1**
GIVF Givet 80.53 341 ⇓*iP* **P 19 22 32.9 -0.5**
comp=Z,511nm,0.9s,mb6.1
GIVF Givet 80.53 341 ⇓*iP* **P 19 22 32.9 -0.5**
GIVF pmax pmax
comp=Z,255nm,0.9s,mb6.2
GIVF Givet 80.53 341 ⇓*iP* **P 19 22 32.9 -0.5**
comp=Z,255nm,0.9s,mb6.2
SWN1 Swindon 80.54 345⇑*eP* **P 19 22 33.8 +0.4**
HDH Heidenheim-Cha 80.58 337 P **P 19 22 34.3 +0.7**
DOU Dourbes 80.59 341 P **P 19 22 33.8 +0.1**
comp=Z,96nm,1.0s,mb5.7
CTT Catalca 80.60 322 *eP* **P 19 22 33.0 -0.7**
ELBA Catalca 80.60 322 *i P* **P 19 22 34.6 +1.0**
HGH Gray Hill 80.60 346 *eP* **P 19 22 34.6 +0.9**
ADVT Abdulvahap 80.61 320 *eP* **P 19 22 33.3 -0.5**
WLF Walferdange 80.63 340 *eP* **P 19 22 34.2 +0.3**
comp=Z,282nm,1.2s,mb6.1
WLF Walferdange 80.63 340 P **P 19 22 33.8 -0.1**
comp=Z,328nm,1.9s,mb5.9
WLF Walferdange 80.63 340 *eP* **P 19 22 35.1 +1.2**
WLF pmax pmax
comp=Z,607nm,1.4s,mb6.3
WLF Walferdange 80.63 340 *eP* **P 19 22 35.1 +1.2**
comp=Z,607nm,1.4s,mb6.3
COBT Iskenderun 80.66 314 *i P* **P 19 22 34.0 -0.1**
FUR Furstenfeldbru 80.66 336 *eP* **P 19 22 34.1 +0.1**
comp=Z,617nm,1.2s,mb6.4
FUR Furstenfeldbru 80.66 336 *eP* **P 19 22 34.1 +0.1**
FUR pmax pmax
comp=Z,617nm,1.2s,mb6.4
YLV Yalova 80.66 321 *eP* **P 19 22 33.9 -0.1**
BEO Belgrade 80.66 329 ⇓*iP* **P 19 22 32.7 -1.4**
BEO Belgrade 80.66 329 P **P 19 22 34.3 +0.2**
KARA Karaisali 80.67 315 *eP* **P 19 22 34.9 +0.8**
STU Stuttgart 80.68 337 *eP* **P 19 22 33.9 -0.2**
comp=Z,404nm,1.1s,mb6.3
STU Stuttgart 80.68 337 *eP* **P 19 22 34.4 +0.3**
STU pmax pmax
comp=Z,528nm,1.3s,mb6.3
STU Stuttgart 80.68 337 *eP* **P 19 22 34.4 +0.2**
comp=Z,528nm,1.3s,mb6.3
KOGS Kog 80.69 332 *eP* **P 19 22 33.6 -0.6**
MENF Mencas 80.69 342 *eP* **P 19 22 34.9 +0.7**
BAIF Baives 80.71 341 ⇓*iP* **P 19 22 34.1 -0.2**
comp=Z,564nm,1.0s,mb6.1
BAIF Baives 80.71 341 ⇓*iP* **P 19 22 34.1 -0.2**
BAIF pmax pmax
comp=Z,282nm,1.0s,mb6.2
BAIF Baives 80.71 341 ⇓*iP* **P 19 22 34.1 -0.2**
comp=Z,282nm,1.0s,mb6.2
EDRB Edirne 80.73 323 *eP* **P 19 22 33.4 -1.1**
BORA Eskisehir 80.74 320 *i P* **P 19 22 35.1 +0.7**
WVT Waverly 80.80 47 P **P 19 22 34.0 -0.8**
WVT pmax pmax
comp=Z,390nm,1.5s,mb6.1
WVT Waverly 80.80 47 *eP* **P 19 22 33.9 -0.9**
comp=Z,388nm,1.5s,mb6.1
IZI Iznik 80.80 321 *eP* **P 19 22 34.9 +0.1**
SVIS Svilajnac 80.83 328 ⇓*iP* **P 19 22 33.5 -1.5**
SVIS Svilajnac 80.83 328 P **P 19 22 35.3 +0.3**
GEMT Gemlik 80.85 321 *eP* **P 19 22 31.2 -3.9**
LANF Langenberg 80.85 338 *eP* **P 19 22 35.2 +0.1**
ESKT Eskisehir 80.85 319 *eP* **P 19 22 34.4 -0.6**
ESKT Eskisehir 80.85 319 *i P* **P 19 22 34.8 -0.2**
PERS Pernice 80.88 333 *eP* **P 19 22 35.1 -0.1**
PERS *e*S S 19 32 45.5 +2.4
PERS *e* 19 38 06.7
LBG Lerchenberg 80.89 338 P **P 19 22 35.5 +0.3**

KIZT Kizilcal 80.89 318 *eP* **P 19 22 35.6 +0.3**
BUCH Bad Urach 80.93 337 P **P 19 22 36.2 +0.7**
BOLS Boljevac 80.96 327⇑*iP* **P 19 22 34.0 -1.6**
KBA Koelnbreinsper 81.04 334⇓*iP* **P 19 22 36.8 +0.7**
comp=Z,3µm,2.5s,mb6.8
KBA Koelnbreinsper 81.04 334⇓*iP* **P 19 22 36.8 +0.7**
KBA pmax pmax
comp=Z,3µm,2.5s,mb6.8
KRTS Karatas 81.05 315 *eP* **P 19 22 37.2 +1.0**
DIM Dimitrovgrad 81.06 324 *i P* **P 19 22 36.1 -0.1**
LBNH Lisbon 81.08 32 *eP* **P 19 22 35.8 -0.5**
LBNH pmax pmax
comp=Z,128nm,1.1s,mb5.8
LBNH Lisbon 81.08 32 *eP* **P 19 22 35.8 -0.5**
comp=Z,128nm,1.1s,mb5.8
ULDT Uludag 81.11 321 *i P* **P 19 22 36.3 -0.1**
PPT Papeete 81.12 127 *eP* **P 19 22 36.2 -0.3**
comp=Z,125nm,1.5s,mb5.6
PPT Papeete 81.12 127 *e*PP PP 19 25 39.8 -1.8
comp=Z,832nm,27.0s
PPT Papeete 81.12 127 *eS* S 19 32 45.4 -0.1
comp=Z,10µm,21.8s
PPT *e*LR LR 19 47 24.4
comp=Z,23µm,25.0s,baz=326
PPT Papeete 81.12 127 P **P 19 22 37.2 +0.7**
comp=Z,16nm,0.3s,mb5.4,baz=5.8,slow=8.5,SNR=6.8
PPT LR LR 19 52 57.0
comp=Z,11µm,20.0s,MS6.2,baz=278,slow=32
PKME Peaks-Kenny Pk 81.13 30 *eP* **P 19 22 36.1 -0.4**
comp=Z,179nm,1.0s,mb6.0
ACCN Adirondack Com 81.17 33 *eP* **P 19 22 34.6 -2.1**
OBKA Obir 81.17 333⇑*iP* **P 19 22 36.9 +0.1**
comp=Z,5µm,4.9s
PAE Paea 81.19 127 *eP* **P 19 22 36.3 -0.6**
comp=Z,230nm,1.5s,mb5.9
PAE Paea 81.19 127 *eP* **P 19 22 36.3 -0.6**
PAE pmax pmax
comp=Z,230nm,1.5s,mb5.9
PGB Panagyurishte 81.19 325 *i P* **P 19 22 36.8 -0.1**
HKT Hockley 81.20 56 *eP* **P 19 22 36.4 -0.5**
HKT pmax pmax
comp=Z,285nm,1.9s,mb5.9
HKT Hockley 81.20 56 *eP* **P 19 22 36.4 -0.5**
comp=Z,285nm,1.9s,mb5.9
MERS Mersin 81.24 315 *eP* **P 19 22 38.3 +1.1**
CNB Canberra Magne 81.25 184 *eP* **P 19 22 37.1 -0.1**
comp=Z,62nm,1.3s,mb5.4
OXF Oxford 81.25 49 P **P 19 22 36.8 -0.4**
OXF pmax pmax
comp=Z,310nm,1.0s,mb6.2
OXF Oxford 81.25 49 *eP* **P 19 22 36.4 -0.7**
comp=Z,312nm,1.0s,mb6.2
BINY Binghamton 81.26 35 *eP* **P 19 22 36.5 -0.7**
comp=Z,181nm,1.0s,mb6.0
GOLS Golise 81.28 332 *i P* **P 19 22 36.8 -0.5**
BFO Black Forest 81.31 338 *eP* **P 19 22 37.4 -0.1**
comp=Z,405nm,1.1s,mb6.3
BFO Black Forest 81.31 338 *eP* **P 19 22 37.4 -0.1**
BFO pmax pmax
comp=Z,405nm,1.1s,mb6.3
HEX Exmoor 81.32 346 *eP* **P 19 22 38.4 +0.9**
WATA Walderalm 81.33 335⇓*iP* **P 19 22 38.0 +0.4**
comp=Z,642nm,1.3s,mb6.4
GUT Gutenstein 81.34 337 P **P 19 22 38.1 +0.4**
PLD Plovdiv 81.35 325 *eP* **P 19 22 37.8 +0.1**
PLD Plovdiv 81.35 325 *i P* **P 19 22 37.5 -0.2**
GRUS Gruza 81.37 328⇓*iP* **P 19 22 36.7 -1.2**
GRUS Gruza 81.37 328 P **P 19 22 37.0 -0.8**
WTTA Wattenberg 81.38 335⇓*iP* **P 19 22 38.6 +0.8**
comp=Z,4µm,2.8s,mb6.8
MFT Murefte 81.39 322 *eP* **P 19 22 37.4 -0.5**
SPAK Spaichingen-Ko 81.40 337 *eP* **P 19 22 38.0 0.0**
HNH Hanover 81.41 32 *eP* **P 19 22 37.8 -0.2**
comp=Z,9.7nm,0.8s
KONT Konya--Tatoy 81.42 317 *eP* **P 19 22 38.1 0.0**
UBR Ueberruh 81.43 336 P **P 19 22 38.9 +0.8**
KDZ Kurdzhali 81.44 324 *i P* **P 19 22 38.5 +0.3**
DIVS Divcibare 81.45 329⇓*iP* **P 19 22 37.4 -0.8**
DIVS Divcibare 81.45 329 *eP* **P 19 22 37.7 -0.6**
MOTA Moosalm 81.45 336⇓*iP* **P 19 22 38.6 +0.4**
comp=Z,1µm,1.7s,mb6.6
BNT Bandirma 81.47 322 *eP* **P 19 22 37.9 -0.5**
TVO Taravao 81.47 127 *eP* **P 19 22 38.2 -0.2**
comp=Z,131nm,1.2s,mb5.7
CRES Cresnjev 81.49 332 *eP* **P 19 22 35.4 -3.1**
CRES *e* 19 29 16.8
CRES *e*S S 19 32 51.7 +2.4
CRES Cresnjev 81.49 332 P **P 19 22 38.7 +0.2**
CRES *e* 19 29 16.8
CRES *e*S S 19 32 51.7 +2.4
HTL Hartland 81.50 347 P **P 19 22 39.4 +0.8**
HTL AMb AMB 19 22 45.7
comp=Z,208nm,2.3s,mb5.7
HTL Hartland 81.50 347 *eP* **P 19 22 39.4 +0.8**
HTL AMb AMB 19 22 45.7
comp=Z,208nm,2.3s,mb5.7
HTL AMS AMS 20 05 45.5
comp=Z,4µm,18.3s,MS5.8
SART Tekirdag 81.51 322 *i P* **P 19 22 39.0 +0.4**
SISC Sisak 81.51 332 P **P 19 22 38.6 +0.1**
CDF Champ du Feu 81.51 339⇓*iP* **P 19 22 38.4 -0.2**
comp=Z,1µm,1.0s,mb6.4
CDF Champ du Feu 81.51 339⇓*iP* **P 19 22 38.4 -0.2**
CDF pmax pmax
comp=Z,508nm,1.0s,mb6.4
CDF Champ du Feu 81.51 339⇓*iP* **P 19 22 38.4 -0.2**
comp=Z,508nm,1.0s,mb6.4
RKY Sarkoy-Tekirda 81.51 322 *eP* **P 19 22 38.4 -0.1**
LSR Lussari 81.52 334⇓*iP* **P 19 22 38.0 -0.6**
VTS Vitosha 81.53 326 *eP* **P 19 22 38.8 +0.1**
VTS Vitosha 81.53 326⇓*iP* **P 19 22 38.5 -0.2**
SQTA Sankt Quirin 81.54 336⇓*iP* **P 19 22 39.1 +0.4**
comp=Z,722nm,1.5s,mb6.4
SQTA Sankt Quirin 81.54 336⇓*iP* **P 19 22 39.1 +0.4**
comp=Z,722nm,1.5s,mb6.4
ALT Altintas 81.56 319 *eP* **P 19 22 39.5 +0.6**
PLAL Pickwick Lake 81.57 47 *eP* **P 19 22 37.5 -1.4**
comp=Z,87nm,0.8s,mb5.7
PLRO Paularo 81.57 334⇑*eP* **P 19 22 39.0 +0.1**
LJU Ljubljana 81.60 333 *eP* **P 19 22 38.0 -1.1**
LJU *e*PP PP 19 25 48.7 +3.1
PTCC Patocco-Chiusa 81.64 334 P **P 19 22 38.4 -0.8**
comp=Z,179nm,1.0s,mb6.0
SEST Monte Rota 81.67 335 P **P 19 22 40.2 +0.8**
CADS Cadrg 81.68 334 *eP* **P 19 22 38.6 -0.8**
RZN Rozhn 81.70 324 *i P* **P 19 22 39.9 +0.3**
ECH Echery 81.72 339 *eP* **P 19 22 39.3 -0.4**
SISB Singen-Schiene 81.74 337 P **P 19 22 40.2 +0.4**
MCWV Mont Chateau 81.75 39 *eP* **P 19 22 38.6 -1.2**
comp=Z,381nm,1.0s,mb6.3
KIZ Kirchzarten 81.77 338 P **P 19 22 40.1 +0.2**
SHUT Suhut-Afyon 81.77 319 *eP* **P 19 22 40.0 +0.1**
SSPA Standing Stone 81.78 37 *eP* **P 19 22 39.3 -0.7**
comp=Z,249nm,0.9s,mb6.1
GMNA Gemona 81.79 334 P **P 19 22 39.3 -0.7**
comp=Z,2µm,1.0s,mb7.0
SLE Schleitheim 81.79 338 ⇓P **P 19 22 39.8 -0.2**
VOY Vojsko 81.81 333 *eP* **P 19 22 39.5 -0.6**
VOY *e* pP 19 22 44.0 -1.7
VOY *e* 19 23 00.2
VOY *e* 19 23 08.9
VOY *e* 19 24 04.3
ALN Alexandroupoli 81.81 323 *eP* **P 19 22 39.8 -0.3**
FELD Feldberg im Sc 81.82 338 *eP* **P 19 22 40.3 +0.1**
RDO Rodhopi 81.82 324 *eP* **P 19 22 40.3 +0.1**
GDZ Gediz 81.82 320 *i P* **P 19 22 40.3 +0.1**
BAD Bernadia 81.82 334⇓*eP* **P 19 22 40.0 -0.2**
BOJS Bojanci 81.85 332 *eP* **P 19 22 39.5 -0.8**
BOJS *e*PP PP 19 25 35.6 -12
FFD Franklin Falls 81.85 32 *eP* **P 19 22 40.4 0.0**
comp=Z,236nm,0.9s,mb6.1
DAVA Damuels 81.85 336⇓*iP* **P 19 22 40.9 +0.5**
comp=Z,2µm,3.1s
COLI Coloredo 81.87 334⇑*eP* **P 19 22 40.0 -0.5**
MPRI Monte Prat 81.90 334⇑*eP* **P 19 22 41.0 +0.4**
ENEZ Enez 81.90 323 *eP* **P 19 22 39.5 -1.2**
BTOK Tokmak 81.91 321 *i P* **P 19 22 41.4 +0.7**
DYA Yadsworthy 81.95 346 *eP* **P 19 22 41.4 +0.5**
MEZF Maizieres J'vi 81.97 340⇓*iP* **P 19 22 40.9 -0.1**
comp=Z,1µm,1.0s,mb6.4
MEZF Maizieres J'vi 81.97 340⇓*iP* **P 19 22 40.9 -0.1**
comp=Z,1µm,1.0s,mb6.7
WILA Wila 82.00 337 ⇑P **P 19 22 42.3 +1.1**
THEF They Montfort 82.00 339 *eP* **P 19 22 40.8 -0.4**

MOF Molkenrain 82.06 338 *eP* **P 19 22 41.5 0.0**
MLNI Malnisio 82.09 334⇑*eP* **P 19 22 46.0 +4.4**
KNDS Knezji Dol 82.10 333 *eP* **P 19 22 41.0 -0.7**
KNDS *e*PP PP 19 25 40.1 -10
SULZ Sulz-Cheisache 82.11 338 ⇓P **P 19 22 41.8 +0.1**
CANB Canakkale 82.12 322 *eP* **P 19 22 41.9 +0.2**
CANB Canakkale 82.12 322 *i P* **P 19 22 41.4 -0.4**
HAU Haudompre 82.12 339⇓*iP* **P 19 22 41.3 -0.5**
comp=Z,587nm,1.1s,mb6.1
HAU *e*MLR
comp=Z,20µm,19.2s
HAU Haudompre 82.12 339⇓*iP* **P 19 22 41.3 -0.5**
comp=Z,294nm,1.1s,mb6.1
HAU LR LR
comp=Z,20µm,19.3s,MS6.5
ZUR Zurich 82.13 337 ⇓P **P 19 22 42.1 +0.3**
HDMB Hadim 82.15 317 *eP* **P 19 22 41.6 -0.3**
IKL Isikli 82.15 315 *eP* **P 19 22 41.9 0.0**
TLI Talmassons 82.15 334⇑*eP* **P 19 22 44.0 +2.1**
HINF Hinteralfeld 82.17 339⇓*iP* **P 19 22 41.5 -0.5**
comp=Z,356nm,1.0s,mb6.0
HINF Hinteralfeld 82.17 339⇓*iP* **P 19 22 41.5 -0.5**
HINF pmax pmax
comp=Z,178nm,1.0s,mb6.0
HINF Hinteralfeld 82.17 339⇓*iP* **P 19 22 41.5 -0.5**
comp=Z,178nm,1.0s,mb6.0
MMB Musomiste 82.18 325 *i P* **P 19 22 42.4 +0.3**
CSA1 St Austell 82.19 347 *eP* **P 19 22 42.0 -0.2**
KKB Krupnik 82.20 325 *i P* **P 19 22 42.4 +0.2**
ERMK Ermenek 82.20 316 *i P* **P 19 22 43.0 +0.7**
APPI Appiano 82.20 335 P **P 19 22 42.5 +0.3**
TKTP Tekketepe 82.29 319 *i P* **P 19 22 42.4 -0.3**
BBS Basel-Blauen 82.33 338 *eP* **P 19 22 42.5 -0.4**
NVR Nevrokopi 82.33 325 *eP* **P 19 22 45.8 +2.9**
PLE Pljevlja 82.34 329⇓*iP* **P 19 22 43.2 +0.3**
ISP Isparta 82.37 318 *eP* **P 19 22 39.5 -3.6**
ISP Isparta 82.37 318 *eP* **P 19 22 42.4 -0.7**
ISP Isparta 82.37 318⇓*iP* **P 19 22 42.7 -0.4**
CRQ2 Rosemanowes 2 82.41 347 *eP* **P 19 22 43.3 0.0**
KHL Karahalli 82.42 319 *eP* **P 19 22 41.8 -1.6**
BRMO Bormio 82.45 336 P **P 19 22 44.2 +0.7**
comp=Z,260nm,0.9s,mb6.2
MUO Muotathal 82.48 337 ⇓P **P 19 22 44.0 +0.3**
LLS Linth-Limmern 82.49 337 ⇓P **P 19 22 43.6 -0.1**
IVA Berane 82.55 328⇓*iP* **P 19 22 43.7 -0.4**
HWQ Hawqa 82.57 313 *eP* **P 19 22 44.5 +0.4**
TZTN Tazewell 82.58 43 *eP* **P 19 22 43.5 -0.7**
comp=Z,448nm,1.5s,mb6.3
EZN Ezine 82.59 322 *eP* **P 19 22 42.4 -1.8**
LOMF Lomont 82.61 338 *eP* **P 19 22 43.0 -1.3**
QUA2 Belchertown 82.61 33 *eP* **P 19 22 43.5 -0.9**
comp=Z,142nm,0.9s,mb6.0
UPM Unac-Piva 82.62 329⇓*iP* **P 19 22 43.6 -0.8**
SRS Serrai 82.63 325 *eP* **P 19 22 43.9 -0.6**
BOZC Bozcaada 82.69 322 *i P* **P 19 22 42.9 -1.9**
STIP Stip 82.70 326 *eP* **P 19 22 44.3 -0.5**
VDL Val di Lei 82.70 336 ⇓P **P 19 22 45.4 +0.6**
HRV Harvard--Oak R 82.71 32 P **P 19 22 44.2 -0.7**
HRV pmax pmax
comp=Z,190nm,0.9s,mb6.1
HRV Harvard--Oak R 82.71 32 *eP* **P 19 22 44.1 -0.8**
comp=Z,187nm,0.9s,mb6.1
AKS Akhisar 82.73 321 *eP* **P 19 22 44.3 -0.6**
TUE Stuetta 82.75 336 P **P 19 22 45.9 +0.9**
SKO Skopje 82.75 327 *eP* **P 19 22 46.3 +1.3**
PVY Plav 82.76 328⇓*iP* **P 19 22 44.3 -0.9**
NVLJ Novalja 82.81 332 *i P* **P 19 22 44.9 -0.4**
AYVA Ayvalik 82.86 322 *i P* **P 19 22 46.3 +0.7**
VAY Valandovo 82.86 326 *eP* **P 19 22 45.0 -0.6**
KNT Kendrikon 82.87 325 *eP* **P 19 22 45.1 -0.6**
WES Weston 82.91 32 *eP* **P 19 22 45.4 -0.5**
WES pmax pmax
comp=Z,362nm,0.9s,mb6.4
WES Weston 82.91 32 *eP* **P 19 22 45.4 -0.5**
comp=Z,362nm,0.9s,mb6.4
NKY Niksic 82.93 329⇓*iP* **P 19 22 45.0 -1.0**
FLN La Foliniere 82.93 344⇓*iP* **P 19 22 45.4 -0.6**
comp=Z,421nm,0.8s,mb6.2
FLN *e*MLR
comp=Z,24µm,17.8s
FLN La Foliniere 82.93 344⇓*iP* **P 19 22 45.4 -0.6**
comp=Z,211nm,0.8s,mb6.2
FLN LR LR
comp=Z,24µm,17.8s,MS6.6
MVL Millersville 82.96 37 *eP* **P 19 22 45.4 -0.7**
SOH Sokhos 82.98 325 *eP* **P 19 22 46.0 -0.3**
LIA Limnos Island 83.01 323 *eP* **P 19 22 45.9 -0.5**
BHL Bhannes 83.02 313 *eP* **P 19 22 46.3 -0.2**
BRY Bratogost 83.02 329⇓*iP* **P 19 22 44.8 -1.7**
LDF La Druitiere 83.02 343⇓*iP* **P 19 22 45.7 -0.8**
comp=Z,329nm,0.9s,mb6.0
LDF La Druitiere 83.02 343⇓*iP* **P 19 22 45.7 -0.8**
LDF pmax pmax
comp=Z,164nm,0.9s,mb6.1
LDF La Druitiere 83.02 343⇓*iP* **P 19 22 45.7 -0.8**
comp=Z,164nm,0.9s,mb6.1
LOS Limnos 83.02 323 *eP* **P 19 22 45.9 -0.6**
ANTB Antalya 83.06 318 *eP* **P 19 22 46.0 -0.7**
SHAO Shalim 83.07 289 P **P 19 22 48.0 +1.2**
SNR=12
PRK Paraskevi 83.09 322 *eP* **P 19 22 46.3 -0.6**
PAL Palisades 83.10 35 *eP* **P 19 22 46.0 -0.9**
PAL pmax pmax
comp=Z,243nm,0.8s,mb6.3
PAL Palisades 83.10 35 *eP* **P 19 22 46.0 -0.9**
comp=Z,243nm,0.8s,mb6.3
BRNJ Basking Ridge 83.11 35 *eP* **P 19 22 47.0 +0.1**
DENT Denizli 83.11 319 *eP* **P 19 22 47.1 +0.2**
OUR Ouranopolis 83.14 324 *eP* **P 19 22 49.6 +2.6**
DNZL Cakiroluk 83.16 319 *i P* **P 19 22 55.7 +8.5**
TTG Podgorica 83.17 328⇓*iP* **P 19 22 46.3 -0.9**
CJM Chamela 83.21 69 *i P* **P 19 22 46.3 -1.1**
MAMC Mammari 83.23 315 P **P 19 22 47.5 -0.1**
GRG Griva 83.24 325 *eP* **P 19 22 47.1 -0.6**
SDMD Soldier's Deli 83.25 37 *eP* **P 19 22 46.5 -1.2**
RCY Rachaya 83.26 312 *eP* **P 19 22 48.1 +0.4**
HORT Hortiatis 83.27 325 *eP* **P 19 22 46.5 -1.3**
LKBD Leukerbad 83.29 338 ⇓P **P 19 22 48.2 +0.3**
THE Thessaloniki 83.30 325 *eP* **P 19 22 46.9 -1.0**
GOLH Golhisar 83.30 319 *i P* **P 19 22 49.2 +1.3**
PLG Polygyros 83.32 324 *eP* **P 19 22 47.2 -0.8**
PLG Polygyros 83.32 324 *eP* **P 19 22 47.2 -0.8**
ELN Prospectdale 83.33 41 *eP* **P 19 22 47.2 -0.8**
CSS Prodhromos 83.34 315 P **P 19 22 48.3 +0.2**
comp=Z,3.3nm,0.8s
CSS Prodhromos 83.34 315 *eP* **P 19 22 48.2 0.0**
STON Ston 83.34 329 *i P* **P 19 22 46.1 -2.0**
GRR Gorron 83.36 344⇓*iP* **P 19 22 47.7 -0.5**
comp=Z,744nm,0.9s,mb6.4
GRR Gorron 83.36 344⇓*iP* **P 19 22 47.7 -0.5**
GRR pmax pmax
comp=Z,372nm,0.9s,mb6.4
GRR Gorron 83.36 344⇓*iP* **P 19 22 47.7 -0.5**
comp=Z,372nm,0.9s,mb6.4
KDAG Bornova 83.36 321 *i P* **P 19 22 47.6 -0.7**
IZM Izmir 83.37 321 *eP* **P 19 22 46.9 -1.4**
SALA Sala 83.39 311 ⇓P **P 19 22 50.4 +2.0**
BUM Brajici-Budva 83.41 328⇓*iP* **P 19 22 48.6 +0.1**
LOR Lormes 83.41 340⇓*iP* **P 19 22 48.1 -0.4**
comp=Z,940nm,1.0s,mb6.5
LOR *e*MLR
comp=Z,20µm,17.5s
LOR Lormes 83.41 340⇓*iP* **P 19 22 48.1 -0.4**
LOR pmax pmax
comp=Z,470nm,1.0s,mb6.5
LOR MLR MLR
comp=Z,20µm,17.5s,MS6.5
LOR Lormes 83.41 340⇓*iP* **P 19 22 48.1 -0.4**
comp=Z,470nm,1.0s,mb6.5
LOR LR LR
comp=Z,20µm,17.5s,MS6.5
HCY Herceg Novi 83.43 329⇓*iP* **P 19 22 47.1 -1.5**
MYNC Murphy 83.47 45 PFAKE 19 23 00.0 +11
MYNC LR LR
comp=Z,14µm,21.0s,MS6.3
BLCB Balcova 83.48 321 *eP* **P 19 22 47.9 -1.0**
BLCB Balcova 83.48 321 *eP* **P 19 22 47.5 -1.4**
CABF La Chapelle 83.48 339⇓*iP* **P 19 22 48.8 -0.1**
comp=Z,565nm,1.0s,mb6.2
CABF La Chapelle 83.48 339⇓*iP* **P 19 22 48.8 -0.1**
CABF pmax pmax
comp=Z,283nm,1.0s,mb6.2
CABF La Chapelle 83.48 339⇓*iP* **P 19 22 48.8 -0.1**

comp=Z,283nm,1.0s,mb6.2
BLA Blacksburg 83.50 41 *e*P **P 19 22 48.2 -0.7**
BLA pmax pmax
comp=Z,254nm,0.9s,mb6.2
BLA Blacksburg 83.50 41 *e*P **P 19 22 48.2 -0.7**
comp=Z,254nm,0.9s,mb6.2
MMK Mattmark 83.51 337 ⇓P **P 19 22 49.8 +0.8**
ELL Elmali 83.53 318 *e*P **P 19 22 49.4 +0.3**
ALFC Alevga 83.54 315 P **P 19 22 48.5 -0.7**
comp=Z,7.5nm,0.9s
ULC Ulcinj 83.58 328 ⇓*i*P **P 19 22 48.8 -0.5**
OG01 Vacheresse 83.59 338 *e*P **P 19 22 49.2 -0.2**
BIA Bitola 83.61 326 *e*P **P 19 22 49.9 +0.4**
DIX Grande Dixence 83.63 338 ⇓P **P 19 22 50.5 +0.9**
LRAL Lakeview Retre 83.65 48 *e*P **P 19 22 48.3 -1.4**
comp=Z,57nm,0.9s,mb5.7
SSF Saint Saulge 83.69 340 ⇓*i*P **P 19 22 49.5 -0.4**
comp=Z,686nm,0.9s,mb6.5
SSF Saint Saulge 83.69 340 ⇓*i*P **P 19 22 49.5 -0.4**
comp=Z,343nm,0.9s,mb6.5
HYF Humbligny 83.69 341 ⇓*i*P **P 19 22 49.9 0.0**
URLA Izmir 83.69 321 *i*P **P 19 22 48.3 -1.7**
SZAC Souni-Zanaja 83.73 315 P **P 19 22 49.8 -0.3**
OHR Ohrid 83.73 327 *e*P **P 19 22 49.7 -0.4**
TOO Toolangi 83.75 187 *e*P **P 19 22 50.2 -0.1**
comp=Z,31nm,1.3s,mb5.3
TOO Toolangi 83.75 187 *e*P **P 19 22 50.2 -0.1**
TOO pmax pmax
comp=Z,310nm,1.3s,mb6.3
AKMC Akamas 83.78 316 P **P 19 22 48.6 -1.8**
EMV Vieux Emosson 83.78 338 ⇓P **P 19 22 50.9 +0.5**
SGMF Saint Gilles 83.81 345 ⇓*i*P **P 19 22 50.2 -0.4**
comp=Z,420nm,0.6s,mb6.4
SGMF Saint Gilles 83.81 345 ⇓*i*P **P 19 22 50.2 -0.4**
comp=Z,210nm,0.6s,mb6.4
ROSF Rostrenen 83.86 345 ⇓*i*P **P 19 22 50.5 -0.3**
comp=Z,670nm,0.9s,mb6.5
ROSF Rostrenen 83.86 345 ⇓*i*P **P 19 22 50.5 -0.3**
ROSF pmax pmax
comp=Z,335nm,0.9s,mb6.5
ROSF Rostrenen 83.86 345 ⇓*i*P **P 19 22 50.5 -0.3**
comp=Z,335nm,0.9s,mb6.5
TIR Tirane 83.88 327 *e*P **P 19 22 51.3 +0.4**
PPCY Paphos 83.89 315 ⇓P **P 19 22 50.4 -0.5**
LIT Litokhoron 83.94 325 *e*P **P 19 22 50.5 -0.6**
GLH Golan-Tel Qazi 83.95 312 P **P 19 22 52.6 +1.3**
YER Yerkesik 83.96 320 *e*P **P 19 22 51.5 +0.2**
AVF Avril sur Loir 83.98 340 ⇓*i*P **P 19 22 51.0 -0.4**
comp=Z,945nm,1.0s,mb6.6
AVF Avril sur Loir 83.98 340 ⇓*i*P **P 19 22 51.0 -0.4**
AVF pmax pmax
comp=Z,473nm,1.0s,mb6.6
AVF Avril sur Loir 83.98 340 ⇓*i*P **P 19 22 51.0 -0.4**
comp=Z,473nm,1.0s,mb6.6
SMF Signal de Mont 84.00 340 ⇓*i*P **P 19 22 51.2 -0.3**
comp=Z,3μm,1.3s,mb6.9
SMF Signal de Mont 84.00 340 ⇓*i*P **P 19 22 51.2 -0.3**
comp=Z,1μm,1.3s,mb6.9
FETY Fethiye 84.01 319 *e*P **P 19 22 51.4 -0.1**
CBN Corbin 84.03 38 *e*P **P 19 22 51.6 0.0**
comp=Z,282nm,0.9s,mb6.4
KZN Kozani 84.05 326 *e*P **P 19 22 50.5 -1.2**
MLSB Milas 84.06 320 *e*P **P 19 22 52.2 +0.4**
AKAS Kas 84.09 318 *i*P **P 19 22 50.4 -1.6**
DALT Dalyan (Mudla) 84.10 319 *e*P **P 19 22 52.5 +0.5**
SMG Samos 84.13 321 *e*P **P 19 22 51.2 -1.0**
AOS Alonnisos 84.16 324 *e*P **P 19 22 51.7 -0.7**
OG05 Jujurieux 84.17 339 *e*P **P 19 22 53.7 +1.3**
RSL Roselend 84.20 338 *e*P **P 19 22 53.1 +0.6**
KLBR Kellerberrin 84.20 211 ⇓*i*P **P 19 22 51.6 -0.9**
comp=Z,140nm,0.9s,mb6.1
QUIF Quistinic 84.25 345 ⇓*i*P **P 19 22 52.1 -0.7**
comp=Z,226nm,0.8s,mb6.1
QUIF Quistinic 84.25 345 ⇓*i*P **P 19 22 52.1 -0.7**
QUIF pmax pmax
comp=Z,113nm,0.8s,mb6.0
QUIF Quistinic 84.25 345 ⇓*i*P **P 19 22 52.1 -0.7**
comp=Z,113nm,0.8s,mb6.0
BOB Bobbio (Coli) 84.28 336 P **P 19 22 53.7 +0.8**
XOR Xorichti 84.28 324 *e*P **P 19 22 51.8 -1.2**
BGF Bois d'Agland 84.32 341 ⇓*i*P **P 19 22 52.8 -0.3**
comp=Z,314nm,0.6s,mb6.3
BGF Bois d'Agland 84.32 341 ⇓*i*P **P 19 22 52.8 -0.3**
BGF pmax pmax
comp=Z,157nm,0.6s,mb6.3
BGF Bois d'Agland 84.32 341 ⇓*i*P **P 19 22 52.8 -0.3**
comp=Z,157nm,0.6s,mb6.3
NEO Neokhori 84.32 324 *e*P **P 19 22 51.8 -1.3**
LPL La Plagne 84.33 338 ⇓*i*P **P 19 22 53.9 +0.7**
comp=Z,1μm,1.0s,mb6.6
LPL La Plagne 84.33 338 ⇓*i*P **P 19 22 53.9 +0.7**
LPL pmax pmax
comp=Z,514nm,1.0s,mb6.6
LPL La Plagne 84.33 338 ⇓*i*P **P 19 22 53.9 +0.7**
comp=Z,514nm,1.0s,mb6.6
FNVD Fontana Vidola 84.33 334 P **P 19 22 54.3 +1.1**
LPG La Plagne 84.35 338 ⇓*i*P **P 19 22 54.2 +0.9**
comp=Z,2μm,1.2s,mb6.8
LPG La Plagne 84.35 338 ⇓*i*P **P 19 22 54.2 +0.9**
LPG pmax pmax
comp=Z,918nm,1.2s,mb6.8
LPG La Plagne 84.35 338 ⇓*i*P **P 19 22 54.2 +0.9**
comp=Z,918nm,1.2s,mb6.8
WHFO Wadi Hawf 84.36 290 P **P 19 22 54.1 +0.8**
SNR=8.0
OFRI 'Ofer 84.37 312 P **P 19 22 53.9 +0.5**
HMDT Nahal Hemdat 84.38 312 P **P 19 22 54.4 +0.9**
RBK Rabkut 84.38 289 P **P 19 22 53.9 +0.4**
SNR=25
BDRM Kayabasi 84.39 320 *i*P **P 19 22 52.7 -0.8**
CING Cingoli 84.41 333 P **P 19 22 53.8 +0.2**
VLC Villacollemand 84.56 335 *e*P **P 19 22 54.5 +0.2**
comp=Z,214nm,0.8s,mb6.3
THL Klokotos Trika 84.58 325 *e*P **P 19 22 52.3 -2.2**
DAT Datca 84.61 320 *e*P **P 19 22 53.9 -0.7**
SLTI Sal'it 84.64 312 P **P 19 22 55.6 +0.8**
PLDF La Plantade 84.69 340 *e*P **P 19 22 55.5 +0.5**
MEV Metsovon 84.71 326 *e*P **P 19 22 56.2 +1.1**
TCF Toulx Ste Croi 84.72 341 ⇓*i*P **P 19 22 54.9 -0.2**
comp=Z,641nm,0.9s,mb6.5
TCF Toulx Ste Croi 84.72 341 ⇓*i*P **P 19 22 54.9 -0.2**
TCF pmax pmax
comp=Z,320nm,0.9s,mb6.5
TCF Toulx Ste Croi 84.72 341 ⇓*i*P **P 19 22 54.9 -0.2**
comp=Z,320nm,0.9s,mb6.5
MURB Monte Urbino 84.72 333 P **P 19 22 56.1 +0.9**
AGO Saint Agoulin 84.73 340 *e*P **P 19 22 56.3 +1.1**
BNI Bardonecchia 84.78 338 P **P 19 22 56.4 +0.9**
BNI pmax pmax
comp=Z,760nm,1.4s,mb6.6
BNI Bardonecchia 84.78 338 P **P 19 22 56.6 +1.1**
GDM Grand'Maison 84.78 338 *e*P **P 19 22 56.1 +0.6**
ARG Arkhangelos 84.79 319 *e*P **P 19 22 55.2 -0.3**
GRN Grenoble 84.84 338 *e*P **P 19 22 56.5 +0.7**
CSNT Castellina Chi 84.92 334 P **P 19 22 55.5 -0.6**
OG22 Abries 84.92 337 *e*P **P 19 22 56.6 +0.4**
AGG Agios Georgios 84.92 324 *e*P **P 19 22 54.8 -1.3**
MFF Saint Martin d 84.93 343 ⇓*i*P **P 19 22 55.9 -0.3**
comp=Z,293nm,0.6s,mb6.3
MFF Saint Martin d 84.93 343 ⇓*i*P **P 19 22 55.9 -0.3**
comp=Z,146nm,0.6s,mb6.3
JAN Janina 84.97 326 *e*P **P 19 22 56.2 -0.2**
LKR Lokris 84.97 324 *e*P **P 19 22 54.7 -1.7**
DRGI Dragot 84.97 311 P **P 19 22 57.1 +0.7**
LCHF La Chataignera 84.98 343 *e*P **P 19 22 56.6 +0.1**
PYM Petit Puy Mans 85.04 340 *e*P **P 19 22 57.2 +0.4**
MBDF Montbardon 85.06 337 ⇓*i*P **P 19 22 56.9 +0.1**
comp=Z,1μm,1.3s,mb6.6
MBDF Montbardon 85.06 337 ⇓*i*P **P 19 22 56.9 +0.1**
MBDF pmax pmax
comp=Z,687nm,1.3s,mb6.6
MBDF Montbardon 85.06 337 ⇓*i*P **P 19 22 56.9 +0.1**
comp=Z,687nm,1.3s,mb6.6
ABTO Aybut 85.08 290 P **P 19 22 57.7 +0.7**
SNR=28
MUN Mundaring 85.11 212 ⇑*i*P **P 19 22 57.4 +0.3**
ORIF Oris-en-Rattie 85.11 338 ⇓*i*P **P 19 22 57.6 +0.5**
comp=Z,789nm,0.9s,mb6.5
ORIF *e*MLR
comp=Z,18μm,18.2s
ORIF Oris-en-Rattie 85.11 338 ⇓*i*P **P 19 22 57.6 +0.5**
comp=Z,394nm,0.9s,mb6.5
GOGA Godfrey 85.13 45 *e*P **P 19 22 56.3 -0.9**
GOGA pmax pmax
comp=Z,186nm,1.4s,mb6.0
GOGA Godfrey 85.13 45 *e*P **P 19 22 56.2 -1.0**
comp=Z,186nm,1.4s,mb6.0
RGNG Rignano Grg 85.14 330 P **P 19 22 56.8 -0.4**
FIN Finale Ligure 85.14 336 P **P 19 22 56.5 -0.8**
FIN pmax pmax
comp=Z,602nm,1.4s,mb6.5
FIN Finale Ligure 85.14 336 P **P 19 22 56.5 -0.8**
comp=Z,602nm,1.4s,mb6.5
VERF Verneugheol 85.16 341 *e*P **P 19 22 59.1 +1.7**
MZDA Masada 85.21 311 P **P 19 22 58.3 +0.7**
BRAL Brewton 85.21 49 *e*P **P 19 22 57.7 +0.1**
comp=Z,236nm,0.7s,mb6.4
EVR Evrytania 85.22 325 *e*P **P 19 22 56.5 -1.2**
APE Apeiranthos 85.23 321 *e*P **P 19 22 55.8 -2.0**
APE Apeiranthos 85.23 321 *e*P **P 19 22 55.6 -2.1**
APE Apeiranthos 85.23 321 ⇓P **P 19 22 55.9 -1.9**
APE Apeiranthos 85.23 321 ⇓*i*P **P 19 22 55.9 -1.8**
ATH Athens Observa 85.25 323 *e*P **P 19 22 56.0 -1.8**
AQU L'Aquila 85.26 332 *e*P **P 19 22 58.2 +0.3**
AQU pmax pmax
comp=Z,341nm,0.9s,mb6.5
AQU L'Aquila 85.26 332 *e*P **P 19 22 58.2 +0.3**
comp=Z,341nm,0.9s,mb6.5
AQU L'Aquila 85.26 332 ⇓*i*P **P 19 22 58.0 +0.1**
SURF Saint Ours 85.27 337 *e*P **P 19 22 58.7 +0.8**
IGT Igoumenitsa 85.27 326 *e*P **P 19 22 56.9 -1.1**
KEK Kerkira 85.32 327 *e*P **P 19 22 57.2 -1.0**
LCI Lecce 85.42 328 P **P 19 22 58.5 -0.1**
LCI pmax pmax
comp=Z,208nm,1.1s,mb6.2
LCI Lecce 85.42 328 P **P 19 22 58.5 -0.1**
comp=Z,208nm,1.1s,mb6.2
LBL Lubilhac 85.47 340 *e*P **P 19 22 56.0 -2.9**
VIVF Saint-Julien-l 85.48 339 ⇓*i*P **P 19 22 58.8 -0.2**
comp=Z,3μm,1.9s,mb6.8
VIVF Saint-Julien-l 85.48 339 ⇓*i*P **P 19 22 58.8 -0.2**
VIVF pmax pmax
comp=Z,1μm,1.9s,mb6.8
VIVF Saint-Julien-l 85.48 339 ⇓*i*P **P 19 22 58.8 -0.2**
comp=Z,1μm,1.9s,mb6.8
FRNF Fournols 85.49 340 *e*P **P 19 22 59.6 +0.6**
JSC Jenkinsville 85.50 43 *e*P **P 19 22 58.5 -0.6**
SAOF Saorge 85.53 337 *e*P **P 19 22 58.7 -0.5**
AUTN L'Aution 85.56 337 *e*P **P 19 22 59.0 -0.3**
LHS Liberty Hill 85.56 43 *e*P **P 19 22 59.3 0.0**
MOIG Morelia 85.56 66 *i*P **P 19 22 58.8 -0.5**
OG25 Le Caire 85.57 338 *e*P **P 19 22 59.5 +0.1**
OCF Saint Nazaire 85.58 338 *e*P **P 19 23 00.5 +1.0**
OG26 St.-Nazaire-De 85.58 338 *e*P **P 19 23 00.5 +1.0**
TOUF Mont Tournerai 85.59 337 *e*P **P 19 22 57.9 -1.6**
NWAO Narrogin (SRO) 85.60 211 *e*P **P 19 22 58.8 -0.8**
NWAO pmax pmax
comp=Z,302nm,1.1s
NWAO Narrogin (SRO) 85.60 211 *e*P **P 19 22 58.8 -0.8**
comp=Z,302nm,1.1s,mb6.4
MIDA Miranda 85.62 331 P **P 19 23 00.3 +0.7**
SBF Sospel 85.68 337 ⇓*i*P **P 19 22 59.6 -0.3**
comp=Z,987nm,0.9s,mb6.7
SBF Sospel 85.68 337 ⇓*i*P **P 19 22 59.6 -0.3**
SBF pmax pmax
comp=Z,493nm,0.9s,mb6.7
SBF Sospel 85.68 337 ⇓*i*P **P 19 22 59.6 -0.3**
comp=Z,493nm,0.9s,mb6.7
MVIF Mont Vial 85.72 337 *e*P **P 19 22 59.3 -0.9**
CERT Cerreto 85.76 332 P **P 19 22 59.9 -0.5**
MASH Mash'abbe Sade 85.76 312 P **P 19 23 00.9 +0.5**
RTMI Retamim 85.76 312 P **P 19 23 00.9 +0.5**
KARP Karpathos 85.78 319 *e*P **P 19 22 59.4 -1.1**
RJF Les Rejaudoux 85.80 341 ⇓*i*P **P 19 23 00.4 -0.2**
comp=Z,774nm,1.2s,mb6.5
RJF *e*MLR
comp=Z,11μm,18.0s
RJF Les Rejaudoux 85.80 341 ⇓*i*P **P 19 23 00.4 -0.2**
RJF pmax pmax
comp=Z,387nm,1.2s,mb6.5
RJF MLR MLR
comp=Z,11μm,18.0s,MS6.3
RJF Les Rejaudoux 85.80 341 ⇓*i*P **P 19 23 00.4 -0.2**
comp=Z,387nm,1.2s,mb6.5
RJF LR LR
comp=Z,11μm,18.0s,MS6.3
REVF Revere 85.81 337 *e*P **P 19 23 00.6 0.0**
THR3 Thira Island, 85.84 321 *e*P **P 19 22 59.0 -1.8**
THR1 Thera Island 85.85 321 *e*P **P 19 22 58.1 -2.7**
THR5 Thira Island, 85.86 321 *e*P **P 19 22 58.7 -2.2**
LKD Levkas 85.86 325 *e*P **P 19 22 59.6 -1.3**
TBI Tubuai 85.86 130 *e*PP PP 19 26 11.5 -8.9
comp=Z,497nm,27.8s
TBI Tubuai 85.86 130 *e*S S 19 33 31.4 -2.0
comp=Z,12μm,25.8s
TBI *e*SS SS 19 39 08.6 -2.0
comp=Z,4μm,27.0s
TBI *e*LR LR 19 49 21.5
comp=Z,23μm,36.0s,baz=326
THR6 Thira Island, 85.89 321 *e*P **P 19 22 58.9 -2.1**
SVTA Shivta 85.90 312 P **P 19 23 01.6 +0.6**
ZFRI Zfri 85.91 311 P **P 19 23 01.7 +0.6**
MAON Monte Argentar 85.91 334 P **P 19 23 00.9 -0.2**
STOF St-Etienne Org 85.96 338 *e*P **P 19 23 01.3 -0.1**
TOLF Tolfa 85.97 333 P **P 19 23 01.3 -0.1**
RFI Roccamonfina 86.01 331 P **P 19 23 02.5 +0.9**
comp=Z,230nm,1.4s,mb6.2
KZIT Kziot 86.03 312 P **P 19 23 02.1 +0.4**
CAF Calviac 86.04 341 ⇓*i*P **P 19 23 01.2 -0.5**
comp=Z,549nm,0.9s,mb6.5
CAF Calviac 86.04 341 ⇓*i*P **P 19 23 01.2 -0.5**
CAF pmax pmax
comp=Z,275nm,0.9s,mb6.5
CAF Calviac 86.04 341 ⇓*i*P **P 19 23 01.2 -0.5**
comp=Z,275nm,0.9s,mb6.5
SMRF Simiane la Rot 86.07 338 ⇓*i*P **P 19 23 02.4 +0.5**
comp=Z,2μm,1.7s,mb6.7
SMRF Simiane la Rot 86.07 338 ⇓*i*P **P 19 23 02.4 +0.5**
comp=Z,2μm,1.7s,mb7.0
RLS Riolos of Patr 86.10 325 *e*P **P 19 23 01.4 -0.6**
PRNI Paran 86.16 311 P **P 19 23 02.9 +0.6**
FRF La Foret Royal 86.17 337 ⇓*i*P **P 19 23 01.9 -0.5**
comp=Z,2μm,1.7s,mb6.7
FRF La Foret Royal 86.17 337 ⇓*i*P **P 19 23 01.9 -0.5**
FRF pmax pmax
comp=Z,831nm,1.7s,mb6.7
FRF La Foret Royal 86.17 337 ⇓*i*P **P 19 23 01.9 -0.5**
comp=Z,831nm,1.7s,mb6.7
CNNC Cliffs of the 86.27 40 *e*P **P 19 23 03.0 +0.1**
comp=Z,262nm,1.0s,mb6.4
TAVF Tavernes 86.28 338 *e*P **P 19 23 02.4 -0.5**
LFF La Frestale 86.32 342 ⇓*i*P **P 19 23 02.2 -0.9**
comp=Z,200nm,0.6s,mb6.3
LFF La Frestale 86.32 342 ⇓*i*P **P 19 23 02.2 -0.9**
LFF pmax pmax
comp=Z,100nm,0.6s,mb6.2
LFF La Frestale 86.32 342 ⇓*i*P **P 19 23 02.2 -0.9**
comp=Z,100nm,0.6s,mb6.2
PRAF Pradon 86.33 338 *e*P **P 19 23 03.3 +0.1**
VLS Valsamata 86.34 325 *e*P **P 19 23 02.1 -1.1**
LASF Ste Croix 86.41 339 *e*P **P 19 23 03.8 +0.2**
comp=Z,253nm,1.0s,mb6.1
LMR La Mourre 86.42 337 ⇓*i*P **P 19 23 03.7 +0.1**
comp=Z,1μm,1.2s,mb6.7
LMR La Mourre 86.42 337 ⇓*i*P **P 19 23 03.7 +0.1**
LMR pmax pmax
comp=Z,619nm,1.2s,mb6.7
LMR La Mourre 86.42 337 ⇓*i*P **P 19 23 03.7 +0.1**
comp=Z,619nm,1.2s,mb6.7
PGF Pioggiola 86.44 335 ⇓*i*P **P 19 23 03.4 -0.3**
comp=Z,374nm,0.9s,mb6.3
PGF Pioggiola 86.44 335 ⇓*i*P **P 19 23 03.4 -0.3**
comp=Z,187nm,0.9s,mb6.3
ZKR Zakros 86.57 320 *e*P **P 19 23 03.8 -0.5**
VLI Veliai 86.64 323 *e*P **P 19 23 01.8 -2.9**
GELF Grande-Etoile 86.66 338 *e*P **P 19 23 03.1 -1.7**
ITM Ithomi 86.66 324 *e*P **P 19 23 03.3 -1.5**
NPS Neapolis 86.71 320 *e*P **P 19 23 03.2 -1.9**
EIL Elat 86.72 311 P **P 19 23 04.6 -0.5**
TIP Timpagrande 86.93 328 *e*P **P 19 23 05.3 -0.8**
NHSC New Hope 86.98 43 *e*P **P 19 23 07.3 +1.0**
comp=Z,1μm,1.6s,mb6.8
IIO Organos 87.18 65 *i*P **P 19 23 07.7 +0.4**
VAM Vamos 87.21 321 *e*P **P 19 23 06.5 -1.0**
SIVA Sivas 87.27 321 *e*P **P 19 23 07.5 -0.3**
KARN Karanos 87.34 322 *e*P **P 19 23 07.2 -0.9**
MTLF Montolieu 87.50 340 ⇓*i*P **P 19 23 08.0 -0.9**
comp=Z,206nm,0.8s,mb6.1
MTLF Montolieu 87.50 340 ⇓*i*P **P 19 23 08.0 -0.9**
MTLF pmax pmax
comp=Z,103nm,0.8s,mb6.1
MTLF Montolieu 87.50 340 ⇓*i*P **P 19 23 08.0 -0.9**
comp=Z,103nm,0.8s,mb6.1
PLIG Platanillo 87.57 66 *i*P **P 19 23 08.3 -0.9**
GVD Gavdhos 87.74 321 *e*P **P 19 23 08.8 -1.2**
LRDF Laroque-de-Fa 87.81 340 *e*P **P 19 23 09.9 -0.4**
CAIG El Cayaco 88.08 67 *e*P **P 19 23 10.4 -1.2**
CARF Carcanieres 88.12 340 *e*P **P 19 23 12.2 +0.4**
MLS Moulis 88.12 341 *e*P **P 19 23 11.6 -0.3**
SJAF Saint Jean de 88.15 339 *e*P **P 19 23 11.6 -0.4**
FILF Fillols 88.16 340 *e*P **P 19 23 12.0 0.0**
EJON La Jonquera 88.18 339 P **P 19 23 13.1 +1.0**
comp=Z,24nm,1.1s,mb5.3
EPF Esparros 88.23 341 *e*P **P 19 23 12.0 -0.3**
comp=Z,148nm,0.8s,mb6.0
EPF Esparros 88.23 341 *e*P **P 19 23 12.0 -0.3**
EPF pmax pmax
comp=Z,74nm,0.8s,mb6.0
EPF Esparros 88.23 341 *e*P **P 19 23 12.0 -0.3**
comp=Z,74nm,0.8s,mb6.0
SALF Salau 88.29 341 *e*P **P 19 23 13.6 +1.0**
RESF Ens 88.44 341 *e*P **P 19 23 13.0 -0.3**
EALK Alkurruntz 88.44 343 P **P 19 23 13.1 -0.3**
comp=Z,25nm,0.5s,mb5.7
SJPF Ste Jean 88.49 342 ⇓*i*P **P 19 23 12.3 -1.3**
comp=Z,48nm,0.6s,mb5.6
SJPF Ste Jean 88.49 342 ⇓*i*P **P 19 23 12.3 -1.3**
comp=Z,24nm,0.6s,mb5.6
ELIZ Elizondo 88.50 343 P **P 19 23 13.9 +0.2**
comp=Z,16nm,0.8s,mb5.4
ETSF Etsaut 88.55 342 ⇓*i*P **P 19 23 13.0 -0.9**
comp=Z,179nm,0.9s,mb6.1
ETSF Etsaut 88.55 342 ⇓*i*P **P 19 23 13.0 -0.9**
comp=Z,89nm,0.9s,mb6.1
EBIE Bielsa 88.60 341 P **P 19 23 15.0 +0.9**
comp=Z,21nm,1.0s,mb5.4
USI Ustica 88.61 331 P **P 19 23 14.8 +0.7**
ELAN Lanestosa 88.82 344 P **P 19 23 14.2 -0.9**
comp=Z,175nm,1.2s,mb6.3
SNZO South Karori 88.98 165 *e*P **P 19 23 12.4 -3.4**
comp=Z,232nm,0.9s,mb6.5
EMIR Miracle 89.02 340 P **P 19 23 15.6 -0.4**
comp=Z,58nm,0.7s,mb6.0
EARI Arriondas 89.08 345 P **P 19 23 15.4 -1.0**
comp=Z,47nm,0.9s,mb5.8
VSL Villasalto 89.13 344 *e*P **P 19 23 15.3 -1.3**
comp=Z,243nm,1.0s,mb6.5
ECRI Cripan 89.24 343 P **P 19 23 17.3 +0.2**
comp=Z,49nm,1.2s,mb5.7
EPON Pontenova 89.38 347 P **P 19 23 16.8 -1.0**
comp=Z,127nm,0.8s,mb6.3
HMDC Modica 89.61 329 P **P 19 23 18.8 -0.1**
EPOB Poblet 89.65 340 P **P 19 23 19.1 0.0**
comp=Z,14nm,0.8s,mb5.3
ESAC San Caprasio 89.66 341 P **P 19 23 19.2 +0.1**
comp=Z,57nm,1.1s,mb5.8
DGAR Diego Garcia 89.73 259 ⇑*i*P **P 19 23 19.9 +0.5**
DGAR LR LR
comp=Z,2μm,19.0s,MS5.6
MUKL Al Mukalla 89.97 291 ⇑*e*P **P 19 23 21.3 +0.8**
MUKL AMb AMB 19 23 22.1
comp=Z,218nm,1.2s,mb6.4
STS Santiago 90.03 348 P **P 19 23 20.0 -0.8**
comp=Z,55nm,0.9s,mb5.9
EMAZ Mazaricos 90.03 348 P **P 19 23 19.3 -1.5**
comp=Z,106nm,0.7s,mb6.3
ERTA Horta de San J 90.20 341 P **P 19 23 22.0 +0.3**
comp=Z,19nm,1.0s,mb5.4
ERUA La Rua 90.29 346 P **P 19 23 21.6 -0.4**
comp=Z,39nm,0.8s,mb5.8
VHO Vista Hermosa 90.31 65 *i*P **P 19 23 22.5 +0.4**
ECAL Calabor 90.66 346 P **P 19 23 22.7 -1.1**
comp=Z,27nm,1.0s,mb5.5
ETOS Mallorca 90.73 338 P **P 19 23 23.4 -0.6**
comp=Z,79nm,0.8s,mb6.1
EZAM Zamans 90.77 347 P **P 19 23 23.5 -0.7**
comp=Z,156nm,1.4s,mb6.2
ETOR Torete 90.86 342 P **P 19 23 23.5 -1.2**
comp=Z,20nm,0.8s,mb5.5
ELOB Lobios 90.95 347 P **P 19 23 23.8 -1.3**
comp=Z,38nm,0.8s,mb5.8
EMOS Mosqueruela 90.95 341 P **P 19 23 24.2 -0.9**
comp=Z,34nm,0.8s,mb5.7
CMIG Matias Romero 91.45 63 *i*P **P 19 23 26.0 -1.4**
GUD Guadarrama 91.45 344 P **P 19 23 26.7 -0.7**
comp=Z,22nm,1.0s,mb5.5
PVRL Vila Real 91.47 347 *e*P **P 19 23 26.7 -0.8**
comp=Z,182nm,1.3s,mb6.2
PTO Porto 91.75 347 *e*P **P 19 23 28.3 -0.5**
EIBI Ibiza 91.80 339 P **P 19 23 29.1 +0.1**
comp=Z,66nm,0.8s,mb6.0
ECHE Chera 91.80 341 P **P 19 23 28.6 -0.5**
comp=Z,17nm,1.0s,mb5.3
PVIS Viseu 92.05 347 *e*P **P 19 23 29.1 -1.1**
comp=Z,177nm,2.4s,mb6.0
ESDC Sonseca Array 92.35 343 P **P 19 23 30.6 -1.0**
comp=Z,19nm,0.9s,mb5.4,baz=9.2,slow=3.9,SNR=53
ESDC PKKPbc PKKPbc 19 40 43.7 -1.9
comp=Z,1.8nm,0.8s,baz=175,slow=2.2,SNR=6.4
ESDC LR LR 20 11 39.5
comp=Z,12μm,18.2s,MS6.4,baz=25,slow=40
ESDC Sonseca Array 92.35 343 P **P 19 23 30.2 -1.4**
comp=Z,17nm,0.8s,mb5.4
ESLA Sonseca Array 92.35 343 *e*P **P 19 23 30.2 -1.4**
comp=Z,35nm,1.3s,mb5.5
CMAH Djebel Manchou 92.37 334 P **P 19 23 31.0 -0.7**
CAEH 'Ain El Ouahch 92.40 334 P **P 19 23 32.0 +0.2**
EBEN Beniarda 92.48 340 P **P 19 23 31.1 -1.0**
comp=Z,42nm,0.8s,mb5.8
PAB San Pablo 92.55 344 P **P 19 23 31.5 -1.0**
PAB pmax pmax
comp=Z,30nm,1.0s,mb5.7
PAB San Pablo 92.55 344 *e*P **P 19 23 31.3 -1.2**
comp=Z,30nm,0.9s,mb5.7
KEST Kesra 92.58 332 P **P 19 23 32.8 +0.1**
comp=Z,8.6nm,0.9s,mb5.2,baz=103,slow=1.3,SNR=10.0
KEST LR LR 20 10 33.6
comp=Z,12μm,18.3s,MS6.4,baz=326,slow=39
CKFL Kef-Lekhel 92.79 334 P **P 19 23 33.0 -0.6**
PCBR Castelo Branco 92.83 346 *e*P **P 19 23 32.6 -1.2**
comp=Z,119nm,2.2s,mb5.9
ETOB Tobarra 92.84 341 P **P 19 23 32.6 -1.2**
comp=Z,17nm,0.7s,mb5.6
LBOS 92.85 293 ⇓*e*P **P 19 23 34.9 +1.0**
LBOS AMb AMB 19 23 36.0
comp=Z,288nm,1.6s,mb6.5
DHBB Dhamar BB 92.87 294 ⇓*e*P **P 19 23 35.2 +1.2**
DHBB AMb AMB 19 23 36.3
comp=Z,506nm,1.7s,mb6.7
DFRA Djebel Bou Aff 92.91 335 P **P 19 23 37.0 +2.9**
CASM Ain Smara 92.99 335 P **P 19 23 34.0 -0.5**
TEIG Tepich 93.01 57 *i*P **P 19 23 36.5 +1.8**
EVIA Vianos 93.05 342 P **P 19 23 33.2 -1.6**
comp=Z,18nm,0.9s,mb5.5
CTEI Djebel Teioual 93.20 335 P **P 19 23 36.0 +0.5**
SET Setif 93.36 335 P **P 19 23 35.0 -1.3**
ABA Alger-Bouzarea 93.46 337 P pP 19 23 42.0 -0.4
EMUR La Murta 93.53 341 P **P 19 23 36.0 -1.1**
comp=Z,56nm,1.5s,mb5.8
CMER Merouana 93.76 335 P **P 19 23 35.0 -3.1**
EBAN Banos Encina 93.78 343 P **P 19 23 37.1 -1.1**
comp=Z,22nm,0.9s,mb5.6
PESTR Estremoz 93.80 346 *e*P **P 19 23 37.3 -1.0**
comp=Z,119nm,2.0s,mb6.0
PESTR Estremoz 93.80 346 *e*P **P 19 23 40.2 +1.9**
comp=Z,119nm,2.0s,mb6.0
PESTR Estremoz 93.80 346 *e*PP PP 19 27 24.2 +0.6
PESTR Estremoz 93.80 346 *e*LQ 19 50 15.1
PESTR *e*LR LR 19 55 49.3
comp=Z,11μm,16.0s
EBAD Badajoz 93.81 346 P **P 19 23 36.4 -1.9**
comp=Z,27nm,1.3s,mb5.5
EADA Adamuz 93.93 344 P **P 19 23 37.8 -1.1**
comp=Z,12nm,0.9s,mb5.3
SOR Soroa 93.93 51 *e*P **P 19 23 38.3 -0.6**
RKT Rikitea 93.95 119 *e*PP PP 19 27 14.7 -10
comp=Z,468nm,30.0s
RKT Rikitea 93.95 119 *e*PS PS 19 36 06.2 +1.8
comp=Z,8μm,28.0s
RKT Rikitea 93.95 119 *e*SKSac SKSac 19 34 07.8 -5.2
comp=Z,3μm,25.5s
RKT *e*SS SS 19 41 06.3 -1.4
comp=Z,7μm,26.2s
RKT *e*LR LR 19 53 19.9
comp=Z,22μm,34.0s,baz=316

EQES	**Quesada**	**93.97 342**	P	**P**	**19 23 37.9**	**-1.1**	
	comp=Z,19nm,0.9s,mb5.5						
PMAFR	**Mafra**	**93.99 347**	*e*P	**P**	**19 23 38.3**	**-0.8**	
PMAFR	**Mafra**	**93.99 347**	*e*LQ		19 50 47.3		
PMAFR			*e*LR	LR	19 56 08.7		
	comp=Z,6µm,20.0s						
EMHD	**Djebel Mahouad**	**94.05 337**	P	sP	19 23 47.2	+0.1	
TRBA	**At Turbah**	**94.06 294**⇓	*e*P	**P**	**19 23 40.5**	**+1.1**	
TRBA			AMb	AMB	19 23 42.2		
	comp=Z,214nm,1.9s,mb6.3						
EBNR	**Beni Rached**	**94.34 338**	P	sP	19 23 49.0	+0.6	
ELUQ	**Luque**	**94.45 343**	P	**P**	**19 23 40.1**	**-1.2**	
	comp=Z,3.7nm,0.3s,mb5.3						
ECHA	**Ech Chlef**	**94.51 338**	P	sP	19 23 50.5	+1.3	
ECOG	**Cogollos-Vega**	**94.58 343**	P	**P**	**19 23 40.8**	**-1.1**	
	comp=Z,4.4nm,0.8s						
ENIJ	**Nijar**	**94.58 341**	P	**P**	**19 23 40.6**	**-1.3**	
	comp=Z,19nm,1.2s,mb5.4						
PBEJ	**Beja**	**94.67 346**	*e*P	**P**	**19 23 41.6**	**-0.6**	
	comp=Z,128nm,1.6s,mb6.1						
EMIN	**Mina Concepcio**	**94.71 345**	P	**P**	**19 23 41.1**	**-1.4**	
	comp=Z,20nm,0.7s,mb5.7						
EANR	**'Ain N'Sour**	**94.77 339**	P	sP	19 23 52.5	+2.1	
EBER	**Berja**	**94.81 342**	P	**P**	**19 23 42.4**	**-0.5**	
	comp=Z,54nm,1.0s,mb5.9						
ELOJ	**Sierra Loja**	**94.83 343**	P	**P**	**19 23 42.2**	**-0.8**	
	comp=Z,11nm,1.0s,mb5.2						
ERON	**Agron**	**94.88 343**	P	**P**	**19 23 42.4**	**-0.8**	
	comp=Z,10nm,0.9s,mb5.2						
EGRO	**El Granado**	**95.08 346**	P	**P**	**19 23 42.7**	**-1.4**	
	comp=Z,215nm,1.5s,mb6.4						
ETRT	**Tiaret**	**95.25 338**	P	sP	19 23 54.0	+1.4	
ESPR	**Espera**	**95.44 344**	P	**P**	**19 23 44.9**	**-0.8**	
	comp=Z,23nm,0.9s,mb5.6						
EMIJ	**Mijas**	**95.52 343**	P	**P**	**19 23 45.4**	**-0.7**	
	comp=Z,43nm,1.3s,mb5.7						
EJIF	**Jimena Fronter**	**95.77 344**	P	**P**	**19 23 46.2**	**-1.0**	
	comp=Z,98nm,1.4s,mb6.0						
MGV	**Manicaragua**	**96.11 49**	*e*P	**P**	**19 23 50.1**	**+1.3**	
TGUH	**Tegucigalpa,Un**	**98.43 60**	*e*P	**P**	**19 23 59.8**	**+0.5**	
	comp=Z,125nm,1.1s,mb6.3						
MDT	**Midelt**	**99.11 342**	LR	LR	20 15 20.2		
	comp=Z,7µm,18.6s,MS6.2,baz=15,slow=39						
LMGC	**Las Mercedes**	**99.35 48**	*e*P	**P**	**19 23 58.3**	**-5.1**	
FURI	**Furi**	**100.79 295**	*e*P	Pdif	19 24 05.5	-4.4	
FURI			S	PP	19 28 18.0	+0.6	
KMBO	**Kilima Mbogo**	**109.31 289**	Pdiff	Pdif	19 24 49.7	+2.0	
	comp=Z,1.1nm,0.8s,baz=38,slow=23,SNR=5.9						
KMBO			PKKPbc	PKKPbc	19 39 54.9	-2.0	
	comp=Z,0.6nm,0.4s,baz=33,slow=17,SNR=2.5						
KMBO	**Kilima Mbogo**	**109.31 289**	P	Pdif	19 24 49.7	+2.0	
KMBO					19 39 54.9		
KMBO			pmax	pmax			
	comp=Z,1.0nm,0.8s						
SDV	**Santo Domingo**	**112.03 49**	*e*P	PKiKP	19 28 56.1	-0.3	
DRV	**Dumont d'Urvil**	**113.05 186**	Pdif	Pdif	19 25 03.0	-1.3	
DRV	**Dumont d'Urvil**	**113.05 186**	PP	PP	19 29 44.0	-3.5	
DRV			SKS	SKSdf	19 35 40.0	-30	
DRV			SP	SP	19 39 19.0	-1.5	
DRV			SS	SS	19 45 30.0	-0.7	
RPN	**Rapa Nui**	**113.21 105**	PFAKE		19 29 10.0	+11	
RPN			LR	LR			
	comp=Z,1µm,21.0s,MS5.5						
TOA0	**Torodi Ar. Sit**	**116.03 330**	*e*Pdif	Pdif	19 25 19.8	+2.3	
TORD	**Torodi Ar. Bea**	**116.03 330**	PKP	PKPdf	19 29 03.1	-1.0	
	comp=Z,11nm,0.8s,baz=4.9,slow=2.5,SNR=17						
TORD			PP	PP	19 30 11.4	+2.9	
	comp=Z,31nm,1.0s,baz=20,slow=6.9,SNR=16						
TORD			PKKPbc	PKKPbc	19 39 32.0	-2.4	
	comp=Z,4.6nm,0.6s,baz=202,slow=1.9,SNR=25						
MIR	**Mirnyy**	**121.72 204** *c*	*i*PKIKP	PKPdf	19 29 14.0	-1.0	
MIR			*i*		19 29 34.0		
MIR			pmax	pmax			
	comp=Z,550nm,1.2s						
VNDA	**Vanda**	**123.51 178**	PKP	PKPdf	19 29 15.6	-2.9	
	comp=Z,10nm,0.8s,baz=320,slow=4.1,SNR=38						
VNDA			PKKPbc	PKKPbc	19 39 06.7	0.0	
	comp=Z,4.0nm,0.9s,baz=219,slow=2.1,SNR=7.7						
VNDA	**Vanda**	**123.51 178**	PKP	PKPdf	19 29 15.6	-2.9	
VNDA			PKKPbc	PKKPbc	19 39 06.7	0.0	
SBA	**Scott Base**	**124.00 177**	*e*PKIKP	PKPdf	19 29 17.2	-2.2	
LIC	**Lamto**	**124.69 335**⇓	*i*PKIKP	PKPdf	19 29 19.7	-1.0	
	comp=Z,142nm,1.1s						
LIC			*e*MLR				
	comp=Z,8µm,17.5s						
LIC	**Lamto**	**124.69 335**⇓	*i*PKPdf	PKPdf	19 29 19.7	-1.0	
LIC			LR	LR			
	comp=Z,4µm,17.5s,MS6.2						
NNA	**Nana**	**125.05 69**	*e*P	PKPdf	19 29 20.6	-0.8	
LSZ	**Lusaka**	**125.75 286**	⇓P	PKPdf	19 29 23.6	+0.8	
	SNR=13						
LSZ	**Lusaka**	**125.75 286**	*e*PKPdf	PKPdf	19 29 22.8	0.0	
SAML	**Samuel**	**130.94 53**	*e*P	PKPdf	19 29 32.3	-0.4	
MAW	**Mawson**	**132.17 211**	*e*PKP	PKPdf	19 29 33.8	-1.2	
	comp=Z,26nm,1.1s						
MAW			*e*PP	PP	19 31 57.7	+0.8	
MAW			*e*PKS		19 33 01.2		
MAW	**Mawson**	**132.17 211**	PKP	PKPdf	19 29 33.5	-1.5	
	comp=Z,18nm,0.8s,baz=340,slow=1.3,SNR=14						
MAW			PP	PP	19 31 58.4	+1.5	
	comp=Z,24nm,1.1s,baz=72,slow=8.0,SNR=3.9						
MAW	**Mawson**	**132.17 211**	PKIKP	PKPdf	19 29 33.5	-1.5	
MAW					19 31 58.4		
MAW			pmax	pmax			
	comp=Z,180nm,0.8s						
MAW	**Mawson**	**132.17 211**	PKP	PKPdf	19 29 33.5	-1.5	
MAW			*e*PKPdf	PKPdf	19 29 33.7	-1.2	
MAW			*e*PP	PP	19 31 57.7	+0.8	
MAW			PP	PP	19 31 58.4	+1.5	
MAW			*e*PKS		19 33 01.2		
LPAZ	**La Paz**	**133.82 64**	PKhKP		19 29 24.1		
	comp=Z,2.5nm,0.8s,baz=24,slow=9.6,SNR=7.5						
LPAZ			PKP	PKPdf	19 29 39.2	+1.1	
	comp=Z,15nm,0.9s,baz=360,slow=4.9,SNR=28						
LPAZ	**La Paz**	**133.82 64**	*i* PKHKP		19 29 24.2		
LPAZ					19 29 39.2		
LPAZ	**La Paz**	**133.82 64**	PKP		19 29 24.1		
LPAZ			PKP	PKPdf	19 29 39.2	+1.1	
LBTB	**Lobatse**	**134.21 279**	PKHKP		19 29 27.2		
LBTB	**Lobatse**	**134.21 279**	*e*PKPpre		19 29 26.3		
LBTB			*e*PKPdf	PKPdf	19 29 38.8	0.0	
TSUM	**Tsumeb**	**135.54 293**	*e*PKPpre		19 29 29.9		
BOSA	**Boshof**	**136.72 276**	PKhKP		19 29 30.2		
	comp=Z,8.2nm,1.0s,baz=328,slow=2.1,SNR=4.5						
BOSA			PKP	PKPdf	19 29 42.0	-1.5	
	comp=Z,28nm,0.8s,baz=48,slow=3.0,SNR=16						
BOSA			PP	PP	19 32 28.3	+2.4	
	comp=Z,10nm,1.0s,baz=315,slow=5.5,SNR=3.0						
BOSA	**Boshof**	**136.72 276**	*i* PKHKP		19 29 30.2		
BOSA					19 29 42.0		
BOSA					19 32 28.3		
BOSA	**Boshof**	**136.72 276**	*e*PKPpre		19 29 28.7		
BOSA			PKP		19 29 30.2		
BOSA			*e*PKPdf	PKPdf	19 29 40.5	-3.0	
BOSA			PKP	PKPdf	19 29 42.0	-1.5	
BOSA			PP	PP	19 32 28.3	+2.4	
BOSA			LR	LR			
	comp=Z,6µm,19.0s,MS6.3						
LVC	**Limon Verde**	**137.93 71**	PKhKP		19 29 39.8		
	comp=Z,8.1nm,0.8s,baz=269,slow=5.0,SNR=8.8						
LVC			PKP	PKPdf	19 29 46.9	+1.2	
	comp=Z,34nm,0.9s,baz=270,slow=3.1,SNR=17						
RCBR	**Riachuelo**	**138.83 16**	PFAKE		19 30 00.0	+13	
RCBR			LR	LR			
	comp=Z,4µm,21.0s,MS6.1						
SUR	**Sutherland**	**142.04 275**	*e*PKPpre		19 29 47.8		
FCH	**Farellones**	**143.81 85**⇓	*i*P	PKPdf	19 29 52.5	-3.8	
ZON	**Zonda**	**143.89 82**⇑	*i*P	PKPdf	19 29 53.7	-2.8	
CFAA	**Coronel Fontan**	**144.23 81**	PKP	PKPdf	19 29 54.6	-2.5	
	comp=Z,8.8nm,0.8s,baz=294,slow=2.8,SNR=83						
CCHI	**Chillan**	**144.31 91**⇑	*i*P	PKPdf	19 29 55.7	-1.4	
NVL	**N'lazarevskaya**	**149.47 203** *d*	*i*PKHKP		19 30 02.5		
NVL			*i*		19 33 47.8		
NVL			*i* SS	SS	19 52 55.2	-0.5	
NVL			pmax	pmax			
	comp=Z,472nm,1.5s						
USHA	**Ushuaia**	**151.82 124**	PKPbc	PKPbc	19 30 14.3	-1.6	
	comp=Z,135nm,0.9s,baz=242,slow=2.5,SNR=30						
CAM3	**Guarapari**	**151.83 31**	*e*P	PKPdf	19 30 10.2	+0.7	
CAM3			*i*		19 30 15.2		
CAM3			*i*		19 30 18.6		
CAM3			*i*		19 30 21.3		
CAM3			*i*		19 30 28.5		
CAM3			*i*		19 30 31.7		
CAM3			*i*		19 31 04.5		
PMSA	**Palmer Station**	**152.02 145**	PKPbc	PKPbc	19 30 13.8	-2.5	
	comp=Z,163nm,0.8s,baz=218,slow=1.5,SNR=17						
TRQA	**Tornquist**	**152.03 86**	*e*PKPdf	PKPdf	19 30 07.2	-2.6	
SNAA	**Sanae**	**152.24 195**	PKP	PKPdf	19 30 06.8	-3.3	
	comp=Z,4.8nm,1.2s,baz=153,slow=2.0,SNR=17						
SNAA			PKPbc	PKPbc	19 30 14.0	-2.8	
	comp=Z,29nm,1.0s,baz=120,slow=2.3,SNR=77						
SNAA	**Sanae**	**152.24 195**	*e*PKPdf	PKPdf	19 30 06.7	-3.4	
SNAA			*e*		19 30 13.2		
SNAA			*e*		19 30 25.5		
SNAA			*e*		19 30 31.1		
SNAA			*e*		19 34 00.3		
CAM4	**Nova Friburgo**	**152.53 36**	*e*P	PKPdf	19 30 10.3	-0.3	
CAM4			*i*		19 30 17.6		
CAM4			*i*		19 30 21.7		
CAM4			*i*		19 30 24.3		
CAM4			*i*		19 30 31.9		
CAM4			*i*		19 30 45.0		
VNA2	**Neumayer--Watz**	**153.66 193**	*e*PKPdf	PKPdf	19 30 09.2	-3.0	
VNA2			*e*		19 30 16.3		
VNA2			*e*		19 30 24.6		
VNA2			*e*		19 30 30.8		
VNA2			*e*		19 30 34.9		
VNA2			*e*		19 30 39.2		
VNA2			*e*		19 34 05.7		
VNA2			*e*		19 34 12.2		
VNA3	**Neumayer Olymp**	**153.72 192**	*e*PKPdf	PKPdf	19 30 08.9	-3.4	
VNA3			*e*		19 30 24.2		
VNA3			*e*		19 30 30.8		
VNA3			*e*		19 30 34.7		
VNA3			*e*		19 34 06.4		
VNA1	**Neumayer--Stat**	**154.04 193**	*e*PKPdf	PKPdf	19 30 11.0	-1.7	
VNA1			*e*		19 30 22.2		
VNA1			*e*		19 30 32.6		
VNA1			*e*		19 30 36.5		
VNA1			*e*		19 34 05.5		

STR ***07*** *19:11:40.4±0.7, 4756N×760E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***07*** *19:11:40.8±0.2, 4759N×757E, h9km, Md2.0/3, Ml2.0/7, Error ellipse: s-maj=3.6km s-min=2.2km az=89.0*

ZUR 07 19:11:40.8, 4759N×760E, h5km±1km, ML1.2, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	19 11 46.2	+0.4
	67nm,0.1s						
BALST				*i* Sg	Sg	19 11 50.2	+1.0
	67nm,0.1s						
BOURR	**Bourrignon**	**0.32**	**233**	*i* Sg	Pg	19 11 47.2	+0.3
	45nm,0.6s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Sg	19 11 52.3	+1.3
	45nm,0.6s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	19 11 47.8	+0.1
	47nm,0.4s						
SULZ				*i* Sg	Sg	19 11 52.8	+0.5
	47nm,0.4s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	19 11 48.6	-0.2
MOF				Sg	Sg	19 11 54.3	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Sg	Sg	19 11 58.4	-0.3
HINF				*e*Sn	Sg	19 12 01.9	+3.2
	11nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	19 11 52.0	+0.2
SLE	**Schleitheim**	**0.63**	**73**	*i* Pg	Pg	19 11 52.8	-0.1
	49nm,0.2s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	19 11 54.3	+0.1
ECH				Sg	Sg	19 12 04.2	+0.9
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pg	19 11 57.2	0.0
CDF				*e*Sg	Sg	19 12 07.5	-0.8
	9.8nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	19 11 58.4	-0.5
HAU				*e*Sg	Sg	19 12 10.6	-0.5
	8.9nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pn	Pn	19 12 05.3	-1.9
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	19 12 07.7	-0.3
CABF				*e*Sg	Sg	19 12 25.1	-1.3
	2.7nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	19 12 38.1	-1.6
	0.6nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	19 12 48.9	-1.6
	0.7nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	19 13 00.3	-2.7
	2.6nm,0.3s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Sg	Sg	19 13 05.4	-3.2
	1.1nm,0.3s						

IDC ***07*** *20:04:58.8±1.0, 4622N×154.16E, h0km, mb3.9/16, mb1 4.1/16, mb1mx4.0/26, mbtmp3.9/16, Error ellipse: s-maj=26.4km s-min=18.4km az=164.0*
BJI ***07*** *20:04:59.6, 4700N×15448E, h14km, mb4.2*
ISCJB ***07*** *20:05:00.4±3.4, 463N±0.1×154.1E±0.1, h19km±23km, mb4.0/21, Error ellipse: s-maj=20.5km s-min=10.6km az=114.0*
NEIC ***07*** *20:05:00.5±0.8, 4623N×15421E, h10km, mb4.8/3, Error ellipse: s-maj=20.7km s-min=10.8km az=168.0*
MOS ***07*** *20:05:04.4±1.2, 4638N×15403E, h53km, mb4.2/15, Error ellipse: s-maj=18.0km s-min=9.8km az=94.5*

ISC 07 20:05:04.1±3.5, 464N±01×1542E±01, h32km±24km, n49, σ0§91/49, mb4.0/21, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.48**	**16**	*e*PN	**Pn**	**20 06 09.2**	**-0.6**
YSS	**Yuzh-Sakhalins**	**7.87**	**278**	*e*P	**Pn**	**20 06 58.3**	**+2.0**
ERM	**Erimo**	**9.04**	**245**	*e*PN	**Pn**	**20 07 11.9**	**-0.4**
YAK	**Yakutsk**	**21.02**	**327**⇑	*e*P	**P**	**20 09 44.6**	**-0.3**
KSRS	**Korea Array**	**21.40**	**255**	P	**P**	**20 09 48.8**	**-0.3**
	2.8nm,1.0s,mb3.6,baz=48,slow=11,SNR=4.2						
BILL	**Bilibino**	**22.58**	**12**	*e*P	**P**	**20 10 01.6**	**-0.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
TIXI	**Tiksi**	**28.02**	**343**	*i* P	**P**	**20 10 50.3**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.5						
ULN	**Ulaanbaatar**	**31.70**	**290**	*i* P	**P**	**20 11 23.7**	**-1.1**
SONM	**Songino Array**	**32.14**	**290**	P	**P**	**20 11 28.3**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.5,baz=79,slow=7.5,SNR=3.1						
SONM	**Songino Array**	**32.14**	**290**	P	**P**	**20 11 28.3**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
IMA2	**Indian Mountai**	**33.67**	**36**	*e*P	**P**	**20 11 42.8**	**+0.9**
COLA	**College**	**35.97**	**38**	*i* P	**P**	**20 12 00.9**	**-0.9**
COLA	**College**	**35.97**	**38**	P	**P**	**20 12 02.5**	**+0.7**
	comp=Z,8.2nm,0.9s,mb4.7						
GTA	**Gaotai**	**39.75**	**280**	*e*P	**P**	**20 12 36.3**	**+2.6**
GTA				AP	pP	20 12 43.1	0.0
GTA				XP	sP	20 12 45.8	-1.2
INK	**Inuvik**	**41.56**	**32**	P	**P**	**20 12 49.1**	**+0.4**
	comp=Z,2.0nm,0.6s,mb3.9,baz=288,slow=5.4,SNR=9.6						
INK	**Inuvik**	**41.56**	**32**	P	**P**	**20 12 49.1**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**41.56**	**32**	*e*P	**P**	**20 12 50.1**	**+1.4**
	comp=Z,36nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**47.75**	**298**	P	**P**	**20 13 37.4**	**-0.6**
	comp=Z,0.7nm,0.5s,mb4.0,baz=68,slow=7.5,SNR=19						
MKAR	**Makanchi Array**	**47.75**	**298**	*i* P	**P**	**20 13 37.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**48.17**	**304**	*i* P	**P**	**20 13 40.8**	**-0.5**
YKA	**Yellowknife Ar**	**50.77**	**37**	P	**P**	**20 14 01.3**	**+0.2**
	comp=Z,0.9nm,0.9s,mb3.7,baz=295,slow=7.1,SNR=5.1						
YKA	**Yellowknife Ar**	**50.77**	**37**	P	**P**	**20 14 01.3**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**50.77**	**37**	P	**P**	**20 14 01.3**	**+0.2**
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**	**20 14 07.7**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=67,slow=8.4,SNR=7.9						
BVAR	**Borovoye Array**	**51.65**	**310**	P	**P**	**20 14 07.7**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KEV	**Kevo**	**57.92**	**341**	*e*p	**P**	**20 14 52.3**	**-0.8**
	comp=Z,7.3nm,0.9s,mb4.7						
KEV	**Kevo**	**57.92**	**341**	*e*P	**P**	**20 14 52.3**	**-0.8**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**58.43**	**341**	P	**P**	**20 14 56.5**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=35,slow=8.0,SNR=6.2						
ARCES	**ARCESS Array B**	**58.43**	**341**	P	**P**	**20 14 56.5**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTK	**Aktyubinsk**	**59.51**	**312**	P	**P**	**20 15 04.5**	**+0.3**
AKTO	**Aktyubinsk**	**59.51**	**312**	P	**P**	**20 15 04.5**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=67,slow=7.6,SNR=3.9						
AKTO	**Aktyubinsk**	**59.51**	**312**	P	**P**	**20 15 04.5**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
JOF	**Joensuu**	**61.97**	**334**	*e*p	**P**	**20 15 20.2**	**-0.7**
KAF	**Kangasniemi**	**64.07**	**336**	*e*p	**P**	**20 15 34.3**	**-0.5**
PDAR	**Pinedale Array**	**64.37**	**54**	P	**P**	**20 15 37.0**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=318,slow=2.0,SNR=4.4						
FINES	**FINESS Array B**	**64.67**	**335**	P	**P**	**20 15 38.6**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=31,slow=8.9,SNR=7.9						
FINES	**FINESS Array B**	**64.67**	**335**	*i* P	**P**	**20 15 38.5**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**68.42**	**200**	P	**P**	**20 16 01.1**	**-1.6**
	comp=Z,1.2nm,0.9s,mb3.9,baz=22,slow=6.7,SNR=5.8						
WRA	**Warramunga Arr**	**68.42**	**200**	P	**P**	**20 16 01.1**	**-1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**68.80**	**342**	P	**P**	**20 16 06.4**	**+1.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=26,slow=6.4,SNR=2.7						
NOA	**NORSAR Array B**	**68.80**	**342**	P	**P**	**20 16 06.4**	**+1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**69.04**	**340**	P	**P**	**20 16 06.7**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=66,slow=7.2,SNR=9.9						
HFS	**Hagfors**	**69.04**	**340**	P	**P**	**20 16 06.7**	**+0.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV	**Kislovodsk**	**71.57**	**315**	*e*P	**P**	**20 16 23.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
AKASG	**Malin Array Be**	**72.25**	**327**	P	**P**	**20 16 25.2**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=33,slow=6.0,SNR=4.2						
AKASG	**Malin Array Be**	**72.25**	**327**	P	**P**	**20 16 25.3**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.03**	**61**	P	**P**	**20 16 54.4**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=281,slow=3.4,SNR=8.4						
TXAR	**Lajitas Array**	**77.03**	**61**	P	**P**	**20 16 54.4**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MMAI	**Mount Meron Ar**	**83.59**	**312**	P	**P**	**20 17 30.4**	**+1.3**
	comp=Z,0.5nm,0.4s,mb4.0,baz=28,slow=8.9,SNR=4.4						

IDC ***07*** *20:06:59.6±0.9, 3940N×2061E, h0km, mb3.9/9, mb1 3.9/15, mb1mx3.8/27, mbtmp3.8/15, ML3.7/5, MS4.8/1, Ms1 4.8/1, ms1mx3.9/42, Error ellipse: s-maj=15.7km s-min=13.6km az=57.0*
ISCJB ***07*** *20:07:01.6±0.2, 3937N±002×2062E±002, h10km, mb3.9/9, Error ellipse: s-maj=2.8km s-min=2.0km az=100.6*
ATH ***07*** *20:07:01.6, 3937N×2068E, h4km±1km, MD3.8/17, ML3.9*
THE ***07*** *20:07:01.9, 3939N×2070E, h10km, ML3.5*
CSEM ***07*** *20:07:02.3±0.1, 3938N×2066E, h5km, ML3.9, Error ellipse: s-maj=1.5km s-min=1.4km az=173.0*
PDG ***07*** *20:07:02.7±0.6, 3945N×2065E, h8km±1km*
MOS ***07*** *20:07:02.0±1.8, 3943N×2063E, h15km, mb4.1/6, Error ellipse: s-maj=7.4km s-min=4.4km az=95.0*
NEIC ***07*** *20:07:04.0, 3943N×2063E, h10km, MD3.6(PDG), ML3.3(BUC), ML3.9(ATH), After ATH.*
HLW ***07*** *20:07:11.2, 3883N×2145E, h33km, Mb3.4*

ISC 07 20:07:02.5±0.2, 3935N±002×2067E±002, h10km, n135, σ1§43/171, mb3.9/9, 15C-15D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.32**	**306**	*e*Pg	**Pg**	**20 07 07.6**	**-1.2**
IGT				*e*Sg	**Sg**	**20 07 12.7**	**-0.4**
JAN	**Janina**	**0.34**	**25**	*i* PG	**Pg**	**20 07 07.2**	**-2.0**
JAN				*e*SG	**Sg**	**20 07 11.8**	**-2.0**
MEV	**Metsovon**	**0.62**	**45**	*e*Pg	**Pg**	**20 07 12.0**	**-2.5**
LKD	**Levkas**	**0.64**	**181**	*e*Pg	**Pg**	**20 07 15.0**	**+0.2**
SRN	**Sarande**	**0.74**	**316**	*i* Pn	**Pn**	**20 07 15.8**	**-3.2**
KEK	**Kerkira**	**0.76**	**299**	*e*PG	**Pg**	**20 07 16.1**	**-1.1**
LSK	**Leskovik**	**0.81**	**356**	*i* Pg	**Pg**	**20 07 15.7**	**-2.3**
LSK				*i* Sg	**Sg**	**20 07 30.1**	**+1.6**
EVR	**Evrytania**	**0.99**	**115**	*e*PG	**Pg**	**20 07 20.4**	**-1.1**
EVR				*e*SG	**Sg**	**20 07 33.4**	**-0.9**
THL	**Klokotos Trika**	**1.07**	**78**	*e*PB	**Pb**	**20 07 20.7**	**-2.3**
TPE	**Tepelena**	**1.07**	**332**	*i* Pn	**Pn**	**20 07 22.0**	**-1.6**
TPE				*i* Sn	**Sn**	**20 07 40.8**	**+2.3**
VLS	**Valsamata**	**1.17**	**183**	*e*PB	**Pb**	**20 07 24.3**	**-0.4**
VLS				*e*SB	**Sb**	**20 07 40.4**	**+0.5**
KBN	**Korca**	**1.28**	**4**	*i* Pn	**Pn**	**20 07 24.8**	**-1.6**
KBN				*i* Sn	**Sn**	**20 07 45.4**	**+1.8**
KZN	**Kozani**	**1.28**	**41**	*e*PN	**Pn**	**20 07 25.9**	**-0.5**
KZN				*e*SB	**Sb**	**20 07

MS1 Monte Sant'Ang 4.30 305 *e*Pn **Pn 20 08 08.3 +0.4**
PRK Paraskevi 4.35 90 *e*PN **Pn 20 08 11.5 +2.9**
APE Apeiranthos 4.46 119 *e*PN **Pn 20 08 12.2 +2.2**
APE Apeiranthos 4.46 119 ⇑*i*P **Pn 20 08 11.9 +1.9**
RGNG Rignano Grg 4.52 303 Pn **Pn 20 08 11.3 +0.4**
GRUS Gruza 4.54 0 *e*Pn **Sn 20 08 11.8 +0.5**
FG5 Orsara di Pugl 4.56 297 Pn **Pn 20 08 13.7 +2.2**
DIVS Divcibare 4.78 354 ⇑*i*Pn **Pn 20 08 14.3 -0.2**
DIVS Sn **Sn 20 09 06.4 -3.4**
DIVS Divcibare 4.78 354 *e*Pn **Pn 20 08 14.1 -0.4**
DIVS Divcibare 4.78 354 *e*Pn **Pn 20 08 14.1 -0.4**
DIVS Sn **Sn 20 09 06.4 -3.4**
SANT Santorini 4.82 127 *e*P **Pn 20 08 15.2 +0.1**
SANT Santorini 4.82 127 *e*P **Pn 20 08 15.2 +0.2**
VAM Vamos 4.83 143 *e*PN **Pn 20 08 18.7 +3.4**
FG2 Serracapriola 4.86 302 Pn **Pn 20 08 15.8 +0.2**
SMG Samos 5.11 107 *e*PN **Pn 20 08 21.4 +2.4**
VAE Valguarnera 5.25 251 Pn **Pn 20 08 19.0 -2.0**
1.1nm,0.3s,baz=56,slow=15,SNR=2.6
VAE Sn **Sn 20 09 21.0 -0.6**
0.9nm,0.3s,baz=87,slow=17,SNR=1.7
VAE Valguarnera 5.25 251 Pn **Pn 20 08 19.0 -2.0**
VAE Sn **Sn 20 09 21.0 -0.6**
IDI Anoyia 5.27 139 Pn **Pn 20 08 20.9 -0.3**
1.9nm,0.3s,baz=340,slow=12,SNR=17
IDI Sn **Sn 20 09 19.2 -2.7**
2.0nm,0.3s,baz=90,slow=20,SNR=3.5
NPS Neapolis 5.67 134 *e*PN **Pn 20 08 29.7 +3.0**
SDI San Donato 5.73 297 Pn **Pn 20 08 28.7 +1.1**
GZR Gura Zlata 6.24 14 ⇓*i*P **Pn 20 08 36.8 +2.2**
BZS Buzias 6.31 6 ⇓*i*P **Pn 20 08 36.6 +1.1**
NRCA Norcia 6.68 304 Pn **Pn 20 08 41.3 +0.6**
NVLJ Novalja 6.77 322 *i* Pn **Pn 20 08 45.0 +3.2**
NVLJ Novalja 6.77 322 *i* Pn **Pn 20 08 45.0 +3.2**
SNTG Esanatoglia 7.00 306 Pn **Pn 20 08 45.0 -0.1**
5.5nm,0.2s
PKSM Moragy 7.02 348 ⇑*i*P **Pn 20 08 45.0 -0.3**
MLR Muntele Rosu 7.28 31 Pn **Pn 20 08 50.5 +1.7**
0.3nm,0.3s,baz=277,slow=17,SNR=3.4
MLR Sn **Sn 20 10 15.7 +4.2**
0.4nm,0.3s,baz=120,slow=20,SNR=2.2
MLR LR LR 20 11 29.2
comp=Z,7μm,19.3s,baz=86,slow=37
MLR Muntele Rosu 7.28 31 ⇓P **Pn 20 08 51.8 +3.0**
MLR Muntele Rosu 7.28 31 ⇓P **Pn 20 08 51.8 +3.0**
MLR Muntele Rosu 7.28 31 ⇓*i*P **Pn 20 08 51.8 +3.0**
FSSB Fossombrone 7.34 309 Pn **Pn 20 08 48.6 -1.1**
9.6nm,0.4s
BOJS Bojanci 7.34 329 *i* Pn **Pn 20 08 48.7 -1.0**
BOJS *e*Sn **Sn 20 10 08.1 -5.0**
CRE Caprese Michel 7.81 306 P **Pn 20 08 58.5 +2.4**
CRE pmax pmax
comp=Z,14nm,0.8s
CRE Caprese Michel 7.81 306 Pn **Pn 20 08 58.5 +2.4**
comp=Z,14nm,0.8s
PLOR Plostina 7.86 32 ⇑*i*P **Pn 20 08 59.3 +2.5**
PDKS Podkum 7.90 330 *e*Pn **Pn 20 08 54.7 -2.7**
VRI Vrincioaia 7.90 32 ⇓*i*P **Pn 20 09 00.2 +2.8**
VOY Vojsko 8.34 325 *e*Pn **Pn 20 09 02.7 -0.6**
VOY *e*Sn **Sn 20 10 32.9 -4.6**
OBKA Obir 8.45 330 ⇑*i*Pn **Pn 20 09 04.0 -0.8**
OBKA ⇑*i*Sn **Sn 20 10 35.6 -4.6**
SLUM 8.67 153 P **Pn 20 09 05.5 -2.4**
ARSA Arzberg 8.74 336 ⇑*i*Pn **Pn 20 09 07.3 -1.7**
ARSA ⇓*i*Sn **Sn 20 10 42.0 -5.5**
KECS Kecovo 9.14 359 *e*PN **Pn 20 09 14.0 -0.3**
KECS Kecovo 9.14 359 *e*Pn **Pn 20 09 14.1 -0.2**
VYHS Vyhne 9.24 352 *e*SN **Sn 20 10 59.4 -0.4**
KBA Koelnbreinsper 9.39 328 ⇑*i*Pn **Pn 20 09 16.9 -0.9**
KBA ⇓*i*Sn **Sn 20 10 58.0 -5.5**
MOA Molln 9.68 333 ⇑*i*Pn **Pn 20 09 21.0 -0.8**
MOA ⇑*i*Sn **Sn 20 11 06.3 -4.3**
HMAT Matruh 9.77 145 P **Pn 20 09 20.0 -2.9**
BRTR Keskin Array B 10.03 84 Pn **Pn 20 09 26.4 -0.2**
comp=Z,0.0nm,0.3s,baz=274,slow=9.4,SNR=2.7
GERES GERESS Array B 10.73 335 Pn **Pn 20 09 34.6 -1.6**
comp=Z,0.4nm,0.3s,baz=158,slow=14,SNR=10
GERES Sn **Sn 20 11 31.3 -5.0**
comp=Z,0.2nm,0.3s,baz=144,slow=34,SNR=4.1
SWA1 10.88 156 P **Pn 20 09 35.8 -2.4**
MMAI Mount Meron Ar 13.47 113 Pn **Pn 20 10 12.1 -1.5**
comp=Z,0.4nm,0.3s,baz=317,slow=12,SNR=2.6
HFRF Wahat Farafira 13.73 150 P **Pn 20 10 14.4 -2.8**
HFS Hagfors 21.27 350 P **P 20 11 47.2 -1.7**
comp=Z,3.0nm,0.7s,mb3.7,baz=152,slow=9.8,SNR=5.3
HFS Hagfors 21.27 350 P **P 20 11 47.2 -1.7**
HFS pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 22.38 7 P **P 20 11 59.2 -1.5**
comp=Z,3.1nm,0.8s,mb3.8,baz=184,slow=9.5,SNR=4.1
FINES FINESS Array B 22.38 7 P **P 20 11 59.2 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 22.50 348 P **P 20 12 04.3 +2.2**
comp=Z,4.1nm,0.9s,mb3.9,baz=154,slow=11
NOA NORSAR Array B 22.50 348 P **P 20 12 00.3 -1.7**
comp=Z,1.0nm,0.6s,mb3.4,baz=157,slow=10,SNR=2.3
NOA NORSAR Array B 22.50 348 P **P 20 12 00.3 -1.8**
NOA pmax pmax
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 28.40 55 P **P 20 12 54.5 -2.5**
comp=Z,0.7nm,0.4s,mb3.6,baz=272,slow=8.8,SNR=3.7
AKTO Aktyubinsk 28.40 55 P **P 20 12 54.5 -2.5**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
ARCES ARCESS Array B 30.36 3 P **P 20 13 11.7 -2.7**
comp=Z,4.4nm,1.0s,mb4.1,baz=189,slow=11,SNR=3.5
ARCES ARCESS Array B 30.36 3 P **P 20 13 11.7 -2.7**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
TORD Torodi Ar. Bea 31.01 218 P **P 20 13 20.4 +0.2**
comp=Z,0.9nm,0.7s,mb3.7,baz=32,slow=9.1,SNR=11
MKAR Makanchi Array 44.60 59 P **P 20 15 11.8 -3.0**
comp=Z,0.9nm,0.3s,mb4.0,baz=281,slow=7.6,SNR=28
MKAR Makanchi Array 44.60 59 P **P 20 15 11.8 -3.0**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
ZAL Zalesovo 44.83 49 P **P 20 15 14.4 -2.2**
comp=Z,3.1nm,0.4s,mb4.5,baz=207,slow=4.6,SNR=14
ZAL Zalesovo 44.83 49 P **P 20 15 14.5 -2.1**
ZAL pmax pmax
comp=Z,3.0nm,0.4s
SONM Songino Array 59.63 51 P **P 20 17 05.3 -1.4**
comp=Z,0.4nm,0.5s,mb3.7,baz=289,slow=8.8,SNR=3.1

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*STR **07** 20:17:25.9±0.8, 4757N×758E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 07 20:17:25.7±0.5, 4757N×759E, h10km±1km, Md1.8/3, Ml2.1/5, Error ellipse: s-maj=7.0km s-min=4.8km az=141.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.42**	**313**	Pg	Pg	20 17 34.2	+0.3
MOF				Sg	Sg	20 17 39.9	+0.4
HINF	**Hinteralfeld**	**0.56**	**297**	*e*Pg	Pg	20 17 36.5	0.0
HINF	**Hinteralfeld**	**0.56**	**297**	*e*Pn	Pg	20 17 37.8	+1.3
HINF				*e*Sg	Sg	20 17 43.6	-0.2
HINF				*e*Sn	Sg	20 17 47.3	+3.5
3.0nm,0.2s							
ECH	**Echery**	**0.71**	**336**	Pg	Pg	20 17 40.0	+0.6
ECH				Sg	Sg	20 17 48.5	-0.3
CDF	**Champ du Feu**	**0.87**	**346**	*e*Pn	Pn	20 17 42.9	-1.2
CDF				*e*Sg	Sg	20 17 52.8	-1.1
CDF				*e*Sn	Sn	20 17 54.8	-2.0
5.8nm,0.3s							
HAU	**Haudompre**	**0.95**	**298**	*e*Pg	Pg	20 17 43.7	-0.2
HAU				*e*Sg	Sg	20 17 56.3	+0.1
12nm,0.4s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	20 18 23.7	-0.9
1.1nm,0.2s							
LOR	**Lormes**	**2.55**	**265**	*e*Sg	Sg	20 18 45.5	-2.2
1.9nm,0.3s							

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*IDC **07** 20:42:27.1±3.1, 4587N×154.15E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, Error ellipse: s-maj=83.7km s-min=26.7km az=180.0*
*MOS **07** 20:42:31.6±0.7, 4603N×15405E, h40km, mb4.2/6, Error ellipse: s-maj=46.2km s-min=20.6km az=85.3*
*ISCJB **07** 20:42:33.0±8.6, 462N±06×1542E±02, h44km±53km, mb3.9/9, Error ellipse: s-maj=95.9km s-min=25.3km az=170.6*
ISC 07 20:42:34.6±7.9, 461N±06×1542E±02, h47km±48km, n16, σ0§55/16, mb3.9/9, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.74**	**15**	*e*PN	**Pn**	**20 43 43.6**	**+0.1**
INK	**Inuvik**	**41.79**	**32**	P	**P**	**20 50 19.4**	**-0.1**
0.9nm,0.5s,mb3.7,baz=300,slow=6.0,SNR=8.3							
INK	**Inuvik**	**41.79**	**32**	P	**P**	**20 50 19.4**	**-0.1**
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**20 51 07.6**	**-0.3**
comp=Z,1.0nm,0.9s,mb3.8,baz=65,slow=6.3,SNR=4.1							
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**20 51 07.6**	**-0.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**20 51 31.2**	**-0.4**
comp=Z,0.7nm,0.9s,mb3.6,baz=295,slow=7.1,SNR=4.7							
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**20 51 31.2**	**-0.5**
YKA				pmax	pmax		
comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**51.81**	**310**	P	**P**	**20 51 37.3**	**-0.5**
comp=Z,0.4nm,0.4s,mb3.7,baz=60,slow=11,SNR=2.7							
KK31	**Karatay Array**	**56.93**	**300**	⇑Pn	**P**	**20 52 18.8**	**+3.8**
comp=Z,0.5nm,0.4s,mb3.9,baz=148,slow=12,SNR=18							
KK31				⇑Lg		20 53 00.9	
comp=Z,0.4nm,0.2s,baz=153,slow=28,SNR=3.8							
ARCES	**ARCESS Array B**	**58.67**	**341**	P	**P**	**20 52 27.6**	**+0.3**
comp=Z,4.5nm,1.0s,mb4.5,baz=50,slow=7.2,SNR=3.5							
ARCES	**ARCESS Array B**	**58.67**	**341**	P	**P**	**20 52 27.6**	**+0.4**
ARCES				pmax	pmax		
comp=Z,5.0nm,1.0s							
FINES	**FINESS Array B**	**64.91**	**335**	P	**P**	**20 53 09.8**	**+0.6**
comp=Z,2.6nm,1.0s,mb4.2,baz=270,slow=1.9,SNR=4.0							
FINES	**FINESS Array B**	**64.91**	**335**	P	**P**	**20 53 09.8**	**+0.7**
FINES				pmax	pmax		
comp=Z,3.0nm,1.0s							
AKASG	**Malin Array Be**	**72.46**	**327**	P	**P**	**20 53 55.8**	**-0.4**
comp=Z,0.3nm,0.4s,mb3.6,baz=37,slow=7.1,SNR=3.0							
TXAR	**Lajitas Array**	**77.17**	**61**	P	**P**	**20 54 23.7**	**+0.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=303,slow=3.9,SNR=7.1							
TXAR	**Lajitas Array**	**77.17**	**61**	P	**P**	**20 54 23.7**	**+0.3**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							

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*NEIC **07** 20:44:07.8±0.1, 1646S×17261W, h10km, mb5.4/64, Error ellipse: s-maj=6.1km s-min=3.5km az=147.0*
*BJI **07** 20:44:07.0, 1572S×17220W, h4km, mB5.8, mb5.2, Ms5.3, Msz4.9*
*ISCJB **07** 20:44:10.0±0.2, 1647S±004×17259W±004, h33km, mb5.3/97, MS4.9/14, Error ellipse: s-maj=6.8km s-min=4.2km az=96.9*
*MOS **07** 20:44:11.9±1.5, 1629S×17243W, h36km, mb5.5/30, Error ellipse: s-maj=10.6km s-min=7.6km az=60.5*
*IDC **07** 20:44:11.2±2.9, 1652S×17255W, h33km±20km, mb4.9/22, mb1 5.0/22, mb1mx5.0/24, mbtmp4.9/22, MS4.9/14, Ms1 4.9/14, ms1mx4.6/30, Error ellipse: s-maj=15.8km s-min=10.1km az=128.0*
*SZGRF **07** 20:44:14.2, 1579S×17191W, h34km, Samoa Islands region*
ISC 07 20:44:10.6±2.2, 1649S±004×17258W±004, h26km±15km, h27km±3.1km; pP-P, n469, σ0§98/222, mb5.3/97, MS4.9/14, 56C-15D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.68**	**17**	Pn	**Pn**	**20 44 48.7**	**-3.3**
484nm,0.3s,baz=256,slow=0.7,SNR=43							
AFI				Sn	**Sn**	**20 45 14.7**	**-8.9**
641nm,0.3s,baz=137,slow=17,SNR=6.5							
AFI				LR	LR	20 45 28.0	
comp=Z,2μm,20.0s,baz=185,slow=28							
AFI	**Afiamalu**	**2.68**	**17**	P	**Pn**	**20 44 48.7**	**-3.3**
AFI						20 45 14.7	
RAR	**Rarotonga**	**13.00**	**113**	Pn	**Pn**	**20 47 09.1**	**-4.5**
22nm,0.3s,baz=258,slow=7.0,SNR=38							
RAR				Sn	**Sn**	**20 49 23.8**	**-14**
4.5nm,0.3s,baz=85,slow=14,SNR=3.3							
RAO	**Raoul Island**	**13.62**	**200**	Sn	**Sn**	**20 49 42.9**	**-10**
75nm,0.3s,baz=82,slow=22,SNR=15							
DZM	**Mont Dzumac**	**20.56**	**251**	*e*P	**P**	**20 48 46.6**	**-0.7**
DZM	**Mont Dzumac**	**20.56**	**251**	P	**P**	**20 48 46.3**	**-1.0**
14nm,0.8s,baz=84,slow=20,SNR=6.8							
DZM				LR	LR	20 54 41.7	
comp=Z,992nm,18.7s,MS4.2,baz=100,slow=31							
PAE	**Paea**	**22.02**	**96**	*e*P	**P**	**20 49 03.3**	**+0.4**
42nm,0.9s,mb4.8							
PAE	**Paea**	**22.02**	**96**	*e*P	**P**	**20 49 03.3**	**+0.4**
PAE				pmax	pmax		
comp=Z,42nm,0.9s,mb4.9							
PPT	**Papeete**	**22.02**	**96**	*e*LQ		20 53 08.9	
comp=Z,3μm,27.0s							
PPT				*e*LR	LR	20 54 06.9	
comp=Z,5μm,25.8s,baz=265							
PPT	**Papeete**	**22.02**	**96**	LR	LR	20 54 58.0	
comp=Z,2μm,19.8s,MS4.6,baz=284,slow=29							
PPT	**Papeete**	**22.02**	**96**	*e*P	**P**	**20 49 02.8**	**-0.2**
PPT				pmax	pmax		
comp=Z,51nm,1.2s							
PPT	**Papeete**	**22.02**	**96**	*e*P	**P**	**20 49 02.8**	**-0.2**
comp=Z,51nm,1.2s,mb4.8							
PPT				*e*LQ		20 53 08.9	
TVO	**Taravao**	**22.33**	**97**	*e*P	**P**	**20 49 06.6**	**+0.3**
comp=Z,109nm,1.1s,mb5.2							
TVO	**Taravao**	**22.33**	**97**	*e*P	**P**	**20 49 06.6**	**+0.3**
TVO				pmax	pmax		
comp=Z,109nm,1.1s,mb5.2							
WCZ	**Waipu Caves**	**22.61**	**209**	P*	**P**	**20 49 10.2**	**+1.0**
KUZ	**Kuaotunu**	**22.69**	**205**	P*	**P**	**20 49 11.0**	**+0.9**
TBI	**Tubuai**	**22.76**	**111**	*e*LQ		20 53 33.2	
comp=Z,3μm,28.5s							
TBI	**Tubuai**	**22.76**	**111**	*e*P	**P**	**20 49 12.8**	**+1.9**
comp=Z,306nm,1.2s,mb5.6							
TBI				*e*LR	LR	20 54 32.1	
comp=Z,6μm,26.0s,baz=283							
TBI	**Tubuai**	**22.76**	**111**	*e*P	**P**	**20 49 12.8**	**+1.9**
comp=Z,306nm,1.2s,mb5.6							
TBI				*e*LQ		20 53 33.2	
MWZ	**Matawai**	**23.44**	**200**	P*	**P**	**20 49 18.1**	**+0.1**
URZ	**Urewera**	**23.51**	**201**	P	**P**	**20 49 17.0**	**-1.7**
comp=Z,239nm,0.9s,mb5.6,baz=23,slow=4.8,SNR=37							
URZ				S	**S**	**20 53 30.1**	**-0.5**
comp=Z,16nm,0.4s,baz=151,slow=21,SNR=11							
URZ				LR	LR	20 57 52.3	
comp=Z,1μm,18.1s,MS4.3,baz=12,slow=35							
URZ	**Urewera**	**23.51**	**201**	P*	**P**	**20 49 16.6**	**-2.1**
PMOR	**Pomariorio Rere**	**23.80**	**90**	*e*P	**P**	**20 49 19.4**	**-1.9**
comp=Z,122nm,1.2s,mb5.2							
VAH	**Vaihoa**	**24.03**	**91**	*e*P	**P**	**20 49 22.2**	**-1.2**
comp=Z,91nm,1.2s,mb5.1							
HIZ	**Hauiti**	**24.56**	**204**	P*	**P**	**20 49 29.8**	**+1.6**
NNZ	**Nelson**	**27.47**	**203**	P*	**P**	**20 49 50.3**	**-4.3**
QRZ	**Quartz Range**	**27.47**	**205**	P*	**P**	**20 50 00.2**	**+5.7**
HNR	**Honiara**	**27.66**	**281**	LR	LR	20 59 16.3	
comp=Z,6μm,21.9s,MS5.1,baz=177,slow=33							
THZ	**Tophouse**	**28.12**	**203**	P*	**P**	**20 49 59.2**	**-1.2**
KHZ	**Kahutara**	**28.45**	**202**	P*	**P**	**20 50 02.5**	**-0.9**
LTZ	**Lake Taylor**	**29.23**	**203**	P*	**P**	**20 50 15.7**	**+5.4**
WVZ	**Waitaha Valley**	**30.08**	**205**	P*	**P**	**20 50 23.4**	**+5.6**
RPZ	**Rata Peaks**	**30.49**	**204**	P	**P**	**20 50 20.2**	**-1.3**
comp=Z,12nm,0.7s,mb4.7,baz=99,slow=4.2,SNR=3.5							
RPZ				LR	LR	20 59 40.3	
comp=Z,1μm,19.8s,MS4.5,baz=15,slow=30							
WKZ	**Wanaka**	**32.23**	**205**	P*	**P**	**20 50 39.8**	**+3.1**
ARMA	**Armidale**	**35.48**	**241**	*e*P	**P**	**20 51 04.8**	**-0.2**
RKT	**Rikitea**	**35.92**	**107**	*e*S	**S**	**20 56 49.3**	**+4.0**
comp=Z,864nm,32.0s							
RKT				*e*LR	LR	21 00 36.0	
comp=Z,3μm,26.5s,baz=276							
CNB	**Canberra Magne**	**38.73**	**234**	*e*P	**P**	**20 51 32.5**	**-0.1**
comp=Z,42nm,0.8s,mb5.2							
CTA	**Charters Tower**	**39.18**	**258**	*e*P	**P**	**20 51 35.1**	**-1.3**
comp=Z,15nm,0.9s,mb4.7							
CTA	**Charters Tower**	**39.18**	**258**	*e*P	**P**	**20 51 35.1**	**-1.3**
CTA				pmax	pmax		
comp=Z,15nm,0.9s							
CTAO	**Charters Tower**	**39.18**	**258**	*e*P	**P**	**20 51 37.9**	**+1.5**
CTAO				pmax	pmax		
comp=Z,21nm,0.9s,mb4.9							
CTAO	**Charters Tower**	**39.18**	**258**	*e*P	**P**	**20 51 37.9**	**+1.5**
comp=Z,21nm,0.9s,mb4.9							

PMG Port Moresby 39.81 275 P **P 20 51 41.2 -0.4**
comp=Z,36nm,1.0s,mb5.0,baz=94,slow=4.5,SNR=9.3
PMG LR LR 21 04 57.5
comp=Z,1μm,20.9s,MS4.7,baz=204,slow=31
PMG Port Moresby 39.81 275 *c i*P **P 20 51 41.7 +0.1**
PMG Port Moresby 39.81 275 P **P 20 51 41.2 -0.4**
PMG LR LR 21 04 57.5
TOO Toolangi 42.41 232 *e*P **P 20 52 02.7 -0.3**
comp=Z,22nm,0.7s,mb4.9
TOO Toolangi 42.41 232 *e*P **P 20 52 02.7 -0.3**
TOO pmax pmax
comp=Z,22nm,0.7s,mb4.9
STKA Stephens Creek 44.19 241 *e*P **P 20 52 16.9 -0.5**
comp=Z,37nm,0.8s,mb5.2
STKA *e*S **S 20 58 47.0 -2.1**
STKA Stephens Creek 44.19 241 P **P 20 52 17.4 0.0**
comp=Z,43nm,1.0s,mb5.1,baz=81,slow=7.5,SNR=36
STKA LR LR 21 09 44.6
comp=Z,2μm,18.1s,MS5.0,baz=57,slow=35
STKA Stephens Creek 44.19 241 *e*P **P 20 52 17.0 -0.4**
WB2 Warramunga Arr 50.36 258 *e*P **P 20 53 04.4 -1.0**
WRAB Tennant Creek 50.37 258 *e*P **P 20 53 04.4 -1.0**
WRAB Tennant Creek 50.37 258 *e*P **P 20 53 03.9 -1.5**
comp=Z,36nm,1.1s,mb5.3
WRA Warramunga Arr 50.38 258 P **P 20 53 04.3 -1.2**
comp=Z,14nm,1.1s,mb4.9,baz=96,slow=7.4,SNR=37
WRA S **S 21 00 16.7 -0.3**
comp=Z,1.1nm,0.9s,baz=99,slow=12,SNR=3.6
WRA LR LR 21 13 25.9
comp=Z,1μm,18.5s,MS5.0,baz=100,slow=35
WRA Warramunga Arr 50.38 258 P **P 20 53 04.3 -1.2**
WRA S **S 21 00 16.7 -0.4**
KAKA Kakadu 53.21 266 *e*P **P 20 53 25.9 -0.8**
comp=Z,26nm,0.7s,mb5.3
FORT Forrest 55.64 244 *e*P **P 20 53 42.5 -1.8**
comp=Z,30nm,0.7s,mb5.4
FITZ Fitzroy Crossi 58.77 259 *e*P **P 20 54 06.4 0.0**
comp=Z,12nm,0.9s,mb4.9
SBA Scott Base 62.24 185 *e*P **P 20 54 31.5 +1.4**
SBA pmax pmax
comp=Z,510nm,2.2s,mb6.3
SBA Scott Base 62.24 185 *e*P **P 20 54 31.5 +1.3**
comp=Z,510nm,2.2s,mb6.3
VNDA Vanda 62.38 186 P **P 20 54 31.8 +0.7**
comp=Z,26nm,0.9s,mb5.3,baz=11,slow=6.7,SNR=80
KLBR Kellerberrin 64.44 243 *e*P **P 20 54 45.2 +0.5**
comp=Z,30nm,0.8s,mb5.4
MUN Mundaring 65.72 242 *e*P **P 20 54 54.1 +1.1**
CASY Casey 69.76 205 *e*P **P 20 55 17.9 -0.6**
MJAR Matsushiro Arr 70.27 320 P **P 20 55 22.5 +0.8**
comp=Z,10.0nm,1.0s,mb4.7,baz=155,slow=5.9,SNR=16
MJAR LR LR 21 20 55.7
comp=Z,470nm,20.7s,MS4.7,baz=105,slow=31
MAT Matsushiro 70.28 320 P **P 20 55 22.1 +0.5**
SAO San Andreas Ge 71.61 41 *e*P **P 20 55 28.9 -0.9**
SAO pmax pmax
comp=Z,23nm,0.8s,mb5.2
SAO San Andreas Ge 71.61 41 *e*P **P 20 55 28.9 -0.8**
comp=Z,23nm,0.8s,mb5.2
LRV Little Rabbit 71.68 42 *e*P **P 20 55 31.1 +0.9**
NSHM Saint Helena R 71.99 39 *e*P **P 20 55 32.7 +0.7**
HOPS Hopland 72.02 39 *e*P **P 20 55 32.5 +0.4**
comp=Z,67nm,1.3s,mb5.4
KCPM Cahto Peak 72.16 38 *e*P **P 20 55 34.0 +0.9**
ASAJ Asahikawa 72.87 328 P **P 20 55 37.0 -0.3**
comp=Z,19nm,0.8s,mb5.1,baz=279,slow=29,SNR=5.4
CMB Columbia Colle 73.06 41 *e*P **P 20 55 38.4 0.0**
CMB pmax pmax
comp=Z,33nm,1.1s,mb5.2
CMB Columbia Colle 73.06 41 *e*P **P 20 55 38.4 0.0**
comp=Z,33nm,1.1s,mb5.2
PFO Pinyon Flat Ob 73.09 46 P **P 20 55 37.0 -1.6**
comp=Z,5.2nm,0.5s,mb4.7,baz=247,slow=3.7,SNR=11
OHCM Honcut 73.19 39 *e*P **P 20 55 39.3 +0.1**
WDC Whiskeytown Da 73.35 38 *e*P **P 20 55 40.3 +0.2**
WDC pmax pmax
comp=Z,61nm,1.4s,mb5.3
WDC Whiskeytown Da 73.35 38 *e*P **P 20 55 40.3 +0.2**
comp=Z,61nm,1.4s,mb5.3
CHGN Chignik 73.48 8 *e*P **P 20 55 39.6 -1.3**
QSPA South Pole Qui 73.56 180 *e*P **P 20 55 41.4 +0.1**
comp=Z,112nm,1.0s,mb5.8
KKM Kota Kinabalu 73.87 281 *e*P **P 20 55 44.0 +0.8**
YBH Yreka Blue Hor 73.99 37 P **P 20 55 43.8 -0.1**
comp=Z,22nm,0.9s,mb5.1,baz=191,slow=1.0,SNR=29
LBCM Butte Creek Ri 74.21 38 P **P 20 55 45.4 +0.2**
BUOR Burton Butte 74.61 36 P **P 20 55 48.4 +0.9**
NVAR Mina Array Bea 74.61 41 P **P 20 55 48.0 +0.6**
comp=Z,22nm,0.8s,mb5.2,baz=234,slow=10,SNR=92
YSS Yuzh-Sakhalins 74.81 330 *e*P **P 20 55 48.7 0.0**
TPH Tonopah 75.09 42 *e*P **P 20 55 50.9 +0.6**
TPH pmax pmax
comp=Z,85nm,1.1s,mb5.6
TPH Tonopah 75.09 42 *e*P **P 20 55 50.9 +0.6**
comp=Z,85nm,1.1s,mb5.6
MOD Modoc 75.49 38 *e*P **P 20 55 52.6 +0.1**
comp=Z,33nm,1.2s,mb5.1
KDAK Kodiak Island 75.83 11 P **P 20 55 54.0 -0.5**
comp=Z,24nm,0.7s,mb5.2,baz=207,slow=3.4,SNR=11
BMN Battle Mountai 76.46 40 *e*P **P 20 55 58.3 +0.2**
BMN pmax pmax
comp=Z,114nm,1.8s,mb5.5
BMN Battle Mountai 76.46 40 *e*P **P 20 55 58.3 +0.3**
comp=Z,114nm,1.8s,mb5.5
TUC Tucson 76.47 50 *e*P **P 20 55 58.8 +0.7**
TUC pmax pmax
comp=Z,34nm,1.3s,mb5.1
TUC Tucson 76.47 50 *e*P **P 20 55 58.8 +0.7**
comp=Z,34nm,1.3s,mb5.1
WVOR Wild Horse Val 76.79 38 *e*P **P 20 56 00.2 +0.2**
WVOR pmax pmax
comp=Z,49nm,1.2s,mb5.3
WVOR Wild Horse Val 76.79 38 *e*P **P 20 56 00.2 +0.2**
comp=Z,50nm,1.2s,mb5.3
CCUT Cedar City 77.34 44 *e*P **P 20 56 03.9 +0.9**
ARUT Antelope Range 77.42 44 *e*P **P 20 56 04.2 +0.7**
KSRS Korea Array 77.48 315 P **P 20 56 04.6 +0.8**
comp=Z,8.6nm,0.9s,mb4.7,baz=128,slow=5.7,SNR=15
WUAZ Wupatki 77.65 47 *e*P **P 20 56 05.3 +0.5**
comp=Z,18nm,1.0s,mb4.9
ELK Elko 77.88 41 *e*P **P 20 56 06.3 +0.3**
ELK pmax pmax
comp=Z,60nm,1.3s
ELK Elko 77.88 41 *e*P **P 20 56 06.3 +0.3**
comp=Z,60nm,1.3s,mb5.4
GSM Grass Mountain 78.04 33 P **P 20 56 07.2 +0.3**
KSM Kuching 78.07 275 *e*P **P 20 56 09.0 +1.9**
PGC Sidney 78.16 31 *e*P **P 20 56 07.3 -0.3**
comp=Z,139nm,1.1s,mb5.8
RMW Rattlesnake Mo 78.20 32 P **P 20 56 08.4 +0.6**
SVW2 Sparrevohn 78.51 8 *e*P **P 20 56 08.2 -1.3**
MSU Marysvale 78.65 44 *e*P **P 20 56 11.1 +0.8**
HAWA Hanford 78.72 34 *e*P **P 20 56 10.7 0.0**
comp=Z,85nm,1.5s,mb5.5
SLKM Skilak Lake 78.82 11 *e*P **P 20 56 09.0 -2.2**
BMO Blue Mountains 79.02 37 *e*P **P 20 56 11.9 -0.4**
comp=Z,35nm,1.2s,mb5.2
DUG Dugway 79.12 42 *e*P **P 20 56 12.4 -0.5**
DUG pmax pmax
comp=Z,34nm,1.3s,mb5.1
DUG Dugway 79.12 42 *e*P **P 20 56 12.4 -0.5**
comp=Z,34nm,

MDJ AMB AMB
comp=Z,23nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,1µm,12.9s
BNM Barren Site 80.41 50 *eP* **P 20 56 20.5 +0.6**
LPM Los Pinos Moun 80.48 50 *eP* **P 20 56 20.7 +0.5**
LTX Lajitas 80.56 56 *eP* **P 20 56 21.3 +0.6**
LTX pmax pmax
comp=Z,38nm,1.5s,mb5.1
LTX Lajitas 80.56 56 *eP* **P 20 56 21.3 +0.6**
comp=Z,38nm,1.5s,mb5.1
TXAR Lajitas Array 80.56 56 P **P 20 56 20.5 -0.2**
comp=Z,9.2nm,1.1s,mb4.6,baz=224,slow=5.2,SNR=24
TXAR LR LR 21 24 29.0
comp=Z,812nm,19.6s,MS5.1,baz=225,slow=30
TXAR Lajitas Array 80.56 56 P **P 20 56 20.5 -0.2**
TXAR LR LR 21 24 29.0
PV10 Paradox Valley 80.70 45 *eP* **P 20 56 21.7 +0.2**
ANMO Albuquerque 80.90 50 *eP* **P 20 56 22.6 +0.1**
ANMO pmax pmax
comp=Z,25nm,1.2s
ANMO Albuquerque 80.90 50 *eP* **P 20 56 22.6 +0.2**
comp=Z,26nm,1.2s,mb5.0
PV01 Paradox Valley 80.90 46 *eP* **P 20 56 23.0 +0.5**
NEW Newport 81.16 34 LR LR 21 24 42.5
comp=Z,860nm,21.4s,MS5.1,baz=274,slow=30
SKAG Skagway 81.52 18 *eP* **P 20 56 25.8 0.0**
comp=Z,58nm,1.4s,mb5.3
MCMT McKenzie Canyo 81.61 38 *eP* **P 20 56 26.7 +0.4**
KLR Kul'dur 81.85 327 *eP* **P 20 56 25.0 -2.6**
KLR pmax pmax
comp=Z,25nm,1.2s,mb5.0
DCID1 Drake Creek 81.95 40 *eP* **P 20 56 28.9 +0.8**
MCK McKinley 82.04 10 *eP* **P 20 56 27.5 -1.0**
MCK pmax pmax
comp=Z,66nm,1.1s,mb5.5
MCK McKinley 82.04 10 *eP* **P 20 56 27.5 -1.0**
comp=Z,66nm,1.1s,mb5.5
REDW Red Top Meadow 82.04 40 *eP* **P 20 56 28.5 -0.1**
comp=Z,80nm,1.5s,mb5.4
TPAW Teton Pass 82.05 40 *eP* **P 20 56 28.7 +0.1**
comp=Z,51nm,1.4s,mb5.3
DLMT Dillon 82.05 38 *eP* **P 20 56 28.6 0.0**
comp=Z,81nm,1.4s,mb5.5
SNOW Snow King Moun 82.15 40 *eP* **P 20 56 29.6 +0.5**
comp=Z,65nm,1.3s,mb5.4
IMW Indian Meadow 82.27 40 *eP* **P 20 56 29.8 +0.1**
comp=Z,93nm,1.3s,mb5.6
MOOW Moose Ponds 82.31 40 *eP* **P 20 56 28.9 -1.0**
comp=Z,48nm,1.5s,mb5.2
LOHW Long Hollow 82.32 40 *eP* **P 20 56 29.7 -0.3**
comp=Z,34nm,1.0s,mb5.2
MENT Mentasta 82.33 13 *eP* **P 20 56 29.2 -0.8**
CN2 Changchun 82.42 320 *eP* **P 20 56 30.6 +0.1**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
QLMT Earthquake Lak 82.46 39 *eP* **P 20 56 31.4 +0.7**
CHMT Chamberlain Mo 82.52 36 P **P 20 56 30.6 -0.5**
PDAR Pinedale Array 82.55 41 P **P 20 56 30.8 -0.4**
comp=Z,17nm,0.8s,mb5.1,baz=214,slow=3.4,SNR=116
PDAR LR LR 21 25 23.0
comp=Z,955nm,21.0s,MS5.1,baz=167,slow=30
YMR Madison River 82.65 39 *eP* **P 20 56 32.5 +0.7**
comp=Z,114nm,1.4s,mb5.7
BOZ Bozeman (W) 82.77 38 *eP* **P 20 56 31.8 -0.6**
BOZ pmax pmax
comp=Z,37nm,1.1s,mb5.3
BOZ Bozeman (W) 82.77 38 *eP* **P 20 56 31.8 -0.6**
comp=Z,37nm,1.1s,mb5.3
YNR Norris Junctio 82.85 39 *eP* **P 20 56 33.5 +0.7**
SDCO Great Sand Dun 82.86 47 *eP* **P 20 56 32.8 -0.1**
comp=Z,32nm,1.2s,mb5.2
LKWY Lake 82.94 40 *eP* **P 20 56 34.9 +1.6**
LKWY pmax pmax
comp=Z,56nm,1.2s,mb5.5
LKWY Lake 82.94 40 *eP* **P 20 56 34.9 +1.7**
comp=Z,56nm,1.2s,mb5.5
COLA College 83.28 10 *c iP* **P 20 56 33.8 -1.2**
COLA College 83.28 10⇑ *iP* **P 20 56 33.9 -1.1**
WALA Waterton Lakes 83.35 34 *eP* **P 20 56 34.8 -0.5**
comp=Z,24nm,1.0s,mb5.2
IMA2 Indian Mountai 83.52 8 *eP* **P 20 56 35.9 -0.3**
RWWY Rawlins 83.53 43 *eP* **P 20 56 36.2 -0.1**
comp=Z,160nm,1.3s,mb6.0
SEY Seymchan 83.77 345 *eP* **P 20 56 36.1 -1.4**
SEY Seymchan 83.77 345 *eP* **P 20 56 36.2 -1.3**
RLMT Red Lodge 83.92 40 *eP* **P 20 56 38.7 +0.4**
comp=Z,56nm,1.1s,mb5.6
JCT Junction City 84.09 56 *eP* **P 20 56 38.9 -0.3**
JCT pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
JCT Junction City 84.09 56 *eP* **P 20 56 38.9 -0.3**
comp=Z,10.0nm,0.9s,mb5.0
DAWY Dawson 84.28 14 *eP* **P 20 56 39.5 -0.6**
WHN Wuhan 84.35 304 P **P 20 56 42.8 +2.3**
AMTX Amarillo 84.40 51 *eP* **P 20 56 40.2 -0.5**
comp=Z,67nm,1.4s,mb5.6
EGAK Eagle 84.49 13 *eP* **P 20 56 40.0 -1.2**
comp=Z,38nm,1.1s,mb5.4
PHWY Pilot Hill 84.51 44 *eP* **P 20 56 40.9 -0.4**
EGMT Eagleton 85.12 37 *eP* **P 20 56 43.7 -0.6**
comp=Z,99nm,1.5s,mb5.7
BILL Bilibino 85.69 352 *eP* **P 20 56 46.2 -1.0**
EDM Edmonton 86.00 31 *eP* **P 20 56 47.4 -1.3**
RSSD Black Hills 86.73 42 *eP* **P 20 56 51.3 -1.0**
RSSD pmax pmax
comp=Z,30nm,0.6s,mb5.7
RSSD Black Hills 86.73 42 *eP* **P 20 56 51.3 -1.0**
comp=Z,30nm,0.6s,mb5.7
BJT Baijiatuau 86.78 313 *eP* **P 20 56 53.9 +1.3**
BJT pmax pmax
comp=Z,140nm,1.5s
BJT Baijiatuau 86.78 313 *eP* **P 20 56 53.9 +1.4**
comp=Z,140nm,1.5s,mb6.0
BJI Beijing 86.79 313 P **P 20 56 53.1 +0.5**
BJI AMB AMB
comp=Z,48nm,1.4s,mb5.5
MAW Mawson 87.02 198 *eP* **P 20 56 53.6 -0.1**
comp=Z,34nm,1.0s,mb5.5
MAW Mawson 87.02 198 P **P 20 56 53.9 +0.2**
comp=Z,45nm,1.0s,mb5.6,baz=122,slow=6.1,SNR=45
MAW Mawson 87.02 198 *eP* **P 20 56 53.6 -0.1**
MAW pmax pmax
comp=Z,34nm,1.0s
KULM Kulim 88.40 276 *eP* **P 20 57 02.1 +1.8**
INK Inuvik 89.13 14 P **P 20 57 02.5 -1.3**
comp=Z,10nm,0.9s,mb5.2,baz=212,slow=5.5,SNR=32
GYA Guiyang 89.25 298⇑ *iP* **P 20 57 06.4 +2.1**
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.7
XAN Xi'an 89.90 306 P **P 20 57 08.5 +1.1**
XAN AP pP 20 57 18.5 +2.7
XAN AMB AMB
comp=Z,20nm,1.6s,mb5.2
YAK Yakutsk 90.42 337 *eP* **P 20 57 08.2 -1.6**
JTS JuntasAbangare 90.63 80 *eP* **P 20 57 11.2 +0.4**
JTS pmax pmax
comp=Z,151nm,1.5s
JTS JuntasAbangare 90.63 80 *eP* **P 20 57 11.2 +0.5**
comp=Z,151nm,1.5s,mb6.1
YKA Yellowknife Ar 90.78 23 P **P 20 57 10.4 -1.0**
comp=Z,13nm,1.0s,mb5.2,baz=234,slow=4.3,SNR=76
YKA Yellowknife Ar 90.78 23 P **P 20 57 10.4 -1.0**
SYO Syowa Base 91.69 191 ‖ *iP* **P 20 57 13.8 -1.9**
VNA3 Neumayer Olymp 91.71 175⇑ *iP* **P 20 57 14.9 -0.9**
VNA3 *e* 20 57 25.6
VNA3 *e* 20 57 29.3
VNA3 *e* 20 57 44.2
SNAA Sanae 91.78 177⇑ *iP* **P 20 57 15.2 -0.9**
SNAA *e* 20 57 26.4
SNAA *e* 20 57 29.7
SNAA *e* 20 57 43.7
SNAA Sanae 91.78 177 *c iP* **P 20 57 15.3 -0.8**
SNAA Sanae 91.78 177 *eP* **P 20 57 14.9 -1.2**
comp=Z,22nm,1.0s,mb5.5
NST Nakhon Sawan 91.83 286 P **P 20 57 19.0 +2.6**
NANT Nan 92.20 289⇑ P **P 20 57 17.8 -0.2**
comp=Z,150nm,1.0s,mb6.3
KMI Kunming 92.20 295 P **P 20 57 20.9 +2.8**
KMI AP pP 20 57 30.7 +4.2
KMI AMB AMB
comp=Z,14nm,1.6s,mb5.0
VNA2 Neumayer--Watz 92.21 175⇑ *iP* **P 20 57 17.7 -0.4**
VNA2 *e* 20 57 27.5
VNA2 *e* 20 57 31.3
VNA2 *e* 20 57 47.2
VNA1 Neumayer--Stat 92.41 175⇑ *iP* **P 20 57 19.0 0.0**
VNA1 *e* 20 57 29.2
VNA1 *e* 20 57 32.5
CD2 Chengdu 93.05 301 P **P 20 57 24.0 +2.0**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.5
CIT Chita 93.27 324 *eP* **P 20 57 23.9 +0.9**
CIT *e* pP 20 57 32.9 +1.5
CIT *e* 20 57 41.0
CIT *e* 21 08 15.4
CIT pmax pmax
comp=Z,76nm,1.5s,mb5.9
CHG Chiang Mai 93.80 288⇑ P **P 20 57 27.5 +2.1**
comp=Z,20nm,1.0s,mb5.5
CHTO Chiang Mai 93.80 288 *eP* **P 20 57 27.4 +2.0**
CHTO pmax pmax
comp=Z,12nm,0.8s,mb5.4
CHTO Chiang Mai 93.80 288 *eP* **P 20 57 27.4 +1.9**
comp=Z,12nm,0.8s,mb5.4
ULM Lac du Bonnet 94.28 39 P **P 20 57 25.7 -1.9**
comp=Z,10.0nm,0.9s,mb5.2,baz=244,slow=4.0,SNR=12
ULM LR LR 21 31 23.4
comp=Z,1µm,21.9s,MS5.3,baz=69,slow=30
LZH Lanzhou 94.50 306 *eP* **P 20 57 30.0 +1.4**
LZH AP pP 20 57 35.5 -1.5
LZH XP sP 20 57 37.5 -2.5
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.3
BOD Bodaibo 95.26 329 *eP* **P 20 57 31.1 -1.0**
BOD pmax pmax
comp=Z,6.0nm,2.2s,mb4.6
ULN Ulaanbaatar 95.76 318 *eP* **P 20 57 33.8 -0.6**
SONM Songino Array 96.18 318 P **P 20 57 36.9 +0.6**
comp=Z,1.3nm,0.8s,mb4.4,baz=121,slow=3.7,SNR=8.3
TIXI Tiksi 96.26 344 *eP* **P 20 57 35.2 -1.5**
GTA Gaotai 98.47 309 *eP* **P 20 57 48.0 +1.3**
GTA AP pP 20 57 53.9 -1.1
GTA XP sP 20 57 58.0 0.0
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb5.0
LPAZ La Paz 98.70 110 P **P 20 57 48.0 +0.3**
comp=Z,1.5nm,0.9s,mb4.5,baz=288,slow=6.5,SNR=5.1
ZAK Zakamensk 98.86 320 *eP* pP 20 57 57.6 +0.8
ZAK *e* PP 21 01 52.2 +2.2
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.6
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.5
ROSC El Rosal 99.26 88 LR LR 21 35 12.5
comp=Z,2µm,18.5s,MS5.5,baz=196,slow=31
ZAL Zalesovo 110.58 322 PKiKP PKiKP 21 02 39.8 -1.1
comp=Z,0.8nm,0.6s,baz=166,slow=3.7,SNR=4.4
MKAR Makanchi Array 112.15 314 PKiKP PKiKP 21 02 42.8 -1.0
comp=Z,2.7nm,0.6s,baz=202,slow=0.7,SNR=21
KURK Kurchatov 114.47 319 *e*PKiKP PKiKP 21 02 47.0 -1.2
BVAR Borovoye Array 119.22 322 PKP PKPdf 21 02 56.8 -0.6
comp=Z,4.4nm,0.7s,baz=94,slow=1.1,SNR=29
ARCES ARCESS Array B 125.79 352 PKP PKPdf 21 03 08.9 -1.0
comp=Z,7.9nm,0.8s,baz=359,slow=1.3,SNR=15
KLMR Klimovskoe 130.08 340 *e*PKIKP PKPdf 21 03 14.1 -4.0
KLMR pmax pmax
comp=Z,40nm,1.9s
JOF Joensuu 130.71 346 *ep* PKPdf 21 03 18.1 -1.2
BOSA Boshof 131.96 201 PKP PKPdf 21 03 21.7 0.0
comp=Z,2.4nm,0.7s,baz=64,slow=16,SNR=3.6
KAF Kangasniemi 132.51 348 *ep* PKPdf 21 03 19.1 -3.6
FINES FINESS Array B 133.17 348 PKP PKPdf 21 03 22.9 -1.0
comp=Z,5.6nm,0.8s,baz=135,slow=1.1,SNR=8.8
OBN Obninsk 135.42 337 *i* PKIKP PKPdf 21 03 28.0 -0.2
OBN *e* 21 03 38.6
OBN pmax pmax
comp=Z,26nm,1.6s
OBN Obninsk 135.42 337 *e*PKP PKPdf 21 03 28.6 +0.4
ZEI Tsey 139.37 318 *e*PKHKP PKPdf 21 03 30.1 -5.4
ZEI *e* 21 06 27.3
KIV Kislovodsk 139.54 320 *e*PKIKP PKPdf 21 03 37.1 +1.3
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 139.54 320 *e*PKP PKPdf 21 03 37.4 +1.6
GNI Garni 139.99 314 PKP PKPdf 21 03 37.4 +0.8
comp=Z,3.4nm,0.7s,baz=320,slow=6.3,SNR=4.8
AKASG Malin Array Be 141.64 338 PKhKP 21 03 32.7
comp=Z,1.1nm,0.6s,baz=35,slow=4.0,SNR=6.6
AKASG PKP PKPdf 21 03 39.0 -0.6
comp=Z,6.0nm,0.9s,baz=38,slow=2.5,SNR=7.7
AKASG Malin Array Be 141.64 338 PKP 21 03 32.7
AKASG PKP PKPdf 21 03 39.0 -0.6
CUKT Cukurca 141.99 310 *eP* PKPdf 21 03 35.6 -4.6
TSUM Tsumeb 143.15 196 *eP* PKPdf 21 03 39.5 -2.7
EZC Erzincan 143.53 316 *eP* PKPdf 21 03 42.4 -0.6
KELT Kelkit 143.70 317 *i P* PKPdf 21 03 44.3 +1.0
GRSN GIRESUNGRSN 143.92 319 *i P* PKPdf 21 03 41.0 -2.6
MARD Mardin 144.01 312 *i P* PKPdf 21 03 40.0 -3.8
LVV L'vov 144.13 342 *e*PKIKP PKPdf 21 03 41.1 -2.9
PTK Pertek 144.24 315 *eP* PKPdf 21 03 41.8 -2.4
WTSB Winterswijk 144.60 1 *eP* PKPdf 21 03 42.4 -2.5
KWP Kalwaria 144.69 343 *e*PKP PKPdf 21 03 43.7 -1.3
ELZG Elazig 144.72 315 *i P* PKPdf 21 03 45.1 +0.1
KIS Kishinev 144.79 334 *eP* PKPdf 21 03 42.0 -3.1
OJC Ojcow 144.90 346 *e*PKP PKPdf 21 03 43.7 -1.6
OJC *ep*PKP pPKPdf 21 03 53.6 -0.3
OJC Ojcow 144.90 346 *i* PKP PKPdf 21 03 43.7 -1.6
OJC *ep*PKP pPKPdf 21 03 53.6 -0.3
CLL Collm 144.98 354 *e*PKPbc PKPdf 21 03 43.9 -1.6
CLL Collm 144.98 354⇑ *i*PKIKP PKPdf 21 03 43.7 -1.8
CLL *i* 21 04 01.3
CLL pmax pmax
comp=Z,36nm,0.9s
CLL Collm 144.98 354⇑ *i*PKPdf PKPdf 21 03 43.7 -1.8
comp=Z,36nm,0.9s
CLL *i* x x 21 04 01.3
KSP Ksiaz 145.00 350 *e*PKP PKPdf 21 03 44.8 -0.7
KSP Ksiaz 145.00 350 *e*PKP PKPdf 21 03 44.5 -1.0
BUG Bochum--Univer 145.13 0 *e*PKPbc PKPbc 21 03 44.6 -0.7
MYA Malataya 145.18 315 *eP* PKPbc 21 03 47.2 +1.7
KVT Kavak 145.21 321 *eP* PKPbc 21 03 46.2 +0.7
SVSK Karacayir 145.28 318 *eP* PKPbc 21 03 47.8 +2.0
STHS Stebnicka Huta 145.29 344 *e*PKP PKPdf 21 03 46.1 +0.1
BRG Berggiesshubel 145.30 353 *e*PKPbc PKPbc 21 03 45.3 -0.5
BRG Berggiesshubel 145.30 353 *eP* PKPbc 21 03 45.0 -0.8
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 145.30 353 *e*PKP2 PKPab 21 03 45.0 -0.9
BRG pmax pmax
comp=Z,10.0nm,0.9s
FBE Freiberg 145.32 353 *e*PKPbc PKPbc 21 03 45.3 -0.6
URFA Urfa 145.34 313 *eP* PKPbc 21 03 46.2 +0.3
DIKM Dikmen 145.34 322 *eP* PKPbc 21 03 46.2 +0.3
UPC Upice 145.37 350 *e*PKP PKPdf 21 03 46.0 -0.1
UPC *ex* x 21 03 55.9
KOLS Kolonicke sedl 145.44 343 *e*PKP PKPdf 21 03 46.3 0.0
DPC Dobruska-Polom 145.47 350 *e*PKP PKPdf 21 03 46.4 +0.1
DPC *ex* x 21 03 56.0
DPC Dobruska-Polom 145.47 350 *e*PKP PKPdf 21 03 46.4 +0.1
DPC *e* 21 03 56.0
NIE Niedzica 145.52 345 *e*PKP PKPdf 21 03 46.7 +0.3
NIE *e* 21 03 56.1
NIE Niedzica 145.52 345 *e*PKP PKPdf 21 03 46.7 +0.3
NIE *e* 21 03 56.1
PVCC Panska Ves 145.56 352 *e*PKP PKPdf 21 03 46.5 0.0
PVCC *ex* x 21 03 56.0
OKC Ostrava-Krasne 145.62 348 *e*PKP PKPdf 21 03 46.8 +0.2
OKC *ex* x 21 03 55.1
BURAR Bucovina Array 145.66 338 ‖ PKP2 PKPab 21 03 47.6 +0.3
BURAR Bucovina Array 145.66 338 ‖ *i*P PKPdf 21 03 47.5 +0.9
UCC Uccle 145.69 3 PKP PKPdf 21 03 47.0 +0.3
UBBA Unterbreizbach 145.69 357 *e*PKPbc PKPbc 21 03 46.1 -1.0
BOYT Boyabat 145.69 322 *i P* PKPdf 21 03 47.3 +0.6
CRVS Cervenica-Dubn 145.70 343 *e*PKP PKPdf 21 03 47.2 +0.5
CRVS Cervenica-Dubn 145.70 343 *e*PKP PKPdf 21 03 47.3 +0.6
UZH Uzhgorod 145.71 342⇑ *i*PKP2 PKPab 21 03 47.0 -0.5
BYBT Boyabat 145.74 322 *eP* PKPdf 21 03 47.4 +0.6
BEBN Eben Emael 145.75 2 PKP PKPdf 21 03 47.0 +0.2
KMBO Kilima Mbogo 145.75 242 PKPbc PKPbc 21 03 48.9 +1.6
comp=Z,31nm,1.1s,baz=76,slow=3.1,SNR=64
MOX Moxa 145.76 355 *e*PKPbc PKPbc 21 03 46.9 -0.4
MOX *ep*PKPbc pPKPbc 21 03 57.2 +1.4
MOX Moxa 145.76 355 *eP* PKPdf 21 03 46.9 +0.1
comp=Z,114nm,1.3s
MOX *e* 21 03 57.1
MOX *e* 21 04 06.0
HGN Heimansgroeve 145.79 2 *eP* PKPdf 21 03 47.0 +0.1
comp=Z,101nm,1.8s
MORC Moravsky Berou 145.80 348⇑ *iP* PKPdf 21 03 47.4 +0.5
BZK Bozkurt 145.87 323 *eP* PKPdf 21 03 48.3 +1.3
WERD Werda 145.90 354 *e*PKPbc PKPbc 21 03 47.4 -0.3
TANN Tannenbergstha 145.91 354 *e*PKPbc PKPbc 21 03 47.7 0.0
TANN *ep*PKPbc pPKPbc 21 03 57.9 +1.6
MEM Membach 145.94 2 PKP PKPdf 21 03 47.3 +0.2
SNF Seneffe 145.97 4 PKP PKPdf 21 03 47.5 +0.3
GUNZ Gunzen 145.98 354 *e*PKPbc PKPbc 21 03 47.8 -0.1
GUNZ *ep*PKPbc pPKPbc 21 03 58.4 +1.9
WERN Wernitzgruen 146.05 354 *e*PKPbc PKPbc 21 03 48.1 -0.1
WERN *ep*PKPbc pPKPbc 21 03 58.6 +1.9
PRU Pruhonice 146.09 352 *e*PKP PKPdf 21 03 48.0 +0.6
PRU *ex* x 21 03 56.6
NKC Novy Kostel 146.09 354 *e*PKP PKPdf 21 03 47.7 +0.3
NKC *ex* x 21 03 56.8
BCLA Clavier 146.11 2 PKP PKPdf 21 03 47.5 +0.1
CTKT Corum 146.25 321 *i P* PKPdf 21 03 49.2 +1.6
GZT Gaziantep 146.26 314 *i P* PKPdf 21 03 48.5 +0.8
TNS Taunus Mts 146.34 359 *e*PKPbc PKPbc 21 03 49.1 +0.1
KECS Kecovo 146.34 344 *i* PKP PKPdf 21 03 49.0 +1.2
MANZ Manzenberg 146.37 355 *e*PKPbc PKPbc 21 03 49.5 +0.4
MANZ *ep*PKPbc pPKPbc 21 03 59.5 +1.8
DOU Dourbes 146.40 3 PKP PKPdf 21 03 48.9 +1.0
GIVF Givet 146.40 3⇑ *i*PKP1 PKPbc 21 03 48.7 -0.5
comp=Z,65nm,0.9s
BAIF Baives 146.41 4⇑ *i*PKP1 PKPbc 21 03 48.9 -0.3
comp=Z,64nm,1.0s
BALT Daday 146.50 323 *i P* PKPbc 21 03 50.9 +1.4
VRI Vrincioaia 146.56 335 ‖ *iP* PKPdf 21 03 49.3 +1.1
ROTZ Rotzenmuhle 146.58 354 *e*PKPbc PKPbc 21 03 49.8 +0.1
ROTZ *ep*PKPbc pPKPbc 21 04 00.3 +2.0
GAZ Gaziantep 146.59 314 *eP* PKPbc 21 03 51.0 +1.2
PLOR Plostina 146.60 335 ‖ *iP* PKPbc 21 03 50.0 +0.2
CORM Corum 146.61 320 *eP* PKPdf 21 03 47.4 -0.8
BNN Bunyan 146.62 318 *eP* PKPbc 21 03 50.9 +1.1
KMRS Kahramanmaras 146.64 315 *eP* PKPbc 21 03 51.0 +1.1
ABH Alteburg 146.69 360 PKP PKPbc 21 03 49.7 -0.4
GRF Grafenberg Arr 146.74 355 *e*PKPbc PKPbc 21 03 50.0 -0.2
VYHS Vyhne 146.74 346 *i* PKP PKPbc 21 03 50.4 +0.2
VYHS *e* 21 04 00.1
GRFO Grafenberg 146.74 356 *e*PKPbc PKPbc 21 03 50.3 +0.1
RUP Ruppelstein 146.87 0 PKP2 PKPab 21 03 50.8 -1.1
WLF Walferdange 146.89 2 *e*PKPbc PKPbc 21 03 50.8 +0.2
WLF Walferdange 146.89 2 PKP PKPbc 21 03 51.5 +0.9
WLF Walferdange 146.89 2 *e*PKPbc PKPbc 21 03 50.8 +0.2
TOD Tromm 146.95 358 PKP2 PKPbc 21 03 50.8 0.0
CANT Cankiri 146.96 322 *eP* PKPbc 21 03 50.4 -0.4
TIRR Tirgusor 146.96 332 ‖ *iP* PKPbc 21 03 50.5 -0.3
PSZ Piszkesteto 147.02 345 ‖ *iP* PKPbc 21 03 51.4 +0.4
PSZ Piszkesteto 147.02 345⇑ *e*PKP PKPbc 21 03 51.2 +0.2
ROSF Rostrenen 147.05 13⇑ *i*PKP1 PKPbc 21 03 50.3 -0.8
comp=Z,322nm,1.5s
KHC Kasperske Hory 147.06 353 *e*PKP PKPdf 21 03 51.1 +2.1
KHC *ex* x 21 04 01.0
CDAG Cicekdag 147.11 320 *i P* PKPbc 21 03 51.7 +0.4
WET Wettzell 147.13 353 *e*PKPbc PKPbc 21 03 51.2 -0.1
ELDT Eldivan 147.15 322 *i P* PKPbc 21 03 51.9 +0.5
MLR Muntele Rosu 147.18 336 ‖ *iP* PKPbc 21 03 52.0 +0.6
DRGR 147.22 340 ‖ PKIKP PKPdf 21 03 49.4 +0.1
DRGR 147.22 340 ‖ *iP* PKPdf 21 03 49.3 0.0
SGMF Saint Gilles 147.28 12⇑ *i*PKP1 PKPbc 21 03 51.0 -0.7
comp=Z,176nm,1.1s
AVNT Avonos 147.30 318 *i P* PKPbc 21 03 51.6 -0.1
GEC2 GERESS Array S 147.32 352 *e*PKPbc PKPbc 21 03 51.9 +0.1
GERES GERESS Array B 147.32 352 PKPbc PKPdf 21 03 49.1 -0.4
comp=Z,12nm,0.8s,baz=29,slow=3.0,SNR=66
KOZT Kozan 147.38 315 *eP* PKPdf 21 03 51.0 +1.4
LDF La Druitiere 147.39 9 *e*PKP1 PKPbc 21 03 51.2 -0.8
comp=Z,427nm,1.6s
ZST Bratislava 147.39 348 *i* PKP PKPbc 21 03 52.8 +0.8
GRR Gorron 147.47 10⇑ *i*PKP1 PKPbc 21 03 51.6 -0.6
comp=Z,225nm,1.2s
BR131 Keskin Array S 147.49 321 *e*PKPbc PKPbc 21 03 53.0 +0.7
BRTR Keskin Array B 147.49 321 PKPbc PKPbc 21 03 52.5 +0.2
comp=Z,30nm,0.9s,baz=31,slow=2.9,SNR=95
COBT Iskenderun 147.58 314 *i P* PKPbc 21 03 53.7 +1.2
LANF Langenberg 147.59 360 PKP PKPbc 21 03 52.5 -0.1
BUD Budapest 147.64 345⇑ *e*PKP PKPbc 21 03 52.7 0.0
KAMT Kaman 147.67 320 *eP* PKPdf 21 03 49.5 -0.5
CEYT Ceyhan 147.68 315 *eP* PKPbc 21 03 53.0 +0.2
STU Stuttgart 147.77 358 *e*PKPbc PKPbc 21 03 53.1 0.0
STU Stuttgart 147.77 358 *e*PKPbc PKPdf 21 03 51.0 +0.9
CONA Conrad Observa 147.88 349 *i* PKPab PKPbc 21 03 53.9 +0.5
comp=Z,30nm,0.9s,SNR=12
SGKT Sivrigoynuk 147.89 323 *i P* PKPbc 21 03 53.6 +0.2
ANTO Ankara 147.91 322 *eP* PKPbc 21 03 53.7 +0.2
ANTO Ankara 147.91 322 ‖ *iP* PKPdf 21 03 51.1 +0.6
ANTO *e*PKPbc PKPbc 21 03 53.9 +0.5
ANTO Ankara 147.91 322 ‖ *iP* PKPdf 21 03 51.1 +0.7
SOP Sopron 147.99 348⇑ *e*PKP PKPbc 21 03 53.9 +0.2
MEZF Maizieres J'vi 148.01 3⇑ *i*PKP1 PKPbc 21 03 53.6 -0.1
comp=Z,124nm,1.2s
KARA Karaisali 148.01 316 *eP* PKPdf 21 03 49.8 -0.8
CDF Champ du Feu 148.16 0⇑ *i*PKP1 PKPbc 21 03 53.9 -0.2
comp=Z,66nm,1.0s
MOA Molln 148.22 351⇑ *iP* PKPbc 21 03 54.3 0.0
comp=Z,32nm,1.1s
BFO Black Forest 148.24 359 *e*PKPbc PKPbc 21 03 54.2 -0.1
FUR Furstenfeldbru 148.25 355 *e*PKPbc PKPbc 21 03 54.3 0.0
THEF They Montfort 148.32 2 PKP PKPbc 21 03 54.5 0.0
HENT Hendek 148.37 325 *i P* PKPbc 21 03 53.3 -1.3
GZR Gura Zlata 148.43 339⇑ *i P* PKPbc 21 03 55.0 +0.2
SPAK Spaichingen-Ko 148.45 358 PKP PKPbc 21 03 54.7 -0.2
HAU Haudompre 148.56 1⇑ *i*PKP1 PKPbc 21 03 54.9 -0.2
comp=Z,66nm,0.8s
MERS Mersin 148.59 316 *eP* PKPbc 21 03 55.4 +0.2
ARSA Arzberg 148.60 349⇑ *iP* PKPbc 21 03 55.2 0.0
comp=Z,21nm,1.1s
BZS Buzias 148.62 341 ‖ *iP* PKPdf 21 03 51.4 -0.2
FELD Feldberg im Sc 148.69 359 PKP PKPbc 21 03 55.1 -0.4
MOF Molkenrain 148.72 0 PKP PKPab 21 03 57.5 -1.8
HINF Hinteralfeld 148.75 1⇑ *i*PKP1 PKPbc 21 03 55.2 -0.4
comp=Z,32nm,1.1s
PKSM Moragy 148.92 345 ‖ *iP* PKPdf 21 03 51.9 -0.2
SZH Strazhica 149.00 333 *i P* PKPbc 21 03 56.6 +0.3
HYF Humbligny 149.05 6⇑ *i*PKP1 PKPbc 21 03 56.4 0.0
ASF Jabal al Asfar 149.07 306 PKP PKPdf 21 03 52.8 +0.5
comp=Z,8.6nm,1.0s,baz=115,slow=6.9,SNR=4.7
ASF PKPbc PKPbc 21 03 57.7 +1.3
comp=Z,11nm,0.9s,baz=356,slow=2.2,SNR=15
MOTA Moosalm 149.08 355⇑ *iP* PKPbc 21 03 56.4 -0.1
comp=Z,34nm,1.1s,SNR=13
KIZT Kizilcal 149.09 321 *eP* PKPbc 21 03 56.9 +0.4
KBA Koelnbreinsper 149.10 352 *i P* PKPbc 21 03 56.4 -0.2
comp=Z,28nm,1.6s,SNR=7.2
WTTA Wattenberg 149.11 354⇑ *iP* PKPbc 21 03 56.7 +0.1
comp=Z,34nm,0.7s,SNR=13
LOR Lormes 149.16 5⇑ *i*PKP1 PKPbc 21 03 56.6 -0.1
comp=Z,178nm,1.3s
KDHN Kadinhani 149.17 320 *i P* PKPbc 21 03 57.2 +0.5
SQTA Sankt Quirin 149.19 355⇑ *iP* PKPbc 21 03 56.8 +0.1
comp=Z,39nm,1.2s,SNR=9.1
DAVA Damuels 149.22 357 *i P* PKPbc 21 03 57.6 +0.8
comp=Z,42nm,1.0s,SNR=6.4
PERS Pernice 149.26 350 *e*PKPbc PKPbc 21 03 56.4 -0.6
BHL Bhannes 149.27 310 *eP* PKPbc 21 03 57.4 +0.5
ESKT Eskisehir 149.28 323 *eP* PKPbc 21 03 56.8 -0.2
ESKT Eskisehir 149.28 323 *i P* PKPbc 21 03 56.4 -0.6
ADVT Abdulvahap 149.28 325 *eP* PKPbc 21 03 56.6 -0.4
PVL Pavlikeni 149.30 334 *i P* PKPbc 21 03 57.3 +0.3
MFF Saint Martin d 149.32 10⇑ *i*PKP1 PKPbc 21 03 56.7 -0.4
comp=Z,49nm,0.9s
SSF Saint Saulge 149.34 5⇑ *i*PKP1 PKPbc 21 03 57.1 0.0
comp=Z,135nm,1.2s
JMB Yambol 149.35 332 *i P* PKPbc 21 03 57.3 +0.2
KONT Konya--Tatoy 149.37 319 *eP* PKPbc 21 03 56.3 -0.9
YLV Yalova 149.38 326 *eP* PKPbc 21 03 55.4 -1.8
IKL Isikli 149.49 315 *eP* PKPbc 21 03 57.5 0.0
GEMT Gemlik 149.58 326 *eP* PKPbc 21 03 56.6 -1.1
AVF Avril sur Loir 149.60 6⇑ *i*PKP1 PKPbc 21 03 57.3 -0.4
comp=Z,117nm,1.2s
PTCC Patocco-Chiusa 149.76 352 P PKPbc 21 03 57.6 -0.6
BGF Bois d'Agland 149.78 6⇑ *i*PKP1 PKPbc 21 03 58.0 -0.2
comp=Z,146nm,1.1s
SMF Signal de Mont 149.78 5⇑ *i*PKP1 PKPbc 21 03 57.9 -0.3
comp=Z,95nm,1.2s
ERMK Ermenek 149.78 317 *i P* PKPdf 21 03 53.7 +0.3
ULDT Uludag 149.81 326 *i P* PKPdf 21 03 46.3 -7.2
HDMB Hadim 149.88 317 *eP* PKPbc 21 03 57.2 -1.3
GMNA Gemona 149.91 352 P PKPdf 21 03 53.2 -0.4
SVIS Svilajnac 149.92 340⇑ *i*PKP PKPbc 21 03 58.8 +0.2
APPI Appiano 149.93 355 P PKPbc 21 03 57.8 -0.8

LJU	Ljubljana	149.94	350	ePKPbc	PKPbc	21 03 58.3	-0.3
CABF	La Chapelle	149.94	2	⇑iPKP1	PKPbc	21 03 59.1	+0.5
	comp=Z,186nm,1.1s						
TCF	Toulx Ste Croi	149.97	7	⇑iPKP1	PKPbc	21 03 58.3	-0.4
	comp=Z,93nm,1.3s						
CRES	Cresnjev	149.99	349	ePKPbc	PKPbc	21 03 58.3	-0.4
SHUT	Suhut-Afyon	150.09	322	eP	PKPbc	21 03 59.5	+0.6
DIM	Dimitrovgrad	150.15	332	iP	PKPbc	21 03 59.4	+0.3
AGO	Saint Agoulin	150.31	6	PKP	PKPbc	21 03 59.7	+0.2
BOJS	Bojanci	150.34	349	ePKPbc	PKPbc	21 03 59.1	-0.4
GDZ	Gediz	150.35	324	iP	PKPbc	21 04 00.7	+1.1
CSS	Prodhromos	150.42	313	ePKPbc	PKPbc	21 03 59.4	-0.4
SART	Tekirdag	150.43	329	iP		21 03 46.0	
PLDF	La Plantade	150.43	5	PKP	PKPbc	21 03 59.3	-0.5
GRUS	Gruza	150.45	340	⇑iPKP	PKPdf	21 03 54.4	-0.1
PLD	Plovdiv	150.47	333	iP	PKPbc	21 03 58.7	-1.2
DIVS	Divcibare	150.49	341	⇑iPKP	PKPbc	21 03 59.0	-0.9
OG05	Jujurieux	150.49	3	PKP	PKPbc	21 04 00.0	+0.1
KDZ	Kurdzhali	150.53	332	iP	PKPbc	21 03 59.4	-0.6
PYM	Petit Puy Mans	150.59	6	PKP	PKPbc	21 04 00.4	+0.2
BTOK	Tokmak	150.68	326	iP	PKPbc	21 04 00.2	-0.1
VTS	Vitosha	150.69	336	iP	PKPbc	21 04 00.1	-0.3
VTS	Vitosha	150.69	336	⇓iP	PKPbc	21 03 59.6	-0.8
RZN	Rozhen	150.81	333	iP	PKPbc	21 04 00.1	-0.6
RJF	Les Rejaudoux	150.84	9	ePKP1	PKPbc	21 04 00.4	-0.4
	comp=Z,59nm,1.0s						
LPL	La Plagne	151.05	1	⇑iPKP1	PKPbc	21 04 02.1	+0.9
	comp=Z,41nm,0.9s						
LPG	La Plagne	151.07	1	⇑iPKP1	PKPbc	21 04 02.3	+1.0
	comp=Z,37nm,0.8s						
LFF	La Frestale	151.08	10	ePKP1	PKPbc	21 04 00.9	-0.4
	comp=Z,125nm,1.2s						
LBL	Lubilhac	151.13	6	PKP	PKPbc	21 04 02.0	+0.6
CAF	Calviac	151.29	8	⇑iPKP1	PKPbc	21 04 01.7	-0.1
	comp=Z,39nm,1.0s						
MMB	Musomiste	151.31	334	iP	PKPbc	21 04 01.1	-0.7
KKB	Krupnik	151.35	335	iP	PKPbc	21 04 01.6	-0.3
BNI	Bardonecchia	151.52	1	ePKIKP	PKPbc	21 04 01.5	-0.8
EIL	Elat	151.56	302	ePKPdf	PKPdf	21 03 56.0	-0.2
EIL				ePKPbc	PKPbc	21 04 03.1	+0.7
VIVF	Saint-Julien-l	151.62	4	⇑iPKP1	PKPbc	21 04 02.8	+0.2
	comp=Z,86nm,1.1s						
ORIF	Oris-en-Rattie	151.63	2	⇑iPKP1	PKPbc	21 04 02.9	+0.3
	comp=Z,95nm,1.4s						
MBDF	Montbardon	151.84	1	⇑iPKP1	PKPbc	21 04 03.3	+0.2
	comp=Z,24nm,0.8s						
KDAG	Bornova	152.07	325	iP	PKPbc	21 04 03.6	+0.1
AKAS	Kas	152.16	319	iP	PKPab	21 04 14.6	+1.1
LASF	Ste Croix	152.33	6	⇑iPKP1	PKPbc	21 04 04.4	+0.2
	comp=Z,68nm,1.1s						
URLA	Izmir	152.46	326	iP	PKPbc	21 04 01.8	-2.6
SMRF	Simiane la Rot	152.55	3	⇑iPKP1	PKPbc	21 04 05.3	+0.6
	comp=Z,118nm,1.3s						
ETSF	Etsaut	152.81	13	⇑iPKP1	PKPbc	21 04 05.5	+0.3
	comp=Z,15nm,0.7s						
EPF	Esparros	152.86	11	ePKP1	PKPbc	21 04 05.4	+0.1
MTLF	Montolieu	152.87	8	ePKP1	PKPbc	21 04 05.3	-0.1
FRF	La Foret Royal	153.01	1	⇑iPKP1	PKPbc	21 04 05.4	-0.3
	comp=Z,57nm,1.2s						
LMR	La Mourre	153.23	1	ePKP1	PKPbc	21 04 06.0	-0.2
PGF	Pioggiola	153.99	357	ePKP1	PKPbc	21 04 08.3	+0.5
SANT	Santorini	154.53	324	ePKPab	PKPab	21 04 22.8	-0.7
ESDC	Sonseca Array	154.85	21	PKP	PKPdf	21 04 01.3	+0.3
	comp=Z,0.8nm,0.7s,baz=333,slow=3.1,SNR=4.3						
ESDC				PKPbc	PKPbc	21 04 09.9	+0.2
	comp=Z,2.3nm,0.7s,baz=330,slow=2.9,SNR=10						
ESDC				PKPab	PKPab	21 04 24.4	-0.4
	comp=Z,5.2nm,0.8s,baz=327,slow=4.1,SNR=16						
KEST	Kesra	160.76	355	PKPab	PKPab	21 04 50.8	+0.4
	comp=Z,3.9nm,1.0s,baz=295,slow=10,SNR=5.7						
LIC	Lamto	164.11	128	⇑iPKIKP	PKPdf	21 04 11.2	-0.4
	comp=Z,36nm,1.2s						
TOA0	Torodi Ar. Sit	173.54	120	ePKPdf	PKPdf	21 04 16.6	-1.1
TORD	Torodi Ar. Bea	173.54	120	PKP	PKPdf	21 04 16.7	-0.9
	comp=Z,5.8nm,0.9s,baz=328,slow=1.3,SNR=26						
TORD				PKPab	PKPab	21 05 46.7	-0.1
	comp=Z,20nm,1.1s,baz=258,slow=4.7,SNR=26						
TORD				PP	PP	21 09 35.8	-2.8
	comp=Z,5.2nm,1.3s,baz=258,slow=3.8,SNR=6.7						
TORD	Torodi Ar. Bea	173.54	120	PKP	PKPdf	21 04 16.7	-0.9
TORD				PKPab	PKPab	21 05 46.7	-0.1
TORD				PP	PP	21 09 35.8	-2.7

*ISCJB **07** 20:58:07.1±4.7, 46.1N±0.1×1546E±0.1, h9km±28km, mb3.9/20, Error ellipse: s-maj=23.7km s-min=11.4km az=123.4*
*IDC **07** 20:58:07.3±0.9, 46.11N×15459E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.9/22, mbtmp3.8/14, Error ellipse: s-maj=28.6km s-min=18.3km az=165.0*
*NEIC **07** 20:58:08.8±0.7, 46.11N×15453E, h10km, mb4.4/1, Error ellipse: s-maj=20.1km s-min=11.9km az=178.0*
*BJI **07** 20:58:08.8, 46.10N×15450E, h10km, mb4.2*
*MOS **07** 20:58:14.0±1.4, 4592N×15423E, h71km, mb4.2/10, Error ellipse: s-maj=19.0km s-min=13.7km az=107.3*

ISC 07 20:58:08.0±4.3, 462N±01×1546E±01, h2km±25km, n38, σ1§03/39, mb3.9/20, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.59	13	eP	Pb	20 59 29.5	+0.3
KUR	Kuril'sk	4.78	261	⇓iP	Pn	20 59 20.0	-1.0
KUR				iS	Sn	21 00 08.5	-8.4
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,280nm,0.9s						
KUR				smax			
	comp=E,140nm,0.9s						
KLR	Kul'dur	15.62	289	eP	Pn	21 01 48.6	-0.6
KSRS	Korea Array	21.61	256	P	P	21 03 00.3	+1.1
	comp=E,1.2nm,0.6s,mb3.5,baz=64,slow=9.4,SNR=3.4						
BILL	Bilibino	22.70	11	P	P	21 03 18.0	+7.2
BILL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.2						
SONM	Songino Array	32.45	291	P	P	21 04 41.1	+1.7
	comp=Z,0.4nm,0.5s,mb3.5,baz=96,slow=8.4,SNR=3.2						
GTA	Gaotai	40.04	280	eP	P	21 05 46.9	+2.5
GTA				AP	pP	21 05 51.5	+6.4
GTA				XP	sP	21 05 54.2	+8.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.0						
INK	Inuvik	41.57	32	P	P	21 05 56.3	-0.7
	comp=Z,1.9nm,0.7s,mb3.8,baz=288,slow=5.9,SNR=7.5						
INK	Inuvik	41.57	32	P	P	21 05 56.3	-0.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	Zalesovo	43.74	307	P	P	21 06 13.3	-1.3
	comp=Z,0.8nm,0.3s,mb3.9,baz=120,slow=16,SNR=2.8						
ZAL	Zalesovo	43.74	307	P	P	21 06 13.3	-1.4
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	43.74	307	P	P	21 06 13.3	-1.3
MKAR	Makanchi Array	48.07	298	P	P	21 06 48.6	-0.2
	comp=Z,0.6nm,0.5s,mb3.9,baz=70,slow=7.4,SNR=11						
MKAR				PcP	PcP	21 08 16.2	-0.5
	comp=Z,0.5nm,0.7s,baz=68,slow=3.6,SNR=3.2						
MKAR	Makanchi Array	48.07	298	P	P	21 06 48.6	-0.2
MKAR						21 08 16.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	48.48	305	eP	P	21 06 51.2	-0.8
YKA	Yellowknife Ar	50.76	37	P	P	21 07 10.2	+0.8
	comp=Z,0.3nm,0.6s,mb3.4,baz=295,slow=7.0,SNR=4.9						
LSA	Lhasa	51.30	275	eP	P	21 07 15.4	+2.0
CHKZ	Chkalovo	51.53	311	eP	P	21 07 14.4	-0.8
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	Chkalovo	51.53	311	eP	P	21 07 14.3	-0.8
	comp=Z,2.5nm,0.6s,mb4.3						
NVAR	Mina Array Bea	61.80	63	P	P	21 08 28.0	-0.2
	comp=Z,0.2nm,0.3s,mb3.7,baz=349,slow=8.7,SNR=2.3						
JOF	Joensuu	62.25	334	ep	P	21 08 30.4	-0.8
PDAR	Pinedale Array	64.25	54	P	P	21 08 45.5	+1.0
	comp=Z,0.3nm,0.5s,mb3.5,baz=294,slow=1.5,SNR=3.8						
FINES	FINESS Array B	64.94	335	P	P	21 08 48.4	-0.6
	comp=Z,1.4nm,0.7s,mb4.1,baz=40,slow=7.9,SNR=8.1						
FINES	FINESS Array B	64.94	335	P	P	21 08 48.4	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	68.34	200	P	P	21 09 09.4	-1.4
	comp=Z,0.4nm,0.6s,mb3.6,baz=21,slow=6.7,SNR=5.4						
NB2	NORSAR Subarra	69.05	342	P	P	21 09 19.9	+4.8
	comp=Z,0.2nm,0.6s,mb3.2,baz=30,slow=6.5						
NOA	NORSAR Array B	69.05	342	P	P	21 09 15.8	+0.7
	comp=Z,0.8nm,0.6s,mb3.8,baz=40,slow=4.3,SNR=2.6						
NOA	NORSAR Array B	69.05	342	P	P	21 09 15.8	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	69.05	342	P	P	21 09 15.8	+0.7
AKASG	Malin Array Be	72.54	327	P	P	21 09 35.7	-0.7
	comp=Z,0.5nm,0.4s,mb3.8,baz=32,slow=7.1,SNR=3.7						
AKASG	Malin Array Be	72.54	327	P	P	21 09 35.7	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	76.88	61	P	P	21 10 01.2	-0.3
	comp=Z,1.1nm,0.6s,mb3.9,baz=241,slow=4.1,SNR=5.3						
TXAR	Lajitas Array	76.88	61	P	P	21 10 01.3	-0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	79.45	318	P	P	21 10 16.5	+0.6
	comp=Z,0.5nm,0.7s,mb3.5,baz=46,slow=4.2,SNR=3.6						
BRTR	Keskin Array B	79.45	318	P	P	21 10 16.5	+0.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LOR	Lormes	83.42	340	eP	P	21 10 42.3	+5.5
	comp=Z,4.3nm,0.6s,mb4.4						
AVF	Avril sur Loir	83.98	341	eP	P	21 10 45.2	+5.5
	comp=Z,6.1nm,0.6s,mb4.6						
LPG	La Plagne	84.36	338	eP	P	21 10 47.9	+6.3
	comp=Z,2.1nm,0.5s,mb4.2						

MEX 07 21:07:28.3±0.8, 1959N×10549W, h7km±6km, MD4.4, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.43	102	iP	Pg	21 07 36.7	+0.1
CJM				iS	Sg	21 07 42.1	-0.2
ANIG	Ahuacatlan	1.72	32	iP	Pn	21 07 55.4	-3.3
ANIG				iS	Sn	21 08 17.3	-3.6
MMIG	Aquila	2.41	122	iP	Pn	21 08 04.3	-3.8
MMIG				iS	Sn	21 08 34.7	-3.2
SFJM	Santa Fe	2.47	68	iP	Pn	21 08 05.8	-3.2
SFJM				iS	Sn	21 08 35.5	-4.0
MOIG	Morelia	4.05	88	iP	Pn	21 08 25.2	-5.5
MOIG				iS	Sn	21 09 18.9	+0.3
CAIG	El Cayaco	5.57	116	iP	Pn	21 08 49.7	-1.8
CAIG				iS	Sn	21 09 53.3	-2.5
MEIG	Mezcala	5.80	106	iS	Sn	21 09 58.1	-3.5
UTMO	Huajuapan	7.49	102	iP	Pn	21 09 17.3	-0.7

*IDC **07** 21:10:08.1±5.8, 36.11N×7059E, h166km±51km, mb3.5/9, mb1 3.5/12, mb1mx3.3/25, mbtmp3.4/12, MS3.8/1, Ms1 3.8/1, ms1mx3.1/31, Error ellipse: s-maj=27.9km s-min=19.6km az=18.0*
*MOS **07** 21:10:10.8±1.1, 3639N×7047E, h193km, mb4.2/9, Error ellipse: s-maj=22.0km s-min=10.2km az=94.6*
*BJI **07** 21:10:10.2, 3650N×7035E, h199km, mb4.0*
*NEIC **07** 21:10:11.2±3.1, 3634N×7049E, h183km±27km, mb4.2/2, Error ellipse: s-maj=27.7km s-min=14.0km az=218.0*
*ISCJB **07** 21:10:12.5±0.5, 3642N±003×7068E±007, h215km±7km, mb3.6/9, Error ellipse: s-maj=10.1km s-min=4.8km az=143.0*

ISC 07 21:10:13.7±0.6, 3641N±003×7074E±008, h211km±7km, n57, σ0§87/67, mb3.6/9, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.75	159	⇓P	Pn	21 11 02.1	+1.1
CHCP	Chirah Chowk	3.44	142	P	Pn	21 11 10.4	+1.4
CHCP				S	S	21 11 47.0	-5.5
SBDP	Sheikh Budin	4.10	179	P	Pn	21 11 17.3	+0.2
SARP	Sargodha	4.75	160	P	Pn	21 11 25.4	+0.2
KSH	Kashi	5.17	52	P	Pn	21 11 31.6	+1.2
KSH				S	S	21 12 30.3	-0.9
KSH				Smax			
	comp=N,395nm,0.4s						
KSH				Smax			
	comp=E,403nm,0.4s						
THN	Thein Dam	5.71	133	eP	Pn	21 11 37.6	+0.2
THN				eS	S	21 12 42.6	-1.1
DLH	Dalhousie	5.79	130	eP	Pn	21 11 37.0	-1.3
DLH				eS	S	21 12 43.0	-2.5
AML	Almayashu	6.16	21	P	Pn	21 11 42.8	-0.3
	SNR=29						
UCH	Uchtor	6.50	26	P	Pn	21 11 47.5	0.0
	SNR=19						
KZA	Kyzart	6.65	30	P	Pn	21 11 51.1	+1.6
	SNR=6.4						
EKS2	Erkin-Say	6.67	20	P	S	21 13 01.2	-4.8
	SNR=6.2						
KK31	Karatay Array	6.69	359	⇑P	Pn	21 11 48.9	-1.0
	comp=E,2.1nm,0.3s,baz=176,slow=12						
KK31				⇑S	S	21 13 00.2	-6.2
	comp=E,7.7nm,0.3s,baz=185,slow=20						
AAK	Ala-Archa	6.86	24	P	Pn	21 11 52.0	-0.1
	SNR=12						
AAK	Ala-Archa	6.86	24	ePN	Pn	21 11 50.3	-1.8
AAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
AAK	Ala-Archa	6.86	24	eP	Pn	21 11 50.3	-1.8
	comp=Z,6.4nm,0.3s						
KBK	Karagaybulak	7.03	26	P	Pn	21 11 55.2	+0.9
	SNR=6.8						
SDNR	Sundarnagar	7.12	132	eP	Pn	21 11 55.0	-0.5
SDNR				eS	S	21 13 12.0	-4.7
	comp=Z,10.0nm,0.4s						
ULHL	Ulahol	7.22	34	P	Pn	21 11 56.6	-0.1
	SNR=10						
TKM2	Tokmak 2	7.50	28	P	Pn	21 12 00.4	-0.1
	SNR=9.4						
KHET	Khetri	9.35	151	eP	Pn	21 12 23.7	-0.6
KHET				eS	S	21 14 03.1	-6.2
KHET				AML	AML	21 14 04.1	
	comp=N,13nm,0.2s						
KHET				AML	AML	21 14 04.4	
	comp=E,20nm,0.5s						
SONA	Sohna	9.74	145	eP	Pn	21 12 31.3	+1.9
SONA				eS	S	21 14 12.2	-6.4
SONA				AML	AML	21 14 17.7	
	comp=N,14nm,0.7s						
SONA				AML	AML	21 14 19.5	
	comp=E,25nm,0.5s						
MKAR	Makanchi Array	13.49	36	P	Pn	21 13 16.8	0.0
	comp=E,0.2nm,0.3s,baz=205,slow=10.0,SNR=15						
KOLN	Koldanda	13.88	125	eP	Pn	21 13 21.5	-0.1
	comp=E,16nm,0.3s						
GKN	Gorkha	14.43	122	eP	Pn	21 13 28.4	0.0
	comp=E,22nm,0.3s						
DMN	Daman	15.00	122	eP	Pn	21 13 36.1	+0.7
	comp=E,23nm,0.3s						
KKN	Kakani	15.01	121	eP	Pn	21 13 36.0	+0.6
	comp=E,43nm,0.5s						
PKI	Pulchoki	15.23	121	eP	Pn	21 13 38.2	0.0
GUN	Gumba	15.35	119	eP	Pn	21 13 39.5	-0.1
JIRN	Jiri	15.72	119	eP	Pn	21 13 45.2	+1.1
	comp=E,68nm,0.5s						
BVAR	Borovoye Array	16.62	359	P	P	21 13 53.6	+0.1
	comp=E,0.4nm,0.3s,baz=157,slow=9.8,SNR=7.0						
BVAR				LR	LR	21 21 56.6	
	comp=E,323nm,19.9s,baz=134,slow=42						
AKTK	Aktyubinsk	16.76	331	P	P	21 13 54.9	-0.2
AKTK				S	S	21 16 52.9	-6.2
AKTO	Aktyubinsk	16.76	331	P	P	21 13 54.9	-0.2
	comp=E,0.4nm,0.3s,baz=138,slow=7.6,SNR=6.5						
AKTO				S	S	21 16 52.9	-6.2
	comp=E,0.1nm,0.3s,baz=150,slow=14,SNR=2.1						
CHKZ	Chkalovo	17.27	360	eP	P	21 14 01.4	+0.7
LSA	Lhasa	18.35	106	P	P	21 14 17.4	+4.9
LSA	Lhasa	18.35	106	eP	P	21 14 16.9	+4.4
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LSA	Lhasa	18.35	106	eP	P	21 14 16.9	+4.4
	comp=Z,5.3nm,0.7s						
ZAL	Zalesovo	20.07	25	P	P	21 14 31.1	+0.2
	comp=Z,1.8nm,0.4s,baz=279,slow=13,SNR=2.7						
ZAL	Zalesovo	20.07	25	P	P	21 14 31.1	+0.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JOF	Joensuu	35.84	330	ep	P	21 16 53.4	+0.3
	comp=Z,2.9nm,0.4s,mb4.2						
JOF	Joensuu	35.84	330	eP	P	21 16 53.4	+0.3
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.2						
FINES	FINESS Array B	37.44	326	P	P	21 17 06.9	+0.3
	comp=Z,1.3nm,0.7s,mb3.6,baz=124,slow=10,SNR=6.6						
FINES	FINESS Array B	37.44	326	P	P	21 17 06.9	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KEV	Kevo	40.81	338	ep	P	21 17 32.9	-1.5
ARCES	ARCESS Array B	41.15	338	P	P	21 17 37.9	+0.7
	comp=Z,1.3nm,0.5s,mb3.6,baz=110,slow=7.7,SNR=17						
ARCES	ARCESS Array B	41.15	338	P	P	21 17 37.9	+0.7
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	43.01	322	P	P	21 17 51.7	-0.5
	comp=Z,3.2nm,0.8s,mb3.8,baz=107,slow=9.8,SNR=4.6						
HFS	Hagfors	43.01	322	P	P	21 17 51.7	-0.5
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	NORSAR Array B	44.33	323	P	P	21 18 02.1	-0.6
	comp=Z,1.4nm,0.9s,mb3.3,baz=98,slow=7.7,SNR=2.5						
NOA	NORSAR Array B	44.33	323	P	P	21 18 02.1	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	Torodi Ar. Bea	65.51	269	P	P	21 20 32.7	-1.6
	comp=Z,0.7nm,0.5s,mb3.5,baz=52,slow=5.9,SNR=11						
TORD	Torodi Ar. Bea	65.51	269	P	P	21 20 32.7	-1.6
INK	Inuvik	74.03	9	P	P	21 21 26.9	+0.8
	comp=Z,0.8nm,0.3s,mb3.8,baz=320,slow=5.2,SNR=11						
INK	Inuvik	74.03	9	P	P	21 21 27.0	+0.8
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	Yellowknife Ar	81.35	3	P	P	21 22 06.7	+0.1
	comp=Z,0.6nm,0.6s,mb3.4,baz=350,slow=5.3,SNR=11						
YKA	Yellowknife Ar	81.35	3	P	P	21 22 06.7	+0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	82.12	122	P	P	21 22 10.4	-0.2
	comp=Z,1.2nm,0.9s,mb3.5,baz=322,slow=5.0,SNR=19						
WRA	Warramunga Arr	82.12	122	P	P	21 22 10.4	-0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*NEIC **07** 21:11:10.9, 3936N×2278E, h10km, MD3.0(ATH), After ATH.*
*ATH **07** 21:11:10.9, 3936N×2278E, h10km±3km, MD3.0/4*
*ISCJB **07** 21:11:11.3±0.4, 3937N±003×2282E±004, h21km±5km, Error ellipse: s-maj=4.6km s-min=4.5km az=121.6*
*CSEM **07** 21:11:11.4±0.1, 3937N×2282E, h20km, ML2.6, Error ellipse: s-maj=2.1km s-min=1.8km az=140.0*
*THE **07** 21:11:11.9, 3942N×2284E, h11km, ML2.6*

ISC 07 21:11:11.1±0.4, 3941N±002×2281E±003, h11km±4km, n26, σ0§99/41, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	Xorichti	0.30	99	ePg	Pg	21 11 17.6	+0.5
NEO	Neokhori	0.33	108	⇓iPB	Pg	21 11 18.2	+0.4
NEO				eSB	Sg	21 11 23.1	+0.8
AGG	Agios Georgios	0.54	224	ePg	Pg	21 11 21.5	-0.1
AGG				eSg	Sg	21 11 31.5	+2.8
THL	Klokotos Trika	0.64	284	ePB	Pg	21 11 23.0	-0.4
THL				eSB	Sg	21 11 31.8	0.0
LIT	Litokhoron	0.73	340	ePg	Pg	21 11 25.0	-0.3
LIT				eSg	Sg	21 11 36.8	+1.9
LKR	Lokris	0.77	169	ePG	Pg	21 11 24.5	-1.5
PAIG	Paliouri	0.84	52	ePg	Pg	21 11 27.6	+0.3
PAIG				eSg	Sg	21 11 39.7	+1.3
AOS	Alonnisos	0.86	106	ePg	Pg	21 11 28.1	+0.4
EVR	Evrytania	0.92	238	ePB	Pg	21 11 28.1	-0.8
PLG	Polygyros	1.08	27	ePg	Pb	21 11 31.1	-0.6
PLG				eSg	Sg	21 11 46.9	+1.0
PLG	Polygyros	1.08	27	ePB	Pb	21 11 31.1	-0.6
PLG				eSB	Sb	21 11 47.1	+1.3
PLG	Polygyros	1.08	27	ePg	Pb	21 11 31.1	-0.6
PLG				eSg	Sg	21 11 46.8	+1.0
KZN	Kozani	1.20	318	ePB	Pb	21 11 34.3	+0.5
KZN				eSB	Sb	21 11 51.0	+1.6
HORT	Hortiatis	1.21	10	ePg	Pg	21 11 33.1	-1.2
HORT				eSg	Sg	21 11 50.0	0.0
THE	Thessaloniki	1.23	5	ePg	Pg	21 11 34.2	-0.4
THE				eSg	Sg	21 11 51.4	+0.8
THE	Thessaloniki	1.23	5	ePg	Pg	21 11 34.2	-0.4
THE				eSg	Sg	21 11 51.3	+0.8
MEV	Metsovon	1.28	287	ePg	Pg	21 11 35.3	-0.3
OUR	Ouranopolis	1.29	44	ePg	Pg	21 11 34.1	-1.7
SOH	Sokhos	1.47	16	ePg	Pg	21 11 37.8	-1.5
SOH				eSg	Sg	21 11 56.8	-1.5
GRG	Griva	1.58	349	ePg	Pn	21 11 38.8	-0.2
GRG				eSg	Sn	21 12 00.0	+0.7
KNT	Kendrikon	1.75	2	ePb	Pb	21 11 41.6	-1.6
KNT				eSb	Sb	21 12 04.0	-1.1
SRS	Serrai	1.81	19	ePb	Pn	21 11 42.0	-0.1
LOS	Limnos	1.83	73	ePb	Pn	21 11 41.5	-0.9
VAY	Valandovo	1.92	355	ePb	Pn	21 11 43.6	0.0
NVR	Nevrokopi	2.10	22	ePN	Pb	21 11 49.2	+0.1
APE	Apeiranthos	3.17	137	ePn	Pn	21 12 01.8	+1.0

*ISCJB **07** 21:28:38.1±0.4, 4754N±002×745E±003, h15km±4km, Error ellipse: s-maj=4.1km s-min=3.0km az=102.5*
*STR **07** 21:28:38.6±0.6, 4756N×758E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **07** 21:28:39.2, 4758N×760E, h5km±1km, ML1.5*
*LDG **07** 21:28:39.5±0.1, 4759N×754E, h

LOR	**Lormes**	**2.51 264**	*e*Pg	**Pg**	**21 29 26.6**	**-0.2**
LOR			*e*Sg	**Sg**	**21 29 58.5**	**-0.8**
3.4nm,0.3s						
SMF	**Signal de Mont**	**2.68 251**	*e*Pg	**Pg**	**21 29 29.6**	**-0.5**
SMF			*e*Sg	**Sg**	**21 30 03.7**	**-1.1**
0.8nm,0.2s						
SSF	**Saint Saulge**	**2.78 261**	*e*Pg	**Pg**	**21 29 32.0**	**0.0**
SSF			*e*Sg	**Sg**	**21 30 06.9**	**-1.2**
1.3nm,0.3s						
AVF	**Avril sur Loir**	**2.95 256**	*e*Sg	**Sg**	**21 30 12.5**	**-1.0**
1.0nm,0.3s						

IDC 07 21:33:07.1±1.9,700S×12899E,h0km,mb3.6/2,mb1 4.1/4, mb1mx3.8/14,mbtmp3.9/4,ML4.2/2,Error ellipse: s-maj=84.4km s-min=29.3km az=83.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.51**	**196**	Pn	Pn	21 35 52.2	-0.4
1.5nm,0.3s,baz=30,slow=11,SNR=27							
FITZ				Sn	Sn	21 37 47.2	-15
0.3nm,0.3s,baz=83,slow=23,SNR=2.5							
WRA	**Warramunga Arr**	**13.87**	**159**	Pn	Pn	21 36 26.0	+1.1
1.0nm,0.3s,baz=339,slow=10,SNR=30							
WRA				Sn	Sn	21 38 49.2	-10
0.7nm,0.3s,baz=329,slow=23,SNR=6.4							
SONM	**Songino Array**	**58.13**	**342**	P	P	21 43 03.7	+1.3
0.3nm,0.6s,baz=168,slow=7.4,SNR=2.5							
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	21 44 05.1	-0.9
0.5nm,0.5s,baz=118,slow=7.6,SNR=6.4							

*ISCJB **07** 21:48:42.3±0.3,4756N±002×750E±003,h8km±4km,Error ellipse: s-maj=3.4km s-min=2.9km az=66.7*
*STR **07** 21:48:42.5±0.8,4757N×766E,h5km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **07** 21:48:43.6,4758N×760E,h4km±1km,ML1.4*
*LDG **07** 21:48:43.8±0.1,4758N×756E,h10km,Md2.1/3,Ml2.2/13, Error ellipse: s-maj=1.6km s-min=1.0km az=93.0*
ISC 07 21:48:43.2±0.3,4758N±002×754E±003,h14km±5km,n26, σ0:94/46,1C-1D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.27**	**156**	⇓*i*Pg	**Pg**	**21 48 48.9**	**+0.1**
272nm,0.2s							
BALST				*i* Sg	**Sg**	**21 48 52.7**	**+0.1**
272nm,0.2s							
BOURR	**Bourrignon**	**0.28**	**228**	⇑*i*P	**Pg**	**21 48 50.5**	**+1.4**
54nm,0.8s							
MOF	**Molkenrain**	**0.39**	**315**	Pg	**Pg**	**21 48 51.5**	**+0.5**
MOF				Sg	**Sg**	**21 48 57.3**	**+1.1**
SULZ	**Sulz-Cheisache**	**0.39**	**97**	*i* Sg	**Pg**	**21 48 50.5**	**-0.6**
75nm,0.3s							
SULZ	**Sulz-Cheisache**	**0.39**	**97**	*e*P	**Sg**	**21 48 55.5**	**-0.9**
75nm,0.3s							
HINF	**Hinteralfeld**	**0.52**	**297**	*e*Pg	**Pg**	**21 48 53.8**	**+0.4**
HINF	**Hinteralfeld**	**0.52**	**297**	*e*Pn	**Pg**	**21 48 55.2**	**+1.8**
HINF				*e*Sg	**Sg**	**21 49 01.1**	**+0.7**
3.7nm,0.2s							
HINF				*e*Sn	**Sg**	**21 49 04.7**	**+4.3**
12nm,0.2s							
LOMF	**Lomont**	**0.53**	**245**	Pg	**Pg**	**21 48 54.8**	**+1.1**
LOMF				Sg	**Sg**	**21 49 03.1**	**+2.3**
SLE	**Schleitheim**	**0.67**	**74**	*i* Sg	**Pg**	**21 48 56.6**	**+0.3**
107nm,0.3s							
SLE	**Schleitheim**	**0.67**	**74**	*i* Pg	**Sg**	**21 49 05.0**	**-0.2**
107nm,0.3s							
ECH	**Echery**	**0.69**	**338**	Pg	**Pg**	**21 48 56.8**	**+0.2**
ECH				Sg	**Sg**	**21 49 05.9**	**+0.3**
TRULL	**Truellikon**	**0.78**	**84**	*e*Pg	**Pg**	**21 48 58.6**	**+0.3**
51nm,0.4s							
TRULL				*e*Sg	**Sg**	**21 49 07.9**	**-0.6**
51nm,0.4s							
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	**Pn**	**21 49 00.1**	**-0.6**
CDF				*e*Sg	**Sg**	**21 49 10.2**	**-0.7**
CDF				*e*Sn	**Sn**	**21 49 12.2**	**-0.8**
9.1nm,0.2s							
HAU	**Haudompre**	**0.91**	**298**	*e*Pg	**Pg**	**21 49 01.1**	**+0.3**
HAU				*e*Sg	**Sg**	**21 49 13.7**	**+1.0**
14nm,0.2s							
WIMIS	**Wimmis**	**0.92**	**176**	*e*Sg	**Pb**	**21 49 02.5**	**+1.6**
13nm,1.0s							
WIMIS	**Wimmis**	**0.92**	**176**	Pg	**Sg**	**21 49 13.9**	**+1.0**
13nm,1.0s							
GIMEL	**Gimel**	**1.36**	**220**	*e*P	**Pn**	**21 49 10.2**	**+2.4**
18nm,0.2s							
GIMEL				*e*S	**Sn**	**21 49 29.1**	**+3.5**
18nm,0.2s							
CABF	**La Chapelle**	**1.39**	**226**	*e*Pg	**Pg**	**21 49 10.2**	**+0.3**
CABF				*e*Sg	**Sg**	**21 49 27.7**	**-0.2**
4.4nm,0.3s							
SFTF	**Sexfontaines**	**1.79**	**291**	*e*Pg	**Pg**	**21 49 17.7**	**0.0**
SFTF				*e*Sg	**Sg**	**21 49 40.9**	**-0.1**
2.3nm,0.2s							
MEZF	**Maizieres J'vi**	**1.91**	**300**	*e*Pn	**Pn**	**21 49 15.8**	**+0.5**
MEZF				*e*Sg	**Sg**	**21 49 44.2**	**-0.3**
2.0nm,0.2s							
LPL	**La Plagne**	**2.14**	**195**	*e*Pg	**Pg**	**21 49 24.0**	**-0.2**
LPL				*e*Sg	**Sg**	**21 49 50.9**	**-1.0**
0.8nm,0.3s							
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**21 49 24.2**	**-0.3**
LPG				*e*Sg	**Sg**	**21 49 51.8**	**-0.6**
1.0nm,0.2s							
LOR	**Lormes**	**2.52**	**264**	*e*Pg	**Pg**	**21 49 30.8**	**-0.7**
LOR				*e*Sg	**Sg**	**21 50 03.0**	**-1.1**
3.6nm,0.2s							
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**21 49 33.9**	**-0.9**
SMF				*e*Sg	**Sg**	**21 50 07.8**	**-1.9**
2.7nm,0.3s							
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**21 49 36.0**	**-0.7**
SSF				*e*Sg	**Sg**	**21 50 11.8**	**-1.1**
2.8nm,0.4s							
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pg	**Pg**	**21 49 39.1**	**-0.9**
AVF				*e*Sg	**Sg**	**21 50 16.9**	**-1.5**
0.7nm,0.2s							

*IPEC **07** 22:05:28.9±0.2,5030N×1886E,h1km±1km,ML2.4/3,Error ellipse: s-maj=2.5km s-min=0.8km az=171.0*
*NEIC **07** 22:05:28.5,5021N×1889E,h0km,ML2.8(CSEM), ML2.9(BUC),After CSEM.*
*PRU **07** 22:05:29.4,5028N×1881E,h0km*
*CSEM **07** 22:05:29.0±0.2,5028N×1886E,h1km,ML3.3/5,Error ellipse: s-maj=4.0km s-min=1.6km az=11.0*
*VIE **07** 22:05:31.4±0.7,4987N×1889E,h0km,mb2.5/2,ML2.8/4, Error ellipse: s-maj=5.0km s-min=4.0km az=163.0 43 km S of Kattowitz Suspected Mining induced.*
WAR 07 22:05:29.3,5024N×1890E,ML2.9,4C-12D,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.48**	**251**	*e*Pg	Pg	22 05 38.9	+0.3
RAC				*e*Sg	Sg	22 05 46.1	+1.3
OJC	**Ojcow**	**0.57**	**92**	*e*Pg	Pg	22 05 40.5	+0.2
OJC				*e*Sg	Sg	22 05 48.6	+0.8
OKC	**Ostrava-Krasne**	**0.64**	**231**	*e*PG	Pg	22 05 41.4	-0.1
MORC	**Moravsky Berou**	**0.99**	**243**	⇓P	Pg	22 05 47.5	-0.8
MORC				S	Sg	22 06 01.2	0.0
MORC	**Moravsky Berou**	**0.99**	**243**	⇓*i*P	Pg	22 05 47.5	-0.9
MORC	**Moravsky Berou**	**0.99**	**243**	S	Sg	22 06 01.2	-0.1
MORC	**Moravsky Berou**	**0.99**	**243**	*e*Pg	Pg	22 05 47.5	-0.9
MORC				*e*Sg	Sg	22 06 00.3	-1.0
65nm,0.4s							
LIKS	**Likavka**	**1.20**	**174**	*e*PN	Pn	22 05 52.4	-0.9
LIKS				*e*SN	Sn	22 06 09.2	-1.1
NIE	**Niedzica**	**1.23**	**132**	*e*Pg	Pg	22 05 52.7	-0.2
NIE				*e*Sg	Sg	22 06 10.1	+1.3
JAVC	**Velka Javorina**	**1.60**	**211**	P	Pn	22 05 59.6	+0.8
DPC	**Dobruska-Polom**	**1.66**	**275**	*e*PG	Pn	22 05 58.2	-1.4
DPC				*e*SG	Sn	22 06 19.7	-1.9
45nm,0.6s							
STHS	**Stebnicka Huta**	**1.73**	**118**	*e*PN	Pn	22 06 02.2	+1.6
STHS				*e*SN	Sn	22 06 26.8	+3.5
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	Pn	22 05 59.6	-1.3
VYHS				*e*SN	Sn	22 06 24.4	+0.5
VRAC	**Vranov**	**1.77**	**239**	⇓P	Pn	22 06 00.3	-0.8
VRAC				S	Sn	22 06 23.7	-0.6
VRAC	**Vranov**	**1.77**	**239**	⇓*i*P	Pn	22 06 00.3	-0.8
VRAC	**Vranov**	**1.77**	**239**	S	Sn	22 06 23.7	-0.6
VRAC	**Vranov**	**1.77**	**239**	*e*Pn	Pn	22 06 00.9	-0.2
VRAC				*e*Sg	Sg	22 06 24.3	-1.8
28nm,0.4s							
KSP	**Ksiaz**	**1.77**	**291**	*e*Pg	Pg	22 06 02.1	-1.1
KSP				*e*Sg	Sg	22 06 25.3	-0.9
KSP	**Ksiaz**	**1.77**	**291**	*e*Pg	Pg	22 06 02.0	-1.2
KSP				*e*Sg	Sg	22 06 25.3	-0.9
UPC	**Upice**	**1.87**	**279**	*e*SG	Sn	22 06 25.2	-1.7
KRUC	**Moravsky**	**2.01**	**235**	P	Pn	22 06 05.3	+0.8
KRUC	**Moravsky**	**2.01**	**235**	*e*Pn	Pn	22 06 04.0	-0.5
KRUC				*e*Sn	Sn	22 06 31.2	+0.8
19nm,0.5s							
KECS	**Kecovo**	**2.04**	**149**	*e*PN	Pn	22 06 06.8	+1.9
KECS				*e*SN	Sn	22 06 33.5	+2.4
CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*PG	Pg	22 06 09.4	-0.9
CRVS				*e*SG	Sg	22 06 38.0	0.0
PSZ	**Piszkesteto**	**2.42**	**164**	⇓P	Pn	22 06 10.8	+0.7
PSZ				S	Sn	22 06 40.0	-0.3
PSZ	**Piszkesteto**	**2.42**	**164**	⇓*i*P	Pn	22 06 10.8	+0.8
PSZ	**Piszkesteto**	**2.42**	**164**	S	Sn	22 06 40.0	-0.3
PSZ	**Piszkesteto**	**2.42**	**164**	*e*Pg	Pg	22 06 15.9	+0.3
PSZ				*e*SB	Sb	22 06 46.3	+2.3
PSZ	**Piszkesteto**	**2.42**	**164**	*e*Pg	Pg	22 06 15.9	+0.3
PSZ				*e*Sg	Sg	22 06 46.3	-0.6
PVCC	**Panska Ves**	**2.79**	**278**	*e*SG	Sb	22 06 54.8	+0.1
46nm,0.6s							
PRU	**Pruhonice**	**2.82**	**266**	*e*PG	Pb	22 06 18.8	-1.7
PRU				*e*SG	Sb	22 06 56.4	+0.8
CONA	**Conrad Observa**	**3.06**	**222**	⇓*i*Pn	Pn	22 06 17.3	-1.6
CONA				⇑*i*Sg	Sg	22 07 04.1	-3.5
9.9nm,0.6s							
KHC	**Kasperske Hory**	**3.63**	**254**	*e*PN	Pn	22 06 25.3	-1.5
KHC				*e*PG	Pb	22 06 32.5	-1.9
KHC				*e*SG	Sg	22 07 22.2	-3.8
18nm,0.6s							
MOA	**Molln**	**3.88**	**234**	⇓*i*Pn	Pn	22 06 28.7	-1.4
MOA				⇓*i*Sg	Sg	22 07 31.7	-2.3
comp=Z,7.0nm,0.6s							
CLL	**Collm**	**3.89**	**288**	*e*Sg	Sg	22 07 34.0	-0.4
comp=Z,13nm,0.9s							
NKC	**Novy Kostel**	**4.14**	**272**	*e*SG	Sg	22 07 38.5	-4.0
DRGR		**4.28**	**142**	⇑*i*P	Pn	22 06 35.3	-0.4
DRGR		**4.28**	**142**	S	Sn	22 07 24.4	-1.9
BURAR	**Bucovina Array**	**4.92**	**120**	⇓*i*P	Pn	22 06 44.7	+0.2
BZS	**Buzias**	**4.97**	**157**	⇑P	Pn	22 06 45.4	+0.2
BZS	**Buzias**	**4.97**	**157**	⇑*i*P	Pn	22 06 45.4	+0.2
GZR	**Gura Zlata**	**5.51**	**150**	⇓P	Pn	22 06 52.0	-0.5
GZR	**Gura Zlata**	**5.51**	**150**	⇓*i*P	Pn	22 06 52.0	-0.6

*ISK **07** 22:22:30.2,4028N×2799E,h9km,MD3.0*
*ATH **07** 22:22:30.1,4016N×2838E,h44km±7km,MD3.6/3*
*CSEM **07** 22:22:30.2±0.1,4028N×2800E,h8km,MD3.6,Error ellipse: s-maj=1.3km s-min=1.0km az=14.0*
*ISCJB **07** 22:22:30.4±0.3,4028N±002×2802E±002,h5km±3km, Error ellipse: s-maj=3.2km s-min=2.7km az=1.5*
*NEIC **07** 22:22:30.2,4029N×2799E,h11km,MD3.0(ISK), MD3.6(ATH),After ISK.*
*THE **07** 22:22:34.4,4034N×2803E,h31km,ML2.4*
ISC 07 22:22:31.1±0.3,4028N±002×2802E±002,h9km±2km,n66, σ0:92/89,2C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNT	**Bandirma**	**0.11**	**315**	*i* PG	**Pg**	**22 22 33.6**	**-0.1**
BNT				*i* SG	**Sg**	**22 22 35.4**	**0.0**
BNT	**Bandirma**	**0.11**	**315**	Pg	**Pg**	**22 22 33.6**	**-0.1**
BNT				Sg	**Sg**	**22 22 35.6**	**+0.2**
EDC	**Edincik**	**0.14**	**299**	*i* PG	**Pg**	**22 22 33.7**	**-0.4**
KCT	**Karacabey**	**0.26**	**93**	*i* PG	**Pg**	**22 22 36.4**	**0.0**
KCT				*i* SG	**Sg**	**22 22 40.5**	**+0.7**
KCT	**Karacabey**	**0.26**	**93**	Pg	**Pg**	**22 22 36.4**	**0.0**
KCT				Sg	**Sg**	**22 22 40.4**	**+0.5**
MRMT	**Marmara Adasi**	**0.46**	**315**	*i* PG	**Pg**	**22 22 39.2**	**-0.8**
MRMT				*i* SG	**Sg**	**22 22 45.8**	**-0.2**
BTOK	**Tokmak**	**0.52**	**179**	*i* P	**Pg**	**22 22 40.7**	**-0.5**
BTOK				*i* S	**Sg**	**22 22 47.3**	**-0.8**
MFT	**Murefte**	**0.76**	**312**	PG	**Pg**	**22 22 44.8**	**-0.9**
MFT				SG	**Sg**	**22 22 54.8**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.76**	**303**	PG	**Pg**	**22 22 45.3**	**-0.5**
SART	**Tekirdag**	**0.76**	**303**	*i* P	**Pg**	**22 22 45.0**	**-0.8**
SART				*i* S	**Sg**	**22 22 58.3**	**+2.7**
CANB	**Canakkale**	**0.78**	**250**	PG	**Pg**	**22 22 45.0**	**-1.2**
CANB	**Canakkale**	**0.78**	**250**	*i* P	**Pg**	**22 22 45.3**	**-0.9**
CANB				*i* S	**Sg**	**22 22 57.7**	**+1.4**
DST	**Dursunbey**	**0.82**	**145**	PG	**Pg**	**22 22 46.7**	**-0.2**
ULDT	**Uludag**	**0.87**	**99**	*i* P	**Pg**	**22 22 47.6**	**-0.2**
ULDT				*i* S	**Sg**	**22 23 01.7**	**+2.5**
GEMT	**Gemlik**	**0.91**	**80**	PG	**Pg**	**22 22 48.6**	**0.0**
CTT	**Catalca**	**0.92**	**20**	PG	**Pg**	**22 22 48.6**	**-0.3**
ELBA	**Catalca**	**0.92**	**20**	*i* P	**Pg**	**22 22 49.8**	**+1.0**
ELBA				*i* S	**Sg**	**22 23 03.5**	**+2.7**
BADT	**Buyukada**	**1.01**	**55**	PG	**Pg**	**22 22 50.2**	**-0.4**
YLV	**Yalova**	**1.07**	**74**	PN	**Pn**	**22 22 51.1**	**-1.3**
ISK	**Istanbul-Kandi**	**1.11**	**45**	PN	**Pn**	**22 22 52.0**	**-1.0**
ISK	**Istanbul-Kandi**	**1.11**	**45**	*e*Pg	**Pg**	**22 22 52.2**	**-0.3**
ISK				*e*Sg	**Sg**	**22 23 06.8**	**-0.2**
ISK	**Istanbul-Kandi**	**1.11**	**45**	*e*Pg	**Pg**	**22 22 52.2**	**-0.3**
ISK				*e*Sg	**Sg**	**22 23 06.8**	**-0.2**
IZI	**Iznik**	**1.11**	**87**	PN	**Pn**	**22 22 52.3**	**-0.6**
KLYT	**Kilyos**	**1.24**	**38**	PN	**Pn**	**22 22 54.9**	**+0.2**
ADVT	**Abdulvahap**	**1.32**	**83**	*e*PN	**Pn**	**22 22 55.8**	**-0.1**
HRT	**Hereke**	**1.37**	**66**	*e*PN	**Pn**	**22 22 55.8**	**-0.7**
HRT	**Hereke**	**1.37**	**66**	*e*PN	**Pn**	**22 22 56.4**	**-0.1**
HRT	**Hereke**	**1.37**	**66**	Pn	**Pn**	**22 22 56.4**	**-0.1**
EZN	**Ezine**	**1.38**	**251**	*e*PN	**Pn**	**22 22 55.8**	**-0.7**
AKS	**Akhisar**	**1.41**	**187**	*e*PN	**Pn**	**22 22 56.7**	**-0.3**
AKS	**Akhisar**	**1.41**	**187**	Pn	**Pn**	**22 22 56.4**	**-0.7**
AYVA	**Ayvalik**	**1.41**	**227**	*i* P	**Pn**	**22 22 56.6**	**-0.4**
AYVA				*i* S	**Sb**	**22 23 15.0**	**-0.8**
ENEZ	**Enez**	**1.49**	**288**	*e*PN	**Pn**	**22 22 57.5**	**-0.6**
BOZC	**Bozcaada**	**1.57**	**254**	*i* P	**Pn**	**22 22 58.8**	**-0.5**
BOZC				*i* S	**Sn**	**22 23 20.0**	**+0.2**
ALN	**Alexandroupoli**	**1.62**	**293**	*e*Pg	**Pn**	**22 23 00.2**	**+0.2**
ALN				*e*Sg	**Sn**	**22 23 20.1**	**-0.9**
PRK	**Paraskevi**	**1.70**	**233**	*e*P	**Pn**	**22 23 00.8**	**-0.2**
PRK				*e*S	**Sn**	**22 23 23.4**	**+0.6**
GPA	**Golpazari**	**1.75**	**89**	*e*PN	**Pn**	**22 23 02.1**	**+0.4**
EDRB	**Edirne**	**1.84**	**329**	*e*PN	**Pn**	**22 23 02.6**	**-0.3**
KDAG	**Bornova**	**1.96**	**197**	*i* P	**Pn**	**22 23 04.2**	**-0.5**
KDAG				*i* S	**Sg**	**22 23 34.4**	**+0.1**
IZM	**Izmir**	**1.97**	**198**	*e*PN	**Pn**	**22 23 04.8**	**+0.1**
IZM	**Izmir**	**1.97**	**198**	*e*Pn	**Pn**	**22 23 04.8**	**+0.1**
BLCB	**Balcova**	**2.04**	**202**	*e*PN	**Pn**	**22 23 05.8**	**+0.1**
BLCB	**Balcova**	**2.04**	**202**	*e*Pn	**Pn**	**22 23 07.3**	**+1.6**
BLCB				*e*Sn	**Sn**	**22 23 31.3**	**+0.1**
BLCB	**Balcova**	**2.04**	**202**	*e*Pn	**Pn**	**22 23 05.8**	**+0.1**
BLCB				*e*Sn	**Sn**	**22 23 31.3**	**0.0**
RDO	**Rodhopi**	**2.07**	**295**	*e*P	**Pn**	**22 23 08.0**	**+1.8**
RDO				*e*S	**Sn**	**22 23 35.7**	**+3.6**
LIA	**Limnos Island**	**2.21**	**261**	*e*P	**Pn**	**22 23 09.5**	**+1.5**
LIA				*e*S	**Sn**	**22 23 38.1**	**+2.6**
LOS	**Limnos**	**2.28**	**262**	*e*Pn	**Pn**	**22 23 10.0**	**+1.0**
ESKT	**Eskisehir**	**2.31**	**108**	*e*PN	**Pn**	**22 23 09.8**	**+0.4**
JMB	**Yambol**	**2.44**	**334**	*e*Pn	**Pn**	**22 23 10.0**	**-1.1**
JMB				*e*Sn	**Sn**	**22 23 38.7**	**-2.4**
SHUT	**Suhut-Afyon**	**2.61**	**131**	*e*PN	**Pn**	**22 23 13.6**	**0.0**
OUR	**Ouranopolis**	**3.09**	**272**	*e*Pn	**Pn**	**22 23 20.5**	**+0.4**
PLD	**Plovdiv**	**3.09**	**307**	*e*Pn	**Pn**	**22 23 20.4**	**+0.2**
SRS	**Serrai**	**3.47**	**285**	*e*Pn	**Pn**	**22 23 26.1**	**+0.8**
SRS	**Serrai**	**3.47**	**285**	*e*Pn	**Pn**	**22 23 26.1**	**+0.8**
MLR	**Muntele Rosu**	**5.42**	**344**	⇓P	**Pn**	**22 23 54.6**	**+2.4**
MLR	**Muntele Rosu**	**5.42**	**344**	⇓*i*P	**Pn**	**22 23 54.6**	**+2.4**
VRI	**Vrincioaia**	**5.66**	**351**	⇓P	**Pn**	**22 24 02.0**	**+6.6**
VRI	**Vrincioaia**	**5.66**	**351**	⇓*i*P	**Pn**	**22 24 02.0**	**+6.5**
GZR	**Gura Zlata**	**6.40**	**325**	⇓P	**Pn**	**22 24 05.4**	**-0.2**
GZR	**Gura Zlata**	**6.40**	**325**	⇓*i*P	**Pn**	**22 24 05.4**	**-0.2**
BZS	**Buzias**	**7.10**	**321**	⇑P	**Pn**	**22 24 15.1**	**-0.2**
BZS	**Buzias**	**7.10**	**321**	⇑*i*P	**Pn**	**22 24 15.1**	**-0.2**
DRGR		**7.56**	**331**	⇓P	**Pn**	**22 24 16.9**	**-4.7**
DRGR		**7.56**	**331**	⇓*i*P	**Pn**	**22 24 16.9**	**-4.7**
BURAR	**Bucovina Array**	**7.60**	**346**	⇓P	**Pn**	**22 24 17.2**	**-5.0**
BURAR	**Bucovina Array**	**7.60**	**346**	⇓*i*P	**Pn**	**22 24 17.2**	**-5.0**

*HLW **07** 22:22:42.4,3545N×2284E,h33km,Mb3.1*
*ATH **07** 22:22:49.4,3573N×2317E,h32km±2km,MD3.2/4*
*NEIC **07** 22:22:49.4,3573N×2317E,h32km,MD3.2(ATH),After ATH.*
*CSEM **07** 22:22:50.7±0.3,3564N×2313E,h40km,MD3.2,Error ellipse: s-maj=8.4km s-min=3.7km az=43.0*
*THE **07** 22:22:56.5,3560N×2367E,h33km*
ISC 07 22:22:41.1±1.5,3526N±006×2258E±009,h9km±9km,n21, σ0:86/24,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.08**	**20**	*e*PN	**Pg**	**22 23 02.0**	**+0.1**
KARN	**Karanos**	**1.10**	**82**	*e*Pg	**Pg**	**22 23 03.7**	**+1.5**
KARN				*e*Sg	**Sg**	**22 23 09.4**	**-7.1**
GVD	**Gavdhos**	**1.30**	**108**	*e*Pg	**Pg**	**22 23 11.1**	**+5.0**
GVD				*e*Sg	**Sg**	**22 23 22.7**	**-0.3**
GVD	**Gavdhos**	**1.30**	**108**	*e*PN	**Pn**	**22 23 11.0**	**+5.5**
VAM	**Vamos**	**1.33**	**83**	*e*PN	**Pn**	**22 23 06.8**	**+1.0**
VLI	**Veliai**	**1.48**	**11**	*e*PB	**Pb**	**22 23 07.8**	**-1.0**
VLI				*e*SN	**Sn**	**22 23 22.1**	**-5.3**
SIVA	**Sivas**	**1.84**	**97**	*e*Pg	**Pg**	**22 23 14.8**	**-1.6**
ITM	**Ithomi**	**1.99**	**345**	*e*PN	**Pg**	**22 23 19.7**	**+0.5**
NPS	**Neapolis**	**2.48**	**89**	*e*PN	**Pn**	**22 23 23.3**	**+1.7**
THR5	**Thira Island,**	**2.52**	**62**	*e*Pg	**Pn**	**22 23 21.5**	**-0.8**
THR6	**Thira Island,**	**2.54**	**64**	*e*Pg	**Pn**	**22 23 22.2**	**-0.2**
THR3	**Thira Island,**	**2.56**	**63**	*e*Pb	**Pn**	**22 23 22.3**	**-0.5**
THR1	**Thera Island**	**2.59**	**64**	*e*Pb	**Pn**	**22 23 22.6**	**-0.5**
ZKR	**Zakros**	**2.98**	**92**	*e*Pn	**Pn**	**22 23 29.6**	**+1.1**
APE	**Apeiranthos**	**2.99**	**52**	*e*Pn	**Pn**	**22 23 29.2**	**+0.6**
APE	**Apeiranthos**	**2.99**	**52**	*e*Pn	**Pn**	**22 23 27.9**	**-0.8**
SLUM		**4.36**	**149**	P	**Pn**	**22 23 47.4**	**0.0**
HMAT	**Matruh**	**5.62**	**136**	P	**Pn**	**22 24 04.1**	**-0.7**
HMAT	**Matruh**	**5.62**	**136**	P	**Pn**	**22 24 04.1**	**-0.7**
704nm,0.2s							
SWA1		**6.54**	**155**	P	**Pn**	**22 24 17.9**	**+0.4**
HFRF	**Wahat Farafira**	**9.46**	**147**	P	**Pn**	**22 24 57.0**	**-0.4**

*NEIC **07** 22:27:48.8,3128S×6826W,h105km,MD3.6(GUC),After GUC.*
GUC 07 22:27:48.8±0.9,3128S×6826W,h105km±5km,MD3.6, ML3.7,9C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.45**	**233**	⇓*i*P	Pn	22 28 05.2	+0.5
ZON	**Zonda**	**0.45**	**233**	AML	AML	22 28 17.8	
comp=N,2μm,0.3s							
CMCH	**Combarbala**	**2.35**	**272**	⇓*i*P	Pn	22 28 26.7	+0.7
CMCH				*e*S	Sn	22 28 55.7	+1.1
TLL	**Tololo Astrono**	**2.45**	**296**	⇑*i*P	Pn	22 28 28.8	+1.4
TLL				*i* S	Sn	22 28 58.6	+1.6
TLL				AML	AML	22 29 04.6	
comp=N,256nm,0.6s							
TLL	**Tololo Astrono**	**2.45**	**296**	⇑*i*P	Pn	22 28 28.8	+1.4
TLL				*i* S	Sn	22 28 58.6	+1.6
PTCH	**Petorca**	**2.48**	**246**	⇑*i*P	Pn	22 28 27.7	0.0
PTCH				*i* S	Sn	22 28 57.9	+0.3
PTCH				AML	AML	22 28 59.7	
comp=E,1μm,0.3s							
PTCH	**Petorca**	**2.48**	**246**	⇑*i*P	Pn	22 28 27.7	0.0
PTCH				*i* S	Sn	22 28 57.9	+0.3
OVCH	**Ovalle**	**2.61**	**284**	⇑*i*P	Pn	22 28 29.6	+0.1
OVCH				*i* S	Sn	22 29 01.0	+0.3
FCH	**Farellones**	**2.67**	**219**	⇑*i*P	Pn	22 28 31.5	+1.2
FCH				*i* S	Sn	22 29 04.2	+2.0
FCH				AML	AML	22 29 10.0	
comp=E,124nm,0.2s							
PEL	**Peldehue**	**2.77**	**227**	⇓*i*P	Pn	22 28 32.1	+0.5
PEL				*i* S	Sn	22 29 05.2	+0.6
PEL				AML	AML	22 29 06.8	
comp=N,289nm,0.4s							
CLCH	**Cerro Calan**	**2.86**	**222**	*e*P	Pn	22 28 33.6	+0.8
CLCH				*i* S	Sn	22 29 08.6	+2.0
CLCH				A

PMR	**Palmer**	**33.81**	**45**	P	**P**	**22 49 45.0**	**-3.6**
	17nm,0.7s,mb5.1						
NACB	**Ninganchiao**	**35.65**	**241**	*e*P	**P**	**22 50 04.0**	**-0.4**
INK	**Inuvik**	**40.00**	**33**	P	**P**	**22 50 42.1**	**+0.9**
	1.2nm,0.8s,mb3.7,baz=177,slow=5.7,SNR=5.4						
INK	**Inuvik**	**40.00**	**33**	P	**P**	**22 50 42.1**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**40.00**	**33**	*e*P	**P**	**22 50 42.6**	**+1.4**
	comp=Z,93nm,1.2s,mb5.4						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**22 51 09.0**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=159,slow=2.7,SNR=3.9						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**22 51 09.0**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**43.38**	**306**	P	**P**	**22 51 09.0**	**+0.1**
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**22 51 44.9**	**0.0**
	comp=Z,1.3nm,0.9s,mb4.0,baz=54,slow=6.2,SNR=4.9						
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**22 51 44.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**48.18**	**304**	*e*P	**P**	**22 51 46.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**48.18**	**304**	*e*P	**P**	**22 51 46.9**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**49.21**	**38**	P	**P**	**22 51 54.2**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.5,baz=296,slow=7.6,SNR=4.5						
YKA	**Yellowknife Ar**	**49.21**	**38**	P	**P**	**22 51 54.2**	**-0.5**
CHKZ	**Chkalovo**	**51.05**	**310**	*e*P	**P**	**22 52 08.2**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**51.05**	**310**	*e*P	**P**	**22 52 08.2**	**-0.5**
	comp=Z,2.8nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**22 52 12.3**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=55,slow=7.7,SNR=8.6						
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**22 52 12.3**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**22 52 12.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**22 52 12.6**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0						
LSA	**Lhasa**	**51.81**	**274**	*e*P	**P**	**22 52 13.9**	**-0.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**51.81**	**274**	*e*P	**P**	**22 52 13.9**	**-0.5**
	comp=Z,2.2nm,0.5s,mb4.3						
JOF	**Joensuu**	**61.19**	**334**	*e*p	**P**	**22 53 19.6**	**-1.6**
FINES	**FINESS Array B**	**63.86**	**336**	P	**P**	**22 53 39.1**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=34,slow=7.1,SNR=14						
FINES	**FINESS Array B**	**63.86**	**336**	P	**P**	**22 53 39.1**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**67.84**	**342**	P	**P**	**22 54 05.2**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=26,slow=6.5,SNR=4.1						
NOA	**NORSAR Array B**	**67.84**	**342**	P	**P**	**22 54 05.2**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**22 54 51.8**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=293,slow=4.2,SNR=4.4						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**22 54 51.8**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.78**	**318**	P	**P**	**22 55 11.1**	**+1.8**
	comp=Z,0.9nm,1.0s,mb3.7,baz=72,slow=4.0,SNR=3.8						
BRTR	**Keskin Array B**	**78.78**	**318**	P	**P**	**22 55 11.1**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

MEX 07 22:52:23.3±0.3, 1554N×9604W, h13km±2km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.23**	**344**	*i* P	Pg	22 52 27.9	-0.4
HUIG				*i* S	Sg	22 52 31.5	-0.3
VHO	**Vista Hermosa**	**1.66**	**336**	*e*P	Pn	22 52 48.9	-3.1
VHO				*i* S	Sn	22 53 08.6	-4.5
CMIG	**Matias Romero**	**1.90**	**36**	*e*P	Pn	22 52 52.0	-3.3
CMIG				*i* S	Sn	22 53 14.5	-4.6
UTMO	**Huajuapan**	**2.83**	**324**	*i* P	Pn	22 53 05.0	-3.2
UTMO				*i* S	Sn	22 53 38.7	-3.4

*STR **07** 22:57:08.1±0.6, 4758N×764E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 22:57:09.0±0.1, 4758N×757E, h10km, Md2.3/3, Ml2.3/19, Error ellipse: s-maj=1.2km s-min=0.7km az=87.0*

ZUR 07 22:57:09.0, 4759N×760E, h4km±1km, ML1.6, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇑*i*Pg	Pg	22 57 14.3	+0.3
	370nm,0.2s						
BALST				*e*Sg	Sg	22 57 18.5	+1.1
	370nm,0.2s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	22 57 15.4	+0.3
	71nm,0.6s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Pg	22 57 15.9	+0.1
	98nm,0.3s						
SULZ				*e*Sg	Sg	22 57 20.6	+0.2
	98nm,0.3s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	22 57 16.9	-0.1
MOF				Sg	Sg	22 57 22.8	+0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	22 57 19.1	-0.6
HINF				*e*Sg	Sg	22 57 26.4	-0.5
	5.1nm,0.2s						
HINF				*e*Sn	Sg	22 57 30.0	+3.1
	8.6nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	22 57 20.0	0.0
LOMF				Sg	Sg	22 57 28.4	+0.9
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	22 57 20.9	-0.2
	143nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	22 57 22.5	+0.1
ECH				Sg	Sg	22 57 31.3	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	22 57 25.3	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	22 57 25.7	-2.1
CDF				*e*Sg	Sg	22 57 35.7	-0.8
	16nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	22 57 26.4	-0.7
HAU				*e*Sg	Sg	22 57 38.6	-0.7
	25nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	22 57 35.8	-0.4
CABF				*e*Sg	Sg	22 57 53.1	-1.6
	5.4nm,0.3s						
RFYF	**Reffroy**	**1.77**	**307**	*e*Pg	Pg	22 57 41.5	-1.4
RFYF				*e*Sg	Sg	22 58 04.2	-1.6
	5.6nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	22 57 42.7	-1.4
SFTF				*e*Sg	Sg	22 58 06.0	-1.9
	4.2nm,0.3s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Pg	Pg	22 57 44.7	-1.5
MEZF				*e*Sg	Sg	22 58 09.3	-2.1
	1.1nm,0.2s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	Pg	22 57 49.2	-1.1
LPL				*e*Sg	Sg	22 58 17.0	-1.2
	0.6nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	22 57 49.5	-1.1
LPG				*e*Sg	Sg	22 58 17.1	-1.6
	1.3nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	22 57 56.1	-2.0
LOR				*e*Sg	Sg	22 58 28.5	-2.8
	4.9nm,0.3s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	22 57 58.7	-2.7
SMF				*e*Sg	Sg	22 58 33.9	-2.9
	3.9nm,0.3s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	22 58 01.2	-2.1
SSF				*e*Sg	Sg	22 58 36.3	-3.8
	4.4nm,0.5s						
MBDF	**Montbardon**	**2.92**	**192**	*e*Pg	Pg	22 58 02.8	-2.1
MBDF				*e*Sg	Sg	22 58 39.5	-3.2
	0.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Pg	Pg	22 58 03.3	-1.7
ORIF				*e*Sg	Sg	22 58 40.4	-2.5
	0.9nm,0.3s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Pg	Pg	22 58 04.2	-2.4
AVF				*e*Sg	Sg	22 58 42.2	-3.3
	0.6nm,0.2s						
HYF	**Humbligny**	**3.38**	**266**	*e*Pg	Pg	22 58 11.0	-2.8
HYF				*e*Sg	Sg	22 58 54.5	-3.2
VIVF	**Saint-Julien-l**	**3.40**	**218**	*e*Pg	Pg	22 58 11.6	-2.6
VIVF				*e*Sg	Sg	22 58 55.4	-2.9
	0.9nm,0.2s						
BGF	**Bois d'Agland**	**3.41**	**254**	*e*Pg	Pg	22 58 11.6	-2.7
BGF				*e*Sg	Sg	22 58 55.1	-3.4
	3.7nm,0.3s						

*ISCJB **07** 23:01:42.5±0.6, 42.13N±003×807W±006, h29km±5km, Error ellipse: s-maj=7.9km s-min=5.1km az=35.9*
*MDD **07** 23:01:43.2±0.2, 42.14N×8.10W, h14km±2km, mbLg2.5/14, Error ellipse: s-maj=2.4km s-min=2.0km az=53.0, PRXIMO II PONTEDEVA*
MDD EMS: II-III LEIRADO FRAGUAS.
*INMG **07** 23:01:43.2±1.1, 42.14N×8.10W, h19km±2km, ML2.3, Error ellipse: s-maj=2.2km s-min=1.5km az=88.0*
*CSEM **07** 23:01:43.3±0.1, 42.13N×8.14W, h20km, ML2.7/9, Error ellipse: s-maj=1.5km s-min=1.0km az=100.0*
*NEIC **07** 23:01:43.2, 42.13N×8.10W, h15km, MN2.5(MDD), After MDD.*
NEIC Felt [III] at Fraguas and Leirado; [II] at Pontedeva.

ISC 07 23:01:42.2±0.5, 4213N±002×806W±005, h18km±3km, n43, σ0:98/66, 2C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**0.26**	**181**	⇑Pg	**Pg**	**23 01 48.6**	**+0.5**
	19nm,0.1s,SNR=18						
ELOB				Lg		23 01 52.5	
	178nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**0.26**	**181**	Pg	**Pg**	**23 01 48.6**	**+0.5**
	19nm,0.1s,SNR=18						
ELOB				Lg		23 01 52.5	
	178nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**0.42**	**177**	*e*Pg	**Pg**	**23 01 51.5**	**+0.7**
PCAB				*e*Sg	**Sg**	**23 01 57.5**	**+0.9**
PCAB				A		23 01 57.8	
	170nm,0.1s						
PCAB	**Cabril**	**0.42**	**177**	*e*Pg	**Pg**	**23 01 51.5**	**+0.7**
PCAB				*e*Sg	**Sg**	**23 01 57.5**	**+0.9**
	170nm,0.1s						
EZAM	**Zamans**	**0.48**	**273**	⇑Pg	**Pg**	**23 01 51.5**	**-0.3**
	89nm,0.1s,SNR=18						
EZAM				Lg		23 01 57.7	
	187nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**0.73**	**68**	⇓Pg	**Pg**	**23 01 57.2**	**+0.7**
	69nm,0.1s,SNR=18						
ERUA				Lg		23 02 07.1	
	66nm,0.2s,SNR=14						
STS	**Santiago**	**0.84**	**334**	Pg	**Pg**	**23 01 57.9**	**-0.7**
	24nm,0.2s,SNR=14						
STS				Lg		23 02 08.8	
	105nm,0.2s,SNR=29						
PVRL	**Vila Real**	**0.89**	**163**	*e*Pn	**Pn**	**23 02 00.1**	**+0.4**
PVRL				*e*Sg	**Sg**	**23 02 12.3**	**+1.1**
PVRL				A		23 02 12.7	
	115nm,0.1s						
PVRL	**Vila Real**	**0.89**	**163**	*e*Pn	**Pn**	**23 02 00.1**	**+0.4**
PVRL				*e*Sg	**Sg**	**23 02 12.3**	**+1.1**
	115nm,0.1s						
ECAL	**Calabor**	**1.00**	**100**	Pg	**Pg**	**23 02 02.0**	**+0.4**
	10nm,0.1s,SNR=20						
ECAL				Lg		23 02 15.6	
	97nm,0.2s,SNR=33						
ECAL	**Calabor**	**1.00**	**100**	Pg	**Pg**	**23 02 02.0**	**+0.4**
	10nm,0.1s,SNR=20						
ECAL				Lg		23 02 15.6	
	97nm,0.2s,SNR=33						
PTO	**Porto**	**1.07**	**203**	*e*S	**Sb**	**23 02 15.8**	**+0.1**
PTO				A		23 02 17.8	
	88nm,0.1s						
PTO	**Porto**	**1.07**	**203**	S	**Sb**	**23 02 15.8**	**+0.1**
	44nm,0.1s						
EPON	**Pontenova**	**1.37**	**29**	Pn	**Pn**	**23 02 05.5**	**-0.9**
	4.9nm,0.1s,SNR=7.9						
EPON				Pg	**Pg**	**23 02 08.1**	**-0.6**
	8.4nm,0.1s,SNR=7.9						
EPON				Lg		23 02 24.9	
	19nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.37**	**29**	Pn	**Pn**	**23 02 05.5**	**-0.9**
	4.9nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.37**	**29**	Pg	**Pg**	**23 02 08.1**	**-0.6**
	8.4nm,0.1s,SNR=7.9						
EPON				Lg		23 02 24.9	
	19nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.42**	**175**	*e*Pn	**Pn**	**23 02 07.2**	**+0.2**
PVIS	**Viseu**	**1.42**	**175**	*e*Pg	**Pg**	**23 02 08.7**	**-0.8**
PVIS				*e*Sg	**Sg**	**23 02 27.9**	**-0.1**
PVIS				A		23 02 28.5	
	90nm,0.1s						
PVIS	**Viseu**	**1.42**	**175**	Pn	**Pn**	**23 02 07.2**	**+0.2**
PVIS				Pg	**Pg**	**23 02 08.7**	**-0.8**
PVIS				Lg		23 02 27.9	
PVIS	**Viseu**	**1.42**	**175**	*e*Pg	**Pg**	**23 02 08.7**	**-0.8**
PVIS				*e*Sg	**Sg**	**23 02 27.9**	**-0.1**
	90nm,0.1s						
PCBR	**Castelo Branco**	**2.33**	**169**	*e*Pn	**Pn**	**23 02 20.7**	**+1.2**
PCBR				*e*Sg	**Sg**	**23 02 55.5**	**-1.5**
PCBR				A		23 02 59.5	
	4.5nm,0.1s						
PCBR	**Castelo Branco**	**2.33**	**169**	*e*Pn	**Pn**	**23 02 20.7**	**+1.2**
PCBR				*e*Sg	**Sg**	**23 02 55.5**	**-1.5**
	4.5nm,0.1s						
EARI	**Arriondas**	**2.40**	**60**	Pn	**Pn**	**23 02 21.3**	**+0.7**
	2.4nm,0.2s,SNR=10						
EARI				Pg	**Pg**	**23 02 26.9**	**-1.4**
	1.6nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**23 02 50.4**	**+0.9**
	1.7nm,0.2s,SNR=7.9						
EARI				Lg		23 02 59.0	
	1.7nm,0.1s,SNR=5.0						
EARI	**Arriondas**	**2.40**	**60**	Pn	**Pn**	**23 02 21.3**	**+0.7**
	2.4nm,0.2s,SNR=10						
EARI	**Arriondas**	**2.40**	**60**	Pg	**Pg**	**23 02 26.9**	**-1.4**
	1.6nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**23 02 50.4**	**+0.9**
	1.7nm,0.2s,SNR=7.9						
EARI				Lg		23 02 59.0	
	1.7nm,0.1s,SNR=5.0						
PESTR	**Estremoz**	**3.27**	**174**	*e*Pn	**Pn**	**23 02 32.8**	**+0.2**
PESTR				*e*Sg	**Sg**	**23 03 24.4**	**-3.0**
PESTR				A		23 03 29.9	
	5.8nm,0.4s						
PESTR	**Estremoz**	**3.27**	**174**	*e*Pn	**Pn**	**23 02 32.8**	**+0.2**
PESTR				*e*Sg	**Sg**	**23 03 24.4**	**-3.0**
	5.8nm,0.4s						
GUD	**Guadarrama**	**3.29**	**115**	Pn	**Pn**	**23 02 34.5**	**+1.8**
	0.6nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**23 03 12.0**	**+0.7**
	1.2nm,0.2s,SNR=7.9						
GUD				Lg		23 03 25.8	
	6.3nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**3.46**	**166**	Pn	**Pn**	**23 02 35.5**	**+0.4**
	0.9nm,0.1s,SNR=7.9						
EBAD				Lg		23 03 28.7	
	3.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.46**	**166**	Pn	**Pn**	**23 02 35.5**	**+0.4**
	0.9nm,0.1s,SNR=7.9						
EBAD				Lg		23 03 28.7	
	3.0nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.58**	**70**	Pn	**Pn**	**23 02 37.8**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
ELAN				Pg	**Pg**	**23 02 47.4**	**-3.5**
	1.2nm,0.3s,SNR=7.9						
ELAN				Sn	**Sn**	**23 03 18.9**	**+0.3**
	1.5nm,0.2s,SNR=7.9						
ELAN				Lg		23 03 32.9	
	4.1nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**3.58**	**70**	Pn	**Pn**	**23 02 37.8**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**3.58**	**70**	Pg	**Pg**	**23 02 47.4**	**-3.4**
	1.2nm,0.3s,SNR=7.9						
ELAN				Sn	**Sn**	**23 03 18.9**	**+0.3**
	1.5nm,0.2s,SNR=7.9						
ELAN				Lg		23 03 32.9	
	4.1nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**3.95**	**127**	Sn	**Sn**	**23 03 27.2**	**-0.6**
	0.6nm,0.1s,baz=310,slow=24,SNR=7.9						
ESDC				Lg		23 03 46.7	
	1.2nm,0.3s,baz=310,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**3.95**	**127**	Sn	**Sn**	**23 03 27.2**	**-0.5**
	0.6nm,0.1s,SNR=7.9						
ESDC				Lg		23 03 46.7	
	1.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.48**	**166**	Pn	**Pn**	**23 02 49.5**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**23 03 39.4**	**-1.3**
	1.4nm,0.5s,SNR=4.0						
EMIN				Lg		23 04 02.1	
	1.8nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.48**	**166**	Pn	**Pn**	**23 02 49.5**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**23 03 39.4**	**-1.4**
	1.4nm,0.5s,SNR=4.0						
EMIN				Lg		23 04 02.1	
	1.8nm,0.5s,SNR=7.9						
ETOR	**Torete**	**4.69**	**104**	Lg		23 04 09.5	
	5.3nm,0.4s,SNR=7.9						
ETOR	**Torete**	**4.69**	**104**	Lg		23 04 09.5	
	5.3nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**4.77**	**145**	Pn	**Pn**	**23 02 53.3**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**23 03 46.5**	**-1.4**
	0.6nm,0.2s,SNR=7.9						
EADA				Lg		23 04 10.8	
	1.6nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**4.77**	**145**	Pn	**Pn**	**23 02 53.3**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**23 03 46.5**	**-1.4**
	0.6nm,0.2s,SNR=7.9						
EADA				Lg		23 04 10.8	
	1.6nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**6.10**	**82**	Pn	**Pn**	**23 03 11.8**	**+0.5**
	0.5nm,0.3s,SNR=7.9						
EBIE				Sn	**Sn**	**23 04 18.3**	**-2.3**
	0.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**6.10**	**82**	Pn	**Pn**	**23 03 11.8**	**+0.5**
	0.5nm,0.3s,SNR=7.9						
EBIE				Sn	**Sn**	**23 04 18.3**	**-2.3**
	0.3nm,0.1s,SNR=7.9						

*STR **07** 23:07:42.7±0.8, 4756N×761E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 23:07:43.3±0.1, 4759N×755E, h10km, Md2.2/3, Ml2.2/13, Error ellipse: s-maj=1.7km s-min=1.0km az=81.0*

ZUR 07 23:07:43.3, 4758N×760E, h4km±1km, ML1.4, 2C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	*e*Sg	Sg	23 07 48.7	-2.9
	241nm,0.2s						
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Pg	23 07 52.4	+4.1
	241nm,0.2s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	23 07 49.8	+0.4
	40nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Pg	23 07 50.3	+0.2
	61nm,0.6s						
SULZ				*e*Sg	Sg	23 07 55.1	+0.4
	61nm,0.6s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	23 07 51.3	0.0
MOF				Sg	Sg	23 07 57.0	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	23 07 53.6	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	23 07 55.1	+1.1
HINF				*e*Sg	Sg	23 08 00.5	-0.7
	4.4nm,0.2s						
HINF				*e*Sn	Sg	23 08 04.1	+2.9
	9.6nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	23 07 54.5	+0.2
SLE	**Schleitheim**	**0.63**	**73**	⇑*i*Pg	Pg	23 07 55.2	-0.2
	103nm,0.5s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	23 07 57.0	+0.3
ECH				Sg	Sg	23 08 05.7	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	23 07 59.4	-0.3
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	23 08 00.0	-2.1
CDF				*e*Sg	Sg	23 08 10.5	-0.4
	9.5nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	23 08 00.7	-0.7
HAU				*e*Sg	Sg	23 08 12.6	-1.1
	17nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	23 08 10.0	-0.5
CABF				*e*Sg	Sg	23 08 28.0	-0.9
	4.8nm,0.3s						
RFYF	**Reffroy**	**1.77**	**307**	*e*Sg	Sg	23 08 37.9	-2.2
	8.4nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	23 08 17.5	-0.9
SFTF				*e*Sg	Sg	23 08 40.3	-1.9
	3.3nm,0.3s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Pg	Pg	23 08 19.0	-1.5
MEZF				*e*Sg	Sg	23 08 43.6	-2.1
	6.0nm,0.4s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	Pg	23 08 23.7	-0.9
LPL				*e*Sg	Sg	23 08 51.5	-1.0
	1.9nm,0.4s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	23 08 23.6	-1.2
LPG				*e*Sg	Sg	23 08 52.1	-0.8
	2.9nm,0.4s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	23 08 30.4	-2.0
LOR				*e*Sg	Sg	23 09 02.3	-3.3
	2.4nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	23 08 33.9	-1.8
SMF				*e*Sg	Sg	23 09 08.4	-2.7
	3.2nm,0.4s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	23 08 36.0	-1.6
SSF				*e*Sg	Sg	23 09 10.9	-3.5
	3.4nm,0.6s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Pg	Pg	23 08 37.1	-2.2
ORIF				*e*Sg	Sg	23 09 15.0	-2.2
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Pg	Pg	23 08 38.4	-2.5
AVF				*e*Sg	Sg	23 09 16.5	-3.3
	1.0nm,0.3s						

*NIED **07** 23:34:00, 2090N×12050E, h47km, Mw4.6 Best double couple: M0=7.95000×10^15 NP1:φ0=46.00000°, δ54.00000°, λ98.00000°. NP2:φ0=213.00000°, δ37.00000°, λ79.00000°.*
*IDC **07** 23:34:20.9±0.8, 21.16N×12052E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/21, mbtmp3.8/12, MS3.7/4, Ms1 3.7/4, ms1mx3.2/35, Error ellipse: s-maj=33.8km s-min=16.

JTJ			*e*S		**Sn**	**23 36 53.1 +0.2**
QIZ	**Qiongzhong**	**9.80 261**	P		**Pn**	**23 36 48.5 +2.7**
QIZ			AMB	AMB		
	comp=Z,14nm,1.2s					
QIZ			AMB	AMB		
	comp=Z,143nm,4.6s					
QIZ			LR	LR		
	comp=N,1μm,13.0s					
QIZ			LR	LR		
	comp=Z,322nm,18.2s					
GYA	**Guiyang**	**13.48 297**	P		**Pn**	**23 37 32.7 -3.4**
GYA			AMB	AMB		
	comp=Z,10.0nm,0.7s					
GYA			AMB	AMB		
	comp=Z,70nm,4.3s					
GYA			LR	LR		
	comp=N,780nm,12.9s					
GYA			LR	LR		
	comp=E,320nm,12.0s					
GYA			LR	LR		
	comp=Z,550nm,10.8s					
CD2	**Chengdu**	**17.74 308**	P		**Pn**	**23 38 33.1 +1.7**
CD2			AP		pP	23 38 40.3 -1.0
CD2			PP			23 38 45.9
CD2			AMB	AMB		
	comp=Z,10.0nm,0.6s					
CD2			AMB	AMB		
	comp=Z,150nm,4.1s					
CD2			LR	LR		
	comp=N,540nm,7.8s					
CD2			LR	LR		
	comp=E,750nm,10.2s					
CD2			LR	LR		
	comp=Z,590nm,9.0s					
KSRS	**Korea Array**	**17.86 21**	P		**Pn**	**23 38 24.7 -8.2**
	baz=206,slow=13,SNR=2.8					
KSRS			LR	LR		23 45 40.8
	comp=Z,82nm,19.5s,baz=155,slow=39					
BJT	**Baijiatuau**	**19.36 351**	P		**Pn**	**23 38 50.9 -0.2**
	comp=Z,5.3nm,0.6s					
BJI	**Beijing**	**19.38 351**	P		**Pn**	**23 38 50.3 -1.0**
BJI			AMB	AMB		
	comp=Z,11nm,1.4s					
BJI			LR	LR		
	comp=N,133nm,14.4s					
BJI			LR	LR		
	comp=E,351nm,14.4s					
BJI			LR	LR		
	comp=Z,175nm,14.5s					
LZH	**Lanzhou**	**20.76 320**	*e*P		**P**	**23 39 10.0 +5.0**
LZH			AP			23 39 17.0
LZH			XP		sP	23 39 20.0 +0.9
LZH			AMB	AMB		
	comp=Z,13nm,1.0s					
MAJO	**Matsushiro**	**22.21 42**	*e*P		**P**	**23 39 20.9 +0.3**
MJAR	**Matsushiro Arr**	**22.21 42**	P		**P**	**23 39 14.2 -6.4**
	comp=Z,0.9nm,0.6s,mb3.4,baz=224,slow=10,SNR=2.7					
GTA	**Gaotai**	**25.35 321**	*e*P		**P**	**23 39 52.8 +1.9**
GTA			AP		pP	23 39 58.4 -2.7
GTA			XP		sP	23 40 01.8 -3.7
GTA			AMB	AMB		
	comp=Z,3.0nm,1.7s,mb3.5					
PSI	**Prapat**	**27.35 232**	LR		LR	23 50 33.3
	comp=Z,140nm,18.6s,MS3.6,baz=150,slow=35					
LSA	**Lhasa**	**27.53 294**	*e*P		**P**	**23 40 10.8 +0.3**
LSA	**Lhasa**	**27.53 294**	*e*P		**P**	**23 40 13.3 +2.9**
	comp=Z,4.1nm,0.8s,mb4.1					
ULN	**Ulaanbaatar**	**28.90 342**	P		**P**	**23 40 22.6 -0.1**
	comp=Z,4.0nm,1.0s,mb4.1					
SONM	**Songino Array**	**29.07 341**	P		**P**	**23 40 22.0 -2.2**
	comp=Z,0.4nm,0.7s,mb3.3,baz=160,slow=6.5,SNR=3.1					
ASAJ	**Asahikawa**	**29.77 34**	LR		LR	23 52 40.8
	comp=Z,202nm,18.6s,MS3.8,baz=30,slow=38					
YSS	**Yuzh-Sakhalins**	**31.87 30**	*e*P		**P**	**23 40 50.4 +1.4**
MKAR	**Makanchi Array**	**40.07 319**	P		**P**	**23 41 58.6 -0.5**
	comp=Z,0.9nm,0.6s,mb3.6,baz=117,slow=8.5,SNR=12					
MKAR			PcP		PcP	23 44 02.7 -0.6
	comp=Z,1.0nm,0.8s,baz=101,slow=6.5,SNR=3.6					
MKAR	**Makanchi Array**	**40.07 319**	P		**P**	**23 41 58.6 -0.5**
MKAR			PcP		PcP	23 44 02.7 -0.6
ZAL	**Zalesovo**	**42.51 330**	P		**P**	**23 42 18.4 -0.7**
	comp=Z,1.0nm,0.7s,mb3.7,baz=357,slow=10,SNR=7.3					
ZAL	**Zalesovo**	**42.51 330**	P		**P**	**23 42 18.4 -0.7**
WRAB	**Tennant Creek**	**42.90 160**	*e*P		**P**	**23 42 22.2 -0.1**
	comp=Z,6.3nm,0.6s,mb4.5					
WRAB			*e*PP		PP	23 43 57.9 -4.3
WRA	**Warramunga Arr**	**42.91 160**	P		**P**	**23 42 21.6 -0.8**
	comp=Z,4.8nm,0.7s,mb4.3,baz=342,slow=8.9,SNR=17					
WRA			PcP		PcP	23 44 13.0 +0.3
	comp=Z,0.6nm,0.5s,baz=343,slow=3.8,SNR=5.0					
WB2	**Warramunga Arr**	**42.91 160**	*e*P		**P**	**23 42 21.8 -0.6**
WB2			*e*		pP	23 42 29.6 -3.4
KURK	**Kurchatov**	**44.02 323**	*e*P		**P**	**23 42 34.1 +2.8**
	comp=Z,8.5nm,1.0s,mb4.4					
CTA	**Charters Tower**	**48.10 146**	*e*P		**P**	**23 43 04.9 +1.4**
	comp=Z,14nm,1.0s,mb4.9					
CTA	**Charters Tower**	**48.10 146**	P		**P**	**23 43 03.6 +0.2**
	comp=Z,18nm,1.0s,mb5.1,baz=319,slow=8.3,SNR=6.4					
CTAO	**Charters Tower**	**48.10 146**	*e*P		**P**	**23 43 04.2 +0.7**
	comp=Z,35nm,1.3s,mb5.2					
BVAR	**Borovoye Array**	**49.62 323**	P		**P**	**23 43 14.1 -1.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=98,slow=9.3,SNR=2.9					
BVAR	**Borovoye Array**	**49.62 323**	P		**P**	**23 43 14.1 -1.0**
BRVK	**Borovoye**	**49.69 323**	*e*P		**P**	**23 43 15.6 0.0**
	comp=Z,3.4nm,0.7s,mb4.5					
CHKZ	**Chkalovo**	**49.73 324**	*e*P		**P**	**23 43 17.0 +1.1**
	comp=Z,3.7nm,0.8s,mb4.5					
AKTK	**Aktyubinsk**	**56.45 317**	P		**P**	**23 44 06.2 +0.8**
AKTO	**Aktyubinsk**	**56.45 317**	P		**P**	**23 44 06.2 +0.8**
	comp=Z,0.4nm,0.3s,mb3.9,baz=102,slow=14,SNR=2.1					
KIV	**Kislovodsk**	**66.89 310**	P		**P**	**23 45 15.7 0.0**
FINES	**FINESS Array B**	**73.77 330**	P		**P**	**23 45 56.1 -1.6**
	comp=Z,3.2nm,1.0s,mb4.2,baz=139,slow=6.8,SNR=2.5					
BRTR	**Keskin Array B**	**74.31 307**	P		**P**	**23 46 00.2 -0.8**
	comp=Z,0.3nm,0.4s,mb3.6,baz=325,slow=6.2,SNR=3.6					
MLR	**Muntele Rosu**	**78.20 314**	LR		LR	00 28 29.6
	comp=Z,123nm,20.3s,MS4.2,baz=185,slow=42					
NOA	**NORSAR Array B**	**80.65 332**	P		**P**	**23 46 34.8 -1.5**
	comp=Z,1.3nm,0.9s,mb3.9,baz=60,slow=7.4,SNR=2.7					
GERES	**GERESS Array B**	**84.73 320**	P		**P**	**23 46 57.7 +0.1**
	comp=Z,0.6nm,0.8s,mb3.8,baz=67,slow=4.5,SNR=4.1					

*IDC **07** 23:51:40.6±0.7, 4201S×7431W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.3/16, mbtmp4.1/11, ML4.8/1, MS3.2/2, Ms1 3.2/2, ms1mx3.1/16, Error ellipse: s-maj=35.7km s-min=16.1km az=84.0*
*ISCJB **07** 23:51:44.8±0.5, 4199S±007×743W±0.1, h35km, mb4.2/20, Error ellipse: s-maj=15.0km s-min=10.4km az=161.5*
*NEIC **07** 23:51:49.2±2.5, 4200S×7425W, h62km±21km, mb4.4/13, Error ellipse: s-maj=20.3km s-min=8.8km az=75.0*
ISC 07 23:51:46.3±0.5, 4202S±007×744W±01, h35km, n39, σ1°12/34, mb4.2/20, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist**	**10.33**	**72**	*e*Pn	**Pn**	**23 54 12.5**	**+0.6**
TRQA				*e*Sn	**Sn**	**23 56 17.7**	**+11**
CFAA	**Coronel Fontan**	**11.51**	**27**	Pn	**Pn**	**23 54 22.8**	**-5.2**
	0.3nm,0.3s,baz=195,slow=13,SNR=11						
CFAA				LR	LR	23 59 20.8	
	comp=Z,37nm,20.2s,baz=212,slow=40						
USHA	**Ushuaia**	**13.42**	**165**	LR	LR	23 59 47.5	
	comp=Z,336nm,19.3s,baz=310,slow=36						
LVC	**Limon Verde**	**19.89**	**15**	P	**Pn**	**23 56 14.0**	**-2.4**
	0.3nm,0.3s,baz=269,slow=4.3,SNR=6.8						
LVC	**Limon Verde**	**19.89**	**15**	*e*P	**Pn**	**23 56 14.6**	**-1.9**
	10nm,1.0s						
ARE	**Arequipa**	**25.59**	**7**	*e*P	**P**	**23 57 14.0**	**+1.9**
LPAZ	**La Paz**	**26.21**	**14**	P	**P**	**23 57 18.9**	**+1.2**
	0.7nm,0.5s,mb3.4,baz=158,slow=9.3,SNR=3.3						
LPAZ	**La Paz**	**26.21**	**14**	*e*P	**P**	**23 57 20.8**	**+3.2**
	4.0nm,0.9s,mb4.0						
SIV	**San Ignacio**	**28.37**	**28**	P	**P**	**23 57 34.8**	**-2.2**
	2.1nm,0.9s,mb3.8,baz=217,slow=11,SNR=4.8						
NNA	**Nana**	**29.99**	**355**	*e*P	**P**	**23 57 50.3**	**-1.1**
	12nm,0.8s,mb4.7						
OTAV	**Otavalo**	**42.22**	**354**	*e*P	**P**	**23 59 37.5**	**+1.7**
	5.8nm,1.0s,mb4.2						
OTAV				*e*PP	PP	00 01 13.8	-0.1
SNAA	**Sanae**	**45.00**	**155**	P	**P**	**23 59 58.1**	**-0.1**
	2.7nm,1.0s,mb4.0,baz=284,slow=6.5,SNR=18						
SNAA	**Sanae**	**45.00**	**155**	P	**P**	**23 59 58.1**	**-0.1**
SNAA				*e*P		23 59 58.3	
SNAA				*e*P		23 59 58.4	
QSPA	**South Pole Qui**	**48.23**	**180**	*e*P	**P**	**00 00 24.7**	**+1.2**
	8.7nm,0.9s,mb4.8						
RCBR	**Riachuelo**	**49.66**	**54**	P	**P**	**00 00 34.0**	**-0.4**
SDV	**Santo Domingo**	**50.77**	**5**	P	**P**	**00 00 41.3**	**-1.6**
	2.3nm,0.7s,mb4.2,baz=124,slow=18,SNR=3.2						
SDV	**Santo Domingo**	**50.77**	**5**	*e*P	**P**	**00 00 42.2**	**-0.7**
	2.2nm,0.6s,mb4.3						
VNDA	**Vanda**	**55.88**	**193**	P	**P**	**00 01 19.2**	**-1.2**
	1.5nm,1.2s,mb3.9,baz=90,slow=7.1,SNR=1.4						
MAW	**Mawson**	**66.04**	**163**	P	**P**	**00 02 27.8**	**-1.6**
	2.7nm,1.0s,mb4.2,baz=226,slow=4.9,SNR=4.2						
MAW	**Mawson**	**66.04**	**163**	*e*P	**P**	**00 02 28.9**	**-0.5**
	6.0nm,1.5s,mb4.4						
LTX	**Lajitas**	**75.95**	**334**	*e*P	**P**	**00 03 29.0**	**-0.5**
	2.4nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**75.95**	**334**	P	**P**	**00 03 30.2**	**+0.7**
	3.0nm,0.8s,mb4.3,baz=155,slow=9.2,SNR=21						
BOSA	**Boshof**	**78.02**	**118**	P	**P**	**00 03 41.1**	**0.0**
	5.6nm,1.0s,mb4.5,baz=197,slow=6.0,SNR=6.4						
WMOK	**Wichita Mounta**	**79.58**	**340**	*e*P	**P**	**00 03 49.0**	**-0.8**
	1.2nm,0.5s,mb4.1						
LBTB	**Lobatse**	**80.63**	**115**	*e*P	**P**	**00 03 55.2**	**-0.2**
	5.0nm,0.7s,mb4.5						
LBTB				*e*PcP	PcP	00 04 02.8	+0.7
ANMO	**Albuquerque**	**82.03**	**334**	*e*P	**P**	**00 04 03.6**	**+0.8**
	7.3nm,1.2s,mb4.5						
ANMO				*e*	pP	00 04 12.7	-1.1
SDCO	**Great Sand Dun**	**84.29**	**336**	*e*P	**P**	**00 04 14.8**	**+0.3**
	2.4nm,0.9s,mb4.3						
PV01	**Paradox Valley**	**85.63**	**334**	P	**P**	**00 04 20.5**	**-0.7**
PV10	**Paradox Valley**	**86.00**	**333**	*e*P	**P**	**00 04 23.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**88.66**	**71**	P	**P**	**00 04 38.7**	**+2.9**
	0.3nm,1.0s,mb3.6,baz=208,slow=7.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**88.66**	**71**	P	**P**	**00 04 38.7**	**+2.9**
NVAR	**Mina Array Bea**	**89.48**	**327**	P	**P**	**00 04 40.4**	**+0.7**
	1.4nm,0.8s,mb4.3,baz=150,slow=6.0,SNR=4.3						
HWUT	**Hardware Ranch**	**89.75**	**333**	*e*P	**P**	**00 04 41.1**	**+0.2**
	2.7nm,0.8s,mb4.6						
HWUT				*e*		00 04 47.9	
PDAR	**Pinedale Array**	**90.14**	**335**	P	**P**	**00 04 42.4**	**-0.4**
	1.3nm,0.8s,mb4.3,baz=139,slow=5.6,SNR=8.9						
RES	**Resolute Bay**	**117.22**	**354**	PKPdf	PKPdf	00 10 26.5	-1.2
GERES	**GERESS Array B**	**118.98**	**49**	PKP	PKPdf	00 10 29.3	-1.8
	0.2nm,0.4s,baz=202,slow=1.4,SNR=4.9						
BRTR	**Keskin Array B**	**127.06**	**67**	PKP	PKPdf	00 10 44.5	-2.1
	0.8nm,0.8s,baz=230,slow=2.0,SNR=6.8						
BVAR	**Borovoye Array**	**154.07**	**53**	PKP	PKPdf	00 11 32.6	-1.5
	0.4nm,0.7s,baz=270,slow=5.8,SNR=3.5						
BVAR				PKPbc	PKPbc	00 11 41.4	-0.8
	0.7nm,0.7s,baz=318,slow=2.0,SNR=4.6						
MKAR	**Makanchi Array**	**162.71**	**66**	PKPab	PKPab	00 12 33.5	+0.3
	0.6nm,1.0s,baz=266,slow=4.3,SNR=2.7						

*IDC **07** 23:55:00.7±3.4, 4724N×15385E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, MS4.0/2, Ms1 3.9/2, ms1mx3.1/40, Error ellipse: s-maj=85.7km s-min=26.5km az=163.0*
*ISCJB **07** 23:55:02.0±4.4, 475N±0.1×1536E±02, h10km±27km, mb4.0/16, MS4.0/2, Error ellipse: s-maj=30.6km s-min=12.6km az=100.7*
*NEIC **07** 23:55:03.1±3.1, 4742N×15366E, h7km±19km, mb4.3/6, Error ellipse: s-maj=16.5km s-min=7.3km az=140.0*
*MOS **07** 23:55:07.1±1.3, 4749N×15371E, h54km, mb4.4/11, Error ellipse: s-maj=18.6km s-min=9.5km az=94.3*
ISC 07 23:55:05.0±3.3, 474N±01×1537E±02, h23km±23km, n39, σ0°64/38, mb4.0/16, MS4.0/2, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.66**	**25**	*e*PN	**Pn**	**23 56 01.2**	**+1.1**
SKR				*e*		23 56 43.1	
PET	**Petropavlovsk**	**6.47**	**28**	PN	**Pn**	**23 56 38.6**	**-0.2**
MA2	**Magadan**	**12.33**	**353**	PN	**Pn**	**23 57 58.6**	**-0.5**
MAJO	**Matsushiro**	**15.79**	**232**	*e*P	**Pn**	**23 58 45.6**	**-0.2**
HIA	**Hailar**	**22.55**	**287**	*e*P	**P**	**00 00 03.6**	**+0.3**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HIA	**Hailar**	**22.55**	**287**	*e*P	**P**	**00 00 03.6**	**+0.2**
	comp=Z,2.2nm,0.3s,mb4.1						
SONM	**Songino Array**	**31.50**	**289**	P	**P**	**00 01 25.8**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.4,baz=79,slow=9.2,SNR=3.4						
TLY	**Talaya**	**32.25**	**297**	*e*P	**P**	**00 01 30.6**	**-1.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
TLY	**Talaya**	**32.25**	**297**	*e*P	**P**	**00 01 30.6**	**-1.0**
	comp=Z,4.4nm,0.7s,mb4.4						
INK	**Inuvik**	**40.89**	**33**	P	**P**	**00 02 44.1**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.4,baz=291,slow=8.1,SNR=5.3						
INK				LR	LR	00 19 01.9	
	comp=Z,145nm,19.1s,MS3.9,baz=236,slow=35						
INK	**Inuvik**	**40.89**	**33**	P	**P**	**00 02 44.2**	**-1.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK				MLR	MLR		
	comp=Z,145nm,19.1s						
INK	**Inuvik**	**40.89**	**33**	*e*P	**P**	**00 02 45.9**	**+0.6**
	comp=Z,18nm,0.5s,mb5.0						
INK				LR	LR	00 19 01.9	
MKAR	**Makanchi Array**	**47.01**	**297**	P	**P**	**00 03 34.6**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=70,slow=7.1,SNR=12						
MKAR				PcP	PcP	00 05 05.7	-0.7
	comp=Z,0.5nm,0.8s,baz=45,slow=2.2,SNR=4.0						
KURK	**Kurchatov**	**47.34**	**303**	*e*P	**P**	**00 03 36.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**47.34**	**303**	*e*P	**P**	**00 03 36.8**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**50.17**	**37**	P	**P**	**00 03 58.4**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=295,slow=7.2,SNR=4.8						
CHKZ	**Chkalovo**	**50.33**	**310**	*e*P	**P**	**00 03 59.7**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
CHKZ	**Chkalovo**	**50.33**	**310**	*e*P	**P**	**00 03 59.7**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**50.76**	**309**	P	**P**	**00 04 03.4**	**+0.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=62,slow=7.4,SNR=8.6						
BVAR	**Borovoye Array**	**50.76**	**309**	P	**P**	**00 04 03.4**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**50.80**	**309**	*e*P	**P**	**00 04 03.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BRVK	**Borovoye**	**50.80**	**309**	*e*P	**P**	**00 04 03.7**	**+0.2**
	comp=Z,3.0nm,1.1s,mb4.1						
ARCES	**ARCESS Array B**	**57.38**	**341**	P	**P**	**00 04 51.6**	**+0.2**
	comp=Z,4.6nm,1.1s,mb4.4,baz=13,slow=8.7,SNR=2.7						
ARCES	**ARCESS Array B**	**57.38**	**341**	P	**P**	**00 04 51.6**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
JOF	**Joensuu**	**60.94**	**334**	*e*p	**P**	**00 05 15.0**	**-1.1**
KAF	**Kangasniemi**	**63.03**	**335**	*e*p	**P**	**00 05 29.4**	**-0.8**
FINES	**FINESS Array B**	**63.63**	**335**	P	**P**	**00 05 33.8**	**-0.3**
	comp=Z,0.7nm,0.3s,mb4.2,baz=40,slow=7.1,SNR=21						
FINES	**FINESS Array B**	**63.63**	**335**	P	**P**	**00 05 33.8**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**67.75**	**341**	P	**P**	**00 06 00.7**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.1,baz=27,slow=6.1,SNR=3.7						
NOA	**NORSAR Array B**	**67.75**	**341**	P	**P**	**00 06 00.7**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**68.00**	**340**	P	**P**	**00 06 02.5**	**+0.2**
	comp=Z,2.1nm,0.4s,mb4.5,baz=66,slow=5.0,SNR=17						
HFS	**Hagfors**	**68.00**	**340**	P	**P**	**00 06 02.5**	**+0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**00 06 21.7**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=33,slow=6.5,SNR=5.0						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**00 06 21.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**00 06 21.7**	**-0.6**
BURAR	**Bucovina Array**	**75.27**	**327**	‖P	**P**	**00 06 47.1**	**+1.0**
MLR	**Muntele Rosu**	**76.77**	**325**	‖P	**P**	**00 06 56.1**	**+1.5**
GERES	**GERESS Array B**	**78.05**	**334**	P	**P**	**00 07 02.2**	**+0.4**
	comp=Z,0.1nm,0.3s,mb3.3,baz=24,slow=7.5,SNR=3.0						
STKA	**Stephens Creek**	**79.65**	**190**	LR	LR	00 39 00.1	
	comp=Z,100nm,20.1s,MS4.2,baz=320,slow=33						

*NEIC **08** 00:06:58.3±0.3, 4659N×15557E, h10km, mb4.4/13, Error ellipse: s-maj=9.9km s-min=6.8km az=164.0*
*ISCJB **08** 00:07:02.0±1.7, 4667N±008×15556E±009, h50km±15km, mb4.1/32, Error ellipse: s-maj=14.1km s-min=8.7km az=113.1*
*MOS **08** 00:07:02.6±1.1, 4674N×15549E, h54km, mb4.3/22, Error ellipse: s-maj=14.4km s-min=9.3km az=88.9*
*IDC **08** 00:07:05.0±4.0, 4661N×15557E, h62km±36km, mb3.7/18, mb1 3.9/20, mb1mx3.9/27, mbtmp3.7/20, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/38, Error ellipse: s-maj=19.1km s-min=15.6km az=158.0*
ISC 08 00:07:04.5±1.4, 4671N±007×15554E±009, h57km±12km, n72, σ0°89/70, mb4.1/32, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.99**	**5**	*e*PN	**Pn**	**00 08 02.0**	**-1.1**
ASAJ	**Asahikawa**	**9.46**	**259**	P	**Pn**	**00 09 18.2**	**+0.1**
	1.4nm,0.3s,baz=110,slow=16,SNR=4.2						
ASAJ				LR	LR	00 13 14.0	
	comp=Z,45nm,19.0s,baz=295,slow=39						
ERM	**Erimo**	**10.03**	**247**	*e*PN	**Pn**	**00 09 20.4**	**-5.4**
MJAR	**Matsushiro Arr**	**16.43**	**238**	P	**Pn**	**00 10 52.2**	**+0.9**
	0.3nm,0.3s,baz=40,slow=9.5,SNR=5.9						
BILL	**Biiibino**	**22.08**	**11**	‖*e*P	**P**	**00 11 55.3**	**+0.5**
BILL				*e*		00 15 44.0	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.0						
KSRS	**Korea Array**	**22.39**	**256**	P	**P**	**00 11 59.3**	**+1.3**
	comp=Z,2.4nm,0.8s,mb3.7,baz=56,slow=12,SNR=4.1						
HIA	**Hailar**	**23.95**	**289**	P	**P**	**00 12 15.4**	**+2.0**
TIXI	**Tiksi**	**27.99**	**342**	*e*P	**P**	**00 12 47.2**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
BJT	**Baijiatuau**	**29.16**	**271**	P	**P**	**00 13 00.5**	**+0.3**
SONM	**Songino Array**	**32.91**	**290**	P	**P**	**00 13 32.7**	**-0.6**
	comp=Z,1.1nm,0.9s,mb3.8,baz=74,slow=9.4,SNR=5.0						
SONM				LR	LR	00 25 48.3	
	comp=Z,96nm,19.9s,baz=262,slow=34						
SONM	**Songino Array**	**32.91**	**290**	P	**P**	**00 13 32.7**	**-0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,96nm,19.9s						
PMR	**Palmer**	**34.47**	**44**	*e*P	**P**	**00 13 46.7**	**-0.1**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
PMR	**Palmer**	**34.47**	**44**	*e*P	**P**	**00 13 46.7**	**-0.1**
	comp=Z,3.0nm,0.4s,mb4.6						
MCK	**McKinley**	**34.60**	**40**	*e*P	**P**	**00 13 49.3**	**+1.3**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
MCK	**McKinley**	**34.60**	**40**	*e*P	**P**	**00 13 49.3**	**+1.3**
	comp=Z,1.3nm,0.7s,mb4.0						
TATO	**Taipei**	**34.70**	**243**	*e*P	**P**	**00 13 48.6**	**-0.3**
	comp=Z,17nm,0.4s,mb5.3						
INK	**Inuvik**	**40.79**	**33**	P	**P**	**00 14 39.3**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.6,baz=250,slow=6.9,SNR=11						
INK	**Inuvik**	**40.79**	**33**	P	**P**	**00 14 39.3**	**-0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**40.79**	**33**	*e*P	**P**	**00 14 40.5**	**+0.3**
	comp=Z,67nm,0.9s,mb5.3						
MKAR	**Makanchi Array**	**48.43**	**298**	P	**P**	**00 15 40.7**	**-0.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=72,slow=6.8,SNR=9.3						
MKAR	**Makanchi Array**	**48.43**	**298**	*e*P	**P**	**00 15 40.6**	**-0.5**
MKAR	**Makanchi Array**	**48.43**	**298**	P	**P**	**00 15 40.7**	**-0.4**
KURK	**Kurchatov**	**48.77**	**305**	‖*e*P	**P**	**00 15 42.7**	**-0.9**
KURK	**Kurchatov**	**48.77**	**305**	*e*P	**P**	**00 15 42.8**	**-0.9**
	comp=Z,4.7nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**49.95**	**37**	P	**P**	**00 15 51.9**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.6,baz=295,slow=7.1,SNR=5.1						
YKA	**Yellowknife Ar**	**49.95**	**37**	*e*P	**P**	**00 15 51.8**	**-0.9**
CHKZ	**Chkalovo**	**51.72**	**311**	*e*P	**P**	**00 16 05.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**51.72**	**311**	*e*P	**P**	**00 16 05.2**	**-0.8**
	comp=Z,2.9nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**52.16**	**310**	P	**P**	**00 16 10.3**	**+1.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=60,slow=8.4,SNR=13						
BVAR	**Borovoye Array**	**52.16**	**310**	P	**P**	**00 16 10.3**	**+1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**52.20**	**310**	*e*P	**P**	**00 16 10.4**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**52.20**	**310**	*e*P	**P**	**00 16 10.3**	**+0.8**
	comp=Z,1.6nm,0.5s,mb4.2	

STKA	**Stephens Creek**	**79.23 192**	P	**P**	**00 19 01.8**	**-1.8**	
	comp=Z,1.1nm,0.4s,mb4.1,baz=23,slow=4.2,SNR=3.4						
BRTR	**Keskin Array B**	**79.54 318**	P	**P**	**00 19 05.5**	**+0.2**	
	comp=Z,0.6nm,0.8s,mb3.5,baz=25,slow=4.1,SNR=4.1						
BRTR	**Keskin Array B**	**79.54 318**	*i* P	**P**	**00 19 05.5**	**+0.2**	
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**124.02 178**	PKP	PKPdf	00 25 54.4	-2.0	
	comp=Z,0.9nm,0.3s,baz=21,slow=4.5,SNR=17						
VNDA	**Vanda**	**124.02 178**	PKIKP	PKPdf	00 25 54.4	-2.0	
VNDA			pmax	pmax			
	comp=Z,1.0nm,0.3s						

MAN 08 00:20:55.4, 936N×12274E, h22km, mb4.0, ML5.0, MS1.8, 4C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.49**	**92**	⇑*i* P	Pb	00 21 05.5	+0.1
SNPH				*i* S	Sb	00 21 12.5	+0.3
DCPH	**Dipolog City**	**0.98**	**142**	⇓*e* P	Pb	00 21 12.9	-0.8
DCPH				*i* S	Sb	00 21 27.1	+0.7
TBP	**Tagbilaran**	**1.16**	**74**	*e* P	Pn	00 21 16.7	+0.5
TBP				*e* S	Sb	00 21 32.2	+0.9
GUIM	**Jordan**	**1.26**	**353**	*e* P	Pn	00 21 16.8	-1.0
GUIM				*e* S	Sn	00 21 34.1	+0.1
LLP	**Lapu-Lapu**	**1.54**	**52**	⇑*e* P	Pn	00 21 21.8	+0.3
LLP				*i* S	Sn	00 21 41.8	+1.0
IPIL	**Ipil**	**1.57**	**186**	*e* P	Pn	00 21 22.9	+0.9
IPIL				*e* S	Sn	00 21 42.6	+0.9
CGP	**Cagayan de Oro**	**2.13**	**115**	⇑*e* P	Pn	00 21 29.9	+0.2
CGP				*i* S	Sn	00 21 55.7	+0.2
RCP	**Roxas**	**2.18**	**0**	⇑*e* P	Pn	00 21 31.6	+1.2
MSLP	**Maasin**	**2.23**	**70**	*e* P	Pn	00 21 33.5	+2.5
MSLP				*e* S	Sn	00 22 01.4	+3.6
CUYO	**Cuyo Island**	**2.25**	**311**	*e* P	Pn	00 21 32.8	+1.6
CUYO				*e* S	Sn	00 21 58.8	+0.4
BUKP	**Musuan**	**2.73**	**123**	*e* P	Pn	00 21 40.6	+2.7
OTRP	**Odiongan**	**3.06**	**347**	*e* P	Pn	00 21 48.2	+5.7
OTRP				*e* S	Sn	00 22 22.2	+3.8
ENPP	**El Nido**	**3.74**	**300**	*e* P	Pn	00 21 52.7	+0.9

*UPP **08** 00:22:08.5, 6785N×2021E, h1km, ML2.6, Mining explosion.*
*CSEM **08** 00:22:09.3±0.2, 6785N×2058E, h5km, ML2.6, Error ellipse: s-maj=5.6km s-min=2.9km az=160.0, Mining explosion.*
*BER **08** 00:22:14.1±4.4, 6803N×2011E, h0km, MD2.4, ML1.9, Suspected explosion*

HEL 08 00:22:09.1±0.1, 6785N×2018E, h0km, ML2.1, ML2.6(UPP), ML1.9(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**30**	*i* P	Pg	00 22 10.9	-0.4
KUA				*i* S	Sg	00 22 12.6	-0.3
NIKU	**Nikkaluokta**	**0.43**	**272**	*i* P	Pg	00 22 17.0	-0.5
LANU	**Lannavaara**	**0.71**	**73**	*i* P	Pg	00 22 21.6	-1.1
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	00 22 21.6	-1.1
DUNU	**Dundret**	**0.75**	**168**	*i* P	Pg	00 22 22.3	-1.2
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	00 22 23.4	-1.0
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 22 23.4	-1.1
KIF	**Kilpisjarvi**	**1.18**	**11**	*e* P	Pg	00 22 31.2	-0.5
KIF				*e* S	Sg	00 22 46.9	-0.1
PAJU	**Pajala**	**1.41**	**125**	*e* P	Pn	00 22 33.9	-2.0
KTK1	**Kautokeino**	**1.62**	**43**	*e* P	Pn	00 22 38.7	-0.2
KTK1				*e* S	Sn	00 23 00.3	-0.2
KTK1				AML	AML	00 23 04.1	
	comp=Z,14nm,0.3s						
HARU	**Harads**	**1.73**	**169**	*e* P	Pn	00 22 39.6	-0.8
TRO	**Tromso**	**1.84**	**346**	*e* P	Pn	00 22 41.0	-1.0
TRO				*e* S	Sn	00 23 05.2	-0.8
TRO				AML	AML	00 23 07.7	
	comp=Z,19nm,0.5s						
SJUU	**Sjulsmark**	**2.42**	**166**	*e* P	Pn	00 22 50.1	+0.2
SGF	**Sodankyl**	**2.46**	**97**	*e* P	Pn	00 22 49.9	-0.6
SGF				*e* S	Sn	00 23 22.1	+0.9
SGF				MSG		00 23 27.7	
	comp=Z,9.0nm,0.2s						
LOF	**Lofoten**	**2.52**	**279**	*e* P	Pn	00 22 55.0	+3.7
LOF				*e* Sg	Sg	00 23 30.1	+0.1
LOF				AML	AML	00 23 33.9	
	comp=Z,17nm,0.5s						
LOF	**Lofoten**	**2.52**	**279**	*e* P	Pn	00 22 55.0	+3.8
	SNR=50						
LOF				*e* Sg	Sg	00 23 30.1	+0.1
	SNR=90						
LILU	**Lillltraesk**	**2.58**	**183**	*e* P	Pn	00 22 52.8	+0.6
MOR8	**Moi Rana**	**2.82**	**236**	*e* P	Pn	00 22 57.5	+2.1
MOR8				*e* S	Sn	00 23 32.0	+2.0
MOR8				AML	AML	00 23 32.8	
	comp=Z,16nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	*e* P	Pn	00 22 59.2	-0.5
KEV				*e* S	Sn	00 23 37.8	0.0
KEV				MSG		00 23 43.8	
	comp=Z,4.1nm,0.3s						
STOK	**Stokkvaagen**	**3.19**	**245**	*e* Sg	Sg	00 23 52.9	+1.2
STOK	**Stokkvaagen**	**3.19**	**245**	*e* Sg	Sg	00 23 52.8	+1.2
	SNR=90						
OUL	**Oulu**	**3.60**	**138**	*e* PB	Pb	00 23 11.8	-1.8
OUL				*e* SB	Sb	00 23 56.1	-1.8

*NEIC **08** 00:31:22.6, 1950N×9567W, h16km, MD3.8(MEX), After MEX.*

MEX 08 00:31:22.6±1.0, 1950N×9567W, h16km±19km, MD3.8, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.74**	**288**	*i* P	Pg	00 31 34.3	-2.7
LVIG				*i* S	Sg	00 31 43.8	-3.1
TPIG	**Tehuac#an**	**1.93**	**236**	*i* P	Pn	00 31 50.9	-3.8
TPIG				*i* S	Sn	00 32 13.3	-5.3
CMIG	**Matias Romero**	**2.51**	**163**	*e* P	Pn	00 32 00.1	-2.5
CMIG				*i* S	Sn	00 32 27.9	-5.0
UTMO	**Huajuapan**	**2.62**	**231**	*i* P	Pn	00 32 02.5	-1.6
UTMO				*i* S	Sn	00 32 32.2	-3.4
VHO	**Vista Hermosa**	**2.62**	**203**	*i* P	Pn	00 32 01.9	-2.3
VHO				*i* S	Sn	00 32 32.9	-2.7
TEIG	**Tepich**	**7.00**	**83**	*i* P	Pn	00 33 03.0	-1.3

*ATH **08** 00:49:02.1, 3785N×2731E, h25km±5km, MD3.2/3*
*CSEM **08** 00:49:03.1±0.1, 3795N×2719E, h10km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.1km az=85.0*
*ISCJB **08** 00:49:03.0±0.6, 3793N±002×2716E±004, h6km±5km, Error ellipse: s-maj=5.7km s-min=3.9km az=174.1*
*ISK **08** 00:49:03.2, 3794N×2719E, h11km, MD3.2*
*NEIC **08** 00:49:03.2, 3795N×2717E, h11km, MD3.2(ATH), MD3.2(ISK), After ISK.*
*THE **08** 00:49:04.2, 3797N×2712E, h10km*

ISC 08 00:49:04.0±0.5, 3793N±002×2719E±004, h8km±4km, n35, σ0°61/45, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.36**	**231**	⇑*i* PB	**Pg**	**00 49 11.2**	**+0.2**
SMG				*e* SB	**Sg**	**00 49 16.9**	**+1.2**
BLCB	**Balcova**	**0.47**	**346**	*i* PG	**Pg**	**00 49 12.7**	**-0.3**
BLCB	**Balcova**	**0.47**	**346**	*e* Pg	**Pg**	**00 49 12.4**	**-0.6**
BLCB				*e* Sg	**Sg**	**00 49 18.9**	**-0.2**
BLCB	**Balcova**	**0.47**	**346**	Pg	**Pg**	**00 49 12.8**	**-0.2**
BLCB				Sg	**Sg**	**00 49 18.8**	**-0.3**
IZM	**Izmir**	**0.47**	**7**	*i* PG	**Pg**	**00 49 12.7**	**-0.3**
IZM				*i* SG	**Sg**	**00 49 19.7**	**+0.5**
IZM	**Izmir**	**0.47**	**7**	Pg	**Pg**	**00 49 12.5**	**-0.6**
IZM				*e*		00 49 19.5	
IZM	**Izmir**	**0.47**	**7**	Pg	**Pg**	**00 49 12.5**	**-0.5**
IZM				*i* Sg	**Sg**	**00 49 19.7**	**+0.5**
MLSB	**Milas**	**0.79**	**144**	*i* PG	**Pg**	**00 49 19.3**	**+0.1**
MLSB				*i* SG	**Sg**	**00 49 30.4**	**+1.0**
MLSB	**Milas**	**0.79**	**144**	Pg	**Pg**	**00 49 19.3**	**+0.2**
AKS	**Akhisar**	**1.06**	**27**	PG	**Pg**	**00 49 23.7**	**-0.7**
AKS	**Akhisar**	**1.06**	**27**	Pg	**Pg**	**00 49 23.7**	**-0.7**
YER	**Yerkesik**	**1.18**	**132**	PN	**Pn**	**00 49 26.8**	**+0.1**
YER	**Yerkesik**	**1.18**	**132**	Pn	**Pn**	**00 49 26.9**	**+0.2**
DAT	**Datca**	**1.24**	**165**	*e* PN	**Pn**	**00 49 26.9**	**-0.6**
DENT	**Denizli**	**1.47**	**96**	*e* PN	**Pn**	**00 49 30.3**	**-0.4**
DENT	**Denizli**	**1.47**	**96**	Pn	**Pn**	**00 49 29.2**	**-1.5**
PRK	**Paraskevi**	**1.50**	**332**	*e* PN	**Pn**	**00 49 30.5**	**-0.5**
PRK				*e* SN	**Sn**	**00 49 52.3**	**+1.6**
APE	**Apeiranthos**	**1.57**	**237**	*e* Pg	**Pn**	**00 49 31.0**	**-1.1**
APE				*e* Sg	**Sg**	**00 49 53.6**	**-1.0**
APE	**Apeiranthos**	**1.57**	**237**	*e* Pn	**Pn**	**00 49 31.2**	**-0.9**
APE				*e* Sg	**Sg**	**00 49 53.6**	**-1.0**
DALT	**Dalyan (Mudla)**	**1.64**	**135**	*e* PN	**Pn**	**00 49 32.8**	**-0.2**
DALT	**Dalyan (Mudla)**	**1.64**	**135**	Pn	**Pn**	**00 49 32.8**	**-0.1**
FETY	**Fethiye**	**1.99**	**130**	*e* PN	**Pn**	**00 49 38.0**	**+0.2**
EZN	**Ezine**	**2.01**	**341**	*e* PN	**Pn**	**00 49 38.0**	**-0.1**
DST	**Dursunbey**	**2.01**	**34**	*e* PN	**Pn**	**00 49 38.0**	**-0.2**
KCT	**Karacabey**	**2.50**	**21**	*e* PN	**Pn**	**00 49 44.6**	**-0.2**
KCT	**Karacabey**	**2.50**	**21**	Pn	**Pn**	**00 49 44.7**	**-0.2**
KCT	**Karacabey**	**2.50**	**21**	Pn	**Pn**	**00 49 44.7**	**-0.1**
LOS	**Limnos**	**2.59**	**321**	*e* PN	**Pn**	**00 49 46.4**	**+0.4**
MRMT	**Marmara Adasi**	**2.69**	**7**	*e* PN	**Pn**	**00 49 47.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.75**	**360**	*e* PN	**Pn**	**00 49 48.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.75**	**360**	Pn	**Pn**	**00 49 48.2**	**-0.1**
ENEZ	**Enez**	**2.91**	**344**	*e* PN	**Pn**	**00 49 50.3**	**-0.2**
IZI	**Iznik**	**2.99**	**36**	*e* PN	**Pn**	**00 49 52.0**	**+0.5**
ALN	**Alexandroupoli**	**3.09**	**344**	*e* Pn	**Pn**	**00 49 53.1**	**+0.1**
ALN				*e* Sn	**Sn**	**00 50 30.1**	**+0.1**
YLV	**Yalova**	**3.13**	**32**	*e* PN	**Pn**	**00 49 54.1**	**+0.6**

CASC 08 00:51:41.2±2.6, 1099N×8764W, h39km±511km, MD4.1, ML3.1, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**1.73**	**53**	*e* P	Pn	00 52 08.7	0.0
TICN				*e* S	Sn	00 52 32.0	+2.5
XAVN	**Gruta Xavier**	**1.73**	**48**	*e* P	Pn	00 52 08.4	-0.3
MOMJ	**Momotombo**	**1.77**	**37**	*e* P	Pn	00 52 08.9	-0.5
MOMJ				*e* S	Sn	00 52 31.7	+1.0
SSNN	**San Juan del S**	**1.78**	**80**	⇑*e* P	Pn	00 52 09.7	+0.2
MGAN	**Managua**	**1.79**	**50**	*e* P	Pn	00 52 08.8	-0.7
MGAN				*e* S	Sn	00 52 32.3	+1.3
	comp=N,340nm,0.4s						
MGAN				*i*		00 52 34.9	
	comp=E,731nm,0.4s						
CONN	**Concepcion**	**2.06**	**74**	*e* P	Pn	00 52 13.2	0.0
MADN	**Villa Maderas**	**2.11**	**78**	*e* P	Pn	00 52 13.9	0.0
MADN				*e* S	Sn	00 52 40.9	+1.9
VCR	**Vista de Mar**	**2.16**	**113**	⇑*e* P	Pn	00 52 13.9	-0.7
LIM1	**Limonal**	**2.36**	**97**	*e* P	Pn	00 52 17.2	-0.3
LIM1				*e* S	Sn	00 52 45.4	+0.1
BOAB	**BOACO BROADBAN**	**2.42**	**53**	*e* P	Pn	00 52 16.6	-1.5
BOAB				*e* S	Sn	00 52 46.5	0.0
BOAB				*i*		00 52 50.9	
	comp=N,17nm,0.5s						
JCR	**Jicaral**	**2.74**	**114**	*e* P	Pn	00 52 22.2	-0.3
JCR				*e* S	Sn	00 52 54.0	-0.4
CGA2	**Cerro Gallo 2**	**3.27**	**107**	⇓*e* P	Pn	00 52 30.9	+1.0
CGA2				*e* S	Sn	00 53 06.9	-0.7
PRS1	**Puriscal**	**3.43**	**107**	*e* P	Pn	00 52 33.0	+0.9
LAJ	**Bijagual**	**3.64**	**108**	*e* P	Pn	00 52 31.5	-3.5
OCM	**Ochomogo**	**3.78**	**106**	*e* P	Pn	00 52 39.5	+2.5
LCR2	**La Lucha 2**	**3.79**	**109**	*e* P	Pn	00 52 38.9	+1.9
LCR2				*e* S	Sn	00 53 21.1	+0.7
IRZ2	**Volcan Irazu 2**	**3.82**	**105**	*e* P	Pn	00 52 40.6	+3.1
BUS	**Buena Vista**	**4.08**	**110**	*e* P	Pn	00 52 42.5	+1.5
CTCR	**Cotoan**	**5.24**	**113**	*e* P	Pn	00 52 58.8	+1.8
CTCR				*e* S	Sn	00 53 56.2	0.0

*STR **08** 00:54:03.2±0.7, 4756N×757E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 00:54:03.9±0.1, 4759N×754E, h13km, Md1.9/3, Ml2.0/13, Error ellipse: s-maj=1.8km s-min=1.1km az=92.0*

ZUR 08 00:54:03.7, 4759N×760E, h5km±1km, ML1.5, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i* Pg	Pg	00 54 10.0	+1.3
	165nm,0.3s						
BALST				*e* Sg	Sg	00 54 12.9	+0.7
	165nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**232**	⇑*i* Pg	Pg	00 54 10.2	+0.4
	54nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i* Pg	Pg	00 54 10.7	+0.1
	65nm,0.2s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	00 54 11.7	+0.1
MOF				Sg	Sg	00 54 17.4	+0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e* Pg	Pg	00 54 13.9	-0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e* Pn	Pg	00 54 15.2	+0.9
HINF				*e* Sg	Sg	00 54 20.9	-0.6
	2.0nm,0.2s						
HINF				*e* Sn	Sg	00 54 24.6	+3.1
	7.1nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	*i* Pg	Pg	00 54 15.6	-0.2
	54nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	00 54 17.2	+0.1
ECH				Sg	Sg	00 54 25.9	-0.2
CDF	**Champ du Feu**	**0.85**	**345**	*e* Pg	Pg	00 54 20.3	+0.2
CDF				*e* Sg	Sg	00 54 30.2	-1.0
	6.5nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e* Pg	Pg	00 54 21.0	-0.8
HAU				*e* Sg	Sg	00 54 33.6	-0.4
	8.0nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e* Pg	Pg	00 54 30.4	-0.5
CABF				*e* Sg	Sg	00 54 47.8	-1.6
	3.0nm,0.2s						
RFYF	**Reffroy**	**1.77**	**307**	*e* Pg	Pg	00 54 36.4	-1.1
RFYF				*e* Sg	Sg	00 54 58.8	-1.6
	4.8nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e* Pg	Pg	00 54 37.7	-1.1
SFTF				*e* Sg	Sg	00 55 01.0	-1.5
	1.4nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e* Pg	Pg	00 54 39.3	-1.6
MEZF				*e* Sg	Sg	00 55 03.8	-2.2
	1.8nm,0.3s						
LPL	**La Plagne**	**2.16**	**196**	*e* Pg	Pg	00 54 44.1	-0.9
LPL				*e* Sg	Sg	00 55 11.9	-1.1
	0.6nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e* Pg	Pg	00 54 44.6	-0.7
LPG				*e* Sg	Sg	00 55 12.6	-0.8
	0.5nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e* Pg	Pg	00 54 50.7	-2.0
LOR				*e* Sg	Sg	00 55 22.8	-3.1
	3.0nm,0.3s						
SMF	**Signal de Mont**	**2.73**	**251**	*e* Pg	Pg	00 54 54.1	-2.0
SMF				*e* Sg	Sg	00 55 28.9	-2.6
	2.5nm,0.3s						
SSF	**Saint Saulge**	**2.83**	**261**	*e* Pg	Pg	00 54 56.1	-1.9
SSF				*e* Sg	Sg	00 55 31.6	-3.1
	0.7nm,0.2s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e* Pg	Pg	00 54 58.7	-2.6
AVF				*e* Sg	Sg	00 55 36.9	-3.3
	0.7nm,0.3s						

*ISK **08** 00:55:07.4, 3640N×4514E, h9km, MD3.8*
*ISCJB **08** 00:55:11.8±1.5, 3680N±003×4528E±005, h16km±15km, Error ellipse: s-maj=7.5km s-min=4.5km az=104.2*
*CSEM **08** 00:55:12.1±0.1, 3686N×4530E, h25km, ML3.5, Error ellipse: s-maj=4.0km s-min=2.8km az=74.0*
*TEH **08** 00:55:16.1, 3685N×4533E, h34km, Mn3.5*

ISC 08 00:55:12.4±1.4, 3682N±003×4528E±005, h14km±9km, n21, σ1°38/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAZR	**Azarshahr**	**1.02**	**33**	*e* Pg	**Pg**	**00 55 30.2**	**-1.9**
CUKT	**Cukurca**	**1.41**	**288**	*i* PN	**Pn**	**00 55 34.8**	**-2.7**
CUKT				*i* SN	**Sn**	**00 55 55.5**	**-0.3**
HKR	**Hakkari**	**1.44**	**302**	PN	**Pn**	**00 55 36.3**	**-1.8**
HKR				SN	**Sn**	**00 55 58.1**	**+1.3**
ITBZ	**Tabriz**	**1.57**	**26**	*e* Pn	**Pn**	**00 55 39.5**	**-0.3**
ITBZ				*e* Sn	**Sn**	**00 55 59.3**	**-0.5**
MSL	**Mosul**	**1.84**	**254**	*ex*	x	00 55 43.5	
MSL				*i* x	x	00 06 07.0	
MSL				*i* x	x	00 06 08.0	
MSL				*i* x	x	00 55 42.0	
IMRD	**Marand**	**1.92**	**10**	*e* Pn	**Pn**	**00 55 44.9**	**+0.3**
IMRD				*e* Sn	**Sn**	**00 56 08.2**	**-0.3**
VANT	**Van**	**2.21**	**318**	PN	**Pn**	**00 55 49.9**	**+1.3**
VANB	**Van**	**2.32**	**320**	PN	**Pn**	**00 55 51.1**	**+1.0**
SIRT	**Sirnak**	**2.37**	**287**	PN	**Pn**	**00 55 48.8**	**-2.0**
CLDR	**Caldiran**	**2.56**	**335**	*e* PN	**Pn**	**00 55 55.7**	**+2.3**
IVIS	**Veys**	**2.62**	**150**	*e* Pn	**Pn**	**00 55 55.8**	**+1.5**
IVIS				*e* Sn	**Sn**	**00 56 25.5**	**-0.4**
IGHG	**Ghaleghazi**	**2.70**	**157**	*e* Pn	**Pn**	**00 55 57.0**	**+1.7**
IGHG				*e* Sn	**Sn**	**00 56 27.2**	**-0.6**
IKOM	**Komasi**	**3.21**	**145**	*e* Pn	**Pn**	**00 56 03.8**	**+1.5**
IKOM				*e* Sn	**Sn**	**00 56 39.3**	**-1.0**
AGRB	**Hanur-Agry**	**3.29**	**327**	*e* PN	**Pn**	**00 56 04.7**	**+1.3**
BTMT	**Batman**	**3.31**	**296**	*e* PN	**Pn**	**00 56 04.0**	**+0.3**
BHD	**Baghdad**	**3.62**	**192**	*ex*	x	00 55 59.0	
BHD				*ex*	x	00 56 45.0	
IRAZ	**Razeghan**	**4.02**	**109**	*e* PN	**Pn**	**00 56 14.4**	**+0.9**
DIY	**Diyarbakir**	**4.17**	**286**	*e* PN	**Pn**	**00 56 13.1**	**-2.4**
EZM	**Erzurum**	**4.36**	**316**	*e* PN	**Pn**	**00 56 19.2**	**+1.1**
IMHD	**Mahdasht**	**4.50**	**103**	*e* Pn	**Pn**	**00 56 20.9**	**+0.9**
IMHD				*e* Sn	**Sn**	**00 57 09.1**	**-3.0**
URFA	**Urfa**	**5.20**	**279**	*e* PN	**Pn**	**00 56 27.7**	**-2.0**

*IDC **08** 01:02:53.7±4.4, 4566N×15399E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, MS2.6/1, Ms1 2.6/1, ms1mx2.4/34, Error ellipse: s-maj=140.3km s-min=38.8km az=5.0*
*ISCJB **08** 01:02:56.1±6.6, 4555N±06×1537E±02, h31km±53km, mb3.6/5, Error ellipse: s-maj=110.2km s-min=15.8km az=161.5*
*MOS **08** 01:02:57.8±1.9, 4523N×15373E, h57km, mb4.0/4, Error ellipse: s-maj=47.0km s-min=41.6km az=12.4*

ISC 08 01:02:57.8±6.9, 4555N±06×1537E±02, h31km±56km, n11, σ0°93/11, mb3.6/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.13**	**268**	PN	**Pn**	**01 03 59.0**	**+0.4**
KUR				*i* S	**Sn**	**01 04 45.0**	**-0.8**
KUR				smax			
	comp=N,150nm,0.5s						
ASAJ	**Asahikawa**	**8.03**	**264**	LR	LR	01 08 15.1	
	comp=N,36nm,18.9s,baz=1.3,slow=39						
YKA	**Yellowknife Ar**	**51.66**	**36**	P	**P**	**01 11 60.0**	**-1.6**
	comp=N,0.5nm,0.8s,mb3.5,baz=293,slow=7.0,SNR=3.8						
YKA	**Yellowknife Ar**	**51.66**	**36**	P	**P**	**01 12 00.0**	**-1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.79**	**327**	P	**P**	**01 14 23.1**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=33,slow=5.7,SNR=5.9						
AKASG	**Malin Array Be**	**72.79**	**327**	P	**P**	**01 14 23.2**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**77.73**	**61**	P	**P**	**01 14 51.4**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=307,slow=3.8,SNR=5.3						
TXAR	**Lajitas Array**	**77.73**	**61**	P	**P**	**01 14 51.4**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**79.57**	**317**	P	**P**	**01 15 03.3**	**+1.6**
	comp=Z,0.7nm,0.9s,mb3.6,baz=50,slow=3.9,SNR=4.2						
BRTR	**Keskin Array B**	**79.57**	**317**	P	**P**	**01 15 03.3**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**79.74**	**334**	P	**P**	**01 15 03.2**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=59,slow=8.2,SNR=3.3						

*STR **08** 01:21:59.1±0.7, 4756N×755E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 01:21:59.7±0.3, 4760N×754E, h15km, Md1.9/1, Ml1.9/5, Error ellipse: s-maj=5.2km s-min=3.3km az=105.0*

ZUR 08 01:21:59.3, 4758N×760E, h5km±1km, ML1.1, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**165**	*e* Sg	Sg	01 22 04.6	-3.0
	125nm,0.3s						
BALST	**Balsthal**	**0.25**	**165**	⇑*i* Pg	Pg	01 22 08.3	+4.1
	125nm,0.3s						
BOURR	**Bourrignon**	**0.31**	**233**	⇑*i* Pg	Pg	01 22 05.7	+0.3
	40nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i* Pg	Pg	01 22 06.2	+0.1
	28nm,0.5s						
MOF	**Molkenrain**	**0.42**	**311**	Pg	Pg	01 22 07.4	+0.1
MOF				Sg	Sg	01 22 13.1	+0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e* Pg	Pg	01 22 09.5	-0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e* Pn	Pg	01 22 11.1	+1.1
HINF				*e* Sg	Sg	01 22 16.7	-0.6
HINF				*e* Sn	Sg	01 22 20.3	+3.0
	3.0nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	*e* Pg	Pg	01 22 11.3	-0.1
	40nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	01 22 13.3	+0.5
ECH				Sg	Sg	01 22 21.7	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e* Pn	Pn	01 22 15.9	-2.2
CDF				*e* Sg	Sg	01 22 26.0	-1.0
	5.2nm,0.2s						
HAU	**Haudompre**	**0.95**	**297**	*e* Pg	Pg	01 22 16.8	-0.6
HAU				*e* Sg	Sg	01 22 29.4	-0.3
	7.2nm,0.3s						
CABF	**La Chapelle**

CDF	**Champ du Feu**	**0.87 347**	*e*Pg		**Pg**	**01 46 39.9**	**+0.1**
CDF	**Champ du Feu**	**0.87 347**	*e*Pn		**Pn**	**01 46 40.4**	**-0.2**
CDF			*e*Sg		**Sg**	**01 46 50.4**	**-0.9**
CDF			*e*Sn		**Sn**	**01 46 52.4**	**-0.5**
	35nm,0.2s						
CDF	**Champ du Feu**	**0.87 347**	*e*Pn		**Pn**	**01 46 40.4**	**-0.2**
CDF			*e*Sg		**Sg**	**01 46 50.4**	**-0.9**
CDF			*e*Sn		**Sn**	**01 46 52.4**	**-0.5**
	17nm,0.2s						
BNALP	**Bannalp**	**0.91 139**	*e*P		**Pb**	**01 46 41.3**	**+1.0**
	22nm,0.3s						
WILA	**Wila**	**0.92 99**	⇑*i*Pg		**Pg**	**01 46 41.9**	**+1.1**
	174nm,0.3s						
HAU	**Haudompre**	**0.93 299**	*e*Pg		**Pg**	**01 46 41.2**	**+0.2**
HAU			*e*Sg		**Sg**	**01 46 53.8**	**+0.6**
	36nm,0.3s						
HAU	**Haudompre**	**0.93 299**	*e*Pg		**Pg**	**01 46 41.2**	**+0.2**
HAU			*e*Sg		**Sg**	**01 46 53.8**	**+0.6**
	18nm,0.3s						
BRANT	**Les Verrieres**	**0.97 230**	*e*P		**Pb**	**01 46 42.8**	**+1.4**
	37nm,0.7s						
CABF	**La Chapelle**	**1.39 227**	*e*Pg		**Pg**	**01 46 50.6**	**+0.9**
CABF			*e*Sg		**Sg**	**01 47 07.8**	**+0.1**
	5.7nm,0.3s						
CABF	**La Chapelle**	**1.39 227**	*e*Pg		**Pg**	**01 46 50.6**	**+0.9**
CABF			*e*Sg		**Sg**	**01 47 07.8**	**+0.1**
	2.8nm,0.3s						
DAVA	**Damuels**	**1.60 99**	⇑*i*Pg		**Pg**	**01 46 52.3**	**-1.3**
DAVA			⇓*i*Sg		**Sg**	**01 47 12.4**	**-2.0**
	comp=Z,6.0nm,0.1s						
DAVA	**Damuels**	**1.60 99**	Pg		**Pg**	**01 46 52.3**	**-1.3**
DAVA			Sg		**Sg**	**01 47 15.0**	**+0.6**
	6.0nm,0.1s						
DAVA	**Damuels**	**1.60 99**	Pg		**Pg**	**01 46 52.3**	**-1.3**
DAVA			Sg		**Sg**	**01 47 12.4**	**-2.0**
	6.0nm,0.1s						
SFTF	**Sexfontaines**	**1.82 292**	*e*Pn		**Pn**	**01 46 54.2**	**+0.6**
SFTF	**Sexfontaines**	**1.82 292**	*e*Pg		**Pg**	**01 46 57.8**	**0.0**
SFTF			*e*Sn		**Sn**	**01 47 15.8**	**-0.5**
SFTF			*e*Sg		**Sg**	**01 47 21.3**	**-0.1**
	5.7nm,0.2s						
SFTF	**Sexfontaines**	**1.82 292**	*e*Pg		**Pg**	**01 46 57.8**	**0.0**
SFTF			*e*Sn		**Sn**	**01 47 15.8**	**-0.5**
SFTF			*e*Sg		**Sg**	**01 47 21.3**	**-0.1**
	2.8nm,0.2s						
MEZF	**Maizieres J'vi**	**1.93 300**	*e*Pn		**Pn**	**01 46 56.0**	**+0.9**
MEZF			*e*Sg		**Sg**	**01 47 24.6**	**-0.4**
	2.1nm,0.2s						
MEZF	**Maizieres J'vi**	**1.93 300**	*e*Pn		**Pn**	**01 46 56.0**	**+0.9**
MEZF			*e*Sg		**Sg**	**01 47 24.6**	**-0.4**
	1.0nm,0.2s						
LPL	**La Plagne**	**2.13 196**	*e*Pg		**Pg**	**01 47 04.1**	**+0.4**
LPL			*e*Sg		**Sg**	**01 47 31.4**	**+0.1**
	2.0nm,0.4s						
LPL	**La Plagne**	**2.13 196**	*e*Pg		**Pg**	**01 47 04.1**	**+0.4**
LPL			*e*Sg		**Sg**	**01 47 31.4**	**+0.1**
	1.0nm,0.4s						
LPG	**La Plagne**	**2.14 195**	*e*Sg		**Sg**	**01 47 31.6**	**-0.2**
	2.1nm,0.2s						
LPG	**La Plagne**	**2.14 195**	*e*Sg		**Sg**	**01 47 31.6**	**-0.2**
	1.0nm,0.2s						
LOR	**Lormes**	**2.53 265**	*e*Pg		**Pg**	**01 47 11.0**	**-0.5**
LOR			*e*Sg		**Sg**	**01 47 43.2**	**-1.2**
	5.8nm,0.2s						
LOR	**Lormes**	**2.53 265**	*e*Pg		**Pg**	**01 47 11.0**	**-0.5**
LOR			*e*Sg		**Sg**	**01 47 43.2**	**-1.2**
	2.9nm,0.2s						
SMF	**Signal de Mont**	**2.70 252**	*e*Pg		**Pg**	**01 47 14.1**	**-0.7**
SMF			*e*Sg		**Sg**	**01 47 48.1**	**-1.7**
	3.7nm,0.3s						
SMF	**Signal de Mont**	**2.70 252**	*e*Pg		**Pg**	**01 47 14.1**	**-0.7**
SMF			*e*Sg		**Sg**	**01 47 48.1**	**-1.7**
	1.9nm,0.3s						
SSF	**Saint Saulge**	**2.81 261**	*e*Sg		**Sg**	**01 47 52.0**	**-1.1**
	4.6nm,0.4s						
SSF	**Saint Saulge**	**2.81 261**	*e*Sg		**Sg**	**01 47 52.0**	**-1.1**
	2.3nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.89 204**	*e*Sg		**Sg**	**01 47 55.1**	**-0.8**
	0.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.89 204**	*e*Sg		**Sg**	**01 47 55.1**	**-0.8**
	0.4nm,0.3s						
VIVF	**Saint-Julien-l**	**3.37 218**	*e*Sg		**Sg**	**01 48 09.2**	**-2.0**
	2.0nm,0.3s						
VIVF	**Saint-Julien-l**	**3.37 218**	*e*Sg		**Sg**	**01 48 09.2**	**-2.0**
	1.0nm,0.3s						

*ISCJB **08** 01:49:28.9±0.3, 4756N±002×752E±003, h10km, Error ellipse: s-maj=2.8km s-min=2.3km az=91.3*
*VIE **08** 01:49:29.3±1.2, 4759N×760E, h8km, Error ellipse: s-maj=13.4km s-min=6.4km az=18.0, 5 km N of Basel*
*ZUR **08** 01:49:30.2, 4759N×760E, h5km±1km, ML1.8*
*CSEM **08** 01:49:30.1±0.1, 4758N×759E, h10km, ML2.4/13, Error ellipse: s-maj=1.4km s-min=1.2km az=106.0*
*LDG **08** 01:49:30.3±0.1, 4759N×758E, h8km, Ml2.4/13, Error ellipse: s-maj=2.5km s-min=1.6km az=99.0*
*STR **08** 01:49:30.1±0.1, 4759N×760E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 08 01:49:29.4±0.3, 4757N±002×756E±003, h19km±3km, n46, σ0§80/80, 4C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.11**	**200**	Pg	**Pg**	**01 49 33.2**	**-0.1**
BBS				Sg	**Sg**	**01 49 35.8**	**-0.1**
BALST	**Balsthal**	**0.25**	**159**	*i* Sg	**Pg**	**01 49 35.6**	**+0.4**
	607nm,0.3s						
BALST	**Balsthal**	**0.25**	**159**	⇓*i*Pg	**Sg**	**01 49 39.4**	**+0.3**
	607nm,0.3s						
BALST	**Balsthal**	**0.25**	**159**	⇓*i*Pg	**Sg**	**01 49 39.4**	**+0.3**
	607nm,0.3s						
BOURR	**Bourrignon**	**0.28**	**233**	⇑*i*Pg	**Pg**	**01 49 36.6**	**+0.8**
	89nm,8.6s						
SULZ	**Sulz-Cheisache**	**0.38**	**96**	⇑*i*Pg	**Pg**	**01 49 37.2**	**-0.1**
	191nm,0.3s						
SULZ				*e*Sg	**Sg**	**01 49 42.5**	**-0.2**
	191nm,0.3s						
MOF	**Molkenrain**	**0.41**	**315**	Pg	**Pg**	**01 49 38.2**	**+0.3**
MOF				Sg	**Sg**	**01 49 43.8**	**+0.2**
FELD	**Feldberg im Sc**	**0.43**	**44**	Pg	**Pg**	**01 49 37.8**	**-0.5**
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pg	**Pg**	**01 49 40.4**	**+0.1**
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pn	**Pg**	**01 49 42.0**	**+1.7**
HINF				*e*Sg	**Sg**	**01 49 47.7**	**+0.1**
HINF				*e*Sn	**Sg**	**01 49 51.2**	**+3.6**
	38nm,0.2s						
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pn	**Pg**	**01 49 42.0**	**+1.7**
HINF				*e*Sg	**Sg**	**01 49 47.7**	**+0.1**
HINF				*e*Sn	**Sg**	**01 49 51.2**	**+3.6**
	19nm,0.2s						
LOMF	**Lomont**	**0.54**	**247**	Pg	**Pg**	**01 49 41.3**	**+1.0**
LOMF				Sg	**Sg**	**01 49 49.5**	**+1.8**
SLE	**Schleitheim**	**0.66**	**72**	⇑*i*P	**Pb**	**01 49 42.6**	**+0.3**
	330nm,0.2s						
SLE				*e*S	**Sb**	**01 49 50.7**	**-0.4**
	330nm,0.2s						
ECH	**Echery**	**0.70**	**337**	Pg	**Pg**	**01 49 43.6**	**+0.3**
ECH				Sg	**Sg**	**01 49 52.5**	**-0.2**
CDF	**Champ du Feu**	**0.87**	**347**	*e*Pg	**Pg**	**01 49 46.3**	**-0.1**
CDF	**Champ du Feu**	**0.87**	**347**	*e*Pn	**Pn**	**01 49 46.9**	**+0.3**
CDF				*e*Sg	**Sg**	**01 49 56.8**	**-1.1**
CDF				*e*Sn	**Sn**	**01 49 58.8**	**0.0**
	28nm,0.3s						
CDF	**Champ du Feu**	**0.87**	**347**	*e*Pn	**Pn**	**01 49 46.9**	**+0.3**
CDF				*e*Sg	**Sg**	**01 49 56.8**	**-1.1**
CDF				*e*Sn	**Sn**	**01 49 58.8**	**0.0**
	14nm,0.3s						
TORNY	**Torny**	**0.89**	**208**	*e*Pg	**Pg**	**01 49 48.0**	**+1.1**
	138nm,2.0s						
BNALP	**Bannalp**	**0.91**	**139**	*e*Pg	**Pg**	**01 49 48.0**	**+0.8**
	36nm,0.3s						
HAU	**Haudompre**	**0.93**	**299**	*e*Pg	**Pg**	**01 49 47.6**	**0.0**
HAU				*e*Sg	**Sg**	**01 50 00.4**	**+0.6**
	41nm,0.3s						
HAU	**Haudompre**	**0.93**	**299**	*e*Pg	**Pg**	**01 49 47.6**	**0.0**
HAU				*e*Sg	**Sg**	**01 50 00.4**	**+0.6**
	20nm,0.3s						
BRANT	**Les Verrieres**	**0.97**	**230**	*e*Pg	**Pg**	**01 49 49.3**	**+0.9**
	51nm,0.2s						
THEF	**They Montfort**	**1.25**	**303**	Pg	**Pg**	**01 49 53.6**	**0.0**
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg	**Pg**	**01 49 57.0**	**+0.8**
CABF				*e*Sg	**Sg**	**01 50 14.2**	**-0.2**
	5.1nm,0.2s						
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg	**Pg**	**01 49 57.0**	**+0.8**
CABF				*e*Sg	**Sg**	**01 50 14.2**	**-0.2**
	2.5nm,0.2s						
DAVA	**Damuels**	**1.60**	**99**	⇓*i*Pg	**Pg**	**01 49 58.7**	**-1.5**
DAVA				⇑*i*Sg	**Sg**	**01 50 21.6**	**+0.5**
	9.6nm,0.3s						
DAVA	**Damuels**	**1.60**	**99**	Pg	**Pg**	**01 49 58.7**	**-1.5**
DAVA				Sg	**Sg**	**01 50 19.7**	**-1.3**
	9.6nm,0.3s						
SFTF	**Sexfontaines**	**1.82**	**292**	*e*Pn	**Pn**	**01 50 00.6**	**+0.9**
	baz=113						
SFTF	**Sexfontaines**	**1.82**	**292**	*e*Pg	**Pg**	**01 50 04.3**	**-0.1**
SFTF				*e*Sn	**Sn**	**01 50 22.2**	**+0.1**
SFTF				*e*Sg	**Sg**	**01 50 27.7**	**-0.3**
	2.2nm,0.2s						
SFTF	**Sexfontaines**	**1.82**	**292**	*e*Pg	**Pg**	**01 50 04.3**	**-0.1**
SFTF				*e*Sn	**Sn**	**01 50 22.2**	**+0.1**
SFTF				*e*Sg	**Sg**	**01 50 27.7**	**-0.3**
	1.1nm,0.2s						
MEZF	**Maizieres J'vi**	**1.93**	**300**	*e*Pn	**Pn**	**01 50 02.4**	**+1.2**
MEZF				*e*Sg	**Sg**	**01 50 31.2**	**-0.4**
	1.0nm,0.1s						
MEZF	**Maizieres J'vi**	**1.93**	**300**	*e*Pn	**Pn**	**01 50 02.4**	**+1.2**
MEZF				*e*Sg	**Sg**	**01 50 31.2**	**-0.4**
	0.5nm,0.1s						
LPL	**La Plagne**	**2.13**	**196**	*e*Pg	**Pg**	**01 50 10.8**	**+0.5**
LPL				*e*Sg	**Sg**	**01 50 37.9**	**-0.1**
	1.8nm,0.3s						
LPL	**La Plagne**	**2.13**	**196**	*e*Pg	**Pg**	**01 50 10.8**	**+0.5**
LPL				*e*Sg	**Sg**	**01 50 37.9**	**-0.1**
	0.9nm,0.3s						
LPG	**La Plagne**	**2.14**	**195**	*e*Sg	**Sg**	**01 50 38.3**	**-0.1**
	1.7nm,0.2s						
LPG	**La Plagne**	**2.14**	**195**	*e*Sg	**Sg**	**01 50 38.3**	**-0.1**
	0.9nm,0.2s						
LOR	**Lormes**	**2.53**	**265**	*e*Pg	**Pg**	**01 50 17.4**	**-0.6**
	baz=89						
LOR				*e*Sg	**Sg**	**01 50 49.7**	**-1.2**
	8.8nm,0.3s						
LOR	**Lormes**	**2.53**	**265**	*e*Pg	**Pg**	**01 50 17.4**	**-0.6**
	baz=89						
LOR				*e*Sg	**Sg**	**01 50 49.7**	**-1.2**
	4.4nm,0.3s						
SMF	**Signal de Mont**	**2.70**	**251**	*e*Pg	**Pg**	**01 50 20.5**	**-0.8**
SMF				*e*Sg	**Sg**	**01 50 54.5**	**-1.9**
	3.3nm,0.2s						
SMF	**Signal de Mont**	**2.70**	**251**	*e*Pg	**Pg**	**01 50 20.5**	**-0.8**
SMF				*e*Sg	**Sg**	**01 50 54.5**	**-1.9**
	1.6nm,0.2s						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**01 50 23.0**	**-0.2**
SSF				*e*Sg	**Sg**	**01 50 58.5**	**-1.1**
	4.1nm,0.4s						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**01 50 23.0**	**-0.2**
SSF				*e*Sg	**Sg**	**01 50 58.5**	**-1.1**
	2.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.89**	**204**	*e*Sg	**Sg**	**01 51 01.8**	**-0.7**
	1.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.89**	**204**	*e*Sg	**Sg**	**01 51 01.8**	**-0.7**
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.37**	**218**	*e*Sg	**Sg**	**01 51 15.4**	**-2.4**
	1.2nm,0.2s						
VIVF	**Saint-Julien-l**	**3.37**	**218**	*e*Sg	**Sg**	**01 51 15.4**	**-2.4**
	0.6nm,0.2s						

*LDG **08** 01:49:53.8±0.1, 4759N×759E, h10km, Md2.1/1, Ml2.4/13, Error ellipse: s-maj=1.8km s-min=1.3km az=96.0*
STR 08 01:49:53.3±0.3, 4758N×761E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.42**	**310**	Pg	**Pg**	**01 50 02.0**	**+0.4**
MOF				Sg	**Sg**	**01 50 07.6**	**+0.4**
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	**Pg**	**01 50 04.2**	**0.0**
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	**Pg**	**01 50 05.9**	**+1.7**
HINF				*e*Sg	**Sg**	**01 50 11.6**	**0.0**
HINF				*e*Sn	**Sg**	**01 50 15.0**	**+3.4**
	46nm,0.2s						
LOMF	**Lomont**	**0.58**	**247**	Pg	**Pg**	**01 50 05.3**	**+0.8**
ECH	**Echery**	**0.70**	**335**	Pg	**Pg**	**01 50 07.7**	**+0.8**
ECH				Sg	**Sg**	**01 50 16.1**	**0.0**
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	**Pn**	**01 50 10.7**	**-0.8**
CDF				*e*Sg	**Sg**	**01 50 20.7**	**-0.5**
CDF				*e*Sn	**Sn**	**01 50 22.6**	**-1.5**
	8.7nm,0.2s						
HAU	**Haudompre**	**0.95**	**297**	*e*Pg	**Pg**	**01 50 11.5**	**-0.1**
HAU				*e*Sg	**Sg**	**01 50 24.3**	**+0.3**
	46nm,0.3s						
CABF	**La Chapelle**	**1.42**	**228**	*e*Pg	**Pg**	**01 50 20.9**	**+0.3**
CABF				*e*Sg	**Sg**	**01 50 38.2**	**-0.8**
	4.7nm,0.2s						
SFTF	**Sexfontaines**	**1.84**	**291**	*e*Sn	**Sn**	**01 50 46.2**	**-2.1**
SFTF				*e*Sg	**Sg**	**01 50 51.5**	**-1.0**
	7.4nm,0.2s						
MEZF	**Maizieres J'vi**	**1.95**	**299**	*e*Sg	**Sg**	**01 50 54.9**	**-1.0**
	1.9nm,0.2s						
LPL	**La Plagne**	**2.15**	**197**	*e*Pg	**Pg**	**01 50 34.4**	**-0.1**
LPL				*e*Sg	**Sg**	**01 51 01.8**	**-0.6**
	1.1nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	**Sg**	**01 51 01.9**	**-1.0**
	2.6nm,0.2s						
LOR	**Lormes**	**2.57**	**264**	*e*Sg	**Sg**	**01 51 13.6**	**-2.1**
	6.6nm,0.3s						
SMF	**Signal de Mont**	**2.74**	**251**	*e*Sg	**Sg**	**01 51 18.2**	**-3.1**
	3.2nm,0.2s						
SSF	**Saint Saulge**	**2.84**	**261**	*e*Sg	**Sg**	**01 51 22.3**	**-2.2**
	2.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Sg	**Sg**	**01 51 25.4**	**-1.7**
	1.9nm,0.3s						
VIVF	**Saint-Julien-l**	**3.40**	**218**	*e*Sg	**Sg**	**01 51 39.6**	**-3.0**
	2.4nm,0.3s						

*BGS **08** 01:59:26.6, 3976N×5338E, h45km, mb5.2*
*CSEM **08** 01:59:27.3±0.1, 4052N×5305E, h20km, mb4.9/81, Error ellipse: s-maj=2.3km s-min=1.4km az=162.0*
*SZGRF **08** 01:59:28.2, 4013N×5323E, h33km, mb5.0, Turkmenistan*
*THR **08** 01:59:28.8±0.5, 4013N×5287E, h15km, ML4.7*
*MOS **08** 01:59:29.4±1.0, 4040N×5303E, h39km, mb5.0/64, Error ellipse: s-maj=5.0km s-min=3.3km az=134.4*
*BJI **08** 01:59:29.5, 4044N×5254E, h67km, mB5.0, mb5.1, Ms4.6, Msz4.7*
*ISCJB **08** 01:59:30.2±0.2, 4033N±003×5299E±002, h49km, mb4.8/148, MS3.9/15, Error ellipse: s-maj=3.9km s-min=2.1km az=1.2*
*NEIC **08** 01:59:31.0±0.7, 4027N×5304E, h45km±5km, mb4.8/80, Error ellipse: s-maj=5.4km s-min=3.0km az=169.0*
*IDC **08** 01:59:31.8±0.3, 4030N×5291E, h52km±2km, mb4.3/33, mb1 4.5/39, mb1mx4.4/40, mbtmp4.4/39, MS3.5/11, Ms1 3.6/11, ms1mx3.3/47, Error ellipse: s-maj=8.6km s-min=7.3km az=163.0*
*NNC **08** 01:59:39.7±3.6, 4094N×5395E, h20km±44km, mb4.6, Error ellipse: s-maj=37.7km s-min=12.7km az=56.0*
ISC 08 01:59:32.3±0.2, 4040N±003×5299E±002, h51km, h51km±1.7km: pP-P, n593, σ1§01/622, mb4.8/148, MS3.9/15, 93C-22D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**3.65**	**138**	*e*Pn	**Pn**	**02 00 25.1**	**-1.2**
GRMI	**Germi**	**4.24**	**250**	*e*Pn	**Pn**	**02 00 32.5**	**-1.8**
GRMI				AML	AML	02 01 19.8	
	comp=N,749nm,0.5s						
GRMI				AML	AML	02 01 22.7	
	comp=E,805nm,0.3s						
GRMI	**Germi**	**4.24**	**250**	*e*Pn	**Pn**	**02 00 32.5**	**-1.9**
	SNR=52						
CHTH	**Charan**	**4.72**	**199**	*e*Pn	**Pn**	**02 00 37.5**	**-3.4**
CHTH				AML	AML	02 01 32.2	
	comp=N,425nm,0.6s						
THKV	**Tehran--Karaj**	**4.78**	**201**	*e*Pn	**Pn**	**02 00 38.6**	**-3.1**
THKV				AML	AML	02 01 32.0	
	comp=E,1μm,0.5s						
THKV				AML	AML	02 01 32.3	
	comp=N,3μm,0.6s						
DAMV	**Damavand**	**4.83**	**190**	*e*Pn	**Pn**	**02 00 39.7**	**-2.8**
MAK	**Makhachkala**	**4.83**	**304**	*e*P	**Pn**	**02 00 45.9**	**+3.4**
MAK				*e*S	**Sn**	**02 01 39.5**	**+2.3**
MAK				pmax	pmax		
	comp=Z,176nm,0.4s						
MAK				smax			
	comp=N,1μm,0.5s						
MAK				smax			
	comp=E,2μm,0.5s						
DGRG	**David-gareji**	**5.86**	**283**	P	**Pn**	**02 00 56.8**	**+0.2**
DGRG				S	**Sn**	**02 02 02.8**	**+0.4**
ASAO	**Ashtian**	**6.30**	**203**	*e*Pn	**Pn**	**02 00 60.0**	**-2.6**
ASAO				AML	AML	02 02 10.5	
	comp=N,132nm,0.5s						
GNI	**Garni**	**6.31**	**270**	P	**Pn**	**02 01 03.3**	**+0.5**
	comp=N,3.4nm,0.3s,baz=45,slow=0.6,SNR=24						
GNI				S	**Sn**	**02 02 15.5**	**+2.0**
	baz=340,slow=24,SNR=3.6						
GNI	**Garni**	**6.31**	**270**	P	**Pn**	**02 01 03.4**	**+0.7**
	SNR=12						
GNI	**Garni**	**6.31**	**270**	*d* *i* P	**Pn**	**02 01 03.0**	**+0.3**
GNI				pmax	pmax		
	comp=Z,24nm,0.7s						
GNI	**Garni**	**6.31**	**270**	*e*Pn	**Pn**	**02 01 02.5**	**-0.2**
GNI				*e*Sn	**Sn**	**02 02 15.2**	**+1.8**
GNI	**Garni**	**6.31**	**270**	*e*Pn	**Pn**	**02 01 02.5**	**-0.2**
GNI	**Garni**	**6.31**	**270**	P	**Pn**	**02 01 03.4**	**+0.7**
	SNR=12						
GNI				*e*Sn	**Sn**	**02 02 15.2**	**+1.7**
MTA	**Mtatsminda**	**6.33**	**284**	P	**Pn**	**02 01 01.8**	**-1.2**
MTA				S	**Sn**	**02 02 11.2**	**-2.7**
DUS	**Dusheti**	**6.47**	**288**	P	**Pn**	**02 01 08.0**	**+3.1**
DUS				S	**Sn**	**02 02 16.9**	**-0.4**
MAKU	**Maku**	**6.47**	**263**	*e*Pn	**Pn**	**02 01 04.5**	**-0.5**
KZR	**Kazreti**	**6.57**	**281**	P	**Pn**	**02 01 07.2**	**+0.9**
KZR				S	**Sn**	**02 02 15.2**	**-4.6**
GOR	**Gori**	**6.88**	**286**	P	**Pn**	**02 01 10.7**	**+0.1**
GOR				S	**Sn**	**02 02 25.0**	**-2.4**
SNGE	**Sanandaj**	**6.93**	**222**	*e*Pn	**Pn**	**02 01 08.9**	**-2.3**
ZEI	**Tsey**	**7.21**	**292**	*e*P	**Pn**	**02 01 15.8**	**+0.7**
ZEI				*e*		02 02 33.9	
DIGO	**Kars**	**7.34**	**273**	*i* P	**Pn**	**02 01 18.9**	**+2.2**
DIGO				*i* S	**Sn**	**02 02 43.9**	**+5.3**
KIV	**Kislovodsk**	**8.43**	**298**	*ce*P	**Pn**	**02 01 31.0**	**-0.8**
KIV				*e*S	**Sn**	**02 03 03.7**	**-1.8**
KIV				pmax	pmax		
	comp=Z,32nm,0.7s						
KIV	**Kislovodsk**	**8.43**	**298**	*e*Pn	**Pn**	**02 01 30.7**	**-1.1**
KIV	**Kislovodsk**	**8.43**	**298**	*e*Pn	**Pn**	**02 01 30.7**	**-1.1**
KIV	**Kislovodsk**	**8.43**	**298**	P	**Pn**	**02 01 31.5**	**-0.3**
	SNR=19						
AB31	**Akbulak array**	**10.13**	**27**	P	**Pn**	**02 01 53.1**	**-2.0**
	comp=Z,37nm,0.6s,baz=209,slow=14,SNR=190						
AB31				S	**Sn**	**02 03 38.9**	**-8.3**
	comp=Z,62nm,0.4s,baz=202,slow=23,SNR=17						
AB31	**Akbulak array**	**10.13**	**27**	P	**Pn**	**02 01 53.1**	**-2.0**
AB31				S	**Sn**	**02 03 41.0**	**-6.2**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AB31				smax			
	comp=Z,24nm,0.3s						
SOC	**Sochi**	**10.38**	**292**	*e*P	**Pn**	**02 01 58.9**	**+0.5**
SOC				*e*		02 03 54.2	
SOC				pmax	pmax		
	comp=Z,15nm,1.0s						
SOC				MLR	MLR		
	comp=Z,65nm,5.0s						
SOC	**Sochi**	**10.38**	**292**	*e*P	**Pn**	**02 01 58.9**	**+0.5**
	comp=Z,15nm,1.0s						
AKTK	**Aktyubinsk**	**10.63**	**18**	P	**Pn**	**02 02 00.6**	**-1.3**
AKTK				S	**Sn**	**02 03 53.6**	**-5.9**
AKTK				LR	LR	02 07 29.1	
AKTK	**Aktyubinsk**	**10.63**	**18**	P	**Pn**	**02 02 00.6**	**-1.3**
	comp=Z,7.0nm,0.3s						
AKTK				S	**Sn**	**02 03 53.6**	**-5.9**
AKTO	**Aktyubinsk**	**10.63**	**18**	⇓P	**Pn**	**02 02 00.5**	**-1.4**
	comp=Z,0.9nm,0.7s						
AKTO				⇑S	**Sn**	**02 03 52.3**	**-7.2**
	comp=Z,2.2nm,0.5s						
AKTO	**Aktyubinsk**	**10.63**	**18**	P	**Pn**	**02 02 00.6**	**-1.3**
	comp=Z,7.3nm,0.3s,baz=206,slow=11,SNR=57						
AKTO				S	**Sn**	**02 03 53.6**	**-5.9**
	comp=Z,45nm,0.3s,baz=64,slow=23,SNR=15						
AKTO				LR	LR	02 07 29.2	
	comp=Z,349nm,19.8s,baz=248,slow=44						
AKTO	**Aktyubinsk**	**10.63**	**18**	P	**Pn**	**02 02 00.6**	**-1.3**
AKTO				S	**Sn**	**02 03 53.6**	**-5.9**
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AKTO				smax			
	comp=N,45nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,349nm,19.8s						
ORR	**Orenburg**	**11.28**	**6**	*e*P	**Pn**	**02 02 09.0**	**-1.8**
ORR				*e*S	**Sn**	**02 04 08.1**	**-7.3**
ORR				pmax	pmax		
	comp=Z,50nm,0.4s						
ORR	**Orenburg**	**11.28**	**6**	*e*P	**Pn**	**02 02 09.0**	**-1.8**
	comp=Z,50nm,0.4s						
ANN	**Anapa**	**12.27**	**296**	*e*P	**Pn**	**02 02 26.4**	**+2.1**
ANN				*e*S	**Sn**	**02 04 45.6**	**+6.1**
ANN				pmax	pmax		
	comp=Z,24nm,0.8s						
ANN				MLR	MLR		
	comp=Z,186nm,9.0s						
ANN	**Anapa**	**12.27**	**296**	*e*P	**Pn**	**02 02 26.4**	**+2.1**
	comp=Z,24nm,0.8s						
VRHR	**Novokhopersk**	**13.30**	**327**	*e*P	**Pn**	**02 02 37.7**	**-0.6**
VRHR				*e*S	**Sn**	**02 04 58.5**	**-6.0**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VRHR				p

MMAI Mount Meron Ar 15.90 248 P Pn 02 03 12.4 -0.2
comp=Z,0.4nm,0.3s,baz=64,slow=15,SNR=10
MMAI LR LR 02 10 18.5
comp=Z,50nm,19.9s,baz=80,slow=41
KONT Konya--Tatoy 16.18 268 *eP* **Pn 02 03 17.7 +1.5**
AAK Ala-Archa 16.26 75 *i P* **Pn 02 03 15.8 -1.4**
AAK pmax pmax
comp=Z,41nm,1.3s
AAK MLR MLR
comp=Z,300nm,19.0s
AAK Ala-Archa 16.26 75 *e*Pn **Pn 02 03 15.2 -1.9**
AAK Ala-Archa 16.26 75 *i P* **Pn 02 03 15.8 -1.4**
comp=Z,300nm,19.0s
UCH Uchtor 16.27 77 P **Pn 02 03 22.1 +4.7**
SNR=5.5
USP Ospenovka 16.28 73 P **Pn 02 03 16.5 -0.9**
SNR=12
KIZT Kizilcal 16.33 271 *e*P **Pn 02 03 18.1 +0.1**
FRU Bishkek 16.35 74 *e*P **Pn 02 03 17.4 -0.9**
FRU pmax pmax
comp=Z,100nm,1.6s
FRU Bishkek 16.35 74 *e*P **Pn 02 03 17.4 -0.9**
comp=Z,100nm,1.6s
ARU Arti 16.45 11 *e*P **Pn 02 03 16.9 -2.7**
ARU pmax pmax
comp=Z,10.0nm,0.5s
ARU MLR MLR
comp=Z,500nm,20.0s
ARU Arti 16.45 11 *e*Pn **Pn 02 03 17.6 -2.0**
comp=Z,40nm,0.4s
ARU Arti 16.45 11 *e*P **Pn 02 03 16.9 -2.7**
comp=Z,500nm,20.0s
ARU Arti 16.45 11 *e*Pn **Pn 02 03 17.5 -2.1**
comp=Z,40nm,0.4s
CHMS Chumysh 16.46 74 P **Pn 02 03 18.8 -0.9**
SNR=27
KBK Karagaybulak 16.59 75 P **Pn 02 03 23.3 +1.9**
SNR=27
HENT Hendek 16.78 279 *i P* **Pn 02 03 19.5 -4.1**
KZA Kyzart 16.82 77 P **Pn 02 03 28.1 +3.9**
SNR=6.3
ESKT Eskisehir 16.99 274 *e*P **Pn 02 03 28.4 +2.1**
TKM2 Tokmak 2 17.07 74 P **Pn 02 03 26.5 -0.8**
SNR=28
TKM2 Tokmak 2 17.07 74 ⇑P **Pn 02 03 26.0 -1.3**
comp=Z,9.9nm,1.0s
TKM2 Tokmak 2 17.07 74 P **Pn 02 03 26.0 -1.3**
TKM2 pmax pmax
comp=Z,62nm,1.0s
SVE Sverdlovsk 17.18 14 *e*P **Pn 02 03 26.0 -2.6**
SVE *e* 02 06 26.0
BRVK Borovoye 17.28 37 P **Pn 02 03 30.1 +0.2**
SNR=21
BRVK Borovoye 17.28 37 *e*P **Pn 02 03 29.2 -0.7**
BRVK pmax pmax
comp=Z,102nm,1.0s
BRVK Borovoye 17.28 37 *e*Pn **Pn 02 03 29.2 -0.8**
comp=Z,102nm,1.0s
BRVK Borovoye 17.28 37 *e*P **Pn 02 03 29.2 -0.7**
comp=Z,102nm,1.0s
BVA0 Borovoye Array 17.31 37 ⇑P **Pn 02 03 30.6 +0.3**
comp=Z,12nm,0.7s,baz=230,slow=15,SNR=266
BVA0 ⇑S **S 02 06 31.7 -17**
comp=Z,19nm,1.2s,baz=232,slow=22,SNR=13
BVA0 Borovoye Array 17.31 37 *i P* **Pn 02 03 29.3 -1.0**
BVA0 *e*S **S 02 06 29.8 -19**
BVA0 pmax pmax
comp=Z,9.0nm,0.7s
BVA0 smax
comp=Z,22nm,1.2s
BVA0 Borovoye Array 17.31 37 *i P* **Pn 02 03 29.3 -1.0**
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 17.31 37 P **Pn 02 03 30.6 +0.4**
comp=Z,7.7nm,0.3s,baz=216,slow=15,SNR=71
BVAR S **S 02 06 31.3 -17**
comp=Z,12nm,0.3s,baz=228,slow=25,SNR=10
BVAR LR LR 02 11 25.2
comp=Z,386nm,18.9s,baz=146,slow=41
BVAR Borovoye Array 17.31 37 P **Pn 02 03 30.6 +0.3**
BVAR S **S 02 06 31.3 -17**
BVAR pmax pmax
comp=Z,8.0nm,0.3s
BVAR smax
comp=N,12nm,0.3s
BVAR MLR MLR
comp=Z,386nm,18.9s
BVAR Borovoye Array 17.31 37 P **Pn 02 03 30.6 +0.3**
comp=Z,12nm,0.7s,SNR=266
BVAR S **S 02 06 31.3 -17**
ULHL Ulahol 17.56 76 P **Pn 02 03 37.0 +3.7**
SNR=11
CHKZ Chkalovo 17.84 36 ⇓P **Pn 02 03 35.1 -1.6**
comp=Z,14nm,0.6s
CHKZ ⇑S **S 02 06 43.3 -16**
comp=Z,35nm,0.8s
CHKZ Chkalovo 17.84 36 P **Pn 02 03 35.1 -1.6**
CHKZ S **S 02 06 43.2 -16**
CHKZ pmax pmax
comp=Z,8.0nm,0.6s
CHKZ smax
comp=Z,28nm,0.8s
CHKZ Chkalovo 17.84 36 *e*P **Pn 02 03 35.7 -1.0**
CHKZ Chkalovo 17.84 36 *e*P **Pn 02 03 35.7 -1.0**
IZI Iznik 17.91 277 *e*P **Pn 02 03 37.7 +0.1**
OBN Obninsk 18.32 329 ⇑*i*P **Pn 02 03 42.0 -0.7**
OBN *e* 02 06 58.8
OBN pmax pmax
comp=Z,77nm,0.8s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 18.32 329 *e*Pn **Pn 02 03 42.1 -0.6**
comp=Z,69nm,0.6s
OBN Obninsk 18.32 329 *i P* **Pn 02 03 42.0 -0.7**
comp=Z,77nm,0.8s
MOS Moscow 18.39 332 *e*P **Pn 02 03 41.9 -1.6**
MOS *e*S **S 02 07 05.9 -4.5**
MOS pmax pmax
comp=N,110nm,0.8s
MOS pmax pmax
comp=Z,188nm,0.8s
ELL Elmali 18.40 266 *e*P **Pn 02 03 42.9 -0.7**
GOLH Golhisar 18.51 268 *i P* **Pn 02 03 46.2 +1.2**
TIRR Tirgusor 18.56 291 ⇓*i*P **Pn 02 03 44.8 -0.8**
KIS Kishinev 18.64 299 *e*P **Pn 02 03 43.0 -3.4**
FETY Fethiye 19.06 266 *e*P **Pn 02 03 49.4 -2.2**
SOKR Solikamsk 19.34 6 *d i*P **Pn 02 03 56.0 +1.2**
SOKR S **S 02 07 19.1 -10**
SOKR pmax pmax
comp=Z,30nm,1.1s
AKASG Malin Array Be 19.49 310 P **Pn 02 03 54.8 -1.8**
comp=Z,38nm,0.3s,baz=99,slow=8.9,SNR=216
AKASG S **S 02 07 28.0 -4.4**
baz=112,slow=22,SNR=4.7
AKASG Malin Array Be 19.49 310 P **Pn 02 03 54.8 -1.8**
AKASG S **S 02 07 28.0 -4.4**
AKASG pmax pmax
comp=Z,38nm,0.3s
AKBB Malin Array Si 19.49 310 *e*P **Pn 02 03 54.4 -2.2**
KIEV Kiev 19.49 310 *e*P **Pn 02 03 54.6 -2.1**
KIEV pmax pmax
comp=Z,74nm,0.5s
KIEV Kiev 19.49 310 *e*P **Pn 02 03 54.6 -2.1**
comp=Z,74nm,0.5s
KIEV Kiev 19.49 310 *e*P **Pn 02 03 54.6 -2.1**
comp=Z,74nm,0.5s
IAS Iasi 19.52 299 ⇓*i*P **Pn 02 03 55.2 -1.7**
IAS Iasi 19.52 299 P **Pn 02 03 55.3 -1.6**
VRI Vrincioaia 19.88 295 ⇓*i*P **Pn 02 04 00.0 -1.3**
THN Thein Dam 19.91 106 *e*P **Pn 02 04 04.4 +2.8**
comp=Z,1.8nm,0.4s
PLOR Plostina 19.93 295 ⇓*i*P **Pn 02 04 01.0 -0.9**
MLR Muntele Rosu 20.39 293 P **P 02 04 05.9 +1.1**
comp=Z,24nm,0.4s,baz=34,slow=7.3
MLR Muntele Rosu 20.39 293 P **P 02 04 05.9 +1.1**
MLR pmax pmax
comp=Z,24nm,0.4s
MLR Muntele Rosu 20.39 293 P **P 02 04 07.0 +2.2**
MLR Muntele Rosu 20.39 293 ⇑*i*P **P 02 04 06.1 +1.3**
ALN Alexandroupoli 20.42 280 *e*P **P 02 04 05.6 +0.4**
KURK Kurchatov 20.60 51 ⇓P **P 02 04 08.3 +1.2**
comp=Z,38nm,0.8s
KURK Kurchatov 20.60 51 ⇑P **P 02 04 08.6 +1.5**
SNR=30
KURK Kurchatov 20.60 51 *e*Pn **P 02 04 08.5 +1.4**
ZIMR 20.74 288 P **P 02 04 09.2 +0.7**
BURAR Bucovina Array 21.16 299 ⇓*i*P **P 02 04 13.2 +0.1**

BURAR Bucovina Array 21.16 299 P **P 02 04 13.4 +0.3**
LOS Limnos 21.30 278 *e*P **P 02 04 15.1 +0.5**
APE Apeiranthos 21.64 270 *e*P **P 02 04 18.4 +0.2**
APE Apeiranthos 21.64 270 *c i*P **P 02 04 18.6 +0.3**
APE Apeiranthos 21.64 270 P **P 02 04 19.1 +0.8**
APE Apeiranthos 21.64 270 ⇓*i*P **P 02 04 19.0 +0.7**
APE Apeiranthos 21.64 270 P **P 02 04 19.1 +0.8**
ZKR Zakros 21.77 265 *e*P **P 02 04 20.2 +0.6**
MNK Minsk 21.93 318 *e*P **P 02 04 17.0 -4.4**
MNK pmax pmax
comp=Z,28nm,1.0s,mb4.7
OUR Ouranopolis 22.06 279 *e*P **P 02 04 23.9 +1.2**
MK31 Makanchi Array 22.08 63 P **P 02 04 23.2 +0.3**
comp=Z,20nm,0.6s,mb4.7,baz=226,slow=4.3,SNR=157
MK31 Makanchi Array 22.08 63 *i P* **P 02 04 23.2 +0.2**
MK31 pmax pmax
comp=Z,27nm,0.6s,mb4.8
MK31 Makanchi Array 22.08 63 *e*P **P 02 04 24.2 +1.2**
MK31 *e*PcP PcP 02 08 16.5 -2.5
MK31 Makanchi Array 22.08 63 *e*P **P 02 04 24.2 +1.2**
MK31 Makanchi Array 22.08 63 *e*PcP PcP 02 08 16.5 -2.5
MKAR Makanchi Array 22.08 63 P **P 02 04 23.0 0.0**
comp=Z,23nm,0.7s,mb4.7,baz=252,slow=11,SNR=98
MKAR pP 02 04 36.1
comp=Z,21nm,0.8s,baz=257,slow=10,SNR=9.2
MKAR LR LR 02 13 56.4
comp=Z,78nm,21.7s,MS3.1,baz=331,slow=39
MKAR Makanchi Array 22.08 63 *e*P **P 02 04 23.0 0.0**
MKAR pP 02 04 36.1
KLMR Klimovskoe 22.10 342 *e*P **P 02 04 22.2 -0.9**
KLMR *e*S **S 02 08 21.4 -2.4**
KLMR pmax pmax
comp=Z,110nm,1.4s,mb5.1
KLMR Klimovskoe 22.10 342 *e*P **P 02 04 22.2 -0.9**
comp=Z,110nm,1.4s,mb5.1
PAIG Paliouri 22.36 278 *e*P **P 02 04 27.5 +1.6**
VTS Vitosha 22.36 285 *e*P **P 02 04 28.8 +2.9**
VTS Vitosha 22.36 285 ⇑P **P 02 04 25.8 -0.1**
VTS Vitosha 22.36 285 ⇑*i*P **P 02 04 25.8 -0.1**
LVV L'vov 22.38 305 *e*P **P 02 04 26.0 -0.1**
LVV *e* 02 04 42.8
LVV *e*S **S 02 08 27.0 -2.1**
SOH Sokhos 22.46 281 *e*P **P 02 04 27.4 +0.5**
PLG Polygyros 22.46 280 *e*P **P 02 04 27.2 +0.2**
GZR Gura Zlata 22.61 293 P **P 02 04 28.0 -0.5**
GZR Gura Zlata 22.61 293 ⇑*i*P **P 02 04 27.8 -0.8**
GZR Gura Zlata 22.61 293 P **P 02 04 28.0 -0.6**
HORT Hortiatis 22.68 280 *e*P **P 02 04 29.1 -0.2**
IDI Anoyia 22.72 266 P **P 02 04 29.4 -0.3**
comp=Z,3.0nm,0.3s,mb4.2,baz=106,slow=9.4,SNR=11
IDI S **S 02 08 30.6 -4.1**
comp=Z,5.7nm,0.6s,baz=247,slow=23,SNR=6.2
DRGR 22.75 296 ⇓*i*P **P 02 04 29.8 -0.2**
KNT Kendrikon 22.75 282 *e*P **P 02 04 29.7 -0.3**
IDID Didziasalis 22.89 319 *e*P **P 02 04 30.9 -0.5**
IDID AMb AMB 02 04 33.4
comp=Z,2μm,0.7s
IDID Didziasalis 22.89 319 *e*P **P 02 04 31.0 -0.5**
comp=Z,2μm,0.7s,SNR=33
VAY Valandovo 22.97 282 *e*P **P 02 04 32.5 +0.1**
VAY Valandovo 22.97 282 *e*P **P 02 04 32.5 +0.1**
VAY Valandovo 22.97 282 *e*P **P 02 04 32.4 0.0**
GRG Griva 23.15 281 *e*P **P 02 04 34.0 -0.3**
IIGN Ignalina 23.16 319 *e*P **P 02 04 33.5 -0.8**
IIGN AMb AMB 02 04 34.3
comp=Z,2μm,0.4s
IIGN Ignalina 23.16 319 *e*P **P 02 04 33.5 -0.9**
comp=Z,2μm,0.4s,SNR=33
KWP Kalwaria 23.17 304 *e*P **P 02 04 35.2 +0.7**
STIP Stip 23.21 283 *e*P **P 02 04 35.2 +0.4**
STIP Stip 23.21 283 *e*P **P 02 04 34.5 -0.3**
LIT Litokhoron 23.23 279 *e*P **P 02 04 34.6 -0.5**
UZH Uzhgorod 23.26 301 ⇑*i*P **P 02 04 36.0 +0.7**
UZH *e* 02 04 50.0
UZH *i* 02 05 15.0
KOLS Kolonicke sedl 23.32 302 *e*P **P 02 04 36.6 +0.7**
IZAR Zarasai 23.35 320 *e*P **P 02 04 35.9 -0.3**
IZAR AMb AMB 02 04 37.3
comp=Z,2μm,0.5s
IZAR Zarasai 23.35 320 *e*P **P 02 04 35.9 -0.3**
comp=Z,2μm,0.5s,SNR=28
KARN Karanos 23.42 267 *e*P **P 02 04 36.0 -0.8**
BZS Buzias 23.43 293 P **P 02 04 36.2 -0.8**
BZS Buzias 23.43 293 ⇓*i*P **P 02 04 36.0 -1.0**
AGG Agios Georgios 23.57 277 *e*P **P 02 04 38.1 -0.1**
CRVS Cervenica-Dubn 23.84 301 *e*P **P 02 04 41.2 +0.5**
KRUS Krusevo 23.95 283 *e*P **P 02 04 43.1 +1.5**
STHS Stebnicka Huta 24.07 303 *e*P **P 02 04 43.3 +0.5**
STHS pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
STHS Stebnicka Huta 24.07 303 *e*P **P 02 04 43.3 +0.5**
comp=Z,7.4nm,0.7s,mb4.2
SUW Suwalki 24.18 314 *e*P **P 02 04 44.2 +0.4**
MEV Metsovon 24.24 279 *e*P **P 02 04 44.8 +0.4**
KECS Kecovo 24.43 300 *i P* **P 02 04 46.8 +0.8**
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
KECS Kecovo 24.43 300 *i P* **P 02 04 46.8 +0.8**
comp=Z,6.4nm,0.8s,mb4.1
VSU Vasula 24.60 326 *c i*P **P 02 04 47.4 -0.2**
DIVS Divcibare 24.61 290 ⇑*i*P **P 02 04 47.8 +0.2**
DIVS Divcibare 24.61 290 *e*P **P 02 04 48.4 +0.7**
NIE Niedzica 24.67 302 *e*P **P 02 04 49.2 +1.0**
FGSL Fruska Gora 24.70 292 P **P 02 04 49.5 +1.0**
NVS Novosibirsk 24.74 44 ⇑*i*P **P 02 04 40.4 -8.4**
NVS *e*PPP 02 05 35.8
NVS *e*S **S 02 09 10.0 +2.7**
NVS pmax pmax
comp=E,26nm,1.2s
NVS pmax pmax
comp=Z,40nm,1.2s,mb4.8
NVS pmax pmax
comp=N,28nm,1.4s
NVS smax
comp=N,22nm,1.7s
NVS smax
comp=E,19nm,2.0s
PSZ Piszkesteto 24.76 299 ⇑*i*P **P 02 04 50.0 +1.0**
LKD Levkas 24.92 277 *e*P **P 02 04 50.4 -0.1**
IGC Igoumenitsa 24.97 279 *e*P **P 02 04 50.6 -0.4**
TIR Tirane 24.98 283 *e*P **P 02 04 50.5 -0.6**
OJC Ojcow 25.13 304 *e*P **P 02 04 52.8 +0.4**
ZAL Zalesovo 25.26 47 P **P 02 04 54.3 +0.7**
comp=E,22nm,0.7s,mb4.8,baz=222,slow=8.6,SNR=91
ZAL LR LR 02 17 06.7
comp=E,277nm,19.3s,MS3.8,baz=265,slow=42
ZAL Zalesovo 25.26 47 P **P 02 04 54.3 +0.7**
ZAL pmax pmax
comp=Z,22nm,0.7s
ZAL MLR MLR
comp=Z,277nm,19.3s
VYHS Vyhne 25.52 300 *i P* **P 02 04 56.7 +0.8**
VYHS pmax pmax
comp=Z,70nm,1.2s,mb5.1
VYHS Vyhne 25.52 300 *i P* **P 02 04 56.7 +0.8**
comp=Z,6.8nm,1.2s,mb4.0
PKSM Moragy 25.52 295 ⇑*i*P **P 02 04 56.6 +0.6**
WMQ Urumqi 25.86 71 P **P 02 05 00.0 +1.0**
WMQ AMB AMB
comp=Z,37nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,218nm,5.0s
WMQ LR LR
comp=N,107nm,23.0s
WMQ LR LR
comp=E,82nm,17.0s
JOF Joensuu 25.99 337 *ep* **P 02 04 59.4 -0.8**
comp=E,60nm,0.5s,mb5.4
JOF Joensuu 25.99 337 *e*P **P 02 04 59.4 -0.8**
JOF pmax pmax
comp=Z,61nm,0.5s,mb5.4
OKC Ostrava-Krasne 26.12 303 *e*P **P 02 05 01.8 +0.4**
SMOL Smolenice 26.45 300 *e*P **P 02 05 05.7 +1.3**
MORC Moravsky Berou 26.50 303 *e*P **P 02 05 05.4 +0.5**
MORC Moravsky Berou 26.50 303 ⇑*i*P **P 02 05 04.7 -0.2**
MORC Moravsky Berou 26.50 303 *e*P **P 02 05 05.3 +0.4**
ZST Bratislava 26.65 299 *e*P **P 02 05 07.3 +1.2**
ZST pmax pmax
comp=Z,17nm,1.0s,mb4.5
ZST Bratislava 26.65 299 *e*P **P 02 05 07.3 +1.2**
comp=Z,17nm,1.0s,mb4.5
FINES FINESS Array B 26.69 331 P **P 02 05 06.7 +0.1**
comp=Z,16nm,0.6s,mb4.7,baz=138,slow=11,SNR=121
FINES sP sP 02 05 25.3 -0.4

comp=Z,14nm,0.4s,baz=136,slow=15,SNR=9.2
FINES LR LR 02 18 37.5
comp=Z,165nm,19.3s,MS3.6,baz=164,slow=43
FINES FINESS Array B 26.69 331 *i P* **P 02 05 06.6 0.0**
FINES pmax pmax
comp=Z,16nm,0.6s
KAF Kangasniemi 27.05 332 *ep* **P 02 05 08.9 -0.8**
baz=130,slow=9.3
VRAC Vranov 27.07 301 P **P 02 05 10.3 +0.4**
comp=Z,2.1nm,0.5s,mb3.9,baz=91,slow=11,SNR=4.4
VRAC pP pP 02 05 24.0 +1.0
comp=Z,2.3nm,0.7s,baz=49,slow=7.0,SNR=2.9
VRAC Vranov 27.07 301 ⇑P **P 02 05 10.4 +0.5**
VRAC Vranov 27.07 301 ⇑*i*P **P 02 05 10.4 +0.5**
DPC Dobruska-Polom 27.36 304 *e*P **P 02 05 13.2 +0.7**
UPC Upice 27.57 304 *e*P **P 02 05 15.3 +0.9**
ARSA Arzberg 27.68 297 ⇑*i*P **P 02 05 16.1 +0.7**
comp=Z,16nm,1.0s,mb4.6
BOJS Bojanci 27.91 293 *i P* **P 02 05 18.0 +0.6**
PERS Pernice 27.96 296 *i P* **P 02 05 18.6 +0.7**
KOLN Koldanda 28.16 107 *e*P **P 02 05 20.0 +0.3**
comp=Z,25nm,0.9s,mb4.8
VISS Visnje 28.18 294 *i P* **P 02 05 20.5 +0.7**
VNDS Vrh nad Dolski 28.26 294 *i P* **P 02 05 21.3 +0.7**
PRU Pruhonice 28.46 303 *e*P **P 02 05 23.1 +0.8**
PVCC Panska Ves 28.49 304 *e*P **P 02 05 23.8 +1.2**
GKN Gorkha 28.80 106 *e*P **P 02 05 25.7 +0.4**
comp=Z,46nm,0.6s,mb5.4
BRG Berggiesshubel 28.92 304 *e*P **P 02 05 27.6 +1.1**
comp=Z,24nm,1.0s,mb4.9
BRG Berggiesshubel 28.92 304 *i P* **P 02 05 28.0 +1.5**
BRG pmax pmax
comp=Z,16nm,1.1s,mb4.7
BRG Berggiesshubel 28.92 304 *i P* **P 02 05 28.0 +1.5**
comp=Z,14nm,1.0s,mb4.7
BRG Berggiesshubel 28.92 304 *i P* **P 02 05 28.0 +1.5**
comp=Z,14nm,1.0s,mb4.7
GERES GERESS Array B 28.94 300 P **P 02 05 27.0 +0.4**
comp=Z,3.8nm,0.7s,mb4.3,baz=91,slow=8.7,SNR=40
GERES PcP PcP 02 08 33.4 -1.1
comp=Z,1.4nm,0.6s,baz=101,slow=1.4,SNR=5.6
GERES GERESS Array B 28.94 300 PcP PcP 02 08 33.4 -1.1
KHC Kasperske Hory 29.03 301 *e*P **P 02 05 27.5 +0.1**
KHC x x 02 06 09.0
KHC Kasperske Hory 29.03 301 *e*P **P 02 05 27.5 +0.1**
KHC *e* 02 06 09.0
ROBS Robic 29.08 295 *e*P **P 02 05 28.9 +1.0**
BSD Bornholm Skovb 29.09 313 ⇑*i*P **P 02 05 27.0 -1.0**
comp=Z,23nm,0.4s,mb5.3
BSD Bornholm Skovb 29.09 313 ⇑*i*P **P 02 05 27.0 -1.0**
BSD pmax pmax
comp=Z,23nm,0.4s,mb5.3
KBA Koelnbreinsper 29.17 297 ⇑*i*P **P 02 05 29.4 +0.8**
comp=Z,12nm,0.5s,mb4.9
KBA Koelnbreinsper 29.17 297 ⇑*i*P **P 02 05 29.4 +0.8**
KBA pmax pmax
comp=Z,12nm,0.5s,mb4.9
PTCC Patocco-Chiusa 29.18 295 P **P 02 05 29.2 +0.4**
comp=Z,47nm,2.0s,mb4.9
RUE Ruedersdorf 29.23 308 *e*P **P 02 05 29.6 +0.4**
comp=Z,28nm,0.6s,mb5.2
DMN Daman 29.36 106 *e*P **P 02 05 30.8 +0.5**
comp=Z,13nm,0.5s,mb4.9
KKN Kakani 29.39 105 *e*P **P 02 05 30.6 0.0**
comp=Z,16nm,0.6s,mb5.0
CLL Collm 29.55 305 *e*P **P 02 05 32.8 +0.7**
comp=Z,9.0nm,0.5s,mb4.8
CLL Collm 29.55 305 ⇑*i*P **P 02 05 32.7 +0.6**
CLL pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
CLL Collm 29.55 305 ⇑*i*P **P 02 05 32.7 +0.6**
comp=Z,9.0nm,0.8s,mb4.5
CLL Collm 29.55 305 ⇑*i*P **P 02 05 32.7 +0.6**
comp=Z,9.0nm,0.8s,mb4.5
FVI Forni Avoltri 29.57 296 P **P 02 05 32.7 +0.5**
PKI Pulchoki 29.60 106 *e*P **P 02 05 32.8 +0.3**
comp=Z,16nm,0.6s,mb4.9
GUN Gumba 29.76 104 *e*P **P 02 05 34.3 +0.4**
comp=Z,30nm,0.8s,mb5.1
SNTG Esanatoglia 29.78 289 P **P 02 05 35.0 +0.9**
comp=Z,11nm,0.8s,mb4.6
NKC Novy Kostel 29.82 303 *e*P **P 02 05 35.6 +1.2**
TANN Tannenbergstha 29.82 303 *e*P **P 02 05 35.4 +1.0**
comp=Z,7.0nm,0.9s,mb4.4
WERD Werda 29.92 303 *e*P **P 02 05 36.3 +1.0**
comp=Z,13nm,1.0s,mb4.6
ATD Arta Tunnel 30.12 200 LR LR 02 19 40.4
comp=Z,78nm,19.9s,MS3.4,baz=80,slow=40
JIRN Jiri 30.13 105 *e*P **P 02 05 37.9 +0.8**
comp=Z,38nm,0.7s,mb5.2
WTTA Wattenberg 30.32 297 ⇑*i*P **P 02 05 39.1 +0.2**
comp=Z,17nm,0.5s,mb5.0
WTTA Wattenberg 30.32 297 ⇑*i*P **P 02 05 39.1 +0.2**
WTTA pmax pmax
comp=Z,17nm,0.5s,mb5.0
WATA Walderalm 30.36 297 ⇑*i*P **P 02 05 39.6 +0.3**
comp=Z,4.1nm,0.7s,mb4.2
WATA Walderalm 30.36 297 ⇑*i*P **P 02 05 39.6 +0.4**
WATA pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MOX Moxa 30.38 304 *e*P **P 02 05 40.6 +1.3**
comp=Z,24nm,0.9s,mb4.9
MOX Moxa 30.38 304 *e*P **P 02 05 40.7 +1.4**
MOX pmax pmax
comp=Z,34nm,1.1s,mb5.0
MOX Moxa 30.38 304 *e*P **P 02 05 40.7 +1.4**
comp=Z,34nm,1.1s,mb5.0
CTI Castel Tesino 30.39 295 P **P 02 05 39.7 +0.3**
CTI pmax pmax
comp=Z,12nm,0.8s,mb4.7
CTI Castel Tesino 30.39 295 P **P 02 05 39.7 +0.3**
comp=Z,12nm,0.8s,mb4.7
GRA1 Grafenberg Arr 30.59 302 *e*P **P 02 05 42.1 +0.9**
comp=Z,3.0nm,0.9s,mb4.1
GRF Grafenberg Arr 30.59 302 *e*P **P 02 05 42.1 +0.9**
comp=Z,3.0nm,0.9s,mb4.1
GRF Grafenberg Arr 30.59 302 *e*P **P 02 05 42.1 +0.9**
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.1
GRF Grafenberg Arr 30.59 302 *e*P **P 02 05 42.1 +0.9**
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.1
COP Copenhagen 30.60 314 *i P* **P 02 05 43.4 +2.1**
comp=Z,50nm,0.7s,mb5.5
COP Copenhagen 30.60 314 *i P* **P 02 05 43.4 +2.1**
COP pmax pmax
comp=Z,50nm,0.7s,mb5.5
SQTA Sankt Quirin 30.62 297 ⇓*i*P **P 02 05 41.1 -0.4**
comp=Z,6.1nm,1.0s,mb4.4
SQTA Sankt Quirin 30.62 297 ⇓*i*P **P 02 05 41.1 -0.4**
SQTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
MOTA Moosalm 30.68 297 ⇑*i*P **P 02 05 41.4 -0.6**
comp=Z,9.6nm,1.1s,mb4.5
MOTA Moosalm 30.68 297 ⇑*i*P **P 02 05 41.4 -0.7**
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CSNT Castellina Chi 30.94 290 P **P 02 05 44.9 +0.6**
comp=Z,18nm,0.8s,mb5.0
CLZ Clausthal 31.24 306 *e*P **P 02 05 48.0 +1.1**
comp=Z,15nm,0.7s,mb4.9
CLZ Clausthal 31.24 306 *e*P **P 02 05 48.0 +1.1**
CLZ pmax pmax
comp=Z,15nm,0.7s,mb4.9
HFS Hagfors 31.27 322 P **P 02 05 47.3 +0.1**
comp=Z,40nm,0.5s,mb5.5,baz=104,slow=9.3,SNR=183
HFS Hagfors 31.27 322 P **P 02 05 47.3 +0.1**
HFS pmax pmax
comp=Z,40nm,0.5s
SARO Sassorosso 31.47 291 P **P 02 05 49.6 +0.6**
BSEG Bad Segeberg 31.50 310 *e*P **P 02 05 50.3 +1.1**
comp=Z,54nm,0.8s,mb5.4
BSEG Bad Segeberg 31.50 310 *e*P **P 02 05 50.3 +1.1**
BSEG pmax pmax
comp=Z,54nm,0.8s,mb5.4
DAVA Damuels 31.52 297 ⇑*i*P **P 02 05 48.9 -0.5**
comp=Z,10nm,0.7s,mb4.8
GRAM 31.66 292 P **P 02 05 49.8 -0.9**
BACM 31.69 291 P **P 02 05 51.8 +0.9**
STU Stuttgart 31.91 300 *e*P **P 02 05 53.3 +0.4**
comp=Z,29nm,0.9s,mb5.1
KEV Kevo 32.41 343 *ep* **P 02 05 57.4 +0.2**
comp=Z,15nm,0.4s,mb5.2
KEV Kevo 32.41 343 *e*P **P 02 05 57.4 +0.2**
KEV pmax pmax
comp=Z,15nm,0.4s,mb5.2

ARCES ARCESS Array B 32.58 342 P **P** **02 05 59.6 +0.9**
comp=Z,4.5nm,0.6s,mb4.5,baz=142,slow=8.6,SNR=32
ARCES pP pP 02 06 11.8 -0.1
comp=Z,2.9nm,0.8s,baz=106,slow=6.4,SNR=1.7
ARCES LR LR 02 20 37.4
comp=Z,95nm,19.1s,MS3.5,baz=328,slow=39
ARCES ARCESS Array B 32.58 342 P **P** **02 05 59.6 +0.9**
ARCES *PP pP 02 06 11.8 -0.1
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES MLR MLR
comp=Z,95nm,19.1s
ARCES ARCESS Array B 32.58 342 P **P** **02 05 59.6 +0.9**
ARCES pP pP 02 06 11.8 -0.1
ARCES LR LR 02 20 37.4
PCP Pian Castagno 32.73 292 P **P** **02 05 59.8 -0.3**
NB2 NORSAR Subarra 32.73 323 P **P** **02 05 59.6 -0.5**
comp=Z,18nm,0.5s,mb5.3,baz=110,slow=9.3
NOA NORSAR Array B 32.73 323 P **P** **02 05 59.6 -0.5**
comp=Z,15nm,0.5s,mb5.2,baz=113,slow=8.4,SNR=47
NOA LR LR 02 20 35.6
comp=Z,77nm,21.7s,MS3.4,baz=90,slow=39
NOA NORSAR Array B 32.73 323 P **P** **02 05 59.6 -0.5**
NOA pmax pmax
comp=Z,15nm,0.5s
NOA MLR MLR
comp=Z,77nm,21.7s
PGF Pioggiola 32.75 288 *eP* **P** **02 06 00.0 -0.2**
comp=Z,10nm,0.7s,mb4.6
PGF Pioggiola 32.75 288 *eP* **P** **02 06 00.0 -0.2**
PGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
PGF Pioggiola 32.75 288 *eP* **P** **02 06 00.0 -0.2**
comp=Z,5.2nm,0.7s,mb4.6
LSA Lhasa 32.79 97 *eP* **P** **02 06 01.8 +1.2**
LSA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LSA Lhasa 32.79 97 *eP* **P** **02 06 01.8 +1.2**
comp=Z,7.6nm,0.7s,mb4.7
LSA Lhasa 32.79 97 *eP* **P** **02 06 01.8 +1.2**
comp=Z,7.6nm,0.7s,mb4.7
NAO01 NORSAR Array S 32.82 323 *eP* **P** **02 06 00.6 -0.2**
NAO01 NORSAR Array S 32.82 323 *eP* **P** **02 06 00.6 -0.2**
IBBN Ibbenburen 32.88 307 *eP* **P** **02 06 02.3 +1.0**
comp=Z,39nm,1.1s,mb5.2
FIN Finale Ligure 33.02 292 P **P** **02 06 01.9 -0.7**
KONO Kongsberg 33.07 320 *eP* **P** **02 06 03.1 +0.1**
TRAV 33.16 294 P **P** **02 06 02.7 -1.1**
CDF Champ du Feu 33.20 299⇑*iP* **P** **02 06 03.8 -0.4**
comp=Z,8.1nm,0.6s,mb4.5
CDF Champ du Feu 33.20 299⇑*iP* **P** **02 06 03.8 -0.4**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CDF Champ du Feu 33.20 299⇑*iP* **P** **02 06 03.8 -0.4**
comp=Z,4.1nm,0.6s,mb4.5
ROB Roburent 33.25 292 P **P** **02 06 04.9 +0.3**
HINF Hinteralfeld 33.53 298 *eP* **P** **02 06 06.1 -0.9**
comp=Z,13nm,0.9s,mb4.5
HINF Hinteralfeld 33.53 298 *eP* **P** **02 06 06.1 -0.9**
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HINF Hinteralfeld 33.53 298 *eP* **P** **02 06 06.1 -0.9**
comp=Z,6.4nm,0.9s,mb4.5
LSD Ceresole Reale 33.58 294 P **P** **02 06 07.6 +0.2**
ENR Entracque 33.58 292 P **P** **02 06 07.5 +0.1**
SBF Sospel 33.63 291 *eP* **P** **02 06 08.1 +0.2**
comp=Z,45nm,0.8s,mb5.1
SBF Sospel 33.63 291 *eP* **P** **02 06 08.1 +0.2**
SBF pmax pmax
comp=Z,23nm,0.8s,mb5.2
SBF Sospel 33.63 291 *eP* **P** **02 06 08.1 +0.2**
comp=Z,23nm,0.8s,mb5.1
STV Sta Anna Valdi 33.64 292 P **P** **02 06 07.8 -0.2**
PZZ Prazzo 33.76 292 P **P** **02 06 07.9 -1.1**
HAU Haudompre 33.85 299⇑*iP* **P** **02 06 09.5 -0.3**
comp=Z,40nm,0.8s,mb5.1
HAU Haudompre 33.85 299⇑*iP* **P** **02 06 09.5 -0.3**
HAU pmax pmax
comp=Z,20nm,0.8s,mb5.1
HAU Haudompre 33.85 299⇑*iP* **P** **02 06 09.5 -0.3**
comp=Z,20nm,0.8s,mb5.1
LPG La Plagne 33.85 294⇑*iP* **P** **02 06 09.9 +0.1**
comp=Z,11nm,0.5s,mb4.8
LPG La Plagne 33.85 294⇑*iP* **P** **02 06 09.9 +0.1**
LPG pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LPG La Plagne 33.85 294⇑*iP* **P** **02 06 09.9 +0.1**
comp=Z,5.6nm,0.5s,mb4.8
LPL La Plagne 33.86 294⇑*iP* **P** **02 06 10.0 +0.1**
comp=Z,13nm,0.4s,mb4.9
LPL La Plagne 33.86 294⇑*iP* **P** **02 06 10.0 +0.1**
LPL pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
LPL La Plagne 33.86 294⇑*iP* **P** **02 06 10.0 +0.1**
comp=Z,6.4nm,0.4s,mb4.9
RRL Cesana Torines 33.92 293 P **P** **02 06 10.0 -0.4**
MEM Membach 33.95 303 P **P** **02 06 12.2 +1.6**
MEM Membach 33.95 303 P **P** **02 06 12.1 +1.5**
MBDF Montbardon 33.96 293⇑*iP* **P** **02 06 10.6 -0.1**
comp=Z,31nm,0.6s,mb5.1
MBDF Montbardon 33.96 293⇑*iP* **P** **02 06 10.6 -0.1**
MBDF pmax pmax
comp=Z,16nm,0.6s,mb5.1
MBDF Montbardon 33.96 293⇑*iP* **P** **02 06 10.6 -0.1**
comp=Z,16nm,0.6s,mb5.1
BNI Bardonecchia 33.97 293 *eP* **P** **02 06 10.8 0.0**
BNI pmax pmax
comp=Z,11nm,0.8s,mb4.8
BNI Bardonecchia 33.97 293 *eP* **P** **02 06 10.8 0.0**
comp=Z,11nm,0.8s,mb4.8
BNI Bardonecchia 33.97 293 *eP* **P** **02 06 10.8 0.0**
comp=Z,11nm,0.8s,mb4.8
CABF La Chapelle 34.17 296⇑*iP* **P** **02 06 12.5 0.0**
comp=Z,30nm,0.7s,mb5.1
CABF La Chapelle 34.17 296⇑*iP* **P** **02 06 12.5 0.0**
CABF pmax pmax
comp=Z,15nm,0.7s,mb5.0
CABF La Chapelle 34.17 296⇑*iP* **P** **02 06 12.5 0.0**
comp=Z,15nm,0.7s,mb5.0
FRF La Foret Royal 34.25 291⇑*iP* **P** **02 06 13.2 0.0**
comp=Z,53nm,0.7s,mb5.3
FRF La Foret Royal 34.25 291⇑*iP* **P** **02 06 13.2 0.0**
FRF pmax pmax
comp=Z,27nm,0.7s,mb5.3
FRF La Foret Royal 34.25 291⇑*iP* **P** **02 06 13.2 0.0**
comp=Z,27nm,0.7s,mb5.3
LMR La Mourre 34.39 290 *eP* **P** **02 06 14.1 -0.4**
KEST Kesra 34.41 276 P **P** **02 06 15.6 +1.0**
comp=Z,2.9nm,0.8s,mb4.2,baz=311,slow=2.8,SNR=11
KEST PcP PcP 02 08 48.9 -0.4
comp=Z,1.2nm,0.8s,baz=15,slow=20,SNR=4.3
MOY Mondy 34.58 55 *eP* **P** **02 06 18.1 +2.0**
MEZF Maizieres J'vi 34.67 300 *eP* **P** **02 06 17.0 +0.1**
comp=Z,44nm,1.0s,mb5.0
MEZF Maizieres J'vi 34.67 300 *eP* **P** **02 06 17.0 +0.1**
comp=Z,22nm,1.0s,mb5.0
GIVF Givet 34.72 303⇑*iP* **P** **02 06 18.5 +1.2**
comp=Z,22nm,0.8s,mb4.9
GIVF Givet 34.72 303⇑*iP* **P** **02 06 18.5 +1.2**
GIVF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GIVF Givet 34.72 303⇑*iP* **P** **02 06 18.5 +1.2**
comp=Z,11nm,0.8s,mb4.9
SMRF Simiane la Rot 34.93 292 *eP* **P** **02 06 19.0 -0.1**
BAIF Baives 35.12 303⇑*iP* **P** **02 06 21.3 +0.6**
comp=Z,30nm,0.9s,mb4.9
BAIF Baives 35.12 303⇑*iP* **P** **02 06 21.3 +0.6**
BAIF pmax pmax
comp=Z,15nm,0.9s,mb4.9
BAIF Baives 35.12 303⇑*iP* **P** **02 06 21.3 +0.6**
comp=Z,15nm,0.9s,mb4.9
VIVF Saint-Julien-l 35.41 294⇑*iP* **P** **02 06 22.9 -0.3**
comp=Z,8.7nm,0.7s,mb4.5
VIVF Saint-Julien-l 35.41 294⇑*iP* **P** **02 06 22.9 -0.3**
VIVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
VIVF Saint-Julien-l 35.41 294⇑*iP* **P** **02 06 22.9 -0.3**
comp=Z,4.3nm,0.7s,mb4.5
LOR Lormes 35.60 298⇑*iP* **P** **02 06 24.4 -0.5**
comp=Z,11nm,0.6s,mb4.7
LOR Lormes 35.60 298⇑*iP* **P** **02 06 24.4 -0.5**
LOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LOR Lormes 35.60 298⇑*iP* **P** **02 06 24.4 -0.5**
comp=Z,5.3nm,0.6s,mb4.7
GTA Gaotai 35.61 76 ⇑P **P** **02 06 26.5 +1.5**

GTA AP pP 02 06 38.6 +0.3
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,126nm,5.3s
GTA LR LR
comp=N,122nm,11.4s,MS4.0
GTA LR LR
comp=E,120nm,14.5s,MS4.0
GTA LR LR
comp=Z,183nm,13.3s,MS4.0
SMF Signal de Mont 35.70 297 *eP* **P** **02 06 25.5 -0.2**
comp=Z,19nm,0.8s,mb4.8
SMF Signal de Mont 35.70 297 *eP* **P** **02 06 25.5 -0.2**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SMF Signal de Mont 35.70 297 *eP* **P** **02 06 25.5 -0.2**
comp=Z,9.5nm,0.8s,mb4.8
SSF Saint Saulge 35.87 297⇑*iP* **P** **02 06 26.9 -0.3**
AVF Avril sur Loir 36.01 297⇑*iP* **P** **02 06 28.4 0.0**
comp=Z,42nm,0.8s,mb5.1
AVF Avril sur Loir 36.01 297⇑*iP* **P** **02 06 28.4 0.0**
AVF pmax pmax
comp=Z,21nm,0.8s,mb5.1
AVF Avril sur Loir 36.01 297⇑*iP* **P** **02 06 28.4 0.0**
comp=Z,21nm,0.8s,mb5.1
ZAK Zakamensk 36.07 57 *eP* **P** **02 06 30.0 +1.1**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LASF Ste Croix 36.13 292 *eP* **P** **02 06 29.2 -0.2**
comp=Z,23nm,1.1s,mb4.7
LASF Ste Croix 36.13 292 *eP* **P** **02 06 29.2 -0.2**
comp=Z,11nm,1.1s,mb4.7
BGF Bois d'Agland 36.39 297 *eP* **P** **02 06 31.7 +0.1**
HYF Humbligny 36.42 298 *eP* **P** **02 06 32.3 +0.4**
TCF Toulx Ste Croi 36.87 296⇑*iP* **P** **02 06 36.2 +0.5**
CAF Calviac 37.22 294 *eP* **P** **02 06 39.1 +0.4**
comp=Z,26nm,0.9s,mb4.8
CAF Calviac 37.22 294 *eP* **P** **02 06 39.1 +0.4**
CAF pmax pmax
comp=Z,13nm,0.9s,mb4.8
CAF Calviac 37.22 294 *eP* **P** **02 06 39.1 +0.4**
comp=Z,13nm,0.9s,mb4.8
MTLF Montolieu 37.45 292⇑*iP* **P** **02 06 40.5 -0.1**
comp=Z,16nm,0.9s,mb4.6
MTLF Montolieu 37.45 292⇑*iP* **P** **02 06 40.5 -0.1**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MTLF Montolieu 37.45 292⇑*iP* **P** **02 06 40.5 -0.1**
comp=Z,8.1nm,0.9s,mb4.6
LDF La Druitiere 38.08 301 *eP* **P** **02 06 45.3 -0.7**
comp=Z,14nm,0.6s,mb4.6
LDF La Druitiere 38.08 301 *eP* **P** **02 06 45.3 -0.7**
LDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
LDF La Druitiere 38.08 301 *eP* **P** **02 06 45.3 -0.7**
comp=Z,7.2nm,0.6s,mb4.6
LFF La Frestale 38.13 295 *eP* **P** **02 06 46.8 +0.4**
comp=Z,49nm,0.8s,mb5.0
LFF La Frestale 38.13 295 *eP* **P** **02 06 46.8 +0.4**
LFF pmax pmax
comp=Z,24nm,0.8s,mb5.0
LFF La Frestale 38.13 295 *eP* **P** **02 06 46.8 +0.4**
comp=Z,24nm,0.8s,mb5.0
SKP1 Kophill 38.18 306 *eP* **P** **02 06 46.6 -0.2**
FLN La Foliniere 38.29 301 *eP* **P** **02 06 47.7 0.0**
EMIR Miracle 38.30 290 P **P** **02 06 48.2 +0.4**
comp=Z,36nm,0.6s,mb5.3
SONM Songino Array 38.39 61 P **P** **02 06 49.6 +1.0**
comp=Z,3.7nm,0.7s,mb4.2,baz=274,slow=9.3,SNR=32
SONM PcP PcP 02 09 00.7 -0.5
comp=Z,1.1nm,0.6s,baz=275,slow=3.2,SNR=6.4
SONM Songino Array 38.39 61 P **P** **02 06 49.6 +1.0**
SONM 02 09 00.7
SONM pmax pmax
comp=Z,4.0nm,0.7s
LRW Lerwick 38.49 319 P **P** **02 06 49.3 -0.1**
LRW AMb AMB 02 06 49.3
comp=Z,251nm,1.3s,mb5.8
LRW Lerwick 38.49 319 *eP* **P** **02 06 49.3 -0.1**
LRW *eP* 02 06 49.3
LRW AMb AMB 02 06 49.3
comp=Z,251nm,1.3s,mb5.8
KBI1 Birley Grange 38.52 308 *eP* **P** **02 06 49.6 0.0**
GRR Gorron 38.59 300 *eP* **P** **02 06 50.8 +0.5**
comp=Z,25nm,0.8s,mb4.7
GRR Gorron 38.59 300 *eP* **P** **02 06 50.8 +0.5**
GRR pmax pmax
comp=Z,13nm,0.8s,mb4.7
GRR Gorron 38.59 300 *eP* **P** **02 06 50.8 +0.5**
comp=Z,13nm,0.8s,mb4.7
LHO Holmfirth 38.70 309 *eP* **P** **02 06 51.0 -0.1**
EPOB Poblet 38.77 289 P **P** **02 06 51.4 -0.4**
comp=Z,5.0nm,0.6s,mb4.4
EPOB Poblet 38.77 289 P **P** **02 06 51.4 -0.4**
comp=Z,5.0nm,0.6s,mb4.4
SWN1 Swindon 38.81 305 *eP* **P** **02 06 52.2 +0.1**
ULN Ulaanbaatar 38.82 60 ⇓P **P** **02 06 54.0 +1.8**
SNR=7.9
ULN Ulaanbaatar 38.82 60⇑*eP* **P** **02 06 53.8 +1.6**
ULN Ulaanbaatar 38.82 60 *eP* **P** **02 06 53.7 +1.5**
comp=Z,24nm,0.8s,mb5.0
ULN Ulaanbaatar 38.82 60 *eP* **P** **02 06 53.7 +1.5**
comp=Z,24nm,0.8s,mb5.0
XAL Allendale 38.85 311⇑*eP* **P** **02 06 52.6 +0.1**
EPF Esparros 38.85 292 *eP* **P** **02 06 51.0 -1.5**
XSO Sourhope Farm 38.86 312⇑*eP* **P** **02 06 52.2 -0.3**
EBIE Bielsa 39.08 291 P **P** **02 06 53.5 -0.8**
comp=Z,444nm,3.3s
EBIE Bielsa 39.08 291 P **P** **02 06 53.5 -0.9**
comp=Z,444nm,3.3s
EBL Broad Law 39.30 312 *eP* **P** **02 06 56.7 +0.4**
ECK Cauldkaine Hil 39.37 311⇑*eP* **P** **02 06 56.5 -0.2**
EDI Edinburgh 39.38 313 *eP* **P** **02 06 57.2 +0.3**
EDI AMb AMB 02 07 05.9
comp=Z,132nm,2.2s,mb5.3
HLM1 Long Mynd 39.38 307 *eP* **P** **02 06 57.0 +0.1**
ESK Eskdalemuir 39.41 312⇑*eP* **P** **02 06 57.0 -0.1**
ESK AMb AMB 02 06 58.1
comp=Z,144nm,1.8s,mb5.4
HGH Gray Hill 39.42 306 *eP* **P** **02 06 56.9 -0.3**
ERTA Horta de San J 39.43 289 P **P** **02 06 55.9 -1.3**
comp=Z,217nm,2.2s,mb5.5
ERTA Horta de San J 39.43 289 P **P** **02 06 55.9 -1.3**
comp=Z,217nm,2.2s,mb5.5
MCH1 Michaelchurch 39.51 306 *eP* **P** **02 06 57.2 -0.7**
MCH1 *eP* 02 06 57.2
MCH1 AMb AMB 02 07 00.2
comp=Z,42nm,1.7s,mb4.9
ETSF Etsaut 39.53 292 *eP* **P** **02 06 57.9 -0.2**
comp=Z,16nm,0.9s,mb4.5
ETSF Etsaut 39.53 292 *eP* **P** **02 06 57.9 -0.2**
ETSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ETSF Etsaut 39.53 292 *eP* **P** **02 06 57.9 -0.2**
comp=Z,7.9nm,0.9s,mb4.5
SBD1 Bryn Du 39.58 308 *eP* **P** **02 06 58.8 +0.3**
LZH Lanzhou 39.73 79 *eP* **P** **02 07 01.0 +1.2**
LZH PP PP 02 08 37.0 +5.3
LZH *eS* **S** **02 13 02.0 +2.1**
LZH AMB AMB
comp=Z,28nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,100nm,5.4s
LZH LR LR
comp=E,450nm,12.7s
LZH LR LR
comp=Z,850nm,14.0s,MS4.7
SGMF Saint Gilles 39.73 300 *eP* **P** **02 07 00.0 +0.2**
comp=Z,107nm,0.8s,mb5.3
SGMF Saint Gilles 39.73 300 *eP* **P** **02 07 00.0 +0.2**
SGMF pmax pmax
comp=Z,54nm,0.8s,mb5.3
SGMF Saint Gilles 39.73 300 *eP* **P** **02 07 00.0 +0.2**
comp=Z,54nm,0.8s,mb5.3
ESAC San Caprasio 39.78 290 P **P** **02 06 59.5 -0.8**
comp=Z,166nm,1.4s,mb5.6
ESAC San Caprasio 39.78 290 P **P** **02 06 59.5 -0.7**
comp=Z,166nm,1.4s,mb5.6
EAB Aberfoyle 40.02 313 *eP* **P** **02 07 01.8 -0.4**
HEX Exmoor 40.11 305 *eP* **P** **02 07 02.3 -0.6**
PGBU Glenifferbraes 40.12 312 *eP* **P** **02 07 03.5 +0.5**
PGBU AMb AMB 02 07 04.3
comp=Z,77nm,1.3s,mb5.3
ROSF Rostrenen 40.19 301 *eP* **P** **02 07 03.8 +0.2**
QUIF Quistinic 40.20 300 *eP* **P** **02 07 03.6 0.0**

GAL1 Galloway 40.30 311 *eP* **P** **02 07 04.9 +0.4**
GAL1 AMb AMB 02 07 09.8
comp=Z,122nm,2.0s,mb5.3
SPB4 Spitsbergen Ar 40.70 349 *eP* **P** **02 07 09.6 +1.7**
SPB4 Spitsbergen Ar 40.70 349 *eP* **P** **02 07 09.6 +1.8**
ETOB Tobarra 41.54 286 P **P** **02 07 14.6 -0.1**
comp=Z,78nm,1.6s,mb5.1
ETOB Tobarra 41.54 286 P **P** **02 07 14.6 -0.1**
comp=Z,78nm,1.6s,mb5.1
CD2 Chengdu 41.83 87 *eP* **P** **02 07 17.4 +0.3**
CD2 PP PP 02 08 57.7 +3.2
CD2 S **S** **02 13 33.3 +2.1**
CD2 SS SS 02 16 34.3 -4.5
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,140nm,13.2s,MS4.4
CD2 LR LR
comp=E,320nm,14.4s,MS4.4
BOD Bodaibo 41.98 44 *eP* **P** **02 07 18.3 0.0**
BOD pmax pmax
comp=Z,17nm,0.8s,mb4.7
EVIA Vianos 42.24 286 P **P** **02 07 19.7 -0.7**
EVIA pmax pmax
comp=Z,14nm,0.8s,mb4.6
EVIA Vianos 42.24 286 P **P** **02 07 19.7 -0.7**
comp=Z,14nm,0.8s,mb4.7
EVIA Vianos 42.24 286 P **P** **02 07 19.7 -0.7**
comp=Z,14nm,0.8s,mb4.7
CIT Chita 42.31 53 *eP* **P** **02 07 22.1 +1.1**
BTO Baotou 42.70 70 *eP* **P** **02 07 25.0 +0.9**
GUD Guadarrama 42.76 290 P **P** **02 07 23.7 -0.9**
GUD pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
GUD Guadarrama 42.76 290 P **P** **02 07 23.7 -1.0**
comp=Z,4.8nm,0.6s,mb4.4
GUD Guadarrama 42.76 290 P **P** **02 07 23.7 -0.9**
comp=Z,4.8nm,0.6s,mb4.4
ESDC Sonseca Array 42.95 288 P **P** **02 07 25.6 -0.5**
comp=Z,5.4nm,0.6s,mb4.4,baz=67,slow=8.2,SNR=30
ESDC pP pP 02 07 38.1 -1.6
comp=Z,4.1nm,0.7s,baz=65,slow=8.1,SNR=8.0
ESDC PcP PcP 02 09 15.7 -0.3
comp=Z,1.2nm,0.5s,baz=42,slow=3.4,SNR=6.1
ESDC Sonseca Array 42.95 288 P **P** **02 07 25.4 -0.7**
comp=Z,11nm,0.8s,mb4.6
ESDC Sonseca Array 42.95 288 P **P** **02 07 25.4 -0.7**
comp=Z,11nm,0.8s,mb4.6
EQES Quesada 42.96 285 P **P** **02 07 25.2 -1.0**
comp=Z,38nm,1.3s,mb5.0
EQES Quesada 42.96 285 P **P** **02 07 25.2 -1.0**
comp=Z,38nm,1.3s,mb5.0
EBAN Banos Encina 43.35 286 P **P** **02 07 28.4 -1.0**
EBAN pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
EBAN Banos Encina 43.35 286 P **P** **02 07 28.4 -1.0**
comp=Z,8.7nm,0.5s,mb4.7
EBAN Banos Encina 43.35 286 P **P** **02 07 28.4 -1.0**
comp=Z,8.7nm,0.5s,mb4.7
ECOG Cogollos-Vega 43.52 285 P **P** **02 07 29.9 -0.9**
ECOG pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
ECOG Cogollos-Vega 43.52 285 P **P** **02 07 29.9 -0.9**
comp=Z,2.7nm,0.4s,mb4.3
ECOG Cogollos-Vega 43.52 285 P **P** **02 07 29.9 -0.9**
comp=Z,2.7nm,0.4s,mb4.3
HHC Hu-ho-hao-te 43.72 69 *eP* **P** **02 07 33.9 +1.5**
HHC AMB AMB
comp=Z,115nm,5.6s
HHC LR LR
comp=N,192nm,14.9s,MS4.3
HHC LR LR
comp=E,183nm,14.3s,MS4.3
HHC LR LR
comp=Z,177nm,16.7s,MS4.0
KMBO Kilima Mbogo 43.76 203 LR LR 02 27 48.1
comp=Z,49nm,18.8s,MS3.4,baz=70,slow=39
ERON Agron 43.80 285 P **P** **02 07 32.7 -0.3**
comp=Z,2.7nm,0.4s,mb4.3
ERON Agron 43.80 285 P **P** **02 07 32.7 -0.3**
comp=Z,2.7nm,0.4s,mb4.3
ELUQ Luque 43.93 286 P **P** **02 07 33.3 -0.8**
ELUQ pmax pmax
comp=Z,14nm,0.8s,mb4.7
ELUQ Luque 43.93 286 P **P** **02 07 33.3 -0.7**
comp=Z,14nm,0.8s,mb4.7
ELUQ Luque 43.93 286 P **P** **02 07 33.3 -0.8**
comp=Z,14nm,0.8s,mb4.7
EADA Adamuz 43.93 286 P **P** **02 07 32.6 -1.5**
comp=Z,99nm,1.9s,mb5.2
EADA Adamuz 43.93 286 P **P** **02 07 32.6 -1.5**
comp=Z,99nm,1.9s,mb5.2
KMI Kunming 43.96 95 P **P** **02 07 34.9 +0.6**
KMI AMB AMB
comp=Z,36nm,0.8s,mb5.2
XAN Xi'an 44.36 80 P **P** **02 07 37.9 +0.4**
XAN AMB AMB
comp=Z,34nm,0.9s,mb5.1
EMIJ Mijas 44.69 284 P **P** **02 07 38.3 -1.8**
comp=Z,17nm,0.8s,mb4.9
ESPR Espera 45.37 285 P **P** **02 07 43.9 -1.6**
comp=Z,26nm,0.6s,mb5.2
ESPR Espera 45.37 285 P **P** **02 07 43.9 -1.6**
comp=Z,26nm,0.6s,mb5.2
EMIN Mina Concepcio 45.62 287 P **P** **02 07 46.4 -1.0**
comp=Z,8.3nm,0.6s,mb4.8
EMIN Mina Concepcio 45.62 287 P **P** **02 07 46.4 -1.1**
comp=Z,8.3nm,0.6s,mb4.8
MDT Midelt 46.15 280 P **P** **02 07 51.7 0.0**
comp=Z,1.5nm,0.4s,mb4.3,baz=57,slow=9.5,SNR=12
MDT pP pP 02 08 04.2 -1.2
comp=Z,3.8nm,0.9s,baz=83,slow=8.9,SNR=4.7
GYA Guiyang 46.24 90 ⇓*iP* **P** **02 07 52.7 +0.3**
GYA PCP PcP 02 09 30.4 +3.1
GYA PP PP 02 09 42.9 +1.3
GYA S **S** **02 14 38.2 +2.9**
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,490nm,15.8s,MS4.7
GYA LR LR
comp=E,510nm,16.0s,MS4.7
GYA LR LR
comp=Z,570nm,15.6s,MS4.6
HIA Hailar 46.74 56 *iP* **P** **02 07 57.4 +1.1**
HIA Hailar 46.74 56 *eP* **P** **02 07 57.6 +1.3**
comp=Z,20nm,0.8s,mb5.1
DAG Danmarks Havn 46.87 343 ⇓*iP* **P** **02 07 57.3 0.0**
comp=Z,19nm,0.4s,mb5.4
DAG Danmarks Havn 46.87 343 ⇓*iP* **P** **02 07 57.3 0.0**
DAG pmax pmax
comp=Z,19nm,0.4s,mb5.4
BJI Beijing 47.30 69 P **P** **02 07 59.9 -0.8**
TIXI Tiksi 47.83 24⇑*eP* **P** **02 08 05.4 +0.7**
TIXI pmax pmax
comp=Z,46nm,1.5s,mb5.3
TIXI MLR MLR
comp=Z,100nm,16.0s,MS3.9
TIXI Tiksi 47.83 24 *eP* **P** **02 08 05.0 +0.3**
TIXI Tiksi 47.83 24 *eP* **P** **02 08 05.1 +0.4**
CLNS Chul'man 47.95 45 *eP* **P** **02 08 03.1 -2.6**
CLNS pmax pmax
comp=Z,12nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.8s
YAK Yakutsk 49.29 37⇑*eP* **P** **02 08 15.9 -0.1**
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.3
CN2 Changchun 52.27 61 ⇑P **P** **02 08 39.2 +0.8**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
TOA0 Torodi Ar. Sit 52.33 254 *eP* **P** **02 08 37.5 -1.3**
TOA0 Torodi Ar. Sit 52.33 254 *eP* **P** **02 08 37.5 -1.4**
TORD Torodi Ar. Bea 52.33 254 P **P** **02 08 37.5 -1.4**
comp=Z,0.6nm,0.4s,mb3.9,baz=28,slow=8.2,SNR=20
TORD pP pP 02 08 52.3 -0.5
comp=Z,0.8nm,0.5s,baz=62,slow=7.3,SNR=4.1
TORD PcP PcP 02 09 48.5 -1.0
comp=Z,1.2nm,0.5s,baz=38,slow=4.5,SNR=4.1
TORD LR LR 02 33 56.8
comp=Z,66nm,19.3s,MS3.7,baz=350,slow=40

TORD	**Torodi Ar. Bea**	**52.33**	**254**	P	**P**	**02 08 37.5**	**-1.4**
TORD				pP	pP	02 08 52.3	-0.5
TORD				PcP	PcP	02 09 48.5	-1.0
TORD				LR	LR	02 33 56.9	
KLR	**Kul'dur**	**54.19**	**52**	*e*P	**P**	**02 08 49.8**	**-2.7**
PSI	**Prapat**	**55.82**	**120**	P	**P**	**02 09 01.9**	**-2.3**
	comp=Z,6.5nm,0.7s,mb4.8,baz=162,slow=16,SNR=6.8						
PSI	**Prapat**	**55.82**	**120**	P	**P**	**02 09 02.0**	**-2.3**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
KSRS	**Korea Array**	**56.71**	**67**	P	**P**	**02 09 10.6**	**0.0**
	comp=Z,12nm,0.7s,mb5.0,baz=291,slow=6.7,SNR=19						
KSRS				pP	pP	02 09 25.2	+0.6
	comp=Z,5.4nm,0.7s,baz=292,slow=6.3,SNR=5.9						
SFJD	**Kangerlussuaq**	**58.46**	**333**	P	**P**	**02 09 22.1**	**-0.9**
	comp=Z,14nm,0.6s,mb5.2,baz=50,slow=4.0,SNR=9.3						
SFJD	**Kangerlussuaq**	**58.46**	**333**	*e*P	**P**	**02 09 22.5**	**-0.4**
SFJD				pmax	pmax		
	comp=Z,17nm,0.4s,mb5.4						
SFJD	**Kangerlussuaq**	**58.46**	**333**	*e*P	**P**	**02 09 22.5**	**-0.4**
	comp=Z,17nm,0.4s,mb5.4						
SFJD	**Kangerlussuaq**	**58.46**	**333**	*e*P	**P**	**02 09 22.5**	**-0.4**
	comp=Z,17nm,0.4s,mb5.4						
SEY	**Seymchan**	**58.86**	**32⇑**	*e*P	**P**	**02 09 26.5**	**+0.8**
LSZ	**Lusaka**	**60.00**	**208**	P	**P**	**02 09 33.1**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.2,baz=13,slow=8.9,SNR=5.2						
LSZ				pP	pP	02 09 46.9	-0.8
	comp=Z,5.2nm,0.9s,baz=11,slow=6.7,SNR=7.0						
LSZ	**Lusaka**	**60.00**	**208**	P	**P**	**02 09 33.1**	**-0.5**
LSZ				*PP	pP	02 09 46.9	-0.8
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
LSZ	**Lusaka**	**60.00**	**208**	P	**P**	**02 09 33.1**	**-0.4**
LSZ				pP	pP	02 09 46.9	-0.8
BILL	**Bilibino**	**61.01**	**23⇑**	*i*P	**P**	**02 09 41.0**	**+0.5**
BILL				*e**PP	pP	02 09 52.1	-2.5
BILL				*e*		02 10 21.3	
BILL				*e*S	**S**	**02 17 55.1**	**-0.1**
BILL				*e*SS	SS	02 21 55.1	-0.2
BILL				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.3						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
BILL	**Bilibino**	**61.01**	**23**	*e*P	**P**	**02 09 41.5**	**+1.0**
	comp=Z,36nm,1.3s,mb5.3						
BILL	**Bilibino**	**61.01**	**23**	*e*P	**P**	**02 09 41.5**	**+1.0**
	comp=Z,36nm,1.3s,mb5.3						
LIC	**Lamto**	**61.86**	**253⇑**	*i*P	**P**	**02 09 45.1**	**-1.1**
	comp=Z,12nm,0.6s,mb4.9						
LIC	**Lamto**	**61.86**	**253⇑**	*i*P	**P**	**02 09 45.1**	**-1.1**
	comp=Z,5.9nm,0.6s,mb4.9						
RES	**Resolute Bay**	**63.22**	**351**	*e*P	**P**	**02 09 56.2**	**+0.9**
MJAR	**Matsushiro Arr**	**64.28**	**63**	P	**P**	**02 10 01.4**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.4,baz=304,slow=6.8,SNR=5.8						
MJAR				pP	pP	02 10 17.0	+0.5
	comp=Z,5.3nm,1.0s,baz=308,slow=5.9,SNR=4.3						
MJAR	**Matsushiro Arr**	**64.28**	**63**	P	**P**	**02 10 01.4**	**-0.8**
MJAR				*PP	pP	02 10 17.0	+0.5
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MATP	**Matopo**	**64.67**	**205**	P	**P**	**02 10 04.0**	**-0.7**
	comp=Z,3.8nm,0.4s,mb4.7,baz=21,slow=8.0,SNR=26						
MATP				pP	pP	02 10 17.1	-1.9
	comp=Z,14nm,0.5s,baz=24,slow=6.1,SNR=20						
MATP	**Matopo**	**64.67**	**205**	P	**P**	**02 10 04.1**	**-0.7**
MATP				pP	pP	02 10 17.1	-2.0
TSUM	**Tsumeb**	**67.84**	**216**	P	**P**	**02 10 24.1**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=23,slow=21,SNR=5.1						
LBTB	**Lobatse**	**69.90**	**206**	P	**P**	**02 10 37.5**	**-0.4**
	comp=Z,4.5nm,0.5s,mb4.7,baz=25,slow=6.0,SNR=15						
LBTB				pP	pP	02 10 50.2	-2.1
	comp=Z,29nm,0.7s,baz=29,slow=5.4,SNR=24						
LBTB	**Lobatse**	**69.90**	**206**	*e*P	**P**	**02 10 37.9**	**0.0**
LBTB				*PP	pP	02 10 50.2	-2.1
LBTB				*e*	pP	02 10 51.1	-1.2
LBTB				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.3						
LBTB	**Lobatse**	**69.90**	**206**	*e*P	**P**	**02 10 37.9**	**0.0**
	comp=Z,25nm,0.6s,mb5.3						
LBTB				pP	pP	02 10 50.2	-2.1
LBTB				*e*	pP	02 10 51.0	-1.3
LBTB	**Lobatse**	**69.90**	**206**	*e*P	**P**	**02 10 37.9**	**0.0**
	comp=Z,25nm,0.6s,mb5.3						
LBTB				pP	pP	02 10 50.2	-2.1
INK	**Inuvik**	**71.50**	**3**	P	**P**	**02 10 46.9**	**-0.7**
	comp=Z,6.8nm,1.0s,mb4.5,baz=12,slow=8.6,SNR=17						
INK				pP	pP	02 11 01.5	-0.6
	comp=Z,2.1nm,0.8s,baz=355,slow=23,SNR=3.6						
INK	**Inuvik**	**71.50**	**3**	P	**P**	**02 10 46.9**	**-0.7**
INK				*PP	pP	02 11 01.5	-0.6
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**71.50**	**3**	P	**P**	**02 10 46.9**	**-0.7**
INK				pP	pP	02 11 01.5	-0.6
SCHQ	**Schefferville**	**72.13**	**328**	P	**P**	**02 10 51.2**	**-0.2**
	comp=Z,9.5nm,0.7s,mb4.9,baz=44,slow=6.2,SNR=12						
SCHQ	**Schefferville**	**72.13**	**328**	P	**P**	**02 10 51.2**	**-0.2**
BOSA	**Boshof**	**73.34**	**205**	P	**P**	**02 10 57.2**	**-1.3**
	comp=Z,1.5nm,0.4s,mb4.2,baz=35,slow=4.1,SNR=8.1						
BOSA				pP	pP	02 11 10.9	-2.2
	comp=Z,10.0nm,0.8s,baz=24,slow=6.6,SNR=9.3						
BOSA	**Boshof**	**73.34**	**205**	P	**P**	**02 10 57.2**	**-1.4**
BOSA				*PP	pP	02 11 10.9	-2.2
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BOSA	**Boshof**	**73.34**	**205**	P	**P**	**02 10 57.2**	**-1.3**
BOSA				pP	pP	02 11 10.9	-2.2
COLA	**College**	**73.79**	**9**	*e*P	**P**	**02 11 01.1**	**-0.1**
COLA				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
COLA	**College**	**73.79**	**9**	*e*P	**P**	**02 11 01.1**	**-0.1**
	comp=Z,22nm,0.9s,mb5.1						
EGAK	**Eagle**	**74.57**	**6**	*e*P	**P**	**02 11 05.8**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.5						
EGAK	**Eagle**	**74.57**	**6**	*e*P	**P**	**02 11 05.8**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.5						
MCK	**McKinley**	**74.75**	**10**	*e*P	**P**	**02 11 07.3**	**+0.4**
	comp=Z,8.5nm,1.1s,mb4.6						
MCK	**McKinley**	**74.75**	**10**	*e*P	**P**	**02 11 07.7**	**+0.9**
DAWY	**Dawson**	**75.41**	**6**	*e*P	**P**	**02 11 10.8**	**+0.2**
DAWY	**Dawson**	**75.41**	**6**	*e*P	**P**	**02 11 10.8**	**+0.2**
SML	**Sawmill**	**76.68**	**10**	*e*P	**P**	**02 11 18.1**	**+0.3**
PMR	**Palmer**	**76.78**	**11**	*e*P	**P**	**02 11 18.9**	**+0.5**
YKW3	**Yellowknife Ar**	**76.90**	**354**	*e*P	**P**	**02 11 18.5**	**-0.5**
YKW3	**Yellowknife Ar**	**76.90**	**354**	*e*P	**P**	**02 11 18.5**	**-0.6**
YKA	**Yellowknife Ar**	**76.97**	**354**	P	**P**	**02 11 18.8**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.5,baz=8,3,slow=6.2,SNR=70						
YKA	**Yellowknife Ar**	**76.97**	**354⇑**	*e*P	**P**	**02 11 18.7**	**-0.7**
YKA	**Yellowknife Ar**	**76.97**	**354**	P	**P**	**02 11 18.8**	**-0.6**
YKA	**Yellowknife Ar**	**76.97**	**354**	P	**P**	**02 11 18.8**	**-0.6**
SLKM	**Skilak Lake**	**77.66**	**12**	*e*P	**P**	**02 11 22.8**	**-0.5**
SUR	**Sutherland**	**78.30**	**207**	P	**P**	**02 11 25.4**	**-1.5**
	comp=Z,5.7nm,0.9s,mb4.5,baz=131,slow=9.3,SNR=2.7						
SUR				pP	pP	02 11 40.2	-1.3
	comp=Z,4.5nm,0.6s,baz=88,slow=3.5,SNR=1.9						
SUR	**Sutherland**	**78.30**	**207**	P	**P**	**02 11 25.4**	**-1.5**
SUR				pP	pP	02 11 40.2	-1.3
KDAK	**Kodiak Island**	**79.86**	**14**	P	**P**	**02 11 35.0**	**-0.3**
	comp=Z,9.7nm,0.7s,mb4.8,baz=8.6,slow=22,SNR=13						
ULM	**Lac du Bonnet**	**85.68**	**341**	P	**P**	**02 12 04.6**	**-0.9**
	comp=Z,5.8nm,0.8s,mb4.9,baz=27,slow=3.8,SNR=11						
ULM				pP	pP	02 12 19.9	-0.4
	comp=Z,2.7nm,0.6s,baz=20,slow=2.6,SNR=4.5						
EDM	**Edmonton**	**86.00**	**352**	*e*P	**P**	**02 12 07.5**	**+0.3**
AGMN	**Agassiz Refuge**	**87.47**	**340**	*e*P	**P**	**02 12 13.5**	**-0.8**
	comp=Z,6.2nm,0.8s,mb4.9						
AGMN	**Agassiz Refuge**	**87.47**	**340**	*e*P	**P**	**02 12 13.5**	**-0.8**
	comp=Z,6.2nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**89.02**	**115**	P	**P**	**02 12 19.5**	**-2.2**
	comp=Z,3.0nm,0.9s,mb4.6,baz=354,slow=19,SNR=4.1						
NEW	**Newport**	**91.28**	**353**	P	**P**	**02 12 32.5**	**+0.3**
	comp=Z,3.6nm,0.5s,mb5.0,baz=352,slow=5.7,SNR=8.4						
NEW				pP	pP	02 12 47.7	+0.6
	comp=Z,1.4nm,0.5s,baz=8.1,slow=7.1,SNR=3.1						
NEW	**Newport**	**91.28**	**353**	P	**P**	**02 12 32.5**	**+0.3**
NEW				*PP	pP	02 12 47.7	+0.6
NEW				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	**Newport**	**91.28**	**353**	P	**P**	**02 12 32.5**	**+0.3**
NEW				pP	pP	02 12 47.7	+0.6
GNW	**Green Mountain**	**92.34**	**357**	*e*P	**P**	**02 12 44.2**	**+7.1**
GNW	**Green Mountain**	**92.34**	**357**	*e*P	**P**	**02 12 44.2**	**+7.1**
GCMT	**Greycliff**	**92.79**	**348**	*e*P	**P**	**02 12 40.2**	**+1.1**
GCMT				*e*	pP	02 12 55.3	+1.1
GCMT	**Greycliff**	**92.79**	**348**	*e*P	**P**	**02 12 40.2**	**+1.0**
IMW	**Indian Meadow**	**94.84**	**348**	*e*P	**P**	**02 12 50.4**	**+1.7**
	comp=Z,6.1nm,1.0s,mb5.0						
HLID	**Hailey**	**95.65**	**351**	*e*P	**P**	**02 12 52.6**	**+0.4**
	comp=Z,0.8nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**95.72**	**347**	P	**P**	**02 12 52.2**	**-0.4**
	comp=Z,0.3nm,0.4s,mb4.0,baz=92,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**96.37**	**111**	P	**P**	**02 12 53.3**	**-2.2**
	comp=Z,1.3nm,0.7s,mb4.5,baz=319,slow=4.4,SNR=9.4						
WRA	**Warramunga Arr**	**96.37**	**111**	P	**P**	**02 12 53.3**	**-2.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YBH	**Yreka Blue Hor**	**98.15**	**357**	P	**P**	**02 13 02.6**	**-1.1**
	comp=Z,1.6nm,0.8s,mb4.6,baz=202,slow=5.4,SNR=3.1						
YBH	**Yreka Blue Hor**	**98.15**	**357**	P	**P**	**02 13 02.6**	**-1.0**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PAHR	**Pah Rah Range**	**99.97**	**354**	*e*Pdif	Pdif	02 13 14.2	+2.5
SNAA	**Sanae**	**118.47**	**197**	PKiKP	PKiKP	02 18 11.1	-3.1
	comp=Z,0.6nm,0.8s,baz=39,slow=4.4,SNR=5.6						
SNAA	**Sanae**	**118.47**	**197**	*e*	PKPdf	02 18 11.4	-2.8
SNAA	**Sanae**	**118.47**	**197**	*i* PKIKP	PKPdf	02 18 11.1	-3.1
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNA2	**Neumayer--Watz**	**119.06**	**199**	*e*	PKPdf	02 18 12.9	-2.4
	baz=31,slow=2.5						
VNA2				*e*		02 18 27.9	
VNA2				*e*		02 18 40.5	
VNA2				*e*		02 18 48.2	
VNA1	**Neumayer--Stat**	**119.09**	**200**	*e*	PKPdf	02 18 13.4	-2.0
VNA3	**Neumayer Olymp**	**119.83**	**199**	*e*	PKPdf	02 18 14.1	-2.7
VNA3				*e*		02 18 29.3	
VNA3				*e*		02 18 41.7	
LPAZ	**La Paz**	**123.98**	**277**	PKP	PKPdf	02 18 24.5	-0.2
	comp=Z,0.7nm,0.8s,baz=37,slow=13,SNR=3.6						
LPAZ	**La Paz**	**123.98**	**277**	PKIKP	PKPdf	02 18 24.5	-0.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**123.98**	**277**	PKP	PKPdf	02 18 24.5	-0.2

BJI ***08*** *02:00:51.6, 2091N×144.04E, h35km, mB4.9, mb4.7, Ms4.2, Msz3.9*
NEIC ***08*** *02:01:02.1±0.5, 2176N×143.13E, h35km, mb3.9/1, Error ellipse: s-maj=24.2km s-min=12.2km az=90.0*
ISCJB ***08*** *02:01:08.4±7.7, 216N±0.1×1430E±0.3, h105km±70km, mb4.0/12, Error ellipse: s-maj=39.2km s-min=15.5km az=157.7*
IDC ***08*** *02:01:11.4±8.0, 2168N×143.07E, h121km±73km, mb3.8/12, mb1 3.9/12, mb1mx3.8/23, mbtmp3.7/12, MS3.4/5, Ms1 3.4/5, ms1mx2.9/47, Error ellipse: s-maj=33.7km s-min=15.1km az=82.0*

ISC 08 02:01:13.0±6.7, 2166N±010×1430E±02, h133km±62km, n23, σ0°94/17, mb3.9/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.46**	**352**	LR	LR	02 03 48.8	
	comp=Z,244nm,19.6s,baz=114,slow=29						
JHJ	**Hachijo jima 2**	**11.77**	**347**	LR	LR	02 07 48.3	
	comp=Z,93nm,21.1s,baz=283,slow=34						
JOW	**Kunigami**	**14.41**	**294**	LR	LR	02 08 42.3	
	comp=Z,291nm,20.2s,baz=288,slow=31						
MJAR	**Matsushiro Arr**	**15.41**	**345**	LR	LR	02 10 07.2	
	comp=Z,208nm,18.4s,baz=180,slow=35						
KSRS	**Korea Array**	**20.46**	**324**	P	**P**	**02 05 40.6**	**+0.6**
	1.6nm,0.7s,baz=133,slow=8.8,SNR=5.0						
KSRS				LR	LR	02 12 34.5	
	comp=Z,92nm,18.9s,baz=135,slow=33						
SONM	**Songino Array**	**39.27**	**321**	P	**P**	**02 08 28.0**	**-0.6**
	1.9nm,0.9s,mb3.7,baz=130,slow=4.8,SNR=5.1						
CTA	**Charters Tower**	**41.62**	**175**	P	**P**	**02 08 48.5**	**+0.7**
	12nm,1.1s,mb4.5,baz=41,slow=11,SNR=3.9						
WRAB	**Tennant Creek**	**42.20**	**192**	*e*P	**P**	**02 08 51.7**	**-1.0**
	2.7nm,1.1s,mb3.8						
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**02 08 53.2**	**+0.5**
	5.9nm,1.0s,mb4.2,baz=14,slow=8.8,SNR=16						
STKA	**Stephens Creek**	**53.25**	**182**	P	**P**	**02 10 16.1**	**-1.7**
	3.0nm,0.9s,mb4.0,baz=9.1,slow=5.2,SNR=5.0						
STKA	**Stephens Creek**	**53.25**	**182**	*e*P	**P**	**02 10 18.2**	**+0.4**
BVAR	**Borovoye Array**	**62.61**	**320**	P	**P**	**02 11 22.9**	**0.0**
	4.7nm,0.9s,mb4.3,baz=98,slow=9.1,SNR=3.5						
INK	**Inuvik**	**67.66**	**24**	P	**P**	**02 11 53.8**	**-1.8**
	2.8nm,0.9s,mb4.0,baz=233,slow=5.7,SNR=2.5						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	**P**	**02 12 47.8**	**-0.7**
	2.3nm,0.9s,mb3.8,baz=293,slow=5.4,SNR=7.0						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	**P**	**02 12 47.8**	**-0.7**
AKASG	**Malin Array Be**	**87.45**	**324**	P	**P**	**02 13 46.3**	**+0.9**
	0.2nm,0.3s,mb3.5,baz=42,slow=5.1,SNR=4.1						
PDAR	**Pinedale Array**	**87.52**	**45**	P	**P**	**02 13 47.3**	**+1.7**
	0.4nm,0.8s,mb3.3,baz=351,slow=4.6,SNR=2.9						
PDAR	**Pinedale Array**	**87.52**	**45**	P	**P**	**02 13 47.3**	**+1.6**
BRTR	**Keskin Array B**	**90.26**	**313**	P	**P**	**02 13 58.2**	**-0.4**
	0.7nm,0.9s,mb3.6,baz=46,slow=5.3,SNR=3.7						
BRTR	**Keskin Array B**	**90.26**	**313**	P	**P**	**02 13 58.2**	**-0.4**
ULM	**Lac du Bonnet**	**91.55**	**33**	P	**P**	**02 14 05.1**	**+0.6**
	1.2nm,0.8s,mb4.0,baz=290,slow=12,SNR=2.1						
LPAZ	**La Paz**	**150.08**	**85**	PKPbc	PKPbc	02 20 48.9	+1.0
	0.5nm,0.6s,baz=178,slow=3.3,SNR=3.0						
LPAZ	**La Paz**	**150.08**	**85**	PKPbc	PKPbc	02 20 48.9	+1.0
LPAZ				*e*PKPab	PKPab	02 20 55.9	+1.7

IDC ***08*** *02:09:30.1±0.8, 2172N×143.22E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/23, mbtmp4.1/11, MS3.4/6, Ms1 3.4/6, ms1mx3.0/43, Error ellipse: s-maj=29.9km s-min=16.6km az=79.0*
ISCJB ***08*** *02:09:33.6±0.6, 2172N±009×143.1E±02, h35km, mb4.2/14, MS3.5/3, Error ellipse: s-maj=24.4km s-min=11.8km az=151.8*
NEIC ***08*** *02:09:53.8±3.4, 2158N×142.90E, h206km±33km, mb4.3/4, Error ellipse: s-maj=23.3km s-min=11.7km az=80.0*

ISC 08 02:09:35.5±0.6, 2174N±009×1432E±02, h35km, n22, σ0°57/16, mb4.2/14, MS3.5/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.26**	**168**	LR	LR	02 14 05.4	
	comp=Z,157nm,19.6s,baz=215,slow=33						
JHJ	**Hachijo jima 2**	**11.73**	**346**	LR	LR	02 16 11.7	
	comp=Z,94nm,19.9s,baz=114,slow=34						
JOW	**Kunigami**	**14.50**	**293**	LR	LR	02 17 28.8	
	comp=Z,220nm,19.9s,baz=326,slow=33						
KSRS	**Korea Array**	**20.48**	**323**	P	**P**	**02 14 10.3**	**0.0**
	0.8nm,0.4s,baz=64,slow=39,SNR=3.1						
KSRS				LR	LR	02 22 18.7	
	comp=Z,66nm,19.1s,MS3.0,baz=77,slow=37						
SONM	**Songino Array**	**39.31**	**320**	P	**P**	**02 17 00.8**	**-0.3**
	0.8nm,0.6s,mb3.6,baz=124,slow=9.1,SNR=6.8						
CTA	**Charters Tower**	**41.67**	**176**	P	**P**	**02 17 19.4**	**-1.3**
	12nm,1.1s,mb4.5,baz=298,slow=22,SNR=1.9						
WRAB	**Tennant Creek**	**42.30**	**192**	*e*P	**P**	**02 17 26.4**	**+0.6**
	4.5nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**42.31**	**192**	P	**P**	**02 17 25.9**	**0.0**
	4.2nm,1.0s,mb4.0,baz=12,slow=8.6,SNR=12						
PSI	**Prapat**	**46.92**	**253**	LR	LR	02 36 47.4	
	comp=Z,74nm,19.6s,MS3.6,baz=259,slow=35						
DZM	**Mont Dzumac**	**49.10**	**151**	LR	LR	02 35 41.7	
	comp=Z,91nm,18.9s,MS3.8,baz=189,slow=32						
STKA	**Stephens Creek**	**53.33**	**182**	P	**P**	**02 18 51.5**	**+0.4**
	3.4nm,0.8s,mb4.3,baz=357,slow=14,SNR=6.1						
ZAL	**Zalesovo**	**54.19**	**322**	P	**P**	**02 18 57.3**	**-0.1**
	1.0nm,0.3s,mb4.2,baz=222,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**54.67**	**313**	P	**P**	**02 19 01.2**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=104,slow=5.1,SNR=3.6						
KURK	**Kurchatov**	**57.45**	**317**	*e*P	**P**	**02 19 21.0**	**+0.2**
	10nm,1.4s,mb4.7						
CHKZ	**Chkalovo**	**62.51**	**320**	*e*P	**P**	**02 19 55.2**	**-0.3**
	6.5nm,1.3s,mb4.6						
BVAR	**Borovoye Array**	**62.64**	**319**	P	**P**	**02 19 56.6**	**+0.2**
	2.6nm,0.7s,mb4.5,baz=93,slow=7.6,SNR=14						
BRVK	**Borovoye**	**62.70**	**320**	*e*P	**P**	**02 19 56.9**	**+0.1**
	30nm,1.8s,mb5.1						
INK	**Inuvik**	**67.54**	**24**	P	**P**	**02 20 27.4**	**-0.8**
	2.6nm,1.1s,mb4.2,baz=326,slow=4.4,SNR=4.3						
YKA	**Yellowknife Ar**	**76.42**	**28**	P	**P**	**02 21 21.2**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=292,slow=5.4,SNR=13						
YKA	**Yellowknife Ar**	**76.42**	**28**	P	**P**	**02 21 21.2**	**-0.2**
NVAR	**Mina Array Bea**	**83.12**	**51**	P	**P**	**02 21 59.0**	**+1.3**
	0.3nm,0.3s,mb3.9,baz=276,slow=6.1,SNR=5.9						
LPAZ	**La Paz**	**149.94**	**85**	*e*PKPab	PKPab	02 29 30.6	+2.8

ISCJB ***08*** *02:17:08.4±0.3, 4741N±002×1140E±003, h12km±4km, Error ellipse: s-maj=3.9km s-min=2.9km az=108.9*
CSEM ***08*** *02:17:09.5±0.1, 4733N×1138E, h12km, ML1.7/4, Error ellipse: s-maj=2.3km s-min=1.7km az=132.0*
VIE ***08*** *02:17:09.7±0.3, 4733N×1136E, h7km±4km, mb0.6/1, ML1.7/4, Error ellipse: s-maj=1.8km s-min=1.0km az=9.0*
8 km NNW of Innsbruck
BGR ***08*** *02:17:10.7±0.3, 4736N×1143E, h10km, ML2.3/3, Error ellipse: s-maj=3.3km s-min=3.3km az=3.0*
PRU ***08*** *02:17:11.9, 4743N×1150E, h0km*
ROM ***08*** *02:17:16.9±0.6, 4696N×1147E, h10km, Md2.4/4, Ml1.7/1, Error ellipse: s-maj=9.2km s-min=2.4km az=173.0*

ISC 08 02:17:09.4±0.4, 4737N±002×1139E±003, h13km±4km, n31, σ0°98/52, 10C-4D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.13**	**104⇑**	*i*Pg	**Pg**	**02 17 13.3**	**+0.5**
	14nm,0.1s						
WATA				⇑*i*Sg	**Sg**	**02 17 15.5**	**+0.3**
	77nm,0.1s						
SQTA	**Sankt Quirin**	**0.19**	**221⇑**	*i*Pg	**Pg**	**02 17 13.4**	**-0.4**
	108nm,0.2s						
SQTA				⇓*i*Sg	**Sg**	**02 17 15.7**	**-0.9**
	92nm,0.2s						
SQTA	**Sankt Quirin**	**0.19**	**221**	Pg	**Pg**	**02 17 13.4**	**-0.3**
	108nm,0.2s						
SQTA				Sg	**Sg**	**02 17 15.7**	**-1.0**
	92nm,0.2s						
WTTA	**Wattenberg**	**0.20**	**122**	*e*Pg	**Pg**	**02 17 14.3**	**+0.5**
	SNR=14						
WTTA				*e*Sg	**Sg**	**02 17 17.5**	**+0.7**
	SNR=13						
WTTA	**Wattenberg**	**0.20**	**122⇑**	*i*Pg	**Pg**	**02 17 14.3**	**+0.5**
	15nm,0.1s						
WTTA				⇓*i*Sg	**Sg**	**02 17 16.6**	**-0.1**
	50nm,0.2s						
MOTA	**Moosalm**	**0.20**	**264⇑**	*i*Pg	**Pg**	**02 17 13.5**	**-0.3**
	6.3nm,0.1s						
MOTA				⇑*i*Sg	**Sg**	**02 17 15.8**	**-1.0**
	24nm,0.1s						
MOTA	**Moosalm**	**0.20**	**264**	Pg	**Pg**	**02 17 13.5**	**-0.3**
	6.3nm,0.1s						
MOTA				Sg	**Sg**	**02 17 15.8**	**-1.0**
	24nm,0.1s						
RETA	**Reutte**	**0.44**	**286⇑**	*i*Pg	**Pg**	**02 17 18.3**	**+0.1**
	1.0nm,0.1s						
RETA				⇑*i*Sg	**Sg**	**02 17 24.4**	**+0.2**
	14nm,0.2s						
FETA	**Feichten**	**0.57**	**233⇑**	*i*Pg	**Pg**	**02 17 19.8**	**-0.8**
	0.3nm,0.0s						
FETA				⇓*i*Sg	**Sg**	**02 17 27.0**	**-1.1**
	8.9nm,0.3s						
FUR	**Furstenfeldbru**	**0.80**	**354**	*e*Pg	**Pg**	**02 17 26.2**	**+1.2**
	SNR=5.1						
FUR				*e*Sg	**Sg**	**02 17 37.8**	**+2.3**
	SNR=7.9						
APPI	**Appiano**	**0.90**	**187**	Pg	**Pg**	**02 17 27.1**	**+0.4**
DAVA	**Damuels**	**1.03**	**266⇓**	*i*Pg	**Pg**	**02 17 29.8**	**+0.5**
	comp=Z,9.3nm,0.2s						
DAVA				⇑*i*Sg	**Sg**	**02 17 44.7**	**+1.9**
	comp=Z,21nm,0.2s						
DAVA	**Damuels**	**1.03**	**266**	*e*Pg	**Pg**	**02 17 29.9**	**+0.6**
	SNR=12						
DAVA				*e*Sg	**Sg**	**02 17 44.1**	**+1.4**
	SNR=6.4						
DAVA	**Damuels**	**1.03**	**266**	Pg	**Pg**	**02 17 29.8**	**+0.5**
	9.3nm,0.2s						
DAVA				Sg	**Sg**	**02 17 44.1**	**+1.3

comp=Z,0.3nm,0.3s,baz=152,slow=10,SNR=6.7
CHKZ Chkalovo 16.38 357 *e*P **Pn 02 22 56.6 +0.1**
CHKZ pmax pmax
comp=Z,1.0nm,0.6s
CHKZ Chkalovo 16.38 357 *e*P **Pn 02 22 56.6 +0.1**
comp=Z,1.2nm,0.6s
AKTK Aktyubinsk 16.55 327 P **Pn 02 22 58.5 0.0**
AKTO Aktyubinsk 16.55 327 P **Pn 02 22 58.5 0.0**
comp=Z,0.7nm,0.3s,baz=128,slow=12,SNR=16
AKTO Aktyubinsk 16.55 327 P **Pn 02 22 58.5 0.0**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZAL Zalesovo 18.77 24 P **P 02 23 22.2 +0.1**
comp=Z,1.8nm,0.3s,baz=249,slow=8.1,SNR=15
ZAL LR LR 02 31 37.9
comp=Z,78nm,18.1s,baz=274,slow=39
ZAL Zalesovo 18.77 24 P **P 02 23 22.2 +0.1**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL MLR MLR
comp=Z,78nm,18.1s
ZAL Zalesovo 18.77 24 P **P 02 23 22.2 +0.1**
ZAL LR LR 02 31 37.9
ARU Arti 21.16 339 *e*P **P 02 23 47.4 -0.2**
ARU pmax pmax
comp=Z,14nm,0.7s,mb4.4
ARU Arti 21.16 339 *e*P **P 02 23 47.4 -0.2**
comp=Z,14nm,0.7s,mb4.4
FINES FINESS Array B 37.31 325 P **P 02 26 11.1 0.0**
comp=Z,2.6nm,0.9s,mb3.9,baz=116,slow=9.4,SNR=2.4
FINES FINESS Array B 37.31 325 P **P 02 26 11.1 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 40.73 337 P **P 02 26 39.3 -0.2**
comp=Z,2.6nm,0.9s,mb3.9,baz=99,slow=7.7,SNR=8.7
ARCES ARCESS Array B 40.73 337 P **P 02 26 39.3 -0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
HFS Hagfors 42.98 321 P **P 02 26 57.5 -0.2**
comp=Z,0.9nm,0.5s,mb3.7,baz=91,slow=12,SNR=6.0
HFS Hagfors 42.98 321 P **P 02 26 57.5 -0.2**
HFS pmax pmax
comp=Z,1.0nm,0.5s
JNU Nakatsue 47.51 77 LR LR 02 49 26.7
comp=Z,209nm,21.7s,baz=56,slow=38
TORD Torodi Ar. Bea 66.64 269 P **P 02 29 46.8 -0.6**
comp=Z,0.2nm,0.4s,mb3.3,baz=50,slow=5.7,SNR=8.7

ISCJB ***08*** *02:30:43.8±0.3, 4754N±002×751E±002, h13km±3km, Error ellipse: s-maj=3.2km s-min=2.7km az=54.9*
CSEM ***08*** *02:30:44.7±0.1, 4758N×761E, h11km±1km, ML2.5/13, Error ellipse: s-maj=1.5km s-min=1.5km az=103.0*
STR ***08*** *02:30:44.5±0.3, 4757N×762E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***08*** *02:30:45.1, 4759N×760E, h5km±1km, ML1.8*
LDG ***08*** *02:30:45.2±0.1, 4758N×757E, h11km, Md2.1/1, Ml2.4/13, Error ellipse: s-maj=2.5km s-min=1.4km az=93.0*
ISC 08 02:30:44.5±0.3, 4756N±002×755E±002, h13km±3km, n49, σ0°96/75, 7C-5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.10**	**197**	Pg	**Pg**	**02 30 47.0**	**-0.6**
BBS				Sg	**Sg**	**02 30 49.4**	**-0.4**
BALST	**Balsthal**	**0.25**	**157**	⇓*i*Pg	**Pg**	**02 30 50.4**	**+0.6**
	210nm,0.2s						
BOURR	**Bourrignon**	**0.28**	**232**	⇑*i*Pg	**Pg**	**02 30 51.5**	**+1.2**
	112nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.38**	**95**	*e*Sg	**Pg**	**02 30 52.3**	**+0.1**
	159nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.38**	**95**	⇑*i*Pg	**Sg**	**02 30 56.9**	**-0.5**
	159nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.38**	**95**	⇑*i*Pg	**Sg**	**02 30 56.9**	**-0.5**
	159nm,0.3s						
MOF	**Molkenrain**	**0.40**	**315**	Pg	**Pg**	**02 30 53.0**	**+0.4**
MOF				Sg	**Sg**	**02 30 58.6**	**+0.6**
FELD	**Feldberg im Sc**	**0.44**	**44**	Pg	**Pg**	**02 30 52.6**	**-0.6**
FELD				Sg	**Sg**	**02 30 58.1**	**-0.9**
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pg	**Pg**	**02 30 55.4**	**+0.3**
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pn	**Pg**	**02 30 57.1**	**+2.0**
HINF				*e*Sg	**Sg**	**02 31 02.7**	**+0.5**
HINF				*e*Sn	**Sg**	**02 31 06.2**	**+4.0**
	34nm,0.2s						
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pn	**Pg**	**02 30 57.1**	**+2.0**
HINF				*e*Sg	**Sg**	**02 31 02.7**	**+0.5**
HINF				*e*Sn	**Sg**	**02 31 06.2**	**+4.0**
	17nm,0.2s						
LOMF	**Lomont**	**0.54**	**247**	Pg	**Pg**	**02 30 56.0**	**+0.9**
LOMF				Sg	**Sg**	**02 31 04.6**	**+2.4**
SLE	**Schleitheim**	**0.67**	**72**	⇓*i*P	**Pg**	**02 30 56.9**	**-0.6**
	183nm,0.2s						
ECH	**Echery**	**0.70**	**338**	Pg	**Pg**	**02 30 58.5**	**+0.3**
ECH				Sg	**Sg**	**02 31 07.4**	**-0.1**
TRULL	**Truellikon**	**0.77**	**83**	*e*S	**Pg**	**02 30 59.2**	**-0.2**
	112nm,0.2s						
TRULL	**Truellikon**	**0.77**	**83**	⇑*i*P	**Sg**	**02 31 09.5**	**0.0**
	112nm,0.2s						
CDF	**Champ du Feu**	**0.87**	**348**	*e*Pg	**Pg**	**02 31 01.4**	**+0.1**
CDF	**Champ du Feu**	**0.87**	**348**	*e*Pn	**Pn**	**02 31 01.8**	**-0.6**
CDF				*e*Sg	**Sg**	**02 31 11.7**	**-1.0**
CDF				*e*Sn	**Sn**	**02 31 13.7**	**-1.2**
	32nm,0.3s						
CDF	**Champ du Feu**	**0.87**	**348**	*e*Pn	**Pn**	**02 31 01.8**	**-0.6**
CDF				*e*Sg	**Sg**	**02 31 11.7**	**-1.0**
CDF				*e*Sn	**Sn**	**02 31 13.7**	**-1.2**
	16nm,0.3s						
HAU	**Haudompre**	**0.93**	**299**	*e*Pg	**Pg**	**02 31 02.9**	**+0.5**
HAU				*e*Sg	**Sg**	**02 31 15.4**	**+0.9**
	42nm,0.3s						
HAU	**Haudompre**	**0.93**	**299**	*e*Pg	**Pg**	**02 31 02.9**	**+0.5**
HAU				*e*Sg	**Sg**	**02 31 15.4**	**+0.9**
	21nm,0.3s						
WILA	**Wila**	**0.93**	**99**	*i* P	**Pb**	**02 31 02.6**	**+0.1**
	192nm,0.2s						
WEIN	**Weingarten**	**0.97**	**92**	*i* P	**Pb**	**02 31 03.2**	**0.0**
	84nm,0.4s						
WEIN				*e*S	**Sb**	**02 31 16.8**	**+0.9**
	84nm,0.4s						
LKBD	**Leukerbad**	**1.18**	**178**	⇑*i*P	**Pn**	**02 31 08.6**	**+1.9**
LIENZ	**Alp Oberkamor**	**1.34**	**101**	*e*S	**Pn**	**02 31 11.7**	**+2.8**
	47nm,0.3s						
GIMEL	**Gimel**	**1.36**	**221**	*e*P	**Pn**	**02 31 14.9**	**+5.8**
	67nm,0.2s						
CABF	**La Chapelle**	**1.38**	**227**	*e*Pg	**Pg**	**02 31 11.9**	**+0.8**
CABF				*e*Sg	**Sg**	**02 31 29.3**	**+0.2**
	7.5nm,0.2s						
CABF	**La Chapelle**	**1.38**	**227**	*e*Pg	**Pg**	**02 31 11.9**	**+0.8**
CABF				*e*Sg	**Sg**	**02 31 29.3**	**+0.2**
	3.8nm,0.2s						
MMK	**Mattmark**	**1.54**	**169**	⇓*i*P	**Sn**	**02 31 28.7**	**-2.8**
DAVA	**Damuels**	**1.60**	**99**	⇓*i*Pg	**Pn**	**02 31 13.3**	**+0.8**
DAVA				⇑*i*Sg	**Sg**	**02 31 32.7**	**-3.4**
	comp=Z,10nm,0.3s						
DAVA	**Damuels**	**1.60**	**99**	⇓*i*Pn	**Pn**	**02 31 13.3**	**+0.8**
DAVA				⇑*i*Sg	**Sg**	**02 31 36.4**	**+0.2**
	10nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**292**	*e*Pg	**Pg**	**02 31 19.4**	**+0.1**
SFTF				*e*Sg	**Sg**	**02 31 42.6**	**-0.2**
	5.4nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**292**	*e*Pg	**Pg**	**02 31 19.4**	**+0.1**
SFTF				*e*Sg	**Sg**	**02 31 42.6**	**-0.2**
	2.7nm,0.3s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Sg	**Sg**	**02 31 45.9**	**-0.5**
	6.1nm,0.3s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Sg	**Sg**	**02 31 45.9**	**-0.5**
	3.0nm,0.3s						
LPL	**La Plagne**	**2.13**	**196**	*e*Pg	**Pg**	**02 31 25.5**	**+0.2**
LPL				*e*Sg	**Sg**	**02 31 53.0**	**+0.1**
	2.2nm,0.3s						
LPL	**La Plagne**	**2.13**	**196**	*e*Pg	**Pg**	**02 31 25.5**	**+0.2**
LPL				*e*Sg	**Sg**	**02 31 53.0**	**+0.1**
	1.1nm,0.3s						
LPG	**La Plagne**	**2.14**	**195**	*e*Sg	**Sg**	**02 31 52.9**	**-0.4**
	1.1nm,0.2s						
LPG	**La Plagne**	**2.14**	**195**	*e*Sg	**Sg**	**02 31 52.9**	**-0.4**
	0.6nm,0.2s						
LOR	**Lormes**	**2.53**	**265**	*e*Pg	**Pg**	**02 31 32.7**	**-0.3**
LOR				*e*Sg	**Sg**	**02 32 04.9**	**-0.8**
	3.9nm,0.2s						
LOR	**Lormes**	**2.53**	**265**	*e*Pg	**Pg**	**02 31 32.7**	**-0.3**
LOR				*e*Sg	**Sg**	**02 32 04.9**	**-0.8**
	2.0nm,0.2s						
SMF	**Signal de Mont**	**2.70**	**251**	*e*Sg	**Sg**	**02 32 09.5**	**-1.7**
	2.5nm,0.2s						
SMF	**Signal de Mont**	**2.70**	**251**	*e*Sg	**Sg**	**02 32 09.5**	**-1.7**
	1.2nm,0.2s						
SSF	**Saint Saulge**	**2.80**	**261**	*e*Sg	**Sg**	**02 32 13.7**	**-0.8**
	2.4nm,0.3s						
SSF	**Saint Saulge**	**2.80**	**261**	*e*Sg	**Sg**	**02 32 13.7**	**-0.8**
	1.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.89**	**204**	*e*Sg	**Sg**	**02 32 16.6**	**-0.8**
	1.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.89**	**204**	*e*Sg	**Sg**	**02 32 16.6**	**-0.8**
	0.8nm,0.3s						
VIVF	**Saint-Julien-l**	**3.37**	**217**	*e*Sg	**Sg**	**02 32 30.3**	**-2.4**
	2.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.37**	**217**	*e*Sg	**Sg**	**02 32 30.3**	**-2.4**
	1.3nm,0.3s						

NIED ***08*** *02:34:00, 4670N×15370E, h14km, Mw4.5 Best double couple: M₀6.93000×10^15 NP1:φ₀68.00000°, δ59.00000°, λ-72.00000°. NP2:φ₀216.00000°, δ35.00000°, λ-117.00000°.*
IDC ***08*** *02:34:31.2±0.5, 4601N×15431E, h0km, mb4.6/27, mb1 4.7/29, mb1mx4.7/30, mbtmp4.6/29, ML4.1/2, MS4.0/7, Ms1 4.0/7, ms1mx3.5/43, Error ellipse: s-maj=15.6km s-min=11.7km az=167.0*
ISCJB ***08*** *02:34:34.2±0.2, 4591N±004×15426E±003, h33km, mb4.9/137, MS4.1/21, Error ellipse: s-maj=6.3km s-min=2.1km az=153.0*
SKHL ***08*** *02:34:35.1±1.2, 4630N×15410E, h47km±15km, mb5.3/2, ms4.5/1, msh4.9/1*
NEIC ***08*** *02:34:35.4±2.0, 4608N×15420E, h24km±14km, mb4.9/73, Error ellipse: s-maj=5.9km s-min=3.5km az=171.0*
JMA ***08*** *02:34:35.9±0.8, 4670N×15374E, h30km, M4.9*
BJI ***08*** *02:34:37.6, 4654N×15362E, h24km, mB4.9, mb4.7, Ms4.3, Msz4.0*
MOS ***08*** *02:34:37.8±1.0, 4604N×15418E, h59km, mb5.0/68, Error ellipse: s-maj=8.4km s-min=5.6km az=100.7*
SZGRF ***08*** *02:34:45.2, 4647N×15377E, h33km, mb4.8, Kuril Islands, Russia*
BGS ***08*** *02:34:50.7, 4808N×15391E, h20km, mb5.5*
ISC 08 02:34:31.8±1.1, 4614N±004×15422E±002, h0km±7km, n551, σ0°90/565, mb5.0/136, MS4.1/21, 84C-80D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.54**	**261**	⇓*i*PN	**Pn**	**02 35 39.4**	**-2.3**
KUR				pmax	pmax		
	comp=N,170nm,0.6s						
KUR				pmax	pmax		
	comp=E,210nm,0.6s						
KUR				pmax	pmax		
	comp=Z,530nm,0.6s						
KUR	**Kuril'sk**	**4.54**	**261**	*i* P	**Pn**	**02 35 39.4**	**-2.3**
KUR				AMB	AMB	02 35 40.5	
	comp=Z,170nm,0.6s						
KUR				AMB	AMB	02 35 40.5	
	comp=Z,210nm,0.6s						
KUR				AMB	AMB	02 35 40.5	
	comp=Z,530nm,0.6s						
KUR				*i* S	**Sn**	**02 36 28.5**	**-6.7**
KUR				A		02 36 31.5	
	comp=Z,910nm,0.6s						
KUR				A		02 36 31.5	
	comp=Z,610nm,0.6s						
SKR	**Severo-Kuril's**	**4.72**	**15**	*e*P	**Pn**	**02 35 43.0**	**-1.2**
SKR				*e*S	**Sn**	**02 36 33.0**	**-6.7**
SKR				A		02 36 48.0	
	comp=Z,460nm,0.5s						
SKR				A		02 36 48.0	
	comp=Z,230nm,0.5s						
SKR				A		02 36 49.0	
	comp=Z,3μm,10.0s						
SKR				AMS	AMS	02 37 57.0	
	comp=Z,3μm,18.0s						
SKR				AMS	AMS	02 37 57.0	
	comp=Z,4μm,18.0s						
SKR				AMS	AMS	02 37 57.0	
	comp=Z,4μm,18.0s						
YUK	**Yuzh-Kuril'sk**	**6.28**	**253**	*e*P	**Pn**	**02 36 08.0**	**+2.4**
YUK				*e*S	**Sn**	**02 37 12.5**	**-5.5**
YUK				A		02 37 21.0	
	comp=Z,800nm,0.5s						
YUK				A		02 37 21.0	
	comp=Z,200nm,0.5s						
NEM2	**Nemuro 2**	**6.64**	**248**	P	**Pn**	**02 36 09.0**	**-1.5**
NEM2				*e*S	**Sn**	**02 37 18.7**	**-8.2**
JRA	**Rausu**	**6.81**	**254**	P	**Pn**	**02 36 13.7**	**+0.8**
JRA				*e*S	**Sn**	**02 37 28.1**	**-3.0**
PET	**Petropavlovsk**	**7.47**	**21**	*e*PN	**Pn**	**02 36 20.8**	**-1.2**
PET				MLR	MLR		
	comp=Z,800nm,20.0s						
PET	**Petropavlovsk**	**7.47**	**21**	*e*Pn	**Pn**	**02 36 19.9**	**-2.1**
PET				*e*Sn	**Sn**	**02 37 39.6**	**-7.8**
JAK	**Akkeshi**	**7.49**	**249**	P	**Pn**	**02 36 20.1**	**-2.1**
JAK				*e*S	**Sn**	**02 37 39.4**	**-8.4**
JTKR	**Abashiri--Toko**	**7.61**	**257**	P	**Pn**	**02 36 24.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.95**	**280**	⇓*e*PN	**Pn**	**02 36 31.8**	**+3.3**
YSS				pmax	pmax		
	comp=Z,100nm,0.8s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.95**	**280**	*e*Pn	**Pn**	**02 36 31.2**	**+2.7**
JAR	**Ashorobuto**	**7.96**	**253**	P	**Pn**	**02 36 29.3**	**+0.6**
JAR				*e*S	**Sn**	**02 37 53.3**	**-6.2**
JMP	**Maruseppu**	**7.97**	**258**	P	**Pn**	**02 36 30.1**	**+1.2**
JOB	**Onbets**	**8.09**	**250**	P	**Pn**	**02 36 30.7**	**+0.2**
JOB				*e*S	**Sn**	**02 37 54.3**	**-8.4**
JKK2	**Kamakawa 2**	**8.44**	**259**	P	**Pn**	**02 36 36.3**	**+1.1**
ASAJ	**Asahikawa**	**8.46**	**260**	Pn	**Pn**	**02 36 37.0**	**+1.4**
	comp=Z,3.3nm,0.3s,baz=63,slow=16,SNR=7.2						
ASAJ	**Asahikawa**	**8.46**	**260**	P	**Pn**	**02 36 37.8**	**+2.2**
ASAJ	**Asahikawa**	**8.46**	**260**	PN	**Pn**	**02 36 37.0**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JCH	**Churui**	**8.53**	**250**	P	**Pn**	**02 36 35.8**	**-0.8**
JCH				*e*S	**Sn**	**02 38 05.2**	**-8.3**
JFR	**Furan**	**8.80**	**254**	P	**Pn**	**02 36 41.8**	**+1.6**
JEM	**Erimo**	**8.96**	**247**	P	**Pn**	**02 36 42.5**	**+0.1**
JEM				*e*S	**Sn**	**02 38 16.1**	**-8.0**
ERM	**Erimo**	**8.96**	**247**	*e*Pn	**Pn**	**02 36 44.0**	**+1.6**
ERM				*e*Sn	**Sn**	**02 38 15.3**	**-8.7**
JNBK	**Urakawa-nobuka**	**9.09**	**249**	P	**Pn**	**02 36 42.6**	**-1.6**
JNBK				*e*S	**Sn**	**02 38 17.4**	**-10**
JBT2	**Biratori 2**	**9.12**	**253**	P	**Pn**	**02 36 44.0**	**-0.6**
JBT2				*e*S	**Sn**	**02 38 20.4**	**-7.5**
JEW	**Eniwo**	**9.70**	**255**	*e*S	**Sn**	**02 38 39.2**	**-3.0**
JNB	**Noboribetsu**	**10.13**	**253**	P	**Pn**	**02 36 58.4**	**-0.1**
JNB				*e*S	**Sn**	**02 38 45.3**	**-7.5**
JKB	**Kayabe**	**10.40**	**251**	P	**Pn**	**02 37 00.3**	**-1.9**
JKB				*e*S	**Sn**	**02 38 47.4**	**-12**
JYM2	**Yakumo 2**	**10.73**	**253**	P	**Pn**	**02 37 05.9**	**-0.8**
JTM	**Tenmabayashi**	**10.95**	**245**	P	**Pn**	**02 37 06.3**	**-3.3**
JTM				*e*S	**Sn**	**02 38 59.8**	**-13**
JTH	**Tanohata**	**10.95**	**240**	P	**Pn**	**02 37 07.7**	**-2.0**
JRG	**Rokugo**	**12.03**	**241**	P	**Pn**	**02 37 23.6**	**-0.9**
JRG				*e*S	**Sn**	**02 39 26.8**	**-13**
MJAR	**Matsushiro Arr**	**15.35**	**237**	Pn	**Pn**	**02 38 07.6**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=27,slow=11,SNR=4.6						
MAJO	**Matsushiro**	**15.35**	**237**	*e*P	**Pn**	**02 38 11.5**	**+1.8**
MAT	**Matsushiro**	**15.35**	**237**	P	**Pn**	**02 38 10.0**	**+0.3**
MAT				S	**Sn**	**02 41 08.0**	**+7.6**
KLR	**Kul'dur**	**15.43**	**290**	*e*P	**Pn**	**02 38 09.0**	**-1.7**
KLR				MLR	MLR		
	comp=E,600nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MDJ	**Mudanjiang**	**17.35**	**274**	P	**Pn**	**02 38 35.3**	**0.0**
MDJ				AP	pP	02 38 40.0	+3.2
MDJ				XP	sP	02 38 41.2	+4.4
MDJ				S	**Sn**	**02 41 48.2**	**-0.8**
MDJ				PCP	PcP	02 43 18.0	+0.4
MDJ				SCP	ScP	02 46 52.6	-1.2
MDJ				PCS	PcS	02 46 55.1	+1.3
MDJ				SCS	ScS	02 50 33.0	-0.7
MDJ				AMB	AMB		
	comp=Z,27nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,176nm,4.0s						
MDJ				LR	LR		
	comp=N,147nm,21.1s						
MDJ				LR	LR		
	comp=E,63nm,28.2s						
MDJ				LR	LR		
	comp=Z,92nm,26.1s						
CN2	**Changchun**	**20.44**	**274**	*e*P	**P**	**02 39 11.0**	**+0.3**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s						
CN2				LR	LR		
	comp=N,200nm,12.0s,MS4.0						
CN2				LR	LR		
	comp=E,300nm,12.0s,MS4.0						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS3.6						
CLNS	**Chul'man**	**21.00**	**311**	*e*P	**P**	**02 39 12.7**	**-4.0**
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
CLNS				MLR	MLR		
	comp=E,2μm,15.0s,MS4.5						
CLNS				MLR	MLR		
	comp=Z,400nm,15.0s,MS3.9						
CLNS				MLR	MLR		
	comp=N,200nm,14.0s,MS4.5						
YAK	**Yakutsk**	**21.25**	**327**	*e*P	**P**	**02 39 18.1**	**-1.3**
YAK				*e*S	**S**	**02 43 07.7**	**-8.6**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.2						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				smax			
	comp=E,11nm,1.1s						
YAK				smax			
	comp=Z,18nm,0.9s						
YAK				smax			
	comp=N,16nm,1.6s						
YAK				MLR	MLR		
	comp=N,174nm,17.0s,MS3.6						
YAK				MLR	MLR		
	comp=E,126nm,17.0s,MS3.6						
YAK				MLR	MLR		
	comp=Z,208nm,17.0s,MS3.6						
YAK	**Yakutsk**	**21.25**	**327**	*e*P	**P**	**02 39 17.9**	**-1.5**
	comp=Z,35nm,0.6s,mb4.9						
KSRS	**Korea Array**	**21.36**	**255**	P	**P**	**02 39 23.9**	**+3.2**
	comp=Z,5.1nm,0.6s,mb4.0,baz=60,slow=10,SNR=12						
SNY	**Shenyang**	**22.39**	**270**	⇓P	**P**	**02 39 31.6**	**0.0**
SNY				AMB	AMB		
	comp=Z,26nm,0.7s,mb4.8						
SNY				AMB	AMB		
	comp=Z,422nm,4.2s						
SNY				LR	LR		
	comp=N,274nm,13.2s,MS4.1						
SNY				LR	LR		
	comp=E,417nm,12.6s,MS4.1						
SNY				LR	LR		
	comp=Z,332nm,17.1s,MS3.8						
BILL	**Bilibino**	**22.83**	**12**	⇓*e*P	**P**	**02 39 36.3**	**0.0**
BILL				*e*		02 43 43.9	
BILL				pmax	pmax		
	comp=Z,48nm,1.4s,mb4.8						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.6						
BILL	**Bilibino**	**22.83**	**12**	*e*P	**P**	**02 39 35.5**	**-0.8**
	comp=Z,81nm,1.4s,mb5.1						
BOD	**Bodaibo**	**26.97**	**310**	*e*P	**P**	**02 40 12.3**	**-2.7**
BOD				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
TIXI	**Tiksi**	**28.27**	**343**	⇑*e*P	**P**	**02 40 26.0**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.5						
TIXI	**Tiksi**	**28.27**	**343**	*e*P	**P**	**02 40 24.6**	**-2.1**
	comp=Z,4.0nm,0.5s,mb4.5						
HHC	**Hu-ho-hao-te**	**31.11**	**276**	*e*P	**P**	**02 40 54.8**	**+3.0**
HHC				XP	sP	02 41 02.0	+10
HHC				PP	PP	02 41 56.7	-5.2
HHC				S	**S**	**02 45 57.0**	**-1.2**
HHC				XS	sS	02 46 05.3	+7.0
HHC				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.4						
HHC				AMB	AMB		
	comp=Z,148nm,4.3s						
HHC				LR	LR		
	comp=N,251nm,17.3s,MS4.1						
HHC				LR	LR		
	comp=E,218nm,17.2s,MS4.1						
HHC				LR	LR		
	comp=Z,168nm,16.7s,MS3.8						
SONM	**Songino Array**	**32.26**	**291**	P	**P**	**02 41 01.0**	**-1.0**
	comp=Z,9.4nm,1.0s,mb4.7,baz=70,slow=8.1,SNR=13						
SONM				LR	LR	02 56 19.2	
	comp=Z,136nm,18.1s,MS3.7,baz=6.4,slow=40						
SONM	**Songino Array**	**32.26**	**291**	P	**P**	**02 41 01.0**	**-1.0**
SONM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,136nm,18.1s						
SVW2	**Sparrevohn**	**32.39**	**44**	*e*P	**P**	**02 41 03.6**	**+0.5**
TLY	**Talaya**	**33.14**	**298**	*e*P	**P**	**02 41 11.1**	**+1.4**
TLY				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
TLY				MLR	MLR		
	comp=Z,213nm,16.0s,MS4.0						
TLY	**Talaya**	**33.14**	**298**	*e*P	**P**	**02 41 11.1**	**+1.4**
	comp=Z,13nm,0.7s,mb5.0						
ZAK	**Zakamensk**	**33.63**	**296**	*e*P	**P**	**02 41 12.9**	**-1.0**
IMA2	**Indian Mountai**	**33.86**	**35**	*e*P	**P**	**02 41 16.2**	**+0.3**
IMA2				*e*PcP	PcP	02 43 54.2	-0.6
KDAK	**Kodiak Island**	**33.90**	**50**	P	**P**	**02 41 14.8**	**-1.6**
	comp=Z,13nm,0.7s,mb5.0,baz=273,slow=2.4,SNR=9.4						
KDAK	**Kodiak Island**	**33.90**	**50**	*e*P	**P**	**02 41 15.4**	**-1.0**
	comp=Z,15nm,0.6s,mb5.1						
PMR	**Palmer**	**35.52**	**43**	*e*P	**P**	**02 41 30.0**	**-0.3**
PMR				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
PMR	**Palmer**	**35.52**	**43**	*e*P	**P**	**02 41 29.9**	**-0.3**
	comp=Z,14nm,1.0s,mb4.8						
MCK	**McKinley**	**35.63**	**40**	*e*P	**P**	**02 41 31.1**	**-0.1**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
MCK	**McKinley**	**35.63**	**40**	*e*P	**P**	**02 41 31.1**	**-0.1**
	comp=Z,8.6nm,1.2s,mb4.5						
SML	**Sawmill**	**35.89**	**43**	*e*P	**P**	**02 41 33.7**	**+0.2**
COLA	**College**	**36.15**	**38**	⇑*i*P	**P**	**02 41 36.5**	**+0.8**
COLA	**College**	**36.15**	**38**	*e*P	**P**	**02 41 36.2**	**+0.6**
	comp=Z,13nm,1.0s,mb4.7						
XAN	**Xi'an**	**36.23**	**267**	P	**P**	**02 41 39.3**	**+2.9**
LZH	**Lanzhou**	**38.68**	**273**	*e*P	**P**	**02 41 59.6**	**+2.5**
LZH				AP		02 42 02.5	
LZH				*e*S	**S**	**02 47 53.0**	**-1.8**
LZH				*e*SS	SS	02 50 33.0	-12
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,130nm,4.3s						
LZH				LR	LR		
	comp=E,421nm,

CD2 S **S** 02 48 38.0 -0.5
CD2 XS sS 02 48 45.4 +6.9
CD2 SS SS 02 51 37.7 -5.4
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
CD2 AMB AMB
comp=Z,50nm,4.5s
CD2 LR LR
comp=N,170nm,10.8s,MS4.4
CD2 LR LR
comp=E,270nm,13.2s,MS4.4
CD2 LR LR
comp=Z,170nm,9.6s
INK Inuvik 41.76 32 P **P 02 42 23.3 +0.6**
comp=Z,6.7nm,0.9s,mb4.3,baz=290,slow=6.5,SNR=32
INK Inuvik 41.76 32 P **P 02 42 23.3 +0.6**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 41.76 32 *e*P **P 02 42 23.3 +0.6**
comp=Z,288nm,1.0s,mb6.0
GYA Guiyang 42.34 259 ⇓*i*P **P 02 42 27.6 +0.2**
GYA PP PP 02 44 09.9 +4.6
GYA PCP PcP 02 44 23.2 +2.2
GYA SCP ScP 02 48 12.3 -0.5
GYA S **S 02 48 49.3 -0.1**
GYA SCS ScS 02 52 28.6 -2.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,490nm,15.6s,MS4.6
GYA LR LR
comp=E,470nm,15.8s,MS4.6
GYA LR LR
comp=Z,510nm,16.0s,MS4.5
ZAL Zalesovo 43.60 307 P **P 02 42 36.6 -1.1**
comp=Z,3.2nm,0.5s,mb4.3,baz=36,slow=7.9,SNR=10.0
ZAL LR LR 03 03 17.4
comp=Z,218nm,20.0s,MS4.1,baz=270,slow=40
ZAL Zalesovo 43.60 307 P **P 02 42 36.6 -1.1**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL MLR MLR
comp=Z,218nm,20.0s
NVS Novosibirsk 44.17 308 *i*P **P 02 42 41.1 -1.1**
NVS pmax pmax
comp=N,8.0nm,1.9s
NVS pmax pmax
comp=E,11nm,1.9s
NVS pmax pmax
comp=Z,14nm,1.9s,mb4.4
WMQ Urumqi 45.86 292 *e*P **P 02 42 58.2 +2.5**
WMQ PP PP 02 44 44.3 +1.3
WMQ PPP 02 45 28.1
WMQ *e*S **S 02 49 40.8 0.0**
WMQ XS sS 02 49 48.8 +7.9
WMQ SCS ScS 02 52 51.5 -1.6
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,159nm,4.0s
WMQ LR LR
comp=N,109nm,18.0s,MS4.0
WMQ LR LR
comp=E,86nm,17.0s,MS4.0
WMQ LR LR
comp=Z,115nm,18.0s,MS3.9
KMI Kunming 45.89 261 P **P 02 42 57.8 +1.9**
KMI AMB AMB
comp=Z,11nm,0.7s,mb5.0
MK31 Makanchi Array 47.90 298 *e*P **P 02 43 11.1 -0.6**
MKAR Makanchi Array 47.90 298 P **P 02 43 11.4 -0.3**
comp=Z,6.5nm,0.6s,mb4.9,baz=65,slow=8.0,SNR=39
MKAR LR LR 03 05 18.5
comp=Z,245nm,18.8s,MS4.2,baz=188,slow=38
MKAR Makanchi Array 47.90 298 P **P 02 43 11.4 -0.3**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR MLR MLR
comp=Z,245nm,18.8s
KURK Kurchatov 48.34 304 ⇓*i*P **P 02 43 13.9 -1.1**
KURK Kurchatov 48.34 304 *e*P **P 02 43 13.9 -1.1**
comp=Z,13nm,0.6s,mb5.2
YKA Yellowknife Ar 50.96 37 P **P 02 43 34.9 -0.1**
comp=Z,4.0nm,0.8s,mb4.4,baz=295,slow=7.2,SNR=28
YKA PcP PcP 02 44 49.2 -2.1
comp=Z,1.5nm,0.8s,baz=297,slow=3.4,SNR=7.3
YKA Yellowknife Ar 50.96 37 P **P 02 43 34.9 -0.1**
YKA 02 44 49.2
YKA pmax pmax
comp=Z,4.0nm,0.9s
LSA Lhasa 51.08 274 P **P 02 43 40.4 +4.5**
RES Resolute Bay 51.17 19 *e*P **P 02 43 37.1 +0.5**
comp=Z,278nm,0.7s
CHKZ Chkalovo 51.41 311 P **P 02 43 37.3 -1.1**
CHKZ pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CHKZ Chkalovo 51.41 311 *e*P **P 02 43 37.0 -1.4**
comp=Z,23nm,0.7s,mb5.2
BVA0 Borovoye Array 51.84 310 *i*P **P 02 43 41.2 -0.4**
BVA0 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BVAR Borovoye Array 51.84 310 P **P 02 43 41.4 -0.2**
comp=Z,6.0nm,0.5s,mb4.8,baz=44,slow=6.8,SNR=34
BVAR PP PP 02 45 37.0 -2.3
comp=Z,1.8nm,0.6s,baz=57,slow=9.0,SNR=3.8
BVAR LR LR 03 08 28.8
comp=Z,178nm,18.8s,MS4.1,baz=311,slow=39
BVAR Borovoye Array 51.84 310 P **P 02 43 41.4 -0.2**
BVAR 02 45 37.0
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR MLR MLR
comp=Z,179nm,18.8s
BRVK Borovoye 51.88 310 *e*P **P 02 43 41.5 -0.4**
BRVK pmax pmax
comp=Z,13nm,0.6s,mb5.0
BRVK Borovoye 51.88 310 *e*P **P 02 43 41.5 -0.4**
comp=Z,13nm,0.6s,mb5.0
CHTO Chiang Mai 52.73 258 *e*P **P 02 43 49.5 +1.3**
CHTO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CHTO Chiang Mai 52.73 258 *e*P **P 02 43 49.5 +1.2**
comp=Z,6.7nm,0.9s,mb4.6
C04A Brinnon 53.93 56 ⇓P **P 02 43 56.1 -1.0**
baz=54
TKM2 Tokmak 2 53.95 297 P **P 02 43 58.1 +0.9**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
B05A Bryant 54.14 55 ⇓P **P 02 43 58.2 -0.4**
baz=54
B06A Marblemount 54.36 54 ⇑P **P 02 43 59.8 -0.4**
baz=54
A07A Ashnola River, 54.70 53 ⇑P **P 02 44 01.3 -1.3**
baz=54
D05A Enumclaw 54.77 56 ⇑P **P 02 44 02.8 -0.4**
baz=54
AAK Ala-Archa 54.79 297 ⇑*e*P **P 02 44 04.0 +0.7**
AAK pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
AAK Ala-Archa 54.79 297 *e*P **P 02 44 03.4 +0.1**
comp=Z,9.3nm,0.8s,mb4.9
B07A Winthrop 55.16 54 ⇑P **P 02 44 04.7 -1.3**
baz=55
F04A Amboy 55.20 58 ⇑P **P 02 44 04.7 -1.5**
baz=55
A08A Turner Farm, O 55.37 53 ⇑P **P 02 44 06.5 -1.0**
baz=55
D06A Cle Elum 55.43 56 ⇓P **P 02 44 07.6 -0.4**
baz=55
C07A Waterville 55.61 55 ⇑P **P 02 44 08.2 -1.0**
baz=55
B08A Colville Reser 55.66 54 ⇑P **P 02 44 08.9 -0.7**
baz=55
A09A Danville 55.74 53 ⇓P **P 02 44 10.3 +0.2**
baz=56,SNR=7.2
I03A Eugene 55.76 60 ⇓P **P 02 44 10.3 0.0**
baz=56
JIRN Jiri 55.76 276 *e*P **P 02 44 11.9 +1.6**
comp=Z,64nm,0.7s,mb5.8
GUN Gumba 55.82 276 *e*P **P 02 44 12.0 +1.3**
comp=Z,19nm,0.5s,mb5.4
J02A Umpqua 55.91 61 ⇓P **P 02 44 11.5 +0.1**
baz=56

D07A Quincy 55.93 55 ⇑P **P 02 44 10.2 -1.3**
baz=56
ARU Arti 55.98 318 *e*P **P 02 44 11.5 -0.4**
ARU Arti 55.98 318 *e*P **P 02 44 11.5 -0.4**
H04A Detroit Lake 56.02 59 ⇑P **P 02 44 12.2 0.0**
baz=56
C08A Higginbotham F 56.13 54 ⇓P **P 02 44 11.4 -1.6**
baz=56
EDM Edmonton 56.19 46 *e*P **P 02 44 13.0 -0.4**
G05A Wamic 56.22 58 ⇓P **P 02 44 13.0 -0.6**
baz=56
J03A Ideyld Park 56.28 60 ⇓P **P 02 44 14.1 +0.1**
baz=56
B09A Rice 56.28 53 ⇑P **P 02 44 13.3 -0.7**
baz=56
K02A Glendale 56.30 61 ⇑P **P 02 44 13.4 -0.8**
baz=56
KKN Kakani 56.31 276 *e*P **P 02 44 15.8 +1.6**
comp=Z,33nm,0.6s,mb5.6
E07A Sunnyside 56.34 56 ⇑P **P 02 44 13.9 -0.6**
baz=56
PKI Pulchoki 56.36 276 *e*P **P 02 44 15.7 +1.1**
I04A Tendick Farm, 56.38 60 P **P 02 44 15.5 +0.8**
baz=56,SNR=5.3
DMN Daman 56.54 276 *e*P **P 02 44 17.6 +1.7**
comp=Z,54nm,0.8s,mb5.6
C09A Chrisman Ranch 56.55 54 ⇑P **P 02 44 15.9 -0.1**
baz=56
D08A Wollman Farm, 56.60 55 ⇑P **P 02 44 15.1 -1.3**
baz=56
H05A Madras 56.61 58 ⇓P **P 02 44 16.7 +0.3**
baz=56
GKN Gorkha 56.62 277 *e*P **P 02 44 17.8 +1.3**
comp=Z,53nm,0.6s,mb5.7
G06A Carlson Farm, 56.63 57 ⇑P **P 02 44 16.2 -0.3**
baz=56
F07A Phinny Hill Vi 56.67 56 ⇑P **P 02 44 16.8 0.0**
baz=56
E08A Dider Farm, El 56.84 55 ⇑P **P 02 44 17.1 -1.0**
baz=57
I05A Bend 56.85 59 ⇑P **P 02 44 17.9 -0.3**
baz=57
NEW Newport 56.94 53 P **P 02 44 16.6 -2.2**
comp=Z,4.3nm,0.9s,mb4.5,baz=284,slow=6.0,SNR=5.2
NEW PcP PcP 02 45 13.3 -0.8
comp=Z,1.2nm,0.7s,baz=310,slow=4.0,SNR=3.9
NEW Newport 56.94 53 *e*P **P 02 44 17.4 -1.3**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 56.94 53 *e*P **P 02 44 17.4 -1.3**
comp=Z,4.4nm,1.0s,mb4.4
D09A Jones Farm, Ri 56.95 55 ⇓P **P 02 44 18.1 -0.7**
baz=57
A11A Hall Mountain, 56.97 52 ⇑P **P 02 44 18.8 -0.1**
baz=57
H06A Lindquist Farm 57.08 58 ⇓P **P 02 44 19.5 -0.3**
baz=57
G07A Ruggs Ranch, H 57.17 57 ⇓P **P 02 44 19.8 -0.6**
baz=57
B11A Sandpoint 57.26 52 P **P 02 44 21.2 +0.2**
baz=57,SNR=5.9
E09A Wood Farm, Sta 57.35 55 P **P 02 44 21.5 -0.1**
baz=57,SNR=5.7
YBH Yreka Blue Hor 57.36 62 P **P 02 44 21.2 -0.5**
comp=Z,4.7nm,1.0s,mb4.5,baz=285,slow=2.5,SNR=6.3
YBH Yreka Blue Hor 57.36 62 P **P 02 44 21.2 -0.5**
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 57.36 62 ⇓P **P 02 44 22.1 +0.4**
baz=57
A12A Yaak River Ran 57.37 52 ⇓P **P 02 44 22.0 +0.2**
baz=57
F08A Pendleton 57.39 56 ⇓P **P 02 44 21.9 0.0**
baz=57
KOLN Koldanda 57.48 278 *e*P **P 02 44 24.0 +1.4**
comp=Z,27nm,0.7s,mb5.4
D10A Wagner Farm, O 57.53 54 ⇑P **P 02 44 22.6 -0.4**
baz=57
G08A Pilot Rock 57.57 57 ⇑P **P 02 44 23.2 0.0**
baz=57
I06A Prineville 57.61 59 ⇓P **P 02 44 24.4 +0.9**
baz=57
L04A Klamath Falls 57.61 61 ⇑P **P 02 44 23.6 +0.1**
baz=57
M04C Macdoel 57.87 61 ⇑P **P 02 44 25.4 +0.1**
baz=58
K05A Summer Lake 57.90 60 ⇓P **P 02 44 25.6 +0.1**
baz=58
F09A S2 Ranch, Elgi 57.94 56 ⇓P **P 02 44 25.8 0.0**
baz=58
I07A Izee 57.95 58 ⇓P **P 02 44 25.2 -0.6**
baz=58
E10A Myers Farm, Un 57.95 55 ⇓P **P 02 44 25.2 -0.7**
baz=58
M03C McCloud 57.99 62 ⇑P **P 02 44 24.7 -1.4**
baz=58
J06A Christmas Vall 58.04 59 ⇓P **P 02 44 26.5 +0.1**
baz=58
D11A Klaveano Farm, 58.07 54 P **P 02 44 26.4 -0.3**
baz=58,SNR=5.6
WDC Whiskeytown Da 58.13 63 *e*P **P 02 44 27.0 -0.1**
WDC pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
WDC Whiskeytown Da 58.13 63 *e*P **P 02 44 27.0 -0.2**
comp=Z,9.9nm,1.5s,mb4.6
WDC Whiskeytown Da 58.13 63 ⇑P **P 02 44 27.0 -0.1**
baz=58
KEV Kevo 58.17 341 *ep* **P 02 44 26.7 -0.7**
F10A Beach Ranch, E 58.18 55 ⇑P **P 02 44 26.5 -0.9**
baz=58
H08A Prairie City 58.18 57 ⇑P **P 02 44 27.8 +0.3**
baz=58
O02C Red Bluff 58.21 63 ⇑P **P 02 44 28.5 +0.8**
baz=58
K06A Valley Falls 58.24 60 P **P 02 44 28.9 +1.0**
baz=58,SNR=7.6
L05A Lakeview 58.32 61 ⇑P **P 02 44 28.9 +0.4**
baz=58
B13A Whitefish 58.34 52 P **P 02 44 29.0 +0.4**
baz=58,SNR=12
BSMT Bassoo Peak 58.46 52 *e*P **P 02 44 30.0 +0.6**
M05C Lookout 58.53 61 ⇓P **P 02 44 29.2 -0.8**
baz=58
E11A Bogner Ranch, 58.54 54 ⇑P **P 02 44 29.3 -0.7**
baz=58
I08A Drewsey 58.59 58 ⇑P **P 02 44 30.4 0.0**
baz=58
C13A Hot Springs 58.68 52 ⇓P **P 02 44 30.9 -0.1**
baz=58
ARCES ARCESS Array B 58.68 341 P **P 02 44 31.8 +0.8**
comp=Z,13nm,0.7s,mb5.0,baz=42,slow=6.4,SNR=20
ARCES ARCESS Array B 58.68 341 P **P 02 44 31.8 +0.8**
ARCES pmax pmax
comp=Z,13nm,0.7s
ARCES ARCESS Array B 58.68 341 P **P 02 44 31.8 +0.8**
ARE0 ARCESS Array S 58.68 341 *e*P **P 02 44 33.3 +2.3**
H09A Durkee 58.69 57 ⇓P **P 02 44 31.0 0.0**
baz=58
MOD Modoc 58.73 61 *e*P **P 02 44 31.2 -0.1**
comp=Z,5.5nm,1.1s,mb4.5
MOD Modoc 58.73 61 P **P 02 44 32.1 +0.8**
baz=58,SNR=5.6
BMO Blue Mountains 58.78 56 *e*P **P 02 44 32.2 +0.6**
comp=Z,6.1nm,0.9s,mb4.6
F11A Grangeville 58.84 55 ⇓P **P 02 44 32.0 0.0**
baz=59
K07A Rock Creek Ran 58.90 59 ⇑P **P 02 44 32.9 +0.4**
baz=59
J08A Circle Bar Ran 58.97 58 ⇑P **P 02 44 33.0 0.0**
baz=59
I09A Lost Marbles R 59.04 57 ⇓P **P 02 44 33.2 -0.3**
baz=59
C14A Swan Lake 59.08 52 P **P 02 44 33.5 -0.2**
baz=59,SNR=6.3
D13A Huson 59.09 53 ⇑P **P 02 44 33.7 -0.1**
baz=59
O04C Chester 59.18 62 ⇑P **P 02 44 34.6 +0.2**
baz=59
MNRC McLaughlin Nat 59.19 65 ⇓P **P 02 44 34.7 +0.2**
baz=59
ELFS Eagle Lake Fie 59.23 62 ⇑P **P 02 44 35.2 +0.4**
baz=59
L07A Adell 59.24 60 ⇓P **P 02 44 35.3 +0.4**
baz=59
H10A Noah's Angus R 59.26 56 P **P 02 44 35.1 +0.2**
baz=59,SNR=7.0
K08A Mann Creek Ran 59.33 59 P **P 02 44 36.4 +0.9**
baz=59,SNR=8.1

ORV Oroville 59.38 63 ⇓P **P 02 44 34.8 -1.0**
baz=59
J09A Fry Pan Ranch, 59.40 58 ⇓P **P 02 44 36.0 0.0**
baz=59
AB31 Akbulak array 59.41 311 *e*P **P 02 44 35.8 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
WVOR Wild Horse Val 59.42 59 *e*P **P 02 44 36.2 +0.1**
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
WVOR Wild Horse Val 59.42 59 *e*P **P 02 44 36.2 +0.1**
comp=Z,5.0nm,1.0s,mb4.5
F12A Elk City 59.43 54 P **P 02 44 36.8 +0.6**
baz=59,SNR=11
O05C Quincy 59.50 63 ⇓P **P 02 44 35.9 -0.7**
baz=59
OHCM Honcut 59.52 64 *e*P **P 02 44 36.5 -0.3**
MSO Missoula 59.53 53 *e*P **P 02 44 36.9 0.0**
comp=Z,8.4nm,1.2s,mb4.7
H11A Donnelly 59.62 56 P **P 02 44 37.5 +0.1**
baz=59,SNR=11
D14A Greenough 59.62 52 P **P 02 44 37.4 0.0**
baz=59,SNR=13
E13A Victor 59.62 53 P **P 02 44 37.8 +0.3**
baz=59,SNR=7.5
N06A Buffalo Meadow 59.70 61 P **P 02 44 38.7 +0.7**
baz=60,SNR=6.5
AKTK Aktyubinsk 59.70 313 P **P 02 44 39.5 +1.4**
AKTK LR LR 03 13 38.4
AKTO Aktyubinsk 59.70 313 P **P 02 44 39.5 +1.4**
comp=Z,3.7nm,0.6s,mb4.6,baz=52,slow=8.0,SNR=13
AKTO LR LR 03 13 38.4
comp=Z,208nm,18.6s,MS4.3,baz=113,slow=39
AKTO Aktyubinsk 59.70 313 P **P 02 44 39.5 +1.4**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AKTO MLR MLR
comp=Z,208nm,18.6s,MS4.3
M07A Soldier Meadow 59.72 60 P **P 02 44 38.9 +0.8**
baz=60,SNR=12
L08A Fields 59.74 59 P **P 02 44 38.8 +0.5**
baz=60,SNR=6.0
K09A Rome 59.80 58 ⇓P **P 02 44 38.5 -0.2**
baz=60
CHMT Chamberlain Mo 59.86 52 *e*P **P 02 44 38.9 -0.2**
BEKR Beckwourth 59.90 62 P **P 02 44 39.4 0.0**
baz=60,SNR=7.6
F13A Darby 59.93 54 P **P 02 44 39.5 -0.1**
baz=60,SNR=7.0
J10A Berg Farm, Mel 59.94 57 ⇑P **P 02 44 39.4 -0.3**
baz=60
E14A Clinton 60.02 53 P **P 02 44 40.4 +0.1**
baz=60,SNR=8.2
O06A Flanigan 60.05 62 P **P 02 44 40.6 +0.2**
baz=60,SNR=5.7
I11A Placerville 60.12 56 ⇓P **P 02 44 40.6 -0.3**
baz=60
M08A Happy Creek Ra 60.16 60 ⇓P **P 02 44 40.7 -0.5**
baz=60
D15A Lincoln 60.18 52 ⇓P **P 02 44 40.7 -0.7**
baz=60
N07B Gerlach 60.20 61 ⇑P **P 02 44 41.0 -0.5**
baz=60
L09A Wilkinson Ranc 60.24 59 ⇑P **P 02 44 42.2 +0.4**
baz=60
LAVA Lava Cap Winer 60.33 64 ⇑P **P 02 44 42.3 -0.1**
baz=60
H12A Diamond D Ranc 60.37 55 ⇑P **P 02 44 41.4 -1.2**
baz=60
G13A Cobalt 60.40 55 P **P 02 44 42.8 -0.1**
baz=60,SNR=21
F14A Wisdom 60.45 53 ⇓P **P 02 44 42.5 -0.7**
baz=60
E15A Deer Lodge 60.49 53 P **P 02 44 43.6 +0.2**
baz=60,SNR=9.2
WCN Washoe City 60.61 63 P **P 02 44 45.0 +0.7**
baz=60,SNR=5.8
O07A Toulon 60.63 61 P **P 02 44 45.0 +0.6**
baz=60,SNR=6.0
M09A Marrel Ranch, 60.73 60 ⇑P **P 02 44 45.2 +0.1**
baz=60
R05C Kirkwood Meado 60.78 63 ⇓P **P 02 44 45.3 -0.1**
baz=60
F15A Butte 60.92 53 P **P 02 44 46.9 +0.5**
baz=61,SNR=16
LRM Limekiln Ridge 60.96 53 *e*P **P 02 44 47.2 +0.5**
CMB Columbia Colle 60.99 64 *e*P **P 02 44 47.2 +0.4**
CMB Columbia Colle 60.99 64 P **P 02 44 47.3 +0.4**
baz=61,SNR=5.0
KLMR Klimovskoe 61.02 329 *e*P **P 02 44 48.3 +1.2**
KLMR pmax pmax
comp=Z,62nm,1.6s,mb5.5
N09A Rock Creek Ran 61.03 60 ⇓P **P 02 44 47.3 +0.1**
baz=61
PACP Pacheco Peak 61.05 66 ⇓P **P 02 44 47.8 +0.6**
baz=61
EGMT Eagleton 61.08 50 *e*P **P 02 44 47.5 0.0**
comp=Z,18nm,1.1s,mb5.1
EGMT Eagleton 61.08 50 P **P 02 44 47.5 +0.1**
baz=61,SNR=6.7
M10A I.L. Ranch, Tu 61.22 59 P **P 02 44 49.5 +1.1**
baz=61,SNR=6.5
HLID Hailey 61.22 56 *e*P **P 02 44 48.6 +0.1**
comp=Z,5.9nm,1.0s,mb4.7
HLID *e*PcP PcP 02 45 31.5 +0.4
HLID Hailey 61.22 56 P **P 02 44 48.9 +0.5**
baz=61,SNR=7.6
R06C Coleville 61.27 63 P **P 02 44 49.5 +0.7**
baz=61,SNR=6.2
NDI New Delhi 61.28 283 *e*P **P 02 44 51.7 +2.9**
NDI AMb AMB 02 44 52.3
comp=Z,16nm,0.9s,mb5.2
G15A Dillon 61.34 54 P **P 02 44 49.5 +0.3**
baz=61,SNR=8.6
MCMT McKenzie Canyo 61.34 54 *e*P **P 02 44 48.9 -0.3**
S06C San Francisco 61.42 64 ⇓P **P 02 44 49.4 -0.4**
baz=61
BMN Battle Mountai 61.47 60 *e*P **P 02 44 50.6 +0.5**
BMN pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
BMN Battle Mountai 61.47 60 *e*P **P 02 44 50.6 +0.5**
comp=Z,5.0nm,0.6s,mb4.8
BOZ Bozeman (W) 61.52 53 *e*P **P 02 44 50.8 +0.3**
BOZ pmax pmax
comp=Z,17nm,1.4s,mb5.1
BOZ Bozeman (W) 61.52 53 *e*P **P 02 44 50.8 +0.3**
comp=Z,16nm,1.4s,mb5.1
O09A Fish Creek Ran 61.65 61 P **P 02 44 52.1 +0.8**
baz=61,SNR=5.2
M11A Holland Ranch, 61.72 59 ⇓P **P 02 44 52.5 +0.7**
baz=62
KAKA Kakadu 61.77 204 ⇓*i*P **P 02 44 51.3 -0.9**
comp=Z,13nm,0.6s,mb5.3
R07C Lee Vining 61.79 63 P **P 02 44 53.3 +1.0**
baz=62,SNR=5.6
O10A Cortez Mining, 61.99 60 ⇓P **P 02 44 54.1 +0.4**
baz=62
Q08A Gabbs 62.00 62 P **P 02 44 54.0 +0.3**
baz=62,SNR=6.7
NVAR Mina Array Bea 62.04 63 P **P 02 44 54.3 +0.3**
comp=Z,5.3nm,0.8s,mb4.8,baz=292,slow=7.6,SNR=25
T06C Milleton Lake 62.04 65 ⇑P **P 02 44 53.3 -0.6**
baz=62
KCC Kaiser Creek 62.09 64 ⇓P **P 02 44 54.3 0.0**
baz=62
QLMT Earthquake Lak 62.14 53 *e*P **P 02 44 55.4 +0.8**
JOF Joensuu 62.22 334 *ep* **P 02 44 54.2 -1.0**
comp=Z,20nm,0.6s,mb5.5
JOF Joensuu 62.22 334 *e*P **P 02 44 54.2 -1.0**
JOF pmax pmax
comp=Z,20nm,0.6s,mb5.5
M12A Wells 62.25 58 ⇓P **P 02 44 55.4 +0.1**
baz=62
P10A Eureka 62.43 61 ⇑P **P 02 44 56.4 -0.1**
baz=62
GCMT Greycliff 62.51 52 *e*P **P 02 44 57.8 +0.7**
N12A Clover Valley, 62.52 59 ⇑P **P 02 44 57.0 -0.2**
baz=62
O11A Cowboy Ranch, 62.60 60 ⇑P **P 02 44 57.6 -0.2**
baz=62
HELL Mitchell Peak, 62.68 65 P **P 02 44 58.1 -0.1**
baz=62,SNR=7.4
S08C White Mtn Res 62.70 63 P **P 02 44 59.0 +0.6**
baz=62,SNR=5.8
YFT Old Faithful 62.70 53 *e*P **P 02 45 01.0 +2.6**
M13A Montello 62.72 58 ⇑P **P 02 44 58.3 -0.2**
baz=62

R09A Tonopah 62.92 62 P P 02 45 00.0 +0.2
baz=63,SNR=15
TIN Tinemaha 62.94 64 ⇓P P 02 45 00.5 +0.6
baz=63
IMW Indian Meadow 62.99 54 eP P 02 45 01.5 +1.1
comp=Z,7.7nm,1.0s,mb4.8
N13A Wendover, West 63.02 58 ⇑P P 02 45 01.2 +0.7
baz=63
DCID1 Drake Creek 63.05 54 eP P 02 45 01.7 +1.1
O12A Currie 63.06 59 P P 02 45 01.2 +0.5
baz=63,SNR=10
S09A Goldfield 63.15 63 ⇑P P 02 45 01.3 -0.1
baz=63
MOOW Moose Ponds 63.20 54 eP P 02 45 02.6 +0.9
comp=Z,11nm,1.1s,mb4.9
TPAW Teton Pass 63.24 54 eP P 02 45 03.1 +1.2
comp=Z,24nm,0.9s,mb5.3
HVU Hansel Valley 63.27 57 eP P 02 45 02.3 +0.1
HVU pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
HVU Hansel Valley 63.27 57 eP P 02 45 02.3 +0.1
comp=Z,4.2nm,1.0s,mb4.5
PKM Peak Mountain 63.29 67 ⇑P P 02 45 01.5 -0.8
baz=63
LOHW Long Hollow 63.36 54 eP P 02 45 04.0 +1.2
comp=Z,15nm,1.2s,mb5.0
SNOW Snow King Moun 63.37 54 eP P 02 45 04.1 +1.3
comp=Z,13nm,0.9s,mb5.1
REDW Red Top Meadow 63.38 54 eP P 02 45 03.8 +0.9
comp=Z,18nm,0.9s,mb5.2
Q11A Duckwater 63.41 61 ⇑P P 02 45 03.3 +0.2
baz=63
CWC Cottonwood Cre 63.42 64 ⇓P P 02 45 03.1 0.0
baz=63
P12A McGill 63.46 60 P P 02 45 04.0 +0.6
baz=63,SNR=5.2
GRAC Grapevine Rang 63.51 63 P P 02 45 04.2 +0.5
baz=63,SNR=7.5
ISA Isabella 63.66 65 ⇓P P 02 45 03.9 -0.9
baz=63
Q12A Willow Creek R 63.78 60 ⇑P P 02 45 06.0 +0.5
baz=64
LAO LASA Array 63.78 49 eP P 02 45 05.9 +0.3
comp=Z,13nm,0.8s,mb5.2
MPMC Manual Prospec 64.03 64 P P 02 45 07.5 +0.4
baz=64,SNR=7.2
HWUT Hardware Ranch 64.08 56 eP P 02 45 08.0 +0.5
comp=Z,8.8nm,1.0s,mb4.9
FURC Furnace Creek, 64.16 64 P P 02 45 08.2 +0.2
baz=64,SNR=8.7
VIS Vishakhapatnam 64.25 269 eP P 02 45 09.2 +0.5
VIS AMb AMB 02 45 13.6
comp=Z,15nm,1.0s,mb5.2
DUG Dugway 64.25 58 eP P 02 45 09.1 +0.4
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
DUG Dugway 64.25 58 eP P 02 45 09.1 +0.5
comp=Z,8.9nm,0.9s,mb5.0
DUG Dugway 64.25 58 ⇑P P 02 45 09.4 +0.7
baz=64
LRMC Laurel Mountai 64.27 65 ⇓P P 02 45 07.6 -1.2
baz=64
KAF Kangasniemi 64.32 336 ep P 02 45 08.1 -1.0
AJM Ajmer 64.44 282 eP P 02 45 09.1 -0.8
AJM AMb AMB 02 45 11.1
comp=Z,11nm,0.7s,mb5.2
EDW2 Edwards Air Fo 64.46 66 P P 02 45 10.3 +0.2
baz=64,SNR=8.5
BW06 Boulder Array 64.49 54 eP P 02 45 10.2 0.0
comp=Z,7.8nm,0.9s,mb4.9
PDAR Pinedale Array 64.49 54 P P 02 45 10.2 0.0
comp=Z,5.7nm,0.8s,mb4.8,baz=280,slow=2.3,SNR=42
U10A Ash Meadows, A 64.52 63 P P 02 45 11.2 +0.7
baz=64,SNR=7.8
BHPL Bhopal 64.65 278 eP P 02 45 13.3 +2.1
BHPL AMb AMB 02 45 17.0
comp=Z,30nm,1.0s,mb5.5
NLU North Lily Min 64.84 58 eP P 02 45 13.1 +0.6
NGP Nagpur 64.92 275 eP P 02 45 13.2 +0.2
NGP AMb AMB 02 45 23.2
comp=Z,21nm,1.3s,mb5.2
FIA1 FINESS Array S 64.92 335 eP P 02 45 13.4 +0.4
FINES FINESS Array B 64.92 335 P P 02 45 12.7 -0.3
comp=Z,3.8nm,0.4s,mb5.0,baz=40,slow=6.7,SNR=49
FINES FINESS Array B 64.92 335 P P 02 45 12.7 -0.3
FINES pmax pmax
comp=Z,4.0nm,0.4s
GSC Goldstone 64.94 65 ⇓P P 02 45 12.6 -0.6
baz=65
DAU Daniels Canyon 65.03 57 eP P 02 45 14.4 +0.7
MPU Maple Canyon 65.06 58 eP P 02 45 14.2 +0.2
comp=Z,7.9nm,0.9s,mb4.9
BFSC Mount Baldy St 65.08 66 ⇓P P 02 45 13.8 -0.2
baz=65
U11A Corn Creek 65.11 63 ⇓P P 02 45 13.9 -0.3
baz=65
TUQ Turquoise Mtn. 65.41 64 ⇑P P 02 45 15.9 -0.3
baz=65
ARUT Antelope Range 65.42 61 eP P 02 45 16.7 +0.4
V11A Goodsprings 65.45 63 ⇑P P 02 45 16.5 0.0
baz=65
BBRC Big Bear Sol-O 65.53 65 ⇑P P 02 45 17.1 +0.1
baz=65
HEC Hector,Ludlow 65.54 65 ⇑P P 02 45 17.1 0.0
baz=65
U12A Valley of Fire 65.62 62 ⇓P P 02 45 17.6 0.0
baz=65
MSU Marysvale 65.71 59 eP P 02 45 18.7 +0.6
MURC Murrieta 65.78 66 ⇓P P 02 45 18.1 -0.5
baz=66
V12A Nelson 65.89 63 ⇓P P 02 45 19.6 +0.3
baz=66
GMRC Granite Mounta 65.99 64 ⇑P P 02 45 19.4 -0.6
baz=66
W12A Cal Nev Ari 66.15 63 ⇑P P 02 45 21.3 +0.3
baz=66
OBN Obninsk 66.25 326 ⇓iP P 02 45 21.2 -0.4
OBN eS S 02 54 09.6 -2.2
OBN pmax pmax
comp=Z,20nm,0.7s,mb5.5
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
OBN Obninsk 66.25 326 eP P 02 45 20.9 -0.6
comp=Z,19nm,0.6s,mb5.5
BELC Belle Mtn. 66.29 65 ⇓P P 02 45 21.6 -0.2
baz=66
SRU San Rafael 66.30 58 eP P 02 45 21.7 -0.2
SRU pmax pmax
comp=Z,12nm,0.8s,mb5.2
SRU San Rafael 66.30 58 eP P 02 45 21.7 -0.3
comp=Z,12nm,0.8s,mb5.2
109C Camp Elliot, M 66.31 67 ⇑P P 02 45 20.9 -1.1
baz=66
ULM Lac du Bonnet 66.48 41 P P 02 45 22.5 -0.6
comp=Z,3.7nm,0.7s,mb4.7,baz=300,slow=4.9,SNR=7.8
RSSD Black Hills 66.63 50 eP P 02 45 23.6 -0.5
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
RSSD Black Hills 66.63 50 eP P 02 45 23.6 -0.5
comp=Z,8.1nm,1.0s,mb4.9
IRM Iron Mountain 66.72 65 ⇓P P 02 45 24.7 +0.1
baz=66
BC3 Big Chuckw Mtn 66.86 65 ⇓P P 02 45 24.7 -0.8
baz=67
W13A Hualapai Mount 66.89 63 ⇓P P 02 45 25.4 -0.3
baz=67
PDMCI Parker Dam,Lak 67.26 64 ⇓P P 02 45 27.5 -0.6
baz=67
X13A Yucca 67.26 63 P P 02 45 27.9 -0.1
baz=67,SNR=7.6
W14A Seligman 67.31 62 P P 02 45 28.9 +0.5
baz=67,SNR=11
Y12C Blythe 67.38 64 ⇑P P 02 45 28.0 -0.8
baz=67
GLA Glamis 67.64 65 ⇑P P 02 45 30.6 +0.1
baz=67
PV10 Paradox Valley 67.66 58 eP P 02 45 31.1 +0.6
W15A Williams 67.84 62 ⇓P P 02 45 32.3 +0.6
baz=68
X14A Yava 67.92 63 P P 02 45 32.8 +0.6
baz=68,SNR=7.2
VRSR Storozhevoye 68.06 322 eP P 02 45 36.3 +3.2
VRSR pmax pmax
comp=Z,20nm,0.7s,mb5.5
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,0.6s
PV01 Paradox Valley 68.09 57 eP P 02 45 33.1 -0.2
WRAB Tennant Creek 68.18 200 ⇑iP P 02 45 33.6 -0.2
WRAB Tennant Creek 68.18 200 eP P 02 45 33.1 -0.7
comp=E,12nm,1.0s,mb5.1
WB2 Warramunga Arr 68.19 200 eP P 02 45 33.1 -0.8
WRA Warramunga Arr 68.19 200 P P 02 45 33.0 -1.0
comp=E,8.2nm,0.8s,mb5.0,baz=18,slow=6.6,SNR=32
WRA Warramunga Arr 68.19 200 P P 02 45 33.0 -0.9
WRA pmax pmax
comp=Z,8.0nm,0.8s
Y14A Wickenburg 68.20 63 ⇑P P 02 45 33.8 -0.2
baz=68
X15A Humboldt 68.31 63 ⇓P P 02 45 34.8 0.0
baz=68
ISCO Idaho Springs 68.68 54 eP P 02 45 37.5 +0.5
ISCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
ISCO Idaho Springs 68.68 54 eP P 02 45 37.5 +0.5
comp=Z,6.5nm,0.9s,mb4.9
MVCO Mesa Verde 68.76 58 eP P 02 45 37.0 -0.5
comp=Z,5.2nm,0.8s,mb4.8
MVCO Mesa Verde 68.76 58 ⇓P P 02 45 37.4 -0.1
baz=68
FITZ Fitzroy Crossi 68.97 209 P P 02 45 38.5 -0.3
comp=Z,3.2nm,0.7s,mb4.6,baz=41,slow=2.2,SNR=7.2
NB2 NORSAR Subarra 69.05 342 P P 02 45 38.8 -0.5
comp=Z,14nm,0.7s,mb5.3,baz=30,slow=6.5
NOA NORSAR Array B 69.05 342 P P 02 45 38.7 -0.6
comp=Z,10nm,0.7s,mb5.2,baz=27,slow=6.4,SNR=22
NOA NORSAR Array B 69.05 342 P P 02 45 38.7 -0.6
NOA pmax pmax
comp=Z,10.0nm,0.7s
116A Eloy 69.93 64 ⇑P P 02 45 45.2 +0.4
baz=70
SDCO Great Sand Dun 70.14 56 eP P 02 45 46.0 0.0
comp=Z,11nm,1.6s,mb4.8
POO Poona 70.28 276 ex x 02 41 16.0
KAD Karad 70.89 275 eP P 02 45 52.5 +1.9
KAD AMb AMB 02 45 57.3
comp=Z,15nm,0.5s,mb5.4
ANMO Albuquerque 71.50 59 P P 02 45 53.6 -0.7
comp=Z,4.2nm,0.9s,mb4.5,baz=325,slow=8.5,SNR=11
ANMO Albuquerque 71.50 59 P P 02 45 53.7 -0.6
ANMO pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 71.77 315 d iP P 02 45 56.5 +0.6
KIV e 02 46 13.7
KIV e 02 55 12.2
KIV eSS SS 02 59 53.4 +0.5
KIV pmax pmax
comp=Z,16nm,1.3s,mb5.0
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.2
KIV Kislovodsk 71.77 315 eP P 02 45 57.7 +1.8
comp=Z,15nm,0.7s,mb5.2
ZEI Tsey 72.03 313 eP P 02 45 57.4 -0.1
ZEI e 02 46 12.7
ZEI e 02 48 34.4
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
AKASG Malin Array Be 72.48 327 P P 02 45 59.3 -0.9
comp=Z,7.1nm,0.5s,mb5.0,baz=34,slow=6.2,SNR=38
AKASG Malin Array Be 72.48 327 P P 02 45 59.3 -0.9
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 72.48 327 eP P 02 46 00.5 +0.3
KIEV Kiev 72.49 327 eP P 02 46 00.6 +0.4
KIEV pmax pmax
comp=Z,11nm,0.6s,mb5.2
KIEV Kiev 72.49 327 eP P 02 46 00.6 +0.4
comp=Z,11nm,0.6s,mb5.2
SOC Sochi 73.49 316 eP P 02 46 02.9 -3.3
SOC e 02 48 45.5
SOC ePPP 02 50 38.7
SOC eS S 02 55 31.4 -5.5
SOC e 02 56 19.0
SOC eSS SS 03 00 17.3 -1.9
SOC pmax pmax
comp=Z,17nm,1.0s,mb5.1
GNI Garni 73.51 311 LR LR 03 22 22.4
comp=Z,78nm,19.8s,MS4.0,baz=356,slow=39
GNI Garni 73.51 311 i P P 02 46 07.4 +1.1
GNI pmax pmax
comp=Z,25nm,1.6s
GNI Garni 73.51 311 eP P 02 46 09.0 +2.7
comp=Z,13nm,0.8s,mb5.0
SCHQ Schefferville 73.58 23 P P 02 46 05.7 -1.0
comp=Z,5.3nm,0.8s,mb4.6,baz=341,slow=6.6,SNR=6.7
ANN Anapa 73.64 319 eP P 02 46 10.6 +3.5
ANN e 02 46 26.7
ANN pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
SCIA State Center 73.80 46 eP P 02 46 07.3 -0.7
comp=Z,16nm,0.7s,mb5.2
AMTX Amarillo 74.34 56 eP P 02 46 11.5 +0.4
MNTX Cornudas Mount 74.41 61 eP P 02 46 11.0 -0.6
comp=Z,6.2nm,1.0s,mb4.6
GDL2 Guadalupe Moun 74.67 60 eP P 02 46 13.4 +0.3
MVH1 Achvaich 74.76 348 ⇑eP P 02 46 17.2 +3.6
SIM Simferopol' 75.03 321 P P 02 46 21.7 +6.6
SIM pmax pmax
comp=Z,11nm,0.7s,mb5.0
MDO Dochfour 75.26 348 ⇑eP P 02 46 20.2 +3.7
KWP Kalwaria 75.74 330 eP P 02 46 19.7 +0.5
WMOK Wichita Mounta 76.10 54 eP P 02 46 20.9 -0.4
OJC Ojcow 76.22 332 eP P 02 46 21.2 -0.8
STHS Stebnicka Huta 76.43 331 eP P 02 46 23.6 +0.5
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
STHS Stebnicka Huta 76.43 331 eP P 02 46 23.6 +0.5
comp=Z,7.2nm,0.8s,mb4.8
EAB Aberfoyle 76.47 348 eP P 02 46 26.5 +3.2
KOLS Kolonicke sedl 76.48 330 eP P 02 46 23.1 -0.3
BURAR Bucovina Array 76.52 327 ⇑iP P 02 46 23.5 -0.2
EDI Edinburgh 76.55 347 eP P 02 46 28.6 +4.7
EDI AMb AMB 02 46 29.9
comp=Z,180nm,1.6s,mb6.0
UZH Uzhgorod 76.73 330 eP P 02 46 29.7 +4.8
UZH e 02 46 41.3
CRVS Cervenica-Dubn 76.79 330 eP P 02 46 26.4 +1.2
XSO Sourhope Farm 76.81 347 ⇑eP P 02 46 28.7 +3.4
PGBU Glenifferbraes 76.85 348 eP P 02 46 29.6 +4.0
PGBU AMb AMB 02 46 30.8
comp=Z,79nm,1.7s,mb5.6
OKC Ostrava-Krasne 77.09 333 eP P 02 46 31.3 +4.4
LTX Lajitas 77.13 61 eP P 02 46 26.6 -0.5
LTX pmax pmax
comp=Z,12nm,0.8s,mb5.1
LTX Lajitas 77.13 61 eP P 02 46 26.6 -0.5
comp=Z,12nm,0.8s,mb5.1
TXAR Lajitas Array 77.13 61 P P 02 46 26.9 -0.2
comp=Z,9.5nm,0.7s,mb5.0,baz=302,slow=4.1,SNR=77
TXAR Lajitas Array 77.13 61 P P 02 46 26.9 -0.2
TXAR pmax pmax
comp=Z,10.0nm,0.7s
ESK Eskdalemuir 77.14 347 eP P 02 46 31.2 +4.0
ESK AMb AMB 02 46 32.6
comp=Z,81nm,1.7s,mb5.6
UPC Upice 77.17 334 eP P 02 46 31.2 +3.9
DPC Dobruska-Polom 77.21 334 eP P 02 46 31.7 +4.1
MORC Moravsky Berou 77.33 333 eP P 02 46 27.6 -0.7
MORC pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
MORC Moravsky Berou 77.33 333 eP P 02 46 27.6 -0.7
comp=Z,8.0nm,0.8s,mb4.9
MORC Moravsky Berou 77.33 333 ⇓iP P 02 46 28.0 -0.3
CLL Collm 77.34 336 ⇑iP P 02 46 27.6 -0.7
CLL i 02 46 33.3
CLL Collm 77.34 336 ⇑iP P 02 46 27.6 -0.7
CLL i 02 46 31.4
CLL i 02 46 33.3
CLL P 02 46 44.3
CLL Collm 77.34 336 ⇑iP P 02 46 27.6 -0.7
CLL i pP 02 46 31.4
CLL i sP sP 02 46 33.3 +5.0
CLL i pPcP 02 46 44.3
comp=Z,16nm,0.9s
VRI Vrincioaia 77.39 325 ⇑iP P 02 46 32.3 +3.8
PLOR Plostina 77.43 325 ⇓iP P 02 46 29.8 +1.0
KECS Kecovo 77.48 330 eP P 02 46 28.7 -0.4
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
KECS Kecovo 77.48 330 eP P 02 46 28.7 -0.4
comp=Z,3.3nm,1.0s,mb4.4
GAL1 Galloway 77.80 348 eP P 02 46 33.8 +3.0
GAL1 AMb AMB 02 46 34.8
comp=Z,105nm,1.6s,mb5.7
MLR Muntele Rosu 78.00 326 ⇑iP P 02 46 32.5 +0.5
VYHS Vyhne 78.03 331 eP P 02 46 32.2 0.0
VRAC Vranov 78.05 333 ⇑iP P 02 46 32.2 0.0
PRU Pruhonice 78.07 335 eP P 02 46 35.1 +2.7
DRGR 78.14 328 ⇓iP P 02 46 32.2 -0.5
STKA Stephens Creek 78.48 191 P P 02 46 33.4 -1.3
comp=Z,1.3nm,0.7s,mb4.2,baz=310,slow=7.3,SNR=2.9
PSN Preselentsi 78.59 323 i P P 02 46 30.3 -4.9
JCT Junction City 78.61 58 eP P 02 46 34.5 -0.9
JCT pmax pmax
comp=Z,15nm,1.4s,mb4.8
JCT Junction City 78.61 58 eP P 02 46 34.5 -0.9
comp=Z,15nm,1.4s,mb4.8
KBI1 Birley Grange 78.84 345 eP P 02 46 41.0 +4.4
ZST Bratislava 78.86 332 eP P 02 46 41.3 +4.6
ZST pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ZST Bratislava 78.86 332 eP P 02 46 41.3 +4.6
comp=Z,6.5nm,0.9s,mb4.7
KHC Kasperske Hory 79.12 335 eP P 02 46 38.1 -0.1
KHC pP 02 46 41.5
KHC x x 02 46 58.0
KHC Kasperske Hory 79.12 335 eP P 02 46 38.1 -0.1
KHC e 02 46 41.5
KHC e 02 46 58.0
KWE Weaver Farm 79.12 346 eP P 02 46 42.6 +4.4
GRA1 Grafenberg Arr 79.29 337 eP P 02 46 43.6 +4.5
comp=Z,9.0nm,0.9s,mb4.8
GRF Grafenberg Arr 79.29 337 eP P 02 46 43.6 +4.5
comp=Z,9.0nm,0.9s,mb4.8
GRF Grafenberg Arr 79.29 337 eP P 02 46 43.6 +4.5
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
GRF Grafenberg Arr 79.29 337 eP P 02 46 43.6 +4.5
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
GZR Gura Zlata 79.30 327 ⇓iP P 02 46 42.7 +3.6
GERES GERESS Array B 79.34 335 P P 02 46 38.9 -0.5
comp=Z,2.1nm,0.6s,mb4.3,baz=28,slow=6.0,SNR=11
GERES GERESS Array B 79.34 335 P P 02 46 38.9 -0.5
GERES pmax pmax
comp=Z,2.0nm,0.6s
BR131 Keskin Array S 79.36 317 eP P 02 46 39.7 +0.2
comp=Z,5.7nm,0.9s,mb4.6
BRTR Keskin Array B 79.36 317 P P 02 46 40.0 +0.5
comp=Z,2.9nm,0.8s,mb4.3,baz=66,slow=3.1,SNR=15
BRTR Keskin Array B 79.36 317 ⇑eP P 02 46 40.0 +0.5
SBD1 Bryn Du 79.47 346 ⇑eP P 02 46 44.6 +4.5
BZS Buzias 79.54 328 ⇑iP P 02 46 40.1 -0.3
ANTO Ankara 79.64 318 eP P 02 46 41.0 0.0
ANTO pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ANTO Ankara 79.64 318 eP P 02 46 41.0 0.0
comp=Z,8.0nm,0.6s,mb4.8
HLM1 Long Mynd 79.78 346 eP P 02 46 46.0 +4.3
MEM Membach 79.79 340 P P 02 46 45.7 +3.9
comp=Z,9.3nm,1.0s,mb4.7
SZH Strazhica 79.86 324 i P P 02 46 41.0 -1.2
PKSM Moragy 80.08 330 ⇓iP P 02 46 41.3 -2.1
BCLA Clavier 80.13 340 P P 02 46 48.0 +4.3
SKP1 Kophill 80.18 345 ⇑eP P 02 46 48.1 +4.2
MCH1 Michaelchurch 80.30 346 eP P 02 46 49.1 +4.6
GIVF Givet 80.54 341 eP P 02 46 45.1 -0.7
HGH Gray Hill 80.61 346 ⇑eP P 02 46 50.9 +4.7
BAIF Baives 80.72 341 eP P 02 46 46.2 -0.6
PERS Pernice 80.87 333 i P P 02 46 47.4 -0.2
PERS i 02 46 51.8
DIM Dimitrovgrad 81.03 324 i P P 02 46 46.3 -2.2
PGB Panagyurishte 81.17 325 i P P 02 46 51.0 +1.8
HEX Exmoor 81.33 346 eP P 02 46 54.5 +4.4
DIVS Divcibare 81.43 329 ⇓iP P 02 46 49.3 -1.4
VTS Vitosha 81.51 326 i P P 02 46 49.6 -1.4
VTS Vitosha 81.51 326 ⇓iP P 02 46 50.8 -0.2
CDF Champ du Feu 81.51 338 eP P 02 46 50.6 -0.4
comp=Z,26nm,0.9s,mb5.1
CDF Champ du Feu 81.51 338 eP P 02 46 50.6 -0.4
CDF pmax pmax
comp=Z,13nm,0.9s,mb5.1
CDF Champ du Feu 81.51 338 eP P 02 46 50.6 -0.4
comp=Z,13nm,0.9s,mb5.1
RZN Rozhen 81.67 324 i P P 02 46 51.2 -0.7
ROBS Robic 81.72 334 eP P 02 46 51.0 -1.2
ROBS i 02 47 01.0
BOJS Bojanci 81.83 332 i P P 02 46 49.4 -3.4
BOJS e 02 46 56.6
MEZF Maizieres J'vi 81.98 340 eP P 02 46 53.5 0.0
comp=Z,46nm,0.9s,mb5.3
MEZF Maizieres J'vi 81.98 340 eP P 02 46 53.5 0.0
comp=Z,46nm,0.9s,mb5.6
HAU Haudompre 82.12 339 eP P 02 46 53.8 -0.5
HINF Hinteralfeld 82.17 338 eP P 02 46 53.6 -0.9
KKB Krupnik 82.17 325 i P P 02 46 54.7 +0.2
LOR Lormes 83.42 340 eP P 02 47 00.8 -0.2
comp=Z,35nm,0.8s,mb5.4
LOR Lormes 83.42 340 eP P 02 47 00.8 -0.2
LOR pmax pmax
comp=Z,18nm,0.8s,mb5.3
LOR Lormes 83.42 340 eP P 02 47 00.8 -0.2
comp=Z,18nm,0.8s,mb5.3
CABF La Chapelle 83.48 339 eP P 02 47 01.0 -0.3
SSF Saint Saulge 83.69 340 eP P 02 47 02.4 0.0
comp=Z,22nm,0.7s,mb5.2
SSF Saint Saulge 83.69 340 eP P 02 47 02.4 0.0
SSF pmax pmax
comp=Z,11nm,0.7s,mb5.2
SSF Saint Saulge 83.69 340 eP P 02 47 02.4 0.0
comp=Z,11nm,0.7s,mb5.2
HYF Humbligny 83.70 341 eP P 02 47 02.4 0.0
MMAI Mount Meron Ar 83.79 312 P P 02 47 03.8 +0.9
comp=Z,12nm,0.7s,mb5.2,baz=36,slow=7.2,SNR=29
MMAI LR LR 03 30 46.5
comp=Z,69nm,18.3s,MS4.1,baz=25,slow=40
SGMF Saint Gilles 83.83 345 eP P 02 47 02.3 -0.8
comp=Z,38nm,0.6s,mb5.5
SGMF Saint Gilles 83.83 345 eP P 02 47 02.3 -0.8
SGMF pmax pmax
comp=Z,19nm,0.6s,mb5.5
SGMF Saint Gilles 83.83 345 eP P 02 47 02.3 -0.8
comp=Z,19nm,0.6s,mb5.5
AVF Avril sur Loir 83.98 340 eP P 02 47 03.3 -0.6
comp=Z,21nm,0.7s,mb5.2
AVF Avril sur Loir 83.98 340 eP P 02 47 03.3 -0.6
AVF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
AVF Avril sur Loir 83.98 340 eP P 02 47 03.3 -0.6
comp=Z,10nm,0.7s,mb5.2
SMF Signal de Mont 84.00 340 eP P 02 47 03.6 -0.4
comp=Z,35nm,0.9s,mb5.3
SMF Signal de Mont 84.00 340 eP P 02 47 03.6 -0.4
SMF pmax pmax
comp=Z,17nm,0.9s,mb5.3
SMF Signal de Mont 84.00 340 eP P 02 47 03.6 -0.4
comp=Z,18nm,0.9s,mb5.3
BGF Bois d'Agland 84.32 341 eP P 02 47 04.8 -0.8
LPL La Plagne 84.33 338 eP P 02 47 06.2 +0.5
comp=Z,51nm,1.2s,mb5.3
LPL La Plagne 84.33 338 eP P 02 47 06.2 +0.5
LPL pmax pmax
comp=Z,26nm,1.2s,mb5.3
LPL La Plagne 84.33 338 eP P 02 47 06.2 +0.5
comp=Z,26nm,1.2s,mb5.3
LPG La Plagne 84.34 338 eP P 02 47 06.4 +0.7
comp=Z,65nm,1.2s,mb5.4
LPG La Plagne 84.34 338 eP P 02 47 06.4 +0.7
LPG pmax pmax
comp=Z,32nm,1.2s,mb5.4
LPG La Plagne 84.34 338 eP P 02 47 06.4 +0.7
comp=Z,32nm,1.2s,mb5.4
TCF Toulx Ste Croi 84.72 341 eP P 02 47 08.2 +0.6
comp=Z,33nm,1.0s,mb5.2
TCF Toulx Ste Croi 84.72 341 eP P 02 47 08.2 +0.6
TCF pmax pmax
comp=Z,17nm,1.0s,mb5.2
TCF Toulx Ste Croi 84.72 341 eP P 02 47 08.2 +0.6
comp=Z,17nm,1.0s,mb5.2
MBDF Montbardon 85.05 337 eP P 02 47 09.0 -0.3
ORIF Oris-en-Rattie 85.11 338 eP P 02 47 09.8 +0.2
comp=Z,18nm,0.7s,mb5.1
ORIF Oris-en-Rattie 85.11 338 eP P 02 47 09.8 +0.2
ORIF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
ORIF Oris-en-Rattie 85.11 338 eP P 02 47 09.8 +0.2

comp=Z,9.0nm,0.7s,mb5.1
AQU L'Aquila 85.25 332 ⇓*iP* **P 02 47 15.6 +5.3**
VIVF Saint-Julien-I 85.48 339 *eP* **P 02 47 11.5 +0.1**
comp=Z,21nm,0.9s,mb5.1
VIVF Saint-Julien-I 85.48 339 *eP* **P 02 47 11.5 +0.1**
VIVF pmax pmax
comp=Z,11nm,0.9s,mb5.1
VIVF Saint-Julien-I 85.48 339 *eP* **P 02 47 11.5 +0.1**
comp=Z,11nm,0.9s,mb5.1
SBF Sospel 85.67 337 *eP* **P 02 47 11.8 -0.6**
comp=Z,62nm,1.1s,mb5.4
SBF Sospel 85.67 337 *eP* **P 02 47 11.8 -0.6**
SBF pmax pmax
comp=Z,31nm,1.1s,mb5.3
SBF Sospel 85.67 337 *eP* **P 02 47 11.8 -0.6**
comp=Z,31nm,1.1s,mb5.3
LMR La Mourre 86.42 337 *eP* **P 02 47 15.9 -0.2**
comp=Z,26nm,1.0s,mb5.0
LMR La Mourre 86.42 337 *eP* **P 02 47 15.9 -0.2**
LMR pmax pmax
comp=Z,13nm,1.0s,mb5.0
LMR La Mourre 86.42 337 *eP* **P 02 47 15.9 -0.2**
comp=Z,13nm,1.0s,mb5.0
EIL Elat 86.67 310 *eP* **P 02 47 21.7 +4.4**
comp=Z,180nm,0.9s
IDI Anoyia 86.97 321 P **P 02 47 20.7 +1.9**
comp=Z,7.6nm,0.6s,mb5.1,baz=32,slow=12,SNR=17
ESDC Sonseca Array 92.36 343 P **P 02 47 44.5 +0.3**
comp=Z,1.4nm,0.9s,mb4.3,baz=77,slow=40,SNR=3.7
KEST Kesra 92.57 332 P **P 02 47 48.1 +3.0**
comp=Z,1.4nm,0.7s,mb4.5,baz=218,slow=3.4,SNR=7.7
TORD Torodi Ar. Bea 116.01 330 PKP PKPdf 02 53 15.3 -1.3
comp=Z,0.7nm,0.6s,baz=12,slow=2.4,SNR=9.3
TORD PP PP 02 54 15.7 -5.1
comp=Z,0.6nm,0.7s,baz=11,slow=8.5,SNR=4.0
TORD PKKPbc PKKPbc 03 03 44.5 -2.5
comp=Z,0.3nm,0.6s,baz=219,slow=1.4,SNR=4.6
LSZ Lusaka 125.65 286 *e*PKIKP PKPdf 02 53 34.9 -0.2
SIV San Ignacio 137.96 56 PKP PKPdf 02 53 56.4 -2.0
comp=Z,3.7nm,1.1s,baz=323,slow=3.6,SNR=3.8
CFAA Coronel Fontan 144.34 81 PKP PKPdf 02 54 05.9 -3.9
comp=Z,0.3nm,0.5s,baz=36,slow=0.6,SNR=5.1
USHA Ushuaia 151.89 124 PKPbc PKPbc 02 54 26.8 -1.8
comp=Z,4.8nm,0.7s,baz=246,slow=15,SNR=3.1
SNAA Sanae 152.17 195 PKPbc PKPbc 02 54 26.0 -3.2
comp=Z,1.1nm,0.9s,baz=158,slow=4.2,SNR=14
SNAA Sanae 152.17 195 *e*PKPdf PKPbc 02 54 26.0 -3.2
SNAA *e* 02 54 30.5
SNAA *e* 02 54 36.6
SNAA *e* 02 54 39.6
SNAA Sanae 152.17 195 *e*PKPbc PKPbc 02 54 25.6 -3.6
SNAA *e*PKPab PKPab 02 54 37.0 -1.9
VNA2 Neumayer--Watz 153.59 193 *e*PKPdf PKPbc 02 54 29.6 -2.8
baz=110,slow=3.1
VNA2 *e* 02 54 34.1
VNA2 *e* 02 54 42.7
VNA2 *e* 02 54 46.7
VNA2 *e* 02 54 55.5
VNA3 Neumayer Olymp 153.65 192 *e*PKPdf PKPbc 02 54 29.4 -3.1
VNA3 *e* 02 54 34.2
VNA3 *e* 02 54 42.7
VNA3 *e* 02 54 46.6
VNA3 *e* 02 54 55.9
VNA1 Neumayer--Stat 153.97 193 *e*PKPdf PKPbc 02 54 31.2 -2.0
VNA1 *e* 02 54 35.4
VNA1 *e* 02 54 44.6
VNA1 *e* 02 54 48.8
VNA1 *e* 02 54 57.9

STR ***08*** *02:36:31.9±0.7,4755N×755E,h5km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***08*** *02:36:32.1±0.1,4757N×759E,h10km,Md2.2/1,Ml2.1/10, Error ellipse: s-maj=2.0km s-min=1.2km az=108.0*
ZUR 08 02:36:32.4,4758N×760E,h5km±1km,ML1.5,2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**165**	*i* Sg	Sg	02 36 37.7	-3.0
	241nm,0.3s						
BALST	**Balsthal**	**0.25**	**165**	⇑*i*Pg	Sg	02 36 41.4	+0.7
	241nm,0.3s						
BOURR	**Bourrignon**	**0.31**	**233**	⇑*i*Pg	Pg	02 36 38.8	+0.3
	98nm,1.8s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Pg	02 36 39.4	+0.2
	51nm,0.7s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	02 36 40.4	0.0
MOF				Sg	Sg	02 36 46.1	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	02 36 42.7	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	02 36 44.3	+1.2
HINF				*e*Sg	Sg	02 36 50.0	-0.4
HINF				*e*Sn	Sg	02 36 53.6	+3.2
	3.8nm,0.1s						
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	02 36 45.4	+0.9
	89nm,0.4s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	02 36 45.9	0.0
ECH				Sg	Sg	02 36 54.7	-0.3
TRULL	**Truellikon**	**0.73**	**84**	*e*Sg	Sg	02 36 56.8	+0.8
	47nm,0.2s						
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	02 36 48.6	-0.3
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pg	02 36 49.1	+0.2
CDF				*e*Sn	Sg	02 37 01.1	+1.1
	9.8nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	02 36 50.1	-0.4
HAU				*e*Sg	Sg	02 37 02.8	0.0
	8.5nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	02 36 59.4	-0.2
CABF				*e*Sg	Sg	02 37 16.5	-1.5
	2.5nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	02 37 30.1	-1.2
	2.0nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sg	Sg	02 37 33.3	-1.5
	1.3nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	02 37 40.4	-1.6
	0.6nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	02 37 19.8	-1.7
LOR				*e*Sg	Sg	02 37 52.1	-2.5
	1.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Sg	Sg	02 38 03.6	-2.6
	0.6nm,0.2s						

ISCJB ***08*** *02:39:13.3±1.9,138N±02×892W±03,h181km±18km, mb3.7/3,Error ellipse: s-maj=48.1km s-min=13.4km az=120.4*
IDC ***08*** *02:39:13.5±2.6,1381N×8919W,h164km±29km,mb3.3/3, mb1 3.5/5,mb1mx3.2/18,mbtmp3.2/5,Error ellipse: s-maj=53.1km s-min=20.4km az=54.0*
NEIC ***08*** *02:39:14.0±1.6,1384N×8927W,h166km±16km,mb3.8/1, Error ellipse: s-maj=33.7km s-min=14.1km az=63.0*
CASC ***08*** *02:39:24.3±1.7,1371N×8975W,h128km±6km,MD3.9, mb3.8(NEIC)*
ISC 08 02:39:14.2±1.9,138N±02×892W±03,h172km±19km,n23, σ0°77/10,mb3.7/3,3C-3D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFU	**La Fuente**	**0.08**	**142**	⇓*iP*	x	02 39 44.2	
LFU				*e*S	x	02 40 00.2	
LBRS	**Las Brisas**	**0.14**	**121**	*e*P	x	02 39 44.7	
LBRS				*e*S	x	02 40 00.8	
BOQS	**Boqueron**	**0.14**	**237**	⇓*e*P	x	02 39 43.1	
BOQS				*e*S	x	02 39 58.1	
LFRS	**El Faro**	**0.21**	**152**	⇑*e*P	x	02 39 44.5	
LFRS				*e*S	x	02 39 59.5	
LCBS	**La Ceiba**	**0.23**	**131**	*e*P	x	02 39 45.6	
LCBS				*e*S	x	02 40 02.1	
SNVI	**San Vicente**	**0.37**	**122**	*e*P	x	02 39 46.3	
SNVI				*e*S	x	02 40 03.5	
SNJE	**San Jose**	**0.43**	**278**	*e*P	x	02 39 42.2	
SNJE				*e*S	x	02 39 57.2	
SBLS	**San Blas**	**0.45**	**274**	⇑*e*P	x	02 39 42.3	
SBLS				*e*S	x	02 39 55.5	
RTR	**El Retiro**	**0.48**	**281**	⇑*e*P	x	02 39 42.3	
RBDL	**Robledal**	**0.59**	**301**	*e*P	x	02 39 43.2	
RBDL				*e*S	x	02 39 57.1	
MTO2	**Montecristo 2**	**0.62**	**342**	⇓*i*P	x	02 39 45.4	
MTO2				*e*S	x	02 40 02.4	
VSM	**San Miguel**	**0.94**	**114**	*e*P	x	02 39 53.3	
VSM				*e*S	x	02 40 16.5	
BLLM	**Bellamira**	**0.97**	**112**	*e*P	x	02 39 52.1	
CNCH	**Conchagua**	**1.40**	**112**	*e*P	x	02 39 57.7	
CNCH				*e*S	x	02 40 22.0	
TGUH	**Tegucigalpa,Un**	**1.85**	**82**	*e*Pn	**Pn**	**02 39 49.3**	**+0.2**
JTS	**JuntasÁbangare**	**5.40**	**130**	P	**Pn**	**02 40 34.7**	**+1.5**
	2.1nm,0.3s,baz=324,slow=17,SNR=9.9						
JTS				S	**Sn**	**02 41 33.9**	**-1.2**
	2.3nm,0.3s,baz=313,slow=20,SNR=5.4						
TEIG	**Tepich**	**6.44**	**7**	P	**Pn**	**02 40 46.3**	**-0.5**
TEIG	**Tepich**	**6.44**	**7**	*e*Pn	**Pn**	**02 40 46.8**	**0.0**
TXAR	**Lajitas Array**	**20.47**	**321**	P	**P**	**02 43 37.8**	**-0.7**
	0.7nm,0.5s,baz=138,slow=10.0,SNR=13						
LOHW	**Long Hollow**	**34.94**	**332**	*e*P	**P**	**02 45 49.9**	**+0.4**
	1.3nm,0.6s,mb3.7						
SCHQ	**Schefferville**	**44.49**	**18**	P	**P**	**02 47 08.7**	**+0.3**
	2.7nm,0.6s,mb4.1,baz=194,slow=3.3,SNR=3.7						
YKA	**Yellowknife Ar**	**51.88**	**345**	P	**P**	**02 48 04.6**	**-0.3**
	0.4nm,0.4s,mb3.4,baz=131,slow=7.9,SNR=9.1						
YKA	**Yellowknife Ar**	**51.88**	**345**	P	**P**	**02 48 04.6**	**-0.3**

IDC ***08*** *02:46:25.4±0.9,696N×7700W,h0km,mb3.9/8,mb1 4.2/12, mb1mx4.0/22,mbtmp4.1/12,ML2.9/1,MS3.0/1,Ms1 3.0/1, ms1mx2.5/27,Error ellipse: s-maj=32.3km s-min=16.1km az=38.0*
ISCJB ***08*** *02:46:26.9±2.6,705N±009×7684W±005,h17km±21km, mb4.0/16,Error ellipse: s-maj=14.5km s-min=8.5km az=21.3*
NEIC ***08*** *02:46:30.7±2.3,697N×7690W,h34km±18km,mb4.1/9, Error ellipse: s-maj=12.0km s-min=7.9km az=211.0*
ISC 08 02:46:28.7±3.3,710N±007×7687W±005,h12km±22km,n25, σ1°11/28,mb4.0/16,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.37**	**131**	Pn	**Pn**	**02 47 22.0**	**+0.9**
	12nm,0.3s,baz=342,slow=1.6,SNR=34						
ROSC				Sn	**Sn**	**02 48 03.1**	**+2.1**
	16nm,0.3s,baz=288,slow=23,SNR=5.1						
BCIP	**Isla Barro Col**	**3.58**	**305**	*e*Pn	**Pn**	**02 47 24.4**	**+0.4**
SDV	**Santo Domingo**	**6.43**	**74**	Pn	**Pn**	**02 48 04.1**	**+1.0**
	17nm,0.3s,baz=64,slow=20,SNR=73						
SDV				Sn	**Sn**	**02 49 15.3**	**-1.2**
	14nm,0.3s,baz=40,slow=15,SNR=3.3						
SDV				LR	LR	02 50 48.1	
	comp=Z,118nm,20.0s,baz=8.5,slow=40						
SDV	**Santo Domingo**	**6.43**	**74**	*e*Pn	**Pn**	**02 48 03.9**	**+0.7**
SDV				*e*Sn	**Sn**	**02 49 14.8**	**-1.6**
SDV				Sn	**Sn**	**02 49 15.3**	**-1.2**
SDV				LR	LR	02 50 48.1	
OTAV	**Otavalo**	**7.00**	**193**	*e*Pn	**Pn**	**02 48 09.5**	**-1.4**
	4.0nm,0.6s						
JTS	**JuntasÁbangare**	**8.59**	**292**	Pn	**Pn**	**02 48 32.0**	**-0.8**
	0.1nm,0.3s,baz=125,slow=22,SNR=2.5						
PCRV	**Puerto La Cruz**	**12.48**	**75**	Pn	**Pn**	**02 49 25.9**	**-0.1**
	4.8nm,0.3s,baz=238,slow=5.0,SNR=11						
SIV	**San Ignacio**	**27.77**	**146**	P	**P**	**02 52 15.4**	**-1.8**
	0.7nm,0.7s,mb3.4,baz=341,slow=11,SNR=4.0						
WVT	**Waverly**	**30.58**	**342**	*e*P	**P**	**02 52 42.4**	**+0.1**
	3.0nm,0.7s,mb4.2						
SDCO	**Great Sand Dun**	**40.06**	**324**	*e*P	**P**	**02 54 05.6**	**+1.9**
	2.4nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**45.72**	**326**	P	**P**	**02 54 49.5**	**-0.1**
	0.7nm,0.9s,mb3.6,baz=101,slow=7.7,SNR=3.7						
ULM	**Lac du Bonnet**	**45.85**	**343**	P	**P**	**02 54 49.4**	**-1.2**
	2.2nm,0.9s,mb4.1,baz=143,slow=7.5,SNR=5.7						
ULM	**Lac du Bonnet**	**45.85**	**343**	*e*P	**P**	**02 54 49.3**	**-1.3**
	2.4nm,0.5s,mb4.4						
DUG	**Dugway**	**46.02**	**321**	*e*P	**P**	**02 54 53.0**	**+1.1**
	1.9nm,0.8s,mb4.1						
LOHW	**Long Hollow**	**46.85**	**326**	*e*P	**P**	**02 54 59.5**	**+1.0**
	2.9nm,1.0s,mb4.2						
TPAW	**Teton Pass**	**46.96**	**326**	*e*P	**P**	**02 54 59.8**	**+0.4**
	1.8nm,0.8s,mb4.0						
MOOW	**Moose Ponds**	**47.02**	**326**	*e*P	**P**	**02 54 59.9**	**+0.1**
	1.2nm,0.7s,mb3.9						
NVAR	**Mina Array Bea**	**48.67**	**316**	P	**P**	**02 55 13.6**	**+1.0**
	0.4nm,0.4s,mb3.9,baz=110,slow=5.2,SNR=4.1						
HLID	**Hailey**	**48.98**	**324**	*e*P	**P**	**02 55 15.4**	**+0.5**
	1.8nm,0.9s,mb4.1						
WVOR	**Wild Horse Val**	**50.91**	**321**	*e*P	**P**	**02 55 29.9**	**+0.3**
	3.1nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**61.76**	**341**	P	**P**	**02 56 45.9**	**-1.1**
	2.3nm,0.6s,mb4.5,baz=133,slow=6.7,SNR=76						
INK	**Inuvik**	**71.53**	**341**	P	**P**	**02 57 47.9**	**-1.5**
	0.8nm,0.6s,mb3.8,baz=126,slow=3.8,SNR=8.9						
TORD	**Torodi Ar. Bea**	**77.33**	**78**	P	**P**	**02 58 24.3**	**+1.2**
	0.5nm,0.6s,mb3.6,baz=289,slow=6.2,SNR=9.1						
ARCES	**ARCESS Array B**	**87.70**	**20**	P	**P**	**02 59 15.4**	**-1.8**
	3.0nm,1.0s,mb4.5,baz=287,slow=4.9,SNR=4.1						
WRA	**Warramunga Arr**	**147.15**	**244**	PKPbc	PKPbc	03 06 08.5	-3.1
	1.0nm,0.6s,baz=101,slow=3.3,SNR=4.2						

KRSC 08 02:49:40.4±1.0,5394N×16064E,h25km±25km,ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.89**	**46**	*e*P	Pb	02 49 56.2	-1.0
MKZ				*i* S	Sb	02 50 07.6	-1.0
SPN	**Mys Shipunski**	**0.92**	**204**	*e*P	Pb	02 49 56.9	-0.8
SPN				*i* S	Sb	02 50 09.3	-0.2
NLC	**Nalytchevo**	**1.09**	**226**	*e*P	Pn	02 50 00.1	0.0
NLC				*i* S	Sn	02 50 14.6	+0.2
AVH	**Avacha**	**1.32**	**240**	*e*P	Pn	02 50 04.4	+1.2
AVH				*i* S	Sn	02 50 22.0	+2.0
TUMR	**Tumrok**	**1.38**	**348**	*i* P	Pn	02 50 04.6	+0.6
TUMR				*i* S	Sn	02 50 22.5	+1.1
PET	**Petropavlovsk**	**1.50**	**233**	*e*P	Pn	02 50 05.1	-0.6
PET				*i* S	Sn	02 50 23.0	-1.5
GNL	**Ganaly**	**1.62**	**262**	*e*P	Pn	02 50 08.4	+1.1
GNL				*i* S	Sn	02 50 28.7	+1.3
KMNR	**Kamenistaya**	**1.83**	**353**	*e*P	Pn	02 50 11.3	+1.0
KMNR				*i* S	Sn	02 50 33.9	+1.2
RUS	**Russkaya**	**1.98**	**221**	*e*P	Pn	02 50 12.1	-0.2
RUS				*i* S	Sn	02 50 35.3	-1.0
BZMR	**Bezymyannaya**	**2.00**	**358**	*e*P	Pn	02 50 13.9	+1.3
BZMR				*i* S	Sn	02 50 38.2	+1.4
KIRR	**Kirishev**	**2.02**	**355**	*e*P	Pn	02 50 14.0	+1.1
KIRR				*i* S	Sn	02 50 38.7	+1.3
KPT	**Kopyto**	**2.04**	**353**	*e*P	Pn	02 50 14.2	+1.0
GRL	**Gorelyy**	**2.08**	**229**	*e*P	Pn	02 50 14.9	+1.3
GRL				*i* S	Sn	02 50 39.8	+1.1
ZLN	**Zelenaya**	**2.08**	**3**	*e*P	Pn	02 50 14.8	+1.1
ZLN				*i* S	Sn	02 50 39.8	+0.9
KOZ	**Kozyrevsk**	**2.17**	**349**	*e*P	Pn	02 50 15.6	+0.7
KOZ				*i* S	Sn	02 50 41.2	+0.3
CIRR	**Tsirk**	**2.18**	**2**	*e*P	Pn	02 50 16.5	+1.4
CIRR				*i* S	Sn	02 50 43.0	+1.7
KRSR	**Krestovskiy**	**2.28**	**359**	*e*P	Pn	02 50 17.6	+1.1
KRSR				*e*S	Sn	02 50 44.6	+0.8
KLY	**Klyuchi**	**2.38**	**0**	P	Pn	02 50 18.8	+1.0
KLY				*i* S	Sn	02 50 46.8	+0.7
SRDR	**Sredinnyy**	**2.44**	**348**	*e*P	Pn	02 50 18.8	+0.2
SRDR				*i* S	Sn	02 50 46.9	-0.8
BDR	**Baidarnaya**	**2.65**	**7**	*e*P	Pn	02 50 22.7	+1.1
SMKR	**Semkarok**	**2.69**	**10**	*e*P	Pn	02 50 22.8	+0.7
SMKR				*i* S	Sn	02 50 54.2	+0.4
SRKR	**Sorokina**	**2.74**	**6**	*e*P	Pn	02 50 23.5	+0.8
SRKR				*i* S	Sn	02 50 55.1	+0.1

CSEM ***08*** *02:53:51.9,67.18N×2065E,h6km,ML2.8,Suspected Mining explosion. After UPP*
UPP ***08*** *02:53:51.9,67.18N×2065E,h6km,ML2.8,Suspected Mining explosion.*
HEL 08 02:53:52.2±0.0,6718N×2064E,h0km,ML1.1,ML2.8(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**206**	*i* P	Pg	02 53 53.3	-0.2
DUNU				*i* S	Sg	02 53 54.5	+0.1
DUNU	**Dundret**	**0.07**	**206**	P	Pg	02 53 53.3	-0.2
	baz=118						
DUNU				S	Sg	02 53 54.5	+0.1
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	Pg	02 54 02.9	-0.7
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	02 54 08.9	-1.0
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	02 54 09.8	-1.2
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	02 54 10.5	-1.1
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	02 54 10.5	-1.1
	baz=286						
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	02 54 10.7	-1.3
HARU	**Harads**	**1.03**	**173**	P	Pg	02 54 10.7	-1.3
	baz=336						
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	02 54 22.8	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*PG	Pg	02 54 25.7	-1.6
KIF				*e*SG	Sg	02 54 50.8	-0.3
SGF	**Sodankyl**	**2.30**	**81**	*e*SG	Sg	02 55 02.8	-3.2

LDG ***08*** *02:58:24.8±0.1,4302N×002W,h5km,Md1.8/2,Ml1.9/1, Error ellipse: s-maj=1.7km s-min=0.9km az=164.0*
STR ***08*** *02:58:24.8±0.2,4302N×000E,h5km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 08 02:58:25.5±0.3,4300N×001W,h0km,mbLg1.5/9,1C, Error ellipse: s-maj=2.0km s-min=1.9km az=104.0, PRXIMO SOLUCIN POBRE,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**56**	Pg	Pg	02 58 26.9	-0.1
LABF				Sg	Sg	02 58 28.2	+0.2
LABF	**Labassere**	**0.08**	**56**	P	Pg	02 58 26.9	-0.1
LABF				S	Sg	02 58 28.2	+0.2
VIEF	**Viey**	**0.12**	**167**	Pg	Pg	02 58 27.8	0.0
VIEF	**Viey**	**0.12**	**167**	P	Pg	02 58 28.0	+0.1
VIEF				S	Sg	02 58 30.1	+0.7
EPF	**Esparros**	**0.26**	**84**	*e*Pg	Pg	02 58 29.8	-0.7
EPF				*e*Sg	Sg	02 58 33.9	+0.1
	13nm,0.2s						
EPF	**Esparros**	**0.26**	**84**	Pg	Pg	02 58 29.8	-0.7
EPF				Lg		02 58 33.9	
	6.7nm,0.2s						
RESF	**Ens**	**0.32**	**127**	Pg	Pg	02 58 31.4	-0.3
RESF				Sg	Sg	02 58 36.1	+0.2
RESF	**Ens**	**0.32**	**127**	P	Pg	02 58 31.3	-0.4
RESF				S	Sg	02 58 36.1	+0.2
EBIE	**Bielsa**	**0.34**	**160**	⇑Pg	Pg	02 58 31.7	-0.3
	1.2nm,0.1s,SNR=18						
EBIE				Lg		02 58 36.3	
	8.9nm,0.1s,SNR=39						
ETSF	**Etsaut**	**0.41**	**255**	*e*Pg	Pg	02 58 33.0	-0.4
ETSF				*e*Sg	Sg	02 58 38.4	-0.4
	12nm,0.2s						
ETSF	**Etsaut**	**0.41**	**255**	Pg	Pg	02 58 33.0	-0.4
ETSF				Lg		02 58 38.4	
	5.9nm,0.2s						
ATE	**Arette**	**0.51**	**279**	P	Pg	02 58 34.9	-0.4
ATE				S	Sg	02 58 42.1	+0.2
CSOR	**Sort**	**1.05**	**126**	P	Pg	02 58 44.7	-1.0
CSOR				S	Sg	02 58 59.4	+0.1
	1.8nm,0.3s						
CORG	**Organya**	**1.25**	**128**	P	Pg	02 58 48.6	-0.8
CORG				S	Sg	02 59 05.9	+0.2
CAVN	**Les Avellanes**	**1.26**	**153**	P	Pg	02 58 48.8	-0.8
CAVN				S	Sg	02 59 06.1	+0.3
	8.9nm,0.2s						
ESAC	**San Caprasio**	**1.32**	**195**	Pg	Pg	02 58 51.3	+0.5
	6.7nm,0.3s,SNR=4.4						
ESAC				Lg		02 59 10.0	
	16nm,0.2s,SNR=11						
CLLI	**Llivia**	**1.56**	**109**	P	Pn	02 58 54.3	-0.1
CLLI				S	Sn	02 59 14.4	-0.8
EMIR	**Miracle**	**1.58**	**133**	Pg	Pg	02 58 54.9	-0.8
	0.2nm,0.1s,SNR=7.9						
EMIR				Lg		02 59 16.2	
	2.3nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.67**	**78**	*e*Pg	Pg	02 58 55.9	-1.5
MTLF				*e*Sg	Sg	02 59 17.3	-1.7
	1.0nm,0.2s						
MTLF	**Montolieu**	**1.67**	**78**	Pg	Pg	02 58 55.9	-1.5
MTLF				Lg		02 59 17.3	
	0.5nm,0.2s						
EPOB	**Poblet**	**1.84**	**153**	Pg	Pg	02 58 58.1	-2.7
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		02 59 22.1	
	3.1nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**2.06**	**173**	Pg	Pg	02 59 04.0	-1.0
	0.6nm,0.2s,SNR=7.9						
ERTA				Lg		02 59 30.6	
	1.8nm,0.3s,SNR=7.9						

ISCJB ***08*** *03:06:16.3±0.2,4760N±001×754E±001,h0km,Error ellipse: s-maj=1.6km s-min=1.3km az=148.0*
PRU ***08*** *03:06:16.0,4731N×776E,h0km*
NEIC ***08*** *03:06:17.6,4759N×761E,h10km,ML2.6(STR), ML2.7(ZUR),ML2.8(SZGRF),ML3.1(LDG),After STR.*
STR ***08*** *03:06:18.2±0.1,4760N×759E,h5km±1km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***08*** *03:06:18.3,4758N×760E,h4km±1km,ML2.6*
LEDBW ***08*** *03:06:18.4±0.0,47593N±0003×7607E±0003,h5km±1km, ML2.7,Error ellipse: s-maj=1.0km s-min=0.8km az=122.0*
BGR ***08*** *03:06:18.4±0.2,4761N×759E,h5km,ML2.4/2,Error ellipse: s-maj=2.2km s-min=2.2km az=41.0*
CSEM ***08*** *03:06:18.3±0.0,4759N×758E,h1km,ML3.1/16,Error ellipse: s-maj=1.0km s-min=0.7km az=172.0*
LDG ***08*** *03:06:18.1±0.1,4758N×759E,h8km,Md2.9/1,Ml3.1/23, Error ellipse: s-maj=1.6km s-min=1.3km az=59.0*
ISC 08 03:06:17.1±0.2,4759N±001×756E±001,h0km,n165, σ1°31/281,20C-20D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.03**	**73**	⇑*i*Pg	**Pg**	**03 06 19.4**	**+1.7**
WEIL				x	x	03 06 20.5	
WYH	**Wyhlen**	**0.10**	**110**	⇓*i*Pg	**Pg**	**03 06 20.1**	**+1.0**
WYH				*i* Sg	**Sg**	**03 06 21.5**	**+1.1**
BBS	**Basel-Blauen**	**0.13**	**196**	⇑*i*P*	**Pg**	**03 06 21.4**	**+1.8**
BBS	**Basel-Blauen**	**0.13**	**196**	⇑*i*Pg	**Pg**	**03 06 21.4**	**+1.8**
BBS	**Basel-Blauen**	**0.13**	**196**	Pg	**Pg**	**03 06 21.3**	**+1.7**
BBS				Sg	**Sg**	**03 06 23.6**	**+2.4**
ENDD	**Endenburg**	**0.18**	**42**	⇓*i*Pg	**Pg**	**03 06 21.5**	**+1.0**
ENDD				*i* Sg	**Sg**	**03 06 23.9**	**+1.1**
BALST	**Balsthal**	**0.27**	**160**	*e*Pg	**Pg**	**03 06 23.6**	**+1.4**
	SNR=49						
BALST				*e*Sg	**Sg**	**03 06 27.2**	**+1.5**
	SNR=21						
BALST	**Balsthal**	**0.27**	**160**	⇓*i*Pg	**Pg**	**03 06 23.6**	**+1.4**
	3μm,0.3s						
BALST

FBB	**Freiburg im Br**	**0.46**	**25**	P*	**Pg**	**03 06 27.0**	**+1.0**
FBB				PmP		03 06 28.2	
FBB	**Freiburg im Br**	**0.46**	**25**	Px	Px	03 06 28.2	
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pn	**Pg**	**03 06 30.2**	**+2.9**
HINF				*e*Sg	**Sg**	**03 06 35.6**	**+1.4**
	SNR=1.0						
HINF				*e*Sn	**Sg**	**03 06 39.4**	**+5.2**
	127nm,0.2s						
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pg	**Pg**	**03 06 28.6**	**+1.3**
HINF				*e*Pn	**Pg**	**03 06 30.2**	**+2.9**
HINF				*e*Sg	**Sg**	**03 06 35.6**	**+1.4**
HINF				*e*Sn	**Sg**	**03 06 39.4**	**+5.2**
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pn	**Pg**	**03 06 30.2**	**+2.9**
HINF				*e*Sg	**Sg**	**03 06 35.6**	**+1.4**
	SNR=1.0						
HINF				*e*Sn	**Sg**	**03 06 39.4**	**+5.2**
	64nm,0.2s						
LOMF	**Lomont**	**0.55**	**245**	Pg	**Pg**	**03 06 29.4**	**+1.7**
LOMF				Sg	**Sg**	**03 06 37.7**	**+2.9**
LOMF	**Lomont**	**0.55**	**245**	⇓*i*Pg	**Pg**	**03 06 29.7**	**+2.0**
SLE	**Schleitheim**	**0.66**	**74**	⇑*i*P*	**Pg**	**03 06 30.1**	**+0.4**
SLE				⇑*i*PmP		03 06 32.0	
SLE				*i* S*	**Sg**	**03 06 38.8**	**+0.6**
SLE				SmS		03 06 41.6	
SLE	**Schleitheim**	**0.66**	**74**	⇑*i*Pg	**Pg**	**03 06 30.2**	**+0.5**
	2µm,0.4s						
SLE	**Schleitheim**	**0.66**	**74**	*i* Sg	**Sg**	**03 06 38.8**	**+0.6**
SLE				SmS		03 06 41.6	
SLE	**Schleitheim**	**0.66**	**74**	⇑*i*Pg	**Pg**	**03 06 30.1**	**+0.4**
SLE				⇑*i*PmP		03 06 32.0	
ECH	**Echery**	**0.69**	**337**	⇓*e*P*	**Pg**	**03 06 31.6**	**+1.2**
ECH				PmP		03 06 32.5	
ECH				*i* S*	**Sg**	**03 06 40.8**	**+1.6**
ECH				SmS		03 06 42.9	
ECH	**Echery**	**0.69**	**337**	⇓*e*Pg	**Pg**	**03 06 31.6**	**+1.2**
ECH				*i* Sg	**Sg**	**03 06 40.8**	**+1.6**
ECH	**Echery**	**0.69**	**337**	PmP		03 06 32.5	
ECH				Sx	Sx	03 06 42.9	
ECH	**Echery**	**0.69**	**337**	Pg	**Pg**	**03 06 31.5**	**+1.2**
ECH				Sg	**Sg**	**03 06 40.6**	**+1.4**
ZUR	**Zurich**	**0.72**	**107**	*e*Pg	**Pg**	**03 06 31.9**	**+0.8**
	SNR=5.6						
ZUR				*e*Sg	**Sg**	**03 06 41.5**	**+1.1**
	SNR=5.0						
TRULL	**Truellikon**	**0.76**	**85**	⇑*i*Pg	**Pg**	**03 06 32.4**	**+0.7**
	779nm,0.2s						
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pn	**Pn**	**03 06 35.0**	**-1.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 06 44.8**	**+0.3**
CDF				*e*Sn	**Sg**	**03 06 47.0**	**+2.5**
	155nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pg	**Pg**	**03 06 34.5**	**+1.1**
CDF				*e*Pn	**Pn**	**03 06 35.0**	**-1.4**
CDF				*e*Sg	**Sg**	**03 06 44.8**	**+0.3**
CDF				*e*Sn	**Sg**	**03 06 47.0**	**+2.5**
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pn	**Pn**	**03 06 35.0**	**-1.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 06 44.8**	**+0.3**
CDF				*e*Sn	**Sg**	**03 06 47.0**	**+2.5**
	77nm,0.2s,SNR=1.0						
STEIN	**Stein am Rhein**	**0.89**	**84**	⇑*i*Pg	**Pg**	**03 06 34.8**	**+0.6**
	275nm,0.4s						
BFO	**Black Forest**	**0.91**	**34**	⇑*i*P*	**Pg**	**03 06 35.0**	**+0.5**
BFO				PmP		03 06 35.6	
BFO				*e*Sg	**Sg**	**03 06 46.9**	**+0.6**
	SNR=8.5						
BFO				SmS		03 06 47.7	
BFO	**Black Forest**	**0.91**	**34**	⇑*i*Pg	**Pg**	**03 06 35.0**	**+0.5**
BFO	**Black Forest**	**0.91**	**34**	PmP		03 06 35.6	
BFO				SmS		03 06 47.7	
BFO	**Black Forest**	**0.91**	**34**	*e*Pg	**Pg**	**03 06 35.0**	**+0.5**
BFO				*e*Sg	**Sg**	**03 06 47.6**	**+1.3**
TORNY	**Torny**	**0.91**	**207**	⇑*i*Pg	**Pg**	**03 06 37.0**	**+2.4**
	874nm,0.3s						
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	**Pg**	**03 06 35.8**	**+1.0**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 06 48.4**	**+1.7**
	203nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	**Pg**	**03 06 35.8**	**+1.0**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 06 48.4**	**+1.7**
	101nm,0.3s,SNR=1.0						
BNALP	**Bannalp**	**0.93**	**140**	⇓*i*Pg	**Pg**	**03 06 36.0**	**+1.1**
	174nm,1.4s						
WILA	**Wila**	**0.93**	**100**	*e*Pg	**Pg**	**03 06 35.8**	**+0.9**
	SNR=17						
WILA				*e*Sg	**Sg**	**03 06 47.7**	**+0.7**
	SNR=12						
WILA	**Wila**	**0.93**	**100**	⇓*i*Pg	**Pg**	**03 06 35.8**	**+0.9**
	1µm,0.2s						
SISB	**Singen-Schiene**	**0.95**	**83**	P*	**Pb**	**03 06 36.0**	**-0.5**
SISB				PmP		03 06 36.7	
SISB				S*	**Sb**	**03 06 48.6**	**-1.1**
SISB				SmS		03 06 50.4	
SISB	**Singen-Schiene**	**0.95**	**83**	Pn	**Pb**	**03 06 36.0**	**-0.5**
SISB				Sn	**Sb**	**03 06 48.6**	**-1.1**
SISB	**Singen-Schiene**	**0.95**	**83**	PmP		03 06 36.7	
SISB				Sx	Sx	03 06 50.4	
WEIN	**Weingarten**	**0.97**	**93**	⇑*i*Pg	**Pg**	**03 06 36.4**	**+0.7**
	635nm,0.3s						
SPAK	**Spaichingen-Ko**	**0.97**	**57**	⇑*e*P*	**Pg**	**03 06 36.3**	**+0.5**
SPAK				*i* PmP		03 06 36.9	
SPAK	**Spaichingen-Ko**	**0.97**	**57**	⇑*e*Pg	**Pg**	**03 06 36.3**	**+0.5**
SPAK	**Spaichingen-Ko**	**0.97**	**57**	*i* PmP		03 06 36.9	
BRANT	**Les Verrieres**	**0.98**	**229**	⇑*i*Pg	**Pg**	**03 06 37.5**	**+1.5**
	322nm,0.6s						
MSS	**Messtetten**	**1.11**	**57**	⇑Pn	**Pn**	**03 06 38.1**	**-1.8**
MSS				S	**Sg**	**03 06 53.6**	**+0.7**
GUT	**Gutenstein**	**1.16**	**65**	⇑*i*Pn	**Pn**	**03 06 38.7**	**-1.8**
GUT				Pg	**Pg**	**03 06 39.8**	**+0.5**
GUT				Sn	**Sn**	**03 06 53.2**	**-3.8**
GUT				Sg	**Sg**	**03 06 55.1**	**+0.8**
GUT	**Gutenstein**	**1.16**	**65**	⇑*i*Pn	**Pn**	**03 06 38.7**	**-1.8**
GUT				Sx	Sx	03 06 53.2	
GUT				S	**Sg**	**03 06 55.1**	**+0.8**
GUT	**Gutenstein**	**1.16**	**65**	P	**Pg**	**03 06 39.8**	**+0.5**
THEF	**They Montfort**	**1.24**	**302**	Pg	**Pg**	**03 06 41.6**	**+0.7**
THEF				Sg	**Sg**	**03 06 58.3**	**+1.3**
THEF	**They Montfort**	**1.24**	**302**	⇓*i*P	**Pg**	**03 06 42.0**	**+1.1**
LIENZ	**Alp Oberkamor**	**1.34**	**102**	*e*Pn	**Pn**	**03 06 42.9**	**-0.2**
	SNR=0.9						
LIENZ				*e*Pg	**Pg**	**03 06 43.6**	**+0.7**
	SNR=7.1						
FUSIO	**Fusio**	**1.36**	**146**	⇓*i*P	**Pg**	**03 06 43.6**	**+0.4**
	89nm,0.8s						
LBG	**Lerchenberg**	**1.36**	**37**	P	**Pg**	**03 06 41.1**	**-2.1**
LBG				PmP		03 06 43.3	
LBG				Sg	**Sg**	**03 07 01.1**	**+0.2**
TUBL	**Tuebingen-Lenn**	**1.39**	**47**	Pn	**Pn**	**03 06 43.1**	**-0.6**
TUBL				⇑*i*Pg	**Pg**	**03 06 45.9**	**+2.2**
TUBL				Sg	**Sg**	**03 07 03.5**	**+1.8**
TUBL	**Tuebingen-Lenn**	**1.39**	**47**	Px	Px	03 06 43.1	
TUBL				Sx	Sx	03 07 03.5	
TUBL	**Tuebingen-Lenn**	**1.39**	**47**	⇑*i*Px	Px	03 06 45.9	
OG01	**Vacheresse**	**1.39**	**206**	Pg	**Pg**	**03 06 45.0**	**+1.2**
OG01				Sg	**Sg**	**03 07 04.5**	**+2.6**
CABF	**La Chapelle**	**1.40**	**226**	*e*Pg	**Pg**	**03 06 45.2**	**+1.2**
CABF				*e*Sg	**Sg**	**03 07 02.3**	**+0.1**
	37nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.40**	**226**	*e*Pn	**Pn**	**03 06 43.2**	**-0.7**
CABF				*e*Pg	**Pg**	**03 06 45.2**	**+1.2**
CABF				*e*Sg	**Sg**	**03 07 02.3**	**+0.1**
CABF	**La Chapelle**	**1.40**	**226**	*e*Pg	**Pg**	**03 06 45.2**	**+1.2**
CABF				*e*Sg	**Sg**	**03 07 02.3**	**+0.1**
	18nm,0.2s,SNR=1.0						
LANF	**Langenberg**	**1.41**	**7**	Pg	**Pg**	**03 06 45.2**	**+1.1**
BUCH	**Bad Urach**	**1.48**	**54**	⇓*e*Pn	**Pn**	**03 06 43.0**	**-2.0**
BUCH				Pg	**Pg**	**03 06 45.9**	**+0.4**
BUCH				Sg	**Sg**	**03 07 04.8**	**0.0**
BUCH	**Bad Urach**	**1.48**	**54**	P	**Pg**	**03 06 45.9**	**+0.4**
DAVA	**Damuels**	**1.60**	**100**	⇓*i*Pg	**Pg**	**03 06 46.7**	**-1.2**
DAVA				⇑*i*Sn	**Sn**	**03 07 06.7**	**-1.4**
	66nm,0.3s						
DAVA	**Damuels**	**1.60**	**100**	Pg	**Pg**	**03 06 46.7**	**-1.2**
DAVA				Sn	**Sn**	**03 07 06.7**	**-1.4**
	66nm,0.3s						
DAVA				Sg	**Sn**	**03 07 06.7**	**-1.4**
	66nm,0.3s						
STU	**Stuttgart**	**1.61**	**42**	*e*Pn	**Pn**	**03 06 47.7**	**+0.8**
STU				*e*Sn	**Sn**	**03 07 08.2**	**-0.2**
STU	**Stuttgart**	**1.61**	**42**	*e*Pn	**Pn**	**03 06 47.7**	**+0.8**
STU				*e*Sn	**Sn**	**03 07 08.2**	**-0.2**
UBR	**Ueberruh**	**1.73**	**86**	Pn	**Pn**	**03 06 47.6**	**-0.7**
UBR				Pg	**Pg**	**03 06 50.8**	**+0.6**
UBR				Sn	**Sn**	**03 07 07.7**	**-3.5**
UBR				Sg	**Sg**	**03 07 13.3**	**+0.7**
UBR	**Ueberruh**	**1.73**	**86**	Pn	**Pn**	**03 06 47.6**	**-0.7**
UBR				Sn	**Sn**	**03 07 07.7**	**-3.5**
UBR	**Ueberruh**	**1.73**	**86**	P	**Pg**	**03 06 50.8**	**+0.6**
UBR				S	**Sg**	**03 07 13.3**	**+0.7**
RFYF	**Reffroy**	**1.75**	**308**	*e*Sg	**Sg**	**03 07 13.6**	**+0.3**
	24nm,0.2s						
RFYF	**Reffroy**	**1.75**	**308**	*e*Sg	**Sg**	**03 07 13.6**	**+0.3**
	12nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pn	**Pn**	**03 06 48.8**	**-0.7**
	baz=116						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**03 06 52.6**	**+0.8**
	baz=116						
SFTF				*e*Sn	**Sn**	**03 07 10.3**	**-2.8**
SFTF				*e*Sg	**Sg**	**03 07 15.8**	**+0.6**
	21nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pn	**Pn**	**03 06 48.8**	**-0.7**
SFTF				*e*Pg	**Pg**	**03 06 52.6**	**+0.8**
SFTF				*e*Sn	**Sn**	**03 07 10.3**	**-2.8**
SFTF				*e*Sg	**Sg**	**03 07 15.8**	**+0.6**
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**03 06 52.6**	**+0.8**
SFTF				*e*Sg	**Sg**	**03 07 15.8**	**+0.6**
	10nm,0.2s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pn	**Pn**	**03 06 50.5**	**-0.5**
	baz=117						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pg	**Pg**	**03 06 54.7**	**+0.8**
	baz=120,SNR=1.0						
MEZF				*e*Sg	**Sg**	**03 07 18.4**	**-0.4**
	20nm,0.4s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pn	**Pn**	**03 06 50.5**	**-0.5**
MEZF				*e*Pg	**Pg**	**03 06 54.7**	**+0.8**
MEZF				*e*Sg	**Sg**	**03 07 18.4**	**-0.4**
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pg	**Pg**	**03 06 54.7**	**+0.8**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**03 07 18.4**	**-0.4**
	9.9nm,0.4s,SNR=1.0						
HDH	**Heidenheim-Cha**	**2.04**	**60**	Pg	**Pg**	**03 06 55.9**	**-0.3**
HDH				S	**Sn**	**03 07 15.5**	**-3.3**
HDH				Sg	**Sg**	**03 07 21.3**	**-1.3**
SWS	**Schriesheim-Wi**	**2.05**	**21**	Pg	**Pg**	**03 06 56.7**	**+0.3**
SWS	**Schriesheim-Wi**	**2.05**	**21**	Px	Px	03 06 56.7	
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**03 06 58.9**	**+0.6**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**03 07 26.5**	**+0.4**
	11nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**03 06 58.9**	**+0.6**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**03 07 26.5**	**+0.4**
	5.6nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.16**	**195**	*e*Pg	**Pg**	**03 06 59.9**	**+1.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**03 07 26.6**	**0.0**
	17nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**2.16**	**195**	*e*Pg	**Pg**	**03 06 59.9**	**+1.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**03 07 26.6**	**0.0**
	8.6nm,0.3s,SNR=1.0						
TOD	**Tromm**	**2.18**	**22**	*e*Pg	**Pg**	**03 06 58.8**	**-0.2**
	SNR=2.6						
TOD				Sg	**Sg**	**03 07 26.4**	**-0.9**
TOD	**Tromm**	**2.18**	**22**	S	**Sg**	**03 07 26.4**	**-0.9**
SIND	**Sindeldorf**	**2.23**	**37**	Pn	**Pn**	**03 06 52.8**	**-2.5**
SIND				Pg	**Pg**	**03 06 59.5**	**-0.3**
SIND				Sg	**Sg**	**03 07 28.1**	**-0.7**
SIND	**Sindeldorf**	**2.23**	**37**	P	**Pg**	**03 06 59.5**	**-0.3**
WLF	**Walferdange**	**2.28**	**336**	*e*Pg	**Pg**	**03 07 01.3**	**+0.4**
WLF				*e*Sg	**Sg**	**03 07 30.1**	**-0.3**
	SNR=2.5						
ABH	**Alteburg**	**2.30**	**360**	Pg	**Pg**	**03 07 01.6**	**+0.4**
ABH				Sg	**Sg**	**03 07 31.0**	**0.0**
MOTA	**Moosalm**	**2.42**	**94**	⇓*i*Pg	**Pg**	**03 07 01.8**	**-1.6**
MOTA				⇑*i*Sg	**Sg**	**03 07 32.4**	**-2.4**
	7.0nm,0.2s						
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**03 07 05.4**	**-0.3**
	baz=87,SNR=1.0						
LOR				*e*Sg	**Sg**	**03 07 37.4**	**-1.2**
	44nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**03 07 05.4**	**-0.3**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**03 07 37.4**	**-1.2**
	22nm,0.3s,SNR=1.0						
FUR	**Furstenfeldbru**	**2.57**	**76**	*e*Pg	**Pg**	**03 07 06.8**	**+0.4**
FUR				*e*Sg	**Sg**	**03 07 38.9**	**-0.7**
	SNR=7.7						
FUR	**Furstenfeldbru**	**2.57**	**76**	*e*Pg	**Pg**	**03 07 06.8**	**+0.4**
FUR				*e*Sg	**Sg**	**03 07 40.2**	**+0.5**
TNS	**Taunus Mts**	**2.70**	**12**	*e*Pn	**Pn**	**03 07 01.4**	**-0.5**
	SNR=1.0						
TNS				*e*Sg	**Sg**	**03 07 43.0**	**-1.1**
	SNR=5.4						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pg	**Pg**	**03 07 08.3**	**-0.8**
SMF				*e*Sg	**Sg**	**03 07 43.0**	**-1.2**
	25nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pn	**Pn**	**03 07 00.2**	**-1.7**
SMF				*e*Pg	**Pg**	**03 07 08.3**	**-0.8**
SMF				*e*Sg	**Sg**	**03 07 43.0**	**-1.2**
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pg	**Pg**	**03 07 08.3**	**-0.8**
SMF				*e*Sg	**Sg**	**03 07 43.0**	**-1.2**
	12nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**03 07 10.4**	**-0.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**03 07 46.4**	**-1.0**
	27nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**03 07 10.4**	**-0.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**03 07 46.4**	**-1.0**
	14nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.91**	**191**	*e*Sg	**Sg**	**03 07 49.5**	**-1.2**
	7.9nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.91**	**191**	*e*Sg	**Sg**	**03 07 49.5**	**-1.2**
	4.0nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.91**	**204**	*e*Pg	**Pg**	**03 07 12.4**	**-0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**03 07 49.6**	**-1.1**
	9.9nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.91**	**204**	*e*Pg	**Pg**	**03 07 12.4**	**-0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**03 07 49.6**	**-1.1**
	4.9nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Pg	**Pg**	**03 07 13.9**	**-0.3**
AVF				*e*Sg	**Sg**	**03 07 50.6**	**-2.2**
	5.6nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Pn	**Pn**	**03 07 04.3**	**-1.3**
AVF				*e*Pg	**Pg**	**03 07 13.9**	**-0.3**
AVF				*e*Sg	**Sg**	**03 07 50.6**	**-2.2**
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Pg	**Pg**	**03 07 13.9**	**-0.3**
AVF				*e*Sg	**Sg**	**03 07 50.6**	**-2.2**
	2.8nm,0.2s,SNR=1.0						
GIVF	**Givet**	**3.10**	**325**	*e*Sg	**Sg**	**03 07 55.6**	**-1.2**
	5.6nm,0.3s						
GIVF	**Givet**	**3.10**	**325**	*e*Sg	**Sg**	**03 07 55.6**	**-1.2**
	2.8nm,0.3s						
GRFO	**Grafenberg**	**3.21**	**48**	*e*Pg	**Pg**	**03 07 18.1**	**-0.7**
GRFO				*e*Sg	**Sg**	**03 07 59.2**	**-1.2**
GRF	**Grafenberg Arr**	**3.21**	**48**	*e*Pg	**Pg**	**03 07 18.1**	**-0.6**
	SNR=5.0						
GRF				*e*Sg	**Sg**	**03 07 58.5**	**-1.9**
	SNR=3.0						
BAIF	**Baives**	**3.32**	**319**	*e*Sg	**Sg**	**03 08 03.1**	**-0.8**
	1.4nm,0.2s						
BAIF	**Baives**	**3.32**	**319**	*e*Sg	**Sg**	**03 08 03.1**	**-0.8**
	0.7nm,0.2s						
HYF	**Humbligny**	**3.36**	**266**	*e*Sg	**Sg**	**03 08 03.7**	**-1.3**
BGF	**Bois d'Agland**	**3.38**	**254**	*e*Pg	**Pg**	**03 07 21.0**	**-1.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**03 08 03.6**	**-2.2**
	24nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.38**	**254**	*e*Pg	**Pg**	**03 07 21.0**	**-1.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**03 08 03.6**	**-2.2**
	12nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.39**	**217**	*e*Pg	**Pg**	**03 07 21.0**	**-1.1**
VIVF				*e*Sg	**Sg**	**03 08 03.7**	**-2.3**
	7.9nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.39**	**217**	*e*Pn	**Pn**	**03 07 08.9**	**-2.3**
VIVF				*e*Pg	**Pg**	**03 07 21.0**	**-1.1**
VIVF				*e*Sg	**Sg**	**03 08 03.7**	**-2.3**
VIVF	**Saint-Julien-l**	**3.39**	**217**	*e*Pg	**Pg**	**03 07 21.0**	**-1.1**
VIVF				*e*Sg	**Sg**	**03 08 03.7**	**-2.3**
	4.0nm,0.3s,SNR=1.0						
WET	**Wettzell**	**3.87**	**64**	*e*Sn	**Sn**	**03 08 00.1**	**-4.0**
	SNR=3.5						
TCF	**Toulx Ste Croi**	**3.89**	**252**	*e*Sg	**Sg**	**03 08 20.1**	**-2.0**
	4.2nm,0.2s						
TCF	**Toulx Ste Croi**	**3.89**	**252**	*e*Sg	**Sg**	**03 08 20.1**	**-2.0**
	2.1nm,0.2s						
MOX	**Moxa**	**4.06**	**40**	*e*Pg	**Pg**	**03 07 33.1**	**-1.9**
	SNR=1.8						
MOX				*e*Sg	**Sg**	**03 08 26.2**	**-1.3**
	SNR=2.1						
NKC	**Novy Kostel**	**4.17**	**49**	*e*SN	**Sn**	**03 08 06.7**	**-4.8**
NKC				*e*SG	**Sg**	**03 08 28.7**	**-2.5**
	24nm,1.1s						
GUNZ	**Gunzen**	**4.20**	**47**	*e*Pg	**Pg**	**03 07 35.8**	**-1.8**
	SNR=2.3						
GUNZ				*e*Sg	**Sg**	**03 08 28.4**	**-3.6**
	SNR=3.7						
TANN	**Tannenbergstha**	**4.29**	**47**	*e*Pg	**Pg**	**03 07 37.3**	**-2.1**
	SNR=3.3						
GEC2	**GERESS Array S**	**4.29**	**71**	*e*Sn	**Sn**	**03 08 09.5**	**-5.0**
	SNR=3.1						
KHC	**Kasperske Hory**	**4.30**	**67**	*e*PN	**Pn**	**03 07 21.6**	**-2.2**
KHC				*e*PG	**Pg**	**03 07 33.9**	**-5.7**
KHC				*e*SN	**Sn**	**03 08 10.4**	**-4.2**
KHC				*e*SG	**Sg**	**03 08 32.6**	**-2.7**
LMR	**La Mourre**	**4.32**	**190**	*e*Pn	**Pn**	**03 07 24.0**	**0.0**
	SNR=1.0						
LASF	**Ste Croix**	**4.36**	**218**	*e*Pg	**Pg**	**03 07 39.2**	**-1.5**
LASF				*e*Sg	**Sg**	**03 08 34.4**	**-2.8**
	6.6nm,0.4s						
LASF	**Ste Croix**	**4.36**	**218**	*e*Pn	**Pn**	**03 07 22.6**	**-2.0**
LASF				*e*Pg	**Pg**	**03 07 39.2**	**-1.5**
LASF				*e*Sg	**Sg**	**03 08 34.4**	**-2.8**
LASF	**Ste Croix**	**4.36**	**218**	*e*Pg	**Pg**	**03 07 39.2**	**-1.5**
LASF				*e*Sg	**Sg**	**03 08 34.4**	**-2.8**
	3.3nm,0.4s						
CLL	**Collm**	**5.14**	**42**	*e*(Sg)	**Sg**	**03 09 06.0**	**+3.6**
CLL	**Collm**	**5.14**	**42**	*e*Sg	**Sg**	**03 09 06.0**	**+3.6**
PRU	**Pruhonice**	**5.20**	**60**	*e*SG	**Sg**	**03 09 01.6**	**-2.7**

ISCJB ***08*** *03:24:01.3±0.2,4756N±001×754E±001,h0km,Error ellipse: s-maj=1.8km s-min=1.3km az=151.5*
NEIC ***08*** *03:24:03.4,4758N×761E,h5km,ML2.3(ZUR), ML2.4(STR),ML2.5(LEDBW),ML2.4(SZGRF),ML2.7(LDG), After ZUR.*
NEIC Felt in the Basel area.
ZUR ***08*** *03:24:03.5,4758N×760E,h5km±1km,ML2.3*
CSEM ***08*** *03:24:03.4±0.0,4760N×759E,h1km,ML2.9/17,Error ellipse: s-maj=1.0km s-min=0.7km az=162.0*
LDG ***08*** *03:24:03.6±0.0,4759N×758E,h8km,Md3.0/1,Ml2.7/18, Error ellipse: s-maj=1.0km s-min=0.7km az=145.0*
LEDBW ***08*** *03:24:03.5±0.1,47591N±0004×7607E±0004,h6km±1km, ML2.5,Error ellipse: s-maj=1.2km s-min=1.0km az=133.0*
BGR ***08*** *03:24:03.6±0.2,4760N×760E,h5km,ML2.6/2,Error ellipse: s-maj=2.2km s-min=2.2km az=153.0*
STR ***08*** *03:24:03.3±0.1,4759N×759E,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 08 03:24:02.6±0.2,4758N±001×757E±001,h0km,n128,
σ1§15/251,22C-7D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.03**	**55**	⇑*i*Pg	**Pg**	**03 24 04.6**	**+1.5**
WEIL				*i* Sg	**Sg**	**03 24 05.8**	**+2.3**
WYH	**Wyhlen**	**0.10**	**105**	⇓*i*Pg	**Pg**	**03 24 05.3**	**+0.9**
WYH				*i* Sg	**Sg**	**03 24 06.7**	**+1.1**
BBS	**Basel-Blauen**	**0.12**	**199**	⇑*i*P*	**Pg**	**03 24 06.5**	**+1.7**
BBS	**Basel-Blauen**	**0.12**	**199**	⇑*i*P	**Pg**	**03 24 06.6**	**+1.8**
BBS	**Basel-Blauen**	**0.12**	**199**	⇑*i*Pg	**Pg**	**03 24 06.5**	**+1.7**
BBS	**Basel-Blauen**	**0.12**	**199**	Pg	**Pg**	**03 24 06.5**	**+1.7**
BBS				Sg	**Sg**	**03 24 08.5**	**+2.1**
ENDD	**Endenburg**	**0.18**	**40**	⇑*i*Pg	**Pg**	**03 24 06.7**	**+0.7**
ENDD				*i* Sg	**Sg**	**03 24 09.1**	**+0.7**
BALST	**Balsthal**	**0.26**	**160**	*e*Pg	**Pg**	**03 24 08.8**	**+1.3

CDF	**Champ du Feu**	**0.86**	**347**	*e*Pn	**Pn**	**03 24 20.2**	**-1.7**
CDF				*e*Sg	**Sg**	**03 24 30.0**	**-0.2**
CDF				*e*Sn	**Sg**	**03 24 32.1**	**+1.9**
	44nm,0.3s						
TORNY	**Torny**	**0.90**	**207**	⇑*i*P	**Pg**	**03 24 21.2**	**+1.3**
	326nm,0.4s						
BFO	**Black Forest**	**0.91**	**34**	⇑P*	**Pg**	**03 24 20.2**	**+0.2**
BFO				PmP		03 24 20.8	
BFO				S*	**Sg**	**03 24 32.8**	**+0.9**
BFO	**Black Forest**	**0.91**	**34**	*e*Pg	**Pg**	**03 24 19.9**	**-0.2**
BFO				*e*Sg	**Sg**	**03 24 32.2**	**+0.3**
BFO	**Black Forest**	**0.91**	**34**	⇑Pg	**Pg**	**03 24 20.2**	**+0.2**
BFO	**Black Forest**	**0.91**	**34**	PmP		03 24 20.8	
BFO				Sg	**Sg**	**03 24 32.8**	**+0.9**
BFO	**Black Forest**	**0.91**	**34**	*e*Pg	**Pg**	**03 24 19.9**	**-0.2**
BFO				*e*Sg	**Sg**	**03 24 32.2**	**+0.3**
BNALP	**Bannalp**	**0.92**	**140**	*e*P	**Pg**	**03 24 21.1**	**+0.9**
	120nm,2.5s						
WILA	**Wila**	**0.93**	**100**	*e*Pg	**Pg**	**03 24 21.0**	**+0.7**
	SNR=17						
WILA				*e*Sg	**Sg**	**03 24 33.2**	**+0.9**
	SNR=15						
WILA	**Wila**	**0.93**	**100**	⇓*i*P	**Pg**	**03 24 21.0**	**+0.7**
	607nm,0.2s						
HAU	**Haudompre**	**0.93**	**298**	*e*Pg	**Pg**	**03 24 21.0**	**+0.7**
HAU				*e*Sg	**Sg**	**03 24 33.6**	**+1.3**
	92nm,0.3s						
HAU	**Haudompre**	**0.93**	**298**	*e*Pg	**Pg**	**03 24 21.0**	**+0.7**
HAU				*e*Sg	**Sg**	**03 24 33.6**	**+1.3**
	46nm,0.3s						
SISB	**Singen-Schiene**	**0.95**	**83**	P*	**Pb**	**03 24 21.2**	**-0.7**
SISB				PmP		03 24 21.7	
SISB				S*	**Sb**	**03 24 34.0**	**-1.1**
SISB				SmS		03 24 34.9	
SISB	**Singen-Schiene**	**0.95**	**83**	PmP		03 24 21.7	
SISB				Sx	Sx	03 24 34.9	
WEIN	**Weingarten**	**0.96**	**92**	*e*Pg	**Pg**	**03 24 21.6**	**+0.6**
	243nm,0.2s						
SPAK	**Spaichingen-Ko**	**0.98**	**57**	P*	**Pb**	**03 24 21.9**	**-0.5**
SPAK				S*	**Sb**	**03 24 34.4**	**-1.4**
SPAK	**Spaichingen-Ko**	**0.98**	**57**	P	**Pb**	**03 24 21.9**	**-0.5**
SPAK				S	**Sg**	**03 24 34.4**	**+0.5**
BRANT	**Les Verrieres**	**0.98**	**230**	⇑*i*Pg	**Pg**	**03 24 22.6**	**+1.2**
	159nm,0.3s						
GUT	**Gutenstein**	**1.16**	**64**	⇑*i*P	**Pg**	**03 24 23.9**	**-0.9**
GUT				PmP		03 24 25.1	
GUT				S	**Sg**	**03 24 38.8**	**-0.9**
GUT	**Gutenstein**	**1.16**	**64**	⇑*i*P	**Pg**	**03 24 23.9**	**-0.8**
GUT				S	**Sg**	**03 24 38.8**	**-0.9**
GUT	**Gutenstein**	**1.16**	**64**	⇑*i*Pn	**Pg**	**03 24 23.9**	**-0.9**
GUT				Sn	**Sg**	**03 24 38.8**	**-0.9**
THEF	**They Montfort**	**1.25**	**302**	⇑Pg	**Pg**	**03 24 27.1**	**+0.6**
THEF				S	**Sg**	**03 24 42.2**	**-0.4**
THEF				Sg	**Sg**	**03 24 44.0**	**+1.4**
THEF	**They Montfort**	**1.25**	**302**	⇑P	**Pg**	**03 24 27.1**	**+0.6**
THEF				Sn	**Sg**	**03 24 42.2**	**-0.4**
THEF				S	**Sg**	**03 24 44.0**	**+1.4**
THEF	**They Montfort**	**1.25**	**302**	Pg	**Pg**	**03 24 26.8**	**+0.4**
THEF				Sg	**Sg**	**03 24 43.9**	**+1.3**
LIENZ	**Alp Oberkamor**	**1.34**	**101**	*e*Pn	**Pn**	**03 24 28.1**	**-0.4**
	SNR=1.5						
LBG	**Lerchenberg**	**1.36**	**37**	P	**Pg**	**03 24 26.9**	**-1.8**
LBG				Pg	**Pg**	**03 24 28.9**	**+0.2**
LBG				PmP		03 24 29.7	
LBG				Sg	**Sg**	**03 24 46.4**	**-0.1**
LBG	**Lerchenberg**	**1.36**	**37**	Px	Px	03 24 26.9	
LBG				S	**Sg**	**03 24 46.4**	**-0.1**
LBG	**Lerchenberg**	**1.36**	**37**	Px	Px	03 24 28.9	
LBG	**Lerchenberg**	**1.36**	**37**	Px	Px	03 24 29.7	
TUBL	**Tuebingen-Lenn**	**1.39**	**47**	Pg	**Pn**	**03 24 28.3**	**-0.9**
TUBL				PmP		03 24 31.1	
TUBL				Sg	**Sg**	**03 24 46.0**	**-1.2**
TUBL				SmS		03 24 48.9	
TUBL	**Tuebingen-Lenn**	**1.39**	**47**	P	**Pn**	**03 24 28.3**	**-0.9**
TUBL				S	**Sg**	**03 24 46.0**	**-1.2**
TUBL	**Tuebingen-Lenn**	**1.39**	**47**	Px	Px	03 24 31.1	
TUBL				Sx	Sx	03 24 48.9	
CABF	**La Chapelle**	**1.40**	**227**	*e*Pg	**Pg**	**03 24 30.3**	**+1.0**
CABF				*e*Sg	**Sg**	**03 24 47.6**	**+0.1**
	22nm,0.2s						
CABF	**La Chapelle**	**1.40**	**227**	*e*Pn	**Pn**	**03 24 28.5**	**-0.8**
CABF				*e*Pg	**Pg**	**03 24 30.3**	**+1.0**
CABF				*e*Sg	**Sg**	**03 24 47.6**	**+0.1**
CABF	**La Chapelle**	**1.40**	**227**	*e*Pg	**Pg**	**03 24 30.3**	**+1.0**
CABF				*e*Sg	**Sg**	**03 24 47.6**	**+0.1**
	11nm,0.2s						
LANF	**Langenberg**	**1.41**	**6**	Pg	**Pg**	**03 24 29.8**	**+0.1**
BUCH	**Bad Urach**	**1.48**	**53**	⇑P	**Pn**	**03 24 28.1**	**-2.4**
BUCH				Pg	**Pg**	**03 24 31.2**	**+0.2**
BUCH				S	**Sg**	**03 24 47.1**	**-3.2**
BUCH				Sg	**Sg**	**03 24 50.3**	**0.0**
BUCH	**Bad Urach**	**1.48**	**53**	⇑P	**Pn**	**03 24 28.1**	**-2.4**
BUCH				Pg	**Pg**	**03 24 31.2**	**+0.2**
BUCH				Sg	**Sg**	**03 24 50.3**	**0.0**
BUCH	**Bad Urach**	**1.48**	**53**	⇑Pn	**Pn**	**03 24 28.1**	**-2.4**
BUCH				Sx	Sx	03 24 47.1	
BUCH	**Bad Urach**	**1.48**	**53**	P	**Pg**	**03 24 31.2**	**+0.2**
BUCH				S	**Sg**	**03 24 50.3**	**0.0**
DAVA	**Damuels**	**1.60**	**100**	⇑*i*Pn	**Pn**	**03 24 31.7**	**-0.3**
DAVA				⇑*i*Sn	**Sn**	**03 24 52.4**	**-1.0**
	15nm,0.3s						
DAVA	**Damuels**	**1.60**	**100**	Pn	**Pn**	**03 24 31.7**	**-0.4**
DAVA				Sg	**Sn**	**03 24 52.4**	**-1.0**
	15nm,0.3s						
DAVA	**Damuels**	**1.60**	**100**	Pn	**Pn**	**03 24 31.7**	**-0.4**
DAVA				Sn	**Sn**	**03 24 52.4**	**-1.0**
	15nm,0.3s						
UBR	**Ueberruh**	**1.72**	**86**	Pg	**Pg**	**03 24 36.6**	**+1.0**
UBR				S	**Sn**	**03 24 53.0**	**-3.5**
UBR				Sg	**Sg**	**03 24 58.5**	**+0.5**
UBR	**Ueberruh**	**1.72**	**86**	Pg	**Pg**	**03 24 36.6**	**+1.0**
UBR				S	**Sn**	**03 24 53.0**	**-3.5**
UBR				Sg	**Sg**	**03 24 58.5**	**+0.6**
RFYF	**Reffroy**	**1.75**	**308**	*e*Pg	**Pg**	**03 24 36.3**	**+0.1**
RFYF				*e*Sg	**Sg**	**03 24 58.5**	**-0.4**
	22nm,0.3s						
RFYF	**Reffroy**	**1.75**	**308**	*e*Pg	**Pg**	**03 24 36.3**	**+0.1**
RFYF				*e*Sg	**Sg**	**03 24 58.5**	**-0.4**
	11nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**03 24 37.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**03 24 55.5**	**-3.2**
SFTF				*e*Sg	**Sg**	**03 25 01.3**	**+0.5**
	9.5nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pn	**Pn**	**03 24 33.9**	**-1.1**
SFTF				*e*Pg	**Pg**	**03 24 37.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**03 24 55.5**	**-3.2**
SFTF				*e*Sg	**Sg**	**03 25 01.3**	**+0.5**
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**03 24 37.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**03 24 55.5**	**-3.2**
SFTF				*e*Sg	**Sg**	**03 25 01.3**	**+0.5**
	4.8nm,0.2s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pg	**Pg**	**03 24 40.9**	**+1.5**
MEZF				*e*Sn	**Sn**	**03 24 57.8**	**-3.6**
MEZF				*e*Sg	**Sg**	**03 25 04.5**	**+0.1**
	17nm,0.4s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pn	**Pn**	**03 24 35.7**	**-0.8**
MEZF				*e*Pg	**Pg**	**03 24 40.9**	**+1.5**
MEZF				*e*Sn	**Sn**	**03 24 57.8**	**-3.6**
MEZF				*e*Sg	**Sg**	**03 25 04.5**	**+0.1**
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pg	**Pg**	**03 24 40.9**	**+1.5**
MEZF				*e*Sn	**Sn**	**03 24 57.8**	**-3.6**
MEZF				*e*Sg	**Sg**	**03 25 04.5**	**+0.1**
	8.4nm,0.4s						
HDH	**Heidenheim-Cha**	**2.04**	**59**	S	**Sn**	**03 25 00.6**	**-3.6**
HDH				Sg	**Sg**	**03 25 06.9**	**-1.1**
LPL	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**03 24 43.8**	**+0.2**
LPL				*e*Sg	**Sg**	**03 25 11.1**	**-0.2**
	2.2nm,0.3s						
LPL	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**03 24 43.8**	**+0.2**
LPL				*e*Sg	**Sg**	**03 25 11.1**	**-0.2**
	1.1nm,0.3s						
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**03 24 44.3**	**+0.4**
LPG				*e*Sg	**Sg**	**03 25 11.9**	**+0.1**
	5.4nm,0.4s						
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**03 24 44.3**	**+0.4**
LPG				*e*Sg	**Sg**	**03 25 11.9**	**+0.1**
	2.7nm,0.4s						
SIND	**Sindeldorf**	**2.23**	**37**	Pg	**Pg**	**03 24 45.1**	**-0.3**
SIND				Sg	**Sg**	**03 25 13.5**	**-0.9**
WLF	**Walferdange**	**2.29**	**336**	*e*Sg	**Sg**	**03 25 16.3**	**+0.1**
MOTA	**Moosalm**	**2.41**	**94**	⇓*i*Pg	**Pg**	**03 24 47.6**	**-1.2**
MOTA				⇑*i*Sg	**Sg**	**03 25 20.2**	**+0.1**
	5.3nm,0.2s						
SQTA	**Sankt Quirin**	**2.50**	**97**	⇑*i*Pg	**Pg**	**03 24 49.3**	**-1.2**
SQTA				⇓*i*Sg	**Sg**	**03 25 23.3**	**+0.3**
	6.3nm,0.2s						
LOR	**Lormes**	**2.54**	**264**	*e*Pg	**Pg**	**03 24 50.8**	**-0.4**
LOR				*e*Sg	**Sg**	**03 25 23.0**	**-1.0**
	17nm,0.2s						
LOR	**Lormes**	**2.54**	**264**	*e*Pn	**Pn**	**03 24 43.1**	**-1.9**
LOR				*e*Pg	**Pg**	**03 24 50.8**	**-0.4**
LOR				*e*Sg	**Sg**	**03 25 23.0**	**-1.0**
LOR	**Lormes**	**2.54**	**264**	*e*Pg	**Pg**	**03 24 50.8**	**-0.4**
LOR				*e*Sg	**Sg**	**03 25 23.0**	**-1.0**
	8.4nm,0.2s						
FUR	**Furstenfeldbru**	**2.57**	**75**	*e*Sg	**Sg**	**03 25 23.9**	**-1.2**
	SNR=6.1						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pg	**Pg**	**03 24 53.7**	**-0.8**
SMF				*e*Sg	**Sg**	**03 25 27.6**	**-2.0**
	15nm,0.3s						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pn	**Pn**	**03 24 45.7**	**-1.6**
SMF				*e*Pg	**Pg**	**03 24 53.7**	**-0.8**
SMF				*e*Sg	**Sg**	**03 25 27.6**	**-2.0**
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pg	**Pg**	**03 24 53.7**	**-0.8**
SMF				*e*Sg	**Sg**	**03 25 27.6**	**-2.0**
	7.4nm,0.3s						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**03 24 56.0**	**-0.4**
SSF				*e*Sg	**Sg**	**03 25 31.7**	**-1.1**
	5.5nm,0.3s						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pn	**Pn**	**03 24 47.4**	**-1.3**
SSF				*e*Pg	**Pg**	**03 24 56.0**	**-0.4**
SSF				*e*Sg	**Sg**	**03 25 31.7**	**-1.1**
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**03 24 56.0**	**-0.4**
SSF				*e*Sg	**Sg**	**03 25 31.7**	**-1.1**
	2.8nm,0.3s						
MBDF	**Montbardon**	**2.90**	**191**	*e*Pg	**Pg**	**03 24 57.7**	**-0.5**
MBDF				*e*Sg	**Sg**	**03 25 34.7**	**-1.1**
	1.6nm,0.3s						
MBDF	**Montbardon**	**2.90**	**191**	*e*Pg	**Pg**	**03 24 57.7**	**-0.5**
MBDF				*e*Sg	**Sg**	**03 25 34.7**	**-1.1**
	0.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.90**	**204**	*e*Pg	**Pg**	**03 24 57.7**	**-0.5**
ORIF				*e*Sg	**Sg**	**03 25 35.0**	**-0.9**
	2.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.90**	**204**	*e*Pg	**Pg**	**03 24 57.7**	**-0.5**
ORIF				*e*Sg	**Sg**	**03 25 35.0**	**-0.9**
	1.2nm,0.2s						
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Pg	**Pg**	**03 24 59.1**	**-0.6**
AVF				*e*Sg	**Sg**	**03 25 36.5**	**-1.8**
	0.9nm,0.2s						
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Pn	**Pn**	**03 24 49.6**	**-1.4**
AVF				*e*Pg	**Pg**	**03 24 59.1**	**-0.6**
AVF				*e*Sg	**Sg**	**03 25 36.5**	**-1.8**
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Pg	**Pg**	**03 24 59.1**	**-0.6**
AVF				*e*Sg	**Sg**	**03 25 36.5**	**-1.8**
	0.4nm,0.2s						
GIVF	**Givet**	**3.11**	**325**	*e*Sg	**Sg**	**03 25 40.7**	**-1.8**
	2.1nm,0.2s						
GIVF	**Givet**	**3.11**	**325**	*e*Sg	**Sg**	**03 25 40.7**	**-1.8**
	1.0nm,0.2s						
GRA1	**Grafenberg Arr**	**3.22**	**48**	*e*Pg	**Pg**	**03 25 03.4**	**-0.9**
GRA1				*e*Sg	**Sg**	**03 25 44.0**	**-2.0**
GRF	**Grafenberg Arr**	**3.22**	**48**	*e*Pg	**Pg**	**03 25 03.4**	**-0.9**
	SNR=2.4						
GRF				*e*Sg	**Sg**	**03 25 43.4**	**-2.6**
	SNR=2.5						
GRF	**Grafenberg Arr**	**3.22**	**48**	*e*Pg	**Pg**	**03 25 03.4**	**-0.9**
GRF				*e*Sg	**Sg**	**03 25 44.0**	**-2.0**
VIVF	**Saint-Julien-l**	**3.38**	**217**	*e*Sg	**Sg**	**03 25 48.7**	**-2.5**
	2.8nm,0.2s						
VIVF	**Saint-Julien-l**	**3.38**	**217**	*e*Sg	**Sg**	**03 25 48.7**	**-2.5**
	1.4nm,0.2s						
BGF	**Bois d'Agland**	**3.38**	**254**	*e*Pn	**Pn**	**03 24 54.9**	**-1.7**
BGF				*e*Sg	**Sg**	**03 25 49.6**	**-1.6**
	8.2nm,0.3s						
BGF	**Bois d'Agland**	**3.38**	**254**	*e*Pn	**Pn**	**03 24 54.9**	**-1.7**
BGF				*e*Sg	**Sg**	**03 25 49.6**	**-1.6**
	4.1nm,0.3s						
WET	**Wettzell**	**3.87**	**64**	*e*Sn	**Sn**	**03 25 44.9**	**-4.7**
	SNR=4.5						
GEC2	**GERESS Array S**	**4.29**	**71**	*e*Sg	**Sg**	**03 26 18.4**	**-2.2**
	SNR=2.4						

ISCJB ***08*** *03:34:42.2±0.4, 1574N±004×9373W±002, h81km±5km, mb3.9/14, Error ellipse: s-maj=7.1km s-min=3.2km az=39.3*

IDC ***08*** *03:34:42.3±0.9, 1575N×9358W, h78km±6km, mb3.7/10, mb1 4.0/12, mb1mx3.8/22, mbtmp3.8/12, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=20.2km s-min=8.4km az=40.0*

NEIC ***08*** *03:34:43.6, 1564N×9375W, h16km, mb4.0/12, MD4.5(MEX), After MEX.*

MEX ***08*** *03:34:44.1±1.0, 1567N×9374W, h37km±41km, MD4.5*

CASC ***08*** *03:34:44.8±2.7, 1553N×9365W, h20km±999km, MD4.3, mb4.0(NEIC)*

ISC 08 03:34:43.7±0.4, 1577N±004×9370W±002, h72km±5km, h80km±3.1km: pP-P, n64, σ1§18/79, mb3.9/14, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.59**	**71**		*e*P	**Pn**	**03 35 09.7**	**-0.1**
CCIG					*i* S	**Sn**	**03 35 28.6**	**-1.0**
CMIG	**Matias Romero**	**1.74**	**319**		P	**Pn**	**03 35 11.9**	**+0.1**
	80nm,0.3s,baz=153,slow=10,SNR=388							
CMIG					S	**Sn**	**03 35 33.7**	**+0.6**
	334nm,0.3s,baz=136,slow=10,SNR=24							
CMIG	**Matias Romero**	**1.74**	**319**		*e*P	**Pn**	**03 35 11.7**	**-0.1**
CMIG					*i* S	**Sn**	**03 35 31.2**	**-2.0**
HUIG	**Huatulco**	**2.32**	**270**		*i* P	**Pn**	**03 35 16.4**	**-3.2**
HUIG					*i* S	**Sn**	**03 35 44.2**	**-3.0**
TUIG	**Tuzandepetl**	**2.35**	**343**		*e*P	**Pn**	**03 35 19.7**	**-0.4**
TUIG					*i* S	**Sn**	**03 35 48.4**	**+0.3**
JAT	**Jato**	**2.46**	**126**	⇓	*e*P	**Pn**	**03 35 20.8**	**-0.7**
JAT					*e*S	**Sn**	**03 35 50.2**	**-0.3**
FUG	**Fuego 3**	**3.06**	**115**		*e*P	**Pn**	**03 35 30.9**	**+1.3**
OXX	**Oaxaca**	**3.18**	**295**		*i* P	**Pn**	**03 35 32.7**	**+1.4**
OXX					*i* S	**Sn**	**03 36 08.5**	**+0.4**
VHO	**Vista Hermosa**	**3.19**	**294**		*i* P	**Pn**	**03 35 32.1**	**+0.7**
VHO					*i* S	**Sn**	**03 36 07.7**	**-0.5**
VHO	**Vista Hermosa**	**3.19**	**294**		*i* P	**Pn**	**03 35 32.2**	**+0.8**
VHO					*i* S	**Sn**	**03 36 07.7**	**-0.5**
TER	**Terranova**	**3.26**	**116**		*e*P	**Pn**	**03 35 33.9**	**+1.5**
TER					*e*S	**Sn**	**03 36 10.9**	**+1.0**
PCG	**Pacaya**	**3.29**	**114**		*e*P	**Pn**	**03 35 34.0**	**+1.2**
PCG					*e*S	**Sn**	**03 36 13.6**	**+2.9**
SCIG	**Sabancuy**	**3.98**	**37**		*i* P	**Pn**	**03 35 42.3**	**+0.1**
SCIG					*i* S	**Sn**	**03 36 28.8**	**+1.1**
PNIG	**Pinotepa**	**4.30**	**279**		*i* P	**Pn**	**03 35 45.8**	**-0.8**
PNIG					*i* S	**Sn**	**03 36 34.0**	**-1.5**
TPIG	**Tehuac#an**	**4.38**	**307**		*i* P	**Pn**	**03 35 48.3**	**+0.6**
TPIG					*i* S	**Sn**	**03 36 37.7**	**+0.2**
SBLS	**San Blas**	**4.38**	**115**		*e*P	x	03 36 03.2	
SBLS					*e*S	x	03 36 52.8	
UTMO	**Huajuapan**	**4.43**	**298**		*e*P	**Pn**	**03 35 49.0**	**+0.6**
UTMO					*i* S	**Sn**	**03 36 38.6**	**-0.1**
BOQS	**Boqueron**	**4.73**	**115**		*e*P	x	03 36 08.3	
BOQS					*e*S	x	03 37 02.5	
SNET	**Serv Nac Est T**	**4.79**	**115**		*e*P	x	03 35 53.3	
SNVI	**San Vicente**	**5.17**	**114**		*e*P	x	03 36 14.1	
SNVI					*e*S	x	03 37 13.8	
MEIG	**Mezcala**	**6.06**	**292**		*i* P	**Pn**	**03 36 11.2**	**+0.6**
MEIG					*i* S	**Sn**	**03 37 18.7**	**+0.1**
IIO	**Organos**	**6.11**	**309**		*i* P	**Pn**	**03 36 15.7**	**+4.4**
PLIG	**Platanillo**	**6.13**	**296**		*i* S	**Sn**	**03 37 21.7**	**+1.4**
PLIG	**Platanillo**	**6.13**	**296**		*i* S	**Sn**	**03 37 17.6**	**-2.7**
CAIG	**El Cayaco**	**6.43**	**282**		*i* S	**Sn**	**03 37 26.4**	**-1.2**
CAIG	**El Cayaco**	**6.43**	**282**		*i* S	**Sn**	**03 37 20.5**	**-7.2**
TGUH	**Tegucigalpa,Un**	**6.44**	**104**		*e*Pn	**Pn**	**03 36 15.4**	**-0.4**
	54nm,0.8s							
TEIG	**Tepich**	**6.80**	**49**		P	**Pn**	**03 36 18.6**	**-2.2**
TEIG					S	**Sn**	**03 37 33.2**	**-3.5**
TEIG	**Tepich**	**6.80**	**49**		*i* P	**Pn**	**03 36 19.4**	**-1.4**
TEIG					*i* S	**Sn**	**03 37 35.3**	**-1.4**
TEIG	**Tepich**	**6.80**	**49**		*i* P	**Pn**	**03 36 18.9**	**-1.8**
TEIG					*i* S	**Sn**	**03 37 32.0**	**-4.7**
MMIG	**Aquila**	**9.56**	**287**		*i* P	**Pn**	**03 36 59.5**	**+1.1**
JTS	**JuntasAbangare**	**10.11**	**122**		P	**Pn**	**03 37 02.9**	**-3.0**
	1.8nm,0.3s,baz=308,slow=16,SNR=9.6							
JTS	**JuntasAbangare**	**10.11**	**122**		*e*Pn	**Pn**	**03 37 04.1**	**-1.8**
SOR	**Soroa**	**12.27**	**54**		*e*P	**Pn**	**03 37 32.7**	**-2.7**
	baz=229							
SOR					*e*S	**Sn**	**03 39 45.7**	**-4.6**
	comp=N,1.3nm,0.6s							
SOR					*e*			
	comp=E,1.3nm,0.7s							
MGV	**Manicaragua**	**14.43**	**62**		*e*P	**Pn**	**03 38 04.0**	**-0.1**
JCT	**Junction City**	**15.67**	**340**		*e*P	**Pn**	**03 38 23.8**	**+3.7**
	comp=E,6.1nm,0.6s							
LTX	**Lajitas**	**16.32**	**327**		*e*P	**Pn**	**03 38 29.0**	**+0.7**
	comp=E,5.2nm,1.1s							
TXAR	**Lajitas Array**	**16.32**	**327**		P	**Pn**	**03 38 29.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=151,slow=16,SNR=10.0							
MIAR	**Mount Ida**	**18.70**	**0**		*e*P	**Pn**	**03 38 58.3**	**+1.0**
	comp=E,13nm,0.9s							
MIAR					*e*pP	pP	03 39 10.5	-0.3
MNTX	**Cornudas Mount**	**19.10**	**328**		*e*P	**Pn**	**03 39 01.4**	**-0.7**
	comp=E,2.1nm,0.8s							
WMOK	**Wichita Mounta**	**19.43**	**347**		*e*P	**Pn**	**03 39 04.8**	**-1.2**
	comp=E,2.4nm,0.4s							
AMTX	**Amarillo**	**20.34**	**341**		*e*P	**P**	**03 39 13.9**	**-0.1**
	comp=E,11nm,0.6s							
WVT	**Waverly**	**20.94**	**13**		*e*P	**P**	**03 39 21.6**	**+1.1**
	comp=E,44nm,1.8s							
WVT					*e*pP		03 39 37.7	
BNM	**Barren Site**	**21.69**	**330**		*e*P	**P**	**03 39 30.8**	**+2.3**
BNM					*e*pP		03 39 47.4	
TKL	**Tuckaleechee C**	**21.70**	**22**		P	**P**	**03 39 27.8**	**-0.9**
	comp=E,3.1nm,0.7s,mb3.8,baz=33,slow=22,SNR=2.5							
TKL					LR	LR	03 49 23.0	
	comp=E,64nm,21.9s,baz=196,slow=41							
TKL	**Tuckaleechee C**	**21.70**	**22**		P	**P**	**03 39 27.8**	**-0.9**
TKL					LR	LR	03 49 23.0	
ROSC	**El Rosal**	**21.90**	**118**		P	**P**	**03 39 30.1**	**-0.7**
	comp=E,2.7nm,0.5s,mb3.8,baz=102,slow=20,SNR=2.2							
ANMO	**Albuquerque**	**22.27**	**331**		P	**P**	**03 39 35.5**	**+0.8**
	comp=E,1.1nm,0.5s,mb3.4,baz=138,slow=6.0,SNR=3.6							
ANMO	**Albuquerque**	**22.27**	**331**		*e*P	**P**	**03 39 35.0**	**+0.4**
	comp=E,3.1nm,0.9s,mb3.6							
SDCO	**Great Sand Dun**	**24.25**	**337**		*e*P	**P**	**03 39 55.2**	**+1.4**
	comp=E,2.2nm,0.8s,mb3.5							
PDAR	**Pinedale Array**	**30.14**	**336**		P	**P**	**03 40 46.8**	**+0.1**
	comp=E,0.6nm,0.7s,mb3.4,baz=137,slow=8.7,SNR=6.1							
SNOW	**Snow King Moun**	**31.20**	**336**		*e*P	**P**	**03 40 56.7**	**+0.7**
	comp=E,6.3nm,0.7s,mb4.5							
NVAR	**Mina Array Bea**	**31.27**	**321**		P	**P**	**03 40 57.5**	**+0.9**
	comp=E,0.6nm,0.7s,mb3.4,baz=130,slow=9.8,SNR=4.9							
NVAR					pP	pP	03 41 14.1	+0.4
	comp=E,0.5nm,0.6s,baz=118,slow=5.2,SNR=2.4							
TPAW	**Teton Pass**	**31.30**	**335**		*e*P	**P**	**03 40 57.1**	**+0.3**
	comp=E,3.9nm,0.9s,mb4.1							
MOOW	**Moose Ponds**	**31.44**	**336**		*e*P	**P**	**03 40 58.3**	**+0.3**
	comp=E,1.6nm,0.8s,mb3.8							
ULM	**Lac du Bonnet**	**34.44**	**358**		P	**P**	**03 41 20.9**	**-3.3**
	comp=E,1.2nm,0.5s,mb4.0,baz=197,slow=9.4,SNR=4.4							
CHMT	**Chamberlain Mo**	**35.05**	**336**		*e*P	**P**	**03 41 29.4**	**-0.1**
SIV	**San Ignacio**	**45.09**	**133**		P	**P**	**03 42 48.7**	**-3.9**
	comp=E,1.0nm,0.7s,mb3.7,baz=298,slow=9.0,SNR=6.3							
SIV					pP	pP	03 43 08.3	-2.1
	comp=E,0.8nm,0.5s,baz=280,slow=5.9,SNR=4.5							
YKA	**Yellowknife Ar**	**48.94**	**347**		P	**P**	**03 43 20.5**	**-2.0**
	comp=E,3.3nm,0.6s,mb4.5,baz=152,slow=7.3,SNR=74							
YKA					pP	pP	03 43 40.5	-0.1
	comp=E,0.5nm,0.5s,baz=151,slow=7.3,SNR=3.2		

YSS pmax pmax
comp=Z,40nm,1.1s
YSS smax
comp=N,110nm,1.1s
YSS Yuzh-Sakhalins 3.73 315 *e*Pn **Pn 03 40 23.9 +1.2**
MJAR Matsushiro Arr 10.10 222 P **Pn 03 41 45.1 -3.4**
comp=N,0.4nm,0.3s,baz=18,slow=13,SNR=5.2
KLR Kul'dur 11.28 301 *e*PN **Pn 03 42 02.4 -1.9**
KLR pmax pmax
comp=E,48nm,1.6s
KLR pmax pmax
comp=Z,40nm,1.6s
MDJ Mudanjiang 12.15 277 P **Pn 03 42 14.5 -1.4**
MDJ S **Sn 03 44 22.9 -6.8**
MDJ PCP PcP 03 47 49.4 +0.1
MDJ SCP ScP 03 51 11.0 -0.1
MDJ PCS PcS 03 51 25.4 +2.0
MDJ SCS ScS 03 54 46.2 -0.9
MDJ AMB AMB
comp=Z,17nm,0.7s
CN2 Changchun 15.21 275 *e*P **Pn 03 42 54.2 -1.0**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
KSRS Korea Array 15.70 250 P **Pn 03 43 00.0 -1.3**
baz=62,slow=34,SNR=7.5
JNU Nakatsue 16.60 233 LR LR 03 49 05.1
comp=Z,133nm,18.3s,baz=332,slow=35
HIA Hailar 18.97 294 *e*P **P 03 43 35.8 -3.0**
HIA pmax pmax
comp=Z,8.0nm,0.7s
HIA Hailar 18.97 294 *e*P **P 03 43 35.8 -2.9**
comp=Z,8.0nm,0.7s
BJT Baijiatuau 22.89 270 *e*P **P 03 44 18.4 -1.8**
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 22.89 270 *e*P **P 03 44 18.4 -1.7**
comp=Z,17nm,0.8s,mb4.4
HHC Hu-ho-hao-te 25.91 275 *e*P **P 03 44 48.6 +1.0**
HHC AP pP 03 45 15.1 +1.8
HHC XP sP 03 45 29.9 +2.7
HHC PP 03 45 34.7
HHC PCP PcP 03 48 15.7 +2.4
HHC S **S 03 49 07.0 -1.8**
HHC XS sS 03 49 52.8 -1.2
HHC SS 03 50 21.9
HHC AMB AMB
comp=Z,22nm,0.7s,mb4.7
HHC AMB AMB
comp=Z,108nm,5.7s
HHC LR LR
comp=N,391nm,19.4s
HHC LR LR
comp=E,275nm,19.4s
HHC LR LR
comp=Z,206nm,17.2s
SONM Songino Array 27.87 292 P **P 03 45 04.7 -0.4**
comp=Z,3.9nm,0.6s,mb4.1,baz=76,slow=8.8,SNR=20
SONM Songino Array 27.87 292 P **P 03 45 04.7 -0.4**
SONM pmax pmax
comp=Z,4.0nm,0.6s
LZH Lanzhou 33.36 271 *e*P **P 03 45 54.4 +0.9**
LZH AP pP 03 46 20.6 +0.8
LZH XP sP 03 46 36.5 +3.0
LZH PCP PcP 03 48 32.5 0.0
LZH AMB AMB
comp=Z,16nm,1.2s,mb4.7
GTA Gaotai 34.81 278 *e*P **P 03 46 06.4 +0.5**
GTA AP pP 03 46 30.9 -1.5
GTA PP PP 03 47 26.6 -0.5
GTA S **S 03 51 28.4 +0.6**
GTA XS sS 03 52 12.2 -1.5
GTA SS SS 03 53 50.3 -13
GTA AMB AMB
comp=Z,7.0nm,0.7s,mb4.6
GTA AMB AMB
comp=Z,109nm,4.9s
GTA LR LR
comp=N,151nm,11.0s
GTA LR LR
comp=E,141nm,11.0s
GTA LR LR
comp=Z,159nm,10.3s
GYA Guiyang 36.70 254 *e*P **P 03 46 22.0 -0.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
IMA2 Indian Mountai 38.39 35 *e*P **P 03 46 35.4 -1.0**
KDAK Kodiak Island 39.12 48 P **P 03 46 41.5 -0.9**
comp=Z,6.3nm,0.5s,mb4.8,baz=62,slow=10,SNR=16
KDAK Kodiak Island 39.12 48 *e*P **P 03 46 41.0 -1.5**
comp=Z,8.9nm,0.6s,mb4.8
QIZ Qiongzhong 39.70 242 P **P 03 46 46.1 -1.1**
QIZ S **S 03 52 41.1 -0.7**
QIZ XS sS 03 53 33.5 +5.0
QIZ LR LR
comp=E,333nm,12.4s
QIZ LR LR
comp=N,637nm,12.4s
KMI Kunming 40.27 256 P **P 03 46 52.2 +0.2**
KMI XP sP 03 47 33.6 +1.1
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.7
KMI LR LR
comp=Z,37nm,14.9s
MCK McKinley 40.39 38 *e*P **P 03 46 52.1 -0.8**
MCK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
MCK McKinley 40.39 38 *e*P **P 03 46 52.1 -0.8**
comp=Z,2.2nm,0.9s,mb4.0
COLA College 40.80 36 *e*P **P 03 46 55.4 -0.9**
COLA pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
COLA College 40.80 36 *e*P **P 03 46 55.4 -0.9**
comp=Z,9.4nm,1.0s,mb4.6
SML Sawmill 40.81 41 *e*P **P 03 46 55.8 -0.6**
WMQ Urumqi 41.50 291 P **P 03 47 02.4 +0.4**
WMQ AMB AMB
comp=Z,11nm,1.4s,mb4.4
EGAK Eagle 43.66 36 *e*P **P 03 47 17.9 -1.6**
comp=Z,3.4nm,0.5s,mb4.3
MK31 Makanchi Array 43.95 297 *e*P **P 03 47 21.0 -0.8**
MKAR Makanchi Array 43.95 297 P **P 03 47 20.6 -1.1**
comp=Z,4.5nm,0.7s,mb4.3,baz=77,slow=10,SNR=22
MKAR Makanchi Array 43.95 297 P **P 03 47 20.7 -1.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 44.86 303 *e*P **P 03 47 27.3 -1.7**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KURK Kurchatov 44.86 303 *e*P **P 03 47 27.3 -1.7**
comp=Z,5.6nm,0.9s,mb4.3
LSA Lhasa 45.78 271 *e*P **P 03 47 37.4 +1.1**
LSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
LSA Lhasa 45.78 271 *e*P **P 03 47 37.4 +1.1**
comp=Z,3.7nm,0.4s,mb4.5
INK Inuvik 46.07 31 P **P 03 47 37.2 -1.3**
comp=Z,1.8nm,0.4s,mb4.2,baz=289,slow=6.5,SNR=19
INK pP pP 03 48 06.3 +0.2
comp=Z,1.0nm,0.5s,baz=305,slow=4.6,SNR=2.6
INK Inuvik 46.07 31 *e*P **P 03 47 36.4 -2.1**
comp=Z,74nm,0.5s,mb5.7
CHTO Chiang Mai 47.08 253 *e*P **P 03 47 46.7 +0.2**
CHTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
CHTO Chiang Mai 47.08 253 *e*P **P 03 47 46.7 +0.2**
comp=Z,3.2nm,0.6s,mb4.2
CHKZ Chkalovo 48.44 310 *e*P **P 03 47 55.7 -1.2**
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
CHKZ Chkalovo 48.44 310 *e*P **P 03 47 55.7 -1.2**
comp=Z,2.0nm,0.5s,mb4.2
BVAR Borovoye Array 48.80 309 P **P 03 47 58.7 -1.1**
comp=Z,0.5nm,0.4s,mb3.8,baz=66,slow=8.8,SNR=4.6
TKM2 Tokmak 2 49.88 295 P **P 03 48 07.7 -0.2**
SNR=5.2
KBK Karagaybulak 50.43 295 P **P 03 48 12.6 +0.6**
SNR=6.4
USP Ospenovka 50.44 296 P **P 03 48 11.7 -0.4**
SNR=8.4
KZA Kyzart 50.51 294 P **P 03 48 13.9 +1.3**
SNR=6.4
JIRN Jiri 50.51 272 *e*P **P 03 48 13.2 +0.5**
comp=Z,16nm,0.7s,mb5.2
GUN Gumba 50.59 272 *e*P **P 03 48 13.5 +0.3**
comp=Z,39nm,1.0s,mb5.4
AAK Ala-Archa 50.74 295 *e*P **P 03 48 13.2 -1.1**
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AAK Ala-Archa 50.74 295 *e*P **P 03 48 13.2 -1.1**
comp=Z,2.1nm,0.5s,mb4.4
KKN Kakani 51.09 273 *e*P **P 03 48 17.4 +0.4**
comp=Z,12nm,0.5s,mb5.2
PKI Pulchoki 51.12 272 *e*P **P 03 48 17.7 +0.5**
comp=Z,15nm,0.7s,mb5.1
EKS2 Erkin-Say 51.19 295 P **P 03 48 18.0 +0.3**
SNR=5.4
DMN Daman 51.32 273 *e*P **P 03 48 19.2 +0.5**
comp=Z,32nm,0.9s,mb5.3
GKN Gorkha 51.42 273 *e*P **P 03 48 19.6 +0.1**
comp=Z,13nm,0.5s,mb5.2
KOLN Koldanda 52.30 274 *e*P **P 03 48 26.3 +0.3**
comp=Z,23nm,0.8s,mb5.2
YKW3 Yellowknife Ar 55.47 34 *e*P **P 03 48 48.4 -0.6**
YKA Yellowknife Ar 55.51 34 P **P 03 48 48.3 -0.9**
comp=Z,3.6nm,0.8s,mb4.5,baz=301,slow=6.9,SNR=40
YKA pP pP 03 49 16.6 -1.1
comp=Z,0.7nm,0.7s,baz=301,slow=7.4,SNR=3.3
YKA Yellowknife Ar 55.51 34 P **P 03 48 48.3 -1.0**
YKA *PP pP 03 49 16.6 -1.1
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 55.51 34 P **P 03 48 48.4 -0.9**
YKA pP pP 03 49 16.6 -1.1
AB31 Akbulak array 56.37 308 *e*P **P 03 48 54.4 -1.0**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
B07A Winthrop 60.48 50 ⇑P **P 03 49 23.7 -0.3**
baz=60
A08A Turner Farm, O 60.66 49 ⇓P **P 03 49 24.6 -0.5**
baz=60
D06A Cle Elum 60.80 51 ⇑P **P 03 49 25.9 -0.2**
baz=61
C07A Waterville 60.95 50 ⇓P **P 03 49 26.8 -0.4**
baz=61
B08A Colville Reser 60.97 50 ⇓P **P 03 49 26.6 -0.7**
baz=61
A09A Danville 61.02 49 ⇑P **P 03 49 27.4 -0.1**
baz=61
F05A White Salmon 61.20 53 ⇓P **P 03 49 28.5 -0.3**
baz=61
EDM Edmonton 61.21 42 *e*P **P 03 49 27.8 -1.1**
D07A Quincy 61.28 51 ⇓P **P 03 49 28.8 -0.6**
baz=61
JOF Joensuu 61.35 332 *e*p **P 03 49 27.2 -2.7**
J02A Umpqua 61.42 56 ⇑P **P 03 49 30.1 -0.2**
baz=61
C08A Higginbotham F 61.45 50 ⇑P **P 03 49 30.0 -0.5**
baz=61
H04A Detroit Lake 61.47 54 ⇑P **P 03 49 30.8 +0.1**
baz=61
B09A Rice 61.57 49 ⇑P **P 03 49 30.8 -0.5**
baz=61
G05A Wamic 61.65 53 ⇓P **P 03 49 31.9 0.0**
baz=61
F06A Goldendale 61.66 53 ⇓P **P 03 49 31.6 -0.3**
baz=61
E07A Sunnyside 61.72 51 ⇓P **P 03 49 32.1 -0.2**
baz=62
I04A Tendick Farm, 61.86 55 ⇑P **P 03 49 33.3 0.0**
baz=62
C09A Chrisman Ranch 61.87 50 ⇓P **P 03 49 32.9 -0.4**
baz=62
D08A Wollman Farm, 61.95 51 ⇑P **P 03 49 33.3 -0.5**
baz=62
H05A Madras 62.05 54 ⇓P **P 03 49 34.1 -0.4**
baz=62
F07A Phinny Hill Vi 62.07 52 ⇓P **P 03 49 34.9 +0.2**
baz=62
E08A Dider Farm, El 62.20 51 ⇓P **P 03 49 35.3 -0.2**
baz=62
A11A Hall Mountain, 62.21 48 ⇑P **P 03 49 35.6 0.0**
baz=62
NEW Newport 62.22 49 P **P 03 49 34.3 -1.4**
comp=Z,0.7nm,0.4s,mb4.0,baz=343,slow=6.4,SNR=4.9
NEW Newport 62.22 49 P **P 03 49 34.3 -1.4**
NEW pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 62.22 49 *e*P **P 03 49 35.4 -0.3**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 62.22 49 *e*P **P 03 49 35.4 -0.3**
comp=Z,3.9nm,0.9s,mb4.4
D09A Joes Farm, Ri 62.28 50 ⇓P **P 03 49 35.6 -0.5**
baz=62
J04A Umpqua Nationa 62.36 56 ⇓P **P 03 49 36.5 -0.1**
baz=62
B11A Sandpoint 62.52 48 ⇓P **P 03 49 37.5 -0.1**
baz=62
A12A Yaak River Ran 62.60 47 ⇑P **P 03 49 38.2 0.0**
baz=62
E09A Wood Farm, Sta 62.70 51 ⇓P **P 03 49 38.9 +0.1**
baz=62
F08A Pendleton 62.77 52 ⇓P **P 03 49 39.0 -0.3**
baz=62
D10A Wagner Farm, O 62.86 50 ⇓P **P 03 49 39.6 -0.2**
baz=63
YBH Yreka Blue Hor 62.89 57 ⇑P **P 03 49 40.5 +0.4**
baz=63
N02C Big Bar 63.07 58 ⇑P **P 03 49 41.3 0.0**
baz=63
L04A Klamath Falls 63.12 56 ⇓P **P 03 49 42.0 +0.3**
baz=63
F09A S2 Ranch, Elgi 63.31 51 ⇑P **P 03 49 42.6 -0.3**
baz=63
D11A Klaveano Farm, 63.37 49 ⇓P **P 03 49 43.1 -0.2**
baz=63
I07A Izee 63.38 54 ⇑P **P 03 49 43.6 +0.3**
baz=63
K05A Summer Lake 63.38 55 ⇓P **P 03 49 43.6 +0.2**
baz=63
M04C Macdoel 63.38 57 ⇑P **P 03 49 43.9 +0.5**
baz=63
J06A Christmas Vall 63.50 55 ⇓P **P 03 49 44.5 +0.3**
baz=63
F10A Beach Ranch, E 63.53 51 ⇓P **P 03 49 44.1 -0.2**
baz=63
B13A Whitefish 63.57 47 ⇑P **P 03 49 44.7 +0.1**
baz=63
KAF Kangasniemi 63.58 333 *e*p **P 03 49 42.4 -2.3**
H08A Prairie City 63.60 53 ⇑P **P 03 49 44.6 -0.2**
baz=63
WDC Whiskeytown Da 63.68 58 *e*P **P 03 49 45.4 +0.1**
WDC pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
WDC Whiskeytown Da 63.68 58 *e*P **P 03 49 45.4 +0.1**
comp=Z,3.9nm,0.8s,mb4.3
WDC Whiskeytown Da 63.68 58 ⇑P **P 03 49 45.4 +0.1**
baz=64
K06A Valley Falls 63.72 55 ⇑P **P 03 49 45.6 0.0**
baz=64
O02C Red Bluff 63.77 59 ⇓P **P 03 49 46.1 +0.1**
baz=64
E11A Bogner Ranch, 63.86 50 ⇓P **P 03 49 45.9 -0.6**
baz=64
J07A Hines 63.92 54 ⇑P **P 03 49 47.2 +0.3**
baz=64
C13A Hot Springs 63.94 48 ⇑P **P 03 49 46.9 -0.1**
baz=64
I08A Drewsey 64.02 53 ⇓P **P 03 49 47.8 +0.3**
baz=64
M05C Lookout 64.05 57 ⇓P **P 03 49 48.0 +0.2**
baz=64
H09A Durkee 64.08 52 ⇑P **P 03 49 47.6 -0.3**
baz=64
GASB Alder Springs 64.13 59 ⇑P **P 03 49 48.6 +0.3**
baz=64
FINES FINESS Array B 64.14 333 P **P 03 49 46.9 -1.4**
comp=Z,1.3nm,0.4s,mb4.1,baz=54,slow=8.9,SNR=15
FINES FINESS Array B 64.14 333 P **P 03 49 46.9 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.14 333 P **P 03 49 46.9 -1.4**
BMO Blue Mountains 64.17 52 *e*P **P 03 49 48.5 -0.1**
comp=Z,2.0nm,0.9s,mb4.0
F11A Grangeville 64.18 50 ⇓P **P 03 49 48.2 -0.4**
baz=64
HATC Hat Creek Radi 64.19 57 ⇑P **P 03 49 48.7 0.0**
baz=64
MOD Modoc 64.23 56 *e*P **P 03 49 49.0 0.0**
comp=Z,2.0nm,0.8s,mb4.0
MOD Modoc 64.23 56 ⇓P **P 03 49 49.0 +0.1**
baz=64
C14A Swan Lake 64.32 48 ⇓P **P 03 49 49.5 0.0**
baz=64
D13A Huson 64.36 48 ⇑P **P 03 49 49.6 -0.1**
baz=64
K07A Rock Creek Ran 64.37 55 ⇑P **P 03 49 49.6 -0.2**
baz=64
J08A Circle Bar Ran 64.42 54 ⇑P **P 03 49 50.4 +0.3**
baz=64
I09A Lost Marbles R 64.46 53 ⇓P **P 03 49 50.4 0.0**
baz=64
M06C Likely Place G 64.55 57 ⇑P **P 03 49 51.1 +0.1**
baz=64
H10A Noah's Angus R 64.65 52 P **P 03 49 51.8 +0.1**
baz=64,SNR=7.2
O04C Chester 64.72 58 ⇑P **P 03 49 52.1 0.0**
baz=64,SNR=5.3
L07A Adell 64.73 55 ⇑P **P 03 49 52.2 +0.1**
baz=64
ELFS Eagle Lake Fie 64.75 57 ⇓P **P 03 49 52.0 -0.3**
baz=65
F12A Elk City 64.76 50 ⇑P **P 03 49 52.1 -0.2**
baz=64
MNRC McLaughlin Nat 64.77 60 ⇓P **P 03 49 52.3 -0.1**
baz=65
K08A Mann Creek Ran 64.79 54 ⇓P **P 03 49 52.5 -0.1**
baz=65
J09A Fry Pan Ranch, 64.84 53 ⇓P **P 03 49 52.7 -0.1**
baz=65
D14A Greenough 64.88 48 ⇑P **P 03 49 52.6 -0.5**
baz=65
WVOR Wild Horse Val 64.89 55 *e*P **P 03 49 53.4 +0.2**
WVOR pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
WVOR Wild Horse Val 64.89 55 *e*P **P 03 49 53.4 +0.2**
comp=Z,4.3nm,1.0s,mb4.2
E13A Victor 64.91 49 ⇓P **P 03 49 53.1 -0.2**
baz=65
ORV Oroville 64.94 59 ⇑P **P 03 49 53.1 -0.4**
baz=65
WRA Warramunga Arr 64.97 193 P **P 03 49 52.1 -1.6**
comp=Z,0.7nm,0.8s,mb3.5,baz=9.1,slow=6.7,SNR=4.7
WRA pP pP 03 50 21.7 -1.3
comp=Z,0.5nm,0.8s,baz=11,slow=6.8,SNR=1.9
H11A Donnelly 64.99 51 ⇓P **P 03 49 53.4 -0.5**
baz=65
O05C Quincy 65.04 58 ⇓P **P 03 49 54.3 +0.1**
baz=65
CHMT Chamberlain Mo 65.12 48 *e*P **P 03 49 54.1 -0.6**
Q03C Winters 65.18 60 ⇑P **P 03 49 55.8 +0.7**
baz=65
L08A Fields 65.21 55 ⇓P **P 03 49 55.7 +0.5**
baz=65
N06A Buffalo Meadow 65.21 57 ⇓P **P 03 49 55.4 +0.1**
baz=65
M07A Soldier Meadow 65.21 56 P **P 03 49 56.2 +0.9**
baz=65,SNR=9.1
F13A Darby 65.24 50 ⇑P **P 03 49 55.4 -0.1**
baz=65
E14A Clinton 65.30 49 ⇑P **P 03 49 55.6 -0.3**
baz=65
J10A Berg Farm, Mel 65.35 53 ⇓P **P 03 49 55.9 -0.3**
baz=65
D15A Lincoln 65.43 48 ⇓P **P 03 49 56.1 -0.6**
baz=65
BEKR Beckwourth 65.44 58 P **P 03 49 57.0 +0.3**
baz=65,SNR=7.5
O06A Flanigan 65.58 57 ⇓P **P 03 49 57.5 -0.2**
baz=65
P05C Yuba Gap, Truc 65.64 58 ⇑P **P 03 49 57.9 -0.1**
baz=65
M08A Happy Creek Ra 65.64 55 ⇓P **P 03 49 58.1 +0.1**
baz=65
L09A Wilkinson Ranc 65.71 54 ⇑P **P 03 49 58.3 -0.2**
baz=66
N07B Gerlach 65.71 56 ⇓P **P 03 49 58.9 +0.4**
baz=66
H12A Diamond D Ranc 65.73 51 ⇓P **P 03 49 58.4 -0.2**
baz=66
G13A Cobalt 65.73 50 ⇑P **P 03 49 58.4 -0.2**
baz=66
F14A Wisdom 65.75 49 ⇑P **P 03 49 58.8 0.0**
baz=66
E15A Deer Lodge 65.75 48 ⇓P **P 03 49 58.4 -0.4**
baz=66
LAVA Lava Cap Winer 65.89 59 ⇓P **P 03 49 59.7 0.0**
baz=66
WENL Wente Brothers 65.96 60 ⇑P **P 03 50 00.9 +0.8**
baz=66
O07A Toulon 66.15 57 ⇓P **P 03 50 01.6 +0.2**
baz=66
WCN Washoe City 66.15 58 ⇓P **P 03 50 01.8 +0.4**
baz=66
F15A Butte 66.20 49 ⇑P **P 03 50 01.7 0.0**
baz=66,SNR=5.5
M09A Marrel Ranch, 66.21 55 ⇑P **P 03 50 01.5 -0.2**
baz=66
EGMT Eagleton 66.24 45 *e*P **P 03 50 02.0 +0.2**
comp=Z,5.3nm,0.7s,mb4.5
EGMT Eagleton 66.24 45 ⇓P **P 03 50 01.7 -0.2**
baz=66
R05C Kirkwood Meado 66.33 59 ⇓P **P 03 50 02.8 +0.3**
baz=66
N09A Rock Creek Ran 66.52 55 ⇓P **P 03 50 04.3 +0.6**
baz=66
CMB Columbia Colle 66.56 59 *e*P **P 03 50 04.0 +0.1**
CMB pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
CMB Columbia Colle 66.56 59 *e*P **P 03 50 04.0 +0.1**
comp=Z,4.1nm,0.6s,mb4.4
CMB Columbia Colle 66.56 59 P **P 03 50 04.2 +0.3**
baz=66,SNR=7.1
HLID Hailey 66.60 51 *e*P **P 03 50 03.9 -0.3**
comp=Z,3.9nm,1.2s,mb4.1
HLID Hailey 66.60 51 ⇓P **P 03 50 04.2 0.0**
baz=66
G15A Dillon 66.64 49 P **P 03 50 05.2 +0.7**
baz=66,SNR=8.1
PACP Pacheco Peak 66.64 61 ⇓P **P 03 50 05.1 +0.7**
baz=66
M10A I.L. Ranch, Tu 66.68 54 ⇑P **P 03 50 05.4 +0.7**
baz=66
BOZ Bozeman (W) 66.79 48 *e*P **P 03 50 06.2 +0.8**
R06C Coleville 66.83 58 P **P 03 50 06.7 +1.0**
baz=67,SNR=6.2
HAST UC Hastings Re 66.86 61 ⇓P **P 03 50 06.0 +0.1**
baz=67
BMN Battle Mountai 66.97 56 *e*P **P 03 50 06.7 +0.2**
BMN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BMN Battle Mountai 66.97 56 *e*P **P 03 50 06.7 +0.2**
comp=Z,5.4nm,0.7s,mb4.5
S06C San Francisco 66.98 59 ⇓P **P 03 50 06.7 +0.1**
baz=67
S05C Merced 67.02 60 ⇑P **P 03 50 06.4 -0.5**
baz=67
O09A Fish Creek Ran 67.15 56 ⇑P **P 03 50 07.9 +0.2**
baz=67
M11A Holland Ranch, 67.17 54 ⇑P **P 03 50 08.7 +0.9**
baz=67
V03C Hunter Liggett 67.29 61 ⇓P **P 03 50 09.1 +0.5**
baz=67
R07C Lee Vining 67.35 58 P **P 03 50 10.0 +1.1**
baz=67,SNR=6.9
U04C Hernandez Rese 67.36 61 ⇓P **P 03 50 09.6 +0.7**
baz=67
O10A Cortez Mining, 67.48 55 ⇓P **P 03 50 10.4 +0.6**
baz=67
Q08A Gabbs 67.53 57 P **P 03 50 10.7 +0.6**
baz=67,SNR=5.1
NVAR Mina Array Bea 67.58 58 P **P 03 50 10.9 +0.5**
comp=Z,5.4nm,0.7s,mb4.5,baz=294,slow=7.6,SNR=33
T06C Millerton Lake 67.62 60 ⇑P **P 03 50 10.4 -0.2**
baz=67
KCC Kaiser Creek 67.66 59 ⇑P **P 03 50 11.2 +0.3**
baz=68
M12A Wells 67.69 54 ⇑P **P 03 50 11.8 +0.7**
baz=68
R08A Mina 67.75 58 ⇓P **P 03 50 11.8 +0.3**
baz=68
V04C Ramage Ranch, 67.76 62 ⇓P **P 03 50 11.9 +0.4**
baz=68
PKD Parkfield 67.77 61 ⇓P **P 03 50 11.9 +0.3**
baz=68
P10A Eureka 67.93 56 ⇑P **P 03 50 12.0 -0.6**
baz=68
N12A Clover Valley, 67.98 54 ⇓P **P 03 50 12.8 -0.1**
baz=68
O11A Cowboy Ranch, 68.08 55 ⇓P **P 03 50 13.6 +0.1**
baz=68
M13A Montello 68.15 53 ⇑P **P 03 50 14.5 +0.6**

baz=68
HELL Mitchell Peak, 68.25 60 P **P 03 50 14.5 -0.1**
baz=68,SNR=9.5
S08C White Mtn Res 68.25 59 ⇑P **P 03 50 14.7 +0.1**
baz=68
IMW Indian Meadow 68.31 49 *e*P **P 03 50 16.8 +1.9**
comp=Z,5.8nm,0.9s,mb4.4
R09A Tonopah 68.45 57 ⇑P **P 03 50 16.0 +0.2**
baz=68
MOOW Moose Ponds 68.51 49 *e*P **P 03 50 17.0 +0.8**
comp=Z,5.5nm,1.0s,mb4.3
O12A Currie 68.52 54 P **P 03 50 16.9 +0.6**
baz=68,SNR=5.1
TPAW Teton Pass 68.57 50 *e*P **P 03 50 17.5 +1.0**
comp=Z,4.9nm,0.9s,mb4.3
TPAW *e*pP pP 03 50 47.9 +1.8
HVU Hansel Valley 68.67 52 *e*P **P 03 50 18.4 +1.2**
LOHW Long Hollow 68.68 49 *e*P **P 03 50 17.9 +0.7**
comp=Z,3.5nm,1.0s,mb4.1
S09A Goldfield 68.69 58 ⇓P **P 03 50 17.5 +0.2**
baz=68
SNOW Snow King Moun 68.69 50 *e*P **P 03 50 18.2 +0.9**
comp=Z,3.2nm,0.6s,mb4.3
REDW Red Top Meadow 68.70 50 *e*P **P 03 50 18.5 +1.1**
comp=Z,5.8nm,1.1s,mb4.3
NB2 NORSAR Subarra 68.88 339 P **P 03 50 19.4 +0.9**
comp=Z,0.4nm,0.5s,mb3.5,baz=30,slow=6.9
NOA NORSAR Array B 68.88 339 P **P 03 50 19.2 +0.7**
comp=Z,1.8nm,0.9s,mb3.9,baz=29,slow=7.2,SNR=2.5
NOA NORSAR Array B 68.88 339 P **P 03 50 19.2 +0.7**
NOA pmax pmax
comp=Z,2.0nm,0.9s
PKM Peak Mountain 68.89 62 ⇑P **P 03 50 19.2 +0.6**
baz=69
LAO LASA Array 68.92 45 *e*P **P 03 50 18.7 0.0**
comp=Z,4.0nm,0.7s,mb4.4
P12A McGill 68.94 55 ⇑P **P 03 50 19.1 +0.2**
baz=69
KIV Kislovodsk 69.06 311 *e*P **P 03 50 20.1 +0.5**
KIV pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
KIV Kislovodsk 69.06 311 *e*P **P 03 50 20.1 +0.5**
comp=Z,5.5nm,0.6s,mb4.6
GRAC Grapevine Rang 69.06 58 ⇑P **P 03 50 20.0 +0.4**
baz=69,SNR=6.0
ISA Isabella 69.25 60 ⇓P **P 03 50 19.9 -0.8**
baz=69
Q12A Willow Creek R 69.27 55 ⇑P **P 03 50 21.1 +0.3**
baz=69
MPMC Manual Prospec 69.60 59 P **P 03 50 23.5 +0.6**
baz=69,SNR=7.4
DUG Dugway 69.69 53 *e*P **P 03 50 23.9 +0.4**
DUG *e**PP pP 03 50 54.0 +0.9
DUG pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
DUG Dugway 69.69 53 *e*P **P 03 50 23.9 +0.4**
comp=Z,5.2nm,1.0s,mb4.3
DUG *e*pP pP 03 50 54.0 +0.9
DUG Dugway 69.69 53 P **P 03 50 24.3 +0.9**
baz=70,SNR=5.4
FURC Furnace Creek, 69.72 59 P **P 03 50 24.4 +0.7**
baz=70,SNR=9.5
BW06 Boulder Array 69.81 50 *e*P **P 03 50 24.1 -0.1**
comp=Z,4.2nm,1.0s,mb4.2
PDAR Pinedale Array 69.81 50 P **P 03 50 24.1 -0.1**
comp=Z,2.6nm,0.8s,mb4.1,baz=270,slow=1.8,SNR=18
PDAR pP pP 03 50 53.4 -0.5
comp=Z,1.1nm,0.8s,baz=296,slow=1.5,SNR=4.3
LRMC Laurel Mountai 69.85 60 ⇑P **P 03 50 24.3 -0.1**
baz=70
EDW2 Edwards Air Fo 70.05 61 P **P 03 50 26.0 +0.3**
baz=70,SNR=5.7
U10A Ash Meadows, A 70.08 58 ⇓P **P 03 50 26.2 +0.4**
baz=70
NLU North Lily Min 70.27 53 *e*P **P 03 50 27.1 +0.1**
MPU Maple Canyon 70.49 53 *e*P **P 03 50 28.7 +0.3**
comp=Z,3.6nm,0.6s,mb4.4
GSC Goldstone 70.51 60 ⇓P **P 03 50 28.9 +0.4**
baz=70
BFSC Mount Baldy St 70.68 61 ⇑P **P 03 50 29.7 +0.2**
baz=70
AKASG Malin Array Be 70.85 323 P **P 03 50 29.0 -1.5**
comp=Z,1.2nm,0.5s,mb4.0,baz=40,slow=6.0,SNR=11
AKASG Malin Array Be 70.85 323 P **P 03 50 29.0 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
TUQ Turquoise Mtn. 70.97 59 ⇓P **P 03 50 31.5 +0.2**
baz=71
V11A Goodsprings 71.01 58 ⇓P **P 03 50 31.6 +0.1**
baz=71
HEC Hector,Ludlow 71.12 60 ⇓P **P 03 50 32.4 +0.3**
baz=71
BBRC Big Bear Sol-O 71.12 60 ⇓P **P 03 50 32.3 +0.2**
baz=71
MSU Marysvale 71.18 54 *e*P **P 03 50 33.4 +0.9**
TMUT Trail Mountain 71.21 53 *e*P **P 03 50 33.2 +0.5**
ULM Lac du Bonnet 71.24 37 P **P 03 50 31.5 -1.4**
comp=Z,0.9nm,0.5s,mb3.9,baz=315,slow=10.0,SNR=2.5
MURC Murrieta 71.38 61 ⇓P **P 03 50 33.4 -0.3**
baz=71
V12A Nelson 71.43 58 ⇓P **P 03 50 34.4 +0.4**
baz=71
GMRC Granite Mounta 71.56 59 ⇓P **P 03 50 35.1 +0.2**
baz=71
W12A Cal Nev Ari 71.70 58 ⇓P **P 03 50 35.8 +0.1**
baz=72
SRU San Rafael 71.73 53 *e*P **P 03 50 36.4 +0.6**
RSSD Black Hills 71.81 46 *e*P **P 03 50 36.0 -0.3**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
RSSD Black Hills 71.81 46 *e*P **P 03 50 36.0 -0.3**
comp=Z,1.9nm,0.6s,mb4.1
PFO Pinyon Flat Ob 71.84 61 P **P 03 50 35.6 -0.9**
comp=Z,2.1nm,0.6s,mb4.1,baz=199,slow=1.8,SNR=3.7
PFO Pinyon Flat Ob 71.84 61 P **P 03 50 35.6 -0.9**
PFO pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BELC Belle Mtn. 71.87 60 ⇓P **P 03 50 36.7 0.0**
baz=72
109C Camp Elliot, M 71.91 62 ⇑P **P 03 50 37.0 +0.1**
baz=72
IRM Iron Mountain 72.29 59 ⇓P **P 03 50 39.1 -0.1**
baz=72
BC3 Big Chuckw Mtn 72.44 60 ⇑P **P 03 50 39.7 -0.4**
baz=72
W13A Hualapai Mount 72.44 58 ⇓P **P 03 50 40.0 0.0**
baz=72
DVTC Desert V Tower 72.70 61 ⇓P **P 03 50 41.8 +0.2**
baz=72
X13A Yucca 72.81 58 P **P 03 50 42.7 +0.5**
baz=73,SNR=7.1
PDMCI Parker Dam,Lak 72.82 59 P **P 03 50 42.7 +0.4**
baz=73,SNR=5.2
W14A Seligman 72.85 57 P **P 03 50 43.3 +0.8**
baz=73,SNR=6.8
Y12C Blythe 72.95 59 ⇑P **P 03 50 43.0 -0.1**
baz=73
GLA Glamis 73.23 60 ⇓P **P 03 50 44.6 -0.1**
baz=73
W15A Williams 73.36 57 ⇑P **P 03 50 46.0 +0.5**
baz=73
X14A Yava 73.47 58 ⇓P **P 03 50 46.8 +0.7**
baz=73
WUAZ Wupatki 73.67 56 ⇑P **P 03 50 47.9 +0.6**
baz=74
Y14A Wickenburg 73.76 58 ⇑P **P 03 50 47.5 -0.3**
baz=74
X15A Humboldt 73.85 58 ⇓P **P 03 50 48.6 +0.2**
baz=74,SNR=5.6
ISCO Idaho Springs 74.00 50 *e*P **P 03 50 49.6 +0.3**
ISCO pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
ISCO Idaho Springs 74.00 50 *e*P **P 03 50 49.6 +0.3**
comp=Z,2.1nm,0.9s,mb3.9
Z14A Wintersburg 74.18 59 ⇓P **P 03 50 52.2 -0.1**
baz=74
MVCO Mesa Verde 74.19 53 *e*P **P 03 50 50.3 0.0**
comp=Z,3.4nm,0.7s,mb4.2
MVCO Mesa Verde 74.19 53 ⇓P **P 03 50 50.0 -0.3**
baz=74
115A Sonoran Desert 75.08 59 ⇓P **P 03 50 55.7 +0.3**
baz=75
116A Eloy 75.49 59 ⇑P **P 03 50 58.0 +0.2**
baz=75
MORC Moravsky Berou 76.25 329 *e*P **P 03 51 03.4 +1.3**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MORC Moravsky Berou 76.25 329 *e*P **P 03 51 03.4 +1.3**
comp=Z,2.1nm,0.6s,mb4.0
BR131 Keskin Array S 76.83 313 *e*P **P 03 51 05.3 -0.1**
comp=Z,1.2nm,0.7s,mb3.7
BRTR Keskin Array B 76.83 313 P **P 03 51 04.0 -1.3**
comp=Z,1.1nm,0.8s,mb3.7,baz=57,slow=4.6,SNR=8.4
ANMO Albuquerque 76.95 54 P **P 03 51 03.9 -2.1**
comp=Z,1.7nm,0.8s,mb3.8,baz=336,slow=9.0,SNR=6.4
ANMO Albuquerque 76.95 54 *e*P **P 03 51 06.7 +0.6**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 76.95 54 *e*P **P 03 51 06.7 +0.6**
comp=Z,1.9nm,0.8s,mb3.9
ANTO Ankara 77.17 314 *e*P **P 03 51 07.7 +0.4**
ANTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ANTO Ankara 77.17 314 *e*P **P 03 51 07.7 +0.4**
comp=Z,3.8nm,0.8s,mb4.2
MNTX Cornudas Mount 79.90 55 *e*P **P 03 51 22.6 +0.3**
comp=Z,1.7nm,0.6s,mb4.0
LTX Lajitas 82.63 56 *e*P **P 03 51 37.3 +0.6**
LTX pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LTX Lajitas 82.63 56 *e*P **P 03 51 37.3 +0.6**
comp=Z,2.8nm,0.6s,mb4.3
TXAR Lajitas Array 82.63 56 P **P 03 51 36.9 +0.2**
comp=Z,2.0nm,0.6s,mb4.1,baz=301,slow=4.0,SNR=30
TXAR pP pP 03 52 07.2 0.0
comp=Z,0.8nm,0.5s,baz=300,slow=4.0,SNR=4.5
TXAR Lajitas Array 82.63 56 P **P 03 51 36.9 +0.2**
TXAR *PP pP 03 52 07.2 0.0
TXAR pmax pmax
comp=Z,2.0nm,0.6s
JCT Junction City 84.04 53 *e*P **P 03 51 43.5 -0.4**
JCT pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
JCT Junction City 84.04 53 *e*P **P 03 51 43.5 -0.4**
comp=Z,6.0nm,0.9s,mb4.4
VNDA Vanda 121.98 176 PKP PKPdf 03 58 05.1 -1.9
comp=Z,0.4nm,0.3s,baz=332,slow=16,SNR=6.1
VNA2 Neumayer--Watz 150.47 197 *e*PKPdf 03 58 53.6
VNA2 *e* PKPbc 03 59 06.9 +2.7
VNA2 *e* 03 59 13.1
VNA3 Neumayer Olymp 150.67 195 *e*PKPdf PKPbc 03 59 07.6 +2.9

*STR **08** 03:43:43.2±0.2, 4759N×759E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 03:43:43.0±0.1, 4760N×761E, h5km, Md2.6/1, Ml2.2/8, Error ellipse: s-maj=2.4km s-min=2.0km az=56.0*
ZUR 08 03:43:43.4, 4759N×760E, h5km±1km, ML1.5, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	*i*	Sg	Pg	03 43 48.8	+0.4
BALST	**Balsthal**	**0.26**	**165**	⇓ *i*	Pg	Sg	03 43 52.6	+0.8
	308nm,2.0s							
BOURR	**Bourrignon**	**0.32**	**233**	⇑ *i*	Pg	Pg	03 43 49.8	+0.3
	14nm,0.1s							
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i*	Sg	Pg	03 43 50.4	+0.2
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i*	Pg	Sg	03 43 55.4	+0.6
	12nm,0.1s							
MOF	**Molkenrain**	**0.41**	**310**		Pg	Pg	03 43 51.3	-0.1
MOF					Sg	Sg	03 43 57.1	+0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*	Pg	Pg	03 43 53.6	-0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e*	Pn	Pg	03 43 55.3	+1.2
HINF				*e*	Sg	Sg	03 44 00.9	-0.4
HINF				*e*	Sn	Sg	03 44 04.6	+3.3
	11nm,0.2s							
LOMF	**Lomont**	**0.57**	**246**		Pg	Pg	03 43 54.5	+0.1
LOMF					Sg	Sg	03 44 02.0	+0.1
SLE	**Schleitheim**	**0.63**	**73**	*i*	Sg	Pg	03 43 58.3	+2.8
	120nm,0.5s							
ECH	**Echery**	**0.70**	**335**		Pg	Pg	03 43 56.9	+0.1
ECH					Sg	Sg	03 44 05.3	-0.6
TRULL	**Truellikon**	**0.73**	**85**	*i*	S	Sg	03 44 04.0	-3.0
	65nm,0.2s							
TRULL	**Truellikon**	**0.73**	**85**	*i*	P	Sg	03 44 07.7	+0.7
	65nm,0.2s							
CDF	**Champ du Feu**	**0.86**	**345**	*e*	Pn	Pn	03 44 00.2	-1.9
CDF				*e*	Sg	Sg	03 44 09.9	-1.0
CDF				*e*	Sn	Sn	03 44 12.1	-3.0
	14nm,0.3s							
HAU	**Haudompre**	**0.94**	**297**	*e*	Pg	Pg	03 44 00.9	-0.6
HAU				*e*	Sg	Sg	03 44 13.9	+0.2
	9.9nm,0.2s							
LIENZ	**Alp Oberkamor**	**1.32**	**102**	*i*	S	Sg	03 44 27.3	+1.5
	23nm,0.2s							
CABF	**La Chapelle**	**1.42**	**227**	*e*	Pg	Pg	03 44 10.3	-0.3
CABF				*e*	Sg	Sg	03 44 27.5	-1.5
	3.5nm,0.2s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*	Sg	Sg	03 44 41.1	-1.2
	1.1nm,0.2s							
LPG	**La Plagne**	**2.17**	**196**	*e*	Sg	Sg	03 44 51.6	-1.5
	1.2nm,0.2s							
LOR	**Lormes**	**2.56**	**264**	*e*	Sg	Sg	03 45 03.0	-2.6
	3.6nm,0.2s							
SMF	**Signal de Mont**	**2.73**	**251**	*e*	Sg	Sg	03 45 06.8	-4.4
	1.7nm,0.2s							
SSF	**Saint Saulge**	**2.83**	**261**	*e*	Sg	Sg	03 45 11.4	-3.0
	1.1nm,0.2s							

*IDC **08** 03:49:01.6±1.0, 2097N×12037E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, MS3.2/6, Ms1 3.2/6, ms1mx2.9/31, Error ellipse: s-maj=41.0km s-min=18.3km az=72.0*
*ISCJB **08** 03:49:08.5±1.5, 2094N±007×1204E±02, h68km±17km, mb3.7/8, Error ellipse: s-maj=32.8km s-min=9.7km az=153.9*
*NEIC **08** 03:49:12.2±2.3, 2102N×12053E, h88km±24km, mb4.2/2, Error ellipse: s-maj=27.9km s-min=11.6km az=66.0*
ISC 08 03:49:10.0±1.5, 2095N±007×1204E±02, h64km±17km, n16, σ0:96/12, mb3.8/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.49**	**157**	*e*P		**Pn**	**03 50 00.2**	**-1.5**
CVP				*i*	S	**Sn**	**03 50 42.2**	**+0.4**
YHNB	**Yeheng**	**3.81**	**13**	*e*Pn		**Pn**	**03 50 07.4**	**+1.3**
JOW	**Kunigami**	**9.27**	**49**	LR		LR	03 54 20.2	
	comp=Z,82nm,18.6s,baz=314,slow=34							
KSRS	**Korea Array**	**17.69**	**20**	LR		LR	04 00 58.7	
	comp=Z,41nm,20.2s,baz=273,slow=41							
JHJ	**Hachijo jima 2**	**21.04**	**51**	LR		LR	04 01 33.0	
	comp=Z,61nm,19.6s,baz=343,slow=36							
MJAR	**Matsushiro Arr**	**21.96**	**41**	P		**P**	**03 53 57.2**	**-1.0**
	1.2nm,0.7s,mb3.4,baz=255,slow=18,SNR=3.1							
PSI	**Prapat**	**27.64**	**232**	LR		LR	04 05 12.0	
	comp=Z,100nm,18.5s,baz=227,slow=35							
SONM	**Songino Array**	**29.12**	**340**	P		**P**	**03 55 04.0**	**-0.6**
	0.6nm,0.9s,mb3.3,baz=134,slow=4.2,SNR=3.5							
ASAJ	**Asahikawa**	**29.54**	**33**	LR		LR	04 05 22.1	
	comp=Z,77nm,20.9s,baz=349,slow=33							
FITZ	**Fitzroy Crossi**	**39.14**	**172**	P		**P**	**03 56 30.5**	**-0.7**
	2.4nm,0.8s,mb4.0,baz=31,slow=12,SNR=4.3							
MK31	**Makanchi Array**	**40.23**	**319**	*e*P		**P**	**03 56 40.9**	**+0.6**
MKAR	**Makanchi Array**	**40.23**	**319**	P		**P**	**03 56 40.0**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=122,slow=8.6,SNR=3.3							
MKAR				LR		LR	04 16 18.4	
	comp=Z,54nm,21.1s,baz=335,slow=41							
ZAL	**Zalesovo**	**42.62**	**329**	P		**P**	**03 56 58.5**	**-1.3**
	0.7nm,0.6s,mb3.6,baz=145,slow=3.1,SNR=2.8							
WRAB	**Tennant Creek**	**42.85**	**161**	*e*P		**P**	**03 57 02.8**	**+1.1**
	3.9nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**42.86**	**161**	P		**P**	**03 57 02.8**	**+1.1**
	3.7nm,0.6s,mb4.3,baz=342,slow=9.0,SNR=28							
CHKZ	**Chkalovo**	**49.87**	**324**	*e*P		**P**	**03 57 57.5**	**+0.8**
	1.0nm,0.7s,mb4.0							

IDC 08 03:57:30.0±2.9, 2947N×14220E, h45km±25km, mb3.4/3, mb1 3.5/5, mb1mx3.3/21, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=57.1km s-min=16.4km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.36**	**180**	P		Pn	03 58 07.7	+1.4
	4.6nm,0.3s,baz=279,slow=22,SNR=2.8							
CBIJ					S	Sn	03 58 34.2	+0.2
	9.6nm,0.3s,baz=295,slow=23,SNR=5.8							
MJAR	**Matsushiro Arr**	**7.81**	**336**	P		Pn	03 59 20.2	-0.8
	0.7nm,0.3s,baz=162,slow=16,SNR=4.1							
MKAR	**Makanchi Array**	**49.00**	**308**	P		P	04 06 11.4	-0.7
	0.8nm,1.0s,baz=87,slow=9.7,SNR=3.7							
WRA	**Warramunga Arr**	**49.70**	**190**	P		P	04 06 18.2	+0.7
	0.4nm,0.6s,baz=7.0,slow=7.8,SNR=6.2							
BVAR	**Borovoye Array**	**56.33**	**316**	P		P	04 07 07.0	+0.7
	0.7nm,0.6s,baz=76,slow=9.1,SNR=4.3							
LPAZ	**La Paz**	**149.24**	**71**	PKPbc		PKPbc	04 17 13.8	+0.2
	0.6nm,0.3s,baz=250,slow=10,SNR=5.6							

*ISK **08** 03:59:15.8, 3699N×2801E, h27km, MD2.8*
*ISCJB **08** 03:59:17.0±0.7, 3696N±004×2804E±005, h16km±9km, Error ellipse: s-maj=6.8km s-min=5.9km az=61.9*
*CSEM **08** 03:59:16.5±0.4, 3701N×2803E, h20km, MD2.8, Error ellipse: s-maj=10.1km s-min=7.2km az=128.0*
*ATH **08** 03:59:16.5, 3700N×2819E, h37km±9km, MD2.9/3*
ISC 08 03:59:17.1±0.6, 3696N±004×2804E±005, h17km±5km, n10, σ0:93/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.26**	**48**		PG	**Pg**	**03 59 23.0**	**+0.2**
YER					SG	**Sg**	**03 59 28.2**	**+1.6**
MLSB	**Milas**	**0.40**	**327**		PG	**Pg**	**03 59 24.5**	**-0.7**
MLSB					SG	**Sg**	**03 59 30.6**	**0.0**
DAT	**Datca**	**0.44**	**238**		PG	**Pg**	**03 59 25.4**	**-0.6**
DAT					SG	**Sg**	**03 59 32.8**	**+0.9**
BDRM	**Kayabasi**	**0.49**	**282**	*i*	P	**Pg**	**03 59 26.1**	**-0.8**
BDRM				*i*	S	**Sg**	**03 59 33.1**	**-0.4**
BDRM	**Kayabasi**	**0.49**	**282**	*i*	P	**Pg**	**03 59 26.0**	**-0.9**
ARG	**Arkhangelos**	**0.75**	**175**	*e*P	N	**Pn**	**03 59 31.7**	**-1.1**
ARG				*e*S	N	**Sn**	**03 59 43.8**	**0.0**
DNZL	**Cakiroluk**	**1.08**	**47**	*i*	P	**Pb**	**03 59 44.8**	**+7.5**
DENT	**Denizli**	**1.12**	**45**	*e*P	N	**Pn**	**03 59 36.2**	**-1.7**
SMG	**Samos**	**1.22**	**308**	*e*P	N	**Pn**	**03 59 40.1**	**+0.8**
SMG				*e*S	N	**Sn**	**03 59 56.3**	**+0.9**
KARP	**Karpathos**	**1.58**	**207**	*e*P	B	**Pb**	**03 59 45.3**	**-0.5**
KARP				*e*S	N	**Sn**	**04 00 06.0**	**+1.6**

MEX 08 04:32:11.3±0.3, 1871N×10207W, h73km±23km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.27**	**41**	*i*	P	Pn	04 32 32.3	-1.1
MOIG				*i*	S	Sn	04 32 48.4	-1.5
MMIG	**Aquila**	**1.28**	**251**	*i*	P	Pn	04 32 32.1	-1.3
MMIG				*i*	S	Sn	04 32 48.6	-1.5
SFJM	**Santa Fe**	**1.98**	**333**	*i*	P	Pn	04 32 41.7	-1.1

MEX 08 04:35:12.4±0.7, 1579N×9889W, h18km±947km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.95**	**51**	*i*	P	Pb	04 35 27.3	-2.9
PNIG				*i*	S	Sb	04 35 38.6	-3.8
MEIG	**Mezcala**	**2.24**	**342**	*i*	P	Pn	04 35 44.9	-3.6
MEIG				*i*	S	Sn	04 36 11.6	-4.1
UTMO	**Huajuapan**	**2.28**	**27**	*i*	P	Pn	04 35 47.7	-1.4
UTMO				*i*	S	Sn	04 36 13.7	-3.0
PLIG	**Platanillo**	**2.65**	**347**	*i*	P	Pn	04 35 52.2	-2.1
PLIG				*i*	S	Sn	04 36 23.4	-2.6

WEL 08 04:49:51.6±0.4, 3671S×17715E, h33km, ML3.7/2, Error ellipse: s-maj=2.8km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.92**	**232**		P*	Pb	04 50 07.5	-1.5
MYRZ					S*	Sb	04 50 19.6	-1.4
KUZ	**Kuaotunu**	**1.15**	**268**		PN	Pn	04 50 10.9	-0.4
KUZ					SN	Sn	04 50 24.6	-1.2
URZ	**Urewera**	**1.54**	**181**	*e*P*		Pb	04 50 16.4	-3.2
URZ				*e*S*		Sb	04 50 34.7	-4.1

*IDC **08** 05:03:14.8±0.6, 2307S×17537W, h0km, mb4.3/8, mb1 4.6/10, mb1mx4.4/16, mbtmp4.4/10, ML4.8/2, MS4.0/12, Ms1 4.0/12, ms1mx3.8/23, Error ellipse: s-maj=26.4km s-min=18.2km az=131.0*
*ISCJB **08** 05:03:18.8±0.4, 2308S±0.10×1755W±0.1, h40km, mb4.5/15, MS4.0/11, Error ellipse: s-maj=16.3km s-min=11.3km az=97.3*
*NEIC **08** 05:03:20.0±0.3, 2314S×17545W, mb4.7/11, Error ellipse: s-maj=13.2km s-min=9.0km az=131.0*
ISC 08 05:03:20.6±0.4, 2319S±009×1754W±01, h42km, h42km±1.0km:pP-P, n56, σ0:97/34, mb4.5/15, MS4.0/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.44**	**200**	Pn		**Pn**	**05 04 51.0**	**-1.8**
	29nm,0.3s,baz=242,slow=20,SNR=2.8							
AFI	**Afiamalu**	**9.86**	**21**	Pn		**Pn**	**05 05 32.6**	**-7.0**
	9.2nm,0.3s,baz=250,slow=4.4,SNR=10							
AFI					Sn	**Sn**	**05 07 17.5**	**-11**
	8.5nm,0.3s,baz=41,slow=20,SNR=4.3							
RAR	**Rarotonga**	**14.63**	**85**	Pn		**Pn**	**05 06 34.1**	**-11**
	4.7nm,0.3s,baz=250,slow=6.0,SNR=10.0							
RAR					Sn	Sn	05 09 00.6	-25
	1.4nm,0.3s,baz=108,slow=9.9,SNR=2.9							
URZ	**Urewera**	**16.33**	**201**	Pn		**Pn**	**05 07 07.1**	**+0.4**
	2.0nm,0.3s,baz=287,slow=22,SNR=6.6							
URZ					Sn	**Sn**	**05 09 52.1**	**-15**
	0.5nm,0.3s,baz=359,slow=17,SNR=2.5							
DZM	**Mont Dzumac**	**16.77**	**270**	Pn		**Pn**	**05 07 18.0**	**+5.7**
	0.4nm,0.3s,baz=86,slow=19,SNR=4.7							
DZM					LR	LR	05 11 08.0	
	comp=Z,134nm,19.5s,baz=141,slow=28							
RPZ	**Rata Peaks**	**23.32**	**205**	LR		LR	05 17 09.4	
	comp=Z,559nm,18.9s,MS4.0,baz=17,slow=36							
TBI	**Tubuai**	**23.85**	**96**	*e*LR		LR	05 13 51.8	
	336nm,31.0s							
PAE	**Paea**	**24.82**	**82**	*e*T			05 34 20.5	
	21nm,0.3s							
PPT	**Papeete**	**24.85**	**82**	*e*LR		LR	05 14 14.9	
	218nm,22.8s,baz=254							
PPT	**Papeete**	**24.85**	**82**	LR		LR	05 16 50.7	
	comp=Z,192nm,19.0s,MS3.6,baz=153,slow=33							
HNR	**Honiara**	**27.24**	**296**	LR		LR	05 17 47.3	
	comp=Z,231nm,19.8s,MS3.8,baz=180,slow=32							
CTA	**Charters Tower**	**35.68**	**267**	*e*P		**P**	**05 10 15.2**	**+0.5**
	4.9nm,0.5s,mb4.7							
CTA	**Charters Tower**	**35.68**	**267**	P		**P**	**05 10 14.8**	**+0.1**
	5.2nm,0.5s,mb4.7,baz=96,slow=11,SNR=11							
CTA					LR	LR	05 22 06.8	
	comp=Z,153nm,18.8s,MS3.8,baz=56,slow=32							
CTAO	**Charters Tower**	**35.68**	**267**	*e*P		**P**	**05 10 15.5**	**+0.8**
	5.7nm,0.6s,mb4.7							
TAOE	**Nuku Hiva Isla**	**36.66**	**73**	*e*LR		LR	05 19 50.7	
	558nm,30.3s							
RKT	**Rikitea**	**37.11**	**98**	*e*LR		LR	05 19 57.9	
	198nm,31.0s,baz=280							
PMG	**Port Moresby**	**38.30**	**285**	LR		LR	05 24 39.3	
	comp=Z,192nm,18.5s,MS4.0,baz=123,slow=34							
STKA	**Stephens Creek**	**38.87**	**248**	*e*P		**P**	**05 10 43.3**	**+1.5**
	1.4nm,0.4s,mb4.0							
STKA	**Stephens Creek**	**38.87**	**248**	P		**P**	**05 10 43.5**	**+1.7**
	1.5nm,0.4s,mb4.0,baz=86,slow=13,SNR=8.0							
STKA					LR	LR	05 26 11.3	
	comp=Z,353nm,18.3s,MS4.2,baz=30,slow=35							
STKA	**Stephens Creek**	**38.87**	**248**	*e*P		**P**	**05 10 43.1**	**+1.3**
WB2	**Warramunga Arr**	**46.63**	**264**	*e*P		**P**	**05 11 44.1**	**-0.6**
WRAB	**Tennant Creek**	**46.64**	**264**	*e*P		**P**	**05 11 45.1**	**+0.4**
	8.2nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**46.65**	**264**	P		**P**	**05 11 44.5**	**-0.2**
	3.6nm,0.5s,mb4.5,baz=96,slow=8.3,SNR=69							
WRA					LR	LR	05 31 08.4	
	comp=Z,248nm,18.4s,MS4.2,baz=90,slow=36							
KAKA	**Kakadu**	**50.45**	**272**	*e*P		**P**	**05 12 12.3**	**-1.7**
	3.4nm,0.5s,mb4.6							
VNDA	**Vanda**	**55.48**	**186**	P		**P**	**05 12 52.4**	**+1.3**
	1.4nm,1.0s,mb3.9,baz=358,slow=6.8,SNR=4.6							
VNDA					LR	LR	05 30

8.0nm,0.2s,mb5.4
MAW Mawson 79.85 199 *e*P **P 05 15 25.0 +0.4**
3.7nm,1.0s,mb4.3
MAW Mawson 79.85 199 P **P 05 15 26.0 +1.4**
3.5nm,0.8s,mb4.3,baz=144,slow=7.8,SNR=6.8
MAW LR LR 05 49 44.8
comp=Z,144nm,19.6s,MS4.3,baz=208,slow=35
KSRS Korea Array 80.47 318 LR LR 05 49 36.8
comp=Z,73nm,18.5s,MS4.1,baz=348,slow=35
NVAR Mina Array Bea 81.38 42 P **P 05 15 33.5 +0.7**
1.8nm,0.7s,mb4.1,baz=222,slow=7.2,SNR=12
WVOR Wild Horse Val 83.69 39 *e*P **P 05 15 45.2 +0.4**
11nm,1.3s,mb4.8
WVOR *e*pP pP 05 15 56.7 -0.8
SNAA Sanae 85.26 178 *e* **P 05 15 52.6 -0.2**
SNAA *e* 05 16 11.2
SNAA Sanae 85.26 178 *e*P **P 05 15 52.1 -0.7**
6.4nm,1.1s,mb4.7
SNAA *e*pP pP 05 16 03.8 -1.6
MSU Marysvale 85.29 45 *e*P **P 05 15 54.0 +1.1**
MSU *e*pP pP 05 16 05.7 0.0
VNA3 Neumayer Olymp 85.30 175 *e* **P 05 15 52.2 -0.8**
VNA3 *e* 05 15 55.1
VNA3 *e* 05 15 59.9
VNA3 *e* pP 05 16 05.0 -0.7
VNA3 *e* 05 16 10.7
VNA2 Neumayer--Watz 85.77 176 *e* **P 05 15 55.0 -0.3**
baz=195,slow=4.8
VNA2 *e* 05 15 58.0
VNA2 *e* 05 16 02.9
VNA2 *e* pP 05 16 07.9 -0.1
VNA2 *e* 05 16 14.1
VNA1 Neumayer--Stat 85.98 176 *e* **P 05 15 56.9 +0.5**
VNA1 *e* 05 15 59.8
VNA1 *e* 05 16 04.9
VNA1 *e* pP 05 16 09.4 +0.3
LTX Lajitas 86.52 56 *e*P **P 05 15 57.1 -1.9**
6.3nm,1.4s,mb4.7
LTX *e*pP pP 05 16 10.4 -1.4
TXAR Lajitas Array 86.52 56 P **P 05 15 58.0 -1.0**
1.2nm,1.0s,mb4.1,baz=188,slow=7.4,SNR=6.9
ANMO Albuquerque 87.25 50 *e*P **P 05 16 03.3 +0.7**
8.4nm,1.6s,mb4.7
ANMO *e*pP pP 05 16 14.7 -0.6
PDAR Pinedale Array 89.30 42 P **P 05 16 11.8 -0.5**
0.6nm,0.8s,mb4.0,baz=191,slow=3.0,SNR=5.3
MKAR Makanchi Array 114.77 312 PKP PKiKP 05 21 55.7 -0.7
0.5nm,0.8s,baz=18,slow=0.2,SNR=4.4
MKAR Makanchi Array 114.77 312 PKP PKiKP 05 21 55.7 -0.7
AKASG Malin Array Be 146.51 331 PKPbc PKPbc 05 22 56.6 -0.5
1.4nm,0.5s,baz=40,slow=3.8,SNR=15
AKBB Malin Array Si 146.51 331 *e*PKPbc PKPbc 05 22 56.7 -0.5
BR131 Keskin Array S 150.40 311 *e*PKPbc PKPbc 05 23 08.0 +0.6
BRTR Keskin Array B 150.40 311 PKPbc PKPbc 05 23 07.8 +0.5
1.1nm,0.7s,baz=148,slow=6.8,SNR=8.5
BRTR PKPab PKPab 05 23 15.6 +1.7
3.6nm,0.8s,baz=90,slow=2.5,SNR=7.4
CLL Collm 151.18 349 *e*P PKPbc 05 23 10.0 +0.8
CLL *i* 05 23 21.0
CLL Collm 151.18 349 *e*PKPbc PKPbc 05 23 10.0 +0.8
CLL *i* pPKPbc pPKPbc 05 23 21.0 -1.3
comp=Z,19nm,1.1s
CLL *e*sPKPab 05 23 31.0
BRG Berggiesshubel 151.42 348 *e*P PKPbc 05 23 10.2 +0.4
comp=Z,2.4nm,0.6s
BRG *e* 05 23 22.5
comp=Z,5.0nm,1.0s
BRG *e* 05 51 30.9
comp=Z,9.0nm,1.4s
MLR Muntele Rosu 151.76 327 PKPbc PKPbc 05 23 12.9 +2.4
comp=Z,1.2nm,0.4s,baz=206,slow=10,SNR=3.0
MLR PKPab PKPab 05 23 21.1 +1.5
comp=Z,5.5nm,1.1s,baz=61,slow=4.2,SNR=4.4
GERES GERESS Array B 153.39 346 PKPbc PKPbc 05 23 14.5 +0.4
comp=Z,1.6nm,1.1s,baz=5.4,slow=2.8,SNR=4.0
GERES PKPab PKPab 05 23 26.4 +0.1
comp=Z,0.8nm,0.8s,baz=48,slow=2.0,SNR=5.6
TOA0 Torodi Ar. Sit 169.65 164 *e*PKPab PKPab 05 24 38.0 +0.7
TORD Torodi Ar. Bea 169.65 164 PKP PKPdf 05 23 24.6 +1.3
comp=Z,0.6nm,1.0s,baz=332,slow=1.4,SNR=2.8
TORD PKPab PKPab 05 24 38.6 +1.3
comp=Z,0.5nm,0.6s,baz=186,slow=4.5,SNR=7.6

*STR **08** 05:12:47.8±0.2, 4301N×001E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 05:12:47.8±0.1, 4301N×002W, h3km, Md1.9/2, Ml2.1/2, Error ellipse: s-maj=1.8km s-min=0.9km az=176.0*
MDD 08 05:12:48.4±0.2, 4301N×001W, h0km, mbLg1.7/13, 1C, Error ellipse: s-maj=2.3km s-min=1.6km az=5.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**59**	Pg	Pg	05 12 49.6	-0.1
LABF				Sg	Sg	05 12 51.0	+0.3
LABF	**Labassere**	**0.07**	**59**	P	Pg	05 12 49.7	0.0
LABF				S	Sg	05 12 51.1	+0.4
VIEF	**Viey**	**0.13**	**168**	Pg	Pg	05 12 50.7	-0.1
VIEF	**Viey**	**0.13**	**168**	P	Pg	05 12 50.8	0.0
VIEF				S	Sg	05 12 53.0	+0.5
EPF	**Esparros**	**0.26**	**85**	*e*Pg	Pg	05 12 52.7	-0.6
EPF				*e*Sg	Sg	05 12 57.0	+0.3
25nm,0.2s							
EPF	**Esparros**	**0.26**	**85**	Pg	Pg	05 12 52.7	-0.6
EPF				Lg		05 12 57.0	
13nm,0.2s							
REYF	**Montagne du Re**	**0.29**	**282**	Pg	Pg	05 12 53.1	-0.7
REYF	**Montagne du Re**	**0.29**	**282**	P	Pg	05 12 53.2	-0.6
REYF				S	Sg	05 12 57.6	+0.1
RESF	**Ens**	**0.33**	**128**	Pg	Pg	05 12 54.2	-0.4
RESF				Sg	Sg	05 12 58.8	-0.1
RESF	**Ens**	**0.33**	**128**	P	Pg	05 12 54.2	-0.4
RESF				S	Sg	05 12 58.9	+0.1
EBIE	**Bielsa**	**0.34**	**161**	⇑Pg	Pg	05 12 54.5	-0.4
2.8nm,0.1s,SNR=18							
EBIE				Lg		05 12 59.2	
15nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg	Pg	05 12 55.9	-0.4
ETSF				*e*Sg	Sg	05 13 01.5	-0.3
30nm,0.2s							
ETSF	**Etsaut**	**0.42**	**255**	Pg	Pg	05 12 55.9	-0.4
ETSF				Lg		05 13 01.5	
15nm,0.2s							
ATE	**Arette**	**0.51**	**279**	Pg	Pg	05 12 58.9	+0.8
ATE	**Arette**	**0.51**	**279**	P	Pg	05 12 57.5	-0.6
ATE				S	Sg	05 13 04.9	+0.2
MELF	**Melles**	**0.58**	**103**	P	Pg	05 12 58.7	-0.8
MELF				S	Sg	05 13 07.0	-0.1
SJPF	**Ste Jean**	**0.90**	**277**	*e*Sg	Sg	05 13 16.2	-0.9
2.2nm,0.2s							
SJPF	**Ste Jean**	**0.90**	**277**	Lg		05 13 16.2	
1.1nm,0.2s							
SALF	**Salau**	**0.92**	**105**	Pg	Pg	05 13 05.1	-0.8
SALF				Sg	Sg	05 13 17.3	-0.5
SALF	**Salau**	**0.92**	**105**	P	Pg	05 13 04.9	-1.0
SALF				S	Sg	05 13 17.1	-0.8
CSOR	**Sort**	**1.06**	**126**	P	Pg	05 13 07.6	-1.0
CSOR				S	Sg	05 13 21.5	-0.8
2.2nm,0.1s							
ELIZ	**Elizondo**	**1.12**	**278**	Pg	Pg	05 13 13.1	+3.2
0.7nm,0.1s,SNR=7.9							
ELIZ				Lg		05 13 25.8	
1.5nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**1.13**	**267**	Lg		05 13 25.1	
1.0nm,0.1s,SNR=4.0							
CORG	**Organya**	**1.25**	**128**	P	Pg	05 13 11.8	-0.6
CORG				S	Sg	05 13 27.4	-1.2
0.9nm,0.2s							
CAVN	**Les Avellanes**	**1.26**	**153**	P	Pg	05 13 11.7	-0.8
CAVN				S	Sg	05 13 29.1	+0.3
22nm,0.2s							
ESAC	**San Caprasio**	**1.33**	**195**	Pg	Pg	05 13 13.9	+0.1
4.7nm,0.2s,SNR=7.9							
ESAC				Lg		05 13 31.7	
29nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**1.58**	**133**	Pg	Pg	05 13 17.9	-0.7
1.0nm,0.1s,SNR=7.9							
EMIR				Lg		05 13 39.4	
3.3nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	05 13 18.9	-1.3
MTLF				*e*Sg	Sg	05 13 40.4	-1.4
5.9nm,0.2s							
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	05 13 18.9	-1.3
MTLF				Lg		05 13 40.4	
3.0nm,0.2s							
EPOB	**Poblet**	**1.84**	**154**	Pn	Pn	05 13 21.7	+0.5
0.6nm,0.1s,SNR=7.9							
EPOB				Lg		05 13 46.5	
1.6nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.07**	**173**	Pg	Pg	05 13 26.6	-1.4
0.2nm,0.1s,SNR=7.9							
ERTA				Lg		05 13 53.4	
0.5nm,0.2s,SNR=7.9							
ETOR	**Torete**	**2.67**	**216**	Pn	Pn	05 13 32.8	+0.3
SNR=4.0							
ETOR				Sn	Sn	05 14 03.6	-2.0
SNR=4.0							
ETOR				Lg		05 14 16.0	
2.5nm,0.1s,SNR=7.9							

MEX 08 05:16:06.5±0.8, 1946N×10552W, h20km±999km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**1.85**	**30**	*i* P	Pn	05 16 34.8	-2.2
ANIG				*i* S	Sn	05 16 55.9	-3.9
MMIG	**Aquila**	**2.36**	**119**	*i* P	Pn	05 16 41.0	-3.1
MMIG				*i* S	Sn	05 17 09.1	-3.4
SFJM	**Santa Fe**	**2.55**	**66**	*e*P	Pn	05 16 47.0	+0.3
SFJM				*i* S	Sn	05 17 15.0	-2.1

*IDC **08** 05:18:57.3±1.4, 886S×127.14E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, ML4.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/18, Error ellipse: s-maj=82.0km s-min=24.9km az=67.0*
*ISCJB **08** 05:19:04.6±2.3, 928S±010×1270E±01, h97km±28km, mb3.5/2, Error ellipse: s-maj=19.4km s-min=15.0km az=126.3*
ISC 08 05:19:03.4±2.7, 91S±01×1271E±01, h55km±32km, n9, σ1°07/11, mb3.6/2, MS3.3/1, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.31**	**125**	*e*P	**Pn**	**05 20 37.5**	**+3.7**
7.1nm,0.3s							
FITZ	**Fitzroy Crossi**	**9.03**	**189**	*e*P	**Pn**	**05 21 11.1**	**+0.1**
7.6nm,0.3s							
FITZ				*e*S	**Sn**	**05 22 51.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**9.03**	**189**	Pn	**Pn**	**05 21 11.6**	**+0.6**
1.3nm,0.3s,baz=20,slow=13,SNR=45							
FITZ				Sn	**Sn**	**05 22 51.2**	**0.0**
3.5nm,0.3s,baz=234,slow=21,SNR=8.3							
WRA	**Warramunga Arr**	**12.80**	**148**	Pn	**Pn**	**05 22 02.4**	**-0.2**
1.3nm,0.3s,baz=324,slow=13,SNR=49							
WRA				Sn	**Sn**	**05 24 24.3**	**+0.8**
1.1nm,0.3s,baz=355,slow=32,SNR=6.7							
WB2	**Warramunga Arr**	**12.81**	**148**	*e*P	**Pn**	**05 22 02.1**	**-0.6**
WB2				*e*S	**Sn**	**05 24 22.3**	**-1.3**
STKA	**Stephens Creek**	**26.31**	**151**	P	**P**	**05 24 37.3**	**+3.5**
1.1nm,0.5s,mb3.6,baz=316,slow=14,SNR=3.7							
PSI	**Prapat**	**30.51**	**292**	LR	LR	05 38 11.4	
comp=Z,63nm,19.5s,MS3.3,baz=87,slow=38							
MKAR	**Makanchi Array**	**68.50**	**329**	P	**P**	**05 29 59.4**	**-0.5**
0.4nm,0.5s,mb3.6,baz=125,slow=7.0,SNR=10.0							
TORD	**Torodi Ar. Bea**	**126.39**	**280**	PKP	PKPdf	05 38 04.3	+4.3
0.6nm,1.1s,baz=120,slow=1.6,SNR=2.9							

*CSEM **08** 05:23:19.9±0.2, 3668N×2925E, h27km±1km, MD2.9, Error ellipse: s-maj=5.4km s-min=3.3km az=13.0*
*ISCJB **08** 05:23:21.0±0.5, 3659N±004×293E±0.1, h33km±20km, Error ellipse: s-maj=19.8km s-min=6.6km az=12.7*
*ISK **08** 05:23:20.7, 3677N×2924E, h22km, MD2.9*
*ATH **08** 05:23:21.2, 3645N×2918E, h31km±8km, MD3.0/3*
ISC 08 05:23:21.0±0.5, 3661N±004×2925E±005, h30km±5km, n13, σ0°87/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.14**	**282**	PG	**Pb**	**05 23 26.0**	**-0.6**
FETY				SG	**Sb**	**05 23 30.5**	**+0.1**
AKAS	**Kas**	**0.47**	**142**	*i* P	**Pb**	**05 23 30.4**	**-0.6**
AKAS				*i* S	**Sb**	**05 23 39.5**	**+1.7**
KSL	**Kastellorizon**	**0.53**	**149**	*e*PB	**Pb**	**05 23 31.1**	**-0.9**
ELL	**Elmali**	**0.55**	**75**	PG	**Pb**	**05 23 31.7**	**-0.6**
ELL				SG	**Sb**	**05 23 40.5**	**+0.6**
GOLH	**Golhisar**	**0.68**	**22**	*i* P	**Pb**	**05 23 33.9**	**-0.5**
GOLH				*i* S	**Sb**	**05 23 43.8**	**+0.4**
YER	**Yerkesik**	**0.94**	**305**	PG	**Pn**	**05 23 37.7**	**-0.4**
YER				SG	**Sn**	**05 23 50.4**	**-0.1**
ARG	**Arkhangelos**	**0.99**	**247**	*e*PN	**Pn**	**05 23 38.7**	**-0.1**
ARG				*e*SN	**Sn**	**05 23 50.4**	**-1.3**
DNZL	**Cakiroluk**	**1.09**	**352**	*i* P	**Pn**	**05 23 46.9**	**+6.6**
DNZL				*i* S	**Sn**	**05 24 02.2**	**+7.8**
DENT	**Denizli**	**1.16**	**352**	PG	**Pn**	**05 23 40.1**	**-1.1**
DAT	**Datca**	**1.35**	**276**	PN	**Pn**	**05 23 44.5**	**+0.7**
MLSB	**Milas**	**1.36**	**301**	PN	**Pn**	**05 23 43.7**	**-0.3**
BDRM	**Kayabasi**	**1.52**	**288**	*i* P	**Pn**	**05 23 47.4**	**+1.3**
BDRM				*i* S	**Sn**	**05 24 07.5**	**+2.6**
KARP	**Karpathos**	**1.99**	**239**	*e*PN	**Pn**	**05 23 53.0**	**+0.3**
KARP				*e*SN	**Sn**	**05 24 16.5**	**-0.1**

CASC 08 05:28:51.6±1.5, 1009N×8424W, h85km±3km, MD3.7, ML2.8, 6C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POA2	**Poas 2**	**0.09**	**354**	*e*P	Pn	05 29 04.2	+0.5
POA2				*e*S	Sn	05 29 13.1	+0.5
PRS1	**Puriscal**	**0.12**	**213**	⇑*e*P	Pn	05 29 04.6	+0.8
CGA2	**Cerro Gallo 2**	**0.23**	**252**	⇓*i*P	Pn	05 29 04.5	+0.4
SJS	**Escuela Geolog**	**0.24**	**129**	⇓*e*P	Pn	05 29 04.8	+0.6
SJS				*e*S	Sn	05 29 14.7	+1.2
OCM	**Ochomogo**	**0.34**	**125**	⇑*e*P	Pn	05 29 04.8	+0.2
OCM				*e*S	Sn	05 29 15.8	+1.5
IRZ2	**Volcan Irazu 2**	**0.36**	**109**	⇑*e*P	Pn	05 29 05.0	+0.2
IRZ2				*e*S	Sn	05 29 16.4	+1.8
EPA	**Esparza**	**0.36**	**254**	⇓*e*P	Pn	05 29 05.1	+0.2
EPA				*e*S	Sn	05 29 16.5	+1.8
LCR2	**La Lucha 2**	**0.42**	**146**	⇑*i*P	Pn	05 29 05.5	+0.3
LCR2				*e*S	Sn	05 29 17.2	+1.9
FORC	**Fortuna**	**0.57**	**312**	⇓*e*P	Pn	05 29 06.8	+0.4
FORC				*e*S	Sn	05 29 18.4	+0.9
VACR	**Volcan Arenal**	**0.57**	**312**	*e*P	Pn	05 29 06.8	+0.3
VACR				*e*S	Sn	05 29 19.1	+1.5
BUS	**Buena Vista**	**0.71**	**138**	⇑*e*P	Pn	05 29 08.3	+0.4
BUS				*e*S	Sn	05 29 22.3	+2.4
JTS	**JuntasAbangare**	**0.73**	**286**	*e*P	Pn	05 29 07.0	-1.0
JTS				*e*S	Sn	05 29 19.3	-0.9
JCR	**Jicaral**	**0.89**	**255**	⇓*e*P	Pn	05 29 10.1	+0.3
JCR				*e*S	Sn	05 29 24.1	+0.9
CAO	**Cobano**	**0.93**	**246**	⇑*e*P	Pn	05 29 10.1	-0.1
CAO				*e*S	Sn	05 29 25.6	+1.5
LIM1	**Limonal**	**1.17**	**301**	*e*P	Pn	05 29 13.3	+0.4
LIM1				*e*S	Sn	05 29 30.1	+1.1
RIN3	**Volcan Rincon**	**1.32**	**302**	*e*P	Pn	05 29 15.1	+0.2
RIN3				*e*S	Sn	05 29 32.5	+0.2
VCR	**Vista de Mar**	**1.37**	**272**	*e*P	Pn	05 29 15.9	+0.4
VCR				*e*S	Sn	05 29 33.7	+0.3
CTCR	**Cotoan**	**1.88**	**129**	*e*P	Pn	05 29 22.8	+0.8
CTCR				*e*S	Sn	05 29 47.7	+2.5
BOAB	**BOACO BROADBAN**	**2.73**	**329**	*e*P	Pn	05 29 33.6	+0.2
BOAB				*e*S	Sn	05 30 06.6	+1.1

*STR **08** 05:31:50.7±0.2, 4758N×761E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 05:31:51.3±0.2, 4759N×757E, h10km, Md2.1/1, Ml2.2/6, Error ellipse: s-maj=3.9km s-min=2.4km az=94.0*
ZUR 08 05:31:51.2, 4758N×760E, h5km±1km, ML1.5, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	05 31 56.5	+0.3
147nm,0.2s							
BALST				*e*Sg	Sg	05 32 00.4	+0.9
147nm,0.2s							
BOURR	**Bourrignon**	**0.31**	**233**	⇑*i*Pg	Pg	05 31 57.6	+0.3
67nm,0.9s							
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	05 31 58.2	+0.2
75nm,0.2s							
SULZ				*e*Sg	Sg	05 32 03.9	+1.3
75nm,0.2s							
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	05 31 59.2	0.0
MOF				Sg	Sg	05 32 04.8	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	05 32 01.6	-0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	05 32 03.2	+1.3
HINF				*e*Sg	Sg	05 32 08.8	-0.3
HINF				*e*Sn	Sg	05 32 12.3	+3.2
14nm,0.2s							
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	05 32 02.0	-0.2
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	05 32 04.0	+0.7
143nm,0.2s							
ECH	**Echery**	**0.70**	**335**	Pg	Pg	05 32 04.9	+0.2
ECH				Sg	Sg	05 32 13.5	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	05 32 08.0	-1.9
CDF				*e*Sg	Sg	05 32 18.0	-0.8
CDF				*e*Sn	Sn	05 32 19.9	-2.9
5.0nm,0.2s							
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	05 32 08.9	-0.4
HAU				*e*Sg	Sg	05 32 21.5	-0.1
20nm,0.3s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	05 32 18.1	-0.3
CABF				*e*Sg	Sg	05 32 35.4	-1.4
3.6nm,0.3s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	05 32 48.9	-1.2
2.7nm,0.2s							
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	05 32 59.3	-1.5
0.6nm,0.2s							
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	05 33 10.9	-2.5
1.5nm,0.2s							

OTT 08 05:41:58.0±0.9, 6514N×5273W, h18km, ML3.1/1, Western Greenland coast. 570km southeast from Qikiqtarjuaq, Nu, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**2.05**	**24**	*i* P	Pn	05 42 33.6	+2.1
SFJD				*i*		05 42 36.5	
SFJD				*i* S	Sn	05 43 00.0	+3.4
SFJD	**Kangerlussuaq**	**2.05**	**24**	PN	Pn	05 42 31.1	-0.5
SFJD				SN	Sn	05 42 56.1	-0.5
SFJD				SG	Sg	05 43 00.1	-3.9
SFJD				Trac		05 43 00.5	
comp=Z,332nm,0.2s							
FRB	**Frobisher Bay**	**6.98**	**266**	PN	Pn	05 43 38.5	-0.8
FRB				SN	Sn	05 44 52.1	-6.2
FRB				Trac		05 44 59.5	
comp=Z,2.2nm,0.3s							
ILON	**Igloolik, Nuna**	**11.94**	**304**	PN	Pn	05 44 44.7	-2.6
ILON				SN	Sn	05 46 53.1	-7.0
SEDN	**First Sedna Si**	**16.68**	**281**	PN	Pn	05 45 50.1	-0.7
SEDN				SN	Sn	05 48 42.5	-13

MAN 08 05:43:57.6, 914N×12221E, h32km, mb3.8, ML4.8, MS3.3, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.03**	**79**	⇓*i*P	Pn	05 44 15.5	-0.3
SNPH				*i* S	Sn	05 44 29.5	+0.4
DCPH	**Dipolog City**	**1.25**	**116**	⇑*i*P	Pn	05 44 18.8	-0.1
DCPH				*i* S	Sn	05 44 33.1	-1.5
GUIM	**Jordan**	**1.52**	**14**	*e*P	Pn	05 44 23.1	+0.5
GUIM				*e*S	Sn	05 44 41.7	+0.5
TBP	**Tagbilaran**	**1.71**	**71**	*e*P	Pn	05 44 26.3	+1.1
CUYO	**Cuyo Island**	**2.06**	**325**	*e*P	Pn	05 44 31.1	+1.0
CUYO				*e*S	Sn	05 44 55.4	+0.7
LLP	**Lapu-Lapu**	**2.08**	**56**	⇑*e*P	Pn	05 44 30.2	-0.1
LLP				*e*S	Sn	05 44 50.7	-4.4
RCP	**Roxas**	**2.46**	**12**	⇑*e*P	Pn	05 44 39.9	+4.5
MSLP	**Maasin**	**2.79**	**69**	*e*P	Pn	05 44 43.0	+3.0
MSLP				*e*S	Sn	05 45 17.1	+4.7
BUKP	**Musuan**	**3.08**	**114**	*e*P	Pn	05 44 48.9	+4.8
OTRP	**Odiongan**	**3.20**	**357**	*e*P	Pn	05 44 45.8	+0.1
ENPP	**El Nido**	**3.43**	**307**	*e*P	Pn	05 44 50.2	+1.4

*STR **08** 05:54:31.1±0.3, 4755N×754E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 05:54:31.7±0.2, 4760N×755E, h10km, Md2.0/1, Ml2.1/5, Error ellipse: s-maj=3.7km s-min=2.4km az=113.0*
ZUR 08 05:54:31.3, 4758N×760E, h4km±1km, ML1.2, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Pg	05 54 36.6	+0.3
80nm,0.6s							
BALST				*e*Sg	Sg	05 54 40.4	+0.8
80nm,0.6s							
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	05 54 37.8	+0.4
36nm,1.5s							
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	05 54 38.2	+0.1
37nm,0.5s							
MOF	**Molkenrain**	**0.42**	**310**	Pg	Pg	05 54 39.3	0.0
MOF				Sg	Sg	05 54 44.8	+0.1
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	05 54 41.6	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	05 54 43.1	+1.1
HINF				*e*Sg	Sg	05 54 48.9	-0.4
HINF				*e*Sn	Sg	05 54 52.5	+3.2
7.5nm,0.2s							
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	05 54 43.5	+0.1
27nm,0.3s							
ECH	**Echery**	**0.70**	**335**	Pg	Pg	05 54 44.8	+0.1
ECH				Sg	Sg	05 54 54.4	+0.6
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	05 54 47.6	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	05 54 48.1	-2.0
CDF				*e*Sg	Sg	05 54 58.1	-0.8
CDF				*e*Sn	Sn	05 55 00.1	-2.9
6.8nm,0.3s							
HAU	**Haudompre**	**0.95**	**297**	*e*Pg	Pg	05 54 49.0	-0.4
HAU				*e*Sg	Sg	05 55 01.5	-0.2
6.4nm,0.3s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	05 54 58.3	-0.3
CABF				*e*Sg	Sg	05 55 15.5	-1.5
0.7nm,0.2s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	05 55 28.9	-1.4
2.0nm,0.2s							
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	05 55 50.9	-2.7
1.0nm,0.2s							

*IDC **08** 06:12:16.6±1.5, 5499N×16074E, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.8/22, mbtmp3.8/6, Error ellipse: s-maj=107.9km s-min=26.7km az=141.0*
*KRSC **08** 06:12:29.4±0.8, 5480N×16101E, h131km±40km, ML4.1*
*MOS **08** 06:12:29.7±0.5, 5478N×16106E, h126km, mb4.2/3, Error ellipse: s-maj=42.5km s-min=13.3km az=76.3*
*ISCJB **08** 06:12:30.1±0.4, 5479N±003×16105E±0.10, h128km±4km, mb3.8/6, Error ellipse: s-maj=9.8km s-min=3.5km az=34.8*
**ISC 08 06:12:31.0±0.4, 5479N±003×16105E±010, h124km±4km, n33, σ0°66/56, mb3.

KLY				*i* S		**Sn**	**06 13 20.5**	**-0.2**
SRDR	**Sredinnyy**	**1.71**	**334**	*e*P		**Pn**	**06 13 00.4**	**-0.7**
SRDR				*i* S		**Sn**	**06 13 23.4**	**-0.7**
BDR	**Baidarnaya**	**1.79**	**3**	*e*P		**Pn**	**06 13 01.9**	**-0.1**
BDR				*i* S		**Sn**	**06 13 25.7**	**0.0**
SPN	**Mys Shipunski**	**1.80**	**200**	*e*P		**Pn**	**06 13 01.4**	**-0.7**
SPN				*i* S		**Sn**	**06 13 24.6**	**-1.4**
SMKR	**Semkarok**	**1.81**	**7**	*e*P		**Pn**	**06 13 02.1**	**-0.3**
SMKR				*i* S		**Sn**	**06 13 25.6**	**-0.7**
SRKR	**Sorokina**	**1.87**	**2**	*e*P		**Pn**	**06 13 02.9**	**-0.2**
SRKR				*i* S		**Sn**	**06 13 27.1**	**-0.5**
NLC	**Nalytchevo**	**1.91**	**213**	*i* P		**Pn**	**06 13 03.4**	**-0.1**
NLC				*i* S		**Sn**	**06 13 27.9**	**-0.4**
AVH	**Avacha**	**2.04**	**223**	*e*P		**Pn**	**06 13 05.9**	**+0.7**
AVH				*i* S		**Sn**	**06 13 32.7**	**+1.4**
GNL	**Ganaly**	**2.13**	**240**	*e*P		**Pn**	**06 13 06.7**	**+0.5**
GNL				*i* S		**Sn**	**06 13 33.6**	**+0.5**
PET	**Petropavlovsk**	**2.26**	**220**	⇓*i*PN		**Pn**	**06 13 08.3**	**+0.4**
PET				*e*S		**Sn**	**06 13 36.0**	**-0.2**
PET				pmax	pmax			
	comp=Z,329nm,0.4s							
PET				smax				
	comp=N,600nm,0.6s							
PET				smax				
	comp=N,764nm,0.7s							
PET				smax				
	comp=N,28nm,0.5s							
PET	**Petropavlovsk**	**2.26**	**220**	*e*P		**Pn**	**06 13 08.2**	**+0.3**
PET				*i* S		**Sn**	**06 13 36.5**	**+0.3**
RUS	**Russkaya**	**2.80**	**214**	*e*P		**Pn**	**06 13 14.1**	**-0.7**
RUS				*i* S		**Sn**	**06 13 46.7**	**-1.8**
GRL	**Gorelyy**	**2.85**	**220**	*e*P		**Pn**	**06 13 16.2**	**+0.7**
GRL				*i* S		**Sn**	**06 13 50.8**	**+1.1**
MJAR	**Matsushiro Arr**	**24.06**	**230**	P		**P**	**06 17 33.4**	**-1.2**
	comp=N,1.6nm,0.6s,mb3.5,baz=26,slow=8.5,SNR=4.3							
MJAR	**Matsushiro Arr**	**24.06**	**230**	P		**P**	**06 17 33.4**	**-1.2**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**41.54**	**44**	P		**P**	**06 20 05.4**	**-0.7**
	comp=Z,1.5nm,0.6s,mb3.9,baz=300,slow=7.9,SNR=24							
YKA	**Yellowknife Ar**	**41.54**	**44**	P		**P**	**06 20 05.4**	**-0.7**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NVAR	**Mina Array Bea**	**54.66**	**72**	P		**P**	**06 21 48.8**	**+1.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=308,slow=8.0,SNR=5.0							
PDAR	**Pinedale Array**	**56.22**	**62**	P		**P**	**06 21 59.0**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=337,slow=6.8,SNR=4.3							
ULM	**Lac du Bonnet**	**57.26**	**48**	P		**P**	**06 22 04.8**	**-0.7**
	comp=Z,1.1nm,0.4s,mb4.2,baz=308,slow=7.8,SNR=4.6							
TXAR	**Lajitas Array**	**69.47**	**68**	P		**P**	**06 23 26.6**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.6,baz=296,slow=5.1,SNR=8.7							
TXAR	**Lajitas Array**	**69.47**	**68**	P		**P**	**06 23 26.6**	**+0.8**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							

IDC 08 06:30:20.9±1.1, 1586S×17525W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.9/13, mbtmp3.8/4, MS3.8/12, Ms1 3.8/12, ms1mx3.6/24, Error ellipse: s-maj=51.3km s-min=30.1km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.88**	**60**	Pn	Pn	06 31 13.6	-8.1
	5.1nm,0.3s,baz=61,slow=7.2,SNR=9.3						
AFI				LR	LR	06 32 30.3	
	comp=Z,531nm,19.4s,baz=201,slow=33						
RAO	**Raoul Island**	**13.55**	**190**	LR	LR	06 38 06.4	
	comp=Z,651nm,19.9s,baz=29,slow=34						
RAR	**Rarotonga**	**15.61**	**112**	LR	LR	06 38 23.2	
	comp=Z,274nm,19.3s,baz=235,slow=31						
DZM	**Mont Dzumac**	**18.38**	**248**	LR	LR	06 40 13.4	
	comp=Z,238nm,21.2s,baz=47,slow=32						
PAE	**Paea**	**24.64**	**98**	*e*T		07 00 53.9	
	7.0nm,0.3s						
PPT	**Papeete**	**24.64**	**98**	*e*LQ		06 40 33.3	
	340nm,25.0s						
PPT				*e*LR	LR	06 41 38.3	
	270nm,25.8s,baz=281						
PPT	**Papeete**	**24.64**	**98**	*e*T		07 00 54.2	
	3.3nm,0.3s						
PPT	**Papeete**	**24.64**	**98**	LR	LR	06 43 16.3	
	comp=Z,72nm,21.4s,baz=262,slow=32						
TVO	**Taravao**	**24.95**	**98**	*e*T		07 01 17.4	
	3.6nm,0.3s						
HNR	**Honiara**	**25.02**	**282**	LR	LR	06 44 12.5	
	comp=Z,252nm,18.2s,baz=177,slow=33						
TBI	**Tubuai**	**25.38**	**111**	*e*LQ		06 40 44.8	
	533nm,26.2s						
TBI				*e*LR	LR	06 42 05.3	
	257nm,26.8s,baz=292						
TBI	**Tubuai**	**25.38**	**111**	*e*T		07 01 55.9	
	6.1nm,0.3s						
RKT	**Rikitea**	**38.55**	**107**	*e*LR	LR	06 48 09.8	
	129nm,26.2s						
WRA	**Warramunga Arr**	**48.01**	**257**	P	P	06 39 01.0	-0.6
	1.7nm,0.8s,baz=90,slow=7.8,SNR=5.0						
WRA				LR	LR	06 56 32.7	
	comp=Z,89nm,21.5s,baz=105,slow=33						
VNDA	**Vanda**	**62.74**	**185**	P	P	06 40 47.6	-0.2
	2.0nm,1.0s,baz=11,slow=7.4,SNR=5.6						
VNDA				LR	LR	07 02 21.5	
	comp=Z,49nm,18.9s,baz=232,slow=31						
KSRS	**Korea Array**	**75.25**	**316**	LR	LR	07 12 01.3	
	comp=Z,49nm,21.0s,baz=353,slow=33						
NVAR	**Mina Array Bea**	**75.87**	**43**	P	P	06 42 09.1	0.0
	1.0nm,0.8s,baz=201,slow=7.4,SNR=5.4						
PDAR	**Pinedale Array**	**83.80**	**42**	P	P	06 42 52.3	+0.2
	0.3nm,0.7s,baz=256,slow=1.5,SNR=3.9						
MAW	**Mawson**	**86.79**	**199**	LR	LR	07 22 11.1	
	comp=Z,79nm,19.3s,baz=117,slow=36						
YKA	**Yellowknife Ar**	**91.23**	**24**	LR	LR	07 19 09.6	
	comp=Z,122nm,21.5s,baz=60,slow=32						
SONM	**Songino Array**	**94.00**	**319**	LR	LR	07 28 20.4	
	comp=Z,63nm,18.4s,baz=36,slow=37						
BRTR	**Keskin Array B**	**145.36**	**319**	PKPbc	PKPbc	06 50 01.9	+1.3
	2.5nm,0.8s,baz=107,slow=1.3,SNR=12						

*ISCJB **08** 06:31:25.9±4.7, 1.1N±0.1×9663E±0.10, h14km±30km, mb3.9/6, Error ellipse: s-maj=20.9km s-min=15.2km az=138.5*
*IDC **08** 06:31:25.7±1.7, 1.12N×9665E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, ML2.9/1, Error ellipse: s-maj=38.5km s-min=24.7km az=46.0*
*NEIC **08** 06:31:30.3±0.8, 1.15N×9670E, h30km, mb4.0/1, Error ellipse: s-maj=15.7km s-min=11.8km az=44.0*
ISC 08 06:31:27.7±5.7, 12N±01×9667E±010, h11km±36km, n9, σ0°28/10, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.78**	**54**	Pn	**Pn**	**06 32 11.9**	**-0.2**
	1.9nm,0.3s,baz=307,slow=6.1,SNR=7.9						
PSI				Sn	**Sn**	**06 32 45.6**	**0.0**
	4.6nm,0.3s,baz=307,slow=21,SNR=4.8						
KULM	**Kulim**	**5.71**	**44**	*e*Pn	**Pn**	**06 32 52.6**	**+0.2**
WRA	**Warramunga Arr**	**42.47**	**122**	P	**P**	**06 39 22.6**	**-0.1**
	2.5nm,0.6s,mb4.0,baz=302,slow=9.0,SNR=28						
WRAB	**Tennant Creek**	**42.47**	**122**	*e*P	**P**	**06 39 22.9**	**+0.1**
	1.7nm,0.6s,mb3.9						
MK31	**Makanchi Array**	**47.15**	**347**	*e*P	**P**	**06 40 00.2**	**+0.2**
MKAR	**Makanchi Array**	**47.15**	**347**	P	**P**	**06 40 00.2**	**+0.2**
	1.2nm,0.8s,mb3.9,baz=163,slow=8.9,SNR=6.5						
SONM	**Songino Array**	**47.25**	**9**	P	**P**	**06 40 01.2**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=197,slow=12,SNR=3.0						
ZAL	**Zalesovo**	**53.50**	**351**	P	**P**	**06 40 48.1**	**0.0**
	3.3nm,0.4s,mb4.6,baz=309,slow=4.4,SNR=7.3						
BVAR	**Borovoye Array**	**56.11**	**341**	P	**P**	**06 41 06.3**	**-0.7**
	0.3nm,0.5s,mb3.6,baz=140,slow=11,SNR=3.6						

*STR **08** 06:37:16.1±1.2, 4758N×759E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 06:37:16.0±0.3, 4759N×758E, h9km±2km, Md1.8/1, Ml1.7/4, Error ellipse: s-maj=4.8km s-min=3.0km az=94.0*
ZUR 08 06:37:16.1, 4758N×760E, h5km±1km, ML1.1, 2C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**165**	⇑*i*Pg	Pg	06 37 21.4	+0.3
	62nm,0.3s						
BOURR	**Bourrignon**	**0.31**	**233**	*i*Pg	Pg	06 37 22.5	+0.3
	40nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*e*Pg	Pg	06 37 23.5	+0.6
	28nm,0.9s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	06 37 24.0	-0.1
MOF				Sg	Sg	06 37 29.8	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	06 37 26.2	-0.6
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	06 37 27.6	+0.8
HINF				*e*Sg	Sg	06 37 33.4	-0.7
HINF				*e*Sn	Sg	06 37 37.2	+3.1
	3.7nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	06 37 28.4	+0.2
	27nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	06 37 30.0	+0.4
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	06 37 32.6	-2.2
CDF				*e*Sg	Sg	06 37 42.6	-1.1
CDF				*e*Sn	Sn	06 37 44.6	-3.1
	5.4nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	06 37 33.8	-0.4
HAU				*e*Sg	Sg	06 37 46.0	-0.5
	2.1nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	06 37 42.7	-0.6
CABF				*e*Sg	Sg	06 38 00.1	-1.6
	0.8nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	06 38 13.5	-1.5
	1.0nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	06 38 35.4	-2.9
	0.6nm,0.2s						

*NIED **08** 07:14:00, 3790N×13930E, h150km, Mw3.8 Best double couple: M0=5.60000×10^14 NP1:φ=196.00000°, δ57.00000°, λ58.00000°. NP2:φ=65.00000°, δ45.00000°, λ129.00000°.*
*ISCJB **08** 07:14:27.0±0.4, 3794N±004×13921E±007, h162km±3km, mb3.5/9, Error ellipse: s-maj=9.2km s-min=5.5km az=60.2*
*IDC **08** 07:14:28.4±0.9, 3789N×139.14E, h164km±9km, mb3.3/9, mb1 3.6/11, mb1mx3.5/23, mbtmp3.4/11, MS2.7/1, Ms1 2.7/1, ms1mx2.0/18, Error ellipse: s-maj=17.5km s-min=12.7km az=82.0*
*NEIC **08** 07:14:28.1, 3791N×13926E, h156km, MG3.7(JMA), After JMA.*
*JMA **08** 07:14:28.0±0.1, 3790N×13926E, h156km±1km, M3.7*
ISC 08 07:14:28.0±0.4, 3794N±004×13922E±006, h158km±3km, n32, σ0°59/41, mb3.5/9, 10C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.14**	**147**	⇑P	**Pn**	**07 14 48.7**	**-0.5**
JNS				S	**Sn**	**07 15 04.6**	**-0.7**
JAW	**Awa shima**	**0.52**	**2**	⇑P	**Pn**	**07 14 50.3**	**-0.1**
JIZZ	**Izumozaki**	**0.57**	**225**	⇑P	**Pn**	**07 14 51.1**	**+0.4**
JFY	**Yanaizu**	**0.66**	**144**	⇑P	**Pn**	**07 14 50.8**	**-0.3**
JHK	**Hiroka**	**0.71**	**193**	⇑P	**Pn**	**07 14 51.2**	**-0.2**
JHK				S	**Sn**	**07 15 08.8**	**-0.5**
JYS	**Shirataka**	**0.72**	**67**	⇑P	**Pn**	**07 14 51.5**	**-0.1**
JYS				S	**Sn**	**07 15 09.6**	**+0.1**
JYA	**Atsumi**	**0.76**	**31**	⇑P	**Pn**	**07 14 51.9**	**+0.1**
JYA				S	**Sn**	**07 15 10.4**	**+0.4**
JSD	**Sado**	**0.77**	**278**	⇑P	**Pn**	**07 14 51.7**	**-0.1**
JSD				S	**Sn**	**07 15 09.5**	**-0.5**
JMM	**Marumori**	**1.25**	**93**	⇓P	**Pn**	**07 14 55.1**	**-0.6**
JYK	**Kaneyama**	**1.33**	**42**	P	**Pn**	**07 14 56.3**	**-0.2**
JYK				S	**Sn**	**07 15 18.7**	**+0.4**
JAG	**Ashikaga**	**1.52**	**173**	⇑P	**Pn**	**07 14 58.3**	**-0.1**
JSZ	**Suzu**	**1.55**	**252**	⇑P	**Pn**	**07 14 59.0**	**+0.3**
JSZ				S	**Sn**	**07 15 22.7**	**+0.4**
MAJO	**Matsushiro**	**1.61**	**210**	*e*Pn	**Pn**	**07 14 59.7**	**+0.3**
MAT	**Matsushiro**	**1.61**	**210**	P	**Pn**	**07 14 59.5**	**+0.2**
MAT				S	**Sn**	**07 15 23.8**	**+0.4**
MJAR	**Matsushiro Arr**	**1.61**	**210**	P	**Pn**	**07 14 59.6**	**+0.3**
	78nm,0.3s,baz=18,slow=12,SNR=530						
MJAR				S	**Sn**	**07 15 24.0**	**+0.6**
	2.0nm,0.3s,baz=326,slow=28,SNR=5.0						
JHG	**Hegura jima**	**1.82**	**268**	P	**Pn**	**07 15 02.0**	**+0.4**
JMK	**Ichinoseki**	**1.87**	**57**	P	**Pn**	**07 15 01.9**	**-0.2**
JRY	**Ryogami san**	**1.93**	**188**	P	**Pn**	**07 15 03.1**	**+0.2**
JRY				S	**Sn**	**07 15 30.4**	**+0.7**
JOM	**Ohasama**	**2.23**	**46**	P	**Pn**	**07 15 07.2**	**+0.9**
JHJ	**Hachijo jima 2**	**4.83**	**174**	P	**Pn**	**07 15 39.0**	**-0.3**
	46nm,0.3s,baz=246,slow=23,SNR=6.7						
JHJ				S	**Sn**	**07 16 34.2**	**-0.7**
	24nm,0.3s,baz=47,slow=23,SNR=4.6						
ASAJ	**Asahikawa**	**6.68**	**21**	P	**Pn**	**07 16 03.1**	**-0.6**
	2.6nm,0.3s,baz=209,slow=10,SNR=8.5						
ASAJ				LR	LR	07 19 19.1	
	comp=Z,55nm,19.0s,baz=269,slow=43						
SONM	**Songino Array**	**25.83**	**303**	P	**P**	**07 19 44.2**	**-0.4**
	0.7nm,0.4s,mb3.6,baz=105,slow=8.8,SNR=8.7						
MKAR	**Makanchi Array**	**42.16**	**301**	P	**P**	**07 22 02.8**	**-2.0**
	0.2nm,0.5s,mb3.0,baz=66,slow=11,SNR=3.4						
BVAR	**Borovoye Array**	**48.67**	**311**	P	**P**	**07 22 56.6**	**+0.6**
	0.3nm,0.3s,mb3.4,baz=109,slow=8.5,SNR=5.4						
WRA	**Warramunga Arr**	**57.75**	**185**	P	**P**	**07 24 01.6**	**-0.8**
	0.4nm,0.4s,mb3.6,baz=1.9,slow=7.5,SNR=19						
WRA				PcP	PcP	07 24 52.3	-1.0
	0.4nm,0.6s,baz=358,slow=4.4,SNR=5.8						
ARCES	**ARCESS Array B**	**62.53**	**339**	P	**P**	**07 24 34.4**	**-0.4**
	3.3nm,0.9s,mb4.2,baz=50,slow=8.4,SNR=3.9						
YKA	**Yellowknife Ar**	**63.90**	**30**	P	**P**	**07 24 43.2**	**-0.6**
	0.5nm,0.6s,mb3.5,baz=306,slow=6.7,SNR=21						
NVAR	**Mina Array Bea**	**75.83**	**52**	P	**P**	**07 25 57.8**	**+1.2**
	0.7nm,0.7s,mb3.4,baz=302,slow=7.3,SNR=4.5						
PDAR	**Pinedale Array**	**78.26**	**45**	P	**P**	**07 26 11.0**	**+0.8**
	0.6nm,0.5s,mb3.5,baz=332,slow=0.9,SNR=7.9						
TXAR	**Lajitas Array**	**90.93**	**51**	P	**P**	**07 27 15.1**	**+1.3**
	0.5nm,1.0s,mb3.5,baz=289,slow=3.3,SNR=3.3						
VNA2	**Neumayer--Watz**	**142.68**	**197**	*e*	PKPdf	07 33 36.9	-5.3
	baz=105,slow=3.9						
VNA2				*e*		07 33 44.8	
VNA2				*e*		07 34 07.2	
LPAZ	**La Paz**	**147.68**	**56**	PKPbc	PKPbc	07 33 54.6	+0.8
	0.9nm,0.8s,baz=356,slow=11,SNR=4.3						

*STR **08** 07:16:40.6±0.7, 4756N×757E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 08 07:16:41.3±0.3, 4759N×756E, h11km, Md1.9/1, Ml1.9/3, Error ellipse: s-maj=5.0km s-min=3.3km az=99.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.39**	**313**	Pg	Pg	07 16 48.9	-0.2
MOF				Sg	Sg	07 16 54.8	+0.5
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pg	Pg	07 16 51.2	-0.5
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pn	Pg	07 16 52.8	+1.1
HINF				*e*Sg	Sg	07 16 58.5	-0.2
HINF				*e*Sn	Sg	07 17 02.1	+3.4
	3.9nm,0.2s						
ECH	**Echery**	**0.69**	**337**	Pg	Pg	07 16 54.8	+0.2
ECH				Sg	Sg	07 17 03.3	-0.3
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pn	Pn	07 16 57.7	-1.5
CDF				*e*Sn	Sn	07 17 09.7	-1.9
	5.8nm,0.3s						
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	Pg	07 16 58.5	-0.5
HAU				*e*Sg	Sg	07 17 11.3	+0.3
	5.6nm,0.2s						
CABF	**La Chapelle**	**1.40**	**226**	*e*Pg	Pg	07 17 08.0	-0.2
CABF				*e*Sg	Sg	07 17 25.1	-1.4
	1.9nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Sg	Sg	07 17 38.7	-0.7
	0.8nm,0.2s						

*IDC **08** 07:23:09.4±1.4, 963S×11884E, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, ML4.2/2, MS2.6/1, Ms1 2.6/1, ms1mx1.5/32, Error ellipse: s-maj=72.3km s-min=23.9km az=46.0*
*ISCJB **08** 07:23:12.4±0.9, 97S±02×1189E±02, h35km, mb4.0/3, Error ellipse: s-maj=48.1km s-min=9.7km az=86.6*
*NEIC **08** 07:23:12.7±7.5, 964S×11883E, h22km±61km, mb3.6/1, Error ellipse: s-maj=57.7km s-min=13.1km az=213.0*
ISC 08 07:23:14.4±0.9, 97S±03×1188E±03, h35km, n10, σ0°33/11, mb4.0/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.67**	**142**	*e*P	**Pn**	**07 25 44.8**	**+0.2**
	18nm,0.5s						
FITZ				*e*S	**Sn**	**07 27 33.0**	**-10**
FITZ	**Fitzroy Crossi**	**10.67**	**142**	Pn	**Pn**	**07 25 44.6**	**0.0**
	2.3nm,0.3s,baz=334,slow=7.9,SNR=48						
FITZ				Sn	**Sn**	**07 27 34.9**	**-7.8**
	3.0nm,0.3s,baz=180,slow=21,SNR=8.7						
FITZ				LR	LR	07 30 00.9	
	comp=Z,32nm,20.3s,baz=309,slow=38						
WRA	**Warramunga Arr**	**18.14**	**126**	P	**Pn**	**07 27 22.8**	**-0.7**
	0.5nm,0.3s,baz=295,slow=12,SNR=26						
WRA				S	**S**	**07 30 36.4**	**-13**
	0.3nm,0.3s,baz=294,slow=21,SNR=5.1						
WRAB	**Tennant Creek**	**18.14**	**126**	*e*Pn	**Pn**	**07 27 23.9**	**+0.4**
	3.3nm,0.6s						
WB2	**Warramunga Arr**	**18.15**	**126**	*e*P	**Pn**	**07 27 23.7**	**+0.1**
WB2				*e*S	Sx	07 30 27.9	
PSI	**Prapat**	**23.36**	**301**	P	**P**	**07 28 19.9**	**0.0**
	4.6nm,0.5s,mb4.2,baz=151,slow=6.7,SNR=7.1						
SONM	**Songino Array**	**58.34**	**350**	P	**P**	**07 33 06.2**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=168,slow=9.3,SNR=6.6						
MKAR	**Makanchi Array**	**64.99**	**333**	P	**P**	**07 33 50.5**	**-0.2**
	1.0nm,0.6s,mb4.0,baz=157,slow=7.1,SNR=15						
YKA	**Yellowknife Ar**	**114.94**	**24**	PKP	PKiKP	07 41 51.5	+0.1
	0.1nm,0.5s,baz=294,slow=1.9,SNR=5.2						
YKA	**Yellowknife Ar**	**114.94**	**24**	PKP	PKiKP	07 41 51.5	+0.1

IDC 08 07:39:09.4±4.9, 1898S×17730W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=304.4km s-min=29.9km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.33**	**262**	P	P	07 45 59.8	+2.2
	1.9nm,0.4s,baz=100,slow=8.2,SNR=5.5						
WB2	**Warramunga Arr**	**45.47**	**260**	*e*P	P	07 47 29.2	-1.1
WRA	**Warramunga Arr**	**45.48**	**260**	P	P	07 47 29.1	-1.3
	0.6nm,0.3s,baz=94,slow=8.4,SNR=26						
NVAR	**Mina Array Bea**	**79.47**	**43**	P	P	07 51 18.0	+0.3
	1.0nm,0.7s,baz=220,slow=7.7,SNR=6.0						
AKASG	**Malin Array Be**	**141.99**	**333**	PKP	PKPdf	07 58 42.0	-1.3
	1.2nm,0.6s,baz=38,slow=4.1,SNR=6.1						
BRTR	**Keskin Array B**	**146.28**	**314**	PKPbc	PKPbc	07 58 52.6	+0.8
	0.8nm,0.7s,baz=88,slow=2.8,SNR=3.6						

IDC 08 07:42:45.8±5.1, 1676S×17854W, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.6/13, mbtmp3.8/2, Error ellipse: s-maj=366.1km s-min=35.3km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.73**	**258**	P	P	07 51 01.1	+0.4
	0.5nm,0.3s,baz=92,slow=8.4,SNR=14						
NVAR	**Mina Array Bea**	**78.69**	**44**	P	P	07 54 50.4	+0.6
	0.8nm,0.8s,baz=230,slow=9.9,SNR=4.6						
AKASG	**Malin Array Be**	**139.49**	**333**	PKP	PKPdf	08 02 14.1	-1.0
	0.2nm,0.3s,baz=46,slow=4.2,SNR=4.6						

*BJI **08** 07:58:30.7, 3026N×5619E, h14km, mB4.8, mb4.6, Ms4.4, Msz4.1*
*ISCJB **08** 07:58:34.8±0.2, 3091N±002×5653E±002, h10km, mb4.3/27, MS3.9/18, Error ellipse: s-maj=2.6km s-min=2.4km az=142.6*
*CSEM **08** 07:58:34.8±0.0, 3083N×5662E, h16km, mb4.4/9, Error ellipse: s-maj=1.2km s-min=1.0km az=5.0*
*NEIC **08** 07:58:34.6, 3086N×5663E, h14km, mb4.5/5, ML4.4(THR), MN4.8(TEH), After THR.*
*THR **08** 07:58:34.6±1.0, 3087N×5663E, h14km±7km, ML4.3*
*IDC **08** 07:58:35.3±0.9, 3093N×5643E, h0km, mb4.1/15, mb1 4.2/19, mb1mx4.2/27, mbtmp4.1/19, ML3.8/2, MS4.0/19, Ms1 4.0/19, ms1mx3.8/29, Error ellipse: s-maj=21.2km s-min=15.8km az=171.0*
*MOS **08** 07:58:35.5±1.7, 3085N×5660E, h16km, mb4.1/16, Error ellipse: s-maj=10.2km s-min=6.5km az=98.4*
*TEH **08** 07:58:37.2, 3090N×5661E, h8km, Mn4.8*
ISC 08 07:58:36.7±0.2, 3091N±002×5659E±002, h10km, n207, σ1°18/365, mb4.3/27, MS3.9/18, 6C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.93**	**171**	*e*Pg	**Pg**	**07 58 51.2**	**-3.4**
KRBR	**Kerman**	**0.93**	**171**	*e*Pg	**Pg**	**07 58 51.0**	**-3.6**
IBAF	**Bafgh**	**1.11**	**308**	*e*Pn	**Pn**	**07 58 53.8**	**-4.5**
IBAF				*e*Pg	**Pg**	**07 58 54.9**	**-3.2**
IBAF				*e*Pn	**Pg**	**07 58 54.9**	**-3.2**
IBAF				*e*Sn	**Sn**	**07 59 09.8**	**-3.9**
IBAF				*e*Sn	**Sn**	**07 59 10.3**	**-3.4**
IBAF	**Bafgh**	**1.11**	**308**	Pn	**Pn**	**07 58 53.8**	**-4.5**
IBAF				Pg	**Pg**	**07 58 54.8**	**-3.3**
IBAF				Sn	**Sn**	**07 59 09.8**	**-3.9**
IBAF				Sn	**Sn**	**07 59 10.3**	**-3.4**
IBAF	**Bafgh**	**1.11**	**308**	*e*Pg	**Pg**	**07 58 54.9**	**-3.2**
IMEH	**Mehriz**	**1.77**	**286**	*e*Pn	**Pn**	**07 59 06.8**	**-0.5**
IMEH				*e*Pn	**Pn**	**07 59 06.9**	**-0.4**
IMEH				*e*Sn	**Sn**	**07 59 31.8**	**+2.0**
IMEH	**Mehriz**	**1.77**	**286**	Pn	**Pn**	**07 59 06.8**	**-0.5**
IMEH				Sn	**Sn**	**07 59 31.7**	**+1.9**
IMEH	**Mehriz**	**1.77**	**286**	*e*Pn	**Pn**	**07 59 06

IMOK				*e*Sn	Sg	08 00 39.1	-1.0
IMOK				*e*Sn	Sg	08 00 39.4	-0.7
IGAR	**Garneh**	**3.98**	**291**	*e*Pn	Pn	07 59 39.1	+1.3
IGAR				*e*Pn	Pn	07 59 40.3	+2.5
IGAR				*e*Pn	Pn	07 59 40.7	+2.9
IGAR				*e*Sn	Sg	08 00 40.0	-4.6
IGAR				*e*Sn	Sg	08 00 40.7	-3.9
GHIR	**Ghir-Karzin**	**4.08**	**231**	*e*Pn	Pn	07 59 39.5	+0.3
GHIR				*e*Sg	Sb	08 00 41.0	+3.0
GHIR				AML	AML	08 00 56.7	
	comp=E,488nm,0.7s						
GHIR				AML	AML	08 01 08.6	
	comp=N,278nm,0.8s						
GHIR	**Ghir-Karzin**	**4.08**	**231**	*e*Pn	Pn	07 59 39.0	-0.2
GHIR				*e*Sg	Sb	08 00 40.0	+1.9
GHIR	**Ghir-Karzin**	**4.08**	**231**	*e*Pn	Pn	07 59 39.5	+0.3
	SNR=52						
GHIR				*e*Sg	Sg	08 00 41.0	-6.9
	SNR=90						
IZEF	**Zefreh**	**4.13**	**300**	*e*Pn	Pn	07 59 39.1	-0.8
IZEF				*e*Pn	Pn	07 59 39.9	0.0
IZEF				*e*Pn	Pn	07 59 40.3	+0.4
IZEF				*e*Sn	Sg	08 00 43.0	-6.4
IZEF				*e*Sn	Sg	08 00 43.2	-6.2
IZEF	**Zefreh**	**4.13**	**300**	Pn	Pn	07 59 39.0	-0.9
IZEF				Sn	Sg	08 00 43.0	-6.4
IZEF				Sn	Sg	08 00 43.2	-6.2
IZEF	**Zefreh**	**4.13**	**300**	*e*Pn	Pn	07 59 39.9	0.0
IKLH	**Kalahroud**	**4.89**	**301**	*e*Pn	Pn	07 59 49.8	-0.4
IKLH				*e*Pn	Pn	07 59 50.6	+0.4
IKLH				*e*Pn	Pn	07 59 51.2	+1.0
IKLH				*e*Sn	Sg	08 01 06.3	-7.3
IKLH				*e*Sn	Sg	08 01 07.0	-6.6
IKLH	**Kalahroud**	**4.89**	**301**	Pn	Pn	07 59 49.7	-0.5
IKLH				Sn	Sg	08 01 06.2	-7.4
IKLH				Sn	Sg	08 01 06.9	-6.7
IKLH	**Kalahroud**	**4.89**	**301**	*e*Pn	Pn	07 59 49.8	-0.4
IKLH				Sn	Sg	08 01 06.2	-7.4
BANOM	**Banah**	**4.97**	**183**	P	Pn	07 59 51.0	-0.3
	SNR=109						
ISFB	**Sefidab**	**5.03**	**314**	*e*Pn	Pn	07 59 52.2	0.0
ISFB				*e*Pn	Pn	07 59 52.2	0.0
ISFB				*e*Pn	Pn	07 59 52.9	+0.7
ISFB				*e*Sn	Sg	08 01 08.7	-10
ISFB				*e*Sn	Sg	08 01 09.4	-8.9
IANJ	**Anjiloo**	**5.07**	**334**	*e*Pn	Pn	07 59 52.2	-0.6
IANJ				*e*Pn	Pn	07 59 52.5	-0.3
IANJ				*e*Sn	Sg	08 01 15.3	-4.3
IANJ	**Anjiloo**	**5.07**	**334**	*e*Pn	Pn	07 59 52.5	-0.3
IPIR	**Pirpir**	**5.17**	**292**	*e*Pn	Pn	07 59 53.9	-0.2
IPIR				*e*Pn	Pn	07 59 54.4	+0.3
IPIR				*e*Pn	Pn	07 59 54.7	+0.6
IPIR				*e*Sn	Sg	08 01 19.4	-3.2
IPIR				*e*Sn	Sg	08 01 20.3	-2.3
IPIR	**Pirpir**	**5.17**	**292**	Pn	Pn	07 59 53.8	-0.3
IPIR				Sn	Sg	08 01 19.4	-3.2
IPIR				Sn	Sg	08 01 20.2	-2.4
ILAS	**Lasjerd**	**5.41**	**327**	*e*Pn	Pn	07 59 57.2	-0.1
ILAS				*e*Pn	Pn	07 59 57.5	+0.2
ILAS				*e*Pn	Pn	07 59 58.0	+0.7
ILAS				*e*Sn	Sg	08 01 31.7	+1.5
ILAS				*e*Sn	Sg	08 01 31.8	+1.6
ILAS	**Lasjerd**	**5.41**	**327**	Pn	Pn	07 59 57.1	-0.2
ILAS				Sn	Sg	08 01 31.7	+1.5
ILAS	**Lasjerd**	**5.41**	**327**	*e*Pn	Pn	07 59 57.5	+0.2
ISHM	**Shahmirzad**	**5.61**	**331**	*e*Pn	Pn	08 00 00.5	+0.3
ISHM				*e*Pn	Pn	08 00 00.5	+0.3
ISHM				*e*Pn	Pn	08 00 00.5	+0.3
ISHM				*e*Sn	Sg	08 01 33.4	-3.5
ISHM				*e*Sn	Sg	08 01 34.0	-2.9
ISHM	**Shahmirzad**	**5.61**	**331**	Pn	Pn	08 00 00.4	+0.2
ISHM				Sn	Sg	08 01 33.4	-3.5
ISHM				Sn	Sg	08 01 34.0	-2.9
IMOG	**Moghan**	**5.67**	**23**	*e*Pn	Pn	08 00 01.1	+0.1
IMOG				*e*Pn	Pn	08 00 01.3	+0.3
IMOG				*e*Pn	Pn	08 00 01.3	+0.3
IMOG				*e*Sn	Sg	08 01 37.5	-1.3
IMOG				*e*Sn	Sg	08 01 38.2	-0.6
IMOG	**Moghan**	**5.67**	**23**	Pn	Pn	08 00 01.0	0.0
IMOG				Sn	Sg	08 01 37.5	-1.3
IMOG				Sn	Sg	08 01 38.1	-0.7
IMOG	**Moghan**	**5.67**	**23**	*e*Pn	Pn	08 00 01.3	+0.3
IFIR	**Firoozkooh**	**5.71**	**327**	*e*Pn	Pn	08 00 01.8	+0.2
IFIR				*e*Pn	Pn	08 00 02.1	+0.5
IFIR				*e*Pn	Pn	08 00 02.1	+0.5
IFIR				*e*Sn	Sg	08 01 37.5	-2.6
IFIR				*e*Sn	Sg	08 01 37.9	-2.2
IFIR	**Firoozkooh**	**5.71**	**327**	Pn	Pn	08 00 01.8	+0.2
IFIR				Sn	Sg	08 01 37.5	-2.6
IFIR				Sn	Sg	08 01 37.8	-2.3
IFIR	**Firoozkooh**	**5.71**	**327**	*e*Pn	Pn	08 00 02.1	+0.5
IVRN	**Varamin**	**5.78**	**316**	*e*Pn	Pn	08 00 02.7	+0.3
IVRN				*e*Pn	Pn	08 00 02.9	+0.5
IVRN				*e*Pn	Pn	08 00 02.9	+0.5
IVRN				*e*Sn	Sg	08 01 43.3	+1.2
IVRN				*e*Sn	Sg	08 01 43.8	+1.7
IVRN	**Varamin**	**5.78**	**316**	Pn	Pn	08 00 02.6	+0.2
IVRN				Sn	Sg	08 01 43.2	+1.1
IVRN				Sn	Sg	08 01 43.8	+1.7
IKIA	**Kiasar**	**5.82**	**336**	*e*Pn	Pn	08 00 03.6	+0.6
IKIA				*e*Pn	Pn	08 00 03.7	+0.7
IKIA				*e*Sn	Sg	08 01 44.9	+1.4
IKIA	**Kiasar**	**5.82**	**336**	Pn	Pn	08 00 03.5	+0.5
IKIA				Sn	Sg	08 01 44.9	+1.4
IPAY	**Payeh**	**5.88**	**19**	*e*Pn	Pn	08 00 02.9	-1.0
IPAY				*e*Pn	Pn	08 00 03.8	-0.1
IPAY				*e*Pn	Pn	08 00 04.2	+0.3
IPAY				*e*Sn	Sb	08 01 31.0	+1.2
IPAY				*e*Sn	Sb	08 01 32.0	+2.2
IPAY	**Payeh**	**5.88**	**19**	Pn	Pn	08 00 02.9	-1.0
IPAY				Sn	Sb	08 01 30.9	+1.1
IPAY				Sn	Sb	08 01 31.9	+2.1
IPAY	**Payeh**	**5.88**	**19**	*e*Pn	Pn	08 00 04.2	+0.3
IAKL	**Akhlamad**	**5.93**	**17**	*e*Pn	Pn	08 00 04.6	+0.1
IAKL				*e*Pn	Pn	08 00 04.9	+0.4
IAKL				*e*Sn	Sg	08 01 43.7	-3.3
IAKL	**Akhlamad**	**5.93**	**17**	Pn	Pn	08 00 04.5	0.0
IAKL				Sn	Sg	08 01 43.7	-3.3
IAKL	**Akhlamad**	**5.93**	**17**	*e*Pn	Pn	08 00 04.9	+0.4
IDMV	**Damavand**	**6.03**	**322**	*e*Pn	Pn	08 00 05.4	-0.4
IDMV				*e*Pn	Pn	08 00 06.2	+0.4
IDMV				*e*Pn	Pn	08 00 06.2	+0.4
IDMV				*e*Sn	Sg	08 01 47.4	-2.7
IDMV				*e*Sn	Sg	08 01 47.8	-2.3
IDMV	**Damavand**	**6.03**	**322**	Pn	Pn	08 00 05.3	-0.5
IDMV				Sn	Sg	08 01 47.4	-2.7
IDMV				Sn	Sg	08 01 47.8	-2.3
IDMV	**Damavand**	**6.03**	**322**	*e*Pn	Pn	08 00 06.2	+0.4
IKRD	**Kardeh**	**6.07**	**15**	*e*Pn	Pn	08 00 09.5	+3.1
IKRD				*e*Pn	Pn	08 00 09.5	+3.1
IKRD				*e*Pn	Pn	08 00 10.6	+4.2
IKRD				*e*Sn	Sg	08 01 56.4	+5.0
IKRD				*e*Sn	Sg	08 01 56.5	+5.1
HATD	**Hatta, Dubai**	**6.07**	**184**	⇓P	Pn	08 00 06.5	+0.1
DAMV	**Damavand**	**6.10**	**322**	*e*Pn	Pn	08 00 07.6	+0.8
DAMV				AML	AML	08 02 08.8	
	comp=N,107nm,0.7s						
DAMV				AML	AML	08 02 09.9	
	comp=E,98nm,0.8s						
IMYA	**Miamay**	**6.16**	**27**	*e*Pn	Pn	08 00 07.9	+0.2
IMYA				*e*Pn	Pn	08 00 07.9	+0.2
IMYA				*e*Pn	Pn	08 00 08.1	+0.4
IMYA				*e*Sn	Sg	08 01 54.0	-0.4
IMYA				*e*Sn	Sg	08 01 54.0	-0.4
IMYA	**Miamay**	**6.16**	**27**	Pn	Pn	08 00 07.8	+0.1
IMYA				Sn	Sg	08 01 53.9	-0.5
ASHO	**Ashiyiah**	**6.22**	**185**	P	Pn	08 00 08.0	-0.5
	SNR=40						
ISFR	**Esferayen**	**6.23**	**10**	*e*Pn	Pn	08 00 08.7	0.0
ISFR				*e*Pn	Pn	08 00 08.7	0.0
ISFR				*e*Pn	Pn	08 00 09.2	+0.5
ISFR				*e*Sn	Sg	08 01 46.6	-10
ISFR				*e*Sn	Sg	08 01 47.0	-10
ISFR	**Esferayen**	**6.23**	**10**	Pn	Pn	08 00 08.6	-0.1
ISFR				Sn	Sg	08 01 46.5	-10
ISFR				Sn	Sg	08 01 47.0	-10
ISFR	**Esferayen**	**6.23**	**10**	*e*Pn	Pn	08 00 09.2	+0.5
IPRN	**Paran-Amol**	**6.44**	**327**	*e*Pn	Pn	08 00 10.3	-1.3
IPRN				*e*Pn	Pn	08 00 11.1	-0.5
IPRN				*e*Pn	Pn	08 00 11.6	0.0
IPRN				*e*Sn	Sg	08 01 53.2	-10
IPRN				*e*Sn	Sg	08 01 53.4	-10
IPRN	**Paran-Amol**	**6.44**	**327**	Pn	Pn	08 00 10.3	-1.3
IPRN				Sn	Sg	08 01 53.1	-10
IPRN				Sn	Sg	08 01 53.3	-10
ASAO	**Ashtian**	**6.62**	**305**	*e*Pn	Pn	08 00 14.6	+0.6
ASAO	**Ashtian**	**6.62**	**305**	*e*Pn	Pn	08 00 14.0	0.0
ISHV	**Shirvan**	**6.67**	**8**	*e*Pn	Pn	08 00 15.3	+0.5
ISHV				*e*Pn	Pn	08 00 15.3	+0.5
ISHV				*e*Pn	Pn	08 00 15.4	+0.6
ISHV				*e*Sn	Sg	08 02 11.3	+0.4
ISHV				*e*Sn	Sg	08 02 11.3	+0.4
ISHV	**Shirvan**	**6.67**	**8**	Pn	Pn	08 00 15.2	+0.4
ISHV				Sn	Sg	08 02 11.2	+0.3
IEMG	**Emamqoli**	**6.71**	**14**	*e*Pn	Pn	08 00 14.4	-0.8
IEMG				*e*Pn	Pn	08 00 14.4	-0.8
IEMG				*e*Pn	Pn	08 00 15.8	+0.6
IEMG				*e*Sn	Sg	08 02 10.4	-1.6
IEMG				*e*Sn	Sg	08 02 10.4	-1.6
IEMG	**Emamqoli**	**6.71**	**14**	*e*Pn	Pn	08 00 15.8	+0.6
IMHD	**Mahdasht**	**6.88**	**315**	*e*Pn	Pn	08 00 16.1	-1.5
IMHD				*e*Pn	Pn	08 00 16.9	-0.7
IMHD				*e*Pn	Pn	08 00 18.0	+0.4
IMHD				*e*Sn	Sg	08 02 08.8	-8.7
IMHD				*e*Sn	Sg	08 02 09.5	-8.0
IMHD	**Mahdasht**	**6.88**	**315**	Pn	Pn	08 00 16.0	-1.6
IMHD				Sn	Sg	08 02 08.7	-8.8
IMHD				Sn	Sg	08 02 09.5	-8.0
IMHD	**Mahdasht**	**6.88**	**315**	*e*Pn	Pn	08 00 18.0	+0.4
VAN	**Vannovskaya**	**7.14**	**10**	*e*P	Pn	08 00 22.8	+1.7
IRAZ	**Razeghan**	**7.17**	**311**	*e*Pn	Pn	08 00 21.7	+0.2
IRAZ				*e*Pn	Pn	08 00 21.8	+0.3
IRAZ				*e*Pn	Pn	08 00 22.7	+1.2
IRAZ	**Razeghan**	**7.17**	**311**	Pn	Pn	08 00 21.6	+0.1
IRAZ	**Razeghan**	**7.17**	**311**	*e*Pn	Pn	08 00 21.8	+0.3
ASH	**Ashkhabad**	**7.17**	**11**	*e*P	Pn	08 00 23.0	+1.4
HOQ	**Hoqain**	**7.32**	**175**	⇑P	Pn	08 00 21.6	-2.0
	SNR=11						
BIDO	**Bidbid**	**7.48**	**169**	P	Pn	08 00 23.3	-2.5
	SNR=13						
ARQ	**Araqi**	**7.54**	**181**	⇑P	Pn	08 00 26.3	-0.3
UMR	**Umm Al-Rimmam**	**7.80**	**262**	*e*P	Pn	08 00 29.2	-1.0
QRN	**Al-Qurain**	**7.84**	**256**	*e*P	Pn	08 00 29.9	-0.8
KBD	**Kabd**	**7.91**	**260**	*e*P	Pn	08 00 31.9	+0.2
KBD				AML	AML	08 01 58.0	
	comp=Z,132nm,0.6s						
SMDO	**Samad**	**7.92**	**170**	P	Pn	08 00 30.3	-1.6
	SNR=12						
MIB	**Mutribah**	**8.07**	**265**	*e*P	Pn	08 00 34.1	+0.1
RDF	**Al-Radifah**	**8.09**	**258**	*e*P	Pn	08 00 33.8	-0.4
RDF				AML	AML	08 02 03.7	
	comp=Z,49nm,0.6s						
BSY	**Bisya**	**8.15**	**176**	⇓P	Pn	08 00 36.2	+1.3
BSYO	**Bisya**	**8.16**	**176**	P	Pn	08 00 36.2	+1.0
IKOM	**Komasi**	**8.33**	**295**	*e*Pn	Pn	08 00 37.1	-0.4
IKOM				*e*Pn	Pn	08 00 38.3	+0.8
IKOM				*e*Pn	Pn	08 00 38.3	+0.8
IKOM				*e*Sn	Sn	08 02 50.8	+39
IKOM				*e*Sn	Sn	08 02 51.6	+40
IKOM	**Komasi**	**8.33**	**295**	Pn	Pn	08 00 37.0	-0.5
IKOM				Sn	Sn	08 02 50.7	+39
IKOM				Sn	Sn	08 02 51.5	+40
JMDO	**Jabal Madar**	**8.61**	**171**	P	Pn	08 00 40.6	-0.6
	SNR=8.4						
SNGE	**Sanandaj**	**8.82**	**301**	*e*Pn	Pn	08 00 44.9	+0.7
BHD	**Baghdad**	**10.63**	**286**	*ex*	x	08 01 07.0	
BHD				*ex*	x	08 03 32.0	
MSL	**Mosul**	**12.47**	**299**	*ex*	x	08 01 32.0	
MSL				*ex*	x	08 03 52.0	
GNI	**Garni**	**13.34**	**317**	Pn	Pn	08 01 48.0	+1.9
	comp=Z,0.3nm,0.3s,baz=134,slow=16,SNR=2.6						
GNI				LR	LR	08 06 51.1	
	comp=Z,296nm,21.7s,baz=328,slow=38						
GNI	**Garni**	**13.34**	**317**	*i* P	Pn	08 01 49.5	+3.5
ZEI	**Tsey**	**15.58**	**323**	*e*P	Pn	08 02 19.7	+3.3
ANR	**Andizhan**	**16.10**	**48**	*e*P	Pn	08 02 24.0	+0.9
KELT	**Kelkit**	**16.84**	**308**	*i* P	Pn	08 02 31.4	-1.0
ASF	**Jabal al Asfar**	**16.84**	**279**	Pn	Pn	08 02 29.2	-3.3
	comp=Z,0.5nm,0.3s,baz=308,slow=13,SNR=7.6						
ASF				LR	LR	08 10 35.3	
	comp=Z,694nm,18.1s,baz=4.3,slow=43						
ASF	**Jabal al Asfar**	**16.84**	**279**	P	Pn	08 02 29.2	-3.3
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,694nm,18.1s						
KIV	**Kislovodsk**	**17.05**	**324**	⇑*e*P	Pn	08 02 38.6	+3.5
KIV				pmax	pmax		
	comp=Z,33nm,1.1s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
KIV	**Kislovodsk**	**17.05**	**324**	*e*Pn	Pn	08 02 38.3	+3.2
	comp=Z,44nm,1.3s						
KIV	**Kislovodsk**	**17.05**	**324**	*e*Pn	Pn	08 02 38.3	+3.2
HWQ	**Hawqa**	**17.72**	**286**	*e*P	Pn	08 02 44.8	+1.4
BHL	**Bhannes**	**17.93**	**285**	*e*P	Pn	08 02 47.4	+1.3
MMAI	**Mount Meron Ar**	**18.10**	**282**	P	Pn	08 02 48.0	-0.3
	comp=Z,1.0nm,0.3s,baz=95,slow=16,SNR=12						
MMAI				LR	LR	08 11 18.9	
	comp=Z,597nm,18.2s,baz=85,slow=42						
MATL	**Matirih**	**18.18**	**284**	*e*P	Pn	08 02 50.6	+1.5
SOC	**Sochi**	**18.41**	**318**	*e*P	Pn	08 02 52.7	+0.7
SOC				*e*		08 06 19.4	
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,212nm,12.0s						
SOC	**Sochi**	**18.41**	**318**	*e*P	Pn	08 02 52.7	+0.7
	comp=Z,8.0nm,0.7s						
AAK	**Ala-Archa**	**18.47**	**46**	⇑*e*P	Pn	08 02 52.5	-0.2
AAK				pmax	pmax		
	comp=Z,16nm,2.2s						
AAK				MLR	MLR		
	comp=Z,200nm,18.0s						
AAK	**Ala-Archa**	**18.47**	**46**	*e*P	Pn	08 02 52.6	-0.1
	comp=Z,12nm,1.2s						
AAK	**Ala-Archa**	**18.47**	**46**	*e*P	Pn	08 02 52.5	-0.2
	comp=Z,200nm,18.0s						
AB31	**Akbulak array**	**18.50**	**7**	*i* P	Pn	08 02 52.0	-1.1
AB31				pmax	pmax		
	comp=Z,24nm,1.2s						
AB31	**Akbulak array**	**18.50**	**7**	*i* P	Pn	08 02 52.0	-1.1
	comp=Z,24nm,1.2s						
FRU	**Bishkek**	**18.65**	**45**	*e*P	Pn	08 02 55.8	+0.9
EIL	**Elat**	**18.73**	**272**	*e*P	Pn	08 02 56.5	+0.6
	comp=Z,258nm,0.9s						
EIL	**Elat**	**18.73**	**272**	*e*P	Pn	08 02 56.5	+0.6
	comp=Z,258nm,0.9s						
AVNT	**Avonos**	**19.47**	**300**	*i* P	Pn	08 03 02.1	-2.6
AKTK	**Aktyubinsk**	**19.54**	**3**	P	Pn	08 03 03.3	-2.3
AKTK				LR	LR	08 12 46.6	
AKTK	**Aktyubinsk**	**19.54**	**3**	P	Pn	08 03 03.3	-2.3
	comp=Z,206nm,18.0s						
AKTO	**Aktyubinsk**	**19.54**	**3**	P	Pn	08 03 03.3	-2.3
	comp=Z,0.2nm,0.3s,baz=193,slow=11,SNR=24						
AKTO				LR	LR	08 12 46.6	
	comp=Z,206nm,18.0s,baz=189,slow=44						
ANN	**Anapa**	**20.46**	**318**	*e*P	P	08 03 14.8	+0.5
ANN				*e**PP		08 03 19.4	
ANN				*e*S	S	08 07 05.4	+2.1
ANN				*e*SS		08 07 26.3	
ANN				pmax	pmax		
	comp=Z,38nm,1.2s						
ANN				MLR	MLR		
	comp=Z,241nm,12.0s,MS3.8						
ANN	**Anapa**	**20.46**	**318**	*e*P	P	08 03 14.8	+0.5
	comp=Z,38nm,1.2s						
ERMK	**Ermenek**	**20.48**	**293**	*i* P	P	08 03 14.6	0.0
BRTR	**Keskin Array B**	**20.65**	**301**	P	P	08 03 15.9	-0.5
	comp=Z,4.2nm,0.7s,baz=121,slow=12,SNR=17						
BRTR				LR	LR	08 13 09.6	
	comp=Z,216nm,19.1s,MS3.5,baz=110,slow=43						
BRTR	**Keskin Array B**	**20.65**	**301**	P	P	08 03 16.0	-0.5
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,216nm,19.1s						
ORR	**Orenburg**	**20.74**	**357**	*e*P	P	08 03 18.4	+1.0
ORR				*e*		08 03 38.2	
ORR				pmax	pmax		
	comp=Z,110nm,2.0s						
ORR	**Orenburg**	**20.74**	**357**	*e*P	P	08 03 18.4	+1.0
	comp=Z,110nm,2.0s						
SIM	**Simferopol'**	**22.51**	**315**	P	P	08 03 38.0	+1.6
SIM				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.4						
SIM	**Simferopol'**	**22.51**	**315**	P	P	08 03 38.0	+1.6
	comp=Z,19nm,1.2s,mb4.4						
ATD	**Arta Tunnel**	**23.11**	**216**	LR	LR	08 12 32.1	
	comp=Z,157nm,18.5s,MS3.5,baz=29,slow=36						
KOLN	**Koldanda**	**23.73**	**91**	*e*P	P	08 03 49.3	+0.3
	comp=Z,78nm,1.4s,mb4.9						
BVA0	**Borovoye Array**	**24.28**	**21**	*i* P	P	08 03 53.1	-0.9
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb3.8						
BVA0	**Borovoye Array**	**24.28**	**21**	*i* P	P	08 03 53.1	-0.9
	comp=Z,7.0nm,1.8s,mb3.8						
BVAR	**Borovoye Array**	**24.28**	**21**	P	P	08 03 53.6	-0.5
	comp=Z,4.4nm,0.8s,mb4.0,baz=207,slow=8.3,SNR=20						
BVAR				LR	LR	08 14 47.0	
	comp=Z,583nm,18.2s,MS4.1,baz=178,slow=40						
BVAR	**Borovoye Array**	**24.28**	**21**	P	P	08 03 53.6	-0.4
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR				MLR	MLR		
	comp=Z,583nm,18.2s						
GKN	**Gorkha**	**24.56**	**90**	*e*P	P	08 03 56.6	0.0
DMN	**Daman**	**25.06**	**90**	*e*P	P	08 04 01.0	-0.2
KKN	**Kakani**	**25.17**	**90**	*e*P	P	08 04 02.9	+0.8
	comp=Z,78nm,1.1s,mb5.2						
PKI	**Pulchoki**	**25.33**	**90**	*e*P	P	08 04 04.3	+0.7
	comp=Z,122nm,1.1s,mb5.3						
MK31	**Makanchi Array**	**25.38**	**44**	*i* P	P	08 04 03.2	-0.8
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
MK31	**Makanchi Array**	**25.38**	**44**	*i* P	P	08 04 03.2	-0.8
	comp=Z,3.0nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**25.38**	**44**	P	P	08 04 05.2	+1.1
	comp=Z,6.6nm,1.1s,mb4.1,baz=235,slow=10,SNR=16						
MKAR				LR	LR	08 14 49.8	
	comp=Z,356nm,18.6s,MS3.9,baz=247,slow=38						
MKAR	**Makanchi Array**	**25.38**	**44**	*e*P	P	08 04 03.2	-0.8
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**25.38**	**44**	*e*P	P	08 04 03.2	-0.8
	comp=Z,2.0nm,0.6s,mb3.8						
GUN	**Gumba**	**25.65**	**89**	*e*P	P	08 04 07.7	+1.2
	comp=Z,107nm,1.3s,mb5.2						
KURK	**Kurchatov**	**25.70**	**33**	⇑*e*P	P	08 04 08.7	+1.7
KURK	**Kurchatov**	**25.70**	**33**	*e*P	P	08 04 08.0	+1.0
	comp=Z,9.3nm,1.0s,mb4.3						
KURK	**Kurchatov**	**25.70**	**33**	*e*P	P	08 04 07.9	+0.9
	comp=Z,9.2nm,1.0s,mb4.3						
JIRN	**Jiri**	**25.98**	**90**	*e*P	P	08 04 11.0	+1.5
MLR	**Muntele Rosu**	**27.94**	**310**	P	P	08 04 27.7	+0.6
	comp=Z,1.0nm,0.5s,mb3.7,baz=272,slow=19,SNR=2.8						
MLR	**Muntele Rosu**	**27.94**	**310**	P	P	08 04 27.7	+0.6
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
OBN	**Obninsk**	**28.08**	**335**	*e*P	P	08 04 29.6	+1.2
OBN				*e*		08 07 43.5	
OBN				*e*S	S	08 09 14.4	+1.3
OBN				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
OBN	**Obninsk**	**28.08**	**335**	*e*P	P	08 04 29.6	+1.2
	comp=Z,15nm,1.2s,mb4.5						
AKASG	**Malin Array Be**	**28.38**	**322**	P	P	08 04 29.8	-1.2
	comp=Z,0.9nm,0.7s,mb3.5,baz=123,slow=8.1,SNR=8.1						
AKASG	**Malin Array Be**	**28.38**	**322**	P	P	08 04 29.8	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**30.68**	**33**	LR	LR	08 19 42.6	
	comp=Z,186nm,21.6s,MS3.7,baz=77,slow=41						
GTA	**Gaotai**	**36.06**	**64**	*e*P	P	08 05 40.0	+1.7
GTA				AP	pP	08 05 48.3	+6.9
GTA				XP	sP	08 05 51.7	+9.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,87nm,4.9s						
GTA				LR	LR		
	comp=N,273nm,16.4s,MS4.3						
GTA				LR	LR		
	comp=E,214nm,12.5s,MS4.3						
GTA				LR	LR		
	comp=Z,236nm,14.5s,MS4.1						
FINES	**FINESS Array B**	**36.48**	**336**	P	P	08 05 41.5	-0.5
	comp=Z,3.6nm,0.8s,mb4.4,baz=130,slow=15,SNR=4.0						
FINES	**FINESS Array B**	**36.48**	**336**	P	P	08 05 41.5	-0.4
FIN

comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,129nm,19.6s
WRA Warramunga Arr 90.09 113 P **P** **08 11 37.1 +0.3**
comp=Z,0.5nm,0.6s,mb4.0,baz=317,slow=4.2,SNR=6.6
WRA Warramunga Arr 90.09 113 P **P** **08 11 37.1 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.6s
MAW Mawson 98.32 178 LR LR 08 48 38.5
comp=Z,74nm,18.9s,MS4.2,baz=236,slow=30

*IDC **08** 08:06:54.5±1.0,4744N×154.17E,h0km,mb3.7/8,*
mb1 4.0/9,mb1mx3.8/22,mbtmp3.7/9,ML4.0/1,Error
ellipse: s-maj=30.8km s-min=25.0km az=150.0
*NEIC **08** 08:06:55.9±0.8,4746N×154.01E,h10km,mb3.7/2,Error*
ellipse: s-maj=25.3km s-min=13.6km az=135.0
*ISCJB **08** 08:07:02.0±1.7,473N±0.1×1539E±02,h78km±16km,*
mb3.6/9,Error ellipse: s-maj=28.7km s-min=13.2km
az=85.9
*MOS **08** 08:07:02.3±1.7,4736N×153.76E,h77km,mb4.2/4,Error*
ellipse: s-maj=30.8km s-min=15.9km az=70.3
ISC 08 08:07:03.1±1.6,473N±01×1539E±02,h76km±15km,n21,
σ1⁹21/21,mb3.6/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.72**	**22**	*e*PN	**Pn**	**08 07 58.5**	**+0.4**
MAJO	**Matsushiro**	**15.82**	**233**	*e*P	**Pn**	**08 10 39.7**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MAJO	**Matsushiro**	**15.82**	**233**	*e*Pn	**Pn**	**08 10 39.7**	**-1.5**
	comp=Z,3.5nm,0.5s						
MJAR	**Matsushiro Arr**	**15.82**	**233**	Pn	**Pn**	**08 10 42.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=48,slow=12,SNR=4.9						
MJAR	**Matsushiro Arr**	**15.82**	**233**	P	**Pn**	**08 10 42.1**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**08 15 27.5**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.4,baz=61,slow=8.8,SNR=4.4						
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**08 15 27.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.19**	**37**	P	**P**	**08 15 50.3**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=295,slow=7.4,SNR=3.9						
YKA	**Yellowknife Ar**	**50.19**	**37**	P	**P**	**08 15 50.3**	**-0.7**
CHKZ	**Chkalovo**	**50.51**	**310**	*e*P	**P**	**08 15 51.6**	**-1.9**
	comp=Z,0.3nm,0.5s,mb3.6						
ARCES	**ARCESS Array B**	**57.54**	**341**	P	**P**	**08 16 45.4**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.4,baz=24,slow=7.0,SNR=2.9						
ARCES	**ARCESS Array B**	**57.54**	**341**	P	**P**	**08 16 45.4**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PDAR	**Pinedale Array**	**64.01**	**54**	P	**P**	**08 17 28.2**	**-0.3**
	comp=Z,0.4nm,0.8s,mb3.3,baz=316,slow=4.1,SNR=3.6						
WRA	**Warramunga Arr**	**69.18**	**200**	P	**P**	**08 18 04.7**	**+3.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=14,slow=6.3,SNR=5.0						
WRA	**Warramunga Arr**	**69.18**	**200**	P	**P**	**08 18 04.7**	**+3.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.42**	**327**	P	**P**	**08 18 15.5**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.6,baz=33,slow=6.6,SNR=3.2						
TXAR	**Lajitas Array**	**76.77**	**61**	P	**P**	**08 18 45.5**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.4,baz=296,slow=4.0,SNR=6.4						
TXAR	**Lajitas Array**	**76.77**	**61**	P	**P**	**08 18 45.5**	**-0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.77**	**61**	P	**P**	**08 18 45.5**	**-0.8**
BRTR	**Keskin Array B**	**78.38**	**317**	P	**P**	**08 18 57.5**	**+2.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=91,slow=4.9,SNR=4.1						
BRTR	**Keskin Array B**	**78.38**	**317**	P	**P**	**08 18 57.6**	**+2.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*BJI **08** 08:48:44.1,3674N×13445E,h352km,mb4.4*
*ISCJB **08** 08:48:45.5±0.3,3730N±006×13484E±007,h390km±5km,*
mb3.9/11,Error ellipse: s-maj=10.3km s-min=7.8km
az=107.9
*JMA **08** 08:48:45.7±0.2,3726N×13483E,h390km±2km,M3.4*
*IDC **08** 08:48:46.3±1.1,3734N×13471E,h380km±12km,mb3.1/5,*
mb1 3.3/9,mb1mx3.1/25,mbtmp3.2/9,Error ellipse:
s-maj=18.1km s-min=15.3km az=71.0
*NEIC **08** 08:48:46.0±0.6,3738N×13474E,h380km±8km,mb4.3/2,*
Error ellipse: s-maj=14.8km s-min=12.2km az=121.0
ISC 08 08:48:46.4±0.3,3730N±006×13485E±007,h383km±5km,
n39,σ0⁹73/45,mb3.9/11,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.57**	**130**	P	**Pn**	**08 49 38.3**	**+0.1**
JJH	**Hakui**	**1.59**	**103**	P	**Pn**	**08 49 38.6**	**+0.3**
JSZ	**Suzu**	**2.01**	**85**	P	**Pn**	**08 49 41.3**	**+0.5**
JWT	**Wachi**	**2.06**	**167**	P	**Pn**	**08 49 41.4**	**+0.3**
JWT				S	**S**	**08 50 24.5**	**-0.8**
JGM	**Miyama**	**2.19**	**136**	P	**Pn**	**08 49 42.0**	**0.0**
JGM				*e*S	**S**	**08 50 25.7**	**-1.2**
JHS	**Saijyo**	**2.69**	**212**	P	**Pn**	**08 49 45.2**	**-0.5**
MAJO	**Matsushiro**	**2.79**	**105**	*e*Pn	**Pn**	**08 49 46.6**	**+0.1**
MAT	**Matsushiro**	**2.79**	**105**	P	**Pn**	**08 49 46.7**	**+0.2**
MAT				*e*S	**S**	**08 50 36.7**	**+1.6**
MAT	**Matsushiro**	**2.79**	**105**	P	**Pn**	**08 49 46.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.80**	**105**	P	**Pn**	**08 49 47.2**	**+0.6**
	6.0nm,0.3s,baz=283,slow=10,SNR=90						
JSD	**Sado**	**2.81**	**74**	P	**Pn**	**08 49 46.9**	**+0.2**
JIE	**Ise**	**3.27**	**152**	P	**Pn**	**08 49 50.9**	**+0.4**
JRY	**Ryogami san**	**3.50**	**110**	P	**Pn**	**08 49 53.2**	**+0.6**
JWZ	**Kozaga**	**3.82**	**169**	P	**Pn**	**08 49 55.8**	**+0.1**
JOD2	**Odawara 2**	**3.98**	**119**	P	**Pn**	**08 49 57.3**	**+0.1**
JOD2				S	**S**	**08 50 55.0**	**+0.5**
JTO	**Tosashimizu**	**4.73**	**201**	P	**Pn**	**08 50 04.6**	**-0.1**
JNU	**Nakatsue**	**5.28**	**219**	P	**Pn**	**08 50 10.9**	**+0.4**
	1.1nm,0.3s,baz=268,slow=24,SNR=3.9						
JMK	**Ichinoseki**	**5.29**	**70**	P	**Pn**	**08 50 10.5**	**-0.1**
KSRS	**Korea Array**	**5.52**	**274**	P	**Pn**	**08 50 13.1**	**+0.1**
	baz=90,slow=12,SNR=16						
BSO1	**Boso 1**	**5.63**	**116**	P	**Pn**	**08 50 13.0**	**-1.2**
BSO1				S	**S**	**08 51 23.0**	**-2.6**
JOSM	**Okushiri--Mats**	**5.97**	**35**	P	**Pn**	**08 50 18.7**	**+0.8**
JOT	**Ohata**	**6.30**	**48**	P	**Pn**	**08 50 22.0**	**+0.3**
JKB	**Kayabe**	**6.62**	**44**	P	**Pn**	**08 50 25.3**	**+0.1**
ERM	**Erimo**	**7.95**	**51**	*e*Pn	**Pn**	**08 50 39.6**	**-0.9**
	24nm,0.3s						
ERM				*e*S	**S**	**08 52 04.6**	**-9.2**
ASAJ	**Asahikawa**	**9.00**	**38**	P	**Pn**	**08 50 51.7**	**-0.9**
	8.1nm,0.3s,baz=239,slow=9.5,SNR=30						
SONM	**Songino Array**	**23.33**	**306**	P	**P**	**08 53 20.6**	**-1.6**
	1.0nm,0.7s,mb3.4,baz=111,slow=9.2,SNR=6.6						
LZH	**Lanzhou**	**24.84**	**277**	*e*P	**P**	**08 53 37.0**	**+1.3**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.4						
MKAR	**Makanchi Array**	**39.51**	**301**	P	**P**	**08 55 40.2**	**-1.4**
	comp=Z,0.9nm,0.7s,mb3.2,baz=92,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**39.51**	**301**	P	**P**	**08 55 40.2**	**-1.4**
JIRN	**Jiri**	**41.77**	**271**	*e*P	**P**	**08 56 00.1**	**+0.3**
	comp=Z,14nm,0.6s,mb4.4						
GUN	**Gumba**	**41.91**	**272**	*e*P	**P**	**08 56 00.3**	**-0.6**
	comp=Z,10nm,0.4s,mb4.5						
KKN	**Kakani**	**42.44**	**272**	*e*P	**P**	**08 56 05.6**	**+0.4**
GKN	**Gorkha**	**42.86**	**273**	*e*P	**P**	**08 56 08.4**	**-0.1**
	comp=Z,15nm,0.6s,mb4.5						
KOLN	**Koldanda**	**43.78**	**273**	*e*P	**P**	**08 56 16.0**	**+0.2**
	comp=Z,4.6nm,0.3s,mb4.3						
WRAB	**Tennant Creek**	**56.92**	**181**	*e*P	**P**	**08 57 53.4**	**+0.4**
	comp=Z,3.0nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**56.93**	**181**	P	**P**	**08 57 53.2**	**+0.1**
	comp=Z,1.6nm,0.5s,mb3.6,baz=359,slow=7.5,SNR=35						
WRA				PcP	PcP	08 58 43.9	+0.5
	comp=Z,0.3nm,0.5s,baz=355,slow=4.4,SNR=4.9						
YKA	**Yellowknife Ar**	**66.15**	**28**	P	**P**	**08 58 54.5**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.0,baz=315,slow=6.3,SNR=8.8						
YKA	**Yellowknife Ar**	**66.15**	**28**	P	**P**	**08 58 54.5**	**+0.6**
STKA	**Stephens Creek**	**69.10**	**174**	P	**P**	**08 59 12.6**	**+0.4**
	comp=Z,3.3nm,1.3s,mb3.8,baz=9.5,slow=6.1,SNR=3.0						

*STR **08** 09:01:42.5±0.3,4757N×762E,h5km±1km,Ml1.9,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*LDG **08** 09:01:43.0±0.1,4759N×758E,h10km,Md2.3/1,Ml2.4/7,*
Error ellipse: s-maj=2.4km s-min=1.8km az=130.0
ZUR 08 09:01:43.0,4758N×760E,h5km±1km,ML1.8,1C-2D,
Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**166**	⇓*i*Pg	**Pg**	**09 01 48.3**	**+0.4**
	352nm,0.3s						
BALST				*e*Sg	Sg	09 01 52.0	+0.7
	352nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	09 01 49.4	+0.3
	103nm,1.9s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Pg	09 01 49.9	+0.1
	126nm,0.5s						
SULZ				*e*Sg	Sg	09 01 54.8	+0.5
	126nm,0.5s						
MOF	**Molkenrain**	**0.42**	**310**	Pg	Pg	09 01 51.0	0.0
MOF				Sg	Sg	09 01 56.7	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	09 01 53.3	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	09 01 55.0	+1.3
HINF				*e*Sn	Sg	09 02 04.1	+3.1
	15nm,0.2s						
LOMF	**Lomont**	**0.57**	**247**	Pg	Pg	09 01 54.2	+0.1
LOMF				Sg	Sg	09 02 02.3	+0.8
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	09 01 54.8	-0.3
	178nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	09 01 56.7	+0.2
ECH				Sg	Sg	09 02 05.4	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	09 01 59.2	-0.3
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	09 01 59.8	-2.0
CDF				*e*Sg	Sg	09 02 09.8	-0.8
CDF				*e*Sn	Sn	09 02 11.5	-3.2
	18nm,0.2s						
HAU	**Haudompre**	**0.95**	**297**	*e*Pg	Pg	09 02 00.5	-0.7
HAU				*e*Sg	Sg	09 02 13.4	-0.1
	22nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	09 02 10.0	-0.2
CABF				*e*Sg	Sg	09 02 27.2	-1.4
	4.3nm,0.2s						
SFTF	**Sexfontaines**	**1.84**	**291**	*e*Sg	Sg	09 02 41.0	-1.0
	5.4nm,0.2s						
LPL	**La Plagne**	**2.15**	**197**	*e*Sg	Sg	09 02 50.9	-1.2
	1.9nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	09 02 51.1	-1.5
	1.5nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	09 03 02.2	-3.1
	4.6nm,0.3s						

*ISCJB **08** 09:03:59.4±0.2,4758N±001×757E±002,h11km±2km,*
Error ellipse: s-maj=2.4km s-min=1.9km az=126.9
*STR **08** 09:04:00.8±0.1,4759N×762E,h5km±1km,Ml2.4,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*LEDBW **08** 09:04:01.1±0.1,47590N±0004×7607E±0004,h6km±1km,*
ML2.6,Error ellipse: s-maj=1.2km s-min=1.0km az=137.0
*NEIC **08** 09:04:01.0,4758N×760E,h5km,ML2.6(LEDBW),*
ML2.5(STR),ML2.8(LDG),After ZUR.
NEIC Felt in the Basel area.
*LDG **08** 09:04:01.1±0.1,4759N×757E,h10km,Md2.6/1,Ml2.8/14,*
Error ellipse: s-maj=1.2km s-min=0.7km az=147.0
*ZUR **08** 09:04:01.0,4758N×760E,h5km±1km,ML2.2*
ISC 08 09:04:00.0±0.2,4758N±001×757E±002,h14km±2km,n94,
σ0⁹83/165,17C-13D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.03**	**56**	⇓*i*Pg	**Pg**	**09 04 02.2**	**-0.3**
WEIL				*i* Sg	**Sg**	**09 04 03.4**	**-0.8**
WYH	**Wyhlen**	**0.09**	**108**	⇓*i*Pg	**Pg**	**09 04 02.9**	**-0.1**
WYH				*i* Sg	**Sg**	**09 04 04.3**	**-0.9**
BBS	**Basel-Blauen**	**0.12**	**200**	⇑*i*P*	**Pg**	**09 04 04.1**	**+0.7**
BBS				S*	**Sg**	**09 04 06.2**	**+0.4**
BBS	**Basel-Blauen**	**0.12**	**200**	⇑*i*P	**Pg**	**09 04 04.1**	**+0.7**
BBS				S	**Sg**	**09 04 06.2**	**+0.4**
BBS	**Basel-Blauen**	**0.12**	**200**	⇑*i*Pg	**Pg**	**09 04 04.1**	**+0.7**
BBS				Sg	**Sg**	**09 04 06.2**	**+0.4**
BBS	**Basel-Blauen**	**0.12**	**200**	Pg	**Pg**	**09 04 04.0**	**+0.6**
BBS				Sg	**Sg**	**09 04 06.4**	**+0.6**
ENDD	**Endenburg**	**0.18**	**40**	⇑*i*Pg	**Pg**	**09 04 04.2**	**+0.1**
ENDD				*i* Sg	**Sg**	**09 04 06.6**	**-0.5**
BALST	**Balsthal**	**0.26**	**161**	*e*Sg	**Sg**	**09 04 06.3**	**-2.9**
	1μm,0.3s						
BALST	**Balsthal**	**0.26**	**161**	⇓*i*Pg	**Sg**	**09 04 10.2**	**+1.0**
	1μm,0.3s						
BALST	**Balsthal**	**0.26**	**161**	⇓*i*Pg	**Sg**	**09 04 10.2**	**+1.0**
	1μm,0.3s						
BOURR	**Bourrignon**	**0.30**	**231**	⇑*i*Pg	**Pg**	**09 04 07.4**	**+1.2**
	361nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.37**	**98**	⇑*i*Pg	**Pg**	**09 04 08.0**	**+0.4**
	490nm,0.3s						
SULZ				*e*Sg	**Sg**	**09 04 12.8**	**+0.2**
	490nm,0.3s						
MOF	**Molkenrain**	**0.40**	**313**	⇓⇓*i*P*	**Pg**	**09 04 09.2**	**+1.1**
MOF				⇑*i*PmP		09 04 12.0	
MOF				*i* S*	**Sg**	**09 04 14.8**	**+1.3**
MOF				SmS		09 04 18.5	
MOF	**Molkenrain**	**0.40**	**313**	⇓⇓*i*Pg	**Pg**	**09 04 09.2**	**+1.1**
MOF				*i* Sg	**Sg**	**09 04 14.8**	**+1.3**
MOF	**Molkenrain**	**0.40**	**313**	⇑*i*PmP		09 04 12.0	
MOF				Sx	Sx	09 04 18.5	
MOF	**Molkenrain**	**0.40**	**313**	Pg	**Pg**	**09 04 08.9**	**+0.8**
MOF				Sg	**Sg**	**09 04 14.7**	**+1.2**
FELD	**Feldberg im Sc**	**0.42**	**44**	⇑*i*P*	**Pg**	**09 04 08.7**	**+0.3**
FELD				*i* S*	**Sg**	**09 04 14.2**	**+0.2**
FELD	**Feldberg im Sc**	**0.42**	**44**	⇑*i*P	**Pg**	**09 04 08.7**	**+0.3**
FELD				*i* S	**Sg**	**09 04 14.2**	**+0.2**
FELD	**Feldberg im Sc**	**0.42**	**44**	⇑*i*Pg	**Pg**	**09 04 08.7**	**+0.3**
FELD				*i* Sg	**Sg**	**09 04 14.2**	**+0.2**
FELD	**Feldberg im Sc**	**0.42**	**44**	Pg	**Pg**	**09 04 08.6**	**+0.2**
FELD				Sg	**Sg**	**09 04 14.1**	**+0.1**
KIZ	**Kirchzarten**	**0.44**	**32**	⇑*i*P*	**Pg**	**09 04 09.2**	**+0.3**
KIZ				PmP		09 04 10.8	
KIZ				*i* S*	**Sg**	**09 04 14.9**	**0.0**
KIZ				SmS		09 04 19.0	
KIZ	**Kirchzarten**	**0.44**	**32**	⇑*i*P	**Pg**	**09 04 09.2**	**+0.3**
KIZ				*i* S	**Sg**	**09 04 14.9**	**+0.1**
KIZ				S	**Sg**	**09 04 19.0**	**+4.2**
KIZ	**Kirchzarten**	**0.44**	**32**	⇑*i*Pg	**Pg**	**09 04 09.2**	**+0.3**
KIZ				*i* Sg	**Sg**	**09 04 14.9**	**0.0**
KIZ	**Kirchzarten**	**0.44**	**32**	PmP		09 04 10.8	
KIZ				SmS		09 04 19.0	
HINF	**Hinteralfeld**	**0.54**	**296**	*e*Pn	**Pg**	**09 04 12.8**	**+2.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**09 04 18.3**	**+0.5**
HINF				*e*Sn	**Sg**	**09 04 22.1**	**+4.3**
	98nm,0.2s						
HINF	**Hinteralfeld**	**0.54**	**296**	*e*Pg	**Pg**	**09 04 11.3**	**+0.7**
HINF				*e*Pn	**Pg**	**09 04 12.8**	**+2.2**
HINF				*e*Sg	**Sg**	**09 04 18.3**	**+0.5**
HINF				*e*Sn	**Sg**	**09 04 22.1**	**+4.3**
HINF	**Hinteralfeld**	**0.54**	**296**	*e*Pn	**Pg**	**09 04 12.8**	**+2.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**09 04 18.3**	**+0.5**
HINF				*e*Sn	**Sg**	**09 04 22.1**	**+4.3**
	49nm,0.2s						
LOMF	**Lomont**	**0.55**	**246**	Pg	**Pg**	**09 04 12.1**	**+1.2**
LOMF				Sg	**Sg**	**09 04 20.7**	**+2.4**
LOMF	**Lomont**	**0.55**	**246**	⇑*i*P*	**Pb**	**09 04 12.3**	**+0.8**
LOMF				PmP		09 04 13.5	
LOMF	**Lomont**	**0.55**	**246**	PmP		09 04 13.5	
SLE	**Schleitheim**	**0.65**	**73**	*e*Sg	**Pg**	**09 04 12.9**	**+0.2**
	874nm,0.4s						
SLE	**Schleitheim**	**0.65**	**73**	⇑*i*Pg	**Sg**	**09 04 21.5**	**+0.1**
	874nm,0.4s						
ECH	**Echery**	**0.69**	**337**	Pg	**Pg**	**09 04 14.4**	**+0.8**
ECH	**Echery**	**0.69**	**337**	PmP		09 04 15.2	
ECH	**Echery**	**0.69**	**337**	PmP		09 04 15.2	
TRULL	**Truellikon**	**0.76**	**84**	*e*Pg	**Pg**	**09 04 15.2**	**+0.5**
	280nm,0.5s						
CDF	**Champ du Feu**	**0.86**	**347**	*e*Pn	**Pn**	**09 04 17.7**	**0.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**09 04 27.5**	**-0.4**
	40nm,0.3s,SNR=1.0						
CDF				*e*Sn	**Sn**	**09 04 29.6**	**-0.4**
	SNR=1.0						
CDF	**Champ du Feu**	**0.86**	**347**	*e*Pg	**Pg**	**09 04 17.1**	**+0.5**
CDF				*e*Pn	**Pn**	**09 04 17.7**	**0.0**
CDF				*e*Sg	**Sg**	**09 04 27.5**	**-0.4**
CDF				*e*Sn	**Sn**	**09 04 29.6**	**-0.4**
CDF	**Champ du Feu**	**0.86**	**347**	*e*Pn	**Pn**	**09 04 17.7**	**0.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**09 04 27.5**	**-0.4**
	20nm,0.3s,SNR=1.0						
CDF				*e*Sn	**Sn**	**09 04 29.6**	**-0.4**
	SNR=1.0						
BFO	**Black Forest**	**0.91**	**34**	P*	**Pb**	**09 04 17.8**	**+0.3**
BFO				PmP		09 04 18.3	
BFO				S*	**Sg**	**09 04 29.1**	**-0.4**
BFO				SmS		09 04 30.9	
BFO	**Black Forest**	**0.91**	**34**	PmP		09 04 18.3	
BFO				Sg	**Sg**	**09 04 29.1**	**-0.4**
BFO				SmS		09 04 30.9	
BFO	**Black Forest**	**0.91**	**34**	*e*Pg	**Pg**	**09 04 17.9**	**+0.3**
BFO				*e*Sg	**Sg**	**09 04 29.6**	**+0.1**
BNALP	**Bannalp**	**0.92**	**140**	*e*P	**Pb**	**09 04 18.6**	**+0.9**
	18nm,0.4s						
WILA	**Wila**	**0.92**	**100**	*e*Pg	**Pg**	**09 04 18.5**	**+0.6**
	98nm,0.3s						
HAU	**Haudompre**	**0.93**	**298**	*e*Pg	**Pg**	**09 04 18.5**	**+0.5**
HAU				*e*Sg	**Sg**	**09 04 31.1**	**+1.0**
	140nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**0.93**	**298**	*e*Pg	**Pg**	**09 04 18.5**	**+0.5**
HAU				*e*Sg	**Sg**	**09 04 31.1**	**+1.0**
	70nm,0.3s,SNR=1.0						
SISB	**Singen-Schiene**	**0.95**	**83**	⇑P*	**Pn**	**09 04 18.8**	**-0.2**
SISB				⇓*i*PmP		09 04 19.2	
SISB				S*	**Sb**	**09 04 31.4**	**+0.7**
SISB	**Singen-Schiene**	**0.95**	**83**	⇑Pn	**Pn**	**09 04 18.8**	**-0.2**
SISB				Sn	**Sb**	**09 04 31.4**	**+0.7**
SPAK	**Spaichingen-Ko**	**0.97**	**57**	P	**Pb**	**09 04 19.4**	**+0.7**
GUT	**Gutenstein**	**1.15**	**64**	⇑P	**Pb**	**09 04 21.4**	**-0.4**
GUT				Pg	**Pg**	**09 04 22.5**	**+0.3**
GUT				PmP		09 04 23.7	
GUT				Sg	**Sg**	**09 04 37.4**	**+0.2**
GUT	**Gutenstein**	**1.15**	**64**	⇑Pn	**Pb**	**09 04 21.4**	**-0.4**
GUT	**Gutenstein**	**1.15**	**64**	Px	Px	09 04 22.5	
GUT	**Gutenstein**	**1.15**	**64**	PmP		09 04 23.7	
GUT				Sx	Sx	09 04 37.4	
THEF	**They Montfort**	**1.25**	**302**	Pg	**Pg**	**09 04 24.6**	**+0.6**
LBG	**Lerchenberg**	**1.36**	**37**	Pg	**Pg**	**09 04 26.5**	**+0.3**
LBG				S	**Sn**	**09 04 41.3**	**-1.1**
LBG				Sg	**Sg**	**09 04 43.6**	**-0.3**
LBG	**Lerchenberg**	**1.36**	**37**	Px	Px	09 04 26.5	
LBG				Sn	**Sn**	**09 04 41.3**	**-1.1**
LBG				S	**Sg**	**09 04 43.6**	**-0.3**
CABF	**La Chapelle**	**1.40**	**227**	*e*Pg	**Pg**	**09 04 27.8**	**+0.8**
CABF				*e*Sg	**Sg**	**09 04 45.4**	**+0.2**
	16nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.40**	**227**	*e*Pn	**Pn**	**09 04 25.9**	**+0.7**
CABF				*e*Pg	**Pg**	**09 04 27.8**	**+0.8**
CABF				*e*Sg	**Sg**	**09 04 45.4**	**+0.2**
CABF	**La Chapelle**	**1.40**	**227**	*e*Pg	**Pg**	**09 04 27.8**	**+0.8**
CABF				*e*Sg	**Sg**	**09 04 45.4**	**+0.2**
	7.8nm,0.2s,SNR=1.0						
BUCH	**Bad Urach**	**1.48**	**53**	Pg	**Pg**	**09 04 28.7**	**+0.2**
BUCH				Sg	**Sg**	**09 04 47.4**	**-0.3**
DAVA	**Damuels**	**1.59**	**100**	⇓*i*Sg	**Sg**	**09 04 50.1**	**-1.3**
	comp=Z,25nm,0.3s						
DAVA	**Damuels**	**1.59**	**100**	⇓*i*Pn	**Pn**	**09 04 29.4**	**+1.6**
DAVA				⇓*i*Sg	**Sg**	**09 04 52.3**	**+0.9**
	25nm,0.3s						
DAVA	**Damuels**	**1.59**	**100**	⇑*i*Pn	**Pn**	**09 04 28.4**	**+0.6**
DAVA				*i* Sg	**Sg**	**09 04 50.1**	**-1.3**
DAVA	**Damuels**	**1.59**	**100**	Pn	**Pn**	**09 04 28.4**	**+0.6**
DAVA				Sg	**Sg**	**09 04 52.3**	**+0.9**
	25nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**09 04 35.0**	**+0.1**
SFTF				*e*Sn	**Sn**	**09 04 53.0**	**-0.7**
SFTF				*e*Sg	**Sg**	**09 04 58.6**	**+0.2**
	15nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**09 04 35.0**	**+0.1**
SFTF				*e*Sg	**Sg**	**09 04 58.6**	**+0.2**
	7.6nm,0.2s						
MEZF	**Maizieres J'vi**	**1.93**	**300**	*e*Sn	**Sn**	**09 04 55.3**	**-1.1**
MEZF				*e*Sg	**Sg**	**09 05 01.9**	**-0.1**
	14nm,0.3s						
MEZF	**Maizieres J'vi**	**1.93**	**300**	*e*Sg	**Sg**	**09 05 01.9**	**-0.1**
	7.2nm,0.3s						
SWS	**Schriesheim-Wi**	**2.05**	**21**	Sg	**Sg**	**09 05 05.7**	**-0.2**
LPL	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**09 04 41.5**	**+0.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**09 05 08.9**	**0.0**
	6.3nm,0.3s						
LPL	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**09 04 41.5**	**+0.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**09 05 08.9**	**0.0**
	3.2nm

KUR pmax pmax
comp=Z,190nm,0.5s
KUR smax
comp=N,170nm,0.6s
KUR smax
comp=E,110nm,0.6s
SKR Severo-Kuril's 4.26 28 *e*PN **Sn 09 22 11.1 -1.7**
YUK Yuzh-Kuril'sk 5.78 242 *e*PN **Pn 09 21 45.8 +2.1**
NEM2 Nemuro 2 6.23 237 P **Pn 09 21 49.7 -0.3**
NEM2 *e*S **Sn 09 22 57.2 -4.1**
JNK Nakash 6.71 243 P **Pn 09 21 58.8 +2.2**
JTKR Abashiri--Toko 7.02 248 P **Pn 09 22 06.3 +5.5**
JAK Akkeshi 7.07 239 P **Pn 09 22 01.1 -0.3**
JAK *e*S **Sn 09 23 18.7 -3.1**
JAR Ashorobuto 7.45 244 P **Pn 09 22 09.6 +2.9**
JAR *e*S **Sn 09 23 31.8 +0.5**
JOB Onbets 7.63 241 P **Pn 09 22 10.8 +1.6**
JOB *e*S **Sn 09 23 34.3 -1.4**
ASAJ Asahikawa 7.80 252 P **Pn 09 22 18.8 +7.2**
comp=E,1.4nm,0.3s,baz=79,slow=21,SNR=4.6
ASAJ Asahikawa 7.80 252 PN **Pn 09 22 18.8 +7.3**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
JKK2 Kamakawa 2 7.81 250 P **Pn 09 22 16.0 +4.4**
JCH Churui 8.08 241 P **Pn 09 22 16.3 +0.9**
JCH *e*S **Sn 09 23 43.3 -3.5**
ERM Erimo 8.57 238 *e*Pn **Pn 09 22 23.3 +1.2**
ERM *e*Sn **Sn 09 23 51.2 -7.5**
JNBK Urakawa-nobuka 8.64 241 P **Pn 09 22 23.6 +0.5**
JNBK *e*S **Sn 09 23 56.5 -4.1**
JKB Kayabe 9.91 243 P **Pn 09 22 40.8 +0.3**
JKB *e*S **Sn 09 24 26.8 -5.0**
JANG Nango 10.57 236 P **Pn 09 22 46.9 -2.6**
JANG *e*S **Sn 09 24 35.8 -12**
INK Inuvik 41.53 33 P **P 09 28 08.0 +2.5**
comp=Z,0.5nm,0.4s,mb3.5,baz=205,slow=6.3,SNR=5.5
INK Inuvik 41.53 33 P **P 09 28 08.0 +2.5**
MKAR Makanchi Array 46.73 297 P **P 09 28 48.0 +0.9**
comp=Z,0.1nm,0.4s,mb3.1,baz=67,slow=8.5,SNR=4.1
YKA Yellowknife Ar 50.82 37 P **P 09 29 17.2 -1.4**
comp=Z,0.4nm,0.7s,mb3.5,baz=296,slow=7.0,SNR=5.8
YKA Yellowknife Ar 50.82 37 P **P 09 29 17.2 -1.4**
ARCES ARCESS Array B 57.60 341 P **P 09 30 07.9 -0.1**
comp=Z,3.5nm,0.9s,mb4.4,baz=58,slow=12,SNR=3.5
FINES FINESS Array B 63.78 335 P **P 09 30 50.1 -0.1**
comp=Z,3.9nm,1.0s,mb4.4,baz=28,slow=8.6,SNR=4.3
NB2 NORSAR Subarra 67.98 341 P **P 09 31 17.9 +0.7**
comp=Z,1.1nm,0.5s,mb4.1,baz=27,slow=6.5
NOA NORSAR Array B 67.98 341 P **P 09 31 18.3 +1.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=28,slow=6.4,SNR=4.8
AKASG Malin Array Be 71.29 326 P **P 09 31 37.7 +0.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=34,slow=6.3,SNR=2.8
TXAR Lajitas Array 77.49 60 P **P 09 32 12.0 -1.7**
comp=Z,0.6nm,0.6s,mb3.7,baz=295,slow=4.1,SNR=7.2

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*NEIC **08** 09:25:36.2, 3505N×2634E, h40km, MD3.4(ATH), After ATH.*
*CSEM **08** 09:25:36.2, 3505N×2634E, h40km, MD3.5/6, After ATH*
ATH 08 09:25:36.2, 3505N×2634E, h40km±4km, MD3.4/6, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.56**	**252**	*e*P	Pn	09 25 48.3	+0.6
NPS	**Neapolis**	**0.63**	**290**	⇑*i*P	Pn	09 25 49.7	+1.0
NPS				*e*S	Sn	09 25 58.5	+0.9
KARP	**Karpathos**	**0.83**	**53**	⇑*i*P	Pn	09 25 52.2	+0.7
KARP				*e*S	Sn	09 26 05.0	+2.4
SANT	**Santorini**	**1.50**	**332**	*e*Pn	Pn	09 26 02.3	+1.7
VAM	**Vamos**	**1.79**	**282**	*e*P	Pn	09 26 07.3	+2.8
APE	**Apeiranthos**	**2.12**	**342**	*e*P	Pn	09 26 10.9	+1.8
VLI	**Veliai**	**3.23**	**302**	*e*P	Pn	09 26 25.3	+1.0

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*MOS **08** 09:34:22.9±1.1, 2239N×14302E, h155km, mb4.5/15, Error ellipse: s-maj=23.6km s-min=8.7km az=112.6*
*ISCJB **08** 09:34:22.7±0.2, 2238N±003×14303E±003, h146km, mb4.7/83, Error ellipse: s-maj=4.7km s-min=3.7km az=71.2*
*NEIC **08** 09:34:24.1±0.2, 2241N×14305E, mb4.8/25, Error ellipse: s-maj=6.7km s-min=5.3km az=81.0*
*BJI **08** 09:34:24.1, 2240N×14300E, h148km, mB4.9, mb4.7*
*IDC **08** 09:34:24.1±0.5, 2244N×14307E, h149km±4km, mb4.4/26, mb1 4.5/29, mb1mx4.4/32, mbtmp4.4/29, MS3.2/2, Ms1 3.2/2, ms1mx2.6/32, Error ellipse: s-maj=12.7km s-min=7.6km az=79.0*
*JMA **08** 09:34:26.9±0.2, 2287N×14380E, h185km, M5.2*
ISC 08 09:34:24.7±0.2, 2244N±003×14308E±003, h148km, h148km±1.4km; pP-P, n322, σ0=83/326, mb4.7/83, 81C-65D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.25**	**349**	P	**Pn**	**09 35 28.8**	**+0.6**
JHHJ				S	**Sn**	**09 36 16.8**	**-0.7**
CBIJ	**Chichi jima**	**4.71**	**350**	P	**Pn**	**09 35 35.1**	**+0.9**
69nm,0.3s,baz=214,slow=5.8,SNR=29							
CBIJ				S	**Sn**	**09 36 26.6**	**-1.7**
286nm,0.3s,baz=288,slow=23,SNR=24							
CBIJ	**Chichi jima**	**4.71**	**350**	P	**Pn**	**09 35 34.5**	**+0.3**
CBIJ				S	**Sn**	**09 36 27.0**	**-1.3**
BSO3	**Boso 3**	**12.52**	**350**	P	**Pn**	**09 37 16.1**	**-1.6**
JWZ	**Kozaga**	**12.81**	**331**	P	**Pn**	**09 37 23.6**	**+2.1**
JIE	**Ise**	**13.16**	**336**	P	**Pn**	**09 37 26.3**	**+0.4**
JOD2	**Odawara 2**	**13.24**	**346**	P	**Pn**	**09 37 25.1**	**-1.9**
JAM	**Amami Oshima**	**13.54**	**299**	P	**Pn**	**09 37 38.2**	**+7.4**
JRY	**Ryogami san**	**14.01**	**346**	P	**Pn**	**09 37 34.5**	**-2.2**
JRY				S	**Sn**	**09 40 01.3**	**-11**
JOW	**Kunigami**	**14.15**	**291**	P	**Pn**	**09 37 39.9**	**+1.4**
0.8nm,0.3s,baz=80,slow=15,SNR=2.9							
JOW				LR	LR	09 42 14.3	
comp=Z,58nm,18.1s,baz=300,slow=33							
MJAR	**Matsushiro Arr**	**14.68**	**344**	P	**Pn**	**09 37 43.5**	**-1.6**
2.3nm,0.3s,baz=159,slow=9.5,SNR=37							
MJAR	**Matsushiro Arr**	**14.68**	**344**	P	**Pn**	**09 37 43.5**	**-1.6**
MAJO	**Matsushiro**	**14.68**	**344**	*e*Pn	**Pn**	**09 37 44.3**	**-0.8**
MAT	**Matsushiro**	**14.68**	**344**	P	**Pn**	**09 37 43.7**	**-1.4**
MAT				S	**Sn**	**09 40 15.3**	**-13**
MAT	**Matsushiro**	**14.68**	**344**	P	**Pn**	**09 37 43.8**	**-1.3**
JSJ	**Shimokoshiki**	**15.03**	**311**	P	**Pn**	**09 37 54.0**	**+4.5**
JNU	**Nakatsue**	**15.14**	**317**	P	**Pn**	**09 37 52.9**	**+2.0**
0.8nm,0.3s,baz=212,slow=19,SNR=3.6							
JHS	**Saijyo**	**15.25**	**327**	P	**Pn**	**09 37 55.2**	**+3.0**
JMK	**Ichinoseki**	**16.54**	**355**	P	**Pn**	**09 38 07.9**	**0.0**
JOT	**Ohata**	**18.96**	**355**	P	**P**	**09 38 36.2**	**+1.7**
ERM	**Erimo**	**19.52**	**0**	*e*P	**P**	**09 38 42.2**	**+1.8**
88nm,0.8s							
KSRS	**Korea Array**	**19.87**	**322**	P	**P**	**09 38 44.5**	**+0.2**
baz=145,slow=8.0,SNR=58							
KSRS				LR	LR	09 45 50.2	
comp=Z,96nm,18.7s,baz=261,slow=34							
KS15	**Wonju Array Si**	**19.88**	**322**	*e*P	**P**	**09 38 45.0**	**+0.7**
ASAJ	**Asahikawa**	**21.62**	**359**	P	**P**	**09 39 03.9**	**+0.9**
21nm,0.5s,mb4.8,baz=221,slow=11,SNR=16							
VLA	**Vladivostok**	**22.62**	**338**	*c i*P	**P**	**09 39 13.8**	**+0.8**
VLA				pmax	pmax		
comp=Z,269nm,1.5s,mb5.5							
YSS	**Yuzh-Sakhalins**	**24.46**	**359**	*e*P	**P**	**09 39 28.6**	**-1.2**
YSS				*e*		09 39 57.0	
DL2	**Dalian**	**24.60**	**317**	⇑P	**P**	**09 39 32.7**	**+1.7**
DL2				AMB	AMB		
comp=Z,120nm,0.7s,mb5.5							
MDJ	**Mudanjiang**	**24.75**	**337**	P	**P**	**09 39 32.9**	**+0.6**
MDJ				AP		09 40 02.7	
MDJ				XP	sP	09 40 18.7	-1.7
MDJ				PCP	PcP	09 43 06.0	+0.9
MDJ				S	**S**	**09 43 47.0**	**+3.5**
MDJ				XS	sS	09 44 39.2	+1.2
MDJ				SCP	ScP	09 46 31.4	+1.4
MDJ				PCS	PcS	09 46 46.6	+1.3
MDJ				SCS	ScS	09 50 20.1	+1.9
MDJ				AMB	AMB		
comp=Z,26nm,1.0s,mb4.7							
MDJ				AMB	AMB		
comp=Z,151nm,5.2s							
MDJ				LR	LR		
comp=N,45nm,26.1s							
MDJ				LR	LR		
comp=E,32nm,35.9s							
MDJ				LR	LR		
comp=Z,56nm,31.0s							
SNY	**Shenyang**	**25.32**	**324**	⇓P	**P**	**09 39 39.4**	**+1.9**
SNY				AMB	AMB		
comp=Z,71nm,0.7s,mb5.3							
KLR	**Kul'dur**	**28.20**	**344**	*e*P	**P**	**09 40 00.0**	**-3.3**
KLR				pmax	pmax		
comp=E,46nm,0.8s							
KLR				pmax	pmax		
comp=Z,80nm,0.8s,mb5.5							
PMG	**Port Moresby**	**31.90**	**172**	P	**P**	**09 40 34.8**	**-1.1**
comp=Z,13nm,0.9s,mb4.7,baz=346,slow=17,SNR=3.6							
HHC	**Hu-ho-hao-te**	**32.26**	**312**	*e*P	**P**	**09 40 40.8**	**+1.7**
HHC				AP	pP	09 41 11.0	+0.3
HHC				XP	sP	09 41 27.1	-0.6
HHC				PP	PP	09 41 54.4	-0.5
HHC				S	**S**	**09 45 42.2**	**+0.7**
HHC				XS	sS	09 46 34.5	-2.4
HHC				SS	SS	09 47 50.6	-16
HHC				AMB	AMB		
comp=Z,21nm,0.5s,mb5.1							
HHC				AMB	AMB		
comp=Z,154nm,6.2s							
HIA	**Hailar**	**32.52**	**331**	*i*P	**P**	**09 40 41.4**	**+0.1**
PET	**Petropavlovsk**	**32.78**	**17**	⇓*e*P	**P**	**09 40 44.2**	**+0.6**
PET				pmax	pmax		
comp=Z,45nm,1.3s,mb5.0							
GYA	**Guiyang**	**33.32**	**284**	*e*P	**P**	**09 40 48.2**	**-0.1**
GYA				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.7							
CD2	**Chengdu**	**35.98**	**292**	P	**P**	**09 41 11.7**	**+0.5**
CD2				AP	pP	09 41 42.6	-0.6
CD2				XP	sP	09 41 59.0	-1.1
CD2				PP	PP	09 42 39.0	+3.0
CD2				S	**S**	**09 46 39.5**	**+0.8**
CD2				XS	sS	09 47 33.2	-1.6
CD2				SS	SS	09 49 12.0	-8.9
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
CD2				AMB	AMB		
comp=Z,110nm,4.7s							
CD2				LR	LR		
comp=N,250nm,5.3s							
CD2				LR	LR		
comp=E,210nm,6.6s							
CD2				LR	LR		
comp=Z,200nm,5.1s							
LZH	**Lanzhou**	**36.58**	**301**	*e*P	**P**	**09 41 19.3**	**+3.1**
LZH				AP	pP	09 41 47.5	-0.8
LZH				XP	sP	09 42 04.9	-0.3
LZH				PCP	PcP	09 43 40.5	+4.2
LZH				AMB	AMB		
comp=Z,13nm,1.0s,mb4.5							
LZH				AMB	AMB		
comp=Z,110nm,6.0s							
KMI	**Kunming**	**36.92**	**282**	P	**P**	**09 41 20.2**	**+1.1**
KMI				AMB	AMB		
comp=Z,8.0nm,0.9s,mb4.3							
CIT	**Chita**	**37.26**	**330**	*e*P	**P**	**09 41 22.1**	**+0.1**
SONM	**Songino Array**	**38.71**	**320**	P	**P**	**09 41 34.3**	**+0.2**
comp=Z,7.6nm,0.6s,mb4.5,baz=131,slow=7.2,SNR=14							
SONM				ScP	ScP	09 47 14.1	-3.0
comp=Z,2.2nm,0.8s,baz=137,slow=3.7,SNR=9.2							
GTA	**Gaotai**	**40.37**	**305**	*e*P	**P**	**09 41 48.7**	**+0.9**
GTA				AP	pP	09 42 20.3	-0.1
GTA				XP	sP	09 42 36.3	-0.9
GTA				PP	PP	09 43 27.2	+3.4
GTA				PCP	PcP	09 43 49.0	+0.9
GTA				SCP	ScP	09 47 22.1	-1.4
GTA				S	**S**	**09 47 46.5**	**+1.8**
GTA				XS	sS	09 48 40.9	-0.5
GTA				SS	SS	09 50 44.5	-5.0
GTA				AMB	AMB		
comp=Z,7.0nm,0.8s,mb4.3							
GTA				AMB	AMB		
comp=Z,71nm,5.7s							
GTA				LR	LR		
comp=N,120nm,9.1s							
GTA				LR	LR		
comp=E,119nm,11.0s							
GTA				LR	LR		
comp=Z,150nm,11.0s							
YAK	**Yakutsk**	**40.62**	**350**	*d i*P	**P**	**09 41 48.8**	**-1.1**
YAK				pmax	pmax		
comp=Z,32nm,0.8s,mb5.0							
YAK	**Yakutsk**	**40.62**	**350**	*e*P	**P**	**09 41 49.2**	**-0.7**
SEY	**Seymchan**	**40.96**	**6**	*i*P	**P**	**09 41 52.8**	**+0.1**
ZAK	**Zakamensk**	**41.70**	**322**	⇑*i*P	**P**	**09 41 58.5**	**-0.2**
ZAK				pmax	pmax		
comp=Z,12nm,1.2s,mb4.4							
TLY	**Talaya**	**42.11**	**324**	*d i*P	**P**	**09 42 02.2**	**+0.2**
CTA	**Charters Tower**	**42.38**	**176**	*e*P	**P**	**09 42 04.5**	**+0.2**
comp=Z,4.7nm,0.7s,mb4.2							
CTA	**Charters Tower**	**42.38**	**176**	P	**P**	**09 42 04.5**	**+0.2**
comp=Z,6.3nm,0.6s,mb4.4,baz=359,slow=7.0,SNR=9.3							
WRAB	**Tennant Creek**	**42.97**	**192**	*c i*P	**P**	**09 42 07.9**	**-1.1**
WRAB	**Tennant Creek**	**42.97**	**192**	*e*P	**P**	**09 42 07.9**	**-1.0**
comp=Z,32nm,0.4s,mb5.3							
WB2	**Warramunga Arr**	**42.98**	**192**	⇑*i*P	**P**	**09 42 07.8**	**-1.3**
WB2				*e*PCP	PcP	09 43 56.9	+0.1
WB2				*e*SCP	ScP	09 47 31.8	-2.1
WRA	**Warramunga Arr**	**42.98**	**192**	P	**P**	**09 42 07.9**	**-1.2**
comp=Z,20nm,0.4s,mb5.1,baz=17,slow=9.1,SNR=173							
WRA				PcP	PcP	09 43 56.1	-0.6
comp=Z,4.4nm,0.5s,baz=4.5,slow=3.4,SNR=11							
WRA				ScP	ScP	09 47 31.5	-2.4
comp=Z,3.4nm,0.9s,baz=9.9,slow=4.5,SNR=9.9							
FITZ	**Fitzroy Crossi**	**43.75**	**204**	*e*P	**P**	**09 42 14.7**	**-0.6**
comp=Z,26nm,0.7s,mb5.0							
FITZ				*e*PCP	PcP	09 43 59.2	-0.2
FITZ	**Fitzroy Crossi**	**43.75**	**204**	P	**P**	**09 42 14.6**	**-0.6**
comp=Z,14nm,0.7s,mb4.7,baz=26,slow=11,SNR=23							
LSA	**Lhasa**	**46.88**	**290**	P	**P**	**09 42 42.6**	**+2.7**
LSA	**Lhasa**	**46.88**	**290**	*e*P	**P**	**09 42 42.4**	**+2.5**
comp=Z,5.3nm,0.4s,mb4.5							
PSI	**Prapat**	**47.04**	**252**	P	**P**	**09 42 41.5**	**+0.4**
comp=Z,4.6nm,0.6s,mb4.3,baz=86,slow=2.9,SNR=6.5							
BILL	**Bilibino**	**47.82**	**12**	*i*P	**P**	**09 42 46.7**	**-0.4**
BILL				*e**PP	pP	09 43 21.9	+1.2
BILL				*e*		09 44 11.5	
BILL				pmax	pmax		
comp=Z,19nm,0.9s,mb4.7							
DZM	**Mont Dzumac**	**49.76**	**151**	P	**P**	**09 43 01.7**	**-0.3**
comp=Z,6.7nm,0.6s,mb4.5,baz=219,slow=23,SNR=6.3							
TIXI	**Tiksi**	**49.91**	**354**	⇑*e*P	**P**	**09 43 02.0**	**-1.1**
TIXI				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.1							
WMQ	**Urumqi**	**50.04**	**309**	*e*P	**P**	**09 43 05.0**	**+1.0**
WMQ				XP	sP	09 43 55.1	+0.8
WMQ				PCP	PcP	09 44 21.6	-0.1
WMQ				PP	PP	09 45 00.7	+0.3
WMQ				*e*S	**S**	**09 50 02.3**	**-1.3**
WMQ				XS	sS	09 51 03.5	+1.3
WMQ				SCS	ScS	09 52 38.6	-1.5
WMQ				SS	SS	09 53 35.0	-3.4
WMQ				AMB	AMB		
comp=Z,9.0nm,1.1s,mb4.3							
WMQ				AMB	AMB		
comp=Z,154nm,5.0s							
JIRN	**Jiri**	**51.42**	**288**	*e*P	**P**	**09 43 15.7**	**+1.3**
comp=Z,21nm,0.6s,mb5.0							
GUN	**Gumba**	**51.66**	**288**	*e*P	**P**	**09 43 17.7**	**+1.5**
comp=Z,11nm,0.4s,mb4.8							
PKI	**Pulchoki**	**52.12**	**288**	*e*P	**P**	**09 43 20.3**	**+0.7**
comp=Z,11nm,0.6s,mb4.7							
KKN	**Kakani**	**52.21**	**288**	*e*P	**P**	**09 43 21.1**	**+0.9**
DMN	**Daman**	**52.38**	**288**	*e*P	**P**	**09 43 22.3**	**+0.8**
comp=Z,18nm,0.8s,mb4.7							
GKN	**Gorkha**	**52.74**	**289**	*e*P	**P**	**09 43 24.5**	**+0.3**
comp=Z,11nm,0.3s,mb5.0							
ZAL	**Zalesovo**	**53.58**	**321**	P	**P**	**09 43 29.9**	**-0.4**
comp=Z,12nm,0.6s,mb4.8,baz=3.3,slow=8.2,SNR=26							
KOLN	**Koldanda**	**53.68**	**289**	*e*P	**P**	**09 43 30.9**	**-0.1**
comp=Z,8.4nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**54.02**	**182**	*e*P	**P**	**09 43 33.3**	**-0.2**
comp=Z,22nm,0.4s,mb5.2							
STKA	**Stephens Creek**	**54.02**	**182**	P	**P**	**09 43 33.2**	**-0.3**
comp=Z,29nm,0.5s,mb5.3,baz=358,slow=7.4,SNR=71							
MK31	**Makanchi Array**	**54.13**	**312**	*i*P	**P**	**09 43 34.4**	**+0.1**
MK31				pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.5							
MK31	**Makanchi Array**	**54.13**	**312**	*e*P	**P**	**09 43 34.7**	**+0.4**
MKAR	**Makanchi Array**	**54.13**	**312**	P	**P**	**09 43 34.4**	**+0.1**
comp=Z,3.3nm,0.4s,mb4.4,baz=86,slow=9.2,SNR=77							
MKAR				pP	pP	09 44 09.0	+0.4
comp=Z,0.9nm,0.6s,baz=82,slow=7.0,SNR=1.5							
MKAR				PcP	PcP	09 44 35.5	-1.5
comp=Z,3.1nm,0.7s,baz=83,slow=2.5,SNR=5.1							
MKAR				ScP	ScP	09 48 18.4	-2.7
comp=Z,1.2nm,0.7s,baz=75,slow=4.6,SNR=5.3							
MKAR	**Makanchi Array**	**54.13**	**312**	*i*P	**P**	**09 43 34.4**	**+0.1**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
MKAR	**Makanchi Array**	**54.13**	**312**	P	**P**	**09 43 34.4**	**+0.1**
MKAR				pP	pP	09 44 09.0	+0.4
MKAR				PcP	PcP	09 44 35.5	-1.5
MKAR				ScP	ScP	09 48 18.4	-2.7
FORT	**Forrest**	**54.84**	**196**	*e*P	**P**	**09 43 38.5**	**-0.9**
comp=Z,28nm,0.5s,mb5.2							
SVW2	**Sparrevohn**	**56.82**	**31**	*e*P	**P**	**09 43 54.0**	**+0.5**
KURK	**Kurchatov**	**56.87**	**317**	*d i*P	**P**	**09 43 53.3**	**-0.5**
KURK	**Kurchatov**	**56.87**	**317**	*e*P	**P**	**09 43 53.4**	**-0.5**
comp=Z,19nm,0.8s,mb5.0							
AFI	**Afiamalu**	**57.11**	**125**	P	**P**	**09 43 55.4**	**-0.1**
comp=Z,17nm,0.6s,mb5.0,baz=172,slow=11,SNR=4.7							
KDAK	**Kodiak Island**	**57.65**	**35**	P	**P**	**09 43 58.6**	**-0.7**
comp=Z,10nm,0.6s,mb4.8,baz=301,slow=10,SNR=11							
CNB	**Canberra Magne**	**57.74**	**174**	*e*P	**P**	**09 43 59.2**	**-0.8**
comp=Z,8.1nm,0.8s,mb4.6							
IMA2	**Indian Mountai**	**58.91**	**25**	*e*P	**P**	**09 44 07.5**	**-0.5**
KLBR	**Kellerberrin**	**58.95**	**205**	*e*P	**P**	**09 44 07.5**	**-0.8**
comp=Z,37nm,1.3s,mb5.1							
AAK	**Ala-Archa**	**59.64**	**307**	⇓*e*P	**P**	**09 44 11.3**	**-1.8**
AAK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.1							
AAK	**Ala-Archa**	**59.64**	**307**	*e*P	**P**	**09 44 11.4**	**-1.7**
comp=Z,2.4nm,0.6s,mb4.2							
TOO	**Toolangi**	**59.73**	**178**	⇓*i*P	**P**	**09 44 14.1**	**+0.4**
comp=Z,11nm,0.7s,mb4.8							
PMR	**Palmer**	**59.97**	**31**	*e*P	**P**	**09 44 14.2**	**-1.1**
comp=Z,14nm,1.0s,mb4.7							
SML	**Sawmill**	**60.37**	**31**	*e*P	**P**	**09 44 17.2**	**-0.9**
MCK	**McKinley**	**60.39**	**28**	*e*P	**P**	**09 44 17.3**	**-0.9**
comp=Z,6.0nm,0.8s,mb4.5							
COLA	**College**	**61.03**	**27**	*i*P	**P**	**09 44 18.0**	**-4.6**
CHKZ	**Chkalovo**	**61.91**	**320**	*e*P	**P**	**09 44 27.4**	**-1.0**
comp=Z,18nm,0.8s,mb4.9							
BVA0	**Borovoye Array**	**62.05**	**319**	*i*P	**P**	**09 44 29.0**	**-0.3**
BVA0				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
BVAR	**Borovoye Array**	**62.05**	**319**	P	**P**	**09 44 29.1**	**-0.2**
comp=Z,52nm,1.0s,mb5.3,baz=92,slow=7.7,SNR=92							
BVAR				pP	pP	09 45 04.7	+0.2
comp=Z,4.1nm,0.5s,baz=92,slow=8.0,SNR=2.0							
BRVK	**Borovoye**	**62.11**	**319**	*e*P	**P**	**09 44 29.0**	**-0.8**
comp=Z,20nm,0.8s,mb5.0							
KK31	**Karatay Array**	**62.52**	**308**	*i*P	**P**	**09 44 32.5**	**0.0**
KK31				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.6							
KKAR	**Karatay Array**	**62.52**	**308**	*i*P	**P**	**09 44 32.5**	**0.0**
KKAR				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.4							
EGAK	**Eagle**	**63.87**	**28**	*e*P	**P**	**09 44 40.2**	**-1.2**
comp=Z,4.6nm,0.6s,mb4.5							
DAWY	**Dawson**	**64.62**	**28**	*e*P	**P**	**09 44 46.3**	**+0.1**
INK	**Inuvik**	**66.93**	**24**	P	**P**	**09 45 00.3**	**-0.7**
comp=Z,7.2nm,0.6s,mb4.7,baz=283,slow=5.9,SNR=66							
INK	**Inuvik**	**66.93**	**24**	*e*P	**P**	**09 45 00.0**	**-1.0**
comp=Z,303nm,0.8s,mb6.2							
ARU	**Arti**	**68.61**	**324**	⇑*i*P	**P**	**09 45 10.9**	**-0.7**
ARU				*e*		09 45 33.2	
ARU				*e*	pP	09 45 44.2	-3.2
ARU				*e*PPP		09 49 25.0	
ARU				*e*S	S	09 54 02.6	+0.4
ARU				*e*SS	SS	09 58 33.9	+4.6
ARU				pmax	pmax		
comp=Z,11nm,0.9s,mb4.6							
AB31	**Akbulak array**	**68.95**	**316**	*i*P	**P**	**09 45 13.0**	**-0.7**
AB31				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.3							
SOKR	**Solikamsk**	**69.07**	**327**	*e*P	**P**	**09 45 13.7**	**-0.7**
SOKR				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.5							
AKTK	**Aktyubinsk**	**69.96**	**317**	P	**P**	**09 45 19.1**	**-0.8**
AKTK				pP	pP	09 45 55.3	-0.5
AKTO	**Aktyubinsk**	**69.96**	**317**	P	**P**	**09 45 19.1**	**-0.8**
comp=Z,2.0nm,0.5s,mb4.1,baz=96,slow=12,SNR=12							
AKTO				pP	pP	09 45 55.3	-0.5
comp=Z,1.9nm,0.7s,baz=75,slow=11,SNR=3.1							
YKW3	**Yellowknife Ar**	**75.82**	**28**	*e*P	**P**	**09 45 53.5**	**-0.9**
YKA	**Yellowknife Ar**	**75.85**	**28**	P	**P**	**09 45 53.5**	**-1.0**
comp=Z,11nm,0.6s,mb4.7,baz=292,slow=5.9,SNR=254							
YKA				pP	pP	09 46 29.2	-1.8
comp=Z,1.6nm,0.7s,baz=291,slow=5.8,SNR=2.2							
YKA	**Yellowknife Ar**	**75.85**	**28**	P	**P**	**09 45 53.5**	**-1.1**
YKA				pP	pP	09 46 29.2	-1.8
RES	**Resolute Bay**	**76.38**	**13**	*e*P	**P**	**09 45 56.6**	**-0.9**
comp=Z,296nm,0.8s,mb6.0							
E04A	**Onalaska**	**76.82**	**45**	⇑P	**P**	**09 46 00.0**	**0.0**
baz=77							
K01A	**Sixes**	**76.83**	**49**	⇑P	**P**	**09 46 00.5**	**+0.4**
baz=77							
KLMR	**Klimovskoe**	**77.01**	**331**	P	**P**	**09 45 58.5**	**-2.6**
KLMR				pmax	pmax		
comp=Z,31nm,2.1s,mb4.6							
F04A	**Amboy**	**77.23**	**46**	⇓P	**P**	**09 46 02.0**	**-0.3**
baz=77							
J02A	**Umpqua**	**77.28**	**48**	⇑P	**P**	**09 46 03.8**	**+1.3**
baz=77							
I03A	**Eugene**	**77.28**	**48**	⇑P	**P**	**09 46 03.0**	**+0.4**
baz=77							
G04A	**Mulino**	**77.42**	**46**	⇓P	**P**	**09 46 04.0**	**+0.6**
baz=77							

D08A	Wollman Farm,	79.11	44	⇓P		P	09 46 11.7	-0.9
	baz=79							
C09A	Chrisman Ranch	79.25	43	⇓P		P	09 46 12.8	-0.6
	baz=79							
K05A	Summer Lake	79.34	48	⇓P		P	09 46 14.0	0.0
	baz=79							
I06A	Prineville	79.38	47	⇓P		P	09 46 14.4	+0.3
	baz=79							
D09A	Jones Farm, Ri	79.50	43	⇑P		P	09 46 14.7	0.0
	baz=79							
MNRC	McLaughlin Nat	79.58	52	⇓P		P	09 46 15.6	+0.4
	baz=80							
JOF	Joensuu	79.61	334	*ep*		P	09 46 13.2	-2.1
	comp=Z,9.2nm,0.4s,mb4.8							
JOF	Joensuu	79.61	334	*eP*		P	09 46 13.2	-2.1
JOF				pmax		pmax		
	comp=Z,9.0nm,0.4s,mb4.8							
HATC	Hat Creek Radi	79.61	50	⇑P		P	09 46 15.2	-0.2
	baz=80							
L05A	Lakeview	79.62	49	⇑P		P	09 46 14.9	-0.6
	baz=80							
F08A	Pendleton	79.66	45	⇓P		P	09 46 15.6	0.0
	baz=80							
G08A	Pilot Rock	79.73	45	⇑P		P	09 46 16.0	0.0
	baz=80							
CVS	Carmenet Viney	79.76	53	⇑P		P	09 46 16.3	+0.1
	baz=80							
K06A	Valley Falls	79.76	48	⇑P		P	09 46 16.8	+0.6
	baz=80							
NEW	Newport	79.80	42	*eP*		P	09 46 16.6	+0.2
	comp=Z,6.9nm,0.8s,mb4.3							
I07A	Izee	79.81	47	⇓P		P	09 46 16.4	0.0
	baz=80							
E09A	Wood Farm, Sta	79.81	44	⇑P		P	09 46 16.4	0.0
	baz=80							
C10A	Spilker Farm,	79.85	42	⇓P		P	09 46 16.6	-0.1
	baz=80							
SUTB	Sutter Butte	79.94	52	⇓P		P	09 46 17.5	+0.4
	baz=80							
A11A	Hall Mountain,	80.00	41	⇑P		P	09 46 18.0	+0.5
	baz=80							
ORV	Oroville	80.03	51	P		P	09 46 17.8	+0.1
	baz=80,SNR=5.3							
EDM	Edmonton	80.06	36	*eP*		P	09 46 17.5	-0.2
O04C	Chester	80.06	51	P		P	09 46 18.7	+1.0
	baz=80,SNR=6.6							
D10A	Wagner Farm, O	80.16	43	⇑P		P	09 46 18.0	-0.3
	baz=80							
M06C	Likely Place G	80.17	50	⇓P		P	09 46 18.4	0.0
	baz=80							
J07A	Hines	80.19	47	⇑P		P	09 46 19.1	+0.6
	baz=80							
B11A	Sandpoint	80.20	42	⇑P		P	09 46 18.5	-0.1
	baz=80							
H08A	Prairie City	80.20	46	⇓P		P	09 46 18.5	0.0
	baz=80							
A12A	Yaak River Ran	80.44	41	⇓P		P	09 46 20.3	+0.5
	baz=80							
E10A	Myers Farm, Un	80.48	44	⇓P		P	09 46 20.0	0.0
	baz=80							
K07A	Rock Creek Ran	80.49	48	P		P	09 46 20.6	+0.6
	baz=80,SNR=7.5							
I08A	Drewsey	80.50	46	⇑P		P	09 46 21.0	+0.9
	baz=80							
L07A	Adell	80.67	48	P		P	09 46 21.9	+0.9
	baz=81,SNR=6.9							
BEKR	Beckwourth	80.74	51	P		P	09 46 21.5	+0.1
	baz=81,SNR=9.7							
D11A	Klaveano Farm,	80.76	43	P		P	09 46 21.5	0.0
	baz=81,SNR=5.7							
J08A	Circle Bar Ran	80.77	47	P		P	09 46 22.3	+0.8
	baz=81,SNR=6.1							
P05C	Yuba Gap, Truc	80.77	51	⇓P		P	09 46 21.9	+0.4
	baz=81							
H09A	Durkee	80.81	46	⇑P		P	09 46 21.5	-0.3
	baz=81							
OBN	Obninsk	80.82	326	*eP*		P	09 46 21.0	-0.8
OBN				*eS*		S	09 56 18.7	+1.1
OBN				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.0							
LAVA	Lava Cap Winer	80.87	52	⇑P		P	09 46 22.2	+0.1
	baz=81							
S04C	Ingram Canyon,	80.89	53	⇓P		P	09 46 21.7	-0.5
	baz=81							
BMO	Blue Mountains	80.98	45	*eP*		P	09 46 23.1	+0.4
K08A	Mann Creek Ran	80.99	48	P		P	09 46 23.3	+0.5
	baz=81,SNR=6.8							
O06A	Flanigan	81.01	50	⇑P		P	09 46 22.0	-0.9
	baz=81							
M07A	Soldier Meadow	81.02	49	⇓P		P	09 46 22.3	-0.6
	baz=81							
I09A	Lost Marbles R	81.03	46	⇑P		P	09 46 22.6	-0.3
	baz=81							
PACP	Pacheco Peak	81.10	54	⇑P		P	09 46 24.0	+0.7
	baz=81							
E11A	Bogner Ranch,	81.11	44	⇓P		P	09 46 23.0	-0.4
	baz=81							
HAST	UC Hastings Re	81.13	54	⇑P		P	09 46 23.0	-0.5
	baz=81							
J09A	Fry Pan Ranch,	81.26	47	⇑P		P	09 46 24.1	0.0
	baz=81							
L08A	Fields	81.29	48	P		P	09 46 25.0	+0.7
	baz=81,SNR=7.9							
F11A	Grangeville	81.32	44	⇑P		P	09 46 23.5	-1.0
	baz=81							
R05C	Kirkwood Meado	81.37	52	⇑P		P	09 46 25.1	+0.4
	baz=81							
N07B	Gerlach	81.39	50	⇑P		P	09 46 25.2	+0.3
	baz=81							
CMB	Columbia Colle	81.39	53	*eP*		P	09 46 24.8	-0.1
	comp=Z,7.5nm,0.6s,mb4.5							
CMB				*ep*P		pP	09 47 02.2	+0.4
CMB	Columbia Colle	81.39	53	P		P	09 46 25.5	+0.6
	baz=81,SNR=7.9							
BSMT	Bassoo Peak	81.40	42	*eP*		P	09 46 25.6	+0.7
H10A	Noah's Angus R	81.45	45	P		P	09 46 24.9	-0.3
	baz=81,SNR=6.2							
ZEI	Tsey	81.48	313	*eP*		P	09 46 25.0	-0.3
ZEI				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.3							
K09A	Rome	81.52	47	⇓P		P	09 46 24.6	-0.9
	baz=82							
C13A	Hot Springs	81.60	42	P		P	09 46 26.4	+0.5
	baz=82,SNR=5.3							
S05C	Merced	81.69	53	⇓P		P	09 46 26.8	+0.4
	baz=82							
O07A	Toulon	81.69	50	⇑P		P	09 46 26.2	-0.3
	baz=82							
U04C	Hernandez Rese	81.71	54	⇑P		P	09 46 26.1	-0.5
	baz=82							
L09A	Wilkinson Ranc	81.83	48	⇑P		P	09 46 27.7	+0.6
	baz=82							
S06C	San Francisco	81.84	52	⇓P		P	09 46 26.7	-0.5
	baz=82							
H11A	Donnelly	81.89	45	⇑P		P	09 46 26.5	-0.9
	baz=82							
J10A	Berg Farm, Mel	81.89	46	⇑P		P	09 46 27.1	-0.3
	baz=82							
R06C	Coleville	81.89	52	⇑P		P	09 46 27.6	+0.1
	baz=82							
D13A	Huson	81.91	42	⇑P		P	09 46 27.2	-0.4
	baz=82							
F12A	Elk City	81.95	44	⇑P		P	09 46 27.4	-0.4
	baz=82							
KAF	Kangasniemi	82.01	335	*ep*		P	09 46 25.2	-2.9
	comp=Z,3.8nm,0.5s,mb4.3,baz=55,slow=4.8							
KAF	Kangasniemi	82.01	335	*eP*		P	09 46 25.2	-2.9
KAF				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.3							
PKD	Parkfield	82.05	55	P		P	09 46 29.1	+0.8
	baz=82,SNR=6.0							
C14A	Swan Lake	82.08	42	P		P	09 46 28.4	0.0
	baz=82,SNR=5.7							
T06C	Millerton Lake	82.27	53	P		P	09 46 29.8	+0.3
	baz=82,SNR=6.1							
R07C	Lee Vining	82.35	52	⇑P		P	09 46 30.8	+1.0
	baz=82							
N09A	Rock Creek Ran	82.38	49	⇓P		P	09 46 30.0	0.0
	baz=82							
FIA1	FINESS Array S	82.47	334	*eP*		P	09 46 28.6	-1.9
FINES	FINESS Array B	82.47	334	P		P	09 46 28.6	-1.9
	comp=Z,3.2nm,0.4s,mb4.3,baz=67,slow=4.6,SNR=46							
FINES				pP		pP	09 47 05.3	-2.2
	comp=Z,2.2nm,0.5s,baz=85,slow=5.3,SNR=2.4							
FINES	FINESS Array B	82.47	334	P		P	09 46 28.6	-1.9
FINES				pP		pP	09 47 05.3	-2.2
F13A	Darby	82.53	44	⇓P		P	09 46 29.2	-1.6
	baz=82							
H12A	Diamond D Ranc	82.70	45	⇑P		P	09 46 31.6	-0.1
	baz=83							
NVAR	Mina Array Bea	82.76	52	P		P	09 46 32.5	+0.5
	comp=Z,4.5nm,0.7s,mb4.3,baz=270,slow=7.0,SNR=25							
NVAR				pP		pP	09 47 09.2	+0.1
	comp=Z,4.1nm,0.8s,baz=274,slow=4.3,SNR=4.8							
O09A	Fish Creek Ran	82.88	50	⇓P		P	09 46 33.2	+0.6
	baz=83							
G13A	Cobalt	82.88	44	P		P	09 46 32.4	-0.2
	baz=83,SNR=8.0							
HELL	Mitchell Peak,	82.91	53	⇑P		P	09 46 32.8	+0.1
	baz=83							
R08A	Mina	82.94	52	⇓P		P	09 46 33.5	+0.7
	baz=83							
VES	Vestal, Richgr	83.19	54	⇑P		P	09 46 33.1	-1.1
	baz=83							
S08C	White Mtn Res	83.22	52	⇑P		P	09 46 34.4	+0.1
	baz=83							
E15A	Deer Lodge	83.33	42	P		P	09 46 35.2	+0.3
	baz=83,SNR=6.9							
M11A	Holland Ranch,	83.35	48	⇓P		P	09 46 35.0	0.0
	baz=83							
HLID	Hailey	83.40	46	*eP*		P	09 46 36.8	+1.5
HLID	Hailey	83.40	46	⇑P		P	09 46 35.2	-0.1
	baz=83							
N11A	Elko Archery C	83.64	49	⇓P		P	09 46 36.5	0.0
	baz=84							
F15A	Butte	83.67	43	P		P	09 46 37.1	+0.4
	baz=84,SNR=7.4							
LRM	Limekiln Ridge	83.71	43	*eP*		P	09 46 37.2	+0.4
ISA	Isabella	83.71	54	⇑P		P	09 46 36.0	-0.8
	baz=84							
R09A	Tonopah	83.73	51	P		P	09 46 37.6	+0.7
	baz=84,SNR=6.4							
S09A	Goldfield	83.82	52	P		P	09 46 38.1	+0.6
	baz=84,SNR=9.9							
M12A	Wells	83.95	48	P		P	09 46 39.1	+1.0
	baz=84,SNR=5.4							
G15A	Dillon	83.97	44	⇑P		P	09 46 38.1	-0.1
	baz=84							
O11A	Cowboy Ranch,	83.97	49	⇓P		P	09 46 38.8	+0.6
	baz=84							
GRAC	Grapevine Rang	84.00	53	⇑P		P	09 46 38.1	-0.2
	baz=84							
N12A	Clover Valley,	84.10	48	⇑P		P	09 46 38.8	0.0
	baz=84							
MPMC	Manual Prospec	84.29	53	⇓P		P	09 46 39.6	-0.2
	baz=84,SNR=6.8							
LRMC	Laurel Mountai	84.37	54	P		P	09 46 40.9	+0.7
	baz=84,SNR=6.3							
EGMT	Eagleton	84.38	40	⇓P		P	09 46 39.5	-0.8
	baz=84							
M13A	Montello	84.49	48	⇓P		P	09 46 40.8	0.0
	baz=84,SNR=6.1							
Q11A	Duckwater	84.50	50	⇑P		P	09 46 41.5	+0.6
	baz=84							
O12A	Currie	84.55	49	⇓P		P	09 46 40.8	-0.3
	baz=84							
FURC	Furnace Creek,	84.59	53	⇓P		P	09 46 41.7	+0.3
	baz=84							
N13A	Wendover, West	84.68	48	⇓P		P	09 46 42.0	+0.3
	baz=85							
P12A	McGill	84.77	49	⇓P		P	09 46 41.3	-0.9
	baz=85							
QLMT	Earthquake Lak	84.79	44	*eP*		P	09 46 42.9	+0.6
U10A	Ash Meadows, A	85.00	53	⇑P		P	09 46 42.8	-0.6
	baz=85							
Q12A	Willow Creek R	85.00	50	⇑P		P	09 46 42.8	-0.6
	baz=85							
GSC	Goldstone	85.10	54	⇓P		P	09 46 43.6	-0.2
	baz=85							
YMR	Madison River	85.16	44	*eP*		P	09 46 45.3	+1.1
	comp=Z,16nm,0.8s,mb4.8							
HVU	Hansel Valley	85.25	47	*eP*		P	09 46 45.8	+1.2
MURC	Murrieta	85.49	56	⇑P		P	09 46 45.0	-0.8
	baz=85							
IMW	Indian Meadow	85.53	44	*eP*		P	09 46 46.8	+0.8
	comp=Z,6.8nm,0.8s,mb4.4							
IMW				*ep*P		pP	09 47 24.3	+1.1
RRI2	Red Ridge	85.53	45	*eP*		P	09 46 36.8	-9.2
SPUT	South Promonto	85.68	47	*eP*		P	09 46 42.9	-3.8
U11A	Corn Creek	85.69	52	⇑P		P	09 46 45.9	-0.9
	baz=86							
TUQ	Turquoise Mtn.	85.70	54	⇑P		P	09 46 47.5	+0.7
	baz=86							
MOOW	Moose Ponds	85.72	44	*eP*		P	09 46 48.1	+1.2
V11A	Goodsprings	85.90	53	⇑P		P	09 46 47.9	0.0
	baz=86							
DUG	Dugway	85.92	48	P		P	09 46 48.1	+0.2
	baz=86,SNR=12							
RLMT	Red Lodge	86.02	43	*eP*		P	09 46 48.8	+0.4
	comp=Z,12nm,0.7s,mb4.7							
PFO	Pinyon Flat Ob	86.06	55	*eP*		P	09 46 48.9	+0.4
PFO	Pinyon Flat Ob	86.06	55	⇓P		P	09 46 48.9	+0.4
	baz=86							
HWUT	Hardware Ranch	86.14	46	*eP*		P	09 46 49.5	+0.6
	comp=Z,11nm,1.0s,mb4.5							
HWUT				*ep*P		pP	09 47 26.8	+0.5
GMRC	Granite Mounta	86.17	54	⇓P		P	09 46 49.2	+0.1
	baz=86							
BELC	Belle Mtn.	86.24	55	⇓P		P	09 46 49.0	-0.5
	baz=86							
U12A	Valley of Fire	86.31	52	⇑P		P	09 46 49.2	-0.6
	baz=86							
MONP	Monument Peak	86.38	56	⇓P		P	09 46 50.2	+0.1
	baz=86							
V12A	Nelson	86.38	53	P		P	09 46 51.0	+0.9
	baz=86,SNR=5.7							
ARUT	Antelope Range	86.52	51	*eP*		P	09 46 51.3	+0.5
NLU	North Lily Min	86.53	48	*eP*		P	09 46 51.5	+0.5
JLU	Jordanelle	86.67	47	*eP*		P	09 46 51.8	+0.3
BC3	Big Chuckw Mtn	86.80	55	⇑P		P	09 46 51.7	-0.5
	baz=87							
AKASG	Malin Array Be	86.85	324	P		P	09 46 50.5	-2.0
	comp=Z,1.1nm,0.4s,mb4.0,baz=50,slow=5.0,SNR=7.3							
PDAR	Pendale Array	86.94	45	P		P	09 46 52.5	-0.4
	comp=Z,1.3nm,0.8s,mb3.8,baz=245,slow=1.9,SNR=9.3							
PDAR				pP		pP	09 47 29.8	-0.4
	comp=Z,1.0nm,0.8s,baz=236,slow=4.3,SNR=3.8							
MSU	Marysvale	87.10	49	*eP*		P	09 46 54.5	+0.8
MSU				*ep*P		pP	09 47 32.5	+1.5
LAO	LASA Array	87.13	40	*eP*		P	09 46 54.2	+0.4
W13A	Hualapai Mount	87.36	53	⇑P		P	09 46 55.2	+0.3
	baz=87							
PDMCI	Parker Dam,Lak	87.51	54	⇓P		P	09 46 56.0	+0.3
	baz=88							
GLA	Glamis	87.53	55	⇑P		P	09 46 56.1	+0.4
	baz=88							
X13A	Yucca	87.62	54	⇑P		P	09 46 56.5	+0.3
	baz=88							
W14A	Seligman	87.90	53	⇓P		P	09 46 58.1	+0.6
	baz=88							
HFS	Hagfors	88.01	337	P		P	09 46 55.1	-2.9
	comp=Z,5.4nm,0.6s,mb4.6,baz=93,slow=6.3,SNR=9.3							
NB2	NORSAR Subarra	88.22	339	P		P	09 46 56.5	-2.5
	comp=Z,1.5nm,0.5s,mb4.1,baz=42,slow=5.1							
NOA	NORSAR Array B	88.22	339	P		P	09 46 55.9	-3.1
	comp=Z,1.4nm,0.5s,mb4.0,baz=46,slow=4.5,SNR=5.4							
NOA				pP		pP	09 47 35.2	-1.3
	comp=Z,1.7nm,0.8s,baz=15,slow=4.3,SNR=2.9							
NOA	NORSAR Array B	88.22	339	P		P	09 46 55.9	-3.1
NOA				pP		pP	09 47 35.2	-1.3
X14A	Yava	88.37	53	⇓P		P	09 47 00.3	+0.6
	baz=88							
Y14A	Wickenburg	88.52	54	P		P	09 47 01.3	+0.9
	baz=88,SNR=5.8							
Z14A	Wintersburg	88.81	54	⇓P		P	09 47 02.1	+0.3
	baz=89							
X15A	Humboldt	88.85	53	⇑P		P	09 47 02.8	+0.9
	baz=89							
WUAZ	Wupatki	89.02	52	⇑P		P	09 47 03.9	+1.2
	baz=89							
PV10	Paradox Valley	89.35	48	*eP*		P	09 47 04.8	+0.6
115A	Sonoran Desert	89.65	55	⇑P		P	09 47 06.9	+1.2
	baz=90							
BRTR	Keskin Array B	89.76	313	P		P	09 47 06.3	+0.1
	comp=Z,2.0nm,0.8s,mb4.1,baz=108,slow=4.0,SNR=7.9							
BRTR				pP		pP	09 47 43.5	-0.3
	comp=Z,0.4nm,0.4s,baz=99,slow=31,SNR=2.5							
BRTR	Keskin Array B	89.76	313	⇑*eP*		P	09 47 06.3	+0.1
PV01	Paradox Valley	89.79	48	*eP*		P	09 47 06.6	+0.3
MVCO	Mesa Verde	90.28	49	⇑P		P	09 47 09.2	+0.5
	baz=90							
KHC	Kasperske Hory	95.76	329	*i P*		P	09 47 29.9	-3.9
GERES	GERESS Array B	95.90	329	P		P	09 47 32.8	-1.7
	comp=Z,0.2nm,0.3s,mb3.9,baz=24,slow=9.9,SNR=3.1							
TXAR	Lajitas Array	97.70	54	P		P	09 47 42.9	+0.3
	comp=Z,0.2nm,0.4s,mb3.9,baz=260,slow=3.4,SNR=4.5							
SNAA	Sanae	127.05	193	PKP		PKPdf	09 53 09.0	-2.0
	comp=Z,1.3nm,0.9s,baz=164,slow=1.3,SNR=8.9							
SNAA	Sanae	127.05	193	⇑*i*PKIKP		PKPdf	09 53 10.0	-1.1
TORD	Torodi Ar. Bea	128.20	309	PKP		PKPdf	09 53 12.4	-0.8
	comp=Z,0.4nm,0.3s,baz=48,slow=1.1,SNR=7.2							
LPAZ	La Paz	149.97	84	PKP		PKPdf	09 53 53.0	+0.6
	comp=Z,9.0nm,0.7s,baz=3.5,slow=4.1,SNR=12							
LPAZ				PKPbc		PKPbc	09 53 58.6	+1.1
	comp=Z,9.0nm,0.7s,baz=291,slow=2.4,SNR=42							
LPAZ	La Paz	149.97	84	*e*PKPdf		PKPdf	09 53 53.6	+1.2
LPAZ				*e*PKPbc		PKPbc	09 53 58.7	+1.3
LVC	Limon Verde	150.48	97	*e*PKPbc		PKPbc	09 53 59.7	+1.1

MOS ***08*** *09:35:02.7±0.9,5569N×11022E,h9km,mb4.3/1,Error ellipse: s-maj=16.2km s-min=10.0km az=67.9*

BYKL 08 09:35:04.0±0.3,5568N×11019E,h4km±5km,7C-1D,Lake

Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.38	285	*e*PG		Pg	09 35 11.1	-0.2
NIZ				*e*			09 35 16.7	
NIZ				pmax		pmax		
	comp=Z,738nm,0.3s							
NIZ				smax				
	comp=N,2μm,0.4s							
NIZ	Nizh Angarsk	0.38	285	⇑*i*Pg		Pg	09 35 11.2	-0.1
NIZ				*e*Sg		Sg	09 35 15.7	-0.5
NIZ				Pmax				
	comp=N,354nm,0.3s							
NIZ				Smax				
	comp=N,2μm,0.4s							
KMO	Kumora	0.61	70	*e*PG		Pg	09 35 14.8	-0.9
KMO				*e*			09 35 22.6	
KMO				pmax		pmax		
	comp=Z,382nm,0.3s							
KMO				smax				
	comp=N,766nm,0.6s							
KMO	Kumora	0.61	70	⇑*i*Pg		Pg	09 35 14.8	-0.9
	comp=N,36nm,0.4s							
KMO				⇑*i*Pg		Pg	09 35 14.8	-0.9
	comp=N,52nm,0.4s							
KMO				⇑*i*Pg		Pg	09 35 14.8	-0.9
	comp=N,316nm,0.4s							
KMO				*e*Sg		Sg	09 35 22.9	-0.6
KMO				Pmax				
	comp=N,380nm,0.3s							
KMO				Smax				
	comp=N,1μm,0.9s							
YOA	Uoyan	0.98	62	*e*PG		Pg	09 35 22.0	-0.7
YOA				*i*			09 35 34.6	
YOA				pmax		pmax		
	comp=Z,144nm,0.3s							
YOA				smax				
	comp=N,1μm,0.4s							
YOA	Uoyan	0.98	62	*e*Pg		Pg	09 35 21.9	-0.8
YOA				*e*Sg		Sg	09 35 34.5	-0.9
YOA				Pmax				
	comp=N,147nm,0.3s							
YOA				Smax				
	comp=N,1μm,0.4s							
YLYR	Ulyunkhan	0.98	145	*e*PG		Pg	09 35 21.8	-1.0
YLYR				*e*			09 35 34.7	
YLYR				pmax		pmax		
	comp=Z,98nm,0.1s							
YLYR				smax				
	comp=N,493nm,0.3s							
YLYR	Ulyunkhan	0.98	145	⇓*i*Pg		Pg	09 35 21.7	-1.1
YLYR				*e*			09 35 22.8	
YLYR				*e*Sg		Sg	09 35 34.8	-0.7
YLYR				*e*			09 35 40.9	
YLYR				max				
	comp=N,95nm,0.1s							
YLYR				Smax				
	comp=N,576nm,0.4s							
SVKR	Severomuysk	1.95	76	⇑*i*Pn		Pn	09 35 37.8	0.0
SVKR				*e*Pg		Pg	09 35 39.4	-1.9
SVKR				*e*Sg		Sg	09 36 05.5	-1.1
SVKR				Pmax				
	comp=N,161nm,0.4s							
SVKR				Smax				
	comp=N,2μm,0.9s							
SYVR	Suvo	2.03	183	*e*PN		Pn	09 35 40.4	+1.4
SYVR				*e*			09 36 08.3	
SYVR				pmax		pmax		
	comp=Z,176nm,0.6s							
SYVR				smax				
	comp=E,954nm,0.6s							
SYVR	Suvo	2.03	183	⇑*i*Pg		Pg	09 35 40.5	-2.4
SYVR				*e*Sg		Sg	09 36 07.8	-1.4
SYVR				Pmax				
	comp=E,208nm,0.5s							
SYVR				Smax				
	comp=E,1μm,0.6s							
OGRR	Ongureny	2.54	218	*e*PN		Pn	09 35 51.0	+5.1
OGRR				*e*			09 36 23.1	
OGRR				pmax		pmax		
	comp=Z,34nm,0.6s							
OGRR				smax				
	comp=E,228nm,0.9s							
OGRR	Ongureny	2.54	218	*e*		Pn	09 35 46.9	+1.0
OGRR				*e*Pg		Pg	09 35 49.0	-3.6
OGRR				*e*Sn		Sn	09 36 18.3	+1.0
OGRR				*e*Sg		Sg	09 36 22.2	-3.3
OGRR				Pmax				
	comp=E,27nm,0.8s							
OGRR				Smax				
	comp=E,214nm,0.6s							
MXMB	Maximikha	2.56	200	*e*Pg		Pg	09 35 51.2	-2.0
MXMB				*e*Sg		Sg	09 36 24.8	-1.6
MXMB				Pmax				
	comp=E,92nm,0.9s							
MXMB				Smax				
	comp=E,678nm,0.6s							
BOD	Bodaibo	3.00	43	*e*PN		Pn	09 35 52.3	0.0
BOD				*e*			09 35 57.8	
BOD				*e*S		Sn	09 36 27.3	-1.4
BOD				*e*			09 36 35.5	
BOD				pmax		pmax		
	comp=Z,20nm,0.4s							
BOD				smax				
	comp=N,209nm,0.5s							
BOD	Bodaibo	3.00	43	*e*Pn		Pn	09 35 52.2	-0.1
BOD				*e*Pg		Pg	09 35 57.2	-4.3
BOD				*e*Sn		Sn	09 36 28.6	-0.1
BOD				*e*Sg		Sg	09 36 35.5	-4.9
BOD				Pmax				
	comp=N,19nm,0.6s							
BOD				Smax				
	comp=N,199nm,1.1s							
NLYR	Nelyaty	3.19	73	*e*Pn		Pn

CRS	**Chara**	**4.67**	**71**	*e*PN	Pn	09 36 28.3	+13
CRS				*e*		09 37 27.7	
CRS				pmax	pmax		
	comp=Z,81nm,0.9s						
CRS				smax			
	comp=E,101nm,1.6s						
CRS	**Chara**	**4.67**	**71**	*e*Pg	Pg	09 36 28.2	-5.2
CRS				*e*Sg	Sg	09 37 28.8	-5.0
CRS				Pmax			
	comp=E,82nm,1.0s						
CRS				Smax			
	comp=E,167nm,1.5s						
IRK	**Irkutsk**	**4.91**	**228**	*e*	Pn	09 37 15.3	+57
IRK				*e*Sg	Sg	09 37 37.2	-4.4
IRK				Smax			
	comp=E,286nm,0.4s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*	Pn	09 36 21.7	+2.4
LSTR				*e*Pg	Pg	09 36 32.1	-7.1
LSTR				*e*Sn	Sn	09 37 13.4	-3.8
LSTR				*e*Sg	Sg	09 37 36.4	-7.1
LSTR				Smax			
	comp=E,64nm,1.4s						
TLY	**Talaya**	**5.58**	**227**	*e*PN	Pn	09 36 27.0	-0.8
TLY				*e*		09 36 43.3	
TLY				*e*S	Sn	09 37 29.5	-2.9
TLY				*e*		09 37 54.5	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TLY				smax			
	comp=E,58nm,1.0s						
TLY	**Talaya**	**5.58**	**227**	*e*PN	Pn	09 36 29.1	+1.3
TLY				*e*		09 36 40.4	
TLY				*e*Sn	Sn	09 37 29.1	-3.3
TLY				*e*Sg	Sg	09 37 56.1	-7.2
TLY				max			
	comp=E,8.0nm,0.6s						
TLY				Smax			
	comp=E,58nm,1.0s						
TUP	**Tupik**	**5.75**	**99**	*e*PN	Pn	09 36 29.7	-0.4
TUP				*e*		09 36 47.0	
TUP				*e*S	Sn	09 37 33.8	-2.8
TUP				*e*		09 38 01.1	
TUP				pmax	pmax		
	comp=Z,21nm,0.7s						
TUP				smax			
	comp=N,123nm,1.0s						
TUP	**Tupik**	**5.75**	**99**	*e*Pg	Pg	09 36 47.4	-6.8
TUP				*e*Sg	Sg	09 38 02.8	-5.9
TUP				Pmax			
	comp=N,20nm,1.0s						
TUP				Smax			
	comp=N,123nm,1.4s						
ARS	**Arshan**	**5.95**	**234**	*e*PN	Pn	09 36 32.7	-0.1
ARS				*e*S	Sn	09 37 37.7	-3.6
ARS	**Arshan**	**5.95**	**234**	⇑*i*Pn	Pn	09 36 32.7	-0.1
ARS				*e*Pg	Pg	09 36 50.9	-7.0
ARS				*e*Sn	Sn	09 37 37.6	-3.7
ARS				*e*Sg	Sg	09 38 08.3	-6.6
ARS				Pmax			
	comp=N,21nm,0.5s						
ARS				Smax			
	comp=N,300nm,0.8s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*PN	Pn	09 36 46.3	+2.5
ZAK				*e*		09 37 07.0	
ZAK				*e*		09 38 34.4	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZAK				smax			
	comp=N,58nm,1.3s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*Pn	Pn	09 36 45.9	+2.1
ZAK				*e*		09 38 02.0	
ZAK				*e*Sg	Sg	09 38 35.0	-5.6
ZAK				max			
	comp=N,3.0nm,0.8s						
ZAK				Smax			
	comp=N,58nm,0.9s						
MOY	**Mondy**	**6.78**	**237**	*e*PN	Pn	09 36 45.7	+1.4
MOY				*e*		09 37 06.3	
MOY				*e*		09 38 32.8	
MOY				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MOY				smax			
	comp=E,58nm,1.4s						
ORL	**Orlik**	**6.87**	**247**	*e*PN	Pn	09 36 46.5	+1.1
ORL				*e*S	Sn	09 38 37.2	+33
ORL				smax			
	comp=N,79nm,1.0s						
ORL	**Orlik**	**6.87**	**247**	*e*Pn	Pn	09 36 45.7	+0.3
ORL				*e*Sn	Sn	09 38 01.6	-2.4
ORL				*e*Sg	Sg	09 38 36.7	-7.7
ORL				max			
	comp=N,7.0nm,0.7s						
ORL				Smax			
	comp=N,80nm,0.9s						

*IDC **08** 09:48:53.5±1.5,5476N×15859W,h0km,mb3.9/10, mb1 4.1/12,mb1mx3.9/27,mbtmp3.9/12,ML4.1/2,Error ellipse: s-maj=36.1km s-min=20.0km az=11.0*
*ISCJB **08** 09:48:54.8±2.0,5478N±008×15844W±0.10,h19km±14km, mb4.0/10,Error ellipse: s-maj=13.8km s-min=8.4km az=134.0*
*NEIC **08** 09:48:57.5±3.1,5479N×15853W,h26km±24km, ML3.8(AEIC),Error ellipse: s-maj=16.4km s-min=6.8km az=159.0*

ISC 08 09:48:58.4±2.3,5483N±007×15852W±008,h33km±18km, n22,σ0°76/25,mb4.0/10,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.24**	**296**	P	**Pn**	**09 49 18.6**	**-0.8**
SDPT				S	**Sn**	**09 49 34.6**	**-0.4**
CHGN	**Chignik**	**1.48**	**2**	P	**Pn**	**09 49 23.0**	**+0.4**
CHGN				S	**Sn**	**09 49 41.5**	**+0.7**
FALS	**False Pass**	**2.83**	**273**	P	**Pn**	**09 49 41.6**	**+0.4**
KDAK	**Kodiak Island**	**4.44**	**46**	Pn	**Pn**	**09 50 03.2**	**-0.1**
	4.7nm,0.3s,baz=211,slow=6.9,SNR=76						
KDAK				Sn	**Sn**	**09 50 51.3**	**-2.5**
	11nm,0.3s,baz=86,slow=23,SNR=17						
KDAK	**Kodiak Island**	**4.44**	**46**	P	**Pn**	**09 50 03.6**	**+0.3**
UNV	**Unalaska Valle**	**4.78**	**261**	P	**Pn**	**09 50 07.3**	**-0.6**
SVW2	**Sparrevohn**	**6.48**	**13**	*e*Pn	**Pn**	**09 50 32.3**	**+0.9**
SEW	**Seward**	**7.20**	**39**	P	**Pn**	**09 50 42.2**	**+1.0**
SLKM	**Skilak Lake**	**7.22**	**35**	P	**Pn**	**09 50 41.5**	**0.0**
RC01	**Rabbit Creek A**	**7.82**	**33**	P	**Pn**	**09 50 49.3**	**-0.4**
INK	**Inuvik**	**17.81**	**31**	P	**Pn**	**09 53 02.3**	**-1.2**
	0.8nm,0.3s,baz=244,slow=12,SNR=16						
YKA	**Yellowknife Ar**	**23.67**	**53**	P	**P**	**09 54 07.1**	**+0.2**
	0.6nm,0.5s,mb3.3,baz=259,slow=7.2,SNR=20						
YKA	**Yellowknife Ar**	**23.67**	**53**	P	**P**	**09 54 07.0**	**+0.2**
PDAR	**Pinedale Array**	**33.74**	**90**	P	**P**	**09 55 35.7**	**-0.9**
	0.2nm,0.8s,mb3.1,baz=32,slow=15,SNR=2.6						
TXAR	**Lajitas Array**	**46.50**	**100**	P	**P**	**09 57 23.5**	**+1.2**
	0.8nm,1.1s,mb3.6,baz=320,slow=7.2,SNR=4.9						
SONM	**Songino Array**	**55.38**	**305**	P	**P**	**09 58 28.8**	**-0.4**
	1.2nm,0.7s,mb4.1,baz=37,slow=7.5,SNR=7.1						
ARCES	**ARCESS Array B**	**55.91**	**358**	P	**P**	**09 58 33.5**	**+0.6**
	4.9nm,0.9s,mb4.5,baz=333,slow=7.2,SNR=3.7						
FINES	**FINESS Array B**	**64.02**	**358**	P	**P**	**09 59 28.7**	**+0.1**
	1.4nm,0.7s,mb4.1,baz=347,slow=7.8,SNR=5.0						
BVAR	**Borovoye Array**	**65.15**	**330**	P	**P**	**09 59 35.7**	**-0.3**
	0.7nm,0.5s,mb4.0,baz=20,slow=5.6,SNR=5.1						
EKA	**Eskdalemuir Ar**	**68.36**	**15**	P	**P**	**09 59 57.2**	**+0.8**
	3.2nm,1.1s,mb4.3,baz=324,slow=4.1,SNR=3.5						
AKTO	**Aktyubinsk**	**70.75**	**336**	P	**P**	**10 00 11.5**	**+0.3**
	2.4nm,0.7s,mb4.2,baz=33,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**74.65**	**355**	P	**P**	**10 00 34.1**	**-0.2**
	1.2nm,0.3s,mb4.3,baz=7.0,slow=5.8,SNR=5.5						

*STR **08** 10:04:33.8±0.2,4757N×761E,h5km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 10:04:34.5±0.2,4758N×757E,h11km±1km,Md2.3/1, Ml2.3/7,Error ellipse: s-maj=3.9km s-min=2.3km az=105.0*

ZUR 08 10:04:34.5,4759N×760E,h5km±1km,ML1.6,3C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	10 04 39.8	+0.3
	178nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	10 04 40.9	+0.3
	62nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	10 04 41.5	+0.2
	93nm,0.2s						
SULZ				*e*Sg	Sg	10 04 46.4	+0.4
	93nm,0.2s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	10 04 42.4	-0.1
MOF				Sg	Sg	10 04 48.1	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	10 04 44.7	-0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	10 04 46.3	+1.1
HINF				*e*Sg	Sg	10 04 52.0	-0.4
HINF				*e*Sn	Sg	10 04 55.6	+3.2
	21nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	10 04 45.5	0.0
SLE	**Schleitheim**	**0.63**	**73**	⇑*i*Pg	Pg	10 04 46.3	-0.3
	143nm,1.6s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	10 04 47.5	-0.4
ECH				Sg	Sg	10 04 56.9	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	10 04 50.7	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	10 04 51.2	-2.0
CDF				*e*Sg	Sg	10 05 01.3	-0.7
CDF				*e*Sn	Sn	10 05 03.1	-2.9
	20nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	10 04 52.2	-0.4
HAU				*e*Sg	Sg	10 05 05.1	+0.3
	22nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	10 05 01.4	-0.3
CABF				*e*Sg	Sg	10 05 18.7	-1.4
	6.7nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	10 05 32.1	-1.3
	6.6nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	10 05 42.6	-1.6
	0.9nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	10 05 54.3	-2.4
	3.2nm,0.3s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Sg	Sg	10 06 02.9	-2.6
	0.5nm,0.2s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Sg	Sg	10 06 07.6	-3.4
	1.6nm,0.2s						

*IDC **08** 10:28:41.0±3.4,4738N×15622E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.5/22,mbtmp3.5/4,MS3.9/2,Ms1 3.9/2, ms1mx2.7/38,Error ellipse: s-maj=100.6km s-min=33.4km az=173.0*
*ISCJB **08** 10:28:43.6±6.9,476N±0.1×1562E±03,h22km±48km, mb3.6/4,MS4.0/2,Error ellipse: s-maj=34.2km s-min=20.1km az=174.6*
*MOS **08** 10:28:44.9±0.2,4762N×15596E,h35km,mb3.9/3,Error ellipse: s-maj=83.5km s-min=32.6km az=82.1*

ISC 08 10:28:43.9±6.9,476N±01×1562E±03,h14km±45km,n10, σ0°10/9,mb3.6/4,MS4.0/2,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.07**	**359**	*e*PN	**Pn**	**10 29 32.0**	**0.0**
SKR				*e*	**Sn**	**10 30 08.5**	**0.0**
INK	**Inuvik**	**39.79**	**33**	P	**P**	**10 36 16.6**	**+0.1**
	1.6nm,1.1s,mb3.7,baz=262,slow=3.9,SNR=7.0						
INK	**Inuvik**	**39.79**	**33**	P	**P**	**10 36 16.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**48.38**	**298**	P	**P**	**10 37 25.4**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=55,slow=5.0,SNR=3.3						
MKAR	**Makanchi Array**	**48.38**	**298**	P	**P**	**10 37 25.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**48.97**	**38**	P	**P**	**10 37 29.7**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=296,slow=7.1,SNR=4.3						
BORG	**Borgarnes**	**67.96**	**359**	LR	LR	11 12 40.4	
	comp=Z,80nm,19.9s,MS4.0,baz=324,slow=39						
TXAR	**Lajitas Array**	**75.25**	**63**	P	**P**	**10 40 26.4**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=306,slow=4.3,SNR=5.2						
TXAR	**Lajitas Array**	**75.25**	**63**	P	**P**	**10 40 26.4**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PPT	**Papeete**	**81.02**	**128**	LR	LR	11 08 11.4	
	comp=Z,72nm,20.4s,MS4.0,baz=248,slow=29						

GUC 08 10:30:02.0±0.8,2713S×7095W,h46km±2km,MD3.8, ML3.6,2C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.12**	**61**	⇓*i*P	Pn	10 30 09.7	+0.3
CDCH				*i* S	Sn	10 30 14.8	+0.2
CDCH				AML	AML	10 30 15.1	
	comp=E,6μm,0.1s						
CPCH	**Copiapo**	**0.58**	**113**	⇓*i*P	Pn	10 30 14.5	+0.6
CPCH				*i* S	Sn	10 30 23.6	+1.0
CPCH				AML	AML	10 30 24.0	
	comp=E,48μm,0.1s						
VACH	**Vallenar**	**1.45**	**173**	⇑*i*P	Pn	10 30 26.6	+0.9
VACH				*i* S	Sn	10 30 44.6	+1.1
VACH				AML	AML	10 30 47.0	
	comp=N,1μm,0.2s						
CPN1	**Cerro Paranal**	**2.54**	**11**	⇑*i*P	Pn	10 30 42.2	+1.5
CPN1				*i* S	Sn	10 31 12.5	+2.0
CPN1				AML	AML	10 31 28.1	
	comp=E,80nm,0.5s						

JMA 08 10:32:43.9±0.4,4420N×14791E,h7km,M3.8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.78**	**243**	P	Pn	10 33 15.5	+0.5
NEM2				*e*S	Sn	10 33 38.4	+0.5
JRA	**Rausu**	**2.03**	**264**	P	Pn	10 33 19.1	+0.6
JNK	**Nakash**	**2.39**	**256**	P	Pn	10 33 23.7	+0.3
JNK				*e*S	Sn	10 33 53.4	+0.5
JAK	**Akkeshi**	**2.63**	**244**	*e*S	Sn	10 33 58.4	-0.4
JAR	**Ashorobuto**	**3.13**	**255**	P	Pn	10 33 35.0	+1.3
JOB	**Onbets**	**3.23**	**248**	*e*S	Sn	10 34 14.2	+0.4
JMP	**Maruseppu**	**3.28**	**268**	P	Pn	10 33 35.9	+0.2
JCH	**Churui**	**3.67**	**246**	P	Pn	10 33 42.5	+1.4
JCH				*e*S	Sn	10 34 26.4	+1.8
JNBK	**Urakawa-nobuka**	**4.23**	**245**	P	Pn	10 33 50.8	+2.1

*STR **08** 10:36:09.9±0.4,4755N×757E,h5km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 08 10:36:10.3±0.2,4759N×757E,h10km,Md2.0/1,Ml1.8/4, Error ellipse: s-maj=3.7km s-min=2.2km az=113.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.39**	**312**	Pg	Pg	10 36 18.7	+0.7
MOF				Sg	Sg	10 36 24.1	+0.8
HINF	**Hinteralfeld**	**0.53**	**295**	*e*Pg	Pg	10 36 20.5	-0.2
HINF	**Hinteralfeld**	**0.53**	**295**	*e*Pn	Pg	10 36 22.1	+1.4
HINF				*e*Sg	Sg	10 36 27.9	+0.2
HINF				*e*Sn	Sg	10 36 31.3	+3.6
	4.8nm,0.2s						
ECH	**Echery**	**0.68**	**336**	Pg	Pg	10 36 24.6	+1.1
ECH				Sg	Sg	10 36 33.0	+0.5
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pg	Pg	10 36 24.6	-0.2
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pn	Pn	10 36 27.0	-1.3
CDF				*e*Sg	Sg	10 36 36.9	-0.7
CDF				*e*Sn	Sn	10 36 38.9	-1.8
	5.7nm,0.2s						
HAU	**Haudompre**	**0.92**	**297**	*e*Pg	Pg	10 36 27.7	-0.3
HAU				*e*Sg	Sg	10 36 40.3	+0.3
	4.1nm,0.3s						
CABF	**La Chapelle**	**1.41**	**226**	*e*Pg	Pg	10 36 37.0	-0.3
CABF				*e*Sg	Sg	10 36 54.6	-1.0
	1.1nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Sg	Sg	10 37 07.7	-0.8
	0.6nm,0.2s						
LOR	**Lormes**	**2.54**	**264**	*e*Sg	Sg	10 37 29.6	-2.2
	1.4nm,0.2s						

*ISCJB **08** 10:38:52.6±0.7,3911N±003×2167E±005,h11km±6km, Error ellipse: s-maj=6.3km s-min=4.9km az=135.4*
*NEIC **08** 10:38:53.2,3912N×2174E,h15km,MD3.1(ATH),After ATH.*
*CSEM **08** 10:38:53.2±0.1,3911N×2166E,h10km,MD3.1,Error ellipse: s-maj=2.6km s-min=1.9km az=61.0*
*THE **08** 10:38:53.6,3914N×2167E,h7km,ML2.7*
*ATH **08** 10:38:53.2,3912N×2174E,h15km±1km,MD3.1/7*

ISC 08 10:38:53.2±0.5,3911N±003×2166E±005,h15km±5km,n17, σ0°55/22,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.23**	**149**	⇓*i*PB	**Pg**	**10 38 57.7**	**-0.5**
EVR				*e*SB	**Sg**	**10 39 01.6**	**-0.1**
THL	**Klokotos Trika**	**0.53**	**31**	*e*PB	**Pg**	**10 39 03.3**	**-0.3**
AGG	**Agios Georgios**	**0.53**	**100**	*e*Pg	**Pg**	**10 39 03.3**	**-0.3**
AGG				*e*Sg	**Sg**	**10 39 11.6**	**+0.8**
MEV	**Metsovon**	**0.75**	**334**	*e*Pg	**Pg**	**10 39 07.1**	**-0.7**
JAN	**Janina**	**0.83**	**311**	*e*PN	**Pg**	**10 39 09.7**	**+0.4**
LKD	**Levkas**	**0.89**	**243**	*e*Pg	**Pg**	**10 39 10.7**	**+0.4**
RLS	**Riolos of Patr**	**1.06**	**188**	*e*PN	**Pn**	**10 39 14.0**	**+0.4**
LKR	**Lokris**	**1.14**	**113**	*e*PN	**Pn**	**10 39 13.9**	**-0.8**
LIT	**Litokhoron**	**1.18**	**33**	*e*Pg	**Pg**	**10 39 15.5**	**-0.4**
LIT				*e*Sg	**Sg**	**10 39 32.5**	**+1.3**
KZN	**Kozani**	**1.20**	**4**	*e*PN	**Pn**	**10 39 15.6**	**+0.2**
XOR	**Xorichti**	**1.22**	**78**	*e*Pg	**Pg**	**10 39 16.0**	**-0.6**
KEK	**Kerkira**	**1.56**	**293**	*e*PN	**Pg**	**10 39 23.3**	**+0.1**
PAIG	**Paliouri**	**1.76**	**62**	*e*Pb	**Pn**	**10 39 23.1**	**-0.1**
GRG	**Griva**	**1.93**	**17**	*e*Pb	**Pn**	**10 39 25.8**	**+0.4**
GRG				*e*Sb	**Sb**	**10 39 50.8**	**-1.1**
OUR	**Ouranopolis**	**2.17**	**55**	*e*Pn	**Pn**	**10 39 29.4**	**+0.6**
KRUS	**Krusevo**	**2.27**	**352**	*e*Pn	**Pb**	**10 39 34.1**	**+0.2**
KRUS				*e*Sn	**Sb**	**10 40 01.8**	**-0.1**
LOS	**Limnos**	**2.77**	**72**	*e*Pn	**Pn**	**10 39 37.3**	**+0.2**

*LDG **08** 10:43:14.2±0.0,4294N×063E,h2km,Md1.6/1,Ml2.0/2, Error ellipse: s-maj=0.5km s-min=0.1km az=175.0*

MDD 08 10:43:14.9±0.5,4303N×064E,h0km,mbLg1.4/7,Error ellipse: s-maj=4.9km s-min=2.3km az=15.0,PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.18**	**151**	P	Pg	10 43 18.1	-0.2
MELF				S	Sg	10 43 20.6	-0.1
EPF	**Esparros**	**0.22**	**270**	*e*Pg	Pg	10 43 18.9	-0.2
EPF				*e*Sg	Sg	10 43 22.0	0.0
	115nm,0.2s						
EPF	**Esparros**	**0.22**	**270**	Pg	Pg	10 43 18.9	-0.2
EPF				Lg		10 43 22.0	
	58nm,0.2s						
SALF	**Salau**	**0.49**	**124**	P	Pg	10 43 23.6	-0.6
EBIE	**Bielsa**	**0.50**	**227**	Pg	Pg	10 43 24.3	-0.2
	1.0nm,0.1s,SNR=7.9						
EBIE				Lg		10 43 31.2	
	2.6nm,0.1s,SNR=7.9						
GRBF	**Gourbit**	**0.69**	**106**	S	Sg	10 43 36.1	-0.8
CSOR	**Sort**	**0.75**	**151**	P	Pg	10 43 28.9	-0.3
CSOR				S	Sg	10 43 38.8	-0.1
	1.4nm,0.1s						
ETSF	**Etsaut**	**0.89**	**262**	*e*Pg	Pg	10 43 30.7	-1.2
ETSF				*e*Sg	Sg	10 43 42.1	-1.4
	2.3nm,0.2s						
ETSF	**Etsaut**	**0.89**	**262**	Pg	Pg	10 43 30.7	-1.2
ETSF				Lg		10 43 42.1	
	1.1nm,0.2s						
CORG	**Organya**	**0.94**	**148**	P	Pg	10 43 32.1	-0.9
CORG				S	Sg	10 43 44.6	-0.6
CAVN	**Les Avellanes**	**1.15**	**176**	P	Pg	10 43 36.8	-0.1
CAVN				S	Sg	10 43 52.1	+0.3
	3.5nm,0.2s						
MTLF	**Montolieu**	**1.20**	**74**	*e*Pg	Pg	10 43 37.3	-0.5
MTLF				*e*Sg	Sg	10 43 53.2	-0.1
	5.8nm,0.3s						
MTLF	**Montolieu**	**1.20**	**74**	Pg	Pg	10 43 37.3	-0.5
MTLF				Lg		10 43 53.2	
	2.9nm,0.3s						
EPOB	**Poblet**	**1.71**	**169**	Pg	Pg	10 43 45.5	-2.1
	0.2nm,0.2s,SNR=7.9						
EPOB				Lg		10 44 09.2	
	2.1nm,0.1s,SNR=7.9						

*ISCJB **08** 10:47:01.5±0.5,3952N±002×2680E±004,h4km±5km, Error ellipse: s-maj=5.6km s-min=3.2km az=157.1*
*CSEM **08** 10:47:01.5±0.1,3950N×2678E,h12km,MD3.0,Error ellipse: s-maj=1.8km s-min=1.2km az=67.0*
*ISK **08** 10:47:01.3,3951N×2680E,h8km,MD3.0*
*THE **08** 10:47:05.8,3947N×2667E,h25km,ML2.9*

ISC 08 10:47:02.1±0.4,3953N±002×2679E±004,h9km±4km,n25, σ0°82/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.23**	**199**	*i* P	**Pg**	**10 47 06.8**	**0.0**
AYVA				*i* S	**Sg**	**10 47 10.4**	**+0.5**
EZN	**Ezine**	**0.47**	**310**	PG	**Pg**	**10 47 11.4**	**+0.2**
EZN				SG	**Sg**	**10 47 18.6**	**+1.3**
CANB	**Canakkale**	**0.54**	**23**	PG	**Pg**	**10 47 12.3**	**-0.2**
CANB				SG	**Sg**	**10 47 20.1**	**+0.6**
BOZC	**Bozcaada**	**0.65**	**299**	*i* P	**Pg**	**10 47 14.8**	**+0.2**
BOZC				*i* S	**Sg**	**10 47 23.5**	**+0.4**
AKS	**Akhisar**	**1.03**	**129**	PG	**Pg**	**10 47 21.3**	**-0.5**
AKS				SG	**Sg**	**10 47 35.3**	**+0.1**
BLCB	**Balcova**	**1.16**	**170**	PN	**Pn**	**10 47 23.8**	**-0.7**
BLCB	**Balcova**	**1.16**	**170**	*e*Pg	**Pg**	**10 47 24.0**	**-0.3**
BLCB				*e*Sg	**Sg**	**10 47 39.5**	**+0.2**
BLCB	**Balcova**	**1.16**	**170**	*e*Pg	**Pg**	**10 47 24.0**	**-0.3**
BLCB				*e*Sg	**Sg**	**10 47 39.5**	**+0.2**
EDC	**Edincik**	**1.17**	**45**	PN	**Pn**	**10 47 24.4**	**-0.2**
URLA	**Izmir**	**1.17**	**187**	*i* P	**Pb**	**10 47 23.6**	**-1.0**
URLA				*i* S	**Sb**	**10 47 42.3**	**+2.4**
KDAG	**Bornova**	**1.18**	**161**	*i* P	**Pb**	**10 47 23.7**	**-1.0**
KDAG				*i* S	**Sb**	**10 47 42.4**	**+2.3**
IZM	**Izmir**	**1.19**	**162**	PN	**Pn**	**10 47 24.0**	**-0.9**
IZM				SN	**Sn**	**10 47 40.1**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.20**	**14**	PN	**Pn**	**10 47 24.3**	**-0.7**
SART	**Tekirdag**	**1.20**	**14**	*i* P	**Pb**	**10 47 24.2**	**-0.8**
SART				*i* S	**Sb**	**10 47 41.8**	**+1.1**
SART	**Tekirdag**	**1.20**	**14**	*i* P	**Pb**	**10 47 24.2**	**-0.8**
BNT	**Bandirma**	**1.20**	**46**	PN	**Pn**	**10 47 24.8**	**-0.3**
ENEZ	**Enez**	**1.30**	**338**	PN	**Pn**	**10 47 26.6**	**+0.1**
MFT	**Murefte**	**1.32**	**17**	*e*PN	**Pn**	**10 47 27.2**	**+0.5**
LOS	**Limnos**	**1.38**	**288**	*e*Pg	**Pg**	**10 47 27.5**	**-1.0**
KCT	**Karacabey**	**1.42**	**58**	*e*PN	**Pn**	**10 47 27.9**	**-0.1**
DST	**Dursunbey**	**1.43**	**86**	*e*PN	**Pn**	**10 47 27.9**	**-0.3**
ALN	**Alexandroupoli**	**1.48**	**338**	*e*Pg	**Pg**	**10 47 29.9**	**-0.7**
ALN				*e*Sg	**Sg**	**10 47 48.6**	**-1.2**
IZI	**Iznik**	**2.22**	**68**	*e*PN	**Pn**	**10 47 39.8**	**+0.7**
YLV	**Yalova**	**2.24**	**62**	*e*PN	**Pn**	**10 47 40.4**	**+1.0**
KLYT	**Kilyos**	**2.44**	**44**	*e*PN	**Pn**	**10 47 42.7**	**+0.6**

*CS

VDL Val di Lei 0.54 255⇑iPg Pg 10 53 04.1 -0.2
219nm,0.1s
MABI Malga Bissina 0.61 161 Pg **Pg 10 53 05.6 +0.1**
TUE Stuetta 0.63 256 Pg **Pg 10 53 05.8 -0.2**
52nm,0.3s
APPI Appiano 0.71 102 Pg **Pg 10 53 07.5 +0.1**
149nm,0.1s
SQTA Sankt Quirin 0.90 48⇑iPg Pg 10 53 10.7 -0.3
SQTA ⇑iSg **Sg 10 53 23.0 +0.3**
16nm,0.2s
MAGA Magasa 0.90 162 Pg **Pg 10 53 11.4 +0.4**
148nm,0.2s
MDI Monti di Nese 0.92 203 Pg **Pg 10 53 11.8 +0.2**
MDI Sg **Sg 10 53 24.1 +0.5**
MOTA Moosalm 0.93 40⇑iPg Pg 10 53 11.5 -0.2
MOTA ⇑iSg **Sg 10 53 24.1 +0.2**
7.1nm,0.2s
MUGIO Muggio 1.08 230 Pg **Pg 10 53 14.2 -0.4**
MUGIO Sg **Sg 10 53 29.7 +0.9**
CTI Castel Tesino 1.14 120 Pg **Pg 10 53 15.6 -0.1**
CTI Sg **Sg 10 53 30.8 +0.2**
34nm,0.4s
WTTA Wattenberg 1.16 56⇓iPg Pg 10 53 15.6 -0.3
WTTA ⇓iSg **Sg 10 53 31.3 +0.3**
5.7nm,0.2s
WATA Walderalm 1.16 52⇑iPg Pg 10 53 15.9 -0.2
WATA ⇓iSg **Sg 10 53 32.0 +0.8**
4.9nm,0.2s
FVI Forni Avoltri 1.76 90 Pg **Pg 10 53 26.2 -1.3**
7.0nm,0.4s
KBA Koelnbreinsper 2.19 77⇓iPg Pg 10 53 33.9 -1.7
KBA ⇑iSg **Sg 10 54 05.1 +1.1**
comp=Z,3.2nm,0.2s

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*ISCJB **08** 10:53:31.9±2.0, 3562S×009×1790W×02, h45km±15km, mb4.7/5, MS3.8/6, Error ellipse: s-maj=26.9km s-min=13.6km az=40.0*
*NEIC **08** 10:53:31.0±1.0, 3546S×17906W, h10km, mb4.9/2, Error ellipse: s-maj=17.9km s-min=10.2km az=107.0*
*IDC **08** 10:53:37.2±6.1, 3547S×17935W, h44km±48km, mb4.4/3, mb1 4.4/5, mb1mx3.9/13, mbtmp4.3/5, ML3.8/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/22, Error ellipse: s-maj=46.4km s-min=28.3km az=78.0*
ISC 08 10:53:33.2±1.9, 3559S×009×1789W×02, h36km±15km, n40, σ0=85/31, mb4.7/5, MS3.8/6, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.98**	**228**	*e*P	**Pn**	**10 54 19.3**	**+1.4**
MXZ	**Matakaoa Point**	**2.98**	**228**	*e*PN	**Pn**	**10 54 18.3**	**+0.4**
MXZ				*e*SN	**Sn**	**10 54 52.4**	**+0.1**
MWZ	**Matawai**	**3.95**	**225**	P	**Pn**	**10 54 32.2**	**+1.0**
MWZ	**Matawai**	**3.95**	**225**	PN	**Pn**	**10 54 32.2**	**+1.0**
MWZ				*e*SN	**Sn**	**10 55 17.7**	**+1.4**
URZ	**Urewera**	**4.15**	**229**	P	**Pn**	**10 54 34.5**	**+0.5**
8.8nm,0.3s,baz=21,slow=4.7,SNR=126							
URZ				S	**Sn**	**10 55 21.7**	**+0.4**
16nm,0.3s,baz=320,slow=23,SNR=6.9							
URZ				LR	LR	10 56 22.8	
comp=Z,463nm,20.9s,baz=25,slow=42							
URZ	**Urewera**	**4.15**	**229**	P	**Pn**	**10 54 34.4**	**+0.4**
URZ	**Urewera**	**4.15**	**229**	PN	**Pn**	**10 54 34.4**	**+0.5**
URZ				*e*SN	**Sn**	**10 55 21.3**	**0.0**
KNZ	**Kokohu**	**4.37**	**217**	*e*P	**Pn**	**10 54 37.6**	**+0.6**
KNZ	**Kokohu**	**4.37**	**217**	*e*PN	**Pn**	**10 54 37.6**	**+0.6**
KUZ	**Kuaotunu**	**4.49**	**254**	*e*P	**Pn**	**10 54 38.1**	**-0.6**
KUZ	**Kuaotunu**	**4.49**	**254**	*e*PN	**Pn**	**10 54 37.8**	**-0.8**
PXZ	**Pawanui**	**5.55**	**216**	*e*PN	**Pn**	**10 54 53.3**	**0.0**
PXZ				SN	**Sn**	**10 55 53.9**	**-1.9**
OUZ	**Omahuta**	**6.13**	**271**	P	**Pn**	**10 55 00.3**	**-0.8**
OUZ	**Omahuta**	**6.13**	**271**	PN	**Pn**	**10 55 00.3**	**-0.9**
RAO	**Raoul Island**	**6.38**	**8**	LR	LR	10 57 22.1	
comp=Z,367nm,18.2s,baz=219,slow=36							
TIWZ	**Tintock**	**6.60**	**217**	*e*PN	**Pn**	**10 55 07.5**	**-0.1**
TCW	**Tory Channel**	**7.75**	**222**	*e*SN	**Sn**	**10 56 43.2**	**-6.7**
THZ	**Tophouse**	**8.88**	**224**	*e*PN	**Pn**	**10 55 36.8**	**-2.1**
THZ				SN	**Sn**	**10 57 12.5**	**-5.1**
MQZ	**McQueen's Vall**	**10.38**	**216**	*e*SN	**Sn**	**10 57 43.1**	**-11**
DZM	**Mont Dzumac**	**18.57**	**313**	P	**Pn**	**10 57 47.7**	**+0.4**
0.3nm,0.3s,baz=144,slow=17,SNR=3.0							
RAR	**Rarotonga**	**22.05**	**55**	LR	LR	11 05 33.1	
comp=Z,100nm,19.9s,MS3.2,baz=120,slow=32							
TBI	**Tubuai**	**28.29**	**72**	*e*LR	LR	11 06 47.1	
124nm,25.0s							
PPT	**Papeete**	**31.62**	**63**	*e*LR	LR	11 08 14.1	
141nm,25.5s							
HNR	**Honiara**	**32.40**	**318**	LR	LR	11 10 32.1	
comp=Z,67nm,18.2s,MS3.4,baz=182,slow=32							
STKA	**Stephens Creek**	**32.90**	**265**	P	**P**	**11 00 04.4**	**+0.7**
3.6nm,0.9s,mb4.3,baz=104,slow=6.9,SNR=5.4							
CTA	**Charters Tower**	**34.24**	**287**	P	**P**	**11 00 16.1**	**+0.7**
10nm,1.0s,mb4.7,baz=131,slow=7.6,SNR=4.7							
RKT	**Rikitea**	**39.96**	**84**	*e*LR	LR	11 12 16.0	
120nm,25.2s							
PMG	**Port Moresby**	**40.41**	**302**	LR	LR	11 13 23.2	
comp=Z,286nm,21.8s,MS4.1,baz=209,slow=30							
WB2	**Warramunga Arr**	**43.78**	**278**	*e*P	**P**	**11 01 34.6**	**-0.6**
WRAB	**Tennant Creek**	**43.79**	**278**	*e*P	**P**	**11 01 34.7**	**-0.6**
14nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**43.79**	**278**	P	**P**	**11 01 35.0**	**-0.3**
11nm,0.6s,mb4.7,baz=119,slow=7.6,SNR=170							
WRA				LR	LR	11 19 07.0	
comp=Z,126nm,18.5s,MS3.9,baz=115,slow=35							
FITZ	**Fitzroy Crossi**	**51.78**	**274**	*e*P	**P**	**11 02 37.5**	**+0.3**
8.3nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**51.78**	**274**	LR	LR	11 24 21.6	
comp=Z,151nm,18.5s,MS4.1,baz=133,slow=36							
PSI	**Prapat**	**85.24**	**277**	LR	LR	11 43 19.7	
comp=Z,128nm,18.9s,MS4.3,baz=146,slow=35							
KAF	**Kangasniemi**	**149.10**	**337**	*e*p	PKPbc	11 13 18.5	+1.0
FINES	**FINESS Array B**	**149.67**	**336**	PKPbc	PKPbc	11 13 20.5	+1.6
4.6nm,0.8s,baz=39,slow=4.8,SNR=18							
MMAI	**Mount Meron Ar**	**151.62**	**275**	PKPbc	PKPbc	11 13 26.4	+2.9
1.1nm,0.4s,baz=74,slow=6.2,SNR=4.1							
BRTR	**Keskin Array B**	**153.98**	**289**	PKPbc	PKPbc	11 13 30.3	+1.6
1.0nm,0.9s,baz=134,slow=5.3,SNR=4.3							
AKASG	**Malin Array Be**	**154.72**	**315**	PKPbc	PKPbc	11 13 31.7	+1.4
0.4nm,0.4s,baz=55,slow=2.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**157.64**	**182**	PKPab	PKPab	11 14 01.8	+3.9
0.4nm,0.9s,baz=17,slow=1.5,SNR=2.9							

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*IDC **08** 10:58:04.7±1.0, 4700N×15585E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.7/7, Error ellipse: s-maj=31.9km s-min=22.1km az=156.0*
*NEIC **08** 10:58:06.4±0.7, 4703N×15579E, h10km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=12.8km az=170.0*
*ISCJB **08** 10:58:08.2±1.0, 47.1N±02×1558E±02, h35km, mb3.9/9, Error ellipse: s-maj=27.0km s-min=17.6km az=159.6*
*MOS **08** 10:58:08.8±2.1, 4731N×15597E, h33km, mb4.1/8, Error ellipse: s-maj=25.5km s-min=24.5km az=65.8*
ISC 08 10:58:10.0±1.0, 471N±02×1558E±02, h35km, n20, σ0=35/20, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.82**	**254**	*e*PN	**Pn**	**10 59 41.5**	**+7.8**
SONM	**Songino Array**	**32.95**	**290**	P	**P**	**11 04 41.1**	**-0.1**
0.4nm,0.8s,mb3.4,baz=79,slow=7.5,SNR=2.7							
INK	**Inuvik**	**40.37**	**33**	P	**P**	**11 05 43.9**	**-0.5**
2.2nm,0.9s,mb3.9,baz=264,slow=6.9,SNR=12							
INK	**Inuvik**	**40.37**	**33**	P	**P**	**11 05 43.9**	**-0.5**
INK				pmax	pmax		
comp=Z,2.0nm,0.9s							
INK	**Inuvik**	**40.37**	**33**	*e*P	**P**	**11 05 44.5**	**+0.1**
comp=Z,41nm,0.6s							
MKAR	**Makanchi Array**	**48.41**	**298**	P	**P**	**11 06 48.9**	**+0.2**
comp=Z,1.0nm,0.8s,mb3.9,baz=100,slow=5.0,SNR=5.6							
MKAR	**Makanchi Array**	**48.41**	**298**	P	**P**	**11 06 48.9**	**+0.3**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**48.70**	**304**	*e*P	**P**	**11 06 51.0**	**+0.1**
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**48.70**	**304**	*e*P	**P**	**11 06 51.0**	**+0.1**
comp=Z,3.6nm,0.9s,mb4.4							
YKA	**Yellowknife Ar**	**49.54**	**38**	P	**P**	**11 06 57.0**	**-0.3**
comp=Z,0.6nm,0.7s,mb3.8,baz=293,slow=7.1,SNR=9.9							
YKA	**Yellowknife Ar**	**49.54**	**38**	P	**P**	**11 06 57.0**	**-0.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**49.54**	**38**	P	**P**	**11 06 57.0**	**-0.3**
CHKZ	**Chkalovo**	**51.61**	**311**	*e*P	**P**	**11 07 12.5**	**-0.4**
CHKZ				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
CHKZ	**Chkalovo**	**51.61**	**311**	*e*P	**P**	**11 07 12.5**	**-0.4**
comp=Z,3.7nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**52.06**	**310**	P	**P**	**11 07 16.5**	**+0.3**
comp=Z,0.6nm,0.4s,mb3.9,baz=63,slow=8.3,SNR=4.1							
BVAR	**Borovoye Array**	**52.06**	**310**	P	**P**	**11 07 16.5**	**+0.3**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**69.47**	**202**	P	**P**	**11 09 14.5**	**-0.3**
comp=Z,0.6nm,0.8s,mb3.6,baz=17,slow=6.9,SNR=3.9							
WRA	**Warramunga Arr**	**69.47**	**202**	P	**P**	**11 09 14.5**	**-0.2**
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**11 09 52.5**	**+0.7**
comp=Z,1.1nm,0.8s,mb3.8,baz=304,slow=4.6,SNR=7.9							
TXAR	**Lajitas Array**	**75.71**	**62**	P	**P**	**11 09 52.5**	**+0.7**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.8s							

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*NEIC **08** 10:59:53.3±3.6, 3730N×72.19E, h180km±26km, mb4.1/1, Error ellipse: s-maj=40.0km s-min=22.9km az=166.0*
*IDC **08** 10:59:55.8±7.2, 3739N×7223E, h201km±61km, mb3.0/2, mb1 3.2/6, mb1mx3.0/23, mbtmp3.1/6, Error ellipse: s-maj=70.6km s-min=32.0km az=150.0*
*MOS **08** 10:59:55.4±1.4, 3752N×7208E, h201km, mb4.1/1, Error ellipse: s-maj=56.3km s-min=19.2km az=82.2*
*ISCJB **08** 11:00:02.1±2.5, 381N±02×724E±01, h227km±17km, mb3.1/2, Error ellipse: s-maj=33.3km s-min=16.4km az=27.4*
*NNC **08** 11:00:04.3±16.0, 3824N×7257E, h231km±258km, mb2.0, mpv3.0, Error ellipse: s-maj=271.0km s-min=98.9km az=22.0*
ISC 08 11:00:03.3±2.5, 381N±02×724E±01, h220km±16km, n21, σ0=94/23, mb3.1/2, 1C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.14**	**14**	P	**Pn**	**11 01 07.7**	**+0.2**
SNR=46							
UCH	**Uchtor**	**4.42**	**21**	P	**Pn**	**11 01 10.9**	**0.0**
SNR=25							
KZA	**Kyzart**	**4.53**	**28**	P	**Pn**	**11 01 11.8**	**-0.5**
SNR=13							
EKS2	**Erkin-Say**	**4.67**	**13**	P	**Pn**	**11 01 14.9**	**+0.9**
SNR=8.8							
AAK	**Ala-Archa**	**4.79**	**19**	P	**Pn**	**11 01 16.3**	**+0.7**
SNR=6.3							
AAK	**Ala-Archa**	**4.79**	**19**	*e*PN	**Pn**	**11 01 14.9**	**-0.7**
AAK				pmax	pmax		
comp=Z,7.0nm,0.6s							
AAK	**Ala-Archa**	**4.79**	**19**	*e*P	**Pn**	**11 01 14.9**	**-0.7**
comp=Z,7.1nm,0.6s							
AAK				*e*S	**S**	**11 02 11.0**	**-1.9**
KK31	**Karatay Array**	**5.18**	**345**	P	**Pn**	**11 01 19.7**	**-0.8**
comp=Z,0.9nm,0.2s,baz=156,slow=11,SNR=50							
KK31				S	**S**	**11 02 22.3**	**+0.6**
comp=Z,9.9nm,0.3s,baz=172,slow=24,SNR=20							
TKM2	**Tokmak 2**	**5.39**	**26**	⇑P	**Pn**	**11 01 23.1**	**0.0**
comp=Z,1.1nm,1.2s							
MKAR	**Makanchi Array**	**11.34**	**37**	P	**Pn**	**11 02 40.5**	**+1.2**
comp=Z,0.2nm,0.3s,baz=201,slow=10,SNR=8.7							
AB31	**Akbulak array**	**14.30**	**325**	⇓P	**Pn**	**11 03 16.8**	**+0.7**
comp=Z,0.6nm,0.5s,baz=136,slow=11,SNR=11							
BVAR	**Borovoye Array**	**14.98**	**355**	P	**Pn**	**11 03 25.4**	**+1.0**
comp=Z,0.3nm,0.3s,baz=163,slow=8.4,SNR=4.3							
AKTK	**Aktyubinsk**	**16.01**	**325**	P	**P**	**11 03 35.5**	**-0.5**
AKTO	**Aktyubinsk**	**16.01**	**325**	P	**P**	**11 03 35.5**	**-0.5**
comp=Z,0.6nm,0.3s,baz=124,slow=12,SNR=13							
AKTO	**Aktyubinsk**	**16.01**	**325**	P	**P**	**11 03 35.5**	**-0.5**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**17.98**	**24**	P	**P**	**11 03 58.7**	**+1.2**
comp=Z,2.1nm,0.3s,baz=248,slow=7.0,SNR=13							
ZAL	**Zalesovo**	**17.98**	**24**	P	**P**	**11 03 58.7**	**+1.2**
ZAL				pmax	pmax		
comp=Z,2.0nm,0.3s							
ZAL	**Zalesovo**	**17.98**	**24**	P	**P**	**11 03 58.7**	**+1.2**
TORD	**Torodi Ar. Bea**	**66.86**	**269**	P	**P**	**11 10 25.5**	**-6.1**
comp=Z,0.5nm,0.4s,mb3.5,baz=53,slow=5.5,SNR=9.4							
YKA	**Yellowknife Ar**	**79.58**	**3**	P	**P**	**11 11 43.9**	**-2.0**
comp=Z,0.1nm,0.4s,mb2.8,baz=348,slow=5.5,SNR=4.5							
YKA	**Yellowknife Ar**	**79.58**	**3**	P	**P**	**11 11 43.9**	**-2.0**

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*NEIC **08** 11:20:03.1, 3262S×7150W, h27km, ML3.0(GUC), After GUC.*
GUC 08 11:20:03.1±0.5, 3262S×7150W, h27km±2km, MD3.5, ML3.0, 6C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.10**	**35**	⇑iP	Pb	11 20 08.4	+0.4
IHA	**Instituto Hidr**	**0.42**	**196**	⇑iP	Pb	11 20 11.7	-0.5
ROCH	**El Roble**	**0.55**	**131**	⇑iP	Pb	11 20 14.3	+0.1
PTCH	**Petorca**	**0.60**	**54**	⇓iP	Pb	11 20 15.0	-0.1
PTCH				*i* S	Sb	11 20 23.8	+0.6
PTCH				AML	AML	11 20 24.3	
comp=E,1μm,0.1s							
PTCH	**Petorca**	**0.60**	**54**	⇓iP	Pb	11 20 15.0	-0.1
PTCH				*i* S	Sb	11 20 23.8	+0.6
PEL	**Peldehue**	**0.87**	**128**	⇑iP	Pn	11 20 19.2	-0.3
PEL				*i* S	Sb	11 20 30.8	+0.1
PEL				AML	AML	11 20 32.0	
comp=E,2μm,0.3s							
RCDM	**Rinconada Maip**	**1.05**	**146**	⇓iP	Pn	11 20 21.7	-0.3
RCDM				*i* S	Sn	11 20 35.5	-0.2
RCDM				AML	AML	11 20 35.9	
comp=E,2μm,0.1s							
CLCH	**Cerro Calan**	**1.12**	**134**	*i* S	Sn	11 20 37.8	+0.2
CLCH				AML	AML	11 20 46.5	
comp=N,239nm,0.4s							
TACH	**Talagante**	**1.14**	**155**	⇑iP	Pn	11 20 23.3	+0.1
TACH				*i* S	Sn	11 20 38.3	+0.4
ANTU	**Antumapu**	**1.20**	**143**	AML	AML	11 20 45.5	
comp=E,273nm,0.3s							
FCH	**Farellones**	**1.24**	**125**	AML	AML	11 20 42.2	
comp=E,692nm,0.2s							
PCH	**Pirque**	**1.30**	**141**	⇓iP	Pn	11 20 25.8	+0.3
LNV	**Longovilo**	**1.34**	**177**	⇑iP	Pn	11 20 26.2	+0.2
LNV				*i* S	Sn	11 20 43.6	+0.8
CHCH	**Chadas Angostu**	**1.49**	**152**	*e*P	Pn	11 20 28.8	+0.7
CHCH				*i* S	Sn	11 20 48.3	+1.6
CMCH	**Combarbala**	**1.50**	**17**	⇓iP	Pn	11 20 28.8	+0.5
CMCH				*i* S	Sn	11 20 48.4	+1.5
CMCH				AML	AML	11 20 52.2	
comp=N,628nm,0.8s							
CMCH	**Combarbala**	**1.50**	**17**	⇓iP	Pn	11 20 28.8	+0.5
CMCH				*i* S	Sn	11 20 48.4	+1.5
LMEL	**Las Melosas**	**1.64**	**139**	*i* P	Pn	11 20 31.3	+1.1
LMEL				*i* S	Sn	11 20 52.9	+2.6
LMEL				AML	AML	11 20 56.5	
comp=N,291nm,0.1s							
LMEL	**Las Melosas**	**1.64**	**139**	*i* P	Pn	11 20 31.3	+1.1
LMEL				*i* S	Sn	11 20 52.9	+2.6
CACH	**El Canelo**	**1.68**	**153**	⇓iP	Pn	11 20 32.7	+2.1
CACH				*i* S	Sn	11 20 55.0	+3.8
CICH	**Cipreses**	**1.93**	**152**	⇓iP	Pn	11 20 35.5	+1.5
CICH				*i* S	Sn	11 21 00.4	+3.1
SFDO	**San Fernando**	**2.03**	**169**	⇓iP	Pn	11 20 36.9	+1.3
SFDO				*i* S	Sn	11 21 02.8	+2.8
TLL	**Tololo Astrono**	**2.51**	**14**	AML	AML	11 21 23.6	
comp=E,41nm,0.5s							

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*MOS **08** 11:23:40.1±1.4, 5435N×11061E, h10km, mb4.2/1, Error ellipse: s-maj=58.2km s-min=31.8km az=68.0*
BYKL 08 11:23:39.8±0.3, 5440N×11057E, h10km±13km, 1C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.59**	**36**	*e*Pg	Pg	11 23 51.0	-0.2
YLYR				*e*Sg	Sg	11 23 58.8	-0.1
YLYR				Pmax			
30nm,0.1s							
YLYR				Smax			
264nm,0.3s							
SYVR	**Suvo**	**0.82**	**205**	*e*PG	Pg	11 23 56.0	+0.5
SYVR				*e*		11 24 07.3	
SYVR				pmax	pmax		
comp=Z,44nm,0.4s							
SYVR				smax			
comp=E,312nm,0.5s							
SYVR	**Suvo**	**0.82**	**205**	⇓*i*Pg	Pg	11 23 55.9	+0.4
SYVR				*e*Pb	Pb	11 23 57.9	+1.8
SYVR				*e*Sg	Sg	11 24 07.4	+1.2
SYVR				*e*Sb	Sb	11 24 11.8	+4.7
SYVR				max			
comp=E,47nm,0.4s							
SYVR				max			
comp=E,317nm,0.4s							
NIZ	**Nizh Angarsk**	**1.50**	**337**	*e*PG	Pg	11 24 07.3	-1.3
NIZ				*e*		11 24 27.3	
NIZ				pmax	pmax		
comp=Z,75nm,0.5s							
NIZ				smax			
comp=N,421nm,0.4s							
NIZ	**Nizh Angarsk**	**1.50**	**337**	⇑*i*Pg	Pg	11 24 07.3	-1.3
NIZ				*e*Sg	Sg	11 24 27.4	-0.6
NIZ				*e*Sb	Sb	11 24 29.4	+2.6
NIZ				Pmax			
comp=N,75nm,0.6s							
NIZ				max			
comp=N,474nm,0.7s							
KMO	**Kumora**	**1.53**	**13**	*i* Pg	Pg	11 24 07.2	-2.0
KMO				*e*		11 24 10.9	
KMO				*e*Sg	Sg	11 24 27.6	-1.5
KMO				max			
comp=N,75nm,0.3s							
KMO				Smax			
comp=N,485nm,1.0s							
MXMB	**Maximikha**	**1.57**	**224**	*e*Pg	Pg	11 24 09.7	-0.2
MXMB				*e*Sg	Sg	11 24 30.7	+0.4
MXMB				Pmax			
comp=N,20nm,0.3s							
MXMB				Smax			
comp=N,507nm,0.8s							
YOA	**Uoyan**	**1.86**	**20**	*e*Pg	Pg	11 24 13.6	-1.8
YOA				*e*Sg	Sg	11 24 39.1	-0.4
YOA				Pmax			
comp=N,124nm,0.4s							
YOA				Smax			
comp=N,527nm,0.6s							
OGRR	**Ongureny**	**1.91**	**248**	*e*Pn	Pn	11 24 11.9	-0.5
OGRR				*e*Pg	Pg	11 24 13.5	-3.0
OGRR				*e*Sg	Sg	11 24 39.6	-1.7
OGRR				Pmax			
comp=N,22nm,0.6s							
OGRR				Smax			
comp=N,188nm,1.0s							
SVKR	**Severomuysk**	**2.43**	**44**	*e*Pg	Pg	11 24 23.5	-2.8
SVKR				*e*Sg	Sg	11 24 55.9	-1.9
SVKR				Pmax			
comp=N,74nm,0.2s							
SVKR				Smax			
comp=N,226nm,0.5s							
TRTB	**Turuntaevo**	**2.80**	**220**	*e*Pn	Pn	11 24 25.7	+1.1
TRTB				*e*Pg	Pg	11 24 30.3	-3.1
TRTB				*e*Sg	Sg	11 25 06.6	-3.1
TRTB				Pmax			
comp=N,11nm,0.8s							
TRTB				Smax			
comp=N,52nm,0.7s							
CIT	**Chita**	**2.98**	**142**	*e*	Pn	11 24 30.1	+3.0
CIT				*e*Pg	Pg	11 24 32.5	-4.4
CIT				*e*Sg	Sg	11 25 11.6	-4.0
CIT				*e*		11 25 19.2	
CIT				Pmax			
comp=N,12nm,0.3s							
CIT				max			
comp=N,123nm,1.1s							
TRG	**Tyrgan**	**3.01**	**239**	*e*Pn	Pn	11 24 28.3	+0.8
TRG				*e*Pg	Pg	11 24 33.3	-4.1
TRG				*e*Sn	Sn	11 25 03.8	+0.3
TRG				*e*Sg	Sg	11 25 11.7	-4.6
TRG				Pmax			
comp=N,6.0nm,0.5s							
TRG				Smax			
comp=N,73nm,0.4s							
HRMR	**Khuramsha**	**3.53**	**220**	*e*Pn	Pn	11 24 35.8	+1.1
HRMR				*e*		11 24 44.9	
HRMR				*e*Sg	Sg	11 25 30.4	-2.8
HRMR				max			
comp=N,21nm,0.4s							
HRMR				Smax			
comp=N,224nm,0.7s							
NLYR	**Nelyaty**	**3.60**	**52**	*e*Pn	Pn	11 24 36.1	+0.5
NLYR				*e*Pg	Pg	11 24 44.0	-4.7
NLYR				*e*Sg	Sg	11 25 30.6	-4.7
NLYR				*e*		11 25 35.6	
BOD	**Bodaibo**	**3.93**	**28**	*e*Sg	Sg	11 25 41.6	-4.4
BOD				Smax			
comp=N,24nm,1.0s							
LSTR	**Listvyanka**	**4.29**	**236**	*e*	Sn	11 25 33.9	-1.2
LSTR				*e*Sg	Sg	11 25 51.1	-6.3
LSTR				Smax			
comp=N,57nm,1.3s							
TLY	**Talaya**	**4.99**	**240**	*e*	Pg	11 25 15.3	0.0
TLY				*e*Sg	Sg	11 26 12.7	-7.2
TLY				Smax			
comp=N,38nm,1.2s							
CRS	**Chara**	**5.03**	**57**	*e*PN	Pg	11 25 16.3	+0.2
CRS				*e*S	Sg	11 26 15.2	-6.0
CRS				smax			
comp=N,69nm,2.9s							
CRS	**Chara**	**5.03**	**57**	*e*Pg	Pg	11 25 09.9	-6.2
CRS				*e*Sg	Sg	11 26 14.4	-6.8
CRS				Pmax			
comp=N,1.0nm,0.1s							
CRS				Smax			
comp=N,58nm,1.6s							
TUP	**Tupik**	**5.48**	**86**	*e*PN	Pn	11 25 01.4	-0.1
TUP				*e*		11 25 17.6	
TUP				*e*S	Sn	11 26 03.5	-1.1
TUP				*e*		11 26 28.3	
TUP				pmax	pmax		
comp=Z,6.0nm,0.5s							
TUP				smax			
comp=N,63nm,0.7s							
TUP	**Tupik**	**5.48**	**86**	*e*Pn	Pn	11 25 01.3	-0.2
TUP				*e*Pg	Pg	11 25 18.0	-6.8
TUP				*e*Sg	Sg	11 26 28.8	-7.0
TUP				Pmax			
comp=N,4.0nm,0.7s							
TUP				Smax			
comp=N,66nm,1.4s							
ARS	**Arshan**	**5.49**	**246**	*e*	Pn	11 25 44.0	+42
ARS				*e*		11 26 24.1	
ARS				*e*Sg	Sg	11 26 28.2	-8.0
ARS				Smax			
comp=N,101nm,0.9s							
ZAK	**Zakamensk**	**6.01**	**231**	*e*PG	Pg	11 25 32.9	-1.9
MOY	**Mondy**	**6.39**	**249**	*e*	Pg	11 25 36.4	-5.8
MOY				*e*		11 26 25.6	

HINF *e*Sn Sg 11 30 50.3 +3.6
5.2nm,0.2s
LOMF Lomont 0.55 245 Pg Pg 11 30 41.2 +1.2
ECH Echery 0.69 337 Pg Pg 11 30 43.2 +0.5
ECH Sg Sg 11 30 51.7 0.0
CDF Champ du Feu 0.85 347 *e*Pn Pn 11 30 46.0 -1.4
CDF *e*Sg Sg 11 30 55.8 -1.1
CDF *e*Sn Sn 11 30 58.0 -2.0
9.3nm,0.3s
HAU Haudompre 0.92 298 *e*Pg Pg 11 30 47.1 0.0
HAU *e*Sg Sg 11 30 59.1 0.0
4.6nm,0.2s
CABF La Chapelle 1.40 227 *e*Pg Pg 11 30 56.1 -0.1
CABF *e*Sg Sg 11 31 13.5 -0.9
3.2nm,0.2s
SFTF Sexfontaines 1.81 291 *e*Sg Sg 11 31 26.7 -0.8
3.2nm,0.3s
LPG La Plagne 2.16 195 *e*Sg Sg 11 31 37.2 -1.6
0.5nm,0.2s
LOR Lormes 2.53 264 *e*Sg Sg 11 31 48.6 -2.2
1.8nm,0.2s
SMF Signal de Mont 2.71 251 *e*Sg Sg 11 31 53.5 -2.9
0.6nm,0.2s

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*ISCJB **08** 11:36:26.1±0.2,4755N±001×754E±002,h0km,Error ellipse: s-maj=1.9km s-min=1.5km az=131.1*
*CSEM **08** 11:36:27.9±0.1,4756N×761E,h1km,Ml2.9/13,Error ellipse: s-maj=1.4km s-min=0.9km az=155.0*
*ZUR **08** 11:36:28.5,4758N×760E,h5km±1km,Ml2.2*
*LEDBW **08** 11:36:28.5±0.1,47590N±0004×7608E±0004,h6km±1km, Ml2.6,Error ellipse: s-maj=1.2km s-min=1.0km az=129.0*
*LDG **08** 11:36:28.4±0.1,4759N×758E,h7km,Md3.0/1,Ml2.7/17, Error ellipse: s-maj=1.1km s-min=0.7km az=146.0*
*NEIC **08** 11:36:28.5,4758N×760E,h5km,ML2.2(ZUR), ML2.3(SZGRF),ML2.5(STR),ML2.6(LEDBW),ML2.7(LDG), After ZUR.*
NEIC Felt in the Basel area.
*STR **08** 11:36:28.2±0.1,4758N×761E,h5km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **08** 11:36:29.3±2.6,4759N×776E,h5km,ML2.3,Error ellipse: s-maj=24.5km s-min=18.9km az=27.0*

ISC 08 11:36:27.2±0.2,4756N±001×757E±002,h0km,n106, σ1§19/192,17C-9D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.04**	**33**	⇑Pg	**Pg**	**11 36 29.6**	**+1.6**
WEIL				*i* Sg	**Sg**	**11 36 30.8**	**+2.2**
LOES	**Loerrach-Stett**	**0.08**	**55**	⇑*i*Px	Px	11 37 03.9	
LOES				x	x	11 37 05.3	
WYH	**Wyhlen**	**0.09**	**94**	⇓*i*Pg	**Pg**	**11 36 30.3**	**+1.4**
WYH				*i* Sg	**Sg**	**11 36 31.7**	**+1.5**
BBS	**Basel-Blauen**	**0.10**	**203**	⇑*i*P*	**Pg**	**11 36 31.6**	**+2.4**
BBS				S*	**Sg**	**11 36 33.8**	**+3.3**
BBS	**Basel-Blauen**	**0.10**	**203**	⇑*i*P	**Pg**	**11 36 31.6**	**+2.4**
BBS				S	**Sg**	**11 36 33.8**	**+3.3**
BBS	**Basel-Blauen**	**0.10**	**203**	⇑*i*Pg	**Pg**	**11 36 31.6**	**+2.4**
BBS				Sg	**Sg**	**11 36 33.8**	**+3.3**
BBS	**Basel-Blauen**	**0.10**	**203**	Pg	**Pg**	**11 36 31.5**	**+2.3**
BBS				Sg	**Sg**	**11 36 33.8**	**+3.3**
EFR	**Efringen**	**0.11**	**359**	⇓*i*Px	Px	11 36 24.3	
EFR				x	x	11 36 26.0	
ENDD	**Endenburg**	**0.20**	**36**	⇑*i*Pg	**Pg**	**11 36 31.7**	**+0.7**
ENDD				*i* Sg	**Sg**	**11 36 34.0**	**+0.5**
BALST	**Balsthal**	**0.24**	**159**	⇓*i*Pg	**Pg**	**11 36 32.4**	**+0.6**
	812nm,0.3s						
BALST				*i* Sg	**Sg**	**11 36 33.8**	**-1.1**
	812nm,0.3s						
BREM	**Bremgarten**	**0.36**	**6**	⇓Pg	**Pg**	**11 36 35.2**	**+1.2**
BREM				*i* Sg	**Sg**	**11 36 40.5**	**+1.8**
SULZ	**Sulz-Cheisache**	**0.37**	**95**	*e*Sg	**Pg**	**11 36 35.4**	**+1.0**
	499nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.37**	**95**	⇑*i*Pg	**Sg**	**11 36 37.6**	**-1.6**
	499nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.37**	**95**	⇑*i*Pg	**Sg**	**11 36 37.6**	**-1.6**
	499nm,0.3s						
MOF	**Molkenrain**	**0.41**	**315**	⇓*i*P*	**Pg**	**11 36 36.6**	**+1.5**
MOF				⇑PmP		11 36 39.5	
MOF				S*	**Sg**	**11 36 42.3**	**+1.7**
MOF	**Molkenrain**	**0.41**	**315**	Pg	**Pg**	**11 36 36.5**	**+1.3**
MOF				Sg	**Sg**	**11 36 42.2**	**+1.6**
FELD	**Feldberg im Sc**	**0.43**	**43**	⇑*i*P*	**Pg**	**11 36 36.2**	**+0.6**
FELD				*i* S*	**Sg**	**11 36 41.7**	**+0.5**
FELD	**Feldberg im Sc**	**0.43**	**43**	⇑*i*P	**Pg**	**11 36 36.2**	**+0.6**
FELD				*i* S	**Sg**	**11 36 41.7**	**+0.5**
FELD	**Feldberg im Sc**	**0.43**	**43**	⇑*i*Pg	**Pg**	**11 36 36.2**	**+0.6**
FELD				*i* Sg	**Sg**	**11 36 41.7**	**+0.5**
FELD	**Feldberg im Sc**	**0.43**	**43**	Pg	**Pg**	**11 36 36.0**	**+0.4**
FELD				Sg	**Sg**	**11 36 41.6**	**+0.4**
KIZ	**Kirchzarten**	**0.46**	**31**	⇑*i*P*	**Pg**	**11 36 36.6**	**+0.5**
KIZ				*i* S*	**Sg**	**11 36 42.3**	**+0.2**
KIZ	**Kirchzarten**	**0.46**	**31**	⇑*i*P	**Pg**	**11 36 36.6**	**+0.5**
KIZ				*i* S	**Sg**	**11 36 42.3**	**+0.2**
KIZ	**Kirchzarten**	**0.46**	**31**	⇑*i*Pg	**Pg**	**11 36 36.6**	**+0.5**
KIZ				*i* Sg	**Sg**	**11 36 42.3**	**+0.2**
LOMF	**Lomont**	**0.54**	**248**	P*	**Pg**	**11 36 39.6**	**+2.0**
LOMF				PmP		11 36 41.0	
LOMF	**Lomont**	**0.54**	**248**	Px	Px	11 36 41.0	
LOMF	**Lomont**	**0.54**	**248**	Pg	**Pg**	**11 36 39.0**	**+1.3**
HINF	**Hinteralfeld**	**0.55**	**298**	*e*Pn	**Pg**	**11 36 40.6**	**+2.9**
HINF				*e*Sg	**Sg**	**11 36 45.7**	**+0.9**
HINF				*e*Sn	**Sg**	**11 36 49.5**	**+4.7**
	113nm,0.2s						
HINF	**Hinteralfeld**	**0.55**	**298**	*e*Pg	**Pg**	**11 36 38.7**	**+1.0**
HINF				*e*Pn	**Pg**	**11 36 40.6**	**+2.9**
HINF				*e*Sg	**Sg**	**11 36 45.7**	**+0.9**
HINF				*e*Sn	**Sg**	**11 36 49.5**	**+4.7**
HINF	**Hinteralfeld**	**0.55**	**298**	*e*Pn	**Pg**	**11 36 40.6**	**+2.9**
HINF				*e*Sg	**Sg**	**11 36 45.7**	**+0.9**
HINF				*e*Sn	**Sg**	**11 36 49.5**	**+4.7**
	57nm,0.2s						
SLE	**Schleitheim**	**0.66**	**71**	⇑*i*Pg	**Pg**	**11 36 37.0**	**-2.9**
	562nm,2.0s						
ECH	**Echery**	**0.71**	**337**	P*	**Pb**	**11 36 41.8**	**-0.8**
ECH				⇑*i*PmP		11 36 42.8	
ECH	**Echery**	**0.71**	**337**	Pg	**Pg**	**11 36 41.7**	**+0.8**
TRULL	**Truellikon**	**0.76**	**83**	*i* Pg	**Pg**	**11 36 41.2**	**-0.6**
	149nm,0.4s						
TRULL				*e*Sg	**Sg**	**11 36 42.6**	**-9.0**
	149nm,0.4s						
CDF	**Champ du Feu**	**0.88**	**347**	*e*Pn	**Pn**	**11 36 45.2**	**-1.6**
CDF				*e*Sg	**Sg**	**11 36 55.0**	**-0.4**
	44nm,0.4s,SNR=1.0						
CDF				*e*Sn	**Sg**	**11 36 57.1**	**+1.7**
	SNR=1.0						
CDF	**Champ du Feu**	**0.88**	**347**	*e*Pg	**Pg**	**11 36 44.6**	**+0.6**
CDF				*e*Pn	**Pn**	**11 36 45.2**	**-1.6**
CDF				*e*Sg	**Sg**	**11 36 55.0**	**-0.4**
CDF				*e*Sn	**Sg**	**11 36 57.1**	**+1.7**
CDF	**Champ du Feu**	**0.88**	**347**	*e*Pn	**Pn**	**11 36 45.2**	**-1.6**
CDF				*e*Sg	**Sg**	**11 36 55.0**	**-0.4**
	22nm,0.4s,SNR=1.0						
CDF				*e*Sn	**Sg**	**11 36 57.1**	**+1.7**
	SNR=1.0						
STEIN	**Stein am Rhein**	**0.89**	**82**	*e*Pg	**Sg**	**11 36 53.9**	**-1.9**
	43nm,0.1s						
WILA	**Wila**	**0.92**	**98**	*i* P	**Pg**	**11 36 45.1**	**+0.2**
	437nm,0.4s						
BFO	**Black Forest**	**0.93**	**33**	P*	**Pb**	**11 36 45.4**	**-0.8**
BFO				PmP		11 36 45.9	
BFO				S*	**Sg**	**11 36 57.0**	**-0.1**
BFO				SmS		11 36 58.4	
BFO	**Black Forest**	**0.93**	**33**	*e*Pg	**Pg**	**11 36 45.4**	**+0.4**
BFO				*e*Sg	**Sg**	**11 36 57.0**	**0.0**
BFO	**Black Forest**	**0.93**	**33**	PmP		11 36 45.9	
BFO				Sg	**Sg**	**11 36 57.0**	**-0.1**
BFO				SmS		11 36 58.4	
HAU	**Haudompre**	**0.94**	**299**	*e*Pn	**Pn**	**11 36 46.0**	**-1.6**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**11 36 58.6**	**+1.3**
	SNR=1.0						
SISB	**Singen-Schiene**	**0.95**	**82**	⇓P*	**Pb**	**11 36 46.3**	**-0.4**
SISB				⇓*i*PmP		11 36 46.7	
SISB				S*	**Sb**	**11 36 58.8**	**-1.0**
SISB	**Singen-Schiene**	**0.95**	**82**	⇓*i*PmP		11 36 46.7	
WEIN	**Weingarten**	**0.96**	**91**	*i* P	**Pg**	**11 36 46.0**	**+0.3**
	126nm,0.4s						
BRANT	**Les Verrieres**	**0.97**	**231**	*i* P	**Pg**	**11 36 46.6**	**+0.8**
	126nm,0.2s						
BRANT				*i* Sg	**Sg**	**11 36 47.6**	**-11**
	126nm,0.2s						
SPAK	**Spaichingen-Ko**	**0.98**	**56**	P	**Pg**	**11 36 46.5**	**+0.4**
GUT	**Gutenstein**	**1.16**	**63**	⇑P	**Pg**	**11 36 48.9**	**-0.7**
GUT				Pg	**Pg**	**11 36 50.0**	**+0.5**
GUT				PmP		11 36 51.2	
GUT				S	**Sg**	**11 37 03.6**	**-1.0**
GUT	**Gutenstein**	**1.16**	**63**	⇑P	**Pg**	**11 36 48.9**	**-0.6**
GUT				Pg	**Pg**	**11 36 50.0**	**+0.5**
GUT	**Gutenstein**	**1.16**	**63**	⇑Pn	**Pg**	**11 36 48.9**	**-0.7**
GUT	**Gutenstein**	**1.16**	**63**	P	**Pg**	**11 36 50.0**	**+0.5**
GUT	**Gutenstein**	**1.16**	**63**	PmP		11 36 51.2	
GUT				Sn	**Sg**	**11 37 03.6**	**-1.0**
GUT	**Gutenstein**	**1.16**	**63**	Pg	**Pg**	**11 36 50.0**	**+0.5**
THEF	**They Montfort**	**1.26**	**303**	Pg	**Pg**	**11 36 52.5**	**+1.2**
THEF	**They Montfort**	**1.26**	**303**	Sg	**Sg**	**11 37 08.9**	**+1.3**
LIENZ	**Alp Oberkamor**	**1.33**	**101**	⇑*i*P	**Pg**	**11 36 53.3**	**+0.5**
	107nm,0.4s						
LIENZ				*e*Sg	**Sg**	**11 37 01.2**	**-8.9**
	107nm,0.4s						
PLONS	**Plons**	**1.33**	**112**	*i* Sg	**Sg**	**11 37 12.6**	**+2.5**
	138nm,0.5s						
GRYON	**Gryon**	**1.34**	**194**	⇑*i*P	**Pg**	**11 36 55.0**	**+2.0**
	2.9nm,0.1s						
LBG	**Lerchenberg**	**1.38**	**36**	Pg	**Pg**	**11 36 53.8**	**+0.1**
LBG				S	**Sg**	**11 37 08.6**	**-2.9**
LBG				Sg	**Sg**	**11 37 11.5**	**0.0**
LBG	**Lerchenberg**	**1.38**	**36**	Pg	**Pg**	**11 36 53.8**	**+0.1**
LBG				S	**Sg**	**11 37 08.6**	**-2.9**
LBG				Sg	**Sg**	**11 37 11.5**	**0.0**
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg	**Pg**	**11 36 55.4**	**+1.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**11 37 12.4**	**+0.6**
	20nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.39**	**227**	*e*Pn	**Pn**	**11 36 53.4**	**-0.4**
CABF				*e*Pg	**Pg**	**11 36 55.4**	**+1.6**
CABF				*e*Sg	**Sg**	**11 37 12.4**	**+0.6**
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg	**Pg**	**11 36 55.4**	**+1.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**11 37 12.4**	**+0.6**
	9.8nm,0.3s,SNR=1.0						
SALAN	**Lac Salanfe**	**1.47**	**196**	*i* S	**Pn**	**11 36 56.7**	**+1.7**
	18nm,0.2s						
BUCH	**Bad Urach**	**1.49**	**53**	P	**Pn**	**11 36 53.2**	**-2.1**
BUCH				Pg	**Pg**	**11 36 56.1**	**+0.2**
BUCH				Sg	**Sg**	**11 37 15.1**	**-0.1**
BUCH	**Bad Urach**	**1.49**	**53**	P	**Pn**	**11 36 53.2**	**-2.1**
BUCH				Pg	**Pg**	**11 36 56.1**	**+0.2**
BUCH				Sg	**Sg**	**11 37 15.1**	**-0.2**
BUCH	**Bad Urach**	**1.49**	**53**	P	**Pg**	**11 36 56.1**	**+0.2**
DAVA	**Damuels**	**1.59**	**99**	⇓*i*Pg	**Pg**	**11 36 56.7**	**-1.1**
DAVA				⇑*i*Sg	**Sg**	**11 37 19.3**	**+0.9**
	comp=Z,222nm,0.3s						
UBR	**Ueberruh**	**1.72**	**85**	P	**Pn**	**11 36 57.5**	**-1.0**
UBR				S	**Sn**	**11 37 18.4**	**-2.8**
UBR	**Ueberruh**	**1.72**	**85**	P	**Pn**	**11 36 57.5**	**-0.9**
UBR				S	**Sn**	**11 37 18.4**	**-2.7**
SFTF	**Sexfontaines**	**1.82**	**292**	*e*Pn	**Pn**	**11 36 58.9**	**-0.9**
SFTF				*e*Sn	**Sn**	**11 37 20.6**	**-3.0**
SFTF				*e*Sg	**Sg**	**11 37 26.1**	**+0.3**
	14nm,0.2s						
SFTF	**Sexfontaines**	**1.82**	**292**	*e*Pn	**Pn**	**11 36 58.9**	**-0.9**
SFTF				*e*Sn	**Sn**	**11 37 20.6**	**-3.0**
SFTF				*e*Sg	**Sg**	**11 37 26.1**	**+0.3**
	7.2nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**300**	*e*Pn	**Pn**	**11 37 00.7**	**-0.7**
MEZF				*e*Sn	**Sn**	**11 37 22.8**	**-3.6**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**11 37 29.2**	**-0.2**
	13nm,0.3s						
MEZF	**Maizieres J'vi**	**1.94**	**300**	*e*Pn	**Pn**	**11 37 00.7**	**-0.7**
MEZF				*e*Sn	**Sn**	**11 37 22.8**	**-3.6**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**11 37 29.2**	**-0.2**
	6.4nm,0.3s						
LPL	**La Plagne**	**2.12**	**196**	*e*Pg	**Pg**	**11 37 08.8**	**+0.9**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**11 37 36.6**	**+1.2**
	3.3nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.12**	**196**	*e*Pg	**Pg**	**11 37 08.8**	**+0.9**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**11 37 36.6**	**+1.2**
	1.6nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**11 37 09.0**	**+0.8**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**11 37 36.5**	**+0.6**
	5.9nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**11 37 09.0**	**+0.8**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**11 37 36.5**	**+0.6**
	3.0nm,0.4s,SNR=1.0						
SIND	**Sindeldorf**	**2.25**	**36**	Pg	**Pg**	**11 37 09.8**	**-0.5**
SIND				Sg	**Sg**	**11 37 38.4**	**-1.1**
LOR	**Lormes**	**2.54**	**265**	*e*Pg	**Pg**	**11 37 15.7**	**-0.1**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**11 37 47.8**	**-0.9**
	11nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.54**	**265**	*e*Pn	**Pn**	**11 37 08.1**	**-1.5**
LOR				*e*Pg	**Pg**	**11 37 15.7**	**-0.1**
LOR				*e*Sg	**Sg**	**11 37 47.8**	**-0.9**
LOR	**Lormes**	**2.54**	**265**	*e*Pg	**Pg**	**11 37 15.7**	**-0.1**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**11 37 47.8**	**-0.9**
	5.3nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.70**	**252**	*e*Pg	**Pg**	**11 37 18.9**	**-0.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**11 37 53.2**	**-0.9**
	9.4nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.70**	**252**	*e*Pn	**Pn**	**11 37 10.5**	**-1.4**
SMF				*e*Pg	**Pg**	**11 37 18.9**	**-0.2**
SMF				*e*Sg	**Sg**	**11 37 53.2**	**-0.9**
SMF	**Signal de Mont**	**2.70**	**252**	*e*Pg	**Pg**	**11 37 18.9**	**-0.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**11 37 53.2**	**-0.9**
	4.7nm,0.2s,SNR=1.0						
TNS	**Taunus Mts**	**2.73**	**12**	*e*Sg	**Sg**	**11 37 54.6**	**-0.4**
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**11 37 21.2**	**+0.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**11 37 56.6**	**-0.9**
	6.7nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pn	**Pn**	**11 37 12.5**	**-0.9**
SSF				*e*Pg	**Pg**	**11 37 21.2**	**+0.1**
SSF				*e*Sg	**Sg**	**11 37 56.6**	**-0.9**
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**11 37 21.2**	**+0.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**11 37 56.6**	**-0.9**
	3.3nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.88**	**191**	*e*Sg	**Sg**	**11 37 59.6**	**-0.3**
	2.5nm,0.4s						
MBDF	**Montbardon**	**2.88**	**191**	*e*Sg	**Sg**	**11 37 59.6**	**-0.3**
	1.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.89**	**205**	*e*Sg	**Sg**	**11 37 59.9**	**-0.1**
	7.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.89**	**205**	*e*Sg	**Sg**	**11 37 59.9**	**-0.1**
	3.5nm,0.3s						
AVF	**Avril sur Loir**	**2.98**	**257**	*e*Pg	**Pg**	**11 37 24.1**	**-0.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**11 38 01.8**	**-1.1**
	2.4nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.98**	**257**	*e*Pn	**Pn**	**11 37 14.4**	**-1.3**
AVF				*e*Pg	**Pg**	**11 37 24.1**	**-0.2**
AVF				*e*Sg	**Sg**	**11 38 01.8**	**-1.1**
AVF	**Avril sur Loir**	**2.98**	**257**	*e*Pg	**Pg**	**11 37 24.1**	**-0.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**11 38 01.8**	**-1.1**
	1.2nm,0.2s,SNR=1.0						
GIVF	**Givet**	**3.13**	**326**	*e*Pn	**Pn**	**11 37 18.1**	**+0.4**
GIVF				*e*Sg	**Sg**	**11 38 06.3**	**-1.4**
	3.6nm,0.2s						
GIVF	**Givet**	**3.13**	**326**	*e*Pn	**Pn**	**11 37 18.1**	**+0.4**
GIVF				*e*Sg	**Sg**	**11 38 06.3**	**-1.4**
	1.8nm,0.2s						
GRF	**Grafenberg Arr**	**3.23**	**47**	*e*Sg	**Sg**	**11 38 08.2**	**-2.8**
BAIF	**Baives**	**3.35**	**320**	*e*Pn	**Pn**	**11 37 21.1**	**+0.3**
VIVF	**Saint-Julien-I**	**3.37**	**218**	*e*Pn	**Pn**	**11 37 19.2**	**-1.9**
VIVF				*e*Sg	**Sg**	**11 38 14.3**	**-1.2**
	7.2nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-I**	**3.37**	**218**	*e*Pn	**Pn**	**11 37 19.2**	**-1.9**
VIVF				*e*Sg	**Sg**	**11 38 14.3**	**-1.2**
	3.6nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.38**	**255**	*e*Pg	**Pg**	**11 37 31.0**	**-1.0**
TCF	**Toulx Ste Croi**	**3.88**	**253**	*e*Sg	**Sg**	**11 38 29.4**	**-2.7**
	2.4nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.88**	**253**	*e*Sg	**Sg**	**11 38 29.4**	**-2.7**
	1.2nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**4.29**	**190**	*e*Pn	**Pn**	**11 37 33.6**	**-0.1**
	SNR=1.0						

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*ISCJB **08** 12:03:12.1±0.5,909N±004×12183E±004,h10km,mb4.0/8, Error ellipse: s-maj=5.9km s-min=5.4km az=24.9*
*IDC **08** 12:03:12.2±1.0,9.13N×122.11E,h0km,mb3.9/6,mb1 4.0/6, mb1mx3.8/20,mbtmp3.9/6,MS3.0/2,Ms1 3.0/2, ms1mx2.7/27,Error ellipse: s-maj=66.4km s-min=19.4km az=73.0*
*NEIC **08** 12:03:13.7±0.5,907N×12197E,h10km,mb4.5/2,Error ellipse: s-maj=15.4km s-min=9.4km az=69.0*
*MAN **08** 12:03:14.2,909N×12187E,h25km,mb4.2,ML5.1,MS4.0*

ISC 08 12:03:13.6±0.4,915N±004×12186E±004,h10km,n25, σ1§12/31,mb4.0/8,4C-2D,Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.37**	**82**	⇑*i*P	**Pn**	**12 03 37.5**	**-1.2**
SNPH				*i* S	**Sb**	**12 03 48.0**	**-8.8**
DCPH	**Dipolog City**	**1.57**	**111**	⇑	**Pn**	**12 03 39.8**	**-1.7**
GUIM	**Jordan**	**1.63**	**26**	*e*P	**Pn**	**12 03 41.6**	**-0.8**
GUIM				*e*S	**Sn**	**12 04 03.5**	**+0.1**
CUYO	**Cuyo Island**	**1.88**	**334**	*e*P	**Pn**	**12 03 45.5**	**-0.3**
CUYO				*e*S	**Sn**	**12 04 08.0**	**-1.6**
TBP	**Tagbilaran**	**2.04**	**75**	*e*P	**Pn**	**12 03 47.8**	**-0.2**
LLP	**Lapu-Lapu**	**2.37**	**61**	⇑*e*P	**Pn**	**12 03 52.6**	**0.0**
LLP				*e*S	**Sn**	**12 04 20.4**	**-1.4**
RCP	**Roxas**	**2.55**	**20**	⇑*e*P	**Pn**	**12 03 56.1**	**+1.1**
KALP	**Kalibo**	**2.56**	**10**	*e*P	**Pn**	**12 04 05.5**	**+10**
MSLP	**Maasin**	**3.11**	**71**	*e*P	**Pn**	**12 04 03.6**	**+0.9**
MSLP				*e*S	**Sn**	**12 04 42.6**	**+2.7**
ENPP	**El Nido**	**3.15**	**311**	*e*P	**Pn**	**12 04 03.5**	**+0.3**
ENPP				*e*S	Sn	12 04 11.9	-29
PPR	**Puerto Princes**	**3.15**	**282**	⇓*i*P	**Pn**	**12 04 02.8**	**-0.5**
OTRP	**Odiongan**	**3.20**	**3**	*e*P	**Pn**	**12 04 05.3**	**+1.4**
BUKP	**Musuan**	**3.41**	**112**	*e*P	**Pn**	**12 04 09.1**	**+2.3**
LUBP	**Lubang**	**4.82**	**341**	*e*P	**Pn**	**12 04 27.2**	**+1.0**
LUBP				*e*S	**Sn**	**12 05 20.4**	**-1.8**
KKM	**Kota Kinabalu**	**6.39**	**242**	*e*P	**Pn**	**12 04 48.4**	**+0.6**
KAKA	**Kakadu**	**24.13**	**154**	*e*P	**P**	**12 08 29.0**	**-0.6**
	15nm,0.6s,mb4.6						
KAKA				*e*		12 08 38.6	
WRAB	**Tennant Creek**	**31.41**	**157**	*e*P	**P**	**12 09 34.0**	**-0.7**
	2.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**31.41**	**157**	P	**P**	**12 09 33.9**	**-0.9**
	2.6nm,0.6s,mb4.2,baz=334,slow=10.0,SNR=31						
WB2	**Warramunga Arr**	**31.41**	**157**	⇓*i*P	**P**	**12 09 33.6**	**-1.2**
SONM	**Songino Array**	**40.72**	**344**	P	**P**	**12 10 55.5**	**+1.1**
	0.3nm,0.7s,mb3.0,baz=161,slow=9.2,SNR=2.8						
NWAO	**Narrogin (SRO)**	**42.07**	**186**	P	**P**	**12 11 06.3**	**+0.8**
	5.8nm,0.6s,mb4.4,baz=48,slow=6.6,SNR=3.8						
MKAR	**Makanchi Array**	**50.38**	**325**	P	**P**	**12 12 12.4**	**+1.6**
	1.1nm,0.7s,mb4.0,baz=131,slow=8.0,SNR=8.0						
BVAR	**Borovoye Array**	**60.17**	**327**	P	**P**	**12 13 22.5**	**+1.0**
	0.2nm,0.3s,mb3.6,baz=124,slow=7.7,SNR=2.2						
YKA	**Yellowknife Ar**	**96.51**	**23**	P	**P**	**12 16 43.0**	**-0.3**
	0.2nm,0.8s,mb3.6,baz=308,slow=4.1,SNR=4.1						
YKA	**Yellowknife Ar**	**96.51**	**23**	P	**P**	**12 16 43.0**	**-0.3**

IDC 08 12:07:05.2±5.6,112N×9879W,h0km,mb3.7/2,mb1 4.1/2, mb1mx3.8/13,mbtmp3.7/2,MS3.5/4,Ms1 3.5/4, ms1mx3.0/18,Error ellipse: s-maj=456.8km s-min=51.9km az=93.0,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.33**	**13**	LR	LR	12 15 05.7	
	comp=Z,31nm,19.8s,baz=32,slow=29						
LPIG	**La Paz**	**25.42**	**335**	LR	LR	12 19 51.3	
	comp=Z,114nm,21.9s,baz=144,slow=30						
TXAR	**Lajitas Array**	**28.44**	**351**	LR	LR	12 23 05.6	
	comp=Z,160nm,19.5s,baz=340,slow=34						
PDAR	**Pinedale Array**	**42.57**	**348**	P	P	12 15 02.8	+0.1
	0.6nm,0.8s,baz=154,slow=7.3,SNR=5.9						
YKA	**Yellowknife Ar**	**62.36**	**352**	P	P	12 17 29.6	0.0
	1.1nm,0.9s,baz=161,slow=6.7,SNR=8.7						
YKA				LR	LR	12 43 44.6	
	comp=Z,96nm,19.9s,baz=170,slow=35						

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*NEIC **08** 12:17:45.5,1691N×100.17W,h15km,MD3.6(MEX),After MEX.*

**MEX 08 12:17:45.8±1.0,1693N×10016W,h13km±8km,MD

PCED				*e*S	Sg	12 31 11.8	-0.3
CALA	**Caldeira**	**0.39**	**116**	*e*P	Pg	12 31 07.3	-0.4
CALA				*e*S	Sg	12 31 12.6	-0.1
HOR	**Horta**	**0.46**	**119**	*e*S	Sg	12 31 14.4	-0.7
PICO	**Pico**	**0.61**	**114**	*e*P	Pg	12 31 10.8	-1.3
PICO				*e*S	Sg	12 31 18.9	-1.2
ROSA	**Rosais**	**0.70**	**92**	*e*P	Pg	12 31 12.1	-1.7

IDC 08 13:08:42.4±8.3, 673S×15083E, h84km±59km, mb3.6/3, mb1 3.7/4, mb1mx3.4/14, mbtmp3.6/4, ML2.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/22, Error ellipse: s-maj=58.7km s-min=52.1km az=73.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.50**	**234**	P	Pn	13 09 48.4	+0.3
	0.7nm,0.3s,baz=341,slow=3.0,SNR=3.8						
PMG				S	Sn	13 10 40.4	+1.2
	1.5nm,0.3s,baz=353,slow=22,SNR=2.6						
WRA	**Warramunga Arr**	**20.71**	**229**	P	P	13 13 14.8	-1.0
	1.4nm,0.8s,baz=51,slow=10,SNR=7.8						
STKA	**Stephens Creek**	**26.46**	**198**	P	P	13 14 10.9	-0.6
	2.8nm,0.7s,baz=23,slow=6.3,SNR=6.7						
FITZ	**Fitzroy Crossi**	**27.03**	**243**	P	P	13 14 18.0	+1.4
	1.6nm,0.6s,baz=59,slow=8.3,SNR=5.0						
FITZ				LR	LR	13 24 27.0	
	comp=Z,73nm,18.4s,baz=326,slow=35						
RAO	**Raoul Island**	**37.00**	**131**	LR	LR	13 27 05.2	
	comp=Z,711nm,18.8s,baz=237,slow=30						
AFI	**Afiamalu**	**37.43**	**104**	LR	LR	13 26 53.0	
	comp=Z,43nm,21.7s,baz=176,slow=29						
TORD	**Torodi Ar. Bea**	**148.96**	**284**	PKPbc	PKPbc	13 28 21.5	+1.0
	0.4nm,0.6s,baz=70,slow=2.4,SNR=3.8						

IDC 08 13:13:35.4±2.6, 1003S×10890E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, ML4.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.3/29, Error ellipse: s-maj=112.0km s-min=21.5km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.10**	**118**	*e*P	Pn	13 17 48.5	+0.3
	12nm,0.8s						
FITZ				*e*S	Sn	13 20 58.0	-13
FITZ	**Fitzroy Crossi**	**18.10**	**118**	P	Pn	13 17 48.3	+0.1
	0.8nm,0.3s,baz=304,slow=10,SNR=14						
FITZ				S	Sn	13 20 56.3	-14
	0.2nm,0.3s,baz=52,slow=20,SNR=3.6						
NWAO	**Narrogin (SRO)**	**24.05**	**163**	LR	LR	13 27 04.1	
	comp=Z,52nm,19.4s,baz=257,slow=34						
WRA	**Warramunga Arr**	**26.44**	**115**	P	P	13 19 14.7	+0.9
	3.1nm,0.8s,baz=288,slow=11,SNR=17						
STKA	**Stephens Creek**	**37.24**	**131**	P	P	13 20 48.3	-0.4
	0.9nm,0.7s,baz=307,slow=6.7,SNR=6.1						
CTA	**Charters Tower**	**37.35**	**110**	LR	LR	13 36 25.0	
	comp=Z,48nm,19.1s,baz=58,slow=37						
SONM	**Songino Array**	**57.65**	**358**	P	P	13 23 27.7	+0.4
	0.5nm,0.5s,baz=174,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**61.36**	**339**	P	P	13 23 52.9	-0.1
	1.1nm,0.7s,baz=161,slow=7.7,SNR=8.2						

*IDC **08** 13:22:22.5±1.0, 5.10S×12360E, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/18, mbtmp4.2/7, ML3.8/2, Error ellipse: s-maj=53.7km s-min=20.2km az=60.0*
*NEIC **08** 13:22:24.1±0.9, 5.14S×12351E, h10km, mb4.0/2, Error ellipse: s-maj=42.9km s-min=12.3km az=55.0*
*ISCJB **08** 13:22:25.7±0.7, 52S±02×1235E±02, h35km, mb4.1/5, Error ellipse: s-maj=37.0km s-min=10.6km az=114.7*
ISC 08 13:22:28.0±0.7, 52S±01×1235E±02, h35km, n12, σ1§13/11, mb4.1/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.97**	**171**	Pn	**Pn**	**13 25 28.3**	**-1.5**
	0.3nm,0.3s,baz=359,slow=12,SNR=4.3						
WRAB	**Tennant Creek**	**18.04**	**145**	*e*P	**Pn**	**13 26 37.8**	**+2.0**
	5.2nm,0.6s						
WRA	**Warramunga Arr**	**18.04**	**145**	P	**Pn**	**13 26 35.4**	**-0.4**
	0.5nm,0.3s,baz=320,slow=12,SNR=23						
WB2	**Warramunga Arr**	**18.05**	**145**	*e*P	**Pn**	**13 26 35.0**	**-0.9**
PSI	**Prapat**	**25.81**	**287**	P	**P**	**13 27 56.9**	**+1.1**
	3.8nm,0.4s,mb4.3,baz=161,slow=5.4,SNR=6.0						
PSI	**Prapat**	**25.81**	**287**	P	**P**	**13 27 56.9**	**+1.1**
STKA	**Stephens Creek**	**31.48**	**150**	*e*P	**P**	**13 28 47.9**	**+1.7**
	2.3nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**31.48**	**150**	P	**P**	**13 28 47.3**	**+1.1**
	2.4nm,0.7s,mb4.1,baz=335,slow=10.0,SNR=4.6						
SONM	**Songino Array**	**54.93**	**346**	P	**P**	**13 31 55.5**	**+0.2**
	0.5nm,0.6s,mb3.8,baz=162,slow=8.8,SNR=4.9						
MKAR	**Makanchi Array**	**63.31**	**330**	P	**P**	**13 32 52.9**	**-0.4**
	1.0nm,0.6s,mb4.1,baz=125,slow=7.8,SNR=10						
ZAL	**Zalesovo**	**67.25**	**336**	P	**P**	**13 33 17.6**	**-1.2**
	1.4nm,0.5s,mb4.3,baz=317,slow=2.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**122.12**	**282**	PKP	PKPdf	13 41 19.0	+0.1
	0.3nm,0.6s,baz=71,slow=1.6,SNR=2.8						

JMA 08 13:29:03.9±0.2, 3693N×13494E, h380km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**1.89**	**130**	P	Pn	13 29 57.7	+0.5
JTT	**Ttatey**	**1.95**	**99**	P	Pn	13 29 58.0	+0.4
JHS	**Saijyo**	**2.43**	**218**	P	Pn	13 30 01.2	+0.3
JMM	**Marumori**	**4.75**	**77**	P	Pn	13 30 23.1	+0.8

*STR **08** 13:30:29.1±0.2, 4756N×761E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 13:30:30.1±0.1, 4759N×756E, h10km, Md2.2/1, Ml2.3/10, Error ellipse: s-maj=2.5km s-min=1.7km az=151.0*
ZUR 08 13:30:29.8, 4758N×760E, h5km±1km, ML1.7, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇑*i*Pg	Pg	13 30 32.5	-2.3
	286nm,0.3s						
BALST				*e*Sg	Sg	13 30 35.9	-2.2
	286nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	*i* Pg	Sg	13 30 39.0	-1.0
	103nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Pg	13 30 36.3	-0.3
	75nm,0.3s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	13 30 37.8	0.0
MOF				Sg	Sg	13 30 43.4	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	13 30 40.0	-0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	13 30 42.0	+1.5
HINF				*e*Sg	Sg	13 30 47.2	-0.5
HINF				*e*Sn	Sg	13 30 50.9	+3.2
	11nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	13 30 40.6	-0.2
SLE	**Schleitheim**	**0.63**	**73**	*e*Sg	Pg	13 30 36.7	-5.2
	80nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	13 30 43.4	+0.2
ECH				Sg	Sg	13 30 52.2	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	13 30 46.1	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	13 30 46.5	-2.0
CDF				*e*Sg	Sg	13 30 56.5	-0.9
CDF				*e*Sn	Sn	13 30 58.3	-3.1
	16nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	13 30 47.3	-0.6
HAU				*e*Sg	Sg	13 31 00.1	-0.1
	6.6nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	13 30 56.8	-0.2
CABF				*e*Sg	Sg	13 31 14.0	-1.4
	3.3nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	13 31 27.3	-1.4
	3.5nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sn	Sn	13 31 24.5	-3.7
MEZF				*e*Sg	Sg	13 31 30.8	-1.4
	6.2nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	13 31 37.8	-1.6
	1.1nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	13 31 17.1	-1.8
LOR				*e*Sg	Sg	13 31 48.8	-3.2
	2.6nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Sg	Sg	13 31 54.0	-3.6
	2.3nm,0.2s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Sg	Sg	13 32 01.6	-4.7
	3.4nm,0.3s						

*ISCJB **08** 13:33:46.7±1.3, 198S±0.1×1774W±0.1, h531km±18km, mb3.8/8, Error ellipse: s-maj=25.6km s-min=13.8km az=113.4*
*IDC **08** 13:33:47.8±1.8, 1980S×17743W, h534km±22km, mb3.5/8, mb1 3.7/11, mb1mx3.5/18, mbtmp3.5/11, Error ellipse: s-maj=30.6km s-min=13.1km az=150.0*
*NEIC **08** 13:33:47.4±1.0, 1983S×17740W, h534km±12km, mb4.8/1, Error ellipse: s-maj=24.3km s-min=10.4km az=146.0*
ISC 08 13:33:47.4±1.3, 199S±02×1774W±01, h527km±16km, n22, σ0§84/17, mb3.8/8, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.01**	**43**	P	**P**	**13 35 44.3**	**-0.2**
	5.8nm,0.3s,baz=116,slow=0.1,SNR=16						
DZM	**Mont Dzumac**	**15.28**	**259**	P	**P**	**13 37 00.2**	**+0.3**
	1.6nm,0.3s,baz=67,slow=18,SNR=15						
URZ	**Urewera**	**18.90**	**194**	P	**P**	**13 37 33.5**	**-1.0**
	1.3nm,0.3s,baz=140,slow=19,SNR=6.5						
ARMA	**Armidale**	**29.86**	**243**	⇓*i*P	**P**	**13 39 13.1**	**+1.3**
CTA	**Charters Tower**	**34.15**	**263**	⇓*i*P	**P**	**13 39 48.5**	**+0.2**
	12nm,0.4s,mb4.8						
CTA	**Charters Tower**	**34.15**	**263**	P	**P**	**13 39 48.5**	**+0.2**
	16nm,0.5s,mb4.8,baz=92,slow=10.0,SNR=39						
STKA	**Stephens Creek**	**38.58**	**244**	⇓*i*P	**P**	**13 40 25.6**	**+0.7**
	6.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.58**	**244**	P	**P**	**13 40 25.7**	**+0.8**
	8.4nm,0.6s,mb4.5,baz=87,slow=8.6,SNR=23						
STKA	**Stephens Creek**	**38.58**	**244**	*e*P	**P**	**13 40 25.1**	**+0.2**
WRA	**Warramunga Arr**	**45.28**	**261**	P	**P**	**13 41 17.2**	**-0.4**
	3.4nm,0.4s,mb4.2,baz=98,slow=5.1,SNR=17						
FITZ	**Fitzroy Crossi**	**53.70**	**262**	P	**P**	**13 42 19.4**	**-0.3**
	2.3nm,0.5s,mb3.8,baz=67,slow=7.7,SNR=4.0						
MJAR	**Matsushiro Arr**	**70.09**	**323**	P	**P**	**13 44 04.2**	**-2.2**
	0.5nm,0.4s,mb3.4,baz=164,slow=6.3,SNR=4.4						
NVAR	**Mina Array Bea**	**80.19**	**43**	P	**P**	**13 45 03.4**	**+0.6**
	0.6nm,0.6s,mb3.1,baz=224,slow=8.7,SNR=3.5						
TXAR	**Lajitas Array**	**86.23**	**57**	P	**P**	**13 45 34.3**	**+1.4**
	1.0nm,0.6s,mb3.6,baz=224,slow=5.2,SNR=10						
PDAR	**Pinedale Array**	**88.12**	**43**	P	**P**	**13 45 41.6**	**-0.2**
	0.5nm,0.6s,mb3.4,baz=196,slow=3.7,SNR=5.4						
VNA3	**Neumayer Olymp**	**88.69**	**176**	*e*	**P**	**13 45 44.2**	**-0.2**
VNA3				*e*		13 45 45.0	
VNA2	**Neumayer--Watz**	**89.14**	**177**	*e*	**P**	**13 45 46.2**	**-0.3**
	baz=184,slow=4.8						
ARCES	**ARCESS Array B**	**128.45**	**350**	PKP	PKPdf	13 51 51.9	-2.2
	7.1nm,1.0s,baz=5.7,slow=2.7,SNR=4.4						
AKASG	**Malin Array Be**	**142.78**	**332**	PKhKP		13 52 15.4	
	0.6nm,0.5s,baz=42,slow=4.4,SNR=6.5						
BRTR	**Keskin Array B**	**146.88**	**313**	PKPbc	PKPbc	13 52 29.1	-1.3
	1.2nm,0.7s,baz=148,slow=4.5,SNR=6.1						
CLL	**Collm**	**147.62**	**348**	*e*PKPbc	PKPbc	13 52 31.0	-1.4
GERES	**GERESS Array B**	**149.79**	**345**	PKPbc	PKPbc	13 52 36.7	-1.0
	1.6nm,0.7s,baz=29,slow=3.0,SNR=6.3						

*BJI **08** 13:35:52.2, 260N×12859E, h55km, mB5.2, mb4.8*
*ISCJB **08** 13:35:53.2±1.4, 259N±005×12847E±007, h57km±12km, mb4.9/51, MS3.6/9, Error ellipse: s-maj=11.7km s-min=7.2km az=128.6*
*MOS **08** 13:35:54.6±1.1, 266N×12840E, h68km, mb4.8/9, Error ellipse: s-maj=44.6km s-min=13.4km az=104.8*
*NEIC **08** 13:35:54.5±1.8, 255N×12849E, h56km±17km, mb4.8/14, Error ellipse: s-maj=14.3km s-min=6.9km az=63.0*
*IDC **08** 13:35:55.1±2.8, 256N×12830E, h59km±25km, mb4.3/13, mb1 4.4/13, mb1mx4.2/19, mbtmp4.3/13, MS3.6/9, Ms1 3.6/9, ms1mx3.5/25, Error ellipse: s-maj=37.7km s-min=11.7km az=84.0*
ISC 08 13:35:54.9±1.2, 257N±005×12853E±007, h58km±11km, n88, σ1§01/80, mb4.9/50, MS3.6/9, 4C-5D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**5.00**	**315**	⇓*i*P	**Pn**	**13 37 07.6**	**+0.2**
GSPH				*e*S	**Sn**	**13 38 03.4**	**-0.5**
KKM	**Kota Kinabalu**	**12.76**	**286**	*e*P	**Pn**	**13 38 53.8**	**+0.4**
KAKA	**Kakadu**	**15.66**	**166**	*e*P	**Pn**	**13 39 29.8**	**-2.1**
	14nm,0.5s						
KSM	**Kuching**	**18.24**	**267**	*e*P	**Pn**	**13 40 04.2**	**+0.3**
GUMO	**Guam**	**19.51**	**55**	LR	LR	13 47 05.9	
	comp=Z,99nm,18.7s,baz=283,slow=34						
FITZ	**Fitzroy Crossi**	**20.73**	**188**	*e*P	**P**	**13 40 29.1**	**-1.5**
	8.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.73**	**188**	P	**P**	**13 40 29.5**	**-1.1**
	2.0nm,0.5s,baz=14,slow=10.0,SNR=5.6						
FITZ				LR	LR	13 49 34.6	
	comp=Z,130nm,18.6s,MS3.3,baz=349,slow=40						
PMG	**Port Moresby**	**22.04**	**123**	LR	LR	13 50 28.7	
	comp=Z,68nm,19.9s,MS3.1,baz=270,slow=39						
WRAB	**Tennant Creek**	**23.08**	**166**	*i* P	**P**	**13 40 55.8**	**+0.3**
WRAB	**Tennant Creek**	**23.08**	**166**	*e*P	**P**	**13 40 56.2**	**+0.7**
	24nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**23.08**	**166**	P	**P**	**13 40 56.1**	**+0.5**
	8.1nm,0.5s,mb4.4,baz=343,slow=10,SNR=92						
WRA				PcP	PcP	13 44 44.3	+1.5
	0.4nm,0.4s,baz=338,slow=2.1,SNR=5.4						
WRA				ScP	ScP	13 48 14.8	-0.9
	0.8nm,0.7s,baz=342,slow=3.0,SNR=6.0						
WRA	**Warramunga Arr**	**23.08**	**166**	*i* P	**P**	**13 40 56.0**	**+0.4**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WB2	**Warramunga Arr**	**23.09**	**166**	⇓*i*P	**P**	**13 40 56.0**	**+0.4**
JOW	**Kunigami**	**24.13**	**359**	LR	LR	13 49 56.8	
	comp=Z,175nm,19.0s,MS3.6,baz=133,slow=35						
QIZ	**Qiongzhong**	**24.54**	**313**	P	**P**	**13 41 04.5**	**-4.5**
QIZ				S	**S**	**13 45 22.8**	**-2.9**
QIZ				XS	sS	13 45 42.8	-7.2
QIZ				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.5						
CTA	**Charters Tower**	**28.45**	**143**	P	**P**	**13 41 50.9**	**+6.6**
	comp=Z,3.7nm,0.5s,mb4.3,baz=325,slow=12,SNR=5.7						
CTA				LR	LR	13 52 21.9	
	comp=Z,91nm,19.0s,MS3.4,baz=45,slow=34						
PSI	**Prapat**	**29.58**	**271**	LR	LR	13 53 55.7	
	comp=Z,114nm,18.8s,MS3.5,baz=247,slow=37						
JNU	**Nakatsue**	**30.48**	**4**	P	**P**	**13 42 03.0**	**+0.9**
	comp=Z,16nm,0.5s,mb5.0,baz=193,slow=13,SNR=15						
CHTO	**Chiang Mai**	**33.16**	**301**	*e*P	**P**	**13 42 26.3**	**+0.6**
	comp=Z,11nm,1.0s,mb4.8						
KSRS	**Korea Array**	**34.73**	**359**	P	**P**	**13 42 40.2**	**+0.9**
	comp=Z,12nm,0.8s,mb4.9,baz=175,slow=9.8,SNR=28						
KSRS				LR	LR	13 55 59.2	
	comp=Z,86nm,21.0s,MS3.5,baz=185,slow=35						
MAT	**Matsushiro**	**34.97**	**14**	P	**P**	**13 42 40.1**	**-1.3**
MJAR	**Matsushiro Arr**	**34.97**	**14**	P	**P**	**13 42 40.6**	**-0.8**
	comp=Z,8.0nm,0.7s,mb4.8,baz=184,slow=9.6,SNR=22						
XAN	**Xi'an**	**36.27**	**332**	P	**P**	**13 42 52.2**	**-0.4**
XAN				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**36.43**	**161**	⇑*i*P	**P**	**13 42 54.9**	**+1.0**
	comp=Z,15nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**36.43**	**161**	P	**P**	**13 42 54.8**	**+0.9**
	comp=Z,3.5nm,0.4s,mb4.7,baz=337,slow=8.3,SNR=8.7						
STKA				PcP	PcP	13 45 17.9	+0.9
	comp=Z,1.9nm,0.5s,baz=332,slow=5.2,SNR=3.7						
STKA				LR	LR	13 58 17.6	
	comp=Z,120nm,20.8s,MS3.6,baz=22,slow=37						
CD2	**Chengdu**	**36.65**	**323**	P	**P**	**13 42 55.6**	**-0.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**36.88**	**196**	P	**P**	**13 42 57.3**	**-0.4**
	comp=Z,7.4nm,0.7s,mb4.7,baz=196,slow=5.4,SNR=5.0						
BJT	**Baijiatuau**	**38.93**	**345**	*e*P	**P**	**13 43 14.6**	**-0.4**
	comp=Z,8.2nm,0.5s,mb4.7						
BJI	**Beijing**	**38.95**	**345**	P	**P**	**13 43 14.8**	**-0.4**
BJI				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.9						
BJI				AMB	AMB		
	comp=Z,68nm,5.4s						
LZH	**Lanzhou**	**40.42**	**329**	⇑P	**P**	**13 43 28.8**	**+1.4**
LZH				AP	pP	13 43 38.4	-3.9
LZH				XP	sP	13 43 43.5	-5.5
LZH				AMB	AMB		
	comp=Z,65nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LSA	**Lhasa**	**44.55**	**311**	*e*P	**P**	**13 44 02.7**	**+1.7**
	comp=Z,9.4nm,0.7s,mb4.7						
GTA	**Gaotai**	**45.02**	**328**	⇑P	**P**	**13 44 05.3**	**+0.6**
GTA				AP	pP	13 44 15.7	-4.0
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
BOK	**Bokaro**	**46.30**	**301**	*e*P	**P**	**13 44 13.8**	**-0.9**
BOK				AMb	AMB	13 44 16.8	
	comp=Z,14nm,1.0s,mb4.9						
KLR	**Kul'dur**	**46.57**	**3**	*e*P	**P**	**13 44 12.7**	**-4.2**
KLR				*e*	pP	13 44 32.2	+0.2
VIS	**Vishakhapatnam**	**46.81**	**292**	*e*P	**P**	**13 44 20.4**	**+1.6**
VIS				AMb	AMB	13 44 24.4	
	comp=Z,15nm,1.0s,mb4.9						
JIRN	**Jiri**	**47.51**	**306**	*e*P	**P**	**13 44 25.2**	**+1.0**
	comp=Z,49nm,0.7s,mb5.7						
GUN	**Gumba**	**47.86**	**306**	*e*P	**P**	**13 44 27.8**	**+0.9**
	comp=Z,71nm,0.7s,mb5.8						
PKI	**Pulchoki**	**48.11**	**305**	*e*P	**P**	**13 44 29.3**	**+0.5**
KKN	**Kakani**	**48.30**	**306**	*e*P	**P**	**13 44 30.8**	**+0.5**
	comp=Z,52nm,0.9s,mb5.5						
DMN	**Daman**	**48.37**	**305**	*e*P	**P**	**13 44 31.5**	**+0.7**
	comp=Z,48nm,0.8s,mb5.6						
GKN	**Gorkha**	**48.90**	**306**	*e*P	**P**	**13 44 35.4**	**+0.4**
	comp=Z,58nm,1.1s,mb5.5						
SONM	**Songino Array**	**48.98**	**340**	P	**P**	**13 44 35.4**	**-0.1**
	comp=Z,4.3nm,0.7s,mb4.6,baz=153,slow=8.2,SNR=34						
KOLN	**Koldanda**	**49.66**	**305**	*e*P	**P**	**13 44 41.7**	**+1.0**
	comp=Z,85nm,0.8s,mb5.8						
CIT	**Chita**	**50.85**	**348**	*e*P	**P**	**13 44 50.2**	**+0.5**
HYB	**Hyderabad**	**51.20**	**290**	*i* P	**P**	**13 44 52.5**	**+0.1**
	comp=Z,90nm,1.0s,mb5.7						
HYB	**Hyderabad**	**51.20**	**290**	*e*P	**P**	**13 44 52.5**	**+0.1**
	comp=Z,90nm,1.0s,mb5.7						
NGP	**Nagpur**	**51.55**	**295**	*e*P	**P**	**13 44 53.7**	**-1.3**
NGP				AMb	AMB	13 44 55.1	
	comp=Z,27nm,1.3s,mb5.0						
TRD	**Trivandrum**	**51.63**	**279**	*e*P	**P**	**13 44 55.1**	**-0.5**
TRD				AMb	AMB	13 45 00.5	
	comp=Z,39nm,1.0s,mb5.3						
ZAK	**Zakamensk**	**52.22**	**340**	*e*P	**P**	**13 44 59.3**	**-0.7**
ZAK				*e*		13 46 10.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
AKL	**Akola**	**53.30**	**294**	*e*P	**P**	**13 45 09.0**	**+1.1**
AKL				AMb	AMB	13 45 10.2	
	comp=Z,68nm,1.0s,mb5.5						
BHPL	**Bhopal**	**53.53**	**297**	*e*P	**P**	**13 45 09.5**	**-0.1**
BHPL				AMb	AMB	13 45 11.0	
	comp=Z,30nm,0.9s,mb5.2						
NDI	**New Delhi**	**55.26**	**303**	*e*P	**P**	**13 45 20.1**	**-2.0**
NDI				AMb	AMB	13 45 22.5	
	comp=Z,17nm,0.7s,mb5.2						
KAD	**Karad**	**55.29**	**289**	*e*P	**P**	**13 45 25.3**	**+2.9**
KAD				AMb	AMB	13 45 28.7	
	comp=Z,30nm,1.3s,mb5.2						
BOD	**Bodaibo**	**56.28**	**351**	*e*P	**P**	**13 45 28.6**	**-0.9**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
AJM	**Ajmer**	**56.81**	**300**	*e*P	**P**	**13 45 32.2**	**-1.0**
AJM				AMb	AMB	13 45 34.1	
	comp=Z,11nm,0.9s,mb4.9						
YAK	**Yakutsk**	**59.33**	**1**	*c i*P	**P**	**13 45 50.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.5						
YAK	**Yakutsk**	**59.33**	**1**	*e*P	**P**	**13 45 50.0**	**-0.9**
	comp=Z,32nm,0.8s,mb5.4						
MK31	**Makanchi Array**	**59.53**	**325**	*e*P	**P**	**13 45 52.0**	**-0.3**
MKAR	**Makanchi Array**	**59.53**	**325**	P	**P**	**13 45 52.0**	**-0.2**
	comp=Z,6.4nm,0.7s,mb4.7,baz=120,slow=8.0,SNR=30						
MKAR	**Makanchi Array**	**59.53**	**325**	*i* P	**P**	**13 45 52.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AAK	**Ala-Archa**	**62.42**	**318**	*i* P	**P**	**13 46 11.7**	**-0.1**
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
ZAL	**Zalesovo**	**62.44**	**333**	P	**P**	**13 46 10.2**	**-1.8**
	comp=Z,1.4nm,0.5s,mb4.3,baz=12,slow=8.9,SNR=5.1						
SEY	**Seymchan**	**62.77**	**12**	⇓*e*P	**P**	**13 46 15.8**	**+1.6**
KURK	**Kurchatov**	**63.69**	**327**	*d i*P	**P**	**13 46 19.8**	**-0.4**
KURK	**Kurchatov**	**63.69**	**327**	*e*P	**P**	**13 46 19.2**	**-1.0**
	comp=Z,8.7nm,0.8s,mb4.8						
NVS	**Novosibirsk**	**63.72**	**333**	*e*P	**P**	**13 46 18.8**	**-1.6**
NVS				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
NVS				pmax	pmax		
	comp=E,11nm,1.6s						
TIXI	**Tiksi**	**68.99**	**0**	⇓*e*P	**P**	**13 46 52.9**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
TIXI	**Tiksi**	**68.99**	**0**	*e*P	**P**	**13 46 52.9**	**-1.2**
	comp=Z,11nm,0.5s,mb5.0						
BRVK	**Borovoye**	**69.34**	**327**	*e*P	**P**	**13 46 55.1**	**-1.2**
	comp=Z,3

LOR	**Lormes**	**2.54 264**	*e*Pg	Pg	15 11 41.9	-1.6
LOR			*e*Sg	Sg	15 12 14.2	-2.2
	1.1nm,0.2s					

ISCJB ***08*** *15:12:50.1±0.3, 4756N±002×745E±003, h0km, Error ellipse: s-maj=2.6km s-min=2.3km az=4.9*
NEIC ***08*** *15:12:51.5, 4758N×759E, h8km, ML2.0(ZUR), ML2.2(STR), ML2.6(LDG), After LDG.*
BGR ***08*** *15:12:51.0±2.7, 4755N×762E, h5km, ML1.9/1, Error ellipse: s-maj=23.3km s-min=12.2km az=33.0*
STR ***08*** *15:12:51.4±0.2, 4758N×761E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***08*** *15:12:51.8, 4758N×760E, h5km±1km, ML2.0*
CSEM ***08*** *15:12:51.6±0.1, 4759N×758E, h1km, ML2.6/12, Error ellipse: s-maj=1.2km s-min=1.1km az=146.0*
LDG ***08*** *15:12:51.5±0.1, 4758N×759E, h8km, Md2.7/1, Ml2.6/17, Error ellipse: s-maj=1.5km s-min=1.1km az=120.0*

ISC 08 15:12:50.9±0.3, 4758N±001×754E±003, h0km, n54, σ1§17/108, 2C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.12**	**189**	Pg	**Pg**	**15 12 54.7**	**+1.6**
BBS				Sg	**Sg**	**15 12 56.0**	**+1.4**
BALST	**Balsthal**	**0.27**	**156**	⇑*i*Pg	**Pg**	**15 12 57.1**	**+1.1**
	830nm,0.5s						
BALST				*i* Sg	**Sg**	**15 13 00.8**	**+1.3**
	830nm,0.5s						
BOURR	**Bourrignon**	**0.28**	**228**	⇑*i*Pg	**Pg**	**15 12 58.2**	**+2.0**
	379nm,0.3s						
MOF	**Molkenrain**	**0.39**	**315**	Pg	**Pg**	**15 12 59.4**	**+1.1**
SULZ	**Sulz-Cheisache**	**0.40**	**97**	⇓*i*Pg	**Pg**	**15 12 58.8**	**+0.3**
	266nm,0.4s						
FELD	**Feldberg im Sc**	**0.43**	**47**	Pg	**Pg**	**15 12 59.2**	**0.0**
FELD				Sg	**Sg**	**15 13 05.0**	**+0.2**
HINF	**Hinteralfeld**	**0.52**	**298**	*e*Pn	**Pg**	**15 13 03.5**	**+2.7**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 13 09.0**	**+1.4**
HINF				*e*Sn	**Sg**	**15 13 12.6**	**+5.0**
	35nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.52**	**298**	*e*Pg	**Pg**	**15 13 02.0**	**+1.2**
HINF				*e*Pn	**Pg**	**15 13 03.5**	**+2.7**
HINF				*e*Sg	**Sg**	**15 13 09.0**	**+1.4**
HINF				*e*Sn	**Sg**	**15 13 12.6**	**+5.0**
HINF	**Hinteralfeld**	**0.52**	**298**	*e*Pn	**Pg**	**15 13 03.5**	**+2.7**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 13 09.0**	**+1.4**
HINF				*e*Sn	**Sg**	**15 13 12.6**	**+5.0**
	18nm,0.2s,SNR=1.0						
LOMF	**Lomont**	**0.53**	**245**	Pg	**Pg**	**15 13 02.9**	**+1.8**
LOMF				Sg	**Sg**	**15 13 10.9**	**+2.9**
SLE	**Schleitheim**	**0.67**	**74**	⇓*i*Pg	**Pg**	**15 13 03.7**	**-0.1**
	259nm,0.4s						
ECH	**Echery**	**0.69**	**338**	Pg	**Pg**	**15 13 05.3**	**+1.3**
ECH				Sg	**Sg**	**15 13 14.0**	**+1.1**
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	**Pn**	**15 13 08.5**	**-1.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**15 13 18.2**	**-0.1**
	41nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**15 13 20.3**	**+2.0**
	SNR=1.0						
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pg	**Pg**	**15 13 07.8**	**+0.6**
CDF				*e*Pn	**Pn**	**15 13 08.5**	**-1.6**
CDF				*e*Sg	**Sg**	**15 13 18.2**	**-0.1**
CDF				*e*Sn	**Sg**	**15 13 20.3**	**+2.0**
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	**Pn**	**15 13 08.5**	**-1.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**15 13 18.2**	**-0.1**
	21nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**15 13 20.3**	**+2.0**
	SNR=1.0						
HAU	**Haudompre**	**0.91**	**298**	*e*Pg	**Pg**	**15 13 09.2**	**+0.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 13 21.6**	**+1.5**
	21nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**0.91**	**298**	*e*Pg	**Pg**	**15 13 09.2**	**+0.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 13 21.6**	**+1.5**
	10nm,0.2s,SNR=1.0						
BFO	**Black Forest**	**0.92**	**35**	*e*Pg	**Pg**	**15 13 08.5**	**0.0**
	SNR=14						
BFO				*e*Sg	**Sg**	**15 13 20.7**	**+0.2**
	SNR=5.7						
BFO	**Black Forest**	**0.92**	**35**	*e*Pg	**Pg**	**15 13 08.5**	**-0.1**
BFO				*e*Sg	**Sg**	**15 13 21.2**	**+0.7**
THEF	**They Montfort**	**1.23**	**302**	Pg	**Pg**	**15 13 15.3**	**+0.9**
CABF	**La Chapelle**	**1.39**	**226**	*e*Pg	**Pg**	**15 13 18.7**	**+1.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 13 35.6**	**+0.2**
	16nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.39**	**226**	*e*Pn	**Pn**	**15 13 16.6**	**-0.9**
CABF				*e*Pg	**Pg**	**15 13 18.7**	**+1.3**
CABF				*e*Sg	**Sg**	**15 13 35.6**	**+0.2**
CABF	**La Chapelle**	**1.39**	**226**	*e*Pg	**Pg**	**15 13 18.7**	**+1.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 13 35.6**	**+0.2**
	7.9nm,0.2s,SNR=1.0						
RFYF	**Reffroy**	**1.74**	**308**	*e*Sg	**Sg**	**15 13 46.7**	**0.0**
	7.4nm,0.2s						
RFYF	**Reffroy**	**1.74**	**308**	*e*Sg	**Sg**	**15 13 46.7**	**0.0**
	3.7nm,0.2s						
SFTF	**Sexfontaines**	**1.79**	**291**	*e*Pg	**Pg**	**15 13 25.7**	**+0.4**
SFTF				*e*Sn	**Sn**	**15 13 43.7**	**-2.9**
SFTF				*e*Sg	**Sg**	**15 13 49.1**	**+0.6**
	7.5nm,0.2s						
SFTF	**Sexfontaines**	**1.79**	**291**	*e*Pn	**Pn**	**15 13 22.1**	**-1.0**
SFTF				*e*Pg	**Pg**	**15 13 25.7**	**+0.4**
SFTF				*e*Sn	**Sn**	**15 13 43.7**	**-2.9**
SFTF				*e*Sg	**Sg**	**15 13 49.1**	**+0.6**
SFTF	**Sexfontaines**	**1.79**	**291**	*e*Pg	**Pg**	**15 13 25.7**	**+0.4**
SFTF				*e*Sn	**Sn**	**15 13 43.7**	**-2.9**
SFTF				*e*Sg	**Sg**	**15 13 49.1**	**+0.6**
	3.8nm,0.2s						
MEZF	**Maizieres J'vi**	**1.91**	**300**	*e*Pn	**Pn**	**15 13 24.0**	**-0.6**
MEZF				*e*Sg	**Sg**	**15 13 52.5**	**+0.4**
	4.0nm,0.3s						
MEZF	**Maizieres J'vi**	**1.91**	**300**	*e*Pn	**Pn**	**15 13 24.0**	**-0.6**
MEZF				*e*Sg	**Sg**	**15 13 52.5**	**+0.4**
	2.0nm,0.3s						
LPL	**La Plagne**	**2.14**	**195**	*e*Pg	**Pg**	**15 13 32.0**	**+0.1**
LPL				*e*Sg	**Sg**	**15 13 59.4**	**-0.2**
	2.0nm,0.3s						
LPL	**La Plagne**	**2.14**	**195**	*e*Pg	**Pg**	**15 13 32.0**	**+0.1**
LPL				*e*Sg	**Sg**	**15 13 59.4**	**-0.2**
	1.0nm,0.3s						
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**15 13 32.4**	**+0.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**15 13 59.6**	**-0.4**
	2.9nm,0.3s						
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**15 13 32.4**	**+0.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**15 13 59.6**	**-0.4**
	1.5nm,0.3s						
LOR	**Lormes**	**2.52**	**264**	*e*Pg	**Pg**	**15 13 39.1**	**0.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 14 11.0**	**-0.7**
	8.1nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.52**	**264**	*e*Pn	**Pn**	**15 13 31.3**	**-1.7**
LOR				*e*Pg	**Pg**	**15 13 39.1**	**0.0**
LOR				*e*Sg	**Sg**	**15 14 11.0**	**-0.7**
LOR	**Lormes**	**2.52**	**264**	*e*Pg	**Pg**	**15 13 39.1**	**0.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 14 11.0**	**-0.7**
	4.1nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**15 13 42.3**	**-0.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 14 15.7**	**-1.7**
	5.5nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pn	**Pn**	**15 13 33.8**	**-1.6**
SMF				*e*Pg	**Pg**	**15 13 42.3**	**-0.2**
SMF				*e*Sg	**Sg**	**15 14 15.7**	**-1.7**
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**15 13 42.3**	**-0.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 14 15.7**	**-1.7**
	2.8nm,0.2s,SNR=1.0						
TNS	**Taunus Mts**	**2.71**	**12**	*e*Sg	**Sg**	**15 14 17.3**	**-0.7**
	SNR=1.8						
TNS	**Taunus Mts**	**2.71**	**12**	Sg	**Sg**	**15 14 17.3**	**-0.8**
	SNR=1.8						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**15 13 44.3**	**-0.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 14 19.3**	**-1.3**
	5.8nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**15 13 44.3**	**-0.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 14 19.3**	**-1.3**
	2.9nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.90**	**204**	*e*Sg	**Sg**	**15 14 23.1**	**-0.9**
	3.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.90**	**204**	*e*Sg	**Sg**	**15 14 23.1**	**-0.9**
	1.8nm,0.3s						
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pn	**Pn**	**15 13 37.9**	**-1.2**
AVF				*e*Sg	**Sg**	**15 14 24.6**	**-1.4**
	3.3nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pn	**Pn**	**15 13 37.9**	**-1.2**
AVF				*e*Sg	**Sg**	**15 14 24.6**	**-1.4**
	1.6nm,0.4s,SNR=1.0						
BAIF	**Baives**	**3.32**	**320**	*e*Sg	**Sg**	**15 14 36.3**	**-1.1**
	1.5nm,0.3s						
BAIF	**Baives**	**3.32**	**320**	*e*Sg	**Sg**	**15 14 36.3**	**-1.1**
	0.8nm,0.3s						
VIVF	**Saint-Julien-l**	**3.37**	**217**	*e*Pg	**Pg**	**15 13 54.4**	**-1.1**
VIVF				*e*Sg	**Sg**	**15 14 37.4**	**-1.8**
	3.1nm,0.3s						
VIVF	**Saint-Julien-l**	**3.37**	**217**	*e*Pg	**Pg**	**15 13 54.4**	**-1.1**
VIVF				*e*Sg	**Sg**	**15 14 37.4**	**-1.8**
	1.5nm,0.3s						
WET	**Wettzell**	**3.89**	**64**	*e*Sg	**Sg**	**15 14 53.0**	**-2.9**
	SNR=1.4						
WERD	**Werda**	**4.25**	**46**	*e*Sg	**Sg**	**15 15 05.7**	**-1.9**
	SNR=1.6						

ISCJB ***08*** *15:22:07.7±2.7, 380N±02×738E±03, h149km±64km, Error ellipse: s-maj=56.9km s-min=13.2km az=91.0*
NNC ***08*** *15:22:11.2±8.6, 3820N×7338E, h94km±201km, mb2.6, mpv3.0, Error ellipse: s-maj=89.7km s-min=51.5km az=20.0*

ISC 08 15:22:08.6±2.5, 380N±02×738E±03, h149km±58km, n14, σ0§70/15, 1C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.12**	**359**	P	**Pn**	**15 23 10.6**	**+0.2**
	SNR=29						
KZA	**Kyzart**	**4.21**	**14**	P	**Pn**	**15 23 11.0**	**-0.5**
	SNR=7.9						
UCH	**Uchtor**	**4.25**	**7**	P	**Pn**	**15 23 12.0**	**-0.1**
	SNR=6.3						
ULHL	**Ulahol**	**4.62**	**23**	P	**Pn**	**15 23 16.8**	**-0.2**
	SNR=7.0						
EKS2	**Erkin-Say**	**4.65**	**359**	P	**Pn**	**15 23 18.6**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**5.09**	**15**	P	**Pn**	**15 23 23.1**	**-0.1**
	SNR=7.8						
TKM2	**Tokmak 2**	**5.09**	**15**	⇑P	**Pn**	**15 23 23.1**	**0.0**
	0.4nm,0.5s						
KK31	**Karatay Array**	**5.69**	**335**	P	**Pn**	**15 23 30.4**	**-0.7**
	1.0nm,0.2s,baz=155,slow=15,SNR=61						
KK31				S	**Sn**	**15 24 29.5**	**-6.0**
	16nm,0.5s,baz=157,slow=25,SNR=23						
GKN	**Gorkha**	**13.47**	**135**	*e*P	**Pn**	**15 25 14.5**	**+0.8**
KKN	**Kakani**	**13.99**	**133**	*e*P	**Pn**	**15 25 20.8**	**+0.4**
	20nm,0.5s						
PKI	**Pulchoki**	**14.23**	**134**	*e*P	**Pn**	**15 25 22.2**	**-1.2**
GUN	**Gumba**	**14.25**	**131**	*e*P	**Pn**	**15 25 24.7**	**+1.0**
JIRN	**Jiri**	**14.62**	**131**	*e*P	**Pn**	**15 25 27.4**	**-0.9**
AB31	**Akbulak array**	**15.06**	**323**	⇓P	**Pn**	**15 25 33.8**	**+0.1**
	0.3nm,0.4s,baz=124,slow=14,SNR=11						

CSEM ***08*** *15:29:50.8±0.1, 4757N×760E, h9km, ML2.4/7, Error ellipse: s-maj=1.6km s-min=1.2km az=81.0*
STR ***08*** *15:29:50.5±0.2, 4756N×758E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***08*** *15:29:51.2±0.1, 4759N×758E, h10km, Md2.4/1, Ml2.4/7, Error ellipse: s-maj=1.8km s-min=1.3km az=148.0*

ZUR 08 15:29:51.2, 4758N×760E, h5km±1km, ML1.8, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.14**	**208**	Pg	Pg	15 29 53.1	-0.8
BBS				Sg	Sg	15 29 55.3	-0.4
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Pg	15 29 56.1	-0.1
	410nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	15 29 57.6	+0.3
	89nm,1.5s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*e*Pg	Pg	15 29 56.5	-1.5
	168nm,0.3s						
SULZ				*i* Sg	Sg	15 29 58.1	-4.5
	168nm,0.3s						
FELD	**Feldberg im Sc**	**0.40**	**43**	Pg	Pg	15 29 58.7	-0.2
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	15 29 59.1	-0.1
MOF				Sg	Sg	15 30 04.9	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	15 30 01.5	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	15 30 03.1	+1.2
HINF				*e*Sg	Sg	15 30 08.8	-0.3
HINF				*e*Sn	Sg	15 30 12.3	+3.2
	21nm,0.2s						
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	15 30 03.1	+1.2
HINF				*e*Sg	Sg	15 30 08.8	-0.3
HINF				*e*Sn	Sg	15 30 12.3	+3.2
	10nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	15 30 00.7	-1.5
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	15 30 03.8	+0.5
	219nm,0.4s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	15 30 04.6	0.0
ECH				Sg	Sg	15 30 13.5	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	15 30 07.9	-2.1
CDF				*e*Sg	Sg	15 30 17.9	-0.9
CDF				*e*Sn	Sn	15 30 19.9	-3.0
	22nm,0.2s						
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	15 30 07.9	-2.1
CDF				*e*Sg	Sg	15 30 17.9	-0.9
CDF				*e*Sn	Sn	15 30 19.9	-3.0
	11nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	15 30 08.6	-0.7
HAU				*e*Sg	Sg	15 30 21.2	-0.4
	28nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	15 30 08.6	-0.7
HAU				*e*Sg	Sg	15 30 21.2	-0.4
	14nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	15 30 18.1	-0.3
CABF				*e*Sg	Sg	15 30 35.6	-1.2
	5.6nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	15 30 18.1	-0.3
CABF				*e*Sg	Sg	15 30 35.6	-1.2
	2.8nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	15 30 48.9	-1.2
	4.4nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	15 30 48.9	-1.2
	2.2nm,0.2s						
LPL	**La Plagne**	**2.15**	**196**	*e*Sg	Sg	15 30 59.1	-1.3
	2.2nm,0.3s						
LPL	**La Plagne**	**2.15**	**196**	*e*Sg	Sg	15 30 59.1	-1.3
	1.1nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	15 30 59.4	-1.4
	1.2nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	15 30 59.4	-1.4
	0.6nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	15 30 38.8	-1.5
LOR				*e*Sg	Sg	15 31 10.8	-2.7
	4.1nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	15 30 38.8	-1.5
LOR				*e*Sg	Sg	15 31 10.8	-2.7
	2.0nm,0.2s						

ISCJB ***08*** *15:30:33.9±0.3, 4753N±002×749E±003, h0km, Error ellipse: s-maj=2.6km s-min=2.5km az=122.4*
STR ***08*** *15:30:35.3±0.4, 4756N×760E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BGR ***08*** *15:30:35.0±2.3, 4756N×754E, h5km, ML1.9/1, Error ellipse: s-maj=27.8km s-min=6.7km az=24.0*
CSEM ***08*** *15:30:36.1±0.1, 4759N×757E, h1km, ML2.7/10, Error ellipse: s-maj=1.4km s-min=1.1km az=4.0*
LDG ***08*** *15:30:36.0±0.1, 4758N×757E, h10km, Md2.4/1, Ml2.6/15, Error ellipse: s-maj=1.7km s-min=1.0km az=86.0*
NEIC ***08*** *15:30:36.0, 4758N×757E, h10km, ML2.2(STR), ML2.6(LDG), After LDG.*
ZUR ***08*** *15:30:36.0, 4758N×760E, h5km±1km, ML2.1*

ISC 08 15:30:35.2±0.3, 4756N±002×755E±002, h0km, n50, σ1§12/85, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.10**	**197**	Pg	**Pg**	**15 30 38.9**	**+1.8**
BALST	**Balsthal**	**0.24**	**156**	⇓*i*Pg	**Pg**	**15 30 41.3**	**+1.4**
	1μm,0.3s						
BOURR	**Bourrignon**	**0.27**	**233**	⇑*i*Pg	**Pg**	**15 30 42.4**	**+2.0**
	236nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.38**	**94**	*e*Pg	**Pg**	**15 30 43.0**	**+0.4**
	364nm,0.6s						
SULZ				*e*Sg	**Sg**	**15 30 47.9**	**+0.3**
	364nm,0.6s						
MOF	**Molkenrain**	**0.41**	**316**	Pg	**Pg**	**15 30 43.9**	**+0.9**
MOF				Sg	**Sg**	**15 30 49.7**	**+1.4**
FELD	**Feldberg im Sc**	**0.44**	**44**	Pg	**Pg**	**15 30 43.4**	**-0.3**
HINF	**Hinteralfeld**	**0.54**	**299**	*e*Pn	**Pg**	**15 30 47.8**	**+2.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 30 53.3**	**+0.8**
HINF				*e*Sn	**Sg**	**15 30 57.0**	**+4.5**
	35nm,0.2s						
HINF	**Hinteralfeld**	**0.54**	**299**	*e*Pg	**Pg**	**15 30 46.3**	**+0.8**
HINF				*e*Pn	**Pg**	**15 30 47.8**	**+2.3**
HINF				*e*Sg	**Sg**	**15 30 53.3**	**+0.8**
HINF				*e*Sn	**Sg**	**15 30 57.0**	**+4.5**
HINF	**Hinteralfeld**	**0.54**	**299**	*e*Pn	**Pg**	**15 30 47.8**	**+2.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 30 53.3**	**+0.8**
HINF				*e*Sn	**Sg**	**15 30 57.0**	**+4.5**
	18nm,0.2s						
SLE	**Schleitheim**	**0.67**	**72**	*e*Pg	**Pg**	**15 30 48.6**	**+0.5**
	535nm,0.4s						
ECH	**Echery**	**0.71**	**338**	Pg	**Pg**	**15 30 49.8**	**+1.0**
CDF	**Champ du Feu**	**0.88**	**348**	*e*Pn	**Pn**	**15 30 52.6**	**-2.2**
CDF				*e*Sn	**Sg**	**15 31 04.6**	**+1.3**
	51nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.88**	**348**	*e*Pg	**Pg**	**15 30 52.1**	**+0.1**
CDF				*e*Pn	**Pn**	**15 30 52.6**	**-2.2**
CDF				*e*Sn	**Sg**	**15 31 04.6**	**+1.3**
CDF	**Champ du Feu**	**0.88**	**348**	*e*Pn	**Pn**	**15 30 52.6**	**-2.2**
CDF				*e*Sn	**Sg**	**15 31 04.6**	**+1.3**
	26nm,0.2s,SNR=1.0						
HASLI	**Hasliberg**	**0.90**	**153**	*e*Pg	**Pg**	**15 30 53.5**	**+1.0**
	143nm,0.4s						
BNALP	**Bannalp**	**0.91**	**139**	*e*Pg	**Pg**	**15 30 50.7**	**-2.0**
	54nm,0.4s						
HAU	**Haudompre**	**0.93**	**299**	*e*Pg	**Pg**	**15 30 53.5**	**+0.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 31 06.1**	**+1.1**
	69nm,0.3s						
HAU	**Haudompre**	**0.93**	**299**	*e*Pg	**Pg**	**15 30 53.5**	**+0.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 31 06.1**	**+1.1**
	34nm,0.3s						
BFO	**Black Forest**	**0.93**	**34**	*e*Pg	**Pg**	**15 30 52.9**	**-0.2**
BFO				*e*Sg	**Sg**	**15 31 05.4**	**+0.2**
BFO	**Black Forest**	**0.93**	**34**	*e*Pg	**Pg**	**15 30 52.9**	**-0.2**
BFO				*e*Sg	**Sg**	**15 31 05.3**	**+0.1**
BFO	**Black Forest**	**0.93**	**34**	Pg	**Pg**	**15 30 52.9**	**-0.2**
BFO				*e*Sg	**Sg**	**15 31 05.3**	**+0.1**
CABF	**La Chapelle**	**1.38**	**227**	*e*Pg	**Pg**	**15 31 02.8**	**+1.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 31 20.0**	**+0.5**
	12nm,0.3s						
CABF	**La Chapelle**	**1.38**	**227**	*e*Pg	**Pg**	**15 31 02.8**	**+1.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 31 20.0**	**+0.5**
	6.2nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**292**	*e*Pg	**Pg**	**15 31 10.0**	**+0.1**
SFTF				*e*Sn	**Sn**	**15 31 28.1**	**-3.2**
SFTF				*e*Sg	**Sg**	**15 31 33.5**	**+0.1**
	8.1nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**292**	*e*Pn	**Pn**	**15 31 06.4**	**-1.3**
SFTF				*e*Pg	**Pg**	**15 31 10.0**	**+0.1**
SFTF				*e*Sn	**Sn**	**15 31 28.1**	**-3.2**
SFTF				*e*Sg	**Sg**	**15 31 33.5**	**+0.1**
SFTF	**Sexfontaines**	**1.81**	**292**	*e*Pg	**Pg**	**15 31 10.0**	**+0.1**
SFTF				*e*Sn	**Sn**	**15 31 28.1**	**-3.2**
SFTF				*e*Sg	**Sg**	**15 31 33.5**	**+0.1**
	4.1nm,0.2s						
MEZF	**Maizieres J'vi**	**1.93**	**300**	*e*Sg	**Sg**	**15 31 36.7**	**-0.4**
	3.6nm,0.3s						
MEZF	**Maizieres J'vi**	**1.93**	**300**	*e*Sg	**Sg**	**15 31 36.7**	**-0.4**
	1.8nm,0.3s						
LPL	**La Plagne**	**2.12**	**196**	*e*Pg	**Pg**	**15 31 16.3**	**+0.5**
LPL				*e*Sg	**Sg**	**15 31 43.9**	**+0.6**
	2.0nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**2.12**	**196**	*e*Pg	**Pg**	**15 31 16.3**	**+0.5**
LPL				*e*Sg	**Sg**	**15 31 43.9**	**+0.6**
	1.0nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**2.13**	**195**	*e*Pg	**Pg**	**15 31 16.6**	**+0.5**
LPG				*e*Sg	**Sg**	**15 31 43.9**	**+0.1**
	5.6nm,0.3s						
LPG	**La Plagne**	**2.13**	**195**	*e*Pg	**Pg**	**15 31 16.6**	**+0.5**
LPG				*e*Sg	**Sg**	**15 31 43.9**	**+0.1**
	2.8nm,0.3s						
WLF	**Walferdange**	**2.30**	**337**	*e*Sg	**Sg**	**15 31 47.9**	**-1.4**
LOR	**Lormes**	**2.52**	**265**	*e*Pg	**Pg**	**15 31 23.2**	**-0.4**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 31 55.3**	**-1.0**
	16nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.52**	**265**	*e*Pg	**Pg**	**15 31 23.2**	**-0.4**
	SNR=1.0						
LOR				*e*Sg

LOR	**Lormes**	**2.54 264**	*e*Sg	Sg	15 34 40.1	-2.2
	1.5nm,0.2s					
SMF	**Signal de Mont**	**2.72 251**	*e*Sg	Sg	15 34 44.8	-3.1
	2.0nm,0.2s					

*ISCJB **08** 15:34:48.4±0.8, 3222N±003×5555E±003, h6km±7km, Error ellipse: s-maj=5.5km s-min=4.3km az=17.3*
*CSEM **08** 15:34:49.0±0.1, 3220N×5554E, h16km, ML3.4, Error ellipse: s-maj=1.7km s-min=1.5km az=173.0*
*THR **08** 15:34:49.8±0.3, 3219N×5541E, h14km±5km, ML3.4*
*TEH **08** 15:34:50.8, 3219N×5555E, h13km, Mn3.5*
ISC 08 15:34:49.7±0.9, 3221N±003×5555E±003, h5km±7km, n31, σ0982/43, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.61**	**178**	*e*Pg	**Pg**	**15 35 01.2**	**-0.3**
IBAF				*e*Sg	**Sg**	**15 35 10.0**	**+0.5**
ICHK	**Chekchek**	**0.96**	**273**	*e*Pg	**Pg**	**15 35 07.2**	**-1.0**
IMEH	**Mehriz**	**1.14**	**225**	*e*Pg	**Pg**	**15 35 11.3**	**-0.2**
IMEH				*e*Sg	**Sg**	**15 35 25.1**	**-1.1**
ISAD	**Sadrabad**	**1.61**	**260**	*e*Pn	**Pn**	**15 35 19.1**	**+0.4**
ISAD				*e*Sn	**Sn**	**15 35 39.7**	**0.0**
NASN	**Na'in**	**2.39**	**285**	*e*Pg	**Pg**	**15 35 31.4**	**-4.0**
NASN				*e*Sg	**Sg**	**15 36 01.9**	**-4.5**
NASN				AML	AML	15 36 06.9	
	comp=N,128nm,0.5s						
NASN	**Na'in**	**2.39**	**285**	*e*Pg	**Pg**	**15 35 31.4**	**-4.0**
	SNR=90						
NASN				*e*Sg	**Sg**	**15 36 01.9**	**-4.5**
	SNR=90						
KRBR	**Kerman**	**2.45**	**155**	*e*Pn	**Pn**	**15 35 32.1**	**+1.9**
KRBR				*e*Sg	**Sg**	**15 36 07.9**	**-0.5**
KRBR				AML	AML	15 36 10.7	
	comp=E,227nm,0.3s						
KRBR				AML	AML	15 36 13.4	
	comp=N,316nm,0.6s						
KRBR	**Kerman**	**2.45**	**155**	*e*Pn	**Pn**	**15 35 32.1**	**+1.8**
	SNR=52						
KRBR				*e*Sg	**Sg**	**15 36 07.9**	**-0.5**
	SNR=90						
ITEG		**2.79**	**75**	*e*Pn	**Pn**	**15 35 35.0**	**0.0**
ITEG				*e*Sn	**Sn**	**15 36 08.3**	**-0.7**
IZEF	**Zefreh**	**2.80**	**285**	*e*Pn	**Pn**	**15 35 35.8**	**+0.7**
IGAR	**Garneh**	**2.84**	**272**	*e*Pn	**Pn**	**15 35 38.0**	**+2.4**
IKOO		**2.94**	**85**	*e*Pn	**Pn**	**15 35 37.0**	**0.0**
IKOO				*e*Sn	**Sn**	**15 36 12.2**	**-0.4**
IPAR	**Pars**	**3.19**	**223**	*e*Pn	**Pn**	**15 35 40.5**	**+0.1**
IPAR				*e*Sn	**Sn**	**15 36 17.1**	**-1.6**
ISFB	**Sefidab**	**3.50**	**309**	*e*Pn	**Pn**	**15 35 44.9**	**+0.2**
ISFB				*e*Sn	**Sn**	**15 36 25.1**	**-1.5**
IKLH	**Kalahroud**	**3.52**	**289**	*e*Pn	**Pn**	**15 35 45.8**	**+0.8**
IANJ	**Anjiloo**	**3.52**	**338**	*e*Pn	**Pn**	**15 35 44.0**	**-1.0**
IMON		**3.61**	**73**	*e*Pn	**Pn**	**15 35 45.8**	**-0.4**
IDAH		**3.69**	**81**	*e*Pn	**Pn**	**15 35 47.4**	**0.0**
ILAS	**Lasjerd**	**3.83**	**326**	*e*Pn	**Pn**	**15 35 49.7**	**+0.4**
IPIR	**Pirpir**	**3.96**	**278**	*e*Pn	**Pn**	**15 35 52.5**	**+1.4**
ISHM	**Shahmirzad**	**4.05**	**333**	*e*Pn	**Pn**	**15 35 53.0**	**+0.7**
ISHM				*e*Sn	**Sn**	**15 36 38.7**	**-1.3**
IFIR	**Firoozkooh**	**4.14**	**327**	*e*Pn	**Pn**	**15 35 53.6**	**+0.1**
IVRN	**Varamin**	**4.23**	**312**	*e*Pn	**Pn**	**15 35 54.6**	**-0.1**
IKIA	**Kiasar**	**4.28**	**339**	*e*Pn	**Pn**	**15 35 55.5**	**+0.1**
IDMV	**Damavand**	**4.45**	**320**	*e*Pn	**Pn**	**15 35 58.6**	**+0.8**
DAMV	**Damavand**	**4.53**	**320**	*e*Pn	**Pn**	**15 35 59.4**	**+0.6**
IAKL	**Akhlamad**	**5.09**	**30**	*e*Pn	**Pn**	**15 36 06.5**	**-0.1**
IPAY	**Payeh**	**5.11**	**33**	*e*Pn	**Pn**	**15 36 06.6**	**-0.2**
ASAO	**Ashtian**	**5.17**	**298**	*e*Pn	**Pn**	**15 36 08.0**	**+0.3**
ISFR	**Esferayen**	**5.23**	**22**	*e*Pn	**Pn**	**15 36 08.4**	**-0.1**
IRAZ	**Razeghan**	**5.66**	**306**	*e*Pn	**Pn**	**15 36 14.6**	**+0.2**

*ISCJB **08** 15:46:52.8±0.2, 4757N±001×755E±001, h0km, Error ellipse: s-maj=1.7km s-min=1.4km az=127.2*
*STR **08** 15:46:54.6±0.3, 4757N×758E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **08** 15:46:54.3, 4759N×763E, h5km, ML2.8/4*
*CSEM **08** 15:46:55.0±0.0, 4760N×759E, h1km, ML3.3/16, Error ellipse: s-maj=1.0km s-min=0.7km az=160.0*
*LEDBW **08** 15:46:55.1±0.1, 47595N±0003×7604E±0004, h5km, ML2.7, Error ellipse: s-maj=1.2km s-min=1.0km az=115.0*
*LDG **08** 15:46:55.1±0.1, 4759N×758E, h8km, Md3.0/1, Ml3.2/19, Error ellipse: s-maj=1.1km s-min=0.7km az=139.0*
*NEIC **08** 15:46:55.1, 4759N×760E, h5km, ML2.6(STR), ML2.7(LEDBW), ML2.9(SZGRF), ML3.2(LDG), After ZUR.*
NEIC Felt in the Basel, Switzerland area.
*ZUR **08** 15:46:55.1, 4759N×760E, h4km±1km, ML2.7*
*PRU **08** 15:46:56.9, 4761N×772E, h0km*
ISC 08 15:46:53.9±0.2, 4758N±001×758E±001, h0km, n142, σ1931/268, 27C-12D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.02**	**52**	⇑*i*Pg	**Pg**	**15 46 56.1**	**+1.9**
WEIL				*i* Sg	**Sg**	**15 46 57.2**	**+2.8**
WYH	**Wyhlen**	**0.09**	**111**	⇓*i*Pg	**Pg**	**15 46 56.9**	**+1.4**
WYH				*i* Sg	**Sg**	**15 46 58.4**	**+1.7**
BBS	**Basel-Blauen**	**0.13**	**202**	⇑*i*P*	**Pg**	**15 46 58.2**	**+1.9**
BBS	**Basel-Blauen**	**0.13**	**202**	⇑*i*P	**Pg**	**15 46 58.2**	**+1.9**
BBS	**Basel-Blauen**	**0.13**	**202**	⇑*i*Pg	**Pg**	**15 46 58.2**	**+1.9**
BBS	**Basel-Blauen**	**0.13**	**202**	Pg	**Pg**	**15 46 57.1**	**+0.8**
BBS				Sg	**Sg**	**15 46 58.8**	**+0.8**
ENDD	**Endenburg**	**0.17**	**39**	⇑*i*Pg	**Pg**	**15 46 58.2**	**+1.1**
ENDD				*i* Sg	**Sg**	**15 47 00.5**	**+1.2**
BALST	**Balsthal**	**0.26**	**162**	⇓*i*Pg	**Pg**	**15 47 00.4**	**+1.6**
	3μm,0.3s						
BOURR	**Bourrignon**	**0.30**	**232**	⇑*i*Pg	**Pg**	**15 47 01.5**	**+1.8**
	888nm,0.3s						
STAU	**Staufen im Bre**	**0.30**	**20**	⇑*i*Pg	**Pg**	**15 47 00.8**	**+1.0**
STAU				*i* Sg	**Sg**	**15 47 04.8**	**+1.1**
BREM	**Bremgarten**	**0.33**	**6**	⇓*i*Pg	**Pg**	**15 47 01.9**	**+1.6**
BREM	**Bremgarten**	**0.33**	**6**	Px	Px	15 47 01.7	
BREM				Sg	**Sg**	**15 47 06.9**	**+2.4**
SULZ	**Sulz-Cheisache**	**0.37**	**98**	⇑*i*Pg	**Pg**	**15 47 02.3**	**+1.4**
	1μm,0.6s						
SULZ				*i* Sg	**Sg**	**15 47 07.0**	**+1.3**
	1μm,0.6s						
MOF	**Molkenrain**	**0.41**	**312**	⇓*i*P*	**Pg**	**15 47 03.1**	**+1.5**
MOF				PmP		15 47 06.1	
MOF				S*	**Sg**	**15 47 08.8**	**+1.9**
MOF	**Molkenrain**	**0.41**	**312**	Pg	**Pg**	**15 47 02.9**	**+1.3**
FELD	**Feldberg im Sc**	**0.41**	**44**	⇑*i*P*	**Pg**	**15 47 02.7**	**+0.9**
FELD	**Feldberg im Sc**	**0.41**	**44**	⇑*i*Pg	**Pg**	**15 47 02.7**	**+0.9**
KIZ	**Kirchzarten**	**0.44**	**31**	⇑*i*P*	**Pg**	**15 47 03.1**	**+0.9**
KIZ				*i* S*	**Sg**	**15 47 08.8**	**+0.9**
KIZ				SmS		15 47 13.0	
KIZ	**Kirchzarten**	**0.44**	**31**	⇑*i*P	**Pg**	**15 47 03.2**	**+0.9**
KIZ				*i* S	**Sg**	**15 47 08.9**	**+0.9**
KIZ				S	**Sg**	**15 47 13.0**	**+5.0**
KIZ	**Kirchzarten**	**0.44**	**31**	⇑*i*Pg	**Pg**	**15 47 03.1**	**+0.9**
KIZ				*i* Sg	**Sg**	**15 47 08.8**	**+0.9**
KIZ				SmS		15 47 13.0	
FBB	**Freiburg im Br**	**0.46**	**24**	⇑P*	**Pg**	**15 47 03.7**	**+1.0**
FBB	**Freiburg im Br**	**0.46**	**24**	⇑P	**Pg**	**15 47 03.7**	**+1.0**
FBB	**Freiburg im Br**	**0.46**	**24**	⇑Pg	**Pg**	**15 47 03.7**	**+1.0**
HINF	**Hinteralfeld**	**0.54**	**296**	*e*Pn	**Pg**	**15 47 06.9**	**+2.6**
HINF				*e*Sg	**Sg**	**15 47 12.6**	**+1.2**
HINF				*e*Sn	**Sg**	**15 47 16.1**	**+4.7**
	123nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.54**	**296**	*e*Pg	**Pg**	**15 47 05.2**	**+0.9**
HINF				*e*Pn	**Pg**	**15 47 06.9**	**+2.6**
HINF				*e*Sg	**Sg**	**15 47 12.6**	**+1.2**
HINF				*e*Sn	**Sg**	**15 47 16.1**	**+4.7**
HINF	**Hinteralfeld**	**0.54**	**296**	*e*Pn	**Pg**	**15 47 06.9**	**+2.6**
HINF				*e*Sg	**Sg**	**15 47 12.6**	**+1.2**
HINF				*e*Sn	**Sg**	**15 47 16.1**	**+4.7**
	61nm,0.2s,SNR=1.0						
LOMF	**Lomont**	**0.56**	**246**	Pg	**Pg**	**15 47 05.9**	**+1.3**
LOMF				Sg	**Sg**	**15 47 14.0**	**+2.1**
LOMF	**Lomont**	**0.56**	**246**	⇑Pg	**Pg**	**15 47 06.3**	**+1.6**
LOMF				Sg	**Sg**	**15 47 14.6**	**+2.7**
SLE	**Schleitheim**	**0.64**	**73**	⇑*i*Pg	**Pg**	**15 47 06.9**	**+0.7**
	2μm,0.4s						
ECH	**Echery**	**0.69**	**336**	⇑P*	**Pg**	**15 47 08.3**	**+1.1**
ECH				PmP		15 47 09.3	
ECH				*i* S*	**Sg**	**15 47 17.5**	**+1.2**
ECH	**Echery**	**0.69**	**336**	⇑Pg	**Pg**	**15 47 08.3**	**+1.1**
ECH				*i* Sg	**Sg**	**15 47 17.5**	**+1.2**
ECH	**Echery**	**0.69**	**336**	Pg	**Pg**	**15 47 08.7**	**+1.5**
ECH				Sg	**Sg**	**15 47 17.2**	**+1.0**
CDF	**Champ du Feu**	**0.85**	**346**	*e*Pn	**Pn**	**15 47 11.7**	**-1.5**
CDF				*e*Sg	**Sg**	**15 47 21.6**	**+0.2**
CDF				*e*Sn	**Sg**	**15 47 23.7**	**+2.3**
	159nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**0.85**	**346**	*e*Pg	**Pg**	**15 47 11.2**	**+0.9**
CDF				*e*Pn	**Pn**	**15 47 11.7**	**-1.5**
CDF				*e*Sg	**Sg**	**15 47 21.6**	**+0.2**
CDF				*e*Sn	**Sg**	**15 47 23.7**	**+2.3**
CDF	**Champ du Feu**	**0.85**	**346**	*e*Pn	**Pn**	**15 47 11.7**	**-1.5**
CDF				*e*Sg	**Sg**	**15 47 21.6**	**+0.2**
CDF				*e*Sn	**Sg**	**15 47 23.7**	**+2.3**
	79nm,0.3s,SNR=1.0						
BFO	**Black Forest**	**0.90**	**34**	⇑P*	**Pg**	**15 47 11.7**	**+0.5**
BFO				PmP		15 47 12.4	
BFO				S*	**Sg**	**15 47 23.6**	**+0.7**
BFO	**Black Forest**	**0.90**	**34**	⇑Pg	**Pg**	**15 47 11.7**	**+0.5**
BFO				Sg	**Sg**	**15 47 23.6**	**+0.7**
BFO	**Black Forest**	**0.90**	**34**	*e*Pg	**Pg**	**15 47 11.6**	**+0.4**
BFO				*e*Sg	**Sg**	**15 47 24.3**	**+1.4**
HASLI	**Hasliberg**	**0.91**	**155**	*e*Pg	**Pg**	**15 47 12.8**	**+1.4**
	393nm,0.4s						
TORNY	**Torny**	**0.91**	**208**	⇑*i*Pg	**Pg**	**15 47 12.9**	**+1.5**
	1μm,0.3s						
BNALP	**Bannalp**	**0.92**	**141**	⇓*i*Pg	**Pg**	**15 47 12.7**	**+1.3**
	116nm,0.4s						
WILA	**Wila**	**0.92**	**100**	*e*P	**Pg**	**15 47 12.6**	**+1.2**
	1μm,0.2s						
HAU	**Haudompre**	**0.93**	**297**	*e*Pg	**Pg**	**15 47 12.5**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 47 25.1**	**+1.3**
	115nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**0.93**	**297**	*e*Pg	**Pg**	**15 47 12.5**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**15 47 25.1**	**+1.3**
	58nm,0.2s,SNR=1.0						
SISB	**Singen-Schiene**	**0.94**	**83**	⇑*i*P*	**Pb**	**15 47 12.8**	**-0.3**
SISB				PmP		15 47 13.4	
SISB				S*	**Sb**	**15 47 25.8**	**-0.3**
SISB	**Singen-Schiene**	**0.94**	**83**	⇑*i*Pn	**Pb**	**15 47 12.8**	**-0.3**
SISB				Sn	**Sb**	**15 47 25.8**	**-0.3**
WEIN	**Weingarten**	**0.95**	**93**	⇑*i*Pg	**Pg**	**15 47 13.2**	**+1.0**
	607nm,0.2s						
SPAK	**Spaichingen-Ko**	**0.96**	**57**	*e*Pg	**Pg**	**15 47 12.2**	**-0.2**
	SNR=5.0						
SPAK	**Spaichingen-Ko**	**0.96**	**57**	Pg	**Pg**	**15 47 12.1**	**-0.3**
BRANT	**Les Verrieres**	**0.99**	**230**	⇑*i*Pg	**Pg**	**15 47 14.2**	**+1.3**
	467nm,0.2s						
GUT	**Gutenstein**	**1.14**	**64**	⇑*i*P	**Pg**	**15 47 15.4**	**-0.4**
GUT				⇑*i*PmP		15 47 16.6	
GUT				S	**Sg**	**15 47 31.0**	**+0.3**
GUT				SmS		15 47 32.3	
GUT	**Gutenstein**	**1.14**	**64**	⇑*i*P	**Pg**	**15 47 15.4**	**-0.4**
GUT				S	**Sg**	**15 47 31.0**	**+0.3**
GUT				S	**Sg**	**15 47 32.3**	**+1.6**
GUT	**Gutenstein**	**1.14**	**64**	⇑*i*Pn	**Pg**	**15 47 15.4**	**-0.4**
GUT				Sn	**Sg**	**15 47 31.0**	**+0.3**
GUT	**Gutenstein**	**1.14**	**64**	⇑*i*PmP		15 47 16.6	
GUT				SmS		15 47 32.3	
THEF	**They Montfort**	**1.25**	**302**	Pg	**Pg**	**15 47 18.5**	**+0.6**
THEF				Sg	**Sg**	**15 47 35.0**	**+0.9**
THEF	**They Montfort**	**1.25**	**302**	⇑P	**Pg**	**15 47 18.5**	**+0.6**
THEF				S	**Sg**	**15 47 35.4**	**+1.3**
LBG	**Lerchenberg**	**1.35**	**37**	P	**Pg**	**15 47 18.3**	**-1.6**
LBG				PmP		15 47 20.4	
LBG				Sg	**Sg**	**15 47 37.8**	**+0.4**
LBG	**Lerchenberg**	**1.35**	**37**	Px	Px	15 47 20.4	
LBG				S	**Sg**	**15 47 37.8**	**+0.4**
TUBL	**Tuebingen-Lenn**	**1.38**	**46**	Pg	**Pg**	**15 47 22.6**	**+2.3**
TUBL				Sg	**Sg**	**15 47 40.2**	**+2.0**
OG01	**Vacheresse**	**1.40**	**206**	Pg	**Pg**	**15 47 21.8**	**+1.2**
CABF	**La Chapelle**	**1.41**	**227**	*e*Pg	**Pg**	**15 47 21.9**	**+1.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 47 39.0**	**-0.1**
	50nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.41**	**227**	*e*Pn	**Pn**	**15 47 20.0**	**-0.8**
CABF				*e*Pg	**Pg**	**15 47 21.9**	**+1.0**
CABF				*e*Sg	**Sg**	**15 47 39.0**	**-0.1**
CABF	**La Chapelle**	**1.41**	**227**	*e*Pg	**Pg**	**15 47 21.9**	**+1.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 47 39.0**	**-0.1**
	25nm,0.2s,SNR=1.0						
BUCH	**Bad Urach**	**1.47**	**53**	P	**Pn**	**15 47 19.8**	**-1.8**
BUCH				Pg	**Pg**	**15 47 22.8**	**+0.7**
BUCH				Sg	**Sg**	**15 47 41.9**	**+0.7**
BUCH	**Bad Urach**	**1.47**	**53**	P	**Pn**	**15 47 19.8**	**-1.9**
BUCH				Pg	**Pg**	**15 47 22.8**	**+0.7**
BUCH				Sg	**Sg**	**15 47 41.9**	**+0.7**
BUCH	**Bad Urach**	**1.47**	**53**	P	**Pg**	**15 47 22.8**	**+0.7**
BUCH				S	**Sg**	**15 47 41.9**	**+0.7**
DAVA	**Damuels**	**1.59**	**100**	⇑*i*Sg	**Sg**	**15 47 45.7**	**+0.7**
	comp=Z,53nm,0.2s						
DAVA	**Damuels**	**1.59**	**100**	⇑*i*Pn	**Pn**	**15 47 23.4**	**+0.1**
DAVA				⇑*i*Sn	**Sg**	**15 47 45.7**	**+0.7**
	53nm,0.2s						
DAVA	**Damuels**	**1.59**	**100**	⇑*i*Pg	**Pg**	**15 47 23.4**	**-1.0**
DAVA				*i* Sg	**Sg**	**15 47 45.7**	**+0.7**
UBR	**Ueberruh**	**1.71**	**86**	S	**Sn**	**15 47 44.8**	**-2.7**
UBR				Sg	**Sg**	**15 47 50.1**	**+1.2**
RFYF	**Reffroy**	**1.76**	**307**	*e*Sg	**Sg**	**15 47 50.1**	**-0.3**
	32nm,0.2s						
RFYF	**Reffroy**	**1.76**	**307**	*e*Sg	**Sg**	**15 47 50.1**	**-0.3**
	16nm,0.2s						
SFTF	**Sexfontaines**	**1.82**	**291**	*e*Pg	**Pg**	**15 47 29.1**	**+0.3**
SFTF				*e*Sn	**Sn**	**15 47 47.1**	**-3.1**
SFTF				*e*Sg	**Sg**	**15 47 52.8**	**+0.4**
	24nm,0.3s						
SFTF	**Sexfontaines**	**1.82**	**291**	*e*Pn	**Pn**	**15 47 25.5**	**-0.9**
SFTF				*e*Pg	**Pg**	**15 47 29.1**	**+0.3**
SFTF				*e*Sn	**Sn**	**15 47 47.1**	**-3.1**
SFTF				*e*Sg	**Sg**	**15 47 52.8**	**+0.4**
SFTF	**Sexfontaines**	**1.82**	**291**	*e*Pg	**Pg**	**15 47 29.1**	**+0.3**
SFTF				*e*Sn	**Sn**	**15 47 47.1**	**-3.1**
SFTF				*e*Sg	**Sg**	**15 47 52.8**	**+0.4**
	12nm,0.3s						
MEZF	**Maizieres J'vi**	**1.93**	**299**	*e*Pn	**Pn**	**15 47 27.3**	**-0.6**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**15 47 49.4**	**-3.5**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**15 47 56.1**	**+0.2**
	22nm,0.4s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.93**	**299**	*e*Pn	**Pn**	**15 47 27.3**	**-0.6**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**15 47 49.4**	**-3.5**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**15 47 56.1**	**+0.2**
	11nm,0.4s,SNR=1.0						
ORO	**Oropa**	**1.98**	**172**	Pg	**Pg**	**15 47 32.5**	**+0.8**
RSL	**Roselend**	**2.00**	**199**	Pg	**Pg**	**15 47 33.1**	**+0.8**
HDH	**Heidenheim-Cha**	**2.03**	**59**	Pg	**Pg**	**15 47 32.8**	**0.0**
HDH				Sg	**Sg**	**15 47 58.5**	**-0.5**
SWS	**Schriesheim-Wi**	**2.04**	**21**	Sg	**Sg**	**15 48 00.3**	**+0.7**
OG05	**Jujurieux**	**2.12**	**224**	Pg	**Pg**	**15 47 35.3**	**+0.7**
OG05				Sg	**Sg**	**15 48 02.0**	**-0.1**
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**15 47 35.5**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**15 48 02.6**	**-0.3**
	13nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**15 47 35.5**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**15 48 02.6**	**-0.3**
	6.5nm,0.3s,SNR=1.0						
RUP	**Ruppelstein**	**2.15**	**351**	*e*Pg	**Pg**	**15 47 34.8**	**-0.3**
	SNR=2.6						
LPG	**La Plagne**	**2.16**	**196**	*e*Pg	**Pg**	**15 47 35.8**	**+0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**15 48 03.0**	**-0.4**
	23nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.16**	**196**	*e*Pg	**Pg**	**15 47 35.8**	**+0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**15 48 03.0**	**-0.4**
	12nm,0.4s,SNR=1.0						
TOD	**Tromm**	**2.18**	**21**	*e*Pg	**Pg**	**15 47 34.5**	**-1.2**
	SNR=2.9						
SIND	**Sindeldorf**	**2.22**	**37**	Pg	**Pg**	**15 47 36.3**	**-0.2**
SIND				Sg	**Sg**	**15 48 06.1**	**+0.8**
WLF	**Walferdange**	**2.29**	**336**	*e*Sg	**Sg**	**15 48 06.9**	**-0.5**
	SNR=2.3						
ABH	**Alteburg**	**2.30**	**359**	*e*Pg	**Pg**	**15 47 37.2**	**-0.9**
	SNR=1.6						
MOTA	**Moosalm**	**2.40**	**94**	⇓*i*Pn	**Pn**	**15 47 35.6**	**+1.1**
MOTA				⇓*i*Pg	**Pg**	**15 47 39.7**	**-0.2**
MOTA				⇓*i*Sg	**Sg**	**15 48 12.3**	**+1.2**
	9.8nm,0.2s						
MOTA	**Moosalm**	**2.40**	**94**	⇑*i*Pn	**Pn**	**15 47 33.1**	**-1.3**
MOTA				⇓*i*Pg	**Pg**	**15 47 39.7**	**-0.2**
MOTA				*i* Sg	**Sg**	**15 48 12.3**	**+1.2**
SQTA	**Sankt Quirin**	**2.49**	**97**	⇓*i*Pg	**Pg**	**15 47 41.6**	**0.0**
SQTA	**Sankt Quirin**	**2.49**	**97**	⇑*i*Pn	**Pn**	**15 47 36.0**	**+0.4**
SQTA				⇑*i*Pg	**Pg**	**15 47 42.2**	**+0.5**
SQTA				⇓*i*Sg	**Sg**	**15 48 14.6**	**+0.7**
	15nm,0.2s						
SQTA	**Sankt Quirin**	**2.49**	**97**	⇑*i*Pn	**Pn**	**15 47 34.3**	**-1.4**
SQTA				⇓*i*Pg	**Pg**	**15 47 41.6**	**0.0**
SQTA				*i* Sg	**Sg**	**15 48 14.6**	**+0.7**
SQTA	**Sankt Quirin**	**2.49**	**97**	Pg	**Pg**	**15 47 41.6**	**0.0**
SQTA				Sg	**Sg**	**15 48 14.6**	**+0.7**
	15nm,0.2s						
LOR	**Lormes**	**2.55**	**264**	*e*Pg	**Pg**	**15 47 42.5**	**-0.2**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 48 14.2**	**-1.5**
	41nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.55**	**264**	*e*Pn	**Pn**	**15 47 34.6**	**-1.8**
LOR				*e*Pg	**Pg**	**15 47 42.5**	**-0.2**
LOR				*e*Sg	**Sg**	**15 48 14.2**	**-1.5**
LOR	**Lormes**	**2.55**	**264**	*e*Pg	**Pg**	**15 47 42.5**	**-0.2**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 48 14.2**	**-1.5**
	20nm,0.2s,SNR=1.0						
FUR	**Furstenfeldbru**	**2.56**	**75**	*e*Sg	**Sg**	**15 48 15.6**	**-0.4**
	SNR=3.1						
TNS	**Taunus Mts**	**2.70**	**12**	*e*Pg	**Pg**	**15 47 45.3**	**-0.5**
TNS				*e*Sg	**Sg**	**15 48 19.6**	**-1.2**
	SNR=4.0						
TNS	**Taunus Mts**	**2.70**	**12**	*e*Pg	**Pg**	**15 47 45.3**	**-0.4**
TNS				*e*Sg	**Sg**	**15 48 20.7**	**-0.1**
SMF	**Signal de Mont**	**2.72**	**251**	*e*Pg	**Pg**	**15 47 45.3**	**-0.7**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**15 48 07.1**	**-5.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 48 18.7**	**-2.6**
	27nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.72**	**251**	*e*Pn	**Pn**	**15 47 37.0**	**-1.8**
SMF				*e*Pg	**Pg**	**15 47 45.3**	**-0.7**
SMF				*e*Sn	**Sn**	**15 48 07.1**	**-5.3**
SMF				*e*Sg	**Sg**	**15 48 18.7**	**-2.6**
SMF	**Signal de Mont**	**2.72**	**251**	*e*Pg	**Pg**	**15 47 45.3**	**-0.7**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**15 48 07.1**	**-5.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 48 18.7**	**-2.6**
	14nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.82**	**261**	*e*Pg	**Pg**	**15 47 47.6**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**15 48 11.6**	**-3.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 48 23.1**	**-1.4**
	37nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.82**	**261**	*e*Pg	**Pg**	**15 47 47.6**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**15 48 11.6**	**-3.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 48 23.1**	**-1.4**
	18nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.91**	**191**	*e*Pg	**Pg**	**15 47 49.5**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**15 48 26.4**	**-1.0**
	9.4nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.91**	**191**	*e*Pg	**Pg**	**15 47 49.5**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**15 48 26.4**	**-1.0**
	4.7nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.91**	**204**	*e*Pg	**Pg**	**15 47 49.5**	**-0.2**
ORIF				*e

SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	16 09 40.8	+0.2
	126nm,0.3s						
SULZ				*e*Sg	Sg	16 09 45.7	+0.4
	126nm,0.3s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	16 09 41.8	0.0
MOF				Sg	Sg	16 09 47.5	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	16 09 43.8	-0.7
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	16 09 45.8	+1.3
HINF				*e*Sg	Sg	16 09 51.2	-0.5
HINF				*e*Sn	Sg	16 09 54.9	+3.2
	16nm,0.3s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	16 09 44.6	-0.2
LOMF				Sg	Sg	16 09 52.9	+0.6
SLE	**Schleitheim**	**0.63**	**73**	⇑*i*Pg	Pg	16 09 48.6	+2.7
	223nm,0.2s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	16 09 47.5	+0.2
ECH				Sg	Sg	16 09 56.2	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	16 09 49.9	-0.4
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	16 09 50.5	-2.0
CDF				*e*Sg	Sg	16 10 00.5	-0.9
CDF				*e*Sn	Sn	16 10 02.5	-2.9
	10nm,0.2s						
WILA	**Wila**	**0.90**	**100**	*i* P	Pg	16 09 51.8	+0.7
	129nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	16 09 51.5	-0.4
HAU				*e*Sg	Sg	16 10 04.0	-0.2
	24nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	16 10 00.6	-0.4
CABF				*e*Sg	Sg	16 10 17.9	-1.5
	6.6nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sn	Sn	16 10 25.8	-3.7
SFTF				*e*Sg	Sg	16 10 31.4	-1.3
	5.2nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sg	Sg	16 10 34.8	-1.4
	1.5nm,0.2s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	Pg	16 10 14.3	-0.7
LPL				*e*Sg	Sg	16 10 41.8	-1.1
	1.2nm,0.3s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	16 10 41.9	-1.5
	1.8nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	16 10 21.0	-1.9
LOR				*e*Sg	Sg	16 10 53.5	-2.5
	3.7nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	16 10 24.1	-2.1
SMF				*e*Sg	Sg	16 10 58.5	-3.1
	2.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.92**	**205**	*e*Sg	Sg	16 11 05.3	-2.3
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Pg	Pg	16 10 29.5	-1.8
AVF				*e*Sg	Sg	16 11 06.8	-3.5
	0.6nm,0.2s						

STR ***08*** *16:29:26.0±0.8, 4756N×756E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***08*** *16:29:26.5±0.2, 4759N×758E, h10km±1km, Md2.2/1, Ml2.2/4, Error ellipse: s-maj=3.8km s-min=2.2km az=109.0*

ZUR 08 16:29:26.4, 4758N×760E, h5km±1km, ML1.2, 2C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	*e*Sg	Pg	16 29 31.7	+0.3
	67nm,0.3s						
BALST	**Balsthal**	**0.26**	**165**	⇑*i*Pg	Sg	16 29 35.4	+0.7
	67nm,0.3s						
BOURR	**Bourrignon**	**0.31**	**233**	⇑*i*Pg	Pg	16 29 32.8	+0.3
	58nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*e*Pg	Pg	16 29 33.4	+0.2
	37nm,0.5s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	16 29 34.4	0.0
MOF				Sg	Sg	16 29 40.2	+0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	16 29 37.0	-0.1
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	16 29 38.6	+1.5
HINF				*e*Sg	Sg	16 29 43.9	-0.4
HINF				*e*Sn	Sg	16 29 47.4	+3.1
	8.1nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	16 29 38.4	-0.1
	40nm,0.5s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	16 29 40.3	+0.4
ECH				Sg	Sg	16 29 48.6	-0.3
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	16 29 42.7	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	16 29 43.2	-1.9
CDF				*e*Sg	Sg	16 29 53.2	-0.8
CDF				*e*Sn	Sn	16 29 55.1	-2.9
	6.8nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	16 29 44.1	-0.4
HAU				*e*Sg	Sg	16 29 57.0	+0.2
	4.5nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	16 29 53.1	-0.5
CABF				*e*Sg	Sg	16 30 10.8	-1.2
	3.8nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	16 30 24.2	-1.1
	4.7nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	16 30 45.9	-2.7
	1.6nm,0.2s						

ISCJB ***08*** *16:48:35.9±0.1, 47554N±0008×753E±001, h0km, Error ellipse: s-maj=1.2km s-min=1.0km az=124.6*
PRU ***08*** *16:48:38.2, 4760N×762E, h0km*
CSEM ***08*** *16:48:38.6±0.0, 4757N×759E, h1km, ML3.9/36, Error ellipse: s-maj=0.9km s-min=0.6km az=162.0*
NEIC ***08*** *16:48:39.1, 4758N×760E, h5km, ML3.4(ZUR), ML3.5(STR), ML3.6(LEDBW), ML3.7(SZGRF), ML3.9(LDG), After ZUR.*
NEIC Slight damage in the Basel area. Felt at Lorrach, Germany and Saint-Louis, France. This is the largest in a series of events possibly associated with a deep well geothermal experiment.
LDG ***08*** *16:48:39.0±0.1, 4758N×760E, h7km, Md3.4/3, Ml3.9/38, Error ellipse: s-maj=1.2km s-min=0.9km az=145.0*
ZUR ***08*** *16:48:39.1, 4758N×760E, h5km±1km, ML3.4*
STR ***08*** *16:48:39.0±0.1, 4759N×759E, h5km±1km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LEDBW ***08*** *16:48:39.2±0.1, 47589N±0003×7600E±0003, h5km, ML3.5, Error ellipse: s-maj=1.0km s-min=0.8km az=86.0*
LEDBW Felt V EMS.
BGR ***08*** *16:48:39.2±0.2, 4763N×762E, h5km, ML3.5/7, Error ellipse: s-maj=2.2km s-min=2.2km az=52.0, Largest shock of a series of more than 100 small tremors. It correlates to the water injection into rocks within the Deep Heat Mining Project in Basel, Switzerland.*
BNS ***08*** *16:48:40.7±1.2, 4764N×760E, h5km, ML3.0*

ISC 08 16:48:37.5±0.1, 47582N±0008×7530E±0010, h0km, n372, σ19 34/683, 72C-38D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.05**	**77**	⇑*i*Pg	Pg	16 48 40.3	+1.9
WEIL				*i* Sg	Sg	16 48 41.5	+2.4
BBS	**Basel-Blauen**	**0.12**	**187**	⇑*i*P*	Pg	16 48 42.2	+2.5
BBS	**Basel-Blauen**	**0.12**	**187**	⇑*i*Pg	Pg	16 48 42.2	+2.5
BBS	**Basel-Blauen**	**0.12**	**187**	⇑*i*Pg	Pg	16 48 42.2	+2.5
BBS	**Basel-Blauen**	**0.12**	**187**	Pg	Pg	16 48 42.0	+2.3
BBS				Sg	Sg	16 48 45.3	+4.0
WYH	**Wyhlen**	**0.12**	**105**	⇓*i*Pg	Pg	16 48 41.0	+1.2
WYH				*i* Sg	Sg	16 48 42.4	+1.1
ENDD	**Endenburg**	**0.19**	**46**	*i* Sg	Sg	16 48 44.7	+1.0
ENDD	**Endenburg**	**0.19**	**46**	⇑*i*Pg	Pg	16 48 42.3	+1.2
BALST	**Balsthal**	**0.27**	**156**	*e*Pg	Pg	16 48 44.5	+1.8
	SNR=1213						
BALST				*e*Sg	Sg	16 48 47.8	+1.6
	SNR=6.7						
BALST	**Balsthal**	**0.27**	**156**	*i* Sg	Sg	16 48 48.3	+2.2
BALST	**Balsthal**	**0.27**	**156**	⇓*i*Pg	Pg	16 48 44.5	+1.8
BALST	**Balsthal**	**0.27**	**156**	⇓*i*Pg	Pg	16 48 44.4	+1.8
BALST				*e*Sg	Sg	16 48 48.2	+2.0
BOURR	**Bourrignon**	**0.28**	**227**	*e*Pg	Pg	16 48 45.5	+2.7
	SNR=609						
BOURR	**Bourrignon**	**0.28**	**227**	⇑*i*Pg	Pg	16 48 45.5	+2.7
	5μm,0.4s						
BOURR	**Bourrignon**	**0.28**	**227**	Sg	Sg	16 48 50.1	+3.7
BOURR	**Bourrignon**	**0.28**	**227**	⇑*i*Pg	Pg	16 48 45.5	+2.7
STAU	**Staufen im Bre**	**0.32**	**25**	⇑*i*Pg	Pg	16 48 44.9	+1.3
STAU				*i* Sg	Sg	16 48 49.0	+1.3
STAU	**Staufen im Bre**	**0.32**	**25**	Px	Px	16 48 49.8	
BREM	**Bremgarten**	**0.34**	**11**	⇓*i*Pg	Pg	16 48 45.9	+2.0
BREM				Sg	Sg	16 48 51.1	+2.9
MOF	**Molkenrain**	**0.38**	**315**	⇓*i*P*	Pg	16 48 47.2	+2.5
MOF				PmP		16 48 50.0	
MOF				S*	Sg	16 48 52.9	+3.2
MOF				SmS		16 48 56.4	
MOF	**Molkenrain**	**0.38**	**315**	⇓*i*Pg	Pg	16 48 47.2	+2.5
MOF				Sg	Sg	16 48 52.9	+3.2
MOF	**Molkenrain**	**0.38**	**315**	PmP		16 48 50.0	
MOF				Sx	Sx	16 48 56.4	
MOF	**Molkenrain**	**0.38**	**315**	Pg	Pg	16 48 47.1	+2.3
MOF				Sg	Sg	16 48 52.7	+3.0
SULZ	**Sulz-Cheisache**	**0.40**	**98**	⇑*i*P*	Pg	16 48 46.1	+1.0
SULZ				*i* S*	Sg	16 48 50.9	+0.6
SULZ	**Sulz-Cheisache**	**0.40**	**98**	*e*Sg	Pg	16 48 46.8	+1.7
	8μm,0.2s						
SULZ	**Sulz-Cheisache**	**0.40**	**98**	⇑*i*Pg	Sg	16 48 51.0	+0.7
	8μm,0.2s						
SULZ	**Sulz-Cheisache**	**0.40**	**98**	*i* Sg	Sg	16 48 50.9	+0.6
SULZ	**Sulz-Cheisache**	**0.40**	**98**	⇑*i*Pg	Pg	16 48 46.1	+1.0
SULZ	**Sulz-Cheisache**	**0.40**	**98**	⇑*i*Pg	Sg	16 48 51.0	+0.7
	8μm,0.2s						
FELD	**Feldberg im Sc**	**0.43**	**47**	⇑*i*P*	Pg	16 48 46.8	+1.0
FELD				*i* S*	Sg	16 48 52.2	+0.8
FELD	**Feldberg im Sc**	**0.43**	**47**	⇑*i*P	Pg	16 48 46.8	+1.0
FELD				*i* S	Sg	16 48 52.2	+0.8
FELD	**Feldberg im Sc**	**0.43**	**47**	⇑*i*Pg	Pg	16 48 46.8	+1.0
FELD				*i* Sg	Sg	16 48 52.2	+0.8
FELD	**Feldberg im Sc**	**0.43**	**47**	Pg	Pg	16 48 46.7	+0.9
FELD				Sg	Sg	16 48 52.1	+0.7
KIZ	**Kirchzarten**	**0.46**	**35**	⇑*i*P*	Pg	16 48 47.3	+1.0
KIZ				*i* S*	Sg	16 48 53.0	+0.8
KIZ				SmS		16 48 57.4	
KIZ	**Kirchzarten**	**0.46**	**35**	⇑*i*P	Pg	16 48 47.3	+1.1
KIZ				*i* S	Sg	16 48 53.0	+0.9
KIZ				S	Sg	16 48 57.4	+5.3
KIZ	**Kirchzarten**	**0.46**	**35**	⇑*i*Pg	Pg	16 48 47.3	+1.0
KIZ				*i* Sg	Sg	16 48 53.0	+0.8
KIZ				SmS		16 48 57.4	
FBB	**Freiburg im Br**	**0.47**	**27**	⇑*i*P*	Pg	16 48 47.8	+1.3
FBB				S*	Sg	16 48 54.0	+1.3
FBB	**Freiburg im Br**	**0.47**	**27**	⇑*i*P	Pg	16 48 47.8	+1.3
FBB				S	Sg	16 48 54.0	+1.3
FBB	**Freiburg im Br**	**0.47**	**27**	⇑*i*Pg	Pg	16 48 47.8	+1.3
FBB				Sg	Sg	16 48 54.0	+1.3
HINF	**Hinteralfeld**	**0.51**	**297**	*e*Pn	Pg	16 48 50.9	+3.6
HINF				*e*Sg	Sg	16 48 56.4	+2.4
	1μm,0.2s						
HINF				*e*Sn	Sg	16 49 00.1	+6.1
HINF	**Hinteralfeld**	**0.51**	**297**	*e*Pg	Pg	16 48 49.3	+2.0
HINF				*e*Pn	Pg	16 48 50.9	+3.6
HINF				*e*Sg	Sg	16 48 56.4	+2.4
HINF				*e*Sn	Sg	16 49 00.1	+6.1
HINF	**Hinteralfeld**	**0.51**	**297**	*e*Pn	Pg	16 48 50.9	+3.6
HINF				*e*Sg	Sg	16 48 56.4	+2.4
	706nm,0.2s						
HINF				*e*Sn	Sg	16 49 00.1	+6.1
LOMF	**Lomont**	**0.53**	**244**	Pg	Pg	16 48 50.1	+2.5
LOMF				Sg	Sg	16 48 58.5	+4.0
LOMF	**Lomont**	**0.53**	**244**	⇑*e*Pg	Pg	16 48 50.3	+2.6
SLE	**Schleitheim**	**0.68**	**74**	⇑*i*P*	Pg	16 48 51.0	+0.5
SLE				*i* PmP		16 48 52.7	
SLE				S*	Sg	16 48 59.7	+0.5
SLE				SmS		16 49 02.4	
SLE	**Schleitheim**	**0.68**	**74**	⇑*i*Pg	Pg	16 48 47.3	-3.1
	10μm,0.2s						
SLE	**Schleitheim**	**0.68**	**74**	*i* PmP		16 48 52.7	
SLE				Sg	Sg	16 48 59.7	+0.5
SLE				SmS		16 49 02.4	
SLE	**Schleitheim**	**0.68**	**74**	⇑*i*Pg	Pg	16 48 51.0	+0.6
SLE	**Schleitheim**	**0.68**	**74**	*i* PmP		16 48 52.7	
ECH	**Echery**	**0.68**	**339**	⇓*i*P*	Pg	16 48 52.4	+1.8
ECH				PmP		16 48 53.3	
ECH	**Echery**	**0.68**	**339**	Pg	Pg	16 48 52.3	+1.8
ZUR	**Zurich**	**0.74**	**106**	*e*Pg	Pg	16 48 52.7	+0.9
	SNR=32						
ZUR				*e*Sg	Sg	16 49 02.0	+0.6
	SNR=4.0						
ZUR	**Zurich**	**0.74**	**106**	⇑*i*Pg	Pg	16 48 47.6	-4.1
	3μm,0.3s						
ZUR	**Zurich**	**0.74**	**106**	⇑*i*Pg	Pg	16 48 52.7	+0.9
TRULL	**Truellikon**	**0.78**	**85**	⇑*i*P	Pg	16 48 47.8	-4.6
	4μm,0.2s						
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	Pn	16 48 55.7	-0.9
CDF				*e*Sg	Sg	16 49 05.7	+1.0
CDF				*e*Sn	Sg	16 49 07.7	+3.0
	790nm,0.3s						
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pg	Pg	16 48 55.2	+1.5
CDF				*e*Pn	Pn	16 48 55.7	-0.9
CDF				*e*Sg	Sg	16 49 05.7	+1.0
CDF				*e*Sn	Sg	16 49 07.7	+3.0
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	Pn	16 48 55.7	-0.9
CDF				*e*Sg	Sg	16 49 05.7	+1.0
CDF				*e*Sn	Sg	16 49 07.7	+3.0
	395nm,0.3s						
TORNY	**Torny**	**0.90**	**206**	⇑*i*P	Pg	16 48 52.6	-2.1
	6μm,0.5s						
TORNY	**Torny**	**0.90**	**206**	⇑*i*Pg	Pg	16 48 56.8	+2.2
TORNY	**Torny**	**0.90**	**206**	⇓Px	Px	16 48 57.9	
HAU	**Haudompre**	**0.90**	**298**	*e*Pg	Pg	16 48 56.6	+1.8
HAU				*e*Sg	Sg	16 49 09.2	+2.7
	2μm,0.3s						
HAU	**Haudompre**	**0.90**	**298**	*e*Pg	Pg	16 48 56.6	+1.8
HAU				*e*Sg	Sg	16 49 09.2	+2.7
	1μm,0.3s						
STEIN	**Stein am Rhein**	**0.91**	**84**	⇑*i*P	Pg	16 48 50.3	-4.6
	2μm,0.3s						
OFBG	**Offenburg**	**0.91**	**19**	P	Pg	16 48 56.5	+1.6
OFBG				S	Sg	16 49 08.0	+1.1
WIMIS	**Wimmis**	**0.92**	**176**	⇓*i*P	Pg	16 48 52.4	-2.7
	1μm,0.3s						
WIMIS	**Wimmis**	**0.92**	**176**	⇓Pg	Pg	16 48 56.7	+1.6
BFO	**Black Forest**	**0.92**	**35**	⇑*e*P*	Pb	16 48 55.8	-0.5
BFO				*e*PmP		16 48 56.4	
BFO				S*	Sg	16 49 07.1	0.0
BFO				SmS		16 49 09.0	
BFO	**Black Forest**	**0.92**	**35**	*e*Pg	Pg	16 48 55.8	+0.7
BFO				*e*Sg	Sg	16 49 07.1	0.0
BFO	**Black Forest**	**0.92**	**35**	⇑*e*Pg	Pb	16 48 55.8	-0.5
BFO				Sg	Sg	16 49 07.1	0.0
BFO	**Black Forest**	**0.92**	**35**	*e*PmP		16 48 56.4	
BFO				SmS		16 49 09.0	
HASLI	**Hasliberg**	**0.93**	**153**	⇓*i*Pg	Pg	16 48 51.8	-3.5
	3μm,0.2s						
HASLI	**Hasliberg**	**0.93**	**153**	⇓*i*Pg	Pg	16 48 56.7	+1.4
BNALP	**Bannalp**	**0.94**	**139**	⇓*i*P	Pg	16 48 52.7	-2.7
	1μm,0.4s						
BNALP	**Bannalp**	**0.94**	**139**	⇓Pg	Pg	16 48 56.8	+1.4
WILA	**Wila**	**0.95**	**100**	*e*Pg	Pg	16 48 56.6	+1.0
	SNR=164						
WILA				*e*Sg	Sg	16 49 08.3	+0.3
	SNR=8.1						
WILA	**Wila**	**0.95**	**100**	⇑*i*P	Pg	16 48 51.0	-4.6
	8μm,0.3s						
WILA	**Wila**	**0.95**	**100**	⇑*i*Pg	Pg	16 48 56.6	+1.0
BRANT	**Les Verrieres**	**0.97**	**229**	⇑*i*P	Pg	16 48 56.6	+0.6
	2μm,0.3s						
BRANT	**Les Verrieres**	**0.97**	**229**	⇑*i*Pn	Pn	16 48 58.2	0.0
MUO	**Muotathal**	**0.97**	**129**	⇓*i*P	Pg	16 48 53.2	-2.9
	2μm,0.3s						
MUO	**Muotathal**	**0.97**	**129**	⇓Pg	Pg	16 48 57.3	+1.2
SISB	**Singen-Schiene**	**0.98**	**83**	⇑*i*P*	Pb	16 48 56.8	-0.4
SISB				⇓*e*PmP		16 48 57.3	
SISB				S*	Sb	16 49 09.3	-1.4
SISB	**Singen-Schiene**	**0.98**	**83**	⇑*i*Pn	Pb	16 48 56.8	-0.4
SISB				Sn	Sb	16 49 09.3	-1.4
WEIN	**Weingarten**	**0.99**	**93**	⇑*i*P	Pg	16 48 55.7	-0.7
	3μm,0.3s						
SPAK	**Spaichingen-Ko**	**0.99**	**58**	⇑*e*P	Pg	16 48 57.1	+0.6
SPAK				S	Sg	16 49 09.8	+0.5
SPAK	**Spaichingen-Ko**	**0.99**	**58**	⇑*e*P	Pg	16 48 57.1	+0.6
SPAK				S	Sg	16 49 09.8	+0.4
SPAK	**Spaichingen-Ko**	**0.99**	**58**	⇑*e*Pg	Pg	16 48 57.1	+0.6
SPAK				Sg	Sg	16 49 09.8	+0.5
STR	**Strasbourg**	**1.01**	**9**	Pg	Pg	16 48 59.0	+2.1
STR				Sg	Sg	16 49 12.2	+2.1
STR	**Strasbourg**	**1.01**	**9**	*e*Pg	Pg	16 48 58.2	+1.3
	SNR=4.5						
MSS	**Messtetten**	**1.13**	**58**	⇑Pn	Pn	16 48 58.9	-1.6
MSS	**Messtetten**	**1.13**	**58**	Px	Px	16 48 59.8	
MSS				Sx	Sx	16 49 14.6	
GUT	**Gutenstein**	**1.18**	**65**	⇑*i*P	Pg	16 48 59.5	-0.5
GUT				⇑*e*Pg	Pg	16 49 00.6	+0.6
GUT				Sg	Sg	16 49 15.6	+0.4
GUT	**Gutenstein**	**1.18**	**65**	⇑*i*P	Pg	16 48 59.5	-0.5
GUT				*e*Pg	Pg	16 49 00.6	+0.6
GUT	**Gutenstein**	**1.18**	**65**	⇑*i*Pn	Pg	16 48 59.5	-0.5
GUT	**Gutenstein**	**1.18**	**65**	⇑*e*P	Pg	16 49 00.6	+0.6
GUT				Sx	Sx	16 49 15.6	
LKBD	**Leukerbad**	**1.20**	**177**	⇑*i*P	Pg	16 48 56.7	-3.7
	518nm,0.3s						
THEF	**They Montfort**	**1.22**	**302**	⇑*e*Pn	Pn	16 49 01.7	-0.1
THEF				⇑*i*Pg	Pg	16 49 02.6	+1.7
THEF				Sg	Sg	16 49 19.3	+2.5
THEF	**They Montfort**	**1.22**	**302**	⇑*e*Pn	Pn	16 49 01.7	-0.1
THEF	**They Montfort**	**1.22**	**302**	⇑*i*P	Pg	16 49 02.6	+1.7
THEF				S	Sg	16 49 19.3	+2.5
THEF	**They Montfort**	**1.22**	**302**	Pg	Pg	16 49 02.4	+1.5
THEF				Sg	Sg	16 49 19.2	+2.4
SENIN	**Lac Senin**	**1.23**	**187**	*e*P	Pg	16 48 56.8	-4.2
	1μm,0.5s						
SENIN	**Lac Senin**	**1.23**	**187**	⇑Pn	Pn	16 49 02.0	+0.1
LLS	**Linth-Limmern**	**1.25**	**126**	*e*P	Pg	16 48 56.7	-4.7
	874nm,0.3s						
LLS	**Linth-Limmern**	**1.25**	**126**	⇑Px	Px	16 49 02.1	
JUND	**Jungingen**	**1.26**	**53**	Px	Px	16 49 00.6	
JUND	**Jungingen**	**1.26**	**53**	PmP		16 49 02.7	
JUND	**Jungingen**	**1.26**	**53**	P	Pg	16 49 02.0	+0.3
JUND				S	Sg	16 49 18.4	+0.4
AIGLE	**Aigle**	**1.30**	**198**	*e*P	Pg	16 48 57.2	-5.2
	2μm,0.5s						
GIMEL	**Gimel**	**1.36**	**220**	⇑*i*Pn	Pn	16 48 59.5	-4.2
	2μm,0.2s						
GIMEL	**Gimel**	**1.36**	**220**	⇑P	Pg	16 49 05.5	+2.0
GRYON	**Gryon**	**1.36**	**192**	*e*P	Pg	16 48 58.2	-5.4
	268nm,0.3s						
LIENZ	**Alp Oberkamor**	**1.36**	**101**	*e*Pn	Pn	16 49 03.6	-0.1
	SNR=12						
LIENZ				*e*Pg	Pg	16 49 04.8	+1.2
	SNR=77						
LIENZ	**Alp Oberkamor**	**1.36**	**101**	⇑*i*Pn	Pn	16 48 56.9	-6.8
	2μm,0.4s						
LIENZ	**Alp Oberkamor**	**1.36**	**101**	⇑*i*Pn	Pn	16 49 03.6	-0.1
LIENZ	**Alp Oberkamor**	**1.36**	**101**	⇑*i*PmP		16 49 04.7	
LIENZ				*i* Sn	Sn	16 49 22.8	+0.3
PLONS	**Plons**	**1.37**	**112**	⇑*i*P	Pg	16 48 57.1	-6.6
	2μm,0.4s						
PLONS	**Plons**	**1.37**	**112**	⇑Pn	Pn	16 49 03.7	-0.1
PLONS	**Plons**	**1.37**	**112**	⇓Px	Px	16 49 04.7	
FUSIO	**Fusio**	**1.37**	**145**	⇓*i*P	Pg	16 48 57.3	-6.4
	491nm,0.3s						
FUSIO	**Fusio**	**1.37**	**145**	⇓Pn	Pn	16 49 04.4	+0.6
LBG	**Lerchenberg**	**1.38**	**38**	⇑*i*Pn	Pn	16 49 01.9	-2.0
LBG				⇓*i*Pg	Pg	16 49 04.6	+0.8
LBG				Sg	Sg	16 49 21.9	+0.2
LBG	**Lerchenberg**	**1.38**	**38**	⇑*i*Pn	Pn	16 49 01.9	-2.0
LBG				⇓*i*Pg	Pg	16 49 04.6	+0.8
LBG				Sg	Sg	16 49 21.9	+0.3
LBG	**Lerchenberg**	**1.38**	**38**	⇑*i*Pn	Pn	16 49 01.9	-2.0
LBG				S	Sg	16 49 21.9	+0.2
LBG	**Lerchenberg**	**1.38**	**38**	⇓*i*P	Pg	16 49 04.6	+0.8
OG01	**Vacheresse**	**1.38**	**205**	Pg	Pg	16 49 05.9	+2.0
OG01				Sg	Sg	16 49 25.4	+3.6
CABF	**La Chapelle**	**1.38**	**226**	*e*Pg	Pg	16 49 05.9	+1.9
CABF				*e*Sg	Sg	16 49 23.1	+1.2
	252nm,0.3s						
CABF	**La Chapelle**	**1.38**	**226**	*e*Pn	Pn	16 49 04.0	0.0
CABF				*e*Pg	Pg	16 49 05.9	+1.9
CABF				*e*Sg	Sg	16 49 23.1	+1.2
CABF	**La Chapelle**	**1.38**	**226**	*e*Pg	Pg	16 49 05.9	+1.9
CABF				*e*Sg	Sg	16 49 23.1	+1.2
	126nm,0.3s						
TUBL	**Tuebingen-Lenn**	**1.40**	**47**	⇑*i*Pn	Pn	16 49 03.0	-1.3
TUBL				Pg	Pg	16 49 05.9	+1.5
TUBL				Sn	Sn	16 49 21.0	-2.5
TUBL				Sg	Sg	16 49 23.3	+0.7
TUBL	**Tuebingen-Lenn**	**1.40**	**47**	⇑*i*Pn	Pn	16 49 03.0	-1.3
TUBL				S	Sg	16 49 23.3	+0.7
TUBL	**Tuebingen-Lenn**	**1.40**	**47**	P	Pg	16 49 05.9	+1.5
TUBL				Sn	Sn	16 49 21.0	-2.5
LANF	**Langenberg**	**1.41**	**7**	*e*Pn	Pn	16 49 03.0	-1.4
LANF				Pg	Pg	16 49 05.9	+1.4
LANF				Sg	Sg	16 49 24.7	+1.9
LANF	**Langenberg**	**1.41**	**7**	P	Pg	16 49 05.9	+1.4
LANF				S	Sg	16 49 24.7	+1.9
LANF	**Langen

1um,0.3s
OBER Oberstdorf 1.88 94⇑*i*Pn Pn 16 49 10.7 -0.2
OBER *i* Pg **Pg 16 49 14.0 +0.5**
OBER *i* Sg **Sg 16 49 38.3 +0.4**
MEZF Maizieres J'vi 1.90 300 *e*Pn Pn 16 49 11.3 +0.2
baz=119
MEZF *e*Sn **Sn 16 49 33.4 -2.4**
MEZF *e*Sg **Sg 16 49 39.9 +1.4**
233nm,0.4s
MEZF Maizieres J'vi 1.90 300 *e*Pn Pn 16 49 11.3 +0.2
MEZF *e*Sn **Sn 16 49 33.4 -2.4**
MEZF *e*Sg **Sg 16 49 39.9 +1.4**
116nm,0.4s
MUGIO Muggio 1.96 147 *e*P Pn 16 49 03.6 -8.3
745nm,0.4s
MUGIO Muggio 1.96 147 ⇑Px Px 16 49 12.5
ORX Oropa 1.98 171 P **Pn 16 49 14.9 +2.8**
ORO Oropa 1.98 171 Pg **Pg 16 49 14.4 -1.0**
ORO Sg **Sg 16 49 41.3 +0.2**
RSL Roselend 1.99 199 Pg **Pg 16 49 17.0 +1.3**
RSL Sg **Sg 16 49 43.6 +2.1**
HDH Heidenheim-Cha 2.06 60 Pn **Pn 16 49 11.0 -2.2**
HDH ⇓*i*Pg **Pg 16 49 16.8 -0.1**
HDH Sg **Sg 16 49 42.0 -1.6**
HDH Heidenheim-Cha 2.06 60 Pn **Pn 16 49 11.0 -2.3**
HDH ⇓*i*Pg **Pg 16 49 16.8 -0.1**
HDH Sg **Sg 16 49 42.0 -1.5**
HDH Heidenheim-Cha 2.06 60⇓*i*P **Pg 16 49 16.8 -0.1**
HDH S **Sg 16 49 42.0 -1.6**
SWS Schriesheim-Wi 2.06 22 *e*P Pn 16 49 11.0 -2.2
SWS Sg **Sg 16 49 43.5 0.0**
TRAV 2.08 176 P **Pn 16 49 15.6 +2.1**
OG05 Jujurieux 2.10 223 Pg **Pg 16 49 19.0 +1.3**
FUORN Ofenpass 2.10 116⇓*i*P **Pn 16 49 03.7 -10**
629nm,0.6s
FUORN Ofenpass 2.10 116 ⇓Pn **Pn 16 49 15.1 +1.3**
LPL La Plagne 2.14 195 *e*Pg Pg 16 49 19.4 +0.9
LPL *e*Sg **Sg 16 49 46.8 +0.6**
82nm,0.3s
LPL La Plagne 2.14 195 *e*Pn Pn 16 49 15.0 +0.6
LPL *e*Pg **Pg 16 49 19.4 +0.9**
LPL *e*Sg **Sg 16 49 46.8 +0.6**
LPL La Plagne 2.14 195 *e*Pg Pg 16 49 19.4 +0.9
LPL *e*Sg **Sg 16 49 46.8 +0.6**
41nm,0.3s
LSD Ceresole Reale 2.14 187 P **Pn 16 49 18.6 +4.2**
RUP Ruppelstein 2.14 352 Pg **Pg 16 49 19.1 +0.5**
RUP Sg **Sg 16 49 47.1 +0.8**
RUP Ruppelstein 2.14 352 S **Sg 16 49 47.1 +0.8**
LPG La Plagne 2.15 195 *e*Pg Pg 16 49 19.9 +1.2
LPG *e*Sg **Sg 16 49 46.9 +0.2**
133nm,0.3s
LPG La Plagne 2.15 195 *e*Pn Pn 16 49 15.2 +0.6
LPG *e*Pg **Pg 16 49 19.9 +1.2**
LPG *e*Sg **Sg 16 49 46.9 +0.2**
LPG La Plagne 2.15 195 *e*Pg Pg 16 49 19.9 +1.2
LPG *e*Sg **Sg 16 49 46.9 +0.2**
67nm,0.3s
RETA Reutte 2.19 91⇑*i*Pg **Pg 16 49 19.7 +0.3**
TOD Tromm 2.19 22 P **Pn 16 49 12.9 -2.3**
TOD *e*Pn **Pn 16 49 13.2 -2.0**
TOD Sg **Sg 16 49 47.1 -0.8**
TOD Tromm 2.19 22 Px Px 16 49 12.9
TOD S **Sg 16 49 47.1 -0.8**
TOD Tromm 2.19 22 Pg **Pg 16 49 20.9 +1.4**
BRMO Bormio 2.24 119 Pg **Pg 16 49 21.1 +0.8**
BRMO Sg **Sg 16 49 48.9 -0.5**
SIND Sindeldorf 2.24 37 Pn **Pn 16 49 14.1 -1.7**
SIND Pg **Pg 16 49 20.2 -0.3**
SIND Sg **Sg 16 49 47.5 -2.0**
SIND Sindeldorf 2.24 37 Pn **Pn 16 49 14.1 -1.7**
SIND Pg **Pg 16 49 20.2 -0.3**
SIND Sg **Sg 16 49 47.6 -2.0**
SIND Sindeldorf 2.24 37 P **Pg 16 49 20.2 -0.3**
WLF Walferdange 2.28 337 *e*Pn Pn 16 49 18.4 +2.1
WLF *e*Pg **Pg 16 49 21.9 +0.8**
SNR=4.4
WLF *e*Sg **Sg 16 49 51.9 +1.4**
SNR=1.9
WLF Walferdange 2.28 337 P **Pn 16 49 18.5 +2.2**
WLF Walferdange 2.28 337 *e*Pn Pn 16 49 17.7 +1.4
WLF *e*Sg **Sg 16 49 53.5 +2.9**
WLF Walferdange 2.28 337 P **Pn 16 49 18.4 +2.1**
WLF *e*Sg **Sg 16 49 53.5 +2.9**
ABH Alteburg 2.30 0 Pn **Pn 16 49 16.8 +0.1**
ABH ⇑*i*Pg **Pg 16 49 21.9 +0.3**
ABH Sg **Sg 16 49 51.3 -0.1**
ABH Alteburg 2.30 0 Pn **Pn 16 49 16.8 +0.2**
ABH Pg **Pg 16 49 21.8 +0.2**
ABH ⇑*i*Pg **Pg 16 49 21.9 +0.3**
ABH Sg **Sg 16 49 51.3 -0.1**
ABH Alteburg 2.30 0⇑*i*P **Pg 16 49 21.9 +0.3**
MOTA Moosalm 2.44 94⇑*e*Pn **Pn 16 49 18.6 +0.1**
SNR=39
MOTA ⇓*i*Pg **Pg 16 49 23.9 -0.2**
MOTA ⇑*i*Sg **Sg 16 49 56.1 +0.4**
47nm,0.2s
MOTA Moosalm 2.44 94 Pn **Pn 16 49 18.6 +0.1**
38nm,8.0s
RSP Reno Superiore 2.44 185 P **Pn 16 49 19.3 +0.8**
LOR Lormes 2.51 264 *e*Pn Pn 16 49 18.7 -0.8
baz=87
LOR Lormes 2.51 264 *e*Pg Pg 16 49 26.2 +0.6
baz=87
LOR *e*Sg **Sg 16 49 58.4 +0.2**
212nm,0.2s
LOR Lormes 2.51 264 *e*Pn Pn 16 49 18.7 -0.8
LOR *e*Pg **Pg 16 49 26.2 +0.6**
LOR *e*Sg **Sg 16 49 58.4 +0.2**
LOR Lormes 2.51 264 *e*Pg Pg 16 49 26.2 +0.6
LOR *e*Sg **Sg 16 49 58.4 +0.2**
106nm,0.2s
SQTA Sankt Quirin 2.52 97⇓*e*Pn **Pn 16 49 19.8 +0.1**
SNR=12
SQTA ⇑*i*Pg **Pg 16 49 25.9 +0.1**
SQTA ⇓*i*Sg **Sg 16 49 58.2 -0.4**
76nm,0.2s
SQTA Sankt Quirin 2.52 97⇓*e*Pn **Pn 16 49 19.8 +0.1**
SQTA ⇑*i*Pg **Pg 16 49 25.9 +0.1**
SQTA *i* Sg **Sg 16 49 58.2 -0.4**
SQTA Sankt Quirin 2.52 97 Pn **Pn 16 49 19.8 +0.1**
12nm,4.0s
FUR Furstenfeldbru 2.59 76 *e*Pg Pg 16 49 27.3 +0.2
SNR=2.9
FUR *e*Sg **Sg 16 50 00.1 -0.6**
SNR=6.3
FUR Furstenfeldbru 2.59 76 *e*Pg Pg 16 49 27.3 +0.2
FUR *e*Sg **Sg 16 50 00.4 -0.2**
BNI Bardonecchia 2.60 193 *e*Pn Pn 16 49 23.6 +2.9
BNI *e*Sg **Sg 16 50 02.4 +1.4**
BNI Bardonecchia 2.60 193 *e*Pn Pn 16 49 23.6 +2.9
BNI *e*Sg **Sg 16 50 02.3 +1.3**
BGG Burgeitz 2.63 357 *e*Pn Pn 16 49 21.1 0.0
BGG *e*Sn **Sn 16 49 52.6 -1.1**
74nm,0.5s
SMF Signal de Mont 2.69 251 *e*Pg Pg 16 49 29.4 +0.4
SMF *e*Sg **Sg 16 50 03.3 -0.5**
111nm,0.2s
SMF Signal de Mont 2.69 251 *e*Pn Pn 16 49 21.0 -0.9
SMF *e*Pg **Pg 16 49 29.4 +0.4**
SMF *e*Sg **Sg 16 50 03.3 -0.5**
SMF Signal de Mont 2.69 251 *e*Pg Pg 16 49 29.4 +0.4
SMF *e*Sg **Sg 16 50 03.3 -0.5**
56nm,0.2s
TNS Taunus Mts 2.71 13 *e*Pn Pn 16 49 21.1 -1.2
SNR=2.6
TNS *e*Pg **Pg 16 49 30.1 +0.6**
SNR=1.7
TNS Sg **Sg 16 50 05.8 +1.3**
TNS Taunus Mts 2.71 13 S **Sg 16 50 05.8 +1.3**
TNS Taunus Mts 2.71 13 *e*Pn Pn 16 49 20.8 -1.5
TNS *e*Sg **Sg 16 50 05.1 +0.5**
RRL Cesana Torines 2.71 191 P **Pn 16 49 26.9 +4.6**
APPI Appiano 2.76 112 Pg **Pg 16 49 25.9 -4.5**
HILG Hillesheim 2.77 349 *e*Pn Pn 16 49 24.2 +1.1
SSF Saint Saulge 2.79 261 *e*Pg Pg 16 49 31.7 +0.8
SSF *e*Sg **Sg 16 50 07.3 +0.3**
104nm,0.3s
SSF Saint Saulge 2.79 261 *e*Pn Pn 16 49 23.1 -0.2
SSF *e*Pg **Pg 16 49 31.7 +0.8**
SSF *e*Sg **Sg 16 50 07.3 +0.3**
SSF Saint Saulge 2.79 261 *e*Pg Pg 16 49 31.7 +0.8
SSF *e*Sg **Sg 16 50 07.3 +0.3**
52nm,0.3s
WTTA Wattenberg 2.81 95⇓*e*Pn **Pn 16 49 24.7 +1.1**
SNR=24
WTTA ⇓*i*Sg **Sg 16 50 07.9 +0.2**
27nm,0.2s
WTTA Wattenberg 2.81 95 Pn **Pn 16 49 24.7 +1.1**
23nm,9.0s
WTTA Sg **Sg 16 50 07.9 +0.3**
27nm,0.2s
SCE Schlegeis 2.90 99⇑*i*Pn **Pn 16 49 26.2 +1.4**
ORIF Oris-en-Rattie 2.90 204 *e*Pg Pg 16 49 33.4 +0.3
ORIF *e*Sg **Sg 16 50 10.4 -0.2**
89nm,0.3s
ORIF Oris-en-Rattie 2.90 204 *e*Pn Pn 16 49 24.5 -0.4
ORIF *e*Pg **Pg 16 49 33.4 +0.3**
ORIF *e*Sg **Sg 16 50 10.4 -0.2**
ORIF Oris-en-Rattie 2.90 204⇑P **Pn 16 49 24.5 -0.3**
ORIF Oris-en-Rattie 2.90 204 P **Pn 16 49 33.4 +8.5**
ORIF Oris-en-Rattie 2.90 204 *e*Pn Pn 16 49 24.5 -0.4
ORIF Oris-en-Rattie 2.90 204 *e*Pg Pg 16 49 33.4 +0.3
ORIF *e*Sg **Sg 16 50 10.4 -0.2**
45nm,0.3s
MBDF Montbardon 2.90 191 *e*Pn Pn 16 49 26.3 +1.4
MBDF *e*Sg **Sg 16 50 10.1 -0.7**
97nm,0.5s
MBDF Montbardon 2.90 191 *e*Pn Pn 16 49 26.3 +1.4
MBDF *e*Sg **Sg 16 50 10.1 -0.7**
48nm,0.5s
AVF Avril sur Loir 2.96 256 *e*Pg Pg 16 49 34.7 +0.6
AVF *e*Sg **Sg 16 50 12.0 -0.5**
31nm,0.2s
AVF Avril sur Loir 2.96 256 *e*Pn Pn 16 49 25.1 -0.5
AVF *e*Pg **Pg 16 49 34.7 +0.6**
AVF *e*Sg **Sg 16 50 12.0 -0.5**
AVF Avril sur Loir 2.96 256 *e*Pg Pg 16 49 34.7 +0.6
AVF *e*Sg **Sg 16 50 12.0 -0.5**
16nm,0.2s
STB Steinbach 3.05 352⇓*e*Pn **Pn 16 49 28.0 +1.1**
STB *e*Sn **Sn 16 50 02.7 -1.4**
32nm,0.7s
DOI San Damiano 3.08 184 Pg **Pg 16 49 28.0 -8.6**
GIVF Givet 3.09 326 *e*Pn Pn 16 49 28.7 +1.2
GIVF *e*Sg **Sg 16 50 16.3 -0.5**
53nm,0.4s
GIVF Givet 3.09 326 *e*Pn Pn 16 49 28.7 +1.2
GIVF *e*Sg **Sg 16 50 16.3 -0.5**
26nm,0.4s
PZZ Prazzo 3.09 186 P **Pn 16 49 28.5 +1.0**
PLDF La Plantade 3.13 240 Pn **Pn 16 49 27.3 -0.8**
KLL Kalltalsperre 3.17 346⇑*e*Pn **Pn 16 49 28.8 +0.2**
DOU Dourbes 3.18 323 P **Pn 16 49 29.8 +1.1**
DOU Dourbes 3.18 323 P **Pn 16 49 29.7 +1.0**
MEM Membach 3.19 342 P **Pn 16 49 29.4 +0.5**
BCLA Clavier 3.20 334 P **Pn 16 49 30.4 +1.5**
BCLA Clavier 3.20 334 P **Pn 16 49 30.4 +1.5**
DREG Dreilaegerbach 3.20 345 *e*Pn Pn 16 49 29.2 +0.2
CTI Castel Tesino 3.22 117 Pg **Pg 16 49 32.2 -6.9**
GRFO Grafenberg 3.23 48 *e*Pg Pg 16 49 38.7 -0.7
GRFO *e*Sg **Sg 16 50 20.2 -1.0**
GRFO Grafenberg 3.23 48 *e*Pg Pg 16 49 38.7 -0.7
GRFO *e*Sg **Sg 16 50 20.2 -1.1**
GRA1 Grafenberg Arr 3.23 48 *e*Pg Pg 16 49 39.0 -0.4
GRA1 *e*Sg **Sg 16 50 18.7 -2.6**
GRF Grafenberg Arr 3.23 48 *e*Pg Pg 16 49 38.9 -0.5
SNR=20
GRF *e*Sg **Sg 16 50 18.8 -2.5**
SNR=6.9
GRF Grafenberg Arr 3.23 48 *e*Pg Pg 16 49 39.0 -0.4
GRF *e*Sg **Sg 16 50 18.7 -2.6**
BAIF Baives 3.31 320 *e*Pg Pg 16 49 40.7 -0.2
BAIF *e*Sg **Sg 16 50 23.8 -0.1**
39nm,0.4s
BAIF Baives 3.31 320 *e*Pn Pn 16 49 31.5 +1.0
BAIF *e*Pg **Pg 16 49 40.7 -0.2**
BAIF *e*Sg **Sg 16 50 23.8 -0.1**
BAIF Baives 3.31 320 *e*Pg Pg 16 49 40.7 -0.2
BAIF *e*Sg **Sg 16 50 23.8 -0.1**
20nm,0.4s
HYF Humbligny 3.33 266 *e*Pn Pn 16 49 30.3 -0.5
HYF *e*Pg **Pg 16 49 42.2 +0.8**
HYF *e*Sg **Sg 16 50 24.7 +0.1**
HGN Heimansgroeve 3.35 342 *e*P Pn 16 49 31.9 +0.8
1.1nm,0.1s
HGN *e*S **Sn 16 50 09.5 -2.1**
BGF Bois d'Agland 3.36 254 *e*Pg Pg 16 49 41.6 -0.3
BGF *e*Sg **Sg 16 50 25.2 -0.3**
138nm,0.3s
BGF Bois d'Agland 3.36 254 *e*Pn Pn 16 49 30.4 -0.8
BGF *e*Pg **Pg 16 49 41.6 -0.3**
BGF *e*Sg **Sg 16 50 25.2 -0.3**
BGF Bois d'Agland 3.36 254 *e*Pg Pg 16 49 41.6 -0.3
BGF *e*Sg **Sg 16 50 25.2 -0.3**
69nm,0.3s
VIVF Saint-Julien-l 3.37 217 *e*Pg Pg 16 49 41.9 -0.2
VIVF *e*Sg **Sg 16 50 24.6 -1.2**
65nm,0.2s
VIVF Saint-Julien-l 3.37 217 *e*Pn Pn 16 49 29.7 -1.6
VIVF *e*Pg **Pg 16 49 41.9 -0.2**
VIVF *e*Sg **Sg 16 50 24.6 -1.2**
VIVF Saint-Julien-l 3.37 217 *e*Pg Pg 16 49 41.9 -0.2
VIVF *e*Sg **Sg 16 50 24.6 -1.2**
33nm,0.2s
AGO Saint Agoulin 3.39 245 Pn **Pn 16 49 30.4 -1.1**
PYM Petit Puy Mans 3.61 241 Pn **Pn 16 49 35.7 +1.0**
UBBA Unterbreizbach 3.62 26 *e*Sg Sg 16 50 30.9 -2.9
SNR=4.2
SNF Seneffe 3.62 325 P **Pn 16 49 36.4 +1.5**
SNF Seneffe 3.62 325 P **Pn 16 49 36.3 +1.5**
FVI Forni Avoltri 3.72 103 Pg **Pn 16 49 38.2 +2.1**
SBF Sospel 3.72 181 *e*Pn Pn 16 49 38.2 +2.1
SBF *e*Sn **Sn 16 50 16.7 -4.0**
22nm,0.3s
SBF Sospel 3.72 181 *e*Pn Pn 16 49 38.2 +2.1
SBF *e*Sn **Sn 16 50 16.7 -4.0**
11nm,0.3s
LBL Lubilhac 3.78 233 Pn **Pn 16 49 35.4 -1.6**
ROTZ Rotzenmuhle 3.79 53 *e*Pn Pn 16 49 34.7 -2.4
SMRF Simiane la Rot 3.86 201 *e*Pn Pn 16 49 37.4 -0.6
SMRF *e*Pg **Pg 16 49 51.3 -0.1**
TCF Toulx Ste Croi 3.87 252 *e*Pg Pg 16 49 51.5 -0.1
TCF *e*Sn **Sn 16 50 21.4 -2.9**
TCF *e*Sg **Sg 16 50 40.8 -0.9**
44nm,0.3s
TCF Toulx Ste Croi 3.87 252 *e*Pn Pn 16 49 37.4 -0.8
TCF *e*Pg **Pg 16 49 51.5 -0.1**
TCF *e*Sn **Sn 16 50 21.4 -2.9**
TCF *e*Sg **Sg 16 50 40.8 -0.9**
TCF Toulx Ste Croi 3.87 252 *e*Pg Pg 16 49 51.5 -0.1
TCF *e*Sn **Sn 16 50 21.4 -2.9**
TCF *e*Sg **Sg 16 50 40.8 -0.9**
22nm,0.3s
WET Wettzell 3.89 64 *e*Pn Pn 16 49 36.8 -1.7
SNR=3.5
WET *e*Pg **Pg 16 49 50.6 -1.5**
SNR=3.5
WET *e*Sn **Sn 16 50 19.0 -6.0**
SNR=4.7
WET Wettzell 3.89 64 *e*Pn Pn 16 49 36.5 -2.0
WET *e*Sn **Sn 16 50 20.8 -4.1**
KBA Koelnbreinsper 3.99 95 *i* Pn Pn 16 49 41.1 +1.3
SNR=14
KBA ⇑*i*Pg **Pg 16 49 52.7 -1.1**
KBA ⇑*i*Sg **Sg 16 50 46.9 +1.3**
26nm,0.5s
KBA Koelnbreinsper 3.99 95 *i* Pn **Pn 16 49 41.0 +1.3**
KBA ⇑*i*Pg **Pg 16 49 52.8 -1.1**
KBA *i* Sg **Sg 16 50 46.9 +1.3**
KBA Koelnbreinsper 3.99 95 *i* Pn **Pn 16 49 41.0 +1.2**
FRF La Foret Royal 4.07 189 *e*Pg Pg 16 49 53.6 -1.9
FRF *e*Sn **Sn 16 50 24.7 -4.6**
7.6nm,0.2s
FRF La Foret Royal 4.07 189 *e*Pn Pn 16 49 39.6 -1.3
FRF *e*Pg **Pg 16 49 53.6 -1.9**
FRF *e*Sn **Sn 16 50 24.7 -4.6**
FRF La Foret Royal 4.07 189 *e*Pg Pg 16 49 53.6 -1.9
FRF *e*Sn **Sn 16 50 24.7 -4.6**
3.8nm,0.2s
MOX Moxa 4.07 40 *e*Pn Pn 16 49 38.3 -2.7
MOX *e*Pg **Pg 16 49 53.9 -1.6**
MOX *e*Sn **Sn 16 50 25.3 -4.1**
MOX *e*Sg **Sg 16 50 44.6 -3.8**
SNR=3.4
MOX Moxa 4.07 40 *e*PN Pn 16 49 38.3 -2.7
MOX *e*PG **Pg 16 49 53.9 -1.6**
MOX *e*SN **Sn 16 50 25.3 -4.1**
MOX *e*SG **Sg 16 50 46.3 -2.0**
PTCC Patocco-Chiusa 4.16 104 Pg **Pn 16 49 43.5 +1.4**
WERN Wernitzgruen 4.19 48 *e*Sg Sg 16 50 48.4 -3.6
NKC Novy Kostel 4.19 49 *e*PG Pg 16 49 55.9 -1.9
NKC *e*SG **Sg 16 50 48.2 -3.9**
69nm,0.5s
GUNZ Gunzen 4.21 47 *e*Pn Pn 16 49 40.8 -2.1
GUNZ *e*Pg **Pg 16 49 56.3 -1.9**
SNR=15
GUNZ *e*Sg **Sg 16 50 48.9 -3.9**
SNR=7.4
WERD Werda 4.25 46 *e*Pg Pg 16 49 57.0 -2.1
SNR=13
WERD *e*Sg **Sg 16 50 50.3 -3.9**
SNR=7.8
GTTG Gvttingen 4.27 21 *e*Sg Sg 16 50 55.1 +0.4
SNR=3.5
LMR La Mourre 4.31 190 *e*Pg Pg 16 49 58.8 -1.2
LMR *e*Sn **Sn 16 50 30.3 -4.9**
5.5nm,0.2s
LMR La Mourre 4.31 190 *e*Pn Pn 16 49 45.3 +1.1
LMR *e*Pg **Pg 16 49 58.8 -1.2**
LMR *e*Sn **Sn 16 50 30.3 -4.9**
LMR La Mourre 4.31 190 *e*Pg Pg 16 49 58.8 -1.2
LMR *e*Sn **Sn 16 50 30.3 -4.9**
2.8nm,0.2s
TANN Tannenbergstha 4.31 47 *e*Pg Pg 16 49 58.0 -2.0
SNR=14
TANN *e*Sg **Sg 16 50 52.2 -3.8**
SNR=4.7
GEC2 GERESS Array S 4.32 71 *e*Pn Pn 16 49 43.0 -1.4
GEC2 *e*Sn **Sn 16 50 32.0 -3.4**
GEC2 *e*Sg **Sg 16 50 53.1 -3.0**
SNR=3.8
GEC2 GERESS Array S 4.32 71 *e*Pn Pn 16 49 42.3 -2.0
GEC2 *e*Pn **Pn 16 49 42.9 -1.4**
GEC2 *e*Sn **Sn 16 50 31.5 -3.8**
GEC2 *e*Sn **Sn 16 50 32.0 -3.3**
GEC2 *e*Sg **Sg 16 50 53.8 -2.4**
GEC2 GERESS Array S 4.32 71 *e*Pn Pn 16 49 42.9 -1.4
GEC2 *e*Sg **Sg 16 50 53.8 -2.3**
KHC Kasperske Hory 4.32 67 *e*PN Pn 16 49 42.8 -1.6
KHC *e*PG **Pg 16 49 58.0 -2.3**
KHC *e*SN **Sn 16 50 31.0 -4.5**
KHC *e*SG **Sg 16 50 54.1 -2.2**
24nm,0.3s
LASF Ste Croix 4.34 218 *e*Pg Pg 16 50 00.1 -0.6
LASF *e*Sg **Sg 16 50 55.2 -1.9**
39nm,0.3s
LASF Ste Croix 4.34 218 *e*Pn Pn 16 49 43.3 -1.4
LASF *e*Pg **Pg 16 50 00.1 -0.6**
LASF *e*Sg **Sg 16 50 55.2 -1.9**
LASF Ste Croix 4.34 218 *e*Pg Pg 16 50 00.1 -0.6
LASF *e*Sg **Sg 16 50 55.2 -1.9**
20nm,0.3s
MOA Molln 4.55 84⇑*i*Pn **Pn 16 49 47.3 -0.3**
MOA ⇓*i*Pg **Pg 16 50 04.6 -0.2**
MOA ⇓*i*Sn **Sn 16 50 39.8 -1.4**
MOA ⇑*i*Sg **Sg 16 51 07.1 +3.3**
20nm,0.4s
CAF Calviac 4.63 237 *e*Pg Pg 16 50 06.0 -0.2
CAF *e*Sg **Sg 16 51 05.1 -1.1**
26nm,0.4s
CAF Calviac 4.63 237 *e*Pn Pn 16 49 48.0 -0.6
CAF *e*Pg **Pg 16 50 06.0 -0.2**
CAF *e*Sg **Sg 16 51 05.1 -1.1**
CAF Calviac 4.63 237 *e*Pg Pg 16 50 06.0 -0.2
CAF *e*Sg **Sg 16 51 05.1 -1.1**
13nm,0.4s
VOY Vojsko 4.64 107 *e*Pn Pg 16 50 03.7 -2.6
VOY *e*Sn **Sg 16 51 05.9 -0.5**
CLZ Clausthal 4.64 22 *e*Pg Pg 16 50 08.0 +1.5
SNR=3.2
CLZ *e*Sg **Sg 16 51 05.2 -1.5**
SNR=3.4
RJF Les Rejaudoux 4.74 243 *e*Pg Pg 16 50 06.8 -1.5
RJF *e*Sg **Sg 16 51 08.7 -1.0**
27nm,0.3s
RJF Les Rejaudoux 4.74 243 *e*Pn Pn 16 49 49.4 -0.8
RJF *e*Pg **Pg 16 50 06.8 -1.5**
RJF *e*Sg **Sg 16 51 08.7 -1.0**
RJF Les Rejaudoux 4.74 243 *e*Pg Pg 16 50 06.8 -1.5
RJF *e*Sg **Sg 16 51 08.7 -1.0**
14nm,0.3s
PGF Pioggiola 5.14 168 *e*Pn Pn 16 49 56.1 +0.4
PGF *e*Sn **Sn 16 50 49.9 -5.8**
CLL Collm 5.16 42 *e*Pg Pg 16 50 13.0 -3.4
CLL *e*Sg **Sg 16 51 19.5 -3.8**
SNR=4.1
CLL Collm 5.16 42 *e*Pg Pg 16 50 13.0 -3.4
CLL *e*Sg **Sg 16 51 20.0 -3.3**
comp=Z,39nm,0.9s
PRU Pruhonice 5.22 60 *e*PG Pg 16 50 14.2 -3.3
PRU *e*SG **Sg 16 51 22.0 -3.2**
comp=Z,44nm,1.0s
LDF La Druitiere 5.23 284 *e*Pg Pg 16 50 16.6 -1.0
LDF *e*Sn **Sn 16 50 53.4 -4.4**
LDF *e*Sg **Sg 16 51 22.2 -3.2**
comp=Z,58nm,0.4s
LDF La Druitiere 5.23 284 *e*Pn Pn 16 49 56.9 0.0
LDF *e*Pg **Pg 16 50 16.6 -1.0**
LDF *e*Sn **Sn 16 50 53.4 -4.4**
LDF *e*Sg **Sg 16 51 22.2 -3.2**
LDF La Druitiere 5.23 284 *e*Pg Pg 16 50 16.6 -1.0
LDF *e*Sn **Sn 16 50 53.4 -4.4**
LDF *e*Sg **Sg 16 51 22.2 -3.2**
comp=Z,29nm,0.4s
PERS Pernice 5.27 98 *i* Pn Pn 16 49 57.2 -0.2
MFF Saint Martin d 5.33 262 *e*Pg Pg 16 50 17.8 -1.9
MFF *e*Sn **Sn 16 50 56.3 -4.1**
MFF *e*Sg **Sg 16 51 27.8 -1.0**
comp=Z,44nm,0.6s
MFF Saint Martin d 5.33 262 *e*Pn Pn 16 49 58.5 +0.2
MFF *e*Pg **Pg 16 50 17.8 -1.9**
MFF *e*Sn **Sn 16 50 56.3 -4.1**
MFF *e*Sg **Sg 16 51 27.8 -1.0**
MFF Saint Martin d 5.33 262 *e*Pg Pg 16 50 17.8 -1.9
MFF *e*Sn **Sn 16 50 56.3 -4.1**
MFF *e*Sg **Sg 16 51 27.8 -1.0**
comp=Z,22nm,0.6s
VISS Visnje 5.33 107 *i* Pn Pn 16 49 58.8 +0.5
VISS *i* Sn **Sn 16 50 59.2 -1.2**
VISS Visnje 5.33 107 *i* Pn Pn 16 49 58.8 +0.5
VISS *i* Sn **Sn 16 50 59.2 -1.3**
BRG Berggiesshubel 5.34 50 Pg **Pg 16 50 16.1 -3.7**
comp=Z,13nm,0.4s
BRG Sg **Sg 16 51 24.0 -4.9**
BRG Berggiesshubel 5.34 50 Pg **Pg 16 50 16.1 -3.7**
comp=Z,13nm,0.4s
BRG Sg **Sg 16 51 24.0 -4.9**
BRG SG **Sg 16 51 24.0 -4.9**
comp=Z,13nm,0.4s
BRG Berggiesshubel 5.34 50 PG **Pg 16 50 16.1 -3.7**
LFF La Frestale 5.40 243 *e*Pg Pg 16 50 19.0 -1.9
LFF *e*Sg **Sg 16 51 29.6 -1.3**
comp=Z,65nm,0.6s
LFF La Frestale 5.40 243 *e*Pg Pg 16 50 19.0 -1.9
LFF *e*Sg **Sg 16 51 29.6 -1.3**
comp=Z,33nm,0.6s
PVCC Panska Ves 5.49 55 *e*PG Pg 16 50 19.6 -3.0
PVCC *e*SG **Sg 16 51 30.8 -2.9**
comp=Z,42nm,0.4s
FLN La Foliniere 5.49 285 *e*Pg Pg 16 50 23.0 +0.3
FLN *e*Sn **Sn 16 50 59.9 -4.4**
FLN *e*Sg **Sg 16 51 31.9 -1.9**
comp=Z,36nm,0.3s
FLN La Foliniere 5.49 285 *e*Pn Pn 16 50 00.4 -0.1
FLN *e*Pg **Pg 16 50 23.0 +0.3**
FLN *e*Sn **Sn 16 50 59.9 -4.4**
FLN *e*Sg **Sg 16 51 31.9 -1.9**
FLN La Foliniere 5.49 285 *e*Pg Pg 16 50 23.0 +0.3
FLN *e*Sn **Sn 16 50 59.9 -4.4**
FLN *e*Sg **Sg 16 51 31.9 -1.9**
comp=Z,18nm,0.3s
MTLF Montolieu 5.65 223 *e*Pg Pg 16 50 24.7 -1.1
MTLF *e*Sg **Sg 16 51 36.4 -2.6**
comp=Z,22nm,0.5s
MTLF Montolieu 5.65 223 *e*Pn Pn 16 50 01.5 -1.2
MTLF *e*Pg **Pg 16 50 24.7 -1.1**
MTLF *e*Sg **Sg 16 51 36.4 -2.6**

MTLF	**Montolieu**	**5.65**	**223**	*e*Pg	**Pg**	**16 50 24.7**	**-1.1**
MTLF				*e*Sg	**Sg**	**16 51 36.4**	**-2.6**
	comp=Z,11nm,0.5s						
GRR	**Gorron**	**5.69**	**281**	*e*Pg	**Pg**	**16 50 24.7**	**-1.8**
GRR				*e*Sn	**Sn**	**16 51 04.5**	**-4.7**
GRR				*e*Sg	**Sg**	**16 51 37.6**	**-2.6**
	comp=Z,30nm,0.3s						
GRR	**Gorron**	**5.69**	**281**	*e*Pn	**Pn**	**16 50 03.0**	**-0.2**
GRR				*e*Pg	**Pg**	**16 50 24.7**	**-1.8**
GRR				*e*Sn	**Sn**	**16 51 04.5**	**-4.7**
GRR				*e*Sg	**Sg**	**16 51 37.6**	**-2.6**
GRR	**Gorron**	**5.69**	**281**	*e*Pg	**Pg**	**16 50 24.7**	**-1.8**
GRR				*e*Sn	**Sn**	**16 51 04.5**	**-4.7**
GRR				*e*Sg	**Sg**	**16 51 37.6**	**-2.6**
	comp=Z,15nm,0.3s						
BOJS	**Bojanci**	**5.72**	**108**	*i* Pn	**Pn**	**16 50 04.6**	**+1.0**
VRAC	**Vranov**	**6.27**	**71**	*e*Pn	**Pn**	**16 50 09.0**	**-2.2**
DPC	**Dobruska-Polom**	**6.42**	**61**	*e*SG	**Sg**	**16 51 58.2**	**-5.4**
	comp=Z,12nm,0.6s						
EPF	**Esparros**	**6.81**	**231**	*e*Sg	**Sg**	**16 52 13.1**	**-3.1**
	comp=Z,8.5nm,0.3s						
SGMF	**Saint Gilles**	**6.81**	**279**	*e*Pn	**Pn**	**16 50 18.9**	**+0.3**
SGMF				*e*Sn	**Sn**	**16 51 29.2**	**-7.7**
SGMF				*e*Sg	**Sg**	**16 52 12.1**	**-4.2**
	comp=Z,25nm,0.4s						
SGMF	**Saint Gilles**	**6.81**	**279**	*e*Pn	**Pn**	**16 50 18.9**	**+0.3**
SGMF				*e*Sn	**Sn**	**16 51 29.2**	**-7.7**
SGMF				*e*Sg	**Sg**	**16 52 12.1**	**-4.2**
	comp=Z,12nm,0.4s						
MORC	**Moravsky Berou**	**6.98**	**68**	*e*Sg	**Sg**	**16 52 22.2**	**+0.4**
QUIF	**Quistinic**	**7.22**	**277**	*e*Pn	**Pn**	**16 50 24.1**	**-0.1**
QUIF				*e*Sn	**Sn**	**16 51 37.6**	**-9.3**
QUIF				*e*Sg	**Sg**	**16 52 26.5**	**-2.8**
	comp=Z,36nm,0.8s						
QUIF	**Quistinic**	**7.22**	**277**	*e*Pn	**Pn**	**16 50 24.1**	**-0.1**
QUIF				*e*Sg	**Sg**	**16 52 26.5**	**-2.8**
	comp=Z,18nm,0.8s						
ROSF	**Rostrenen**	**7.29**	**280**	*e*Pn	**Pn**	**16 50 25.3**	**0.0**
ROSF				*e*Sn	**Sn**	**16 51 40.1**	**-8.7**
ROSF				*e*Sg	**Sg**	**16 52 28.5**	**-3.2**
	comp=Z,24nm,0.5s						
ROSF	**Rostrenen**	**7.29**	**280**	*e*Pn	**Pn**	**16 50 25.3**	**0.0**
ROSF				*e*Sn	**Sn**	**16 51 40.1**	**-8.7**
ROSF				*e*Sg	**Sg**	**16 52 28.5**	**-3.2**
	comp=Z,12nm,0.5s						
VYHS	**Vyhne**	**7.63**	**79**	*e*PN	**Pn**	**16 50 26.1**	**-3.8**

*ISCJB **08** 17:00:16.2±10.0, 469N±01×1555E±02, h6km±63km, mb4.0/14, Error ellipse: s-maj=25.1km s-min=24.2km az=122.7*
*NEIC **08** 17:00:18.2±1.1, 4694N×15564E, h10km, mb4.9/3, Error ellipse: s-maj=25.3km s-min=15.4km az=135.0*
*MOS **08** 17:00:22.4±1.5, 4676N×15530E, h53km, mb4.2/7, Error ellipse: s-maj=17.3km s-min=12.7km az=104.4*
*IDC **08** 17:00:24.3±5.6, 4673N×15535E, h48km±51km, mb3.6/10, mb1 3.8/12, mb1mx3.6/22, mbtmp3.6/12, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx1.9/31, Error ellipse: s-maj=37.0km s-min=24.3km az=84.0*

ISC 08 17:00:23.2±2.3, 468N±01×1555E±02, h46km±20km, n31, σ1§18/32, mb4.0/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.91**	**6**	*e*PN	**Pn**	**17 01 22.5**	**+1.7**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
PET	**Petropavlovsk**	**6.56**	**17**	*e*Pn	**Pn**	**17 01 49.1**	**-8.0**
PET				*e*Sn	**Sn**	**17 02 56.7**	**-14**
ASAJ	**Asahikawa**	**9.45**	**258**	P	**Pn**	**17 02 36.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=83,slow=12,SNR=9.0						
ASAJ				LR	LR	17 07 01.0	
	comp=Z,57nm,19.1s,baz=162,slow=42						
MJAR	**Matsushiro Arr**	**16.45**	**238**	P	**Pn**	**17 04 09.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=9.4,SNR=3.1						
KSRS	**Korea Array**	**22.38**	**255**	P	**P**	**17 05 19.1**	**+1.6**
	comp=Z,1.0nm,0.8s,mb3.3,baz=67,slow=9.2,SNR=4.4						
HIA	**Hailar**	**23.89**	**289**	*e*P	**P**	**17 05 27.9**	**-4.7**
SONM	**Songino Array**	**32.85**	**290**	P	**P**	**17 06 51.0**	**-1.5**
	comp=Z,0.3nm,0.8s,mb3.3,baz=70,slow=9.5,SNR=2.3						
TLY	**Talaya**	**33.60**	**298**	P	**P**	**17 07 00.4**	**+1.3**
INK	**Inuvik**	**40.74**	**33**	P	**P**	**17 07 57.6**	**-2.0**
	comp=Z,65nm,1.0s,mb5.2						
ZAL	**Zalesovo**	**43.92**	**306**	P	**P**	**17 08 25.2**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=288,slow=20,SNR=3.3						
ZAL	**Zalesovo**	**43.92**	**306**	P	**P**	**17 08 25.3**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.36**	**298**	P	**P**	**17 08 59.3**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=72,slow=6.6,SNR=5.3						
MKAR	**Makanchi Array**	**48.36**	**298**	P	**P**	**17 08 59.3**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**48.69**	**304**	P	**P**	**17 09 02.2**	**-0.7**
CHKZ	**Chkalovo**	**51.64**	**311**	*e*P	**P**	**17 09 24.8**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**51.64**	**311**	*e*P	**P**	**17 09 24.8**	**-0.4**
	comp=Z,7.3nm,0.5s,mb4.9						
BRVK	**Borovoye**	**52.12**	**310**	*e*P	**P**	**17 09 29.3**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.12**	**310**	*e*P	**P**	**17 09 29.2**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.4						
JOF	**Joensuu**	**62.00**	**335**	*e*p	**P**	**17 10 37.4**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**64.68**	**336**	P	**P**	**17 10 56.5**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.3,baz=42,slow=7.1,SNR=18						
FINES	**FINESS Array B**	**64.68**	**336**	P	**P**	**17 10 56.5**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.68**	**336**	P	**P**	**17 10 56.5**	**+0.1**
NB2	**NORSAR Subarra**	**68.70**	**342**	P	**P**	**17 11 25.7**	**+3.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.70**	**342**	P	**P**	**17 11 23.6**	**+1.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=26,slow=6.3,SNR=3.3						
NOA	**NORSAR Array B**	**68.70**	**342**	P	**P**	**17 11 23.6**	**+1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**69.12**	**201**	P	**P**	**17 11 24.6**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=21,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**69.12**	**201**	P	**P**	**17 11 24.6**	**0.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**72.40**	**327**	P	**P**	**17 11 45.1**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=33,slow=6.2,SNR=4.9						
AKASG	**Malin Array Be**	**72.40**	**327**	P	**P**	**17 11 45.1**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.04**	**62**	P	**P**	**17 12 06.5**	**+0.8**
	comp=Z,0.2nm,0.4s,mb3.4,baz=263,slow=4.4,SNR=2.2						
GERES	**GERESS Array B**	**79.11**	**335**	P	**P**	**17 12 25.5**	**+2.6**
	comp=Z,0.3nm,0.4s,mb3.6,baz=57,slow=4.9,SNR=4.1						

*NEIC **08** 17:18:00.6, 1667N×9885W, h14km, MD4.1(MEX), After MEX.*

MEX 08 17:18:00.7±0.7, 1668N×9887W, h34km±27km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.76**	**112**	*i* P	Pn	17 18 13.1	-1.9
PNIG				*i* S	Sn	17 18 23.2	-2.2
PNIG	**Pinotepa**	**0.76**	**112**	*i* P	Pn	17 18 13.1	-1.9
PNIG				*i* S	Sn	17 18 23.2	-2.2
ACX	**Acapulco**	**1.02**	**281**	*i* P	Pn	17 18 16.0	-2.7
ACX				*i* S	Sn	17 18 25.0	-6.8
CAIG	**El Cayaco**	**1.39**	**286**	*i* P	Pn	17 18 22.6	-1.1
CAIG				*i* S	Sn	17 18 37.8	-3.1
CAIG	**El Cayaco**	**1.39**	**286**	*i* P	Pn	17 18 22.6	-1.1
CAIG				*i* S	Sn	17 18 39.7	-1.2
MEIG	**Mezcala**	**1.44**	**330**	*i* P	Pn	17 18 23.0	-1.3
MEIG				*i* S	Sn	17 18 39.8	-2.3
UTMO	**Huajuapan**	**1.53**	**41**	*i* P	Pn	17 18 23.6	-2.0
UTMO				*i* S	Sn	17 18 41.9	-2.5
PLIG	**Platanillo**	**1.81**	**340**	*i* P	Pn	17 18 28.0	-1.5
PLIG				*i* S	Sn	17 18 48.9	-2.4
VHO	**Vista Hermosa**	**2.08**	**79**	*i* P	Pn	17 18 31.2	-1.9
VHO				*i* S	Sn	17 18 56.1	-1.7
OXX	**Oaxaca**	**2.09**	**79**	*e*P	Pn	17 18 31.0	-2.3
OXX				*i* S	Sn	17 18 56.0	-2.1
OXX	**Oaxaca**	**2.09**	**79**	*e*P	Pn	17 18 30.0	-3.3
OXX				*i* S	Sn	17 18 51.0	-7.1
YAIG	**Yautepec**	**2.18**	**355**	*i* P	Pn	17 18 34.2	-0.4
YAIG				*i* S	Sn	17 18 58.5	-1.9
YAIG	**Yautepec**	**2.18**	**355**	*i* P	Pn	17 18 34.9	+0.3
YAIG				*i* S	Sn	17 18 56.4	-4.0
YAIG				*i* S	Sn	17 19 00.5	+0.1
TPIG	**Tehuac#an**	**2.25**	**39**	*i* P	Pn	17 18 34.1	-1.4
TPIG				*i* S	Sn	17 19 00.9	-1.2
ZIIG	**Zihuatanejo**	**2.65**	**291**	*i* P	Pn	17 18 39.1	-1.9
ZIIG				*i* S	Sn	17 19 09.6	-2.4
ZIIG	**Zihuatanejo**	**2.65**	**291**	*i* P	Pn	17 18 37.5	-3.5
ZIIG				*i* S	Sn	17 19 09.6	-2.4
SZVM	**Salazar**	**2.68**	**350**	*e*P	Pn	17 18 39.8	-1.6
SZVM				*i* S	Sn	17 19 12.0	-0.6
HUIG	**Huatulco**	**2.80**	**108**	*i* P	Pn	17 18 43.2	+0.2
HUIG				*i* S	Sn	17 19 17.1	+1.6
HUIG	**Huatulco**	**2.80**	**108**	*i* P	Pn	17 18 43.2	+0.2
HUIG				*i* S	Sn	17 19 11.8	-3.7
IIO	**Organos**	**2.90**	**3**	*i* P	Pn	17 18 44.7	+0.2
IIO				*i* S	Sn	17 19 19.2	+1.0
PTVM	**Pico Tres Padr**	**2.91**	**355**	*i* P	Pn	17 18 46.0	+1.5
PTVM				*i* S	Sn	17 19 19.4	+1.1
MOIG	**Morelia**	**3.71**	**324**	*e*P	Pn	17 18 56.0	+0.4
MOIG				*i* S	Sn	17 19 37.4	-0.8
MOIG	**Morelia**	**3.71**	**324**	*i* P	Pn	17 19 00.4	+4.8
MOIG				*i* S	Sn	17 19 38.8	+0.6
CMIG	**Matias Romero**	**3.83**	**83**	*i* P	Pn	17 18 55.1	-2.2
CMIG				*i* S	Sn	17 19 37.7	-3.4
CMIG	**Matias Romero**	**3.83**	**83**	*i* P	Pn	17 18 55.1	-2.2
CMIG				*i* S	Sn	17 19 36.2	-5.0
MMIG	**Aquila**	**4.57**	**291**	*i* P	Pn	17 19 06.4	-1.0
MMIG				*i* S	Sn	17 19 55.5	-3.7

*NEIC **08** 17:25:12.3, 17.12N×9538W, h112km, MD3.8(MEX), After MEX.*

MEX 08 17:25:12.3±0.6, 1710N×9537W, h113km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.46**	**92**	*i* P	Pn	17 25 28.1	-1.1
CMIG				*i* S	Sn	17 25 40.0	-2.0
OXX	**Oaxaca**	**1.30**	**269**	*e*P	Pn	17 25 36.0	-0.9
OXX				*i* S	Sn	17 25 54.5	-1.1
VHO	**Vista Hermosa**	**1.31**	**269**	*i* P	Pn	17 25 36.1	-0.9
VHO				*i* S	Sn	17 25 54.1	-1.7
HUIG	**Huatulco**	**1.51**	**208**	*i* P	Pn	17 25 37.7	-1.7
HUIG				*i* S	Sn	17 25 58.8	-1.1

IDC 08 17:31:13.3±2.0, 4652N×15476E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=62.1km s-min=28.9km az=173.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.82**	**255**	P	P	17 36 07.4	+0.2
	1.1nm,0.7s,baz=44,slow=8.7,SNR=4.7						
MKAR	**Makanchi Array**	**48.05**	**298**	P	P	17 39 54.5	+0.1
	0.5nm,0.8s,baz=64,slow=6.5,SNR=3.7						
BVAR	**Borovoye Array**	**51.88**	**310**	P	P	17 40 22.4	-1.0
	0.4nm,0.4s,baz=64,slow=9.8,SNR=2.7						
FINES	**FINESS Array B**	**64.72**	**335**	P	P	17 41 53.0	-0.3
	0.7nm,0.5s,baz=50,slow=7.1,SNR=7.4						
TXAR	**Lajitas Array**	**76.61**	**62**	P	P	17 43 05.9	+0.2
	0.5nm,0.9s,baz=354,slow=7.6,SNR=3.2						

*ISCJB **08** 17:34:20.1±0.2, 4613N±001×1479E±002, h6km±3km, Error ellipse: s-maj=2.5km s-min=1.8km az=18.3*
*NEIC **08** 17:34:20.7±0.2, 4610N×1477E, h10km, ML3.0(LJU), Error ellipse: s-maj=3.5km s-min=2.5km az=184.0*
NEIC Felt in the Litija-Moravce area.
*CSEM **08** 17:34:20.3±0.0, 4611N×1479E, h15km, ML3.1/4, Error ellipse: s-maj=1.0km s-min=0.7km az=4.0*
*LJU **08** 17:34:20.0, 4611N×1478E, h13km, ML2.5*
*PRU **08** 17:34:21.4, 4623N×1478E, h0km*

ISC 08 17:34:20.8±0.2, 4612N±002×1480E±002, h9km±3km, n71, σ0§74/138, 18C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.15**	**112**	⇑*i*Pg	**Pg**	**17 34 24.6**	**+0.5**
PDKS				*i* Sg	**Sg**	**17 34 27.0**	**+0.8**
PDKS							
	comp=Z,816nm,0.1s						
PDKS	**Podkum**	**0.15**	**112**	⇑*i*Pg	**Pg**	**17 34 24.6**	**+0.5**
PDKS				*i* Sg	**Sg**	**17 34 27.0**	**+0.8**
PDKS	**Podkum**	**0.15**	**112**	⇑*i*Pg	**Pg**	**17 34 24.6**	**+0.6**
PDKS				*i* Sg	**Sg**	**17 34 27.0**	**+0.8**
	comp=Z,816nm,0.1s						
LJU	**Ljubljana**	**0.20**	**249**	⇑*i*Pg	**Pg**	**17 34 25.0**	**+0.1**
LJU				*i* Sg	**Sg**	**17 34 27.6**	**-0.1**
LJU							
	comp=Z,428nm,0.1s						
LJU	**Ljubljana**	**0.20**	**249**	⇑*i*Pg	**Pg**	**17 34 25.0**	**+0.1**
LJU				*i* Sg	**Sg**	**17 34 27.6**	**-0.1**
LJU	**Ljubljana**	**0.20**	**249**	⇑*i*Pg	**Pg**	**17 34 25.0**	**+0.1**
LJU				*i* Sg	**Sg**	**17 34 27.6**	**-0.1**
	comp=Z,428nm,0.1s						
VISS	**Visnje**	**0.32**	**175**	*i* Pg	**Pg**	**17 34 26.9**	**-0.1**
VISS				*i* Sg	**Sg**	**17 34 31.0**	**-0.2**
VISS							
	comp=Z,378nm,0.1s						
VISS	**Visnje**	**0.32**	**175**	*i* Pg	**Pg**	**17 34 26.9**	**-0.1**
	comp=Z,378nm,0.1s						
LEGS	**Legarje**	**0.40**	**115**	*i* Pg	**Pg**	**17 34 28.7**	**+0.2**
LEGS				*i* Sg	**Sg**	**17 34 34.3**	**+0.4**
LEGS	**Legarje**	**0.40**	**115**	*i* Pg	**Pg**	**17 34 28.7**	**+0.1**
LEGS				*i* Sg	**Sg**	**17 34 34.3**	**+0.4**
	comp=Z,247nm,0.1s						
OBKA	**Obir**	**0.43**	**336**	*e*Pg	**Pg**	**17 34 29.5**	**+0.4**
	SNR=242						
OBKA				⇑*i*Sg	**Sg**	**17 34 34.7**	**0.0**
	comp=Z,367nm,0.2s						
OBKA	**Obir**	**0.43**	**336**	*e*Pg	**Pg**	**17 34 29.5**	**+0.4**
OBKA				*i* Sg	**Sg**	**17 34 34.7**	**0.0**
OBKA	**Obir**	**0.43**	**336**	Pg	**Pg**	**17 34 29.5**	**+0.4**
	comp=Z,241nm,6.0s						
OBKA				Sg	**Sg**	**17 34 34.7**	**-0.1**
	comp=Z,367nm,0.2s						
CEY	**Cerknica**	**0.46**	**214**	⇓*i*Pg	**Pg**	**17 34 29.3**	**-0.4**
CEY				*i* Sg	**Sg**	**17 34 34.9**	**-0.8**
CEY							
	comp=Z,172nm,0.1s						
CEY	**Cerknica**	**0.46**	**214**	⇓*i*Pg	**Pg**	**17 34 29.3**	**-0.4**
CEY				*i* Sg	**Sg**	**17 34 34.9**	**-0.8**
CEY	**Cerknica**	**0.46**	**214**	⇓*i*Pg	**Pg**	**17 34 29.3**	**-0.4**
CEY				*i* Sg	**Sg**	**17 34 34.9**	**-0.8**
DOBS	**Dobrina**	**0.47**	**86**	⇑*i*Pg	**Pg**	**17 34 30.0**	**+0.1**
DOBS							
	comp=Z,112nm,0.1s						
CESS	**Cesta pri Krsk**	**0.49**	**107**	*i* Pg	**Pg**	**17 34 30.4**	**+0.2**
CESS				*i* Sg	**Sg**	**17 34 37.2**	**+0.6**
CESS							
	comp=Z,106nm,0.1s						
CESS	**Cesta pri Krsk**	**0.49**	**107**	*i* Pg	**Pg**	**17 34 30.4**	**+0.2**
CESS				*i* Sg	**Sg**	**17 34 37.2**	**+0.6**
CESS	**Cesta pri Krsk**	**0.49**	**107**	*i* Pg	**Pg**	**17 34 30.4**	**+0.2**
CESS				*i* Sg	**Sg**	**17 34 37.2**	**+0.6**
CRES	**Cresnjev**	**0.55**	**122**	*i* Pg	**Pg**	**17 34 31.1**	**-0.2**
CRES				*i* Sg	**Sg**	**17 34 38.0**	**-0.5**
CRES							
	comp=Z,50nm,0.1s						
CRES	**Cresnjev**	**0.55**	**122**	*i* Pg	**Pg**	**17 34 31.1**	**-0.2**
CRES				*i* Sg	**Sg**	**17 34 38.0**	**-0.5**
CRES	**Cresnjev**	**0.55**	**122**	*i* Pg	**Pg**	**17 34 31.1**	**-0.2**
CRES				*i* Sg	**Sg**	**17 34 38.0**	**-0.5**
JAVS	**Javornik**	**0.56**	**247**	*i* Pg	**Pg**	**17 34 30.9**	**-0.6**
JAVS				*e*Sg	**Sg**	**17 34 38.0**	**-0.8**
JAVS							
	comp=Z,64nm,0.1s						
PERS	**Pernice**	**0.56**	**23**	⇓*i*Pg	**Pg**	**17 34 31.9**	**+0.2**
PERS				*i* Sg	**Sg**	**17 34 38.9**	**-0.1**
BISS	**Bistriski jare**	**0.58**	**23**	⇓*i*Pg	**Pg**	**17 34 32.1**	**+0.2**
BISS							
	comp=Z,189nm,0.1s						
GOLS	**Golise**	**0.59**	**100**	⇑*i*Pg	**Pg**	**17 34 32.3**	**+0.2**
GOLS							
	comp=Z,115nm,0.2s						
GORS	**Gorjuse**	**0.59**	**290**	*i* Pg	**Pg**	**17 34 31.9**	**-0.3**
GORS				*i* Sg	**Sg**	**17 34 40.2**	**+0.2**
GORS							
	comp=Z,57nm,0.1s						
GROS	**Grobnik**	**0.60**	**55**	*i* Pg	**Pg**	**17 34 32.3**	**0.0**
GROS				*e*Sg	**Sg**	**17 34 39.9**	**-0.3**
GCIS	**Gornji Cirnik**	**0.63**	**113**	*i* Pg	**Pg**	**17 34 33.0**	**+0.1**
GCIS				*e*Sg	**Sg**	**17 34 41.3**	**+0.1**
GCIS							
	comp=Z,110nm,0.2s						
VOJS	**Vojsko**	**0.64**	**263**	*i* Pg	**Pg**	**17 34 32.5**	**-0.7**
VOJS				*e*Sg	**Sg**	**17 34 41.6**	**0.0**
KNDS	**Knezji Dol**	**0.66**	**206**	*i* Pg	**Pg**	**17 34 32.8**	**-0.6**
KNDS				*i* Sg	**Sg**	**17 34 42.8**	**+0.7**
KNDS							
	comp=Z,125nm,0.1s						
KNDS	**Knezji Dol**	**0.66**	**206**	*i* Pg	**Pg**	**17 34 32.8**	**-0.6**
KNDS				*i* Sg	**Sg**	**17 34 42.8**	**+0.8**
BOJS	**Bojanci**	**0.69**	**152**	⇑*i*Pg	**Pg**	**17 34 33.7**	**-0.4**
BOJS				*e*Sg	**Sg**	**17 34 42.0**	**-1.1**
BOJS							
	comp=Z,53nm,0.1s						
CADS	**Cadrg**	**0.74**	**279**	*i* Pg	**Pg**	**17 34 34.5**	**-0.7**
CADS				*e*Sg	**Sg**	**17 34 44.9**	**+0.1**
CADS							
	comp=Z,85nm,0.1s						
DRE	**Drenchia**	**0.80**	**274**	⇑*i*Pg	**Pg**	**17 34 35.5**	**-0.8**
DRE				*i* Sg	**Sg**	**17 34 47.6**	**+0.9**
TRI	**Trieste**	**0.83**	**241**	Pg	**Pg**	**17 34 35.4**	**-1.3**
TRI				Sg	**Sg**	**17 34 47.4**	**-0.1**
ROBS	**Robic**	**0.90**	**279**	*e*Pg	**Pg**	**17 34 37.2**	**-1.0**
ROBS				*i* Sg	**Sg**	**17 34 49.9**	**0.0**
ROBS							
	comp=Z,47nm,0.2s						
ROBS	**Robic**	**0.90**	**279**	*e*Pg	**Pg**	**17 34 37.2**	**-1.0**
ROBS				*i* Sg	**Sg**	**17 34 49.9**	**0.0**
ROBS	**Robic**	**0.90**	**279**	*e*Pg	**Pg**	**17 34 37.2**	**-0.9**
ROBS				*i* Sg	**Sg**	**17 34 49.9**	**0.0**
LSR	**Lussari**	**0.95**	**293**	⇓*i*Pg	**Pg**	**17 34 38.5**	**-0.5**
LSR				*i* Sg	**Sg**	**17 34 52.1**	**+0.7**
COLI	**Coloredo**	**0.99**	**271**	⇓*e*Pg	**Pg**	**17 34 39.1**	**-0.6**
COLI				*e*Sg	**Sg**	**17 34 53.5**	**+0.9**
PTCC	**Patocco-Chiusa**	**1.04**	**287**	Pg	**Pg**	**17 34 40.1**	**-0.7**
PTCC				Sg	**Sg**	**17 34 55.8**	**+1.5**
KOGS	**Kog**	**1.06**	**71**	⇓*i*Pg	**Pg**	**17 34 41.2**	**+0.1**
KOGS				*i* Sg	**Sg**	**17 34 55.5**	**+0.6**
KOGS	**Kog**	**1.06**	**71**	⇓*i*Pg	**Pg**	**17 34 41.2**	**+0.1**
KOGS				*i* Sg	**Sg**	**17 34 55.5**	**+0.6**
	comp=Z,5.0nm,0.1s						
BAD	**Bernadia**	**1.09**	**277**	⇓*i*Pg	**Pg**	**17 34 40.4**	**-1.2**
BAD				*i* Sg	**Sg**	**17 34 56.5**	**+0.8**
GMNA	**Gemona**	**1.09**	**279**	Pg	**Pg**	**17 34 42.0**	**+0.2**
GMNA				Sg	**Sg**	**17 34 59.9**	**+3.9**
TLI	**Talmassons**	**1.20**	**261**	*e*Pg	**Pg**	**17 34 43.8**	**+0.1**
PLRO	**Paularo**	**1.22**	**291**	⇑*i*Pg	**Pg**	**17 34 43.9**	**-0.3**
PLRO				*i* Sg	**Sg**	**17 35 00.8**	**+0.7**
ARSA	**Arzberg**	**1.24**	**24**	⇑*e*Pn	**Pn**	**17 34 43.9**	**-0.4**
	SNR=9.3						
ARSA				⇑*i*Sg	**Sg**	**17 35 00.4**	**-0.3**
	comp=Z,8.5nm,0.2s						
ARSA	**Arzberg**	**1.24**	**24**	Pg	**Pg**	**17 34 43.9**	**-0.6**
	comp=Z,9.0nm,3.0s						
ARSA				Sg	**Sg**	**17 35 00.4**	**-0.2**
	comp=Z,8.5nm,0.2s						
MPRI	**Monte Prat**	**1.26**	**276**	⇓*e*Pg	**Pg**	**17 34 44.4**	**-0.6**
MPRI				*e*Sg	**Sg**	**17 35 03.2**	**+1.8**
SISC	**Sisak**	**1.28**	**120**	*i* Sg	**Sg**	**17 35 03.0**	**+1.2**
ZOU	**Zoufplan**	**1.34**	**290**	⇓*i*Pg	**Pg**	**17 34 46.3**	**-0.2**
ZOU				*i* Sg	**Sg**	**17 35 05.1**	**+1.3**
KBA	**Koelnbreinsper**	**1.39**	**314**	*e*Pg	**Pg**	**17 34 46.6**	**-0.8**
	SNR=22						
KBA				⇑*i*Sn	**Sn**	**17 35 04.6**	**-0.2**
KBA				⇓*i*Sg	**Sg**	**17 35 05.5**	**+0.1**
	comp=Z,17nm,0.2s						
KBA	**Koelnbreinsper**	**1.39**	**314**	Pg	**Pg**	**17 34 46.6**	**-0.8**
	comp=Z,22nm,4.0s						
KBA				Sn	**Sn**	**17 35 04.6**	**-0.2**
KBA				Sg	**Sg**	**17 35 05.5**	**+0.1**
	comp=Z,17nm,0.2s						
FVI	**Forni Avoltri**	**1.48**	**290**	Pg	**Pg**	**17 34 48.2**	**-0.9**
MLNI	**Malnisio**	**1.52**	**272**	⇓*i*Pg	**Pn**	**17 34 48.5**	**+0.3**
MLNI				*i* Sg	**Sg**	**17 35 09.8**	**+0.1**
NVLJ	**Novalja**	**1.56**	**178**	*i* Pn	**Pn**	**17 34 49.3**	**+0.7**
NVLJ

Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.88**	**157**	P	P	18 00 11.4	+1.1
	1.8nm,0.5s,baz=335,slow=11,SNR=47						
STKA	**Stephens Creek**	**36.42**	**156**	P	P	18 02 10.6	-0.9
	0.6nm,0.4s,baz=350,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**58.72**	**327**	P	P	18 05 05.0	+0.3
	0.5nm,0.5s,baz=126,slow=8.5,SNR=9.7						

IDC 08 17:57:50.0±4.9, 2102N×14533E, h113km±35km, mb3.4/6, mb1 3.5/7, mb1mx3.4/21, mbtmp3.4/7, Error ellipse: s-maj=83.1km s-min=19.5km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.70**	**335**	P	Pn	17 59 26.6	+0.8
	7.5nm,0.3s,baz=126,slow=19,SNR=5.1						
CBIJ				S	Sn	18 00 40.0	-0.5
	12nm,0.3s,baz=294,slow=20,SNR=4.6						
KSRS	**Korea Array**	**22.27**	**321**	P	P	18 02 39.1	+1.3
	0.6nm,0.4s,baz=137,slow=8.8,SNR=4.0						
SONM	**Songino Array**	**41.14**	**320**	P	P	18 05 22.7	-0.2
	0.2nm,0.4s,baz=126,slow=5.4,SNR=5.2						
WB2	**Warramunga Arr**	**42.10**	**196**	*e*P	P	18 05 30.9	+0.1
WRA	**Warramunga Arr**	**42.11**	**196**	P	P	18 05 30.8	0.0
	0.4nm,0.3s,baz=13,slow=8.8,SNR=23						
FITZ	**Fitzroy Crossi**	**43.41**	**208**	*e*P	P	18 05 40.9	-0.4
	3.6nm,0.6s						
MKAR	**Makanchi Array**	**56.62**	**313**	P	P	18 07 21.1	0.0
	0.4nm,0.5s,baz=91,slow=8.6,SNR=6.7						
ARCES	**ARCESS Array B**	**80.19**	**342**	P	P	18 09 47.8	0.0
	2.6nm,0.9s,baz=74,slow=9.5,SNR=4.1						
FINES	**FINESS Array B**	**84.64**	**335**	P	P	18 10 10.2	-0.7
	1.9nm,0.9s,baz=132,slow=5.7,SNR=4.2						

*STR **08** 18:04:13.3±0.2, 4758N×762E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **08** 18:04:13.7, 4758N×760E, h5km±1km, ML1.7*
*ISCJB **08** 18:04:13.0±0.3, 4760N±002×755E±003, h11km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=23.7*
*CSEM **08** 18:04:13.8±0.1, 4759N×760E, h8km, ML2.5/7, Error ellipse: s-maj=1.1km s-min=1.0km az=154.0*
*NEIC **08** 18:04:14.0, 4759N×757E, h10km, ML2.0(STR), ML2.5(LDG), After LDG.*
*LDG **08** 18:04:14.0±0.1, 4759N×757E, h10km, Md2.3/1, Ml2.5/7, Error ellipse: s-maj=2.7km s-min=1.7km az=156.0*

ISC 08 18:04:13.4±0.4, 4759N±002×756E±003, h13km±4km, n33, σ0°89/65, 3C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.13**	**194**	Pg	**Pg**	**18 04 15.8**	**-1.0**
BBS				Sg	**Sg**	**18 04 18.2**	**-0.9**
BALST	**Balsthal**	**0.27**	**159**	⇓*i*P	**Pg**	**18 04 19.1**	**0.0**
	183nm,0.3s						
BALST				*e*Sg	**Sg**	**18 04 23.4**	**+0.6**
	183nm,0.3s						
BOURR	**Bourrignon**	**0.29**	**229**	⇑*i*Pg	**Pg**	**18 04 20.2**	**+0.7**
	94nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.38**	**99**	⇑*i*Pg	**Pg**	**18 04 20.7**	**-0.4**
	149nm,0.3s						
SULZ				*e*Sg	**Sg**	**18 04 25.6**	**-0.7**
	149nm,0.3s						
MOF	**Molkenrain**	**0.39**	**313**	Pg	**Pg**	**18 04 21.8**	**+0.6**
MOF				Sg	**Sg**	**18 04 27.4**	**+0.9**
FELD	**Feldberg im Sc**	**0.42**	**46**	Pg	**Pg**	**18 04 21.3**	**-0.5**
FELD				Sg	**Sg**	**18 04 26.9**	**-0.5**
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pn	**Pg**	**18 04 25.5**	**+1.7**
HINF				*e*Sg	**Sg**	**18 04 31.4**	**+0.6**
HINF				*e*Sn	**Sg**	**18 04 34.9**	**+4.1**
	31nm,0.2s						
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pg	**Pg**	**18 04 24.0**	**+0.2**
HINF				*e*Pn	**Pg**	**18 04 25.5**	**+1.7**
HINF				*e*Sg	**Sg**	**18 04 31.4**	**+0.6**
HINF				*e*Sn	**Sg**	**18 04 34.9**	**+4.1**
HINF	**Hinteralfeld**	**0.53**	**296**	*e*Pn	**Pg**	**18 04 25.5**	**+1.7**
HINF				*e*Sg	**Sg**	**18 04 31.4**	**+0.6**
HINF				*e*Sn	**Sg**	**18 04 34.9**	**+4.1**
	16nm,0.2s						
LOMF	**Lomont**	**0.55**	**245**	Pg	**Pg**	**18 04 24.9**	**+0.7**
LOMF				Sg	**Sg**	**18 04 33.5**	**+2.0**
SLE	**Schleitheim**	**0.66**	**74**	⇑*i*Pg	**Pg**	**18 04 25.6**	**-0.7**
	156nm,0.1s						
ECH	**Echery**	**0.68**	**337**	Pg	**Pg**	**18 04 26.8**	**+0.1**
ECH				Sg	**Sg**	**18 04 36.2**	**+0.5**
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pn	**Pn**	**18 04 30.5**	**-0.6**
CDF				*e*Sg	**Sg**	**18 04 40.5**	**-0.4**
CDF				*e*Sn	**Sn**	**18 04 42.7**	**-0.6**
	29nm,0.3s						
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pg	**Pg**	**18 04 29.9**	**+0.1**
CDF				*e*Pn	**Pn**	**18 04 30.5**	**-0.6**
CDF				*e*Sg	**Sg**	**18 04 40.5**	**-0.4**
CDF				*e*Sn	**Sn**	**18 04 42.7**	**-0.6**
CDF	**Champ du Feu**	**0.85**	**347**	*e*Pn	**Pn**	**18 04 30.5**	**-0.6**
CDF				*e*Sg	**Sg**	**18 04 40.5**	**-0.4**
CDF				*e*Sn	**Sn**	**18 04 42.7**	**-0.6**
	14nm,0.3s						
STEIN	**Stein am Rhein**	**0.89**	**84**	*e*Pg	**Pg**	**18 04 30.7**	**0.0**
	28nm,0.2s						
BFO	**Black Forest**	**0.91**	**35**	*e*Pg	**Pg**	**18 04 30.8**	**-0.2**
BFO				*e*Sg	**Sg**	**18 04 42.9**	**+0.1**
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	**Pg**	**18 04 31.6**	**+0.5**
HAU				*e*Sg	**Sg**	**18 04 44.1**	**+1.0**
	37nm,0.3s						
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	**Pg**	**18 04 31.6**	**+0.5**
HAU				*e*Sg	**Sg**	**18 04 44.1**	**+1.0**
	18nm,0.3s						
BRANT	**Les Verrieres**	**0.98**	**229**	*e*Pg	**Pg**	**18 04 33.0**	**+0.6**
THEF	**They Montfort**	**1.23**	**302**	Pg	**Pg**	**18 04 37.6**	**+0.4**
SENIN	**Lac Senin**	**1.24**	**188**	*e*P	**Pn**	**18 04 37.9**	**+1.5**
	18nm,0.5s						
PLONS	**Plons**	**1.35**	**113**	*e*S	**Sb**	**18 04 57.4**	**+1.5**
	71nm,0.4s						
CABF	**La Chapelle**	**1.40**	**226**	*e*Pg	**Pg**	**18 04 40.7**	**+0.3**
CABF				*e*Sg	**Sg**	**18 04 58.1**	**-0.5**
	6.8nm,0.2s						
CABF	**La Chapelle**	**1.40**	**226**	*e*Pg	**Pg**	**18 04 40.7**	**+0.3**
CABF				*e*Sg	**Sg**	**18 04 58.1**	**-0.5**
	3.4nm,0.2s						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pg	**Pg**	**18 04 48.1**	**+0.1**
SFTF				*e*Sn	**Sn**	**18 05 05.9**	**-1.0**
SFTF				*e*Sg	**Sg**	**18 05 11.3**	**-0.2**
	5.5nm,0.3s						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pg	**Pg**	**18 04 48.1**	**+0.1**
SFTF				*e*Sn	**Sn**	**18 05 05.9**	**-1.0**
SFTF				*e*Sg	**Sg**	**18 05 11.3**	**-0.2**
	2.8nm,0.3s						
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**18 05 01.3**	**-0.7**
LOR				*e*Sg	**Sg**	**18 05 33.5**	**-1.3**
	3.5nm,0.2s						
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**18 05 01.3**	**-0.7**
LOR				*e*Sg	**Sg**	**18 05 33.5**	**-1.3**
	1.8nm,0.2s						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Sg	**Sg**	**18 05 38.0**	**-2.4**
	2.7nm,0.3s						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Sg	**Sg**	**18 05 38.0**	**-2.4**
	1.4nm,0.3s						
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Sg	**Sg**	**18 05 46.8**	**-2.2**
	1.9nm,0.3s						
AVF	**Avril sur Loir**	**2.98**	**256**	*e*Sg	**Sg**	**18 05 46.8**	**-2.2**
	0.9nm,0.3s						

*ISCJB **08** 18:27:42.9±0.7, 539S±0.1×1340W±02, h10km, mb4.2/5, MS4.0/12, Error ellipse: s-maj=21.2km s-min=13.9km az=136.4*
*IDC **08** 18:27:43.1±0.8, 5405S×13396W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.3/12, mbtmp4.3/5, MS4.0/12, Ms1 3.9/12, ms1mx3.8/20, Error ellipse: s-maj=48.9km s-min=21.4km az=180.0*

ISC 08 18:27:44.4±0.7, 538S±01×1340W±02, h10km, n31, σ1°05/9, mb4.2/5, MS4.0/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**30.69**	**358**	*e*S	**S**	**18 39 00.6**	**-1.2**
	42nm,28.2s						
RKT				*e*LR	LR	18 41 56.3	
	561nm,27.8s						
TBI	**Tubuai**	**32.62**	**333**	*e*LR	LR	18 42 41.4	
	783nm,28.8s						
TBI	**Tubuai**	**32.62**	**333**	*e*T		19 08 28.4	
	186nm,0.4s						
URZ	**Urewera**	**36.56**	**275**	LR	LR	18 46 28.4	
	comp=Z,202nm,19.6s,MS3.9,baz=223,slow=31						
RPZ	**Rata Peaks**	**36.74**	**263**	LR	LR	18 46 21.5	
	comp=Z,238nm,18.8s,MS4.0,baz=353,slow=30						
USHA	**Ushuaia**	**36.97**	**119**	P	**P**	**18 34 52.1**	**-1.7**
	6.7nm,0.7s,mb4.6,baz=259,slow=5.2,SNR=2.7						
TVO	**Taravao**	**37.89**	**336**	*e*T		19 15 03.3	
	8.6nm,0.3s						
RAR	**Rarotonga**	**38.04**	**319**	LR	LR	18 45 49.1	
	comp=Z,350nm,20.1s,MS4.2,baz=63,slow=28						
PPT	**Papeete**	**38.17**	**335**	*e*S	**S**	**18 40 57.3**	**0.0**
	51nm,25.2s						
PPT				*e*LR	LR	18 45 29.4	
	738nm,25.2s						
PPT	**Papeete**	**38.17**	**335**	LR	LR	18 46 08.9	
	comp=Z,452nm,18.8s,MS4.3,baz=187,slow=29						
VAH	**Vaihoa**	**39.98**	**339**	*e*T		19 17 39.9	
	35nm,0.2s						
RAO	**Raoul Island**	**40.14**	**290**	LR	LR	18 48 38.0	
	comp=Z,85nm,19.6s,MS3.6,baz=252,slow=31						
PMOR	**Pomariorio Ree**	**40.27**	**339**	*e*T		19 18 01.6	
	3.5nm,0.2s						
TAOE	**Nuku Hiva Isla**	**45.14**	**351**	*e*LR	LR	18 48 48.8	
	960nm,24.8s						
VNA3	**Neumayer Olymp**	**49.15**	**159**	*e*	**P**	**18 36 33.0**	**+0.7**
VNA3				*e*		18 36 41.0	
AFI	**Afiamalu**	**49.68**	**309**	LR	LR	18 53 20.7	
	comp=Z,131nm,18.4s,MS4.0,baz=90,slow=31						
VNA2	**Neumayer--Watz**	**49.87**	**160**	*e*	**P**	**18 36 37.5**	**-0.3**
	baz=222,slow=8.6						
VNA2				*e*		18 36 45.0	
VNA2				*e*		18 36 46.6	
DZM	**Mont Dzumac**	**54.61**	**281**	LR	LR	18 56 40.3	
	comp=Z,101nm,18.4s,MS3.9,baz=295,slow=32						
MAW	**Mawson**	**58.22**	**188**	LR	LR	19 00 03.6	
	comp=Z,137nm,19.5s,MS4.1,baz=153,slow=34						
STKA	**Stephens Creek**	**61.82**	**254**	P	**P**	**18 38 04.5**	**+1.0**
	1.4nm,0.6s,mb4.2,baz=121,slow=6.3,SNR=3.8						
STKA				LR	LR	19 01 40.4	
	comp=Z,76nm,20.4s,MS3.9,baz=207,slow=33						
LPAZ	**La Paz**	**62.78**	**80**	P	**P**	**18 38 11.1**	**+1.1**
	5.2nm,1.0s,mb4.6,baz=198,slow=4.1,SNR=15						
LPAZ				LR	LR	18 59 49.5	
	comp=Z,37nm,20.7s,MS3.5,baz=102,slow=31						
WRA	**Warramunga Arr**	**75.13**	**257**	P	**P**	**18 39 25.5**	**-1.3**
	1.8nm,0.7s,mb4.1,baz=142,slow=5.3,SNR=15						
ROSC	**El Rosal**	**76.66**	**62**	LR	LR	19 05 58.0	
	comp=Z,78nm,19.2s,MS4.0,baz=221,slow=30						
TXAR	**Lajitas Array**	**86.89**	**26**	P	**P**	**18 40 30.4**	**+1.0**
	0.3nm,0.6s,mb3.7,baz=185,slow=13,SNR=3.6						
BOSA	**Boshof**	**95.94**	**162**	LR	LR	19 26 16.0	
	comp=Z,90nm,18.6s,MS4.3,baz=183,slow=37						
TORD	**Torodi Ar. Bea**	**126.51**	**122**	PKP	PKPdf	18 46 47.6	-0.1
	1.4nm,1.1s,baz=274,slow=2.3,SNR=4.4						
SONM	**Songino Array**	**142.43**	**286**	PKhKP		18 47 09.2	
	0.4nm,0.5s,baz=82,slow=3.1,SNR=3.5						
SONM				PKP	PKPdf	18 47 15.7	-1.7
	0.4nm,0.5s,baz=98,slow=1.7,SNR=3.2						
DAG	**Danmarks Havn**	**147.37**	**23**	*i* P	PKPdf	18 47 27.0	+1.1
MKAR	**Makanchi Array**	**156.00**	**268**	PKPab	PKPab	18 48 06.1	-0.1
	1.1nm,0.7s,baz=92,slow=7.6,SNR=6.5						
ZAL	**Zalesovo**	**157.34**	**286**	PKPab	PKPab	18 48 11.7	-0.2
	1.7nm,0.6s,baz=121,slow=5.1,SNR=4.2						
BRTR	**Keskin Array B**	**163.56**	**144**	PKPab	PKPab	18 48 39.0	0.0
	0.3nm,0.6s,baz=174,slow=4.3,SNR=3.9						

*IDC **08** 18:29:32.6±1.9, 589N×12590E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=88.0km s-min=25.5km az=69.0*
*NEIC **08** 18:29:34.3±1.3, 591N×12582E, h10km, mb4.1/2, Error ellipse: s-maj=62.8km s-min=17.5km az=66.0*
*ISCJB **08** 18:29:48.3±0.9, 56N±01×1256E±03, h144km±11km, mb3.8/5, Error ellipse: s-maj=53.4km s-min=18.8km az=152.7*

ISC 08 18:29:49.8±0.8, 56N±01×1255E±03, h139km±11km, n10, σ0°95/12, mb3.8/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.78**	**314**	⇑*e*P	**Pn**	**18 30 10.2**	**-1.4**
GSPH				*e*S	**Sn**	**18 30 27.9**	**-0.3**
KCP	**Kidapawan**	**1.51**	**344**	⇑*i*P	**Pn**	**18 30 18.9**	**+0.3**
KCP				*i* S	**Sn**	**18 30 41.9**	**+1.3**
KAKA	**Kakadu**	**19.40**	**159**	*e*P	**P**	**18 34 04.5**	**-0.5**
	8.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.50**	**180**	*e*P	**P**	**18 34 48.2**	**+1.2**
	5.5nm,1.0s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.50**	**180**	P	**P**	**18 34 48.1**	**+1.1**
	1.6nm,0.7s,mb3.7,baz=6.1,slow=8.1,SNR=5.9						
WRA	**Warramunga Arr**	**26.78**	**161**	P	**P**	**18 35 16.1**	**-0.6**
	0.6nm,0.4s,mb3.5,baz=340,slow=10,SNR=14						
WB2	**Warramunga Arr**	**26.78**	**161**	*e*P	**P**	**18 35 16.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**39.06**	**191**	P	**P**	**18 37 04.8**	**+1.7**
	7.2nm,0.8s,mb4.3,baz=45,slow=4.3,SNR=5.6						
STKA	**Stephens Creek**	**40.25**	**159**	P	**P**	**18 37 12.5**	**-0.4**
	1.2nm,0.6s,mb3.7,baz=344,slow=15,SNR=3.2						
MKAR	**Makanchi Array**	**55.38**	**325**	P	**P**	**18 39 08.1**	**-1.2**
	0.5nm,0.5s,mb3.5,baz=113,slow=7.7,SNR=5.0						

*IDC **08** 18:33:11.8±1.5, 649N×12703E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/20, mbtmp4.0/6, Error ellipse: s-maj=105.3km s-min=18.8km az=72.0*
*ISCJB **08** 18:33:27.0±1.7, 625N±007×1265E±02, h138km±14km, mb3.8/6, Error ellipse: s-maj=36.5km s-min=10.8km az=172.9*
*MAN **08** 18:33:26.5, 633N×12613E, h191km, mb3.5, ML4.7, MS3.7*

ISC 08 18:33:27.7±1.7, 624N±007×1265E±02, h126km±13km, n12, σ1°07/16, mb3.9/6, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.56**	**264**	⇑*i*P	**Pn**	**18 33 54.8**	**-1.4**
GSPH				*e*S	**Sn**	**18 34 18.0**	**0.0**
KCP	**Kidapawan**	**1.61**	**298**	⇓*e*P	**Pn**	**18 33 58.5**	**+1.8**
KCP				*i* S	**Sn**	**18 34 23.4**	**+4.4**
BUKP	**Musuan**	**2.17**	**319**	*e*P	**Pn**	**18 34 03.0**	**-0.6**
BUKP				*e*S	**Sn**	**18 34 32.0**	**+0.9**
CGP	**Cagayan de Oro**	**2.84**	**321**	⇑*e*P	**Pn**	**18 34 11.3**	**-0.8**
CGP				*i* S	**Sn**	**18 34 45.6**	**-0.8**
MSLP	**Maasin**	**4.20**	**337**	*e*P	**Pn**	**18 34 31.7**	**+1.7**
MSLP				*e*S	**Sn**	**18 35 17.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.20**	**182**	P	**P**	**18 38 34.0**	**+1.6**
	1.6nm,0.8s,mb3.4,baz=23,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**27.13**	**164**	P	**P**	**18 38 57.4**	**-1.4**
	0.4nm,0.3s,mb3.4,baz=344,slow=11,SNR=13						
SONM	**Songino Array**	**44.87**	**341**	P	**P**	**18 41 28.2**	**-1.1**
	0.4nm,0.7s,mb3.3,baz=142,slow=9.9,SNR=3.2						
MKAR	**Makanchi Array**	**55.39**	**324**	P	**P**	**18 42 49.1**	**+0.5**
	3.1nm,0.5s,mb4.6,baz=118,slow=7.7,SNR=32						
BVAR	**Borovoye Array**	**65.12**	**326**	P	**P**	**18 43 54.8**	**0.0**
	1.5nm,0.4s,mb4.1,baz=111,slow=8.1,SNR=11						
AKTO	**Aktyubinsk**	**71.58**	**321**	P	**P**	**18 44 35.5**	**+0.5**
	3.1nm,0.6s,mb4.3,baz=90,slow=7.1,SNR=18						
TORD	**Torodi Ar. Bea**	**121.91**	**290**	PKP	PKPdf	18 52 07.5	+0.7
	0.4nm,0.7s,baz=58,slow=1.4,SNR=5.2						

*ISCJB **08** 18:37:26.4±1.1, 1996N±008×1217E±0.1, h74km±16km, mb3.5/6, Error ellipse: s-maj=21.7km s-min=10.9km az=41.6*
*IDC **08** 18:37:26.3±5.4, 1980N×12179E, h64km±52km, mb3.4/6, mb1 3.6/8, mb1mx3.4/22, mbtmp3.5/8, ML3.8/1, Error ellipse: s-maj=36.8km s-min=20.4km az=69.0*
*MAN **08** 18:37:26.8, 1996N×12170E, h34km, mb3.8, ML4.8, MS3.6*

ISC 08 18:37:28.1±0.9, 1990N±007×1218E±01, h79km±12km, n15, σ0°94/19, mb3.6/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.67**	**171**	*e*P	**Pn**	**18 37 54.8**	**-0.8**
CVP	**Callao Caves**	**2.19**	**179**	⇑*i*P	**Pn**	**18 38 02.0**	**-0.4**
CVP				*i* S	**Sn**	**18 38 29.0**	**+0.4**
ABRA	**Dolores**	**2.46**	**204**	*e*P	**Pn**	**18 38 04.7**	**-1.3**
ABRA				*e*S	**Sn**	**18 38 34.5**	**-0.6**
PALP	**Palanan**	**2.89**	**168**	*e*P	**Pn**	**18 38 12.6**	**+0.7**
PALP				*e*S	**Sn**	**18 38 51.1**	**+5.6**
CAUP	**Cauayan**	**2.94**	**179**	*e*P	**Pn**	**18 38 13.9**	**+1.4**
CAUP				*e*S	**Sn**	**18 38 53.1**	**+6.2**
BALP	**Baler**	**4.14**	**183**	*e*P	**Pn**	**18 38 30.8**	**+2.0**
JOW	**Kunigami**	**9.12**	**40**	P	**Pn**	**18 39 36.1**	**-0.7**
	2.0nm,0.3s,baz=216,slow=13,SNR=6.0						
KSRS	**Korea Array**	**18.29**	**16**	P	**Pn**	**18 41 35.6**	**-0.8**
	baz=197,slow=11,SNR=5.9						
MJAR	**Matsushiro Ar**	**21.96**	**38**	P	**P**	**18 42 16.5**	**+1.2**
	1.3nm,0.7s,mb3.4,baz=253,slow=12,SNR=3.3						
SONM	**Songino Array**	**30.53**	**339**	P	**P**	**18 43 33.3**	**-0.6**
	0.5nm,0.7s,mb3.4,baz=158,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**41.47**	**162**	P	**P**	**18 45 06.1**	**-1.0**
	1.0nm,0.6s,mb3.8,baz=343,slow=9.1,SNR=18						
WB2	**Warramunga Arr**	**41.47**	**162**	*e*P	**P**	**18 45 06.2**	**-0.9**
MKAR	**Makanchi Array**	**41.85**	**319**	P	**P**	**18 45 11.3**	**+1.0**
	0.4nm,0.5s,mb3.4,baz=106,slow=11,SNR=4.1						
AKTO	**Aktyubinsk**	**58.25**	**318**	P	**P**	**18 47 15.1**	**+0.8**
	0.6nm,0.5s,mb3.9,baz=98,slow=14,SNR=3.6						
YKA	**Yellowknife Ar**	**86.69**	**23**	P	**P**	**18 50 03.1**	**0.0**
	0.6nm,0.7s,mb3.6,baz=311,slow=4.5,SNR=9.9						

*IDC **08** 18:41:53.0±1.6, 2068N×11973E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, MS3.2/4, Ms1 3.2/4, ms1mx2.5/43, Error ellipse: s-maj=48.6km s-min=30.0km az=76.0*
*ISCJB **08** 18:41:57.4±2.5, 207N±0.1×1197E±02, h44km±27km, mb3.5/3, MS3.0/2, Error ellipse: s-maj=38.1km s-min=17.6km az=125.7*

ISC 08 18:41:58.6±2.5, 207N±01×1197E±02, h38km±29km, n9, σ0°73/9, mb3.5/3, MS3.0/2, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.60**	**146**	⇑*i*P	**Pn**	**18 42 51.0**	**-0.8**
CVP				*e*S	**Sn**	**18 43 33.0**	**-0.1**
CAUP	**Cauayan**	**4.25**	**152**	*e*P	**Pn**	**18 43 02.5**	**+1.6**
CAUP				*e*S	**Sn**	**18 43 57.7**	**+8.5**
PALP	**Palanan**	**4.45**	**144**	*e*P	**Pn**	**18 43 02.6**	**-0.9**
PALP				*e*S	**Sn**	**18 43 54.4**	**+0.3**
JOW	**Kunigami**	**9.91**	**51**	LR	LR	18 48 27.6	
	comp=Z,131nm,20.9s,baz=77,slow=40						
JNU	**Nakatsue**	**15.84**	**36**	LR	LR	18 50 57.1	
	comp=Z,123nm,20.1s,baz=217,slow=34						
MJAR	**Matsushiro Arr**	**22.56**	**42**	P	**P**	**18 46 55.5**	**+0.2**
	1.7nm,0.9s,mb3.5,baz=237,slow=10,SNR=3.3						
MJAR				LR	LR	18 56 56.1	
	comp=Z,40nm,19.1s,MS2.9,baz=210,slow=40						
PSI	**Prapat**	**26.98**	**231**	LR	LR	18 57 14.6	
	comp=Z,54nm,19.8s,MS3.1,baz=246,slow=34						
MKAR	**Makanchi Array**	**39.98**	**319**	P	**P**	**18 49 29.4**	**0.0**
	0.5nm,0.7s,mb3.3,baz=109,slow=7.1,SNR=2.2						
WRA	**Warramunga Arr**	**42.87**	**160**	P	**P**	**18 49 52.9**	**-0.2**
	1.8nm,0.9s,mb3.8,baz=342,slow=9.2,SNR=9.5						

*STR **08** 19:07:42.1±0.6, 4756N×758E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 19:07:42.8±0.2, 4759N×758E, h11km, Md2.2/1, Ml2.1/5, Error ellipse: s-maj=3.9km s-min=2.2km az=105.0*

ZUR 08 19:07:42.6, 4759N×760E, h5km±1km, ML1.4, 1C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	*i* Sg	Pg	19 07 44.9	-2.7
	178nm,0.3s						
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	19 07 46.6	-1.0
	178nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	19 07 48.0	-0.7
	31nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i* Sg	Pg	19 07 49.2	-0.2
	42nm,0.6s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Sg	19 07 51.8	-2.3
	42nm,0.6s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	19 07 50.5	-0.1
MOF				Sg	Sg	19 07 56.2	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	19 07 52.8	-0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	19 07 54.7	+1.4
HINF				*e*Sg	Sg	19 08 00.1	-0.4
HINF				*e*Sn	Sg	19 08 03.6	+3.1
	7.5nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	*i* P	Pg	19 07 54.5	-0.2
	58nm,0.3s						
SLE				*i* Sg	rx	19 07 54.7	
	58nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	19 07 55.9	-0.1
ECH				Sg	Sg	19 08 04.9	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	19 07 59.2	+0.2
CDF				*e*Sg	Sg	19 08 09.7	-0.4
CDF				*e*Sn	Sn	19 08 11.1	-3.1
	9.4nm,0.3s						
STEIN	**Stein am Rhein**	**0.86**	**84**	*e*P	Pg	19 07 57.4	-1.8
STEIN				*e*S	Sg	19 08 03.3	-7.1
WILA	**Wila**	**0.90**	**100**	*e*S	Pg	19 07 59.6	-0.3

DIGO			*i* S		**Sn**	**19 18 26.7 +3.6**
GZT	**Gaziantep**	**3.07 215**	*i* P		**Pn**	**19 17 57.1 +4.5**
GZT			*i* S		**Sg**	**19 18 42.0 +0.4**
SIRT	**Sirnak**	**3.16 138**	*e*PN		**Pn**	**19 17 54.1 +0.4**
BNN	**Bunyan**	**3.23 253**	*e*PN		**Pn**	**19 17 55.6 +0.9**
KMRS	**Kahramanmaras**	**3.29 224**	*e*PN		**Pn**	**19 17 56.0 +0.5**
SOC	**Sochi**	**3.69 359**	*c i* P		**Pn**	**19 18 00.4 -0.7**
SOC			*e*			19 18 45.4
SOC			pmax	pmax		
	comp=Z,50nm,0.5s					
SOC			smax			
	comp=N,258nm,0.7s					
SOC	**Sochi**	**3.69 359**	*i* P		**Pn**	**19 18 00.4 -0.7**
	comp=N,50nm,0.5s					
GNI	**Garni**	**3.81 85**	*e*PN		**Pn**	**19 18 01.9 -0.8**
GNI	**Garni**	**3.81 85**	Pn		**Pn**	**19 18 02.1 -0.6**
	comp=N,0.3nm,0.3s,baz=22,slow=5.6,SNR=4.1					
GNI			Pg		**Pg**	**19 18 12.7 -3.2**
	comp=N,1.5nm,0.3s,baz=283,slow=6.0,SNR=8.8					
GNI	**Garni**	**3.81 85**	*i* P		**Pn**	**19 18 01.2 -1.5**
GNI	**Garni**	**3.81 85**	Pn		**Pn**	**19 18 02.1 -0.6**
GNI	**Garni**	**3.81 85**	Pg		**Pb**	**19 18 12.7 +1.8**
KZR	**Kazreti**	**3.82 66**	P		**Pb**	**19 18 11.8 +0.8**
ONI	**Oni**	**3.85 45**	P		**Pn**	**19 18 02.4 -0.9**
ONI			S		**Sb**	**19 18 59.0 +0.3**
GOR	**Gori**	**3.88 56**	P		**Pb**	**19 18 12.7 +0.6**
GOR			S		**Sb**	**19 19 00.9 +1.3**
CTKT	**Corum**	**3.90 282**	*i* P		**Pn**	**19 18 04.4 +0.5**
CTKT			*i* S		**Sg**	**19 19 08.9 +0.7**
CORM	**Corum**	**3.97 276**	*e*PN		**Pn**	**19 18 05.3 +0.3**
AVNT	**Avonos**	**3.99 255**	*i* P		**Pn**	**19 18 04.3 -0.8**
AVNT			*i* S		**Sg**	**19 19 09.7 -1.3**
BOYT	**Boyabat**	**4.02 294**	*i* P		**Pb**	**19 18 12.3 -2.2**
BOYT			*i* S		**Sb**	**19 19 03.2 -0.4**
CDAG	**Cicekdag**	**4.19 268**	*i* P		**Pb**	**19 18 16.5 -0.9**
CDAG			*i* S		**Sg**	**19 19 19.6 +2.2**
MTA	**Mtatsminda**	**4.20 63**	P		**Pb**	**19 18 13.5 -4.1**
MTA			S		**Sg**	**19 19 16.5 -1.3**
ZEI	**Tsey**	**4.22 46**	*e*P		**Pn**	**19 18 09.6 +1.2**
DUS	**Dusheti**	**4.32 58**	P		**Pb**	**19 18 20.3 +0.7**
SHAR	**Shatzhatmas**	**4.41 28**	*i* P		**Pn**	**19 18 12.5 +1.6**
SHAR			*i* S		**Sn**	**19 19 04.1 +1.2**
SHAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
SHAR			smax			
	comp=N,24nm,0.8s					
SHAR	**Shatzhatmas**	**4.41 28**	*i* P		**Pn**	**19 18 12.5 +1.6**
	comp=N,1.0nm,0.8s					
KIV	**Kislovodsk**	**4.60 27**	*e*P		**Pn**	**19 18 17.2 +3.6**
KIV			pmax	pmax		
	comp=Z,7.0nm,0.8s					
KIV	**Kislovodsk**	**4.60 27**	*e*P		**Pn**	**19 18 13.0 -0.5**
KIV	**Kislovodsk**	**4.60 27**	*e*P		**Pn**	**19 18 13.0 -0.6**
BR131	**Keskin Array S**	**4.74 270**	*e*P		**Pn**	**19 18 07.7 -7.8**
BRTR	**Keskin Array B**	**4.74 270**	Pn		**Pn**	**19 18 13.4 -2.1**
	comp=Z,0.4nm,0.3s,baz=77,slow=7.1,SNR=19					
BRTR			Lg			19 19 33.9
	baz=74,slow=41,SNR=1.5					
BRTR	**Keskin Array B**	**4.74 270**	*i* P		**Pn**	**19 18 17.0 +1.5**
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.4s					
BRTR	**Keskin Array B**	**4.74 270**	Pn		**Pn**	**19 18 13.4 -2.1**
BRTR	**Keskin Array B**	**4.74 270**	*i* P		**Pn**	**19 18 17.0 +1.5**
	comp=Z,1.0nm,0.4s					
ANN	**Anapa**	**5.21 341**	*e*P		**Pn**	**19 18 25.9 +4.0**
ANN			*e*S		**Sn**	**19 19 30.0 +7.3**
ANN			pmax	pmax		
	comp=Z,29nm,0.8s					
ANN			MLR	MLR		
	comp=Z,106nm,6.0s					
GOF	**Gofitskoye**	**5.69 24**	*e*P		**Pb**	**19 18 43.5 +0.5**
SUDU	**Sudak**	**6.13 326**	*e*P		**Pn**	**19 18 33.5 -1.1**
SUDU			*e*S		**Sn**	**19 19 43.0 -2.3**
SUDU			pmax	pmax		
	comp=Z,30nm,0.3s					
SUDU			smax			
	comp=E,30nm,0.6s					
SUDU	**Sudak**	**6.13 326**	*e*P		**Pn**	**19 18 33.5 -1.1**
	comp=E,30nm,0.3s					
YAL	**Yalta**	**6.22 319**	*e*P		**Pn**	**19 18 36.7 +0.9**
YAL			*e*S		**Sn**	**19 19 50.0 +2.5**
YAL			pmax	pmax		
	comp=Z,30nm,0.3s					
YAL			smax			
	comp=N,17nm,0.7s					
YAL			smax			
	comp=E,12nm,0.8s					
YAL			smax			
	comp=N,27nm,0.9s					
YAL			smax			
	comp=E,21nm,1.1s					
YAL	**Yalta**	**6.22 319**	*e*P		**Pn**	**19 18 36.7 +0.9**
	comp=E,30nm,0.3s					
ALU	**Alushta**	**6.24 322**	*e*P		**Pn**	**19 18 36.6 +0.5**
ALU			*e*S		**Sn**	**19 19 48.4 +0.4**
ALU			pmax	pmax		
	comp=Z,13nm,0.6s					
ALU			smax			
	comp=N,31nm,0.7s					
ALU	**Alushta**	**6.24 322**	*e*P		**Pn**	**19 18 36.6 +0.5**
	comp=N,13nm,0.6s					
SEV	**Sevastopol'**	**6.50 318**	*e*P		**Pn**	**19 18 39.8 +0.1**
SEV			*e*S		**Sn**	**19 19 55.8 +1.2**
SEV			pmax	pmax		
	comp=Z,2.0nm,0.1s					
SEV			smax			
	comp=N,8μm,0.6s					
SEV			smax			
	comp=E,3.0nm,0.6s					
SEV	**Sevastopol'**	**6.50 318**	*e*P		**Pn**	**19 18 39.8 +0.1**
	comp=E,2.0nm,0.1s					
MMAI	**Mount Meron Ar**	**7.72 209**	Pn		**Pn**	**19 18 56.1 -0.3**
	comp=E,0.6nm,0.3s,baz=59,slow=15,SNR=5.7					
PLOR	**Plostina**	**11.33 306**	⇓*i* P		**Pn**	**19 19 48.6 +2.7**
MLR	**Muntele Rosu**	**11.62 303**	Pn		**Pn**	**19 19 50.7 +0.8**
	comp=E,0.2nm,0.3s,baz=90,slow=20,SNR=2.7					
MLR	**Muntele Rosu**	**11.62 303**	⇑P		**Pn**	**19 19 55.2 +5.3**
MLR	**Muntele Rosu**	**11.62 303**	Pn		**Pn**	**19 19 50.7 +0.8**
MLR			⇑P			19 19 55.2
MLR	**Muntele Rosu**	**11.62 303**	⇑*i* P		**Pn**	**19 19 55.2 +5.3**
BURAR	**Bucovina Array**	**13.05 311**	⇑*i* P		**Pn**	**19 20 08.6 -0.8**
AKASG	**Malin Array Be**	**13.11 329**	Pn		**Pn**	**19 20 07.0 -3.2**
	comp=E,1.4nm,0.3s,baz=133,slow=14,SNR=8.3					
AKASG	**Malin Array Be**	**13.11 329**	*i* P		**Pn**	**19 20 07.9 -2.3**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.4s					
AKASG	**Malin Array Be**	**13.11 329**	Pn		**Pn**	**19 20 07.0 -3.2**
OBN	**Obninsk**	**15.38 353**	P		**Pn**	**19 20 44.0 +2.9**
OBN			pmax	pmax		
	comp=Z,4.0nm,1.0s					
AKTK	**Aktyubinsk**	**16.58 44**	Pn		**Pn**	**19 20 58.0 +1.5**
AKTK	**Aktyubinsk**	**16.58 44**	P		**Pn**	**19 20 58.1 +1.5**
AKTO	**Aktyubinsk**	**16.58 44**	Pn		**Pn**	**19 20 58.0 +1.5**
	comp=Z,0.1nm,0.3s,baz=237,slow=8.0,SNR=8.7					
VAE	**Valguarnera**	**19.94 271**	LR		LR	19 30 30.6
	comp=Z,140nm,18.8s,baz=240,slow=40					
FINES	**FINESS Array B**	**23.17 343**	P		**P**	**19 22 10.1 -0.8**
	comp=Z,2.8nm,0.9s,mb3.8,baz=158,slow=12,SNR=3.0					
BVAR	**Borovoye Array**	**24.62 48**	LR		LR	19 34 27.0
	comp=Z,103nm,18.2s,MS3.4,baz=206,slow=42					
ARCES	**ARCESS Array B**	**30.66 350**	P		**P**	**19 23 18.1 -0.8**
	comp=Z,6.1nm,1.0s,mb4.5,baz=146,slow=8.3,SNR=3.6					
TORD	**Torodi Ar. Bea**	**42.76 242**	P		**P**	**19 24 59.6 -2.3**
	comp=Z,0.4nm,0.9s,mb3.1,baz=42,slow=8.7,SNR=2.9					
SONM	**Songino Array**	**47.32 57**	P		**P**	**19 25 36.5 -1.6**
	comp=Z,0.1nm,0.6s,mb3.1,baz=273,slow=4.8,SNR=2.9					

*IDC **08** 19:24:55.2±0.5,2029S×174.02W,h0km,mb4.7/16, mb1 4.8/17,mb1mx4.8/20,mbtmp4.7/17,ML5.2/1,MS4.2/25, Ms1 4.2/25,ms1mx4.2/34,Error ellipse: s-maj=20.8km s-min=15.0km az=134.0*

*NEIC **08** 19:24:56.7±0.2,2029S×174.06W,h10km,mb5.1/24,Error ellipse: s-maj=11.7km s-min=6.5km az=143.0*

*BJI **08** 19:24:56.6,2030S×174.10W,h10km,mB5.5,mb4.9,Ms5.3, Msz4.8*

*ISCJB **08** 19:24:58.8±0.2,2037S±.006×174.05W±.005,h33km, mb4.9/49,MS4.4/27,Error ellipse: s-maj=9.7km s-min=4.9km az=105.8*

*MOS **08** 19:25:02.0±3.3,2022S×174.21W,h33km,mb5.2/14,Error ellipse: s-maj=12.0km s-min=10.7km az=140.6*

*SZGRF **08** 19:25:04.5,1900S×174.10W,h33km,Tonga Islands*

ISC 08 19:25:02.2±2.9,2039S±.006×17407W±.006,h49km±26km, h8km±4.2km:pP-P,n374,σ0.71/273,mb4.9/49,MS4.4/27, 84C-80D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.80**	**19**	Pn	**Pn**	**19 26 31.1**	**-8.3**
	30nm,0.3s,baz=30,slow=7.4,SNR=13						
AFI				Sn	**Sn**	**19 27 43.0**	**-12**
	31nm,0.3s,baz=166,slow=23,SNR=6.3						
AFI				LR	LR	19 28 49.5	
	comp=Z,716nm,18.4s,baz=189,slow=35						
AFI	**Afiamalu**	**6.80**	**19**	*e*P	**Pn**	**19 26 30.6**	**-8.8**
AFI				pmax	pmax		
	comp=Z,140nm,0.5s						
AFI	**Afiamalu**	**6.80**	**19**	*e*P	**Pn**	**19 26 30.6**	**-8.8**
	comp=Z,140nm,0.5s						
RAO	**Raoul Island**	**9.49**	**201**	Sn	**Sn**	**19 28 55.9**	**-5.7**
	comp=Z,52nm,0.3s,baz=53,slow=20,SNR=4.1						
RAO				LR	LR	19 30 18.9	
	comp=Z,532nm,19.7s,baz=25,slow=34						
RAR	**Rarotonga**	**13.39**	**96**	Pn	**Pn**	**19 27 56.6**	**-13**
	comp=Z,7.8nm,0.3s,baz=243,slow=8.6,SNR=14						
DZM	**Mont Dzumac**	**18.25**	**261**	*e*P	**Pn**	**19 29 12.4**	**+0.6**
DZM	**Mont Dzumac**	**18.25**	**261**	P	**Pn**	**19 29 13.1**	**+1.3**
	comp=Z,2.0nm,0.3s,baz=89,slow=19,SNR=15						
DZM				LR	LR	19 35 02.6	
	comp=Z,924nm,19.6s,baz=107,slow=33						
URZ	**Urewera**	**19.38**	**201**	P	**Pn**	**19 29 23.8**	**-1.7**
	comp=Z,7.8nm,0.3s,baz=298,slow=3.2,SNR=44						
TBI	**Tubuai**	**23.02**	**102**	*e*LQ		19 34 08.2	
	comp=Z,640nm,27.5s						
TBI				*e*LR	LR	19 35 26.5	
	comp=Z,1μm,27.8s,baz=280						
PAE	**Paea**	**23.30**	**87**	*e*P	**P**	**19 30 09.9**	**+4.0**
	comp=Z,87nm,1.1s,mb5.1						
PAE	**Paea**	**23.30**	**87**	*e*P	**P**	**19 30 09.9**	**+4.0**
PAE				pmax	pmax		
	comp=Z,87nm,1.1s,mb5.1						
PPT	**Papeete**	**23.32**	**87**	*e*LQ		19 34 22.3	
	comp=Z,1μm,26.8s						
PPT				*e*LR	LR	19 35 30.2	
	comp=Z,1μm,25.8s,baz=254						
PPT	**Papeete**	**23.32**	**87**	LR	LR	19 36 20.2	
	comp=Z,410nm,21.5s,MS3.9,baz=253,slow=29						
PPT	**Papeete**	**23.32**	**87**	*e*P	**P**	**19 30 10.7**	**+4.7**
PPT				pmax	pmax		
	comp=Z,64nm,1.3s						
PPT	**Papeete**	**23.32**	**87**	*e*P	**P**	**19 30 10.7**	**+4.7**
	comp=Z,64nm,1.3s,mb4.9						
PPT				*e*LQ		19 34 22.3	
VAH	**Vaihoa**	**25.67**	**83**	*e*P	**P**	**19 30 32.0**	**+4.6**
	comp=Z,50nm,1.0s,mb5.0						
RPZ	**Rata Peaks**	**26.38**	**205**	P	**P**	**19 30 34.5**	**+0.7**
	comp=Z,18nm,0.7s,mb4.7,baz=7.1,slow=5.2,SNR=7.0						
RPZ				LR	LR	19 40 25.7	
	comp=Z,693nm,20.2s,MS4.2,baz=33,slow=35						
HNR	**Honiara**	**27.33**	**290**	LR	LR	19 39 57.4	
	comp=Z,443nm,18.7s,MS4.1,baz=179,slow=33						
TAOE	**Nuku Hiva Isla**	**34.68**	**76**	*e*LR	LR	19 40 43.5	
	comp=Z,2μm,25.9s						
CNB	**Canberra Magne**	**35.37**	**237**	*e*P	**P**	**19 31 53.0**	**0.0**
	comp=Z,12nm,0.8s,mb4.9						
RKT	**Rikitea**	**36.34**	**102**	*e*LR	LR	19 41 31.8	
	comp=Z,662nm,27.5s,baz=276						
CTA	**Charters Tower**	**37.17**	**263**	*e*P	**P**	**19 32 08.2**	**-0.2**
	comp=Z,11nm,0.9s,mb4.7						
CTA	**Charters Tower**	**37.17**	**263**	P	**P**	**19 32 08.8**	**+0.4**
	comp=Z,7.2nm,0.4s,mb4.8,baz=94,slow=11,SNR=13						
CTA	**Charters Tower**	**37.17**	**263**	*e*P	**P**	**19 32 08.2**	**-0.2**
	comp=Z,11nm,0.9s,mb4.7						
CTAO	**Charters Tower**	**37.17**	**263**	*e*P	**P**	**19 32 08.0**	**-0.4**
	comp=Z,14nm,0.8s,mb4.8						
PMG	**Port Moresby**	**38.93**	**280**	P	**P**	**19 32 22.1**	**-1.2**
	comp=Z,7.8nm,0.7s,mb4.5,baz=88,slow=12,SNR=3.7						
PMG				LR	LR	19 46 38.9	
	comp=Z,421nm,18.2s,MS4.3,baz=117,slow=34						
PMG	**Port Moresby**	**38.93**	**280**	*i* P	**P**	**19 32 22.7**	**-0.5**
TOO	**Toolangi**	**38.96**	**235**	*e*P	**P**	**19 32 23.4**	**-0.1**
	comp=Z,8.1nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**41.16**	**245**	*e*P	**P**	**19 32 40.8**	**-0.9**
	comp=Z,5.7nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**41.16**	**245**	P	**P**	**19 32 40.6**	**-1.1**
	comp=Z,8.9nm,0.8s,mb4.4,baz=79,slow=8.4,SNR=19						
STKA				LR	LR	19 48 49.5	
	comp=Z,624nm,18.4s,MS4.5,baz=41,slow=35						
WB2	**Warramunga Arr**	**48.26**	**261**	⇑*i* P	**P**	**19 33 36.9**	**-1.3**
WRAB	**Tennant Creek**	**48.26**	**261**	⇑*e*P	**P**	**19 33 36.9**	**-1.3**
WRAB	**Tennant Creek**	**48.26**	**261**	*e*P	**P**	**19 33 36.5**	**-1.7**
	comp=Z,30nm,1.2s,mb5.2						
WRA	**Warramunga Arr**	**48.27**	**261**	P	**P**	**19 33 37.0**	**-1.3**
	comp=Z,1.6nm,0.3s,mb4.5,baz=95,slow=7.8,SNR=80						
WRA				LR	LR	19 53 25.2	
	comp=Z,409nm,18.5s,MS4.4,baz=125,slow=35						
FORT	**Forrest**	**52.72**	**246**	*e*P	**P**	**19 34 10.9**	**-1.0**
	comp=Z,26nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**56.70**	**261**	P	**P**	**19 34 42.3**	**+1.6**
	comp=Z,1.9nm,0.4s,mb4.5,baz=82,slow=7.1,SNR=2.6						
SBA	**Scott Base**	**58.26**	**185**	*e*P	**P**	**19 34 53.3**	**+1.6**
SBA				pmax	pmax		
	comp=Z,191nm,2.2s,mb5.7						
SBA	**Scott Base**	**58.26**	**185**	*e*P	**P**	**19 34 53.3**	**+1.6**
	comp=Z,191nm,2.2s,mb5.7						
VNDA	**Vanda**	**58.38**	**186**	P	**P**	**19 34 53.8**	**+1.3**
	comp=Z,4.7nm,1.1s,mb4.5,baz=8.4,slow=7.6,SNR=13						
VNDA				LR	LR	19 55 31.1	
	comp=Z,230nm,18.7s,MS4.3,baz=324,slow=31						
VNDA	**Vanda**	**58.38**	**186**	*e*P	**P**	**19 34 53.7**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,62nm,2.0s						
VNDA	**Vanda**	**58.38**	**186**	*e*P	**P**	**19 34 53.7**	**+1.2**
	comp=Z,62nm,2.0s,mb5.3						
QSPA	**South Pole Qui**	**69.69**	**180**	*e*P	**P**	**19 36 07.3**	**+0.6**
	comp=Z,42nm,1.1s,mb5.3						
MJAR	**Matsushiro Arr**	**72.36**	**321**	P	**P**	**19 36 23.5**	**+0.6**
	comp=Z,12nm,1.0s,mb4.8,baz=158,slow=6.2,SNR=12						
MJAR				LR	LR	20 03 14.0	
	comp=Z,134nm,18.9s,MS4.2,baz=130,slow=32						
MAJO	**Matsushiro**	**72.37**	**321**	*e*P	**P**	**19 36 23.5**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,51nm,1.5s,mb5.2						
MAJO	**Matsushiro**	**72.37**	**321**	*e*P	**P**	**19 36 23.5**	**+0.5**
	comp=Z,51nm,1.5s,mb5.2						
MAT	**Matsushiro**	**72.37**	**321**	P	**P**	**19 36 23.2**	**+0.2**
MIR	**Mirnyy**	**72.65**	**205**	*c i* P	**P**	**19 36 27.0**	**+2.4**
MIR				*e*	pP	19 36 40.0	+1.3
MIR				*e*		19 36 48.0	
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.8						
JNU	**Nakatsue**	**74.78**	**315**	LR	LR	20 03 52.0	
	comp=Z,120nm,21.1s,MS4.2,baz=5.0,slow=31						
BSC	**Santa Cruz Isl**	**74.89**	**44**	⇓P	**P**	**19 36 38.0**	**+0.2**
	baz=75						
FARB	**Farallon Islan**	**75.12**	**40**	⇓P	**P**	**19 36 39.9**	**+0.9**
	baz=75						
HAST	**UC Hastings Re**	**75.16**	**41**	⇓P	**P**	**19 36 39.7**	**+0.4**
	baz=75						
CIS	**Catalina Islan**	**75.35**	**46**	⇑P	**P**	**19 36 40.3**	**-0.1**
	baz=76						
JRSC	**Jasper Ridge**	**75.39**	**40**	⇓P	**P**	**19 36 41.0**	**+0.3**
	baz=76						
U04C	**Hernandez Rese**	**75.62**	**42**	⇑P	**P**	**19 36 42.6**	**+0.7**
	baz=76						
PACP	**Pacheco Peak**	**75.72**	**41**	⇓P	**P**	**19 36 42.7**	**+0.2**
	baz=76						
OSI	**Osito Adit**	**75.86**	**44**	⇓P	**P**	**19 36 43.5**	**+0.2**
	baz=76						
MNRC	**McLaughlin Nat**	**76.22**	**39**	⇓P	**P**	**19 36 45.4**	**0.0**
	baz=76						
MURC	**Murrieta**	**76.27**	**46**	⇓P	**P**	**19 36 45.4**	**-0.2**
	baz=76						
BFSC	**Mount Baldy St**	**76.34**	**45**	⇑P	**P**	**19 36 45.7**	**-0.4**
	baz=76						
VES	**Vestal, Richgr**	**76.38**	**43**	⇓P	**P**	**19 36 46.4**	**+0.1**
	baz=76						
MONP	**Monument Peak**	**76.39**	**47**	⇓P	**P**	**19 36 46.3**	**0.0**
	baz=76						
DVTC	**Desert V Tower**	**76.48**	**47**	⇓P	**P**	**19 36 47.0**	**+0.2**
	baz=77						
EDW2	**Edwards Air Fo**	**76.51**	**45**	P	**P**	**19 36 46.9**	**0.0**
	baz=77,SNR=9.9						
ISA	**Isabella**	**76.66**	**44**	P	**P**	**19 36 48.6**	**+0.7**
	baz=77,SNR=7.3						
T06C	**Milleton Lake**	**76.70**	**42**	⇓P	**P**	**19 36 48.1**	**0.0**
	baz=77						
PFO	**Pinyon Flat Ob**	**76.78**	**46**	LR	LR	20 03 56.7	
	comp=Z,159nm,19.1s,MS4.3,baz=242,slow=30						
PFO	**Pinyon Flat Ob**	**76.78**	**46**	*e*P	**P**	**19 36 48.3**	**-0.3**
PFO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
PFO	**Pinyon Flat Ob**	**76.78**	**46**	*e*P	**P**	**19 36 48.3**	**-0.2**
	comp=Z,9.1nm,1.0s,mb4.7						
PFO	**Pinyon Flat Ob**	**76.78**	**46**	⇓P	**P**	**19 36 48.8**	**+0.3**
	baz=77						
SWSC	**Sam W. Stewart**	**76.85**	**47**	⇑P	**P**	**19 36 49.4**	**+0.4**
	baz=77						
CMB	**Columbia Colle**	**76.92**	**41**	⇓P	**P**	**19 36 49.2**	**-0.1**
	baz=77						
HELL	**Mitchell Peak,**	**76.93**	**43**	⇓P	**P**	**19 36 49.1**	**-0.3**
	baz=77						
LRMC	**Laurel Mountai**	**77.06**	**44**	⇓P	**P**	**19 36 50.4**	**+0.3**
	baz=77						
KCC	**Kaiser Creek**	**77.14**	**42**	⇑P	**P**	**19 36 50.8**	**+0.2**
	baz=77						
S06C	**San Francisco**	**77.15**	**41**	⇑P	**P**	**19 36 50.4**	**-0.2**
	baz=77						
LAVA	**Lava Cap Winer**	**77.16**	**40**	⇑P	**P**	**19 36 50.4**	**-0.3**
	baz=77						
ORV	**Oroville**	**77.22**	**39**	⇑P	**P**	**19 36 50.5**	**-0.5**
	baz=77						
BELC	**Belle Mtn.**	**77.32**	**46**	P	**P**	**19 36 51.8**	**+0.2**
	baz=78,SNR=7.7						
BC3	**Big Chuckw Mtn**	**77.49**	**47**	P	**P**	**19 36 52.9**	**+0.4**
	baz=78,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**77.50**	**331**	*e*P	**P**	**19 36 54.5**	**+1.9**
R05C	**Kirkwood Meado**	**77.53**	**40**	⇓P	**P**	**19 36 52.6**	**-0.1**
	baz=78						
GSC	**Goldstone**	**77.54**	**45**	P	**P**	**19 36 53.2**	**+0.5**
	baz=78,SNR=5.6						
MPMC	**Manual Prospec**	**77.54**	**44**	P	**P**	**19 36 53.3**	**+0.5**
	baz=78,SNR=16						
HEC	**Hector,Ludlow**	**77.58**	**45**	P	**P**	**19 36 52.9**	**-0.1**
	baz=78,SNR=7.7						
GLA	**Glamis**	**77.58**	**48**	⇓P	**P**	**19 36 53.5**	**+0.5**
	baz=78,SNR=6.2						
P05C	**Yuba Gap, Truc**	**77.59**	**40**	⇓P	**P**	**19 36 53.2**	**+0.2**
	baz=78						
MTUM	**Tungsten Hills**	**77.63**	**42**	*e*P	**P**	**19 36 53.5**	**+0.2**
TIN	**Tinemaha**	**77.66**	**43**	⇑P	**P**	**19 36 53.9**	**+0.4**
	baz=78						
R07C	**Lee Vining**	**77.78**	**41**	⇑P	**P**	**19 36 54.5**	**+0.4**
	baz=78						
R06C	**Coleville**	**77.80**	**41**	⇑P	**P**	**19 36 54.5**	**+0.3**
	baz=78						
YBH	**Yreka Blue Hor**	**77.94**	**37**	LR	LR	20 07 15.7	
	comp=Z,222nm,18.2s,MS4.5,baz=291,slow=33						
YBH	**Yreka Blue Hor**	**77.94**	**37**	⇓P	**P**	**19 36 55.0**	**0.0**
	baz=78						
O04C	**Chester**	**77.95**	**39**	⇓P	**P**	**19 36 55.6**	**+0.5**
	baz=78						
S08C	**White Mtn Res**	**77.97**	**42**	P	**P**	**19 36 55.9**	**+0.7**
	baz=78,SNR=11						
IRM	**Iron Mountain**	**77.99**	**47**	P	**P**	**19 36 55.7**	**+0.4**
	baz=78,SNR=9.2						
GMRC	**Granite Mounta**	**78.00**	**46**	P	**P**	**19 36 55.4**	**+0.1**
	baz=78,SNR=6.8						
BEKR	**Beckwourth**	**78.09**	**39**	⇑P	**P**	**19 36 55.6**	**-0.3**
	baz=78						
WCN	**Washoe City**	**78.10**	**40**	⇑P	**P**	**19 36 56.0**	**+0.1**
	baz=78						
GRAC	**Grapevine Rang**	**78.18**	**43**	P	**P**	**19 36 57.3**	**+1.0**
	baz=78,SNR=8.1						
Y12C	**Blythe**	**78.19**	**47**	⇓P	**P**	**19 36 57.0**	**+0.6**
	baz=78						
FURC	**Furnace Creek,**	**78.19**	**44**	⇓P	**P**	**19 36 56.7**	**+0.3**
	baz=78						
TUQ	**Turquoise Mtn.**	**78.20**	**45**	⇓P	**P**	**19 36 56.9**	**+0.4**
	baz=78						
SHOC	**Shoshone**	**78.23**	**45**	⇑P	**P**	**19 36 56.5**	**-0.1**
	baz=78						
NVAR	**Mina Array Bea**	**78.45**	**42**	P	**P**	**19 36 57.8**	**0.0**
	comp=Z,13nm,1.0s,mb4.8,baz=233,slow=9.5,SNR=23						
M04C	**Macdoel**	**78.47**	**37**	⇓P	**P**	**19 36 57.6**	**-0.3**
	baz=79						
U10A	**Ash Meadows, A**	**78.51**	**44**	P	**P**	**19 36 58.5**	**+0.4**
	baz=79,SNR=6.8						
R08A	**Mina**	**78.52**	**42**	⇑P	**P**	**19 36 58.8**	**+0.5**
	baz=79						
M05C	**Lookout**	**78.59**	**38**	⇑P	**P**	**19 36 58.3**	**-0.3**
	baz=79						
O06A	**Flanigan**	**78.60**	**39**	⇓P	**P**	**19 36 58.8**	**+0.1**
	baz=79						
S09A	**Goldfield**	**78.70**	**43**	P	**P**	**19 36 59.4**	**+0.1**
	baz=79,SNR=8.6						
PDMCI	**Parker Dam,Lak**	**78.76**	**47**	P	**P**	**19 36 59.9**	**+0.3**
	baz=79,SNR=7.3						
V11A	**Goodsprings**	**78.76**	**45**	⇑P	**P**	**19 37 00.1**	**+0.6**
	baz=79						
W12A	**Cal Nev Ari**	**78.83**	**46**	⇑P	**P**	**19 37 00.8**	**+0.9**
	baz=79						
M06C	**Likely Place G**	**78.88**	**38**	⇑P	**P**	**19 37 00.3**	**+0.1**
	baz=79						
**

baz=81
M09A Marrel Ranch, 80.79 40 ⇑P P 19 37 10.8 +0.3
baz=81
K08A Mann Creek Ran 80.99 38 ⇓P P 19 37 11.6 0.0
baz=81
Q12A Willow Creek R 81.00 43 P P 19 37 12.4 +0.8
baz=81,SNR=5.5
O11A Cowboy Ranch, 81.11 41 P P 19 37 13.1 +0.8
baz=81,SNR=6.5
ARUT Antelope Range 81.18 44 *eP* **P 19 37 13.1 +0.5**
P12A McGill 81.20 42 ⇓P P 19 37 13.1 +0.4
baz=81
H06A Lindquist Farm 81.22 36 ⇓P P 19 37 12.7 -0.1
baz=81,SNR=5.0
I07A Izee 81.26 36 ⇑P P 19 37 13.2 +0.2
baz=81
WUAZ Wupatki 81.32 47 ⇓P P 19 37 14.2 +0.8
baz=82
G06A Carlson Farm, 81.38 35 ⇑P P 19 37 13.4 -0.2
baz=82
J08A Circle Bar Ran 81.39 37 ⇓P P 19 37 13.5 -0.2
baz=82
M10A I.L. Ranch, Tu 81.40 40 ⇓P P 19 37 13.8 0.0
baz=82
K09A Rome 81.41 38 ⇑P P 19 37 14.0 +0.2
baz=82
H07A Lands Inn, Kim 81.55 36 ⇑P P 19 37 14.4 -0.2
baz=82
E05A Randle 81.65 33 ⇓P P 19 37 14.7 -0.4
baz=82
O12A Currie 81.76 42 ⇑P P 19 37 15.4 -0.2
baz=82
B04A Port Angeles 81.78 32 ⇑P P 19 37 15.2 -0.6
baz=82
J09A Fry Pan Ranch, 81.79 38 ⇓P P 19 37 15.9 0.0
baz=82
M11A Holland Ranch, 81.80 40 ⇑P P 19 37 16.5 +0.6
baz=82
C04A Brinnon 81.81 32 ⇓P P 19 37 15.8 -0.2
baz=82
N12A Clover Valley, 81.92 41 ⇓P P 19 37 17.2 +0.7
baz=82
G07A Ruggs Ranch, H 81.92 35 ⇑P P 19 37 15.8 -0.7
baz=82
E06A Yakima 82.05 34 ⇓P P 19 37 16.2 -1.0
baz=82
F07A Phinny Hill Vi 82.18 35 ⇑P P 19 37 17.2 -0.7
baz=82
M12A Wells 82.32 41 ⇑P P 19 37 18.6 0.0
baz=82
G08A Pilot Rock 82.32 36 P P 19 37 18.7 0.0
baz=82,SNR=5.7
MSU Marysvale 82.41 44 *eP* **P 19 37 19.7 +0.6**
N13A Wendover, West 82.43 41 ⇓P P 19 37 19.8 +0.6
baz=83
C05A Tolt Reservoir 82.44 33 ⇑P P 19 37 18.8 -0.4
baz=83
D06A Cle Elum 82.54 33 ⇓P P 19 37 19.3 -0.5
baz=83
MDJ Mudanjiang 82.59 323 P P 19 37 20.8 +0.8
MDJ AP pP 19 37 24.0 -10
MDJ PP PP 19 40 30.3 +0.4
MDJ S S 19 47 37.9 +4.5
MDJ SCS ScS 19 47 52.5 +4.2
MDJ AMB AMB
comp=Z,14nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,61nm,5.4s
E07A Sunnyside 82.65 34 ⇓P P 19 37 19.7 -0.6
baz=83
H09A Durkee 82.65 37 ⇑P P 19 37 20.1 -0.2
baz=83
F08A Pendleton 82.74 35 ⇑P P 19 37 20.1 -0.8
baz=83
M13A Montello 82.75 41 ⇓P P 19 37 21.6 +0.7
baz=83,SNR=6.0
MAW Mawson 82.89 199 P P 19 37 21.8 +0.2
comp=Z,5.4nm,0.8s,mb4.6,baz=138,slow=6.2,SNR=6.6
MAW LR LR 20 12 53.7
comp=Z,310nm,19.0s,MS4.7,baz=76,slow=35
MAW Mawson 82.89 199 *eP* **P 19 37 22.4 +0.8**
DUG Dugway 82.93 43 *eP* **P 19 37 20.1 -1.7**
DUG pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
DUG Dugway 82.93 43 *eP* **P 19 37 20.1 -1.7**
comp=Z,8.1nm,1.3s,mb4.6
DUG Dugway 82.93 43 ⇓P P 19 37 20.8 -1.0
baz=83
D07A Quincy 82.99 34 ⇓P P 19 37 21.1 -1.0
baz=83
E08A Dider Farm, El 83.03 35 ⇑P P 19 37 22.0 -0.3
baz=83
A05A Maple Falls 83.11 32 ⇓P P 19 37 22.6 -0.2
baz=83
H10A Noah's Angus R 83.12 37 ⇓P P 19 37 22.6 -0.2
baz=83
F09A S2 Ranch, Elgi 83.16 36 ⇑P P 19 37 22.6 -0.4
baz=83
I11A Placerville 83.17 38 ⇓P P 19 37 23.3 +0.3
baz=83
C07A Waterville 83.27 33 ⇓P P 19 37 22.6 -1.0
baz=83
D08A Wollman Farm, 83.46 34 ⇑P P 19 37 23.9 -0.6
baz=84
TMUT Trail Mountain 83.47 44 *eP* **P 19 37 25.8 +1.3**
E09A Wood Farm, Sta 83.53 35 ⇓P P 19 37 24.5 -0.4
baz=84
H11A Donnelly 83.61 38 ⇑P P 19 37 25.5 +0.2
baz=84
F10A Beach Ranch, E 83.70 36 ⇑P P 19 37 25.5 -0.2
baz=84
MNTX Cornudas Mount 83.70 53 *eP* **P 19 37 25.9 +0.1**
comp=Z,7.7nm,1.2s,mb4.7
B07A Winthrop 83.74 33 ⇓P P 19 37 25.3 -0.6
baz=84
D09A Jones Farm, Ri 83.79 35 ⇓P P 19 37 25.5 -0.7
baz=84
SRU San Rafael 83.82 44 *eP* **P 19 37 26.3 -0.1**
SRU pmax pmax
comp=Z,39nm,1.4s,mb5.3
SRU San Rafael 83.82 44 *eP* **P 19 37 26.3 -0.1**
comp=Z,39nm,1.4s,mb5.3
C08A Higginbotham F 83.86 34 ⇑P P 19 37 26.1 -0.4
baz=84
HLID Hailey 83.87 39 *eP* **P 19 37 26.7 0.0**
comp=Z,8.2nm,1.0s,mb4.8
HLID Hailey 83.87 39 P P 19 37 26.9 +0.3
baz=84,SNR=11
G11A Walters Elk Ra 83.89 37 ⇑P P 19 37 26.2 -0.5
baz=84
TXAR Lajitas Array 83.91 56 P P 19 37 27.0 +0.2
comp=Z,3.5nm,0.9s,mb4.5,baz=224,slow=7.0,SNR=15
TXAR Lajitas Array 83.91 56 P P 19 37 27.0 +0.2
A07A Ashnola River, 83.98 32 ⇓P P 19 37 26.3 -0.9
baz=84
B08A Colville Reser 84.07 33 ⇑P P 19 37 26.7 -1.0
baz=84
E10A Myers Farm, Un 84.08 36 ⇓P P 19 37 27.1 -0.5
baz=84
H12A Diamond D Ranc 84.19 38 P P 19 37 28.1 -0.1
baz=84,SNR=6.7
F11A Grangeville 84.24 36 ⇓P P 19 37 27.2 -1.3
baz=84
C09A Chrisman Ranch 84.27 34 ⇑P P 19 37 27.8 -0.8
baz=84
D10A Wagner Farm, O 84.34 35 ⇑P P 19 37 28.2 -0.8
baz=84
KLR Kul'dur 84.35 328 *eP* **P 19 37 31.7 +2.6**
PV10 Paradox Valley 84.42 46 *eP* **P 19 37 29.4 0.0**
A08A Turner Farm, O 84.48 33 P P 19 37 29.5 -0.2
baz=85,SNR=7.2
ANMO Albuquerque 84.48 50 LR LR 20 11 14.7
comp=Z,97nm,18.9s,MS4.2,baz=98,slow=33
ANMO Albuquerque 84.48 50 *eP* **P 19 37 29.8 +0.1**
ANMO pmax pmax
comp=Z,26nm,1.3s
ANMO Albuquerque 84.48 50 *eP* **P 19 37 29.8 0.0**
comp=Z,26nm,1.3s,mb5.2
E11A Bogner Ranch, 84.50 36 ⇓P P 19 37 29.0 -0.8
baz=85
CN2 Changchun 84.50 321 ⇑P P 19 37 31.2 +1.4
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.8
F12A Elk City 84.67 37 P P 19 37 30.4 -0.3
baz=85,SNR=14
B09A Rice 84.72 34 ⇑P P 19 37 30.0 -1.0
baz=85
D11A Klaveano Farm, 84.84 35 ⇑P P 19 37 30.6 -0.9
baz=85
A09A Danville 84.85 33 ⇓P P 19 37 30.6 -0.9
baz=85
G13A Cobalt 84.86 38 P P 19 37 31.6 -0.1
baz=85,SNR=7.0
NEW Newport 85.16 34 LR LR 20 11 42.0
comp=Z,376nm,18.2s,MS4.8,baz=236,slow=33
F13A Darby 85.21 37 P P 19 37 32.7 -0.7
baz=85,SNR=8.0
WHN Wuhan 85.38 305 P P 19 37 37.5 +3.3
B11A Sandpoint 85.67 34 ⇓P P 19 37 34.7 -0.9
baz=86
E13A Victor 85.67 37 ⇑P P 19 37 35.3 -0.4
baz=86
D13A Huson 85.90 36 P P 19 37 36.1 -0.7
baz=86,SNR=5.4
G15A Dillon 85.92 39 P P 19 37 37.0 +0.1
baz=86,SNR=5.5
A11A Hall Mountain, 85.99 34 ⇓P P 19 37 36.7 -0.5
baz=86
E14A Clinton 86.05 37 ⇑P P 19 37 37.0 -0.6
baz=86
MCK McKinley 86.11 11 *eP* **P 19 37 35.9 -2.0**
MCK pmax pmax
comp=Z,15nm,0.8s,mb5.3
MCK McKinley 86.11 11 *eP* **P 19 37 35.9 -1.9**
comp=Z,15nm,0.8s,mb5.3
CMIG Matias Romero 86.14 70 LR LR 20 06 18.5
comp=Z,134nm,20.1s,MS4.3,baz=16,slow=29
C13A Hot Springs 86.18 36 ⇓P P 19 37 37.8 -0.4
baz=86
F15A Butte 86.30 38 ⇑P P 19 37 38.8 0.0
baz=86
A12A Yaak River Ran 86.35 34 ⇓P P 19 37 38.9 -0.1
baz=86
QLMT Earthquake Lak 86.36 39 *eP* **P 19 37 39.9 +0.8**
PDAR Pinedale Array 86.38 42 P P 19 37 38.5 -0.8
comp=Z,2.0nm,1.0s,mb4.3,baz=211,slow=4.7,SNR=11
PDAR LR LR 20 10 16.5
comp=Z,107nm,18.4s,MS4.3,baz=357,slow=32
D14A Greenough 86.42 37 ⇓P P 19 37 38.9 -0.5
baz=87
E15A Deer Lodge 86.54 37 ⇑P P 19 37 39.8 -0.2
baz=87
C14A Swan Lake 86.69 36 ⇓P P 19 37 39.9 -0.7
baz=87
SEY Seymchan 87.15 345 *i P* **P 19 37 43.5 +0.6**
COLA College 87.35 11 *c iP* **P 19 37 43.2 -0.7**
COLA College 87.35 11 *eP* **P 19 37 42.9 -1.0**
comp=Z,36nm,0.9s,mb5.6
JCT Junction City 87.43 56 *eP* **P 19 37 42.6 -1.7**
IMA2 Indian Mountai 87.56 8 *eP* **P 19 37 44.6 -0.3**
SYO Syowa Base 87.61 192 *eP* **P 19 37 43.6 -1.6**
VNA3 Neumayer Olymp 87.97 175 *eP* **P 19 37 45.6 -1.3**
VNA3 *e* 19 37 49.0
SNAA Sanae 87.99 177 *eP* **P 19 37 46.0 -0.9**
SNAA *e* 19 37 49.1
SNAA Sanae 87.99 177 *c iP* **P 19 37 46.3 -0.6**
SNAA Sanae 87.99 177 *eP* **P 19 37 46.6 -0.3**
comp=Z,11nm,1.3s,mb4.9
PSI Prapat 88.16 274 P P 19 37 49.9 +2.1
comp=Z,4.2nm,0.3s,mb5.1,baz=161,slow=6.2,SNR=5.7
DAWY Dawson 88.38 14 *eP* **P 19 37 48.7 -0.1**
BJT Baijiatuau 88.43 314 *eP* **P 19 37 50.6 +1.6**
BJI Beijing 88.44 314 P P 19 37 47.9 -1.2
BJI AMB AMB
comp=Z,10.0nm,1.6s,mb4.8
VNA2 Neumayer--Watz 88.46 176 *eP* **P 19 37 48.2 -1.0**
baz=159,slow=3.7
VNA2 *e* 19 37 51.8
EGAK Eagle 88.59 13 *eP* **P 19 37 49.6 -0.2**
comp=Z,9.6nm,1.0s,mb5.1
VNA1 Neumayer--Stat 88.66 175 *eP* **P 19 37 50.3 +0.2**
VNA1 *e* 19 37 52.2
VNA1 *e* 19 37 54.1
EGMT Eagleton 89.06 37 ⇓P P 19 37 52.1 +0.1
baz=89
BILL Bilibino 89.34 353 *eP* **P 19 37 52.8 -0.5**
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
GYA Guiyang 89.82 298 *⇓iP* **P 19 37 57.5 +1.9**
GYA AP pP 19 38 01.7 -8.3
GYA XP sP 19 38 04.8 -11
GYA PP PP 19 41 31.7 +3.3
GYA SKS 19 48 25.7
GYA S S 19 48 52.3 +8.4
GYA PS PS 19 49 56.3 +0.7
GYA SS SS 19 54 47.6 +5.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,120nm,5.4s
GYA LR LR
comp=N,480nm,19.7s,MS5.1
GYA LR LR
comp=E,460nm,20.4s,MS5.1
GYA LR LR
comp=Z,540nm,20.8s,MS5.0
EDM Edmonton 90.04 32 *eP* **P 19 37 55.9 -0.7**
HHC Hu-ho-hao-te 91.94 313 *eP* **P 19 38 05.3 -0.1**
HHC XP sP 19 38 11.7 -14
HHC PP PP 19 41 47.0 +1.8
HHC SKS 19 48 34.4
HHC S S 19 49 04.0 +0.8
HHC AMB AMB
comp=Z,15nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,122nm,4.8s
HHC LR LR
comp=N,140nm,20.2s,MS4.6
HHC LR LR
comp=E,161nm,21.4s,MS4.6
HHC LR LR
comp=Z,93nm,16.1s
NANT Nan 92.13 289 P P 19 38 06.0 -0.3
KMI Kunming 92.60 296 P P 19 38 11.8 +3.3
KMI AMB AMB
comp=Z,17nm,1.4s,mb5.3
KMI LR LR
comp=Z,46nm,27.1s,MS3.8
JTS JuntasAbangare 92.70 80 *i P* **P 19 38 09.1 +0.2**
JTS JuntasAbangare 92.70 80 *eP* **P 19 38 08.6 -0.3**
comp=Z,20nm,1.3s,mb5.4
TEIG Tepich 93.11 70 LR LR 20 15 37.5
comp=Z,117nm,18.1s,MS4.4,baz=312,slow=33
INK Inuvik 93.23 14 LR LR 20 20 48.0
comp=Z,136nm,18.6s,MS4.4,baz=204,slow=36
INK Inuvik 93.23 14 *eP* **P 19 38 10.1 -1.3**
comp=Z,386nm,1.4s
YAK Yakutsk 93.42 337 *i P* **P 19 38 11.4 -0.8**
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
CD2 Chengdu 93.86 301 *eP* **P 19 38 13.6 -0.6**
CD2 AP pP 19 38 18.4 -10
CD2 XP sP 19 38 20.8 -13
CD2 PP PP 19 42 01.9 +1.7
CD2 SKS 19 48 46.2
CD2 S S 19 49 19.7 -0.5
CD2 SS SS 19 55 42.4 +2.6
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,250nm,18.0s,MS4.9
CD2 LR LR
comp=E,260nm,18.0s,MS4.9
CD2 LR LR
comp=Z,250nm,14.4s,MS4.8
YKA Yellowknife Ar 94.90 24 P P 19 38 17.9 -1.1
comp=Z,1.7nm,0.8s,mb4.5,baz=237,slow=4.2,SNR=22
SONM Songino Array 98.11 318 P P 19 38 34.0 +0.4
comp=Z,1.0nm,1.0s,mb4.3,baz=139,slow=3.9,SNR=5.4
SONM LR LR 20 18 05.5
comp=Z,105nm,21.6s,MS4.3,baz=88,slow=32
ULM Lac du Bonnet 98.18 39 LR LR 20 20 42.5
comp=Z,151nm,18.7s,MS4.5,baz=237,slow=34
LPAZ La Paz 98.67 111 LR LR 20 13 12.5
comp=Z,73nm,19.8s,MS4.2,baz=301,slow=29
GTA Gaotai 99.78 308 *eP* Pdif 19 38 44.7 +3.7
GTA AP 19 38 49.5
GTA XP 19 38 51.7
GTA PP PP 19 42 50.1 +4.3
GTA SKS 19 49 20.6
GTA S S 19 50 13.1 +2.2
GTA XS sS 19 50 21.1 -14
GTA PS PS 19 51 45.5 +0.8
GTA SS SS 19 57 05.6 +2.3
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,83nm,4.9s
GTA LR LR
comp=N,158nm,15.2s,MS4.8
GTA LR LR
comp=E,191nm,17.1s,MS4.8
GTA LR LR
comp=Z,163nm,15.6s,MS4.6
MKAR Makanchi Array 113.81 313 PKiKP PKiKP 19 43 35.1 -0.3
comp=Z,0.4nm,0.6s,baz=86,slow=2.8,SNR=4.3
CHKZ Chkalovo 121.13 321 *e*PKIKP PKPdf 19 43 48.1 -1.4
BVAR Borovoye Array 121.36 320 PKP PKPdf 19 43 49.2 -0.7
comp=Z,0.9nm,0.5s,baz=50,slow=2.3,SNR=6.9
ARU Arti 127.18 326 *i* PKHKP 19 43 39.1
ARCES ARCESS Array B 129.42 351 PKP PKPdf 19 44 05.2 -0.2
comp=Z,7.6nm,1.0s,baz=13,slow=1.2,SNR=7.2
APA Apatity 129.73 347 *⇑iP*KIKP PKPdf 19 44 05.5 -0.4
APA pmax pmax
comp=Z,32nm,1.2s
FINES FINESS Array B 136.63 346 PKP PKPdf 19 44 19.2 +0.4
comp=Z,2.5nm,0.8s,baz=64,slow=4.4,SNR=3.7
HFS Hagfors 139.91 354 PKhKP PKPdf 19 44 19.4 -5.5
comp=Z,5.6nm,1.0s,baz=336,slow=3.2,SNR=4.8
KMBO Kilima Mbogo 142.61 239 *i* PKHKP PKPdf 19 44 27.8 -2.0
KMBO pmax pmax
comp=Z,1.0nm,0.2s
SUW Suwalki 143.93 343 *e*PKP PKPdf 19 44 31.0 -1.1
SUW *e* 19 44 44.7
EKA Eskdalemuir Ar 144.44 9 PKP PKPdf 19 44 30.1 -2.8
comp=Z,4.9nm,0.7s,baz=337,slow=3.3,SNR=11
AKASG Malin Array Be 144.61 334 PKP PKPdf 19 44 31.2 -2.0
comp=Z,5.2nm,0.5s,baz=40,slow=4.4,SNR=49
AKBB Malin Array Si 144.61 334 *e*PKHKP 19 44 30.5
KIEV Kiev 144.62 334 *e*PKHKP 19 44 30.7
GKP Gorka Klasztor 146.04 348 *e*PKP PKPdf 19 44 37.2 +1.5
SIM Simferopol' 146.20 323 *i* PKP2 PKPab 19 44 40.0 +2.1
SIM pmax pmax
comp=Z,16nm,0.8s
BSEG Bad Segeberg 146.34 355 *e*PKPbc PKPbc 19 44 37.7 +0.2
LVV L'vov 147.29 338 *e*PKIKP PKPbc 19 44 40.2 0.0
LVV *e* 19 44 44.8
KWP Kalwaria 147.90 339 *e*PKP PKPbc 19 44 42.9 +1.0
OJC Ojcow 148.26 343 *e*PKP PKPbc 19 44 43.8 +1.0
CLZ Clausthal 148.41 355 *e*PKPbc PKPbc 19 44 43.6 +0.4
KSP Ksiaz 148.53 347 *e*PKP PKPbc 19 44 44.5 +1.0
KSP Ksiaz 148.53 347 *e*PKP PKPbc 19 44 44.3 +0.8
KSP *e* 19 44 58.6
STHS Stebnicka Huta 148.56 341 *e*PKP PKPbc 19 44 44.9 +1.3
CLL Collm 148.64 351 *e*PKPbc PKPbc 19 44 43.8 0.0
CLL Collm 148.64 351 *⇑iP*KPbc PKPbc 19 44 44.0 +0.2
comp=Z,27nm,1.1s
CLL *i* PKPab PKPab 19 44 47.2 -0.3
comp=Z,16nm,1.0s
CLL *i* x x 19 45 03.9
KOLS Kolonicke sedl 148.65 339 *e*PKP PKPbc 19 44 45.1 +1.3
BURAR Bucovina Array 148.66 335 *⇓iP* PKPbc 19 44 45.3 +1.4
NIE Niedzica 148.84 342 *e*PKP PKPbc 19 44 43.8 -0.5
UPC Upice 148.90 348 *e*PKPbc PKPbc 19 44 45.3 +0.8
UZH Uzhgorod 148.90 339 *e*PKIKP PKPbc 19 44 43.5 -1.0
UZH *e* 19 44 58.5
BRG Berggiesshubel 148.93 350 *e*PKPbc PKPbc 19 44 45.2 +0.7
BRG Berggiesshubel 148.93 350 *i* PKP PKPbc 19 44 45.2 +0.6
comp=Z,14nm,1.1s
CRVS Cervenica-Dubn 148.94 340 *e*PKP PKPbc 19 44 45.8 +1.2
FBE Freiberg 148.97 351 *e*PKPbc PKPbc 19 44 45.5 +0.9
DPC Dobruska-Polom 148.99 347 *e*PKPbc PKPbc 19 44 45.3 +0.6
DPC *e*pPKP pPKPdf 19 44 55.2 -0.4
OKC Ostrava-Krasne 149.04 345 *e*PKPbc PKPbc 19 44 44.9 +0.1
OKC *e*x x 19 44 58.5
PVCC Panska Ves 149.15 349 *e*PKPbc PKPbc 19 44 46.0 +0.9
PVCC *e*pPKP pPKPdf 19 44 57.1 +1.2
MORC Moravsky Berou 149.25 345 *⇓iP* PKPbc 19 44 46.5 +1.2
VRI Vrincioaia 149.38 331 *⇑iP* PKPbc 19 44 47.1 +1.4
PLOR Plostina 149.42 331 *⇓iP* PKPbc 19 44 47.0 +1.2
BR131 Keskin Array S 149.43 315 *e*PKPbc PKPbc 19 44 45.2 -0.6
BRTR Keskin Array B 149.43 315 PKP PKPdf 19 44 41.2 -0.1
comp=Z,1.1nm,0.6s,baz=132,slow=3.5,SNR=3.8
BRTR PKPbc PKPbc 19 44 46.7 +0.9
comp=Z,2.9nm,0.8s,baz=149,slow=3.5,SNR=12
BRTR Keskin Array B 149.43 315 *i* PKIKP PKPdf 19 44 42.0 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MOX Moxa 149.47 353 *e*PKPbc PKPbc 19 44 46.2 +0.3
MOX Moxa 149.47 353 *e*PKP PKPbc 19 44 46.3 +0.4
comp=Z,37nm,1.6s
MOX *e* 19 44 59.4
WERD Werda 149.58 352 *e*PKPbc PKPbc 19 44 45.9 -0.3
TIRR Tirgusor 149.59 327 *⇑iP* PKPbc 19 44 48.0 +1.8
KECS Kecovo 149.62 341 *e*PKP PKPbc 19 44 47.4 +1.1
GUNZ Gunzen 149.66 352 *e*PKPbc PKPbc 19 44 47.1 +0.7
PRU Pruhonice 149.68 349 *e*PKPbc PKPbc 19 44 45.9 -0.5
PRU *e*PKPab PKPab 19 44 51.9 +0.2
WERN Wernitzgruen 149.73 352 *e*PKPbc PKPbc 19 44 47.8 +1.3
NKC Novy Kostel 149.77 352 *e*PKPbc PKPbc 19 44 47.2 +0.6
ANTO Ankara 149.91 316 *e*PKPdf PKPdf 19 44 42.6 +0.5
ANTO Ankara 149.91 316 *⇑iP* PKPab 19 44 52.6 -0.1
VRAC Vranov 149.91 346 *⇑iP* PKPbc 19 44 48.2 +1.2
ASF Jabal al Asfar 149.97 299 PKPbc PKPbc 19 44 48.5 +1.4
comp=Z,5.7nm,1.0s,baz=57,slow=0.9,SNR=7.7
MLR Muntele Rosu 150.02 331 PKPbc PKPbc 19 44 47.0 -0.3
comp=Z,18nm,1.1s,baz=61,slow=1.9,SNR=15
MLR Muntele Rosu 150.02 331 *⇑iP* PKPbc 19 44 48.7 +1.5
MANZ Manzenberg 150.06 352 *e*PKPbc PKPbc 19 44 48.1 +0.8
VYHS Vyhne 150.09 343 *i* PKP PKPbc 19 44 48.3 +0.9
ROTZ Rotzenmuhle 150.26 352 *e*PKPbc PKPbc 19 44 48.5 +0.7
PSZ Piszkesteto 150.30 341 PKIKP PKPdf 19 44 44.2 +1.5
PSZ Piszkesteto 150.30 341 *⇑e*pPKP PKPbc 19 44 48.6 +0.7
DRGR 150.31 336 *⇓iP* PKPbc 19 44 49.0 +1.1
GRF Grafenberg Arr 150.46 353 *e*PKPbc PKPbc 19 44 49.0 +0.7
VOIR 150.46 332 *⇑iP* PKPbc 19 44 50.5 +2.2
KHC Kasperske Hory 150.67 350 *e*PKPbc PKPbc 19 44 49.1 +0.3
KHC *e*PKPab PKPab 19 44 55.7 -0.1
GEC2 GERESS Array S 150.93 349 *e*PKPbc PKPbc 19 44 49.6 +0.2
GERES GERESS Array B 150.93 349 PKPbc PKPbc 19 44 49.4 0.0
comp=Z,6.5nm,1.0s,baz=180,slow=0.4,SNR=22
MMAI Mount Meron Ar 150.93 302 PKPbc PKPbc 19 44 50.9 +1.5
comp=Z,21nm,1.2s,baz=51,slow=5.5,SNR=13
FLN La Foliniere 151.22 9 *e*PKP1 PKPbc 19 44 49.2 -0.9
comp=Z,38nm,0.9s
LDF La Drutiiere 151.44 8 *e*PKP1 PKPbc 19 44 49.6 -1.0
comp=Z,24nm,0.9s
GZR Gura Zlata 151.45 335 *⇓iP* PKPbc 19 44 52.7 +2.1
GRR Gorron 151.53 10 *e*PKP1 PKPbc 19 44 50.0 -0.8
comp=Z,22nm,0.7s
BZS Buzias 151.71 336 *⇑iP* PKPbc 19 44 51.5 +0.3
CSS Prodhromos 151.84 307 *e*PKPdf PKPdf 19 44 45.2 +0.1
CDF Champ du Feu 152.02 358 *e*PKP1 PKPbc 19 44 51.5 -0.4
comp=Z,38nm,1.1s
PKSM Moragy 152.21 341 *⇓iP* PKPbc 19 44 53.0 +0.7
SSF Saint Saulge 153.32 4 *e*PKP1 PKPbc 19 44 54.4 -0.4
VTS Vitosha 153.51 331 *⇓iP* pPKPdf 19 45 01.2 -1.3
APE Apeiranthos 156.17 318 *⇓iP* PKPab 19 45 19.6 +0.6
AQU L'Aquila 157.21 346 *⇑iP* pPKPdf 19 45 05.9 -1.6
LIC Lamto 162.35 141 *e*PKIKP PKPdf 19 44 58.2 -0.1
comp=Z,30nm,1.4s
TORD Torodi Ar. Bea 171.74 150 PKP PKPdf 19 45 04.7 -0.6
comp=Z,1.3nm,0.9s,baz=274,slow=0.7,SNR=6.5
TORD PKPab PKPab 19 46 27.6 +0.3
comp=Z,1.9nm,1.0s,baz=228,slow=2.8,SNR=6.1

STR ***08*** *19:25:13.2±0.7, 4755N×755E, h5km±1km, MI1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***08*** *19:25:13.3±0.2, 4759N×757E, h10km, Md2.1/1, MI1.9/5, Error ellipse: s-maj=3.5km s-min=2.3km az=104.0*
ZUR 08 19:25:13.4, 4758N×760E, h5km±1km, ML1.3, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal** 120nm,0.3s	**0.25**	**166**	*⇑iPg*		Pg	19 25 18.7	+0.4
BALST	120nm,0.3s			*e*Sg		Sg	19 25 22.4	+0.7
BOURR	**Bourrignon** 40nm,0.4s	**0.32**	**234**	*e*Pg		Pg	19 25 19.8	+0.3
SULZ	**Sulz-Cheisache** 23nm,0.5s	**0.35**	**99**	*⇓iPg*		Pg	19 25 20.3	+0.1

MOF	**Molkenrain**	**0.42 311**	Pg	Pg	19 25 21.5	+0.1
MOF			Sg	Sg	19 25 27.1	+0.2
HINF	**Hinterlafeld**	**0.56 295**	*e*Pg	Pg	19 25 23.6	-0.5
HINF	**Hinterlafeld**	**0.56 295**	*e*Pn	Pg	19 25 25.3	+1.2
HINF			*e*Sg	Sg	19 25 30.7	-0.7
HINF			*e*Sn	Sg	19 25 34.4	+3.0
	3.9nm,0.2s					
SLE	**Schleitheim**	**0.63 73**	*e*Pg	Pg	19 25 25.3	-0.2
	45nm,0.3s					
ECH	**Echery**	**0.70 335**	Pg	Pg	19 25 27.4	+0.5
ECH			Sg	Sg	19 25 35.8	-0.2
CDF	**Champ du Feu**	**0.86 345**	*e*Pn	Pn	19 25 29.9	-2.3
CDF			*e*Sg	Sg	19 25 39.7	-1.4
CDF			*e*Sn	Sn	19 25 42.0	-3.1
	5.8nm,0.2s					
HAU	**Haudompre**	**0.95 297**	*e*Pg	Pg	19 25 30.8	-0.8
HAU			*e*Sg	Sg	19 25 43.4	-0.4
	7.0nm,0.3s					
CABF	**La Chapelle**	**1.42 227**	*e*Pg	Pg	19 25 40.0	-0.6
CABF			*e*Sg	Sg	19 25 57.5	-1.5
	2.0nm,0.3s					
SFTF	**Sexfontaines**	**1.83 291**	*e*Sg	Sg	19 26 10.8	-1.6
	0.5nm,0.2s					
LOR	**Lormes**	**2.56 264**	*e*Sg	Sg	19 26 32.7	-3.0
	1.0nm,0.2s					

ISCJB ***08*** *19:26:40.0±0.2,4761N±001×756E±001,h0km,Error ellipse: s-maj=1.6km s-min=1.3km az=144.6*
BGR ***08*** *19:26:41.9±0.2,4760N×760E,h5km,Ml2.6/3,Error ellipse: s-maj=2.2km s-min=2.2km az=155.0*
STR ***08*** *19:26:41.4±0.3,4758N×761E,h5km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***08*** *19:26:41.7±0.0,4759N×759E,h1km,Ml2.9/17,Error ellipse: s-maj=0.9km s-min=0.8km az=166.0*
LDG ***08*** *19:26:41.7±0.1,4758N×758E,h6km,Md2.9/1,Ml2.8/21, Error ellipse: s-maj=1.1km s-min=0.8km az=137.0*
LEDBW ***08*** *19:26:41.9±0.1,47590N±0003×7607E±0003,h6km±1km, Ml2.5,Error ellipse: s-maj=1.0km s-min=1.0km az=125.0*
NEIC ***08*** *19:26:41.0,4759N×761E,h5km,Ml2.5(LEDBW), Ml2.5(STR),Ml2.8(SZGRF),Ml2.8(LDG),After LEDBW.*
NEIC Felt in the Basel, Switzerland area.
ZUR ***08*** *19:26:42.2,4759N×760E,h4km,Ml2.0/1*
PRU ***08*** *19:26:43.2,4763N×770E,h0km*
ISC 08 19:26:40.8±0.2,4759N±001×756E±001,h0km,n160,
σ1§34/276,25C-14D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.03**	**92**	⇓*i*Pg	**Pg**	**19 26 43.1**	**+1.7**
WEIL				*i* Sg	**Sg**	**19 26 44.2**	**+2.5**
WYH	**Wyhlen**	**0.11**	**114**	⇓*i*Pg	**Pg**	**19 26 43.7**	**+0.9**
WYH				*i* Sg	**Sg**	**19 26 45.1**	**+0.9**
BBS	**Basel-Blauen**	**0.13**	**194**	⇑*i*P*	**Pg**	**19 26 45.0**	**+1.6**
BBS	**Basel-Blauen**	**0.13**	**194**	⇑*i*P	**Pg**	**19 26 45.0**	**+1.6**
BBS	**Basel-Blauen**	**0.13**	**194**	⇑*i*Pg	**Pg**	**19 26 45.0**	**+1.6**
BBS	**Basel-Blauen**	**0.13**	**194**	Pg	**Pg**	**19 26 44.7**	**+1.3**
BBS				Sg	**Sg**	**19 26 46.2**	**+1.1**
ENDD	**Endenburg**	**0.17**	**45**	⇑*i*Pg	**Pg**	**19 26 45.1**	**+1.1**
ENDD				*i* Sg	**Sg**	**19 26 47.5**	**+1.2**
BALST	**Balsthal**	**0.28**	**160**	*e*Pg	**Pg**	**19 26 47.2**	**+1.1**
	SNR=170						
BALST				*e*Sg	**Sg**	**19 26 50.6**	**+1.0**
	SNR=5.9						
BALST	**Balsthal**	**0.28**	**160**	*i* Sg	**Sg**	**19 26 47.2**	**-2.4**
BALST	**Balsthal**	**0.28**	**160**	⇑*i*Pg	**Pg**	**19 26 50.8**	**+4.8**
BOURR	**Bourrignon**	**0.30**	**228**	*e*Pg	**Pg**	**19 26 48.3**	**+1.8**
	SNR=99						
BOURR				*e*Sg	**Sg**	**19 26 52.1**	**+1.6**
	SNR=4.7						
BREM	**Bremgarten**	**0.32**	**8**	⇓Pg	**Pg**	**19 26 48.8**	**+1.8**
BREM	**Bremgarten**	**0.32**	**8**	Px	Px	19 26 48.6	
BREM				*i* Sg	**Sg**	**19 26 54.0**	**+2.9**
SULZ	**Sulz-Cheisache**	**0.38**	**100**	*e*Pg	**Pg**	**19 26 48.8**	**+0.7**
	SNR=37						
SULZ				*e*Sg	**Sg**	**19 26 53.5**	**+0.4**
	SNR=6.5						
SULZ	**Sulz-Cheisache**	**0.38**	**100**	*i* Sg	**Sg**	**19 26 50.4**	**-2.7**
	369nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.38**	**100**	Pg	**Pg**	**19 26 48.8**	**+0.7**
	SNR=37						
SULZ				*i* Sg	**Sg**	**19 26 50.4**	**-2.7**
	369nm,0.5s						
MOF	**Molkenrain**	**0.39**	**312**	⇓*i*P*	**Pg**	**19 26 50.1**	**+1.9**
MOF				PmP		19 26 52.8	
MOF				S*	**Sg**	**19 26 55.8**	**+2.6**
MOF	**Molkenrain**	**0.39**	**312**	Pg	**Pg**	**19 26 49.7**	**+1.5**
MOF				Sg	**Sg**	**19 26 55.5**	**+2.3**
FELD	**Feldberg im Sc**	**0.41**	**47**	⇑*i*P*	**Pg**	**19 26 49.6**	**+0.9**
FELD				*i* S*	**Sg**	**19 26 55.1**	**+1.0**
FELD	**Feldberg im Sc**	**0.41**	**47**	⇑*i*P	**Pg**	**19 26 49.6**	**+0.9**
FELD				*i* S	**Sg**	**19 26 55.1**	**+1.1**
FELD	**Feldberg im Sc**	**0.41**	**47**	⇑*i*Pg	**Pg**	**19 26 49.6**	**+0.9**
FELD				*i* Sg	**Sg**	**19 26 55.1**	**+1.0**
FELD	**Feldberg im Sc**	**0.41**	**47**	Pg	**Pg**	**19 26 49.2**	**+0.5**
KIZ	**Kirchzarten**	**0.44**	**34**	⇑*i*P*	**Pg**	**19 26 50.0**	**+0.9**
KIZ				PmP		19 26 52.8	
KIZ				*i* S*	**Sg**	**19 26 55.8**	**+1.0**
KIZ	**Kirchzarten**	**0.44**	**34**	⇑*i*P	**Pg**	**19 26 50.0**	**+0.9**
KIZ				*i* S	**Sg**	**19 26 55.8**	**+1.0**
KIZ	**Kirchzarten**	**0.44**	**34**	⇑*i*Pg	**Pg**	**19 26 50.0**	**+0.9**
KIZ				*i* Sg	**Sg**	**19 26 55.8**	**+1.0**
FBB	**Freiburg im Br**	**0.45**	**26**	⇑*i*P*	**Pg**	**19 26 50.6**	**+1.1**
FBB	**Freiburg im Br**	**0.45**	**26**	*i* P	**Pg**	**19 26 50.6**	**+1.1**
FBB	**Freiburg im Br**	**0.45**	**26**	⇑*i*Pg	**Pg**	**19 26 50.6**	**+1.1**
HINF	**Hinterlafeld**	**0.53**	**295**	*e*Pn	**Pg**	**19 26 53.6**	**+2.7**
HINF				*e*Sg	**Sg**	**19 26 59.1**	**+1.4**
HINF				*e*Sn	**Sg**	**19 27 02.7**	**+5.0**
	35nm,0.2s,SNR=1.0						
HINF	**Hinterlafeld**	**0.53**	**295**	*e*Pg	**Pg**	**19 26 52.2**	**+1.3**
HINF				*e*Pn	**Pg**	**19 26 53.6**	**+2.7**
HINF				*e*Sg	**Sg**	**19 26 59.1**	**+1.4**
HINF				*e*Sn	**Sg**	**19 27 02.7**	**+5.0**
HINF	**Hinterlafeld**	**0.53**	**295**	*e*Pn	**Pg**	**19 26 53.6**	**+2.7**
HINF				*e*Sg	**Sg**	**19 26 59.1**	**+1.4**
HINF				*e*Sn	**Sg**	**19 27 02.7**	**+5.0**
	17nm,0.2s,SNR=1.0						
LOMF	**Lomont**	**0.55**	**244**	P*	**Pg**	**19 26 53.1**	**+1.7**
LOMF				PmP		19 26 55.5	
LOMF				S*	**Sg**	**19 27 01.1**	**+2.6**
LOMF	**Lomont**	**0.55**	**244**	Pg	**Pg**	**19 26 52.9**	**+1.5**
LOMF				Sg	**Sg**	**19 27 00.9**	**+2.4**
SLE	**Schleitheim**	**0.66**	**74**	*e*Pg	**Pg**	**19 26 53.8**	**+0.4**
	SNR=74						
SLE				*e*Sg	**Sg**	**19 27 02.3**	**+0.5**
	SNR=12						
SLE	**Schleitheim**	**0.66**	**74**	*e*P	**Pg**	**19 26 53.9**	**+0.6**
	589nm,2.0s						
ECH	**Echery**	**0.68**	**337**	Pg	**Pg**	**19 26 55.5**	**+1.7**
ECH				Sg	**Sg**	**19 27 04.2**	**+1.6**
ECH	**Echery**	**0.68**	**337**	Pg	**Pg**	**19 26 55.6**	**+1.8**
ECH				Sg	**Sg**	**19 27 04.4**	**+1.8**
ZUR	**Zurich**	**0.73**	**108**	*e*Sg	**Sg**	**19 27 05.0**	**+0.8**
	SNR=4.0						
ZUR	**Zurich**	**0.73**	**108**	*i* Sg	**Sg**	**19 26 58.9**	**-5.3**
	243nm,0.3s						
TRULL	**Truellikon**	**0.76**	**85**	*i* Sg	**Sg**	**19 26 59.4**	**-5.9**
	285nm,0.3s						
CDF	**Champ du Feu**	**0.84**	**347**	*e*Pn	**Pn**	**19 26 58.5**	**-1.4**
CDF				*e*Sg	**Sg**	**19 27 08.3**	**+0.5**
	88nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**19 27 10.4**	**+2.6**
	SNR=1.0						
CDF	**Champ du Feu**	**0.84**	**347**	*e*Pg	**Pg**	**19 26 58.0**	**+1.1**
CDF				*e*Pn	**Pn**	**19 26 58.5**	**-1.4**
CDF				*e*Sg	**Sg**	**19 27 08.3**	**+0.5**
CDF				*e*Sn	**Sg**	**19 27 10.4**	**+2.6**
CDF	**Champ du Feu**	**0.84**	**347**	*e*Pn	**Pn**	**19 26 58.5**	**-1.4**
CDF				*e*Sg	**Sg**	**19 27 08.3**	**+0.5**
	44nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**19 27 10.4**	**+2.6**
	SNR=1.0						
STEIN	**Stein am Rhein**	**0.89**	**85**	*i* Pg	**Pg**	**19 26 59.5**	**+1.7**
	15nm,0.1s						
BFO	**Black Forest**	**0.90**	**35**	⇑P*	**Pg**	**19 26 58.6**	**+0.6**
BFO				⇓*i*PmP		19 26 59.3	
BFO				S*	**Sg**	**19 27 10.7**	**+1.0**
BFO				SmS		19 27 11.8	
BFO	**Black Forest**	**0.90**	**35**	⇑Pg	**Pg**	**19 26 58.6**	**+0.6**
BFO				Sg	**Sg**	**19 27 10.7**	**+1.0**
BFO	**Black Forest**	**0.90**	**35**	⇓*i*PmP		19 26 59.3	
BFO				Sx	Sx	19 27 11.8	
BFO	**Black Forest**	**0.90**	**35**	*e*Pg	**Pg**	**19 26 58.6**	**+0.6**
HAU	**Haudompre**	**0.91**	**297**	*e*Pg	**Pg**	**19 26 59.4**	**+1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 27 11.9**	**+1.7**
	96nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**0.91**	**297**	*e*Pg	**Pg**	**19 26 59.4**	**+1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**19 27 11.9**	**+1.7**
	48nm,0.3s,SNR=1.0						
TORNY	**Torny**	**0.92**	**207**	⇑*i*Pg	**Sg**	**19 27 14.4**	**+4.1**
	477nm,2.0s						
WIMIS	**Wimmis**	**0.93**	**177**	*i* Pg	**Pg**	**19 26 59.6**	**+1.0**
	71nm,0.6s						
WIMIS				*i* Sg	**Sg**	**19 27 00.0**	**-11**
	71nm,0.6s						
WILA	**Wila**	**0.93**	**101**	*e*Pg	**Pg**	**19 26 59.4**	**+0.7**
	SNR=16						
WILA				*e*Sg	**Sg**	**19 27 11.5**	**+0.8**
	SNR=18						
WILA	**Wila**	**0.93**	**101**	⇓*i*Pg	**Sg**	**19 27 12.0**	**+1.3**
	674nm,2.0s						
BNALP	**Bannalp**	**0.93**	**140**	*i* Pg	**Pg**	**19 26 59.6**	**+0.9**
	2.6nm,0.1s						
SISB	**Singen-Schiene**	**0.95**	**84**	⇑P*	**Pb**	**19 26 60.0**	**-0.2**
SISB				S*	**Sb**	**19 27 12.3**	**-1.1**
SISB				SmS		19 27 14.1	
SISB	**Singen-Schiene**	**0.95**	**84**	⇑Pn	**Pb**	**19 26 60.0**	**-0.2**
SISB				Sn	**Sb**	**19 27 12.3**	**-1.1**
SISB				SmS		19 27 14.1	
MUO	**Muotathal**	**0.97**	**130**	*i* Pg	**Pg**	**19 27 01.0**	**+1.7**
	214nm,2.0s						
SPAK	**Spaichingen-Ko**	**0.97**	**58**	P*	**Pb**	**19 27 00.0**	**-0.4**
SPAK	**Spaichingen-Ko**	**0.97**	**58**	Px	Px	19 27 00.0	
BRANT	**Les Verrieres**	**0.99**	**229**	*i* Pg	**Pg**	**19 27 05.2**	**+5.5**
	191nm,0.3s						
BRANT				*i* Sg	**Sg**	**19 27 05.7**	**-6.9**
	191nm,0.3s						
GUT	**Gutenstein**	**1.15**	**65**	⇑*i*P	**Pg**	**19 27 02.3**	**-0.6**
GUT				PmP		19 27 03.4	
GUT				S	**Sg**	**19 27 17.2**	**-0.6**
GUT	**Gutenstein**	**1.15**	**65**	⇑*i*P	**Pg**	**19 27 02.3**	**-0.6**
GUT				S	**Sg**	**19 27 17.2**	**-0.6**
GUT	**Gutenstein**	**1.15**	**65**	⇑*i*Pn	**Pg**	**19 27 02.3**	**-0.6**
GUT	**Gutenstein**	**1.15**	**65**	PmP		19 27 03.4	
GUT				Sn	**Sg**	**19 27 17.2**	**-0.6**
LKBD	**Leukerbad**	**1.21**	**178**	*i* Pg	**Pg**	**19 27 05.3**	**+1.3**
	4.7nm,0.1s						
THEF	**They Montfort**	**1.23**	**301**	P	**Pg**	**19 27 04.0**	**-0.4**
THEF				Pg	**Pg**	**19 27 05.5**	**+1.0**
THEF	**They Montfort**	**1.23**	**301**	P	**Pg**	**19 27 05.5**	**+1.0**
THEF	**They Montfort**	**1.23**	**301**	Pg	**Pg**	**19 27 05.3**	**+0.9**
SENIN	**Lac Senin**	**1.24**	**188**	*i* P	**Pg**	**19 27 06.2**	**+1.6**
	2.7nm,0.1s						
AIGLE	**Aigle**	**1.32**	**199**	*i* Sg	**Pg**	**19 27 07.3**	**+1.2**
	112nm,0.5s						
AIGLE	**Aigle**	**1.32**	**199**	*e*Pg	**Pg**	**19 27 08.7**	**+2.6**
	112nm,0.5s						
AIGLE	**Aigle**	**1.32**	**199**	*e*Pg	**Pg**	**19 27 08.7**	**+2.6**
	112nm,0.5s						
LIENZ	**Alp Oberkamor**	**1.35**	**102**	*e*Pg	**Pg**	**19 27 07.3**	**+0.7**
	SNR=8.1						
LIENZ	**Alp Oberkamor**	**1.35**	**102**	*i* S	**Pg**	**19 27 06.7**	**+0.1**
	103nm,0.4s						
LBG	**Lerchenberg**	**1.35**	**37**	⇑P	**Pg**	**19 27 04.7**	**-2.1**
LBG				Pg	**Pg**	**19 27 07.3**	**+0.6**
LBG				Sg	**Sg**	**19 27 24.7**	**+0.4**
LBG	**Lerchenberg**	**1.35**	**37**	P	**Pg**	**19 27 04.7**	**-2.0**
LBG				Pg	**Pg**	**19 27 07.3**	**+0.6**
LBG				Sg	**Sg**	**19 27 24.7**	**+0.4**
LBG	**Lerchenberg**	**1.35**	**37**	⇑Pn	**Pg**	**19 27 04.7**	**-2.1**
LBG				S	**Sg**	**19 27 24.7**	**+0.4**
LBG	**Lerchenberg**	**1.35**	**37**	P	**Pg**	**19 27 07.3**	**+0.6**
PLONS	**Plons**	**1.35**	**113**	⇑*i*P	**Sg**	**19 27 25.2**	**+0.9**
	2.7nm,0.1s						
PLONS	**Plons**	**1.35**	**113**	⇑*i*P	**Pg**	**19 27 07.3**	**+0.6**
GRYON	**Gryon**	**1.38**	**193**	⇑*i*P	**Pg**	**19 27 08.4**	**+1.2**
	13nm,0.3s						
GRYON				*i* S	**Sg**	**19 27 26.8**	**+1.7**
	13nm,0.3s						
GIMEL	**Gimel**	**1.38**	**220**	⇓*i*P	**Pg**	**19 27 09.8**	**+2.5**
	241nm,2.0s						
CABF	**La Chapelle**	**1.41**	**226**	*e*Pg	**Pg**	**19 27 08.5**	**+0.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 27 26.1**	**+0.1**
	27nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.41**	**226**	*e*Pn	**Pn**	**19 27 06.7**	**-0.9**
CABF				*e*Pg	**Pg**	**19 27 08.5**	**+0.8**
CABF				*e*Sg	**Sg**	**19 27 26.1**	**+0.1**
CABF	**La Chapelle**	**1.41**	**226**	*e*Pg	**Pg**	**19 27 08.5**	**+0.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 27 26.1**	**+0.1**
	13nm,0.2s,SNR=1.0						
BUCH	**Bad Urach**	**1.48**	**54**	⇑*i*P	**Pn**	**19 27 06.5**	**-2.1**
BUCH				⇓Pg	**Pg**	**19 27 09.5**	**+0.4**
BUCH				S	**Sg**	**19 27 24.6**	**-3.6**
BUCH				Sg	**Sg**	**19 27 28.6**	**+0.3**
BUCH	**Bad Urach**	**1.48**	**54**	⇑*i*P	**Pn**	**19 27 06.5**	**-2.1**
BUCH				Pg	**Pg**	**19 27 09.5**	**+0.4**
BUCH				S	**Sg**	**19 27 24.6**	**-3.7**
BUCH				Sg	**Sg**	**19 27 28.6**	**+0.3**
BUCH	**Bad Urach**	**1.48**	**54**	⇑*i*Pn	**Pn**	**19 27 06.5**	**-2.1**
BUCH				Sn	**Sg**	**19 27 24.6**	**-3.6**
BUCH	**Bad Urach**	**1.48**	**54**	⇓P	**Pg**	**19 27 09.5**	**+0.4**
BUCH				S	**Sg**	**19 27 28.6**	**+0.3**
SALAN	**Lac Salanfe**	**1.50**	**196**	*i* P	**Pn**	**19 27 11.9**	**+2.9**
	2.9nm,0.1s						
MMK	**Mattmark**	**1.57**	**170**	⇑*i*P	**Pn**	**19 27 10.2**	**+0.3**
	3.1nm,0.1s						
EMV	**Vieux Emosson**	**1.60**	**197**	*i* S	**Pn**	**19 27 11.7**	**+1.4**
	18nm,0.3s						
EMV	**Vieux Emosson**	**1.60**	**197**	*i* P	**Pn**	**19 27 16.9**	**+6.6**
	18nm,0.3s						
EMV	**Vieux Emosson**	**1.60**	**197**	*i* P	**Pn**	**19 27 16.9**	**+6.6**
	18nm,0.3s						
DAVA	**Damuels**	**1.61**	**100**	⇓*i*Pg	**Pg**	**19 27 10.1**	**-1.5**
DAVA				⇑*i*Sg	**Sg**	**19 27 32.5**	**+0.2**
	17nm,0.2s						
DAVA	**Damuels**	**1.61**	**100**	Pg	**Pg**	**19 27 10.1**	**-1.5**
DAVA				Sg	**Sg**	**19 27 32.5**	**+0.1**
	17nm,0.2s						
UBR	**Ueberruh**	**1.73**	**86**	S	**Sn**	**19 27 31.7**	**-3.1**
UBR				Sg	**Sg**	**19 27 36.8**	**+0.6**
RFYF	**Reffroy**	**1.74**	**307**	*e*Sg	**Sg**	**19 27 37.0**	**+0.3**
	14nm,0.2s						
RFYF	**Reffroy**	**1.74**	**307**	*e*Sg	**Sg**	**19 27 37.0**	**+0.3**
	6.9nm,0.2s						
KTD	**Kalmit**	**1.76**	**11**	*e*Pg	**Pg**	**19 27 15.5**	**+1.0**
	SNR=1.3						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pg	**Pg**	**19 27 15.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**19 27 33.7**	**-3.0**
SFTF				*e*Sg	**Sg**	**19 27 39.2**	**+0.5**
	19nm,0.3s						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pn	**Pn**	**19 27 12.2**	**-0.9**
SFTF				*e*Pg	**Pg**	**19 27 15.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**19 27 33.7**	**-3.0**
SFTF				*e*Sg	**Sg**	**19 27 39.2**	**+0.5**
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pg	**Pg**	**19 27 15.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**19 27 33.7**	**-3.0**
SFTF				*e*Sg	**Sg**	**19 27 39.2**	**+0.5**
	9.6nm,0.3s						
MEZF	**Maizieres J'vi**	**1.91**	**299**	*e*Pn	**Pn**	**19 27 14.1**	**-0.5**
MEZF				*e*Sg	**Sg**	**19 27 42.7**	**+0.5**
	14nm,0.4s						
MEZF	**Maizieres J'vi**	**1.91**	**299**	*e*Pn	**Pn**	**19 27 14.1**	**-0.5**
MEZF				*e*Sg	**Sg**	**19 27 42.7**	**+0.5**
	6.8nm,0.4s						
HDH	**Heidenheim-Cha**	**2.03**	**60**	Sg	**Sg**	**19 27 45.3**	**-0.8**
RUP	**Ruppelstein**	**2.13**	**351**	*e*Pg	**Pg**	**19 27 22.6**	**+0.9**
	SNR=1.4						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**19 27 22.1**	**0.0**
LPL				*e*Sg	**Sg**	**19 27 49.5**	**-0.5**
	5.8nm,0.6s,SNR=1.0						
LPL	**La Plagne**	**2.15**	**196**	*e*Pn	**Pn**	**19 27 17.6**	**-0.3**
LPL				*e*Pg	**Pg**	**19 27 22.1**	**0.0**
LPL				*e*Sg	**Sg**	**19 27 49.5**	**-0.5**
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**19 27 22.1**	**0.0**
LPL				*e*Sg	**Sg**	**19 27 49.5**	**-0.5**
	2.9nm,0.6s,SNR=1.0						
LPG	**La Plagne**	**2.17**	**195**	*e*Pg	**Pg**	**19 27 22.5**	**+0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 27 49.8**	**-0.7**
	7.3nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.17**	**195**	*e*Pg	**Pg**	**19 27 22.5**	**+0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 27 49.8**	**-0.7**
	3.7nm,0.4s,SNR=1.0						
TOD	**Tromm**	**2.18**	**22**	*e*Pg	**Pg**	**19 27 22.9**	**+0.4**
	SNR=1.6						
SIND	**Sindeldorf**	**2.22**	**37**	P	**Pn**	**19 27 16.2**	**-2.7**
SIND				Pg	**Pg**	**19 27 23.0**	**-0.3**
SIND				Sg	**Sg**	**19 27 51.6**	**-0.6**
SIND	**Sindeldorf**	**2.22**	**37**	Px	Px	19 27 16.2	
SIND	**Sindeldorf**	**2.22**	**37**	P	**Pg**	**19 27 23.0**	**-0.3**
SIND				S	**Sg**	**19 27 51.6**	**-0.6**
SIND	**Sindeldorf**	**2.22**	**37**	Pg	**Pg**	**19 27 23.0**	**-0.4**
SIND				Sg	**Sg**	**19 27 51.6**	**-0.6**
WLF	**Walferdange**	**2.27**	**336**	*e*Sg	**Sg**	**19 27 53.5**	**-0.3**
	SNR=2.3						
ABH	**Alteburg**	**2.29**	**360**	*e*Pg	**Pg**	**19 27 25.0**	**+0.3**
	SNR=2.2						
MOTA	**Moosalm**	**2.42**	**95**	⇓*i*Pn	**Pn**	**19 27 19.7**	**-1.9**
MOTA				⇓*i*Sg	**Sg**	**19 27 58.5**	**0.0**
	6.5nm,0.2s						
SQTA	**Sankt Quirin**	**2.51**	**97**	⇓*i*Pn	**Pn**	**19 27 20.8**	**-1.9**
SQTA				⇑*i*Sg	**Sg**	**19 28 01.7**	**+0.3**
	8.9nm,0.2s						
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**19 27 28.5**	**-0.8**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**19 28 00.9**	**-1.3**
	15nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.53**	**264**	*e*Pn	**Pn**	**19 27 21.4**	**-1.7**
LOR				*e*Pg	**Pg**	**19 27 28.5**	**-0.8**
LOR				*e*Sg	**Sg**	**19 28 00.9**	**-1.3**
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**19 27 28.5**	**-0.8**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**19 28 00.9**	**-1.3**
	7.3nm,0.2s,SNR=1.0						
FUR	**Furstenfeldbru**	**2.57**	**76**	*e*Sg	**Sg**	**19 28 03.6**	**+0.3**
	SNR=5.2						
TNS	**Taunus Mts**	**2.69**	**12**	*e*Sg	**Sg**	**19 28 07.2**	**-0.2**
	SNR=2.3						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pg	**Pg**	**19 27 32.4**	**-0.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**19 28 05.2**	**-2.7**
	13nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pn	**Pn**	**19 27 23.5**	**-2.1**
SMF				*e*Pg	**Pg**	**19 27 32.4**	**-0.3**
SMF				*e*Sg	**Sg**	**19 28 05.2**	**-2.7**
SMF	**Signal de Mont**	**2.71**	**251**	*e*Pg	**Pg**	**19 27 32.4**	**-0.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**19 28 05.2**	**-2.7**
	6.4nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**19 27 34.5**	**-0.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**19 28 09.7**	**-1.3**
	15nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pn	**Pn**	**19 27 25.6**	**-1.3**
SSF				*e*Pg	**Pg**	**19 27 34.5**	**-0.1**
SSF				*e*Sg	**Sg**	**19 28 09.7**	**-1.3**
SSF	**Saint Saulge**	**2.81**	**261**	*e*Pg	**Pg**	**19 27 34.5**	**-0.1**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**19 28 09.7**	**-1.3**
	7.7nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.92**	**204**	*e*Pg	**Pg**	**19 27 35.9**	**-0.8**
ORIF				*e*Sg	**Sg**	**19 28 13.2**	**-1.4**
	9.7nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.92**	**204**	*e*Pg	**Pg**	**19 27 35.9**	**-0.8**
ORIF				*e*Sg	**Sg**	**19 28 13.2**	**-1.4**
	4.8nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**2.92**	**191**	*e*Pg	**Pg**	**19 27 36.2**	**-0.5**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**19 28 12.7**	**-1.9**
	2.4nm,0.4s						
MBDF	**Montbardon**	**2.92**	**191**	*e*Pn	**Pn**	**19 27 29.1**	**+0.6**
MBDF				*e*Pg	**Pg**	**19 27 36.2**	**-0.5**
MBDF				*e*Sg	**Sg**	**19 28 12.7**	**-1.9**
MBDF	**Montbardon**	**2.92**	**191**

1.1nm,0.6s,mb4.2,baz=148,slow=7.9,SNR=33
MKAR pP pP 19 40 16.7 +0.5
1.0nm,0.5s,baz=148,slow=7.7,SNR=5.5
BRTR Keskin Array B 86.55 311 P **P 19 42 28.1 +0.7**
0.3nm,0.6s,mb3.7,baz=131,slow=8.1,SNR=3.8

*ISCJB **08** 19:48:20.6±0.7, 470N±0.1×1555E±0.1, h10km, mb4.1/23, MS4.0/1, Error ellipse: s-maj=17.9km s-min=11.1km az=112.3*
*IDC **08** 19:48:20.9±0.9, 4697N×15553E, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/25, mbtmp3.9/17, Error ellipse: s-maj=25.0km s-min=16.8km az=158.0*
*NEIC **08** 19:48:22.4±0.6, 4698N×15547E, h10km, mb4.4/5, Error ellipse: s-maj=14.7km s-min=9.6km az=147.0*
*MOS **08** 19:48:25.9±1.0, 4693N×15544E, h51km, mb4.4/14, Error ellipse: s-maj=20.3km s-min=12.1km az=104.6*
ISC 08 19:48:22.3±0.7, 4697N±010×1555E±01, h10km, n48, σ0980/49, mb4.1/23, MS4.0/1, 4C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.74**	**6**	*e*PN	**Pn**	**19 49 15.0**	**-5.0**
MJAR	**Matsushiro Arr**	**16.55**	**237**	Pn	**Pn**	**19 52 13.5**	**-0.9**
	baz=37,slow=9.9,SNR=3.1						
BILL	**Bilibino**	**21.84**	**11**	⇑*e*P	**P**	**19 53 14.5**	**-0.3**
BILL				*e*S	**S**	**19 57 16.6**	**+0.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BILL	**Bilibino**	**21.84**	**11**	*e*P	**P**	**19 53 14.3**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.1						
KSRS	**Korea Array**	**22.44**	**255**	P	**P**	**19 53 21.3**	**+0.1**
	comp=Z,3.6nm,1.2s,mb3.7,baz=56,slow=8.7,SNR=3.2						
TIXI	**Tiksi**	**27.74**	**342**	⇑*e*P	**P**	**19 54 12.3**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
TIXI	**Tiksi**	**27.74**	**342**	*e*P	**P**	**19 54 09.2**	**-1.8**
	comp=Z,2.9nm,0.9s,mb3.9						
SONM	**Songino Array**	**32.81**	**290**	P	**P**	**19 54 55.3**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=70,slow=8.1,SNR=5.7						
SONM	**Songino Array**	**32.81**	**290**	P	**P**	**19 54 55.3**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**40.58**	**33**	P	**P**	**19 56 01.0**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.5,baz=278,slow=8.5,SNR=8.9						
INK	**Inuvik**	**40.58**	**33**	*e*P	**P**	**19 56 01.9**	**-0.1**
ZAL	**Zalesovo**	**43.83**	**306**	P	**P**	**19 56 27.1**	**-1.4**
	comp=Z,1.3nm,0.7s,mb3.8,baz=16,slow=10,SNR=3.6						
ZAL	**Zalesovo**	**43.83**	**306**	P	**P**	**19 56 27.1**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.30**	**298**	P	**P**	**19 57 04.5**	**+0.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=74,slow=8.1,SNR=10						
MKAR	**Makanchi Array**	**48.30**	**298**	*e*P	**P**	**19 57 05.1**	**+1.4**
KURK	**Kurchatov**	**48.61**	**304**	⇑*e*P	**P**	**19 57 06.5**	**+0.4**
KURK	**Kurchatov**	**48.61**	**304**	*e*P	**P**	**19 57 05.4**	**-0.6**
	comp=Z,15nm,1.0s,mb5.0						
YKA	**Yellowknife Ar**	**49.76**	**37**	P	**P**	**19 57 14.4**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.1,baz=294,slow=7.1,SNR=13						
YKA	**Yellowknife Ar**	**49.76**	**37**	*e*P	**P**	**19 57 14.4**	**-0.5**
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P	**P**	**19 57 27.5**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**51.54**	**311**	*e*P	**P**	**19 57 27.5**	**-0.8**
	comp=Z,5.7nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**19 57 32.0**	**+0.4**
	comp=Z,3.1nm,0.5s,mb4.5,baz=61,slow=7.6,SNR=27						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**19 57 32.0**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**19 57 32.3**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.02**	**310**	*e*P	**P**	**19 57 32.3**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**55.20**	**297**	⇑*e*P	**P**	**19 57 56.7**	**+1.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.0						
AKTK	**Aktyubinsk**	**59.80**	**313**	P	**P**	**19 58 27.8**	**+0.1**
AKTO	**Aktyubinsk**	**59.80**	**313**	P	**P**	**19 58 27.8**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=133,slow=1.0,SNR=4.2						
AKTO	**Aktyubinsk**	**59.80**	**313**	P	**P**	**19 58 27.8**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**63.28**	**55**	P	**P**	**19 58 51.1**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.9,baz=311,slow=1.1,SNR=6.5						
FINES	**FINESS Array B**	**64.53**	**336**	P	**P**	**19 58 58.8**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.3,baz=45,slow=8.4,SNR=11						
FINES	**FINESS Array B**	**64.53**	**336**	*i* P	**P**	**19 58 59.5**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**66.05**	**327**	*e*P	**P**	**19 59 09.2**	**0.0**
OBN				*e*		19 59 37.7	
OBN				pmax	pmax		
	comp=N,7.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.54**	**342**	P	**P**	**19 59 24.7**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=25,slow=6.2						
NOA	**NORSAR Array B**	**68.54**	**342**	P	**P**	**19 59 24.5**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.1,baz=26,slow=6.3,SNR=4.9						
NOA	**NORSAR Array B**	**68.54**	**342**	P	**P**	**19 59 24.5**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**68.54**	**342**	P	**P**	**19 59 24.5**	**-0.5**
HFS	**Hagfors**	**68.81**	**341**	P	**P**	**19 59 26.4**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.4,baz=73,slow=5.1,SNR=5.9						
HFS	**Hagfors**	**68.81**	**341**	P	**P**	**19 59 26.4**	**-0.3**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**69.28**	**201**	P	**P**	**19 59 30.0**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=23,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**69.28**	**201**	P	**P**	**19 59 30.0**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KIV	**Kislovodsk**	**71.81**	**316**	*e*P	**P**	**19 59 45.8**	**+0.7**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
AKASG	**Malin Array Be**	**72.27**	**327**	P	**P**	**19 59 46.8**	**-1.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=34,slow=6.2,SNR=5.8						
SOC	**Sochi**	**73.50**	**317**	*e*P	**P**	**19 59 45.6**	**-10**
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**20 00 09.8**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=299,slow=5.7,SNR=5.1						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**20 00 09.8**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**78.96**	**335**	P	**P**	**20 00 28.2**	**+2.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=6.1,SNR=4.0						
GERES	**GERESS Array B**	**78.96**	**335**	P	**P**	**20 00 28.2**	**+2.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **08** 19:49:22.7, 3695S×17771E, h157km, MG4.2(WEL), After WEL.*
WEL 08 19:49:24.1±0.3, 3694S×17768E, h141km±2km, ML4.1/19, 1C, Error ellipse: s-maj=2.1km s-min=2.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**141**	P	Pn	19 49 46.4	+0.1
MXZ				S	Sn	19 50 04.7	+1.5
MXZ	**Matakaoa Point**	**0.80**	**141**	⇑PN	Pn	19 49 46.4	+0.1
MXZ				SN	Sn	19 50 03.3	+0.1
PUZ	**Puketiti**	**1.22**	**158**	P	Pn	19 49 50.1	0.0
PUZ				S	Sn	19 50 09.9	0.0
PUZ	**Puketiti**	**1.22**	**158**	PN	Pn	19 49 50.0	0.0
PUZ				SN	Sn	19 50 09.9	0.0
MARZ	**Manawahe**	**1.32**	**217**	P	Pn	19 49 51.4	+0.4
MARZ	**Manawahe**	**1.32**	**217**	PN	Pn	19 49 51.4	+0.4
EDRZ	**Edgecumbe**	**1.39**	**212**	PN	Pn	19 49 52.2	+0.5
URZ	**Urewera**	**1.39**	**199**	P	Pn	19 49 51.8	0.0
URZ	**Urewera**	**1.39**	**199**	PN	Pn	19 49 51.8	0.0
URZ				SN	Sn	19 50 13.2	+0.2
MWZ	**Matawai**	**1.40**	**185**	P	Pn	19 49 52.0	+0.1
MWZ	**Matawai**	**1.40**	**185**	PN	Pn	19 49 52.0	+0.1
KUZ	**Kuaotunu**	**1.58**	**276**	P	Pn	19 49 53.8	0.0
KUZ	**Kuaotunu**	**1.58**	**276**	PN	Pn	19 49 53.8	-0.1
KNZ	**Kokohu**	**2.08**	**180**	P	Pn	19 49 59.0	-0.6
KNZ	**Kokohu**	**2.08**	**180**	PN	Pn	19 49 59.0	-0.6
BKZ	**Black Stump Fm**	**2.41**	**202**	P	Pn	19 50 02.8	-0.9
BKZ	**Black Stump Fm**	**2.41**	**202**	PN	Pn	19 50 02.4	-1.3
WTVZ	**West Tongariro**	**2.73**	**217**	P	Pn	19 50 07.2	-0.4
WTVZ	**West Tongariro**	**2.73**	**217**	PN	Pn	19 50 07.2	-0.4
OTVZ	**Oturere**	**2.73**	**215**	PN	Pn	19 50 07.3	-0.4
TUVZ	**Tukino**	**2.82**	**214**	P	Pn	19 50 08.1	-0.7
TUVZ	**Tukino**	**2.82**	**214**	PN	Pn	19 50 08.1	-0.6
FWVZ	**Far West T-bar**	**2.86**	**215**	P	Pn	19 50 08.8	-0.4
FWVZ	**Far West T-bar**	**2.86**	**215**	PN	Pn	19 50 08.8	-0.4
MOVZ	**Moawhango**	**2.90**	**211**	P	Pn	19 50 08.1	-1.6
MOVZ	**Moawhango**	**2.90**	**211**	PN	Pn	19 50 08.1	-1.6
WNVZ	**Wahianoa**	**2.90**	**214**	P	Pn	19 50 09.1	-0.6
WNVZ	**Wahianoa**	**2.90**	**214**	PN	Pn	19 50 09.1	-0.7
PXZ	**Pawanui**	**3.15**	**191**	PN	Pn	19 50 10.7	-2.4
TSZ	**Takapari Road**	**3.40**	**203**	P	Pn	19 50 13.5	-2.7
TSZ	**Takapari Road**	**3.40**	**203**	PN	Pn	19 50 13.5	-2.7
WAZ	**Wanganui**	**3.52**	**216**	*e*P	Pn	19 50 16.6	-1.2
WAZ	**Wanganui**	**3.52**	**216**	PN	Pn	19 50 16.6	-1.2
BFZ	**Birch Farm**	**3.90**	**196**	P	Pn	19 50 19.9	-2.9
BFZ	**Birch Farm**	**3.90**	**196**	PN	Pn	19 50 19.9	-2.9
MRZ	**Mangatainoka R**	**4.06**	**203**	P	Pn	19 50 21.4	-3.5
MRZ	**Mangatainoka R**	**4.06**	**203**	PN	Pn	19 50 21.4	-3.5
TIWZ	**Tintock**	**4.08**	**199**	PN	Pn	19 50 22.0	-3.1
KIW	**Kapiti Island**	**4.47**	**208**	P	Pn	19 50 26.5	-3.8
KIW	**Kapiti Island**	**4.47**	**208**	PN	Pn	19 50 26.5	-3.9
MTW	**Mount Morrison**	**4.54**	**201**	P	Pn	19 50 26.9	-4.3
MTW	**Mount Morrison**	**4.54**	**201**	PN	Pn	19 50 26.9	-4.4
CAW	**Cannon Point**	**4.63**	**205**	P	Pn	19 50 28.4	-4.1
CAW	**Cannon Point**	**4.63**	**205**	PN	Pn	19 50 28.4	-4.1
TRWZ	**Traveller**	**4.71**	**199**	PN	Pn	19 50 29.4	-4.1
PAWZ	**Paruwai Farm**	**4.77**	**201**	P	Pn	19 50 29.7	-4.6
PAWZ	**Paruwai Farm**	**4.77**	**201**	PN	Pn	19 50 29.7	-4.6
MSWZ	**Moikau Station**	**4.85**	**202**	P	Pn	19 50 30.8	-4.6
MSWZ	**Moikau Station**	**4.85**	**202**	PN	Pn	19 50 30.8	-4.5
SNZO	**South Karori**	**4.94**	**207**	*e*P	Pn	19 50 31.9	-4.6
SNZO	**South Karori**	**4.94**	**207**	PN	Pn	19 50 31.9	-4.6
TCW	**Tory Channel**	**5.02**	**211**	PN	Pn	19 50 33.1	-4.5
TUWZ	**Tuamarina**	**5.34**	**212**	PN	Pn	19 50 37.2	-4.7
NNZ	**Nelson**	**5.43**	**217**	*e*P	Pn	19 50 39.0	-4.0
NNZ	**Nelson**	**5.43**	**217**	PN	Pn	19 50 39.0	-4.0
BSWZ	**Blackbirch Sta**	**5.61**	**211**	P	Pn	19 50 40.7	-4.7
BSWZ	**Blackbirch Sta**	**5.61**	**211**	PN	Pn	19 50 40.7	-4.7
THZ	**Tophouse**	**6.07**	**216**	*e*P	Pn	19 50 47.4	-4.3
THZ	**Tophouse**	**6.07**	**216**	PN	Pn	19 50 47.4	-4.2
KHZ	**Kahutara**	**6.33**	**209**	*e*P	Pn	19 50 49.9	-5.3
KHZ	**Kahutara**	**6.33**	**209**	PN	Pn	19 50 49.9	-5.2
LTZ	**Lake Taylor**	**7.17**	**214**	PN	Pn	19 51 00.4	-5.9
MQZ	**McQueen's Vall**	**7.77**	**208**	*e*P	Pn	19 51 07.3	-7.2
MQZ	**McQueen's Vall**	**7.77**	**208**	PN	Pn	19 51 07.3	-7.1
ODZ	**Otahua Downs**	**9.68**	**211**	*e*P	Pn	19 51 34.1	-5.9
ODZ	**Otahua Downs**	**9.68**	**211**	PN	Pn	19 51 34.1	-5.9

*NEIC **08** 19:57:27.2, 3506N×2350E, h7km, MD3.6(ATH), After ATH.*
*CSEM **08** 19:57:27.2, 3506N×2350E, h7km, MD3.6/9, After ATH*
ATH 08 19:57:27.2, 3506N×2350E, h7km±5km, MD3.6/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.53**	**114**	*e*PB	Pg	19 57 36.8	-0.6
VAM	**Vamos**	**0.67**	**59**	*e*PB	Pb	19 57 40.6	-0.6
KYTH	**Kithira**	**1.27**	**343**	*e*PN	Pn	19 57 50.6	-0.8
VLI	**Veliai**	**1.72**	**345**	*e*PN	Pn	19 58 00.0	+2.5
NPS	**Neapolis**	**1.74**	**83**	*e*PG	Pg	19 58 00.4	-0.2
XRY	**Khrisi**	**1.81**	**95**	*e*PG	Pg	19 58 01.3	-0.6
ITM	**Ithomi**	**2.47**	**329**	*e*PN	Pn	19 58 11.0	+3.2
APE	**Apeiranthos**	**2.59**	**39**	*e*PB	Pb	19 58 10.1	-3.9
PTL	**Penteli**	**3.00**	**6**	*e*PN	Pn	19 58 16.5	+1.4
KARP	**Karpathos**	**3.03**	**80**	*e*PN	Pn	19 58 17.4	+1.8

*ISCJB **08** 20:19:37.3±0.2, 4757N±001×753E±001, h0km, Error ellipse: s-maj=1.6km s-min=1.3km az=141.2*
*CSEM **08** 20:19:38.9±0.0, 4755N×759E, h1km, ML3.1/18, Error ellipse: s-maj=1.0km s-min=0.7km az=168.0*
*LDG **08** 20:19:39.5±0.1, 4759N×756E, h6km, Md2.9/1, Ml3.0/19, Error ellipse: s-maj=1.4km s-min=1.0km az=140.0*
*LEDBW **08** 20:19:39.6±0.1, 47591N±0003×7606E±0003, h6km, ML2.9, Error ellipse: s-maj=1.2km s-min=1.0km az=129.0*
*ZUR **08** 20:19:39.6, 4758N×760E, h5km±1km, ML2.6*
*STR **08** 20:19:39.2±0.1, 4758N×759E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **08** 20:19:39.6, 4758N×760E, h5km, ML2.7(STR), ML2.9(SZGRF), ML2.9(LEDBW), ML3.0(LDG), After ZUR.*
NEIC Felt in the Basel area.
*BGR **08** 20:19:39.6±0.2, 4763N×761E, h5km, ML2.7/3, Error ellipse: s-maj=2.2km s-min=2.2km az=102.0*
*PRU **08** 20:19:42.3, 4769N×774E, h0km*
ISC 08 20:19:38.3±0.2, 4758N±001×754E±001, h0km, n156, σ1923/308, 26C-14D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.04**	**78**	⇓*i*Pg	**Pg**	**20 19 40.8**	**+1.7**
WEIL				*i* Sg	**Sg**	**20 19 42.0**	**+2.3**
WYH	**Wyhlen**	**0.12**	**107**	⇓*i*Pg	**Pg**	**20 19 41.5**	**+1.0**
WYH				*i* Sg	**Sg**	**20 19 42.9**	**+0.9**
BBS	**Basel-Blauen**	**0.12**	**189**	⇑*i*P*	**Pg**	**20 19 42.7**	**+2.1**
BBS	**Basel-Blauen**	**0.12**	**189**	⇑*i*Pg	**Pg**	**20 19 42.7**	**+2.1**
BBS	**Basel-Blauen**	**0.12**	**189**	Pg	**Pg**	**20 19 42.3**	**+1.7**
BBS				Sg	**Sg**	**20 19 44.3**	**+2.1**
ENDD	**Endenburg**	**0.19**	**46**	⇑*i*Pg	**Pg**	**20 19 42.9**	**+0.9**
ENDD				*i* Sg	**Sg**	**20 19 45.2**	**+0.9**
BALST	**Balsthal**	**0.27**	**157**	*e*Pg	**Pg**	**20 19 45.0**	**+1.5**
BALST	SNR=37						
				*e*Sg	**Sg**	**20 19 48.4**	**+1.4**
	SNR=9.1						
BALST	**Balsthal**	**0.27**	**157**	⇓*i*Pg	**Pg**	**20 19 44.9**	**+1.4**
	2μm,2.0s						
BALST				Sg	**Sg**	**20 19 48.4**	**+1.4**
	SNR=9.1						
BOURR	**Bourrignon**	**0.28**	**228**	*e*Pg	**Pg**	**20 19 46.1**	**+2.3**
	SNR=89						
BOURR	**Bourrignon**	**0.28**	**228**	⇑*i*Pg	**Pg**	**20 19 46.3**	**+2.6**
	692nm,2.0s						
STAU	**Staufen im Bre**	**0.31**	**25**	⇑*i*Pg	**Pg**	**20 19 45.4**	**+1.1**
STAU				*i* Sg	**Sg**	**20 19 49.5**	**+1.1**
BREM	**Bremgarten**	**0.33**	**10**	⇑Pg	**Pg**	**20 19 46.4**	**+1.7**
BREM				*i* Sg	**Sg**	**20 19 51.7**	**+2.7**
MOF	**Molkenrain**	**0.38**	**315**	⇓*i*P*	**Pg**	**20 19 47.8**	**+2.1**
MOF				PmP		20 19 50.6	
MOF				*i* S*	**Sg**	**20 19 53.5**	**+2.8**
MOF	**Molkenrain**	**0.38**	**315**	Pg	**Pg**	**20 19 47.5**	**+1.8**
MOF				Sg	**Sg**	**20 19 53.1**	**+2.5**
SULZ	**Sulz-Cheisache**	**0.40**	**98**	*e*Pg	**Pg**	**20 19 46.6**	**+0.7**
SULZ	SNR=55						
				*e*Sg	**Sg**	**20 19 51.2**	**+0.2**
	SNR=9.0						
SULZ	**Sulz-Cheisache**	**0.40**	**98**	*i* Sg	**Pg**	**20 19 46.6**	**+0.7**
	742nm,0.6s						
SULZ	**Sulz-Cheisache**	**0.40**	**98**	*i* Pg	**Sg**	**20 19 51.5**	**+0.5**
	742nm,0.6s						
FELD	**Feldberg im Sc**	**0.43**	**47**	⇑*i*P*	**Pg**	**20 19 47.3**	**+0.8**
FELD				*i* S*	**Sg**	**20 19 52.8**	**+0.7**
FELD	**Feldberg im Sc**	**0.43**	**47**	⇑*i*P	**Pg**	**20 19 47.3**	**+0.8**
FELD				*i* S	**Sg**	**20 19 52.8**	**+0.7**
FELD	**Feldberg im Sc**	**0.43**	**47**	Pg	**Pg**	**20 19 47.3**	**+0.8**
FELD	**Feldberg im Sc**	**0.43**	**47**	⇑*i*Pg	**Pg**	**20 19 47.3**	**+0.8**
FELD				*i* Sg	**Sg**	**20 19 52.8**	**+0.7**
FELD				Sg	**Sg**	**20 19 52.9**	**+0.8**
FELD	**Feldberg im Sc**	**0.43**	**47**	Pg	**Pg**	**20 19 47.3**	**+0.8**
FELD				Sg	**Sg**	**20 19 52.7**	**+0.6**
KIZ	**Kirchzarten**	**0.45**	**34**	⇑*i*P*	**Pg**	**20 19 47.8**	**+0.8**
KIZ				*i* S*	**Sg**	**20 19 53.5**	**+0.7**
KIZ				SmS		20 19 57.6	
KIZ	**Kirchzarten**	**0.45**	**34**	⇑*i*P	**Pg**	**20 19 47.8**	**+0.8**
KIZ				*i* S	**Sg**	**20 19 53.5**	**+0.7**
KIZ				S	**Sg**	**20 19 57.6**	**+4.8**
KIZ	**Kirchzarten**	**0.45**	**34**	⇑*i*Pg	**Pg**	**20 19 47.8**	**+0.8**
KIZ				*i* Sg	**Sg**	**20 19 53.5**	**+0.7**
KIZ				SmS		20 19 57.6	
FBB	**Freiburg im Br**	**0.47**	**27**	P*	**Pg**	**20 19 48.2**	**+1.0**
HINF	**Hinteralfeld**	**0.52**	**297**	*e*Pn	**Pg**	**20 19 51.5**	**+3.2**
HINF				*e*Sg	**Sg**	**20 19 57.0**	**+2.0**
HINF				*e*Sn	**Sg**	**20 20 00.4**	**+5.4**
	136nm,0.2s						
HINF	**Hinteralfeld**	**0.52**	**297**	*e*Pg	**Pg**	**20 19 49.9**	**+1.6**
HINF				*e*Pn	**Pg**	**20 19 51.5**	**+3.2**
HINF				*e*Sg	**Sg**	**20 19 57.0**	**+2.0**
HINF				*e*Sn	**Sg**	**20 20 00.4**	**+5.4**
HINF	**Hinteralfeld**	**0.52**	**297**	*e*Pn	**Pg**	**20 19 51.5**	**+3.2**
HINF				*e*Sg	**Sg**	**20 19 57.0**	**+2.0**
HINF				*e*Sn	**Sg**	**20 20 00.4**	**+5.4**
	68nm,0.2s						
LOMF	**Lomont**	**0.54**	**244**	⇑P*	**Pg**	**20 19 50.8**	**+2.2**
LOMF				PmP		20 19 52.1	
LOMF	**Lomont**	**0.54**	**244**	⇑Pg	**Pg**	**20 19 50.8**	**+2.2**
LOMF	**Lomont**	**0.54**	**244**	Px	Px	20 19 52.1	
LOMF	**Lomont**	**0.54**	**244**	Pg	**Pg**	**20 19 50.3**	**+1.7**
SLE	**Schleitheim**	**0.67**	**74**	*e*Pg	**Pg**	**20 19 51.5**	**+0.3**
SLE	SNR=67						
				*e*Sg	**Sg**	**20 20 00.2**	**+0.4**
	SNR=27						
SLE	**Schleitheim**	**0.67**	**74**	⇑*i*Pg	**Pg**	**20 19 51.5**	**+0.3**
	2μm,2.0s						
SLE				Sg	**Sg**	**20 20 00.2**	**+0.3**
	SNR=27						
ECH	**Echery**	**0.68**	**338**	P*	**Pg**	**20 19 52.9**	**+1.5**
ECH				PmP		20 19 53.9	
ECH				S*	**Sg**	**20 20 02.2**	**+1.9**
ECH	**Echery**	**0.68**	**338**	Pg	**Pg**	**20 19 52.9**	**+1.5**
ECH				Sg	**Sg**	**20 20 01.8**	**+1.6**
ZUR	**Zurich**	**0.74**	**107**	*e*Pg	**Pg**	**20 19 54.1**	**+1.7**
ZUR	SNR=6.1						
				*e*Sg	**Sg**	**20 20 02.8**	**+0.7**
	SNR=7.4						
ZUR	**Zurich**	**0.74**	**107**	*e*P	**Pg**	**20 19 53.2**	**+0.7**
	425nm,2.0s						
ZUR	**Zurich**	**0.74**	**107**	Pg	**Pg**	**20 19 54.1**	**+1.6**
ZUR	SNR=6.1						
				Sg	**Sg**	**20 20 02.8**	**+0.7**
	SNR=7.4						
TRULL	**Truellikon**	**0.78**	**85**	⇑*i*Pg	**Pg**	**20 19 53.7**	**+0.5**
	322nm,0.2s						
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	**Pn**	**20 19 56.3**	**-1.2**
CDF	SNR=1.0						
				*e*Sg	**Sg**	**20 20 06.1**	**+0.6**
CDF				*e*Sn	**Sg**	**20 20 08.0**	**+2.5**
	136nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pg	**Pg**	**20 19 55.7**	**+1.1**
CDF				*e*Pn	**Pn**	**20 19 56.3**	**-1.2**
CDF				*e*Sg	**Sg**	**20 20 06.1**	**+0.6**
CDF				*e*Sn	**Sg**	**20 20 08.0**	**+2.5**
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	**Pn**	**20 19 56.3**	**-1.2**
CDF	SNR=1.0						
				*e*Sg	**Sg**	**20 20 06.1**	**+0.6**
CDF				*e*Sn	**Sg**	**20 20 08.0**	**+2.5**
	68nm,0.3s,SNR=1.0						
TORNY	**Torny**	**0.90**	**206**	⇑*i*P	**Pg**	**20 19 57.4**	**+1.8**
	696nm,2.0s						
STEIN	**Stein am Rhein**	**0.90**	**84**	⇑*i*P	**Pg**	**20 19 56.2**	**+0.6**
	47nm,0.2s						
HAU	**Haudompre**	**0.91**	**298**	*e*Pg	**Pg**	**20 19 57.1**	**+1.4**
HAU	SNR=1.0						
				*e*Sg	**Sg**	**20 20 09.3**	**+1.8**
	268nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**0.91**	**298**	*e*Pg	**Pg**	**20 19 57.1**	**+1.4**
HAU	SNR=1.0						
				*e*Sg	**Sg**	**20 20 09.3**	**+1.8**
	134nm,0.4s,SNR=1.0						
OFBG	**Offenburg**	**0.91**	**19**	Px	Px	20 19 56.1	
OFBG				S	**Sg**	**20 20 08.5**	**+0.9**
BFO	**Black Forest**	**0.92**	**35**	⇑P*	**Pg**	**20 19 56.4**	**+0.5**
BFO				PmP		20 19 56.9	
BFO				S*	**Sg**	**20 20 08.1**	**+0.4**
BFO				*i* SmS		20 20 09.6	
BFO	**Black Forest**	**0.92**	**35**	⇑Pg	**Pg**	**20 19 56.4**	**+0.5**
BFO				Sg	**Sg**	**20 20 08.1**	**+0.4**
BFO	**Black Forest**	**0.92**	**35**	PmP		20 19 56.9	
BFO				*i* SmS		20 20 09.6	
BFO	**Black Forest**	**0.92**	**35**	*e*Pg	**Pg**	**20 19 56.3**	**+0.4**
BFO				*e*

UBR	**Ueberruh**	**1.74**	**86**	Pg	**Pg**	**20 20 12.2**	**+0.5**
UBR				S	**Sn**	**20 20 29.3**	**-3.4**
UBR				Sg	**Sg**	**20 20 34.4**	**+0.2**
SFTF	**Sexfontaines**	**1.79**	**291**	*e*Pn	**Pn**	**20 20 09.9**	**-0.6**
	baz=116						
SFTF				*e*Sn	**Sn**	**20 20 31.4**	**-2.6**
SFTF				*e*Sg	**Sg**	**20 20 36.8**	**+0.8**
	28nm,0.2s						
SFTF	**Sexfontaines**	**1.79**	**291**	*e*Pn	**Pn**	**20 20 09.9**	**-0.6**
SFTF				*e*Sn	**Sn**	**20 20 31.4**	**-2.6**
SFTF				*e*Sg	**Sg**	**20 20 36.8**	**+0.8**
	14nm,0.2s						
MEZF	**Maizieres J'vi**	**1.91**	**300**	*e*Pn	**Pn**	**20 20 11.7**	**-0.3**
	baz=114,SNR=1.0						
MEZF				*e*Sn	**Sn**	**20 20 33.6**	**-3.1**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**20 20 40.3**	**+0.8**
	18nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.91**	**300**	*e*Pn	**Pn**	**20 20 11.7**	**-0.3**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**20 20 33.6**	**-3.1**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**20 20 40.3**	**+0.8**
	9.1nm,0.2s,SNR=1.0						
HDH	**Heidenheim-Cha**	**2.05**	**60**	⇓Pg	**Pg**	**20 20 17.3**	**-0.3**
HDH				Sg	**Sg**	**20 20 43.2**	**-0.9**
SWS	**Schriesheim-Wi**	**2.05**	**22**	⇑P	**Pn**	**20 20 11.5**	**-2.5**
SWS				Sg	**Sg**	**20 20 44.5**	**+0.3**
LPL	**La Plagne**	**2.14**	**195**	*e*Pg	**Pg**	**20 20 19.9**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**20 20 47.2**	**+0.1**
	19nm,0.6s,SNR=1.0						
LPL	**La Plagne**	**2.14**	**195**	*e*Pn	**Pn**	**20 20 15.4**	**+0.1**
LPL				*e*Pg	**Pg**	**20 20 19.9**	**+0.5**
LPL				*e*Sg	**Sg**	**20 20 47.2**	**+0.1**
LPL	**La Plagne**	**2.14**	**195**	*e*Pg	**Pg**	**20 20 19.9**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**20 20 47.2**	**+0.1**
	9.4nm,0.6s,SNR=1.0						
LPG	**La Plagne**	**2.16**	**195**	*e*Pg	**Pg**	**20 20 20.1**	**+0.4**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**20 20 47.5**	**-0.1**
	16nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.16**	**195**	*e*Pn	**Pn**	**20 20 15.8**	**+0.3**
LPG				*e*Pg	**Pg**	**20 20 20.1**	**+0.4**
LPG				*e*Sg	**Sg**	**20 20 47.5**	**-0.1**
LPG	**La Plagne**	**2.16**	**195**	*e*Pg	**Pg**	**20 20 20.1**	**+0.4**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**20 20 47.5**	**-0.1**
	8.1nm,0.4s,SNR=1.0						
RETA	**Reutte**	**2.19**	**91**	⇓*i*Pg	**Pg**	**20 20 20.2**	**0.0**
RETA				⇓*i*Sg	**Sg**	**20 20 48.1**	**-0.5**
	5.0nm,0.2s						
RETA	**Reutte**	**2.19**	**91**	Pg	**Pg**	**20 20 20.2**	**0.0**
RETA				Sg	**Sg**	**20 20 48.1**	**-0.5**
	5.0nm,0.2s						
SIND	**Sindeldorf**	**2.24**	**37**	Pg	**Pg**	**20 20 20.9**	**-0.3**
SIND				Sg	**Sg**	**20 20 49.0**	**-1.2**
WLF	**Walferdange**	**2.28**	**337**	*e*Sg	**Sg**	**20 20 51.7**	**+0.2**
	SNR=2.3						
ABH	**Alteburg**	**2.30**	**0**	*e*Pg	**Pg**	**20 20 22.7**	**+0.3**
	SNR=2.1						
MOTA	**Moosalm**	**2.43**	**94**	⇓*i*Pg	**Pg**	**20 20 24.4**	**-0.5**
MOTA				⇓*i*Sg	**Sg**	**20 20 56.4**	**0.0**
	5.5nm,0.2s						
MOTA	**Moosalm**	**2.43**	**94**	⇓*i*Pg	**Pg**	**20 20 23.9**	**-1.0**
MOTA				*i* Sg	**Sg**	**20 20 56.4**	**0.0**
LOR	**Lormes**	**2.52**	**264**	*e*Pn	**Pn**	**20 20 19.0**	**-1.5**
	baz=89						
LOR	**Lormes**	**2.52**	**264**	*e*Pg	**Pg**	**20 20 26.4**	**-0.2**
	baz=88,SNR=1.0						
LOR				*e*Sg	**Sg**	**20 20 58.0**	**-1.2**
	20nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.52**	**264**	*e*Pn	**Pn**	**20 20 19.0**	**-1.5**
LOR				*e*Pg	**Pg**	**20 20 26.4**	**-0.2**
LOR				*e*Sg	**Sg**	**20 20 58.0**	**-1.2**
LOR	**Lormes**	**2.52**	**264**	*e*Pg	**Pg**	**20 20 26.4**	**-0.2**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**20 20 58.0**	**-1.2**
	10nm,0.2s,SNR=1.0						
SQTA	**Sankt Quirin**	**2.52**	**97**	⇓*i*Pg	**Pg**	**20 20 25.8**	**-0.9**
SQTA	**Sankt Quirin**	**2.52**	**97**	⇑*i*Pg	**Pg**	**20 20 26.8**	**+0.2**
SQTA				⇑*i*Sg	**Sg**	**20 20 58.7**	**-0.6**
	8.0nm,0.2s						
SQTA	**Sankt Quirin**	**2.52**	**97**	⇓*i*Pg	**Pg**	**20 20 25.8**	**-0.9**
SQTA				*i* Sg	**Sg**	**20 20 58.7**	**-0.6**
FUR	**Furstenfeldbru**	**2.58**	**76**	*e*Sg	**Sg**	**20 21 00.5**	**-0.8**
	SNR=4.1						
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**20 20 29.9**	**-0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**20 20 51.5**	**-4.7**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**20 21 03.5**	**-1.4**
	12nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pn	**Pn**	**20 20 21.5**	**-1.4**
SMF				*e*Pg	**Pg**	**20 20 29.9**	**-0.1**
SMF				*e*Sn	**Sn**	**20 20 51.5**	**-4.7**
SMF				*e*Sg	**Sg**	**20 21 03.5**	**-1.4**
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**20 20 29.9**	**-0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**20 20 51.5**	**-4.7**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**20 21 03.5**	**-1.4**
	5.9nm,0.2s,SNR=1.0						
TNS	**Taunus Mts**	**2.71**	**12**	*e*Pn	**Pn**	**20 20 22.0**	**-1.1**
	SNR=1.5						
TNS				*e*Sg	**Sg**	**20 21 04.0**	**-1.3**
	SNR=5.7						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**20 20 31.9**	**+0.1**
SSF				*e*Sn	**Sn**	**20 20 54.0**	**-4.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**20 21 06.6**	**-1.5**
	13nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pn	**Pn**	**20 20 23.5**	**-0.7**
SSF				*e*Pg	**Pg**	**20 20 31.9**	**+0.1**
SSF				*e*Sn	**Sn**	**20 20 54.0**	**-4.6**
SSF				*e*Sg	**Sg**	**20 21 06.6**	**-1.5**
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**20 20 31.9**	**+0.1**
SSF				*e*Sn	**Sn**	**20 20 54.0**	**-4.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**20 21 06.6**	**-1.5**
	6.6nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.90**	**204**	*e*Pg	**Pg**	**20 20 33.4**	**-0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**20 21 11.6**	**0.0**
	6.6nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.90**	**204**	*e*Pn	**Pn**	**20 20 24.9**	**-0.9**
ORIF				*e*Pg	**Pg**	**20 20 33.4**	**-0.6**
ORIF				*e*Sg	**Sg**	**20 21 11.6**	**0.0**
ORIF	**Oris-en-Rattie**	**2.90**	**204**	*e*Pg	**Pg**	**20 20 33.4**	**-0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**20 21 11.6**	**0.0**
	3.3nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**2.91**	**191**	*e*Pn	**Pn**	**20 20 26.8**	**+1.0**
MBDF				*e*Sg	**Sg**	**20 21 10.6**	**-1.1**
	6.8nm,0.5s						
MBDF	**Montbardon**	**2.91**	**191**	*e*Pn	**Pn**	**20 20 26.8**	**+1.0**
MBDF				*e*Sg	**Sg**	**20 21 10.6**	**-1.1**
	3.4nm,0.5s						
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pg	**Pg**	**20 20 35.3**	**+0.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**20 21 12.3**	**-1.2**
	3.7nm,0.2s						
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pn	**Pn**	**20 20 25.7**	**-0.9**
AVF				*e*Pg	**Pg**	**20 20 35.3**	**+0.2**
AVF				*e*Sg	**Sg**	**20 21 12.3**	**-1.2**
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pg	**Pg**	**20 20 35.3**	**+0.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**20 21 12.3**	**-1.2**
	1.9nm,0.2s						
GIVF	**Givet**	**3.09**	**326**	*e*Pn	**Pn**	**20 20 27.9**	**-0.5**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**20 21 15.1**	**-2.6**
	5.6nm,0.2s,SNR=1.0						
GIVF	**Givet**	**3.09**	**326**	*e*Pn	**Pn**	**20 20 27.9**	**-0.5**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**20 21 15.1**	**-2.6**
	2.8nm,0.2s,SNR=1.0						
GRA1	**Grafenberg Arr**	**3.23**	**48**	*e*Pg	**Pg**	**20 20 39.4**	**-0.8**
GRA1				*e*Sg	**Sg**	**20 21 19.7**	**-2.3**
GRF	**Grafenberg Arr**	**3.23**	**48**	*e*Sg	**Sg**	**20 21 18.6**	**-3.4**
	SNR=4.8						
GRF	**Grafenberg Arr**	**3.23**	**48**	*e*Pg	**Pg**	**20 20 39.4**	**-0.8**
GRF				*e*Sg	**Sg**	**20 21 19.7**	**-2.3**
BAIF	**Baives**	**3.31**	**320**	*e*Pn	**Pn**	**20 20 31.8**	**+0.4**
HYF	**Humbligny**	**3.34**	**266**	*e*Sg	**Sg**	**20 21 24.4**	**-1.3**
BGF	**Bois d'Agland**	**3.37**	**254**	*e*Pg	**Pg**	**20 20 42.0**	**-0.9**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**20 21 10.1**	**-2.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**20 21 25.3**	**-1.2**
	15nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.37**	**254**	*e*Pn	**Pn**	**20 20 31.4**	**-0.7**
BGF				*e*Pg	**Pg**	**20 20 42.0**	**-0.9**
BGF				*e*Sn	**Sn**	**20 21 10.1**	**-2.7**
BGF				*e*Sg	**Sg**	**20 21 25.3**	**-1.2**
BGF	**Bois d'Agland**	**3.37**	**254**	*e*Pg	**Pg**	**20 20 42.0**	**-0.9**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**20 21 10.1**	**-2.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**20 21 25.3**	**-1.2**
	7.7nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-I**	**3.38**	**217**	*e*Pg	**Pg**	**20 20 42.4**	**-0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**20 21 25.1**	**-1.7**
	9.4nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-I**	**3.38**	**217**	*e*Pn	**Pn**	**20 20 30.4**	**-1.9**
VIVF				*e*Pg	**Pg**	**20 20 42.4**	**-0.6**
VIVF				*e*Sg	**Sg**	**20 21 25.1**	**-1.7**
VIVF	**Saint-Julien-I**	**3.38**	**217**	*e*Pg	**Pg**	**20 20 42.4**	**-0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**20 21 25.1**	**-1.7**
	4.7nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.87**	**252**	*e*Pn	**Pn**	**20 20 36.9**	**-2.2**
	SNR=1.0						
WET	**Wettzell**	**3.89**	**64**	*e*Pg	**Pg**	**20 20 51.6**	**-1.2**
	SNR=1.9						
MOX	**Moxa**	**4.07**	**40**	*e*Sg	**Sg**	**20 21 47.1**	**-1.9**
NKC	**Novy Kostel**	**4.18**	**49**	*e*SG	**Sg**	**20 21 48.3**	**-4.5**
	11nm,0.5s						
GUNZ	**Gunzen**	**4.21**	**47**	*e*Pg	**Pg**	**20 20 57.0**	**-2.0**
	SNR=2.4						
GUNZ				*e*Sg	**Sg**	**20 21 49.6**	**-3.8**
	SNR=5.0						
WERD	**Werda**	**4.25**	**46**	*e*Sg	**Sg**	**20 21 50.4**	**-4.4**
	SNR=4.8						
TANN	**Tannenbergstha**	**4.30**	**47**	*e*Pg	**Pg**	**20 20 58.6**	**-2.3**
	SNR=3.3						
TANN				*e*Sg	**Sg**	**20 21 52.4**	**-4.2**
	SNR=3.8						
KHC	**Kasperske Hory**	**4.31**	**67**	*e*PN	**Pn**	**20 20 40.0**	**-5.2**
KHC				*e*PG	**Pg**	**20 20 58.0**	**-3.0**
KHC				*e*SN	**Sn**	**20 21 31.7**	**-4.5**
KHC				*e*SG	**Sg**	**20 21 53.9**	**-3.0**
CLL	**Collm**	**5.16**	**42**	*e*Sg	**Sg**	**20 22 20.0**	**-4.0**
PRU	**Pruhonice**	**5.22**	**60**	*e*SG	**Sg**	**20 22 23.1**	**-2.8**
DPC	**Dobruska-Polom**	**6.41**	**61**	*e*SG	**Sg**	**20 23 00.8**	**-3.4**

NDI ***08*** *20:21:59.4±4.4,34.16N×7304E,h10km,ML3.3, mb3.7(NEIC)*
IDC ***08*** *20:22:01.8±1.0,34.14N×7366E,h0km,mb4.1/9, mb1 4.2/12,mb1mx3.9/25,mbtmp4.1/12,ML4.2/3,Error ellipse: s-maj=23.9km s-min=20.5km az=21.0*
NEIC ***08*** *20:22:03.6±0.7,3420N×7368E,h10km,mb3.7/3,Error ellipse: s-maj=13.8km s-min=10.7km az=206.0*
BJI ***08*** *20:22:03.5,3420N×7370E,h10km,ML3.5*
MOS ***08*** *20:22:05.3±1.1,3427N×7368E,h33km,mb4.2/8,Error ellipse: s-maj=19.3km s-min=9.9km az=94.5*
ISCJB ***08*** *20:22:06.0±0.6,3417N±004×7386E±005,h50km±8km, mb4.0/9,Error ellipse: s-maj=8.1km s-min=5.3km az=92.3*
DMN ***08*** *20:24:02.8±11.0,2937N×8251E,h10km,Error ellipse: s-maj=301.3km s-min=26.8km az=133.0*

ISC 08 20:22:05.6±1.1,3424N±003×7379E±005,h24km±9km,n69,σ1§37/76,mb4.0/9,3C-8D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.73**	**217**	⇓P	**Pb**	**20 22 17.6**	**-2.0**
CEP	**Cherat**	**1.62**	**256**	P	**Pn**	**20 22 33.3**	**+0.7**
JMU	**Jammu**	**1.78**	**148**	*e*P	**Pn**	**20 22 35.0**	**+0.1**
JMU				*e*S	**Sn**	**20 23 00.0**	**+3.3**
THW	**Thamme Wali**	**2.24**	**230**	P	**Pn**	**20 22 42.2**	**+1.1**
THN	**Thein Dam**	**2.42**	**138**	*e*P	**Pn**	**20 22 45.8**	**+2.2**
THN				*e*S	**Sn**	**20 23 20.4**	**+7.9**
DLH	**Dalhousie**	**2.49**	**132**	*e*P	**Pn**	**20 22 45.0**	**+0.4**
DLH				*e*S	**Sn**	**20 23 22.0**	**+7.8**
SARP	**Sargodha**	**2.50**	**202**	P	**Pn**	**20 22 45.4**	**+0.7**
PONG	**Pong**	**2.92**	**141**	*ex*	**Pb**	**20 22 58.0**	**+1.2**
PONG				*ex*	x	20 23 58.5	
SDNR	**Sundarnagar**	**3.83**	**135**	*e*P	**Pn**	**20 23 05.0**	**+2.0**
SDNR				*e*S	**Sn**	**20 23 48.0**	**+0.8**
DRP	**Derazinda**	**3.91**	**231**	P	**Pn**	**20 23 05.2**	**+1.1**
SMLA	**Simla**	**4.21**	**137**	*e*P	**Pn**	**20 23 09.0**	**+0.7**
SMLA				*ex*	**Sb**	**20 24 13.0**	**+3.7**
NDI	**New Delhi**	**6.27**	**151**	*ex*	x	20 24 20.0	
KHET	**Khetri**	**6.39**	**164**	*e*P	**Pn**	**20 23 34.4**	**-3.8**
KHET				*e*S	**Sn**	**20 24 45.8**	**-4.5**
KHET				AML	AML	20 24 49.6	
	comp=N,29nm,0.5s						
KHET				AML	AML	20 24 53.5	
	comp=E,22nm,0.2s						
KUDL	**Kundal**	**6.50**	**158**	*e*P	**Pn**	**20 23 36.4**	**-3.3**
KUDL				*e*S	**Sn**	**20 24 46.7**	**-6.5**
KUDL				AML	AML	20 25 30.9	
	comp=E,28nm,0.5s						
KUDL				AML	AML	20 25 31.4	
	comp=N,32nm,0.6s						
SONA	**Sohna**	**6.61**	**154**	*e*P	**Pn**	**20 23 40.1**	**-1.0**
SONA				*e*S	**Sn**	**20 24 54.0**	**-1.7**
SONA				AML	AML	20 24 56.0	
	comp=E,78nm,0.4s						
SONA				AML	AML	20 24 57.2	
	comp=N,27nm,0.3s						
LGTI	**Lohaghat**	**7.28**	**129**	*e*S	**Sn**	**20 25 10.7**	**-1.5**
AML	**Almayashu**	**7.88**	**359**	⇓P	**Pn**	**20 23 52.2**	**-6.4**
	comp=N,37nm,0.1s,SNR=30						
KZA	**Kyzart**	**7.91**	**8**	⇑P	**Pn**	**20 24 02.5**	**+3.5**
	comp=N,9.3nm,0.2s,SNR=30						
UCH	**Uchtor**	**7.99**	**4**	⇓P	**Pn**	**20 24 02.6**	**+2.4**
	comp=N,6.7nm,0.1s,SNR=40						
AAK	**Ala-Archa**	**8.40**	**4**	⇓P	**Pn**	**20 24 03.6**	**-2.1**
	comp=N,12nm,0.3s,SNR=15						
AAK	**Ala-Archa**	**8.40**	**4**	*e*P	**Pn**	**20 24 02.2**	**-3.5**
AAK				pmax	pmax		
	comp=Z,17nm,0.6s						
AAK	**Ala-Archa**	**8.40**	**4**	*e*P	**Pn**	**20 24 02.2**	**-3.6**
	comp=Z,17nm,0.6s						
KBK	**Karagaybulak**	**8.45**	**6**	⇓P	**Pn**	**20 24 09.7**	**+3.2**
	comp=Z,9.2nm,0.1s,SNR=9.3						
CHMS	**Chumysh**	**8.78**	**5**	⇓P	**Pn**	**20 24 09.0**	**-1.9**
	comp=Z,13nm,0.4s,SNR=6.8						
TKM2	**Tokmak 2**	**8.78**	**9**	⇓P	**Pn**	**20 24 14.5**	**+3.5**
	comp=Z,12nm,0.2s,SNR=8.2						
TKM2	**Tokmak 2**	**8.78**	**9**	⇑Pn	**Pn**	**20 24 18.7**	**+7.7**
	comp=Z,0.5nm,0.3s						
USP	**Ospenovka**	**9.03**	**3**	⇓P	**Pn**	**20 24 08.7**	**-5.7**
	comp=Z,11nm,0.3s,SNR=15						
KK31	**Karatay Array**	**9.21**	**345**	⇑P	**Pn**	**20 24 12.7**	**-4.2**
	comp=Z,4.8nm,0.3s,baz=122,slow=16,SNR=354						
KOLN	**Koldanda**	**10.60**	**125**	*e*P	**Pn**	**20 24 35.6**	**-0.3**
	comp=Z,11nm,0.3s						
GKN	**Gorkha**	**11.18**	**121**	*e*P	**Pn**	**20 24 42.2**	**-1.6**
	comp=Z,16nm,0.3s						
DMN	**Daman**	**11.75**	**121**	*e*P	**Pn**	**20 24 50.4**	**-1.2**
	comp=Z,14nm,0.4s						
KKN	**Kakani**	**11.76**	**120**	*e*P	**Pn**	**20 24 50.2**	**-1.6**
	comp=Z,24nm,0.6s						
PKI	**Pulchoki**	**11.98**	**121**	*e*P	**Pn**	**20 24 53.2**	**-1.7**
	comp=Z,11nm,0.2s						
GUN	**Gumba**	**12.13**	**118**	*e*P	**Pn**	**20 24 56.2**	**-0.6**
	comp=Z,13nm,0.3s						
JIRN	**Jiri**	**12.50**	**118**	*e*P	**Pn**	**20 25 01.6**	**-0.3**
	comp=Z,25nm,0.3s						
MKAR	**Makanchi Array**	**14.09**	**25**	Pn	**Pn**	**20 25 24.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=215,slow=14,SNR=7.1						
LSA	**Lhasa**	**15.41**	**102**	P	**Pn**	**20 25 41.6**	**+0.2**
LSA	**Lhasa**	**15.41**	**102**	*e*P	**Pn**	**20 25 42.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**15.41**	**102**	*e*P	**Pn**	**20 25 42.6**	**+1.3**
	comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**16.84**	**11**	*e*P	**Pn**	**20 25 58.0**	**-1.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**16.84**	**11**	*e*P	**Pn**	**20 25 58.0**	**-1.7**
	comp=Z,4.7nm,0.8s						
BVAR	**Borovoye Array**	**18.93**	**354**	P	**Pn**	**20 26 25.9**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=155,slow=9.0,SNR=34						
BVAR	**Borovoye Array**	**18.93**	**354**	P	**Pn**	**20 26 25.9**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CHKZ	**Chkalovo**	**19.56**	**354**	*e*P	**Pn**	**20 26 31.2**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**19.56**	**354**	*e*P	**Pn**	**20 26 31.2**	**-1.8**
	comp=Z,1.4nm,0.6s						
AKTK	**Aktyubinsk**	**19.88**	**329**	P	**Pn**	**20 26 36.0**	**-0.8**
AKTO	**Aktyubinsk**	**19.88**	**329**	P	**Pn**	**20 26 36.0**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=132,slow=11,SNR=32						
AKTO	**Aktyubinsk**	**19.88**	**329**	P	**Pn**	**20 26 36.0**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**21.17**	**18**	P	**P**	**20 26 49.3**	**+0.3**
	comp=Z,6.7nm,0.4s,mb4.3,baz=251,slow=6.6,SNR=17						
ZAL	**Zalesovo**	**21.17**	**18**	P	**P**	**20 26 49.3**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,7.0nm,0.4s						
NVS	**Novosibirsk**	**21.63**	**15**	*e*P	**P**	**20 26 55.8**	**+1.8**
SONM	**Songino Array**	**27.86**	**51**	P	**P**	**20 27 54.9**	**+1.6**
	comp=Z,1.3nm,0.8s,mb3.6,baz=255,slow=9.7,SNR=11						
SONM	**Songino Array**	**27.86**	**51**	P	**P**	**20 27 54.9**	**+1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MLR	**Muntele Rosu**	**37.89**	**302**	P	**P**	**20 29 21.7**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.0,baz=98,slow=10,SNR=4.8						
MLR	**Muntele Rosu**	**37.89**	**302**	P	**P**	**20 29 21.7**	**+1.0**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**40.62**	**327**	P	**P**	**20 29 42.2**	**-1.3**
	comp=Z,3.0nm,1.0s,mb3.9,baz=115,slow=9.3,SNR=2.4						
FINES	**FINESS Array B**	**40.62**	**327**	P	**P**	**20 29 42.2**	**-1.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**44.09**	**338**	P	**P**	**20 30 11.7**	**-0.1**
	comp=Z,4.3nm,1.0s,mb4.1,baz=115,slow=7.2,SNR=8.6						
ARCES	**ARCESS Array B**	**44.09**	**338**	P	**P**	**20 30 11.7**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HFS	**Hagfors**	**46.24**	**323**	P	**P**	**20 30 28.2**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.3,baz=96,slow=9.1,SNR=6.7						
HFS	**Hagfors**	**46.24**	**323**	P	**P**	**20 30 28.2**	**-0.6**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**47.55**	**324**	P	**P**	**20 30 41.1**	**+2.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**47.55**	**324**	P	**P**	**20 30 38.1**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=96,slow=7.6,SNR=3.6						
NOA	**NORSAR Array B**	**47.55**	**324**	P	**P**	**20 30 38.1**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**68.00**	**271**	P	**P**	**20 33 02.2**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.2,baz=46,slow=5.9,SNR=30						
INK	**Inuvik**	**75.74**	**10**	P	**P**	**20 33 49.7**	**+0.5**
	baz=162,slow=6.4						
INK	**Inuvik**	**75.74**	**10**	P	**P**	**20 33 49.7**	**+0.5**
WRA	**Warramunga Arr**	**78.86**	**123**	P	**P**	**20 34 07.3**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=323,slow=4.9,SNR=14						
WRA	**Warramunga Arr**	**78.86**	**123**	P	**P**	**20 34 07.3**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

STR ***08*** *20:23:55.7±0.2,4757N×761E,h5km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***08*** *20:23:56.3±0.1,4759N×758E,h10km,Md2.3/1,Ml2.1/9, Error ellipse: s-maj=2.5km s-min=1.8km az=154.0*

ZUR 08 20:23:56.3,4759N×760E,h4km±1km,ML1.6,1C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	*i* Sg	Pg	20 24 01.6	+0.3
	210nm,0.3s						
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Sg	20 24 05.3	+0.6
	210nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇓*i*Pg	Pg	20 24 02.7	+0.3
	45nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	20 24 03.1	0.0
	89nm,0.2s						
SULZ				*i* Sg	Sg	20 24 07.9	+0.2
	89nm,0.2

HAU	**Haudompre**	**0.94 297**	*e*Pg	Pg	20 27 59.5	-0.6
HAU			*e*Sg	Sg	20 28 12.0	-0.3
6.5nm,0.2s						
CABF	**La Chapelle**	**1.42 227**	*e*Pg	Pg	20 28 08.9	-0.4
CABF			*e*Sg	Sg	20 28 25.9	-1.8
1.3nm,0.2s						
SFTF	**Sexfontaines**	**1.83 291**	*e*Sg	Sg	20 28 39.5	-1.4
0.4nm,0.2s						
LOR	**Lormes**	**2.56 264**	*e*Sg	Sg	20 29 01.6	-2.7
1.0nm,0.2s						

MAN 08 20:38:49.6, 1694N×12043E, h3km, mb4.2, ML5.1, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.57**	**165**	⇑*i*P	Pg	20 39 00.0	-0.5
BCPH				*i*S	Sg	20 39 07.4	-0.5
BOLP	**Bolinao**	**0.74**	**222**	*e*P	Pg	20 39 04.9	+1.1
BOLP				*e*S	Sg	20 39 17.8	+4.4
ABRA	**Dolores**	**0.76**	**21**	*e*P	Pg	20 39 04.6	+0.4
ABRA				*e*S	Sg	20 39 15.8	+1.8
CAUP	**Cauayan**	**1.33**	**89**	*e*P	Pn	20 39 14.0	-1.1
CAUP				*e*S	Sg	20 39 33.5	+1.1
CVP	**Callao Caves**	**1.53**	**60**	*e*P	Pn	20 39 16.0	-1.8
BALP	**Baler**	**1.62**	**137**	*e*P	Pn	20 39 15.7	-3.3
BALP				*e*S	Sn	20 39 36.2	-4.2
PALP	**Palanan**	**1.91**	**86**	*e*P	Pn	20 39 24.1	+1.1
PALP				*e*S	Sn	20 39 46.9	-0.7
POLP	**Polilio Island**	**2.63**	**146**	*e*P	Pn	20 39 34.4	+1.5

*IDC **08** 20:56:54.5±1.3, 898S×12684E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=143.3km s-min=23.5km az=62.0*
*NEIC **08** 20:56:56.7±0.7, 890S×12681E, h10km, mb4.0/1, Error ellipse: s-maj=22.9km s-min=10.9km az=64.0*
*ISCJB **08** 20:57:04.5±3.9, 94S±02×1270E±01, h126km±46km, mb3.7/3, Error ellipse: s-maj=31.7km s-min=15.6km az=102.8*

ISC 08 20:56:58.5±4.3, 914S±008×1268E±01, h29km±32km, n10, σ1§13/12, mb3.8/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.56**	**123**	*e*P	**Pn**	**20 58 34.6**	**+1.6**
12nm,0.5s							
KAKA				*e*S	**Sn**	**20 59 46.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**8.99**	**187**	*e*P	**Pn**	**20 59 09.6**	**+3.3**
9.1nm,0.3s							
FITZ				*e*S	**Sn**	**21 00 46.2**	**-0.3**
WRAB	**Tennant Creek**	**12.97**	**147**	*e*P	**Pn**	**20 59 59.6**	**-1.1**
13nm,0.8s							
WRA	**Warramunga Arr**	**12.97**	**147**	Pn	**Pn**	**21 00 00.0**	**-0.7**
1.4nm,0.3s,baz=320,slow=13,SNR=119							
WRA				Sn	Sx	21 02 19.1	
2.1nm,0.3s,baz=316,slow=25,SNR=13							
WB2	**Warramunga Arr**	**12.98**	**147**	*e*P	**Pn**	**20 59 59.8**	**-1.0**
WB2				*e*S	Sx	21 02 16.7	
STKA	**Stephens Creek**	**26.46**	**151**	*e*P	**P**	**21 02 36.4**	**+3.5**
2.8nm,0.9s,mb3.8							
STKA	**Stephens Creek**	**26.46**	**151**	P	**P**	**21 02 35.0**	**+2.1**
1.0nm,0.4s,mb3.7,baz=335,slow=10.0,SNR=7.4							
SONM	**Songino Array**	**59.54**	**344**	P	**P**	**21 06 58.5**	**-0.6**
0.5nm,0.7s,mb3.6,baz=168,slow=5.6,SNR=4.8							
MK31	**Makanchi Array**	**68.34**	**329**	*e*P	**P**	**21 07 57.1**	**0.0**
MKAR	**Makanchi Array**	**68.34**	**329**	P	**P**	**21 07 57.0**	**0.0**
1.1nm,0.6s,mb4.1,baz=128,slow=7.7,SNR=18							

MEX 08 21:13:05.2±0.9, 1726N×9998W, h31km±19km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.34**	**233**	*i*P	Pb	21 13 11.7	-1.6
CAIG				*i*S	Sb	21 13 17.2	-1.6
ACX	**Acapulco**	**0.39**	**171**	*i*P	Pb	21 13 12.0	-2.0
ACX				*i*S	Sb	21 13 19.0	-1.0
MEIG	**Mezcala**	**0.75**	**27**	*i*P	Pn	21 13 18.2	-1.5
MEIG				*i*S	Sb	21 13 26.6	-3.0
UTMO	**Huajuapan**	**2.15**	**74**	*e*P	Pn	21 13 37.9	-1.1
UTMO				*i*S	Sn	21 14 02.1	-2.5

*MOS **08** 21:24:58.3±1.3, 5578N×110.18E, h17km, mb4.3/1, Error ellipse: s-maj=17.3km s-min=10.9km az=69.4*

BYKL 08 21:24:58.7±0.2, 5572N×11014E, h7km±4km, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**279**	*e*PG	Pg	21 25 05.9	+0.5
NIZ				*e*		21 25 11.5	
NIZ				pmax	pmax		
comp=Z,246nm,0.3s							
NIZ				smax			
comp=N,2μm,0.2s							
NIZ	**Nizh Angarsk**	**0.34**	**279**	⇑*i*Pg	Pg	21 25 06.0	+0.6
NIZ				*e*Sg	Sg	21 25 11.5	+1.6
NIZ				Pmax			
comp=N,95nm,0.1s							
NIZ				Smax			
comp=N,2μm,0.2s							
KMO	**Kumora**	**0.62**	**74**	⇑*i*Pg	Pg	21 25 09.4	-1.3
KMO				*e*Sg	Sg	21 25 17.3	-1.5
KMO				Pmax			
comp=N,146nm,0.3s							
KMO				Smax			
comp=N,601nm,0.2s							
YOA	**Uoyan**	**0.98**	**64**	⇑*i*PG	Pg	21 25 16.0	-1.6
YOA				*e*		21 25 30.8	
YOA				pmax	pmax		
comp=Z,114nm,0.2s							
YOA				smax			
comp=E,564nm,0.4s							
YOA	**Uoyan**	**0.98**	**64**	*e*Pg	Pg	21 25 17.1	-0.5
YOA				*e*Sg	Sg	21 25 30.6	+0.3
YOA				Pmax			
comp=E,132nm,0.3s							
YOA				Smax			
comp=E,763nm,0.5s							
YLYR	**Ulyunkhan**	**1.03**	**145**	*e*PG	Pg	21 25 17.1	-1.3
YLYR				*e*		21 25 30.1	
YLYR				pmax	pmax		
comp=Z,90nm,0.1s							
YLYR				smax			
comp=N,520nm,0.2s							
YLYR	**Ulyunkhan**	**1.03**	**145**	⇑*i*Pg	Pg	21 25 17.1	-1.3
YLYR				*e*Sg	Sg	21 25 30.6	-1.2
YLYR				*e*		21 25 36.2	
YLYR				Pmax			
comp=N,90nm,0.1s							
YLYR				max			
comp=N,492nm,0.4s							
SVKR	**Severomuysk**	**1.96**	**77**	*e*PN	Pn	21 25 33.4	+1.0
SVKR				*e*		21 25 34.2	
SVKR				*e*		21 26 00.6	
SVKR				pmax	pmax		
comp=Z,121nm,0.5s							
SVKR				smax			
comp=N,2μm,0.7s							
SVKR	**Severomuysk**	**1.96**	**77**	*e*Pn	Pn	21 25 33.1	+0.7
SVKR				*e*Pg	Pg	21 25 34.2	-2.2
SVKR				*e*Sg	Sg	21 26 00.7	-1.2
SVKR				Pmax			
comp=N,116nm,0.2s							
SVKR				Smax			
comp=N,2μm,0.5s							
SYVR	**Suvo**	**2.07**	**182**	*e*PN	Pn	21 25 35.8	+2.0
SYVR				*e*		21 26 04.5	
SYVR				pmax	pmax		
comp=Z,193nm,0.6s							
SYVR				smax			
comp=E,991nm,0.5s							
SYVR	**Suvo**	**2.07**	**182**	⇑*i*Pg	Pg	21 25 36.0	-2.3
SYVR				*e*Sg	Sg	21 26 04.5	-0.7
SYVR				Pmax			
comp=E,207nm,0.6s							
SYVR				Smax			
comp=E,1μm,0.7s							
OGRR	**Ongureny**	**2.55**	**216**	*e*PN	Pn	21 25 42.2	+1.7
OGRR				*e*		21 25 46.0	
OGRR				*e*		21 26 18.3	
OGRR				pmax	pmax		
comp=Z,39nm,0.3s							
OGRR				smax			
comp=N,237nm,0.4s							
OGRR	**Ongureny**	**2.55**	**216**	*e*Pn	Pn	21 25 42.2	+1.7
OGRR				*e*Pg	Pg	21 25 45.0	-2.6
OGRR				*e*Sn	Sn	21 26 13.5	+1.7
OGRR				*e*Sg	Sg	21 26 18.2	-2.5
OGRR				Pmax			
comp=N,27nm,0.3s							
OGRR				Smax			
comp=N,237nm,0.3s							
MXMB	**Maximikha**	**2.59**	**199**	*e*Pn	Pn	21 25 41.6	+0.6
MXMB				*e*Pg	Pg	21 25 46.0	-2.4
MXMB				*e*Sg	Sg	21 26 20.2	-1.8
MXMB				Pmax			
comp=N,33nm,0.1s							
MXMB				Smax			
comp=N,487nm,1.0s							
BOD	**Bodaibo**	**2.99**	**44**	*e*Pn	Pn	21 25 46.9	+0.4
BOD				*e*Pg	Pg	21 25 51.5	-4.5
BOD				*e*Sn	Sn	21 26 22.5	-0.1
BOD				*e*Sg	Sg	21 26 29.7	-5.1
BOD				Pmax			
comp=N,14nm,0.7s							
BOD				Smax			
comp=N,132nm,1.1s							
NLYR	**Nelyaty**	**3.21**	**74**	*e*Pn	Pn	21 25 49.9	+0.4
NLYR				*e*Pg	Pg	21 25 56.1	-4.1
NLYR				*e*Sn	Sn	21 26 29.0	+1.0
NLYR				*e*Sg	Sg	21 26 38.4	-3.4
TRG	**Tyrgan**	**3.71**	**218**	*e*Pn	Pn	21 25 57.4	+1.0
TRG				*e*		21 26 41.2	
TRG				*e*Sg	Sg	21 26 53.1	-4.7
TRG				max			
comp=N,31nm,0.4s							
TRG				Smax			
comp=N,81nm,0.6s							
TRTB	**Turuntaevo**	**3.80**	**204**	*e*Pn	Pn	21 25 58.7	+1.1
TRTB				*e*Pg	Pg	21 26 06.8	-4.7
TRTB				*e*Sg	Sg	21 26 55.8	-4.9
TRTB				Pmax			
comp=N,12nm,0.4s							
TRTB				Smax			
comp=N,87nm,0.7s							
CIT	**Chita**	**4.22**	**150**	*e*PN	Pn	21 26 02.7	-0.7
CIT				*e*		21 26 12.8	
CIT				*e*		21 27 07.2	
CIT				pmax	pmax		
comp=Z,65nm,1.0s							
CIT				smax			
comp=N,103nm,0.9s							
CIT	**Chita**	**4.22**	**150**	*e*Pn	Pn	21 26 03.0	-0.4
CIT				*i*Pg	Pg	21 26 14.2	-5.4
CIT				*e*Sg	Sg	21 27 08.4	-5.8
CIT				Pmax			
comp=N,65nm,1.4s							
CIT				Smax			
comp=N,103nm,1.0s							
HRMR	**Khuramsha**	**4.52**	**206**	*e*Pn	Pn	21 26 08.7	+1.2
HRMR				*e*Pg	Pg	21 26 19.8	-5.4
HRMR				*e*Sn	Sn	21 26 58.9	-1.3
HRMR				*e*Sg	Sg	21 27 17.9	-5.8
HRMR				Pmax			
comp=N,33nm,0.5s							
HRMR				Smax			
comp=N,280nm,0.2s							
CRS	**Chara**	**4.68**	**72**	*e*PN	Pn	21 26 21.7	+12
CRS				*e*		21 27 24.9	
CRS				pmax	pmax		
comp=Z,44nm,2.0s							
CRS				smax			
comp=E,104nm,1.6s							
CRS	**Chara**	**4.68**	**72**	*e*Pg	Pg	21 26 22.9	-5.4
CRS				*e*Sg	Sg	21 27 23.8	-5.2
CRS				Pmax			
comp=E,13nm,0.7s							
CRS				Smax			
comp=E,103nm,1.5s							
LSTR	**Listvyanka**	**4.98**	**221**	*e*	Pn	21 27 07.9	+54
LSTR				*e*Sg	Sg	21 27 32.8	-5.8
LSTR				Smax			
comp=E,87nm,1.1s							
TLY	**Talaya**	**5.59**	**226**	*e*	Pn	21 26 30.2	+8.0
TLY				*e*Pg	Pg	21 26 38.7	-7.1
TLY				*e*Sn	Sn	21 27 25.7	-1.0
TLY				*e*Sg	Sg	21 27 50.3	-7.9
TLY				Pmax			
comp=E,6.0nm,0.6s							
TLY				Smax			
comp=E,50nm,1.0s							
TUP	**Tupik**	**5.79**	**99**	*e*PN	Pn	21 26 24.3	-0.6
TUP				*e*		21 26 41.7	
TUP				*e*S	Sn	21 27 29.1	-2.4
TUP				*e*		21 27 56.5	
TUP				pmax	pmax		
comp=Z,12nm,0.5s							
TUP				smax			
comp=N,64nm,1.0s							
TUP	**Tupik**	**5.79**	**99**	*e*Pn	Pn	21 26 24.9	0.0
TUP				*e*Pg	Pg	21 26 42.7	-6.8
TUP				*e*		21 27 36.2	
TUP				*e*Sg	Sg	21 27 57.7	-6.8
TUP				Pmax			
comp=N,5.0nm,0.6s							
TUP				Smax			
comp=N,63nm,1.4s							
ARS	**Arshan**	**5.95**	**233**	*e*PN	Pn	21 26 28.0	+0.9
ARS				*e*S	Sn	21 27 34.6	-0.9
ARS	**Arshan**	**5.95**	**233**	*e*Pn	Pn	21 26 27.7	+0.6
ARS				*e*Sn	Sn	21 27 34.8	-0.7
ARS				*e*Sg	Sg	21 28 01.8	-7.8
ARS				max			
comp=N,28nm,0.5s							
ARS				Smax			
comp=N,213nm,0.7s							
KPC	**Khapcheranga**	**6.18**	**166**	*e*PN	Pn	21 26 50.5	+20
KPC				*e*		21 28 11.6	
KPC				pmax	pmax		
comp=Z,7.0nm,0.6s							
KPC				smax			
comp=E,55nm,1.2s							
KPC	**Khapcheranga**	**6.18**	**166**	*e*Pn	Pn	21 26 30.7	+0.4
KPC				*e*		21 27 36.2	
KPC				*e*Sg	Sg	21 28 09.9	-7.1
KPC				max			
comp=E,22nm,0.4s							
KPC				Smax			
comp=E,55nm,1.2s							
ZAK	**Zakamensk**	**6.76**	**221**	*e*PN	Pn	21 26 40.7	+2.4
ZAK				*e*		21 27 01.8	
ZAK				*e*		21 28 29.5	
ZAK				pmax	pmax		
comp=Z,5.0nm,0.8s							
ZAK				smax			
comp=N,52nm,1.4s							
MOY	**Mondy**	**6.78**	**237**	*e*PN	Pn	21 26 41.2	+2.6
MOY				*e*		21 27 03.2	
MOY				*e*		21 28 28.6	
MOY				pmax	pmax		
comp=Z,4.0nm,0.3s							
MOY				smax			
comp=N,49nm,1.0s							
MOY	**Mondy**	**6.78**	**237**	*e*Pn	Pn	21 26 39.2	+0.6
MOY				*e*Sn	Sn	21 27 54.8	-1.2
MOY				*e*Sg	Sg	21 28 27.3	-9.0
MOY				max			
comp=N,2.0nm,0.3s							
MOY				Smax			
comp=N,23nm,0.7s							
ORL	**Orlik**	**6.86**	**247**	*e*PN	Pn	21 26 41.2	+1.6
ORL				*e*S	Sn	21 28 32.7	+35
ORL				smax			
comp=N,64nm,1.4s							
ORL	**Orlik**	**6.86**	**247**	*e*Pn	Pn	21 26 40.7	+1.1
ORL				*e*Sn	Sn	21 27 57.2	-0.7
ORL				*e*Sg	Sg	21 28 30.7	-8.1
ORL				max			
comp=N,11nm,0.6s							
ORL				Smax			
comp=N,43nm,0.8s							

*ISCJB **08** 21:32:30.6±6.0, 236S±04×663W±03, h225km±43km, mb3.2/2, Error ellipse: s-maj=75.0km s-min=30.3km az=67.4*
*IDC **08** 21:32:30.1±8.3, 2364S×6640W, h208km±60km, mb3.3/2, mb1 3.3/4, mb1mx3.2/16, mbtmp3.1/4, Error ellipse: s-maj=84.0km s-min=37.9km az=21.0*

ISC 08 21:32:32.9±6.5, 235S±04×663W±03, h231km±46km, n6, σ0§92/5, mb3.2/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.36**	**346**	P	**Pn**	**21 34 18.1**	**+0.2**
0.5nm,0.3s,baz=158,slow=6.3,SNR=7.0							
LPAZ				S	**S**	**21 35 42.2**	**+0.1**
0.1nm,0.3s,baz=246,slow=20,SNR=3.0							
SIV	**San Ignacio**	**8.95**	**35**	P	**Pn**	**21 34 37.9**	**-0.4**
0.1nm,0.3s,baz=244,slow=15,SNR=5.0							
TORD	**Torodi Ar. Bea**	**75.81**	**69**	P	**P**	**21 43 54.1**	**+0.6**
0.6nm,0.7s,mb3.3,baz=255,slow=6.3,SNR=6.9							
YKA	**Yellowknife Ar**	**93.86**	**340**	P	**P**	**21 45 23.4**	**-0.5**
0.1nm,0.5s,mb3.1,baz=128,slow=4.0,SNR=3.7							
WRA	**Warramunga Arr**	**132.36**	**207**	PKP	PKPdf	21 51 18.2	-1.2
0.3nm,0.9s,baz=150,slow=2.0,SNR=4.6							
MKAR	**Makanchi Array**	**145.74**	**39**	PKPbc	PKPbc	21 51 45.1	+0.5
0.6nm,0.6s,baz=310,slow=3.1,SNR=6.0							

*ISCJB **08** 21:36:04.5±0.9, 2698N±008×1143W±01, h10km, mb4.0/9, MS3.3/3, Error ellipse: s-maj=16.7km s-min=6.8km az=106.1*
*IDC **08** 21:36:04.7±1.1, 2702N×1142.5W, h0km, mb4.0/8, mb1 4.1/13, mb1mx4.0/25, mbtmp3.9/13, ML3.6/5, MS3.4/3, Ms1 3.4/3, ms1mx3.0/30, Error ellipse: s-maj=25.2km s-min=12.6km az=55.0*
*NEIC **08** 21:36:06.0±0.8, 2694N×1144W, h10km, mb4.1/2, Error ellipse: s-maj=14.2km s-min=8.6km az=54.0*

ISC 08 21:36:06.0±0.9, 2692N±008×1144W±01, h10km, n26, σ1§12/23, mb4.0/9, MS3.3/3, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**4.65**	**126**	Pn	**Pn**	**21 37 17.5**	**+1.3**
58nm,0.3s,baz=305,slow=2.0,SNR=35							
LPIG				Sn	**Sn**	**21 38 08.6**	**-1.6**
baz=210,slow=18,SNR=2.6							
LPIG				Lg		21 38 28.9	
7.1nm,0.3s,baz=209,slow=19,SNR=2.3							
TUC	**Tucson**	**6.23**	**30**	*e*P	**Pn**	**21 37 36.4**	**-1.6**
PFO	**Pinyon Flat Ob**	**6.90**	**346**	Pn	**Pn**	**21 37 46.7**	**-0.5**
0.9nm,0.3s,baz=16,slow=2.4,SNR=5.3							
PFO				Lg		21 39 33.0	
0.3nm,0.3s,baz=231,slow=18,SNR=6.5							
PFO	**Pinyon Flat Ob**	**6.90**	**346**	Pn	**Pn**	**21 37 46.7**	**-0.5**
PFO				Lg		21 39 33.0	
WUAZ	**Wupatki**	**8.96**	**16**	*e*P	**Pn**	**21 38 16.6**	**+1.2**
MNTX	**Cornudas Mount**	**9.21**	**57**	*e*Pn	**Pn**	**21 38 14.2**	**-4.6**
TXAR	**Lajitas Array**	**9.79**	**73**	Pn	**Pn**	**21 38 27.4**	**+0.7**
0.2nm,0.3s,baz=284,slow=9.0,SNR=17							
ANMO	**Albuquerque**	**10.52**	**39**	Pn	**Pn**	**21 38 36.3**	**-0.5**
0.4nm,0.3s,baz=221,slow=14,SNR=4.9							
ANMO				Lg		21 41 30.8	
0.2nm,0.3s,baz=342,slow=9.0,SNR=5.8							
NVAR	**Mina Array Bea**	**11.94**	**345**	Pn	**Pn**	**21 38 57.4**	**+1.2**
0.2nm,0.3s,baz=157,slow=9.5,SNR=2.0							
SRU	**San Rafael**	**12.59**	**14**	*e*P	**Pn**	**21 39 11.2**	**+6.1**
8.2nm,1.1s							
JCT	**Junction City**	**13.30**	**71**	*e*P	**Pn**	**21 39 16.5**	**+1.6**
MOD	**Modoc**	**15.71**	**344**	Pn	**Pn**	**21 39 46.1**	**-1.2**
7.4nm,1.3s							
PDAR	**Pinedale Array**	**16.30**	**13**	Pn	**Pn**	**21 39 56.0**	**+1.0**
0.0nm,0.3s,baz=182,slow=9.9,SNR=4.5							
CMIG	**Matias Romero**	**20.55**	**114**	LR	LR	21 49 42.0	
comp=Z,49nm,18.9s,MS2.9,baz=230,slow=40							
EGMT	**Eagleton**	**21.38**	**9**	*e*P	**P**	**21 40 54.5**	**+0.8**
20nm,1.2s,mb4.3							
NEW	**Newport**	**21.41**	**355**	P	**P**	**21 40 53.4**	**-0.6**
1.5nm,0.4s,mb3.7,baz=166,slow=9.0,SNR=4.5							
TEIG	**Tepich**	**24.83**	**100**	LR	LR	21 52 43.2	
comp=Z,157nm,18.7s,MS3.5,baz=31,slow=40							
ULM	**Lac du Bonnet**	**27.29**	**26**	P	**P**	**21 41 48.6**	**-2.0**
4.6nm,0.8s,mb4.0,baz=214,slow=9.4,SNR=5.9							
TKL	**Tuckaleechee C**	**27.51**	**64**	LR	LR	21 53 45.6	
comp=Z,104nm,18.8s,MS3.4,baz=46,slow=39							
YKA	**Yellowknife Ar**	**35.57**	**360**	P	**P**	**21 43 02.4**	**-1.0**
0.2nm,0.6s,mb3.2,baz=177,slow=8.5,SNR=3.8							
INK	**Inuvik**	**42.97**	**350**	P	**P**	**21 44 05.5**	**+0.2**
2.3nm,1.0s,mb3.8,baz=138,slow=7.3,SNR=4.2							
SDV	**Santo Domingo**	**45.08**	**105**	P	**P**	**21 44 22.5**	**+0.3**
4.5nm,0.7s,mb4.4,baz=280,slow=10,SNR=8.5							
LPAZ	**La Paz**	**62.15**	**128**	P	**P**	**21 46 27.5**	**+0.1**
0.8nm,0.8s,mb3.9,baz=343,slow=7.9,SNR=3.7							
FINES	**FINESS Array B**	**86.34**	**18**	P	**P**	**21 48 47.1**	**-1.1**
4.1nm,1.0s,mb4.6,baz=333,slow=2.1,SNR=9.9							
SONM	**Songino Array**	**97.04**	**334**	P	**P**	**21 49 39.8**	**+1.6**
0.8nm,0.9s,mb4.2,baz=11,slow=7.2,SNR=4.2							
WRA	**Warramunga Arr**	**117.20**	**260**	PKP	PKPdf	21 54 52.1	+0.7
0.3nm,0.5s,baz=62,slow=2.2,SNR=6.1							

*JMA **08** 21:50:27.7±0.2, 2173N×14365E, h340km, M4.5*
*ISCJB **08** 21:50:28.3±0.7, 2163N±004×14309E±009, h332km±6km, mb4.1/33, Error ellipse: s-maj=13.9km s-min=5.7km az=167.4*
*MOS **08** 21:50:28.3±0.8, 2167N×143.10E, h333km, mb4.3/5, Error ellipse: s-maj=22.6km s-min=8.4km az=108.2*
*IDC **08** 21:50:29.7±1.3, 2161N×14302E, h330km±12km, mb3.8/18, mb1 3.9/22, mb1mx3.9/28, mbtmp3.8/22, Error ellipse: s-maj=14.8km s-min=8.2km az=86.0*
*NEIC **08** 21:50:30.5±1.0, 2161N×14307E, h342km±10km, mb4.1/8, Error ellipse: s-maj=12.1km s-min=6.1km az=78.0*

ISC 08 21:50:29.8±0.6, 2169N±004×14315E±009, h332km±5km, n84, σ1§00/93, mb4.1/33, 2C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.00**	**350**	P	**Pn**	**21 51 48.2**	**-0.4**
JHHJ				*e*S	**S**	**21 52 50.4**	**-1.7**
CBIJ	**Chichi jima**	**5.46**	**351**	P	**Pn**	**21 51 53.0**	**-0.7**
57nm,0.3s,baz=145,slow=2.0,SNR=34							
CBIJ				S	**S**	**21 53 01.6**	**+0.1**
36nm,0.3s,baz=110,slow=23,SNR=10.0							
CBIJ	**Chichi jima**	**5.46**	**351**	P	**Pn**	**21 51 52.8**	**-0.9**
CBIJ				*e*S	**S**	**21 53 00.0**	**-1.5**
GUMO	**Guam**	**8.22**	**168**	P	**Pn**	**21 52 26.3**	**0.0**
14nm,0.3s,baz=44,slow=1.8,SNR=5.8							
BSO1	**Boso 1**	**13.06**	**352**	P	**Pn**	**21 53 24.8**	**+0.5**
BSO3	**Boso 3**	**13.27**	**350**	P	**Pn**	**21 53 26.4**	**-0.4**
BSO3				*e*S	**S**	**21 55 54.7**	**+2.3**
BSO4	**Boso 4**	**13.48**	**350**	P	**Pn**	**21 53 29.5**	**+0.2**
BSO4				*e*S	**S**	**21 55 56.8**	**+0.1**
JWZ	**Kozaga**	**13.51**	**332**	P	**Pn**	**21 53 31.0**	**+1.4**
HMMJ	**Hamamatsu 2**	**13.96**	**341**	P	**Pn**	**21 53 34.0**	**-1.0**
JOD2	**Odawara 2**	**13.99**	**346**	P	**Pn**	**21 53 35.6**	**+0.3**
JOD2				*e*S	**S**	**21 56 04.6**	**-2.3**
JNY	**Yasuok**	**14.39**	**342**	P	**P**	**21 53 40.3**	**+1.8**
JAO	**Obara**	**14.48**	**340**	P	**P**	**21 53 41.8**	**+2.3**
JHU	**Hanno**	**14.51**	**347**	P	**P**	**21 53 40.3**	**+0.4**
JHU				*e*S	**S**	**21 56 15.8**	**-1.7**
JRY	**Ryogami san**	**14.75**	**346**	P	**P**	**21 53 43.3**	**+0.8**
JRY				S	**S**	**21 56 21.0**	**-1.3**
JAG	**Ashikaga**	**15.03**	**348**	P	**P**	**21 53 45.6**	**0.0**
JAG				*e*S	**S**	**21 56 24.5**	**-3.5**
JHO	**Hitachi**	**15.04**	**352**	P	**P**	**21 53 48.1**	**+2.5**
JHO				*e*S	**S**	**21 56 28.2**	**+0.1**
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	**P**	**21 53 50.2**	**+0.4**
2.3nm,0.3s,baz=157,slow=8.6,SNR=18							
MJAR				S	**S**	**21 56 35.4**	**-0.2**
0.6nm,0.3s,baz=166,slow=16,SNR=5.0							
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	**P**	**21 53 50.2**	**+0.4**
MJAR				S	**S**	**21 56 35.4**	**-0.2**
MAJO	**Matsushiro**	**15.41**	**345**	*e*P	**P**	**21 53 49.2**	**-0.5**
MAJO				pmax	pmax		
comp=Z,12nm,0.3s							
MAJO	**Matsushiro**	**15.41**	**345**

SONM Songino Array 39.33 320 P **P 21 57 28.6 +0.8**
comp=Z,1.7nm,0.4s,mb3.6,baz=128,slow=7.1,SNR=44
YAK Yakutsk 41.37 350 *i* P **P 21 57 44.1 -0.3**
YAK pmax pmax
comp=Z,12nm,0.6s,mb4.3
CTA Charters Tower 41.63 176 P **P 21 57 46.0 -0.4**
comp=Z,4.0nm,0.6s,mb3.7,baz=358,slow=16,SNR=4.4
CTAO Charters Tower 41.63 176 *e*P **P 21 57 46.1 -0.4**
CTAO pmax pmax
comp=Z,4.0nm,0.6s,mb3.7
CTAO Charters Tower 41.63 176 *e*P **P 21 57 46.0 -0.4**
comp=Z,3.9nm,0.6s,mb3.7
WRAB Tennant Creek 42.25 192 *i* P **P 21 57 50.8 -0.7**
WRAB Tennant Creek 42.25 192 *e*P **P 21 57 50.6 -0.9**
comp=Z,5.3nm,0.3s,mb4.2
WRA Warramunga Arr 42.26 192 P **P 21 57 51.1 -0.4**
comp=Z,4.0nm,0.3s,mb4.0,baz=15,slow=9.5,SNR=87
WRA S **S 22 03 44.5 -2.1**
comp=Z,0.4nm,0.6s,baz=358,slow=12,SNR=3.4
ZAK Zakamensk 42.33 322 *e*P **P 21 57 51.0 -1.1**
FITZ Fitzroy Crossi 43.10 205 P **P 21 57 57.4 -0.9**
comp=Z,1.1nm,0.3s,mb3.4,baz=135,slow=15,SNR=4.8
LSA Lhasa 47.21 291 *e*P **P 21 58 32.0 +1.8**
LSA pmax pmax
comp=Z,3.0nm,0.7s,mb3.6
LSA Lhasa 47.21 291 *e*P **P 21 58 32.0 +1.8**
comp=Z,3.1nm,0.7s,mb3.6
BILL Bilibino 48.53 11 *i* P **P 21 58 41.1 +0.8**
BILL *e*PP pP 21 59 48.7 +0.1
BILL pmax pmax
comp=Z,20nm,1.8s,mb4.0
TIXI Tiksi 50.66 354 *i* P **P 21 58 55.8 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb3.6
TIXI Tiksi 50.66 354 *e*P **P 21 58 56.0 -0.1**
comp=Z,3.2nm,0.8s,mb3.6
GUN Gumba 51.97 289 *e*P **P 21 59 06.8 +1.0**
comp=Z,6.3nm,0.4s,mb4.3
PKI Pulchoki 52.42 289 *e*P **P 21 59 09.5 +0.4**
comp=Z,11nm,0.5s,mb4.4
KKN Kakani 52.51 289 *e*P **P 21 59 10.1 +0.3**
comp=Z,9.3nm,0.6s,mb4.3
DMN Daman 52.68 289 *e*P **P 21 59 11.7 +0.7**
comp=Z,5.5nm,0.4s,mb4.2
GKN Gorkha 53.05 289 *e*P **P 21 59 13.8 +0.1**
comp=Z,7.7nm,0.3s,mb4.5
STKA Stephens Creek 53.28 182 P **P 21 59 14.6 -0.7**
comp=Z,1.1nm,0.3s,mb3.6,baz=353,slow=9.4,SNR=6.7
STKA Stephens Creek 53.28 182 *e*P **P 21 59 14.4 -0.9**
KOLN Koldanda 53.99 289 *e*P **P 21 59 21.1 +0.7**
ZAL Zalesovo 54.21 322 P **P 21 59 21.5 -0.5**
comp=Z,3.3nm,0.6s,mb3.9,baz=2.9,slow=8.0,SNR=9.5
ZAL PcP PcP 22 00 21.4 -0.4
comp=Z,2.5nm,0.4s,baz=358,slow=4.8,SNR=5.1
MK31 Makanchi Array 54.68 313 *e*P **P 21 59 25.8 +0.4**
MK31 *e* 22 00 23.9
MKAR Makanchi Array 54.68 313 P **P 21 59 26.0 +0.6**
comp=Z,3.8nm,0.5s,mb4.0,baz=88,slow=9.0,SNR=83
MKAR PcP PcP 22 00 23.2 -0.3
comp=Z,0.9nm,0.4s,baz=75,slow=4.7,SNR=6.6
KURK Kurchatov 57.46 317 *c i*P **P 21 59 45.1 +0.2**
KURK Kurchatov 57.46 317 *e*P **P 21 59 44.9 0.0**
comp=Z,8.7nm,0.8s,mb4.1
KDAK Kodiak Island 58.23 35 P **P 21 59 50.8 +0.6**
comp=Z,4.9nm,0.5s,mb4.1,baz=48,slow=20,SNR=7.6
IMA2 Indian Mountai 59.55 25 *e*P **P 21 59 59.8 +0.6**
CHKZ Chkalovo 62.52 320 *e*P **P 22 00 18.7 -0.3**
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
CHKZ Chkalovo 62.52 320 *e*P **P 22 00 18.6 -0.4**
comp=Z,5.7nm,0.6s,mb4.3
BVA0 Borovoye Array 62.66 319 *i* P **P 22 00 20.1 +0.2**
BRVK Borovoye 62.72 320 *e*P **P 22 00 20.7 +0.4**
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.5
BRVK Borovoye 62.72 320 *e*P **P 22 00 20.7 +0.4**
comp=Z,14nm,0.8s,mb4.5
INK Inuvik 67.59 24 P **P 22 00 51.7 +0.3**
comp=Z,2.5nm,0.6s,mb4.2,baz=298,slow=6.4,SNR=16
AB31 Akbulak array 69.53 316 *i* P **P 22 01 03.2 -0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
YKA Yellowknife Ar 76.48 28 P **P 22 01 44.0 +0.3**
comp=Z,8.1nm,0.6s,mb4.6,baz=291,slow=5.8,SNR=88
YKA Yellowknife Ar 76.48 28 P **P 22 01 44.0 +0.3**
KEV Kevo 78.36 341 *e*p **P 22 01 53.7 -0.3**
ARCES ARCESS Array B 78.92 341 P **P 22 01 57.2 +0.2**
comp=Z,6.9nm,0.5s,mb4.7,baz=76,slow=8.8,SNR=110
ARCES ARCESS Array B 78.92 341 P **P 22 01 57.2 +0.2**
JOF Joensuu 80.31 334 *e*p **P 22 02 03.0 -1.5**
comp=Z,7.8nm,0.3s,mb4.9
OBN Obninsk 81.48 326 *e*P **P 22 02 11.4 +0.8**
OBN *e* 22 05 20.1
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
KAF Kangasniemi 82.72 335 *e*p **P 22 02 15.3 -1.7**
baz=55,slow=4.8
FIA1 FINESS Array S 83.17 334 *e*P **P 22 02 18.4 -0.9**
NVAR Mina Array Bea 83.17 51 P **P 22 02 20.9 +1.6**
comp=Z,3.2nm,0.7s,mb4.3,baz=282,slow=6.3,SNR=8.8
FINES FINESS Array B 83.18 334 P **P 22 02 18.4 -0.9**
comp=Z,4.4nm,0.4s,mb4.7,baz=69,slow=4.7,SNR=54
FINES FINESS Array B 83.18 334 *i* P **P 22 02 18.3 -1.0**
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 83.18 334 P **P 22 02 18.4 -0.9**
PDAR Pinedale Array 87.42 45 P **P 22 02 41.0 +0.9**
comp=Z,0.4nm,0.5s,mb3.5,baz=146,slow=2.3,SNR=5.7
AKASG Malin Array Be 87.50 324 P **P 22 02 39.2 -1.3**
comp=Z,0.5nm,0.4s,mb3.7,baz=53,slow=5.5,SNR=5.0
NOA NORSAR Array B 88.94 339 P **P 22 02 45.6 -1.6**
comp=Z,0.7nm,0.7s,mb3.6,baz=50,slow=4.9,SNR=3.6
BRTR Keskin Array B 90.33 313 P **P 22 02 52.1 -1.5**
comp=Z,1.0nm,0.7s,mb3.8,baz=91,slow=3.3,SNR=6.9
BRTR Keskin Array B 90.33 313⇑ *e*P **P 22 02 53.2 -0.5**
VNA2 Neumayer--Watz 127.82 192 *e*PKPdf PKPdf 22 08 55.7 -0.4
baz=231,slow=0.7
VNA3 Neumayer Olymp 127.97 191 *e*PKPdf PKPdf 22 08 55.4 -1.0
TORD Torodi Ar. Bea 128.72 309 PKP PKPdf 22 08 59.0 +1.1
comp=Z,0.4nm,0.5s,baz=18,slow=1.0,SNR=10
LPAZ La Paz 149.97 85 PKPbc PKPbc 22 09 43.7 +2.5
comp=Z,3.9nm,0.5s,baz=324,slow=1.4,SNR=18
LPAZ PKPab PKPab 22 09 50.6 +2.4
comp=Z,2.5nm,0.5s,baz=28,slow=25,SNR=7.4
LPAZ La Paz 149.97 85 PKPbc PKPbc 22 09 43.7 +2.5
LPAZ PKPab PKPab 22 09 50.6 +2.4

WEL 08 21:54:27.6±1.4, 3721S×17939W, h33km, ML3.6/4, Error ellipse: s-maj=12.6km s-min=9.8km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.87**	**258**	PN	Pn	21 54 56.0	-1.2
MXZ				SN	Sn	21 55 18.2	-1.5
PUZ	**Puketiti**	**2.06**	**245**	*e*PN	Pn	21 54 60.0	+0.2
PUZ				*e*SN	Sn	21 55 24.3	0.0
KNZ	**Kokohu**	**2.94**	**231**	*e*PN	Pn	21 55 12.4	+0.4
URZ	**Urewera**	**2.97**	**248**	PN	Pn	21 55 12.6	+0.3
URZ				SN	Sn	21 55 47.0	+0.2
MRZ	**Mangatainoka R**	**5.22**	**227**	*e*PN	Pn	21 55 41.8	-1.5
MRZ				*e*SN	Sn	21 56 40.3	-2.1
MQZ	**McQueen's Vall**	**8.88**	**221**	*e*SN	Sn	21 58 04.9	-7.5

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*IDC **08** 22:03:23.4±0.6, 2030S×17401W, h0km, mb4.5/12, mb1 4.7/14, mb1mx4.6/18, mbtmp4.5/14, ML4.3/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/35, Error ellipse: s-maj=23.2km s-min=16.1km az=126.0*
*ISCJB **08** 22:03:27.2±0.3, 2036S±007×174.12W±008, h35km, mb4.7/30, MS3.8/4, Error ellipse: s-maj=11.3km s-min=8.6km az=71.0*
*NEIC **08** 22:03:28.6±0.3, 2024S×174.15W, h35km, mb5.0/17, Error ellipse: s-maj=11.7km s-min=8.3km az=134.0*
*BJI **08** 22:03:28.6, 2020S×174.10W, h35km, mB5.4, mb4.9*
*MOS **08** 22:03:30.0±3.4, 2039S×17440W, h33km, mb5.0/11, Error ellipse: s-maj=14.9km s-min=14.0km az=135.9*
ISC 08 22:03:28.6±0.3, 2036S±007×17404W±008, h35km, n108, σ0898/65, mb4.7/30, MS3.8/4, 6C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.77**	**19**	Pn	**Pn**	**22 04 58.7**	**-6.7**
14nm,0.3s,baz=94,slow=20,SNR=9.1
AFI Sn **Sn 22 06 07.6 -14**
27nm,0.3s,baz=82,slow=22,SNR=6.9
RAR Rarotonga 13.37 96 Pn **Pn 22 06 24.5 -11**
6.5nm,0.3s,baz=263,slow=10,SNR=10
RAR Sn **Sn 22 08 42.3 -21**
2.2nm,0.3s,baz=68,slow=19,SNR=3.2
RAR LR LR 22 10 47.8
comp=Z,264nm,20.8s,baz=294,slow=33
DZM Mont Dzumac 18.28 261 *e*P **Pn 22 07 39.6 +0.2**
DZM Mont Dzumac 18.28 261 P **Pn 22 07 39.4 0.0**
0.6nm,0.3s,baz=83,slow=19,SNR=7.6
DZM LR LR 22 13 29.8
comp=Z,447nm,18.4s,baz=91,slow=33
URZ Urewera 19.41 201 P **Pn 22 07 52.2 -0.9**
1.3nm,0.3s,baz=13,slow=7.7,SNR=11
TBI Tubuai 23.00 102 *e*LR LR 22 13 54.6
263nm,24.0s,baz=279
PPT Papeete 23.29 87 *e*LQ 22 12 47.8
639nm,27.5s
PPT *e*LR LR 22 13 58.8
433nm,26.8s,baz=261
PPT Papeete 23.29 87 LR LR 22 15 14.7
comp=Z,217nm,19.7s,MS3.6,baz=255,slow=31
RPZ Rata Peaks 26.41 205 P **P 22 09 03.3 +1.5**
13nm,0.8s,mb4.5,baz=27,slow=4.5,SNR=3.1
HNR Honiara 27.34 290 LR LR 22 18 34.4
comp=Z,166nm,19.1s,MS3.6,baz=179,slow=33
TAOE Nuku Hiva Isla 34.65 76 *e*LR LR 22 18 53.7
469nm,24.0s
CNB Canberra Magne 35.41 237 *e*P **P 22 10 20.7 -0.4**
30nm,1.4s,mb5.0
RKT Rikitea 36.32 102 *e*S **S 22 15 57.7 -10**
50nm,27.8s
RKT *e*LR LR 22 20 02.2
242nm,28.5s
CTA Charters Tower 37.20 263 *e*P **P 22 10 36.9 +0.5**
8.4nm,0.8s,mb4.6
CTA Charters Tower 37.20 263 *e*P **P 22 10 36.9 +0.5**
CTA pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 37.20 263 *e*P **P 22 10 36.6 +0.2**
CTAO pmax pmax
comp=Z,11nm,0.8s,mb4.7
CTAO Charters Tower 37.20 263 *e*P **P 22 10 36.6 +0.2**
comp=Z,11nm,0.8s,mb4.7
PMG Port Moresby 38.95 280 P **P 22 10 50.8 -0.4**
comp=Z,19nm,1.0s,mb4.8,baz=110,slow=7.8,SNR=5.3
PMG Port Moresby 38.95 280 *i* P **P 22 10 51.1 -0.1**
TOO Toolangi 39.00 235 *e*P **P 22 10 51.7 +0.1**
comp=Z,6.3nm,0.5s,mb4.6
TOO Toolangi 39.00 235 *e*P **P 22 10 51.7 +0.1**
TOO pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
STKA Stephens Creek 41.20 245 *e*P **P 22 11 09.6 -0.2**
comp=Z,7.5nm,0.8s,mb4.4
STKA Stephens Creek 41.20 245 P **P 22 11 09.6 -0.3**
comp=Z,8.5nm,0.8s,mb4.5,baz=95,slow=9.1,SNR=17
STKA LR LR 22 27 44.8
comp=Z,181nm,18.5s,MS4.0,baz=28,slow=35
STKA Stephens Creek 41.20 245 *e*P **P 22 11 09.4 -0.4**
WB2 Warramunga Arr 48.29 261 *e*P **P 22 12 05.2 -1.1**
WRAB Tennant Creek 48.29 261 *i* P **P 22 12 05.3 -1.0**
WRAB Tennant Creek 48.29 261 *e*P **P 22 12 04.6 -1.7**
comp=Z,7.7nm,1.0s,mb4.7
WRA Warramunga Arr 48.30 261 P **P 22 12 05.0 -1.4**
comp=Z,4.1nm,0.9s,mb4.5,baz=98,slow=7.1,SNR=28
WRA PcP PcP 22 13 34.2 +1.3
comp=Z,1.2nm,0.8s,baz=100,slow=5.9,SNR=4.7
KAKA Kakadu 51.69 270 *e*P **P 22 12 31.1 -1.0**
comp=Z,16nm,1.0s,mb4.9
SBA Scott Base 58.28 185 *e*P **P 22 13 22.0 +2.2**
SBA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SBA Scott Base 58.28 185 *e*P **P 22 13 22.0 +2.3**
comp=Z,10nm,0.8s,mb4.9
VNDA Vanda 58.41 186 P **P 22 13 21.4 +0.8**
comp=Z,3.2nm,0.8s,mb4.4,baz=10,slow=7.1,SNR=16
VNDA Vanda 58.41 186 *e*P **P 22 13 22.0 +1.4**
VNDA pmax pmax
comp=Z,60nm,2.2s
VNDA Vanda 58.41 186 *e*P **P 22 13 22.0 +1.4**
comp=Z,60nm,2.2s,mb5.2
KLBR Kellerberrin 61.48 244 *e*P **P 22 13 41.7 0.0**
comp=Z,23nm,0.9s,mb5.3
CASY Casey 65.68 205 *e*P **P 22 14 10.1 +0.7**
comp=Z,19nm,1.1s,mb5.0
QSPA South Pole Qui 69.71 180 *e*P **P 22 14 35.4 +0.6**
comp=Z,14nm,0.1s,mb5.8
MJAR Matsushiro Arr 72.36 321 P **P 22 14 51.4 +0.4**
comp=Z,10nm,0.8s,mb4.8,baz=159,slow=5.7,SNR=28
MAJO Matsushiro 72.37 321 *e*P **P 22 14 50.9 0.0**
MAJO pmax pmax
comp=Z,11nm,0.8s,mb4.8
MAJO Matsushiro 72.37 321 *e*P **P 22 14 50.9 -0.1**
comp=Z,11nm,0.8s,mb4.8
MAT Matsushiro 72.37 321 P **P 22 14 51.3 +0.4**
ASAJ Asahikawa 75.44 329 P **P 22 15 10.6 +1.7**
baz=245,slow=4.4
YSS Yuzh-Sakhalins 77.50 331 *e*P **P 22 15 20.5 -0.1**
NVAR Mina Array Bea 78.42 41 P **P 22 15 25.8 +0.2**
comp=Z,6.4nm,0.7s,mb4.7,baz=224,slow=8.2,SNR=7.7
KSRS Korea Array 79.29 317 P **P 22 15 32.2 +1.7**
comp=Z,4.7nm,0.9s,mb4.4,baz=134,slow=5.5,SNR=8.3
CCUT Cedar City 81.06 45 *e*P **P 22 15 37.4 -2.6**
MDJ Mudanjiang 82.59 323 P **P 22 15 50.1 +2.0**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,103nm,4.9s
MAW Mawson 82.92 199 *e*P **P 22 15 48.4 -1.4**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 82.92 199 *e*P **P 22 15 48.4 -1.4**
comp=Z,6.7nm,0.8s,mb4.7
TXAR Lajitas Array 83.88 56 P **P 22 15 54.9 +0.2**
comp=Z,0.9nm,0.8s,mb4.0,baz=215,slow=7.6,SNR=9.0
TXAR LR LR 22 48 20.6
comp=Z,40nm,19.0s,MS3.8,baz=0.0,slow=32
ANMO Albuquerque 84.45 50 *i* P **P 22 15 57.7 +0.1**
MCK McKinley 86.08 11 *e*P **P 22 16 04.7 -1.1**
MCK pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
MCK McKinley 86.08 11 *e*P **P 22 16 04.7 -1.1**
comp=Z,10nm,0.8s,mb5.1
PDAR Pinedale Array 86.35 42 P **P 22 16 06.5 -0.6**
comp=Z,0.6nm,0.8s,mb3.9,baz=231,slow=6.5,SNR=4.6
SEY Seynchan 87.13 345⇑ *e*P **P 22 16 10.6 -0.3**
COLA College 87.32 11⇑ *e*P **P 22 16 11.4 -0.4**
COLA College 87.32 11 *e*P **P 22 16 10.7 -1.2**
comp=Z,11nm,0.8s,mb5.1
VNA3 Neumayer Olymp 88.00 175 *e*P **P 22 16 14.7 -0.3**
SNAA Sanae 88.01 177 *e*P **P 22 16 14.8 -0.3**
SNAA Sanae 88.01 177 *e*P **P 22 16 14.2 -0.9**
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 88.01 177 *e*P **P 22 16 14.2 -0.9**
comp=Z,3.5nm,0.9s,mb4.6
VNA2 Neumayer--Watz 88.48 176 *e*P **P 22 16 17.0 -0.3**
baz=184,slow=2.3
VNA2 *e* 22 16 18.2
VNA2 *e* pP 22 16 29.7 +1.2
VNA2 *e* 22 16 38.1
BILL Bilibino 89.32 353 *e*P **P 22 16 20.9 -0.4**
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
XAN Xi'an 91.03 306 P **P 22 16 30.8 +1.5**
XAN AP pP 22 16 43.1 +2.7
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb5.0
JTS JuntasAbangare 92.67 80 *i* P **P 22 16 36.6 -0.3**
YKA Yellowknife Ar 94.86 24 P **P 22 16 46.1 -0.8**
comp=Z,1.0nm,0.8s,mb4.3,baz=237,slow=4.4,SNR=16
SONM Songino Array 98.11 318 P **P 22 17 02.7 +1.0**
comp=Z,0.7nm,1.0s,mb4.2,baz=166,slow=3.1,SNR=3.7
PLAL Pickwick Lake 98.23 56 *e*P **P 22 17 03.0 +0.8**
comp=Z,4.0nm,0.6s,mb5.1
KIV Kislovodsk 141.48 316 *e*PKIKP PKPdf 22 22 54.9 -1.0
KIV pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 142.65 239 PKP PKPdf 22 22 57.1 -0.8
comp=Z,1.9nm,0.8s,baz=222,slow=21,SNR=5.0
BNGL BINGOL 144.54 309 *i* P PKPdf 22 23 01.9 +0.6
AKASG Malin Array Be 144.60 334 PKP PKPdf 22 22 59.6 -1.8
comp=Z,9.4nm,0.7s,baz=40,slow=4.4,SNR=27
AKBB Malin Array Si 144.60 334 *e*PKHKP PKPdf 22 22 59.3 -2.1
KIEV Kiev 144.61 334 *e*PKHKP PKPdf 22 22 59.6 -1.8
KELT Kelkit 145.42 312 *i* P PKPbc 22 23 04.8 +2.0
ELZG Elazig 146.28 310 *i* P PKPbc 22 23 07.7 +2.3
BOYT Boyabat 147.73 317 *i* P PKPbc 22 23 10.4 +0.9
GZT Gaziantep 147.76 308 *i* P PKPbc 22 23 10.7 +1.1
CTKT Corum 148.21 316 *i* P PKPbc 22 23 11.9 +1.1
STHS Stebnicka Huta 148.54 341 *e*PKP PKPbc 22 23 13.6 +1.9
BALT Daday 148.62 318 *i* P PKPbc 22 23 12.7 +0.7
CLL Collm 148.63 352⇓ *i*PKIKP PKPbc 22 23 12.0 +0.1
CLL *e* 22 23 28.0
CLL Collm 148.63 352⇓ *i*PKPbc PKPbc 22 23 12.0 +0.1
comp=Z,14nm,1.1s
CLL *e*sPKPbc 22 23 28.0
KOLS Kolonicke sedl 148.64 339 *e*PKP PKPbc 22 23 13.9 +2.0
KOLS *e*PP 22 26 55.9
BURAR Bucovina Array 148.65 335⇑ *i*P PKPbc 22 23 13.1 +1.1
UZH Uzhgorod 148.89 339⇓ *i*PKIKP PKPbc 22 23 13.0 +0.4
UZH *i* 22 23 20.0
UZH *e* 22 23 26.0
BRG Berggiesshubel 148.91 350 *e*P PKPbc 22 23 12.4 -0.2
comp=Z,3.5nm,0.9s
CRVS Cervenica-Dubn 148.93 340 *e*PKP PKPbc 22 23 14.5 +1.8
DPC Dobruska-Polom 148.97 347 *e*PKP PKPdf 22 23 10.2 +1.5
AVNT Avonos 149.08 313 *i* P PKPbc 22 23 12.0 -1.0
PVCC Panska Ves 149.14 349 *e*PKP PKPbc 22 23 11.7 -1.5
ELDT Eldivan 149.17 317 *i* P PKPbc 22 23 14.2 +0.9
VRI Vrincioaia 149.37 331⇑ *i*P PKPbc 22 23 13.5 -0.3
BR131 Keskin Array S 149.43 315 *e*PKPbc PKPbc 22 23 14.5 +0.5
BRTR Keskin Array B 149.43 315 PKPbc PKPbc 22 23 14.4 +0.5
comp=Z,2.6nm,0.8s,baz=132,slow=3.8,SNR=13
KECS Kecovo 149.60 341 *e*PKP PKPbc 22 23 14.3 -0.1
PRU Pruhonice 149.66 349 *e*PKP PKPbc 22 23 14.8 +0.3
ANTO Ankara 149.91 316⇓ *i*P PKPbc 22 23 16.5 +1.4
MLR Muntele Rosu 150.01 331⇑ *i*P PKPbc 22 23 16.2 +0.8
VYHS Vyhne 150.08 343 *i* PKP PKPbc 22 23 16.3 +0.8
DRGR 150.30 336⇓ *i*P PKPbc 22 23 16.6 +0.5
GRF Grafenberg Arr 150.44 353 *e*PKIKP PKPbc 22 23 17.0 +0.6
VOIR 150.45 332⇓ *i*P PKPbc 22 23 17.5 +1.1
KHC Kasperske Hory 150.66 350 *e*PKP PKPbc 22 23 17.0 +0.1
KHC pPKP pPKPdf 22 23 30.0 +7.1
KHC Kasperske Hory 150.66 350 *e*PKIKP PKPbc 22 23 17.0 +0.1
KHC *e* 22 23 30.0
GERES GERESS Array B 150.91 349 PKP PKPdf 22 23 11.8 0.0
comp=Z,0.3nm,0.5s,baz=66,slow=4.7,SNR=3.0
GERES PKPbc PKPbc 22 23 17.8 +0.3
comp=Z,2.9nm,0.9s,baz=50,slow=2.1,SNR=14
GERES PKPab PKPab 22 23 23.6 -1.3
comp=Z,2.0nm,0.9s,baz=34,slow=8.1,SNR=6.7
BZS Buzias 151.70 336⇓ *i*P PKPbc 22 23 19.4 +0.1
PKSM Moragy 152.20 341⇑ *i*P PKPbc 22 23 20.2 -0.3

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*STR **08** 22:28:56.9±0.6, 4756N×758E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 22:28:57.5±0.2, 4759N×756E, h10km, Md2.0/1, Ml1.9/5, Error ellipse: s-maj=4.0km s-min=2.9km az=101.0*
ZUR 08 22:28:57.1, 4758N×760E, h6km, ML1.3/1, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALST	**Balsthal**	**0.26**	**166**	*i* Pg	Pg	22 29 02.7	+0.6
94nm,0.3s
BALST Balsthal 0.26 166 *i* Pg Sg 22 29 06.5 +1.0
94nm,0.3s
BOURR Bourrignon 0.32 233⇑ *i*Pg Pg 22 29 03.8 +0.6
27nm,1.2s
SULZ Sulz-Cheisache 0.35 99⇓ *i*Pg Pg 22 29 04.4 +0.5
42nm,0.5s
SULZ *i* Sg Sg 22 29 09.3 +0.8
42nm,0.5s
MOF Molkenrain 0.42 310 Pg Pg 22 29 05.3 +0.2
MOF Sg Sg 22 29 11.1 +0.5
HINF Hinteralfeld 0.56 295 *e*Pg Pg 22 29 07.4 -0.4
HINF Hinteralfeld 0.56 295 *e*Pn Pg 22 29 09.2 +1.4
HINF *e*Sg Sg 22 29 14.7 -0.4
HINF *e*Sn Sg 22 29 18.3 +3.2
6.3nm,0.2s
SLE Schleitheim 0.63 73⇑ *i*P Pg 22 29 09.2 0.0
36nm,0.3s
ECH Echery 0.70 335 Pg Pg 22 29 10.9 +0.3
ECH Sg Sg 22 29 19.9 +0.2
CDF Champ du Feu 0.86 345 *e*Pn Pn 22 29 14.0 -1.8
CDF *e*Sn Sn 22 29 26.1 -2.6
4.5nm,0.3s
HAU Haudompre 0.95 297 *e*Pg Pg 22 29 14.7 -0.6
HAU *e*Sg Sg 22 29 27.4 -0.1
7.5nm,0.3s
CABF La Chapelle 1.42 227 *e*Pg Pg 22 29 24.3 0.0
CABF *e*Sg Sg 22 29 41.4 -1.4
1.0nm,0.2s
SFTF Sexfontaines 1.83 291 *e*Sg Sg 22 29 55.0 -1.1
1.1nm,0.2s
LOR Lormes 2.56 264 *e*Sg Sg 22 30 16.8 -2.6
0.7nm,0.2s

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*IDC **08** 22:30:55.4±0.8, 347S×13542E, h0km, mb4.2/5, mb1 4.5/8, mb1mx4.4/12, mbtmp4.4/8, ML4.2/3, MS3.8/11, Ms1 3.8/11, ms1mx3.5/22, Error ellipse: s-maj=39.7km s-min=17.1km az=71.0*
*ISCJB **08** 22:30:56.3±0.4, 367S±005×13582E±007, h35km, mb4.8/26, MS3.8/8, Error ellipse: s-maj=9.8km s-min=6.3km az=137.0*
*MOS **08** 22:30:57.3±1.4, 367S×13522E, h33km, mb5.0/6, Error ellipse: s-maj=22.4km s-min=9.3km az=115.9*
*BJI **08** 22:30:57.6, 345S×13599E, h42km, mB5.2, mb4.8*
*NEIC **08** 22:31:00.9±0.6, 374S×13531E, h35km, mb4.7/10, Error ellipse: s-maj=16.3km s-min=9.9km az=69.0*
NEIC Felt [III] at Nabire.
ISC 08 22:30:58.9±0.4, 368S±005×13578E±007, h35km, n69, σ1901/64, mb4.8/26, MS3.8/8, 1C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.05**	**77**	P	**Pn**	**22 32 22.9**	**+11**
103nm,1.0s
AAI Ambon 7.57 270 P **Pn 22 32 46.1 -0.6**
172nm,0.5s
KAKA Kakadu 9.56 200⇓ *i*P **Pn 22 33 15.3 +1.3**
85nm,0.5s
PMG Port Moresby 12.65 117 Pn **Pn 22 34 03.5 +7.3**
1.3nm,0.3s,baz=301,slow=5.9,SNR=4.7
PMG Sn **Sn 22 36 16.7 +0.9**
0.3nm,0.3s,baz=322,slow=19,SNR=2.0
PCI Palu 16.17 279 P **Pn 22 34 49.5 +6.2**
71nm,1.2s
WRAB Tennant Creek 16.21 185 *e*P **Pn 22 34 42.8 -1.1**
WRAB *e* 22 37 33.4
WRAB pmax pmax
comp=Z,53nm,0.8s
WRAB Tennant Creek 16.21 185 *e*Pn **Pn 22 34 42.8 -1.1**
comp=Z,53nm,0.8s
WRAB *e*Sn **Sn 22 37 33.4 -9.2**
WB2 Warramunga Arr 16.22 185 *e*P **Pn 22 34 43.0 -1.0**
WB2 *e* 22 34 50.9
WRA Warramunga Arr 16.22 185 Pn **Pn 22 34 43.2 -0.8**
comp=Z,1.2nm,0.3s,baz=4.2,slow=13,SNR=63
WRA Sn **Sn 22 37 35.8 -7.1**
comp=Z,1.8nm,0.3s,baz=7.2,slow=22,SNR=7.3
FITZ Fitzroy Crossi 17.44 214 *e*P **Pn 22 34 58.4 -0.9**
comp=Z,28nm,0.5s
FITZ *e*S **S 22 37 57.0 -23**
FITZ Fitzroy Crossi 17.44 214 P **Pn 22 34 58.7 -0.6**
comp=Z,2.6nm,0.3s,baz=34,slow=13,SNR=42
FITZ S **S 22 38 00.9 -19**
comp=Z,1.8nm,0.3s,baz=189,slow=15,SNR=4.0
FITZ LR LR 22 42 27.0
comp=Z,255nm,19.3s,baz=40,slow=40
CTA Charters Tower 19.24 149 *e*P **Pn 22 35 26.5 +5.3**
comp=Z,14nm,0.9s
CTA Charters Tower 19.24 149 P **Pn 22 35 26.8 +5.6**
comp=Z,0.4nm,0.3s,baz=328,slow=12,SNR=9.8
CTA LR LR 22 42 58.9
comp=Z,343nm,20.0s,baz=324,slow=37
CTA Charters Tower 19.24 149 *e*P **Pn 22 35 26.5 +5.3**
CTA pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 19.24 149 *e*P **Pn 22 35 26.5 +5.3**
CTAO pmax pmax
comp=Z,17nm,0.8s
CTAO Charters Tower 19.24 149 *e*P **Pn 22 35 26.5 +5.3**
comp=Z,17nm,0.8s
GUMO Guam 19.38 28 LR LR 22 42 42.6

comp=Z,51nm,19.5s,baz=192,slow=36
KKM Kota Kinabalu 21.80 296 *e*P **P 22 35 48.1 +0.3**
KSM Kuching 25.97 281 *e*P **P 22 36 28.4 +0.3**
FORT Forrest 27.92 194 *e*P **P 22 36 40.4 -5.2**
comp=Z,22nm,0.7s,mb4.9
STKA Stephens Creek 28.58 170 *e*P **P 22 36 54.6 +3.1**
comp=Z,5.8nm,0.6s,mb4.5
STKA Stephens Creek 28.58 170 P **P 22 36 55.0 +3.5**
comp=Z,7.1nm,0.7s,mb4.5,baz=343,slow=8.6,SNR=16
STKA LR LR 22 48 52.1
comp=Z,242nm,20.1s,MS3.8,baz=188,slow=37
STKA Stephens Creek 28.58 170 *e*P **P 22 36 54.4 +3.0**
CBIJ Chichi jima 31.21 11 LR LR 22 46 42.9
comp=Z,147nm,20.4s,MS3.6,baz=158,slow=30
KLBR Kellerberrin 32.53 209 *e*P **P 22 37 29.3 +2.9**
comp=Z,35nm,1.2s,mb5.2
NWAO Narrogin (SRO) 33.88 209 LR LR 22 52 12.6
comp=Z,127nm,20.1s,MS3.6,baz=217,slow=38
JHJ Hachijo jima 2 36.79 6 LR LR 22 52 04.3
comp=Z,162nm,19.7s,MS3.8,baz=324,slow=35
JNU Nakatsue 36.89 353 LR LR 22 50 09.1
comp=Z,230nm,19.7s,MS4.0,baz=70,slow=32
MJAR Matsushiro Arr 40.08 3 P **P 22 38 29.9 -0.9**
comp=Z,1.9nm,0.7s,mb4.0,baz=182,slow=7.4,SNR=7.9
MJAR LR LR 22 52 31.5
comp=Z,132nm,18.5s,MS3.8,baz=180,slow=32
MJAR Matsushiro Arr 40.08 3 P **P 22 38 29.9 -0.9**
MJAR LR LR 22 52 31.5
GYA Guiyang 41.12 318⇑ *i*P **P 22 38 39.2 -0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
KSRS Korea Array 41.57 351 P **P 22 38 42.3 -0.8**
comp=Z,2.8nm,0.9s,mb3.9,baz=182,slow=9.9,SNR=4.9
XAN Xi'an 45.27 328 P **P 22 39 11.5 -1.4**
XAN AMB AMB
comp=Z,8.0nm,1.3s,mb4.4
BJT Baijiatuan 47.07 339 *e*P **P 22 39 26.8 -0.3**
BJT pmax pmax
comp=Z,9.0nm,0.8s
BJT Baijiatuan 47.07 339 *e*P **P 22 39 26.8 -0.3**
comp=Z,9.1nm,0.8s,mb4.8
BJI Beijing 47.09 339 P **P 22 39 26.5 -0.7**
BJI AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
LZH Lanzhou 49.56 326 *e*P **P 22 39 47.6 +1.3**
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.0s
AFI Afiamalu 52.70 105 *e*P **P 22 40 16.3 +6.4**
AFI pmax pmax
comp=Z,20nm,0.3s,mb5.5
AFI Afiamalu 52.70 105 *e*P **P 22 40 16.3 +6.4**
comp=Z,20nm,0.3s,mb5.5
LSA Lhasa 54.09 311 P **P 22 40 21.4 +1.3**
LSA Lhasa 54.09 311 *e*P **P 22 40 21.4 +1.3**
LSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LSA Lhasa 54.09 311 *e*P **P 22 40 21.4 +1.4**
comp=Z,5.9nm,0.7s,mb4.6
GTA Gaotai 54.17 326 ⇓P **P 22 40 21.6 +1.0**
GTA AP pP 22 40 28.3 -2.9
GTA AMB AMB
comp=Z,19nm,0.9s,mb5.0
HIA Hailar 54.54 347 *i* P **P 22 40 23.7 +0.4**
JIRN Jiri 57.02 306 *e*P **P 22 40 41.9 +0.8**
comp=Z,18nm,0.7s,mb5.2
GUN Gumba 57.37 307 *e*P **P 22 40 44.5 +0.9**
comp=Z,25nm,0.6s,mb5.4
SONM Songino Array 57.40 337 P **P 22 40 44.1 +0.3**
comp=Z,1.4nm,0.9s,mb4.0,baz=151,slow=8.1,SNR=8.3
SONM LR LR 23 06 51.2
comp=Z,74nm,18.7s,MS3.8,baz=248,slow=38
KKN Kakani 57.80 306 *e*P **P 22 40 47.3 +0.7**
comp=Z,21nm,0.9s,mb5.2
DMN Daman 57.87 306 *e*P **P 22 40 47.4 +0.3**
comp=Z,21nm,0.7s,mb5.3
GKN Gorkha 58.41 306 *e*P **P 22 40 51.5 +0.6**
comp=Z,22nm,0.7s,mb5.3
KOLN Koldanda 59.16 305 *e*P **P 22 40 57.1 +1.0**
comp=Z,28nm,0.8s,mb5.3
ZAK Zakamensk 60.67 337 *e*P **P 22 41 05.6 -0.8**
WMQ Urumqi 63.99 323 P **P 22 41 28.9 +0.3**
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
MK31 Makanchi Array 68.80 324 *e*P **P 22 41 59.5 +0.1**
MKAR Makanchi Array 68.80 324 P **P 22 42 00.1 +0.7**
comp=Z,2.7nm,0.7s,mb4.3,baz=106,slow=9.0,SNR=33
NVS Novosibirsk 72.60 331 *e*P **P 22 42 21.4 -1.2**
NVS pmax pmax
comp=Z,41nm,2.8s,mb4.9
NVS pmax pmax
comp=N,8.0nm,2.0s
KURK Kurchatov 72.85 326 *e*P **P 22 42 24.1 0.0**
KURK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KURK Kurchatov 72.85 326 *e*P **P 22 42 24.1 0.0**
comp=Z,7.4nm,0.9s,mb4.6
BRVK Borovoye 78.52 326 *e*P **P 22 42 53.5 -3.0**
CHKZ Chkalovo 78.57 327 *e*P **P 22 42 55.7 -1.1**
CHKZ pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
CHKZ Chkalovo 78.57 327 *e*P **P 22 42 55.7 -1.1**
comp=Z,4.6nm,1.1s,mb4.3
KDAK Kodiak Island 83.42 31 *e*P **P 22 43 28.6 +6.1**
ARU Arti 86.01 327 *i* P **P 22 43 31.0 -4.6**
OBN Obninsk 98.28 325 *e*P **P 22 44 29.6 -3.0**
OBN pmax pmax
comp=Z,4.0nm,1.2s,mb4.8
KMBO Kilima Mbogo 98.44 268 LR LR 23 30 45.9
comp=Z,69nm,18.1s,MS4.2,baz=83,slow=37
ARCES ARCESS Array B 100.45 340 P Pdif 22 44 41.4 -0.9
comp=Z,4.9nm,0.9s,baz=71,slow=7.8,SNR=4.3
TORD Torodi Ar. Bea 133.69 285 PKP PKPdf 22 50 13.9 +2.2
comp=Z,0.3nm,0.7s,baz=103,slow=0.9,SNR=3.7
LPAZ La Paz 149.13 131 PKPbc PKPbc 22 50 48.9 +5.4
comp=Z,2.3nm,0.7s,baz=229,slow=2.8,SNR=7.4
ROSC El Rosal 149.95 87 PKPbc PKPbc 22 50 49.4 +4.0
comp=Z,3.2nm,0.5s,baz=105,slow=19,SNR=2.0

*NEIC **08** 22:35:22.0±0.6, 1189N×12547E, h35km, mb4.3/4, Error ellipse: s-maj=44.0km s-min=14.7km az=64.0*
NEIC Felt [II PIVS] at Borongan.
*ISCJB **08** 22:35:23.3±1.4, 1194N±005×1255E±0.1, h59km±11km, mb4.4/14, Error ellipse: s-maj=20.3km s-min=7.7km az=159.6*
*MAN **08** 22:35:23.4, 1190N×12537E, h17km, mb4.0, ML5.0, MS2.6*
*IDC **08** 22:35:29.5±7.9, 1171N×125.16E, h98km±70km, mb4.0/11, mb1 4.1/11, mb1mx4.0/17, mbtmp4.0/11, MS3.5/1, Ms1 3.5/1, ms1mx2.4/23, Error ellipse: s-maj=63.7km s-min=15.5km az=67.0*
ISC 08 22:35:24.3±1.5, 1195N±005×1255E±01, h53km±12km, n28, σ1°22/31, mb4.4/14, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNP	**Cataraman**	**0.97**	**305**	*e*P		**Pn**	**22 35 41.3**	**-0.4**
CNP				*e*S		**Sn**	**22 35 54.9**	**+0.3**
OCLP	**Ormoc**	**1.23**	**224**	*e*P		**Pn**	**22 35 43.6**	**-1.7**
OCLP				*e*S		**Sn**	**22 36 00.3**	**-0.6**
MSLP	**Maasin**	**1.91**	**199**	*e*P		**Pn**	**22 35 55.0**	**+0.6**
MSLP				*e*S		**Sn**	**22 36 19.4**	**+2.2**
LLP	**Lapu-Lapu**	**2.20**	**223**	⇓*e*P		**Pn**	**22 35 56.7**	**-1.6**
LLP				*i* S		**Sn**	**22 36 25.3**	**+1.0**
RCP	**Roxas**	**2.70**	**262**	⇓*e*P		**Pn**	**22 36 04.7**	**-0.6**
TBP	**Tagbilaran**	**2.75**	**215**	*e*P		**Pn**	**22 36 04.9**	**-1.0**
BUKP	**Musuan**	**4.07**	**186**	*e*P		**Pn**	**22 36 25.4**	**+1.4**
WRA	**Warramunga Arr**	**32.87**	**165**	P		**P**	**22 41 52.8**	**-0.3**
	1.7nm,0.6s,mb4.1,baz=342,slow=9.0,SNR=2.1							
WRA				PcP		PcP	22 44 36.5	-0.1
	1.3nm,0.5s,baz=337,slow=2.8,SNR=4.9							
LSA	**Lhasa**	**36.43**	**304**	*e*P		**P**	**22 42 25.6**	**+1.8**
	3.3nm,0.8s,mb4.3							
SONM	**Songino Array**	**39.18**	**340**	P		**P**	**22 42 48.8**	**+1.8**
	2.1nm,0.5s,mb4.1,baz=157,slow=9.9,SNR=25							
STKA	**Stephens Creek**	**46.23**	**161**	P		**P**	**22 43 43.9**	**-0.3**
	6.1nm,0.7s,mb4.6,baz=331,slow=6.4,SNR=5.9							
MKAR	**Makanchi Array**	**50.23**	**322**	P		**P**	**22 44 16.3**	**+1.4**
	3.8nm,0.7s,mb4.6,baz=113,slow=9.3,SNR=9.4							
KURK	**Kurchatov**	**54.25**	**325**	⇑*i*P		**P**	**22 44 45.8**	**+1.1**
	18nm,0.8s,mb5.0							
CHKZ	**Chkalovo**	**59.97**	**326**	*e*P		**P**	**22 45 25.6**	**+0.4**
	1.6nm,0.6s,mb4.2							
JOF	**Joensuu**	**81.35**	**332**	*e*p		**P**	**22 47 33.1**	**-2.0**
KEV	**Kevo**	**81.80**	**340**	*e*p		**P**	**22 47 34.8**	**-2.7**
ARCES	**ARCESS Array B**	**82.36**	**340**	P		**P**	**22 47 41.2**	**+0.8**
	9.9nm,0.8s,mb4.8,baz=79,slow=6.1,SNR=29							
ARCES	**ARCESS Array B**	**82.36**	**340**	P		**P**	**22 47 41.2**	**+0.8**
KAF	**Kangasniemi**	**83.79**	**332**	*e*p		**P**	**22 47 45.1**	**-2.7**
	baz=74,slow=4.6							
BR131	**Keskin Array S**	**83.87**	**309**	*e*P		**P**	**22 47 48.1**	**-0.2**
	1.0nm,0.6s,mb4.1							
BRTR	**Keskin Array B**	**83.87**	**309**	P		**P**	**22 47 48.1**	**-0.1**
	1.2nm,0.7s,mb4.2,baz=106,slow=4.3,SNR=11							
FINES	**FINESS Array B**	**84.05**	**332**	P		**P**	**22 47 49.5**	**+0.4**
	3.8nm,0.8s,mb4.6,baz=98,slow=4.8,SNR=10							
AKASG	**Malin Array Be**	**84.78**	**321**	P		**P**	**22 47 52.4**	**-0.5**
	1.9nm,0.5s,mb4.5,baz=66,slow=4.4,SNR=9.3							
NB2	**NORSAR Subarra**	**90.92**	**334**	P		**P**	**22 48 21.8**	**-0.5**
	comp=Z,0.8nm,0.7s,mb4.2,baz=64,slow=4.8							
NOA	**NORSAR Array B**	**90.92**	**334**	P		**P**	**22 48 22.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.2,baz=64,slow=4.9,SNR=4.2							
VNDA	**Vanda**	**91.69**	**173**	P		**P**	**22 48 24.5**	**-1.3**
	comp=Z,1.2nm,0.8s,mb4.2,baz=337,slow=6.1,SNR=5.5							
YKA	**Yellowknife Ar**	**92.55**	**24**	P		**P**	**22 48 30.8**	**+1.0**
	comp=Z,0.3nm,0.7s,mb3.8,baz=304,slow=4.7,SNR=3.6							
TXAR	**Lajitas Array**	**117.30**	**48**	PKP		PKPdf	22 54 05.4	+1.7
	comp=Z,0.1nm,0.4s,baz=240,slow=0.7,SNR=3.7							

*NEIC **08** 22:46:10.8, 3179N×11627W, h5km, mb3.8/1, ML4.3(ECX), After ECX.*
NEIC Felt at Ensenada. Felt [II] at San Diego, California. Also felt at Escondido, Jacumba, La Mesa, Lake Elsinore and Yucca Valley, California.
ECX 08 22:46:10.8±0.5, 3179N×11627W, h5km, MD4.2, ML4.4, 5C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**0.31**	**244**	⇑*e*P		Pg	22 46 16.6	-0.1
ECNX				⇓*e*P			22 46 17.3	
ECNX				*e*S		Sg	22 46 21.1	+0.3
ECNX				*e*S		Sg	22 46 21.9	+1.1
RDX	**Rancho Dowling**	**0.31**	**63**	⇑*i*P		Pg	22 46 16.9	+0.1
RDX				*e*S		Sg	22 46 21.6	+0.7
RDX				⇑*e*			22 46 22.1	
	comp=E,45μm,0.3s							
RDX	**Rancho Dowling**	**0.31**	**63**	*i* P		Pg	22 46 15.9	-0.9
RDX				*e*S		Sg	22 46 21.6	+0.7
RDX				*e*			22 46 22.1	
CCX	**Cicese**	**0.34**	**283**	*e*P		Pg	22 46 17.3	-0.1
CCX				*e*S		Sg	22 46 21.9	0.0
ENX	**Ensenada**	**0.34**	**285**	⇓*e*P		Pg	22 46 17.3	-0.1
ENX				*e*S		Sg	22 46 22.0	0.0
PBX	**Punta Banda**	**0.39**	**263**	⇑*e*P		Pg	22 46 18.0	-0.2
PBX				*e*S		Sg	22 46 23.2	-0.1
CBX	**Cerro Bola**	**0.62**	**328**	⇓*e*P		Pg	22 46 21.6	-1.1
CBX				*e*S		Sg	22 46 30.2	-0.5
RMX	**La Rumorosa**	**0.83**	**12**	⇓*e*P		Pg	22 46 25.9	-0.7
RMX				*e*S		Sg	22 46 36.6	-0.7
RMX				*e*			22 46 43.5	
	comp=E,8μm,0.8s							
RMX	**La Rumorosa**	**0.83**	**12**	*e*P		Pg	22 46 25.9	-0.7
RMX				*e*			22 46 35.5	
RMX				*e*			22 46 43.5	
SGL	**Mount Signal**	**0.97**	**28**	*e*P		Pg	22 46 27.4	-2.1
SGL	**Mount Signal**	**0.97**	**28**	*e*P		Pg	22 46 28.4	-1.0
SPX	**San Pedro Mart**	**1.02**	**137**	⇑*e*P		Pg	22 46 28.4	-1.8
SPX				*e*S		Sg	22 46 42.6	-0.8
CPBX	**Cerro Prieto**	**1.03**	**53**	*e*P		Pg	22 46 30.0	-0.7
PFO	**Pinyon Flat Ob**	**1.82**	**355**	*e*Pn		Pn	22 46 41.7	-1.1
PFO				*e*Sn		Sn	22 47 06.8	+0.7
DAC	**Darwin (Calif)**	**4.61**	**347**	*e*P		Pn	22 47 21.4	+0.3
TUC	**Tucson**	**4.69**	**82**	*e*Pn		Pn	22 47 21.4	-0.9
SHPR	**Sheep Range**	**4.79**	**11**	*e*P		Pn	22 47 25.1	+1.5
WUAZ	**Wupatki**	**5.52**	**46**	*e*P		Pn	22 47 35.1	+1.4
TPH	**Tonopah**	**6.32**	**353**	*e*Pn		Pn	22 47 47.7	+3.1
	comp=E,15nm,0.6s							
CMB	**Columbia Colle**	**7.08**	**333**	*e*Pn		Pn	22 47 55.5	+0.4
	comp=E,10nm,1.0s							
CMB				*e*Sn		Sn	22 49 39.2	+23
MSU	**Marysvale**	**7.50**	**25**	*e*Pn		Pn	22 48 05.4	+4.6
LENM	**Lemitar**	**8.16**	**71**	*e*Pn		Pn	22 48 09.1	-0.8
TMUT	**Trail Mountain**	**8.55**	**27**	*e*Pn		Pn	22 48 02.3	-13
SRU	**San Rafael**	**8.68**	**31**	*e*Pn		Pn	22 48 20.5	+3.5
	comp=E,48nm,0.7s							
DUG	**Dugway**	**8.84**	**18**	*e*Pn		Pn	22 48 20.7	+1.5
	comp=E,11nm,1.0s							
PV10	**Paradox Valley**	**8.85**	**40**	*e*P		Pn	22 48 22.1	+2.8
PV01	**Paradox Valley**	**8.94**	**43**	*e*Pn		Pn	22 48 23.5	+2.9
PV01				*e*Sn		Sn	22 50 35.2	+33
DAU	**Daniels Canyon**	**9.51**	**24**	*e*Pn		Pn	22 48 34.3	+5.9
LTX	**Lajitas**	**11.14**	**99**	*e*Pn		Pn	22 48 51.9	+1.2
	comp=E,3.1nm,0.6s							
TPAW	**Teton Pass**	**12.41**	**18**	*e*Pn		Pn	22 49 15.6	+7.4
	comp=E,8.6nm,1.2s							
MCMT	**McKenzie Canyo**	**13.29**	**11**	*e*Pn		Pn	22 49 27.2	+7.1
LAO	**LASA Array**	**16.77**	**25**	*e*Pn		Pn	22 50 10.2	+3.9
	comp=E,6.1nm,0.7s							

*CSEM **08** 22:58:37.1, 67.18N×2065E, h0km, ML2.6, Mining explosion. After UPP*
*UPP **08** 22:58:37.1, 67.18N×2065E, h0km, ML2.6, Mining explosion.*
HEL 08 22:58:37.8±0.1, 6718N×2064E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**207**	*i* P		Pg	22 58 38.7	-0.3
DUNU	**Dundret**	**0.07**	**207**	P		Pg	22 58 38.7	-0.3
	baz=116							
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P		Pg	22 58 48.4	-0.8
KUA	**Kurravaara**	**0.79**	**352**	*i* P		Pg	22 58 51.8	-1.1
SALU	**Saltoluokta**	**0.85**	**285**	*i* P		Pg	22 58 53.4	-0.8
SALU	**Saltoluokta**	**0.85**	**285**	P		Pg	22 58 53.3	-0.9
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P		Pg	22 58 54.4	-1.2
PAJU	**Pajala**	**0.98**	**98**	*e*P		Pg	22 58 55.3	-1.3
LANU	**Lannavaara**	**1.01**	**30**	*e*P		Pg	22 58 55.8	-1.5
LANU	**Lannavaara**	**1.01**	**30**	P		Pg	22 58 55.8	-1.5
	baz=284							
HARU	**Harads**	**1.03**	**172**	*e*P		Pg	22 58 56.3	-1.2
HARU	**Harads**	**1.03**	**172**	P		Pg	22 58 56.3	-1.2
	baz=345							
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P		Pn	22 59 08.5	-0.5
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		Pn	22 59 10.8	+0.3
KIF				*e*S		Sn	22 59 36.5	+2.0
SGF	**Sodankyl**	**2.30**	**81**	*e*PB		Pb	22 59 18.0	-2.1
SGF				*e*SG		Sg	22 59 48.8	-2.8

*IDC **08** 23:11:25.7±11.0, 4672N×15558E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/22, mbtmp3.8/4, Error ellipse: s-maj=293.3km s-min=37.5km az=168.0*
*ISCJB **08** 23:11:27.5±5.2, 470N±0.1×1555E±03, h16km±38km, mb4.0/6, Error ellipse: s-maj=32.8km s-min=15.9km az=66.6*
*NEIC **08** 23:11:28.6±0.8, 4701N×15549E, h10km, mb4.4/3, Error ellipse: s-maj=22.7km s-min=12.9km az=131.0*
*MOS **08** 23:11:29.9±0.7, 4704N×15542E, h33km, mb4.5/4, Error ellipse: s-maj=40.7km s-min=19.0km az=79.6*
ISC 08 23:11:28.7±7.7, 471N±01×1555E±03, h12km±49km, n16, σ0°38/16, mb4.0/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.66**	**6**	*e*PN		**Pn**	**23 12 24.9**	**-0.2**
MAJO	**Matsushiro**	**16.59**	**237**	P		**Pn**	**23 15 21.4**	**+0.3**
MAJO				pmax		pmax		
	comp=Z,21nm,1.6s							
MAJO	**Matsushiro**	**16.59**	**237**	Pn		**Pn**	**23 15 21.4**	**+0.3**
	comp=Z,21nm,1.6s							
INK	**Inuvik**	**40.52**	**33**	P		**P**	**23 19 08.0**	**+0.4**
	comp=Z,1.1nm,0.6s,mb3.7,baz=278,slow=7.5,SNR=6.8							
INK	**Inuvik**	**40.52**	**33**	P		**P**	**23 19 08.0**	**+0.4**
INK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**48.25**	**298**	P		**P**	**23 20 09.7**	**+0.3**
	comp=Z,0.7nm,1.0s,mb3.7,baz=77,slow=6.4,SNR=3.6							
MKAR	**Makanchi Array**	**48.25**	**298**	P		**P**	**23 20 09.7**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**49.70**	**38**	P		**P**	**23 20 20.5**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=295,slow=7.0,SNR=3.6							
YKA	**Yellowknife Ar**	**49.70**	**38**	P		**P**	**23 20 20.5**	**0.0**
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P		**P**	**23 20 33.3**	**-0.7**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**51.48**	**311**	*e*P		**P**	**23 20 33.3**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.4							
PMG	**Port Moresby**	**56.69**	**190**	*e*P		**P**	**23 21 11.6**	**-0.4**
PMG				pmax		pmax		
	comp=Z,4.0nm,0.5s							
PMG	**Port Moresby**	**56.69**	**190**	*e*P		**P**	**23 21 11.6**	**-0.4**
	comp=Z,3.8nm,0.5s,mb4.7							
FINES	**FINESS Array B**	**64.46**	**336**	P		**P**	**23 22 05.3**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.3,baz=28,slow=8.6,SNR=4.0							
FINES	**FINESS Array B**	**64.46**	**336**	P		**P**	**23 22 05.3**	**+0.3**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**64.46**	**336**	P		**P**	**23 22 05.3**	**+0.3**

*STR **08** 23:11:34.8±0.2, 4756N×760E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 23:11:35.0±0.2, 4757N×758E, h10km±1km, Md2.0/1, Ml2.1/8, Error ellipse: s-maj=3.8km s-min=2.3km az=98.0*
ZUR 08 23:11:35.5, 4759N×760E, h5km±1km, ML1.4, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg		Pg	23 11 40.9	+0.3
	161nm,0.3s							
BALST				*e*Sg		Sg	23 11 44.7	+0.7
	161nm,0.3s							
BOURR	**Bourrignon**	**0.32**	**232**	⇑*i*Pg		Pg	23 11 42.0	+0.4
	36nm,0.6s							
SULZ	**Sulz-Cheisache**	**0.35**	**100**	*e*Pg		Pg	23 11 42.5	+0.2
	51nm,0.2s							
MOF	**Molkenrain**	**0.41**	**310**	Pg		Pg	23 11 43.3	-0.1
MOF				Sg		Sg	23 11 49.5	+0.7
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg		Pg	23 11 45.7	-0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn		Pg	23 11 47.2	+1.1
HINF				*e*Sg		Sg	23 11 52.8	-0.5
HINF				*e*Sn		Sg	23 11 56.4	+3.1
	6.6nm,0.2s							
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg		Pg	23 11 47.4	-0.2
	54nm,0.3s							
ECH	**Echery**	**0.69**	**335**	Pg		Pg	23 11 49.0	+0.2
ECH				Sg		Sg	23 11 57.7	-0.2
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn		Pn	23 11 52.0	-2.2
CDF				*e*Sg		Sg	23 12 01.9	-1.0
CDF				*e*Sn		Sn	23 12 04.0	-3.1
	5.4nm,0.2s							
HAU	**Haudompre**	**0.94**	**297**	*e*Pg		Pg	23 11 53.0	-0.6
HAU				*e*Sg		Sg	23 12 05.5	-0.3
	6.4nm,0.2s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg		Pg	23 12 02.2	-0.6
CABF				*e*Sg		Sg	23 12 19.4	-1.8
	2.7nm,0.2s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg		Sg	23 12 33.0	-1.3
	1.4nm,0.2s							
LPG	**La Plagne**	**2.17**	**196**	*e*Sg		Sg	23 12 43.2	-2.1
	0.5nm,0.2s							
LOR	**Lormes**	**2.56**	**264**	*e*Sg		Sg	23 12 54.8	-2.9
	2.1nm,0.2s							
SMF	**Signal de Mont**	**2.73**	**251**	*e*Sg		Sg	23 12 59.7	-3.6
	1.0nm,0.2s							

IDC 08 23:37:55.5±5.4, 4670N×15577E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=144.5km s-min=51.6km az=17.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**49.86**	**37**	P		P	23 46 49.8	-0.6
	0.7nm,0.7s,baz=296,slow=7.3,SNR=6.5							
FINES	**FINESS Array B**	**64.85**	**336**	P		P	23 48 35.7	-0.5
	2.5nm,0.8s,baz=36,slow=7.8,SNR=4.4							
TXAR	**Lajitas Array**	**75.91**	**62**	P		P	23 49 44.1	+0.2
	0.6nm,0.7s,baz=305,slow=4.6,SNR=6.4							

*NIED **08** 23:56:00, 2920N×13080E, h20km, Mw4.1 Best double couple: M0 1.63000×10^15 NP1:φs 198.00000°, δ79.00000°, λ-72.00000°. NP2:φs 317.00000°, δ21.00000°, λ-149.00000°.*
*JMA **08** 23:56:14.2±0.1, 2922N×13077E, h18km, M3.9*
*ISCJB **08** 23:56:16.2±0.7, 2925N±004×13070E±008, h50km±6km, mb4.0/12, MS3.7/2, Error ellipse: s-maj=12.1km s-min=4.8km az=44.8*
*IDC **08** 23:56:17.8±1.7, 2934N×13055E, h41km±15km, mb3.5/8, mb1 3.7/11, mb1mx3.6/23, mbtmp3.6/11, ML3.4/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/34, Error ellipse: s-maj=24.1km s-min=8.6km az=108.0*
*NEIC **08** 23:56:17.1±0.6, 2930N×13057E, h35km, MG3.9(JMA), Error ellipse: s-maj=17.1km s-min=9.2km az=109.0*
ISC 08 23:56:17.4±0.7, 2926N±004×13067E±008, h43km±6km, n28, σ0°82/33, mb4.0/12, MS3.7/2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.90**	**310**	P		**Pn**	**23 56 32.5**	**-1.1**
JNN				S		**Sn**	**23 56 46.0**	**+0.6**
JZK	**Kikaishima**	**1.12**	**213**	P		**Pn**	**23 56 34.6**	**-2.1**
JAM	**Amami Oshima**	**1.26**	**228**	P		**Pn**	**23 56 38.0**	**-0.5**
JKC	**Kuchinoerabu**	**1.26**	**341**	P		**Pn**	**23 56 38.5**	**0.0**
JKC				S		**Sn**	**23 56 55.3**	**+1.0**
JTN	**Tanegashima 3**	**1.41**	**11**	P		**Pn**	**23 56 40.0**	**-0.6**
JTN				S		**Sn**	**23 56 58.6**	**+0.6**
JTSR	**Tashiro 2**	**1.91**	**7**	P		**Pn**	**23 56 47.4**	**0.0**
JTSR				S		**Sn**	**23 57 11.2**	**+1.0**
JTK	**Tokunoshima**	**2.11**	**226**	P		**Pn**	**23 56 50.5**	**+0.3**
JTK				S		**Sn**	**23 57 16.4**	**+1.3**
JSU	**Suzuyama**	**2.24**	**355**	P		**Pn**	**23 56 51.3**	**-0.7**
JNAR	**Kushima--Naru**	**2.31**	**13**	P		**Pn**	**23 56 53.4**	**+0.4**
JSJ	**Shimokoshiki**	**2.54**	**341**	P		**Pn**	**23 56 55.8**	**-0.3**
JOW	**Kunigami**	**3.21**	**222**	P		**Pn**	**23 57 05.0**	**-0.4**
	7.5nm,0.3s,baz=57,slow=6.4,SNR=10							

*MOS **09** 00:04:16.5±2.2, 5258N×10128E, h18km, mb4.3/1, Error ellipse: s-maj=22.4km s-min=15.8km az=124.1*

BYKL 09 00:04:16.3±0.3, 5255N×10138E, h10km±21km, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARS	**Arshan**	**0.90**	**134**	*e*PG	Pg	00 04 32.9	-0.7
ARS				*e*		00 04 45.5	
ARS				pmax	pmax		
	comp=Z,475nm,0.1s						
ARS				smax			
	comp=E,3μm,0.2s						
ARS	**Arshan**	**0.90**	**134**	⇓*i*Pg	Pg	00 04 33.0	-0.6
	comp=E,133nm,0.3s						
ARS				⇑*i*Pg	Pg	00 04 33.0	-0.6
	comp=E,110nm,0.3s						
ARS				⇑*i*Pg	Pg	00 04 33.0	-0.6
	comp=E,354nm,0.3s						
ARS				*e*Sg	Sg	00 04 44.9	-0.4
ARS				Pmax			
	comp=E,480nm,0.1s						
ARS				Smax			
	comp=E,3μm,0.2s						
MOY	**Mondy**	**0.92**	**195**	⇑*i*Pg	Pg	00 04 32.8	-1.1
MOY				*e*Sg	Sg	00 04 44.6	-1.3
MOY				Pmax			
	comp=E,230nm,0.2s						
MOY				Smax			
	comp=E,608nm,1.1s						
ORL	**Orlik**	**0.96**	**270**	*e*PG	Pg	00 04 33.3	-1.5
ORL				*e*		00 04 45.9	
ORL				pmax	pmax		
	comp=Z,146nm,0.2s						
ORL				smax			
	comp=N,909nm,0.4s						
ORL	**Orlik**	**0.96**	**270**	⇑*i*Pg	Pg	00 04 33.4	-1.4
	comp=N,94nm,0.5s						
ORL				⇑*i*Pg	Pg	00 04 33.4	-1.4
	comp=N,204nm,0.5s						
ORL				⇓*i*Pg	Pg	00 04 33.4	-1.4
	comp=N,146nm,0.5s						
ORL				*e*Sg	Sg	00 04 45.6	-1.6
ORL				Pmax			
	comp=N,149nm,0.4s						
ORL				Smax			
	comp=N,909nm,0.4s						
TLY	**Talaya**	**1.65**	**121**	*e*PN	Pn	00 04 45.2	0.0
TLY				*e*		00 05 06.3	
TLY				pmax	pmax		
	comp=Z,55nm,0.4s						
TLY				smax			
	comp=E,399nm,0.3s						
TLY	**Talaya**	**1.65**	**121**	⇓*i*Pg	Pg	00 04 45.2	-2.7
TLY				*e*Sg	Sg	00 05 06.2	-3.0
TLY				Pmax			
	comp=E,55nm,0.3s						
TLY				Smax			
	comp=E,399nm,0.3s						
IRK	**Irkutsk**	**1.80**	**99**	*e*PN	Pn	00 04 47.6	+0.3
IRK				*e*		00 05 10.7	
IRK				pmax	pmax		
	comp=Z,54nm,1.6s						
IRK				smax			
	comp=N,864nm,0.4s						
IRK	**Irkutsk**	**1.80**	**99**	*e*Pg	Pg	00 04 48.0	-2.8
IRK				*e*Sg	Sg	00 05 11.0	-3.1
IRK				Pmax			
	comp=N,130nm,0.2s						
IRK				Smax			
	comp=N,858nm,0.3s						
LSTR	**Listvyanka**	**2.23**	**106**	*e*Pn	Pn	00 04 54.0	+0.7
LSTR				*e*Pg	Pg	00 04 55.7	-3.4
LSTR				*e*Sg	Sg	00 05 24.0	-4.0
LSTR				Pmax			
	comp=N,52nm,0.3s						
LSTR				Smax			
	comp=N,277nm,0.6s						
ZAK	**Zakamensk**	**2.48**	**151**	*e*PN	Pn	00 04 59.6	+2.9
ZAK				*e*		00 05 32.7	
ZAK				pmax	pmax		
	comp=Z,43nm,0.4s						
ZAK				smax			
	comp=E,208nm,0.4s						
ZAK	**Zakamensk**	**2.48**	**151**	*e*	Pn	00 04 59.7	+3.0
ZAK				*e*Pg	Pg	00 05 01.4	-2.3
ZAK				*e*Sg	Sg	00 05 32.8	-3.0
ZAK				Pmax			
	comp=E,836nm,0.3s						
ZAK				Smax			
	comp=E,210nm,0.5s						
TRG	**Tyrgan**	**3.03**	**84**	*e*Pn	Pn	00 05 03.1	-1.2
TRG				*e*Pg	Pg	00 05 11.0	-3.4
TRG				*e*Sg	Sg	00 05 50.7	-3.0
TRG				Pmax			
	comp=E,39nm,0.3s						
TRG				Smax			
	comp=E,96nm,0.3s						
STDB	**Stepnoy Dvoret**	**3.08**	**95**	*e*Pg	Pg	00 05 12.4	-2.9
STDB				*e*Sg	Sg	00 05 52.9	-2.4
STDB				Pmax			
	comp=E,41nm,0.4s						
STDB				Smax			
	comp=E,563nm,0.8s						
KAB	**Kabansk**	**3.28**	**97**	*e*PN	Pn	00 05 14.3	+6.6
KAB				*e*		00 05 59.6	
KAB				pmax	pmax		
	comp=Z,65nm,0.3s						
KAB				smax			
	comp=N,586nm,0.8s						
KAB	**Kabansk**	**3.28**	**97**	*e*Pg	Pg	00 05 16.0	-3.1
KAB				*e*		00 05 50.4	
KAB				*e*Sg	Sg	00 05 59.3	-2.2
KAB				Pmax			
	comp=N,93nm,0.4s						
KAB				Smax			
	comp=N,555nm,0.8s						
FFNB	**Fofonovo**	**3.34**	**97**	*e*Pg	Pg	00 05 16.5	-3.9
FFNB				*e*Sg	Sg	00 05 59.7	-4.0
FFNB				Pmax			
	comp=N,28nm,0.1s						
FFNB				Smax			
	comp=N,461nm,0.4s						
HRMR	**Khuramsha**	**3.56**	**103**	*e*Pn	Pn	00 05 11.0	-0.6
HRMR				*e*Pg	Pg	00 05 20.1	-4.4
HRMR				*e*Sg	Sg	00 06 06.2	-4.5
HRMR				Pmax			
	comp=N,60nm,0.4s						
HRMR				Smax			
	comp=N,530nm,0.4s						
TRTB	**Turuntaevo**	**3.84**	**92**	*e*	Pn	00 05 20.7	+5.2
TRTB				*e*Pg	Pg	00 05 24.9	-5.0
TRTB				*e*Sg	Sg	00 06 14.2	-5.5
TRTB				Pmax			
	comp=N,15nm,0.4s						
TRTB				Smax			
	comp=N,78nm,0.4s						
OGRR	**Ongureny**	**3.90**	**71**	*e*PN	Pn	00 05 15.4	-0.9
OGRR				*e*		00 05 25.7	
OGRR				*e*		00 06 17.4	
OGRR				pmax	pmax		
	comp=Z,27nm,0.3s						
OGRR				smax			
	comp=N,200nm,0.1s						
OGRR	**Ongureny**	**3.90**	**71**	*e*Pn	Pn	00 05 17.8	+1.5
OGRR				*e*Pg	Pg	00 05 26.4	-4.7
OGRR				*e*		00 05 58.2	
OGRR				*e*Sg	Sg	00 06 16.6	-5.1
OGRR				Pmax			
	comp=N,19nm,0.3s						
OGRR				Smax			
	comp=N,200nm,0.5s						
SYVR	**Suvo**	**5.31**	**75**	*e*Pn	Pn	00 05 36.7	+1.1
SYVR				*e*Pg	Pg	00 05 51.3	-6.7
SYVR				*e*Sg	Sg	00 06 59.6	-7.2
SYVR				Pmax			
	comp=N,6.0nm,0.3s						
SYVR				Smax			
	comp=N,23nm,0.7s						
NIZ	**Nizh Angarsk**	**5.78**	**53**	*e*Pn	Pn	00 05 42.7	+0.6
NIZ				*e*Pg	Pg	00 06 00.3	-6.7
NIZ				*e*Sg	Sg	00 07 14.9	-7.0
NIZ				Pmax			
	comp=N,8.0nm,0.7s						
NIZ				Smax			
	comp=N,278nm,1.3s						
YLYR	**Ulyunkhan**	**6.26**	**64**	*e*	Pn	00 05 51.7	+3.1
YLYR				*e*		00 07 20.8	
YLYR				*e*Sg	Sg	00 07 28.7	-8.5
YLYR				Smax			
	comp=N,32nm,0.7s						
KMO	**Kumora**	**6.66**	**56**	*e*Pn	Pn	00 05 55.9	+1.8
KMO				*e*Pg	Pg	00 06 17.2	-6.6
KMO				*e*Sg	Sg	00 07 43.6	-6.4
KMO				Pmax			
	comp=N,7.0nm,0.3s						
KMO				Smax			
	comp=N,88nm,1.8s						
KPC	**Khapcheranga**	**7.49**	**108**	*e*Pg	Pg	00 06 31.1	-8.5
KPC				*e*		00 07 31.0	
KPC				*e*Sg	Sg	00 08 07.5	-9.0
KPC				Pmax			
	comp=N,1.0nm,0.6s						
KPC				Smax			
	comp=N,14nm,1.0s						
BOD	**Bodaibo**	**8.94**	**49**	*e*	Sn	00 07 59.7	-6.5
BOD				*e*Sg	Sn	00 08 51.8	+46
BOD				Smax			
	comp=N,9.0nm,0.7s						

*STR **09** 00:09:28.5±0.8, 4756N×758E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 00:09:29.7±0.2, 4759N×753E, h14km, Md1.9/3, Ml1.9/6, Error ellipse: s-maj=3.8km s-min=2.8km az=107.0*

ZUR 09 00:09:29.0, 4759N×760E, h5km±1km, ML1.2, 1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	00 09 34.4	+0.4
	94nm,0.3s						
BALST				*i* Sg	Sg	00 09 38.2	+0.7
	94nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**232**	*e*Pg	Pg	00 09 35.4	+0.3
	31nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*e*Pg	Pg	00 09 36.0	+0.1
	28nm,0.6s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	00 09 36.9	0.0
MOF				Sg	Sg	00 09 42.9	+0.6
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	00 09 39.2	-0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn	Pg	00 09 40.6	+1.0
HINF				*e*Sg	Sg	00 09 46.2	-0.6
	5.0nm,0.2s						
HINF				*e*Sn	Sg	00 09 49.9	+3.1
SLE	**Schleitheim**	**0.63**	**73**	*e*P	Pg	00 09 40.8	-0.3
	36nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	00 09 42.7	+0.3
ECH				Sg	Sg	00 09 51.1	-0.3
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn	Pn	00 09 45.7	-2.0
CDF				*e*Sn	Sn	00 09 57.5	-3.1
	5.2nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	00 09 46.5	-0.6
HAU				*e*Sg	Sg	00 09 59.0	-0.3
	4.1nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	00 09 56.1	-0.1
CABF				*e*Sg	Sg	00 10 13.0	-1.7
	1.4nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	00 10 26.5	-1.3
	0.5nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	00 10 48.8	-2.4
	1.7nm,0.2s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Sg	Sg	00 10 57.3	-2.7
	0.8nm,0.3s						

*LDG **09** 00:12:58.2±0.1, 4313N×001W, h4km, Md1.7/2, Ml1.8/4, Error ellipse: s-maj=3.2km s-min=1.8km az=167.0*

MDD 09 00:12:59.3±0.3, 4302N×001W, h0km, mbLg1.5/9, 1C, Error ellipse: s-maj=2.8km s-min=2.1km az=158.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**65**	Pg	Pg	00 13 00.7	+0.1
LABF				Sg	Sg	00 13 02.0	+0.5
LABF	**Labassere**	**0.07**	**65**	P	Pg	00 13 00.7	+0.1
LABF				S	Sg	00 13 02.0	+0.5
VIEF	**Viey**	**0.14**	**169**	Pg	Pg	00 13 01.9	0.0
VIEF				Sg	Sg	00 13 04.1	+0.4
VIEF	**Viey**	**0.14**	**169**	P	Pg	00 13 02.0	+0.1
VIEF				S	Sg	00 13 04.2	+0.5
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	00 13 03.7	-0.5
EPF				*e*Sg	Sg	00 13 07.5	-0.1
	15nm,0.2s						
EPF	**Esparros**	**0.26**	**87**	Pg	Pg	00 13 03.7	-0.5
EPF				Lg		00 13 07.5	
	7.3nm,0.2s						
EBIE	**Bielsa**	**0.35**	**161**	⇑Pg	Pg	00 13 05.6	-0.3
	6.0nm,0.3s,SNR=18						
EBIE				Lg		00 13 10.3	
	6.6nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.42**	**254**	*e*Pg	Pg	00 13 07.3	0.0
ETSF				*e*Sg	Sg	00 13 12.9	+0.2
	10nm,0.2s						
ETSF	**Etsaut**	**0.42**	**254**	Pg	Pg	00 13 07.3	0.0
ETSF				Lg		00 13 12.9	
	5.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	00 13 15.0	-1.4
SJPF				*e*Sg	Sg	00 13 26.3	-1.7
	1.4nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	00 13 15.0	-1.4
SJPF				Lg		00 13 26.3	
	0.7nm,0.2s						
CSOR	**Sort**	**1.06**	**127**	P	Pg	00 13 18.5	-1.1
CSOR				S	Sg	00 13 33.1	-0.3
	0.9nm,0.2s						
CORG	**Organya**	**1.26**	**128**	P	Pg	00 13 23.4	0.0
CORG				S	Sg	00 13 39.7	0.0
CAVN	**Les Avellanes**	**1.27**	**153**	P	Pg	00 13 22.8	-0.8
CAVN				S	Sg	00 13 40.1	+0.1
	12nm,0.1s						
ESAC	**San Caprasio**	**1.34**	**195**	Lg		00 13 42.9	
	11nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**1.56**	**110**	S	Sn	00 13 49.2	0.0
EMIR	**Miracle**	**1.59**	**134**	Pg	Pg	00 13 30.0	+0.3
	0.3nm,0.1s,SNR=7.9						
EMIR				Lg		00 13 50.1	
	3.2nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	00 13 28.3	-2.9
MTLF				*e*Sg	Sg	00 13 50.7	-2.0
	2.1nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	00 13 28.3	-2.9
MTLF				Lg		00 13 50.7	
	1.1nm,0.2s						
EPOB	**Poblet**	**1.85**	**154**	Pg	Pg	00 13 32.8	-2.0
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		00 13 56.9	
	1.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.08**	**173**	Lg		00 14 04.5	
	1.2nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.43**	**37**	*e*Pn	Pn	00 13 35.7	-4.5
CAF				*e*Sg	Sg	00 14 12.6	-4.6
	1.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Sg	Sg	00 14 14.1	-6.7
	0.7nm,0.2s						

*CSEM **09** 00:19:52.7, 6783N×2020E, h1km, ML2.6, Mining explosion. After UPP*
*UPP **09** 00:19:52.7, 6783N×2020E, h1km, ML2.6, Mining explosion.*

HEL 09 00:19:53.4±0.1, 6783N×2020E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	*i* P	Pg	00 19 55.5	-0.4
KUA				*i* S	Sg	00 19 57.5	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 20 01.2	-0.7
NIKU				*i* S	Sg	00 20 07.3	-0.3
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 20 06.0	-1.0
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	00 20 06.1	-1.3
DUNU				*i* S	Sg	00 20 16.0	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 20 07.6	-0.9
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 20 07.5	-1.1
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 20 07.4	-1.2
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 20 15.7	-0.7
KIF				*e*S	Sg	00 20 31.9	-0.1
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	00 20 18.1	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 20 23.6	-0.8
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	00 20 34.3	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	00 20 34.5	-0.2
SGF				*e*S	Sn	00 21 05.3	0.0
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 20 43.7	-0.4
KEV				*e*S	Sn	00 21 21.3	-1.0

*NEIC **09** 00:23:09.6, 1853N×6809W, h138km, MD3.5(RSPR), After RSPR.*

RSPR 09 00:23:09.6, 1853N×6809W, h138km±3km, MD3.5/8, MD3.5/8, 4C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.01**	**110**	⇓*e*P	Pn	00 23 33.1	-0.3
CRPR	**Cabo Rojo, PR**	**1.06**	**119**	⇓*e*P	Pn	00 23 33.3	-0.5
CRPR				*e*S	Sn	00 23 52.1	-0.2
GBPR	**Guanica, Bosqu**	**1.27**	**115**	⇓*e*P	Pn	00 23 35.9	+0.1
GBPR	**Guanica, Bosqu**	**1.27**	**115**	*e*S	Sn	00 23 56.4	+0.6
AOPR	**Arecibo Observ**	**1.28**	**98**	⇑*e*P	Pn	00 23 36.1	+0.2
AOPR				*e*S	Sn	00 23 56.3	+0.4
CELP	**Cerrillos**	**1.50**	**107**	⇑*i*P	Pn	00 23 38.0	-0.3
CELP				*e*S	Sn	00 23 59.9	-0.3
SJG	**San Juan**	**1.89**	**102**	⇑*e*P	Pn	00 23 42.5	-0.1
SJG				*e*S	Sn	00 24 08.4	+0.5
CBYP	**Canovanas**	**2.13**	**97**	⇑*e*P	Pn	00 23 45.4	-0.3
CBYP				*e*S	Sn	00 24 13.3	+0.1
HUMP	**Col San Antoni**	**2.16**	**100**	⇓*e*P	Pn	00 23 45.8	-0.1
HUMP				*e*S	Sn	00 24 14.6	+0.8
MTP	**Monte Pirata**	**2.44**	**100**	⇑*e*P	Pn	00 23 50.1	+0.6
MTP				*e*S	Sn	00 24 20.4	+0.3

*IDC **09** 00:25:25.5±0.9, 3922N×7216E, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML3.7/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/41, Error ellipse: s-maj=17.2km s-min=14.6km az=172.0*
*NNC **09** 00:25:26.3±1.9, 3923N×7142E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=15.1km s-min=14.4km az=96.0*
*ISCJB **09** 00:25:27.8±0.5, 3909N±004×7200E±006, h33km, mb3.8/14, MS3.5/3, Error ellipse: s-maj=7.2km s-min=5.3km az=135.7*
*BJI **09** 00:25:28.6, 3931N×7190E, h41km, mb4.2, ML3.9, Ms3.7, Msz3.5*
*MOS **09** 00:25:30.3±1.8, 3951N×7202E, h33km, mb4.4/6, Error ellipse: s-maj=13.1km s-min=6.9km az=96.5*
*NEIC **09** 00:25:34.1±1.3, 3972N×7195E, h35km, mb3.8/2, Error ellipse: s-maj=24.6km s-min=9.9km az=159.0*

ISC 09 00:25:26.3±2.5, 3918N±006×7176E±006, h5km±15km, n59, σ1°39/68, mb3.8/14, MS3.5/3, 6C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.29**	**83**	P	**Pn**	**00 26 18.8**	**+0.4**
KSH				S	**Sn**	**00 26 58.4**	**+0.6**
KSH				Smax			
	comp=N,2μm,1.0s						
KSH				Smax			
	comp=E,1μm,0.8s						
AML	**Almayashu**	**3.30**	**26**	P	**Pn**	**00 26 20.4**	**+1.9**
	SNR=43						
UCH	**Uchtor**	**3.70**	**34**	P	**Pn**	**00 26 25.0**	**+0.9**
	SNR=56						
EKS2	**Erkin-Say**	**3.80**	**23**	P	**Pn**	**00 26 25.9**	**+0.4**
	SNR=21						
KZA	**Kyzart**	**3.93**	**41**	P	**Pn**	**00 26 27.9**	**+0.6**
	SNR=28						
AAK	**Ala-Archa**	**4.03**	**30**	P	**Pn**	**00 26 29.6**	**+1.0**
	SNR=20						
AAK	**Ala-Archa**	**4.03**	**30**	*e*Pn	**Pn**	**00 26 27.7**	**-0.9**
AAK				*e*Sn	**Sn**	**00 27 09.0**	**-7.1**
KK31	**Karatay Array**	**4.03**	**347**	⇑Pn	**Pn**	**00 26 29.5**	**+0.8**
	comp=E,41nm,0.5s,baz=158,slow=12						
KK31				⇑Lg		00 27 29.7	
	comp=E,136nm,0.4s,baz=158,slow=30						
KK31	**Karatay Array**	**4.03**	**347**	*i* PN	**Pn**	**00 26 29.4**	**+0.7**
KK31				pmax	pmax		
	comp=Z,39nm,0.3s						
KKAR	**Karatay Array**	**4.03**	**347**	PN	**Pn**	**00 26 29.4**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,12nm,0.3s						
KBK	**Karagaybulak**	**4.23**	**34**	P	**Pn**	**00 26 31.9**	**+0.4**
	SNR=30						
CHMS	**Chumysh**	**4.44**	**30**	P	**Pn**	**00 26 34.8**	**+0.6**
	SNR=74						
USP	**Ospenovka**	**4.58**	**26**	P	**Pn**	**00 26 36.0**	**-0.2**
	SNR=26						
ULHL	**Ulahol**	**4.58**	**47**	P	**Pn**	**00 26 36.0**	**-0.2**
	SNR=15						
TKM2	**Tokmak 2**	**4.73**	**37**	P	**Pn**	**00 26 38.7**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**4.73**	**37**	⇑Pn	**Pn**	**00 26 40.0**	**+1.7**
	comp=Z,2.0nm,0.6s						
TKM2				⇑Sn	**Sn**	**00 27 40.4**	**+6.8**
	comp=Z,4.7nm,0.6s						
KNDC	**Almaty**	**5.63**	**43**	⇑Pn	**Pn**	**00 26 53.9**	**+3.3**
	comp=Z,62nm,0.9s						
KNDC				⇓Sn	**Sn**	**00 28 03.0**	**+7.3**
	comp=Z,157nm,0.8s						
MK31	**Makanchi Array**	**10.83**	**42**	⇓P	**Pn**	**00 28 01.4**	**-0.5**
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**10.83**	**42**	Pn	**Pn**	**00 28 00.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=10,SNR=7.4						
MKAR				Lg		00 31 08.9	
	comp=Z,0.2nm,0.3s,baz=316,slow=17,SNR=3.8						
KURK	**Kurchatov**	**12.51**	**21**	*i* P	**Pn**	**00 28 20.6**	**-4.3**
AB31	**Akbulak array**	**13.15**	**324**	⇑Pn	**Pn**	**00 28 31.7**	**-1.9**
	comp=Z,9.8nm,0.5s,baz=129,slow=13,SNR=106						
AB31				⇓Sn	**Sn**	**00 30 56.0**	**-4.2**
	comp=Z,16nm,0.6s						
BVA0	**Borovoye Array**	**13.88**	**357**	⇓P	**Pn**	**00 28 43.0**	**-0.7**
	comp=Z,0.7nm,1.0s						
BVA0	**Borovoye Array**	**13.88**	**357**	*i* P	**Pn**	**00 28 39.7**	**-4.0**
BVAR	**Borovoye Array**	**13.88**	**357**	Pn	**Pn**	**00 28 39.9**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=159,slow=13,SNR=9.0						
BVAR				Lg		00 32 47.0	
	comp=Z,0.3nm,0.3s,baz=150,slow=35,SNR=3.7						
BVAR				LR	LR	00 34 17.3	
	comp=Z,106nm,18.9s,baz=317,slow=38						
CHKZ	**Chkalovo**	**14.52**	**357**	⇓Pn	**Pn**	**00 28 52.1**	**-0.3**
	comp=Z,3.9nm,1.4s						
CHKZ				⇓Sn	**Sn**	**00 31 34.6**	**+0.9**
	comp=Z,10.0nm,1.6s						
AKTK	**Aktyubinsk**	**14.86**	**324**	Pn	**Pn**	**00 28 55.5**	**-1.6**
AKTK				Sn	**Sn**	**00 31 36.5**	**-5.6**
AKTO	**Aktyubinsk**	**14.86**	**324**	⇓Pn	**Pn**	**00 28 54.8**	**-2.3**
	comp=Z,0.2nm,0.7s						
AKTO				⇓Sn	**Sn**	**00 31 39.4**	**-2.6**
	comp=Z,0.3nm,1.1s						
AKTO	**Aktyubinsk**	**14.86**	**324**	Pn	**Pn**	**00 28 55.5**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=134,slow=11,SNR=20						
AKTO				Sn	**Sn**	**00 31 36.5**	**-5.6**
	comp=Z,0.4nm,0.3s,baz=346,slow=19,SNR=4.0						
KOLN	**Koldanda**	**15.05**	**136**	*e*P	**Pn**	**00 28 57.3**	**-2.3**
	comp=Z,16nm,1.0s						
GKN	**Gorkha**	**15.45**	**132**	*e*P	**Pn**	**00 29 00.7**	**-4.2**
KKN	**Kakani**	**15.99**	**131**	*e*P	**Pn**	**00 29 07.4**	**-4.5**
DMN	**Daman**	**16.02**	**132**	*e*P	**Pn**	**00 29 08.8**	**-3.5**
PKI	**Pulchoki**	**16.23**	**131**	*e*P	**Pn**	**00 29 10.9**	**-4.0**
	comp=Z,23nm,0.8s						
GUN	**Gumba**	**16.25**	**130**	*e*P	**Pn**	**00 29 11.8**	**-3.5**
	comp=Z,16nm,0.8s						
ZAL	**Zalesovo**	**17.23**	**27**	P	**Pn**	**00 29 24.3**	**-3.3**
	comp=Z,1.3nm,0.3s,baz=254,slow=8.7,SNR=10						
ZAL				Lg		00 34 27.3	
	comp=Z,0.2nm,0.3s,baz=207,slow=23,SNR=3.8						
ZAL	**Zalesovo**	**17.23**	**27**	P	**Pn**	**00 29 24.3**	**-3.3**
ZAL				Lg		00 34 27.3	
NVS	**Novosibirsk**	**17.48**	**23**	*e*P	**Pn**	**00 29 31.0**	**+0.3**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s			

GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.1
GTA LR LR
comp=N,82nm,13.3s,MS3.6
GTA LR LR
comp=E,122nm,12.2s,MS3.6
GTA LR LR
comp=Z,79nm,14.4s,MS3.3
KIV Kislovodsk 22.21 292 *e*P **P 00 30 27.3 +3.8**
KIV pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
KIV Kislovodsk 22.21 292 *e*P **P 00 30 27.0 +3.5**
comp=Z,6.6nm,0.8s,mb4.1
SONM Songino Array 26.39 59 P **P 00 31 01.6 -1.9**
comp=Z,0.6nm,0.5s,mb3.4,baz=268,slow=9.3,SNR=4.9
OBN Obninsk 28.37 316⇓*e*P **P 00 31 22.3 +1.0**
OBN *e* 00 32 08.3
OBN pmax pmax
comp=Z,28nm,2.8s,mb4.4
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.5
BR131 Keskin Array S 29.29 283 *e*P **P 00 31 33.4 +3.9**
comp=Z,0.4nm,0.4s,mb3.5
BRTR Keskin Array B 29.30 283 P **P 00 31 33.6 +4.0**
comp=Z,1.2nm,0.8s,mb3.7,baz=84,slow=8.7,SNR=9.1
FINES FINESS Array B 35.64 324 P **P 00 32 26.2 +1.1**
comp=Z,0.9nm,0.3s,mb4.1,baz=116,slow=9.7,SNR=19
FINES FINESS Array B 35.64 324 P **P 00 32 26.2 +1.1**
ARCES ARCESS Array B 38.92 336 P **P 00 32 53.3 +0.4**
comp=Z,3.3nm,0.8s,mb4.1,baz=113,slow=8.4,SNR=9.3
GERES GERESS Array B 41.93 303 P **P 00 33 20.7 +3.0**
comp=Z,0.1nm,0.3s,mb2.9,baz=72,slow=6.5,SNR=3.4
GERES GERESS Array B 41.93 303 P **P 00 33 20.7 +2.9**
NOA NORSAR Array B 42.64 321 P **P 00 33 24.6 +1.0**
comp=Z,1.0nm,0.8s,mb3.6,baz=89,slow=7.7,SNR=3.5
NOA LR LR 00 51 44.3
comp=Z,85nm,19.3s,MS3.6,baz=0.0,slow=37
TORD Torodi Ar. Bea 66.40 268 P **P 00 36 17.9 +1.7**
comp=Z,1.6nm,0.8s,mb4.1,baz=52,slow=5.8,SNR=21
INK Inuvik 71.17 10 P **P 00 36 45.0 -1.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=337,slow=6.2,SNR=9.5
INK Inuvik 71.17 10 P **P 00 36 45.0 -1.0**
INK pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 78.55 3 P **P 00 37 27.3 -1.4**
comp=Z,0.2nm,0.6s,mb3.2,baz=351,slow=5.6,SNR=5.1
WRA Warramunga Arr 82.91 123 P **P 00 37 50.6 -1.4**
comp=Z,0.8nm,0.5s,mb4.0,baz=325,slow=4.9,SNR=9.3
WRA Warramunga Arr 82.91 123 P **P 00 37 50.6 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.5s

ISCJB ***09*** *00:28:48.4±1.9, 3471N×007×270E±0.1, h10km±19km, Error ellipse: s-maj=16.3km s-min=11.4km az=166.1*
ATH ***09*** *00:28:48.2, 3470N×2701E, h28km±3km, MD3.2/7*
CSEM ***09*** *00:28:48.3±0.2, 3470N×2699E, h8km, MD3.2, Error ellipse: s-maj=6.1km s-min=3.5km az=125.0*
NEIC ***09*** *00:28:48.2, 3470N×2701E, h28km, MD3.2(ATH), After ATH.*
HLW ***09*** *00:28:54.8, 3454N×2690E, h33km, Mb2.8*
ISC 09 00:28:49.8±1.9, 3475N±007×269E±01, h13km±18km, n9, σ0=67/10, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.82**	**15**	⇑*i*PN	**Pg**	**00 29 05.1**	**-0.6**
KARP				*e*SN	**Sg**	**00 29 17.3**	**+0.8**
XRY	**Khrisi**	**1.00**	**277**	*e*PN	**Pn**	**00 29 09.3**	**-0.2**
NPS	**Neapolis**	**1.17**	**296**	*e*PB	**Pb**	**00 29 11.1**	**-0.9**
ARG	**Arkhangelos**	**1.77**	**34**	⇓*i*PN	**Pn**	**00 29 19.1**	**-1.1**
VAM	**Vamos**	**2.31**	**287**	*e*PN	**Pn**	**00 29 27.8**	**+0.2**
APE	**Apeiranthos**	**2.57**	**335**	*e*PN	**Pn**	**00 29 32.2**	**+1.1**
SLUM		**3.55**	**204**	P	**Pn**	**00 29 45.0**	**+0.5**
HMAT	**Matruh**	**3.65**	**177**	P	**Pn**	**00 29 46.3**	**+0.3**
SWA1		**5.56**	**191**	P	**Pn**	**00 30 12.2**	**-0.1**

IPEC ***09*** *00:37:19.7±0.1, 5010N×1843E, h7km±1km, ML1.6/3, Error ellipse: s-maj=1.7km s-min=0.7km az=160.0*
PRU ***09*** *00:37:20.8, 5016N×1830E, h0km*
CSEM ***09*** *00:37:22.8±0.3, 5006N×1819E, h0km±1km, ML2.8/3, Error ellipse: s-maj=6.8km s-min=3.3km az=11.0*
WAR 09 00:37:19.8, 5006N×1845E, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**280**	*e*Pg	Pg	00 37 23.6	+0.6
RAC				*e*Sg	Sg	00 37 27.0	+1.8
OKC	**Ostrava-Krasne**	**0.29**	**222**	*e*PG	Pg	00 37 25.7	+0.3
OKC				*e*SG	Sg	00 37 30.4	+1.2
95nm,0.6s							
OKC	**Ostrava-Krasne**	**0.29**	**222**	*e*Pg	Pg	00 37 25.4	0.0
OKC				*e*Sg	Sg	00 37 30.3	+1.1
MORC	**Moravsky Berou**	**0.65**	**245**	*e*Pg	Pg	00 37 31.8	-0.4
MORC				*e*Sg	Sg	00 37 40.9	+0.2
9.5nm,0.3s							
OJC	**Ojcow**	**0.88**	**79**	*e*Pg	Pg	00 37 36.4	-0.3
OJC				*e*Sg	Sg	00 37 48.3	+0.1
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	Pg	00 37 46.0	0.0
NIE				*e*Sg	Sg	00 38 05.4	+1.7
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*PG	Pg	00 37 45.4	-1.2
DPC				*e*SG	Sg	00 38 03.2	-1.5
26nm,0.6s							
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*Pg	Pg	00 37 45.4	-1.2
DPC				*e*Sg	Sg	00 38 03.3	-1.4
VRAC	**Vranov**	**1.42**	**239**	*e*Pn	Pn	00 37 45.7	-1.1
VRAC				*e*Sg	Sg	00 38 04.2	-1.2
10nm,0.3s							
UPC	**Upice**	**1.63**	**287**	*e*PG	Pg	00 37 49.9	-1.1
KRUC	**Moravsky**	**1.67**	**234**	*e*Pn	Pn	00 37 49.5	-0.7
KRUC				*e*Sg	Sg	00 38 12.1	-1.2
5.9nm,0.3s							
STHS	**Stebnicka Huta**	**1.92**	**108**	*e*PN	Pn	00 37 56.8	+3.0
STHS				*e*SN	Sn	00 38 24.1	+5.5
KECS	**Kecovo**	**2.06**	**139**	*e*PN	Pn	00 38 00.0	+4.3
KECS				*e*SN	Sn	00 38 27.9	+5.8
CRVS	**Cervenica-Dubn**	**2.28**	**119**	*e*PN	Pn	00 38 02.2	+3.5
CRVS				*e*SN	Sn	00 38 33.9	+6.5
CRVS	**Cervenica-Dubn**	**2.28**	**119**	*e*Pn	Pn	00 38 02.3	+3.6
CRVS				*e*Sn	Sn	00 38 33.9	+6.5
PRU	**Pruhonice**	**2.52**	**270**	*e*SG	Sg	00 38 37.1	-3.7
PVCC	**Panska Ves**	**2.53**	**282**	*e*SG	Sg	00 38 38.5	-2.7
14nm,0.5s							
KHC	**Kasperske Hory**	**3.30**	**256**	*e*PN	Pn	00 38 13.0	+0.3
KHC				*e*PG	Pg	00 38 21.0	-2.1
KHC				*e*SG	Sg	00 39 02.2	-3.7

IDC ***09*** *00:51:37.0±1.9, 1333N×8906W, h16km±10km, mb4.6/20, mb1 4.8/21, mb1mx4.8/22, mbtmp4.7/21, ML4.6/1, MS4.6/21, Ms1 4.7/21, ms1mx4.6/23, Error ellipse: s-maj=21.2km s-min=11.6km az=50.0*
CASC ***09*** *00:51:39.4±2.1, 1298N×8961W, h26km±5km, MD4.8, ML5.1, mb5.0(NEIC)*
ISCJB ***09*** *00:51:40.6±0.3, 1304N±003×8946W±002, h60km±3km, mb4.9/59, MS4.7/24, Error ellipse: s-maj=5.6km s-min=2.7km az=61.8*
NEIC ***09*** *00:51:41.9±0.6, 1301N×8945W, h60km±5km, mb5.0/45, Error ellipse: s-maj=6.3km s-min=4.1km az=220.0*
NEIC Felt [IV] at San Salvador. Also felt at La Libertad.
BJI ***09*** *00:51:41.9, 1300N×8950W, h60km, mB5.3, Ms5.2, Msz4.9*
GCMT ***09*** *00:51:41.9±0.2, 1289N×8966W, h28km±1km, MW5.2/68, Moment Tensor Solution. s54,c72; s68,c107; Duration: 1s0 Moment tensor: Scale 10^16Nm; M_{rr}-1.58±.18; $M_{\theta\theta}$-1.85±.12; $M_{\phi\phi}$3.43±.17; $M_{r\theta}$7.83±.51; $M_{\theta\phi}$-0.94±.11; $M_{\phi r}$-4.09±.35; Best double couple: $M_0$9.30600×10^16 NP1:ϕ_s201.00000°, δ18.00000°, λ-12.00000°. NP2: ϕ_s302.00000°, δ86.00000°, λ-108.00000°. Principal axes: T 8.6810, Plg39.0000°, Azm48.0000°; N 1.2490, Plg18.0000°, Azm303.0000°; P -9.9300, Plg46.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***09*** *00:51:42.5±1.3, 1312N×8939W, h73km, mb5.1/16 Error ellipse: s-maj=13.1km s-min=5.6km az=107.2*
ISC 09 00:51:43.7±0.3, 1308N±003×8934W±003, h74km±3km, h71km±4.9km: pP-P, n486, σ0=92/431, mb4.8/59, 106C-89D,

El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.60**	**26**	*e*P	x	00 51 54.7	
LFRS				⇓*i*P	x	00 51 54.7	
SNET	**Serv Nac Est T**	**0.61**	**10**	*e*P	x	00 51 54.2	
SNET				*e*S	x	00 52 05.7	
SNET				*i*		00 52 08.7	
comp=Z,175μm,0.7s							
BOQS	**Boqueron**	**0.66**	**5**	*e*P	x	00 51 54.6	
BOQS				⇑*i*P	x	00 51 54.8	
LCBS	**La Ceiba**	**0.67**	**31**	*e*P	x	00 51 55.4	
LCBS				⇓*i*P	x	00 51 55.7	
LFU	**La Fuente**	**0.70**	**18**	⇓*e*P	x	00 51 56.0	
LBRS	**Las Brisas**	**0.72**	**23**	⇓*e*P	x	00 51 56.7	
SNVI	**San Vicente**	**0.72**	**42**	*e*P	x	00 51 57.0	
SBLS	**San Blas**	**0.81**	**340**	⇓*i*P	x	00 51 55.3	
SBLS				*e*P	x	00 51 55.3	
SNJE	**San Jose**	**0.83**	**342**	⇓*e*P	x	00 51 55.8	
RTR	**El Retiro**	**0.87**	**340**	⇓*e*P	x	00 51 56.1	
RBDL	**Robledal**	**1.08**	**342**	⇓*e*P	x	00 51 59.4	
VSM	**San Miguel**	**1.09**	**71**	⇑*e*P	x	00 52 02.3	
BLLM	**Bellamira**	**1.13**	**71**	*e*P	x	00 52 02.7	
MTO2	**Montecristo 2**	**1.31**	**359**	⇑*i*P	x	00 52 04.7	
CNCH	**Conchagua**	**1.48**	**82**	⇑*e*P	x	00 52 07.6	
TER	**Terranova**	**1.79**	**313**	⇓*e*P	**Pn**	**00 52 06.8**	**-5.8**
PCG	**Pacaya**	**1.80**	**317**	⇓*e*P	**Pn**	**00 52 08.1**	**-4.6**
FUG	**Fuego 3**	**2.00**	**313**	⇓*e*P	**Pn**	**00 52 10.5**	**-4.9**
TGUH	**Tegucigalpa,Un**	**2.23**	**64**	⇑*i*Pn	**Pn**	**00 52 18.6**	**+0.1**
TGUH				*e*Sn	**Sn**	**00 52 44.5**	**-0.6**
TGUH				*e*PcP	PcP	01 00 03.4	-1.7
CRIN	**San Cristobal**	**2.26**	**99**	*e*P	**Pn**	**00 52 18.4**	**-0.5**
CRIN				*e*S	**Sn**	**00 52 49.0**	**+3.1**
CRIN				*i*		00 53 02.5	
comp=E,37μm,0.4s							
TELN	**Telica**	**2.49**	**101**	⇓*e*P	**Pn**	**00 52 20.1**	**-1.9**
JAT	**Jato**	**2.55**	**299**	*e*P	**Pn**	**00 52 16.8**	**-6.1**
JAT				*e*S	**Sn**	**00 52 47.0**	**-5.9**
MOMJ	**Momotombo**	**2.81**	**103**	*e*P	**Pn**	**00 52 24.7**	**-1.6**
XAVN	**Gruta Xavier**	**3.08**	**107**	*e*P	**Pn**	**00 52 28.6**	**-1.5**
MGAN	**Managua**	**3.15**	**107**	*e*P	**Pn**	**00 52 29.8**	**-1.2**
TICN	**Ticuantepe**	**3.20**	**109**	*e*P	**Pn**	**00 52 30.7**	**-1.0**
MASN	**Masaya**	**3.29**	**109**	*e*P	**Pn**	**00 52 33.4**	**+0.5**
MASN				⇑*i*		00 53 19.7	
comp=N,7μm,0.4s							
BOAB	**BOACO BROADBAN**	**3.63**	**99**	⇑*e*P	**Pn**	**00 52 35.9**	**-1.7**
CONN	**Concepcion**	**3.93**	**112**	*e*P	**Pn**	**00 52 40.3**	**-1.2**
MADN	**Villa Maderas**	**4.07**	**114**	*e*P	**Pn**	**00 52 42.4**	**-1.1**
CCIG	**Comitan**	**4.18**	**320**	*i*P	**Pn**	**00 52 43.0**	**-2.0**
CCIG				*i*S	**Sn**	**00 53 41.4**	**+8.7**
RIN3	**Volcan Rincon**	**4.49**	**120**	*e*P	**Pn**	**00 52 49.6**	**+0.4**
LIM1	**Limonal**	**4.64**	**120**	*e*P	**Pn**	**00 52 51.5**	**+0.2**
VCR	**Vista de Mar**	**4.67**	**129**	*e*P	**Pn**	**00 52 50.3**	**-1.4**
JTS	**JuntasAbangare**	**5.11**	**122**	Pn	**Pn**	**00 52 56.5**	**-1.1**
comp=N,32nm,0.3s,baz=304,slow=15,SNR=91							
JTS				Sn	**Sn**	**00 53 53.2**	**-2.2**
comp=N,57nm,0.3s,baz=261,slow=18,SNR=3.4							
JTS				Lg		00 54 16.7	
comp=N,24nm,0.3s,baz=108,slow=22,SNR=11							
JTS	**JuntasAbangare**	**5.11**	**122**	*e*Pn	**Pn**	**00 52 56.2**	**-1.4**
JTS				*e*Sn	**Sn**	**00 53 57.1**	**+1.8**
JCR	**Jicaral**	**5.24**	**127**	*e*P	**Pn**	**00 52 58.6**	**-0.8**
VACR	**Volcan Arenal**	**5.25**	**119**	*e*P	**Pn**	**00 52 59.8**	**+0.3**
CAO	**Cobano**	**5.34**	**129**	*e*P	**Pn**	**00 52 59.7**	**-1.1**
EPA	**Esparza**	**5.57**	**123**	*e*P	**Pn**	**00 53 05.5**	**+1.6**
CGA2	**Cerro Gallo 2**	**5.66**	**122**	*e*P	**Pn**	**00 53 05.5**	**+0.3**
POA2	**Poas 2**	**5.76**	**120**	*e*P	**Pn**	**00 53 07.5**	**+0.9**
PRS1	**Puriscal**	**5.81**	**121**	*e*P	**Pn**	**00 53 08.7**	**+1.5**
LAJ	**Bijagual**	**6.03**	**121**	*e*P	**Pn**	**00 53 06.3**	**-3.9**
SJS	**Escuela Geolog**	**6.04**	**121**	*e*P	**Pn**	**00 53 12.0**	**+1.6**
OCM	**Ochomogo**	**6.14**	**120**	*e*P	**Pn**	**00 53 12.5**	**+0.7**
OCM				*e*S	**Sn**	**00 54 24.4**	**+3.8**
IRZ2	**Volcan Irazu 2**	**6.16**	**120**	*e*P	**Pn**	**00 53 12.8**	**+0.8**
LCR2	**La Lucha 2**	**6.19**	**122**	⇓*e*P	**Pn**	**00 53 13.0**	**+0.5**
VTU	**Volcan Turrial**	**6.25**	**118**	⇓*e*P	**Pn**	**00 53 14.6**	**+1.3**
BUS	**Buena Vista**	**6.50**	**122**	*e*P	**Pn**	**00 53 18.4**	**+1.8**
CMIG	**Matias Romero**	**6.68**	**307**	Pn	**Pn**	**00 53 14.8**	**-4.3**
comp=N,11nm,0.3s,baz=101,slow=9.9,SNR=58							
CMIG				Sn	**Sn**	**00 54 28.3**	**-5.5**
comp=N,33nm,0.3s,baz=116,slow=23,SNR=3.0							
CMIG				LR	LR	00 56 15.9	
comp=N,5μm,19.1s,baz=121,slow=41							
CMIG	**Matias Romero**	**6.68**	**307**	Sn	**Sn**	**00 54 28.3**	**-5.5**
CMIG				LR	LR	00 56 15.8	
HUIG	**Huatulco**	**7.08**	**293**	*i*P	**Pn**	**00 53 16.5**	**-8.2**
TEIG	**Tepich**	**7.18**	**8**	Pn	**Pn**	**00 53 27.2**	**+1.2**
comp=N,36nm,0.3s,baz=168,slow=5.4,SNR=171							
TEIG				LR	LR	00 56 44.7	
comp=N,8μm,20.0s,baz=220,slow=45							
TEIG	**Tepich**	**7.18**	**8**	Pn	**Pn**	**00 53 27.2**	**+1.2**
TEIG				*i*S	**Sn**	**00 54 59.4**	**+13**
TEIG				LR	LR	00 56 44.7	
CTCR	**Cotoan**	**7.68**	**122**	*e*P	**Pn**	**00 53 33.8**	**+1.1**
OXX	**Oaxaca**	**8.17**	**300**	*e*P	**Pn**	**00 53 35.0**	**-4.5**
VHO	**Vista Hermosa**	**8.17**	**300**	*i*P	**Pn**	**00 53 38.0**	**-1.5**
VHO				*i*S	**Sn**	**00 55 12.0**	**+1.7**
PNIG	**Pinotepa**	**9.12**	**292**	*i*P	**Pn**	**00 53 48.1**	**-4.4**
PNIG				*i*S	**Sn**	**00 55 34.1**	**+0.7**
ACX	**Acapulco**	**10.89**	**292**	*e*P	**Pn**	**00 54 11.5**	**-5.2**
YAIG	**Yautepec**	**10.98**	**303**	*i*P	**Pn**	**00 54 15.3**	**-2.6**
IIO	**Organos**	**11.09**	**307**	*e*P	**Pn**	**00 54 17.1**	**-2.3**
PLIG	**Platanillo**	**11.12**	**300**	*i*P	**Pn**	**00 54 18.6**	**-1.1**
PLIG				*e*S	**Sn**	**00 56 16.2**	**-6.1**
CAIG	**El Cayaco**	**11.27**	**292**	*i*P	**Pn**	**00 54 16.6**	**-5.1**
CAIG				*i*S	**Sn**	**00 56 20.0**	**-6.0**
CVJ	**Coleyville**	**12.46**	**64**	⇓*e*P	**Pn**	**00 54 41.5**	**+3.5**
STH	**Stony Hill**	**13.05**	**66**	⇓*e*P	**Pn**	**00 54 49.4**	**+3.4**
CCCC	**Cccc**	**13.69**	**52**	*e*P	**Pn**	**00 55 00.8**	**+6.4**
PAYG	**Puerto Ayora**	**13.70**	**184**	⇓*e*Pn	**Pn**	**00 54 52.8**	**-1.7**
comp=N,232nm,1.4s							
LMGC	**Las Mercedes**	**13.71**	**58**	*e*P	**Pn**	**00 54 55.6**	**+1.0**
baz=207							
LMGC				*e*S	**Sn**	**00 57 29.9**	**+4.7**
comp=N,112nm,5.5s							
LMGC				*e*			
comp=E,59nm,5.5s							
RCC	**Rio Carpintero**	**14.77**	**60**	*e*P	**Pn**	**00 55 09.6**	**+1.1**
baz=204							
RCC				*e*S	Sn	00 58 29.8	+39
comp=N,1μm,19.9s							
RCC				*e*			
comp=E,2μm,16.1s							
HLGC	**Holguin**	**14.88**	**57**	*e*P	**Pn**	**00 55 17.1**	**+7.2**
SFJM	**Santa Fe**	**15.04**	**301**	*i*P	**Pn**	**00 55 11.0**	**-1.0**
KVTX	**Kingsville**	**16.47**	**332**	*e*Pn	**Pn**	**00 55 28.1**	**-1.9**
comp=E,81nm,0.8s							
DWPF	**Disney**	**16.68**	**25**	*e*Pn	**Pn**	**00 55 37.6**	**+5.0**
comp=E,166nm,1.0s							
OTAV	**Otavalo**	**16.71**	**139**	*e*Pn	**Pn**	**00 55 34.8**	**+1.8**
ROSC	**El Rosal**	**16.91**	**118**	Pn	**Pn**	**00 55 38.9**	**+3.3**
comp=E,1.1nm,0.3s,baz=314,slow=4.2,SNR=19							
ROSC				LR	LR	01 03 25.4	
comp=E,861nm,18.3s,baz=359,slow=42							
ROSC				ScP	ScP	01 03 55.8	+9.2
comp=E,0.4nm,0.3s,baz=253,slow=4.0,SNR=6.7							
HKT	**Hockley**	**17.84**	**341**	*e*P	**Pn**	**00 55 46.4**	**-0.4**
HKT				pmax	pmax		
comp=Z,104nm,1.5s							
HKT	**Hockley**	**17.84**	**341**	*e*P	**Pn**	**00 55 46.4**	**-0.4**
comp=Z,104nm,1.5s							
BRAL	**Brewton**	**17.97**	**6**	*e*P	**Pn**	**00 55 49.5**	**+1.0**
comp=Z,242nm,1.4s							
SDV	**Santo Domingo**	**18.82**	**101**	P	**Pn**	**00 55 58.4**	**-0.4**
comp=Z,5.1nm,0.3s,baz=301,slow=6.2,SNR=104							
SDV				ScP	ScP	01 03 58.8	+8.2
comp=Z,0.3nm,0.3s,baz=288,slow=6.2,SNR=9.5							
SDV	**Santo Domingo**	**18.82**	**101**	*e*P	**Pn**	**00 55 57.9**	**-0.9**
comp=Z,77nm,0.7s							
JCT	**Junction City**	**19.84**	**332**	*e*P	**Pn**	**00 56 07.2**	**-3.5**
JCT				pmax	pmax		
comp=Z,37nm,0.7s							
JCT	**Junction City**	**19.84**	**332**	*e*P	**Pn**	**00 56 07.2**	**-3.5**
comp=Z,37nm,0.7s							
LRAL	**Lakeview Retre**	**19.98**	**6**	*e*Pn	**Pn**	**00 56 12.2**	**-0.1**
GOGA	**Godfrey**	**20.94**	**14**	*e*P	**P**	**00 56 21.9**	**+1.5**
LTX	**Lajitas**	**20.94**	**323**	*e*P	**P**	**00 56 20.2**	**-0.2**
LTX				pmax	pmax		
comp=Z,54nm,0.6s							
LTX	**Lajitas**	**20.94**	**323**	*e*P	**P**	**00 56 20.2**	**-0.2**
comp=Z,54nm,0.6s							
TXAR	**Lajitas Array**	**20.94**	**323**	P	**P**	**00 56 20.2**	**-0.2**
comp=Z,38nm,0.5s,baz=148,slow=10,SNR=283							
TXAR				PcP	PcP	01 00 26.6	+1.2
comp=Z,2.0nm,0.8s,baz=157,slow=2.4,SNR=5.2							
TXAR				ScP	ScP	01 04 02.7	+7.2
comp=Z,2.4nm,1.0s,baz=151,slow=4.9,SNR=8.4							
TXAR				LR	LR	01 06 18.4	
comp=Z,988nm,18.5s,baz=90,slow=42							
TXAR	**Lajitas Array**	**20.94**	**323**	P	**P**	**00 56 20.2**	**-0.2**
TXAR						01 00 26.6	
TXAR	**Lajitas Array**	**20.94**	**323**	P	**P**	**00 56 20.2**	**-0.2**
TXAR				PcP	PcP	01 00 26.6	+1.2
TXAR				ScP	ScP	01 04 02.7	+7.2
TXAR				LR	LR	01 06 18.4	
OXF	**Oxford**	**21.34**	**360**	*e*P	**P**	**00 56 25.8**	**+1.1**
NHSC	**New Hope**	**21.62**	**21**	*e*P	**P**	**00 56 31.1**	**+3.4**
comp=Z,175nm,1.2s,mb5.3							
COW	**Cow Castle Cre**	**21.69**	**20**	*e*P	**P**	**00 56 28.3**	**-0.1**
UALR	**University of**	**21.77**	**353**	*e*P	**P**	**00 56 29.2**	**-0.1**
comp=Z,138nm,1.0s,mb5.2							
PLAL	**Pickwick Lake**	**21.84**	**3**	*e*P	**P**	**00 56 30.8**	**+0.8**
JSC	**Jenkinsville**	**22.35**	**18**	*e*P	**P**	**00 56 36.3**	**+0.9**
MYNC	**Murphy**	**22.40**	**11**	*e*P	**P**	**00 56 36.9**	**+0.9**
MYNC				pmax	pmax		
comp=Z,27nm,0.8s,mb4.6							
MYNC	**Murphy**	**22.40**	**11**	*e*P	**P**	**00 56 36.9**	**+0.9**
comp=Z,27nm,0.8s,mb4.6							
LHS	**Liberty Hill**	**22.67**	**19**	*e*P	**P**	**00 56 40.3**	**+1.6**
LPIG	**La Paz**	**22.67**	**302**	P	**P**	**00 56 40.0**	**+1.2**
comp=Z,27nm,0.3s,mb5.0,baz=114,slow=1.3,SNR=6.8							
LPIG				LR	LR	01 06 15.6	
comp=Z,2μm,19.2s,baz=118,slow=39							
ATAH	**Atahualpa**	**22.72**	**151**	P	**P**	**00 56 41.9**	**+2.6**
comp=Z,90nm,1.1s,mb5.0,baz=336,slow=6.1,SNR=22							
ATAH				PcP	PcP	01 00 32.6	+3.8
comp=Z,6.3nm,0.9s,baz=5.6,slow=4.8,SNR=3.5							
ATAH				ScP	ScP	01 04 11.9	+12
comp=Z,10.0nm,1.0s,baz=15,slow=2.8,SNR=9.4							
ATAH				LR	LR	01 04 36.7	
comp=Z,2μm,19.6s,baz=151,slow=34							
WVT	**Waverly**	**22.99**	**3**	*e*P	**P**	**00 56 41.7**	**-0.5**
WVT				*e*		01 00 30.2	
WVT				pmax	pmax		
comp=Z,42nm,1.0s,mb4.7							
WVT	**Waverly**	**22.99**	**3**	*e*P	**P**	**00 56 41.7**	**-0.5**
comp=Z,42nm,1.0s,mb4.7							
WVT				*e*PcP	PcP	01 00 30.2	+0.7
TKL	**Tuckaleechee C**	**23.04**	**12**	P	**P**	**00 56 43.1**	**+0.5**
comp=Z,17nm,0.6s,mb4.5,baz=176,slow=11,SNR=28							
TKL				LR	LR	01 06 12.4	
comp=Z,3μm,20.6s,baz=199,slow=38							
UTMT	**University of**	**23.17**	**1**	*e*P	**P**	**00 56 44.5**	**+0.7**
MTP	**Monte Pirata**	**23.44**	**75**	*e*P	**P**	**00 56 47.0**	**+0.7**
GDL2	**Guadalupe Moun**	**23.50**	**327**	*e*P	**P**	**00 56 47.7**	**+0.9**
MNTX	**Cornudas Mount**	**23.68**	**324**	*e*P	**P**	**00 56 48.3**	**-0.2**
comp=Z,20nm,0.6s,mb4.6							
TZTN	**Tazewell**	**23.94**	**12**	*e*P	**P**	**00 56 51.2**	**+0.3**
PCRV	**Puerto La Cruz**	**24.36**	**94**	P	**P**	**00 56 53.5**	**-1.2**
comp=Z,26nm,0.6s,mb4.7,baz=274,slow=2.5,SNR=11							
AMTX	**Amarillo**	**24.42**	**335**	*e*P	**P**	**00 56 54.5**	**-0.8**
SIUC	**Southern Illin**	**24.54**	**0**	*e*P	**P**	**00 56 56.9**	**+0.6**
USIN	**University of**	**24.83**	**3**	*e*P	**P**	**00 57 01.3**	**+2.3**
comp=Z,76nm,0.8s,mb5.2							
USIN				*e*pP		00 57 16.1	
WCI	**Wyandotte Cave**	**25.19**	**6**	*e*P	**P**	**00 57 01.8**	**-0.5**
WCI				*e*		01 00 34.1	
WCI				pmax	pmax		
comp=Z,68nm,0.8s,mb5.1							
WCI	**Wyandotte Cave**	**25.19**	**6**	*e*P	**P**	**00 57 01.8**	**-0.5**
comp=Z,68nm,0.8s,mb5.1							
WCI				*e*PcP	PcP	01 00 34.1	-0.1
ELN	**Prospectdale**	**25.25**	**16**	*e*P	**P**	**00 57 03.0**	**+0.2**
BLA	**Blacksburg**	**25.32**	**17**	*e*P	**P**	**00 57 04.0**	**+0.5**
BLA				pmax	pmax		
comp=Z,76nm,1.1s,mb5.0							
BLA	**Blacksburg**	**25.32**	**17**	*e*P	**P**	**00 57 04.0**	**+0.6**
comp=Z,76nm,1.1s,mb5.0							
SLM	**Saint Louis**	**25.47**	**358**	*e*P	**P**	**00 57 07.2**	**+2.4**
BNM	**Barren Site**	**26.21**	**326**	*e*P	**P**	**00 57 12.2**	**+0.7**
LPM	**Los Pinos Moun**	**26.33**	**326**	*e*P	**P**	**00 57 13.1**	**+0.5**
LENM	**Lemitar**	**26.41**	**326**	*e*P	**P**	**00 57 14.0**	**+0.7**
LAZ	**Ladron**	**26.68**	**326**	*e*P	**P**	**00 57 16.2**	**+0.6**
KSU1	**Kansas State U**	**26.71**	**347**	*e*P	**P**	**00 57 15.5**	**-0.5**
KSU1				*e*pP	pP	00 57 38.6	+5.3
ANMO	**Albuquerque**	**26.73**	**327**	P	**P**	**00 57 16.4**	**+0.2**
comp=Z,2.8nm,0.5s,m

GMRC **Granite Mounta** 32.16 317 P P 00 58 04.7 +0.5
baz=32,SNR=26
V12A **Nelson** 32.20 319 ⇓P P 00 58 04.8 +0.2
baz=32,SNR=41
U12A **Valley of Fire** 32.44 320 ⇓P P 00 58 06.8 +0.1
baz=32
MSU **Marysvale** 32.45 325 *e*P P 00 58 08.0 +1.2
CCUT **Cedar City** 32.46 323 *e*P P 00 58 07.5 +0.7
CCUT *e*PP PP 00 59 19.9 -1.5
RWWY **Rawlins** 32.48 335 *e*P P 00 58 07.7 +0.6
MURC **Murrieta** 32.56 314 ⇓P P 00 58 08.2 +0.5
baz=33,SNR=7.0
HEC **Hector,Ludlow** 32.64 316 ⇑P P 00 58 09.1 +0.6
baz=33,SNR=13
V11A **Goodsprings** 32.64 318 ⇓P P 00 58 08.7 +0.2
baz=33
ARUT **Antelope Range** 32.66 323 *e*P P 00 58 09.5 +0.8
TUQ **Turquoise Mtn.** 32.72 317 ⇓P P 00 58 09.6 +0.4
baz=33,SNR=9.9
BBRC **Big Bear Sol-O** 32.72 315 ⇓P P 00 58 10.1 +0.8
baz=33
COWI **Conover** 32.91 0⇑*i*P P 00 58 09.6 -1.3
comp=Z,39nm,0.5s,mb5.5
U11A **Corn Creek** 32.97 319 ⇑P P 00 58 11.4 +0.1
baz=33
RRX **Edison Barstow** 33.12 316 ⇑P P 00 58 13.3 +0.7
baz=33
BFSC **Mount Baldy St** 33.22 314 ⇑P P 00 58 14.0 +0.4
baz=33,SNR=7.8
SHOC **Shoshone** 33.23 318 ⇑P P 00 58 13.7 +0.1
baz=33
GSC **Goldstone** 33.23 316 ⇑P P 00 58 14.1 +0.6
baz=33,SNR=12
MPU **Maple Canyon** 33.24 328 *e*P P 00 58 14.1 +0.4
DAU **Daniels Canyon** 33.34 329 *e*P P 00 58 15.2 +0.6
RSSD **Black Hills** 33.41 341 *e*P P 00 58 15.3 +0.2
RSSD pmax pmax
comp=Z,15nm,0.9s,mb4.8
RSSD **Black Hills** 33.41 341 *e*P P 00 58 15.3 +0.2
comp=Z,15nm,0.9s,mb4.8
NLU **North Lily Min** 33.43 327 *e*P P 00 58 17.4 +2.1
U10A **Ash Meadows, A** 33.57 319 ⇓P P 00 58 17.1 +0.5
baz=34,SNR=11
DECC **Green Verdugo** 33.70 314 ⇓P P 00 58 18.8 +1.1
baz=34
EDW2 **Edwards Air Fo** 33.80 315 P P 00 58 19.0 +0.4
baz=34,SNR=15
CTU **Camp Tracy** 33.80 329 *e*P P 00 58 19.1 +0.5
LRMC **Laurel Mountai** 33.92 316 ⇑P P 00 58 19.8 +0.2
baz=34,SNR=20
FURC **Furnace Creek,** 33.94 318 ⇓P P 00 58 19.9 +0.1
baz=34,SNR=12
NOQ **North Oquirrh** 33.96 328 *e*P P 00 58 20.9 +1.0
DUG **Dugway** 33.99 327 *e*P P 00 58 21.5 +1.3
DUG *e* 01 00 58.7
DUG **Dugway** 33.99 327 ⇓P P 00 58 20.7 +0.4
baz=34
MPMC **Manual Prospec** 34.12 317 ⇓P P 00 58 21.3 -0.1
baz=34,SNR=39
BLG **Laguna Peak** 34.15 313 ⇑P P 00 58 22.5 +0.9
baz=34
OSI **Osito Adit** 34.17 314 ⇑P P 00 58 22.1 +0.4
baz=34
DAC **Darwin (Calif)** 34.31 317 *e*P P 00 58 23.4 +0.4
DAC *e* 01 00 59.4
DAC pmax pmax
comp=Z,16nm,1.0s,mb4.8
DAC **Darwin (Calif)** 34.31 317 *e*P P 00 58 23.4 +0.4
comp=Z,16nm,1.0s,mb4.8
DAC *e*PcP PcP 01 00 59.4 +1.7
Q12A **Willow Creek R** 34.31 324 ⇓P P 00 58 23.6 +0.7
baz=34
BW06 **Boulder Array** 34.37 333 *e*P P 00 58 22.9 -0.6
PDAR **Pinedale Array** 34.37 333 P P 00 58 21.8 -1.7
comp=Z,1.6nm,0.5s,mb4.1,baz=134,slow=9.8,SNR=17
PDAR PcP PcP 01 00 58.0 +0.2
comp=Z,3.9nm,0.8s,baz=141,slow=4.5,SNR=8.8
PDAR ScP ScP 01 04 42.5 +6.1
comp=Z,5.9nm,1.0s,baz=140,slow=4.8,SNR=19
PDAR LR LR 01 15 22.5
comp=Z,1μm,20.6s,baz=155,slow=42
HWUT **Hardware Ranch** 34.40 330 *e*P P 00 58 26.5 +2.7
comp=Z,10nm,0.9s,mb4.7
HWUT *e*PcP PcP 01 00 59.5 +1.6
BSC **Santa Cruz Isl** 34.50 312 ⇑P P 00 58 25.5 +0.9
baz=34
ARVC **Arvin** 34.51 315 ⇓P P 00 58 25.2 +0.4
baz=35,SNR=7.6
ISA **Isabella** 34.56 316 ⇑P P 00 58 25.5 +0.4
baz=35,SNR=11
GRAC **Grapevine Rang** 34.59 318 ⇓P P 00 58 26.1 +0.7
baz=35,SNR=21
SPUT **South Promonto** 34.61 329 *e*P P 00 58 21.1 -4.5
SPUT *e*PcP PcP 01 00 54.5 -4.0
SPUT *e*PcP PcP 01 00 55.1 -3.4
BGU **Big Grassy Mou** 34.63 328 *e*P P 00 58 26.1 +0.3
P12A **McGill** 34.65 324 ⇑P P 00 58 26.3 +0.4
baz=35,SNR=5.8
Q11A **Duckwater** 34.67 323 ⇓P P 00 58 26.5 +0.5
baz=35,SNR=7.2
EYMN **Ely** 34.81 357 *e*P P 00 58 26.0 -1.3
S09A **Goldfield** 34.92 320 ⇑P P 00 58 28.4 +0.2
baz=35,SNR=14
AHID **Auburn Hatcher** 35.06 332 *e*P P 00 58 29.2 -0.3
comp=Z,57nm,1.5s,mb5.2
AHID *e*PcP PcP 01 01 01.1 +1.3
VES **Vestal, Richgr** 35.07 315 ⇑P P 00 58 30.2 +0.7
baz=35,SNR=8.8
PKM **Peak Mountain** 35.09 313 ⇓P P 00 58 30.1 +0.4
baz=35,SNR=5.7
HVU **Hansel Valley** 35.12 329 *e*P P 00 58 31.0 +1.0
TPH **Tonopah** 35.14 320 *e*P P 00 58 31.3 +1.2
TPH pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
TPH **Tonopah** 35.14 320 *e*P P 00 58 31.3 +1.2
comp=Z,9.4nm,0.7s,mb4.7
R09A **Tonopah** 35.14 320 ⇑P P 00 58 30.6 +0.4
baz=35,SNR=12
TIN **Tinemaha** 35.17 318 ⇑P P 00 58 31.2 +0.7
baz=35
N13A **Wendover, West** 35.20 326 ⇓P P 00 58 31.6 +0.9
baz=35
S08C **White Mtn Res** 35.40 319 ⇑P P 00 58 33.2 +0.9
baz=36,SNR=27
REDW **Red Top Meadow** 35.42 333 *e*P P 00 58 32.1 -0.4
SMMC **Simmler** 35.42 314 ⇑P P 00 58 33.5 +0.9
baz=36
RCTC **Rector, Farmer** 35.43 316 ⇑P P 00 58 33.4 +0.7
baz=36
SNOW **Snow King Moun** 35.45 333 *e*P P 00 58 33.2 +0.4
HELL **Mitchell Peak,** 35.49 317 ⇓P P 00 58 33.5 +0.4
baz=36,SNR=31
LOHW **Long Hollow** 35.50 333 *e*P P 00 58 32.9 -0.4
comp=Z,48nm,1.3s,mb5.3
O11A **Cowboy Ranch,** 35.51 324 ⇑P P 00 58 33.7 +0.4
baz=36
AGMN **Agassiz Refuge** 35.53 352 *e*P P 00 58 32.1 -1.4
comp=Z,33nm,0.7s,mb5.4
M13A **Montello** 35.54 327 ⇓P P 00 58 34.1 +0.5
baz=36,SNR=11
TPAW **Teton Pass** 35.56 333 *e*P P 00 58 33.6 -0.1
MTUM **Tungsten Hills** 35.56 318 *e*P P 00 58 34.8 +1.1
MTUM *e*PcP PcP 01 01 03.2 +1.9
N12A **Clover Valley,** 35.66 326 ⇓P P 00 58 35.1 +0.5
baz=36
MOOW **Moose Ponds** 35.67 333 *e*P P 00 58 34.6 -0.1
comp=Z,19nm,1.1s,mb4.9
R08A **Mina** 35.86 320 ⇑P P 00 58 36.7 +0.4
baz=36,SNR=9.3
IMW **Indian Meadow** 35.88 333 *e*PcP PcP 01 01 03.6 +1.4
LPAZ **La Paz** 35.93 144 P P 00 58 38.0 +1.1
comp=Z,8.3nm,1.0s,mb4.6,baz=346,slow=8.9,SNR=9.1
LPAZ LR LR 01 13 42.1
comp=Z,933nm,18.9s,baz=153,slow=37
M12A **Wells** 35.98 326 ⇓P P 00 58 37.5 +0.2
baz=36,SNR=7.2
N11A **Elko Archery C** 36.02 325 ⇑P P 00 58 38.1 +0.4
baz=36
NVAR **Mina Array Bea** 36.03 320 P P 00 58 38.5 +0.8
comp=Z,25nm,0.7s,mb5.3,baz=137,slow=7.6,SNR=99
NVAR PcP PcP 01 01 03.9 +1.2
baz=116,slow=4.1
NVAR ScP ScP 01 04 49.2 +6.9
baz=116,slow=4.1
KCC **Kaiser Creek** 36.04 317 P P 00 58 38.5 +0.6
baz=36,SNR=20
T06C **Milleton Lake** 36.13 317 ⇓P P 00 58 38.4 -0.2
baz=36,SNR=15
PKD **Parkfield** 36.13 315 ⇓P P 00 58 38.8 +0.2
baz=36,SNR=5.9
RLMT **Red Lodge** 36.16 336 *e*P P 00 58 38.0 -0.9
comp=Z,34nm,1.1s,mb5.2
LKWY **Lake** 36.18 334 *e*P P 00 58 39.7 +0.7
LKWY pmax pmax
comp=Z,12nm,1.0s,mb4.8
LKWY **Lake** 36.18 334 *e*P P 00 58 39.7 +0.7
comp=Z,12nm,1.0s,mb4.8
V04C **Ramage Ranch,** 36.20 314 ⇓P P 00 58 39.6 +0.3
baz=36
YFT **Old Faithful** 36.27 334 *e*P P 00 58 41.4 +1.6
YFT *e*PcP PcP 01 01 06.8 +3.5
LAO **LASA Array** 36.40 340 *e*P P 00 58 40.2 -0.7
YNR **Norris Junctio** 36.42 334 *e*P P 00 58 42.4 +1.3
O09A **Fish Creek Ran** 36.43 323 ⇓P P 00 58 41.3 +0.2
baz=36,SNR=6.1
M11A **Holland Ranch,** 36.47 326 ⇓P P 00 58 41.4 -0.1
baz=36
YMR **Madison River** 36.50 334 *e*P P 00 58 42.3 +0.5
comp=Z,65nm,1.3s,mb5.4
U04C **Hernandez Rese** 36.51 315 P P 00 58 42.7 +0.8
baz=37,SNR=11
V03C **Hunter Liggett** 36.65 314 ⇑P P 00 58 43.1 0.0
baz=37
S06C **San Francisco** 36.70 318 ⇑P P 00 58 44.1 +0.6
baz=37,SNR=20
LRV **Little Rabbit** 36.71 315 *e*P P 00 58 44.0 +0.4
S05C **Merced** 36.73 317 ⇑P P 00 58 43.6 -0.1
baz=37,SNR=6.6
R06C **Coleville** 36.81 319 ⇑P P 00 58 44.5 +0.1
baz=37,SNR=13
QLMT **Earthquake Lak** 36.83 333 *e*P P 00 58 45.6 +1.1
QLMT *e*PcP PcP 01 01 06.9 +1.8
GCMT **Greycliff** 36.88 336 *e*P P 00 58 44.2 -0.7
M10A **I.L. Ranch, Tu** 36.94 325 ⇓P P 00 58 45.8 +0.3
baz=37
HAST **UC Hastings Re** 37.06 314 ⇑P P 00 58 46.5 -0.1
baz=37,SNR=5.2
N09A **Rock Creek Ran** 37.06 324 ⇓P P 00 58 47.2 +0.7
baz=37
CMB **Columbia Colle** 37.14 318 *e*P P 00 58 47.4 +0.2
CMB pmax pmax
comp=Z,18nm,1.0s,mb5.0
CMB **Columbia Colle** 37.14 318 *e*P P 00 58 47.4 +0.2
comp=Z,18nm,1.0s,mb5.0
CMB **Columbia Colle** 37.14 318 ⇑P P 00 58 46.9 -0.3
baz=37,SNR=8.5
PACP **Pacheco Peak** 37.20 316 ⇑P P 00 58 47.8 +0.2
baz=37
HLID **Hailey** 37.26 329 *e*P P 00 58 48.1 0.0
HLID **Hailey** 37.26 329 ⇑P P 00 58 48.1 -0.1
baz=37
R05C **Kirkwood Meado** 37.31 319 ⇓P P 00 58 48.8 +0.1
baz=37,SNR=11
O07A **Toulon** 37.43 322 ⇑P P 00 58 50.3 +0.6
baz=38
ULM **Lac du Bonnet** 37.45 353 P P 00 58 47.8 -2.1
comp=Z,17nm,0.4s,mb5.3,baz=171,slow=8.3,SNR=47
ULM ScP ScP 01 04 52.1 +4.4
comp=Z,3.1nm,0.6s,baz=185,slow=5.5,SNR=6.4
ULM LR LR 01 16 29.3
comp=Z,1μm,19.8s,baz=339,slow=40
WCN **Washoe City** 37.46 320 ⇓P P 00 58 50.3 +0.4
baz=38
MCMT **McKenzie Canyo** 37.46 332 *e*P P 00 58 50.2 +0.3
S04C **Ingram Canyon,** 37.48 316 P P 00 58 50.8 +0.7
baz=38,SNR=5.4
G15A **Dillon** 37.56 333 ⇑P P 00 58 51.2 +0.4
baz=38,SNR=15
R04C **Big Horse Ranc** 37.63 317 ⇑P P 00 58 51.8 +0.5
baz=38,SNR=5.9
DLMT **Dillon** 37.76 333 *e*P P 00 58 52.9 +0.4
comp=Z,46nm,1.3s,mb5.2
DLMT *e*PcP PcP 01 01 09.3 +1.4
P06A **Stead Airport,** 37.77 320 ⇑P P 00 58 53.1 +0.6
baz=38
LAVA **Lava Cap Winer** 37.77 318 P P 00 58 53.1 +0.5
baz=38,SNR=5.5
WENL **Wente Brothers** 37.83 316 ⇑P P 00 58 53.9 +0.8
baz=38,SNR=6.4
N07B **Gerlach** 37.87 322 ⇓P P 00 58 53.4 0.0
baz=38
L09A **Wilkinson Ranc** 37.90 325 ⇑P P 00 58 53.4 -0.3
baz=38
M08A **Happy Creek Ra** 37.94 324 ⇑P P 00 58 53.9 0.0
baz=38
P05C **Yuba Gap, Truc** 38.00 319 P P 00 58 55.5 +1.0
baz=38,SNR=5.6
O06A **Flanigan** 38.01 321 ⇑P P 00 58 55.1 +0.5
baz=38
LRM **Limekiln Ridge** 38.06 334 *e*P P 00 58 54.8 -0.2
LRM *e*PcP PcP 01 01 11.0 +2.1
F15A **Butte** 38.09 334 ⇓P P 00 58 55.1 -0.1
baz=38,SNR=20
BEKR **Beckwourth** 38.16 320 ⇑P P 00 58 56.1 +0.3
baz=38,SNR=10
H12A **Diamond D Ranc** 38.19 330 P P 00 58 56.3 +0.2
baz=38,SNR=14
Q04C **Lincoln** 38.23 318 ⇑P P 00 58 56.7 +0.2
baz=38
I11A **Placerville** 38.28 328 ⇓P P 00 58 56.3 -0.5
baz=38,SNR=13
G13A **Cobalt** 38.30 331 P P 00 58 56.8 -0.2
baz=38,SNR=13
M07A **Soldier Meadow** 38.36 323 ⇑P P 00 58 57.3 -0.2
baz=38
N06A **Buffalo Meadow** 38.37 322 ⇓P P 00 58 57.2 -0.3
baz=38,SNR=11
K09A **Rome** 38.38 326 ⇑P P 00 58 57.3 -0.4
baz=38,SNR=9.1
L08A **Fields** 38.40 325 ⇓P P 00 58 57.6 -0.1
baz=38,SNR=7.3
F14A **Wisdom** 38.45 333 ⇑P P 00 58 57.4 -0.9
baz=38
O05C **Quincy** 38.57 320 ⇓P P 00 58 59.4 +0.1
baz=39,SNR=6.2
OHCM **Honcut** 38.58 319 *e*P P 00 59 00.1 +0.8
OHCM *e*PcP PcP 01 01 12.8 +2.4
E15A **Deer Lodge** 38.61 334 ⇑P P 00 58 59.6 0.0
baz=39,SNR=7.8
ORV **Oroville** 38.71 319 P P 00 59 01.2 +0.7
baz=39,SNR=12
SUTB **Sutter Butte** 38.72 318 ⇓P P 00 59 00.6 +0.1
baz=39
WVOR **Wild Horse Val** 38.72 325 *e*P P 00 58 59.9 -0.6
WVOR pmax pmax
comp=Z,16nm,1.1s,mb4.8
WVOR **Wild Horse Val** 38.72 325 *e*P P 00 58 59.9 -0.6
comp=Z,16nm,1.1s,mb4.8
EGMT **Eagleton** 38.77 338 *e*P P 00 59 00.1 -0.8
EGMT **Eagleton** 38.77 338 ⇓P P 00 59 00.9 0.0
baz=39
K08A **Mann Creek Ran** 38.83 325 ⇓P P 00 59 01.0 -0.4
baz=39,SNR=16
ELFS **Eagle Lake Fie** 38.83 321 ⇓P P 00 59 01.9 +0.4
baz=39
J09A **Fry Pan Ranch,** 38.83 326 ⇑P P 00 59 01.5 +0.1
baz=39,SNR=5.4
L07A **Adell** 38.86 324 ⇓P P 00 59 01.2 -0.4
baz=39
F13A **Darby** 38.87 332 ⇑P P 00 59 00.6 -1.2
baz=39,SNR=10
H11A **Donnelly** 38.88 329 P P 00 59 01.1 -0.7
baz=39,SNR=12
O04C **Chester** 38.88 320 ⇓P P 00 59 02.5 +0.6
baz=39
MNRC **McLaughlin Nat** 38.96 317 ⇑P P 00 59 02.6 +0.1
baz=39
E14A **Clinton** 38.97 333 ⇑P P 00 59 02.5 -0.1
baz=39,SNR=11
M06C **Likely Place G** 39.03 322 ⇓P P 00 59 03.5 +0.4
baz=39
D15A **Lincoln** 39.05 335 ⇑P P 00 59 03.1 -0.1
baz=39,SNR=14
H10A **Noah's Angus R** 39.16 329 ⇓P P 00 59 03.2 -1.0
baz=39
K07A **Rock Creek Ran** 39.23 324 ⇓P P 00 59 04.4 -0.4
baz=39,SNR=13
J08A **Circle Bar Ran** 39.23 326 P P 00 59 04.4 -0.4
baz=39,SNR=5.2
I09A **Lost Marbles R** 39.25 327 ⇑P P 00 59 04.4 -0.5
baz=39
CHMT **Chamberlain Mo** 39.26 334 *e*P P 00 59 04.4 -0.5
F12A **Elk City** 39.27 331 P P 00 59 04.2 -0.9
baz=39,SNR=36
E13A **Victor** 39.30 333 P P 00 59 04.6 -0.7
baz=39,SNR=21
MOD **Modoc** 39.35 323 *e*PcP PcP 01 01 14.5 +1.7
MSO **Missoula** 39.49 333 *e*P P 00 59 06.4 -0.5
comp=Z,19nm,1.4s,mb4.7
D14A **Greenough** 39.49 334 P P 00 59 06.0 -1.0
baz=40,SNR=7.9
GASB **Alder Springs** 39.55 318 ⇑P P 00 59 09.1 +1.7
baz=40
BMO **Blue Mountains** 39.63 328 *e*P P 00 59 06.9 -1.2
BMO *e*pP pP 00 59 18.3 -7.7
L05A **Lakeview** 39.75 323 ⇓P P 00 59 09.7 +0.6
baz=40
F11A **Grangeville** 39.80 331 ⇓P P 00 59 09.1 -0.4
baz=40
K06A **Valley Falls** 39.87 324 ⇑P P 00 59 10.4 +0.3
baz=40
O02C **Red Bluff** 39.88 319 ⇑P P 00 59 10.0 -0.2
baz=40
D13A **Huson** 39.92 333 P P 00 59 10.0 -0.5
baz=40,SNR=13
M03C **McCloud** 40.07 321 ⇑P P 00 59 11.3 -0.5
baz=40
J06A **Christmas Vall** 40.10 324 ⇓P P 00 59 11.7 -0.3
baz=40
C14A **Swan Lake** 40.13 334 ⇓P P 00 59 12.1 -0.2
baz=40
E11A **Bogner Ranch,** 40.17 331 ⇓P P 00 59 11.0 -1.5
baz=40,SNR=8.6
SIV **San Ignacio** 40.19 135 P P 00 59 12.9 +0.2
comp=Z,43nm,0.8s,mb5.3,baz=310,slow=8.2,SNR=39
SIV PcP PcP 01 01 17.1 +1.5
comp=Z,7.7nm,0.8s,baz=167,slow=3.7,SNR=3.1
M04C **Macdoel** 40.20 321 ⇓P P 00 59 12.2 -0.5
baz=40
I07A **Izee** 40.27 326 ⇓P P 00 59 12.8 -0.6
baz=40
F10A **Beach Ranch, E** 40.38 330 P P 00 59 13.4 -0.9
baz=40,SNR=14
C13A **Hot Springs** 40.42 334 P P 00 59 13.9 -0.7
baz=40,SNR=6.0
L04A **Klamath Falls** 40.46 322 ⇓P P 00 59 14.8 -0.2
baz=40
O01C **Eel River Cons** 40.53 318 ⇑P P 00 59 15.9 +0.4
baz=41
F09A **S2 Ranch, Elgi** 40.53 329 ⇑P P 00 59 15.1 -0.5
baz=41
N02C **Big Bar** 40.56 319 ⇑P P 00 59 16.0 +0.2
baz=41
I06A **Prineville** 40.57 325 ⇑P P 00 59 15.4 -0.5
baz=41
M02C **Callahan** 40.59 320 ⇑P P 00 59 15.1 -1.0
baz=41
H07A **Lands Inn, Kim** 40.64 326 ⇑P P 00 59 16.2 -0.2
baz=41
BSMT **Bassoo Peak** 40.64 334 *e*P P 00 59 17.3 +0.8
YBH **Yreka Blue Hor** 40.70 321 ⇓P P 00 59 16.1 -0.8
baz=41
D11A **Klaveano Farm,** 40.73 332 ⇓P P 00 59 15.8 -1.4
baz=41
F08A **Pendleton** 41.03 328 ⇑P P 00 59 19.0 -0.7
baz=41
D10A **Wagner Farm, O** 41.18 331 ⇓P P 00 59 19.7 -1.1
baz=41
WALA **Waterton Lakes** 41.22 335 *e*P P 00 59 21.1 -0.1
D09A **Jones Farm, Ri** 41.68 330 ⇑P P 00 59 24.4 -0.6
baz=42
I04A **Tendick Farm,** 41.73 324 ⇑P P 00 59 25.3 -0.1
baz=42
B11A **Sandpoint** 41.78 333 ⇑P P 00 59 25.3 -0.5
baz=42
J03A **Ideyld Park** 41.80 323 ⇓P P 00 59 24.7 -1.2
baz=42
A12A **Yaak River Ran** 41.84 334 ⇑P P 00 59 25.6 -0.7
baz=42
D08A **Wollman Farm,** 41.98 330 ⇑P P 00 59 25.7 -1.7
baz=42
G05A **Wamic** 42.01 326 ⇓P P 00 59 26.7 -0.9
baz=42
F06A **Goldendale** 42.06 327 ⇑P P 00 59 27.5 -0.5
baz=42
E07A **Sunnyside** 42.10 328 ⇑P P 00 59 27.5 -0.9
baz=42
H04A **Detroit Lake** 42.14 325 ⇓P P 00 59 28.1 -0.6
baz=42
A11A **Hall Mountain,** 42.17 334 P P 00 59 28.6 -0.3
baz=42,SNR=10
C09A **Chrisman Ranch** 42.19 331 P P 00 59 28.8 -0.3
baz=42,SNR=6.3
HOOD **Mount Hood Mea** 42.24 326 *e*P P 00 59 29.9 +0.3
I03A **Eugene** 42.34 323 ⇓P P 00 59 30.5 +0.2
baz=42
F05A **White Salmon** 42.49 327 ⇑P P 00 59 32.0 +0.4
baz=43
C08A **Higginbotham F** 42.54 330 ⇑P P 00 59 31.7 -0.3
baz=43
B09A **Rice** 42.57 332 P P 00 59 31.1 -1.1
baz=43,SNR=10.0
E06A **Yakima** 42.67 328 ⇑P P 00 59 32.5 -0.5
baz=43
C07A **Waterville** 42.97 330 ⇑P P 00 59 35.2 -0.3
baz=43
B08A **Colville Reser** 43.08 331 ⇑P P 00 59 35.0 -1.3
baz=43
E05A **Randle** 43.09 327 ⇑P P 00 59 36.8 +0.4
baz=43
A09A **Danville** 43.17 332 ⇑P P 00 59 36.1 -0.9
baz=43
A08A **Turner Farm, O** 43.47 331 ⇑P P 00 59 39.0 -0.5
baz=44
E03A **Lebam** 44.05 326 ⇑P P 00 59 43.1 -1.0
baz=44
A07A **Ashnola River,** 44.06 331 ⇓P P 00 59 43.1 -1.1
baz=44,SNR=7.3
EDM **Edmonton** 44.37 340 *e*P P 00 59 45.1 -1.6
A05A **Maple Falls** 44.85 330 ⇓P P 00 59 49.5 -1.1
baz=45
A04A **Legoe Bay, Lum** 44.98 329 ⇑P P 00 59 51.2 -0.3
baz=45
SCHQ **Schefferville** 45.23 18 P P 00 59 52.4 -1.1
comp=Z,14nm,0.5s,mb4.9,baz=218,slow=6.6,SNR=39
SCHQ LR LR 01 21 38.8
comp=Z,900nm,18.6s,baz=281,slow=40
SCHQ **Schefferville** 45.23 18 *e*P P 00 59 52.1 -1.4
comp=Z,19nm,0.5s,mb5.1
YKA **Yellowknife Ar** 52.54 346 P P 01 00 47.5 -1.9
comp=Z,17nm,0.6s,mb5.2,baz=143,slow=7.8,SNR=225
YKA ScP ScP 01 05 53.2 +3.7
comp=Z,1.7nm,1.1s,baz=140,slow=4.3,SNR=7.4
YKA **Yellowknife Ar** 52.54 346 P P 01 00 47.5 -1.9
YKA ScP ScP 01 05 53.2 +3.7
YKW3 **Yellowknife Ar** 52.60 346 *e*P P 01 00 47.6 -2.3
DLBC **Dease Lake** 54.56 335 *e*P P 01 01 03.9 -0.3
TAOE **Nuku Hiva Isla** 54.97 249 *e*S S 01 08 52.0 +8.5
comp=Z,513nm,25.0s
TAOE *e*LR LR 01 16 44.0
comp=Z,4μm,25.1s,baz=61
RCBR **Riachuelo** 56.30 106 *e*P P 01 01 18.4 +1.7
comp=Z,101nm,1.4s,mb5.7
TRQA **Tornquist** 56.97 154 *e*P P 01 01 20.6 -0.8
comp=Z,21nm,1.0s,mb5.1
RKT **Rikitea** 57.35 231 *e*S S 01 09 25.2 +10
comp=Z,176nm,28.8s
RKT *e*LQ 01 15 49.8
comp=Z,254nm,28.8s
RKT *e*LR LR 01 18 24.8
comp=Z,1μm,25.5s,baz=45
CAM4 **Nova Friburgo** 57.81 127⇑*i*P P 01 01 28.1 +0.8
CAM4 *i* 01 01 41.7
CAM4 *i* pP 01 01 47.1 +0.9
CAM4 *i* 01 02 27.4
CAM3 **Guarapari** 58.57 124 (P) P 01 01 32.6 -0.1
CAM3 *i* 01 01 36.8
CAM3 *i* 01 01 39.8
CAM3 *i* pP 01 01 49.3 -2.3
CAM3 *i* 01 01 56.5
RES **Resolute Bay** 61.67 358 *e*P P 01 01 51.5 -2.4
comp=Z,558nm,0.8s
INK **Inuvik** 62.06 343 LR LR 01 33 18.4
comp=Z,735nm,18.9s,baz=142,slow=40
INK **Inuvik** 62.06 343 *e*P P 01 01 54.9 -1.6
comp=Z,524nm,0.8s
EGAK **Eagle** 62.53 338 *e*P P 01 01 57.7 -1.9
comp=Z,3.5nm,0.7s,mb4.4
KDAK **Kodiak Island** 64.86 328 LR LR 01 29 16.5
comp=Z,378nm,19.8s,baz=121,slow=35
COLA **College** 65.13 336 *i*P P 01 02 15.7 -1.0

PPT	**Papeete**	**66.80**	**244**	*e*S	S	01 11 22.5	+8.5
	comp=Z,95nm,24.2s						
PPT				*e*LR	LR	01 22 30.0	
	comp=Z,2μm,23.8s,baz=57						
PPT	**Papeete**	**66.80**	**244**	LR	LR	01 24 09.4	
	comp=Z,788nm,19.3s,baz=45,slow=29						
SVW2	**Sparrevohn**	**67.22**	**331**	*e*P	**P**	**01 02 28.0**	**-2.1**
TBI	**Tubuai**	**69.05**	**239**	*e*S	S	01 11 51.0	+10
	comp=Z,195nm,30.5s						
TBI				*e*LR	LR	01 23 35.4	
	comp=Z,1μm,26.2s,baz=67						
ALE	**Alert**	**70.31**	**4**	P	**P**	**01 02 47.0**	**-2.3**
	comp=Z,88nm,0.9s,mb5.6,SNR=8.0						
DAG	**Danmarks Havn**	**72.96**	**13**	⇓*i*P	**P**	**01 03 03.6**	**-1.6**
	comp=Z,5.1nm,0.4s,mb4.7						
DAG	**Danmarks Havn**	**72.96**	**13**	⇓*i*P	**P**	**01 03 03.6**	**-1.6**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
ESDC	**Sonseca Array**	**78.25**	**52**	P	**P**	**01 03 33.8**	**-1.6**
	comp=Z,1.7nm,0.6s,mb3.9,baz=287,slow=4.7,SNR=9.9						
ESDC				LR	LR	01 34 07.2	
	comp=Z,623nm,21.1s,baz=290,slow=33						
PMSA	**Palmer Station**	**79.95**	**169**	*e*P	**P**	**01 03 43.4**	**-1.3**
	comp=Z,50nm,0.9s,mb5.3						
BILL	**Bilibino**	**83.27**	**338**	⇓*e*P	**P**	**01 04 01.3**	**-0.9**
BILL				pmax	pmax		
	comp=Z,43nm,2.1s,mb4.9						
BILL	**Bilibino**	**83.27**	**338**	*e*P	**P**	**01 04 01.1**	**-1.1**
	comp=Z,7.3nm,0.6s,mb4.7						
NB2	**NORSAR Subarra**	**83.71**	**29**	P	**P**	**01 04 03.7**	**-0.7**
	comp=Z,1.1nm,0.6s,mb3.9,baz=287,slow=5.1						
NOA	**NORSAR Array B**	**83.71**	**29**	P	**P**	**01 04 04.0**	**-0.4**
	comp=Z,2.9nm,0.9s,mb4.1,baz=287,slow=4.9,SNR=6.0						
NOA				LR	LR	01 39 10.3	
	comp=Z,316nm,19.3s,baz=280,slow=34						
ARCES	**ARCESS Array B**	**86.19**	**19**	P	**P**	**01 04 15.1**	**-1.7**
	comp=Z,2.3nm,0.6s,mb4.3,baz=300,slow=4.9,SNR=11						
CLL	**Collm**	**87.46**	**38**	*e*P	**P**	**01 04 23.0**	**0.0**
TOA0	**Torodi Ar. Sit**	**88.07**	**77**	*e*P	**P**	**01 04 24.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**88.07**	**77**	P	**P**	**01 04 25.1**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.4,baz=290,slow=5.0,SNR=27						
TORD				LR	LR	01 43 34.1	
	comp=Z,387nm,18.5s,baz=290,slow=36						
BRG	**Berggiesshubel**	**88.16**	**38**	*e*(P)	**P**	**01 04 24.9**	**-1.4**
	comp=Z,6.4nm,1.4s,mb4.5						
BRG	**Berggiesshubel**	**88.16**	**38**	P	**P**	**01 04 25.0**	**-1.4**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.4						
KHC	**Kasperske Hory**	**88.48**	**40**	*e*P	**P**	**01 04 21.5**	**-6.4**
GERES	**GERESS Array B**	**88.65**	**40**	P	**P**	**01 04 27.3**	**-1.4**
	comp=Z,1.1nm,0.9s,mb3.9,baz=297,slow=1.2,SNR=7.3						
GERES				LR	LR	01 42 08.4	
	comp=Z,465nm,18.9s,baz=353,slow=34						
KEST	**Kesra**	**89.37**	**54**	P	**P**	**01 04 31.5**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=57,slow=16,SNR=12						
KEST				LR	LR	01 37 53.7	
	comp=Z,121nm,20.8s,baz=309,slow=31						
FINES	**FINESS Array B**	**90.22**	**26**	P	**P**	**01 04 35.5**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.3,baz=276,slow=1.3,SNR=12						
TIXI	**Tiksi**	**91.68**	**349**	*e*P	**P**	**01 04 39.9**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
TIXI	**Tiksi**	**91.68**	**349**	*e*P	**P**	**01 04 40.7**	**-2.1**
	comp=Z,4.2nm,0.7s,mb4.8						
AKASG	**Malin Array Be**	**97.05**	**34**	P	**P**	**01 05 06.8**	**-0.6**
	comp=Z,0.3nm,0.4s,mb4.1,baz=142,slow=11,SNR=3.4						
OBN	**Obninsk**	**98.30**	**28**	⇑*e*P	**P**	**01 05 08.6**	**-4.4**
OBN				*e*	PP	01 09 11.2	-2.3
OBN				*e*S	SKSac	01 15 44.8	+0.5
OBN				pmax	pmax		
	comp=Z,31nm,2.0s,mb5.5						
VNA3	**Neumayer Olymp**	**98.99**	**161**	*e*Pdiff	**P**	**01 05 15.5**	**-0.6**
VNA3				*e*	pP	01 05 36.0	-0.4
VNA3				*e*		01 05 43.6	
VNA1	**Neumayer--Stat**	**99.30**	**161**	*e*Pdiff	**P**	**01 05 17.4**	**-0.1**
VNA1				*e*	pP	01 05 38.6	+0.8
VNA1				*e*		01 05 47.0	
VNA2	**Neumayer--Watz**	**99.64**	**161**	*e*Pdiff	Pdif	01 05 18.2	-0.8
VNA2				*e*		01 05 40.5	
VNA2				*e*		01 05 47.4	
SNAA	**Sanae**	**101.21**	**161**	*e*Pdiff	Pdif	01 05 25.4	-0.6
SNAA	**Sanae**	**101.21**	**161**	*e*Pdif	Pdif	01 05 25.1	-0.8
BRTR	**Keskin Array B**	**105.42**	**42**	PKKPbc	PKKPbc	01 21 23.6	+0.5
	comp=Z,0.7nm,0.8s,baz=116,slow=4.3,SNR=4.5						
BOSA	**Boshof**	**117.62**	**116**	PKP	PKPdf	01 10 22.1	+0.9
	comp=Z,3.1nm,0.6s,baz=247,slow=4.4,SNR=11						
SONM	**Songino Array**	**117.76**	**348**	PKP	PKPdf	01 10 21.7	+0.3
	comp=Z,1.8nm,0.9s,baz=44,slow=0.3,SNR=6.2						
SONM				PKKPbc	PKKPbc	01 20 42.3	-0.1
	comp=Z,1.1nm,0.8s,baz=197,slow=4.4,SNR=6.5						
LBTB	**Lobatse**	**117.86**	**111**	*e*PKIKP	PKPdf	01 10 23.0	+1.4
KSRS	**Korea Array**	**118.75**	**327**	PKP	PKPdf	01 10 24.0	+0.7
	comp=Z,2.6nm,0.6s,baz=14,slow=2.0,SNR=6.8						
LSZ	**Lusaka**	**119.57**	**100**	*e*PKIKP	PKPdf	01 10 26.1	+1.2
MKAR	**Makanchi Array**	**119.93**	**7**	PKP	PKPdf	01 10 25.2	-0.4
	comp=Z,0.8nm,0.5s,baz=335,slow=2.9,SNR=7.5						
BJI	**Beijing**	**122.08**	**337**	PKP	PKPdf	01 10 27.2	-2.5
BJI				LR	LR		
	comp=N,149nm,20.9s						
BJI				LR	LR		
	comp=E,354nm,20.9s						
BJI				LR	LR		
	comp=Z,352nm,23.3s						
MAW	**Mawson**	**122.55**	**168**	PKIKP	PKPdf	01 10 29.9	-0.7
HHC	**Hu-ho-hao-te**	**122.96**	**341**	*e*PKP	PKPdf	01 10 27.6	-3.8
HHC				XPKP		01 10 58.4	
HHC				PP	PP	01 12 11.5	+0.5
HHC				LR	LR		
	comp=N,285nm,25.0s						
HHC				LR	LR		
	comp=Z,380nm,23.8s						
GTA	**Gaotai**	**127.09**	**351**	*e*PKP	PKPdf	01 10 40.0	+0.7
GTA				XPKP		01 11 07.4	
GTA				PP	PP	01 12 43.5	+4.9
GTA				PKS		01 14 15.1	
GTA				SKS	SKSdf	01 17 40.4	-4.1
GTA				SKKS	SKKSac	01 19 22.7	-6.8
GTA				SS	SS	01 29 41.7	+0.7
GTA				PP	PP		
	comp=Z,182nm,5.3s						
GTA				LR	LR		
	comp=N,295nm,22.1s						
GTA				LR	LR		
	comp=E,205nm,22.1s						
GTA				LR	LR		
	comp=Z,317nm,22.8s						
LZH	**Lanzhou**	**129.54**	**346**	*e*PKP	PKPdf	01 10 41.4	-2.6
LZH				XPKP		01 11 05.0	
LZH				PP	PP	01 12 56.0	+1.4
LZH				SKKS	SKKSac	01 19 46.5	+1.7
LZH				PP	PP		
	comp=Z,150nm,5.7s						
LZH				LR	LR		
	comp=E,170nm,17.8s						
LZH				LR	LR		
	comp=Z,220nm,19.0s						
STKA	**Stephens Creek**	**129.84**	**239**	PKP	PKPdf	01 10 44.9	+0.3
	comp=Z,3.4nm,0.9s,baz=354,slow=6.3,SNR=4.0						
XAN	**Xi'an**	**130.03**	**340**	PKP	PKPdf	01 10 45.3	+0.4
CD2	**Chengdu**	**134.49**	**344**	*e*PKP		01 10 48.5	
LSA	**Lhasa**	**137.47**	**359**	PKP	PKPdf	01 11 01.0	+2.1
LSA	**Lhasa**	**137.47**	**359**	*e*PKPdf	PKPdf	01 11 01.2	+2.3
WB2	**Warramunga Arr**	**137.66**	**255**	*e*P		01 10 48.9	
WB2				*e*PKPdf	PKPdf	01 11 00.8	+1.6
WRAB	**Tennant Creek**	**137.66**	**255**	⇑*i*PKIKP	PKPdf	01 11 00.8	+1.6
WRA	**Warramunga Arr**	**137.67**	**255**	PKP	PKPdf	01 10 59.8	+0.6
	comp=Z,7.9nm,0.9s,baz=87,slow=1.5,SNR=21						
WRA				SKPbc	SKPbc	01 14 37.4	+11
	comp=Z,6.1nm,1.0s,baz=88,slow=3.6,SNR=18						
GYA	**Guiyang**	**137.73**	**338**	PKP	PKPdf	01 10 59.3	-0.1
GYA				XPKP		01 11 29.0	
GYA				PP	PP	01 13 49.8	+3.0
GYA				PKS		01 14 34.0	
GYA				SKS	SKSdf	01 18 00.4	-3.1
GYA				SS	SS	01 31 49.2	-1.0
GYA				PP	PP		
	comp=Z,120nm,8.4s						
GYA				LR	LR		
	comp=N,180nm,20.4s						
GYA				LR	LR		
	comp=E,160nm,20.8s						
GYA				LR	LR		
	comp=Z,140nm,21.0s						
OPO	**Ambohidratompo**	**137.89**	**103**	SKPbc		01 14 37.0	
	comp=Z,4.4nm,0.6s,baz=226,slow=2.2,SNR=12						
GKN	**Gorkha**	**138.75**	**8**	*e*P	PKPdf	01 11 02.0	+0.8
	comp=Z,19nm,0.5s						
KOLN	**Koldanda**	**138.82**	**10**	*e*P	PKPdf	01 11 02.3	+0.9
KKN	**Kakani**	**139.04**	**7**	*e*P	PKPdf	01 11 02.8	+1.0
	comp=Z,19nm,0.7s						
DMN	**Daman**	**139.20**	**8**	*e*P	PKPdf	01 11 01.7	-0.3
PKI	**Pulchoki**	**139.27**	**7**	*e*P	PKPdf	01 11 02.9	+0.7
RAMN	**Ramite**	**140.02**	**6**	*e*P	PKPdf	01 11 02.5	-1.0
	comp=Z,154nm,0.5s						
KMI	**Kunming**	**140.25**	**343**	PKP	PKPdf	01 11 04.4	+0.5
KMI				LR	LR		
	comp=N,222nm,26.9s						
KMI				LR	LR		
	comp=E,227nm,19.0s						
KMI				LR	LR		
	comp=Z,300nm,25.4s						
FITZ	**Fitzroy Crossi**	**145.98**	**257**	*e*P	PKPdf	01 11 15.4	+1.4
	comp=Z,66nm,1.0s						
FITZ	**Fitzroy Crossi**	**145.98**	**257**	PKPbc	PKPbc	01 11 15.9	+1.0
	comp=Z,39nm,0.9s,baz=115,slow=2.6,SNR=19						
NANT	**Nan**	**146.81**	**342**	⇑P	PKPdf	01 11 16.0	+0.5
	comp=Z,349nm,1.0s						
CHG	**Chiang Mai**	**147.28**	**345**	⇑P	PKPbc	01 11 19.3	+0.7
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**147.28**	**345**	*e*PKP2	PKPbc	01 11 18.8	+0.2
HYB	**Hyderabad**	**147.43**	**22**	*i* PKP	PKPdf	01 11 18.5	+2.0
HYB	**Hyderabad**	**147.43**	**22**	*e*P	PKPdf	01 11 18.5	+2.0
KKM	**Kota Kinabalu**	**148.29**	**305**	*e*PKPdf	PKPdf	01 11 18.8	+0.9
KKTK	**Khon Kaen**	**148.40**	**337**	P	PKPab	01 11 23.5	-1.6
	comp=Z,679nm,0.8s						
NST	**Nakhon Sawan**	**149.94**	**342**	P	PKPbc	01 11 26.0	+0.5
MUN	**Mundaring**	**149.96**	**227**	*e*P	PKPbc	01 11 26.1	+0.6
PSI	**Prapat**	**162.22**	**332**	PKP	PKPdf	01 11 38.2	+1.6
	comp=Z,7.8nm,0.9s						
PSI	**Prapat**	**162.22**	**332**	PKP	PKPdf	01 11 38.2	+1.6

NIED ***09*** *00:59:00,2930N×13050E,h20km,Mw4.9 Best double couple: M0=2.83000×10^16 NP1:φs=201.00000°,δ88.00000°, λ-86.00000°. NP2:φs=318.00000°,δ5.00000°, λ-153.00000°.*
BJI ***09*** *00:59:24.3,2903N×13090E,h35km,mB4.9,mb4.4,Ms4.8, Msz4.6*
ISCJB ***09*** *00:59:26.5±0.8,2929N±002×13055E±003,h29km±5km, mb4.7/68,MS4.5/29,Error ellipse: s-maj=4.3km s-min=3.5km az=115.8*
MOS ***09*** *00:59:26.3±1.1,2932N×13050E,h33km,mb4.9/37, MS4.6/16,Error ellipse: s-maj=11.2km s-min=6.9km az=105.6*
JMA ***09*** *00:59:27.5±0.1,2932N×13053E,h69km±4km,M4.9*
JMA Felt I J1.
NEIC ***09*** *00:59:28.4±0.2,2931N×13048E,h35km,mb4.9/37, MW4.9(NIED),Error ellipse: s-maj=6.2km s-min=5.2km az=101.0*
NEIC Recorded [1 JMA] on Nakano-shima.
IDC ***09*** *00:59:29.1±1.2,2932N×13052E,h44km±11km,mb4.1/14, mb1 4.4/19,mb1mx4.3/24,mbtmp4.3/19,ML4.3/5,MS4.2/18, Ms1 4.3/18,ms1mx4.1/33,Error ellipse: s-maj=15.0km s-min=8.6km az=110.0*
SZGRF ***09*** *00:59:32.4,2897N×13082E,h33km,mb4.9,MS5.0, Ryukyu Islands, Japan*
ISC 09 00:59:28.2±1.0,2930N±003×13055E±003,h30km±7km, h35km±1.2km:pP-P,n338,σ0°90/338,mb4.7/68,MS4.5/29, 67C-62D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.79**	**313**	P	**Pn**	**00 59 43.0**	**-0.3**
JZK	**Kikaishima**	**1.11**	**207**	P	**Pn**	**00 59 48.1**	**+0.5**
JKC	**Kuchinoerabu**	**1.19**	**345**	P	**Pn**	**00 59 48.4**	**-0.4**
JAM	**Amami Oshima**	**1.21**	**223**	P	**Pn**	**00 59 48.2**	**-0.9**
JAM				S	**Sn**	**01 00 03.6**	**-0.9**
JTN	**Tanegashima 3**	**1.40**	**16**	P	**Pn**	**00 59 50.8**	**-0.8**
JTN				S	**Sn**	**01 00 09.2**	**+0.1**
JTSR	**Tashiro 2**	**1.89**	**10**	P	**Pn**	**00 59 58.0**	**-0.3**
JTSR				S	**Sn**	**01 00 19.7**	**-1.4**
JTK	**Tokunoshima**	**2.06**	**223**	P	**Pn**	**01 00 01.2**	**+0.4**
JSU	**Suzuyama**	**2.20**	**358**	P	**Pn**	**01 00 01.9**	**-0.7**
JNAR	**Kushima--Naru**	**2.30**	**16**	P	**Pn**	**01 00 04.0**	**-0.1**
JSJ	**Shimokoshiki**	**2.47**	**343**	P	**Pn**	**01 00 06.0**	**-0.4**
JTZ	**Takazaki**	**2.63**	**10**	P	**Pn**	**01 00 08.3**	**-0.3**
JOW	**Kunigami**	**3.18**	**220**	P	**Pn**	**01 00 16.4**	**+0.4**
	20nm,0.3s,baz=30,slow=8.1,SNR=32						
JOW				S	**Sn**	**01 00 53.6**	**+0.7**
	53nm,0.3s,baz=275,slow=29,SNR=6.5						
JOW				LR	LR	01 01 11.2	
	comp=Z,586nm,19.6s,baz=244,slow=32						
JNU	**Nakatsue**	**3.82**	**4**	P	**Pn**	**01 00 25.6**	**+0.7**
	37nm,0.3s,baz=215,slow=19,SNR=97						
JNU				S	**Sn**	**01 01 09.7**	**+0.9**
	69nm,0.3s,baz=270,slow=24,SNR=5.1						
SSE	**Sheshan**	**8.29**	**285**	*e*P	**Pn**	**01 01 29.4**	**+3.0**
SSE				XP		01 01 45.3	
SSE				S	**Sn**	**01 03 03.3**	**+4.3**
SSE				AMB	AMB		
	comp=Z,44nm,0.8s						
SSE				AMB	AMB		
	comp=Z,175nm,6.0s						
SSE				LR	LR		
	comp=N,1μm,15.4s						
SSE				LR	LR		
	comp=E,2μm,15.4s						
SSE				LR	LR		
	comp=Z,3μm,15.4s						
KSRS	**Korea Array**	**8.42**	**346**	P	**Pn**	**01 01 30.9**	**+2.8**
	baz=159,slow=14,SNR=11						
KSRS				LR	LR	01 05 02.6	
	comp=Z,2μm,19.2s,baz=167,slow=40						
JHJ	**Hachijo jima 2**	**8.78**	**62**	P	**Pn**	**01 01 33.5**	**+0.6**
	comp=Z,61nm,0.3s,baz=252,slow=23,SNR=6.4						
JHJ				LR	LR	01 04 31.0	
	comp=Z,1μm,20.1s,baz=279,slow=34						
INCN	**Inchon**	**8.79**	**339**	*e*Pn	**Pn**	**01 01 33.5**	**+0.3**
	comp=Z,71nm,1.2s						
YHNB	**Yeheng**	**9.39**	**243**	*e*Pn	**Pn**	**01 01 48.3**	**+6.9**
MAJO	**Matsushiro**	**9.67**	**40**	*e*P	**Pn**	**01 01 44.1**	**-1.1**
MAT	**Matsushiro**	**9.67**	**40**	P	**Pn**	**01 01 44.1**	**-1.1**
MJAR	**Matsushiro Arr**	**9.67**	**40**	P	**Pn**	**01 01 44.9**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=188,slow=11,SNR=28						
MJAR	**Matsushiro Arr**	**9.67**	**40**	P	**Pn**	**01 01 44.9**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CBIJ	**Chichi jima**	**10.50**	**99**	P	**Pn**	**01 01 55.6**	**-1.0**
	comp=Z,20nm,0.3s,baz=286,slow=18,SNR=8.3						
CBIJ				LR	LR	01 05 18.0	
	comp=Z,1μm,18.9s,baz=305,slow=33						
TIA	**Tai'an**	**13.22**	**305**	*e*P	**Pn**	**01 02 41.7**	**+7.9**
CN2	**Changchun**	**15.03**	**346**	⇑P	**Pn**	**01 03 04.7**	**+6.3**
CN2				*e*S	**Sn**	**01 05 50.2**	**+6.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,3μm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=Z,3μm,16.0s						
MDJ	**Mudanjiang**	**15.30**	**357**	P	**Pn**	**01 03 03.6**	**+1.6**
MDJ				AP	pP	01 03 14.8	+0.4
MDJ				PP		01 03 16.0	
MDJ				S	**Sn**	**01 05 59.7**	**+9.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,92nm,4.5s						
MDJ				LR	LR		
	comp=N,1μm,15.3s						
MDJ				LR	LR		
	comp=E,443nm,15.9s						
MDJ				LR	LR		
	comp=Z,1μm,15.9s						
BJT	**Baijiatuau**	**15.92**	**316**	*e*P	**Pn**	**01 03 12.8**	**+2.8**
BJT				pmax	pmax		
	comp=Z,45nm,1.0s						
BJT	**Baijiatuau**	**15.92**	**316**	*e*P	**Pn**	**01 03 12.8**	**+2.8**
	comp=Z,45nm,1.0s						
BJI	**Beijing**	**15.93**	**316**	P	**Pn**	**01 03 10.5**	**+0.4**
BJI				S	**Sn**	**01 06 08.2**	**+2.5**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.2s						
BJI				AMB	AMB		
	comp=Z,468nm,6.6s						
BJI				LR	LR		
	comp=N,2μm,14.3s						
BJI				LR	LR		
	comp=E,3μm,14.3s						
BJI				LR	LR		
	comp=Z,2μm,16.0s						
ASAJ	**Asahikawa**	**17.63**	**30**	P	**Pn**	**01 03 36.0**	**+4.5**
	comp=Z,0.7nm,0.3s,baz=245,slow=28,SNR=4.5						
ASAJ				LR	LR	01 10 33.2	
	comp=Z,1μm,21.1s,baz=64,slow=38						
ASAJ	**Asahikawa**	**17.63**	**30**	P	**Pn**	**01 03 36.1**	**+4.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,21.1s						
XAN	**Xi'an**	**18.99**	**290**	P	**Pn**	**01 03 47.2**	**-0.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**19.30**	**312**	*e*P	**Pn**	**01 03 52.8**	**+1.1**
HHC				AP	pP	01 04 04.3	+5.7
HHC				S	**Sn**	**01 07 21.7**	**-5.5**
HHC				XS	sS	01 07 39.6	-0.6
HHC				PCP	PcP	01 08 14.6	+2.2
HHC				AMB	AMB		
	comp=Z,22nm,0.5s						
HHC				AMB	AMB		
	comp=Z,276nm,4.4s						
HHC				LR	LR		
	comp=N,1μm,16.7s						
HHC				LR	LR		
	comp=E,2μm,14.9s						
HHC				LR	LR		
	comp=Z,2μm,16.1s						
KLR	**Kul'dur**	**19.92**	**2**	*e*P	**Pn**	**01 03 52.8**	**-6.4**
KLR				MLR	MLR		
	comp=E,800nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**20.03**	**25**	⇑*e*P	**P**	**01 03 59.0**	**+0.5**
YSS				*e*		01 04 08.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS3.9						
YSS				MLR	MLR		
	comp=N,500nm,14.0s,MS4.1						
YSS				MLR	MLR		
	comp=E,500nm,16.0s,MS4.1						
YSS	**Yuzh-Sakhalins**	**20.03**	**25**	*e*Pn	**P**	**01 03 59.5**	**+0.9**
	comp=E,63nm,1.0s						
GUMO	**Guam**	**20.51**	**137**	LR	LR	01 10 39.1	
	comp=E,462nm,18.6s,MS3.9,baz=351,slow=33						
GUMO	**Guam**	**20.51**	**137**	*e*P	**P**	**01 04 03.7**	**-0.1**
	comp=E,364nm,1.4s						
GYA	**Guiyang**	**21.29**	**268**	⇓*i*P	**P**	**01 04 14.0**	**+1.8**
GYA				S	**S**	**01 08 04.6**	**-2.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
GYA				AMB	AMB		
	comp=Z,240nm,5.2s						
GYA				LR	LR		
	comp=N,1μm,13.2s,MS4.6						
GYA				LR	LR		
	comp=E,1μm,15.3s,MS4.6						
GYA				LR	LR		
	comp=Z,2μm,16.2s,MS4.6						
QIZ	**Qiongzhong**	**21.45**	**246**	*e*P	**P**	**01 04 15.3**	**+1.4**
QIZ				S	**S**	**01 08 12.2**	**+2.0**
QIZ				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.3						
QIZ				LR	LR		
	comp=N,830nm,16.2s						
QIZ				LR	LR		
	comp=E,585nm,23.6s						
QIZ				LR	LR		
	comp=Z,1μm,18.9s,MS4.4						
QIZ	**Qiongzhong**	**21.45**	**246**	*e*P	**P**	**01 04 13.5**	**-0.4**
	comp=Z,18nm,1.0s,mb4.3						
HIA	**Hailar**	**21.58**	**340**	*e*P	**P**	**01 04 15.0**	**-0.3**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.3s						
HIA	**Hailar**	**21.58**	**340**	*e*P	**P**	**01 04 15.0**	**-0.3**
	comp=Z,6.9nm,0.3s,mb4.6						
CD2	**Chengdu**	**23.21**	**281**	P	**P**	**01 04 32.2**	**-0.5**
CD2				PP		01 05 06.0	
CD2				S	**S**	**01 08 37.9**	**-4.5**
CD2				SS		01 09 28.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,150nm,4.4s						
CD2				LR	LR		
	comp=N,1μm,12.0s,MS4.9						
CD2				LR	LR		
	comp=E,2μm,12.0s,MS4.9						
CD2				LR	LR		
	comp=Z,2μm,12.7s,MS4.8						
LZH	**Lanzhou**	**23.42**	**294**	*e*P	**P**	**01 04 36.3**	**+1.4**
LZH				PP		01 05 10.1	
LZH				*e*S	**S**	**01 08 40.5**	**-5.3**
LZH				XS	sS	01 09 06.0	+5.9
LZH				AMB	AMB		
	comp=Z,50nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,180nm,4.5s						
LZH				LR	LR		
	comp=E,3μm,16.0s						
LZH				LR	LR		
	comp=Z,4μm,16.1s,MS5.0						
KMI	**Kunming**	**25.05**	**267**	P	**P**	**01 04 50.7**	**+1.0**
KMI				AP	pP	01 05 05.3	+6.9
KMI				PP		01 05 30.4	
KMI				PPP		01 05 42.2	
KMI				S	**S**	**01 09 09.9**	**-2.2**
KMI				XS	sS	01 09 30.6	+4.2
KMI				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.0						
KMI				AMB	AMB		
	comp=Z,125nm,3.7s						
KMI				LR	LR		
	comp=N,851nm,15.8s,MS4.7						
KMI				LR	LR		
	comp=E,2μm,12.8s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,12.3s,MS4.8						
CIT	**Chita**	**25.97**	**336**	*e*P	**P**	**01 05 07.9**	**+10**
CIT				*e*	pP	01 05 16.8	+10
CIT				*e*		01 05 25.2	
CIT				pmax	pmax		
	comp=Z,45nm,2.7s,mb4.5						
SONM	**Songino Array**	**26.26**	**321**	P	**P**	**01 04 59.2**	**-1.5**
	comp=Z,2.0nm,0.5s,mb3.9,baz=138,slow=10.0,SNR=17						
SONM				LR	LR	01 16 39.1	
	comp=Z,1μm,21.4s,MS4.5,baz=161,slow=39						
ZAK	**Zakamensk**	**29.41**	**323**	*e*P	**P**	**01 05 27.6**	**-1.3**
YAK	**Yak

comp=Z,600nm,19.0s,MS4.4
JIRN Jiri 38.85 279 *e*P P **01 06 50.9 +0.3**
GUN Gumba 39.06 279 *e*P P **01 06 52.3 0.0**
comp=Z,51nm,0.4s,mb5.6
PKI Pulchoki 39.54 279 *e*P P **01 06 56.2 -0.2**
comp=Z,36nm,0.7s,mb5.2
KKN Kakani 39.60 279 *e*P P **01 06 56.9 0.0**
comp=Z,57nm,0.7s,mb5.4
DMN Daman 39.80 279 *e*P P **01 06 58.3 -0.2**
comp=Z,30nm,0.8s,mb5.1
PSI Prapat 39.96 235 LR LR 01 25 32.6
comp=Z,176nm,18.2s,MS3.9,baz=181,slow=39
GKN Gorkha 40.11 280 *e*P P **01 07 00.5 -0.6**
comp=Z,19nm,0.4s,mb5.1
KOLN Koldanda 41.06 280 *e*P P **01 07 08.6 -0.3**
comp=Z,36nm,0.9s,mb5.0
MK31 Makanchi Array 41.12 309 *e*P P **01 07 08.8 -0.6**
MKAR Makanchi Array 41.12 309 P P **01 07 08.6 -0.7**
comp=Z,2.1nm,0.4s,mb4.1,baz=88,slow=11,SNR=60
MKAR PcP PcP 01 09 08.0 -0.5
comp=Z,1.0nm,0.8s,baz=77,slow=3.1,SNR=3.1
MKAR LR LR 01 26 07.1
comp=Z,402nm,18.7s,MS4.3,baz=90,slow=39
MKAR Makanchi Array 41.12 309⇑ *e*P P **01 07 08.8 -0.6**
ZAL Zalesovo 41.14 320 P P **01 07 08.2 -1.3**
comp=Z,1.7nm,0.5s,mb3.9,baz=3.4,slow=8.7,SNR=5.3
ZAL LR LR 01 26 32.7
comp=Z,1μm,18.5s,MS4.8,baz=161,slow=40
ZAL Zalesovo 41.14 320 P P **01 07 08.3 -1.3**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL MLR MLR
comp=Z,1μm,18.5s
PMG Port Moresby 41.68 155 LR LR 01 21 13.0
comp=Z,298nm,21.9s,MS4.1,baz=111,slow=31
PMG Port Moresby 41.68 155 *e*P P **01 07 13.5 -0.5**
comp=Z,16nm,1.1s,mb4.5
KAKA Kakadu 41.81 177 *e*P P **01 07 14.0 -1.0**
comp=Z,9.7nm,0.9s,mb4.4
TIXI Tiksi 42.41 359 *e*P P **01 07 18.0 -1.9**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
TIXI MLR MLR
comp=Z,446nm,15.0s,MS4.5
KURK Kurchatov 44.09 314 *e*P P **01 07 32.9 -0.6**
KURK pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
KURK Kurchatov 44.09 314 *e*P P **01 07 32.9 -0.6**
comp=Z,9.2nm,0.6s,mb4.7
BILL Bilibino 44.12 18*c i*P P **01 07 34.0 +0.2**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
BILL MLR MLR
comp=Z,300nm,22.0s,MS4.2
BILL Bilibino 44.12 18 *e*P P **01 07 33.2 -0.6**
comp=Z,28nm,1.1s,mb4.9
AAK Ala-Archa 46.48 302 *i*P P **01 07 55.5 +3.0**
AAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
AAK MLR MLR
comp=Z,1μm,25.0s,MS4.7
AAK Ala-Archa 46.48 302 *e*P P **01 07 52.5 0.0**
FITZ Fitzroy Crossi 47.36 186 *e*P P **01 07 59.4 0.0**
comp=Z,8.6nm,0.8s,mb4.7
FITZ Fitzroy Crossi 47.36 186 LR LR 01 26 22.9
comp=Z,81nm,19.6s,MS3.7,baz=0.2,slow=34
HNR Honiara 47.81 139 LR LR 01 28 21.4
comp=Z,213nm,18.2s,MS4.2,baz=0.2,slow=36
WRAB Tennant Creek 49.09 175 *e*P P **01 08 12.3 -0.4**
WRAB pmax pmax
comp=Z,21nm,1.6s,mb4.9
WRAB Tennant Creek 49.09 175 *e*P P **01 08 12.3 -0.4**
comp=Z,21nm,1.6s,mb4.9
WRA Warramunga Arr 49.09 175 P P **01 08 12.1 -0.6**
comp=Z,5.4nm,0.8s,mb4.6,baz=352,slow=8.3,SNR=28
WRA LR LR 01 27 27.4
comp=Z,105nm,20.3s,MS3.8,baz=195,slow=34
WRA Warramunga Arr 49.09 175 *i*P P **01 08 12.1 -0.6**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WB2 Warramunga Arr 49.09 175 *e*P P **01 08 11.7 -1.0**
CHKZ Chkalovo 49.33 317 *e*P P **01 08 12.8 -1.7**
CHKZ pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
CHKZ Chkalovo 49.33 317 *e*P P **01 08 12.8 -1.7**
comp=Z,3.5nm,0.4s,mb4.7
KK31 Karatay Array 49.38 303 *i*P P **01 08 14.7 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
KKAR Karatay Array 49.38 303 *i*P P **01 08 14.7 -0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
BRVK Borovoye 49.48 316 *e*P P **01 08 14.3 -1.4**
BRVK pmax pmax
comp=Z,14nm,0.6s,mb5.2
BRVK Borovoye 49.48 316 *e*P P **01 08 14.3 -1.4**
comp=Z,14nm,0.6s,mb5.2
ARU Arti 56.29 321*c i*P P **01 09 05.1 -0.9**
ARU pmax pmax
comp=Z,25nm,1.8s,mb4.9
ARU MLR MLR
comp=Z,900nm,12.0s,MS5.1
ARU Arti 56.29 321 *e*P P **01 09 04.7 -1.2**
IMA2 Indian Mountai 57.85 28 *e*P P **01 09 16.7 -0.2**
MCK McKinley 59.99 30 *e*P P **01 09 31.3 -0.6**
MCK pmax pmax
comp=Z,19nm,1.3s,mb5.0
MCK McKinley 59.99 30 *e*P P **01 09 31.3 -0.5**
comp=Z,19nm,1.3s,mb5.0
COLA College 60.35 29⇓ *e*P P **01 09 34.7 +0.4**
COLA College 60.35 29 *e*P P **01 09 33.6 -0.7**
comp=Z,8.7nm,0.9s,mb4.8
COLA *e*pP pP 01 09 44.1 +0.6
STKA Stephens Creek 61.74 169 *e*P P **01 09 43.5 -0.2**
comp=Z,3.8nm,0.8s,mb4.6
STKA Stephens Creek 61.74 169 P P **01 09 43.0 -0.8**
comp=Z,4.8nm,0.8s,mb4.7,baz=326,slow=3.8,SNR=7.5
EGAK Eagle 63.19 29 *e*P P **01 09 52.4 -1.0**
comp=Z,7.8nm,1.0s,mb4.8
DAWY Dawson 64.09 29 *e*P P **01 09 59.2 -0.1**
INK Inuvik 65.26 24 *e*P P **01 10 06.9 -0.1**
KLMR Klimovskoe 65.36 327 *e*P P **01 10 09.4 +1.8**
KLMR pmax pmax
comp=Z,39nm,1.9s,mb5.1
ARCES ARCESS Array B 67.91 338 P P **01 10 21.4 -2.5**
comp=Z,3.9nm,0.9s,mb4.4,baz=64,slow=8.4,SNR=4.2
ARCES ARCESS Array B 67.91 338 P P **01 10 21.4 -2.5**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
JOF Joensuu 68.36 331 *e*p P **01 10 23.6 -3.1**
comp=Z,7.0nm,0.8s,mb4.7
JOF Joensuu 68.36 331 *e*P P **01 10 23.6 -3.1**
JOF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ZEI Tsey 68.47 308 *e*P P **01 10 26.1 -1.3**
OBN Obninsk 68.67 322⇑ *e*P pP 01 10 39.9 +1.9
OBN *e* PP 01 12 58.1 -2.3
OBN pmax pmax
comp=Z,19nm,0.5s,mb5.3
OBN MLR MLR
comp=Z,900nm,19.0s,MS5.0
GNI Garni 68.80 305 *i*P P **01 10 30.3 +0.9**
GNI pmax pmax
comp=Z,8.0nm,1.5s
GNI MLR MLR
comp=Z,300nm,26.0s
GNI Garni 68.80 305 *e*P P **01 10 30.2 +0.8**
KIV Kislovodsk 68.88 309 *i*P P **01 10 29.2 -0.8**
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KIV Kislovodsk 68.88 309 *e*P P **01 10 28.3 -1.7**
comp=Z,35nm,1.4s,mb5.1
DLBC Dease Lake 70.19 33 *e*P P **01 10 39.0 +0.9**
KAF Kangasniemi 70.81 331 *e*p P **01 10 39.3 -2.5**
comp=Z,8.3nm,0.9s,mb4.7
KAF Kangasniemi 70.81 331 *e*P P **01 10 39.3 -2.5**
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SOC Sochi 71.02 310 *e*P P **01 10 40.9 -2.2**
SOC *e*PP pP 01 10 49.7 -2.8
SOC *e*S sS 01 20 15.4 +2.7
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
SOC MLR MLR
comp=Z,558nm,18.0s,MS4.9
FINES FINESS Array B 71.21 331 P P **01 10 41.7 -2.5**
comp=Z,1.2nm,0.5s,mb4.1,baz=66,slow=5.4,SNR=19
FINES FINESS Array B 71.21 331 *i*P P **01 10 41.7 -2.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 71.21 331 P P **01 10 41.7 -2.5**
ANN Anapa 72.05 312 *e*P P **01 10 49.7 +0.4**
ANN *e*PP pP 01 10 57.7 -1.0
ANN *e* 01 11 05.1
ANN pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ANN MLR MLR
comp=Z,612nm,20.0s,MS4.9
RES Resolute Bay 72.15 11 *e*P P **01 10 49.8 -0.2**
comp=Z,740nm,0.9s
DAG Danmarks Havn 72.48 353 *i*P P **01 10 51.0 -0.9**
DAG Danmarks Havn 72.48 353 *e*P P **01 10 51.0 -0.9**
AKASG Malin Array Be 74.53 320 P P **01 11 02.8 -1.1**
comp=Z,3.5nm,0.5s,mb4.6,baz=59,slow=6.3,SNR=13
AKASG Malin Array Be 74.53 320 P P **01 11 02.8 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
KIEV Kiev 74.54 320 *e*P P **01 11 02.4 -1.6**
KIEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KIEV Kiev 74.54 320 *e*P P **01 11 02.4 -1.6**
comp=Z,4.0nm,0.6s,mb4.5
YKA Yellowknife Ar 74.88 26 P P **01 11 05.4 -0.6**
comp=Z,2.8nm,0.7s,mb4.3,baz=303,slow=5.8,SNR=29
YKA Yellowknife Ar 74.88 26 P P **01 11 05.4 -0.6**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 74.88 26 P P **01 11 05.4 -0.6**
BR131 Keskin Array S 76.77 308 *e*P P **01 11 16.6 -0.2**
comp=Z,3.2nm,0.7s,mb4.4
BRTR Keskin Array B 76.77 308 P P **01 11 16.8 +0.1**
comp=Z,3.5nm,0.7s,mb4.4,baz=108,slow=4.6,SNR=22
BRTR LR LR 01 48 20.9
comp=Z,235nm,21.1s,MS4.5,baz=294,slow=38
BRTR Keskin Array B 76.77 308 P P **01 11 16.8 +0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR MLR MLR
comp=Z,235nm,21.1s
NB2 NORSAR Subarra 77.46 334 P P **01 11 18.6 -2.0**
comp=Z,4.9nm,0.8s,mb4.5,baz=51,slow=5.9
NOA NORSAR Array B 77.46 334 P P **01 11 18.8 -1.9**
comp=Z,4.2nm,0.8s,mb4.4,baz=49,slow=5.5,SNR=9.6
NOA NORSAR Array B 77.46 334 P P **01 11 18.8 -1.8**
NOA pmax pmax
comp=Z,4.0nm,0.8s
TIRR Tirgusor 77.97 314⇑ *i*P P **01 11 23.5 0.0**
VRI Vrincioaia 78.31 316⇑ *i*P P **01 11 26.6 +1.2**
BURAR Bucovina Array 78.33 318⇓ *i*P P **01 11 25.7 +0.2**
KWP Kalwaria 78.70 321 *e*P P **01 11 26.5 -1.0**
KWP pmax pmax
comp=Z,19nm,1.1s,mb4.9
KWP Kalwaria 78.70 321 *e*P P **01 11 26.5 -1.0**
comp=Z,19nm,1.1s,mb4.9
MLR Muntele Rosu 78.98 316 LR LR 01 49 37.2
comp=Z,744nm,18.5s,MS5.0,baz=42,slow=38
MLR Muntele Rosu 78.98 316 *i*P P **01 11 28.3 -0.7**
CSS Prodhromos 79.18 304 *e*P P **01 11 29.6 -0.5**
comp=Z,8.1nm,0.8s,mb4.7
A07A Ashnola River, 79.69 39 ⇑P P **01 11 32.0 -1.0**
baz=79
OJC Ojcow 79.96 322 *e*P P **01 11 34.5 +0.1**
B07A Winthrop 80.16 40 ⇓P P **01 11 34.5 -1.0**
baz=80
F04A Amboy 80.20 43 ⇑P P **01 11 34.8 -0.9**
baz=80
E05A Randle 80.26 42 ⇓P P **01 11 35.1 -0.9**
baz=80
A08A Turner Farm, O 80.36 39 ⇓P P **01 11 36.5 -0.1**
baz=80
G04A Mulino 80.56 43 ⇑P P **01 11 37.6 0.0**
baz=80
C07A Waterville 80.62 40 ⇓P P **01 11 36.7 -1.2**
baz=80
B08A Colville Reser 80.65 39 P P **01 11 38.3 +0.2**
baz=80,SNR=5.3
A09A Danville 80.72 39 ⇓P P **01 11 36.9 -1.6**
baz=80
E06A Yakima 80.72 42 ⇓P P **01 11 37.2 -1.2**
baz=80
EDM Edmonton 80.91 33 *e*P P **01 11 39.0 -0.5**
EDM *e*PP pP 01 11 50.1 +1.1
D07A Quincy 80.94 41 ⇓P P **01 11 38.4 -1.2**
baz=81
C08A Higginbotham F 81.14 40 ⇑P P **01 11 39.1 -1.6**
baz=81
B09A Rice 81.27 39 ⇑P P **01 11 41.3 -0.1**
baz=81
I04A Tendick Farm, 81.35 44 ⇓P P **01 11 40.1 -1.8**
baz=81
E07A Sunnyside 81.36 41 ⇑P P **01 11 41.2 -0.6**
baz=81
MORC Moravsky Berou 81.41 323 ⇓*i*P P **01 11 42.6 +0.5**
C09A Chrisman Ranch 81.56 39 ⇑P P **01 11 42.9 -0.1**
baz=81
D08A Wollman Farm, 81.61 40 P P **01 11 43.5 +0.2**
baz=81,SNR=7.1
G06A Carlson Farm, 81.64 43 ⇑P P **01 11 42.7 -0.6**
baz=81
HUMO Hull Mountain 81.65 46 ⇑P P **01 11 43.2 -0.2**
baz=81
F07A Phinny Hill Vi 81.69 42 ⇑P P **01 11 43.0 -0.6**
baz=81
J04A Umpqua Nationa 81.83 45 ⇑P P **01 11 43.2 -1.2**
baz=82
E08A Dider Farm, El 81.85 41 ⇓P P **01 11 43.5 -0.9**
baz=82
A11A Hall Mountain, 81.93 38 P P **01 11 46.1 +1.2**
baz=82,SNR=6.4
D09A Jones Farm, Ri 81.96 40 ⇓P P **01 11 44.4 -0.7**
baz=82
H06A Lindquist Farm 82.09 43 ⇓P P **01 11 45.4 -0.3**
baz=82
VRAC Vranov 82.18 323 ⇑*i*P P **01 11 47.6 +1.4**
G07A Ruggs Ranch, H 82.19 42 ⇑P P **01 11 45.6 -0.6**
baz=82
B11A Sandpoint 82.23 38 ⇑P P **01 11 46.1 -0.4**
baz=82
YBH Yreka Blue Hor 82.27 46 ⇑P P **01 11 46.4 -0.2**
baz=82
A12A Yaak River Ran 82.32 38 ⇑P P **01 11 46.3 -0.7**
baz=82
M02C Callahan 82.36 47 ⇓P P **01 11 46.9 -0.2**
baz=82
E09A Wood Farm, Sta 82.36 40 P P **01 11 47.6 +0.5**
baz=82,SNR=5.5
N02C Big Bar 82.37 47 ⇓P P **01 11 47.6 +0.4**
baz=82
F08A Pendleton 82.41 41 P P **01 11 48.0 +0.6**
baz=82,SNR=6.8
D10A Wagner Farm, O 82.54 40 ⇑P P **01 11 47.7 -0.4**
baz=82
L04A Klamath Falls 82.54 46 ⇓P P **01 11 48.2 +0.1**
baz=82
G08A Pilot Rock 82.59 42 ⇓P P **01 11 47.7 -0.6**
baz=82
I06A Prineville 82.60 43 ⇑P P **01 11 48.1 -0.3**
baz=82
CLL Collm 82.79 326 *e*P P **01 11 51.0 +1.6**
CLL pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLL Collm 82.79 326 *e*(P) P **01 11 51.0 +1.6**
comp=Z,8.0nm,0.9s,mb4.8
M04C Macdoel 82.79 46 ⇑P P **01 11 48.5 -0.8**
baz=82
K05A Summer Lake 82.86 45 ⇓P P **01 11 48.9 -0.9**
baz=82
PKSM Moragy 82.87 320 ⇑*i*P P **01 11 49.8 0.0**
M03C McCloud 82.89 46 ⇑P P **01 11 49.7 -0.2**
baz=82
F09A S2 Ranch, Elgi 82.96 41 ⇓P P **01 11 50.2 0.0**
baz=83
E10A Myers Farm, Un 82.96 40 ⇑P P **01 11 49.3 -0.9**
baz=83
WDC Whiskeytown Da 83.00 47 ⇑P P **01 11 49.3 -1.1**
baz=83
J06A Christmas Vall 83.02 44 ⇑P P **01 11 50.0 -0.6**
baz=83
D11A Klaveano Farm, 83.06 39 ⇑P P **01 11 50.1 -0.7**
baz=83
WALA Waterton Lakes 83.17 37 *e*P P **01 11 51.6 +0.3**
comp=Z,6.0nm,1.0s,mb4.6
F10A Beach Ranch, E 83.19 41 ⇓P P **01 11 51.4 0.0**
baz=83
H08A Prairie City 83.19 42 ⇓P P **01 11 52.7 +1.2**
baz=83
K06A Valley Falls 83.21 44 P P **01 11 52.1 +0.6**
baz=83,SNR=5.6
L05A Lakeview 83.27 45 ⇑P P **01 11 52.5 +0.7**
baz=83
M05C Lookout 83.46 46 ⇑P P **01 11 53.2 +0.4**
baz=83
E11A Bogner Ranch, 83.54 40 ⇑P P **01 11 53.2 -0.1**
baz=83
HATC Hat Creek Radi 83.56 47 ⇓P P **01 11 53.1 -0.2**
baz=83
I08A Drewsey 83.60 43 ⇓P P **01 11 53.6 0.0**
baz=83
C13A Hot Springs 83.65 38 P P **01 11 54.5 +0.7**
baz=83,SNR=5.1
MOD Modoc 83.68 45 ⇑P P **01 11 54.3 +0.4**
baz=83
H09A Durkee 83.70 42 ⇑P P **01 11 54.4 +0.3**
baz=83
BMO Blue Mountains 83.80 42 *e*P P **01 11 54.6 0.0**
comp=Z,15nm,1.3s,mb5.0
BMO *e*pP pP 01 12 05.0 +0.9
F11A Grangeville 83.85 40 ⇑P P **01 11 54.2 -0.6**
baz=84
KHC Kasperske Hory 83.86 324 P P **01 11 58.0 +3.1**
K07A Rock Creek Ran 83.89 44 ⇓P P **01 11 55.1 0.0**
baz=84
M06C Likely Place G 83.96 46 ⇓P P **01 11 55.5 +0.1**
baz=84
GERES GERESS Array B 83.97 324 P P **01 11 55.1 -0.4**
comp=Z,1.8nm,0.9s,mb4.2,baz=56,slow=3.4,SNR=8.2
GERES GERESS Array B 83.97 324 P P **01 11 55.1 -0.4**
GERES pmax pmax
comp=Z,2.0nm,0.9s
J08A Circle Bar Ran 83.97 43 P P **01 11 56.4 +0.9**
baz=84,SNR=7.6
MNRC McLaughlin Nat 83.98 49 ⇑P P **01 11 55.9 +0.4**
baz=84
C14A Swan Lake 84.04 38 ⇓P P **01 11 55.7 -0.1**
baz=84
I09A Lost Marbles R 84.06 42 P P **01 11 56.7 +0.8**
baz=84,SNR=6.5
D13A Huson 84.07 39 ⇑P P **01 11 56.2 +0.2**
baz=84
O04C Chester 84.07 47 ⇓P P **01 11 55.4 -0.5**
baz=84
L07A Adell 84.21 45 P P **01 11 58.0 +1.3**
baz=84,SNR=7.0
ORV Oroville 84.22 48 ⇓P P **01 11 55.0 -1.7**
baz=84
H10A Noah's Angus R 84.28 41 P P **01 11 56.8 -0.2**
baz=84,SNR=13
K08A Mann Creek Ran 84.33 44 P P **01 11 58.1 +0.8**
baz=84,SNR=6.1
O05C Quincy 84.37 47 ⇑P P **01 11 57.3 -0.2**
baz=84
J09A Fry Pan Ranch, 84.41 43 P P **01 11 58.6 +0.9**
baz=84,SNR=11
F12A Elk City 84.43 40 P P **01 11 57.9 +0.1**
baz=84,SNR=14
D14A Greenough 84.59 38 ⇓P P **01 11 58.5 -0.1**
baz=84
E13A Victor 84.61 39 ⇑P P **01 11 58.0 -0.7**
baz=84
N06A Buffalo Meadow 84.62 46 P P **01 11 59.4 +0.7**
baz=84,SNR=5.5
H11A Donnelly 84.63 41 ⇓P P **01 11 57.6 -1.2**
baz=84
M07A Soldier Meadow 84.67 45 ⇓P P **01 11 60.0 +1.0**
baz=84
GRA1 Grafenberg Arr 84.69 325 *e*P P **01 12 04.2 +5.1**
comp=Z,7.0nm,0.9s,mb4.8
GRA1 LR LR
comp=Z,600nm,19.2s,MS5.0
GRF Grafenberg Arr 84.69 325 *e*P P **01 12 04.2 +5.1**
comp=Z,7.0nm,0.9s,mb4.8
GRF *e*L 01 53 45.1
comp=Z,564nm,19.2s
GRF Grafenberg Arr 84.69 325 *e*P P **01 12 04.2 +5.1**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
GRF MLR MLR
comp=Z,600nm,19.2s,MS5.0
GRF Grafenberg Arr 84.69 325 *e*P P **01 12 04.2 +5.1**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
GRF MLR MLR
comp=Z,600nm,19.2s,MS5.0
Q04C Lincoln 84.70 48 ⇑P P **01 11 59.9 +0.7**
baz=84
L08A Fields 84.72 44 P P **01 12 00.3 +1.1**
baz=84,SNR=9.9
BEKR Beckwourth 84.78 47 P P **01 11 59.9 +0.4**
baz=84,SNR=5.9
K09A Rome 84.80 43 P P **01 12 00.5 +0.8**
baz=84,SNR=5.3
F13A Darby 84.93 39 ⇓P P **01 11 59.6 -0.7**
baz=84
P05C Yuba Gap, Truc 84.94 47 ⇓P P **01 12 00.2 -0.2**
baz=85
J10A Berg Farm, Mel 84.95 42 ⇑P P **01 11 59.8 -0.6**
baz=85
O06A Flanigan 84.95 46 ⇓P P **01 12 00.8 +0.4**
baz=85
E14A Clinton 85.01 39 ⇓P P **01 12 00.9 +0.2**
baz=85
M08A Happy Creek Ra 85.13 45 P P **01 12 02.5 +1.2**
baz=85,SNR=5.2
I11A Placerville 85.13 42 ⇓P P **01 12 01.9 +0.6**
baz=85
N07B Gerlach 85.14 46 ⇑P P **01 12 01.7 +0.4**
baz=85
D15A Lincoln 85.14 38 ⇓P P **01 12 01.6 +0.2**
baz=85
LAVA Lava Cap Winer 85.16 48 ⇓P P **01 12 01.3 -0.2**
baz=85
L09A Wilkinson Ranc 85.23 44 P P **01 12 03.2 +1.4**
baz=85,SNR=7.4
H12A Diamond D Ranc 85.39 41 P P **01 12 03.2 +0.6**
baz=85,SNR=7.8
G13A Cobalt 85.41 40 ⇓P P **01 12 02.1 -0.6**
baz=85
F14A Wisdom 85.45 39 ⇓P P **01 12 02.8 -0.1**
baz=85
E15A Deer Lodge 85.47 38 ⇓P P **01 12 02.6 -0.4**
baz=85
WCN Washoe City 85.48 47 ⇑P P **01 12 02.9 -0.2**
baz=85
O07A Toulon 85.55 46 ⇓P P **01 12 03.2 -0.2**
baz=85
R05C Kirkwood Meado 85.62 48 ⇓P P **01 12 03.0 -0.8**
baz=85
M09A Marrel Ranch, 85.71 44 ⇓P P **01 12 04.5 +0.3**
baz=85
CMB Columbia Colle 85.79 48 *e*P P **01 12 04.4 -0.2**
CMB *e*PP pP 01 12 14.8 +0.6
CMB pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
CMB Columbia Colle 85.79 48 *e*P P **01 12 04.4 -0.2**
comp=Z,9.4nm,0.8s,mb5.1
CMB *e*pP pP 01 12 14.8 +0.6
CMB Columbia Colle 85.79 48 P P **01 12 04.6 0.0**
baz=85,SNR=6.9
F15A Butte 85.91 39 P P **01 12 05.9 +0.7**
baz=86,SNR=7.3
EGMT Eagleton 85.96 36 *e*P P **01 12 04.2 -1.2**
comp=Z,18nm,1.0s,mb5.3
EGMT *e*pP pP 01 12 15.9 +0.9
N09A Rock Creek Ran 86.00 45 ⇓P P **01 12 07.2 +1.6**
baz=86
R06C Coleville 86.12 48 P P **01 12 07.1 +0.9**
baz=86,SNR=5.2
DLMT Dillon 86.15 39 *e*P P **01 12 06.5 +0.1**
comp=Z,16nm,0.9s,mb5.3
DLMT *e*pP pP 01 12 16.9 +0.9
M10A I.L. Ranch, Tu 86.20 44 P P **01 12 08.1 +1.4**
baz=86,SNR=7.8
S05C Merced 86.21 49 P P **01 12 06.8 +0.1**
baz=86,SNR=5.3
S06C San Francisco 86.23 48 ⇑P P **01 12 07.2 +0.4**
baz=86
HLID Hailey 86.24 41 *e*P P **01 12 07.5 +0.7**
comp=Z,9.0nm,0.8s,mb5.0
HLID *e*pP pP 01 12 18.9 +2.5
HLID Hailey 86.24 41 P P **01 12 07.8 +1.0**
baz=86,SNR=13

G15A Dillon 86.33 39 P P 01 12 08.0 +0.7
baz=86,SNR=16
O09A Fish Creek Ran 86.60 45 P P 01 12 09.5 +0.9
baz=86,SNR=6.2
M11A Holland Ranch, 86.71 44 ⇓P P 01 12 09.5 +0.3
baz=86
T06C Millerton Lake 86.81 49 ⇑P P 01 12 09.5 -0.1
baz=86
PKD Parkfield 86.86 50 ⇑P P 01 12 09.4 -0.4
baz=86
KCC Kaiser Creek 86.89 49 ⇓P P 01 12 09.9 -0.2
baz=86
O10A Cortez Mining, 86.96 45 ⇑P P 01 12 10.7 +0.4
baz=87
M12A Wells 87.25 43 P P 01 12 13.2 +1.5
baz=87,SNR=7.2
P10A Eureka 87.38 45 ⇓P P 01 12 12.8 +0.4
baz=87
HELL Mitchell Peak, 87.45 49 ⇑P P 01 12 12.3 -0.4
baz=87
N12A Clover Valley, 87.51 44 P P 01 12 14.2 +1.1
baz=87,SNR=7.1
S08C White Mtn Res 87.54 48 ⇑P P 01 12 13.9 +0.7
baz=87
O11A Cowboy Ranch, 87.57 45 ⇑P P 01 12 14.0 +0.7
baz=87
M13A Montello 87.73 43 ⇓P P 01 12 14.7 +0.6
baz=87
R09A Tonopah 87.81 47 ⇑P P 01 12 14.6 +0.1
baz=88
LKWY Lake 87.86 39 *eP* **P 01 12 17.1 +2.4**
LKWY *e*PP pP 01 12 28.3 +4.0*
LKWY pmax pmax
comp=Z,12nm,1.0s,mb5.1
LKWY Lake 87.86 39 *eP* **P 01 12 17.1 +2.4**
comp=Z,12nm,1.0s,mb5.1
LKWY *epP pP 01 12 28.2 +3.9*
IMW Indian Meadow 88.00 39 *eP* **P 01 12 16.6 +1.2**
comp=Z,13nm,1.0s,mb5.1
IMW *epP pP 01 12 27.2 +2.3*
N13A Wendover, West 88.01 43 ⇑P P 01 12 15.5 0.0
baz=88
S09A Goldfield 88.02 47 ⇑P P 01 12 16.1 +0.7
baz=88
Q11A Duckwater 88.34 46 ⇓P P 01 12 16.8 -0.2
baz=88
GRAC Grapevine Rang 88.35 48 ⇓P P 01 12 16.0 -1.0
baz=88
P12A McGill 88.43 45 P P 01 12 18.5 +1.1
baz=88,SNR=7.8
Q12A Willow Creek R 88.74 45 ⇓P P 01 12 19.2 +0.4
baz=88
MPMC Manual Prospec 88.82 49 ⇓P P 01 12 19.7 +0.5
baz=88
FURC Furnace Creek, 88.99 48 ⇓P P 01 12 19.6 -0.5
baz=89
PDAR Pinedale Array 89.50 40 P P 01 12 22.4 0.0
comp=Z,3.1nm,0.8s,mb4.7,baz=315,slow=1.1,SNR=27
GSC Goldstone 89.71 49 ⇑P P 01 12 24.2 +0.8
baz=89
NLU North Lily Min 89.85 43 *eP* **P 01 12 25.4 +1.3**
PPT Papeete 89.98 110 LR LR 01 47 48.8
comp=Z,104nm,18.5s,MS4.3,baz=314,slow=32
TUQ Turquoise Mtn. 90.21 48 ⇑P P 01 12 27.1 +1.4
baz=90
U12A Valley of Fire 90.51 47 ⇑P P 01 12 27.2 +0.1
baz=90
MSU Marysvale 90.69 44 *eP* **P 01 12 29.4 +1.4**
V12A Nelson 90.73 48 ⇓P P 01 12 28.9 +0.7
baz=90
ULM Lac du Bonnet 90.76 28 P P 01 12 27.5 -0.8
comp=Z,3.7nm,0.8s,mb4.7,baz=302,slow=4.4,SNR=5.9
SRU San Rafael 91.31 43 *eP* **P 01 12 30.7 -0.1**
SRU *e*PP pP 01 12 42.3 +1.8*
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
SRU San Rafael 91.31 43 *eP* **P 01 12 30.7 -0.1**
comp=Z,7.0nm,0.9s,mb5.0
SRU *epP pP 01 12 42.2 +1.8*
RSSD Black Hills 91.53 36 *eP* **P 01 12 32.4 +0.5**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
RSSD Black Hills 91.53 36 *eP* **P 01 12 32.4 +0.5**
comp=Z,2.4nm,0.6s,mb4.7
BC3 Big Chuckw Mtn 91.59 50 ⇑P P 01 12 32.3 +0.2
baz=91
W13A Hualapai Mount 91.74 48 ⇓P P 01 12 33.6 +0.7
baz=91
PDMCI Parker Dam,Lak 92.07 48 ⇓P P 01 12 34.5 +0.1
baz=92
X13A Yucca 92.09 48 ⇓P P 01 12 34.9 +0.4
baz=92
Y12C Blythe 92.15 49 ⇑P P 01 12 34.6 -0.1
baz=92
W14A Seligman 92.19 47 ⇑P P 01 12 35.9 +1.0
baz=92
GLA Glamis 92.37 50 ⇑P P 01 12 36.5 +0.8
baz=92
PV10 Paradox Valley 92.67 43 *eP* **P 01 12 38.5 +1.3**
PV10 *epP pP 01 12 49.4 +2.6*
X14A Yava 92.77 48 P P 01 12 39.0 +1.4
baz=92,SNR=6.7
Y14A Wickenburg 93.03 48 P P 01 12 39.7 +0.9
baz=93,SNR=6.1
PV01 Paradox Valley 93.10 43 *eP* **P 01 12 40.1 +0.9**
X15A Humboldt 93.19 47 P P 01 12 40.8 +1.2
baz=93,SNR=10
Z14A Wintersburg 93.43 49 ⇓P P 01 12 41.4 +0.7
baz=93
115A Sonoran Desert 94.31 49 ⇑P P 01 12 45.1 +0.4
baz=94
116A Eloy 94.74 49 ⇓P P 01 12 47.7 +1.0
baz=94
ESDC Sonseca Array 99.38 326 LR LR 02 04 25.4
comp=Z,256nm,18.1s,MS4.8,baz=310,slow=39
TXAR Lajitas Array 102.05 46 P Pdif 01 13 20.1 +0.6
comp=Z,0.7nm,0.8s,baz=285,slow=2.5,SNR=5.8
TXAR Lajitas Array 102.05 46 P Pdif 01 13 20.1 +0.6
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 115.07 303 PKP PKiKP 01 18 05.3 -0.9
comp=Z,0.4nm,0.8s,baz=76,slow=1.8,SNR=2.9
ATAH Atahualpa 144.86 57 PKP PKPdf 01 19 02.4 +0.3
comp=Z,9.9nm,0.9s,baz=330,slow=3.0,SNR=6.6
NNA Nana 149.24 62 PKPbc PKPbc 01 19 13.1 -0.7
comp=Z,9.8nm,0.7s,baz=334,slow=7.0,SNR=5.1
LPAZ La Paz 158.49 57 PKPab PKPab 01 19 57.4 -0.1
comp=Z,1.3nm,0.8s,baz=352,slow=7.3,SNR=4.9
LPAZ La Paz 158.49 57 PKP2 PKPab 01 19 57.4 -0.1
LPAZ pmax pmax
comp=Z,1.0nm,0.8s

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*NEIC **09** 01:08:56.7±0.9, 1455N×14602E, h35km, mb4.4/1, Error ellipse: s-maj=27.7km s-min=16.3km az=121.0*
*ISCJB **09** 01:08:58.3±2.6, 145N±02×1460E±02, h67km±24km, mb4.1/10, Error ellipse: s-maj=30.2km s-min=25.6km az=165.3*
*IDC **09** 01:08:59.6±3.1, 1450N×14594E, h59km±31km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, MS3.6/1, Ms1 3.6/1, ms1mx2.1/33, Error ellipse: s-maj=29.1km s-min=24.5km az=101.0*
ISC 09 01:08:58.3±3.1, 145N±02×1460E±02, h50km±30km, n17, σ0.97/15, mb4.2/10, MS3.4/1, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**231**	P	**Pn**	**01 09 21.4**	**-0.6**
	233nm,0.3s,baz=95,slow=2.9,SNR=49						
GUMO				S	**Sn**	**01 09 40.1**	**+0.3**
	139nm,0.3s,baz=343,slow=20,SNR=5.9						
MJAR	**Matsushiro Arr**	**23.03**	**344**	LR	LR	01 22 05.7	
	comp=Z,130nm,19.4s,MS3.4,baz=0.0,slow=34						
NACB	**Ninganchiao**	**24.93**	**296**	*eP*	**P**	**01 14 17.2**	**+0.5**
KSRS	**Korea Array**	**27.95**	**328**	P	**P**	**01 14 43.8**	**-0.1**
	4.5nm,0.7s,mb4.2,baz=143,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**36.11**	**199**	P	**P**	**01 15 55.7**	**+0.4**
	0.8nm,0.7s,mb3.7,baz=20,slow=9.5,SNR=5.0						
SONM	**Songino Array**	**46.64**	**324**	P	**P**	**01 17 22.3**	**+0.7**
	2.7nm,0.8s,mb4.2,baz=142,slow=9.8,SNR=17						
CAL	**Calcutta**	**55.01**	**287**	*ex*	x	01 17 30.2	
MKAR	**Makanchi Array**	**61.61**	**316**	P	**P**	**01 19 11.0**	**+0.4**
	0.9nm,0.5s,mb4.2,baz=92,slow=8.5,SNR=7.7						
MKAR	**Makanchi Array**	**61.61**	**316**	P	**P**	**01 19 11.0**	**+0.4**
KDAK	**Kodiak Island**	**62.70**	**32**	P	**P**	**01 19 20.2**	**+2.2**
	6.0nm,0.8s,mb4.8,baz=345,slow=22,SNR=9.8						
KDAK	**Kodiak Island**	**62.70**	**32**	P	**P**	**01 19 20.2**	**+2.2**
KURK	**Kurchatov**	**64.61**	**319**	*eP*	**P**	**01 19 30.1**	**-0.5**
	2.3nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**69.91**	**321**	P	**P**	**01 20 03.9**	**-0.2**
	2.9nm,0.6s,mb4.4,baz=101,slow=7.3,SNR=14						
INK	**Inuvik**	**73.09**	**23**	P	**P**	**01 20 23.4**	**+0.2**
	1.0nm,0.7s,mb3.9,baz=268,slow=5.4,SNR=7.9						
YKA	**Yellowknife Ar**	**81.53**	**28**	P	**P**	**01 21 09.1**	**-1.4**
	0.5nm,0.6s,mb3.6,baz=288,slow=5.5,SNR=5.4						
FINES	**FINESS Array B**	**90.80**	**335**	P	**P**	**01 21 53.3**	**-2.8**
	2.4nm,0.8s,mb4.6,baz=68,slow=5.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**135.25**	**306**	PKP	PKPdf	01 28 13.1	+0.8
	0.4nm,0.9s,baz=358,slow=2.9,SNR=3.3						

IDC 09 01:43:55.3±5.8, 816S×12029E, h230km±62km, mb3.2/2, mb1 3.2/3, mb1mx3.0/16, mbtmp3.1/3, Error ellipse: s-maj=135.6km s-min=14.6km az=48.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.95**	**132**	P	P	01 47 48.3	-0.3
	0.4nm,0.3s,baz=303,slow=12,SNR=14						
WRA				S	S	01 51 03.3	+0.8
	0.1nm,0.3s,baz=305,slow=23,SNR=2.7						
WB2	**Warramunga Arr**	**17.96**	**132**	*eP*	P	01 47 48.7	0.0
STKA	**Stephens Creek**	**30.82**	**143**	P	P	01 49 50.9	+1.2
	0.6nm,0.3s,baz=333,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**64.30**	**332**	P	P	01 54 06.1	-0.1
	0.3nm,0.4s,baz=157,slow=7.5,SNR=7.3						

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*NEIC **09** 01:53:11.4±1.1, 4709N×15533E, h10km, mb4.5/4, Error ellipse: s-maj=27.3km s-min=10.1km az=172.0*
*ISCJB **09** 01:53:12.3±4.4, 4757N±009×1552E±01, h9km±28km, mb4.0/22, Error ellipse: s-maj=19.2km s-min=11.3km az=76.8*
*IDC **09** 01:53:12.9±0.9, 4767N×15534E, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/23, mbtmp3.9/17, ML3.3/1, Error ellipse: s-maj=25.5km s-min=17.3km az=168.0*
*MOS **09** 01:53:17.9±1.2, 4773N×15513E, h45km, mb4.3/12, Error ellipse: s-maj=23.3km s-min=11.1km az=100.9*
ISC 09 01:53:15.5±4.1, 4756N±009×1553E±01, h21km±28km, n41, σ0.90/43, mb4.0/22, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.18**	**10**	*ePN*	**Pn**	**01 54 04.5**	**+0.2**
SKR				*eS*	**Sn**	**01 54 41.6**	**0.0**
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
ASAJ	**Asahikawa**	**9.48**	**253**	Pn	**Pn**	**01 55 30.6**	**-0.2**
	comp=E,0.4nm,0.3s,baz=104,slow=16,SNR=4.1						
MAJO	**Matsushiro**	**16.73**	**235**	*eP*	**Pn**	**01 57 00.3**	**-8.3**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**16.73**	**235**	*ePn*	**Pn**	**01 57 00.3**	**-8.3**
	comp=Z,5.0nm,0.5s						
BILL	**Bilibino**	**21.29**	**11**	⇓*eP*	**P**	**01 58 02.2**	**+1.5**
BILL				*eS*	**S**	**02 01 44.5**	**-12**
BILL				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.1						
BILL	**Bilibino**	**21.29**	**11**	*eP*	**P**	**01 58 02.3**	**+1.6**
	comp=Z,13nm,1.1s,mb4.2						
KSRS	**Korea Array**	**22.43**	**253**	P	**P**	**01 58 20.1**	**+7.3**
	comp=Z,1.3nm,0.7s,mb3.5,baz=56,slow=11,SNR=3.4						
TIXI	**Tiksi**	**27.12**	**342**	*iP*	**P**	**01 58 54.2**	**-2.9**
SONM	**Songino Array**	**32.44**	**289**	P	**P**	**01 59 43.4**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.4,baz=67,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**32.44**	**289**	P	**P**	**01 59 43.4**	**-0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**40.18**	**33**	P	**P**	**02 00 50.6**	**+0.3**
	comp=Z,1.8nm,0.8s,mb3.8,baz=259,slow=9.0,SNR=11						
INK	**Inuvik**	**40.18**	**33**	P	**P**	**02 00 50.6**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL	**Zalesovo**	**43.34**	**306**	P	**P**	**02 01 15.6**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.8,baz=36,slow=7.2,SNR=3.8						
ZAL	**Zalesovo**	**43.34**	**306**	P	**P**	**02 01 15.6**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**02 01 51.5**	**-0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=66,slow=4.7,SNR=9.5						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**02 01 51.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.86**	**298**	*iP*	**P**	**02 01 58.5**	**+6.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**48.13**	**304**	*iP*	**P**	**02 01 53.8**	**-0.1**
KURK	**Kurchatov**	**48.13**	**304**	*eP*	**P**	**02 01 52.8**	**-1.2**
	comp=Z,10nm,1.1s,mb4.8						
YKA	**Yellowknife Ar**	**49.40**	**38**	P	**P**	**02 02 03.3**	**-0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=295,slow=7.1,SNR=7.6						
YKA	**Yellowknife Ar**	**49.40**	**38**	*eP*	**P**	**02 02 03.3**	**-0.4**
CHKZ	**Chkalovo**	**51.02**	**310**	*eP*	**P**	**02 02 15.7**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
CHKZ	**Chkalovo**	**51.02**	**310**	*eP*	**P**	**02 02 15.7**	**-0.3**
	comp=Z,5.7nm,0.4s,mb4.8						
BVA0	**Borovoye Array**	**51.47**	**310**	*iP*	**P**	**02 02 19.6**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
BVAR	**Borovoye Array**	**51.47**	**310**	P	**P**	**02 02 19.7**	**+0.4**
	comp=Z,1.6nm,0.4s,mb4.3,baz=53,slow=8.2,SNR=10						
BVAR	**Borovoye Array**	**51.47**	**310**	P	**P**	**02 02 19.7**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**57.56**	**341**	P	**P**	**02 03 05.0**	**+1.4**
	comp=Z,5.2nm,0.9s,mb4.6,baz=29,slow=7.6,SNR=3.6						
ARCES	**ARCESS Array B**	**57.56**	**341**	P	**P**	**02 03 05.0**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AB31	**Akbulak array**	**59.02**	**310**	*iP*	**P**	**02 03 13.9**	**+0.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**63.09**	**55**	P	**P**	**02 03 40.4**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=282,slow=2.7,SNR=9.1						
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**02 03 46.8**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.2,baz=45,slow=7.9,SNR=14						
FINES	**FINESS Array B**	**63.92**	**335**	*iP*	**P**	**02 03 46.7**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**67.92**	**342**	P	**P**	**02 04 12.8**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=39,slow=4.5,SNR=3.7						
NOA	**NORSAR Array B**	**67.92**	**342**	P	**P**	**02 04 12.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**69.77**	**201**	P	**P**	**02 04 27.1**	**+2.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=12,slow=6.7,SNR=8.6						
AKASG	**Malin Array Be**	**71.67**	**327**	P	**P**	**02 04 34.8**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=31,slow=5.6,SNR=4.1						
AKASG	**Malin Array Be**	**71.67**	**327**	*eP*	**P**	**02 04 35.9**	**+0.2**
TXAR	**Lajitas Array**	**75.83**	**62**	P	**P**	**02 04 58.9**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=304,slow=5.0,SNR=12						
GERES	**GERESS Array B**	**78.35**	**335**	P	**P**	**02 05 14.2**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=52,slow=6.4,SNR=2.9						
BRTR	**Keskin Array B**	**78.78**	**318**	P	**P**	**02 05 17.5**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=44,slow=6.8,SNR=2.9						
MMAI	**Mount Meron Ar**	**83.35**	**313**	P	**P**	**02 05 42.0**	**+1.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=42,slow=8.8,SNR=3.2						

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*NIED **09** 02:36:00, 3150N×13060E, h116km, Mw3.9 Best double couple: $M_0$7.39000×10^14 NP1:φ=124.00000°, δ59.00000°, λ-96.00000°. NP2:φ=316.00000°, δ32.00000°, λ-80.00000°.*
*ISCJB **09** 02:36:04.2±0.4, 3148N±005×13064E±007, h131km±3km, mb3.7/11, Error ellipse: s-maj=10.6km s-min=6.9km az=64.6*
*JMA **09** 02:36:05.8±0.1, 3151N×13063E, h120km±1km, M3.6*
*IDC **09** 02:36:05.0±1.7, 3147N×13075E, h130km±10km, mb3.6/8, mb1 3.7/11, mb1mx3.6/22, mbtmp3.6/11, Error ellipse: s-maj=23.3km s-min=17.6km az=123.0*
*NEIC **09** 02:36:05.4±0.9, 3140N×13073E, h136km±9km, mb3.8/4, Error ellipse: s-maj=20.1km s-min=12.0km az=131.0*
ISC 09 02:36:05.2±0.4, 3147N±005×13062E±007, h126km±3km, n28, σ0.94/34, mb3.8/11, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.14**	**285**	P	**Pn**	**02 36 22.3**	**-0.1**
JTSR	**Tashiro 2**	**0.40**	**139**	P	**Pn**	**02 36 23.2**	**-0.1**
JTSR				S	**Sn**	**02 36 36.6**	**-0.3**
JTZ	**Takazaki**	**0.59**	**43**	P	**Pn**	**02 36 24.1**	**-0.3**
JTZ				S	**Sn**	**02 36 37.8**	**-1.1**
JSJ	**Shimokoshiki**	**0.80**	**285**	P	**Pn**	**02 36 26.0**	**+0.1**
JTN	**Tanegashima 3**	**0.87**	**159**	P	**Pn**	**02 36 27.1**	**+0.6**
JTN				S	**Sn**	**02 36 42.8**	**+0.1**
JIU2	**Izumi 2**	**1.09**	**9**	P	**Pn**	**02 36 28.5**	**-0.1**
JIU2				S	**Sn**	**02 36 45.9**	**-0.4**
JNU	**Nakatsue**	**1.66**	**8**	P	**Pn**	**02 36 35.0**	**+0.1**
	196nm,0.3s,baz=217,slow=19,SNR=422						
JNU				S	**Sn**	**02 36 57.2**	**-0.3**
	33nm,0.3s,baz=212,slow=19,SNR=4.8						
JOW	**Kunigami**	**5.05**	**204**	P	**Pn**	**02 37 19.1**	**+0.2**
	16nm,0.3s,baz=108,slow=24,SNR=33						
KSRS	**Korea Array**	**6.37**	**340**	P	**Pn**	**02 37 37.8**	**+1.1**
	baz=158,slow=14,SNR=8.2						
MAJO	**Matsushiro**	**8.08**	**49**	*ePn*	**Pn**	**02 38 00.3**	**+0.5**
MAT	**Matsushiro**	**8.08**	**49**	P	**Pn**	**02 38 01.1**	**+1.4**
MAT				S	**Sn**	**02 39 29.7**	**+0.3**
MJAR	**Matsushiro Arr**	**8.08**	**49**	P	**Pn**	**02 38 00.5**	**+0.8**
	3.9nm,0.3s,baz=238,slow=13,SNR=27						
MJAR				S	**Sn**	**02 39 29.3**	**-0.1**
	0.6nm,0.3s,baz=274,slow=26,SNR=4.6						
SONM	**Songino Array**	**24.64**	**318**	P	**P**	**02 41 15.5**	**+1.6**
	0.9nm,0.6s,mb3.4,baz=134,slow=11,SNR=7.5						
MK31	**Makanchi Array**	**39.84**	**307**	*eP*	**P**	**02 43 28.0**	**+1.9**
MKAR	**Makanchi Array**	**39.84**	**307**	P	**P**	**02 43 28.1**	**+2.0**
	0.6nm,0.5s,mb3.7,baz=89,slow=11,SNR=12						
KURK	**Kurchatov**	**42.65**	**312**	*eP*	**P**	**02 43 50.0**	**+0.9**
	1.6nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**47.80**	**316**	*eP*	**P**	**02 44 28.8**	**-0.9**
	0.7nm,0.4s,mb3.8						
BRVK	**Borovoye**	**47.98**	**315**	*eP*	**P**	**02 44 30.9**	**-0.1**
	2.5nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**65.92**	**338**	P	**P**	**02 46 36.1**	**-1.4**
	3.7nm,0.8s,mb4.2,baz=64,slow=8.2,SNR=6.6						
KAF	**Kangasniemi**	**68.95**	**331**	*ep*	**P**	**02 46 54.1**	**-2.5**
FINES	**FINESS Array B**	**69.36**	**330**	P	**P**	**02 46 58.1**	**-1.0**
	1.8nm,0.3s,mb4.3,baz=70,slow=5.8,SNR=39						
YKA	**Yellowknife Ar**	**72.91**	**26**	P	**P**	**02 47 20.0**	**-0.5**
	0.2nm,0.6s,mb3.1,baz=289,slow=8.6,SNR=5.0						
AKASG	**Malin Array Be**	**72.93**	**319**	P	**P**	**02 47 19.5**	**-1.1**
	0.6nm,0.3s,mb3.9,baz=56,slow=6.3,SNR=6.8						
BR131	**Keskin Array S**	**75.48**	**308**	*eP*	**P**	**02 47 35.3**	**-0.2**
	1.6nm,0.8s,mb3.8						
BRTR	**Keskin Array B**	**75.48**	**308**	P	**P**	**02 47 35.8**	**+0.4**
	1.5nm,0.7s,mb3.8,baz=112,slow=5.5,SNR=10						
NB2	**NORSAR Subarra**	**75.54**	**334**	P	**P**	**02 47 34.2**	**-1.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**75.54**	**334**	P	**P**	**02 47 34.1**	**-1.7**
	comp=Z,1.0nm,0.6s,mb3.8,baz=51,slow=5.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**113.92**	**304**	PKP	PKiKP	02 54 28.4	-0.7
	comp=Z,0.2nm,0.9s,baz=33,slow=1.6,SNR=4.4						

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*LDG **09** 02:38:52.7±0.0, 4301N×001W, h3km, Md2.4/2, Ml2.4/9, Error ellipse: s-maj=0.9km s-min=0.7km az=164.0*
*STR **09** 02:38:52.4±0.2, 4303N×002E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **09** 02:38:53.0±0.1, 4302N×000W, h5km, ML2.5/9, Error ellipse: s-maj=1.2km s-min=0.8km az=173.0*
MDD 09 02:38:53.2±0.2, 4301N×001W, h2km±4km, mbLg1.7/20, 1C, Error ellipse: s-maj=1.8km s-min=1.5km az=22.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**60**	P	Pg	02 38 54.7	+0.1
LABF				S	Sg	02 38 56.0	+0.5
VIEF	**Viey**	**0.13**	**171**	Pg	Pg	02 38 55.8	0.0
VIEF	**Viey**	**0.13**	**171**	P	Pg	02 38 55.8	0.0
VIEF				S	Sg	02 38 57.9	+0.4
EPF	**Esparros**	**0.25**	**86**	*ePg*	Pg	02 38 57.7	-0.4
EPF				*eSg*	Sg	02 39 01.5	+0.1
	55nm,0.2s						
EPF	**Esparros**	**0.25**	**86**	*ePg*	Pg	02 38 57.7	-0.4
EPF				*eSg*	Sg	02 39 01.5	+0.1
	28nm,0.2s						
REYF	**Montagne du Re**	**0.29**	**281**	Pg	Pg	02 38 58.2	-0.6
REYF				Sg	Sg	02 39 02.7	+0.2
REYF	**Montagne du Re**	**0.29**	**281**	P	Pg	02 38 58.2	-0.5
REYF				S	Sg	02 39 02.2	-0.4
RESF	**Ens**	**0.33**	**129**	Pg	Pg	02 38 59.0	-0.5
RESF				Sg	Sg	02 39 03.9	+0.2
RESF	**Ens**	**0.33**	**129**	P	Pg	02 38 59.1	-0.3
RESF				S	Sg	02 39 04.0	+0.2
EBIE	**Bielsa**	**0.34**	**162**	⇑Pg	Pg	02 38 59.5	-0.3
	3.4nm,0.1s,SNR=18						
EBIE				Lg		02 39 04.2	
	13nm,0.1s,SNR=16						
EBIE	**Bielsa**	**0.34**	**162**	Pg	Pg	02 38 59.5	-0.4
	3.4nm,0.1s,SNR=18						
EBIE				Lg		02 39 04.2	
	13nm,0.1s,SNR=16						
ETSF	**Etsaut**	**0.42**	**254**	*ePg*	Pg	02 39 01.0	-0.3
ETSF				*eSg*	Sg	02 39 06.7	-0.1
	35nm,0.3s						
ETSF	**Etsaut**	**0.42**	**254**	*ePg*	Pg	02 39 01.0	-0.3
ETSF				*eSg*	Sg	02 39 06.7	-0.1
	17nm,0.3s						
ATE	**Arette**	**0.51**	**278**	Pg	Pg	02 39 02.3	-0.8
ATE				Sg	Sg	02 39 10.6	+0.8
ATE	**Arette**	**0.51**	**278**	P	Pg	02 39 02.5	-0.6
ATE				S	Sg	02 39 09.8	+0.1
MELF	**Melles**	**0.58**	**104**	P	Pg	02 39 03.5	-0.8
MELF				S	Sg	02 39 11.9	+0.1
SJPF	**Ste Jean**	**0.90**	**277**	*ePg*	Pg	02 39 09.6	-0.9
SJPF				*eSg*	Sg	02 39 21.5	-0.6
	8.1nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**277**	*ePg*	Pg	02 39 09.6	-0.9
SJPF				*eSg*	Sg	02 39 21.5	-0.6
	4.1nm,0.3s						
SALF	**Salau**	**0.91**	**106**	Pg	Pg	02 39 09.8	-1.0
SALF				Sg	Sg	02 39 22.0	-0.6
SALF	**Salau**	**0.91**	**106**	P	Pg	02 39 09.8	-1.0
SALF				S	Sg	02 39 21.9	-0.7
CSOR	**Sort**	**1.05**	**127**	P	Pg	02 39 12.5	-1.0
CSOR				S	Sg	02 39 27.1	0.0
	4.4nm,0.2s						
EALK	**Alkurruntz**	**1.12**	**281**	Lg		02 39 32.3	
	6.5nm,0.3s,SNR=5.0						
ELIZ	**Elizondo**	**1.13**	**278**	Pg	Pg	02 39 14.2	-0.6
	0.9nm,0.2s,SNR=7.0						
ELIZ				Lg		02 39 30.3	
	2.3nm,0.1s,SNR=5.0						
CORG	**

ECRI				Lg		02 39 54.3	
	2.6nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**15**	*e*Pg	Pg	02 39 30.0	-1.5
LFF				*e*Sn	Sn	02 39 50.0	-3.5
LFF				*e*Sg	Sg	02 39 56.1	-1.4
	8.1nm,0.3s						
LFF	**La Frestale**	**2.00**	**15**	*e*Pg	Pg	02 39 30.0	-1.5
LFF				*e*Sn	Sn	02 39 50.0	-3.5
LFF				*e*Sg	Sg	02 39 56.1	-1.4
	4.1nm,0.3s						
ERTA	**Horta de San J**	**2.07**	**173**	Pg	Pg	02 39 31.8	-1.1
	0.5nm,0.2s,SNR=4.0						
ERTA				Lg		02 39 58.3	
	2.4nm,0.2s,SNR=5.0						
ERTA	**Horta de San J**	**2.07**	**173**	Pg	Pg	02 39 31.8	-1.1
	0.5nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**2.21**	**104**	Pg	Pg	02 39 33.6	-2.0
	1.8nm,0.5s,SNR=4.0						
EJON				Lg		02 40 04.0	
	1.8nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.21**	**104**	Pg	Pg	02 39 33.6	-1.9
	1.8nm,0.5s,SNR=4.0						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	02 39 37.7	-2.0
CAF				*e*Sg	Sg	02 40 07.8	-3.4
	3.5nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	*e*Pg	Pg	02 39 37.7	-2.0
CAF				*e*Sg	Sg	02 40 07.8	-3.4
	1.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pn	Pn	02 39 33.0	-2.4
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg	Pg	02 39 39.7	-2.2
RJF				*e*Sg	Sg	02 40 12.4	-2.4
	3.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	Pn	Pn	02 39 33.0	-2.4
RJF				Pg	Pg	02 39 39.7	-2.2
RJF				Lg		02 40 12.4	
	1.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Pg	Pg	02 39 39.7	-2.2
RJF				*e*Sg	Sg	02 40 12.4	-2.4
	1.6nm,0.2s						
ETOR	**Torete**	**2.67**	**216**	Pn	Pn	02 39 36.9	-0.3
	2.0nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	02 40 08.3	-1.9
	3.9nm,0.3s,SNR=7.9						
ETOR				Lg		02 40 18.6	
	3.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.67**	**216**	Pn	Pn	02 39 36.9	-0.3
	2.0nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	02 40 08.3	-1.9
	3.9nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pn	Pn	02 39 39.4	-2.4
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	Pg	02 39 48.7	-2.1
LASF				*e*Sg	Sg	02 40 27.1	-2.6
	2.7nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	Pn	Pn	02 39 39.4	-2.4
LASF				Pg	Pg	02 39 48.7	-2.1
LASF				Lg		02 40 27.1	
	1.4nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Pg	Pg	02 39 48.7	-2.1
LASF				*e*Sg	Sg	02 40 27.1	-2.6
	1.4nm,0.2s						
MFF	**Saint Martin d**	**3.59**	**358**	*e*Sn	Sn	02 40 27.9	-4.9
MFF				*e*Sg	Sg	02 40 45.2	-3.3
	1.0nm,0.2s						
MFF	**Saint Martin d**	**3.59**	**358**	*e*Sn	Sn	02 40 27.9	-4.9
MFF				*e*Sg	Sg	02 40 45.2	-3.3
	0.5nm,0.2s						
TCF	**Toulx Ste Croi**	**3.63**	**25**	*e*Sg	Sg	02 40 46.4	-3.6
	0.6nm,0.2s						
TCF	**Toulx Ste Croi**	**3.63**	**25**	*e*Sg	Sg	02 40 46.4	-3.6
	0.3nm,0.2s						

NEIC ***09*** *02:51:33.4, 1594N×9901W, h20km, MD4.0(MEX), After MEX.*

MEX 09 02:51:32.5±0.8, 1586N×9901W, h16km±20km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.00**	**58**	*i* P	Pb	02 51 48.4	-3.0
PNIG				*i* S	Sb	02 51 59.2	-5.1
ACX	**Acapulco**	**1.33**	**319**	*i* P	Pn	02 51 52.0	-4.4
ACX				*i* S	Sn	02 52 09.0	-4.8
CAIG	**El Cayaco**	**1.69**	**315**	*i* P	Pn	02 51 58.5	-2.9
CAIG				*i* S	Sn	02 52 17.1	-5.6
CAIG	**El Cayaco**	**1.69**	**315**	*i* P	Pn	02 51 55.5	-5.9
CAIG				*i* S	Sn	02 52 24.8	+2.1
MEIG	**Mezcala**	**2.14**	**344**	*i* P	Pn	02 52 04.8	-2.8
MEIG				*i* S	Sn	02 52 28.7	-5.0
UTMO	**Huajuapan**	**2.27**	**30**	*i* P	Pn	02 52 07.0	-2.4
UTMO				*i* S	Sn	02 52 33.1	-3.9
VHO	**Vista Hermosa**	**2.49**	**61**	*i* P	Pn	02 52 10.8	-1.5
VHO				*i* S	Sn	02 52 39.4	-3.0
OXX	**Oaxaca**	**2.50**	**61**	*i* P	Pn	02 52 11.0	-1.5
OXX				*i* S	Sn	02 52 40.0	-2.7
OXX	**Oaxaca**	**2.50**	**61**	*i* P	Pn	02 52 11.0	-1.5
OXX				*i* S	Sn	02 52 47.5	+4.8
PLIG	**Platanillo**	**2.56**	**349**	*i* P	Pn	02 52 10.2	-3.2
PLIG				*i* S	Sn	02 52 41.1	-3.1
PLIG	**Platanillo**	**2.56**	**349**	*i* P	Pn	02 52 15.6	+2.2
PLIG				*i* S	Sn	02 52 45.8	+1.6
YAIG	**Yautepec**	**2.99**	**359**	*i* P	Pn	02 52 16.6	-2.6
YAIG				*i* S	Sn	02 52 51.3	-3.4
YAIG	**Yautepec**	**2.99**	**359**	*i* P	Pn	02 52 10.7	-8.5
YAIG				*i* S	Sn	02 52 53.5	-1.1
TPIG	**Tehuac#an**	**2.99**	**31**	*i* P	Pn	02 52 16.7	-2.5
TPIG				*i* S	Sn	02 52 50.9	-3.9
IIO	**Organos**	**3.72**	**4**	*i* P	Pn	02 52 35.5	+6.3
IIO				*i* S	Sn	02 53 24.2	+11

BJI ***09*** *03:10:38.5, 3567N×14077E, h5km, mb4.7, Ms3.8, Msz3.9*
MOS ***09*** *03:10:48.8±0.9, 3574N×14023E, h71km, mb4.6/11, Error ellipse: s-maj=22.0km s-min=11.2km az=120.8*
ISCJB ***09*** *03:10:49.8±0.4, 3573N±003×140.16E±005, h76km±3km, mb4.1/16, Error ellipse: s-maj=7.7km s-min=4.4km az=132.8*
JMA ***09*** *03:10:50.9±0.1, 3581N×140.14E, h65km±2km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs197.00000°, δ29.00000°, λ94.00000°. NP2:ϕs12.00000°, δ61.00000°, λ88.00000°. Principal axes: T Plg74.0000°, Azm277.0000°; N Plg2.0000°, Azm13.0000°; P Plg16.0000°, Azm104.0000°;*
JMA Felt II J1.
IDC ***09*** *03:10:51.6±2.0, 3562N×140.12E, h77km±16km, mb3.7/10, mb1 3.9/13, mb1mx3.7/23, mbtmp3.8/13, MS2.8/1, Ms1 2.8/1, ms1mx2.3/35 Error ellipse: s-maj=29.0km s-min=6.8km az=65.0*
NEIC ***09*** *03:10:52.5±1.2, 3569N×13994E, h80km±8km, mb4.5/3, MW4.0(NIED), Error ellipse: s-maj=17.5km s-min=7.4km az=76.0*
NEIC Felt at Tokyo. Recorded [2 JMA] in Kanagawa and Tokyo; [1 JMA] in Chiba, Ibaraki, Saitama, Shizuoka, Tochigi and Yamanashi Prefectures.
NIED ***09*** *03:11:00, 3580N×14020E, h65km, Mw4.0 Best double couple: M0 1.09000×1015 NP1:ϕs349.00000°, δ64.00000°, λ82.00000°. NP2:ϕs187.00000°, δ27.00000°, λ106.00000°.*

ISC 09 03:10:50.6±0.3, 3575N±003×14018E±005, h69km±3km, n54, σ1§03/71, mb4.1/16, 3C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.33**	**177**	⇑P	**Pn**	**03 11 02.8**	**+0.9**
JCN				*e*S	**Sn**	**03 11 12.4**	**+2.3**
TOK	**Tokyo**	**0.35**	**260**	⇓P	**Pn**	**03 11 02.6**	**+0.6**
TOK				*e*S	**Sn**	**03 11 11.2**	**+0.9**
JYT	**Yasato**	**0.48**	**1**	⇑P	**Pn**	**03 11 02.6**	**-0.5**
JYT				*e*S	**Sn**	**03 11 11.2**	**-1.0**
JAG	**Ashikaga**	**0.90**	**319**	⇓P	**Pn**	**03 11 07.4**	**-0.3**
JAG				*e*S	**Sn**	**03 11 20.1**	**-0.3**
BSO3	**Boso 3**	**0.98**	**164**	⇑P	**Pn**	**03 11 08.8**	**0.0**
BSO3				*e*S	**Sn**	**03 11 23.5**	**+1.2**
JOD2	**Odawara 2**	**1.01**	**242**	⇓P	**Pn**	**03 11 08.7**	**-0.5**
JOD2				*e*S	**Sn**	**03 11 21.8**	**-1.2**
JRY	**Ryogami san**	**1.07**	**285**	⇓P	**Pn**	**03 11 10.2**	**+0.3**
JIM2	**Oshima 3**	**1.20**	**211**	P	**Pn**	**03 11 10.7**	**-0.8**
JIM2				*e*S	**Sn**	**03 11 25.2**	**-2.0**
JKT	**Katashina**	**1.26**	**324**	⇓P	**Pn**	**03 11 12.2**	**-0.2**
JKT				*e*S	**Sn**	**03 11 28.4**	**-0.3**
BSO1	**Boso 1**	**1.27**	**149**	P	**Pn**	**03 11 12.2**	**-0.3**
BSO1				*e*S	**Sn**	**03 11 29.9**	**+0.9**
JYN	**Shimob**	**1.36**	**260**	⇓P	**Pn**	**03 11 13.4**	**-0.2**
JYN				*e*S	**Sn**	**03 11 29.9**	**-1.0**
MJAR	**Matsushiro Arr**	**1.78**	**297**	P	**Pn**	**03 11 19.4**	**+0.1**
	70nm,0.3s,baz=100,slow=15,SNR=736						
MJAR				S	**Sn**	**03 11 42.8**	**+1.8**
	40nm,0.3s,baz=124,slow=19,SNR=9.1						
MJAR	**Matsushiro Arr**	**1.78**	**297**	P	**Pn**	**03 11 19.4**	**+0.1**
MJAR				S	**Sn**	**03 11 42.8**	**+1.8**
MJAR				pmax	pmax		
	comp=Z,70nm,0.3s						
MJAR				smax			
	comp=N,40nm,0.3s						
MAJO	**Matsushiro**	**1.78**	**297**	*e*P	**Pn**	**03 11 19.8**	**+0.5**
MAT	**Matsushiro**	**1.78**	**297**	P	**Pn**	**03 11 19.7**	**+0.4**
MAT				S	**Sn**	**03 11 45.4**	**+4.4**
JHJ	**Hachijo jima 2**	**2.64**	**187**	P	**Pn**	**03 11 31.4**	**+0.5**
	comp=N,48nm,0.3s,baz=264,slow=19,SNR=14						
JHJ				S	**Sn**	**03 12 00.0**	**-1.9**
	comp=N,152nm,0.3s,baz=70,slow=23,SNR=11						
ASAJ	**Asahikawa**	**8.56**	**12**	P	**Pn**	**03 12 50.8**	**-0.9**
	comp=N,1.2nm,0.3s,baz=185,slow=28,SNR=5.0						
ASAJ				S	**Sn**	**03 14 24.6**	**-2.1**
	comp=N,1.5nm,0.3s,baz=92,slow=21,SNR=4.3						
ASAJ	**Asahikawa**	**8.56**	**12**	P	**Pn**	**03 12 50.8**	**-0.9**
ASAJ				S	**Sn**	**03 14 24.6**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
CBIJ	**Chichi jima**	**8.79**	**168**	P	**Pn**	**03 12 52.9**	**-2.0**
	comp=N,11nm,0.3s,baz=309,slow=15,SNR=5.9						
CBIJ				S	**Sn**	**03 14 26.2**	**-6.3**
	comp=N,11nm,0.3s,baz=71,slow=22,SNR=3.9						
KSRS	**Korea Array**	**10.00**	**283**	P	**Pn**	**03 13 14.4**	**+3.0**
	baz=96,slow=15,SNR=5.7						
KSRS				S	**Sn**	**03 14 50.2**	**-12**
	baz=246,slow=24,SNR=29						
KSRS				LR	LR	03 16 53.2	
	comp=N,52nm,18.1s,baz=130,slow=36						
CN2	**Changchun**	**13.88**	**310**	*e*P	**Pn**	**03 14 06.3**	**+2.3**
PET	**Petropavlovsk**	**21.63**	**31**	*e*P	**P**	**03 15 25.8**	**-9.3**
PET				pmax	pmax		
	comp=Z,38nm,1.1s,mb4.6						
SONM	**Songino Array**	**27.71**	**306**	P	**P**	**03 16 32.0**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.2,baz=112,slow=9.4,SNR=4.2						
WMQ	**Urumqi**	**40.55**	**298**	*e*P	**P**	**03 18 26.0**	**+2.9**
WMQ				LR	LR		
	comp=N,30nm,18.0s						
WMQ				LR	LR		
	comp=E,64nm,19.0s						
WMQ				LR	LR		
	comp=Z,36nm,18.0s						
ZAL	**Zalesovo**	**42.07**	**313**	P	**P**	**03 18 35.0**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.0,baz=14,slow=8.2,SNR=6.1						
ZAL	**Zalesovo**	**42.07**	**313**	P	**P**	**03 18 35.1**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK31	**Makanchi Array**	**43.97**	**303**	*e*P	**P**	**03 18 50.8**	**-0.1**
MKAR	**Makanchi Array**	**43.97**	**303**	P	**P**	**03 18 51.1**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=82,slow=11,SNR=26						
MKAR				PcP	PcP	03 20 37.0	+1.4
	comp=Z,0.4nm,0.7s,baz=73,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**43.97**	**303**	P	**P**	**03 18 51.1**	**+0.2**
MKAR						03 20 37.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**43.97**	**303**	P	**P**	**03 18 51.1**	**+0.2**
MKAR				*e*		03 20 37.0	
KURK	**Kurchatov**	**45.95**	**309**	*e*P	**P**	**03 19 06.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**50.47**	**314**	*e*P	**P**	**03 19 40.4**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**55.30**	**197**	*e*P	**P**	**03 20 17.4**	**+0.4**
	comp=Z,10.0nm,1.5s,mb4.6						
WRAB	**Tennant Creek**	**55.65**	**187**	*e*P	**P**	**03 20 19.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	**55.65**	**187**	*e*P	**P**	**03 20 19.6**	**+0.1**
	comp=Z,2.0nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**55.66**	**187**	*e*P	**P**	**03 20 19.6**	**0.0**
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**03 20 19.7**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.6,baz=0.9,slow=7.6,SNR=42						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**03 20 19.7**	**+0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**55.98**	**27**	P	**P**	**03 20 23.1**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=284,slow=4.2,SNR=8.1						
ARCES	**ARCESS Array B**	**64.85**	**339**	P	**P**	**03 21 22.7**	**+0.4**
	comp=Z,6.2nm,1.0s,mb4.4,baz=57,slow=7.5,SNR=10						
ARCES	**ARCESS Array B**	**64.85**	**339**	P	**P**	**03 21 22.7**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
JOF	**Joensuu**	**66.62**	**332**	*e*p	**P**	**03 21 30.3**	**-3.4**
	comp=Z,3.2nm,0.4s,mb4.5						
JOF	**Joensuu**	**66.62**	**332**	*e*P	**P**	**03 21 30.3**	**-3.4**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
KAF	**Kangasniemi**	**68.99**	**333**	*e*p	**P**	**03 21 42.2**	**-6.4**
FINES	**FINESS Array B**	**69.48**	**332**	P	**P**	**03 21 51.7**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=67,slow=5.7,SNR=12						
FINES	**FINESS Array B**	**69.48**	**332**	P	**P**	**03 21 51.7**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**69.48**	**332**	P	**P**	**03 21 51.7**	**+0.1**
	comp=Z,2.0nm,0.3s,mb4.3						
AKASG	**Malin Array Be**	**74.70**	**322**	P	**P**	**03 22 22.8**	**-0.1**
	comp=Z,1.6nm,0.3s,mb4.2,baz=48,slow=5.9,SNR=18						
AKASG	**Malin Array Be**	**74.70**	**322**	P	**P**	**03 22 22.8**	**0.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**74.70**	**322**	P	**P**	**03 22 22.8**	**0.0**
	comp=Z,2.0nm,0.3s,mb4.3						
AKBB	**Malin Array Si**	**74.70**	**322**	*e*P	**P**	**03 22 22.7**	**-0.1**
NOA	**NORSAR Array B**	**74.98**	**337**	P	**P**	**03 22 24.6**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.4,baz=43,slow=5.9,SNR=2.9						
GERES	**GERESS Array B**	**83.27**	**328**	P	**P**	**03 23 10.6**	**+0.9**
	comp=Z,0.2nm,0.4s,mb3.3,baz=38,slow=6.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**117.51**	**313**	PKP	PKPdf	03 29 29.1	+0.6
	comp=Z,0.2nm,0.7s,baz=35,slow=1.6,SNR=4.5						

ISCJB ***09*** *03:25:54.7±0.5, 3890N±002×2789E±002, h0km±4km, Error ellipse: s-maj=2.9km s-min=2.6km az=48.7*
CSEM ***09*** *03:25:54.5±0.0, 3890N×2789E, h5km, MD3.3, Error ellipse: s-maj=1.1km s-min=0.9km az=118.0*
ISK ***09*** *03:25:54.8, 3891N×2787E, h5km, MD3.3*
ATH ***09*** *03:25:54.0, 3888N×2795E, h21km±4km, MD3.9/8*
NEIC ***09*** *03:25:54.0, 3891N×2789E, h7km, MD3.3(ISK), MD3.9(ATH), After ISK.*

ISC 09 03:25:55.8±0.4, 3889N±002×2786E±002, h7km±3km, n71, σ1§02/96, 6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.04**	**249**	*i* PG	**Pg**	**03 25 56.7**	**-0.6**
IZM	**Izmir**	**0.68**	**224**	*i* PG	**Pg**	**03 26 08.3**	**-0.7**
IZM				*i* SG	**Sg**	**03 26 19.1**	**+1.3**
BLCB	**Balcova**	**0.82**	**232**	*i* PG	**Pg**	**03 26 11.0**	**-0.6**
BLCB				*i* SG	**Sg**	**03 26 23.3**	**+1.1**
BTOK	**Tokmak**	**0.88**	**9**	*i* P	**Pg**	**03 26 12.1**	**-0.6**
BTOK				*i* S	**Sg**	**03 26 24.8**	**+0.8**
DST	**Dursunbey**	**0.93**	**40**	*i* PG	**Pg**	**03 26 12.6**	**-1.0**
AYVA	**Ayvalik**	**1.00**	**295**	*i* P	**Pg**	**03 26 15.0**	**0.0**
AYVA				*i* S	**Sg**	**03 26 31.1**	**+3.0**
URLA	**Izmir**	**1.13**	**242**	*i* P	**Pg**	**03 26 16.9**	**-0.6**
URLA				*i* S	**Sg**	**03 26 33.5**	**+1.4**
GDZ	**Gediz**	**1.28**	**81**	*i* P	**Pn**	**03 26 19.1**	**-1.0**
GDZ				*i* S	**Sb**	**03 26 36.5**	**-0.2**
CANB	**Canakkale**	**1.28**	**331**	*i* PN	**Pn**	**03 26 19.2**	**-0.9**
CANB	**Canakkale**	**1.28**	**331**	*i* P	**Pn**	**03 26 19.4**	**-0.7**
CANB				*i* S	**Sb**	**03 26 37.7**	**+0.8**
PRK	**Paraskevi**	**1.29**	**286**	⇓*i* PN	**Pn**	**03 26 19.6**	**-0.6**
PRK				*e*SN	**Sn**	**03 26 38.2**	**+0.5**
KHL	**Karahalli**	**1.42**	**113**	PN	**Pn**	**03 26 22.2**	**+0.2**
KCT	**Karacabey**	**1.42**	**15**	*i* PN	**Pn**	**03 26 21.7**	**-0.3**
SMG	**Samos**	**1.43**	**215**	⇓*i* PN	**Pn**	**03 26 20.4**	**-1.8**
SMG				*e*SN	**Sn**	**03 26 41.7**	**+0.5**
EDC	**Edincik**	**1.45**	**0**	*i* PN	**Pn**	**03 26 21.8**	**-0.6**
BNT	**Bandirma**	**1.46**	**2**	*i* PN	**Pn**	**03 26 21.9**	**-0.7**
DENT	**Denizli**	**1.46**	**141**	PN	**Pn**	**03 26 22.0**	**-0.6**
EZN	**Ezine**	**1.51**	**308**	PN	**Pn**	**03 26 23.0**	**-0.3**
DNZL	**Cakiroluk**	**1.52**	**142**	*i* P	**Pg**	**03 26 28.8**	**+3.8**
DNZL				*i* S	**Sg**	**03 26 50.3**	**+5.6**
ULDT	**Uludag**	**1.59**	**38**	*i* P	**Pn**	**03 26 24.5**	**+0.2**
ULDT				*i* S	**Sn**	**03 26 47.2**	**+2.1**
MLSB	**Milas**	**1.60**	**182**	PN	**Pn**	**03 26 24.5**	**+0.1**
BOZC	**Bozcaada**	**1.69**	**305**	*e*P	**Pn**	**03 26 25.3**	**-0.4**
BOZC				*i* S	**Sn**	**03 26 47.3**	**-0.4**
MRMT	**Marmara Adasi**	**1.72**	**353**	PN	**Pn**	**03 26 25.2**	**-0.9**
ALT	**Altintas**	**1.76**	**84**	PN	**Pn**	**03 26 26.7**	**0.0**
YER	**Yerkesik**	**1.79**	**169**	PN	**Pn**	**03 26 27.1**	**0.0**
ARMT	**Armutlu**	**1.84**	**24**	PN	**Pn**	**03 26 27.1**	**-0.7**
BDRM	**Kayabasi**	**1.85**	**190**	*i* P	**Pn**	**03 26 29.6**	**+1.6**
RKY	**Sarkoy-Tekirda**	**1.87**	**344**	PN	**Pn**	**03 26 28.2**	**0.0**
SART	**Tekirdag**	**1.87**	**344**	*i* P	**Pn**	**03 26 27.8**	**-0.4**
SART				*i* S	**Sn**	**03 26 53.4**	**+1.4**
IZI	**Iznik**	**1.90**	**40**	PN	**Pn**	**03 26 28.7**	**0.0**
YLV	**Yalova**	**2.04**	**34**	PN	**Pn**	**03 26 30.6**	**+0.1**
TKTP	**Tekketepe**	**2.11**	**113**	*i* P	**Pn**	**03 26 30.6**	**-0.9**
TKTP				*i* S	**Sg**	**03 27 11.0**	**+7.4**
ADVT	**Abdulvahap**	**2.11**	**43**	PN	**Pn**	**03 26 32.2**	**+0.7**
GOLH	**Golhisar**	**2.13**	**140**	*i* P	**Pn**	**03 26 31.4**	**-0.4**
GOLH				*i* S	**Sg**	**03 27 07.6**	**+3.4**
SHUT	**Suhut-Afyon**	**2.13**	**98**	PN	**Pn**	**03 26 31.7**	**-0.1**
DAT	**Datca**	**2.17**	**186**	PN	**Pn**	**03 26 33.0**	**+0.6**
BADT	**Buyukada**	**2.18**	**26**	PN	**Pn**	**03 26 32.2**	**-0.3**
ENEZ	**Enez**	**2.26**	**325**	PN	**Pn**	**03 26 34.0**	**+0.4**
CTT	**Catalca**	**2.29**	**11**	PN	**Pn**	**03 26 33.6**	**-0.4**
LIA	**Limnos Island**	**2.31**	**297**	*e*PN	**Pn**	**03 26 34.2**	**0.0**
ISP	**Isparta**	**2.33**	**116**	*e*PN	**Pn**	**03 26 35.5**	**+1.0**
ISP	**Isparta**	**2.33**	**116**	*e*Pn	**Pn**	**03 26 33.9**	**-0.6**
ISP				*e*Pg	**Pg**	**03 26 38.9**	**-1.6**
GPA	**Golpazari**	**2.35**	**53**	PN	**Pn**	**03 26 34.8**	**0.0**
ISK	**Istanbul-Kandi**	**2.36**	**23**	*e*PN	**Pn**	**03 26 34.8**	**-0.1**
HRT	**Hereke**	**2.38**	**35**	*e*PN	**Pn**	**03 26 34.8**	**-0.3**
ESKT	**Eskisehir**	**2.40**	**74**	*i* P	**Pg**	**03 26 39.9**	**-1.9**
ESKT				*i* S	**Sg**	**03 27 14.6**	**+1.6**
FETY	**Fethiye**	**2.45**	**156**	*e*PN	**Pn**	**03 26 36.2**	**0.0**
KLYT	**Kilyos**	**2.52**	**21**	*e*PN	**Pn**	**03 26 37.0**	**-0.2**
APE	**Apeiranthos**	**2.59**	**226**	*e*PN	**Pn**	**03 26 36.8**	**-1.3**
ARG	**Arkhangelos**	**2.68**	**175**	*e*PB	**Pn**	**03 26 38.7**	**-0.7**
ARG				*e*SN	**Sn**	**03 27 10.4**	**-1.7**
ELL	**Elmali**	**2.69**	**142**	*e*PN	**Pn**	**03 26 40.0**	**+0.6**
RDO	**Rodhopi**	**2.87**	**322**	*e*PN	**Pn**	**03 26 41.8**	**-0.2**
AKAS	**Kas**	**2.99**	**152**	*i* P	**Pb**	**03 26 46.2**	**-3.2**
AKAS				*i* S	**Sb**	**03 27 28.4**	**+2.2**
AKAS	**Kas**	**2.99**	**152**	*i* P	**Pn**	**03 26 46.2**	**+2.5**
HENT	**Hendek**	**3.03**	**50**	*i* P	**Pg**	**03 26 51.7**	**-2.1**
HENT				*i* S	**Sg**	**03 27 36.7**	**+3.6**
EDRB	**Edirne**	**3.07**	**344**	*e*PN	**Pn**	**03 26 45.2**	**+0.5**
KIZT	**Kizilcal**	**3.13**	**89**	*e*PN	**Pn**	**03 26 45.9**	**+0.3**
KARP	**Karpathos**	**3.39**	**190**	*e*PN	**Pn**	**03 26 49.4**	**+0.3**
KARP				*e*SN	**Sn**	**03 27 27.0**	**-2.5**
SGKT	**Sivrigoynuk**	**3.64**	**61**	*i* P	**Pn**	**03 26 54.5**	**+1.9**
PLG	**Polygyros**	**3.72**	**295**	*e*PN	**Pn**	**03 26 54.3**	**+0.7**
NVR	**Nevrokopi**	**3.93**	**310**	P	**Pn**	**03 27 00.2**	**+3.7**
ANTO	**Ankara**	**3.94**	**74**	*e*Pg	**Pg**	**03 27 11.6**	**+0.2**
ANTO				*e*Sg	**Sg**	**03 28 03.8**	**+1.4**
ANTO	**Ankara**	**3.94**	**74**	*e*Pg	**Pg**	**03 27 11.6**	**+0.2**
ANTO				*e*Sg	**Sg**	**03 28 03.8**	**+1.4**
BR131	**Keskin Array S**	**4.56**	**78**	*e*Pn	**Pn**	**03 27 05.5**	**+0.3**
BR131				*e*Pg	**Pg**	**03 27 21.3**	**-1.8**
BR131				*e*Sg	**Sg**	**03 28 22.7**	**+0.6**
BR131	**Keskin Array S**	**4.56**	**78**	*e*Pn	**Pn**	**03 27 05.5**	**+0.4**
BR131	**Keskin Array S**	**4.56**	**78**	*e*Pg	**Pg**	**03 27 21.3**	**-1.8**
KAMT	**Kaman**	**4.57**	**82**	*e*PN	**Pn**	**03 27 06.2**	**+0.8**
VTS	**Vitosha**	**5.11**	**318**	⇓*i* P	**Sg**	**03 28 39.6**	**-0.4**
TIRR	**Tirgusor**	**5.58**	**4**	⇓*i* P	**Sn**	**03 28 22.9**	**-0.5**
MLR	**Muntele Rosu**	**6.74**	**348**	⇓P	**Pn**	**03 27 40.2**	**+5.0**
MLR	**Muntele Rosu**	**6.74**	**348**	⇓*i* P	**P

CBIJ Chichi jima 8.80 168 P **Pn** **03 31 22.4 -2.7**
comp=N,23nm,0.3s,baz=130,slow=16,SNR=12
CBIJ S **Sn** **03 32 55.4 -7.4**
comp=N,15nm,0.3s,baz=289,slow=23,SNR=6.0
KSRS Korea Array 9.97 283 P **Pn** **03 31 43.9 +2.9**
baz=98,slow=14,SNR=14
KSRS LR LR 03 35 25.2
comp=N,155nm,19.6s,baz=160,slow=36
MDJ Mudanjiang 11.96 321 P **Pn** **03 32 12.7 +4.4**
MDJ AP 03 32 24.5
MDJ AMB AMB
comp=Z,18nm,1.1s
MDJ AMB AMB
comp=Z,91nm,4.5s
CN2 Changchun 13.85 310 *e*P **Pn** **03 32 37.9 +4.2**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
SNY Shenyang 14.26 300 ⇑P **Pn** **03 32 41.1 +2.0**
SNY XP 03 33 01.6
SNY S **Sn** **03 35 20.4 +4.6**
SNY XS 03 35 41.6
SNY AMB AMB
comp=Z,15nm,1.1s
SNY AMB AMB
comp=Z,352nm,3.5s
SNY LR LR
comp=N,241nm,12.7s
SNY LR LR
comp=Z,261nm,19.4s
BJI Beijing 19.37 290 P **Pn** **03 33 40.4 -2.1**
BJI AMB AMB
comp=Z,14nm,1.0s
BJI AMB AMB
comp=Z,187nm,4.0s
HIA Hailar 20.12 318 *i*P **P** **03 33 46.0 -3.0**
HHC Hu-ho-hao-te 22.94 291 *e*P **P** **03 34 17.8 -1.2**
HHC AP 03 34 34.5
HHC XP sP 03 34 44.0 +1.9
HHC PP 03 34 49.9
HHC S **S** **03 38 17.4 -6.5**
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb4.4
HHC AMB AMB
comp=Z,105nm,4.7s
HHC LR LR
comp=N,367nm,15.5s
HHC LR LR
comp=E,281nm,16.1s
HHC LR LR
comp=Z,256nm,15.5s
CLNS Chul'man 23.47 339 *e*P **P** **03 34 21.3 -2.8**
CLNS pmax pmax
comp=Z,21nm,1.1s,mb4.4
CLNS pmax pmax
comp=N,16nm,1.6s
CLNS pmax pmax
comp=E,9.0nm,0.9s
YAK Yakutsk 27.11 349 *i*P **P** **03 34 57.5 +0.4**
SONM Songino Array 27.68 306 P **P** **03 35 01.2 -0.9**
comp=E,1.2nm,0.7s,mb3.6,baz=108,slow=9.1,SNR=8.2
SONM Songino Array 27.68 306 P **P** **03 35 01.2 -1.0**
SONM pmax pmax
comp=Z,1.0nm,0.7s
BOD Bodaibo 28.09 330 *e*P **P** **03 35 05.0 -0.8**
BOD pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
LZH Lanzhou 29.29 281 *e*P **P** **03 35 16.9 +0.4**
LZH AP pP 03 35 33.6 +0.8
LZH XP sP 03 35 43.0 +2.3
LZH PP PP 03 36 14.0 -10
LZH *e*S **S** **03 40 02.2 -2.4**
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,110nm,4.3s
GYA Guiyang 30.00 261 P **P** **03 35 23.8 +1.0**
GYA AP pP 03 35 41.9 +2.8
GYA XP sP 03 35 51.0 +4.0
GYA PP PP 03 36 23.7 -7.8
GYA S **S** **03 40 14.0 -1.8**
GYA XS sS 03 40 45.2 +1.5
GYA SCP ScP 03 41 59.8 +0.1
GYA SCS ScS 03 45 53.6 -1.6
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
GYA AMB AMB
comp=Z,70nm,4.0s
GYA LR LR
comp=N,210nm,14.8s
GYA LR LR
comp=E,180nm,14.3s
GYA LR LR
comp=Z,190nm,14.2s
CD2 Chengdu 30.66 271 *e*P **P** **03 35 28.5 -0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
GTA Gaotai 31.98 289 *e*P **P** **03 35 41.6 +1.4**
GTA AP pP 03 35 58.5 +2.0
GTA XP sP 03 36 07.3 +2.8
GTA PP PP 03 36 49.9 -3.5
GTA PCP PcP 03 38 30.0 +1.2
GTA S **S** **03 40 46.8 +0.1**
GTA XS sS 03 41 16.8 +2.1
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
GTA AMB AMB
comp=Z,76nm,4.9s
GTA LR LR
comp=N,94nm,13.7s
GTA LR LR
comp=E,158nm,12.5s
GTA LR LR
comp=Z,139nm,15.6s
KMI Kunming 33.76 262 P **P** **03 35 55.5 -0.2**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
KMI LR LR
comp=Z,47nm,31.7s
BILL Bilibino 35.55 17⇑ *e*P **P** **03 36 11.5 +0.4**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.5
WMQ Urumqi 40.51 298 *e*P **P** **03 36 54.7 +1.8**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
ZAL Zalesovo 42.04 313 P **P** **03 37 05.2 -0.2**
comp=Z,3.6nm,0.8s,mb4.2,baz=21,slow=8.3,SNR=16
ZAL Zalesovo 42.04 313 P **P** **03 37 05.2 -0.3**
ZAL pmax pmax
comp=Z,4.0nm,0.8s
ZAL Zalesovo 42.04 313 P **P** **03 37 05.2 -0.2**
NVS Novosibirsk 42.99 315 *e*P **P** **03 37 11.8 -1.4**
NVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
NVS pmax pmax
comp=E,16nm,1.4s
MK31 Makanchi Array 43.94 303 *e*P **P** **03 37 20.6 -0.2**
MKAR Makanchi Array 43.94 303 P **P** **03 37 20.8 0.0**
comp=E,2.2nm,0.5s,mb4.2,baz=82,slow=10,SNR=21
MKAR Makanchi Array 43.94 303 *i*P **P** **03 37 20.7 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 45.92 309*d* *i*P **P** **03 37 36.3 -0.2**
KURK Kurchatov 45.92 309 *e*P **P** **03 37 35.9 -0.6**
comp=Z,18nm,0.8s,mb4.9
JIRN Jiri 46.11 276 *e*P **P** **03 37 38.7 +0.7**
comp=Z,3.2nm,0.2s,mb4.7
GUN Gumba 46.26 276 *e*P **P** **03 37 40.0 +0.8**
comp=Z,14nm,0.5s,mb5.0
PKI Pulchoki 46.78 276 *e*P **P** **03 37 43.3 +0.1**
comp=Z,10nm,0.6s,mb4.7
KKN Kakani 46.80 276 *e*P **P** **03 37 43.7 +0.3**
DMN Daman 47.01 276 *e*P **P** **03 37 45.7 +0.7**
GKN Gorkha 47.23 277 *e*P **P** **03 37 46.8 +0.1**
comp=Z,33nm,1.0s,mb5.0
KOLN Koldanda 48.16 277 *e*P **P** **03 37 54.4 +0.5**
KDAK Kodiak Island 48.74 41 P **P** **03 37 58.9 +0.4**
comp=Z,7.5nm,0.8s,mb4.7,baz=297,slow=4.5,SNR=7.3
KAKA Kakadu 48.74 190 *e*P **P** **03 37 57.8 -0.6**
comp=Z,18nm,1.1s,mb4.9
TKM2 Tokmak 2 49.34 299 P **P** **03 38 03.3 +0.3**
AAK Ala-Archa 50.20 299 *i*P **P** **03 38 08.8 -0.7**
AAK pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
AAK Ala-Archa 50.20 299 *e*P **P** **03 38 08.3 -1.2**
comp=Z,11nm,1.2s,mb4.7
CHKZ Chkalovo 50.44 314 *e*P **P** **03 38 10.8 -0.5**
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CHKZ Chkalovo 50.44 314 *e*P **P** **03 38 10.8 -0.5**
comp=Z,7.4nm,0.8s,mb4.7
BVA0 Borovoye Array 50.68 313 P **P** **03 38 13.1 0.0**
BRVK Borovoye 50.74 313 *e*P **P** **03 38 14.4 +0.8**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRVK Borovoye 50.74 313 *e*P **P** **03 38 14.4 +0.8**
comp=Z,4.7nm,1.0s,mb4.5
KK31 Karatay Array 52.88 301 *i*P **P** **03 38 29.5 0.0**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KKAR Karatay Array 52.88 301 *i*P **P** **03 38 29.5 0.0**
FITZ Fitzroy Crossi 55.29 197 *e*P **P** **03 38 47.2 +0.1**
comp=Z,14nm,0.8s,mb5.0
WRAB Tennant Creek 55.65 187 *e*P **P** **03 38 49.1 -0.5**
comp=Z,4.3nm,0.4s,mb4.8
WB2 Warramunga Arr 55.66 187 *e*P **P** **03 38 48.3 -1.4**
WRA Warramunga Arr 55.66 187 P **P** **03 38 48.9 -0.8**
comp=Z,4.5nm,0.4s,mb4.9,baz=0.6,slow=7.6,SNR=145
WRA Warramunga Arr 55.66 187 *i*P **P** **03 38 48.9 -0.8**
WRA pmax pmax
comp=Z,5.0nm,0.4s
INK Inuvik 55.99 27 P **P** **03 38 52.3 +0.2**
comp=Z,1.7nm,1.0s,mb4.0,baz=35,slow=8.1,SNR=9.7
INK Inuvik 55.99 27 *e*P **P** **03 38 52.5 +0.4**
ARU Arti 56.64 319⇑ *i*P **P** **03 38 56.3 -0.4**
ARU *e* 03 39 47.5
ARU *e*S **S** **03 46 46.8 +3.0**
ARU *e*SS SS 03 50 31.6 -0.6
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AB31 Akbulak array 57.98 310 *e*P **P** **03 39 05.5 -0.6**
AKTK Aktyubinsk 58.77 312 P **P** **03 39 11.2 -0.4**
AKTO Aktyubinsk 58.77 312 P **P** **03 39 11.2 -0.4**
comp=Z,1.3nm,0.5s,mb4.2,baz=75,slow=12,SNR=7.8
AKTO Aktyubinsk 58.77 312 P **P** **03 39 11.2 -0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
RES Resolute Bay 64.09 14 *e*P **P** **03 39 46.8 -0.7**
ARCES ARCESS Array B 64.83 339 P **P** **03 39 52.1 -0.2**
comp=Z,2.1nm,0.7s,mb4.1,baz=57,slow=8.8,SNR=5.7
ARCES ARCESS Array B 64.83 339 P **P** **03 39 52.2 -0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 65.43 30 P **P** **03 39 55.9 -0.3**
comp=Z,0.4nm,0.7s,mb3.4,baz=294,slow=6.7,SNR=5.3
YKA Yellowknife Ar 65.43 30‖ *e*P **P** **03 39 55.9 -0.3**
YKA Yellowknife Ar 65.43 30 P **P** **03 39 55.9 -0.3**
JOF Joensuu 66.61 332 *ep* **P** **03 39 59.3 -4.5**
comp=Z,2.6nm,0.4s,mb4.4
JOF Joensuu 66.61 332 *e*P **P** **03 39 59.3 -4.5**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
FORT Forrest 67.14 191 *e*P **P** **03 40 08.8 +1.6**
comp=Z,27nm,0.5s,mb5.3
STKA Stephens Creek 67.29 179 P **P** **03 40 09.5 +1.4**
comp=Z,0.8nm,0.2s,mb4.1,baz=327,slow=12,SNR=4.0
MOS Moscow 67.66 323 *e*P **P** **03 40 04.7 -5.8**
OBN Obninsk 68.50 323‖ *e*P **P** **03 40 14.9 -0.8**
OBN *e*S 03 49 30.5
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
OBN MLR MLR
comp=Z,100nm,15.0s
KAF Kangasniemi 68.97 333 *ep* **P** **03 40 15.0 -3.6**
comp=Z,4.0nm,0.6s,mb4.4,baz=50,slow=5.8
KAF Kangasniemi 68.97 333 *e*P **P** **03 40 15.0 -3.6**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
FINES FINESS Array B 69.47 332 P **P** **03 40 21.2 -0.4**
comp=Z,4.3nm,0.8s,mb4.3,baz=89,slow=7.2,SNR=16
FINES FINESS Array B 69.47 332 *i*P **P** **03 40 21.2 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 70.96 311‖ *e*P **P** **03 40 31.8 +1.0**
KIV *e*SS SS 03 54 12.6 -2.7
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 70.96 311 *e*P **P** **03 40 31.7 +0.8**
comp=Z,8.0nm,0.9s,mb4.5
GNI Garni 71.64 306 LR LR 04 14 45.3
comp=Z,41nm,18.6s,baz=243,slow=38
AKASG Malin Array Be 74.68 322 P **P** **03 40 52.3 -0.5**
comp=Z,2.5nm,0.4s,mb4.3,baz=48,slow=5.8,SNR=19
AKASG Malin Array Be 74.68 322 *i*P **P** **03 40 52.2 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 74.68 322 *e*P **P** **03 40 52.3 -0.5**
HFS Hagfors 74.83 335 P **P** **03 40 53.6 -0.1**
comp=Z,2.0nm,0.7s,mb4.0,baz=70,slow=4.9,SNR=5.4
HFS Hagfors 74.83 335 P **P** **03 40 53.6 -0.1**
HFS pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 74.97 337 P **P** **03 40 54.1 -0.4**
comp=Z,1.3nm,0.7s,mb3.8,baz=41,slow=5.9
NOA NORSAR Array B 74.97 337 P **P** **03 40 54.1 -0.4**
comp=Z,4.2nm,1.0s,mb4.1,baz=41,slow=5.8,SNR=5.8
TPAW Teton Pass 78.05 45 *e*P **P** **03 41 14.3 +2.4**
comp=Z,1.3nm,0.6s,mb3.8
KWP Kalwaria 78.56 324 *e*P **P** **03 41 15.5 +0.8**
BR131 Keskin Array S 78.92 311 *e*P **P** **03 41 17.3 +0.6**
comp=Z,1.0nm,0.7s,mb3.8
BRTR Keskin Array B 78.92 311 P **P** **03 41 17.3 +0.6**
comp=Z,1.1nm,0.6s,mb3.9,baz=103,slow=3.9,SNR=7.9
BRTR Keskin Array B 78.92 311 P **P** **03 41 17.3 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 79.30 45 P **P** **03 41 19.9 +1.1**
comp=Z,0.6nm,0.5s,mb3.7,baz=299,slow=0.9,SNR=7.4
STHS Stebnicka Huta 79.41 324 *e*P **P** **03 41 23.6 +4.2**
STHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
STHS Stebnicka Huta 79.41 324 *e*P **P** **03 41 23.6 +4.2**
comp=Z,3.3nm,1.2s,mb4.0
OJC Ojcow 79.52 326 *e*P **P** **03 41 20.2 +0.2**
VYHS Vyhne 81.19 325 *i*P **P** **03 41 29.4 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
VYHS Vyhne 81.19 325 *i*P **P** **03 41 29.4 +0.5**
comp=Z,2.7nm,1.1s,mb4.0
VRAC Vranov 81.63 327 P **P** **03 41 33.3 +2.0**
comp=Z,1.8nm,0.4s,mb4.2,baz=306,slow=8.7,SNR=3.6
VRAC Vranov 81.63 327 P **P** **03 41 33.3 +2.1**
VRAC pmax pmax
comp=Z,2.0nm,0.4s
CLL Collm 81.69 330 *i*P **P** **03 41 31.5 -0.1**
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CLL Collm 81.69 330 *i*P **P** **03 41 31.5 -0.1**
comp=Z,10.0nm,1.1s,mb4.6
GERES GERESS Array B 83.25 328 P **P** **03 41 39.8 +0.1**
comp=Z,1.1nm,0.9s,mb3.7,baz=29,slow=6.1,SNR=4.9
GERES GERESS Array B 83.25 328 P **P** **03 41 39.8 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 91.72 52 P **P** **03 42 22.0 +1.4**
comp=Z,0.4nm,0.7s,mb3.8,baz=282,slow=2.1,SNR=5.8
TORD Torodi Ar. Bea 117.48 313 PKP PKPdf 03 47 58.6 0.0
comp=Z,0.6nm,0.7s,baz=8.3,slow=1.8,SNR=10
SNAA Sanae 139.22 197 *e*PKPdf PKPdf 03 48 37.6 -2.2
VNA2 Neumayer--Watz 140.80 196 *e*PKPdf PKPdf 03 48 37.3 -5.3
baz=87,slow=1.7
VNA2 *e* 03 48 44.5
VNA2 *e* 03 48 58.5
LPAZ La Paz 148.23 60 PKPbc PKPbc 03 49 00.8 +1.9
comp=Z,1.1nm,0.8s,baz=316,slow=5.1,SNR=4.8
LPAZ La Paz 148.23 60 *e*PKPbc PKPbc 03 49 00.7 +1.8

STR ***09*** *03:32:42.8±0.2, 4757N×760E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***09*** *03:32:43.0±0.2, 4756N×759E, h10km, Md2.0/3, Ml1.9/6, Error ellipse: s-maj=3.4km s-min=2.2km az=141.0*
ZUR 09 03:32:43.4, 4758N×760E, h5km±1km, ML1.0, 2C, Switzerland

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

BALST Balsthal 0.26 165 *i*Pg Pg 03 32 48.7 +0.3
45nm,0.5s
BOURR Bourrignon 0.31 233⇑ *i*Pg Pg 03 32 49.8 +0.3
27nm,0.5s
MOF Molkenrain 0.41 311 Pg Pg 03 32 51.2 -0.2
MOF Sg Sg 03 32 57.0 +0.2
HINF Hinteralfeld 0.56 295 *e*Pg Pg 03 32 53.7 -0.4
HINF Hinteralfeld 0.56 295 *e*Pn Pg 03 32 55.4 +1.3
HINF *e*Sg Sg 03 33 00.9 -0.4
HINF *e*Sn Sg 03 33 04.4 +3.1
6.2nm,0.2s
SLE Schleitheim 0.63 73⇑ *i*P Pg 03 32 55.3 -0.2
36nm,0.2s
ECH Echery 0.70 335 Pg Pg 03 32 56.9 +0.1
ECH Sg Sg 03 33 05.9 0.0
CDF Champ du Feu 0.86 345 *e*Pg Pg 03 32 59.5 -0.4
CDF Champ du Feu 0.86 345 *e*Pn Pn 03 33 00.0 -2.1
CDF *e*Sn Sn 03 33 12.0 -3.0
3.4nm,0.4s
HAU Haudompre 0.94 297 *e*Pg Pg 03 33 01.3 -0.2
HAU *e*Sg Sg 03 33 13.9 +0.2
9.1nm,0.4s
CABF La Chapelle 1.42 227 *e*Sg Sg 03 33 27.3 -1.7
1.7nm,0.3s
SFTF Sexfontaines 1.83 291 *e*Sg Sg 03 33 40.7 -1.6
0.9nm,0.2s
LOR Lormes 2.56 264 *e*Sg Sg 03 34 03.2 -2.4
1.1nm,0.2s

NIED ***09*** *03:36:00, 3220N×14080E, h80km, Mw4.1 Best double couple: M0 1.84000×10^15 NP1:φ0±172.00000°, δ73.00000°, λ76.00000°. NP2:φ0±33.00000°, δ22.00000°, λ129.00000°.*
ISCJB ***09*** *03:36:54.6±0.6, 3186N±004×14024E±008, h77km±5km, mb4.2/40, Error ellipse: s-maj=11.8km s-min=6.7km az=140.5*
IDC ***09*** *03:36:55.8±0.9, 3191N×14038E, h74km±7km, mb3.8/17, mb1 3.9/19, mb1mx3.8/25, mbtmp3.8/19, MS2.6/1, Ms1 2.6/1, ms1mx2.1/35, Error ellipse: s-maj=18.1km s-min=8.7km az=72.0*
JMA ***09*** *03:36:57.4±0.2, 3217N×14078E, h40km, M4.3*
NEIC ***09*** *03:37:02.1±1.0, 3194N×14023E, h129km±8km, mb4.2/21, Error ellipse: s-maj=8.0km s-min=6.9km az=179.0*
ISC 09 03:36:56.1±0.6, 3192N±004×14031E±008, h75km±4km, n66, σ0=94/69, mb4.2/40, Southeast of Honshu

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

JHJ2 Mitsune 1.26 341 P **Pn** **03 37 19.1 +1.1**
JHJ2 *e*S **Sn** **03 37 34.5 0.0**
JHJ Hachijo jima 2 1.27 340 P **Pn** **03 37 19.2 +1.0**
483nm,0.3s,baz=67,slow=20,SNR=92
JHJ S **Sn** **03 37 34.8 -0.1**
299nm,0.3s,baz=250,slow=23,SNR=24
JKO Kozu shima 2.46 337 P **Pn** **03 37 36.2 +2.1**
NJJJ Nii jima 2 2.62 341 P **Pn** **03 37 37.5 +1.3**
BSO1 Boso 1 2.78 12 P **Pn** **03 37 36.0 -2.4**
BSO1 *e*S **Sn** **03 38 07.2 -3.7**
BSO3 Boso 3 2.88 3 P **Pn** **03 37 38.8 -0.9**
BSO3 *e*S **Sn** **03 38 10.0 -3.2**
BSO4 Boso 4 3.06 1 P **Pn** **03 37 42.5 +0.3**
BSO4 *e*S **Sn** **03 38 15.8 -1.9**
MJAR Matsushiro Arr 4.92 340 P **Pn** **03 38 08.6 +1.0**
2.5nm,0.3s,baz=170,slow=12,SNR=18
MAJO Matsushiro 4.93 340 *e*Pn **Pn** **03 38 12.7 +5.1**
MAT Matsushiro 4.93 340 P **Pn** **03 38 08.8 +1.2**
CBIJ Chichi jima 5.08 161 P **Pn** **03 38 09.9 +0.2**
7.4nm,0.3s,baz=291,slow=19,SNR=5.5
CBIJ S **Sn** **03 39 05.0 -1.9**
16nm,0.3s,baz=256,slow=23,SNR=4.4
JNU Nakatsue 8.05 281 P **Pn** **03 38 57.1 +6.8**
2.0nm,0.3s,baz=228,slow=19,SNR=6.1
KSRS Korea Array 11.59 302 P **Pn** **03 39 44.3 +5.8**
baz=119,slow=14,SNR=5.4
KSRS LR LR 03 43 54.7
comp=Z,29nm,19.1s,baz=95,slow=36
HIA Hailar 23.20 324 *e*P **P** **03 41 56.3 -0.1**
5.9nm,0.5s,mb4.2
SONM Songino Array 30.20 312 P **P** **03 43 00.7 +1.4**
0.5nm,0.4s,mb3.5,baz=115,slow=8.8,SNR=9.5
ZAL Zalesovo 44.84 316 P **P** **03 45 03.2 +0.5**
1.5nm,0.6s,mb3.9,baz=33,slow=6.2,SNR=4.5
MK31 Makanchi Array 46.23 306 *e*P **P** **03 45 13.4 -0.2**
MKAR Makanchi Array 46.23 306 P **P** **03 45 13.9 +0.2**
1.5nm,0.5s,mb3.9,baz=86,slow=8.9,SNR=14
KURK Kurchatov 48.50 312 *e*P **P** **03 45 30.5 -0.8**
3.4nm,0.8s,mb4.3
KDAK Kodiak Island 51.58 39 P **P** **03 45 53.6 -0.9**
13nm,0.9s,mb5.0,baz=270,slow=12,SNR=7.3
WB2 Warramunga Arr 51.88 187 *e*P **P** **03 45 56.4 -0.5**
WRA Warramunga Arr 51.88 187 P **P** **03 45 56.8 -0.1**
1.2nm,0.4s,mb4.3,baz=3.0,slow=7.6,SNR=38
CHKZ Chkalovo 53.23 316 *e*P **P** **03 46 05.8 -1.1**
4.9nm,0.8s,mb4.6
BVAR Borovoye Array 53.44 315 P **P** **03 46 08.0 -0.3**
1.5nm,0.3s,mb4.5,baz=104,slow=8.0,SNR=11
BRVK Borovoye 53.49 315 *e*P **P** **03 46 07.7 -1.1**
2.3nm,0.5s,mb4.5
ASAR Alice Springs 55.61 187 P **P** **03 46 24.2 +0.1**
0.4nm,0.4s,mb3.8,baz=2.5,slow=6.7,SNR=10
INK Inuvik 59.37 26 P **P** **03 46 49.1 -1.4**
1.8nm,0.6s,mb4.3,baz=287,slow=4.7,SNR=20
INK Inuvik 59.37 26 *e*P **P** **03 46 49.4 -1.1**
ARU Arti 59.64 320 *e*P **P** **03 46 51.7 -0.7**
2.9nm,0.6s,mb4.5
AKTK Aktyubinsk 61.48 314 P **P** **03 47 04.5 -0.4**
AKTO Aktyubinsk 61.48 314 P **P** **03 47 04.5 -0.4**
2.5nm,0.8s,mb4.3,baz=77,slow=12,SNR=9.2
RES Resolute Bay 67.77 14 *e*P **P** **03 47 44.6 -1.2**
90nm,0.8s,mb5.7
ARCES ARCESS Array B 68.46 340 P **P** **03 47 49.5 -0.7**
4.4nm,0.9s,mb4.3,baz=61,slow=7,3,SNR=3.5
ARCES ARCESS Array B 68.46 340 P **P** **03 47 49.5 -0.7**
YKA Yellowknife Ar 68.70 29 P **P** **03 47 50.5 -1.1**
0.9nm,0.6s,mb3.8,baz=300,slow=6.5,SNR=19
YKA Yellowknife Ar 68.70 29 P **P** **03 47 50.5 -1.1**
KAF Kangasniemi 72.44 333 *ep* **P** **03 48 13.1 -1.3**
2.9nm,0.5s,mb4.4
FINES FINESS Array B 72.92 333 P **P** **03 48 16.9 -0.3**
3.5nm,0.9s,mb4.2,baz=61,slow=6.3,SNR=8.7
NEW Newport 74.47 43 *e*P **P** **03 48 26.7 +0.4**
1.8nm,0.7s,mb3.9
WVOR Wild Horse Val 76.53 48 *e*P **P** **03 48 38.4 +0.3**
1.9nm,0.7s,mb3.9
AKASG Malin Array Be 77.78 323 P **P** **03 48 43.8 -1.3**
0.3nm,0.3s,mb3.5,baz=47,slow=6.0,SNR=6.3
HFS Hagfors 78.36 336 P **P** **03 48 47.7 -0.6**
1.9nm,1.0s,mb3.8,baz=69,slow=7.9,SNR=4.9
NOA NORSAR Array B 78.54 337 P **P** **03 48 49.3 -0.1**
1.4nm,1.1s,mb3.7,baz=38,slow=5.6,SNR=2.9
HLID Hailey 78.56 46 *e*P **P** **03 48 50.0 +0.5**
1.6nm,0.8s,mb3.9
BOZ Bozeman (W) 79.05 43 *e*P **P** **03 48 52.3 +0.2**
1.6nm,0.7s,mb4.0
ELK Elko 79.58 48 *e*P **P** **03 48 56.0 +1.0**
3.9nm,0.6s,mb4.4
MOOW Moose Ponds 80.65 44 *e*P **P** **03 49 01.8 +1.1**
1.8nm,0.7s,mb4.0
TPAW Teton Pass 80.68 44 *e*P **P** **03 49 02.0 +1.1**
4.0nm,0.6s,mb4.4
LOHW Long Hollow 80.81 44 *e*P **P** **03 49 02.7 +1.1**
1.9nm,0.8s,mb4.0
HWUT Hardware Ranch 81.39 46 *e*P **P** **03 49 05.4 +0.7**
8.1nm,1.0s,mb4.5
DUG Dugway 81.42 48 *e*P **P** **03 49 05.2 +0.3**
6.7nm,0.9s,mb4.5
BRTR Keskin Array B 81.56 312 P **P** **03 49 06.0 +0.5**
0.5nm,0.6s,mb3.5,baz=135,slow=2.5,SNR=4.6
BW06 Boulder Array 81.93 44 *e*P **P** **03 49 07.5 0.0**
1.8nm,0.8s,mb4.1
PDAR Pinedale Array 81.93 44 P **P** **03 49 07.8 +0.2**
1.8nm,0.7s,mb4.0,baz=270,slow=2.8,SNR=18
MSU Marysvale 82.79 49 *e*P **P** **03 49 13.1 +1.1**
SRU San Rafael 83.49 48 *e*P **P** **03 49 16.1 +0.5**
9.0nm,0.9s,mb4.6
PV10 Paradox Valley 84.86 48 *e*P **P** **03 49 23.6 +1.0**
PV01 Paradox Valley 85.30 48 *e*P **P** **03 49 25.1 +0.3**
SDCO Great Sand Dun 87.45 46 *e*P **P** **03 49 35.6 +0.3**
2.2nm,1.0s,mb4.0
WMOK Wichita Mounta 93.52 45 *e*P **P** **03 50 03.4 -0.2**
2.2nm,0.7s,mb4.6
LTX Lajitas 93.98 52 *e*P **P** **03 50 06.4 +0.7**
4.1nm,0.6s,mb4.9
TXAR Lajitas Array 93.98 52 P **P** **03 50 06.7 +1.0**
3.7nm,0.6s,mb4.9,baz=297,slow=3.0,SNR=46

TXAR	Lajitas Array	93.98	52	P	P	03 50 06.7	+1.0
TORD	Torodi Ar. Bea	120.17	312	PKP	PKPdf	03 55 38.1	-0.3
0.6nm,1.0s,baz=44,slow=0.5,SNR=6.4							
LPAZ	La Paz	149.86	66	PKPbc	PKPbc	03 56 39.9	+2.3
3.1nm,0.7s,baz=349,slow=6.7,SNR=15							
LPAZ	La Paz	149.86	66	*e*PKPbc	PKPbc	03 56 39.4	+1.7

*ISK **09** 03:42:50.7, 4072N×4324E, h4km, ML2.6*
*ISCJB **09** 03:42:53.4±0.5, 4059N±003×4315E±004, h10km, Error ellipse: s-maj=4.7km s-min=4.4km az=35.9*
*TIF **09** 03:42:55.9, 4091N×4319E, h10km±12km*
ISC 09 03:42:53.3±0.5, 4062N±003×4315E±004, h10km, n12, σ1§20/22, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	Kars	0.04	263	*i* PG	Pg	03 42 54.4	-0.8
KARS				*i* SG	Sg	03 42 57.2	+0.6
DIGO	Kars	0.27	139	*i* P	Pg	03 42 58.4	-0.3
DIGO				*i* S	Sg	03 43 02.9	+0.5
AGRB	Hanur-Agry	1.05	186	PN	Pn	03 43 13.4	-0.6
AGRB				SN	Sn	03 43 30.3	+1.6
ARTV	Artvin	1.08	302	*i* P	Pb	03 43 13.1	-1.1
ARTV				*i* S	Sg	03 43 27.6	-0.6
KZR	Kazreti	1.23	51	P	Pn	03 43 15.5	-1.0
KZR				S	Sb	03 43 31.5	-1.0
GNI	Garni	1.31	110	PN	Pn	03 43 15.9	-1.7
GNI				SN	Sn	03 43 33.9	-1.2
BCA	Borcka	1.42	306	PN	Pn	03 43 18.0	-1.1
ERZM	Erzurum	1.54	243	*i* P	Pn	03 43 21.3	+0.5
ERZM				*i* S	Sn	03 43 45.6	+4.8
EZM	Erzurum	1.54	243	PN	Pn	03 43 21.2	+0.4
MTA	Mtatsminda	1.65	49	P	Pn	03 43 23.3	+1.1
MTA				S	Sn	03 43 43.8	+0.3
DUS	Dusheti	1.88	38	P	Pn	03 43 28.9	+3.4
DUS				S	Sn	03 43 52.8	+3.5
ONI	Oni	1.98	7	P	Pn	03 43 28.7	+1.9
ONI				S	Sn	03 43 55.6	+4.0

*ISCJB **09** 03:52:50.2±1.3, 6772N±004×336E±02, h0km, Error ellipse: s-maj=10.9km s-min=5.1km az=168.4*
*HEL **09** 03:52:50.6±0.3, 6769N×3387E, h0km, ML2.2, ML2.3(BER), ML2.3(NAO), Explosion*
*NAO **09** 03:52:52.1±1.3, 6777N×3357E, ML2.3*
*IDC **09** 03:52:53.2±2.3, 6768N×3348E, h0km, mb1 3.5/5, mb1mx3.2/23, mbtmp3.4/5, ML3.0/5, Error ellipse: s-maj=27.4km s-min=9.3km az=71.0*
ISC 09 03:52:51.2±1.1, 6767N±003×336E±02, h0km, n21, σ1§28/36, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.25	256	Pg	Pg	03 52 56.8	+0.9
baz=53,slow=18							
APA0				Lg		03 53 01.4	
baz=87,slow=37							
APA0				Rg		03 53 03.5	
baz=83,slow=37							
APA0	Apatity Array	0.25	256	*i* P	Pg	03 52 56.8	+0.9
APA0				*i* S	Sg	03 53 01.4	+2.2
APA0				*e*RG		03 53 03.5	
KU4	Liikasenvaara	2.06	232	*e*P	Pn	03 53 28.0	+1.0
KU4				*e*S	Sn	03 53 54.5	+1.2
KU4				MSG		03 53 58.2	
comp=Z,6.9nm,0.2s							
KU6	Riekki	2.21	224	*e*P	Pn	03 53 29.9	+0.8
KU6				*e*S	Sn	03 53 58.8	+1.7
MSF	Maaselka	2.53	228	*e*P	Pn	03 53 34.7	+1.2
MSF				*e*SB	Sb	03 54 08.4	-0.8
MSF				MSG		03 54 13.8	
comp=Z,4.1nm,0.1s							
SGF	Sodankyl	2.73	268	*e*P	Pn	03 53 36.9	+0.6
SGF				*e*S	Sn	03 54 11.3	+1.4
SGF				MSG		03 54 18.5	
comp=Z,30nm,0.2s							
KEV	Kevo	3.19	314	*e*P	Pn	03 53 43.5	+0.9
KEV				*e*S	Sn	03 54 21.1	-0.3
KEV				MSG		03 54 37.3	
comp=Z,12nm,0.2s							
ARA0	ARCESS Array S	3.52	306	Pn	Pn	03 53 47.6	+0.6
baz=122,slow=16							
ARA0				Sn	Sn	03 54 28.7	-0.6
baz=124,slow=28							
ARA0				Lg		03 54 40.3	
baz=126,slow=28							
ARA0	ARCESS Array S	3.52	306	*e*P	Pn	03 53 47.6	+0.6
ARA0				*e*S	Sn	03 54 28.7	-0.6
ARA0				*e*SG	Sg	03 54 40.3	-3.8
ARCES	ARCESS Array B	3.52	306	Pn	Pn	03 53 47.7	+0.7
comp=Z,2.9nm,0.3s,baz=123,slow=15,SNR=259							
ARCES				Pg	Pg	03 53 54.7	-3.8
comp=Z,1.8nm,0.3s,baz=122,slow=14,SNR=13							
ARCES				Sn	Sn	03 54 28.9	-0.4
comp=Z,2.3nm,0.3s,baz=123,slow=25,SNR=9.4							
ARCES				Lg		03 54 40.3	
comp=Z,5.3nm,0.3s,baz=123,slow=26,SNR=13							
OUL	Oulu	4.05	234	*e*PG	Pg	03 54 04.1	-4.7
OUL				*e*SG	Sg	03 54 58.8	-2.5
KTK1	Kautokeino	4.08	294	*e*S	Sn	03 54 44.1	+0.9
KTK1				AML	AML	03 55 12.8	
comp=Z,18nm,0.5s							
KJN	Kajaani	4.34	217	*e*P	Pn	03 53 58.4	+0.1
KJN				*e*S	Sn	03 54 48.3	-1.3
KIF	Kilpisjarvi	4.94	292	*e*P	Pn	03 54 06.5	0.0
KIF				*e*S	Sn	03 55 03.8	-0.6
TRO	Tromso	5.71	297	*e*S	Sn	03 55 21.5	-2.0
TRO				AML	AML	03 55 53.0	
comp=Z,5.6nm,0.6s							
FIA0	FINESS Array S	7.04	211	Pn	Pn	03 54 34.2	-1.2
baz=24,slow=14							
FIA0				Lg		03 56 26.4	
baz=24,slow=28							
FIA0	FINESS Array S	7.04	211	*e*P	Pn	03 54 34.2	-1.2
FIA0				*e*SG	Sg	03 56 26.4	-11
FINES	FINESS Array B	7.04	211	Pn	Pn	03 54 34.2	-1.2
comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=6.0							
FINES				Lg		03 56 36.2	
comp=Z,1.2nm,0.3s,baz=26,slow=26,SNR=7.7							
HFS	Hagfors	11.52	239	Pn	Pn	03 55 34.5	-2.4
comp=Z,0.1nm,0.3s,baz=48,slow=11,SNR=3.0							
NOA	NORSAR Array B	11.70	246	Pn	Pn	03 55 36.9	-2.5
comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=2.5							
AKASG	Malin Array Be	17.16	190	Pn	Pn	03 56 44.4	-8.0
comp=Z,0.5nm,0.3s,baz=9.4,slow=13,SNR=4.1							

*ISCJB **09** 04:06:27.8±1.4, 174S±04×1789W±02, h556km±24km, mb4.0/8, Error ellipse: s-maj=74.0km s-min=16.6km az=128.8*
*IDC **09** 04:06:29.1±2.0, 1738S×17887W, h561km±26km, mb3.4/5, mb1 3.7/6, mb1mx3.3/15, mbtmp3.4/6, Error ellipse: s-maj=99.0km s-min=16.6km az=154.0*
*NEIC **09** 04:06:29.5±1.1, 1749S×17876W, h573km±16km, mb4.0/2, Error ellipse: s-maj=64.3km s-min=13.0km az=155.0*
ISC 09 04:06:29.6±1.2, 176S±04×1787W±02, h569km±19km, n13, σ0§82/13, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.62	62	P	P	04 08 23.6	-0.6
4.0nm,0.3s,baz=91,slow=20,SNR=3.2							
DZM	Mont Dzumac	14.65	250	P	P	04 09 37.4	+2.2
0.5nm,0.3s,baz=69,slow=16,SNR=5.7							
CNB	Canberra Magne	33.39	232	*e*P	P	04 12 21.3	-0.4
9.3nm,0.6s,mb4.5							
STKA	Stephens Creek	38.52	241	*e*P	P	04 13 03.9	-0.1
4.5nm,0.6s,mb4.2							
STKA	Stephens Creek	38.52	241	P	P	04 13 04.0	0.0
4.5nm,0.5s,mb4.3,baz=91,slow=9.0,SNR=18							
WB2	Warramunga Arr	44.38	259	*e*P	P	04 13 49.6	-0.6
WB2	Warramunga Arr	44.38	259	*e*P	P	04 13 49.4	-0.8
WRAB	Tennant Creek	44.38	259	*e*P	P	04 13 49.3	-0.8
2.0nm,0.5s,mb3.9							
WRA	Warramunga Arr	44.39	259	P	P	04 13 49.6	-0.7
2.0nm,0.5s,mb4.0,baz=96,slow=7.4,SNR=58							
WRA				PcP	PcP	04 15 21.2	-0.2
0.2nm,0.4s,baz=93,slow=3.3,SNR=3.0							
ASAR	Alice Springs	44.59	254	P	P	04 13 51.7	0.0
20nm,0.6s,mb4.8,baz=88,slow=8.3,SNR=366							
ASAR				PcP	PcP	04 15 22.1	0.0
0.4nm,0.5s,baz=107,slow=4.1,SNR=4.0							
KAKA	Kakadu	47.28	269	*e*P	P	04 14 12.6	+0.4
4.5nm,0.5s,mb4.2							
TXAR	Lajitas Array	86.08	58	P	P	04 18 11.7	+1.1
0.4nm,0.7s,mb3.2,baz=206,slow=5.5,SNR=4.7							
PDAR	Pinedale Array	87.32	44	P	P	04 18 16.6	+0.2
0.5nm,0.6s,mb3.3,baz=313,slow=1.2,SNR=4.6							

*ISCJB **09** 04:32:53.4±4.0, 580S±01×258W±02, h56km±39km, mb4.2/10, MS3.8/1, Error ellipse: s-maj=23.9km s-min=18.3km az=22.4*
*IDC **09** 04:32:54.7±5.8, 5799S×2588W, h53km±51km, mb4.1/6, mb1 4.1/7, mb1mx3.9/14, mbtmp4.0/7, ML3.8/1, MS3.9/2, Ms1 3.8/2, ms1mx3.4/16, Error ellipse: s-maj=23.6km s-min=20.4km az=21.0*
*NEIC **09** 04:32:56.9±2.9, 5803S×2584W, h75km±26km, mb4.4/8, Error ellipse: s-maj=14.7km s-min=11.8km az=195.0*
ISC 09 04:32:55.6±3.4, 581S±01×258W±02, h63km±34km, n32, σ0§65/25, mb4.2/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.64	157	*e*	Pn	04 36 19.1	-0.1
VNA1				*e*		04 36 20.7	
VNA1				*e*		04 36 25.3	
VNA1				*e*		04 36 27.1	
VNA1				*e*		04 38 55.3	
VNA1				*e*		04 39 03.4	
VNA3	Neumayer Olymp	14.83	159	*e*	Pn	04 36 21.1	-0.6
VNA3				*e*		04 36 22.5	
VNA3				*e*		04 36 28.2	
VNA3				*e*		04 36 31.1	
VNA3				*e*		04 38 53.5	
VNA3				*e*		04 38 58.5	
VNA3				*e*		04 39 02.7	
VNA2	Neumayer--Watz	15.04	156	*e*	Pn	04 36 24.4	+0.1
VNA2				*e*		04 36 26.1	
VNA2				*e*		04 36 32.1	
VNA2				*e*		04 36 35.1	
VNA2				*e*		04 38 58.3	
VNA2				*e*		04 39 04.4	
VNA2				*e*		04 39 09.4	
SNAA	Sanae	16.59	154	P	Pn	04 36 45.4	+1.3
0.4nm,0.3s,baz=326,slow=14,SNR=55							
SNAA				S	S	04 39 36.9	-19
0.1nm,0.3s,baz=347,slow=19,SNR=5.8							
SNAA	Sanae	16.59	154	*e*	Pn	04 36 45.3	+1.2
SNAA				*e*		04 36 47.0	
SNAA				*e*		04 39 38.8	
SNAA				*e*		04 39 46.4	
SNAA	Sanae	16.59	154	*e*P	Pn	04 36 45.1	+1.1
5.3nm,0.5s							
SNAA				*e*Sn	Sn	04 39 36.7	-11
PMSA	Palmer Station	19.21	234	LR	LR	04 43 44.5	
comp=Z,320nm,18.9s,baz=264,slow=34							
CFAA	Coronel Fontan	39.05	294	P	P	04 40 15.0	-1.3
0.2nm,0.7s,mb3.0,baz=179,slow=4.6,SNR=5.4							
CFAA				PcP	PcP	04 42 24.8	-0.4
0.3nm,0.6s,baz=149,slow=3.2,SNR=9.6							
CFAA	Coronel Fontan	39.05	294	P	P	04 40 15.0	-1.3
CFAA				PcP	PcP	04 42 24.8	-0.4
VNDA	Vanda	44.58	182	P	P	04 41 01.6	+0.1
3.7nm,0.6s,mb4.4,baz=192,slow=6.7,SNR=28							
VNDA	Vanda	44.58	182	*e*P	P	04 41 01.3	-0.1
4.2nm,0.7s,mb4.4							
BOSA	Boshof	45.81	73	P	P	04 41 10.3	-0.8
3.1nm,0.8s,mb4.3,baz=212,slow=7.2,SNR=4.7							
BOSA				LR	LR	04 55 51.7	
comp=Z,108nm,18.2s,baz=162,slow=30							
BOSA	Boshof	45.81	73	*e*P	P	04 41 10.8	-0.3
7.1nm,0.9s,mb4.6							
LBTB	Lobatse	48.94	70	P	P	04 41 35.4	0.0
2.8nm,0.8s,mb4.4,baz=86,slow=19,SNR=3.9							
LBTB	Lobatse	48.94	70	*e*P	P	04 41 35.4	-0.1
3.5nm,0.7s,mb4.5							
LPAZ	La Paz	52.15	305	P	P	04 41 59.4	-0.2
1.8nm,0.5s,mb4.3,baz=138,slow=6.4,SNR=12							
LPAZ	La Paz	52.15	305	*e*P	P	04 41 59.4	-0.3
2.1nm,0.6s,mb4.2							
LSZ	Lusaka	58.46	66	*e*P	P	04 42 44.7	-0.3
2.5nm,0.6s,mb4.4							
OTAV	Otavalo	71.39	303	*e*P	P	04 44 10.1	+1.2
1.2nm,0.4s,mb4.2							
TOA0	Torodi Ar. Sit	74.48	28	*e*P	P	04 44 27.3	+0.1
TORD	Torodi Ar. Bea	74.48	28	P	P	04 44 27.7	+0.5
4.0nm,0.4s,mb4.7,baz=199,slow=6.3,SNR=236							
TORD	Torodi Ar. Bea	74.48	28	P	P	04 44 27.7	+0.5
SDV	Santo Domingo	75.96	314	*e*P	P	04 44 36.4	+0.7
4.1nm,0.8s,mb4.4							
ASAR	Alice Springs	96.83	161	P	P	04 46 18.9	-0.7
0.4nm,0.7s,mb4.0,baz=185,slow=4.1,SNR=5.8							
FINES	FINESS Array B	125.83	28	PKP	PKPdf	04 51 48.0	-2.2
3.1nm,1.0s,baz=197,slow=6.0,SNR=5.3							
AKTK	Aktyubinsk	127.94	54	P	PKPdf	04 51 55.4	+1.2
AKTK				pP		04 52 43.4	
ARCES	ARCESS Array B	132.55	22	PKP	PKPdf	04 52 00.3	-2.6
5.3nm,1.0s,baz=52,slow=7.9,SNR=5.5							
ARCES	ARCESS Array B	132.55	22	PKP	PKPdf	04 52 00.3	-2.6
YKA	Yellowknife Ar	138.16	316	PKP	PKPdf	04 52 11.1	-2.3
1.9nm,0.5s,baz=129,slow=2.1,SNR=36							
INK	Inuvik	147.82	318	PKPbc	PKPbc	04 52 31.0	-2.4
4.9nm,0.7s,baz=90,slow=3.1,SNR=28							
SONM	Songino Array	150.06	89	PKPbc	PKPbc	04 52 37.5	-1.6
1.3nm,0.4s,baz=227,slow=3.8,SNR=12							
KDAK	Kodiak Island	152.33	292	PKPbc	PKPbc	04 52 44.2	-0.1
4.4nm,0.4s,baz=136,slow=22,SNR=8.8							

*BJI **09** 04:41:15.4, 5221N×17673W, h163km, mB4.7, mb4.7*
*ISCJB **09** 04:41:17.0±0.5, 5269N±006×17637W±004, h175km±4km, mb4.4/47, Error ellipse: s-maj=9.9km s-min=4.2km az=173.7*
*NEIC **09** 04:41:18.6±0.6, 5254N×17630W, h179km±5km, mb4.4/24, Error ellipse: s-maj=8.8km s-min=4.7km az=174.0*
*IDC **09** 04:41:21.6±0.9, 5267N×17634W, h207km±7km, mb3.8/19, mb1 4.0/19, mb1mx3.8/30, mbtmp3.8/19, Error ellipse: s-maj=18.5km s-min=8.5km az=175.0*
ISC 09 04:41:18.0±0.5, 5270N±006×17636W±004, h171km±4km, h205km±4.3km; pP-P, n284, σ0§70/289, mb4.4/47, 69C-73D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.41	110	P	Pn	04 41 48.0	-0.3
ATKA				S	Sn	04 42 10.7	-1.0
AMKA	Amchitka	2.99	245	P	Pn	04 42 06.8	+0.8
AMKA				S	Sn	04 42 42.6	-0.7
UNV	Unalaska Valle	6.03	75	P	Pn	04 42 45.9	+0.7
SVW2	Sparrevohn	14.07	45	*e*Pn	Pn	04 44 34.6	+4.7
KDAK	Kodiak Island	14.45	60	P	Pn	04 44 32.8	-1.8
11nm,0.3s,baz=263,slow=6.0,SNR=104							
KDAK				S	Sn	04 47 07.3	-8.0
0.7nm,0.3s,baz=327,slow=21,SNR=7.2							
KDAK	Kodiak Island	14.45	60	P	Pn	04 44 32.8	-1.8
KDAK				S	Sn	04 47 07.3	-8.0
SLKM	Skilak Lake	16.29	51	*e*P	Pn	04 44 58.6	+1.5
BILL	Bilibino	17.51	338	*e*P	Pn	04 45 13.4	+1.7
22nm,0.9s							
IMA2	Indian Mountai	17.54	31	*e*P	Pn	04 45 12.7	+0.6
SML	Sawmill	17.56	48	*e*P	Pn	04 45 11.4	-0.9
MCK	McKinley	18.02	41	*e*P	P	04 45 16.8	+0.9
7.2nm,0.7s							
COLA	College	18.94	39	*e*P	P	04 45 27.9	+2.0
15nm,0.6s							
EGAK	Eagle	21.56	42	*e*P	P	04 45 54.2	+0.3
12nm,0.6s,mb4.5							
EGAK				*e*		04 46 34.8	
DAWY	Dawson	22.11	45	*e*P	P	04 45 59.9	+0.3
DAWY				*ep*P		04 46 31.8	
INK	Inuvik	25.51	36	P	P	04 46 30.5	-0.1
3.1nm,0.3s,mb4.3,baz=240,slow=7.5,SNR=123							
INK	Inuvik	25.51	36	*e*P	P	04 46 31.0	+0.5
105nm,0.4s,mb5.8							
YKW3	Yellowknife Ar	33.21	48	*e*P	P	04 47 38.1	-0.5
YKA	Yellowknife Ar	33.23	48	P	P	04 47 37.8	-0.9
6.9nm,0.7s,mb4.5,baz=286,slow=7.9,SNR=66							
YKA				PcP	PcP	04 50 15.4	-1.7
0.2nm,0.4s,baz=289,slow=3.2,SNR=4.1							
B04A	Port Angeles	33.39	76	⇑P	P	04 47 39.0	-1.1
baz=33							
A04A	Legoe Bay, Lum	33.55	75	⇑P	P	04 47 40.8	-0.7
baz=33							
A05A	Maple Falls	33.79	74	⇑P	P	04 47 43.2	-0.4
baz=34							
C04A	Brinnon	33.87	77	⇓P	P	04 47 44.9	+0.7
baz=34							
E03A	Lebam	34.09	79	⇑P	P	04 47 46.7	+0.5
baz=34							
E04A	Onalaska	34.57	78	⇓P	P	04 47 51.1	+0.8
baz=34							
C05A	Tolt Reservoir	34.63	76	⇓P	P	04 47 51.2	+0.4
baz=34							
D05A	Enumclaw	34.71	77	⇓P	P	04 47 52.4	+0.9
baz=35							
A07A	Ashnola River,	34.76	73	⇓P	P	04 47 51.5	-0.3
baz=35							
F04A	Amboy	35.09	79	⇓P	P	04 47 54.8	+0.1
baz=35,SNR=7.2							
E05A	Randle	35.16	78	⇓P	P	04 47 54.9	-0.4
baz=35							
B07A	Winthrop	35.19	74	⇑P	P	04 47 55.5	-0.1
baz=35							
H03A	Soap Creek Ran	35.23	81	⇑P	P	04 47 55.3	-0.6
baz=35							
D06A	Cle Elum	35.38	76	⇑P	P	04 47 57.6	+0.3
baz=35							
G04A	Mulino	35.43	80	⇓P	P	04 47 57.1	-0.6
baz=35							
A08A	Turner Farm, O	35.45	73	⇑P	P	04 47 56.9	-0.9
baz=35							
MJAR	Matsushiro Arr	35.48	261	P	P	04 47 58.5	+0.5
9.0nm,0.8s,mb4.5,baz=44,slow=7.0,SNR=22							
MAJO	Matsushiro	35.48	261	*e*P	P	04 47 58.0	-0.1
14nm,0.6s,mb4.8							
MAT	Matsushiro	35.48	261	P	P	04 47 58.3	+0.2
TBM	Table Mountain	35.54	76	P	P	04 47 58.8	+0.3
C07A	Waterville	35.60	75	P	P	04 47 58.8	-0.3
baz=36,SNR=6.5							
I03A	Eugene	35.62	82	⇓P	P	04 47 54.3	-4.9
baz=36							
E06A	Yakima	35.63	77	⇑P	P	04 47 59.6	+0.2
baz=36							
WTV	Waterville	35.66	75	P	P	04 47 59.5	-0.1
F05A	White Salmon	35.69	78	⇑P	P	04 47 60.0	+0.2
baz=36							
EBG	Ellensburg	35.69	76	P	P	04 48 00.4	+0.6
B08A	Colville Reser	35.70	74	⇓P	P	04 47 59.2	-0.7
baz=36,SNR=5.4							
J02A	Umpqua	35.77	83	⇓P	P	04 48 01.0	+0.4
baz=36							
A09A	Danville	35.84	72	⇓P	P	04 48 01.1	0.0
baz=36							
MDJ	Mudanjiang	35.85	279	P	P	04 47 59.9	-1.3
MDJ				AMB	AMB		
comp=Z,8.0nm,2.7s,mb3.9							
MDJ				AMB	AMB		
comp=Z,75nm,4.6s							
HOOD	Mount Hood Mea	35.87	79	*e*P	P	04 48 02.2	+0.9
H04A	Detroit Lake	35.89	81	P	P	04 48 02.4	+0.9
baz=36,SNR=5.2							
D07A	Quincy	35.90	76	⇑P	P	04 48 02.0	+0.3
baz=36							
EPH	Ephrata	36.04	75	P	P	04 48 02.5	-0.4
G05A	Wamic	36.11	79	⇑P	P	04 48 04.1	+0.7
baz=36							
J03A	Ideyld Park	36.14	83	⇑P	P	04 48 04.4	+0.7
baz=36							
C08A	Higginbotham F	36.15	74	⇓P	P	04 48 03.3	-0.5
baz=36							
F06A	Goldendale	36.15	78	⇓P	P	04 48 03.9	+0.2
baz=36							
K02A	Glendale	36.16	84	⇓P	P	04 48 03.9	0.0
baz=36							
I04A	Tendick Farm,	36.24	82	⇓P	P	04 48 05.0	+0.5
baz=36,SNR=5.5							
E07A	Sunnyside	36.29	76	⇑P	P	04 48 04.6	-0.3
baz=36,SNR=5.7							
B09A	Rice	36.35	73	⇑P	P	04 48 04.5	-1.0
baz=36							
WAH2	Wahluke Slope	36.36	76	P	P	04 48 05.6	0.0
SNIWA	Snively Ranch	36.45	77	P	P	04 48 06.7	+0.4
H05A	Madras	36.48	80	⇑P	P	04 48 06.9	+0.3
baz=36							
G06A	Carlson Farm,	36.52	79	⇓P	P	04 48 06.4	-0.5
baz=36							
D08A	Wollman Farm,	36.59	75	⇑P	P	04 48 06.9	-0.6
baz=36,SNR=5.7							
C09A	Chrisman Ranch	36.59	74	⇑P	P	04 48 05.8	-1.7
baz=36							
F07A	Phinny Hill Vi	36.59	77	P	P	04 48 07.9	+0.4
baz=36,SNR=14							
H2OWA	Water	36.63	76	P	P	04 48 07.8	0.0
E08A	Dider Farm, El	36.79	76	⇓P	P	04 48 09.2	0.0
baz=37							
EDM	Edmonton	36.86	63	*e*P	P	04 48 08.9	-0.9
VIPM	Ingram Point	36.92	80	P	P	04 48 10.8	+0.5
D09A	Jones Farm, Ri	36.94	75	⇑P	P	04 48 09.6	-0.8
baz=37							
H06A	Lindquist Farm	36.97	79	⇓P	P	04 48 10.7	0.0
baz=37							
NEW	Newport	37.03	72	*e*P	P	04 48 10.7	-0.5
comp=Z,6.2nm,0.8s,mb4.3							
G07A	Ruggs Ranch, H	37.08	78	⇓P	P	04 48 11.1	-0.5
baz=37							
A11A	Hall Mountain,	37.13	71	⇑P	P	04 48 12.0	0.0
baz=37							
YBH	Yreka Blue Hor	37.23	85	P	P	04 48 14.6	+1.7
comp=Z,10nm,0.8s,mb4.5,baz=299,slow=5.6,SNR=11							
YBH	Yreka Blue Hor	37.23	85	⇓P	P	04 48 13.8	+0.9
baz=37,SNR=5.2							
K04A	Chilquin	37.31	83	⇓P	P	04 48 14.9	+1.3
baz=37							
E09A	Wood Farm, Sta	37.32	76	P	P	04 48 13.4	-0.2
baz=37,SNR=5.7							
F08A	Pendleton	37.33	77	⇑P	P	04 48 13.3	-0.4
baz=37							
N02C	Big Bar	37.41	87	⇑P	P	04 48 15.2	+0.8
baz=37							
L04A	Klamath Falls	37.47	84	P	P	04 48 16.2	+1.3
baz=37,SNR=5.6							
I06A	Prineville	37.48	80	⇓P	P	04 48 15.6	+0.6
baz=37							
G08A	Pilot Rock	37.49	78	P	P	04 48 15.2	+0.1
baz=37,SNR=5.5							
H07A	Lands Inn, Kim	37.51	79	⇑P	P	04 48 15.3	+0.1
baz=37							
D10A	Wagner Farm, O	37.55	74	P	P	04 48 14.7	-0.9
baz=37,SNR=9.9							
M04C	Macdoel	37.73	84	⇑P	P	04 48 18.3	+1.2
baz=38							
K05A	Summer Lake	37.76	82	⇑P	P	04 48 18.6	+1.

H09A	Durkee	38.60	78	⇓P		P	04 48 24.2	-0.2
	baz=38							
BMO	Blue Mountains	38.71	77	eP		P	04 48 25.2	-0.1
	comp=Z,6.0nm,0.7s,mb4.3							
K07A	Rock Creek Ran	38.77	81	⇑P		P	04 48 26.5	+0.8
	baz=39,SNR=14							
C13A	Hot Springs	38.80	72	⇑P		P	04 48 24.7	-1.3
	baz=39							
J08A	Circle Bar Ran	38.85	80	⇓P		P	04 48 26.4	0.0
	baz=39,SNR=5.7							
M06C	Likely Place G	38.90	84	⇑P		P	04 48 26.8	0.0
	baz=39							
I09A	Lost Marbles R	38.94	79	⇑P		P	04 48 27.2	0.0
	baz=39							
O04C	Chester	39.06	86	⇓P		P	04 48 28.7	+0.5
	baz=39							
L07A	Adell	39.10	82	P		P	04 48 29.6	+1.1
	baz=39,SNR=6.6							
D13A	Huson	39.17	73	⇓P		P	04 48 28.1	-1.1
	baz=39							
H10A	Noah's Angus R	39.19	77	P		P	04 48 29.1	-0.1
	baz=39,SNR=9.6							
K08A	Mann Creek Ran	39.20	81	⇑P		P	04 48 29.9	+0.5
	baz=39							
C14A	Swan Lake	39.23	71	⇑P		P	04 48 28.6	-1.0
	baz=39							
ORV	Oroville	39.28	87	⇓P		P	04 48 29.5	-0.5
	baz=39							
WVOR	Wild Horse Val	39.28	81	eP		P	04 48 30.1	+0.1
	comp=Z,10nm,0.9s,mb4.5							
J09A	Fry Pan Ranch,	39.29	80	⇓P		P	04 48 30.0	0.0
	baz=39,SNR=5.5							
SUTB	Sutter Butte	39.30	88	⇓P		P	04 48 30.3	+0.1
	baz=39							
O05C	Quincy	39.38	86	⇓P		P	04 48 31.0	+0.2
	baz=39							
F12A	Elk City	39.43	75	⇑P		P	04 48 30.9	-0.3
	baz=39,SNR=8.5							
H11A	Donnelly	39.56	77	P		P	04 48 31.9	-0.4
	baz=39,SNR=7.3							
N06A	Buffalo Meadow	39.56	84	P		P	04 48 33.2	+0.8
	baz=39,SNR=8.6							
M07A	Soldier Meadow	39.58	83	⇓P		P	04 48 33.1	+0.7
	baz=39,SNR=16							
L08A	Fields	39.60	81	P		P	04 48 33.2	+0.5
	baz=40,SNR=5.3							
K09A	Rome	39.68	80	⇓P		P	04 48 32.6	-0.7
	baz=40							
E13A	Victor	39.68	73	P		P	04 48 32.6	-0.7
	baz=40,SNR=6.0							
D14A	Greenough	39.73	72	P		P	04 48 32.8	-1.0
	baz=40,SNR=6.0							
BEKR	Beckwourth	39.78	86	⇓P		P	04 48 34.0	-0.1
	baz=40							
J10A	Berg Farm, Mel	39.83	79	⇓P		P	04 48 34.3	-0.3
	baz=40							
O06A	Flanigan	39.92	85	⇓P		P	04 48 35.2	-0.1
	baz=40							
F13A	Darby	39.95	74	⇑P		P	04 48 35.5	0.0
	baz=40							
CHMT	Chamberlain Mo	39.97	72	eP		P	04 48 34.4	-1.4
P05C	Yuba Gap, Truc	39.98	87	⇑P		P	04 48 35.9	+0.1
	baz=40							
M08A	Happy Creek Ra	40.02	82	⇓P		P	04 48 36.8	+0.7
	baz=40							
I11A	Placerville	40.04	78	⇑P		P	04 48 36.0	-0.2
	baz=40							
BDM	Black Diamond	40.06	89	⇑P		P	04 48 35.8	-0.6
	baz=40							
E14A	Clinton	40.10	73	⇓P		P	04 48 35.6	-1.1
	baz=40							
L09A	Wilkinson Ranc	40.11	81	⇑P		P	04 48 36.7	-0.1
	baz=40,SNR=5.4							
D15A	Lincoln	40.33	72	⇑P		P	04 48 37.6	-1.0
	baz=40							
H12A	Diamond D Ranc	40.33	76	⇓P		P	04 48 37.9	-0.7
	baz=40							
G13A	Cobalt	40.39	75	⇑P		P	04 48 38.2	-1.0
	baz=40,SNR=8.8							
O07A	Toulon	40.50	84	⇓P		P	04 48 40.3	+0.3
	baz=40							
F14A	Wisdom	40.50	74	⇑P		P	04 48 40.1	0.0
	baz=40							
N08A	GE Springer Mi	40.57	83	⇓P		P	04 48 41.0	+0.3
	baz=40							
E15A	Deer Lodge	40.59	72	⇑P		P	04 48 39.7	-1.1
	baz=40							
M09A	Marrel Ranch,	40.59	82	⇓P		P	04 48 41.3	+0.4
	baz=40							
N09A	Rock Creek Ran	40.89	83	⇓P		P	04 48 44.0	+0.7
	baz=41							
F15A	Butte	40.99	73	⇑P		P	04 48 43.6	-0.6
	baz=41							
M10A	I.L. Ranch, Tu	41.08	81	⇑P		P	04 48 45.0	+0.1
	baz=41							
KSRS	Korea Array	41.12	271	P		P	04 48 44.5	-0.7
	comp=Z,2.5nm,0.9s,mb3.9,baz=58,slow=11,SNR=4.5							
HLID	Hailey	41.15	77	eP		P	04 48 44.8	-0.7
	comp=Z,7.1nm,0.8s,mb4.3							
HLID	Hailey	41.15	77	P		P	04 48 45.3	-0.1
	baz=41,SNR=11							
R06C	Coleville	41.17	87	⇑P		P	04 48 45.9	+0.4
	baz=41							
HAST	UC Hastings Re	41.26	91	⇓P		P	04 48 45.6	-0.7
	baz=41							
S06C	San Francisco	41.33	88	⇑P		P	04 48 47.5	+0.7
	baz=41							
MCMT	McKenzie Canyo	41.35	75	eP		P	04 48 45.8	-1.2
G15A	Dillon	41.37	74	P		P	04 48 46.3	-0.9
	baz=41,SNR=5.6							
EGMT	Eagleton	41.38	69	⇑P		P	04 48 45.8	-1.5
	baz=41							
O09A	Fish Creek Ran	41.51	83	P		P	04 48 49.1	+0.7
	baz=41,SNR=6.4							
M11A	Holland Ranch,	41.59	81	⇓P		P	04 48 49.1	+0.2
	baz=41,SNR=5.8							
BOZ	Bozeman (W)	41.60	73	⇑P		P	04 48 48.5	-0.6
	baz=42							
O10A	Cortez Mining,	41.85	82	⇑P		P	04 48 51.5	+0.4
	baz=42							
Q08A	Gabbs	41.88	85	⇓P		P	04 48 51.2	-0.1
	baz=42							
NVAR	Mina Array Bea	41.92	86	P		P	04 48 51.8	+0.1
	comp=Z,4.4nm,0.9s,mb4.1,baz=299,slow=9.5,SNR=8.5							
P09A	Austin	41.92	84	⇓P		P	04 48 52.3	+0.6
	baz=42							
T06C	Millerton Lake	41.98	89	⇑P		P	04 48 51.8	-0.3
	baz=42,SNR=5.4							
N11A	Elko Archery C	41.99	81	⇑P		P	04 48 53.0	+0.7
	baz=42							
KCC	Kaiser Creek	42.01	88	⇑P		P	04 48 52.4	0.0
	baz=42							
M12A	Wells	42.12	80	⇑P		P	04 48 54.1	+0.8
	baz=42							
JNU	Nakatsue	42.22	264	P		P	04 48 55.5	+1.4
	comp=Z,23nm,0.8s,mb4.9,baz=231,slow=19,SNR=4.1							
N12A	Clover Valley,	42.39	81	P		P	04 48 56.0	+0.5
	baz=42,SNR=10							
O11A	Cowboy Ranch,	42.46	82	⇓P		P	04 48 56.1	+0.1
	baz=42,SNR=6.0							
YMR	Madison River	42.55	74	eP		P	04 48 55.9	-0.9
	comp=Z,5.2nm,0.7s,mb4.3							
S08C	White Mtn Res	42.60	87	⇓P		P	04 48 58.1	+1.0
	baz=42							
M13A	Montello	42.61	80	P		P	04 48 57.4	+0.2
	baz=42,SNR=7.7							
HELL	Mitchell Peak,	42.61	88	⇓P		P	04 48 56.9	-0.3
	baz=42							
RCTC	Rector, Farmer	42.72	89	⇓P		P	04 48 58.7	+0.6
	baz=43							
YFT	Old Faithful	42.75	74	eP		P	04 48 59.6	+1.3
P11A	Circle Ranch,	42.76	83	⇓P		P	04 49 01.8	+3.3
	baz=43							
R09A	Tonopah	42.79	85	P		P	04 48 59.1	+0.4
	baz=43,SNR=14							
N13A	Wendover, West	42.89	80	⇑P		P	04 48 58.7	-0.7
	baz=43							
O12A	Currie	42.93	81	P		P	04 49 00.1	+0.3
	baz=43,SNR=9.3							
LKWY	Lake	42.94	73	eP		P	04 48 59.3	-0.5
	comp=Z,9.9nm,1.0s,mb4.4							
IMW	Indian Meadow	43.01	75	eP		P	04 49 00.6	+0.1
S09A	Goldfield	43.03	86	P		P	04 49 01.1	+0.5
	baz=43,SNR=5.6							
VES	Vestal, Richgr	43.13	89	P		P	04 49 01.2	-0.1
	baz=43,SNR=5.5							
HVU	Hansel Valley	43.18	78	eP		P	04 49 01.9	+0.1
	comp=Z,9.0nm,0.6s,mb4.6							
Q11A	Duckwater	43.27	84	P		P	04 49 02.9	+0.4
	baz=43,SNR=10							
PKM	Peak Mountain	43.31	91	⇓P		P	04 49 03.4	+0.5
	baz=43							
P12A	McGill	43.32	82	P		P	04 49 03.4	+0.4
	baz=43,SNR=9.1							
GRAC	Grapevine Rang	43.41	87	⇓P		P	04 49 04.4	+0.7
	baz=43							
ISA	Isabella	43.61	89	P		P	04 49 05.0	-0.3
	baz=44,SNR=6.7							
Q12A	Willow Creek R	43.64	83	⇓P		P	04 49 05.6	+0.1
	baz=44							
SPUT	South Promonto	43.66	79	eP		P	04 49 01.0	-4.7
SBC	Santa Barbara	43.68	91	⇑P		P	04 49 05.0	-0.7
	baz=44							
MPMC	Manual Prospec	43.95	88	P		P	04 49 08.4	+0.5
	baz=44,SNR=5.5							
HWUT	Hardware Ranch	44.01	78	eP		P	04 49 08.2	-0.2
FURC	Furnace Creek,	44.06	87	P		P	04 49 09.3	+0.5
	baz=44,SNR=5.9							
DUG	Dugway	44.13	80	eP		P	04 49 08.8	-0.6
	comp=Z,13nm,0.8s,mb4.6							
DUG	Dugway	44.13	80	P		P	04 49 09.6	+0.2
	baz=44,SNR=13							
OSI	Osito Adit	44.16	91	⇓P		P	04 49 09.8	+0.2
	baz=44							
LRMC	Laurel Mountai	44.22	89	⇓P		P	04 49 09.5	-0.6
	baz=44							
U10A	Ash Meadows, A	44.42	87	⇓P		P	04 49 13.0	+1.3
	baz=44							
EDW2	Edwards Air Fo	44.43	90	⇑P		P	04 49 11.7	-0.1
	baz=44							
BW06	Boulder Array	44.49	75	eP		P	04 49 11.6	-0.7
	comp=Z,9.6nm,0.6s,mb4.6							
PDAR	Pinedale Array	44.49	75	P		P	04 49 11.6	-0.7
	comp=Z,8.9nm,0.5s,mb4.6,baz=325,slow=3.0,SNR=82							
NLU	North Lily Min	44.72	80	eP		P	04 49 14.3	+0.2
SHOC	Shoshone	44.79	87	P		P	04 49 15.0	+0.3
	baz=45,SNR=7.2							
GSC	Goldstone	44.87	88	P		P	04 49 15.6	+0.3
	baz=45,SNR=14							
BFSC	Mount Baldy St	45.06	90	⇑P		P	04 49 17.2	+0.4
	baz=45							
TUQ	Turquoise Mtn.	45.32	87	⇓P		P	04 49 18.8	+0.1
	baz=45							
V11A	Goodsprings	45.35	87	⇓P		P	04 49 19.4	+0.4
	baz=45							
HEC	Hector,Ludlow	45.47	88	⇓P		P	04 49 19.8	-0.2
	baz=45							
U12A	Valley of Fire	45.50	85	P		P	04 49 20.7	+0.5
	baz=45,SNR=5.5							
TMUT	Trail Mountain	45.66	80	eP		P	04 49 21.7	+0.3
V12A	Nelson	45.77	86	⇑P		P	04 49 22.6	+0.3
	baz=46							
MURC	Murrieta	45.78	90	⇓P		P	04 49 22.3	-0.1
	baz=46							
GMRC	Granite Mounta	45.91	88	P		P	04 49 23.6	+0.2
	baz=46,SNR=9.7							
W12A	Cal Nev Ari	46.05	87	⇓P		P	04 49 24.6	+0.1
	baz=46							
SRU	San Rafael	46.19	80	eP		P	04 49 25.2	-0.4
	comp=Z,7.4nm,0.4s,mb4.7							
PFO	Pinyon Flat Ob	46.23	90	P		P	04 49 25.5	-0.4
	comp=Z,1.9nm,0.4s,mb4.0,baz=323,slow=7.3,SNR=6.6							
PFO	Pinyon Flat Ob	46.23	90	⇑P		P	04 49 25.1	-0.8
	baz=46							
BELC	Belle Mtn.	46.24	89	P		P	04 49 25.6	-0.3
	baz=46,SNR=6.0							
109C	Camp Elliot, M	46.32	91	⇑P		P	04 49 26.7	0.0
	baz=46							
IRM	Iron Mountain	46.64	88	⇓P		P	04 49 28.8	-0.3
	baz=46,SNR=7.4							
W13A	Hualapai Mount	46.78	86	⇓P		P	04 49 30.3	+0.1
	baz=47							
BC3	Big Chuckw Mtn	46.80	89	⇓P		P	04 49 29.8	-0.5
	baz=47							
RSSD	Black Hills	46.88	70	eP		P	04 49 29.1	-1.8
	comp=Z,2.1nm,0.6s,mb3.9							
SWSC	Sam W. Stewart	47.08	90	⇓P		P	04 49 32.6	+0.1
	baz=47							
DVTC	Desert V Tower	47.09	90	⇑P		P	04 49 32.7	+0.1
	baz=47							
X13A	Yucca	47.15	87	⇑P		P	04 49 32.8	-0.3
	baz=47							
PDMCI	Parker Dam,Lak	47.16	87	P		P	04 49 32.9	-0.2
	baz=47,SNR=6.2							
W14A	Seligman	47.19	86	⇑P		P	04 49 33.5	+0.1
	baz=47							
Y12C	Blythe	47.30	88	P		P	04 49 34.3	+0.1
	baz=47,SNR=5.2							
SONM	Songino Array	47.40	297	P		P	04 49 35.3	+0.3
	comp=Z,0.6nm,0.6s,mb3.4,baz=50,slow=8.1,SNR=6.0							
SONM				pP		pP	04 50 19.7	+6.7
	comp=Z,1.0nm,0.6s,baz=53,slow=8.4,SNR=6.0							
PV10	Paradox Valley	47.55	79	eP		P	04 49 35.9	-0.2
GLA	Glamis	47.60	89	P		P	04 49 36.5	0.0
	baz=47,SNR=6.9							
ULM	Lac du Bonnet	47.70	59	P		P	04 49 38.0	+0.6
	comp=Z,0.4nm,0.3s,mb3.5,baz=58,slow=2.6,SNR=2.9							
ULM	Lac du Bonnet	47.70	59	P		P	04 49 38.0	+0.6
W15A	Williams	47.71	85	⇓P		P	04 49 37.7	+0.3
	baz=48							
X14A	Yava	47.81	86	P		P	04 49 38.4	+0.3
	baz=48,SNR=7.4							
PV01	Paradox Valley	47.98	79	eP		P	04 49 38.8	-0.6
PV01				e			04 50 36.3	
WUAZ	Wupatki	48.02	84	eP		P	04 49 40.1	+0.3
	comp=Z,13nm,0.9s,mb4.6							
WUAZ	Wupatki	48.02	84	P		P	04 49 40.2	+0.5
	baz=48,SNR=6.9							
Y14A	Wickenburg	48.10	87	⇓P		P	04 49 39.9	-0.4
	baz=48							
X15A	Humboldt	48.19	86	P		P	04 49 41.5	+0.4
	baz=48,SNR=6.0							
MVCO	Mesa Verde	48.63	80	eP		P	04 49 43.0	-1.4
	comp=Z,4.7nm,0.5s,mb4.4							
MVCO	Mesa Verde	48.63	80	⇑P		P	04 49 44.3	-0.1
	baz=48							
ISCO	Idaho Springs	48.66	76	eP		P	04 49 44.9	+0.2
HHC	Hu-ho-hao-te	48.77	286	eP		P	04 49 45.7	+0.2
HHC				AP		pP	04 50 24.8	+1.2
HHC				XP		sP	04 50 44.5	+1.9
HHC				PP		PP	04 51 41.5	+1.3
HHC				PCS		PcS	04 55 03.6	-0.5
HHC				S		S	04 56 33.5	-1.7
HHC				SS		SS	05 00 00.8	-7.0
HHC				AMB		AMB		
	comp=Z,11nm,0.5s,mb4.7							
HHC				AMB		AMB		
	comp=Z,103nm,5.7s							
115A	Sonoran Desert	49.42	87	P		P	04 49 51.0	+0.6
	baz=49,SNR=5.5							
116A	Eloy	49.83	87	⇓P		P	04 49 53.5	-0.1
	baz=50							
SDCO	Great Sand Dun	50.07	78	eP		P	04 49 55.3	0.0
LAZ	Lazon	51.33	82	eP		P	04 50 04.7	-0.1
ANMO	Albuquerque	51.37	81	eP		P	04 50 04.8	-0.3
	comp=Z,3.1nm,1.0s,mb3.9							
Y22C	IRIS PASSCAL I	51.69	82	⇓P		P	04 50 07.8	+0.3
	baz=52							
MNTX	Cornudas Mount	54.27	83	eP		P	04 50 26.1	-0.2
	comp=Z,7.9nm,0.9s,mb4.4							
WMOK	Wichita Mounta	56.09	76	eP		P	04 50 38.2	-1.1
	comp=Z,1.8nm,0.6s,mb4.1							
LZH	Lanzhou	56.45	287	eP		P	04 50 43.0	+1.1
LZH				PCP		PcP	04 51 37.5	+0.8
LZH				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.7							
LZH				AMB		AMB		
	comp=Z,50nm,4.0s							
LTX	Lajitas	56.99	84	eP		P	04 50 44.6	-1.0
	comp=Z,6.2nm,0.9s,mb4.4							
TXAR	Lajitas Array	56.99	84	P		P	04 50 45.0	-0.6
	comp=Z,5.5nm,0.7s,mb4.5,baz=301,slow=5.3,SNR=81							
TXAR				PcP		PcP	04 51 38.4	-0.4
	comp=Z,1.1nm,0.5s,baz=284,slow=1.5,SNR=6.4							
TXAR				ScP		ScP	04 55 18.5	-3.6
	comp=Z,0.1nm,0.5s,baz=290,slow=2.1,SNR=5.4							
ARCES	ARCESS Array B	57.04	351	P		P	04 50 46.4	+0.4
	comp=Z,3.6nm,0.9s,mb4.2,baz=21,slow=7.7,SNR=3.1							
SCHQ	Schefferville	58.03	40	P		P	04 50 52.2	-0.7
	comp=Z,6.5nm,0.7s,mb4.6,baz=318,slow=6.0,SNR=6.5							
SCHQ	Schefferville	58.03	40	P		P	04 50 52.2	-0.7
JCT	Junction City	58.49	80	eP		P	04 50 54.5	-1.7
	comp=Z,5.4nm,0.6s,mb4.5							
WMQ	Urumqi	59.88	304	eP		P	04 51 07.7	+2.1
CD2	Chengdu	60.17	283	eP		P	04 51 07.5	-0.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
MK31	Makanchi Array	60.38	309	eP		P	04 51 08.8	-0.3
MKAR	Makanchi Array	60.38	309	P		P	04 51 08.1	-1.0
	comp=Z,0.4nm,0.5s,mb3.5,baz=50,slow=8.7,SNR=9.7							
MKAR				pP		pP	04 51 55.8	+7.0
	comp=Z,2.8nm,0.8s,baz=55,slow=10,SNR=7.9							
BVAR	Borovoye Array	60.84	321	P		P	04 51 11.3	-0.9
	comp=Z,1.3nm,0.6s,mb4.0,baz=43,slow=5.2,SNR=5.2							
GYA	Guiyang	61.67	277	P		P	04 51 17.6	-0.1
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8							
OXF	Oxford	61.69	69	eP		P	04 51 16.9	-1.0
KMI	Kunming	65.02	279	P		P	04 51 40.2	+0.4
KMI				AMB		AMB		
	comp=Z,9.0nm,0.7s,mb4.7							
AKTO	Aktyubinsk	67.46	326	P		P	04 51 55.4	+0.1
	comp=Z,0.6nm,0.5s,mb3.7,baz=72,slow=3.5,SNR=4.2							
AKTO				pP		pP	04 52 43.4	+7.6
	comp=Z,2.5nm,0.7s,baz=44,slow=7.7,SNR=5.3							
WRA	Warramunga Arr	84.01	226	P		P	04 53 27.6	-1.5
	comp=Z,0.8nm,0.3s,mb3.9,baz=34,slow=5.8,SNR=18							
PSI	Prapat	84.58	267	P		P	04 53 31.6	-0.4
	comp=Z,2.3nm,0.4s,mb4.2,baz=250,slow=3.4,SNR=3.8							

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*ISCJB **09** 04:45:48.3±0.8, 466N±0.1×1555E±02, h10km, mb4.0/13, Error ellipse: s-maj=17.7km s-min=13.6km az=55.8*
*IDC **09** 04:45:48.5±0.9, 4670N×15553E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, MS2.7/1, Ms1 2.7/1, ms1mx2.3/35, Error ellipse: s-maj=25.2km s-min=22.3km az=112.0*
*NEIC **09** 04:45:50.1±0.7, 4671N×15549E, h10km, mb4.4/3, Error ellipse: s-maj=19.6km s-min=17.4km az=207.0*
*MOS **09** 04:45:53.1±1.0, 4672N×15543E, h46km, mb4.4/7, Error ellipse: s-maj=32.0km s-min=18.5km az=124.6*

ISC 09 04:45:50.0±0.8, 4670N±010×1555E±02, h10km, n28, σ0§98/27, mb4.0/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.00	5	ePN		Pb	04 47 01.5	+0.9
ASAJ	Asahikawa	9.46	259	LR		LR	04 51 53.9	
	comp=Z,47nm,19.8s,baz=352,slow=39							
MJAR	Matsushiro Arr	16.42	238	Pn		Pn	04 49 45.4	+4.8
	0.3nm,0.3s,baz=36,slow=11,SNR=4.3							
KSRS	Korea Array	22.39	256	P		P	04 50 49.8	+1.4
	2.5nm,1.1s,mb3.6,baz=51,slow=10,SNR=3.6							
SONM	Songino Array	32.92	290	P		P	04 52 23.8	-0.6
	0.5nm,0.7s,mb3.5,baz=60,slow=8.5,SNR=3.5							
SONM	Songino Array	32.92	290	P		P	04 52 23.8	-0.6
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ZAK	Zakamensk	34.20	296	eP		P	04 52 36.3	+0.7
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.1							
MK31	Makanchi Array	48.44	298	eP		P	04 54 34.1	+1.7
MKAR	Makanchi Array	48.44	298	P		P	04 54 33.3	+0.9
	comp=Z,0.5nm,0.8s,mb3.6,baz=58,slow=4.6,SNR=3.1							
MKAR	Makanchi Array	48.44	298	P		P	04 54 33.3	+0.9
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KURK	Kurchatov	48.77	305	eP		P	04 54 34.9	-0.1
KURK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
KURK	Kurchatov	48.77	305	eP		P	04 54 34.9	-0.1
	comp=Z,2.5nm,0.8s,mb4.3							
YKA	Yellowknife Ar	49.96	37	P		P	04 54 44.1	0.0
	comp=Z,0.2nm,0.6s,mb3.3,baz=295,slow=7.1,SNR=3.3							
CHKZ	Chkalovo	51.73	311	eP		P	04 54 55.6	-1.8
CHKZ				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
CHKZ	Chkalovo	51.73	311	eP		P	04 54 55.5	-1.9
	comp=Z,5.4nm,0.7s,mb4.6							
BVAR	Borovoye Array	52.17	310	P		P	04 54 59.6	-1.1
	comp=Z,1.9nm,0.6s,mb4.2,baz=60,slow=7.9,SNR=8.9							
BVAR	Borovoye Array	52.17	310	P		P	04 54 59.6	-1.1
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BRVK	Borovoye	52.21	310	eP		P	04 54 59.7	-1.3
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
BRVK	Borovoye	52.21	310	eP		P	04 54 59.7	-1.3
	comp=Z,3.5nm,0.7s,mb4.4							
FINES	FINESS Array B	64.78	336	P		P	04 56 27.9	-0.8
	comp=Z,2.1nm,0.9s,mb4.2,baz=50,slow=9.2,SNR=7.2							
FINES	FINESS Array B	64.78	336	P		P	04 56 27.9	-0.8
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
FINES	FINESS Array B	64.78	336	P		P	04 56 27.9	-0.8
WRA	Warramunga Arr	69.04	201	P		P	04 56 55.3	-0.6
	comp=Z,2.2nm,0.9s,mb4.1,baz=20,slow=6.7,SNR=10							
WRA	Warramunga Arr	69.04	201	P		P	04 56 55.3	-0.5
WRA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ASAR	Alice Springs	72.72	201	P		P	04 57 18.4	+0.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=17,slow=5.3,SNR=16							
ASAR	Alice Springs	72.72	201	P		P	04 57 18.4	+0.2
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	76.05	62	P		P	04 57 38.1	+0.5
	comp=Z,0.6nm,1.0s,mb3.5,baz=300,slow=2.7,SNR=4.4							
TXAR	Lajitas Array	76.05	62	P		P	04 57 38.2	+0.6
TXAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							

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*IDC **09** 04:54:21.6±0.8, 489N×9495E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.2/25, mbtmp4.3/13,

SONM	**Songino Array**	**43.93**	**11**	P	**P**	**05 02 29.7**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=189,slow=8.8,SNR=12						
SONM				PcP	PcP	05 04 16.2	-0.2
	comp=Z,0.7nm,0.5s,baz=192,slow=4.0,SNR=7.4						
WRA	**Warramunga Arr**	**45.96 124**		P	**P**	**05 02 46.5**	**-0.5**
	comp=Z,6.9nm,0.6s,mb4.8,baz=301,slow=9.6,SNR=75						
WRAB	**Tennant Creek**	**45.96 124**		*eP*	**P**	**05 02 46.4**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**45.96 124**		*eP*	**P**	**05 02 46.4**	**-0.6**
	comp=Z,7.5nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**45.97 124**		*eP*	**P**	**05 02 46.6**	**-0.5**
ASAR	**Alice Springs**	**47.46 128**		P	**P**	**05 02 58.5**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.2,baz=301,slow=7.6,SNR=33						
KURK	**Kurchatov**	**47.68 346**		*i P*	**P**	**05 03 00.3**	**-0.1**
KURK	**Kurchatov**	**47.68 346**		*eP*	**P**	**05 03 00.2**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**52.05 341**		P	**P**	**05 03 33.4**	**-0.2**
	comp=Z,8.3nm,0.6s,mb4.8,baz=144,slow=8.9,SNR=56						
BRVK	**Borovoye**	**52.11 341**		*eP*	**P**	**05 03 33.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
BRVK	**Borovoye**	**52.11 341**		*eP*	**P**	**05 03 33.6**	**-0.5**
	comp=Z,9.4nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**52.53 342**		*eP*	**P**	**05 03 37.1**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
CHKZ	**Chkalovo**	**52.53 342**		*eP*	**P**	**05 03 37.1**	**-0.1**
	comp=Z,19nm,0.6s,mb5.2						
PMG	**Port Moresby**	**53.99 105**	⇑	*eP*	**P**	**05 03 41.1**	**-6.8**
PMG	**Port Moresby**	**53.99 105**		*eP*	**P**	**05 03 40.8**	**-7.2**
	comp=Z,12nm,0.9s,mb4.8						
AKTK	**Aktyubinsk**	**54.92 332**		P	**P**	**05 03 54.2**	**-0.5**
AKTO	**Aktyubinsk**	**54.92 332**		P	**P**	**05 03 54.2**	**-0.5**
	comp=Z,0.9nm,0.3s,mb4.2,baz=146,slow=7.3,SNR=5.4						
ASAJ	**Asahikawa**	**57.22 39**		P	**P**	**05 04 10.2**	**-0.8**
	comp=Z,2.8nm,0.3s,mb4.7,baz=256,slow=8.3,SNR=4.8						
ARU	**Arti**	**58.92 337**		*i P*	**P**	**05 04 22.9**	**-0.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BR131	**Keskin Array S**	**64.95 312**		*eP*	**P**	**05 05 03.4**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.2						
BRTR	**Keskin Array B**	**64.95 312**		P	**P**	**05 05 03.6**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=134,slow=7.5,SNR=15						
BRTR	**Keskin Array B**	**64.95 312**	⇑	*eP*	**P**	**05 05 03.5**	**0.0**
TIXI	**Tiksi**	**70.01 11**		*i P*	**P**	**05 05 33.1**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**70.96 322**		P	**P**	**05 05 40.1**	**-1.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=91,slow=5.2,SNR=7.1						
VRI	**Vrincioaia**	**71.37 317**	⇓	*iP*	**P**	**05 05 44.9**	**+1.1**
PLOR	**Plostina**	**71.42 317**	⇑	*iP*	**P**	**05 05 45.5**	**+1.4**
MLR	**Muntele Rosu**	**71.83 316**	⇓	*iP*	**P**	**05 05 48.0**	**+1.4**
JOF	**Joensuu**	**73.86 335**		*ep*	**P**	**05 05 57.3**	**-1.3**
	comp=Z,3.3nm,0.4s,mb4.6						
FINES	**FINESS Array B**	**75.69 332**		P	**P**	**05 06 08.4**	**-0.8**
	comp=Z,3.0nm,0.5s,mb4.5,baz=110,slow=6.3,SNR=31						
KAF	**Kangasniemi**	**75.78 333**		*ep*	**P**	**05 06 07.8**	**-1.9**
OJC	**Ojcow**	**76.74 320**		*eP*	**P**	**05 06 15.5**	**+0.4**
PKSM	**Moragy**	**76.98 316**	⇑	*iP*	**P**	**05 06 16.6**	**+0.1**
ARCES	**ARCESS Array B**	**78.32 340**		P	**P**	**05 06 23.5**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.4,baz=92,slow=5.8,SNR=31						
ARCES	**ARCESS Array B**	**78.32 340**		P	**P**	**05 06 23.5**	**-0.5**
GERES	**GERESS Array B**	**80.55 319**		P	**P**	**05 06 37.1**	**+1.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=101,slow=5.1,SNR=17						
KHC	**Kasperske Hory**	**80.64 319**	⇑	*eP*	**P**	**05 06 37.8**	**+1.2**
KBS	**Kingsbay**	**83.89 349**		*i P*	**P**	**05 06 49.0**	**-4.6**
PDAR	**Pinedale Array**	**127.65 23**		PKP	PKPdf	05 13 28.9	-0.1
	comp=Z,0.4nm,0.5s,baz=112,slow=2.6,SNR=7.7						
TXAR	**Lajitas Array**	**141.60 27**		PKP	PKPdf	05 13 55.6	+0.7
	comp=Z,0.4nm,0.6s,baz=79,slow=0.5,SNR=6.5						

*STR **09** 05:17:15.7±0.2, 4757N×760E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 05:17:16.3±0.2, 4759N×759E, h8km, Md2.1/3, Ml2.0/7, Error ellipse: s-maj=3.8km s-min=2.6km az=110.0*

ZUR 09 05:17:16.4, 4759N×760E, h5km±1km, ML1.3, 1C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓ *i Pg*	Pg	05 17 21.8	+0.4
	125nm,0.3s						
BALST				*e Sg*	Sg	05 17 25.6	+0.7
	125nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**232**	⇑ *i Pg*	Pg	05 17 22.9	+0.4
	62nm,1.9s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓ *i Pg*	Pg	05 17 23.4	+0.1
	51nm,0.4s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	05 17 24.3	0.0
MOF				Sg	Sg	05 17 30.0	+0.3
HINF	**Hinteralfeld**	**0.55**	**295**	*e Pg*	Pg	05 17 26.6	-0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e Pn*	Pg	05 17 28.7	+1.7
HINF				*e Sg*	Sg	05 17 33.9	-0.3
	9.4nm,0.2s						
HINF				*e Sn*	Sg	05 17 37.5	+3.3
ECH	**Echery**	**0.70**	**335**	Pg	Pg	05 17 29.6	-0.2
ECH				Sg	Sg	05 17 38.5	-0.3
CDF	**Champ du Feu**	**0.85**	**345**	*e Pn*	Pn	05 17 33.0	-2.1
CDF				*e Sg*	Sg	05 17 42.9	-1.0
	6.6nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e Pg*	Pg	05 17 33.8	-0.7
HAU				*e Sg*	Sg	05 17 46.6	-0.1
	6.4nm,0.2s						
HAU				*e Sn*	Sn	05 17 47.9	-2.2
CABF	**La Chapelle**	**1.42**	**227**	*e Pg*	Pg	05 17 43.1	-0.5
CABF				*e Sg*	Sg	05 18 00.9	-1.2
	2.3nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e Sg*	Sg	05 18 14.3	-0.9
	1.4nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e Sg*	Sg	05 18 36.2	-2.4
	2.4nm,0.2s						
SSF	**Saint Saulge**	**2.83**	**261**	*e Sg*	Sg	05 18 44.4	-3.0
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e Sg*	Sg	05 18 49.4	-3.5
	0.5nm,0.3s						

*ISCJB **09** 05:17:33.9±0.8, 29N±0.1×1287E±0.3, h200km, mb4.0/12, Error ellipse: s-maj=45.4km s-min=9.7km az=140.4*
*IDC **09** 05:17:33.4±13.0, 278N×12837E, h170km±136km, mb3.7/7, mb1 3.8/7, mb1mx3.5/19, mbtmp3.7/7, Error ellipse: s-maj=56.0km s-min=21.1km az=66.0*
*NEIC **09** 05:17:35.6±0.6, 286N×12865E, h200km, mb4.1/5, Error ellipse: s-maj=32.0km s-min=7.2km az=70.0*

ISC 09 05:17:35.8±0.8, 29N±01×1287E±03, h200km, n14, σ0§63/14, mb4.0/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.05**	**188**	P	**P**	**05 22 03.4**	**-0.8**
	1.6nm,0.4s,mb3.9,baz=10,slow=6.3,SNR=11						
WRAB	**Tennant Creek**	**23.34**	**166**	*eP*	**P**	**05 22 26.8**	**+0.7**
	5.4nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**23.34**	**166**	P	**P**	**05 22 25.6**	**-0.6**
	3.6nm,0.3s,mb4.3,baz=343,slow=10,SNR=91						
WB2	**Warramunga Arr**	**23.35**	**166**	*eP*	**P**	**05 22 26.2**	**+0.1**
ASAR	**Alice Springs**	**26.86**	**169**	P	**P**	**05 22 57.9**	**+0.1**
	2.8nm,0.5s,mb4.2,baz=352,slow=7.9,SNR=84						
CHTO	**Chiang Mai**	**33.11**	**301**	*eP*	**P**	**05 23 54.1**	**+1.3**
	3.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**36.67**	**161**	P	**P**	**05 24 24.1**	**+0.8**
	1.9nm,0.3s,mb4.1,baz=343,slow=9.4,SNR=11						
NWAO	**Narrogin (SRO)**	**37.21**	**196**	P	**P**	**05 24 27.6**	**-0.1**
	5.2nm,0.7s,mb4.2,baz=45,slow=5.7,SNR=7.4						
SONM	**Songino Array**	**48.74**	**340**	P	**P**	**05 26 00.7**	**+0.6**
	0.4nm,0.5s,mb3.0,baz=154,slow=8.5,SNR=4.2						
MK31	**Makanchi Array**	**59.36**	**325**	*eP*	**P**	**05 27 16.8**	**-0.1**
MKAR	**Makanchi Array**	**59.36**	**325**	P	**P**	**05 27 17.0**	**+0.1**
	1.3nm,0.6s,mb3.7,baz=110,slow=8.6,SNR=23						
KURK	**Kurchatov**	**63.50**	**327**	*eP*	**P**	**05 27 44.2**	**-0.4**
	2.1nm,0.6s,mb3.9						
BRVK	**Borovoye**	**69.16**	**327**	*eP*	**P**	**05 28 19.9**	**-0.6**
	1.7nm,0.5s,mb3.9						
CHKZ	**Chkalovo**	**69.24**	**327**	*eP*	**P**	**05 28 19.9**	**-1.1**
	0.8nm,0.3s,mb3.8						

*IDC **09** 05:28:58.1±1.0, 4732N×15526E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/27, mbtmp4.0/16, ML3.6/1, Error ellipse: s-maj=28.4km s-min=18.4km az=171.0*
*NEIC **09** 05:28:59.3±0.7, 4728N×155.16E, h10km, mb4.4/7, Error ellipse: s-maj=17.9km s-min=10.0km az=159.0*

*ISCJB **09** 05:29:01.6±0.7, 474N±0.1×155.1E±0.1, h35km, mb4.1/21, Error ellipse: s-maj=17.4km s-min=9.7km az=121.4*
*MOS **09** 05:29:01.3±0.6, 4746N×15509E, h34km, mb4.3/15, Error ellipse: s-maj=19.0km s-min=11.5km az=88.2*

ISC 09 05:29:03.3±0.7, 474N±01×1552E±01, h35km, n47, σ0§99/48, mb4.1/21, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.31**	**11**	*e PN*	**Pn**	**05 29 51.5**	**-1.1**
PET	**Petropavlovsk**	**6.03**	**21**	*e PN*	**Pn**	**05 30 29.7**	**-0.2**
PET				pmax	pmax		
	comp=Z,15nm,0.9s						
ASAJ	**Asahikawa**	**9.38**	**254**	Pn	**Pn**	**05 31 16.8**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=203,slow=26,SNR=3.4						
ASAJ	**Asahikawa**	**9.38**	**254**	PN	**Pn**	**05 31 16.8**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.11**	**242**	Pn	**Pn**	**05 31 22.6**	**-3.3**
ERM				*e Sn*	**Sn**	**05 33 11.3**	**-6.7**
SONM	**Songino Array**	**32.42**	**289**	P	**P**	**05 35 29.5**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=75,slow=8.4,SNR=4.0						
SONM	**Songino Array**	**32.42**	**289**	P	**P**	**05 35 29.5**	**-0.4**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.7s						
EGAK	**Eagle**	**37.59**	**39**	*eP*	**P**	**05 36 13.5**	**-0.9**
	comp=Z,2.7nm,0.8s,mb4.0						
INK	**Inuvik**	**40.32**	**33**	P	**P**	**05 36 37.7**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.8,baz=288,slow=8.8,SNR=11						
INK	**Inuvik**	**40.32**	**33**	*eP*	**P**	**05 36 37.2**	**-0.1**
	comp=Z,38nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**05 37 38.6**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=70,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**47.86**	**298**	P	**P**	**05 37 38.6**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**48.14**	**304**	*eP*	**P**	**05 37 39.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**48.14**	**304**	*eP*	**P**	**05 37 39.9**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**49.54**	**38**	P	**P**	**05 37 50.6**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=293,slow=7.1,SNR=4.0						
YKA	**Yellowknife Ar**	**49.54**	**38**	P	**P**	**05 37 50.6**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**51.05**	**310**	*eP*	**P**	**05 38 01.0**	**-1.0**
	comp=Z,7.2nm,0.5s,mb4.9						
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**05 38 04.7**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.4,baz=54,slow=8.4,SNR=19						
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**05 38 04.7**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.54**	**310**	*eP*	**P**	**05 38 05.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.54**	**310**	*eP*	**P**	**05 38 05.0**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.78**	**297**	*eP*	**P**	**05 38 28.7**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AAK	**Ala-Archa**	**54.78**	**297**	*eP*	**P**	**05 38 28.6**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**05 38 50.0**	**-0.1**
	comp=Z,3.3nm,1.0s,mb4.3,baz=347,slow=9.1,SNR=3.3						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**05 38 50.0**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DUG	**Dugway**	**63.03**	**59**	*eP*	**P**	**05 39 27.1**	**+0.4**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
DUG	**Dugway**	**63.03**	**59**	*eP*	**P**	**05 39 27.1**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**63.21**	**55**	P	**P**	**05 39 28.0**	**0.0**
	comp=Z,1.0nm,0.8s,mb4.0,baz=278,slow=2.7,SNR=8.5						
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**05 39 32.6**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.4,baz=42,slow=7.7,SNR=16						
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**05 39 32.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**68.02**	**342**	P	**P**	**05 39 59.2**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.02**	**342**	P	**P**	**05 39 58.9**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=27,slow=6.6,SNR=3.3						
NOA	**NORSAR Array B**	**68.02**	**342**	P	**P**	**05 39 58.9**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.02**	**342**	P	**P**	**05 39 58.9**	**-0.1**
HFS	**Hagfors**	**68.29**	**340**	P	**P**	**05 40 01.6**	**+0.9**
	comp=Z,6.1nm,1.1s,mb4.5,baz=48,slow=4.4,SNR=7.5						
HFS	**Hagfors**	**68.29**	**340**	P	**P**	**05 40 01.6**	**+0.9**
HFS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AKASG	**Malin Array Be**	**71.74**	**327**	P	**P**	**05 40 23.6**	**+1.8**
	comp=Z,0.5nm,0.4s,mb3.8,baz=33,slow=6.2,SNR=3.5						
AKASG	**Malin Array Be**	**71.74**	**327**	P	**P**	**05 40 23.6**	**+1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.32**	**200**	P	**P**	**05 40 30.8**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=349,slow=2.6,SNR=4.5						
ASAR	**Alice Springs**	**73.32**	**200**	P	**P**	**05 40 30.8**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**05 40 46.4**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=300,slow=4.8,SNR=20						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**05 40 46.4**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**05 40 46.4**	**0.0**
VRAC	**Vranov**	**77.17**	**334**	P	**P**	**05 40 56.1**	**+2.7**
	comp=Z,1.1nm,0.2s,mb4.4,baz=27,slow=6.8,SNR=4.6						
VRAC	**Vranov**	**77.17**	**334**	P	**P**	**05 40 56.1**	**+2.7**
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.2s						
BRTR	**Keskin Array B**	**78.83**	**318**	P	**P**	**05 41 04.8**	**+2.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=19,slow=7.9,SNR=4.7						
BRTR	**Keskin Array B**	**78.83**	**318**	P	**P**	**05 41 04.8**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*IDC **09** 05:34:43.4±2.0, 5355N×16373W, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/26, mbtmp3.6/8, Error ellipse: s-maj=49.3km s-min=24.7km az=5.0*
*NEIC **09** 05:34:44.9±1.1, 5347N×16357W, h10km, ML3.4(AEIC), Error ellipse: s-maj=22.8km s-min=9.0km az=173.0*
*ISCJB **09** 05:34:47.6±1.9, 535N±02×1636W±0.1, h46km±13km, mb3.8/7, Error ellipse: s-maj=30.4km s-min=10.6km az=171.7*

ISC 09 05:34:46.4±3.4, 535N±02×16353W±009, h23km±24km, n16, σ0§93/20, mb3.8/7, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.40**	**3**	P	**Pn**	**05 35 10.5**	**-0.1**
AKUT	**Akutan**	**1.49**	**298**	P	**Pn**	**05 35 12.0**	**+0.2**
AKUT				S	**Sn**	**05 35 31.0**	**+0.4**
AKLV	**Akutan Long Va**	**1.60**	**297**	P	**Pn**	**05 35 13.4**	**0.0**
AKLV				S	**Sn**	**05 35 33.9**	**+0.5**
UNV	**Unalaska Valle**	**1.81**	**284**	P	**Pn**	**05 35 16.0**	**-0.3**
SDPT	**Sand Point**	**2.60**	**42**	*e Pn*	**Pn**	**05 35 28.3**	**+1.2**
KDAK	**Kodiak Island**	**7.56**	**51**	Pn	**Pn**	**05 36 33.3**	**-1.9**
KDAK	0.7nm,0.3s,baz=55,slow=14,SNR=7.0			Sn	**Sn**	**05 37 53.7**	**-6.4**
	0.1nm,0.3s,baz=15,slow=2.5,SNR=2.1						
KDAK	**Kodiak Island**	**7.56**	**51**	Pn	**Pn**	**05 36 33.3**	**-1.9**
KDAK				Sn	**Sn**	**05 37 53.7**	**-6.4**
INK	**Inuvik**	**20.52**	**32**	P	**P**	**05 39 23.1**	**+0.2**
	0.7nm,0.5s,baz=228,slow=9.2,SNR=5.2						
YKA	**Yellowknife Ar**	**26.84**	**51**	P	**P**	**05 40 26.8**	**+1.8**
	0.3nm,0.5s,mb3.1,baz=270,slow=9.1,SNR=4.9						
YKA	**Yellowknife Ar**	**26.84**	**51**	P	**P**	**05 40 26.8**	**+1.8**
TXAR	**Lajitas Array**	**49.25**	**95**	P	**P**	**05 43 34.3**	**+1.1**
	0.3nm,0.6s,mb3.5,baz=297,slow=7.9,SNR=3.3						
SONM	**Songino Array**	**53.72**	**303**	P	**P**	**05 44 05.7**	**-0.9**
	0.8nm,0.8s,mb3.7,baz=64,slow=6.8,SNR=4.5						
ZAL	**Zalesovo**	**58.95**	**320**	P	**P**	**05 44 37.4**	**-6.6**
	3.0nm,0.8s,mb4.4,baz=27,slow=16,SNR=13						
BVAR	**Borovoye Array**	**64.78**	**327**	P	**P**	**05 45 22.7**	**-0.5**
	1.1nm,0.8s,mb4.0,baz=39,slow=7.6,SNR=5.1						
HFS	**Hagfors**	**66.74**	**2**	P	**P**	**05 45 34.2**	**-1.5**
	4.4nm,1.0s,mb4.5,baz=22,slow=5.3,SNR=4.2						
AKASG	**Malin Array Be**	**75.66**	**352**	P	**P**	**05 46 29.5**	**-0.3**
	0.8nm,0.5s,mb3.9,baz=10,slow=5.1,SNR=6.6						

*IDC **09** 05:39:51.8±1.1, 403S×151.19E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/16, mbtmp4.0/8, MS3.7/11, Ms1 3.7/11, ms1mx3.6/17, Error ellipse: s-maj=32.4km s-min=21.7km az=100.0*
*ISCJB **09** 05:40:00.2±3.7, 42S±0.1×1512E±0.1, h73km±32km, mb3.9/13, Error ellipse: s-maj=22.2km s-min=20.2km az=113.1*
*NEIC **09** 05:40:01.4±3.0, 4.14S×15121E, h72km±26km, mb4.3/6, Error ellipse: s-maj=20.6km s-min=16.6km az=65.0*

ISC 09 05:40:01.7±3.2, 42S±01×1512E±01, h74km±28km, n25, σ0§99/21, mb3.9/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.59**	**218**	Pn	**Pn**	**05 41 36.2**	**+0.4**
	1.9nm,0.3s,baz=39,slow=11,SNR=7.5						
PMG				Sn	**Sn**	**05 42 48.8**	**-0.6**
	0.7nm,0.3s,baz=68,slow=20,SNR=1.8						
PMG				LR	LR	05 43 45.8	
	comp=Z,271nm,20.2s,baz=211,slow=35						
PMG	**Port Moresby**	**6.59**	**218**	*e Pn*	**Pn**	**05 41 35.7**	**-0.1**
	37nm,0.8s						
CTA	**Charters Tower**	**16.54**	**197**	Pn	**Pn**	**05 43 50.3**	**+1.4**
	0.2nm,0.3s,baz=23,slow=12,SNR=6.1						
CTAO	**Charters Tower**	**16.54**	**197**	*e Pn*	**Pn**	**05 43 50.3**	**+1.5**
	89nm,1.8s						
GUMO	**Guam**	**18.75**	**340**	LR	LR	05 51 03.7	
	comp=Z,52nm,18.4s,baz=265,slow=36						
WRAB	**Tennant Creek**	**22.72**	**225**	*e P*	**P**	**05 44 58.2**	**+1.0**
	12nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**22.73**	**225**	*e P*	**P**	**05 44 56.8**	**-0.5**
WRA	**Warramunga Arr**	**22.73**	**225**	P	**P**	**05 44 56.5**	**-0.9**
	2.1nm,0.7s,mb3.6,baz=48,slow=10.0,SNR=12						
WRA				LR	LR	05 54 03.1	
	comp=Z,88nm,18.8s,baz=50,slow=37						
DZM	**Mont Dzumac**	**23.10**	**142**	P	**P**	**05 45 00.5**	**-0.5**
	18nm,1.1s,mb4.3,baz=324,slow=11,SNR=4.4						
DZM				LR	LR	05 51 18.3	
	comp=Z,64nm,21.9s,baz=330,slow=30						
ASAR	**Alice Springs**	**25.60**	**219**	P	**P**	**05 45 23.5**	**-0.4**
	3.9nm,0.9s,mb3.8,baz=54,slow=8.4,SNR=20						
FITZ	**Fitzroy Crossi**	**28.62**	**239**	P	**P**	**05 45 50.3**	**-0.6**
	2.7nm,0.8s,mb3.9,baz=121,slow=7.8,SNR=3.3						
FITZ				LR	LR	05 56 51.0	
	comp=Z,144nm,18.8s,baz=63,slow=36						
STKA	**Stephens Creek**	**29.00**	**197**	P	**P**	**05 45 54.9**	**+0.5**
	1.2nm,0.7s,mb3.6,baz=7.5,slow=14,SNR=3.8						
STKA				LR	LR	05 55 49.4	
	comp=Z,183nm,19.9s,baz=23,slow=33						
KKM	**Kota Kinabalu**	**36.42**	**286**	*e P*	**P**	**05 46 59.1**	**+0.1**
MJAR	**Matsushiro Arr**	**42.30**	**344**	LR	LR	06 03 26.3	
	comp=Z,87nm,18.4s,baz=155,slow=34						
KSRS	**Korea Array**	**46.76**	**334**	LR	LR	06 05 59.0	
	comp=Z,69nm,19.5s,baz=59,slow=34						
CHTO	**Chiang Mai**	**56.32**	**296**	*e P*	**P**	**05 49 37.7**	**+2.9**
	2.8nm,0.7s,mb4.4						
SONM	**Songino Array**	**64.98**	**328**	P	**P**	**05 50 32.3**	**-1.3**
	0.6nm,0.8s,mb3.5,baz=141,slow=6.5,SNR=4.6						
SONM				LR	LR	06 16 29.6	
	comp=Z,103nm,18.8s,baz=78,slow=34						
MKAR	**Makanchi Array**	**78.84**	**319**	P	**P**	**05 51 55.1**	**-1.4**
	1.2nm,0.9s,mb3.7,baz=96,slow=8.9,SNR=4.6						
MKAR				LR	LR	06 26 42.5	
	comp=Z,46nm,18.1s,baz=349,slow=36						
KURK	**Kurchatov**	**82.33**	**322**	*e P*	**P**	**05 52 14.9**	**-0.3**
	2.9nm,0.9s,mb4.1						
AAK	**Ala-Archa**	**83.12**	**314**	*e P*	**P**	**05 52 21.1**	**+1.8**
	1.9nm,0.9s,mb3.9						
MAW	**Mawson**	**85.54**	**203**	LR	LR	06 29 19

CEP Cherat 2.81 149 ⇓P **Pn 07 02 49.6 +1.3**
CHCP Chirah Chowk 3.62 135 P **Pn 07 03 00.5 +1.8**
CHCP S **Sn 07 03 39.0 -2.5**
THW Thamme Wali 3.69 159 P **Pn 07 02 59.9 +0.4**
SBDP Sheikh Budin 3.98 172 P **Pn 07 03 03.0 -0.3**
DRP Derazinda 4.50 180 ⇓P **Pn 07 03 10.6 +0.4**
SARP Sargodha 4.79 154 P **Pn 07 03 14.3 +0.3**
KSH Kashi 5.62 53 P **Pn 07 03 27.9 +2.8**
KSH S **Sn 07 04 33.3 +4.5**
KSH Smax
comp=N,853nm,0.9s
KSH Smax
comp=E,416nm,0.5s
DLH Dalhousie 6.05 126 *e*P **Pn 07 03 30.0 -0.8**
DLH *e*x **Sn 07 04 40.0 +1.0**
AML Almayashu 6.47 24 P **Pn 07 03 36.6 +0.2**
SNR=114
KK31 Karatay Array 6.84 2 ⇓Pn **Pn 07 03 40.7 -0.7**
comp=E,8.6nm,0.3s,baz=180,slow=12
KK31 ⇑Sn **Sn 07 04 54.6 -3.5**
comp=E,33nm,0.7s,baz=186,slow=25
UCH Uchtor 6.85 28 P **Pn 07 03 41.8 +0.4**
SNR=36
EKS2 Erkin-Say 6.98 22 P **Pn 07 03 43.4 +0.3**
SNR=29
KZA Kyzart 7.02 33 P **Pn 07 03 43.8 +0.1**
SNR=46
AAK Ala-Archa 7.19 26 P **Pn 07 03 46.4 +0.4**
SNR=31
AAK Ala-Archa 7.19 26 *e*PN **Pn 07 03 45.2 -0.8**
AAK pmax pmax
comp=Z,24nm,0.4s
AAK Ala-Archa 7.19 26 *e*Pn **Pn 07 03 45.1 -0.9**
comp=Z,24nm,0.4s
AAK *e*Sn **Sn 07 05 03.3 -3.2**
SDNR Sundarnagar 7.37 128 *e*P **Pn 07 03 49.0 +0.5**
SDNR *e*S **Sn 07 05 07.0 -3.8**
KBK Karagaybulak 7.38 29 P **Pn 07 03 49.6 +1.1**
SNR=17
CHMS Chumysh 7.60 26 P **Pn 07 03 51.5 -0.1**
SNR=31
ULHL Ulahol 7.61 36 P **Pn 07 03 52.0 +0.4**
SNR=12
USP Ospenovka 7.75 24 P **Pn 07 03 53.2 -0.3**
SNR=49
TKM2 Tokmak 2 7.86 30 P **Pn 07 03 55.2 +0.2**
SNR=20
TKM2 Tokmak 2 7.86 30 ⇑Pn **Pn 07 03 54.5 -0.5**
comp=Z,1.9nm,0.7s
TKM2 ⇓Sn **Sn 07 05 22.5 0.0**
comp=Z,1.7nm,1.0s
KLP Kalpa 8.20 123 *e*P **Pn 07 03 59.6 +0.1**
KLP *e*S **Sn 07 05 25.3 -5.4**
KLP AML AML 07 05 35.7
comp=N,240nm,0.7s
KLP AML AML 07 05 37.1
comp=E,191nm,0.6s
KHET Khetri 9.45 148 *e*S **Sn 07 05 50.8 -10**
KHET AML AML 07 05 58.1
comp=N,18nm,0.1s
KHET AML AML 07 05 58.2
comp=E,25nm,0.3s
NDI New Delhi 9.61 140 *e*x **Pn 07 04 22.0 +3.8**
NDI *e*S **Sn 07 05 56.0 -8.6**
KUDL Kundal 9.69 145 *e*P **Pn 07 04 15.5 -3.9**
KUDL *e*S **Sn 07 05 56.4 -10**
KUDL AML AML 07 06 02.9
comp=N,15nm,0.1s
KUDL AML AML 07 06 03.1
comp=E,27nm,0.5s
SONA Sohna 9.89 142 *e*S **Sn 07 06 04.2 -7.3**
SONA AML AML 07 06 07.3
comp=N,19nm,0.5s
SONA AML AML 07 06 08.3
comp=E,39nm,0.5s
MK31 Makanchi Array 13.88 37 ⇑P **Pn 07 05 18.6 +4.7**
comp=E,9.5nm,0.6s,baz=213,slow=9.9,SNR=124
MKAR Makanchi Array 13.88 37 P **Pn 07 05 14.6 +0.7**
comp=E,1.6nm,0.3s,baz=213,slow=7.9,SNR=30
MKAR Makanchi Array 13.88 37 *i* P **Pn 07 05 17.8 +3.9**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
KOLN Koldanda 14.17 123 *e*P **Pn 07 05 16.3 -1.3**
comp=Z,7.8nm,0.3s
GKN Gorkha 14.74 120 *e*P **Pn 07 05 22.8 -1.9**
comp=Z,15nm,0.2s
AB31 Akbulak array 14.99 333 ⇓Pn **Pn 07 05 26.3 -1.5**
comp=Z,1.9nm,0.3s,baz=163,slow=11,SNR=79
AB31 ⇑Sn **Sn 07 07 59.9 -14**
comp=Z,1.4nm,0.3s
DMN Daman 15.31 120 *e*P **Pn 07 05 31.5 -0.3**
KKN Kakani 15.33 119 *e*P **Pn 07 05 31.2 -0.8**
PKI Pulchoki 15.55 120 *e*P **Pn 07 05 34.7 0.0**
GUN Gumba 15.68 118 *e*P **Pn 07 05 35.4 -0.9**
comp=Z,14nm,0.3s
KURK Kurchatov 15.68 20 ⇑P **Pn 07 05 37.2 +0.9**
comp=Z,3.7nm,1.1s
KURK Kurchatov 15.68 20 *e*P **Pn 07 05 37.9 +1.5**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 15.68 20 *e*P **Pn 07 05 37.9 +1.5**
comp=Z,6.6nm,1.0s
JIRN Jiri 16.05 118 *e*P **Pn 07 05 41.3 +0.4**
comp=Z,17nm,0.2s
AKTK Aktyubinsk 16.67 332 P **Pn 07 05 48.0 -0.5**
AKTK S **S 07 08 41.5 -12**
AKTO Aktyubinsk 16.67 332 ⇓Pn **Pn 07 05 47.4 -1.1**
comp=Z,0.1nm,0.8s
AKTO Aktyubinsk 16.67 332 P **Pn 07 05 48.0 -0.5**
comp=Z,0.6nm,0.3s,baz=139,slow=11,SNR=11
AKTO S **S 07 08 41.5 -12**
comp=Z,0.1nm,0.3s,baz=9.5,slow=22,SNR=3.6
AKTO Aktyubinsk 16.67 332 P **Pn 07 05 48.0 -0.5**
AKTO S **S 07 08 41.5 -12**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 16.77 0 P **Pn 07 05 48.6 -1.0**
comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=11
BRVK Borovoye 16.80 0 *e*P **Pn 07 05 49.5 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 16.80 0 *e*P **Pn 07 05 49.5 -0.5**
comp=Z,3.3nm,0.6s
CHKZ Chkalovo 17.42 1 *e*P **Pn 07 05 57.5 0.0**
CHKZ pmax pmax
comp=Z,2.0nm,0.6s
CHKZ Chkalovo 17.42 1 *e*P **Pn 07 05 57.5 0.0**
comp=Z,1.9nm,0.6s
LSA Lhasa 18.75 104 P **P 07 06 17.4 +6.4**
LSA Lhasa 18.75 104 P **P 07 06 10.8 -0.2**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 18.75 104 P **P 07 06 10.8 -0.3**
comp=Z,4.7nm,0.6s
GNI Garni 20.34 289 P **P 07 06 29.6 +1.4**
comp=Z,7.9nm,0.6s,baz=347,slow=1.5,SNR=5.1
GNI Garni 20.34 289 *e*P **P 07 06 30.9 +2.7**
GNI pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 20.34 289 *e*P **P 07 06 30.9 +2.7**
comp=Z,7.6nm,0.6s
ZAL Zalesovo 20.40 25 P **P 07 06 29.9 +1.1**
comp=Z,8.8nm,0.5s,baz=253,slow=9.4,SNR=24
ZAL Zalesovo 20.40 25 P **P 07 06 29.9 +1.1**
ZAL pmax pmax
comp=Z,9.0nm,0.5s
NVS Novosibirsk 20.65 22 *e*P **P 07 06 32.1 +0.6**
ANN Anapa 26.17 299 *e*P **P 07 07 20.3 -3.8**
ANN pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
BRTR Keskin Array B 28.88 288 P **P 07 07 48.5 +0.2**
comp=Z,0.5nm,0.7s,mb3.4,baz=116,slow=8.8,SNR=3.6
SONM Songino Array 29.02 55 P **P 07 07 51.5 +2.1**
comp=Z,0.4nm,0.8s,mb3.2,baz=338,slow=6.4,SNR=4.2
OBN Obninsk 29.70 320⇑ *e*P **P 07 08 05.0 +10**
OBN *e*S **S 07 12 44.8 +4.4**
OBN pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
OBN MLR MLR
comp=Z,100nm,16.0s
FINES FINESS Array B 37.32 327 P **P 07 09 01.0 -0.4**
comp=Z,3.9nm,0.9s,mb4.0,baz=175,slow=30,SNR=3.4
FINES FINESS Array B 37.32 327 P **P 07 09 01.0 -0.4**
FINES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 41.12 338 P **P 07 09 33.1 +0.2**
comp=Z,4.9nm,0.9s,mb4.1,baz=114,slow=8.4,SNR=5.7
ARCES ARCESS Array B 41.12 338 P **P 07 09 33.2 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 44.18 323 P **P 07 09 57.0 -0.5**
comp=Z,0.9nm,0.7s,mb3.5,baz=97,slow=7.7,SNR=3.5
NOA NORSAR Array B 44.18 323 P **P 07 09 57.1 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 65.05 268 P **P 07 12 26.6 -1.4**
comp=Z,0.9nm,0.7s,mb3.7,baz=50,slow=6.2,SNR=6.2
MATP Matopo 68.78 222 P **P 07 12 54.0 +2.5**
comp=Z,10nm,0.9s,mb4.5,baz=213,slow=15,SNR=10
INK Inuvik 74.25 9 P **P 07 13 24.6 +0.2**
comp=Z,0.6nm,0.8s,mb3.4,baz=26,slow=11,SNR=5.8
YKA Yellowknife Ar 81.52 2 P **P 07 14 04.5 0.0**
comp=Z,0.4nm,0.6s,mb3.3,baz=351,slow=5.3,SNR=13
YKA Yellowknife Ar 81.52 2 P **P 07 14 04.5 0.0**
WRA Warramunga Arr 82.43 121 P **P 07 14 08.6 -0.6**
comp=Z,0.4nm,0.8s,mb3.1,baz=325,slow=4.6,SNR=4.6
ASAR Alice Springs 84.66 124 P **P 07 14 20.8 +0.2**
comp=Z,0.4nm,0.8s,mb3.2,baz=311,slow=4.9,SNR=4.6

ISCJB ***09*** *07:06:51.3±2.0, 4786N±005×1556E±01, h15km±14km, mb4.2/24, MS3.5/2, Error ellipse: s-maj=13.0km s-min=6.4km az=66.7*
NEIC ***09*** *07:06:52.6±0.5, 4780N×15561E, h10km, mb4.6/7, Error ellipse: s-maj=12.0km s-min=6.8km az=138.0*
IDC ***09*** *07:06:55.9±7.1, 4774N×15558E, h33km±55km, mb3.9/17, mb1 4.1/19, mb1mx4.0/26, mbtmp3.9/19, ML3.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.3/30, Error ellipse: s-maj=19.1km s-min=15.4km az=143.0*
MOS ***09*** *07:06:55.1±1.0, 4786N×15547E, h45km, mb4.4/21, Error ellipse: s-maj=11.6km s-min=8.9km az=79.4*

ISC 09 07:06:54.7±2.0, 4786N±005×1556E±01, h25km±14km, n67, σ1§00/72, mb4.2/24, MS3.5/2, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.85**	**7**	*e*PN	**Pn**	**07 07 38.0**	**-0.6**
SKR				*e*S	**Sn**	**07 08 12.0**	**0.0**
SKR				pmax	pmax		
comp=Z,60nm,0.5s							
SKR				smax			
comp=E,150nm,0.5s							
SKR				smax			
comp=N,240nm,0.4s							
PET	**Petropavlovsk**	**5.53**	**20**	*e*PN	**Pn**	**07 08 15.1**	**-0.3**
PET				pmax	pmax		
comp=Z,44nm,0.5s							
PET	**Petropavlovsk**	**5.53**	**20**	*e*Pn	**Pn**	**07 08 14.9**	**-0.4**
comp=Z,23nm,0.5s							
PET				*e*Sn	**Sn**	**07 09 17.4**	**-0.7**
KUR	**Kuril'sk**	**5.94**	**247**	PN	**Pn**	**07 08 18.4**	**-2.7**
YSS	**Yuzh-Sakhalins**	**8.76**	**269**	*e*PN	**Pn**	**07 09 02.0**	**+2.2**
YSS				pmax	pmax		
comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.76**	**269**	*e*Pn	**Pn**	**07 08 59.9**	**+0.1**
ASAJ	**Asahikawa**	**9.79**	**252**	Pn	**Pn**	**07 09 14.9**	**+1.1**
comp=Z,0.9nm,0.3s,baz=78,slow=6.4,SNR=5.7							
ASAJ				LR	LR	07 13 16.7	
comp=Z,75nm,18.3s,baz=174,slow=39							
ERM	**Erimo**	**10.57**	**241**	*e*Pn	**Pn**	**07 09 24.7**	**+0.1**
ERM				*e*Sn	**Sn**	**07 11 11.6**	**-11**
KLR	**Kul'dur**	**15.84**	**284**	*e*P	**Pn**	**07 10 37.3**	**+1.3**
MAJO	**Matsushiro**	**17.10**	**235**	*e*P	**Pn**	**07 10 51.5**	**-0.5**
MAJO				pmax	pmax		
comp=Z,9.0nm,0.7s							
MAJO	**Matsushiro**	**17.10**	**235**	*e*P	**Pn**	**07 10 51.5**	**-0.5**
comp=Z,9.3nm,0.7s							
MAT	**Matsushiro**	**17.10**	**235**	P	**Pn**	**07 10 52.8**	**+0.8**
MJAR	**Matsushiro Arr**	**17.10**	**235**	P	**Pn**	**07 10 52.2**	**+0.3**
comp=Z,0.6nm,0.3s,baz=32,slow=8.9,SNR=9.1							
MJAR	**Matsushiro Arr**	**17.10**	**235**	P	**Pn**	**07 10 52.3**	**+0.3**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
YAK	**Yakutsk**	**20.36**	**324**	*e*P	**P**	**07 11 29.7**	**+0.3**
YAK				pmax	pmax		
comp=Z,15nm,0.4s							
YAK	**Yakutsk**	**20.36**	**324**	*e*P	**P**	**07 11 29.7**	**+0.3**
comp=Z,15nm,0.4s							
CLNS	**Chul'man**	**20.64**	**307**	*e*P	**P**	**07 11 31.6**	**-0.7**
CLNS				pmax	pmax		
comp=Z,22nm,0.9s							
CLNS				pmax	pmax		
comp=N,8.0nm,1.0s							
CLNS				pmax	pmax		
comp=E,14nm,1.0s							
BILL	**Bilibino**	**20.95**	**11**⇑	*e*P	**P**	**07 11 40.2**	**+4.5**
BILL				*e*S	**S**	**07 15 13.8**	**-14**
BILL				pmax	pmax		
comp=Z,6.0nm,1.0s							
BILL	**Bilibino**	**20.95**	**11**	P	**P**	**07 11 37.0**	**+1.2**
comp=Z,3.5nm,0.3s							
KSRS	**Korea Array**	**22.74**	**253**	P	**P**	**07 11 54.9**	**0.0**
comp=Z,6.2nm,0.8s,mb4.1,baz=54,slow=9.3,SNR=14							
KSRS				LR	LR	07 20 57.1	
comp=Z,33nm,18.0s,MS2.8,baz=335,slow=37							
TIXI	**Tiksi**	**26.91**	**342**	*e*P	**P**	**07 12 29.3**	**-4.5**
TIXI				pmax	pmax		
comp=Z,3.0nm,1.3s,mb3.7							
SONM	**Songino Array**	**32.57**	**289**	P	**P**	**07 13 23.0**	**-0.9**
comp=Z,0.8nm,0.9s,mb3.6,baz=60,slow=8.5,SNR=4.7							
INK	**Inuvik**	**39.80**	**33**	P	**P**	**07 14 26.5**	**+0.8**
comp=Z,1.4nm,0.6s,mb3.9,baz=303,slow=8.5,SNR=11							
INK	**Inuvik**	**39.80**	**33**	P	**P**	**07 14 26.5**	**+0.8**
INK				pmax	pmax		
comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**39.80**	**33**	P	**P**	**07 14 26.5**	**+0.8**
comp=Z,97nm,1.6s,mb5.3							
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**07 15 30.4**	**-0.6**
comp=Z,1.6nm,0.6s,mb4.2,baz=69,slow=8.1,SNR=14							
MKAR	**Makanchi Array**	**47.93**	**298**	*i* P	**P**	**07 15 30.7**	**-0.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**48.16**	**304**	*d* iP	**P**	**07 15 32.2**	**-0.6**
KURK				*e**PP	pP	07 15 43.9	+3.4
KURK	**Kurchatov**	**48.16**	**304**	*e*P	**P**	**07 15 32.1**	**-0.7**
comp=Z,10nm,0.6s,mb5.0							
YKA	**Yellowknife Ar**	**49.02**	**38**	P	**P**	**07 15 40.1**	**+0.7**
comp=Z,1.2nm,0.8s,mb4.0,baz=292,slow=7.1,SNR=12							
YKA	**Yellowknife Ar**	**49.02**	**38**	P	**P**	**07 15 40.1**	**+0.7**
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
CHKZ	**Chkalovo**	**51.01**	**310**	*e*P	**P**	**07 15 53.4**	**-1.1**
CHKZ				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**51.01**	**310**	*e*P	**P**	**07 15 53.4**	**-1.1**
comp=Z,4.9nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**51.46**	**310**	P	**P**	**07 15 57.8**	**-0.1**
comp=Z,3.2nm,0.5s,mb4.5,baz=59,slow=7.9,SNR=29							
BVAR	**Borovoye Array**	**51.46**	**310**	P	**P**	**07 15 57.8**	**0.0**
BVAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
BRVK	**Borovoye**	**51.49**	**310**	*e*P	**P**	**07 15 57.7**	**-0.4**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**51.49**	**310**	*e*P	**P**	**07 15 57.7**	**-0.4**
comp=Z,2.9nm,0.6s,mb4.4							
AAK	**Ala-Archa**	**54.85**	**297**	*e*P	**P**	**07 16 22.1**	**-0.7**
AAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.1							
ARU	**Arti**	**55.33**	**318**	*e*P	**P**	**07 16 25.6**	**-0.7**
ARU				*e*		07 18 27.0	
ARU				*e*S	**S**	**07 24 09.3**	**+0.4**
ARCES	**ARCESS Array B**	**57.35**	**341**	P	**P**	**07 16 40.8**	**+0.1**
comp=Z,4.0nm,0.9s,mb4.5,baz=27,slow=5.6,SNR=4.5							
ARCES	**ARCESS Array B**	**57.35**	**341**	P	**P**	**07 16 40.8**	**+0.1**
ARCES				pmax	pmax		
comp=Z,4.0nm,0.9s							
NVAR	**Mina Array Bea**	**60.43**	**64**	P	**P**	**07 17 01.3**	**-0.7**
comp=Z,1.3nm,0.8s,mb4.0,baz=298,slow=9.4,SNR=4.8							
PDAR	**Pinedale Array**	**62.73**	**56**	P	**P**	**07 17 17.9**	**+0.3**
comp=Z,1.5nm,0.9s,mb4.1,baz=287,slow=2.9,SNR=8.8							
FINES	**FINESS Array B**	**63.74**	**336**	P	**P**	**07 17 24.2**	**-0.1**
comp=Z,5.1nm,0.9s,mb4.6,baz=32,slow=7.4,SNR=15							
FINES	**FINESS Array B**	**63.74**	**336**	*i* P	**P**	**07 17 24.8**	**+0.5**
FINES				pmax	pmax		
comp=Z,5.0nm,0.9s							
OBN	**Obninsk**	**65.34**	**326**⇑	*e*P	**P**	**07 17 32.5**	**-2.2**
OBN				pmax	pmax		
comp=Z,4.0nm,0.4s,mb4.8							
OBN				MLR	MLR		
comp=Z,100nm,17.0s,MS4.1							
NB2	**NORSAR Subarra**	**67.71**	**342**	P	**P**	**07 17 51.0**	**+1.1**
comp=Z,2.9nm,0.9s,mb4.3,baz=23,slow=6.2							
NOA	**NORSAR Array B**	**67.71**	**342**	P	**P**	**07 17 50.5**	**+0.6**
comp=Z,1.7nm,0.8s,mb4.1,baz=25,slow=6.3,SNR=3.9							
NOA	**NORSAR Array B**	**67.71**	**342**	P	**P**	**07 17 50.5**	**+0.6**
NOA				pmax	pmax		
comp=Z,2.0nm,0.9s							
WRAB	**Tennant Creek**	**70.12**	**201**	*e*P	**P**	**07 18 04.5**	**-0.4**
WRA	**Warramunga Arr**	**70.14**	**201**	P	**P**	**07 18 03.5**	**-1.5**
comp=Z,1.8nm,0.9s,mb4.0,baz=20,slow=6.5,SNR=7.9							
WRA	**Warramunga Arr**	**70.14**	**201**	P	**P**	**07 18 03.5**	**-1.5**
WRA				pmax	pmax		
comp=Z,2.0nm,0.9s							
GOF	**Gofitskoye**	**70.22**	**316**	*e*P	**P**	**07 17 57.2**	**-8.3**
KIV	**Kislovodsk**	**71.22**	**315**⇑	*e*P	**P**	**07 18 15.0**	**+3.4**
KIV				*e*S	S	07 27 25.5	-1.7
KIV				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
AKASG	**Malin Array Be**	**71.55**	**327**	P	**P**	**07 18 12.9**	**-0.7**
comp=Z,1.6nm,0.5s,mb4.2,baz=32,slow=6.2,SNR=6.3							
AKASG	**Malin Array Be**	**71.55**	**327**	P	**P**	**07 18 12.9**	**-0.7**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
ASAR	**Alice Springs**	**73.82**	**201**	P	**P**	**07 18 26.9**	**-0.2**
comp=Z,1.5nm,0.7s,mb4.1,baz=15,slow=5.5,SNR=22							
ASAR	**Alice Springs**	**73.82**	**201**	P	**P**	**07 18 26.9**	**-0.2**
ASAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**75.48**	**62**	P	**P**	**07 18 37.5**	**+0.8**
comp=Z,2.0nm,0.7s,mb4.2,baz=303,slow=5.1,SNR=38							
TXAR	**Lajitas Array**	**75.48**	**62**	P	**P**	**07 18 37.5**	**+0.8**
TXAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**75.48**	**62**	P	**P**	**07 18 37.5**	**+0.8**
KHC	**Kasperske Hory**	**77.95**	**336**	*e*P	**P**	**07 18 53.0**	**+2.4**
KHC				x	x	07 19 05.0	
KHC	**Kasperske Hory**	**77.95**	**336**	*e*P	**P**	**07 18 53.0**	**+2.4**
KHC				*e*		07 19 05.0	
GERES	**GERESS Array B**	**78.18**	**335**	P	**P**	**07 18 53.6**	**+1.7**
comp=Z,1.2nm,0.8s,mb3.9,baz=20,slow=4.3,SNR=6.6							
GERES	**GERESS Array B**	**78.18**	**335**	P	**P**	**07 18 53.6**	**+1.7**
GERES				pmax	pmax		
comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**78.72**	**318**	P	**P**	**07 18 56.5**	**+1.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=50,slow=3.9,SNR=4.0							
BRTR	**Keskin Array B**	**78.72**	**318**	*i* P	**P**	**07 18 57.4**	**+2.5**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.7s							

IDC ***09*** *07:16:05.8±0.7, 2600S×17702W, h0km, mb4.4/13, mb1 4.6/16, mb1mx4.6/18, mbtmp4.5/16, ML4.4/3, MS3.6/7, Ms1 3.6/7, ms1mx3.4/15, Error ellipse: s-maj=22.7km s-min=16.4km az=149.0*
BJI ***09*** *07:16:08.4, 2583S×17680W, h27km, mB4.6, mb4.9, Ms4.7, Msz4.4*
MOS ***09*** *07:16:09.2±1.3, 2609S×17700W, h33km, mb5.0/4, Error ellipse: s-maj=15.6km s-min=12.4km az=48.9*
NEIC ***09*** *07:16:09.7±3.1, 2609S×17703W, h29km±23km, mb4.8/10, Error ellipse: s-maj=12.3km s-min=9.1km az=143.0*
ISCJB ***09*** *07:16:10.6±1.7, 2613S±007×17707W±008, h48km±15km, mb4.5/20, MS3.7/5, Error ellipse: s-maj=13.4km s-min=10.8km az=87.1*

ISC 09 07:16:11.9±1.4, 2617S±007×17699W±008, h47km±13km, n62, σ1§29/53, mb4.5/20, MS3.7/5, 7C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.18**	**195**	Pn	**Pn**	**07 17 00.4**	**+1.0**
369nm,0.3s,baz=53,slow=5.0,SNR=23							
RAO				Sn	**Sn**	**07 17 37.0**	**+0.8**
525nm,0.3s,baz=292,slow=23,SNR=12							
RAO	**Raoul Island**	**3.18**	**195**	Pn	**Pn**	**07 16 58.7**	**-0.7**
RAO				*e*Sn	**Sn**	**07 17 39.2**	**+3.1**
URZ	**Urewera**	**13.05**	**201**	Pn	**Pn**	**07 19 18.8**	**+4.3**
1.0nm,0.3s,baz=230,slow=21,SNR=5.7							
URZ				Sn	**Sn**	**07 21 25.6**	**-13**
1.4nm,0.3s,baz=141,slow=20,SNR=7.2							
AFI	**Afiamalu**	**13.14**	**23**	Pn	**Pn**	**07 19 11.2**	**-4.6**
5.7nm,0.3s,baz=356,slow=14,SNR=7.6							
AFI				Sn	**Sn**	**07 21 27.7**	**-13**
18nm,0.3s,baz=60,slow=22,SNR=9.1							
AFI	**Afiamalu**	**13.14**	**23**	*e*P	**Pn**	**07 19 12.4**	**-3.4**
AFI				pmax	pmax		
comp=Z,34nm,0.4s							
AFI	**Afiamalu**	**13.14**	**23**	*e*Pn	**Pn**	**07 19 12.4**	**-3.4**
comp=Z,34nm,0.4s							
DZM	**Mont Dzumac**	**15.66**	**282**	Pn	**Pn**	**07 19 56.3**	**+6.9**
comp=Z,0.7nm,0.3s,baz=97,slow=16,SNR=6.9							
DZM				LR	LR	07 23 40.7	
comp=Z,65nm,20.5s,baz=29,slow=29							
RAR	**Rarotonga**	**16.52**	**76**	Pn	**Pn**	**07 20 00.5**	**+0.2**
comp=Z,2.8nm,0.3s,baz=235,slow=13,SNR=8.4							
RAR				Sn	**Sn**	**07 22 43.3**	**-19**
comp=Z,5.8nm,0.3s,baz=76,slow=19,SNR=7.3							
RAR				LR	LR	07 23 37.7	
comp=Z,163nm,21.8s,baz=231,slow=27							
TBI	**Tubuai**	**25.14**	**90**	*e*LR	LR	07 27 29.8	
comp=Z,484nm,30.8s,baz=257							
PPT	**Papeete**	**26.80**	**77**	*e*LR	LR	07 28 28.7	
comp=Z,511nm,26.8s							
PPT	**Papeete**	**26.80**	**77**	LR	LR	07 29 44.8	
comp=Z,191nm,18.5s,MS3.7,baz=125,slow=31							
HNR	**Honiara**	**27.47**	**303**	LR	LR	07 31 09.1	
comp=Z,116nm,21.5s,MS3.4,baz=180,slow=33							
CTA	**Charters Tower**	**34.26**	**272**	*e*P	**P**	**07 22 55.3**	**+1.9**
comp=Z,9.5nm,0.8s,mb4.8							
CTA	**Charters Tower**	**34.26**	**272**	P	**P**	**07 22 54.6**	**+1.2**
comp=Z,8.1nm,0.5s,mb4.9,baz=107,slow=9.8,SNR=12							
CTA	**Charters Tower**	**34.26**	**272**	*e*P	**P**	**07 22 55.3**	**+1.9**
CTA				pmax	pmax		
comp=Z,10.0nm,0.8s							
CTAO	**Charters Tower**	**34.26**	**272**	*e*P	**P**	**07 22 53.9**	**+0.5**
CTAO				pmax	pmax		
comp=Z,9.0nm,0.6s,mb4.9							
CTAO	**Charters Tower**	**34.26**	**272**	*e*P	**P**	**07 22 53.9**	**+0.5**
comp=Z,9.4nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**36.50**	**251**	P	**P**	**07 23 13.6**	**+0.9**
comp=Z,1.7nm,0.9s,mb4.0,baz=117,slow=9.0,SNR=1.5							
STKA				LR	LR	07 35 43.8	
comp=Z,187nm,19.4s,MS3.9,baz=32,slow=32							
PMG	**Port Moresby**	**37.82**	**290**	P	**P**	**07 23 25.0**	**+1.2**
comp=Z,15nm,0.7s,mb4.8,baz=88,slow=5.6,SNR=5.0							
PMG	**Port Moresby**	**37.82**	**290**⇑	*e*P	**P**	**07 23 26.3**	**+2.5**
PMG	**Port Moresby**	**37.82**	**290**	*e*P	**P**	**07 23 23.8**	**-0.1**
comp=Z,13nm,0.7s,mb4.8							
RKT	**Rikitea**	**38.20**	**95**	*e*LR	LR	07 33 31.9	
comp=Z,273nm,30.8s							
ASAR	**Alice Springs**	**44.40**	**262**	P	**P**	**07 24 18.0**	**+0.1**
comp=Z,8.3nm,0.8s,mb4.5,baz=109,slow=8.2,SNR=57							
WB2	**Warramunga Arr**	**44.99**	**267**	*e*P	**P**	**07 24 21.1**	**-1.6**
WRAB	**Tennant Creek**	**45.00**	**267**	*e*P	**P**	**07 24 22.7**	**0.0**
WRAB	**Tennant Creek**	**45.00**	**267**	*e*P	**P**	**07 24 22.4**	**-0.3**
comp=Z,13nm,1.3s,mb4.6							
WRA	**Warramunga Arr**	**45.01**	**267**	P	**P**	**07 24 22.6**	**-0.2**
comp=Z,5.6nm,0.8s,mb4.5,baz=106,slow=7.7,SNR=32							
WRA				LR	LR	07 40 45.8	
comp=Z,92nm,20.1s,MS3.7,baz=140,slow=33							
KAKA	**Kakadu**	**49.24**	**276**	*

SNAA Sanae 82.35 178⇑ *eP* **P 07 28 27.5 -1.3**
SNAA Sanae 82.35 178 *eP* **P 07 28 27.0 -1.7**
comp=Z,3.4nm,1.1s,mb4.2
VNA3 Neumayer Olymp 82.45 176 *e*PKPdf **P 07 28 27.7 -1.6**
VNA3 *e* 07 28 31.8
VNA3 *e* 07 28 48.5
VNA3 *e* 07 28 53.5
VNA3 *e* 07 29 01.0
VNA2 Neumayer--Watz 82.90 177 *e*PKPdf **P 07 28 29.6 -2.1**
VNA2 *e* 07 28 34.1
VNA2 *e* 07 28 51.4
VNA2 *e* 07 29 05.3
VNA1 Neumayer--Stat 83.12 176 *e*PKPdf **P 07 28 31.6 -1.2**
VNA1 *e* 07 28 35.5
VNA1 *e* 07 28 51.5
VNA1 *e* 07 28 56.3
VNA1 *e* 07 29 06.9
NVAR Mina Array Bea 84.53 42 P **P 07 28 41.0 +1.0**
comp=Z,3.7nm,0.9s,mb4.5,baz=227,slow=8.2,SNR=12
TUC Tucson 85.77 51 *eP* **P 07 28 46.4 +0.2**
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
TUC Tucson 85.77 51 *eP* **P 07 28 46.4 +0.1**
comp=Z,3.5nm,0.9s,mb4.6
KLR Kul'dur 87.85 329 *eP* **P 07 28 54.4 -1.9**
TXAR Lajitas Array 89.34 57 P **P 07 29 04.7 +1.4**
comp=Z,1.2nm,0.8s,mb4.2,baz=210,slow=7.7,SNR=12
TXAR Lajitas Array 89.34 57 P **P 07 29 04.7 +1.4**
ANMO Albuquerque 90.23 51⇑ *eP* **P 07 29 09.2 +1.7**
SEY Seymchan 92.08 347⇑ *eP* **P 07 29 17.1 +1.0**
PDAR Pinedale Array 92.45 43 P **P 07 29 18.4 +0.6**
comp=Z,1.4nm,0.8s,mb4.3,baz=214,slow=3.4,SNR=11
WMQ Urumqi 111.28 309 *e*PKP PKiKP 07 34 40.5 -0.1
MKAR Makanchi Array 115.69 311 PKP PKPdf 07 34 48.7 -0.3
comp=Z,1.0nm,0.9s,baz=90,slow=2.4,SNR=5.7
NB2 NORSAR Subarra144.69 353 PKP PKPdf 07 35 42.0 -1.4
comp=Z,2.2nm,0.7s,baz=12,slow=3.8
NOA NORSAR Array B144.69 353 PKP PKPdf 07 35 42.4 -1.0
comp=Z,3.1nm,0.9s,baz=18,slow=2.5,SNR=11
AKASG Malin Array Be 148.34 328 PKPbc PKPbc 07 35 52.5 -0.5
comp=Z,4.4nm,0.8s,baz=44,slow=3.9,SNR=9.5
KIEV Kiev 148.35 328 *e*PKP2 PKPbc 07 35 52.3 -0.8
BRTR Keskin Array B 151.11 306 PKPbc PKPbc 07 35 59.6 -0.2
comp=Z,1.5nm,0.6s,baz=144,slow=4.1,SNR=7.4
BRTR Keskin Array B 151.11 306⇑ *i*PKIKP PKPbc 07 36 01.5 +1.6
KHC Kasperske Hory 155.64 343 *e*PKPab PKPab 07 36 27.5 +0.7

*IDC **09** 07:16:19.3±2.8, 791N×12736E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/19, mbtmp3.9/5, Error ellipse: s-maj=277.6km s-min=22.2km az=68.0*
*ISCJB **09** 07:16:35.9±1.1, 74N±0.1×1266E±02, h144km±8km, mb3.7/5, Error ellipse: s-maj=24.7km s-min=19.0km az=156.2*
*MAN **09** 07:16:36.2, 772N×12673E, h114km, mb2.6, ML4.1, MS0.6*
ISC 09 07:16:37.2±1.1, 75N±01×1265E±02, h141km±8km, n8, σ0§24/10, mb3.7/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.56**	**205**	*eP*	**Pn**	**07 16 57.6**	**-0.3**
MATI				*eS*	**Sn**	**07 17 13.8**	**+0.2**
BUKP	**Musuan**	**1.48**	**286**	*eP*	**Pn**	**07 17 06.1**	**+0.1**
GSPH	**General Santos**	**2.06**	**229⇑**	*eP*	**Pn**	**07 17 12.4**	**-0.1**
GSPH				*i* S	**Sn**	**07 17 39.5**	**0.0**
WRA	**Warramunga Arr**	**28.30**	**164**	P	**P**	**07 22 17.2**	**-0.2**
0.1nm,0.2s,mb3.1,baz=345,slow=7.9,SNR=9.5							
ASAR	**Alice Springs**	**31.77**	**167**	P	**P**	**07 22 48.5**	**+0.6**
0.3nm,0.3s,mb3.5,baz=345,slow=7.5,SNR=5.6							
MKAR	**Makanchi Array**	**54.40**	**324**	P	**P**	**07 25 49.6**	**+0.1**
1.3nm,0.4s,mb4.0,baz=116,slow=6.8,SNR=36							
VNDA	**Vanda**	**87.13**	**173**	P	**P**	**07 29 06.8**	**-0.3**
0.6nm,0.7s,mb3.6,baz=313,slow=6.6,SNR=3.7							
FINES	**FINESS Array B**	**88.46**	**332**	P	**P**	**07 29 13.4**	**0.0**
3.1nm,0.9s,mb4.1,baz=81,slow=8.6,SNR=5.4							

*ISCJB **09** 07:20:00.3±0.3, 43.14N±002×003E±002, h8km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=141.1*
*LDG **09** 07:20:01.8±0.1, 4301N×000W, h9km, Md2.6/2, Ml2.8/13, Error ellipse: s-maj=2.3km s-min=1.6km az=165.0*
*NEIC **09** 07:20:01.8, 4301N×000W, h9km, ML2.6(STR), ML2.8(LDG), MN2.3(MDD), After LDG.*
*STR **09** 07:20:01.9±0.1, 4300N×001W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **09** 07:20:02.0±0.1, 4303N×001E, h10km, ML2.8/12, Error ellipse: s-maj=1.2km s-min=0.9km az=173.0*
*MDD **09** 07:20:02.6±0.2, 4301N×000E, h0km, mbLg2.1/24, Error ellipse: s-maj=2.0km s-min=1.4km az=7.0, PRXIMO*
ISC 09 07:20:01.6±0.2, 4307N±002×002E±002, h10km±2km, n76, σ1§03/126, 2C-1D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**120**	P	**Pg**	**07 20 03.9**	**+0.5**
LABF				S	**Sg**	**07 20 05.3**	**+0.5**
VIEF	**Viey**	**0.19**	**180**	Pg	**Pg**	**07 20 05.0**	**-0.5**
VIEF				Sg	**Sg**	**07 20 07.1**	**-1.1**
VIEF	**Viey**	**0.19**	**180**	P	**Pg**	**07 20 05.0**	**-0.5**
VIEF				S	**Sg**	**07 20 07.2**	**-1.0**
EPF	**Esparros**	**0.24**	**99**	*e*Pg	**Pg**	**07 20 06.9**	**+0.5**
SNR=1.0							
EPF				*e*Sg	**Sg**	**07 20 10.6**	**+0.9**
94nm,0.2s							
EPF	**Esparros**	**0.24**	**99**	*e*Pg	**Pg**	**07 20 06.9**	**+0.5**
SNR=1.0							
EPF				*e*Sg	**Sg**	**07 20 10.6**	**+0.9**
47nm,0.2s							
REYF	**Montagne du Re**	**0.30**	**270**	Pg	**Pg**	**07 20 07.5**	**-0.1**
REYF				Sg	**Sg**	**07 20 11.9**	**+0.2**
REYF	**Montagne du Re**	**0.30**	**270**	P	**Pg**	**07 20 07.5**	**-0.1**
REYF				S	**Sg**	**07 20 11.9**	**+0.2**
RESF	**Ens**	**0.35**	**138**	Pg	**Pg**	**07 20 08.2**	**-0.3**
RESF				Sg	**Sg**	**07 20 13.2**	**0.0**
RESF	**Ens**	**0.35**	**138**	P	**Pg**	**07 20 08.4**	**-0.1**
RESF				S	**Sg**	**07 20 13.2**	**0.0**
RESF	**Ens**	**0.35**	**138**	Pg	**Pg**	**07 20 08.3**	**-0.2**
RESF				Sg	**Sg**	**07 20 13.2**	**0.0**
EBIE	**Bielsa**	**0.39**	**167**	⇑Pg	**Pg**	**07 20 08.8**	**-0.5**
EBIE				Lg		07 20 13.5	
EBIE	**Bielsa**	**0.39**	**167**	⇑Pg	**Pg**	**07 20 08.8**	**-0.5**
7.2nm,0.1s,SNR=18							
EBIE				Lg		07 20 13.5	
132nm,0.1s,SNR=5.8							
EBIE	**Bielsa**	**0.39**	**167**	Pg	**Pg**	**07 20 08.8**	**-0.5**
7.2nm,0.1s,SNR=18							
EBIE				Lg		07 20 13.5	
132nm,0.1s,SNR=5.8							
ETSF	**Etsaut**	**0.46**	**248**	*e*Pg	**Pg**	**07 20 10.1**	**-0.4**
SNR=1.0							
ETSF				*e*Sg	**Sg**	**07 20 15.8**	**-0.8**
148nm,0.3s							
ETSF				*e*Sn	**Sg**	**07 20 17.2**	**+0.6**
ETSF	**Etsaut**	**0.46**	**248**	Pg	**Pg**	**07 20 10.1**	**-0.4**
ETSF				Lg		07 20 15.8	
74nm,0.3s							
ETSF	**Etsaut**	**0.46**	**248**	*e*Pg	**Pg**	**07 20 10.1**	**-0.4**
SNR=1.0							
ETSF				*e*Sg	**Sg**	**07 20 15.8**	**-0.8**
74nm,0.3s							
ETSF				*e*Sn	**Sg**	**07 20 17.2**	**+0.6**
FDAF	**Les Forges d'A**	**0.50**	**240**	P	**Pg**	**07 20 10.8**	**-0.5**
FDAF				S	**Sg**	**07 20 17.1**	**-0.7**
ATE	**Arette**	**0.53**	**272**	Pg	**Pg**	**07 20 12.0**	**+0.1**
ATE	**Arette**	**0.53**	**272**	P	**Pg**	**07 20 11.8**	**-0.1**
ATE				S	**Sg**	**07 20 18.9**	**+0.1**
MELF	**Melles**	**0.58**	**110**	Pg	**Pg**	**07 20 12.8**	**+0.1**
MELF				Sg	**Sg**	**07 20 21.1**	**+0.8**
MELF	**Melles**	**0.58**	**110**	P	**Pg**	**07 20 12.8**	**+0.1**
MELF				S	**Sg**	**07 20 21.2**	**+0.9**
LARF	**Larrau**	**0.74**	**268**	Pg	**Pg**	**07 20 16.1**	**+0.2**
LARF				Sg	**Sg**	**07 20 25.6**	**+0.1**
LARF	**Larrau**	**0.74**	**268**	P	**Pg**	**07 20 15.7**	**-0.2**
LARF				S	**Sg**	**07 20 25.6**	**+0.1**
SALF	**Salau**	**0.91**	**109**	Pg	**Pg**	**07 20 19.3**	**+0.2**
SALF	**Salau**	**0.91**	**109**	P	**Pg**	**07 20 19.3**	**+0.2**
SALF				S	**Sg**	**07 20 30.9**	**-0.1**
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	**07 20 19.1**	**-0.1**
SNR=1.0							
SJPF				*e*Sg	**Sg**	**07 20 31.7**	**+0.6**
13nm,0.2s							
SJPF	**Ste Jean**	**0.91**	**273**	*e*Pg	**Pg**	**07 20 19.1**	**-0.1**
SNR=1.0							
SJPF				*e*Sg	**Sg**	**07 20 31.7**	**+0.6**
6.3nm,0.2s							
CSOR	**Sort**	**1.07**	**130**	P	**Pg**	**07 20 21.8**	**-0.4**
CSOR				S	**Sg**	**07 20 35.6**	**-0.6**
9.8nm,0.2s							
EALK	**Alkurruntz**	**1.13**	**278**	Pg	**Pg**	**07 20 24.7**	**+1.4**
1.3nm,0.1s,SNR=13							
EALK				Lg		07 20 40.1	
6.9nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**1.13**	**278**	Pg	**Pg**	**07 20 24.6**	**+1.3**
ELIZ	**Elizondo**	**1.14**	**275**	Pg	**Pg**	**07 20 24.4**	**+0.9**
0.9nm,0.1s,SNR=6.1							
ELIZ				Lg		07 20 39.7	
4.2nm,0.1s,SNR=6.8							
IUSE	**Utxeti**	**1.16**	**264**	Lg		07 20 39.4	
4.9nm,0.1s,SNR=4.0							
CORG	**Organya**	**1.27**	**131**	P	**Pn**	**07 20 26.7**	**+1.3**
CORG				S	**Sb**	**07 20 43.0**	**+1.0**
4.4nm,0.2s							
CAVN	**Les Avellanes**	**1.30**	**155**	P	**Pn**	**07 20 26.0**	**+0.2**
CAVN				S	**Sb**	**07 20 43.3**	**+0.3**
62nm,0.2s							
ESAC	**San Caprasio**	**1.40**	**195**	⇓Pg	**Pg**	**07 20 28.3**	**-0.1**
56nm,0.3s,SNR=18							
ESAC				Lg		07 20 46.6	
129nm,0.2s,SNR=24							
ESAC	**San Caprasio**	**1.40**	**195**	Pg	**Pg**	**07 20 28.3**	**0.0**
56nm,0.3s,SNR=18							
EMIR	**Miracle**	**1.60**	**136**	Pg	**Pg**	**07 20 32.4**	**+0.1**
0.4nm,0.1s,SNR=11							
EMIR				Lg		07 20 52.8	
20nm,0.2s,SNR=8.1							
EMIR	**Miracle**	**1.60**	**136**	Pg	**Pg**	**07 20 32.4**	**+0.1**
0.4nm,0.1s,SNR=11							
VALF	**Valcebollere**	**1.61**	**114**	S	**Sn**	**07 20 54.1**	**+3.0**
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	**07 20 32.8**	**0.0**
SNR=1.0							
MTLF				*e*Sg	**Sg**	**07 20 54.0**	**+0.1**
12nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**1.63**	**80**	*e*Pg	**Pg**	**07 20 32.8**	**0.0**
SNR=1.0							
MTLF				*e*Sg	**Sg**	**07 20 54.0**	**+0.1**
5.9nm,0.3s,SNR=1.0							
EPOB	**Poblet**	**1.89**	**155**	Pg	**Pg**	**07 20 36.1**	**-1.7**
EPOB				Lg		07 21 00.8	
EPOB	**Poblet**	**1.89**	**155**	Pg	**Pg**	**07 20 36.1**	**-1.7**
2.0nm,0.2s,SNR=9.1							
EPOB				Lg		07 21 00.8	
5.9nm,0.2s							
EPOB	**Poblet**	**1.89**	**155**	Pg	**Pg**	**07 20 36.1**	**-1.7**
2.0nm,0.2s,SNR=9.1							
ECRI	**Cripan**	**1.92**	**257**	Pn	**Pn**	**07 20 36.4**	**+2.1**
0.4nm,0.1s,SNR=7.9							
ECRI				Lg		07 21 02.9	
2.7nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**1.94**	**15**	*e*Pg	**Pg**	**07 20 38.8**	**0.0**
SNR=1.0							
LFF				*e*Sg	**Sg**	**07 21 06.3**	**+2.4**
32nm,0.4s,SNR=1.0							
LFF	**La Frestale**	**1.94**	**15**	*e*Pg	**Pg**	**07 20 38.8**	**0.0**
SNR=1.0							
LFF				*e*Sg	**Sg**	**07 21 06.3**	**+2.4**
16nm,0.4s,SNR=1.0							
ERTA	**Horta de San J**	**2.12**	**174**	Pg	**Pg**	**07 20 40.4**	**-1.9**
0.4nm,0.2s,SNR=4.0							
ERTA				Lg		07 21 07.8	
11nm,0.2s,SNR=12							
ERTA	**Horta de San J**	**2.12**	**174**	Pg	**Pg**	**07 20 40.4**	**-1.9**
0.4nm,0.2s,SNR=4.0							
EJON	**La Jonquera**	**2.20**	**105**	Pg	**Pg**	**07 20 43.7**	**0.0**
0.8nm,0.2s,SNR=4.0							
EJON				Lg		07 21 13.1	
0.7nm,0.1s,SNR=4.6							
EJON	**La Jonquera**	**2.20**	**105**	Pg	**Pg**	**07 20 43.7**	**-0.1**
0.8nm,0.2s,SNR=4.0							
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	**07 20 47.1**	**+0.1**
SNR=1.0							
CAF				*e*Sn	**Sn**	**07 21 06.9**	**-2.8**
5.1nm,0.2s,SNR=1.0							
CAF				*e*Sg	**Sg**	**07 21 17.6**	**-0.1**
5.1nm,0.2s							
CAF	**Calviac**	**2.37**	**38**	*e*Pg	**Pg**	**07 20 47.1**	**+0.1**
SNR=1.0							
CAF				*e*Sn	**Sn**	**07 21 06.9**	**-2.8**
2.5nm,0.2s,SNR=1.0							
CAF				*e*Sg	**Sg**	**07 21 17.6**	**-0.1**
2.5nm,0.2s							
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*Pg	**Pg**	**07 20 48.4**	**-0.7**
SNR=1.0							
RJF				*e*Sg	**Sg**	**07 21 22.5**	**+1.3**
7.6nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*Pn	**Pn**	**07 20 39.4**	**-2.6**
RJF				*e*Pg	**Pg**	**07 20 48.4**	**-0.7**
RJF				*e*Sg	**Sg**	**07 21 22.5**	**+1.3**
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*Pg	**Pg**	**07 20 48.4**	**-0.7**
SNR=1.0							
RJF				*e*Sg	**Sg**	**07 21 22.5**	**+1.3**
3.8nm,0.2s,SNR=1.0							
ELAN	**Lanestosa**	**2.53**	**275**	Sn	**Sn**	**07 21 15.5**	**+1.8**
0.3nm,0.2s,SNR=4.0							
ELAN	**Lanestosa**	**2.53**	**275**	Sn	**Sn**	**07 21 15.5**	**+1.8**
0.3nm,0.2s,SNR=4.0							
EMOS	**Mosqueruela**	**2.73**	**188**	Pn	**Pn**	**07 20 47.8**	**+2.3**
EMOS				Pg	**Pg**	**07 20 53.8**	**-0.1**
EMOS				Sn	**Sn**	**07 21 13.4**	**-5.1**
EMOS				Lg		07 21 25.6	
EMOS	**Mosqueruela**	**2.73**	**188**	Pn	**Pn**	**07 20 47.8**	**+2.3**
0.2nm,0.2s,SNR=4.0							
EMOS				Pg	**Pg**	**07 20 53.8**	**-0.1**
1.0nm,0.3s,SNR=7.9							
EMOS				Lg		07 21 28.3	
1.7nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.73**	**188**	Pg	**Pg**	**07 20 53.8**	**-0.1**
1.0nm,0.3s,SNR=7.9							
ETOR	**Torete**	**2.73**	**215**	Pn	**Pn**	**07 20 46.5**	**+1.1**
4.0nm,0.1s,SNR=9.1							
ETOR				Sn	**Sn**	**07 21 17.5**	**-1.0**
3.6nm,0.1s,SNR=7.9							
ETOR				Lg		07 21 27.5	
4.7nm,0.1s,SNR=4.8							
ETOR	**Torete**	**2.73**	**215**	Pn	**Pn**	**07 20 46.5**	**+1.0**
4.0nm,0.1s,SNR=9.1							
ETOR				Sn	**Sn**	**07 21 17.5**	**-1.1**
3.6nm,0.1s,SNR=7.9							
LASF	**Ste Croix**	**2.96**	**69**	*e*Sg	**Sg**	**07 21 36.5**	**-0.3**
4.5nm,0.3s,SNR=1.0							
LASF	**Ste Croix**	**2.96**	**69**	*e*Sg	**Sg**	**07 21 36.5**	**-0.3**
2.2nm,0.3s,SNR=1.0							
MFF	**Saint Martin d**	**3.53**	**358**	*e*Pg	**Pg**	**07 21 08.0**	**-1.3**
MFF				*e*Sg	**Sg**	**07 21 53.0**	**-2.1**
2.5nm,0.2s,SNR=1.0							
MFF	**Saint Martin d**	**3.53**	**358**	*e*Pg	**Pg**	**07 21 08.0**	**-1.3**
MFF				*e*Sg	**Sg**	**07 21 53.0**	**-2.1**
1.2nm,0.2s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.58**	**25**	*e*Pg	**Pg**	**07 21 09.3**	**-0.8**
TCF				*e*Sn	**Sn**	**07 21 36.9**	**-2.5**
3.9nm,0.3s,SNR=1.0							
TCF				*e*Sg	**Sg**	**07 21 57.1**	**+0.7**
2.5nm,0.2s							
TCF	**Toulx Ste Croi**	**3.58**	**25**	*e*Pg	**Pg**	**07 21 09.3**	**-0.8**
TCF				*e*Sn	**Sn**	**07 21 36.9**	**-2.5**
2.0nm,0.3s,SNR=1.0							
TCF				*e*Sg	**Sg**	**07 21 57.1**	**+0.7**
1.2nm,0.2s							
BGF	**Bois d'Agland**	**4.03**	**29**	*e*Sg	**Sg**	**07 22 09.9**	**-0.9**
16nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**4.03**	**29**	*e*Sg	**Sg**	**07 22 09.9**	**-0.9**
8.2nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**4.41**	**31**	*e*Sg	**Sg**	**07 22 24.3**	**+1.2**
2.5nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**4.41**	**31**	*e*Sg	**Sg**	**07 22 24.3**	**+1.2**
1.2nm,0.4s,SNR=1.0							
ESDC	**Sonseca Array**	**4.53**	**223**	Pn	**Pn**	**07 21 10.1**	**-0.1**
0.1nm,0.2s,baz=42,slow=14,SNR=4.0							
ESDC				Sn	**Sn**	**07 21 59.5**	**-3.4**
5.5nm,1.3s,baz=42,slow=24,SNR=4.0							
ESDC	**Sonseca Array**	**4.53**	**223**	Pn	**Pn**	**07 21 10.1**	**-0.1**
ESDC				Sn	**Sn**	**07 21 59.5**	**-3.4**
LPG	**La Plagne**	**5.41**	**61**	*e*Pg	**Pg**	**07 21 40.1**	**-5.0**
SNR=1.0							

*IDC **09** 08:02:46.5±1.8, 608S×147.14E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML2.9/2, Error ellipse: s-maj=53.1km s-min=19.9km az=96.0*

NEIC 09 08:02:54.8±2.5, 636S×14756E, h92km±39km, Error ellipse: s-maj=79.9km s-min=19.1km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.05**	**187**	Pn	Pn	08 03 41.0	-0.1
2.0nm,0.3s,baz=223,slow=16,SNR=5.7							
PMG				Pg	Pn	08 03 45.7	+4.7
7.7nm,0.3s,baz=22,slow=6.3,SNR=13							
PMG				Sn	Sn	08 04 17.4	+0.7
8.6nm,0.3s,baz=212,slow=3.5,SNR=6.7							
WRA	**Warramunga Arr**	**18.63**	**222**	P	Pn	08 07 04.8	-1.7
0.1nm,0.3s,baz=44,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**21.64**	**216**	P	P	08 07 39.0	+1.3
0.7nm,0.5s,baz=53,slow=8.4,SNR=16							
FITZ	**Fitzroy Crossi**	**24.36**	**239**	P	P	08 08 04.4	+0.3
1.8nm,0.5s,baz=33,slow=16,SNR=8.0							
MJAR	**Matsushiro Arr**	**43.56**	**349**	P	P	08 10 50.1	+0.5
3.2nm,0.6s,baz=189,slow=9.2,SNR=11							
TORD	**Torodi Ar. Bea**	**145.71**	**284**	PKPbc	PKPbc	08 22 24.2	+1.1
0.6nm,0.9s,baz=62,slow=3.4,SNR=4.4							

*NEIC **09** 08:03:34.9, 3148S×7167W, h10km, ML3.5(GUC), After GUC.*
GUC 09 08:03:34.9±0.5, 3148S×7167W, h10km±2km, MD3.9, ML3.5, 7C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.64**	**62⇑**	*i*P	Pg	08 03 47.8	+0.5
CMCH				*i* S	Sg	08 03 57.1	+1.3
CMCH				AML	AML	08 04 03.2	
comp=N,4μm,0.5s							
CMCH	**Combarbala**	**0.64**	**62⇑**	*i*P	Pg	08 03 47.8	+0.5
CMCH				*i* S	Sg	08 03 57.1	+1.3
PTCH	**Petorca**	**1.00**	**142⇓**	*i*P	Pg	08 03 53.3	-0.9
PTCH				*i* S	Sg	08 04 06.9	-0.4
PTCH				AML	AML	08 04 09.1	
comp=E,4μm,0.2s							
PTCH	**Petorca**	**1.00**	**142⇓**	*i*P	Pg	08 03 53.3	-0.9
PTCH				*i* S	Sg	08 04 06.9	-0.4
PACH	**Papudo**	**1.07**	**170⇑**	*i*P	Pg	08 03 54.5	-1.1
PACH				*i* S	Sg	08 04 09.2	-0.3
TLL	**Tololo Astrono**	**1.50**	**30⇓**	*i*P	Pn	08 04 01.9	0.0
TLL				*i* S	Sn	08 04 22.1	+0.6
LSCH	**La Serena**	**1.60**	**13⇑**	*i*P	Pn	08 04 02.6	-0.7
LSCH				*i* S	Sn	08 04 23.7	-0.4
PEL	**Peldehue**	**1.86**	**154**	*i* P	Pn	08 04 06.7	-0.1
PEL				*i* S	Sn	08 04 31.4	+1.1
PEL				AML	AML	08 04 33.8	
comp=E,1μm,0.4s							
DSCH	**Colegio Aleman**	**2.13**	**154**	*i* P	Pn	08 04 09.2	-1.3
DSCH				*i* S	Sn	08 04 36.8	-0.3
RCDM	**Rinconada Maip**	**2.13**	**160⇓**	*i*P	Pn	08 04 10.3	-0.3
RCDM				*i* S	Sn	08 04 37.7	+0.5
RCDM				AML	AML	08 04 47.0	
comp=E,295nm,0.3s							
RCDM	**Rinconada Maip**	**2.13**	**160⇓**	*i*P	Pn	08 04 10.3	-0.3
RCDM				*i* S	Sn	08 04 37.7	+0.5
CLCH	**Cerro Calan**	**2.14**	**154⇑**	*i*P	Pn	08 04 10.8	+0.2
CLCH				*i* S	Sn	08 04 38.6	+1.3
CLCH				AML	AML	08 04 46.7	
comp=E,515nm,0.6s							
TACH	**Talagante**	**2.26**	**164**	*i* P	Pn	08 04 13.1	+0.8
ANTU	**Antumapu**	**2.26**	**158⇓**	*i*P	Pn	08 04 13.5	+1.1
ANTU				*i* S	Sn	08 04 42.5	+2.2
ANTU				AML	AML	08 04 49.9	
comp=E,305nm,0.4s							
ANTU	**Antumapu**	**2.26**	**158⇓**	*i*P	Pn	08 04 13.5	+1.1
ANTU				*i* S	Sn	08 04 42.5	+2.2
PCH	**Pirque**	**2.35**	**156**	*e*P	Pn	08 04 14.7	+1.1
PCH				*i* S	Sn	08 04 44.9	+2.4
LNV	**Longovilo**	**2.48**	**175⇓**	*i*P	Pn	08 04 16.3	+0.9
LNV				*i* S	Sn	08 04 48.1	+2.4
ZON	**Zonda**	**2.55**	**92**	*e*P	Pn	08 04 19.8	+3.5
ZON				*i* S	Sn	08 04 52.4	+5.0
ZON				AML	AML	08 05 07.4	
comp=N,138nm,0.5s							
CHCH	**Chadas Angostu**	**2.59**	**161⇑**	*i*P	Pn	08 04 18.1	+1.2
CHCH				*i* S	Sn	08 04 51.0	+2.5
LMEL	**Las Melosas**	**2.67**	**153**	*i* P	Pn	08 04 19.3	+1.3
LMEL				*i* S	Sn	08 04 53.2	+2.9
LMEL				AML	AML	08 05 01.8	
comp=N,231nm,0.3s							
LMEL	**Las Melosas**	**2.67**	**153**	*i* P	Pn	08 04 19.3	+1.3
LMEL				*i* S	Sn	08 04 53.2	+2.9
CACH	**El Canelo**	**2.78**	**161⇑**	*i*P	Pn	08 04 21.6	+2.1
CACH				*e*S	Sn	08 04 56.8	+3.6
CICH	**Cipreses**	**3.02**	**160**	*i* P	Pn	08 04 24.2	+1.4
CICH				*i* S	Sn	08 05 01.6	+2.5
SFDO	**San Fernando**	**3.18**	**170⇓**	*i*P	Pn	08 04 26.1	+1.2
SFDO				*i* S	Sn	08 05 04.6	+1.7

*IDC **09** 08:09:06.2±1.3, 2820N×58.11E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.8/26, mbtmp3.8/10, ML4.1/1, Error ellipse: s-maj=32.4km s-min=19.9km az=166.0*
*ISCJB **09** 08:09:07.8±1.2, 2847N±003×5806E±004, h9km±9km, mb3.7/10, Error ellipse: s-maj=5.5km s-min=5.2km az=120.2*
*THR **09** 08:09:08.1±0.6, 2864N×58.11E, h14km±5km, ML4.3*
*CSEM **09** 08:09:08.7±0.1, 2856N×58.15E, h18km, mb4.0/4, Error ellipse: s-maj=2.4km s-min=1.7km az=134.0*
*NEIC **09** 08:09:08.0, 2861N×58.10E, h14km, ML4.3(THR), MN4.2(TEH), After THR.*
*MOS **09** 08:09:10.0±1.3, 2834N×5804E, h27km, mb4.2/4, Error ellipse: s-maj=17.0km s-min=10.6km az=104.3*
*TEH **09** 08:09:11.8, 2873N×5807E, h4km,

GHIR	**Ghir-Karzin**	**4.49 269**	*e*Pn	**Pn**	**08 10 19.0**	**+1.3**
IDAH		**4.52 19**	*e*Pn	**Pn**	**08 10 17.1**	**-0.9**
IPAR	**Pars**	**4.61 288**	*e*Pn	**Pn**	**08 10 20.6**	**+1.4**
IPAR			*e*Pn	**Pn**	**08 10 21.6**	**+2.4**
IPAR			*e*Pn	**Pn**	**08 10 21.6**	**+2.4**
IMOK	**Mook**	**4.75 278**	*e*Pn	**Pn**	**08 10 22.4**	**+1.3**
IMOK			*e*Pn	**Pn**	**08 10 23.9**	**+2.8**
IMOK			*e*Pn	**Pn**	**08 10 24.1**	**+3.0**
IMOK			*e*Sn	**Sn**	**08 11 16.0**	**+0.1**
IMOK	**Mook**	**4.75 278**	*e*Pn	**Pn**	**08 10 22.4**	**+1.3**
IMOK			Sn	**Sn**	**08 11 15.9**	**0.0**
IMON		**4.89 16**	*e*Pn	**Pn**	**08 10 22.5**	**-0.6**
ICHK	**Chekchek**	**4.92 321**	*e*Pn	**Pn**	**08 10 23.3**	**-0.2**
ICHK			*e*Pn	**Pn**	**08 10 26.4**	**+2.9**
ICHK	**Chekchek**	**4.92 321**	Pn	**Pn**	**08 10 23.2**	**-0.3**
HOQ	**Hoqain**	**4.92 188** ⇑	P	**Pn**	**08 10 22.3**	**-1.3**
BIDO	**Bidbid**	**4.94 180** ⇑	P	**Pn**	**08 10 22.3**	**-1.5**
ISAD	**Sadrabad**	**5.12 313**	*e*Pn	**Pn**	**08 10 30.7**	**+4.4**
ISAD			*e*Pn	**Pn**	**08 10 35.8**	**+10**
ISAD			*e*Sn	**Sn**	**08 11 21.6**	**-3.5**
ISAD	**Sadrabad**	**5.12 313**	Pn	**Pn**	**08 10 30.7**	**+4.4**
ISAD			Sn	**Sn**	**08 11 21.5**	**-3.6**
ARQ	**Araqi**	**5.31 196** ⇑	P	**Pn**	**08 10 30.4**	**+1.5**
SNR=10						
SMDO	**Samad**	**5.40 180** ⇑	P	**Pn**	**08 10 29.5**	**-0.6**
SNR=8.2						
WBK	**Wadi Bani Khal**	**5.90 172** ⇓	P	**Pn**	**08 10 36.2**	**-0.8**
SNR=60						
JMDO	**Jabal Madar**	**6.08 180** ⇑	P	**Pn**	**08 10 39.6**	**+0.1**
SNR=12						
NASN	**Na'in**	**6.26 315**	*e*Pn	**Pn**	**08 10 41.6**	**-0.4**
IZEF	**Zefreh**	**6.63 313**	*e*Pn	**Pn**	**08 10 46.9**	**-0.1**
IZEF			*e*Pn	**Pn**	**08 10 49.9**	**+2.9**
IZEF	**Zefreh**	**6.63 313**	Pn	**Pn**	**08 10 46.8**	**-0.2**
IPIR	**Pirpir**	**7.48 306**	*e*Pn	**Pn**	**08 10 58.7**	**0.0**
IPIR			*e*Pn	**Pn**	**08 11 00.7**	**+2.0**
IPIR			*e*Pn	**Pn**	**08 11 01.5**	**+2.8**
IPIR			*e*Sn	**Sn**	**08 12 18.3**	**-5.0**
IPIR	**Pirpir**	**7.48 306**	*e*Pn	**Pn**	**08 10 58.7**	**0.0**
IPIR			Sn	**Sn**	**08 12 18.2**	**-5.1**
KBD	**Kabd**	**9.14 277**	*e*P	**Pn**	**08 11 21.0**	**-0.5**
KBD			*e*S	**Sn**	**08 12 56.0**	**-8.0**
KBD			AML	AML	08 12 58.1	
comp=Z,61nm,0.3s						
UMR	**Umm Al-Rimmam**	**9.14 279**	*e*P	**Pn**	**08 11 20.4**	**-1.0**
UMR			*e*S	**Sn**	**08 12 56.7**	**-7.3**
UMR			AML	AML	08 13 00.0	
comp=Z,46nm,0.2s						
RDF	**Al-Radifah**	**9.26 275**	*e*P	**Pn**	**08 11 22.0**	**-1.1**
RDF			*e*S	**Sn**	**08 12 59.8**	**-7.2**
RDF			AML	AML	08 13 06.3	
comp=Z,46nm,0.3s						
MIB	**Mutribah**	**9.49 281**	*e*P	**Pn**	**08 11 24.8**	**-1.5**
MIB			*e*S	**Sn**	**08 13 04.6**	**-8.0**
MIB			AML	AML	08 13 07.7	
comp=Z,40nm,0.4s						
NAY	**Al-Naaiem**	**9.54 277**	*e*P	**Pn**	**08 11 25.5**	**-1.3**
NAY			AML	AML	08 13 12.6	
comp=Z,18nm,0.5s						
GNI	**Garni**	**16.01 320**	*e*P	**Pn**	**08 12 53.4**	**-1.3**
ZEI	**Tsey**	**18.30 325**	*e*P	**Pn**	**08 13 26.3**	**+2.9**
ASF	**Jabal al Asfar**	**18.65 287**	P	**Pn**	**08 13 27.6**	**-0.1**
comp=Z,0.6nm,0.3s,baz=331,slow=9.7,SNR=6.8						
AAK	**Ala-Archa**	**19.39 39**	*e*P	**Pn**	**08 13 36.6**	**0.0**
KIV	**Kislovodsk**	**19.77 325** ⇓	*e*P	**Pn**	**08 13 41.1**	**0.0**
KIV			pmax	pmax		
comp=Z,4.0nm,1.0s						
KIV	**Kislovodsk**	**19.77 325**	*e*P	**Pn**	**08 13 41.1**	**0.0**
comp=Z,4.0nm,1.0s						
MMAI	**Mount Meron Ar**	**20.00 289**	P	**Pn**	**08 13 43.7**	**-0.2**
comp=Z,4.7nm,0.7s,baz=105,slow=13,SNR=5.6						
AKTK	**Aktyubinsk**	**21.93 360**	P	**P**	**08 14 05.8**	**+2.8**
AKTO	**Aktyubinsk**	**21.93 360**	P	**P**	**08 14 05.8**	**+2.8**
comp=Z,1.1nm,0.5s,mb3.6,baz=184,slow=13,SNR=4.8						
BRTR	**Keskin Array B**	**23.07 305**	P	**P**	**08 14 15.5**	**+0.4**
comp=Z,1.2nm,0.7s,mb3.4,baz=122,slow=12,SNR=5.8						
BVAR	**Borovoye Array**	**26.16 17**	P	**P**	**08 14 42.8**	**-1.0**
comp=Z,2.4nm,0.8s,mb3.8,baz=206,slow=9.9,SNR=11						
MKAR	**Makanchi Array**	**26.32 39**	P	**P**	**08 14 43.9**	**-1.4**
comp=Z,0.8nm,0.6s,mb3.5,baz=205,slow=5.4,SNR=5.6						
MKAR	**Makanchi Array**	**26.32 39**	*i* P	**P**	**08 14 46.4**	**+1.1**
MKAR			pmax	pmax		
comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**26.32 39**	*i* P	**P**	**08 14 46.4**	**+1.1**
comp=Z,1.0nm,0.6s,mb3.5						
KURK	**Kurchatov**	**27.10 29**	*e*P	**P**	**08 14 54.1**	**+1.8**
ARU	**Arti**	**27.94 1**	⇓ *i*P	**P**	**08 15 00.7**	**+0.9**
ARU			*e*S	**S**	**08 19 41.3**	**-1.8**
ARU			pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.2						
ARU	**Arti**	**27.94 1**	*i* P	**P**	**08 15 00.7**	**+0.9**
comp=Z,6.0nm,0.9s,mb4.2						
OBN	**Obninsk**	**30.82 336** ⇑	*e*P	**P**	**08 15 27.7**	**+2.3**
OBN			*e*S	**S**	**08 20 22.8**	**-5.5**
FINES	**FINESS Array B**	**39.22 336**	*i* P	**P**	**08 16 38.5**	**+0.8**
FINES			pmax	pmax		
comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**39.22 336**	*i* P	**P**	**08 16 38.5**	**+0.8**
comp=Z,1.0nm,0.7s,mb3.6						
SONM	**Songino Array**	**41.84 49**	P	**P**	**08 17 01.1**	**+1.7**
comp=Z,0.4nm,0.6s,mb3.2,baz=265,slow=8.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**54.41 266**	P	**P**	**08 18 34.2**	**-2.4**
comp=Z,0.9nm,0.4s,mb4.0,baz=61,slow=7.3,SNR=17						
TORD	**Torodi Ar. Bea**	**54.41 266**	P	**P**	**08 18 34.2**	**-2.4**
WRA	**Warramunga Arr**	**87.94 114**	P	**P**	**08 21 58.4**	**-0.9**
comp=Z,0.6nm,0.5s,mb4.0,baz=319,slow=4.0,SNR=7.1						
WRA	**Warramunga Arr**	**87.94 114**	P	**P**	**08 21 58.4**	**-0.9**
WRA			pmax	pmax		
comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**89.16 357**	P	**P**	**08 22 04.8**	**-0.3**
comp=Z,0.2nm,0.8s,mb3.5,baz=354,slow=5.4,SNR=5.2						

*NEIC **09** 08:11:55.7±0.5, 14.30S×75.93W, mb4.8/2, Error ellipse: s-maj=21.0km s-min=9.5km az=61.0*
NEIC Felt [III] at Ica and [II] at Palpa.
*IDC **09** 01:11:56.0±0.9, 14.17S×75.80W, h49km±5km, mb3.8/6, mb1 4.0/9, mb1mx3.9/17, mbtmp3.9/9, MS3.7/10, Ms1 3.7/10, ms1mx3.5/21, Error ellipse: s-maj=35.4km s-min=18.3km az=53.0*
*ISCJB **09** 01:11:58.6±1.4, 14.26S±0.10×75.7W±0.2, h94km±13km, mb4.1/7, Error ellipse: s-maj=28.3km s-min=8.9km az=119.3*

ISC 09 08:11:60.0±1.2, 14.28S±0.10×75.7W±0.2, h90km±11km, h76km±8.8km; pP-P, n38, σ0.9s 86/25, mb4.1/7, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.52 334**		P	**Pn**	**08 12 33.9**	**-5.2**
39nm,0.3s,baz=148,slow=14,SNR=78							
NNA				S	**Sn**	**08 13 07.3**	**-1.7**
159nm,0.3s,baz=150,slow=12,SNR=7.1							
NNA	**Nana**	**2.52 334**		*e*Pn	**Pn**	**08 12 33.4**	**-5.6**
NNA				*e*Sn	**Sn**	**08 13 09.2**	**+0.2**
LPAZ	**La Paz**	**7.60 106**		P	**Pn**	**08 13 47.7**	**-0.2**
2.8nm,0.3s,baz=292,slow=10,SNR=48							
LPAZ	**La Paz**	**7.60 106**		P	**Pn**	**08 13 47.7**	**-0.2**
ATAH	**Atahualpa**	**7.69 340**		P	**Pn**	**08 13 50.5**	**+1.3**
4.0nm,0.3s,baz=170,slow=5.6,SNR=11							
ATAH				S	**Sn**	**08 15 15.4**	**+0.7**
3.3nm,0.3s,baz=56,slow=10,SNR=2.2							
ATAH				LR	LR	08 17 15.7	
comp=Z,149nm,18.9s,baz=171,slow=43							
SIV	**San Ignacio**	**14.25 99**		P	**Pn**	**08 15 11.7**	**-5.7**
0.1nm,0.3s,baz=280,slow=12,SNR=9.0							
OTAV	**Otavalo**	**14.67 349**		*e*Pn	**Pn**	**08 15 22.8**	**0.0**
7.8nm,0.8s							
CFAA	**Coronel Fontan**	**18.56 160**		P	**Pn**	**08 16 09.6**	**-1.3**
0.1nm,0.3s,baz=328,slow=12,SNR=26							
CFAA				LR	LR	08 22 27.0	
comp=Z,20nm,18.5s,baz=301,slow=34							
SDV	**Santo Domingo**	**23.56 13**		P	**P**	**08 17 01.9**	**-0.3**
10nm,0.9s,mb4.2,baz=243,slow=5.9,SNR=11							
SDV				LR	LR	08 27 10.9	
comp=Z,132nm,18.4s,baz=350,slow=39							
SDV	**Santo Domingo**	**23.56 13**		*e*P	**P**	**08 17 02.1**	**-0.1**
25nm,0.9s,mb4.5							
SDV				*e*pP		08 17 22.8	
JTS	**JuntasAbangare**	**26.07 339**		LR	LR	08 26 22.5	
comp=Z,173nm,19.5s,baz=348,slow=33							
PCRV	**Puerto La Cruz**	**26.67 25**		LR	LR	08 29 03.1	
comp=Z,177nm,20.4s,baz=200,slow=39							
TEIG	**Tepich**	**36.44 340**		LR	LR	08 33 20.8	
comp=Z,93nm,18.1s,baz=302,slow=35							
CMIG	**Matias Romero**	**36.46 328**		LR	LR	08 32 59.5	
comp=Z,38nm,18.3s,baz=26,slow=35							
TXAR	**Lajitas Array**	**51.06 328**		P	**P**	**08 20 53.4**	**+0.4**
0.6nm,0.6s,mb3.8,baz=149,slow=9.3,SNR=8.1							
TXAR				pP	pP	08 21 05.3	-10
1.2nm,0.7s,baz=147,slow=9.4,SNR=9.5							
TXAR	**Lajitas Array**	**51.06 328**		P	**P**	**08 20 53.4**	**+0.4**
TXAR				pP	pP	08 21 05.3	-10
PDAR	**Pinedale Array**	**64.71 333**		P	**P**	**08 22 28.1**	**-0.4**
0.4nm,0.9s,mb3.3,baz=141,slow=5.8,SNR=3.2							
ULM	**Lac du Bonnet**	**66.64 346**		P	**P**	**08 22 39.2**	**-1.7**
1.1nm,0.5s,mb4.0,baz=143,slow=6.5,SNR=3.1							
ULM				pP	pP	08 22 55.1	-8.7
1.9nm,0.7s,baz=164,slow=12,SNR=2.9							
VNA3	**Neumayer Olymp**	**68.95 162**		*e*Pdiff	**P**	**08 22 56.0**	**+0.6**
VNA3				*e*		08 23 00.8	
VNA3				*e*		08 23 12.4	
VNA3				*e*	pP	08 23 16.7	-1.7
VNA3				*e*	pP	08 23 22.9	+4.5
VNA1	**Neumayer--Stat**	**69.21 161**		*e*Pdiff	**P**	**08 22 58.1**	**+1.1**
VNA1				*e*		08 23 03.0	
VNA1				*e*	pP	08 23 17.7	-2.3
VNA1				*e*	pP	08 23 23.1	+3.1
VNA2	**Neumayer--Watz**	**69.57 161**		*e*Pdiff	**P**	**08 22 59.7**	**+0.5**
baz=283,slow=6.3							
VNA2				*e*		08 23 04.8	
VNA2				*e*	pP	08 23 18.6	-3.6
VNA2				*e*	pP	08 23 22.6	+0.4
VNA2				*e*		08 23 29.9	
SNAA	**Sanae**	**71.17 161**		*e*Pdiff	**P**	**08 23 09.2**	**+0.2**
SNAA				*e*		08 23 13.8	
SNAA				*e*		08 23 25.6	
SNAA				*e*	pP	08 23 28.4	-3.7
SNAA				*e*	pP	08 23 35.3	+3.2
SNAA	**Sanae**	**71.17 161**		*e*P	**P**	**08 23 09.4**	**+0.5**
21nm,1.4s,mb4.8							
EDM	**Edmonton**	**74.58 338**		*e*P	**P**	**08 23 28.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**81.36 74**		P	**P**	**08 24 07.3**	**+0.7**
10nm,0.9s,mb4.7,baz=256,slow=4.8,SNR=47							
YKA	**Yellowknife Ar**	**82.33 343**		P	**P**	**08 24 11.3**	**-0.4**
0.9nm,0.7s,mb3.7,baz=140,slow=5.7,SNR=17							
YKA				pP	pP	08 24 24.9	-11
0.9nm,0.7s,baz=141,slow=5.8,SNR=7.1							
ESDC	**Sonseca Array**	**85.51 47**		LR	LR	09 01 34.8	
comp=Z,181nm,20.9s,baz=340,slow=35							
BOSA	**Boshof**	**92.62 120**		LR	LR	09 08 38.4	
comp=Z,83nm,18.4s,baz=87,slow=37							
MAW	**Mawson**	**93.00 165**		LR	LR	09 08 33.1	
comp=Z,152nm,21.8s,baz=254,slow=36							
AKTK	**Aktyubinsk**	**128.10 36**		PKP	PKPdf	08 30 57.1	+1.6
AKTO	**Aktyubinsk**	**128.10 36**		PKP	PKPdf	08 30 57.1	+1.6
2.1nm,0.8s,baz=307,slow=2.0,SNR=6.8							
ASAR	**Alice Springs**	**132.44 218**		PKP	PKPdf	08 31 05.5	+1.8
1.1nm,0.8s,baz=126,slow=2.1,SNR=10.0							
BVAR	**Borovoye Array**	**132.96 27**		PKP	PKPdf	08 31 06.5	+1.7
0.5nm,0.6s,baz=254,slow=38,SNR=4.0							
WRA	**Warramunga Arr**	**134.93 222**		PKP	PKPdf	08 31 10.0	+1.5
1.1nm,0.8s,baz=146,slow=1.5,SNR=19							
ZAL	**Zalesovo**	**137.57 17**		PKP	PKPdf	08 31 14.5	+1.2
3.0nm,1.0s,baz=169,slow=3.6,SNR=7.1							
MKAR	**Makanchi Array**	**142.73 25**		PKhKP		08 31 20.2	
1.2nm,0.8s,baz=341,slow=2.6,SNR=6.3							
SONM	**Songino Array**	**146.50 357**		PKPbc	PKPbc	08 31 31.2	+0.5
7.4nm,0.8s,baz=330,slow=2.3,SNR=36							
SONM				pPKPbc	pPKPbc	08 31 46.4	-9.1
6.9nm,1.0s,baz=349,slow=2.2,SNR=9.6							
KSRS	**Korea Array**	**148.78 322**		PKPbc	PKPbc	08 31 38.0	+1.1
4.6nm,0.9s,baz=20,slow=0.8,SNR=10.0							

*STR **09** 08:13:15.8±0.1, 47.59N×7.61E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 08:13:16.1±0.1, 47.59N×7.57E, h7km, Md2.4/2, Ml2.3/8, Error ellipse: s-maj=1.3km s-min=0.9km az=136.0*

ZUR 09 08:13:16.1, 47.58N×7.60E, h5km±1km, ML2.0, 3C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26 165**		*e*Sg	Pg	08 13 21.5	+0.4
152nm,0.2s							
BALST	**Balsthal**	**0.26 165**		⇓ *i*Pg	Sg	08 13 25.4	+0.9
152nm,0.2s							
BOURR	**Bourrignon**	**0.31 233**		⇑ *i*Pg	Pg	08 13 22.5	+0.3
14nm,0.2s							
SULZ	**Sulz-Cheisache**	**0.35 99**		⇑ *i*Pg	Pg	08 13 23.7	+0.8
191nm,2.0s							
MOF	**Molkenrain**	**0.41 311**		Pg	Pg	08 13 23.9	-0.2
MOF				Sg	Sg	08 13 29.5	0.0
HINF	**Hinteralfeld**	**0.56 295**		*e*Pg	Pg	08 13 26.3	-0.5
HINF	**Hinteralfeld**	**0.56 295**		*e*Pn	Pg	08 13 28.4	+1.6
HINF				*e*Sg	Sg	08 13 33.6	-0.4
26nm,0.2s							
HINF				*e*Sn	Sg	08 13 37.2	+3.2
LOMF	**Lomont**	**0.57 246**		Pg	Pg	08 13 27.1	0.0
SLE	**Schleitheim**	**0.63 73**		⇑ *i*Pg	Pg	08 13 28.0	-0.2
120nm,0.2s							
ECH	**Echery**	**0.70 335**		Pg	Pg	08 13 29.5	0.0
CDF	**Champ du Feu**	**0.86 345**		*e*Pg	Pg	08 13 32.1	-0.5
CDF	**Champ du Feu**	**0.86 345**		*e*Pn	Pn	08 13 32.7	-2.1
CDF				*e*Sg	Sg	08 13 42.9	-0.8
34nm,0.4s							
CDF				*e*Sn	Sn	08 13 44.7	-3.0
WILA	**Wila**	**0.90 100**		*e*P	Pg	08 13 33.6	+0.2
143nm,0.3s							
HAU	**Haudompre**	**0.94 297**		*e*Pg	Pg	08 13 33.6	-0.6
HAU				*e*Sg	Sg	08 13 46.1	-0.4
32nm,0.3s							
CABF	**La Chapelle**	**1.42 227**		*e*Pn	Pn	08 13 40.9	-1.6
CABF				*e*Sg	Sg	08 13 59.9	-1.8
5.1nm,0.2s							
SFTF	**Sexfontaines**	**1.83 291**		*e*Sn	Sn	08 14 08.1	-3.6
SFTF				*e*Sg	Sg	08 14 13.6	-1.4
3.5nm,0.2s							
MEZF	**Maizieres J'vi**	**1.94 299**		*e*Sn	Sn	08 14 11.1	-3.3
MEZF				*e*Sg	Sg	08 14 16.7	-1.8
4.3nm,0.3s							
LPG	**La Plagne**	**2.17 196**		*e*Pg	Pg	08 13 56.9	-0.7
LPG				*e*Sg	Sg	08 14 24.1	-1.6
2.2nm,0.4s							
LOR	**Lormes**	**2.56 264**		*e*Pn	Pn	08 13 56.0	-2.2
LOR	**Lormes**	**2.56 264**		*e*Pg	Pg	08 14 03.2	-2.0
LOR				*e*Sg	Sg	08 14 35.3	-3.0
3.9nm,0.2s							
SMF	**Signal de Mont**	**2.73 251**		*e*Pg	Pg	08 14 06.5	-2.0
SMF				*e*Sg	Sg	08 14 40.8	-3.1
3.8nm,0.3s							
SSF	**Saint Saulge**	**2.83 261**		*e*Pg	Pg	08 14 09.0	-1.4
SSF				*e*Sg	Sg	08 14 44.6	-2.5
1.6nm,0.3s							

*BJI **09** 08:26:37.0, 12.65N×121.56E, h15km, mB5.0, mb4.6, Ms4.2, Msz4.0*
*IDC **09** 08:26:40.8±0.7, 13.39N×121.42E, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.2/23, mbtmp4.2/13, MS4.0/14, Ms1 4.0/14, ms1mx3.8/24, Error ellipse: s-maj=31.5km s-min=11.2km az=67.0*
*MAN **09** 08:26:42.4, 13.43N×121.51E, h0km, mb4.6, ML5.3, MS1.6*
*NEIC **09** 08:26:43.0±0.4, 13.37N×121.53E, h15km, mb4.9/10, Error ellipse: s-maj=12.8km s-min=6.5km az=64.0*
NEIC Felt [IV PIVS] at Boac, Marinduque. Felt [III PIVS] at Batangas and [II PIVS] at Lipa, Luzon.
*MOS **09** 08:26:43.8±1.4, 13.49N×121.69E, h33km, mb4.9/15, Error ellipse: s-maj=16.5km s-min=8.4km az=118.5*
*ISCJB **09** 08:26:45.7±0.3, 13.43N±0.02×121.52E±0.03, h49km±4km, mb4.6/41, MS4.0/18, Error ellipse: s-maj=4.9km s-min=3.6km az=168.0*

ISC 09 08:26:44.4±0.7, 13.45N±0.02×121.55E±0.03, h19km±4km, n96, σ1.5s 23/106, mb4.6/41, MS4.0/18, 12C-6D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.28 88**		*e*P	**Pg**	**08 26 49.4**	**-1.3**
BOAC				*e*S	**Sg**	**08 26 54.7**	**-0.3**
TGY	**Tagaytay City**	**0.88 318**		Pn	**Pn**	**08 26 59.9**	**-1.9**
3μm,0.3s,baz=179,slow=1.7,SNR=199							
TGY				Sn	**Sn**	**08 27 12.8**	**-1.3**
6μm,0.3s,baz=205,slow=18,SNR=30							
OTRP	**Odiongan**	**1.17 157**		*e*P	**Pn**	**08 27 04.5**	**-1.2**
LUBP	**Lubang**	**1.30 283**		*e*P	**Pn**	**08 27 05.8**	**-1.8**
LUBP				*e*S	**Sn**	**08 27 24.4**	**0.0**
POLP	**Polilio Island**	**1.33 16**		*e*P	**Pn**	**08 27 06.6**	**-1.3**
POLP				*e*S	**Sn**	**08 27 25.2**	**+0.1**
BUSP	**Coron**	**1.95 223**		*e*P	**Pn**	**08 27 17.0**	**+0.6**
BUSP				*e*S	**Sn**	**08 27 42.1**	**+1.7**
RCP	**Roxas**	**2.21 148**	⇑	*e*P	**Pn**	**08 27 21.0**	**+1.0**
BALP	**Baler**	**2.28 1**		*e*P	**Pn**	**08 27 21.1**	**+0.1**
BALP				*e*S	**Sn**	**08 27 52.2**	**+3.6**
MMPH	**Masbate**	**2.29 118**		*e*P	**Pn**	**08 27 22.0**	**+0.8**
MMPH				*e*S	**Sn**	**08 27 51.0**	**+2.1**
CUYO	**Cuyo Island**	**2.63 191**		*e*P	**Pn**	**08 27 25.6**	**-0.2**
CUYO				*e*S	**Sn**	**08 27 57.2**	**0.0**
GUIM	**Jordan**	**2.98 160**		*e*P	**Pn**	**08 27 31.7**	**+1.0**
ENPP	**El Nido**	**3.05 223**		*e*P	**Pn**	**08 27 32.5**	**+0.9**
ENPP				*e*S	**Sn**	**08 28 06.8**	**-0.7**
BCPH	**Baguio City Da**	**3.06 342**	⇓	*i*P	**Pn**	**08 27 33.0**	**+1.2**
BCPH				*i* S	**Sg**	**08 28 23.0**	**+0.2**
BOLP	**Bolinao**	**3.32 332**		*e*P	**Pn**	**08 27 35.9**	**+0.6**
CAUP	**Cauayan**	**3.49 4**		*e*P	**Pn**	**08 27 39.6**	**+2.0**
PALP	**Palanan**	**3.69 13**		*e*P	**Pn**	**08 27 43.0**	**+2.6**
PALP				*e*S	**Sn**	**08 28 27.8**	**+4.3**
LLP	**Lapu-Lapu**	**3.91 143**	⇓	*e*P	**Pn**	**08 27 45.1**	**+1.7**
LLP				*e*S	**Sn**	**08 28 35.0**	**+6.3**
CVP	**Callao Caves**	**4.24 3**		*e*P	**Pn**	**08 27 50.0**	**+2.0**
SNPH	**Sibulan**	**4.40 158**		*e*P	**Pn**	**08 27 54.0**	**+3.9**
PPR	**Puerto Princes**	**4.58 217**	⇓	*i*P	**Pn**	**08 27 54.5**	**+1.9**
PPR				*i* S	**Sn**	**08 28 45.4**	**+0.1**
BATP	**Bataraza**	**5.91 219**		*e*P	**Pn**	**08 28 13.3**	**+2.4**
QIZ	**Qiongzhong**	**12.54 298**		P	**Pn**	**08 29 46.1**	**+4.4**
QIZ				S	**Sn**	**08 32 02.6**	**+1.8**
QIZ				AMB	AMB		
comp=Z,31nm,1.4s							
QIZ				AMB	AMB		
comp=Z,166nm,4.1s							
QIZ				LR	LR		
comp=N,622nm,14.9s							
QIZ				LR	LR		
comp=E,597nm,17.1s							
QIZ				LR	LR		
comp=Z,701nm,16.9s							
QIZ	**Qiongzhong**	**12.54 298**		P	**Pn**	**08 29 42.6**	**+0.9**
comp=Z,41nm,1.3s							
KSM	**Kuching**	**16.29 224**		*e*Pn	**Pn**	**08 30 28.6**	**-3.5**
SSE	**Sheshan**	**17.57 359**		*e*P	**Pn**	**08 30 50.2**	**+2.0**
SSE				AMB	AMB		
comp=Z,35nm,0.8s							
SSE				AMB	AMB		
comp=Z,136nm,3.5s							
SSE				LR	LR		
comp=N,185nm,24.4s							
SSE				LR	LR		
comp=E,267nm,24.4s							
SSE				LR	LR		
comp=Z,235nm,20.3s							
GYA	**Guiyang**	**19.04 315**	⇑	*i*P	**Pn**	**08 31 07.1**	**+1.0**
GYA				AMB	AMB		
comp=Z,10.0nm,1.2s							
GYA				AMB	AMB		
comp=Z,210nm,5.1s							
NANT	**Nan**	**20.72 288**	⇓	P	**P**	**08 31 22.0**	**-1.6**
comp=Z,294nm,0.8s							
JNU	**Nakatsue**	**21.35 22**		LR	LR	08 39 27.8	
comp=Z,452nm,19.5s,MS3.9,baz=253,slow=36							
CHG	**Chiang Mai**	**22.36 287**	⇑	P	**P**	**08 31 42.8**	**+1.6**
comp=Z,13nm,0.8s,mb4.4							
CHTO	**Chiang Mai**	**22.36 287**		*e*P	**P**	**08 31 42.9**	**+1.7**
CHTO				pmax	pmax		
comp=Z,11nm,0.9s,mb4.3							
CHTO	**Chiang Mai**	**22.36 287**		*e*P	**P**	**08 31 42.9**	**+1.7**
comp=Z,11nm,0.9s,mb4.3							
GUMO	**Guam**	**22.67 87**		LR	LR	08 39 52.8	
comp=Z,173nm,18.2s,MS3.5,baz=264,slow=35							
XAN	**Xi'an**	**23.49 333**		P	**P**	**08 31 52.5**	**-0.7**
XAN				AP		08 31 59.8	
XAN				AMB	AMB		
comp=Z,9.0nm,2.1s,mb3.8							
CBIJ	**Chichi jima**	**23.59 52**		LR	LR	08 40 59.1	
comp=Z,170nm,18.4s,MS3.5,baz=310,slow=36							
KSRS	**Korea Array**	**24.57 12**		P	**P**	**08 32 03.5**	**+0.4**
comp=Z,3.7nm,0.9s,mb3.9,baz=196,slow=10,SNR=4.4							
KSRS				LR	LR	08 41 27.0	
comp=Z,206nm,20.5s,MS3.6,baz=198,slow=36							
PSI	**Prapat**	**24.74 247**		P	**P**	**08 32 04.2**	**-0.4**
comp=Z,10nm,1.0s,mb4.3,baz=157,slow=15,SNR=6.5							
PSI				LR	LR	08 41 15.4	

FORT Forrest 44.41 172 *eP* **P 08 34 52.8 -1.1**
comp=N,24nm,0.6s,mb5.1
MKAR Makanchi Array 46.73 323 P **P 08 35 11.5 -0.7**
comp=N,0.6nm,0.4s,mb3.9,baz=123,slow=8.5,SNR=12
MKAR LR LR 08 57 51.5
comp=N,81nm,18.6s,MS3.7,baz=120,slow=40
MKAR Makanchi Array 46.73 323⇑ *eP* **P 08 35 13.3 +1.1**
YAK Yakutsk 48.86 5⇑ *eP* **P 08 35 27.5 -1.2**
YAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
STKA Stephens Creek 48.99 157⇑ *iP* **P 08 35 29.3 -0.4**
comp=Z,6.6nm,0.6s,mb4.8
STKA Stephens Creek 48.99 157 P **P 08 35 28.8 -0.9**
comp=Z,8.3nm,0.7s,mb4.9,baz=331,slow=7.8,SNR=17
PET Petropavlovsk 49.24 29⇑ *eP* **P 08 35 28.6 -3.0**
PET pmax pmax
comp=Z,33nm,1.5s,mb5.1
ZAL Zalesovo 49.66 332 P **P 08 35 34.2 -0.6**
comp=Z,1.2nm,0.5s,mb4.2,baz=39,slow=6.5,SNR=3.5
ZAL LR LR 08 58 24.0
comp=Z,192nm,18.4s,MS4.1,baz=55,slow=38
ZAL Zalesovo 49.66 332 P **P 08 35 34.2 -0.6**
ZAL LR LR 08 58 24.1
AAK Ala-Archa 49.83 315⇑ *eP* **P 08 35 35.7 -0.4**
AAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
KURK Kurchatov 50.86 326 *eP* **P 08 35 43.4 -0.5**
KURK pmax pmax
comp=Z,18nm,0.8s,mb5.0
KURK Kurchatov 50.86 326 *eP* **P 08 35 43.4 -0.5**
comp=Z,18nm,0.8s,mb5.0
NVS Novosibirsk 50.95 332 *eP* **P 08 35 39.7 -4.9**
NVS pmax pmax
comp=Z,22nm,2.5s,mb4.6
NVS pmax pmax
comp=N,17nm,2.0s
BVAR Borovoye Array 56.45 326 P **P 08 36 23.8 -1.0**
comp=N,1.5nm,0.6s,mb4.2,baz=117,slow=9.0,SNR=8.9
BRVK Borovoye 56.52 326 *eP* **P 08 36 25.0 -0.4**
BRVK pmax pmax
comp=Z,21nm,1.2s,mb5.0
BRVK Borovoye 56.52 326 *eP* **P 08 36 25.0 -0.4**
comp=Z,21nm,1.2s,mb5.0
CHKZ Chkalovo 56.60 326 *eP* **P 08 36 25.1 -0.8**
CHKZ pmax pmax
comp=Z,16nm,1.4s,mb4.9
CHKZ Chkalovo 56.60 326 *eP* **P 08 36 25.1 -0.9**
comp=Z,16nm,1.4s,mb4.8
TIXI Tiksi 58.34 3 *eP* **P 08 36 34.3 -3.9**
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,149nm,15.0s,MS4.2
TIXI Tiksi 58.34 3 *eP* **P 08 36 37.7 -0.5**
comp=Z,19nm,1.2s,mb5.0
BILL Bilibino 61.70 17⇑ *eP* **P 08 37 00.2 -1.0**
BILL *eS* **S 08 45 17.8 -5.2**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
ARU Arti 64.05 327⇓ *iP* **P 08 37 15.5 -1.4**
ARU *e* 08 37 48.2
ARU *eS* **S 08 45 45.0 -7.4**
ARU *eSS* SS 08 49 55.1 -6.2
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
KIV Kislovodsk 72.81 312⇑ *eP* **P 08 38 13.6 +1.9**
KIV *e* 08 40 50.5
KIV *eS* S 08 47 26.9 -10
KIV pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
OBN Obninsk 76.23 324⇑ *eP* **P 08 38 30.9 -0.7**
OBN *eS* S 08 48 08.7 -6.3
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
ARCES ARCESS Array B 79.61 339 P **P 08 38 49.1 -1.3**
comp=Z,3.2nm,0.9s,mb4.2,baz=174,slow=38,SNR=3.2
ARCES LR LR 09 16 47.2
comp=Z,107nm,18.2s,MS4.2,baz=263,slow=38
BRTR Keskin Array B 79.96 308⇑ *eP* **P 08 38 52.2 0.0**
FINES FINESS Array B 80.91 331 LR LR 09 18 53.5
comp=Z,95nm,18.9s,MS4.2,baz=0.0,slow=39
NB2 NORSAR Subarra 87.86 333 P **P 08 39 29.7 -2.9**
comp=Z,3.4nm,1.0s,mb4.5,baz=67,slow=4.8
NOA NORSAR Array B 87.86 333 LR LR 09 21 24.8
comp=Z,103nm,18.8s,MS4.3,baz=195,slow=37
RES Resolute Bay 89.15 9 *eP* **P 08 39 43.9 +5.2**
comp=Z,427nm,1.4s
GERES GERESS Array B 91.35 321 P **P 08 39 49.2 +0.3**
comp=Z,0.3nm,0.4s,mb4.0,baz=248,slow=30,SNR=3.4
GERES LR LR 09 26 26.4
comp=Z,94nm,19.6s,MS4.2,baz=269,slow=39
YKA Yellowknife Ar 92.69 23 P **P 08 39 55.6 +0.5**
comp=Z,0.7nm,0.8s,mb4.1,baz=305,slow=4.2,SNR=9.3
YKA LR LR 09 24 29.0
comp=Z,54nm,19.9s,MS4.0,baz=340,slow=37
PPT Papeete 92.93 107 LR LR 09 14 39.6
comp=Z,135nm,19.7s,MS4.4,baz=257,slow=31
TXAR Lajitas Array 119.07 45 PKP PKPdf 08 45 32.1 +0.2
comp=Z,0.3nm,0.7s,baz=64,slow=1.4,SNR=3.2

NEIC ***09*** *08:48:39.6±1.1, 47.31°N×153.86°E, h10km, mb4.1/2, Error ellipse: s-maj=25.9km s-min=15.2km az=118.0*
ISCJB ***09*** *08:48:46.3±1.1, 47.22°N±0.08°×153.3°E±0.1, h62km±10km, mb3.8/12, Error ellipse: s-maj=17.3km s-min=6.7km az=95.5*
MOS ***09*** *08:48:47.7±1.3, 47.28°N×153.06°E, h75km, mb4.2/9, Error ellipse: s-maj=18.6km s-min=10.6km az=54.3*
IDC ***09*** *08:48:55.1±3.7, 47.36°N×152.84°E, h121km±34km, mb3.5/11, mb1 3.7/12, mb1mx3.5/24, mbtmp3.5/12, MS3.5/3, Ms1 3.5/3, ms1mx3.1/24, Error ellipse: s-maj=22.6km s-min=15.3km az=123.0*
ISC 09 08:48:48.2±1.0, 47.24°N±0.09°×153.3°E±0.1, h67km±9km, n40, σ19.28/43, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.93**	**28**	*e*PN		**Pn**	**08 49 46.2**	**+0.1**
SKR				*e*S		**Sn**	**08 50 30.5**	**-0.4**
SKR				pmax		pmax		
	comp=Z,50nm,0.5s							
SKR				smax				
	comp=N,170nm,0.5s							
SKR				smax				
	comp=E,150nm,0.5s							
KUR	**Kuril'sk**	**4.24**	**244**	*e*PN		**Pn**	**08 49 48.5**	**-1.8**
KUR				*e*S		**Sn**	**08 50 38.8**	**+0.4**
KUR				pmax		pmax		
	comp=Z,220nm,0.8s							
KUR				smax				
	comp=N,320nm,0.8s							
KUR				smax				
	comp=E,470nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**6.09**	**241**	PN		**Pn**	**08 50 14.5**	**-1.1**
YUK				pmax		pmax		
	comp=Z,190nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.17**	**272**	*e*PN		**Pn**	**08 50 32.5**	**+2.2**
YSS				*e*S		**Sn**	**08 51 53.0**	**+2.7**
YSS				pmax		pmax		
	comp=Z,20nm,0.6s							
YSS				smax				
	comp=E,30nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.17**	**272**	Pn		**Pn**	**08 50 32.4**	**+2.0**
	comp=E,14nm,0.5s							
ASAJ	**Asahikawa**	**8.09**	**251**	P		**Pn**	**08 50 46.4**	**+3.5**
	comp=E,1.3nm,0.3s,baz=79,slow=16,SNR=11							
ASAJ	**Asahikawa**	**8.09**	**251**	PN		**Pn**	**08 50 46.4**	**+3.5**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	**8.89**	**238**	*e*Pn		**Pn**	**08 50 53.1**	**-0.7**
ERM				*e*Sn		**Sn**	**08 52 27.0**	**-5.4**
KLR	**Kul'dur**	**14.46**	**286**	*e*P		**Pn**	**08 52 14.2**	**+4.9**
MAJO	**Matsushiro**	**15.45**	**232**	*e*P		**Pn**	**08 52 26.7**	**+4.6**
MAJO				pmax		pmax		
	comp=Z,12nm,1.0s							
MAJO	**Matsushiro**	**15.45**	**232**	*e*P		**Pn**	**08 52 26.7**	**+4.6**
	comp=Z,12nm,1.0s							
MAT	**Matsushiro**	**15.45**	**232**	P		**Pn**	**08 52 27.0**	**+4.9**
MJAR	**Matsushiro Arr**	**15.45**	**232**	P		**Pn**	**08 52 20.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=17,slow=12,SNR=4.9							
KSRS	**Korea Array**	**21.04**	**252**	P		**P**	**08 53 27.8**	**+1.3**
	comp=Z,1.9nm,0.8s,mb3.5,baz=57,slow=10,SNR=2.9							
KSRS				LR		LR	09 00 13.0	
	comp=Z,42nm,20.8s,baz=50,slow=32							
COLA	**College**	**35.70**	**39**	*e*P		**P**	**08 55 45.8**	**+5.7**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
INK	**Inuvik**	**41.19**	**33**	P		**P**	**08 56 27.9**	**+1.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=291,slow=7.4,SNR=19							
INK	**Inuvik**	**41.19**	**33**	P		**P**	**08 56 27.9**	**+1.7**
INK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**41.19**	**33**	P		**P**	**08 56 27.9**	**+1.7**
MKAR	**Makanchi Array**	**46.80**	**297**	P		**P**	**08 57 10.0**	**-1.1**
	comp=Z,0.5nm,0.9s,mb3.3,baz=27,slow=26,SNR=3.5							
MKAR				PcP		PcP	08 58 42.2	-1.1
	comp=Z,0.5nm,0.5s,baz=57,slow=1.6,SNR=7.4							
MKAR				LR		LR	09 17 50.5	
	comp=Z,53nm,18.6s,baz=345,slow=37							
MKAR	**Makanchi Array**	**46.80**	**297**	P		**P**	**08 57 10.0**	**-1.1**
MKAR				PcP		PcP	08 58 42.2	-1.1
MKAR				LR		LR	09 17 50.5	
CHKZ	**Chkalovo**	**50.19**	**310**	*e*P		**P**	**08 57 37.2**	**+0.1**
CHKZ				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.2							
CHKZ	**Chkalovo**	**50.19**	**310**	*e*P		**P**	**08 57 37.2**	**+0.1**
	comp=Z,3.9nm,1.2s,mb4.2							
YKA	**Yellowknife Ar**	**50.48**	**37**	P		**P**	**08 57 40.2**	**+0.9**
	comp=Z,1.9nm,0.9s,mb4.0,baz=298,slow=7.3,SNR=15							
YKA				PcP		PcP	08 58 57.0	+0.4
	comp=Z,0.1nm,0.4s,baz=303,slow=3.7,SNR=5.4							
YKA	**Yellowknife Ar**	**50.48**	**37**	P		**P**	**08 57 40.2**	**+0.9**
YKA							08 58 57.0	
YKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**50.48**	**37**	P		**P**	**08 57 40.2**	**+0.9**
YKA				PcP		PcP	08 58 57.0	+0.4
FINES	**FINESS Array B**	**63.64**	**335**	P		**P**	**08 59 11.4**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.0,baz=32,slow=7.5,SNR=15							
FINES	**FINESS Array B**	**63.64**	**335**	*i*P		**P**	**08 59 11.8**	**-0.5**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**67.79**	**341**	P		**P**	**08 59 38.2**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.7,baz=8.7,slow=5.8,SNR=3.3							
NOA	**NORSAR Array B**	**67.79**	**341**	P		**P**	**08 59 38.2**	**-0.8**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**69.00**	**199**	P		**P**	**08 59 46.5**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=17,slow=6.9,SNR=5.3							
AKASG	**Malin Array Be**	**71.19**	**326**	P		**P**	**08 59 58.8**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=36,slow=6.7,SNR=4.3							
AKASG	**Malin Array Be**	**71.19**	**326**	P		**P**	**08 59 58.8**	**-1.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**72.70**	**199**	P		**P**	**09 00 10.6**	**+1.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=13,slow=5.2,SNR=16							
ASAR	**Alice Springs**	**72.70**	**199**	P		**P**	**09 00 10.6**	**+1.6**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SCHQ	**Schefferville**	**72.82**	**23**	LR		LR	09 31 40.8	
	comp=Z,100nm,21.0s,baz=290,slow=35							
TXAR	**Lajitas Array**	**77.17**	**61**	P		**P**	**09 00 36.6**	**+1.8**
	comp=Z,0.6nm,0.5s,mb3.6,baz=291,slow=5.0,SNR=17							
TXAR	**Lajitas Array**	**77.17**	**61**	P		**P**	**09 00 36.6**	**+1.8**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KHC	**Kasperske Hory**	**77.84**	**334**	*e*P		**P**	**09 00 37.5**	**-1.0**
GERES	**GERESS Array B**	**78.06**	**334**	P		**P**	**09 00 38.2**	**-1.5**
	comp=Z,0.7nm,0.6s,mb3.5,baz=75,slow=1.5,SNR=4.4							
GERES	**GERESS Array B**	**78.06**	**334**	P		**P**	**09 00 38.2**	**-1.5**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							

STR ***09*** *08:53:44.4±0.7, 47.56°N×156.6°E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***09*** *08:53:45.2±0.2, 47.58°N×159.9°E, h9km, Md1.9/3, Ml2.0/5, Error ellipse: s-maj=3.6km s-min=2.1km az=113.0*
ZUR 09 08:53:44.8, 47.58°N×160.8°E, h4km±1km, ML1.2, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i*Pg		Pg	08 53 51.8	+0.2
	42nm,0.3s							
SULZ				*i*Sg		Sg	08 53 56.7	+0.5
	42nm,0.3s							
MOF	**Molkenrain**	**0.41**	**311**	Pg		Pg	08 53 52.7	-0.1
MOF				Sg		Sg	08 53 58.4	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg		Pg	08 53 55.4	-0.1
HINF				*e*Sg		Sg	08 54 02.5	-0.2
HINF				*e*Sn		Sg	08 54 06.1	+3.4
	6.2nm,0.2s							
ECH	**Echery**	**0.70**	**335**	Pg		Pg	08 53 58.5	+0.3
ECH				Sg		Sg	08 54 07.0	-0.3
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg		Pg	08 54 01.6	+0.3
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn		Pn	08 54 01.8	-1.8
CDF				*e*Sg		Sg	08 54 12.1	-0.3
	5.8nm,0.2s							
CDF				*e*Sn		Sn	08 54 13.7	-2.9
HAU	**Haudompre**	**0.94**	**297**	*e*Pg		Pg	08 54 02.5	-0.4
HAU				*e*Sg		Sg	08 54 15.4	+0.3
	6.6nm,0.2s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg		Pg	08 54 12.0	0.0
CABF				*e*Sg		Sg	08 54 29.2	-1.2
	1.8nm,0.3s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg		Sg	08 54 42.6	-1.1
	1.7nm,0.3s							
LOR	**Lormes**	**2.56**	**264**	*e*Pg		Pg	08 54 32.7	-1.1
LOR				*e*Sg		Sg	08 55 05.1	-1.9
	0.9nm,0.2s							

BJI ***09*** *09:24:41.1, 46.0°N×94.77°E, h30km, mB5.1, mb5.3, Ms4.7, Msz4.5*
SZGRF ***09*** *09:24:44.2, 48.6°N×95.34°E, h33km, mb5.5, Northern Sumatera, Indonesia*
MOS ***09*** *09:24:45.8±0.9, 5.17°N×94.82°E, h33km, mb5.7/88, Error ellipse: s-maj=8.7km s-min=4.0km az=124.0*
NEIC ***09*** *09:24:46.8±0.1, 5.08°N×94.75°E, h30km, mb5.5/91, Error ellipse: s-maj=6.1km s-min=3.3km az=208.0*
NEIC Felt [III] at Banda Aceh.
GCMT ***09*** *09:24:46.8±0.3, 4.80°N×94.59°E, h53km±1km, MW5.1/71, Moment Tensor Solution. s41,c62; s71,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.14±.23; Mθθ=-1.96±.17; Mφφ=-2.18±.20; Mrθ=1.77±.12; Mrφ=3.26±.14; Mθφ=-1.61±.15; Best double couple: M0=5.30700×10^16 NP1:φs=319.00000°, δ32.00000°, λ94.00000°. NP2: φs=134.00000°, δ58.00000°, λ87.00000°. Principal axes: T 4.7140, Plg76.0000°, Azm36.0000°; N 1.1860, Plg2.0000°, Azm135.0000°; P -5.9000, Plg13.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***09*** *09:24:46.2±0.2, 5.05°N±0.03°×94.79°E±0.02, h39km, mb5.3/175, MS4.3/75 Error ellipse: s-maj=4.9km s-min=3.4km az=28.3*
IDC ***09*** *09:24:49.8±1.8, 5.06°N×94.77°E, h57km±15km, mb4.7/25, mb1 4.8/26, mb1mx4.7/27, mbtmp4.7/26, MS4.2/29, Ms1 4.2/29, ms1mx4.0/50, Error ellipse: s-maj=14.2km s-min=9.5km az=44.0*
ISC 09 09:24:48.4±0.2, 5.07°N±0.03°×94.76°E±0.02, h41km, h41km±2.8km: pP-P, n508, σ0.93/483, mb5.3/175, MS4.3/75, 74C-15D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.72**	**118**	P		**Pn**	**09 25 59.7**	**+2.6**
	23nm,0.3s,baz=294,slow=9.7,SNR=56							
PSI				S		**Sn**	**09 26 54.5**	**+3.9**
	15nm,0.3s,baz=180,slow=13,SNR=7.8							
PSI				LR		LR	09 28 08.5	
	comp=Z,4μm,20.8s,baz=279,slow=42							
PSI	**Prapat**	**4.72**	**118**	P		**Pn**	**09 25 59.7**	**+2.6**
PSI				S		**Sn**	**09 26 54.5**	**+3.9**
PSI	**Prapat**	**4.72**	**118**	P		**Pn**	**09 25 59.7**	**+2.6**
PSI				S		**Sn**	**09 26 54.5**	**+3.9**
PSI				LR		LR	09 28 08.5	
KULM	**Kulim**	**5.87**	**88**	*e*Pn		**Pn**	**09 26 14.4**	**+1.6**
KULM				*e*Sn		**Sn**	**09 27 19.2**	**+0.4**
SNG	**Songkhla**	**6.19**	**70**	P		**Pn**	**09 26 19.0**	**+1.8**
	1μm,1.0s							
IPM	**Ipoh**	**6.27**	**95**	P		**Pn**	**09 26 19.5**	**+1.2**
PBA	**Port Blair**	**6.84**	**343**	*e*P		**Pn**	**09 26 26.2**	**+0.1**
PBA				AMb		AMB	09 26 47.1	
	comp=Z,192nm,1.0s							
PBA				*e*S		**Sn**	**09 27 38.0**	**-4.7**
NNT	**Nongplab**	**8.94**	**33**	P		**Pn**	**09 26 59.0**	**+4.1**
KGM	**Kluang**	**9.06**	**109**	P		**Pn**	**09 26 57.1**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**11.78**	**26**	P		**Pn**	**09 27 37.0**	**+3.2**
	comp=Z,100nm,0.6s							
KKTK	**Khon Kaen**	**13.71**	**35**	P		**Pn**	**09 28 09.0**	**+8.9**
	comp=Z,926nm,0.5s							
PALK	**Pallekele**	**14.15**	**280**	*e*Pn		**Pn**	**09 28 07.2**	**+1.1**
	comp=Z,19nm,1.0s							
CHG	**Chiang Mai**	**14.26**	**16**	⇑P		**Pn**	**09 28 09.9**	**+2.3**
	comp=Z,150nm,0.8s							
CHTO	**Chiang Mai**	**14.26**	**16**	⇑P		**Pn**	**09 28 11.0**	**+3.4**
	SNR=50							
CHTO	**Chiang Mai**	**14.26**	**16**	*e*P		**Pn**	**09 28 10.4**	**+2.8**
CHTO				pmax		pmax		
	comp=Z,121nm,0.9s							
CHTO	**Chiang Mai**	**14.26**	**16**	*e*Pn		**Pn**	**09 28 10.4**	**+2.8**
	comp=Z,121nm,0.9s							
NANT	**Nan**	**14.82**	**23**	⇑P		**Pn**	**09 28 16.0**	**+0.8**
	comp=Z,536nm,1.0s							
KSM	**Kuching**	**15.93**	**102**	*e*P		**Pn**	**09 28 31.6**	**+2.1**
MDRS	**Chennai**	**16.38**	**300**	*ex*		x	09 27 20.7	
VIS	**Vishakhapatnam**	**16.83**	**319**	*e*P		**Pn**	**09 28 41.0**	**+0.1**
VIS				AMb		AMB	09 28 46.0	
	comp=Z,34nm,0.5s							
VIS				*ex*		x	09 31 35.6	
SALM	**Salem**	**17.63**	**293**	*ex*		x	09 29 15.0	
SALM				*ex*		x	09 32 18.0	
TRD	**Trivandrum**	**18.00**	**282**	*e*P		**Pn**	**09 28 59.1**	**+3.7**
TRD				*i*x		x	09 32 30.4	
HYB	**Hyderabad**	**20.06**	**309**	*i*P		**P**	**09 29 20.0**	**+1.9**
	comp=Z,50nm,1.0s							
HYB				*e*S		**S**	**09 32 58.0**	**-3.2**
HYB	**Hyderabad**	**20.06**	**309**	*e*P		**P**	**09 29 20.0**	**+1.9**
HYB				pmax		pmax		
	comp=Z,50nm,1.0s							
QIZ	**Qiongzhong**	**20.22**	**45**	⇑P		**P**	**09 29 21.2**	**+1.4**
QIZ				XP		sP	09 29 36.6	+1.5
QIZ				PPP			09 29 58.8	
QIZ				S		**S**	**09 33 08.2**	**+3.7**
QIZ				SS			09 33 34.3	
QIZ				AMB		AMB		
	comp=Z,39nm,1.0s							
QIZ				LR		LR		
	comp=N,1μm,17.5s,MS4.4							
QIZ				LR		LR		
	comp=E,902nm,18.6s,MS4.4							
QIZ				LR		LR		
	comp=Z,1μm,18.4s,MS4.4							
QIZ	**Qiongzhong**	**20.22**	**45**	PFAKE			09 29 30.0	+10
QIZ				LR		LR		
	comp=Z,1μm,20.0s,MS4.3							
BOK	**Bokaro**	**20.49**	**336**	*e*P		**P**	**09 29 23.4**	**+0.7**
BOK				AMb		AMB	09 29 29.1	
	comp=Z,319nm,0.8s							
BOK				*ex*		x	09 33 03.8	
SHL	**Shillong**	**20.57**	**353**	*e*P		**P**	**09 29 21.0**	**-2.6**
SHL				AMb		AMB	09 29 24.3	
	comp=Z,2μm,1.2s							
SHL				*ex*		x	09 33 07.0	
KMI	**Kunming**	**21.36**	**20**	P		**P**	**09 29 34.4**	**+2.3**
KMI				XP		sP	09 29 46.9	-0.6
KMI				S		**S**	**09 33 26.0**	**-0.9**
KMI				SS			09 34 00.3	
KMI				AMB		AMB		
	comp=Z,65nm,1.1s,mb4.9							
KMI				LR		LR		
	comp=N,788nm,16.2s,MS4.5							
KMI				LR		LR		
	comp=E,1μm,15.2s,MS4.5							
KMI				LR		LR		
	comp=Z,1μm,22.8s							
KKM	**Kota Kinabalu**	**21.37**	**86**	P		**P**	**09 29 30.0**	**-2.3**
NGP	**Nagpur**	**22.09**	**318**	*e*P		**P**	**09 29 40.4**	**+0.5**
NGP				*ex*		x	09 29 58.7	
	comp=Z,402nm,1.5s							
NGP				*ex*		x	09 33 43.3	
TSM	**Tawau**	**23.05**	**91**	P		**P**	**09 29 47.8**	**-2.2**
AKL	**Akola**	**23.21**	**314**	*e*P		**P**	**09 29 55.0**	**+3.2**
AKL				AMb		AMB	09 29 57.7	
	comp=Z,92nm,1.2s,mb5.1							
KAD	**Karad**	**23.53**	**303**	*e*P		**P**	**09 29 56.2**	**+1.2**
ALBI	**Allahabad**	**23.65**	**330**	*e*P		**P**	**09 29 54.5**	**-1.5**
JIRN	**Jiri**	**23.90**	**341**	*e*P		**P**	**09 29 57.2**	**-1.1**
	comp=Z,26nm,0.2s,mb5.2							
PKI	**Pulchoki**	**24.08**	**339**	*e*P		**P**	**09 29 59.3**	**-0.7**
	comp=Z,118nm,0.9s,mb5.3							
GYA	**Guiyang**	**24.12**	**27**⇑	*i*P		**P**	**09 30 00.7**	**+0.4**
GYA				AP			09 30 10.3	
GYA				XP		sP	09 30 14.2	-2.1
GYA				PP			09 30 36.8	
GYA				PCP		PcP	09 33 43.6	+3.0
GYA				S		**S**	**09 34 15.3**	**0.0**
GYA				AMB		AMB		
	comp=Z,290nm,0.8s,mb5.8							
GYA				AMB		AMB		
	comp=Z,170nm,5.1s							
GYA				LR		LR		
	comp=N,1μm,16.1s,MS4.6							
GYA				LR		LR		
	comp=E,980nm,15.0s,MS4.6							
GYA				LR		LR		
	comp=Z,2μm,16.4s,MS4.6							
DMN	**Daman**	**24.23**	**339**	*e*P		**P**	**09 30 01.0**	**-0.3**
	comp=Z,170nm,0.8s,mb5.5							
GUN	**Gumba**	**24.23**	**341**	*e*P		**P**	**09 30 00.5**	**-0.8**
	comp=Z,234nm,0.8s,mb5.7							
KKN	**Kakani**	**24.33**	**339**	*e*P		**P**	**09 30 01.4**	**-0.8**
	comp=Z,353nm,1.1s,mb5.7							
POO	**Poona**	**24.41**	**305**⇑	*i*x		**P**	**09 30 01.0**	**-1.9**
	comp=Z,90nm,1.0s,mb5.2							
POO				*i*x		x	09 34 34.0	
BHPL	**Bhopal**	**24.62**	**319**	*e*P		**P**	**09 30 05.2**	**+0.3**
BHPL				AMb		AMB	09 30 09.1	
	comp=Z,58nm,1.0s,mb5.0							
LSA	**Lhasa**	**24.73**	**352**	P		**P**	**09 30 07.4**	**+1.5**
LSA				AP			09 30 15.9	
LSA				XP		sP	09 30 19.2	-2.7
LSA				S		**S**	**09 34 29.8**	**+4.6**
LSA				AMB		AMB		
	comp=Z,150nm,0.7s,mb5.6							
LSA				LR		LR		
	comp=N,340nm,27.9s							
LSA				LR		LR		
	comp=Z,660nm,28.8s,MS4.0							
LSA	**Lhasa**	**24.73**	**352**	*e*P		**P**	**09 30 06.3**	**+0.4**
LSA				pmax		pmax		
	comp=Z,104nm,0.6s,mb5.5							
LSA				MLR		MLR		
	comp=Z,529nm,20.0s,MS4.0							
LSA	**Lhasa**	**24.73**	**352**	*e*P		**P**	**09 30 06.3**	**+0.4**
	comp=Z,104nm,0.6s,mb5.5							
LSA				LR		LR		
	comp=Z,529nm,20.0s,MS4.0							
GKN	**Gorkha**	**24.75**	**338**	*e*P		**P**	**09 30 06.4**	**+0.3**
	comp=Z,313nm,0.8s,mb5.9							
KOLN	**Koldanda**	**24.95**	**336**	*e*P		**P**	**09 30 08.6**	**+0.8**
	comp=Z,392nm,0.7s,mb6.0							
BOM	**Bombay**	**25.44**	**305**	*ex*		x	09 30 37.5	
BOM				*ex*		x	09 30 41.5	
	comp=

NDI AMb AMB 09 30 43.4
comp=Z,33nm,1.1s,mb5.0
WHN Wuhan 31.34 34 ⇑P **P 09 31 04.5 -0.4**
WHN LR LR
comp=Z,4μm,14.4s,MS5.2
XAN Xi'an 31.68 23 P **P 09 31 07.3 -0.6**
XAN AP pP 09 31 19.7 +0.6
XAN AMB AMB
comp=Z,178nm,0.9s,mb5.9
LZH Lanzhou 31.98 14 ⇑P **P 09 31 10.0 -0.5**
LZH PP PP 09 32 17.0 -6.2
LZH PCP PcP 09 34 00.1 +0.3
LZH *e*S **S 09 36 19.0 -0.2**
LZH PCS PcS 09 37 43.5 -1.0
LZH AMB AMB
comp=Z,63nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,170nm,4.0s
LZH LR LR
comp=E,560nm,14.0s
LZH LR LR
comp=Z,750nm,15.1s,MS4.5
GTA Gaotai 34.49 7 ⇑P **P 09 31 32.4 0.0**
GTA PP PP 09 32 48.9 -2.1
GTA PCP PcP 09 34 07.7 +0.8
GTA S **S 09 36 58.7 +0.6**
GTA SCP ScP 09 37 48.4 -0.3
GTA SCS ScS 09 41 50.5 -1.1
GTA AMB AMB
comp=Z,83nm,1.0s,mb5.6
GTA AMB AMB
comp=Z,109nm,4.9s
GTA LR LR
comp=N,328nm,17.5s,MS4.3
GTA LR LR
comp=E,345nm,19.4s,MS4.3
GTA LR LR
comp=Z,395nm,19.4s,MS4.2
SSE Sheshan 35.87 41 *e*P **P 09 31 44.1 -0.2**
SSE S **S 09 37 21.1 +1.8**
SSE XS sS 09 37 39.2 +1.1
SSE AMB AMB
comp=Z,55nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,203nm,4.2s
SSE LR LR
comp=N,125nm,20.4s,MS4.1
SSE LR LR
comp=E,302nm,20.5s,MS4.1
SSE LR LR
comp=Z,419nm,21.1s,MS4.2
BTO Baotou 37.94 19 *e*P **P 09 32 00.8 -1.1**
FITZ Fitzroy Crossi 38.18 128 ⇑*i*P **P 09 32 02.4 -1.5**
comp=Z,21nm,0.8s,mb4.9
FITZ Fitzroy Crossi 38.18 128 P **P 09 32 02.4 -1.5**
comp=Z,15nm,0.9s,mb4.7,baz=325,slow=8.7,SNR=16
FITZ PcP PcP 09 34 18.1 +0.2
comp=Z,4.9nm,0.8s,baz=347,slow=2.2,SNR=3.1
FITZ LR LR 09 48 22.5
comp=Z,240nm,18.4s,MS4.0,baz=303,slow=37
KSH Kashi 38.27 336 P **P 09 32 05.5 +0.9**
KSH AP pP 09 32 15.2 -0.8
KSH PP PP 09 33 36.8 +4.2
KSH PPP 09 33 58.5
KSH PCP PcP 09 34 20.9 +2.7
KSH S **S 09 37 56.2 +0.4**
KSH PCS PcS 09 38 07.2 0.0
KSH SCS ScS 09 42 12.5 0.0
KSH AMB AMB
comp=Z,196nm,1.0s,mb5.8
KSH LR LR
comp=N,594nm,5.5s
KSH LR LR
comp=E,785nm,5.3s
JOW Kunigami 38.60 52 P **P 09 32 08.0 +0.6**
comp=E,47nm,0.7s,mb5.3,baz=271,slow=9.8,SNR=5.1
JOW LR LR 09 47 52.2
comp=E,458nm,20.9s,MS4.3,baz=36,slow=36
HHC Hu-ho-hao-te 38.68 21 *i*P **P 09 32 08.9 +0.8**
HHC AP pP 09 32 17.8 -1.7
HHC PP PP 09 33 42.9 +5.7
HHC PCP PcP 09 34 19.7 +0.2
HHC S **S 09 38 05.7 +3.6**
HHC SS SS 09 40 47.4 -6.1
HHC AMB AMB
comp=Z,64nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,310nm,4.2s
HHC LR LR
comp=N,801nm,22.6s
HHC LR LR
comp=E,577nm,16.6s
HHC LR LR
comp=Z,835nm,23.8s,MS4.5
WMQ Urumqi 39.09 352 P **P 09 32 11.9 +0.3**
WMQ PP PP 09 33 46.4 +4.8
WMQ PPP 09 34 09.1
WMQ PCP PcP 09 34 21.3 +0.5
WMQ S **S 09 38 09.0 +0.8**
WMQ SCS ScS 09 42 16.9 -0.4
WMQ AMB AMB
comp=Z,44nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,342nm,3.2s
WMQ LR LR
comp=N,270nm,11.0s,MS4.4
WMQ LR LR
comp=E,252nm,15.0s,MS4.4
WMQ LR LR
comp=Z,296nm,28.0s
BJT Baijiatuau 39.78 26 *e*P **P 09 32 18.7 +1.4**
BJT pmax pmax
comp=Z,232nm,1.1s
BJT MLR MLR
comp=Z,741nm,20.0s
BJT Baijiatuau 39.78 26 *e*P **P 09 32 18.7 +1.4**
comp=Z,232nm,1.1s,mb5.8
BJT LR LR
comp=Z,741nm,20.0s,MS4.5
BJI Beijing 39.80 26 P **P 09 32 18.6 +1.1**
BJI PP PP 09 33 49.6 +0.2
BJI S **S 09 38 18.9 0.0**
BJI AMB AMB
comp=Z,167nm,0.9s,mb5.8
BJI AMB AMB
comp=Z,283nm,3.9s
BJI LR LR
comp=N,243nm,21.6s,MS4.4
BJI LR LR
comp=E,578nm,21.6s,MS4.4
BJI LR LR
comp=Z,667nm,23.3s,MS4.4
MSEY Mahe Island 40.41 257 PFAKE 09 32 30.0 +7.5
MSEY LR LR
comp=Z,176nm,21.0s,MS3.9
ULHL Ulahol 40.52 339 P **P 09 32 24.6 +1.1**
SNR=19
KZA Kyzart 40.74 338 P **P 09 32 26.8 +1.5**
SNR=19
UCH Uchtor 41.16 337 P **P 09 32 29.7 +1.0**
SNR=104
TKM2 Tokmak 2 41.34 339 P **P 09 32 31.2 +1.0**
SNR=26
TKM2 Tokmak 2 41.34 339 P **P 09 32 30.5 +0.3**
TKM2 pmax pmax
comp=Z,50nm,1.2s,mb5.0
KBK Karagaybulak 41.35 338 P **P 09 32 31.8 +1.5**
SNR=44
AML Almayashu 41.40 336 P **P 09 32 32.1 +1.5**
SNR=105
KAKA Kakadu 41.40 116 ⇓*i*P **P 09 32 29.2 -1.4**
comp=Z,15nm,0.8s,mb4.7
AAK Ala-Archa 41.51 337 P **P 09 32 32.9 +1.3**
SNR=55
AAK Ala-Archa 41.51 337 P **P 09 32 31.7 +0.1**
comp=Z,284nm,0.8s,mb6.0,SNR=35
AAK Ala-Archa 41.51 337 P **P 09 32 32.3 +0.7**
SNR=18
AAK Ala-Archa 41.51 337 ⇑*e*P **P 09 32 31.8 +0.2**
AAK pmax pmax
comp=Z,59nm,1.3s,mb5.1
AAK MLR MLR
comp=Z,300nm,22.0s,MS4.1
AAK Ala-Archa 41.51 337 *e*P **P 09 32 31.8 +0.3**
comp=Z,39nm,0.8s,mb5.1
AAK LR LR
comp=Z,62nm,19.0s,MS3.5
DL2 Dalian 41.56 32 P **P 09 32 33.0 +1.0**
DL2 *e*S **S 09 38 48.9 +3.8**
DL2 AMB AMB
comp=Z,80nm,0.8s,mb5.4
DL2 LR LR
comp=N,360nm,14.1s,MS4.5
DL2 LR LR
comp=E,310nm,14.0s,MS4.5
DL2 LR LR
comp=Z,400nm,15.9s,MS4.4
FRU Bishkek 41.63 338 ⇑*e*P **P 09 32 33.0 +0.4**
FRU *e* pP 09 32 47.0 +3.0
FRU pmax pmax
comp=Z,270nm,2.6s,mb5.4
CHMS Chumysh 41.72 338 P **P 09 32 34.0 +0.7**
SNR=14
EKS2 Erkin-Say 41.81 337 P **P 09 32 35.4 +1.3**
SNR=41
USP Ospenovka 42.05 338 P **P 09 32 36.7 +0.7**
SNR=83
MKAR Makanchi Array 42.94 347 P **P 09 32 43.2 0.0**
comp=Z,75nm,0.7s,mb5.5,baz=166,slow=8.2,SNR=416
MKAR PcP PcP 09 34 35.0 +1.7
comp=Z,3.8nm,0.8s,baz=142,slow=4.9,SNR=2.6
MKAR LR LR 09 54 24.6
comp=Z,89nm,20.9s,MS3.6,baz=158,slow=41
MKAR Makanchi Array 42.94 347 *i*P **P 09 32 43.2 0.0**
MKAR pmax pmax
comp=Z,91nm,0.9s
NWAO Narrogin (SRO) 43.39 152 P **P 09 32 47.2 +0.3**
comp=Z,5.6nm,0.8s,mb4.3,baz=341,slow=18,SNR=3.1
NWAO LR LR 09 51 15.4
comp=Z,239nm,18.1s,MS4.1,baz=242,slow=36
NWAO Narrogin (SRO) 43.39 152 P **P 09 32 47.2 +0.3**
NWAO LR LR 09 51 15.4
INCN Inchon 43.43 38 *e*P **P 09 32 46.7 -0.5**
comp=Z,62nm,0.9s,mb5.3
INCN LR LR
comp=Z,898nm,19.0s,MS4.7
KKAR Karatay Array 43.53 334 P **P 09 32 47.5 -0.5**
KKAR pmax pmax
comp=Z,50nm,1.0s,mb5.2
JNU Nakatsue 43.69 46 P **P 09 32 49.5 +0.3**
comp=Z,32nm,0.8s,mb5.1,baz=266,slow=23,SNR=5.7
JNU LR LR 09 52 52.4
comp=Z,1μm,18.1s,MS4.8,baz=0.7,slow=38
SONM Songino Array 43.76 11 P **P 09 32 49.3 -0.5**
comp=Z,35nm,0.8s,mb5.2,baz=190,slow=8.4,SNR=254
SONM PcP PcP 09 34 36.1 0.0
comp=Z,15nm,0.8s,baz=195,slow=3.7,SNR=10
SONM ScP ScP 09 38 22.9 -1.4
comp=Z,2.6nm,0.8s,baz=201,slow=4.5,SNR=7.1
SONM LR LR 09 53 48.4
comp=Z,405nm,19.2s,MS4.3,baz=10,slow=40
SONM Songino Array 43.76 11 P **P 09 32 49.3 -0.5**
SONM 09 34 36.1
SONM Songino Array 43.76 11 P **P 09 32 49.3 -0.5**
SONM PcP PcP 09 34 36.1 0.0
SONM ScP ScP 09 38 22.9 -1.4
SONM LR LR 09 53 48.4
KSRS Korea Array 44.21 39 P **P 09 32 53.0 -0.5**
comp=Z,30nm,0.8s,mb5.1,baz=218,slow=8.8,SNR=69
KSRS LR LR 09 53 02.1
comp=Z,233nm,19.6s,MS4.1,baz=231,slow=38
SNY Shenyang 44.71 31 ⇑P **P 09 32 57.3 -0.1**
SNY AP pP 09 33 07.4 -1.6
SNY S **S 09 39 27.0 -4.3**
SNY XS sS 09 39 45.5 -4.9
SNY SS SS 09 42 47.8 -4.8
SNY AMB AMB
comp=Z,39nm,1.2s,mb5.1
SNY AMB AMB
comp=Z,253nm,4.4s
SNY LR LR
comp=N,700nm,18.7s,MS4.7
SNY LR LR
comp=E,487nm,20.9s,MS4.7
SNY LR LR
comp=Z,727nm,16.7s,MS4.7
ZAK Zakamensk 45.72 8 ⇓*e*P **P 09 33 04.1 -1.3**
ZAK *e* 09 34 42.7
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.8
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WRA Warramunga Arr 46.17 124 P **P 09 33 08.6 -0.3**
comp=Z,75nm,0.8s,mb5.7,baz=303,slow=9.0,SNR=373
WRA ScP ScP 09 38 31.8 -2.4
comp=Z,1.9nm,1.0s,baz=304,slow=3.1,SNR=6.0
WRA Warramunga Arr 46.17 124 ⇑*e*P **P 09 33 08.6 -0.4**
WRAB Tennant Creek 46.17 124 P **P 09 33 08.0 -1.0**
comp=Z,678nm,0.8s,SNR=45
WRAB Tennant Creek 46.17 124 *c i*P **P 09 33 08.6 -0.4**
WRAB Tennant Creek 46.17 124 *e*P **P 09 33 08.9 -0.1**
WRAB LR LR
comp=Z,143nm,22.0s,MS3.9
WB2 Warramunga Arr 46.18 124 ⇑*i*P **P 09 33 08.7 -0.3**
MOY Mondy 46.73 5 *e*P **P 09 33 12.6 -0.8**
TLY Talaya 47.04 8 P **P 09 33 16.0 +0.2**
comp=Z,229nm,0.7s,mb6.2,SNR=5.8
TLY Talaya 47.04 8 P **P 09 33 16.4 +0.6**
SNR=6.4
TLY Talaya 47.04 8 *e*P **P 09 33 16.0 +0.2**
TLY *e*S **S 09 40 24.3 +20**
TLY pmax pmax
comp=Z,27nm,0.7s,mb5.3
TLY MLR MLR
comp=Z,527nm,28.0s,MS4.3
TLY Talaya 47.04 8 *e*P **P 09 33 16.0 +0.2**
comp=Z,26nm,0.8s,mb5.2
TLY LR LR
comp=Z,100nm,20.0s,MS3.8
CN2 Changchun 47.09 30 *e*P **P 09 33 15.6 -0.6**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.7
CN2 LR LR
comp=E,500nm,16.0s,MS4.7
CN2 LR LR
comp=Z,500nm,17.0s,MS4.5
KURK Kurchatov 47.46 346 P **P 09 33 19.9 +0.8**
comp=Z,592nm,0.7s,SNR=73
KURK Kurchatov 47.46 346 P **P 09 33 19.8 +0.7**
SNR=39
KURK Kurchatov 47.46 346 ⇑*e*P **P 09 33 19.3 +0.2**
KURK Kurchatov 47.46 346 *e*P **P 09 33 19.4 +0.3**
comp=Z,244nm,1.3s,mb6.0
KURK LR LR
comp=Z,69nm,22.0s,MS3.6
ASAR Alice Springs 47.67 128 P **P 09 33 20.4 -0.3**
comp=Z,23nm,0.9s,mb5.2,baz=305,slow=7.5,SNR=154
ASAR ScP ScP 09 38 38.9 -1.7
comp=Z,2.1nm,0.9s,baz=287,slow=4.2,SNR=5.8
HIA Hailar 48.87 22 *c i*P **P 09 33 29.7 -0.2**
HIA Hailar 48.87 22 ⇑*i*P **P 09 33 29.7 -0.2**
HIA LR LR
comp=Z,2μm,19.0s,MS5.1
CIT Chita 49.32 15 *e*P **P 09 33 32.3 -1.1**
CIT *e* pP 09 33 46.4 +1.3
CIT *e* 09 34 55.3
CIT pmax pmax
comp=Z,65nm,2.3s,mb5.2
ZAL Zalesovo 49.39 352 P **P 09 33 33.9 0.0**
comp=Z,43nm,0.6s,mb5.7,baz=302,slow=5.7,SNR=121
ZAL LR LR 09 59 20.8
comp=Z,219nm,18.7s,MS4.2,baz=102,slow=42
MDJ Mudanjiang 49.80 32 P **P 09 33 37.6 +0.5**
MDJ AP pP 09 33 46.6 -2.1
MDJ PCS PcS 09 38 54.6 +0.4
MDJ AMB AMB
comp=Z,42nm,1.5s,mb5.2
MDJ AMB AMB
comp=Z,109nm,6.5s
MDJ LR LR
comp=N,262nm,21.3s,MS4.4
MDJ LR LR
comp=E,346nm,21.3s,MS4.4
MDJ LR LR
comp=Z,463nm,23.5s,MS4.4
GUMO Guam 50.08 77 LR LR 09 54 19.0
comp=Z,151nm,18.4s,MS4.0,baz=270,slow=35
CBIJ Chichi jima 50.16 59 LR LR 09 56 22.3
comp=Z,120nm,18.1s,MS3.9,baz=163,slow=38
NVS Novosibirsk 50.49 351 ⇑*i*P **P 09 33 41.4 -0.9**
NVS *i* pP 09 33 54.3 +0.3
NVS pmax pmax
comp=Z,73nm,1.1s,mb5.6
NVS pmax pmax
comp=N,53nm,1.0s
MAJO Matsushiro 50.62 46 *e*P **P 09 33 42.7 -0.5**
MAJO pmax pmax
comp=Z,15nm,0.8s,mb5.0
MAJO MLR MLR
comp=Z,516nm,20.0s,MS4.5
MAJO Matsushiro 50.62 46 *e*P **P 09 33 42.7 -0.6**
comp=Z,15nm,0.8s,mb5.0
MAJO LR LR
comp=Z,516nm,20.0s,MS4.5
MAT Matsushiro 50.62 46 P **P 09 33 42.5 -0.7**
MJAR Matsushiro Arr 50.62 46 P **P 09 33 43.3 +0.1**
comp=Z,11nm,0.7s,mb4.9,baz=247,slow=8.4,SNR=30
MJAR PcP PcP 09 35 00.1 -0.3
comp=Z,6.3nm,0.9s,baz=244,slow=4.0,SNR=6.2
MJAR LR LR 09 56 51.6
comp=Z,432nm,20.3s,MS4.5,baz=265,slow=38
MJAR Matsushiro Arr 50.62 46 P **P 09 33 43.3 +0.1**
MJAR 09 35 00.1
BVA0 Borovoye Array 51.83 342 P **P 09 33 50.9 -1.4**
BVA0 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRVK Borovoye 51.89 341 P **P 09 33 52.4 -0.3**
comp=Z,489nm,0.8s,SNR=42
BRVK Borovoye 51.89 341 P **P 09 33 52.7 0.0**
SNR=26
BRVK Borovoye 51.89 341 *e*P **P 09 33 52.4 -0.4**
comp=Z,59nm,0.8s,mb5.6
BRVK LR LR
comp=Z,44nm,19.0s,MS3.5
CHKZ Chkalovo 52.31 342 P **P 09 33 55.8 -0.1**
CHKZ Chkalovo 52.31 342 *e*P **P 09 33 56.1 +0.2**
comp=Z,150nm,0.7s,mb6.0
AB31 Akbulak array 52.98 332 P **P 09 33 58.7 -2.1**
AB31 pmax pmax
comp=Z,60nm,0.9s,mb5.5
AB31 Akbulak array 52.98 332 ⇑*e*P **P 09 33 58.7 -2.1**
KLR Kul'dur 53.99 29 *e*P **P 09 34 05.3 -3.0**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,85nm,1.6s,mb5.4
PMG Port Moresby 54.16 105 ⇑*e*P **P 09 34 08.7 -0.8**
PMG Port Moresby 54.16 105 *e*P **P 09 34 08.8 -0.7**
comp=Z,29nm,0.8s,mb5.2
PMG LR LR
comp=Z,141nm,20.0s,MS4.0
BOD Bodaibo 54.73 12 *e*P **P 09 34 12.1 -1.5**
BOD pmax pmax
comp=Z,28nm,1.0s,mb5.2
CTA Charters Tower 56.43 118 ⇑*i*P **P 09 34 25.3 -0.5**
comp=Z,16nm,0.9s,mb5.0
CTA Charters Tower 56.43 118 LR LR 09 59 01.6
comp=Z,376nm,21.4s,MS4.5,baz=157,slow=36
CTA Charters Tower 56.43 118 ⇑*i*P **P 09 34 25.3 -0.5**
CTA pmax pmax
comp=Z,16nm,0.9s
CTAO Charters Tower 56.43 118 *e*P **P 09 34 25.4 -0.4**
CTAO MLR MLR
comp=Z,477nm,19.0s,MS4.6
ERM Erimo 56.53 42 *e*P **P 09 34 27.7 +1.1**
ERM Erimo 56.53 42 *e*P **P 09 34 28.1 +1.5**
comp=Z,41nm,1.1s,mb5.4
ERM LR LR
comp=Z,115nm,19.0s,MS4.0
GNI Garni 56.84 315 P **P 09 34 30.0 +1.3**
SNR=6.6
GNI Garni 56.84 315 *e*P **P 09 34 29.4 +0.6**
comp=Z,42nm,1.0s,mb5.4
GNI LR LR
comp=Z,86nm,19.0s,MS3.9
CLNS Chul'man 56.85 19 *e*P **P 09 34 22.6 -6.2**
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS MLR MLR
comp=Z,700nm,17.0s,MS4.8
CLNS MLR MLR
comp=N,200nm,19.0s
CLNS MLR MLR
comp=E,600nm,13.0s
DGRG David-gareji 56.95 317 P **P 09 34 30.2 +0.7**
ORR Orenburg 57.02 331 *e*P **P 09 34 29.4 -0.6**
ORR pmax pmax
comp=Z,30nm,0.8s,mb5.4
ASAJ Asahikawa 57.14 39 P **P 09 34 30.6 -0.3**
comp=Z,19nm,0.7s,mb5.2,baz=288,slow=10.0,SNR=15
ASAJ LR LR 09 58 58.8
comp=Z,251nm,18.4s,MS4.3,baz=170,slow=36
MTA Mtatsminda 57.45 317 P **P 09 34 33.0 -0.1**
STKA Stephens Creek 57.75 133 ⇑*i*P **P 09 34 34.6 -0.6**
comp=Z,11nm,0.9s,mb4.9
STKA Stephens Creek 57.75 133 P **P 09 34 34.7 -0.5**
comp=Z,13nm,0.9s,mb5.0,baz=308,slow=6.1,SNR=14
STKA LR LR 09 59 01.4
comp=Z,269nm,22.0s,MS4.3,baz=233,slow=36
KMBO Kilima Mbogo 57.77 265 P **P 09 34 36.5 +1.1**
comp=Z,2.1nm,0.6s,mb4.4,baz=214,slow=22,SNR=6.7
KMBO LR LR 09 55 19.9
comp=Z,302nm,21.1s,MS4.4,baz=95,slow=32
KMBO Kilima Mbogo 57.77 265 *e*P **P 09 34 38.3 +3.0**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO MLR MLR
comp=Z,361nm,21.0s
KMBO Kilima Mbogo 57.77 265 *e*P **P 09 34 38.3 +3.0**
comp=Z,9.2nm,1.0s,mb4.8
KMBO LR LR
comp=Z,361nm,21.0s,MS4.5
SVE Sverdlovsk 58.22 339 *e*P **P 09 34 37.0 -1.4**
SVE *e* pP 09 34 51.0 +0.7
ZEI Tsey 58.51 318 *e*P **P 09 34 40.7 +0.2**
ZEI *e**PP pP 09 34 48.9 -3.5
ZEI *e* 09 36 50.5
ZEI pmax pmax
comp=Z,23nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 58.62 37 ⇑*e*P **P 09 34 41.3 0.0**
YSS pmax pmax
comp=Z,87nm,1.4s,mb5.6
YSS MLR MLR
comp=Z,300nm,20.0s,MS4.4
YSS Yuzh-Sakhalins 58.62 37 *e*P **P 09 34 41.5 +0.2**
comp=Z,56nm,1.0s,mb5.5
YSS LR LR
comp=Z,446nm,21.0s,MS4.6
ARU Arti 58.70 337 P **P 09 34 41.9 +0.1**
comp=Z,221nm,1.0s,mb6.1,SNR=7.8
ARU Arti 58.70 337 *c i*P **P 09 34 40.8 -1.0**
ARU pmax pmax
comp=Z,47nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.2
ARU Arti 58.70 337 *e*P **P 09 34 41.1 -0.7**
comp=Z,45nm,1.0s,mb5.5
ONI Oni 58.73 318 P **P 09 34 42.3 +0.3**
KIV Kislovodsk 59.81 319 P **P 09 34 49.6 +0.1**
comp=Z,261nm,0.8s,mb6.3,SNR=5.1
KIV Kislovodsk 59.81 319 ⇑P **P 09 34 49.3 -0.2**
SNR=11
KIV Kislovodsk 59.81 319 ⇑*e*P **P 09 34 49.1 -0.4**
KIV *e* 09 37 02.4
KIV *e*S 09 43 10.6
KIV pmax pmax
comp=Z,52nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,100nm,19.0s,MS4.0
KIV Kislovodsk 59.81 319 *e*P **P 09 34 49.3 -0.2**
comp=Z,41nm,0.9s,mb5.5
KIV *e*pP pP 09 35 03.7 +2.3
KIV LR LR
comp=Z,27nm,19.0s,MS3.4
ASF Jabal al Asfar 60.27 304 LR LR 10 03 28.6
comp=Z,189nm,19.2s,MS4.2,baz=147,slow=38
EIL Elat 61.37 301 *e*P **P 09 35 01.3 +1.2**
SOC Sochi 61.64 317 *i*P **P 09 34 58.9 -3.0**
SOC *e**PP pP 09 35 12.6 -1.3
SOC *e*S **S 09 43 17.9 -3.4**

SOC pmax pmax
comp=Z,43nm,0.8s,mb5.6
YAK Yakutsk 62.45 18 *e*P **P 09 35 06.6 -0.8**
YAK pmax pmax
comp=Z,46nm,0.7s,mb5.7
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,18nm,1.1s
YAK MLR MLR
comp=Z,582nm,17.0s,MS4.8
YAK MLR MLR
comp=N,242nm,14.0s,MS4.6
YAK MLR MLR
comp=E,231nm,15.0s,MS4.6
YAK Yakutsk 62.45 18 *e*P **P 09 35 05.8 -1.6**
comp=E,78nm,0.8s,mb5.9
YAK LR LR
comp=Z,546nm,21.0s,MS4.7
TOO Toolangi 63.40 137 *e*P **P 09 35 14.6 +0.9**
comp=Z,14nm,1.0s,mb5.0
TOO Toolangi 63.40 137 *e*P **P 09 35 14.6 +0.9**
TOO pmax pmax
comp=Z,14nm,1.0s,mb5.0
VRHR Novokhopersk 63.58 326 *e*P **P 09 35 13.6 -1.3**
VRHR pmax pmax
comp=E,40nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s,mb5.6
ANN Anapa 63.61 318 *e*P **P 09 35 12.5 -2.6**
ANN *e**PP pP 09 35 22.2 -4.9
ANN pmax pmax
comp=Z,21nm,1.3s,mb5.0
BRTR Keskin Array B 64.73 312 P **P 09 35 21.9 -0.5**
comp=Z,17nm,0.8s,mb5.1,baz=120,slow=7.3,SNR=92
BRTR LR LR 10 04 08.9
comp=Z,93nm,19.9s,MS4.0,baz=115,slow=36
BRTR Keskin Array B 64.73 312⇑ *e*P **P 09 35 21.8 -0.6**
ARMA Armidale 64.78 127 *e*P **P 09 35 23.0 +0.3**
ANTO Ankara 65.39 312 P **P 09 35 26.9 +0.1**
SNR=8.6
ANTO Ankara 65.39 312 *e*P **P 09 35 26.4 -0.3**
ANTO pmax pmax
comp=Z,48nm,1.3s,mb5.4
ANTO MLR MLR
comp=Z,133nm,21.0s,MS4.1
ANTO Ankara 65.39 312 *e*P **P 09 35 26.4 -0.3**
comp=Z,48nm,1.3s,mb5.4
ANTO LR LR
comp=Z,133nm,21.0s,MS4.1
ANTO Ankara 65.39 312⇓ *i*P **P 09 35 26.8 +0.1**
SIM Simferopol' 65.89 317 *de*P **P 09 35 31.1 +1.2**
SIM pmax pmax
comp=Z,31nm,0.8s,mb5.4
MOS Moscow 67.78 329 *e*P **P 09 35 39.3 -2.7**
MOS *e* 09 35 55.7
MOS *e* 09 36 06.7
MOS pmax pmax
comp=Z,66nm,1.5s,mb5.4
OBN Obninsk 68.07 328⇓ *i*P **P 09 35 42.9 -0.9**
OBN *e* 09 38 08.4
OBN pmax pmax
comp=Z,79nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
OBN Obninsk 68.07 328⇑ *e*P **P 09 35 42.0 -1.8**
OBN LR LR
comp=Z,100nm,20.0s,MS4.0
KARP Karpathos 68.88 306 *e*P **P 09 35 49.7 +0.9**
LSZ Lusaka 68.95 252 *e*P **P 09 35 50.2 +0.9**
comp=Z,7.5nm,1.3s,mb4.5
LSZ *e*pP pP 09 36 00.3 -1.1
LSZ LR LR
comp=Z,543nm,19.0s,MS4.8
MA2 Magadan 68.96 27 *e*P **P 09 35 48.3 -1.0**
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
KLMR Klimovskoe 69.23 335 *e*P **P 09 35 49.2 -1.8**
KLMR pmax pmax
comp=Z,65nm,1.2s,mb5.4
TIRR Tirgusor 69.67 316 P **P 09 35 53.5 -0.3**
TIRR Tirgusor 69.67 316⇓ *i*P **P 09 35 53.6 -0.1**
TIXI Tiksi 69.85 11 *e*P **P 09 35 52.6 -2.2**
TIXI pmax pmax
comp=Z,53nm,0.8s,mb5.5
TIXI MLR MLR
comp=Z,500nm,22.0s,MS4.7
TIXI Tiksi 69.85 11 *e*P **P 09 35 52.7 -2.1**
comp=Z,41nm,0.6s,mb5.5
TIXI LR LR
comp=Z,498nm,20.0s,MS4.8
CFR Carcaliu 70.03 316 P **P 09 36 03.4 +7.5**
NPS Neapolis 70.09 306 *e*P **P 09 35 57.5 +1.2**
PRK Paraskevi 70.19 310 *e*P **P 09 35 57.3 +0.4**
APE Apeiranthos 70.41 307⇑ *i*P pP 09 36 12.7 +2.3
PET Petropavlovsk 70.44 35⇑ *e*P **P 09 35 57.2 -1.2**
PET pmax pmax
comp=Z,60nm,1.2s,mb5.4
PET MLR MLR
comp=Z,200nm,20.0s,MS4.4
PET Petropavlovsk 70.44 35⇑ *e*P **P 09 35 57.3 -1.1**
AKASG Malin Array Be 70.73 322 P **P 09 35 58.7 -1.5**
comp=Z,12nm,0.6s,mb5.0,baz=92,slow=4.7,SNR=50
AKASG LR LR 10 10 16.7
comp=Z,54nm,19.9s,MS3.8,baz=305,slow=39
AKASG Malin Array Be 70.73 322 P **P 09 35 58.7 -1.5**
AKASG LR LR 10 10 16.7
KIEV Kiev 70.73 322 *e*P **P 09 35 58.7 -1.5**
KIEV pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIEV Kiev 70.73 322 *e*P **P 09 35 58.7 -1.5**
comp=Z,20nm,1.0s,mb5.0
VRI Vrincioaia 71.15 317 P **P 09 36 03.5 +0.8**
VRI Vrincioaia 71.15 317⇓ *i*P **P 09 36 03.2 +0.5**
PLOR Plostina 71.19 317⇓ *i*P **P 09 36 03.9 +0.9**
SEY Seymchan 71.21 24 *e*P **P 09 36 01.6 -1.5**
VAM Vamos 71.25 306 *e*P **P 09 36 04.6 +1.2**
GVD Gavdhos 71.27 305 *e*P **P 09 36 03.4 -0.1**
comp=Z,35nm,0.9s,mb5.3
MLR Muntele Rosu 71.60 316 P **P 09 36 06.1 +0.6**
MLR Muntele Rosu 71.60 316⇓ *i*P **P 09 36 06.2 +0.7**
ZIMR 71.65 314 P **P 09 36 05.9 +0.1**
CASY Casey 72.09 173 PFAKE 09 36 20.0 +12
CASY LR LR
comp=Z,556nm,19.0s,MS4.8
VOIR 72.21 316⇓ *i*P **P 09 36 08.7 -0.4**
VLI Veliai 72.43 307 *e*P **P 09 36 06.4 -4.0**
BURAR Bucovina Array 72.53 318⇑ *i*P **P 09 36 11.6 +0.6**
VTS Vitosha 73.03 313⇓ *i*P **P 09 36 13.7 -0.3**
ITM Ithomi 73.28 307 *e*P **P 09 36 15.0 -0.5**
VAY Valandovo 73.31 312 *e*P **P 09 36 13.8 -1.9**
VAY Valandovo 73.31 312 *e*P **P 09 36 13.8 -1.9**
LBTB Lobatse 73.47 242 LR LR 10 03 55.8
comp=Z,464nm,20.6s,MS4.8,baz=86,slow=32
EVR Evrytania 73.58 309 *e*P **P 09 36 13.0 -4.2**
JOF Joensuu 73.63 335 *e*p **P 09 36 15.9 -1.6**
comp=Z,10nm,0.8s,mb4.8
JOF Joensuu 73.63 335 *e*P **P 09 36 15.9 -1.6**
JOF pmax pmax
comp=Z,11nm,0.8s,mb4.8
LVV L'vov 73.75 320 *e*P **P 09 36 17.5 -0.7**
GZR Gura Zlata 73.78 316⇓ *i*P **P 09 36 18.7 +0.3**
DRGR 74.06 317 P **P 09 36 20.6 +0.6**
DRGR 74.06 317⇑ *i*P **P 09 36 20.3 +0.3**
KRUS Krusevo 74.30 311 *e*P **P 09 36 20.3 -1.1**
KRUS Krusevo 74.30 311 *e*P **P 09 36 20.3 -1.1**
KWP Kalwaria 74.56 320 *e*P **P 09 36 23.1 +0.2**
BZS Buzias 74.62 316 P **P 09 36 23.2 -0.1**
BZS Buzias 74.62 316⇑ *i*P **P 09 36 22.8 -0.5**
BOSA Boshof 74.64 239 P **P 09 36 24.1 +0.7**
comp=Z,6.9nm,1.0s,mb4.5,baz=72,slow=3.5,SNR=9.4
UZH Uzhgorod 74.65 319 *e*P **P 09 36 21.2 -2.3**
APA Apatity 74.67 340⇑ *i*P **P 09 36 23.4 -0.2**
APA *i* pP 09 36 36.5 +0.6
APA pmax pmax
comp=Z,44nm,1.0s,mb5.3
KOLS Kolonicke sedl 74.71 319 *e*P **P 09 36 24.1 +0.3**
SUW Suwalki 75.13 325 *e*P **P 09 36 25.2 -1.0**
CRVS Cervenica-Dubn 75.23 319 *e*P **P 09 36 27.3 +0.4**
STHS Stebnicka Huta 75.46 320 *e*P **P 09 36 28.7 +0.6**
STHS *e* pP 09 36 42.6 +2.2
STHS pmax pmax
comp=Z,38nm,0.9s,mb5.3
STHS Stebnicka Huta 75.46 320 *e*P **P 09 36 28.7 +0.6**
comp=Z,38nm,0.9s,mb5.3
STHS *e* pP 09 36 42.6 +2.2
FINES FINESS Array B 75.46 332 P **P 09 36 27.1 -1.0**
comp=Z,4.7nm,0.6s,mb4.6,baz=103,slow=7.1,SNR=26
FINES FINESS Array B 75.46 332⇑ *e*P **P 09 36 27.1 -1.1**
KAF Kangasniemi 75.55 333 *e*p **P 09 36 26.8 -1.9**
baz=104,slow=5.4
KECS Kecovo 75.81 319 *e*P **P 09 36 30.0 -0.1**
KECS pmax pmax
comp=Z,21nm,0.8s,mb5.1
KECS Kecovo 75.81 319 *e*P **P 09 36 30.0 -0.1**
comp=Z,21nm,0.8s,mb5.1
NIE Niedzica 76.06 320 *e*P **P 09 36 32.2 +0.6**
PSZ Piszkesteto 76.12 318 *e*P **P 09 36 32.1 +0.1**
comp=Z,36nm,0.9s,mb5.3
PSZ Piszkesteto 76.12 318⇓ *i*P **P 09 36 32.4 +0.5**
PSZ Piszkesteto 76.12 318⇑ *e* **P 09 36 32.0 +0.1**
OJC Ojcow 76.51 320 *e*P **P 09 36 34.1 0.0**
BUD Budapest 76.65 317⇑ *e*P **P 09 36 35.0 +0.1**
PKSM Moragy 76.75 316 P **P 09 36 35.3 -0.2**
PKSM Moragy 76.75 316⇑ *i*P **P 09 36 35.4 -0.1**
VYHS Vyhne 76.90 319 *i*P **P 09 36 36.2 -0.1**
VYHS pmax pmax
comp=Z,24nm,1.2s,mb5.0
VYHS Vyhne 76.90 319 *i*P **P 09 36 36.2 -0.1**
comp=Z,24nm,1.2s,mb5.0
OKC Ostrava-Krasne 77.51 320⇑ *e*P **P 09 36 39.9 +0.1**
TIP Timpagrande 77.52 309 *e*P **P 09 36 39.9 +0.1**
TIP *e*pP pP 09 36 48.3 -3.8
MORC Moravsky Berou 77.89 320 *e*P **P 09 36 42.2 +0.3**
MORC pmax pmax
comp=Z,44nm,1.0s,mb5.3
MORC Moravsky Berou 77.89 320 *e*P **P 09 36 42.2 +0.3**
comp=Z,44nm,1.0s,mb5.3
MORC Moravsky Berou 77.89 320⇓ *i*P **P 09 36 42.7 +0.8**
ZST Bratislava 78.01 318 *i*P **P 09 36 43.0 +0.5**
ZST pmax pmax
comp=Z,89nm,0.9s,mb5.7
ZST Bratislava 78.01 318 *i*P **P 09 36 43.0 +0.5**
comp=Z,89nm,0.9s,mb5.7
ARCES ARCESS Array B 78.09 340 P **P 09 36 42.3 -0.7**
comp=Z,19nm,0.9s,mb5.0,baz=86,slow=5.9,SNR=31
ARCES PP PP 09 39 37.6 -2.0
comp=Z,11nm,1.0s,baz=82,slow=8.7,SNR=4.8
ARCES LR LR 10 12 03.0
comp=Z,183nm,21.3s,MS4.4,baz=111,slow=36
ARCES ARCESS Array B 78.09 340 P **P 09 36 42.3 -0.7**
ARCES 09 39 37.6
SOP Sopron 78.33 318⇑ *e*P **P 09 36 44.6 +0.3**
KOGS Kog 78.43 316 *e*P **P 09 36 45.1 +0.3**
KOGS *e* 09 37 03.3
BILL Bilibino 78.45 21⇓ *i*P **P 09 36 44.0 -1.0**
BILL *e* 09 39 40.8
BILL pmax pmax
comp=Z,28nm,1.2s,mb5.1
BILL MLR MLR
comp=Z,900nm,22.0s,MS5.1
BILL Bilibino 78.45 21 P **P 09 36 42.8 -2.1**
comp=Z,30nm,1.1s,mb5.1
BILL LR LR
comp=Z,742nm,19.0s,MS5.0
VRAC Vranov 78.46 319⇑ *i*P **P 09 36 45.3 +0.3**
DPC Dobruska-Polom 78.74 320⇑ *i*P **P 09 36 47.2 +0.7**
KSP Ksiaz 78.81 321 *e*P **P 09 36 47.4 +0.5**
KSP Ksiaz 78.81 321 *e*P **P 09 36 47.2 +0.3**
CONA Conrad Observa 78.82 318⇑ *i*P **P 09 36 47.0 0.0**
comp=Z,21nm,1.0s,mb5.0,SNR=12
GROS Grobnik 78.94 316 *i*P **P 09 36 47.9 +0.2**
UPC Upice 78.95 320⇑ *e*P **P 09 36 48.2 +0.5**
ARSA Arzberg 78.99 317⇑ *i*P **P 09 36 47.9 -0.1**
comp=Z,118nm,1.5s,mb5.6,SNR=18
BOJS Bojanci 79.05 315 *e*P **P 09 36 48.4 +0.1**
BOJS *e* 09 37 07.8
SUR Sutherland 79.27 236 LR LR 10 05 46.1
comp=Z,182nm,18.5s,MS4.4,baz=280,slow=31
LJU Ljubljana 79.59 316 *e*P **P 09 36 51.6 +0.4**
TSUM Tsumeb 79.62 250 LR LR 10 11 21.9
comp=Z,132nm,18.2s,MS4.3,baz=137,slow=35
TSUM Tsumeb 79.62 250 PFAKE 09 37 00.0 +8.6
TSUM LR LR
comp=Z,223nm,19.0s,MS4.5
PRU Pruhonice 79.85 320⇑ *i*P **P 09 36 52.8 +0.2**
PVCC Panska Ves 79.87 320⇑ *i*P **P 09 36 53.2 +0.5**
MOA Molln 79.88 318 *i*P **P 09 36 52.6 -0.1**
comp=Z,21nm,0.9s,mb5.1,SNR=11
VOJS Vojsko 80.04 316 *e*P **P 09 36 53.6 0.0**
CADS Cadrg 80.15 316 *e*P **P 09 36 54.2 -0.1**
AQU L'Aquila 80.22 312 *e*P **P 09 36 53.6 -1.0**
AQU pmax pmax
comp=Z,73nm,1.1s,mb5.5
AQU L'Aquila 80.22 312 *e*P **P 09 36 53.6 -1.0**
comp=Z,72nm,1.1s,mb5.5
AQU L'Aquila 80.22 312⇑ *i*P **P 09 36 53.6 -1.0**
BRG Berggiesshubel 80.29 321 *e*P **P 09 36 55.1 +0.1**
comp=Z,28nm,0.9s,mb5.2
BRG Berggiesshubel 80.29 321⇑ *i*P **P 09 36 55.1 +0.2**
comp=Z,16nm,0.9s,mb5.0
BRG Berggiesshubel 80.29 321⇑ *i*P **P 09 36 55.2 +0.2**
BRG pmax pmax
comp=Z,20nm,0.9s,mb5.0
GEC2 GERESS Array S 80.32 319 *e*P **P 09 36 55.5 +0.4**
comp=Z,90nm,0.9s,mb5.7
GEC2 GERESS Array S 80.32 319 *e*P **P 09 36 55.5 +0.4**
GEC2 pmax pmax
comp=Z,90nm,0.9s,mb5.7
GERES GERESS Array B 80.32 319 P **P 09 36 55.5 +0.4**
comp=Z,54nm,0.8s,mb5.5,baz=91,slow=5.3,SNR=267
KHC Kasperske Hory 80.42 319⇑ *i*P **P 09 36 55.7 0.0**
KHC x x 09 37 11.5
KHC Kasperske Hory 80.42 319⇑ *i*P **P 09 36 55.7 0.0**
KHC *e* 09 37 11.5
KHC Kasperske Hory 80.42 319⇑ *i*P **P 09 36 55.7 0.0**
KHC *e* 09 37 11.5
PTCC Patocco-Chiusa 80.42 316 P **P 09 36 55.9 +0.2**
comp=Z,54nm,0.8s,mb5.5
KBA Koelnbreinsper 80.46 317⇑ *i*P **P 09 36 55.5 -0.4**
comp=Z,29nm,1.0s,mb5.2,SNR=12
KBA Koelnbreinsper 80.46 317⇑ *i*P **P 09 36 55.5 -0.4**
KBA pmax pmax
comp=Z,29nm,1.0s,mb5.2
GMNA Gemona 80.50 316 P **P 09 36 56.8 +0.7**
comp=Z,381nm,1.1s,mb6.2
RUE Ruedersdorf 80.50 322 *e*P **P 09 36 56.1 0.0**
comp=Z,81nm,0.9s,mb5.7
RUE Ruedersdorf 80.50 322 *e*P **P 09 36 56.2 +0.1**
comp=Z,83nm,0.9s,mb5.7
FBE Freiberg 80.67 321 *e*P **P 09 36 57.2 +0.2**
comp=Z,57nm,1.0s,mb5.5
FSSB Fossombrone 80.72 313 P **P 09 36 58.1 +0.8**
comp=Z,130nm,1.2s,mb5.7
FVI Forni Avoltri 80.83 316 P **P 09 36 57.9 0.0**
WET Wettzell 80.88 319 *e*P **P 09 36 58.2 +0.1**
comp=Z,44nm,1.0s,mb5.3
WET Wettzell 80.88 319 *e*P **P 09 36 58.2 +0.1**
WET pmax pmax
comp=Z,44nm,1.0s,mb5.3
CLL Collm 80.91 321 *e*P **P 09 36 57.7 -0.6**
comp=Z,31nm,1.1s,mb5.2
CLL Collm 80.91 321⇑ *i*P **P 09 36 57.9 -0.4**
CLL *e**PP pP 09 37 07.0 -3.7
CLL pmax pmax
comp=Z,31nm,1.1s,mb5.2
CLL Collm 80.91 321⇑ *i*P **P 09 36 57.9 -0.4**
comp=Z,31nm,1.1s,mb5.2
CLL *e*pP pP 09 37 07.0 -3.7
CLL Collm 80.91 321⇑ *i*P **P 09 36 57.9 -0.4**
comp=Z,31nm,1.1s,mb5.2
CLL *e*pP pP 09 37 07.0 -3.7
CLL *e*(pPcP) 09 37 14.0
NKC Novy Kostel 81.21 320⇑ *i*P **P 09 37 00.0 +0.1**
TANN Tannenbergstha 81.21 320 *e*P **P 09 36 59.9 0.0**
comp=Z,22nm,1.2s,mb5.0
WERN Wernitzgruen 81.26 320 *e*P **P 09 37 00.2 +0.1**
comp=Z,21nm,1.0s,mb5.0
GUNZ Gunzen 81.29 320 *e*P **P 09 37 00.3 0.0**
comp=Z,27nm,1.0s,mb5.1
WERD Werda 81.31 320 *e*P **P 09 37 00.3 -0.1**
comp=Z,20nm,1.0s,mb5.0
ROTZ Rotzenmuhle 81.34 319 *e*P **P 09 37 01.1 +0.5**
comp=Z,39nm,1.0s,mb5.3
SFI Santa Sofia 81.40 313 P **P 09 37 02.6 +1.7**
SFI pmax pmax
comp=Z,123nm,1.0s,mb5.8
SFI Santa Sofia 81.40 313 P **P 09 37 02.6 +1.7**
comp=Z,123nm,1.0s,mb5.8
MANZ Manzenberg 81.42 320 *e*P **P 09 37 01.7 +0.7**
comp=Z,61nm,1.0s,mb5.5
CTI Castel Tesino 81.59 316 P **P 09 37 02.6 +0.7**
CTI pmax pmax
comp=Z,76nm,0.9s,mb5.6
CTI Castel Tesino 81.59 316 P **P 09 37 02.6 +0.7**
comp=Z,76nm,0.9s,mb5.6
VMG Vicchio 81.62 314 P **P 09 37 03.3 +1.2**
comp=Z,82nm,1.0s,mb5.6
WTTA Wattenberg 81.63 317 *i*P **P 09 37 01.8 -0.4**
comp=Z,44nm,0.9s,mb5.4,SNR=22
WTTA Wattenberg 81.63 317 *i*P **P 09 37 01.8 -0.3**
WTTA pmax pmax
comp=Z,44nm,0.9s,mb5.4
WATA Walderalm 81.68 317⇑ *i*P **P 09 37 01.6 -0.8**
comp=Z,16nm,0.7s,mb5.1
WATA Walderalm 81.68 317⇑ *i*P **P 09 37 01.6 -0.8**
WATA pmax pmax
comp=Z,17nm,0.7s,mb5.1
MOX Moxa 81.76 320 *e*P **P 09 37 02.8 0.0**
comp=Z,17nm,0.9s,mb5.0
MOX Moxa 81.76 320 *e*P **P 09 37 02.8 0.0**
MOX pmax pmax
comp=Z,31nm,1.3s,mb5.1
FUR Furstenfeldbru 81.90 318 *e*P **P 09 37 03.5 -0.1**
comp=Z,42nm,1.2s,mb5.2
FUR Furstenfeldbru 81.90 318 *e*P **P 09 37 03.5 -0.1**
FUR pmax pmax
comp=Z,42nm,1.2s,mb5.2
SQTA Sankt Quirin 81.92 317⇑ *i*P **P 09 37 03.4 -0.3**
comp=Z,32nm,0.7s,mb5.3,SNR=16
SQTA Sankt Quirin 81.92 317⇑ *i*P **P 09 37 03.4 -0.3**
SQTA pmax pmax
comp=Z,32nm,0.7s,mb5.4
GRA1 Grafenberg Arr 81.98 319 *e*P **P 09 37 04.5 +0.5**
comp=Z,46nm,0.9s,mb5.4
GRF Grafenberg Arr 81.98 319 *e*P **P 09 37 04.5 +0.5**
comp=Z,46nm,0.9s,mb5.4
GRF Grafenberg Arr 81.98 319 *e*P **P 09 37 04.5 +0.5**
GRF pmax pmax
comp=Z,46nm,0.9s,mb5.4
GRF Grafenberg Arr 81.98 319 *e*P **P 09 37 04.5 +0.5**
GRF pmax pmax
comp=Z,46nm,0.9s,mb5.4
GRFO Grafenberg 81.98 319 *e*P **P 09 37 04.1 +0.1**
GRFO pmax pmax
comp=Z,41nm,1.0s,mb5.3
GRFO Grafenberg 81.98 319 *e*P **P 09 37 04.1 +0.2**
comp=Z,41nm,1.0s,mb5.3
MOTA Moosalm 82.00 317⇑ *i*P **P 09 37 03.5 -0.6**
comp=Z,37nm,0.8s,mb5.3,SNR=27
MOTA Moosalm 82.00 317⇑ *i*P **P 09 37 03.5 -0.6**
MOTA pmax pmax
comp=Z,37nm,0.8s,mb5.4
NB2 NORSAR Subarra 82.46 331 P **P 09 37 05.0 -1.5**
comp=Z,15nm,1.0s,mb4.9,baz=97,slow=5.3
NOA NORSAR Array B 82.46 331 P **P 09 37 05.5 -1.0**
comp=Z,7.7nm,0.8s,mb4.7,baz=94,slow=5.4,SNR=17
NOA LR LR 10 19 37.1
comp=Z,101nm,19.5s,MS4.2,baz=160,slow=40
BRMO Bormio 82.49 316 P **P 09 37 07.2 +0.6**
CLZ Clausthal 82.57 321 *e*P **P 09 37 07.1 0.0**
comp=Z,39nm,0.9s,mb5.4
CLZ Clausthal 82.57 321 *e*P **P 09 37 07.1 0.0**
CLZ pmax pmax
comp=Z,39nm,0.9s,mb5.4
BSEG Bad Segeberg 82.66 324 *e*P **P 09 37 07.5 0.0**
comp=Z,64nm,0.9s,mb5.7
BSEG Bad Segeberg 82.66 324 *e*P **P 09 37 07.5 0.0**
BSEG pmax pmax
comp=Z,64nm,0.9s,mb5.7
DAVA Damuels 82.83 317 *i*P **P 09 37 08.6 +0.2**
comp=Z,56nm,1.0s,mb5.6,SNR=14
SYO Syowa Base 82.93 197⇑ *e*P **P 09 37 08.6 -0.3**
KONO Kongsberg 83.21 329⇑ *e*P **P 09 37 08.4 -2.0**
KEST Kesra 83.35 305 P **P 09 37 11.5 +0.4**
comp=Z,8.3nm,0.9s,mb4.8,baz=324,slow=1.2,SNR=13
KEST LR LR 10 18 10.2
comp=Z,49nm,19.0s,MS3.9,baz=226,slow=38
PGF Pioggiola 83.48 312 *e*P **P 09 37 11.7 -0.1**
comp=Z,274nm,1.5s,mb5.8
PGF Pioggiola 83.48 312 *e*P **P 09 37 11.7 -0.1**
PGF pmax pmax
comp=Z,137nm,1.5s,mb5.8
PGF Pioggiola 83.48 312 *e*P **P 09 37 11.7 -0.1**
comp=Z,137nm,1.5s,mb5.8
TNS Taunus Mts 83.78 320 *e*P **P 09 37 13.3 0.0**
comp=Z,36nm,1.0s,mb5.5
TNS Taunus Mts 83.78 320 *e*P **P 09 37 13.3 0.0**
TNS pmax pmax
comp=Z,36nm,1.0s,mb5.5
BFO Black Forest 83.87 318 P **P 09 37 13.4 -0.4**
comp=Z,166nm,0.8s,mb6.2,SNR=6.6
BFO Black Forest 83.87 318 *e*P **P 09 37 13.2 -0.6**
comp=Z,27nm,0.9s,mb5.4
BFO Black Forest 83.87 318 *e*P **P 09 37 13.2 -0.6**
BFO pmax pmax
comp=Z,27nm,0.9s,mb5.4
IBBN Ibbenburen 84.19 322 *e*P **P 09 37 15.5 +0.1**
comp=Z,58nm,1.0s,mb5.7
BUG Bochum-Univer 84.51 321 *e*P **P 09 37 16.8 -0.2**
comp=Z,45nm,1.0s,mb5.5
CDF Champ du Feu 84.57 318 *e*P **P 09 37 16.7 -0.6**
comp=Z,26nm,0.9s,mb5.1
CDF Champ du Feu 84.57 318 *e*P **P 09 37 16.7 -0.6**
CDF pmax pmax
comp=Z,13nm,0.9s,mb5.1
CDF Champ du Feu 84.57 318 *e*P **P 09 37 16.7 -0.6**
comp=Z,13nm,0.9s,mb5.1
SBF Sospel 84.59 313 *e*P **P 09 37 17.1 -0.3**
comp=Z,145nm,1.0s,mb5.8
SBF Sospel 84.59 313 *e*P **P 09 37 17.1 -0.3**
SBF pmax pmax
comp=Z,72nm,1.0s,mb5.8
SBF Sospel 84.59 313 *e*P **P 09 37 17.1 -0.3**
comp=Z,72nm,1.0s,mb5.8
HINF Hinteralfeld 84.87 317 *e*P **P 09 37 17.0 -1.8**
CMAH Djebel Manchou 84.88 306 P **P 09 37 21.0 +2.1**
LPG La Plagne 85.02 315 *e*P **P 09 37 19.8 +0.2**
comp=Z,73nm,0.9s,mb5.5
LPG La Plagne 85.02 315 *e*P **P 09 37 19.8 +0.2**
LPG pmax pmax
comp=Z,36nm,0.9s,mb5.5
LPG La Plagne 85.02 315 *e*P **P 09 37 19.8 +0.2**
comp=Z,36nm,0.9s,mb5.5
LPL La Plagne 85.04 315 *e*P **P 09 37 19.6 -0.1**
comp=Z,119nm,1.0s,mb5.7
LPL La Plagne 85.04 315 *e*P **P 09 37 19.6 -0.1**
LPL pmax pmax
comp=Z,59nm,1.0s,mb5.7
LPL La Plagne 85.04 315 *e*P **P 09 37 19.6 -0.1**
comp=Z,59nm,1.0s,mb5.7
MBDF Montbardon 85.04 314 *e*P **P 09 37 19.0 -0.7**
comp=Z,26nm,1.0s,mb5.0
MBDF Montbardon 85.04 314 *e*P **P 09 37 19.0 -0.7**
MBDF pmax pmax
comp=Z,13nm,1.0s,mb5.0
MBDF Montbardon 85.04 314 *e*P **P 09 37 19.0 -0.7**
comp=Z,13nm,1.0s,mb5.0
BNI Bardonecchia 85.09 315 *e*P **P 09 37 20.4 +0.5**
BNI pmax pmax
comp=Z,31nm,1.0s,mb5.4
BNI Bardonecchia 85.09 315 *e*P **P 09 37 20.4 +0.4**
comp=Z,31nm,1.0s,mb5.4
FRF La Foret Royal 85.17 313 *e*P **P 09 37 19.6 -0.8**
comp=Z,152nm,1.4s,mb5.6
FRF La Foret Royal 85.17 313 *e*P **P 09 37 19.6 -0.8**
FRF pmax pmax
comp=Z,76nm,1.4s,mb5.6
FRF La Foret Royal 85.17 313 *e*P **P 09 37 19.6 -0.8**
comp=Z,76nm,1.4s,mb5.6
HAU Haudompre 85.21 318 *e*P **P 09 37 19.9 -0.6**
comp=Z,76nm,0.9s,mb5.5
HAU Haudompre 85.21 318 *e*P **P 09 37 19.9 -0.6**
HAU pmax pmax
comp=Z,38nm,0.9s,mb5.5
HAU Haudompre 85.21 318 *e*P **P 09 37 19.9 -0.6**
comp=Z,38nm,0.9s,mb5.5
WLF Walferdange 85.27 319 *e*P **P 09 37 21.0 +0.2**
comp=Z,32nm,1.2s,mb5.3
WLF Walferdange 85.27 319 P **P 09 37 21.6 +0.8**
comp=Z,21nm,1.6s,mb5.0
LMR La Mourre 85.28 313 *e*P **P 09 37 20.7 -0.2**
MEM Membach 85.33 320 P **P 09 37 21.2 +0.1**
comp=Z,15nm,1.0s,mb5.1
CABF La Chapelle 85.44 316 *e*P **P 09 37 21.2 -0.5**
comp=Z,118nm,1.3s,mb5.6
CABF La Chapelle 85.44 316 *e*P **P 09 37 21.2 -0.5**

CABF pmax pmax
comp=Z,59nm,1.3s,mb5.6
CABF La Chapelle 85.44 316 *eP* **P 09 37 21.2 -0.5**
comp=Z,59nm,1.3s,mb5.6
CKFL Kef-Lekhel 85.45 306 P **P 09 37 24.0 +2.3**
CASM Ain Smara 85.64 306 P **P 09 37 24.0 +1.3**
ORIF Oris-en-Rattie 85.67 315 *eP* **P 09 37 22.8 0.0**
comp=Z,38nm,1.0s,mb5.3
ORIF *e*MLR
comp=Z,236nm,18.2s
ORIF Oris-en-Rattie 85.67 315 *eP* **P 09 37 22.8 0.0**
ORIF pmax pmax
comp=Z,19nm,1.0s,mb5.3
ORIF Oris-en-Rattie 85.67 315 *eP* **P 09 37 22.8 0.0**
comp=Z,19nm,1.0s,mb5.3
CTEI Djebel Teioual 85.72 306 P **P 09 37 25.0 +1.9**
SMRF Simiane la Rot 85.93 314 *eP* **P 09 37 23.6 -0.5**
MEZF Maizieres J'vi 86.05 318 *eP* **P 09 37 24.3 -0.4**
comp=Z,32nm,1.0s,mb5.2
MEZF Maizieres J'vi 86.05 318 *eP* **P 09 37 24.3 -0.4**
comp=Z,32nm,1.0s,mb5.5
GIVF Givet 86.11 320 *eP* **P 09 37 24.6 -0.4**
comp=Z,43nm,1.1s,mb5.3
GIVF Givet 86.11 320 *eP* **P 09 37 24.6 -0.4**
GIVF pmax pmax
comp=Z,22nm,1.1s,mb5.3
GIVF Givet 86.11 320 *eP* **P 09 37 24.6 -0.4**
comp=Z,22nm,1.1s,mb5.3
DFRA Djebel Bou Aff 86.12 306 P **P 09 37 27.0 +2.0**
DOU Dourbes 86.26 320 P **P 09 37 26.0 +0.3**
SNF Seneffe 86.43 320 P **P 09 37 26.8 +0.3**
BAIF Baives 86.51 320 *eP* **P 09 37 26.7 -0.2**
comp=Z,77nm,1.0s,mb5.6
BAIF Baives 86.51 320 *eP* **P 09 37 26.7 -0.2**
BAIF pmax pmax
comp=Z,38nm,1.0s,mb5.6
BAIF Baives 86.51 320 *eP* **P 09 37 26.7 -0.2**
comp=Z,38nm,1.0s,mb5.6
VIVF Saint-Julien-l 86.53 315 *eP* **P 09 37 27.0 0.0**
comp=Z,50nm,1.0s,mb5.4
VIVF Saint-Julien-l 86.53 315 *eP* **P 09 37 27.0 0.0**
VIVF pmax pmax
comp=Z,25nm,1.0s,mb5.4
VIVF Saint-Julien-l 86.53 315 *eP* **P 09 37 27.0 0.0**
comp=Z,25nm,1.0s,mb5.4
LOR Lormes 86.93 317 *eP* **P 09 37 28.6 -0.4**
comp=Z,72nm,1.0s,mb5.5
LOR *e*MLR
comp=Z,155nm,20.0s
LOR Lormes 86.93 317 *eP* **P 09 37 28.6 -0.4**
LOR pmax pmax
comp=Z,36nm,1.0s,mb5.6
LOR MLR MLR
comp=Z,160nm,20.0s,MS4.4
LOR Lormes 86.93 317 *eP* **P 09 37 28.6 -0.4**
comp=Z,36nm,1.0s,mb5.5
LOR LR LR
comp=Z,160nm,20.0s,MS4.4
SMF Signal de Mont 86.98 316 *eP* **P 09 37 28.7 -0.6**
comp=Z,61nm,0.9s,mb5.5
SMF Signal de Mont 86.98 316 *eP* **P 09 37 28.7 -0.6**
SMF pmax pmax
comp=Z,31nm,0.9s,mb5.5
SMF Signal de Mont 86.98 316 *eP* **P 09 37 28.7 -0.6**
comp=Z,30nm,0.9s,mb5.5
LASF Ste Croix 87.16 314 *eP* **P 09 37 30.4 +0.3**
SSF Saint Saulge 87.18 317 *eP* **P 09 37 29.9 -0.3**
comp=Z,35nm,1.0s,mb5.2
SSF Saint Saulge 87.18 317 *eP* **P 09 37 29.9 -0.3**
SSF pmax pmax
comp=Z,18nm,1.0s,mb5.3
SSF Saint Saulge 87.18 317 *eP* **P 09 37 29.9 -0.3**
comp=Z,18nm,1.0s,mb5.2
AVF Avril sur Loir 87.31 317 *eP* **P 09 37 30.4 -0.4**
comp=Z,77nm,1.1s,mb5.5
AVF Avril sur Loir 87.31 317 *eP* **P 09 37 30.4 -0.4**
AVF pmax pmax
comp=Z,38nm,1.1s,mb5.5
AVF Avril sur Loir 87.31 317 *eP* **P 09 37 30.4 -0.4**
comp=Z,38nm,1.1s,mb5.5
BGF Bois d'Agland 87.67 316 *eP* **P 09 37 32.6 0.0**
comp=Z,60nm,1.0s,mb5.5
BGF Bois d'Agland 87.67 316 *eP* **P 09 37 32.6 0.0**
BGF pmax pmax
comp=Z,30nm,1.0s,mb5.5
BGF Bois d'Agland 87.67 316 *eP* **P 09 37 32.6 0.0**
comp=Z,30nm,1.0s,mb5.5
HYF Humbligny 87.75 317 *eP* **P 09 37 33.1 +0.1**
TCF Toulx Ste Croi 88.14 316 *eP* **P 09 37 34.6 -0.2**
comp=Z,159nm,1.7s,mb5.7
TCF Toulx Ste Croi 88.14 316 *eP* **P 09 37 34.6 -0.2**
TCF pmax pmax
comp=Z,79nm,1.7s,mb5.7
TCF Toulx Ste Croi 88.14 316 *eP* **P 09 37 34.6 -0.2**
comp=Z,79nm,1.7s,mb5.7
CAF Calviac 88.37 315 *eP* **P 09 37 35.7 -0.2**
MTLF Montolieu 88.41 313 *eP* **P 09 37 36.3 +0.2**
comp=Z,62nm,1.3s,mb5.4
MTLF Montolieu 88.41 313 *eP* **P 09 37 36.3 +0.2**
MTLF pmax pmax
comp=Z,31nm,1.3s,mb5.4
MTLF Montolieu 88.41 313 *eP* **P 09 37 36.3 +0.2**
comp=Z,31nm,1.3s,mb5.4
RJF Les Rejaudoux 88.72 315 *eP* **P 09 37 37.5 0.0**
comp=Z,63nm,1.3s,mb5.5
RJF *e*MLR
comp=Z,152nm,17.2s
RJF Les Rejaudoux 88.72 315 *eP* **P 09 37 37.5 0.0**
RJF pmax pmax
comp=Z,32nm,1.3s,mb5.5
RJF MLR MLR
comp=Z,150nm,17.3s,MS4.5
RJF Les Rejaudoux 88.72 315 *eP* **P 09 37 37.5 0.0**
comp=Z,32nm,1.3s,mb5.5
RJF LR LR
comp=Z,150nm,17.3s,MS4.5
LDF La Druitiere 89.46 319 *eP* **P 09 37 40.9 -0.1**
comp=Z,93nm,1.0s,mb5.8
LDF La Druitiere 89.46 319 *eP* **P 09 37 40.9 -0.1**
LDF pmax pmax
comp=Z,47nm,1.0s,mb5.8
LDF La Druitiere 89.46 319 *eP* **P 09 37 40.9 -0.1**
comp=Z,46nm,1.0s,mb5.8
FLN La Foliniere 89.68 319 *eP* **P 09 37 41.9 -0.2**
comp=Z,92nm,1.0s,mb5.8
FLN *e*MLR
comp=Z,136nm,17.8s
FLN La Foliniere 89.68 319 *eP* **P 09 37 41.9 -0.2**
FLN pmax pmax
comp=Z,46nm,1.0s,mb5.8
FLN MLR MLR
comp=Z,140nm,17.8s,MS4.4
FLN La Foliniere 89.68 319 *eP* **P 09 37 41.9 -0.2**
comp=Z,46nm,1.0s,mb5.8
FLN LR LR
comp=Z,140nm,17.8s,MS4.4
MFF Saint Martin d 89.72 317 *eP* **P 09 37 42.1 -0.2**
comp=Z,110nm,1.4s,mb5.7
MFF Saint Martin d 89.72 317 *eP* **P 09 37 42.1 -0.2**
MFF pmax pmax
comp=Z,55nm,1.4s,mb5.7
MFF Saint Martin d 89.72 317 *eP* **P 09 37 42.1 -0.2**
comp=Z,55nm,1.4s,mb5.7
GRR Gorron 89.98 318 *eP* **P 09 37 43.4 0.0**
comp=Z,142nm,1.4s,mb5.8
GRR Gorron 89.98 318 *eP* **P 09 37 43.4 0.0**
GRR pmax pmax
comp=Z,71nm,1.4s,mb5.8
GRR Gorron 89.98 318 *eP* **P 09 37 43.4 0.0**
comp=Z,71nm,1.4s,mb5.8
VNDA Vanda 90.08 168 P **P 09 37 43.8 -0.1**
comp=Z,2.6nm,1.0s,mb4.5,baz=329,slow=6.7,SNR=4.3
VNDA LR LR 10 12 19.8
comp=Z,305nm,20.9s,MS4.7,baz=339,slow=32
ETSF Etsaut 90.48 313 *eP* **P 09 37 45.7 -0.1**
comp=Z,84nm,1.3s,mb5.6
ETSF Etsaut 90.48 313 *eP* **P 09 37 45.7 -0.1**
ETSF pmax pmax
comp=Z,42nm,1.3s,mb5.6
ETSF Etsaut 90.48 313 *eP* **P 09 37 45.7 -0.1**
comp=Z,42nm,1.3s,mb5.6
SGMF Saint Gilles 91.12 318 *eP* **P 09 37 48.3 -0.5**
ROSF Rostrenen 91.58 319 *eP* **P 09 37 50.6 -0.3**
TORD Torodi Ar. Bea 91.84 283 P **P 09 37 52.3 +0.2**
comp=Z,4.4nm,1.0s,mb4.8,baz=83,slow=4.8,SNR=20
TORD LR LR 10 14 50.4
comp=Z,150nm,19.6s,MS4.4,baz=155,slow=33

ALE Alert 91.92 357 P **P 09 37 51.0 -1.5**
comp=Z,80nm,0.7s,mb6.2,SNR=7.7
ESDC Sonseca Array 93.49 310 P **P 09 38 00.1 +0.4**
comp=Z,2.1nm,0.8s,mb4.6,baz=79,slow=4.4,SNR=6.4
IMA2 Indian Mountai 93.96 22 *eP* **P 09 38 01.5 -0.4**
AFI Afiamalu 94.55 104 LR LR 10 17 06.7
comp=Z,124nm,21.3s,MS4.3,baz=285,slow=33
QSPA South Pole Qui 94.99 180 PFAKE 09 38 20.0 +13
QSPA LR LR
comp=Z,728nm,19.0s,MS5.2
INK Inuvik 99.49 16 LR LR 10 29 28.3
comp=Z,238nm,21.4s,MS4.7,baz=114,slow=39
YKA Yellowknife Ar 108.98 14 Pdiff Pdif 09 39 06.7 -2.4
comp=Z,0.3nm,0.7s,baz=330,slow=4.8,SNR=6.5
YKA PKiKP PKiKP 09 43 11.3 -2.1
comp=Z,0.9nm,1.1s,baz=306,slow=4.0,SNR=4.2
YKA PP PP 09 43 34.8 -6.5
comp=Z,0.5nm,0.7s,baz=334,slow=7.3,SNR=6.5
YKA Yellowknife Ar 108.98 14 Pdif Pdif 09 39 06.7 -2.4
YKA PKPdf PKiKP 09 43 11.3 -2.1
YKA PP PP 09 43 34.9 -6.5
TBI Tubuai 115.64 113 *e*LR LR 10 18 25.6
comp=Z,143nm,26.0s
PPT Papeete 115.97 107 *e*LR LR 10 18 34.8
comp=Z,131nm,24.2s
MSO Missoula 122.42 23 *e*PKPdf PKPdf 09 43 38.6 -0.5
EGMT Eagleton 122.91 19 *e*PKPdf PKPdf 09 43 40.0 -0.1
EGMT LR LR
comp=Z,314nm,20.0s,MS5.0
ULM Lac du Bonnet 124.14 8 PKP PKPdf 09 43 41.5 -1.0
comp=Z,4.8nm,0.7s,baz=355,slow=1.2,SNR=9.3
ULM Lac du Bonnet 124.14 8 PKP PKPdf 09 43 41.5 -1.0
QLMT Earthquake Lak 125.05 23 *e*PKPdf PKPdf 09 43 44.5 +0.3
LAO LASA Array 125.21 18 *e*PKPdf PKPdf 09 43 44.9 +0.4
RRI2 Red Ridge 126.34 23 *e*PKPdf 09 43 37.0
SNOW Snow King Moun 126.47 23 *e*PKPdf PKPdf 09 43 47.8 +0.9
REDW Red Top Meadow 126.52 23 *e*PKPdf PKPdf 09 43 47.9 +0.9
NVAR Mina Array Bea 126.96 32 PKP PKPdf 09 43 48.2 +0.4
comp=Z,4.4nm,0.8s,baz=317,slow=1.5,SNR=16
PDAR Pinedale Array 127.52 22 PKP PKPdf 09 43 48.6 -0.3
comp=Z,5.1nm,0.9s,baz=0.0,slow=1.5,SNR=25
RSSD Black Hills 128.19 17 *e*PKIKP PKPdf 09 43 50.4 +0.2
DUG Dugway 128.31 27 *e*PKIKP PKPdf 09 43 51.7 +1.3
RKT Rikitea 128.83 116 *e*LR LR 10 24 32.8
comp=Z,109nm,33.2s
MSU Marysvale 129.96 28 *e*PKIKP PKPdf 09 43 55.2 +1.7
PV10 Paradox Valley 131.46 25 *e*PKPdf PKPdf 09 43 58.3 +2.0
WUAZ Wupatki 132.75 29 *e*PKPdf PKPdf 09 43 59.0 +0.2
ANMO Albuquerque 135.46 25 *e*PKIKP PKPdf 09 44 04.8 +0.9
ANMO MLR MLR
comp=Z,516nm,21.0s
TUC Tucson 135.59 31 *e*PKIKP PKPdf 09 44 05.4 +1.3
MNTX Cornudas Mount 138.70 26 *e*PKPdf PKPdf 09 44 10.1 +0.2
TXAR Lajitas Array 141.48 26 PKhKP 09 44 09.1
comp=Z,1.4nm,0.6s,baz=306,slow=1.2,SNR=12
TXAR PP PP 09 47 18.0 -0.2
comp=Z,0.9nm,0.8s,baz=323,slow=3.1,SNR=4.3
JCT Junction City 142.00 21 *e*PKHKP 09 44 10.8
CPD Cerro la Pandu 150.16 321 *e*PKIKP PKPbc 09 44 35.4 +0.6
LPAZ La Paz 159.85 235 PKP PKPdf 09 44 44.0 +1.2
comp=Z,2.8nm,0.9s,baz=71,slow=2.1,SNR=7.7
OTAV Otavalo 171.41 308 *e*PKPdf PKPdf 09 44 53.7 +1.4
OTAV LR LR
comp=Z,157nm,19.0s

NEIC ***09*** *09:40:06.0±1.3, 1574S×16795E, h100km, mb4.5/8, Error ellipse: s-maj=30.4km s-min=19.5km az=199.0*
ISCJB ***09*** *09:40:13.3±3.8, 160S±02×167.6E±02, h165km±28km, mb4.4/10, Error ellipse: s-maj=37.3km s-min=24.1km az=97.9*
IDC ***09*** *09:40:25.6±14.0, 1593S×16742E, h263km±130km, mb3.8/8, mb1 3.9/8, mb1mx3.7/18, mbtmp3.8/8, MS3.5/2, Ms1 3.5/2, ms1mx2.8/32, Error ellipse: s-maj=68.8km s-min=27.5km az=62.0*
ISC 09 09:40:13.0±4.0, 159S±02×1678E±02, h151km±29km, n19, σ0°73/18, mb4.4/10, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.25**	**191**	*e*P	**Pn**	**09 41 43.4**	**+0.4**
DZM				*e*S	**Sn**	**09 42 53.0**	**-0.5**
HNR	**Honiara**	**9.97**	**309**	LR	LR	09 45 38.6	
comp=Z,47nm,19.5s,baz=179,slow=32							
CTA	**Charters Tower**	**20.86**	**255**	*e*P	**P**	**09 44 43.4**	**+0.5**
7.5nm,0.6s							
CTA	**Charters Tower**	**20.86**	**255**	P	**P**	**09 44 44.9**	**+1.9**
11nm,0.7s,baz=79,slow=11,SNR=12							
CTAO	**Charters Tower**	**20.86**	**255**	*e*P	**P**	**09 44 44.0**	**+1.0**
10nm,0.7s							
STKA	**Stephens Creek**	**28.61**	**232**	*e*P	**P**	**09 45 55.8**	**+0.8**
8.3nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**28.61**	**232**	P	**P**	**09 45 56.4**	**+1.4**
11nm,0.7s,mb4.7,baz=50,slow=7.4,SNR=20							
WRAB	**Tennant Creek**	**32.00**	**258**	*e*P	**P**	**09 46 23.6**	**-1.3**
4.3nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**32.01**	**258**	P	**P**	**09 46 23.9**	**-1.0**
2.7nm,0.8s,mb4.1,baz=86,slow=8.4,SNR=9.8							
ASAR	**Alice Springs**	**32.71**	**251**	P	**P**	**09 46 31.1**	**0.0**
7.1nm,0.7s,mb4.5,baz=79,slow=9.2,SNR=38							
FORT	**Forrest**	**39.11**	**241**	⇑*i*P	**P**	**09 47 26.3**	**+0.8**
21nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**40.27**	**261**	*e*P	**P**	**09 47 34.6**	**-0.5**
13nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**40.27**	**261**	P	**P**	**09 47 35.5**	**+0.5**
8.4nm,0.7s,mb4.5,baz=99,slow=10.0,SNR=11							
NWAO	**Narrogin (SRO)**	**48.55**	**240**	P	**P**	**09 48 40.3**	**-0.5**
7.9nm,0.9s,mb4.3,baz=45,slow=7.0,SNR=3.4							
VNDA	**Vanda**	**61.70**	**181**	P	**P**	**09 50 15.1**	**+0.1**
0.8nm,0.5s,mb3.8,baz=358,slow=7.8,SNR=5.1							
VNDA	**Vanda**	**61.70**	**181**	P	**P**	**09 50 15.1**	**0.0**
QSPA	**South Pole Qui**	**74.12**	**180**	*e*P	**P**	**09 51 32.7**	**0.0**
62nm,0.6s,mb5.5							
SONM	**Songino Array**	**83.72**	**323**	P	**P**	**09 52 24.7**	**-0.2**
0.6nm,0.8s,mb3.4,baz=140,slow=7.0,SNR=4.1							
PMSA	**Palmer Station**	**90.51**	**160**	LR	LR	10 29 18.9	
comp=Z,162nm,19.6s,baz=289,slow=32							

IDC 09 09:40:58.6±1.3, 647S×12280E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=113.6km s-min=21.4km az=65.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.89**	**167**	*e*P	Pn	09 43 47.7	-1.7
10nm,1.0s							
FITZ	**Fitzroy Crossi**	**11.89**	**167**	Pn	Pn	09 43 47.6	-1.7
0.5nm,0.3s,baz=357,slow=9.3,SNR=7.6							
WRA	**Warramunga Arr**	**17.47**	**141**	P	Pn	09 45 02.8	-0.7
0.3nm,0.3s,baz=319,slow=13,SNR=17							
WB2	**Warramunga Arr**	**17.47**	**141**	*e*P	Pn	09 45 03.7	0.0
ASAR	**Alice Springs**	**20.16**	**149**	P	P	09 45 36.2	+1.8
2.9nm,0.7s,baz=325,slow=11,SNR=30							
SONM	**Songino Array**	**55.97**	**347**	P	P	09 50 39.4	+0.7
2.0nm,1.0s,baz=168,slow=8.5,SNR=9.4							
MKAR	**Makanchi Array**	**64.03**	**330**	P	P	09 51 33.6	-0.5
1.0nm,0.7s,baz=122,slow=7.1,SNR=8.1							

IDC 09 09:51:44.9±3.5, 878N×9245E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=140.5km s-min=23.6km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.87**	**349**	P	P	09 59 11.9	0.0
1.8nm,0.7s,baz=164,slow=8.2,SNR=18							
SONM	**Songino Array**	**40.68**	**14**	P	P	09 59 26.9	0.0
0.3nm,0.5s,baz=198,slow=9.5,SNR=4.7							
WRA	**Warramunga Arr**	**50.14**	**125**	P	P	10 00 42.1	+0.1
0.5nm,0.5s,baz=303,slow=8.9,SNR=11							
ASAR	**Alice Springs**	**51.77**	**129**	P	P	10 00 55.0	+0.8
0.8nm,0.9s,baz=311,slow=6.7,SNR=6.6							

IDC ***09*** *09:55:22.6±0.6, 6128S×3682W, h0km, mb4.6/8, mb1 4.6/9, mb1mx4.5/13, mbtmp4.6/9, ML4.1/1, MS4.1/9, Ms1 4.1/9, ms1mx3.9/16, Error ellipse: s-maj=27.8km s-min=18.9km az=28.0*
ISCJB ***09*** *09:55:23.2±0.5, 6128S±008×362W±0.1, h10km, mb4.7/14, MS4.2/9, Error ellipse: s-maj=12.7km s-min=8.3km az=67.0*

MOS ***09*** *09:55:23.6±1.5, 6112S×3614W, h10km, mb5.3/4, Error ellipse: s-maj=36.2km s-min=16.2km az=108.0*
NEIC ***09*** *09:55:24.1±0.4, 6104S×3626W, h10km, mb4.8/6, Error ellipse: s-maj=15.0km s-min=11.4km az=210.0*
BJI ***09*** *09:55:24.1, 6100S×3630W, h10km, mB5.3*
ISC 09 09:55:25.0±0.5, 6132S±008×362W±01, h10km, n69, σ1°36/33, mb4.7/14, MS4.2/9, 4C-1D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**13.05**	**243**	Pn	**Pn**	**09 58 29.2**	**-1.2**
0.7nm,0.3s,baz=78,slow=14,SNR=3.0							
PMSA	**Palmer Station**	**13.05**	**243**	*e*Pn	**Pn**	**09 58 31.6**	**+1.3**
VNA3	**Neumayer Olymp**	**14.42**	**145**	*e*Pn	**Pn**	**09 58 47.9**	**-1.2**
VNA3				*e*		09 58 49.6	
VNA3				*e*		09 58 54.9	
VNA3				*e*		10 01 23.6	
VNA1	**Neumayer--Stat**	**14.55**	**142**	*e*Pn	**Pn**	**09 58 49.8**	**-1.0**
VNA1				*e*		09 58 52.7	
VNA1				*e*		10 01 26.8	
VNA2	**Neumayer--Watz**	**14.93**	**142**	*e*Pn	**Pn**	**09 58 54.4**	**-1.6**
baz=300,slow=16							
VNA2				*e*		09 58 58.4	
VNA2				*e*		09 59 05.5	
VNA2				*e*		09 59 14.2	
VNA2				*e*		09 59 22.1	
VNA2				*e*		10 01 33.4	
VNA2				*e*		10 01 40.6	
EFI	**East Falkland**	**15.39**	**299**	*d*P	**Pn**	**09 59 01.7**	**-0.4**
EFI	**East Falkland**	**15.39**	**299**	*e*Pn	**Pn**	**09 58 58.5**	**-3.6**
SNAA	**Sanae**	**16.58**	**142**	Pn	**Pn**	**09 59 17.1**	**-0.3**
0.7nm,0.3s,baz=307,slow=12,SNR=78							
SNAA				Sn	**Sn**	**10 02 12.8**	**-8.6**
0.4nm,0.3s,baz=330,slow=19,SNR=8.8							
SNAA	**Sanae**	**16.58**	**142**	*e*Pn	**Pn**	**09 59 16.8**	**-0.6**
SNAA				*e*		09 59 20.5	
SNAA				*e*		09 59 28.3	
SNAA				*e*		10 02 14.6	
SNAA				*e*		10 02 31.2	
SNAA	**Sanae**	**16.58**	**142**	*e*P	**Pn**	**09 59 16.8**	**-0.6**
SNAA				pmax	pmax		
comp=Z,64nm,1.0s							
SNAA	**Sanae**	**16.58**	**142**	*e*Pn	**Pn**	**09 59 16.8**	**-0.6**
comp=Z,64nm,1.0s							
SNAA				*e*Sn	**Sn**	**10 02 13.3**	**-8.2**
USHA	**Ushuaia**	**18.11**	**276**	P	**Pn**	**09 59 36.5**	**0.0**
comp=Z,0.3nm,0.3s,baz=109,slow=14,SNR=3.0							
USHA				LR	LR	10 04 42.9	
comp=Z,765nm,20.4s,baz=81,slow=32							
NVL	**N'lazarevskaya**	**21.03**	**137**	*c i*P	**P**	**10 00 14.1**	**+5.3**
NVL				*i* S	**S**	**10 04 17.9**	**+15**
NVL				pmax	pmax		
comp=Z,85nm,1.2s,mb5.0							
NVL				MLR	MLR		
comp=Z,214nm,7.0s							
QSPA	**South Pole Qui**	**28.92**	**180**	*e*P	**P**	**10 01 26.0**	**+1.9**
comp=Z,12nm,0.7s,mb4.7							
SYO	**Syowa Base**	**30.70**	**137**	⇑*e*pP	pP	10 01 41.6	-1.4
CFAA	**Coronel Fontan**	**36.33**	**310**	P	**P**	**10 02 24.8**	**-4.1**
comp=Z,1.7nm,0.9s,mb4.0,baz=160,slow=8.1,SNR=17							
MAW	**Mawson**	**38.74**	**143**	LR	LR	10 19 20.5	
comp=Z,136nm,19.7s,MS3.8,baz=243,slow=37							
VNDA	**Vanda**	**40.96**	**186**	P	**P**	**10 03 10.1**	**+2.3**
comp=Z,7.6nm,0.9s,mb4.3,baz=182,slow=6.4,SNR=12							
SUR	**Sutherland**	**46.43**	**78**	P	**P**	**10 03 53.1**	**+1.3**
comp=Z,4.9nm,0.8s,mb4.5,baz=231,slow=13,SNR=3.1							
CASY	**Casey**	**50.37**	**163**	*e*P	**P**	**10 04 24.6**	**+2.4**
CASY				*e*		10 04 33.4	
LPAZ	**La Paz**	**50.41**	**319**	P	**P**	**10 04 21.4**	**-1.1**
comp=Z,6.3nm,0.9s,mb4.7,baz=152,slow=6.4,SNR=23							
LPAZ				LR	LR	10 24 46.4	
comp=Z,92nm,18.9s,MS3.8,baz=300,slow=35							
BOSA	**Boshof**	**51.67**	**80**	P	**P**	**10 04 33.8**	**+1.8**
comp=Z,6.2nm,0.9s,mb4.5,baz=200,slow=7.4,SNR=8.6							
BOSA				LR	LR	10 21 22.4	
comp=Z,196nm,20.5s,MS4.1,baz=213,slow=30							
LBTB	**Lobatse**	**54.88**	**78**	P	**P**	**10 04 56.9**	**+1.3**
comp=Z,9.5nm,0.6s,mb5.0,baz=220,slow=7.2,SNR=19							
LSZ	**Lusaka**	**64.48**	**75**	*e*P	**P**	**10 05 59.9**	**-1.8**
LSZ				pmax	pmax		
comp=Z,17nm,1.1s,mb5.0							
LSZ	**Lusaka**	**64.48**	**75**	*e*P	**P**	**10 05 59.9**	**-1.8**
comp=Z,17nm,1.1s,mb5.0							
OTAV	**Otavalo**	**69.31**	**314**	*e*P	**P**	**10 06 32.0**	**-0.5**
comp=Z,26nm,1.3s,mb5.0							
SDV	**Santo Domingo**	**75.01**	**325**	*e*P	**P**	**10 07 02.0**	**-4.6**
comp=Z,6.9nm,0.8s,mb4.6							
TORD	**Torodi Ar. Bea**	**80.04**	**37**	P	**P**	**10 07 34.7**	**0.0**
comp=Z,7.5nm,0.9s,mb4.6,baz=199,slow=6.5,SNR=40							
TORD				LR	LR	10 35 44.1	
comp=Z,129nm,18.3s,MS4.3,baz=190,slow=30							
TORD	**Torodi Ar. Bea**	**80.04**	**37**	P	**P**	**10 07 34.7**	**0.0**
TORD				LR	LR	10 35 44.1	
KMBO	**Kilima Mbogo**	**81.10**	**76**	LR	LR	10 39 49.5	
comp=Z,161nm,19.1s,MS4.4,baz=89,slow=33							
STKA	**Stephens Creek**	**87.12**	**178**	*e*P	**P**	**10 08 11.4**	**+0.3**
comp=Z,2.9nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**87.12**	**178**	P	**P**	**10 08 10.8**	**-0.2**
comp=Z,5.4nm,0.9s,mb4.8,baz=148,slow=5.5,SNR=9.9							
ATD	**Arta Tunnel**	**94.81**	**75**	LR	LR	10 48 10.1	
comp=Z,75nm,20.8s,MS4.1,baz=57,slow=33							
AFI	**Afiamalu**	**97.21**	**223**	LR	LR	10 42 51.4	
comp=Z,56nm,20.3s,MS4.0,baz=194,slow=29							
MDT	**Midelt**	**97.26**	**26**	LR	LR	10 46 24.3	
comp=Z,149nm,20.9s,MS4.5,baz=282,slow=31							
WRA	**Warramunga Arr**	**98.67**	**171**	P	**P**	**10 09 03.2**	**-1.2**
comp=Z,1.3nm,0.8s,mb4.5,baz=191,slow=4.2,SNR=13							
GERES	**GERESS Array B**	**116.89**	**34**	PKP	PKPdf	10 14 07.2	-2.6
comp=Z,0.7nm,0.8s,baz=153,slow=4.2,SNR=3.7							
KIV	**Kislovodsk**	**122.59**	**57**	⇑*i*PKIKP	PKPdf	10 14 16.4	-4.3
KIV				*e*		10 21 20.9	
KIV				*e*SSS		10 37 12.6	
KIV				pmax	pmax		
comp=Z,5.0nm,0.9s							
KIV				MLR	MLR		
comp=Z,100nm,24.0s,MS4.4							
AKASG	**Malin Array Be**	**123.25**	**44**	PKP	PKPdf	10 14 19.2	-2.8
comp=Z,1.2nm,0.6s,baz=240,slow=2.0,SNR=8.3							
NB2	**NORSAR Subarra127.32**	**27**		PKPdf	PKPdf	10 14 27.3	-2.5
comp=Z,5.0nm,1.0s,baz=206,slow=2.0							
NB2	**NORSAR Subarra127.32**	**27**		PKPdf	PKPdf	10 14 27.3	-2.5
baz=206,slow=2.0							
NOA	**NORSAR Array B**	**127.32**	**27**	PKP	PKPdf	10 14 27.8	-2.0
comp=Z,1.9nm,0.9s,baz=205,slow=2.0,SNR=6.4							
NOA	**NORSAR Array B**	**127.32**	**27**	PKP	PKPdf	10 14 27.8	-2.0
OBN	**Obninsk**	**129.40**	**45**	⇑*i*PKIKP	PKPdf	10 14 30.4	-3.4
OBN				pmax	pmax		
comp=Z,26nm,1.7s							
FINES	**FINESS Array B**	**131.32**	**34**	PKP	PKPdf	10 14 33.8	-3.6
comp=Z,3.0nm,0.7s,baz=146,slow=3.9,SNR=11							
AAK	**Ala-Archa**	**135.79**	**82**	*e*PKIKP	PKPdf	10 14 43.7	-2.1
YKA	**Yellowknife Ar**	**136.96**	**318**	PKhKP		10 14 34.0	
comp=Z,0.4nm,0.7s,baz=124,slow=3.6,SNR=5.3							
YKA				PKP	PKPdf	10 14 44.1	-3.8
comp=Z,4.8nm,0.8s,baz=132,slow=2.3,SNR=25							
YKA	**Yellowknife Ar**	**136.96**	**318**	PKIKP	PKPdf	10 14 44.2	-3.8
ARCES	**ARCESS Array B**	**137.69**	**27**	PKP	PKPdf	10 14 48.3	-1.0
comp=Z,2.8nm,0.6s,baz=174,slow=1.2,SNR=8.6							
CHKZ	**Chkalovo**	**141.90**	**67**	*e*PKHKP		10 14 50.2	
MKAR	**Makanchi Array**	**142.60**	**84**	PKhKP		10 14 53.0	
comp=Z,2.4nm,0.5s,baz=237,slow=2.1,SNR=14							
WMQ	**Urumqi**	**143.04**	**92**	*e*PKP	PKPdf	10 14 57.

SVW2 ePKPab PKPab 10 15 24.2 -4.4
IMA2 Indian Mountai 152.95 307 ePKPbc PKPbc 10 15 18.5 -3.9
IMA2 ePKPab PKPab 10 15 28.7 -5.0
SONM Songino Array 154.88 105 PKP PKPdf 10 15 15.6 -2.4
comp=N,0.4nm,0.7s,baz=5.7,slow=1.4,SNR=3.3
SONM PKPbc PKPbc 10 15 25.1 -1.5
comp=N,0.9nm,0.5s,baz=207,slow=3.8,SNR=9.9
SONM PKPab PKPab 10 15 41.5 -0.3
comp=N,1.9nm,0.6s,baz=217,slow=5.1,SNR=7.8
MJAR Matsushiro Arr 154.95 169 PKPbc PKPbc 10 15 23.8 -3.0
comp=N,1.3nm,1.0s,baz=220,slow=26,SNR=3.4
MJAR PKPab PKPab 10 15 41.5 -0.7
comp=N,2.9nm,0.8s,baz=185,slow=4.8,SNR=8.2
ZAK Zakamensk 155.18 98 ePKIKP PKPdf 10 15 16.5 -1.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s

*IDC **09** 10:12:11.6±1.4,2892S×17667W,h0km,mb4.2/3, mb1 4.4/4,mb1mx4.1/13,mbtmp4.2/4,ML4.0/1,MS3.7/1, Ms1 3.6/1,ms1mx2.8/22,Error ellipse: s-maj=46.7km s-min=22.6km az=157.0*
*ISCJB **09** 10:12:13.9±1.1,291S±02×1765W±01,h33km,mb4.2/4, MS3.7/1,Error ellipse: s-maj=25.2km s-min=13.6km az=153.4*
*NEIC **09** 10:12:17.2±3.0,2897S×17673W,h43km±24km,mb4.5/1, Error ellipse: s-maj=34.7km s-min=25.7km az=188.0*
ISC 09 10:12:13.9±6.9,289S±02×1767W±02,h17km±45km,n13, σ0§82/13,mb4.2/4,MS3.7/1,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.17**	**251**	Pn	**Pn**	**10 12 36.2**	**+0.7**
	430nm,0.3s,baz=85,slow=12,SNR=21						
RAO				Sn	**Sn**	**10 12 52.1**	**+1.0**
	890nm,0.3s,baz=98,slow=22,SNR=17						
RAO	**Raoul Island**	**1.17**	**251**	ePn	**Pn**	**10 12 36.0**	**+0.5**
RAO				Pn	**Pn**	**10 12 36.2**	**+0.7**
RAO				eSn	**Sn**	**10 12 48.4**	**-2.8**
RAO				Sn	**Sn**	**10 12 52.1**	**+1.0**
URZ	**Urewera**	**10.71**	**207**	Pn	**Pn**	**10 14 46.1**	**-0.3**
	1.1nm,0.3s,baz=143,slow=8.2,SNR=5.8						
STKA	**Stephens Creek**	**35.99**	**255**	P	**P**	**10 19 14.8**	**+1.0**
	1.5nm,0.5s,mb4.2,baz=106,slow=9.7,SNR=6.5						
STKA				LR	LR	10 32 10.1	
	comp=Z,129nm,20.8s,MS3.7,baz=203,slow=33						
STKA	**Stephens Creek**	**35.99**	**255**	P	**P**	**10 19 14.8**	**+1.0**
STKA				LR	LR	10 32 10.1	
ASAR	**Alice Springs**	**44.39**	**265**	P	**P**	**10 20 22.6**	**-0.9**
	2.0nm,0.5s,mb4.1,baz=102,slow=6.7,SNR=84						
WB2	**Warramunga Arr**	**45.24**	**270**	eP	**P**	**10 20 29.5**	**-0.7**
WRA	**Warramunga Arr**	**45.25**	**270**	P	**P**	**10 20 29.8**	**-0.5**
	1.4nm,0.4s,mb4.1,baz=109,slow=7.7,SNR=34						
SRU	**San Rafael**	**91.47**	**45**	eP	**P**	**10 25 19.9**	**+0.6**
	2.5nm,1.1s,mb4.5						
FINES	**FINES Array B**	**144.10**	**342**	PKP	PKPdf	10 31 47.4	-1.2
	1.2nm,0.6s,baz=29,slow=3.2,SNR=5.8						
HFS	**Hagfors**	**147.96**	**350**	PKPbc	PKPbc	10 32 00.0	+1.8
	1.8nm,0.8s,baz=62,slow=4.3,SNR=3.6						
AKASG	**Malin Array Be**	**150.76**	**325**	PKPbc	PKPbc	10 32 05.2	0.0
	0.9nm,0.4s,baz=45,slow=2.9,SNR=6.8						
TORD	**Torodi Ar. Bea**	**164.28**	**174**	PKPab	PKPab	10 33 10.1	-0.4
	1.1nm,1.0s,baz=197,slow=3.5,SNR=3.2						

*STR **09** 10:18:29.7±0.6,4756N×760E,h5km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 10:18:30.6±0.2,4761N×759E,h7km,Md2.0/2,Ml2.1/4, Error ellipse: s-maj=3.0km s-min=1.8km az=108.0*
ZUR 09 10:18:30.4,4758N×760E,h4km±1km,ML1.3,1C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	*i* Pg	Pg	10 18 35.8	+0.4
	98nm,0.3s						
BALST				eSg	Sg	10 18 39.6	+0.9
	98nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑ *i* Pg	Pg	10 18 36.9	+0.4
	40nm,1.3s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	10 18 38.4	0.0
MOF				Sg	Sg	10 18 44.2	+0.4
HINF	**Hinteralfeld**	**0.56**	**295**	ePg	Pg	10 18 40.8	-0.3
HINF	**Hinteralfeld**	**0.56**	**295**	ePn	Pg	10 18 42.3	+1.2
HINF				eSg	Sg	10 18 48.1	-0.2
	11nm,0.2s						
HINF				eSn	Sg	10 18 51.7	+3.4
SLE	**Schleitheim**	**0.63**	**73**	ePg	Pg	10 18 42.2	-0.3
	54nm,0.3s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	10 18 43.6	-0.2
ECH				Sg	Sg	10 18 52.8	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	ePn	Pn	10 18 47.1	-2.1
CDF				eSn	Sn	10 18 59.3	-2.8
	9.2nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	ePg	Pg	10 18 48.2	-0.3
HAU				eSg	Sg	10 19 00.3	-0.5
	10.0nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	ePg	Pg	10 18 57.4	-0.2
CABF				eSn	Sn	10 19 13.9	-2.1
CABF				eSg	Sg	10 19 16.1	+0.1
	2.5nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	ePg	Pg	10 19 04.7	-0.8
LOR	**Lormes**	**2.56**	**264**	eSg	Sg	10 19 51.1	-1.6
	1.9nm,0.3s						
SMF	**Signal de Mont**	**2.73**	**251**	eSg	Sg	10 19 56.0	-2.2
	0.9nm,0.2s						

*IDC **09** 10:27:36.6±0.9,5113N×16008E,h0km,mb3.9/12, mb1 4.1/12,mb1mx3.9/25,mbtmp3.9/12,MS3.9/1, Ms1 3.9/1,ms1mx2.8/37,Error ellipse: s-maj=28.1km s-min=17.0km az=166.0*
*MOS **09** 10:27:37.9±1.1,5104N×160.12E,h24km,mb4.2/9,Error ellipse: s-maj=16.1km s-min=6.6km az=94.4*
*KRSC **09** 10:27:39.0±1.2,5113N×16036E,h31km±31km,ML4.2*
*ISCJB **09** 10:27:40.6±0.9,5110N±004×160.15E±007,h45km±7km, mb4.0/17,MS3.9/1,Error ellipse: s-maj=8.5km s-min=5.9km az=77.7*
*NEIC **09** 10:27:41.8±4.7,5114N×160.11E,h34km±33km,mb4.3/2, Error ellipse: s-maj=14.6km s-min=10.4km az=158.0*
ISC 09 10:27:42.0±0.9,5107N±005×16008E±007,h42km±7km, n61,σ0§99/79,mb4.0/17,MS3.9/1,7C,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.68**	**325**	eP	**Pn**	**10 28 08.0**	**-0.8**
RUS				*i* S	**Sn**	**10 28 29.2**	**+0.1**
GRL	**Gorelyy**	**1.94**	**321**	eP	**Pn**	**10 28 12.9**	**+0.5**
GRL				*i* S	**Sn**	**10 28 37.6**	**+2.1**
SPN	**Mys Shipunski**	**2.03**	**359**	eP	**Pn**	**10 28 11.4**	**-2.3**
SPN				*i* S	**Sn**	**10 28 35.0**	**-2.8**
PET	**Petropavlovsk**	**2.14**	**336**	ePN	**Pn**	**10 28 15.1**	**-0.2**
PET				eS	**Sn**	**10 28 39.8**	**-0.8**
PET				pmax	pmax		
	comp=Z,46nm,0.5s						
PET				smax			
	comp=E,147nm,0.9s						
PET				smax			
	comp=N,400nm,0.6s						
PET	**Petropavlovsk**	**2.14**	**336**	ePn	**Pn**	**10 28 14.4**	**-0.9**
PET				eSn	**Sn**	**10 28 39.3**	**-1.3**
PET	**Petropavlovsk**	**2.14**	**336**	eP	**Pn**	**10 28 14.8**	**-0.5**
PET				*i* S	**Sn**	**10 28 41.0**	**+0.4**
NLC	**Nalytchevo**	**2.15**	**348**	eP	**Pn**	**10 28 14.6**	**-0.8**
NLC				*i* S	**Sn**	**10 28 40.7**	**-0.1**
AVH	**Avacha**	**2.35**	**340**	eP	**Pn**	**10 28 17.8**	**-0.3**
AVH				*i* S	**Sn**	**10 28 46.1**	**+0.5**
SKR	**Severo-Kuril's**	**2.54**	**263**	ePN	**Pn**	**10 28 20.0**	**-0.7**
SKR				eS	**Sn**	**10 28 50.0**	**-0.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,430nm,0.3s						
SKR				smax			
	comp=E,220nm,0.3s						
GNL	**Ganaly**	**2.94**	**334**	eP	**Pn**	**10 28 26.4**	**+0.3**
GNL				*i* S	**Sn**	**10 29 01.3**	**+1.2**
MKZ	**Mys Kozlova**	**3.63**	**15**	eP	**Pn**	**10 28 32.9**	**-2.8**
MKZ				*i* S	**Sn**	**10 29 12.3**	**-5.0**
TUMR	**Tumrok**	**4.22**	**1**	eP	**Pn**	**10 28 43.5**	**-0.3**
TUMR				*i* S	**Sn**	**10 29 30.5**	**-1.3**

KMNR	**Kamenistaya**	**4.69**	**1**	eP	**Pn**	**10 28 51.0**	**+0.7**
KMNR				*i* S	**Sn**	**10 29 44.3**	**+0.8**
KPT	**Kopyto**	**4.90**	**1**	eP	**Pn**	**10 28 54.0**	**+0.8**
ZLN	**Zelenaya**	**4.97**	**5**	eP	**Pn**	**10 28 55.3**	**+1.2**
ZLN				*i* S	**Sn**	**10 29 50.9**	**+0.6**
KOZ	**Kozyrevsk**	**5.00**	**359**	eP	**Pn**	**10 28 55.7**	**+1.2**
KOZR	**Kozyr**	**5.00**	**359**	PN	**Pn**	**10 28 55.7**	**+1.1**
CIRR	**Tsirk**	**5.07**	**4**	eP	**Pn**	**10 28 56.5**	**+1.1**
KRSR	**Krestovskiy**	**5.16**	**3**	eP	**Pn**	**10 28 57.7**	**+1.0**
SRDR	**Sredinnyy**	**5.26**	**358**	eP	**Pn**	**10 28 58.4**	**+0.3**
KLY	**Klyuchi**	**5.26**	**3**	eP	**Pn**	**10 28 58.8**	**+0.7**
KLY				*i* S	**Sn**	**10 29 57.0**	**-0.5**
KBTR	**Krutoberegovo**	**5.40**	**16**	eP	**Pn**	**10 28 58.4**	**-1.6**
KBTR				*i* S	**Sn**	**10 29 56.8**	**-4.0**
BDR	**Baidarnaya**	**5.55**	**6**	eP	**Pn**	**10 29 01.9**	**-0.1**
SMKR	**Semkarok**	**5.58**	**8**	eP	**Pn**	**10 29 02.1**	**-0.4**
SRKR	**Sorokina**	**5.63**	**6**	eP	**Pn**	**10 29 03.1**	**0.0**
BILL	**Bilibino**	**17.29**	**8**	⇑ eP	**Pn**	**10 31 40.8**	**+0.6**
BILL				eS	**S**	**10 34 46.6**	**-12**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK	**Yakutsk**	**19.82**	**315**	eP	**Pn**	**10 32 08.8**	**-2.0**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK	**Yakutsk**	**19.82**	**315**	eP	**Pn**	**10 32 07.9**	**-2.9**
	comp=E,15nm,0.7s						
MJAR	**Matsushiro Arr**	**21.34**	**236**	P	**P**	**10 32 27.3**	**+1.9**
	comp=E,2.4nm,0.9s,mb3.5,baz=30,slow=11,SNR=6.3						
MJAR	**Matsushiro Arr**	**21.34**	**236**	P	**P**	**10 32 27.3**	**+1.9**
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**24.93**	**337**	eP	**P**	**10 33 00.7**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
TIXI	**Tiksi**	**24.93**	**337**	eP	**P**	**10 33 01.8**	**+0.6**
	comp=Z,4.2nm,0.6s,mb4.2						
HIA	**Hailar**	**25.68**	**282**	*c i* P	**P**	**10 33 07.2**	**-0.8**
INK	**Inuvik**	**35.50**	**36**	P	**P**	**10 34 34.3**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=274,slow=8.8,SNR=6.0						
INK	**Inuvik**	**35.50**	**36**	P	**P**	**10 34 34.3**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**44.68**	**41**	P	**P**	**10 35 50.5**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.7,baz=299,slow=7.9,SNR=9.7						
YKA	**Yellowknife Ar**	**44.68**	**41**	*i* P	**P**	**10 35 50.5**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**44.68**	**41**	P	**P**	**10 35 50.5**	**-0.2**
KURK	**Kurchatov**	**48.82**	**303**	⇑ eP	**P**	**10 36 21.9**	**-1.1**
MKAR	**Makanchi Array**	**49.05**	**297**	P	**P**	**10 36 24.7**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=59,slow=6.4,SNR=9.5						
MKAR	**Makanchi Array**	**49.05**	**297**	⇑ eP	**P**	**10 36 25.0**	**+0.2**
EDM	**Edmonton**	**50.01**	**52**	eP	**P**	**10 36 31.9**	**-0.3**
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**10 36 44.2**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=47,slow=7.1,SNR=6.7						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**10 36 44.2**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**54.89**	**318**	⇑ eP	**P**	**10 37 08.1**	**-0.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**55.98**	**297**	⇑ eP	**P**	**10 37 15.7**	**-0.5**
AAK				*e**PP	pP	10 37 27.6	-0.7
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
NVAR	**Mina Array Bea**	**56.46**	**69**	P	**P**	**10 37 19.8**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=294,slow=6.8,SNR=5.4						
PDAR	**Pinedale Array**	**58.53**	**60**	P	**P**	**10 37 35.0**	**+0.8**
	comp=Z,1.4nm,0.8s,mb4.0,baz=304,slow=3.5,SNR=10						
PDAR				LR	LR	11 02 24.3	
	comp=Z,91nm,18.6s,MS3.9,baz=328,slow=36						
AKTK	**Aktyubinsk**	**59.19**	**313**	P	**P**	**10 37 39.3**	**+0.6**
AKTO	**Aktyubinsk**	**59.19**	**313**	P	**P**	**10 37 39.3**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=358,slow=5.2,SNR=6.0						
AKTO	**Aktyubinsk**	**59.19**	**313**	P	**P**	**10 37 39.3**	**+0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
OBN	**Obninsk**	**64.22**	**328**	⇑ eP	**P**	**10 38 10.6**	**-2.0**
OBN				*e**PP	pP	10 38 45.5	+21
OBN				*e*		10 40 34.0	
OBN				eS	**S**	**10 46 52.2**	**+5.2**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**70.35**	**329**	P	**P**	**10 38 50.9**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=30,slow=6.6,SNR=2.3						
TXAR	**Lajitas Array**	**71.45**	**66**	P	**P**	**10 38 58.7**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.1,baz=300,slow=3.8,SNR=24						
TXAR	**Lajitas Array**	**71.45**	**66**	P	**P**	**10 38 58.7**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRAB	**Tennant Creek**	**74.23**	**205**	eP	**P**	**10 39 14.1**	**-0.4**
WRA	**Warramunga Arr**	**74.24**	**205**	P	**P**	**10 39 14.7**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=19,slow=6.2,SNR=4.9						
WRA	**Warramunga Arr**	**74.24**	**205**	*i* P	**P**	**10 39 15.3**	**+0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**78.18**	**321**	P	**P**	**10 39 36.9**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=27,slow=0.6,SNR=2.5						
ANTO	**Ankara**	**78.39**	**321**	eP	**P**	**10 39 40.4**	**+2.3**
ANTO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ANTO	**Ankara**	**78.39**	**321**	eP	**P**	**10 39 40.4**	**+2.3**
	comp=Z,4.9nm,0.7s,mb4.5						

CASC 09 10:34:24.6±2.1,894N×8399W,h0km±5km,MD4.0,ML3.4, 3C-6D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.65**	**20**	⇓ eP	Pg	10 34 38.2	+1.1
BUS				eS	Sg	10 34 50.9	+5.4
LCR2	**La Lucha 2**	**0.80**	**359**	⇓ *i* P	Pg	10 34 40.4	+0.5
ACR	**Cerro Adams**	**0.86**	**109**	eP	Pg	10 34 41.9	+0.9
ACR				eS	Sg	10 34 54.3	+2.2
OCM	**Ochomogo**	**0.95**	**1**	⇓ eP	Pg	10 34 43.0	+0.1
OCM				eS	Sg	10 34 57.6	+2.4
SJS	**Escuela Geolog**	**1.00**	**356**	⇑ eP	Pg	10 34 44.1	+0.4
SJS				eS	Sg	10 34 60.0	+3.3
IRZ2	**Volcan Irazu 2**	**1.03**	**5**	⇓ eP	Pg	10 34 44.2	-0.1
PRS1	**Puriscal**	**1.09**	**343**	⇓ eP	Pg	10 34 43.5	-1.9
VTU	**Volcan Turrial**	**1.10**	**12**	eP	Pg	10 34 45.9	+0.2
CGA2	**Cerro Gallo 2**	**1.17**	**336**	⇓ eP	Pg	10 34 46.3	-0.7
CGA2				eS	Sg	10 35 03.8	+1.6
EPA	**Esparza**	**1.20**	**330**	eP	Pg	10 34 46.1	-1.5
CTCR	**Cotoan**	**1.21**	**92**	⇑ eP	Pg	10 34 47.9	+0.1
POA2	**Poas 2**	**1.26**	**348**	eP	Pg	10 34 47.9	-0.8
POA2				eS	Sg	10 35 08.7	+3.7
JCR	**Jicaral**	**1.43**	**309**	⇑ eP	Pn	10 34 51.4	-0.4
JTS	**JuntasAbangare**	**1.65**	**325**	eP	Pn	10 34 55.0	+0.2
JTS				eS	Sn	10 35 19.9	+3.2
FORC	**Fortuna**	**1.67**	**336**	eP	Pn	10 34 54.2	-0.9
FORC				eS	Sn	10 35 18.5	+1.4
VACR	**Volcan Arenal**	**1.67**	**336**	eP	Pn	10 34 55.2	+0.1
VACR				eS	Sn	10 35 18.9	+1.6
LIM1	**Limonal**	**2.15**	**325**	*i* P	Pn	10 35 01.5	-0.2
RIN3	**Volcan Rincon**	**2.30**	**323**	eP	Pn	10 35 04.7	+1.0
BOAB	**BOACO BROADBAN**	**3.86**	**335**	eP	Pn	10 35 26.8	+1.6

*STR **09** 10:35:17.3±0.3,4756N×759E,h5km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 10:35:18.0±0.2,4759N×757E,h10km,Md1.9/3,Ml2.0/4, Error ellipse: s-maj=3.8km s-min=2.6km az=104.0*
ZUR 09 10:35:18.0,4759N×760E,h5km±1km,ML1.4,1C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	*i* Pg	Pg	10 35 23.4	+0.4
	156nm,1.7s						
BOURR	**Bourrignon**	**0.32**	**232**	⇑ *i* Pg	Pg	10 35 24.4	+0.3
	31nm,1.2s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i* Pg	Pg	10 35 25.0	+0.1
	56nm,0.6s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	10 35 25.9	0.0
MOF				Sg	Sg	10 35 31.8	+0.5
HINF	**Hinteralfeld**	**0.55**	**295**	ePg	Pg	10 35 28.2	-0.4
HINF	**Hinteralfeld**	**0.55**	**295**	ePn	Pg	10 35 30.3	+1.7
HINF				eSg	Sg	10 35 35.6	-0.2
	9.2nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	ePg	Pg	10 35 29.9	-0.2
	36nm,0.9s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	10 35 31.5	+0.1
ECH				Sg	Sg	10 35 40.3	-0.1
CDF	**Champ du Feu**	**0.85**	**345**	ePn	Pn	10 35 34.6	-2.1
CDF				eSn	Sn	10 35 46.6	-3.0
	7.0nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	ePg	Pg	10 35 35.5	-0.6
HAU				eSg	Sg	10 35 47.9	-0.4
	11nm,0.3s						
BRANT	**Les Verrieres**	**1.00**	**230**	*i* Sg	Sg	10 35 50.6	+0.3
	28nm,1.7s						
CABF	**La Chapelle**	**1.42**	**227**	ePg	Pg	10 35 44.9	-0.3
CABF				eSg	Sg	10 36 01.8	-1.8
	2.3nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	eSg	Sg	10 36 15.4	-1.4
	1.2nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	ePn	Pn	10 35 57.4	-2.7
LOR				eSg	Sg	10 36 38.0	-2.2
	2.0nm,0.2s						

*STR **09** 10:36:14.9±0.2,4757N×760E,h5km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 09 10:36:15.3±0.2,4759N×759E,h8km,Md2.2/3,Ml2.2/3, Error ellipse: s-maj=3.2km s-min=1.9km az=109.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	10 36 23.4	+0.2
MOF				Sg	Sg	10 36 29.0	+0.5
HINF	**Hinteralfeld**	**0.55**	**295**	ePg	Pg	10 36 25.7	-0.2
HINF	**Hinteralfeld**	**0.55**	**295**	ePn	Pg	10 36 27.8	+1.9
HINF				eSg	Sg	10 36 33.2	+0.1
	9.3nm,0.3s						
HINF				eSn	Sg	10 36 36.5	+3.4
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	10 36 26.6	+0.3
ECH	**Echery**	**0.69**	**335**	Pg	Pg	10 36 28.8	+0.2
ECH				Sg	Sg	10 36 37.8	+0.2
CDF	**Champ du Feu**	**0.85**	**346**	ePg	Pg	10 36 31.5	-0.2
CDF	**Champ du Feu**	**0.85**	**346**	ePn	Pn	10 36 32.3	-1.3
CDF				eSg	Sg	10 36 42.0	-0.7
	10nm,0.3s						
CDF				eSn	Sn	10 36 44.2	-2.0
HAU	**Haudompre**	**0.94**	**297**	ePg	Pg	10 36 33.0	-0.3
HAU				eSg	Sg	10 36 45.8	+0.4
	19nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	ePg	Pg	10 36 42.0	-0.5
CABF				eSg	Sg	10 36 59.8	-1.1
	2.7nm,0.2s						
SFTF	**Sexfontaines**	**1.82**	**291**	eSg	Sg	10 37 13.0	-0.9
	1.6nm,0.2s						

*ISCJB **09** 10:40:36.8±0.8,351N±006×7694W±006,h95km±11km, mb3.6/4,Error ellipse: s-maj=11.7km s-min=8.1km az=67.1*
*IDC **09** 10:40:36.4±6.3,329N×7698W,h77km±45km,mb3.4/4, mb1 3.7/5,mb1mx3.4/18,mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=57.2km s-min=25.3km az=18.0*
*NEIC **09** 10:40:39.1,350N×7687W,h68km,After RSNC.*
NEIC Felt at Cali.
ISC 09 10:40:38.4±0.7,350N±006×7695W±006,h89km±10km,n12, σ0§95/12,mb3.6/4,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.94**	**63**	P	**Pn**	**10 41 23.6**	**+0.5**
	79nm,0.3s,baz=309,slow=2.5,SNR=96						
ROSC				S	**Sn**	**10 41 59.4**	**+2.0**
	42nm,0.3s,baz=271,slow=21,SNR=23						
OTAV	**Otavalo**	**3.57**	**205**	ePn	**Pn**	**10 41 32.2**	**+0.7**
OTAV				eSn	**Sn**	**10 42 11.9**	**-0.7**
BCIP	**Isla Barro Col**	**6.32**	**333**	ePn	**Pn**	**10 42 09.0**	**+0.1**
BCIP				eSn	**Sn**	**10 43 19.6**	**-0.1**
SDV	**Santo Domingo**	**8.25**	**49**	ePn	**Pn**	**10 42 33.9**	**-1.3**
SDV				eSn	**Sn**	**10 44 05.0**	**-1.7**
TXAR	**Lajitas Array**	**36.09**	**318**	P	**P**	**10 47 31.4**	**-0.1**
	0.5nm,1.0s,mb3.4,baz=116,slow=7.4,SNR=3.9						
SCHQ	**Schefferville**	**51.83**	**7**	P	**P**	**10 49 38.4**	**+1.1**
	1.1nm,0.5s,mb4.1,baz=203,slow=7.7,SNR=4.8						
YKA	**Yellowknife Ar**	**65.13**	**342**	P	**P**	**10 51 09.9**	**+0.2**
	0.2nm,0.3s,mb3.4,baz=138,slow=6.1,SNR=19						
TORD	**Torodi Ar. Bea**	**78.16**	**77**	P	**P**	**10 52 27.3**	**-0.5**
	0.7nm,0.6s,mb3.6,baz=290,slow=6.6,SNR=7.4						
MKAR	**Makanchi Array**	**126.67**	**18**	PKP	PKPdf	10 59 32.2	+0.9
	0.2nm,0.5s,baz=318,slow=3.1,SNR=3.7						
SONM	**Songino Array**	**128.80**	**357**	PKP	PKPdf	10 59 36.7	+1.3
	0.3nm,0.8s,baz=46,slow=4.2,SNR=2.8						
SONM	**Songino Array**	**128.80**	**357**	PKP	PKPdf	10 59 36.7	+1.3
WRA	**Warramunga Arr**	**145.39**	**239**	pPKPbc	pPKPbc	11 00 29.1	-1.2
	0.4nm,0.6s,baz=111,slow=3.0,SNR=3.3						

*IDC **09** 10:42:35.5±1.1,1502N×14768E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.6/21,mbtmp3.5/6,ML3.3/1,Error ellipse: s-maj=35.2km s-min=21.2km az=110.0*
*ISCJB **09** 10:42:39.5±0.8,150N±01×1476E±01,h35km,mb3.6/6, Error ellipse: s-maj=22.6km s-min=10.0km az=99.3*
*NEIC **09** 10:42:41.6±0.7,1502N×14747E,h40km,mb4.4/1,Error ellipse: s-maj=22.2km s-min=12.5km az=118.0*
ISC 09 10:42:41.2±0.8,150N±01×1476E±01,h35km,n10, σ0§98/10,mb3.6/6,Mariana Islands region

| Code | Station Name | Δ° | AZ° |

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CABF                                  eSg        Sg        10 53 07.3 -1.9
     1.0nm,0.2s
LOR  Lormes              2.56 264  eSg        Sg        10 53 44.3 -1.5
     1.2nm,0.2s
SSF  Saint Saulge        2.83 261  eSg        Sg        10 53 51.4 -3.2
     0.5nm,0.2s
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ISCJB ***09*** *11:00:49.1±2.1, 45 91N±006×15 40.7E±0.07, h1km±13km, mb4.2/30, MS3.6/7, Error ellipse: s-maj=11.3km s-min=6.5km az=118.9*
IDC ***09*** *11:00:51.0±0.6, 45.95N×154.16E, h0km, mb4.1/19, mb1 4.3/21, mb1mx4.2/28, mbtmp4.1/21, ML3.9/1, MS3.4/5, Ms1 3.4/5, ms1mx2.9/28, Error ellipse: s-maj=18.7km s-min=14.6km az=152.0*
SKHL ***09*** *11:00:52.8±2.1, 45 50N×154 20E, h33km, mb5.1/3*
MOS ***09*** *11:00:54.8±1.3, 45.85N×153.97E, h44km, mb4.4/19, Error ellipse: s-maj=10.4km s-min=10.0km az=79.4*
BJI ***09*** *11:00:55.8, 46.18N×153.95E, h36km, mB4.2, mb4.3*
NEIC ***09*** *11:00:56.2±2.0, 45 63N×154.14E, h50km±20km, mb4.2/3, Error ellipse: s-maj=22.3km s-min=15.4km az=149.0*

ISC 09 11:00:52.7±2.5, 45.94N±006×154.15E±007, h13km±16km, n70, σ1§21/71, mb4.1/30, MS3.6/7, 1C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.47**	**263**	PN	**Pn**	**11 01 57.0**	**-3.1**
KUR	comp=N,220nm,0.7s			pmax	pmax		
KUR	comp=E,90nm,0.7s			pmax	pmax		
KUR	comp=Z,340nm,0.7s			pmax	pmax		
KUR	**Kuril'sk**	**4.47**	**263**	*e*P	**Pn**	**11 01 57.0**	**-3.1**
KUR	comp=Z,220nm,0.7s			AMB	AMB	11 02 08.5	
KUR	comp=Z,90nm,0.7s			AMB	AMB	11 02 08.5	
KUR	comp=Z,340nm,0.7s			AMB	AMB	11 02 08.5	
KUR				*i* S	**Sn**	**11 02 45.4**	**-6.5**
KUR	comp=Z,600nm,0.8s			A		11 02 51.0	
KUR	comp=Z,320nm,0.8s			A		11 02 51.0	
SKR	**Severo-Kuril's**	**4.92**	**15**	*e*PN	**Pn**	**11 02 05.3**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**6.18**	**255**	*e*P	**Pn**	**11 02 23.0**	**-0.6**
YUK	comp=Z,180nm,0.5s			AMB	AMB	11 02 25.5	
YUK				*e*S	**Sn**	**11 03 32.1**	**-2.0**
YUK	comp=Z,380nm,0.5s			A		11 03 34.6	
YUK	comp=Z,210nm,0.5s			A		11 03 34.6	
PET	**Petropavlovsk**	**7.67**	**21**	*e*PN	**Pn**	**11 02 43.2**	**-0.9**
YSS	**Yuzh-Sakhalins**	**7.94**	**281**	*e*PN	**Pn**	**11 02 51.0**	**+3.3**
YSS	comp=Z,30nm,1.0s			pmax	pmax		
YSS	comp=Z,400nm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.94**	**281**	Pn	**Pn**	**11 02 49.7**	**+2.0**
YSS	comp=Z,5.4nm,0.6s **Yuzh-Sakhalins**	**7.94**	**281**	*e*P	**Pn**	**11 02 51.0**	**+3.3**
YSS	comp=Z,30nm,1.0s			AMB	AMB	11 02 52.0	
YSS				*e*S	**Sn**	**11 04 18.0**	**+0.7**
YSS	comp=Z,400nm,14.0s			AMS	AMS	11 07 25.0	
ASAJ	**Asahikawa**	**8.38**	**262**	Pn	**Pn**	**11 02 55.0**	**+1.1**
ASAJ	comp=Z,1.7nm,0.3s,baz=88,slow=22,SNR=10			LR	LR	11 06 39.6	
ERM	comp=Z,82nm,19.4s,baz=148,slow=42 **Erimo**	**8.84**	**248**	*e*PN	**Pn**	**11 02 59.9**	**-0.2**
MAJO	**Matsushiro**	**15.21**	**237**	*e*P	**Pn**	**11 04 25.7**	**-1.3**
MAJO	comp=Z,2.0nm,0.3s			pmax	pmax		
MAJO	**Matsushiro**	**15.21**	**237**	*e*Pn	**Pn**	**11 04 25.7**	**-1.4**
MAJO	comp=Z,2.4nm,0.3s			*e*pPn		11 04 34.3	
MAT	**Matsushiro**	**15.21**	**237**	P	**Pn**	**11 04 33.7**	**+6.7**
MJAR	**Matsushiro Arr**	**15.21**	**237**	Pn	**Pn**	**11 04 25.0**	**-2.0**
KLR	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=4.6 **Kul'dur**	**15.46**	**290**	*e*P	**Pn**	**11 04 33.0**	**+2.7**
CN2	**Changchun**	**20.41**	**274**	*e*P	**P**	**11 05 30.5**	**+1.1**
KSRS	**Korea Array**	**21.27**	**256**	P	**P**	**11 05 41.1**	**+2.4**
KSRS	comp=Z,2.0nm,0.6s,mb3.6,baz=59,slow=11,SNR=5.1			LR	LR	11 13 16.5	
BILL	comp=Z,34nm,21.5s,MS2.7,baz=60,slow=35 **Bilibino**	**23.03**	**12⇑**	*e*P	**P**	**11 05 57.4**	**-0.1**
BILL				*e*S	**S**	**11 10 04.5**	**-3.3**
BILL	comp=Z,5.0nm,1.2s,mb3.8			pmax	pmax		
BILL	comp=Z,100nm,16.0s,MS3.4			MLR	MLR		
BOD	**Bodaibo**	**27.06**	**311**	*e*P	**P**	**11 06 33.0**	**-1.8**
BOD	comp=Z,4.0nm,1.3s,mb3.8			pmax	pmax		
TIXI	**Tiksi**	**28.45**	**344**	*e*P	**P**	**11 06 45.7**	**-1.5**
TIXI	comp=Z,1.0nm,1.3s,mb3.3			pmax	pmax		
SONM	**Songino Array**	**32.29**	**291**	P	**P**	**11 07 21.4**	**+0.3**
SONM	comp=Z,0.6nm,0.8s,mb3.5,baz=69,slow=7.6,SNR=4.3			LR	LR	11 20 51.2	
COLA	comp=Z,102nm,18.5s,MS3.5,baz=164,slow=37 **College**	**36.33**	**38**	*e*P	**P**	**11 07 55.7**	**-0.5**
GTA	**Gaotai**	**39.82**	**281**	*e*P	**P**	**11 08 27.8**	**+2.3**
GTA				AP	pP	11 08 35.6	+5.9
GTA				XP	sP	11 08 37.5	+6.2
GTA	comp=Z,6.0nm,1.1s,mb4.2			AMB	AMB		
INK	**Inuvik**	**41.95**	**32**	P	**P**	**11 08 43.8**	**+0.6**
INK	comp=Z,1.2nm,0.6s,mb3.7,baz=316,slow=4.8,SNR=9.4 **Inuvik**	**41.95**	**32**	P	**P**	**11 08 43.8**	**+0.6**
INK	comp=Z,1.0nm,0.6s			pmax	pmax		
GYA	**Guiyang**	**42.26**	**259⇓**	*i*P	**P**	**11 08 46.3**	**+0.7**
GYA	comp=Z,10.0nm,0.8s,mb4.5			AMB	AMB		
ZAL	**Zalesovo**	**43.69**	**307**	P	**P**	**11 08 56.0**	**-1.2**
ZAL	comp=Z,0.9nm,0.5s,mb3.8,baz=1.8,slow=8.4,SNR=3.5			LR	LR	11 28 12.7	
ZAL	comp=Z,97nm,20.2s,MS3.7,baz=271,slow=38 **Zalesovo**	**43.69**	**307**	P	**P**	**11 08 56.0**	**-1.2**
ZAL	comp=Z,1.0nm,0.5s			pmax	pmax		
ZAL	comp=Z,97nm,20.2s			MLR	MLR		
ZAL	**Zalesovo**	**43.69**	**307**	P	**P**	**11 08 56.0**	**-1.2**
ZAL				LR	LR	11 28 12.7	
MKAR	**Makanchi Array**	**47.96**	**298**	P	**P**	**11 09 31.2**	**+0.3**
MKAR	comp=Z,1.4nm,0.6s,mb4.2,baz=72,slow=7.1,SNR=10			PcP	PcP	11 10 59.2	+0.1
MKAR	comp=Z,0.7nm,0.7s,baz=61,slow=5.7,SNR=2.3			LR	LR	11 30 28.1	
MKAR	comp=Z,83nm,18.4s,MS3.7,baz=22,slow=37 **Makanchi Array**	**47.96**	**298**	*i* P	**P**	**11 09 31.2**	**+0.3**
MKAR	comp=Z,1.0nm,0.6s			pmax	pmax		
KURK	**Kurchatov**	**48.41**	**305**	*e*P	**P**	**11 09 33.9**	**-0.6**
KURK	**Kurchatov**	**48.41**	**305**	*e*P	**P**	**11 09 34.1**	**-0.3**
YKA	comp=Z,1.8nm,0.6s,mb4.3 **Yellowknife Ar**	**51.15**	**37**	P	**P**	**11 09 55.4**	**+0.1**
YKA	comp=Z,1.0nm,0.6s,mb3.9,baz=294,slow=7.0,SNR=18			PcP	PcP	11 11 10.5	-0.2
YKA	comp=Z,0.3nm,0.6s,baz=304,slow=3.8,SNR=5.3 **Yellowknife Ar**	**51.15**	**37**	*i* P	**P**	**11 09 55.4**	**+0.1**
YKA	comp=Z,1.0nm,0.6s			pmax	pmax		
CHKZ	**Chkalovo**	**51.51**	**311**	*e*P	**P**	**11 09 57.5**	**-0.4**
CHKZ	comp=Z,1.0nm,0.4s,mb4.1			pmax	pmax		
CHKZ	**Chkalovo**	**51.51**	**311**	*e*P	**P**	**11 09 57.5**	**-0.5**
BVAR	comp=Z,1.2nm,0.4s,mb4.2 **Borovoye Array**	**51.93**	**310**	P	**P**	**11 10 01.9**	**+0.8**
BVAR	comp=Z,1.1nm,0.5s,mb4.1,baz=51,slow=6.8,SNR=11 **Borovoye Array**	**51.93**	**310**	P	**P**	**11 10 01.9**	**+0.8**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax		
AAK	**Ala-Archa**	**54.84**	**297**	*e*P	**P**	**11 10 19.7**	**-2.8**
AAK	comp=Z,1.0nm,0.8s,mb3.9			pmax	pmax		
KAKA	**Kakadu**	**61.57**	**204**	*e*P	**P**	**11 11 09.1**	**-0.5**
	comp=Z,8.1nm,0.6s,mb5.0						
NVAR	**Mina Array Bea**	**62.17**	**63**	P	**P**	**11 11 14.4**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.9,baz=300,slow=7.2,SNR=4.2						
PDAR	**Pinedale Array**	**64.64**	**54**	P	**P**	**11 11 30.4**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=269,slow=3.7,SNR=7.8						
FINES	**FINESS Array B**	**65.08**	**335**	P	**P**	**11 11 32.8**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=30,slow=7.8,SNR=9.7						
FINES	**FINESS Array B**	**65.08**	**335**	*i* P	**P**	**11 11 32.2**	**-0.6**
FINES	comp=Z,1.0nm,0.4s			pmax	pmax		
OBN	**Obninsk**	**66.38**	**326⇓**	*e*P	**P**	**11 11 43.1**	**+1.8**
OBN	comp=Z,27nm,2.0s,mb4.9			pmax	pmax		
OBN	comp=Z,100nm,14.0s,MS4.2			MLR	MLR		
WRAB	**Tennant Creek**	**67.98**	**200**	*e*P	**P**	**11 11 50.8**	**-0.6**
WB2	**Warramunga Arr**	**67.98**	**200**	*e*P	**P**	**11 11 51.6**	**+0.2**
WRA	**Warramunga Arr**	**67.99**	**200**	P	**P**	**11 11 51.4**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.6,baz=18,slow=6.7,SNR=32						
WRA	**Warramunga Arr**	**67.99**	**200**	*i* P	**P**	**11 11 51.4**	**0.0**
WRA	comp=Z,5.0nm,0.8s			pmax	pmax		
NB2	**NORSAR Subarra**	**69.23**	**342**	P	**P**	**11 12 01.3**	**+2.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**69.23**	**342**	P	**P**	**11 12 00.8**	**+1.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=26,slow=6.2,SNR=5.8						
NOA	**NORSAR Array B**	**69.23**	**342**	P	**P**	**11 12 00.8**	**+1.6**
NOA	comp=Z,1.0nm,0.6s			pmax	pmax		
HFS	**Hagfors**	**69.47**	**340**	P	**P**	**11 12 00.2**	**-0.4**
	comp=Z,1.7nm,0.4s,mb4.3,baz=64,slow=6.6,SNR=11						
HFS	**Hagfors**	**69.47**	**340**	*i* P	**P**	**11 12 00.2**	**-0.5**
HFS	comp=Z,2.0nm,0.4s			pmax	pmax		
ASAR	**Alice Springs**	**71.67**	**200**	P	**P**	**11 12 15.2**	**+1.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=11,slow=5.0,SNR=38						
ASAR	**Alice Springs**	**71.67**	**200**	*i* P	**P**	**11 12 15.2**	**+1.1**
ASAR	comp=Z,3.0nm,0.8s			pmax	pmax		
KIV	**Kislovodsk**	**71.88**	**315⇓**	*e*P	**P**	**11 12 18.0**	**+2.6**
KIV	comp=Z,5.0nm,1.2s,mb4.3			pmax	pmax		
KIV	comp=Z,100nm,15.0s,MS4.2			MLR	MLR		
AKASG	**Malin Array Be**	**72.62**	**327**	P	**P**	**11 12 19.1**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.1,baz=31,slow=5.8,SNR=6.4						
AKASG	**Malin Array Be**	**72.62**	**327**	*i* P	**P**	**11 12 19.1**	**-0.7**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
TXAR	**Lajitas Array**	**77.26**	**61**	P	**P**	**11 12 47.0**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.4,baz=308,slow=4.2,SNR=46						
TXAR	**Lajitas Array**	**77.26**	**61**	P	**P**	**11 12 47.0**	**+0.4**
TXAR	comp=Z,3.0nm,0.6s			pmax	pmax		
MLR	**Muntele Rosu**	**78.14**	**326**	P	**P**	**11 12 51.0**	**-0.6**
	comp=Z,1.4nm,0.3s,mb4.3,baz=247,slow=4.6,SNR=5.1						
MLR	**Muntele Rosu**	**78.14**	**326**	*i* P	**P**	**11 12 51.0**	**-0.5**
MLR	comp=Z,1.0nm,0.3s			pmax	pmax		
BRTR	**Keskin Array B**	**79.47**	**317**	P	**P**	**11 12 59.5**	**+0.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=58,slow=3.1,SNR=6.6						
BRTR	**Keskin Array B**	**79.47**	**317**	*i* P	**P**	**11 12 59.5**	**+0.7**
BRTR	comp=Z,2.0nm,0.9s			pmax	pmax		
GERES	**GERESS Array B**	**79.50**	**335**	P	**P**	**11 12 58.3**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=46,slow=3.9,SNR=3.8						
SNAA	**Sanae**	**151.97**	**195**	*e*PKPdf	PKPdf	11 20 44.1	+3.2
VNA2	**Neumayer--Watz**	**153.39**	**193**	*e*PKPdf	PKPdf	11 20 48.4	+5.4
VNA2	baz=17,slow=1.3			*e*		11 21 01.8	
VNA3	**Neumayer Olymp**	**153.45**	**192**	*e*PKPdf	PKPdf	11 20 46.7	+3.6
VNA3				*e*		11 21 01.4	

IDC ***09*** *11:08:42.7±0.9, 67.09N×209.8E, h0km, mb1 3.1/4, mb1mx3.0/22, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=17.4km s-min=8.3km az=117.0*

HEL 09 11:08:42.9±0.0, 67.06N×209.4E, h0km, ML2.3, ML2.5(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**294**	*i* P	Pg	11 08 45.6	-0.3
MASU	**Masugnsbyn**	**0.57**	**45**	*i* P	Pg	11 08 53.4	-0.6
PAJU	**Pajala**	**0.85**	**91**	*i* P	Pg	11 08 58.0	-1.3
HARU	**Harads**	**0.90**	**179**	*e*P	Pg	11 08 59.0	-1.1
KUA	**Kurravaara**	**0.93**	**346**	*e*P	Pg	11 08 59.3	-1.4
SALU	**Saltoluokta**	**1.00**	**290**	*e*P	Pg	11 09 01.0	-1.0
LANU	**Lannavaara**	**1.07**	**22**	*e*P	Pg	11 09 01.8	-1.6
NIKU	**Nikkaluokta**	**1.09**	**319**	*e*P	Pg	11 09 02.5	-1.3
SJUU	**Sjulsmark**	**1.58**	**170**	*e*P	Pn	11 09 11.2	-1.0
LILU	**Lilltraesk**	**1.83**	**194**	*e*P	Pn	11 09 15.2	-0.5
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*P	Pn	11 09 17.9	+0.6
KIF				*e*S	Sn	11 09 44.8	+2.3
KIF	comp=Z,32nm,0.1s			MSG		11 09 51.5	
SGF	**Sodankyl**	**2.21**	**77**	*e*PB	Pb	11 09 21.5	-2.2
SGF				*e*SG	Sg	11 09 51.0	-2.9
SGF	comp=Z,25nm,0.1s			MSG		11 09 56.6	
BURU	**Burvik**	**2.49**	**176**	*e*P	Pn	11 09 25.1	+0.4
SVAU	**Svanoeiden**	**2.64**	**193**	*e*P	Pn	11 09 26.7	0.0
OUL	**Oulu**	**2.83**	**132**	*e*P	Pn	11 09 30.0	+0.6
OUL				*e*SB	Sb	11 10 08.7	-0.9
OUL	comp=Z,6.5nm,0.1s			MSG		11 10 11.5	
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	Pn	11 09 31.7	-0.1
	comp=Z,0.5nm,0.3s,baz=220,slow=14,SNR=44						
ARCES				Sn	Sn	11 10 07.3	-1.3
	comp=Z,0.6nm,0.3s,baz=217,slow=20,SNR=4.3						
UMAU	**Umeaa**	**3.19**	**182**	*e*P	Pn	11 09 34.4	+0.1
BREU	**Bredtraesk**	**3.33**	**198**	*e*P	Pn	11 09 35.9	-0.3
MSF	**Maaselka**	**3.45**	**106**	*e*P	Pn	11 09 37.0	-0.9
MSF				*e*S	Sn	11 10 18.1	-1.2
KU4	**Liikasenvaara**	**3.50**	**97**	*e*P	Pn	11 09 39.4	+0.8
KU4				*e*S	Sn	11 10 19.3	-1.5
KEV	**Kevo**	**3.52**	**37**	*e*P	Pn	11 09 38.7	-0.1
KU6	**Riekki**	**3.73**	**102**	*e*P	Pn	11 09 41.5	-0.2
VAF	**Ylistaro**	**4.10**	**169**	*e*P	Pn	11 09 46.8	0.0
VAF				*e*S	Sn	11 10 33.0	-2.4
KJN	**Kajaani**	**4.10**	**134**	*e*P	Pn	11 09 46.6	-0.2
KJN				*e*S	Sn	11 10 32.9	-2.6
SOLU	**Sollefteaa**	**4.13**	**204**	*e*P	Pn	11 09 47.2	0.0
HEMU	**Hemsoen**	**4.57**	**197**	*e*P	Pn	11 09 53.1	-0.2
SUF	**Sumiainen**	**4.89**	**151**	*e*P	Pn	11 09 57.9	+0.2
KEF	**Keuruu**	**5.20**	**159**	*e*P	Pn	11 10 02.4	+0.5
KAF	**Kangasniemi**	**5.48**	**153**	*e*P	Pn	11 10 05.7	0.0
JOF	**Joensuu**	**6.05**	**129**	*e*P	Pn	11 10 12.6	-0.9
FINES	**FINESS Array B**	**6.07**	**156**	Pn	Pn	11 10 14.1	+0.3
	comp=Z,0.1nm,0.3s,baz=347,slow=14,SNR=12						
FINES				Sn	Sn	11 11 23.2	-0.7
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=5.3						
RAF	**Rauma**	**6.07**	**176**	*e*P	Pn	11 10 12.7	-1.2
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	Pn	11 10 30.7	-1.3
	comp=Z,0.1nm,0.3s,baz=116,slow=20,SNR=2.4						
NOA				Sn	Sn	11 11 51.9	-4.5
	comp=Z,0.1nm,0.3s,baz=61,slow=18,SNR=2.8						
HFS	**Hagfors**	**7.66**	**208**	Pn	Pn	11 10 34.6	-1.0
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=5.7						

IDC ***09*** *11:43:00.7±0.7, 34.55N×73.20E, h0km, mb4.1/13, mb1 4.3/16, mb1mx4.1/24, mbtmp4.1/16, ML4.2/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=19.2km s-min=16.4km az=45.0*
NDI ***09*** *11:43:01.0±3.4, 34.69N×72.91E, h10km, MD4.2, ML4.0*
BJI ***09*** *11:43:02.5, 34.60N×73.20E, h10km, mb4.3, ML3.7*
NEIC ***09*** *11:43:02.5±1.2, 34.58N×73.20E, h10km, mb3.8/3, Error ellipse: s-maj=18.8km s-min=12.7km az=175.0*
MOS ***09*** *11:43:03.8±0.8, 34.60N×73.08E, h33km, mb4.3/14, Error ellipse: s-maj=17.2km s-min=6.4km az=94.2*
ISCJB ***09*** *11:43:04.6±0.5, 34.57N±003×73.25E±005, h45km±6km, mb4.1/18, MS3.4/2, Error ellipse: s-maj=7.4km s-min=4.3km az=138.0*
NNC ***09*** *11:43:13.1±1.9, 35.40N×72.50E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=20.1km s-min=16.1km az=135.0*

ISC 09 11:43:05.9±0.4, 34.58N±002×73.22E±005, h37km±6km, n88, σ1§41/99, mb4.0/17, MS3.4/2, 5C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.92**	**178**	P	**Pn**	**11 43 20.5**	**-1.8**
CEP	**Cherat**	**1.32**	**235**	P	**Pn**	**11 43 27.0**	**-0.8**
JMU	**Jammu**	**2.33**	**143**	*e*P	**Pn**	**11 43 45.0**	**+3.3**
JMU				*e*S	**Sn**	**11 44 14.0**	**+4.9**
SARP	**Sargodha**	**2.69**	**190**	P	**Pn**	**11 43 47.8**	**+1.1**
THN	**Thein Dam**	**2.99**	**135**	*e*P	**Pn**	**11 43 52.4**	**+1.6**
THN				*e*x	x	11 44 33.3	
SBDP	**Sheikh Budin**	**3.04**	**222**	P	**Pn**	**11 43 53.0**	**+1.6**
DLH	**Dalhousie**	**3.07**	**131**	*e*P	**Pn**	**11 43 52.0**	**+0.2**
DLH				*e*x	x	11 44 38.0	
DRP	**Derazinda**	**3.80**	**223**	P	**Pn**	**11 44 03.8**	**+2.0**
SDNR	**Sundarnagar**	**4.40**	**133**	*e*P	**Pn**	**11 44 11.0**	**+0.8**
SDNR				*e*S	**Sn**	**11 45 01.0**	**+0.8**
SMLA	**Simla**	**4.79**	**135**	*e*P	**Pn**	**11 44 16.0**	**+0.6**
SMLA				*e*S	**Sn**	**11 45 14.0**	**+4.3**
KLP	**Kalpa**	**5.21**	**124**	*e*P	**Pn**	**11 44 21.7**	**+0.5**
KLP				*e*S	**Sn**	**11 45 23.7**	**+3.7**
KLP	comp=E,4μm,1.1s			AML	AML	11 45 54.1	
KLP	comp=N,4μm,1.1s			AML	AML	11 45 54.9	
NDI	**New Delhi**	**6.80**	**149**	*e*P	**Pn**	**11 44 44.0**	**+0.9**
NDI				*e*x	x	11 46 02.0	
KHET	**Khetri**	**6.86**	**160**	*e*P	**Pn**	**11 44 42.6**	**-1.2**
KHET				*e*S	**Sn**	**11 45 58.2**	**-2.5**
KHET	comp=E,64nm,0.4s			AML	AML	11 46 00.2	
KHET	comp=N,46nm,0.3s			AML	AML	11 46 00.4	
KUDL	**Kundal**	**7.00**	**156**	*e*P	**Pn**	**11 44 42.8**	**-3.0**
KUDL				*e*S	**Sn**	**11 45 57.9**	**-6.3**
KUDL	comp=N,54nm,0.6s			AML	AML	11 46 53.9	
KUDL	comp=E,46nm,0.6s			AML	AML	11 46 53.9	
SONA	**Sohna**	**7.12**	**151**	*e*P	**Pn**	**11 44 48.2**	**+0.7**
SONA				*e*S	**Sn**	**11 46 06.5**	**-0.8**
SONA	comp=N,34nm,0.6s			AML	AML	11 46 09.9	
SONA	comp=E,74nm,0.4s			AML	AML	11 46 10.8	
AML	**Almayashu**	**7.54**	**3**	P	**Pn**	**11 44 56.2**	**+2.9**
	SNR=28						
KZA	**Kyzart**	**7.65**	**11**	P	**Pn**	**11 44 57.3**	**+2.6**
	SNR=9.8						
UCH	**Uchtor**	**7.70**	**7**	P	**Pn**	**11 44 58.1**	**+2.7**
	SNR=27						
LGTI	**Lohaghat**	**7.86**	**129**	*i* P	**Pn**	**11 44 58.0**	**+0.4**
LGTI				*e*x	x	11 47 10.0	
ULHL	**Ulahol**	**8.01**	**16**	P	**Pn**	**11 45 03.9**	**+4.3**
	SNR=5.1						
EKS2	**Erkin-Say**	**8.08**	**3**	P	**Pn**	**11 45 04.1**	**+3.5**
	SNR=6.0						
AAK	**Ala-Archa**	**8.10**	**7**	P	**Pn**	**11 45 01.7**	**+0.8**
	SNR=7.8						
AAK	**Ala-Archa**	**8.10**	**7**	*e*P	**Pn**	**11 45 01.6**	**+0.7**
AAK				*e*		11 46 30.5	
AAK	comp=Z,8.0nm,0.6s			pmax	pmax		
AAK	**Ala-Archa**	**8.10**	**7**	*e*Pn	**Pn**	**11 45 01.6**	**+0.7**
AAK	comp=Z,8.1nm,0.6s			*e*Sn	**Sn**	**11 46 30.5**	**-0.7**
AJM	**Ajmer**	**8.17**	**171**	*e*P	**Pn**	**11 45 01.0**	**-0.9**
AJM				*i* S	**Sn**	**11 46 29.0**	**-4.0**
TKM2	**Tokmak 2**	**8.53**	**12**	P	**Pn**	**11 45 09.9**	**+3.1**
	SNR=14						
TKM2	**Tokmak 2**	**8.53**	**12**	⇑Pn	**Pn**	**11 45 09.3**	**+2.5**
TKM2	comp=Z,0.3nm,0.5s			⇓Sn	**Sn**	**11 46 39.8**	**-2.0**
TKM2	comp=Z,1.6nm,0.7s						
TKM2	**Tokmak 2**	**8.53**	**12**	P	**Pn**	**11 45 09.3**	**+2.5**
TKM2						11 46 40.4	
TKM2	comp=Z,2.0nm,0.5s			pmax	pmax		
TKM2	comp=Z,10.0nm,0.7s			smax			
KK31	**Karatay Array**	**8.77**	**347**	Pn	**Pn**	**11 45 11.4**	**+1.4**
	comp=Z,12nm,0.3s,baz=156,slow=11,SNR=334						
KK31				Sn	**Sn**	**11 46 45.7**	**-1.8**
	comp=Z,10nm,0.3s,baz=158,slow=16,SNR=15						
KK31	**Karatay Array**	**8.77**	**347**	*i* P	**Pn**	**11 45 11.4**	**+1.4**
KK31	comp=Z,22nm,0.3s			pmax	pmax		
KKAR	**Karatay Array**	**8.77**	**347**	*e*P	**Pn**	**11 45 11.4**	**+1.4**
KKAR						11 46 45.7	
KKAR	comp=Z,7.0nm,0.3s			pmax	pmax		
KKAR	comp=Z,6.0nm,0.3s			smax			
KOLN	**Koldanda**	**11.18**	**125**	*e*P	**Pn**	**11 45 41.1**	**-2.1**
	comp=Z,22nm,0.4s						
GKN	**Gorkha**	**11.76**	**121**	*e*P	**Pn**	**11 45 49.2**	**-1.8**
	comp=Z,40nm,0.5s						
DMN	**Daman**	**12.33**	**121**	*e*P	**Pn**	**11 45 55.7**	**-3.1**
	comp=Z,29nm,0.4s						
KKN	**Kakani**	**12.34**	**120**	*e*P	**Pn**	**11 45 56.8**	**-2.2**
	comp=Z,22nm,0.4s						
PKI	**Pulchoki**	**12.57**	**120**	*e*P	**Pn**	**11 45 58.5**	**-3.6**
	comp=Z,43nm,0.5s						
GUN	**Gumba**	**12.71**	**118**	*e*P	**Pn**	**11 46 02.0**	**-2.0**
	comp=Z,20nm,0.4s						
JIRN	**Jiri**	**13.07**	**118**	*e*P	**Pn**	**11 46 05.7**	**-3.3**
MK31	**Makanchi Array**	**13.99**	**27**	*i* P	**Pn**	**11 46 26.0**	**+4.5**
MKAR	**Makanchi Array**	**13.99**	**27**	Pn	**Pn**	**11 46 20.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=11,SNR=5.9						
POO	**Poona**	**16.00**	**178**	*e*x	x	12 00 32.0	
KURK	**Kurchatov**	**16.60**	**12**	*e*P	**Pn**	**11 46 56.3**	**+0.6**
KURK	**Kurchatov**	**16.60**	**12**	*e*Pn	**Pn**	**11 46 55.1**	**-0.5**
	comp=Z,3.8nm,0.9s						
AB31	**Akbulak array**	**17.64**	**330**	Pn	**Pn**	**11 47 06.5**	**-2.1**
	comp=Z,3.2nm,0.5s,baz=137,slow=12,SNR=98						
AB31				⇑Sn	**Sn**	**11 50 11.4**	**-13**
	comp=Z,2.0nm,0.6s,baz=152,slow=22,SNR=4.7						
AB31	**Akbulak array**	**17.64**	**330**	*e*P	**Pn**	**11 47 06.5**	**-2.1**
AB31				*e*		11 50 12.0	
AB31	comp=Z,1.0nm,0.5s			pmax	pmax		
AB31	comp=Z,1.0nm,0.6s			smax			
BVA0	**Borovoye Array**	**18.55**	**355**	P	**Pn**	**11 47 19.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=162,slow=9.9,SNR=48						
BVA0	**Borovoye Array**	**18.55**

comp=Z,6.0nm,0.8s,mb4.1
KIV Kislovodsk 25.30 301 *e*P **P 11 48 25.9 -3.0**
KIV pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
SONM Songino Array 28.02 52 P **P 11 48 54.3 +0.9**
comp=Z,0.5nm,0.4s,mb3.5,baz=252,slow=9.4,SNR=5.9
SONM LR LR 12 01 39.8
comp=Z,72nm,20.4s,MS3.2,baz=285,slow=40
AKASG Malin Array Be 35.56 311 P **P 11 49 59.0 -0.5**
comp=Z,0.9nm,0.4s,mb4.1,baz=82,slow=7.4,SNR=5.4
AKASG Malin Array Be 35.56 311 *i* P **P 11 49 59.0 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
HIA Hailar 36.99 52 *e*P **P 11 50 02.5 -9.2**
FINES FINESS Array B 40.08 327 P **P 11 50 37.9 +0.3**
comp=Z,0.7nm,0.4s,mb3.7,baz=124,slow=9.2,SNR=6.5
FINES FINESS Array B 40.08 327 *i* P **P 11 50 37.4 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 43.60 338 P **P 11 51 07.0 +0.6**
comp=Z,1.8nm,0.5s,mb4.1,baz=112,slow=7.6,SNR=29
ARCES ARCESS Array B 43.60 338 P **P 11 51 07.0 +0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
TIXI Tiksi 46.89 21 *e*P **P 11 51 28.3 -4.2**
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
NB2 NORSAR Subarra 46.99 324 P **P 11 51 32.8 -0.5**
comp=Z,1.0nm,0.4s,mb4.1,baz=94,slow=7.9
NOA NORSAR Array B 46.99 324 P **P 11 51 33.1 -0.2**
comp=Z,1.2nm,0.4s,mb4.2,baz=96,slow=7.6,SNR=8.5
NOA NORSAR Array B 46.99 324 P **P 11 51 33.2 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.4s
MJAR Matsushiro Arr 51.99 68 P **P 11 52 12.4 +1.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=287,slow=9.7,SNR=3.5
MJAR Matsushiro Arr 51.99 68 P **P 11 52 12.4 +1.0**
MJAR pmax pmax
comp=Z,1.0nm,0.6s
ASAJ Asahikawa 53.04 58 LR LR 12 15 47.0
comp=Z,38nm,18.1s,MS3.5,baz=129,slow=37
ESDC Sonseca Array 59.96 300 P **P 11 53 08.7 +0.3**
comp=Z,0.6nm,0.5s,mb3.9,baz=54,slow=6.7,SNR=5.0
TORD Torodi Ar. Bea 67.52 271 P **P 11 53 58.5 +0.3**
comp=Z,2.6nm,0.6s,mb4.4,baz=47,slow=5.8,SNR=32
BOSA Boshof 77.49 222 P **P 11 54 58.5 +0.9**
comp=Z,2.1nm,0.5s,mb4.3,baz=75,slow=2.6,SNR=11
BOSA Boshof 77.49 222 P **P 11 54 58.5 +0.9**
BOSA pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
WRA Warramunga Arr 79.44 123 P **P 11 55 09.0 +0.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=324,slow=5.0,SNR=48
WRA Warramunga Arr 79.44 123 P **P 11 55 09.0 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WB2 Warramunga Arr 79.45 123 ⇑*i*P **P 11 55 08.9 +0.5**
ASAR Alice Springs 81.67 126 P **P 11 55 21.1 +0.8**
comp=Z,1.9nm,0.7s,mb4.1,baz=312,slow=5.3,SNR=33
ASAR Alice Springs 81.67 126 P **P 11 55 21.1 +0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 83.06 4 P **P 11 55 27.5 0.0**
comp=Z,0.4nm,0.4s,mb3.8,baz=347,slow=5.5,SNR=20

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*MOS **09** 12:13:59.6±1.8, 6088N×16534E, h10km, mb3.9/3, Error ellipse: s-maj=65.0km s-min=23.2km az=87.0*
*IDC **09** 12:14:00.0±1.2, 6086N×16545E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/25, mbtmp3.5/7, Error ellipse: s-maj=37.8km s-min=22.1km az=168.0*
*ISCJB **09** 12:14:05.6±5.4, 610N±03×1654E±03, h51km±44km, mb3.5/7, Error ellipse: s-maj=45.6km s-min=22.5km az=170.0*
ISC 09 12:14:07.6±4.5, 610N±03×1654E±03, h58km±37km, n11, σ0§83/11, mb3.5/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.10**	**3**	*e*PN	**Pn**	**12 15 48.7**	**-0.1**
INK	**Inuvik**	**26.07**	**48**	P	**P**	**12 19 37.0**	**+1.4**
	1.1nm,0.8s,mb3.4,baz=301,slow=7.1,SNR=2.4						
INK	**Inuvik**	**26.07**	**48**	P	**P**	**12 19 37.1**	**+1.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**12 20 58.3**	**-1.6**
	comp=Z,0.2nm,0.6s,mb3.3,baz=303,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**47.59**	**293**	P	**P**	**12 22 37.3**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=32,slow=10,SNR=2.3						
BVAR	**Borovoye Array**	**47.94**	**306**	P	**P**	**12 22 41.0**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.8,baz=46,slow=8.5,SNR=3.9						
BVAR	**Borovoye Array**	**47.94**	**306**	P	**P**	**12 22 41.0**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**51.55**	**70**	P	**P**	**12 23 08.0**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.4,baz=336,slow=4.2,SNR=3.5						
NOA	**NORSAR Array B**	**56.70**	**345**	P	**P**	**12 23 44.7**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.7,baz=14,slow=7.3,SNR=2.6						
NOA	**NORSAR Array B**	**56.70**	**345**	P	**P**	**12 23 44.7**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**84.44**	**209**	P	**P**	**12 26 33.8**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.5,baz=13,slow=5.3,SNR=5.4						

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*IDC **09** 12:34:25.6±1.0, 4593N×15420E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.4/6, Error ellipse: s-maj=36.9km s-min=27.5km az=111.0*
*ISCJB **09** 12:34:30.1±2.6, 459N±02×1539E±02, h44km±23km, mb3.4/6, Error ellipse: s-maj=37.0km s-min=17.6km az=89.8*
*MOS **09** 12:34:31.0±1.5, 4591N×15379E, h53km, mb4.0/1, Error ellipse: s-maj=35.8km s-min=21.6km az=71.5*
ISC 09 12:34:32.4±2.3, 459N±02×1539E±02, h48km±21km, n9, σ1§20/9, mb3.4/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.26**	**263**	*e*PN	**Pn**	**12 35 33.5**	**-1.2**
SKR	**Severo-Kuril's**	**5.04**	**17**	*e*PN	**Pn**	**12 35 46.6**	**+1.2**
MKAR	**Makanchi Array**	**47.81**	**298**	P	**P**	**12 43 05.7**	**+0.6**
	0.4nm,0.6s,mb3.7,baz=70,slow=6.6,SNR=6.5						
YKA	**Yellowknife Ar**	**51.32**	**36**	P	**P**	**12 43 29.4**	**-2.3**
	0.1nm,0.6s,mb3.0,baz=296,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**65.05**	**335**	P	**P**	**12 45 08.0**	**+0.3**
	1.3nm,0.8s,mb4.0,baz=25,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**65.05**	**335**	P	**P**	**12 45 08.0**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**67.86**	**200**	P	**P**	**12 45 25.7**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=19,slow=6.5,SNR=3.4						
ASAR	**Alice Springs**	**71.55**	**199**	P	**P**	**12 45 50.0**	**+1.7**
	comp=Z,0.2nm,0.7s,mb3.1,baz=14,slow=4.6,SNR=4.7						
TXAR	**Lajitas Array**	**77.47**	**61**	P	**P**	**12 46 21.8**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=304,slow=4.0,SNR=3.7						

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*ISCJB **09** 13:03:05.1±0.6, 3862N±003×063W±003, h6km±3km, Error ellipse: s-maj=5.9km s-min=2.8km az=101.6*
*CSEM **09** 13:03:07.6±0.1, 3854N×056W, h2km, ML3.1/5, Error ellipse: s-maj=2.9km s-min=1.3km az=138.0*
*NEIC **09** 13:03:07.0, 3854N×057W, h0km, MN2.6(MDD), After MDD.*
NEIC Felt [IV] at Tibi, [III] at Jijona and [II] at Castalla and Ibi.
*MDD **09** 13:03:07.1±0.3, 3855N×057W, h0km, mbLg2.6/14, Error ellipse: s-maj=4.4km s-min=1.7km az=159.0, PRXIMO III JIJONA II CASTALLA IBI I AGOST*
MDD EMS: IV TIBI.
*LDG **09** 13:03:08.9±0.2, 3854N×056W, h10km, Ml2.7/2, Error ellipse: s-maj=6.1km s-min=2.5km az=141.0*
ISC 09 13:03:06.3±0.6, 3858N±003×060W±003, h5km±3km, n77, σ1§11/113, 9C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBEN	**Beniarda**	**0.32**	**67**	⇑Pg	**Pg**	**13 03 12.7**	**+0.2**
	SNR=18						
EBEN				Lg		13 03 18.6	
	1μm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**0.32**	**67**	Pg	**Pg**	**13 03 12.7**	**+0.2**
	367nm,0.3s,SNR=18						
ETOB	**Tobarra**	**0.74**	**276**	⇑Pg	**Pg**	**13 03 22.0**	**+1.4**
	76nm,0.3s,SNR=18						
ETOB				Lg		13 03 32.8	
	70nm,0.2s,SNR=8.1						
ETOB	**Tobarra**	**0.74**	**276**	Pg	**Pg**	**13 03 22.0**	**+1.4**
	76nm,0.3s,SNR=18						
EMUR	**La Murta**	**0.89**	**215**	⇑Pg	**Pg**	**13 03 23.4**	**+0.1**
	58nm,0.3s,SNR=18						
EMUR				Lg		13 03 35.6	
	175nm,0.5s,SNR=17						
EMUR	**La Murta**	**0.89**	**215**	Pg	**Pg**	**13 03 23.4**	**0.0**
	58nm,0.3s,SNR=18						
CART	**Cartagena**	**1.04**	**198**	*e*Pn	**Pn**	**13 03 26.3**	**-1.2**
CART	**Cartagena**	**1.04**	**198**	*e*Pn	**Pn**	**13 03 26.3**	**-1.1**
ECHE	**Chera**	**1.05**	**344**	Pg	**Pg**	**13 03 27.4**	**+0.9**
	SNR=7.9						
ECHE				Lg		13 03 41.3	
	34nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**1.49**	**273**	⇑Pg	**Pg**	**13 03 33.5**	**-1.3**
	22nm,0.3s,SNR=18						
EVIA				Lg		13 03 55.7	
	17nm,0.2s,SNR=6.5						
EIBI	**Ibiza**	**1.58**	**73**	Pg	**Pg**	**13 03 34.2**	**-2.5**
	40nm,0.5s,SNR=11						
EIBI				Lg		13 03 54.0	
	54nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**1.58**	**73**	Pg	**Pg**	**13 03 34.2**	**-2.5**
	40nm,0.5s,SNR=11						
EHUE	**Huescar**	**1.74**	**245**	Pg	**Pg**	**13 03 37.8**	**-1.9**
	SNR=7.9						
EHUE				Lg		13 04 03.5	
	12nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**1.79**	**3**	Pg	**Pg**	**13 03 38.6**	**-1.9**
EMOS				Sn	**Sn**	**13 04 01.3**	**+0.5**
EMOS	**Mosqueruela**	**1.79**	**3**	Pg	**Pg**	**13 03 38.6**	**-1.9**
	4.6nm,0.4s,SNR=12						
EMOS				Sn	**Sn**	**13 04 01.3**	**+0.5**
	SNR=7.9						
EMOS	**Mosqueruela**	**1.79**	**3**	Pg	**Pg**	**13 03 38.6**	**-2.0**
	4.6nm,0.4s,SNR=12						
EMOS				Sn	**Sn**	**13 04 01.3**	**+0.5**
	SNR=7.9						
EQES	**Quesada**	**2.10**	**249**	⇑Pn	**Pn**	**13 03 42.6**	**+0.6**
	22nm,0.4s,SNR=18						
EQES				Sn	**Sn**	**13 04 09.2**	**+0.8**
	26nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.10**	**249**	Pn	**Pn**	**13 03 42.6**	**+0.6**
	22nm,0.4s,SNR=18						
EQES				Sn	**Sn**	**13 04 09.2**	**+0.8**
	26nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.48**	**17**	Pn	**Pn**	**13 03 48.1**	**+0.8**
ERTA				Sn	**Sn**	**13 04 18.2**	**+0.2**
ERTA				Lg		13 04 27.2	
ERTA	**Horta de San J**	**2.48**	**17**	Pn	**Pn**	**13 03 48.1**	**+0.8**
	5.0nm,0.3s,SNR=9.5						
ERTA				Sn	**Sn**	**13 04 18.2**	**+0.2**
	2.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.50**	**334**	Pg	**Pg**	**13 03 55.4**	**+1.1**
	19nm,0.4s,SNR=17						
ETOR				Lg		13 04 27.6	
	13nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.54**	**262**	⇑Pn	**Pn**	**13 03 47.6**	**-0.4**
	19nm,0.2s,SNR=18						
EBAN				Lg		13 04 28.7	
	15nm,0.2s,SNR=7.2						
EQUE	**Quentar**	**2.63**	**240**	Pn	**Pn**	**13 03 50.6**	**+1.2**
	4.7nm,0.4s,SNR=9.3						
EQUE				Lg		13 04 32.0	
	13nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.68**	**242**	Pg	**Pg**	**13 03 52.3**	**-5.4**
	SNR=4.0						
ECOG				Lg		13 04 32.6	
	7.9nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.84**	**294**	⇑Pn	**Pn**	**13 03 51.8**	**-0.4**
ESDC				Pg	**Pg**	**13 04 00.3**	**-0.4**
ESDC				Sn	**Sn**	**13 04 24.8**	**-1.9**
ESDC				Lg		13 04 37.7	
ESDC	**Sonseca Array**	**2.84**	**294**	⇑Pn	**Pn**	**13 03 51.8**	**-0.4**
	2.0nm,0.3s,baz=112,slow=14,SNR=18						
ESDC				Pg	**Pg**	**13 04 00.3**	**-0.4**
	4.0nm,0.3s,baz=110,slow=18,SNR=13						
ESDC				Sn	**Sn**	**13 04 24.8**	**-1.9**
	baz=109,slow=25,SNR=7.9						
ESDC				Lg		13 04 37.7	
	12nm,0.4s,baz=115,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**2.84**	**294**	Pn	**Pn**	**13 03 51.8**	**-0.4**
	2.0nm,0.3s,SNR=18						
ESDC	**Sonseca Array**	**2.84**	**294**	Pg	**Pg**	**13 04 00.3**	**-0.3**
	4.0nm,0.3s,SNR=13						
ETOS	**Mallorca**	**2.91**	**65**	Pn	**Pn**	**13 03 53.4**	**+0.2**
	16nm,0.3s,SNR=15						
ETOS				Sn	**Sn**	**13 04 27.5**	**-1.0**
	6.1nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.91**	**65**	Pn	**Pn**	**13 03 53.4**	**+0.2**
	16nm,0.3s,SNR=15						
ETOS				Sn	**Sn**	**13 04 27.5**	**-1.0**
	6.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**3.06**	**24**	Pn	**Pn**	**13 03 55.0**	**-0.2**
	3.0nm,0.3s,SNR=12						
EPOB				Sn	**Sn**	**13 04 29.8**	**-2.4**
	SNR=7.9						
EPOB	**Poblet**	**3.06**	**24**	Pn	**Pn**	**13 03 55.0**	**-0.2**
	3.0nm,0.3s,SNR=12						
ELUQ	**Luque**	**3.07**	**252**	⇑Pn	**Pn**	**13 03 55.7**	**+0.4**
	12nm,0.3s,SNR=18						
ELUQ				Sn	**Sn**	**13 04 33.6**	**+1.3**
	12nm,0.3s,SNR=5.6						
PAB	**San Pablo**	**3.07**	**290**	*e*Pn	**Pn**	**13 03 51.6**	**-3.9**
PAB				*e*Sg	**Sg**	**13 04 45.5**	**+0.5**
ESAC	**San Caprasio**	**3.14**	**2**	Pn	**Pn**	**13 04 00.8**	**+4.4**
	3.4nm,0.2s,SNR=7.9						
ESAC				Pg	**Pg**	**13 04 09.2**	**+2.7**
	16nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.15**	**264**	Pn	**Pn**	**13 03 55.6**	**-0.9**
	3.2nm,0.3s,SNR=38						
EADA				Pg	**Pg**	**13 04 05.8**	**-0.9**
	3.3nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**13 04 34.1**	**-0.4**
	SNR=7.9						
EADA	**Adamuz**	**3.15**	**264**	Pn	**Pn**	**13 03 55.6**	**-0.9**
	3.2nm,0.3s,SNR=38						
EADA	**Adamuz**	**3.15**	**264**	Pg	**Pg**	**13 04 05.8**	**-0.9**
	3.3nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**13 04 34.1**	**-0.4**
	SNR=7.9						
ELOJ	**Sierra Loja**	**3.15**	**244**	Pn	**Pn**	**13 03 56.9**	**+0.4**
ELOJ				Sn	**Sn**	**13 04 35.2**	**+0.7**
ELOJ	**Sierra Loja**	**3.15**	**244**	Pn	**Pn**	**13 03 56.9**	**+0.4**
	SNR=7.9						
ELOJ				Sn	**Sn**	**13 04 35.2**	**+0.7**
	SNR=7.9						
GUD	**Guadarrama**	**3.43**	**308**	Pg	**Pg**	**13 04 10.3**	**-1.8**
	1.7nm,0.2s,SNR=7.9						
GUD				Lg		13 04 57.4	
	8.0nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**3.71**	**25**	Pn	**Pn**	**13 04 05.5**	**+1.3**
EMIR				Sn	**Sn**	**13 04 47.5**	**-0.8**
EMIR	**Miracle**	**3.71**	**25**	Pn	**Pn**	**13 04 05.5**	**+1.3**
	SNR=4.0						
EMIR				Sn	**Sn**	**13 04 47.5**	**-0.7**
EMIJ	**Mijas**	**3.88**	**240**	Pn	**Pn**	**13 04 07.7**	**+1.2**
	5.4nm,0.5s,SNR=8.6						
EMIJ				Sn	**Sn**	**13 04 52.3**	**0.0**
	SNR=7.9						
EBIE	**Bielsa**	**4.14**	**8**	Pn	**Pn**	**13 04 12.6**	**+2.4**
EBIE	**Bielsa**	**4.14**	**8**	Pn	**Pn**	**13 04 12.6**	**+2.4**
	SNR=7.9						
ETSF	**Etsaut**	**4.32**	**0**	*e*Pn	**Pn**	**13 04 13.8**	**+1.3**
ETSF				*e*Sn	**Sn**	**13 05 02.1**	**-1.1**
	5.0nm,0.5s						
ETSF	**Etsaut**	**4.32**	**0**	*e*Pn	**Pn**	**13 04 13.8**	**+1.3**
ETSF				*e*Sn	**Sn**	**13 05 02.1**	**-1.1**
	2.5nm,0.5s						
ESPR	**Espera**	**4.50**	**249**	Pn	**Pn**	**13 04 15.7**	**+0.6**
ESPR				Sn	**Sn**	**13 05 08.7**	**+0.9**
ESPR	**Espera**	**4.50**	**249**	Pn	**Pn**	**13 04 15.7**	**+0.6**
	SNR=7.9						
ESPR				Sn	**Sn**	**13 05 08.7**	**+0.9**
	SNR=7.9						
EPF	**Esparros**	**4.51**	**9**	*e*Pn	**Pn**	**13 04 16.2**	**+1.1**
EPF				*e*Sn	**Sn**	**13 05 06.1**	**-1.8**
	3.5nm,0.5s						
EPF	**Esparros**	**4.51**	**9**	*e*Pn	**Pn**	**13 04 16.2**	**+1.1**
EPF				*e*Sn	**Sn**	**13 05 06.1**	**-1.8**
	1.8nm,0.5s						
SJPF	**Ste Jean**	**4.56**	**354**	*e*Pn	**Pn**	**13 04 17.5**	**+1.7**
ELIZ	**Elizondo**	**4.64**	**352**	Pn	**Pn**	**13 04 18.7**	**+1.8**
	2.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**4.69**	**352**	Pn	**Pn**	**13 04 18.6**	**+1.0**
	2.7nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.85**	**262**	Pn	**Pn**	**13 04 19.2**	**-0.7**
	SNR=7.9						
EMIN				Sn	**Sn**	**13 05 13.9**	**-2.5**
	SNR=7.9						
EMIN				Lg		13 05 39.5	
	6.4nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.85**	**262**	Pn	**Pn**	**13 04 19.2**	**-0.7**
	SNR=7.9						
EMIN				Sn	**Sn**	**13 05 13.9**	**-2.5**
	SNR=7.9						
EBAD	**Badajoz**	**5.02**	**274**	Pn	**Pn**	**13 04 21.9**	**-0.4**
EBAD				Sn	**Sn**	**13 05 19.6**	**-1.1**
EBAD				Lg		13 05 46.9	
EBAD	**Badajoz**	**5.02**	**274**	Pn	**Pn**	**13 04 21.9**	**-0.3**
EBAD				Sn	**Sn**	**13 05 19.6**	**-1.0**
ELAN	**Lanestosa**	**5.12**	**336**	Pn	**Pn**	**13 04 25.1**	**+1.5**
ELAN	**Lanestosa**	**5.12**	**336**	Pn	**Pn**	**13 04 25.1**	**+1.5**
MTLF	**Montolieu**	**5.21**	**23**	*e*Pn	**Pn**	**13 04 26.5**	**+1.6**
PESTR	**Estremoz**	**5.47**	**275**	*e*Pn	**Pn**	**13 04 28.4**	**0.0**
PESTR				A		13 06 12.0	
	8.9nm,0.5s						
PESTR	**Estremoz**	**5.47**	**275**	*e*Pn	**Pn**	**13 04 28.4**	**0.0**
	8.9nm,0.5s						
EGRO	**El Granado**	**5.53**	**261**	Pn	**Pn**	**13 04 28.5**	**-0.7**
EGRO	**El Granado**	**5.53**	**261**	Pn	**Pn**	**13 04 28.5**	**-0.7**
LASF	**Ste Croix**	**6.44**	**30**	*e*Pn	**Pn**	**13 04 42.2**	**+0.5**
LFF	**La Frestale**	**6.44**	**9**	*e*Pn	**Pn**	**13 04 41.1**	**-0.6**
CAF	**Calviac**	**6.65**	**17**	*e*Pn	**Pn**	**13 04 44.9**	**+0.3**
ORIF	**Oris-en-Rattie**	**7.97**	**35**	*e*Pn	**Pn**	**13 05 01.8**	**-1.0**
TCF	**Toulx Ste Croi**	**7.98**	**14**	*e*Pn	**Pn**	**13 05 02.5**	**-0.4**
PGF	**Pioggiola**	**8.31**	**58**	*e*Pn	**Pn**	**13 05 07.0**	**-0.4**
HYF	**Humbligny**	**9.01**	**14**	*e*Pn	**Pn**	**13 05 16.7**	**-0.2**
QUIF	**Quistinic**	**9.52**	**350**	*e*Pn	**Pn**	**13 05 24.0**	**0.0**
ROSF	**Rostrenen**	**9.95**	**350**	*e*Pn	**Pn**	**13 05 29.5**	**-0.3**
FLN	**La Foliniere**	**10.18**	**0**	*e*Pn	**Pn**	**13 05 32.6**	**-0.4**

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*ISCJB **09** 14:06:06.7±1.6, 160S±02×1742W±0.1, h125km±17km, mb4.1/11, Error ellipse: s-maj=30.6km s-min=15.7km az=101.7*
*IDC **09** 14:06:08.5±2.4, 1630S×17405W, h129km±22km, mb3.8/7, mb1 4.0/8, mb1mx3.8/16, mbtmp3.8/8, Error ellipse: s-maj=29.3km s-min=16.6km az=134.0*
*NEIC **09** 14:06:08.8±1.1, 1617S×174.13W, h133km±10km, mb4.1/4, Error ellipse: s-maj=16.9km s-min=9.3km az=138.0*
ISC 09 14:06:08.1±1.5, 162S±01×1741W±01, h126km±17km, n19, σ1§05/16, mb4.1/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.14**	**45**	P	**Pn**	**14 06 58.0**	**+1.7**
	56nm,0.3s,baz=94,slow=0.8,SNR=114						
AFI				S	**Sn**	**14 07 32.4**	**-1.2**
	121nm,0.3s,baz=35,slow=23,SNR=14						
AFI	**Afiamalu**	**3.14**	**45**	P	**Pn**	**14 06 58.0**	**+1.7**
AFI				*e*Sn	**Sn**	**14 07 31.8**	**-1.9**
URZ	**Urewera**	**23.35**	**198**	P	**P**	**14 11 05.7**	**+0.6**
	3.2nm,0.3s,mb4.1,baz=345,slow=4.7,SNR=6.8						
STKA	**Stephens Creek**	**43.11**	**240**	P	**P**	**14 13 55.1**	**-0.7**
	1.7nm,0.4s,mb4.2,baz=23,slow=4.8,SNR=3.1						
WB2	**Warramunga Arr**	**49.05**	**257**	*e*P	**P**	**14 14 42.1**	**-0.2**
WRAB	**Tennant Creek**	**49.05**	**257**	*e*P	**P**	**14 14 42.0**	**-0.3**
	4.4nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**49.06**	**257**	P	**P**	**14 14 42.7**	**+0.3**
	1.1nm,0.3s,mb4.2,baz=97,slow=6.8,SNR=61						
WRA				PcP	PcP	14 16 05.1	+0.8
	0.6nm,0.6s,baz=94,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**49.28**	**253**	P	**P**	**14 14 44.0**	**0.0**
	3.1nm,0.4s,mb4.6,baz=89,slow=7.6,SNR=155						
KAKA	**Kakadu**	**51.82**	**266**	*e*P	**P**	**14 15 03.7**	**+0.6**
	6.4nm,0.6s,mb4.8						
VNDA	**Vanda**	**62.56**	**186**	P	**P**	**14 16 16.4**	**-2.2**
	2.9nm,1.1s,mb4.1,baz=122,slow=4.0,SNR=13						
QSPA	**South Pole Qui**	**73.89**	**180**	*e*P	**P**	**14 17 29.4**	**+0.2**
	1.9nm,0.8s,mb3.9						
TXAR	**Lajitas Array**	**81.56**	**56**	P	**P**	**14 18 13.4**	**+1.7**
	0.5nm,1.0s,mb3.3,baz=195,slow=3.9,SNR=3.9						
COLA	**College**	**83.22**	**11**	P	**P**	**14 18 19.1**	**-1.3**
	1.5nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**83.25**	**42**	P	**P**	**14 18 21.0**	**+0.5**
	0.4nm,0.6s,mb3.4,baz=213,slow=2.0,SNR=3.4						
ARCES	**ARCESS Array B**	**125.27**	**352**	PKP	PKPdf	14 24 52.6	-1.3
	10nm,1.1s,baz=23,slow=4.2,SNR=5.8						
FINES	**FINESS Array B**	**132.54**	**347**	PKP	PKPdf	14 25 07.7	0.0
	1.6nm,0.8s,baz=359,slow=19,SNR=3.2						
KMBO	**Kilima Mbogo**	**144.64**	**244**	PKP	PKPdf	14 25 30.6	+0.9
	1.7nm,0.5s,baz=219,slow=22,SNR=4.9						
BRTR	**Keskin Array B**	**146.34**	**320**	PKPbc	PKPbc	14 25 34.2	+0.1
	1.7nm,0.8s,baz=104,slow=2.4,SNR=9.0						
GERES	**GERESS Array B**	**146.79**	**351**	PKPbc	PKPbc	14 25 35.5	+0.1
	0.4nm,0.6s,baz=24,slow=3.6,SNR=6.7						

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*NEIC **09** 14:16:46.1, 1608N×9693W, h15km, MD4.0(MEX), After MEX.*
MEX 09 14:16:46.1±0.7, 1609N×9693W, h18km±32km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.85**	**112**	*i* P	Pb	14 16 59.9	-2.4
HUIG				*i* S	Sb	14 17 09.6	-3.8
VHO	**Vista Hermosa**	**0.99**	**11**	*i* P	Pb	14 17 01.5	-3.3
VHO				*i* S	Sb	14 17 14.1	-3.5
PNIG	**Pinotepa**	**1.19**	**285**	*i* P	Pn	14 17 03.8	-4.0
PNIG				*i* S	Sb	14 17 19.2	-4.0
UTMO	**Huajuapan**	**1.92**	**334**	*i* P	Pn	14 17 15.5	-2.4
UTMO				*i* S	Sn	14 17 38.2	-3.4

CDF	**Champ du Feu**	**0.86 345**	*e*Pg	Pg	14 17 56.1	0.0
CDF	**Champ du Feu**	**0.86 345**	*e*Pn	Pn	14 17 56.4	-2.0
CDF			*e*Sg	Sg	14 18 06.8	-0.4
CDF			*e*Sn	Sn	14 18 08.1	-3.3
	5.7nm,0.2s					
HASLI	**Hasliberg**	**0.91 155**	*i* P	Pg	14 17 58.7	+1.7
	31nm,0.3s					
HAU	**Haudompre**	**0.95 297**	*e*Pg	Pg	14 17 57.5	-0.3
HAU			*e*Sg	Sg	14 18 09.4	-0.7
	4.7nm,0.2s					
BRANT	**Les Verrieres**	**1.00 231**	*e*P	Pg	14 18 01.4	+2.5
	33nm,2.1s					
CABF	**La Chapelle**	**1.42 227**	*e*Pg	Pg	14 18 06.7	-0.1
CABF			*e*Sg	Sg	14 18 24.9	-0.3
	3.0nm,0.3s					
SFTF	**Sexfontaines**	**1.84 291**	*e*Sg	Sg	14 18 37.4	-1.2
	2.4nm,0.3s					
MEZF	**Maizieres J'vi**	**1.94 299**	*e*Sg	Sg	14 18 41.0	-1.1
	3.7nm,0.4s					
LOR	**Lormes**	**2.56 264**	*e*Pn	Pn	14 18 19.8	-2.0
LOR			*e*Sg	Sg	14 18 59.5	-2.4
	2.4nm,0.2s					
SSF	**Saint Saulge**	**2.84 261**	*e*Sg	Sg	14 19 08.4	-2.3
	1.1nm,0.3s					

ISCJB ***09*** *14:42:27.4±0.8, 175S±0.1×17897W±008, h519km±13km, mb4.6/19, Error ellipse: s-maj=17.3km s-min=10.6km az=124.9*
IDC ***09*** *14:42:28.1±1.4, 1762S×17891W, h513km±18km, mb3.7/5, mb1 4.0/7, mb1mx3.7/15, mbtmp3.8/7, Error ellipse: s-maj=28.1km s-min=13.2km az=146.0*
NEIC ***09*** *14:42:28.8±0.8, 1752S×17896W, h524km±10km, mb4.7/18, Error ellipse: s-maj=13.7km s-min=8.6km az=147.0*

ISC 09 14:42:28.4±0.8, 176S±01×17885W±009, h521km±13km, n35, σ0°90/37, mb4.6/19, 9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**63**	P	**P**	**14 44 23.4**	**+1.1**
	18nm,0.3s,baz=293,slow=2.0,SNR=22						
AFI				S	**S**	**14 45 54.5**	**-1.3**
	1.8nm,0.3s,baz=52,slow=21,SNR=2.8						
AFI	**Afiamalu**	**7.71**	**63**	*e*P	**P**	**14 44 23.0**	**+0.7**
AFI				S	**S**	**14 45 54.5**	**-1.3**
FUNA	**Funafuti**	**9.17**	**348**	*e*P	**P**	**14 44 38.1**	**+0.9**
	124nm,1.0s						
DZM	**Mont Dzumac**	**14.55**	**250**	*e*P	**P**	**14 45 28.0**	**-5.5**
DZM	**Mont Dzumac**	**14.55**	**250**	P	**P**	**14 45 33.9**	**+0.4**
	1.3nm,0.3s,baz=66,slow=20,SNR=34						
URZ	**Urewera**	**20.94**	**189**	P	**P**	**14 46 33.2**	**-1.1**
	9.9nm,0.3s,baz=257,slow=2.2,SNR=32						
ARMA	**Armidale**	**29.76**	**239**	⇓*i*P	**P**	**14 47 53.3**	**+1.0**
CTA	**Charters Tower**	**33.09**	**260**	⇓*i*P	**P**	**14 48 20.7**	**-0.1**
	15nm,0.7s,mb4.6						
CTAO	**Charters Tower**	**33.09**	**260**	*e*P	**P**	**14 48 20.4**	**-0.4**
	8.4nm,0.6s,mb4.5						
CNB	**Canberra Magne**	**33.31**	**232**	⇓*i*P	**P**	**14 48 23.5**	**+0.8**
	33nm,0.6s,mb5.0						
PMG	**Port Moresby**	**33.98**	**279**	*e*P	**P**	**14 48 27.9**	**-0.4**
	21nm,1.0s,mb4.6						
TOO	**Toolangi**	**37.07**	**230**	⇓*i*P	**P**	**14 48 54.6**	**+0.6**
	22nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**38.44**	**241**	⇓*i*P	**P**	**14 49 05.9**	**+0.8**
	17nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**14 49 05.9**	**+0.8**
	20nm,0.4s,mb5.0,baz=91,slow=9.6,SNR=83						
WB2	**Warramunga Arr**	**44.27**	**259**	⇓*i*P	**P**	**14 49 50.5**	**-0.9**
WRAB	**Tennant Creek**	**44.27**	**259**	*e*P	**P**	**14 49 50.1**	**-1.3**
	44nm,1.5s,mb4.8						
WRA	**Warramunga Arr**	**44.28**	**259**	P	**P**	**14 49 50.6**	**-0.9**
	9.6nm,0.8s,mb4.4,baz=94,slow=7.1,SNR=111						
WRA				PcP	PcP	14 51 24.8	+0.3
	1.6nm,0.7s,baz=85,slow=3.3,SNR=4.9						
WRA				ScP	ScP	14 54 26.2	-0.4
	0.7nm,0.6s,baz=87,slow=3.4,SNR=4.6						
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	**14 49 53.0**	**-0.1**
	83nm,0.7s,mb5.4,baz=88,slow=8.0,SNR=1723						
KAKA	**Kakadu**	**47.17**	**269**	⇓*i*P	**P**	**14 50 13.4**	**-0.1**
	50nm,0.4s,mb5.4						
FORT	**Forrest**	**49.78**	**244**	*e*P	**P**	**14 50 32.5**	**-0.4**
	49nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**52.67**	**260**	⇓*i*P	**P**	**14 50 54.2**	**+0.3**
	14nm,1.6s,mb4.0						
KLBR	**Kellerberrin**	**58.61**	**243**	⇓*i*P	**P**	**14 51 34.4**	**-0.7**
	22nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**59.01**	**242**	*e*P	**P**	**14 51 37.5**	**-0.3**
	34nm,1.4s,mb4.4						
MUN	**Mundaring**	**59.91**	**243**	*e*P	**P**	**14 51 43.8**	**0.0**
CASY	**Casey**	**66.28**	**205**	*e*P	**P**	**14 52 24.9**	**+0.1**
	5.3nm,0.9s,mb4.1						
KKM	**Kota Kinabalu**	**68.25**	**284**	*e*P	**P**	**14 52 37.0**	**+0.1**
KSM	**Kuching**	**72.22**	**277**	*e*P	**P**	**14 53 01.3**	**+0.8**
QSPA	**South Pole Qui**	**72.50**	**180**	*e*P	**P**	**14 53 03.1**	**+1.0**
	5.6nm,1.1s,mb3.9						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**14 53 42.1**	**+1.6**
	1.0nm,0.8s,baz=233,slow=8.9,SNR=4.4						
MA2	**Magadan**	**80.74**	**345**	*e*P	**P**	**14 53 39.1**	**-8.1**
	29nm,0.6s,mb4.9						
COLA	**College**	**85.52**	**13**	*e*P	**P**	**14 54 08.6**	**-2.5**
	18nm,1.4s,mb4.5						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**14 54 17.5**	**+3.3**
	0.2nm,0.6s,baz=204,slow=8.7,SNR=2.9						
SNAA	**Sanae**	**90.97**	**179**	P	**P**	**14 54 36.2**	**-0.4**
	6.0nm,1.5s,mb4.3						
YKA	**Yellowknife Ar**	**94.18**	**25**	P	**P**	**14 54 51.2**	**-0.1**
	0.5nm,0.7s,mb3.8,baz=244,slow=4.5,SNR=6.6						
YKA	**Yellowknife Ar**	**94.18**	**25**	P	**P**	**14 54 51.2**	**-0.1**

NEIC ***09*** *14:48:27.9±0.8, 4850N×15405E, h10km, mb4.8/30, Error ellipse: s-maj=21.1km s-min=9.5km az=91.0*
BJI ***09*** *14:48:27.0, 4858N×15347E, h10km, mB5.0, mb5.2, Ms4.9, Msz4.6*
MOS ***09*** *14:48:29.3±2.9, 4915N×15229E, h51km, mb5.0/15, Error ellipse: s-maj=17.7km s-min=7.2km az=65.9*
ISCJB ***09*** *14:48:30.6±1.8, 485N±0.1×15384E±0.10, h48km±14km, mb4.8/33, MS4.7/3, Error ellipse: s-maj=20.6km s-min=8.3km az=136.8*

ISC 09 14:48:32.1±1.6, 486N±01×15382E±009, h42km±13km, h21km±10.6km: pP-P, n78, σ0°92/80, mb4.8/33, MS4.7/3, 5C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.55**	**35**	*e*PN	**Pn**	**14 49 11.5**	**+0.6**
SKR				pmax	pmax		
	comp=N,390nm,0.5s						
SKR				pmax	pmax		
	comp=E,420nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
PET	**Petropavlovsk**	**5.37**	**33**	*e*PN	**Pn**	**14 49 51.9**	**+2.3**
PET				pmax	pmax		
	comp=Z,151nm,0.5s						
PET				MLR	MLR		
	comp=Z,900nm,13.0s						
PET	**Petropavlovsk**	**5.37**	**33**	*e*Pn	**Pn**	**14 49 50.4**	**+0.8**
	comp=Z,121nm,0.4s						
PET				*e*Sn	**Sn**	**14 50 48.8**	**-1.4**
MA2	**Magadan**	**11.13**	**352**	*e*PN	**Pn**	**14 51 16.0**	**+7.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
SEY	**Seymchan**	**14.38**	**357**	⇑*e*P	**Pn**	**14 51 59.7**	**+6.8**
MDJ	**Mudanjiang**	**17.10**	**266**	P	**Pn**	**14 52 28.3**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,130nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,235nm,3.6s						
BILL	**Bilibino**	**20.47**	**13**	*e*P	**P**	**14 53 06.7**	**+0.7**
BILL				pmax	pmax		
	comp=Z,160nm,1.5s						
BILL	**Bilibino**	**20.47**	**13**	*e*P	**P**	**14 53 06.1**	**+0.1**
	comp=Z,18nm,0.8s						
HHC	**Hu-ho-hao-te**	**30.68**	**271**	*e*P	**P**	**14 54 43.2**	**+0.6**
HHC				AP	pP	14 54 47.0	-7.1
HHC				XP	sP	14 54 48.8	-10
HHC				PP	PP	14 55 44.7	-7.7
HHC				S	**S**	**14 59 44.9**	**+2.6**
HHC				XS	sS	14 59 50.7	-11
HHC				PCS	PcS	15 01 23.4	-0.3
HHC				AMB	AMB		
	comp=Z,57nm,0.7s,mb5.5						
HHC				AMB	AMB		
	comp=Z,168nm,3.7s						
HHC				LR	LR		
	comp=N,2μm,12.5s,MS5.1						
HHC				LR	LR		
	comp=E,2μm,13.1s,MS5.1						
HHC				LR	LR		
	comp=Z,1μm,14.3s,MS4.7						
IMA2	**Indian Mountai**	**32.02**	**38**	*e*P	**P**	**14 54 54.0**	**-0.5**
MCK	**McKinley**	**33.93**	**42**	*e*P	**P**	**14 55 10.5**	**-0.6**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MCK	**McKinley**	**33.93**	**42**	*e*P	**P**	**14 55 10.5**	**-0.6**
	comp=Z,5.9nm,0.9s,mb4.5						
SML	**Sawmill**	**34.30**	**46**	*e*P	**P**	**14 55 13.9**	**-0.4**
SML				*e*	pP	14 55 25.5	-0.4
COLA	**College**	**34.39**	**40**	*e*P	**P**	**14 55 15.1**	**+0.1**
COLA				*e*	pP	14 55 28.9	+2.3
COLA				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
COLA	**College**	**34.39**	**40**	*e*P	**P**	**14 55 15.1**	**0.0**
	comp=Z,22nm,0.8s,mb5.1						
COLA				*e*	pP	14 55 28.9	+2.3
EGAK	**Eagle**	**37.25**	**40**	*e*P	**P**	**14 55 38.6**	**-0.9**
	comp=Z,13nm,0.8s,mb4.8						
EGAK				*e*	pP	14 55 52.6	+1.4
LZH	**Lanzhou**	**38.34**	**270**	*e*P	**P**	**14 55 47.4**	**-1.4**
LZH				AP	pP	14 55 51.0	-9.4
LZH				XP	sP	14 55 52.5	-13
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,113nm,4.8s						
INK	**Inuvik**	**39.83**	**34**	*e*P	**P**	**14 56 01.8**	**+0.6**
	comp=Z,235nm,0.6s						
CD2	**Chengdu**	**41.54**	**264**	*e*P	**P**	**14 56 12.0**	**-3.3**
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
GYA	**Guiyang**	**42.61**	**256**	P	**P**	**14 56 21.8**	**-2.2**
GYA				AP	pP	14 56 25.8	-10
GYA				XP	sP	14 56 28.9	-12
GYA				PP	PP	14 58 03.6	+0.3
GYA				PCP	PcP	14 58 16.2	+0.6
GYA				SCS	ScS	15 06 22.3	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,430nm,15.6s,MS4.6						
GYA				LR	LR		
	comp=E,480nm,15.8s,MS4.6						
GYA				LR	LR		
	comp=Z,340nm,16.0s,MS4.3						
DLBC	**Dease Lake**	**43.96**	**47**	*e*P	**P**	**14 56 35.6**	**+0.7**
WMQ	**Urumqi**	**44.72**	**290**	*e*P	**P**	**14 56 41.1**	**+0.1**
WMQ				LR	LR		
	comp=N,603nm,18.0s,MS4.7						
WMQ				LR	LR		
	comp=E,713nm,21.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,723nm,24.0s,MS4.5						
KMI	**Kunming**	**46.07**	**258**	P	**P**	**14 56 50.7**	**-1.0**
KMI				AP	pP	14 56 57.8	-5.8
KMI				AMB	AMB		
	comp=Z,69nm,0.8s,mb5.6						
RES	**Resolute Bay**	**48.92**	**19**	*e*P	**P**	**14 57 14.9**	**+1.1**
	comp=Z,258nm,0.4s						
POHA	**Pohakuloa**	**49.63**	**107**	*e*P	**P**	**14 57 19.3**	**+0.1**
	comp=Z,124nm,1.1s,mb5.8						
EDM	**Edmonton**	**54.69**	**47**	*e*P	**P**	**14 57 56.6**	**-0.2**
NEW	**Newport**	**55.68**	**54**	*e*P	**P**	**14 58 03.1**	**-0.8**
NEW				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NEW	**Newport**	**55.68**	**54**	*e*P	**P**	**14 58 03.1**	**-0.9**
	comp=Z,6.5nm,1.2s,mb4.5						
WALA	**Waterton Lakes**	**56.89**	**52**	*e*P	**P**	**14 58 12.6**	**-0.1**
	comp=Z,11nm,0.8s,mb4.9						
BMO	**Blue Mountains**	**57.65**	**57**	*e*P	**P**	**14 58 17.7**	**-0.2**
	comp=Z,4.4nm,0.6s,mb4.7						
HNR	**Honiara**	**58.05**	**173**	P	**P**	**14 58 22.1**	**+1.4**
MSO	**Missoula**	**58.26**	**54**	*e*P	**P**	**14 58 22.2**	**-0.1**
	comp=Z,9.6nm,1.3s,mb4.7						
WVOR	**Wild Horse Val**	**58.40**	**60**	*e*P	**P**	**14 58 21.1**	**-2.1**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WVOR	**Wild Horse Val**	**58.40**	**60**	*e*P	**P**	**14 58 21.1**	**-2.2**
	comp=Z,2.8nm,0.8s,mb4.3						
CHMT	**Chamberlain Mo**	**58.57**	**53**	*e*P	**P**	**14 58 24.0**	**-0.4**
HRY	**Holter Researc**	**59.46**	**53**	*e*P	**P**	**14 58 30.7**	**+0.2**
HLID	**Hailey**	**60.08**	**57**	*e*P	**P**	**14 58 34.2**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.3						
MCMT	**McKenzie Canyo**	**60.12**	**55**	*e*P	**P**	**14 58 34.6**	**-0.5**
BOZ	**Bozeman (W)**	**60.25**	**54**	P	**P**	**14 58 36.4**	**+0.4**
BOZ	**Bozeman (W)**	**60.25**	**54**	*e*P	**P**	**14 58 35.4**	**-0.5**
	comp=Z,6.9nm,0.8s,mb4.7						
QLMT	**Earthquake Lak**	**60.89**	**54**	*e*P	**P**	**14 58 40.9**	**+0.6**
YFT	**Old Faithful**	**61.46**	**54**	*e*P	**P**	**14 58 46.0**	**+1.8**
LKWY	**Lake**	**61.62**	**54**	*e*P	**P**	**14 58 47.4**	**+2.1**
LKWY				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
LKWY	**Lake**	**61.62**	**54**	*e*P	**P**	**14 58 47.4**	**+2.2**
	comp=Z,1.4nm,0.3s,mb4.6						
RLMT	**Red Lodge**	**61.85**	**53**	*e*P	**P**	**14 58 45.8**	**-1.1**
	comp=Z,46nm,0.9s,mb5.6						
RRI2	**Red Ridge**	**61.92**	**55**	⇑*i*P	**P**	**14 58 52.1**	**+4.8**
	comp=Z,408nm,0.8s						
MOOW	**Moose Ponds**	**61.97**	**55**	*e*P	**P**	**14 58 48.3**	**+0.6**
	comp=Z,2.4nm,0.9s,mb4.3						
TPAW	**Teton Pass**	**62.03**	**55**	*e*P	**P**	**14 58 48.7**	**+0.7**
	comp=Z,9.1nm,0.9s,mb4.9						
REDW	**Red Top Meadow**	**62.17**	**55**	*e*P	**P**	**14 58 49.5**	**+0.6**
	comp=Z,8.0nm,0.9s,mb4.8						
LAO	**LASA Array**	**62.38**	**50**	*e*P	**P**	**14 58 50.6**	**+0.2**
	comp=Z,19nm,1.0s,mb5.2						
SPUT	**South Promonto**	**62.65**	**58**	*e*P	**P**	**14 58 47.1**	**-5.1**
HWUT	**Hardware Ranch**	**62.95**	**57**	*e*P	**P**	**14 58 54.6**	**+0.4**
	comp=Z,3.7nm,0.8s,mb4.6						
DUG	**Dugway**	**63.19**	**59**	*e*P	**P**	**14 58 55.5**	**-0.3**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
DUG	**Dugway**	**63.19**	**59**	*e*P	**P**	**14 58 55.5**	**-0.3**
	comp=Z,4.7nm,0.8s,mb4.7						
SFJD	**Kangerlussuaq**	**63.23**	**10**	*i* P	**P**	**14 58 52.8**	**-3.2**
	comp=Z,79nm,1.0s,mb5.8						
BW06	**Boulder Array**	**63.27**	**55**	*e*P	**P**	**14 58 56.0**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.7						
NLU	**North Lily Min**	**63.77**	**59**	*e*P	**P**	**14 58 59.5**	**-0.1**
ARUT	**Antelope Range**	**64.45**	**61**	*e*P	**P**	**14 59 04.0**	**0.0**
MSU	**Marysvale**	**64.69**	**60**	*e*P	**P**	**14 59 05.9**	**+0.3**
SRU	**San Rafael**	**65.22**	**59**	*e*P	**P**	**14 59 09.2**	**+0.1**
SRU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SRU	**San Rafael**	**65.22**	**59**	*e*P	**P**	**14 59 09.2**	**+0.1**
	comp=Z,10nm,0.8s,mb4.9						
RSSD	**Black Hills**	**65.26**	**51**	⇑*i*P	**P**	**14 59 09.5**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
RSSD	**Black Hills**	**65.26**	**51**	⇑*i*P	**P**	**14 59 09.5**	**+0.1**
	comp=Z,6.0nm,0.5s,mb4.9						
AGMN	**Agassiz Refuge**	**66.23**	**43**	*e*P	**P**	**14 59 15.0**	**-0.6**
	comp=Z,11nm,0.9s,mb4.9						
PV10	**Paradox Valley**	**66.57**	**58**	*e*P	**P**	**14 59 17.8**	**0.0**
ISCO	**Idaho Springs**	**67.47**	**55**	*e*P	**P**	**14 59 23.0**	**-0.5**
ISCO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ISCO	**Idaho Springs**	**67.47**	**55**	*e*P	**P**	**14 59 23.0**	**-0.5**
	comp=Z,5.3nm,0.8s,mb4.6						
GOF	**Gofitskoye**	**68.85**	**315**	⇓*i*P	**P**	**14 59 32.4**	**+0.3**
GOF				*i*		15 01 59.7	
TUC	**Tucson**	**69.81**	**64**	*e*P	**P**	**14 59 37.5**	**-0.6**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
TUC	**Tucson**	**69.81**	**64**	*e*P	**P**	**14 59 37.5**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.0						
WMOK	**Wichita Mounta**	**74.88**	**54**	P	**P**	**15 00 08.3**	**0.0**
WMOK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
WMOK	**Wichita Mounta**	**74.88**	**54**	*e*P	**P**	**15 00 06.9**	**-1.3**
	comp=Z,4.1nm,0.8s,mb4.4						
BERN	**Bernov**	**76.07**	**336**	⇑P	**P**	**15 00 16.8**	**+1.7**
LTX	**Lajitas**	**76.17**	**61**	*e*P	**P**	**15 00 15.3**	**-0.4**
LTX				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LTX	**Lajitas**	**76.17**	**61**	*e*P	**P**	**15 00 15.3**	**-0.3**
	comp=Z,5.4nm,0.9s,mb4.5						
MIAR	**Mount Ida**	**77.78**	**51**	P	**P**	**15 00 24.1**	**-0.6**
WCI	**Wyandotte Cave**	**78.43**	**44**	P	**P**	**15 00 28.9**	**+0.6**
LHS	**Liberty Hill**	**84.02**	**43**	*e*P	**P**	**15 00 59.7**	**+1.7**

BGS ***09*** *14:48:00.6, 4555N×14957E, h20km, mb5.6*
NIED ***09*** *14:48:00, 4690N×14750E, h420km, Mw5.7 Best double couple: M0=4.55000×10^17 NP1:ϕ=5.00000°, δ84.00000°, λ-96.00000°. NP2:ϕ=230.00000°, δ9.00000°, λ-45.00000°.*
JMA ***09*** *14:48:51.9±0.3, 4689N×14749E, h438km, M5.9*
JMA Felt II J1.
SKHL ***09*** *14:48:51.1±1.5, 4730N×14760E, h372km±24km, mb6.5/5, mbh6.3/5, mbv6.3/5, ms5.2/3, msh6.3/6, msha6.6/5*
MOS ***09*** *14:48:51.5±0.8, 4745N×14703E, h380km, mb5.7/146, MS4.6/12, Error ellipse: s-maj=6.2km s-min=3.6km az=100.5*
BJI ***09*** *14:48:52.8, 4747N×14684E, h382km, mB5.6, mb5.9*
ISCJB ***09*** *14:48:53.6±0.1, 4740N±001×14704E±002, h402km, mb5.6/398, Error ellipse: s-maj=2.1km s-min=1.3km az=122.5*
NEIC ***09*** *14:48:54.2±0.1, 4744N×14706E, h396km, mb5.6/282, ME5.8, MW5.8, Error ellipse: s-maj=2.9km s-min=2.1km az=170.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^17Nm; Mrr-0.95; Mθθ0.95; Mϕϕ0.01; Mrθ0.25; Mϕθ-0.69; Mϕr-6.90; Best double couple: M0=7.00000×10^17 NP1:ϕs357.00000°, δ88.00000°, λ-84.00000°. NP2: ϕs106.00000°, δ7.00000°, λ-160.00000°. Principal axes: T 6.5200, Plg42.0000°, Azm81.0000°; N 0.8800, Plg6.0000°, Azm176.0000°; P -7.4000, Plg47.0000°, Azm273.0000°; Broadband fault plane solution: P waves. NP1:ϕs175.00000°, δ5.00000°, λ-90.00000°. NP2: ϕs355.00000°, δ85.00000°, λ-90.00000°. Principal axes: T Plg40.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg50.0000°, Azm265.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Recorded [2 JMA] in eastern Hokkaido and [1 JMA] in south-central and southwestern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu.
IDC ***09*** *14:48:54.1±0.4, 4747N×14697E, h394km±3km, mb5.1/38, mb1 5.1/43, mb1mx5.1/43, mbtmp5.1/43 Error ellipse: s-maj=6.6km s-min=5.0km az=115.0*
SZGRF ***09*** *14:48:56.6, 4747N×14630E, h413km, mb5.9, Northwest of Kuril Islands, Russia*

ISC 09 14:48:55.2±0.1, 4748N±001×14698E±002, h404km, h404km±.8km: pP-P, n1561, σ0°90/1620, mb5.6/398, 343C-218D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.33**	**164**	⇓*i*PN	**Pn**	**14 49 47.2**	**-6.3**
KUR	**Kuril'sk**	**2.33**	**164**	⇓*i*PN	**Pn**	**14 49 47.0**	**-6.5**
KUR				*i* S	**S**	**14 50 31.3**	**-9.5**
KUR				pmax	pmax		
	comp=N,11μm,2.0s						
KUR				pmax	pmax		
	comp=E,11μm,2.0s						
KUR				pmax	pmax		
	comp=Z,30μm,2.0s						
KUR				pmax	pmax		
	comp=N,2μm,0.7s						
KUR				pmax	pmax		
	comp=E,1μm,0.7s						
KUR				pmax	pmax		
	comp=Z,7μm,0.7s						
KUR				smax			
	comp=N,4μm,0.8s						
KUR				smax			
	comp=E,5μm,0.8s						
KUR				smax			
	comp=N,130μm,4.0s						
KUR	**Kuril'sk**	**2.33**	**164**	*i* P	**Pn**	**14 49 47.0**	**-6.5**
KUR				AMB	AMB	14 49 48.4	
	comp=N,11μm,2.0s						
KUR				AMB	AMB	14 49 48.4	
	comp=N,11μm,2.0s						
KUR				AMB	AMB	14 49 48.4	
	comp=N,30μm,2.0s						
KUR				AMB	AMB	14 49 49.2	
	comp=N,2μm,0.7s						
KUR				AMB	AMB	14 49 49.2	
	comp=N,1μm,0.7s						
KUR				AMB	AMB	14 49 49.2	
	comp=N,7μm,0.7s						
KUR				*i* S	**S**	**14 50 31.3**	**-9.5**
KUR				A		14 50 34.0	
	comp=N,4μm,0.8s						
KUR				A		14 50 34.0	
	comp=N,5μm,0.8s						
KUR				A		14 50 34.8	
	comp=N,130μm,4.0s						
YSS	**Yuzh-Sakhalins**	**2.93**	**261**	⇑*i*PN	**Pn**	**14 49 57.9**	**-0.1**
YSS				pmax	pmax		
	comp=Z,18μm,0.6s						
YSS				pmax	pmax		
	comp=Z,37μm,4.0s						
YSS	**Yuzh-Sakhalins**	**2.93**	**261**	*i* P	**Pn**	**14 49 57.9**	**-0.1**
YSS				AMB	AMB	14 50 00.5	
	comp=Z,18μm,0.6s						
YSS				*i* S	**S**	**14 50 48.0**	**-1.0**
YSS				A		14 50 50.0	
	comp=Z,2μm,1.0s						
YSS				A		14 50 50.0	
	comp=Z,3μm,1.0s						
YSS				A		14 50 52.0	
	comp=Z,21μm,5.0s						
YSS				A		14 50 52.0	
	comp=Z,22μm,5.0s						
YUK	**Yuzh-Kuril'sk**	**3.53**	**193**	⇑*i*PN	**Pn**	**14 49 58.3**	**-4.8**
YUK				*i* S	**S**	**14 50 51.6**	**-6.6**
YUK				pmax	pmax		
	comp=N,780nm,0.4s						
YUK				pmax	pmax		
	comp=E,1μm,0.4s						
YUK				pmax	pmax		
	comp=Z,6μm,0.4s						
YUK				pmax	pmax		
	comp=Z,12μm,2.0s						
YUK				pmax	pmax		
	comp=N,10μm,1.0s						
YUK				pmax	pmax		
	comp=E,20μm,0.8s						
YUK				smax			
	comp=E,248μm,4.0s						
YUK				smax			
	comp=N,217μm,3.0s						
YUK				smax			
	comp=N,16μm,0.5s						
YUK				smax			
	comp=E,26μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.53**	**193**	⇑*i*Pn	**Pn**	**14 49 58.3**	**-4.8**
YUK

comp=E,350nm,0.5s
UGL pmax pmax
comp=N,7μm,5.0s
UGL pmax pmax
comp=Z,16μm,5.0s
UGL pmax pmax
comp=E,12μm,4.0s
UGL MLR MLR
comp=Z,10μm,7.0s
UGL MLR MLR
comp=N,11μm,6.0s
UGL MLR MLR
comp=E,16μm,6.0s
UGL Uglegorsk 3.65 298 *i* P **Pn 14 50 03.6 -0.6**
UGL AMB AMB 14 50 05.5
comp=E,330nm,0.4s
UGL AMB AMB 14 50 05.5
comp=E,350nm,0.4s
UGL AMB AMB 14 50 05.5
comp=E,2μm,0.4s
UGL AMB AMB 14 50 06.0
comp=E,7μm,5.0s
UGL AMB AMB 14 50 06.0
comp=E,12μm,5.0s
UGL AMB AMB 14 50 06.0
comp=E,16μm,5.0s
UGL *e*S **S 14 51 00.5 +0.2**
UGL A 14 51 03.0
comp=E,2μm,0.7s
UGL A 14 51 03.0
comp=E,2μm,0.7s
UGL A 14 51 04.0
comp=E,23μm,8.0s
UGL A 14 51 04.0
comp=E,13μm,8.0s
UGL AMS AMS 14 52 19.0
comp=E,11μm,7.0s
UGL AMS AMS 14 52 19.0
comp=E,16μm,7.0s
UGL AMS AMS 14 52 19.0
comp=E,10μm,7.0s
JRA Rausu 3.77 201 ⇑P **Pn 14 50 01.4 -3.9**
JRA *e*S **S 14 50 57.0 -5.2**
JSE Soyaes 3.96 232 ⇑P **Pn 14 50 06.1 -0.9**
JSE *e*S **S 14 51 03.6 -1.7**
JTKR Abashiri--Toko 4.11 213 ⇑P **Pn 14 50 06.0 -2.5**
JTKR *e*S **S 14 51 03.9 -4.1**
JWK2 Keihoku 4.13 240 ⇑P **Pn 14 50 08.7 +0.1**
JWK2 *e*S **S 14 51 08.7 +0.4**
NEM2 Nemuro 2 4.20 192 ⇑P **Pn 14 50 03.3 -6.1**
NEM2 *e*S **S 14 50 59.7 -10**
JNK Nakash 4.20 203 ⇑P **Pn 14 50 05.6 -3.8**
JMP Maruseppu 4.30 217 ⇑P **Pn 14 50 08.0 -2.3**
ASAJ Asahikawa 4.55 224 P **Pn 14 50 11.2 -1.5**
comp=E,670nm,0.3s,baz=43,slow=4.6,SNR=3914
ASAJ S **S 14 51 10.3 -5.4**
baz=31,slow=29,SNR=2.0
ASAJ Asahikawa 4.55 224 PN **Pn 14 50 11.2 -1.5**
ASAJ S **S 14 51 10.4 -5.4**
ASAJ pmax pmax
comp=Z,671nm,0.3s
JKK2 Kamakawa 2 4.67 221 ⇑P **Pn 14 50 11.9 -2.0**
JKK2 *e*S **S 14 51 15.8 -2.2**
JSS Shosan 4.72 231 ⇑P **Pn 14 50 14.0 -0.4**
JAR Ashorobuto 4.75 210 ⇑P **Pn 14 50 11.6 -3.2**
JAR *e*S **S 14 51 13.9 -5.6**
JAK Akkeshi 4.76 201 ⇑P **Pn 14 50 09.5 -5.4**
JAK *e*S **S 14 51 10.3 -9.4**
JYG Yagishiri 4.93 234 P **Pn 14 50 15.4 -1.2**
JYG *e*S **S 14 51 21.1 -1.7**
JAB Ashibetsu 5.19 222 ⇑P **Pn 14 50 17.7 -1.6**
JHR Hokuryu 5.25 227 ⇑P **Pn 14 50 18.4 -1.5**
JFR Furan 5.31 217 ⇑P **Pn 14 50 17.9 -2.6**
JFR *e*S **S 14 51 25.4 -4.5**
JCH Churui 5.50 209 P **Pn 14 50 17.4 -5.1**
JCH *e*S **S 14 51 24.1 -9.5**
JBT2 Biratori 2 5.72 217 ⇑P **Pn 14 50 21.4 -3.5**
JNBK Urakawa-nobuka 6.00 212 ⇑P **Pn 14 50 22.8 -5.1**
JNBK *e*S **S 14 51 33.5 -10**
JEW Eniwo 6.06 222 ⇑P **Pn 14 50 26.2 -2.4**
JEW *e*S **S 14 51 39.1 -5.6**
ERM Erimo 6.10 208 Pn **Pn 14 50 25.8 -3.2**
comp=Z,86μm,0.5s
ERM Erimo 6.10 208⇓*e*Pn **Pn 14 50 23.7 -5.2**
comp=Z,7μm,0.5s
ERM *e*S **S 14 51 29.9 -16**
JSK Shakotan 6.16 230 P **Pn 14 50 28.1 -1.5**
JSK *e*S **S 14 51 42.0 -4.7**
JNB Noboribetsu 6.54 222 ⇑P **Pn 14 50 30.4 -3.4**
OKH Okha 6.61 339 *i* PN **Pn 14 50 32.6 -1.9**
OKH *i* S **S 14 51 56.0 +0.4**
OKH pmax pmax
comp=Z,6μm,5.0s
OKH smax
comp=N,27μm,6.0s
OKH smax
comp=E,11μm,6.0s
OKH smax
comp=Z,4μm,9.0s
OKH Okha 6.61 339 *i* Pn **Pn 14 50 32.6 -1.9**
OKH *i* S **S 14 51 56.0 +0.4**
OKH Okha 6.61 339 *i* P **Pn 14 50 32.6 -1.9**
OKH AMB AMB 14 50 34.4
comp=Z,2μm,5.5s
OKH AMB AMB 14 50 34.4
comp=Z,2μm,5.5s
OKH AMB AMB 14 50 34.4
comp=Z,4μm,5.5s
OKH *i* S **S 14 51 56.0 +0.4**
OKH A 14 51 58.0
comp=Z,27μm,6.0s
OKH A 14 51 58.0
comp=Z,11μm,6.0s
OKH AMS AMS 14 55 11.0
comp=Z,4μm,13.0s
OKH AMS AMS 14 55 11.0
comp=Z,6μm,13.0s
OKH AMS AMS 14 55 11.0
comp=Z,4μm,13.0s
SKR Severo-Kuril's 6.80 58 *e*PN **Pn 14 50 34.5 -2.2**
SKR *i* S **S 14 51 52.5 -7.1**
SKR pmax pmax
comp=E,4μm,2.0s
SKR pmax pmax
comp=Z,7μm,2.0s
SKR pmax pmax
comp=N,1μm,0.6s
SKR pmax pmax
comp=E,770nm,0.6s
SKR pmax pmax
comp=Z,3μm,0.6s
SKR smax
comp=N,22μm,2.0s
SKR smax
comp=E,10μm,2.0s
SKR smax
comp=N,4μm,0.6s
SKR smax
comp=E,2μm,0.9s
SKR MLR MLR
comp=Z,5μm,8.0s
SKR MLR MLR
comp=N,5μm,10.0s
SKR MLR MLR
comp=E,5μm,10.0s
SKR Severo-Kuril's 6.80 58 *e*Pn **Pn 14 50 34.5 -2.2**
comp=E,3μm,0.6s
SKR *i* S **S 14 51 52.5 -7.1**
SKR Severo-Kuril's 6.80 58 *e*P **Pn 14 50 34.5 -2.2**
SKR AMB AMB 14 50 35.0
comp=E,4μm,2.0s
SKR AMB AMB 14 50 35.0
comp=E,7μm,2.0s
SKR AMB AMB 14 50 36.6
comp=E,10μm,0.6s
SKR AMB AMB 14 50 36.6
comp=E,770nm,0.6s
SKR AMB AMB 14 50 36.6
comp=E,3μm,0.6s
SKR *i* S **S 14 51 52.5 -7.1**
SKR A 14 51 54.0
comp=E,22μm,2.0s
SKR A 14 51 54.0
comp=E,10μm,2.0s
SKR A 14 51 57.0
comp=E,4μm,0.6s

SKR A 14 51 57.0
comp=E,2μm,0.6s
SKR AMS AMS 14 53 54.0
comp=E,5μm,8.0s
SKR AMS AMS 14 53 54.0
comp=E,5μm,8.0s
JSH Shimam 6.89 228 ⇑P **Pn 14 50 35.4 -2.2**
JKB Kayabe 7.01 219 ⇑P **Pn 14 50 34.5 -4.5**
JKB *e*S **S 14 51 53.7 -10**
JYM2 Yakumo 2 7.13 224 ⇑P **Pn 14 50 36.6 -3.7**
JOT Ohata 7.42 217 ⇑P **P 14 50 38.3 -5.7**
JOT *e*S **S 14 52 01.4 -11**
JOSM Okushiri--Mats 7.59 227 P **P 14 50 41.7 -4.1**
JOSM *e*S **S 14 52 06.3 -9.5**
JANG Nango 8.12 211 ⇑P **P 14 50 45.8 -5.9**
JANG *e*S **S 14 52 15.6 -11**
JOM Ohasama 9.00 209 ⇑P **P 14 50 57.2 -4.3**
JOM *e*S **S 14 52 34.8 -11**
PET Petropavlovsk 9.31 49 *e*PN **Pn 14 51 01.3 -3.8**
PET *e*S **S 14 52 43.6 -8.0**
PET pmax pmax
comp=Z,4μm,5.4s
PET pmax pmax
comp=Z,1μm,1.4s
PET smax
comp=N,6μm,1.8s
PET smax
comp=E,7μm,1.9s
PET smax
comp=E,6μm,8.0s
PET MLR MLR
comp=Z,5μm,16.0s
JMK Ichinoseki 9.50 208 ⇑P **P 14 51 03.3 -3.7**
KLR Kul'dur 10.29 285*c i* PN **Pn 14 51 15.0 -1.5**
KLR *e*S **S 14 53 10.5 -1.2**
KLR pmax pmax
comp=E,3μm,7.5s
KLR pmax pmax
comp=Z,4μm,7.5s
KLR Kul'dur 10.29 285⇑*i* Pn **Pn 14 51 15.0 -1.5**
KLR *e*S **S 14 53 10.5 -1.2**
JAW Awa shima 10.64 215 P **P 14 51 18.6 -1.1**
JNS Sasagawa 11.17 213 P **P 14 51 25.0 -0.5**
JSD Sado 11.40 217 P **P 14 51 26.9 -1.1**
JFY Yanaizu 11.40 211 P **P 14 51 28.4 +0.3**
VLA Vladivostok 11.48 253*c i* PN **Pn 14 51 28.3 -2.0**
JIZZ Izumozaki 11.65 214 P **P 14 51 31.4 +0.6**
JSB Shiboa 11.73 209 S **S 14 53 43.6 +2.7**
JHK Hiroka 11.79 213 P **P 14 51 32.0 -0.3**
JHG Hegura jima 12.13 221 P **P 14 51 36.8 +0.7**
JHG S **S 14 53 49.2 +0.1**
JSZ Suzu 12.27 219 S **S 14 53 51.8 -0.1**
MA2 Magadan 12.33 9 *e*PN **P 14 51 37.1 -1.1**
MA2 Magadan 12.33 9 *e*Pn **P 14 51 37.1 -1.1**
MDJ Mudanjiang 12.42 263 P **P 14 51 39.9 +0.7**
MDJ AMB AMB
comp=Z,1μm,0.9s
MDJ AMB AMB
comp=Z,1μm,8.7s
JGK Kuni 12.54 213 P **P 14 51 41.6 +1.1**
MAJO Matsushiro 12.71 214⇓*e*PN **P 14 51 41.8 -0.7**
MAJO *e*S **S 14 54 00.7 -0.1**
MAJO pmax pmax
comp=Z,330nm,0.6s
MAJO Matsushiro 12.71 214⇓*e*P **P 14 51 41.8 -0.7**
comp=Z,328nm,0.6s
MAJO *e*S **S 14 54 00.7 -0.2**
MAJO *e*ScP ScP 14 59 39.1 0.0
MAT Matsushiro 12.71 214 P **P 14 51 41.7 -0.8**
MAT S **S 14 54 01.3 +0.5**
MAT Matsushiro 12.71 214 P **P 14 51 41.9 -0.6**
MJAR Matsushiro Arr 12.71 214 P **P 14 51 42.8 +0.3**
comp=Z,72nm,0.3s,baz=15,slow=12,SNR=678
MJAR S **S 14 54 03.0 +2.2**
comp=Z,1.6nm,0.3s,baz=23,slow=27,SNR=4.0
MJAR ScP ScP 14 59 39.7 +0.6
comp=Z,1.1nm,0.3s,baz=48,slow=1.1,SNR=19
MJAR Matsushiro Arr 12.71 214 PN **P 14 51 42.8 +0.3**
MJAR S **S 14 54 03.0 +2.2**
MJAR pmax pmax
comp=Z,72nm,0.3s
MJAR smax
comp=N,2.0nm,0.3s
MJAR Matsushiro Arr 12.71 214 P **P 14 51 42.8 +0.3**
MJAR S **S 14 54 03.0 +2.2**
MJAR ScP ScP 14 59 39.7 +0.6
BSO4 Boso 4 13.43 204 P **P 14 51 52.8 +2.5**
BSO4 S **S 14 54 25.3 +10**
JKG Kaga 13.70 219 S **S 14 54 21.9 +1.2**
JNY Yasuok 13.89 213 S **S 14 54 24.7 +0.2**
JGM Miyama 14.04 217 P **P 14 51 56.6 -0.3**
JGM S **S 14 54 29.4 +2.1**
JIZS Izushimoda 14.12 208 S **S 14 54 30.4 +1.3**
JAO Obara 14.20 214 S **S 14 54 29.8 -0.8**
JFM Mihama 14.49 218 P **P 14 52 01.8 0.0**
JFM S **S 14 54 37.8 +1.5**
JHJ Hachijo jima 2 15.34 203 P **P 14 52 11.2 +0.1**
comp=N,51nm,0.3s,baz=141,slow=3.2,SNR=22
JHE Heguri 15.36 218 P **P 14 52 10.7 -0.6**
CN2 Changchun 15.49 264 ⇓P **P 14 52 11.5 -1.2**
CN2 *e*S **S 14 54 46.6 -10**
CN2 LR LR
comp=N,4μm,12.0s
CN2 LR LR
comp=E,2μm,12.0s
CN2 LR LR
comp=Z,3μm,12.0s
JAD Aida 15.78 222 P **P 14 52 15.1 -0.7**
SEY Seymchan 15.79 9*c i* P **P 14 52 16.5 +0.6**
JAJ2 Tsuna 15.90 219 P **P 14 52 16.0 -1.1**
JWM Minabe 16.19 217 P **P 14 52 19.5 -0.7**
JHS Saijyo 16.22 225 P **P 14 52 20.6 +0.1**
CLNS Chul'man 16.41 313*d i* P **P 14 52 23.6 +1.1**
CLNS *e*S **S 14 55 14.9 +0.7**
CLNS pmax pmax
comp=Z,2μm,0.9s
CLNS pmax pmax
comp=N,1μm,1.0s
CLNS pmax pmax
comp=E,1μm,1.1s
CLNS smax
comp=E,2μm,1.5s
CLNS smax
comp=Z,296nm,1.7s
CLNS smax
comp=N,2μm,1.2s
CLNS Chul'man 16.41 313 *i* P **P 14 52 23.6 +1.1**
CLNS *e*S **S 14 55 14.9 +0.7**
NRGR Nerungri 16.42 312 *i* P **P 14 52 23.6 +1.0**
NRGR S **S 14 55 17.4 +3.0**
NRGR smax
comp=E,8μm,1.2s
JJG Jouge 16.49 224 P **P 14 52 23.6 +0.2**
MRT2 Murotomisaki 2 17.10 219 P **P 14 52 29.6 -0.3**
KSRS Korea Array 17.22 241 P **P 14 52 32.4 +1.2**
baz=48,slow=10,SNR=689
KSRS S **S 14 55 31.0 +1.1**
baz=324,slow=34,SNR=2.2
KSRS PcP PcP 14 56 52.2 +0.7
baz=6.9,slow=1.6,SNR=9.9
KSRS ScP ScP 14 59 48.6 +1.3
baz=355,slow=2.1,SNR=23
SNY Shenyang 17.55 260 ⇓P **P 14 52 34.7 0.0**
SNY XP sP 14 54 10.3 -12
SNY S **S 14 55 24.6 -12**
SNY AMB AMB
comp=Z,2μm,0.6s
SNY AMB AMB
comp=Z,253nm,4.4s
SNY LR LR
comp=N,5μm,11.9s
SNY LR LR
comp=E,3μm,11.3s
SNY LR LR
comp=Z,2μm,9.0s
YAK Yakutsk 17.58 332*de*P **P 14 52 33.7 -1.3**
YAK Yakutsk 17.58 332 *e*P **P 14 52 34.1 -0.9**
YAK *i* S **S 14 55 35.0 -1.9**
YAK pmax pmax
comp=Z,3μm,0.9s
YAK pmax pmax
comp=N,1μm,1.2s
YAK pmax pmax
comp=E,950nm,1.1s

YAK smax
comp=E,2μm,1.8s
YAK smax
comp=Z,2μm,1.4s
YAK smax
comp=N,4μm,2.0s
YAK Yakutsk 17.58 332 *e*P **P 14 52 34.1 -0.9**
comp=N,3μm,0.9s
YAK *i* S **S 14 55 35.0 -1.9**
INCN Inchon 17.98 244 ⇓P **P 14 52 39.8 +0.6**
SNR=11
INCN Inchon 17.98 244⇓*i* P **P 14 52 38.9 -0.3**
comp=N,325nm,0.8s
INCN *e*S **S 14 55 46.6 +2.1**
SMY Shemya 18.11 63⇑*i* P **P 14 52 39.7 -0.9**
SMY pmax pmax
comp=Z,790nm,0.7s
SMY Shemya 18.11 63⇑*i* P **P 14 52 39.7 -0.9**
comp=Z,793nm,0.6s
HIA Hailar 18.15 286⇓*i* P **P 14 52 38.6 -2.4**
HIA *e*S **S 14 55 42.4 -5.4**
HIA pmax pmax
comp=Z,465nm,0.8s
HIA Hailar 18.15 286⇓*i* P **P 14 52 38.5 -2.5**
comp=Z,465nm,0.8s
HIA *e*sP sP 14 54 25.6 -3.1
HIA *e*S **S 14 55 42.4 -5.4**
JNU Nakatsue 18.82 226 P **P 14 52 47.8 -0.3**
comp=Z,29nm,0.3s,baz=261,slow=22,SNR=108
JNU S **S 14 55 57.5 -1.9**
baz=187,slow=22,SNR=1.5
JNU ScP ScP 14 59 52.8 +1.9
comp=Z,1.3nm,0.3s,baz=196,slow=13,SNR=6.1
JIU2 Izumi 2 19.32 225 P **P 14 52 52.6 -0.5**
DL2 Dalian 20.30 254 *i* P **P 14 53 02.4 +0.4**
DL2 XP sP 14 54 51.1 -1.3
DL2 S **S 14 56 25.4 +1.9**
DL2 SCP ScP 14 59 55.2 +0.9
DL2 AMB AMB
comp=Z,540nm,0.6s
DL2 AMB AMB
comp=Z,1μm,4.6s
CBIJ Chichi jima 20.69 192 P **P 14 53 03.6 -1.9**
comp=Z,285nm,0.5s,baz=344,slow=6.2,SNR=28
CBIJ ScP ScP 14 59 54.5 -0.7
comp=Z,181nm,0.9s,baz=313,slow=2.2,SNR=4.4
AMKA Amchitka 21.28 67⇑*e*P **P 14 53 09.8 -1.1**
CIT Chita 21.95 294 *e*P **P 14 53 17.0 0.0**
CIT *e*S **S 14 56 53.1 +3.0**
CIT pmax pmax
comp=Z,2μm,1.1s,mb6.5
CIT Chita 21.95 294 *e*P **P 14 53 17.0 0.0**
comp=Z,2μm,1.1s,mb6.5
CIT *e*P 14 53 34.2
CIT *e*S **S 14 56 53.1 +3.0**
BOD Bodaibo 22.30 310 *e*P **P 14 53 18.6 -1.6**
BOD *e* 14 56 51.9
BOD pmax pmax
comp=Z,430nm,1.0s,mb5.8
BOD Bodaibo 22.30 310 *e*P **P 14 53 18.6 -1.6**
comp=Z,430nm,1.0s,mb5.8
BOD *e* 14 56 51.9
BILL Bilibino 22.84 19⇑*e*P **P 14 53 23.5 -1.5**
BILL *e*S **S 14 57 01.7 -2.4**
BILL pmax pmax
comp=Z,161nm,0.8s,mb5.5
BJI Beijing 23.35 263 P **P 14 53 29.7 +0.1**
BJI S **S 14 57 13.7 +1.6**
BJI AMB AMB
comp=Z,373nm,0.7s,mb5.9
BJI AMB AMB
comp=Z,3μm,7.9s
BJT Baijiatuau 23.36 263⇓*i* P **P 14 53 29.7 -0.1**
comp=Z,614nm,0.8s,mb6.1
BJT *e*pP 14 54 34.3
BJT *e*PcP PcP 14 57 03.8 +0.7
ADK Adak 23.75 66⇑*e*P **P 14 53 30.7 -2.6**
ADK pmax pmax
comp=Z,900nm,1.1s,mb6.1
ADK Adak 23.75 66⇑*e*P **P 14 53 30.7 -2.6**
comp=Z,899nm,1.1s,mb6.1
TIA Tai'an 24.78 254 ⇓P **P 14 53 42.8 +0.4**
TIA AMB AMB
comp=Z,103nm,0.8s,mb5.3
TIA AMB AMB
comp=Z,667nm,7.0s
TIA LR LR
comp=N,1μm,10.0s
TIA LR LR
comp=E,1μm,10.0s
JOW Kunigami 25.31 222 P **P 14 53 47.1 -0.1**
comp=E,102nm,0.5s,mb5.5,baz=18,slow=7.4,SNR=32
JOW ScP ScP 15 00 09.3 +1.8
comp=E,74nm,0.8s,baz=328,slow=3.3,SNR=5.5
SSE Sheshan 25.64 240 ⇓P **P 14 53 51.3 +1.2**
SSE S **S 14 57 49.9 +1.7**
SSE SCS ScS 15 04 02.0 +3.6
SSE AMB AMB
comp=Z,92nm,1.1s,mb5.1
SSE AMB AMB
comp=Z,804nm,6.1s
SSE LR LR
comp=N,2μm,19.8s
SSE LR LR
comp=E,837nm,19.8s
SSE LR LR
comp=Z,4μm,20.4s
TIXI Tiksi 25.70 347*d i* P **P 14 53 49.4 -1.2**
TIXI pmax pmax
comp=Z,111nm,1.0s,mb5.2
TIXI Tiksi 25.70 347 *e*P **P 14 53 46.4 -4.2**
TIXI *e**PP 14 54 56.0
TIXI *e**SP sP 14 55 40.4 -10
TIXI pmax pmax
comp=Z,96nm,0.9s,mb5.2
TIXI Tiksi 25.70 347 *i* P **P 14 53 49.4 -1.2**
comp=Z,111nm,1.0s,mb5.2
HHC Hu-ho-hao-te 26.09 268 *i* P **P 14 53 55.2 +1.1**
HHC AMB AMB
comp=Z,988nm,1.0s,mb6.2
HHC AMB AMB
comp=Z,3μm,3.1s
SONM Songino Array 27.12 286 P **P 14 54 03.5 +0.2**
comp=Z,177nm,0.7s,mb5.6,baz=75,slow=7.5,SNR=406
SONM PcP PcP 14 57 11.9 +0.2
comp=Z,35nm,0.7s,baz=119,slow=1.7,SNR=4.9
SONM ScP ScP 15 00 13.7 +0.8
comp=Z,75nm,0.8s,baz=107,slow=2.0,SNR=20
BTO Baotou 27.25 269 *e*P **P 14 54 05.1 +0.7**
BTO PP PP 14 55 12.3 -4.1
BTO S **S 14 58 13.3 -0.2**
BTO LR LR
comp=N,538nm,5.6s
BTO LR LR
comp=E,674nm,10.5s
IRK Irkutsk 27.64 296 *e*P **P 14 54 07.2 -0.6**
IRK pmax pmax
comp=Z,280nm,1.1s,mb5.5
IRK Irkutsk 27.64 296 *e*P **P 14 54 07.2 -0.6**
comp=Z,280nm,1.1s,mb5.5
TLY Talaya 28.10 295 P **P 14 54 12.9 +1.0**
comp=Z,2μm,1.0s,mb6.5,SNR=98
TLY Talaya 28.10 295 P **P 14 54 12.4 +0.6**
SNR=90
TLY Talaya 28.10 295*d i* P **P 14 54 12.0 +0.1**
TLY *e* 14 55 25.0
TLY *e*S **S 14 58 29.9 +3.1**
TLY pmax pmax
comp=Z,387nm,0.9s,mb5.7
TLY MLR MLR
comp=Z,821nm,12.0s
ZAK Zakamensk 28.55 292⇓*i* P **P 14 54 16.7 +0.9**
ZAK *e* 14 57 16.9
ZAK pmax pmax
comp=Z,302nm,1.1s,mb5.5
ZAK Zakamensk 28.55 292⇓*i* P **P 14 54 16.7 +0.9**
comp=Z,302nm,1.1s,mb5.5
ZAK *e* 14 57 16.9
UNV Unalaska Valle 29.72 60 *e*P **P 14 54 22.6 -3.4**
comp=Z,80nm,0.8s,mb5.1
MOY Mondy 29.73 295 *e*P **P 14 54 26.1 -0.1**
MOY pmax pmax
comp=Z,263nm,1.7s,mb5.3
MOY Mondy 29.73 295 *e*P **P 14 54 26.1 -0.1**
comp=Z,263nm,1.7s,mb5.3
TNA Tin City 29.85 36⇑*e*P **P 14 54 25.5 -1.7**

comp=Z,385nm,1.3s,mb5.6
AKUT Akutan 30.11 59 *e*P P 14 54 26.4 -3.1
comp=Z,190nm,0.8s,mb5.5
AKUT *e*ScP ScP 15 00 21.7 -0.7
WHN Wuhan 30.19 248 ⇓P P 14 54 30.1 0.0
WHN S **S** **14 58 58.0 -1.3**
WHN LR LR
comp=Z,2μm,13.4s
TATO Taipei 30.20 231 P **P 14 54 31.1 +0.8**
SNR=8.2
TATO Taipei 30.20 231 *e*P **P 14 54 30.5 +0.2**
comp=Z,127nm,0.5s,mb5.5
YHNB Yeheng 30.51 231 *e*P **P 14 54 32.1 -0.8**
comp=Z,101nm,0.5s,mb5.4
NACB Ninganchiao 30.80 230 *e*P **P 14 54 32.6 -2.9**
comp=Z,85nm,0.4s,mb5.4
NACB *e*PcP PcP 14 57 21.0 -0.1
FALS False Pass 31.39 58 *e*P **P 14 54 38.4 -2.2**
comp=Z,238nm,0.7s,mb5.6
FALS *e*PcP PcP 14 57 21.5 -1.2
XAN Xi'an 31.47 259 P **P 14 54 41.4 +0.1**
XAN AMB AMB
comp=Z,468nm,1.0s,mb5.8
XAN AMB AMB
comp=Z,936nm,15.4s
XAN LR LR
comp=N,455nm,11.7s
XAN LR LR
comp=E,782nm,10.9s
XAN LR LR
comp=Z,935nm,13.8s
QZH Quanzhou 31.80 235⇓*i*P **P 14 54 44.7 +0.6**
QZH AP pP 14 55 59.5 +1.5
QZH S **S** **14 59 27.5 +3.2**
QZH AMB AMB
comp=Z,650nm,1.0s,mb5.9
QZH AMB AMB
comp=Z,3μm,4.9s
QZH LR LR
comp=Z,2μm,14.0s
SDPT Sand Point 32.99 56 *e*P **P 14 54 52.6 -1.8**
comp=Z,362nm,0.6s,mb5.9
MIDW Midway 33.69 112 *e*P **P 14 54 58.6 -1.7**
comp=Z,178nm,0.8s,mb5.5
LZH Lanzhou 33.72 266 *e*P **P 14 55 01.7 +1.2**
LZH AMB AMB
comp=Z,1μm,1.3s,mb6.0
LZH AMB AMB
comp=Z,2μm,4.0s
GUMO Guam 33.83 184 P **P 14 54 59.3 -2.2**
comp=Z,40nm,0.3s,mb5.2,baz=35,slow=19,SNR=5.0
GUMO Guam 33.83 184 P **P 14 54 59.3 -2.2**
GUMO pmax pmax
comp=Z,40nm,0.3s,mb5.2
CHGN Chignik 34.00 54 *e*P **P 14 55 01.1 -1.9**
GTA Gaotai 34.73 274⇓*i*P **P 14 55 10.5 +1.4**
GTA AP pP 14 56 24.5 +0.5
GTA PCP PcP 14 57 34.7 +2.5
GTA S **S** **15 00 11.1 +2.1**
GTA SCP ScP 15 00 39.7 +1.3
GTA SCS ScS 15 04 43.8 +1.0
GTA AMB AMB
comp=Z,628nm,1.2s,mb5.8
GTA AMB AMB
comp=Z,2μm,7.0s
GTA LR LR
comp=N,2μm,11.4s
GTA LR LR
comp=E,2μm,12.2s
GTA LR LR
comp=Z,2μm,14.4s
SVW2 Sparrevohn 34.96 46 *e*P **P 14 55 10.2 -0.9**
SGCP Mt. Cagua 35.59 224 *e*P **P 14 55 16.0 -0.3**
IMA2 Indian Mountai 35.71 37 *e*P **P 14 55 16.1 -1.3**
CVP Callao Caves 36.16 223 *e*P **P 14 55 20.0 -1.2**
ABRA Dolores 36.73 225 *e*P **P 14 55 25.0 -0.9**
CAUP Cauayan 36.82 223 *e*P **P 14 55 27.8 +1.1**
CD2 Chengdu 36.83 259⇑*i*P **P 14 55 27.1 +0.4**
CD2 AMB AMB
comp=Z,770nm,0.8s,mb6.1
CD2 AMB AMB
comp=Z,2μm,4.3s
CD2 LR LR
comp=E,1μm,10.8s
CD2 LR LR
comp=Z,970nm,9.6s
KDAK Kodiak Island 36.90 51 P **P 14 55 26.0 -1.3**
comp=Z,208nm,0.8s,mb5.5,baz=304,slow=3.6,SNR=108
KDAK PcP PcP 14 57 38.6 -0.1
comp=Z,23nm,0.5s,baz=241,slow=3.1,SNR=5.3
KDAK ScP ScP 15 00 47.4 +1.0
comp=Z,100nm,0.9s,baz=134,slow=21,SNR=9.3
KDAK Kodiak Island 36.90 51⇑*i*P **P 14 55 25.7 -1.6**
comp=Z,263nm,0.8s,mb5.6
KDAK *e*PcP PcP 14 57 38.6 -0.1
SLKM Skilak Lake 37.63 46 *e*P **P 14 55 32.0 -1.4**
SLKM *e* 15 00 49.4
MCK McKinley 37.82 41 *e*P **P 14 55 34.0 -0.9**
MCK pmax pmax
comp=Z,150nm,0.7s,mb5.4
MCK McKinley 37.82 41⇑*i*P **P 14 55 33.9 -1.1**
comp=Z,308nm,0.7s,mb5.7
MCK pP pP 14 56 54.0 +2.9
GYA Guiyang 37.88 251⇓*i*P **P 14 55 34.6 -0.8**
GYA AMB AMB
comp=Z,370nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,900nm,7.9s
BCPH Baguio City Da 37.89 224⇓*e*P **P 14 55 35.0 -0.5**
BALP Baler 37.99 222 *e*P **P 14 55 36.6 +0.3**
PMR Palmer 38.00 44 *e*P **P 14 55 35.3 -1.1**
PMR pmax pmax
comp=Z,110nm,0.4s,mb5.5
PMR Palmer 38.00 44 *e*P **P 14 55 35.3 -1.1**
comp=Z,110nm,0.4s,mb5.5
COLA College 38.19 39⇑*i*P **P 14 55 37.1 -0.8**
COLA *e*S **S** **15 01 01.6 +0.7**
COLA pmax pmax
comp=Z,425nm,0.7s,mb5.9
COLA College 38.19 39⇑*i*P **P 14 55 37.1 -0.8**
comp=Z,425nm,0.7s,mb5.9
COLA *e*ScP ScP 15 00 50.9 -0.4
COLA *e*S **S** **15 01 01.6 +0.7**
BOLP Bolinao 38.21 225 *e*P **P 14 55 37.8 -0.3**
SML Sawmill 38.34 44⇑*i*P **P 14 55 37.9 -1.3**
SML *e**PP pP 14 56 53.9 -1.6
SML Sawmill 38.34 44⇑*i*P **P 14 55 37.9 -1.3**
SML *e*pP pP 14 56 53.9 -1.6
SML *e*ScP ScP 15 00 52.7 +0.9
POLP Polilio Island 38.71 221 *e*P **P 14 55 43.3 +1.1**
ZAL Zalesovo 38.77 303 P **P 14 55 41.8 -1.0**
comp=Z,134nm,0.7s,mb5.4,baz=47,slow=6.2,SNR=123
ZAL PcP PcP 14 57 45.9 +1.3
comp=Z,64nm,0.9s,baz=27,slow=3.8,SNR=7.7
ZAL ScP ScP 15 00 54.1 +0.6
comp=Z,33nm,0.9s,baz=54,slow=5.5,SNR=9.0
NVS Novosibirsk 39.39 305 *e*P **P 14 55 47.0 -0.8**
NVS *e* pP 14 57 04.8 +0.3
NVS *e* 14 57 28.1
NVS *e* 14 57 45.8
NVS pmax pmax
comp=N,75nm,0.8s
NVS pmax pmax
comp=E,288nm,0.8s
NVS pmax pmax
comp=Z,363nm,0.8s,mb5.8
NVS Novosibirsk 39.39 305 *e*P **P 14 55 47.0 -0.8**
comp=Z,363nm,0.8s,mb5.8
NVS *e* pP 14 57 04.8 +0.3
NVS *e* 14 57 28.1
NVS *e* 14 57 45.8
TGY Tagaytay City 39.72 222 P **P 14 55 51.7 +1.3**
comp=Z,277nm,0.5s,baz=158,slow=4.4,SNR=7.4
TGY PcP PcP 14 57 49.3 +1.7
comp=Z,75nm,0.4s,baz=172,slow=10.0,SNR=3.1
TGY ScP ScP 15 01 00.3 +3.1
comp=Z,135nm,0.6s,baz=231,slow=0.7,SNR=6.1
EYAK Cordova Ski Ar 39.80 45⇑*i*P **P 14 55 50.9 -0.2**
comp=Z,270nm,0.8s,mb5.6
MENT Mentasta 40.27 41 *e*P **P 14 55 54.5 -0.4**
WMQ Urumqi 40.74 288 P **P 14 55 59.6 +0.9**
WMQ AMB AMB
comp=Z,315nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,2μm,3.4s
WMQ LR LR
comp=N,603nm,18.0s
WMQ LR LR
comp=E,713nm,21.0s
WMQ LR LR
comp=Z,723nm,24.0s
WMQ Urumqi 40.74 288 P **P 14 55 59.8 +1.1**
WMQ ScP ScP 15 01 02.1 +0.9
WMQ S **S** **15 01 41.0 +2.5**
OTRP Odiongan 40.78 219 *e*P **P 14 56 00.3 +1.3**
EGAK Eagle 41.03 38⇑*i*P **P 14 55 59.6 -1.4**
comp=Z,380nm,0.6s,mb5.9
EGAK *e*ScP ScP 15 01 01.9 -0.5
EGAK *e*S **S** **15 01 43.2 +0.4**
KMI Kunming 41.34 253 P **P 14 56 04.3 +0.7**
KMI AMB AMB
comp=Z,455nm,0.9s,mb5.8
KMI AMB AMB
comp=Z,2μm,5.7s
KMI LR LR
comp=N,749nm,14.2s
KMI LR LR
comp=E,837nm,10.9s
KMI LR LR
comp=Z,781nm,10.9s
QIZ Qiongzhong 41.44 240⇓P **P 14 56 05.6 +1.3**
QIZ S **S** **15 01 54.4 +5.7**
QIZ AMB AMB
comp=Z,128nm,1.2s,mb5.1
QIZ AMB AMB
comp=Z,1μm,6.1s
QIZ Qiongzhong 41.44 240⇓*e*P **P 14 56 05.3 +1.0**
comp=Z,106nm,0.9s,mb5.2
QIZ *e*PcP PcP 14 57 53.5 +0.2
QIZ *e*ScP ScP 15 01 05.8 +1.8
MSLP Maasin 41.65 214 *e*P **P 14 56 06.5 +0.5**
SCPH Surigao 41.74 213 *e*P **P 14 56 06.1 -0.6**
BUSP Coron 41.90 221 *e*P **P 14 56 08.3 +0.4**
DAWY Dawson 41.93 39⇑*i*P **P 14 56 06.6 -1.7**
MK31 Makanchi Array 42.85 294 *i* P **P 14 56 15.4 -0.2**
MK31 pmax pmax
comp=Z,310nm,0.4s,mb6.0
MKAR Makanchi Array 42.85 294 P **P 14 56 15.6 0.0**
comp=Z,407nm,0.7s,mb5.9,baz=74,slow=7.8,SNR=1709
MKAR PcP PcP 14 57 58.5 +0.4
comp=Z,62nm,0.7s,baz=67,slow=3.4,SNR=5.0
MKAR ScP ScP 15 01 10.0 +0.3
comp=Z,18nm,0.8s,baz=59,slow=4.7,SNR=12
MKAR PKPPKP 15 27 57.0
comp=Z,0.6nm,0.7s,baz=72,slow=7.8,SNR=5.3
MKAR Makanchi Array 42.85 294 *i* P **P 14 56 15.6 0.0**
MKAR pmax pmax
comp=Z,407nm,0.7s
ENPP El Nido 42.95 222 *e*P **P 14 56 16.8 +0.5**
INK Inuvik 43.28 32 P **P 14 56 17.8 -1.2**
comp=Z,129nm,0.4s,mb5.6,baz=297,slow=7.0,SNR=50
INK PcP PcP 14 57 58.5 -0.9
comp=Z,16nm,0.6s,baz=269,slow=4.0,SNR=2.5
INK ScP ScP 15 01 12.7 +1.2
comp=Z,22nm,0.9s,baz=281,slow=5.4,SNR=5.3
INK S **S** **15 02 13.1 -2.3**
comp=Z,11nm,0.9s,baz=58,slow=31,SNR=13
INK Inuvik 43.28 32⇑*e*P **P 14 56 17.1 -1.9**
comp=Z,5μm,0.6s
INK *e*ScP ScP 15 01 11.5 +0.1
INK *e*S **S** **15 02 12.3 -3.1**
KURK Kurchatov 43.44 301 P **P 14 56 19.1 -1.1**
comp=Z,13μm,0.6s
KURK Kurchatov 43.44 301 P **P 14 56 20.0 -0.2**
SNR=318
KURK Kurchatov 43.44 301⇓*e*P **P 14 56 19.7 -0.5**
KURK *e* 14 58 00.0
KURK *e*S **S** **15 02 17.7 +0.1**
KURK pmax pmax
comp=Z,1μm,0.6s,mb6.4
BUKP Musuan 43.65 212 *e*P **P 14 56 22.0 +0.1**
MATI Mati 44.10 210 *e*P **P 14 56 23.9 -1.4**
SKAG Skagway 45.13 45 *e*P **P 14 56 34.0 +0.6**
comp=Z,208nm,1.1s,mb5.4
BATP Bataraza 45.81 222 *e*P **P 14 56 39.8 +1.1**
SIT Sitka 46.02 48 *e*P **P 14 56 40.7 +0.4**
SIT pmax pmax
comp=Z,410nm,1.0s,mb5.7
SIT Sitka 46.02 48 *e*P **P 14 56 40.7 +0.4**
comp=Z,410nm,1.0s,mb5.7
LSA Lhasa 46.08 268 P **P 14 56 42.8 +2.1**
LSA S **S** **15 03 00.3 +5.1**
LSA AMB AMB
comp=Z,510nm,0.7s,mb6.0
LSA AMB AMB
comp=Z,1μm,5.1s
LSA LR LR
comp=N,610nm,19.3s
LSA LR LR
comp=E,1μm,17.1s
LSA LR LR
comp=Z,2μm,24.3s
LSA Lhasa 46.08 268⇓*i*P **P 14 56 42.6 +1.9**
LSA *e*S **S** **15 03 02.9 +7.7**
LSA pmax pmax
comp=Z,393nm,0.6s,mb5.9
LSA Lhasa 46.08 268⇓*i*P **P 14 56 42.6 +1.8**
comp=Z,393nm,0.6s,mb5.9
LSA *e*S **S** **15 03 02.9 +7.7**
CHKZ Chkalovo 46.71 307⇓*e*P **P 14 56 44.5 -1.1**
CHKZ *e**PP pP 14 58 05.8 +0.4
CHKZ *e**SP sP 14 58 45.0 -5.6
CHKZ pmax pmax
comp=Z,270nm,1.0s,mb5.5
BVA0 Borovoye Array 47.12 307 *i* P **P 14 56 48.4 -0.3**
BVAR Borovoye Array 47.12 307 P **P 14 56 48.0 -0.6**
comp=Z,226nm,0.7s,mb5.6,baz=57,slow=7.9,SNR=544
BVAR PcP PcP 14 58 13.1 +0.2
comp=Z,66nm,0.6s,baz=64,slow=3.4,SNR=7.2
BVAR ScP ScP 15 01 28.3 +0.9
comp=Z,16nm,0.7s,baz=70,slow=4.9,SNR=4.0
BRVK Borovoye 47.16 307 P **P 14 56 49.8 +0.8**
comp=Z,3μm,0.6s,mb6.8
BRVK Borovoye 47.16 307 ⇑P **P 14 56 49.0 0.0**
SNR=306
BRVK Borovoye 47.16 307⇓*i*P **P 14 56 48.2 -0.8**
BRVK *e* pP 14 58 11.9 +2.9
BRVK *e**SP sP 14 58 50.5 -3.7
BRVK *e*S **S** **15 03 09.4 -1.0**
BRVK pmax pmax
comp=Z,437nm,0.8s,mb5.8
NANT Nan 47.20 249 ⇓P **P 14 56 47.0 -2.3**
comp=Z,2μm,1.0s,mb6.3
IMP Imphal 47.40 261 *e*P **P 14 56 50.0 -0.8**
IMP *e*x x 14 58 14.0
KKTK Khon Kaen 47.73 245 ⇓P **P 14 56 54.5 +1.2**
comp=Z,4μm,0.5s
WRAK Wrangell Islan 47.78 48⇑*e*P **P 14 56 54.1 +0.4**
comp=Z,259nm,1.1s,mb5.5
WRAK *e*ScP ScP 15 01 31.0 +0.8
CRAG Craig 47.80 49 *e*P **P 14 56 55.1 +1.3**
comp=Z,383nm,1.4s,mb5.5
DLBC Dease Lake 48.06 45⇑*i*P **P 14 56 56.6 +0.9**
DLBC *e*ScP ScP 15 01 32.7 +1.4
SHL Shillong 48.25 263 *e*P **P 14 56 55.2 -2.1**
SHL *i* P 14 56 58.0
SHL *e*S **S** **15 03 30.0 +4.5**
CHG Chiang Mai 48.31 251 ⇓P **P 14 56 58.6 +0.9**
comp=Z,150nm,0.6s,mb5.5
CHTO Chiang Mai 48.31 251 P **P 14 56 58.7 +1.0**
SNR=78
CHTO Chiang Mai 48.31 251⇓*i*P **P 14 56 58.1 +0.4**
CHTO *e* pP 14 58 14.4 -3.7
CHTO pmax pmax
comp=Z,232nm,0.7s,mb5.6
CHTO Chiang Mai 48.31 251⇓*i*P **P 14 56 58.1 +0.4**
comp=Z,232nm,0.7s,mb5.6
CHTO *e* pP 14 58 14.4 -3.8
CHTO *e*ScP ScP 15 01 33.5 +1.1
ULHL Ulahol 48.83 291 P **P 14 57 02.6 +1.0**
SNR=191
TKM2 Tokmak 2 48.88 292 P **P 14 57 02.8 +0.8**
SNR=264
TKM2 Tokmak 2 48.88 292 P **P 14 57 02.3 +0.3**
TKM2 pmax pmax
comp=Z,142nm,0.8s,mb5.3
TKM2 Tokmak 2 48.88 292 *i* P **P 14 57 02.3 +0.3**
KKM Kota Kinabalu 48.96 222⇓*i*P **P 14 57 02.9 +0.3**
CHMS Chumysh 49.37 293 P **P 14 57 06.1 +0.5**
SNR=77
USP Ospenovka 49.39 293 P **P 14 57 06.4 +0.7**
SNR=596
ALE Alert 49.41 5 P **P 14 57 04.5 -1.4**
comp=Z,376nm,0.8s,mb5.8,SNR=19
KBK Karagaybulak 49.43 293 P **P 14 57 07.5 +1.4**
SNR=19
FRU Bishkek 49.54 293⇓*i*P **P 14 57 07.2 +0.3**
FRU *e* pP 14 58 26.0 -1.9
FRU *e* 15 03 46.0
FRU *e* 15 06 06.0
FRU pmax pmax
comp=Z,440nm,1.6s,mb5.5
FRU Bishkek 49.54 293⇓*i*P **P 14 57 07.2 +0.3**
comp=Z,440nm,1.6s,mb5.5
FRU *e* pP 14 58 26.0 -1.9
FRU *e* 15 03 46.0
FRU *e* 15 06 06.0
KZA Kyzart 49.55 292 P **P 14 57 08.8 +1.8**
SNR=89
AAK Ala-Archa 49.73 293 P **P 14 57 09.3 +1.0**
SNR=23
AAK Ala-Archa 49.73 293 P **P 14 57 07.1 -1.2**
comp=Z,3μm,0.7s,mb6.7
AAK Ala-Archa 49.73 293 P **P 14 57 07.9 -0.4**
SNR=139
AAK Ala-Archa 49.73 293 P **P 14 57 08.0 -0.3**
AAK pmax pmax
comp=Z,370nm,0.8s,mb5.8
AGT Agartala 49.80 262 *i* P **P 14 57 12.0 +3.2**
AGT *i x* x 14 57 48.0
NST Nakhon Sawan 49.90 247 ⇑P **P 14 57 10.6 +1.0**
comp=Z,250nm,0.8s,mb5.6
UCH Uchtor 49.93 292 P **P 14 57 10.9 +1.1**
SNR=68
EKS2 Erkin-Say 50.16 293 P **P 14 57 12.4 +0.9**
SNR=102
SVE Sverdlovsk 50.40 315⇓*e*P **P 14 57 12.0 -1.2**
SVE *e* 14 58 23.0
SVE *e*S **S** **15 03 52.0 -3.0**
SVE *e* 15 06 16.0
SVE pmax pmax
comp=Z,780nm,2.0s,mb5.7
SVE Sverdlovsk 50.40 315⇓*e*P **P 14 57 12.0 -1.2**
comp=Z,780nm,2.0s,mb5.7
SVE *e* 14 57 24.0
SVE *e* 14 58 23.0
SVE *e*S **S** **15 03 52.0 -3.0**
SVE *e* 15 06 16.0
KSH Kashi 50.48 289 *i* P **P 14 57 15.8 +2.0**
KSH PCP PcP 14 58 24.5 -0.7
KSH AP pP 14 58 38.4 +3.2
KSH PP PP 14 59 19.6 +5.3
KSH PPP 15 00 38.0
KSH SCP ScP 15 01 42.8 +1.1
KSH PCS PcS 15 02 23.0 -0.2
KSH S **S** **15 03 59.1 +3.0**
KSH SCS ScS 15 06 20.6 -0.5
KSH SS SS 15 07 40.0 +3.9
KSH AMB AMB
comp=Z,3μm,1.3s,mb6.4
KSH AMB AMB
comp=Z,5μm,3.8s
KSH LR LR
comp=N,2μm,7.6s
KSH LR LR
comp=E,3μm,8.5s
KSH LR LR
comp=Z,2μm,9.1s
AML Almayashu 50.50 293 P **P 14 57 15.4 +1.5**
SNR=83
JIRN Jiri 50.74 270 *e*P **P 14 57 17.0 +1.2**
GUN Gumba 50.79 270 *e*P **P 14 57 16.0 -0.1**
comp=Z,641nm,0.6s,mb6.0
SOKR Solikamsk 50.86 319*d i*P **P 14 57 15.6 -1.0**
SOKR *e* 15 03 56.6
SOKR *e* 15 06 17.4
SOKR pmax pmax
comp=Z,660nm,0.8s,mb5.9
SOKR Solikamsk 50.86 319 *i* P **P 14 57 15.6 -1.0**
comp=Z,660nm,0.8s,mb5.9
SOKR *e* 15 03 56.6
SOKR *e* 15 06 17.4
KIP Kipapa 51.00 101 *e*P **P 14 57 17.8 +0.1**
comp=Z,187nm,0.8s,mb5.4
KBS Kingsbay 51.09 350 *e*P **P 14 57 16.7 -1.7**
KBS AMb AMB 14 57 20.4
comp=Z,130nm,0.7s,mb5.3
KBS Kingsbay 51.09 350 P **P 14 57 17.4 -1.0**
KBS Kingsbay 51.09 350⇓*i*P **P 14 57 18.2 -0.2**
KBS pmax pmax
comp=Z,132nm,0.8s,mb5.2
KBS Kingsbay 51.09 350⇓*i*P **P 14 57 18.2 -0.2**
comp=Z,132nm,0.8s,mb5.2
KKN Kakani 51.27 270 *e*P **P 14 57 20.6 +0.9**
comp=Z,848nm,0.6s,mb6.2
PKI Pulchoki 51.32 270 *e*P **P 14 57 21.0 +0.9**
comp=Z,582nm,0.7s,mb5.9
RES Resolute Bay 51.44 17⇑*i*P **P 14 57 18.6 -2.3**
RES *e* 14 58 27.7
RES *e* 14 59 21.9
RES Resolute Bay 51.44 17⇑*i*P **P 14 57 18.6 -2.3**
comp=Z,6μm,0.8s
RES *e*PcP PcP 14 58 27.7 -1.1
RES *e*PP PP 14 59 21.9 -1.1
RES *e*ScP ScP 15 01 46.9 +1.0
DMN Daman 51.51 270 *e*P **P 14 57 22.5 +1.1**
comp=Z,966nm,0.8s,mb6.1
GKN Gorkha 51.57 271 *e*P **P 14 57 22.7 +0.8**
comp=Z,1μm,0.7s,mb6.2
ARU Arti 51.59 315 P **P 14 57 21.7 -0.3**
comp=Z,16μm,0.6s
ARU Arti 51.59 315 P **P 14 57 21.2 -0.8**
ARU Arti 51.59 315⇑*e*P **P 14 57 21.1 -0.9**
ARU pmax pmax
comp=Z,2μm,0.8s,mb6.4
KK31 Karatay Array 51.94 295 *i* P **P 14 57 24.6 0.0**
KK31 pmax pmax
comp=Z,340nm,0.6s,mb5.8
KOLN Koldanda 52.42 272 *e*P **P 14 57 29.2 +1.1**
comp=Z,1μm,0.7s,mb6.2
NNT Nongplab 52.51 245 P **P 14 57 30.0 +1.3**
VLK Valmikinagar 52.53 271 *i* P **P 14 57 28.0 -0.9**
CAL Calcutta 52.68 263 *e*P **P 14 57 30.1 +0.2**
YKA Yellowknife Ar 52.80 35 P **P 14 57 29.7 -1.1**
comp=Z,70nm,0.6s,mb5.1,baz=304,slow=7.0,SNR=148
YKA PcP PcP 14 58 33.6 -0.3
comp=Z,7.3nm,0.4s,baz=305,slow=3.8,SNR=8.6
YKA pP pP 14 58 50.2 -2.8
comp=Z,8.5nm,0.7s,baz=305,slow=6.9,SNR=2.6
YKA ScP ScP 15 01 53.7 +1.9
comp=Z,12nm,0.8s,baz=304,slow=4.3,SNR=9.8
YKA S **S** **15 04 28.8 +1.4**
comp=Z,3.2nm,0.8s,baz=300,slow=14,SNR=4.1
YKA Yellowknife Ar 52.80 35 P **P 14 57 29.7 -1.1**
YKA 14 58 33.6
YKA *PP pP 14 58 50.2 -2.8
YKA pmax pmax
comp=Z,70nm,0.6s
YKA Yellowknife Ar 52.80 35 P **P 14 57 29.7 -1.1**
YKA PcP PcP 14 58 33.6 -0.3
YKA pP pP 14 58 50.2 -2.8
YKA ScP ScP 15 01 53.7 +1.9
YKA S **S** **15 04 28.8 +1.4**
BOK Bokaro 53.48 266 *ex* x 14 58 37.8
BOK AMb AMB 14 58 40.6
comp=Z,159nm,1.0s,mb5.2
AAI Ambon 53.56 204 P **P 14 57 35.6 -0.6**
KKH Kailua Kona 53.57 101 *e*P **P 14 57 36.5 +0.2**
LGTI Lohaghat 53.62 276 *i* P **P 14 57 38.3 +1.6**
PCI Palu 53.70 214 P **P 14 57 35.5 -1.7**
POHA Pohakuloa 53.82 100 *e*P **P 14 57 38.0 -0.1**
comp=Z,738nm,0.8s,mb6.0
POHA *e*pP pP 14 59 05.8 +5.0
KHU Kahuku 54.12 101 *e*P **P 14 57 40.2 -0.1**
LVZ Lovozero 54.37 334 P **P 14 57 41.9 -0.1**
comp=Z,2μm,0.7s,mb6.3,SNR=29
LVZ Lovozero 54.37 334⇑*e*P **P 14 57 41.2 -0.8**
LVZ pmax pmax
comp=Z,25nm,1.4s,mb4.2
LVZ Lovozero 54.37 334*d i*P **P 14 57 41.9 -0.1**
LVZ *e* 14 59 44.4
LVZ *e*S **S** **15 04 42.2 -6.2**
LVZ pmax pmax
comp=E,42nm,1.0s

LVZ pmax pmax
comp=Z,262nm,1.0s,mb5.4
LVZ pmax pmax
comp=N,71nm,0.9s
LVZ smax
comp=N,521nm,11.8s
LVZ smax
comp=Z,44nm,7.0s
LVZ smax
comp=E,330nm,10.7s
LVZ Lovozero 54.37 334 *i* P **P 14 57 41.9 -0.1**
LVZ *e* 14 59 44.4
LVZ *e*S **S 15 04 42.2 -6.2**
SDNR Sundarnagar 54.54 280 *e*P **P 14 57 43.0 -0.3**
comp=E,5.0nm,0.2s
SDNR *ex* x 15 02 01.0
comp=E,10.0nm,0.2s
DDI Dehra Dun 54.55 278 *e*P **P 14 57 44.0 +0.7**
DLH Dalhousie 54.57 281 *e*P **P 14 57 42.0 -1.4**
DLH *ex* x 14 57 45.0
AB31 Akbulak array 54.69 307 *e*P **P 14 57 44.0 -0.3**
AB31 pmax pmax
comp=Z,180nm,0.5s,mb5.6
THN Thein Dam 54.80 281 *e*P **P 14 57 44.8 -0.3**
THN *e*S **S 15 04 58.2 +4.1**
APA Apatity 54.95 335⇑*i*P **P 14 57 45.0 -1.1**
APA *i* 14 58 39.0
APA *i*S **S 15 04 54.0 -2.0**
APA *i* 15 06 48.0
APA *e**SS sS 15 07 17.0 -7.6
APA pmax pmax
comp=Z,210nm,1.0s,mb5.3
APA Apatity 54.95 335⇑*i*P **P 14 57 45.0 -1.1**
comp=Z,210nm,1.0s,mb5.3
APA *i* 14 58 39.0
APA *i*S **S 15 04 54.0 -2.0**
APA *i* 15 06 48.0
APA *es*S sS 15 07 17.0 -7.6
AKTK Aktyubinsk 55.06 309 P **P 14 57 46.2 -0.7**
AKTO Aktyubinsk 55.06 309 P **P 14 57 46.2 -0.7**
comp=Z,216nm,0.6s,mb5.6,baz=71,slow=8.6,SNR=342
AKTO Aktyubinsk 55.06 309 P **P 14 57 46.2 -0.7**
AKTO pmax pmax
comp=Z,217nm,0.6s,mb5.6
KEV Kevo 55.20 338 *ep* **P 14 57 46.5 -1.4**
comp=Z,17nm,0.3s,mb4.8
KEV Kevo 55.20 338 P **P 14 57 46.9 -1.0**
KEV pmax pmax
comp=Z,160nm,0.7s,mb5.4
ALBI Allahabad 55.24 271 *i* P **P 14 57 46.0 -2.2**
NIL Nilore 55.69 284 P **P 14 57 52.7 +1.4**
comp=Z,961nm,0.8s,mb6.2,SNR=60
ARCES ARCESS Array B 55.72 339 P **P 14 57 50.2 -1.3**
comp=Z,96nm,0.8s,mb5.2,baz=51,slow=6.9,SNR=182
ARCES PcP PcP 14 58 43.7 -1.5
comp=Z,22nm,0.7s,baz=58,slow=5.0,SNR=5.4
ARCES ScP ScP 15 02 04.5 -0.2
comp=Z,20nm,0.8s,baz=38,slow=6.1,SNR=7.3
ARCES ARCESS Array B 55.72 339 P **P 14 57 50.2 -1.3**
ARCES PcP PcP 14 58 43.7 -1.5
ARCES ScP ScP 15 02 04.5 -0.2
KSM Kuching 55.76 226⇓*i*P **P 14 57 52.3 +0.5**
KSM *e*PcP PcP 14 58 46.0 +0.6
KSM *ep*P pP 14 59 16.0 +0.9
KSM *e*ScP ScP 15 02 06.4 +1.6
PFB Port Renfrew 55.91 53 P **P 14 57 53.0 +0.1**
NDI New Delhi 56.16 277 *e*P **P 14 57 53.0 -1.6**
comp=Z,74nm,0.7s,mb5.1
NDI *e*P 14 57 55.0
NDI AMb AMB 14 57 56.8
comp=Z,654nm,0.8s,mb6.0
NDI *e*S **S 15 05 14.0 +2.2**
C03A Quillayute Air 56.20 54⇓P **P 14 57 55.6 +0.7**
baz=56,SNR=7.9
SNG Songkhla 56.24 240 P **P 14 57 53.0 -2.2**
comp=Z,336nm,1.0s,mb5.6
PGC Sidney 56.41 53⇑*i*P **P 14 57 55.6 -0.7**
comp=Z,597nm,0.7s,mb6.0
PGC *e*ScP ScP 15 02 09.5 +1.9
PMG Port Moresby 56.63 180 P **P 14 57 57.6 -0.3**
comp=Z,26nm,0.5s,mb4.8,baz=34,slow=3.2,SNR=33
PMG Port Moresby 56.63 180 P **P 14 57 57.6 -0.3**
PMG pmax pmax
comp=Z,260nm,0.5s
PMG Port Moresby 56.63 180 *e*P **P 14 57 57.1 -0.7**
comp=Z,38nm,0.7s,mb4.8
KTK1 Kautokeino 56.66 339 *e*P **P 14 57 58.0 -0.1**
KTK1 AMb AMB 14 58 00.2
comp=Z,338nm,0.8s,mb5.8
KTK1 Kautokeino 56.66 339 *e*P **P 14 57 58.0 -0.1**
comp=Z,338nm,0.8s,mb5.7
B04A Port Angeles 56.72 53⇓P **P 14 57 58.8 +0.3**
baz=56,SNR=29
A04A Legoe Bay, Lum 56.77 52⇑P **P 14 57 59.2 +0.3**
baz=56,SNR=33
VDB Vedder Mountai 56.91 52 P **P 14 57 59.5 -0.4**
A05A Maple Falls 56.93 52⇓P **P 14 57 59.7 -0.3**
baz=57,SNR=55
SGF Sodankyl 56.97 337 P **P 14 57 57.8 -2.4**
TRO Tromso 57.19 341 *e*P **P 14 57 59.5 -2.3**
TRO AMb AMB 14 58 02.1
comp=Z,394nm,0.3s,mb6.2
TRO *e*S **S 15 05 20.0 -5.2**
C04A Brinnon 57.21 53⇓P **P 14 58 02.4 +0.5**
baz=57,SNR=56
KLMR Klimovskoe 57.25 326*d i*P **P 14 58 01.4 -0.8**
KLMR *e**PP pP 14 59 25.1 -0.9
KLMR *e* 14 59 59.2
KLMR pmax pmax
comp=Z,1μm,1.5s,mb5.9
RPW Rockport 57.56 52 P **P 14 58 04.0 -0.3**
E03A Lebam 57.58 55⇑P **P 14 58 05.0 +0.5**
baz=57,SNR=26
PBA Port Blair 57.60 250 *e*P **P 14 58 00.9 -3.7**
PBA AMb AMB 14 58 02.2
comp=Z,265nm,0.8s,mb5.6
D04A Dobbs Creek Ra 57.66 54⇓P **P 14 58 06.0 +1.0**
baz=57,SNR=23
KULM Kulim 57.74 238⇓*i*P **P 14 58 06.3 +0.7**
KULM *ep*P pP 14 59 32.4 +2.7
KULM *es*P sP 15 00 13.4 -0.3
A07A Ashnola River, 57.81 51⇓P **P 14 58 06.0 0.0**
baz=58,SNR=69
HNR Honiara 57.81 165 P **P 14 58 05.7 -0.4**
comp=Z,159nm,0.7s,mb5.4,baz=252,slow=2.5,SNR=13
HNR Honiara 57.81 165 P **P 14 58 05.7 -0.4**
HNR pmax pmax
comp=Z,159nm,0.7s,mb5.5
HNR Honiara 57.81 165 *e*P **P 14 58 05.7 -0.4**
comp=Z,98nm,0.7s,mb5.2
C05A Tolt Reservoir 57.92 53⇑P **P 14 58 07.0 +0.2**
baz=58,SNR=35
F03A Seaside 57.95 55⇓P **P 14 58 07.7 +0.7**
baz=58,SNR=9.1
E04A Onalaska 58.02 54⇓P **P 14 58 08.3 +0.9**
baz=58,SNR=38
D05A Enumclaw 58.06 53⇓P **P 14 58 08.4 +0.6**
baz=58,SNR=42
PECR Pechory 58.28 320 *e*P **P 14 58 08.0 -1.3**
PECR *e*S **S 15 05 35.6 -3.6**
PECR *e* 15 05 54.4
PECR pmax pmax
comp=Z,800nm,1.6s,mb5.8
PECR smax
comp=N,1μm,8.0s
PECR smax
comp=E,700nm,7.0s
PECR MLR MLR
comp=N,1μm,20.0s
PECR MLR MLR
comp=Z,1μm,20.0s
PECR MLR MLR
comp=E,1μm,18.0s
PECR Pechory 58.28 320 *e*P **P 14 58 08.0 -1.3**
PECR *e*S **S 15 05 35.6 -3.6**
PECR *e* 15 05 54.4
B07A Winthrop 58.30 51⇑P **P 14 58 09.5 +0.1**
baz=58,SNR=82
A08A Turner Farm, O 58.45 51⇓P **P 14 58 10.4 0.0**
baz=58,SNR=81
H02A Toledo 58.46 57⇓P **P 14 58 11.8 +1.3**
baz=58
G03A Yamhill 58.48 56⇑P **P 14 58 11.4 +0.8**
baz=58,SNR=19
E05A Randle 58.57 54⇑P **P 14 58 11.3 +0.1**
baz=58,SNR=46
F04A Amboy 58.59 55⇑P **P 14 58 11.7 +0.4**
baz=58,SNR=43
D06A Cle Elum 58.68 53⇑P **P 14 58 12.3 +0.3**
baz=58,SNR=41
JOF Joensuu 58.75 331 *ep* **P 14 58 10.4 -2.1**
comp=E,148nm,0.3s,mb5.8
EDM Edmonton 58.77 44⇑*i*P **P 14 58 12.0 -0.6**
EDM *e**PP pP 14 59 37.0 +0.1
B08A Colville Reser 58.78 51⇓P **P 14 58 12.6 0.0**
baz=58,SNR=80
A09A Danville 58.79 50⇓P **P 14 58 12.9 +0.2**
baz=59,SNR=70
C07A Waterville 58.80 52⇑P **P 14 58 12.6 -0.2**
baz=59,SNR=72
OUL Oulu 58.86 335 P **P 14 58 11.1 -2.1**
H03A Soap Creek Ran 58.86 56⇓P **P 14 58 14.2 +1.0**
baz=59,SNR=20
COR Corvallis 58.91 57⇑*i*P **P 14 58 13.9 +0.4**
COR pmax pmax
comp=Z,587nm,1.2s,mb5.8
COR Corvallis 58.91 57⇑*i*P **P 14 58 13.9 +0.4**
comp=Z,587nm,1.2s,mb5.8
KGM Kluang 58.93 234 P **P 14 58 14.4 +0.7**
I02A Mapleton 58.97 57⇓P **P 14 58 14.6 +0.7**
baz=59
NAC Naches 58.97 53 P **P 14 58 14.6 +0.6**
G04A Mulino 58.99 56⇑P **P 14 58 14.7 +0.6**
baz=59,SNR=34
E06A Yakima 59.01 54⇑P **P 14 58 14.7 +0.5**
baz=59,SNR=54
F05A White Salmon 59.15 54⇑P **P 14 58 15.7 +0.5**
baz=59,SNR=35
D07A Quincy 59.15 52⇑P **P 14 58 15.2 0.0**
baz=59,SNR=44
EPH Ephrata 59.26 52 P **P 14 58 15.8 -0.1**
C08A Higginbotham F 59.28 51⇑P **P 14 58 15.8 -0.2**
baz=59,SNR=59
I03A Eugene 59.30 57⇓P **P 14 58 17.0 +0.8**
baz=59,SNR=16
AJM Ajmer 59.32 277 *e*P **P 14 58 16.8 +0.5**
AJM AMb AMB 14 58 19.1
comp=Z,308nm,1.0s,mb5.6
K01A Sixes 59.33 59⇑P **P 14 58 17.1 +0.7**
baz=59
B09A Rice 59.36 50 P **P 14 58 16.6 0.0**
baz=59,SNR=63
KEBM Edson Butte 59.37 59⇑*i*P **P 14 58 17.4 +0.7**
KEBM *ep*P pP 14 59 43.1 +1.8
VIS Vishakhapatnam 59.39 263 *e*P **P 14 58 17.7 +0.9**
VIS AMb AMB 14 58 19.9
comp=Z,404nm,0.7s,mb5.9
H04A Detroit Lake 59.48 56⇑P **P 14 58 17.7 +0.4**
baz=59,SNR=48
J02A Umpqua 59.50 58⇓P **P 14 58 18.4 +0.9**
baz=59,SNR=20
LOF Lofoten 59.57 342 *e*P **P 14 58 18.0 -0.1**
LOF AMb AMB 14 58 21.9
comp=Z,222nm,1.3s,mb5.5
LOF Lofoten 59.57 342 *e*P **P 14 58 18.0 -0.1**
comp=Z,222nm,1.3s,mb5.4
BHPL Bhopal 59.59 272 *e*P **P 14 58 18.7 +0.5**
BHPL AMb AMB 14 58 20.8
comp=Z,675nm,0.6s,mb6.3
F06A Goldendale 59.59 54⇑P **P 14 58 18.8 +0.6**
baz=59,SNR=69
E07A Sunnyside 59.61 53 P **P 14 58 18.6 +0.3**
baz=59,SNR=54
C09A Chrisman Ranch 59.68 51⇓P **P 14 58 18.6 -0.2**
baz=59,SNR=82
D08A Wollman Farm, 59.80 52⇑P **P 14 58 19.5 -0.1**
baz=60,SNR=64
KBO Bosley Butte 59.84 59 *e*P **P 14 58 20.5 +0.7**
J03A Ideyld Park 59.85 57⇓P **P 14 58 20.7 +0.9**
baz=60,SNR=15
I04A Tendick Farm, 59.90 57⇑P **P 14 58 20.9 +0.7**
baz=60,SNR=56
NGP Nagpur 59.91 269 *e*P **P 14 58 18.9 -1.3**
NGP AMb AMB 14 58 20.5
comp=Z,506nm,1.2s,mb5.8
K02A Glendale 59.92 58⇓P **P 14 58 21.1 +0.8**
baz=60,SNR=15
A11A Hall Mountain, 59.95 49⇓P **P 14 58 21.2 +0.6**
baz=60,SNR=103
F07A Phinny Hill Vi 59.98 54⇑P **P 14 58 21.4 +0.6**
baz=60,SNR=113
NEW Newport 60.00 50⇑*i*P **P 14 58 20.3 -0.6**
NEW *e* 15 00 44.8
NEW pmax pmax
comp=Z,405nm,1.3s
NEW Newport 60.00 50⇑*i*P **P 14 58 20.3 -0.6**
comp=Z,405nm,1.3s,mb5.7
NEW *e*PP PP 15 00 44.8 +5.9
NEW *e*ScP ScP 15 02 24.2 +0.7
G06A Carlson Farm, 60.00 55⇑P **P 14 58 21.4 +0.5**
baz=60,SNR=50
H05A Madras 60.04 55⇑P **P 14 58 21.6 +0.5**
baz=60,SNR=35
E08AIder Farm, El 60.08 53⇓P **P 14 58 21.5 +0.1**
baz=60,SNR=109
D09A Jones Farm, Ri 60.12 52⇑P **P 14 58 21.7 -0.1**
baz=60,SNR=36
M01C Crescent City 60.13 59⇓P **P 14 58 22.6 +0.8**
baz=60
C10A Spilker Farm, 60.18 51⇑P **P 14 58 22.1 0.0**
baz=60,SNR=38
L02A Cave Junction 60.24 59⇑P **P 14 58 23.1 +0.6**
baz=60,SNR=12
B11A Sandpoint 60.28 50⇓P **P 14 58 23.1 +0.3**
baz=60,SNR=43
I05A Bend 60.32 56⇓P **P 14 58 23.6 +0.6**
baz=60,SNR=30
HUMO Hull Mountain 60.33 58⇑*i*P **P 14 58 23.5 +0.4**
comp=Z,53nm,0.7s,mb5.1
HUMO *ep*P pP 14 59 50.8 +2.7
HUMO Hull Mountain 60.33 58⇑P **P 14 58 23.7 +0.6**
baz=60,SNR=20
J04A Umpqua Nationa 60.42 57⇓P **P 14 58 24.6 +0.9**
baz=60,SNR=34
KRMB Red Mountain 60.45 60 *e*P **P 14 58 24.8 +0.9**
KRMB *ep*P pP 14 59 51.5 +2.6
H06A Lindquist Farm 60.48 55 P **P 14 58 24.4 +0.3**
baz=60,SNR=20
G07A Ruggs Ranch, H 60.51 54⇓P **P 14 58 24.6 +0.3**
baz=60,SNR=68
E09A Wood Farm, Sta 60.56 52⇓P **P 14 58 24.8 +0.2**
baz=60,SNR=85
D10A Wagner Farm, O 60.68 51 P **P 14 58 25.2 -0.2**
baz=60,SNR=66
BSI Banda Aceh 60.75 244 P **P 14 58 25.1 -0.8**
JCC Jacoby Creek 60.83 60⇓P **P 14 58 26.9 +0.5**
baz=61,SNR=5.2
G08A Pilot Rock 60.89 54 P **P 14 58 27.2 +0.4**
baz=61,SNR=45
KAF Kangasniemi 60.94 332 *ep* **P 14 58 25.6 -1.6**
comp=Z,376nm,0.7s,mb5.9,baz=40,slow=6.3
KAF Kangasniemi 60.94 332 *e*P **P 14 58 25.6 -1.6**
KAF pmax pmax
comp=Z,376nm,0.7s,mb5.9
KHMM Horse Mountain 60.96 60⇑*e*P **P 14 58 28.2 +0.9**
KHMM *ep*P pP 14 59 54.5 +2.0
MOR8 Moi Rana 60.99 340 *e*P **P 14 58 24.8 -2.7**
MOR8 AMb AMB 14 58 27.6
comp=Z,643nm,0.8s,mb6.1
MOR8 Moi Rana 60.99 340 *e*P **P 14 58 24.8 -2.7**
comp=Z,643nm,0.8s,mb6.1
H07A Lands Inn, Kim 61.00 55⇑P **P 14 58 27.8 +0.2**
baz=61,SNR=27
YBH Yreka Blue Hor 61.02 59 P **P 14 58 28.7 +1.0**
comp=Z,82nm,0.8s,mb5.2,baz=353,slow=3.3,SNR=84
YBH Yreka Blue Hor 61.02 59⇑*i*P **P 14 58 28.4 +0.7**
YBH *e**PP pP 14 59 55.4 +2.5
YBH pmax pmax
comp=Z,125nm,1.0s
YBH Yreka Blue Hor 61.02 59⇑*i*P **P 14 58 28.4 +0.7**
comp=Z,126nm,1.0s,mb5.3
YBH *ep*P pP 14 59 55.4 +2.5
YBH Yreka Blue Hor 61.02 59⇓P **P 14 58 28.7 +1.0**
baz=61,SNR=33
K04A Chilquin 61.03 58⇓P **P 14 58 28.5 +0.7**
baz=61,SNR=21
I06A Prineville 61.05 56⇓P **P 14 58 28.6 +0.7**
baz=61,SNR=26
E10A Myers Farm, Un 61.13 52⇓P **P 14 58 28.6 +0.2**
baz=61,SNR=70
WALA Waterton Lakes 61.13 48⇑*i*P **P 14 58 28.0 -0.4**
comp=Z,139nm,0.7s,mb5.5
WALA *ep*P pP 14 59 52.8 -0.8
WALA *e*ScP ScP 15 02 29.9 +1.3
M02C Callahan 61.15 59⇓P **P 14 58 29.4 +0.9**
baz=61,SNR=24
D11A Klaveano Farm, 61.18 51⇓P **P 14 58 28.4 -0.3**
baz=61,SNR=28
STOK Stokkvaagen 61.18 341 *e*P **P 14 58 27.1 -1.7**
STOK AMb AMB 14 58 30.1
comp=Z,237nm,1.0s,mb5.6
STOK Stokkvaagen 61.18 341 *e*P **P 14 58 27.1 -1.7**
comp=Z,237nm,1.0s,mb5.6
F09A S2 Ranch, Elgi 61.19 53⇑P **P 14 58 29.4 +0.6**
baz=61,SNR=89
L04A Klamath Falls 61.21 58⇓P **P 14 58 29.4 +0.5**
baz=61,SNR=15
COEN Coen 61.24 184 P **P 14 58 27.8 -1.4**
N02C Big Bar 61.25 60⇓P **P 14 58 29.6 +0.4**
baz=61,SNR=13
KAKA Kakadu 61.31 196 *e*P **P 14 58 28.2 -1.4**
comp=Z,66nm,0.8s,mb5.1
PUL Pulkovo 61.34 329 *e*P **P 14 58 28.8 -1.0**
PUL pmax pmax
comp=Z,796nm,0.9s,mb6.2
PUL pmax pmax
comp=N,944nm,1.0s
PUL pmax pmax
comp=E,786nm,1.1s
I07A Izee 61.35 55⇑P **P 14 58 30.5 +0.6**
baz=61,SNR=37
LHEM Herd Peak 61.37 59 P **P 14 58 31.0 +0.9**
O01C Eel River Cons 61.38 61⇓P **P 14 58 31.1 +1.1**
baz=61,SNR=10.0
F10A Beach Ranch, E 61.39 52 P **P 14 58 30.4 +0.3**
baz=61,SNR=65
MOS Moscow 61.40 323*d i*P **P 14 58 29.5 -0.7**
MOS *e* 14 59 07.4
MOS *e**PP pP 14 59 53.7 -1.8
MOS *e* 15 00 50.3
MOS *i*S **S 15 06 16.4 -2.1**
MOS *e* 15 07 37.0
MOS pmax pmax
comp=Z,700nm,1.3s,mb5.9
MOS pmax pmax
comp=Z,498nm,1.2s,mb5.8
MOS Moscow 61.40 323 *i*P **P 14 58 29.5 -0.7**
comp=Z,498nm,1.2s,mb5.8
MOS *e* 14 59 07.4
MOS *ep*P pP 14 59 53.7 -1.8
MOS *e* 15 00 50.3
MOS *i*S **S 15 06 16.4 -2.1**
MOS *e* 15 07 37.0
K05A Summer Lake 61.44 57⇑P **P 14 58 31.7 +1.3**
baz=61,SNR=71
M04C Macdoel 61.49 58⇑P **P 14 58 31.5 +0.7**
baz=61,SNR=39
FINES FINESS Array B 61.52 332 P **P 14 58 29.6 -1.4**
comp=Z,423nm,0.6s,mb6.1,baz=41,slow=7.6,SNR=703
FINES FINESS Array B 61.52 332 *i*P **P 14 58 29.6 -1.4**
FINES pmax pmax
comp=Z,423nm,0.6s
J06A Christmas Vall 61.52 56⇓P **P 14 58 31.7 +0.7**
baz=61,SNR=41
H08A Prairie City 61.54 54⇓P **P 14 58 31.8 +0.7**
baz=61,SNR=54
AKL Akola 61.59 270⇑*i*P **P 14 58 33.1 +1.7**
AKL *ex* x 14 58 35.1
comp=Z,516nm,0.9s
AKL *i*x x 15 01 06.7
WSI Waingapu 61.64 210 P **P 14 58 35.1 +3.3**
KMMI Kalianget 61.64 218 P **P 14 58 31.9 +0.1**
M03C McCloud 61.65 59⇑P **P 14 58 32.2 +0.3**
baz=61,SNR=21
E11A Bogner Ranch, 61.69 51 P **P 14 58 31.9 -0.2**
baz=61,SNR=64
K06A Valley Falls 61.75 57⇑P **P 14 58 33.3 +0.8**
baz=62,SNR=43
KIPM Iron Peak 61.79 61 *e*P **P 14 58 33.3 +0.6**
KCPM Cahto Peak 61.81 61⇑*e*P **P 14 58 33.3 +0.4**
KCPM *e*PcP PcP 14 59 09.6 0.0
KCPM *ep*P pP 14 59 59.4 +1.1
WDC Whiskeytown Da 61.85 60⇑*i*P **P 14 58 33.1 -0.1**
WDC *e* 15 00 57.3
WDC pmax pmax
comp=Z,108nm,1.0s,mb5.3
WDC Whiskeytown Da 61.85 60⇑*i*P **P 14 58 33.1 -0.1**
comp=Z,108nm,1.0s,mb5.3
WDC *ep*P pP 15 00 00.3 +1.7
WDC *e*PP PP 15 00 57.3 +2.1
WDC Whiskeytown Da 61.85 60⇓P **P 14 58 33.3 +0.2**
baz=62,SNR=40
O02C Red Bluff 61.96 60⇑P **P 14 58 34.6 +0.7**
baz=62,SNR=23
I08A Drewsey 61.98 55⇑P **P 14 58 34.8 +0.8**
baz=62,SNR=38
H09A Durkee 61.99 54⇑P **P 14 58 34.9 +0.8**
baz=62,SNR=34
F11A Grangeville 62.02 52⇑P **P 14 58 34.4 +0.1**
baz=62
BMO Blue Mountains 62.07 53⇑*i*P **P 14 58 34.8 +0.2**
comp=Z,209nm,1.1s,mb5.6
BMO *ep*P pP 14 59 58.4 -1.7
BMO *e*ScP ScP 15 02 32.7 0.0
P01C Double 8 Ranch 62.09 61⇑P **P 14 58 34.8 +0.1**
baz=62,SNR=11
D13A Huson 62.13 50⇓P **P 14 58 35.2 +0.2**
baz=62,SNR=86
M05C Lookout 62.16 58⇑P **P 14 58 35.7 +0.5**
baz=62,SNR=51
OBN Obninsk 62.26 323 P **P 14 58 34.5 -1.4**
comp=Z,4μm,0.8s,SNR=32
OBN Obninsk 62.26 323⇑*e*P **P 14 58 35.0 -0.9**
OBN *e**PP pP 15 00 01.0 -0.5
OBN *e* 15 00 56.2
OBN *i*S **S 15 06 27.6 -1.7**
OBN pmax pmax
comp=Z,908nm,1.2s,mb6.2
MOD Modoc 62.30 57⇓*i*P **P 14 58 36.4 +0.3**
comp=Z,118nm,0.7s,mb5.5
MOD *ep*P pP 15 00 01.6 0.0
MOD *e*ScP ScP 15 02 36.0 +2.2
MOD Modoc 62.30 57⇓P **P 14 58 36.5 +0.4**
baz=62,SNR=44
HATC Hat Creek Radi 62.33 59⇑P **P 14 58 36.8 +0.5**
baz=62,SNR=26
GASB Alder Springs 62.34 61⇓P **P 14 58 37.2 +0.8**
baz=62,SNR=29
K07A Rock Creek Ran 62.39 56 P **P 14 58 37.4 +0.7**
baz=62,SNR=83
J08A Circle Bar Ran 62.39 55 P **P 14 58 37.3 +0.6**
baz=62,SNR=63
I09A Lost Marbles R 62.40 54 P **P 14 58 37.3 +0.5**
baz=62,SNR=30
O03C Acorn Hollow, 62.52 60⇑P **P 14 58 37.4 -0.2**
baz=62,SNR=14
H10A Noah's Angus R 62.54 53⇓P **P 14 58 37.9 +0.2**
baz=62,SNR=111
MSO Missoula 62.57 50⇑*i*P **P 14 58 37.8 -0.1**
comp=Z,312nm,1.3s,mb5.7
MSO *ep*P pP 15 00 03.7 +0.1
MSO *e*ScP ScP 15 02 36.2 +1.2
F12A Elk City 62.58 51 P **P 14 58 38.5 +0.5**
baz=62,SNR=52
PPI Padang Panjang 62.59 235 P **P 14 58 37.2 -0.8**
ABKT Ailbek 62.59 297 P **P 14 58 38.2 +0.2**
comp=Z,3μm,0.7s
D14A Greenough 62.63 49⇓P **P 14 58 38.3 0.0**
baz=62,SNR=42
M06C Likely Place G 62.65 58⇓P **P 14 58 38.8 +0.4**
baz=62,SNR=23
E13A Victor 62.70 50⇑P **P 14 58 38.4 -0.3**
baz=62,SNR=37
GSI Gunungsitoli 62.75 239 P **P 14 58 38.8 -0.3**
L07A Adell 62.77 57 P **P 14 58 40.1 +0.9**
baz=62,SNR=86
K08A Mann Creek Ran 62.79 56⇑P **P 14 58 39.8 +0.5**
baz=63,SNR=69
FFC Flin Flon 62.80 38 P **P 14 58 38.2 -1.2**
comp=Z,1μm,0.8s,mb6.5,SNR=28
J09A Fry Pan Ranch, 62.80 55 P **P 14 58 40.1 +0.7**
baz=63,SNR=61
VRHR Novokhopersk 62.81 317 *e*P **P 14 58 38.6 -0.9**
VRHR *e*S **S 15 06 33.6 -2.4**
VRHR pmax pmax
comp=Z,480nm,0.8s,mb6.1
VRHR pmax pmax
comp=E,50nm,0.5s

VRHR smax
comp=E,500nm,1.3s
VRHR smax
comp=Z,10.0nm,0.4s
HYB Hyderabad 62.83 266⇓*i*P P 14 58 39.5 -0.1
HYB *e*PcP PcP 14 59 14.0 +0.2
HYB *e*sP sP 15 00 47.0 -1.9
HYB *e*PP PP 15 01 04.0 +0.3
HYB *e*S **S 15 06 36.0 -0.2**
HYB *e*SKS 15 07 50.0
HYB Hyderabad 62.83 266⇓*e*P P 14 58 39.5 -0.1
HYB pmax pmax
comp=Z,420nm,1.0s,mb5.9
HYB Hyderabad 62.83 266⇓*e*P P 14 58 39.5 -0.1
comp=Z,420nm,1.0s,mb5.9
H11A Donnelly 62.87 53 ⇓P P 14 58 39.6 -0.2
baz=63,SNR=21
O04C Chester 62.87 59 ⇑P P 14 58 40.3 +0.5
baz=63,SNR=62
CHMT Chamberlain Mo 62.87 49 *e*P P 14 58 39.8 -0.1
ELFS Eagle Lake Fie 62.88 59 ⇓P P 14 58 40.5 +0.6
baz=63,SNR=41
WVOR Wild Horse Val 62.90 56⇑*i*P P 14 58 40.3 +0.3
WVOR *e**PP pP 15 00 07.6 +1.8
WVOR pmax pmax
comp=Z,255nm,1.2s,mb5.6
WVOR Wild Horse Val 62.90 56⇑*i*P P 14 58 40.2 +0.2
comp=Z,255nm,1.2s,mb5.6
WVOR *e*pP pP 15 00 07.6 +1.8
NSS Namsos 62.94 340 *e*P P 14 58 37.0 -3.3
NSS AMb AMB 14 58 40.8
comp=Z,202nm,0.9s,mb5.6
MNRC McLaughlin Nat 63.00 61 ⇑P P 14 58 41.3 +0.6
baz=63,SNR=24
F13A Darby 63.05 51 ⇓P P 14 58 40.7 -0.3
baz=63,SNR=30
E14A Clinton 63.08 50 ⇓P P 14 58 41.2 +0.1
baz=63,SNR=38
ORV Oroville 63.12 60 P P 14 58 40.8 -0.7
baz=63,SNR=57
NSHM Saint Helena R 63.14 62 *e*P P 14 58 41.5 -0.1
NSHM *e*pP pP 15 00 09.4 +2.0
D15A Lincoln 63.16 49 ⇑P P 14 58 41.9 +0.2
baz=63,SNR=60
SUTB Sutter Butte 63.16 60 ⇓P P 14 58 41.1 -0.7
baz=63
O05C Quincy 63.20 59 ⇑P P 14 58 42.0 0.0
baz=63,SNR=58
L08A Fields 63.22 56 P P 14 58 42.7 +0.5
baz=63,SNR=54
K09A Rome 63.24 55 ⇑P P 14 58 42.6 +0.4
baz=63,SNR=76
OHCM Honcut 63.27 60 *e*P P 14 58 41.7 -0.8
OHCM *e*pP pP 15 00 09.1 +0.7
M07A Soldier Meadow 63.28 57 ⇓P P 14 58 43.3 +0.8
baz=63,SNR=132
J10A Berg Farm, Mel 63.29 54 ⇑P P 14 58 42.7 +0.1
baz=63,SNR=15
N06A Buffalo Meadow 63.31 58 ⇓P P 14 58 43.0 +0.3
baz=63,SNR=67
CVS Carmenet Viney 63.34 62 ⇑P P 14 58 42.6 -0.3
baz=63,SNR=7.7
I11A Placerville 63.41 53 ⇓P P 14 58 43.2 -0.2
baz=63,SNR=48
Q03C Winters 63.41 61 ⇓P P 14 58 44.1 +0.7
baz=63,SNR=13
LATR Latur 63.48 269 *e*P P 14 58 42.8 -1.0
E15A Deer Lodge 63.51 49 ⇑P P 14 58 44.0 +0.1
baz=63,SNR=61
VSU Vasula 63.55 330*d*i*P P 14 58 43.3 -1.0
G13A Cobalt 63.56 51 ⇑P P 14 58 43.9 -0.5
baz=63,SNR=14
BEKR Beckwourth 63.59 59 ⇑P P 14 58 44.5 0.0
baz=63,SNR=77
H12A Diamond D Ranc 63.59 52 P P 14 58 44.5 0.0
baz=63,SNR=86
Q04C Lincoln 63.66 61 ⇑P P 14 58 44.8 -0.2
baz=63,SNR=18
M08A Happy Creek Ra 63.69 57 ⇑P P 14 58 45.7 +0.6
baz=64,SNR=58
O06A Flanigan 63.70 59 ⇓P P 14 58 45.4 +0.2
baz=64,SNR=53
L09A Wilkinson Ranc 63.72 56 ⇓P P 14 58 46.0 +0.6
baz=64,SNR=6.9
HRY Holter Researc 63.73 49 *e*P P 14 58 45.9 +0.5
HRY *e*pP pP 15 00 13.1 +1.6
N07B Gerlach 63.79 58 ⇑P P 14 58 46.0 +0.3
baz=64,SNR=40
P05C Yuba Gap, Truc 63.81 60 ⇑P P 14 58 45.9 0.0
baz=64,SNR=25
VRSR Storozhevoye 63.84 318*d*i*P P 14 58 45.4 -0.8
VRSR *e* 15 01 09.5
VRSR *e*S **S 15 06 47.0 -1.7**
VRSR *e* 15 07 57.4
VRSR pmax pmax
comp=Z,580nm,0.8s,mb6.2
VRSR pmax pmax
comp=N,540nm,0.9s
VRSR pmax pmax
comp=E,460nm,0.9s
VRSR smax
comp=N,190nm,4.3s
VRSR smax
comp=Z,90nm,5.1s
VRSR smax
comp=E,470nm,4.2s
VRSR Storozhevoye 63.84 318 *i*P P 14 58 45.4 -0.8
comp=E,580nm,0.8s,mb6.2
VRSR *e* 15 01 09.5
VRSR *e*S **S 15 06 47.0 -1.7**
VRSR *e* 15 07 57.4
EGMT Eagleton 63.89 47⇑*i*P P 14 58 46.0 -0.5
comp=E,237nm,0.8s,mb5.8
EGMT *e*pP pP 15 00 12.1 -0.4
EGMT Eagleton 63.89 47 P P 14 58 46.4 -0.1
baz=64,SNR=78
BDM Black Diamond 63.95 62 ⇑P P 14 58 46.8 0.0
baz=64,SNR=9.8
VORD Divnogorie 63.97 318 *e*P P 14 58 44.8 -2.2
VORD *e* 15 01 09.9
VORD *e*S **S 15 06 47.9 -2.3**
VORD pmax pmax
comp=E,70nm,0.8s
VORD pmax pmax
comp=Z,130nm,0.8s,mb5.5
VORD pmax pmax
comp=N,140nm,1.7s
VORD pmax pmax
comp=N,250nm,0.8s
VORD pmax pmax
comp=Z,70nm,0.8s,mb5.2
VORD pmax pmax
comp=E,290nm,0.7s
VORD smax
comp=Z,20nm,1.0s
VORD smax
comp=N,140nm,1.2s
VORD smax
comp=E,120nm,0.9s
F15A Butte 63.98 50 ⇑P P 14 58 47.3 +0.3
baz=64,SNR=76
P06A Stead Airport, 63.98 59 ⇓P P 14 58 47.2 +0.2
baz=64,SNR=19
JRSC Jasper Ridge 64.08 62 ⇓P P 14 58 47.4 -0.3
baz=64,SNR=6.6
LAVA Lava Cap Winer 64.09 60 ⇓P P 14 58 47.6 -0.1
baz=64,SNR=55
BHV Bhavnagar 64.18 275 *e*P P 14 58 49.0 +0.7
M09A Marrel Ranch, 64.23 56 ⇑P P 14 58 49.2 +0.6
baz=64,SNR=34
WENL Wente Brothers 64.23 62 ⇑P P 14 58 48.7 +0.1
baz=64,SNR=16
DLMT Dillon 64.24 50⇑*i*P P 14 58 48.5 -0.2
comp=E,517nm,1.3s,mb5.9
O07A Toulon 64.25 58 P P 14 58 49.3 +0.5
baz=64,SNR=48
N08A GE Springer Mi 64.27 57 P P 14 58 49.3 +0.5
baz=64,SNR=51
LEM Lembang 64.28 224 P P 14 58 48.0 -0.9
R04C Big Horse Ranc 64.30 61 ⇑P P 14 58 48.5 -0.6
baz=64
BNLO Ben Lomond (Sa 64.30 62 ⇓P P 14 58 48.7 -0.4
baz=64,SNR=10.0
WCN Washoe City 64.31 59 ⇑P P 14 58 49.8 +0.7
baz=64,SNR=38
G15A Dillon 64.43 50 P P 14 58 50.3 +0.4
baz=64,SNR=142
MCMT McKenzie Canyo 64.47 51 *e*P P 14 58 49.7 -0.4
MCMT *e*pP pP 15 00 17.6 +1.1
MCMT *e*PP PP 15 01 19.1 +1.1
HLID Hailey 64.48 53⇑*i*P P 14 58 50.7 +0.4
comp=E,188nm,1.3s,mb5.5
HLID *e*pP pP 15 00 16.4 -0.2
HLID Hailey 64.48 53 ⇓P P 14 58 50.9 +0.7
baz=64,SNR=41
R05C Kirkwood Meado 64.52 60 ⇑P P 14 58 50.6 +0.1
baz=64,SNR=53
BOZ Bozeman (W) 64.55 50⇑*i*P P 14 58 51.0 +0.3
BOZ *e**PP pP 15 00 17.3 +0.3
BOZ pmax pmax
comp=Z,153nm,0.8s,mb5.7
BOZ Bozeman (W) 64.55 50⇑*i*P P 14 58 51.0 +0.3
comp=Z,153nm,0.8s,mb5.7
BOZ *e*pP pP 15 00 17.3 +0.3
BOZ Bozeman (W) 64.55 50 ⇓P P 14 58 51.1 +0.4
baz=64,SNR=42
S04C Ingram Canyon, 64.56 62 ⇓P P 14 58 50.7 -0.1
baz=64,SNR=14
N09A Rock Creek Ran 64.57 57 ⇓P P 14 58 51.3 +0.5
baz=64,SNR=32
O08A Rochester Mine 64.58 58 ⇓P P 14 58 51.2 +0.4
baz=64,SNR=5.3
P07A Fallon 64.65 59 ⇑P P 14 58 51.6 +0.3
baz=64,SNR=6.6
M10A I.L. Ranch, Tu 64.68 56 ⇓P P 14 58 52.2 +0.7
baz=64,SNR=50
CMB Columbia Colle 64.77 61⇑*i*P P 14 58 51.8 -0.3
CMB *e* 14 59 19.8
CMB *e**PP pP 15 00 18.7 +0.2
CMB pmax pmax
comp=Z,162nm,0.9s,mb5.7
CMB Columbia Colle 64.77 61⇑*i*P P 14 58 51.8 -0.3
comp=Z,158nm,0.9s,mb5.7
CMB *e*PcP PcP 14 59 19.8 -2.0
CMB *e*pP pP 15 00 18.7 +0.2
CMB Columbia Colle 64.77 61 P P 14 58 52.1 0.0
baz=64,SNR=87
MDRS Chennai 64.78 262 *e*P P 14 58 53.0 +0.8
MDRS AMb AMB 14 58 54.5
comp=Z,206nm,1.3s,mb5.6
BHJ Bhuj 64.83 277 *e*P P 14 58 52.8 +0.3
BHJ AMb AMB 14 58 56.0
comp=Z,364nm,0.7s,mb6.1
PACP Pacheco Peak 64.92 62 ⇓P P 14 58 53.2 +0.2
baz=65,SNR=34
SAO San Andreas Ge 64.98 62 *e*P P 14 58 53.1 -0.3
SAO *e**PP pP 15 00 20.8 +0.9
SAO pmax pmax
comp=Z,150nm,1.3s,mb5.5
SAO San Andreas Ge 64.98 62 *e*P P 14 58 53.0 -0.4
comp=Z,150nm,1.3s,mb5.5
SAO *e*pP pP 15 00 20.8 +0.9
R06C Coleville 65.00 60 ⇓P P 14 58 54.2 +0.6
baz=65,SNR=56
P08A Dixie Valley 65.02 58 ⇑P P 14 58 54.3 +0.7
baz=65,SNR=9.2
SFJD Kangerlussuaq 65.07 8 *e*P P 14 58 51.9 -2.1
comp=Z,56nm,0.8s,mb5.2
Q07A Schurz 65.10 59 ⇓P P 14 58 54.5 +0.4
baz=65,SNR=7.6
M11A Holland Ranch, 65.16 55 ⇓P P 14 58 55.7 +1.2
baz=65,SNR=73
HAST UC Hastings Re 65.17 63 ⇑P P 14 58 54.7 +0.1
baz=65,SNR=18
S06C San Francisco 65.19 61 ⇓P P 14 58 54.9 +0.1
baz=65,SNR=69
O09A Fish Creek Ran 65.21 57 ⇑P P 14 58 55.6 +0.7
baz=65,SNR=51
QLMT Earthquake Lak 65.21 50 *e*P P 14 58 55.0 +0.1
QLMT *e*pP pP 15 00 23.3 +1.9
QLMT *e*S S 15 07 09.6 +4.4
POO Poona 65.24 271⇓*i*P P 14 58 53.0 -2.1
comp=Z,640nm,1.0s,mb6.2
S05C Merced 65.26 61 ⇑P P 14 58 55.0 -0.3
baz=65,SNR=68
T05C Eagle Field, D 65.36 62 ⇓P P 14 58 56.2 +0.4
baz=65,SNR=11
MAK Makhachkala 65.36 307 *i*P P 14 58 56.4 +0.6
MAK *i**PP pP 15 00 21.8 -0.6
MAK *i**SP sP 15 01 01.6 -4.2
MAK *i* 15 01 27.2
MAK *e*PPP 15 03 09.9
MAK *i*S S 15 07 08.9 +1.9
MAK pmax pmax
comp=Z,537nm,0.7s,mb6.3
MAK MLR MLR
comp=Z,738nm,21.0s
MAK Makhachkala 65.36 307 *i*P P 14 58 56.4 +0.6
comp=Z,537nm,0.7s,mb6.3
MAK *i*pP pP 15 00 21.8 -0.6
MAK *i*sP sP 15 01 01.6 -4.2
MAK *i* 15 01 27.2
MAK *e*PPP 15 03 09.9
MAK *i*S S 15 07 08.9 +1.9
MAK LR LR
comp=Z,740nm,21.0s
GCMT Greycliff 65.46 48 *e*P P 14 58 56.6 +0.2
GCMT *e*pP pP 15 00 25.3 +2.2
LRV Little Rabbit 65.47 62 *e*P P 14 58 56.9 +0.4
O10A Cortez Mining, 65.52 57 ⇑P P 14 58 57.7 +0.9
baz=65,SNR=52
R07C Lee Vining 65.53 60 ⇓P P 14 58 57.4 +0.6
baz=65,SNR=9.7
YMR Madison River 65.56 50⇓*i*P P 14 58 57.5 +0.4
comp=Z,265nm,1.1s,mb5.8
N11A Elko Archery C 65.60 56 ⇑P P 14 58 57.9 +0.5
baz=65,SNR=28
V03C Hunter Liggett 65.60 63 ⇑P P 14 58 57.6 +0.2
baz=65,SNR=10
MOL Molde 65.64 341 *e*P P 14 58 56.5 -1.1
MOL AMb AMB 14 58 58.6
comp=Z,125nm,0.9s,mb5.5
MOL Molde 65.64 341 *e*P P 14 58 56.5 -1.1
comp=Z,125nm,0.9s,mb5.5
U04C Hernandez Rese 65.65 62 ⇑P P 14 58 58.0 +0.3
baz=65,SNR=17
M12A Wells 65.65 55 ⇓P P 14 58 58.7 +1.0
baz=65,SNR=56
P09A Austin 65.65 58 ⇓P P 14 58 58.1 +0.5
baz=65,SNR=12
Q08A Gabbs 65.66 59 ⇓P P 14 58 58.0 +0.2
baz=65,SNR=43
YNR Norris Junctio 65.68 50⇑*e*P P 14 58 58.8 +0.9
YNR *e*pP pP 15 00 28.0 +3.5
YNR *e*PP PP 15 01 30.6 +2.1
NVAR Mina Array Bea 65.73 59 P P 14 58 58.3 +0.1
comp=Z,98nm,0.8s,mb5.5,baz=297,slow=6.3,SNR=38
NVAR pP pP 15 00 24.2 -0.6
comp=Z,18nm,1.0s,baz=303,slow=6.4,SNR=2.5
DOMB Dombas 65.75 340 *e*P P 14 58 57.0 -1.2
DOMB AMb AMB 14 58 59.9
comp=Z,292nm,1.1s,mb5.8
DOMB Dombas 65.75 340 *e*P P 14 58 57.0 -1.2
comp=Z,292nm,1.1s,mb5.8
YFT Old Faithful 65.78 50⇑*i*P P 14 59 00.3 +1.8
YFT *e*pP pP 15 00 25.2 0.0
IZAR Zarasai 65.80 328 *e*P P 14 58 57.9 -0.7
IZAR AMb AMB 14 58 59.9
comp=Z,4μm,0.6s
T06C Milleton Lake 65.86 61 ⇓P P 14 58 58.5 -0.4
baz=66,SNR=39
KAD Karad 65.87 270 *e*P P 14 58 59.4 +0.4
KAD AMb AMB 14 59 01.6
comp=Z,598nm,0.6s,mb6.4
KCC Kaiser Creek 65.88 61 ⇑P P 14 58 59.0 -0.1
baz=66,SNR=76
R08A Mina 65.90 59 ⇑P P 14 58 59.6 +0.3
baz=66,SNR=24
ELK Elko 65.93 56⇑*i*P P 14 58 59.7 +0.3
ELK pmax pmax
comp=Z,170nm,1.5s
ELK Elko 65.93 56⇑*i*P P 14 58 59.7 +0.3
comp=Z,171nm,1.5s,mb5.5
ELK *e*PP PP 15 01 33.4 +2.8
LKWY Lake 65.93 50⇑*i*P P 14 59 00.8 +1.4
LKWY pmax pmax
comp=Z,221nm,1.3s,mb5.6
LKWY Lake 65.93 50⇑*i*P P 14 59 00.8 +1.4
comp=Z,220nm,1.3s,mb5.6
IDID Didziasalis 65.95 327 *e*P P 14 58 58.8 -0.7
IDID AMb AMB 14 59 01.1
comp=Z,5μm,0.7s
MLAC Mammoth Lakes 65.96 60 ⇑P P 14 59 00.4 +0.8
baz=66,SNR=24
N12A Clover Valley, 65.97 55 P P 14 59 00.6 +0.9
baz=66,SNR=95
P10A Eureka 65.99 57 ⇑P P 14 59 00.5 +0.7
baz=66,SNR=34
U05C Westside ANR, 66.06 62 ⇓P P 14 59 00.9 +0.6
baz=66,SNR=6.2
PKD Parkfield 66.07 62 ⇓P P 14 59 00.4 +0.1
baz=66,SNR=27
V04C Ramage Ranch, 66.08 63 ⇓P P 14 59 00.8 +0.5
baz=66
NB2 NORSAR Subarra 66.09 338 P P 14 58 59.3 -1.2
comp=Z,308nm,0.8s,mb6.0,baz=30,slow=6.2
NB2 NORSAR Subarra 66.09 338 P P 14 58 59.2 -1.3
NOA NORSAR Array B 66.09 338 P P 14 58 59.0 -1.4
comp=Z,269nm,0.7s,mb6.0,baz=32,slow=6.2,SNR=367
NOA PcP PcP 14 59 27.3 0.0
comp=Z,23nm,0.8s,baz=30,slow=3.3,SNR=4.8
NOA NORSAR Array B 66.09 338 P P 14 58 59.1 -1.4
NOA 14 59 27.3
NOA pmax pmax
comp=Z,269nm,0.7s
M13A Montello 66.11 54 P P 14 59 01.0 +0.5
baz=66,SNR=52
O11A Cowboy Ranch, 66.11 56 ⇓P P 14 59 01.1 +0.6
baz=66,SNR=52
IMW Indian Meadow 66.11 51⇑*i*P P 14 59 01.4 +0.8
comp=Z,305nm,1.4s,mb5.7
IMW *e*pP pP 15 00 30.6 +3.3
Q09A Carvers 66.11 58 ⇑P P 14 59 01.1 +0.5
baz=66,SNR=15
IIGN Ignalina 66.11 328 *e*P P 14 59 00.0 -0.6
IIGN AMb AMB 14 59 02.2
comp=Z,8μm,0.6s
RLMT Red Lodge 66.13 49⇑*e*P P 14 59 00.5 -0.1
comp=Z,177nm,0.8s,mb5.8
RLMT *e*pP pP 15 00 24.1 -3.3
MNK Minsk 66.17 326⇑*i*P P 14 58 57.0 -3.9
MNK *e* 14 59 28.0
MNK *e**PP pP 15 00 25.0 -2.7
MNK *e*SP 15 01 00.0
MNK *e*S S 15 07 12.0 -4.7
MNK pmax pmax
comp=Z,450nm,1.0s,mb6.0
MNK pmax pmax
comp=E,630nm,1.0s
MNK pmax pmax
comp=N,1μm,1.0s
MNK smax
comp=E,1μm,1.5s
MNK Minsk 66.17 326⇑*i*P P 14 58 57.0 -3.9
comp=E,450nm,1.0s,mb6.0
MNK *e* 14 59 28.0
MNK *e*pP pP 15 00 25.0 -2.7
MNK *e*SP 15 01 00.0
MNK *e*S S 15 07 12.0 -4.7
DCID1 Drake Creek 66.19 51⇑*i*P P 14 59 01.9 +0.9
DCID1 *e*pP pP 15 00 28.9 +1.1
HFA0 Hagfors New Ar 66.21 337 P P 14 58 59.1 -2.1
MTUM Tungsten Hills 66.30 60 *e*P P 14 59 02.1 +0.3
MTUM *e*pP pP 15 00 30.9 +2.2
MOOW Moose Ponds 66.31 51⇑*i*P P 14 59 02.3 +0.5
comp=E,339nm,1.3s,mb5.8
MOOW *e*pP pP 15 00 26.6 -2.1
TPAW Teton Pass 66.38 51⇑*i*P P 14 59 03.2 +1.0
comp=E,403nm,1.2s,mb5.9
N13A Wendover, West 66.43 55 ⇓P P 14 59 03.1 +0.5
baz=66,SNR=27
S08C White Mtn Res 66.44 60 ⇑P P 14 59 03.2 +0.6
baz=66,SNR=63
P11A Circle Ranch, 66.44 57 ⇓P P 14 59 03.1 +0.5
baz=66,SNR=21
PTRM Twissleman Ran 66.47 63 *e*P P 14 59 03.4 +0.6
PTRM *e*pP pP 15 00 31.4 +1.7
LOHW Long Hollow 66.48 51⇑*i*P P 14 59 03.3 +0.4
comp=E,262nm,1.3s,mb5.7
LOHW *e*pP pP 15 00 32.6 +2.8
HELL Mitchell Peak, 66.48 61 ⇓P P 14 59 02.5 -0.4
baz=66,SNR=125
SNOW Snow King Moun 66.50 51⇑*i*P P 14 59 03.7 +0.7
comp=E,113nm,0.8s,mb5.5
SNOW *e*pP pP 15 00 32.0 +2.0
V05C Boulder Hill, 66.51 62 ⇓P P 14 59 03.2 +0.2
baz=66,SNR=5.1
REDW Red Top Meadow 66.52 51 *e*P P 14 59 02.8 -0.4
comp=E,232nm,0.9s,mb5.8
REDW *e*pP pP 15 00 30.8 +0.7
O12A Currie 66.53 56 ⇑P P 14 59 03.5 +0.4
baz=66,SNR=40
LAO LASA Array 66.55 46⇑*i*P P 14 59 03.1 -0.2
comp=E,216nm,1.0s,mb5.7
LAO *e*PcP PcP 14 59 31.2 +2.0
LAO *e*pP pP 15 00 31.8 +1.6
LAO *e*PP PP 15 01 35.5 -0.5
R09A Tonopah 66.58 59 ⇑P P 14 59 03.5 +0.1
baz=66,SNR=46
HVU Hansel Valley 66.58 53⇑*i*P P 14 59 03.7 +0.2
comp=E,130nm,1.2s,mb5.4
HVU *e*pP pP 15 00 32.8 +2.4
TPH Tonopah 66.60 59 P P 14 59 04.1 +0.5
TPH pmax pmax
comp=Z,180nm,1.0s,mb5.7
TPH Tonopah 66.60 59⇑*i*P P 14 59 03.4 -0.3
comp=Z,183nm,0.9s,mb5.7
TPH *e*PcP PcP 14 59 28.3 -1.1
TPH *e*pP pP 15 00 31.4 +0.8
RCTC Rector, Farmer 66.61 61 ⇑P P 14 59 03.1 -0.6
baz=66,SNR=9.6
AHID Auburn Hatcher 66.80 52⇑*i*P P 14 59 05.2 +0.3
comp=Z,53nm,0.6s,mb5.3
AHID *e*pP pP 15 00 34.0 +2.1
SMMC Simmler 66.82 63 ⇑P P 14 59 05.0 0.0
baz=67,SNR=17
S09A Goldfield 66.84 59 ⇑P P 14 59 05.2 +0.1
baz=67,SNR=63
P12A McGill 66.98 56 ⇓P P 14 59 06.5 +0.5
baz=67,SNR=66
Q11A Duckwater 66.98 57 ⇓P P 14 59 06.1 +0.1
baz=67,SNR=40
VES Vestal, Richgr 67.02 62 ⇑P P 14 59 05.5 -0.7
baz=67,SNR=28
BGU Big Grassy Mou 67.03 54⇑*e*P P 14 59 06.8 +0.5
BGU *e*PcP PcP 14 59 27.5 -3.6
BGU *e*pP pP 15 00 33.5 +0.1
SPUT South Promonto 67.08 54⇑*i*P P 14 59 01.9 -4.8
SPUT *e*pP pP 15 00 31.0 -2.7
OSL Oslo 67.17 338 *e*P P 14 59 06.6 -0.6
OSL AMb AMB 14 59 08.7
comp=Z,176nm,1.2s,mb5.5
OSL Oslo 67.17 338 *e*P P 14 59 06.6 -0.6
comp=Z,176nm,1.2s,mb5.6
HYA Hoyanger 67.18 341 *e*P P 14 59 06.9 -0.4
HYA AMb AMB 14 59 09.7
comp=Z,394nm,1.0s,mb6.0
HYA Hoyanger 67.18 341 *e*P P 14 59 06.9 -0.4
comp=Z,394nm,1.0s,mb6.0
CWC Cottonwood Cre 67.21 61 P P 14 59 07.4 0.0
baz=67,SNR=53
PKM Peak Mountain 67.21 63 P P 14 59 08.0 +0.6
baz=67,SNR=24
KIV Kislovodsk 67.22 311 P P 14 59 08.4 +0.9
comp=Z,7μm,0.9s
KIV Kislovodsk 67.22 311 ⇑P P 14 59 08.5 +1.0
SNR=286
KIV Kislovodsk 67.22 311⇑*e*P P 14 59 08.5 +1.0
KIV *e* 15 01 37.5
KIV *e*S S 15 07 33.1 +4.0
KIV pmax pmax
comp=Z,1μm,0.9s,mb6.5
GRAC Grapevine Rang 67.24 60 P P 14 59 08.2 +0.6
baz=67,SNR=60
CTA Charters Tower 67.25 181 *e*P P 14 59 06.6 -1.1
comp=Z,39nm,0.8s,mb5.1
CTA *i*S S 15 07 28.0 -1.5
CTA *i*SCS ScS 15 08 27.1 +1.5
CTA *i* 15 09 53.0
CTA Charters Tower 67.25 181 *e*P P 14 59 06.6 -1.1
CTA *i*S S 15 07 28.0 -1.5
CTA *i* 15 08 27.1
CTA pmax pmax
comp=Z,39nm,0.8s
CTAO Charters Tower 67.25 181 P P 14 59 07.0 -0.7
CTAO pmax pmax
comp=Z,57nm,0.9s,mb5.2

CTAO Charters Tower 67.25 181⇓eP P 14 59 06.6 -1.1
comp=Z,58nm,0.8s,mb5.3
Q12A Willow Creek R 67.32 57 ⇓P P 14 59 08.3 +0.3
baz=67,SNR=38
HWUT Hardware Ranch 67.36 53⇑iP P 14 59 08.5 +0.2
comp=Z,317nm,1.3s,mb5.8
HWUT epP pP 15 00 37.2 +1.8
ZEI Tsey 67.42 309 eP P 14 59 08.8 +0.1
ZEI e*PP pP 15 00 35.2 -0.7
ZEI e 15 01 43.8
ZEI eS S 15 07 31.4 -0.1
ZEI pmax pmax
comp=Z,283nm,0.8s,mb6.0
ZEI smax
comp=N,44nm,1.1s
ZEI Tsey 67.42 309 eP P 14 59 08.8 +0.1
ZEI epP pP 15 00 35.2 -0.7
ZEI e 15 01 43.8
ZEI eS S 15 07 31.4 -0.1
DUS Dusheti 67.47 308 P P 14 59 11.6 +2.7
ISA Isabella 67.50 61 ⇑P P 14 59 08.5 -0.7
baz=67,SNR=56
DGRG David-gareji 67.55 307 P P 14 59 10.0 +0.4
SBC Santa Barbara 67.58 63 ⇓P P 14 59 10.0 +0.2
baz=67
DAC Darwin (Calif) 67.60 60⇓iP P 14 59 09.8 -0.1
DAC e*PP pP 15 00 38.4 +1.3
DAC e 15 01 40.5
DAC pmax pmax
comp=Z,98nm,1.1s,mb5.3
DAC Darwin (Calif) 67.60 60⇓iP P 14 59 09.8 -0.1
comp=Z,98nm,1.1s,mb5.3
DAC epP pP 15 00 38.4 +1.3
DAC ePP PP 15 01 40.5 -4.6
BW06 Boulder Array 67.62 51⇑iP P 14 59 10.2 +0.2
comp=Z,158nm,0.7s,mb5.8
BW06 epP pP 15 00 38.7 +1.5
PDAR Pinedale Array 67.62 51 P P 14 59 10.1 +0.1
comp=Z,164nm,0.7s,mb5.8,baz=298,slow=0.8,SNR=429
PDAR pP pP 15 00 36.5 -0.7
comp=Z,22nm,0.9s,baz=318,slow=2.0,SNR=5.1
PDAR PKP2bc 15 27 26.1
comp=Z,6.0nm,1.0s,baz=131,slow=4.4,SNR=15
PDAR Pinedale Array 67.62 51 P P 14 59 10.1 +0.1
PDAR pP pP 15 00 36.5 -0.7
PDAR ⇑e 15 27 26.1
DUG Dugway 67.65 55⇑iP P 14 59 10.4 +0.3
DUG epP pP 15 00 40.0 +2.6
DUG Dugway 67.65 55 ⇑P P 14 59 10.8 +0.7
baz=67,SNR=85
ARVC Arvin 67.65 62 ⇓P P 14 59 09.5 -0.6
baz=67,SNR=18
MTA Mtatsminda 67.69 308 P P 14 59 10.8 +0.4
KONO Kongsberg 67.70 338 eP P 14 59 09.6 -0.8
KONO Kongsberg 67.70 338 eP P 14 59 09.4 -1.1
KONO pmax pmax
comp=Z,85nm,0.9s,mb5.4
KONO Kongsberg 67.70 338 eP P 14 59 09.4 -1.1
comp=Z,85nm,0.9s,mb5.4
NOQ North Oquirrh 67.72 54⇑eP P 14 59 10.7 +0.2
comp=Z,252nm,0.8s,mb5.9
NOQ epP pP 15 00 37.8 -0.1
MPMC Manual Prospec 67.81 61 ⇑P P 14 59 11.3 +0.1
baz=68,SNR=75
CTU Camp Tracy 67.89 54⇑iP P 14 59 11.5 -0.1
comp=Z,59nm,0.8s,mb5.3
CTU epP pP 15 00 40.8 +1.9
FURC Furnace Creek, 67.90 60 ⇓P P 14 59 11.9 +0.2
baz=68,SNR=39
BSC Santa Cruz Isl 67.94 63 ⇑P P 14 59 11.7 -0.2
baz=68
FITZ Fitzroy Crossi 68.03 202⇓iP P 14 59 12.3 -0.2
comp=Z,180nm,0.6s,mb5.9
FITZ eS S 15 07 30.1 -8.6
FITZ e 15 10 03.8
RUND Rundenannen 68.04 341 eP P 14 59 14.5 +2.0
RUND AMb AMB 14 59 16.8
comp=Z,2μm,0.9s
RUND Rundenannen 68.04 341 eP P 14 59 14.5 +2.0
comp=Z,2μm,0.9s
WRAB Tennant Creek 68.05 193 P P 14 59 11.0 -1.6
comp=Z,983nm,0.6s,mb6.6
WRAB Tennant Creek 68.05 193 eP P 14 59 11.4 -1.2
WRAB pmax pmax
comp=Z,93nm,0.6s,mb5.6
WRAB Tennant Creek 68.05 193 eP P 14 59 11.4 -1.2
comp=Z,93nm,0.6s,mb5.6
WB2 Warramunga Arr 68.06 193 eP P 14 59 11.6 -1.1
WB2 iS S 15 07 34.8 -4.2
WB2 iSCS ScS 15 08 31.0 -0.9
WRA Warramunga Arr 68.06 193 P P 14 59 11.8 -0.9
comp=Z,119nm,0.5s,mb5.8,baz=8.3,slow=6.6,SNR=602
WRA PcP PcP 14 59 35.8 +0.3
comp=Z,16nm,0.6s,baz=6.5,slow=4.8,SNR=5.7
WRA S S 15 07 36.5 -2.5
comp=Z,3.9nm,0.9s,baz=12,slow=12,SNR=5.9
WRA PKP2bc 15 27 27.0
comp=Z,4.7nm,0.8s,baz=198,slow=2.8,SNR=18
WRA Warramunga Arr 68.06 193 P P 14 59 11.8 -0.9
WRA 14 59 35.8
WRA S S 15 07 36.5 -2.5
WRA pmax pmax
comp=Z,119nm,0.5s
WRA smax
comp=N,4.0nm,0.9s
WRA Warramunga Arr 68.06 193 P P 14 59 11.8 -0.9
WRA PcP PcP 14 59 35.8 +0.3
WRA S S 15 07 36.5 -2.5
WRA ⇑e 15 27 27.0
OSI Osito Adit 68.06 62 ⇑P P 14 59 12.7 +0.1
baz=68,SNR=16
BER Bergen 68.07 341 eP P 14 59 12.3 -0.4
BER eS S 15 07 43.4 +4.2
LRMC Laurel Mountai 68.09 61 ⇓P P 14 59 12.8 -0.1
baz=68,SNR=26
KZR Kazreti 68.11 308 P P 14 59 14.3 +1.3
JLU Jordanelle 68.12 54⇑iP P 14 59 12.8 -0.3
JLU epP pP 15 00 41.5 +1.1
BLG Laguna Peak 68.20 63 ⇓P P 14 59 13.2 -0.4
baz=68,SNR=11
NLU North Lily Min 68.22 54⇑iP P 14 59 13.2 -0.5
NLU epP pP 15 00 41.6 +0.5
U10A Ash Meadows, A 68.25 60 P P 14 59 14.2 +0.4
baz=68,SNR=38
SUW Suwalki 68.26 328 eP P 14 59 12.8 -1.1
comp=Z,0.5nm,1.1s
SUW ePcP PcP 14 59 36.5 +0.1
SUW eS S 15 07 38.8 -2.6
SUW Suwalki 68.26 328⇓eP P 14 59 12.8 -1.1
SUW ePcP PcP 14 59 36.5 +0.1
SUW eS S 15 07 38.8 -2.6
EDW2 Edwards Air Fo 68.32 62 P P 14 59 14.2 -0.1
baz=68,SNR=73
DAU Daniels Canyon 68.36 54 eP P 14 59 15.0 +0.5
DAU e*PP pP 15 00 44.1 +2.2
XMIS Christmas Isla 68.39 224 P P 14 59 14.0 -0.7
MPU Maple Canyon 68.43 54⇑iP P 14 59 14.2 -0.7
comp=Z,144nm,0.8s,mb5.7
MPU epP pP 15 00 43.9 +1.5
SNCC San Nicolas Is 68.51 64 ⇑P P 14 59 15.2 -0.2
baz=68,SNR=7.1
MNGI Mangalore 68.52 266 eP P 14 59 15.6 0.0
MNGI AMb AMB 14 59 17.2
comp=Z,224nm,0.9s,mb5.8
AKASG Malin Array Be 68.53 323 P P 14 59 14.3 -1.2
comp=Z,248nm,0.8s,mb5.9,baz=36,slow=6.4,SNR=263
AKASG pP pP 15 00 40.3 -2.7
comp=Z,18nm,0.6s,baz=35,slow=6.4,SNR=3.7
AKASG S S 15 07 42.2 -2.2
comp=Z,13nm,0.9s,baz=35,slow=12,SNR=15
AKASG Malin Array Be 68.53 323 P P 14 59 14.4 -1.1
AKASG *PP pP 15 00 40.3 -2.7
AKASG S S 15 07 42.2 -2.2
AKASG pmax pmax
comp=Z,248nm,0.8s
AKASG smax
comp=N,13nm,0.9s
KIEV Kiev 68.54 323⇓eP P 14 59 14.4 -1.2
KIEV e*PP pP 15 00 42.3 -0.8
KIEV e 15 01 50.9
KIEV pmax pmax
comp=Z,294nm,0.8s,mb6.0
DECC Green Verdugo 68.55 62 ⇓P P 14 59 15.5 -0.1
baz=68,SNR=6.6
ULM Lac du Bonnet 68.61 38 P P 14 59 14.8 -1.3
comp=Z,91nm,0.7s,mb5.5,baz=315,slow=6.7,SNR=119
ULM PKP2ab 15 27 21.6
comp=Z,4.9nm,0.9s,baz=179,slow=4.5,SNR=7.0
ULM Lac du Bonnet 68.61 38 P P 14 59 14.8 -1.3
ULM P'P'ab 15 27 21.6
SHOC Shoshone 68.64 60 ⇑P P 14 59 16.2 0.0
baz=68,SNR=22
BLS5 Blasjo 68.67 340 eP P 14 59 16.5 +0.1
BLS5 AMb AMB 14 59 23.8
comp=Z,79nm,1.0s,mb5.3
BLS5 Blasjo 68.67 340 eP P 14 59 16.5 +0.1
comp=Z,79nm,1.0s,mb5.3
PALK Pallekele 68.71 257 P P 14 59 17.2 +0.6
comp=Z,1μm,0.9s,mb6.5,SNR=35
PALK Pallekele 68.71 257 P P 14 59 17.5 +0.9
SNR=7.9
PALK Pallekele 68.71 257⇓iP P 14 59 16.7 0.0
comp=Z,179nm,0.8s,mb5.8
PALK epP pP 15 00 45.0 +0.8
GSC Goldstone 68.74 61 ⇑P P 14 59 16.8 0.0
baz=68,SNR=56
U11A Corn Creek 68.80 59 ⇓P P 14 59 17.7 +0.5
baz=69,SNR=20
GNI Garni 68.80 307 P P 14 59 19.3 +2.1
SNR=126
GNI Garni 68.80 307⇑eP P 14 59 18.6 +1.4
GNI pmax pmax
comp=Z,524nm,1.3s
RRX Edison Barstow 68.91 61 ⇓P P 14 59 18.1 +0.2
baz=69
FMP Fort Macarthur 68.95 63 ⇑P P 14 59 17.5 -0.6
baz=69
BFSC Mount Baldy St 68.96 62 P P 14 59 17.9 -0.3
baz=69,SNR=55
ARUT Antelope Range 68.97 57 eP P 14 59 18.4 +0.2
SOC Sochi 69.00 312diP P 14 59 18.7 +0.3
SOC e*PP pP 15 00 46.2 +0.1
SOC iS S 15 07 50.6 +0.7
SOC e 15 08 35.8
SOC iSS SS 15 12 30.6 +5.6
SOC pmax pmax
comp=Z,322nm,0.8s,mb6.0
SOC pmax pmax
comp=Z,362nm,0.8s,mb6.1
CIS Catalina Islan 69.09 63 ⇑P P 14 59 18.5 -0.4
baz=69,SNR=21
TMUT Trail Mountain 69.16 54⇑iP P 14 59 19.6 +0.3
TMUT epP pP 15 00 49.5 +2.4
TMUT ePP PP 15 01 52.5 -6.0
TUQ Turquoise Mtn. 69.17 60 ⇑P P 14 59 19.6 +0.2
baz=69,SNR=45
MSU Marysvale 69.17 56 eP P 14 59 20.0 +0.5
MSU e*PP pP 15 00 49.4 +2.2
MSU e 15 02 01.9
V11A Goodsprings 69.18 60 ⇑P P 14 59 19.5 +0.1
baz=69,SNR=38
CCUT Cedar City 69.18 57⇑iP P 14 59 19.8 +0.3
CCUT epP pP 15 00 48.1 +0.9
CCUT ePP PP 15 02 00.1 +1.5
ANN Anapa 69.25 314diP P 14 59 19.3 -0.6
ANN e*PP pP 15 00 46.9 -0.7
ANN e 15 01 58.9
ANN eS S 15 07 54.1 +1.3
ANN pmax pmax
comp=Z,457nm,1.2s,mb6.0
U12A Valley of Fire 69.28 59 ⇑P P 14 59 20.5 +0.4
baz=69,SNR=37
SCI San Clemente I 69.29 64 ⇑P P 14 59 19.9 -0.3
baz=69
HEC Hector,Ludlow 69.34 61 ⇑P P 14 59 20.3 -0.2
baz=69,SNR=61
DIGO Kars 69.35 308 iP P 14 59 22.2 +1.7
KARS Kars 69.36 308 P P 14 59 22.2 +1.6
BBRC Big Bear Sol-O 69.39 62 ⇓P P 14 59 20.5 -0.2
baz=69,SNR=16
RSSD Black Hills 69.47 47 P P 14 59 21.1 -0.1
RSSD S S 15 07 56.5 +1.2
RSSD Black Hills 69.47 47⇑iP P 14 59 20.1 -1.1
RSSD e*PP pP 15 00 46.3 -2.7
RSSD pmax pmax
comp=Z,352nm,1.2s,mb5.9
RSSD Black Hills 69.47 47⇑iP P 14 59 20.1 -1.1
comp=Z,352nm,1.2s,mb5.9
RSSD epP pP 15 00 46.3 -2.7
BCA Borcka 69.55 309 P P 14 59 22.5 +0.7
ARTV Artvin 69.58 309 iP P 14 59 22.9 +1.0
V12A Nelson 69.59 59 ⇓P P 14 59 22.2 +0.2
baz=69,SNR=58
RWWY Rawlins 69.61 50⇑iP P 14 59 21.5 -0.6
comp=Z,406nm,1.3s,mb5.8
SRU San Rafael 69.67 54⇑eP P 14 59 22.3 -0.2
SRU e*PP pP 15 00 49.5 -0.8
SRU e*SP sP 15 01 27.9 -5.4
SRU e 15 02 03.0
SRU pmax pmax
comp=Z,255nm,0.8s,mb5.8
SRU San Rafael 69.67 54⇑eP P 14 59 22.3 -0.1
comp=Z,255nm,0.8s,mb5.8
SRU epP pP 15 00 49.5 -0.8
SRU esP sP 15 01 27.9 -5.5
SRU ePP PP 15 02 03.0 +0.2
MURC Murrieta 69.68 62 ⇓P P 14 59 22.1 -0.4
baz=70,SNR=32
GMRC Granite Mounta 69.78 60 ⇓P P 14 59 23.3 +0.2
baz=70,SNR=51
W12A Cal Nev Ari 69.88 60 ⇓P P 14 59 23.8 +0.1
baz=70,SNR=19
CLDR Caldiran 69.96 306 P P 14 59 25.8 +1.5
BSD Bornholm Skovb 70.11 333 iP P 14 59 24.2 -0.9
comp=Z,231nm,0.9s,mb5.7
BSD iS 15 10 42.8
BSD
comp=Z,240nm,18.0s
BSD Bornholm Skovb 70.11 333 iP P 14 59 24.2 -0.9
BSD pmax pmax
comp=Z,230nm,0.9s,mb5.7
BSD MLR MLR
comp=Z,250nm,18.0s
AGMN Agassiz Refuge 70.11 39⇑iP P 14 59 23.6 -1.5
comp=Z,110nm,0.9s,mb5.4
BELC Belle Mtn. 70.12 61 ⇑P P 14 59 24.8 -0.3
baz=70,SNR=50
PFO Pinyon Flat Ob 70.12 62 P P 14 59 25.0 -0.2
comp=Z,62nm,1.0s,mb5.1,baz=330,slow=6.5,SNR=44
PFO Pinyon Flat Ob 70.12 62⇑eP P 14 59 24.9 -0.2
PFO e 15 02 03.7
PFO pmax pmax
comp=Z,109nm,1.1s,mb5.3
PFO Pinyon Flat Ob 70.12 62⇑eP P 14 59 24.9 -0.2
comp=Z,109nm,1.1s,mb5.3
PFO ePP PP 15 02 03.7 -2.9
PFO Pinyon Flat Ob 70.12 62 ⇓P P 14 59 24.9 -0.3
baz=70,SNR=48
AGRB Hanur-Agry 70.16 307 P P 14 59 27.4 +2.0
109C Camp Elliot, M 70.23 63 ⇓P P 14 59 25.5 -0.3
baz=70,SNR=9.6
TRD Trivandrum 70.29 261 eP P 14 59 26.9 +0.7
TRD AMb AMB 14 59 28.9
comp=Z,243nm,0.8s,mb5.8
COP Copenhagen 70.37 335 iP P 14 59 26.6 0.0
comp=Z,128nm,0.9s,mb5.5
COP i 15 08 06.3
COP i 15 10 43.8
COP Copenhagen 70.37 335 iP P 14 59 26.6 0.0
COP i 15 08 06.3
COP pmax pmax
comp=Z,130nm,0.9s,mb5.5
WAR Warsaw 70.46 328 eP P 14 59 28.3 +1.1
IRM Iron Mountain 70.51 61 ⇓P P 14 59 27.6 +0.1
baz=70,SNR=82
W13A Hualapai Mount 70.59 59 ⇓P P 14 59 28.2 +0.3
baz=70,SNR=59
MUD Monsted U'grnd 70.61 337 iP P 14 59 27.7 -0.4
comp=Z,88nm,0.8s,mb5.3
MUD iS S 15 08 07.0 -1.5
MUD i 15 10 54.6
MUD Monsted U'grnd 70.61 337 iP P 14 59 27.7 -0.4
MUD iS S 15 08 07.0 -1.5
MUD pmax pmax
comp=Z,88nm,0.8s,mb5.3
MONP Monument Peak 70.64 62 ⇓P P 14 59 28.2 -0.1
baz=70,SNR=18
TVAN Van 70.68 306 iP P 14 59 31.2 +2.7
BC3 Big Chuckw Mtn 70.68 61 ⇑P P 14 59 28.4 -0.2
baz=70,SNR=53
SIM Simferopol' 70.72 316deP P 14 59 29.8 +1.0
SIM eS S 15 08 10.5 +0.7
SIM pmax pmax
comp=Z,241nm,0.9s,mb5.7
SIM Simferopol' 70.72 316 eP P 14 59 29.8 +1.0
comp=Z,241nm,0.9s,mb5.7
SIM eS S 15 08 10.5 +0.7
ERZM Erzurum 70.79 308 iP P 14 59 31.7 +2.5
EZM Erzurum 70.80 308 P P 14 59 31.4 +2.2
PHWY Pilot Hill 70.80 50⇑iP P 14 59 28.9 -0.3
KTUT Trabzon 70.85 310 P P 14 59 28.7 -0.9
GKP Gorka Klasztor 70.92 331 eP P 14 59 29.5 -0.4
SWSC Sam W. Stewart 70.98 62 ⇑P P 14 59 29.7 -0.6
baz=71,SNR=18
W14A Seligman 70.98 59 ⇑P P 14 59 30.8 +0.5
baz=71,SNR=68
X13A Yucca 70.98 59 ⇓P P 14 59 30.6 +0.3
baz=71,SNR=78
DVTC Desert V Tower 70.99 62 ⇓P P 14 59 30.5 +0.1
baz=71,SNR=39
PDMCI Parker Dam,Lak 71.01 60 ⇓P P 14 59 30.5 0.0
baz=71,SNR=62
PV10 Paradox Valley 71.01 54 eP P 14 59 31.1 +0.6
PV10 epP pP 15 00 57.0 -1.7
RGN Rugen 71.08 334 eP P 14 59 30.5 -0.4
comp=Z,348nm,1.0s,mb5.8
Y12C Blythe 71.17 61 ⇓P P 14 59 31.6 +0.2
baz=71,SNR=34
HKR Hakkari 71.17 305 P P 14 59 32.8 +1.4
HAKT HAKKARI 71.21 305 iP P 14 59 32.9 +1.3
LVV L'vov 71.29 325 eP P 14 59 32.1 0.0
LVV e 15 02 16.3
LVV eS S 15 08 14.5 -1.8
LVV ePS 15 08 46.3
LVV eSS SS 15 13 05.7 +5.7
KMPD K-Podol'skiy 71.32 323 P P 14 59 31.0 -1.3
AFI Afiamalu 71.35 137 P P 14 59 32.4 -0.1
comp=Z,54nm,0.7s,mb5.2,baz=298,slow=4.0
AFI Afiamalu 71.35 137 P P 14 59 32.4 -0.1
AFI pmax pmax
comp=Z,54nm,0.7s,mb5.2
AFI Afiamalu 71.35 137 eP P 14 59 31.6 -0.8
comp=Z,55nm,0.8s,mb5.1
DZM Mont Dzumac 71.41 161 eP P 14 59 33.5 +0.7
DZM Mont Dzumac 71.41 161 P P 14 59 34.0 +1.2
comp=Z,31nm,0.8s,mb4.9,baz=42,slow=9.6,SNR=18
PV01 Paradox Valley 71.44 54 eP P 14 59 33.4 +0.4
PV01 epP pP 15 01 00.0 -1.4
W15A Williams 71.47 58 ⇓P P 14 59 34.1 +0.9
baz=71,SNR=37
GLA Glamis 71.48 61 ⇓P P 14 59 33.6 +0.3
baz=71,SNR=53
CUKT Cukurca 71.48 305 P P 14 59 34.3 +1.1
KIS Kishinev 71.55 320κiP P 14 59 32.0 -1.7
KIS e*PP pP 15 01 00.0 -2.1
KIS iS S 15 08 16.0 -3.2
KIS e 15 08 52.0
KIS pmax pmax
comp=Z,700nm,1.0s,mb6.2
KIS pmax pmax
comp=Z,500nm,1.0s,mb6.0
KIS Kishinev 71.55 320 iP P 14 59 32.0 -1.7
comp=Z,700nm,1.0s,mb6.2
KIS epP pP 15 01 00.0 -2.1
KIS iS S 15 08 16.0 -3.2
KIS e 15 08 52.0
KIS Kishinev 71.55 320⇓iP P 14 59 32.0 -1.7
comp=Z,700nm,1.0s,mb6.2
KIS epP pP 15 01 00.0 -2.1
KIS iS S 15 08 16.0 -3.2
KIS eScS ScS 15 08 52.0 -7.6
KIS esS sS 15 10 52.0 -4.5
KIS LRM 15 30 40.0
comp=Z,400nm,15.0s
BNGL BINGOL 71.60 308 iP P 14 59 35.9 +1.9
X14A Yava 71.62 59 ⇑P P 14 59 34.7 +0.7
baz=71,SNR=74
GRSN GIRESUNGRSN 71.67 311 iP P 14 59 34.6 +0.3
EZC Erzincan 71.73 309 P P 14 59 37.6 +2.9
KELT Kelkit 71.73 310 iP P 14 59 36.1 +1.4
WUAZ Wupatki 71.75 57⇑iP P 14 59 34.9 +0.1
comp=Z,254nm,1.3s,mb5.6
WUAZ Wupatki 71.75 57 ⇑P P 14 59 35.4 +0.6
baz=72,SNR=61
MLA1 Latheron 71.78 344 eP P 14 59 35.4 +0.4
ASAR Alice Springs 71.78 193 P P 14 59 34.9 -0.1
comp=Z,31nm,0.3s,mb5.3,baz=9.3,slow=6.0,SNR=1677
ASAR Alice Springs 71.78 193 P P 14 59 34.9 -0.1
ASAR pmax pmax
comp=Z,31nm,0.3s
BANOM Banah 71.81 289 ⇑P P 14 59 35.7 +0.5
SNR=41
ISCO Idaho Springs 71.81 51 eP P 14 59 35.8 +0.6
ISCO e*PP pP 15 01 04.8 +1.1
ISCO pmax pmax
comp=Z,219nm,1.3s,mb5.5
ISCO Idaho Springs 71.81 51 eP P 14 59 35.8 +0.6
comp=Z,219nm,1.3s,mb5.5
ISCO epP pP 15 01 04.8 +1.1
Y14A Wickenburg 71.93 59 ⇓P P 14 59 36.2 +0.3
baz=72,SNR=88
IAS Iasi 71.94 321 P P 14 59 36.3 +0.4
SIRT Sirnak 71.95 306 P P 14 59 38.0 +2.0
KWP Kalwaria 71.95 326 eP P 14 59 36.4 +0.4
comp=Z,0.9nm,1.4s
KWP ePcP PcP 14 59 48.4 -3.7
KWP eS S 15 08 22.6 -1.1
KWP Kalwaria 71.95 326⇓eP P 14 59 36.4 +0.4
KWP e 14 59 48.4
KWP eS S 15 08 22.6 -1.1
KWP pmax pmax
comp=Z,900nm,1.4s,mb6.1
BTMT Batman 71.97 307 P P 14 59 38.0 +1.9
X15A Humboldt 71.98 59 ⇓P P 14 59 36.8 +0.6
baz=72,SNR=93
MVCO Mesa Verde 72.14 54⇑iP P 14 59 37.2 +0.1
comp=Z,142nm,0.8s,mb5.5
MVCO epP pP 15 01 07.7 +2.0
MVCO Mesa Verde 72.14 54 P P 14 59 37.3 +0.2
baz=72,SNR=82
EYMN Ely 72.22 37⇑iP P 14 59 36.3 -1.3
comp=Z,217nm,0.7s,mb5.8
EYMN epP pP 15 01 04.7 -1.4
MVH1 Achvaich 72.29 344 eP P 14 59 37.5 -0.5
BIDO Bidbid 72.30 286 ⇓P P 14 59 39.2 +1.1
SNR=29
Z14A Wintersburg 72.37 60 ⇓P P 14 59 38.4 -0.1
baz=72,SNR=27
WBK Wadi Bani Khal 72.39 284 ⇑P P 14 59 39.7 +1.1
SNR=15
MSL Mosul 72.46 305 ix x 14 59 42.0
MSL ix x 15 01 11.0
MSL ix x 15 01 39.0
MSL ex x 15 02 27.5
MSL ex x 15 08 31.5
MSL ex x 15 09 09.0
BSEG Bad Segeberg 72.50 335 eP P 14 59 38.6 -0.6
comp=Z,128nm,0.9s,mb5.5
BSEG Bad Segeberg 72.50 335 eP P 14 59 38.6 -0.6
BSEG pmax pmax
comp=Z,128nm,0.9s,mb5.5
OJC Ojcow 72.56 328 eP P 14 59 39.3 -0.3
PTK Pertek 72.58 309 P P 14 59 41.3 +1.7
BURAR Bucovina Array 72.58 323 P P 14 59 39.5 -0.2
BURAR Bucovina Array 72.58 323⇓iP P 14 59 39.6 -0.1
SMDO Samad 72.68 285 P P 14 59 41.1 +0.8
SNR=58
KVT Kavak 72.68 312 P P 14 59 42.0 +1.7
HATD Hatta, Dubai 72.69 288 P P 14 59 40.6 +0.3
SNR=132
STHS Stebnicka Huta 72.69 326 iP P 14 59 41.3 +1.0
STHS pmax pmax
comp=Z,221nm,1.4s,mb5.5
STHS Stebnicka Huta 72.69 326 iP P 14 59 41.3 +1.0
comp=Z,221nm,1.4s,mb5.5
KOLS Kolonicke sedl 72.69 325 eP P 14 59 40.1 -0.2
KOLS ePP PP 15 02 25.7 -2.7
RUE Ruedersdorf 72.71 332 eP P 14 59 39.8 -0.6
comp=Z,216nm,1.0s,mb5.6
RUE eS S 15 08 30.2 -2.0
RUE Ruedersdorf 72.71 332 eP P 14 59 39.7 -0.8
comp=Z,204nm,1.0s,mb5.6
MDO Dochfour 72.78 344 eP P 14 59 40.2 -0.6
HOQ Hoqain 72.79 286 P P 14 59 41.5 +0.6

SNR=82
ASHO Ashiyiah 72.83 288 P **P 14 59 41.5 +0.3**
SNR=37
DIY Diyarbakir 72.86 308 P **P 14 59 43.2 +1.9**
KAC Achnashellach 72.89 345⇑ *eP* **P 14 59 41.0 -0.5**
UZH Uzhgorod 72.93 325 *eP* PcP 14 59 52.8 -3.4
UZH Uzhgorod 72.93 325⇓ *iP* **P 14 59 41.4 -0.3**
UZH *i* 14 59 52.8
UZH *i* 15 01 44.0
UZH *eS* S 15 08 34.0 -0.6
UZH *e* 15 16 40.0
UZH MLR MLR
comp=Z,600nm,22.0s
MARD Mardin 72.99 307 *i* P **P 14 59 43.6 +1.5**
BOYT Boyabat 73.00 313 *i* P **P 14 59 43.3 +1.2**
TOKT Tokat 73.00 311 P **P 14 59 43.6 +1.5**
CRVS Cervenica-Dubn 73.02 326 *eP* **P 14 59 42.4 +0.1**
BYBT Boyabat 73.03 313 P **P 14 59 43.3 +1.0**
BZK Bozkurt 73.03 314 P **P 14 59 43.3 +1.0**
NIE Niedzica 73.03 327 *eP* **P 14 59 42.9 +0.6**
SVSK Karacayir 73.07 311 P **P 14 59 43.7 +1.2**
ELZG Elazig 73.08 309 *iP* **P 14 59 45.0 +2.4**
KPL Plockton 73.10 345 *eP* **P 14 59 41.7 -1.0**
KPL AMb AMB 14 59 44.6
comp=Z,179nm,1.1s,mb5.5
JMDO Jabal Madar 73.12 285 P **P 14 59 43.5 +0.6**
SNR=34
KSB Sheil Bridge 73.19 345 *eP* **P 14 59 42.0 -1.2**
RAC Raciborz 73.25 328 *eP* **P 14 59 43.5 -0.1**
RAC LR LR
comp=Z,500nm,19.2s
115A Sonoran Desert 73.26 60 ⇑P **P 14 59 44.0 +0.3**
baz=73,SNR=38
CFR Carcaliu 73.27 320 P **P 14 59 45.0 +1.4**
KSP Ksiaz 73.28 330 *eP* **P 14 59 43.7 0.0**
comp=Z,0.3nm,1.0s
KSP *eS* S 15 08 37.8 -0.7
KSP Ksiaz 73.28 330 *eP* **P 14 59 43.6 -0.1**
KSP *e*PcP PcP 14 59 56.8 -0.9
KSP *e*PP pP 15 01 11.6 -1.0
KSP *eS* S 15 08 36.0 -2.5
KSP *e* 15 11 16.0
KSP *e* 15 19 00.0
VRI Vrincioaia 73.34 321 P **P 14 59 45.1 +1.0**
VRI Vrincioaia 73.34 321⇑ *iP* **P 14 59 44.8 +0.7**
SDCO Great Sand Dun 73.38 52⇑ *iP* **P 14 59 44.3 0.0**
comp=Z,160nm,1.3s,mb5.4
SDCO *e*pP pP 15 01 14.4 +1.2
SDCO *e*PP PP 15 02 35.8 +1.5
PLOR Plostina 73.38 321⇑ *iP* **P 14 59 44.9 +0.6**
BSY Bisya 73.45 286 P **P 14 59 45.5 +0.7**
SNR=67
OKC Ostrava-Krasne 73.47 328 *eP* **P 14 59 44.9 0.0**
OKC *e*pP pP 15 01 13.9 +0.1
OKC *ex* x 15 11 09.9
OKC Ostrava-Krasne 73.47 328 *eP* **P 14 59 44.9 0.0**
OKC *e* pP 15 01 13.9 +0.1
ARQ Araqi 73.48 287 P **P 14 59 45.8 +0.9**
SNR=62
MYA Malataya 73.51 309 P **P 14 59 47.0 +1.9**
KAR1 Arisaig 73.53 345⇑ *eP* **P 14 59 44.8 -0.5**
CTKT Corum 73.65 313 *iP* **P 14 59 47.1 +1.2**
BALT Daday 73.65 314 *iP* **P 14 59 47.8 +1.9**
UPC Upice 73.66 330 *eP* **P 14 59 45.7 -0.2**
UPC *e*pP pP 15 01 11.4 -3.5
116A Eloy 73.67 60 ⇑P **P 14 59 46.2 +0.2**
baz=73,SNR=32
DPC Dobruska-Polom 73.68 330 *eP* **P 14 59 46.4 +0.3**
DPC *eS* S 15 08 42.7 -0.3
DPC *e*XS sS 15 11 22.6 +1.2
DPC Dobruska-Polom 73.68 330 *eP* **P 14 59 46.4 +0.3**
DPC *eS* S 15 08 42.7 -0.3
TIRR Tirgusor 73.71 319 *eP* **P 14 59 45.8 -0.4**
TIRR pmax pmax
comp=Z,133nm,1.0s,mb5.5
TIRR Tirgusor 73.71 319 *eP* **P 14 59 45.8 -0.5**
comp=Z,133nm,1.0s,mb5.5
TIRR Tirgusor 73.71 319⇑ *iP* **P 14 59 46.7 +0.5**
TOS Tosya 73.72 313 P **P 14 59 48.5 +2.2**
KECS Kecovo 73.74 326 *iP* **P 14 59 46.3 -0.1**
KECS *e* pP 15 01 16.1 +0.7
KECS pmax pmax
comp=Z,45nm,1.0s,mb5.0
KECS Kecovo 73.74 326 *iP* **P 14 59 46.3 -0.1**
comp=Z,45nm,1.0s,mb5.0
KECS *e* pP 15 01 16.1 +0.7
MORC Moravsky Berou 73.74 329⇓ *iP* **P 14 59 45.7 -0.7**
MORC pmax pmax
comp=Z,171nm,0.9s,mb5.7
MORC Moravsky Berou 73.74 329⇓ *iP* **P 14 59 45.7 -0.7**
comp=Z,171nm,0.9s,mb5.7
MORC Moravsky Berou 73.74 329⇑ *iP* **P 14 59 46.7 +0.3**
HARR Harsova 73.74 319 P **P 14 59 47.0 +0.6**
LIKS Likavka 73.78 327 *eP* **P 14 59 47.3 +0.7**
LIKS pmax pmax
comp=Z,175nm,1.1s,mb5.6
LIKS Likavka 73.78 327 *eP* **P 14 59 47.3 +0.7**
comp=Z,174nm,1.1s,mb5.6
ESY Stoneypath 73.87 343 *eP* **P 14 59 46.7 -0.4**
BHD Baghdad 73.91 302 *ix* x 14 59 47.0
BHD *ex* x 15 08 46.0
BHD *ex* x 15 09 17.0
URFA Urfa 73.95 308 P **P 14 59 49.5 +1.9**
EAB Aberfoyle 73.95 344⇑ *eP* **P 14 59 46.9 -0.7**
CLL Collm 73.96 332 *eP* **P 14 59 46.8 -0.9**
comp=Z,296nm,0.9s,mb5.9
CLL *e*pP pP 15 01 17.0 +0.2
CLL *eS* S 15 08 47.5 +1.4
CLL *e*ScS ScS 15 09 16.7 -2.2
CLL *e*SP 15 09 23.9
CLL *es*S sS 15 11 24.7 +0.1
CLL *eS*S SS 15 13 43.2 +2.7
CLL *es*SS 15 16 04.0
CLL *e*SSSS 15 19 21.8
CLL Collm 73.96 332 *iP* **P 14 59 47.1 -0.6**
CLL *iS* S 15 08 44.1 -2.0
CLL *e* 15 09 17.0
CLL pmax pmax
comp=Z,291nm,0.9s,mb5.9
CLL Collm 73.96 332 *iP* **P 14 59 47.1 -0.6**
comp=Z,291nm,0.9s,mb5.9
CLL *i* pP pP 15 01 17.6 +0.8
CLL *iS* S 15 08 44.1 -2.0
CLL *e*ScS ScS 15 09 17.0 -1.9
CLL *es*S sS 15 11 25.0 +0.4
CLL Collm 73.96 332 *iP* **P 14 59 47.1 -0.6**
comp=Z,291nm,0.9s,mb5.9
CLL *i* pP pP 15 01 17.6 +0.8
CLL *e*PP PP 15 02 38.0 -1.2
CLL *iS* S 15 08 44.1 -2.0
CLL *e*ScS ScS 15 09 17.0 -1.9
CLL *e*SP 15 09 21.0
CLL *es*S sS 15 11 25.0 +0.4
CLL *ex* x 15 17 59.0
CLL *e*SSSS 15 19 18.0
MLR Muntele Rosu 73.97 321 P **P 14 59 48.0 +0.3**
MLR Muntele Rosu 73.97 321⇑ *iP* **P 14 59 48.3 +0.6**
EDI Edinburgh 73.98 343 *eP* **P 14 59 47.6 -0.1**
EDI AMb AMB 14 59 49.4
comp=Z,67nm,1.1s,mb5.2
BRG Berggiesshubel 74.03 331 *eP* **P 14 59 47.3 -0.8**
comp=Z,76nm,1.0s,mb5.3
BRG *eS* S 15 08 43.8 -3.1
BRG Berggiesshubel 74.03 331⇑ *iP* **P 14 59 47.6 -0.5**
comp=Z,46nm,1.0s,mb5.0
BRG *i* 14 59 57.0
comp=Z,20nm,1.2s
BRG *i* pP pP 15 01 17.7 +0.5
comp=Z,9.0nm,1.0s
BRG sP sP 15 02 03.0 +3.1
BRG *i* PP PP 15 02 26.0 -14
comp=Z,22nm,1.3s
BRG S S 15 08 43.0 -3.9
BRG *i* sS sS 15 11 28.0 +2.6
BRG *e* 15 17 35.4
comp=Z,9.0nm,1.5s
BRG *i* 15 19 16.0
BRG Berggiesshubel 74.03 331⇑ *iP* **P 14 59 47.6 -0.5**
comp=Z,46nm,1.0s,mb5.1
BRG *i* 14 59 57.0
BRG *i* pP pP 15 01 17.7 +0.5
BRG sP sP 15 02 03.0 +3.1
BRG *i* PP PP 15 02 26.0 -14
BRG S S 15 08 43.0 -3.9
BRG *i* sS sS 15 11 28.0 +2.6
BRG *e* 15 17 35.4
BRG *i* 15 19 16.0
CORM Corum 74.07 313 P **P 14 59 48.0 -0.2**
EAU Auchinoon 74.10 343⇑ *eP* **P 14 59 48.1 -0.3**
PVCC Panska Ves 74.12 331 *eP* **P 14 59 48.3 -0.3**
YOZ Yozgat 74.13 312 P **P 14 59 49.3 +0.7**
SCHQ Schefferville 74.15 20 P **P 14 59 47.4 -1.4**
comp=Z,8.5nm,0.5s,mb4.7,baz=336,slow=5.3,SNR=47
FBE Freiberg 74.18 332 *eP* **P 14 59 48.3 -0.6**
comp=Z,138nm,0.9s,mb5.6
XSO Sourhope Farm 74.19 342 *eP* **P 14 59 48.8 -0.2**
ATAB Bozova 74.21 308 *iP* **P 14 59 50.8 +1.7**
SAFT Safranbolu 74.22 314 P **P 14 59 50.8 +1.7**
CANT Cankiri 74.25 313 P **P 14 59 51.0 +1.7**
DRGR 74.26 324 P **P 14 59 49.5 +0.2**
DRGR 74.26 324⇑ *iP* **P 14 59 49.3 0.0**
CLZ Clausthal 74.31 334 *eP* **P 14 59 49.4 -0.3**
comp=Z,272nm,1.2s,mb5.8
CLZ *eS* S 15 08 48.7 -1.3
CLZ Clausthal 74.31 334 *eP* **P 14 59 49.4 -0.3**
CLZ *eS* S 15 08 48.7 -1.3
CLZ pmax pmax
comp=Z,272nm,1.2s,mb5.8
PGBU Glenifferbraes 74.33 344 *eP* **P 14 59 49.7 -0.1**
PGBU AMb AMB 14 59 50.7
comp=Z,118nm,1.4s,mb5.3
VYHS Vyhne 74.34 327 *eP* **P 14 59 55.7 +5.9**
VYHS *e* 14 59 55.9
VYHS *e* pP 15 01 23.8 +4.8
VYHS pmax pmax
comp=Z,85nm,1.1s,mb5.3
VYHS Vyhne 74.34 327 *eP* **P 14 59 49.9 +0.1**
comp=Z,56nm,0.9s,mb5.2
VYHS *e* pP 15 01 19.8 +0.8
VYHS *e*PP PP 15 02 33.3 -9.1
TUC Tucson 74.39 59⇑ *eP* **P 14 59 50.0 -0.1**
TUC pmax pmax
comp=Z,89nm,1.3s,mb5.2
TUC Tucson 74.39 59⇑ *eP* **P 14 59 50.0 -0.1**
comp=Z,89nm,1.3s,mb5.2
VOIR 74.39 322⇑ P **P 14 59 51.2 +1.1**
VOIR 74.39 322⇑ *iP* **P 14 59 51.2 +1.1**
PSN Preselentsi 74.42 319 *iP* **P 14 59 50.6 +0.3**
PSZ Piszkesteto 74.43 326⇓ *iP* **P 14 59 51.2 +0.9**
PSZ Piszkesteto 74.43 326⇓ *iP* **P 14 59 50.7 +0.4**
ELDT Eldivan 74.43 313 *iP* **P 14 59 51.6 +1.2**
BNN Bunyan 74.45 311 P **P 14 59 52.0 +1.5**
JAVC Velka Javorina 74.46 328 P **P 14 59 51.7 +1.2**
VRAC Vranov 74.47 329 P **P 14 59 50.6 +0.1**
VRAC Vranov 74.47 329⇑ *iP* **P 14 59 50.9 +0.4**
WIT Witteveen 74.52 336 *eP* **P 14 59 51.2 +0.4**
ESK Eskdalemuir 74.55 343 P **P 14 59 50.6 -0.4**
comp=Z,471nm,0.8s,mb6.2,SNR=5.3
ESK Eskdalemuir 74.55 343⇑ *eP* **P 14 59 50.4 -0.6**
ESK AMb AMB 14 59 52.9
comp=Z,134nm,1.3s,mb5.4
ESK Eskdalemuir 74.55 343 *eP* **P 14 59 50.2 -0.8**
comp=Z,77nm,0.9s,mb5.3
ESK *e*pP pP 15 01 22.2 +2.0
PRU Pruhonice 74.59 330 *eP* **P 14 59 51.0 -0.3**
PRU *e*pP pP 15 01 20.5 0.0
PRU *eS* S 15 08 51.2 -1.9
PRU *e*XS sS 15 11 28.9 -2.9
PRU Pruhonice 74.59 330 *eP* **P 14 59 51.0 -0.3**
PRU *e* pP 15 01 20.5 0.0
PRU *eS* S 15 08 51.2 -1.9
UMR Umm Al-Rimmam 74.61 297 *eP* **P 14 59 51.5 +0.2**
UMR AMb AMB 14 59 53.8
comp=Z,1μm,0.6s
CDAG Cicekdag 74.62 312 *iP* **P 14 59 52.3 +0.9**
MIB Mutribah 74.66 297 *eP* **P 14 59 51.8 +0.1**
MIB AMb AMB 14 59 54.1
comp=Z,1μm,0.7s
ECK Cauldkaine Hil 74.66 343 *eP* **P 14 59 51.3 -0.4**
GZT Gaziantep 74.68 309 *iP* **P 14 59 53.6 +1.8**
GTTG Gyttingen 74.70 334 *eP* **P 14 59 52.1 +0.3**
comp=Z,45nm,1.1s,mb5.0
KRUC Moravsky 74.75 329 P **P 14 59 52.3 +0.2**
PENC Penc 74.77 326⇓ *eP* **P 14 59 54.1 +1.9**
XAL Allendale 74.78 342 *eP* **P 14 59 52.8 +0.5**
SMOL Smolenice 74.84 328 *eP* **P 14 59 53.5 +0.8**
SMOL Smolenice 74.84 328 *eP* **P 14 59 53.6 +0.9**
BUC1 Bucharest 74.84 320 P **P 14 59 53.1 +0.4**
KBD Kabd 74.90 297 *eP* **P 14 59 53.6 +0.6**
KBD AMb AMB 14 59 55.6
comp=Z,2μm,0.7s
BRTR Keskin Array B 74.91 313 P **P 14 59 53.8 +0.8**
comp=Z,95nm,0.9s,mb5.4,baz=63,slow=2.2,SNR=150
BRTR Keskin Array B 74.91 313 *iP* **P 14 59 53.7 +0.7**
BRTR pmax pmax
comp=Z,95nm,0.9s
TANN Tannenbergstha 74.91 332 *eP* **P 14 59 52.4 -0.6**
comp=Z,44nm,0.9s,mb5.1
ANMO Albuquerque 74.92 55⇑ *eP* **P 14 59 52.9 -0.2**
ANMO Albuquerque 74.92 55 P **P 14 59 54.0 +0.9**
ANMO pmax pmax
comp=Z,100nm,1.2s
ANMO Albuquerque 74.92 55⇑ *iP* **P 14 59 52.9 -0.3**
comp=Z,102nm,1.2s,mb5.3
ANMO *e*pP pP 15 01 24.8 +2.3
KMRS Kahramanmaras 74.92 309 P **P 14 59 54.6 +1.5**
WERD Werda 74.93 332 *eP* **P 14 59 52.6 -0.6**
comp=Z,70nm,0.9s,mb5.3
LWH Whinny Nab 74.94 341 *eP* **P 14 59 53.6 +0.4**
MOX Moxa 74.98 332 *eP* **P 14 59 52.8 -0.6**
comp=Z,95nm,1.0s,mb5.4
MOX Moxa 74.98 332 *eP* **P 14 59 53.1 -0.3**
comp=Z,137nm,1.3s,mb5.4
MOX
comp=Z,300nm,16.0s
MOX Moxa 74.98 332 *eP* **P 14 59 53.1 -0.3**
MOX pmax pmax
comp=Z,137nm,1.3s,mb5.4
MOX MLR MLR
comp=Z,300nm,16.0s
GMK Mull of Kintyr 74.98 344 *eP* **P 14 59 53.4 -0.1**
GUNZ Gunzen 75.00 332 *eP* **P 14 59 53.1 -0.4**
comp=Z,91nm,0.8s,mb5.5
GAZ Gaziantep 75.01 309 P **P 14 59 55.4 +1.8**
AVNT Avonos 75.02 311 *iP* **P 14 59 54.8 +1.1**
SGKT Sivrigoynuk 75.03 314 *iP* **P 14 59 55.5 +1.8**
WERN Wernitzgruen 75.05 332 *eP* **P 14 59 53.4 -0.4**
comp=Z,96nm,0.8s,mb5.5
NKC Novy Kostel 75.07 332 *eP* **P 14 59 53.7 -0.3**
NKC *eS* S 15 08 55.3 -3.0
BUD Budapest 75.12 326⇓ *iP* **P 14 59 54.7 +0.5**
NAY Al-Naaiem 75.12 297 *eP* **P 14 59 54.6 +0.4**
NAY AMb AMB 14 59 56.6
comp=Z,534nm,0.8s,mb6.2
GCD Castle Douglas 75.12 343 *eP* **P 14 59 53.9 -0.4**
KAMT Kaman 75.14 313 P **P 14 59 55.0 +0.6**
RDF Al-Radifah 75.16 297 *eP* **P 14 59 54.6 +0.1**
RDF AMb AMB 14 59 57.2
comp=Z,2μm,0.7s
CKE Keswick 75.22 343⇑ *eP* **P 14 59 54.6 -0.1**
ANTO Ankara 75.22 313 P **P 14 59 55.9 +1.1**
SNR=52
ANTO Ankara 75.22 313⇓ *iP* **P 14 59 55.2 +0.4**
ANTO *e**PP pP 15 01 25.1 +0.9
ANTO *e* 15 02 51.7
ANTO pmax pmax
comp=Z,213nm,0.9s,mb5.8
ANTO Ankara 75.22 313⇓ *iP* **P 14 59 55.2 +0.4**
comp=Z,213nm,0.9s,mb5.8
ANTO *e*pP pP 15 01 25.1 +0.9
ANTO *es*P sP 15 02 05.2 -1.6
ANTO *e*PP PP 15 02 51.7 +2.0
ANTO Ankara 75.22 313⇓ *iP* **P 14 59 55.6 +0.8**
ZST Bratislava 75.23 328 *eP* **P 14 59 55.7 +0.9**
ZST *e* pP 15 01 23.8 -0.5
ZST pmax pmax
comp=Z,85nm,1.1s,mb5.3
ZST MLR MLR
comp=Z,500nm,16.6s
ZST Bratislava 75.23 328 *eP* **P 14 59 55.7 +0.9**
ZST *e*pP pP 15 01 23.8 -0.5
ZST Bratislava 75.23 328 *eP* **P 14 59 55.7 +0.9**
comp=Z,85nm,1.1s,mb5.3
ZST *e* pP 15 01 23.8 -0.5
ZST LR LR
comp=Z,500nm,16.6s
GAL1 Galloway 75.27 344 P **P 14 59 55.5 +0.4**
GAL1 AMb AMB 14 59 57.4
comp=Z,93nm,1.4s,mb5.2
GAL1 Galloway 75.27 344⇑ *eP* **P 14 59 54.4 -0.7**
GAL1 *eP* 14 59 55.5
GAL1 AMb AMB 14 59 57.4
comp=Z,93nm,1.4s,mb5.2
PKSN Nyarlorinc 75.28 326⇑ *eP* **P 14 59 56.0 +0.8**
Y22C IRIS PASSCAL I 75.31 56 ⇑P **P 14 59 56.2 +0.9**
baz=75
UBBA Unterbreizbach 75.32 333 *eP* **P 14 59 54.4 -1.0**
comp=Z,169nm,1.7s,mb5.4
GCL Cushendall 75.34 344 *eP* **P 14 59 55.3 -0.2**
GZR Gura Zlata 75.37 323⇑ *iP* **P 14 59 55.7 +0.1**
MANZ Manzenberg 75.39 332 *eP* **P 14 59 55.4 -0.4**
comp=Z,79nm,1.1s,mb5.3
MANZ *eS* S 15 09 00.3 -1.5
PKSG 75.43 327⇑ *eP* **P 14 59 56.8 +0.8**
KOZT Kozan 75.50 310 P **P 14 59 58.0 +1.6**
ROTZ Rotzenmuhle 75.55 332 *eP* **P 14 59 56.5 -0.2**
comp=Z,79nm,1.3s,mb5.2
CBKS Cedar Bluff 75.57 48⇑ *iP* **P 14 59 55.2 -1.6**
comp=Z,101nm,0.7s,mb5.6
CBKS *e*pP pP 15 01 25.9 -0.4
BUG Bochum--Univer 75.58 335 *eP* **P 14 59 56.0 -0.8**
comp=Z,141nm,1.0s,mb5.5
KHC Kasperske Hory 75.65 330 *eP* **P 14 59 57.2 0.0**
KHC *e*pP pP 15 01 24.1 -2.7
KHC *e*XS sS 15 11 44.0 +0.1
KHC Kasperske Hory 75.65 330 *eP* **P 14 59 57.2 0.0**
KHC *e* pP 15 01 24.1 -2.7
BZS Buzias 75.66 324 P **P 14 59 57.7 +0.4**
BZS Buzias 75.66 324⇑ *iP* **P 14 59 57.3 +0.1**
ZIMR 75.68 320 P **P 14 59 57.7 +0.3**
SZH Strazhica 75.75 320 *iP* **P 14 59 57.0 -0.8**
CRAR CRAIOVA 75.81 322 P **P 14 59 59.0 +0.9**
SOP Sopron 75.86 328⇓ *iP* **P 14 59 59.1 +0.7**
SOP Sopron 75.86 328⇓ *i* **P 14 59 59.1 +0.7**
GEC2 GERESS Array S 75.86 330 *eP* **P 14 59 57.9 -0.5**
comp=Z,64nm,0.8s,mb5.3
GEC2 *eS* S 15 09 06.1 -0.7
GEC2 GERESS Array S 75.86 330 *eP* **P 14 59 57.9 -0.5**
GEC2 *eS* S 15 09 06.1 -0.7
GEC2 pmax pmax
comp=Z,64nm,0.8s,mb5.3
GERES GERESS Array B 75.86 330 P **P 14 59 57.8 -0.6**
comp=Z,38nm,0.7s,mb5.2,baz=34,slow=5.1,SNR=143
GERES GERESS Array B 75.86 330 P **P 14 59 57.8 -0.6**
GERES pmax pmax
comp=Z,38nm,0.7s
WET Wettzell 75.87 331 *eP* **P 14 59 58.4 -0.1**
comp=Z,164nm,1.1s,mb5.6
WET Wettzell 75.87 331 *eP* **P 14 59 58.4 -0.1**
WET pmax pmax
comp=Z,164nm,1.1s,mb5.6
CEYT Ceyhan 75.90 310 P **P 14 59 59.0 +0.4**
CONA Conrad Observa 75.90 329 *iP* **P 14 59 59.1 +0.5**
comp=Z,87nm,0.8s,mb5.4,SNR=83
LHO Holmfirth 75.93 341 *eP* **P 14 59 58.2 -0.6**
GRA1 Grafenberg Arr 75.93 332 *eP* **P 14 59 58.7 -0.1**
comp=Z,251nm,0.8s,mb5.9
GRA1 *e*pP pP 15 01 29.5 +1.1
GRA1 *eS* S 15 09 05.0 -2.6
GRF Grafenberg Arr 75.93 332 *eP* **P 14 59 58.7 -0.1**
comp=Z,251nm,0.8s,mb5.9
GRF *e*pP pP 15 01 29.5 +1.1
GRF *eS* S 15 09 05.0 -2.6
GRF Grafenberg Arr 75.93 332 *eP* **P 14 59 58.7 -0.1**
GRF *e**PP pP 15 01 29.5 +1.1
GRF *eS* S 15 09 05.0 -2.6
GRF pmax pmax
comp=Z,251nm,0.8s,mb5.9
GRF Grafenberg Arr 75.93 332 *eP* **P 14 59 58.7 -0.1**
GRF *e**PP pP 15 01 29.5 +1.1
GRF *eS* S 15 09 05.0 -2.6
GRF pmax pmax
comp=Z,251nm,0.8s,mb5.9
GRFO Grafenberg 75.94 332 P **P 14 59 58.7 -0.1**
GRFO pmax pmax
comp=Z,210nm,0.8s,mb5.8
GRFO Grafenberg 75.94 332 *eP* **P 14 59 58.4 -0.4**
comp=Z,213nm,0.8s,mb5.8
GRFO *e*pP pP 15 01 28.2 -0.2
HRT Hereke 75.98 316 P **P 14 59 59.0 -0.1**
KARA Karaisali 76.07 310 P **P 15 00 00.3 +0.8**
JMB Yambol 76.10 319 *eP* **P 15 00 00.0 +0.3**
JMB Yambol 76.10 319 P **P 15 00 01.3 +1.6**
GMM Mts of Mourne 76.10 344 *eP* **P 14 59 58.6 -1.2**
KBI1 Birley Grange 76.13 341⇑ *eP* **P 14 59 59.7 -0.2**
PKS9 Tamasi 76.15 326⇑ *eP* **P 14 59 59.7 -0.3**
ADVT Abdulvahap 76.26 316 P **P 15 00 00.7 +0.1**
SCIA State Center 76.28 42⇑ *iP* **P 14 59 59.6 -1.1**
comp=Z,216nm,0.8s,mb5.8
SCIA *e*pP pP 15 01 29.9 -0.5
CTT Catalca 76.31 317 P **P 15 00 01.2 +0.3**
TNS Taunus Mts 76.32 334 *eP* **P 15 00 00.4 -0.5**
comp=Z,101nm,0.9s,mb5.5
TNS Taunus Mts 76.32 334 *eP* **P 15 00 00.4 -0.5**
TNS pmax pmax
comp=Z,101nm,0.9s,mb5.5
PKSM Moragy 76.32 326 P **P 15 00 01.1 +0.1**
PKSM Moragy 76.32 326⇑ *iP* **P 15 00 00.2 -0.8**
YLV Yalova 76.32 316 P **P 14 59 59.2 -1.7**
HTY Hatay 76.36 309 P **P 15 00 02.6 +1.4**
KWE Weaver Farm 76.42 341 *eP* **P 15 00 00.8 -0.7**
KIZT Kizilcal 76.43 313 P **P 15 00 02.4 +0.8**
ESKT Eskisehir 76.44 314 P **P 15 00 01.7 +0.1**
MOA Molln 76.52 329⇑ *iP* **P 15 00 01.9 -0.1**
comp=Z,58nm,0.8s,mb5.3,SNR=15
EDRB Edirne 76.52 318 P **P 15 00 02.8 +0.7**
ARSA Arzberg 76.59 328⇑ *iP* **P 15 00 02.6 +0.2**
comp=Z,74nm,1.1s,mb5.2,SNR=27
BEBN Eben Emael 76.60 336 P **P 15 00 02.1 -0.4**
comp=Z,60nm,1.1s,mb5.1
MERS Mersin 76.64 310 P **P 15 00 02.6 -0.2**
MEM Membach 76.68 336 P **P 15 00 02.8 -0.1**
comp=Z,97nm,1.1s,mb5.3
SIND Sindeldorf 76.74 333 P **P 15 00 02.6 -0.7**
TOD Tromm 76.76 334 *eP* **P 15 00 03.3 -0.1**
JFWS Jewell Farm 76.78 39⇑ *iP* **P 15 00 01.8 -1.7**
JFWS pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
JFWS Jewell Farm 76.78 39 P **P 15 00 02.4 -1.1**
JFWS pmax pmax
comp=Z,63nm,0.6s,mb5.4
JFWS Jewell Farm 76.78 39⇑ *iP* **P 15 00 01.8 -1.7**
comp=Z,63nm,0.6s,mb5.4
SBD1 Bryn Du 76.83 342⇑ *eP* **P 15 00 03.1 -0.7**
ABH Alteburg 76.89 334 *eP* **P 15 00 04.0 -0.1**
KSU1 Kansas State U 76.90 46⇑ *iP* **P 15 00 02.6 -1.5**
comp=Z,80nm,0.7s,mb5.5
KSU1 *e*pP pP 15 01 34.2 +0.2
SWS Schriesheim-Wi 76.90 334 P **P 15 00 05.1 +1.0**
DIM Dimitrovgrad 76.90 319 *iP* **P 15 00 04.5 +0.3**
SVIS Svilajnac 76.90 323⇓ *iP* **P 15 00 03.7 -0.5**
SVIS Svilajnac 76.90 323 P **P 15 00 04.7 +0.5**
KONT Konya--Tatoy 76.91 312 P **P 15 00 04.0 -0.2**
UCC Uccle 76.96 337 P **P 15 00 04.2 -0.2**
KOGS Kog 77.02 327 *e* **P 15 00 04.6 -0.2**
KOGS Kog 77.02 327 P **P 15 00 05.6 +0.8**
BCLA Clavier 77.04 336 P **P 15 00 04.1 -0.8**
comp=Z,74nm,1.3s,mb5.2
PGB Panagyurishte 77.09 320 *iP* **P 15 00 04.0 -1.2**
DLF Lyons Farm 77.11 344 *eP* **P 15 00 03.8 -1.5**
HLM1 Long Mynd 77.11 342 *eP* **P 15 00 04.8 -0.6**
DSB Dublin 77.13 344 *eP* **P 15 00 06.1 +0.7**
comp=Z,57nm,1.1s,mb5.1
ALT Altintas 77.16 315 P **P 15 00 06.3 +0.8**
BNT Bandirma 77.17 317 P **P 15 00 06.0 +0.4**
RUP Ruppelstein 77.19 335 *eP* **P 15 00 05.5 -0.3**
DCN Croghan 77.20 345 *eP* **P 15 00 04.6 -1.2**
PLD Plovdiv 77.22 320 *eP* **P 15 00 06.1 +0.1**
PLD Plovdiv 77.22 320 *iP* **P 15 00 05.0 -0.9**
HDH Heidenheim-Cha 77.23 332 P **P 15 00 05.9 0.0**
SNF Seneffe 77.24 337 P **P 15 00 05.9 -0.1**
comp=Z,47nm,1.3s,mb5.0
RKY Sarkoy-Tekirda 77.25 317 P **P 15 00 05.7 -0.4**
FUR Furstenfeldbru 77.25 331 *eP* **P 15 00 05.9 -0.2**
comp=Z,262nm,1.0s,mb5.8
FUR *eS* S 15 09 21.4 -0.4
FUR Furstenfeldbru 77.25 331 *eP* **P 15 00 05.9 -0.2**
FUR *eS* S 15 09 21.4 -0.4
FUR pmax pmax

comp=Z,262nm,1.0s,mb5.8
SHUT Suhut-Afyon 77.33 314 *e*P **P 15 00 07.7 +1.1**
SKP1 Kophill 77.40 340 *e*P **P 15 00 06.3 -0.6**
GRUS Gruza 77.44 323⇓*i*P **P 15 00 06.3 -0.8**
GIVF Givet 77.46 336 *e*P **P 15 00 06.3 -0.9**
comp=Z,169nm,1.2s,mb5.2
GIVF Givet 77.46 336 *e*P **P 15 00 06.3 -0.9**
GIVF pmax pmax
comp=Z,84nm,1.2s,mb5.2
GIVF Givet 77.46 336 *e*P **P 15 00 06.3 -0.9**
comp=Z,84nm,1.2s,mb5.2
VTS Vitosha 77.47 321 *e*P **P 15 00 07.5 +0.2**
VTS Vitosha 77.47 321 *i*P **P 15 00 07.0 -0.3**
VTS Vitosha 77.47 321⇑*i*P **P 15 00 08.3 +1.0**
WLF Walferdange 77.48 335 *e*P **P 15 00 08.5 +1.1**
comp=Z,39nm,1.1s,mb5.0
WLF Walferdange 77.48 335 P **P 15 00 06.3 -1.1**
comp=Z,31nm,1.4s,mb4.7
WLF Walferdange 77.48 335 P **P 15 00 07.5 +0.1**
WLF pmax pmax
comp=Z,67nm,1.2s,mb5.2
WLF Walferdange 77.48 335 *e*P **P 15 00 07.2 -0.2**
comp=Z,67nm,1.3s,mb5.1
HAE Alders End 77.49 341⇑*e*P **P 15 00 07.4 0.0**
KBA Koelnbreinsper 77.50 330 *i*P **P 15 00 07.7 +0.2**
comp=Z,238nm,0.9s,mb5.8,SNR=143
KBA Koelnbreinsper 77.50 330 *i*P **P 15 00 07.7 +0.2**
KBA pmax pmax
comp=Z,238nm,0.9s,mb5.8
DOU Dourbes 77.53 336 P **P 15 00 06.9 -0.7**
comp=Z,37nm,1.4s,mb4.8
RZN Rozhen 77.55 320 *i*P **P 15 00 07.6 -0.1**
IKL Isikli 77.56 310 P **P 15 00 07.2 -0.6**
DIVS Divcibare 77.56 324⇓*i*P **P 15 00 07.3 -0.5**
DIVS Divcibare 77.56 324 *e*P **P 15 00 07.5 -0.2**
AMTX Amarillo 77.56 52⇑*e*P **P 15 00 07.1 -0.7**
comp=Z,132nm,0.8s,mb5.6
AMTX *e*pP pP 15 01 38.8 +0.9
OBKA Obir 77.58 329 *i*P **P 15 00 08.3 +0.4**
comp=Z,64nm,0.8s,mb5.3,SNR=10
ALN Alexandroupoli 77.60 318 *e*P **P 15 00 08.1 +0.1**
HDMB Hadim 77.61 312 *e*P **P 15 00 08.4 +0.3**
BUCH Bad Urach 77.61 333 P **P 15 00 08.0 -0.1**
LANF Langenberg 77.61 334 *e*P **P 15 00 07.8 -0.3**
GOLS Golise 77.61 328 *e*P **P 15 00 07.8 -0.3**
MCH1 Michaelchurch 77.63 342 P **P 15 00 08.1 -0.1**
MCH1 AMb AMB 15 00 10.2
comp=Z,101nm,1.3s,mb5.3
MCH1 Michaelchurch 77.63 342⇑*e*P **P 15 00 08.1 -0.1**
MCH1 ⇑*e*P 15 00 08.1
MCH1 AMb AMB 15 00 10.2
comp=Z,101nm,1.3s,mb5.3
RDO Rodhopi 77.63 319 *e*P **P 15 00 08.4 +0.3**
ARMA Armidale 77.65 176 *e*P **P 15 00 09.1 +0.9**
FKH Fakeheh 77.65 307 *e*P **P 15 00 09.2 +1.0**
BAIF Baives 77.67 336 *e*P **P 15 00 07.6 -0.8**
comp=Z,141nm,1.1s,mb5.2
BAIF Baives 77.67 336 *e*P **P 15 00 07.6 -0.8**
BAIF pmax pmax
comp=Z,71nm,1.1s,mb5.2
BAIF Baives 77.67 336 *e*P **P 15 00 07.6 -0.8**
comp=Z,71nm,1.1s,mb5.2
ENEZ Enez 77.68 318 *e*P **P 15 00 08.1 -0.3**
MENF Mencas 77.75 338 *e*P **P 15 00 08.2 -0.6**
SWN1 Swindon 77.82 341⇑*e*P **P 15 00 09.3 +0.1**
CRES Cresnjev 77.83 328 *e*P **P 15 00 09.0 -0.3**
CANB Canakkale 77.84 317 *e*P **P 15 00 08.4 -0.9**
SHAO Shalim 77.84 283 P **P 15 00 09.8 +0.4**
SNR=17
BARS Barje 77.87 322 *e*P **P 15 00 09.8 +0.3**
WATA Walderalm 77.88 331⇑*i*P **P 15 00 09.3 -0.2**
comp=Z,139nm,1.0s,mb5.5,SNR=40
WATA Walderalm 77.88 331⇑*i*P **P 15 00 09.3 -0.2**
WATA pmax pmax
comp=Z,139nm,1.0s,mb5.5
ISP Isparta 77.91 314 *e*P **P 15 00 08.0 -1.7**
ISP Isparta 77.91 314 *e*P **P 15 00 10.8 +1.1**
ISP Isparta 77.91 314 P **P 15 00 11.4 +1.7**
ISP pmax pmax
comp=Z,59nm,0.9s,mb5.2
WTTA Wattenberg 77.92 331⇑*i*P **P 15 00 10.1 +0.3**
comp=Z,210nm,0.8s,mb5.8,SNR=79
WTTA Wattenberg 77.92 331⇑*i*P **P 15 00 10.1 +0.4**
WTTA pmax pmax
comp=Z,210nm,0.8s,mb5.8
HGH Gray Hill 77.92 341 *e*P **P 15 00 09.6 -0.2**
MNTX Cornudas Mount 77.94 56⇑*i*P **P 15 00 09.5 -0.3**
comp=Z,84nm,0.9s,mb5.4
MNTX *e*pP pP 15 01 40.2 +0.3
MNTX *e*PP PP 15 03 11.4 -0.9
LJU Ljubljana 77.98 328 *e*P **P 15 00 09.7 -0.3**
BBLS Bajina Basta - 77.98 324⇓*i*P **P 15 00 11.0 +0.9**
KHL Karahalli 78.02 314 *e*P **P 15 00 10.7 +0.4**
GUT Gutenstein 78.02 333 P **P 15 00 10.3 0.0**
MOTA Moosalm 78.03 331⇓*i*P **P 15 00 10.1 -0.2**
comp=Z,219nm,1.1s,mb5.7,SNR=72
MOTA Moosalm 78.03 331⇓*i*P **P 15 00 10.1 -0.2**
MOTA pmax pmax
comp=Z,219nm,1.1s,mb5.7
BFO Black Forest 78.03 333 P **P 15 00 10.6 +0.2**
comp=Z,535nm,1.1s,mb6.1,SNR=21
BFO Black Forest 78.03 333 *e*P **P 15 00 09.7 -0.7**
comp=Z,108nm,1.0s,mb5.4
BFO Black Forest 78.03 333 *e*P **P 15 00 09.7 -0.7**
BFO pmax pmax
comp=Z,108nm,1.0s,mb5.4
MMB Musomiste 78.06 320 *i*P **P 15 00 10.0 -0.5**
PTCC Patocco-Chiusa 78.08 329 P **P 15 00 09.5 -1.1**
comp=Z,39nm,0.6s,mb5.2
SPAK Spaichingen-Ko 78.10 333 P **P 15 00 11.2 +0.5**
SQTA Sankt Quirin 78.10 331 *i*P **P 15 00 11.0 +0.3**
comp=Z,154nm,1.1s,mb5.5,SNR=41
SQTA Sankt Quirin 78.10 331 *i*P **P 15 00 11.0 +0.3**
SQTA pmax pmax
comp=Z,154nm,1.1s,mb5.5
SQTA Sankt Quirin 78.10 331 *i*P **P 15 00 11.0 +0.3**
comp=Z,154nm,1.1s,mb5.5
FVI Forni Avoltri 78.11 330 P **P 15 00 11.8 +1.0**
comp=Z,12nm,0.4s,mb4.9
KKB Krupnik 78.12 321 *i*P **P 15 00 10.0 -0.8**
BOJS Bojanci 78.18 328 *e*P **P 15 00 10.7 -0.5**
NVR Nevrokopi 78.20 320 *e*P **P 15 00 14.6 +3.3**
VOY Vojsko 78.22 329 *e*P **P 15 00 10.3 -1.1**
VOY *e* 15 00 11.7
VOY *e* 15 00 33.9
GMNA Gemona 78.24 329 P **P 15 00 10.8 -0.7**
comp=Z,331nm,0.8s,mb6.0
CDF Champ du Feu 78.28 334 *e*P **P 15 00 11.1 -0.6**
comp=Z,243nm,1.1s,mb5.5
CDF Champ du Feu 78.28 334 *e*P **P 15 00 11.1 -0.6**
CDF pmax pmax
comp=Z,122nm,1.1s,mb5.4
CDF Champ du Feu 78.28 334 *e*P **P 15 00 11.1 -0.6**
comp=Z,122nm,1.1s,mb5.4
CEY Cerknica 78.28 328 P **P 15 00 12.3 +0.6**
BHL Bhannes 78.31 308 *e*P **P 15 00 12.4 +0.6**
AKS Akhisar 78.39 316 *e*P **P 15 00 11.7 -0.6**
SISB Singen-Schiene 78.41 333 P **P 15 00 12.6 +0.2**
DAVA Damuels 78.47 332 *i*P **P 15 00 12.6 -0.1**
comp=Z,131nm,0.9s,mb5.6,SNR=58
SLE Schleitheim 78.49 333⇑P **P 15 00 12.0 -0.8**
ECH Echery 78.49 334 *e*P **P 15 00 10.4 -2.4**
KIZ Kirchzarten 78.49 333 P **P 15 00 12.5 -0.3**
RCY Rachaya 78.54 307 *e*P **P 15 00 13.1 0.0**
FELD Feldberg im Sc 78.54 333⇓*e*P **P 15 00 12.8 -0.3**
TRI Trieste 78.54 329 P **P 15 00 13.5 +0.4**
SALA Sala 78.63 306⇑P **P 15 00 23.3 +10**
STIP Stip 78.64 321 *e*P **P 15 00 13.3 -0.3**
STIP Stip 78.64 321 *e*P **P 15 00 13.2 -0.5**
STIP Stip 78.64 321 *e*P **P 15 00 13.2 -0.5**
WILA Wila 78.67 332⇑P **P 15 00 13.9 +0.1**
HEX Exmoor 78.67 342⇑*e*P **P 15 00 13.1 -0.7**
CSS Prodhromos 78.72 310 P **P 15 00 14.1 0.0**
SKO Skopje 78.73 322 *e*P **P 15 00 15.3 +1.2**
SKO Skopje 78.73 322 *e*P **P 15 00 15.0 +0.9**
SKO Skopje 78.73 322 *e*P **P 15 00 15.0 +0.9**
SKO Skopje 78.73 322 P **P 15 00 15.9 +1.8**
APPI Appiano 78.74 331 P **P 15 00 13.9 -0.3**
KNT Kendrikon 78.77 320 *e*P **P 15 00 14.6 +0.2**
VAY Valandovo 78.78 321 *e*P **P 15 00 14.4 -0.1**
VAY Valandovo 78.78 321 *e*P **P 15 00 14.1 -0.3**
VAY Valandovo 78.78 321 *e*P **P 15 00 14.1 -0.3**
VAY Valandovo 78.78 321 P **P 15 00 14.0 -0.4**
LIA Limnos Island 78.79 318 *e*P **P 15 00 13.9 -0.6**

LOS Limnos 78.81 318 *e*P **P 15 00 14.3 -0.3**
ZUR Zurich 78.81 333⇑P **P 15 00 14.8 +0.2**
SULZ Sulz-Cheisache 78.81 333⇑P **P 15 00 14.7 +0.1**
PRK Paraskevi 78.82 317 *e*P **P 15 00 14.2 -0.4**
MOF Molkenrain 78.82 334 *e*P **P 15 00 13.9 -0.7**
THEF They Montfort 78.83 335 *e*P **P 15 00 14.3 -0.3**
MEZF Maizieres J'vi 78.85 335 *e*P **P 15 00 14.4 -0.3**
comp=Z,216nm,1.0s,mb5.4
MEZF Maizieres J'vi 78.85 335 *e*P **P 15 00 14.4 -0.3**
comp=Z,216nm,1.0s,mb5.7
SOH Sokhos 78.85 320 *e*P **P 15 00 14.6 -0.2**
HTL Hartland 78.89 342 *e*P **P 15 00 15.2 +0.3**
HTL AMb AMB 15 00 17.3
comp=Z,116nm,1.4s,mb5.3
HAU Haudompre 78.92 334 *e*P **P 15 00 14.3 -0.8**
comp=Z,110nm,1.0s,mb5.2
HAU *e*MLR
comp=Z,624nm,23.0s
HAU Haudompre 78.92 334 *e*P **P 15 00 14.3 -0.8**
HAU pmax pmax
comp=Z,55nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,620nm,23.0s
HAU Haudompre 78.92 334 *e*P **P 15 00 14.3 -0.8**
comp=Z,55nm,1.0s,mb5.1
HAU LR LR
comp=Z,620nm,23.0s
HINF Hinteralfeld 78.94 334 *e*P **P 15 00 14.3 -0.9**
comp=Z,57nm,0.8s,mb4.9
HINF Hinteralfeld 78.94 334 *e*P **P 15 00 14.3 -0.9**
comp=Z,29nm,0.8s,mb5.0
ALFC Alevga 78.95 310 P **P 15 00 15.2 -0.1**
comp=Z,2.2nm,0.6s
OUR Ouranopolis 78.97 319 *e*P **P 15 00 16.5 +1.1**
CTI Castel Tesino 78.98 330 P **P 15 00 14.5 -1.0**
CTI pmax pmax
comp=Z,47nm,0.7s,mb5.2
CTI Castel Tesino 78.98 330 P **P 15 00 14.5 -1.0**
comp=Z,47nm,0.7s,mb5.2
BRMO Bormio 79.03 331 P **P 15 00 16.3 +0.6**
IZM Izmir 79.04 316 *e*P **P 15 00 15.8 0.0**
BBS Basel-Blauen 79.06 333 *e*P **P 15 00 15.8 -0.1**
VAL Valentia 79.06 346⇓*i*P **P 15 00 16.0 +0.1**
ELL Elmali 79.07 313 *e*P **P 15 00 16.1 +0.1**
SZAC Souni-Zanaja 79.11 310 P **P 15 00 16.8 +0.6**
comp=Z,3.5nm,0.8s
STKA Stephens Creek 79.14 185 *e*P **P 15 00 16.1 -0.2**
comp=Z,24nm,1.1s,mb4.7
STKA *e*S S 15 09 42.2 +0.6
STKA Stephens Creek 79.14 185 P **P 15 00 16.4 +0.1**
comp=Z,31nm,0.8s,mb5.0,baz=355,slow=6.0,SNR=58
WHFO Wadi Hawf 79.14 285 P **P 15 00 16.7 +0.4**
SNR=20
LLS Linth-Limmern 79.14 332⇑P **P 15 00 16.1 -0.2**
HORT Hortiatis 79.15 320 *e*P **P 15 00 15.4 -1.0**
RBK Rabkut 79.15 284 P **P 15 00 16.7 +0.4**
SNR=5.9
MUO Muotathal 79.15 332⇓P **P 15 00 16.3 -0.1**
GRG Griva 79.16 321 *e*P **P 15 00 17.9 +1.5**
THE Thessaloniki 79.18 320 *e*P **P 15 00 17.0 +0.4**
PLG Polygyros 79.18 320 *e*P **P 15 00 15.6 -0.9**
PLG Polygyros 79.18 320 *e*P **P 15 00 16.2 -0.3**
AKMC Akamas 79.19 311 P **P 15 00 16.2 -0.4**
WMOK Wichita Mounta 79.20 50⇑*i*P **P 15 00 15.5 -1.1**
WMOK *e* 15 03 19.1
WMOK pmax pmax
comp=Z,123nm,1.1s,mb5.5
WMOK Wichita Mounta 79.20 50⇑*i*P **P 15 00 15.5 -1.2**
comp=Z,123nm,1.1s,mb5.5
WMOK *e*pP pP 15 01 47.8 +0.7
WMOK *e*PP PP 15 03 19.1 -3.6
PPCY Paphos 79.29 310 P **P 15 00 16.9 -0.2**
DYA Yadsworthy 79.30 342⇑*e*P **P 15 00 17.0 -0.2**
KRUS Krusevo 79.31 322 *e*P **P 15 00 17.8 +0.6**
KRUS Krusevo 79.31 322 *e*P **P 15 00 17.8 +0.6**
VDL Val di Lei 79.31 332⇓P **P 15 00 17.5 +0.3**
LOMF Lomont 79.36 334 *e*P **P 15 00 15.8 -1.7**
TUE Stuetta 79.36 332 P **P 15 00 17.9 +0.4**
PAIG Paliouri 79.44 319 *e*P **P 15 00 19.1 +1.2**
YER Yerkesik 79.56 315 *e*P **P 15 00 19.6 +1.1**
FETY Fethiye 79.56 314 *e*P **P 15 00 17.5 -1.1**
BIA Bitola 79.57 321 *e*P **P 15 00 17.9 -0.7**
BIA Bitola 79.57 321 *e*P **P 15 00 18.6 +0.1**
BIA Bitola 79.57 321 *e*P **P 15 00 18.6 +0.1**
MLSB Milas 79.67 315 *e*P **P 15 00 18.7 -0.5**
OHR Ohrid 79.71 322 *e*P **P 15 00 18.7 -0.7**
OHR Ohrid 79.71 322 *e*P **P 15 00 18.5 -0.9**
OHR Ohrid 79.71 322 *e*P **P 15 00 18.5 -0.9**
OHR Ohrid 79.71 322 P **P 15 00 18.5 -0.9**
FORT Forrest 79.73 196 *e*P **P 15 00 19.2 -0.3**
comp=Z,203nm,0.6s,mb5.9
SMG Samos 79.79 316 *e*P **P 15 00 17.6 -2.2**
LIT Litokhoron 79.82 320 *e*P **P 15 00 19.2 -0.7**
ABTO Aybut 79.86 284 P **P 15 00 20.8 +0.7**
SNR=6.8
TIR Tirane 79.90 322 *e*P **P 15 00 11.6 -8.8**
KZN Kozani 79.96 321 *e*P **P 15 00 20.6 -0.1**
AOS Alonnisos 79.97 319 *e*P **P 15 00 20.2 -0.6**
LKBD Leukerbad 79.98 333⇑P **P 15 00 21.1 +0.3**
AAM Ann Arbor 80.01 36 *e*P **P 15 00 20.1 -0.8**
comp=Z,64nm,0.5s,mb5.5
FLN La Foliniere 80.07 339 *e*P **P 15 00 20.5 -0.8**
comp=Z,111nm,0.7s,mb5.3
FLN *e*MLR
comp=Z,293nm,21.5s
FLN La Foliniere 80.07 339 *e*P **P 15 00 20.5 -0.8**
FLN pmax pmax
comp=Z,56nm,0.7s,mb5.3
FLN MLR MLR
comp=Z,290nm,21.5s
FLN La Foliniere 80.07 339 *e*P **P 15 00 20.5 -0.8**
comp=Z,56nm,0.7s,mb5.3
FLN LR LR
comp=Z,290nm,21.5s
XOR Xorichti 80.12 319 *e*P **P 15 00 20.5 -1.0**
LDF La Druitiere 80.14 339 *e*P **P 15 00 20.7 -0.9**
comp=Z,129nm,1.0s,mb5.2
LDF La Druitiere 80.14 339 *e*P **P 15 00 20.7 -0.9**
comp=Z,64nm,1.0s,mb5.2
NEO Neokhori 80.15 319 *e*P **P 15 00 20.9 -0.8**
MMK Mattmark 80.18 332⇑P **P 15 00 22.7 +0.9**
DAT Datca 80.22 315 *e*P **P 15 00 20.6 -1.4**
CABF La Chapelle 80.25 334 *e*P **P 15 00 21.8 -0.4**
comp=Z,88nm,1.1s,mb5.0
CABF La Chapelle 80.25 334 *e*P **P 15 00 21.8 -0.4**
comp=Z,44nm,1.1s,mb5.0
SLM Saint Louis 80.26 42 P **P 15 00 21.3 -1.0**
SLM pmax pmax
comp=Z,98nm,0.8s,mb5.5
SLM Saint Louis 80.26 42 *e*P **P 15 00 20.9 -1.4**
comp=Z,98nm,0.8s,mb5.5
LOR Lormes 80.30 336 *e*P **P 15 00 21.7 -0.8**
comp=Z,163nm,1.0s,mb5.3
LOR *e*MLR
comp=Z,264nm,22.2s
LOR Lormes 80.30 336 *e*P **P 15 00 21.7 -0.8**
LOR pmax pmax
comp=Z,82nm,1.0s,mb5.3
LOR MLR MLR
comp=Z,260nm,22.3s
LOR Lormes 80.30 336 *e*P **P 15 00 21.7 -0.8**
comp=Z,82nm,1.0s,mb5.3
LOR LR LR
comp=Z,260nm,22.3s
DIX Grande Dixence 80.33 333⇑P **P 15 00 23.4 +0.8**
ARG Arkhangelos 80.36 314 *e*P **P 15 00 23.0 +0.2**
THL Klokotos Trika 80.47 320 *e*P **P 15 00 22.2 -1.2**
EMV Vieux Emosson 80.50 333⇓P **P 15 00 23.6 +0.1**
GRR Gorron 80.51 339 *e*P **P 15 00 22.5 -1.1**
comp=Z,201nm,0.8s,mb5.6
GRR Gorron 80.51 339 *e*P **P 15 00 22.5 -1.1**
GRR pmax pmax
comp=Z,101nm,0.8s,mb5.6
GRR Gorron 80.51 339 *e*P **P 15 00 22.5 -1.1**
comp=Z,101nm,0.8s,mb5.6
SSF Saint Saulge 80.59 336 *e*P **P 15 00 23.2 -0.8**
comp=Z,56nm,0.7s,mb5.1
SSF Saint Saulge 80.59 336 *e*P **P 15 00 23.2 -0.8**
SSF pmax pmax
comp=Z,28nm,0.7s,mb5.1
SSF Saint Saulge 80.59 336 *e*P **P 15 00 23.2 -0.8**
comp=Z,28nm,0.7s,mb5.1
FSSB Fossombrone 80.64 328 P **P 15 00 24.2 -0.1**
comp=Z,146nm,0.7s,mb5.8
HYF Humbligny 80.64 336 *e*P **P 15 00 24.0 -0.3**

LTX Lajitas 80.69 57 *e*P **P 15 00 24.6 +0.1**
comp=Z,90nm,0.6s,mb5.7
LTX *e*pP pP 15 01 56.9 +1.5
LTX *e*PP PP 15 03 32.9 -2.1
TXAR Lajitas Array 80.69 57 P **P 15 00 25.0 +0.5**
comp=Z,69nm,0.5s,mb5.6,baz=293,slow=3.5,SNR=239
TXAR pP pP 15 01 54.6 -0.7
comp=Z,24nm,0.8s,baz=297,slow=4.4,SNR=4.2
TXAR S S 15 10 00.5 +2.9
comp=Z,1.0nm,0.9s,baz=235,slow=4.4,SNR=3.5
TXAR PKKPbc PKKPbc 15 18 59.6 -0.9
comp=Z,2.2nm,0.8s,baz=157,slow=5.4,SNR=13
TXAR PKP2bc 15 26 51.7
comp=Z,0.4nm,0.8s,baz=134,slow=3.6,SNR=4.5
TXAR Lajitas Array 80.69 57 P **P 15 00 25.0 +0.5**
TXAR pP pP 15 01 54.6 -0.7
TXAR S S 15 10 00.5 +2.9
TXAR PKKPbc PKKPbc 15 18 59.6 -0.9
TXAR ⇑*e* 15 26 51.7
AGG Agios Georgios 80.78 320 *e*P **P 15 00 23.6 -1.3**
SFI Santa Sofia 80.78 329 P **P 15 00 25.7 +0.7**
comp=Z,171nm,1.0s,mb5.7
LKR Lokris 80.79 319 *e*P **P 15 00 24.0 -1.0**
SEI Scarperia 80.82 329 P **P 15 00 26.4 +1.2**
comp=Z,517nm,0.8s,mb6.3
VMG Vicchio 80.84 329 P **P 15 00 26.4 +1.1**
comp=Z,176nm,0.7s,mb5.9
SMF Signal de Mont 80.88 335 *e*P **P 15 00 24.5 -1.0**
comp=Z,346nm,1.0s,mb5.7
SMF Signal de Mont 80.88 335 *e*P **P 15 00 24.5 -1.0**
SMF pmax pmax
comp=Z,173nm,1.0s,mb5.7
SMF Signal de Mont 80.88 335 *e*P **P 15 00 24.5 -1.0**
comp=Z,173nm,1.0s,mb5.7
AVF Avril sur Loir 80.88 336 *e*P **P 15 00 25.0 -0.5**
comp=Z,307nm,1.2s,mb5.6
AVF Avril sur Loir 80.88 336 *e*P **P 15 00 25.0 -0.5**
comp=Z,154nm,1.2s,mb5.6
APE Apeiranthos 80.92 316 *e*P **P 15 00 24.3 -1.5**
APE Apeiranthos 80.92 316⇓*i*P **P 15 00 23.3 -2.4**
CRE Caprese Michel 81.00 329 P **P 15 00 26.8 +0.7**
CRE pmax pmax
comp=Z,60nm,0.8s,mb5.4
CRE Caprese Michel 81.00 329 P **P 15 00 26.8 +0.7**
comp=Z,60nm,0.8s,mb5.4
ATH Athens Observa 81.02 318 *e*P **P 15 00 24.4 -1.8**
LPL La Plagne 81.04 333 *e*P **P 15 00 26.5 +0.1**
comp=Z,175nm,1.0s,mb5.4
LPL La Plagne 81.04 333 *e*P **P 15 00 26.5 +0.1**
LPL pmax pmax
comp=Z,87nm,1.0s,mb5.4
LPL La Plagne 81.04 333 *e*P **P 15 00 26.5 +0.1**
comp=Z,87nm,1.0s,mb5.4
SGMF Saint Gilles 81.04 340 *e*P **P 15 00 26.0 -0.4**
comp=Z,81nm,0.6s,mb5.3
SGMF Saint Gilles 81.04 340 *e*P **P 15 00 26.0 -0.4**
comp=Z,40nm,0.6s,mb5.3
LPG La Plagne 81.05 333 *e*P **P 15 00 26.7 +0.3**
comp=Z,188nm,1.0s,mb5.5
LPG La Plagne 81.05 333 *e*P **P 15 00 26.7 +0.3**
LPG pmax pmax
comp=Z,94nm,1.0s,mb5.5
LPG La Plagne 81.05 333 *e*P **P 15 00 26.7 +0.3**
comp=Z,94nm,1.0s,mb5.5
EVR Evrytania 81.10 320 *e*P **P 15 00 25.6 -1.0**
ROSF Rostrenen 81.13 340 *e*P **P 15 00 26.5 -0.3**
comp=Z,479nm,1.2s,mb5.8
ROSF Rostrenen 81.13 340 *e*P **P 15 00 26.5 -0.3**
comp=Z,239nm,1.2s,mb5.8
IGT Igoumenitsa 81.22 321 *e*P **P 15 00 27.0 -0.3**
BGF Bois d'Agland 81.24 336 *e*P **P 15 00 26.8 -0.6**
comp=Z,59nm,0.7s,mb5.1
BGF Bois d'Agland 81.24 336 *e*P **P 15 00 26.8 -0.6**
comp=Z,29nm,0.7s,mb5.1
NRCA Norcia 81.27 328 P **P 15 00 27.8 +0.3**
comp=Z,237nm,1.0s,mb5.9
LONY Lake Ozonia 81.27 29 *e*P **P 15 00 24.9 -2.6**
comp=Z,18nm,0.8s,mb4.8
KEK Kerkira 81.30 322 *e*P **P 15 00 28.0 +0.3**
RGNG Rignano Grg 81.34 325 P **P 15 00 27.2 -0.7**
CSNT Castellina Chi 81.36 329 P **P 15 00 28.1 +0.1**
comp=Z,136nm,1.1s,mb5.6
KARP Karpathos 81.37 314 *e*P **P 15 00 27.4 -0.6**
BLO Bloomington 81.46 39⇑*e*P **P 15 00 27.1 -1.5**
comp=Z,54nm,0.7s,mb5.4
SIUC Southern Illin 81.47 42⇑*e*P **P 15 00 27.9 -0.6**
comp=Z,228nm,1.0s,mb5.9
SIUC *e*pP pP 15 01 59.8 +0.1
BNI Bardonecchia 81.47 333 *e*P **P 15 00 29.1 +0.5**
BNI *e**PP pP 15 02 01.0 +1.3
BNI pmax pmax
comp=Z,68nm,1.1s,mb5.3
BNI Bardonecchia 81.47 333 *e*P **P 15 00 29.1 +0.5**
comp=Z,68nm,1.1s,mb5.3
BNI *e*pP pP 15 02 01.0 +1.4
QUIF Quistinic 81.50 340 *e*P **P 15 00 28.2 -0.5**
comp=Z,141nm,0.9s,mb5.4
QUIF Quistinic 81.50 340 *e*P **P 15 00 28.2 -0.5**
comp=Z,71nm,0.9s,mb5.4
PLDF La Plantade 81.56 335 *e*P **P 15 00 29.4 +0.4**
AQU L'Aquila 81.58 327 P **P 15 00 30.4 +1.3**
AQU L'Aquila 81.58 327⇑*e*P **P 15 00 29.5 +0.4**
comp=Z,71nm,0.6s,mb5.6
AQU L'Aquila 81.58 327⇑*i*P **P 15 00 30.2 +1.1**
AGO Saint Agoulin 81.62 335 *e*P **P 15 00 28.9 -0.4**
TCF Toulx Ste Croi 81.66 336 *e*P **P 15 00 29.2 -0.4**
comp=Z,103nm,0.9s,mb5.3
TCF Toulx Ste Croi 81.66 336 *e*P **P 15 00 29.2 -0.4**
TCF pmax pmax
comp=Z,51nm,0.9s,mb5.2
TCF Toulx Ste Croi 81.66 336 *e*P **P 15 00 29.2 -0.4**
comp=Z,51nm,0.9s,mb5.3
MBDF Montbardon 81.74 333 *e*P **P 15 00 29.4 -0.6**
comp=Z,117nm,0.9s,mb5.3
MBDF Montbardon 81.74 333 *e*P **P 15 00 29.4 -0.6**
comp=Z,58nm,0.9s,mb5.3
GRFL Gerfalco 81.75 329 P **P 15 00 30.4 +0.4**
comp=Z,46nm,1.0s,mb5.2
LKD Levkas 81.77 320 *e*P **P 15 00 29.9 -0.3**
FG4 Candela 81.83 325 P **P 15 00 30.7 +0.3**
comp=Z,204nm,0.8s,mb5.9
ORIF Oris-en-Rattie 81.84 333 *e*P **P 15 00 30.5 0.0**
comp=Z,106nm,0.8s,mb5.3
ORIF *e*MLR
comp=Z,337nm,23.0s
ORIF Oris-en-Rattie 81.84 333 *e*P **P 15 00 30.5 0.0**
comp=Z,53nm,0.8s,mb5.3
ALLY Alegheny Colle 81.92 34⇑*i*P **P 15 00 29.8 -1.1**
comp=Z,130nm,0.9s,mb5.7
PYM Petit Puy Mans 81.93 335 *e*P **P 15 00 30.4 -0.6**
EIL Elat 81.93 305⇓*e*P **P 15 00 30.9 -0.1**
comp=Z,7μm,1.0s
EIL *e*pP pP 15 02 03.6 +1.4
EIL *e*PP PP 15 03 43.6 -1.5
JCT Junction City 81.95 53⇑*i*P **P 15 00 30.6 -0.5**
comp=Z,92nm,0.8s,mb5.6
JCT *e*pP PP 15 03 42.9 -2.4
RLS Riolos of Patr 81.96 320 *e*P **P 15 00 31.1 0.0**
USIN University of 81.96 41⇑*i*P **P 15 00 30.3 -0.8**
comp=Z,158nm,0.9s,mb5.7
USIN *e*pP pP 15 02 04.1 +1.8
NCB Newcomb 81.96 29 *e*P **P 15 00 29.8 -1.4**
comp=Z,42nm,1.0s,mb5.1
MIAR Mount Ida 81.98 47⇑*i*P **P 15 00 30.8 -0.4**
MIAR *e* 15 03 43.3
MIAR pmax pmax
comp=Z,65nm,0.8s,mb5.4
MIAR Mount Ida 81.98 47⇑*i*P **P 15 00 30.8 -0.5**
comp=Z,65nm,0.8s,mb5.4
MIAR *e*pP pP 15 02 03.9 +1.5
MIAR *e*PP PP 15 03 43.3 -2.2
MFF Saint Martin d 81.99 338 *e*P **P 15 00 31.0 -0.3**
comp=Z,118nm,0.7s,mb5.4
MFF Saint Martin d 81.99 338 *e*P **P 15 00 31.0 -0.3**
MFF pmax pmax
comp=Z,59nm,0.7s,mb5.4
MFF Saint Martin d 81.99 338 *e*P **P 15 00 31.0 -0.3**
comp=Z,59nm,0.7s,mb5.4
LCHF La Chataignera 82.08 338 *e*P **P 15 00 33.0 +1.3**
AUTN L'Aution 82.19 332 *e*P **P 15 00 33.4 +1.1**
TOUF Mont Tournerai 82.23 332 *e*P **P 15 00 32.1 -0.4**
VLS Valsamata 82.24 320 *e*P **P 15 00 31.9 -0.6**
VIVF Saint-Julien-l 82.26 334 *e*P **P 15 00 32.5 -0.2**
comp=Z,97nm,0.9s,mb5.2
VIVF Saint-Julien-l 82.26 334 *e*P **P 15 00 32.5 -0.2**
comp=Z,48nm,0.9s,mb5.2

SBF Sospel 82.30 332 *e*P **P 15 00 32.9 0.0**
comp=Z,176nm,0.8s,mb5.5
SBF Sospel 82.30 332 *e*P **P 15 00 32.9 0.0**
comp=Z,88nm,0.8s,mb5.5
LBL Lubilhac 82.34 335 *e*P **P 15 00 31.9 -1.1**
WCI Wyandotte Cave 82.34 40⇑ *i*P **P 15 00 32.1 -1.0**
WCI pmax pmax
comp=Z,90nm,0.9s,mb5.5
WCI Wyandotte Cave 82.34 40⇑ *i*P **P 15 00 32.1 -0.9**
comp=Z,90nm,0.9s,mb5.5
NPS Neapolis 82.34 315 *e*P **P 15 00 31.9 -1.2**
MVIF Mont Vial 82.36 332 *e*P **P 15 00 32.5 -0.7**
UALR University of 82.40 46 *e*P **P 15 00 31.9 -1.4**
comp=Z,41nm,1.1s,mb5.1
ADE Adelaide 82.40 187⇑ *i*P **P 15 00 33.6 +0.2**
VLI Veliai 82.40 318 *e*P **P 15 00 29.4 -4.0**
ITM Ithomi 82.48 319 *e*P **P 15 00 33.0 -0.8**
ACCN Adirondack Com 82.67 29⇑ *e*P **P 15 00 33.3 -1.5**
comp=Z,62nm,1.0s,mb5.3
KYTH Kithira 82.72 317 *e*P **P 15 00 33.6 -1.4**
RJF Les Rejaudoux 82.75 336 *e*P **P 15 00 35.1 -0.1**
comp=Z,252nm,1.4s,mb5.5
RJF *e*MLR
comp=Z,294nm,18.8s
RJF Les Rejaudoux 82.75 336 *e*P **P 15 00 35.1 -0.1**
comp=Z,126nm,1.4s,mb5.5
RJF LR LR
comp=Z,290nm,18.8s
UTMT University of 82.76 42⇑ *e*P **P 15 00 34.6 -0.6**
comp=Z,357nm,1.1s,mb6.0
SMRF Simiane la Rot 82.79 333 *e*P **P 15 00 35.1 -0.2**
comp=Z,55nm,0.9s,mb5.0
SMRF Simiane la Rot 82.79 333 *e*P **P 15 00 35.1 -0.2**
comp=Z,55nm,0.9s,mb5.3
HNH Hanover 82.82 28 *e*P **P 15 00 34.4 -1.1**
comp=Z,39nm,0.8s,mb5.2
FRF La Foret Royal 82.83 332 *e*P **P 15 00 34.6 -0.9**
comp=Z,76nm,1.0s,mb5.1
FRF La Foret Royal 82.83 332 *e*P **P 15 00 34.6 -0.9**
comp=Z,38nm,1.0s,mb5.1
VAM Vamos 82.89 316 *e*P **P 15 00 36.9 +1.0**
BINY Binghamton 82.94 31⇑ *e*P **P 15 00 34.9 -1.2**
comp=Z,60nm,1.0s,mb5.3
CAF Calviac 82.95 336 *e*P **P 15 00 35.4 -0.8**
comp=Z,68nm,0.7s,mb5.2
CAF Calviac 82.95 336 *e*P **P 15 00 35.4 -0.8**
comp=Z,34nm,0.7s,mb5.2
PGF Pioggiola 82.96 330 *e*P **P 15 00 35.4 -0.8**
comp=Z,342nm,1.5s,mb5.5
PGF Pioggiola 82.96 330 *e*P **P 15 00 35.4 -0.8**
comp=Z,171nm,1.5s,mb5.6
KLBR Kellerberrin 82.98 205 *e*P **P 15 00 35.4 -0.9**
comp=Z,79nm,0.8s,mb5.5
TIP Timpagrande 83.01 323⇓ *i*P **P 15 00 35.9 -0.6**
comp=Z,227nm,1.1s,mb5.8
TIP *e*pP pP 15 02 08.3 +0.4
LMR La Mourre 83.07 332 *e*P **P 15 00 36.1 -0.7**
comp=Z,167nm,0.9s,mb5.5
LMR La Mourre 83.07 332 *e*P **P 15 00 36.1 -0.7**
comp=Z,83nm,0.9s,mb5.5
CORF Corte 83.13 330 *e*P **P 15 00 37.0 -0.1**
LASF Ste Croix 83.21 334 *e*P **P 15 00 37.7 +0.2**
comp=Z,47nm,0.9s,mb4.9
FFD Franklin Falls 83.23 27 *e*P **P 15 00 37.7 +0.1**
comp=Z,42nm,0.4s,mb5.5
LFF La Frestale 83.30 337 *e*P **P 15 00 38.1 +0.2**
comp=Z,347nm,1.1s,mb5.7
LFF La Frestale 83.30 337 *e*P **P 15 00 38.1 +0.2**
comp=Z,173nm,1.1s,mb5.7
WVT Waverly 83.41 42 P **P 15 00 38.2 -0.3**
WVT pmax pmax
comp=Z,95nm,1.0s,mb5.5
WVT Waverly 83.41 42⇑ *i*P **P 15 00 37.7 -0.8**
comp=Z,95nm,1.0s,mb5.5
GVD Gavdhos 83.41 316 *e*P **P 15 00 38.0 -0.5**
GVD Gavdhos 83.41 316⇓ *i*P **P 15 00 37.7 -0.7**
comp=Z,146nm,0.8s,mb5.8
RAR Rarotonga 83.43 131 P **P 15 00 36.5 -2.0**
comp=Z,10nm,0.5s,mb4.8,baz=250,slow=12,SNR=3.2
SSPA Standing Stone 83.64 33⇑ *i*P **P 15 00 38.8 -0.9**
comp=Z,78nm,0.9s,mb5.4
MCWV Mont Chateau 83.76 34⇑ *i*P **P 15 00 40.0 -0.2**
comp=Z,84nm,1.0s,mb5.4
MUN Mundaring 83.79 206 *e*P **P 15 00 39.3 -1.1**
MUN *i*S S 15 10 29.2 +0.3
MUN *i* 15 13 10.4
MUN Mundaring 83.79 206 *e*P **P 15 00 39.3 -1.1**
MUN *i*S S 15 10 29.2 +0.3
OXF Oxford 84.01 44 P **P 15 00 41.4 -0.1**
OXF pmax pmax
comp=Z,540nm,1.3s,mb6.1
OXF Oxford 84.01 44⇑ *i*P **P 15 00 40.8 -0.7**
comp=Z,537nm,1.4s,mb6.1
OXF *e*pP pP 15 02 14.1 +0.9
HRV Harvard--Oak R 84.13 28⇑ *i*P **P 15 00 41.5 -0.5**
comp=Z,32nm,0.6s,mb5.2
SCLL Scilla 84.22 324 P **P 15 00 41.7 -0.8**
comp=Z,29nm,0.8s,mb5.0
SOI Samo 84.24 323 P **P 15 00 42.1 -0.5**
PLAL Pickwick Lake 84.25 43⇑ *i*P **P 15 00 41.5 -1.1**
comp=Z,51nm,0.8s,mb5.3
WES Weston 84.32 27⇑ *e*P **P 15 00 42.5 -0.5**
comp=Z,52nm,0.6s,mb5.4
MTLF Montolieu 84.36 335 *e*P **P 15 00 43.5 +0.3**
comp=Z,128nm,1.1s,mb5.2
MTLF Montolieu 84.36 335 *e*P **P 15 00 43.5 +0.3**
comp=Z,64nm,1.1s,mb5.3
NWAO Narrogin (SRO) 84.38 205 P **P 15 00 42.6 -0.7**
NWAO pmax pmax
comp=Z,55nm,0.6s
NWAO Narrogin (SRO) 84.38 205⇑ *e*P **P 15 00 42.1 -1.2**
comp=Z,56nm,0.6s,mb5.5
LRDF Laroque-de-Fa 84.64 335 *e*P **P 15 00 45.5 +0.9**
TOO Toolangi 84.68 181 *e*P **P 15 00 45.4 +0.6**
comp=Z,47nm,0.6s,mb5.4
TOO Toolangi 84.68 181 *e*P **P 15 00 45.4 +0.6**
TOO pmax pmax
comp=Z,47nm,0.6s,mb5.4
PAL Palisades 84.72 30 P **P 15 00 44.6 -0.4**
PAL pmax pmax
comp=Z,74nm,1.0s,mb5.4
PAL Palisades 84.72 30⇑ *e*P **P 15 00 43.6 -1.3**
comp=Z,88nm,1.0s,mb5.4
MUKL Al Mukalla 84.74 286 *e*P **P 15 00 45.6 +0.5**
MUKL AMb AMB 15 00 46.9
comp=Z,448nm,1.0s,mb6.2
MVL Millersville 84.76 32⇑ *i*P **P 15 00 44.1 -1.1**
comp=Z,38nm,0.9s,mb5.1
BRNJ Basking Ridge 84.78 30 *e*P **P 15 00 45.4 +0.1**
comp=Z,47nm,0.7s,mb5.3
TZTN Tazewell 84.93 39⇑ *i*P **P 15 00 45.6 -0.5**
comp=Z,30nm,0.4s,mb5.4
CARF Carcanieres 84.97 335 *e*P **P 15 00 47.0 +0.8**
EJON La Jonquera 84.99 334 P **P 15 00 47.0 +0.7**
comp=Z,189nm,1.8s,mb5.5
PMOR Pomariorio Rebe 85.02 118 *e*P **P 15 00 47.3 +0.8**
comp=Z,109nm,0.9s,mb5.6
MLS Moulis 85.04 336 *e*P **P 15 00 47.3 +0.8**
SDMD Soldier's Deli 85.10 33 *e*P **P 15 00 46.0 -0.9**
comp=Z,46nm,0.9s,mb5.2
DGAR Diego Garcia 85.11 254 P **P 15 00 46.6 -0.3**
comp=Z,2μm,0.7s,SNR=6.3
DGAR Diego Garcia 85.11 254 P **P 15 00 46.7 -0.2**
DGAR pmax pmax
comp=Z,180nm,0.7s,mb5.9
DGAR Diego Garcia 85.11 254 *e*P **P 15 00 46.4 -0.5**
comp=Z,178nm,0.7s,mb5.9
DGAR pP pP 15 02 15.8 -3.1
TAOE Nuku Hiva Isla 85.12 109 *e*P **P 15 00 47.6 +0.7**
comp=Z,563nm,0.9s,mb6.3
TAOE *e*pP pP 15 02 19.3 +0.4
comp=Z,603nm,1.2s
TAOE *e*S S 15 10 42.9 +1.1
comp=Z,9μm,33.4s
EPF Esparros 85.18 336 *e*P **P 15 00 47.0 -0.2**
comp=Z,171nm,1.4s,mb5.3
EPF Esparros 85.18 336 *e*P **P 15 00 47.0 -0.2**
comp=Z,85nm,1.4s,mb5.3
KVTX Kingsville 85.28 54⇑ *e*P **P 15 00 48.6 +0.8**
comp=Z,480nm,1.2s,mb6.1
VALF Valcebollere 85.29 335 *e*P **P 15 00 50.0 +2.2**
VAH Vaihoa 85.36 118 *e*P **P 15 00 48.8 +0.6**
comp=Z,110nm,1.0s,mb5.5
RESF Ens 85.39 336 *e*P **P 15 00 50.8 +2.5**
ELN Prospectdale 85.50 36 *e*P **P 15 00 47.9 -1.0**
SJPF Ste Jean 85.52 337 *e*P **P 15 00 49.4 +0.5**
comp=Z,149nm,1.3s,mb5.2
SJPF Ste Jean 85.52 337 *e*P **P 15 00 49.4 +0.5**
comp=Z,75nm,1.3s,mb5.3
ETSF Etsaut 85.55 337 *e*P **P 15 00 49.7 +0.7**
comp=Z,100nm,0.8s,mb5.3
ETSF Etsaut 85.55 337 *e*P **P 15 00 49.7 +0.7**
comp=Z,50nm,0.8s,mb5.3
EBIE Bielsa 85.55 336 P **P 15 00 50.8 +1.7**
comp=Z,106nm,1.6s,mb5.3
ELIZ Elizondo 85.55 337 P **P 15 00 50.1 +1.1**
comp=Z,39nm,1.1s,mb5.0
BLA Blacksburg 85.65 36⇑ *i*P **P 15 00 49.0 -0.6**
comp=Z,62nm,1.0s,mb5.3
EMIR Miracle 85.88 335 P **P 15 00 51.8 +1.2**
comp=Z,92nm,1.5s,mb5.3
CBN Corbin 85.97 34⇑ *e*P **P 15 00 50.3 -0.8**
comp=Z,50nm,0.4s,mb5.6
ELAN Lanestosa 85.97 339 P **P 15 00 48.9 -2.2**
comp=Z,1μm,3.7s
PPT Papeete 86.05 121 *e*P **P 15 00 52.3 +0.8**
comp=Z,59nm,1.1s,mb5.2
PPT Papeete 86.05 121 *e*SS SS 15 16 40.6 +0.9
comp=Z,361nm,25.5s
PPT Papeete 86.05 121 P **P 15 00 51.3 -0.2**
comp=Z,57nm,1.0s,mb5.3,baz=216,slow=17,SNR=5.5
PPT Papeete 86.05 121 P **P 15 00 51.3 -0.2**
PPT pmax pmax
comp=Z,57nm,1.0s
PAE Paea 86.12 121 *e*P **P 15 00 52.4 +0.6**
comp=Z,98nm,1.1s,mb5.5
ECRI Cripan 86.33 338 P **P 15 00 53.9 +1.1**
comp=Z,21nm,0.9s,mb4.9
LRAL Lakeview Retre 86.36 43⇑ *e*P **P 15 00 52.2 -0.8**
comp=Z,86nm,1.3s,mb5.3
TVO Taravao 86.40 121 *e*P **P 15 00 54.2 +1.0**
comp=Z,179nm,1.2s,mb5.7
EPOB Poblet 86.52 335 P **P 15 00 55.3 +1.6**
comp=Z,208nm,1.5s,mb5.6
ESAC San Caprasio 86.61 336 P **P 15 00 56.0 +1.8**
comp=Z,254nm,1.7s,mb5.7
ERUA La Rua 87.63 341 P **P 15 00 58.7 -0.3**
comp=Z,95nm,1.3s,mb5.4
GOGA Godfrey 87.63 40 P **P 15 00 59.4 +0.4**
GOGA pmax pmax
comp=Z,140nm,1.5s,mb5.5
GOGA Godfrey 87.63 40⇑ *e*P **P 15 00 58.0 -0.9**
comp=Z,138nm,1.5s,mb5.5
LBOS 87.65 288 AMb AMB 15 01 01.0
comp=Z,230nm,1.7s,mb5.6
JSC Jenkinsville 87.83 38 *e*P **P 15 00 59.6 -0.3**
LHS Liberty Hill 87.85 38 P **P 15 01 00.3 +0.3**
EMOS Mosqueruela 87.88 336 P **P 15 01 01.2 +1.1**
comp=Z,463nm,2.6s,mb5.8
ETOR Torete 87.89 337 P **P 15 00 59.9 -0.3**
comp=Z,24nm,1.1s,mb4.8
BRAL Brewton 88.02 44⇑ *e*P **P 15 01 00.5 -0.3**
comp=Z,61nm,0.5s,mb5.6
PBRG Braganca 88.10 341 *e*P **P 15 01 00.9 -0.3**
ECHE Chera 88.74 336 P **P 15 01 05.3 +1.1**
comp=Z,47nm,1.4s,mb5.0
CMAH Djebel Manchou 88.80 329 P **P 15 01 05.0 +0.6**
PVRL Vila Real 88.82 341 *e*P **P 15 01 05.2 +0.7**
CAEH 'Ain El Ouahch 88.86 329 P **P 15 01 08.0 +3.3**
TRBA At Turbah 88.86 288 *e*P **P 15 01 05.8 +1.1**
KEST Kesra 88.89 327 P **P 15 01 04.8 0.0**
comp=Z,16nm,0.8s,mb4.8,baz=253,slow=1.2,SNR=27
KEST pP pP 15 02 36.6 -1.2
comp=Z,7.8nm,0.9s,baz=210,slow=1.4,SNR=6.0
ABSA Djebel Ababsia 89.09 328 P **P 15 01 06.0 +0.2**
CKFL Kef-Lekhel 89.24 329 P **P 15 01 07.0 +0.5**
EBEN Beniarda 89.35 335 P **P 15 01 08.2 +1.1**
comp=Z,664nm,2.7s,mb5.9
DFRA Djebel Bou Aff 89.41 330 P **P 15 01 15.0 +7.7**
CASM Ain Smara 89.45 329 P **P 15 01 09.0 +1.5**
ESDC Sonseca Array 89.46 338 P **P 15 01 06.3 -1.2**
comp=Z,2.6nm,0.5s,baz=22,slow=3.5,SNR=17
ESDC pP pP 15 02 38.8 -1.6
comp=Z,8.5nm,0.9s,baz=5.1,slow=3.8,SNR=2.6
ESDC Sonseca Array 89.46 338 P **P 15 01 06.5 -1.0**
comp=Z,4.7nm,0.7s
URZ Urewera 89.49 157 P **P 15 01 06.0 -1.7**
comp=Z,26nm,0.6s,mb5.2,baz=323,slow=2.3,SNR=17
ETOB Tobarra 89.78 336 P **P 15 01 08.0 -1.0**
SET Setif 89.88 330 P **P 15 01 10.0 +0.5**
EVIA Vianos 90.05 337 P **P 15 01 11.4 +1.2**
comp=Z,6.4nm,0.5s,mb4.7
TBI Tubuai 90.68 125 *e*SS SS 15 17 39.0 -7.5
comp=Z,210nm,28.8s
TBI Tubuai 90.68 125 *e*P **P 15 01 14.0 +0.8**
comp=Z,146nm,1.2s,mb5.7
TBI *e*SS SS 15 17 39.0 -7.5
EHUE Huescar 90.84 336 P **P 15 01 13.8 -0.1**
ATD Arta Tunnel 90.94 288 P **P 15 01 16.4 +2.0**
comp=Z,92nm,0.8s,mb5.7,baz=16,slow=4.7,SNR=41
ATD PP PP 15 04 56.0 -1.0
comp=Z,30nm,1.2s,baz=33,slow=8.4,SNR=5.1
EQES Quesada 90.98 337 P **P 15 01 14.2 -0.3**
comp=Z,16nm,1.0s,mb4.8
IIO Organos 91.05 59 *i*P **P 15 01 15.2 +0.3**
PESTR Estremoz 91.10 340 *e*P **P 15 01 14.2 -0.9**
ECOG Cogollos-Vega 91.61 337 P **P 15 01 17.3 -0.1**
ELOJ Sierra Loja 91.89 337 P **P 15 01 17.9 -0.8**
ERON Agron 91.92 337 P **P 15 01 18.2 -0.7**
comp=Z,9.7nm,0.7s,mb4.8
ESPR Espera 92.59 339 P **P 15 01 22.5 +0.5**
comp=Z,12nm,0.8s,mb4.9
EJIF Jimena Fronter 92.89 338 P **P 15 01 23.2 -0.2**
RPZ Rata Peaks 93.26 163 P **P 15 01 22.5 -2.6**
comp=Z,9.8nm,0.9s,mb4.7,baz=0.0,slow=6.1,SNR=2.5
RKT Rikitea 99.06 114 *e*SKSac SKSac 15 11 48.5 -1.1
comp=Z,329nm,27.2s
RKT *e*SS SS 15 19 45.8 +1.3
comp=Z,149nm,29.5s
KMBO Kilima Mbogo 104.08 284 Pdiff Pdif 15 02 15.5 +1.9
comp=Z,2.6nm,0.8s,baz=43,slow=23,SNR=5.8
KMBO PP PP 15 06 36.1 -0.7
comp=Z,7.3nm,0.9s,baz=30,slow=9.8,SNR=9.1
KMBO Kilima Mbogo 104.08 284 P Pdif 15 02 15.5 +2.0
KMBO 15 06 36.1
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 104.08 284 *e*Pdif Pdif 15 02 15.8 +2.3
comp=Z,6.6nm,1.3s
OPO Ambohidratompo 110.00 264 Pdiff Pdif 15 02 40.4 +0.6
comp=Z,1.9nm,0.7s,baz=350,slow=7.4,SNR=3.6
OPO PP PP 15 07 21.5 +1.8
comp=Z,7.0nm,1.0s,baz=28,slow=8.8,SNR=4.7
TORD Torodi Ar. Bea 112.16 323 Pdiff Pdif 15 02 50.6 +1.2
comp=Z,2.2nm,0.8s,baz=11,slow=5.4,SNR=11
TORD PKiKP PKiKP 15 06 42.4 -1.1
comp=Z,6.1nm,0.6s,baz=19,slow=2.1,SNR=40
TORD PP PP 15 07 27.9 -7.1
comp=Z,15nm,0.9s,baz=16,slow=6.9,SNR=12
TORD SKiKP 15 09 38.9
comp=Z,1.0nm,0.4s,baz=13,slow=3.3,SNR=3.6
TORD PKKPbc PKKPbc 15 17 34.6 -0.8
comp=Z,1.4nm,0.5s,baz=197,slow=2.6,SNR=9.4
TORD PKKPab PKKPab 15 17 44.3 -1.2
comp=Z,2.3nm,0.8s,baz=212,slow=5.1,SNR=3.9
TORD Torodi Ar. Bea 112.16 323 Pdif Pdif 15 02 50.6 +1.2
TORD PKPdf PKiKP 15 06 42.4 -1.1
TORD PP PP 15 07 27.9 -7.1
TORD PKKPbc PKKPbc 15 17 34.6 -0.7
TORD PKKPab PKKPab 15 17 44.3 -1.2
SDV Santo Domingo 114.72 42 PKiKP PKiKP 15 06 47.9 -0.5
SDV SKiKP 15 09 45.4
comp=Z,9.0nm,0.8s,baz=294,slow=4.7,SNR=5.2
SDV S SKSac 15 12 58.4 +0.7
comp=Z,5.8nm,0.6s,baz=300,slow=21,SNR=13
SDV Santo Domingo 114.72 42 *e*P PKiKP 15 06 47.6 -0.8
PCRV Puerto La Cruz 116.09 35 SKP 15 09 48.1
comp=Z,11nm,0.9s,baz=97,slow=3.2,SNR=3.5
CASY Casey 116.82 196 *e*P PKPdf 15 06 50.3 -2.0
CASY *e*SKP 15 09 46.6
LSZ Lusaka 120.51 281 PKP PKPdf 15 06 59.3 -0.2
comp=Z,28nm,0.6s,baz=33,slow=2.6,SNR=59
LSZ PP PP 15 08 32.4 -0.4
comp=Z,13nm,0.9s,baz=49,slow=6.3,SNR=4.9
LSZ Lusaka 120.51 281 PKIKP PKPdf 15 06 59.3 -0.2
LSZ 15 08 32.4
LSZ pmax pmax
comp=Z,28nm,0.6s
LSZ Lusaka 120.51 281 *e*PKPdf PKPdf 15 06 58.9 -0.6
LSZ *e*PP PP 15 08 32.6 -0.2
LIC Lamto 121.09 327 *e*PKIKP PKPdf 15 06 58.6 -2.0
comp=Z,55nm,0.9s
LIC *e*MLR
comp=Z,205nm,21.2s
LIC Lamto 121.09 327 *e*PKPdf PKPdf 15 06 58.6 -2.0
LIC LR LR
comp=Z,100nm,21.3s
MATP Matopo 123.94 276 PKP PKPdf 15 07 05.8 -0.3
comp=Z,27nm,0.6s,baz=19,slow=2.1,SNR=46
MATP PP PP 15 08 54.3 -1.5
comp=Z,25nm,1.0s,baz=32,slow=8.2,SNR=6.1
MATP PKKPbc PKKPbc 15 16 53.5 0.0
comp=Z,1.0nm,0.5s,baz=237,slow=3.9,SNR=6.6
ATAH Atahualpa 124.19 59 PKP PKPdf 15 07 08.2 +1.7
comp=Z,10nm,0.5s,baz=165,slow=1.8,SNR=7.9
ATAH SKP 15 10 04.9
comp=Z,6.7nm,0.6s,baz=13,slow=9.4,SNR=3.6
VNDA Vanda 125.06 176 PKP PKPdf 15 07 06.5 -1.6
comp=Z,7.5nm,0.6s,baz=323,slow=4.6,SNR=46
VNDA SKP 15 10 03.6
comp=Z,2.8nm,0.6s,baz=356,slow=4.2,SNR=5.2
LBTB Lobatse 129.01 275 PKhKP 15 07 04.4
comp=Z,2.4nm,0.7s,baz=123,slow=3.5,SNR=4.4
LBTB PKP PKPdf 15 07 14.8 -0.9
comp=Z,23nm,0.6s,baz=19,slow=1.2,SNR=38
LBTB SKPbc 15 09 59.3
comp=Z,72nm,0.8s,baz=84,slow=3.3,SNR=22
LBTB Lobatse 129.01 275 *i*PKHKP 15 07 04.4
LBTB 15 07 14.9
LBTB pmax pmax
comp=Z,2.0nm,0.7s
NNA Nana 129.09 61 PKP PKPdf 15 07 15.9 +0.1
comp=Z,14nm,0.6s,baz=285,slow=4.4,SNR=8.3
NNA SKPbc 15 09 58.6
comp=Z,49nm,0.9s,baz=329,slow=4.5,SNR=15
TSUM Tsumeb 130.32 287 PKhKP 15 07 05.4
comp=Z,3.9nm,1.0s,baz=349,slow=7.7,SNR=5.4
TSUM PKP PKPdf 15 07 19.2 +1.0
comp=Z,8.0nm,0.7s,baz=350,slow=3.7,SNR=8.5
TSUM SKPbc SKPbc 15 10 03.9 +0.9
comp=Z,89nm,0.8s,baz=9.8,slow=4.2,SNR=42
TSUM Tsumeb 130.32 287 *e*PKPpre 15 06 59.9
TSUM PKP 15 07 05.4
TSUM *e*PKPdf PKPdf 15 07 19.3 +1.1
TSUM *e*SKP 15 10 03.2
MAW Mawson 130.69 210 PKhKP 15 07 07.1
comp=Z,3.2nm,0.5s,baz=259,slow=3.1,SNR=8.6
MAW PKP PKPdf 15 07 18.0 -0.9
comp=Z,11nm,0.6s,baz=92,slow=3.5,SNR=26
MAW SKPbc SKPbc 15 10 05.2 +0.9
comp=Z,101nm,0.9s,baz=53,slow=5.0,SNR=53
MAW Mawson 130.69 210 PKP 15 07 07.1
MAW PKP PKPdf 15 07 18.0 -0.9
MAW SKPbc SKPbc 15 10 05.2 +0.9
BOSA Boshof 131.58 271 PKP PKPdf 15 07 18.0 -2.6
comp=Z,6.5nm,0.7s,baz=339,slow=3.2,SNR=10
BOSA SKPbc SKPbc 15 10 08.4 +0.9
comp=Z,34nm,0.6s,baz=51,slow=4.1,SNR=15
QSPA South Pole Qui 137.21 180 *e*PKPpre 15 07 16.1
QSPA *e*PKPdf PKPdf 15 07 31.0 -0.1
QSPA *e*SKP 15 10 22.8
LPAZ La Paz 137.54 55 PKhKP 15 07 22.7
comp=Z,1.3nm,0.5s,baz=258,slow=1.4,SNR=6.3
LPAZ PKP PKPdf 15 07 31.5 -0.2
comp=Z,8.2nm,0.5s,baz=337,slow=3.0,SNR=8.3
LPAZ SKP 15 10 27.6
comp=Z,28nm,1.1s,baz=346,slow=5.5,SNR=17
LPAZ La Paz 137.54 55 PKP 15 07 22.7
LPAZ PKP PKPdf 15 07 31.5 -0.2
LPAZ SKP 15 10 27.6
SIV San Ignacio 140.98 46 PKhKP 15 07 30.9
comp=Z,3.7nm,0.5s,baz=305,slow=4.9,SNR=21
SIV PKP PKPdf 15 07 37.2 -0.8
comp=Z,12nm,0.5s,baz=292,slow=1.7,SNR=28
SIV SKPbc SKPbc 15 10 36.5 +0.7
comp=Z,35nm,0.8s,baz=280,slow=1.3,SNR=23
MAIT Maitri 148.52 207 *e*PKPdf PKPdf 15 07 51.7 +0.8
CFAA Coronel Fontan 148.87 72 PKPbc PKPbc 15 07 55.2 -0.7
comp=Z,4.5nm,0.5s,baz=254,slow=3.5,SNR=11
CFAA pPKPbc pPKPbc 15 09 30.6 -2.9
comp=Z,5.0nm,1.0s,baz=0.0,slow=5.1,SNR=3.0
SNAA Sanae 151.95 200 PKP PKPdf 15 07 53.7 -2.5
comp=Z,1.1nm,0.6s,baz=185,slow=2.6,SNR=23
SNAA PKPbc PKPbc 15 08 01.2 -1.9
comp=Z,10nm,0.4s,baz=223,slow=1.6,SNR=401
SNAA PKPab PKPab 15 08 13.0 -1.2
comp=Z,9.8nm,0.5s,baz=186,slow=6.0,SNR=10
SNAA pPKPbc pPKPbc 15 09 38.7 -2.4
comp=Z,4.8nm,0.9s,baz=311,slow=16,SNR=1.5
SNAA Sanae 151.95 200 *e*PKPdf PKPdf 15 07 53.6 -2.6
SNAA *e* 15 08 01.0
SNAA *e* 15 08 12.8
SNAA *e* 15 09 41.9
SNAA Sanae 151.95 200 *e*PKPdf PKPdf 15 07 54.0 -2.3
SNAA *e*PKPbc PKPbc 15 08 01.1 -2.0
SNAA *e*PKPab PKPab 15 08 12.4 -1.7
SNAA *e*pPKPdf pPKPdf 15 09 42.3 +7.3
VNA2 Neumayer--Watz 153.50 199 *e*PKPdf PKPdf 15 07 56.9 -1.6
VNA2 *e* 15 08 04.4
VNA2 *e* 15 08 07.4
VNA2 *e* 15 08 19.5
VNA2 *e* 15 09 42.7
VNA2 *e* 15 09 46.3
VNA2 *e* 15 09 56.8
VNA2 *e* 15 11 55.3
VNA3 Neumayer Olymp 153.73 197 *e*PKPdf PKPdf 15 07 57.2 -1.6
VNA3 *e* 15 08 05.0
VNA3 *e* 15 08 07.1
VNA3 *e* 15 08 19.9
VNA3 *e* 15 09 42.4
VNA3 *e* 15 09 46.3
VNA3 *e* 15 09 56.4
VNA3 *e* 15 11 55.1
VNA1 Neumayer--Stat 153.90 198 *e*PKPdf PKPdf 15 07 57.4 -1.6
VNA1 *e* 15 08 05.9
VNA1 *e* 15 08 21.4
VNA1 *e* 15 09 42.7
VNA1 *e* 15 09 47.8
VNA1 *e* 15 09 57.9
PMSA Palmer Station 155.91 147 PKP PKPdf 15 08 00.9 -0.8
comp=Z,19nm,0.9s,baz=307,slow=3.4,SNR=2.1
PMSA PKPab PKPab 15 08 29.9 -1.2
comp=Z,50nm,0.7s,baz=228,slow=3.2,SNR=8.0

NEIC ***09*** *15:08:15.0± 1.5, 1929S× 17577W, h100km, mb4.7/4, Error ellipse: s-maj=77.7km s-min=21.0km az=156.0*
IDC ***09*** *15:08:15.6± 15.0, 1965S× 17572W, h103km± 127km, mb4.3/6, mb1 4.3/7, mb1mx3.8/18, mbtmp4.2/7, ML3.6/1, Error ellipse: s-maj=64.4km s-min=36.8km az=56.0*
ISCJB ***09*** *15:08:16.5± 2.8, 190S± 05× 1763W± 03, h100km, mb4.5/9, Error ellipse: s-maj=80.3km s-min=20.6km az=56.5*
ISC 09 15:08:15.6±2.1, 187S±04×1759W±02, h100km, n22, σ1§07/17, mb4.5/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.88**	**255**	P	**Pn**	**15 12 06.9**	**+1.2**
0.2nm,0.3s,baz=274,slow=23,SNR=6.6							
RPZ	**Rata Peaks**	**27.27**	**201**	P	**P**	**15 13 42.3**	**-8.2**
4.8nm,0.4s,mb4.4,baz=318,slow=22,SNR=7.1							
CTA	**Charters Tower**	**35.67**	**261**	*e*P	**P**	**15 15 05.6**	**+1.6**
3.9nm,0.3s,mb4.8							
CTA	**Charters Tower**	**35.67**	**261**	P	**P**	**15 15 05.7**	**+1.6**
5.7nm,0.4s,mb4.9,baz=107,slow=13,SNR=19							
CTAO	**Charters Tower**	**35.67**	**261**	*e*P	**P**	**15 15 05.5**	**+1.5**
5.7nm,0.4s,mb4.8							
PMG	**Port Moresby**	**36.92**	**279**	P	**P**	**15 15 16.4**	**+1.7**
10nm,0.9s,mb4.8,baz=210,slow=8.1,SNR=3.6							
STKA	**Stephens Creek**	**40.36**	**243**	*e*P	**P**	**15 15 43.4**	**-0.1**
4.7nm,1.2s,mb4.2							
STKA	**Stephens Creek**	**40.36**	**243**	P	**P**	**15 15 42.2**	**-1.2**
4.1nm,0.9s,mb4.3,baz=77,slow=3.7,SNR=5.5							
STKA	**Stephens Creek**	**40.36**	**243**	P	**P**	**15 15 42.2**	**-1.3**
WB2	**Warramunga Arr**	**46.82**	**260**	*e*P	**P**	**15 16 34.2**	**-1.0**
WRAB	**Tennant Creek**	**46.82**	**260**	*e*P	**P**	**15 16 34.1**	**-1.2**
5.3nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**46.83**	**260**	P	**P**	**15 16 34.4**	**-0.9**
2.3nm,0.3s,mb4.3,baz=97,slow=7.7,SNR=95							
ASAR	**Alice Springs**	**46.87**	**255**	P	**P**	**15 16 34.6**	**-1.1**
9.7nm,0.8s,mb4.6,baz=91,slow=7.8,SNR=94							
KAKA	**Kakadu**	**49.94**	**269**	*e*P	**P**	**15 16 58.9**	**-0.3**
6.9nm,0.6s,mb4.8							
QSPA	**South Pole Qui**	**71.39**	**180**	*e*P	**P**	**15 19 26.1**	**+1.2**
3.3nm,0.6s,mb4.3							
VNA3	**Neumayer Olymp**	**89.82**	**176**	*e*	**P**	**15 21 02.7**	**-0.3**
VNA3				*e*		15 21 05.0	

VNA2	Neumayer--Watz	90.28	176	*e*	P	15 21 05.3	+0.1
	baz=188,slow=4.2						
VNA2				*e*		15 21 07.7	
ARCES	ARCESS Array B	127.47	351	PKP	PKPdf	15 27 09.9	+1.2
	5.4nm,0.9s,baz=353,slow=2.8,SNR=5.4						
FINES	FINESS Array B	134.54	345	PKP	PKPdf	15 27 21.1	-1.0
	2.0nm,0.7s,baz=215,slow=2.3,SNR=7.0						
BRTR	Keskin Array B	146.99	316	PKPbc	PKPbc	15 27 47.3	+0.7
	1.1nm,0.5s,baz=131,slow=3.4,SNR=3.6						
KHC	Kasperske Hory	148.66	348	*e*PKPbc	PKPbc	15 27 53.5	+2.4
GERES	GERESS Array B	148.91	348	PKPbc	PKPbc	15 27 54.5	+2.8
	1.0nm,0.6s,baz=9.1,slow=3.4,SNR=9.4						

ISCJB ***09*** *15:12:10.4±1.0, 44.43N×005.5×1297W±0.1, h11km±13km, mb3.5/2, MS4.0/1, Error ellipse: s-maj=16.4km s-min=6.7km az=151.7*
IDC ***09*** *15:12:10.1±4.5, 44.44N×129.72W, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.6/23, mbtmp3.5/6, ML3.7/3, MS4.1/1, Ms1 4.0/1, ms1mx2.9/23, Error ellipse: s-maj=63.6km s-min=31.3km az=75.0*
NEIC ***09*** *15:12:12.6±1.9, 44.52N×129.72W, h10km, Error ellipse: s-maj=22.8km s-min=8.9km az=83.0*

ISC 09 15:12:12.3±1.3, 44.38N±005×1298W±01, h17km±16km, n90, σ0.9 76/101, mb3.5/2, MS4.0/1, 26C-31D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	4.22	109	Pn	Pn	15 13 16.5	+0.6
I02A	Mapleton	4.29	93	⇓P	Pn	15 13 15.8	-1.0
I02A	baz=4.2			⇓S	Sn	15 14 05.5	-0.9
J02A	Umpqua	4.59	101	⇓P	Pn	15 13 19.9	-1.0
J02A	baz=4.6			⇓S	Sn	15 14 13.7	-0.2
COR	Corvallis	4.63	85	*e*Pn	Pn	15 13 20.8	-0.7
COR				*e*Sn	Sn	15 14 14.9	+0.1
H03A	Soap Creek Ran	4.64	84	⇑P	Pn	15 13 20.8	-0.8
H03A	baz=4.6,SNR=5.8			⇓S	Sn	15 14 14.8	-0.3
F03A	Seaside	4.66	68	⇑P	Pn	15 13 21.1	-0.8
F03A	baz=4.6			⇓S	Sn	15 14 16.2	+0.7
I03A	Eugene	4.69	93	⇓P	Pn	15 13 21.3	-1.0
I03A	baz=4.6			⇓S	Sn	15 14 15.8	-0.4
G03A	Yamhill	4.71	76	⇓P	Pn	15 13 22.0	-0.5
G03A	baz=4.6,SNR=5.8			⇑S	Sn	15 14 17.3	+0.5
NLO	Nicolai Mounta	4.78	67	P	Pn	15 13 23.1	-0.4
K02A	Glendale	4.84	107	⇓S	Sn	15 14 18.3	-1.7
E03A	baz=4.8						
	Lebam	4.87	61	⇓P	Pn	15 13 24.1	-0.7
ON2	baz=4.8,SNR=11						
	Olympics--Nort	4.89	57	P	Pn	15 13 24.8	-0.2
WISH	Wishkah	5.01	55	P	Pn	15 13 27.0	+0.3
J03A	Ideyld Park	5.02	99	⇓P	Pn	15 13 26.1	-0.8
C03A	baz=5.0						
	Quillayute Air	5.08	44	⇓P	Pn	15 13 27.6	0.0
G04A	baz=4.9,SNR=5.1						
	Mulino	5.25	78	⇓P	Pn	15 13 29.6	-0.4
HUMO	baz=5.2,SNR=5.1						
	Hull Mountain	5.26	107	*e*Pn	Pn	15 13 30.2	0.0
HUMO				*e*Sn	Sn	15 14 29.7	-0.8
CPW	Capitol Peak	5.32	59	P	Pn	15 13 30.9	-0.1
I04A	Tendick Farm,	5.33	94	⇑S	Sn	15 14 32.4	+0.3
GT2	baz=5.3						
	Goat Mountain	5.39	79	P	Pn	15 13 32.2	+0.2
IRO	Indian Ridge	5.42	91	P	Pn	15 13 32.8	+0.5
F04A	Amboy	5.42	71	⇑P	Pn	15 13 32.1	-0.3
E04A	baz=5.3,SNR=19						
	Onalaska	5.43	63	⇓P	Pn	15 13 32.4	-0.1
H04A	baz=5.3,SNR=6.8						
	Detroit Lake	5.43	84	⇓P	Pn	15 13 32.1	-0.4
H04A	baz=5.4			⇑S	Sn	15 14 35.6	+1.1
LVP	baz=5.4						
	Lakeview Peak	5.46	69	P	Pn	15 13 32.6	-0.4
FL2	Flat Top 2	5.54	68	P	Pn	15 13 33.7	-0.3
D04A	Dobbs Creek Ra	5.59	58	⇑P	Pn	15 13 35.1	+0.5
MTMW	baz=5.5,SNR=41						
	Mount Mitchell	5.59	70	P	Pn	15 13 34.7	0.0
B04A	Port Angeles	5.69	48	⇓P	Pn	15 13 35.8	-0.2
HDW	baz=5.6						
	Hoodsport	5.70	53	P	Pn	15 13 36.3	0.0
LMW	Ladd Mountain	5.73	64	P	Pn	15 13 37.1	+0.6
TDH	Tom, Dick, Har	5.75	78	P	Pn	15 13 37.4	+0.6
C04A	Brinnon	5.79	52	⇓P	Pn	15 13 37.5	+0.1
YBH	baz=5.7,SNR=32						
	Yreka Blue Hor	5.81	115	Pn	Pn	15 13 40.1	+2.4
YBH	0.3nm,0.3s,baz=205,slow=10,SNR=5.8						
	Yreka Blue Hor	5.81	115	Pn	Pn	15 13 40.1	+2.4
YBH				*e*Sn	Sn	15 14 53.5	+10
E05A	Randle	6.04	66	⇑P	Pn	15 13 41.0	+0.2
F05A	baz=5.9,SNR=44						
	White Salmon	6.07	73	⇑P	Pn	15 13 41.0	-0.2
PGC	baz=6.0,SNR=32						
	Sidney	6.10	43	*e*Pn	Pn	15 13 41.1	-0.6
PGC	83nm,0.7s						
				*e*Sn	Sn	15 14 50.5	-0.5
H05A	Madras	6.11	85	⇓P	Pn	15 13 41.7	-0.1
D05A	baz=6.0						
	Enumclaw	6.12	60	⇑P	Pn	15 13 42.8	+0.8
GLK	baz=6.0,SNR=55						
	Glacier Lake	6.14	66	P	Pn	15 13 42.7	+0.5
A04A	Legoe Bay, Lum	6.52	46	⇑P	Pn	15 13 47.6	+0.2
C05A	baz=6.4						
	Tolt Reservoir	6.53	57	⇑P	Pn	15 13 47.8	+0.2
E06A	baz=6.4,SNR=20						
	Yakima	6.55	68	⇑P	Pn	15 13 48.3	+0.4
G06A	baz=6.4,SNR=5.9						
	Carlson Farm,	6.55	79	⇑P	Pn	15 13 47.7	-0.2
H06A	baz=6.5						
	Lindquist Farm	6.75	84	⇓P	Pn	15 13 50.4	-0.2
D06A	baz=6.7						
	Cle Elum	6.84	63	⇑P	Pn	15 13 52.3	+0.4
A05A	baz=6.7,SNR=17						
	Maple Falls	7.01	46	⇓P	Pn	15 13 54.6	+0.4
A05A	baz=6.9,SNR=17			⇑S	Sn	15 15 15.8	+2.1
G07A	baz=6.9						
	Ruggs Ranch, H	7.24	79	⇓P	Pn	15 13 57.5	+0.2
MOD	baz=7.2						
	Modoc	7.35	106	⇓S	Sn	15 15 22.7	+0.8
C07A	baz=7.3						
	Waterville	7.52	60	⇑P	Pn	15 14 01.0	-0.2
G08A	baz=7.4,SNR=38						
	Pilot Rock	7.74	79	⇓P	Pn	15 14 03.7	-0.5
B07A	baz=7.7,SNR=7.1						
	Winthrop	7.81	55	⇓P	Pn	15 14 05.6	+0.3
E08A	baz=7.7,SNR=37						
	Dider Farm, El	7.82	71	⇑P	Pn	15 14 05.4	+0.1
A07A	baz=7.7,SNR=9.5						
	Ashnola River,	7.96	51	⇑P	Pn	15 14 07.3	+0.1
D08A	baz=7.8						
	Wollman Farm,	8.05	67	⇑P	Pn	15 14 08.1	-0.3
C08A	baz=7.9,SNR=10						
	Higginbotham F	8.19	62	⇑P	Pn	15 14 09.8	-0.6
B08A	baz=8.1,SNR=7.4						
	Colville Reser	8.24	57	⇑P	Pn	15 14 10.6	-0.4
WVOR	baz=8.1						
	Wild Horse Val	8.34	100	*e*Pn	Pn	15 14 15.5	+3.2
D09A	Jones Farm, Ri	8.45	67	⇓P	Pn	15 14 13.7	-0.3
A08A	baz=8.3						
	Turner Farm, O	8.54	54	⇑P	Pn	15 14 15.2	0.0
C09A	baz=8.4,SNR=18						
	Chrisman Ranch	8.69	63	P	Pn	15 14 17.0	-0.2
BMO	baz=8.6,SNR=9.9						
	Blue Mountains	8.90	83	*e*Pn	Pn	15 14 19.7	-0.5
A09A	4.1nm,0.4s						
	Danville	8.95	55	⇑P	Pn	15 14 20.7	-0.1
B09A	baz=8.8,SNR=16						
	Rice	8.99	59	⇓P	Pn	15 14 20.5	-0.8
PAHR	baz=8.9,SNR=6.3						
	Pah Rah Range	9.03	118	Pn	Pn	15 14 33.0	+11
D10A	Wagner Farm, O	9.14	69	P	Pn	15 14 23.1	-0.3
	baz=9.0,SNR=7.9						
CMB	Columbia Colle	9.49	129	Pn	Pn	15 14 31.8	+3.6
NEW	Newport	9.57	62	Pn	Pn	15 14 28.6	-0.7
	0.5nm,0.3s,baz=225,slow=8.3,SNR=6.9						
NEW	Newport	9.57	62	*e*Pn	Pn	15 14 27.8	-1.5
	13nm,1.0s						
F11A	Grangeville	9.74	76	⇑P	Pn	15 14 32.6	+0.9
	baz=9.6,SNR=9.8						
E11A	Bogner Ranch,	9.75	74	⇓P	Pn	15 14 32.6	+0.9
	baz=9.6,SNR=8.6						
B11A	Sandpoint	10.10	62	⇓P	Pn	15 14 35.9	-0.7
	baz=10.0						
A11A	Hall Mountain,	10.28	59	⇓P	Pn	15 14 39.2	+0.1
	baz=10						
BSMT	Bassoo Peak	10.96	66	*e*Pn	Pn	15 14 48.9	+0.6
G13A	Cobalt	11.08	81	⇑P	Pn	15 14 49.8	-0.2
	baz=11,SNR=11						
HLID	Hailey	11.10	89	*e*Pn	Pn	15 14 53.2	+3.0
	7.2nm,1.4s						
E13A	Victor	11.15	74	⇓P	Pn	15 14 51.2	+0.3
	baz=11,SNR=5.2						
MSO	Missoula	11.36	72	*e*Pn	Pn	15 14 53.0	-0.8
	6.1nm,1.0s						
WALA	Waterton Lakes	11.84	61	*e*Pn	Pn	15 15 00.2	-0.2
	9.4nm,1.1s						
MCMT	McKenzie Canyo	12.07	82	*e*Pn	Pn	15 15 05.5	+2.0
ARUT	Antelope Range	13.95	113	*e*Pn	Pn	15 15 30.8	+1.6
PDAR	Pinedale Array	14.74	89	Pn	Pn	15 15 44.5	+4.5
	0.0nm,0.3s,baz=281,slow=11,SNR=5.8						
PV01	Paradox Valley	17.10	104	*e*Pn	Pn	15 16 15.0	+4.5
YKA	Yellowknife Ar	20.17	21	P	P	15 16 46.2	+0.4
	0.6nm,0.9s,baz=213,slow=10,SNR=4.2						
YKA	Yellowknife Ar	20.17	21	P	P	15 16 46.2	+0.4
ULM	Lac du Bonnet	23.57	64	P	P	15 17 21.2	-1.0
	3.0nm,0.7s,mb3.8,baz=287,slow=12,SNR=6.0						
TXAR	Lajitas Array	25.58	117	P	P	15 17 39.9	-0.5
	0.6nm,0.8s,mb3.2,baz=298,slow=7.9,SNR=6.5						
TXAR	Lajitas Array	25.58	117	P	P	15 17 39.9	-0.5
SCHQ	Schefferville	40.77	52	LR	LR	15 36 08.1	
	comp=Z,220nm,18.6s,MS4.0,baz=352,slow=35						

IDC ***09*** *15:39:25.2±1.0, 47.19N×15392E, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/23, mbtmp3.9/15, ML3.3/1, Error ellipse: s-maj=25.1km s-min=20.6km az=146.0*
NEIC ***09*** *15:39:27.8±1.1, 47.26N×153.72E, h10km, mb4.3/5, Error ellipse: s-maj=26.7km s-min=10.2km az=148.0*
ISCJB ***09*** *15:39:30.9±1.5, 47.3N±0.1×153.8E±0.1, h48km±12km, mb4.1/22, Error ellipse: s-maj=22.3km s-min=8.4km az=99.6*
MOS ***09*** *15:39:30.9±0.8, 47.22N×153.80E, h56km, mb4.3/13, Error ellipse: s-maj=17.3km s-min=10.5km az=77.3*

ISC 09 15:39:34.1±1.5, 47.4N±01×153.8E±01, h58km±11km, n49, σ0.9 90/51, mb4.1/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.59	24	*e*PN	Pn	15 40 28.0	+0.8
SKR				*e*S	Sn	15 41 08.4	+0.1
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.6s						
PET	Petropavlovsk	6.40	27	*e*PN	Pn	15 41 07.0	+1.3
PET				pmax	pmax		
	comp=Z,36nm,1.1s						
PET	Petropavlovsk	6.40	27	*e*Pn	Pn	15 41 07.0	+1.3
	comp=Z,36nm,1.1s						
PET				*e*Sn	Sn	15 42 15.4	-2.0
YSS	Yuzh-Sakhalins	7.56	270	*e*PN	Pn	15 41 31.0	+9.4
ASAJ	Asahikawa	8.52	251	Pn	Pn	15 41 34.5	-0.2
	comp=Z,0.5nm,0.3s,baz=15,slow=33,SNR=5.6						
ASAJ	Asahikawa	8.52	251	PN	Pn	15 41 34.5	-0.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	15.88	232	Pn	Pn	15 43 09.5	-4.3
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=3.4						
KSRS	Korea Array	21.47	252	P	P	15 44 16.9	-0.7
	comp=Z,1.3nm,0.6s,mb3.5,baz=66,slow=8.5,SNR=6.1						
SONM	Songino Array	31.57	289	P	P	15 45 50.8	-0.2
	comp=Z,0.4nm,0.6s,mb3.4,baz=78,slow=8.0,SNR=4.5						
SML	Sawmill	35.14	44	*e*P	P	15 46 22.1	0.0
COLA	College	35.30	39	*e*P	P	15 46 23.2	-0.2
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
COLA	College	35.30	39	*e*P	P	15 46 23.2	-0.2
	comp=Z,2.7nm,0.7s,mb4.3						
INK	Inuvik	40.82	33	*e*P	P	15 47 10.3	+0.5
INK				pmax	pmax		
	comp=Z,21nm,0.5s						
INK	Inuvik	40.82	33	*e*P	P	15 47 10.2	+0.4
	comp=Z,22nm,0.5s,mb5.0						
ZAL	Zalesovo	42.63	305	P	P	15 47 23.6	-1.0
	comp=Z,0.8nm,0.6s,mb3.6,baz=21,slow=6.2,SNR=3.9						
ZAL	Zalesovo	42.63	305	P	P	15 47 23.6	-1.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	47.06	297	P	P	15 47 59.4	-0.5
	comp=Z,1.1nm,0.7s,mb3.9,baz=68,slow=7.4,SNR=15						
MKAR	Makanchi Array	47.06	297	P	P	15 47 59.4	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	47.40	303	*e*P	P	15 48 01.4	-1.1
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KURK	Kurchatov	47.40	303	*e*P	P	15 48 01.4	-1.0
	comp=Z,2.9nm,0.6s,mb4.4						
YKA	Yellowknife Ar	50.09	37	P	P	15 48 23.3	+0.2
	comp=Z,0.5nm,0.7s,mb3.7,baz=295,slow=7.1,SNR=6.5						
CHKZ	Chkalovo	50.37	310	*e*P	P	15 48 24.1	-1.1
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CHKZ	Chkalovo	50.37	310	*e*P	P	15 48 24.1	-1.2
	comp=Z,2.6nm,0.7s,mb4.4						
LSA	Lhasa	50.72	273	*e*P	P	15 48 29.9	+2.0
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LSA	Lhasa	50.72	273	*e*P	P	15 48 29.9	+1.9
	comp=Z,2.3nm,0.6s,mb4.3						
BVAR	Borovoye Array	50.81	309	P	P	15 48 28.2	-0.4
	comp=Z,0.6nm,0.4s,mb3.9,baz=60,slow=6.5,SNR=6.7						
BVAR				PcP	PcP	15 49 44.4	-0.2
	comp=Z,0.5nm,0.5s,baz=106,slow=3.2,SNR=3.8						
BVAR	Borovoye Array	50.81	309	P	P	15 48 28.2	-0.3
BVAR						15 49 44.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GUN	Gumba	55.43	275	*e*P	P	15 49 03.3	+0.8
KKN	Kakani	55.91	275	*e*P	P	15 49 06.7	+0.7
	comp=Z,6.7nm,0.6s,mb4.8						
DMN	Daman	56.14	275	*e*P	P	15 49 07.3	-0.3
GKN	Gorkha	56.21	276	*e*P	P	15 49 08.8	+0.7
	comp=Z,14nm,0.6s,mb5.2						
KOLN	Koldanda	57.06	276	*e*P	P	15 49 15.0	+0.9
	comp=Z,1.1nm,0.8s,mb4.9						
ARCES	ARCESS Array B	57.37	341	P	P	15 49 15.7	-0.7
	comp=Z,5.9nm,0.9s,mb4.6,baz=24,slow=9.2,SNR=2.7						
ARCES	ARCESS Array B	57.37	341	P	P	15 49 15.7	-0.6
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FINES	FINESS Array B	63.63	335	P	P	15 49 59.0	0.0
	comp=Z,1.0nm,0.3s,mb4.3,baz=41,slow=7.4,SNR=26						
FINES	FINESS Array B	63.63	335	P	P	15 49 59.0	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	NORSAR Subarra	67.74	341	P	P	15 50 25.7	+0.2
	comp=Z,2.1nm,0.7s,mb4.3,baz=26,slow=6.5						
NOA	NORSAR Array B	67.74	341	P	P	15 50 25.9	+0.4
	comp=Z,2.7nm,0.7s,mb4.4,baz=26,slow=6.4,SNR=9.3						
NOA	NORSAR Array B	67.74	341	P	P	15 50 25.9	+0.4
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	NORSAR Array B	67.74	341	P	P	15 50 25.9	+0.4
WRA	Warramunga Arr	69.31	200	P	P	15 50 32.3	-3.0
	comp=Z,0.5nm,0.9s,mb3.4,baz=18,slow=6.9,SNR=3.4						
AKASG	Malin Array Be	71.25	326	P	P	15 50 46.9	-0.2
	comp=Z,1.6nm,0.5s,mb4.2,baz=33,slow=6.1,SNR=6.5						
AKASG	Malin Array Be	71.25	326	P	P	15 50 46.9	-0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CLL	Collm	76.05	336	*i* P	P	15 51 16.1	+0.9
TXAR	Lajitas Array	76.74	61	P	P	15 51 18.9	-0.2
	comp=Z,0.6nm,0.6s,mb3.7,baz=299,slow=4.3,SNR=8.9						
TXAR	Lajitas Array	76.74	61	P	P	15 51 18.9	-0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	78.06	334	P	P	15 51 26.9	+0.4
	comp=Z,0.4nm,0.5s,mb3.6,baz=35,slow=4.9,SNR=5.4						
BRTR	Keskin Array B	78.23	317	P	P	15 51 28.4	+1.0
	comp=Z,0.5nm,0.6s,mb3.6,baz=48,slow=3.7,SNR=3.7						
BRTR	Keskin Array B	78.23	317	P	P	15 51 28.5	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

GUC 09 15:47:28.2±0.6, 32.90S×67.89W, h3km±4km, MD3.8, ML3.6, 5C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	Zonda	1.50	333	*i* P	Pn	15 47 55.5	-0.6
ZON				*i* S	Sn	15 48 16.2	0.0
FCH	Farellones	2.06	257	⇓*i*P	Pn	15 48 03.9	+0.1
FCH				*i* S	Sn	15 48 31.8	+1.8
FCH				AML	AML	15 48 32.6	
	comp=N,402nm,0.2s						
CLCH	Cerro Calan	2.28	257	⇑*i*P	Pn	15 48 07.8	+1.1
CLCH				*i* S	Sn	15 48 37.6	+2.3
CLCH				AML	AML	15 48 44.2	
	comp=E,261nm,0.6s						
PCH	Pirque	2.31	251	*i* S	Sn	15 48 38.7	+2.5
PEL	Peldehue	2.36	263	⇑*i*P	Pn	15 48 08.9	+1.0
PEL				*i* S	Sn	15 48 40.3	+2.9
PEL				AML	AML	15 48 41.6	
	comp=N,202nm,0.4s						
CHCH	Chadas Angostu	2.53	245	⇑*i*P	Pn	15 48 11.4	+1.2
CHCH				*i* S	Sn	15 48 44.3	+2.7
CICH	Cipreses	2.54	235	⇑*i*P	Pn	15 48 11.8	+1.4
CICH				*i* S	Sn	15 48 44.8	+2.9
CACH	El Canelo	2.57	241	⇑*i*P	Pn	15 48 12.7	+1.9
CACH				*i* S	Sn	15 48 45.5	+2.9
TACH	Talagante	2.66	253	*i* S	Sn	15 48 47.6	+2.8
CMCH	Combarbala	3.15	302	*i* P	Pn	15 48 19.8	+1.1
CMCH				*i* S	Sn	15 48 59.4	+2.5
CMCH				AML	AML	15 49 09.7	
	comp=N,386nm,0.5s						
TLL	Tololo Astrono	3.69	317	AML	AML	15 49 29.9	
	comp=N,82nm,0.5s						

ISCJB ***09*** *15:47:35.6±0.5, 1666S±008×69.48W±005, h191km±4km, mb4.0/13, Error ellipse: s-maj=13.6km s-min=7.8km az=26.3*
NEIC ***09*** *15:47:36.4±0.8, 1667S×69.48W, h186km±8km, mb4.3/8, Error ellipse: s-maj=17.6km s-min=11.4km az=207.0*
IDC ***09*** *15:47:39.5±1.0, 1627S×69.14W, h196km±5km, mb3.6/9, mb1 3.8/10, mb1mx3.7/19, mbtmp3.6/10, Error ellipse: s-maj=34.8km s-min=14.5km az=29.0*

ISC 09 15:47:36.8±0.5, 1674S±008×6952W±006, h185km±4km, n31, σ1.9 04/34, mb4.0/13, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.41	72	P	Pn	15 48 09.8	+1.4
	297nm,0.3s,baz=276,slow=7.9,SNR=6328						
LPAZ				S	Sn	15 48 32.9	+0.2
	92nm,0.3s,baz=154,slow=23,SNR=15						
LPAZ	La Paz	1.41	72	⇓*i*Pn	Pn	15 48 09.7	+1.3
LPAZ				*e*Sn	Sn	15 48 33.4	+0.7
ARE	Arequipa	1.91	278	⇑*i*P	Pn	15 48 13.4	+0.1
ARE				*i* S	Sn	15 48 41.1	-0.4
SIV	San Ignacio	8.14	86	P	Pn	15 49 29.8	-2.1
	9.4nm,0.3s,baz=272,slow=11,SNR=42						
SIV				S	Sn	15 50 58.6	-4.6
	0.6nm,0.3s,baz=334,slow=18,SNR=3.8						
NNA	Nana	8.52	303	P	Pn	15 49 36.0	-0.9
	5.0nm,0.3s,baz=123,slow=10,SNR=8.3						
NNA				S	Sn	15 51 07.2	-5.0
	6.9nm,0.3s,baz=192,slow=22,SNR=6.8						
NNA	Nana	8.52	303	*e*Pn	Pn	15 49 35.6	-1.3
	16nm,0.5s						
NNA				*e*Sn	Sn	15 51 07.2	-5.0
OTAV	Otavalo	19.03	332	*e*P	P	15 51 46.7	+2.0
	3.3nm,0.7s						
TRQA	Tornquist	22.25	164	*e*P	P	15 52 17.9	-0.6
SDV	Santo Domingo	25.48	357	P	P	15 52 45.6	-2.2
	2.7nm,0.3s,mb4.2,baz=20,slow=1.5,SNR=6.6						
SDV	Santo Domingo	25.48	357	P	P	15 52 45.2	-2.6
	3.2nm,0.4s,mb4.2						
RCBR	Riachuelo	34.64	76	*e*P	P	15 54 07.9	-0.5
	10nm,0.9s,mb4.5						
TXAR	Lajitas Array	56.43	324	P	P	15 56 59.2	+0.2
	0.2nm,0.5s,mb3.2,baz=156,slow=7.6,SNR=6.0						
TXAR				PcP	PcP	15 57 53.9	+0.2
	0.1nm,0.4s,baz=141,slow=6.0,SNR=4.3						
TXAR	Lajitas Array	56.43	324	P	P	15 56 59.2	+0.2
TXAR				PcP	PcP	15 57 53.9	+0.2
VNA3	Neumayer Olymp	64.75	162	*e*	P	15 57 55.1	-0.2
VNA3				*e*		15 58 00.0	
VNA1	Neumayer--Stat	64.95	161	*e*	P	15 57 57.2	+0.6
VNA2	Neumayer--Watz	65.32	161	*e*	P	15 57 58.3	-0.6
	baz=288,slow=7.2						
VNA2				*e*		15 58 02.9	
SNAA	Sanae	66.95	162	*e*	P	15 58 09.0	-0.3
SNAA				*e*		15 58 12.7	
SNAA	Sanae	66.95	162	*e*P	P	15 58 09.1	-0.3
	3.4nm,0.8s,mb4.2						
PDAR	Pinedale Array	69.72	330	P	P	15 58 26.9	+0.3
	0.3nm,0.4s,mb3.4,baz=121,slow=8.8,SNR=8.8						
ULM	Lac du Bonnet	70.62	342	P	P	15 58 30.8	-1.2
	2.1nm,0.4s,mb4.2,baz=161,slow=7.2,SNR=14						
NVAR	Mina Array Bea	71.41	321	P	P	15 58 39.2	+2.4
	0.3nm,0.3s,mb3.5,baz=104,slow=7.5,SNR=2.9						
QSPA	South Pole Qui	73.43	180	*e*P	P	15 58 48.8	+0.2
	54nm,2.3s,mb4.9						
TORD	Torodi Ar. Bea	76.36	72	P	P	15 59 04.9	-0.5
	2.9nm,0.5s,mb4.2,baz=262,slow=4.9,SNR=37						
TSUM	Tsumeb

TXAR	**Lajitas Array**	**77.51**	**60**	P	P	16 00 16.0	+0.4
	comp=Z,0.7nm,0.5s,baz=299,slow=4.6,SNR=20						
GERES	**GERESS Array B**	**78.11**	**334**	P	P	16 00 18.5	-0.4
	comp=Z,0.3nm,0.4s,baz=37,slow=5.2,SNR=5.8						

*IDC **09** 15:52:00.6±1.2, 2.19N×96.12E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, ML3.4/1, Error ellipse: s-maj=41.6km s-min=18.2km az=46.0*
*ISCJB **09** 15:52:06.0±3.5, 23N±02×963E±01, h49km±28km, mb4.0/15, Error ellipse: s-maj=33.5km s-min=14.8km az=84.0*
*NEIC **09** 15:52:06.1±3.6, 225N×9622E, h36km±29km, mb4.1/3, Error ellipse: s-maj=37.3km s-min=12.0km az=55.0*

ISC 09 15:52:07.8±3.5, 23N±02×963E±02, h46km±28km, n22, σ0§80/24, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.68**	**78**	Pn	**Pn**	**15 52 47.9**	**-0.5**
	5.8nm,0.3s,baz=280,slow=7.9,SNR=23						
PSI				Sn	**Sn**	**15 53 20.2**	**+0.6**
	6.0nm,0.3s,baz=227,slow=12,SNR=5.5						
PSI	**Prapat**	**2.68**	**78**	Pn	**Pn**	**15 52 47.9**	**-0.5**
PSI				Sn	**Sn**	**15 53 20.2**	**+0.6**
KULM	**Kulim**	**5.29**	**55**	*e*Pn	**Pn**	**15 53 23.4**	**-0.8**
PALK	**Pallekele**	**16.31**	**288**	*e*P	**Pn**	**15 55 46.5**	**-7.1**
	8.7nm,0.8s						
GUN	**Gumba**	**27.38**	**340**	*e*P	**P**	**15 57 49.8**	**+1.1**
	13nm,0.8s,mb4.5						
KKN	**Kakani**	**27.48**	**338**	*e*P	**P**	**15 57 49.9**	**+0.3**
	6.8nm,0.8s,mb4.2						
LSA	**Lhasa**	**27.72**	**350**	*e*P	**P**	**15 57 51.6**	**-0.2**
	2.9nm,0.7s,mb4.0						
GKN	**Gorkha**	**27.92**	**338**	*e*P	**P**	**15 57 54.6**	**+1.1**
KOLN	**Koldanda**	**28.12**	**336**	*e*P	**P**	**15 57 56.8**	**+1.5**
	7.2nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**43.36**	**122**	P	**P**	**16 00 06.0**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=303,slow=9.0,SNR=6.9						
ASAR	**Alice Springs**	**44.75**	**127**	P	**P**	**16 00 17.1**	**+0.4**
	0.4nm,0.6s,mb3.5,baz=299,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**46.00**	**347**	P	**P**	**16 00 26.4**	**-0.1**
	1.2nm,0.4s,mb4.2,baz=159,slow=8.7,SNR=36						
SONM	**Songino Array**	**46.23**	**9**	P	**P**	**16 00 28.5**	**+0.2**
	0.6nm,0.4s,mb3.9,baz=191,slow=8.9,SNR=8.7						
SONM				PcP	PcP	16 02 04.1	+0.8
	0.4nm,0.7s,baz=195,slow=3.4,SNR=3.7						
KURK	**Kurchatov**	**50.54**	**346**	P	**P**	**16 01 00.9**	**-0.6**
	3.7nm,1.1s,mb4.2						
MJAR	**Matsushiro Arr**	**51.53**	**43**	P	**P**	**16 01 08.2**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=326,slow=49,SNR=3.6						
MJAR	**Matsushiro Arr**	**51.53**	**43**	P	**P**	**16 01 08.2**	**-0.7**
ZAL	**Zalesovo**	**52.37**	**351**	P	**P**	**16 01 15.1**	**-0.1**
	2.3nm,0.5s,mb4.4,baz=317,slow=4.7,SNR=9.2						
ZAL	**Zalesovo**	**52.37**	**351**	P	**P**	**16 01 15.1**	**-0.1**
BVAR	**Borovoye Array**	**54.96**	**341**	P	**P**	**16 01 33.8**	**-0.3**
	1.3nm,0.5s,mb4.2,baz=151,slow=9.4,SNR=5.2						
AKASG	**Malin Array Be**	**73.87**	**322**	P	**P**	**16 03 35.3**	**-2.5**
	0.1nm,0.3s,mb3.2,baz=291,slow=37,SNR=3.0						
FINES	**FINESS Array B**	**78.64**	**333**	P	**P**	**16 04 04.3**	**-0.5**
	4.8nm,1.0s,mb4.4,baz=104,slow=6.1,SNR=4.6						
ARCES	**ARCESS Array B**	**81.24**	**340**	P	**P**	**16 04 18.6**	**-0.2**
	3.8nm,0.8s,mb4.4,baz=95,slow=6.1,SNR=6.9						

MAN 09 16:10:05.1, 1921N×12127E, h27km, mb3.2, ML4.4, MS4.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.21**	**142**	*e*P	Pn	16 10 25.8	-0.4
SGCP				*e*S	Sn	16 10 42.6	+0.8
CVP	**Callao Caves**	**1.59**	**161**	*e*P	Pn	16 10 31.0	-0.4
CVP				*e*S	Sn	16 10 50.0	-1.0
ABRA	**Dolores**	**1.64**	**199**	*e*P	Pn	16 10 31.8	-0.3
CAUP	**Cauayan**	**2.31**	**167**	*e*P	Pn	16 10 43.6	+2.2
PALP	**Palanan**	**2.40**	**153**	*e*P	Pn	16 10 43.4	+0.9

*MAN **09** 16:14:07.5, 1727N×11982E, h7km, mb4.1, ML5.0, MS1.5*
*ISCJB **09** 16:14:10.9±0.9, 1732N±005×11996E±0.10, h53km±12km, mb4.0/17, MS3.6/3, Error ellipse: s-maj=16.5km s-min=6.8km az=33.2*
*NEIC **09** 16:14:13.9±1.1, 1713N×12024E, h83km±11km, mb4.4/3, Error ellipse: s-maj=22.1km s-min=7.7km az=78.0*
*IDC **09** 16:14:14.2±2.9, 1713N×12020E, h80km±28km, mb3.6/14, mb1 3.8/14, mb1mx3.7/22, mbtmp3.6/14, MS3.6/3, Ms1 3.6/3, ms1mx2.9/42, Error ellipse: s-maj=31.0km s-min=13.4km az=73.0*

ISC 09 16:14:06.7±1.5, 1741N±004×11977E±007, h1km±10km, n44, σ1§18/42, mb4.0/17, MS3.6/3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.93**	**75**	*e*P	**Pg**	**16 14 24.8**	**+0.3**
ABRA				*e*S	**Sg**	**16 14 36.8**	**+0.3**
BOLP	**Bolinao**	**1.03**	**172**	*e*P	**Pg**	**16 14 25.0**	**-1.4**
CAUP	**Cauayan**	**2.01**	**103**	*e*P	**Pn**	**16 14 42.2**	**+0.3**
SGCP	**Mt. Cagua**	**2.32**	**69**	*e*P	**Pn**	**16 14 46.4**	**+0.4**
BALP	**Baler**	**2.39**	**134**	*e*P	**Pn**	**16 14 45.9**	**-1.1**
PALP	**Palanan**	**2.56**	**97**↑	*e*P	**Pn**	**16 14 49.8**	**+0.5**
PALP	**Palanan**	**2.56**	**97**	*e*P	**Pn**	**16 14 49.1**	**-0.2**
TGY	**Tagaytay City**	**3.47**	**161**	P	**Pn**	**16 15 02.1**	**+0.3**
	111nm,0.3s,baz=33,slow=2.4,SNR=9.9						
TGY				S	**Sn**	**16 15 45.2**	**+1.6**
	177nm,0.3s,baz=127,slow=18,SNR=4.0						
LUBP	**Lubang**	**3.68**	**173**	*e*P	**Pn**	**16 15 06.4**	**+1.7**
BUSP	**Coron**	**5.39**	**176**	*e*P	**Pn**	**16 15 28.6**	**+0.4**
BUSP	**Coron**	**5.39**	**176**	*e*P	**Pn**	**16 15 27.8**	**-0.4**
ENPP	**El Nido**	**6.17**	**183**	*e*P	**Pn**	**16 15 39.3**	**+0.3**
NACB	**Ninganchiao**	**6.95**	**14**	*e*Pn	**Pn**	**16 15 54.5**	**+4.9**
YHNB	**Yeheng**	**7.38**	**11**	*e*Pn	**Pn**	**16 16 01.2**	**+5.7**
YHNB				*e*Sn	**Sn**	**16 17 20.4**	**+0.5**
KSM	**Kuching**	**18.36**	**211**	P	**Pn**	**16 18 26.6**	**+3.9**
KSRS	**Korea Array**	**21.22**	**18**	P	**P**	**16 18 54.6**	**+0.7**
	3.3nm,0.7s,mb3.8,baz=200,slow=11,SNR=11						
KSRS				LR	LR	16 27 45.4	
	comp=Z,64nm,18.1s,MS3.0,baz=180,slow=38						
MJAR	**Matsushiro Arr**	**25.08**	**37**	P	**P**	**16 19 30.4**	**-2.4**
	1.1nm,0.7s,mb3.7,baz=205,slow=9.6,SNR=4.2						
SONM	**Songino Array**	**32.27**	**343**	P	**P**	**16 20 38.9**	**+2.0**
	0.7nm,0.7s,mb3.7,baz=160,slow=8.3,SNR=4.4						
WRAB	**Tennant Creek**	**39.77**	**158**	*e*P	**P**	**16 21 34.3**	**-6.8**
	4.0nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**39.78**	**158**	P	**P**	**16 21 35.3**	**-5.8**
	1.0nm,0.3s,mb3.9,baz=327,slow=10,SNR=17						
MKAR	**Makanchi Array**	**42.56**	**322**	P	**P**	**16 22 06.3**	**+2.2**
	0.5nm,0.7s,mb3.4,baz=133,slow=8.5,SNR=3.1						
MKAR				PcP	PcP	16 23 55.6	-0.9
	0.9nm,0.7s,baz=106,slow=4.2,SNR=4.5						
ASAR	**Alice Springs**	**43.09**	**161**	P	**P**	**16 22 02.9**	**-5.5**
	1.0nm,0.3s,mb4.0,baz=337,slow=6.9,SNR=37						
CTA	**Charters Tower**	**45.43**	**144**	LR	LR	16 40 38.4	
	comp=Z,46nm,19.1s,MS3.4,baz=51,slow=35						
KURK	**Kurchatov**	**46.64**	**325**	*e*P	**P**	**16 22 38.0**	**+1.3**
	3.1nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**50.11**	**183**	P	**P**	**16 22 55.9**	**-7.5**
BVAR	**Borovoye Array**	**52.24**	**325**	P	**P**	**16 23 20.2**	**+0.8**
	0.4nm,0.4s,mb3.7,baz=133,slow=11,SNR=2.8						
BVAR				PcP	PcP	16 24 29.6	-1.3
	0.9nm,0.7s,baz=108,slow=4.8,SNR=4.0						
STKA	**Stephens Creek**	**53.28**	**157**	P	**P**	**16 23 22.4**	**-4.8**
	1.6nm,0.6s,mb4.1,baz=299,slow=4.7,SNR=4.1						
STKA	**Stephens Creek**	**53.28**	**157**	*e*P	**P**	**16 23 21.7**	**-5.5**
BILL	**Bilibino**	**58.49**	**19**	*e*P	**P**	**16 24 02.8**	**-1.7**
	5.5nm,0.5s,mb4.8						
AKTK	**Aktyubinsk**	**58.83**	**319**	P	**P**	**16 24 07.4**	**+0.5**
AKTO	**Aktyubinsk**	**58.83**	**319**	P	**P**	**16 24 07.4**	**+0.5**
	0.5nm,0.3s,mb4.0,baz=92,slow=13,SNR=3.9						
ARU	**Arti**	**59.82**	**326**	P	**P**	**16 24 12.5**	**-1.2**
ARCES	**ARCESS Array B**	**75.33**	**339**	P	**P**	**16 25 50.4**	**-1.3**
	7.4nm,1.0s,mb4.7,baz=82,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**76.63**	**330**	P	**P**	**16 25 58.2**	**-0.9**
	1.9nm,0.7s,mb4.3,baz=35,slow=7.0,SNR=9.1						
FINES	**FINESS Array B**	**76.63**	**330**	P	**P**	**16 25 58.2**	**-0.9**
AKASG	**Malin Array Be**	**77.08**	**319**	P	**P**	**16 26 00.8**	**-0.8**
	0.6nm,0.6s,mb3.9,baz=61,slow=5.2,SNR=3.6						
NB2	**NORSAR Subarra**	**83.58**	**332**	P	**P**	**16 26 35.3**	**-1.3**
	comp=Z,1.3nm,0.6s,mb4.3,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**83.58**	**332**	P	**P**	**16 26 35.7**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.3,baz=65,slow=4.8,SNR=7.2						
NOA	**NORSAR Array B**	**83.58**	**332**	P	**P**	**16 26 35.7**	**-1.0**
YKA	**Yellowknife Ar**	**89.71**	**22**	P	**P**	**16 27 04.9**	**-1.7**
	comp=Z,0.6nm,0.7s,mb4.0,baz=311,slow=4.5,SNR=12						
VAE	**Valguarnera**	**91.21**	**310**	LR	LR	17 12 50.1	
	comp=Z,132nm,19.7s,MS4.4,baz=317,slow=38						
TXAR	**Lajitas Array**	**117.42**	**43**	PKP	PKPdf	16 32 52.0	-2.1
	comp=Z,0.5nm,0.6s,baz=196,slow=1.7,SNR=6.9						
VNA2	**Neumayer--Watz**	**118.06**	**197**	*e*	PKPdf	16 32 51.7	-3.7
	baz=70,slow=2.2						
VNA3	**Neumayer Olymp**	**118.53**	**197**	*e*	PKPdf	16 32 52.7	-3.6

*NEIC **09** 16:14:49.0±1.9, 1864N×14572E, h185km±19km, Error ellipse: s-maj=44.0km s-min=14.9km az=89.0*

IDC 09 16:14:47.8±2.6, 1867N×14574E, h170km±27km, mb3.3/5, mb1 3.5/7, mb1mx3.2/23, mbtmp3.3/7, MS3.3/1, Ms1 3.3/1, ms1mx1.9/47, Error ellipse: s-maj=43.9km s-min=19.3km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.12**	**190**	P	Pn	16 16 04.0	+0.9
	5.3nm,0.3s,baz=43,slow=23,SNR=3.6						
GUMO				S	Sn	16 17 01.5	-0.6
	9.5nm,0.3s,baz=8.6,slow=22,SNR=4.4						
MJAR	**Matsushiro Arr**	**19.00**	**341**	P	P	16 18 57.4	+1.0
	0.6nm,0.3s,baz=166,slow=9.6,SNR=11						
MAT	**Matsushiro**	**19.00**	**341**	P	P	16 18 57.8	+1.4
WRAB	**Tennant Creek**	**39.96**	**197**	P	P	16 22 04.6	-0.9
FITZ	**Fitzroy Crossi**	**41.54**	**210**	P	P	16 22 19.6	+1.2
	1.1nm,0.5s,baz=41,slow=15,SNR=4.1						
FITZ				LR	LR	16 39 21.5	
	comp=Z,40nm,18.7s,baz=318,slow=36						
SONM	**Songino Array**	**43.19**	**321**	P	P	16 22 31.9	+0.1
	0.3nm,0.5s,baz=113,slow=9.9,SNR=2.7						
BVAR	**Borovoye Array**	**66.52**	**320**	P	P	16 25 18.2	-1.1
	0.5nm,0.5s,baz=103,slow=6.7,SNR=3.5						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	P	16 26 27.2	0.0
	0.4nm,0.6s,baz=288,slow=5.3,SNR=6.4						
FINES	**FINESS Array B**	**86.93**	**335**	P	P	16 27 11.9	-1.6
	0.5nm,0.6s,baz=90,slow=2.8,SNR=2.3						

NEIC 09 16:22:25.4, 6439N×15930W, h13km, ML2.8(AEIC), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCSA	**Galena City Sc**	**1.11**	**70**	P	Pb	16 22 45.8	-0.6
GCSA				S	Sb	16 23 03.6	+2.9
TT01	**Tatalina**	**2.09**	**134**	P	Pn	16 22 59.2	-0.9
TT01				S	Sn	16 23 29.4	+3.5
IM3	**Indian Mountai**	**2.84**	**53**	P	Pn	16 23 10.2	-0.2
IMA2	**Indian Mountai**	**2.91**	**52**	*e*Pn	Pn	16 23 11.8	+0.5
IMA2				*e*Sg	Sg	16 23 55.8	-3.0
SVW2	**Sparrevohn**	**3.72**	**151**	P	Pn	16 23 21.9	-0.7
KTH	**Kantishna Hill**	**3.79**	**99**	P	Pn	16 23 24.6	+1.1
TRF	**Thorofare Moun**	**4.09**	**99**	P	Pn	16 23 28.7	+1.1
COLA	**College**	**4.95**	**79**	P	Pn	16 23 39.5	0.0

*BJI **09** 16:23:22.6, 1321N×12182E, h10km, mB4.9, mb4.4, Ms4.2, Msz4.0*
*IDC **09** 16:23:25.7±0.6, 1327N×12109E, h0km, mb4.2/19, mb1 4.4/19, mb1mx4.3/25, mbtmp4.2/19, MS3.6/5, Ms1 3.6/5, ms1mx3.0/44, Error ellipse: s-maj=27.0km s-min=8.1km az=76.0*
*NEIC **09** 16:23:26.9±0.3, 1346N×12146E, h10km, mb4.7/17, Error ellipse: s-maj=14.2km s-min=6.8km az=61.0*
NEIC Felt [II PIVS] at Batangas, Luzon.
*ISCJB **09** 16:23:27.0±0.3, 1348N±003×12149E±003, h17km, mb4.5/47, MS3.6/7, Error ellipse: s-maj=4.9km s-min=4.0km az=175.4*
*MAN **09** 16:23:27.6, 1345N×12145E, h4km, mb4.3, ML5.2, MS3.0*
*MOS **09** 16:23:28.7±1.1, 1347N×12137E, h33km, mb4.6/14, Error ellipse: s-maj=18.1km s-min=7.7km az=118.4*

ISC 09 16:23:28.8±0.2, 1350N±003×12151E±003, h18km, h18km±1.2km: pP-P, n102, σ1§25/112, mb4.5/47, MS3.6/7, 5C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.33**	**97**	*e*P	**Pg**	**16 23 35.6**	**-0.2**
BOAC				*e*S	**Sg**	**16 23 42.6**	**+2.1**
LQP	**Lukban**	**0.61**	**3**↓	*e*P	**Pg**	**16 23 39.2**	**-1.7**
TGY	**Tagaytay City**	**0.82**	**317**	Pg	**Pg**	**16 23 42.9**	**-1.9**
	2μm,0.3s,baz=182,slow=1.8,SNR=119						
TGY				Lg		16 23 55.3	
	6μm,0.3s,baz=321,slow=22,SNR=31						
TGY	**Tagaytay City**	**0.82**	**317**	↓*i*P	**Sb**	**16 23 57.1**	**+2.0**
OTRP	**Odiongan**	**1.23**	**156**	*e*P	**Pn**	**16 23 49.6**	**-1.6**
OTRP				*e*S	**Sb**	**16 24 11.1**	**+3.9**
LUBP	**Lubang**	**1.25**	**281**	*e*P	**Pn**	**16 23 49.1**	**-2.2**
LUBP				*e*S	**Sb**	**16 24 07.3**	**-0.3**
POLP	**Polilio Island**	**1.29**	**19**	*e*P	**Pn**	**16 23 51.0**	**-0.9**
POLP				*e*S	**Sn**	**16 24 14.9**	**+6.2**
BUSP	**Coron**	**1.96**	**221**	*e*P	**Pn**	**16 24 01.4**	**+0.3**
BUSP				*e*S	**Sn**	**16 24 26.9**	**+1.7**
BALP	**Baler**	**2.23**	**2**	*e*P	**Pn**	**16 24 06.5**	**+1.7**
BALP				*e*S	**Sn**	**16 24 38.5**	**+6.6**
RCP	**Roxas**	**2.27**	**148**	*e*P	**Pn**	**16 24 13.5**	**+8.1**
CUYO	**Cuyo Island**	**2.68**	**190**	*e*P	**Pn**	**16 24 10.5**	**-0.5**
GUIM	**Jordan**	**3.04**	**160**	*e*P	**Pn**	**16 24 16.5**	**+0.5**
ENPP	**El Nido**	**3.06**	**222**	*e*P	**Pn**	**16 24 17.0**	**+0.8**
ENPP				*e*S	**Sn**	**16 24 53.3**	**+1.0**
BOLP	**Bolinao**	**3.25**	**332**	*e*P	**Pn**	**16 24 20.6**	**+1.8**
CAUP	**Cauayan**	**3.44**	**5**	*e*P	**Pn**	**16 24 24.0**	**+2.6**
PALP	**Palanan**	**3.65**	**14**↑	*e*P	**Pn**	**16 24 31.7**	**+7.4**
CVP	**Callao Caves**	**4.19**	**4**	*e*P	**Pn**	**16 24 35.0**	**+3.2**
BATP	**Bataraza**	**5.92**	**218**	*e*P	**Pn**	**16 24 57.2**	**+1.6**
BATP				*e*S	**Sn**	**16 26 02.4**	**-0.6**
KMI	**Kunming**	**21.12**	**306**	P	**P**	**16 28 14.9**	**+2.4**
KMI				AP		16 28 21.4	
KMI				XP	sP	16 28 24.8	+4.8
KMI				PP		16 28 37.8	
KMI				S	**S**	**16 32 05.4**	**-1.4**
KMI				SS		16 32 38.3	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb3.8						
KMI				AMB	AMB		
	comp=Z,81nm,4.0s						
KMI				LR	LR		
	comp=N,192nm,11.0s						
KMI				LR	LR		
	comp=E,249nm,18.6s						
KMI				LR	LR		
	comp=Z,158nm,18.9s						
CM31	**Chiang Mai Arr**	**22.24**	**286**	*e*P	**P**	**16 28 25.8**	**+1.3**
	comp=Z,13nm,0.6s,mb4.5						
CHTO	**Chiang Mai**	**22.30**	**287**	*e*P	**P**	**16 28 25.2**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
CHTO	**Chiang Mai**	**22.30**	**287**	*e*P	**P**	**16 28 25.2**	**+0.1**
	comp=Z,10nm,0.8s,mb4.3						
XAN	**Xi'an**	**23.43**	**333**	P	**P**	**16 28 38.1**	**+1.1**
CD2	**Chengdu**	**23.82**	**320**	P	**P**	**16 28 41.3**	**+0.6**
CD2				AP		16 28 50.5	
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,210nm,5.1s						
CD2				LR	LR		
	comp=N,390nm,4.5s						
CD2				LR	LR		
	comp=E,410nm,6.3s						
CD2				LR	LR		
	comp=Z,350nm,5.3s						
KSRS	**Korea Array**	**24.53**	**12**	P	**P**	**16 28 49.2**	**+2.0**
	comp=Z,1.7nm,0.8s,mb3.6,baz=60,slow=36,SNR=3.8						
KSRS				LR	LR	16 39 43.3	
	comp=Z,69nm,19.5s,MS3.1,baz=78,slow=39						
PSI	**Prapat**	**24.72**	**247**	P	**P**	**16 28 47.0**	**-2.0**
	comp=Z,6.4nm,0.7s,mb4.2,baz=15,slow=4.3,SNR=7.3						
PSI				LR	LR	16 38 54.0	
	comp=Z,76nm,18.4s,MS3.2,baz=279,slow=38						
BJT	**Baijiatuau**	**26.83**	**351**	*e*P	**P**	**16 29 10.2**	**+2.1**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**26.83**	**351**	*e*P	**P**	**16 29 10.2**	**+2.2**
	comp=Z,6.8nm,0.6s,mb4.3						
BJI	**Beijing**	**26.85**	**351**	P	**P**	**16 29 08.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.2						
LZH	**Lanzhou**	**27.53**	**328**	*e*P	**P**	**16 29 16.2**	**+1.9**
LZH				AP	pP	16 29 21.5	+1.7
LZH				XP	sP	16 29 23.4	+1.3
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**31.66**	**173**	P	**P**	**16 29 51.1**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.1,baz=11,slow=15,SNR=4.9						
GTA	**Gaotai**	**32.13**	**327**	*e*P	**P**	**16 29 55.8**	**+0.7**
GTA				AP	pP	16 30 00.1	-0.5
GTA				XP	sP	16 30 02.6	-0.3
GTA				S	**S**	**16 35 19.6**	**+13**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,136nm,5.7s						
GTA				LR	LR		
	comp=N,190nm,17.5s,MS4.0						
GTA				LR	LR		
	comp=E,225nm,15.6s,MS4.0						
GTA				LR	LR		
	comp=Z,293nm,18.6s,MS4.0						
LSA	**Lhasa**	**32.37**	**305**	P	**P**	**16 29 58.8**	**+1.6**
LSA	**Lhasa**	**32.37**	**305**	*e*P	**P**	**16 29 58.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
LSA	**Lhasa**	**32.37**	**305**	*e*P	**P**	**16 29 58.4**	**+1.2**
	comp=Z,16nm,0.6s,mb5.0						
PMG	**Port Moresby**	**34.15**	**130**	P	**P**	**16 30 15.2**	**+2.5**
	comp=Z,13nm,0.8s,mb4.9,baz=223,slow=21,SNR=2.2						
PMG	**Port Moresby**	**34.15**	**130**↑	*e*P	**P**	**16 30 15.3**	**+2.6**
PMG	**Port Moresby**	**34.15**	**130**	*e*P	**P**	**16 30 17.5**	**+4.8**
	comp=Z,22nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**35.54**	**159**	*e*P	**P**	**16 30 24.2**	**-0.6**
WRAB	**Tennant Creek**	**35.54**	**159**	*e*P	**P**	**16 30 23.8**	**-1.0**
	comp=Z,24nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**35.55**	**159**	P	**P**	**16 30 24.3**	**-0.5**
	comp=Z,4.3nm,0.5s,mb4.7,baz=332,slow=10,SNR=59						
WB2	**Warramunga Arr**	**35.55**	**159**	↓*i*P	**P**	**16 30 23.8**	**-1.0**
WB2				*e*	pP	16 30 30.5	+0.1
HIA	**Hailar**	**35.69**	**358**	P	**P**	**16 30 32.1**	**+6.1**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
HIA	**Hailar**	**35.69**	**358**	P	**P**	**16 30 32.1**	**+6.0**
	comp=Z,4.2nm,0.4s,mb4.7						
JIRN	**Jiri**	**35.80**	**299**	*e*P	**P**	**16 30 27.7**	**+0.8**
	comp=Z,13nm,0.4s,mb5.2						
GUN	**Gumba**	**36.13**	**299**	*e*P	**P**	**16 30 30.4**	**+0.6**
	comp=Z,66nm,0.6s						
PKI	**Pulchoki**	**36.44**	**298**	*e*P	**P**	**16 30 32.4**	**0.0**
SONM	**Songino Array**	**36.48**	**343**	P	**P**	**16 30 34.4**	**+1.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=163,slow=8.9,SNR=9.1						
SONM				PcP	PcP	16 32 53.9	-2.5
	comp=Z,0.2nm,0.6s,baz=178,slow=4.4,SNR=2.5						
SONM				LR	LR	16 45 13.4	
	comp=Z,121nm,20.8s,MS3.7,baz=293,slow=36						
SONM	**Songino Array**	**36.48**	**343**	P	**P**	**16 30 34.4**	**+1.7**
SONM						16 32 53.9	
SONM	**Songino Array**	**36.48**	**343**	P	**P**	**16 30 34.4**	**+1.7**
SONM				PcP	PcP	16 32 53.9	-2.5
SONM				LR	LR	16 45 13.4	
KKN	**Kakani**	**36.61**	**299**	*e*P	**P**	**16 30 33.7**	**-0.2**
	comp=Z,25nm,0.6s,mb5.2						
KLR	**Kul'dur**	**36.62**	**11**	*e*P	**P**	**16 30 32.0**	**-1.9**
DMN	**Daman**	**36.71**	**298**	*e*P	**P**	**16 30 34.8**	**+0.1**
	comp=Z,33nm,0.6s,mb5.3						
GKN	**Gorkha**	**37.21**	**299**	*e*P	**P**	**16 30 38.6**	**-0.4**
	comp=Z,24nm,0.7s,mb5.2						
KOLN	**Koldanda**	**38.04**	**298**	*e*P	**P**	**16 30 45.9**	**-0.1**
	comp=Z,16nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**38.88**	**162**	P	**P**	**16 30 53.0**	**0.0**
	comp=Z,5.0nm,0.5s,mb4.5,baz=337,slow=7.2,SNR=112						
ZAK	**Zakamensk**	**39.67**	**342**	*e*P	**P**	**16 30 57.5**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
WMQ	**Urumqi**	**41.84**	**323**	*e*P	**P**	**16 31 18.3**	**+0.7**
WMQ				PP	PP	16 32 59.1	+4.7
WMQ				PCP	PcP	16 33 14.0	+0.7
WMQ				PPP		16 33 28.9	
WMQ				S	**S**	**16 37 35.8**	**+1.3**
WMQ				SS	SS	16 40 34.6	-6.2
WMQ				SCS	ScS	16 41 18.0	-1.7
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
WMQ				LR	LR		
	comp=N,121nm,18.0s,MS3.9						
WMQ				LR	LR		
	comp=E,93nm,19.0s,MS3.9						
WMQ				LR	LR		
	comp=Z,111nm,18.0s,M

ARCES ARCESS Array B 79.55 339 P **P** **16 35 33.5 -1.0**
comp=Z,6.3nm,0.9s,mb4.5,baz=80,slow=16,SNR=4.8
BRTR Keskin Array B 79.89 308 P **P** **16 35 34.8 -1.7**
comp=Z,0.4nm,0.6s,mb3.5,baz=66,slow=3.2,SNR=3.2
FINES FINESS Array B 80.84 331 P **P** **16 35 40.0 -1.5**
comp=Z,1.5nm,0.7s,mb4.1,baz=92,slow=5.7,SNR=6.9
AKASG Malin Array Be 81.12 320 P **P** **16 35 41.0 -2.0**
comp=Z,0.4nm,0.5s,mb3.6,baz=70,slow=4.8,SNR=3.9
AKASG Malin Array Be 81.12 320 P **P** **16 35 41.0 -2.0**
INK Inuvik 83.00 21 P **P** **16 35 43.4 -9.5**
comp=Z,94nm,0.9s
NB2 NORSAR Subarra 87.80 333 P **P** **16 36 15.0 -1.8**
comp=Z,1.8nm,0.7s,mb4.4,baz=66,slow=5.3
NOA NORSAR Array B 87.80 333 P **P** **16 36 15.0 -1.8**
comp=Z,1.5nm,0.8s,mb4.3,baz=68,slow=4.8,SNR=5.1
MORC Moravsky Berou 88.60 321 P **P** **16 36 19.9 -0.7**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
MORC Moravsky Berou 88.60 321 P **P** **16 36 19.9 -0.8**
comp=Z,1.9nm,0.8s,mb4.5
GERES GERESS Array B 91.28 321 P **P** **16 36 32.1 -1.1**
comp=Z,0.6nm,0.6s,mb4.1,baz=57,slow=5.4,SNR=5.4
YKA Yellowknife Ar 92.66 23 P **P** **16 36 39.6 +0.1**
comp=Z,0.3nm,0.6s,mb3.9,baz=306,slow=4.3,SNR=6.2
TXAR Lajitas Array 119.06 45 PKP PKPdf 16 42 17.3 +0.9
comp=Z,0.5nm,0.9s,baz=209,slow=2.3,SNR=4.0

*ISCJB **09** 16:33:17.6±0.8, 137N±0.1×1449E±03, h126km±6km, mb3.7/9, Error ellipse: s-maj=43.6km s-min=17.8km az=177.7*
*IDC **09** 16:33:17.5±1.6, 1380N×14530E, h117km±8km, mb3.3/7, mb1 3.4/7, mb1mx3.4/21, mbtmp3.3/7, Error ellipse: s-maj=51.1km s-min=18.4km az=85.0*
*NEIC **09** 16:33:18.8±1.2, 1367N×14505E, h123km±9km, mb4.2/2, Error ellipse: s-maj=39.2km s-min=16.1km az=92.0*
ISC 09 16:33:18.5±1.0, 137N±01×1450E±03, h120km±6km, n13, σ1§10/14, mb3.7/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.21**	**229**	P	**Pn**	**16 33 35.7**	**+0.6**
	845nm,0.3s,baz=127,slow=1.3,SNR=628						
GUMO	**Guam**	**0.21**	**229**	P	**Pn**	**16 33 35.8**	**+0.6**
GUMO				*e*Sn	**Sn**	**16 33 47.4**	**-0.3**
KSRS	**Korea Array**	**28.12**	**330**	P	**P**	**16 38 57.3**	**-1.8**
	1.6nm,0.9s,mb3.5,baz=226,slow=28,SNR=3.2						
WRAB	**Tennant Creek**	**35.06**	**198**	P	**P**	**16 39 58.2**	**-1.6**
	3.9nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**35.07**	**198**	P	**P**	**16 39 59.8**	**-0.1**
	1.0nm,0.9s,mb3.7,baz=21,slow=9.4,SNR=7.8						
ASAR	**Alice Springs**	**38.72**	**196**	P	**P**	**16 40 32.2**	**+1.4**
	0.5nm,0.8s,mb3.4,baz=18,slow=12,SNR=4.9						
SONM	**Songino Array**	**46.71**	**325**	P	**P**	**16 41 36.0**	**+0.8**
	0.3nm,0.6s,mb3.2,baz=139,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**61.50**	**316**	P	**P**	**16 43 23.4**	**+0.9**
	1.3nm,0.6s,mb4.1,baz=90,slow=8.6,SNR=8.5						
KURK	**Kurchatov**	**64.58**	**320**	*e*P	**P**	**16 43 42.8**	**-0.1**
	1.9nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**69.92**	**322**	P	**P**	**16 44 16.6**	**+0.1**
	1.2nm,0.4s,mb4.1,baz=104,slow=7.7,SNR=20						
INK	**Inuvik**	**74.18**	**22**	*e*P	**P**	**16 44 43.5**	**+1.6**
	58nm,0.6s						
YKA	**Yellowknife Ar**	**82.67**	**27**	P	**P**	**16 45 26.8**	**-1.7**
	0.3nm,0.8s,mb3.2,baz=288,slow=5.2,SNR=4.7						
YKA	**Yellowknife Ar**	**82.67**	**27**	P	**P**	**16 45 26.8**	**-1.7**

*IDC **09** 16:47:21.4±4.6, 3230S×17973W, h180km±38km, mb4.2/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.2/7, MS3.0/1, Ms1 3.0/1, ms1mx2.6/25, Error ellipse: s-maj=34.5km s-min=18.4km az=43.0*
*NEIC **09** 16:47:26.0±1.2, 3278S×17977W, h233km±11km, mb4.6/12, Error ellipse: s-maj=14.7km s-min=13.1km az=86.0*
*ISCJB **09** 16:47:27.7±0.9, 3277S±005×1795E±0.1, h224km±8km, mb4.6/16, Error ellipse: s-maj=14.2km s-min=8.4km az=8.7*
ISC 09 16:47:31.3±0.9, 3296S±006×1794E±01, h235km±8km, n105, σ1§17/100, mb4.6/16, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.67**	**191**	P	**Pn**	**16 48 43.3**	**+0.7**
MXZ				S	**S**	**16 49 43.9**	**+4.7**
MXZ	**Matakaoa Point**	**4.67**	**191**	PN	**Pn**	**16 48 43.2**	**+0.6**
MXZ				*e*SN	**S**	**16 49 43.9**	**+4.7**
KUZ	**Kuaotunu**	**4.83**	**218**	*e*P	**Pn**	**16 48 51.7**	**+7.2**
KUZ	**Kuaotunu**	**4.83**	**218**	PN	**Pn**	**16 48 51.5**	**+7.0**
WCZ	**Waipu Caves**	**5.11**	**233**	PN	**Pn**	**16 48 55.9**	**+7.9**
PUZ	**Puketiti**	**5.18**	**190**	P	**Pn**	**16 48 49.2**	**+0.3**
PUZ	**Puketiti**	**5.18**	**190**	PN	**Pn**	**16 48 49.2**	**+0.3**
PUZ				*e*SN	**S**	**16 49 54.7**	**+4.1**
MWZ	**Matawai**	**5.57**	**195**	P	**Pn**	**16 48 54.8**	**+1.1**
MWZ				S	**S**	**16 50 05.0**	**+5.6**
MWZ	**Matawai**	**5.57**	**195**	PN	**Pn**	**16 48 54.2**	**+0.5**
MWZ				*e*SN	**S**	**16 50 05.1**	**+5.7**
URZ	**Urewera**	**5.60**	**199**	P	**Pn**	**16 48 55.6**	**+1.4**
	9.0nm,0.3s,baz=332,slow=3.3,SNR=33						
URZ				S	**S**	**16 50 05.4**	**+5.3**
	22nm,0.3s,baz=135,slow=17,SNR=14						
URZ	**Urewera**	**5.60**	**199**	*e*P	**Pn**	**16 48 55.5**	**+1.4**
URZ	**Urewera**	**5.60**	**199**	PN	**Pn**	**16 48 54.9**	**+0.8**
URZ				*e*SN	**S**	**16 50 06.8**	**+6.7**
KNZ	**Kokohu**	**6.20**	**192**	*e*PN	**Pn**	**16 49 01.4**	**-0.3**
BKZ	**Black Stump Fm**	**6.62**	**200**	*e*PN	**Pn**	**16 49 07.2**	**+0.2**
BKZ				*e*SN	**S**	**16 50 28.8**	**+5.4**
HIZ	**Hauiti**	**6.65**	**212**	*e*P	**Pn**	**16 49 12.0**	**+4.6**
HIZ	**Hauiti**	**6.65**	**212**	*e*PN	**Pn**	**16 49 12.9**	**+5.6**
FWVZ	**Far West T-bar**	**7.00**	**205**	P	**Pn**	**16 49 14.0**	**+2.2**
FWVZ	**Far West T-bar**	**7.00**	**205**	*e*PN	**Pn**	**16 49 14.0**	**+2.1**
WNVZ	**Wahianoa**	**7.05**	**205**	P	**Pn**	**16 49 14.6**	**+2.1**
WNVZ	**Wahianoa**	**7.05**	**205**	*e*PN	**Pn**	**16 49 14.6**	**+2.2**
MOVZ	**Moawhango**	**7.07**	**203**	P	**Pn**	**16 49 12.7**	**0.0**
TSZ	**Takapari Road**	**7.60**	**200**	P	**Pn**	**16 49 19.3**	**-0.1**
TSZ	**Takapari Road**	**7.60**	**200**	*e*PN	**Pn**	**16 49 19.3**	**-0.1**
WAZ	**Wanganui**	**7.65**	**206**	*e*P	**Pn**	**16 49 23.7**	**+3.6**
WAZ	**Wanganui**	**7.65**	**206**	*e*PN	**Pn**	**16 49 23.3**	**+3.2**
BFZ	**Birch Farm**	**8.10**	**197**	*e*P	**Pn**	**16 49 24.2**	**-1.7**
BFZ	**Birch Farm**	**8.10**	**197**	*e*SN	**S**	**16 50 59.4**	**+1.4**
MRZ	**Mangatainoka R**	**8.27**	**201**	*e*P	**Pn**	**16 49 26.4**	**-1.6**
MRZ	**Mangatainoka R**	**8.27**	**201**	*e*PN	**Pn**	**16 49 25.7**	**-2.2**
MRZ				*e*SN	**S**	**16 51 00.5**	**-1.2**
KIW	**Kapiti Island**	**8.66**	**203**	P	**Pn**	**16 49 31.7**	**-1.2**
KIW	**Kapiti Island**	**8.66**	**203**	*e*PN	**Pn**	**16 49 31.5**	**-1.5**
MTW	**Mount Morrison**	**8.75**	**200**	P	**Pn**	**16 49 34.4**	**+0.3**
CAW	**Cannon Point**	**8.83**	**202**	P	**Pn**	**16 49 33.1**	**-2.0**
CAW	**Cannon Point**	**8.83**	**202**	*e*PN	**Pn**	**16 49 33.0**	**-2.1**
CAW				*e*SN	**S**	**16 51 16.0**	**+1.1**
PAWZ	**Paruwai Farm**	**8.98**	**199**	P	**Pn**	**16 49 36.3**	**-0.7**
MSWZ	**Moikau Station**	**9.06**	**200**	P	**Pn**	**16 49 38.0**	**0.0**
SNZO	**South Karori**	**9.13**	**203**	*e*P	**Pn**	**16 49 39.0**	**+0.1**
SNZO				*e*Sn	**S**	**16 51 22.7**	**+0.8**
TUWZ	**Tuamarina**	**9.50**	**206**	*e*PN	**Pn**	**16 49 41.6**	**-2.1**
TUWZ				*e*SN	**S**	**16 51 29.8**	**-0.8**
NNZ	**Nelson**	**9.53**	**208**	*e*PN	**Pn**	**16 49 43.9**	**-0.2**
NNZ				*e*SN	**S**	**16 51 33.4**	**+2.0**
QRZ	**Quartz Range**	**9.57**	**213**	*e*PN	**Pn**	**16 49 44.6**	**0.0**
BSWZ	**Blackbirch Sta**	**9.77**	**205**	P	**Pn**	**16 49 48.7**	**+1.6**
THZ	**Tophouse**	**10.18**	**209**	*e*PN	**Pn**	**16 49 51.6**	**-0.7**
THZ				*e*SN	**S**	**16 51 45.5**	**-1.1**
KHZ	**Kahutara**	**10.51**	**204**	*e*P	**Pn**	**16 49 55.0**	**-1.5**
DSZ	**Denniston Nort**	**10.64**	**212**	*e*PN	**Pn**	**16 49 58.2**	**+0.1**
DSZ				*e*SN	**S**	**16 51 57.2**	**0.0**
LTZ	**Lake Taylor**	**11.29**	**208**	*e*PN	**Pn**	**16 50 06.1**	**-0.3**
MQZ	**McQueen's Vall**	**11.95**	**204**	*e*PN	**Pn**	**16 50 12.8**	**-1.8**
MQZ				*e*SN	**S**	**16 52 22.9**	**-5.0**
WVZ	**Waitaha Valley**	**12.17**	**211**	*e*PN	**Pn**	**16 50 17.8**	**+0.4**
RPZ	**Rata Peaks**	**12.56**	**209**	P	**Pn**	**16 50 21.2**	**-1.0**
	2.9nm,0.3s,baz=236,slow=2.8,SNR=8.1						
RPZ				S	**S**	**16 52 40.8**	**-1.3**
	5.5nm,0.3s,baz=141,slow=23,SNR=14						
ODZ	**Otahua Downs**	**13.83**	**207**	*e*PN	**Pn**	**16 50 37.2**	**-0.7**
JCZ	**Jackson Bay**	**13.85**	**214**	*e*PN	**Pn**	**16 50 38.1**	**0.0**
DZM	**Mont Dzumac**	**15.77**	**310**	*e*P	**Pn**	**16 50 59.0**	**-2.3**
DZM	**Mont Dzumac**	**15.77**	**310**	P	**Pn**	**16 51 01.4**	**+0.1**
	1.0nm,0.3s,baz=116,slow=14,SNR=12						
DZM				LR	LR	16 54 34.7	
	comp=Z,55nm,21.6s,baz=32,slow=27						
AFI	**Afiamalu**	**20.61**	**25**	P	**P**	**16 51 42.2**	**-10**
	1.3nm,0.3s,baz=315,slow=22,SNR=3.3						
AFI				S	S	16 55 06.2	-23
	1.1nm,0.3s,baz=55,slow=20,SNR=4.4						
AFI	**Afiamalu**	**20.61**	**25**	*e*P	**P**	**16 51 41.1**	**-12**
AFI				S	S	16 55 06.2	-23
ARMA	**Armidale**	**23.72**	**269**	*e*P	**P**	**16 52 26.9**	**+4.8**
CNB	**Canberra Magne**	**24.91**	**256**	*e*P	**P**	**16 52 37.6**	**+4.7**
	11nm,0.6s,mb4.7						
HNR	**Honiara**	**29.50**	**318**	*e*P	**P**	**16 53 10.2**	**-3.4**
	31nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**31.80**	**262**	*e*P	**P**	**16 53 37.6**	**+3.7**
	10nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**31.80**	**262**	P	**P**	**16 53 37.0**	**+3.1**
	11nm,0.7s,mb4.5,baz=88,slow=9.9,SNR=24						
STKA	**Stephens Creek**	**31.80**	**262**	*e*P	**P**	**16 53 36.6**	**+2.8**
CTA	**Charters Tower**	**32.15**	**285**	*e*P	**P**	**16 53 38.6**	**+1.7**
	5.3nm,0.5s,mb4.3						
CTA	**Charters Tower**	**32.15**	**285**	P	**P**	**16 53 38.0**	**+1.1**
	6.4nm,0.5s,mb4.4,baz=133,slow=8.2,SNR=11						
CTAO	**Charters Tower**	**32.15**	**285**	*e*P	**P**	**16 53 38.3**	**+1.4**
	26nm,1.1s,mb4.7						
ASAR	**Alice Springs**	**40.83**	**271**	P	**P**	**16 54 51.4**	**+1.4**
	20nm,0.7s,mb4.7,baz=108,slow=7.8,SNR=359						
WB2	**Warramunga Arr**	**42.05**	**276**	⇑*i*P	**P**	**16 55 00.6**	**+0.7**
WRAB	**Tennant Creek**	**42.05**	**276**	*e*P	**P**	**16 55 00.4**	**+0.5**
	30nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**42.06**	**276**	P	**P**	**16 55 00.5**	**+0.5**
	22nm,0.3s,mb5.0,baz=113,slow=8.0,SNR=605						
SBA	**Scott Base**	**45.33**	**184**	*e*P	**P**	**16 55 28.9**	**+2.9**
	27nm,1.2s,mb4.5						
VNDA	**Vanda**	**45.34**	**185**	P	**P**	**16 55 28.5**	**+2.4**
	0.8nm,0.6s,mb3.2,baz=20,slow=8.1,SNR=7.3						
VNDA	**Vanda**	**45.34**	**185**	*e*P	**P**	**16 55 25.3**	**-0.8**
	7.0nm,1.2s,mb3.9						
KAKA	**Kakadu**	**47.27**	**284**	*e*P	**P**	**16 55 40.3**	**-0.8**
	17nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.20**	**273**	*e*P	**P**	**16 56 02.9**	**-0.4**
	20nm,1.5s,mb4.2						
KLBR	**Kellerberrin**	**51.45**	**254**	*e*P	**P**	**16 56 13.0**	**+0.4**
	14nm,0.8s,mb4.4						
CASY	**Casey**	**51.83**	**209**	*e*P	**P**	**16 56 08.9**	**-6.5**
QSPA	**South Pole Qui**	**57.16**	**180**	*e*P	**P**	**16 56 55.3**	**+1.7**
	125nm,0.6s,mb5.7						
MAW	**Mawson**	**69.12**	**202**	P	**P**	**16 58 12.2**	**+0.1**
	24nm,1.2s,mb4.7						
SNAA	**Sanae**	**75.65**	**179**	*e*	**P**	**16 58 50.0**	**-0.5**
SNAA				*e*		16 58 51.0	
SNAA				*e*		16 58 56.1	
SNAA				*e*		16 59 09.2	
SNAA				*e*		16 59 16.7	
SNAA	**Sanae**	**75.65**	**179**	*e*P	**P**	**16 58 49.9**	**-0.7**
	28nm,0.8s,mb4.9						
VNA3	**Neumayer Olymp**	**75.89**	**177**	⇑*i*	**P**	**16 58 51.5**	**-0.4**
VNA3				*e*		16 58 55.3	
VNA3				*e*		16 59 07.6	
VNA2	**Neumayer--Watz**	**76.30**	**178**	⇑*i*	**P**	**16 58 54.0**	**-0.2**
VNA2				*e*		16 59 04.5	
VNA1	**Neumayer--Stat**	**76.54**	**177**	⇑*i*	**P**	**16 58 55.7**	**+0.1**
VNA1				*e*		16 58 56.6	
VNA1				*e*		16 58 59.7	
KULM	**Kulim**	**83.45**	**281**	P	**P**	**16 59 30.9**	**-1.6**
KSRS	**Korea Array**	**84.89**	**321**	P	**P**	**16 59 35.5**	**-4.3**
	0.8nm,0.6s,mb3.6,baz=70,slow=5.6,SNR=4.3						
MKAR	**Makanchi Array**	**117.69**	**310**	PKP	PKPdf	17 05 44.6	-4.7
	0.6nm,0.4s,baz=258,slow=3.3,SNR=7.1						
BVAR	**Borovoye Array**	**126.64**	**315**	PKP	PKPdf	17 06 02.5	-4.0
	1.8nm,0.4s,baz=104,slow=2.9,SNR=13						
AKTK	**Aktyubinsk**	**134.12**	**310**	PKP	PKPdf	17 06 16.6	-4.0
AKTO	**Aktyubinsk**	**134.12**	**310**	PKP	PKPdf	17 06 16.6	-4.0
	1.7nm,0.5s,baz=104,slow=5.6,SNR=7.5						
ARCES	**ARCESS Array B**	**140.57**	**346**	PKhKP		17 06 22.0	
	5.0nm,1.0s,baz=349,slow=3.9,SNR=4.2						
ARCES				PKP	PKPdf	17 06 28.7	-3.9
	5.1nm,1.0s,baz=353,slow=1.4,SNR=5.7						
ARCES	**ARCESS Array B**	**140.57**	**346**	PKP		17 06 22.0	
ARCES				PKP	PKPdf	17 06 28.7	-3.9
JOF	**Joensuu**	**143.90**	**336**	*e*pkp	PKPdf	17 06 30.4	-8.1
KAF	**Kangasniemi**	**146.13**	**338**	*e*pkp	PKPdf	17 06 36.6	-5.7
FIA1	**FINESS Array S**	**146.70**	**337**	*e*P	PKPdf	17 06 39.1	-4.2
FIA1				*e*		17 06 56.2	
FINES	**FINESS Array B**	**146.70**	**337**	PKPbc	PKPbc	17 06 40.2	-5.1
	3.7nm,0.7s,baz=58,slow=3.6,SNR=32						
FINES	**FINESS Array B**	**146.70**	**337**	PKPbc	PKPbc	17 06 40.2	-5.1
ASF	**Jabal al Asfar**	**148.48**	**279**	PKPbc	PKPbc	17 06 47.1	-2.9
	1.2nm,0.4s,baz=105,slow=3.8,SNR=3.8						
MMAI	**Mount Meron Ar**	**149.87**	**280**	PKPbc	PKPbc	17 06 51.5	-2.0
	6.9nm,0.7s,baz=82,slow=7.7,SNR=12						
NB2	**NORSAR Subarra**	**150.87**	**348**	PKP	PKPdf	17 06 50.5	+0.5
	comp=Z,1.4nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.87**	**348**	PKPbc	PKPbc	17 06 50.8	-5.1
	comp=Z,1.5nm,0.5s,baz=16,slow=4.1,SNR=11						
HFS	**Hagfors**	**151.22**	**345**	PKPbc	PKPbc	17 06 51.4	-5.3
	comp=Z,1.6nm,0.4s,baz=174,slow=3.0,SNR=17						
BR131	**Keskin Array S**	**151.71**	**294**	*e*P	PKPdf	17 06 53.6	+2.4
BRTR	**Keskin Array B**	**151.71**	**294**	PKPbc	PKPbc	17 06 54.3	-3.5
	comp=Z,2.8nm,0.5s,baz=150,slow=4.4,SNR=22						
BRTR				PKPab	PKPab	17 07 05.3	-2.2
	comp=Z,1.8nm,0.8s,baz=92,slow=4.3,SNR=7.5						
AKASG	**Malin Array Be**	**151.84**	**318**	PKPbc	PKPbc	17 06 53.9	-4.2
	comp=Z,2.7nm,0.6s,baz=58,slow=2.2,SNR=20						
MLR	**Muntele Rosu**	**156.04**	**309**	PKPab	PKPab	17 07 23.4	-2.5
	comp=Z,2.6nm,0.8s,baz=200,slow=12,SNR=5.3						
TORD	**Torodi Ar. Bea**	**160.16**	**187**	PKP	PKPdf	17 06 59.7	-2.7
	comp=Z,1.5nm,0.9s,baz=323,slow=1.1,SNR=5.4						
TORD				PKPab	PKPab	17 07 42.9	-1.0
	comp=Z,8.6nm,0.6s,baz=179,slow=3.5,SNR=38						
TORD	**Torodi Ar. Bea**	**160.16**	**187**	PKP	PKPdf	17 06 59.7	-2.7
TORD				PKPab	PKPab	17 07 42.9	-1.0

*MOS **09** 16:52:37.7±1.3, 5581N×11007E, h9km, mb4.5/3, Error ellipse: s-maj=12.3km s-min=7.7km az=64.3*
*ISCJB **09** 16:52:38.1±0.3, 5570N±003×110.17E±004, h10km, mb3.5/7, Error ellipse: s-maj=4.1km s-min=2.5km az=121.5*
*IDC **09** 16:52:38.8±1.1, 5589N×110.12E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/24, mbtmp3.6/9, ML3.6/2, Error ellipse: s-maj=27.3km s-min=21.8km az=79.0*
*NEIC **09** 16:52:39.9±0.8, 5584N×11005E, h10km, mb3.5/2, Error ellipse: s-maj=16.4km s-min=11.4km az=113.0*
*BYKL **09** 16:52:39.6±0.2, 5569N×110.19E, h7km±4km*
ISC 09 16:52:39.5±0.3, 5573N±003×11018E±004, h10km, n56, σ1§30/102, mb3.5/7, 9C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**277**	*e*PG	**Pg**	**16 52 46.4**	**-0.3**
NIZ				*e*		16 52 51.9	
NIZ				pmax	pmax		
	comp=Z,824nm,0.6s						
NIZ				smax			
	comp=E,4μm,0.3s						
NIZ	**Nizh Angarsk**	**0.36**	**277**	⇑*i*Pg	**Pg**	**16 52 46.6**	**-0.1**
NIZ				*e*Sg	**Sg**	**16 52 51.9**	**+0.3**
NIZ				Pmax			
	comp=E,280nm,0.1s						
NIZ				Smax			
	comp=E,4μm,0.2s						
KMO	**Kumora**	**0.60**	**74**	*e*PG	**Pg**	**16 52 50.3**	**-0.8**
KMO				*e*		16 52 58.0	
KMO				pmax	pmax		
	comp=Z,438nm,0.3s						
KMO				smax			
	comp=N,2μm,0.9s						
KMO	**Kumora**	**0.60**	**74**	⇑*i*Pg	**Pg**	**16 52 50.3**	**-0.8**
KMO				*e*Sg	**Sg**	**16 52 58.2**	**-0.7**
KMO				Pmax			
	comp=N,438nm,0.3s						
KMO				Smax			
	comp=N,2μm,1.1s						
YOA	**Uoyan**	**0.96**	**64**	⇑*i*PG	**Pg**	**16 52 57.6**	**-0.3**
YOA				*i*		16 53 10.2	
YOA				pmax	pmax		
	comp=Z,230nm,0.2s						
YOA				smax			
	comp=E,2μm,0.6s						
YOA	**Uoyan**	**0.96**	**64**	*e*Pg	**Pg**	**16 52 57.3**	**-0.6**
YOA				*e*Sg	**Sg**	**16 53 10.4**	**0.0**
YOA				Pmax			
	comp=E,233nm,0.2s						
YOA				Smax			
	comp=E,2μm,0.3s						
YLYR	**Ulyunkhan**	**1.02**	**146**	⇑*i*PG	**Pg**	**16 52 57.5**	**-1.7**
YLYR				*e*		16 53 10.7	
YLYR				pmax	pmax		
	comp=Z,127nm,0.1s						
YLYR				smax			
	comp=N,888nm,0.3s						
YLYR	**Ulyunkhan**	**1.02**	**146**	⇓*i*Pg	**Pg**	**16 52 57.6**	**-1.6**
	comp=N,242nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**16 52 57.6**	**-1.6**
	comp=N,166nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**16 52 57.6**	**-1.6**
	comp=N,238nm,0.4s						
YLYR				*e*Sg	**Sg**	**16 53 10.7**	**-1.8**
YLYR				Pmax			
	comp=N,228nm,0.3s						
YLYR				Smax			
	comp=N,872nm,0.3s						
SVKR	**Severomuysk**	**1.94**	**77**	*e*PN	**Pn**	**16 53 15.1**	**+2.6**
SVKR				*e*		16 53 41.8	
SVKR				pmax	pmax		
	comp=Z,284nm,0.1s						
SVKR				smax			
	comp=N,3μm,0.4s						
SVKR	**Severomuysk**	**1.94**	**77**	*e*Pn	**Pn**	**16 53 12.5**	**0.0**
SVKR				*e*Pg	**Pg**	**16 53 14.9**	**-1.8**
SVKR				*e*Sg	**Sg**	**16 53 41.9**	**0.0**
SVKR				Pmax			
	comp=N,284nm,0.3s						
SVKR				Smax			
	comp=N,3μm,0.5s						
SYVR	**Suvo**	**2.08**	**183**	*e*PN	**Pn**	**16 53 16.3**	**+1.9**
SYVR				*e*		16 53 44.5	
SYVR				pmax	pmax		
	comp=Z,128nm,0.4s						
SYVR				smax			
	comp=E,2μm,0.7s						
SYVR	**Suvo**	**2.08**	**183**	*e*	**Pn**	**16 53 14.9**	**+0.5**
SYVR				⇓*i*Pg	**Pb**	**16 53 16.2**	**-1.1**
	comp=E,60nm,0.5s						
SYVR				⇓*i*Pg	**Pb**	**16 53 16.2**	**-1.1**
	comp=E,30nm,0.5s						
SYVR				⇑*i*Pg	**Pb**	**16 53 16.2**	**-1.1**
	comp=E,86nm,0.5s						
SYVR				*e*Sg	**Sg**	**16 53 44.3**	**-2.0**
SYVR				Pmax			
	comp=E,143nm,0.4s						
SYVR				Smax			
	comp=E,2μm,0.6s						
OGRR	**Ongureny**	**2.57**	**217**	*e*PN	**Pn**	**16 53 22.4**	**+1.2**
OGRR				*e*		16 53 26.4	
OGRR	**Ongureny**	**2.57**	**217**	*e*	**Pn**	**16 53 22.4**	**+1.2**
OGRR				*e*Pg	**Pg**	**16 53 24.3**	**-4.5**
OGRR				*e*		16 53 54.9	
OGRR				*e*Sg	**Sg**	**16 53 57.5**	**-4.7**
OGRR				Pmax			
	comp=E,45nm,0.3s						
OGRR				Smax			
	comp=E,235nm,0.3s						
BOD	**Bodaibo**	**2.97**	**44**	*e*PN	**Pn**	**16 53 27.5**	**+0.8**
BOD				*e*		16 53 32.2	
BOD	**Bodaibo**	**2.97**	**44**	*e*Pn	**Pn**	**16 53 28.0**	**+1.3**
BOD				*e*Pg	**Pg**	**16 53 32.6**	**-3.8**
BOD				*e*Sn	**Sn**	**16 54 04.2**	**+1.9**
BOD				*e*Sg	**Sg**	**16 54 11.1**	**-3.8**
BOD				Pmax			
	comp=E,21nm,0.6s						
BOD				Smax			
	comp=E,211nm,1.2s						
NLYR	**Nelyaty**	**3.19**	**74**	*e*Pn	**Pn**	**16 53 32.3**	**+2.7**
NLYR				*e*Pg	**Pb**	**16 53 36.9**	**+0.7**
NLYR				*e*Sg	**Sb**	**16 54 17.4**	**+2.4**
TRG	**Tyrgan**	**3.73**	**219**	*e*Pn	**Pn**	**16 53 38.4**	**+1.3**
TRG				*e*Sn	**Sn**	**16 54 22.0**	**+0.9**
TRG				*e*Sg	**Sb**	**16 54 34.9**	**+4.2**
TRG				max			
	comp=E,35nm,0.3s						
TRG				Smax			
	comp=E,117nm,0.5s						
TRTB	**Turuntaevo**	**3.82**	**204**	*e*Pn	**Pn**	**16 53 39.2**	**+0.9**
TRTB				*e*Pg	**Pg**	**16 53 47.0**	**-5.6**
TRTB				*e*		16 54 18.8	
TRTB				*e*Sg	**Sg**	**16 54 35.8**	**-6.3**
TRTB				Pmax			
	comp=E,18nm,0.7s						
TRTB				Smax			
	comp=E,72nm,0.7s						
CIT	**Chita**	**4.22**	**150**	*e*PN	**Pb**	**16 53 53.8**	**0.0**
CIT				pmax	pmax		
	comp=Z,76nm,1.3s						
CIT	**Chita**	**4.22**	**150**	*e*Pn	**Pn**	**16 53 43.9**	**+0.1**
CIT				*e*Pg	**Pb**	**16 53 54.0**	**+0.2**
CIT				*e*Sg	**Sb**	**16 54 47.5**	**+2.8**
CIT				Pmax			
	comp=Z,

comp=Z,5.0nm,0.5s
ZAK smax
comp=N,41nm,1.8s
MOY Mondy 6.80 237 *e*PN **Pn 16 54 21.4 +2.0**
MOY *e* 16 54 42.2
MOY *e* 16 56 08.2
MOY pmax pmax
comp=Z,8.0nm,0.3s
MOY smax
comp=E,72nm,1.6s
MOY Mondy 6.80 237 *e*Pn **Pn 16 54 20.0 +0.6**
MOY *e*Sn **Sn 16 55 36.2 -0.7**
MOY *e*Sg **Sg 16 56 08.5 -9.4**
MOY max
comp=E,30nm,1.0s
MOY Smax
comp=E,72nm,2.0s
ORL Orlik 6.88 247 *e*PN **Pn 16 54 21.3 +0.9**
ORL *e*S **Sg 16 56 11.6 -8.8**
ORL smax
comp=N,103nm,1.3s
ORL Orlik 6.88 247 *i* Pn **Pn 16 54 22.3 +1.9**
ORL *e*Sn **Sn 16 55 38.0 -0.8**
ORL *e*Sg **Sg 16 56 12.9 -7.5**
ORL max
comp=N,10.0nm,0.4s
ORL Smax
comp=N,103nm,0.8s
SONM Songino Array 8.25 198 Pn **Pn 16 54 40.6 +1.5**
comp=N,0.4nm,0.3s,baz=19,slow=12,SNR=13
SONM Pg Pn 16 55 10.1 +31
comp=N,0.5nm,0.3s,baz=6.9,slow=16,SNR=7.2
SONM Lg 16 56 58.1
comp=N,1.0nm,0.3s,baz=13,slow=31,SNR=8.1
SONM Songino Array 8.25 198 PN **Pn 16 54 40.6 +1.4**
SONM 16 55 10.1
TIXI Tiksi 17.84 19 *e*P **Pn 16 56 41.0 -6.8**
TIXI *e* 16 59 56.3
TIXI pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 17.84 19 *e*Pn **Pn 16 56 41.0 -6.8**
comp=Z,2.0nm,0.7s
TIXI *e*Sn **Sn 16 59 56.3 -10**
KURK Kurchatov 19.45 268 *e*P **Pn 16 57 04.1 -3.2**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 19.45 268 *e*P **Pn 16 57 04.1 -3.2**
comp=Z,3.3nm,0.7s
MKAR Makanchi Array 19.49 254 P **Pn 16 57 07.3 -0.5**
comp=Z,0.3nm,0.3s,baz=56,slow=10.0,SNR=10.0
BVAR Borovoye Array 23.11 280 P **P 16 57 45.4 -0.2**
comp=Z,0.9nm,0.6s,mb3.4,baz=57,slow=10,SNR=6.3
FINES FINESS Array B 41.31 314 P **P 17 00 24.2 -1.1**
comp=Z,2.0nm,0.9s,mb3.8,baz=68,slow=11,SNR=4.7
FINES FINESS Array B 41.31 314 P **P 17 00 24.2 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 41.31 314 P **P 17 00 24.2 -1.1**
AKASG Malin Array Be 46.14 299 P **P 17 01 04.9 +0.8**
comp=Z,0.2nm,0.3s,mb3.5,baz=127,slow=35,SNR=3.2
HFS Hagfors 47.01 317 P **P 17 01 09.8 -1.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=46,slow=12,SNR=4.0
HFS Hagfors 47.01 317 P **P 17 01 09.8 -1.1**
HFS pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 47.36 319 P **P 17 01 11.8 -1.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=47,slow=7.1,SNR=2.7
NOA NORSAR Array B 47.36 319 P **P 17 01 11.8 -1.8**
NOA pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 47.75 27 P **P 17 01 14.8 -1.8**
comp=Z,132nm,0.9s
YKA Yellowknife Ar 57.05 23 P **P 17 02 24.7 -1.0**
comp=Z,0.2nm,0.6s,mb3.3,baz=305,slow=11,SNR=3.3
WRA Warramunga Arr 78.11 157 P **P 17 04 40.8 +2.1**
comp=Z,0.2nm,0.6s,mb3.2,baz=351,slow=6.3,SNR=5.5

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*STR **09** 16:54:04.9±0.1,4759N×761E,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **09** 16:54:04.4,4758N×761E,h10km,ML2.1(STR), ML2.5(LDG),After STR.*
*LDG **09** 16:54:05.4±0.1,4759N×756E,h9km,Md2.3/3,Ml2.5/9, Error ellipse: s-maj=2.0km s-min=1.3km az=147.0*
*CSEM **09** 16:54:05.0±0.1,4759N×760E,h10km,ML2.5/10,Error ellipse: s-maj=1.0km s-min=0.8km az=144.0*
ZUR 09 16:54:05.1,4758N×760E,h5km±1km,ML1.8,1C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.13**	**207**	Pg	Pg	16 54 08.1	+0.3
BALST	**Balsthal**	**0.26**	**165**	*i* Pg	Pg	16 54 10.4	+0.3
	82nm,0.1s						
BOURR	**Bourrignon**	**0.31**	**233**	*i* Pg	Pg	16 54 11.5	+0.3
	25nm,0.1s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i* Sg	Pg	16 54 13.6	+1.6
	145nm,0.2s						
FELD	**Feldberg im Sc**	**0.40**	**43**	Pg	Pg	16 54 12.6	-0.2
FELD				Sg	Sg	16 54 18.2	+0.1
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	16 54 13.1	0.0
MOF				Sg	Sg	16 54 18.7	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	16 54 17.4	+1.6
HINF				*e*Sg	Sg	16 54 22.7	-0.3
	44nm,0.2s						
HINF				*e*Sn	Sg	16 54 26.2	+3.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	16 54 15.3	-0.5
HINF				*e*Pn	Pg	16 54 17.4	+1.6
HINF				*e*Sg	Sg	16 54 22.7	-0.3
HINF				*e*Sn	Sg	16 54 26.2	+3.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	16 54 17.4	+1.6
HINF				*e*Sg	Sg	16 54 22.7	-0.3
	22nm,0.2s						
HINF				*e*Sn	Sg	16 54 26.2	+3.2
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	16 54 16.2	+0.1
LOMF				Sg	Sg	16 54 24.7	+1.2
SLE	**Schleitheim**	**0.63**	**73⇑**	*i* Pg	Pg	16 54 17.1	-0.1
	268nm,2.0s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	16 54 18.3	-0.2
CDF	**Champ du Feu**	**0.86**	**346**	*e*Pn	Pn	16 54 21.8	-2.0
CDF				*e*Sg	Sg	16 54 31.8	-0.9
	7.5nm,0.2s						
CDF				*e*Sn	Sn	16 54 33.8	-2.9
CDF	**Champ du Feu**	**0.86**	**346**	*e*Pg	Pg	16 54 21.2	-0.4
CDF				*e*Pn	Pn	16 54 21.8	-2.0
CDF				*e*Sg	Sg	16 54 31.8	-0.9
CDF				*e*Sn	Sn	16 54 33.8	-2.9
CDF	**Champ du Feu**	**0.86**	**346**	*e*Pn	Pn	16 54 21.8	-2.0
CDF				*e*Sg	Sg	16 54 31.8	-0.9
	3.8nm,0.2s						
CDF				*e*Sn	Sn	16 54 33.8	-2.9
STEIN	**Stein am Rhein**	**0.86**	**84**	*i* S	Pg	16 54 22.6	+0.9
	33nm,0.5s						
BFO	**Black Forest**	**0.90**	**33**	*e*Pg	Pg	16 54 22.0	-0.3
BFO				*e*Sg	Sg	16 54 33.7	-0.2
WILA	**Wila**	**0.90**	**100**	*e*S	Pg	16 54 23.2	+0.8
	183nm,0.4s						
WILA	**Wila**	**0.90**	**100**	*i* P	Sg	16 54 34.9	+0.7
	183nm,0.4s						
TORNY	**Torny**	**0.92**	**209**	*e*S	Sg	16 54 36.9	+2.2
	170nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	16 54 22.9	-0.3
HAU				*e*Sg	Sg	16 54 35.3	-0.1
	50nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	16 54 22.9	-0.3
HAU				*e*Sg	Sg	16 54 35.3	-0.1
	25nm,0.3s						
BRANT	**Les Verrieres**	**1.00**	**230**	*e*S	Sg	16 54 33.9	-3.4
	42nm,0.7s						
THEF	**They Montfort**	**1.26**	**301**	Pg	Pg	16 54 28.4	-0.9
LIENZ	**Alp Oberkamor**	**1.32**	**102**	*i* S	Pn	16 54 35.4	+5.3
	47nm,0.3s						
GIMEL	**Gimel**	**1.39**	**221**	*i* P	Pn	16 54 37.7	+6.6
	58nm,0.2s						
GIMEL				*e*S	Sb	16 54 48.7	-0.9
	58nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	16 54 31.8	-0.5
CABF				*e*Sg	Sg	16 54 49.0	-1.7
	6.2nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pn	Pn	16 54 30.0	-1.5
CABF				*e*Pg	Pg	16 54 31.8	-0.5
CABF				*e*Sg	Sg	16 54 49.0	-1.7
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	16 54 31.8	-0.5
CABF				*e*Sg	Sg	16 54 49.0	-1.7
	3.1nm,0.2s						
SALAN	**Lac Salanfe**	**1.50**	**197**	*i* S	Sn	16 54 53.3	+0.7
	5.4nm,0.1s						
DAVOX	**Davos**	**1.75**	**116**	*e*S	Sn	16 54 56.4	-2.4
	28nm,0.3s						
RFYF	**Reffroy**	**1.77**	**307**	*e*Sg	Sg	16 55 00.5	-1.4
	6.8nm,0.2s						
RFYF	**Reffroy**	**1.77**	**307**	*e*Sg	Sg	16 55 00.5	-1.4
	3.4nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pn	Pn	16 54 34.6	-2.6
SFTF				*e*Sn	Sn	16 54 57.1	-3.6
SFTF				*e*Sg	Sg	16 55 02.7	-1.3
	5.5nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pn	Pn	16 54 34.6	-2.6
SFTF				*e*Sn	Sn	16 54 57.1	-3.6
SFTF				*e*Sg	Sg	16 55 02.7	-1.3
	2.8nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sg	Sg	16 55 06.1	-1.3
	3.4nm,0.3s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sg	Sg	16 55 06.1	-1.3
	1.7nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	16 54 52.8	-1.3
LOR				*e*Sg	Sg	16 55 24.7	-2.6
	4.1nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	16 54 52.8	-1.3
LOR				*e*Sg	Sg	16 55 24.7	-2.6
	2.0nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	16 54 55.6	-1.9
SMF				*e*Sg	Sg	16 55 29.4	-3.5
	2.7nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	16 54 55.6	-1.9
SMF				*e*Sg	Sg	16 55 29.4	-3.5
	1.4nm,0.2s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	16 54 57.5	-1.9
SSF				*e*Sg	Sg	16 55 33.3	-2.8
	2.9nm,0.3s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	16 54 57.5	-1.9
SSF				*e*Sg	Sg	16 55 33.3	-2.8
	1.5nm,0.3s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Pg	Pg	16 55 00.9	-1.7
AVF				*e*Sg	Sg	16 55 38.0	-3.5
	1.5nm,0.3s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Pg	Pg	16 55 00.9	-1.7
AVF				*e*Sg	Sg	16 55 38.0	-3.5
	0.8nm,0.3s						

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*IDC **09** 17:11:50.2±0.4,5269N×16053E,h0km,mb4.8/32, mb1 5.0/33,mb1mx5.0/34,mbtmp4.9/33,ML4.6/1,MS4.7/27, Ms1 4.7/27,ms1mx4.4/47,Error ellipse: s-maj=13.6km s-min=10.6km az=152.0*
*BJI **09** 17:11:50.9,53.10N×160.19E,h10km,mB5.0,mb4.7,Ms5.1, Msz4.9*
*ISCJB **09** 17:11:51.6±0.1,5252N±002×16067E±002,h21km, mb5.1/214,MS4.9/65,Error ellipse: s-maj=3.1km s-min=1.8km az=180.0*
*MOS **09** 17:11:51.2±1.3,5256N×16059E,h18km,mb5.3/103, MS5.0/46,Error ellipse: s-maj=6.7km s-min=3.6km az=99.0*
*NEIC **09** 17:11:51.9±0.2,5262N×16058E,h10km,mb5.2/126, MS4.8/8,Error ellipse: s-maj=5.5km s-min=3.3km az=179.0*
*GCMT **09** 17:11:51.9±0.3,5271N×16083E,h24km,MW5.1/70, Moment Tensor Solution. s41,c50; s70,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.86±.23; $M_{\theta\theta}$4.59±.15; $M_{\phi\phi}$-0.72±.14; $M_{r\theta}$1.49±.17; $M_{\theta\phi}$-1.22±.09; $M_{\phi r}$1.62±.20; Best double couple: $M_0$4.95700×10^{16} NP1:ϕ_s126.00000°,δ43.00000°,λ-52.00000°. NP2: ϕ_s259.00000°,δ57.00000°,λ-120.00000°. Principal axes: T 5.0060, Plg8.0000°, Azm10.0000°; N -0.0940, Plg25.0000°, Azm276.0000°; P -4.9090, Plg63.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*KRSC **09** 17:11:52.0±1.2,5260N×16072E,h17km±16km,ML5.6*
*SZGRF **09** 17:12:05.8,5378N×15695E,h33km,mb5.3,MS4.8, Kamchatka Peninsula, Russia*
ISC 09 17:11:53.7±0.1,5258N±002×16060E±002,h23km, h23km±3.4km:pP-P,n787,σ0:95/783,mb5.1/214,MS4.9/65, 131C-108D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.63**	**326**	*e*P	**Pb**	**17 12 04.8**	**-1.2**
NLC	**Nalytchevo**	**0.96**	**308**	*e*P	**Pb**	**17 12 10.4**	**-1.3**
PET	**Petropavlovsk**	**1.26**	**291**	*e*PN	**Pn**	**17 12 15.6**	**-0.3**
PET				*e*S	**Sn**	**17 12 32.6**	**+0.4**
PET				pmax	pmax		
	comp=Z,3μm,2.0s						
PET				pmax	pmax		
	comp=Z,904nm,0.7s						
PET				smax			
	comp=N,62μm,0.8s						
PET				smax			
	comp=N,30μm,7.4s						
PET				smax			
	comp=N,54μm,0.6s						
PET	**Petropavlovsk**	**1.26**	**291**	*e*Pg	**Pn**	**17 12 15.4**	**-0.5**
PET				*e*Sg	**Sn**	**17 12 30.6**	**-1.6**
PET	**Petropavlovsk**	**1.26**	**291**	*e*P	**Pn**	**17 12 16.0**	**+0.1**
PET				*i* S	**Sn**	**17 12 34.0**	**+1.8**
RUS	**Russkaya**	**1.29**	**264**	*e*P	**Pn**	**17 12 17.2**	**+1.0**
RUS				*i* S	**Sn**	**17 12 35.9**	**+3.2**
INSR	**Institute**	**1.31**	**293**	*e*P	**Pn**	**17 12 16.0**	**-0.5**
INSR				*i* S	**Sn**	**17 12 34.0**	**+0.8**
AVH	**Avacha**	**1.32**	**302**	*e*P	**Pn**	**17 12 17.0**	**+0.3**
GRL	**Gorelyy**	**1.54**	**270**	*e*P	**Pn**	**17 12 21.2**	**+1.4**
GRL				*i* S	**Sn**	**17 12 42.4**	**+3.3**
GNL	**Ganaly**	**1.95**	**306**	*e*P	**Pn**	**17 12 26.4**	**+1.0**
MKZ	**Mys Kozlova**	**2.09**	**18**	*e*P	**Pn**	**17 12 25.6**	**-1.7**
MKZ				*i* S	**Sn**	**17 12 50.1**	**-2.5**
TUMR	**Tumrok**	**2.72**	**354**	*e*P	**Pn**	**17 12 37.0**	**+1.0**
TUMR				*i* S	**Sn**	**17 13 09.9**	**+1.8**
KMNR	**Kamenistaya**	**3.19**	**356**	*e*P	**Pn**	**17 12 43.8**	**+1.4**
KMNR				*i* S	**Sn**	**17 13 21.9**	**+2.2**
BZMR	**Bezymyannaya**	**3.36**	**359**	*e*P	**Pn**	**17 12 45.8**	**+1.0**
SKR	**Severo-Kuril's**	**3.38**	**238**	*e*PN	**Pn**	**17 12 45.5**	**+0.5**
SKR				*e*S	**Sn**	**17 13 24.5**	**+0.1**
SKR				pmax	pmax		
	comp=E,140nm,0.5s						
SKR				pmax	pmax		
	comp=Z,250nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				smax			
	comp=E,8μm,4.0s						
SKR				smax			
	comp=N,6μm,2.0s						
SKR				MLR	MLR		
	comp=Z,11μm,14.0s						
SKR				MLR	MLR		
	comp=N,20μm,16.0s						
SKR				MLR	MLR		
	comp=E,30μm,16.0s						
KIRR	**Kirishev**	**3.38**	**358**	*e*P	**Pn**	**17 12 46.2**	**+1.1**
KPT	**Kopyto**	**3.40**	**356**	*e*P	**Pn**	**17 12 46.3**	**+1.0**
ZLN	**Zelenaya**	**3.44**	**2**	*e*P	**Pn**	**17 12 46.8**	**+0.9**
KOZ	**Kozyrevsk**	**3.51**	**353**	*e*P	**Pn**	**17 12 48.2**	**+1.4**
KOZR	**Kozyr**	**3.52**	**354**	PN	**Pn**	**17 12 48.2**	**+1.3**
CIRR	**Tsirk**	**3.54**	**1**	*e*P	**Pn**	**17 12 48.6**	**+1.3**
KRSR	**Krestovskiy**	**3.64**	**360**	*e*P	**Pn**	**17 12 49.8**	**+1.2**
KLY	**Klyuchi**	**3.74**	**0**	*e*P	**Pn**	**17 12 50.1**	**+0.1**
SRDR	**Sredinnyy**	**3.78**	**352**	*e*P	**Pn**	**17 12 51.5**	**+1.0**
KBTR	**Krutoberegovo**	**3.86**	**19**	*e*P	**Pn**	**17 12 51.3**	**-0.3**
KBTR				*i* S	**Sn**	**17 13 34.3**	**-1.9**
BDR	**Baidarnaya**	**4.01**	**5**	*e*P	**Pn**	**17 12 54.5**	**+0.8**
SMKR	**Semkarok**	**4.04**	**7**	*e*P	**Pn**	**17 12 54.4**	**+0.3**
SRKR	**Sorokina**	**4.09**	**4**	*e*P	**Pn**	**17 12 55.1**	**+0.2**
SMY	**Shemya**	**8.21**	**84**	*e*Pn	**Pn**	**17 13 49.8**	**-1.6**
	comp=E,763nm,0.6s						
SMY				*e*Sn	**Sn**	**17 15 14.4**	**-9.0**
MA2	**Magadan**	**8.90**	**326**	*e*PN	**Pn**	**17 14 03.9**	**+3.1**
MA2				pmax	pmax		
	comp=Z,40nm,0.7s						
MA2	**Magadan**	**8.90**	**326**	*e*Pn	**Pn**	**17 14 02.8**	**+2.0**
	comp=Z,92nm,1.0s						
OKH	**Okha**	**10.68**	**282**	*e*PN	**Pn**	**17 14 28.0**	**+2.8**
SEY	**Seymchan**	**11.26**	**340⇑**	*e*PN	**Pn**	**17 14 32.9**	**-0.2**
UGL	**Uglegorsk**	**12.23**	**261**	*e*PN	**Pn**	**17 14 52.0**	**+5.6**
UGL				pmax	pmax		
	comp=Z,60nm,0.8s						
UGL				MLR	MLR		
	comp=N,2μm,14.0s						
UGL				MLR	MLR		
	comp=E,5μm,14.0s						
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.82**	**251**	*e*PN	**Pn**	**17 14 56.0**	**+1.4**
YSS				pmax	pmax		
	comp=Z,100nm,1.3s						
YSS				MLR	MLR		
	comp=E,4μm,16.0s						
YSS				MLR	MLR		
	comp=Z,6μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**12.82**	**251**	*e*Pn	**Pn**	**17 14 56.1**	**+1.6**
	comp=N,69nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**12.99**	**235**	PN	**Pn**	**17 14 57.0**	**+0.1**
YUK				MLR	MLR		
	comp=Z,6μm,18.0s						
YUK				MLR	MLR		
	comp=N,9μm,17.0s						
YUK				MLR	MLR		
	comp=E,8μm,19.0s						
ASAJ	**Asahikawa**	**14.63**	**242**	Pn	**Pn**	**17 15 19.2**	**0.0**
	comp=E,4.1nm,0.3s,baz=71,slow=10,SNR=41						
ASAJ	**Asahikawa**	**14.63**	**242**	P	**Pn**	**17 15 19.2**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BILL	**Bilibino**	**15.75**	**8⇓**	*e*P	**Pn**	**17 15 34.8**	**+0.8**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BILL				MLR	MLR		
	comp=Z,4μm,23.0s						
BILL	**Bilibino**	**15.75**	**8**	*e*Pn	**Pn**	**17 15 33.7**	**-0.3**
	comp=Z,99nm,0.8s						
ERM	**Erimo**	**15.82**	**235**	Pn	**Pn**	**17 15 32.3**	**-2.6**
	comp=Z,367nm,0.6s,SNR=10.0						
ERM	**Erimo**	**15.82**	**235**	*e*P	**Pn**	**17 15 30.4**	**-4.5**
ERM				pmax	pmax		
	comp=Z,42nm,0.6s						
ERM	**Erimo**	**15.82**	**235**	*e*Pn	**Pn**	**17 15 30.4**	**-4.5**
	comp=Z,42nm,0.6s						
ERM				*e*Sn	Sn	17 18 09.5	-20
KLR	**Kul'dur**	**18.45**	**271**	*e*P	**Pn**	**17 16 05.8**	**-2.0**
KLR				pmax	pmax		
	comp=E,130nm,2.2s						
KLR				pmax	pmax		
	comp=Z,130nm,2.2s						
YAK	**Yakutsk**	**19.01**	**312**	*e*P	**Pn**	**17 16 11.1**	**-3.5**
YAK				*e*S	**Sn**	**17 19 43.4**	**-3.4**
YAK				pmax	pmax		
	comp=Z,95nm,1.0s						
YAK				pmax	pmax		
	comp=N,16nm,1.3s						
YAK				pmax	pmax		
	comp=E,37nm,1.2s						
YAK				smax			
	comp=E,168nm,1.5s						
YAK				smax			
	comp=N,97nm,1.3s						
YAK				MLR	MLR		
	comp=N,2μm,15.0s						
YAK				MLR	MLR		
	comp=Z,4μm,15.0s						
YAK				MLR	MLR		
	comp=E,3μm,14.0s						
YAK	**Yakutsk**	**19.01**	**312**	*e*P	**Pn**	**17 16 11.0**	**-3.6**
	comp=E,119nm,0.6s						
YAK				*e*Sn	**Sn**	**17 19 40.7**	**-6.1**
UNV	**Unalaska Valle**	**19.65**	**73**	*e*P	**Pn**	**17 16 20.1**	**-2.2**
	comp=E,351nm,1.2s						
CLNS	**Chul'man**	**20.91**	**296**	*d* iP	**P**	**17 16 33.0**	**-1.4**
CLNS				*e**PP		17 16 37.9	
CLNS				*e*PPP		17 16 56.0	
CLNS				*e*SS		17 20 56.8	
CLNS				*e*SSS		17 21 10.3	
CLNS				pmax	pmax		
	comp=Z,17nm,0.6s						
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,0.7s						
CLNS				MLR	MLR		
	comp=N,300nm,13.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,3μm,13.0s,MS4.8						
CLNS				MLR	MLR		
	comp=Z,4μm,13.0s,MS5.0						
NRGR	**Nerungri**	**21.01**	**295**	*e*P	**P**	**17 16 35.6**	**+0.1**
VLA	**Vladivostok**	**21.34**	**255**	P	**P**	**17 16 39.0**	**-0.1**
VLA				pmax	pmax		
	comp=Z,86nm,1.8s,mb4.8						
VLA				MLR	MLR		
	comp=Z,2μm,15.5s,MS4.7						
MDJ	**Mudanjiang**	**21.87**	**261**	P	**P**	**17 16 44.4**	**-0.4**
MDJ				AP		17 16 46.4	
MDJ				XP	sP	17 16 47.9	-6.3
MDJ				S	**S**	**17 20 44.3**	**-0.9**
MDJ				XS	sS	17 20 50.0	-5.6
MDJ				SCP	ScP	17 24 22.1	+2.6
MDJ				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,161nm,5.5s						
MDJ				LR	LR		
	comp=N,3μm,19.8s,MS4.8						
MDJ				LR	LR		
	comp=E,1μm,21.9s,MS4.8						
MDJ				LR	LR		
	comp=Z,4μm,15.7s						
MAJO	**Matsushiro**	**22.48**	**233**	*e*P	**P**	**17 16 49.6**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,84nm,0.6s,mb5.3						
MAJO	**Matsushiro**	**22.48**	**233**	*e*P	**P**	**17 16 49.6**	**-1.7**
	comp=Z,84nm,0.6s,mb5.3						
MAT	**Matsushiro**	**22.48**	**233**	P	**P**	**17 16 50.8**	**-0.5**
MAT				S	**S**	**17 20 49.0**	**-8.1**
MJAR	**Matsushiro Arr**	**22.48**	**233**	P	**P**	**17 16 52.1**	**+0.8**
	comp=Z,26nm,0.8s,mb4.7,baz=3.4,slow=14,SNR=55						
MJAR				PcP	PcP	17 20 44.6	-0.4
	comp=Z,2.2nm,0.8s,baz=68,slow=1.4,SNR=4.6						
MJAR				LR	LR	17 26 25.7	
	comp=Z,2μm,20.2s,MS4.5,baz=45,slow=39						
MJAR	**Matsushiro Arr**	**22.48**	**233**	P	**P**	**17 16 52.1**	**+0.8**
MJAR						17 20 44.6	
MJAR				pmax	pmax		
	comp=Z,26nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,2μm,20.2s						
TIXI	**Tiksi**	**23.68**	**335**	*e*P	**P**	**17 16 57.3**	**-6.3**
TIXI				*e*S	**S**	**17 21 08.2**	**-8.7**
TIXI				pmax	pmax		
	comp=Z,67nm,1.0s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8						
TIXI	**Tiksi**	**23.68**	**335⇑**	*e*P	**P**	**17 17 00.3**	**-3.3**
	comp=Z,62nm,0.9s,mb5.0						
JHJ	**Hachijo jima 2**	**24.57**	**226**	LR	LR	17 25 27.4	
	comp=Z,550nm,21.6s,MS4.0,baz=264,slow=33						
CN2	**Changchun**	**24.82**	**263**	⇑P	**P**	**17 17 11.5**	**-2.5**
CN2				*e*XP	sP	17 17 18.5	-5.2
CN2				*e*S	**S**	**17 21 29.3**	**-6.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS5.0						
CN2				LR	LR		
	comp=E,3μm,17.0s,MS5.0						
CN2				LR	LR		
	comp=Z,3μm,21.0s,MS4.7						
SVW2	**Sparrevohn**	**24.99**	**53**	*e*P	**P**	**17 17 15.4**	**-0.2**
HIA	**Hailar**	**25.72**	**279**	*e*P	**P**	**17 17 20.1**	**-2.1**
HIA				pmax	pmax		
	comp=Z,33nm,0.8s						
HIA	**Hailar**	**25.72**	**279**	*e*P	**P**	**17 17 20.1**	**-2.1**
	comp=Z,33nm,0.8s,mb4.9						
IMA2	**Indian Mountai**	**26.21**	**41**	*e*P	**P**	**17 17 26.0**	**-0.7**
BOD	**Bodaibo**	**26.67**	**300**	*e*P	**P**	**17 17 28.5**	**-2.3**
BOD				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.6						
KDAK	**Kodiak Island**	**

comp=Z,46nm,0.8s,mb5.1,baz=334,slow=5.5,SNR=18
KDAK Kodiak Island 26.79 60 *e*P **P 17 17 29.8 -2.1**
comp=Z,42nm,0.8s,mb5.0
KSRS Korea Array 27.32 249 P **P 17 17 37.0 +0.4**
comp=Z,9.2nm,0.8s,mb4.3,baz=41,slow=9.3,SNR=13
MCK McKinley 28.07 47 P **P 17 17 43.0 -0.4**
MCK pmax pmax
comp=Z,16nm,1.1s,mb4.6
MCK McKinley 28.07 47 *e*P **P 17 17 42.3 -1.2**
comp=Z,16nm,1.2s,mb4.5
SML Sawmill 28.44 51 P **P 17 17 45.8 -0.9**
SML Sawmill 28.44 51 *e*P **P 17 17 45.7 -1.0**
COLA College 28.55 44 P **P 17 17 46.6 -1.0**
COLA pmax pmax
comp=Z,37nm,1.0s,mb5.1
COLA College 28.55 44 *e*P **P 17 17 46.3 -1.3**
comp=Z,38nm,1.0s,mb5.1
JNU Nakatsue 28.89 239 P **P 17 17 52.2 +1.5**
comp=Z,15nm,0.8s,mb4.8,baz=240,slow=12,SNR=2.6
JNU LR LR 17 29 50.2
comp=Z,5μm,20.4s,MS5.1,baz=268,slow=37
CBIJ Chichi jima 28.95 216 LR LR 17 28 46.2
comp=Z,268nm,20.9s,baz=163,slow=35
EGAK Eagle 31.41 44 *e*P **P 17 18 10.7 -2.2**
comp=Z,17nm,0.8s,mb4.9
DAWY Dawson 32.26 46 *e*P **P 17 18 18.7 -1.7**
BJI Beijing 32.63 265 P **P 17 18 27.7 +4.1**
BJI S **S 17 23 43.6 +5.4**
BJI AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
BJI LR LR
comp=Z,2μm,19.5s,MS4.9
INK Inuvik 34.09 37 P **P 17 18 35.2 -1.2**
comp=Z,9.5nm,0.7s,mb4.8,baz=304,slow=5.6,SNR=11
INK PcP PcP 17 21 11.9 -1.6
comp=Z,3.7nm,0.6s,baz=259,slow=0.9,SNR=3.7
INK Inuvik 34.09 37 P **P 17 18 35.2 -1.2**
INK 17 21 11.9
INK pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 34.09 37 *e*P **P 17 18 35.2 -1.2**
comp=Z,635nm,1.0s
INK *e*PcP PcP 17 21 12.5 -1.0
TLY Talaya 34.20 292 *e*P **P 17 18 46.8 +9.5**
TLY *e* 17 20 11.8
TLY *e*S **S 17 24 10.9 +8.3**
TLY pmax pmax
comp=Z,13nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,983nm,15.0s,MS4.7
SONM Songino Array 34.32 284 P **P 17 18 37.0 -1.5**
comp=Z,4.3nm,0.7s,mb4.5,baz=67,slow=6.9,SNR=22
SONM PcP PcP 17 21 14.7 +0.5
comp=Z,2.5nm,0.8s,baz=66,slow=2.7,SNR=3.5
SONM LR LR 17 34 07.4
comp=Z,3μm,18.6s,MS5.0,baz=57,slow=39
SONM Songino Array 34.32 284 P **P 17 18 37.0 -1.4**
SONM 17 21 14.7
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,3μm,18.6s
HHC Hu-ho-hao-te 34.95 270 *e*P **P 17 18 43.3 -0.5**
HHC AP pP 17 18 47.2 -3.6
HHC XP sP 17 18 50.2 -3.5
HHC PP PP 17 20 00.3 -2.9
HHC PCP PcP 17 21 17.6 +1.6
HHC S **S 17 24 12.5 -1.7**
HHC SS SS 17 26 23.3 -23
HHC SCS ScS 17 29 02.6 -1.0
HHC AMB AMB
comp=Z,15nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,112nm,5.7s
HHC LR LR
comp=N,1μm,14.3s,MS5.0
HHC LR LR
comp=E,2μm,14.3s,MS5.0
HHC LR LR
comp=Z,2μm,15.5s,MS4.9
ZAK Zakamensk 34.96 290 *e*P **P 17 18 42.9 -1.1**
ZAK *e* 17 21 16.6
SKAG Skagway 35.17 53 *e*P **P 17 18 46.0 +0.2**
comp=Z,170nm,2.0s,mb5.6
MOY Mondy 35.70 293 *e*P **P 17 18 46.2 -4.1**
SSE Sheshan 35.75 249 *e*P **P 17 18 48.6 -2.1**
SSE S **S 17 24 26.9 +0.4**
SSE AMB AMB
comp=Z,49nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,192nm,4.5s
SSE LR LR
comp=N,806nm,19.5s,MS4.6
SSE LR LR
comp=E,573nm,19.5s,MS4.6
SSE LR LR
comp=Z,969nm,19.8s,MS4.6
DLBC Dease Lake 38.11 53 *e*P **P 17 19 11.6 +0.9**
LZH Lanzhou 42.65 271 *e*P **P 17 19 47.8 -0.5**
LZH AP pP 17 19 51.7 -3.7
LZH XP sP 17 19 54.2 -4.1
LZH PP PP 17 21 29.3 +1.9
LZH *e*S **S 17 26 09.1 -1.0**
LZH XS sS 17 26 15.5 -6.3
LZH SS SS 17 29 10.1 -11
LZH AMB AMB
comp=Z,20nm,1.1s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.5s
LZH LR LR
comp=E,2μm,14.0s
LZH LR LR
comp=Z,2μm,14.9s,MS5.2
GTA Gaotai 42.98 277 *e*P **P 17 19 50.6 -0.4**
GTA AP pP 17 19 55.0 -3.1
GTA XP sP 17 19 57.6 -3.3
GTA PP PP 17 21 32.8 +1.9
GTA PCP PcP 17 21 42.2 +1.0
GTA S **S 17 26 14.9 0.0**
GTA XS sS 17 26 23.3 -3.3
GTA SS SS 17 29 20.8 -6.3
GTA AMB AMB
comp=Z,6.0nm,1.4s,mb4.1
GTA AMB AMB
comp=Z,120nm,5.3s
GTA LR LR
comp=N,1μm,16.7s,MS5.2
GTA LR LR
comp=E,2μm,13.7s,MS5.2
GTA LR LR
comp=Z,2μm,15.2s,MS5.2
ZAL Zalesovo 43.33 303 P **P 17 19 51.1 -2.8**
comp=Z,2.2nm,0.7s,baz=50,slow=6.0,SNR=7.4
ZAL LR LR 17 40 06.5
comp=Z,2μm,18.2s,baz=62,slow=39
ZAL Zalesovo 43.33 303 *i*P **P 17 19 52.4 -1.5**
ZAL pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 43.33 42 P **P 17 19 52.8 -1.1**
comp=Z,7.4nm,0.8s,mb4.5,baz=299,slow=8.1,SNR=63
YKA LR LR 17 40 49.5
comp=Z,550nm,18.5s,MS4.5,baz=260,slow=40
YKA Yellowknife Ar 43.33 42 *i*P **P 17 19 52.7 -1.2**
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 43.33 42 P **P 17 19 52.8 -1.1**
YKA LR LR 17 40 49.5
ALE Alert 43.39 7 P **P 17 19 53.0 -1.3**
comp=Z,195nm,0.7s,mb6.0,SNR=14
NVS Novosibirsk 43.66 305 *e*P **P 17 19 53.8 -2.7**
NVS *e* 17 21 44.6
NVS *e*S **S 17 26 17.0 -8.0**
NVS *e* 17 29 31.8
NVS pmax pmax
comp=Z,53nm,1.0s,mb5.2
NVS pmax pmax
comp=N,33nm,1.3s
NVS pmax pmax
comp=E,41nm,1.3s
NVS smax
comp=N,45nm,1.9s
NVS smax
comp=E,32nm,1.9s
RES Resolute Bay 43.69 22 *e*P **P 17 19 56.3 -0.4**
comp=E,682nm,0.9s
RES *e*PcP PcP 17 21 41.9 -1.7
CD2 Chengdu 46.23 265 P **P 17 20 16.4 -0.6**
CD2 AP pP 17 20 21.0 -3.1
CD2 XP sP 17 20 23.5 -3.4
CD2 PP PP 17 22 05.9 +0.4
CD2 S **S 17 27 02.6 +0.4**
CD2 XS sS 17 27 11.0 -2.9
CD2 SS SS 17 30 21.0 -6.6
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,180nm,3.9s
CD2 LR LR
comp=N,2μm,19.2s,MS5.2
CD2 LR LR
comp=E,2μm,17.4s,MS5.2
CD2 LR LR
comp=Z,1μm,17.9s,MS4.8
B04A Port Angeles 46.59 64 ⇓P **P 17 20 19.0 -0.8**
baz=46
A05A Maple Falls 46.81 62 ⇓P **P 17 20 20.7 -0.8**
baz=47
MBW Mount Baker 47.03 62 P **P 17 20 23.3 +0.1**
C04A Brinnon 47.08 64 ⇓P **P 17 20 22.8 -0.8**
baz=47
KBS Kingsbay 47.43 352 ⇑*e*P **P 17 20 24.9 -1.4**
KBS Kingsbay 47.43 352 *e*P **P 17 20 25.7 -0.7**
comp=Z,37nm,0.8s,mb5.4
WMQ Urumqi 47.43 290 P **P 17 20 26.0 -0.4**
WMQ XP sP 17 20 33.7 -2.7
WMQ PCP PcP 17 21 57.4 +0.8
WMQ PP PP 17 22 16.5 -1.2
WMQ PPP 17 23 02.4
WMQ S **S 17 27 17.3 -2.1**
WMQ XS sS 17 27 26.0 -5.1
WMQ SCS ScS 17 30 16.9 -1.9
WMQ SS SS 17 30 40.2 -7.0
WMQ AMB AMB
comp=Z,19nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,202nm,6.0s
WMQ LR LR
comp=N,1μm,15.0s,MS5.3
WMQ LR LR
comp=E,2μm,13.0s,MS5.3
WMQ LR LR
comp=Z,1μm,16.0s,MS5.0
E03A Lebam 47.44 65 ⇑P **P 17 20 25.9 -0.5**
baz=47
A07A Ashnola River, 47.69 61 ⇑P **P 17 20 27.8 -0.5**
baz=48,SNR=12
SPB4 Spitsbergen Ar 47.69 351 *e*P **P 17 20 27.3 -1.1**
GYA Guiyang 47.70 258 P **P 17 20 29.2 +0.8**
GYA AP pP 17 20 31.8 -3.8
GYA XP sP 17 20 36.7 -1.7
GYA PCP PcP 17 21 59.8 +2.3
GYA PP PP 17 22 20.6 +0.5
GYA SCP ScP 17 25 51.9 +1.6
GYA S **S 17 27 23.1 0.0**
GYA SCS ScS 17 30 20.0 -0.6
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,140nm,5.3s
GYA LR LR
comp=N,540nm,15.4s,MS4.8
GYA LR LR
comp=E,510nm,15.8s,MS4.8
GYA LR LR
comp=Z,530nm,16.0s,MS4.6
C05A Tolt Reservoir 47.79 63 ⇓P **P 17 20 28.3 -0.8**
baz=48
E04A Onalaska 47.88 65 ⇓P **P 17 20 29.4 -0.4**
baz=48
D05A Enumclaw 47.93 64 ⇓P **P 17 20 29.7 -0.5**
baz=48
B07A Winthrop 48.18 61 ⇓P **P 17 20 31.7 -0.4**
baz=48,SNR=7.0
FMW Mount Fremont 48.25 64 P **P 17 20 32.7 0.0**
KURK Kurchatov 48.27 302 P **P 17 20 30.4 -2.5**
comp=Z,200nm,0.6s,SNR=23
KURK Kurchatov 48.27 302 *c i*P **P 17 20 30.6 -2.3**
KURK Kurchatov 48.27 302 *e*P **P 17 20 29.8 -3.1**
comp=Z,26nm,0.7s,mb5.4
A08A Turner Farm, O 48.34 60 ⇓P **P 17 20 32.5 -0.9**
baz=48,SNR=15
G03A Yamhill 48.34 66 ⇓P **P 17 20 33.1 -0.3**
baz=48
E05A Randle 48.43 64 ⇑P **P 17 20 33.2 -0.8**
baz=48
F04A Amboy 48.45 65 ⇓P **P 17 20 33.6 -0.6**
baz=48
D06A Cle Elum 48.55 63 ⇑P **P 17 20 34.4 -0.6**
baz=48
ETW Entiat 48.58 62 P **P 17 20 35.1 -0.1**
MK31 Makanchi Array 48.66 296 P **P 17 20 33.6 -2.3**
MK31 Makanchi Array 48.66 296 *e*P **P 17 20 33.2 -2.6**
MKAR Makanchi Array 48.66 296 P **P 17 20 33.2 -2.7**
comp=Z,3.3nm,0.4s,mb4.7,baz=57,slow=6.4,SNR=88
MKAR LR LR 17 42 37.3
comp=Z,674nm,21.8s,MS4.6,baz=42,slow=38
MKAR Makanchi Array 48.66 296 *i*P **P 17 20 33.3 -2.6**
B08A Colville Reser 48.66 61 ⇑P **P 17 20 35.0 -0.8**
baz=48,SNR=17
C07A Waterville 48.67 62 ⇑P **P 17 20 35.0 -0.9**
baz=48,SNR=6.4
A09A Danville 48.69 60 P **P 17 20 35.7 -0.4**
baz=48,SNR=18
TBM Table Mountain 48.70 63 P **P 17 20 36.1 -0.1**
WTV Waterville 48.73 62 P **P 17 20 35.9 -0.5**
EDM Edmonton 48.83 53 P **P 17 20 36.2 -1.0**
EDM Edmonton 48.83 53 *e*P **P 17 20 36.0 -1.2**
E06A Yakima 48.87 64 ⇑P **P 17 20 37.3 -0.2**
baz=49
F05A White Salmon 49.01 65 ⇑P **P 17 20 38.1 -0.4**
baz=49
D07A Quincy 49.02 63 P **P 17 20 38.3 -0.3**
baz=49,SNR=5.3
C08A Higginbotham F 49.16 61 ⇓P **P 17 20 38.9 -0.8**
baz=49,SNR=13
B09A Rice 49.25 60 ⇓P **P 17 20 39.9 -0.6**
baz=49,SNR=13
H04A Detroit Lake 49.34 66 ⇓P **P 17 20 40.4 -0.7**
baz=49
J02A Umpqua 49.38 69 ⇓P **P 17 20 41.1 -0.3**
baz=49
F06A Goldendale 49.45 65 ⇑P **P 17 20 41.5 -0.4**
baz=49,SNR=5.5
E07A Sunnyside 49.47 63 ⇑P **P 17 20 41.4 -0.7**
baz=49,SNR=8.0
MDW Midway 49.49 63 P **P 17 20 42.2 0.0**
C09A Chrisman Ranch 49.56 61 ⇓P **P 17 20 41.8 -0.9**
baz=49
OD2 Odessa Site #2 49.58 62 P **P 17 20 42.4 -0.6**
D08A Wollman Farm, 49.67 62 ⇑P **P 17 20 42.5 -1.1**
baz=50
J03A Ideyld Park 49.72 68 ⇑P **P 17 20 43.1 -0.9**
baz=50
I04A Tendick Farm, 49.77 68 ⇓P **P 17 20 43.9 -0.4**
baz=50
F07A Phinny Hill Vi 49.84 64 ⇑P **P 17 20 44.4 -0.5**
baz=50,SNR=6.7
A11A Hall Mountain, 49.87 59 ⇓P **P 17 20 44.6 -0.5**
baz=50,SNR=11
NEW Newport 49.89 60 *e*P **P 17 20 44.6 -0.7**
NEW pmax pmax
comp=Z,17nm,1.0s
NEW Newport 49.89 60 *e*P **P 17 20 44.6 -0.7**
comp=Z,17nm,1.0s,mb5.0
H05A Madras 49.90 66 ⇑P **P 17 20 45.1 -0.3**
baz=50
E08A Dider Farm, El 49.95 63 ⇓P **P 17 20 44.9 -0.8**
baz=50
D09A Jones Farm, Ri 50.00 62 ⇓P **P 17 20 45.0 -1.1**
baz=50,SNR=6.2
C10A Spilker Farm, 50.07 61 ⇑P **P 17 20 45.5 -1.2**
baz=50
L02A Cave Junction 50.13 70 ⇓P **P 17 20 46.7 -0.3**
baz=50
B11A Sandpoint 50.18 59 ⇓P **P 17 20 46.7 -0.8**
baz=50,SNR=7.0
HUMO Hull Mountain 50.21 69 ⇑P **P 17 20 47.8 +0.1**
baz=50
J04A Umpqua Nationa 50.29 68 ⇑P **P 17 20 48.5 +0.2**
baz=50
VIPM Ingram Point 50.33 66 P **P 17 20 48.9 +0.3**
H06A Lindquist Farm 50.34 65 ⇓P **P 17 20 48.3 -0.4**
baz=50,SNR=6.1
G07A Ruggs Ranch, H 50.38 64 ⇓P **P 17 20 48.5 -0.4**
baz=50
E09A Wood Farm, Sta 50.43 62 ⇑P **P 17 20 48.4 -0.9**
baz=50,SNR=15
CHKZ Chkalovo 50.44 309 P **P 17 20 46.6 -2.9**
CHKZ pmax pmax
comp=Z,16nm,0.7s,mb5.2
CHKZ Chkalovo 50.44 309 *e*P **P 17 20 46.0 -3.5**
comp=Z,19nm,0.7s,mb5.2
D10A Wagner Farm, O 50.56 61 P **P 17 20 49.2 -1.1**
baz=50,SNR=16
G08A Pilot Rock 50.75 64 ⇓P **P 17 20 51.1 -0.6**
baz=50
K04A Chilquin 50.90 68 ⇑P **P 17 20 52.4 -0.5**
baz=51
I06A Prineville 50.91 66 ⇑P **P 17 20 52.7 -0.3**
baz=51
YBH Yreka Blue Hor 50.91 70 *e*P **P 17 20 53.9 +0.9**
YBH pmax pmax
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 50.91 70 *e*P **P 17 20 53.9 +0.9**
comp=Z,24nm,1.1s,mb5.0
YBH Yreka Blue Hor 50.91 70 ⇑P **P 17 20 53.1 +0.2**
baz=51,SNR=8.1
BVA0 Borovoye Array 50.95 309 *i*P **P 17 20 50.7 -2.6**
BVAR Borovoye Array 50.95 309 P **P 17 20 50.5 -2.8**
comp=Z,6.5nm,0.5s,mb4.8,baz=56,slow=6.9,SNR=58
BVAR LR LR 17 44 41.5
comp=Z,2μm,18.2s,MS5.2,baz=319,slow=39
BVAR Borovoye Array 50.95 309 P **P 17 20 50.5 -2.8**
BVAR pmax pmax
comp=Z,7.0nm,0.5s
BVAR MLR MLR
comp=Z,2μm,18.2s
BVAR Borovoye Array 50.95 309 P **P 17 20 50.5 -2.8**
BVAR LR LR 17 44 41.5
BRVK Borovoye 50.98 309 P **P 17 20 52.2 -1.3**
comp=Z,108nm,0.7s,mb5.9,SNR=5.5
BRVK Borovoye 50.98 309 P **P 17 20 51.1 -2.4**
BRVK pmax pmax
comp=Z,14nm,0.7s,mb5.0
BRVK Borovoye 50.98 309 *e*P **P 17 20 50.5 -3.0**
comp=Z,14nm,0.7s,mb5.0
E10A Myers Farm, Un 51.00 62 ⇑P **P 17 20 53.0 -0.7**
baz=51,SNR=8.3
KMI Kunming 51.04 261 P **P 17 20 54.6 +0.6**
KMI XP sP 17 21 00.1 -3.9
KMI S **S 17 28 09.7 -0.3**
KMI SS SS 17 31 43.6 -1.5
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,203nm,5.8s
KMI LR LR
comp=N,984nm,20.3s,MS5.0
KMI LR LR
comp=E,1μm,20.9s,MS5.0
KMI LR LR
comp=Z,587nm,22.6s,MS4.5
M02C Callahan 51.05 70 ⇑P **P 17 20 53.9 -0.1**
baz=51
F09A S2 Ranch, Elgi 51.06 63 ⇑P **P 17 20 53.6 -0.5**
baz=51
D11A Klaveano Farm, 51.06 61 ⇓P **P 17 20 53.3 -0.8**
baz=51
WALA Waterton Lakes 51.08 57 *e*P **P 17 20 53.5 -0.7**
comp=Z,33nm,0.7s,mb5.4
L04A Klamath Falls 51.09 69 ⇑P **P 17 20 54.5 +0.1**
baz=51,SNR=5.5
N02C Big Bar 51.16 71 ⇓P **P 17 20 55.1 +0.3**
baz=51
I07A Izee 51.22 66 ⇑P **P 17 20 55.1 -0.2**
baz=51
F10A Beach Ranch, E 51.26 62 P **P 17 20 55.5 -0.2**
baz=51,SNR=5.9
O01C Eel River Cons 51.30 72 ⇓P **P 17 20 56.6 +0.7**
baz=51
K05A Summer Lake 51.30 68 ⇑P **P 17 20 56.2 +0.3**
baz=51,SNR=5.1
M04C Macdoel 51.38 69 ⇓P **P 17 20 56.9 +0.5**
baz=51,SNR=5.1
J06A Christmas Vall 51.38 67 ⇓P **P 17 20 56.7 +0.2**
baz=51,SNR=8.1
H08A Prairie City 51.40 65 ⇑P **P 17 20 56.4 -0.2**
baz=51,SNR=5.8
M03C McCloud 51.54 70 ⇓P **P 17 20 58.0 +0.3**
baz=51
QIZ Qiongzhong 51.54 249 P **P 17 20 59.6 +1.9**
QIZ XP sP 17 21 06.7 -1.0
QIZ S **S 17 28 19.1 +2.2**
QIZ XS sS 17 28 24.5 -4.3
QIZ AMB AMB
comp=Z,55nm,1.7s,mb5.2
QIZ LR LR
comp=N,644nm,19.9s,MS4.8
QIZ LR LR
comp=E,798nm,20.9s,MS4.8
QIZ LR LR
comp=Z,1μm,15.7s
E11A Bogner Ranch, 51.57 61 ⇑P **P 17 20 57.0 -0.9**
baz=51,SNR=11
K06A Valley Falls 51.62 67 ⇓P **P 17 20 58.6 +0.3**
baz=51,SNR=9.0
WDC Whiskeytown Da 51.75 71 *e*P **P 17 20 59.6 +0.3**
WDC pmax pmax
comp=Z,13nm,1.0s,mb4.8
WDC Whiskeytown Da 51.75 71 *e*P **P 17 20 59.6 +0.2**
comp=Z,13nm,1.0s,mb4.8
WDC Whiskeytown Da 51.75 71 P **P 17 21 00.1 +0.8**
baz=52,SNR=7.3
I08A Drewsey 51.84 65 ⇓P **P 17 20 59.6 -0.4**
baz=52,SNR=5.8
H09A Durkee 51.86 64 ⇑P **P 17 20 59.8 -0.2**
baz=52,SNR=5.2
O02C Red Bluff 51.88 71 ⇓P **P 17 21 00.5 +0.3**
baz=52
BMO Blue Mountains 51.93 63 *e*P **P 17 21 00.3 -0.4**
comp=Z,17nm,1.1s,mb4.9
BMO *e* 17 21 11.1
P01C Double 8 Ranch 52.02 72 ⇑P **P 17 21 01.1 -0.2**
baz=52
D13A Huson 52.03 60 ⇓P **P 17 21 00.7 -0.7**
baz=52,SNR=7.9
M05C Lookout 52.05 69 ⇓P **P 17 21 01.4 -0.1**
baz=52,SNR=7.2
MOD Modoc 52.17 68 *e*P **P 17 21 02.8 +0.4**
comp=Z,33nm,1.3s,mb5.1
MOD Modoc 52.17 68 ⇓P **P 17 21 02.1 -0.3**
baz=52,SNR=16
HATC Hat Creek Radi 52.22 70 ⇑P **P 17 21 02.8 0.0**
baz=52
J08A Circle Bar Ran 52.25 66 ⇑P **P 17 21 02.9 -0.1**
baz=52
K07A Rock Creek Ran 52.25 67 ⇓P **P 17 21 02.7 -0.3**
baz=52,SNR=6.2
GASB Alder Springs 52.26 72 ⇓P **P 17 21 03.3 +0.2**
baz=52,SNR=6.3
H10A Noah's Angus R 52.41 63 P **P 17 21 04.2 +0.1**
baz=52,SNR=10
F12A Elk City 52.46 61 ⇑P **P 17 21 04.3 -0.3**
baz=52,SNR=18
MSO Missoula 52.47 60 *e*P **P 17 21 04.0 -0.6**
comp=Z,25nm,1.3s,mb5.0
M06C Likely Place G 52.53 69 ⇑P **P 17 21 05.2 +0.1**
baz=52,SNR=6.6
D14A Greenough 52.54 59 P **P 17 21 04.5 -0.7**
baz=52,SNR=21
SOKR Solikamsk 52.57 322 *e*P **P 17 21 03.3 -2.1**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOKR MLR MLR
comp=Z,3μm,16.0s,MS5.4
E13A Victor 52.59 60 P **P 17 21 05.3 -0.2**
baz=52,SNR=7.2
L07A Adell 52.64 67 ⇑P **P 17 21 06.1 +0.2**
baz=52
K08A Mann Creek Ran 52.65 66 ⇓P **P 17 21 06.0 +0.1**
baz=52
J09A Fry Pan Ranch, 52.66 65 ⇓P **P 17 21 05.8 -0.2**
baz=52,SNR=7.5
H11A Donnelly 52.73 63 ⇑P **P 17 21 06.3 -0.3**
baz=52,SNR=13
O04C Chester 52.76 70 ⇓P **P 17 21 07.0 +0.2**
baz=53,SNR=5.8
WVOR Wild Horse Val 52.76 67 *e*P **P 17 21 06.9 +0.1**

WVOR pmax pmax
comp=Z,11nm,0.9s,mb4.8
WVOR Wild Horse Val 52.76 67 *eP* **P 17 21 06.9 +0.1**
comp=Z,11nm,0.9s,mb4.8
SVE Sverdlovsk 52.86 317⇓*eP* **P 17 21 06.0 -1.5**
SVE pmax pmax
comp=Z,80nm,2.5s,mb5.2
SVE MLR MLR
comp=N,1µm,18.0s,MS5.2
SVE MLR MLR
comp=E,2µm,18.0s,MS5.2
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.2
MNRC McLaughlin Nat 52.93 72 ⇑P **P 17 21 08.3 +0.3**
baz=53
F13A Darby 52.94 61 P **P 17 21 07.9 -0.2**
baz=53,SNR=11
E14A Clinton 52.97 60 P **P 17 21 07.9 -0.4**
baz=53,SNR=25
ORV Oroville 53.03 71 P **P 17 21 08.9 +0.1**
baz=53,SNR=7.5
D15A Lincoln 53.08 59 ⇓P **P 17 21 08.6 -0.5**
baz=53,SNR=10.0
SUTB Sutter Butte 53.08 72 ⇓P **P 17 21 08.8 -0.4**
baz=53
L08A Fields 53.09 67 ⇓P **P 17 21 09.4 +0.2**
baz=53,SNR=9.4
O05C Quincy 53.09 70 ⇑P **P 17 21 09.2 -0.1**
baz=53,SNR=5.6
K09A Rome 53.10 66 ⇑P **P 17 21 09.3 0.0**
baz=53,SNR=7.5
M07A Soldier Meadow 53.15 68 ⇑P **P 17 21 09.7 0.0**
baz=53,SNR=9.6
J10A Berg Farm, Mel 53.15 65 ⇓P **P 17 21 09.2 -0.5**
baz=53
OHCM Honcut 53.19 71 *eP* **P 17 21 09.5 -0.4**
N06A Buffalo Meadow 53.19 69 ⇓P **P 17 21 10.2 +0.3**
baz=53,SNR=20
I11A Placerville 53.28 64 ⇑P **P 17 21 10.4 -0.2**
baz=53,SNR=9.7
LVZ Lovozero 53.29 338 P **P 17 21 09.4 -1.3**
comp=Z,279nm,0.6s,SNR=8.4
LVZ Lovozero 53.29 338 *eP* **P 17 21 09.0 -1.7**
LVZ pmax pmax
comp=N,14nm,0.8s
LVZ pmax pmax
comp=E,10.0nm,0.8s
LVZ pmax pmax
comp=Z,37nm,0.8s,mb5.4
KEV Kevo 53.40 342 *ep* **P 17 21 09.3 -2.2**
comp=Z,12nm,0.7s,mb4.9
KEV Kevo 53.40 342 *eP* **P 17 21 09.7 -1.8**
KEV pmax pmax
comp=Z,13nm,0.6s,mb5.0
E15A Deer Lodge 53.42 59 ⇓P **P 17 21 10.9 -0.7**
baz=53,SNR=21
G13A Cobalt 53.44 61 ⇓P **P 17 21 11.2 -0.6**
baz=53,SNR=18
H12A Diamond D Ranc 53.46 62 ⇑P **P 17 21 11.6 -0.4**
baz=53
BEKR Beckwourth 53.48 70 ⇓P **P 17 21 12.1 0.0**
baz=53,SNR=5.2
M08A Happy Creek Ra 53.55 67 ⇑P **P 17 21 13.0 +0.4**
baz=53,SNR=12
L09A Wilkinson Ranc 53.58 66 ⇑P **P 17 21 13.1 +0.3**
baz=53
O06A Flanigan 53.59 69 ⇓P **P 17 21 13.1 +0.3**
baz=53,SNR=15
N07B Gerlach 53.66 68 ⇑P **P 17 21 13.9 +0.4**
baz=54,SNR=13
P05C Yuba Gap, Truc 53.71 71 ⇓P **P 17 21 14.0 +0.2**
baz=54
APA Apatity 53.84 338⇓*iP* **P 17 21 14.2 -0.6**
EGMT Eagleton 53.86 56 *eP* **P 17 21 13.9 -0.9**
comp=Z,24nm,0.9s,mb5.1
EGMT Eagleton 53.86 56 ⇓P **P 17 21 14.3 -0.6**
baz=54,SNR=8.1
P06A Stead Airport, 53.87 70 ⇓P **P 17 21 15.3 +0.4**
baz=54
ARCES ARCESS Array B 53.87 342 P **P 17 21 13.0 -2.0**
comp=Z,16nm,0.6s,mb5.1,baz=46,slow=8.6,SNR=41
ARCES ARCESS Array B 53.87 342 P **P 17 21 13.0 -2.0**
ARCES pmax pmax
comp=Z,16nm,0.6s
ARE0 ARCESS Array S 53.87 342 *eP* **P 17 21 12.8 -2.1**
F15A Butte 53.88 60 ⇑P **P 17 21 14.6 -0.4**
baz=54,SNR=14
BDM Black Diamond 53.89 73 ⇓P **P 17 21 15.7 +0.6**
baz=54
ARU Arti 53.98 318 P **P 17 21 13.1 -2.7**
comp=Z,169nm,0.7s,mb6.1,SNR=12
ARU Arti 53.98 318⇑*eP* **P 17 21 12.8 -3.0**
ARU pmax pmax
comp=Z,11nm,1.5s,mb4.6
ARU MLR MLR
comp=Z,1µm,19.0s,MS5.0
ARU Arti 53.98 318 *eP* **P 17 21 13.5 -2.2**
comp=Z,16nm,0.6s,mb5.1
LAVA Lava Cap Winer 54.00 71 ⇑P **P 17 21 16.0 0.0**
baz=54,SNR=8.9
M09A Marrel Ranch, 54.09 67 ⇓P **P 17 21 17.4 +0.8**
baz=54,SNR=8.8
O07A Toulon 54.13 69 ⇑P **P 17 21 17.4 +0.6**
baz=54,SNR=19
DLMT Dillon 54.14 60 *eP* **P 17 21 16.4 -0.5**
comp=Z,54nm,1.5s,mb5.2
N08A GE Springer Mi 54.14 68 ⇑P **P 17 21 17.3 +0.4**
baz=54,SNR=8.9
WENL Wente Brothers 54.18 73 ⇑P **P 17 21 17.5 +0.3**
baz=54
WCN Washoe City 54.20 70 ⇓P **P 17 21 17.8 +0.4**
baz=54,SNR=7.2
G15A Dillon 54.32 60 P **P 17 21 18.3 +0.1**
baz=54,SNR=6.7
HLID Hailey 54.35 63 *eP* **P 17 21 18.4 -0.1**
comp=Z,11nm,1.1s,mb4.7
HLID Hailey 54.35 63 ⇑P **P 17 21 18.6 +0.2**
baz=54,SNR=8.4
R05C Kirkwood Meado 54.42 71 ⇓P **P 17 21 19.6 +0.6**
baz=54,SNR=5.4
N09A Rock Creek Ran 54.43 67 ⇑P **P 17 21 19.5 +0.4**
baz=54,SNR=15
O08A Rochester Mine 54.45 68 ⇑P **P 17 21 20.0 +0.8**
baz=54
BOZ Bozeman (W) 54.46 59 ⇓P **P 17 21 19.2 -0.1**
baz=54
S04C Ingram Canyon, 54.51 73 ⇑P **P 17 21 20.0 +0.4**
baz=54
M10A I.L. Ranch, Tu 54.54 66 ⇑P **P 17 21 20.3 +0.5**
baz=54,SNR=14
CMB Columbia Colle 54.69 72 *eP* **P 17 21 21.5 +0.6**
CMB pmax pmax
comp=Z,36nm,1.3s,mb5.2
CMB Columbia Colle 54.69 72 *eP* **P 17 21 21.5 +0.5**
comp=Z,36nm,1.3s,mb5.2
CMB Columbia Colle 54.69 72 ⇓P **P 17 21 21.1 +0.2**
baz=54,SNR=9.9
KTK1 Kautokeino 54.74 343 *eP* **P 17 21 20.7 -0.6**
KTK1 *ep*P pP 17 21 24.3 -4.2
KTK1 AMb AMB 17 21 27.0
comp=Z,80nm,1.7s,mb5.5
KTK1 Kautokeino 54.74 343 *eP* **P 17 21 20.3 -1.0**
comp=Z,80nm,1.7s,mb5.5
LSA Lhasa 54.77 274 P **P 17 21 22.4 +0.9**
LSA Lhasa 54.77 274 *eP* **P 17 21 21.8 +0.3**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LSA Lhasa 54.77 274 *eP* **P 17 21 21.8 +0.3**
comp=Z,8.9nm,0.7s,mb4.9
TKM2 Tokmak 2 54.79 296 P **P 17 21 21.7 +0.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PACP Pacheco Peak 54.87 73 ⇑P **P 17 21 22.5 +0.3**
baz=55
R06C Coleville 54.90 71 ⇓P **P 17 21 23.1 +0.6**
baz=55,SNR=15
TRO Tromso 54.94 345 *eP* **P 17 21 20.0 -2.7**
TRO AMb AMB 17 21 21.6
comp=Z,108nm,1.8s,mb5.6
TRO Tromso 54.94 345 *eP* **P 17 21 20.0 -2.7**
comp=Z,108nm,1.8s,mb5.6
Q07A Schurz 54.99 70 ⇑P **P 17 21 23.6 +0.5**
baz=55
M11A Holland Ranch, 55.02 66 ⇑P **P 17 21 23.8 +0.6**
baz=55,SNR=12
O09A Fish Creek Ran 55.08 68 ⇓P **P 17 21 24.3 +0.5**
baz=55,SNR=14
S06C San Francisco 55.11 72 P **P 17 21 24.9 +1.0**
baz=55,SNR=22
HAST UC Hastings Re 55.14 74 ⇑P **P 17 21 24.2 +0.1**
baz=55
S05C Merced 55.20 72 ⇑P **P 17 21 24.5 -0.1**
baz=55
FRU Bishkek 55.38 297 *eP* **P 17 21 28.0 +2.1**
O10A Cortez Mining, 55.39 67 ⇓P **P 17 21 26.9 +0.9**
baz=55,SNR=8.0
R07C Lee Vining 55.43 71 ⇑P **P 17 21 27.0 +0.8**
baz=55
N11A Elko Archery C 55.46 66 ⇑P **P 17 21 27.3 +0.8**
baz=55
YMR Madison River 55.46 60 *eP* **P 17 21 26.9 +0.4**
comp=Z,19nm,0.7s,mb5.2
M12A Wells 55.51 65 ⇓P **P 17 21 27.6 +0.8**
baz=55,SNR=18
P09A Austin 55.53 68 ⇓P **P 17 21 27.9 +1.0**
baz=55
Q08A Gabbs 55.55 69 ⇑P **P 17 21 27.8 +0.7**
baz=55,SNR=24
YNR Norris Junctio 55.58 60 *eP* **P 17 21 28.1 +0.8**
AAK Ala-Archa 55.59 297 P **P 17 21 25.1 -2.3**
AAK pmax pmax
comp=Z,20nm,1.0s,mb5.1
AAK Ala-Archa 55.59 297 *eP* **P 17 21 24.8 -2.6**
comp=Z,20nm,1.0s,mb5.1
NVAR Mina Array Bea 55.63 70 P **P 17 21 28.9 +1.2**
comp=Z,11nm,0.6s,mb5.0,baz=307,slow=7.8,SNR=44
YFT Old Faithful 55.68 60 *eP* **P 17 21 29.8 +1.8**
ELK Elko 55.79 66 *eP* **P 17 21 29.4 +0.6**
ELK pmax pmax
comp=Z,9.0nm,0.6s
ELK Elko 55.79 66 *eP* **P 17 21 29.4 +0.5**
comp=Z,9.0nm,0.6s,mb5.0
T06C Millerton Lake 55.79 72 ⇑P **P 17 21 28.9 +0.1**
baz=56,SNR=7.7
R08A Mina 55.80 70 ⇓P **P 17 21 29.7 +0.8**
baz=56,SNR=9.9
KCC Kaiser Creek 55.80 72 ⇓P **P 17 21 29.4 +0.5**
baz=56,SNR=13
N12A Clover Valley, 55.83 66 ⇑P **P 17 21 29.9 +0.8**
baz=56,SNR=19
LKWY Lake 55.83 60 *eP* **P 17 21 30.7 +1.6**
LKWY pmax pmax
comp=Z,17nm,0.8s,mb5.1
LKWY Lake 55.83 60 *eP* **P 17 21 30.7 +1.6**
comp=Z,17nm,0.8s,mb5.1
P10A Eureka 55.86 68 ⇑P **P 17 21 30.2 +0.9**
baz=56
MLAC Mammoth Lakes 55.87 71 ⇓P **P 17 21 30.1 +0.7**
baz=56
M13A Montello 55.97 65 ⇓P **P 17 21 30.6 +0.5**
baz=56,SNR=15
O11A Cowboy Ranch, 55.97 67 ⇑P **P 17 21 30.6 +0.4**
baz=56,SNR=9.0
Q09A Carvers 55.99 69 ⇑P **P 17 21 31.3 +1.0**
baz=56
IMW Indian Meadow 56.00 61 *eP* **P 17 21 31.2 +0.9**
comp=Z,43nm,1.3s,mb5.3
RLMT Red Lodge 56.05 59 *eP* **P 17 21 31.3 +0.6**
comp=Z,30nm,0.8s,mb5.4
MOOW Moose Ponds 56.20 61 *eP* **P 17 21 32.2 +0.5**
comp=Z,23nm,1.3s,mb5.0
MTUM Tungsten Hills 56.21 71 *eP* **P 17 21 32.4 +0.5**
TPAW Teton Pass 56.27 61 *eP* **P 17 21 33.0 +0.7**
comp=Z,31nm,1.2s,mb5.2
N13A Wendover, West 56.29 65 ⇑P **P 17 21 32.7 +0.3**
baz=56,SNR=7.2
P11A Circle Ranch, 56.31 67 ⇑P **P 17 21 33.0 +0.4**
baz=56
S08C White Mtn Res 56.34 71 ⇓P **P 17 21 33.7 +0.9**
baz=56,SNR=13
LOHW Long Hollow 56.37 61 *eP* **P 17 21 34.0 +1.0**
comp=Z,7.0nm,0.3s,mb5.2
O12A Currie 56.39 66 ⇓P **P 17 21 33.7 +0.6**
baz=56,SNR=28
REDW Red Top Meadow 56.41 61 *eP* **P 17 21 34.1 +0.8**
comp=Z,61nm,1.4s,mb5.4
HELL Mitchell Peak, 56.41 72 ⇓P **P 17 21 33.2 -0.1**
baz=56,SNR=13
HVU Hansel Valley 56.44 64 *eP* **P 17 21 34.3 +0.8**
HVU pmax pmax
comp=Z,15nm,0.8s,mb5.1
HVU Hansel Valley 56.44 64 *eP* **P 17 21 34.3 +0.8**
comp=Z,15nm,0.8s,mb5.1
R09A Tonopah 56.46 69 ⇑P **P 17 21 33.8 +0.1**
baz=56,SNR=23
V05C Boulder Hill, 56.46 73 ⇑P **P 17 21 34.0 +0.4**
baz=56
TPH Tonopah 56.49 70 *eP* **P 17 21 34.3 +0.5**
TPH pmax pmax
comp=Z,48nm,1.3s,mb5.4
TPH Tonopah 56.49 70 *eP* **P 17 21 34.3 +0.5**
comp=Z,48nm,1.3s,mb5.4
LAO LASA Array 56.54 55 *eP* **P 17 21 33.5 -0.7**
comp=Z,34nm,0.9s,mb5.4
RCTC Rector, Farmer 56.54 73 ⇓P **P 17 21 34.8 +0.5**
baz=56
AHID Auburn Hatcher 56.68 62 *eP* **P 17 21 35.6 +0.5**
comp=Z,19nm,1.0s,mb5.1
S09A Goldfield 56.73 70 ⇑P **P 17 21 36.0 +0.4**
baz=56,SNR=12
SMMC Simmler 56.79 74 ⇑P **P 17 21 36.2 +0.2**
baz=57
P12A McGill 56.84 67 ⇑P **P 17 21 36.4 0.0**
baz=57,SNR=6.3
Q11A Duckwater 56.85 68 ⇑P **P 17 21 36.7 +0.3**
baz=57,SNR=7.1
BGU Big Grassy Mou 56.89 65 *eP* **P 17 21 37.0 +0.3**
SPUT South Promonto 56.95 64 *eP* **P 17 21 32.7 -4.4**
VES Vestal, Richgr 56.96 73 ⇑P **P 17 21 36.9 -0.3**
baz=57
CWC Cottonwood Cre 57.12 72 ⇓P **P 17 21 38.5 +0.1**
baz=57,SNR=12
LOF Lofoten 57.13 346 *eP* **P 17 21 39.3 +0.9**
LOF AMb AMB 17 21 41.8
comp=Z,168nm,1.8s,mb5.8
LOF Lofoten 57.13 346 *eP* **P 17 21 39.3 +0.9**
comp=Z,168nm,1.8s,mb5.8
GRAC Grapevine Rang 57.15 71 ⇑P **P 17 21 39.0 +0.5**
baz=57
Q12A Willow Creek R 57.18 67 ⇑P **P 17 21 38.9 +0.1**
baz=57
PKM Peak Mountain 57.19 74 ⇓P **P 17 21 39.4 +0.6**
baz=57
HWUT Hardware Ranch 57.22 63 *eP* **P 17 21 39.3 +0.2**
comp=Z,30nm,0.8s,mb5.4
HWUT *e* 17 21 49.9
SHL Shillong 57.31 270 *eP* **P 17 21 40.9 +1.2**
KKAR Karatay Array 57.41 300 P **P 17 21 37.9 -2.4**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ISA Isabella 57.44 73 ⇓P **P 17 21 40.9 +0.4**
baz=57,SNR=6.2
PDAR Pinedale Array 57.50 61 P **P 17 21 41.0 0.0**
comp=Z,23nm,0.7s,mb5.3,baz=304,slow=3.0,SNR=158
DUG Dugway 57.51 65 *eP* **P 17 21 41.4 +0.3**
DUG pmax pmax
comp=Z,34nm,1.2s,mb5.2
DUG Dugway 57.51 65 *eP* **P 17 21 41.4 +0.3**
comp=Z,34nm,1.2s,mb5.3
DUG Dugway 57.51 65 ⇑P **P 17 21 41.6 +0.5**
baz=57,SNR=22
KLMR Klimovskoe 57.55 330 *eP* **P 17 21 40.2 -1.1**
KLMR *e*PP pP 17 21 49.4 +0.8
KLMR pmax pmax
comp=Z,75nm,1.4s,mb5.5
NOQ North Oquirrh 57.58 64 *eP* **P 17 21 42.4 +0.9**
comp=Z,116nm,1.5s,mb5.7
ARVC Arvin 57.60 73 ⇑P **P 17 21 41.8 +0.1**
baz=57
MPMC Manual Prospec 57.73 72 ⇓P **P 17 21 43.0 +0.3**
baz=58,SNR=9.9
CTU Camp Tracy 57.75 64 *eP* **P 17 21 42.9 +0.1**
comp=Z,19nm,1.0s,mb5.1
FURC Furnace Creek, 57.81 71 ⇓P **P 17 21 43.4 +0.2**
baz=58,SNR=14
JLU Jordanelle 57.98 64 *eP* **P 17 21 45.1 +0.7**
LRMC Laurel Mountai 58.02 72 ⇑P **P 17 21 44.5 -0.1**
baz=58
OSI Osito Adit 58.03 74 ⇓P **P 17 21 44.8 +0.1**
baz=58
NLU North Lily Min 58.09 65 *eP* **P 17 21 45.4 +0.3**
CHTO Chiang Mai 58.11 259 P **P 17 21 46.0 +0.7**
CHTO pmax pmax
comp=Z,14nm,0.8s,mb5.0
CHTO Chiang Mai 58.11 259 *eP* **P 17 21 46.1 +0.8**
comp=Z,14nm,0.8s,mb5.0
U10A Ash Meadows, A 58.15 70 ⇑P **P 17 21 45.9 +0.3**
baz=58,SNR=6.8
JOF Joensuu 58.16 335 *ep* **P 17 21 44.0 -1.7**
comp=Z,28nm,0.7s,mb5.4
JOF Joensuu 58.16 335 *eP* **P 17 21 44.0 -1.7**
JOF pmax pmax
comp=Z,28nm,0.7s,mb5.4
BLG Laguna Peak 58.18 74 ⇓P **P 17 21 45.6 -0.2**
baz=58
DAU Daniels Canyon 58.22 64 *eP* **P 17 21 47.0 +1.0**
EDW2 Edwards Air Fo 58.27 73 ⇑P **P 17 21 46.3 0.0**
baz=58,SNR=11
MPU Maple Canyon 58.29 64 *eP* **P 17 21 47.0 +0.5**
comp=Z,16nm,0.7s,mb5.2
AB31 Akbulak array 58.36 311 *eP* **P 17 21 45.2 -1.9**
AB31 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AKTK Aktyubinsk 58.40 313 P **P 17 21 45.3 -2.0**
AKTK LR LR 17 49 39.0
AKTO Aktyubinsk 58.40 313 P **P 17 21 45.3 -2.0**
comp=Z,3.9nm,0.6s,mb4.6,baz=56,slow=7.8,SNR=12
AKTO LR LR 17 49 39.0
comp=Z,1µm,19.0s,MS5.1,baz=163,slow=39
AKTO Aktyubinsk 58.40 313 P **P 17 21 45.7 -1.6**
DECC Green Verdugo 58.51 74 ⇑P **P 17 21 48.1 0.0**
baz=58
SHOC Shoshone 58.54 71 ⇑P **P 17 21 48.1 -0.2**
baz=58
U11A Corn Creek 58.69 70 ⇓P **P 17 21 49.9 +0.6**
baz=58
MOR8 Moi Rana 58.80 345 *eP* **P 17 21 47.9 -2.2**
ARUT Antelope Range 58.84 67 *eP* **P 17 21 50.9 +0.5**
BFSC Mount Baldy St 58.91 73 ⇓P **P 17 21 51.0 +0.1**
baz=59
ULM Lac du Bonnet 58.95 47 P **P 17 21 50.5 -0.7**
comp=Z,8.1nm,0.5s,mb5.0,baz=315,slow=6.5,SNR=32
ULM LR LR 17 50 17.0
comp=Z,328nm,20.7s,MS4.4,baz=198,slow=39
ORR Orenburg 58.97 316 *eP* **P 17 21 51.9 +0.6**
ORR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ORR MLR MLR
comp=Z,3µm,19.0s,MS5.4
TMUT Trail Mountain 59.02 65 *eP* **P 17 21 52.5 +0.8**
MSU Marysvale 59.04 66 *eP* **P 17 21 52.5 +0.8**
CCUT Cedar City 59.05 68 *eP* **P 17 21 52.5 +0.7**
TUQ Turquoise Mtn. 59.08 71 ⇑P **P 17 21 52.1 +0.1**
baz=59
V11A Goodsprings 59.08 70 ⇑P **P 17 21 52.2 +0.2**
baz=59,SNR=8.1
U12A Valley of Fire 59.17 69 ⇓P **P 17 21 53.2 +0.6**
baz=59
GUN Gumba 59.26 277 *eP* **P 17 21 52.7 -0.6**
comp=Z,16nm,0.4s,mb5.4
HEC Hector,Ludlow 59.27 72 ⇓P **P 17 21 53.5 +0.1**
baz=59,SNR=5.8
V12A Nelson 59.49 70 ⇑P **P 17 21 55.3 +0.4**
baz=59,SNR=8.4
SRU San Rafael 59.53 64 *eP* **P 17 21 55.6 +0.4**
SRU pmax pmax
comp=Z,40nm,0.8s,mb5.5
SRU San Rafael 59.53 64 *eP* **P 17 21 55.6 +0.5**
comp=Z,40nm,0.8s,mb5.5
MURC Murrieta 59.63 73 ⇓P **P 17 21 56.0 +0.1**
baz=60
GMRC Granite Mounta 59.69 71 ⇑P **P 17 21 56.4 +0.1**
baz=60,SNR=15
KKN Kakani 59.71 277 *eP* **P 17 21 56.0 -0.4**
comp=Z,31nm,0.6s,mb5.5
W12A Cal Nev Ari 59.78 70 ⇓P **P 17 21 57.2 +0.3**
baz=60
PKI Pulchoki 59.79 277 *eP* **P 17 21 56.9 0.0**
comp=Z,50nm,0.9s,mb5.5
GKN Gorkha 59.94 278 *eP* **P 17 21 57.2 -0.8**
comp=Z,41nm,0.8s,mb5.5
DMN Daman 59.95 277 *eP* **P 17 21 57.7 -0.3**
comp=Z,46nm,0.7s,mb5.6
BELC Belle Mtn. 60.05 72 P **P 17 21 58.9 +0.2**
baz=60,SNR=8.6
PFO Pinyon Flat Ob 60.06 73 ⇑P **P 17 21 58.7 -0.1**
baz=60
KAF Kangasniemi 60.08 337 *ep* **P 17 21 57.8 -1.1**
comp=Z,17nm,0.6s,mb5.3,baz=31,slow=6.3
KAF Kangasniemi 60.08 337 *eP* **P 17 21 57.8 -1.1**
KAF pmax pmax
comp=Z,17nm,0.6s,mb5.2
109C Camp Elliot, M 60.20 74 ⇑P **P 17 21 59.5 -0.2**
baz=60
AGMN Agassiz Refuge 60.37 48 *eP* **P 17 21 59.8 -1.2**
comp=Z,9.1nm,0.8s,mb4.9
IRM Iron Mountain 60.43 72 ⇑P **P 17 22 01.3 0.0**
baz=60,SNR=16
W13A Hualapai Mount 60.49 70 ⇑P **P 17 22 01.5 -0.2**
baz=60,SNR=13
BC3 Big Chuckw Mtn 60.61 72 ⇑P **P 17 22 02.3 -0.3**
baz=60,SNR=8.5
FIA1 FINESS Array S 60.71 337 *eP* **P 17 22 02.1 -1.1**
FINES FINESS Array B 60.72 337 P **P 17 22 02.7 -0.6**
comp=Z,11nm,0.5s,mb5.2,baz=36,slow=8.3,SNR=89
FINES LR LR 17 51 53.9
comp=Z,648nm,19.1s,MS4.8,baz=24,slow=40
FINES FINESS Array B 60.72 337 P **P 17 22 02.7 -0.6**
FINES pmax pmax
comp=Z,11nm,0.5s
FINES MLR MLR
comp=Z,648nm,19.2s
NSS Namsos 60.72 345 *eP* **P 17 22 00.9 -2.4**
NSS AMb AMB 17 22 05.8
comp=Z,58nm,1.7s,mb5.4
NSS Namsos 60.72 345 *eP* **P 17 22 00.9 -2.4**
comp=Z,58nm,1.7s,mb5.4
KOLN Koldanda 60.74 278 *eP* **P 17 22 02.5 -0.9**
comp=Z,36nm,0.8s,mb5.5
W14A Seligman 60.86 69 ⇓P **P 17 22 04.9 +0.6**
baz=61,SNR=16
PV10 Paradox Valley 60.87 64 *eP* **P 17 22 05.0 +0.7**
X13A Yucca 60.88 70 ⇑P **P 17 22 04.2 -0.2**
baz=61,SNR=14
PDMCI Parker Dam,Lak 60.91 71 ⇑P **P 17 22 04.5 -0.1**
baz=61,SNR=8.3
SWSC Sam W. Stewart 60.93 73 ⇓P **P 17 22 04.4 -0.3**
baz=61
DVTC Desert V Tower 60.95 73 ⇑P **P 17 22 04.8 0.0**
baz=61
PUL Pulkovo 61.08 334 *eP* **P 17 22 03.0 -2.7**
PUL pmax pmax
comp=N,51nm,0.5s
PUL pmax pmax
comp=Z,81nm,0.5s,mb6.1
PUL pmax pmax
comp=E,53nm,0.6s
PUL MLR MLR
comp=Z,1µm,18.0s,MS5.1
Y12C Blythe 61.08 71 ⇑P **P 17 22 05.8 0.0**
baz=61,SNR=5.1
PV01 Paradox Valley 61.30 64 *eP* **P 17 22 07.5 +0.3**
W15A Williams 61.35 69 ⇓P **P 17 22 08.3 +0.7**
baz=61,SNR=6.5
GLA Glamis 61.41 72 ⇑P **P 17 22 08.1 +0.1**
baz=61,SNR=11
X14A Yava 61.51 70 ⇓P **P 17 22 09.2 +0.5**
baz=61,SNR=17
WUAZ Wupatki 61.62 68 *eP* **P 17 22 10.0 +0.6**
comp=Z,85nm,1.7s,mb5.6
WUAZ Wupatki 61.62 68 ⇓P **P 17 22 10.0 +0.6**
baz=61
ISCO Idaho Springs 61.70 61 *eP* **P 17 22 10.8 +0.8**
ISCO pmax pmax
comp=Z,25nm,0.9s,mb5.3
ISCO Idaho Springs 61.70 61 *eP* **P 17 22 10.8 +0.8**
comp=Z,25nm,0.9s,mb5.3
Y14A Wickenburg 61.82 70 ⇑P **P 17 22 10.9 +0.2**
baz=62,SNR=7.0
X15A Humboldt 61.87 69 ⇑P **P 17 22 11.4 +0.3**
baz=62,SNR=14
MVCO Mesa Verde 62.00 65 *eP* **P 17 22 12.0 0.0**
comp=Z,16nm,0.8s,mb5.2
MVCO Mesa Verde 62.00 65 ⇑P **P 17 22 12.0 +0.1**
baz=62,SNR=12
MOS Moscow 62.26 328 *eP* **P 17 22 13.4 -0.3**
MOS *e* 17 22 24.6
MOS pmax pmax
comp=Z,95nm,1.1s,mb5.8
MOS MLR MLR
comp=Z,900nm,18.0s,MS5.0
Z14A Wintersburg 62.27 71 ⇑P **P 17 22 13.8 0.0**

baz=62
BOK Bokaro 62.28 273 *e*P **P 17 22 14.8 +1.0**
BOK AMb AMB 17 22 15.3
comp=Z,3.9nm,0.3s,mb5.0
BORG Borgarnes 63.00 1 P **P 17 22 16.7 -1.9**
comp=Z,17nm,0.9s,mb5.2,baz=84,slow=9.2,SNR=2.5
OBN Obninsk 63.12 328⇑*e*P **P 17 22 18.1 -1.3**
OBN pmax pmax
comp=Z,41nm,1.4s,mb5.4
OBN MLR MLR
comp=Z,900nm,21.0s,MS4.9
OBN Obninsk 63.12 328 *e*P **P 17 22 17.9 -1.6**
comp=Z,109nm,1.3s,mb5.8
VSU Vasula 63.15 335 *e*P **P 17 22 18.1 -1.5**
115A Sonoran Desert 63.17 71 ⇓P **P 17 22 19.9 +0.1**
baz=63,SNR=17
116A Eloy 63.57 70 ⇓P **P 17 22 22.4 0.0**
baz=63
NB2 NORSAR Subarra 64.12 344 P **P 17 22 24.5 -1.6**
comp=Z,20nm,0.9s,mb5.1,baz=22,slow=6.9
NOA NORSAR Array B 64.12 344 P **P 17 22 24.7 -1.4**
comp=Z,11nm,0.7s,mb5.0,baz=21,slow=6.6,SNR=41
NOA LR LR 17 56 25.6
comp=Z,422nm,18.0s,MS4.7,baz=25,slow=42
NOA NORSAR Array B 64.12 344 P **P 17 22 24.7 -1.4**
NOA pmax pmax
comp=Z,11nm,0.7s
NOA MLR MLR
comp=Z,422nm,18.0s
TUC Tucson 64.28 70 P **P 17 22 27.6 +0.5**
TUC pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
TUC Tucson 64.28 70 *e*P **P 17 22 26.5 -0.6**
comp=Z,10nm,1.3s,mb4.7
NAO01 NORSAR Array S 64.36 344 *e*P **P 17 22 26.1 -1.5**
comp=Z,12nm,0.8s,mb5.0
HFS Hagfors 64.53 342 P **P 17 22 27.8 -0.9**
comp=Z,6.0nm,0.5s,mb4.9,baz=58,slow=5.6,SNR=39
HFS Hagfors 64.53 342 P **P 17 22 27.8 -1.0**
HFS pmax pmax
comp=Z,6.0nm,0.5s
ANMO Albuquerque 64.78 65 P **P 17 22 30.9 +0.5**
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO Albuquerque 64.78 65 *e*P **P 17 22 30.1 -0.3**
comp=Z,6.4nm,0.8s,mb4.7
VRSR Storozhevoye 65.43 324 *e*P **P 17 22 33.4 -1.2**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.3
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.2s
KSM Kuching 65.80 237 *e*P **P 17 22 38.6 +1.7**
SCHQ Schefferville 65.96 28 P **P 17 22 37.3 -0.7**
comp=E,17nm,0.7s,mb5.2,baz=332,slow=5.3,SNR=21
SCHQ LR LR 17 55 25.6
comp=E,328nm,18.4s,MS4.6,baz=333,slow=40
SCHQ Schefferville 65.96 28 *e*P **P 17 22 36.7 -1.3**
comp=E,254nm,1.9s,mb5.9
SCIA State Center 66.41 51 *e*P **P 17 22 39.5 -1.3**
comp=E,99nm,0.8s,mb5.9
AMTX Amarillo 67.44 62 *e*P **P 17 22 46.6 -0.8**
comp=E,11nm,0.8s,mb4.9
MNTX Cornudas Mount 67.80 67 *e*P **P 17 22 49.8 +0.1**
comp=E,107nm,1.8s,mb5.6
BHPL Bhopal 67.82 280 *e*P **P 17 22 49.7 -0.1**
BHPL AMb AMB 17 22 55.9
comp=Z,19nm,1.9s,mb4.8
SUW Suwalki 68.02 334 *e*P **P 17 22 51.7 +0.6**
VIS Vishakhapatnam 68.42 271 *e*P **P 17 22 53.5 -0.1**
VIS AMb AMB 17 22 56.5
comp=Z,28nm,1.1s,mb5.2
GOF Gofitskoye 68.98 318⇑*i*P **P 17 22 55.6 -1.5**
GOF pmax pmax
comp=Z,100nm,0.7s,mb5.8
WMOK Wichita Mounta 69.10 60 P **P 17 22 57.0 -0.8**
WMOK pmax pmax
comp=Z,36nm,0.9s,mb5.3
WMOK Wichita Mounta 69.10 60 *e*P **P 17 22 57.1 -0.8**
comp=Z,36nm,0.9s,mb5.3
AKASG Malin Array Be 69.21 329 P **P 17 22 57.1 -1.4**
comp=Z,15nm,0.7s,mb5.0,baz=29,slow=6.0,SNR=45
AKASG LR LR 17 56 44.9
comp=Z,1μm,18.9s,MS5.2,baz=345,slow=39
AKASG Malin Array Be 69.21 329 P **P 17 22 57.1 -1.4**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG MLR MLR
comp=Z,1μm,18.9s
AKBB Malin Array Si 69.21 329 P **P 17 22 57.2 -1.3**
AKBB Malin Array Si 69.21 329 *e*P **P 17 22 56.7 -1.9**
KIEV Kiev 69.22 329 P **P 17 22 56.8 -1.8**
KIEV pmax pmax
comp=Z,65nm,1.1s,mb5.5
KIEV Kiev 69.22 329 *e*P **P 17 22 56.5 -2.1**
comp=Z,65nm,1.1s,mb5.5
KAKA Kakadu 69.41 209 *e*P **P 17 22 59.8 +0.1**
comp=Z,40nm,1.1s,mb5.3
KAKA *e*pP pP 17 23 10.1 +2.9
AKL Akola 69.99 278 *e*P **P 17 23 04.0 +0.6**
AKL AMb AMB 17 23 42.0
comp=Z,29nm,0.6s,mb5.4
KIV Kislovodsk 70.02 317⇓*e*P **P 17 23 02.3 -1.2**
KIV *e* 17 25 40.2
KIV *e*S S 17 32 14.5 +1.8
KIV *e*SS SS 17 36 45.1 +2.8
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,1μm,21.0s,MS5.2
KIV Kislovodsk 70.02 317 *e*P **P 17 23 02.8 -0.7**
comp=Z,20nm,0.6s,mb5.2
GKP Gorka Klasztor 70.17 338 *e*P **P 17 23 05.0 +0.6**
ZEI Tsey 70.48 316 *e*P **P 17 23 04.9 -1.5**
ZEI pmax pmax
comp=Z,19nm,1.2s,mb4.9
LTX Lajitas 70.55 67 *e*P **P 17 23 06.6 -0.2**
LTX pmax pmax
comp=Z,34nm,0.8s,mb5.3
LTX Lajitas 70.55 67 *e*P **P 17 23 06.6 -0.2**
comp=Z,34nm,0.8s,mb5.3
TXAR Lajitas Array 70.55 67 P **P 17 23 06.5 -0.3**
comp=Z,23nm,0.7s,mb5.2,baz=300,slow=4.4,SNR=208
TXAR Lajitas Array 70.55 67 P **P 17 23 06.5 -0.3**
TXAR pmax pmax
comp=Z,23nm,0.7s
PSI Prapat 70.88 249 P **P 17 23 10.3 +1.6**
comp=Z,3.1nm,0.5s,mb4.5,baz=62,slow=4.5,SNR=5.7
PSI LR LR 17 58 29.2
comp=Z,430nm,18.5s,MS4.7,baz=214,slow=39
PSI Prapat 70.88 249 P **P 17 23 10.3 +1.6**
PSI pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
PSI MLR MLR
comp=Z,430nm,18.5s,MS4.7
BSEG Bad Segeberg 71.00 342 *e*P **P 17 23 10.0 +0.5**
comp=Z,36nm,1.3s,mb5.1
BSEG Bad Segeberg 71.00 342 *e*P **P 17 23 10.0 +0.5**
BSEG pmax pmax
comp=Z,36nm,1.3s,mb5.1
SOC Sochi 71.54 319*c i*P **P 17 23 12.4 -0.4**
SOC *e**PP pP 17 23 20.1 -0.1
SOC *e* 17 23 28.9
SOC *e* 17 25 54.8
SOC *e*S S 17 32 26.7 -3.7
SOC pmax pmax
comp=Z,44nm,1.1s,mb5.3
SOC MLR MLR
comp=Z,2μm,17.0s,MS5.4
LVV L'vov 71.55 332 *e*P **P 17 23 13.7 +0.9**
LVV MLR MLR
comp=Z,400nm,18.0s,MS4.7
LVV MLR MLR
comp=E,200nm,19.0s,MS4.7
LVV MLR MLR
comp=N,300nm,17.0s,MS4.7
HYB Hyderabad 71.56 275 *i* P **P 17 23 12.0 -0.9**
HYB Hyderabad 71.56 275 *e*P **P 17 23 12.0 -0.9**
RUE Ruedersdorf 71.68 339 *e*P **P 17 23 13.8 +0.2**
comp=Z,39nm,0.8s,mb5.4
RUE Ruedersdorf 71.68 339 *e*P **P 17 23 13.3 -0.3**
comp=Z,74nm,1.2s,mb5.5
JCT Junction City 71.82 64 P **P 17 23 13.9 -0.5**
JCT pmax pmax
comp=Z,30nm,1.0s,mb5.2
JCT Junction City 71.82 64 *e*P **P 17 23 13.7 -0.8**
comp=Z,30nm,1.1s,mb5.1
MIAR Mount Ida 71.95 57 P **P 17 23 14.0 -1.2**
MIAR pmax pmax
comp=Z,25nm,1.1s,mb5.1
MIAR Mount Ida 71.95 57 *e*P **P 17 23 13.9 -1.3**
comp=Z,25nm,1.1s,mb5.1
KWP Kalwaria 72.09 333 *e*P **P 17 23 18.1 +2.0**
KWP Kalwaria 72.09 333 *e*P **P 17 23 16.6 +0.5**
KWP pmax pmax
comp=Z,200nm,1.4s,mb5.8
GNI Garni 72.25 314 *e*P **P 17 23 18.7 +1.6**
GNI Garni 72.25 314 P **P 17 23 17.4 +0.3**
comp=Z,2.9nm,0.5s,mb4.5,baz=13,slow=5.4,SNR=5.4
GNI LR LR 17 59 15.6
comp=Z,778nm,20.6s,MS5.0,baz=22,slow=39
GNI Garni 72.25 314 P **P 17 23 17.4 +0.3**
GNI pmax pmax
comp=Z,3.0nm,0.5s
GNI MLR MLR
comp=Z,778nm,20.6s
GNI Garni 72.25 314 *e*P **P 17 23 16.4 -0.7**
comp=Z,95nm,1.5s,mb5.5
SIM Simferopol' 72.53 323 *e*P **P 17 23 24.0 +5.3**
SIM S S 17 32 46.2 +4.4
SIM pmax pmax
comp=Z,24nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,2μm,17.0s,MS5.4
WCI Wyandotte Cave 72.56 49 P **P 17 23 18.3 -0.6**
WCI pmax pmax
comp=Z,16nm,0.8s,mb5.0
WCI Wyandotte Cave 72.56 49 *e*P **P 17 23 17.8 -1.1**
comp=Z,16nm,0.8s,mb5.0
KIS Kishinev 72.59 328 *e*P **P 17 23 18.0 -1.0**
KIS *e* 17 23 30.0
KIS MLR MLR
comp=Z,2μm,16.0s,MS5.4
KIS MLR MLR
comp=N,1μm,17.0s,MS5.3
KIS MLR MLR
comp=E,700nm,15.0s,MS5.3
KSP Ksiaz 72.64 337 *e*P **P 17 23 20.2 +0.9**
KSP Ksiaz 72.64 337 *e*P **P 17 23 19.2 -0.1**
KSP *e*pP pP 17 23 30.8 +4.0
KSP LR LR
comp=Z,2μm,16.1s,MS5.5
STHS Stebnicka Huta 72.69 334 *e*P **P 17 23 20.7 +1.1**
STHS pmax pmax
comp=Z,21nm,1.0s,mb5.0
STHS Stebnicka Huta 72.69 334 *e*P **P 17 23 20.7 +1.1**
comp=Z,21nm,1.0s,mb5.0
WIT Witteveen 72.73 344 *e*P **P 17 23 24.3 +4.4**
KOLS Kolonicke sedl 72.84 333 *e*P **P 17 23 20.6 0.0**
NIE Niedzica 72.94 334 *e*P **P 17 23 22.0 +0.9**
CLL Collm 72.94 339 *e*P **P 17 23 20.9 -0.3**
comp=Z,57nm,1.1s,mb5.4
CLL Collm 72.94 339⇑*i*P **P 17 23 21.0 -0.2**
comp=Z,18nm,0.8s,mb5.0
CLL *i* pP pP 17 23 23.3 -5.3
CLL *i* sP sP 17 23 25.4 -6.0
CLL LR LR
comp=Z,600nm,15.1s,MS5.0
CLL Collm 72.94 339⇑*i*P **P 17 23 21.0 -0.2**
comp=Z,18nm,0.8s,mb5.0
CLL *i* pP pP 17 23 23.3 -5.3
comp=Z,33nm,0.9s
CLL *i* sP sP 17 23 25.4 -6.0
CLL LmH 17 57 00.0
comp=N,900nm,19.8s
CLL LmH 17 57 00.0
comp=E,900nm,18.5s
CLZ Clausthal 72.98 341 *e*P **P 17 23 22.1 +0.7**
comp=Z,55nm,1.0s,mb5.4
CLZ Clausthal 72.98 341 *e*P **P 17 23 22.1 +0.7**
CLZ pmax pmax
comp=Z,55nm,1.0s,mb5.4
UPC Upice 73.02 337 *e*P **P 17 23 22.0 +0.4**
IBBN Ibbenburen 73.03 343 *e*P **P 17 23 21.9 +0.3**
comp=Z,33nm,1.0s,mb5.2
DPC Dobruska-Polom 73.09 337 *e*P **P 17 23 22.7 +0.7**
DPC AMS AMS 18 01 50.0
comp=Z,1μm,11.9s
CRVS Cervenica-Dubn 73.10 333 *e*P **P 17 23 22.9 +0.8**
UZH Uzhgorod 73.11 333 *e*P **P 17 23 23.0 +0.8**
UZH *e* 17 23 42.2
UZH *e*S S 17 32 51.0 +2.6
UZH *e*PS 17 33 24.0
UZH MLR MLR
comp=Z,1μm,18.0s,MS5.2
OKC Ostrava-Krasne 73.11 336 *e*P **P 17 23 22.8 +0.6**
OKC AMS AMS 17 59 10.0
comp=Z,700nm,17.1s
BRG Berggiesshubel 73.15 339 *e*P **P 17 23 22.2 -0.2**
comp=Z,31nm,1.4s,mb5.0
BRG Berggiesshubel 73.15 339 *e*P **P 17 23 24.4 +2.0**
comp=Z,6.4nm,0.5s,mb4.8
BRG
comp=N,739nm,15.7s
BRG
comp=E,429nm,19.0s
BRG
comp=Z,268nm,13.4s
BURAR Bucovina Array 73.17 330⇓*i*P **P 17 23 22.8 +0.3**
FBE Freiberg 73.23 339 *e*P **P 17 23 23.0 +0.1**
comp=Z,32nm,1.2s,mb5.1
MORC Moravsky Berou 73.32 336 *e*P **P 17 23 23.7 +0.3**
MORC pmax pmax
comp=Z,17nm,0.8s,mb5.0
MORC Moravsky Berou 73.32 336 *e*P **P 17 23 23.7 +0.3**
comp=Z,17nm,0.8s,mb5.0
MORC Moravsky Berou 73.32 336⇑*i*P **P 17 23 24.0 +0.6**
PVCC Panska Ves 73.33 338 *e*P **P 17 23 23.4 0.0**
PVCC AMS AMS 18 01 50.0
comp=Z,1μm,14.4s
GTTG Gvttingen 73.34 341 *e*P **P 17 23 25.8 +2.3**
comp=Z,15nm,1.0s,mb4.9
CTA Charters Tower 73.43 194 *e*P **P 17 23 23.4 -0.6**
comp=Z,13nm,0.9s,mb4.9
CTA *e*pP pP 17 23 34.2 +2.7
CTA Charters Tower 73.43 194 LR LR 17 53 41.2
comp=Z,192nm,19.2s,MS4.4,baz=39,slow=34
CTA Charters Tower 73.43 194 *e*P **P 17 23 23.4 -0.6**
CTA *e**PP pP 17 23 34.2 +2.7
CTA pmax pmax
comp=Z,13nm,0.9s
CLDR Caldiran 73.44 314 *e*P **P 17 23 24.7 +0.6**
WTSB Winterswijk 73.52 343 *e*P **P 17 23 27.2 +2.6**
comp=Z,45nm,1.3s,mb5.2
WVT Waverly 73.53 52 P **P 17 23 23.8 -0.8**
WVT pmax pmax
comp=Z,14nm,0.9s,mb4.9
WVT Waverly 73.53 52 *e*P **P 17 23 23.5 -1.2**
comp=Z,14nm,0.9s,mb4.9
KECS Kecovo 73.75 334 *e*P **P 17 23 25.4 -0.5**
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KECS Kecovo 73.75 334 *e*P **P 17 23 25.4 -0.5**
comp=Z,7.1nm,0.9s,mb4.6
PRU Pruhonice 73.84 338 *e*P **P 17 23 26.9 +0.5**
PRU AMS AMS 18 02 10.0
comp=Z,1μm,12.3s
MOX Moxa 73.86 340 *e*P **P 17 23 26.8 +0.2**
comp=Z,40nm,1.4s,mb5.2
MOX Moxa 73.86 340 *e*P **P 17 23 27.2 +0.6**
comp=Z,48nm,1.5s,mb5.2
MOX
comp=Z,500nm,21.0s
MOX Moxa 73.86 340 *e*P **P 17 23 27.2 +0.6**
MOX pmax pmax
comp=Z,48nm,1.5s,mb5.2
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.8
TANN Tannenbergstha 73.90 339 *e*P **P 17 23 27.2 +0.4**
comp=Z,23nm,1.2s,mb5.0
WERD Werda 73.90 340 *e*P **P 17 23 27.2 +0.4**
comp=Z,28nm,1.2s,mb5.1
EZM Erzurum 73.92 316 *e*P **P 17 23 28.0 +1.1**
BUG Bochum--Univer 73.94 343 *e*P **P 17 23 27.2 +0.1**
comp=Z,31nm,1.2s,mb5.1
GUNZ Gunzen 73.98 339 *e*P **P 17 23 27.8 +0.6**
comp=Z,64nm,1.8s,mb5.2
VRAC Vranov 73.99 336 P **P 17 23 28.1 +0.8**
comp=Z,11nm,0.8s,mb4.9,baz=45,slow=6.2,SNR=13
VRAC Vranov 73.99 336 P **P 17 23 28.1 +0.8**
VRAC pmax pmax
comp=Z,11nm,0.8s
VRAC Vranov 73.99 336⇑P **P 17 23 28.2 +0.9**
VRAC Vranov 73.99 336⇑*i*P **P 17 23 28.2 +0.9**
UBBA Unterbreizbach 74.03 341 *e*P **P 17 23 27.8 +0.3**
comp=Z,48nm,1.5s,mb5.2
WERN Wernitzgruen 74.04 339 *e*P **P 17 23 28.1 +0.5**
comp=Z,54nm,1.6s,mb5.2
OXF Oxford 74.06 54 P **P 17 23 27.2 -0.5**
OXF pmax pmax
comp=Z,46nm,1.1s,mb5.3
OXF Oxford 74.06 54 *e*P **P 17 23 35.7 +8.0**
NKC Novy Kostel 74.08 339 *e*P **P 17 23 29.7 +1.9**
VYHS Vyhne 74.18 335 *e*P **P 17 23 29.0 +0.6**
VYHS pmax pmax
comp=Z,18nm,1.5s,mb4.8
VYHS Vyhne 74.18 335 *e*P **P 17 23 29.0 +0.6**
comp=Z,18nm,1.5s,mb4.8
MCWV Mont Chateau 74.26 44 *e*P **P 17 23 27.9 -1.0**
comp=Z,30nm,0.9s,mb5.2
VRI Vrincioaia 74.26 328⇑*i*P **P 17 23 35.4 +6.5**
KAD Karad 74.30 278 *e*P **P 17 23 28.8 -0.4**
KAD AMb AMB 17 23 30.9
comp=Z,55nm,0.8s,mb5.5
PLAL Pickwick Lake 74.34 53 *e*P **P 17 23 27.9 -1.5**
comp=Z,17nm,1.0s,mb4.9
MANZ Manzenberg 74.38 339 *e*P **P 17 23 30.0 +0.4**
comp=Z,25nm,1.3s,mb5.0
PSZ Piszkesteto 74.42 334 P **P 17 23 30.7 +0.9**
PSZ pmax pmax
comp=Z,81nm,1.6s,mb5.4
PSZ Piszkesteto 74.42 334 *e*P **P 17 23 30.8 +0.9**
comp=Z,81nm,1.6s,mb5.4
PSZ Piszkesteto 74.42 334⇓*e*P **P 17 23 31.6 +1.8**
DZM Mont Dzumac 74.51 174 LR LR 17 52 01.4
comp=Z,383nm,18.7s,MS4.7,baz=206,slow=32
SMOL Smolenice 74.52 336 *e*P **P 17 23 31.5 +1.1**
ROTZ Rotzenmuhle 74.57 339 *e*P **P 17 23 31.4 +0.7**
comp=Z,26nm,1.3s,mb5.0
DRGR 74.66 331⇓*i*P **P 17 23 31.6 +0.4**
HGN Heimansgroeve 74.83 344 *e*P **P 17 23 35.8 +3.6**
comp=Z,61nm,1.5s,mb5.3
MLR Muntele Rosu 74.85 329 P **P 17 23 32.5 +0.2**
comp=Z,10nm,0.6s,mb5.0,baz=209,slow=3.1,SNR=19
MLR Muntele Rosu 74.85 329 P **P 17 23 32.5 +0.2**
MLR pmax pmax
comp=Z,10.0nm,0.6s
MLR Muntele Rosu 74.85 329 ⇓P **P 17 23 33.0 +0.7**
MLR Muntele Rosu 74.85 329⇓*i*P **P 17 23 33.0 +0.7**
GRA1 Grafenberg Arr 74.85 340 *e*P **P 17 23 33.1 +0.8**
comp=Z,47nm,1.0s,mb5.4
GRA1 LR LR
comp=Z,500nm,20.2s,MS4.8
GRF Grafenberg Arr 74.85 340 *e*P **P 17 23 33.1 +0.8**
comp=Z,47nm,1.0s,mb5.4
GRF *e*L 17 58 07.4
comp=Z,473nm,20.2s
GRF Grafenberg Arr 74.85 340 *e*P **P 17 23 33.1 +0.8**
GRF pmax pmax
comp=Z,47nm,1.0s,mb5.4
GRF MLR MLR
comp=Z,500nm,20.2s,MS4.8
GRF Grafenberg Arr 74.85 340 *e*P **P 17 23 33.1 +0.8**
GRF pmax pmax
comp=Z,47nm,1.0s,mb5.4
GRF MLR MLR
comp=Z,500nm,20.2s,MS4.8
GRFO Grafenberg 74.85 340 *e*P **P 17 23 32.2 -0.1**
GRFO pmax pmax
comp=Z,31nm,0.9s,mb5.2
GRFO Grafenberg 74.85 340 *e*P **P 17 23 32.2 -0.1**
comp=Z,31nm,0.9s,mb5.2
KHC Kasperske Hory 74.86 338 *e*P **P 17 23 33.1 +0.7**
KHC pP pP 17 23 37.0 -2.9
KHC AMS AMS 18 02 50.0
comp=Z,2μm,14.1s
KHC Kasperske Hory 74.86 338 *e*P **P 17 23 33.1 +0.7**
KHC *e* 17 23 37.0
KHC LR LR
comp=Z,2μm,14.1s,MS5.5
TNS Taunus Mts 74.90 342 *e*P **P 17 23 33.1 +0.5**
comp=Z,19nm,0.8s,mb5.1
TNS Taunus Mts 74.90 342 *e*P **P 17 23 33.1 +0.5**
TNS pmax pmax
comp=Z,19nm,0.8s,mb5.1
ZST Bratislava 74.90 336 *e*P **P 17 23 34.8 +2.2**
ZST pmax pmax
comp=Z,12nm,0.7s,mb4.9
ZST MLR MLR
comp=Z,800nm,17.4s,MS5.1
ZST Bratislava 74.90 336 *e*P **P 17 23 34.8 +2.2**
comp=Z,12nm,0.7s,mb4.9
ZST LR LR
comp=Z,800nm,17.4s,MS5.1
MEM Membach 74.97 344 P **P 17 23 33.5 +0.5**
comp=Z,35nm,1.3s,mb5.1
WET Wettzell 75.01 339 *e*P **P 17 23 34.0 +0.8**
comp=Z,39nm,1.3s,mb5.2
WET Wettzell 75.01 339 *e*P **P 17 23 34.0 +0.8**
WET pmax pmax
comp=Z,39nm,1.3s,mb5.2
BUD Budapest 75.06 334⇑*e*P **P 17 23 36.5 +3.0**
GEC2 GERESS Array S 75.11 338 *e*P **P 17 23 34.1 +0.3**
comp=Z,28nm,1.3s,mb5.0
GEC2 GERESS Array S 75.11 338 *e*P **P 17 23 34.1 +0.3**
GEC2 pmax pmax
comp=Z,28nm,1.3s,mb5.0
GERES GERESS Array B 75.11 338 P **P 17 23 34.1 +0.3**
comp=Z,4.6nm,0.7s,mb4.5,baz=34,slow=4.9,SNR=24
GERES LR LR 18 00 42.3
comp=Z,570nm,18.2s,MS4.9,baz=269,slow=39
GERES GERESS Array B 75.11 338 P **P 17 23 34.1 +0.3**
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES MLR MLR
comp=Z,571nm,18.2s
KVT Kavak 75.11 320 *e*P **P 17 23 34.5 +0.7**
CUKT Cukurca 75.14 313 *e*P **P 17 23 32.6 -1.4**
VOIR 75.18 329⇑*i*P **P 17 23 35.0 +0.8**
BCLA Clavier 75.27 344 P **P 17 23 35.5 +0.7**
comp=Z,28nm,2.2s,mb4.8
ABH Alteburg 75.39 342 *e*P **P 17 23 39.3 +3.9**
TOD Tromm 75.42 341 *e*P **P 17 23 37.6 +2.0**
CONA Conrad Observa 75.45 336 *i* P **P 17 23 37.1 +1.3**
comp=Z,14nm,1.0s,mb4.9,SNR=8.7
SOP Sopron 75.51 336 *e*P **P 17 23 38.2 +2.1**
PTK Pertek 75.61 316 *e*P **P 17 23 34.0 -2.6**
GIVF Givet 75.66 344 *e*P **P 17 23 37.4 +0.4**
DOU Dourbes 75.70 344 P **P 17 23 39.1 +1.9**
WRAB Tennant Creek 75.73 205 P **P 17 23 37.3 -0.1**
comp=Z,290nm,0.9s,mb6.2,SNR=11
WRAB Tennant Creek 75.73 205 *e*P **P 17 23 36.9 -0.5**
WRAB *e* 17 23 46.9
WRAB pmax pmax
comp=Z,50nm,0.9s,mb5.4
WRAB Tennant Creek 75.73 205 *e*P **P 17 23 36.9 -0.5**
comp=Z,50nm,0.9s,mb5.5
WRAB *e* 17 23 46.9
WB2 Warramunga Arr 75.74 205⇓*i*P **P 17 23 37.1 -0.4**
WB2 *e*pP pP 17 23 47.4 +2.5
WRA Warramunga Arr 75.75 205 P **P 17 23 37.2 -0.3**
comp=Z,26nm,0.9s,mb5.2,baz=21,slow=6.0,SNR=110
WRA LR LR 17 59 00.6
comp=Z,189nm,19.1s,MS4.4,baz=25,slow=37
WRA Warramunga Arr 75.75 205 P **P 17 23 37.2 -0.3**
WRA pmax pmax
comp=Z,26nm,0.9s
WRA MLR MLR
comp=Z,189nm,19.1s
BAIF Baives 75.80 345 *e*P **P 17 23 37.8 0.0**
WLF Walferdange 75.85 343 *e*P **P 17 23 40.7 +2.6**
comp=Z,23nm,1.5s,mb4.9
GZR Gura Zlata 75.91 331⇑*i*P **P 17 23 38.9 +0.5**
BZS Buzias 76.05 332⇑*i*P **P 17 23 38.9 -0.3**
MSL Mosul 76.17 312 *ex* x 17 23 41.5
ARSA Arzberg 76.17 336⇑*i*P **P 17 23 40.8 +1.0**
comp=Z,18nm,1.0s,mb5.0
FUR Furstenfeldbru 76.28 339 *e*P **P 17 23 41.1 +0.6**
comp=Z,41nm,1.4s,mb5.2
FUR Furstenfeldbru 76.28 339 *e*P **P 17 23 41.1 +0.6**
FUR pmax pmax
comp=Z,41nm,1.4s,mb5.2
PKSM Moragy 76.33 334⇓*i*P **P 17 23 41.1 +0.3**
FITZ Fitzroy Crossi 76.64 214⇓*i*P **P 17 23 43.0 +0.4**
comp=Z,57nm,0.9s,mb5.5
FITZ *i* pP pP 17 23 53.7 +3.6
FITZ Fitzroy Crossi 76.64 214 LR LR 17 56 39.1

comp=Z,125nm,19.6s,MS4.2,baz=84,slow=35
ZIMR 76.67 328 P P 17 23 45.0 +2.3
BFO **Black Forest** 76.73 341 *e*P P 17 23 43.4 +0.3
comp=Z,18nm,1.3s,mb4.8
BFO **Black Forest** 76.73 341 *e*P P 17 23 43.4 +0.3
BFO pmax pmax
comp=Z,18nm,1.3s,mb4.8
KBA **Koelnbreinsper** 76.85 338 *i*P P 17 23 45.4 +1.7
comp=Z,75nm,0.8s,mb5.7,SNR=8.9
KBA **Koelnbreinsper** 76.85 338 *i*P P 17 23 45.4 +1.7
KBA pmax pmax
comp=Z,75nm,0.8s,mb5.7
CDF **Champ du Feu** 76.85 342 *e*P P 17 23 43.9 +0.2
comp=Z,49nm,1.0s,mb5.1
CDF **Champ du Feu** 76.85 342 *e*P P 17 23 43.9 +0.2
CDF pmax pmax
comp=Z,25nm,1.0s,mb5.1
CDF **Champ du Feu** 76.85 342 *e*P P 17 23 43.9 +0.2
comp=Z,25nm,1.0s,mb5.1
WTTA **Wattenberg** 77.06 339⇑ *i*P P 17 23 46.2 +1.3
comp=Z,44nm,1.2s,mb5.3
WTTA **Wattenberg** 77.06 339⇑ *i*P P 17 23 46.2 +1.3
WTTA pmax pmax
comp=Z,44nm,1.2s,mb5.3
ECH **Echery** 77.06 342 *e*P P 17 23 48.2 +3.3
URFA **Urfa** 77.07 316 *e*P P 17 23 45.2 +0.2
MEZF **Maizieres J'vi** 77.17 344 *e*P P 17 23 46.1 +0.6
SQTA **Sankt Quirin** 77.19 339⇑ *i*P P 17 23 46.7 +1.1
comp=Z,25nm,1.0s,mb5.1
SQTA **Sankt Quirin** 77.19 339⇑ *i*P P 17 23 46.8 +1.1
SQTA pmax pmax
comp=Z,25nm,1.0s,mb5.1
BR131 **Keskin Array S** 77.21 321 *e*P P 17 23 45.1 -0.6
comp=Z,5.0nm,0.6s,mb4.6
BRTR **Keskin Array B** 77.21 321 P P 17 23 45.8 0.0
comp=Z,3.2nm,0.7s,mb4.3,baz=59,slow=3.8,SNR=15
BRTR LR LR 18 04 52.0
comp=Z,503nm,18.5s,MS4.9,baz=119,slow=41
BRTR **Keskin Array B** 77.21 321 *i*P P 17 23 45.7 -0.1
BRTR pmax pmax
comp=Z,3.0nm,0.7s
FELD **Feldberg im Sc** 77.23 341 *e*P P 17 23 49.0 +3.1
THEF **They Montfort** 77.27 343 *e*P P 17 23 48.0 +1.9
ANTO **Ankara** 77.41 321 *e*P P 17 23 47.3 +0.4
ANTO pmax pmax
comp=Z,36nm,1.1s,mb5.2
ANTO **Ankara** 77.41 321 *e*P P 17 23 47.3 +0.4
comp=Z,36nm,1.1s,mb5.2
HAU **Haudompre** 77.41 343 *e*P P 17 23 47.5 +0.6
HAU *e*MLR
comp=Z,636nm,18.0s
HAU **Haudompre** 77.41 343 *e*P P 17 23 47.5 +0.6
HAU LR LR
comp=Z,640nm,18.0s,MS5.0
MOF **Molkenrain** 77.42 342 *e*P P 17 23 49.9 +3.0
HINF **Hinteralfeld** 77.50 342 *e*P P 17 23 48.1 +0.7
comp=Z,14nm,0.8s,mb4.6
HINF **Hinteralfeld** 77.50 342 *e*P P 17 23 48.1 +0.7
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
HINF **Hinteralfeld** 77.50 342 *e*P P 17 23 48.1 +0.7
comp=Z,6.9nm,0.8s,mb4.6
FLN **La Foliniere** 77.76 347 *e*P P 17 23 49.4 +0.6
FLN *e*MLR
comp=Z,415nm,21.0s
FLN **La Foliniere** 77.76 347 *e*P P 17 23 49.4 +0.6
FLN LR LR
comp=Z,410nm,21.0s,MS4.7
GRUS **Gruza** 77.89 332‖ *i*P P 17 23 48.9 -0.6
DIVS **Divcibare** 77.90 332‖ *i*P P 17 23 49.6 0.0
LOMF **Lomont** 77.96 342 *e*P P 17 23 49.7 -0.2
BHD **Baghdad** 78.07 310 *ex* x 17 23 46.0
GRR **Gorron** 78.18 347 *e*P P 17 23 51.5 +0.4
VTS **Vitosha** 78.32 329‖ *i*P P 17 23 51.2 -0.7
SGMF **Saint Gilles** 78.52 349 *e*P P 17 23 53.7 +0.6
ROSF **Rostrenen** 78.53 349 *e*P P 17 23 53.7 +0.6
comp=Z,175nm,1.3s,mb5.5
ROSF **Rostrenen** 78.53 349 *e*P P 17 23 53.7 +0.6
ROSF pmax pmax
comp=Z,87nm,1.3s,mb5.5
ROSF **Rostrenen** 78.53 349 *e*P P 17 23 53.7 +0.6
comp=Z,87nm,1.3s,mb5.5
LOR **Lormes** 78.56 344 *e*P P 17 23 53.4 +0.1
comp=Z,29nm,1.0s,mb4.9
LOR *e*MLR
comp=Z,811nm,20.2s
LOR **Lormes** 78.56 344 *e*P P 17 23 53.4 +0.1
LOR pmax pmax
comp=Z,15nm,1.0s,mb4.9
LOR MLR MLR
comp=Z,810nm,20.3s,MS5.0
LOR **Lormes** 78.56 344 *e*P P 17 23 53.4 +0.1
comp=Z,14nm,1.0s,mb4.9
LOR LR LR
comp=Z,810nm,20.3s,MS5.0
CABF **La Chapelle** 78.81 342 *e*P P 17 23 55.4 +0.8
SSF **Saint Saulge** 78.82 344 *e*P P 17 23 55.0 +0.3
comp=Z,10.0nm,0.7s,mb4.6
SSF **Saint Saulge** 78.82 344 *e*P P 17 23 55.0 +0.3
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SSF **Saint Saulge** 78.82 344 *e*P P 17 23 55.0 +0.3
comp=Z,5.0nm,0.7s,mb4.5
AVF **Avril sur Loir** 79.11 344 *e*P P 17 23 56.5 +0.2
comp=Z,34nm,1.0s,mb4.9
AVF **Avril sur Loir** 79.11 344 *e*P P 17 23 56.5 +0.2
AVF pmax pmax
comp=Z,17nm,1.0s,mb4.9
AVF **Avril sur Loir** 79.11 344 *e*P P 17 23 56.5 +0.2
comp=Z,17nm,1.0s,mb4.9
SMF **Signal de Mont** 79.17 344 *e*P P 17 23 56.9 +0.3
BGF **Bois d'Agland** 79.42 345 *e*P P 17 23 58.4 +0.4
TRD **Trivandrum** 79.44 270 *e*P P 17 23 59.2 +1.1
TRD AMb AMB 17 24 04.8
comp=Z,28nm,1.4s,mb5.0
MIB **Mutribah** 79.50 306 *e*P P 17 23 56.8 -1.6
MIB AMb AMB 17 24 04.3
comp=Z,71nm,0.7s,mb5.7
RSL **Roselend** 79.59 342 *e*P P 17 24 00.5 +1.6
VAY **Valandovo** 79.67 329 *e*P P 17 23 58.7 -0.6
VAY **Valandovo** 79.67 329 *e*P P 17 23 58.7 -0.6
LPL **La Plagne** 79.74 342 *e*P P 17 24 00.9 +1.2
comp=Z,81nm,0.9s,mb5.3
LPL **La Plagne** 79.74 342 *e*P P 17 24 00.9 +1.2
LPL pmax pmax
comp=Z,40nm,0.9s,mb5.3
LPL **La Plagne** 79.74 342 *e*P P 17 24 00.9 +1.2
comp=Z,40nm,0.9s,mb5.3
LPG **La Plagne** 79.75 342 *e*P P 17 24 01.0 +1.2
comp=Z,87nm,0.9s,mb5.4
LPG **La Plagne** 79.75 342 *e*P P 17 24 01.0 +1.2
LPG pmax pmax
comp=Z,43nm,0.9s,mb5.4
LPG **La Plagne** 79.75 342 *e*P P 17 24 01.0 +1.2
comp=Z,43nm,0.9s,mb5.4
TCF **Toulx Ste Croi** 79.78 345 *e*P P 17 24 00.4 +0.4
MFF **Saint Martin d** 79.83 347 *e*P P 17 24 00.8 +0.6
PLDF **La Plantade** 79.86 344 *e*P P 17 24 02.9 +2.5
AGO **Saint Agoulin** 79.86 344 *e*P P 17 24 01.1 +0.7
KRUS **Krusevo** 80.03 330 *e*P P 17 24 00.0 -1.3
KRUS **Krusevo** 80.03 330 *e*P P 17 24 00.0 -1.3
QRN **Al-Qurain** 80.08 305 *e*P P 17 23 58.1 -3.4
QRN AMb AMB 17 24 08.6
comp=Z,73nm,0.7s,mb5.7
RDF **Al-Radifah** 80.11 305 *e*P P 17 24 00.1 -1.6
RDF AMb AMB 17 24 10.3
comp=Z,107nm,1.2s,mb5.6
BNI **Bardonecchia** 80.19 342 P P 17 24 03.9 +1.7
BNI pmax pmax
comp=Z,31nm,1.0s,mb5.2
BNI **Bardonecchia** 80.19 342 P P 17 24 03.9 +1.7
comp=Z,31nm,1.0s,mb5.2
ORIF **Oris-en-Rattie** 80.48 342 *e*P P 17 24 04.8 +1.1
ORIF *e*MLR
comp=Z,554nm,20.5s
MBDF **Montbardon** 80.49 341 *e*P P 17 24 04.5 +0.7
comp=Z,29nm,0.9s,mb4.9
MBDF **Montbardon** 80.49 341 *e*P P 17 24 04.5 +0.7
MBDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
MBDF **Montbardon** 80.49 341 *e*P P 17 24 04.5 +0.7
comp=Z,14nm,0.9s,mb4.9
VIVF **Saint-Julien-l** 80.76 343 *e*P P 17 24 05.8 +0.6
RJF **Les Rejaudoux** 80.85 345 *e*P P 17 24 06.2 +0.5
RJF *e*MLR
comp=Z,704nm,20.2s
RJF **Les Rejaudoux** 80.85 345 *e*P P 17 24 06.2 +0.5
RJF LR LR
comp=Z,700nm,20.3s,MS5.0
CAF **Calviac** 81.13 345 *e*P P 17 24 08.0 +0.8
LFF **La Frestale** 81.33 346 *e*P P 17 24 08.4 +0.2
SMRF **Simiane la Rot** 81.44 342 *e*P P 17 24 09.5 +0.7
CSS **Prodhromos** 81.47 319 *e*P P 17 24 07.5 -1.5
comp=Z,54nm,1.1s,mb5.4
FRF **La Foret Royal** 81.64 341 *e*P P 17 24 10.4 +0.5
LASF **Ste Croix** 81.66 343 *e*P P 17 24 10.5 +0.5
PPT **Papeete** 82.07 133 *e*LR LR 17 49 50.1
comp=Z,667nm,23.5s,baz=330
PPT **Papeete** 82.07 133 LR LR 17 57 06.0
comp=Z,328nm,18.2s,MS4.7,baz=250,slow=33
MTLF **Montolieu** 82.65 344 *e*P P 17 24 15.5 +0.3
comp=Z,57nm,1.3s,mb5.2
MTLF **Montolieu** 82.65 344 *e*P P 17 24 15.5 +0.3
MTLF pmax pmax
comp=Z,29nm,1.3s,mb5.2
MTLF **Montolieu** 82.65 344 *e*P P 17 24 15.5 +0.3
comp=Z,29nm,1.3s,mb5.1
ARMA **Armidale** 83.02 188 *e*P P 17 24 18.4 +1.3
ARMA *e*pP pP 17 24 28.4 +3.8
EPF **Esparros** 83.25 346 *e*P P 17 24 18.7 +0.4
comp=Z,116nm,1.7s,mb5.3
EPF **Esparros** 83.25 346 *e*P P 17 24 18.7 +0.4
EPF pmax pmax
comp=Z,58nm,1.7s,mb5.3
EPF **Esparros** 83.25 346 *e*P P 17 24 18.7 +0.4
comp=Z,58nm,1.7s,mb5.3
ETSF **Etsaut** 83.52 346 *e*P P 17 24 19.8 +0.1
comp=Z,21nm,0.9s,mb5.0
ETSF **Etsaut** 83.52 346 *e*P P 17 24 19.8 +0.1
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ETSF **Etsaut** 83.52 346 *e*P P 17 24 19.8 +0.1
comp=Z,10nm,0.9s,mb5.0
EIL **Elat** 85.38 315 *e*P P 17 24 27.1 -2.0
comp=Z,237nm,0.9s
STKA **Stephens Creek** 85.73 196 *e*P P 17 24 30.6 -0.2
comp=Z,13nm,1.0s,mb5.1
STKA *e* 17 24 40.0
STKA **Stephens Creek** 85.73 196 P P 17 24 30.9 +0.1
comp=Z,12nm,0.8s,mb5.2,baz=343,slow=7.4,SNR=17
STKA LR LR 18 00 21.1
comp=Z,317nm,20.4s,MS4.7,baz=26,slow=34
ESDC **Sonseca Array** 87.15 348 P P 17 24 37.6 -0.2
comp=Z,6.9nm,0.8s,mb4.9,baz=2.5,slow=4.2,SNR=9.1
TBI **Tubuai** 87.20 135 *e*LR LR 17 52 17.7
comp=Z,584nm,23.5s
FORT **Forrest** 87.75 208 *e*P P 17 24 40.9 +0.2
comp=Z,29nm,0.8s,mb5.6
KEST **Kesra** 88.55 337 P P 17 24 44.4 -0.1
comp=Z,2.4nm,1.0s,mb4.5,baz=276,slow=10,SNR=3.1
KEST LR LR 18 08 20.2
comp=Z,249nm,20.8s,MS4.6,baz=349,slow=38
TOO **Toolangi** 90.74 192 *e*P P 17 24 55.1 +0.4
comp=Z,6.5nm,0.9s,mb5.0
TOO **Toolangi** 90.74 192 *e*P P 17 24 55.1 +0.4
TOO pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
URZ **Urewera** 91.60 167 LR LR 18 04 51.5
comp=Z,451nm,18.4s,MS5.0,baz=210,slow=35
RKT **Rikitea** 93.83 124 *e*SP SP 17 37 30.8 -0.1
comp=Z,211nm,30.2s
RKT *e*LR LR 17 55 24.2
comp=Z,403nm,25.5s,baz=322
LIC **Lamto** 120.16 343 *e*PKIKP PKPdf 17 30 42.1 -0.5
LIC *e*MLR
comp=Z,244nm,20.0s
LIC **Lamto** 120.16 343 *e*PKPdf PKPdf 17 30 42.1 -0.5
LIC LR LR
comp=Z,120nm,20.0s,MS4.5
LPAZ **La Paz** 127.40 65 PKP PKPdf 17 30 57.0 +0.5
comp=Z,1.8nm,0.6s,baz=10,slow=7.6,SNR=9.5
LPAZ **La Paz** 127.40 65 PKIKP PKPdf 17 30 57.0 +0.5
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
LPAZ **La Paz** 127.40 65 PKP PKPdf 17 30 57.0 +0.5
VNDA **Vanda** 129.83 180 PKP PKPdf 17 30 59.2 -2.0
comp=Z,2.5nm,0.8s,baz=3.3,slow=4.6,SNR=7.1
VNDA **Vanda** 129.83 180 PKIKP PKPdf 17 30 59.2 -1.9
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA **Vanda** 129.83 180 PKP PKPdf 17 30 59.2 -2.0
QSPA **South Pole Qui** 142.32 180 *e*PKPpre 17 31 16.6
TRQA **Tornquist** 147.25 81 *e*PKPdf PKPdf 17 31 32.5 -0.2
SYO **Syowa Base** 148.46 216‖ *e*PKPdf PKPdf 17 31 33.0 -1.8
SYO **Syowa Base** 148.46 216‖ *e*PKPbc PKPbc 17 31 35.8 -2.6
USHA **Ushuaia** 151.36 114 PKPbc PKPbc 17 31 44.6 -0.8
comp=Z,14nm,0.8s,baz=68,slow=14,SNR=5.4
PMSA **Palmer Station** 154.40 136 PKPab PKPab 17 32 05.3 -1.1
comp=Z,35nm,0.4s,baz=49,slow=21,SNR=24
PMSA **Palmer Station** 154.40 136 *e*PKPab PKPab 17 32 05.4 -1.0
NVL **N'lazarevskaya** 156.98 206 *e*PKP2 PKPab 17 32 15.4 -2.1
NVL pmax pmax
comp=Z,36nm,1.9s
SNAA **Sanae** 159.49 195 PKPab PKPab 17 32 26.3 -2.0
comp=Z,3.3nm,1.1s,baz=153,slow=2.6,SNR=6.5
SNAA **Sanae** 159.49 195 *e*PKPdf PKPab 17 32 26.2 -2.1
SNAA *e* 17 32 32.6
SNAA **Sanae** 159.49 195 PKP2 PKPab 17 32 26.3 -2.0
SNAA pmax pmax
comp=Z,3.0nm,1.1s
VNA3 **Neumayer Olymp** 160.77 190 *e*PKPdf PKPdf 17 31 48.9 -2.8
VNA3 *e* 17 31 57.9
VNA3 *e* 17 32 31.4
VNA3 *e* 17 32 41.4
VNA3 *e* 17 32 45.1
VNA3 *e* 17 32 47.6
VNA2 **Neumayer--Watz** 160.81 192 *e*PKPdf PKPdf 17 31 49.2 -2.6
VNA2 *e* 17 31 52.6
VNA2 *e* 17 31 59.1
VNA2 *e* 17 32 31.4
VNA2 *e* 17 32 41.5
VNA2 *e* 17 32 44.8
VNA2 *e* 17 32 46.8
VNA1 **Neumayer--Stat** 161.17 192 *e*PKPdf PKPdf 17 31 51.3 -0.9
VNA1 *e* 17 32 33.7
VNA1 *e* 17 32 43.3

KRSC 09 17:14:26.9±1.7, 5266N×16062E, h15km±15km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.57**	**321**	*e*P	**Pg**	17 14 38.5	+0.4
SPN				*i* S	Sg	17 14 47.1	+1.4
NLC	**Nalytchevo**	**0.93**	**304**	*e*P	Pb	17 14 45.8	+1.1
NLC				*i* S	Sb	17 14 59.7	+2.9
PET	**Petropavlovsk**	**1.25**	**288**	*e*P	Pn	17 14 49.5	-0.3
PET				*i* S	Sb	17 15 06.2	+0.2
AVH	**Avacha**	**1.29**	**299**	P	Pn	17 14 51.6	+1.2
RUS	**Russkaya**	**1.31**	**261**	*e*P	Pn	17 14 51.3	+0.7
RUS				*i* S	Sb	17 15 09.2	+1.5
GRL	**Gorelyy**	**1.56**	**267**	*e*P	Pn	17 14 55.9	+1.9
GNL	**Ganaly**	**1.92**	**304**	P	Pn	17 15 00.4	+1.4
KBTR	**Krutoberegovo**	**3.78**	**19**	P	Pn	17 15 27.2	+2.6

MOS ***09*** *17:19:33.8±1.3, 5251N×16105E, h16km, mb4.5/10, Error ellipse: s-maj=33.0km s-min=16.3km az=110.4*
IDC ***09*** *17:19:35.3±1.8, 5258N×16028E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/23, mbtmp3.8/10, Error ellipse: s-maj=53.8km s-min=20.6km az=108.0*
NEIC ***09*** *17:19:35.5±1.0, 5250N×16079E, h10km, mb4.6/3, Error ellipse: s-maj=22.6km s-min=15.1km az=113.0*
KRSC ***09*** *17:19:39.8±0.4, 5264N×16056E, h15km±15km, ML4.0*
ISCJB ***09*** *17:19:41.6±1.0, 5256N±006×1606E±0.1, h71km±7km, mb4.0/14, Error ellipse: s-maj=14.2km s-min=5.2km az=74.6*

ISC 09 17:19:35.1±1.3, 5244N±004×16088E±008, h7km±6km, n47, σ1$60/59, mb4.0/14, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**322**	*e*P	**Pg**	**17 19 51.4**	**+0.1**
SPN				*i* S	**Sg**	**17 19 59.1**	**-3.1**
NLC	**Nalytchevo**	**1.19**	**309**	*e*P	**Pg**	**17 19 56.9**	**-1.0**
NLC				*i* S	**Sg**	**17 20 08.7**	**-4.5**
RUS	**Russkaya**	**1.45**	**271**	*e*P	**Pn**	**17 20 03.9**	**+2.2**
RUS				*i* S	**Sn**	**17 20 21.4**	**+0.5**
PET	**Petropavlovsk**	**1.47**	**294**	*e*PN	**Pn**	**17 20 02.6**	**+0.5**
PET				*e*S	**Sn**	**17 20 22.0**	**+0.4**
PET				pmax	pmax		
	comp=Z,170nm,0.4s						
PET				smax			
	comp=N,841nm,0.7s						
PET				smax			
	comp=E,760nm,0.6s						
PET				smax			
	comp=N,58nm,0.6s						
PET	**Petropavlovsk**	**1.47**	**294**	*e*Pn	**Pn**	**17 20 02.4**	**+0.3**
PET	**Petropavlovsk**	**1.47**	**294**	*e*P	**Pn**	**17 20 02.4**	**+0.3**
PET				*i* S	**Sn**	**17 20 18.6**	**-3.0**
AVH	**Avacha**	**1.54**	**303**	*e*P	**Pn**	**17 20 03.3**	**+0.3**
GRL	**Gorelyy**	**1.72**	**275**	*e*P	**Pn**	**17 20 08.1**	**+2.7**
GRL				*i* S	**Sn**	**17 20 28.6**	**+1.0**
GNL	**Ganaly**	**2.17**	**307**	*e*P	**Pn**	**17 20 13.1**	**+1.4**
GNL				*i* S	**Sn**	**17 20 37.0**	**-1.8**
MKZ	**Mys Kozlova**	**2.18**	**13**	*e*P	**Pn**	**17 20 11.0**	**-0.8**
MKZ				*i* S	**Sn**	**17 20 33.6**	**-5.5**
TUMR	**Tumrok**	**2.88**	**352**	*e*P	**Pn**	**17 20 24.1**	**+2.6**
TUMR				*i* S	**Sn**	**17 20 56.0**	**-0.4**
KMNR	**Kamenistaya**	**3.34**	**354**	*e*P	**Pn**	**17 20 31.2**	**+3.4**
KMNR				*i* S	**Sn**	**17 21 09.4**	**+1.6**
SKR	**Severo-Kuril's**	**3.45**	**241**	*e*S	**Sn**	**17 21 12.5**	**+2.1**
BZMR	**Bezymyannaya**	**3.51**	**356**	*e*P	**Pn**	**17 20 32.9**	**+2.8**
ZLN	**Zelenaya**	**3.59**	**359**	*e*P	**Pn**	**17 20 34.7**	**+3.6**
KOZ	**Kozyrevsk**	**3.67**	**351**	*e*P	**Pn**	**17 20 35.1**	**+2.8**
KOZ				*i* S	**Sn**	**17 21 14.9**	**-1.0**
KRSR	**Krestovskiy**	**3.79**	**357**	*e*P	**Pn**	**17 20 37.6**	**+3.7**
KLY	**Klyuchi**	**3.88**	**358**	*e*P	**Pn**	**17 20 38.2**	**+3.0**
KLY				*i* S	**Sn**	**17 21 22.3**	**+1.2**
KBTR	**Krutoberegovo**	**3.94**	**16**	*e*P	**Pn**	**17 20 40.3**	**+4.3**
SRDR	**Sredinnyy**	**3.94**	**351**	*e*P	**Pn**	**17 20 39.4**	**+3.3**
SMKR	**Semkarok**	**4.17**	**5**	*e*P	**Pn**	**17 20 44.0**	**+4.9**
SRKR	**Sorokina**	**4.23**	**2**	*e*P	**Pn**	**17 20 44.4**	**+4.5**
MJAR	**Matsushiro Arr**	**22.53**	**234**	P	**P**	**17 24 34.4**	**-1.1**
	comp=N,0.7nm,0.5s,mb3.4,baz=44,slow=43,SNR=6.2						
MJAR	**Matsushiro Arr**	**22.53**	**234**	P	**P**	**17 24 34.4**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**27.43**	**250**	P	**P**	**17 25 19.8**	**-1.7**
	comp=Z,2.9nm,1.1s,mb3.7,baz=5.5,slow=28,SNR=4.2						
KURK	**Kurchatov**	**48.49**	**303**	*e*P	**P**	**17 28 16.6**	**-1.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**48.49**	**303**	*e*P	**P**	**17 28 16.6**	**-1.9**
	comp=Z,6.3nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**48.87**	**297**	P	**P**	**17 28 19.9**	**-1.5**
	comp=Z,0.7nm,0.5s,mb4.0,baz=55,slow=7.2,SNR=14						
MKAR	**Makanchi Array**	**48.87**	**297**	P	**P**	**17 28 19.9**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**54.06**	**342**	P	**P**	**17 28 58.8**	**-1.5**
	comp=Z,4.1nm,0.9s,mb4.3,baz=52,slow=7.9,SNR=3.6						
ARCES	**ARCESS Array B**	**54.06**	**342**	P	**P**	**17 28 58.8**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	**Arti**	**54.20**	**318**	*e*P	**P**	**17 28 53.2**	**-8.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ARU	**Arti**	**54.20**	**318**	*e*P	**P**	**17 28 53.2**	**-8.1**
	comp=Z,4.3nm,0.7s,mb4.5						
JOF	**Joensuu**	**58.36**	**336**	*e*p	**P**	**17 29 30.2**	**-0.8**
	comp=Z,5.2nm,0.6s,mb4.7						
JOF	**Joensuu**	**58.36**	**336**	*e*P	**P**	**17 29 30.2**	**-0.8**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
KAF	**Kangasniemi**	**60.27**	**337**	*e*p	**P**	**17 29 42.1**	**-2.1**
	comp=Z,3.8nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**60.27**	**337**	*e*P	**P**	**17 29 42.1**	**-2.1**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**60.91**	**337**	P	**P**	**17 29 47.1**	**-1.5**
	comp=Z,1.2nm,0.5s,mb4.3,baz=38,slow=8.3,SNR=13						
FINES	**FINESS Array B**	**60.91**	**337**	P	**P**	**17 29 47.1**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**64.31**	**344**	P	**P**	**17 30 10.7**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=221,slow=8.3,SNR=3.0						
NOA	**NORSAR Array B**	**64.31**	**344**	P	**P**	**17 30 10.7**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**64.72**	**343**	P	**P**	**17 30 13.5**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.2,baz=90,slow=0.6,SNR=5.3						
HFS	**Hagfors**	**64.72**	**343**	P	**P**	**17 30 13.5**	**-0.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**69.42**	**330**	P	**P**	**17 30 41.9**	**-1.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=27,slow=5.8,SNR=4.6						
AKASG	**Malin Array Be**	**69.42**	**330**	P	**P**	**17 30 41.9**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**75.30**	**338**	P	**P**	**17 31 18.7**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=133,slow=31,SNR=3.4						
WRA	**Warramunga Arr**	**75.69**	**206**	P	**P**	**17 31 22.3**	**+1.1**
	comp=Z,0.2nm,0.8s,mb3.1,baz=34,slow=6.7,SNR=2.8						

IDC 09 17:37:29.1±5.1, 4482N×15457E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.8/3, Error ellipse: s-maj=180.8km s-min=41.8km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.75**	**299**	P	P	17 46 15.2	-0.3
	0.6nm,0.8s,baz=57,slow=6.4,SNR=4.5						
FINES	**FINESS Array B**	**66.22**	**336**	P	P	17 48 18.3	-0.4
	3.3nm,1.1s,baz=31,slow=8.9,SNR=3.7						
TXAR	**Lajitas Array**	**77.55**	**61**	P	P	17 49 27.0	+0.2
	0.4nm,0.8s,baz=296,slow=4.5,SNR=4.1						

IDC 09 17:44:40.4±10.0, 2180N×14291E, h146km±103km, mb3.3/9, mb1 3.5/9, mb1mx3.4/22, mbtmp3.3/9, Error ellipse: s-maj=38.8km s-min=15.9km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.28**	**324**	P	P	17 49 05.9	+1.4
	1.0nm,0.8s,baz=152,slow=8.5,SNR=2.9						
SONM	**Songino Array**	**39.10**	**321**	P	P	17 51 52.7	-0.6
	0.9nm,0.8s,baz=131,slow=6.8,SNR=5.6						
WRA	**Warramunga Arr**	**42.32**	**192**	P	P	17 52 19.9	+0.3
	0.7nm,0.7s,baz=17,slow=9.0,SNR=8.4						
ASAR	**Alice Springs**	**46.03**	**192**	P	P	17 52 49.2	0.0
	0.5nm,0.7s,baz=15,slow=8.0,SNR=10						
ZAL	**Zalesovo**	**53.98**	**322**	P	P	17 53 47.4	-1.8
	0.5nm,0.6s,baz=16,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**54.44**	**313**	P	P	17 53 52.3	-0.2
	0.8nm,0.9s,baz=79,slow=7.5,SNR=3.5						
BVAR	**Borovoye Array**	**62.43**	**319**	P	P	17 54 48.7	+0.8
	2.3nm,0.8s,baz=90,slow=7.2,SNR=14						
YKA	**Yellowknife Ar**	**76.49**	**28**	P	P	17 56 13.6	-0.5
	1.0nm,0.7s,baz=289,slow=5.6,SNR=11						
NVAR	**Mina Array Bea**	**83.28**	**51**	P	P	17 56 51.8	+1.2
	1.0nm,0.8s,baz=122,slow=25,SNR=3.9						

IDC 09 17:50:35.3±2.5, 387S×10070E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=118.1km s-min=21.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.47**	**119**	P	P	17 57 41.7	-0.3
	0.2nm,0.3s,baz=311,slow=9.0,SNR=12						
WRA				PcP	PcP	18 00 06.7	+0.7
	0.2nm,0.4s,baz=102,slow=6.1,SNR=10						
ASAR	**Alice Springs**	**37.61**	**125**	P	P	17 57 51.9	+0.2
	0.1nm,0.3s,baz=303,slow=7.7,SNR=6.1						
SONM	**Songino Array**	**51.73**	**5**	P	P	17 59 44.8	+0.5
	0.4nm,0.5s,baz=185,slow=9.1,SNR=5.9						
MKAR	**Makanchi Array**	**53.01**	**344**	P	P	17 59 53.4	-0.4
	0.3nm,0.5s,baz=156,slow=8.3,SNR=7.5						
BVAR	**Borovoye Array**	**62.17**	**340**	P	P	18 00 57.5	-0.9
	0.3nm,0.5s,baz=156,slow=7.9,SNR=3.5						
TXAR	**Lajitas Array**	**145.72**	**40**	PKPbc	PKPbc	18 10 17.5	+1.4
	1.6nm,0.5s,baz=248,slow=0.7,SNR=24						

*STR **09** 17:58:11.0±0.2, 4756N×760E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 17:58:11.7±0.3, 4759N×756E, h7km, Md2.1/3, Ml2.1/6, Error ellipse: s-maj=4.5km s-min=2.6km az=119.0*
ZUR 09 17:58:11.7, 4758N×760E, h4km±1km, ML1.1, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇑ *i* Pg	Pg	17 58 17.3	+0.6
	161nm,0.3s						
BALST				*i* Sg	Sg	17 58 20.7	+0.7
	161nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑ *i* Pg	Pg	17 58 18.1	+0.3
	36nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓ *i* Pg	Pg	17 58 18.6	+0.1
	47nm,0.2s						
SULZ				*e*Sg	Sg	17 58 23.6	+0.5
	47nm,0.2s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	17 58 19.5	-0.2
MOF				Sg	Sg	17 58 25.4	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	17 58 22.0	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	17 58 24.1	+1.7
HINF				*e*Sg	Sg	17 58 29.2	-0.4
	4.6nm,0.2s						
HINF				*e*Sn	Sg	17 58 32.8	+3.2
ECH	**Echery**	**0.70**	**335**	Pg	Pg	17 58 25.2	+0.1
ECH				Sg	Sg	17 58 34.0	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	17 58 28.0	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	17 58 28.6	-1.9
CDF				*e*Sg	Sg	17 58 38.5	-0.8
	7.8nm,0.3s						
CDF				*e*Sn	Sn	17 58 40.6	-2.8
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	17 58 28.6	-1.2
HAU				*e*Sg	Sg	17 58 42.2	+0.1
	7.5nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	17 58 38.5	-0.4
CABF				*e*Sg	Sg	17 58 55.7	-1.6
	2.2nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sn	Sn	17 59 04.0	-3.5
SFTF				*e*Sg	Sg	17 59 09.4	-1.2
	1.5nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Sg	Sg	17 59 30.8	-3.1
	2.3nm,0.3s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Sg	Sg	17 59 36.0	-3.5
	1.3nm,0.2s						
SSF	**Saint Saulge**	**2.83**	**261**	*e*Sg	Sg	17 59 39.9	-2.8
	1.4nm,0.3s						

*IDC **09** 18:02:53.2±3.2, 376S×1016 4E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=147.4km s-min=17.9km az=56.0*
*ISCJB **09** 18:03:01.4±7.2, 37S±05×1017E±07, h83km±48km, mb3.9/8, Error ellipse: s-maj=149.0km s-min=15.7km az=112.4*
*NEIC **09** 18:03:02.6±3.9, 376S×1017 4E, h74km±23km, mb4.1/1, Error ellipse: s-maj=83.6km s-min=8.9km az=56.0*
NEIC Felt [II] at Bengkulu.
ISC 09 18:03:03.4±6.2, 37S±05×1017E±07, h80km±38km, n12, σ1§29/11, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.02**	**353**	*e*Pn	**Pn**	**18 05 10.8**	**0.0**
FITZ	**Fitzroy Crossi**	**27.42**	**123**	P	**P**	**18 08 41.0**	**-0.5**
	1.6nm,0.9s,mb3.5,baz=301,slow=4.7,SNR=2.5						
WRA	**Warramunga Arr**	**35.63**	**120**	P	**P**	**18 09 53.8**	**+0.3**
	0.4nm,0.3s,mb3.8,baz=307,slow=9.1,SNR=21						
WRAB	**Tennant Creek**	**35.64**	**120**	*e*P	**P**	**18 09 53.3**	**-0.3**
	1.5nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**35.65**	**120**	*e*P	**P**	**18 09 53.4**	**-0.2**
ASAR	**Alice Springs**	**36.84**	**125**	P	**P**	**18 10 04.0**	**+0.2**
	0.3nm,0.3s,mb3.7,baz=302,slow=8.1,SNR=27						
STKA	**Stephens Creek**	**46.72**	**131**	P	**P**	**18 11 24.7**	**+0.5**
	1.5nm,0.6s,mb3.9,baz=356,slow=20,SNR=6.1						
STKA	**Stephens Creek**	**46.72**	**131**	*e*P	**P**	**18 11 24.6**	**+0.4**
SONM	**Songino Array**	**51.51**	**4**	P	**P**	**18 12 01.2**	**+0.3**
	0.6nm,0.5s,mb3.9,baz=189,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**53.16**	**343**	P	**P**	**18 12 12.9**	**-0.1**
	0.5nm,0.4s,mb3.9,baz=159,slow=8.7,SNR=12						
ZAL	**Zalesovo**	**59.18**	**348**	P	**P**	**18 12 55.6**	**-0.3**
	1.0nm,0.3s,mb4.3,baz=108,slow=3.0,SNR=3.6						
TXAR	**Lajitas Array**	**144.94**	**41**	PKPbc	PKPdf	18 22 32.1	+0.9
	0.3nm,0.6s,baz=225,slow=1.3,SNR=7.9						

*ISCJB **09** 18:06:27.7±1.2, 122N×02×894W±01, h35km, mb3.7/3, Error ellipse: s-maj=28.2km s-min=9.3km az=57.8*
*IDC **09** 18:06:27.3±2.9, 1280N×8893W, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.7/18, mbtmp3.7/5, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=123.0km s-min=28.1km az=38.0*
*NEIC **09** 18:06:27.5±1.3, 1230N×8937W, h10km, mb3.6/1, Error ellipse: s-maj=32.1km s-min=11.5km az=208.0*
*CASC **09** 18:06:29.8±2.6, 1214N×8939W, h40km±8km, MD4.0, mb3.6(NEIC)*
ISC 09 18:06:30.0±1.2, 122N±02×893W±01, h35km, n25, σ1§28/12, mb3.7/3, 6C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.41**	**10**	⇑ *e*P	x	18 06 54.7	
LFRS				*e*S	x	18 07 12.2	
SNVI	**San Vicente**	**1.45**	**18**	*e*P	x	18 06 55.3	
SNVI				*e*S	x	18 07 14.2	
SNET	**Serv Nac Est T**	**1.46**	**3**	⇑ *e*P	x	18 06 56.5	
SNET				*e*S	x	18 07 12.3	
LCBS	**La Ceiba**	**1.46**	**13**	*e*P	x	18 06 55.6	
LCBS				*e*S	x	18 07 15.9	
BOQS	**Boqueron**	**1.50**	**1**	⇑ *e*P	x	18 06 56.2	
BOQS				*e*S	x	18 07 16.4	
LBRS	**Las Brisas**	**1.53**	**10**	⇑ *e*P	x	18 06 57.2	
LBRS				*e*S	x	18 07 18.1	
LFU	**La Fuente**	**1.53**	**7**	⇑ *e*P	x	18 06 57.0	
LFU				*e*S	x	18 07 16.2	
VSM	**San Miguel**	**1.56**	**40**	*e*P	x	18 06 57.4	
BLLM	**Bellamira**	**1.60**	**41**	*e*P	x	18 06 57.5	
SBLS	**San Blas**	**1.63**	**349**	⇓ *e*P	x	18 06 57.4	
SBLS				*e*S	x	18 07 18.2	
SNJE	**San Jose**	**1.66**	**350**	*e*P	x	18 06 57.4	
SNJE				*e*S	x	18 07 20.8	
RTR	**El Retiro**	**1.69**	**349**	*e*P	x	18 06 58.1	
RTR				*e*S	x	18 07 19.9	
CNCH	**Conchagua**	**1.78**	**54**	*e*P	x	18 07 00.1	
CNCH				*e*S	x	18 07 21.8	
RBDL	**Robledal**	**1.91**	**349**	*e*P	x	18 07 01.5	
RBDL				*e*S	x	18 07 26.6	
MTO2	**Montecristo 2**	**2.16**	**359**	⇑ *e*Pn	x	18 07 05.7	
MTO2				*e*S	x	18 07 33.3	
TGUH	**Tegucigalpa,Un**	**2.69**	**47**	*e*Pn	**Pn**	**18 07 10.8**	**0.0**
JTS	**JuntasAbangare**	**4.69**	**114**	Pn	**Pn**	**18 07 38.5**	**+0.3**
	3.2nm,0.3s,baz=330,slow=11,SNR=12						
JTS				Sn	**Sn**	**18 08 30.0**	**-1.3**
	9.6nm,0.3s,baz=292,slow=22,SNR=7.7						
JTS	**JuntasAbangare**	**4.69**	**114**	Pn	**Pn**	**18 07 38.5**	**+0.3**
JTS				Sn	**Sn**	**18 08 30.0**	**-1.3**
CMIG	**Matias Romero**	**7.25**	**313**	Pn	**Pn**	**18 08 12.2**	**-1.2**
	0.7nm,0.3s,baz=115,slow=6.6,SNR=6.6						
CMIG				Sn	**Sn**	**18 09 28.4**	**-6.0**
	0.1nm,0.3s,baz=18,slow=20,SNR=2.0						
TEIG	**Tepich**	**8.02**	**7**	LR	LR	18 10 56.1	
	comp=Z,172nm,20.1s,baz=227,slow=36						
SDV	**Santo Domingo**	**18.66**	**98**	P	**Pn**	**18 10 48.2**	**+2.9**
	3.3nm,0.8s						
TXAR	**Lajitas Array**	**21.64**	**324**	P	**P**	**18 11 17.6**	**+0.4**
	1.5nm,0.7s,mb3.5,baz=147,slow=11,SNR=14						
NVAR	**Mina Array Bea**	**36.70**	**320**	P	**P**	**18 13 35.1**	**+1.5**
	1.7nm,0.8s,mb3.9,baz=134,slow=8.9,SNR=6.2						
YKA	**Yellowknife Ar**	**53.37**	**346**	P	**P**	**18 15 44.5**	**-1.3**
	1.0nm,1.0s,mb3.7,baz=144,slow=7.6,SNR=9.7						
YKA	**Yellowknife Ar**	**53.37**	**346**	P	**P**	**18 15 44.5**	**-1.4**

*ISCJB **09** 18:28:47.7±7.0, 466N±02×1550E±02, h3km±41km, mb3.7/9, Error ellipse: s-maj=44.5km s-min=16.7km az=116.3*
*IDC **09** 18:28:49.5±2.5, 4670N×1550 2E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, ML3.1/1, Error ellipse: s-maj=69.3km s-min=22.5km az=168.0*
*MOS **09** 18:28:52.3±1.0, 4668N×1549 0E, h34km, mb4.0/1, Error ellipse: s-maj=28.0km s-min=18.3km az=81.0*
ISC 09 18:28:51.9±7.3, 467N±02×1550E±02, h17km±43km, n16, σ1§12/16, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.07**	**10**	*e*PN	**Pn**	**18 29 53.9**	**+0.5**
ASAJ	**Asahikawa**	**9.12**	**258**	Pn	**Pn**	**18 31 03.0**	**+0.3**
	0.2nm,0.3s,baz=208,slow=17,SNR=2.8						
SONM	**Songino Array**	**32.60**	**290**	P	**P**	**18 35 21.9**	**-0.7**
	0.2nm,0.4s,mb3.4,baz=88,slow=13,SNR=2.4						
INK	**Inuvik**	**41.00**	**32**	P	**P**	**18 36 31.9**	**-2.1**
	0.7nm,0.4s,mb3.7,baz=109,slow=12,SNR=3.5						
INK	**Inuvik**	**41.00**	**32**	P	**P**	**18 36 31.9**	**-2.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**18 37 30.1**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=72,slow=6.5,SNR=8.5						
YKA	**Yellowknife Ar**	**50.19**	**37**	P	**P**	**18 37 46.2**	**-0.5**
	comp=Z,0.1nm,0.4s,mb3.2,baz=292,slow=6.7,SNR=2.8						
FINES	**FINESS Array B**	**64.66**	**336**	P	**P**	**18 39 28.7**	**-0.1**
	comp=Z,3.9nm,1.0s,mb4.4,baz=46,slow=7.6,SNR=13						
FINES	**FINESS Array B**	**64.66**	**336**	P	**P**	**18 39 28.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	**NORSAR Array B**	**68.71**	**342**	P	**P**	**18 39 56.1**	**+1.5**
	comp=Z,1.3nm,0.9s,mb3.8,baz=28,slow=6.5,SNR=2.5						
NOA	**NORSAR Array B**	**68.71**	**342**	P	**P**	**18 39 56.1**	**+1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**72.33**	**327**	P	**P**	**18 40 15.9**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=33,slow=6.2,SNR=5.3						
AKASG	**Malin Array Be**	**72.33**	**327**	P	**P**	**18 40 16.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**18 40 41.1**	**+0.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=277,slow=4.5,SNR=4.0						
GERES	**GERESS Array B**	**79.09**	**335**	P	**P**	**18 40 57.7**	**+2.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=23,slow=7.2,SNR=4.9						
GERES	**GERESS Array B**	**79.09**	**335**	P	**P**	**18 40 57.7**	**+2.3**

*NIED **09** 18:38:00, 4630N×1530 0E, h32km, Mw4.6 Best double couple: M0:8.11000×10^15 NP1:φs=36.00000°, δ=74.00000°, λ=20.00000°. NP2:φs=300.00000°, δ=71.00000°, λ=163.00000°.*
*IDC **09** 18:38:27.3±0.8, 4615N×1526 8E, h0km, mb4.1/15, mb1 4.4/15, mb1mx4.3/22, mbtmp4.2/15, MS3.7/4, Ms1 3.7/4, ms1mx3.3/34, Error ellipse: s-maj=22.8km s-min=16.4km az=168.0*
*ISCJB **09** 18:38:27.7±0.3, 4608N±005×1527 2E±005, h10km, mb4.5/45, MS3.6/7, Error ellipse: s-maj=8.2km s-min=3.0km az=112.7*
*SKHL **09** 18:38:28.1±1.8, 4600N×1533 0E, h56km±20km, mb4.9/4, msh5.6/1*
*NEIC **09** 18:38:28.9±0.5, 4606N×1525 6E, h10km, mb4.5/20, Error ellipse: s-maj=12.1km s-min=7.3km az=137.0*
*JMA **09** 18:38:29.3±0.7, 4630N×1529 9E, h30km, M4.6*
*MOS **09** 18:38:31.0±1.3, 4605N×1527 4E, h35km, mb4.6/26, Error ellipse: s-maj=9.5km s-min=6.6km az=101.0*
*SZGRF **09** 18:38:31.1, 4549N×1529 0E, h33km, mb4.3, East of Kuril Islands, Russia*
*BJI **09** 18:38:32.5, 4677N×1519 7E, h10km, mB4.7, mb4.2, Ms4.1, Msz3.6*
ISC 09 18:38:29.1±0.3, 4611N±005×15280E±005, h10km, n158, σ1§29/174, mb4.5/45, MS3.6/7, 3C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.57**	**258**	*e*PN	**Pn**	**18 39 23.0**	**-1.5**
KUR				*i* S	**Sn**	**18 40 05.5**	**-1.2**
KUR				pmax	pmax		
	comp=N,160nm,0.8s						
KUR				pmax	pmax		
	comp=Z,350nm,0.8s						
KUR				smax			
	comp=N,590nm,0.8s						
KUR				smax			
	comp=E,970nm,0.8s						
KUR				smax			
	comp=N,5μm,2.0s						
KUR				smax			
	comp=E,3μm,2.0s						
KUR	**Kuril'sk**	**3.57**	**258**	*e*P	**Pn**	**18 39 23.0**	**-1.5**
KUR				AMB	AMB	18 39 27.5	
	comp=E,160nm,0.8s						
KUR				AMB	AMB	18 39 27.5	
	comp=E,350nm,0.8s						
KUR				*i* S	**Sn**	**18 40 05.5**	**-1.2**
KUR				A		18 40 08.8	
	comp=E,590nm,0.8s						
KUR				A		18 40 08.8	
	comp=E,970nm,0.8s						
KUR				A		18 40 12.0	
	comp=E,5μm,2.0s						
KUR				A		18 40 12.0	
	comp=E,3μm,2.0s						
SKR	**Severo-Kuril's**	**5.08**	**25**	*e*PN	**Pn**	**18 39 46.4**	**+1.1**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.34**	**250**	*e*PN	**Pn**	**18 39 50.8**	**+2.0**
YUK				*i* S	**Sn**	**18 40 51.5**	**+1.2**
YUK				pmax	pmax		
	comp=N,210nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,300nm,0.5s						
YUK				smax			
	comp=N,900nm,0.6s						
YUK				smax			
	comp=E,230nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.34**	**250**	*e*P	**Pn**	**18 39 50.8**	**+2.0**
YUK				AMB	AMB	18 39 55.5	
	comp=E,210nm,0.5s						
YUK				AMB	AMB	18 39 55.5	
	comp=E,190nm,0.5s						
YUK				AMB	AMB	18 39 55.5	
	comp=E,300nm,0.5s						
YUK				*i* S	**Sn**	**18 40 51.5**	**+1.2**
YUK				A		18 40 52.5	
	comp=E,900nm,0.6s						
YUK				A		18 40 52.5	
	comp=E,230nm,0.6s						
YUK				A		18 40 54.9	
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**5.73**	**244**	P	**Pn**	**18 39 54.0**	**-0.2**
NEM2				*e*S	**Sn**	**18 40 57.3**	**-2.7**
JRA	**Rausu**	**5.86**	**251**	P	**Pn**	**18 39 58.3**	**+2.3**
JRA				*e*S	**Sn**	**18 41 05.4**	**+2.2**
JNK	**Nakash**	**6.28**	**249**	P	**Pn**	**18 40 03.3**	**+1.6**
JNK				*e*S	**Sn**	**18 41 12.7**	**-0.8**
AKK	**Akkeshi**	**6.47**	**244**	*e*P	**Pn**	**18 40 04.4**	**0.0**
JAK	**Akkeshi**	**6.57**	**245**	P	**Pn**	**18 40 06.1**	**+0.3**
JAK				*e*S	**Sn**	**18 41 18.7**	**-2.1**
JTKR	**Abashiri--Toko**	**6.66**	**254**	P	**Pn**	**18 40 09.3**	**+2.4**
KNP	**Kunneppu**	**6.87**	**253**	*e*P	**Pn**	**18 40 12.5**	**+2.7**
YSS	**Yuzh-Sakhalins**	**6.98**	**281**	PN	**Pn**	**18 40 15.0**	**+3.6**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.98**	**281**	*e*PN	**Pn**	**18 40 12.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**6.98**	**281**	*e*P	**Pn**	**18 40 15.0**	**+3.6**
YSS				AMB	AMB	18 40 19.0	
	comp=Z,20nm,1.0s						
YSS				*e*S	**Sn**	**18 41 30.0**	**-0.9**
YSS				A		18 41 32.0	
	comp=Z,30nm,0.8s						
JMP	**Maruseppu**	**7.01**	**256**	P	**Pn**	**18 40 15.1**	**+3.3**
JAR	**Ashorobuto**	**7.02**	**250**	P	**Pn**	**18 40 13.7**	**+1.7**
JAR				*e*S	**Sn**	**18 41 31.6**	**-0.3**
JOB	**Onbets**	**7.17**	**247**	P	**Pn**	**18 40 14.6**	**+0.7**
JOB				*e*S	**Sn**	**18 41 33.4**	**-2.0**
JKK2	**Kamakawa 2**	**7.47**	**256**	P	**Pn**	**18 40 21.1**	**+3.0**
ASAJ	**Asahikawa**	**7.49**	**258**	Pn	**Pn**	**18 40 21.6**	**+3.2**
	comp=Z,3.9nm,0.3s,baz=84,slow=17,SNR=45						
ASAJ	**Asahikawa**	**7.49**	**258**	P	**Pn**	**18 40 22.3**	**+3.9**
ASAJ	**Asahikawa**	**7.49**	**258**	PN	**Pn**	**18 40 21.6**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JCH	**Churui**	**7.61**	**246**	P	**Pn**	**18 40 20.7**	**+0.6**
JCH				*e*S	**Sn**	**18 41 42.9**	**-3.5**
JWK2	**Keihoku**	**7.68**	**268**	P	**Pn**	**18 40 27.3**	**+6.4**
MYR	**Moyori**	**7.83**	**244**	*e*P	**Pn**	**18 40 22.9**	**-0.2**
UGL	**Uglegorsk**	**7.84**	**296**	*e*P	**Pn**	**18 40 25.7**	**+2.5**
UGL				AMB	AMB	18 40 27.0	
	comp=Z,40nm,0.7s						
UGL				*e*S	**Sn**	**18 41 53.0**	**+1.0**
UGL				A		18 41 56.0	
	comp=Z,50nm,0.7s						
UGL				A		18 41 56.0	
	comp=Z,30nm,0.7s						
JFR	**Furan**	**7.85**	**252**	P	**Pn**	**18 40 25.5**	**+2.1**
JFR				*e*S	**Sn**	**18 41 53.6**	**+1.3**
JAB	**Ashibetsu**	**7.96**	**255**	P	**Pn**	**18 40 28.3**	**+3.5**
JEM	**Erimo**	**8.06**	**243**	*e*S	**Sn**	**18 41 52.8**	**-4.6**
ERM	**Erimo**	**8.06**	**243**	*e*PN	**Pn**	**18 40 27.3**	**+1.1**
ERM				pmax	pmax		
	comp=Z,36nm,0.6s						
ERM	**Erimo**	**8.06**	**243**	*e*Pn	**Pn**	**18 40 27.3**	**+1.1**
	comp=Z,36nm,0.6s						
ERM				*e*Sn	**Sn**	**18 41 51.4**	**-6.0**
JNBK	**Urakawa-nobuka**	**8.17**	**246**	P	**Pn**	**18 40 27.7**	**0.0**
JNBK				*e*S	**Sn**	**18 41 56.5**	**-3.6**
JBT2	**Biratori 2**	**8.18**	**250**	P	**Pn**	**18 40 28.5**	**+0.7**
JEW	**Eniwo**	**8.75**	**252**	P	**Pn**	**18 40 36.2**	**+0.5**
JEW				*e*S	**Sn**	**18 42 13.3**	**-1.1**
JNB	**Noboribetsu**	**9.19**	**251**	P	**Pn**	**18 40 42.3**	**+0.6**
JKB	**Kayabe**	**9.47**	**248**	P	**Pn**	**18 40 45.4**	**-0.2**
JKB				*e*S	**Sn**	**18 42 24.2**	**-7.9**
JANG	**Nango**	**10.03**	**239**	P	**Pn**	**18 40 50.8**	**-2.4**
JANG				*e*S	**Sn**	**18 42 36.7**	**-9.1**
JTM	**Tenmabayashi**	**10.05**	**242**	*e*S	**Sn**	**18 42 38.3**	**-8.0**
JTH	**Tanohata**	**10.10**	**236**	*e*S	**Sn**	**18 42 37.1**	**-10**
JOSM	**Okushiri--Mats**	**10.40**	**252**	P	**Pn**	**18 40 58.1**	**-0.1**
MJAR	**Matsushiro Arr**	**14.53**	**234**	Pn	**Pn**	**18 41 50.5**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=32,slow=13,SNR=8.0						
MAJO	**Matsushiro**	**14.53**	**234**	*e*P	**Pn**	**18 41 52.5**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAJO	**Matsushiro**	**14.53**	**234**	*e*Pn	**Pn**	**18 41 52.5**	**-2.1**
	comp=Z,7.3nm,0.6s						
MAT	**Matsushiro**	**14.53**	**234**	P	**Pn**	**18 41 52.8**	**-1.9**
KSRS	**Korea Array**	**20.41**	**254**	P	**P**	**18 43 06.8**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=56,slow=12,SNR=3.2						
KSRS				LR	LR	18 50 03.4	
	comp=Z,143nm,19.5s,MS3.3,baz=246,slow=34						
YAK	**Yakutsk**	**20.75**	**328**	*e*P	**P**	**18 43 09.6**	**-0.3**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s						
YAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.3						
YAK	**Yakutsk**	**20.75**	**328**	*e*P	**P**	**18 43 08.8**	**-1.1**
	comp=Z,11nm,0.8s						
BILL	**Bilibino**	**23.07**	**13**	*e*P	**P**	**18 43 35.7**	**+1.0**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
BILL	**Bilibino**	**23.07**	**13**	*e*P	**P**	**18 43 35.7**	**+1.0**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
BILL	**Bilibino**	**23.07**	**13**	*e*P	**P**	**18 43 34.3**	**-0.3**
	comp=Z,7.2nm,0.8s,mb4.2						
UNV	**Unalaska Valle**	**26.98**	**58**	*e*P	**P**	**18 44 07.8**	**-3.2**
	comp=Z,193nm,1.2s,mb5.5						
TIXI	**Tiksi**	**28.02**	**344**	*e*P	**P**	**18 44 23.4**	**+3.1**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
SONM	**Songino Array**	**31.35**	**290**	P	**P**	**18 44 48.7**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=32,slow=17,SNR=2.5						
SONM				LR	LR	18 58 06.2	
	comp=Z,80nm,18.8s,baz=195,slow=38						
SML	**Sawmill**	**36.58**	**43**	*e*P	**P**	**18 45 36.6**	**+1.4**
GYA	**Guiyang**	**41.37**	**258**	P	**P**	**18 46 16.1**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
INK	**Inuvik**	**42.31**	**32**	P	**P**	**18 46 22.8**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.3,baz=265,slow=9.3,SNR=5.4						
INK	**Inuvik**	**42.31**	**32**	*e*P	**P**	**18 46 22.7**	**-0.2**
	comp=Z,285nm,0.9s						
ZAL	**Zalesovo**	**42.83**	**306**	LR	LR	19 06 13.3	
	comp=Z,105nm,18.4s,MS3.8,baz=266,slow=39						
KMI	**Kunming**	**44.92**	**260**	P	**P**	**18 46 45.4**	**+1.4**
KMI				AP	pP	18 46 50.0	+2.9
KMI				XP	sP	18 46 52.2	+3.9
KMI				PP	PP	18 48 30.1	+1.2
KMI				S	**S**	**18 53 20.2**	**-1.7**
KMI				SS	SS	18 56 32.1	-11
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.1						
KMI				AMB	AMB		
	comp=Z,73nm,3.1s						
KMI				LR	LR		
	comp=Z,44nm,35.4s,MS3.1						
WMQ	**Urumqi**	**44.96**	**292**	*e*P	**P**	**18 46 45.1**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,97nm,5.0s						
WMQ				LR	LR		
	comp=N,29nm,16.0s,MS4.1						
WMQ				LR	LR		
	comp=E,199nm,18.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,44nm,15.0s,MS3.5						
MKAR	**Makanchi Array**	**47.05**	**298**	P	**P**	**18 46 59.7**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=66,slow=7.2,SNR=18						
MKAR				PcP	PcP	18 48 32.4	-0.4
	comp=Z,0.9nm,0.8s,baz=55,slow=2.5,SNR=3.3						
MKAR				LR	LR	19 07 35.5	
	comp=Z,153nm,18.8s,MS4.0,baz=60,slow=37						
KURK	**Kurchatov**	**47.54**	**304**	*e*P	**P**	**18 47 04.6**	**0.0**
KURK	**Kurchatov**	**47.54**	**304**	*e*P	**P**	**18 47 00.9**	**-3.7**
	comp=Z,1.9nm,0.8s,mb4.2						
LSA	**Lhasa**	**50.10**	**273**	P	**P**	**18 47 26.0**	**+1.8**
**LS

comp=Z,4.0nm,0.8s,mb4.5
ARU Arti 55.34 318 *e*P **P 18 48 00.7 -2.3**
comp=Z,4.3nm,0.8s,mb4.5
DMN Daman 55.57 275 *e*P **P 18 48 05.5 +0.8**
GKN Gorkha 55.65 276 *e*P **P 18 48 06.3 +1.0**
comp=Z,21nm,0.9s,mb5.2
KOLN Koldanda 56.51 277 *e*P **P 18 48 12.5 +1.1**
comp=Z,18nm,0.9s,mb5.1
ARCES ARCESS Array B 58.39 341 P **P 18 48 23.3 -1.4**
comp=Z,6.9nm,1.0s,mb4.7,baz=30,slow=7.4,SNR=6.7
ARCES ARCESS Array B 58.39 341 P **P 18 48 23.3 -1.4**
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARE0 ARCESS Array S 58.39 341 P **P 18 48 21.8 -2.9**
NVAR Mina Array Bea 62.92 62 P **P 18 48 56.3 +0.7**
comp=Z,0.7nm,0.3s,mb4.2,baz=304,slow=6.4,SNR=3.0
FINES FINESS Array B 64.53 335 P **P 18 49 04.3 -1.9**
comp=Z,1.7nm,0.5s,mb4.4,baz=37,slow=7.5,SNR=17
FINES FINESS Array B 64.53 335 *i* P **P 18 49 05.5 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 65.30 53 P **P 18 49 11.3 +0.1**
comp=Z,0.8nm,0.9s,mb3.8,baz=321,slow=1.9,SNR=5.0
OBN Obninsk 65.72 326‖ *e*P **P 18 49 11.0 -2.9**
OBN *e*S S 18 57 59.1 -0.9
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
WRAB Tennant Creek 67.82 199 *e*P **P 18 49 27.0 -0.3**
WRAB pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
WRAB Tennant Creek 67.82 199 *e*P **P 18 49 27.0 -0.3**
comp=Z,2.3nm,0.7s,mb4.3
WRA Warramunga Arr 67.84 199 P **P 18 49 26.7 -0.7**
comp=Z,2.2nm,0.8s,mb4.3,baz=17,slow=6.8,SNR=17
WRA Warramunga Arr 67.84 199 *i* P **P 18 49 27.2 -0.2**
WRA pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 68.77 341 P **P 18 49 32.2 -1.0**
comp=Z,3.5nm,0.6s,mb4.5,baz=28,slow=6.5
NOA NORSAR Array B 68.77 341 P **P 18 49 32.2 -1.1**
comp=Z,5.8nm,0.7s,mb4.6,baz=28,slow=6.3,SNR=16
NOA NORSAR Array B 68.77 341 P **P 18 49 32.2 -1.0**
NOA pmax pmax
comp=Z,6.0nm,0.7s
GOF Gofitskoye 70.13 315 *e*P **P 18 49 41.3 -0.3**
KIV Kislovodsk 71.09 314⇑ *e*P **P 18 49 49.0 +1.5**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KIV Kislovodsk 71.09 314 *e*P **P 18 49 48.0 +0.4**
comp=Z,11nm,0.8s,mb4.8
SUW Suwalki 71.46 331 P **P 18 49 48.5 -1.2**
AKASG Malin Array Be 71.96 326 P **P 18 49 51.8 -1.0**
comp=Z,2.5nm,0.5s,mb4.4,baz=33,slow=6.0,SNR=25
AKASG Malin Array Be 71.96 326 P **P 18 49 51.8 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 71.96 326 *e*P **P 18 49 51.3 -1.5**
KIEV Kiev 71.97 326 *e*P **P 18 49 51.3 -1.5**
KIEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KIEV Kiev 71.97 326 *e*P **P 18 49 51.3 -1.6**
comp=Z,5.6nm,0.7s,mb4.6
GNI Garni 72.78 310⇑ *e*P **P 18 49 58.1 +0.4**
GNI pmax pmax
comp=Z,8.0nm,1.3s
KWP Kalwaria 75.26 329 *e*P **P 18 50 12.3 +0.1**
KWP pmax pmax
comp=Z,35nm,1.0s,mb5.2
KWP Kalwaria 75.26 329 *e*P **P 18 50 12.3 +0.1**
comp=Z,35nm,1.0s,mb5.2
OJC Ojcow 75.78 331 *e*P **P 18 50 15.2 +0.1**
STHS Stebnicka Huta 75.96 330 *i* P **P 18 50 16.8 +0.6**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KOLS Kolonicke sedl 76.00 329 *e*P **P 18 50 16.5 +0.1**
BURAR Bucovina Array 76.01 326‖ *i*P **P 18 50 16.4 0.0**
NIE Niedzica 76.28 330 *e*P **P 18 50 18.5 +0.5**
CRVS Cervenica-Dubn 76.32 329 *e*P **P 18 50 18.0 -0.2**
OKC Ostrava-Krasne 76.66 332 *e*P **P 18 50 20.0 -0.1**
UPC Upice 76.76 333 *e*P **P 18 50 16.8 -3.9**
DPC Dobruska-Polom 76.80 333 *e*P **P 18 50 21.0 +0.1**
VRI Vrincioaia 76.84 325‖ *i*P **P 18 50 23.4 +2.2**
MORC Moravsky Berou 76.91 332 *e*P **P 18 50 21.3 -0.2**
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MORC Moravsky Berou 76.91 332 *e*P **P 18 50 21.3 -0.3**
comp=Z,8.2nm,1.1s,mb4.6
MORC Moravsky Berou 76.91 332‖ *i*P **P 18 50 21.8 +0.3**
CLL Collm 76.96 335 *i* P **P 18 50 21.1 -0.8**
CLL pmax pmax
comp=Z,23nm,1.4s,mb4.9
CLL Collm 76.96 335 *i* P **P 18 50 21.1 -0.8**
comp=Z,23nm,1.4s,mb4.9
KECS Kecovo 77.02 330 *e*P **P 18 50 22.2 0.0**
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KECS Kecovo 77.02 330 *e*P **P 18 50 22.2 0.0**
comp=Z,2.9nm,1.1s,mb4.1
PVCC Panska Ves 77.19 334 *e*P **P 18 50 25.2 +2.1**
VYHS Vyhne 77.58 331 *e*P **P 18 50 25.4 +0.1**
VRAC Vranov 77.62 332‖ *i*P **P 18 50 24.5 -1.1**
PSZ Piszkesteto 77.71 330 *e*P **P 18 50 26.3 +0.3**
PSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PSZ Piszkesteto 77.71 330 *e*P **P 18 50 26.2 +0.2**
comp=Z,5.6nm,1.0s,mb4.5
VOIR 77.87 325‖ *i*P **P 18 50 27.2 +0.3**
TXAR Lajitas Array 78.00 60 P **P 18 50 28.2 +0.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=298,slow=4.2,SNR=21
TXAR Lajitas Array 78.00 60 P **P 18 50 28.2 +0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
ZST Bratislava 78.42 332 *e*P **P 18 50 33.2 +3.2**
BR131 Keskin Array S 78.71 317 *e*P **P 18 50 32.0 +0.4**
comp=Z,2.1nm,0.8s,mb4.1
BRTR Keskin Array B 78.71 317 P **P 18 50 31.9 +0.3**
comp=Z,2.9nm,0.9s,mb4.2,baz=70,slow=3.9,SNR=12
BRTR Keskin Array B 78.71 317 P **P 18 50 31.9 +0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 78.72 334 *e*P **P 18 50 31.8 +0.1**
GRA1 Grafenberg Arr 78.92 336 *e*P **P 18 50 33.1 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 78.92 336 *e*P **P 18 50 33.1 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 78.92 336 *e*P **P 18 50 33.1 +0.4**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 78.92 336 *e*P **P 18 50 33.1 +0.4**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GERES GERESS Array B 78.94 334 P **P 18 50 32.4 -0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=40,slow=5.3,SNR=12
GERES GERESS Array B 78.94 334 P **P 18 50 32.4 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BZS Buzias 79.04 327‖ *i*P **P 18 50 33.7 +0.3**
VTS Vitosha 80.97 325‖ *i*P **P 18 50 44.4 +0.5**
CDF Champ du Feu 81.17 338 *e*P **P 18 50 44.5 -0.4**
comp=Z,19nm,1.1s,mb4.7
GRR Gorron 83.12 343 *e*P **P 18 50 54.4 -0.7**
SMF Signal de Mont 83.69 339 *e*P **P 18 50 57.3 -0.8**
comp=Z,42nm,1.1s,mb5.2
LPG La Plagne 83.99 337 *e*P **P 18 50 59.8 +0.2**
comp=Z,23nm,1.2s,mb4.9
CAF Calviac 85.73 340 *e*P **P 18 51 07.8 -0.6**
SNAA Sanae 151.88 196 *e*PKPdf PKPdf 18 58 15.0 -2.7
SNAA *e* 18 58 21.8
SNAA *e* 18 58 32.4
VNA2 Neumayer--Watz 153.33 194 *e*PKPdf PKPdf 18 58 18.7 -1.2
VNA2 *e* 18 58 25.7
VNA2 *e* 18 58 38.6
VNA2 *e* 18 58 49.4
VNA3 Neumayer Olymp 153.42 193 *e*PKPdf PKPdf 18 58 18.1 -1.9
VNA3 *e* 18 58 24.4
VNA3 *e* 18 58 37.2

MOS ***09*** *18:39:59.3±1.6,5242N×16096E,h9km,mb4.2/8,Error ellipse: s-maj=18.4km s-min=8.5km az=101.8*
IDC ***09*** *18:40:00.5±0.9,5260N×16056E,h0km,mb3.8/12, mb1 4.0/12,mb1mx3.9/23,mbtmp3.8/12,Error ellipse: s-maj=25.1km s-min=21.0km az=150.0*
KRSC ***09*** *18:40:04.7±0.8,5265N×16063E,h16km±16km,ML4.3*
ISCJB ***09*** *18:40:05.6±1.0,5256N±006×16074E±009,h55km±7km, mb3.9/14,Error ellipse: s-maj=12.6km s-min=5.4km az=97.9*
ISC 09 18:40:02.5±1.2,**5247N**±004×**16073E**±006,**h9**km±6km,**n48,** σ1§**39**/59,**mb3.9**/14,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.76**	**326**	*e*P		**Pg**	**18 40 16.7**	**-0.4**
SPN				*i* S		**Sg**	**18 40 25.0**	**-2.0**
NLC	**Nalytchevo**	**1.09**	**310**	*e*P		**Pg**	**18 40 22.3**	**-1.2**
NLC				*i* S		**Sg**	**18 40 34.4**	**-3.2**
RUS	**Russkaya**	**1.35**	**269**	*e*P		**Pn**	**18 40 29.0**	**+1.5**
RUS				*i* S		**Sb**	**18 40 46.7**	**+1.3**
PET	**Petropavlovsk**	**1.38**	**294**	*e*PN		**Pn**	**18 40 27.6**	**-0.2**
PET				*e*S		**Sb**	**18 40 45.1**	**-0.9**
PET				pmax	pmax			
	comp=Z,154nm,0.3s							
PET				smax				
	comp=N,864nm,0.8s							
PET				smax				
	comp=E,916nm,0.6s							
PET				smax				
	comp=N,40nm,0.7s							
PET	**Petropavlovsk**	**1.38**	**294**	*e*P		**Pn**	**18 40 27.6**	**-0.2**
PET				*i* S		**Sb**	**18 40 44.7**	**-1.3**
AVH	**Avacha**	**1.44**	**304**	*e*P		**Pn**	**18 40 28.3**	**-0.4**
GRL	**Gorelyy**	**1.62**	**274**	*e*P		**Pn**	**18 40 33.3**	**+2.1**
GRL				*i* S		**Sn**	**18 40 54.0**	**+1.8**
GNL	**Ganaly**	**2.08**	**307**	*e*P		**Pn**	**18 40 38.4**	**+0.9**
GNL				*i* S		**Sn**	**18 41 03.4**	**0.0**
MKZ	**Mys Kozlova**	**2.17**	**16**	*e*P		**Pn**	**18 40 37.3**	**-1.4**
MKZ				*i* S		**Sn**	**18 41 00.9**	**-4.8**
TUMR	**Tumrok**	**2.84**	**353**	*e*P		**Pn**	**18 40 48.6**	**+0.7**
TUMR				*i* S		**Sn**	**18 41 21.1**	**-1.0**
KMNR	**Kamenistaya**	**3.30**	**355**	*e*P		**Pn**	**18 40 55.4**	**+1.1**
BZMR	**Bezymyannaya**	**3.47**	**358**	*e*P		**Pn**	**18 40 58.0**	**+1.4**
KIRR	**Kirishev**	**3.49**	**356**	*e*P		**Pn**	**18 40 58.7**	**+1.8**
KIRR				*i* S		**Sn**	**18 41 39.1**	**+0.7**
KPT	**Kopyto**	**3.51**	**355**	P		**Pn**	**18 40 59.0**	**+1.8**
ZLN	**Zelenaya**	**3.55**	**1**	*e*P		**Pn**	**18 40 59.2**	**+1.5**
KOZ	**Kozyrevsk**	**3.63**	**352**	*e*P		**Pn**	**18 41 00.0**	**+1.2**
KOZR	**Kozyr**	**3.63**	**353**	PN		**Pn**	**18 41 00.0**	**+1.2**
CIRR	**Tsirk**	**3.65**	**0**	*e*P		**Pn**	**18 41 00.4**	**+1.3**
KRSR	**Krestovskiy**	**3.75**	**359**	*e*P		**Pn**	**18 41 02.0**	**+1.5**
KLY	**Klyuchi**	**3.85**	**359**	*e*P		**Pn**	**18 41 02.2**	**+0.4**
SRDR	**Sredinnyy**	**3.90**	**352**	*e*P		**Pn**	**18 41 03.5**	**+1.0**
KBTR	**Krutoberegovo**	**3.94**	**17**	*e*P		**Pn**	**18 41 04.6**	**+1.6**
KBTR				*i* S		**Sn**	**18 41 47.3**	**-2.0**
BDR	**Baidarnaya**	**4.11**	**4**	*e*P		**Pn**	**18 41 06.2**	**+0.8**
SMKR	**Semkarok**	**4.14**	**6**	*e*P		**Pn**	**18 41 06.7**	**+0.9**
SRKR	**Sorokina**	**4.20**	**3**	*e*P		**Pn**	**18 41 06.9**	**+0.3**
MJAR	**Matsushiro Arr**	**22.48**	**234**	P		**P**	**18 45 01.8**	**-0.2**
	comp=N,1.8nm,1.0s,mb3.5,baz=25,slow=10.0,SNR=2.9							
MJAR	**Matsushiro Arr**	**22.48**	**234**	P		**P**	**18 45 01.8**	**-0.1**
MJAR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MKAR	**Makanchi Array**	**48.77**	**296**	P		**P**	**18 48 44.5**	**-3.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=54,slow=6.8,SNR=6.6							
MKAR	**Makanchi Array**	**48.77**	**296**	P		**P**	**18 48 44.6**	**-3.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**51.08**	**309**	P		**P**	**18 49 02.2**	**-2.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=55,slow=7.8,SNR=2.9							
ARCES	**ARCESS Array B**	**54.00**	**342**	P		**P**	**18 49 24.2**	**-2.6**
	comp=Z,4.4nm,0.9s,mb4.4,baz=42,slow=6.6,SNR=5.4							
ARCES	**ARCESS Array B**	**54.00**	**342**	P		**P**	**18 49 24.2**	**-2.6**
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.9s							
PDAR	**Pinedale Array**	**57.49**	**61**	P		**P**	**18 49 51.0**	**-0.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=287,slow=2.3,SNR=6.1							
JOF	**Joensuu**	**58.29**	**335**	*e*p		**P**	**18 49 54.4**	**-3.1**
	comp=Z,1.7nm,0.3s,mb4.5							
JOF	**Joensuu**	**58.29**	**335**	*e*P		**P**	**18 49 54.4**	**-3.1**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.3s,mb4.6							
ULM	**Lac du Bonnet**	**58.97**	**47**	P		**P**	**18 50 01.4**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=323,slow=10,SNR=3.0							
KAF	**Kangasniemi**	**60.21**	**337**	*e*p		**P**	**18 50 07.9**	**-2.8**
	comp=Z,3.5nm,0.6s,mb4.6,baz=37,slow=6.0							
KAF	**Kangasniemi**	**60.21**	**337**	*e*P		**P**	**18 50 07.9**	**-2.8**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6							
FINES	**FINESS Array B**	**60.84**	**337**	P		**P**	**18 50 13.8**	**-1.3**
	comp=Z,1.1nm,0.5s,mb4.3,baz=37,slow=8.0,SNR=6.6							
FINES	**FINESS Array B**	**60.84**	**337**	P		**P**	**18 50 13.8**	**-1.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**64.25**	**344**	P		**P**	**18 50 36.0**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.7,baz=27,slow=6.5,SNR=2.3							
NOA	**NORSAR Array B**	**64.25**	**344**	P		**P**	**18 50 36.0**	**-1.8**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**69.34**	**329**	P		**P**	**18 51 08.1**	**-2.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=29,slow=6.8,SNR=3.0							
TXAR	**Lajitas Array**	**70.53**	**67**	P		**P**	**18 51 17.4**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=304,slow=4.6,SNR=4.4							
TXAR	**Lajitas Array**	**70.53**	**67**	P		**P**	**18 51 17.4**	**-0.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**75.68**	**206**	P		**P**	**18 51 47.8**	**-0.3**
	comp=Z,1.0nm,1.1s,mb3.7,baz=16,slow=6.1,SNR=4.5							
WRA	**Warramunga Arr**	**75.68**	**206**	P		**P**	**18 51 47.8**	**-0.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
BRTR	**Keskin Array B**	**77.34**	**321**	P		**P**	**18 51 56.8**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=26,slow=4.0,SNR=2.9							

ISCJB ***09*** *18:41:22.4±0.4,6015N±004×15329W±009,h158km±5km, mb4.0/7,Error ellipse: s-maj=8.3km s-min=6.4km az=79.0*
IDC ***09*** *18:41:23.1±1.2,6009N×15322W,h148km±17km,mb3.8/7, mb1 3.9/10,mb1mx3.6/25,mbtmp3.8/10,Error ellipse: s-maj=22.3km s-min=18.8km az=96.0*
NEIC ***09*** *18:41:24.5,60.17N×15323W,h156km,MG3.9(AEIC), After AEIC.*
NEIC Felt at Homer.
ISC 09 18:41:23.4±0.4,**6015N**±004×**15328W**±009,**h153**km±5km, **n43,** σ0§**73**/44,**mb4.0**/7,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.78**	**186**	P		**Pn**	**18 41 47.8**	**+1.0**
AUL				S		**Sn**	**18 42 05.5**	**+1.0**
SVW2	**Sparrevohn**	**1.48**	**311**	*e*P		**Pn**	**18 41 52.9**	**0.0**
SLKM	**Skilak Lake**	**1.56**	**76**	P		**Pn**	**18 41 53.9**	**+0.1**
FIB	**Fire Island**	**1.84**	**55**	P		**Pn**	**18 41 57.8**	**+0.9**
SEW	**Seward**	**1.92**	**90**	P		**Pn**	**18 41 58.0**	**+0.3**
RC01	**Rabbit Creek A**	**1.98**	**60**	P		**Pn**	**18 41 58.2**	**-0.3**
KDAK	**Kodiak Island**	**2.41**	**171**	P		**Pn**	**18 42 02.7**	**-0.8**
	18nm,0.3s,baz=21,slow=8.3,SNR=256							
KDAK				S		**Sn**	**18 42 32.5**	**-2.0**
	109nm,0.3s,baz=146,slow=23,SNR=62							
PMR	**Palmer**	**2.49**	**53**	*e*P		**Pn**	**18 42 03.4**	**-1.1**
GHO	**Glory Hole Cre**	**2.67**	**51**	P		**Pn**	**18 42 06.1**	**-0.7**
KNK	**Knik Glacier**	**2.68**	**60**	P		**Pn**	**18 42 06.1**	**-0.8**
SML	**Sawmill**	**2.93**	**53**	P		**Pn**	**18 42 09.1**	**-0.8**
TT01	**Tatalina**	**3.06**	**336**	P		**Pn**	**18 42 11.6**	**0.0**
KTH	**Kantishna Hill**	**3.59**	**17**	P		**Pn**	**18 42 18.3**	**-0.1**
TRF	**Thorofare Moun**	**3.60**	**22**	P		**Pn**	**18 42 18.7**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.76**	**81**	P		**Pn**	**18 42 21.1**	**+0.4**
MCK	**McKinley**	**4.14**	**28**	P		**Pn**	**18 42 25.7**	**+0.2**
RAGM	**Ragged Mountai**	**4.29**	**83**	P		**Pn**	**18 42 28.0**	**+0.5**
PAX	**Paxson**	**4.68**	**50**	P		**Pn**	**18 42 33.0**	**+0.4**
CHGN	**Chignik**	**4.72**	**217**	*e*P		**Pn**	**18 42 32.9**	**-0.2**
GCSA	**Galena City Sc**	**4.90**	**342**	P		**Pn**	**18 42 36.2**	**+0.6**
MENT	**Mentasta**	**5.36**	**54**	*e*P		**Pn**	**18 42 41.6**	**0.0**
COLA	**College**	**5.36**	**26**	P		**Pn**	**18 42 41.2**	**-0.4**
DOT	**Dot Lake**	**5.59**	**47**	P		**Pn**	**18 42 44.7**	**0.0**
IMA2	**Indian Mountai**	**5.94**	**358**	*e*P		**Pn**	**18 42 49.7**	**+0.4**
PNL	**Peninsula**	**7.00**	**88**	P		**Pn**	**18 43 04.3**	**+0.9**
COLD	**Coldfoot**	**7.23**	**10**	P		**Pn**	**18 43 05.9**	**-0.6**
EGAK	**Eagle**	**7.28**	**45**	P		**Pn**	**18 43 07.0**	**-0.2**
DAWY	**Dawson**	**7.60**	**53**	P		**Pn**	**18 43 10.4**	**-0.9**
FALS	**False Pass**	**7.61**	**230**	P		**Pn**	**18 43 11.8**	**+0.3**
SKAG	**Skagway**	**9.07**	**87**	P		**Pn**	**18 43 31.3**	**+0.3**
INK	**Inuvik**	**11.80**	**38**	P		**Pn**	**18 44 06.2**	**-0.8**
	1.6nm,0.3s,baz=245,slow=16,SNR=19							
INK	**Inuvik**	**11.80**	**38**	*e*Pn		**Pn**	**18 44 06.3**	**-0.6**
DLBC	**Dease Lake**	**11.99**	**88**	*e*Pn		**Pn**	**18 44 10.7**	**+1.3**
YKA	**Yellowknife Ar**	**18.52**	**66**	P		**P**	**18 45 29.4**	**+1.4**
	0.6nm,0.3s,baz=280,slow=12,SNR=52							
YKA				PcP		PcP	18 49 50.8	-0.1
	0.0nm,0.3s,baz=287,slow=1.6,SNR=4.1							
YKA				ScP		ScP	18 53 10.8	-1.3
	0.1nm,0.3s,baz=284,slow=2.2,SNR=5.7							
ARCES	**ARCESS Array B**	**50.60**	**1**	P		**P**	**18 50 06.7**	**+0.2**
	2.8nm,0.8s,mb3.9,baz=20,slow=5.8,SNR=3.5							
SONM	**Songino Array**	**54.59**	**306**	P		**P**	**18 50 37.2**	**+1.4**
	2.7nm,0.7s,mb4.1,baz=45,slow=6.2,SNR=18							
ZAL	**Zalesovo**	**57.18**	**323**	P		**P**	**18 50 54.6**	**+0.3**
	3.5nm,0.5s,mb4.5,baz=74,slow=5.8,SNR=10							
FINES	**FINESS Array B**	**58.73**	**0**	P		**P**	**18 51 04.6**	**-0.4**
	1.6nm,0.9s,mb3.9,baz=352,slow=6.2,SNR=2.7							
FINES	**FINESS Array B**	**58.73**	**0**	P		**P**	**18 51 04.6**	**-0.4**
BVAR	**Borovoye Array**	**61.87**	**332**	P		**P**	**18 51 26.3**	**-0.1**
	5.3nm,0.6s,mb4.5,baz=31,slow=6.1,SNR=30							
MKAR	**Makanchi Array**	**64.22**	**321**	P		**P**	**18 51 41.5**	**-0.5**
	1.1nm,0.6s,mb3.9,baz=35,slow=6.8,SNR=18							
AKASG	**Malin Array Be**	**69.48**	**358**	P		**P**	**18 52 13.5**	**-1.7**
	0.1nm,0.3s,mb3.0,baz=2.0,slow=5.9,SNR=4.1							
BOSA	**Boshof**	**148.45**	**2**	PKPbc		PKPbc	19 00 50.7	-1.2
	1.0nm,0.6s,baz=35,slow=2.6,SNR=3.4							

IDC 09 18:59:04.2±4.3,**4681N**×**15475E**,**h0**km,**mb3.6**/3, **mb1 3.9**/3,**mb1mx3.4**/20,**mbtmp3.6**/3,**Error ellipse: s-maj=146.0km s-min=40.1km az=8.0,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.91**	**298**	P		P	19 07 43.9	-0.3
	0.9nm,1.0s,baz=62,slow=8.4,SNR=6.5							
FINES	**FINESS Array B**	**64.46**	**335**	P		P	19 09 42.0	-0.5
	3.5nm,1.0s,baz=37,slow=8.4,SNR=9.5							
TXAR	**Lajitas Array**	**76.48**	**62**	P		P	19 10 56.1	+0.2
	0.2nm,0.6s,baz=306,slow=4.3,SNR=3.9							

IDC 09 19:05:37.9±1.2,**2191N**×**14329E**,**h0**km,**mb3.6**/5, **mb1 3.8**/5,**mb1mx3.6**/21,**mbtmp3.6**/5,**Error ellipse: s-maj=57.1km s-min=23.8km az=90.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.24**	**320**	P		P	19 13 07.4	-0.6
	0.4nm,0.5s,baz=133,slow=7.5,SNR=5.3							
WRA	**Warramunga Arr**	**42.50**	**193**	P		P	19 13 35.9	+1.1
	0.6nm,0.8s,baz=18,slow=9.3,SNR=5.3							
ASAR	**Alice Springs**	**46.21**	**192**	P		P	19 14 04.5	0.0
	0.3nm,0.8s,baz=16,slow=9.7,SNR=6.4							
STKA	**Stephens Creek**	**53.50**	**182**	P		P	19 14 59.1	-0.9
	1.7nm,0.9s,baz=346,slow=8.3,SNR=2.7							
YKA	**Yellowknife Ar**	**76.22**	**28**	P		P	19 17 28.4	+0.4
	0.3nm,0.5s,baz=293,slow=6.0,SNR=5.6							

IDC ***09*** *19:05:37.4±1.0,4721N×15289E,h0km,mb3.9/8, mb1 4.2/8,mb1mx3.9/21,mbtmp3.9/8,MS2.9/2,Ms1 2.9/2, ms1mx1.9/36,Error ellipse: s-maj=29.7km s-min=27.2km az=127.0*
NEIC ***09*** *19:05:40.1±0.9,4726N×15309E,h10km,mb4.3/5,Error ellipse: s-maj=26.7km s-min=12.1km az=143.0*
ISCJB ***09*** *19:05:44.2±1.2,4716N±010×1533E±01,h63km±11km, mb4.0/12,Error ellipse: s-maj=18.9km s-min=7.5km az=112.9*
MOS ***09*** *19:05:44.4±1.7,4715N×15325E,h68km,mb4.1/11,Error ellipse: s-maj=16.7km s-min=10.7km az=61.5*
ISC 09 19:05:47.9±1.1,**4734N**±009×**1532E**±01,**h77**km±9km,**n40,** σ1§**34**/42,**mb3.9**/12,**1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.86**	**29**	*e*PN		**Pn**	**19 06 45.0**	**+0.1**
SKR				*e*S		**Sn**	**19 07 25.4**	**-3.7**
SKR				pmax	pmax			
	comp=Z,50nm,0.4s							
SKR				smax				
	comp=N,130nm,0.4s							
SKR				smax				
	comp=E,130nm,0.4s							
KUR	**Kuril'sk**	**4.25**	**242**	*e*PN		**Pn**	**19 06 45.5**	**-4.7**
KUR				*e*S		**Sn**	**19 07 36.0**	**-2.6**
KUR				pmax	pmax			
	comp=Z,150nm,0.6s							
KUR				smax				
	comp=N,220nm,0.8s							
KUR				smax				
	comp=E,400nm,0.8s							
PET	**Petropavlovsk**	**6.68**	**30**	*e*PN		**Pn**	**19 07 22.0**	**-1.4**
YSS	**Yuzh-Sakhalins**	**7.13**	**271**⇑	*i*PN		**Pn**	**19 07 31.0**	**+1.5**
YSS				*e*S		**Sn**	**19 08 50.0**	**+1.0**
YSS				pmax	pmax			
	comp=Z,20nm,0.4s							
YSS				smax				
	comp=E,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.13**	**271**	*e*Pn		**Pn**	**19 07 30.2**	**+0.7**
	comp=E,28nm,0.8s							
ASAJ	**Asahikawa**	**8.08**	**250**	Pn		**Pn**	**19 07 43.0**	**+0.4**
	comp=E,1.2nm,0.3s,baz=72,slow=11,SNR=10							
ASAJ				LR		LR	19 10 31.8	
	comp=E,74nm,18.4s,baz=172,slow=38							
ASAJ	**Asahikawa**	**8.08**	**250**	PN		**Pn**	**19 07 43.0**	**+0.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,75nm,18.5s							
MJAR	**Matsushiro Arr**	**15.48**	**231**	Pn		**Pn**	**19 09 17.9**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=4.1							
MJAR	**Matsushiro Arr**	**15.48**	**231**	Pn		**Pn**	**19 09 17.9**	**-3.8**
MAJO	**Matsushiro**	**15.49**	**231**	*e*P		**Pn**	**19 09 24.1**	**+2.4**
MAJO		

comp=Z,1.0nm,0.7s
WRA Warramunga Arr 69.08 199 P **P 19 16 43.9 -1.7**
comp=Z,0.5nm,0.7s,mb3.5,baz=16,slow=6.8,SNR=8.1
WRA Warramunga Arr 69.08 199 P **P 19 16 43.9 -1.7**
WRA pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 77.16 61 P **P 19 17 34.2 +1.1**
comp=Z,0.7nm,0.5s,mb3.7,baz=308,slow=4.4,SNR=8.1
TXAR Lajitas Array 77.16 61 P **P 19 17 34.2 +1.1**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 77.95 334 P **P 19 17 37.0 -0.6**
comp=Z,0.6nm,0.6s,mb3.5,baz=32,slow=5.3,SNR=7.1
GERES GERESS Array B 77.95 334 P **P 19 17 37.0 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.00 317 P **P 19 17 38.3 +0.5**
comp=Z,0.8nm,0.9s,mb3.4,baz=64,slow=2.9,SNR=3.9
BRTR Keskin Array B 78.00 317 P **P 19 17 38.3 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.9s

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*MDD **09** 19:05:60.0±1.1, 36.34N×748W, h0km, mbLg2.2/10, Error ellipse: s-maj=10.2km s-min=5.0km az=36.0, PRXIMO*
*CSEM **09** 19:06:01.6±0.5, 36.49N×721W, h2km, ML3.3/3, Error ellipse: s-maj=9.6km s-min=4.0km az=31.0*
INMG 09 19:06:01.5±0.8, 3633N×752W, h10km±3km, ML2.2, 1C-1D, Error ellipse: s-maj=3.0km s-min=2.0km az=35.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**1.06**	**11**	P	Pg	19 06 20.4	-1.5
	SNR=7.9						
ERIP				S	Sg	19 06 34.7	-0.9
	39nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**1.06**	**11**	P	Pg	19 06 20.4	-1.5
	3.2nm,0.1s,SNR=7.9						
ERIP				S	Sg	19 06 34.7	-1.0
	39nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.20**	**1**	P	Pb	19 06 22.5	-1.8
	SNR=11						
EGRO				S	Sb	19 06 38.7	-1.2
	6.3nm,0.2s						
EGRO	**El Granado**	**1.20**	**1**	P	Pb	19 06 22.5	-1.8
	SNR=11						
EGRO				S	Sb	19 06 38.7	-1.2
	6.3nm,0.2s						
ESPR	**Espera**	**1.44**	**68**	P	Pn	19 06 25.6	-2.0
	4.5nm,0.1s,SNR=19						
ESPR				S	Sn	19 06 44.3	-2.2
	6.6nm,0.2s,SNR=6.0						
ESPR	**Espera**	**1.44**	**68**	P	Pn	19 06 25.6	-2.0
	4.5nm,0.1s,SNR=19						
ESPR				S	Sn	19 06 44.3	-2.2
	6.6nm,0.2s,SNR=6.0						
PTEO	**Sao Teotonio**	**1.55**	**322**	*e*P	Pn	19 06 26.5	-2.6
PTEO				*e*S	Sn	19 06 46.7	-2.6
EMIN	**Mina Concepcio**	**1.58**	**25**	P	Pn	19 06 28.2	-1.4
	0.1nm,0.2s,SNR=10						
EMIN				S	Sn	19 06 47.4	-2.7
	3.4nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**1.58**	**25**	P	Pn	19 06 28.2	-1.4
	0.1nm,0.2s,SNR=10						
EMIN				S	Sn	19 06 47.4	-2.7
	3.4nm,0.1s,SNR=11						
EJIF	**Jimena Fronter**	**1.66**	**85**	P	Pn	19 06 29.0	-1.6
	1.4nm,0.2s,SNR=7.9						
EJIF				S	Sn	19 06 47.6	-4.2
	0.8nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.71**	**351**	*e*Pn	Pn	19 06 29.5	-1.9
PBEJ				*e*Sn	Sn	19 06 50.4	-2.9
PBEJ				A		19 06 53.1	
	5.5nm,0.1s						
PBEJ	**Beja**	**1.71**	**351**	*e*Pn	Pn	19 06 29.5	-1.9
PBEJ				*e*Sn	Sn	19 06 50.4	-2.9
	5.5nm,0.1s						
EMIJ	**Mijas**	**2.22**	**83**	P	Pn	19 06 36.4	-2.0
	0.5nm,0.2s,SNR=7.9						
EMIJ				S	Sn	19 07 02.7	-3.2
	1.1nm,0.2s,SNR=7.9						
MOE	**Montemor**	**2.29**	**343**	*e*Sn	Sn	19 07 04.7	-2.7
EBAD	**Badajoz**	**2.45**	**9**	P	Pn	19 06 40.4	-1.1
	1.3nm,0.1s,SNR=8.5						
EBAD				S	Sn	19 07 08.0	-3.5
	2.8nm,0.1s,SNR=4.6						
EBAD	**Badajoz**	**2.45**	**9**	P	Pn	19 06 40.4	-1.1
	1.3nm,0.1s,SNR=8.5						
EBAD				S	Sn	19 07 08.0	-3.5
	2.8nm,0.1s,SNR=4.6						
PESTR	**Estremoz**	**2.53**	**359**	*e*Sn	Sn	19 07 10.7	-2.8
ELOJ	**Sierra Loja**	**2.82**	**72**	P	Pn	19 06 44.7	-1.9
	0.3nm,0.1s,SNR=7.9						
ELOJ				S	Sn	19 07 17.8	-2.9
	0.8nm,0.2s,SNR=7.9						
PLOU	**Loures**	**2.86**	**333**	*e*Sn	Sn	19 07 18.2	-3.4
ELUQ	**Luque**	**2.88**	**64**	P	Pn	19 06 46.2	-1.2
	0.6nm,0.1s,SNR=7.9						
ELUQ				S	Sn	19 07 18.7	-3.3
	1.2nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.97**	**332**	*e*Pn	Pn	19 06 46.7	-2.0
PMAFR				*e*Sn	Sn	19 07 20.9	-3.4
PMAFR				A		19 07 22.0	
	13nm,0.2s						
PMAFR	**Mafra**	**2.97**	**332**	*e*Pn	Pn	19 06 46.7	-2.0
PMAFR				*e*Sn	Sn	19 07 20.9	-3.4
	13nm,0.2s						
EADA	**Adamuz**	**2.98**	**51**	P	Pn	19 06 47.2	-1.5
	0.4nm,0.2s,SNR=12						
EADA				S	Sn	19 07 21.0	-3.5
	1.4nm,0.1s						
EADA	**Adamuz**	**2.98**	**51**	P	Pn	19 06 47.2	-1.5
	0.4nm,0.2s,SNR=12						
EADA				S	Sn	19 07 21.0	-3.4
	1.4nm,0.1s						
EQUE	**Quentar**	**3.39**	**74**	P	Pn	19 06 52.9	-1.4
	0.6nm,0.1s,SNR=6.6						
EQUE				S	Sn	19 07 31.3	-3.2
	0.8nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.49**	**57**	⇑P	Pn	19 06 53.8	-2.0
	6.5nm,0.1s,SNR=18						
EBAN				S	Sn	19 07 31.3	-6.0
	3.3nm,0.1s						
PCBR	**Castelo Branco**	**3.50**	**0**	*e*Pn	Pn	19 06 54.2	-1.8
PCBR				*e*Sn	Sn	19 07 33.6	-3.9
PCBR				A		19 07 35.2	
	5.6nm,0.2s						
PCBR	**Castelo Branco**	**3.50**	**0**	*e*Pn	Pn	19 06 54.2	-1.8
PCBR				*e*Sn	Sn	19 07 33.6	-3.9
	5.6nm,0.2s						
EQES	**Quesada**	**3.85**	**66**	P	Pn	19 06 59.4	-1.3
	0.5nm,0.1s,SNR=9.4						
EQES				S	Sn	19 07 42.8	-3.1
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.85**	**66**	P	Pn	19 06 59.4	-1.3
	0.5nm,0.1s,SNR=9.4						
EQES				S	Sn	19 07 42.8	-3.1
	0.5nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**4.21**	**68**	P	Pn	19 07 03.7	-1.9
	1.4nm,0.2s,SNR=7.9						
EHUE				S	Sn	19 07 49.3	-5.5
	0.3nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.36**	**39**	P	Pn	19 07 06.4	-1.4
	2.7nm,0.1s,baz=223,slow=13,SNR=7.0						
ESDC				S	Sn	19 07 53.5	-5.1
	baz=222,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**4.36**	**39**	P	Pn	19 07 06.4	-1.3
	2.7nm,0.1s,SNR=7.0						
ESDC				S	Sn	19 07 53.5	-5.1
	SNR=7.9						
PVIS	**Viseu**	**4.39**	**356**	*e*Sn	Sn	19 07 54.8	-4.5
EVIA	**Vianos**	**4.60**	**58**	P	Pn	19 07 08.7	-2.4
	1.9nm,0.1s,SNR=7.9						
EVIA				S	Sn	19 07 59.3	-5.3
	0.8nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.94**	**358**	*e*Sn	Sn	19 08 08.1	-4.8
GUD	**Guadarrama**	**5.05**	**30**	P	Pn	19 07 15.8	-1.4
	0.2nm,0.2s,SNR=7.9						
GUD				S	Sn	19 08 10.0	-5.5
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.28**	**62**	P	Pn	19 07 17.8	-2.6
	1.1nm,0.1s,SNR=16						
ETOB				S	Sn	19 08 15.2	-6.0
	1.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.28**	**62**	P	Pn	19 07 17.8	-2.6
	1.1nm,0.1s,SNR=16						
ETOB				S	Sn	19 08 15.2	-6.0
	1.3nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.50**	**6**	*e*Sn	Sn	19 08 21.3	-5.4
ELOB	**Lobios**	**5.54**	**356**	S	Sn	19 08 22.6	-5.2
	0.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.54**	**356**	S	Sn	19 08 22.6	-5.2
	0.9nm,0.1s,SNR=7.9						
ETOR	**Torete**	**6.19**	**42**	⇓P	Pn	19 07 31.9	-1.0
	6.6nm,0.1s,SNR=18						
ETOR				S	Sn	19 08 37.2	-6.6
	SNR=7.9						
ETOR	**Torete**	**6.19**	**42**	P	Pn	19 07 31.9	-1.1
	6.6nm,0.1s,SNR=18						
ETOR				S	Sn	19 08 37.2	-6.6
	2.2nm,0.2s,SNR=7.9						

WEL 09 19:07:28.2±0.2, 3671S×17713E, h33km, ML3.6/4, Error ellipse: s-maj=2.1km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.82**	**177**	P*	Pb	19 07 42.8	-1.1
MYRZ	**Mayor Island**	**0.91**	**231**	P*	Pb	19 07 44.0	-1.5
MYRZ				S*	Sb	19 07 55.8	-1.5
KUZ	**Kuaotunu**	**1.13**	**268**	PN	Pn	19 07 47.3	-0.4
KUZ				SN	Sn	19 08 00.9	-1.1
MXZ	**Matakaoa Point**	**1.27**	**132**	P*	Pb	19 07 49.2	-2.4
MXZ				*e*S*	Sb	19 08 04.1	-3.4
URZ	**Urewera**	**1.54**	**180**	*e*P*	Pb	19 07 53.0	-3.2
PUZ	**Puketiti**	**1.63**	**147**	*e*PN	Pn	19 07 56.4	+1.8

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*ISCJB **09** 19:08:15.5±0.5, 4373N±004×10509W±007, h0km, mb4.0/3, Error ellipse: s-maj=7.1km s-min=5.4km az=42.6*
*IDC **09** 19:08:16.4±2.5, 4354N×10533W, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, ML3.4/3, MS3.1/1, Ms1 3.0/1, ms1mx2.1/33, Error ellipse: s-maj=67.1km s-min=8.3km az=153.0*
*NEIC **09** 19:08:17.9±0.3, 4374N×105.18W, h0km, ML3.2, Error ellipse: s-maj=5.3km s-min=3.8km az=127.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 09 19:08:17.7±0.5, 4375N±004×10516W±006, h0km, n45, σ0§94/47, mb4.0/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**65**	*e*Pg	**Pg**	**19 08 37.2**	**+2.4**
PHWY	**Pilot Hill**	**2.45**	**185**	*e*Pn	**Pn**	**19 08 58.6**	**-0.4**
RWWY	**Rawlins**	**2.55**	**217**	*e*Pn	**Pn**	**19 09 00.7**	**+0.4**
LAO	**LASA Array**	**3.04**	**346**	*e*Pn	**Pn**	**19 09 07.6**	**+0.6**
RLMT	**Red Lodge**	**3.25**	**297**	*e*Pn	**Pn**	**19 09 09.4**	**-0.5**
PDAR	**Pinedale Array**	**3.36**	**255**	Pn	**Pn**	**19 09 11.3**	**-0.1**
	3.6nm,0.3s,baz=73,slow=15,SNR=32						
PDAR				Pg	**Pb**	**19 09 17.0**	**-1.1**
	8.9nm,0.3s,baz=73,slow=20,SNR=35						
PDAR				Lg		19 09 56.3	
	12nm,0.3s,baz=68,slow=33,SNR=7.7						
GCMT	**Greycliff**	**3.81**	**304**	*e*Pn	**Pn**	**19 09 18.0**	**+0.5**
LKWY	**Lake**	**3.86**	**284**	*e*Pn	**Pn**	**19 09 18.8**	**+0.5**
LOHW	**Long Hollow**	**3.95**	**270**	*e*Pn	**Pn**	**19 09 19.7**	**+0.2**
ISCO	**Idaho Springs**	**3.96**	**185**	*e*Pn	**Pn**	**19 09 20.5**	**+0.9**
MOOW	**Moose Ponds**	**4.05**	**272**	*e*Pn	**Pn**	**19 09 20.9**	**0.0**
SNOW	**Snow King Moun**	**4.07**	**268**	*e*Pn	**Pn**	**19 09 22.2**	**+1.0**
YNR	**Norris Junctio**	**4.08**	**286**	Pn	**Pn**	**19 09 25.3**	**+3.9**
YFT	**Old Faithful**	**4.15**	**282**	P	**Pn**	**19 09 23.5**	**+1.2**
REDW	**Red Top Meadow**	**4.16**	**267**	*e*Pn	**Pn**	**19 09 22.2**	**-0.2**
IMW	**Indian Meadow**	**4.18**	**274**	*e*Pn	**Pn**	**19 09 23.8**	**+1.1**
TPAW	**Teton Pass**	**4.21**	**269**	*e*Pn	**Pn**	**19 09 23.6**	**+0.4**
YMR	**Madison River**	**4.28**	**284**	*e*Pn	**Pn**	**19 09 25.3**	**+1.3**
AHID	**Auburn Hatcher**	**4.45**	**259**	Pn	**Pn**	**19 09 32.1**	**+5.7**
BOZ	**Bozeman (W)**	**4.99**	**295**	*e*Pn	**Pn**	**19 09 32.5**	**-1.3**
HWUT	**Hardware Ranch**	**5.18**	**248**	*e*Pn	**Pn**	**19 09 35.9**	**-0.6**
	12nm,0.4s						
EGMT	**Eagleton**	**5.35**	**325**	*e*Pn	**Pn**	**19 09 39.2**	**+0.5**
	25nm,0.6s						
DLMT	**Dillon**	**5.55**	**290**	*e*Pn	**Pn**	**19 09 40.8**	**-0.8**
HRY	**Holter Researc**	**5.57**	**305**	*e*Pn	**Pn**	**19 09 41.3**	**-0.5**
MCMT	**McKenzie Canyo**	**5.62**	**284**	*e*Pn	**Pn**	**19 09 44.5**	**+1.9**
DAU	**Daniels Canyon**	**5.63**	**236**	*e*Pn	**Pn**	**19 09 42.4**	**-0.2**
SPUT	**South Promonto**	**5.91**	**248**	*e*Pn	**Pn**	**19 09 41.3**	**-5.2**
HVU	**Hansel Valley**	**5.94**	**253**	*e*Pn	**Pn**	**19 09 45.5**	**-1.3**
	7.3nm,0.5s						
MPU	**Maple Canyon**	**6.10**	**235**	Pn	**Pn**	**19 09 45.8**	**-3.3**
	7.1nm,0.5s						
PV10	**Paradox Valley**	**6.11**	**210**	*e*Pn	**Pn**	**19 09 50.4**	**+1.2**
SRU	**San Rafael**	**6.14**	**223**	*e*Pn	**Pn**	**19 09 49.7**	**+0.1**
	16nm,0.5s						
PV01	**Paradox Valley**	**6.17**	**206**	*e*Pn	**Pn**	**19 09 50.6**	**+0.5**
TMUT	**Trail Mountain**	**6.35**	**228**	*e*Pn	**Pn**	**19 09 51.1**	**-1.5**
DUG	**Dugway**	**6.71**	**241**	*e*Pn	**Pn**	**19 09 56.8**	**-0.7**
	5.2nm,0.5s						
HLID	**Hailey**	**6.72**	**272**	*e*Pn	**Pn**	**19 09 58.1**	**+0.6**
	1.5nm,0.5s						
MSU	**Marysvale**	**7.44**	**228**	*e*Pn	**Pn**	**19 10 07.5**	**0.0**
AGMN	**Agassiz Refuge**	**7.91**	**52**	*e*Pn	**Pn**	**19 10 13.1**	**-0.9**
	14nm,0.5s						
ARUT	**Antelope Range**	**8.65**	**229**	*e*Pn	**Pn**	**19 10 24.3**	**+0.2**
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 10 29.7**	**-0.4**
	1.6nm,0.3s,baz=231,slow=11,SNR=12						
ULM				LR	LR	19 14 15.6	
	comp=Z,100nm,19.2s,baz=36,slow=39						
ULM	**Lac du Bonnet**	**9.08**	**41**	*e*Pn	**Pn**	**19 10 29.4**	**-0.6**
ULM				Pn	**Pn**	**19 10 29.7**	**-0.4**
ULM				LR	LR	19 14 15.6	
WUAZ	**Wupatki**	**9.51**	**212**	*e*Pn	**Pn**	**19 10 35.5**	**-0.4**
	6.4nm,0.4s						
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**19 12 46.7**	**-1.7**
	0.1nm,0.3s,baz=163,slow=12,SNR=9.5						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**19 18 33.8**	**-1.7**
	4.9nm,0.8s,mb4.7,baz=316,slow=5.1,SNR=7.4						
SONM	**Songino Array**	**84.66**	**339**	P	**P**	**19 20 53.5**	**+0.2**
	0.3nm,0.5s,mb3.8,baz=23,slow=4.2,SNR=2.9						
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**19 21 17.3**	**0.0**
	0.2nm,0.7s,mb3.5,baz=343,slow=4.1,SNR=2.8						

IDC 09 19:13:52.2±9.4, 2176N×14293E, h146km±87km, mb3.5/9, mb1 3.7/9, mb1mx3.5/21, mbtmp3.5/9, Error ellipse: s-maj=36.8km s-min=14.5km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.33**	**324**	P	P	19 18 17.2	+0.4
	2.8nm,0.7s,baz=144,slow=8.7,SNR=10						
SONM	**Songino Array**	**39.14**	**321**	P	P	19 21 05.4	-0.1
	1.3nm,0.5s,baz=129,slow=7.5,SNR=20						
WRA	**Warramunga Arr**	**42.29**	**192**	P	P	19 21 30.9	-0.4
	1.0nm,0.7s,baz=17,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**46.00**	**192**	P	P	19 22 01.4	+0.7
	0.6nm,0.6s,baz=15,slow=10,SNR=16						
ZAL	**Zalesovo**	**54.03**	**322**	P	P	19 23 00.6	-0.7
	0.8nm,0.6s,baz=339,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**54.48**	**313**	P	P	19 23 05.5	+0.9
	0.7nm,0.6s,baz=94,slow=8.8,SNR=9.4						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	P	19 25 25.7	-0.4
	0.8nm,0.4s,baz=293,slow=5.9,SNR=18						
FINES	**FINESS Array B**	**83.03**	**334**	P	P	19 26 00.1	-1.0
	2.4nm,1.0s,baz=98,slow=3.9,SNR=5.9						
NVAR	**Mina Array Bea**	**83.29**	**51**	P	P	19 26 03.9	+1.4
	0.3nm,0.3s,baz=284,slow=8.8,SNR=4.9						

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*ISCJB **09** 19:23:13.2±3.9, 50S±02×1454E±0.1, h66km±25km, mb4.4/6, Error ellipse: s-maj=41.9km s-min=19.6km az=38.2*
*NEIC **09** 19:23:13.6±3.3, 482S×1445E, h66km±24km, mb4.6/6, Error ellipse: s-maj=31.4km s-min=17.6km az=202.0*
*IDC **09** 19:23:24.9±18.0, 523S×1451.2E, h154km±130km, mb3.7/3, mb1 3.9/5, mb1mx3.6/14, mbtmp3.7/5, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=129.1km s-min=66.1km az=17.0*
ISC 09 19:23:15.2±3.6, 50S±02×1454E±01, h69km±23km, n22, σ0§73/20, mb4.4/6, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**159**	*e*Pn	**Pn**	**19 24 23.1**	**-0.1**
PMG				*e*Sn	**Sn**	**19 25 06.6**	**-10**
KAKA	**Kakadu**	**14.93**	**238**	⇓*i*P	**Pn**	**19 26 43.2**	**+0.9**
	29nm,0.6s						
CTA	**Charters Tower**	**14.99**	**177**	*e*P	**Pn**	**19 26 47.2**	**+4.1**
	16nm,1.8s						
CTA	**Charters Tower**	**14.99**	**177**	P	**Pn**	**19 26 46.9**	**+3.8**
	0.4nm,0.3s,baz=348,slow=14,SNR=7.4						
CTAO	**Charters Tower**	**14.99**	**177**	*e*Pn	**Pn**	**19 26 46.8**	**+3.7**
WRAB	**Tennant Creek**	**18.33**	**215**	*e*P	**Pn**	**19 27 24.2**	**-0.4**
	8.5nm,0.7s						
WB2	**Warramunga Arr**	**18.34**	**215**	*e*P	**Pn**	**19 27 24.3**	**-0.4**
WB2	**Warramunga Arr**	**18.34**	**215**	*e*P	**Pn**	**19 27 24.3**	**-0.4**
WRA	**Warramunga Arr**	**18.34**	**215**	P	**Pn**	**19 27 24.0**	**-0.8**
	0.9nm,0.3s,baz=41,slow=12,SNR=71						
ASAR	**Alice Springs**	**21.61**	**210**	P	**P**	**19 27 59.5**	**0.0**
	3.6nm,0.5s,mb3.9,baz=41,slow=7.9,SNR=31						
FITZ	**Fitzroy Crossi**	**23.31**	**235**	*e*P	**P**	**19 28 18.0**	**+0.9**
	47nm,0.6s,mb5.0						
ARMA	**Armidale**	**25.92**	**168**	*e*P	**P**	**19 28 41.8**	**+1.0**
STKA	**Stephens Creek**	**26.95**	**187**	*e*P	**P**	**19 28 50.1**	**0.0**
	3.8nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**26.95**	**187**	P	**P**	**19 28 50.0**	**-0.1**
	4.5nm,0.7s,mb4.1,baz=0.5,slow=11,SNR=12						
STKA				LR	LR	19 39 35.2	
	comp=Z,93nm,19.2s,baz=23,slow=36						
STKA	**Stephens Creek**	**26.95**	**187**	*e*P	**P**	**19 28 49.8**	**-0.3**
KSM	**Kuching**	**35.68**	**280**	P	**P**	**19 30 06.3**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.24**	**220**	LR	LR	19 45 37.5	
	comp=Z,59nm,18.5s,baz=125,slow=35						
KSRS	**Korea Array**	**45.31**	**340**	LR	LR	19 49 47.6	
	comp=Z,11nm,22.0s,baz=165,slow=35						
CASY	**Casey**	**65.78**	**195**	*e*P	**P**	**19 33 45.3**	**-7.7**
	33nm,0.6s,mb5.3						
VNDA	**Vanda**	**72.97**	**176**	P	**P**	**19 34 36.1**	**-1.2**
	2.2nm,1.1s,mb3.9,baz=340,slow=6.3,SNR=4.5						
QSPA	**South Pole Qui**	**84.93**	**180**	*e*P	**P**	**19 35 43.2**	**+0.5**
	4.2nm,1.1s,mb4.3						
TORD	**Torodi Ar. Bea**	**143.34**	**285**	PKP	PKPdf	19 42 41.0	-0.5
	0.2nm,0.5s,baz=64,slow=3.5,SNR=4.9						

IDC 09 19:50:10.2±11.0, 2192N×14306E, h124km±108km, mb3.2/7, mb1 3.3/7, mb1mx3.2/22, mbtmp3.2/7, MS3.2/1, Ms1 3.2/1, ms1mx1.9/14, Error ellipse: s-maj=49.1km s-min=17.8km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.27**	**323**	P	P	19 54 36.7	+0.7
	1.2nm,0.8s,baz=152,slow=10,SNR=3.7						
HNR	**Honiara**	**35.28**	**150**	LR	LR	20 08 55.7	
	comp=Z,33nm,19.3s,baz=359,slow=32						
SONM	**Songino Array**	**39.10**	**320**	P	P	19 57 24.7	-0.6
	0.6nm,0.6s,baz=134,slow=7.6,SNR=6.2						
WRA	**Warramunga Arr**	**42.47**	**192**	P	P	19 57 53.5	+0.5
	0.3nm,0.7s,baz=18,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**46.18**	**192**	P	P	19 58 22.3	-0.1
	0.2nm,0.8s,baz=9.7,slow=6.6,SNR=3.6						
MKAR	**Makanchi Array**	**54.47**	**313**	P	P	19 59 24.8	0.0
	0.4nm,0.7s,baz=91,slow=6.9,SNR=5.4						
BVAR	**Borovoye Array**	**62.43**	**319**	P	P	20 00 20.4	+0.3
	1.3nm,0.6s,baz=93,slow=6.4,SNR=11						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	P	20 01 45.3	-0.2
	0.3nm,0.4s,baz=292,slow=5.9,SNR=6.4						

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*IDC **09** 19:54:13.9±1.2, 4609N×1540E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=34.1km s-min=27.1km az=164.0*
*ISCJB **09** 19:54:17.3±1.0, 460N±02×1540E±02, h35km, mb3.7/6, Error ellipse: s-maj=24.9km s-min=14.2km az=108.3*
*MOS **09** 19:54:20.8±0.6, 46.11N×1538.4E, h67km, mb4.0/2, Error ellipse: s-maj=32.3km s-min=22.4km az=72.2*
ISC 09 19:54:19.3±1.0, 461N±02×1541E±02, h35km, n11, σ1§14/11, mb3.7/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.80**	**16**	*e*PN	**Pn**	**19 55 32.5**	**+3.4**
ASAJ	**Asahikawa**	**8.37**	**261**	Pn	**Pn**	**19 56 19.1**	**+1.1**
	0.3nm,0.3s,baz=68,slow=19,SNR=3.4						
SONM	**Songino Array**	**32.20**	**291**	P	**P**	**20 00 42.0**	**-1.9**
	0.3nm,0.8s,mb3.1,baz=97,slow=5.8,SNR=3.3						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**20 02 54.2**	**+0.6**
	1.1nm,1.0s,mb3.9,baz=76,slow=7.1,SNR=3.4						
MKAR	**Makanchi Array**	**47.85**	**298**	P	**P**	**20 02 54.2**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**51.06**	**37**	P	**P**	**20 03 18.3**	**+0.3**
	comp=Z,0.2nm,0.6s,mb3.2,baz=290,slow=6.9,SNR=2.9						
FINES	**FINESS Array B**	**64.94**	**335**	P	**P**	**20 04 54.2**	**-1.0**
	comp=Z,8.9nm,1.3s,mb4.7,baz=7.6,slow=5.8,SNR=3.9						
FINES	**FINESS Array B**	**64.94**	**335**	P	**P**	**20 04 54.2**	**-1.1**
FINES				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WRA	**Warramunga Arr**	**68.11**	**200**	P	**P**	**20 05 15.8**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=17,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**68.11**	**200**	P	**P**	**20 05 15.8**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.23**	**61**	P	**P**	**20 06 09.3**

PVCC Panska Ves 1.40 226 *e*Pg **Pn 20 11 36.4 0.0**
PVCC *e*Sg **Sg 20 11 55.4 +0.7**
PVCC Panska Ves 1.40 226 *e*Pn **Pn 20 11 36.6 +0.2**
PVCC *e*Sg **Sg 20 11 55.4 +0.7**
BRG Berggiesshubel 1.53 246 *e*Pn **Pn 20 11 37.7 -0.5**
BRG *e*Sg **Sg 20 11 59.7 +0.9**
BRG Berggiesshubel 1.53 246 PG **Pg 20 11 39.2 +0.3**
BRG SG **Sg 20 11 59.5 +0.7**
comp=Z,275nm,0.4s
RUE Ruedersdorf 1.76 304 *e*Pn **Pn 20 11 41.3 -0.1**
RUE *e*Sg **Sg 20 12 07.8 +1.5**
PRA Prague 1.81 218 PG **Pn 20 11 41.0 -1.0**
PRA SG **Sg 20 12 08.0 +0.3**
PRU Pruhonice 1.83 215 *e*PN **Pn 20 11 42.1 -0.2**
PRU *e*PG **Pg 20 11 44.1 -0.7**
PRU *e*SG **Sg 20 12 07.4 -1.1**
comp=Z,449nm,0.7s
PRU Pruhonice 1.83 215 *e*P **Pn 20 11 42.1 -0.2**
PRU *e* 20 12 07.4
PRU smax
comp=N,449nm,0.7s
FBE Freiberg 1.86 253 *e*Pn **Pn 20 11 42.3 -0.4**
FBE *e*Sg **Sg 20 12 09.5 +0.2**
GKP Gorka Klasztor 1.89 20 *e*Pn **Pn 20 11 45.1 +2.0**
GKP *e*Pg **Pg 20 11 52.6 +6.8**
GKP *e*Sg **Sg 20 12 15.2 +5.0**
RAC Raciborz 1.92 137 *e*Pn **Pn 20 11 43.2 -0.4**
RAC *e*Pg **Pg 20 11 46.4 -0.1**
RAC *e*Sg **Sg 20 12 11.6 +0.2**
MORC Moravsky Berou 1.94 152 *e*Pn **Pn 20 11 43.8 -0.1**
MORC Moravsky Berou 1.94 152 ⇓P **Pn 20 11 43.6 -0.3**
MORC Moravsky Berou 1.94 152 ⇓*i*P **Pn 20 11 43.6 -0.2**
MORC Moravsky Berou 1.94 152 Pn **Pn 20 11 43.8 0.0**
MORC *e*Sg **Sg 20 12 10.5 -1.6**
comp=N,239nm,0.6s
CLL Collm 1.99 265 *i* Pn **Pn 20 11 44.2 -0.2**
CLL *i* Pg **Pg 20 11 47.2 -0.5**
CLL *i* Sg **Sg 20 12 14.2 +0.8**
CLL Collm 1.99 265 *i* Pn **Pn 20 11 44.2 -0.2**
CLL *i* Pg **Pg 20 11 47.2 -0.5**
CLL *i* x x 20 11 51.2
CLL *ex* x 20 11 57.0
CLL *i* Sg **Sg 20 12 14.2 +0.8**
comp=Z,167nm,0.6s
CLL Collm 1.99 265 *e*Pn **Pn 20 11 44.0 -0.4**
CLL Collm 1.99 265 *i* Pg **Pg 20 11 47.2 -0.5**
CLL *e*Sg **Sg 20 12 13.3 -0.1**
OKC Ostrava-Krasne 2.10 142 *e*Pn **Pn 20 11 45.3 -0.7**
OKC *e*Sg **Sg 20 12 15.9 -1.0**
OKC Ostrava-Krasne 2.10 142 *e*PN **Pn 20 11 45.4 -0.6**
OKC *e*PG **Pg 20 11 49.6 -0.2**
OKC *e*SG **Sg 20 12 15.2 -1.8**
VRAC Vranov 2.22 173 Pn **Pn 20 11 48.2 +0.6**
comp=Z,13nm,0.3s,baz=339,slow=14,SNR=54
VRAC Pg **Pg 20 11 51.5 -0.6**
comp=Z,20nm,0.3s,baz=335,slow=15,SNR=37
VRAC Lg 20 12 18.3
comp=Z,40nm,0.3s,baz=238,slow=18,SNR=11
VRAC Vranov 2.22 173 ⇑P **Pn 20 11 48.7 +1.1**
VRAC Vranov 2.22 173 ⇑*i*P **Pn 20 11 48.7 +1.1**
VRAC Vranov 2.22 173 *e*Pn **Pn 20 11 48.0 +0.4**
VRAC *e*Sg **Sg 20 12 18.7 -2.2**
comp=Z,112nm,0.4s
KRUC Moravsky 2.45 176 *e*Pn **Pn 20 11 51.4 +0.6**
KRUC Moravsky 2.45 176 *e*Pg **Pg 20 11 55.4 -1.2**
KRUC *e*Sg **Sg 20 12 27.8 -0.6**
comp=Z,114nm,0.6s
TANN Tannenbergstha 2.58 246 *e*Pn **Pn 20 11 53.1 +0.5**
TANN *e*Sg **Sg 20 12 33.4 +0.9**
OJC Ojcow 2.64 118 *e*Pn **Pn 20 11 52.0 -1.5**
OJC *e*Pg **Pg 20 12 00.4 +0.1**
OJC *e*Sn **Sn 20 12 24.3 -1.9**
OJC *e*Sg **Sg 20 12 35.7 +1.2**
OJC Ojcow 2.64 118 *e*P **Pn 20 11 52.0 -1.5**
OJC *e* 20 12 24.3
WERD Werda 2.66 248 *e*Pn **Pn 20 11 53.9 +0.3**
NKC Novy Kostel 2.67 243 *e*PN **Pn 20 11 54.4 +0.5**
NKC *e*PG **Pg 20 12 00.9 +0.1**
NKC *e*SG **Sg 20 12 36.0 +0.5**
comp=Z,222nm,0.3s
NKC Novy Kostel 2.67 243 *e*Pn **Pn 20 11 54.3 +0.4**
KHC Kasperske Hory 2.90 216 *e*PN **Pn 20 11 56.9 0.0**
KHC *e*PG **Pg 20 12 03.4 -1.7**
KHC *e*SN **Sn 20 12 32.0 -0.5**
KHC *e*SG **Sg 20 12 41.0 -1.7**
comp=Z,140nm,0.5s
MANZ Manzenberg 2.99 241 *e*Pn **Pn 20 11 58.9 +0.7**
MANZ *e*Sg **Sg 20 12 45.7 +0.1**
MOX Moxa 2.99 255 *e*Pn **Pn 20 11 58.3 +0.1**
MOX Moxa 2.99 255 *e*PN **Pn 20 11 58.3 0.0**
MOX *e*PG **Pg 20 12 07.0 +0.1**
MOX *e*SG **Sg 20 12 47.2 +1.5**
ROTZ Rotzenmuhle 3.06 237 *e*Pn **Pn 20 11 59.4 +0.2**
ROTZ *e*Sg **Sg 20 12 46.6 -1.3**
GEC2 GERESS Array S 3.10 212 *e*Pn **Pn 20 11 59.8 +0.1**
GEC2 *e*Sg **Sg 20 12 48.1 -1.0**
GERES GERESS Array B 3.10 212 Pn **Pn 20 11 59.9 +0.2**
comp=Z,5.4nm,0.3s,baz=30,slow=13,SNR=140
GERES Pg **Pg 20 12 06.8 -2.1**
comp=Z,20nm,0.3s,baz=34,slow=17,SNR=67
GERES Lg 20 12 44.4
comp=Z,12nm,0.3s,baz=27,slow=30,SNR=6.3
GERES GERESS Array B 3.10 212 Pg **Pg 20 12 06.8 -2.2**
LIKS Likavka 3.10 141 *e*PG **Pg 20 12 10.1 +1.0**
SMOL Smolenice 3.11 164 *e*PG **Pg 20 12 10.7 +1.6**
SMOL *e*SG **Sg 20 12 50.5 +1.1**
WET Wettzell 3.16 223 *e*Pn **Pn 20 12 00.8 +0.2**
ZST Bratislava 3.37 169 *e*PG **Pg 20 12 12.5 -1.7**
ZST *e*SG **Sg 20 12 57.4 -0.5**
NIE Niedzica 3.38 127 *e*Pn **Pn 20 12 04.4 +0.8**
NIE *e*Pg **Pg 20 12 14.2 -0.2**
NIE *e*Sg **Sg 20 12 59.0 +0.8**
VYHS Vyhne 3.48 149 *e*P **Pn 20 12 04.6 -0.3**
VYHS pmax pmax
comp=N,34nm,0.9s
VYHS Vyhne 3.48 149 *e*PN **Pn 20 12 04.6 -0.3**
VYHS *e*SG **Sg 20 12 59.6 -1.7**
CONA Conrad Observa 3.59 183 ⇓*i*Pn **Pn 20 12 07.0 +0.6**
SNR=13
CONA ⇓*i*Sg **Sg 20 13 03.8 -1.1**
comp=N,154nm,0.8s
CLZ Clausthal 3.62 278 *e*Pn **Pn 20 12 07.9 +1.0**
GRA1 Grafenberg Arr 3.63 242 *e*Pn **Pn 20 12 07.8 +0.7**
GRA1 *e*Sg **Sg 20 13 05.8 -0.5**
GRA1 Grafenberg Arr 3.63 242 Pn **Pn 20 12 07.8 +0.7**
GRA1 Sg **Sg 20 13 05.8 -0.5**
GRF Grafenberg Arr 3.63 242 *e*Pn **Pn 20 12 07.8 +0.7**
GRF *e*Sg **Sg 20 13 05.8 -0.5**
GRFO Grafenberg 3.63 242 *e*Pn **Pn 20 12 07.4 +0.3**
GRFO *e*S **Sg 20 13 06.8 +0.5**
GRFO Grafenberg 3.63 242 *e*Pn **Pn 20 12 07.4 +0.3**
BSD Bornholm Skovb 3.69 349 *i* P **Pn 20 12 07.8 -0.1**
BSD *i* S **Sn 20 12 48.9 -3.2**
SOP Sopron 3.84 176 ⇑*e*Pn **Pn 20 12 10.6 +0.7**
SOP *e*SB **Sg 20 13 10.1 -2.8**
MOA Molln 3.86 199 ⇓*i*Pn **Pn 20 12 10.6 +0.3**
SNR=10
MOA ⇓*i*Sg **Sg 20 13 12.6 -1.1**
comp=N,101nm,0.5s
MOA Molln 3.86 199 Pn **Pn 20 12 10.6 +0.4**
comp=N,10.0nm,5.0s
MOA Sg **Sg 20 13 12.6 -1.1**
comp=N,101nm,0.5s
STHS Stebnicka Huta 3.87 121 *e*P **Pn 20 12 11.1 +0.8**
STHS pmax pmax
comp=N,89nm,0.6s
STHS Stebnicka Huta 3.87 121 *e*PN **Pn 20 12 11.0 +0.7**
STHS *e*PG **Pg 20 12 23.4 -0.3**
STHS *e*SG **Sg 20 13 16.1 +2.3**
STHS Stebnicka Huta 3.87 121 *e*Pn **Pn 20 12 11.1 +0.8**
STHS *e*Pg **Pg 20 12 23.4 -0.3**
STHS *e*Sg **Sg 20 13 16.1 +2.3**
HROE Hohe Rhon--Fla 3.91 258 ⇓*i*Pn **Pn 20 12 11.3 +0.4**
KECS Kecovo 4.12 136 *e*P **Pn 20 12 13.3 -0.4**
KECS pmax pmax
comp=N,35nm,1.1s
KECS Kecovo 4.12 136 *e*PN **Pn 20 12 13.3 -0.4**
KECS *e*PG **Pg 20 12 28.8 +0.3**
KECS *e*SG **Sg 20 13 21.8 -0.1**
PENC Penc 4.24 150 ⇑*e*P **Pn 20 12 16.2 +0.8**
ARSA Arzberg 4.28 186 ⇑*i*Pn **Pn 20 12 16.5 +0.5**
SNR=23
ARSA ⇓*i*Sg **Sg 20 13 26.5 -0.6**
comp=N,89nm,0.7s
ARSA Arzberg 4.28 186 ⇑*i*Pn **Pn 20 12 16.5 +0.5**
ARSA *i* Sg **Sg 20 13 26.5 -0.6**
ARSA Arzberg 4.28 186 Pn **Pn 20 12 16.5 +0.5**
comp=N,22nm,9.0s
ARSA Sg **Sg 20 13 26.5 -0.6**
comp=N,89nm,0.7s
CRVS Cervenica-Dubn 4.29 125 *e*PN **Pn 20 12 17.3 +1.2**
CRVS *e*PG **Pg 20 12 31.9 +0.1**
CRVS Cervenica-Dubn 4.29 125 *e*Pn **Pn 20 12 17.3 +1.2**
CRVS *e*Pg **Pg 20 12 32.0 +0.2**
CRVS *e*Sg **Sg 20 13 28.5 +1.1**
CRVS Cervenica-Dubn 4.29 125 *e*Pg **Pg 20 12 32.0 +0.2**
CRVS *e*Sg **Sg 20 13 28.5 +1.1**
PSZ Piszkesteto 4.33 145 ⇑*i*P **Pn 20 12 17.4 +0.7**
PSZ Piszkesteto 4.33 145 ⇓*e*Pn **Pn 20 12 18.0 +1.3**
PSZ *e*SB **Sb 20 13 27.9 +8.5**
KWP Kalwaria 4.58 112 *e*Pn **Pn 20 12 20.1 0.0**
KWP *e*Pg **Pg 20 12 35.2 -2.1**
KWP *e*Sg **Sg 20 13 45.4 +8.7**
KOLS Kolonicke sedl 4.70 121 *e*PN **Pn 20 12 22.3 +0.6**
COP Copenhagen 4.74 334 *i* P **Pn 20 12 21.9 -0.4**
COP *i* S **Sn 20 13 16.4 -1.5**
KBA Koelnbreinsper 4.80 204 ⇑*i*Pn **Pn 20 12 24.2 +1.1**
KBA ⇓*i*Sg **Sg 20 13 43.8 +0.1**
comp=N,68nm,0.6s
KBA Koelnbreinsper 4.80 204 ⇑*i*Pn **Pn 20 12 24.2 +1.1**
KBA *i* Sg **Sg 20 13 43.8 +0.1**
PERS Pernice 4.92 188 *i* Pn **Pn 20 12 26.6 +1.8**
SUW Suwalki 4.95 57 *e*Pn **Pn 20 12 25.9 +0.7**
SUW *e*Pg **Pg 20 12 51.0 +6.6**
SUW *e*Sg **Sg 20 13 46.9 -1.7**
WATA Walderalm 5.13 217 ⇑*i*Pn **Pn 20 12 29.0 +1.3**
SNR=12
WATA ⇓*i*Sg **Sg 20 13 54.8 +0.3**
comp=N,55nm,0.7s
WATA Walderalm 5.13 217 Pn **Pn 20 12 29.0 +1.3**
comp=N,11nm,6.0s
WATA Sg **Sg 20 13 54.8 +0.3**
comp=N,55nm,0.7s
WTTA Wattenberg 5.17 217 ⇑*i*Pn **Pn 20 12 29.2 +0.9**
WTTA ⇑*i*Sg **Sg 20 13 54.2 -1.5**
comp=N,38nm,0.7s
LVV L'vov 5.29 106 *e*P **Pn 20 12 35.6 +5.8**
MOTA Moosalm 5.31 220 *i* Pn **Pn 20 12 30.8 +0.6**
SNR=20
MOTA ⇑*i*Sg **Sg 20 14 01.2 +1.0**
comp=N,43nm,0.6s
MOTA Moosalm 5.31 220 Pn **Pn 20 12 30.8 +0.6**
comp=N,20nm,4.0s
MOTA Sg **Sg 20 14 01.2 +1.0**
comp=N,43nm,0.6s
SQTA Sankt Quirin 5.37 219 ⇓*i*Pn **Pn 20 12 32.0 +1.0**
SNR=19
SQTA ⇑*i*Sg **Sg 20 14 02.7 +0.6**
comp=N,27nm,0.6s
FVI Forni Avoltri 5.39 206 P **Pn 20 12 32.6 +1.3**
FVI pmax pmax
comp=Z,17nm,0.5s
FVI Forni Avoltri 5.39 206 Pn **Pn 20 12 32.6 +1.3**
comp=Z,16nm,0.5s
PTCC Patocco-Chiusa 5.43 201 Pn **Pn 20 12 33.1 +1.3**
comp=Z,7.8nm,0.4s
PDKS Podkum 5.50 188 *i* Pn **Pn 20 12 34.2 +1.4**
PKSM Moragy 5.55 162 ⇑*i*P **Pn 20 12 34.6 +1.2**
PKSM Moragy 5.55 162 *e*Pn **Pn 20 12 34.8 +1.4**
VOY Vojsko 5.68 196 *e*Pn **Pn 20 12 35.7 +0.5**
VOY *e*Sn **Sg 20 14 12.5 +0.4**
CRES Cresnjev 5.70 185 *i* Pn **Pn 20 12 36.6 +1.0**
WTSB Winterswijk 5.83 278 *e*Sn **Sg 20 14 13.6 -3.4**
comp=Z,39nm,1.2s
DAVA Damuels 5.88 227 *i* Pn **Pn 20 12 38.1 +0.1**
SNR=12
DAVA ⇓*i*Sg **Sg 20 14 20.7 +2.1**
comp=Z,39nm,0.7s
DAVA Damuels 5.88 227 Pn **Pn 20 12 38.1 +0.1**
comp=Z,12nm,4.0s
DAVA Sg **Sg 20 14 20.7 +2.1**
comp=Z,39nm,0.7s
BOJS Bojanci 6.04 186 *i* Pn **Pn 20 12 41.2 +1.1**
CTI Castel Tesino 6.22 210 P **Pn 20 12 44.8 +2.2**
CTI pmax pmax
comp=Z,39nm,0.8s
CTI Castel Tesino 6.22 210 Pn **Pn 20 12 44.8 +2.2**
comp=Z,39nm,0.8s
BRMO Bormio 6.31 219 Pn **Pn 20 12 46.8 +2.9**
comp=Z,4.0nm,0.4s
DRGR 6.38 135 ⇓*i*P **Pn 20 12 45.4 +0.5**
MEM Membach 6.46 266 P **Pn 20 12 46.1 +0.1**
MEM Membach 6.46 266 P **Pn 20 12 46.0 0.0**
HGN Heimansgroeve 6.48 267 *e*Sn **Sg 20 14 34.8 -2.9**
comp=Z,46nm,0.9s
CDF Champ du Feu 6.51 245 *e*Pn **Pn 20 12 45.4 -1.3**
CDF *e*Sg **Sg 20 14 34.5 -4.3**
comp=Z,147nm,1.0s
CDF Champ du Feu 6.51 245 *e*Pn **Pn 20 12 45.4 -1.3**
CDF *e*Sg **Sg 20 14 34.5 -4.3**
comp=Z,74nm,1.0s
WLF Walferdange 6.63 258 *e*Pn **Sg 20 14 39.5 -3.2**
BZS Buzias 6.92 146 ⇑*i*P **Pn 20 13 00.3 +8.1**
BCLA Clavier 6.94 265 P **Pn 20 12 53.4 +0.8**
BCLA Clavier 6.94 265 P **Pn 20 12 53.3 +0.7**
BURAR Bucovina Array 7.06 120 ⇑*i*P **Pn 20 12 54.8 +0.6**
HINF Hinteralfeld 7.08 242 *e*Pn **Pn 20 12 53.9 -0.5**
HINF *e*Sg **Sg 20 14 49.5 -7.4**
comp=Z,86nm,0.9s
HINF Hinteralfeld 7.08 242 *e*Pn **Pn 20 12 53.9 -0.5**
HINF *e*Sg **Sg 20 14 49.5 -7.4**
comp=Z,43nm,0.9s
HAU Haudompre 7.25 245 *e*Pn **Pn 20 12 55.9 -0.9**
BAIF Baives 7.71 264 *e*Pn **Pn 20 13 05.5 +2.4**
BAIF *e*Sg **Sg 20 15 13.8 -3.5**
comp=Z,115nm,1.3s
MEZF Maizieres J'vi 7.76 252 *e*Pn **Pn 20 13 02.5 -1.3**
SFTF Sexfontaines 7.91 250 *e*Pn **Pn 20 13 04.9 -0.9**
CABF La Chapelle 8.23 237 *e*Pn **Pn 20 13 08.0 -2.2**
CABF *e*Sg **Sg 20 15 28.8 -5.0**
comp=Z,96nm,1.1s
CABF La Chapelle 8.23 237 *e*Pn **Pn 20 13 08.0 -2.2**
CABF *e*Sg **Sg 20 15 28.8 -5.0**
comp=Z,48nm,1.1s
KIEV Kiev 8.26 91 *e*P **Pn 20 13 09.5 -1.1**
KIEV pmax pmax
comp=Z,16nm,0.5s
KIEV Kiev 8.26 91 *e*Pn **Pn 20 13 09.5 -1.1**
comp=Z,16nm,0.5s
KIEV *e*Sn **Sn 20 14 33.6 -11**
AKASG Malin Array Be 8.27 90 Pn **Pn 20 13 09.6 -1.2**
comp=Z,5.7nm,0.3s,baz=281,slow=12,SNR=19
AKASG Sn **Sn 20 14 38.9 -5.9**
comp=Z,2.6nm,0.3s,baz=229,slow=11,SNR=4.5
AKASG Lg 20 15 40.2
baz=281,slow=26,SNR=4.3
AKASG Malin Array Be 8.27 90 P **Pn 20 13 09.6 -1.1**
AKASG 20 14 38.9
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG smax
comp=N,3.0nm,0.3s
AKASG Malin Array Be 8.27 90 Pn **Pn 20 13 09.6 -1.2**
AKASG Sn **Sn 20 14 38.9 -5.9**
AKASG Lg 20 15 40.2
AKBB Malin Array Si 8.27 90 *e*Pn **Pn 20 13 09.6 -1.1**
LPL La Plagne 8.66 230 *e*Pn **Pn 20 13 16.6 +0.5**
LPG La Plagne 8.66 230 *e*Pn **Pn 20 13 16.7 +0.5**
HFS Hagfors 8.76 352 Pn **Pn 20 13 16.1 -1.4**
comp=N,0.6nm,0.3s,baz=159,slow=15,SNR=18
HFS Sn **Sn 20 14 51.3 -5.5**
comp=N,0.7nm,0.3s,baz=172,slow=23,SNR=4.2
HFS Hagfors 8.76 352 P **Pn 20 13 16.1 -1.4**
HFS 20 14 51.3
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS smax
comp=N,1.0nm,0.3s
LOR Lormes 9.07 247 *e*Pn **Pn 20 13 20.4 -1.4**
baz=65
LOR *e*Sg **Sg 20 15 55.8 -5.0**
comp=N,71nm,1.3s
LOR Lormes 9.07 247 *e*Pn **Pn 20 13 20.4 -1.4**
LOR *e*Sg **Sg 20 15 55.8 -5.0**
comp=N,35nm,1.3s
MBDF Montbardon 9.24 226 *e*Pn **Pn 20 13 23.8 -0.2**
VSU Vasula 9.24 37 *e*P **Pn 20 13 25.0 +0.9**
SSF Saint Saulge 9.39 247 *e*Pn **Pn 20 13 25.8 -0.3**
SSF *e*Sg Sn 20 16 03.2 +51
comp=N,25nm,1.0s
SSF Saint Saulge 9.39 247 *e*Pn **Pn 20 13 25.8 -0.3**
SSF *e*Sg Sn 20 16 03.2 +51
comp=N,12nm,1.0s
SMF Signal de Mont 9.43 244 *e*Pn **Pn 20 13 25.1 -1.6**
SMF *e*Sg Sn 20 16 03.9 +50
comp=N,59nm,1.2s
SMF Signal de Mont 9.43 244 *e*Pn **Pn 20 13 25.1 -1.6**
SMF *e*Sg Sn 20 16 03.9 +50
comp=N,30nm,1.2s
ORIF Oris-en-Rattie 9.51 230 *e*Pn **Pn 20 13 27.8 +0.1**
AVF Avril sur Loir 9.62 246 *e*Pn **Pn 20 13 27.6 -1.7**
SBF Sospel 9.64 221 *e*Pn **Pn 20 13 30.3 +0.7**
NB2 NORSAR Subarra 9.94 346 P **Pn 20 13 32.1 -1.6**
comp=Z,1.2nm,0.6s,baz=162,slow=14
NOA NORSAR Array B 9.94 346 Pn **Pn 20 13 31.3 -2.4**
comp=Z,0.5nm,0.3s,baz=165,slow=11,SNR=4.9
NOA Sn **Sn 20 15 17.7 -8.3**
comp=Z,0.3nm,0.3s,baz=154,slow=20,SNR=2.5
NOA NORSAR Array B 9.94 346 P **Pn 20 13 31.3 -2.4**
NOA 20 15 17.7
NOA pmax pmax
comp=Z,1.0nm,0.3s
FRF La Foret Royal 10.22 223 *e*Pn **Pn 20 13 37.6 +0.1**
LMR La Mourre 10.46 222 *e*Pn **Pn 20 13 40.7 -0.1**
LASF Ste Croix 11.11 233 *e*Pn **Pn 20 13 49.4 -0.3**
FINES FINESS Array B 11.35 25 Pn **Pn 20 13 50.7 -2.4**
comp=Z,0.5nm,0.3s,baz=200,slow=12,SNR=19
FINES Sn **Sn 20 15 50.8 -10**
comp=Z,0.5nm,0.3s,baz=209,slow=20,SNR=4.0
MFF Saint Martin d 11.76 252 *e*Pn **Pn 20 13 57.6 -1.0**
KAF Kangasniemi 11.98 24 *e*p **Pn 20 13 57.7 -3.9**
comp=Z,3.1nm,0.5s
KAF Kangasniemi 11.98 24 *e*P **Pn 20 13 57.7 -3.9**
KAF pmax pmax
comp=Z,3.0nm,0.5s
OBN Obninsk 12.72 66 ⇓*e*P **Pn 20 14 10.6 -1.1**
OBN *e*S **Sn 20 16 31.6 -2.4**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,14.0s
JOF Joensuu 14.03 30 *e*p **Pn 20 14 25.1 -4.5**
comp=Z,2.2nm,0.4s
JOF Joensuu 14.03 30 *e*P **Pn 20 14 25.1 -4.5**
JOF pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 18.62 10 Pn **Pn 20 15 24.4 -4.4**
comp=Z,0.6nm,0.3s,baz=193,slow=13,SNR=17
ARCES ARCESS Array B 18.62 10 P **Pn 20 15 24.4 -4.4**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 22.78 109 P **P 20 16 12.1 -1.5**
comp=Z,0.6nm,0.3s,mb3.7,baz=293,slow=15,SNR=2.3
GNI Garni 22.78 109 ⇑*e*P **P 20 16 15.6 +2.0**
GNI pmax pmax
comp=Z,12nm,1.5s
GNI Garni 22.78 109 *e*P **P 20 16 15.6 +2.0**
comp=Z,12nm,1.5s,mb4.2
ARU Arti 25.11 62 ⇑*i*P **P 20 16 36.1 0.0**
ARU *e*PPP 20 17 14.8
ARU *e*S **S 20 21 02.0 +0.3**
ARU *e*SS 20 21 52.3
ARU pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
ARU Arti 25.11 62 *i* P **P 20 16 36.1 0.0**
comp=Z,6.0nm,1.1s,mb4.2
AKTK Aktyubinsk 26.13 76 P **P 20 16 45.7 +0.4**
comp=Z,2.0nm,0.6s,mb3.9
AKTO Aktyubinsk 26.13 76 P **P 20 16 45.7 +0.4**
comp=Z,1.9nm,0.6s,mb3.9,baz=293,slow=14,SNR=5.7
AKTO Aktyubinsk 26.13 76 P **P 20 16 45.7 +0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
AAK Ala-Archa 39.74 79 ⇑*e*P **P 20 18 44.7 +0.8**
AAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
AAK Ala-Archa 39.74 79 *e*P **P 20 18 44.7 +0.8**
comp=Z,2.0nm,1.0s,mb3.7
TORD Torodi Ar. Bea 40.01 202 P **P 20 18 46.0 -0.1**
comp=Z,1.2nm,0.7s,mb3.6,baz=8.3,slow=8.3,SNR=8.1
ZAL Zalesovo 40.17 59 P **P 20 18 48.4 +0.9**
comp=Z,0.7nm,0.4s,mb3.6,baz=315,slow=9.6,SNR=4.6
ZAL Zalesovo 40.17 59 P **P 20 18 48.4 +1.0**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 42.19 69 P **P 20 19 04.2 +0.2**
comp=Z,0.4nm,0.7s,mb3.2,baz=311,slow=6.7,SNR=4.1
SONM Songino Array 54.89 55 P **P 20 20 43.0 +1.1**
comp=Z,0.4nm,0.7s,mb3.6,baz=294,slow=8.8,SNR=4.3
YKA Yellowknife Ar 59.87 336 P **P 20 21 17.5 +0.4**
comp=Z,0.8nm,0.5s,mb4.0,baz=28,slow=6.9,SNR=16
YKA Yellowknife Ar 59.87 336 P **P 20 21 17.5 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 74.96 322 P **P 20 22 53.8 +1.2**
comp=Z,0.5nm,0.6s,mb3.8,baz=68,slow=5.7,SNR=5.4
TXAR Lajitas Array 83.74 310 P **P 20 23 41.8 +1.3**
comp=Z,0.2nm,0.5s,mb3.6,baz=67,slow=4.6,SNR=3.7

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*CSEM **09** 20:37:27.8, 67.18N×2063E, h6km, ML2.5, Mining explosion. After UPP*
*UPP **09** 20:37:27.8, 67.18N×2063E, h6km, ML2.9, ML2.5, Mining explosion.*

HEL 09 20:37:28.1±0.0, 6717N×2064E, h0km, ML2.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**209**	*i* P	Pg	20 37 29.1	-0.2
DUNU				*i* S	Sg	20 37 30.1	+0.1
DUNU	**Dundret**	**0.06**	**209**	P	Pg	20 37 29.1	-0.1
baz=115							
DUNU				S	Sg	20 37 30.1	+0.1
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	Pg	20 37 39.0	-0.6
KUA	**Kurravaara**	**0.80**	**352**	*i* P	Pg	20 37 42.3	-1.1
SALU	**Saltoluokta**	**0.85**	**285**	*i* P	Pg	20 37 43.6	-0.9
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	20 37 44.8	-1.2
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	20 37 45.6	-1.2
LANU	**Lannavaara**	**1.02**	**30**	*e*P	Pg	20 37 46.4	-1.3
LANU	**Lannavaara**	**1.02**	**30**	P	Pg	20 37 46.4	-1.3
baz=288							
HARU	**Harads**	**1.02**	**172**	*e*P	Pg	20 37 46.4	-1.3
HARU	**Harads**	**1.02**	**172**	P	Pg	20 37 46.4	-1.3
baz=341							
SJUU	**Sjulsmark**	**1.72**	**166**	*e*P	Pn	20 37 58.6	-0.6
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pn	20 38 01.3	+0.3
KIF				*e*S	Sn	20 38 25.9	+0.9
LILU	**Lilltraesk**	**1.92**	**190**	*e*P	Pn	20 38 01.8	-0.3
SGF	**Sodankyl**	**2.30**	**81**	*e*PB	Pb	20 38 08.2	-2.3
SGF				*e*SB	Sb	20 38 37.8	-1.6

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*IDC **09** 20:43:17.2±2.1, 1612S×17826E, h0km, mb4.0/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.0/5, MS4.1/21, Ms1 4.1/21, ms1mx4.0/30, Error ellipse: s-maj=104.2km s-min=28.2km az=143.0*

NEIC 09 20:43:23.0±0.9, 1622S×17820E, h35km, mb4.0/2, Error ellipse: s-maj=27.2km s-min=22.1km az=146.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.95**	**78**	LR	LR	20 48 27.1	
comp=Z,683nm,19.1s,baz=255,slow=31							
HNR	**Honiara**	**19.03**	**289**	LR	LR	20 54 03.3	
comp=Z,793nm,19.1s,baz=178,slow=34							
RAR	**Rarotonga**	**21.43**	**107**	LR	LR	20 54 28.3	
comp=Z,363nm,19.3s,baz=305,slow=31							
URZ	**Urewera**	**21.98**	**182**	LR	LR	20 55 53.1	
comp=Z,312nm,19.6s,baz=344,slow=34							
RPZ	**Rata Peaks**	**28.07**	**191**	LR	LR	20 58 39.2	
comp=Z,406nm,20.6s,baz=360,slow=33							
CTA	**Charters Tower**	**30.57**	**258**	LR	LR	20 58 43.7	
comp=Z,115nm,19.5s,baz=238,slow=30							
PPT	**Papeete**	**30.84**	**97**	*e*LQ		20 55 53.9	
1μm,26.5s							
PPT				*e*LR	LR	20 57 15.8	
717nm,29.0s							
PPT	**Papeete**	**30.84**	**97**	LR	LR	20 59 27.5	
comp=Z,94nm,19.8s,baz=254,slow=32							

PMG	**Port Moresby**	**30.99 279**	LR	LR	20 59 04.9	
	comp=Z,244nm,20.0s,baz=293,slow=30					
TBI	**Tubuai**	**31.19 108**	*e*LR	LR	20 57 29.0	
	890nm,29.2s,baz=276					
STKA	**Stephens Creek**	**36.68 238**	P	P	20 50 27.6	+1.3
	7.7nm,1.0s,baz=42,slow=6.4,SNR=10					
STKA			LR	LR	21 03 33.3	
	comp=Z,255nm,20.4s,baz=303,slow=33					
STKA	**Stephens Creek**	**36.68 238**	*e*P	P	20 50 27.7	+1.4
WRA	**Warramunga Arr**	**41.78 258**	P	P	20 51 08.1	-0.8
	2.0nm,1.0s,baz=90,slow=8.7,SNR=7.3					
WRA			LR	LR	21 07 44.3	
	comp=Z,175nm,18.5s,baz=90,slow=35					
ASAR	**Alice Springs**	**42.16 253**	P	P	20 51 12.4	+0.3
	4.0nm,0.9s,baz=80,slow=8.9,SNR=26					
CBIJ	**Chichi jima**	**55.46 320**	LR	LR	21 11 12.0	
	comp=Z,204nm,20.6s,baz=155,slow=30					
VNDA	**Vanda**	**61.87 184**	LR	LR	21 17 07.6	
	comp=Z,203nm,20.0s,baz=351,slow=33					
VNDA	**Vanda**	**61.87 184**	P	P	20 53 38.3	-0.4
	0.9nm,0.8s					
MJAR	**Matsushiro Arr**	**64.65 325**	LR	LR	21 16 27.8	
	comp=Z,111nm,19.5s,baz=105,slow=31					
JOW	**Kunigami**	**64.66 311**	LR	LR	21 17 56.6	
	comp=Z,109nm,19.3s,baz=264,slow=32					
KSRS	**Korea Array**	**71.31 320**	LR	LR	21 20 21.7	
	comp=Z,82nm,21.9s,baz=294,slow=31					
QSPA	**South Pole Qui**	**73.82 180**	*e*P	P	20 54 53.6	-0.2
	1.6nm,0.8s					
MAW	**Mawson**	**84.32 200**	LR	LR	21 30 09.3	
	comp=Z,189nm,18.1s,baz=72,slow=33					
TXAR	**Lajitas Array**	**87.87 59**	LR	LR	21 25 28.8	
	comp=Z,166nm,20.5s,baz=0.0,slow=29					
PDAR	**Pinedale Array**	**88.40 45**	P	P	20 56 11.5	+0.2
	0.9nm,1.0s,baz=238,slow=2.8,SNR=4.2					
PDAR			LR	LR	21 27 17.2	
	comp=Z,85nm,20.0s,baz=252,slow=30					
SONM	**Songino Array**	**90.18 320**	P	P	20 56 20.5	+0.9
	0.3nm,1.0s,baz=134,slow=4.2,SNR=2.5					
SONM			LR	LR	21 34 07.0	
	comp=Z,69nm,18.9s,baz=214,slow=34					
INK	**Inuvik**	**91.15 16**	LR	LR	21 38 02.3	
	comp=Z,130nm,18.3s,baz=233,slow=36					
YKA	**Yellowknife Ar**	**94.19 25**	LR	LR	21 30 14.8	
	comp=Z,158nm,20.2s,baz=225,slow=30					
KHC	**Kasperske Hory**	**144.86 342**	*e*PKP	PKPdf	21 02 54.0	-2.2
GERES	**GERESS Array B**	**145.08 342**	PKPbc	PKPbc	21 02 53.5	-2.6
	1.5nm,0.9s,baz=36,slow=2.5,SNR=7.2					

NIED ***09*** *20:47:00,3540N×14040E,h59km,Mw3.8 Best double couple: M0=5.18000×10^14 NP1:φs=14.00000°,δ71.00000°, λ104.00000°. NP2:φs=156.00000°,δ24.00000°,λ54.00000°.*
IDC ***09*** *20:47:01.3±1.7,3556N×141.14E,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.7/23,mbtmp3.8/8,ML3.7/2,Error ellipse: s-maj=51.8km s-min=19.3km az=71.0*
NEIC ***09*** *20:47:06.7±2.2,3546N×14093E,h35km,mb3.8/1,Error ellipse: s-maj=66.8km s-min=13.1km az=53.0*
ISCJB ***09*** *20:47:10.3±0.6,3532N±005×14036E±007,h69km±4km, mb3.6/7,Error ellipse: s-maj=10.8km s-min=6.8km az=125.9*
JMA ***09*** *20:47:10.9±0.1,3540N×14040E,h59km±2km,M3.3 Broadband fault plane solution: P waves. NP1: φs=162.00000°,δ32.00000°,λ72.00000°. NP2:φs=3.00000°, δ60.00000°,λ101.00000°. Principal axes: T Plg73.0000°, Azm301.0000°; N Plg10.0000°, Azm177.0000°; P Plg14.0000°, Azm85.0000°;*
JMA Felt I J1.
ISC 09 20:47:11.3±0.6,3532N±005×14035E±007,h62km±4km, n22,σ0§60/29,mb3.7/7,5C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.15**	**308**	⇑P	**Pn**	**20 47 20.5**	**-0.2**
JCN				S	**Sn**	**20 47 27.7**	**+0.1**
KTR	**Katsuura**	**0.18**	**190**	⇑P	**Pn**	**20 47 20.7**	**-0.1**
KTR				S	**Sn**	**20 47 27.6**	**-0.1**
BSO4	**Boso 4**	**0.33**	**182**	⇑P	**Pn**	**20 47 22.2**	**+0.3**
BSO3	**Boso 3**	**0.54**	**166**	⇑P	**Pn**	**20 47 23.9**	**+0.1**
BSO3				S	**Sn**	**20 47 34.3**	**+1.4**
BSO1	**Boso 1**	**0.84**	**142**	⇑P	**Pn**	**20 47 26.4**	**-1.0**
JIM2	**Oshima 3**	**0.97**	**232**	⇓P	**Pn**	**20 47 28.7**	**-0.3**
JIM2				S	**Sn**	**20 47 41.9**	**-0.2**
JOD2	**Odawara 2**	**1.03**	**267**	⇓P	**Pn**	**20 47 29.9**	**0.0**
JOD2				S	**Sn**	**20 47 43.7**	**+0.1**
JAG	**Ashikaga**	**1.32**	**327**	⇓P	**Pn**	**20 47 33.0**	**-0.6**
JIZS	**Izushimoda**	**1.35**	**244**	⇓P	**Pn**	**20 47 34.2**	**+0.2**
JRY	**Ryogami san**	**1.37**	**301**	⇓P	**Pn**	**20 47 34.3**	**+0.1**
JYN	**Shimob**	**1.49**	**277**	⇓P	**Pn**	**20 47 36.0**	**+0.2**
MJAR	**Matsushiro Arr**	**2.12**	**306**	*e*Pn	**Pn**	**20 47 44.1**	**-0.4**
	12nm,0.3s,baz=68,slow=12,SNR=74						
MAJO	**Matsushiro**	**2.12**	**306**	*e*Pn	**Pn**	**20 47 44.6**	**+0.2**
MAT	**Matsushiro**	**2.12**	**306**	P	**Pn**	**20 47 44.7**	**+0.3**
MAT				*e*S	**Sn**	**20 48 14.4**	**+4.7**
JHJ	**Hachijo jima 2**	**2.25**	**192**	Pn	**Pn**	**20 47 46.2**	**+0.1**
	34nm,0.3s,baz=89,slow=20,SNR=11						
JHJ				Sn	**Sn**	**20 48 11.7**	**-1.1**
	76nm,0.3s,baz=242,slow=22,SNR=11						
SONM	**Songino Array**	**28.07**	**307**	P	**P**	**20 52 57.9**	**+1.0**
	0.3nm,0.6s,mb3.1,baz=108,slow=9.6,SNR=4.3						
MKAR	**Makanchi Array**	**44.32**	**303**	P	**P**	**20 55 15.4**	**+0.4**
	0.2nm,0.4s,mb3.2,baz=83,slow=9.4,SNR=8.3						
WRAB	**Tennant Creek**	**55.25**	**187**	P	**P**	**20 56 38.3**	**+0.3**
	0.4nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**55.26**	**187**	P	**P**	**20 56 37.4**	**-0.7**
	0.8nm,0.3s,mb4.2,baz=2.4,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**58.98**	**187**	P	**P**	**20 57 05.9**	**+1.5**
	0.4nm,0.6s,mb3.6,baz=16,slow=14,SNR=8.5						
FINES	**FINESS Array B**	**69.92**	**332**	P	**P**	**20 58 15.3**	**-0.5**
	1.9nm,1.0s,mb4.0,baz=91,slow=6.0,SNR=3.8						
AKASG	**Malin Array Be**	**75.12**	**322**	P	**P**	**20 58 45.9**	**-0.8**
	0.3nm,0.3s,mb3.7,baz=54,slow=5.3,SNR=3.0						

NIED ***09*** *20:55:00,4690N×15320E,h11km,Mw3.9 Best double couple: M0=7.55000×10^14 NP1:φs=321.00000°,δ75.00000°, λ50.00000°. NP2:φs=214.00000°,δ43.00000°,λ157.00000°.*
NEIC ***09*** *20:55:01.2±0.7,4735N×15300E,h10km,mb4.2/2,Error ellipse: s-maj=21.1km s-min=10.1km az=140.0*
ISCJB ***09*** *20:55:02.6±1.1,466N±0.1×1530E±02,h50km±10km, mb4.2/15,MS3.4/2,Error ellipse: s-maj=29.5km s-min=7.3km az=112.0*
MOS ***09*** *20:55:05.5±2.0,4715N×15271E,h60km,mb4.3/7,Error ellipse: s-maj=22.9km s-min=13.2km az=53.3*
IDC ***09*** *20:55:06.6±4.7,4699N×15300E,h64km±49km,mb3.5/10, mb1 3.7/12,mb1mx3.6/24,mbtmp3.6/12,ML3.9/1,MS3.3/3, Ms1 3.3/3,ms1mx2.9/33,Error ellipse: s-maj=46.6km s-min=21.7km az=176.0*
ISC 09 20:55:04.7±1.0,467N±02×1530E±02,h51km±9km,n54, σ1§34/61,mb4.2/15,MS3.4/2,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**250**	*e*PN	**Pn**	**20 55 59.5**	**-1.8**
KUR				*e*S	**Sn**	**20 56 44.0**	**-1.3**
KUR				pmax	pmax		
	comp=Z,130nm,0.5s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,300nm,0.6s						
SKR	**Severo-Kuril's**	**4.50**	**26**	*e*PN	**Pn**	**20 56 10.0**	**-0.3**
SKR				pmax	pmax		
	comp=Z,130nm,0.9s						
NEM2	**Nemuro 2**	**6.11**	**240**	P	**Pn**	**20 56 31.6**	**-0.7**
NEM2				*e*S	**Sn**	**20 57 39.1**	**-1.8**
JNK	**Nakash**	**6.61**	**245**	P	**Pn**	**20 56 40.6**	**+1.4**
JTKR	**Abashiri--Toko**	**6.95**	**250**	P	**Pn**	**20 56 45.7**	**+1.9**
JAK	**Akkeshi**	**6.95**	**241**	P	**Pn**	**20 56 43.4**	**-0.4**
JAK				*e*S	**Sn**	**20 57 58.8**	**-2.7**
JAR	**Ashorobuto**	**7.36**	**246**	P	**Pn**	**20 56 50.9**	**+1.5**
JAR				*e*S	**Sn**	**20 58 13.5**	**+2.0**
JOB	**Onbets**	**7.52**	**243**	*e*S	**Sn**	**20 58 15.0**	**-0.6**
ASAJ	**Asahikawa**	**7.75**	**254**	P	**Pn**	**20 56 58.2**	**+3.5**
	comp=Z,1.6nm,0.3s,baz=91,slow=21,SNR=17						
ASAJ				LR	LR	20 59 46.6	
	comp=Z,83nm,18.4s,baz=26,slow=36						
ASAJ	**Asahikawa**	**7.75**	**254**	P	**Pn**	**20 56 58.6**	**+3.9**
JKK2	**Kamakawa 2**	**7.75**	**252**	P	**Pn**	**20 56 57.6**	**+2.9**
JCH	**Churui**	**7.97**	**243**	P	**Pn**	**20 56 58.1**	**+0.2**
JCH				*e*S	**Sn**	**20 58 24.3**	**-2.4**
JBT2	**Biratori 2**	**8.51**	**246**	P	**Pn**	**20 57 06.3**	**+1.1**
JNBK	**Urakawa-nobuka**	**8.54**	**243**	P	**Pn**	**20 57 05.4**	**-0.2**
JNBK				*e*S	**Sn**	**20 58 38.0**	**-2.4**
JNB	**Noboribetsu**	**9.51**	**248**	P	**Pn**	**20 57 19.7**	**+0.9**
JNB				*e*S	**Sn**	**20 59 04.5**	**+0.3**
JKB	**Kayabe**	**9.82**	**245**	P	**Pn**	**20 57 22.7**	**-0.4**
JKB				*e*S	**Sn**	**20 59 07.4**	**-4.4**
JYM2	**Yakumo 2**	**10.11**	**248**	P	**Pn**	**20 57 27.8**	**+0.7**
JTM	**Tenmabayashi**	**10.44**	**240**	*e*S	**Sn**	**20 59 20.3**	**-6.8**
JANG	**Nango**	**10.44**	**237**	*e*S	**Sn**	**20 59 19.3**	**-7.8**
JTH	**Tanohata**	**10.54**	**234**	*e*S	**Sn**	**20 59 20.9**	**-8.5**
JOSM	**Okushiri--Mats**	**10.70**	**249**	P	**Pn**	**20 57 35.5**	**+0.3**
MJAR	**Matsushiro Arr**	**14.97**	**233**	P	**Pn**	**20 58 38.0**	**+5.0**
	comp=Z,0.5nm,0.3s,baz=41,slow=9.1,SNR=13						
MJAR	**Matsushiro Arr**	**14.97**	**233**	P	**Pn**	**20 58 38.0**	**+5.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**14.97**	**233**	*e*P	**Pn**	**20 58 39.6**	**+6.6**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**14.97**	**233**	*e*Pn	**Pn**	**20 58 39.5**	**+6.6**
	comp=Z,5.0nm,0.5s						
MAT	**Matsushiro**	**14.97**	**233**	P	**Pn**	**20 58 39.6**	**+6.6**
KSRS	**Korea Array**	**20.69**	**253**	P	**P**	**20 59 42.4**	**+2.0**
	comp=Z,2.4nm,0.8s,baz=51,slow=11,SNR=4.8						
SONM	**Songino Array**	**31.26**	**289**	P	**P**	**21 01 18.6**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.2,baz=64,slow=6.0,SNR=2.6						
SONM				LR	LR	21 14 02.1	
	comp=Z,64nm,19.2s,MS3.3,baz=64,slow=36						
ZAL	**Zalesovo**	**42.58**	**306**	LR	LR	21 22 26.8	
	comp=Z,63nm,18.4s,MS3.5,baz=268,slow=39						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**21 03 29.2**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=67,slow=7.0,SNR=8.0						
MKAR				PcP	PcP	21 05 01.5	-0.4
	comp=Z,0.5nm,0.8s,baz=68,slow=3.3,SNR=4.6						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**21 03 29.2**	**-0.6**
MKAR						21 05 01.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	**Lhasa**	**50.18**	**273**	*e*P	**P**	**21 03 56.8**	**+1.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
LSA	**Lhasa**	**50.18**	**273**	*e*P	**P**	**21 03 56.8**	**+1.6**
	comp=Z,1.7nm,0.4s,mb4.4						
YKA	**Yellowknife Ar**	**51.03**	**37**	P	**P**	**21 03 59.4**	**-2.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=299,slow=7.2,SNR=5.5						
YKA	**Yellowknife Ar**	**51.03**	**37**	P	**P**	**21 03 59.4**	**-2.1**
JIRN	**Jiri**	**54.86**	**275**	*e*P	**P**	**21 04 31.1**	**+1.3**
	comp=Z,2.0nm,0.2s,mb4.8						
GUN	**Gumba**	**54.91**	**275**	*e*P	**P**	**21 04 31.5**	**+1.3**
	comp=Z,7.4nm,0.5s,mb5.0						
KKN	**Kakani**	**55.40**	**275**	*e*P	**P**	**21 04 35.0**	**+1.3**
	comp=Z,6.4nm,0.6s,mb4.9						
DMN	**Daman**	**55.63**	**275**	*e*P	**P**	**21 04 36.4**	**+1.1**
GKN	**Gorkha**	**55.70**	**276**	*e*P	**P**	**21 04 37.2**	**+1.3**
	comp=Z,7.6nm,0.6s,mb4.9						
KOLN	**Koldanda**	**56.56**	**276**	*e*P	**P**	**21 04 42.2**	**+0.2**
	comp=Z,10nm,1.1s,mb4.8						
FINES	**FINESS Array B**	**64.05**	**335**	P	**P**	**21 05 31.5**	**-1.7**
	comp=Z,1.2nm,0.4s,mb4.2,baz=30,slow=7.1,SNR=17						
FINES	**FINESS Array B**	**64.05**	**335**	P	**P**	**21 05 31.5**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**64.86**	**54**	P	**P**	**21 05 37.8**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.5,baz=337,slow=3.4,SNR=3.5						
NB2	**NORSAR Subarra**	**68.25**	**341**	P	**P**	**21 05 58.6**	**-1.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**21 05 59.0**	**-1.1**
	comp=Z,2.3nm,0.6s,mb4.4,baz=28,slow=6.4,SNR=7.3						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**21 05 59.0**	**-1.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**21 05 59.0**	**-1.1**
AKASG	**Malin Array Be**	**71.54**	**326**	P	**P**	**21 06 18.3**	**-1.9**
	comp=Z,1.1nm,0.4s,mb4.1,baz=33,slow=5.9,SNR=7.4						
AKASG	**Malin Array Be**	**71.54**	**326**	P	**P**	**21 06 18.3**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.60**	**60**	P	**P**	**21 06 55.0**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=299,slow=4.4,SNR=10						
TXAR	**Lajitas Array**	**77.60**	**60**	P	**P**	**21 06 55.0**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.37**	**317**	P	**P**	**21 06 59.5**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=82,slow=3.4,SNR=5.9						
BRTR	**Keskin Array B**	**78.37**	**317**	P	**P**	**21 06 59.5**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 09 20:58:52.7±8.7,1903S×17787W,h557km±100km, mb3.0/4,mb1 3.2/4,mb1mx3.0/14,mbtmp3.0/4,Error ellipse: s-maj=117.9km s-min=40.5km az=163.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.55**	**243**	P	P	21 05 28.0	-0.1
	0.8nm,0.5s,baz=114,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**44.94**	**261**	P	P	21 06 18.1	-0.3
	0.5nm,0.3s,baz=98,slow=7.5,SNR=33						
WRA				PcP	PcP	21 07 47.8	+0.1
	0.4nm,0.5s,baz=97,slow=3.8,SNR=5.5						
ASAR	**Alice Springs**	**44.99**	**255**	P	P	21 06 19.6	+0.9
	1.3nm,0.5s,baz=86,slow=8.2,SNR=25						
TXAR	**Lajitas Array**	**86.16**	**57**	P	P	21 10 35.7	+0.5
	0.1nm,0.3s,baz=349,slow=1.3,SNR=5.2						
ARCES	**ARCESS Array B**	**127.51**	**350**	PKP	PKPdf	21 16 53.0	-1.7
	7.8nm,1.1s,baz=15,slow=6.3,SNR=3.6						
BRTR	**Keskin Array B**	**145.93**	**314**	PKPbc	PKPbc	21 17 30.4	+0.1
	1.0nm,0.8s,baz=124,slow=5.0,SNR=4.7						
GERES	**GERESS Array B**	**148.83**	**345**	PKPbc	PKPbc	21 17 37.6	-0.2
	0.7nm,0.6s,baz=46,slow=3.9,SNR=8.2						

NEIC ***09*** *21:00:27.9,1587N×9514W,h15km,MD3.9(MEX),After MEX.*
MEX 09 21:00:28.0±0.4,1587N×9514W,h23km±21km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.93**	**264**	*i* P	Pb	21 00 42.8	-2.7
HUIG				*i* S	Sb	21 00 54.1	-3.4
CMIG	**Matias Romero**	**1.24**	**12**	*i* P	Pn	21 00 47.0	-3.0
CMIG				*i* S	Sn	21 01 02.1	-3.9
VHO	**Vista Hermosa**	**1.94**	**308**	*i* P	Pn	21 00 57.2	-2.3
VHO				*i* S	Sn	21 01 20.3	-2.9
CCIG	**Comitan**	**2.92**	**81**	*i* P	Pn	21 01 11.6	-1.5
CCIG				*i* S	Sn	21 01 44.8	-2.7
UTMO	**Huajuapan**	**3.21**	**308**	*i* P	Pn	21 01 20.2	+3.2
UTMO				*i* S	Sn	21 01 51.0	-3.6

SZGRF ***09*** *21:20:21.1,4676N×149.18E,h33km,mb4.5,Kuril Islands, Russia*
NIED ***09*** *21:21:00,4740N×14770E,h420km,Mw4.4 Best double couple: M0=5.24000×10^15 NP1:φs=6.00000°,δ72.00000°, λ-121.00000°. NP2:φs=249.00000°,δ35.00000°, λ-32.00000°.*
ISCJB ***09*** *21:21:08.3±0.3,4785N±004×14742E±006,h422km±4km, mb4.2/60,Error ellipse: s-maj=7.9km s-min=4.9km az=103.3*
MOS ***09*** *21:21:08.2±0.9,4785N×14737E,h429km,mb4.4/32,Error ellipse: s-maj=12.8km s-min=9.4km az=91.8*
BJI ***09*** *21:21:08.2,4802N×14723E,h407km,mB4.6,mb4.5*
NEIC ***09*** *21:21:09.9±0.5,4800N×14728E,h416km±6km,mb4.2/18, Error ellipse: s-maj=7.0km s-min=6.3km az=141.0*
JMA ***09*** *21:21:09.2±0.5,4735N×14765E,h468km,M4.1*
IDC ***09*** *21:21:10.1±1.0,4802N×14722E,h420km±11km,mb3.6/19, mb1 3.8/23,mb1mx3.7/29,mbtmp3.6/23,Error ellipse: s-maj=11.7km s-min=8.6km az=143.0*
ISC 09 21:21:08.9±0.3,4793N±004×14739E±006,h411km±4km, n167,σ1§15/186,mb4.2/60,12C-17D,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.72**	**173**	*i*PN	**P**	**21 22 09.0**	**-1.7**
KUR				*e*S	**S**	**21 22 58.0**	**-2.8**
KUR				pmax	pmax		
	comp=Z,340nm,0.7s						
KUR				smax			
	comp=N,140nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
YSS	**Yuzh-Sakhalins**	**3.29**	**254**	⇑*i*PN	**P**	**21 22 18.5**	**+3.2**
YSS				*e*S	**S**	**21 23 11.0**	**+1.9**
YSS				pmax	pmax		
	comp=Z,340nm,0.8s						
YSS				smax			
	comp=E,100nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.29**	**254**	⇑*i*Pn	**P**	**21 22 18.3**	**+3.0**
JRA	**Rausu**	**4.29**	**202**	P	**P**	**21 22 24.6**	**+0.2**
JRA				*e*S	**S**	**21 23 25.0**	**-0.7**
JSE	**Soyaes**	**4.46**	**230**	P	**P**	**21 22 28.3**	**+2.4**
JWK2	**Keihoku**	**4.60**	**237**	P	**P**	**21 22 30.3**	**+3.0**
JTKR	**Abashiri--Toko**	**4.64**	**213**	P	**P**	**21 22 28.8**	**+1.0**
JTKR				*e*S	**S**	**21 23 31.7**	**-0.3**
NEM2	**Nemuro 2**	**4.71**	**195**	P	**P**	**21 22 26.1**	**-2.3**
NEM2				*e*S	**S**	**21 23 27.5**	**-5.7**
ASAJ	**Asahikawa**	**5.07**	**223**	P	**P**	**21 22 33.6**	**+1.6**
	comp=E,5.3nm,0.3s,baz=34,slow=5.0,SNR=52						
ASAJ				S	**S**	**21 23 40.3**	**+0.5**
	baz=240,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**5.07**	**223**	PN	**P**	**21 22 33.7**	**+1.7**
ASAJ				S	**S**	**21 23 40.3**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JKK2	**Kamakawa 2**	**5.19**	**220**	P	**P**	**21 22 34.7**	**+1.4**
JAR	**Ashorobuto**	**5.28**	**210**	P	**P**	**21 22 34.4**	**+0.1**
JAR				*e*S	**S**	**21 23 42.4**	**-1.4**
JAK	**Akkeshi**	**5.29**	**002**	P	**P**	**21 22 32.5**	**-1.8**
JAK				*e*S	**S**	**21 23 38.1**	**-5.8**
JHR	**Hokuryu**	**5.76**	**225**	P	**P**	**21 22 41.3**	**+2.0**
JFR	**Furan**	**5.83**	**217**	P	**P**	**21 22 40.9**	**+0.8**
JCH	**Churui**	**6.03**	**210**	P	**P**	**21 22 40.3**	**-1.8**
JCH				*e*S	**S**	**21 23 51.3**	**-6.9**
SKR	**Severo-Kuril's**	**6.34**	**61**	*e*PN	**P**	**21 22 46.5**	**+1.0**
SKR				*e*S	**S**	**21 24 04.0**	**-0.4**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				smax			
	comp=N,160nm,0.9s						
SKR				smax			
	comp=E,90nm,0.7s						
JNBK	**Urakawa-nobuka**	**6.53**	**212**	P	**P**	**21 22 45.6**	**-2.0**
JNBK				*e*S	**S**	**21 24 01.1**	**-7.2**
JEW	**Eniwo**	**6.58**	**222**	P	**P**	**21 22 48.5**	**+0.3**
JEW				*e*S	**S**	**21 24 06.6**	**-2.7**
ERM	**Erimo**	**6.63**	**208**	*d*PN	**P**	**21 22 47.6**	**-1.1**
ERM	**Erimo**	**6.63**	**208**	*e*Pn	**P**	**21 22 47.7**	**-1.0**
	comp=E,132nm,0.4s						
JSK	**Shakotan**	**6.66**	**229**	P	**P**	**21 22 50.5**	**+1.5**
JKB	**Kayabe**	**7.54**	**219**	P	**P**	**21 22 57.3**	**-1.4**
JKB				*e*S	**S**	**21 24 21.6**	**-7.1**
JOT	**Ohata**	**7.95**	**217**	P	**P**	**21 23 01.3**	**-2.0**
JOT				*e*S	**S**	**21 24 28.0**	**-9.2**
JOSM	**Okushiri--Mats**	**8.10**	**227**	P	**P**	**21 23 04.0**	**-0.9**
JOSM				*e*S	**S**	**21 24 32.9**	**-7.3**
JANG	**Nango**	**8.65**	**211**	P	**P**	**21 23 09.2**	**-1.9**
JANG				*e*S	**S**	**21 24 43.0**	**-8.5**
PET	**Petropavlovsk**	**8.81**	**50**	*i* PN	**P**	**21 23 14.4**	**+1.6**
KLR	**Kul'dur**	**10.45**	**283**	*e*PN	**P**	**21 23 30.8**	**-0.2**
KLR				*e*S	**S**	**21 25 29.4**	**+1.3**
KLR				smax			
	comp=N,35nm,1.8s						
KLR				smax			
	comp=E,78nm,1.8s						
MAJO	**Matsushiro**	**13.24**	**214**	*e*PN	**P**	**21 24 03.3**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**13.24**	**214**	*e*Pn	**P**	**21 24 03.3**	**+1.5**
	comp=Z,16nm,0.6s						
MAT	**Matsushiro**	**13.24**	**214**	P	**P**	**21 24 03.2**	**+1.4**
MJAR	**Matsushiro Arr**	**13.24**	**214**	P	**P**	**21 24 02.5**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=13,slow=13,SNR=18						
MJAR	**Matsushiro Arr**	**13.24**	**214**	PN	**P**	**21 24 02.6**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEY	**Seymchan**	**15.29**	**9**	*e*P	**P**	**21 24 26.8**	**+2.8**
CN2	**Changchun**	**15.81**	**263**	*e*P	**P**	**21 24 29.2**	**-0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CLNS	**Chul'man**	**16.30**	**311**	*e*P	**P**	**21 24 35.0**	**+0.2**
YAK	**Yakutsk**	**17.31**	**331**	*e*P	**P**	**21 24 45.4**	**-0.1**
YAK				*e*S	**S**	**21 27 43.4**	**-1.3**
YAK				pmax	pmax		
	comp=Z,97nm,0.8s						
YAK				pmax	pmax		
	comp=N,18nm,0.9s						
YAK				pmax	pmax		
	comp=E,17nm,0.7s						
YAK				smax			
	comp=N,107nm,2.0s						
YAK				smax			
	comp=E,130nm,2.5s						
YAK	**Yakutsk**	**17.31**	**331**	⇓*i*P	**P**	**21 24 44.9**	**-0.6**
	comp=E,148nm,0.6s						
KSRS	**Korea Array**	**17.68**	**

LSA **Lhasa** 46.37 268 P P 21 28 58.6 +2.6
LSA **Lhasa** 46.37 268⇓ *i*P P 21 28 58.4 +2.4
LSA pmax pmax
comp=Z,26nm,0.6s,mb4.7
LSA **Lhasa** 46.37 268⇓ *i*P P 21 28 58.4 +2.4
comp=Z,26nm,0.6s,mb4.7
CHKZ **Chkalovo** 46.65 307 *e*P P 21 28 57.2 -1.0
CHKZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
CHKZ **Chkalovo** 46.65 307 *e*P P 21 28 57.2 -1.0
comp=Z,5.9nm,0.7s,mb4.0
BVAR **Borovoye Array** 47.06 306 P P 21 29 00.2 -1.2
comp=Z,2.2nm,0.7s,mb3.6,baz=52,slow=7.7,SNR=13
BVAR PcP PcP 21 30 24.7 -0.9
comp=Z,1.0nm,0.4s,baz=80,slow=3.6,SNR=7.1
BVAR **Borovoye Array** 47.06 306 P P 21 29 00.2 -1.1
BVAR pP 21 30 24.7 +2.2
BVAR pmax pmax
comp=Z,20nm,0.7s
SHL **Shillong** 48.57 263 *ex* x 21 30 00.4
CHTO **Chiang Mai** 48.71 251⇓ *i*P P 21 29 14.7 +0.9
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
CHTO **Chiang Mai** 48.71 251⇓ *i*P P 21 29 14.7 +0.9
comp=Z,6.2nm,0.8s,mb4.0
ULHL **Ulahol** 48.92 291 P P 21 29 16.2 +0.8
SNR=10
USP **Ospenovka** 49.46 293 P P 21 29 20.0 +0.6
SNR=12
KZA **Kyzart** 49.63 292 P P 21 29 22.3 +1.6
SNR=5.3
AAK **Ala-Archa** 49.80 293 P P 21 29 22.5 +0.6
SNR=5.5
AAK **Ala-Archa** 49.80 293⇑ *e*P P 21 29 20.4 -1.5
AAK pmax pmax
comp=Z,7.0nm,1.4s,mb3.8
EKS2 **Erkin-Say** 50.23 293 P P 21 29 25.8 +0.7
SNR=5.7
JIRN **Jiri** 51.01 270 *e*P P 21 29 32.3 +1.4
comp=Z,12nm,0.3s,mb4.6
GUN **Gumba** 51.06 270 *e*P P 21 29 32.3 +1.1
comp=Z,24nm,0.5s,mb4.7
ARU **Arti** 51.46 315⇑ *i*P P 21 29 32.3 -1.8
ARU *e* 21 30 37.5
ARU *e* pP 21 30 58.6 +1.5
ARU *e*S S 21 36 20.0 -2.0
ARU *e*SS SS 21 40 02.8 -1.5
ARU pmax pmax
comp=Z,12nm,0.7s,mb4.2
ARU **Arti** 51.46 315 *e*P P 21 29 33.2 -1.0
comp=Z,11nm,0.8s,mb4.1
KKN **Kakani** 51.54 270 *e*P P 21 29 35.8 +1.1
comp=Z,15nm,0.4s,mb4.6
PKI **Pulchoki** 51.59 270 *e*P P 21 29 36.2 +1.1
comp=Z,8.8nm,0.4s,mb4.4
DMN **Daman** 51.77 270 *e*P P 21 29 38.1 +1.7
comp=Z,29nm,0.5s,mb4.7
GKN **Gorkha** 51.83 271 *e*P P 21 29 37.8 +0.9
comp=Z,41nm,0.5s,mb4.9
YKA **Yellowknife Ar** 52.27 36 P P 21 29 39.6 -0.4
comp=Z,1.8nm,0.4s,mb3.6,baz=302,slow=7.1,SNR=40
KOLN **Koldanda** 52.68 272 *e*P P 21 29 44.3 +1.3
comp=Z,35nm,0.8s,mb4.7
BOK **Bokaro** 53.78 266 *e*P P 21 29 49.1 -1.8
BOK AMb AMB 21 29 52.9
comp=Z,8.0nm,0.7s,mb4.1
LGTI **Lohaghat** 53.85 276 *i*P P 21 29 52.7 +1.3
ARCES **ARCESS Array B** 55.40 339 P P 21 30 01.0 -1.4
comp=Z,5.5nm,1.1s,mb3.7,baz=52,slow=7.1,SNR=7.4
ARCES PcP PcP 21 30 55.5 -1.5
comp=Z,3.8nm,0.9s,baz=51,slow=6.4,SNR=3.7
ARCES **ARCESS Array B** 55.40 339 P P 21 30 01.0 -1.4
ARCES 21 30 55.5
ARCES pmax pmax
comp=Z,6.0nm,1.1s
ARCES pmax pmax
comp=Z,4.0nm,0.9s
NDI **New Delhi** 56.37 277 *e*P P 21 30 06.0 -3.1
NDI AMb AMB 21 30 09.6
comp=Z,24nm,0.6s,mb4.7
JOF **Joensuu** 58.48 331 *e*p P 21 30 22.3 -1.4
comp=Z,4.7nm,0.3s,mb4.3
JOF **Joensuu** 58.48 331 *e*P P 21 30 22.3 -1.4
JOF pmax pmax
comp=Z,5.0nm,0.3s,mb4.3
NEW **Newport** 59.50 51 P P 21 30 30.8 +0.3
comp=Z,1.3nm,0.3s,mb3.7,baz=316,slow=7.2,SNR=5.8
NEW **Newport** 59.50 51 P P 21 30 30.8 +0.2
NEW pmax pmax
comp=Z,10.0nm,0.4s
AJM **Ajmer** 59.53 277 *e*P P 21 30 30.6 -0.3
AJM AMb AMB 21 30 33.1
comp=Z,12nm,1.0s,mb4.3
VIS **Vishakhapatnam** 59.71 263 *e*P P 21 30 31.0 -1.0
VIS AMb AMB 21 30 33.7
comp=Z,23nm,0.8s,mb4.6
BHPL **Bhopal** 59.84 272 *e*P P 21 30 32.6 -0.3
BHPL AMb AMB 21 30 34.0
comp=Z,22nm,0.6s,mb4.8
NGP **Nagpur** 60.18 269 *e*P P 21 30 33.1 -2.0
NGP AMb AMB 21 30 35.1
comp=Z,13nm,0.7s,mb4.5
YBH **Yreka Blue Hor** 60.55 59 P P 21 30 39.4 +1.8
comp=Z,3.4nm,0.6s,mb3.9,baz=6.9,slow=3.2,SNR=7.8
YBH **Yreka Blue Hor** 60.55 59 P P 21 30 39.4 +1.8
YBH pmax pmax
comp=Z,3.0nm,0.6s
KAF **Kangasniemi** 60.66 332 *e*p P 21 30 35.9 -2.5
comp=Z,3.1nm,0.4s,mb4.1,baz=40,slow=6.2
KAF **Kangasniemi** 60.66 332 *e*P P 21 30 35.9 -2.5
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
FINES **FINESS Array B** 61.24 332 P P 21 30 41.0 -1.2
comp=Z,9.4nm,0.6s,mb4.4,baz=39,slow=7.9,SNR=71
FINES PcP PcP 21 31 18.7 -1.5
comp=Z,1.2nm,0.7s,baz=53,slow=5.4,SNR=2.1
FINES **FINESS Array B** 61.24 332 P P 21 30 41.1 -1.1
FINES 21 31 18.7
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES **FINESS Array B** 61.24 332 P P 21 30 41.0 -1.2
FINES PcP PcP 21 31 18.7 -1.5
AKL **Akola** 61.86 270 *e*P P 21 30 46.9 +0.6
AKL AMb AMB 21 30 48.1
comp=Z,12nm,0.4s,mb4.7
OBN **Obninsk** 62.07 323⇑ *e*P P 21 30 46.5 -1.1
OBN *e* 21 32 57.5
OBN pmax pmax
comp=Z,13nm,0.9s,mb4.5
NB2 **NORSAR Subarra** 65.77 338 P P 21 31 09.9 -1.6
comp=Z,4.6nm,0.6s,mb4.3,baz=29,slow=6.5
NOA **NORSAR Array B** 65.77 338 P P 21 31 10.5 -1.0
comp=Z,5.1nm,0.6s,mb4.3,baz=30,slow=6.5,SNR=17
NOA **NORSAR Array B** 65.77 338 P P 21 31 10.5 -1.0
NOA pmax pmax
comp=Z,5.0nm,0.6s
KAD **Karad** 66.14 270 *e*P P 21 31 12.4 -1.3
KAD AMb AMB 21 31 14.9
comp=Z,20nm,0.8s,mb4.8
PDAR **Pinedale Array** 67.12 51 P P 21 31 20.9 +1.0
comp=Z,3.6nm,0.5s,mb4.2,baz=331,slow=1.4,SNR=9.5
KIV **Kislovodsk** 67.13 311⇑ *e*P P 21 31 19.1 -0.8
KIV *e* 21 33 58.3
KIV *e*SS SS 21 44 13.1 +4.1
KIV pmax pmax
comp=Z,19nm,0.9s,mb4.7
KIV **Kislovodsk** 67.13 311 *e*P P 21 31 20.1 +0.2
comp=Z,23nm,1.1s,mb4.7
AKASG **Malin Array Be** 68.33 323 P P 21 31 26.2 -1.1
comp=Z,5.2nm,0.4s,mb4.5,baz=36,slow=6.2,SNR=26
AKASG **Malin Array Be** 68.33 323 P P 21 31 26.2 -1.1
AKASG pmax pmax
comp=Z,5.0nm,0.4s
WRA **Warramunga Arr** 68.57 193 P P 21 31 28.7 0.0
comp=Z,0.7nm,0.5s,mb3.5,baz=8.7,slow=6.6,SNR=13
TMUT **Trail Mountain** 68.68 55 *e*P P 21 31 30.6 +1.2
GNI **Garni** 68.75 307 *e*P P 21 31 29.7 -0.2
GNI pmax pmax
comp=Z,6.0nm,1.3s
PV10 **Paradox Valley** 70.52 54 *e*P P 21 31 42.5 +1.9
ASAR **Alice Springs** 72.29 193 P P 21 31 52.1 +1.1
comp=Z,0.5nm,0.3s,mb3.5,baz=4.3,slow=5.6,SNR=12
BURAR **Bucovina Array** 72.38 323⇓ *i*P P 21 31 51.5 0.0
STHS **Stebnicka Huta** 72.46 326 *e*P P 21 31 52.2 +0.2
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb3.9

STHS **Stebnicka Huta** 72.46 326 *e*P P 21 31 52.2 +0.2
comp=Z,2.9nm,0.7s,mb3.9
UPC **Upice** 73.40 330 *e*P P 21 31 56.9 -0.5
DPC **Dobruska-Polom** 73.43 330 *e*P P 21 31 57.4 -0.2
MORC **Moravsky Berou** 73.49 329⇑ *i*P P 21 31 58.1 +0.1
CLL **Collm** 73.69 332 *e*P P 21 31 58.2 -0.9
comp=Z,8.0nm,0.7s,mb4.5
CLL **Collm** 73.69 332⇓ *i*P P 21 31 58.2 -0.9
CLL pmax pmax
comp=Z,12nm,0.6s,mb4.7
CLL **Collm** 73.69 332⇓ *i*P P 21 31 58.2 -0.9
comp=Z,12nm,0.6s,mb4.7
PVCC **Panska Ves** 73.86 331 *e*P P 21 31 59.7 -0.4
CLZ **Clausthal** 74.03 334 *e*P P 21 32 01.0 0.0
comp=Z,4.0nm,0.8s,mb4.1
CLZ **Clausthal** 74.03 334 *e*P P 21 32 01.0 0.0
CLZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
DRGR 74.05 324⇓ *i*P P 21 32 01.1 -0.1
VYHS **Vyhne** 74.11 327 *e*P P 21 32 01.2 -0.3
VOIR 74.20 322⇓ *i*P P 21 32 02.5 +0.5
VRAC **Vranov** 74.22 329⇑ *i*P P 21 32 02.5 +0.4
PRU **Pruhonice** 74.33 331 *e*P P 21 32 02.3 -0.5
MOX **Moxa** 74.70 333 *e*P P 21 32 04.5 -0.4
comp=Z,2.0nm,0.7s,mb3.9
BR131 **Keskin Array S** 74.80 313 *e*P P 21 32 05.7 +0.3
comp=Z,1.5nm,0.8s,mb3.7
BRTR **Keskin Array B** 74.80 313 P P 21 32 05.3 -0.1
comp=Z,1.8nm,0.8s,mb3.8,baz=86,slow=3.8,SNR=11
BRTR **Keskin Array B** 74.80 313 *i*P P 21 32 05.8 +0.4
BRTR pmax pmax
comp=Z,2.0nm,0.8s
MANZ **Manzenberg** 75.12 332 *e*P P 21 32 06.8 -0.4
comp=Z,2.0nm,0.8s,mb3.8
GZR **Gura Zlata** 75.17 323⇓ *i*P P 21 32 07.3 -0.2
ROTZ **Rotzenmuhle** 75.28 332 *e*P P 21 32 08.3 +0.2
comp=Z,2.0nm,0.7s,mb3.9
KHC **Kasperske Hory** 75.39 331 *e*P P 21 32 08.4 -0.4
BZS **Buzias** 75.45 324⇑ *i*P P 21 32 09.2 +0.1
GEC2 **GERESS Array S** 75.60 330 *e*P P 21 32 09.6 -0.3
comp=Z,2.0nm,0.7s,mb3.9
GEC2 **GERESS Array S** 75.60 330 *e*P P 21 32 09.6 -0.3
GEC2 pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
GERES **GERESS Array B** 75.60 330 P P 21 32 09.4 -0.5
comp=Z,2.0nm,0.6s,mb4.0,baz=36,slow=5.3,SNR=22
GERES **GERESS Array B** 75.60 330 P P 21 32 09.4 -0.5
GERES pmax pmax
comp=Z,2.0nm,0.6s
WET **Wettzell** 75.61 331 *e*P P 21 32 09.9 -0.1
comp=Z,2.0nm,0.8s,mb3.8
WET **Wettzell** 75.61 331 *e*P P 21 32 09.9 -0.1
WET pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
GRA1 **Grafenberg Arr** 75.66 332 *e*P P 21 32 10.5 +0.2
comp=Z,8.0nm,0.7s,mb4.5
GRF **Grafenberg Arr** 75.66 332 *e*P P 21 32 10.5 +0.2
comp=Z,8.0nm,0.7s,mb4.5
GRF **Grafenberg Arr** 75.66 332 *e*P P 21 32 10.2 -0.1
comp=Z,6.0nm,0.9s,mb4.2
GRF **Grafenberg Arr** 75.66 332 *e*P P 21 32 10.5 +0.2
GRF pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
GRF **Grafenberg Arr** 75.66 332 *e*P P 21 32 10.5 +0.2
GRF pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
FUR **Furstenfeldbru** 76.98 332 *e*P P 21 32 17.7 +0.1
comp=Z,13nm,0.9s,mb4.6
FUR **Furstenfeldbru** 76.98 332 *e*P P 21 32 17.7 +0.1
FUR pmax pmax
comp=Z,13nm,0.9s,mb4.6
VTS **Vitosha** 77.29 321⇑ *i*P P 21 32 19.5 +0.2
BFO **Black Forest** 77.75 333 *e*P P 21 32 21.2 -0.6
comp=Z,2.0nm,0.9s,mb3.8
BFO **Black Forest** 77.75 333 *e*P P 21 32 21.2 -0.6
BFO pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
TXAR **Lajitas Array** 80.21 57 P P 21 32 36.2 +1.2
comp=Z,2.9nm,0.5s,mb4.2,baz=286,slow=3.7,SNR=47
TXAR **Lajitas Array** 80.21 57 P P 21 32 36.2 +1.2
TXAR pmax pmax
comp=Z,3.0nm,0.5s
TORD **Torodi Ar. Bea** 111.95 324 PKiKP PKiKP 21 38 54.5 -1.5
comp=Z,0.2nm,0.5s,baz=18,slow=1.8,SNR=7.1

*IDC **09** 21:51:02.0±1.7, 46.31N×154.24E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/30, Error ellipse: s-maj=52.5km s-min=19.3km az=168.0*
*ISCJB **09** 21:51:04.7±1.3, 46.1N±03×154.0E±02, h35km, mb3.7/9, Error ellipse: s-maj=42.4km s-min=10.8km az=141.6*
*MOS **09** 21:51:05.7±1.3, 45.85N×153.98E, h58km, mb4.1/6, Error ellipse: s-maj=24.8km s-min=21.1km az=59.6*
*NEIC **09** 21:51:12.3±1.2, 47.80N×153.60E, h10km, mb4.1/1, Error ellipse: s-maj=30.6km s-min=24.9km az=150.0*

ISC 09 21:51:06.8±1.3, 46.2N±03×154.0E±02, h35km, n19, σ1§36/20, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	4.42	259	*e*PN	**Pn**	21 52 08.8	-2.6
KUR				*e*S	**Sn**	21 52 59.0	-2.6
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,140nm,0.6s						
SKR	**Severo-Kuril's**	4.67	17	*e*PN	**Pn**	21 52 21.0	+6.2
ASAJ	**Asahikawa**	8.34	259	Pn	**Pn**	21 53 06.8	+1.6
	comp=N,0.7nm,0.3s,baz=103,slow=28,SNR=5.4						
ASAJ				LR	LR	21 56 05.7	
	comp=N,51nm,21.6s,baz=346,slow=36						
KSRS	**Korea Array**	21.25	255	P	**P**	21 55 52.0	+2.1
	comp=N,1.7nm,0.8s,mb3.4,baz=79,slow=12,SNR=3.3						
SONM	**Songino Array**	32.10	291	P	**P**	21 57 32.0	+1.4
	comp=N,0.5nm,0.9s,mb3.3,baz=87,slow=10,SNR=2.9						
SONM	**Songino Array**	32.10	291	P	**P**	21 57 32.0	+1.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	47.74	298	P	**P**	21 59 40.5	+0.2
	comp=Z,1.8nm,0.9s,mb4.1,baz=57,slow=4.6,SNR=7.0						
MKAR	**Makanchi Array**	47.74	298	P	**P**	21 59 40.5	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LSA	**Lhasa**	50.93	274	*e*P	**P**	22 00 11.7	+7.1
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LSA	**Lhasa**	50.93	274	*e*P	**P**	22 00 11.7	+7.1
	comp=Z,1.7nm,0.7s,mb4.1						
YKA	**Yellowknife Ar**	50.97	37	P	**P**	22 00 04.2	-0.7
	comp=Z,0.3nm,0.7s,mb3.3,baz=296,slow=7.4,SNR=4.0						
YKA	**Yellowknife Ar**	50.97	37	P	**P**	22 00 04.2	-0.7
PDAR	**Pinedale Array**	64.55	54	P	**P**	22 01 39.2	-1.1
	comp=Z,0.4nm,0.8s,mb3.5,baz=0.0,slow=0.7,SNR=3.5						
FINES	**FINESS Array B**	64.78	335	P	**P**	22 01 41.4	-0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=33,slow=6.9,SNR=7.7						
FINES	**FINESS Array B**	64.78	335	P	**P**	22 01 41.4	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	68.93	342	P	**P**	22 02 08.6	+0.5
	comp=Z,0.7nm,0.7s,mb3.7,baz=25,slow=6.0,SNR=2.6						
NOA	**NORSAR Array B**	68.93	342	P	**P**	22 02 08.6	+0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	77.20	61	P	**P**	22 02 57.0	0.0
	comp=Z,0.9nm,0.7s,mb3.8,baz=300,slow=4.1,SNR=13						
TXAR	**Lajitas Array**	77.20	61	P	**P**	22 02 57.1	0.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **09** 21:51:47.8±0.7, 291S×129.74E, h0km, mb4.5/11, mb1 4.6/14, mb1mx4.5/20, mbtmp4.5/14, ML4.1/3, MS4.1/13, Ms1 4.1/13, ms1mx3.8/25, Error ellipse: s-maj=28.9km s-min=14.1km az=66.0*
*ISCJB **09** 21:51:49.6±2.9, 301S±005×129.81E±009, h26km±21km, mb4.6/18, MS4.1/13, Error ellipse: s-maj=15.5km s-min=6.3km az=130.2*
*BJI **09** 21:51:50.8, 300S×129.80E, h35km, mB5.0, mb4.5, Ms4.5, Msz4.3*
*NEIC **09** 21:51:52.9±0.3, 300S×129.80E, h35km, mb4.6/10, Error ellipse: s-maj=11.7km s-min=5.8km az=64.0*

ISC 09 21:51:48.3±3.8, 294S±005×129.83E±008, h2km±24km, n46, σ1§02/40, mb4.6/18, MS4.1/13, 1C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	10.05	165	*e*P	**Pn**	21 54 13.6	0.0
	30nm,0.5s						
KAKA				*e*S	**Sn**	21 56 07.1	+0.2
FITZ	**Fitzroy Crossi**	15.62	195	*e*P	**Pn**	21 55 28.8	-0.7
	23nm,0.6s						
FITZ	**Fitzroy Crossi**	15.62	195	Pn	**Pn**	21 55 29.1	-0.4
	1.0nm,0.3s,baz=24,slow=10,SNR=15						
FITZ				LR	LR	22 01 36.6	
	comp=Z,343nm,20.1s,baz=24,slow=38						
KKM	**Kota Kinabalu**	16.26	303	**Pn**	**Pn**	21 55 38.2	+0.4
WRAB	**Tennant Creek**	17.46	166	*e*Pn	**Pn**	21 55 52.4	-0.6
	15nm,0.3s						
WRAB				*e*Sn	**Sn**	21 59 01.6	-6.2
WRA	**Warramunga Arr**	17.46	166	P	**Pn**	21 55 52.4	-0.6
	2.0nm,0.3s,baz=347,slow=12,SNR=45						
WB2	**Warramunga Arr**	17.47	166	*e*P	**Pn**	21 55 51.6	-1.4
PMG	**Port Moresby**	18.38	111	P	**Pn**	21 56 05.6	+1.3
	0.3nm,0.3s,baz=253,slow=17,SNR=1.9						
PMG	**Port Moresby**	18.38	111	*e*P	**Pn**	21 56 05.4	+1.1
	16nm,0.9s						
KSM	**Kuching**	20.00	282	*e*P	**Pn**	21 56 22.9	-0.8
ASAR	**Alice Springs**	20.98	170	P	**P**	21 56 33.1	+0.4
	54nm,0.7s,baz=351,slow=10,SNR=224						
GUMO	**Guam**	22.19	42	LR	LR	22 03 40.3	
	comp=Z,422nm,21.7s,MS3.8,baz=220,slow=32						
CTA	**Charters Tower**	23.40	138	P	**P**	21 57 00.6	+2.0
	8.0nm,0.6s,mb4.3,baz=325,slow=11,SNR=4.9						
KULM	**Kulim**	30.27	286	*e*P	**P**	21 58 01.5	+0.8
KLBR	**Kellerberrin**	30.69	200	*e*P	**P**	21 58 04.9	+0.5
STKA	**Stephens Creek**	30.84	160	P	**P**	21 58 06.9	+1.1
	2.9nm,0.4s,mb4.4,baz=327,slow=7.4,SNR=7.5						
STKA				LR	LR	22 10 32.7	
	comp=Z,462nm,21.0s,MS4.1,baz=176,slow=36						
STKA	**Stephens Creek**	30.84	160	*e*P	**P**	21 58 06.8	+1.1
	6.7nm,1.3s,mb4.3						
STKA				*e*P	pP	21 58 07.0	+0.6
PSI	**Prapat**	31.41	280	P	**P**	21 58 10.1	-0.7
	7.2nm,0.7s,mb4.6,baz=110,slow=2.9,SNR=11						
CBIJ	**Chichi jima**	32.15	21	LR	LR	22 09 29.3	
	comp=Z,368nm,19.6s,MS4.1,baz=191,slow=33						
KKTK	**Khon Kaen**	32.85	307	P	**P**	21 58 25.0	+1.6
	432nm,0.8s						
JNU	**Nakatsue**	35.88	2	LR	LR	22 14 01.5	
	comp=Z,434nm,18.5s,MS4.2,baz=74,slow=37						
NANT	**Nan**	35.89	308	⇓P	**P**	21 58 49.0	-0.7
	175nm,1.0s,mb5.9						
JHJ	**Hachijo jima 2**	37.08	14	LR	LR	22 12 17.4	
	comp=Z,388nm,19.7s,MS4.2,baz=124,slow=33						
CHG	**Chiang Mai**	37.29	307	⇑P	**P**	21 59 02.4	+0.7
	20nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	37.29	307	*e*P	**P**	21 59 02.3	+0.6
	16nm,0.8s,mb4.9						
MJAR	**Matsushiro Arr**	40.05	11	P	**P**	21 59 23.7	-1.1
	3.7nm,0.8s,mb4.2,baz=177,slow=8.3,SNR=7.1						
MJAR				LR	LR	22 15 31.6	
	comp=Z,168nm,18.1s,MS3.9,baz=160,slow=36						
KSRS	**Korea Array**	40.22	358	LR	LR	22 15 06.8	
	comp=Z,182nm,20.5s,MS3.9,baz=182,slow=35						
LSA	**Lhasa**	49.21	314	*e*P	**P**	22 00 39.0	+1.0
	4.8nm,0.8s,mb4.6						
GTA	**Gaotai**	50.38	330	*e*P	**P**	22 00 48.5	+1.7
GTA				AP	pP	22 00 56.0	+8.5
GTA				XP	sP	22 00 58.8	+11
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,100nm,5.3s						
GTA				LR	LR		
	comp=N,186nm,14.5s,MS4.4						
GTA				LR	LR		
	comp=E,168nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=Z,237nm,16.7s,MS4.3						
SONM	**Songino Array**	54.57	341	P	**P**	22 01 16.9	-1.0
	comp=Z,0.8nm,0.6s,mb3.9,baz=155,slow=8.6,SNR=7.6						
SONM				LR	LR	22 25 46.5	
	comp=Z,104nm,18.8s,MS3.9,baz=148,slow=37						
MK31	**Makanchi Array**	64.77	326	*e*P	**P**	22 02 28.4	+0.2
MKAR	**Makanchi Array**	64.77	326	P	**P**	22 02 28.2	-0.1
	comp=Z,2.5nm,0.6s,mb4.4,baz=114,slow=7.6,SNR=25						
MKAR				LR	LR	22 31 57.4	
	comp=Z,71nm,21.3s,MS3.8,baz=122,slow=37						
MKAR	**Makanchi Array**	64.77	326	P	**P**	22 02 28.2	-0.1
MKAR				LR	LR	22 31 57.4	
YAK	**Yakutsk**	64.79	360	*e*P	**P**	22 02 29.0	+0.6
	comp=Z,27nm,0.6s,mb5.5						
ZAL	**Zalesovo**	67.90	333	P	**P**	22 02 47.0	-1.3
	comp=Z,2.3nm,0.8s,mb4.3,baz=12,slow=4.6,SNR=12						
KURK	**Kurchatov**	68.99	328	*e*P	**P**	22 02 55.0	-0.1
	comp=Z,13nm,0.9s,mb4.9						
TIXI	**Tiksi**	74.45	360	*e*P	**P**	22 03 27.8	-0.3
	comp=Z,3.9nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	74.74	328	*e*P	**P**	22 03 28.9	-0.8
	comp=Z,2.5nm,0.8s,mb4.2						
VNDA	**Vanda**	76.47	173	P	**P**	22 03 37.7	-2.0
	comp=Z,2.2nm,0.8s,mb4.1,baz=302,slow=6.8,SNR=10						
VNDA	**Vanda**	76.47	173	P	**P**	22 03 37.7	-2.0
MAW	**Mawson**	78.65	201	LR	LR	22 35 32.4	
	comp=Z,143nm,18.0s,MS4.3,baz=234,slow=33						
SML	**Sawmill**	88.71	28	*e*P	**P**	22 04 40.9	-2.4
KMBO	**Kilima Mbogo**	92.52	269	P	**P**	22 05 02.8	+1.8
	comp=Z,1.7nm,0.6s,mb4.7,baz=224,slow=23,SNR=7.0						
KMBO				LR	LR	22 42 51.7	
	comp=Z,130nm,21.5s,MS4.3,baz=90,slow=33						
ARCES	**ARCESS Array B**	97.73	340	P	**P**	22 05 24.7	-0.2
	comp=Z,15nm,1.2s,mb5.4,baz=46,slow=10,SNR=4.4						
ARCES				LR	LR	22 52 54.0	
	comp=Z,119nm,18.8s,MS4.4,baz=182,slow=38						
TXAR	**Lajitas Array**	122.93	57	PKP	PKPdf	22 10 47.6	+1.5
	comp=Z,0.4nm,0.8s,baz=198,slow=1.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	127.75	284	PKP	PKPdf	22 10 57.3	+2.0
	comp=Z,0.8nm,0.8s,baz=82,slow=1.2,SNR=5.2						

*IDC **09** 22:05:12.7±2.5, 43.37N×105.23W, h0km, mb4.2/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.2/3, Error ellipse: s-maj=57.0km s-min=8.2km az=154.0*
*ISCJB **09** 22:05:15.0±1.1, 43.70N±005×105.4W±0.1, h0km, mb4.2/1, Error ellipse: s-maj=14.2km s-min=6.7km az=11.4*
*NEIC **09** 22:05:15.6±1.1, 43.74N×105.24W, h0km, ML3.0, Error ellipse: s-maj=14.1km s-min=9.9km az=110.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 09 22:05:15.9±0.7, 43.74N±005×105.33W±008, h0km, n23, σ1§57/31, mb4.2/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RWWY	**Rawlins**	2.48	215	*e*Pn	**Pn**	22 05 58.4	+0.9
LAO	**LASA Array**	3.02	348	*e*Pn	**Pn**	22 06 05.9	+1.0
LAO				Sn	**Sn**	22 06 44.8	+3.1
RLMT	**Red Lodge**	3.14	297	*e*Pn	**Pn**	22 06 07.3	+0.6
PDAR	**Pinedale Array**	3.24	254	Pn	**Pn**	22 06 08.3	+0.3
	2.1nm,0.3s,baz=75,slow=17,SNR=56						
PDAR				Pg	**Pg**	22 06 13.6	-4.4
	7.7nm,0.3s,baz=72,slow=18,SNR=65						
PDAR				Lg		22 06 53.8	
	9.7nm,0.3s,baz=77,slow=28,SNR=20						
LKWY	**Lake**	3.74	284	*e*Pn	**Pn**	22 06 14.0	-0.9
LOHW	**Long Hollow**	3.83	270	*e*Pn	**Pn**	22 06 12.1	-4.0
ISCO	**Idaho Springs**	3.94	183	*e*Pn	**Pn**	22 06 17.4	-0.2
ISCO				*e*Sn	**Sn**	22 07 09.7	+5.1
SNOW	**Snow King Moun**	3.95	268	*e*Pn	**Pn**	22 06 20.0	+2.2
YFT	**Old Faithful**	4.03	282	Pn	**Pn**	22 06 15.9	-2.9
REDW	**Red Top Meadow**	4.04	267	*e*Pn	**Pn**	22 06 20.5	+1.6
TPAW	**Teton Pass**	4.09	268	*e*Pn	**Pn**	22 06 21.6	+1.9
YMR	**Madison River**	4.16	285	*e*Pn	**Pn**	22 06 23.6	+2.9
DCID1	**Drake Creek**	4.25	270	Pn	**Pn**	22 06 23.6	+1.7
QLMT	**Earthquake Lak**	4.52	286	Pn	**Pn**	22 06 23.7	-1.8
QLMT

DUG	**Dugway**	**6.61**	**240**	*e*Pn	**Pn**		**22 06 53.1**	**-1.1**
	1.6nm,0.4s							
DUG				*e*Sn	**Sg**		**22 08 43.9**	**-4.3**
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**		**22 07 27.5**	**-1.9**
	0.8nm,0.3s,baz=226,slow=11,SNR=8.8							
ULM				Lg			22 10 01.1	
	0.6nm,0.3s,baz=143,slow=20,SNR=3.6							
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**Pn**		**22 09 45.4**	**-1.0**
	0.1nm,0.3s,baz=155,slow=8.5,SNR=4.5							
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**		**22 15 31.9**	**-2.1**
	1.7nm,0.8s,mb4.2,baz=331,slow=7.2,SNR=4.1							

*MOS **09** 22:29:30.8±1.2, 47.85N×154.75E, h33km, mb4.0/1, Error ellipse: s-maj=34.4km s-min=15.4km az=56.4*
*NEIC **09** 22:29:30.5±1.5, 48.52N×153.86E, h10km, Error ellipse: s-maj=54.6km s-min=14.4km az=135.0*
*ISCJB **09** 22:29:32.8±1.7, 482N±02×1544E±02, h63km±17km, mb3.6/4, Error ellipse: s-maj=36.8km s-min=8.7km az=87.5*
*IDC **09** 22:29:40.1±5.0, 48.23N×153.98E, h112km±47km, mb3.2/4, mb1 3.6/6, mb1mx3.2/24, mbtmp3.4/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/13, Error ellipse: s-maj=42.6km s-min=25.2km az=127.0*

ISC 09 22:29:34.9±1.5, 482N±02×1544E±03, h70km±15km, n14, σ1.9 39/15, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.77**	**24**	*e*PN	**Pn**		**22 30 15.0**	**-1.9**
SKR					pmax	pmax		
	comp=E,80nm,0.5s							
SKR					pmax	pmax		
	comp=Z,150nm,0.5s							
SKR					pmax	pmax		
	comp=N,110nm,0.3s							
KUR	**Kuril'sk**	**5.35**	**239**	*e*PN	**Pn**		**22 30 50.5**	**-1.6**
KUR					pmax	pmax		
	comp=N,90nm,0.7s							
KUR					pmax	pmax		
	comp=E,110nm,0.7s							
KUR					pmax	pmax		
	comp=Z,170nm,0.7s							
PET	**Petropavlovsk**	**5.58**	**28**	*e*PN	**Pn**		**22 30 58.3**	**+3.1**
PET					pmax	pmax		
	comp=Z,63nm,0.8s							
PET	**Petropavlovsk**	**5.58**	**28**	*e*Pn	**Pn**		**22 30 52.4**	**-2.8**
PET	comp=Z,31nm,0.4s							
				*e*Sn	**Sn**		**22 31 58.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.96**	**266**	*e*PN	**Pn**		**22 31 29.0**	**+1.3**
YSS					pmax	pmax		
	comp=Z,20nm,0.9s							
ASAJ	**Asahikawa**	**9.12**	**248**	P	**Pn**		**22 31 46.2**	**+2.6**
	comp=Z,2.0nm,0.3s,baz=81,slow=13,SNR=19							
ASAJ				LR	LR		22 35 51.5	
	comp=Z,52nm,18.4s,baz=185,slow=42							
MJAR	**Matsushiro Arr**	**16.62**	**232**	P	**Pn**		**22 33 23.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=6.7,slow=14,SNR=4.4							
KSRS	**Korea Array**	**22.06**	**251**	P	**P**		**22 34 23.0**	**-0.7**
	comp=Z,1.9nm,0.9s,mb3.4,baz=47,slow=11,SNR=3.7							
MKAR	**Makanchi Array**	**47.06**	**297**	P	**P**		**22 37 58.2**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.2,baz=60,slow=7.6,SNR=4.2							
MKAR	**Makanchi Array**	**47.06**	**297**	P	**P**		**22 37 58.2**	**-1.3**
YKA	**Yellowknife Ar**	**49.28**	**38**	P	**P**		**22 38 17.4**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.7,baz=298,slow=7.5,SNR=7.4							
YKA	**Yellowknife Ar**	**49.28**	**38**	P	**P**		**22 38 17.4**	**+0.8**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**49.28**	**38**	P	**P**		**22 38 17.4**	**+0.9**
WRA	**Warramunga Arr**	**70.13**	**200**	P	**P**		**22 40 40.2**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=16,slow=6.6,SNR=6.8							

*STR **09** 23:03:12.2±0.2, 47.56N×7.58E, h5km±1km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 23:03:12.8±0.3, 47.60N×7.58E, h8km±1km, Md1.7/2, Ml1.8/4, Error ellipse: s-maj=4.1km s-min=2.7km az=97.0*

ZUR 09 23:03:12.7, 47.59N×7.60E, h4km±1km, ML1.1, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	↓*i*Pg		Pg	23 03 18.2	+0.5
	116nm,0.8s							
BALST				*i* Sg		Sg	23 03 22.0	+0.9
	116nm,0.8s							
BOURR	**Bourrignon**	**0.32**	**232**	↑*i*Pg		Pg	23 03 19.2	+0.4
	27nm,1.8s							
SULZ	**Sulz-Cheisache**	**0.35**	**99**	*i* Pg		Pg	23 03 19.7	+0.1
	33nm,0.8s							
MOF	**Molkenrain**	**0.41**	**310**	Pg		Pg	23 03 20.6	0.0
MOF				Sg		Sg	23 03 26.3	+0.3
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg		Pg	23 03 23.0	-0.3
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn		Pg	23 03 24.9	+1.6
HINF				*e*Sg		Sg	23 03 30.2	-0.3
	4.0nm,0.2s							
HINF				*e*Sn		Sg	23 03 33.9	+3.4
ECH	**Echery**	**0.70**	**335**	Pg		Pg	23 03 26.2	+0.1
ECH				Sg		Sg	23 03 34.9	-0.2
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn		Pg	23 03 29.4	-2.0
CDF				*e*Sg		Sg	23 03 39.3	-0.9
	3.2nm,0.2s							
CDF				*e*Sn		Sn	23 03 41.4	-2.9
HAU	**Haudompre**	**0.94**	**297**	*e*Pg		Pg	23 03 30.3	-0.5
HAU				*e*Sg		Sg	23 03 42.8	-0.2
	5.2nm,0.3s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg		Pg	23 03 39.8	-0.1
CABF				*e*Sg		Sg	23 03 57.3	-1.0
	0.9nm,0.2s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sn		Sn	23 04 04.9	-3.5
SFTF				*e*Sg		Sg	23 04 10.2	-1.3
	0.9nm,0.2s							
LOR	**Lormes**	**2.56**	**264**	*e*Sg		Sg	23 04 32.4	-2.5
	0.8nm,0.2s							

*CSEM **09** 23:08:49.6, 67.19N×20.68E, h0km, ML2.8, Mining explosion. After UPP*
*UPP **09** 23:08:49.6, 67.19N×20.68E, h0km, ML2.8, Mining explosion.*

HEL 09 23:08:50.1±0.0, 67.19N×20.66E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**210**	*i* P		Pg	23 08 51.3	-0.2
DUNU	**Dundret**	**0.07**	**210**	P		Pg	23 08 51.3	-0.2
	baz=105							
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P		Pg	23 09 00.7	-0.6
KUA	**Kurravaara**	**0.78**	**351**	*i* P		Pg	23 09 04.1	-1.0
SALU	**Saltoluokta**	**0.86**	**284**	*i* P		Pg	23 09 06.2	-0.4
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P		Pg	23 09 06.8	-1.0
NIKU	**Nikkaluokta**	**0.93**	**318**	P		Pg	23 09 06.8	-1.1
PAJU	**Pajala**	**0.97**	**98**	*e*P		Pg	23 09 07.5	-1.3
LANU	**Lannavaara**	**1.01**	**30**	*e*P		Pg	23 09 08.0	-1.4
LANU	**Lannavaara**	**1.01**	**30**	P		Pg	23 09 08.0	-1.4
	baz=282							
HARU	**Harads**	**1.03**	**173**	*e*P		Pg	23 09 08.5	-1.4
HARU	**Harads**	**1.03**	**173**	P		Pg	23 09 08.5	-1.4
	baz=359							
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		Pn	23 09 20.7	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		Pn	23 09 22.9	+0.1
KIF				*e*S		Sn	23 09 47.9	+1.3
LILU	**Lilltraesk**	**1.94**	**190**	*e*P		Pn	23 09 24.2	0.0
SGF	**Sodankyl**	**2.29**	**81**	*e*PB		Pb	23 09 29.8	-2.4
SGF				*e*SG		Sg	23 10 00.3	-3.3

*NEIC **09** 23:09:55.2, 32.70S×71.80W, h17km, ML3.8(GUC), After GUC.*

GUC 09 23:09:55.2±0.5, 32.70S×71.80W, h17km±16km, MD4.0, ML3.8, 11C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.35**	**63**	↑*i*P		Pg	23 10 02.8	+0.3
PACH				*i* S		Sg	23 10 08.3	+0.9
IHA	**Instituto Hidr**	**0.36**	**157**	↑*i*P		Pg	23 10 02.6	0.0
IHA				*i* S		Sg	23 10 08.0	+0.4
PTCH	**Petorca**	**0.85**	**60**	↓↓*i*P		Pb	23 10 10.7	-0.9
PTCH				*i* S		Sb	23 10 22.2	-0.5
PTCH				AML		AML	23 10 24.0	
	comp=N,6μm,0.5s							
PTCH	**Petorca**	**0.85**	**60**	↓↓*i*P		Pb	23 10 10.7	-0.9
PTCH				*i* S		Sb	23 10 22.2	-0.5
PEL	**Peldehue**	**1.04**	**116**	↑↑*i*P		Pb	23 10 13.9	-0.9
PEL				*i* S		Sb	23 10 28.1	0.0
PEL				AML		AML	23 10 30.7	
	comp=N,10μm,0.3s							
RCDM	**Rinconada Maip**	**1.15**	**134**	↑*i*P		Pn	23 10 15.2	-1.4
RCDM				*i* S		Sb	23 10 30.3	-1.0
RCDM				AML		AML	23 10 36.6	
	comp=E,3μm,0.2s							
RCDM	**Rinconada Maip**	**1.15**	**134**	↑↑*i*P		Pn	23 10 15.2	-1.4
RCDM				*i* S		Sb	23 10 30.3	-1.0
TACH	**Talagante**	**1.20**	**143**	↑↑*i*P		Pn	23 10 15.9	-1.2
TACH				*i* S		Sb	23 10 31.9	-0.8
SAN	**Santiago**	**1.22**	**129**	*i* P		Pn	23 10 16.5	-0.9
SAN				*i* S		Sb	23 10 32.6	-0.7
SAN				AML		AML	23 10 35.4	
	comp=E,3μm,0.5s							
SAN	**Santiago**	**1.22**	**129**	*i* P		Pn	23 10 16.5	-0.9
SAN				*i* S		Sb	23 10 32.6	-0.7
STL	**Santa Lucia**	**1.22**	**127**	*i* P		Pn	23 10 15.7	-1.8
STL				*i* S		Sb	23 10 31.9	-1.5
DSCH	**Colegio Aleman**	**1.25**	**124**	↓↓*i*P		Pn	23 10 16.3	-1.6
DSCH				*i* S		Sb	23 10 32.9	-1.3
CLCH	**Cerro Calan**	**1.27**	**124**	↓↓*i*P		Pn	23 10 17.3	-0.8
CLCH				*i* S		Sb	23 10 34.4	-0.4
CLCH				AML		AML	23 10 41.2	
	comp=E,3μm,0.3s							
LNV	**Longovilo**	**1.30**	**165**	↑↑*i*P		Pn	23 10 16.7	-1.8
LNV				*i* S		Sn	23 10 33.7	-1.8
ANTU	**Antumapu**	**1.31**	**132**	↑↑*i*P		Pn	23 10 17.9	-0.8
ANTU				*i* S		Sn	23 10 35.2	-0.6
FCH	**Farellones**	**1.42**	**117**	↓↓*i*P		Pn	23 10 19.9	-0.3
FCH				*i* S		Sn	23 10 38.8	+0.4
PCH	**Pirque**	**1.42**	**131**	↓↓*i*P		Pn	23 10 19.8	-0.4
PCH				*i* S		Sn	23 10 38.4	-0.1
CHCH	**Chadas Angostu**	**1.57**	**142**	↓↓*i*P		Pn	23 10 22.0	-0.2
CHCH				*i* S		Sn	23 10 42.3	+0.2
CMCH	**Combarbala**	**1.66**	**24**	↑↑*i*P		Pn	23 10 22.6	-0.9
CMCH				*i* S		Sn	23 10 44.2	-0.3
CMCH				AML		AML	23 10 51.2	
	comp=E,4μm,0.8s							
CMCH	**Combarbala**	**1.66**	**24**	↑↑*i*P		Pn	23 10 22.6	-0.9
CMCH				*i* S		Sn	23 10 44.2	-0.3
YECH	**El Yeso**	**1.74**	**124**	*i* P		Pn	23 10 25.2	+0.6
YECH				*i* S		Sn	23 10 48.1	+1.8
YECH				AML		AML	23 10 52.1	
	comp=N,990nm,0.1s							
CACH	**El Canelo**	**1.74**	**145**	*i* P		Pn	23 10 25.4	+0.9
CACH				*i* S		Sn	23 10 48.6	+2.3
CICH	**Cipreses**	**1.99**	**145**	↑↑*i*P		Pn	23 10 28.9	+0.8
CICH				*i* S		Sn	23 10 54.3	+1.8
TLL	**Tololo Astrono**	**2.66**	**19**	AML		AML	23 11 21.9	
	comp=E,390nm,0.4s							

IDC 09 23:13:11.9±1.0, 1306N×9240E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/21, mbtmp3.7/8, Error ellipse: s-maj=71.2km s-min=20.6km az=47.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.44**	**166**	*e*P		x	23 13 40.4	
PBA				*e*S		x	23 13 59.4	
PBA				*ex*		x	23 14 04.9	
	comp=E,2μm,0.5s							
PBA				*ex*		x	23 14 05.3	
	comp=N,1μm,0.5s							
MKAR	**Makanchi Array**	**34.68**	**348**	P		P	23 20 04.1	+0.8
	comp=N,0.4nm,0.7s,baz=170,slow=8.8,SNR=2.8							
WRA	**Warramunga Arr**	**52.72**	**128**	P		P	23 22 28.5	+0.2
	comp=N,0.5nm,0.9s,baz=307,slow=8.0,SNR=6.2							
ASAR	**Alice Springs**	**54.59**	**132**	P		P	23 22 42.5	+0.5
	comp=N,0.4nm,0.6s,baz=312,slow=7.2,SNR=9.3							
BRTR	**Keskin Array B**	**57.81**	**309**	P		P	23 23 04.5	-0.5
	comp=N,0.3nm,0.6s,baz=142,slow=7.3,SNR=3.0							
FINES	**FINESS Array B**	**67.36**	**332**	P		P	23 24 08.4	-0.5
	comp=N,3.2nm,1.0s,baz=46,slow=5.5,SNR=3.3							
GERES	**GERESS Array B**	**72.86**	**317**	P		P	23 24 43.0	+0.4
	comp=N,0.3nm,0.5s,baz=95,slow=7.0,SNR=3.8							
NOA	**NORSAR Array B**	**74.40**	**330**	P		P	23 24 51.4	-0.2
	comp=N,1.7nm,1.0s,baz=89,slow=5.8,SNR=2.7							
TORD	**Torodi Ar. Bea**	**87.76**	**283**	P		P	23 26 04.6	+1.8
	comp=N,0.3nm,0.8s,baz=90,slow=4.4,SNR=3.9							

GUC 09 23:25:26.0±0.6, 29.03S×71.37W, h100km±59km, MD3.1, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.70**	**50**	*e*P		Pn	23 25 43.7	+0.4
VACH				*i* S		Sn	23 25 57.0	+0.6
VACH				AML		AML	23 25 58.7	
	comp=E,4μm,0.1s							
TLL	**Tololo Astrono**	**1.23**	**157**	*i* P		Pn	23 25 50.2	+1.2
TLL				*i* S		Sn	23 26 07.8	+1.5
CDCH	**Caldera**	**2.00**	**14**	*i* P		Pn	23 25 58.9	+0.3
CDCH				*i* S		Sn	23 26 23.6	+0.2
CMCH	**Combarbala**	**2.16**	**172**	↑↑*i*P		Pn	23 26 01.2	+0.6
CMCH				*i* S		Sn	23 26 27.9	+0.8
CMCH				AML		AML	23 26 29.9	
	comp=N,292nm,0.8s							

*IDC **09** 23:46:31.2±3.9, 66.8S×148.75E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=119.8km s-min=35.8km az=112.0*
*NEIC **09** 23:46:36.1±2.8, 66.3S×148.67E, h35km, mb3.2/1, Error ellipse: s-maj=82.3km s-min=26.0km az=108.0, New Britain region*

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.13**	**208**	Pn		Pn	23 47 23.7	+0.8
	12nm,0.3s,baz=47,slow=5.2,SNR=32							
PMG				Sn		Sn	23 48 00.7	+1.6
	10nm,0.3s,baz=97,slow=15,SNR=13							
WRAB	**Tennant Creek**	**19.18**	**225**	*e*P		Pn	23 50 57.1	-0.6
	0.8nm,0.5s							
WRA	**Warramunga Arr**	**19.20**	**225**	P		Pn	23 50 56.0	-1.9
	0.2nm,0.3s,baz=52,slow=11,SNR=20							
ASAR	**Alice Springs**	**22.09**	**218**	P		P	23 51 27.8	-0.3
	0.4nm,0.5s,baz=56,slow=9.1,SNR=12							
FITZ	**Fitzroy Crossi**	**25.18**	**241**	P		P	23 51 59.3	+1.1
	1.1nm,0.5s,baz=53,slow=7.5,SNR=6.5							
TORD	**Torodi Ar. Bea**	**146.85**	**284**	PKPbc		PKPbc	00 06 16.1	+1.6
	0.3nm,0.5s,baz=66,slow=2.8,SNR=5.0							

*IDC **09** 23:50:20.7±1.1, 47.28N×154.80E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.8/22, mbtmp3.7/11, Error ellipse: s-maj=28.4km s-min=22.3km az=161.0*
*NEIC **09** 23:50:22.3±0.9, 47.29N×154.75E, h10km, mb4.2/3, Error ellipse: s-maj=22.9km s-min=15.4km az=161.0*
*ISCJB **09** 23:50:24.0±0.9, 473N±0.1×1547E±02, h35km, mb3.8/16, MS3.3/1, Error ellipse: s-maj=20.3km s-min=12.8km az=89.7*
*MOS **09** 23:50:27.3±1.4, 47.34N×154.71E, h62km, mb4.2/10, Error ellipse: s-maj=25.6km s-min=12.5km az=96.1*

ISC 09 23:50:25.8±0.9, 473N±01×1548E±02, h35km, n27, σ1.9 07/28, mb3.8/16, MS3.3/1, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.46**	**14**	*e*PN		**Pn**	**23 51 21.0**	**+3.8**
SKR				*e*			23 51 57.0	
BILL	**Bilibino**	**21.57**	**12**	↓↓*e*P		**P**	**23 55 12.0**	**-0.3**
BILL				*e*			23 55 30.5	
BILL				*e*S		**S**	**23 59 05.3**	**-4.0**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb3.7							
BILL				MLR		MLR		
	comp=Z,100nm,18.0s,MS3.3							
TIXI	**Tiksi**	**27.23**	**342**	*e*P		**P**	**23 56 06.0**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,12nm,2.5s,mb4.0							
SONM	**Songino Array**	**32.20**	**289**	P		**P**	**23 56 50.7**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.4,baz=66,slow=11,SNR=3.4							
ENH	**Enshi**	**38.58**	**260**	P		**P**	**23 57 44.4**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.4							
INK	**Inuvik**	**40.55**	**33**	P		**P**	**23 58 01.1**	**-0.5**
	comp=Z,1.6nm,0.6s,mb3.8,baz=236,slow=16,SNR=7.1							
INK	**Inuvik**	**40.55**	**33**	P		**P**	**23 58 01.1**	**-0.5**
INK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ZAL	**Zalesovo**	**43.20**	**306**	P		**P**	**23 58 23.3**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.8,baz=42,slow=7.9,SNR=5.5							
ZAL	**Zalesovo**	**43.20**	**306**	P		**P**	**23 58 23.3**	**0.0**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**47.67**	**298**	P		**P**	**23 58 58.5**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=76,slow=7.3,SNR=9.2							
MKAR	**Makanchi Array**	**47.67**	**298**	*i* P		**P**	**23 58 59.2**	**+0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**47.97**	**304**	*e*P		**P**	**23 59 00.9**	**-0.2**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**47.97**	**304**	*e*P		**P**	**23 59 00.9**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.5							
YKA	**Yellowknife Ar**	**49.77**	**37**	P		**P**	**23 59 13.0**	**-1.9**
	comp=Z,0.3nm,0.8s,mb3.4,baz=291,slow=7.8,SNR=3.6							
CHKZ	**Chkalovo**	**50.91**	**310**	*e*P		**P**	**23 59 23.2**	**-0.3**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**50.91**	**310**	*e*P		**P**	**23 59 23.2**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.2							
JOF	**Joensuu**	**61.30**	**334**	*e*p		**P**	**00 00 36.9**	**-0.8**
FINES	**FINESS Array B**	**63.98**	**335**	P		**P**	**00 00 55.4**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=42,slow=7.7,SNR=17							
FINES	**FINESS Array B**	**63.98**	**335**	P		**P**	**00 00 55.4**	**-0.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**69.45**	**201**	P		**P**	**00 01 29.8**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=19,slow=6.6,SNR=3.1							
AKASG	**Malin Array Be**	**71.67**	**327**	P		**P**	**00 01 43.7**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=33,slow=6.1,SNR=6.9							
AKASG	**Malin Array Be**	**71.67**	**327**	P		**P**	**00 01 43.7**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**76.22**	**62**	P		**P**	**00 02 12.8**	**+2.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=301,slow=4.0,SNR=4.3							
TXAR	**Lajitas Array**	**76.22**	**62**	P		**P**	**00 02 12.8**	**+2.3**
GERES	**GERESS Array B**	**78.41**	**335**	P		**P**	**00 02 24.7**	**+1.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=19,slow=5.7,SNR=4.2							
BRTR	**Keskin Array B**	**78.72**	**318**	P		**P**	**00 02 27.0**	**+2.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=58,slow=7.5,SNR=4.6							
BRTR	**Keskin Array B**	**78.72**	**318**	P		**P**	**00 02 27.0**	**+2.5**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							

*CSEM **10** 00:03:35.1, 36.55N×54.99E, h14km, ML3.5, After THR*

THR 10 00:03:35.1±0.6, 36.55N×54.99E, h14km±6km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**1.41**	**38**	*e*Pg		Pg	00 04 00.9	-1.3
MRVT				*e*Sg		Sg	00 04 20.3	-0.3
DAMV	**Damavand**	**2.61**	**250**	*e*Pn		Pn	00 04 19.3	+2.4
DAMV				*e*Sg		Sg	00 04 57.0	-2.1
DAMV				AML		AML	00 04 58.8	
	comp=E,181nm,0.7s							
DAMV				AML		AML	00 04 59.0	
	comp=N,166nm,0.6s							
DAMV	**Damavand**	**2.61**	**250**	*e*Pn		Pn	00 04 19.3	+2.4
	SNR=52							
DAMV				*e*Sg		Sg	00 04 57.0	-2.1
	comp=N,166nm,0.6s,SNR=90							
CHTH	**Charan**	**3.19**	**260**	*e*Pn		Pn	00 04 27.4	+2.6
THKV	**Tehran--Karaj**	**3.38**	**260**	*e*Pn		Pn	00 04 29.8	+2.3
THKV				AML		AML	00 05 21.9	
	comp=N,116nm,0.4s							
THKV				AML		AML	00 05 27.4	
	comp=E,134nm,0.6s							
NASN	**Na'in**	**4.15**	**206**	*e*Pn		Pn	00 04 40.5	+2.5
ASAO	**Ashtian**	**4.52**	**245**	*e*Pn		Pn	00 04 45.2	+2.2

*NEIC **10** 00:17:05.0±1.5, 5.99S×154.08E, h35km, Error ellipse: s-maj=47.6km s-min=14.5km az=121.0*

IDC 10 00:17:08.7±10.0, 5.91S×153.74E, h54km±76km, mb3.4/5, mb1 3.6/6, mb1mx3.5/14, mbtmp3.5/6, ML3.0/1, MS2.7/2, Ms1 2.7/2, ms1mx2.6/16, Error ellipse: s-maj=90.4km s-min=35.0km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.08**	**120**	LR		LR	00 21 00.1	
	comp=Z,56nm,19.6s,baz=359,slow=33							
PMG	**Port Moresby**	**7.38**	**242**	P		Pn	00 18 54.0	+0.2
	1.5nm,0.3s,baz=63,slow=11,SNR=6.4							
PMG				S		Sn	00 20 17.2	+1.0
	0.5nm,0.3s,baz=100,slow=18,SNR=2.7							
PMG				LR		LR	00 21 29.5	
	comp=Z,75nm,20.8s,baz=41,slow=35							
WRA	**Warramunga Arr**	**23.45**	**232**	P		P	00 22 13.7	+0.5
	0.6nm,0.7s,baz=58,slow=9.3,SNR=7.4							
ASAR	**Alice Springs**	**26.00**	**225**	P		P	00 22 36.6	+0.3
	0.9nm,0.7s,baz=59,slow=9.2,SNR=8.2							
SONM	**Songino Array**	**67.75**	**328**	P		P	00 28 01.1	+0.5
	0.6nm,0.8s,baz=142,slow=4.9,SNR=4.0							
MKAR	**Makanchi Array**	**81.77**	**319**	P		P	00 29 22.0	+0.4
	0.5nm,0.5s,baz=115,slow=7.4,SNR=11							
ZAL	**Zalesovo**	**82.60**	**326**	P		P	00 29 25.5	-0.5
	0.5nm,0.4s,baz=349,slow=10,SNR=3.1							
TORD	**Torodi Ar. Bea**	**151.53**	**287**	PKPbc		PKPbc	00 36 57.6	+1.0

*ISCJB **10** 00:39:30.1±2.0, 02N±02×1222E±03, h205km±21km, mb4.1/12, Error ellipse: s-maj=55.6km s-min=9.3km az=108.5*
*NEIC **10** 00:39:31.6±1.8, 0.17N×12205E, h206km±22km, mb4.2/3, Error ellipse: s-maj=50.5km s-min=8.4km az=61.0*
*IDC **10** 00:39:33.5±5.1, 0.13N×12198E, h225km±52km, mb3.6/5, mb1 3.7/6, mb1mx3.4/19, mbtmp3.5/6, Error ellipse: s-maj=82.3km s-min=14.0km az=64.0*
ISC 10 00:39:30.8±2.0, 03N±02×1222E±03, h193km±20km, n17, σ0§35/17, mb4.1/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.31**	**314**	Pn	**Pn**	**00 41 28.2**	**+0.1**
KAKA	**Kakadu**	**16.39**	**142**	*eP*	**Pn**	**00 43 10.0**	**0.0**
	6.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.55**	**170**	*eP*	**P**	**00 43 32.5**	**-0.4**
	4.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.55**	**170**	P	**P**	**00 43 32.6**	**-0.3**
	0.7nm,0.3s,baz=357,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**23.31**	**150**	*eP*	**P**	**00 44 21.2**	**-0.3**
	5.7nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**23.32**	**150**	P	**P**	**00 44 21.2**	**-0.3**
	6.8nm,0.5s,mb4.5,baz=325,slow=11,SNR=125						
WRA				PcP	PcP	00 48 01.2	-1.5
	0.3nm,0.4s,baz=320,slow=2.3,SNR=6.9						
WB2	**Warramunga Arr**	**23.32**	**150**	*eP*	**P**	**00 44 21.4**	**-0.1**
ASAR	**Alice Springs**	**26.34**	**155**	P	**P**	**00 44 49.5**	**+0.6**
	2.7nm,0.5s,mb4.1,baz=343,slow=14,SNR=73						
ASAR				PcP	PcP	00 48 08.9	-0.5
	1.0nm,0.3s,baz=349,slow=2.2,SNR=14						
STKA	**Stephens Creek**	**36.84**	**152**	P	**P**	**00 46 20.9**	**+0.5**
	7.7nm,0.7s,mb4.3,baz=325,slow=7.6,SNR=14						
GUN	**Gumba**	**44.37**	**311**	*eP*	**P**	**00 47 22.3**	**+0.4**
	10.0nm,0.5s,mb4.4						
PKI	**Pulchoki**	**44.55**	**311**	*eP*	**P**	**00 47 23.2**	**-0.1**
	8.3nm,0.6s,mb4.2						
KKN	**Kakani**	**44.76**	**311**	*eP*	**P**	**00 47 25.3**	**+0.3**
	4.3nm,0.3s,mb4.3						
DMN	**Daman**	**44.80**	**311**	*eP*	**P**	**00 47 24.6**	**-0.7**
	3.9nm,0.3s,mb4.2						
GKN	**Gorkha**	**45.36**	**311**	*eP*	**P**	**00 47 29.8**	**+0.1**
	4.7nm,0.3s,mb4.3						
KOLN	**Koldanda**	**46.03**	**310**	*eP*	**P**	**00 47 35.2**	**+0.2**
	4.0nm,0.3s,mb4.2						
SONM	**Songino Array**	**49.35**	**346**	P	**P**	**00 48 00.5**	**0.0**
	1.1nm,0.9s,mb3.2,baz=164,slow=8.2,SNR=5.2						
MKAR	**Makanchi Array**	**57.99**	**329**	P	**P**	**00 49 02.8**	**-0.4**
	0.8nm,0.5s,mb3.6,baz=124,slow=8.8,SNR=19						

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*IDC **10** 00:43:01.7±0.5, 1869S×17798W, h543km±5km, mb4.2/20, mb1 4.4/23, mb1mx4.4/24, mbtmp4.3/23, Error ellipse: s-maj=10.1km s-min=7.0km az=156.0*
*SZGRF **10** 00:43:02.7, 1861S×17742W, h553km, Fiji Islands region*
*ISCJB **10** 00:43:02.3±0.1, 1879S±003×17804W±003, h565km, mb4.9/71, Error ellipse: s-maj=5.3km s-min=3.1km az=99.0*
*BJI **10** 00:43:02.8, 1860S×17746W, h590km, mB5.0, mb4.9*
*NEIC **10** 00:43:03.7±0.1, 1874S×17801W, mb4.8/43, Error ellipse: s-maj=6.3km s-min=4.1km az=144.0*
*GCMT **10** 00:43:03.7±0.3, 1866S×17790W, h568km±1km, MW5.5/70, Moment Tensor Solution. s70,c121; Duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.67±.04; $M_{\theta\theta}$2.26±.06; $M_{\phi\phi}$-1.59±.07; $M_{r\theta}$-0.08±.07; $M_{\theta\phi}$0.58±.07; $M_{\phi r}$-1.03±.07; Best double couple: $M_0$2.33200×10^{17} NP1:ϕ_S302.00000°, δ65.00000°, λ-20.00000°. NP2: ϕ_S41.00000°, δ72.00000°, λ-153.00000°. Principal axes: T 2.3640, Plg5.0000°, Azm170.0000°; N -0.0580, Plg58.0000°, Azm73.0000°; P -2.3010, Plg32.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s.*
ISC 10 00:43:03.6±0.1, 1881S±003×17799W±003, h567km, h567km±3.3km; pP-P, n560, σ0§81/343, mb4.9/71, 112C-102D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.70**	**52**	P	**P**	**00 44 52.8**	**-6.0**
	68nm,0.3s,baz=245,slow=14,SNR=58						
AFI				S	**S**	**00 46 21.7**	**-12**
	5.4nm,0.3s,baz=233,slow=20,SNR=4.2						
AFI	**Afiamalu**	**7.70**	**52**	*eP*	**P**	**00 44 52.5**	**-6.3**
	203nm,0.5s						
AFI				*eS*	**S**	**00 46 24.1**	**-9.1**
RAO	**Raoul Island**	**10.40**	**180**	P	**P**	**00 45 22.8**	**-2.9**
	112nm,0.3s,baz=184,slow=16,SNR=4.7						
RAO				S	**S**	**00 47 20.1**	**-2.5**
	51nm,0.3s,baz=128,slow=20,SNR=4.8						
FUNA	**Funafuti**	**10.58**	**345**	*e*Pn	**P**	**00 45 23.0**	**-4.6**
	1μm,1.3s						
DZM	**Mont Dzumac**	**14.95**	**255**	*eP*	**P**	**00 46 10.6**	**-1.7**
DZM	**Mont Dzumac**	**14.95**	**255**	P	**P**	**00 46 11.1**	**-1.1**
	9.9nm,0.3s,baz=82,slow=14,SNR=75						
RAR	**Rarotonga**	**17.28**	**101**	P	**P**	**00 46 33.3**	**-0.7**
	2.2nm,0.3s,baz=251,slow=7.7,SNR=20						
OUZ	**Omahuta**	**17.97**	**203**	PN	**P**	**00 46 43.1**	**+2.8**
WCZ	**Waipu Caves**	**18.36**	**200**	*eP*	**P**	**00 46 44.5**	**+0.6**
WCZ	**Waipu Caves**	**18.36**	**200**	PN	**P**	**00 46 46.2**	**+2.3**
	261nm,0.6s						
KUZ	**Kuaotunu**	**18.71**	**196**	*eP*	**P**	**00 46 48.2**	**+1.1**
KUZ	**Kuaotunu**	**18.71**	**196**	PN	**P**	**00 46 48.2**	**+1.2**
	445nm,0.5s						
MXZ	**Matakaoa Point**	**18.97**	**189**	PN	**P**	**00 46 47.9**	**-1.5**
KAAZ	**Kauri Point**	**19.07**	**198**	P	**P**	**00 46 51.8**	**+1.5**
KAAZ	**Kauri Point**	**19.07**	**198**	*e*PN	**P**	**00 46 51.2**	**+0.9**
OTAZ	**Otara**	**19.12**	**198**	P	**P**	**00 46 51.6**	**+0.8**
OTAZ	**Otara**	**19.12**	**198**	PN	**P**	**00 46 52.1**	**+1.3**
MKAZ	**Moumakai**	**19.20**	**197**	P	**P**	**00 46 53.0**	**+1.5**
MKAZ	**Moumakai**	**19.20**	**197**	PN	**P**	**00 46 52.5**	**+0.9**
URZ	**Urewera**	**19.85**	**191**	P	**P**	**00 46 55.0**	**-2.5**
	14nm,0.3s,baz=21,slow=5.0,SNR=88						
URZ				S	**S**	**00 50 02.1**	**-4.7**
	1.5nm,0.3s,baz=215,slow=19,SNR=8.0						
URZ	**Urewera**	**19.85**	**191**	*eP*	**P**	**00 46 54.2**	**-3.2**
URZ	**Urewera**	**19.85**	**191**	PN	**P**	**00 46 54.2**	**-3.2**
SNZO	**South Karori**	**23.29**	**194**	*eP*	**P**	**00 47 26.4**	**-1.8**
	170nm,0.7s,mb5.8						
HNR	**Honiara**	**23.32**	**291**	P	**P**	**00 47 27.1**	**-1.3**
	119nm,0.8s,mb5.6,baz=120,slow=2.6,SNR=5.7						
QRZ	**Quartz Range**	**23.41**	**198**	*eP*	**P**	**00 47 29.1**	**-0.2**
QRZ	**Quartz Range**	**23.41**	**198**	PN	**P**	**00 47 29.2**	**-0.1**
THZ	**Tophouse**	**24.17**	**197**	sP	sP	00 50 07.9	-1.1
THZ				SN	**S**	**00 51 10.0**	**-4.8**
DSZ	**Denniston Nort**	**24.47**	**199**	PN	**P**	**00 47 37.9**	**-0.8**
KHZ	**Kahutara**	**24.61**	**195**	*eP*	**P**	**00 47 38.3**	**-1.7**
KHZ	**Kahutara**	**24.61**	**195**	PN	**P**	**00 47 38.4**	**-1.6**
RPZ	**Rata Peaks**	**26.49**	**198**	P	**P**	**00 47 55.7**	**-0.8**
	28nm,0.6s,mb5.1,baz=349,slow=4.3,SNR=17						
RPZ				S	**S**	**00 51 49.1**	**-2.2**
	24nm,0.9s,baz=115,slow=14,SNR=3.2						
FOZ	**Fox Glacier**	**26.78**	**200**	*eP*	**P**	**00 47 57.4**	**-1.6**
FOZ	**Fox Glacier**	**26.78**	**200**	PN	**P**	**00 47 57.4**	**-1.6**
TBI	**Tubuai**	**26.98**	**105**	*eP*	**P**	**00 48 01.4**	**+0.7**
	116nm,0.8s,mb5.6						
TBI				*e*pP		00 49 22.7	
	447nm,1.4s						
PAE	**Paea**	**26.99**	**92**	*eP*	**P**	**00 47 59.9**	**-1.0**
	95nm,1.1s,mb5.3						
PPT	**Papeete**	**27.01**	**92**	*eP*	**P**	**00 48 00.3**	**-0.7**
	86nm,1.3s,mb5.2						
PPT	**Papeete**	**27.01**	**92**	P	**P**	**00 48 00.0**	**-1.0**
	42nm,0.9s,mb5.1,baz=238,slow=7.8,SNR=4.5						
TVO	**Taravao**	**27.29**	**92**	*eP*	**P**	**00 48 02.4**	**-1.1**
	41nm,0.7s,mb5.2						
JCZ	**Jackson Bay**	**27.54**	**201**	*eP*	**P**	**00 48 05.6**	**-0.1**
JCZ	**Jackson Bay**	**27.54**	**201**	PN	**P**	**00 48 05.1**	**-0.6**
PMOR	**Pomariorio Ree**	**29.02**	**87**	*eP*	**P**	**00 48 17.6**	**-1.0**
	96nm,1.0s,mb5.4						
VAH	**Vaihoa**	**29.23**	**88**	*eP*	**P**	**00 48 18.9**	**-1.4**
	66nm,0.9s,mb5.2						
WHZ	**Wether Hill Ro**	**29.42**	**200**	PN	**P**	**00 48 21.7**	**-0.3**
ARMA	**Armidale**	**29.85**	**241**	⇓*iP*	**P**	**00 48 27.0**	**+1.3**
ARMA				*e*S	**S**	**00 52 46.5**	**+3.1**
RIV	**Riverview**	**31.30**	**235**	⇓*iP*	**P**	**00 48 39.1**	**+1.0**
CNB	**Canberra Magne**	**33.21**	**234**	⇓*iP*	**P**	**00 48 55.6**	**+1.3**
	488nm,1.1s,mb6.0						
CTA	**Charters Tower**	**33.71**	**262**	⇓*iP*	**P**	**00 48 58.7**	**+0.2**
	458nm,0.8s						
CTA	**Charters Tower**	**33.71**	**262**	P	**P**	**00 48 58.7**	**+0.3**
	472nm,0.8s,baz=93,slow=10,SNR=297						
CTA				ScP	ScP	00 54 17.0	+4.5
	27nm,1.1s,baz=79,slow=2.2,SNR=3.6						
CTAO	**Charters Tower**	**33.71**	**262**	*eP*	**P**	**00 48 57.4**	**-1.0**
PMG	**Port Moresby**	**35.01**	**281**	P	**P**	**00 49 09.8**	**+0.5**
	773nm,0.9s,baz=80,slow=5.7,SNR=205						
PMG				S	**S**	**00 54 04.2**	**+2.5**
	5.8nm,0.7s,baz=107,slow=19,SNR=7.5						
PMG	**Port Moresby**	**35.01**	**281**	*eP*	**P**	**00 49 08.8**	**-0.6**
TOO	**Toolangi**	**36.93**	**232**	⇓*iP*	**P**	**00 49 26.2**	**+1.1**
	214nm,0.7s,mb5.8						
TAU	**Tasmania Unive**	**37.85**	**223**	*eP*	**P**	**00 49 33.4**	**+0.7**
STKA	**Stephens Creek**	**38.56**	**242**	⇓*iP*	**P**	**00 49 39.6**	**+1.2**
	584nm,0.9s						
STKA				*e*S	**S**	**00 54 55.7**	**+1.4**
STKA	**Stephens Creek**	**38.56**	**242**	P	**P**	**00 49 39.8**	**+1.3**
	560nm,0.8s,baz=75,slow=9.5						
STKA				S	**S**	**00 54 54.8**	**+0.4**
	6.3nm,0.8s,baz=258,slow=17,SNR=3.6						
RKT	**Rikitea**	**40.29**	**104**	*eP*	**P**	**00 49 52.5**	**+0.2**
	92nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**44.86**	**260**	⇓*iP*	**P**	**00 50 27.5**	**-0.5**
WB2				*e*S	**S**	**00 56 24.0**	**-0.8**
WB2				*e*SCS	ScS	00 59 25.7	+3.2
WRAB	**Tennant Creek**	**44.86**	**260**	*eP*	**P**	**00 50 27.5**	**-0.5**
	288nm,0.7s,mb5.9						
WRA	**Warramunga Arr**	**44.87**	**260**	P	**P**	**00 50 27.9**	**-0.2**
	270nm,0.7s,mb5.9,baz=97,slow=7.6,SNR=1071						
WRA				ScP	ScP	00 55 00.2	+4.2
	6.3nm,1.0s,baz=91,slow=5.2,SNR=4.7						
WRA				S	**S**	**00 56 22.3**	**-2.7**
	6.0nm,0.8s,baz=96,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**44.94**	**255**	P	**P**	**00 50 28.9**	**+0.3**
	954nm,0.7s,baz=88,slow=8.8,SNR=5805						
ASAR				S	**S**	**00 56 26.6**	**+0.7**
	18nm,0.9s,baz=91,slow=16,SNR=16						
KAKA	**Kakadu**	**47.97**	**270**	⇓*iP*	**P**	**00 50 51.1**	**-0.4**
	198nm,0.6s,mb5.8						
GUMO	**Guam**	**48.74**	**309**	P	**P**	**00 50 57.1**	**-0.1**
	344nm,0.9s,mb5.9,baz=185,slow=9.1,SNR=9.7						
FORT	**Forrest**	**49.99**	**245**	⇓*iP*	**P**	**00 51 06.1**	**-0.3**
	311nm,0.6s,mb5.9						
FITZ	**Fitzroy Crossi**	**53.28**	**261**	⇓*iP*	**P**	**00 51 30.3**	**+0.3**
	105nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**00 51 30.4**	**+0.4**
	66nm,0.8s,mb5.0,baz=123,slow=4.1,SNR=235						
KLBR	**Kellerberrin**	**58.79**	**244**	⇓*iP*	**P**	**00 52 07.8**	**-0.2**
	254nm,0.7s,mb5.6						
NWAO	**Narrogin (SRO)**	**59.15**	**242**	P	**P**	**00 52 10.6**	**+0.2**
	96nm,1.0s,mb5.0,baz=87,slow=8.1,SNR=28						
NWAO	**Narrogin (SRO)**	**59.15**	**242**	*eP*	**P**	**00 52 10.7**	**+0.3**
	109nm,1.0s,mb5.0						
SBA	**Scott Base**	**59.55**	**184**	*eP*	**P**	**00 52 15.9**	**+2.8**
	109nm,1.4s,mb5.0						
VNDA	**Vanda**	**59.59**	**185**	P	**P**	**00 52 14.8**	**+1.4**
	11nm,1.0s,mb4.1,baz=18,slow=6.6,SNR=15						
VNDA				ScP	ScP	00 56 03.9	+4.0
	1.6nm,0.9s,baz=346,slow=4.5,SNR=4.6						
VNDA	**Vanda**	**59.59**	**185**	P	**P**	**00 52 14.8**	**+1.4**
VNDA				ScP	ScP	00 56 03.9	+4.0
MUN	**Mundaring**	**60.08**	**243**	*eP*	**P**	**00 52 16.7**	**+0.1**
CASY	**Casey**	**65.50**	**205**	*eP*	**P**	**00 52 51.5**	**+0.1**
TSM	**Tawau**	**67.16**	**283**	P	**P**	**00 53 02.7**	**+1.1**
MJAR	**Matsushiro Arr**	**68.86**	**323**	P	**P**	**00 53 10.8**	**-1.2**
	21nm,0.7s,mb4.8,baz=158,slow=6.0,SNR=49						
MJAR				PcP	PcP	00 53 31.6	-0.1
	7.9nm,0.9s,baz=154,slow=4.3,SNR=5.7						
MAJO	**Matsushiro**	**68.86**	**323**	*eP*	**P**	**00 53 11.0**	**-1.0**
	29nm,0.8s,mb4.9						
MAT	**Matsushiro**	**68.86**	**323**	P	**P**	**00 53 10.8**	**-1.2**
MAT				S	S	01 01 22.0	-10
JOW	**Kunigami**	**69.10**	**310**	P	**P**	**00 53 14.1**	**+0.7**
	49nm,0.8s,mb5.1,baz=67,slow=5.7,SNR=3.9						
KKM	**Kota Kinabalu**	**69.35**	**284**	P	**P**	**00 53 15.6**	**+0.7**
KKM	**Kota Kinabalu**	**69.35**	**284**	*eP*	**P**	**00 53 15.0**	**+0.1**
NACB	**Ninganchiao**	**72.75**	**304**	*eP*	**P**	**00 53 33.9**	**-0.9**
YHNB	**Yeheng**	**73.17**	**304**	*eP*	**P**	**00 53 36.7**	**-0.5**
KSM	**Kuching**	**73.20**	**277**	*eP*	**P**	**00 53 38.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**74.39**	**333**	*eP*	**P**	**00 53 42.9**	**-1.2**
	18nm,0.6s,mb4.7						
QZH	**Quanzhou**	**75.50**	**303**	⇑*iP*	**P**	**00 53 50.8**	**+0.5**
QZH				AMB	AMB		
	comp=Z,450nm,1.0s,mb5.8						
KSRS	**Korea Array**	**75.63**	**318**	P	**P**	**00 53 50.6**	**-0.4**
	comp=Z,6.5nm,0.8s,mb4.1,baz=140,slow=5.7,SNR=14						
VES	**Vestal, Richgr**	**77.83**	**45**	⇑P	**P**	**00 54 04.1**	**+1.0**
	baz=78						
S05C	**Merced**	**77.86**	**44**	⇓P	**P**	**00 54 03.8**	**+0.6**
	baz=78						
MURC	**Murrieta**	**77.91**	**48**	⇓P	**P**	**00 54 02.8**	**-0.7**
	baz=78						
BFSC	**Mount Baldy St**	**77.93**	**47**	⇓P	**P**	**00 54 03.6**	**0.0**
	baz=78						
O02C	**Red Bluff**	**77.97**	**40**	⇓P	**P**	**00 54 04.2**	**+0.4**
	baz=78						
R04C	**Big Horse Ranc**	**77.99**	**42**	⇓P	**P**	**00 54 04.0**	**0.0**
	baz=78						
EDW2	**Edwards Air Fo**	**78.05**	**47**	⇓P	**P**	**00 54 04.9**	**+0.6**
	baz=78,SNR=6.2						
T06C	**Millerton Lake**	**78.07**	**44**	⇑P	**P**	**00 54 04.2**	**-0.1**
	baz=78						
MONP	**Monument Peak**	**78.09**	**49**	⇑P	**P**	**00 54 05.1**	**+0.7**
	baz=78,SNR=5.9						
ISA	**Isabella**	**78.15**	**46**	⇓P	**P**	**00 54 05.5**	**+0.8**
	baz=78						
CMB	**Columbia Colle**	**78.22**	**43**	*eP*	**P**	**00 54 05.2**	**+0.1**
CMB	**Columbia Colle**	**78.22**	**43**	⇑P	**P**	**00 54 05.1**	**0.0**
	baz=78						
HELL	**Mitchell Peak,**	**78.34**	**45**	⇓P	**P**	**00 54 05.0**	**-0.8**
	baz=78						
ORV	**Oroville**	**78.40**	**41**	⇑P	**P**	**00 54 05.8**	**-0.3**
	baz=78						
S06C	**San Francisco**	**78.48**	**43**	⇓P	**P**	**00 54 06.7**	**+0.1**
	baz=79						
KCC	**Kaiser Creek**	**78.51**	**44**	⇓P	**P**	**00 54 02.8**	**-3.9**
	baz=79						
SWSC	**Sam W. Stewart**	**78.57**	**49**	⇓P	**P**	**00 54 07.2**	**+0.2**
	baz=79						
M02C	**Callahan**	**78.67**	**39**	⇓P	**P**	**00 54 07.9**	**+0.4**
	baz=79						
R05C	**Kirkwood Meado**	**78.80**	**43**	⇑P	**P**	**00 54 08.3**	**0.0**
	baz=79						
YBH	**Yreka Blue Hor**	**78.97**	**39**	P	**P**	**00 54 09.1**	**0.0**
	comp=Z,3.7nm,0.6s,baz=142,slow=0.5,SNR=12						
YBH	**Yreka Blue Hor**	**78.97**	**39**	⇑P	**P**	**00 54 09.6**	**+0.5**
	baz=79						
BELC	**Belle Mtn.**	**78.97**	**48**	⇑P	**P**	**00 54 10.0**	**+0.9**
	baz=79						
O05C	**Quincy**	**79.00**	**41**	⇑P	**P**	**00 54 09.7**	**+0.4**
	baz=79,SNR=5.6						
MTUM	**Tungsten Hills**	**79.02**	**44**	*eP*	**P**	**00 54 09.7**	**+0.3**
MTUM				*e*pP	pP	00 56 11.9	+2.9
MPMC	**Manual Prospec**	**79.03**	**46**	⇑P	**P**	**00 54 10.1**	**+0.7**
	baz=79						
M03C	**McCloud**	**79.04**	**39**	⇓P	**P**	**00 54 09.1**	**-0.4**
	baz=79						
R06C	**Coleville**	**79.10**	**43**	⇑P	**P**	**00 54 09.5**	**-0.3**
	baz=79						
O04C	**Chester**	**79.11**	**41**	⇑P	**P**	**00 54 09.8**	**-0.1**
	baz=79						
K02A	**Glendale**	**79.14**	**38**	⇑P	**P**	**00 54 10.2**	**+0.1**
	baz=79						
MDJ	**Mudanjiang**	**79.14**	**325**	P	**P**	**00 54 10.6**	**+0.5**
MDJ				PCP	PcP	00 54 12.8	-3.3
MDJ				AP	pP	00 56 12.8	+3.1
MDJ				XP	sP	00 57 10.8	+3.3
MDJ				S	S	01 03 24.9	+1.2
MDJ				AMB	AMB		
	comp=Z,63nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,36nm,3.2s						
HATC	**Hat Creek Radi**	**79.17**	**40**	⇓P	**P**	**00 54 10.5**	**+0.3**
	baz=79						
HEC	**Hector,Ludlow**	**79.18**	**47**	⇑P	**P**	**00 54 10.6**	**+0.4**
	baz=79						
BC3	**Big Chuckw Mtn**	**79.18**	**49**	⇓P	**P**	**00 54 10.5**	**+0.2**
	baz=79						
BEKR	**Beckwourth**	**79.29**	**41**	⇓P	**P**	**00 54 10.7**	**-0.2**
	baz=79						
GLA	**Glamis**	**79.32**	**50**	⇑P	**P**	**00 54 12.1**	**+1.1**
	baz=80						
WCN	**Washoe City**	**79.35**	**42**	⇑P	**P**	**00 54 11.5**	**+0.4**
	baz=80						
HUMO	**Hull Mountain**	**79.36**	**38**	⇑P	**P**	**00 54 11.9**	**+0.7**
	baz=80						
S08C	**White Mtn Res**	**79.36**	**44**	⇓P	**P**	**00 54 12.0**	**+0.8**
	baz=80,SNR=8.2						
M04C	**Macdoel**	**79.52**	**39**	⇑P	**P**	**00 54 12.3**	**+0.3**
	baz=80						
GMRC	**Granite Mounta**	**79.62**	**48**	⇑P	**P**	**00 54 12.9**	**+0.3**
	baz=80						
IRM	**Iron Mountain**	**79.66**	**49**	⇓P	**P**	**00 54 13.4**	**+0.6**
	baz=80						
M05C	**Lookout**	**79.68**	**40**	⇑P	**P**	**00 54 13.0**	**+0.1**
	baz=80						
FURC	**Furnace Creek,**	**79.68**	**46**	⇑P	**P**	**00 54 12.9**	**0.0**
	baz=80						
TUQ	**Turquoise Mtn.**	**79.78**	**47**	⇑P	**P**	**00 54 14.0**	**+0.6**
	baz=80						
NVAR	**Mina Array Bea**	**79.79**	**44**	P	**P**	**00 54 13.8**	**+0.3**
	comp=Z,6.6nm,0.7s,mb4.1,baz=230,slow=9.1,SNR=30						
NVAR				pP	pP	00 56 10.1	-3.3
	comp=Z,0.8nm,0.7s,baz=228,slow=8.0,SNR=1.8						
O06A	**Flanigan**	**79.80**	**41**	⇓P	**P**	**00 54 14.1**	**+0.6**
	baz=80,SNR=6.2						
R08A	**Mina**	**79.88**	**44**	⇑P	**P**	**00 54 14.4**	**+0.5**
	baz=80						
Y12C	**Blythe**	**79.89**	**49**	⇑P	**P**	**00 54 14.6**	**+0.7**
	baz=80						
KGM	**Kluang**	**79.96**	**276**	P	**P**	**00 54 15.6**	**+1.3**
M06C	**Likely Place G**	**80.00**	**40**	P	**P**	**00 54 15.0**	**+0.5**
	baz=80,SNR=5.4						
I03A	**Eugene**	**80.01**	**37**	⇑P	**P**	**00 54 14.8**	**+0.2**
	baz=80						
H02A	**Toledo**	**80.05**	**36**	⇑P	**P**	**00 54 15.5**	**+0.7**
	baz=80						
N06A	**Buffalo Meadow**	**80.13**	**41**	⇓P	**P**	**00 54 14.6**	**-0.6**
	baz=80						
J04A	**Umpqua Nationa**	**80.23**	**38**	⇑P	**P**	**00 54 16.0**	**+0.2**
	baz=80						
V11A	**Goodsprings**	**80.33**	**47**	⇑P	**P**	**00 54 16.5**	**+0.2**
	baz=80						
O07A	**Toulon**	**80.39**	**42**	P	**P**	**00 54 16.9**	**+0.3**
	baz=80,SNR=7.6						
I04A	**Tendick Farm,**	**80.40**	**37**	⇑P	**P**	**00 54 16.5**	**-0.1**
	baz=80						
PDMCI	**Parker Dam,Lak**	**80.45**	**49**	⇑P	**P**	**00 54 17.1**	**+0.2**
	baz=81						
R09A	**Tonopah**	**80.50**	**44**	⇓P	**P**	**00 54 17.6**	**+0.5**
	baz=81						
MOD	**Modoc**	**80.51**	**40**	*eP*	**P**	**00 54 17.4**	**+0.2**
MOD	**Modoc**	**80.51**	**40**	⇓P	**P**	**00 54 17.5**	**+0.3**
	baz=81,SNR=7.6						
K05A	**Summer Lake**	**80.64**	**39**	⇑P	**P**	**00 54 17.9**	**0.0**
	baz=81,SNR=5.6						
N07B	**Gerlach**	**80.69**	**41**	⇓P	**P**	**00 54 18.6**	**+0.5**
	baz=81						
X13A	**Yucca**	**80.82**	**49**	⇓P	**P**	**00 54 19.5**	**+0.7**
	baz=81						
Z14A	**Wintersburg**	**80.84**	**50**	⇑P	**P**	**00 54 19.0**	**+0.1**
	baz=81						
M07A	**Soldier Meadow**	**80.91**	**41**	⇑P	**P**	**00 54 19.9**	**+0.7**
	baz=81						
CN2	**Changchun**	**80.97**	**322**	⇓*iP*	**P**	**00 54 19.4**	**-0.2**
CN2				*e*AP	pP	00 56 20.4	+0.5
CN2				*e*S	S	01 03 45.1	+2.8
CN2				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
W13A	**Hualapai Mount**	**81.03**	**48**	⇑P	**P**	**00 54 21.0**	**+1.1**
	baz=81						
115A	**Sonoran Desert**	**81.05**	**51**	⇓P	**P**	**00 54 21.0**	**+1.1**
	baz=81						
K06A	**Valley Falls**	**81.07**	**39**	⇑P	**P**	**00 54 20.3**	**+0.3**
	baz=81,SNR=8.4						
Y14A	**Wickenburg**	**81.08**	**50**	⇑P	**P**	**00 54 20.7**	**+0.6**
	baz=81						
L07A	**Adell**	**81.16**	**40**	P	**P**	**00 54 21.0**	**+0.4**
	baz=81,SNR=7.4						
N08A	**GE Springer Mi**	**81.21**	**42**	⇑P	**P**	**00 54 21.4**	**+0.6**
	baz=81						
G04A	**Mulino**	**81.22**	**36**	⇓P	**P**	**00 54 21.2**	**+0.3**
	baz=81						
I05A	**Bend**	**81.28**	**37**	⇓P	**P**	**00 54 22.0**	**+0.8**
	baz=81						
116A	**Eloy**	**81.36**	**51**	⇓P	**P**	**00 54 23.0**	**+1.4**
	baz=82						
J06A	**Christmas Vall**	**81.39**	**39**	⇑P	**P**	**00 54 21.2**	**-0.5**
	baz=82,SNR=8.8		

comp=Z,12nm,1.0s,mb4.4
WUAZ **Wupatki** 83.02 49 ⇑P P 00 54 30.3 +0.3
baz=83,SNR=7.2
ELK **Elko** 83.03 43 eP P 00 54 30.0 0.0
comp=Z,8.0nm,0.8s,mb4.3
M11A **Holland Ranch,** 83.05 42 P P 00 54 30.7 +0.6
baz=83,SNR=6.7
F07A **Phinny Hill Vi** 83.07 37 ⇓P P 00 54 29.8 -0.4
baz=83
O12A **Currie** 83.10 43 ⇓P P 00 54 29.6 -0.8
baz=83,SNR=6.6
MAW **Mawson** 83.16 200 eP P 00 54 31.1 +0.5
comp=Z,6.0nm,0.7s,mb4.2
MAW **Mawson** 83.16 200 P P 00 54 30.3 -0.4
comp=Z,7.6nm,0.7s,mb4.3,baz=110,slow=7.3,SNR=11
C05A **Tolt Reservoir** 83.17 34 ⇑P P 00 54 30.3 -0.4
baz=83,SNR=6.8
N12A **Clover Valley,** 83.22 43 ⇑P P 00 54 31.6 +0.6
baz=83,SNR=9.5
A04A **Legoe Bay, Lum** 83.27 33 ⇓P P 00 54 31.4 +0.2
baz=83
G08A **Pilot Rock** 83.27 38 P P 00 54 31.0 -0.2
baz=83,SNR=13
D06A **Cle Elum** 83.33 35 ⇑P P 00 54 31.5 0.0
baz=84
PMR **Palmer** 83.38 13 eP P 00 54 29.8 -1.9
comp=Z,18nm,1.0s,mb4.6
E07A **Sunnyside** 83.50 36 ⇓P P 00 54 32.3 0.0
baz=84,SNR=6.2
J10A **Berg Farm, Mel** 83.52 40 ⇓P P 00 54 32.8 +0.3
baz=84
KULM **Kulim** 83.55 278 eP P 00 54 33.3 +0.7
KULM ePP PP 00 57 54.4 -1.1
M12A **Wells** 83.60 42 ⇑P P 00 54 32.8 0.0
baz=84,SNR=7.2
F08A **Pendleton** 83.67 37 ⇑P P 00 54 32.7 -0.5
baz=84,SNR=5.2
H09A **Durkee** 83.67 39 ⇑P P 00 54 33.0 -0.2
baz=84
N13A **Wendover, West** 83.76 43 ⇑P P 00 54 33.9 +0.3
baz=84
D07A **Quincy** 83.81 36 ⇓P P 00 54 33.4 -0.5
baz=84
E08A **Dider Farm, El** 83.91 37 ⇓P P 00 54 34.4 0.0
baz=84
BMO **Blue Mountains** 83.99 39 eP P 00 54 34.5 -0.3
BMO epP pP 00 56 35.9 -0.4
M13A **Montello** 84.05 43 ⇓P P 00 54 35.0 -0.1
baz=84,SNR=7.2
C07A **Waterville** 84.05 35 P P 00 54 34.3 -0.8
baz=84,SNR=6.1
MFID **Camas Ranch** 84.09 40 ⇑P P 00 54 35.5 +0.2
baz=84
F09A **S2 Ranch, Elgi** 84.12 38 ⇑P P 00 54 35.4 +0.1
baz=84
H10A **Noah's Angus R** 84.17 39 ⇓P P 00 54 34.7 -1.0
baz=84,SNR=16
I11A **Placerville** 84.28 40 ⇑P P 00 54 35.8 -0.4
baz=84,SNR=8.2
D08A **Wollman Farm,** 84.31 36 ⇓P P 00 54 35.7 -0.7
baz=84,SNR=5.3
PSI **Prapat** 84.36 275 P P 00 54 36.5 -0.1
comp=Z,67nm,0.9s,mb5.2,baz=142,slow=2.4,SNR=60
E09A **Wood Farm, Sta** 84.44 37 ⇑P P 00 54 36.4 -0.6
baz=85
J12A **Stokes Ranch,** 84.45 41 ⇑P P 00 54 37.7 +0.6
baz=85
B07A **Winthrop** 84.48 34 ⇓P P 00 54 36.6 -0.5
baz=85
D09A **Jones Farm, Ri** 84.66 36 ⇓P P 00 54 38.0 0.0
baz=85,SNR=6.7
F10A **Beach Ranch, E** 84.66 38 ⇓P P 00 54 37.7 -0.3
baz=85,SNR=13
C08A **Higginbotham F** 84.66 35 ⇑P P 00 54 37.8 -0.3
baz=85,SNR=5.2
H11A **Donnelly** 84.67 39 ⇑P P 00 54 38.3 +0.2
baz=85,SNR=10
A07A **Ashnola River,** 84.68 34 ⇑P P 00 54 37.5 -0.7
baz=85
BJI **Beijing** 84.70 315 P P 00 54 37.9 -0.3
BJI S S 01 04 21.6 +2.5
BJI AMB AMB
comp=Z,36nm,1.3s,mb4.7
BJI AMB AMB
comp=Z,392nm,2.6s,mb5.5
B08A **Colville Reser** 84.84 35 P P 00 54 38.0 -0.9
baz=85,SNR=9.6
G11A **Walters Elk Ra** 84.90 39 ⇑P P 00 54 38.8 -0.4
baz=85
TMUT **Trail Mountain** 84.97 46 eP P 00 54 40.9 +1.3
E10A **Myers Farm, Un** 85.01 37 ⇓P P 00 54 40.4 +0.7
baz=85
HLID **Hailey** 85.04 41 eP P 00 54 40.4 +0.5
comp=Z,7.1nm,0.9s,mb4.2
HLID epP pP 00 56 44.1 +2.3
HLID **Hailey** 85.04 41 ⇓P P 00 54 40.3 +0.4
baz=85,SNR=11
C09A **Chrisman Ranch** 85.10 36 ⇑P P 00 54 39.9 -0.3
baz=85
J13A **Cove Ranch, Pi** 85.10 41 ⇓P P 00 54 40.8 +0.5
baz=85
A08A **Turner Farm, O** 85.22 34 ⇓P P 00 54 40.2 -0.6
baz=85,SNR=11
D10A **Wagner Farm, O** 85.23 37 ⇓P P 00 54 40.3 -0.5
baz=85,SNR=6.9
F11A **Grangeville** 85.24 38 ⇑P P 00 54 39.2 -1.6
baz=85
H12A **Diamond D Ranc** 85.29 40 ⇓P P 00 54 40.5 -0.6
baz=85,SNR=14
MCK **McKinley** 85.32 13 eP P 00 54 39.3 -2.0
comp=Z,15nm,0.9s,mb4.5
MCK epP pP 00 56 43.8 +0.5
SRU **San Rafael** 85.34 46 eP P 00 54 41.8 +0.4
SRU epP pP 00 56 48.6 +5.2
E11A **Bogner Ranch,** 85.46 38 ⇑P P 00 54 40.7 -1.2
baz=86
B09A **Rice** 85.52 35 ⇓P P 00 54 41.9 -0.3
baz=86,SNR=9.8
A09A **Danville** 85.60 35 ⇓P P 00 54 42.1 -0.5
baz=86,SNR=10.0
F12A **Elk City** 85.69 39 ⇓P P 00 54 42.7 -0.3
baz=86,SNR=23
MNTX **Cornudas Mount** 85.76 55 eP P 00 54 44.3 +0.9
MNTX epP pP 00 56 45.9 +0.3
D11A **Klaveano Farm,** 85.77 37 ⇑P P 00 54 42.8 -0.6
baz=86,SNR=6.1
GYA **Guiyang** 85.83 300 ⇓iP P 00 54 44.3 +0.6
GYA AP pP 00 56 49.4 +3.5
GYA XP sP 00 57 46.1 +3.1
GYA PP PP 00 58 16.7 +3.0
GYA SKS 01 04 14.0
GYA S S 01 04 28.9 -0.9
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,470nm,5.1s
G13A **Cobalt** 85.95 40 ⇓P P 00 54 44.5 +0.2
baz=86,SNR=5.3
NEW **Newport** 86.00 36 P P 00 54 43.5 -0.9
comp=Z,3.0nm,0.7s,mb4.0,baz=222,slow=4.2,SNR=7.7
NEW **Newport** 86.00 36 eP P 00 54 43.0 -1.5
comp=Z,3.4nm,0.7s,mb4.1
LTX **Lajitas** 86.14 57 eP P 00 54 46.2 +1.1
comp=Z,16nm,1.0s,mb4.6
LTX epP pP 00 56 49.0 +1.5
TXAR **Lajitas Array** 86.14 57 P P 00 54 46.4 +1.2
comp=Z,8.2nm,0.7s,mb4.5,baz=219,slow=6.1,SNR=104
TXAR pP pP 00 56 45.2 -2.3
comp=Z,3.6nm,1.2s,baz=235,slow=4.4,SNR=6.5
TXAR PKKPbc PKKPbc 01 12 41.0 +1.2
comp=Z,0.6nm,1.0s,baz=1.9,slow=2.7,SNR=3.5
PV01 **Paradox Valley** 86.24 48 eP P 00 54 45.5 -0.1
PV01 epP pP 00 56 49.0 +0.9
F13A **Darby** 86.26 39 ⇓P P 00 54 45.4 -0.3
baz=86,SNR=13
ANMO **Albuquerque** 86.34 51 P P 00 54 46.5 +0.5
comp=Z,5.6nm,1.0s,mb4.2,baz=216,slow=6.1,SNR=12
ANMO pP pP 00 56 44.5 -4.0
comp=Z,2.7nm,1.2s,baz=266,slow=3.2,SNR=3.1
B11A **Sandpoint** 86.51 36 ⇓P P 00 54 46.2 -0.7
baz=87
COLA **College** 86.56 12 eP P 00 54 44.4 -2.7
comp=Z,21nm,0.8s,mb4.8
MCMT **McKenzie Canyo** 86.66 40 eP P 00 54 47.9 +0.3
E13A **Victor** 86.69 38 ⇑P P 00 54 47.1 -0.6
baz=87
A11A **Hall Mountain,** 86.80 36 ⇓P P 00 54 48.2 -0.1
baz=87
F14A **Wisdom** 86.85 39 P P 00 54 48.4 -0.1
baz=87,SNR=5.2
D13A **Huson** 86.87 38 ⇑P P 00 54 47.6 -1.0
baz=87
G15A **Dillon** 87.05 40 P P 00 54 49.5 +0.1
baz=87,SNR=16
DLMT **Dillon** 87.08 40 eP P 00 54 50.0 +0.4
comp=Z,20nm,1.1s,mb4.7
BSMT **Bassoo Peak** 87.08 37 eP P 00 54 49.0 -0.6
E14A **Clinton** 87.08 39 P P 00 54 49.2 -0.4
baz=87,SNR=7.0
XAN **Xi'an** 87.12 307 P P 00 54 50.4 +0.6
XAN AMB AMB
comp=Z,71nm,1.3s,mb5.1
TPAW **Teton Pass** 87.18 42 eP P 00 54 50.1 +0.1
comp=Z,12nm,1.2s,mb4.4
REDW **Red Top Meadow** 87.18 42 eP P 00 54 50.4 +0.4
comp=Z,18nm,1.1s,mb4.6
REDW epP pP 00 56 49.8 -3.0
A12A **Yaak River Ran** 87.18 36 ⇑P P 00 54 50.1 +0.1
baz=87
SNOW **Snow King Moun** 87.29 42 eP P 00 54 51.2 +0.7
comp=Z,16nm,0.9s,mb4.6
SNOW epP pP 00 56 54.2 +0.9
IMW **Indian Meadow** 87.38 42 eP P 00 54 51.4 +0.4
comp=Z,15nm,1.0s,mb4.6
IMW epP pP 00 56 57.0 +3.2
F15A **Butte** 87.39 40 ⇓P P 00 54 50.8 -0.3
baz=88,SNR=6.8
LRM **Limekiln Ridge** 87.40 40 eP P 00 54 51.5 +0.4
D14A **Greenough** 87.42 38 ⇑P P 00 54 50.4 -0.7
baz=88
MOOW **Moose Ponds** 87.43 42 eP P 00 54 50.9 -0.4
comp=Z,3.6nm,0.9s,mb4.0
LOHW **Long Hollow** 87.46 42 eP P 00 54 51.6 +0.3
comp=Z,14nm,1.2s,mb4.5
QLMT **Earthquake Lak** 87.53 41 eP P 00 54 52.7 +1.0
E15A **Deer Lodge** 87.59 39 ⇑P P 00 54 51.0 -1.0
baz=88
C14A **Swan Lake** 87.64 37 ⇓P P 00 54 51.4 -0.8
baz=88
YFT **Old Faithful** 87.72 41 eP P 00 54 54.9 +2.3
BW06 **Boulder Array** 87.72 43 eP P 00 54 51.8 -0.7
comp=Z,6.8nm,1.0s,mb4.3
PDAR **Pinedale Array** 87.72 43 P P 00 54 52.2 -0.3
comp=Z,6.1nm,0.9s,mb4.3,baz=214,slow=3.2,SNR=33
PDAR pP pP 00 56 51.1 -4.4
comp=Z,1.4nm,1.1s,baz=238,slow=2.8,SNR=4.0
PDAR PKKPbc PKKPbc 01 12 36.9 +0.8
comp=Z,0.7nm,0.8s,baz=104,slow=3.7,SNR=5.1
BOZ **Bozeman (W)** 87.81 40 eP P 00 54 53.6 +0.6
comp=Z,6.0nm,0.7s,mb4.4
BOZ **Bozeman (W)** 87.81 40 ⇓P P 00 54 53.0 0.0
baz=88
DAWY **Dawson** 87.83 16 eP P 00 54 52.0 -1.1
A13A **Flathead Natio** 87.87 36 ⇑P P 00 54 52.9 -0.4
baz=88
EGAK **Eagle** 87.97 15 eP P 00 54 51.8 -1.9
comp=Z,15nm,1.1s,mb4.6
EGAK ePP pP 00 56 53.2 -3.6
D15A **Lincoln** 87.98 39 ⇓P P 00 54 53.8 +0.1
baz=88
LKWY **Lake** 88.05 41 eP P 00 54 56.0 +1.9
comp=Z,14nm,1.1s,mb4.6
NANT **Nan** 88.11 290 ⇓P P 00 54 52.9 -1.5
comp=Z,224nm,1.0s,mb5.8
SDCO **Great Sand Dun** 88.24 49 eP P 00 54 55.6 +0.6
SYO **Syowa Base** 88.38 193 ⇑eX P 00 54 51.5 -4.1
KMI **Kunming** 88.59 297 P P 00 54 56.9 +0.3
KMI AP pP 00 57 03.0 +3.1
KMI XP sP 00 58 00.0 +3.3
KMI S S 01 04 56.3 +0.7
KMI XS sS 01 08 39.8 +4.5
KMI AMB AMB
comp=Z,41nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,222nm,4.7s
JCT **Junction City** 89.67 58 eP P 00 55 00.1 -1.5
comp=Z,7.1nm,1.0s,mb4.5
CHG **Chiang Mai** 89.68 290 ⇓P P 00 55 02.9 +1.2
comp=Z,49nm,0.9s,mb5.3
CHTO **Chiang Mai** 89.68 290 eP P 00 55 02.6 +0.9
comp=Z,50nm,1.1s,mb5.3
SNAA **Sanae** 89.70 178 ⇑iP P 00 55 01.5 -0.3
SNAA e 00 55 02.8
SNAA e 00 55 16.8
SNAA e 00 55 36.6
SNAA e 00 57 11.1
SNAA e 00 57 15.1
SNAA e 00 57 26.7
SNAA e 00 58 45.2
SNAA **Sanae** 89.70 178 eP P 00 55 01.5 -0.3
comp=Z,5.9nm,1.0s,mb4.4
SNAA epP pP 00 57 10.8 +5.6
CD2 **Chengdu** 89.89 303 eP P 00 55 02.0 -0.6
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.8s
YAK **Yakutsk** 90.55 338 eP P 00 55 03.6 -2.2
comp=Z,12nm,0.5s,mb5.1
EDM **Edmonton** 90.69 33 eP P 00 55 04.9 -1.4
LAO **LASA Array** 91.62 41 eP P 00 55 11.4 +0.7
INK **Inuvik** 92.64 15 P P 00 55 13.2 -2.1
comp=Z,8.6nm,0.9s,mb4.8,baz=224,slow=5.5,SNR=26
INK **Inuvik** 92.64 15 eP P 00 55 13.3 -2.1
comp=Z,376nm,1.0s
INK epP pP 00 57 23.3 +4.2
SONM **Songino Array** 94.49 319 P P 00 55 23.0 -0.7
comp=Z,2.2nm,0.9s,mb4.3,baz=131,slow=3.7,SNR=14
SONM pP pP 00 57 25.0 -2.7
comp=Z,1.7nm,1.2s,baz=131,slow=4.1,SNR=3.8
YKA **Yellowknife Ar** 94.97 25 P P 00 55 23.8 -2.1
comp=Z,2.3nm,0.8s,mb4.4,baz=242,slow=4.4,SNR=33
YKA pP pP 00 57 26.8 -3.1
comp=Z,0.3nm,0.8s,baz=250,slow=3.8,SNR=2.6
YKA PP PP 00 59 20.7 -4.1
comp=Z,0.3nm,0.8s,baz=241,slow=7.6,SNR=4.0
YKA PKKPbc PKKPbc 01 12 16.5 -1.5
comp=Z,0.2nm,0.8s,baz=49,slow=2.2,SNR=4.9
YKA **Yellowknife Ar** 94.97 25 P P 00 55 23.8 -2.1
YKA pP pP 00 57 26.8 -3.1
YKA PP PP 00 59 20.7 -4.1
YKA PKKPbc PKKPbc 01 12 16.5 -1.4
TIXI **Tiksi** 97.12 345 eP P 00 55 33.4 -2.2
SHL **Shillong** 98.02 294 eP Pdif 00 55 40.0 +0.4
SHL eS PP 00 59 46.0 -1.9
SDV **Santo Domingo** 109.17 87 ePKPdf PKiKP 01 00 30.9 +1.4
ZAL **Zalesovo** 109.19 322 PKiKP PKiKP 01 00 27.8 -1.8
comp=Z,1.2nm,0.7s,baz=302,slow=2.1,SNR=6.9
ZAL **Zalesovo** 109.19 322 PKPdf PKiKP 01 00 27.8 -1.8
MKAR **Makanchi Array** 110.04 314 Pdiff Pdif 00 56 34.0 +0.9
comp=Z,1.1nm,0.9s,baz=82,slow=5.6,SNR=3.9
MKAR PKiKP PKiKP 01 00 29.8 -1.3
comp=Z,2.2nm,0.6s,baz=90,slow=1.1,SNR=25
KURK **Kurchatov** 112.76 318 eP PKiKP 01 00 34.5 -1.8
AAK **Ala-Archa** 115.25 309 eP PKPdf 01 00 39.3 -1.8
CHKZ **Chkalovo** 117.59 321 ePKPdf PKPdf 01 00 43.3 -2.3
BRVK **Borovoye** 117.85 321 ePKPdf PKPdf 01 00 44.2 -1.9
ARU **Arti** 123.81 326 ePKPdf PKPdf 01 00 55.5 -2.1
SUR **Sutherland** 126.02 200 ePKPdf PKPdf 01 01 03.1 +1.3
ARCES **ARCESS Array B** 127.26 350 PKP PKPdf 01 01 03.3 -0.8
comp=Z,14nm,0.9s,baz=264,slow=0.9,SNR=22
BOSA **Boshof** 127.78 206 PKP PKPdf 01 01 06.5 +1.4
comp=Z,8.8nm,1.0s,baz=153,slow=7.9,SNR=6.5
FINES **FINESS Array B** 134.16 344 PKP PKPdf 01 01 16.1 -1.1
comp=Z,6.9nm,0.9s,baz=183,slow=23,SNR=3.5
FINES SKPbc SKPbc 01 03 54.9 +1.0
comp=Z,3.6nm,1.0s,baz=85,slow=8.4,SNR=4.9
NB2 **NORSAR Subarra** 137.31 353 PKPdf PKPdf 01 01 21.9 -1.1
comp=Z,15nm,1.7s,baz=14,slow=1.8
NB2 **NORSAR Subarra** 137.31 353 PKPdf PKPdf 01 01 21.9 -1.1
baz=14,slow=1.8
NOA **NORSAR Array B** 137.31 353 PKhKP 01 01 13.3
comp=Z,2.7nm,0.8s,baz=22,slow=3.9,SNR=6.4
NOA PKP PKPdf 01 01 22.2 -0.8
comp=Z,1.0nm,0.8s,baz=8.9,slow=3.2,SNR=6.4
LSZ **Lusaka** 137.44 219 ePKPdf PKPdf 01 01 24.8 +1.6
GNI **Garni** 137.66 309 PKP PKPdf 01 01 24.4 +0.7
comp=Z,9.0nm,0.9s,baz=218,slow=9.8,SNR=11
KIV **Kislovodsk** 137.77 316 ePKPdf PKPdf 01 01 22.9 -0.9
TSUM **Tsumeb** 139.25 203 ePKPdf PKPdf 01 01 27.1 +0.6
KMBO **Kilima Mbogo** 140.11 244 PKhKP 01 01 24.6
comp=Z,3.8nm,1.0s,baz=39,slow=4.0,SNR=9.5
KMBO PKP PKPdf 01 01 31.4 +3.3
comp=Z,7.1nm,1.0s,baz=72,slow=3.0,SNR=12
KMBO SKPbc SKPbc 01 04 16.4 +5.3
comp=Z,12nm,1.1s,baz=62,slow=4.2,SNR=12
SUW **Suwalki** 141.26 340 ePKPdf 01 01 24.8
AKASG **Malin Array Be** 141.54 332 PKhKP 01 01 24.7
comp=Z,8.3nm,0.6s,baz=42,slow=4.1,SNR=40
AKASG PKP PKPdf 01 01 32.1 +1.4
comp=Z,5.2nm,0.8s,baz=47,slow=2.4,SNR=11
AKASG SKPbc SKPbc 01 04 17.4 +2.6
comp=Z,0.4nm,0.4s,baz=42,slow=2.6,SNR=4.1
KIEV **Kiev** 141.55 332 ePKPdf 01 01 24.7
ELZG **Elazig** 142.42 309 iP PKPdf 01 01 30.4 -1.9
ESK **Eskdalemuir** 143.34 5 ePKPdf PKPdf 01 01 30.4 -3.4
WAR **Warsaw** 143.46 340 ePKP PKPdf 01 01 32.7 -1.3
GKP **Gorka Klasztor** 143.63 345 ePKP PKPdf 01 01 32.4 -1.9
GZT **Gaziantep** 143.87 308 iP PKPdf 01 01 34.3 -0.4
BOYT **Boyabat** 144.04 316 iP PKPdf 01 01 34.6 -0.4
KIS **Kishinev** 144.32 328 ⇑iPKP PKPdf 01 01 33.0 -2.5
KIS M 01 01 33.5
comp=Z,400nm,1.0s
BSEG **Bad Segeberg** 144.35 352 ePKPbc PKPdf 01 01 34.8 -0.8
HLG **Helgoland** 144.40 354 ePKPbc PKPdf 01 01 35.0 -0.7
CTKT **Corum** 144.49 315 iP PKPdf 01 01 36.2 +0.4
BALT **Daday** 144.97 317 iP PKPdf 01 01 37.0 +0.3
KWP **Kalwaria** 145.05 336 ePKP PKPdf 01 01 37.3 +0.5
COBT **Iskenderun** 145.15 308 iP PKPdf 01 01 38.5 +1.5
RUE **Ruedersdorf** 145.15 347 ePKPbc PKPbc 01 01 37.1 -0.9
CDAG **Cicekdag** 145.24 314 iP PKPdf 01 01 37.7 +0.6
AVNT **Avonos** 145.28 312 iP PKPdf 01 01 38.3 +1.2
ELDT **Eldivan** 145.47 315 iP PKPdf 01 01 36.7 -0.8
OJC **Ojcow** 145.59 340 eP PKPdf 01 01 38.7 +1.0
BURAR **Bucovina Array** 145.59 332 ⇑iP PKPdf 01 01 40.3 +2.6
BRTR **Keskin Array B** 145.69 314 PKPbc PKPbc 01 01 39.1 -0.4
comp=Z,22nm,0.9s,baz=110,slow=1.4,SNR=99
BRTR pPKPbc 01 03 47.9
comp=Z,3.3nm,1.0s,baz=172,slow=2.9,SNR=4.1
BRTR SKPbc SKPbc 01 04 27.1 +2.6
comp=Z,2.9nm,1.0s,baz=101,slow=2.6,SNR=4.1
STHS **Stebnicka Huta** 145.77 338 ePKP PKPdf 01 01 40.0 +2.0
KOLS **Kolonicke sedl** 145.78 336 ePKP PKPdf 01 01 40.0 +2.0
WIT **Witteveen** 145.87 355 ePKP PKPdf 01 01 40.1 +1.9
CFR **Carcaliu** 145.90 326 P PKPdf 01 01 41.0 +2.7
ASF **Jabal al Asfar** 145.97 300 PKPbc PKPbc 01 01 40.9 +0.6
comp=Z,31nm,0.9s,baz=298,slow=1.1,SNR=39
KSP **Ksiaz** 146.08 344 ePKP PKPdf 01 01 40.6 +2.1
NIE **Niedzica** 146.10 338 ePKP PKPdf 01 01 40.7 +2.1
CRVS **Cervenica-Dubn** 146.12 337 ePKP PKPdf 01 01 38.9 +0.3
VRI **Vrincioaia** 146.15 328 P PKPdf 01 01 41.0 +2.4
VRI **Vrincioaia** 146.15 328 ⇓iP PKPdf 01 01 40.4 +1.7
ANTO **Ankara** 146.19 315 P PKPdf 01 01 39.3 +0.5
ANTO **Ankara** 146.19 315 ⇑iP PKPdf 01 01 40.8 +2.1
PLOR **Plostina** 146.20 328 ⇑iP PKPdf 01 01 40.9 +2.2
TIRR **Tirgusor** 146.23 325 ePKPbc PKPbc 01 01 40.0 -1.1
TIRR **Tirgusor** 146.23 325 ⇑iP PKPdf 01 01 40.9 +2.1
IBBN **Ibbenburen** 146.26 354 ePKPbc PKPbc 01 01 40.5 -0.6
SGKT **Sivrigoynuk** 146.33 317 iP PKPdf 01 01 37.2 -1.7
HARR **Harsova** 146.34 326 P PKPdf 01 01 42.3 +3.4
CLZ **Clausthal** 146.38 351 ePKPbc PKPbc 01 01 41.0 -0.5
CLL **Collm** 146.42 348 ePKPdf PKPdf 01 01 38.8 -0.3
CLL ⇓iPKPbc PKPbc 01 01 41.0 -0.6
comp=Z,101nm,1.0s
CLL ePKPab PKPab 01 01 43.1 -1.0
CLL epPKPdf pPKPdf 01 03 50.7 -0.6
CLL eSKPdf SKPdf 01 04 18.4 -1.4
CLL **Collm** 146.42 348 ePKPdf PKPdf 01 01 39.0 -0.1
CLL ⇓iPKPbc PKPbc 01 01 41.0 -0.6
comp=Z,100nm,1.0s
CLL iPKPab PKPab 01 01 43.1 -1.0
comp=Z,52nm,1.0s
CLL epPKPdf pPKPdf 01 03 51.0 -0.3
CLL eSKPdf SKPdf 01 04 19.0 -0.8
OKC **Ostrava-Krasne** 146.45 341 ⇑ePKP PKPdf 01 01 41.1 +1.9
OKC ePKPAB PKPab 01 01 43.6 -0.6
UPC **Upice** 146.46 344 ⇑ePKP PKPdf 01 01 41.5 +2.3
UPC ePKPAB PKPab 01 01 44.2 -0.1
UPC epPKP pPKPdf 01 03 49.3 -2.1
BHL **Bhannes** 146.49 303 eP PKPdf 01 01 41.9 +2.6
DPC **Dobruska-Polom** 146.52 343 ⇑ePKP PKPdf 01 01 41.9 +2.6
DPC epPKP pPKPdf 01 03 49.5 -2.0
BRG **Berggiesshubel** 146.63 346 ePKPdf PKPdf 01 01 39.4 -0.1
BRG ePKPbc PKPbc 01 01 41.7 -0.4
BRG ePKPab PKPab 01 01 44.3 -0.7
BRG **Berggiesshubel** 146.63 346 ePKP PKPdf 01 01 39.5 0.0
comp=Z,8.1nm,1.3s
BRG i 01 01 41.7
comp=Z,34nm,1.3s
BRG epPKP pPKPdf 01 03 51.3 -0.4
comp=Z,4.4nm,1.1s
MORC **Moravsky Berou** 146.68 342 ePKPdf PKPdf 01 01 39.1 -0.4
MORC **Moravsky Berou** 146.68 342 ⇑iP PKPdf 01 01 42.2 +2.6
WTSB **Winterswijk** 146.69 355 ePKP PKPdf 01 01 41.5 +2.0
comp=Z,82nm,0.8s
FBE **Freiberg** 146.71 347 ePKPbc PKPbc 01 01 42.0 -0.3
MLR **Muntele Rosu** 146.80 329 PKPbc PKPbc 01 01 42.0 -0.6
comp=Z,44nm,1.1s,baz=56,slow=2.1,SNR=36
MLR **Muntele Rosu** 146.80 329 P PKPbc 01 01 42.8 +0.2
MLR **Muntele Rosu** 146.80 329 ⇑iP PKPdf 01 01 42.3 +2.6
PVCC **Panska Ves** 146.80 345 ePKPDF PKPdf 01 01 39.6 -0.2
PVCC ⇑ePKP PKPdf 01 01 42.4 +2.6
PVCC ePKPAB PKPab 01 01 46.6 +0.9
PVCC epPKP pPKPdf 01 03 52.0 0.0
KECS **Kecovo** 146.82 337 iPKP PKPbc 01 01 42.6 0.0
KECS e 01 03 50.2
HENT **Hendek** 146.94 318 iP PKPdf 01 01 41.8 +1.9
VOIR 147.28 329 ⇑iP PKPbc 01 01 43.7 -0.1
KDHN **Kadinhani** 147.31 313 iP PKPdf 01 01 43.0 +2.4
PRU **Pruhonice** 147.31 345 ePKPDF PKPdf 01 01 40.0 -0.6
PRU ⇑ePKP PKPdf 01 01 43.6 +3.0
PRU ePKPAB PKPab 01 01 47.0 -0.7
PRU epPKP pPKPdf 01 03 49.9 -2.9
DRGR 147.32 333 ⇑iP PKPbc 01 01 43.8 -0.1
MOX **Moxa** 147.32 349 ePKPdf PKPdf 01 01 40.4 -0.2
MOX ePKPbc PKPbc 01 01 43.4 -0.6
MOX ePKPab PKPab 01 01 46.7 -1.1
MOX **Moxa** 147.32 349 ePKP PKPbc 01 01 43.7 -0.3
comp=Z,50nm,1.4s
TANN **Tannenbergstha** 147.38 348 ePKPdf PKPdf 01 01 40.6 -0.1
TANN ePKPbc PKPbc 01 01 43.6 -0.5
WERD **Werda** 147.38 348 ePKPdf PKPdf 01 01 40.6 -0.1
WERD ePKPbc PKPbc 01 01 43.7 -0.4
VYHS **Vyhne** 147.40 339 iPKP PKPbc 01 01 44.0 -0.1
VYHS e 01 03 52.7
GUNZ **Gunzen** 147.45 348 ePKPbc PKPbc 01 01 44.1 -0.2
PSZ **Piszkesteto** 147.51 337 ePKPbc PKPbc 01 01 44.0 -0.4
PSZ **Piszkesteto** 147.51 337 ⇑iP PKPbc 01 01 44.4 0.0
PSZ **Piszkesteto** 147.51 337 ⇓ePKP PKPbc 01 01 44.2 -0.2
WERN **Wernitzgruen** 147.52 348 ePKPdf PKPdf 01 01 41.0 +0.1
WERN ePKPbc PKPbc 01 01 44.3 -0.2
WERN ePKPab PKPab 01 01 48.0 -0.6
NKC **Novy Kostel** 147.55 347 ePKPDF PKPdf 01 01 40.8 -0.2
NKC ⇑ePKP PKPdf 01 01 44.2 +3.2
NKC ePKPAB PKPab 01 01 47.8 -0.9
NKC epPKP pPKPdf 01 03 50.9 -2.3
SMOL **Smolenice** 147.84 341 iPKP PKPbc 01 01 45.9 +0.6
MANZ **Manzenberg** 147.86 348 ePKPbc PKPbc 01 01 45.2 -0.1
BEBN **Eben Emael** 147.95 356 PKPbc PKPbc 01 01 46.3 +0.7
ISK **Istanbul-Kandi** 147.96 320 eP PKPbc 01 01 44.9 -0.7
HGN **Heimansgroeve** 147.96 355 ePKP PKPbc 01 01 45.4 -0.2
comp=Z,28nm,0.8s
UCC **Uccle** 148.02 357 PKPbc PKPbc 01 01 45.4 -0.3
ROTZ **Rotzenmuhle** 148.05 347 ePKPbc PKPbc 01 01 45.6 -0.2
MEM **Membach** 148.11 355 PKP PKPdf 01 01 41.5 -0.4
MEM PKPbc PKPbc 01 01 45.0 -1.0
EIL **Elat** 148.18 296 ePKPbc PKPbc 01 01 45.8 -0.4
BUD **Budapest** 148.19 338 ⇑ePKP PKPbc 01 01 46.1 -0.1
ZST **Bratislava** 148.22 341 ePKP PKPbc 01 01 46.6 +0.4
ZST e 01 03 56.4
TNS **Taunus Mts** 148.24 352 ePKPbc PKPbc 01 01 46.0 -0.3
TNS ePKPab PKPab 01 01 50.6 -0.9
GRF **Grafenberg Arr** 148.31 349 ePKPbc PKPbc 01 01 46.4 -0.1
GRF ePKPab PKPab 01 01 51.0 -0.8
GRF epPKPbc pPKPbc 01 03 53.8 -3.1
GRFO **Grafenberg** 148.31 349 ePKPbc PKPbc 01 01 46.2 -0.3
GRFO ePKPab PKPab 01 01 50.9 -0.9
SNF **Seneffe** 148.32 357 PKPbc PKPbc 01 01 46.1 -0.4
KHC **Kasperske Hory** 148.34 345 ePKPDF PKPdf 01 01 42.1 -0.2
KHC ⇑ePKP PKPbc 01 01 46.4 -0.1
KHC ePKPAB PKPab 01 01 51.4 -0.5
KHC epPKP pPKPdf 01 03 56.1 +1.6
BCLA **Clavier** 148.35 356 PKPbc PKPbc 01 01 46.9 +0.4
BCLA PKPab PKPab 01 01 50.6 -1.3

SZH	Strazhica	148.36	326	eP	PKPbc	01 01 45.6	-1.0
GZR	Gura Zlata	148.37	332	⇑iP	PKPbc	01 01 46.3	-0.3
ZIMR		148.39	327	P	PKPbc	01 01 46.8	+0.1
ULDT	Uludag	148.44	318	iP	PKPbc	01 01 46.2	-0.6
WET	Wettzell	148.49	346	ePKPdf	PKPdf	01 01 42.2	-0.3
WET				ePKPbc	PKPbc	01 01 46.9	0.0
WET				ePKPab	PKPab	01 01 51.8	-0.8
JMB	Yambol	148.54	324	eP	PKPbc	01 01 46.9	-0.1
GEC2	GERESS Array S	148.58	345	ePKPbc	PKPbc	01 01 46.9	-0.2
GEC2				ePKPab	PKPab	01 01 52.4	-0.5
GERES	GERESS Array B	148.58	345	PKPbc	PKPbc	01 01 46.9	-0.2
	comp=Z,23nm,0.9s,baz=29,slow=2.3,SNR=65						
GERES				PP	PP	01 05 34.8	+12
	comp=Z,3.2nm,1.0s,baz=40,slow=2.3,SNR=5.1						
GIVF	Givet	148.69	357	ePKP1	PKPbc	01 01 46.6	-0.8
BZS	Buzias	148.71	333	⇓iP	PKPbc	01 01 47.1	-0.3
PVL	Pavlikeni	148.71	326	eP	PKPbc	01 01 46.0	-1.4
ISP	Isparta	148.74	313	eP	PKPbc	01 01 46.9	-0.6
BAIF	Baives	148.77	357	ePKP1	PKPbc	01 01 46.8	-0.8
	comp=Z,80nm,1.1s						
TKTP	Tekketepe	148.78	314	iP	PKPbc	01 01 46.9	-0.7
GDZ	Gediz	148.79	316	iP	PKPbc	01 01 46.8	-0.8
CONA	Conrad Observa	148.84	342	iPKiKP	PKiKP	01 01 48.0	-0.7
	comp=Z,59nm,1.2s,SNR=22						
SOP	Sopron	148.84	341	⇓ePKP	PKPbc	01 01 47.6	-0.2
WLF	Walferdange	149.03	355	ePKPbc	PKPbc	01 01 48.4	+0.2
WLF				ePKPab	PKPab	01 01 54.0	-0.8
WLF	Walferdange	149.03	355	PKPbc	PKPbc	01 01 47.7	-0.5
WLF	Walferdange	149.03	355	ePKPbc	PKPbc	01 01 48.5	+0.3
SART	Tekirdag	149.32	321	iP	PKPbc	01 01 48.1	-0.8
BTOK	Tokmak	149.35	318	iP	PKPbc	01 01 48.6	-0.4
MOA	Molln	149.35	344	iP	PKPbc	01 01 48.8	-0.2
	comp=Z,32nm,1.3s,SNR=11						
DIM	Dimitrovgrad	149.40	324	eP	PKPbc	01 01 48.8	-0.3
PKSM	Moragy	149.41	337	⇓iP	PKPbc	01 01 48.6	-0.5
LANF	Langenberg	149.54	352	PKP	PKPbc	01 01 49.0	-0.4
ARSA	Arzberg	149.55	342	iP	PKPbc	01 01 48.9	-0.6
	comp=Z,18nm,1.1s,SNR=8.0						
KDZ	Kurdzhali	149.73	324	eP	PKPbc	01 01 48.6	-1.3
FUR	Furstenfeldbru	149.76	348	ePKPbc	PKPbc	01 01 49.5	-0.5
FUR				ePKPab	PKPab	01 01 57.2	-0.6
PGB	Panagyurishte	149.79	326	eP	PKPbc	01 01 49.0	-1.0
CANB	Canakkale	149.80	320	iP	PKPbc	01 01 49.2	-0.9
PLD	Plovdiv	149.81	325	eP	PKPbc	01 01 49.4	-0.7
DNZL	Cakiroluk	149.82	314	iP	PKPab	01 01 56.8	-1.3
ALN	Alexandroupoli	149.86	322	eP	PKPbc	01 01 48.4	-1.8
SVIS	Svilajnac	149.92	332	⇓iPKP	PKPbc	01 01 49.4	-0.9
STR	Strasbourg	149.93	352	PKP	PKPbc	01 01 50.6	+0.2
FLN	La Foliniere	150.05	3	ePKP1	PKPbc	01 01 49.5	-1.1
	comp=Z,111nm,1.1s						
BFO	Black Forest	150.10	352	ePKPbc	PKPbc	01 01 50.3	-0.5
AKAS	Kas	150.15	311	iP	PKPbc	01 01 50.0	-0.8
CDF	Champ du Feu	150.16	353	ePKP1	PKPbc	01 01 50.2	-0.7
	comp=Z,90nm,1.1s						
PERS	Pernice	150.22	342	ePKPbc	PKPbc	01 01 49.7	-1.4
ROSF	Rostrenen	150.23	7	ePKP1	PKPbc	01 01 49.6	-1.5
LDF	La Druitiere	150.24	3	ePKP1	PKPbc	01 01 49.8	-1.3
	comp=Z,98nm,1.2s						
VTS	Vitosha	150.26	327	eP	PKPbc	01 01 51.1	0.0
VTS	Vitosha	150.26	327	eP	PKPbc	01 01 48.5	-2.6
VTS	Vitosha	150.26	327	⇓iP	PKPdf	01 01 50.6	+5.3
MEZF	Maizieres J'vi	150.28	356	ePKP1	PKPbc	01 01 50.7	-0.5
	comp=Z,169nm,1.2s						
KBA	Koelnbreinsper	150.31	344	⇑iP	PKPbc	01 01 50.6	-0.6
	comp=Z,41nm,0.9s						
SGMF	Saint Gilles	150.39	6	ePKP1	PKPbc	01 01 50.1	-1.3
	comp=Z,110nm,1.1s						
GRR	Gorron	150.40	4	ePKP1	PKPbc	01 01 50.5	-0.9
	comp=Z,106nm,1.1s						
AYVA	Ayvalik	150.46	319	iP	PKPbc	01 01 50.8	-0.8
GRUS	Gruza	150.47	332	⇓iPKP	PKPbc	01 01 51.0	-0.6
THEF	They Montfort	150.47	355	PKP	PKPbc	01 01 51.4	-0.2
WATA	Walderalm	150.49	347	⇓iP	PKPbc	01 01 51.1	-0.6
	comp=Z,34nm,1.1s,SNR=8.3						
WTTA	Wattenberg	150.54	347	⇑iP	PKPbc	01 01 51.8	0.0
	comp=Z,54nm,0.8s						
MOTA	Moosalm	150.58	347	⇓iP	PKPbc	01 01 51.3	-0.6
	comp=Z,37nm,1.0s,SNR=15						
KDAG	Bornova	150.62	317	iP	PKPbc	01 01 51.3	-0.6
DIVS	Divcibare	150.62	333	⇓iPKP	PKPbc	01 01 51.1	-0.8
HAU	Haudompre	150.66	354	ePKP1	PKPbc	01 01 51.1	-1.0
	comp=Z,40nm,0.9s						
SQTA	Sankt Quirin	150.67	347	⇓iP	PKPbc	01 01 51.7	-0.4
	comp=Z,25nm,0.9s						
MMB	Musomiste	150.70	325	eP	PKPbc	01 01 51.4	-0.7
BLCB	Balcova	150.77	317	eP	PKPdf	01 01 45.4	-0.7
HINF	Hinteralfeld	150.79	353	ePKP1	PKPbc	01 01 51.3	-1.1
	comp=Z,57nm,1.2s						
KKB	Krupnik	150.84	327	eP	PKPdf	01 01 45.5	-0.7
DAVA	Damuels	150.87	349	iP	PKPbc	01 01 52.3	-0.2
	comp=Z,49nm,1.1s,SNR=12						
LJU	Ljubljana	150.93	342	iPKPbc	PKPbc	01 01 52.0	-0.7
BBLS	Bajina Basta -	151.05	333	⇑iPKP	PKPbc	01 01 53.8	+0.9
VISS	Visnje	151.06	341	iPKPbc	PKPbc	01 01 52.1	-0.9
URLA	Izmir	151.07	317	iP	PKPbc	01 01 52.1	-0.9
SRS	Serrai	151.10	325	eP	PKPbc	01 01 51.5	-1.6
VOJS	Vojsko	151.13	343	iPKPbc	PKPbc	01 01 52.1	-1.0
BOJS	Bojanci	151.19	340	iPKPbc	PKPbc	01 01 53.1	-0.2
LOMF	Lomont	151.26	353	PKP	PKPbc	01 01 52.9	-0.5
OUR	Ouranopolis	151.42	323	eP	PKPbc	01 01 52.2	-1.6
STIP	Stip	151.43	327	eP	PKPbc	01 01 53.0	-0.8
KNT	Kendrikon	151.44	326	eP	PKPbc	01 01 52.7	-1.1
VAY	Valandovo	151.50	326	eP	PKPbc	01 01 52.5	-1.5
VAY	Valandovo	151.50	326	ePKP	PKPbc	01 01 52.2	-1.8
VAY	Valandovo	151.50	326	ePKP	PKPbc	01 01 52.2	-1.8
LOR	Lormes	151.57	357	ePKP1	PKPbc	01 01 53.3	-0.8
	comp=Z,57nm,1.0s						
HYF	Humbligny	151.61	359	ePKP1	PKPbc	01 01 53.7	-0.5
PLG	Polygyros	151.69	324	eP	PKPbc	01 01 52.9	-1.5
HORT	Hortiatis	151.73	325	eP	PKPbc	01 01 52.9	-1.5
SSF	Saint Saulge	151.79	358	ePKP1	PKPbc	01 01 53.9	-0.7
	comp=Z,52nm,1.0s						
GRG	Griva	151.85	326	eP	PKPbc	01 01 53.6	-1.1
PAIG	Paliouri	151.86	323	eP	PKPbc	01 01 53.4	-1.4
CABF	La Chapelle	152.07	354	ePKP1	PKPbc	01 01 55.0	-0.2
	comp=Z,90nm,1.1s						
AVF	Avril sur Loir	152.07	358	ePKP1	PKPbc	01 01 54.2	-1.0
	comp=Z,36nm,1.3s						
KRUS	Krusevo	152.15	328	ePKP	PKPbc	01 01 54.9	-0.5
KRUS	Krusevo	152.15	328	ePKP	PKPbc	01 01 54.9	-0.5
SMF	Signal de Mont	152.19	357	ePKP1	PKPbc	01 01 54.6	-0.9
MFF	Saint Martin d	152.22	3	ePKP1	PKPbc	01 01 54.6	-0.9
	comp=Z,146nm,1.4s						
BGF	Bois d'Agland	152.31	359	ePKP1	PKPbc	01 01 55.0	-0.8
	comp=Z,44nm,0.9s						
LIT	Litokhoron	152.41	325	eP	PKPbc	01 01 54.6	-1.3
XOR	Xorichti	152.52	323	eP	PKPbc	01 01 54.7	-1.4
TCF	Toulx Ste Croi	152.59	360	ePKP1	PKPbc	01 01 55.5	-0.9
	comp=Z,57nm,1.1s						
SANT	Santorini	152.95	315	ePKPbc	PKPbc	01 01 55.6	-1.6
THR1	Thera Island	152.95	315	eP	PKPbc	01 01 55.4	-1.7
THR3	Thira Island,	152.97	315	eP	PKPbc	01 01 55.7	-1.5
THR6	Thira Island,	153.00	315	eP	PKPbc	01 01 56.5	-0.7
LPL	La Plagne	153.08	353	ePKP1	PKPbc	01 01 57.5	+0.1
	comp=Z,26nm,1.1s						
LPG	La Plagne	153.09	353	ePKP1	PKPbc	01 01 57.6	+0.2
	comp=Z,16nm,0.8s						
AGG	Agios Georgios	153.24	323	eP	PKPbc	01 01 56.4	-1.4
BNI	Bardonecchia	153.54	353	ePKPbc	PKPbc	01 01 58.5	+0.1
RJF	Les Rejaudoux	153.57	1	ePKP1	PKPbc	01 01 57.5	-1.0
	comp=Z,28nm,1.0s						
ORIF	Oris-en-Rattie	153.76	354	ePKP1	PKPbc	01 01 58.3	-0.6
	comp=Z,15nm,0.9s						
MBDF	Montbardon	153.85	352	ePKP1	PKPbc	01 01 58.5	-0.5
	comp=Z,15nm,0.8s						
LFF	La Frestale	153.92	2	ePKP1	PKPbc	01 01 58.3	-0.9
	comp=Z,24nm,0.9s						
VIVF	Saint-Julien-l	153.93	356	ePKP1	PKPbc	01 01 58.6	-0.6
	comp=Z,28nm,1.0s						
CAF	Calviac	153.96	360	ePKP1	PKPbc	01 01 58.6	-0.7
KARN	Karanos	154.53	315	eP	PKPbc	01 02 00.6	+0.1
ESDC	Sonseca Array	158.57	13	PKPab	PKPab	01 02 34.5	-1.1
	comp=Z,2.0nm,0.8s,baz=359,slow=4.9,SNR=7.9						
KEST	Kesra	161.94	340	PKPab	PKPab	01 02 49.4	-1.0
	comp=Z,3.6nm,1.0s,baz=304,slow=3.2,SNR=6.0						
LIC	Lamto	165.74	150	ePKIKP	PKPdf	01 02 02.6	-1.1
	comp=Z,38nm,1.1s						
TORD	Torodi Ar. Bea	174.37	177	PKP	PKPdf	01 02 07.8	-0.7
	comp=Z,6.5nm,1.1s,baz=38,slow=1.0,SNR=19						
TORD				PKPab	PKPab	01 03 46.2	+0.8
	comp=Z,1.1nm,0.8s,baz=183,slow=4.1,SNR=8.5						
TORD				pPKPab	pPKPab	01 05 47.0	-2.9
	comp=Z,2.2nm,1.1s,baz=193,slow=2.7,SNR=5.2						

*NEIC **10** 01:08:51.7, 3358S×7202W, h23km, ML2.9(GUC), After GUC.*

GUC 10 01:08:51.7±0.8, 3358S×7202W, h23km±19km, MD3.7, ML2.9, 5C-10D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.63	30	⇓iP	Pb	01 09 03.6	-0.4
IHA				iS	Sb	01 09 12.2	-0.2
LNV	Longovilo	0.63	127	⇓iP	Pb	01 09 03.8	-0.2
LNV				iS	Sb	01 09 12.6	+0.1
TACH	Talagante	0.90	95	⇑iP	Pb	01 09 07.6	-1.1
TACH				iS	Sb	01 09 20.5	+0.3
RCDM	Rinconada Maip	1.01	85	⇓iP	Pn	01 09 09.3	-1.2
RCDM				iS	Sb	01 09 22.9	-0.6
RCDM				AML	AML	01 09 24.0	
	comp=N,570nm,0.1s						
RCDM	Rinconada Maip	1.01	85	⇓iP	Pn	01 09 09.3	-1.2
RCDM				iS	Sb	01 09 22.9	-0.6
PACH	Papudo	1.14	25	iS	Sb	01 09 26.6	-0.6
ANTU	Antumapu	1.15	90	⇓iP	Pn	01 09 11.9	-0.5
ANTU				iS	Sb	01 09 27.6	+0.1
ANTU				AML	AML	01 09 32.7	
	comp=E,453nm,0.5s						
ANTU	Antumapu	1.15	90	⇓iP	Pn	01 09 11.9	-0.5
ANTU				iS	Sb	01 09 27.6	+0.1
CHCH	Chadas Angostu	1.19	108	⇓iP	Pn	01 09 12.2	-0.7
CHCH				iS	Sn	01 09 28.3	-0.1
PEL	Peldehue	1.19	69	⇑iP	Pn	01 09 12.9	-0.1
PEL				iS	Sn	01 09 29.0	+0.6
PEL				AML	AML	01 09 31.9	
	comp=E,674nm,0.6s						
CLCH	Cerro Calan	1.25	82	⇑iP	Pn	01 09 13.6	-0.1
CLCH				iS	Sn	01 09 30.2	+0.4
CLCH				AML	AML	01 09 40.5	
	comp=N,269nm,0.8s						
PCH	Pirque	1.25	93	⇓iP	Pn	01 09 13.6	-0.2
CACH	El Canelo	1.30	115	⇑iP	Pn	01 09 15.1	+0.7
CACH				iS	Sn	01 09 32.5	+1.5
SFDO	San Fernando	1.33	142	⇑iP	Pn	01 09 14.7	-0.1
SFDO				iS	Sn	01 09 32.1	+0.3
FCH	Farellones	1.46	81	⇓iP	Pn	01 09 17.1	+0.4
FCH				iS	Sn	01 09 36.4	+1.3
FCH				AML	AML	01 09 40.7	
	comp=E,289nm,0.3s						
CICH	Cipreses	1.52	120	⇓iP	Pn	01 09 18.2	+0.7
CICH				iS	Sn	01 09 37.9	+1.4
PTCH	Petorca	1.59	35	eP	Pn	01 09 19.4	+0.8
PTCH				iS	Sn	01 09 40.0	+1.7
PTCH				AML	AML	01 09 42.7	
	comp=E,277nm,0.2s						
PTCH	Petorca	1.59	35	eP	Pn	01 09 19.4	+0.8
PTCH				iS	Sn	01 09 40.0	+1.7

*THE **10** 01:25:03.4, 3873N×2805E, h10km*
*CSEM **10** 01:25:05.1±0.1, 3892N×2787E, h5km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.5km az=124.0*
*ISCJB **10** 01:25:05.6±0.5, 3892N±003×2784E±004, h7km±4km, Error ellipse: s-maj=5.2km s-min=4.1km az=66.0*
*ISK **10** 01:25:05.3, 3894N×2783E, h6km, MD3.1*
*NEIC **10** 01:25:05.0, 3892N×2784E, h6km, ML3.0(ATH), ML3.4(ISK), After ISK.*
*ATH **10** 01:25:07.8, 3877N×2765E, h81km±17km*

ISC 10 01:25:06.1±0.5, 3892N±003×2785E±004, h7km±4km, n40, σ0§73/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	Akhisar	0.04	213	iPG	Pg	01 25 07.0	-0.6
AKS				iSG	Sg	01 25 08.7	+0.1
IZM	Izmir	0.69	222	iPG	Pg	01 25 19.1	-0.3
IZM				iSG	Sg	01 25 29.4	+1.1
BLCB	Balcova	0.82	230	ePg	Pg	01 25 20.9	-1.0
BLCB				eSg	Sg	01 25 33.4	+0.8
DST	Dursunbey	0.92	41	iPG	Pg	01 25 22.7	-1.0
DST				iSG	Sg	01 25 36.5	+0.9
CANB	Canakkale	1.25	331	iPN	Pn	01 25 29.6	-0.4
CANB				iSN	Sn	01 25 46.5	-0.7
PRK	Paraskevi	1.27	286	eP	Pn	01 25 30.2	0.0
KCT	Karacabey	1.40	16	iPN	Pn	01 25 31.5	-0.6
EDC	Edincik	1.43	1	iPN	Pn	01 25 31.9	-0.5
BNT	Bandirma	1.44	2	iPN	Pn	01 25 31.9	-0.7
KHL	Karahalli	1.44	114	iPN	Pn	01 25 32.9	+0.3
SMG	Samos	1.44	214	eP	Pn	01 25 30.9	-1.7
DENT	Denizli	1.49	141	PN	Pn	01 25 33.3	0.0
MLSB	Milas	1.62	182	PN	Pn	01 25 34.7	-0.4
MRMT	Marmara Adasi	1.69	354	PN	Pn	01 25 35.6	-0.5
ALT	Altintas	1.77	85	PN	Pn	01 25 37.0	-0.1
YER	Yerkesik	1.81	169	PN	Pn	01 25 38.2	+0.5
IZI	Iznik	1.90	41	PN	Pn	01 25 39.1	+0.3
MFT	Murefte	1.92	347	PN	Pn	01 25 39.4	+0.2
YLV	Yalova	2.03	35	PN	Pn	01 25 41.1	+0.5
SHUT	Suhut-Afyon	2.15	99	ePN	Pn	01 25 42.5	+0.2
DAT	Datca	2.19	186	ePN	Pn	01 25 44.0	+1.0
LIA	Limnos Island	2.28	296	eP	Pn	01 25 44.5	+0.3
ISK	Istanbul-Kandi	2.34	23	ePn	Pn	01 25 43.8	-1.2
ISP	Isparta	2.35	116	ePn	Pn	01 25 50.8	+5.7
HRT	Hereke	2.36	36	ePN	Pn	01 25 46.0	+0.7
LOS	Limnos	2.37	296	ePn	Pn	01 25 45.9	+0.5
ESKT	Eskisehir	2.41	75	ePN	Pn	01 25 47.2	+1.3
ALN	Alexandroupoli	2.41	326	ePn	Pn	01 25 46.0	0.0
ALN				eSn	Sn	01 26 20.2	+4.4
APE	Apeiranthos	2.60	225	eP	Pn	01 25 45.2	-3.3
BCK	Bucak	2.60	123	ePN	Pn	01 25 48.9	+0.3
ARG	Arkhangelos	2.71	175	eP	Pn	01 25 49.1	-0.9
RDO	Rodhopi	2.84	322	eP	Pn	01 25 52.4	+0.5
PAIG	Paliouri	3.38	289	ePn	Pn	01 26 00.2	+0.9
KARP	Karpathos	3.41	189	eP	Pn	01 25 58.9	-0.7
JMB	Yambol	3.67	345	ePn	Pn	01 26 03.5	+0.2
PLG	Polygyros	3.69	295	ePn	Pn	01 26 04.3	+0.7
NVR	Nevrokopi	3.90	310	P	Pn	01 26 10.7	+4.3
SRS	Serrai	3.94	305	ePn	Pn	01 26 07.0	+0.1
PLD	Plovdiv	3.98	324	ePn	Pn	01 26 08.2	+0.6
PLD	Plovdiv	3.98	324	ePn	Pn	01 26 08.1	+0.5

*NEIC **10** 01:32:13.0, 1865N×6445W, h120km, MD3.5(RSPR), After RSPR.*

RSPR 10 01:32:13.0, 1865N×6445W, h120km±1km, MD3.5/3, MD3.5/3, 5C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.57	238	⇑eP	Pn	01 32 30.9	-0.5
STVI				eS	Sn	01 32 45.1	-0.1
MTP	Monte Pirata	1.19	242	⇑eP	Pn	01 32 36.9	0.0
MTP				eS	Sn	01 32 55.1	+0.1
CBYP	Canovanas	1.39	254	⇑eP	Pn	01 32 39.1	0.0
CBYP				eS	Sn	01 32 59.2	+0.2
HUMP	Col San Antoni	1.43	249	⇑eP	Pn	01 32 39.1	-0.5
HUMP				eS	Sn	01 32 59.5	-0.2
CRPR	Cabo Rojo, PR	2.61	256	⇑eP	Pn	01 32 53.9	-0.2

*IDC **10** 01:32:36.0±1.6, 3613N×7105E, h0km, mb4.0/7, mb1 4.0/9, mb1mx3.6/24, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=32.9km s-min=29.4km az=139.0*
*NEIC **10** 01:32:37.7±1.2, 3614N×7096E, h10km, mb3.9/1, Error ellipse: s-maj=22.4km s-min=16.3km az=143.0*
*MOS **10** 01:32:39.3±1.5, 3622N×7108E, h33km, mb4.3/1, Error ellipse: s-maj=32.7km s-min=14.7km az=98.4*
*ISCJB **10** 01:32:50.8±3.0, 3608N±002×7112E±002, h119km±25km, mb3.9/7, Error ellipse: s-maj=31.4km s-min=16.7km az=58.5*

ISC 10 01:32:50.2±2.5, 3607N±002×7111E±002, h108km±21km, n24, σ1§11/26, mb3.9/7, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.82	19	P	Pn	01 34 15.0	+1.0
	SNR=5.7						
KZA	Kyzart	6.29	29	P	Pn	01 34 20.8	+0.4
	SNR=6.0						
EKS2	Erkin-Say	6.34	18	P	Pn	01 34 22.2	+1.2
	SNR=17						
KK31	Karatay Array	6.46	356	⇑P	Pn	01 34 23.0	+0.3
	8.0nm,0.4s,baz=178,slow=13						
KK31				⇑S	Sn	01 35 34.2	-0.8
	5.1nm,0.5s,baz=181,slow=24						
AAK	Ala-Archa	6.51	22	P	Pn	01 34 24.1	+0.7
	SNR=6.1						
AAK	Ala-Archa	6.51	22	ePN	Pn	01 34 23.0	-0.4
AAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AAK	Ala-Archa	6.51	22	ePn	Pn	01 34 23.0	-0.4
	comp=Z,6.0nm,0.6s						
AAK				eSn	Sn	01 35 30.5	-5.7
CHMS	Chumysh	6.92	23	P	Pn	01 34 28.9	-0.1
	SNR=6.0						
MKAR	Makanchi Array	13.10	36	Pn	Pn	01 35 50.7	-1.4
	baz=214,slow=16,SNR=2.2						
BVAR	Borovoye Array	16.38	358	Pn	Pn	01 36 32.3	-1.3
	comp=Z,0.2nm,0.3s,baz=166,slow=10,SNR=5.6						
AKTK	Aktyubinsk	16.70	330	P	Pn	01 36 37.0	-0.6
AKTO	Aktyubinsk	16.70	330	P	Pn	01 36 37.0	-0.6
	comp=Z,0.6nm,0.3s,baz=133,slow=13,SNR=8.2						
AKTO	Aktyubinsk	16.70	330	P	Pn	01 36 37.1	-0.5
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	19.71	24	P	P	01 37 10.4	-0.6
	comp=Z,2.6nm,0.3s,baz=236,slow=7.0,SNR=7.4						
FINES	FINESS Array B	37.42	326	P	P	01 39 54.3	+1.6
	comp=Z,0.4nm,0.3s,mb3.8,baz=119,slow=9.6,SNR=7.2						
PSZ	Piszkesteto	38.88	303	eP	P	01 40 03.7	-1.3
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
PSZ	Piszkesteto	38.88	303	eP	P	01 40 03.7	-1.2
	comp=Z,1.9nm,0.7s,mb4.0						
ARCES	ARCESS Array B	41.05	337	P	P	01 40 25.0	+2.2
	comp=Z,5.2nm,1.0s,mb4.3,baz=347,slow=10.0,SNR=3.6						
ARCES	ARCESS Array B	41.05	337	P	P	01 40 25.0	+2.1
HFS	Hagfors	43.01	322	P	P	01 40 40.2	+1.3
	comp=Z,1.4nm,0.6s,mb3.9,baz=108,slow=9.8,SNR=4.6						
NB2	NORSAR Subarra	44.32	323	P	P	01 40 50.4	+1.0
	comp=Z,0.7nm,0.7s,mb3.5,baz=95,slow=8.6						
NOA	NORSAR Array B	44.32	323	P	P	01 40 50.8	+1.4
	comp=Z,1.2nm,0.7s,mb3.7,baz=94,slow=7.6,SNR=3.6						
TORD	Torodi Ar. Bea	65.83	269	P	P	01 43 21.8	-2.2
	comp=Z,0.2nm,0.4s,mb3.3,baz=56,slow=5.9,SNR=5.9						
STKA	Stephens Creek	94.79	126	P	P	01 45 59.4	-0.2
	comp=Z,0.6nm,0.3s,mb4.5,baz=315,slow=7.1,SNR=3.6						

*CSEM **10** 01:34:51.8±0.1, 3438N×2674E, h25km, MD3.9, Error ellipse: s-maj=3.2km s-min=1.3km az=61.0*
*ISCJB **10** 01:34:52.5±0.3, 3442N±003×2676E±003, h55km±6km, mb3.6/9, Error ellipse: s-maj=5.4km s-min=2.6km az=76.3*
*HLW **10** 01:34:54.2, 3440N×2668E, h33km, Mb3.8*
*NEIC **10** 01:34:54.0, 3463N×2668E, h10km, ML3.8(ATH), After ATH.*
*IDC **10** 01:34:55.5±2.1, 3457N×2653E, h44km±20km, mb3.6/8, mb1 3.6/12, mb1mx3.5/23, mbtmp3.5/12, ML3.8/3, Error ellipse: s-maj=23.7km s-min=14.4km az=162.0*
*THE **10** 01:34:55.0, 3454N×2659E, h13km*
*ATH **10** 01:34:57.8, 3479N×2634E, h41km±3km, MD3.9/8*
*GII **10** 01:34:59.2±237.0, 3407N×2712E, h7km±30km, ML3.1/5, Mw3.0/3*

ISC 10 01:34:54.3±0.3, 3442N±003×2668E±003, h49km±6km, n74, σ1§23/91, mb3.6/9, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.79	331	ePg	Pn	01 35 07.9	-1.2
ZKR				eSg	Sn	01 35 17.7	-2.3
XRY	Khrisi	0.93	299	eP	Pn	01 35 09.1	-1.9
XRY				eS	Sn	01 35 18.5	-4.8
KARP	Karpathos	1.19	19	eP	Pn	01 35 17.3	+2.7
KARP				eS	Sn	01 35 30.6	+1.0
NPS	Neapolis	1.21	314	eP	Pn	01 35 13.7	-1.2
SIVA	Sivas	1.65	292	ePg	Pn	01 35 20.7	-0.1
SIVA	Sivas	1.65	292	P	Pn	01 35 22.5	+1.7
IDI	Anoyia	1.71	301	P	Pn	01 35 21.6	0.0
	5.5nm,0.3s,baz=133,slow=11,SNR=75						
ARG	Arkhangelos	2.15	33	eP	Pn	01 35 31.4	+3.8
GVD	Gavdhos	2.18	282	ePn	Pn	01 35 28.3	+0.3
GVD	Gavdhos	2.18	282	eP	Pn	01 35 29.0	+1.0
SANT	Santorini	2.19	333	ePn	Pn	01 35 27.4	-0.7
SANT				eSn	Sn	01 35 53.8	-0.2

JOF Joensuu 28.67 4 *ep* **P 01 40 45.2 -1.2**
TORD Torodi Ar. Bea 31.01 233 P **P 01 41 08.2 +1.1**
0.3nm,0.4s,mb3.5,baz=35,slow=8.6,SNR=12
ARCES ARCESS Array B 35.17 359 P **P 01 41 42.2 -1.2**
5.2nm,1.0s,mb4.4,baz=169,slow=7.5,SNR=9.3
BVAR Borovoye Array 35.97 45 P **P 01 41 51.2 +0.9**
0.2nm,0.5s,mb3.3,baz=258,slow=4.3,SNR=2.1
MKAR Makanchi Array 43.15 56 P **P 01 42 53.1 +3.1**
1.1nm,0.6s,mb3.8,baz=266,slow=8.3,SNR=7.2
SONM Songino Array 58.99 51 P **P 01 44 52.3 +3.5**
0.6nm,0.5s,mb3.9,baz=276,slow=7.3,SNR=6.4

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*ISCJB **10** 01:36:43.4±0.4, 4755N×002×748E±003, h12km±3km, Error ellipse: s-maj=3.9km s-min=3.0km az=122.4*
*STR **10** 01:36:43.9±0.2, 4757N×760E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **10** 01:36:44.6, 4759N×760E, h4km±1km, ML1.1*
*LDG **10** 01:36:45.0±0.1, 4759N×756E, h7km, Md1.9/3, Ml1.8/12, Error ellipse: s-maj=2.6km s-min=1.4km az=73.0*
ISC 10 01:36:44.0±0.4, 4757N±002×754E±003, h17km±3km, n23, σ0§67/43, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**156**	⇓*i*Pg	**Pg**	**01 36 49.9**	**+0.1**
	85nm,0.3s						
BALST				*e*Sg	**Sg**	**01 36 53.7**	**+0.1**
	85nm,0.3s						
BOURR	**Bourrignon**	**0.28**	**230**	⇑*i*Pg	**Pg**	**01 36 51.3**	**+1.2**
	22nm,0.8s						
SULZ	**Sulz-Cheisache**	**0.39**	**96**	⇑*i*Pg	**Pg**	**01 36 51.5**	**-0.6**
	37nm,0.3s						
SULZ				*e*Sg	**Sg**	**01 36 56.5**	**-0.9**
	37nm,0.3s						
MOF	**Molkenrain**	**0.39**	**315**	Pg	**Pg**	**01 36 52.6**	**+0.5**
MOF				Sg	**Sg**	**01 36 58.3**	**+0.8**
HINF	**Hinteralfeld**	**0.53**	**298**	*e*Pg	**Pg**	**01 36 54.8**	**+0.3**
HINF	**Hinteralfeld**	**0.53**	**298**	*e*Pn	**Pg**	**01 36 56.6**	**+2.1**
HINF				*e*Sg	**Sg**	**01 37 01.9**	**+0.3**
HINF				*e*Sn	**Sg**	**01 37 05.5**	**+3.9**
	6.5nm,0.2s						
SLE	**Schleitheim**	**0.67**	**73**	*e*Pg	**Pg**	**01 36 56.4**	**-0.8**
	40nm,0.3s						
ECH	**Echery**	**0.69**	**338**	Pg	**Pg**	**01 36 58.3**	**+0.7**
ECH				Sg	**Sg**	**01 37 07.0**	**+0.2**
CDF	**Champ du Feu**	**0.86**	**348**	*e*Pn	**Pn**	**01 37 01.2**	**-0.2**
CDF				*e*Sg	**Sg**	**01 37 11.3**	**-0.8**
CDF				*e*Sn	**Sn**	**01 37 13.3**	**-0.3**
	5.0nm,0.2s						
HAU	**Haudompre**	**0.92**	**299**	*e*Pg	**Pg**	**01 37 01.9**	**+0.1**
HAU				*e*Sg	**Sg**	**01 37 14.7**	**+0.9**
	6.4nm,0.2s						
CABF	**La Chapelle**	**1.38**	**226**	*e*Pg	**Pg**	**01 37 11.4**	**+0.7**
CABF				*e*Sg	**Sg**	**01 37 28.6**	**-0.1**
	1.9nm,0.3s						
RFYF	**Reffroy**	**1.74**	**308**	*e*Pg	**Pg**	**01 37 17.4**	**-0.2**
RFYF				*e*Sg	**Sg**	**01 37 39.8**	**-0.4**
	1.1nm,0.1s						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pn	**Pn**	**01 37 14.7**	**+0.4**
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pg	**Pg**	**01 37 19.0**	**+0.4**
SFTF				*e*Sn	**Sn**	**01 37 36.3**	**-0.5**
	1.9nm,0.4s						
SFTF				*e*Sg	**Sg**	**01 37 41.9**	**-0.1**
	1.3nm,0.2s						
MEZF	**Maizieres J'vi**	**1.91**	**300**	*e*Pn	**Pn**	**01 37 16.7**	**+0.8**
MEZF				*e*Sn	**Sn**	**01 37 39.0**	**-0.6**
	0.8nm,0.2s						
MEZF				*e*Sg	**Sg**	**01 37 45.4**	**-0.2**
	0.7nm,0.2s						
LPL	**La Plagne**	**2.13**	**196**	*e*Pn	**Pn**	**01 37 20.0**	**+1.1**
LPL	**La Plagne**	**2.13**	**196**	*e*Pg	**Pg**	**01 37 25.4**	**+0.4**
LPL				*e*Sg	**Sg**	**01 37 52.3**	**-0.3**
	0.6nm,0.3s						
LPG	**La Plagne**	**2.15**	**195**	*e*Pn	**Pn**	**01 37 20.2**	**+1.1**
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**01 37 25.8**	**+0.6**
LPG				*e*Sg	**Sg**	**01 37 52.5**	**-0.6**
	0.9nm,0.3s						
LOR	**Lormes**	**2.52**	**264**	*e*Pg	**Pg**	**01 37 32.1**	**-0.3**
LOR				*e*Sg	**Sg**	**01 38 03.9**	**-1.2**
	1.7nm,0.3s						
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pn	**Pn**	**01 37 26.5**	**-0.1**
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**01 37 34.9**	**-0.8**
SMF				*e*Sg	**Sg**	**01 38 09.7**	**-0.9**
	1.3nm,0.4s						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**01 37 37.2**	**-0.4**
SSF				*e*Sg	**Sg**	**01 38 12.8**	**-1.0**
	0.8nm,0.3s						

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*NIED **10** 01:41:00, 4650N×153.10E, h14km, Mw3.8 Best double couple: M0=5.26000×10^14 NP1:φ=226.00000°, δ=70.00000°, λ=154.00000°. NP2:φ=326.00000°, δ=66.00000°, λ=22.00000°.*
*BJI **10** 01:41:40.3, 4640N×153.10E, h10km, mB4.8, mb4.2*
*NEIC **10** 01:41:40.3±0.4, 4637N×153.10E, h10km, mb4.7/3, Error ellipse: s-maj=11.2km s-min=7.5km az=144.0*
*ISCJB **10** 01:41:42.0±0.9, 4633N±007×15299E±009, h33km±8km, mb4.0/28, Error ellipse: s-maj=14.3km s-min=5.9km az=95.9*
*JMA **10** 01:41:42.2±0.6, 4649N×153.06E, h30km, M4.4*
*MOS **10** 01:41:43.3±0.9, 4638N×152.95E, h43km, mb4.5/7, Error ellipse: s-maj=12.1km s-min=9.2km az=85.7*
*IDC **10** 01:41:45.0±3.8, 4629N×153.00E, h43km±36km, mb3.7/22, mb1 3.9/24, mb1mx3.9/30, mbtmp3.7/24, ML3.5/2, Error ellipse: s-maj=19.2km s-min=16.0km az=175.0*
ISC 10 01:41:44.5±0.8, 4634N±007×15301E±009, h40km±7km, n69, σ1§04/77, mb4.0/28, 4C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**255**	⇓*i*PN	**Pn**	**01 42 39.4**	**-0.6**
KUR				*e*S	**Sn**	**01 43 22.4**	**-0.6**
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,250nm,0.6s						
SKR	**Severo-Kuril's**	**4.82**	**24**	*e*PN	**Pn**	**01 42 54.5**	**0.0**
SKR				*e*S	**Sn**	**01 43 49.0**	**0.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
NEM2	**Nemuro 2**	**5.96**	**243**	P	**Pn**	**01 43 08.6**	**-1.6**
NEM2				*e*S	**Sn**	**01 44 12.2**	**-4.9**
JRA	**Rausu**	**6.07**	**250**	P	**Pn**	**01 43 13.5**	**+1.8**
JNK	**Nakash**	**6.49**	**248**	P	**Pn**	**01 43 18.0**	**+0.5**
JNK				*e*S	**Sn**	**01 44 28.9**	**-1.3**
JAK	**Akkeshi**	**6.80**	**244**	P	**Pn**	**01 43 20.4**	**-1.3**
JAK				*e*S	**Sn**	**01 44 33.3**	**-4.6**
JTKR	**Abashiri--Toko**	**6.85**	**253**	P	**Pn**	**01 43 24.3**	**+1.8**
JMP	**Maruseppu**	**7.20**	**255**	P	**Pn**	**01 43 29.5**	**+2.2**
JAR	**Ashorobuto**	**7.24**	**248**	P	**Pn**	**01 43 28.4**	**+0.7**
JAR				*e*S	**Sn**	**01 44 48.2**	**-0.4**
JOB	**Onbets**	**7.39**	**246**	P	**Pn**	**01 43 29.2**	**-0.6**
JOB				*e*S	**Sn**	**01 44 47.9**	**-4.4**
JKK2	**Kamakawa 2**	**7.66**	**255**	P	**Pn**	**01 43 36.0**	**+2.4**
ASAJ	**Asahikawa**	**7.68**	**257**	P	**Pn**	**01 43 35.0**	**+1.2**
	comp=E,0.8nm,0.3s,baz=98,slow=15,SNR=3.6						
ASAJ	**Asahikawa**	**7.68**	**257**	PN	**Pn**	**01 43 35.0**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.83**	**245**	P	**Pn**	**01 43 35.1**	**-0.8**
JCH				*e*S	**Sn**	**01 44 58.3**	**-5.0**
ERM	**Erimo**	**8.29**	**242**	⇓*e*PN	**Pn**	**01 43 45.3**	**+3.1**
JNBK	**Urakawa-nobuka**	**8.39**	**245**	*e*S	**Sn**	**01 45 11.5**	**-5.6**
JKB	**Kayabe**	**9.69**	**247**	P	**Pn**	**01 44 00.0**	**-1.4**
JANG	**Nango**	**10.27**	**239**	*e*S	**Sn**	**01 45 52.8**	**-10**
JIO	**Ouri**	**11.66**	**232**	*e*S	**Sn**	**01 46 25.3**	**-12**
MJAR	**Matsushiro Arr**	**14.77**	**234**	P	**Pn**	**01 45 10.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=16,SNR=2.7						
MAJO	**Matsushiro**	**14.77**	**234**	P	**Pn**	**01 45 10.5**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MAJO	**Matsushiro**	**14.77**	**234**	Pn	**Pn**	**01 45 10.5**	**-0.2**
	comp=Z,3.3nm,0.5s						
KSRS	**Korea Array**	**20.61**	**253**	P	**P**	**01 46 19.4**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=57,slow=9.9,SNR=4.9						
YAK	**Yakutsk**	**20.63**	**328**	⇑*e*P	**P**	**01 46 19.6**	**-0.9**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIXI	**Tiksi**	**27.85**	**344**	⇑*e*P	**P**	**01 47 30.6**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,2.5s,mb3.6						
SONM	**Songino Array**	**31.40**	**290**	P	**P**	**01 48 01.2**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.2,baz=84,slow=9.7,SNR=2.2						
GTA	**Gaotai**	**38.96**	**279**	*e*P	**P**	**01 49 08.8**	**+2.1**
GTA				AP	pP	01 49 13.0	-5.0
GTA				XP	sP	01 49 16.2	-6.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
GYA	**Guiyang**	**41.55**	**258**	⇑*i*P	**P**	**01 49 30.2**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
INK	**Inuvik**	**42.04**	**32**	P	**P**	**01 49 32.2**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.7,baz=283,slow=5.7,SNR=5.5						
ZAL	**Zalesovo**	**42.81**	**306**	P	**P**	**01 49 37.8**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.7,baz=60,slow=8.1,SNR=2.6						
MKAR	**Makanchi Array**	**47.07**	**298**	P	**P**	**01 50 12.3**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=61,slow=6.5,SNR=10						
KURK	**Kurchatov**	**47.53**	**304**	⇓*e*P	**P**	**01 50 15.5**	**-0.3**
LSA	**Lhasa**	**50.22**	**273**	P	**P**	**01 50 39.0**	**+2.5**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**50.22**	**273**	P	**P**	**01 50 39.0**	**+2.6**
	comp=Z,3.3nm,0.4s,mb4.7						
CHKZ	**Chkalovo**	**50.64**	**310**	*e*P	**P**	**01 50 38.8**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
CHKZ	**Chkalovo**	**50.64**	**310**	*e*P	**P**	**01 50 38.8**	**-0.9**
	comp=Z,1.9nm,0.3s,mb4.5						
BVAR	**Borovoye Array**	**51.07**	**310**	P	**P**	**01 50 42.6**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=47,slow=7.7,SNR=6.7						
YKA	**Yellowknife Ar**	**51.30**	**36**	P	**P**	**01 50 44.5**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=298,slow=7.2,SNR=7.1						
YKA	**Yellowknife Ar**	**51.30**	**36**	P	**P**	**01 50 44.5**	**-0.1**
AAK	**Ala-Archa**	**53.95**	**297**	⇑*e*P	**P**	**01 51 03.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.1						
ARU	**Arti**	**55.27**	**318**	*e*P	**P**	**01 51 12.8**	**-0.9**
ARU				*e*		01 53 13.6	
ARU				*e*S	**S**	**01 58 48.2**	**-6.4**
ARU				*e*SS	SS	02 02 29.8	-9.4
ARCES	**ARCESS Array B**	**58.22**	**341**	P	**P**	**01 51 34.1**	**-0.5**
	comp=Z,6.9nm,1.0s,mb4.6,baz=23,slow=6.7,SNR=5.2						
AKTK	**Aktyubinsk**	**58.95**	**312**	P	**P**	**01 51 40.0**	**+0.3**
AKTO	**Aktyubinsk**	**58.95**	**312**	P	**P**	**01 51 40.0**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.1,baz=53,slow=9.8,SNR=5.1						
AKTO	**Aktyubinsk**	**58.95**	**312**	P	**P**	**01 51 40.1**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
JOF	**Joensuu**	**61.67**	**334**	*ep*	**P**	**01 51 56.1**	**-2.3**
NVAR	**Mina Array Bea**	**62.69**	**62**	P	**P**	**01 52 04.4**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.2,baz=272,slow=4.3,SNR=4.4						
RLMT	**Red Lodge**	**63.69**	**52**	*e*P	**P**	**01 52 10.0**	**-1.8**
	comp=Z,4.9nm,0.5s,mb4.8						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**01 52 15.8**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=44,slow=6.6,SNR=15						
FINES	**FINESS Array B**	**64.39**	**335**	*i* P	**P**	**01 52 16.2**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**01 52 15.8**	**-0.6**
PDAR	**Pinedale Array**	**65.05**	**54**	P	**P**	**01 52 21.6**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.1,baz=273,slow=1.6,SNR=13						
WRA	**Warramunga Arr**	**68.09**	**199**	P	**P**	**01 52 39.4**	**-0.8**
	comp=Z,0.5nm,0.8s,mb3.6,baz=16,slow=6.8,SNR=3.8						
NB2	**NORSAR Subarra**	**68.60**	**341**	P	**P**	**01 52 43.3**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.60**	**341**	P	**P**	**01 52 43.4**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=27,slow=6.4,SNR=5.1						
NOA	**NORSAR Array B**	**68.60**	**341**	P	**P**	**01 52 43.4**	**+0.1**
HFS	**Hagfors**	**68.82**	**340**	P	**P**	**01 52 44.2**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.2,baz=46,slow=4.2,SNR=8.4						
ASAR	**Alice Springs**	**71.79**	**198**	P	**P**	**01 53 03.0**	**+0.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=12,slow=6.0,SNR=5.7						
AKASG	**Malin Array Be**	**71.85**	**326**	P	**P**	**01 53 03.3**	**+0.1**
	comp=Z,3.0nm,0.5s,mb4.5,baz=34,slow=6.3,SNR=20						
AKASG	**Malin Array Be**	**71.85**	**326**	*i* P	**P**	**01 53 03.2**	**0.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**76.81**	**336**	*e*P	**P**	**01 53 33.0**	**+1.0**
CLL				LmV		01 22 00.0	
	comp=Z,1μm,19.2s						
CLL				*es*P	PcP	01 53 37.0	-6.1
CLL				*e*PcP	PcP	01 53 44.0	+0.9
MLR	**Muntele Rosu**	**77.36**	**325**	P	**P**	**01 53 36.4**	**+1.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=104,slow=2.8,SNR=8.4						
TXAR	**Lajitas Array**	**77.76**	**60**	P	**P**	**01 53 37.7**	**+0.4**
	comp=Z,1.6nm,0.5s,mb4.2,baz=300,slow=4.1,SNR=27						
TXAR	**Lajitas Array**	**77.76**	**60**	P	**P**	**01 53 37.7**	**+0.4**
KHC	**Kasperske Hory**	**78.58**	**334**	*e*P	**P**	**01 53 42.5**	**+0.6**
BRTR	**Keskin Array B**	**78.64**	**317**	P	**P**	**01 53 42.2**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.6,baz=40,slow=8.1,SNR=4.4						
GERES	**GERESS Array B**	**78.80**	**334**	P	**P**	**01 53 42.8**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=46,slow=5.8,SNR=3.2						
MMAI	**Mount Meron Ar**	**83.03**	**311**	P	**P**	**01 54 06.9**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=15,slow=6.0,SNR=3.3						
CFAA	**Coronel Fontan**	**145.14**	**80**	PKPbc	PKPbc	02 01 16.9	-0.3
	comp=Z,0.3nm,0.7s,baz=193,slow=7.8,SNR=5.3						

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*ISCJB **10** 02:02:26.3±0.3, 4754N±002×759E±003, h12km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=102.9*
*ZUR **10** 02:02:28.9, 4758N×761E, h5km±1km, ML1.5/1*
*STR **10** 02:02:28.5±0.3, 4756N×760E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 02:02:29.1±0.1, 4758N×756E, h10km, Md2.3/3, Ml2.2/17, Error ellipse: s-maj=1.1km s-min=1.0km az=124.0*
ISC 10 02:02:27.2±0.3, 4756N±002×762E±003, h14km±3km, n36, σ1§01/61, 3C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.23**	**168**	⇓*i*Pg	**Pg**	**02 02 31.2**	**-1.1**
	205nm,0.5s						
BALST				*i* Sg	**Sg**	**02 02 32.8**	**-3.0**
	205nm,0.5s						
BOURR	**Bourrignon**	**0.31**	**238**	⇑*i*Pg	**Pg**	**02 02 34.3**	**+0.6**
	36nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.34**	**96**	⇑*i*Pg	**Sg**	**02 02 38.3**	**-0.4**
	98nm,0.3s						
MOF	**Molkenrain**	**0.44**	**312**	Pg	**Pg**	**02 02 37.0**	**+1.0**
MOF				Sg	**Sg**	**02 02 42.8**	**+0.9**
HINF	**Hinteralfeld**	**0.58**	**296**	*e*Pg	**Pg**	**02 02 39.3**	**+0.7**
HINF	**Hinteralfeld**	**0.58**	**296**	*e*Pn	**Pg**	**02 02 40.8**	**+2.2**
HINF				*e*Sg	**Sg**	**02 02 46.4**	**+0.1**
HINF				*e*Sn	**Sg**	**02 02 50.0**	**+3.7**
	23nm,0.2s						
LOMF	**Lomont**	**0.58**	**249**	Pg	**Pg**	**02 02 40.2**	**+1.6**
SLE	**Schleitheim**	**0.62**	**71**	⇑*i*P	**Pg**	**02 02 37.5**	**-1.9**
	103nm,0.3s						
SLE				*i* Sg	**Sg**	**02 02 43.7**	**-4.0**
	103nm,0.3s						
TRULL	**Truellikon**	**0.72**	**83**	*i* Sg	**Pg**	**02 02 41.7**	**+0.4**
	65nm,0.2s						
TRULL	**Truellikon**	**0.72**	**83**	⇓*i*P	**Sg**	**02 02 49.5**	**-1.3**
	65nm,0.2s						
ECH	**Echery**	**0.72**	**335**	Pg	**Pg**	**02 02 42.5**	**+1.2**
ECH				Sg	**Sg**	**02 02 51.3**	**+0.4**
STEIN	**Stein am Rhein**	**0.85**	**82**	*i* Pg	**Pg**	**02 02 43.3**	**-0.4**
	19nm,0.5s						
STEIN				*i* Sg	**Sg**	**02 02 53.4**	**-1.5**
	19nm,0.5s						
CDF	**Champ du Feu**	**0.88**	**345**	*e*Pg	**Pg**	**02 02 45.1**	**+0.8**
CDF	**Champ du Feu**	**0.88**	**345**	*e*Pn	**Pn**	**02 02 45.5**	**+0.4**
CDF				*e*Sg	**Sg**	**02 02 55.6**	**-0.3**
CDF				*e*Sn	**Sn**	**02 02 57.7**	**0.0**
	20nm,0.3s						
HASLI	**Hasliberg**	**0.88**	**156**	*i* Sg	**Pg**	**02 02 45.8**	**+1.5**
	31nm,0.3s						
HASLI	**Hasliberg**	**0.88**	**156**	⇓*i*Pg	**Sg**	**02 02 57.8**	**+1.9**
	31nm,0.3s						
HAU	**Haudompre**	**0.97**	**298**	*e*Pg	**Pg**	**02 02 46.5**	**+0.6**
HAU				*e*Sg	**Sg**	**02 02 59.1**	**+0.5**
	22nm,0.3s						
BRANT	**Les Verrieres**	**1.00**	**232**	*e*Pg	**Pg**	**02 02 46.5**	**0.0**
	9.3nm,0.7s						
THEF	**They Montfort**	**1.29**	**302**	Pg	**Pg**	**02 02 52.6**	**+0.6**
CABF	**La Chapelle**	**1.42**	**228**	*e*Pg	**Pg**	**02 02 55.8**	**+1.4**
CABF				*e*Sg	**Sg**	**02 03 12.9**	**+0.1**
	3.6nm,0.3s						
RFYF	**Reffroy**	**1.79**	**307**	*e*Pn	**Pn**	**02 02 57.7**	**0.0**
RFYF	**Reffroy**	**1.79**	**307**	*e*Pg	**Pg**	**02 03 01.8**	**+0.2**
RFYF				*e*Sn	**Sn**	**02 03 19.4**	**-0.8**
	1.5nm,0.2s						
RFYF				*e*Sg	**Sg**	**02 03 24.3**	**-0.6**
	3.9nm,0.3s						
SFTF	**Sexfontaines**	**1.85**	**291**	*e*Pg	**Pg**	**02 03 02.9**	**+0.1**
SFTF				*e*Sn	**Sn**	**02 03 20.7**	**-1.0**
	1.4nm,0.2s						
SFTF				*e*Sg	**Sg**	**02 03 26.7**	**-0.2**
	3.8nm,0.3s						
MEZF	**Maizieres J'vi**	**1.96**	**300**	*e*Pn	**Pn**	**02 03 01.3**	**+1.3**
MEZF				*e*Sn	**Sn**	**02 03 23.4**	**-1.0**
	0.9nm,0.2s						
MEZF				*e*Sg	**Sg**	**02 03 29.9**	**-0.5**
	2.7nm,0.3s						
LPL	**La Plagne**	**2.14**	**197**	*e*Pg	**Pg**	**02 03 09.3**	**+1.1**
LPL				*e*Sg	**Sg**	**02 03 36.8**	**+0.9**
	1.3nm,0.4s						
LPG	**La Plagne**	**2.15**	**197**	*e*Pg	**Pg**	**02 03 09.6**	**+1.1**
LPG				*e*Sg	**Sg**	**02 03 36.7**	**+0.3**
	1.9nm,0.3s						
LOR	**Lormes**	**2.57**	**265**	*e*Pn	**Pn**	**02 03 08.4**	**0.0**
LOR	**Lormes**	**2.57**	**265**	*e*Pg	**Pg**	**02 03 16.2**	**-0.3**
LOR				*e*Sg	**Sg**	**02 03 48.3**	**-1.6**
	3.9nm,0.3s						
SMF	**Signal de Mont**	**2.74**	**252**	*e*Pn	**Pn**	**02 03 11.0**	**+0.3**
SMF	**Signal de Mont**	**2.74**	**252**	*e*Pg	**Pg**	**02 03 19.3**	**-0.4**
SMF				*e*Sg	**Sg**	**02 03 53.2**	**-2.1**
	1.7nm,0.3s						
SSF	**Saint Saulge**	**2.84**	**261**	*e*Pn	**Pn**	**02 03 13.0**	**+0.9**
SSF	**Saint Saulge**	**2.84**	**261**	*e*Pg	**Pg**	**02 03 21.7**	**0.0**
SSF				*e*Sg	**Sg**	**02 03 57.2**	**-1.4**
	2.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.91**	**205**	*e*Pg	**Pg**	**02 03 23.3**	**+0.4**
ORIF				*e*Sg	**Sg**	**02 04 00.4**	**-0.2**
	1.5nm,0.3s						
AVF	**Avril sur Loir**	**3.01**	**257**	*e*Pn	**Pn**	**02 03 15.2**	**+0.8**
AVF	**Avril sur Loir**	**3.01**	**257**	*e*Pg	**Pg**	**02 03 24.6**	**-0.3**
AVF				*e*Sg	**Sg**	**02 04 02.0**	**-2.0**
	0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**3.39**	**218**	*e*Pg	**Pg**	**02 03 31.5**	**-0.7**
VIVF				*e*Sg	**Sg**	**02 04 14.3**	**-1.9**
	1.9nm,0.3s						

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*TEH **10** 02:47:19.5, 2790N×5406E, h18km, Mn3.6*
*IDC **10** 02:47:22.0±3.0, 2829N×5377E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.7/6, Error ellipse: s-maj=69.2km s-min=29.1km az=137.0*
*ISCJB **10** 02:47:22.7±0.4, 2837N±004×5403E±005, h10km, mb3.5/5, Error ellipse: s-maj=6.5km s-min=5.3km az=73.4*
*NEIC **10** 02:47:22.6, 2820N×5411E, h14km, ML3.6(THR), After THR.*
*THR **10** 02:47:22.7±0.5, 2818N×5411E, h14km±6km, ML3.5*
*CSEM **10** 02:47:23.4±0.1, 2839N×5406E, h16km, ML3.6, Error ellipse: s-maj=3.5km s-min=2.8km az=60.0*
ISC 10 02:47:23.4±1.1, 2837N±004×5406E±004, h4km±8km, n32, σ1§07/38, mb3.5/5, 1C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.95**	**265**	*e*Pg	**Pg**	**02 47 41.3**	**-0.3**
GHIR				AML	AML	02 48 10.0	
	comp=N,835nm,0.6s						
GHIR	**Ghir-Karzin**	**0.95**	**265**	Pg	**Pg**	**02 47 41.0**	**-0.6**
GHIR				Sg	**Sg**	**02 47 55.0**	**+1.1**
GHIR	**Ghir-Karzin**	**0.95**	**265**	*e*Pg	**Pg**	**02 47 41.3**	**-0.3**
	SNR=90						
GHIR				Sg	**Sg**	**02 47 55.0**	**+1.1**
ISRV	**Sarvestan**	**1.30**	**321**	*e*Pn	**Pn**	**02 47 49.0**	**+0.6**
IMOK	**Mook**	**1.36**	**300**	*e*Pn	**Pn**	**02 47 47.7**	**-1.4**
IMOK				*e*Sn	**Sn**	**02 48 09.8**	**+2.2**
IPAR	**Pars**	**1.71**	**329**	*e*Pn	**Pn**	**02 47 54.7**	**+0.7**
BNDS	**Bandar-Abbas**	**2.11**	**117**	*e*Pg	**Pn**	**02 47 59.0**	**-0.5**
BNDS				AML	AML	02 48 38.9	
	comp=E,442nm,0.5s						
BNDS				AML	AML	02 48 41.4	
	comp=N,370nm,0.6s						
BNDS	**Bandar-Abbas**	**2.11**	**117**	Pg	**Pn**	**02 47 58.0**	**-1.4**
KRBR	**Kerman**	**2.86**	**55**	*e*Pn	**Pn**	**02 48 11.4**	**+1.7**
KRBR				*e*Sg	**Sg**	**02 48 54.5**	**-0.7**
KRBR		

YLYR Ulyunkhan 1.00 145 ⇓*i*Pg Pg 02 53 42.0 -1.4
comp=E,180nm,0.4s
YLYR ⇑*i*Pg Pg 02 53 42.0 -1.4
comp=E,110nm,0.4s
YLYR ⇑*i*Pg Pg 02 53 42.0 -1.4
comp=E,156nm,0.4s
YLYR *e*Sg Sg 02 53 55.9 -0.5
YLYR *e* 02 54 01.2
YLYR Pmax
comp=E,158nm,0.4s
YLYR max
comp=E,471nm,0.3s
SVKR Severomuysk 1.96 76 *e*PN Pn 02 53 58.6 +0.8
SVKR *e* 02 54 25.5
SVKR pmax pmax
comp=Z,94nm,0.5s
SVKR smax
comp=N,2μm,0.6s
SVKR Severomuysk 1.96 76 *e*Pg Pg 02 53 59.6 -2.0
SVKR *e*Sg Sg 02 54 25.7 -1.3
SVKR Pmax
comp=N,104nm,0.5s
SVKR Smax
comp=N,693nm,0.5s
SYVR Suvo 2.05 183 *e*PN Pn 02 54 00.5 +1.4
SYVR *e* 02 54 29.4
SYVR pmax pmax
comp=Z,118nm,0.6s
SYVR smax
comp=E,1μm,0.8s
SYVR Suvo 2.05 183⇑*i*Pg Pg 02 54 00.8 -2.6
SYVR *e*Sg Sg 02 54 29.0 -0.9
SYVR Pmax
comp=E,122nm,0.7s
SYVR Smax
comp=E,1μm,0.7s
OGRR Ongureny 2.54 217 *e*PN Pn 02 54 06.9 +1.0
OGRR *e* 02 54 10.8
OGRR *e* 02 54 43.5
OGRR pmax pmax
comp=Z,20nm,0.3s
OGRR smax
comp=E,167nm,0.9s
OGRR Ongureny 2.54 217 *e*Pn Pn 02 54 07.0 +1.1
OGRR *e*Pg Pg 02 54 09.9 -2.9
OGRR *e*Sg Sg 02 54 43.3 -2.5
OGRR Pmax
comp=E,13nm,0.5s
OGRR Smax
comp=E,140nm,0.2s
MXMB Maximikha 2.58 199 *e*Pg Pg 02 54 10.9 -2.6
MXMB *e*Sg Sg 02 54 45.5 -1.4
MXMB Pmax
comp=E,10.0nm,0.1s
MXMB Smax
comp=E,525nm,1.0s
BOD Bodaibo 3.00 43 *e*Pn Pn 02 54 11.8 -0.3
BOD *e*Pg Pg 02 54 16.6 -5.0
BOD *e*Sn Sn 02 54 47.5 -0.9
BOD *e*Sg Sg 02 54 55.0 -5.4
BOD Pmax
comp=E,13nm,0.4s
BOD Smax
comp=E,100nm,0.8s
NLYR Nelyaty 3.21 73 *e*Pn Pn 02 54 15.4 +0.4
NLYR *e* 02 54 41.3
NLYR *e*Sg Sg 02 55 03.4 -3.7
TRG Tyrgan 3.70 219⇑*i*Pn Pn 02 54 22.8 +1.0
TRG *e*Sn Sn 02 55 05.3 -0.4
TRG *e*Sg Sg 02 55 17.8 -5.1
TRG max
comp=E,17nm,0.4s
TRG Smax
comp=E,114nm,0.5s
TRTB Turuntaevo 3.78 204 *e* Pn 02 54 24.9 +2.0
TRTB *e*Pg Pg 02 54 31.8 -4.8
TRTB *e* 02 55 09.6
TRTB *e*Sg Sg 02 55 20.0 -5.6
TRTB Pmax
comp=E,15nm,0.4s
TRTB Smax
comp=E,57nm,0.7s
CIT Chita 4.20 150 *e*PN Pb 02 54 37.5 -0.8
CIT *e* 02 55 33.7
CIT pmax pmax
comp=Z,50nm,1.0s
CIT smax
comp=N,79nm,1.0s
CIT Chita 4.20 150⇑*i*Pg Pg 02 54 39.2 -5.3
CIT *e*Sg Sg 02 55 33.6 -5.3
CIT Pmax
comp=N,51nm,1.4s
CIT Smax
comp=N,80nm,1.1s
HRMR Khuramsha 4.50 206 *e* Pn 02 54 36.4 +3.6
HRMR *e*Pg Pg 02 54 44.9 -5.5
HRMR *e*Sg Sg 02 55 42.6 -6.1
HRMR Pmax
comp=N,16nm,0.4s
HRMR Smax
comp=N,213nm,0.5s
CRS Chara 4.67 72 *e*PN Pg 02 54 49.8 -3.9
CRS *e* 02 55 51.8
CRS pmax pmax
comp=Z,26nm,1.1s
CRS smax
comp=E,77nm,1.4s
CRS Chara 4.67 72 *e*Pn Pn 02 54 35.2 0.0
CRS *e*Pg Pg 02 54 49.1 -4.6
CRS *e*Sg Sg 02 55 49.9 -4.3
CRS Pmax
comp=E,18nm,0.5s
CRS Smax
comp=E,77nm,1.4s
LSTR Listvyanka 4.97 222 *e* Sn 02 55 32.5 -4.5
LSTR *e*Sg Sg 02 55 55.2 -8.5
LSTR Smax
comp=E,60nm,1.1s
TLY Talaya 5.58 227 *e*PN Pn 02 54 47.5 -0.2
TLY *e* 02 55 04.6
TLY *e*S Sn 02 55 51.1 -1.1
TLY *e* 02 56 16.3
TLY pmax pmax
comp=Z,18nm,1.7s
TLY smax
comp=N,60nm,1.2s
TLY Talaya 5.58 227 *e* Sn 02 55 49.4 -2.8
TLY *e*Sg Sg 02 56 16.2 -7.2
TLY Smax
comp=N,41nm,0.7s
TUP Tupik 5.77 99 *e*PN Pn 02 54 50.9 +0.6
TUP *e* 02 55 08.4
TUP *e*S Sn 02 55 54.3 -2.5
TUP *e* 02 56 23.1
TUP pmax pmax
comp=Z,6.0nm,0.5s
TUP smax
comp=N,66nm,1.1s
TUP Tupik 5.77 99 *e*Pn Pn 02 54 50.6 +0.3
TUP *e*Pg Pg 02 55 08.8 -5.9
TUP *e* 02 55 51.0
TUP *e*Sg Sg 02 56 23.5 -5.9
TUP Pmax
comp=N,6.0nm,0.6s
TUP Smax
comp=N,78nm,1.6s
ARS Arshan 5.94 234 *e*PN Pn 02 54 52.9 +0.3
ARS *e*S Sn 02 55 57.9 -3.1
ARS Arshan 5.94 234 *e*Pn Pn 02 54 52.7 +0.1
ARS *e*Sn Sn 02 55 59.3 -1.7
ARS *e*Sg Sg 02 56 30.0 -4.9
ARS max
comp=N,13nm,0.6s
ARS Smax
comp=N,200nm,0.7s
KPC Khapcheranga 6.16 166 *e*Pg Pg 02 55 14.6 -7.4
KPC *e* 02 56 02.6
KPC *e*Sg Sg 02 56 34.6 -7.1
KPC Pmax
comp=N,3.0nm,0.4s
KPC Smax
comp=N,54nm,1.3s
ZAK Zakamensk 6.75 221 *e*PN Pn 02 55 04.8 +1.1
ZAK *e* 02 55 26.6
ZAK *e* 02 56 52.6
ZAK pmax pmax
comp=Z,2.0nm,0.3s
ZAK smax
comp=N,40nm,1.2s
MOY Mondy 6.78 237 *e*PN Pn 02 55 06.0 +1.9
MOY *e* 02 55 26.5
MOY *e*S Sn 02 56 20.7 -0.9
MOY *e* 02 56 51.1
MOY pmax pmax
comp=Z,4.0nm,0.3s
MOY smax
comp=N,72nm,1.8s
ORL Orlik 6.86 247 *e*PN Pn 02 55 06.4 +1.2
ORL *e*S Sn 02 56 22.4 -1.1
ORL *e*S Sg 02 56 58.4 -5.9
ORL smax
comp=N,56nm,0.7s
ORL Orlik 6.86 247 *e*Pn Pn 02 55 05.8 +0.6
ORL *e*Sn Sn 02 56 22.1 -1.4
ORL *e*Sg Sg 02 56 57.8 -6.5
ORL max
comp=N,7.0nm,0.4s
ORL Smax
comp=N,62nm,1.1s

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*IDC **10** 03:18:20.1±0.4, 10.06N×140.38E, h0km, mb4.8/25, mb1 4.9/27, mb1mx4.9/28, mbtmp4.8/27, ML5.3/2, MS5.0/21, Ms1 5.0/21, ms1mx4.7/28, Error ellipse: s-maj=20.5km s-min=10.5km az=84.0*
*ISCJB **10** 03:18:22.9±0.1, 10.01N±0.03×140.35E±0.02, h24km, mb5.2/126, MS5.0/123, Error ellipse: s-maj=4.3km s-min=3.4km az=17.3*
*BJI **10** 03:18:22.0, 9.91N×140.95E, h43km, mB5.5, mb5.1, Ms5.1, Msz4.9*
*MOS **10** 03:18:23.7±1.1, 10.09N×140.37E, h33km, mb5.5/51, MS4.9/30, Error ellipse: s-maj=9.3km s-min=5.6km az=102.5*
*GCMT **10** 03:18:23.9±0.1, 10.04N×140.45E, h20km, MW5.5/97, Moment Tensor Solution. s77,c124; s97,c201; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr0.60±.03; Mθθ1.05±.02; Mφφ-1.65±.03; Mrθ0.88±.06; Mθφ-0.65±.02; Mφr0.38±.05; Best double couple: M0 1.84800×10^17 NP1:φs152.00000°, δ55.00000°, λ18.00000°. NP2:φs52.00000°, δ76.00000°, λ143.00000°. Principal axes: T 1.7620, Plg36.0000°, Azm6.0000°; N 0.1750, Plg51.0000°, Azm214.0000°; P -1.9350, Plg14.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 03:18:23.9±0.2, 10.02N×140.42E, mb5.3/52, MS4.9/85 Error ellipse: s-maj=6.1km s-min=4.6km az=101.0*
ISC 10 03:18:25.0±0.1, **10.03N**±0.03×**140.42E**±0.02, **h25**km±.8km**:pP-P, n531,** σ0.93/475, **mb5.2**/125, **MS5.0**/123, **95C-77D, Western Caroline Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 5.61 50 Pn **Pn 03 19 45.7 -1.2**
111nm,0.3s,baz=193,slow=6.4,SNR=38
GUMO Sn **Sn 03 20 44.6 -5.9**
130nm,0.3s,baz=33,slow=22,SNR=6.7
GUMO Guam 5.61 50 *e*Pn **Pn 03 19 45.2 -1.6**
GUMO *e*Sn **Sn 03 20 46.3 -4.2**
DAV Davao City (W) 14.96 260 *e*Pn **Pn 03 21 58.9 +4.1**
BUKP Musuan 15.32 263 *e*P **Pn 03 22 03.2 +3.8**
CBIJ Chichi jima 17.06 5 P **Pn 03 22 20.8 -1.0**
40nm,0.3s,baz=204,slow=3.4,SNR=15
CBIJ LR LR 03 27 41.0
comp=Z,3μm,20.2s,baz=172,slow=33
TGY Tagaytay City 19.47 284 P **Pn 03 22 52.0 +0.8**
27nm,0.3s,baz=217,slow=8.2,SNR=3.6
TGY LR LR 03 28 54.0
comp=Z,13nm,19.0s,baz=111,slow=33
JOW Kunigami 20.27 327 P **P 03 23 00.0 +1.4**
58nm,0.8s,baz=138,slow=15,SNR=6.1
JOW LR LR 03 29 36.8
comp=Z,3μm,19.4s,MS4.7,baz=166,slow=34
PMG Port Moresby 20.44 161 P **P 03 22 59.3 -1.1**
58nm,0.7s,baz=337,slow=6.9,SNR=19
PMG LR LR 03 31 03.4
comp=Z,4μm,18.1s,MS4.8,baz=194,slow=37
PMG Port Moresby 20.44 161*d i*P **P 03 22 58.5 -1.9**
PMG Port Moresby 20.44 161 *e*P **P 03 22 58.6 -1.8**
242nm,1.1s
PMG LR LR
comp=Z,3μm,20.0s,MS4.6
PPR Puerto Princes 21.37 271⇑*i*P **P 03 23 12.6 +2.1**
BATP Bataraza 22.35 269 *e*P **P 03 23 22.7 +1.8**
JHJ Hachijo jima 2 22.99 359 LR LR 03 30 40.6
comp=Z,5μm,19.2s,MS5.0,baz=315,slow=32
YHNB Yeheng 23.24 311 *e*P **P 03 23 30.2 -0.1**
TATO Taipei 23.34 312 PFAKE 03 23 40.0 +8.6
TATO LR LR
comp=Z,4μm,21.0s,MS4.9
KAKA Kakadu 23.94 199 *e*P **P 03 23 35.0 -2.1**
comp=Z,26nm,1.1s,mb4.6
KAKA *i* pP 03 23 41.1
KKM Kota Kinabalu 24.29 262 *e*P **P 03 23 40.5 +0.3**
JNU Nakatsue 24.61 340 P **P 03 23 43.0 -0.1**
comp=Z,73nm,1.2s,mb5.1,baz=195,slow=21,SNR=6.4
JNU LR LR 03 31 50.3
comp=Z,10μm,20.0s,MS5.3,baz=89,slow=33
QZH Quanzhou 25.50 308 P **P 03 23 56.8 +5.5**
QZH S **S 03 28 17.3 +0.2**
QZH AMB AMB
comp=Z,2μm,11.3s
QZH LR LR
comp=N,1μm,8.0s
QZH LR LR
comp=E,4μm,15.3s
QZH LR LR
comp=Z,4μm,18.2s,MS5.0
MJAR Matsushiro Arr 26.47 356 P **P 03 23 56.8 -3.3**
comp=Z,7.5nm,0.8s,mb4.3,baz=175,slow=11,SNR=18
MJAR LR LR 03 32 49.6
comp=Z,878nm,21.5s,MS4.3,baz=155,slow=33
MAJO Matsushiro 26.47 356 *e*P **P 03 23 56.1 -4.0**
MAJO MLR MLR
comp=Z,2μm,21.0s,MS4.6
MAT Matsushiro 26.47 356 P **P 03 23 57.2 -2.9**
MAT S **S 03 28 35.0 +2.5**
HNR Honiara 27.41 134 LR LR 03 33 31.0
comp=Z,2μm,19.3s,MS4.6,baz=358,slow=33
HNR Honiara 27.41 134 PFAKE 03 24 20.0 +11
HNR LR LR
comp=Z,2μm,19.0s,MS4.7
SSE Sheshan 27.54 322 *e*P **P 03 24 09.3 -0.4**
SSE S **S 03 28 51.5 +2.1**
SSE AMB AMB
comp=Z,47nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,235nm,4.1s
SSE LR LR
comp=N,2μm,19.1s,MS4.9
SSE LR LR
comp=E,2μm,19.1s,MS4.9
SSE LR LR
comp=Z,2μm,17.6s,MS4.8
GZH Guangzhou 28.95 300 P **P 03 24 28.4 +6.2**
GZH LR LR
comp=N,1μm,10.0s,MS4.9
GZH LR LR
comp=E,1μm,13.7s,MS4.9
GZH LR LR
comp=Z,2μm,14.9s,MS4.8
KSRS Korea Array 29.54 340 P **P 03 24 26.2 -1.2**
comp=Z,7.4nm,0.6s,mb4.6,baz=164,slow=9.8,SNR=18
KSRS PcP PcP 03 27 32.0 -0.2
comp=Z,1.6nm,0.8s,baz=196,slow=0.6,SNR=4.0
KSRS LR LR 03 35 38.7
comp=Z,3μm,18.1s,MS4.9,baz=153,slow=35
INCN Inchon 30.03 338 PFAKE 03 24 40.0 +8.2
INCN LR LR
comp=Z,2μm,20.0s,MS4.7
WRAB Tennant Creek 30.36 191 P **P 03 24 34.0 -0.8**
comp=Z,288nm,0.9s,mb6.0,SNR=7.1
WRAB Tennant Creek 30.36 191 *e*P **P 03 24 33.8 -1.0**
WRAB pmax pmax
comp=Z,41nm,0.9s,mb5.2
WRAB MLR MLR
comp=Z,1μm,20.0s,MS4.5
WRAB Tennant Creek 30.36 191 *e*P **P 03 24 33.8 -0.9**
comp=Z,41nm,0.9s,mb5.2
WRAB LR LR
comp=Z,1μm,20.0s,MS4.5
WB2 Warramunga Arr 30.37 191 *e*P **P 03 24 33.7 -1.1**
WB2 *i* pP pP 03 24 39.6 -2.7
WB2 *e*S **S 03 29 22.8 -11**
WRA Warramunga Arr 30.38 191 P **P 03 24 33.7 -1.1**
comp=Z,6.2nm,0.8s,mb4.4,baz=11,slow=9.4,SNR=68
WRA PcP PcP 03 27 34.7 +0.3
comp=Z,4.2nm,0.7s,baz=356,slow=2.7,SNR=6.3
WRA LR LR 03 36 32.9
comp=Z,4μm,20.4s,MS5.0,baz=15,slow=36
WRA Warramunga Arr 30.38 191 P **P 03 24 33.7 -1.2**
WRA 03 27 34.7
CTA Charters Tower 30.47 169 *e*P **P 03 24 35.4 -0.3**
comp=Z,9.6nm,1.0s,mb4.5
CTA *i* pP pP 03 24 40.8 -2.4
CTA *e*S **S 03 29 16.1 -19**
CTA Charters Tower 30.47 169 *e*P **P 03 24 35.4 -0.3**
CTA *i* *PP pP 03 24 40.8 -2.4
CTA pmax pmax
comp=Z,10.0nm,1.0s
CTAO Charters Tower 30.47 169 *e*P **P 03 24 36.6 +0.9**
CTAO pmax pmax
comp=Z,56nm,0.9s,mb5.3
CTAO MLR MLR
comp=Z,1μm,19.0s,MS4.6
CTAO Charters Tower 30.47 169 *e*P **P 03 24 36.5 +0.8**
comp=Z,56nm,0.9s,mb5.3
CTAO LR LR
comp=Z,1μm,19.0s,MS4.6
QIZ Qiongzhong 30.88 290 P **P 03 24 39.3 0.0**
QIZ AMB AMB
comp=Z,37nm,2.2s,mb4.8
QIZ LR LR
comp=N,2μm,19.9s
QIZ LR LR
comp=Z,2μm,31.5s
QIZ Qiongzhong 30.88 290 PFAKE 03 24 50.0 +11
QIZ LR LR
comp=Z,1μm,20.0s,MS4.6
KSM Kuching 31.11 256 *e*P **P 03 24 43.4 +2.0**
FITZ Fitzroy Crossi 31.53 208 *e*P **P 03 24 43.1 -1.9**
comp=Z,11nm,0.9s,mb4.7
FITZ *i* pP pP 03 24 49.5 -3.0
FITZ *e*S **S 03 29 33.3 -19**
FITZ Fitzroy Crossi 31.53 208 P **P 03 24 44.1 -0.9**
comp=Z,9.8nm,1.0s,mb4.6,baz=22,slow=11,SNR=11
WHN Wuhan 31.70 314 P **P 03 24 47.5 +0.9**
ERM Erimo 31.95 4 PFAKE 03 25 00.0 +11
ERM LR LR
comp=Z,267nm,20.0s,MS3.9
DL2 Dalian 33.31 333 ⇑P **P 03 24 58.8 -1.8**
DL2 S **S 03 30 17.7 -1.9**
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,310nm,6.6s
DL2 LR LR
comp=N,1μm,17.0s,MS4.7
DL2 LR LR
comp=E,800nm,15.8s,MS4.7
DL2 LR LR
comp=Z,1μm,16.2s,MS4.8
VLA Vladivostok 33.80 349 *i* P **P 03 25 00.7 -4.2**
VLA MLR MLR
comp=Z,2μm,15.5s,MS4.9
ASAJ Asahikawa 34.02 3 P **P 03 25 06.7 -0.1**
comp=Z,8.3nm,0.7s,mb4.8,baz=220,slow=7.9,SNR=4.3
ASAJ LR LR 03 38 04.0
comp=Z,1μm,18.9s,MS4.6,baz=177,slow=35
ASAR Alice Springs 34.09 191 P **P 03 25 06.8 -0.6**
comp=Z,3.2nm,0.5s,mb4.5,baz=19,slow=12,SNR=84
ASAR PcP PcP 03 27 44.5 -0.1
comp=Z,9.1nm,1.0s,baz=11,slow=2.5,SNR=6.3
MDJ Mudanjiang 35.71 347 P **P 03 25 21.6 +0.2**
MDJ AP pP 03 25 27.8 -1.1
MDJ PP PP 03 26 42.8 +0.1
MDJ PCP PcP 03 27 48.6 -0.6
MDJ S **S 03 30 58.9 +2.2**
MDJ AMB AMB
comp=Z,17nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,1μm,12.9s
MDJ LR LR
comp=N,1μm,15.9s,MS4.8
MDJ LR LR
comp=E,478nm,15.9s,MS4.8
MDJ LR LR
comp=Z,2μm,15.9s,MS5.0
GYA Guiyang 35.83 302⇑*i*P **P 03 25 24.4 +2.0**
GYA AP pP 03 25 30.6 +0.7
GYA PP PP 03 26 45.5 +1.5
GYA PCP PcP 03 27 51.2 +1.6
GYA S **S 03 30 59.4 +0.9**
GYA SCS ScS 03 35 38.5 -0.7
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,550nm,5.7s
GYA LR LR
comp=N,640nm,15.2s,MS4.6
GYA LR LR
comp=E,570nm,15.8s,MS4.6
GYA LR LR
comp=Z,710nm,16.0s,MS4.5
CN2 Changchun 36.07 341 *e*P **P 03 25 23.5 -1.0**
CN2 PP PP 03 26 46.4 -0.3
CN2 *e*S **S 03 31 00.0 -2.2**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.0
CN2 LR LR
comp=E,1μm,17.0s,MS5.0
CN2 LR LR
comp=Z,2μm,21.0s,MS4.8
BJT Baijiatuau 36.83 328 *e*P **P 03 25 30.2 -0.7**
BJT pmax pmax
comp=Z,57nm,0.8s
BJT MLR MLR
comp=Z,2μm,19.0s
BJT Baijiatuau 36.83 328 *e*P **P 03 25 30.1 -0.8**
comp=Z,57nm,0.8s,mb5.5
BJT LR LR
comp=Z,2μm,19.0s,MS5.0
BJI Beijing 36.84 328 P **P 03 25 30.4 -0.7**
BJI S **S 03 31 06.9 -7.1**
BJI AMB AMB
comp=Z,66nm,2.1s,mb5.1
BJI AMB AMB
comp=Z,615nm,3.5s
BJI LR LR
comp=N,2μm,24.5s
BJI LR LR
comp=E,2μm,17.3s
BJI LR LR
comp=Z,2μm,20.2s,MS4.8
YSS Yuzh-Sakhalins 36.85 3*j* *e*P **P 03 25 28.6 -2.6**
YSS *e**SP sP 03 25 44.0 +2.2
YSS *e* 03 26 54.0
YSS *e*S **S 03 31 16.0 +1.8**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.2
YSS MLR MLR
comp=Z,2μm,18.0s,MS4.9
YSS MLR MLR
comp=N,2μm,17.0s,MS4.9
YSS MLR MLR
comp=E,900nm,16.0s,MS4.9
YSS Yuzh-Sakhalins 36.85 3 *e*P **P 03 25 30.0 -1.2**
YSS LR LR
comp=Z,1μm,22.0s,MS4.7
KKTK Khon Kaen 37.09 284 P **P 03 25 35.0 +1.8**
XAN Xi'an 37.46 314 P **P 03 25 35.7 -0.6**
XAN AP pP 03 25 50.1 +6.2
XAN AMB AMB
comp=Z,19nm,2.0s,mb4.6
KMI Kunming 38.77 298 P **P 03 25 48.4 +1.0**
KMI AP pP 03 25 57.6 +2.7
KMI XP sP 03 26 00.8 +2.8
KMI PP PP 03 27 17.8 +1.5
KMI PPP 03 27 41.0

KMI S **S** **03 31 42.9 -0.3**
KMI AMB AMB
comp=Z,22nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,415nm,5.8s
KMI LR LR
comp=N,2μm,18.0s,MS5.0
KMI LR LR
comp=E,1μm,17.5s,MS5.0
KMI LR LR
comp=Z,2μm,17.8s,MS4.9
NANT Nan 39.37 287 ⇑P **P** **03 25 51.0 -1.4**
comp=Z,211nm,1.0s,mb5.8
NST Nakhon Sawan 39.63 282 P **P** **03 25 54.5 0.0**
comp=Z,46nm,0.5s,mb5.5
KULM Kulim 39.67 266 *e*P **P** **03 25 54.3 -0.6**
KLR Kul'dur 39.74 351 *d*/P **P** **03 25 52.0 -3.5**
KLR *e* 03 27 57.0
KLR *e*S **S** **03 32 04.5 +6.7**
KLR pmax pmax
comp=N,64nm,1.8s
KLR pmax pmax
comp=E,78nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s,mb5.6
KLR MLR MLR
comp=Z,3μm,14.0s,MS5.3
CD2 Chengdu 39.87 307 P **P** **03 25 56.6 +0.1**
CD2 PP PP 03 27 33.2 +4.9
CD2 S **S** **03 32 00.3 +0.6**
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.3
CD2 AMB AMB
comp=Z,470nm,4.7s
CD2 LR LR
comp=N,2μm,17.4s,MS5.0
CD2 LR LR
comp=E,1μm,16.7s,MS5.0
CD2 LR LR
comp=Z,2μm,13.0s,MS5.0
HHC Hu-ho-hao-te 39.90 325 *e*P **P** **03 25 57.1 +0.3**
HHC AP pP 03 26 07.2 +2.8
HHC XP sP 03 26 12.6 +5.2
HHC PP PP 03 27 34.6 +5.9
HHC PCP PcP 03 28 02.6 +0.5
HHC PCS PcS 03 31 50.6 -1.7
HHC S **S** **03 32 00.5 +0.3**
HHC XS sS 03 32 20.0 +7.3
HHC AMB AMB
comp=Z,26nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,501nm,9.1s
HHC LR LR
comp=N,1μm,24.4s,MS4.8
HHC LR LR
comp=E,1μm,23.8s,MS4.8
HHC LR LR
comp=Z,2μm,21.4s,MS4.8
BTO Baotou 40.63 324 *e*P **P** **03 26 02.1 -0.7**
BTO AMB AMB
comp=Z,20nm,2.0s,mb4.4
BTO LR LR
comp=N,228nm,5.9s
BTO LR LR
comp=E,400nm,18.4s
DZM Mont Dzumac 40.86 142 P **P** **03 26 05.0 +0.3**
comp=E,22nm,0.8s,mb4.8,baz=344,slow=6.8,SNR=7.1
CHG Chiang Mai 41.02 287 ⇑P **P** **03 26 07.4 +1.3**
comp=E,26nm,1.1s,mb4.8
CHTO Chiang Mai 41.02 287 P **P** **03 26 07.8 +1.7**
SNR=10
CHTO Chiang Mai 41.02 287 *e*P **P** **03 26 07.4 +1.4**
comp=E,25nm,1.0s,mb4.8
CHTO *e*PcP PcP 03 28 07.5 +1.8
CHTO LR LR
comp=Z,1μm,21.0s,MS4.7
ARMA Armidale 41.63 165 *e*P **P** **03 26 09.8 -1.3**
ARMA *i* pP pP 03 26 14.8 -3.9
STKA Stephens Creek 41.68 178 ⇑*i*P **P** **03 26 10.2 -1.3**
comp=Z,3.8nm,0.8s,mb4.1
STKA *e*pP pP 03 26 15.5 -3.6
STKA *e*S **S** **03 32 22.9 -3.8**
STKA Stephens Creek 41.68 178 P **P** **03 26 10.2 -1.2**
comp=Z,4.6nm,0.8s,mb4.2,baz=347,slow=10,SNR=10
STKA LR LR 03 44 00.2
comp=Z,1μm,19.6s,MS4.7,baz=358,slow=37
LZH Lanzhou 42.09 314 *e*P **P** **03 26 15.9 +1.1**
LZH AP pP 03 26 23.6 +1.2
LZH PP PP 03 27 57.0 +4.6
LZH *e*S **S** **03 32 33.0 +0.3**
LZH AMB AMB
comp=Z,60nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,360nm,4.5s
LZH LR LR
comp=N,2μm,17.6s
LZH LR LR
comp=Z,2μm,18.7s,MS5.0
FORT Forrest 42.27 196 *e*P **P** **03 26 16.2 -0.1**
comp=Z,30nm,1.0s,mb4.9
FORT *e*pP pP 03 26 23.2 -0.7
HIA Hailar 42.75 340 ⇑*i*P **P** **03 26 19.7 -0.5**
HIA MLR MLR
comp=Z,2μm,22.0s
OKH Okha 43.45 2 *e*P **P** **03 26 23.0 -2.9**
PET Petropavlovsk 45.34 15 *e*P **P** **03 26 40.0 -0.9**
PET *e*S **S** **03 33 20.2 0.0**
PET *e*SS SS 03 36 38.8 -5.1
PET pmax pmax
comp=Z,55nm,1.4s,mb5.2
PET smax
comp=N,2μm,5.0s
PET smax
comp=N,1μm,20.7s
PET MLR MLR
comp=Z,700nm,19.0s,MS4.6
PET Petropavlovsk 45.34 15 *e*P **P** **03 26 39.1 -1.8**
comp=Z,21nm,0.4s,mb5.3
PET LR LR
comp=Z,563nm,21.0s,MS4.5
GTA Gaotai 46.47 316 *e*P **P** **03 26 50.0 +0.1**
GTA AP pP 03 26 59.3 +1.7
GTA XP sP 03 27 03.1 +2.5
GTA PCP PcP 03 28 25.8 +1.6
GTA PP PP 03 28 38.8 -0.4
GTA S **S** **03 33 38.4 +1.9**
GTA KS 03 36 55.7
GTA AMB AMB
comp=Z,21nm,1.8s,mb4.8
GTA AMB AMB
comp=Z,590nm,10.3s
GTA LR LR
comp=E,852nm,18.2s
GTA LR LR
comp=Z,990nm,20.9s,MS4.7
KLBR Kellerberrin 46.73 207 *e*P **P** **03 26 49.9 -2.0**
comp=Z,29nm,1.2s,mb5.1
KLBR *e*pP pP 03 26 57.5 -2.1
CIT Chita 47.24 338 *e*P **P** **03 26 56.2 +0.3**
CIT *e* 03 34 00.0
CIT pmax pmax
comp=Z,263nm,2.0s,mb5.8
SONM Songino Array 47.33 329 P **P** **03 26 56.7 +0.2**
comp=Z,12nm,0.8s,mb4.9,baz=136,slow=6.2,SNR=55
SONM LR LR 03 47 55.2
comp=Z,2μm,18.8s,MS5.1,baz=128,slow=38
TOO Toolangi 47.58 175 *e*P **P** **03 26 58.9 +0.3**
comp=Z,12nm,1.4s,mb4.7
TOO *e*pP pP 03 27 04.7 -1.6
TOO Toolangi 47.58 175 *e*P **P** **03 26 58.9 +0.3**
TOO *e**PP pP 03 27 04.7 -1.6
TOO pmax pmax
comp=Z,12nm,1.4s,mb4.7
MUN Mundaring 47.76 208 *e*P **P** **03 26 59.5 -0.4**
MUN *e*pP pP 03 27 06.3 -1.3
NWAO Narrogin (SRO) 48.10 206 *e*P **P** **03 27 00.4 -2.1**
NWAO pmax pmax
comp=Z,29nm,1.1s
NWAO MLR MLR
comp=Z,965nm,20.0s
NWAO Narrogin (SRO) 48.10 206 *e*P **P** **03 27 00.4 -2.1**
comp=Z,29nm,1.1s,mb5.2
NWAO LR LR
comp=Z,965nm,20.0s,MS4.8
CLNS Chul'man 48.23 349 *e*P **P** **03 27 03.1 -0.5**
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,20nm,0.9s
SHL Shillong 48.45 295 *e*P **P** **03 27 05.2 0.0**
SHL *ex* x 03 32 15.0
LSA Lhasa 49.88 300 P **P** **03 27 18.0 +1.8**
LSA Lhasa 49.88 300 *e*P **P** **03 27 17.7 +1.5**
LSA pmax pmax
comp=Z,34nm,1.0s,mb5.3
LSA MLR MLR
comp=Z,860nm,21.0s,MS4.7
LSA Lhasa 49.88 300 *e*P **P** **03 27 17.7 +1.5**
comp=Z,34nm,1.0s,mb5.3
LSA LR LR
comp=Z,860nm,21.0s,MS4.7
MA2 Magadan 50.06 7 *e*P **P** **03 27 16.4 -1.2**
MA2 *e*S **S** **03 34 26.4 -0.8**
MA2 *e*SSS 03 39 29.2
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MA2 MLR MLR
comp=Z,400nm,20.4s,MS4.4
MA2 Magadan 50.06 7 PFAKE 03 27 30.0 +12
MA2 LR LR
comp=Z,674nm,21.0s,MS4.6
ZAK Zakamensk 50.54 330 *e*P **P** **03 27 20.9 -0.3**
ZAK pmax pmax
comp=Z,28nm,1.3s,mb5.0
TLY Talaya 51.20 331 P **P** **03 27 26.2 0.0**
comp=Z,131nm,1.1s,mb5.8,SNR=9.3
TLY Talaya 51.20 331 *e*P **P** **03 27 26.1 -0.1**
TLY *e* 03 29 26.6
TLY *e*PPP 03 30 17.7
TLY *e*S **S** **03 34 42.6 -0.5**
TLY *e*SS SS 03 38 18.0 -0.5
TLY pmax pmax
comp=Z,57nm,1.5s,mb5.3
TLY MLR MLR
comp=Z,1μm,17.0s,MS5.1
TLY Talaya 51.20 331 *e*P **P** **03 27 26.5 +0.3**
comp=Z,19nm,0.7s,mb5.1
TLY LR LR
comp=Z,263nm,19.0s,MS4.3
IRK Irkutsk 51.28 332 *e*P **P** **03 27 26.3 -0.5**
IRK pmax pmax
comp=Z,116nm,2.0s,mb5.5
MOY Mondy 52.47 330 *e*P **P** **03 27 35.3 -0.3**
MOY pmax pmax
comp=Z,116nm,2.8s,mb5.3
YAK Yakutsk 52.50 354 ⇑*e*P **P** **03 27 34.3 -1.6**
YAK pmax pmax
comp=Z,177nm,2.0s,mb5.7
YAK MLR MLR
comp=Z,1μm,19.0s,MS4.9
YAK Yakutsk 52.50 354 *e*P **P** **03 27 34.0 -1.8**
comp=Z,84nm,0.7s,mb5.8
YAK LR LR
comp=Z,1μm,22.0s,MS4.9
AFI Afiamalu 53.05 116 PFAKE 03 27 50.0 +10
AFI LR LR
comp=Z,2μm,19.0s,MS5.2
TAU Tasmania Unive 53.05 174 *e*P **P** **03 27 40.6 +0.6**
TAU pmax pmax
comp=Z,64nm,1.2s,mb5.4
TAU MLR MLR
comp=Z,782nm,20.0s,MS4.8
TAU Tasmania Unive 53.05 174 *e*P **P** **03 27 40.6 +0.6**
comp=Z,64nm,1.2s,mb5.4
TAU LR LR
comp=Z,782nm,20.0s,MS4.8
SEY Seymchan 53.52 7 ⇑*e*P **P** **03 27 42.9 -0.5**
BOK Bokaro 53.64 292 *e*P **P** **03 27 44.4 +0.1**
BOK AMb AMB 03 27 49.3
comp=Z,66nm,1.6s,mb5.3
JIRN Jiri 53.80 297 *e*P **P** **03 27 46.3 +0.8**
comp=Z,8.3nm,0.3s,mb5.1
GUN Gumba 54.11 297 *e*P **P** **03 27 48.7 +1.0**
comp=Z,235nm,1.1s,mb6.0
PKI Pulchoki 54.48 297 *e*P **P** **03 27 50.9 +0.5**
comp=Z,139nm,1.3s,mb5.7
KKN Kakani 54.62 297 *e*P **P** **03 27 51.9 +0.5**
comp=Z,102nm,1.2s,mb5.7
DMN Daman 54.75 297 *e*P **P** **03 27 52.9 +0.5**
comp=Z,26nm,0.6s,mb5.4
GKN Gorkha 55.21 297 *e*P **P** **03 27 56.1 +0.4**
comp=Z,123nm,1.1s,mb5.8
VIS Vishakhapatnam 55.78 285 *e*P **P** **03 28 01.0 +1.2**
VIS AMb AMB 03 28 05.8
comp=Z,57nm,2.1s,mb5.2
KOLN Koldanda 56.09 297 *e*P **P** **03 28 02.6 +0.6**
comp=Z,184nm,1.3s,mb5.9
WMQ Urumqi 56.55 316 P **P** **03 28 05.7 +0.4**
WMQ PP PP 03 30 11.7 +0.5
WMQ PPP 03 30 30.6
WMQ S **S** **03 35 54.3 -1.2**
WMQ SCS ScS 03 37 49.2 -3.7
WMQ SS SS 03 39 43.0 0.0
WMQ AMB AMB
comp=Z,64nm,1.1s,mb5.6
WMQ AMB AMB
comp=Z,262nm,4.0s
WMQ LR LR
comp=N,1μm,24.0s
WMQ LR LR
comp=E,293nm,10.0s
WMQ LR LR
comp=Z,521nm,21.0s,MS4.6
PALK Pallekele 59.04 272 *e*P **P** **03 28 24.8 +2.0**
comp=Z,43nm,1.4s,mb5.3
PALK LR LR
comp=Z,145nm,21.0s,MS4.1
NGP Nagpur 59.83 289 *e*P **P** **03 28 28.4 +0.2**
SNZO South Karori 60.05 151 PFAKE 03 28 40.0 +10
SNZO LR LR
comp=Z,1μm,20.0s,MS5.0
HYB Hyderabad 60.34 284 *i* P **P** **03 28 32.5 +0.8**
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 60.34 284 *e*P **P** **03 28 32.5 +0.8**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 60.34 284 *e*P **P** **03 28 32.5 +0.8**
comp=Z,60nm,1.0s,mb5.6
BILL Bilibino 60.42 11 *e*P **P** **03 28 30.3 -2.0**
BILL pmax pmax
comp=Z,134nm,1.6s,mb5.7
BILL MLR MLR
comp=Z,471nm,20.0s,MS4.6
BILL Bilibino 60.42 11 *e*P **P** **03 28 30.3 -1.9**
comp=Z,134nm,1.6s,mb5.7
BILL LR LR
comp=Z,471nm,20.0s,MS4.6
UNV Unalaska Valle 60.66 33 PFAKE 03 28 50.0 +16
UNV LR LR
comp=Z,3μm,19.0s,MS5.5
MK31 Makanchi Array 61.12 318 *i* P **P** **03 28 36.7 -0.3**
MK31 pmax pmax
comp=Z,62nm,1.1s,mb5.7
MK31 Makanchi Array 61.12 318 *i* P **P** **03 28 36.8 -0.2**
MKAR Makanchi Array 61.12 318 P **P** **03 28 36.8 -0.2**
comp=Z,15nm,0.7s,mb5.2,baz=98,slow=9.1,SNR=94
MKAR Makanchi Array 61.12 318 *i* P **P** **03 28 36.7 -0.3**
MKAR pmax pmax
comp=Z,69nm,1.1s
BHPL Bhopal 61.36 291 *e*P **P** **03 28 38.7 0.0**
BHPL AMb AMB 03 28 41.2
comp=Z,31nm,0.9s,mb5.4
AKL Akola 61.73 288 *e*P **P** **03 28 41.4 +0.3**
NDI New Delhi 61.79 297 *e*P **P** **03 28 41.0 -0.5**
NDI AMb AMB 03 28 43.8
comp=Z,46nm,1.1s,mb5.5
TIXI Tiksi 61.98 356 *e*P **P** **03 28 35.7 -7.2**
TIXI *e*S **S** **03 37 00.1 -5.6**
TIXI pmax pmax
comp=Z,13nm,0.9s,mb5.1
TIXI Tiksi 61.98 356 *e*P **P** **03 28 40.8 -2.1**
comp=Z,12nm,0.8s,mb5.1
TIXI LR LR
comp=Z,868nm,22.0s,MS4.9
ZAL Zalesovo 62.07 326 P **P** **03 28 42.0 -1.5**
comp=Z,3.7nm,0.6s,mb4.7,baz=6.2,slow=7.2
ZAL LR LR 03 57 21.0
comp=Z,5μm,21.7s,MS5.7,baz=355,slow=38
ZAL Zalesovo 62.07 326 P **P** **03 28 42.0 -1.5**
ZAL LR LR 03 57 21.0
NVS Novosibirsk 63.26 327 *e*P **P** **03 28 48.8 -2.6**
NVS pmax pmax
comp=N,38nm,1.8s
NVS pmax pmax
comp=E,65nm,1.8s
NVS pmax pmax
comp=Z,85nm,1.8s,mb5.6
AJM Ajmer 63.96 295 *e*P **P** **03 28 56.4 +0.4**
AJM AMb AMB 03 28 58.6
comp=Z,80nm,1.3s,mb5.6
KSH Kashi 64.00 309 *e*P **P** **03 28 58.6 +2.3**
KSH AP pP 03 29 08.1 +3.9
KSH XP sP 03 29 11.5 +4.3
KSH PCP PcP 03 29 33.8 +2.2
KSH PP PP 03 31 18.3 +1.2
KSH PPP 03 32 51.6
KSH SCP 03 33 32.1
KSH PCS 03 33 36.2
KSH S **S** **03 37 27.6 -3.4**
KSH SCS ScS 03 38 44.5 -4.0
KSH AMB AMB
comp=Z,73nm,0.6s,mb5.9
KSH LR LR
comp=N,982nm,6.6s
KSH LR LR
comp=E,2μm,7.7s
KSH LR LR
comp=Z,2μm,23.9s,MS5.2
SDPT Sand Point 64.48 33 *e*P **P** **03 28 57.4 -2.0**
comp=Z,104nm,0.7s,mb6.0
KAD Karad 64.51 284 *e*P **P** **03 28 59.3 -0.3**
KURK Kurchatov 64.57 322 P **P** **03 28 59.2 -0.8**
comp=Z,296nm,1.0s,SNR=10.0
KURK Kurchatov 64.57 322 P **P** **03 28 59.5 -0.5**
SNR=22
KURK Kurchatov 64.57 322 ⇑*e*P **P** **03 28 58.9 -1.1**
KURK Kurchatov 64.57 322 *e*P **P** **03 28 58.8 -1.2**
comp=Z,76nm,1.1s,mb5.6
POO Poona 64.77 286 *e*P **P** **03 28 58.0 -3.3**
TKM2 Tokmak 2 64.84 313 P **P** **03 29 03.7 +2.0**
SNR=7.5
KZA Kyzart 64.95 312 P **P** **03 29 03.9 +1.5**
SNR=16
KBK Karagaybulak 65.26 312 P **P** **03 29 04.8 +0.3**
SNR=9.5
CHMS Chumysh 65.46 313 P **P** **03 29 07.4 +1.6**
SNR=13
UCH Uchtor 65.51 312 P **P** **03 29 07.4 +1.3**
SNR=27
FRU Bishkek 65.53 313 *e*P **P** **03 29 05.7 -0.6**
FRU pmax pmax
comp=Z,120nm,2.2s,mb5.5
AAK Ala-Archa 65.59 312 P **P** **03 29 08.5 +1.8**
SNR=5.4
AAK Ala-Archa 65.59 312 ⇑P **P** **03 29 06.6 0.0**
SNR=5.7
AAK Ala-Archa 65.59 312 ⇑*e*P **P** **03 29 05.7 -0.9**
AAK pmax pmax
comp=Z,22nm,1.8s,mb4.9
AAK Ala-Archa 65.59 312 *e*P **P** **03 29 05.6 -1.0**
comp=Z,9.1nm,0.9s,mb4.8
AAK LR LR
comp=Z,175nm,21.0s,MS4.2
USP Ospenovka 65.69 313 P **P** **03 29 08.7 +1.5**
SNR=10
TNA Tin City 65.70 21 PFAKE 03 29 20.0 +13
TNA LR LR
comp=Z,579nm,22.0s,MS4.7
AML Almayashu 66.10 312 P **P** **03 29 10.7 +0.8**
SNR=8.6
EKS2 Erkin-Say 66.12 312 P **P** **03 29 12.0 +2.0**
SNR=6.1
KK31 Karatay Array 68.56 312 *i* P **P** **03 29 24.8 -0.7**
KKAR Karatay Array 68.56 312 *i* P **P** **03 29 24.8 -0.7**
KKAR pmax pmax
comp=Z,92nm,1.4s,mb5.5
SVW2 Sparrevohn 68.84 28 *e*P **P** **03 29 26.6 -0.6**
KDAK Kodiak Island 69.38 32 P **P** **03 29 29.2 -1.4**
comp=Z,5.4nm,0.4s,mb4.8,baz=0.6,slow=3.7,SNR=8.0
KDAK Kodiak Island 69.38 32 P **P** **03 29 29.2 -1.4**
KDAK LR LR
comp=Z,303nm,20.0s,MS4.5
CHKZ Chkalovo 70.04 324 *e*P **P** **03 29 33.2 -1.5**
CHKZ pmax pmax
comp=Z,35nm,1.2s,mb5.2
CHKZ Chkalovo 70.04 324 *e*P **P** **03 29 33.2 -1.5**
comp=Z,35nm,1.2s,mb5.2
BVA0 Borovoye Array 70.06 323 *i* P **P** **03 29 33.4 -1.4**
BVAR Borovoye Array 70.06 323 P **P** **03 29 33.9 -0.8**
comp=Z,10.0nm,0.4s,mb5.1,baz=109,slow=7.1,SNR=86
BRVK Borovoye 70.13 323 P **P** **03 29 34.0 -1.2**
comp=Z,208nm,0.9s,mb6.1,SNR=19
BRVK Borovoye 70.13 323 P **P** **03 29 34.7 -0.5**
SNR=16
BRVK Borovoye 70.13 323 P **P** **03 29 34.1 -1.1**
BRVK pmax pmax
comp=Z,25nm,1.3s,mb5.0
BRVK Borovoye 70.13 323 *e*P **P** **03 29 34.4 -0.8**
comp=Z,59nm,1.2s,mb5.4
BRVK LR LR
comp=Z,272nm,21.0s,MS4.5
SLKM Skilak Lake 71.21 29 *e*P **P** **03 29 40.1 -1.7**
IMA2 Indian Mountai 71.21 23 *e*P **P** **03 29 41.1 -0.7**
PMR Palmer 71.97 28 *e*P **P** **03 29 44.6 -1.7**
PMR pmax pmax
comp=Z,50nm,1.4s,mb5.2
PMR Palmer 71.97 28 *e*P **P** **03 29 44.6 -1.7**
comp=Z,50nm,1.4s,mb5.2
SML Sawmill 72.39 28 *e*P **P** **03 29 47.6 -1.2**
MCK McKinley 72.53 26 *e*P **P** **03 29 48.4 -1.3**
MCK pmax pmax
comp=Z,53nm,1.5s,mb5.2
MCK MLR MLR
comp=Z,408nm,20.0s,MS4.7
MCK McKinley 72.53 26 *e*P **P** **03 29 48.4 -1.3**
comp=Z,53nm,1.5s,mb5.2
MCK LR LR
comp=Z,408nm,20.0s,MS4.7
COLA College 73.25 25 *e*P **P** **03 29 51.9 -2.0**
COLA College 73.25 25 *e*P **P** **03 29 51.8 -2.1**
comp=Z,9.5nm,0.6s,mb4.9
PPT Papeete 74.37 111 *e*S S 03 39 32.9 -0.5
comp=Z,2μm,31.0s
PPT *e*SS SS 03 44 15.8 -3.9
comp=Z,500nm,28.2s
PPT *e*LR LR 03 52 58.2
comp=Z,2μm,27.5s,baz=290
PPT Papeete 74.37 111 LR LR 04 00 29.1
comp=Z,715nm,18.1s,MS5.0,baz=261,slow=34
MENT Mentasta 74.70 27 *e*P **P** **03 30 01.8 -0.7**
EGAK Eagle 76.06 26 *e*P **P** **03 30 09.0 -1.2**
comp=Z,96nm,1.8s,mb5.4
EGAK LR LR
comp=Z,1μm,22.0s,MS5.1
SVE Sverdlovsk 76.08 326 ⇑*e*P **P** **03 30 08.0 -2.4**
SVE pmax pmax
comp=Z,130nm,2.0s,mb5.5
SVE MLR MLR
comp=E,2μm,19.0s
SVE MLR MLR
comp=Z,2μm,19.0s,MS5.5
TBI Tubuai 76.14 117 *e*S S 03 39 52.0 -1.0
comp=Z,610nm,26.8s
TBI *e*SS SS 03 44 50.9 +4.5
comp=Z,247nm,24.5s
TBI *e*LR LR 03 53 38.2
comp=Z,1μm,34.5s,baz=296
AB31 Akbulak array 76.26 318 *i* P **P** **03 30 10.1 -1.3**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
AB31 Akbulak array 76.26 318 ⇑*e*P **P** **03 30 10.2 -1.2**
DRV Dumont d'Urvil 76.49 180 P **P** **03 30 12.0 -0.7**
DRV Dumont d'Urvil 76.49 180 PP PP 03 33 05.0 +0.4
DAWY Dawson 76.75 26 *e*P **P** **03 30 13.9 -0.3**
ARU Arti 77.21 326 P **P** **03 30 15.3 -1.5**
comp=Z,143nm,1.1s,mb5.8,SNR=7.4
ARU Arti 77.21 326 ⇑*i*P **P** **03 30 15.5 -1.3**
ARU *e* pP 03 30 23.8 -1.0
ARU *e* 03 33 10.1
ARU *e*S S 03 40 04.6 -0.1
ARU *e*SS SS 03 45 07.0 +4.3
ARU *e*SSS 03 48 23.6
ARU pmax pmax
comp=Z,24nm,1.2s,mb5.0
ARU MLR MLR
comp=E,1μm,20.0s,MS5.2

ARU MLR MLR
comp=Z,1µm,20.0s,MS5.3
ARU MLR MLR
comp=N,400nm,17.0s,MS5.2
ARU Arti 77.21 326 *e*P **P 03 30 15.1 -1.7**
comp=N,41nm,1.2s,mb5.2
ARU LR LR
comp=Z,446nm,21.0s,MS4.8
AKTK Aktyubinsk 77.51 320 P **P 03 30 17.1 -1.4**
AKTO Aktyubinsk 77.51 320 P **P 03 30 17.1 -1.4**
comp=Z,3.7nm,0.5s,mb4.6,baz=90,slow=6.2,SNR=13
AKTO Aktyubinsk 77.51 320 P **P 03 30 17.5 -0.9**
AKTO pmax pmax
comp=Z,20nm,1.9s,mb4.7
ABKT Ailbek 77.86 307 P **P 03 30 21.9 +1.5**
comp=Z,185nm,1.1s,mb5.9,SNR=5.3
SOKR Solikamsk 78.20 329 *e*P **P 03 30 21.5 -0.8**
SOKR S S 03 40 21.0 +5.6
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
SOKR MLR MLR
comp=Z,1µm,18.0s,MS5.3
SKAG Skagway 78.52 31 *e*P **P 03 30 23.8 -0.2**
comp=Z,94nm,1.4s,mb5.5
BIDO Bidbid 79.05 292 P **P 03 30 28.7 +1.7**
SNR=7.7
CASY Casey 79.20 192 *e*P **P 03 30 26.9 -0.9**
CASY *e*pP pP 03 30 32.9 -3.0
CASY Casey 79.20 192 *e*P **P 03 30 26.9 -0.9**
CASY *e*pP pP 03 30 32.9 -3.0
CASY LR LR
comp=Z,917nm,19.0s,MS5.1
INK Inuvik 79.30 22 P **P 03 30 26.4 -1.9**
comp=Z,6.6nm,0.9s,mb4.6,baz=286,slow=7.1,SNR=14
INK Inuvik 79.30 22 *e*P **P 03 30 26.6 -1.7**
comp=Z,1µm,1.5s
ORR Orenburg 79.53 321 *e*P **P 03 30 28.5 -1.1**
ORR pmax pmax
comp=Z,50nm,1.4s,mb5.2
HOQ Hoqain 79.79 292 P **P 03 30 31.2 +0.2**
SNR=17
ARQ Araqi 80.54 292 ⇑P **P 03 30 36.4 +1.3**
SNR=5.5
TAOE Nuku Hiva Isla 81.26 101 *e*LR LR 03 55 39.5
comp=Z,3µm,23.1s,baz=298
DLBC Dease Lake 81.31 32 *e*P **P 03 30 39.5 +0.3**
PECR Pechory 85.23 326 *e*P **P 03 30 57.6 -1.8**
MAK Makhachkala 85.37 313 *i* P **P 03 31 01.7 +1.7**
MAK *i* 03 34 13.5
MAK *e*S S 03 41 24.6 -4.8
MAK pmax pmax
comp=Z,288nm,2.1s,mb6.0
MAK MLR MLR
comp=Z,319nm,7.0s
MAK MLR MLR
comp=Z,521nm,7.0s
MSEY Mahe Island 85.84 265 PFAKE 03 31 10.0 +7.6
MSEY LR LR
comp=Z,101nm,22.0s,MS4.2
KLMR Klimovskoe 86.58 331 P **P 03 31 03.8 -2.2**
KLMR pmax pmax
comp=Z,29nm,1.8s,mb5.2
B04A Port Angeles 86.66 42 ⇓P **P 03 31 06.5 +0.1**
baz=86
E03A Lebam 86.91 43 ⇑P **P 03 31 07.7 0.0**
baz=87
F03A Seaside 87.03 44 ⇓P **P 03 31 08.7 +0.5**
baz=87
KBS Kingsbay 87.06 351 PFAKE 03 31 20.0 +12
KBS LR LR
comp=Z,670nm,20.0s,MS5.0
C04A Brinnon 87.08 42 ⇓P **P 03 31 09.4 +0.9**
baz=87,SNR=6.3
GNW Green Mountain 87.20 42 *e*P **P 03 31 10.2 +1.2**
H03A Soap Creek Ran 87.47 45 ⇓P **P 03 31 10.6 +0.3**
baz=87
F04A Amboy 87.81 44 ⇑P **P 03 31 11.9 -0.1**
baz=88
D05A Enumclaw 87.84 43 ⇑P **P 03 31 12.6 +0.5**
baz=88
KHMM Horse Mountain 87.90 49 *e*P **P 03 31 14.5 +2.1**
GNI Garni 87.91 310 *e*P **P 03 31 13.2 +0.7**
GNI *e*PP pP 03 31 21.1 +0.5
GNI pmax pmax
comp=Z,27nm,1.3s
GNI MLR MLR
comp=Z,321nm,20.0s
GNI Garni 87.91 310 *e*P **P 03 31 13.2 +0.8**
comp=Z,27nm,1.3s,mb5.3
GNI *e*pP pP 03 31 21.1 +0.4
GNI LR LR
comp=Z,321nm,20.0s,MS4.7
G04A Mulino 87.92 45 ⇑P **P 03 31 12.5 0.0**
baz=88
YKW3 Yellowknife Ar 87.97 27 *e*P **P 03 31 11.6 -1.1**
YKA Yellowknife Ar 87.99 27 P **P 03 31 11.7 -1.1**
comp=Z,4.6nm,0.6s,mb4.9,baz=288,slow=5.1,SNR=72
YKA PKKP PKKPbc 03 48 56.8 -1.3
comp=Z,0.2nm,0.5s,baz=118,slow=3.2,SNR=4.7
YKA Yellowknife Ar 87.99 27 P **P 03 31 11.7 -1.1**
YKA PKKP PKKPbc 03 48 56.8 -1.3
ZEI Tsey 88.01 313 *e*P **P 03 31 12.1 -0.8**
ZEI *i* 03 31 22.5
ZEI *e* 03 34 44.8
ZEI pmax pmax
comp=Z,13nm,1.2s,mb5.0
HUMO Hull Mountain 88.12 47 ⇓P **P 03 31 14.3 +0.8**
baz=88
E05A Randle 88.12 43 ⇓P **P 03 31 13.8 +0.3**
baz=88
N02C Big Bar 88.23 49 ⇓P **P 03 31 14.4 +0.4**
baz=88
H04A Detroit Lake 88.24 45 ⇓P **P 03 31 13.5 -0.5**
baz=88,SNR=5.3
VNDA Vanda 88.25 175 P **P 03 31 13.0 -1.1**
comp=Z,3.4nm,1.2s,mb4.5,baz=330,slow=5.3,SNR=3.1
VNDA LR LR 04 10 02.3
comp=Z,569nm,18.7s,MS5.0,baz=348,slow=35
I04A Tendick Farm, 88.27 46 ⇑P **P 03 31 14.0 -0.1**
baz=88
M02C Callahan 88.45 48 ⇓P **P 03 31 15.3 +0.3**
baz=88
HOOD Mount Hood Mea 88.47 44 *e*P **P 03 31 16.6 +1.5**
A07A Ashnola River, 88.47 41 ⇑P **P 03 31 15.3 +0.2**
baz=88,SNR=5.6
YBH Yreka Blue Hor 88.48 48 *e*P **P 03 31 16.5 +1.3**
YBH MLR MLR
comp=Z,761nm,20.0s
YBH Yreka Blue Hor 88.48 48 ⇑P **P 03 31 15.4 +0.3**
baz=88
KEV Kevo 88.51 341 *e*P **P 03 31 10.4 -4.9**
KEV MLR MLR
comp=Z,1µm,20.0s,MS5.3
D06A Cle Elum 88.60 42 ⇑P **P 03 31 15.5 -0.3**
baz=88,SNR=5.1
J04A Umpqua Nationa 88.60 46 ⇓P **P 03 31 15.6 -0.1**
baz=88
KIV Kislovodsk 88.63 314 *e*P **P 03 31 15.0 -0.9**
KIV *e* 03 41 41.6
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
KIV Kislovodsk 88.63 314 *e*P **P 03 31 14.7 -1.1**
KIV LR LR
comp=Z,186nm,20.0s,MS4.5
E06A Yakima 88.66 43 P **P 03 31 16.0 0.0**
baz=88,SNR=6.2
G05A Wamic 88.72 44 ⇓P **P 03 31 16.3 0.0**
baz=89
O02C Red Bluff 88.75 50 ⇓P **P 03 31 16.7 +0.3**
baz=89
B07A Winthrop 88.78 41 ⇑P **P 03 31 16.4 -0.2**
baz=89
WDC Whiskeytown Da 88.85 49 *e*P **P 03 31 17.8 +0.9**
WDC MLR MLR
comp=Z,1µm,19.0s,MS5.4
WDC Whiskeytown Da 88.85 49 ⇓P **P 03 31 17.0 +0.1**
baz=89
MOS Moscow 88.89 327 *e*P **P 03 31 13.5 -3.6**
MOS *e* 03 34 39.9
MOS pmax pmax
comp=Z,37nm,1.3s,mb5.5
MOS MLR MLR
comp=Z,2µm,20.0s,MS5.4
GASB Alder Springs 88.91 50 ⇑P **P 03 31 18.0 +0.9**
baz=89
F06A Goldendale 88.97 44 ⇑P **P 03 31 17.9 +0.4**
baz=89
SBA Scott Base 88.97 175 PFAKE 03 31 30.0 +13
SBA LR LR
comp=Z,697nm,22.0s,MS5.0
RES Resolute Bay 88.98 13 *e*P **P 03 31 16.6 -0.9**
comp=Z,270nm,1.1s
L04A Klamath Falls 88.98 47 ⇑P **P 03 31 17.3 -0.2**
baz=89
RKT Rikitea 88.99 114 *e*SKSac SKSac 03 41 42.2 -3.4
comp=Z,246nm,33.8s
RKT *e*SS SS 03 47 54.2 -3.0
comp=Z,228nm,27.0s
RKT *e*LR LR 03 59 35.0
comp=Z,767nm,30.8s,baz=292
I05A Bend 88.99 45 ⇓P **P 03 31 17.7 +0.1**
baz=89,SNR=5.3
C07A Waterville 89.00 42 ⇓P **P 03 31 17.3 -0.3**
baz=89
M03C McCloud 89.01 48 ⇓P **P 03 31 17.7 +0.1**
baz=89
ARCES ARCESS Array B 89.08 341 P **P 03 31 15.8 -2.2**
comp=Z,6.9nm,0.9s,mb5.0,baz=80,slow=7.8,SNR=18
ARCES LR LR 04 14 17.3
comp=Z,1µm,20.3s,MS5.3,baz=64,slow=38
D07A Quincy 89.17 42 ⇑P **P 03 31 18.4 0.0**
baz=89
G06A Carlson Farm, 89.19 44 ⇓P **P 03 31 18.5 0.0**
baz=89
A08A Turner Farm, O 89.20 40 ⇓P **P 03 31 18.7 +0.1**
baz=89,SNR=5.9
VRSR Storozhevoye 89.21 322 *e*P **P 03 31 15.9 -2.7**
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
VRSR pmax pmax
comp=E,5.0nm,0.8s
MNRC McLaughlin Nat 89.28 51 ⇓P **P 03 31 19.0 0.0**
baz=89
B08A Colville Reser 89.31 41 ⇑P **P 03 31 18.9 -0.1**
baz=89,SNR=9.3
E07A Sunnyside 89.41 43 ⇓P **P 03 31 19.3 -0.2**
baz=89,SNR=7.1
H06A Lindquist Farm 89.51 45 ⇑P **P 03 31 20.2 +0.2**
baz=89,SNR=6.5
F07A Phinny Hill Vi 89.52 44 ⇓P **P 03 31 19.9 -0.1**
baz=89
K05A Summer Lake 89.58 47 ⇑P **P 03 31 19.5 -0.8**
baz=90
HATC Hat Creek Radi 89.60 49 ⇑P **P 03 31 20.4 0.0**
baz=90
C08A Higginbotham F 89.64 42 ⇓P **P 03 31 19.5 -1.1**
baz=90,SNR=6.3
JOF Joensuu 89.64 334 *e*p **P 03 31 17.0 -3.6**
OBN Obninsk 89.65 326 *e*P **P 03 31 19.4 -1.2**
OBN *e* pP 03 31 27.7 -1.1
OBN *e* 03 34 53.5
OBN pmax pmax
comp=Z,36nm,1.3s,mb5.5
OBN MLR MLR
comp=Z,1µm,23.0s,MS5.3
M05C Lookout 89.71 48 ⇓P **P 03 31 20.8 -0.1**
baz=90
I06A Prineville 89.78 45 ⇑P **P 03 31 21.0 -0.2**
baz=90,SNR=5.7
G07A Ruggs Ranch, H 89.84 44 ⇓P **P 03 31 20.8 -0.8**
baz=90,SNR=5.2
ORV Oroville 89.85 50 ⇑P **P 03 31 21.0 -0.6**
baz=90,SNR=6.2
D08A Wollman Farm, 89.91 42 ⇑P **P 03 31 21.7 -0.1**
baz=90
E08A Dider Farm, El 89.95 43 ⇓P **P 03 31 22.4 +0.3**
baz=90
O04C Chester 89.99 49 ⇓P **P 03 31 22.1 -0.1**
baz=90
J06A Christmas Vall 89.99 46 ⇓P **P 03 31 22.6 +0.3**
baz=90
B09A Rice 90.06 41 ⇑P **P 03 31 22.9 +0.3**
baz=90,SNR=5.7
H07A Lands Inn, Kim 90.08 45 ⇑P **P 03 31 23.3 +0.7**
baz=90
C09A Chrisman Ranch 90.14 41 ⇑P **P 03 31 23.2 +0.3**
baz=90
O05C Quincy 90.19 49 ⇓P **P 03 31 23.6 +0.4**
baz=90
MOD Modoc 90.20 47 *e*P **P 03 31 23.4 +0.2**
MOD LR LR
comp=Z,276nm,19.0s,MS4.7
MOD Modoc 90.20 47 ⇓P **P 03 31 23.6 +0.4**
baz=90,SNR=7.1
M06C Likely Place G 90.23 48 ⇑P **P 03 31 24.1 +0.7**
baz=90
I07A Izee 90.25 45 ⇑P **P 03 31 23.9 +0.4**
baz=90
D09A Jones Farm, Ri 90.31 42 P **P 03 31 23.9 +0.2**
baz=90,SNR=7.3
F08A Pendleton 90.32 43 ⇑P **P 03 31 24.2 +0.4**
baz=90,SNR=9.2
G08A Pilot Rock 90.32 44 ⇑P **P 03 31 24.1 +0.3**
baz=90,SNR=5.1
E09A Wood Farm, Sta 90.56 43 ⇓P **P 03 31 25.0 +0.1**
baz=90,SNR=7.2
P05C Yuba Gap, Truc 90.58 50 ⇑P **P 03 31 23.0 -2.0**
baz=90
LAVA Lava Cap Winer 90.60 51 P **P 03 31 25.5 +0.4**
baz=90,SNR=5.1
BEKR Beckwourth 90.63 49 ⇓P **P 03 31 25.7 +0.5**
baz=90
H08A Prairie City 90.72 45 ⇓P **P 03 31 25.7 +0.1**
baz=91
NEW Newport 90.76 41 *e*P **P 03 31 25.8 0.0**
NEW pmax pmax
comp=Z,30nm,1.6s
NEW Newport 90.76 41 *e*P **P 03 31 25.8 0.0**
comp=Z,30nm,1.6s,mb5.4
C10A Spilker Farm, 90.76 41 ⇓P **P 03 31 25.8 -0.1**
baz=91
K07A Rock Creek Ran 90.77 47 P **P 03 31 26.0 +0.2**
baz=91,SNR=7.2
N06A Buffalo Meadow 90.81 48 ⇑P **P 03 31 26.4 +0.3**
baz=91
L07A Adell 90.87 47 ⇓P **P 03 31 26.5 +0.2**
baz=91,SNR=6.7
F09A S2 Ranch, Elgi 90.93 43 ⇑P **P 03 31 26.9 +0.3**
baz=91
I08A Drewsey 90.94 45 ⇑P **P 03 31 27.2 +0.5**
baz=91
O06A Flanigan 90.96 49 ⇑P **P 03 31 27.6 +0.8**
baz=91
D10A Wagner Farm, O 90.99 42 P **P 03 31 27.8 +0.9**
baz=91,SNR=5.5
P06A Stead Airport, 91.02 50 ⇑P **P 03 31 27.3 +0.2**
baz=91
CMB Columbia Colle 91.04 51 *e*P **P 03 31 26.9 -0.2**
CMB *e*PP pP 03 31 35.1 -0.2
CMB pmax pmax
comp=Z,16nm,0.9s,mb5.3
CMB Columbia Colle 91.04 51 *e*P **P 03 31 26.9 -0.3**
comp=Z,16nm,0.9s,mb5.4
CMB *e*pP pP 03 31 35.1 -0.2
CMB Columbia Colle 91.04 51 P **P 03 31 27.5 +0.4**
baz=91,SNR=5.7
A11A Hall Mountain, 91.05 40 ⇓P **P 03 31 28.0 +0.8**
baz=91,SNR=5.8
U04C Hernandez Rese 91.12 53 ⇑P **P 03 31 28.0 +0.5**
baz=91
R05C Kirkwood Meado 91.12 51 ⇓P **P 03 31 28.0 +0.5**
baz=91
M07A Soldier Meadow 91.14 48 ⇓P **P 03 31 28.3 +0.7**
baz=91
J08A Circle Bar Ran 91.15 46 ⇑P **P 03 31 28.3 +0.7**
baz=91
B11A Sandpoint 91.20 40 ⇓P **P 03 31 28.2 +0.4**
baz=91
WCN Washoe City 91.22 50 ⇑P **P 03 31 28.7 +0.7**
baz=91
S05C Merced 91.25 52 ⇑P **P 03 31 28.7 +0.6**
baz=91
E10A Myers Farm, Un 91.26 42 ⇓P **P 03 31 28.4 +0.3**
baz=91
WVOR Wild Horse Val 91.27 47 *e*P **P 03 31 27.9 -0.3**
WVOR pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
WVOR MLR MLR
comp=Z,1µm,21.0s,MS5.4
WVOR Wild Horse Val 91.27 47 *e*P **P 03 31 27.9 -0.3**
comp=Z,8.3nm,0.8s,mb5.1
WVOR LR LR
comp=Z,1µm,21.0s,MS5.4
K08A Mann Creek Ran 91.30 46 P **P 03 31 28.7 +0.3**
baz=91,SNR=6.1
F10A Beach Ranch, E 91.32 43 ⇓P **P 03 31 29.2 +0.7**
baz=91
H09A Durkee 91.37 44 ⇓P **P 03 31 29.0 +0.3**
baz=91
PAHR Pah Rah Range 91.40 49 *e*P **P 03 31 30.4 +1.6**
comp=Z,23nm,1.1s,mb5.4
N07B Gerlach 91.44 48 ⇓P **P 03 31 29.9 +0.9**
baz=91,SNR=7.0
S06C San Francisco 91.49 51 ⇓P **P 03 31 29.7 +0.5**
baz=91
I09A Lost Marbles R 91.50 45 ⇑P **P 03 31 29.8 +0.5**
baz=91
A12A Yaak River Ran 91.51 40 ⇑P **P 03 31 30.0 +0.7**
baz=91
L08A Fields 91.54 47 P **P 03 31 29.8 +0.3**
baz=91,SNR=11
EDM Edmonton 91.57 35 *e*P **P 03 31 30.1 +0.5**
EDM *e*PP pP 03 31 36.4 -1.4
BMO Blue Mountains 91.57 44 *e*P **P 03 31 29.2 -0.4**
BMO pmax pmax
comp=Z,14nm,0.9s,mb5.3
BMO MLR MLR
comp=Z,546nm,20.0s,MS5.0
BMO Blue Mountains 91.57 44 *e*P **P 03 31 29.2 -0.4**
comp=Z,14nm,0.9s,mb5.3
BMO LR LR
comp=Z,546nm,20.0s,MS5.0
D11A Klaveano Farm, 91.61 42 ⇓P **P 03 31 29.8 0.0**
baz=92
R06C Coleville 91.64 51 ⇑P **P 03 31 30.5 +0.6**
baz=92
J09A Fry Pan Ranch, 91.66 46 ⇑P **P 03 31 30.5 +0.5**
baz=92,SNR=10
O07A Toulon 91.67 49 ⇑P **P 03 31 30.8 +0.8**
baz=92
M08A Happy Creek Ra 91.71 48 ⇓P **P 03 31 30.9 +0.7**
baz=92
T06C Millerton Lake 91.81 52 P **P 03 31 30.9 +0.2**
baz=92,SNR=6.5
K09A Rome 91.85 46 ⇑P **P 03 31 31.1 +0.2**
baz=92
E11A Bogner Ranch, 91.89 42 ⇑P **P 03 31 31.1 0.0**
baz=92
H10A Noah's Angus R 92.02 44 P **P 03 31 30.9 -0.7**
baz=92,SNR=8.7
KCC Kaiser Creek 92.03 52 ⇓P **P 03 31 31.6 -0.1**
baz=92
N08A GE Springer Mi 92.06 48 ⇓P **P 03 31 32.3 +0.4**
baz=92,SNR=8.1
F11A Grangeville 92.06 43 ⇑P **P 03 31 31.5 -0.3**
baz=92
L09A Wilkinson Ranc 92.07 47 P **P 03 31 32.1 +0.2**
baz=92,SNR=9.3
KAF Kangasniemi 92.09 335 *e*p **P 03 31 27.4 -4.6**
comp=Z,4.5nm,0.6s,mb5.0,baz=61,slow=4.4
KAF Kangasniemi 92.09 335 *e*P **P 03 31 27.4 -4.6**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
G11A Walters Elk Ra 92.12 43 ⇑P **P 03 31 31.8 -0.3**
baz=92
A13A Flathead Natio 92.29 40 ⇓P **P 03 31 32.9 0.0**
baz=92
J10A Berg Farm, Mel 92.33 45 ⇓P **P 03 31 33.7 +0.6**
baz=92
RCTC Rector, Farmer 92.34 53 ⇑P **P 03 31 33.4 +0.2**
baz=92
BSMT Bassoo Peak 92.38 41 *e*P **P 03 31 33.5 +0.2**
M09A Marrel Ranch, 92.39 47 ⇑P **P 03 31 33.7 +0.3**
baz=92
HELL Mitchell Peak, 92.42 52 ⇓P **P 03 31 33.2 -0.3**
baz=92
FINES FINESS Array B 92.48 334 P **P 03 31 31.2 -2.6**
comp=Z,1.6nm,0.4s,mb4.7,baz=70,slow=5.1,SNR=34
FINES LR LR 04 15 41.9
comp=Z,682nm,18.1s,MS5.1,baz=244,slow=37
N09A Rock Creek Ran 92.48 48 ⇓P **P 03 31 34.0 +0.2**
baz=92
H11A Donnelly 92.50 44 P **P 03 31 33.1 -0.7**
baz=92,SNR=8.2
NVAR Mina Array Bea 92.53 50 P **P 03 31 34.7 +0.7**
comp=Z,7.2nm,0.6s,mb5.3,baz=280,slow=6.1,SNR=16
WALA Waterton Lakes 92.56 39 *e*P **P 03 31 35.2 +1.0**
comp=Z,26nm,1.4s,mb5.5
WALA *e*pP pP 03 31 43.1 +0.7
C13A Hot Springs 92.57 41 ⇓P **P 03 31 34.1 -0.1**
baz=92
VES Vestal, Richgr 92.58 53 ⇓P **P 03 31 34.1 -0.1**
baz=92
F12A Elk City 92.70 43 ⇑P **P 03 31 34.6 -0.2**
baz=93,SNR=8.6
R08A Mina 92.70 50 ⇓P **P 03 31 34.9 +0.1**
baz=93
I11A Placerville 92.76 45 ⇓P **P 03 31 35.0 -0.1**
baz=93,SNR=8.9
BMN Battle Mountai 92.82 48 PFAKE 03 31 50.0 +15
BMN LR LR
comp=Z,491nm,21.0s,MS4.9
S08C White Mtn Res 92.87 51 ⇑P **P 03 31 36.1 +0.4**
baz=93,SNR=6.3
O09A Fish Creek Ran 92.91 49 ⇑P **P 03 31 36.3 +0.5**
baz=93
MFID Camas Ranch 92.99 45 ⇑P **P 03 31 36.4 +0.3**
baz=93
M10A I.L. Ranch, Tu 93.02 47 ⇑P **P 03 31 36.2 -0.1**
baz=93
C14A Swan Lake 93.07 41 ⇓P **P 03 31 36.9 +0.3**
baz=93
ISA Isabella 93.10 53 ⇓P **P 03 31 36.8 +0.1**
baz=93
E13A Victor 93.20 42 ⇓P **P 03 31 37.1 0.0**
baz=93
MSO Missoula 93.24 41 *e*P **P 03 31 36.8 -0.5**
MSO *e*PP PP 03 35 18.7 -2.3
F13A Darby 93.31 43 P **P 03 31 36.8 -0.8**
baz=93,SNR=8.7
H12A Diamond D Ranc 93.33 44 ⇑P **P 03 31 37.6 -0.1**
baz=93
D14A Greenough 93.45 41 ⇓P **P 03 31 37.9 -0.4**
baz=93
R09A Tonopah 93.52 50 P **P 03 31 38.9 +0.3**
baz=93,SNR=7.8
S09A Goldfield 93.54 51 P **P 03 31 39.0 +0.3**
baz=93,SNR=5.9
J12A Stokes Ranch, 93.55 45 ⇑P **P 03 31 38.7 0.0**
baz=93
G13A Cobalt 93.59 43 P **P 03 31 38.3 -0.6**
baz=94,SNR=19
GRAC Grapevine Rang 93.62 52 ⇑P **P 03 31 39.3 +0.2**
baz=94
DAC Darwin (Calif) 93.64 52 *e*P **P 03 31 39.5 +0.4**
DAC pmax pmax
comp=Z,14nm,1.1s,mb5.3
DAC MLR MLR
comp=Z,434nm,20.0s,MS4.9
DAC Darwin (Calif) 93.64 52 *e*P **P 03 31 39.5 +0.4**
comp=Z,14nm,1.1s,mb5.3
DAC LR LR
comp=Z,434nm,20.0s,MS4.9
CHMT Chamberlain Mo 93.66 41 *e*P **P 03 31 38.4 -0.9**
CHMT *e*pP pP 03 31 46.0 -1.4
E14A Clinton 93.67 42 ⇓P **P 03 31 39.5 +0.2**
baz=94
EDW2 Edwards Air Fo 93.68 54 ⇓P **P 03 31 39.7 +0.3**
baz=94
MPMC Manual Prospec 93.77 53 P **P 03 31 40.4 +0.6**
baz=94,SNR=11
N11A Elko Archery C 93.80 48 ⇑P **P 03 31 40.3 +0.4**
baz=94
HLID Hailey 93.93 45 *e*P **P 03 31 40.0 -0.5**
comp=Z,10nm,1.0s,mb5.2
HLID *e*pP pP 03 31 48.3 -0.4
HLID LR LR
comp=Z,692nm,19.0s,MS5.1
HLID Hailey 93.93 45 P **P 03 31 40.3 -0.2**
baz=94,SNR=11
F14A Wisdom 93.94 42 ⇓P **P 03 31 40.3 -0.3**
baz=94
J13A Cove Ranch, Pi 94.15 45 ⇓P **P 03 31 41.5 0.0**
baz=94
FURC Furnace Creek, 94.16 52 P **P 03 31 41.7 +0.2**
baz=94,SNR=9.2
ELK Elko 94.18 48 *e*P **P 03 31 41.8 +0.2**
ELK *e*PP pP 03 31 49.7 -0.1
ELK pmax pmax
comp=Z,6.0nm,0.6s

ELK	**Elko**	**94.18**	**48**	*e*P		**P**	**03 31 41.8**	**+0.2**
	comp=Z,5.6nm,0.6s,mb5.2							
ELK				*e*pP		pP	03 31 49.7	-0.1
M12A	**Wells**	**94.22**	**47**	⇑P		**P**	**03 31 42.3**	**+0.5**
	baz=94							
E15A	**Deer Lodge**	**94.22**	**42**	P		**P**	**03 31 41.5**	**-0.3**
	baz=94,SNR=12							
N12A	**Clover Valley,**	**94.30**	**47**	⇓P		**P**	**03 31 42.5**	**+0.4**
	baz=94							
Q11A	**Duckwater**	**94.42**	**49**	⇓P		**P**	**03 31 42.8**	**0.0**
	baz=94							
MAW	**Mawson**	**94.50**	**202**	*e*P		**P**	**03 31 42.6**	**-0.5**
	comp=Z,9.0nm,1.3s,mb5.0							
MAW				*e*pP		pP	03 31 50.2	-1.1
MAW	**Mawson**	**94.50**	**202**	P		**P**	**03 31 42.3**	**-0.8**
	comp=Z,11nm,1.1s,mb5.2,baz=66,slow=9.5,SNR=4.4							
MAW				LR		LR	04 13 50.7	
	comp=Z,623nm,18.4s,MS5.1,baz=71,slow=35							
MAW	**Mawson**	**94.50**	**202**	*e*P		**P**	**03 31 42.6**	**-0.5**
MAW				*e**PP		pP	03 31 50.2	-1.1
MAW				pmax		pmax		
	comp=Z,9.0nm,1.3s							
F15A	**Butte**	**94.51**	**42**	P		**P**	**03 31 42.9**	**-0.2**
	baz=94,SNR=10							
GSC	**Goldstone**	**94.51**	**53**	⇓P		**P**	**03 31 43.3**	**+0.2**
	baz=94							
LRM	**Limekiln Ridge**	**94.54**	**42**	*e*P		**P**	**03 31 43.3**	**0.0**
U10A	**Ash Meadows, A**	**94.58**	**52**	⇑P		**P**	**03 31 43.9**	**+0.4**
	baz=94,SNR=5.9							
MCMT	**McKenzie Canyo**	**94.60**	**43**	*e*P		**P**	**03 31 43.5**	**0.0**
MCMT				*e*pP		pP	03 31 51.0	-0.7
HRY	**Holter Researc**	**94.65**	**41**	*e*P		**P**	**03 31 43.1**	**-0.7**
HRY				*e*pP		pP	03 31 51.6	-0.4
O12A	**Currie**	**94.68**	**48**	⇑P		**P**	**03 31 44.3**	**+0.4**
	baz=95							
G15A	**Dillon**	**94.73**	**43**	P		**P**	**03 31 44.9**	**+0.7**
	baz=95,SNR=5.9							
M13A	**Montello**	**94.77**	**47**	⇑P		**P**	**03 31 44.6**	**+0.2**
	baz=95							
P12A	**McGill**	**94.80**	**49**	⇑P		**P**	**03 31 44.7**	**+0.2**
	baz=95							
109C	**Camp Elliot, M**	**94.91**	**56**	⇓P		**P**	**03 31 45.2**	**+0.2**
	baz=95							
Q12A	**Willow Creek R**	**94.98**	**49**	⇑P		**P**	**03 31 45.3**	**0.0**
	baz=95							
HEC	**Hector,Ludlow**	**95.01**	**53**	⇑P		**P**	**03 31 45.7**	**+0.3**
	baz=95							
BOZ	**Bozeman (W)**	**95.14**	**42**	*e*P		**P**	**03 31 46.7**	**+0.7**
BOZ				pmax		pmax		
	comp=Z,17nm,1.4s,mb5.3							
BOZ	**Bozeman (W)**	**95.14**	**42**	*e*P		**P**	**03 31 46.7**	**+0.7**
	comp=Z,17nm,1.4s,mb5.3							
BOZ	**Bozeman (W)**	**95.14**	**42**	⇑P		**P**	**03 31 46.3**	**+0.3**
	baz=95							
TUQ	**Turquoise Mtn.**	**95.17**	**53**	⇑P		**P**	**03 31 46.4**	**+0.3**
	baz=95							
PFO	**Pinyon Flat Ob**	**95.24**	**55**	PFAKE			03 32 00.0	+14
PFO				LR		LR		
	comp=Z,163nm,21.0s,MS4.5							
U11A	**Corn Creek**	**95.31**	**52**	⇓P		**P**	**03 31 47.3**	**+0.5**
	baz=95							
AKASG	**Malin Array Be**	**95.33**	**323**	P		**P**	**03 31 43.8**	**-3.1**
	comp=Z,0.5nm,0.5s,mb4.2,baz=52,slow=4.4,SNR=8.5							
AKASG				PP		PP	03 35 36.9	-0.4
	comp=Z,0.2nm,0.2s,baz=55,slow=7.7,SNR=4.4							
AKASG				LR		LR	04 18 13.0	
	comp=Z,711nm,18.6s,MS5.2,baz=45,slow=38							
AKASG	**Malin Array Be**	**95.33**	**323**	P		**P**	**03 31 43.8**	**-3.1**
AKASG							03 35 36.9	
KIEV	**Kiev**	**95.34**	**323**	PFAKE			03 32 00.0	+13
KIEV				LR		LR		
	comp=Z,845nm,20.0s,MS5.2							
V11A	**Goodsprings**	**95.44**	**52**	⇓P		**P**	**03 31 47.9**	**+0.5**
	baz=95							
SHPR	**Sheep Range**	**95.46**	**52**	*e*P		**P**	**03 31 48.5**	**+1.0**
BELC	**Belle Mtn.**	**95.50**	**54**	⇑P		**P**	**03 31 48.0**	**+0.3**
	baz=95							
EGMT	**Eagleton**	**95.51**	**39**	PFAKE			03 32 00.0	+12
EGMT				LR		LR		
	comp=Z,1μm,20.0s,MS5.3							
EGMT	**Eagleton**	**95.51**	**39**	⇑P		**P**	**03 31 48.1**	**+0.3**
	baz=95							
QLMT	**Earthquake Lak**	**95.56**	**43**	*e*P		**P**	**03 31 49.4**	**+1.4**
QLMT				*e*pP		pP	03 31 56.7	+0.6
GMRC	**Granite Mounta**	**95.56**	**53**	P		**P**	**03 31 48.2**	**+0.3**
	baz=95,SNR=6.5							
YMR	**Madison River**	**95.92**	**43**	PFAKE			03 32 00.0	+10
YMR				LR		LR		
	comp=Z,2μm,20.0s,MS5.6							
V12A	**Nelson**	**95.92**	**52**	P		**P**	**03 31 49.9**	**+0.3**
	baz=96,SNR=8.6							
W12A	**Cal Nev Ari**	**96.03**	**53**	⇑P		**P**	**03 31 50.6**	**+0.5**
	baz=96							
BC3	**Big Chuckw Mtn**	**96.03**	**54**	⇓P		**P**	**03 31 50.4**	**+0.3**
	baz=96							
YNR	**Norris Junctio**	**96.10**	**43**	*e*P		**P**	**03 31 53.2**	**+2.8**
DUG	**Dugway**	**96.11**	**48**	*e*P		**P**	**03 31 50.4**	**-0.1**
DUG				*e**PP		pP	03 31 58.1	-0.6
DUG				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb5.2							
DUG	**Dugway**	**96.11**	**48**	*e*P		**P**	**03 31 50.4**	**0.0**
	comp=Z,7.8nm,0.9s,mb5.1							
DUG				*e*pP		pP	03 31 58.1	-0.5
DUG	**Dugway**	**96.11**	**48**	P		**P**	**03 31 50.5**	**+0.1**
	baz=96,SNR=6.0							
IRM	**Iron Mountain**	**96.14**	**54**	⇓P		**P**	**03 31 50.9**	**+0.3**
	baz=96							
IMW	**Indian Meadow**	**96.21**	**44**	*e*P		**P**	**03 31 51.8**	**+0.9**
	comp=Z,23nm,1.5s,mb5.4							
IMW				*e*PP		PP	03 35 43.7	-0.3
BRTR	**Keskin Array B**	**96.27**	**312**	P		**P**	**03 31 48.9**	**-2.3**
	comp=Z,1.5nm,1.1s,mb4.3,baz=85,slow=2.6,SNR=7.0							
LKWY	**Lake**	**96.34**	**43**	PFAKE			03 32 00.0	+8.5
LKWY				LR		LR		
	comp=Z,817nm,21.0s,MS5.2							
TPAW	**Teton Pass**	**96.34**	**44**	*e*P		**P**	**03 31 51.7**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.8							
TPAW				*e*pP		pP	03 31 59.9	+0.2
MOOW	**Moose Ponds**	**96.39**	**44**	*e*P		**P**	**03 31 52.1**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.7							
ARUT	**Antelope Range**	**96.40**	**50**	*e*P		**P**	**03 31 52.8**	**+1.1**
ARUT				*e*pP		pP	03 31 58.2	-1.7
AHID	**Auburn Hatcher**	**96.48**	**45**	PFAKE			03 32 00.0	+7.9
AHID				LR		LR		
	comp=Z,330nm,19.0s,MS4.8							
LOHW	**Long Hollow**	**96.53**	**44**	*e*P		**P**	**03 31 52.4**	**0.0**
HWUT	**Hardware Ranch**	**96.55**	**46**	*e*P		**P**	**03 31 52.2**	**-0.2**
	comp=Z,2.9nm,0.6s,mb4.9							
GLA	**Glamis**	**96.71**	**55**	⇑P		**P**	**03 31 53.6**	**+0.5**
	baz=97							
Y12C	**Blythe**	**96.75**	**54**	⇑P		**P**	**03 31 53.8**	**+0.5**
	baz=97							
ANTO	**Ankara**	**96.84**	**312**	PFAKE			03 32 00.0	+6.2
ANTO				LR		LR		
	comp=Z,276nm,21.0s,MS4.7							
W13A	**Hualapai Mount**	**96.86**	**53**	⇑P		**P**	**03 31 54.3**	**+0.5**
	baz=97							
PDMCI	**Parker Dam,Lak**	**96.90**	**53**	⇓P		**P**	**03 31 54.5**	**+0.5**
	baz=97							
JLU	**Jordanelle**	**96.96**	**47**	*e*P		**P**	**03 31 55.0**	**+0.7**
MPU	**Maple Canyon**	**97.03**	**47**	PFAKE			03 32 10.0	+15
MPU				LR		LR		
	comp=Z,3μm,22.0s,MS5.7							
X13A	**Yucca**	**97.06**	**53**	⇑P		**P**	**03 31 55.0**	**+0.2**
	baz=97							
W14A	**Seligman**	**97.45**	**52**	⇑P		**P**	**03 31 57.2**	**+0.7**
	baz=97							
PDAR	**Pinedale Array**	**97.55**	**44**	P		**P**	**03 31 55.9**	**-1.0**
	comp=Z,0.5nm,0.8s,mb4.1,baz=191,slow=3.0,SNR=4.6							
PDAR				PP		PP	03 35 49.8	-4.6
	comp=Z,1.3nm,1.1s,baz=251,slow=4.5,SNR=5.8							
PDAR				LR		LR	04 07 19.9	
	comp=Z,378nm,21.4s,MS4.8,baz=306,slow=30							
X14A	**Yava**	**97.83**	**53**	⇓P		**P**	**03 31 59.0**	**+0.8**
	baz=98							
Y14A	**Wickenburg**	**97.90**	**54**	⇓P		**P**	**03 31 59.6**	**+1.0**
	baz=98							
W15A	**Williams**	**98.10**	**52**	⇑P		**P**	**03 32 00.7**	**+1.2**
	baz=98							
SRU	**San Rafael**	**98.14**	**48**	*e*P		**P**	**03 31 59.7**	**+0.1**
LAO	**LASA Array**	**98.24**	**40**	*e*P		**P**	**03 32 01.2**	**+1.1**
X15A	**Humboldt**	**98.34**	**53**	P		**P**	**03 32 02.1**	**+1.6**
	baz=98,SNR=5.0							
WUAZ	**Wupatki**	**98.69**	**52**	⇑P		**P**	**03 32 03.7**	**+1.6**
	baz=99							
NB2	**NORSAR Subarra**	**98.74**	**338**	PP		PP	03 35 56.6	-6.9
	comp=Z,4.5nm,1.1s,baz=50,slow=7.9							
NB2	**NORSAR Subarra**	**98.74**	**338**	PP		PP	03 35 56.6	-6.9
	baz=50,slow=7.9							
NOA	**NORSAR Array B**	**98.74**	**338**	PP		PP	03 36 00.7	-2.8
	comp=Z,1.8nm,0.9s,baz=46,slow=7.1,SNR=4.4							
NOA				LR		LR	04 22 44.8	
	comp=Z,421nm,19.1s,MS5.0,baz=60,slow=39							
PV10	**Paradox Valley**	**99.48**	**48**	*e*Pdif		**P**	**03 32 04.7**	**-0.9**
QSPA	**South Pole Qui**	**99.89**	**180**	*e*Pdif		Pdif	03 32 06.8	-0.6
	comp=Z,6.4nm,0.9s							
QSPA				LR		LR		
	comp=Z,1μm,20.0s,MS5.3							
PV01	**Paradox Valley**	**99.91**	**48**	*e*Pdif		Pdif	03 32 06.1	-1.4
PV01				*e*pP			03 32 14.9	
KONO	**Kongsberg**	**100.25**	**337**	PFAKE			03 32 20.0	+11
KONO				LR		LR		
	comp=Z,1μm,19.0s,MS5.4							
MVCO	**Mesa Verde**	**100.30**	**49**	⇑P		Pdif	03 32 10.3	+1.1
	baz=100							
RSSD	**Black Hills**	**100.71**	**41**	PFAKE			03 32 20.0	+8.9
RSSD				LR		LR		
	comp=Z,324nm,21.0s,MS4.8							
ISCO	**Idaho Springs**	**101.42**	**46**	PFAKE			03 32 30.0	+16
ISCO				LR		LR		
	comp=Z,1μm,19.0s,MS5.4							
SDCO	**Great Sand Dun**	**102.31**	**48**	PFAKE			03 32 30.0	+12
SDCO				LR		LR		
	comp=Z,1μm,19.0s,MS5.5							
DPC	**Dobruska-Polom**	**102.76**	**327**	AMS		AMS	04 21 10.0	
	comp=Z,2μm,26.5s							
KMBO	**Kilima Mbogo**	**103.16**	**271**	PFAKE			03 32 30.0	+8.0
KMBO				LR		LR		
	comp=Z,187nm,19.0s,MS4.6							
PVCC	**Panska Ves**	**103.59**	**328**	AMS		AMS	04 21 20.0	
	comp=Z,2μm,22.5s							
PRU	**Pruhonice**	**103.91**	**327**	AMS		AMS	04 21 20.0	
	comp=Z,2μm,20.5s							
MNTX	**Cornudas Mount**	**104.70**	**53**	*e*Pdif		Pdif	03 32 29.2	+0.4
	comp=Z,17nm,2.1s							
MNTX				*e*PP		PP	03 36 48.0	-0.4
KHC	**Kasperske Hory**	**104.92**	**327**	AMS		AMS	04 22 00.0	
	comp=Z,2μm,19.1s							
GERES	**GERESS Array B**	**105.02**	**327**	Pdiff		Pdif	03 32 29.0	-1.2
	comp=Z,0.4nm,0.7s,baz=174,slow=4.5,SNR=3.5							
GERES				PKiKP		PKiKP	03 36 45.0	+0.1
	comp=Z,0.1nm,0.4s,baz=111,slow=2.5,SNR=1.6							
GRFO	**Grafenberg**	**105.83**	**328**	PFAKE			03 37 00.0	+14
GRFO				LR		LR		
	comp=Z,920nm,19.0s,MS5.3							
LTX	**Lajitas**	**106.95**	**55**	PFAKE			03 37 00.0	+12
LTX				LR		LR		
	comp=Z,1μm,19.0s,MS5.4							
TXAR	**Lajitas Array**	**106.95**	**55**	Pdiff		Pdif	03 32 41.3	+2.5
	comp=Z,0.1nm,0.6s,baz=287,slow=6.3,SNR=2.7							
BFO	**Black Forest**	**108.16**	**329**	PFAKE			03 37 00.0	+9.3
BFO				LR		LR		
	comp=Z,129nm,19.0s,MS4.5							
JCT	**Junction City**	**109.57**	**53**	PFAKE			03 37 10.0	+17
JCT				LR		LR		
	comp=Z,711nm,19.0s,MS5.3							
JFWS	**Jewell Farm**	**109.95**	**37**	PFAKE			03 37 10.0	+16
JFWS				LR		LR		
	comp=Z,931nm,20.0s,MS5.4							
LSZ	**Lusaka**	**113.89**	**258**	*e*PKIKP		PKiKP	03 37 02.0	+0.4
LSZ				MLR		MLR		
	comp=Z,238nm,19.0s,MS4.8							
SNAA	**Sanae**	**114.44**	**192**	*e*PKPdf		PKiKP	03 37 00.9	-1.7
SNAA				*e*			03 37 07.1	
SNAA				*e*			03 37 09.0	
SNAA				*e*			03 37 32.2	
SNAA	**Sanae**	**114.44**	**192**	⇑*e*PKIKP		PKiKP	03 37 01.4	-1.2
SNAA	**Sanae**	**114.44**	**192**	*e*PKIKP		PKiKP	03 37 01.1	-1.5
OXF	**Oxford**	**115.28**	**44**	PFAKE			03 37 20.0	+16
OXF				LR		LR		
	comp=Z,671nm,20.0s,MS5.2							
VNA2	**Neumayer--Watz**	**115.94**	**191**	*e*PKPdf		PKPdf	03 37 04.1	-1.4
	baz=169,slow=0.4							
VNA2				*e*			03 37 10.9	
VNA2				*e*			03 37 12.9	
VNA2				*e*			03 37 22.3	
VNA2				*e*			03 37 36.3	
VNA2				*e*			03 37 45.1	
VNA2				*e*			03 38 05.7	
VNA2				*e*			03 38 13.9	
VNA3	**Neumayer Olymp**	**116.09**	**190**	*e*PKPdf		PKPdf	03 37 04.3	-1.5
VNA3				*e*			03 37 11.0	
VNA3				*e*			03 37 12.5	
VNA3				*e*			03 37 21.4	
VNA3				*e*			03 37 36.6	
VNA3				*e*			03 37 45.2	
VNA3				*e*			03 38 05.7	
VNA3				*e*			03 38 13.4	
VNA1	**Neumayer--Stat**	**116.33**	**191**	*e*PKPdf		PKPdf	03 37 05.3	-1.0
VNA1				*e*			03 37 12.0	
VNA1				*e*			03 37 13.5	
VNA1				*e*			03 37 38.4	
TZTN	**Tazewell**	**117.93**	**39**	PFAKE			03 37 20.0	+11
TZTN				LR		LR		
	comp=Z,1μm,21.0s,MS5.5							
MYNC	**Murphy**	**118.48**	**41**	PFAKE			03 37 20.0	+10
MYNC				LR		LR		
	comp=Z,1μm,19.0s,MS5.6							
BRAL	**Brewton**	**118.88**	**46**	PFAKE			03 37 20.0	+8.8
BRAL				LR		LR		
	comp=Z,2μm,20.0s,MS5.7							
BLA	**Blacksburg**	**119.39**	**37**	PFAKE			03 37 20.0	+7.9
BLA				LR		LR		
	comp=Z,1μm,22.0s,MS5.5							
WES	**Weston**	**120.29**	**27**	PFAKE			03 37 30.0	+16
WES				LR		LR		
	comp=Z,2μm,20.0s,MS5.8							
CBN	**Corbin**	**120.44**	**34**	PFAKE			03 37 30.0	+16
CBN				LR		LR		
	comp=Z,1μm,22.0s,MS5.5							
ESDC	**Sonseca Array**	**120.53**	**329**	PKP		PKPdf	03 37 13.4	-1.0
	comp=Z,0.2nm,0.4s,baz=11,slow=2.7,SNR=3.6							
PAB	**San Pablo**	**120.82**	**329**	PFAKE			03 37 30.0	+15
PAB				LR		LR		
	comp=Z,820nm,22.0s,MS5.3							
CNNC	**Cliffs of the**	**122.23**	**37**	PFAKE			03 37 30.0	+12
CNNC				LR		LR		
	comp=Z,1μm,19.0s,MS5.6							
NHSC	**New Hope**	**122.25**	**40**	PFAKE			03 37 30.0	+12
NHSC				LR		LR		
	comp=Z,457nm,19.0s,MS5.2							
TSUM	**Tsumeb**	**124.14**	**254**	PFAKE			03 37 30.0	+8.7
TSUM				LR		LR		
	comp=Z,300nm,19.0s,MS5.0							
MSKU	**Masuku**	**126.50**	**275**	PFAKE			03 37 40.0	+14
MSKU				LR		LR		
	comp=Z,49nm,20.0s,MS4.2							
TGUH	**Tegucigalpa,Un**	**126.99**	**64**	PFAKE			03 37 40.0	+13
TGUH				LR		LR		
	comp=Z,350nm,20.0s,MS5.0							
JTS	**JuntasAbangare**	**130.56**	**67**	PFAKE			03 37 50.0	+16
JTS				LR		LR		
	comp=Z,89nm,20.0s,MS4.5							
TORD	**Torodi Ar. Bea**	**133.00**	**299**	PKhKP			03 37 27.7	
	comp=Z,0.9nm,1.0s,baz=52,slow=1.3,SNR=5.1							
TORD				PKP		PKPdf	03 37 37.4	-0.8
	comp=Z,3.2nm,0.9s,baz=38,slow=1.9,SNR=14							
TORD				PP		PP	03 40 03.0	-0.9
	comp=Z,1.1nm,0.9s,baz=57,slow=4.7,SNR=3.5							
OTAV	**Otavalo**	**140.01**	**78**	*e*PKPdf		PKPdf	03 37 52.5	+1.4
OTAV				LR		LR		
	comp=Z,271nm,19.0s,MS5.0							
ROSC	**El Rosal**	**142.36**	**68**	PKP		PKPdf	03 37 56.0	+0.6
	comp=Z,2.9nm,0.4s,baz=278,slow=22,SNR=4.5							
NNA	**Nana**	**143.39**	**97**	PFAKE			03 38 10.0	+13
NNA				LR		LR		
	comp=Z,101nm,20.0s,MS4.6							
SDV	**Santo Domingo**	**143.83**	**60**	*e*PKPdf		PKPdf	03 37 55.6	-2.3
SDV				LR		LR		
	comp=Z,241nm,21.0s,MS4.9							
TRQA	**Tornquist**	**145.59**	**148**	*e*PKPbc		PKPbc	03 38 00.3	-0.9
TRQA				LR		LR		
	comp=Z,489nm,20.0s,MS5.3							
LPAZ	**La Paz**	**151.53**	**106**	PKP		PKPdf	03 38 12.3	+1.7
	comp=Z,3.3nm,0.9s,baz=24,slow=2.1,SNR=9.1							
LPAZ				PKPbc		PKPbc	03 38 18.2	+1.4
	comp=Z,7.3nm,0.6s,baz=279,slow=1.9,SNR=22							
RCBR	**Riachuelo**	**174.46**	**319**	PFAKE			03 38 40.0	+7.6
RCBR				LR		LR		
	comp=Z,484nm,20.0s							

*CSEM **10** 03:28:42.1, 67.19N×2066E, h0km, ML3.0, Suspected Mining explosion. After UPP*
*UPP **10** 03:28:42.1, 67.19N×2066E, h0km, ML3.0, Suspected Mining explosion.*

HEL 10 03:28:42.7±0.0, 6718N×2066E, h0km, ML1.2, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**212**	*i* P	Pg	03 28 43.9	-0.2
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	03 28 53.3	-0.6
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	03 28 56.8	-1.0
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	03 28 58.3	-0.9
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	03 28 58.3	-0.9
	baz=116						
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	03 28 59.4	-1.2
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	03 29 00.1	-1.2
PAJU	**Pajala**	**0.97**	**98**	P	Pg	03 29 00.1	-1.2
	baz=29						
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	03 29 00.8	-1.2
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	03 29 01.1	-1.3
HARU	**Harads**	**1.03**	**173**	P	Pg	03 29 01.1	-1.3
	baz=357						
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	03 29 13.3	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	03 29 15.5	0.0
KIF				*e*SG	Sg	03 29 40.5	-1.1
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	03 29 16.9	+0.1
SGF	**Sodankyl**	**2.29**	**81**	*e*P	Pn	03 29 21.7	0.0
SGF				*e*SG	Sg	03 29 53.0	-3.3

*ISCJB **10** 03:41:11.8±0.5, 4423N±003×2068E±004, h21km±6km, Error ellipse: s-maj=4.9km s-min=4.4km az=105.0*
*THE **10** 03:41:11.6, 44.32N×2065E, h24km*
*BEO **10** 03:41:11.8±0.2, 44.24N×2076E, h15km*
*NEIC **10** 03:41:14.5, 44.29N×2081E, h40km, MG3.0(BUC), After BUC.*

ISC 10 03:41:11.8±0.4, 4424N±002×2073E±003, h13km±3km, n38, σ0.9 76/52, 19C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	**Gruza**	**0.35**	**182**	⇑*i* Pg	**Pg**	**03 41 18.1**	**-0.7**
GRUS				Sg	**Sg**	**03 41 23.9**	**+0.3**
SVIS	**Svilajnac**	**0.36**	**80**	⇓*i* Pg	**Pg**	**03 41 18.1**	**-0.9**
SVIS				Sg	**Sg**	**03 41 23.3**	**-0.5**
DIVS	**Divcibare**	**0.55**	**256**	⇓*i* Pg	**Pg**	**03 41 22.8**	**+0.2**
DIVS				Sg	**Sg**	**03 41 30.6**	**+0.7**
DIVS	**Divcibare**	**0.55**	**256**	*e*Pg	**Pg**	**03 41 21.9**	**-0.7**
DIVS				*e*Sg	**Sg**	**03 41 29.9**	**0.0**
BEO	**Belgrade**	**0.62**	**341**	⇓*i* Pg	**Pg**	**03 41 23.8**	**-0.1**
BEO				Sg	**Sg**	**03 41 32.6**	**+0.5**
BBLS	**Bajina Basta -**	**1.02**	**249**	⇑*i* Pg	**Pg**	**03 41 31.6**	**0.0**
BBLS				Sg	**Sg**	**03 41 46.0**	**+1.1**
DJES	**Djerdap**	**1.34**	**72**	⇑*i* Pg	**Pg**	**03 41 37.0**	**-0.7**
DJES				Sg	**Sg**	**03 41 55.3**	**+0.2**
BZS	**Buzias**	**1.52**	**24**	⇓P	**Pn**	**03 41 38.0**	**-0.7**
BZS				S	**Sg**	**03 42 00.9**	**+0.2**
BZS	**Buzias**	**1.52**	**24**	⇓*i* P	**Pn**	**03 41 38.0**	**-0.6**
BZS	**Buzias**	**1.52**	**24**	S	**Sg**	**03 42 00.9**	**+0.2**
BARS	**Barje**	**1.62**	**150**	⇑*i* Pn	**Pg**	**03 41 42.4**	**-0.6**
BARS				Sg	**Sg**	**03 42 04.4**	**+0.3**
GZR	**Gura Zlata**	**1.86**	**51**	⇑P	**Pn**	**03 41 43.4**	**0.0**
GZR				S	**Sg**	**03 42 11.9**	**+0.3**
GZR	**Gura Zlata**	**1.86**	**51**	⇑*i* P	**Pn**	**03 41 43.3**	**0.0**
GZR	**Gura Zlata**	**1.86**	**51**	S	**Sg**	**03 42 11.9**	**+0.3**
VTS	**Vitosha**	**2.44**	**131**	*e*Pn	**Pn**	**03 41 51.0**	**-0.3**
VTS	**Vitosha**	**2.44**	**131**	P	**Pn**	**03 41 51.5**	**+0.1**
VTS	**Vitosha**	**2.44**	**131**	⇑*i* P	**Pn**	**03 41 51.6**	**+0.3**
PKSM	**Moragy**	**2.47**	**324**	⇑P	**Pn**	**03 41 51.3**	**-0.4**
PKSM	**Moragy**	**2.47**	**324**	⇑*i* P	**Pn**	**03 41 51.3**	**-0.4**
STIP	**Stip**	**2.75**	**157**	*e*Pn	**Pn**	**03 41 55.2**	**-0.5**
DRGR		**2.91**	**28**	⇑P	**Pn**	**03 41 57.3**	**-0.5**
DRGR				S	**Sn**	**03 42 33.8**	**+1.2**
DRGR		**2.91**	**28**	⇑*i* P	**Pn**	**03 41 57.3**	**-0.5**
DRGR		**2.91**	**28**	S	**Sn**	**03 42 33.8**	**+1.2**
VOIR		**3.30**	**67**	⇑P	**Pn**	**03 42 07.3**	**+4.1**
VOIR		**3.30**	**67**	⇓*i* P	**Pn**	**03 42 07.1**	**+4.0**
VOIR		**3.30**	**67**	S	**Sn**	**03 42 47.1**	**+4.9**
KNT	**Kendrikon**	**3.46**	**152**	*e*Pn	**Pn**	**03 42 05.6**	**+0.2**
GRG	**Griva**	**3.50**	**159**	*e*Pn	**Pn**	**03 42 06.1**	**+0.2**
SRS	**Serrai**	**3.76**	**145**	*e*Pn	**Pn**	**03 42 09.3**	**-0.2**
MLR	**Muntele Rosu**	**3.91**	**69**	⇑P	**Pn**	**03 42 14.6**	**+3.0**
MLR	**Muntele Rosu**	**3.91**	**69**

BIA	**Bitola**	**1.55**	**27**	*e*Pn	**Pn**	**03 48 52.2**	**-1.0**
BIA				*e*Sn	**Sn**	**03 49 15.4**	**+2.0**
BIA	**Bitola**	**1.55**	**27**	*e*Pn	**Pn**	**03 48 52.2**	**-1.0**
BIA				*e*Sn	**Sn**	**03 49 15.4**	**+2.0**
BIA	**Bitola**	**1.55**	**27**	*e*Pn	**Pn**	**03 48 52.2**	**-1.0**
BIA				*e*Sn	**Sn**	**03 49 15.3**	**+2.0**
AGG	**Agios Georgios**	**1.61**	**112**	*e*Pb	**Pb**	**03 48 54.7**	**-0.7**
LIT	**Litokhoron**	**1.67**	**73**	*e*Pb	**Pn**	**03 48 54.2**	**-0.7**
KRUS	**Krusevo**	**1.85**	**20**	*e*Pn	**Pn**	**03 48 58.3**	**+1.0**
KRUS				*e*Sn	**Sn**	**03 49 22.2**	**+1.6**
GRG	**Griva**	**2.02**	**49**	*e*PN	**Pn**	**03 48 59.6**	**0.0**
GRG				*e*Sn	**Sn**	**03 49 26.2**	**+1.4**
NEO	**Neokhori**	**2.21**	**98**	*e*PN	**Pn**	**03 49 03.5**	**+1.3**
HORT	**Hortiatis**	**2.28**	**64**	*e*Pn	**Pn**	**03 49 03.3**	**+0.1**
KNT	**Kendrikon**	**2.44**	**51**	*e*Pn	**Pn**	**03 49 05.7**	**+0.3**
PLG	**Polygyros**	**2.45**	**72**	*e*PN	**Pn**	**03 49 06.1**	**+0.5**
PLG	**Polygyros**	**2.45**	**72**	*e*PN	**Pn**	**03 49 06.9**	**+1.4**
PAIG	**Paliouri**	**2.54**	**82**	*e*Pn	**Pn**	**03 49 06.8**	**0.0**
SOH	**Sokhos**	**2.55**	**61**	*e*Pn	**Pn**	**03 49 07.5**	**+0.6**
OUR	**Ouranopolis**	**2.84**	**75**	*e*Pn	**Pn**	**03 49 10.3**	**-0.5**
LOS	**Limnos**	**3.62**	**84**	*e*Pn	**Pn**	**03 49 21.7**	**+0.1**

*ISCJB **10** 04:51:01.6±0.9, 460N±0.1×1545E±02, h10km, mb3.7/10, Error ellipse: s-maj=23.1km s-min=16.4km az=82.5*
*IDC **10** 04:51:01.8±1.1, 4598N×15452E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/23, mbtmp3.7/8, Error ellipse: s-maj=31.9km s-min=25.8km az=124.0*
*NEIC **10** 04:51:03.4±0.7, 4596N×15448E, h10km, mb4.1/2, Error ellipse: s-maj=18.4km s-min=14.3km az=147.0*
*MOS **10** 04:51:06.8±1.2, 4607N×15442E, h48km, mb4.1/2, Error ellipse: s-maj=34.3km s-min=14.9km az=88.3*

ISC 10 04:51:05.4±8.5, 460N±02×1545E±02, h24km±57km, n17, σ0°49/17, mb3.7/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.79**	**13**	*e*Pn	**Pn**	**04 52 15.9**	**-0.2**
BILL	**Bilibino**	**22.91**	**11**	*e*P	**P**	**04 56 08.2**	**+0.7**
BILL	**Bilibino**	**22.91**	**11**	*e*Pn	**P**	**04 56 08.2**	**+0.7**
INK	**Inuvik**	**41.77**	**32**	P	**P**	**04 58 53.1**	**+0.3**
	1.1nm,0.6s,mb3.7,baz=310,slow=4.0,SNR=7.0						
MKAR	**Makanchi Array**	**48.12**	**299**	P	**P**	**04 59 42.9**	**-0.4**
	0.3nm,0.6s,mb3.5,baz=74,slow=7.4,SNR=4.4						
KURK	**Kurchatov**	**48.56**	**305**	*e*P	**P**	**04 59 46.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**48.56**	**305**	*e*P	**P**	**04 59 46.7**	**0.0**
	comp=Z,0.9nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**50.95**	**37**	P	**P**	**05 00 04.5**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=296,slow=6.9,SNR=4.5						
YKA	**Yellowknife Ar**	**50.95**	**37**	P	**P**	**05 00 04.5**	**-0.4**
CHKZ	**Chkalovo**	**51.62**	**311**	*e*P	**P**	**05 00 09.7**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**51.62**	**311**	*e*P	**P**	**05 00 09.7**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**58.85**	**341**	P	**P**	**05 01 02.2**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.5,baz=44,slow=6.6,SNR=5.5						
ARCES	**ARCESS Array B**	**58.85**	**341**	P	**P**	**05 01 02.2**	**+0.1**
FINES	**FINESS Array B**	**65.10**	**335**	P	**P**	**05 01 43.5**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=56,slow=7.1,SNR=5.7						
WRA	**Warramunga Arr**	**68.14**	**200**	P	**P**	**05 02 03.8**	**+0.3**
	comp=Z,0.2nm,0.8s,mb3.2,baz=21,slow=7.8,SNR=2.9						
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**	**05 02 55.9**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=300,slow=3.1,SNR=5.9						
MLR	**Muntele Rosu**	**78.20**	**326**	P	**P**	**05 03 04.0**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=17,slow=19,SNR=4.9						

*ISCJB **10** 04:55:26.7±0.3, 4753N±002×751E±002, h14km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=24.3*
*STR **10** 04:55:27.7±0.2, 4756N×762E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **10** 04:55:28.3, 4759N×760E, h5km±1km, ML1.4*
*LDG **10** 04:55:28.4±0.1, 4759N×757E, h7km, Md2.2/3, Ml2.1/13, Error ellipse: s-maj=1.3km s-min=1.0km az=141.0*

ISC 10 04:55:27.7±0.3, 4756N±002×755E±002, h18km±4km, n32, σ0°76/53, 4C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**156**	⇓*i*Pg	**Pg**	**04 55 33.7**	**+0.3**
	120nm,0.1s						
BOURR	**Bourrignon**	**0.27**	**232**	⇑*i*Pg	**Pg**	**04 55 34.8**	**+1.0**
	62nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.39**	**95**	*i* Sg	**Pg**	**04 55 35.3**	**-0.5**
	79nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.39**	**95**	⇑*i*Pg	**Sg**	**04 55 40.2**	**-1.0**
	79nm,0.2s						
MOF	**Molkenrain**	**0.40**	**316**	Pg	**Pg**	**04 55 36.3**	**+0.3**
MOF				Sg	**Sg**	**04 55 41.9**	**+0.3**
LOMF	**Lomont**	**0.53**	**247**	Pg	**Pg**	**04 55 39.5**	**+1.1**
HINF	**Hinteralfeld**	**0.53**	**299**	*e*Pg	**Pg**	**04 55 38.6**	**+0.2**
HINF	**Hinteralfeld**	**0.53**	**299**	*e*Pn	**Pg**	**04 55 40.3**	**+1.9**
HINF				*e*Sg	**Sg**	**04 55 45.8**	**+0.2**
HINF				*e*Sn	**Sg**	**04 55 49.4**	**+3.8**
	24nm,0.2s						
SLE	**Schleitheim**	**0.67**	**72**	⇑*i*Pg	**Pg**	**04 55 40.2**	**-0.8**
	94nm,0.2s						
ECH	**Echery**	**0.70**	**338**	Pg	**Pg**	**04 55 41.6**	**0.0**
ECH				Sg	**Sg**	**04 55 52.2**	**+1.3**
CDF	**Champ du Feu**	**0.87**	**348**	*e*Pg	**Pg**	**04 55 44.6**	**-0.1**
CDF	**Champ du Feu**	**0.87**	**348**	*e*Pn	**Pn**	**04 55 45.0**	**0.0**
CDF				*e*Sg	**Sg**	**04 55 54.7**	**-1.5**
CDF				*e*Sn	**Sn**	**04 55 57.1**	**-0.1**
	13nm,0.3s						
STEIN	**Stein am Rhein**	**0.90**	**83**	*e*Pg	**Pg**	**04 55 45.3**	**0.0**
	14nm,0.3s						
HAU	**Haudompre**	**0.92**	**299**	*e*Pg	**Pg**	**04 55 45.8**	**+0.1**
HAU				*e*Sg	**Sg**	**04 55 58.5**	**+0.7**
	25nm,0.3s						
WILA	**Wila**	**0.94**	**99**	⇑*i*Pg	**Pg**	**04 55 45.9**	**0.0**
	85nm,0.5s						
WILA				*e*Sg	**Sg**	**04 55 58.8**	**+0.5**
	85nm,0.5s						
BRANT	**Les Verrieres**	**0.96**	**230**	*i* Sg	**Pg**	**04 55 47.5**	**+1.1**
	19nm,0.5s						
BRANT	**Les Verrieres**	**0.96**	**230**	*e*Pg	**Sg**	**04 56 01.2**	**+2.1**
	19nm,0.5s						
WEIN	**Weingarten**	**0.98**	**91**	*e*Pg	**Pg**	**04 55 46.5**	**-0.2**
	28nm,0.2s						
WEIN				*i* Sg	**Sg**	**04 56 00.2**	**+0.6**
	28nm,0.2s						
THEF	**They Montfort**	**1.24**	**303**	Pg	**Pg**	**04 55 51.6**	**-0.1**
LIENZ	**Alp Oberkamor**	**1.35**	**101**	*e*Pg	**Pg**	**04 55 52.9**	**-0.9**
	14nm,0.4s						
CABF	**La Chapelle**	**1.38**	**227**	*e*Pg	**Pg**	**04 55 55.2**	**+0.9**
CABF				*e*Sg	**Sg**	**04 56 12.4**	**+0.1**
	3.9nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**292**	*e*Pn	**Pn**	**04 55 58.7**	**+0.8**
SFTF	**Sexfontaines**	**1.81**	**292**	*e*Pg	**Pg**	**04 56 02.4**	**0.0**
SFTF				*e*Sn	**Sn**	**04 56 20.2**	**-0.1**
	0.9nm,0.2s						
SFTF				*e*Sg	**Sg**	**04 56 25.7**	**-0.2**
	3.6nm,0.2s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pn	**Pn**	**04 56 00.6**	**+1.2**
MEZF				*e*Sn	**Sn**	**04 56 22.8**	**-0.3**
MEZF				*e*Sg	**Sg**	**04 56 29.2**	**-0.3**
	1.7nm,0.3s						
LPL	**La Plagne**	**2.12**	**196**	*e*Pg	**Pg**	**04 56 08.8**	**+0.3**
LPL				*e*Sg	**Sg**	**04 56 36.1**	**0.0**
	0.7nm,0.3s						
LPG	**La Plagne**	**2.14**	**195**	*e*Pg	**Pg**	**04 56 09.1**	**+0.3**
LPG				*e*Sg	**Sg**	**04 56 36.4**	**-0.1**
	0.8nm,0.2s						
LOR	**Lormes**	**2.52**	**265**	*e*Pg	**Pg**	**04 56 15.7**	**-0.4**
LOR				*e*Sg	**Sg**	**04 56 47.7**	**-1.1**
	2.1nm,0.2s						
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**04 56 18.6**	**-0.7**
SMF				*e*Sg	**Sg**	**04 56 52.7**	**-1.5**
	1.5nm,0.3s						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**04 56 21.0**	**-0.3**
SSF				*e*Sg	**Sg**	**04 56 56.7**	**-0.8**
	0.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.89**	**204**	*e*Pg	**Pg**	**04 56 22.5**	**-0.6**
ORIF				*e*Sg	**Sg**	**04 56 59.8**	**-0.7**
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pn	**Pn**	**04 56 14.2**	**+0.4**
AVF	**Avril sur Loir**	**2.96**	**256**	*e*Pg	**Pg**	**04 56 24.1**	**-0.4**
AVF				*e*Sg	**Sg**	**04 57 01.2**	**-1.7**
	0.7nm,0.3s						

*BJI **10** 05:23:56.2, 3097S×7222W, h22km, mB4.9, Msz4.9*
*MOS **10** 05:23:57.5±0.9, 3149S×7199W, h33km, mb4.9/11, Error ellipse: s-maj=21.6km s-min=8.7km az=97.7*
*NEIC **10** 05:23:58.0, 3148S×7174W, h22km, mb4.7/26, ML4.7(GUC), After GUC.*
*ISCJB **10** 05:23:58.6±0.6, 3147S±002×7190W±007, h44km±5km, mb4.6/37, MS4.0/6, Error ellipse: s-maj=9.5km s-min=3.8km az=169.2*
*GUC **10** 05:23:58.0±0.8, 3148S×7174W, h22km±4km, MD4.6, ML4.7*
*IDC **10** 05:24:02.1±3.0, 3150S×7171W, h63km±25km, mb4.3/13, mb1 4.4/16, mb1mx4.3/19, mbtmp4.3/16, ML4.2/3, MS3.9/8, Ms1 3.9/8, ms1mx3.8/17, Error ellipse: s-maj=28.5km s-min=13.1km az=68.0*

ISC 10 05:23:59.7±0.6, 3147S±002×7187W±007, h39km±6km, h32km±.5km: pP-P, n148, σ0°95/120, mb4.6/36, MS4.0/6, 23C-15D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.80**	**69**	⇑*i*P	**Pn**	**05 24 10.6**	**-3.9**
CMCH				AML	AML	05 24 28.0	
	comp=N,161μm,0.7s						
PACH	**Papudo**	**1.12**	**161**	⇑*i*P	**Pn**	**05 24 17.6**	**-1.3**
PTCH	**Petorca**	**1.13**	**135**	*e*P	**Pn**	**05 24 16.7**	**-2.3**
PTCH				*i* S	**Sn**	**05 24 29.8**	**-3.4**
PTCH				AML	AML	05 24 33.3	
	comp=N,58μm,0.3s						
PTCH	**Petorca**	**1.13**	**135**	*e*P	**Pn**	**05 24 16.7**	**-2.3**
PTCH				*i* S	**Sn**	**05 24 29.8**	**-3.4**
IHA	**Instituto Hidr**	**1.56**	**173**	⇓*i*P	**Pn**	**05 24 24.1**	**-0.8**
IHA				*i* S	**Sn**	**05 24 44.5**	**+0.5**
TLL	**Tololo Astrono**	**1.59**	**36**	⇑*i*P	**Pn**	**05 24 24.6**	**-0.7**
TLL				*i* S	**Sn**	**05 24 44.8**	**+0.1**
TLL				AML	AML	05 24 47.0	
	comp=E,23μm,0.5s						
TLL	**Tololo Astrono**	**1.59**	**36**	⇑*i*P	**Pn**	**05 24 24.6**	**-0.7**
TLL				*i* S	**Sn**	**05 24 44.8**	**+0.1**
JACH	**Jahuel**	**1.62**	**138**	⇓*i*P	**Pn**	**05 24 25.2**	**-0.6**
LSCH	**La Serena**	**1.65**	**19**	⇓*i*P	**Pn**	**05 24 25.6**	**-0.6**
LSCH				*i* S	**Sn**	**05 24 46.6**	**+0.5**
LSCH				AML	AML	05 24 54.0	
	comp=N,4μm,0.4s						
LSCH	**La Serena**	**1.65**	**19**	⇓*i*P	**Pn**	**05 24 25.6**	**-0.6**
LSCH				*i* S	**Sn**	**05 24 46.6**	**+0.5**
ROCH	**El Roble**	**1.67**	**154**	⇓*i*P	**Pn**	**05 24 25.9**	**-0.5**
ROCH				*i* S	**Sn**	**05 24 46.9**	**+0.3**
PEL	**Peldehue**	**1.95**	**149**	⇓*i*P	**Pn**	**05 24 29.8**	**-0.5**
PEL				*i* S	**Sn**	**05 24 54.2**	**+0.7**
PEL				AML	AML	05 24 57.9	
	comp=E,19μm,0.3s						
RCDM	**Rinconada Maip**	**2.21**	**156**	⇓*i*P	**Pn**	**05 24 33.4**	**-0.4**
RCDM				*i* S	**Sn**	**05 25 01.6**	**+1.8**
RCDM				AML	AML	05 25 07.9	
	comp=E,7μm,0.4s						
RCDM	**Rinconada Maip**	**2.21**	**156**	⇓*i*P	**Pn**	**05 24 33.4**	**-0.4**
RCDM				*i* S	**Sn**	**05 25 01.6**	**+1.8**
DSCH	**Colegio Aleman**	**2.22**	**150**	*e*P	**Pn**	**05 24 33.2**	**-0.7**
DSCH				*e*S	**Sn**	**05 25 00.6**	**+0.5**
DSCH				AML	AML	05 25 04.2	
	comp=N,2μm,0.5s						
DSCH	**Colegio Aleman**	**2.22**	**150**	*e*P	**Pn**	**05 24 33.2**	**-0.7**
DSCH				*e*S	**Sn**	**05 25 00.6**	**+0.5**
STL	**Santa Lucia**	**2.22**	**152**	*e*P	**Pn**	**05 24 33.1**	**-0.9**
STL				*i* S	**Sn**	**05 25 00.3**	**+0.2**
STL				AML	AML	05 25 10.9	
	comp=N,1μm,0.2s						
SAN	**Santiago**	**2.23**	**153**	⇑*i*P	**Pn**	**05 24 34.5**	**+0.5**
SAN				*i* S	**Sn**	**05 25 01.8**	**+1.4**
SAN				AML	AML	05 25 10.1	
	comp=N,7μm,0.5s						
SAN	**Santiago**	**2.23**	**153**	⇑*i*P	**Pn**	**05 24 34.5**	**+0.5**
SAN				*i* S	**Sn**	**05 25 01.8**	**+1.4**
CLCH	**Cerro Calan**	**2.23**	**150**	⇑*i*P	**Pn**	**05 24 33.7**	**-0.4**
CLCH				*i* S	**Sn**	**05 25 02.1**	**+1.7**
CLCH				AML	AML	05 25 05.2	
	comp=N,13μm,0.6s						
CLCH				AML	AML	05 25 05.8	
	comp=N,15μm,0.4s						
TACH	**Talagante**	**2.31**	**160**	⇑*i*P	**Pn**	**05 24 35.0**	**-0.3**
ANTU	**Antumapu**	**2.34**	**154**	⇓*i*P	**Pn**	**05 24 35.6**	**0.0**
ANTU				*i* S	**Sn**	**05 25 04.3**	**+1.1**
ANTU				AML	AML	05 25 11.8	
	comp=N,6μm,0.4s						
ANTU	**Antumapu**	**2.34**	**154**	⇓*i*P	**Pn**	**05 24 35.6**	**0.0**
ANTU				*i* S	**Sn**	**05 25 04.3**	**+1.1**
PCH	**Pirque**	**2.43**	**152**	⇑*i*P	**Pn**	**05 24 36.8**	**-0.1**
YECH	**El Yeso**	**2.66**	**146**	⇑*i*P	**Pn**	**05 24 40.6**	**+0.6**
YECH				AML	AML	05 25 25.3	
	comp=N,5μm,0.2s						
CHCH	**Chadas Angostu**	**2.66**	**158**	⇓*i*P	**Pn**	**05 24 39.9**	**-0.2**
CACH	**El Canelo**	**2.85**	**158**	⇑*i*P	**Pn**	**05 24 43.2**	**+0.6**
MDZ	**Mendoza**	**2.92**	**120**	⇑*i*P	**Pn**	**05 24 55.6**	**+12**
MDZ				*i* S	**Sn**	**05 25 24.9**	**+7.3**
CICH	**Cipreses**	**3.09**	**157**	⇓*i*P	**Pn**	**05 24 46.2**	**+0.3**
CFAA	**Coronel Fontan**	**3.11**	**93**	P	**Pn**	**05 24 46.5**	**+0.3**
	comp=N,15nm,0.3s,baz=269,slow=11,SNR=361						
CFAA				S	**Sn**	**05 25 24.6**	**+2.5**
	comp=N,65nm,0.3s,baz=158,slow=19,SNR=4.8						
CFAA				LR	LR	05 26 08.3	
	comp=N,277nm,21.0s,baz=306,slow=42						
SFDO	**San Fernando**	**3.22**	**167**	⇓*i*P	**Pn**	**05 24 47.6**	**-0.1**
NICH	**Los Niches**	**3.56**	**171**	*e*P	**Pn**	**05 24 53.0**	**+0.5**
TRQA	**Tornquist**	**10.45**	**132**	*e*Pn	**Pn**	**05 26 25.3**	**-1.7**
	comp=N,40nm,0.6s						
ARE	**Arequipa**	**14.95**	**1**	*e*P	**Pn**	**05 27 29.0**	**+0.8**
LPAZ	**La Paz**	**15.49**	**14**	P	**Pn**	**05 27 35.7**	**+0.4**
	comp=N,0.7nm,0.3s,baz=188,slow=8.3,SNR=32						
LPAZ	**La Paz**	**15.49**	**14**	P	**Pn**	**05 27 35.7**	**+0.4**
SIV	**San Ignacio**	**18.29**	**35**	P	**Pn**	**05 28 07.2**	**-3.2**
	comp=N,1.2nm,0.3s,baz=228,slow=12,SNR=46						
NNA	**Nana**	**19.93**	**346**	P	**Pn**	**05 28 28.4**	**-1.6**
	comp=N,0.5nm,0.3s,baz=172,slow=8.3,SNR=5.2						
NNA				LR	LR	05 34 28.4	
	comp=N,211nm,21.4s,baz=141,slow=31						
NNA	**Nana**	**19.93**	**346**	*e*P	**Pn**	**05 28 31.1**	**+1.1**
	comp=N,11nm,0.7s						
EFI	**East Falkland**	**22.60**	**157**	*e*P	**P**	**05 28 55.6**	**-1.2**
USHA	**Ushuaia**	**23.48**	**175**	P	**P**	**05 29 05.8**	**-0.1**
	comp=N,27nm,1.2s,mb4.5,baz=290,slow=12,SNR=2.9						
USHA				LR	LR	05 38 50.8	
	comp=N,552nm,18.8s,MS4.0,baz=350,slow=38						
ATAH	**Atahualpa**	**25.10**	**345**	P	**P**	**05 29 21.3**	**+0.7**
	comp=N,12nm,0.7s,mb4.6,baz=160,slow=8.9,SNR=9.3						
ATAH				LR	LR	05 37 59.6	
	comp=N,113nm,20.4s,MS3.4,baz=316,slow=34						
OTAV	**Otavalo**	**32.15**	**348**	*e*P	**P**	**05 30 26.9**	**+3.5**
	comp=N,5.1nm,0.9s,mb4.3						
ROSC	**El Rosal**	**36.20**	**356**	P	**P**	**05 31 01.0**	**+2.5**
	comp=N,5.0nm,0.7s,mb4.5,baz=125,slow=4.7,SNR=10						
SDV	**Santo Domingo**	**40.14**	**2**	*e*P	**P**	**05 31 31.2**	**-0.6**
	comp=N,6.5nm,0.8s,mb4.4						
VNA3	**Neumayer Olymp**	**51.65**	**159**	⇑*i*P	**P**	**05 33 01.8**	**-0.7**
VNA3				*e*		05 33 05.1	
VNA3				*e*	pP	05 33 11.1	-2.7
VNA3				*e*		05 33 20.7	
VNA3				*e*		05 33 22.7	
VNA3				*e*		05 33 37.9	
VNA3				*e*		05 34 15.3	
VNA1	**Neumayer--Stat**	**51.95**	**158**	⇑*i*P	**P**	**05 33 04.5**	**-0.2**
VNA1				*e*		05 33 08.2	
VNA1				*e*	pP	05 33 14.2	-1.9
VNA1				*e*		05 33 24.1	
VNA1				*e*		05 33 26.4	
VNA1				*e*		05 33 45.3	
VNA1				*e*		05 34 16.9	
VNA2	**Neumayer--Watz**	**52.29**	**158**	⇑*i*P	**P**	**05 33 06.6**	**-0.6**
	baz=287,slow=8.4						
VNA2				*e*		05 33 09.9	
VNA2				*e*	pP	05 33 15.9	-2.7
VNA2				*e*		05 33 25.2	
VNA2				*e*		05 33 28.3	
VNA2				*e*		05 33 46.1	
VNA2				*e*		05 34 18.8	
TEIG	**Tepich**	**53.76**	**341**	*e*P	**P**	**05 33 18.2**	**+0.2**
	comp=N,35nm,0.9s,mb5.3						
SNAA	**Sanae**	**53.88**	**159**	P	**P**	**05 33 18.1**	**-0.8**
	comp=N,3.8nm,0.8s,mb4.4,baz=284,slow=7.1,SNR=38						
SNAA	**Sanae**	**53.88**	**159**	⇑*i*P	**P**	**05 33 18.1**	**-0.8**
SNAA				*e*		05 33 22.0	
SNAA				*e*	pP	05 33 27.4	-2.9
SNAA				*e*		05 33 33.8	
SNAA				*e*		05 33 37.7	
SNAA				*e*		05 33 38.8	
SNAA				*e*		05 34 23.2	
SNAA	**Sanae**	**53.88**	**159**	*e*P	**P**	**05 33 17.9**	**-1.0**
SNAA				pmax	pmax		
	comp=Z,26nm,1.3s						
SNAA	**Sanae**	**53.88**	**159**	*e*P	**P**	**05 33 17.9**	**-1.0**
	comp=Z,26nm,1.3s,mb5.0						
JCT	**Junction City**	**67.07**	**334**	*e*P	**P**	**05 34 49.5**	**+0.5**
LTX	**Lajitas**	**67.61**	**330**	*e*P	**P**	**05 34 53.1**	**+0.8**
LTX				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
LTX	**Lajitas**	**67.61**	**330**	*e*P	**P**	**05 34 53.0**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.4						
TXAR	**Lajitas Array**	**67.61**	**330**	P	**P**	**05 34 53.3**	**+1.0**
	comp=Z,2.0nm,0.7s,mb4.3,baz=151,slow=8.1,SNR=25						
TXAR				LR	LR	05 59 50.9	
	comp=Z,158nm,19.7s,MS4.2,baz=10.0,slow=32						
OXF	**Oxford**	**67.68**	**344**	*e*P	**P**	**05 34 52.5**	**-0.3**
OXF				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
OXF	**Oxford**	**67.68**	**344**	*e*P	**P**	**05 34 52.5**	**-0.3**
	comp=Z,38nm,0.9s,mb5.4						
PLAL	**Pickwick Lake**	**67.83**	**346**	*e*P	**P**	**05 34 53.1**	**-0.7**
	comp=Z,8.2nm,1.0s,mb4.7						
SYO	**Syowa Base**	**68.17**	**159**	⇓*e*P	**P**	**05 34 54.0**	**-1.8**
SYO	**Syowa Base**	**68.17**	**159**	⇓*e*pP	pP	05 35 03.6	-4.0
WVT	**Waverly**	**68.89**	**346**	*e*P	**P**	**05 34 59.7**	**-0.7**
WVT				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
WVT	**Waverly**	**68.89**	**346**	*e*P	**P**	**05 34 59.7**	**-0.7**
	comp=Z,24nm,0.8s,mb5.2						
MNTX	**Cornudas Mount**	**70.39**	**330**	*e*P	**P**	**05 35 09.2**	**-0.5**
	comp=Z,6.4nm,0.9s,mb4.5						
WMOK	**Wichita Mounta**	**70.56**	**337**	*e*P	**P**	**05 35 10.6**	**0.0**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
WMOK	**Wichita Mounta**	**70.56**	**337**	*e*P	**P**	**05 35 10.6**	**-0.1**
	comp=Z,4.6nm,1.1s,mb4.3						
WCI	**Wyandotte Cave**	**70.63**	**348**	*e*P	**P**	**05 35 10.2**	**-0.9**
WCI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
WCI	**Wyandotte Cave**	**70.63**	**348**	*e*P	**P**	**05 35 10.2**	**-0.9**
	comp=Z,12nm,0.9s,mb4.8						
SIUC	**Southern Illin**	**70.71**	**345**	*e*P	**P**	**05 35 10.8**	**-0.8**
	comp=Z,27nm,1.1s,mb5.1						
ANMO	**Albuquerque**	**73.64**	**331**	*e*P	**P**	**05 35 29.6**	**+0.5**
ANMO	**Albuquerque**	**73.64**	**331**	*e*P	**P**	**05 35 30.1**	**+1.0**
	comp=Z,4.1nm,1.1s,mb4.3						
CBKS	**Cedar Bluff**	**74.58**	**338**	*e*P	**P**	**05 35 35.1**	**+0.5**
CBKS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CBKS	**Cedar Bluff**	**74.58**	**338**	*e*P	**P**	**05 35 35.1**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8						
MAW	**Mawson**	**75.56**	**164**	P	**P**	**05 35 39.7**	**-0.6**
	comp=Z,7.2nm,0.8s,mb4.6,baz=227,slow=9.5,SNR=8.1						
MAW				LR	LR	06 09 48.1	
	comp=Z,145nm,18.7s,MS4.3,baz=249,slow=36						
SDCO	**Great Sand Dun**	**75.68**	**333**	*e*P	**P**	**05 35 42.2**	**+1.3**
	comp=Z,4.2nm,0.7s,mb4.5						
SUR	**Sutherland**	**75.94**	**119**	*e*P	**P**	**05 35 42.5**	**+0.2**
	comp=Z,21nm,0.9s,mb5.1						
PV10	**Paradox Valley**	**77.64**	**331**	*e*P	**P**	**05 35 52.6**	**+0.7**
TSUM	**Tsumeb**	**79.78**	**106**	*e*P	**P**	**05 36 03.3**	**-0.4**
	comp=Z,9.8nm,1.1s,mb4.7						
RSSD	**Black Hills**	**80.76**	**337**	*e*P	**P**	**05 36 10.8**	**+1.8**
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
RSSD	**Black Hills**	**80.76**	**337**	*e*P	**P**	**05 36 10.8**	**+1.8**
	comp=Z,6.4nm,0.6s,mb4.7						
DUG	**Dugway**	**80.77**	**329**	*e*P	**P**	**05 36 09.9**	**+0.9**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
DUG	**Dugway**	**80.77**	**329**	*e*P	**P**	**05 36

comp=Z,50nm,0.9s
KURK **Kurchatov** **150.90** **40** *e*PKIKP PKPbc 05 43 47.2 -0.8
KURK *e* 05 43 57.1
USP **Ospenovka** **150.99** **57** P PKPbc 05 43 48.4 +0.2
SNR=8.1
AAK **Ala-Archa** **151.12** **58** P PKPbc 05 43 48.7 +0.1
SNR=12
AAK **Ala-Archa** **151.12** **58** *e*PKPbc PKPbc 05 43 47.5 -1.0
FRU **Bishkek** **151.16** **57**⇑ *e*PKIKP PKPbc 05 43 48.5 -0.1
FRU pmax pmax
comp=Z,40nm,1.3s
UCH **Uchtor** **151.21** **59** P PKPbc 05 43 49.6 +0.9
SNR=13
TKM2 **Tokmak 2** **151.85** **57** P PKPbc 05 43 50.0 -0.3
SNR=7.7
ZAL **Zalesovo** **151.99** **30** PKPbc PKPbc 05 43 50.0 -0.5
comp=Z,41nm,0.6s,baz=167,slow=2.9,SNR=108
ZAL PKPab PKPab 05 43 59.8 -0.1
comp=Z,13nm,0.9s,baz=182,slow=8.3,SNR=5.6
ZAL **Zalesovo** **151.99** **30**⇑ *i*PKIKP PKPdf 05 43 46.0 +2.0
KULM **Kulim** **153.03** **163** *e*PKPbc PKPbc 05 43 52.5 -0.4
KULM *e*PKPab PKPab 05 44 03.0 -1.3
BOD **Bodaibo** **153.35** **353** *e*PKIKP PKPdf 05 43 51.7 +5.7
BOD pmax pmax
comp=Z,4.0nm,1.6s
MKAR **Makanchi Array** **154.94** **45** PKP PKPdf 05 43 47.3 -0.9
comp=Z,1.2nm,0.8s,baz=343,slow=2.0,SNR=5.8
MKAR PKPbc PKPbc 05 43 55.9 -1.1
comp=Z,5.2nm,0.7s,baz=307,slow=2.1,SNR=21
MKAR PKPab PKPab 05 44 11.6 -0.8
comp=Z,5.3nm,0.9s,baz=288,slow=3.1,SNR=7.4
WMQ **Urumqi** **159.72** **47** *e*PKP PKPdf 05 43 53.2 -1.0
SONM **Songino Array** **163.60** **4** PKP PKPdf 05 43 57.2 -1.0
comp=Z,1.0nm,1.0s,baz=204,slow=3.9,SNR=4.9
SONM PKPab PKPab 05 44 48.5 -1.6
comp=Z,1.1nm,0.9s,baz=5.1,slow=5.3,SNR=4.0
CHTO **Chiang Mai** **164.91** **144** *e*PKP2 PKPab 05 44 54.9 -0.9
BJI **Beijing** **169.24** **325** PKP PKPdf 05 44 04.4 +1.8
BJI LR LR
comp=Z,153nm,34.1s
GTA **Gaotai** **169.58** **38** *e*PKP PKPdf 05 44 03.6 +0.8
HHC **Hu-ho-hao-te** **170.24** **344** *e*PKP PKPdf 05 44 04.8 +1.6
KMI **Kunming** **172.09** **142** PKP PKPdf 05 44 03.0 -1.2
LZH **Lanzhou** **174.18** **37** *e*PKP PKPdf 05 44 06.9 +1.9
CD2 **Chengdu** **176.22** **97** *e*PKP PKPdf 05 44 06.7 +1.2

*STR **10** 05:38:22.2±0.4, 4756N×759E, h5km±1km, MI1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 05:38:22.8±0.1, 4758N×757E, h10km, Md1.9/3, MI1.8/10, Error ellipse: s-maj=2.3km s-min=1.3km az=85.0*
ZUR 10 05:38:22.9, 4759N×760E, h4km±1km, ML1.3, 1C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓ *i*Pg	Pg	05 38 28.3	+0.4
BALST	103nm,0.2s			*i* Sg	Sg	05 38 32.1	+0.8
BOURR	**Bourrignon**	**0.32**	**232**	⇑ *i*P	Pg	05 38 29.3	+0.3
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓ *i*Pg	Pg	05 38 29.8	+0.1
SULZ	28nm,0.2s			*i* Sg	Sg	05 38 34.7	+0.3
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	05 38 30.7	-0.1
MOF				Sg	Sg	05 38 36.6	+0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	05 38 33.1	-0.4
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn	Pg	05 38 34.7	+1.2
HINF	1.7nm,0.2s			*e*Sg	Sg	05 38 40.2	-0.5
HINF	4.5nm,0.2s			*e*Sn	Sg	05 38 43.8	+3.1
SLE	**Schleitheim**	**0.63**	**73**	⇓ *i*Pg	Pg	05 38 34.9	-0.1
SLE	49nm,0.4s			*i* Sg	Sg	05 38 43.4	+0.2
ECH	**Echery**	**0.70**	**335**	Pg	Pg	05 38 36.7	+0.4
ECH				Sg	Sg	05 38 45.0	-0.3
TRULL	**Truellikon**	**0.73**	**85**	*i* P	Sg	05 38 44.8	-1.7
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pg	Pg	05 38 39.0	-0.3
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn	Pn	05 38 39.5	-2.1
CDF	1.0nm,0.2s			*e*Sg	Sg	05 38 49.4	-1.0
CDF	4.8nm,0.2s			*e*Sn	Sn	05 38 51.4	-3.1
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	05 38 40.3	-0.7
HAU				*e*Sg	Sg	05 38 52.9	-0.3
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	05 38 48.9	-1.2
CABF	1.9nm,0.3s			*e*Sg	Sg	05 39 07.3	-1.3
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	05 38 56.9	-1.1
SFTF	0.3nm,0.2s			*e*Sn	Sn	05 39 14.5	-4.1
SFTF	1.0nm,0.2s			*e*Sg	Sg	05 39 20.4	-1.3
LPL	**La Plagne**	**2.16**	**196**	*e*Pg	Pg	05 39 03.1	-1.1
LPL	0.2nm,0.2s			*e*Sg	Sg	05 39 30.5	-1.7
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	05 39 03.5	-1.0
LPG	0.3nm,0.2s			*e*Sg	Sg	05 39 30.7	-1.9
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	05 39 10.0	-1.9
LOR	1.3nm,0.2s			*e*Sg	Sg	05 39 42.1	-3.0
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	05 39 13.0	-2.3
SMF	0.9nm,0.2s			*e*Sg	Sg	05 39 46.8	-3.9
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	05 39 15.4	-1.8
SSF	0.7nm,0.3s			*e*Sg	Sg	05 39 50.9	-3.0

*STR **10** 05:39:56.6±0.3, 4757N×759E, h5km±1km, MI1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 05:39:57.0±0.2, 4759N×756E, h10km, Md2.0/3, MI1.9/9, Error ellipse: s-maj=3.0km s-min=1.6km az=122.0*
ZUR 10 05:39:57.1, 4759N×760E, h5km±1km, ML1.3, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇓ *i*Pg	Pg	05 40 02.6	+0.4
BOURR	**Bourrignon**	**0.32**	**232**	⇑ *i*Pg	Pg	05 40 03.6	+0.4
SULZ	**Sulz-Cheisache**	**0.35**	**100**	⇑ *i*Pg	Pg	05 40 04.1	+0.2
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	05 40 05.0	0.0
MOF				Sg	Sg	05 40 10.8	+0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	05 40 07.1	-0.7
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	05 40 08.8	+1.0
HINF	1.3nm,0.2s			*e*Sg	Sg	05 40 14.2	-0.8
HINF	5.6nm,0.2s			*e*Sn	Sg	05 40 17.8	+2.8
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	05 40 09.1	-0.1
ECH	**Echery**	**0.69**	**335**	Pg	Pg	05 40 10.8	+0.4
ECH				Sg	Sg	05 40 19.4	-0.1
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pg	Pg	05 40 13.0	-0.5
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn	Pn	05 40 13.7	-2.1
CDF	1.7nm,0.2s			*e*Sg	Sg	05 40 23.4	-1.1
CDF	3.8nm,0.2s			*e*Sn	Sn	05 40 25.4	-3.3
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	05 40 14.4	-0.8
HAU	4.7nm,0.2s			*e*Sg	Sg	05 40 27.0	-0.4
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	05 40 23.6	-0.8
CABF	1.7nm,0.2s			*e*Sg	Sg	05 40 40.8	-2.0
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	05 40 31.0	-1.2
SFTF	1.0nm,0.3s			*e*Sn	Sn	05 40 48.9	-3.9
SFTF	1.4nm,0.3s			*e*Sg	Sg	05 40 54.4	-1.6
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	05 40 44.0	-2.2
LOR	1.5nm,0.3s			*e*Sg	Sg	05 41 16.1	-3.3
SMF	**Signal de Mont**	**2.73**	**251**	*e*Pg	Pg	05 40 47.2	-2.3
SMF	1.1nm,0.2s			*e*Sg	Sg	05 41 21.1	-3.9
SSF	**Saint Saulge**	**2.83**	**261**	*e*Pg	Pg	05 40 49.5	-1.9
SSF	0.6nm,0.3s			*e*Sg	Sg	05 41 25.1	-3.1

*ISCJB **10** 06:10:37.1±0.3, 4750N±002×743E±003, h14km±3km, Error ellipse: s-maj=3.0km s-min=2.9km az=17.2*
*ZUR **10** 06:10:38.4, 4758N×760E, h6km, ML1.9/1*
*CSEM **10** 06:10:38.7±0.1, 4758N×757E, h10km, ML2.4/18, Error ellipse: s-maj=1.1km s-min=0.9km az=23.0*
*LDG **10** 06:10:38.7±0.1, 4758N×757E, h9km, Md2.4/3, Ml2.4/20, Error ellipse: s-maj=1.4km s-min=1.0km az=125.0*
*STR **10** 06:10:38.4±0.2, 4758N×760E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 10 06:10:37.9±0.3, 4755N±002×752E±003, h18km±3km, n54, σ0§81/100, 2C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBS	**Basel-Blauen**	**0.09**	**184**	Pg	**Pg**	**06 10 41.6**	**+0.1**
BBS				Sg	**Sg**	**06 10 43.6**	**-0.2**
BALST	**Balsthal**	**0.25**	**151**	⇓ *i*Pg	**Pg**	**06 10 43.9**	**+0.3**
BOURR	**Bourrignon**	**0.25**	**231**	⇑ *i*Pg	**Pg**	**06 10 45.5**	**+1.9**
MOF	**Molkenrain**	**0.40**	**319**	Pg	**Pg**	**06 10 46.5**	**+0.3**
MOF				Sg	**Sg**	**06 10 52.4**	**+0.7**
SULZ	**Sulz-Cheisache**	**0.41**	**93**	⇓ *i*Pg	**Pg**	**06 10 45.6**	**-0.7**
FELD	**Feldberg im Sc**	**0.46**	**45**	Pg	**Pg**	**06 10 46.2**	**-1.1**
LOMF	**Lomnt**	**0.51**	**247**	Pg	**Pg**	**06 10 49.7**	**+1.5**
HINF	**Hinteralfeld**	**0.52**	**301**	*e*Pg	**Pg**	**06 10 48.9**	**+0.5**
HINF	**Hinteralfeld**	**0.52**	**301**	*e*Pn	**Pg**	**06 10 50.5**	**+2.1**
HINF				*e*Sg	**Sg**	**06 10 55.9**	**+0.5**
HINF	SNR=1.0			*e*Sn	**Sg**	**06 10 59.6**	**+4.2**
HINF	**Hinteralfeld**	**0.52**	**301**	*e*Pn	**Pg**	**06 10 50.5**	**+2.1**
HINF				*e*Sg	**Sg**	**06 10 55.9**	**+0.5**
HINF	SNR=1.0			*e*Sn	**Sg**	**06 10 59.6**	**+4.2**
SLE	**Schleitheim**	**0.69**	**72**	⇑ *i*Pg	**Pg**	**06 10 50.5**	**-1.1**
ECH	**Echery**	**0.71**	**340**	Pg	**Pg**	**06 10 52.2**	**+0.4**
ECH				Sg	**Sg**	**06 11 01.0**	**-0.3**
ZUR	**Zurich**	**0.74**	**104**	*e*Pg	**Pg**	**06 10 52.4**	**-0.1**
TRULL	**Truellikon**	**0.79**	**83**	*e*Pg	**Pg**	**06 10 52.9**	**-0.6**
TORNY	**Torny**	**0.87**	**206**	*e*P	**Pb**	**06 10 56.5**	**+2.0**
CDF	**Champ du Feu**	**0.88**	**349**	*e*Pg	**Pg**	**06 10 54.8**	**-0.2**
CDF	**Champ du Feu**	**0.88**	**349**	*e*Pn	**Pn**	**06 10 55.3**	**-0.1**
CDF				*e*Sg	**Sg**	**06 11 05.3**	**-1.3**
CDF	SNR=1.0			*e*Sn	**Sn**	**06 11 07.3**	**-0.4**
CDF	**Champ du Feu**	**0.88**	**349**	*e*Pn	**Pn**	**06 10 55.3**	**-0.1**
CDF				*e*Sg	**Sg**	**06 11 05.3**	**-1.3**
CDF	SNR=1.0			*e*Sn	**Sn**	**06 11 07.3**	**-0.4**
HASLI	**Hasliberg**	**0.91**	**151**	*e*Pg	**Pg**	**06 10 56.2**	**+0.6**
HAU	**Haudompre**	**0.91**	**300**	*e*Pn	**Pn**	**06 10 56.1**	**+0.2**
HAU				*e*Sg	**Sg**	**06 11 08.8**	**+1.1**
HAU	**Haudompre**	**0.91**	**300**	*e*Pn	**Pn**	**06 10 56.1**	**+0.2**
HAU				*e*Sg	**Sg**	**06 11 08.8**	**+1.1**
BNALP	**Bannalp**	**0.92**	**137**	*e*Pg	**Pg**	**06 10 56.2**	**+0.4**
STEIN	**Stein am Rhein**	**0.92**	**82**	*e*Pg	**Pg**	**06 10 55.5**	**-0.4**
THEF	**They Montfort**	**1.23**	**304**	Pg	**Pg**	**06 11 02.2**	**+0.4**
CABF	**La Chapelle**	**1.36**	**227**	*e*Pg	**Pg**	**06 11 05.4**	**+1.3**
CABF				*e*Sg	**Sg**	**06 11 22.7**	**+0.9**
CABF	**La Chapelle**	**1.36**	**227**	*e*Pg	**Pg**	**06 11 05.4**	**+1.3**
CABF				*e*Sg	**Sg**	**06 11 22.7**	**+0.9**
SFTF	**Sexfontaines**	**1.79**	**292**	*e*Pn	**Pn**	**06 11 08.8**	**+0.8**
SFTF	**Sexfontaines**	**1.79**	**292**	*e*Pg	**Pg**	**06 11 12.7**	**+0.3**
SFTF				*e*Sn	**Sn**	**06 11 30.6**	**+0.3**
SFTF				*e*Sg	**Sg**	**06 11 35.9**	**+0.2**
SFTF	**Sexfontaines**	**1.79**	**292**	*e*Pg	**Pg**	**06 11 12.7**	**+0.3**
SFTF				*e*Sn	**Sn**	**06 11 30.6**	**+0.3**
SFTF				*e*Sg	**Sg**	**06 11 35.9**	**+0.2**
MEZF	**Maizieres J'vi**	**1.91**	**301**	*e*Pn	**Pn**	**06 11 11.1**	**+1.5**
MEZF				*e*Sn	**Sn**	**06 11 32.6**	**-0.6**
MEZF				*e*Sg	**Sg**	**06 11 39.5**	**+0.1**
MEZF	**Maizieres J'vi**	**1.91**	**301**	*e*Pn	**Pn**	**06 11 11.1**	**+1.5**
MEZF				*e*Sn	**Sn**	**06 11 32.6**	**-0.6**
MEZF				*e*Sg	**Sg**	**06 11 39.5**	**+0.1**
LPL	**La Plagne**	**2.11**	**195**	*e*Pg	**Pg**	**06 11 18.9**	**+0.5**
LPL				*e*Sg	**Sg**	**06 11 46.0**	**+0.3**
LPL	**La Plagne**	**2.11**	**195**	*e*Pg	**Pg**	**06 11 18.9**	**+0.5**
LPL				*e*Sg	**Sg**	**06 11 46.0**	**+0.3**
LPG	**La Plagne**	**2.12**	**195**	*e*Pg	**Pg**	**06 11 19.3**	**+0.6**
LPG				*e*Sg	**Sg**	**06 11 46.5**	**+0.3**
LPG	**La Plagne**	**2.12**	**195**	*e*Pg	**Pg**	**06 11 19.3**	**+0.6**
LPG				*e*Sg	**Sg**	**06 11 46.5**	**+0.3**
LOR	**Lormes**	**2.50**	**265**	*e*Pg	**Pg**	**06 11 25.9**	**0.0**
LOR				*e*Sg	**Sg**	**06 11 58.0**	**-0.4**
LOR	**Lormes**	**2.50**	**265**	*e*Pg	**Pg**	**06 11 25.9**	**0.0**
LOR				*e*Sg	**Sg**	**06 11 58.0**	**-0.4**
SMF	**Signal de Mont**	**2.67**	**252**	*e*Pg	**Pg**	**06 11 28.9**	**-0.3**
SMF				*e*Sg	**Sg**	**06 12 02.7**	**-1.1**
SMF	**Signal de Mont**	**2.67**	**252**	*e*Pg	**Pg**	**06 11 28.9**	**-0.3**
SMF				*e*Sg	**Sg**	**06 12 02.7**	**-1.1**
SSF	**Saint Saulge**	**2.77**	**261**	*e*Pg	**Pg**	**06 11 31.2**	**+0.1**
SSF				*e*Sg	**Sg**	**06 12 06.7**	**-0.4**
SSF	**Saint Saulge**	**2.77**	**261**	*e*Pg	**Pg**	**06 11 31.2**	**+0.1**
SSF				*e*Sg	**Sg**	**06 12 06.7**	**-0.4**
ORIF	**Oris-en-Rattie**	**2.87**	**204**	*e*Pg	**Pg**	**06 11 33.0**	**+0.1**
ORIF				*e*Sg	**Sg**	**06 12 10.0**	**-0.1**
ORIF	**Oris-en-Rattie**	**2.87**	**204**	*e*Pg	**Pg**	**06 11 33.0**	**+0.1**
ORIF				*e*Sg	**Sg**	**06 12 10.0**	**-0.1**
AVF	**Avril sur Loir**	**2.94**	**257**	*e*Pg	**Pg**	**06 11 34.4**	**+0.1**
AVF				*e*Sg	**Sg**	**06 12 11.3**	**-1.2**
AVF	**Avril sur Loir**	**2.94**	**257**	*e*Pg	**Pg**	**06 11 34.4**	**+0.1**
AVF				*e*Sg	**Sg**	**06 12 11.3**	**-1.2**
HYF	**Humbligny**	**3.33**	**267**	*e*Pg	**Pg**	**06 11 41.7**	**0.0**
HYF				*e*Sg	**Sg**	**06 12 24.3**	**-0.5**
VIVF	**Saint-Julien-l**	**3.34**	**217**	*e*Pg	**Pg**	**06 11 41.5**	**-0.5**
VIVF				*e*Sg	**Sg**	**06 12 24.2**	**-1.1**
VIVF	**Saint-Julien-l**	**3.34**	**217**	*e*Pg	**Pg**	**06 11 41.5**	**-0.5**
VIVF				*e*Sg	**Sg**	**06 12 24.2**	**-1.1**
BGF	**Bois d'Agland**	**3.34**	**254**	*e*Pg	**Pg**	**06 11 41.3**	**-0.7**
BGF				*e*Sg	**Sg**	**06 12 24.7**	**-0.7**
BGF	**Bois d'Agland**	**3.34**	**254**	*e*Pg	**Pg**	**06 11 41.3**	**-0.7**
BGF				*e*Sg	**Sg**	**06 12 24.7**	**-0.7**
TCF	**Toulx Ste Croi**	**3.85**	**253**	*e*Pg	**Pg**	**06 11 51.1**	**-0.6**
TCF				*e*Sg	**Sg**	**06 12 40.4**	**-1.2**
TCF	**Toulx Ste Croi**	**3.85**	**253**	*e*Pg	**Pg**	**06 11 51.1**	**-0.6**
TCF				*e*Sg	**Sg**	**06 12 40.4**	**-1.2**
LASF	**Ste Croix**	**4.32**	**218**	*e*Pg	**Pg**	**06 11 59.7**	**-0.9**
LASF				*e*Sg	**Sg**	**06 12 54.4**	**-2.1**
LASF	**Ste Croix**	**4.32**	**218**	*e*Pg	**Pg**	**06 11 59.7**	**-0.9**
LASF				*e*Sg	**Sg**	**06 12 54.4**	**-2.1**

IDC 10 06:48:05.5±1.2, 682N×7296W, h160km±15km, mb2.9/3, mb1 3.4/6, mb1mx3.2/20, mbtmp3.2/6, Error ellipse: s-maj=32.8km s-min=13.8km az=135.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.38**	**215**	P	Pn	06 48 46.0	+0.4
ROSC	22nm,0.3s,baz=38,slow=3.9,SNR=67			S	Sn	06 49 14.3	-2.3
SDV	**Santo Domingo**	**3.09**	**48**	P	Pn	06 48 55.6	+1.3
SDV	15nm,0.3s,baz=235,slow=3.4,SNR=172			S	Sn	06 49 32.7	+0.5
PCRV	**Puerto La Cruz**	**8.88**	**67**	P	Pn	06 50 11.8	+1.2
PCRV	29nm,0.3s,baz=270,slow=20,SNR=17			S	Sn	06 51 50.6	+1.2
TXAR	**Lajitas Array**	**36.58**	**312**	P	P	06 54 56.4	+0.4
PDAR	**Pinedale Array**	**48.17**	**324**	P	P	06 56 29.8	+0.3
YKA	**Yellowknife Ar**	**63.32**	**340**	P	P	06 58 17.2	-0.2
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	07 07 38.8	+0.6

*IDC **10** 06:53:33.8±5.4, 4676N×15252E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=148.8km s-min=49.5km az=17.0*
MOS 10 06:53:35.9±4.6, 4610N×15460E, h43km, mb4.0/2, Error ellipse: s-maj=21.6km s-min=8.7km az=97.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.70**	**12**	*e*PN	Pn	06 54 48.5	+4.3
KUR	**Kuril'sk**	**4.80**	**262**	PN	Pn	06 54 38.0	-7.6
MJAR	**Matsushiro Arr**	**15.56**	**238**	Pn	Pn	06 57 18.6	+6.5
YKA	**Yellowknife Ar**	**50.83**	**37**	P	P	07 02 37.9	+5.8
YKA	2.0nm,0.4s,baz=298,slow=7.0,SNR=4.7			pP	pP	07 02 50.1	+5.8
YKA	**Yellowknife Ar**	**50.83**	**37**	P	P	07 02 37.9	+5.8
YKA				*PP	pP	07 02 50.1	+5.8
PDAR	**Pinedale Array**	**64.30**	**54**	pP	pP	07 04 31.8	+12
FINES	**FINESS Array B**	**65.06**	**336**	P	P	07 04 07.5	-4.3
FINES	**FINESS Array B**	**65.06**	**336**	P	P	07 04 07.5	-4.3
FINES	comp=Z,2.0nm,0.9s			pmax	pmax		
TXAR	**Lajitas Array**	**76.91**	**61**	P	P	07 05 33.4	+10
TXAR				pP	pP	07 05 49.2	+13
TXAR	**Lajitas Array**	**76.91**	**61**	P	P	07 05 33.4	+10
TXAR				*PP	pP	07 05 49.3	+13
TXAR	comp=Z,1.0nm,0.6s			pmax	pmax		

*IDC **10** 06:59:36.1±4.3, 3587N×14024E, h81km±28km, mb3.1/2, mb1 3.5/3, mb1mx3.0/22, mbtmp3.4/3, Error ellipse: s-maj=56.7km s-min=10.0km az=62.0*
*ISCJB **10** 06:59:37.7±0.7, 3577N±004×13986E±007, h107km±6km, mb3.6/2, Error ellipse: s-maj=10.4km s-min=6.0km az=130.0*
*JMA **10** 06:59:38.9±0.1, 3579N×13986E, h98km±2km, M2.9*
ISC 10 06:59:38.8±0.7, 3577N±004×13987E±007, h100km±6km, n13, σ0§59/23, mb3.6/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.73**	**333**	P	**Pn**	**06 59 56.5**	**0.0**
JAG				*e*S	**Sn**	**07 00 09.4**	**-0.4**
JOD2	**Odawara 2**	**0.82**	**232**	P	**Pn**	**06 59 56.9**	**-0.4**
JOD2				S	**Sn**	**07 00 10.5**	**-0.7**
JRY	**Ryogami san**	**0.82**	**287**	P	**Pn**	**06 59 57.8**	**+0.4**
JRY				*e*S	**Sn**	**07 00 12.5**	**+1.2**
BSO3	**Boso 3**	**1.10**	**151**	P	**Pn**	**07 00 00.3**	**0.0**
JKT	**Katashina**	**1.11**	**333**	P	**Pn**	**07 00 00.6**	**+0.2**
JKT				*e*S	**Sn**	**07 00 16.9**	**+0.2**
JYN	**Shimob**	**1.11**	**256**	P	**Pn**	**07 00 00.5**	**0.0**
JYN				*e*S	**Sn**	**07 00 17.4**	**+0.6**
JIZS	**Izushimoda**	**1.33**	**218**	P	**Pn**	**07 00 03.1**	**+0.1**
JIZS				*e*S	**Sn**	**07 00 21.5**	**+0.3**
BSO1	**Boso 1**	**1.44**	**141**	P	**Pn**	**07 00 03.9**	**-0.4**
BSO1				*e*S	**Sn**	**07 00 24.3**	**+0.7**
MJAR	**Matsushiro Arr**	**1.55**	**300**	P	**Pn**	**07 00 04.2**	**-1.4**
MJAR	5.7nm,0.3s,baz=100,slow=14,SNR=55			S	**Sn**	**07 00 26.4**	**+0.4**
MAT	**Matsushiro**	**1.55**	**300**	P	**Pn**	**07 00 05.6**	**-0.1**
MAT				S	**Sn**	**07 00 25.3**	**-0.7**
JHJ	**Hachijo jima 2**	**2.65**	**182**	P	**Pn**	**07 00 19.8**	**-0.1**
JHJ	38nm,0.3s,baz=306,slow=16,SNR=17			S	**Sn**	**07 00 50.8**	**-0.6**
WRA	**Warramunga Arr**	**55.66**	**186**	P	**P**	**07 09 04.1**	**-0.4**
ASAR	**Alice Springs**	**59.38**	**186**	P	**P**	**07 09 31.8**	**+1.1**

*NIED **10** 07:16:00, 2650N×12920E, h8km, Mw4.3 Best double couple: M0=5.50000×10^15 NP1:φs=188.00000°, δ73.00000°, λ-117.00000°. NP2:φs=68.00000°, δ31.00000°, λ-35.00000°.*
*BJI **10** 07:16:10.0, 2627N×12982E, h38km, mB4.5, mb4.6, Ms3.9, Msz3.6*
*IDC **10** 07:16:13.9±0.7, 2646N×12907E, h0km, mb4.1/12, mb1 4.1/15, mb1mx4.1/24, mbtmp4.0/15, ML4.4/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/35, Error ellipse: s-maj=20.3km s-min=13.6km az=55.0*
*ISCJB **10** 07:16:15.7±1.1, 2647N±003×129.19E±003, h29km±8km, mb4.3/22, MS3.8/2, Error ellipse: s-maj=5.7km s-min=4.1km az=115.1*
*JMA **10** 07:16:16.8±0.2, 2649N×129.19E, h43km, M4.0*
*MOS **10** 07:16:16.6±1.0, 2655N×129.13E, h33km, mb4.4/10, Error ellipse: s-maj=21.8km s-min=11.6km az=101.9*
*NEIC **10** 07:16:18.9±1.1, 2652N×129.14E, h38km±11km, mb4.4/4, Error ellipse: s-maj=11.6km s-min=9.3km az=84.0*
ISC 10 07:16:17.5±1.1, 2651N±003×12912E±003, h27km±7km, n64, σ1§03/76, mb4.3/22, MS3.8/2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.82**	**293**	Pn	**Pn**	**07 16 33.2**	**0.0**
JOW	2μm,0.3s,baz=126,slow=15,SNR=1573			Sn	**Sn**	**07 16 45.0**	**+0.5**
JOW	**Kunigami**	**0.82**	**293**	P	**Pb**	**07 16 33.2**	**+0.1**
JOW				S	**Sb**	**07 16 43.8**	**+0.1**
JIH	**Iheya**	**1.16**	**297**	P	**Pn**	**07 16 38.1**	**+0.2**
JIH				S	**Sn**	**07 16 52.6**	**-0.2**
JTK	**Tokunoshima**	**1.28**	**353**	P	**Pn**	**07 16 39.4**	**-0.1**
JTK				*e*S	**Sn**	**07 16 54.6**	**-1.2**
JJT2	**Tamagusuku 2**	**1.28**	**253**	P	**Pn**	**07 16 39.7**	**+0.1**
JJT2				S	**Sn**	**07 16 56.2**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAH1	**Naha**	**1.32**	**257**	P	**Pn**	**07 16 40.1**	**0.0**
NAH1				S	**Sn**	**07 16 56.5**	**-0.3**
JAGN	**Aguni-jima**	**1.68**	**273**	P	**Pn**	**07 16 45.7**	**+0.6**
JAGN				*e*S	**Sn**	**07 17 06.9**	**+1.1**
JAM	**Amami Oshima**	**1.94**	**13**	P	**Pn**	**07 16 48.1**	**-0.6**
JAM				*e*S	**Sn**	**07 17 10.7**	**-1.5**
JZK	**Kikaishima**	**1.95**	**23**	P	**Pn**	**07 16 48.7**	**-0.1**
JZK				S	**Sn**	**07 17 12.4**	**0.0**
JMZ	**Minamidaito 2**	**2.01**	**110**	P	**Pn**	**07 16 47.2**	**-2.4**
JMZ				S	**Sn**	**07 17 08.3**	**-5.6**
JKE	**Kume jima 2**	**2.10**	**265**	P	**Pn**	**07 16 50.5**	**-0.4**
JKE				*e*S	**Sn**	**07 17 15.0**	**-1.1**
JNN	**Nakanoshima**	**3.38**	**11**	P	**Pn**	**07 17 08.3**	**-0.2**
JNN				*e*S	**Sn**	**07 17 47.4**	**-0.4**
JOGS	**Gusukube**	**3.78**	**243**	*e*S	**Sn**	**07 17 55.8**	**-1.7**
JMJ	**Miyako jima 2**	**3.84**	**245**	*e*S	**Sn**	**07 17 55.8**	**-3.3**
JTJ	**Tarama**	**4.40**	**246**	P	**Pn**	**07 17 21.3**	**-1.2**
JTJ				*e*S	**Sn**	**07 18 08.4**	**-4.5**
JIJ	**Ishigaki jima**	**4.98**	**246**	P	**Pn**	**07 17 28.1**	**-2.4**
JIJ				*e*S	**Sn**	**07 18 21.9**	**-5.3**
JKRS	**Kuro-shima**	**5.15**	**245**	*e*S	**Sn**	**07 18 27.6**	**-3.6**
JNU	**Nakatsue**	**6.76**	**13**	P	**Pn**	**07 17 56.4**	**+1.4**
	17nm,0.3s,baz=225,slow=19,SNR=52						
JNU				Sn	**Sn**	**07 19 08.2**	**-2.8**
	2.5nm,0.3s,baz=263,slow=18,SNR=2.6						
YHNB	**Yeheng**	**7.23**	**257**	*e*Pn	**Pn**	**07 18 02.2**	**+0.9**
KSRS	**Korea Array**	**10.96**	**355**	Pn	**Pn**	**07 18 54.3**	**+1.8**
	baz=176,slow=14,SNR=4.4						
JHJ	**Hachijo jima 2**	**11.36**	**52**	LR	LR	07 22 22.1	
	comp=Z,152nm,19.6s,baz=310,slow=32						
CBIJ	**Chichi jima**	**11.69**	**84**	LR	LR	07 22 04.0	
	comp=Z,45nm,21.8s,baz=112,slow=30						
MJAR	**Matsushiro Arr**	**12.64**	**36**	Pn	**Pn**	**07 19 15.1**	**-0.4**
	0.2nm,0.3s,baz=210,slow=11,SNR=3.7						
BJT	**Baijiatuan**	**17.26**	**325**	*e*P	**Pn**	**07 20 19.0**	**+2.5**
BJT				pmax	pmax		
	comp=Z,31nm,0.7s						
BJT	**Baijiatuan**	**17.26**	**325**	*e*P	**Pn**	**07 20 18.9**	**+2.5**
	comp=Z,31nm,0.7s						
XAN	**Xi'an**	**18.97**	**298**	P	**Pn**	**07 20 37.5**	**0.0**
XAN				AP	pP	07 20 48.3	+4.4
XAN				AMB	AMB		
	comp=Z,37nm,1.0s						
GUMO	**Guam**	**19.57**	**128**	LR	LR	07 26 29.2	
	comp=Z,62nm,20.9s,baz=300,slow=31						
ASAJ	**Asahikawa**	**20.68**	**28**	P	**P**	**07 20 57.0**	**+1.7**
	comp=Z,8.1nm,0.7s,baz=209,slow=19,SNR=3.4						
ASAJ	**Asahikawa**	**20.68**	**28**	P	**P**	**07 20 57.0**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	**Lanzhou**	**23.56**	**300**	*e*P	**P**	**07 21 25.5**	**-0.3**
LZH				AP		07 21 33.0	
LZH				XP	sP	07 21 37.4	+0.7
LZH				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.3						
GTA	**Gaotai**	**27.62**	**305**	*e*P	**P**	**07 22 02.3**	**-0.3**
GTA				AP	pP	07 22 09.4	-1.1
GTA				XP	sP	07 22 13.1	-0.7
GTA				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
SONM	**Songino Array**	**27.76**	**326**	P	**P**	**07 22 04.7**	**+0.8**
	comp=Z,1.6nm,0.5s,mb3.9,baz=138,slow=10,SNR=14						
SONM				LR	LR	07 32 16.0	
	comp=Z,102nm,21.7s,MS3.4,baz=146,slow=35						
GUN	**Gumba**	**38.34**	**282**	*e*P	**P**	**07 23 38.0**	**+2.0**
	comp=Z,9.9nm,0.5s,mb4.8						
PKI	**Pulchoki**	**38.80**	**282**	*e*P	**P**	**07 23 40.8**	**+1.0**
	comp=Z,8.4nm,0.4s,mb4.8						
KKN	**Kakani**	**38.88**	**282**	*e*P	**P**	**07 23 41.4**	**+0.9**
	comp=Z,9.7nm,0.4s,mb4.9						
DMN	**Daman**	**39.06**	**282**	*e*P	**P**	**07 23 43.1**	**+1.1**
	comp=Z,14nm,0.8s,mb4.7						
GKN	**Gorkha**	**39.41**	**283**	*e*P	**P**	**07 23 44.9**	**0.0**
	comp=Z,21nm,0.8s,mb5.0						
KOLN	**Koldanda**	**40.35**	**282**	*e*P	**P**	**07 23 53.0**	**+0.2**
MKAR	**Makanchi Array**	**41.94**	**311**	P	**P**	**07 24 06.5**	**+0.7**
	comp=Z,1.3nm,0.5s,mb3.8,baz=90,slow=10.0,SNR=20						
ZAL	**Zalesovo**	**42.52**	**322**	P	**P**	**07 24 09.4**	**-1.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=339,slow=8.0,SNR=4.5						
KURK	**Kurchatov**	**45.17**	**316**	*e*P	**P**	**07 24 31.1**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
KURK	**Kurchatov**	**45.17**	**316**	*e*P	**P**	**07 24 31.1**	**-0.8**
	comp=Z,1.5nm,0.4s,mb4.2						
TIXI	**Tiksi**	**45.18**	**360**	*e*P	**P**	**07 24 30.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.2						
WRAB	**Tennant Creek**	**46.45**	**173**	*e*P	**P**	**07 24 42.5**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**46.45**	**173**	*e*P	**P**	**07 24 42.5**	**+0.5**
	comp=Z,5.4nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**46.45**	**173**	P	**P**	**07 24 42.0**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=353,slow=8.4,SNR=12						
WB2	**Warramunga Arr**	**46.45**	**173**	*e*P	**P**	**07 24 42.0**	**0.0**
WB2				*e*		07 24 53.3	
AAK	**Ala-Archa**	**46.97**	**305**	*e*P	**P**	**07 24 46.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**46.97**	**305**	*e*P	**P**	**07 24 46.5**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**50.10**	**174**	P	**P**	**07 25 11.2**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=3.1,slow=14,SNR=8.8						
STKA	**Stephens Creek**	**59.27**	**168**	P	**P**	**07 26 16.7**	**+0.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=0.0,slow=7.1,SNR=3.3						
JOF	**Joensuu**	**70.18**	**331**	*e*p	**P**	**07 27 25.7**	**-2.1**
KAF	**Kangasniemi**	**72.64**	**331**	*e*p	**P**	**07 27 42.4**	**-0.2**
FINES	**FINESS Array B**	**73.01**	**331**	P	**P**	**07 27 45.4**	**+0.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=72,slow=5.8,SNR=22						
FINES	**FINESS Array B**	**73.01**	**331**	P	**P**	**07 27 45.4**	**+0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**75.83**	**320**	P	**P**	**07 28 01.2**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=57,slow=6.1,SNR=5.5						
AKASG				LR	LR	08 04 15.0	
	comp=Z,115nm,19.8s,MS4.2,baz=300,slow=38						
AKASG	**Malin Array Be**	**75.83**	**320**	P	**P**	**07 28 01.3**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,115nm,19.8s						
BRTR	**Keskin Array B**	**77.49**	**308**	P	**P**	**07 28 11.7**	**+1.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=107,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**77.49**	**308**	P	**P**	**07 28 11.7**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**77.93**	**25**	P	**P**	**07 28 13.7**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=305,slow=5.3,SNR=13						
YKA	**Yellowknife Ar**	**77.93**	**25**	P	**P**	**07 28 13.7**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**79.41**	**334**	P	**P**	**07 28 21.4**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**79.41**	**334**	P	**P**	**07 28 21.5**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=50,slow=5.6,SNR=5.8						
NOA	**NORSAR Array B**	**79.41**	**334**	P	**P**	**07 28 21.5**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*IDC **10** 07:36:49.4±0.7, 901S×157.45E, h0km, mb4.4/13, mb1 4.6/15, mb1mx4.5/18, mbtmp4.4/15, ML4.1/2, MS3.8/9, Ms1 3.8/9, ms1mx3.6/22, Error ellipse: s-maj=24.6km s-min=17.3km az=127.0*

*NEIC **10** 07:36:50.3±0.3, 905S×157.50E, h10km, mb4.7/8, Error ellipse: s-maj=11.0km s-min=6.9km az=131.0*

*ISCJB **10** 07:36:52.6±0.3, 9.11S±007×15752E±005, h35km, mb4.6/28, MS3.8/7, Error ellipse: s-maj=9.7km s-min=7.1km az=167.4*

*BJI **10** 07:36:52.5, 8.44S×157.30E, h10km, mB5.3, mb4.8*

ISC 10 07:36:54.3±0.4, 912S±007×15756E±005, h35km, n44, σ1§04/38, mb4.6/28, MS3.8/7, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.38**	**98**	Pn	**Pn**	**07 37 29.8**	**-1.0**
	42nm,0.3s,baz=259,slow=5.6,SNR=7.5						
HNR				Sn	**Sn**	**07 37 59.1**	**+0.4**
	191nm,0.3s,baz=266,slow=17,SNR=12						
HNR				LR	LR	07 38 27.4	
	comp=Z,548nm,21.2s,baz=1.6,slow=39						
HNR	**Honiara**	**2.38**	**98**	*e*Pn	**Pn**	**07 37 29.4**	**-1.3**
CTA	**Charters Tower**	**15.43**	**224**	Pn	**Pn**	**07 40 28.9**	**-0.4**
	0.4nm,0.3s,baz=32,slow=12,SNR=6.4						
CTAO	**Charters Tower**	**15.43**	**224**	*e*P	**Pn**	**07 40 27.9**	**-1.5**
	12nm,0.9s						
DZM	**Mont Dzumac**	**15.45**	**147**	LR	LR	07 45 39.2	
	comp=Z,226nm,18.5s,baz=352,slow=34						
ARMA	**Armidale**	**21.90**	**194**	*e*P	**P**	**07 41 45.7**	**+1.4**
WRAB	**Tennant Creek**	**24.87**	**242**	*e*P	**P**	**07 42 13.3**	**-0.3**
	11nm,1.0s,mb4.3						
WB2	**Warramunga Arr**	**24.87**	**242**	⇓*i*P	**P**	**07 42 13.4**	**-0.2**
WRA	**Warramunga Arr**	**24.88**	**242**	P	**P**	**07 42 13.6**	**-0.1**
	6.3nm,0.8s,mb4.2,baz=68,slow=9.6,SNR=33						
WRA				PcP	PcP	07 45 50.4	+1.5
	0.6nm,0.7s,baz=71,slow=2.6,SNR=5.3						
WRA				LR	LR	07 51 27.2	
	comp=Z,121nm,20.5s,MS3.4,baz=65,slow=35						
KAKA	**Kakadu**	**24.92**	**260**	*e*P	**P**	**07 42 13.4**	**-0.6**
	5.8nm,0.6s,mb4.3						
GUMO	**Guam**	**25.84**	**331**	LR	LR	07 49 20.7	
	comp=Z,43nm,21.0s,MS3.0,baz=114,slow=29						
ASAR	**Alice Springs**	**26.85**	**235**	P	**P**	**07 42 30.8**	**-0.7**
	1.7nm,0.8s,mb3.6,baz=63,slow=9.2,SNR=13						
STKA	**Stephens Creek**	**27.06**	**211**	*e*P	**P**	**07 42 33.7**	**+0.3**
	19nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**27.06**	**211**	P	**P**	**07 42 35.1**	**+1.7**
	18nm,0.7s,mb4.7,baz=20,slow=9.0,SNR=37						
STKA				LR	LR	07 52 02.0	
	comp=Z,138nm,21.9s,MS3.5,baz=26,slow=34						
RAO	**Raoul Island**	**30.49**	**134**	LR	LR	07 52 30.2	
	comp=Z,1μm,21.3s,MS4.5,baz=183,slow=31						
MJAR	**Matsushiro Arr**	**48.93**	**339**	P	**P**	**07 45 35.4**	**-1.5**
	9.5nm,0.8s,mb4.9,baz=165,slow=8.4,SNR=26						
MJAR	**Matsushiro Arr**	**48.93**	**339**	P	**P**	**07 45 35.4**	**-1.5**
MAJO	**Matsushiro**	**48.93**	**339**	*e*P	**P**	**07 45 35.6**	**-1.3**
	15nm,0.7s,mb5.1						
MAT	**Matsushiro**	**48.93**	**339**	P	**P**	**07 45 35.6**	**-1.3**
KSRS	**Korea Array**	**54.01**	**331**	P	**P**	**07 46 15.1**	**+0.1**
	1.9nm,0.6s,mb4.2,baz=143,slow=7.0,SNR=7.0						
KSRS				LR	LR	08 07 43.9	
	comp=Z,29nm,19.9s,MS3.3,baz=120,slow=34						
CN2	**Changchun**	**60.20**	**334**	*e*P	**P**	**07 47 00.5**	**+1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LZH	**Lanzhou**	**67.60**	**315**	*e*P	**P**	**07 47 49.6**	**+2.2**
LZH				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,210nm,5.1s						
GTA	**Gaotai**	**72.02**	**316**	*e*P	**P**	**07 48 15.6**	**+1.0**
GTA				AP	pP	07 48 24.6	-0.8
GTA				XP	sP	07 48 28.3	-1.2
GTA				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
SONM	**Songino Array**	**72.49**	**327**	P	**P**	**07 48 18.0**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.4,baz=132,slow=5.4,SNR=28						
GUN	**Gumba**	**78.38**	**301**	*e*P	**P**	**07 48 52.1**	**+0.9**
	comp=Z,24nm,0.9s,mb5.1						
PKI	**Pulchoki**	**78.69**	**300**	*e*P	**P**	**07 48 53.4**	**+0.5**
	comp=Z,13nm,0.6s,mb5.0						
KKN	**Kakani**	**78.86**	**301**	*e*P	**P**	**07 48 54.5**	**+0.7**
	comp=Z,19nm,0.8s,mb5.1						
DMN	**Daman**	**78.95**	**300**	*e*P	**P**	**07 48 55.4**	**+1.1**
	comp=Z,41nm,1.0s,mb5.3						
GKN	**Gorkha**	**79.46**	**301**	*e*P	**P**	**07 48 57.4**	**+0.3**
	comp=Z,45nm,1.1s,mb5.3						
KOLN	**Koldanda**	**80.28**	**300**	*e*P	**P**	**07 49 01.4**	**-0.1**
	comp=Z,27nm,1.0s,mb5.2						
QSPA	**South Pole Qui**	**80.87**	**180**	*e*P	**P**	**07 49 03.0**	**-1.6**
	comp=Z,8.2nm,0.9s,mb4.7						
MCK	**McKinley**	**83.09**	**21**	*e*P	**P**	**07 49 15.8**	**-0.5**
	comp=Z,10nm,1.0s,mb4.8						
COLA	**College**	**84.15**	**20**	*e*P	**P**	**07 49 20.7**	**-1.1**
	comp=Z,7.6nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**86.67**	**318**	P	**P**	**07 49 34.1**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.3,baz=94,slow=6.1,SNR=8.9						
ZAL	**Zalesovo**	**87.36**	**326**	P	**P**	**07 49 36.4**	**-1.3**
	comp=Z,0.9nm,0.3s,mb4.4,baz=32,slow=6.0,SNR=4.2						
INK	**Inuvik**	**90.81**	**20**	P	**P**	**07 49 53.9**	**-0.1**
	comp=Z,0.8nm,0.6s,mb4.2,baz=256,slow=3.4,SNR=10						
INK				LR	LR	08 32 30.2	
	comp=Z,183nm,18.4s,MS4.5,baz=325,slow=37						
NVAR	**Mina Array Bea**	**91.05**	**51**	P	**P**	**07 49 57.6**	**+2.6**
	comp=Z,3.1nm,0.8s,mb4.7,baz=260,slow=10.0,SNR=10						
NEW	**Newport**	**93.63**	**42**	LR	LR	08 28 34.9	
	comp=Z,228nm,20.2s,MS4.6,baz=168,slow=33						
BVAR	**Borovoye Array**	**95.51**	**323**	P	**P**	**07 50 14.3**	**-1.3**
	comp=Z,0.6nm,0.7s,mb4.2,baz=98,slow=6.4,SNR=3.2						
YKA	**Yellowknife Ar**	**97.02**	**28**	P	**P**	**07 50 22.3**	**-0.1**
	comp=Z,0.4nm,0.7s,mb4.0,baz=264,slow=4.6,SNR=11						
PDAR	**Pinedale Array**	**98.23**	**48**	P	**P**	**07 50 28.9**	**+1.0**
	comp=Z,0.6nm,0.7s,mb4.2,baz=227,slow=1.7,SNR=5.7						
BRTR	**Keskin Array B**	**121.69**	**311**	PKP	PKPdf	07 55 44.5	+0.2
	comp=Z,0.4nm,0.5s,baz=240,slow=2.4,SNR=3.7						
NOA	**NORSAR Array B**	**122.52**	**341**	PKP	PKPdf	07 55 45.8	-0.2
	comp=Z,0.4nm,0.7s,baz=52,slow=5.0,SNR=2.8						
ESDC	**Sonseca Array**	**145.39**	**334**	PKPbc	PKPbc	07 56 29.4	+1.0
	comp=Z,1.6nm,0.9s,baz=6.2,slow=4.3,SNR=6.6						

*IDC **10** 08:00:35.6±2.9, 31.29N×77.14E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/25, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=60.4km s-min=37.6km az=131.0*

*ISCJB **10** 08:00:39.2±0.5, 3157N±003×7699E±005, h17km±4km, mb3.8/13, Error ellipse: s-maj=7.9km s-min=4.1km az=125.4*

*NDI **10** 08:00:39.2±5.5, 3158N×7705E, h10km, ML3.1, mb3.8(NEIC)*

*NEIC **10** 08:00:42.1±3.1, 3182N×7676E, h10km, mb3.8/3, Error ellipse: s-maj=52.3km s-min=16.5km az=138.0*

NEIC Felt at Mandi and Sundarnagar.

*MOS **10** 08:00:43.6±1.3, 3186N×7682E, h33km, mb3.8/5, Error ellipse: s-maj=30.1km s-min=8.8km az=98.7*

ISC 10 08:00:39.5±0.6, 3157N±003×7707E±005, h12km±4km, n44, σ1§04/56, mb3.8/13, 1D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**0.11**	**233**	*e*P	**Pg**	**08 00 42.0**	**-0.4**
SDNR				*e*S	**Sg**	**08 00 45.0**	**+0.5**
SMLA	**Simla**	**0.44**	**169**	*e*P	**Pg**	**08 00 47.0**	**-1.2**
SMLA				*e*S	**Sg**	**08 00 54.0**	**-0.1**
PONG	**Pong**	**1.03**	**292**	*e*P	**Pb**	**08 00 57.2**	**-2.0**
DLH	**Dalhousie**	**1.35**	**316**	*e*P	**Pn**	**08 01 03.0**	**-1.1**
DLH				*e*S	**Sb**	**08 01 23.0**	**+1.1**
THN	**Thein Dam**	**1.44**	**307**	*e*P	**Pn**	**08 01 05.5**	**+0.2**
THN				*e*S	**Sg**	**08 01 27.1**	**+1.3**
DDI	**Dehra Dun**	**1.50**	**145**	*e*P	**Pn**	**08 01 08.0**	**+1.8**
DDI				*e*S	**Sn**	**08 01 28.6**	**+3.0**
NDI	**New Delhi**	**2.88**	**177**	*e*P	**Pn**	**08 01 25.9**	**+0.9**
NDI				*e*S	**Sn**	**08 01 58.0**	**-1.5**
NDI				AML	AML	08 02 08.2	
	comp=E,86nm,0.3s						
NDI				AML	AML	08 02 08.3	
	comp=N,40nm,0.4s						
AYAN	**Aya Nagar**	**3.07**	**179**	*e*P	**Pn**	**08 01 28.4**	**+0.6**
SONA	**Sohna**	**3.30**	**180**	*e*P	**Pn**	**08 01 31.4**	**+0.5**
SONA				*e*S	**Sn**	**08 02 11.0**	**+0.9**
SONA				AML	AML	08 02 24.7	
	comp=N,44nm,0.3s						
SONA				AML	AML	08 02 24.7	
	comp=E,58nm,0.2s						
LGTI	**Lohaghat**	**3.46**	**127**	*e*P	**Pb**	**08 01 41.0**	**+0.4**
LGTI				*e*S	**Sg**	**08 02 27.0**	**-3.5**
KHET	**Khetri**	**3.65**	**198**	*e*P	**Pn**	**08 01 34.8**	**-0.9**
KHET				AML	AML	08 02 35.4	
	comp=N,49nm,0.3s						
KHET				AML	AML	08 02 35.5	
	comp=E,57nm,0.3s						
CHCP	**Chirah Chowk**	**3.83**	**304**	⇓P	**Pn**	**08 01 39.8**	**+1.6**
AGRA	**Agra**	**4.39**	**170**	*e*P	**Pn**	**08 01 52.3**	**+6.4**
AGRA				*e*S	**Sn**	**08 02 40.9**	**+4.0**
AGRA				AML	AML	08 03 03.2	
	comp=E,103nm,0.4s						
AGRA				AML	AML	08 03 05.5	
	comp=N,90nm,0.5s						
THW	**Thamme Wali**	**4.68**	**287**	P	**Pn**	**08 01 49.9**	**0.0**
CEP	**Cherat**	**4.90**	**299**	P	**Pn**	**08 01 52.8**	**-0.1**
CEP				S	**Sn**	**08 02 48.0**	**-1.5**
SBDP	**Sheikh Budin**	**5.37**	**279**	P	**Pn**	**08 02 01.3**	**+1.9**
DRP	**Derazinda**	**5.86**	**274**	P	**Pn**	**08 02 06.5**	**+0.4**
DRP				S	**Sn**	**08 03 13.0**	**-0.1**
BHPL	**Bhopal**	**8.30**	**178**	*e*P	**Pn**	**08 02 38.3**	**-1.3**
BHPL				*e*S	**Sn**	**08 04 06.4**	**-6.8**
BHPL				AML	AML	08 04 34.1	
	comp=N,9.6nm,0.6s						
BHPL				AML	AML	08 04 35.7	
	comp=E,11nm,0.5s						
AAK	**Ala-Archa**	**11.24**	**350**	*e*P	**Pn**	**08 03 17.8**	**-2.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**11.24**	**350**	*e*Pn	**Pn**	**08 03 17.8**	**-2.0**
	comp=Z,2.5nm,0.6s						
MK31	**Makanchi Array**	**15.73**	**13**	*e*P	**Pn**	**08 04 22.1**	**+1.3**
MKAR	**Makanchi Array**	**15.73**	**13**	Pn	**Pn**	**08 04 20.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=196,slow=12,SNR=9.7						
KURK	**Kurchatov**	**19.17**	**3**	*e*P	**Pn**	**08 05 03.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	**19.17**	**3**	*e*P	**Pn**	**08 05 03.1**	**-0.5**
	comp=Z,2.5nm,0.4s						
AB31	**Akbulak array**	**21.87**	**329**	P	**P**	**08 05 32.0**	**-0.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
BVA0	**Borovoye Array**	**21.99**	**349**	*i* P	**P**	**08 05 33.5**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.1						
BVAR	**Borovoye Array**	**21.99**	**349**	P	**P**	**08 05 33.6**	**+0.3**
	comp=Z,0.9nm,0.3s,mb3.6,baz=156,slow=11,SNR=10						
BRVK	**Borovoye**	**22.04**	**349**	P	**P**	**08 05 34.3**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.3						
BRVK	**Borovoye**	**22.04**	**349**	*e*P	**P**	**08 05 34.7**	**+0.9**
	comp=Z,5.1nm,1.0s,mb3.9						
CHKZ	**Chkalovo**	**22.58**	**350**	P	**P**	**08 05 40.2**	**+0.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
CHKZ	**Chkalovo**	**22.58**	**350**	*e*P	**P**	**08 05 38.9**	**-0.7**
	comp=Z,1.3nm,0.4s,mb3.7						
AKTK	**Aktyubinsk**	**23.59**	**329**	P	**P**	**08 05 50.1**	**0.0**
AKTO	**Aktyubinsk**	**23.59**	**329**	P	**P**	**08 05 50.1**	**0.0**
	comp=Z,1.7nm,0.4s,mb3.8,baz=148,slow=9.2,SNR=6.4						
AKTO	**Aktyubinsk**	**23.59**	**329**	P	**P**	**08 05 50.1**	**0.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
BRTR	**Keskin Array B**	**35.94**	**295**	P	**P**	**08 07 40.2**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=104,slow=9.0,SNR=4.3						
JOF	**Joensuu**	**42.63**	**331**	*e*p	**P**	**08 08 35.1**	**-0.5**
	comp=Z,2.3nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**44.36**	**328**	P	**P**	**08 08 49.7**	**+0.2**
	comp=Z,1.4nm,0.4s,mb4.0,baz=124,slow=10,SNR=20						
FINES	**FINESS Array B**	**44.36**	**328**	P	**P**	**08 08 49.7**	**+0.2**
ARCES	**ARCESS Array B**	**47.60**	**338**	P	**P**	**08 09 15.3**	**+0.2**
	comp=Z,1.2nm,0.4s,mb4.2,baz=110,slow=8.9,SNR=14						
ARCES	**ARCESS Array B**	**47.60**	**338**	P	**P**	**08 09 15.3**	**+0.2**
NOA	**NORSAR Array B**	**51.32**	**325**	P	**P**	**08 09 42.2**	**-1.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=94,slow=7.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**70.87**	**274**	P	**P**	**08 11 54.7**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=62,slow=5.3,SNR=2.6						
YKA	**Yellowknife Ar**	**85.80**	**5**	P	**P**	**08 13 18.0**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.2,baz=342,slow=5.3,SNR=17						
YKA	**Yellowknife Ar**	**85.80**	**5**	P	**P**	**08 13 18.0**	**-0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*NEIC **10** 08:11:04.4, 3199S×7152W, h42km, MD3.5(GUC), After GUC.*

GUC 10 08:11:04.4±0.6, 3199S×7152W, h42km±6km, MD3.5, ML2.4, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.57**	**119**	⇓*i*P	Pn	08 11 16.1	0.0
PTCH				*i* S	Sn	08 11 25.4	+0.9
PTCH				AML	AML	08 11 25.8	
	comp=N,522nm,0.1s						
CMCH	**Combarbala**	**0.93**	**29**	⇑*i*P	Pn	08 11 21.4	+0.5
CMCH				*i* S	Sn	08 11 35.0	+2.0
CMCH				AML	AML

MTW	**Mount Morrison**	**2.58 184**	PN	Pn	08 19 18.4 -2.2
WEL	**Wellington**	**2.80 195**	P	Pn	08 19 20.9 -2.4
WEL	**Wellington**	**2.80 195**	PN	Pn	08 19 20.9 -2.3
PAWZ	**Paruwai Farm**	**2.81 185**	P	Pn	08 19 21.0 -2.3
PAWZ	**Paruwai Farm**	**2.81 185**	PN	Pn	08 19 20.9 -2.4
MSWZ	**Moikau Station**	**2.85 187**	P	Pn	08 19 21.5 -2.4
MSWZ	**Moikau Station**	**2.85 187**	PN	Pn	08 19 21.4 -2.5
TCW	**Tory Channel**	**2.86 203**	P	Pn	08 19 21.5 -2.5
TCW	**Tory Channel**	**2.86 203**	PN	Pn	08 19 21.4 -2.5
BHW	**Baring Head**	**2.90 193**	P	Pn	08 19 21.9 -2.6
NNZ	**Nelson**	**3.20 214**	P	Pn	08 19 25.2 -3.0
NNZ	**Nelson**	**3.20 214**	PN	Pn	08 19 25.2 -3.1
QRZ	**Quartz Range**	**3.34 227**	P	Pn	08 19 26.6 -3.4
BSWZ	**Blackbirch Sta**	**3.44 204**	P	Pn	08 19 28.4 -2.9
THZ	**Tophouse**	**3.85 213**	*e*P	Pn	08 19 32.9 -3.7
KHZ	**Kahutara**	**4.18 203**	P	Pn	08 19 37.7 -3.2
DSZ	**Dennistón Nort**	**4.37 222**	PN	Pn	08 19 39.1 -4.2
LTZ	**Lake Taylor**	**4.96 211**	*e*P	Pn	08 19 46.3 -4.7
MQZ	**McQueen's Vall**	**5.63 203**	P	Pn	08 19 54.5 -5.4
RPZ	**Rata Peaks**	**6.23 213**	*e*P	Pn	08 20 03.3 -4.6
FOZ	**Fox Glacier**	**6.76 221**	*e*P	Pn	08 20 08.3 -6.6
LBZ	**Lake Benmore**	**7.14 214**	*e*P	Pn	08 20 15.1 -4.9
ODZ	**Otahua Downs**	**7.49 209**	*e*P	Pn	08 20 19.9 -4.8
JCZ	**Jackson Bay**	**7.59 222**	*e*P	Pn	08 20 20.0 -6.0

*IDC **10** 08:19:24.4±1.0, 3142N×7696E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/28, mbtmp4.0/15, ML3.9/1, Error ellipse: s-maj=25.4km s-min=20.1km az=31.0*
*NEIC **10** 08:19:25.9±12.0, 3151N×7703E, h8km±68km, mb4.0/3, Error ellipse: s-maj=41.6km s-min=17.6km az=169.0*
NEIC Felt at Mandi and Sundarnagar.
*ISCJB **10** 08:19:26.5±0.5, 3156N±002×7705E±003, h22km±4km, mb4.0/18, Error ellipse: s-maj=5.3km s-min=3.4km az=114.0*
*NDI **10** 08:19:27.7±2.6, 3150N×7694E, h10km, ML3.6, mb4.0(NEIC)*
*MOS **10** 08:19:28.6±0.8, 3163N×7704E, h33km, mb4.0/6, Error ellipse: s-maj=22.1km s-min=7.6km az=100.3*
*BJI **10** 08:19:32.7, 32.10N×7751E, h8km, mb4.0*

ISC 10 08:19:27.6±0.4, 3153N±002×7705E±003, h17km±2km, n70, σ1°20/90, mb4.0/18, 3C, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**0.07**	**244**	*e*P	**Pg**	**08 19 28.0**	**-2.9**
SDNR				*e*S	**Sg**	**08 19 32.0**	**-1.2**
SMLA	**Simla**	**0.41**	**166**	*e*P	**Pg**	**08 19 35.0**	**-1.1**
SMLA				*e*S	**Sg**	**08 19 43.0**	**+1.2**
BHK	**Bhakra**	**0.55**	**258**	*e*P	**Pg**	**08 19 38.0**	**-0.6**
DLH	**Dalhousie**	**1.36**	**318**	*e*x	x	08 19 50.0	
DLH				*e*S	**Sg**	**08 20 12.0**	**+0.3**
THN	**Thein Dam**	**1.44**	**309**	*e*P	**Pn**	**08 19 53.3**	**+0.4**
THN				*e*S	**Sg**	**08 20 13.9**	**-0.4**
DDI	**Dehra Dun**	**1.48**	**144**	*e*P	**Pn**	**08 19 55.0**	**+1.5**
DDI				*e*S	**Sg**	**08 20 15.8**	**+0.2**
KKR	**Kurukshetra**	**1.58**	**187**	*e*P	**Pn**	**08 19 54.7**	**0.0**
KKR				AML	AML	08 20 21.7	
	comp=Z,2μm,0.1s						
JMU	**Jammu**	**2.17**	**304**	*e*x	x	08 20 06.0	
JMU				*e*S	**Sn**	**08 20 28.5**	**-0.9**
NDI	**New Delhi**	**2.84**	**177**	*e*P	**Pn**	**08 20 13.0**	**+0.9**
NDI				*e*S	**Sn**	**08 20 48.0**	**+2.0**
NDI				AML	AML	08 21 00.6	
	comp=N,174nm,0.3s						
NDI				AML	AML	08 21 01.3	
	comp=E,310nm,0.3s						
AYAN	**Aya Nagar**	**3.04**	**179**	*e*P	**Pn**	**08 20 15.8**	**+0.9**
AYAN				*e*S	**Sn**	**08 20 51.5**	**+0.7**
AYAN				AML	AML	08 20 59.6	
	comp=Z,924nm,0.3s						
SONA	**Sohna**	**3.27**	**179**	*e*P	**Pn**	**08 20 18.7**	**+0.7**
SONA				*e*S	**Sn**	**08 20 56.4**	**-0.1**
SONA				AML	AML	08 20 59.5	
	comp=E,260nm,0.3s						
SONA				AML	AML	08 21 00.2	
	comp=N,128nm,0.2s						
PTH	**Pithoragarh**	**3.37**	**125**	*e*PB	**Pb**	**08 20 29.1**	**+2.2**
PTH				*e*SB	**Sg**	**08 21 13.1**	**-2.9**
LGTI	**Lohaghat**	**3.45**	**126**	*e*PB	**Pb**	**08 20 28.0**	**-0.3**
LGTI				*e*SB	**Sb**	**08 21 14.0**	**+4.1**
KHET	**Khetri**	**3.61**	**198**	*e*P	**Pn**	**08 20 22.5**	**-0.2**
KHET				*e*S	**Sn**	**08 21 04.4**	**-0.5**
KHET				AML	AML	08 21 22.0	
	comp=N,138nm,0.2s						
KHET				AML	AML	08 21 22.9	
	comp=E,143nm,0.4s						
SARP	**Sargodha**	**3.75**	**277**	P	**Pn**	**08 20 24.8**	**+0.2**
CHCP	**Chirah Chowk**	**3.83**	**305**	⇑P	**Pn**	**08 20 27.2**	**+1.5**
AGRA	**Agra**	**4.36**	**169**	*e*P	**Pn**	**08 20 33.5**	**+0.6**
AGRA				*e*S	**Sn**	**08 21 20.8**	**-2.5**
THW	**Thamme Wali**	**4.67**	**287**	⇑P	**Pn**	**08 20 37.4**	**+0.1**
CEP	**Cherat**	**4.90**	**299**	⇑P	**Pn**	**08 20 40.3**	**-0.1**
CEP				S	**Sn**	**08 21 36.0**	**-0.6**
SBDP	**Sheikh Budin**	**5.36**	**280**	P	**Pn**	**08 20 48.3**	**+1.6**
AJM	**Ajmer**	**5.46**	**203**	*e*P	**Pn**	**08 20 47.4**	**-0.7**
AJM				*e*P		08 20 48.0	
AJM				*e*S	**Sn**	**08 21 46.9**	**-3.5**
AJM				AML	AML	08 22 24.6	
	comp=N,87nm,0.5s						
AJM				AML	AML	08 22 29.1	
	comp=E,154nm,0.5s						
DRP	**Derazinda**	**5.84**	**274**	P	**Pn**	**08 20 54.2**	**+0.9**
KOLN	**Koldanda**	**6.82**	**122**	*e*Pn	**Pn**	**08 21 09.5**	**+2.7**
KOLN				*e*Sn	**Sn**	**08 22 21.3**	**-2.8**
	comp=E,56nm,0.3s						
GKN	**Gorkha**	**7.47**	**116**	*e*Pn	**Pn**	**08 21 18.0**	**+2.2**
GKN				*e*Sn	**Sn**	**08 22 39.2**	**-0.9**
	comp=E,152nm,0.3s						
DMN	**Daman**	**8.03**	**117**	*e*Pn	**Pn**	**08 21 25.2**	**+1.8**
DMN				*e*Sn	**Sn**	**08 22 51.8**	**-2.0**
	comp=E,52nm,0.4s						
KKN	**Kakani**	**8.07**	**115**	*e*Pn	**Pn**	**08 21 25.4**	**+1.4**
KKN				*e*Sn	**Sn**	**08 22 53.0**	**-1.8**
	comp=E,40nm,0.3s						
BHPL	**Bhopal**	**8.27**	**178**	*e*P	**Pn**	**08 21 25.4**	**-1.3**
BHPL				*e*S	**Sn**	**08 22 52.4**	**-7.1**
PKI	**Pulchoki**	**8.28**	**116**	*e*Pn	**Pn**	**08 21 28.6**	**+1.7**
PKI				*e*Sn	**Sn**	**08 22 58.1**	**-1.9**
	comp=E,75nm,0.4s						
GUN	**Gumba**	**8.48**	**113**	*e*Pn	**Pn**	**08 21 31.3**	**+1.7**
GUN				*e*Sn	**Sn**	**08 23 03.9**	**-1.0**
	comp=E,49nm,0.4s						
JIRN	**Jiri**	**8.84**	**114**	*e*Pn	**Pn**	**08 21 36.3**	**+1.7**
JIRN				*e*Sn	**Sn**	**08 23 12.9**	**-0.9**
	comp=E,55nm,0.2s						
BOK	**Bokaro**	**10.98**	**132**	*e*S	**Sn**	**08 23 59.9**	**-6.5**
AAK	**Ala-Archa**	**11.27**	**350**	*e*P	**Pn**	**08 22 09.2**	**+1.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**11.27**	**350**	*e*Pn	**Pn**	**08 22 09.2**	**+1.5**
	comp=Z,3.6nm,0.6s						
TKM2	**Tokmak 2**	**11.43**	**355**	P	**Pn**	**08 22 11.6**	**+1.7**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HYB	**Hyderabad**	**14.12**	**174**	*i*P	**Pn**	**08 22 42.0**	**-4.7**
HYB				*e*S	**Sn**	**08 25 28.0**	**+5.0**
MK31	**Makanchi Array**	**15.77**	**13**	*e*P	**Pn**	**08 23 08.7**	**0.0**
MKAR	**Makanchi Array**	**15.77**	**13**	Pn	**Pn**	**08 23 06.7**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=202,slow=12,SNR=26						
KURK	**Kurchatov**	**19.20**	**3**	*e*P	**Pn**	**08 23 49.8**	**-1.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**19.20**	**3**	*e*P	**Pn**	**08 23 49.8**	**-1.7**
	comp=Z,5.2nm,0.6s						
GTA	**Gaotai**	**20.11**	**61**	*e*P	**P**	**08 24 02.4**	**+2.0**
GTA				AP		08 24 06.7	
GTA				XP	sP	08 24 09.7	+2.1
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
AB31	**Akbulak array**	**21.89**	**329**	*e*P	**P**	**08 24 19.4**	**-0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
BVA2	**Borovoye Array**	**22.01**	**349**	P	**P**	**08 24 21.0**	**+0.1**
BVAR	**Borovoye Array**	**22.02**	**349**	P	**P**	**08 24 21.1**	**+0.1**
	comp=Z,3.0nm,0.5s,mb3.9,baz=166,slow=13,SNR=26						
BRVK	**Borovoye**	**22.07**	**349**	P	**P**	**08 24 21.5**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.6						
BRVK	**Borovoye**	**22.07**	**349**	*e*P	**P**	**08 24 21.9**	**+0.3**
	comp=Z,9.6nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**22.61**	**350**	*e*P	**P**	**08 24 26.8**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**22.61**	**350**	*e*P	**P**	**08 24 26.8**	**-0.5**
	comp=Z,3.2nm,0.6s,mb3.9						
AKTK	**Aktyubinsk**	**23.61**	**329**	P	**P**	**08 24 37.4**	**-0.3**
AKTO	**Aktyubinsk**	**23.61**	**329**	P	**P**	**08 24 37.4**	**-0.3**
	comp=Z,3.5nm,0.4s,mb4.2,baz=128,slow=7.6,SNR=14						
AKTO	**Aktyubinsk**	**23.61**	**329**	P	**P**	**08 24 37.0**	**-0.7**
SONM	**Songino Array**	**27.62**	**45**	P	**P**	**08 25 15.2**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.3,baz=239,slow=9.4,SNR=5.6						
BRTR	**Keskin Array B**	**35.93**	**295**	P	**P**	**08 26 26.9**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=116,slow=11,SNR=4.5						
MLR	**Muntele Rosu**	**41.66**	**305**	P	**P**	**08 27 15.6**	**+0.6**
	comp=Z,1.6nm,0.6s,mb3.8,baz=84,slow=22,SNR=5.3						
JOF	**Joensuu**	**42.65**	**331**	*e*p	**P**	**08 27 22.3**	**-0.8**
	comp=Z,2.7nm,0.4s,mb4.3						
IDI	**Anoyia**	**43.29**	**290**	P	**P**	**08 27 27.6**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.2,baz=62,slow=8.3,SNR=5.2						
FINES	**FINESS Array B**	**44.38**	**328**	P	**P**	**08 27 37.1**	**+0.1**
	comp=Z,2.4nm,0.4s,mb4.2,baz=122,slow=10,SNR=41						
KAF	**Kangasniemi**	**44.49**	**329**	*e*p	**P**	**08 27 37.0**	**-0.9**
	baz=109,slow=7.9						
ARCES	**ARCESS Array B**	**47.63**	**338**	P	**P**	**08 28 03.1**	**+0.5**
	comp=Z,1.5nm,0.4s,mb4.4,baz=110,slow=8.8,SNR=31						
HFS	**Hagfors**	**50.04**	**324**	P	**P**	**08 28 20.4**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.3,baz=78,slow=8.2,SNR=7.7						
NB2	**NORSAR Subarra**	**51.34**	**325**	P	**P**	**08 28 29.8**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=96,slow=7.4						
NOA	**NORSAR Array B**	**51.34**	**325**	P	**P**	**08 28 30.2**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=95,slow=7.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**70.86**	**274**	P	**P**	**08 30 42.0**	**-1.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=59,slow=6.2,SNR=6.4						
WRA	**Warramunga Arr**	**75.07**	**125**	P	**P**	**08 31 08.5**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=314,slow=6.6,SNR=5.9						
WRA	**Warramunga Arr**	**75.07**	**125**	P	**P**	**08 31 08.5**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**77.89**	**11**	P	**P**	**08 31 24.0**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=348,slow=4.2,SNR=4.5						
INK	**Inuvik**	**77.89**	**11**	P	**P**	**08 31 24.0**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**85.84**	**5**	P	**P**	**08 32 05.5**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.6,baz=343,slow=5.2,SNR=54						
YKA	**Yellowknife Ar**	**85.84**	**5**	P	**P**	**08 32 05.5**	**-0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VNDA	**Vanda**	**119.42**	**166**	PKP	PKPdf	08 38 15.1	-0.9
	comp=Z,0.6nm,0.9s,baz=270,slow=2.0,SNR=3.3						
VNDA	**Vanda**	**119.42**	**166**	PKIKP	PKPdf	08 38 15.1	-0.9
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*MOS **10** 08:35:52.3±1.0, 5572N×110.14E, h14km, mb4.4/1, Error ellipse: s-maj=15.5km s-min=10.3km az=75.7*

BYKL 10 08:35:53.2±0.3, 5569N×11017E, h9km±4km, 8C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**284**	*e*PG	Pg	08 36 00.0	-0.4
NIZ				*e*		08 36 05.4	
NIZ				pmax	pmax		
	comp=Z,634nm,0.6s						
NIZ				smax			
	comp=N,3μm,0.3s						
NIZ	**Nizh Angarsk**	**0.37**	**284**	⇑*i*Pg	Pg	08 36 00.1	-0.3
NIZ				*e*Sg	Sg	08 36 04.9	-0.3
NIZ				Pmax			
	comp=N,226nm,0.2s						
NIZ				Smax			
	comp=N,3μm,0.2s						
KMO	**Kumora**	**0.61**	**71**	⇑*i*PG	Pg	08 36 04.0	-1.1
KMO				*e*		08 36 12.0	
KMO				pmax	pmax		
	comp=Z,304nm,0.3s						
KMO				smax			
	comp=E,733nm,0.3s						
KMO	**Kumora**	**0.61**	**71**	⇑*i*Pg	Pg	08 36 04.1	-1.0
KMO				*e*Sg	Sg	08 36 12.1	-1.0
KMO				Pmax			
	comp=E,307nm,0.3s						
KMO				Smax			
	comp=E,945nm,0.8s						
YOA	**Uoyan**	**0.98**	**62**	*e*PG	Pg	08 36 11.5	-0.6
YOA				*e*		08 36 25.8	
YOA				pmax	pmax		
	comp=Z,282nm,0.2s						
YOA				smax			
	comp=E,2μm,0.3s						
YOA	**Uoyan**	**0.98**	**62**	*e*Pg	Pg	08 36 11.5	-0.6
YOA				*e*Sg	Sg	08 36 24.5	-0.3
YOA				Pmax			
	comp=E,274nm,0.1s						
YOA				Smax			
	comp=E,2μm,0.2s						
YLYR	**Ulyunkhan**	**0.99**	**145**	⇑*i*PG	Pg	08 36 11.1	-1.2
YLYR				*e*		08 36 24.0	
YLYR				pmax	pmax		
	comp=Z,127nm,0.1s						
YLYR				smax			
	comp=N,701nm,0.2s						
YLYR	**Ulyunkhan**	**0.99**	**145**	⇓*i*Pg	Pg	08 36 11.1	-1.2
	comp=N,231nm,0.3s						
YLYR				⇑*i*Pg	Pg	08 36 11.1	-1.2
	comp=N,136nm,0.3s						
YLYR				⇑*i*Pg	Pg	08 36 11.1	-1.2
	comp=N,241nm,0.3s						
YLYR				*e*Sg	Sg	08 36 24.2	-1.0
YLYR				*e*		08 36 29.8	
YLYR				Pmax			
	comp=N,210nm,0.3s						
YLYR				max			
	comp=N,688nm,0.2s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*PN	Pn	08 36 28.8	+2.3
SVKR				*e*		08 36 54.6	
SVKR				smax			
	comp=N,2μm,0.7s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pn	Pn	08 36 26.2	-0.3
SVKR				⇑*i*Pg	Pg	08 36 28.6	-2.1
SVKR				*e*Sg	Sg	08 36 54.5	-1.6
SVKR				Pmax			
	comp=N,216nm,0.2s						
SVKR				Smax			
	comp=N,2μm,0.4s						
SYVR	**Suvo**	**2.04**	**183**	*e*PN	Pn	08 36 29.7	+2.0
SYVR				*e*		08 36 57.5	
SYVR				pmax	pmax		
	comp=Z,103nm,0.6s						
SYVR				smax			
	comp=E,1μm,0.7s						
SYVR	**Suvo**	**2.04**	**183**	⇑*i*Pg	Pg	08 36 29.9	-2.4
SYVR				*e*Sg	Sg	08 36 58.0	-0.7
SYVR				Pmax			
	comp=E,107nm,0.7s						
SYVR				Smax			
	comp=E,1μm,0.6s						
OGRR	**Ongureny**	**2.54**	**217**	*e*PN	Pn	08 36 35.0	+0.5
OGRR				*e*		08 36 40.0	
OGRR				*e*		08 37 13.0	
OGRR				pmax	pmax		
	comp=Z,29nm,0.4s						
OGRR				smax			
	comp=E,204nm,0.4s						
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn	Pn	08 36 36.1	+1.6
OGRR				*e*Pg	Pg	08 36 39.7	-2.1
OGRR				*e*Sn	Sn	08 37 07.2	+1.6
OGRR				*e*Sg	Sg	08 37 12.7	-2.1
OGRR				Pmax			
	comp=E,22nm,0.2s						
OGRR				Smax			
	comp=E,214nm,0.4s						
MXMB	**Maximikha**	**2.57**	**199**	*e*Pg	Pg	08 36 39.8	-2.7
MXMB				*e*Sg	Sg	08 37 14.0	-1.8
MXMB				Pmax			
	comp=E,39nm,0.5s						
MXMB				Smax			
	comp=E,411nm,0.5s						
BOD	**Bodaibo**	**3.00**	**43**	*e*Pn	Pn	08 36 41.6	+0.7
BOD				*e*		08 37 18.4	
BOD				*e*Sg	Sg	08 37 25.3	-4.3
BOD				max			
	comp=E,14nm,0.4s						
BOD				Smax			
	comp=E,133nm,0.5s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*	Pn	08 36 46.4	+2.7
NLYR				*e*Pg	Pg	08 36 50.3	-4.3
NLYR				*e*Sg	Sg	08 37 31.9	-4.2
NLYR				*e*		08 37 39.9	
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	Pn	08 36 51.8	+1.4
TRG				*e*Sn	Sn	08 37 34.6	+0.5
TRG				*e*Sg	Sg	08 37 46.8	-5.1
TRG				max			
	comp=E,23nm,0.3s						
TRG				Smax			
	comp=E,96nm,0.5s						
TRTB	**Turuntaevo**	**3.78**	**204**	*e*	Pn	08 36 50.8	-0.8
TRTB				*e*Sg	Sg	08 37 49.3	-5.2
TRTB				max			
	comp=E,16nm,1.2s						
TRTB				Smax			
	comp=E,79nm,0.7s						
CIT	**Chita**	**4.19**	**150**	*e*PN	Pn	08 36 57.5	+0.3
CIT				*e*		08 37 07.5	
CIT				*e*S	Sn	08 37 46.7	+0.5
CIT				*e*		08 38 01.2	
CIT				pmax	pmax		
	comp=Z,48nm,1.0s						
CIT				smax			
	comp=E,72nm,0.8s						
CIT	**Chita**	**4.19**	**150**	*e*Pn	Pn	08 36 57.5	+0.3
CIT				*e*Pg	Pg	08 37 07.8	-5.6
CIT				*e*Sg	Sg	08 38 01.2	-6.4
CIT				Pmax			
	comp=E,48nm,1.5s						
CIT				Smax			
	comp=E,72nm,0.8s						
HRMR	**Khuramsha**	**4.50**	**206**	*e*Pn	Pn	08 37 03.2	+1.7
HRMR				*e*Pg	Pg	08 37 14.1	-5.2
HRMR				*e*Sg	Sg	08 38 13.0	-4.6
HRMR				Pmax			
	comp=E,23nm,0.3s						
HRMR				Smax			
	comp=E,223nm,0.4s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pb	08 37 17.9	+2.6
CRS				*e*		08 38 19.2	
CRS				pmax	pmax		
	comp=Z,47nm,1.0s						
CRS				smax			
	comp=E,73nm,1.3s						
CRS	**Chara**	**4.67**	**72**	*e*	Pn	08 37 08.1	+4.2
CRS				*e*Pg	Pg	08 37 18.0	-4.7
CRS				*e*Sg	Sg	08 37 18.1	-5.1
CRS				Pmax			
	comp=E,47nm,0.8s						
CRS				Smax			
	comp=E,77nm,1.6s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*Pn	Pn	08 37 09.0	+1.1
LSTR				*e*		08 38 04.2	
LSTR				*e*Sg	Sg	08 38 27.3	-5.4
LSTR				max			
	comp=E,7.0nm,0.7s						
LSTR				Smax			
	comp=E,50nm,0.6s						
TLY	**Talaya**	**5.58**	**227**	*e*PN	Pn	08 37 16.5	+0.1
TLY				*e*		08 37 33.6	
TLY				*e*S	Sn	08 38 19.7	-0.9
TLY				*e*		08 38 44.7	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TLY				smax			
	comp=E,31nm,0.4s						
TLY	**Talaya**	**5.58**	**227**	*e*Pn	Pn	08 37 16.0	-0.4
TLY				*e*		08 37 26.8	
TLY				*e*Sn	Sn	08 38 18.1	-2.5
TLY				*e*Sg	Sg	08 38 44.0	-8.4
TLY				max			
	comp=E,4.0nm,0.4s						
TLY				Smax			
	comp=E,44nm,1.1s						
TUP	**Tupik**	**5.76**	**99**	*e*PN	Pn	08 37 18.8	-0.1
TUP				*e*		08 37 36.4	
TUP				*e*S	Sn	08 38 23.3	-1.9
TUP				*e*		08 38 52.0	
TUP				pmax	pmax		
	comp=Z,12nm,0.7s						
TUP				smax			
	comp=N,69nm,1.0s						
TUP	**Tupik**	**5.76**	**99**	*e*Pn	Pn	08 37 19.6	+0.7
TUP				*e*		08 37 36.0	
TUP				*e*		08 38 23.0	
TUP				*e*Sg	Sg	08 38 52.4	-5.9
TUP				max			
	comp=N,7.0nm,0.7s						
TUP				Smax			
	comp=N,77nm,1.7s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	Pn	08 37 22.0	+0.7
ARS				*e*S	Sn	08 38 25.9	-3.6
ARS	**Arshan**	**5.94**	**234**	*e*Pn	Pn	08 37 21.2	-0.1
ARS				*e*Sn	Sn	08 38 28.3	-1.2
ARS				*e*Sg	Sg	08 38 56.3	-7.7
ARS				max			
	comp=N,16nm,0.2s						
ARS				Smax			
	comp=N,157nm,0.7s						
KPC	**Khapcheranga**	**6.14**	**166**	*e*PN	Pn	08 37 24.7	+0.6
KPC				*e*		08 37 43.6	
KPC				*e*		08 39 03.9	
KPC				pmax	pmax		
	comp=Z,19nm,0.4s						
KPC				smax			
	comp=E,441nm,0.9s						
KPC	**Khapcheranga**	**6.14**	**166**	*e*Pn	Pn	08 37 24.2	+0.1
KPC				*e*Pg	Pg	08 37 43.5	-7.4
KPC				*e*Sg	Sg	08 39 03.3	-7.2
KPC				Pmax			
	comp=E,4.0nm,0.5s						
KPC				Smax			
	comp=E,57nm,1.0s						
ORL	**Orlik**	**6.86**	**247**	*e*PN	Pn	08 37 35.7	+1.8
ORL				*e*S	Sg	08 39 25.1	-8.3
ORL				smax			
	comp=N,63nm,1.2s						
ORL	**Orlik**	**6.86**	**247**	*e*Pn	Pn	08 37 35.5	+1.6
ORL				*e*Sn	Sn	08 38 51.2	-0.9
ORL				*e*Sg	Sg	08 39 26.3	-7.1
ORL				max			
	comp=N,8.0nm,0.4s						
ORL				Smax			
	comp=N,64nm,0.8s						

*ISCJB **10** 08:36:08.3±0.9, 04N±02×1239E±03, h35km, mb4.4/9, Error ellipse: s-maj=47.0km s-min=10.0km az=120.7*
*IDC **10** 08:36:21.5±6.5, 007N×12349E, h150km±62km, mb3.3/5, mb1 3.3/6, mb1mx3.2/18, mbtmp3.2/6, Error ellipse: s-maj=99.0km s-min=17.2km az=66.0*

ISC 10 08:36:10.5±0.9, 04N±02×1239E±03, h35km, n14, σ0°61/13, mb4.4/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.43**	**175**	P	**Pn**	**08 40 23.6**	**+0.5**
	0.2nm,0.3s,baz=0.0,slow=9.1,SNR=4.5						
WRA	**Warramunga Arr**	**22.63**	**154**	P	**P**	**08 41 09.0**	**+0.8**
	0.5nm,0.3s,m

MKAR			PcP	PcP	08 46 51.3	-3.1
	0.4nm,0.4s,baz=133,slow=3.4,SNR=8.1					
TORD	**Torodi Ar. Bea**	**121.17 286**	PKP	PKPdf	08 54 56.3	-3.2
	0.1nm,0.3s,baz=75,slow=2.0,SNR=2.0					

IDC 10 08:42:28.9±2.5, 583S×15392E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/16, mbtmp3.8/6, ML2.9/1, Error ellipse: s-maj=76.9km s-min=25.0km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.59**	**242**	Pn	Pn	08 44 21.9	+1.3
	1.2nm,0.3s,baz=15,slow=12,SNR=4.0						
PMG				Sn	Sn	08 45 47.8	+0.4
	1.0nm,0.3s,baz=343,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**23.64**	**232**	P	P	08 47 41.8	-0.1
	0.4nm,0.5s,baz=56,slow=9.6,SNR=5.7						
ASAR	**Alice Springs**	**26.18**	**225**	P	P	08 48 05.2	+0.1
	0.8nm,0.9s,baz=58,slow=9.5,SNR=6.1						
SONM	**Songino Array**	**67.79**	**328**	P	P	08 53 28.6	+0.1
	0.4nm,0.5s,baz=147,slow=4.9,SNR=4.4						
MKAR	**Makanchi Array**	**81.83**	**319**	P	P	08 54 50.5	+0.6
	1.3nm,0.8s,baz=116,slow=3.4,SNR=2.6						
BVAR	**Borovoye Array**	**90.73**	**323**	P	P	08 55 33.3	-0.4
	1.2nm,0.7s,baz=83,slow=4.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**151.68**	**287**	PKPbc	PKPbc	09 02 26.7	+1.4
	1.1nm,0.8s,baz=35,slow=2.2,SNR=5.7						

*ISCJB **10** 08:57:31.9±3.3, 276N±008×128.7E±0.1, h232km±34km, mb4.3/21, Error ellipse: s-maj=24.0km s-min=10.8km az=147.2*
*IDC **10** 08:57:33.9±1.9, 275N×12868E, h236km±18km, mb3.8/14, mb1 4.0/14, mb1mx3.9/19, mbtmp3.8/14, Error ellipse: s-maj=30.0km s-min=8.5km az=83.0*
ISC 10 08:57:34.7±3.3, 276N±008×1288E±02, h246km±36km, n29, σ0°64/27, mb4.3/20, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.78**	**167**	*e*P	**Pn**	**09 01 03.6**	**-0.7**
	6.9nm,0.2s						
FITZ	**Fitzroy Crossi**	**20.97**	**189**	*e*P	**P**	**09 01 57.9**	**-1.2**
	9.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.97**	**189**	P	**P**	**09 01 58.0**	**-1.0**
	4.3nm,0.5s,baz=17,slow=10.0,SNR=21						
WRA	**Warramunga Arr**	**23.20**	**167**	P	**P**	**09 02 20.3**	**+0.5**
	2.2nm,0.5s,mb4.0,baz=343,slow=10,SNR=102						
WRA				ScP	ScP	09 09 15.9	+1.6
	0.5nm,0.6s,baz=339,slow=2.9,SNR=8.9						
WB2	**Warramunga Arr**	**23.20**	**167**	*e*P	**P**	**09 02 20.2**	**+0.4**
ASAR	**Alice Springs**	**26.72**	**170**	P	**P**	**09 02 52.1**	**+0.6**
	2.2nm,0.3s,mb4.2,baz=353,slow=7.3,SNR=75						
ASAR				ScP	ScP	09 09 26.1	+1.7
	0.7nm,0.6s,baz=343,slow=2.8,SNR=8.9						
FORT	**Forrest**	**33.36**	**181**	*e*P	**P**	**09 03 49.9**	**+0.1**
	25nm,0.6s,mb4.9						
KSRS	**Korea Array**	**34.54**	**359**	P	**P**	**09 04 00.9**	**+1.0**
	4.2nm,0.6s,mb4.2,baz=175,slow=9.6,SNR=16						
MJAR	**Matsushiro Arr**	**34.71**	**13**	P	**P**	**09 04 01.0**	**-0.4**
	5.8nm,0.7s,mb4.2,baz=188,slow=9.0,SNR=16						
KLBR	**Kellerberrin**	**35.75**	**196**	↑*i*P	**P**	**09 04 09.8**	**-0.4**
	7.9nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**36.51**	**162**	*e*P	**P**	**09 04 17.6**	**+0.9**
	2.2nm,0.2s,mb4.3						
STKA	**Stephens Creek**	**36.51**	**162**	P	**P**	**09 04 17.7**	**+1.0**
	2.7nm,0.3s,mb4.3,baz=342,slow=7.4,SNR=20						
MUN	**Mundaring**	**36.57**	**198**	*e*P	**P**	**09 04 17.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.15**	**196**	P	**P**	**09 04 22.2**	**+0.2**
	7.9nm,0.5s,mb4.5,baz=20,slow=7.6,SNR=9.3						
JIRN	**Jiri**	**47.65**	**306**	*e*P	**P**	**09 05 46.9**	**+0.6**
	14nm,0.2s,mb5.0						
GUN	**Gumba**	**48.00**	**306**	*e*P	**P**	**09 05 49.5**	**+0.5**
	18nm,0.4s,mb4.7						
PKI	**Pulchoki**	**48.25**	**305**	*e*P	**P**	**09 05 50.9**	**0.0**
	8.3nm,0.3s,mb4.6						
KKN	**Kakani**	**48.44**	**305**	*e*P	**P**	**09 05 52.4**	**+0.1**
DMN	**Daman**	**48.51**	**305**	*e*P	**P**	**09 05 53.0**	**+0.1**
	13nm,0.6s,mb4.4						
SONM	**Songino Array**	**48.91**	**340**	P	**P**	**09 05 56.3**	**+0.5**
	1.6nm,0.6s,mb3.5,baz=155,slow=7.9,SNR=14						
GKN	**Gorkha**	**49.05**	**305**	*e*P	**P**	**09 05 57.0**	**+0.1**
	5.7nm,0.2s,mb4.5						
KOLN	**Koldanda**	**49.81**	**305**	*e*P	**P**	**09 06 03.2**	**+0.5**
	17nm,0.4s,mb4.8						
MKAR	**Makanchi Array**	**59.56**	**325**	P	**P**	**09 07 12.4**	**0.0**
	2.6nm,0.4s,mb4.2,baz=115,slow=8.5,SNR=73						
MKAR				PcP	PcP	09 07 57.1	0.0
	0.7nm,0.8s,baz=107,slow=4.1,SNR=3.5						
ZAL	**Zalesovo**	**62.41**	**332**	P	**P**	**09 07 30.6**	**-1.1**
	1.7nm,0.4s,mb4.1,baz=13,slow=5.1,SNR=5.8						
VNDA	**Vanda**	**82.21**	**173**	P	**P**	**09 09 28.5**	**+0.2**
	0.3nm,0.3s,mb3.4,baz=327,slow=6.6,SNR=4.9						
ARCES	**ARCESS Array B**	**92.08**	**340**	P	**P**	**09 10 15.0**	**-0.9**
	6.2nm,1.0s,mb4.5,baz=82,slow=5.5,SNR=16						
FINES	**FINESS Array B**	**93.68**	**332**	P	**P**	**09 10 21.6**	**-1.7**
	0.9nm,0.7s,mb3.9,baz=88,slow=3.4,SNR=3.9						
YKA	**Yellowknife Ar**	**99.50**	**25**	P	Pdif	09 10 50.7	+1.2
	0.2nm,0.6s,baz=292,slow=6.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**125.22**	**288**	PKP	PKPdf	09 16 06.9	+1.0
	0.2nm,0.6s,baz=85,slow=2.5,SNR=4.6						

IDC 10 09:13:45.3±1.7, 2520S×6992E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=75.9km s-min=31.9km az=25.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**57.77**	**103**	P	P	09 23 38.5	+0.3
	1.2nm,1.1s,baz=248,slow=6.6,SNR=4.4						
WRA	**Warramunga Arr**	**59.23**	**99**	P	P	09 23 48.9	+0.6
	1.1nm,1.0s,baz=255,slow=6.5,SNR=4.7						
MKAR	**Makanchi Array**	**72.52**	**9**	P	P	09 25 13.9	-0.1
	0.8nm,0.9s,baz=202,slow=6.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.61**	**292**	P	P	09 25 38.3	+0.6
	0.6nm,0.8s,baz=112,slow=5.4,SNR=3.8						

*IDC **10** 09:26:59.0±1.1, 4678N×15430E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=34.1km s-min=27.0km az=168.0*
*ISCJB **10** 09:27:04.0±3.6, 468N±02×1542E±03, h47km±34km, mb3.7/7, Error ellipse: s-maj=35.0km s-min=28.2km az=145.5*
*MOS **10** 09:27:03.7±1.7, 4685N×15421E, h48km, mb4.0/2, Error ellipse: s-maj=38.6km s-min=32.0km az=52.9*
ISC 10 09:27:05.8±3.2, 468N±02×1542E±03, h47km±31km, n10, σ1°04/10, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.69**	**252**	*e*PN	**Pn**	**09 28 14.1**	**+0.1**
MKAR	**Makanchi Array**	**47.56**	**298**	P	**P**	**09 35 35.1**	**-1.5**
	0.6nm,0.7s,mb3.7,baz=63,slow=9.3,SNR=4.8						
MKAR	**Makanchi Array**	**47.56**	**298**	P	**P**	**09 35 35.1**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.40**	**37**	P	**P**	**09 35 57.7**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.4,baz=296,slow=7.3,SNR=3.6						
BVAR	**Borovoye Array**	**51.37**	**310**	P	**P**	**09 36 06.0**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=30,slow=6.5,SNR=4.2						
PDAR	**Pinedale Array**	**64.09**	**54**	P	**P**	**09 37 36.4**	**+1.4**
	comp=Z,1.0nm,1.1s,mb3.7,baz=343,slow=2.2,SNR=3.3						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**09 37 37.5**	**+1.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=36,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**09 37 37.5**	**+1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**72.54**	**199**	P	**P**	**09 38 28.1**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=15,slow=5.6,SNR=5.3						
TXAR	**Lajitas Array**	**76.80**	**61**	P	**P**	**09 38 51.0**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=304,slow=3.8,SNR=8.7						

*ISCJB **10** 09:28:06.5±0.5, 4754N±002×749E±004, h15km±4km, Error ellipse: s-maj=4.8km s-min=3.5km az=172.5*
*ZUR **10** 09:28:07.7, 4758N×760E, h4km±1km, ML1.5*
*STR **10** 09:28:07.0±0.2, 4756N×761E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 09:28:08.0±0.1, 4759N×756E, h9km, Md2.0/3, Ml2.0/9, Error ellipse: s-maj=2.4km s-min=1.3km az=87.0*

ISC 10 09:28:07.2±0.5, 4757N±002×754E±004, h19km±5km, n19, σ0°67/34, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**156**	⇓*i*Pg	**Pg**	**09 28 13.3**	**+0.3**
	174nm,0.3s						
BOURR	**Bourrignon**	**0.27**	**231**	↑*i*Pg	**Pg**	**09 28 14.1**	**+0.8**
	40nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.39**	**95**	↑*i*Pg	**Pg**	**09 28 14.6**	**-0.7**
	61nm,0.2s						
MOF	**Molkenrain**	**0.40**	**316**	Pg	**Pg**	**09 28 15.5**	**0.0**
MOF				Sg	**Sg**	**09 28 21.4**	**+0.4**
HINF	**Hinteralfeld**	**0.53**	**299**	*e*Pg	**Pg**	**09 28 18.0**	**+0.2**
HINF	**Hinteralfeld**	**0.53**	**299**	*e*Pn	**Pg**	**09 28 19.8**	**+2.0**
HINF				*e*Sg	**Sg**	**09 28 25.1**	**+0.1**
HINF				*e*Sn	**Sg**	**09 28 28.7**	**+3.7**
	4.3nm,0.2s						
LOMF	**Lomont**	**0.53**	**246**	Pg	**Pg**	**09 28 18.2**	**+0.4**
SLE	**Schleitheim**	**0.67**	**72**	*e*Pg	**Pg**	**09 28 19.5**	**-1.0**
	125nm,0.3s						
ECH	**Echery**	**0.70**	**338**	Pg	**Pg**	**09 28 21.3**	**+0.3**
ECH				Sg	**Sg**	**09 28 30.1**	**-0.2**
CDF	**Champ du Feu**	**0.86**	**348**	*e*Pg	**Pg**	**09 28 24.1**	**0.0**
CDF	**Champ du Feu**	**0.86**	**348**	*e*Pn	**Pn**	**09 28 24.6**	**+0.2**
CDF				*e*Sg	**Sg**	**09 28 34.5**	**-1.0**
CDF				*e*Sn	**Sn**	**09 28 36.4**	**-0.1**
	7.1nm,0.2s						
HAU	**Haudompre**	**0.92**	**299**	*e*Pg	**Pg**	**09 28 25.5**	**+0.4**
HAU				*e*Sg	**Sg**	**09 28 37.8**	**+0.6**
	6.8nm,0.3s						
CABF	**La Chapelle**	**1.38**	**227**	*e*Pg	**Pg**	**09 28 34.7**	**+0.9**
CABF				*e*Sg	**Sg**	**09 28 51.8**	**0.0**
	3.9nm,0.3s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pn	**Pn**	**09 28 40.1**	**+1.3**
MEZF				*e*Sn	**Sn**	**09 29 02.2**	**-0.2**
	1.1nm,0.3s						
MEZF				*e*Sg	**Sg**	**09 29 09.0**	**+0.1**
	2.3nm,0.3s						
LPL	**La Plagne**	**2.12**	**196**	*e*Pg	**Pg**	**09 28 48.5**	**+0.5**
LPL				*e*Sg	**Sg**	**09 29 15.6**	**0.0**
	2.2nm,0.4s						
LPG	**La Plagne**	**2.14**	**195**	*e*Pg	**Pg**	**09 28 48.8**	**+0.5**
LPG				*e*Sg	**Sg**	**09 29 15.7**	**-0.4**
	1.8nm,0.4s						
LOR	**Lormes**	**2.52**	**265**	*e*Pg	**Pg**	**09 28 55.2**	**-0.3**
LOR				*e*Sg	**Sg**	**09 29 27.3**	**-0.9**
	2.1nm,0.3s						
SMF	**Signal de Mont**	**2.69**	**251**	*e*Pg	**Pg**	**09 28 58.2**	**-0.6**
SMF				*e*Sg	**Sg**	**09 29 32.1**	**-1.6**
	1.8nm,0.3s						
SSF	**Saint Saulge**	**2.79**	**261**	*e*Pg	**Pg**	**09 29 00.4**	**-0.3**
SSF				*e*Sg	**Sg**	**09 29 36.2**	**-0.7**
	2.0nm,0.3s						

KRSC 10 09:28:47.1±0.2, 5612N×16225E, h43km±42km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.33**	**74**	*i*P	Pn	09 28 56.7	+0.8
KBTR				*e*S	Sn	09 29 03.1	+1.0
SRKR	**Sorokina**	**0.81**	**312**	*e*P	Pn	09 29 03.3	+1.3
SRKR				*e*S	Sn	09 29 14.5	+1.7
ZLN	**Zelenaya**	**0.82**	**263**	*i*P	Pn	09 29 03.7	+1.5
ZLN				*i*S	Sn	09 29 15.5	+2.4
KLY	**Klyuchi**	**0.91**	**283**	*i*P	Pn	09 29 02.9	-0.6
KLY				*e*S	Sn	09 29 13.6	-1.9
KRSR	**Krestovskiy**	**0.95**	**277**	*i*P	Pn	09 29 04.8	+0.9
KRSR				*e*S	Sn	09 29 17.1	+0.8
BZMR	**Bezymyannaya**	**1.00**	**260**	*i*P	Pn	09 29 06.2	+1.5
BZMR				*e*S	Sn	09 29 19.5	+1.8
KPT	**Kopyto**	**1.15**	**263**	*i*P	Pn	09 29 08.4	+1.7
KPT				*i*S	Sn	09 29 24.1	+2.9
KMNR	**Kamenistaya**	**1.19**	**253**	*e*P	Pn	09 29 09.4	+2.1
KMNR				*e*S	Sn	09 29 25.9	+3.7
KOZ	**Kozyrevsk**	**1.33**	**268**	*i*P	Pn	09 29 11.5	+2.3
KOZ				*e*S	Sn	09 29 29.5	+3.7
SRDR	**Sredinnyy**	**1.43**	**279**	*e*P	Pn	09 29 12.5	+2.0
SRDR				*e*S	Sn	09 29 30.0	+1.9
TUMR	**Tumrok**	**1.46**	**236**	*i*P	Pn	09 29 13.5	+2.6
TUMR				*e*S	Sn	09 29 32.4	+3.6
MKZ	**Mys Kozlova**	**1.59**	**191**	*e*P	Pn	09 29 13.8	+1.0
MKZ				*e*S	Sn	09 29 33.3	+1.1
SPN	**Mys Shipunski**	**3.29**	**204**	P	Pn	09 29 37.1	+1.0
SPN				*e*S	Sn	09 30 15.0	+1.0
NLC	**Nalytchevo**	**3.40**	**211**	P	Pn	09 29 40.2	+2.6
NLC				*e*S	Sn	09 30 18.7	+2.0
GNL	**Ganaly**	**3.48**	**227**	*e*P	Pn	09 29 41.2	+2.5
AVH	**Avacha**	**3.51**	**217**	P	Pn	09 29 42.1	+3.0
AVH				S	Sn	09 30 22.6	+3.2
PET	**Petropavlovsk**	**3.74**	**215**	*e*S	Sn	09 30 28.2	+3.1

*MOS **10** 09:31:03.8±1.9, 5587N×10998E, h11km, mb4.3/1, Error ellipse: s-maj=19.9km s-min=13.7km az=83.4*
BYKL 10 09:31:06.2±0.3, 5570N×11017E, h3km±6km, 4C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**282**	*e*Pg	Pg	09 31 13.2	0.0
NIZ				*e*Sg	Sg	09 31 18.2	+0.3
NIZ				*e*		09 31 19.4	
KMO	**Kumora**	**0.61**	**72**	↑*i*Pg	Pg	09 31 16.9	-1.0
KMO				*e*Sg	Sg	09 31 24.7	-1.2
KMO				Pmax			
	63nm,0.3s						
KMO				Smax			
	384nm,1.2s						
YOA	**Uoyan**	**0.98**	**63**	*e*Sg	Sg	09 31 38.3	+0.7
YOA				Smax			
	743nm,0.5s						
YLYR	**Ulyunkhan**	**1.00**	**145**	↑*i*PG	Pg	09 31 24.7	-0.7
YLYR				*e*		09 31 37.7	
YLYR				pmax	pmax		
	comp=Z,114nm,0.2s						
YLYR				smax			
	comp=E,322nm,0.3s						
YLYR	**Ulyunkhan**	**1.00**	**145**	↑*i*Pg	Pg	09 31 24.6	-0.8
YLYR				*e*Sg	Sg	09 31 37.8	-0.6
YLYR				Pmax			
	comp=E,113nm,0.3s						
YLYR				Smax			
	comp=E,380nm,0.3s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*PN	Pn	09 31 40.9	+0.7
SVKR				*e*		09 32 07.7	
SVKR				pmax	pmax		
	comp=Z,117nm,0.2s						
SVKR				smax			
	comp=N,2μm,0.7s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*Pg	Pg	09 31 41.9	-1.7
SVKR				*e*Sg	Sg	09 32 07.8	-1.2
SVKR				Pmax			
	comp=N,84nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.5s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	09 31 43.5	+2.0
SYVR	**Suvo**	**2.05**	**183**	↑*i*Pg	Pg	09 31 43.6	-1.9
SYVR				*e*Sg	Sg	09 32 11.8	-0.2
SYVR				Pmax			
	comp=N,173nm,0.6s						
SYVR				Smax			
	comp=N,303nm,1.0s						
OGRR	**Ongureny**	**2.55**	**217**	*e*Pn	Pn	09 31 49.8	+1.4
OGRR				*e*Pg	Pg	09 31 52.5	-2.5
OGRR				*e*		09 32 22.0	
OGRR				*e*Sg	Sg	09 32 25.8	-2.2
OGRR				Pmax			
	comp=N,20nm,0.3s						
OGRR				Smax			
	comp=N,178nm,0.9s						
MXMB	**Maximikha**	**2.58**	**199**	*e*Pg	Pg	09 31 53.8	-1.8
MXMB				*e*Sg	Sg	09 32 27.0	-2.1
MXMB				Pmax			
	comp=N,33nm,0.3s						
MXMB				Smax			
	comp=N,283nm,0.8s						
BOD	**Bodaibo**	**2.99**	**43**	*e*Pg	Pg	09 31 58.6	-5.0
BOD				*e*		09 32 31.1	
BOD				*e*Sg	Sg	09 32 37.0	-5.4
BOD				*e*		09 32 54.7	
BOD				Pmax			
	comp=N,11nm,0.5s						
BOD				Smax			
	comp=N,151nm,0.5s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*Pn	Pn	09 31 57.5	+0.1
NLYR				*e*Pg	Pg	09 32 03.6	-3.9
NLYR				*e*		09 32 38.0	
NLYR				*e*Sg	Sg	09 32 45.3	-3.7
TRG	**Tyrgan**	**3.70**	**219**	*i*Pn	Pn	09 32 05.3	+1.0
TRG				*e*Sn	Sn	09 32 48.7	+0.3
TRG				*e*Sg	Sg	09 33 00.5	-4.6
TRG				max			
	comp=N,20nm,0.4s						
TRG				Smax			
	comp=N,51nm,0.4s						
TRTB	**Turuntaevo**	**3.79**	**204**	*e*	Pb	09 32 14.4	+0.7
TRTB				*e*Sg	Sg	09 33 03.3	-4.5
TRTB				max			
	comp=N,7.0nm,0.5s						
TRTB				Smax			
	comp=N,53nm,1.0s						
CIT	**Chita**	**4.19**	**150**	*e*PN	Pn	09 32 10.6	-0.4
CIT				*e*		09 32 21.8	
CIT				pmax	pmax		
	comp=Z,44nm,1.0s						
CIT	**Chita**	**4.19**	**150**	*e*Pn	Pn	09 32 10.7	-0.3
CIT				*i*Pg	Pg	09 32 20.6	-6.0
CIT				*e*Sg	Sg	09 33 14.2	-6.7
CIT				Pmax			
	comp=Z,44nm,0.6s						
CIT				Smax			
	comp=Z,90nm,1.1s						
HRMR	**Khuramsha**	**4.50**	**206**	*e*	Pb	09 32 26.4	+0.5
HRMR				*e*Sg	Sg	09 33 25.3	-5.6
HRMR				max			
	comp=Z,27nm,0.4s						
HRMR				Smax			
	comp=Z,156nm,0.6s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pg	09 32 32.1	-3.6
CRS				*e*		09 33 31.1	
CRS				pmax	pmax		
	comp=Z,31nm,1.6s						
CRS				smax			
	comp=E,92nm,1.7s						
CRS	**Chara**	**4.67**	**72**	*e*Pg	Pg	09 32 30.6	-5.1
CRS				*e*Sg	Sg	09 33 31.1	-5.1
CRS				Pmax			
	comp=E,19nm,1.0s						
CRS				Smax			
	comp=E,93nm,1.4s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*	Pn	09 32 23.1	+1.3
LSTR				*e*Pg	Pg	09 32 33.9	-7.6
LSTR				*e*Sn	Sn	09 33 16.2	-3.6
LSTR				*e*Sg	Sg	09 33 38.8	-7.2
LSTR				Pmax			
	comp=E,8.0nm,0.7s						
LSTR				Smax			
	comp=E,51nm,1.2s						
TLY	**Talaya**	**5.59**	**227**	*e*PN	Pn	09 32 29.2	-1.0
TLY				*e*		09 32 45.5	
TLY				*e*S	Sn	09 33 32.3	-2.6
TLY				*e*		09 33 58.1	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TLY				smax			
	comp=E,31nm,1.1s						
TLY	**Talaya**	**5.59**	**227**	*e*	Sn	09 33 33.4	-1.5
TLY				*e*Sg	Sg	09 33 58.8	-6.9
TLY				Smax			
	comp=E,32nm,1.1s						
TUP	**Tupik**	**5.77**	**99**	*e*PN	Pn	09 32 33.7	+1.1
TUP				*e*		09 32 51.0	
TUP				*e*S	Sn	09 33 36.4	-2.9
TUP				*e*		09 34 04.9	
TUP				pmax	pmax		
	comp=Z,18nm,0.7s						
TUP				smax			
	comp=N,55nm,1.0s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	09 32 33.5	+0.9
TUP				*e*		09 32 46.3	
TUP				*e*Sn	Sn	09 33 36.3	-3.0
TUP				*e*Sg	Sg	09 34 05.4	-6.0
TUP				max			
	comp=N,29nm,0.2s						
TUP				Smax			
	comp=N,59nm,1.0s						
ARS	**Arshan**	**5.95**	**234**	*e*Pn	Pn	09 32 35.2	+0.1
ARS				*e*		09 32 56.0	
ARS				*e*Sn	Sn	09 33 40.6	-3.2
ARS				*e*Sg	Sg	09 34 11.5	-5.7
ARS				max			
	comp=N,10.0nm,0.6s						
ARS				Smax			
	comp=N,136nm,0.8s						
KPC	**Khapcheranga**	**6.15**	**167**	*e*PN	Pg	09 32 57.4	-6.7
KPC				*e*		09 34 18.1	
KPC				pmax	pmax		
	comp=Z,73nm,0.4s						
KPC				smax			
	comp=E,78nm,0.6s						
KPC	**Khapcheranga**	**6.15**	**167**	*e*	Pn	09 32 38.5	+0.5
KPC				*e*Pg	Pg	09 32 56.4	-7.7
KPC				*e*Sg	Sg	09 34 15.8	-8.0
KPC				Pmax			
	comp=E,8.0nm,1.0s						
KPC				Smax			
	comp=E,35nm,0.9s						
MOY	**Mondy**	**6.78**	**237**	*e*PN	Pn	09 32 46.8	+0.2
MOY				*e*		09 33 06.6	
MOY				*e*		09 34 34.7	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MOY				smax			
	comp=E,36nm,0.6s						
MOY	**Mondy**	**6.78**	**237**	*e*Pn	Pn	09 32 46.8	+0.2
MOY				*e*Sn	Sn	09 34 02.1	-2.2
MOY				*e*Sg	Sg	09 34 35.3	-8.7
MOY				max			
	comp=E,9.0nm,0.8s						
MOY				Smax			
	comp=E,17nm,0.8s						
ORL	**Orlik**	**6.86**	**247**	*e*PN	Pn	09 32 48.2	+0.5
ORL	**Orlik**	**6.86**	**247**	*e*Pn	Pn	09 32 48.8	+1.1
ORL				*e*Sn	Sn	09 34 06.1	-0.2
ORL				*e*Sg	Sg	09 34 39.5	-7.1
ORL				max			
	comp=E,7.0nm,0.4s						
ORL				Smax			
	comp=E,58nm,1.3s						

*ISCJB **10** 09:38:51.5±0.7, 3680N±004×13941E±009, h140km±5km, mb3.4/2, Error ellipse: s-maj=11.6km s-min=5.9km az=2.4*
*IDC **10** 09:38:51.9±1.5, 3682N×13946E, h133km±11km, mb3.2/2, mb1 3.3/4, mb1mx3.0/22, mbtmp3.4/4, Error ellipse: s-maj=28.7km s-min=12.5km az=66.0*
*JMA **10** 09:38:53.0±0.1, 3676N×13942E, h133km±1km, M2.8*
ISC 10 09:38:52.4±0.7, 3680N±004×13940E±008, h138km±4km, n19, σ0°57/32, mb3.4/2, Eastern Honshu

| Code | Station Name | Δ° | AZ° | Phase

JYN			*e*S		**Sn**	**09 39 42.4**	**0.0**
JSD	**Sado**	**1.53 324**	P		**Pn**	**09 39 21.6**	**+0.2**
JSD			*e*S		**Sn**	**09 39 43.1**	**-0.4**
JMM	**Marumori**	**1.54 46**	P		**Pn**	**09 39 22.5**	**+1.1**
JOD2	**Odawara 2**	**1.55 189**	P		**Pn**	**09 39 21.0**	**-0.6**
JOD2			*e*S		**Sn**	**09 39 43.2**	**-0.7**
JSZ	**Suzu**	**1.75 292**	P		**Pn**	**09 39 24.1**	**+0.3**
JHJ	**Hachijo jima 2**	**3.69 175**	P		**Pn**	**09 39 47.4**	**-0.7**
	42nm,0.3s,baz=70,slow=22,SNR=10						
JHJ			S		**Sn**	**09 40 31.6**	**+0.2**
	2.4nm,0.3s,baz=90,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**7.70 17**	P		**Pn**	**09 40 39.9**	**-1.9**
	0.3nm,0.3s,baz=206,slow=16,SNR=4.6						
SONM	**Songino Array**	**26.59 305**	P		**P**	**09 44 17.2**	**-0.4**
	0.5nm,0.5s,mb3.4,baz=105,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**42.88 302**	P		**P**	**09 46 37.4**	**+0.5**
	0.7nm,0.6s,mb3.5,baz=81,slow=9.3,SNR=7.4						

IDC 10 09:39:34.8±1.5, 2531S×7000E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, MS3.8/5, Ms1 3.7/5, ms1mx3.5/19, Error ellipse: s-maj=62.4km s-min=23.7km az=27.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**39.85 255**		LR	LR	10 00 18.9	
	comp=Z,110nm,18.9s,baz=152,slow=31						
MAW	**Mawson**	**42.54 184**		LR	LR	10 00 28.1	
	comp=Z,93nm,20.2s,baz=248,slow=30						
FITZ	**Fitzroy Crossi**	**51.89 94**		P	P	09 48 45.0	0.0
	4.3nm,1.1s,baz=229,slow=5.9						
ASAR	**Alice Springs**	**57.67 103**		P	P	09 49 27.5	+0.5
	0.4nm,0.8s,baz=255,slow=6.9,SNR=4.2						
WRA	**Warramunga Arr**	**59.14 99**		P	P	09 49 38.0	+0.7
	1.1nm,1.0s,baz=252,slow=7.3,SNR=4.8						
WRA				LR	LR	10 14 22.1	
	comp=Z,67nm,18.7s,baz=275,slow=35						
MKAR	**Makanchi Array**	**72.62 9**		P	P	09 51 03.6	-0.5
	0.8nm,0.8s,baz=196,slow=5.4,SNR=4.5						
BRTR	**Keskin Array B**	**73.05 331**		P	P	09 51 07.0	+0.4
	1.0nm,0.9s,baz=146,slow=2.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**76.71 292**		P	P	09 51 28.3	+0.5
	1.5nm,1.1s,baz=112,slow=5.1,SNR=5.1						
SONM	**Songino Array**	**79.82 24**		P	P	09 51 45.5	+0.4
	1.4nm,1.2s,baz=193,slow=4.4,SNR=4.1						
ZAL	**Zalesovo**	**79.95 9**		LR	LR	10 26 12.4	
	comp=Z,66nm,18.2s,baz=349,slow=35						
KSRS	**Korea Array**	**82.81 43**		LR	LR	10 27 54.8	
	comp=Z,51nm,18.4s,baz=30,slow=35						

*MOS **10** 09:47:47.9±0.9, 1234N×1418E, h144km, mb4.5/12, Error ellipse: s-maj=14.2km s-min=8.3km az=108.1*
*BJI **10** 09:47:47.3, 1220N×1420E, h156km, mB5.4, mb4.6*
*ISCJB **10** 09:47:48.1±1.2, 1231N±005×1418E±009, h147km±13km, mb4.5/39, Error ellipse: s-maj=13.8km s-min=7.6km az=174.9*
*IDC **10** 09:47:48.5±1.4, 1229N×1418E, h131km±13km, mb4.1/17, mb1 4.2/19, mb1mx4.1/29, mbtmp4.2/19, MS3.4/2, Ms1 3.3/2, ms1mx2.5/26, Error ellipse: s-maj=10.7km s-min=5.9km az=149.0*
*NEIC **10** 09:47:49.6±1.1, 1231N×1418E, h145km±12km, mb4.7/12, Error ellipse: s-maj=12.3km s-min=6.1km az=87.0*
ISC 10 09:47:50.4±1.1, 1233N±005×14191E±008, h152km±12km, n70, σ0§81/67, mb4.5/39, 4C-6D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.15 66**		P	**Pn**	**09 48 39.1**	**-0.5**
	68nm,0.3s,baz=219,slow=3.2,SNR=68						
GUMO				S	**Sn**	**09 49 17.6**	**-0.1**
	221nm,0.3s,baz=356,slow=21,SNR=12						
GUMO				LR	LR	09 49 59.9	
	comp=Z,307nm,18.5s,baz=102,slow=40						
GUMO	**Guam**	**3.15 66**		*e*Pn	**Pn**	**09 48 38.8**	**-0.8**
GUMO				*e*Sn	**Sn**	**09 49 18.1**	**+0.4**
JOW	**Kunigami**	**19.29 320**		P	**P**	**09 52 04.1**	**+0.7**
	3.3nm,0.3s,baz=157,slow=9.7,SNR=5.8						
TGY	**Tagaytay City**	**20.49 277**		P	**P**	**09 52 16.3**	**0.0**
	137nm,0.4s,baz=180,slow=9.5,SNR=4.7						
PMG	**Port Moresby**	**22.22 166**		P	**P**	**09 52 34.9**	**+0.3**
	6.6nm,0.5s,mb4.3,baz=327,slow=14,SNR=4.9						
MJAR	**Matsushiro Arr**	**24.34 353**		P	**P**	**09 52 54.1**	**+0.2**
	0.6nm,0.5s,mb3.4,baz=252,slow=7.6,SNR=3.7						
KAKA	**Kakadu**	**26.59 201**		*e*P	**P**	**09 53 15.9**	**+1.6**
	10nm,0.8s,mb4.5						
CTA	**Charters Tower**	**32.50 172**		P	**P**	**09 54 07.1**	**+0.7**
	8.2nm,1.0s,mb4.4,baz=330,slow=8.1,SNR=2.8						
WRAB	**Tennant Creek**	**32.91 193**		*d i*P	**P**	**09 54 09.8**	**-0.3**
WRAB	**Tennant Creek**	**32.91 193**		*e*P	**P**	**09 54 09.7**	**-0.3**
	14nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**32.92 193**	⇓	*i*P	**P**	**09 54 09.8**	**-0.4**
WRA	**Warramunga Arr**	**32.92 193**		P	**P**	**09 54 09.6**	**-0.5**
	18nm,0.7s,mb5.0,baz=12,slow=9.6,SNR=106						
FITZ	**Fitzroy Crossi**	**34.24 208**	⇑	*i*P	**P**	**09 54 20.3**	**-1.2**
	8.8nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**34.24 208**		P	**P**	**09 54 19.7**	**-1.8**
	4.9nm,0.7s,mb4.3,baz=31,slow=11,SNR=9.7						
GYA	**Guiyang**	**35.95 298**	⇓	*i*P	**P**	**09 54 37.1**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**36.62 192**		P	**P**	**09 54 41.9**	**0.0**
	comp=Z,3.8nm,0.5s,mb4.3,baz=21,slow=12,SNR=100						
ASAR				PcP	PcP	09 57 03.5	+1.8
	comp=Z,0.7nm,0.7s,baz=44,slow=1.6,SNR=4.7						
KLR	**Kul'dur**	**37.74 349**		*e*P	**P**	**09 54 48.8**	**-2.5**
BTO	**Baotou**	**39.71 321**		*e*P	**P**	**09 55 07.7**	**0.0**
HIA	**Hailar**	**41.13 338**	⇑	*e*P	**P**	**09 55 18.8**	**-0.6**
STKA	**Stephens Creek**	**43.96 180**		*e*P	**P**	**09 55 42.1**	**-0.1**
	comp=Z,6nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**43.96 180**		P	**P**	**09 55 42.3**	**+0.1**
	comp=Z,3.3nm,0.3s,mb4.4,baz=350,slow=7.9,SNR=5.9						
STKA				LR	LR	10 15 32.5	
	comp=Z,70nm,21.6s,baz=205,slow=38						
FORT	**Forrest**	**44.88 197**		*e*P	**P**	**09 55 49.9**	**+0.4**
	comp=Z,22nm,0.8s,mb4.8						
GTA	**Gaotai**	**45.90 314**		*e*P	**P**	**09 55 57.9**	**+0.4**
GTA				PCP	PcP	09 57 34.1	+2.1
GTA				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.8						
SONM	**Songino Array**	**46.15 327**		P	**P**	**09 56 00.5**	**+1.0**
	comp=Z,2.7nm,0.5s,mb4.1,baz=138,slow=7.1,SNR=21						
SONM				ScP	ScP	10 01 15.7	+3.9
	comp=Z,0.4nm,0.6s,baz=146,slow=2.7,SNR=3.6						
ZAK	**Zakamensk**	**49.33 328**	⇓	*i*P	**P**	**09 56 24.9**	**+1.0**
ZAK				*e*	pP	09 56 56.4	-2.0
ZAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
KLBR	**Kellerberrin**	**49.44 207**		*e*P	**P**	**09 56 23.2**	**-1.6**
	comp=Z,62nm,1.6s,mb5.0						
TOO	**Toolangi**	**49.75 176**		*e*P	**P**	**09 56 29.1**	**+1.9**
	comp=Z,13nm,0.6s,mb4.7						
TOO	**Toolangi**	**49.75 176**		*e*P	**P**	**09 56 29.1**	**+1.9**
TOO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
LSA	**Lhasa**	**50.02 298**		P	**P**	**09 56 30.2**	**+1.0**
LSA	**Lhasa**	**50.02 298**		*e*P	**P**	**09 56 30.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.02 298**		*e*P	**P**	**09 56 30.4**	**+1.2**
	comp=Z,4.9nm,0.6s,mb4.3						
YAK	**Yakutsk**	**50.40 353**	⇓	*i*P	**P**	**09 56 32.4**	**+0.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
MUN	**Mundaring**	**50.47 209**		*e*P	**P**	**09 56 31.9**	**-0.7**
GUN	**Gumba**	**54.41 296**		*e*P	**P**	**09 57 02.1**	**+0.6**
	comp=Z,64nm,0.7s,mb5.4						
PKI	**Pulchoki**	**54.80 295**		*e*P	**P**	**09 57 04.3**	**-0.1**
KKN	**Kakani**	**54.92 295**		*e*P	**P**	**09 57 05.2**	**-0.1**
	comp=Z,8.6nm,0.3s,mb4.9						
DMN	**Daman**	**55.07 295**		*e*P	**P**	**09 57 06.4**	**+0.1**
	comp=Z,22nm,0.7s,mb5.0						
GKN	**Gorkha**	**55.51 296**		*e*P	**P**	**09 57 09.3**	**-0.2**
	comp=Z,49nm,1.0s,mb5.3						
KOLN	**Koldanda**	**56.41 295**		*e*P	**P**	**09 57 15.8**	**-0.1**
	comp=Z,27nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**60.41 317**		P	**P**	**09 57 44.3**	**+0.7**
	comp=Z,5.6nm,0.8s,mb4.4,baz=93,slow=8.8,SNR=36						
MKAR	**Makanchi Array**	**60.41 317**		*i*P	**P**	**09 57 44.2**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZAL	**Zalesovo**	**60.99 325**		P	**P**	**09 57 47.0**	**-0.5**
	comp=Z,2.7nm,0.4s,mb4.4,baz=357,slow=5.9,SNR=8.3						

NVS	**Novosibirsk**	**62.16 326**		*e*P	**P**	**09 57 54.7**	**-0.7**
NVS				pmax	pmax		
	comp=E,11nm,1.2s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
NVS				pmax	pmax		
	comp=N,9.0nm,1.8s						
KURK	**Kurchatov**	**63.70 321**		*e*P	**P**	**09 58 05.7**	**+0.2**
KURK				*e*		09 58 36.3	
KURK				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
KURK	**Kurchatov**	**63.70 321**		*e*P	**P**	**09 58 05.7**	**+0.2**
	comp=Z,20nm,0.6s,mb5.1						
KURK				*e*PcP	PcP	09 58 36.3	-4.1
AAK	**Ala-Archa**	**65.15 311**	⇓	*e*P	**P**	**09 58 14.0**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
KDAK	**Kodiak Island**	**66.66 32**		P	**P**	**09 58 25.9**	**+1.4**
	comp=Z,15nm,1.1s,mb4.7,baz=284,slow=8.5,SNR=5.4						
CHKZ	**Chkalovo**	**69.08 323**		*e*P	**P**	**09 58 39.6**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**69.08 323**		*e*P	**P**	**09 58 39.6**	**-0.2**
	comp=Z,1.4nm,0.4s,mb4.0						
BVAR	**Borovoye Array**	**69.13 322**		P	**P**	**09 58 40.4**	**+0.4**
	comp=Z,9.9nm,0.4s,mb4.9,baz=106,slow=7.9,SNR=84						
BRVK	**Borovoye**	**69.20 322**		*e*P	**P**	**09 58 40.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.8						
BRVK	**Borovoye**	**69.20 322**		*e*P	**P**	**09 58 40.7**	**+0.3**
	comp=Z,9.0nm,0.4s,mb4.8						
COLA	**College**	**70.55 25**	⇑	*e*P	**P**	**09 58 48.5**	**-0.2**
ARU	**Arti**	**76.15 325**	⇑	*i*P	**P**	**09 59 21.6**	**+0.1**
ARU				*e*		09 59 32.8	
ARU				*e*	pP	09 59 57.0	-1.8
ARU				*e*		10 02 14.5	
ARU				*e*PPP		10 03 58.1	
ARU				*e*S	S	10 08 55.2	+2.3
ARU				*e*SS	SS	10 13 53.0	+3.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ARU	**Arti**	**76.15 325**		*e*P	**P**	**09 59 21.0**	**-0.5**
	comp=Z,3.7nm,0.7s,mb4.1						
INK	**Inuvik**	**76.62 22**		P	**P**	**09 59 24.3**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=55,slow=4.8,SNR=4.1						
AKTK	**Aktyubinsk**	**76.72 319**		P	**P**	**09 59 24.8**	**+0.1**
AKTO	**Aktyubinsk**	**76.72 319**		P	**P**	**09 59 24.8**	**+0.1**
	comp=Z,3.2nm,0.5s,mb4.2,baz=94,slow=8.8,SNR=14						
YKA	**Yellowknife Ar**	**85.29 27**		P	**P**	**10 00 11.0**	**+1.0**
	comp=Z,0.8nm,0.4s,mb3.8,baz=290,slow=4.9,SNR=34						
YKA	**Yellowknife Ar**	**85.29 27**		P	**P**	**10 00 11.0**	**+1.0**
ARCES	**ARCESS Array B**	**87.38 342**		P	**P**	**10 00 19.6**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.2,baz=62,slow=5.6,SNR=7.8						
KIV	**Kislovodsk**	**88.07 314**		*e*P	**P**	**10 00 23.1**	**-0.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
JOF	**Joensuu**	**88.20 335**		*e*p	**P**	**10 00 21.7**	**-2.4**
FINES	**FINESS Array B**	**91.06 334**		P	**P**	**10 00 36.2**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=69,slow=6.2,SNR=18						
FINES	**FINESS Array B**	**91.06 334**		*i* P	**P**	**10 00 36.2**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VNA2	**Neumayer--Watz**	**118.47 191**		*e*PKPdf	PKPdf	10 06 20.5	+0.7
	baz=290,slow=0.6						
VNA3	**Neumayer Olymp**	**118.61 190**		*e*PKPdf	PKPdf	10 06 20.5	+0.4
VNA1	**Neumayer--Stat**	**118.86 191**		*e*PKPdf	PKPdf	10 06 20.2	-0.4
TORD	**Torodi Ar. Bea**	**133.12 301**		PKP	PKPdf	10 06 49.2	+1.4
	comp=Z,1.2nm,0.8s,baz=26,slow=3.2,SNR=5.9						
LPAZ	**La Paz**	**150.64 101**		PKPbc	PKPbc	10 07 28.0	+3.7
	comp=Z,4.7nm,0.7s,baz=267,slow=4.2,SNR=21						

*LDG **10** 09:48:40.4±0.1, 4758N×754E, h11km, Md1.9/3, Ml2.0/10, Error ellipse: s-maj=2.5km s-min=1.4km az=88.0*
STR 10 09:48:40.0±0.3, 4758N×757E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.40 313**		Pg	Pg	09 48 48.1	+0.4
MOF				Sg	Sg	09 48 53.8	+0.8
HINF	**Hinteralfeld**	**0.54 296**		*e*Pg	Pg	09 48 50.5	+0.1
HINF	**Hinteralfeld**	**0.54 296**		*e*Pn	Pg	09 48 52.1	+1.7
HINF				*e*Sg	Sg	09 48 57.5	+0.1
HINF				*e*Sn	Sg	09 49 01.2	+3.8
	2.7nm,0.2s						
LOMF	**Lomont**	**0.55 246**		Pg	Pg	09 48 49.9	-0.7
ECH	**Echery**	**0.69 337**		Pg	Pg	09 48 54.0	+0.7
ECH				Sg	Sg	09 49 02.6	+0.3
CDF	**Champ du Feu**	**0.86 347**		*e*Pg	Pg	09 48 56.5	+0.1
CDF	**Champ du Feu**	**0.86 347**		*e*Pn	Pn	09 48 57.0	-1.7
CDF				*e*Sg	Sg	09 49 06.8	-0.7
CDF				*e*Sn	Sn	09 49 08.8	-2.8
	4.5nm,0.2s						
HAU	**Haudompre**	**0.93 298**		*e*Pg	Pg	09 48 57.6	-0.2
HAU				*e*Sg	Sg	09 49 10.1	+0.3
	7.2nm,0.4s						
CABF	**La Chapelle**	**1.40 227**		*e*Pg	Pg	09 49 07.0	+0.1
CABF				*e*Sg	Sg	09 49 24.3	-0.8
	3.0nm,0.4s						
MEZF	**Maizieres J'vi**	**1.93 300**		*e*Pn	Pn	09 49 12.5	-0.9
MEZF				*e*Sg	Sg	09 49 40.9	-1.0
	4.6nm,0.4s						
LPL	**La Plagne**	**2.14 196**		*e*Pg	Pg	09 49 20.5	-0.6
LPL				*e*Sg	Sg	09 49 47.7	-1.2
	1.0nm,0.3s						
LPG	**La Plagne**	**2.16 195**		*e*Pg	Pg	09 49 20.9	-0.5
LPG				*e*Sg	Sg	09 49 47.9	-1.4
	1.2nm,0.3s						
LOR	**Lormes**	**2.54 264**		*e*Pg	Pg	09 49 27.4	-1.3
LOR				*e*Sg	Sg	09 49 59.5	-2.1
	2.0nm,0.3s						
SMF	**Signal de Mont**	**2.71 251**		*e*Pg	Pg	09 49 30.0	-2.0
SMF				*e*Sg	Sg	09 50 04.2	-3.0
	1.1nm,0.2s						
SSF	**Saint Saulge**	**2.81 261**		*e*Pg	Pg	09 49 32.9	-1.0
SSF				*e*Sg	Sg	09 50 08.5	-1.9
	1.3nm,0.4s						
AVF	**Avril sur Loir**	**2.98 256**		*e*Pg	Pg	09 49 35.0	-2.2
AVF				*e*Sg	Sg	09 50 12.6	-3.2
	1.1nm,0.4s						

*ISCJB **10** 10:07:44.6±0.8, 5381N±004×13426W±009, h10km, mb3.5/1, Error ellipse: s-maj=9.1km s-min=3.8km az=101.1*
*PGC **10** 10:07:47.5±2.1, 5372N×13425W, h10km, ML3.0/5, 141km southwest of Masset, Bc Queen Charlotte Islands Region*
*NEIC **10** 10:07:47.5, 5372N×13425W, h10km, ML3.0(PGC), ML3.5(AEIC), After PGC.*
*IDC **10** 10:07:48.4±2.0, 5394N×13461W, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.4/23, mbtmp3.3/5, ML3.4/4, Error ellipse: s-maj=33.6km s-min=23.2km az=47.0*
ISC 10 10:07:45.6±0.7, 5374N±005×13419W±008, h10km, n25, σ1§32/32, mb3.5/1, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDB	**Naden**	**0.77 73**		P	**Pg**	**10 08 02.7**	**+2.1**
NDB				S	**Sg**	**10 08 12.8**	**+2.2**
NDB				Trac			
VIB	**Van Inlet**	**1.10 116**		Trac			
VIB	**Van Inlet**	**1.10 116**		P	**Pb**	**10 08 07.0**	**+0.2**
VIB				S	**Sg**	**10 08 20.7**	**-0.3**
DIB	**Dawson Inlet,**	**1.16 117**		Trac			
DIB	**Dawson Inlet,**	**1.16 117**		P	**Pb**	**10 08 07.7**	**0.0**
DIB				S	**Sb**	**10 08 21.8**	**-1.0**
MOBC	**Moresby Island**	**1.47 111**		Trac			
MOBC	**Moresby Island**	**1.47 111**		P	**Pn**	**10 08 12.4**	**+0.2**
MOBC				S	**Sn**	**10 08 30.5**	**-1.1**
CRAG	**Craig**	**1.84 19**		P	**Pn**	**10 08 17.1**	**-0.2**
CRAG				S	**Sn**	**10 08 37.8**	**-2.9**
BNB	**Barry Inlet**	**1.87 127**		Trac			
BNB	**Barry Inlet**	**1.87 127**		Pn	**Pn**	**10 08 18.6**	**+0.8**
BNB				Sn	**Sn**	**10 08 38.8**	**-2.6**
WRAK	**Wrangell Islan**	**2.89 21**		P	**Pn**	**10 08 31.8**	**0.0**
WRAK				S	**Sn**	**10 09 04.4**	**-2.1**
SIT	**Sitka**	**3.39 349**		P	**Pn**	**10 08 37.5**	**-1.0**
DLBC	**Dease Lake**	**5.26 25**		P	**Pn**	**10 09 05.3**	**+1.0**
SKAG	**Skagway**	**5.77 354**		P	**Pn**	**10 09 12.0**	**+0.7**
SKAG				S	**Sn**	**10 10 15.9**	**-1.6**
PNL	**Peninsula**	**6.60 336**		P	**Pn**	**10 09 23.5**	**+0.8**
WHY	**Whitehorse**	**6.95 357**		P	**Pn**	**10 09 28.7**	**+1.2**
WHY				S	**Sn**	**10 10 44.9**	**-1.8**
DAWY	**Dawson**	**10.70 348**		P	**Pn**	**10 10 20.1**	**+1.2**
KDAK	**Kodiak Island**	**11.12 299**		Pn	**Pn**	**10 10 23.1**	**-1.5**
	0.8nm,0.3s,baz=86,slow=7.3,SNR=9.7						
KDAK				Sn	**Sn**	**10 12 20.2**	**-8.8**
	0.3nm,0.3s,baz=135,slow=19,SNR=5.1						
KDAK	**Kodiak Island**	**11.12 299**		Pn	**Pn**	**10 10 23.1**	**-1.5**
KDAK				Sn	**Sn**	**10 12 20.2**	**-8.8**
EGAK	**Eagle**	**11.62 345**		*e*Pn	**Pn**	**10 10 33.1**	**+1.6**
	4.8nm,0.7s						
YKA	**Yellowknife Ar**	**13.51 42**		Pn	**Pn**	**10 10 57.3**	**-0.1**
	0.0nm,0.3s,baz=234,slow=13,SNR=5.8						
YKA	**Yellowknife Ar**	**13.51 42**		Pn	**Pn**	**10 10 57.3**	**-0.1**
INK	**Inuvik**	**14.62 1**		Pn	**Pn**	**10 11 14.6**	**+2.0**
	0.2nm,0.3s,baz=181,slow=11,SNR=14						
PDAR	**Pinedale Array**	**19.63 114**		P	**Pn**	**10 12 23.1**	**+7.4**
	0.0nm,0.3s,baz=318,slow=6.1,SNR=2.9						
TXAR	**Lajitas Array**	**32.98 125**		P	**P**	**10 14 27.1**	**+6.5**
	0.7nm,1.1s,mb3.5,baz=340,slow=4.9,SNR=3.5						

*IDC **10** 10:28:34.2±2.3, 682S×1097E, h247km±20km, mb3.6/14, mb1 3.6/15, mb1mx3.6/21, mbtmp3.5/15, Error ellipse: s-maj=27.8km s-min=9.0km az=54.0*
*ISCJB **10** 10:28:41.3±7.0, 673S±01×1101E±03, h333km±72km, mb3.7/16, Error ellipse: s-maj=43.6km s-min=15.9km az=134.6*
*NEIC **10** 10:28:41.0±4.4, 676S×1100E, h315km±45km, mb4.3/2, Error ellipse: s-maj=30.2km s-min=11.3km az=64.0*
ISC 10 10:28:43.1±5.9, 68S±01×1100E±02, h338km±62km, n21, σ0§67/22, mb3.7/16, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.91 128**		P	**P**	**10 32 39.0**	**-1.3**
	0.2nm,0.3s,baz=319,slow=11,SNR=4.2						
FITZ				S	**S**	**10 36 07.1**	**+10**
	0.1nm,0.3s,baz=97,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	**26.96 121**		P	**P**	**10 33 54.7**	**0.0**
	0.2nm,0.5s,mb2.6,baz=297,slow=9.8,SNR=8.4						
WRA				PcP	PcP	10 37 08.8	+2.2
	0.3nm,0.6s,baz=308,slow=2.1,SNR=4.8						
WRA				ScP	ScP	10 40 24.2	+10
	0.6nm,1.0s,baz=312,slow=1.9,SNR=5.0						
ASAR	**Alice Springs**	**28.41 129**		P	**P**	**10 34 07.7**	**+0.2**
	1.6nm,0.5s,mb3.5,baz=302,slow=8.9,SNR=46						
ASAR				PcP	PcP	10 37 12.4	+2.3
	0.3nm,0.5s,baz=305,slow=1.8,SNR=5.3						
ASAR				ScP	ScP	10 40 29.1	+11
	0.6nm,0.8s,baz=295,slow=3.9,SNR=4.8						
STKA	**Stephens Creek**	**38.59 134**		P	**P**	**10 35 35.5**	**+1.0**
	1.7nm,0.3s,mb3.8,baz=321,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**38.59 134**		P	**P**	**10 35 35.5**	**+0.9**
LSA	**Lhasa**	**40.57 334**		*e*P	**P**	**10 35 52.1**	**+1.4**
	11nm,0.5s,mb4.3						
KSRS	**Korea Array**	**47.07 19**		P	**P**	**10 36 42.5**	**+0.5**
	0.7nm,0.7s,mb3.0,baz=189,slow=10,SNR=4.3						
MJAR	**Matsushiro Arr**	**50.54 29**		P	**P**	**10 37 07.9**	**-0.1**
	2.0nm,0.7s,mb3.5,baz=206,slow=7.7,SNR=6.0						
SONM	**Songino Array**	**54.48 357**		P	**P**	**10 37 37.6**	**+1.0**
	1.3nm,0.5s,mb3.5,baz=175,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**58.76 338**		P	**P**	**10 38 06.3**	**-0.2**
	2.7nm,0.3s,mb4.1,baz=153,slow=7.4,SNR=38						
ZAL	**Zalesovo**	**64.12 344**		P	**P**	**10 38 41.7**	**-0.5**
	1.7nm,0.3s,mb4.2,baz=2.7,slow=4.0,SNR=3.2						
ZAL	**Zalesovo**	**64.12 344**		P	**P**	**10 38 41.7**	**-0.5**
BVAR	**Borovoye Array**	**68.39 336**		P	**P**	**10 39 08.6**	**-0.4**
	0.9nm,0.5s,mb3.7,baz=144,slow=9.2,SNR=4.7						
AKTK	**Aktyubinsk**	**72.51 328**		P	**P**	**10 39 33.4**	**-0.4**
AKTO	**Aktyubinsk**	**72.51 328**		P	**P**	**10 39 33.4**	**-0.4**
	1.9nm,0.5s,mb4.0,baz=84,slow=3.8,SNR=8.6						
VNDA	**Vanda**	**75.64 170**		P	**P**	**10 39 52.4**	**+0.8**
	0.7nm,0.8s,mb3.4,baz=346,slow=4.2,SNR=3.8						
VNDA	**Vanda**	**75.64 170**		P	**P**	**10 39 52.4**	**+0.8**
TIXI	**Tiksi**	**79.25 6**		*e*P	**P**	**10 40 11.1**	**-0.5**
	2.5nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**83.95 311**		P	**P**	**10 40 36.0**	**+0.1**
	1.6nm,0.6s,mb4.0,baz=136,slow=7.3,SNR=11		

comp=N,160nm,0.9s
KUR smax
comp=E,280nm,0.9s
PET Petropavlovsk 6.27 26 *e*PN **Pn 10 47 00.5 -0.7**
PET pmax pmax
comp=Z,19nm,0.6s
ASAJ Asahikawa 8.69 251 Pn **Pn 10 47 35.5 +1.2**
comp=Z,0.4nm,0.3s,baz=100,slow=22,SNR=4.5
YAK Yakutsk 20.05 325 *i* P **P 10 50 01.4 +0.7**
KSRS Korea Array 21.64 252 P **P 10 50 18.2 +0.5**
comp=Z,2.0nm,0.6s,mb3.7,baz=66,slow=9.6,SNR=12
KSRS LR LR 10 57 18.8
comp=Z,37nm,20.5s,MS2.8,baz=35,slow=33
SONM Songino Array 31.70 289 P **P 10 51 49.8 -0.8**
comp=Z,0.6nm,0.9s,mb3.4,baz=67,slow=11,SNR=3.1
SONM LR LR 11 04 54.7
comp=Z,124nm,20.0s,MS3.6,baz=338,slow=37
SML Sawmill 34.99 44 *e*P **P 10 52 19.2 -0.1**
COLA College 35.15 39⇓*e*P **P 10 52 21.4 +0.7**
INK Inuvik 40.68 33 P **P 10 53 08.3 +1.1**
comp=Z,5.6nm,1.1s,mb4.1,baz=294,slow=6.9,SNR=22
INK Inuvik 40.68 33 P **P 10 53 08.3 +1.1**
ZAL Zalesovo 42.71 305 P **P 10 53 23.4 -0.5**
comp=Z,0.8nm,0.7s,mb3.5,baz=18,slow=8.1,SNR=4.5
ZAL Zalesovo 42.71 305 P **P 10 53 23.4 -0.5**
MKAR Makanchi Array 47.17 297 P **P 10 53 57.5 -1.9**
comp=Z,0.8nm,0.7s,mb3.8,baz=37,slow=6.4,SNR=8.1
KURK Kurchatov 47.49 303⇓*e*P **P 10 54 01.1 -0.7**
YKA Yellowknife Ar 49.94 37 P **P 10 54 20.6 -0.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=295,slow=7.1,SNR=20
YKA Yellowknife Ar 49.94 37 P **P 10 54 20.6 -0.1**
LSA Lhasa 50.87 273 *e*P **P 10 54 30.0 +2.3**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LSA Lhasa 50.87 273 *e*P **P 10 54 30.0 +2.3**
comp=Z,4.7nm,0.6s,mb4.6
BVAR Borovoye Array 50.88 309 P **P 10 54 27.8 +0.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=52,slow=9.6,SNR=6.2
AAK Ala-Archa 54.08 296⇓*e*P **P 10 54 51.2 -0.2**
AAK pmax pmax
comp=Z,5.0nm,2.5s,mb4.0
ARU Arti 54.90 317 *e*P **P 10 54 55.1 -2.3**
ARU *e* pP 10 55 10.9 +0.9
ARU *e* 10 55 56.4
ARU *e* 10 56 56.0
ARU *e*S **S 11 02 32.9 -2.7**
ARU *e*SS SS 11 06 19.7 +0.3
FINES FINESS Array B 63.64 335 P **P 10 55 58.2 +0.5**
comp=Z,1.8nm,0.8s,mb4.1,baz=44,slow=8.5,SNR=7.0
PDAR Pinedale Array 63.79 55 P **P 10 55 58.4 -0.4**
comp=Z,0.7nm,1.0s,mb3.6,baz=302,slow=5.2,SNR=3.3
NB2 NORSAR Subarra 67.73 341 P **P 10 56 25.2 +1.1**
comp=Z,1.9nm,0.6s,mb4.3,baz=26,slow=6.5
NOA NORSAR Array B 67.73 341 P **P 10 56 25.1 +1.0**
comp=Z,2.5nm,0.7s,mb4.4,baz=26,slow=6.4,SNR=12
AKASG Malin Array Be 71.28 327 P **P 10 56 46.4 +0.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=33,slow=6.2,SNR=11
ASAR Alice Springs 73.12 199 P **P 10 56 55.1 -1.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=12,slow=4.7,SNR=18
TXAR Lajitas Array 76.57 61 P **P 10 57 16.6 -0.4**
comp=Z,0.8nm,0.8s,mb3.7,baz=301,slow=4.5,SNR=9.0
GERES GERESS Array B 78.06 334 P **P 10 57 26.7 +1.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=6.2,SNR=5.0
BRTR Keskin Array B 78.28 317 P **P 10 57 28.7 +2.2**
comp=Z,0.7nm,0.8s,mb3.6,baz=90,slow=6.2,SNR=3.7

NAO ***10*** *11:03:19.4, 4020N×1760E, h33km, mb4.1*
MOS ***10*** *11:03:39.6±1.2, 4212N×1607E, h27km, mb4.9/9, Error ellipse: s-maj=3.2km s-min=2.2km az=111.9*
BJI ***10*** *11:03:39.3, 4230N×1598E, h32km, mB4.8, mb4.8, Ms4.8, Msz4.5*
SZGRF ***10*** *11:03:39.3, 4206N×1639E, h10km, Adriatic Sea*
ISCJB ***10*** *11:03:40.7±0.1, 42072N±0010×16.16E±001, h57km±2km, mb4.7/39, MS3.8/7, Error ellipse: s-maj=1.8km s-min=1.2km az=65.2*
LDG ***10*** *11:03:40.1, 4212N×1633E, h30km*
PDG ***10*** *11:03:41.8±0.7, 4203N×1621E, h37km±2km*
ROM ***10*** *11:03:41.5±0.1, 4201N×1628E, h33km±1km, Ml4.5/79, Error ellipse: s-maj=2.6km s-min=1.4km az=6.0*
CSEM ***10*** *11:03:41.1±0.0, 4208N×1619E, h45km, ML4.7/24, Error ellipse: s-maj=0.9km s-min=0.7km az=38.0*
IDC ***10*** *11:03:42.5±0.6, 4214N×1611E, h37km±4km, mb4.0/15, mb1 4.2/23, mb1mx4.1/28, mbtmp4.1/23, ML4.4/8, MS3.7/9, Ms1 3.7/9, ms1mx3.3/34, Error ellipse: s-maj=11.4km s-min=8.6km az=86.0*
NEIC ***10*** *11:03:42.0, 4194N×1620E, h35km, mb4.6/7, ML4.5(CSEM), ML4.7(BUC), ML4.5(ROM), ML4.7(PDG), After ROM.*
PRU ***10*** *11:03:43.5, 4241N×1587E, h0km, M4.6*
THE ***10*** *11:03:44.4, 4200N×1661E, h22km, ML4.8*
ZUR ***10*** *11:03:48.6, 4230N×1560E, h156km, mb5.1/5*
STR ***10*** *11:03:52.0±0.8, 4271N×1526E, h10km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 10 11:03:42.3±0.1, 42053N±0009×1618E±001, h38km±2km, h35km±1.2km:pP-P, n744, σ1§**13**/892**, mb4.7**/39**, MS3.8**/7**, 49C-110D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FGMS	**Monte Sant'Ang**	**0.38**	**206**⇓	*i*Pg	**Pn**	**11 03 51.0**	**-0.4**
MSAG	**Monte S. Angel**	**0.40**	**211**⇑	*i*Pg	**Pn**	**11 03 51.2**	**-0.4**
MSAG				Sg	**Sn**	**11 03 57.5**	**-0.5**
	53μm,0.7s						
SGRT	**San Giovanni R**	**0.44**	**228**	Pg	**Pn**	**11 03 52.0**	**-0.2**
SGRT				Sg	**Sn**	**11 03 58.7**	**-0.3**
	24μm,0.2s						
SGRT	**San Giovanni R**	**0.44**	**228**	P	**Pn**	**11 03 51.9**	**-0.3**
RGNG	**Rignano Grg**	**0.58**	**230**	Pg	**Pn**	**11 03 53.8**	**-0.3**
FG2	**Serracapriola**	**0.80**	**252**	Pg	**Pn**	**11 03 57.5**	**+0.4**
FG2	**Serracapriola**	**0.80**	**252**	P	**Pn**	**11 03 57.4**	**+0.3**
CDT	**Castel del Mon**	**0.97**	**176**⇓	*i*Pg	**Pn**	**11 03 58.8**	**-0.7**
FG5	**Orsara di Pugl**	**1.03**	**222**	Pg	**Pn**	**11 04 01.0**	**+0.8**
CIGN	**Sant'Elia a Pi**	**1.03**	**248**	Pg	**Pn**	**11 04 01.0**	**+0.7**
	3μm,0.5s						
CIGN	**Sant'Elia a Pi**	**1.03**	**248**	P	**Pn**	**11 03 59.1**	**-1.2**
FG4	**Candela**	**1.05**	**209**	Pg	**Pn**	**11 04 00.8**	**+0.3**
SGTA	**Sant Agata di**	**1.10**	**214**	Pg	**Pn**	**11 04 01.6**	**+0.4**
	8μm,0.6s						
PALZ	**Palazzo San Ge**	**1.12**	**189**⇓	*i*Pg	**Pn**	**11 04 01.2**	**-0.3**
PALZ				Sg	**Sn**	**11 04 15.1**	**-0.6**
	10μm,0.8s						
FRES	**Fresagrandinar**	**1.13**	**266**⇓	*i*Pg	**Pn**	**11 04 02.8**	**+1.2**
	17μm,0.6s						
VULT	**Monte Vulture**	**1.18**	**201**	Pg	**Pn**	**11 04 02.2**	**0.0**
	11μm,0.6s						
AMUR	**Altamura**	**1.19**	**164**⇓	*i*Pg	**Pn**	**11 04 01.8**	**-0.6**
AMUR				Sg	**Sn**	**11 04 15.5**	**-1.8**
	11μm,0.5s						
CAFE	**Carife**	**1.25**	**215**	Pg	**Pn**	**11 04 04.2**	**+1.0**
	4μm,0.5s						
TRIV	**Trivento**	**1.25**	**257**	Pg	**Pn**	**11 04 04.5**	**+1.3**
	5μm,0.6s						
SG1	**Sgolgore (BA)**	**1.27**	**163**⇓	*i*Pg	**Pn**	**11 04 02.9**	**-0.6**
SG1				*e*Sg	**Sn**	**11 04 16.7**	**-2.6**
SACR	**S. Croce Del S**	**1.28**	**240**	Pg	**Pn**	**11 04 04.4**	**+0.7**
	3μm,0.5s						
BSSO	**Busso**	**1.29**	**247**	Pg	**Pn**	**11 04 04.8**	**+1.0**
	4μm,0.6s						
PSB1	**Pescosannita**	**1.32**	**232**	Pg	**Pn**	**11 04 04.8**	**+0.6**
	3μm,0.7s						
SNAL	**S. Angelo Dei**	**1.34**	**213**	Pg	**Pn**	**11 04 05.0**	**+0.5**
	7μm,0.9s						
CAFR	**Castel Frentan**	**1.37**	**278**⇓	*i*Pg	**Pn**	**11 04 06.4**	**+1.4**
	25μm,0.7s						
STON	**Ston**	**1.39**	**53**⇑	*i*Pg	**Pn**	**11 04 04.8**	**-0.4**
STON				*i* Sg	**Sn**	**11 04 20.8**	**-1.6**
STON	**Ston**	**1.39**	**53**⇑	*i*Pg	**Pn**	**11 04 04.8**	**-0.4**
STON				*i* Sg	**Sn**	**11 04 20.8**	**-1.5**
MRLC	**Muro Lucano**	**1.40**	**202**	Pg	**Pn**	**11 04 05.2**	**-0.1**
	4μm,0.7s						
MRLC	**Muro Lucano**	**1.40**	**202**	P	**Pn**	**11 04 05.1**	**-0.2**
NOCI	**Noci**	**1.43**	**152**⇓	*i*Pg	**Pn**	**11 04 05.1**	**-0.6**
NOCI				Sg	**Sn**	**11 04 21.2**	**-2.0**
	13μm,0.4s						
MIGL	**Miglionico**	**1.46**	**172**	Pg	**Pn**	**11 04 05.9**	**-0.3**
MIGL				Sg	**Sn**	**11 04 23.1**	**-1.0**
	21μm,0.6s						
MCRV	**Calabrutti - M**	**1.48**	**211**	Pg	**Pn**	**11 04 06.4**	**0.0**
	4μm,0.5s						
MIDA	**Miranda**	**1.50**	**255**	Pg	**Pn**	**11 04 07.7**	**+1.1**
	3μm,0.6s						
SGG	**Gregorio Mates**	**1.50**	**244**	Pg	**Pn**	**11 04 07.4**	**+0.7**
	4μm,0.5s						
RNI2	**Rionero Sannit**	**1.55**	**258**	Pg	**Pn**	**11 04 08.5**	**+1.1**
	4μm,0.5s						
RNI2	**Rionero Sannit**	**1.55**	**258**	P	**Pn**	**11 04 07.9**	**+0.5**
PE1	**Pezze di Greco**	**1.56**	**143**⇓	*i*Pg	**Pn**	**11 04 06.8**	**-0.7**
PE1				*e*Sg	**Sn**	**11 04 24.2**	**-2.3**
VAGA	**Valle Agricola**	**1.59**	**247**	Pg	**Pn**	**11 04 09.1**	**+1.2**
	5μm,0.8s						
SGO	**Sicignano**	**1.63**	**204**	Pg	**Pn**	**11 04 08.1**	**-0.4**
MOCO	**Biccari - m.te**	**1.66**	**246**	Pg	**Pn**	**11 04 01.0**	**-7.9**
	4μm,0.6s						
CERA	**Filignano**	**1.68**	**255**	Pg	**Pn**	**11 04 11.3**	**+2.2**
	6μm,0.7s						
CDRU	**Civita di Ruta**	**1.69**	**203**	Pg	**Pn**	**11 04 08.9**	**-0.5**
	2μm,0.7s						
INTR	**Introdacqua**	**1.69**	**269**	Pg	**Pn**	**11 04 09.5**	**+0.1**
	9μm,0.6s						
CRAC	**Craco**	**1.70**	**173**	Pg	**Pn**	**11 04 09.1**	**-0.3**
	10μm,0.6s						
TREB	**Trebinje**	**1.74**	**67**	P	**Pn**	**11 04 08.6**	**-1.4**
MCEL	**Monticello**	**1.75**	**189**	Pg	**Pn**	**11 04 09.4**	**-0.7**
	3μm,0.5s						
HCY	**Herceg Novi**	**1.77**	**76**⇓	*i*Pn	**Pn**	**11 04 10.0**	**-0.4**
HCY				*e*Sn	**Sn**	**11 04 32.4**	**+0.8**
VCEL	**Villa Celiera**	**1.77**	**282**⇓	*e*Pg	**Pn**	**11 04 11.7**	**+1.3**
	6μm,0.5s						
SDI	**San Donato**	**1.80**	**260**	Pg	**Pn**	**11 04 11.7**	**+0.8**
RFI	**Roccamonfina**	**1.81**	**246**	Pg	**Pn**	**11 04 12.7**	**+1.8**
	140nm,0.4s						
RFI	**Roccamonfina**	**1.81**	**246**	P	**Pn**	**11 04 11.5**	**+0.6**
RFI	**Roccamonfina**	**1.81**	**246**	Pg	**Pn**	**11 04 12.7**	**+1.8**
	140nm,0.4s						
MTSN	**Montesano sull**	**1.81**	**190**	Pg	**Pn**	**11 04 10.7**	**-0.3**
	2μm,0.6s						
SCHR	**S. Chirico Rap**	**1.85**	**182**	Pg	**Pn**	**11 04 10.8**	**-0.8**
	1μm,0.5s						
CMPR	**Campora**	**1.85**	**201**	Pg	**Pn**	**11 04 11.1**	**-0.5**
	2μm,0.4s						
SIRI	**Monte Sirino -**	**1.88**	**187**	Pg	**Pn**	**11 04 11.7**	**-0.3**
	2μm,0.3s						
VVLD	**Villa Vallelon**	**1.92**	**265**	Pg	**Pn**	**11 04 13.4**	**+1.0**
	4μm,0.6s						
VVLD	**Villa Vallelon**	**1.92**	**265**	P	**Pn**	**11 04 13.2**	**+0.8**
FAGN	**Fagnano**	**1.94**	**277**	Pg	**Pn**	**11 04 14.0**	**+1.2**
	4μm,0.4s						
BRY	**Bratogost**	**1.94**	**63**⇓	*i*Pn	**Pn**	**11 04 12.8**	**0.0**
BRY				*e*Sn	**Sn**	**11 04 36.9**	**+1.0**
TERO	**Teramo**	**1.99**	**287**⇓	*i*Pg	**Pn**	**11 04 14.7**	**+1.2**
	3μm,0.6s						
ORI	**Oriolo Calabro**	**2.00**	**174**	Pg	**Pn**	**11 04 13.8**	**+0.2**
	6μm,0.4s						
BUM	**Brajici-Budva**	**2.04**	**82**⇓	*i*Pn	**Pn**	**11 04 14.3**	**+0.2**
BUM				*e*Sn	**Sn**	**11 04 38.2**	**0.0**
OFFI	**Offida**	**2.04**	**296**⇓	*i*Pg	**Pn**	**11 04 16.2**	**+2.0**
	14μm,0.7s						
AQU	**L'Aquila**	**2.08**	**279**⇓	*e*Pg	**Pn**	**11 04 16.2**	**+1.4**
	5μm,1.1s						
AQU	**L'Aquila**	**2.08**	**279**	*e*Pn	**Pn**	**11 04 16.1**	**+1.4**
AQU				*e*Sn	**Sn**	**11 04 41.5**	**+2.0**
AQU	**L'Aquila**	**2.08**	**279**⇓	*i*P	**Pn**	**11 04 16.0**	**+1.2**
AQU	**L'Aquila**	**2.08**	**279**	*e*Pn	**Pn**	**11 04 16.1**	**+1.4**
AQU				*e*Sn	**Sn**	**11 04 41.5**	**+2.0**
GUAR	**Guarcino**	**2.15**	**264**	Pg	**Pn**	**11 04 17.3**	**+1.6**
	2μm,0.8s						
NKY	**Niksic**	**2.22**	**69**⇑	*i*Pn	**Pn**	**11 04 16.5**	**-0.2**
NKY				*e*Sn	**Sn**	**11 04 43.8**	**+1.0**
GIUL	**Giuliano Di Ro**	**2.24**	**258**	Pg	**Pn**	**11 04 17.9**	**+1.0**
	743nm,0.5s						
LCI	**Lecce**	**2.25**	**139**⇓	*i*Pg	**Pn**	**11 04 16.5**	**-0.6**
	805nm,0.4s						
FIAM	**Fiamignano**	**2.29**	**276**	Pg	**Pn**	**11 04 19.7**	**+2.2**
	4μm,0.8s						
FIAM	**Fiamignano**	**2.29**	**276**	P	**Pn**	**11 04 19.2**	**+1.7**
ULC	**Ulcinj**	**2.29**	**91**⇑	*i*Pn	**Pn**	**11 04 17.0**	**-0.6**
ULC				*e*Sn	**Sn**	**11 04 44.3**	**-0.2**
TTG	**Podgorica**	**2.32**	**80**⇓	*i*Pn	**Pn**	**11 04 18.4**	**+0.4**
TTG				*e*Sn	**Sn**	**11 04 45.8**	**+0.6**
UPM	**Unac-Piva**	**2.32**	**59**⇑	*i*Pn	**Pn**	**11 04 18.5**	**+0.6**
UPM				*e*Sn	**Sn**	**11 04 46.2**	**+1.0**
CERT	**Cerreto**	**2.38**	**269**	Pg	**Pn**	**11 04 20.2**	**+1.3**
	2μm,0.5s						
LNSS	**Leonessa**	**2.39**	**284**⇓	*i*Pg	**Pn**	**11 04 20.9**	**+1.9**
	6μm,0.8s						
NRCA	**Norcia**	**2.40**	**290**⇓	*i*Pg	**Pn**	**11 04 20.8**	**+1.7**
NRCA	**Norcia**	**2.40**	**290**	P	**Pn**	**11 04 20.7**	**+1.6**
AOI	**Ancona**	**2.42**	**309**	Pg	**Pn**	**11 04 20.0**	**+0.7**
	4μm,1.0s						
AOI	**Ancona**	**2.42**	**309**	P	**Pn**	**11 04 19.9**	**+0.6**
SDA	**Shkodra**	**2.47**	**89**	*i* Pn	**Pn**	**11 04 20.8**	**+0.7**
SDA				*i* Sn	**Sn**	**11 04 47.9**	**-1.1**
MTCE	**Montecelio**	**2.56**	**270**	Pg	**Pn**	**11 04 22.2**	**+0.9**
	1μm,0.7s						
CING	**Cingoli**	**2.57**	**302**	Pg	**Pn**	**11 04 22.3**	**+0.9**
	3μm,0.8s						
CING	**Cingoli**	**2.57**	**302**	P	**Pn**	**11 04 22.0**	**+0.6**
RDP	**Rocca di Papa**	**2.60**	**265**	P	**Pn**	**11 04 23.2**	**+1.4**
MNS	**Montasola**	**2.62**	**278**	Pg	**Pn**	**11 04 23.6**	**+1.5**
	2μm,0.6s						
MNS	**Montasola**	**2.62**	**278**	P	**Pn**	**11 04 23.4**	**+1.3**
LAV9	**Lanuvio**	**2.63**	**263**	P	**Pn**	**11 04 23.5**	**+1.3**
SCTE	**Santa Cesarea**	**2.63**	**138**	Pg	**Pn**	**11 04 21.7**	**-0.5**
SCTE				Sg	**Sn**	**11 04 49.8**	**-3.1**
	3μm,0.5s						
MA9	**Marino**	**2.64**	**265**	Pg	**Pn**	**11 04 24.1**	**+1.7**
	567nm,0.4s						
MA9	**Marino**	**2.64**	**265**	P	**Pn**	**11 04 23.9**	**+1.5**
SNTG	**Esanatoglia**	**2.67**	**298**	Pg	**Pn**	**11 04 23.9**	**+1.1**
SNTG	**Esanatoglia**	**2.67**	**298**	P	**Pn**	**11 04 23.0**	**+0.2**
NVLJ	**Novalja**	**2.69**	**340**⇓	*i*Pn	**Pn**	**11 04 23.7**	**+0.7**
NVLJ				*i* Sn	**Sn**	**11 04 54.5**	**+0.3**
PLE	**Pljevlja**	**2.69**	**61**⇓	*i*Pn	**Pn**	**11 04 24.2**	**+1.1**
PLE				*e*Sn	**Sn**	**11 04 55.0**	**+0.6**
ROM9	**Roma**	**2.74**	**267**	P	**Pn**	**11 04 25.4**	**+1.6**
PUK	**Puka**	**2.77**	**89**	*i* Pn	**Pn**	**11 04 25.3**	**+1.2**
PUK				*i* Sn	**Sn**	**11 04 56.6**	**+0.3**
ARVD	**Arcevia**	**2.79**	**302**	Pg	**Pn**	**11 04 25.3**	**+0.9**
	1μm,0.5s						
ASS	**Assisi**	**2.79**	**292**⇓	*i*Pg	**Pn**	**11 04 26.3**	**+1.8**
	55nm,0.3s						
ASS	**Assisi**	**2.79**	**292**	P	**Pn**	**11 04 26.2**	**+1.7**
CARO	**Carolei**	**2.80**	**179**	Pg	**Pn**	**11 04 24.3**	**-0.2**
	1μm,0.5s						
TIR	**Tirane**	**2.85**	**103**⇓	*i*Pg	**Pn**	**11 04 25.5**	**+0.3**
	3μm,0.5s						
TIR	**Tirane**	**2.85**	**103**	P	**Pn**	**11 04 24.3**	**-0.9**
TIR	**Tirane**	**2.85**	**103**	*i* Pn	**Pn**	**11 04 25.4**	**+0.2**
TIR				*i* Sn	**Sn**	**11 04 56.1**	**-2.2**
PVY	**Plav**	**2.87**	**78**⇑	*i*Pn	**Pn**	**11 04 26.5**	**+1.0**
PVY				*e*Sn	**Sn**	**11 04 59.2**	**+0.5**
IVA	**Berane**	**2.87**	**72**⇑	*i*Pn	**Pn**	**11 04 26.8**	**+1.2**
IVA				*e*Sn	**Sn**	**11 04 59.2**	**+0.4**
TIP	**Timpagrande**	**2.91**	**171**	Pg	**Pn**	**11 04 26.7**	**+0.7**
	847nm,1.1s						
TIP	**Timpagrande**	**2.91**	**171**	*e*Pn	**Pn**	**11 04 26.6**	**+0.6**
TIP	**Timpagrande**	**2.91**	**171**	*e*Pn	**Pn**	**11 04 26.6**	**+0.6**
MURB	**Monte Urbino**	**2.95**	**295**⇓	*i*Pg	**Pn**	**11 04 28.5**	**+1.8**
	5μm,0.3s						
VLO	**Vlora**	**2.96**	**121**	*i* Pn	**Pn**	**11 04 27.1**	**+0.3**
BBLS	**Bajina Basta -**	**2.99**	**52**⇓	*i*Pn	**Pn**	**11 04 28.5**	**+1.4**
FSSB	**Fossombrone**	**2.99**	**304**	Pg	**Pn**	**11 04 28.1**	**+0.9**
	5μm,0.4s						
SJES	**Sjenica**	**3.03**	**65**	Pn	**Pn**	**11 04 29.7**	**+2.0**
SERS	**Sersale**	**3.04**	**172**⇓	*i*Pg	**Pn**	**11 04 28.3**	**+0.4**
	853nm,1.0s						
PESA	**Pesaro**	**3.09**	**309**⇓	*i*Pg	**Pn**	**11 04 29.4**	**+0.8**
	2μm,0.3s						
PESA	**Pesaro**	**3.09**	**309**	P	**Pn**	**11 04 29.3**	**+0.7**
TOLF	**Tolfa**	**3.11**	**272**	Pg	**Pn**	**11 04 29.8**	**+0.9**
	573nm,0.5s						
TOLF	**Tolfa**	**3.11**	**272**	P	**Pn**	**11 04 29.9**	**+1.0**
PHP	**Peshkopia**	**3.20**	**95**	*i* Pn	**Pn**	**11 04 31.6**	**+1.5**
CDCA	**Citt' di Caste**	**3.23**	**297**	P	**Pn**	**11 04 32.4**	**+1.9**
GRI	**Girifalco**	**3.23**	**177**	P	**Pn**	**11 04 30.9**	**+0.4**
SACS	**San Casciano d**	**3.26**	**286**	Pg	**Pn**	**11 04 32.1**	**+1.2**
	824nm,0.7s						
LATE	**Laterza**	**3.29**	**281**	Pg	**Pn**	**11 04 32.6**	**+1.3**
	179nm,1.0s						
RSM	**Repubblica di**	**3.32**	**306**	Pg	**Pn**	**11 04 33.1**	**+1.4**
RSM	**Repubblica di**	**3.32**	**306**	P	**Pn**	**11 04 28.8**	**-2.9**
TPE	**Tepelena**	**3.38**	**120**	*i* Pn	**Pn**	**11 04 32.8**	**+0.2**
SISC	**Sisak**	**3.42**	**2**	*e*Pn	**Pn**	**11 04 34.3**	**+1.2**
JOPP	**Joppolo**	**3.45**	**184**	Pg	**Pn**	**11 04 32.8**	**-0.7**
JOPP				Sg	**Sn**	**11 05 10.5**	**-2.6**
	576nm,0.5s						
DIVS	**Divcibare**	**3.46**	**53**⇑	*i*Pn	**Pn**	**11 04 33.9**	**+0.3**
CRE	**Caprese Michel**	**3.48**	**298**⇓	*i*Pg	**Pn**	**11 04 35.3**	**+1.4**
	681nm,0.4s						
CRE	**Caprese Michel**	**3.48**	**298**	P	**Pn**	**11 04 35.2**	**+1.3**
BOJS	**Bojanci**	**3.52**	**349**	*i* Pn	**Pn**	**11 04 35.5**	**+1.1**
BOJS				*i* Sn	**Sn**	**11 05 14.4**	**-0.3**
BOJS							
	comp=Z,525nm,0.3s						
BOJS	**Bojanci**	**3.52**	**349**	*i* Pn	**Pn**	**11 04 35.5**	**+1.1**
BOJS				*i* Sn	**Sn**	**11 05 14.4**	**-0.3**
	comp=Z,525nm,0.3s						
ARCI	**Arcidosso**	**3.57**	**284**	Pg	**Pn**	**11 04 37.1**	**+1.9**
	comp=Z,222nm,0.8s						
OHR	**Ohrid**	**3.59**	**104**	*e*Pn	**Pn**	**11 04 35.7**	**+0.3**
OHR				*e*Sn	**Sn**	**11 05 12.6**	**-4.0**
OHR	**Ohrid**	**3.59**	**104**	P	**Pn**	**11 04 35.4**	**0.0**
KEK	**Kerkira**	**3.60**	**129**⇓	*i*Pg	**Pn**	**11 04 35.6**	**0.0**
	comp=Z,2μm,0.4s						
KEK	**Kerkira**	**3.60**	**129**	*e*P	**Pn**	**11 04 35.6**	**0.0**
KEK	**Kerkira**	**3.60**	**129**	P	**Pn**	**11 04 34.7**	**-0.9**
KEK	**Kerkira**	**3.60**	**129**⇓	*i*Pg	**Pn**	**11 04 35.6**	**0.0**
	comp=Z,2μm,0.4s						
SRN	**Sarande**	**3.62**	**126**	*i* Pn	**Pn**	**11 04 37.6**	**+1.8**
SRN				*i* Sn	**Sn**	**11 05 13.4**	**-3.8**
SFI	**Santa Sofia**	**3.68**	**302**	Pg	**Pn**	**11 04 38.5**	**+1.9**
	comp=Z,301nm,0.3s						
KNDS	**Knezji Dol**	**3.71**	**340**	*i* Pn	**Pn**	**11 04 37.6**	**+0.5**
KNDS				*i* Sn	**Sn**	**11 05 18.6**	**-1.0**
BRSN	**Barisano**	**3.74**	**308**	Pg	**Pn**	**11 04 39.4**	**+1.9**
	comp=Z,603nm,0.3s						
KBN	**Korca**	**3.75**	**111**	*i* Pn	**Pn**	**11 04 38.2**	**+0.5**
KBN				*i* Sn	**Sn**	**11 05 19.3**	**-1.3**
MAON	**Monte Argentar**	**3.77**	**277**	Pg	**Pn**	**11 04 38.8**	**+0.9**
	comp=Z,282nm,0.5s						
GRUS	**Gruza**	**3.80**	**60**⇓	*i*Pn	**Pn**	**11 04 38.2**	**-0.1**
CRES	**Cresnjev**	**3.81**	**352**	*i* Pn	**Pn**	**11 04 39.3**	**+0.9**
CRES							
	comp=Z,651nm,0.7s						
SCLL	**Scilla**	**3.81**	**186**	Pg	**Pn**	**11 04 37.8**	**-0.6**
	comp=Z,100nm,0.6s						
MSRU	**Castanea**	**3.82**	**188**	Pg	**Pn**	**11 04 38.0**	**-0.6**
	comp=Z,542nm,0.4s						
SKDS	**Skadanscina**	**3.83**	**337**	*i* Pn	**Pn**	**11 04 38.8**	**+0.1**
SKDS				*i* Sn	**Sn**	**11 05 21.5**	**-0.9**
GCIS	**Gornji Cirnik**	**3.83**	**354**	*i* Pn	**Pn**	**11 04 39.8**	**+1.0**
GCIS				*i* Sn	**Sn**	**11 05 22.3**	**-0.3**
GCIS							
	comp=Z,301nm,0.3s						
GCIS	**Gornji Cirnik**	**3.83**	**354**	*i* Pn	**Pn**	**11 04 39.8**	**+1.0**
GCIS				*i* Sn	**Sn**	**11 05 22.3**	**-0.3**
	comp=Z,301nm,0.3s						
LSK	**Leskovik**	**3.84**	**118**	*i* Pn	**Pn**	**11 04 38.9**	**0.0**
LSK				*i* Sn	**Sn**	**11 05 22.6**	**-0.2**
KRUS	**Krusevo**	**3.86**	**99**	*i* Pn	**Pn**	**11 04 40.5**	**+1.4**
KRUS				*e*Sn	**Sn**	**11 05 21.1**	**-2.1**
KRUS	**Krusevo**	**3.86**	**99**	*i* Pn	**Pn**	**11 04 40.5**	**+1.4**
KRUS				*e*Sn	**Sn**	**11 05 21.1**	**-2.1**
KRUS	**Krusevo**	**3.86**	**99**	*i* Pn	**Pn**	**11 04 40.4**	**+1.3**
KRUS				*e*Sn	**Sn**	**11 05 21.0**	**-2.2**
CSNT	**Castellina Chi**	**3.87**	**293**	Pg	**Pn**	**11 04 40.3**	**+1.0**
	comp=Z,345nm,0.5s						
CSNT	**Castellina Chi**	**3.87**	**293**	P	**Pn**	**11 04 40.2**	**+0.9**
VISS	**Visnje**	**3.87**	**346**	*i* Pn	**Pn**	**11 04 40.3**	**+1.0**
VISS				*e*Sn	**Sn**	**11 05 22.8**	**-0.8**
VISS							
	comp=Z,272nm,0.2s						
VISS	**Visnje**	**3.87**	**346**	*i* Pn	**Pn**	**11 04 40.3**	**+1.0**
VISS				*e*Sn	**Sn**	**11 05 22.8**	**-0.7**
	comp=Z,272nm,0.2s						
MSI	**Messina ING**	**3.87**	**187**	P	**Pn**	**11 04 38.8**	**-0.5**

OBKA Obir 4.61 346 Pn **Pn 11 04 49.7 +0.3**
comp=Z,306nm,5.0s
OBKA Sn **Sn 11 05 42.6 +1.0**
ROBS Robic 4.61 336 *i* Pn **Pn 11 04 49.4 0.0**
ROBS *i* Sn **Sn 11 05 39.2 -2.5**
ROBS Robic 4.61 336 *i* Pn **Pn 11 04 49.4 0.0**
ROBS *i* Sn **Sn 11 05 39.2 -2.5**
PERS Pernice 4.64 351 *i* Pn **Pn 11 04 50.4 +0.5**
PERS *i* Sn **Sn 11 05 39.9 -2.7**
PERS Pernice 4.64 351 *i* Sn **Sn 11 05 39.9 -2.7**
comp=Z,440nm,0.4s
TEOL Teolo 4.65 317⇓*i*Pn **Pn 11 04 49.6 -0.4**
BAD Bernadia 4.69 334⇓*i*Pn **Pn 11 04 50.4 -0.1**
BAD Bernadia 4.69 334⇓*i*P **Pn 11 04 50.0 -0.5**
GSCL Gusciola 4.69 301 Pg **Pn 11 04 52.5 +2.0**
BUA Buia 4.71 333⇓*i*Pn **Pn 11 04 50.9 +0.1**
GMNA Gemona 4.72 334⇓*i*Pg **Pn 11 04 51.3 +0.3**
SARO Sassorosso 4.74 299 P **Pn 11 04 50.9 -0.3**
VLC Villacollemand 4.74 298 *e*Pn **Pn 11 04 51.7 +0.5**
VLC Villacollemand 4.74 298 *e*Pn **Pn 11 04 51.7 +0.5**
VAE Valguarnera 4.77 197 Pn **Pn 11 04 53.9 +2.3**
comp=Z,4.4nm,0.3s,baz=260,slow=3.0,SNR=4.9
VAE LR LR 11 07 28.4
comp=Z,727nm,19.1s,baz=315,slow=46
VAE Valguarnera 4.77 197 Pn **Pn 11 04 53.9 +2.3**
VAE LR LR 11 07 28.4
MPRI Monte Prat 4.78 332⇓*i*Pn **Pn 11 04 51.8 +0.1**
MPRI Monte Prat 4.78 332⇓*i*P **Pn 11 04 51.0 -0.7**
MPRI Monte Prat 4.78 332 *i* Pn **Pn 11 04 51.8 +0.1**
CAE Caneva 4.79 327⇓*i*Pn **Pn 11 04 51.8 -0.1**
CAE Caneva 4.79 327⇓*i*P **Pn 11 04 51.0 -0.9**
CAE Caneva 4.79 327 *i* Pn **Pn 11 04 51.8 -0.1**
GRG Griva 4.80 101 *e*Pn **Pn 11 04 52.0 0.0**
PTCC Patocco-Chiusa 4.80 336 Pg **Pn 11 04 52.0 -0.1**
BOO Bordano 4.81 334⇓*i*Pn **Pn 11 04 51.9 -0.3**
LSR Lussari 4.81 338⇓*i*Pn **Pn 11 04 52.6 +0.3**
LSR Lussari 4.81 338⇓*i*P **Pn 11 04 52.0 -0.3**
LSR Lussari 4.81 338 *i* Pn **Pn 11 04 52.6 +0.3**
HAGA Augusta 4.83 190 Pg **Pn 11 04 52.4 0.0**
comp=Z,271nm,0.6s
ERBM Eremo 4.83 301 Pg **Pn 11 04 54.8 +2.3**
comp=Z,492nm,0.7s
MLNI Malnisio 4.83 329⇓*i*Pn **Pn 11 04 52.5 -0.1**
MLNI Malnisio 4.83 329⇓*i*P **Pn 11 04 52.0 -0.5**
MLNI Malnisio 4.83 329 *i* Pn **Pn 11 04 52.5 0.0**
VAY Valandovo 4.84 97 *e*Pn **Pn 11 04 52.3 -0.3**
VAY *e*Sn **Sn 11 05 41.9 -5.6**
VAY Valandovo 4.84 97 *e*Pn **Pn 11 04 52.3 -0.3**
VAY *e*Sn **Sn 11 05 41.9 -5.6**
VAY Valandovo 4.84 97 P **Pn 11 04 52.0 -0.6**
VAY Valandovo 4.84 97 *e*Pn **Pn 11 04 52.2 -0.4**
VAY *e*Sn **Sn 11 05 41.8 -5.6**
AGST Augusta-Monte 4.85 189 P **Pn 11 04 52.2 -0.5**
VALM 4.91 300 P **Pn 11 04 53.3 -0.2**
CGRP Cima Grappa 4.96 322⇓*i*Pn **Pn 11 04 53.7 -0.6**
SSY Sortino 4.97 190 P **Pn 11 04 54.3 -0.1**
BACM 4.99 299 P **Pn 11 04 54.4 -0.3**
PLRO Paularo 4.99 335⇓*i*Pn **Pn 11 04 54.7 0.0**
PLRO Paularo 4.99 335⇓*i*P **Pn 11 04 54.0 -0.7**
PLRO Paularo 4.99 335 *i* Pn **Pn 11 04 54.7 0.0**
HVZN Vizzini 5.00 194 Pg **Pn 11 04 55.9 +1.1**
comp=Z,517nm,0.8s
HVZN Vizzini 5.00 194 P **Pn 11 04 56.0 +1.2**
CSO Casso 5.05 328⇓*i*Pn **Pn 11 04 55.0 -0.5**
ZOU Zoufplan 5.06 334⇓*i*Pn **Pn 11 04 55.7 +0.1**
THL Klokotos Trika 5.08 117 *e*P **Pn 11 04 55.9 0.0**
PZI Palazzolo 5.08 191 P **Pn 11 04 56.2 +0.3**
GRAM 5.08 301 P **Pn 11 04 55.7 -0.3**
KNT Kendrikon 5.12 98 *e*Pn **Pn 11 04 56.3 -0.1**
CSMI Casera Mimoias 5.13 332⇓*i*Pn **Pn 11 04 56.5 0.0**
CSMI Casera Mimoias 5.13 332⇓*i*P **Pn 11 04 56.0 -0.5**
VLS Valsamata 5.14 137 *e*P **Pn 11 04 56.2 -0.5**
HAVL Avola 5.15 189 P **Pn 11 04 56.6 -0.3**
KKB Krupnik 5.15 90 *i* P **Pn 11 04 58.4 +1.5**
LIT Litokhoron 5.15 110 *e*Pn **Pn 11 04 56.5 -0.4**
FAU Forcella Aurin 5.15 326⇓*i*Pn **Pn 11 04 56.8 -0.1**
FVI Forni Avoltri 5.16 333⇓*e*Pg **Pn 11 04 56.8 -0.1**
comp=Z,446nm,0.3s
CTI Castel Tesino 5.16 322 Pg **Pn 11 04 56.7 -0.3**
comp=Z,823nm,0.3s
CTI Castel Tesino 5.16 322 P **Pn 11 04 56.6 -0.4**
CODM 5.18 299 P **Pn 11 04 57.0 -0.3**
ARSA Arzberg 5.22 355 *i* Pn **Pn 11 04 58.2 +0.4**
SNR=205
ARSA ⇑*i*Sn **Sn 11 05 56.1 -0.6**
ARSA Arzberg 5.22 355 Pn **Pn 11 04 58.2 +0.4**
comp=Z,205nm,2.0s
ARSA Sn **Sn 11 05 56.1 -0.6**
CORF Corte 5.23 275 P **Pn 11 04 58.9 +1.0**
CORF S **Sn 11 05 56.2 -0.7**
VTS Vitosha 5.24 82 *i* P **Pn 11 04 59.4 +1.3**
VTS Vitosha 5.24 82⇓*i*P **Pn 11 04 59.5 +1.4**
DJES Djerdap 5.30 59⇓*i*Pn **Pn 11 04 59.9 +1.0**
THE Thessaloniki 5.30 103 *e*Pn **Pn 11 04 58.2 -0.7**
BZS Buzias 5.31 46 P **Pn 11 05 00.6 +1.6**
BZS Buzias 5.31 46⇑*i*P **Pn 11 05 00.4 +1.4**
EVR Evrytania 5.31 124 *e*P **Pn 11 05 00.6 +1.5**
AFL Alpe Faloria 5.32 329⇓*i*Pn **Pn 11 04 59.5 +0.4**
PGF Pioggiola 5.35 278 *e*Pn **Pn 11 04 59.1 -0.5**
SNR=1.0
PGF *e*Sn **Sn 11 05 56.0 -3.9**
comp=Z,94nm,0.7s
PGF Pioggiola 5.35 278 *e*Pn **Pn 11 04 59.1 -0.5**
PGF *e*Sn **Sn 11 05 56.0 -3.9**
comp=Z,47nm,0.7s
HORT Hortiatis 5.41 103 *e*Pn **Pn 11 04 59.7 -0.8**
KBA Koelnbreinsper 5.42 339 *i* Pn **Pn 11 05 01.3 +0.8**
SNR=184
KBA ⇑*i*Sn **Sn 11 06 02.3 +0.7**
KBA Koelnbreinsper 5.42 339 Pn **Pn 11 05 01.3 +0.8**
comp=Z,184nm,3.0s
KBA Sn **Sn 11 06 02.3 +0.7**
MAGA Magasa 5.47 315 P **Pn 11 05 00.7 -0.6**
SEST Monte Rota 5.49 330 P **Pn 11 05 02.1 +0.6**
SOH Sokhos 5.53 100 *e*Pn **Pn 11 05 02.0 -0.1**
AGG Agios Georgios 5.58 121 *e*Pn **Pn 11 05 03.0 +0.2**
BOB Bobbio (Coli) 5.60 301 Pg **Pn 11 05 04.8 +1.7**
comp=Z,603nm,0.4s
SOP Sopron 5.64 3⇑*e*Pn **Pn 11 05 04.1 +0.5**
SOP *e*Sn **Sn 11 06 03.0 -4.0**
SOP Sopron 5.64 3 P **Pn 11 05 03.5 -0.1**
SOP Sopron 5.64 3⇑*e*Pn **Pn 11 05 04.1 +0.5**
SOP *e*Sn **Sn 11 06 03.0 -4.0**
SRS Serrai 5.64 97 *e*Pn **Pn 11 05 03.5 0.0**
SRS Serrai 5.64 97 *e*Pn **Pn 11 05 03.5 -0.1**
MMB Musmiste 5.66 92 *i* P **Pn 11 05 05.0 +1.1**
APPI Appiano 5.67 323 Pg **Pn 11 05 03.9 -0.2**
comp=Z,339nm,0.3s
RLS Riolos of Patr 5.69 133 *e*P **Pn 11 05 04.9 +0.6**
MABI Malga Bissina 5.71 316 Pg **Pn 11 05 04.5 -0.1**
comp=Z,69nm,0.3s
PLG Polygyros 5.73 105 *e*P **Pn 11 05 04.3 -0.6**
VSL Villasalto 5.76 246 *e*Pn **Pn 11 05 04.8 -0.5**
VSL *e*Sn **Sn 11 06 08.6 -1.5**
VSL Villasalto 5.76 246 *e*Pn **Pn 11 05 04.8 -0.4**
VSL *e*Sn **Sn 11 06 08.6 -1.5**
NVR Nevrokopi 5.79 94 *e*P **Pn 11 05 09.7 +4.0**
BUD Budapest 5.79 19 *e*Pn **Pn 11 05 10.5 +4.8**
BUD *e*SB Sn 11 06 35.8 +25
GZR Gura Zlata 5.83 53 P **Pn 11 05 08.6 +2.3**
GZR Gura Zlata 5.83 53⇓*i*P **Pn 11 05 05.9 -0.3**
GZR Gura Zlata 5.83 53 P **Pn 11 05 08.6 +2.4**
CONA Conrad Observa 5.88 358 *i* Pn **Pn 11 05 07.2 +0.3**
SNR=222
CONA ⇑*i*Sn **Sn 11 06 13.4 +0.4**
SCE Schlegeis 5.92 329⇓*i*Pn **Pn 11 05 08.0 +0.6**
MOA Molln 5.95 347⇑*i*Sn **Sn 11 06 13.3 -1.5**
MOA Molln 5.95 347 *i* Pn **Pn 11 05 08.6 +0.7**
SNR=561
MOA ⇑*i*Sn **Sn 11 06 13.3 -1.5**
MOA Molln 5.95 347 Pn **Pn 11 05 08.6 +0.7**
comp=Z,561nm,3.0s
XOR Xorichti 5.97 114 *e*Pn **Pn 11 05 07.3 -0.8**
NEO Neokhori 6.02 115 *e*P **Pn 11 05 08.3 -0.5**
BGLD Berchtesgaden 6.03 339⇓*i*Pn **Pn 11 05 09.6 +0.6**
PAIG Paliouri 6.06 108 *e*Pn **Pn 11 05 08.2 -1.2**
PAIG Paliouri 6.06 108 *e*Pn **Pn 11 05 08.1 -1.3**
BRMO Bormio 6.08 319 P **Pn 11 05 10.1 +0.5**
PCP Pian Castagno 6.10 297 P **Pn 11 05 09.4 -0.5**
OUR Ouranopolis 6.13 104 *e*Pn **Pn 11 05 09.3 -1.1**
WTTA Wattenberg 6.13 330⇑*i*Sn **Sn 11 06 19.7 +0.4**
WTTA Wattenberg 6.13 330 *i* Pn **Pn 11 05 10.8 +0.4**
SNR=85
WTTA ⇑*i*Sn **Sn 11 06 19.7 +0.4**
WTTA Wattenberg 6.13 330 *i* Pn **Pn 11 05 10.8 +0.4**
WTTA *i* Sn **Sn 11 06 19.7 +0.4**
WTTA Wattenberg 6.13 330 Pn **Pn 11 05 10.8 +0.4**
comp=Z,84nm,8.0s
PENC Penc 6.14 20⇑*e*P **Pn 11 05 11.0 +0.5**
QLNO Quiliano 6.16 294 P **Pn 11 05 11.1 +0.4**
ZST Bratislava 6.18 6 P **Pn 11 05 11.6 +0.6**
BERNI Berninapass 6.21 317⇓*i*P Px 11 05 03.2
comp=Z,216nm,0.7s
BERNI Berninapass 6.21 317⇓*i*P **Pn 11 05 11.7 +0.3**
FIN Finale Ligure 6.22 293 Pg **Pn 11 05 11.6 +0.1**
comp=Z,68nm,0.4s
FIN Finale Ligure 6.22 293 P **Pn 11 05 11.5 0.0**
WATA Walderalm 6.22 330⇓*i*Sn **Sn 11 06 23.5 +2.2**
WATA Walderalm 6.22 330 *i* Pn **Pn 11 05 12.2 +0.7**
SNR=141
WATA ⇓*i*Sn **Sn 11 06 23.5 +2.2**
WATA Walderalm 6.22 330 Pn **Pn 11 05 12.2 +0.7**
comp=Z,141nm,4.0s
LKR Lokris 6.22 121 *e*P **Pn 11 05 11.2 -0.4**
FUORN Ofenpass 6.23 319⇓*i*P Px 11 05 04.4
comp=Z,157nm,0.3s
FUORN Ofenpass 6.23 319⇓*i*P **Pn 11 05 12.1 +0.4**
SQTA Sankt Quirin 6.26 327⇑*i*Sn **Sn 11 06 23.3 +0.8**
SQTA Sankt Quirin 6.26 327 *i* Pn **Pn 11 05 12.9 +0.7**
SNR=237
SQTA ⇑*i*Sn **Sn 11 06 23.3 +0.8**
SQTA Sankt Quirin 6.26 327 Pn **Pn 11 05 12.9 +0.7**
comp=Z,237nm,2.0s
PLD Plovdiv 6.34 87 *i* P **Pn 11 05 14.6 +1.3**
IMI Imperia 6.36 290 P **Pn 11 05 14.2 +0.8**
RZN Rozhen 6.38 90 *i* P **Pn 11 05 15.3 +1.5**
MOTA Moosalm 6.41 327⇑*i*Sn **Sn 11 06 28.6 +2.6**
MOTA Moosalm 6.41 327 *i* Pn **Pn 11 05 14.9 +0.8**
SNR=218
MOTA ⇑*i*Sn **Sn 11 06 28.6 +2.6**
MOTA Moosalm 6.41 327 Pn **Pn 11 05 14.9 +0.8**
comp=Z,217nm,9.0s
PSZ Piszkesteto 6.43 23⇓*i*P **Pn 11 05 14.2 -0.2**
PSZ Piszkesteto 6.43 23⇑*e*Pn **Pn 11 05 19.3 +4.9**
PSZ Piszkesteto 6.43 23 *e*Pn **Pn 11 05 14.4 0.0**
MUGIO Muggio 6.44 309⇓*i*P Px 11 05 04.8
comp=Z,98nm,0.1s
MUGIO Muggio 6.44 309⇓*i*P **Pn 11 05 13.1 -1.5**
NEGI Negi 6.47 289 P **Pn 11 05 14.9 -0.1**
ROB Roburent 6.47 293 P **Pn 11 05 14.6 -0.5**
MONE Monesi 6.49 291 P **Pn 11 05 15.9 +0.6**
SMOL Smolenice 6.52 7 *e*PN **Pn 11 05 16.3 +0.6**
SMOL *e*SN **Sn 11 06 24.0 -4.8**
AOS Alonnisos 6.53 114 *e*Pn **Pn 11 05 14.5 -1.3**
DAVOX Davos 6.53 318⇑*i*P Px 11 05 05.1
comp=Z,135nm,0.3s
DAVOX Davos 6.53 318⇑*i*P **Pn 11 05 16.5 +0.7**
VDL Val di Lei 6.54 315⇑*i*P Px 11 05 06.5
comp=Z,342nm,0.3s
VDL Val di Lei 6.54 315⇑*i*P **Pn 11 05 16.5 +0.5**
ITM Ithomi 6.58 136 *e*P **Pn 11 05 16.0 -0.6**
ITM Ithomi 6.58 136 P **Pn 11 05 15.3 -1.3**
TUE Stuetta 6.60 314 P **Pn 11 05 15.9 -0.9**
SAOF Saorge 6.61 290 P **Pn 11 05 18.3 +1.4**
DRGR 6.66 42⇑*i*P **Pn 11 05 20.3 +2.8**
SBF Sospel 6.67 289 *e*Pn **Pn 11 05 18.2 +0.5**
SNR=1.0
SBF *e*Sn **Sn 11 06 27.8 -4.6**
comp=Z,122nm,0.6s
SBF Sospel 6.67 289 *e*Pn **Pn 11 05 18.2 +0.5**
SNR=1.0
SBF *e*Sn **Sn 11 06 27.8 -4.6**
comp=Z,61nm,0.6s
REVF Revere 6.69 288 P **Pn 11 05 18.7 +0.7**
AUTN L'Aution 6.70 290 P **Pn 11 05 19.6 +1.4**
VYHS Vyhne 6.71 15 *e*PN **Pn 11 05 18.9 +0.6**
VYHS *e*SN **Sn 11 06 29.5 -3.9**
MONC Moncucco Torin 6.71 300 Pg **Pn 11 05 18.8 +0.5**
comp=Z,335nm,0.6s
ENR Entracque 6.76 292 P **Pn 11 05 19.0 -0.1**
TOUF Mont Tournerai 6.83 290 P **Pn 11 05 21.6 +1.6**
STV Sta Anna Valdi 6.84 292 P **Pn 11 05 20.3 +0.3**
MVIF Mont Vial 6.87 289 P **Pn 11 05 21.9 +1.4**
JAVC Velka Javorina 6.89 8 P **Pn 11 05 22.6 +1.9**
DAVA Damuels 6.89 322 *i* Pn **Pn 11 05 21.4 +0.5**
SNR=141
DAVA ⇑*i*Sn **Sn 11 06 36.0 -2.0**
KDZ Kurdzhali 6.91 90 *i* P **Pn 11 05 21.0 0.0**
FUSIO Fusio 6.96 312⇑*i*P Px 11 05 07.2
comp=Z,107nm,0.2s
FUSIO Fusio 6.96 312⇑*i*P **Pn 11 05 20.8 -0.9**
DOI San Damiano 6.96 294 Pg **Pn 11 05 21.3 -0.5**
PLONS Plons 6.96 318⇓*i*P Px 11 05 08.2
comp=Z,134nm,0.5s
PLONS Plons 6.96 318⇓*i*P **Pn 11 05 22.7 +0.9**
KRUC Moravsky 7.01 1 P **Pn 11 05 22.0 -0.4**
GEC2 GERESS Array S 7.01 346 *e*Pn **Pn 11 05 22.4 0.0**
GEC2 *e*Sn **Sn 11 06 37.5 -3.4**
GERES GERESS Array B 7.01 346 Pn **Pn 11 05 22.3 -0.2**
comp=Z,15nm,0.3s,baz=164,slow=14,SNR=350
GERES Sn **Sn 11 06 36.7 -4.1**
comp=Z,24nm,0.3s,baz=160,slow=24,SNR=9.9
FUR Furstenfeldbru 7.03 332 *e*Pn **Pn 11 05 22.4 -0.2**
FUR *e*Sn **Sn 11 06 39.0 -2.2**
RDO Rodhopi 7.07 94 *e*P **Pn 11 05 23.3 0.0**
RDO Rodhopi 7.07 94 P **Pn 11 05 22.5 -0.8**
ATH Athens Observa 7.08 123 *e*P **Pn 11 05 22.4 -0.9**
LIENZ Alp Oberkamor 7.08 320⇓*i*P **Pn 11 05 23.6 +0.2**
KECS Kecovo 7.11 24 *e*PN **Pn 11 05 27.3 +3.5**
MMK Mattmark 7.14 307 *i* P Px 11 05 10.4
comp=Z,63nm,0.2s
MMK Mattmark 7.14 307 *i* P **Pn 11 05 21.6 -2.6**
FRF La Foret Royal 7.17 285 *e*Pn **Pn 11 05 24.1 -0.5**
SNR=1.0
FRF *e*Sn **Sn 11 06 39.3 -5.5**
comp=Z,27nm,0.5s
FRF La Foret Royal 7.17 285 *e*Pn **Pn 11 05 24.1 -0.5**
SNR=1.0
FRF *e*Sn **Sn 11 06 39.3 -5.5**
comp=Z,14nm,0.5s
RSP Reno Superiore 7.18 299 P **Pn 11 05 24.5 -0.2**
LMR La Mourre 7.24 283 *e*Pn **Pn 11 05 25.2 -0.4**
LMR *e*Sn **Sn 11 06 40.8 -5.7**
comp=Z,15nm,0.4s
LMR La Mourre 7.24 283 *e*Pn **Pn 11 05 25.2 -0.4**
LMR *e*Sn **Sn 11 06 40.8 -5.7**
comp=Z,7.3nm,0.4s
SURF Saint Ours 7.25 293 P **Pn 11 05 25.6 -0.2**
VOIR 7.26 59⇓*i*P **Pn 11 05 29.3 +3.5**
VRAC Vranov 7.26 2 Pn **Pn 11 05 26.4 +0.5**
comp=Z,3.0nm,0.3s,baz=195,slow=12,SNR=17
VRAC Sn **Sn 11 06 42.6 -4.5**
comp=Z,6.9nm,0.3s,baz=254,slow=18,SNR=10
VRAC Vranov 7.26 2 P **Pn 11 05 26.4 +0.5**
VRAC 11 06 42.6
VRAC pmax pmax
comp=Z,3.0nm,0.3s
VRAC smax
comp=N,7.0nm,0.3s
VRAC Vranov 7.26 2 P **Pn 11 05 26.5 +0.6**
VRAC Vranov 7.26 2⇑*i*P **Pn 11 05 26.3 +0.4**
VRAC Vranov 7.26 2 *e*Pn **Pn 11 05 26.2 +0.3**
OG22 Abries 7.27 295 P **Pn 11 05 24.6 -1.4**
MUO Muotathal 7.29 315⇓*i*P Px 11 05 10.9
comp=N,445nm,0.5s
MUO Muotathal 7.29 315⇓*i*P **Pn 11 05 26.9 +0.6**
SZH Strazhica 7.29 77 *i* P **Pn 11 05 27.8 +1.5**
KHC Kasperske Hory 7.31 346 *e*PN **Pn 11 05 26.2 -0.3**
KHC *ex* x 11 05 35.0
KHC *e*SN **Sn 11 06 44.4 -3.8**
MBDF Montbardon 7.36 294 *e*Pn **Pn 11 05 25.6 -1.5**
SNR=1.0
MBDF *e*Sn **Sn 11 06 42.8 -6.5**
comp=N,79nm,0.6s
MBDF Montbardon 7.36 294 *e*Pn **Pn 11 05 25.6 -1.5**
SNR=1.0
MBDF *e*Sn **Sn 11 06 42.8 -6.5**
comp=N,40nm,0.6s
WILA Wila 7.45 318⇑*i*P Px 11 05 11.7
comp=N,44nm,0.2s
WILA Wila 7.45 318⇑*i*P **Pn 11 05 28.5 0.0**
WET Wettzell 7.46 343 *e*Pn **Pn 11 05 27.8 -0.8**
WET *e*Sn **Sn 11 06 46.1 -5.8**
VLI Veliai 7.47 133 *e*P **Pn 11 05 28.3 -0.4**
ALN Alexandroupoli 7.50 96 *e*Pn **Pn 11 05 29.2 +0.1**
LKBD Leukerbad 7.52 308⇑*i*P Px 11 05 13.9
comp=N,538nm,0.4s
LKBD Leukerbad 7.52 308⇑*i*P **Pn 11 05 28.4 -0.9**
BNI Bardonecchia 7.52 297 *e*Pn **Pn 11 05 28.6 -0.9**
BNI *e*Sn **Sn 11 06 52.4 -1.1**
BNI Bardonecchia 7.52 297 *e*Pn **Pn 11 05 28.5 -1.0**
TAVF Tavernes 7.60 285 P **Pn 11 05 32.5 +2.0**
SISB Singen-Schiene 7.61 320 P **Pn 11 05 30.4 -0.3**
ENEZ Enez 7.61 97 *e*PN **Pn 11 05 30.3 -0.4**
LPG La Plagne 7.64 300 *e*Pn **Pn 11 05 29.4 -1.7**
SNR=1.0
LPG *e*Sg **Sn 11 06 49.6 -6.8**
comp=N,152nm,0.5s
LPG La Plagne 7.64 300 *e*Pn **Pn 11 05 29.4 -1.7**
SNR=1.0
LPG *e*Sg **Sn 11 06 49.6 -6.8**
comp=N,76nm,0.5s
LPL La Plagne 7.66 300 *e*Pn **Pn 11 05 29.2 -2.1**
SNR=1.0
LPL *e*Sn **Sn 11 06 50.0 -6.9**
comp=N,188nm,0.5s
LPL La Plagne 7.66 300 *e*Pn **Pn 11 05 29.2 -2.1**
SNR=1.0
LPL *e*Sn **Sn 11 06 50.0 -6.9**
comp=N,94nm,0.5s
SENIN Lac Senin 7.70 307⇑*i*P Px 11 05 16.5
comp=N,193nm,0.3s
SENIN Lac Senin 7.70 307⇑*i*P **Pn 11 05 31.3 -0.5**
JMB Yambol 7.73 83 *i* P **Pn 11 05 32.8 +0.5**
OG25 Le Caire 7.74 291 P **Pn 11 05 33.5 +1.1**
GRYON Gryon 7.75 306⇓*i*P Px 11 05 16.5
comp=N,107nm,0.2s
GRYON Gryon 7.75 306⇓*i*P **Pn 11 05 32.7 +0.1**
HDH Heidenheim-Cha 7.77 329 P **Pn 11 05 31.2 -1.6**
HDH S **Sn 11 06 52.4 -7.1**
MORC Moravsky Berou 7.78 7 *e*Pn **Pn 11 05 34.1 +1.1**
MORC *e*pPn 11 05 42.9
MORC Moravsky Berou 7.78 7⇑*i*P **Pn 11 05 34.3 +1.3**
MORC Moravsky Berou 7.78 7 *e*P **Pn 11 05 34.2 +1.2**
MORC *e*Sn **Sn 11 06 55.5 -4.4**
SALAN Lac Salanfe 7.79 305⇓*i*P Px 11 05 18.8
comp=N,365nm,0.6s
SALAN Lac Salanfe 7.79 305⇓*i*P **Pn 11 05 33.4 +0.4**
CRVS Cervenica-Dubn 7.79 27 *e*PN **Pn 11 05 35.8 +2.7**
RSL Roselend 7.80 301 P **Pn 11 05 32.4 -0.8**
RSL S **Sn 11 06 57.2 -3.1**
GUT Gutenstein 7.82 323 P **Pn 11 05 32.2 -1.3**
GUT S **Sn 11 06 53.9 -6.9**
MLR Muntele Rosu 7.86 61 Pn **Pn 11 05 36.6 +2.5**
comp=N,1.7nm,0.3s,baz=179,slow=6.5,SNR=44
MLR Muntele Rosu 7.86 61 P **Pn 11 05 36.6 +2.6**
MLR pmax pmax
comp=Z,2.0nm,0.3s
MLR Muntele Rosu 7.86 61 P **Pn 11 05 37.5 +3.5**
MLR Muntele Rosu 7.86 61⇑*i*P **Pn 11 05 37.5 +3.5**
UZH Uzhgorod 7.86 31 *e*P **Pn 11 05 42.0 +7.9**
UZH MLR MLR
comp=Z,2μm,6.8s
SLE Schleitheim 7.90 319⇓*i*P Px 11 05 20.8
comp=Z,48nm,0.2s
SLE Schleitheim 7.90 319 *i* P **Pn 11 05 33.6 -1.0**
OKC Ostrava-Krasne 7.91 9 *e*PN **Pn 11 05 35.7 +1.0**
OKC *e*SN **Sn 11 06 59.1 -3.8**
GDM Grand'Maison 7.95 297 P **Pn 11 05 36.4 +1.1**
SPAK Spaichingen-Ko 8.00 322 P **Pn 11 05 34.9 -1.0**
SPAK Spaichingen-Ko 8.00 322 P **Pn 11 05 35.6 -0.3**
EZN Ezine 8.00 103 *e*PN **Pn 11 05 35.4 -0.6**
BUCH Bad Urach 8.00 325 P **Pn 11 05 34.8 -1.2**
BUCH S **Sn 11 06 58.8 -6.5**
SMRF Simiane la Rot 8.01 287 *e*Pn **Pn 11 05 36.4 +0.3**
SNR=1.0
ORIF Oris-en-Rattie 8.02 294 *e*Pn **Pn 11 05 36.5 +0.3**
SNR=1.0
ORIF *e*Sn **Sn 11 06 59.0 -6.6**
comp=Z,60nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 8.02 294 *e*Pn **Pn 11 05 36.5 +0.3**
SNR=1.0
ORIF *e*Sn **Sn 11 06 59.0 -6.6**
comp=Z,30nm,0.5s,SNR=1.0
PRU Pruhonice 8.02 352 *e*PN **Pn 11 05 35.5 -0.7**
PRU *e*SN **Sn 11 07 01.3 -4.3**
BALST Balsthal 8.02 314⇓*i*P Px 11 05 22.0
comp=Z,86nm,0.4s
BALST Balsthal 8.02 314⇓*i*P **Pn 11 05 35.3 -1.0**
GELF Grande-Etoile 8.03 283 P **Pn 11 05 37.8 +1.4**
OG01 Vacheresse 8.05 305 P **Pn 11 05 36.2 -0.5**
PRA Prague 8.11 352 PN **Pn 11 05 37.0 -0.5**
PRK Paraskevi 8.17 107 *e*P **Pn 11 05 38.0 -0.3**
TUBL Tuebingen-Lenn 8.18 325 P **Pn 11 05 38.6 +0.2**
ROTZ Rotzenmuhle 8.20 342 *e*Pn **Pn 11 05 37.3 -1.4**
ROTZ *e*Sn **Sn 11 07 02.8 -7.2**
BBS Basel-Blauen 8.20 314 P **Pn 11 05 38.1 -0.7**
BBS S **Sn 11 07 04.7 -5.5**
GRN Grenoble 8.21 296 P **Pn 11 05 39.1 +0.2**
FELD Feldberg im Sc 8.21 318 P **Pn 11 05 37.8 -1.1**
FELD S **Sn 11 07 02.7 -7.7**
KEST Kesra 8.26 222 Pn **Pn 11 05 43.0 +3.5**
comp=Z,0.4nm,0.3s,baz=278,slow=7.2,SNR=6.0
PRAF Pradon 8.27 286 P **Pn 11 05 41.2 +1.5**
DPC Dobruska-Polom 8.30 1 *e*PN **Pn 11 05 41.2 +1.1**
KIZ Kirchzarten 8.31 318 P **Pn 11 05 38.8 -1.4**
KIZ S **Sn 11 07 06.1 -6.7**
BOURR Bourrignon 8.31 313⇓*i*P Px 11 05 21.6
comp=Z,70nm,0.4s
BOURR Bourrignon 8.31 313⇓*i*P **Pn 11 05 38.9 -1.3**
PRD Provadia 8.35 78 *i* P **Pn 11 05 42.0 +1.2**
BFO Black Forest 8.37 321 *e*Pn **Pn 11 05 39.6 -1.5**
GRA1 Grafenberg Arr 8.38 337 *e*Pn **Pn 11 05 39.4 -1.9**
GRF Grafenberg Arr 8.38 337 *e*Pn **Pn 11 05 39.4 -1.9**
GRFO Grafenberg 8.38 337 *e*P **Pn 11 05 39.7 -1.6**
GRFO pmax pmax
comp=Z,45nm,0.6s
GRFO Grafenberg 8.38 337 *e*Pn **Pn 11 05 39.7 -1.6**
comp=Z,45nm,0.6s
GRFO Grafenberg 8.38 337 *e*Pn **Pn 11 05 39.7 -1.6**
comp=Z,45nm,0.6s
GIMEL Gimel 8.40 306⇓*i*P Px 11 05 21.6
comp=Z,61nm,0.2s
GIMEL Gimel 8.40 306⇓*i*P **Pn 11 05 40.4 -1.1**
LBG Lerchenberg 8.41 324 P **Pn 11 05 40.3 -1.3**
LBG S **Sn 11 07 07.8 -7.4**
MANZ Manzenberg 8.42 342 *e*Pn **Pn 11 05 40.6 -1.2**
MANZ *e*Sn **Sn 11 07 09.4 -6.2**
UPC Upice 8.46 359 *e*PN **Pn 11 05 43.4 +1.1**
CANB Canakkale 8.47 100 *e*PN **Pn 11 05 41.3 -1.2**
CANB Canakkale 8.47 100 *i* P **Pn 11 05 41.8 -0.7**
BRANT Les Verrieres 8.48 308⇑*i*P Px 11 05 22.7
comp=Z,116nm,0.3s
BRANT Les Verrieres 8.48 308⇑*i*P **Pn 11 05 41.5 -1.1**
BURAR Bucovina Array 8.49 46⇑*i*P **Pn 11 05 46.8 +4.1**
LOMF Lomont 8.51 312 P **Pn 11 05 41.6 -1.3**
VRI Vrincioaia 8.51 60⇓*i*P **Pn 11 05 45.5 +2.5**
OJC Ojcow 8.54 16 *e*P **Pn 11 05 46.8 +3.3**
OJC *e*PP 11 05 55.7
CABF La Chapelle 8.55 306 *e*Pn **Pn 11 05 42.3 -1.2**
SNR=1.0
CABF *e*Sn **Sn 11 07 11.3 -7.3**
comp=Z,155nm,0.7s
CABF La Chapelle 8.55 306 *e*Pn **Pn 11 05 42.3 -1.2**
SNR=1.0
CABF *e*Sn **Sn 11 07 11.3 -7.3**
comp=Z,78nm,0.7s
PVCC Panska Ves 8.55 353 *e*PN **Pn 11 05 43.3 -0.2**
NKC Novy Kostel 8.58 344 *e*PN **Pn 11 05 43.1 -0.9**
NKC *e*SN **Sn 11 07 14.0 -5.5**
SIND Sindeldorf 8.62 330⇑P **Pn 11 05 42.7 -1.8**
MOF Molkenrain 8.64 315 P **Pn 11 05 43.6 -1.2**
WERN Wernitzgruen 8.65 344 *e*Pn **Pn 11 05 44.0 -0.9**
GUNZ Gunzen 8.73 344 *e*Pn **Pn 11 05 45.3 -0.7**
TANN Tannenbergstha 8.75 344 *e*Pn **Pn 11 05 45.3 -1.0**
APE Apeiranthos 8.77 122 *e*P **Pn 11 05 45.0 -1.5**
APE Apeiranthos 8.77 122*d*P **Pn 11 05 44.9 -1.6**
APE Apeiranthos 8.77 122⇓*i*P **Pn 11 05 45.1 -1.4**
HINF Hinteralfeld 8.77 314 *e*Pn **Pn 11 05 44.8 -1.7**
SNR=1.0
HINF *e*Sn **Sn 11 07 15.9 -8.2**
comp=Z,226nm,0.3s
HINF Hinteralfeld 8.77 314 *e*Pn **Pn 11 05 44.8 -1.7**
SNR=1.0
HINF *e*Sn **Sn 11 07 15.9 -8.2**
comp=Z,113nm,0.3s
URLA Izmir 8.78 111 *i* P **Pn 11 05 46.3 -0.4**
KSP Ksiaz 8.79 0 *e*Pn **Pn 11 05 47.9 +1.0**
KSP *e* 11 05

KSP *e*Sn **Sn** **11 07 18.0 -6.7**
WERD Werda 8.81 344 *e*Pn **Pn** **11 05 46.2 -0.9**
VIVF Saint-Julien-I 8.83 292 *e*Pn **Pn** **11 05 45.6 -1.7**
SNR=1.0
VIVF *e*Sn **Sn** **11 07 18.3 -7.2**
comp=Z,32nm,0.6s
VIVF Saint-Julien-I 8.83 292 *e*Pn **Pn** **11 05 45.6 -1.7**
SNR=1.0
VIVF *e*Sn **Sn** **11 07 18.3 -7.2**
comp=Z,16nm,0.6s
ECH Echery 8.86 317 P **Pn** **11 05 47.2 -0.6**
CDF Champ du Feu 8.93 318 *e*Pn **Pn** **11 05 47.1 -1.7**
SNR=1.0
CDF *e*Sn **Sn** **11 07 16.7 -11**
comp=Z,45nm,0.3s,SNR=1.0
BRG Berggiesshubel 8.96 351 *e*Pn **Pn** **11 05 48.0 -1.1**
BRG Berggiesshubel 8.96 351 *i* P **Pn** **11 05 47.9 -1.2**
comp=Z,7.4nm,0.8s
BRG *i* 11 07 49.1
comp=Z,12nm,0.7s
BRG *i* 11 08 25.0
comp=Z,21nm,1.1s
BNT Bandirma 9.01 97 *e*PN **Pn** **11 05 49.8 -0.1**
BLCB Balcova 9.08 110 *e*PN **Pn** **11 05 51.1 +0.3**
FBE Freiberg 9.08 349 *e*Pn **Pn** **11 05 49.7 -1.1**
LANF Langenberg 9.08 323 P **Pn** **11 05 50.1 -0.7**
SWS Schriesheim-Wi 9.08 327 P **Pn** **11 05 49.0 -1.8**
VAM Vamos 9.12 134 *e*P **Pn** **11 05 50.0 -1.4**
TOD Tromm 9.14 328 P **Pn** **11 05 49.8 -1.8**
MOX Moxa 9.15 341 *e*Pn **Pn** **11 05 50.1 -1.7**
MOX *e*Sn **Sn** **11 07 26.2 -7.3**
MOX Moxa 9.15 341 *e*PN **Pn** **11 05 50.9 -0.9**
MOX *e*SN **Sn** **11 07 26.2 -7.3**
HAU Haudompre 9.15 314 *e*Pn **Pn** **11 05 50.3 -1.5**
SNR=1.0
HAU *e*Sn **Sn** **11 07 24.9 -8.6**
comp=Z,493nm,0.3s,SNR=1.0
HAU Haudompre 9.15 314 *e*Pn **Pn** **11 05 50.3 -1.5**
SNR=1.0
HAU *e*Sn **Sn** **11 07 24.9 -8.6**
comp=Z,247nm,0.3s,SNR=1.0
SANT Santorini 9.16 125 *e*Pn **Pn** **11 05 50.4 -1.6**
SANT *ep*Pn 11 05 58.5
SANT *e*Sn **Sn** **11 07 29.3 -4.5**
KTD Kalmit 9.21 325 P **Pn** **11 05 51.2 -1.4**
CTT Catalca 9.22 92 *e*PN **Pn** **11 05 53.3 +0.5**
IZM Izmir 9.23 110 *e*PN **Pn** **11 05 53.1 +0.3**
KDAG Bornova 9.23 110 *i* P **Pn** **11 05 52.5 -0.4**
LASF Ste Croix 9.24 287 *e*Pn **Pn** **11 05 51.3 -1.8**
SNR=1.0
TIRR Tirgusor 9.25 71 ||*i*P **Pn** **11 05 55.7 +2.6**
BTOK Tokmak 9.26 100 *i* P **Pn** **11 05 53.6 +0.3**
SMG Samos 9.27 114 *e*P **Pn** **11 05 52.9 -0.5**
THEF They Montfort 9.48 314 P **Pn** **11 05 54.8 -1.5**
LVV L'vov 9.49 32 *e*P **Pn** **11 06 05.7 +9.2**
GVD Gavdhos 9.50 137 *e*Pn **Pn** **11 05 54.8 -1.8**
GVD *e*Sn **Sn** **11 07 28.7 -13**
GVD Gavdhos 9.50 137 *e*Pn **Pn** **11 05 54.8 -1.8**
CLL Collm 9.51 348 *e*Pn **Pn** **11 05 55.6 -1.1**
CLL Collm 9.51 348 *i* P **Pn** **11 05 55.7 -1.0**
CLL *i* 11 07 39.5
CLL pmax pmax
comp=Z,43nm,0.4s
CLL Collm 9.51 348 *i* Pn **Pn** **11 05 55.7 -1.0**
comp=Z,43nm,0.4s
CLL *i* 11 06 06.9
CLL *i* Sn **Sn** **11 07 39.5 -2.8**
CLL *i* Sg 11 08 53.3
CLL Collm 9.51 348 *i* Pn **Pn** **11 05 55.7 -1.0**
comp=Z,43nm,0.4s
CLL *ex* x 11 06 03.0
CLL *i* x x 11 06 06.9
CLL *i* Sn **Sn** **11 07 39.5 -2.8**
CLL *ex* x 11 08 16.0
CLL *i* Sg 11 08 53.3
comp=Z,104nm,1.3s
IDI Anoyia 9.59 132 Pn **Pn** **11 05 54.6 -3.2**
comp=Z,9.9nm,0.3s,baz=316,slow=15,SNR=42
IDI Sn **Sn** **11 07 31.8 -12**
comp=Z,46nm,0.3s,baz=108,slow=22,SNR=9.3
TNS Taunus Mts 9.77 329 *e*Pn **Pn** **11 05 58.6 -1.6**
PLDF La Plantade 9.86 298 P **Pn** **11 05 59.2 -2.2**
ABH Alteburg 9.86 325 P **Pn** **11 06 00.3 -1.2**
LBL Lubilhac 9.90 293 P **Pn** **11 06 00.7 -1.3**
RUP Ruppelstein 9.94 323 P **Pn** **11 06 02.9 +0.3**
SMF Signal de Mont 9.96 302 *e*Pn **Pn** **11 06 00.5 -2.3**
SNR=1.0
SMF *e*Sn **Sn** **11 07 44.2 -9.0**
comp=Z,77nm,0.4s,SNR=1.0
SMF Signal de Mont 9.96 302 *e*Pn **Pn** **11 06 00.5 -2.3**
SNR=1.0
SMF *e*Sn **Sn** **11 07 44.2 -9.0**
comp=Z,39nm,0.4s,SNR=1.0
ULDT Uludag 9.97 97 *i* P **Pn** **11 06 03.2 +0.3**
NPS Neapolis 10.01 130 *e*P **Pn** **11 06 01.0 -2.6**
MLSB Milas 10.12 114 *e*PN **Pn** **11 06 05.0 -0.1**
MEZF Maizieres J'vi 10.15 313 *e*Pn **Pn** **11 06 04.0 -1.4**
SNR=1.0
MEZF *e*Sn **Sn** **11 07 47.7 -10**
comp=Z,82nm,0.5s,SNR=1.0
MEZF Maizieres J'vi 10.15 313 *e*Pn **Pn** **11 06 04.0 -1.4**
SNR=1.0
MEZF *e*Sn **Sn** **11 07 47.7 -10**
comp=Z,41nm,0.5s,SNR=1.0
LOR Lormes 10.21 305 *e*Pn **Pn** **11 06 03.9 -2.3**
SNR=1.0
LOR *e*Sn **Sn** **11 07 49.5 -10**
comp=Z,82nm,0.3s,SNR=1.0
LOR Lormes 10.21 305 *e*Pn **Pn** **11 06 03.9 -2.3**
SNR=1.0
LOR *e*Sn **Sn** **11 07 49.5 -10**
comp=Z,41nm,0.3s,SNR=1.0
AGO Saint Agoulin 10.21 297 P **Pn** **11 06 04.0 -2.2**
KIS Kishinev 10.29 57 *e*P **Pn** **11 06 07.0 -0.3**
DAT Datca 10.30 117 *e*PN **Pn** **11 06 07.8 +0.4**
AVF Avril sur Loir 10.32 302 *e*Pn **Pn** **11 06 05.5 -2.3**
SNR=1.0
AVF *e*Sn **Sn** **11 07 50.9 -11**
comp=Z,42nm,0.6s,SNR=1.0
AVF Avril sur Loir 10.32 302 *e*Pn **Pn** **11 06 05.5 -2.3**
SNR=1.0
AVF *e*Sn **Sn** **11 07 50.9 -11**
comp=Z,21nm,0.6s,SNR=1.0
WLF Walferdange 10.33 321 *e*Pn **Pn** **11 06 09.0 +1.1**
WLF Walferdange 10.33 321 P **Pn** **11 06 08.8 +0.8**
WLF Walferdange 10.33 321 *e*Pn **Pn** **11 06 08.3 +0.4**
WLF *ep*Pn 11 06 16.8
WLF *e*Sn **Sn** **11 08 04.2 +1.9**
SSF Saint Saulge 10.33 303 *e*Pn **Pn** **11 06 05.2 -2.8**
SNR=1.0
SSF *e*Sn **Sn** **11 07 52.5 -10**
comp=Z,55nm,0.4s,SNR=1.0
SSF Saint Saulge 10.33 303 *e*Pn **Pn** **11 06 05.2 -2.8**
SNR=1.0
SSF *e*Sn **Sn** **11 07 52.5 -10**
comp=Z,28nm,0.4s,SNR=1.0
MTLF Montolieu 10.36 282 *e*Pn **Pn** **11 06 05.7 -2.6**
SNR=1.0
YER Yerkesik 10.55 114 *e*PN **Pn** **11 06 10.2 -0.8**
BGF Bois d'Agland 10.56 300 *e*Pn **Pn** **11 06 08.2 -2.9**
SNR=1.0
BGF *e*Sn **Sn** **11 07 58.8 -9.3**
comp=Z,71nm,0.4s,SNR=1.0
BGF Bois d'Agland 10.56 300 *e*Pn **Pn** **11 06 08.2 -2.9**
SNR=1.0
BGF *e*Sn **Sn** **11 07 58.8 -9.3**
comp=Z,36nm,0.4s,SNR=1.0
CLZ Clausthal 10.56 340 *e*Pn **Pn** **11 06 10.1 -1.0**
CAF Calviac 10.65 290 *e*Pn **Pn** **11 06 10.0 -2.3**
SNR=1.0
CAF *e*Sn **Sn** **11 08 01.5 -8.8**
comp=Z,12nm,0.8s
CAF Calviac 10.65 290 *e*Pn **Pn** **11 06 10.0 -2.3**
SNR=1.0
CAF *e*Sn **Sn** **11 08 01.5 -8.8**
comp=Z,6.2nm,0.8s
KARP Karpathos 10.75 124 *e*P **Pn** **11 06 11.0 -2.6**
DENT Denizli 10.77 109 *e*PN **Pn** **11 06 14.1 +0.2**
DNZL Cakiroluk 10.80 110 *i* P **Pn** **11 06 22.0 +7.6**
TCF Toulx Ste Croi 10.89 298 *e*Pn **Pn** **11 06 13.8 -1.8**
SNR=1.0
TCF *e*Sn **Sn** **11 08 06.6 -9.5**
comp=Z,23nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 10.89 298 *e*Pn **Pn** **11 06 13.8 -1.8**
SNR=1.0
TCF *e*Sn **Sn** **11 08 06.6 -9.5**
comp=Z,12nm,0.4s,SNR=1.0
HYF Humbligny 10.96 303 *e*Pn **Pn** **11 06 13.8 -2.7**
HYF *e*Sn **Sn** **11 08 08.4 -9.4**
DALT Dalyan (Mudla) 10.98 115 *e*PN **Pn** **11 06 17.1 +0.3**
MEM Membach 11.07 324 P **Pn** **11 06 18.3 +0.3**
RJF Les Rejaudoux 11.11 292 *e*Pn **Pn** **11 06 14.3 -4.2**
RJF *e*Sn **Sn** **11 08 12.6 -8.8**
comp=Z,12nm,0.7s
RJF Les Rejaudoux 11.11 292 *e*Pn **Pn** **11 06 14.3 -4.2**
RJF *e*Sn **Sn** **11 08 12.6 -8.8**
comp=Z,5.8nm,0.7s
HENT Hendek 11.12 91 *i* P **Pn** **11 06 19.9 +1.1**
HGN Heimansgroeve 11.21 324 *ex* x 11 06 20.1
comp=Z,11nm,0.5s
BCLA Clavier 11.25 322 P **Pn** **11 06 21.6 +1.2**
GIVF Givet 11.26 320 *e*Pn **Pn** **11 06 18.0 -2.6**
SNR=1.0
GIVF *e*Sn **Sn** **11 08 14.9 -10**
comp=Z,39nm,0.7s
GIVF Givet 11.26 320 *e*Pn **Pn** **11 06 18.0 -2.6**
SNR=1.0
GIVF *e*Sn **Sn** **11 08 14.9 -10**
comp=Z,19nm,0.7s
FETY Fethiye 11.36 114 *e*PN **Pn** **11 06 22.0 0.0**
DOU Dourbes 11.37 319 P **Pn** **11 06 22.7 +0.6**
ESKT Eskisehir 11.41 98 *e*PN **Pn** **11 06 21.9 -0.7**
ESKT Eskisehir 11.41 98 *i* P **Pn** **11 06 23.7 +1.0**
BAIF Baives 11.53 318 *e*Pn **Pn** **11 06 21.8 -2.6**
SNR=1.0
BAIF *e*Sn **Sn** **11 08 21.4 -10**
comp=Z,9.4nm,0.5s
BAIF Baives 11.53 318 *e*Pn **Pn** **11 06 21.8 -2.6**
SNR=1.0
BAIF *e*Sn **Sn** **11 08 21.4 -10**
comp=Z,4.7nm,0.5s
TKTP Tekketepe 11.55 106 *i* P **Pn** **11 06 25.4 +0.8**
LFF La Frestale 11.58 290 *e*Pn **Pn** **11 06 21.4 -3.6**
LFF *e*Sn **Sn** **11 08 23.6 -9.4**
comp=Z,9.4nm,0.6s
LFF La Frestale 11.58 290 *e*Pn **Pn** **11 06 21.4 -3.6**
LFF *e*Sn **Sn** **11 08 23.6 -9.4**
comp=Z,4.7nm,0.6s
EPF Esparros 11.73 280 *e*Pn **Pn** **11 06 24.9 -2.2**
EPF *e*Sn **Sn** **11 08 27.2 -9.5**
comp=Z,8.4nm,0.8s
SNF Seneffe 11.79 320 P **Pn** **11 06 28.9 +1.0**
SGKT Sivrigoynuk 12.03 92 *i* P **Pn** **11 06 32.5 +1.3**
KIZT Kizilcal 12.37 100 *e*PN **Pn** **11 06 35.1 -0.7**
ETSF Etsaut 12.39 280 *e*Pn **Pn** **11 06 33.4 -2.7**
ETSF *e*Sn **Sn** **11 08 42.9 -10**
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 12.47 42 Pn **Pn** **11 06 37.6 +0.4**
comp=Z,0.4nm,0.3s,baz=231,slow=12,SNR=9.7
AKASG Malin Array Be 12.47 42 *i* P **Pn** **11 06 39.2 +2.0**
MFF Saint Martin d 12.54 297 *e*Pn **Pn** **11 06 36.0 -2.1**
MFF *e*Sn **Sn** **11 08 46.4 -10**
comp=Z,11nm,0.6s
SJPF Ste Jean 12.88 281 *e*Pn **Pn** **11 06 40.8 -1.9**
SJPF *e*Sn **Sn** **11 08 54.0 -11**
comp=Z,2.2nm,0.4s
LDF La Druitiere 13.19 305 *e*Pn **Pn** **11 06 43.4 -3.6**
SNR=1.0
LDF *e*Sn **Sn** **11 09 02.6 -10**
comp=Z,27nm,0.6s
BR131 Keskin Array S 13.42 94 *e*Pn **Pn** **11 06 51.7 +1.6**
comp=Z,4.2nm,0.6s
BRTR Keskin Array B 13.42 94 Pn **Pn** **11 06 50.4 +0.3**
comp=Z,0.3nm,0.3s,baz=283,slow=11,SNR=12
BRTR Keskin Array B 13.42 94 *i* P **Pn** **11 06 51.5 +1.4**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 13.42 94 *i* P **Pn** **11 06 51.5 +1.4**
comp=Z,2.0nm,0.5s
FLN La Foliniere 13.48 306 *e*Pn **Pn** **11 06 48.3 -2.6**
SNR=1.0
FLN *e*Sn **Sn** **11 09 09.3 -10**
comp=Z,29nm,0.5s
GRR Gorron 13.56 304 *e*Pn **Pn** **11 06 48.2 -3.9**
SNR=1.0
GRR *e*Sn **Sn** **11 09 11.1 -10**
comp=Z,11nm,0.3s
KAMT Kaman 13.57 96 *e*P **Pn** **11 06 50.9 -1.3**
SGMF Saint Gilles 14.59 302 *e*Pn **Pn** **11 07 01.5 -4.5**
SNR=1.0
SGMF *e*Sn **Sn** **11 09 35.7 -11**
comp=Z,8.7nm,0.4s
QUIF Quistinic 14.88 300 *e*Pn **Pn** **11 07 06.3 -3.6**
QUIF *e*Sn **Sn** **11 09 41.7 -12**
comp=Z,6.8nm,0.3s
ROSF Rostrenen 15.07 301 *e*Pn **Pn** **11 07 08.5 -3.9**
ROSF *e*Sn **Sn** **11 09 46.9 -11**
comp=Z,26nm,0.7s
ESDC Sonseca Array 15.42 268 Pn **Pn** **11 07 16.2 -0.9**
baz=79,slow=15,SNR=2.6
ANN Anapa 15.68 73 *e*P **Pn** **11 07 26.0 +5.6**
ANN *e*S **S** **11 10 19.5 -7.4**
ANN pmax pmax
comp=Z,61nm,1.2s
SOC Sochi 17.33 77 *e*P **Pn** **11 07 40.1 -1.1**
SOC *e* 11 10 55.3
SOC pmax pmax
comp=Z,18nm,1.0s
SOC Sochi 17.33 77 *e*P **Pn** **11 07 40.1 -1.1**
comp=Z,18nm,1.0s
MMAI Mount Meron Ar 17.69 114 P **Pn** **11 07 44.9 -0.7**
comp=Z,1.9nm,0.3s,baz=316,slow=9.4,SNR=5.4
MMAI LR LR 11 16 06.2
comp=Z,159nm,20.5s,baz=310,slow=42
VSU Vasula 17.72 18 *e*P **Pn** **11 07 47.6 +1.5**
KONO Kongsberg 18.09 349 *e*P **Pn** **11 07 50.8 +0.3**
HFS Hagfors 18.17 356 P **Pn** **11 07 50.3 -1.3**
comp=Z,0.9nm,0.3s,baz=176,slow=12,SNR=18
HFA0 Hagfors New Ar 18.18 356 Pn **Pn** **11 07 50.0 -1.7**
VRSR Storozhevoye 18.20 52 *e*P **Pn** **11 07 50.7 -1.3**
VRSR pmax pmax
comp=N,6.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,8.0nm,0.9s
OBN Obninsk 18.69 39 ||*e*P **Pn** **11 07 56.3 -1.6**
OBN pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 18.69 39 *e*P **Pn** **11 07 56.3 -1.6**
comp=Z,16nm,1.0s
DLF Lyons Farm 18.89 314 *e*P **Pn** **11 07 59.0 -1.4**
ASF Jabal al Asfar 19.20 114 LR LR 11 17 01.7
comp=Z,112nm,19.7s,baz=186,slow=42
NB2 NORSAR Subarra 19.25 353 P **Pn** **11 08 02.2 -2.5**
comp=Z,5.5nm,0.6s,baz=166,slow=11
NOA NORSAR Array B 19.25 353 P **Pn** **11 08 02.2 -2.4**
comp=Z,0.9nm,0.3s,baz=167,slow=10,SNR=12
NOA pP pP 11 08 11.9 -1.2
comp=Z,1.4nm,0.3s,baz=167,slow=10,SNR=15
NOA NORSAR Array B 19.25 353 P **Pn** **11 08 02.2 -2.4**
NOA pP pP 11 08 11.9 -1.1
KIV Kislovodsk 19.45 75*d i*P **Pn** **11 08 07.4 +0.3**
KIV pmax pmax
comp=Z,9.0nm,1.3s
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 19.45 75 *i* P **Pn** **11 08 07.4 +0.3**
comp=Z,100nm,18.0s
EIL Elat 19.55 123 *e*P **Pn** **11 08 05.5 -2.7**
comp=Z,290nm,0.6s
EIL *e*S **S** **11 11 26.1 -19**
EIL Elat 19.55 123 *e*P **Pn** **11 08 05.5 -2.7**
comp=Z,290nm,0.6s
FINES FINESS Array B 20.32 14 P **P** **11 08 14.2 -0.9**
comp=Z,3.1nm,0.5s,baz=193,slow=10,SNR=25
FINES PcP PcP 11 12 26.8 -0.4
comp=Z,0.8nm,0.5s,baz=186,slow=1.9,SNR=4.0
FINES LR LR 11 16 11.2
comp=Z,140nm,21.7s,MS3.3,baz=351,slow=37
FINES FINESS Array B 20.32 14 P **P** **11 08 13.8 -1.3**
FINES 11 12 26.8
FINES FINESS Array B 20.32 14 P **P** **11 08 13.8 -1.3**
FINES P 11 08 14.2
FINES PcP PcP 11 12 26.8 -0.4
FINES LR LR 11 16 11.2
ZEI Tsey 20.45 79 *e*P **P** **11 08 18.1 +1.6**
ZEI *e**PP 11 08 25.1
ZEI pmax pmax
comp=Z,4.0nm,0.6s
ZEI Tsey 20.45 79 *e*P **P** **11 08 18.1 +1.6**
comp=Z,4.0nm,0.6s
KAF Kangasniemi 20.98 13 *ep* **P** **11 08 21.7 -0.6**
comp=Z,4.0nm,0.4s,baz=200,slow=11
KAF Kangasniemi 20.98 13 *e*P **P** **11 08 21.7 -0.6**
KAF pmax pmax
comp=Z,4.0nm,0.4s
GNI Garni 21.57 85 P **P** **11 08 29.6 +1.0**
comp=Z,5.9nm,0.6s,mb4.2,baz=324,slow=9.4,SNR=7.6
GNI Garni 21.57 85*d i*P **P** **11 08 30.1 +1.5**
GNI pmax pmax
comp=Z,31nm,1.7s
GNI Garni 21.57 85 *e*P **P** **11 08 30.2 +1.6**
comp=Z,28nm,0.9s,mb4.7
MSL Mosul 21.60 97 *ex* x 11 08 45.0
JOF Joensuu 22.72 18 *ep* **P** **11 08 40.9 +0.1**
comp=Z,2.8nm,0.4s,mb4.0
KLMR Klimovskoe 23.56 29 P **P** **11 08 46.6 -2.8**
KLMR pmax pmax
comp=Z,27nm,1.4s,mb4.5
BHD Baghdad 23.90 102 *ex* x 11 08 51.9
BHD *ex* x 11 13 07.3
ARCES ARCESS Array B 27.97 7 P **P** **11 09 27.7 -1.6**
comp=Z,2.2nm,0.8s,mb3.9,baz=186,slow=9.8,SNR=9.7
ARCES LR LR 11 22 07.0
comp=Z,237nm,20.6s,MS3.8,baz=43,slow=40
ARCES ARCESS Array B 27.97 7 P **P** **11 09 27.7 -1.6**
ARCES LR LR 11 22 07.0
AKTK Aktyubinsk 29.79 59 P **P** **11 09 44.4 -1.0**
AKTK LR LR 11 24 55.8
AKTO Aktyubinsk 29.79 59 P **P** **11 09 44.4 -1.0**
comp=Z,1.0nm,0.5s,mb3.8,baz=257,slow=6.3,SNR=4.2
AKTO LR LR 11 24 55.8
comp=Z,105nm,18.4s,MS3.5,baz=291,slow=43
AKTO Aktyubinsk 29.79 59 P **P** **11 09 44.4 -1.0**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
AKTO MLR MLR
comp=Z,105nm,18.4s,MS3.5
ARU Arti 30.63 47 ||*i*P **P** **11 09 51.9 -1.0**
ARU *e*PPP 11 10 59.0
ARU *e*S **S** **11 14 52.5 -0.1**
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.6
ARU Arti 30.63 47 *e*P **P** **11 09 51.6 -1.2**
comp=Z,10nm,0.9s,mb4.7
TORD Torodi Ar. Bea 31.43 208 P **P** **11 09 59.3 -0.6**
comp=Z,3.0nm,0.6s,mb4.3,baz=15,slow=9.3,SNR=20
TORD PcP PcP 11 12 52.4 -0.3
comp=Z,1.0nm,0.7s,baz=340,slow=1.9,SNR=5.3
TORD LR LR 11 24 42.8
comp=Z,77nm,21.5s,MS3.3,baz=20,slow=40
BRVK Borovoye 37.29 54 *e*P **P** **11 10 50.4 -0.2**
BRVK *e**PP pP 11 11 00.6 -0.7
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
BRVK Borovoye 37.29 54 *e*P **P** **11 10 50.4 -0.2**
comp=Z,9.1nm,0.6s,mb4.8
BRVK *e*pP pP 11 11 00.6 -0.6
BVAR Borovoye Array 37.35 54 P **P** **11 10 50.7 -0.5**
comp=Z,5.4nm,0.7s,mb4.5,baz=269,slow=7.3,SNR=24
BVAR pP pP 11 11 00.9 -1.0
comp=Z,3.0nm,0.7s,baz=264,slow=5.5,SNR=8.2
EKS2 Erkin-Say 41.84 69 P **P** **11 11 30.3 +1.7**
SNR=26
USP Ospenovka 42.15 68 P **P** **11 11 31.4 +0.4**
SNR=10
AAK Ala-Archa 42.35 69 P **P** **11 11 34.3 +1.6**
SNR=12
AAK Ala-Archa 42.35 69*c i*P **P** **11 11 33.1 +0.4**
AAK pmax pmax
comp=Z,25nm,1.7s,mb4.6
AAK Ala-Archa 42.35 69 *e*P **P** **11 11 33.2 +0.5**
comp=Z,9.8nm,0.9s,mb4.4
FRU Bishkek 42.37 68↑*e*P **P** **11 11 33.9 +1.1**
FRU pmax pmax
comp=Z,42nm,1.2s,mb4.9
UCH Uchtor 42.51 69 P **P** **11 11 35.8 +1.9**
SNR=10
KURK Kurchatov 42.76 56*d i*P **P** **11 11 35.5 -0.5**
TKM2 Tokmak 2 43.02 68 P **P** **11 11 40.4 +2.3**
SNR=6.8
KZA Kyzart 43.07 69 P **P** **11 11 40.9 +2.4**
SNR=22
NVS Novosibirsk 44.58 49 *e*P **P** **11 11 49.9 -0.7**
NVS pmax pmax
comp=Z,22nm,1.2s,mb4.9
NVS pmax pmax
comp=E,9.0nm,0.9s
ZAL Zalesovo 45.68 50 P **P** **11 11 58.5 -0.8**
comp=E,2.0nm,0.5s,mb4.3,baz=184,slow=10,SNR=12
ZAL pP pP 11 12 09.0 -1.2
comp=E,4.6nm,0.5s,baz=183,slow=7.4,SNR=9.2
ZAL Zalesovo 45.68 50 P **P** **11 11 58.5 -0.8**
ZAL pP pP 11 12 09.0 -1.2
MKAR Makanchi Array 46.20 60 P **P** **11 12 03.5 0.0**
comp=E,8.1nm,0.6s,mb4.8,baz=285,slow=7.6,SNR=94
KMBO Kilima Mbogo 47.02 151 P **P** **11 12 10.8 +0.9**
comp=E,2.4nm,0.8s,mb4.2,baz=214,slow=23,SNR=6.3
KMBO Kilima Mbogo 47.02 151 P **P** **11 12 10.8 +0.9**
WMQ Urumqi 50.85 62 P **P** **11 12 40.2 +1.0**
WMQ AMB AMB
comp=Z,5.0nm,1.1s,mb4.4
SCHQ Schefferville 53.37 314 pP pP 11 13 08.0 -1.0
comp=Z,6.8nm,0.9s,baz=48,slow=8.3,SNR=3.4
KOLN Koldanda 55.76 82 *e*P **P** **11 13 15.5 +0.2**
comp=Z,26nm,0.6s,mb5.5
GKN Gorkha 56.39 81 *e*P **P** **11 13 19.9 +0.1**
comp=Z,60nm,1.0s,mb5.6
DMN Daman 56.96 81 *e*P **P** **11 13 24.2 +0.4**
comp=Z,12nm,0.4s,mb5.3
KKN Kakani 56.98 81 *e*P **P** **11 13 24.1 +0.1**
comp=Z,21nm,0.8s,mb5.2
TIXI Tiksi 57.18 20 *e*P **P** **11 13 22.5 -2.9**
TIXI *e* pP 11 13 34.2 -2.4
TIXI pmax pmax
comp=Z,4.0nm,2.0s,mb4.1
PKI Pulchoki 57.20 81 *e*P **P** **11 13 25.7 +0.1**
comp=Z,12nm,0.6s,mb5.1
GUN Gumba 57.36 80 *e*P **P** **11 13 27.0 +0.3**
comp=Z,43nm,0.8s,mb5.5
BOD Bodaibo 59.37 38 *e*P **P** **11 13 39.3 -1.4**
LSA Lhasa 60.20 76 P **P** **11 13 47.6 +1.2**
LSA Lhasa 60.20 76 *e*P **P** **11 13 47.8 +1.4**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
LSA Lhasa 60.20 76 *e*P **P** **11 13 47.8 +1.4**
comp=Z,8.9nm,0.6s,mb5.0
SONM Songino Array 60.58 51 P **P** **11 13 49.4 +0.4**
comp=Z,2.8nm,0.7s,mb4.5,baz=289,slow=8.8,SNR=29
SONM pP pP 11 13 59.6 -0.6
comp=Z,3.2nm,0.8s,baz=292,slow=8.9,SNR=14
GTA Gaotai 60.93 62 *e*P **P** **11 13 52.0 +0.6**
GTA AP pP 11 13 59.6 -3.0
GTA AMB AMB
comp=Z,7.0nm,0.6s,mb5.0
YAK Yakutsk 63.35 29↑*e*P **P** **11 14 07.7 +0.1**
YAK pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
HHC Hu-ho-hao-te 67.56 55 *e*P **P** **11 14 36.1 +1.3**
HHC AP pP 11 14 46.0 -0.2
HHC XP sP 11 14 51.3 +0.8
HHC PCP PcP 11 15 01.5 -0.3
HHC PP PP 11 17 06.3 +2.3
HHC S S 11 23 28.1 -0.7
HHC PS 11 23 55.5
HHC SCS ScS 11 24 28.8 -1.4
HHC AMB AMB
comp=Z,11nm,0.5s,mb5.1
HHC LR LR
comp=N,314nm,15.5s,MS4.8
HHC LR LR
comp=E,311nm,17.8s,MS4.8
HHC LR LR
comp=Z,472nm,17.3s,MS4.8
BILL Bilibino 67.95 12 *e*P **P** **11 14 46.8 +10**
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CD2 Chengdu 68.40 67 *e*P **P** **11 14 41.4 +1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
YKA Yellowknife Ar 68.58 338 P **P** **11 14 41.6 +0.4**
comp=Z,0.3nm,0.5s,baz=39,slow=5.7,SNR=14
YKA pP pP 11 14 51.8 -0.8
comp=Z,1.4nm,0.6s,baz=37,slow=5.6,SNR=18
BOSA Boshof 70.81 172 P **P** **11 14 55.8 +0.8**
comp=Z,8.4nm,0.5s,mb4.9,baz=357,slow=8.0,SNR=27

BOSA LR LR 11 47 47.2
comp=Z,66nm,18.4s,MS3.9,baz=20,slow=37
BJI Beijing 70.83 53 P **P 11 14 55.2 +0.1**
BJI AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
KMI Kunming 71.20 73 P **P 11 14 59.1 +1.8**
KMI AMB AMB
comp=Z,7.0nm,1.1s,mb4.5
CHTO Chiang Mai 72.38 80 *e*P **P 11 15 04.5 +0.1**
CHTO *e*PP pP 11 15 14.8 -1.0
CHTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CHTO Chiang Mai 72.38 80 *e*P **P 11 15 04.5 +0.1**
comp=Z,5.1nm,0.9s,mb4.5
CHTO *e*pP pP 11 15 14.8 -1.0
DAWY Dawson 72.47 349 *e*P **P 11 15 05.7 +0.7**
DAWY *e*pP pP 11 15 16.1 -0.3
GYA Guiyang 73.14 70 P **P 11 15 08.7 -0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 Changchun 73.60 45 *e*P **P 11 15 12.0 +0.4**
CN2 *e*AP pP 11 15 22.2 -0.9
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 79.51 34⇓*e*P **P 11 15 45.2 +0.2**
YSS pmax pmax
comp=Z,134nm,2.8s,mb5.4
PDAR Pinedale Array 82.46 323 P **P 11 16 02.1 +1.4**
comp=Z,0.7nm,1.1s,baz=93,slow=6.1,SNR=3.5
PDAR LR LR 11 56 23.8
comp=Z,108nm,20.1s,MS4.2,baz=285,slow=38
MJAR Matsushiro Arr 85.56 43 P **P 11 16 16.4 -0.1**
comp=Z,1.3nm,0.9s,mb4.2,baz=324,slow=4.8,SNR=4.4
TXAR Lajitas Array 89.91 311 P **P 11 16 39.2 +1.8**
comp=Z,0.7nm,0.8s,mb4.0,baz=76,slow=4.7,SNR=7.6
TXAR pP pP 11 16 50.4 +1.3
comp=Z,1.4nm,0.8s,baz=66,slow=4.3,SNR=12
TXAR Lajitas Array 89.91 311 P **P 11 16 39.2 +1.8**
TXAR pP pP 11 16 50.4 +1.3
WRA Warramunga Arr 123.84 87 PKP PKPdf 11 22 36.1 -0.1
comp=Z,0.9nm,0.8s,baz=329,slow=1.7,SNR=9.1
ASAR Alice Springs 125.74 91 PKP PKPdf 11 22 39.6 -0.2
comp=Z,1.0nm,0.6s,baz=323,slow=1.4,SNR=14

CASC 10 11:14:41.8±3.0, 1389N×9106W, h13km±16km, MD3.6, ML3.2, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.60**	**21**	*e*P	Pg	11 14 52.5	-1.0
PCG	**Pacaya**	**0.67**	**41**	*e*P	Pg	11 14 53.2	-1.6
PCG				*e*S	Sg	11 15 04.5	+0.7
JAT	**Jato**	**0.70**	**308**	*e*P	Pg	11 14 54.5	-0.9
JAT				*e*S	Sg	11 15 04.1	-0.6
RBDL	**Robledal**	**1.36**	**80**	*e*P	x	11 15 07.5	
RTR	**El Retiro**	**1.38**	**89**	*e*P	x	11 15 06.6	
SBLS	**San Blas**	**1.40**	**92**⇑	*e*P	x	11 15 06.5	
SNJE	**San Jose**	**1.42**	**90**	*e*P	x	11 15 07.0	
SNJE				*e*S	x	11 15 24.7	
SNET	**Serv Nac Est T**	**1.79**	**96**	*i*	Pn	11 15 28.5	+16
	comp=Z,243nm,0.3s						
LFRS	**El Faro**	**1.96**	**97**	*e*P	x	11 15 14.4	
LBRS	**Las Brisas**	**1.97**	**94**	*e*P	x	11 15 14.9	
LBRS				*e*S	x	11 15 41.9	
LCBS	**La Ceiba**	**2.04**	**96**	*e*P	x	11 15 15.7	
LCBS				*e*S	x	11 15 40.0	
SNVI	**San Vicente**	**2.18**	**97**	*e*P	x	11 15 18.4	
SNVI				*e*S	x	11 15 43.9	
BLLM	**Bellamira**	**2.78**	**99**	*e*P	x	11 15 27.8	

*IDC **10** 11:28:38.1±1.8, 4792N×15526E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/22, mbtmp3.8/11, MS3.5/2, Ms1 3.5/2, ms1mx3.0/26, Error ellipse: s-maj=53.0km s-min=21.7km az=169.0*
*NEIC **10** 11:28:41.5±1.0, 4830N×15526E, h10km, Error ellipse: s-maj=27.9km s-min=14.9km az=152.0*
*ISCJB **10** 11:28:42.8±1.7, 48.1N±0.1×1553E±02, h36km±13km, mb3.8/13, MS3.7/1, Error ellipse: s-maj=24.0km s-min=10.0km az=83.8*
*MOS **10** 11:28:43.9±1.2, 4833N×155.13E, h37km, mb4.5/3, Error ellipse: s-maj=20.1km s-min=12.3km az=81.9*

ISC 10 11:28:45.2±1.5, 482N±01×1553E±02, h42km±11km, n24, σ1§13/25, mb3.8/13, MS3.7/1, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.56**	**12**	*e*PN	**Pn**	**11 29 22.5**	**-1.6**
SKR				*e*S	**Sn**	**11 29 55.5**	**+1.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,220nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
PET	**Petropavlovsk**	**5.30**	**23**	*e*PN	**Pn**	**11 30 00.8**	**-0.9**
PET				pmax	pmax		
	comp=Z,36nm,0.8s						
ASAJ	**Asahikawa**	**9.70**	**250**	Pn	**Pn**	**11 31 03.8**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=45,slow=17,SNR=3.3						
ASAJ				LR	LR	11 34 52.3	
	comp=Z,165nm,18.3s,baz=159,slow=39						
MJAR	**Matsushiro Arr**	**17.12**	**233**	Pn	**Pn**	**11 32 42.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=32,slow=11,SNR=3.9						
YAK	**Yakutsk**	**19.98**	**323**⇓	*e*P	**Pn**	**11 33 21.7**	**+5.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**22.64**	**252**	P	**P**	**11 33 40.2**	**-2.3**
	comp=Z,1.7nm,0.8s,mb3.5,baz=50,slow=12,SNR=5.1						
SONM	**Songino Array**	**32.27**	**288**	P	**P**	**11 35 07.7**	**-2.1**
	comp=Z,0.6nm,0.8s,mb3.5,baz=62,slow=8.6,SNR=4.6						
SONM				LR	LR	11 49 59.5	
	comp=Z,162nm,20.4s,MS3.7,baz=324,slow=40						
MKAR	**Makanchi Array**	**47.60**	**297**	P	**P**	**11 37 15.9**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.4,baz=67,slow=7.8,SNR=22						
MKAR	**Makanchi Array**	**47.60**	**297**	*i* P	**P**	**11 37 16.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**47.81**	**303**⇓	*e*P	**P**	**11 37 17.5**	**-0.9**
YKA	**Yellowknife Ar**	**48.89**	**38**	P	**P**	**11 37 27.0**	**+0.3**
	comp=Z,0.3nm,0.9s,mb3.3,baz=290,slow=7.3,SNR=2.9						
AAK	**Ala-Archa**	**54.52**	**297**⇑	*e*P	**P**	**11 38 07.9**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ARU	**Arti**	**54.95**	**318**⇓	*i*P	**P**	**11 38 12.9**	**+1.0**
ARU				*e*		11 39 12.6	
ARU				*e*		11 40 22.2	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.3						
PDAR	**Pinedale Array**	**62.71**	**56**	P	**P**	**11 39 05.4**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.6,baz=349,slow=0.9,SNR=3.3						
FINES	**FINESS Array B**	**63.37**	**335**	P	**P**	**11 39 09.6**	**-0.4**
	comp=Z,1.4nm,0.9s,mb4.1,baz=20,slow=6.1,SNR=4.7						
FINES	**FINESS Array B**	**63.37**	**335**	*e*P	**P**	**11 39 10.3**	**+0.2**
NB2	**NORSAR Subarra**	**67.34**	**342**	P	**P**	**11 39 36.0**	**+0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**67.34**	**342**	P	**P**	**11 39 36.1**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=25,slow=6.5,SNR=5.2						
AKASG	**Malin Array Be**	**71.17**	**327**	P	**P**	**11 39 58.9**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=35,slow=6.1,SNR=7.1						
TXAR	**Lajitas Array**	**75.51**	**62**	P	**P**	**11 40 25.1**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.3,baz=306,slow=4.5,SNR=4.5						
KHC	**Kasperske Hory**	**77.58**	**335**	*e*P	**P**	**11 40 38.0**	**+1.3**
KHC				PCP	PcP	11 40 49.0	+2.2
KHC	**Kasperske Hory**	**77.58**	**335**	*e*P	**P**	**11 40 38.0**	**+1.3**
KHC				*e*	pP	11 40 49.0	-0.3
GERES	**GERESS Array B**	**77.80**	**335**	P	**P**	**11 40 39.0**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=42,slow=6.1,SNR=5.9						
BRTR	**Keskin Array B**	**78.34**	**318**	P	**P**	**11 40 42.4**	**+1.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=61,slow=3.1,SNR=6.3						

IDC 10 11:32:37.1±2.9, 2346S×6909W, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=81.7km s-min=54.4km az=53.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.19**	**7**	Pn	Pn	11 34 24.1	+0.7
	0.5nm,0.3s,baz=164,slow=5.0,SNR=9.1						
TORD	**Torodi Ar. Bea**	**78.17**	**70**	P	P	11 44 38.9	+0.6
	1.1nm,0.4s,baz=257,slow=5.8,SNR=7.1						
YKA	**Yellowknife Ar**	**92.97**	**341**	P	P	11 45 51.6	-0.6
	0.4nm,0.7s,baz=138,slow=4.4,SNR=11						

*NEIC **10** 11:39:50.4, 3154S×6958W, h119km, MD3.6(GUC), After GUC.*

GUC 10 11:39:50.4±0.9, 3154S×6958W, h119km±6km, MD3.6, ML3.3, 6C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.77**	**91**⇓	*i*P	Pn	11 40 10.7	+0.4
ZON	**Zonda**	**0.77**	**91**	AML	AML	11 40 27.1	
	comp=N,636nm,0.3s						
CMCH	**Combarbala**	**1.27**	**286**⇓	*i*P	Pn	11 40 15.4	+0.3
CMCH				*i* S	Sn	11 40 34.8	+1.0
CMCH				AML	AML	11 40 36.2	
	comp=N,2μm,0.2s						
CMCH	**Combarbala**	**1.27**	**286**⇓	*i*P	Pn	11 40 15.4	+0.3
CMCH				*i* S	Sn	11 40 34.8	+1.0
PTCH	**Petorca**	**1.35**	**237**⇑	*i*P	Pn	11 40 16.2	+0.1
PTCH				*i* S	Sn	11 40 36.3	+0.7
PTCH				AML	AML	11 40 37.0	
	comp=E,2μm,0.1s						
JACH	**Jahuel**	**1.43**	**217**	*i* S	Sn	11 40 38.3	+1.3
TLL	**Tololo Astrono**	**1.72**	**322**⇑	*i*P	Pn	11 40 21.6	+1.2
TLL				*i* S	Sn	11 40 44.4	+1.1
TLL				AML	AML	11 40 46.7	
	comp=N,228nm,0.5s						
TLL	**Tololo Astrono**	**1.72**	**322**⇑	*i*P	Pn	11 40 21.6	+1.2
TLL				*i* S	Sn	11 40 44.4	+1.1
PEL	**Peldehue**	**1.85**	**210**⇓	*i*P	Pn	11 40 22.4	+0.4
PEL				*i* S	Sn	11 40 46.8	+0.8
PEL				AML	AML	11 40 47.4	
	comp=N,265nm,0.3s						
FCH	**Farellones**	**1.88**	**198**⇓	*i*P	Pn	11 40 23.7	+1.4
FCH				*i* S	Sn	11 40 48.9	+2.2
FCH				AML	AML	11 40 54.9	
	comp=N,181nm,0.2s						
CLCH	**Cerro Calan**	**2.02**	**203**	*e*P	Pn	11 40 24.7	+0.7
CLCH				*i* S	Sn	11 40 50.5	+0.7
CLCH				AML	AML	11 40 53.9	
	comp=E,160nm,0.5s						
LSCH	**La Serena**	**2.17**	**318**⇑	*i*P	Pn	11 40 26.4	+0.5
LSCH				*i* S	Sn	11 40 52.9	-0.1
LSCH				AML	AML	11 40 53.3	
	comp=N,86nm,0.2s						
LSCH	**La Serena**	**2.17**	**318**⇑	*i*P	Pn	11 40 26.4	+0.5
LSCH				*i* S	Sn	11 40 52.9	-0.1
RCDM	**Rinconada Maip**	**2.20**	**208**	*i* P	Pn	11 40 26.6	+0.3
RCDM				*i* S	Sn	11 40 54.2	+0.4
RCDM				AML	AML	11 40 59.0	
	comp=E,338nm,0.1s						
RCDM	**Rinconada Maip**	**2.20**	**208**	*i* P	Pn	11 40 26.6	+0.3
RCDM				*i* S	Sn	11 40 54.2	+0.4
ANTU	**Antumapu**	**2.21**	**203**	*e*P	Pn	11 40 26.6	+0.2
ANTU				*i* S	Sn	11 40 54.5	+0.4
ANTU				AML	AML	11 40 56.7	
	comp=N,134nm,0.3s						
ANTU	**Antumapu**	**2.21**	**203**	*e*P	Pn	11 40 26.6	+0.2
ANTU				*i* S	Sn	11 40 54.5	+0.4
PCH	**Pirque**	**2.22**	**200**	*e*P	Pn	11 40 27.4	+0.9
TACH	**Talagante**	**2.40**	**208**⇓	*i*P	Pn	11 40 28.5	-0.4
TACH				*i* S	Sn	11 40 57.4	-0.9
CHCH	**Chadas Angostu**	**2.55**	**200**⇑	*i*P	Pn	11 40 31.2	+0.4
CACH	**El Canelo**	**2.71**	**198**	*e*P	Pn	11 40 33.7	+0.9
CACH				*i* S	Sn	11 41 06.7	+1.2
CICH	**Cipreses**	**2.86**	**194**	*i* P	Pn	11 40 36.1	+1.3
SFDO	**San Fernando**	**3.29**	**201**	*e*P	Pn	11 40 39.8	-0.7
SFDO				*i* S	Sn	11 41 17.9	-1.3

*ISCJB **10** 11:44:22.6±0.3, 3720N±002×555W±002, h4km±2km, Error ellipse: s-maj=3.6km s-min=2.4km az=25.0*
*IGIL **10** 11:44:23.3, 3698N×541W, h11km, ML4.4*
*CSEM **10** 11:44:24.6±0.1, 3706N×556W, h2km, ML3.7/17, Error ellipse: s-maj=1.6km s-min=1.1km az=10.0*
*SFS **10** 11:44:25.0, 3709N×557W, h0km, ML3.0*
*NEIC **10** 11:44:25.4, 3709N×557W, h11km, MN3.0(MDD), After MDD.*
NEIC Felt [III] at Montellano and [II] at El Coronil.
*LDG **10** 11:44:25.3±0.1, 3702N×555W, h10km, Ml3.2/8, Error ellipse: s-maj=3.0km s-min=2.1km az=17.0*
*INMG **10** 11:44:25.5±1.2, 3709N×555W, h12km±3km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=18.0*
*MDD **10** 11:44:25.2±0.2, 3706N×554W, h11km, mbLg3.0/31, Error ellipse: s-maj=2.4km s-min=1.8km az=163.0, PRXIMO II EL CORONIL I CORIPE*
MDD EMS: III MONTELLANO.

ISC 10 11:44:24.0±0.3, 3714N±002×555W±002, h8km±2km, n131, σ1§12/211, 1C-4D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.26**	**153**⇑	P	**Pg**	**11 44 27.7**	**-1.5**
LIJA	**Lijar**	**0.26**	**153**	*i* P	**Pg**	**11 44 27.7**	**-1.5**
ESPR	**Espera**	**0.36**	**222**⇓	Pg	**Pg**	**11 44 31.1**	**0.0**
	30nm,0.3s,SNR=18						
ESPR				Lg		11 44 36.0	
	1μm,0.3s						
ESPR	**Espera**	**0.36**	**222**	Pg	**Pg**	**11 44 31.1**	**0.0**
	30nm,0.3s,SNR=18						
GIBL	**Gibalbin**	**0.46**	**227**	P	**Pg**	**11 44 33.4**	**+0.6**
GIBL	**Gibalbin**	**0.46**	**227**	*e*P	**Pg**	**11 44 33.4**	**+0.6**
EJIF	**Jimena Fronter**	**0.69**	**174**⇓	Pg	**Pg**	**11 44 35.9**	**-1.4**
	15nm,0.3s,SNR=18						
EJIF				Lg		11 44 48.6	
	61nm,0.2s,SNR=4.0						
SCRT	**Cerro San Cris**	**0.71**	**225**	*i* P	**Pg**	**11 44 39.1**	**+1.4**
REAL	**Reales**	**0.71**	**157**	P	**Pg**	**11 44 36.8**	**-0.9**
REAL	**Reales**	**0.71**	**157**	*e*P	**Pg**	**11 44 36.8**	**-0.9**
MOMI	**Momias**	**0.82**	**190**	P	**Pg**	**11 44 39.9**	**+0.2**
MOMI	**Momias**	**0.82**	**190**	*e*P	**Pg**	**11 44 39.9**	**+0.1**
EMIJ	**Mijas**	**0.85**	**132**	Pg	**Pg**	**11 44 39.4**	**-0.9**
	18nm,0.4s,SNR=97						
EMIJ				Lg		11 44 51.4	
	160nm,0.3s,SNR=5.0						
EMIJ	**Mijas**	**0.85**	**132**	Pg	**Pg**	**11 44 39.4**	**-0.9**
	18nm,0.4s,SNR=97						
CNIL	**Conil**	**0.87**	**208**	*i* P	**Pg**	**11 44 42.6**	**+1.9**
EMIN	**Mina Concepcio**	**1.09**	**305**⇓	Pg	**Pg**	**11 44 45.6**	**+0.7**
	275nm,0.3s,SNR=18						
EMIN				Lg		11 45 01.3	
	188nm,0.1s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.09**	**305**	Pg	**Pg**	**11 44 45.6**	**+0.7**
	275nm,0.3s,SNR=18						
ELUQ	**Luque**	**1.11**	**67**	Pg	**Pg**	**11 44 46.3**	**+1.0**
	31nm,0.2s,SNR=65						
ELUQ				Lg		11 45 02.7	
	49nm,0.1s,SNR=11						
ELOJ	**Sierra Loja**	**1.12**	**89**	Pg	**Pg**	**11 44 46.2**	**+0.8**
	18nm,0.3s,SNR=7.9						
ELOJ				Lg		11 45 02.5	
	58nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.12**	**89**	Pg	**Pg**	**11 44 46.2**	**+0.7**
	18nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.28**	**37**	Pg	**Pg**	**11 44 49.0**	**+0.3**
	11nm,0.2s,SNR=26						
EADA				Lg		11 45 08.2	
	181nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**1.28**	**37**	Pg	**Pg**	**11 44 49.0**	**+0.4**
	11nm,0.2s,SNR=26						
ERON	**Agron**	**1.40**	**94**	Pg	**Pg**	**11 44 50.5**	**-0.4**
	4.6nm,0.2s,SNR=15						
EGRO	**El Granado**	**1.59**	**285**	Pn	**Pn**	**11 44 52.1**	**-0.2**
	1.0nm,0.1s,SNR=12						
EGRO				Pg	**Pg**	**11 44 53.7**	**-0.7**
	37nm,0.2s,SNR=156						
EGRO				Lg		11 45 14.7	
	274nm,0.2s,SNR=11						
EGRO	**El Granado**	**1.59**	**285**	Pn	**Pn**	**11 44 52.1**	**-0.2**
	1.0nm,0.1s,SNR=12						
EGRO	**El Granado**	**1.59**	**285**	Pg	**Pg**	**11 44 53.7**	**-0.7**
	37nm,0.2s,SNR=156						
ECOG	**Cogollos-Vega**	**1.59**	**84**	Pg	**Pg**	**11 44 53.1**	**-1.4**
	33nm,0.2s,SNR=7.9						
ECOG				Lg		11 45 15.8	
	67nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.69**	**87**	Pg	**Pg**	**11 44 54.5**	**-1.9**
	43nm,0.3s,SNR=7.9						
EQUE				Lg		11 45 19.7	
	136nm,0.3s,SNR=10.0						
EBAN	**Banos Encina**	**1.73**	**53**	Pn	**Pn**	**11 44 54.9**	**+0.5**
	2.1nm,0.1s,SNR=22						
EBAN				Pg	**Pg**	**11 44 57.7**	**+0.4**
	12nm,0.2s,SNR=7.9						
EBAN				Lg		11 45 21.1	
	158nm,0.3s,SNR=27						
EBAD	**Badajoz**	**1.98**	**325**⇓	Pn	**Pn**	**11 44 58.1**	**+0.4**
	2.9nm,0.1s,SNR=18						
EBAD				Pg	**Pg**	**11 45 01.7**	**-0.3**
	22nm,0.3s,SNR=7.9						
EBAD				Sn	**Sn**	**11 45 22.8**	**+0.1**
	50nm,0.2s,SNR=4.7						
EBAD				Lg		11 45 29.8	
	153nm,0.2s,SNR=9.3						
EBAD	**Badajoz**	**1.98**	**325**	Pg	**Pg**	**11 45 01.7**	**-0.3**
	22nm,0.3s,SNR=7.9						
EBAD				Sn	**Sn**	**11 45 22.8**	**0.0**
	50nm,0.2s,SNR=4.7						
PBEJ	**Beja**	**2.04**	**296**	*e*Pn	**Pn**	**11 44 58.6**	**+0.1**
PBEJ	**Beja**	**2.04**	**296**	*e*Pg	**Pg**	**11 45 02.2**	**-0.9**
PBEJ				*e*Sg	**Sg**	**11 45 29.7**	**+0.2**
PBEJ				A		11 45 37.3	
	88nm,0.2s						
PBEJ	**Beja**	**2.04**	**296**	Pn	**Pn**	**11 44 58.6**	**+0.1**
PBEJ				Pg	**Pg**	**11 45 02.2**	**-0.9**
PBEJ				Lg		11 45 29.7	
PBEJ	**Beja**	**2.04**	**296**	*e*Pg	**Pg**	**11 45 02.2**	**-0.9**
PBEJ				*e*Sg	**Sg**	**11 45 29.7**	**+0.2**
	88nm,0.2s						
EQES	**Quesada**	**2.08**	**71**	Pn	**Pn**	**11 44 59.9**	**+0.7**
	1.5nm,0.2s,SNR=7.9						
EQES				Pg	**Pg**	**11 45 03.9**	**0.0**
	0.9nm,0.3s,SNR=26						
EQES				Lg		11 45 32.5	
	79nm,0.3s,SNR=26						
EQES	**Quesada**	**2.08**	**71**	Pn	**Pn**	**11 44 59.9**	**+0.8**
	1.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.08**	**71**	Pg	**Pg**	**11 45 03.9**	**0.0**
	0.9nm,0.3s,SNR=26						
EBER	**Berja**	**2.15**	**96**	Pn	**Pn**	**11 45 00.4**	**+0.4**
EBER				Pg	**Pg**	**11 45 03.5**	**-1.6**
EBER				Pg	**Pg**	**11 45 04.6**	**-0.5**
EBER				Lg		11 45 33.1	
EBER				Lg		11 45 33.4	
EBER	**Berja**	**2.15**	**96**	Pg	**Pg**	**11 45 03.5**	**-1.6**
	8.5nm,0.3s,SNR=7.9						
EBER				Lg		11 45 33.1	
	53nm,0.4s,SNR=4.0						
EBER	**Berja**	**2.15**	**96**	Pn	**Pn**	**11 45 00.4**	**+0.4**
EBER	**Berja**	**2.15**	**96**	Pg	**Pg**	**11 45 03.5**	**-1.6**
	8.5nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**2.36**	**318**	*e*Pn	**Pn**	**11 45 03.6**	**+0.7**
PESTR	**Estremoz**	**2.36**	**318**	*e*Pg	**Pg**	**11 45 08.5**	**-0.7**
PESTR				*e*Sg	**Sg**	**11 45 38.9**	**-0.9**
PESTR				A		11 45 48.0	
	77nm,0.5s						
PESTR	**Estremoz**	**2.36**	**318**	*e*Pg	**Pg**	**11 45 08.5**	**-0.7**
PESTR				*e*Sg	**Sg**	**11 45 38.9**	**-0.9**
	77nm,0.5s						
EHUE	**Huescar**	**2.45**	**73**	Pn	**Pn**	**11 45 04.3**	**+0.1**
	1.4nm,0.1s,SNR=7.9						
EHUE				Lg		11 45 43.1	
	31nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.56**	**280**	*e*Pn	**Pn**	**11 45 05.6**	**-0.1**
PTEO	**Sao Teotonio**	**2.56**	**280**	*e*Pg	**Pg**	**11 45 11.6**	**-1.4**
PTEO				*e*Sn	**Sn**	**11 45 37.1**	**+0.1**
PTEO				*e*Sg	**Sg**	**11 45 46.1**	**-0.1**
PTEO				A		11 45 51.1	
	106nm,0.4s						
PTEO	**Sao Teotonio**	**2.56**	**280**	Pn	**Pn**	**11 45 05.6**	**-0.1**
PTEO				Pg	**Pg**	**11 45 11.6**	**-1.4**
PTEO				Sn	**Sn**	**11 45 37.1**	**+0.1**
PTEO				Lg		11 45 46.1	
PTEO	**Sao Teotonio**	**2.56**	**280**	*e*Pg	**Pg**	**11 45 11.6**	**-1.4**
PTEO				*e*Sn	**Sn**	**11 45 37.1**	**+0.1**
PTEO				*e*Sg	**Sg**	**11 45 46.1**	**-0.1**
	106nm,0.4s						
PAB	**San Pablo**	**2.58**	**21**	*e*Pn	**Pn**	**11 45 09.3**	**+3.4**
PAB				*e*Sn	**Sn**	**11 45 40.1**	**+2.5**
PAB				*e*Sg	**Sg**	**11 45 48.6**	**+1.7**
PAB	**San Pablo**	**2.58**	**21**	*e*Pn	**Pn**	**11 45 09.3**	**+3.3**
PAB				*e*Sn	**Sn**	**11 45 40.1**	**+2.6**
MOE	**Montemor**	**2.61**	**303**	*e*Pn	**Pn**	**11 45 06.9**	**+0.5**
MOE	**Montemor**	**2.61**	**303**	*e*Pg	**Pg**	**11 45 13.1**	**-0.9**
MOE				*e*Sn	**Sn**	**11 45 39.9**	**+1.7**
MOE				*e*Sg	**Sg**	**11 45 46.4**	**-1.4**
MOE	**Montemor**	**2.61**	**303**	Pn	**Pn**	**11 45 06.9**	**+0.5**
MOE				Pg	**Pg**	**11 45 13.1**	**-0.9**
MOE				Sn	**Sn**	**11 45 39.9**	**+1.7**
MOE	**Montemor**	**2.61**	**303**	*e*Pg	**Pg**	**11 45 13.1**	**-0.9**
MOE				*e*Sn	**Sn**	**11 45 39.9**	**+1.7**
MOE				*e*Sg	**Sg**	**11 45 46.4**	**-1.4**
ENIJ	**Nijar**	**2.68**	**93**	Pn	**Pn**	**11 45 07.4**	**0.0**
	1.1nm,0.2s,SNR=4.0						
ENIJ				Pg	**Pg**	**11 45 14.7**	**-0.7**
	1.5nm,0.1s,SNR=6.4						
ESDC	**Sonseca Array**	**2.82**	**26**	Pn	**Pn**	**11 45 10.7**	**+1.4**
	1.5nm,0.1s,baz=205,slow=12,SNR=25						
ESDC				Pg	**Pg**	**11 45 18.4**	**+0.4**
	1.5nm,0.1s,baz=215,slow=17,SNR=26						
ESDC				Sn	**Sn**	**11 45 43.3**	**-0.2**
	6.5nm,0.3s,baz=208,slow=28,SNR=9.9						
ESDC				Lg		11 45 54.9	
	6.6nm,0.1s,baz=219,slow=28,SNR=16						
ESDC	**Sonseca Array**	**2.82**	**26**	Pn	**Pn**	**11 45 10.7**	**+1.4**
	1.5nm,0.1s,SNR=25						
ESDC	**Sonseca Array**	**2.82**	**26**	Pg	**Pg**	**11 45 18.4**	**+0.4**
	1.5nm,0.1s,SNR=26						
ESDC				Sn	**Sn**	**11 45 43.3**	**-0.1**
	6.5nm,0.3s,SNR=9.9						
ESLA	**Sonseca Array**	**2.82**	**26**	*e*Pn	**Pn**	**11 45 11.3**	**+2.0**
ESLA				*e*Pg	**Pg**	**11 45 19.8**	**+1.7**
ESLA				*e*Sn	**Sn**	**11 45 45.4**	**+1.9**
ESLA				*e*Sg	**Sg**	**11 45 58.4**	**+3.8**
ESLA	**Sonseca Array**	**2.82**	**26**	*e*Pn	**Pn**	**11 45 11.

EMUR				Lg			11 46 15.6	
EMUR	**La Murta**	**3.50**	**77**	Pg	**Pg**		**11 45 27.0**	**-4.0**
	comp=E,1.8nm,0.4s,SNR=4.0							
EMUR				Lg			11 46 15.6	
	comp=E,22nm,0.5s,SNR=4.7							
EMUR	**La Murta**	**3.50**	**77**	Pn	**Pn**		**11 45 18.4**	**-0.2**
EMUR	**La Murta**	**3.50**	**77**	Pg	**Pg**		**11 45 27.0**	**-4.0**
	comp=E,1.8nm,0.4s,SNR=4.0							
ETOB	**Tobarra**	**3.50**	**63**	Pn	**Pn**		**11 45 18.8**	**+0.1**
	comp=E,3.3nm,0.2s,SNR=13							
ETOB				Pg	**Pg**		**11 45 31.2**	**0.0**
	comp=E,4.2nm,0.3s,SNR=9.0							
ETOB				Lg			11 46 16.7	
	comp=E,28nm,0.5s,SNR=4.9							
ETOB	**Tobarra**	**3.50**	**63**	Pn	**Pn**		**11 45 18.8**	**+0.1**
	comp=E,3.3nm,0.2s,SNR=13							
ETOB	**Tobarra**	**3.50**	**63**	Pg	**Pg**		**11 45 31.2**	**+0.1**
	comp=E,4.2nm,0.3s,SNR=9.0							
GUD	**Guadarrama**	**3.66**	**17**	Pn	**Pn**		**11 45 22.2**	**+1.3**
GUD				Sn	**Sn**		**11 46 00.5**	**-3.7**
GUD				Lg			11 46 18.3	
GUD	**Guadarrama**	**3.66**	**17**	Pn	**Pn**		**11 45 22.2**	**+1.3**
	comp=E,0.7nm,0.2s,SNR=7.9							
GUD				Sn	**Sn**		**11 46 00.5**	**-3.7**
	comp=E,3.9nm,0.2s,SNR=7.9							
GUD				Lg			11 46 18.3	
	comp=E,33nm,0.4s,SNR=7.9							
PVIS	**Viseu**	**4.01**	**334**	*e*Pn	**Pn**		**11 45 26.8**	**+1.2**
PVIS				*e*Sn	**Sn**		**11 46 12.5**	**-0.3**
PVIS				*e*Sg	**Sg**		**11 46 32.5**	**-0.3**
PVIS				A			11 46 40.4	
	comp=E,26nm,0.3s							
PVIS	**Viseu**	**4.01**	**334**	*e*Pn	**Pn**		**11 45 26.8**	**+1.2**
PVIS				*e*Sn	**Sn**		**11 46 12.5**	**-0.3**
PVIS				*e*Sg	**Sg**		**11 46 32.5**	**-0.3**
	comp=E,26nm,0.3s							
ECHE	**Chera**	**4.36**	**54**	Pn	**Pn**		**11 45 29.4**	**-1.0**
	comp=E,0.0nm,0.1s,SNR=7.9							
ECHE				Lg			11 46 41.7	
	comp=E,4.9nm,0.4s,SNR=7.9							
PVRL	**Vila Real**	**4.46**	**339**	*e*Sn	**Sn**		**11 46 23.7**	**-0.1**
PVRL				A			11 46 26.4	
	comp=E,33nm,0.3s							
PVRL	**Vila Real**	**4.46**	**339**	*e*Sn	**Sn**		**11 46 23.7**	**-0.1**
	comp=E,33nm,0.3s							
EBEN	**Beniarda**	**4.49**	**68**	Pn	**Pn**		**11 45 30.9**	**-1.3**
	comp=E,0.4nm,0.3s,SNR=7.9							
EBEN				Lg			11 46 46.7	
	comp=E,2.1nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**4.49**	**68**	Pn	**Pn**		**11 45 30.9**	**-1.4**
	comp=E,0.4nm,0.3s,SNR=7.9							
ETOR	**Torete**	**4.57**	**35**	Pn	**Pn**		**11 45 34.5**	**+1.2**
	comp=E,12nm,0.3s,SNR=36							
ETOR				Sn	**Sn**		**11 46 25.4**	**-1.3**
	comp=E,11nm,0.3s,SNR=7.9							
ETOR				Lg			11 46 51.9	
	comp=E,21nm,0.3s,SNR=6.2							
ETOR	**Torete**	**4.57**	**35**	Pn	**Pn**		**11 45 34.5**	**+1.1**
	comp=E,12nm,0.3s,SNR=36							
ETOR				Sn	**Sn**		**11 46 25.4**	**-1.3**
	comp=E,11nm,0.3s,SNR=7.9							
PBRG	**Braganca**	**4.75**	**349**	*e*Pn	**Pn**		**11 45 37.0**	**+1.2**
PBRG				*e*Sn	**Sn**		**11 46 31.1**	**+0.1**
ECAL	**Calabor**	**4.88**	**350**	Pn	**Pn**		**11 45 38.1**	**+0.5**
	comp=E,1.1nm,0.4s,SNR=7.9							
ECAL				Sn	**Sn**		**11 46 31.3**	**-3.0**
	comp=E,3.4nm,0.2s,SNR=4.7							
ECAL				Lg			11 47 02.0	
	comp=E,43nm,0.5s,SNR=7.9							
ECAL	**Calabor**	**4.88**	**350**	Pn	**Pn**		**11 45 38.1**	**+0.5**
	comp=E,1.1nm,0.4s,SNR=7.9							
PCAB	**Cabril**	**4.95**	**338**	*e*Sn	**Sn**		**11 46 36.3**	**+0.4**
PCAB				A			11 47 14.8	
	comp=E,20nm,0.5s							
PCAB	**Cabril**	**4.95**	**338**	*e*Sn	**Sn**		**11 46 36.3**	**+0.4**
	comp=E,20nm,0.5s							
ELOB	**Lobios**	**5.10**	**338**	Pn	**Pn**		**11 45 40.9**	**+0.3**
	comp=E,0.6nm,0.2s,SNR=5.2							
ELOB				Sn	**Sn**		**11 46 38.4**	**-1.3**
	comp=E,8.4nm,0.3s,SNR=7.9							
ELOB				Lg			11 47 08.3	
	comp=E,6.5nm,0.4s,SNR=7.9							
ELOB	**Lobios**	**5.10**	**338**	Pn	**Pn**		**11 45 40.9**	**+0.2**
	comp=E,0.6nm,0.2s,SNR=5.2							
ELOB				Sn	**Sn**		**11 46 38.4**	**-1.3**
	comp=E,8.4nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.11**	**49**	Pn	**Pn**		**11 45 41.7**	**+0.9**
	comp=E,0.3nm,0.3s,SNR=7.9							
EMOS				Lg			11 47 06.2	
	comp=E,2.6nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**5.96**	**48**	Lg			11 47 32.8	
	comp=E,5.6nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**6.03**	**39**	Lg			11 47 38.3	
	comp=E,12nm,0.1s,SNR=4.0							
EARI	**Arriondas**	**6.16**	**2**	Sn	**Sn**		**11 47 01.8**	**-4.0**
	comp=E,0.9nm,0.2s,SNR=7.9							
EARI				Lg			11 47 43.8	
	comp=E,3.4nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**6.30**	**14**	Pn	**Pn**		**11 45 58.5**	**+1.4**
	comp=E,0.6nm,0.2s,SNR=7.9							
ELAN				Sn	**Sn**		**11 47 06.1**	**-3.1**
	comp=E,2.5nm,0.3s,SNR=7.9							
ELAN				Lg			11 47 46.6	
	comp=E,4.5nm,0.4s,SNR=4.0							
EPON	**Pontenova**	**6.30**	**349**	Sn	**Sn**		**11 47 06.0**	**-3.2**
	comp=E,1.1nm,0.3s,SNR=7.9							
EPON				Lg			11 47 44.7	
	comp=E,2.0nm,0.3s,SNR=4.0							
EMAZ	**Mazaricos**	**6.37**	**337**	Pn	**Pn**		**11 45 58.0**	**0.0**
	comp=E,1.0nm,0.3s,SNR=7.9							
EMAZ				Sn	**Sn**		**11 47 07.1**	**-3.8**
	comp=E,0.9nm,0.2s,SNR=7.9							
EMAZ				Lg			11 47 48.5	
	comp=E,1.7nm,0.2s,SNR=4.0							
EMAZ	**Mazaricos**	**6.37**	**337**	Pn	**Pn**		**11 45 58.0**	**0.0**
	comp=E,1.0nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**6.64**	**49**	Pn	**Pn**		**11 46 01.9**	**+0.1**
	comp=E,0.3nm,0.2s,SNR=7.9							
EPOB				Lg			11 47 53.6	
	comp=E,0.8nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**6.64**	**49**	Pn	**Pn**		**11 46 01.9**	**+0.1**
EALK	**Alkurruntz**	**6.81**	**26**	Pn	**Pn**		**11 46 05.5**	**+1.3**
	comp=E,1.7nm,0.4s,SNR=4.7							
EALK				Sn	**Sn**		**11 47 19.1**	**-2.8**
	comp=E,7.7nm,0.4s,SNR=7.9							
SJPF	**Ste Jean**	**6.82**	**28**	*e*Pn	**Pn**		**11 46 04.7**	**+0.4**
SJPF				*e*Sn	**Sn**		**11 47 19.0**	**-3.1**
	comp=E,3.3nm,0.4s							
SJPF	**Ste Jean**	**6.82**	**28**	Pn	**Pn**		**11 46 04.7**	**+0.4**
SJPF				Sn	**Sn**		**11 47 19.0**	**-3.1**
	comp=E,1.6nm,0.4s							
ETSF	**Etsaut**	**6.91**	**32**	*e*Pn	**Pn**		**11 46 05.9**	**+0.4**
ETSF				*e*Sn	**Sn**		**11 47 21.3**	**-2.9**
	comp=E,2.3nm,0.4s							
ETSF	**Etsaut**	**6.91**	**32**	Pn	**Pn**		**11 46 05.9**	**+0.4**
ETSF				Sn	**Sn**		**11 47 21.3**	**-2.9**
	comp=E,1.1nm,0.4s							
EBIE	**Bielsa**	**7.06**	**37**	Pn	**Pn**		**11 46 09.3**	**+1.8**
	comp=E,4.4nm,0.4s,SNR=21							
EBIE				Sn	**Sn**		**11 47 25.5**	**-2.4**
	comp=E,0.3nm,0.3s,SNR=4.0							
EBIE				Lg			11 48 09.9	
	comp=E,0.6nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**7.06**	**37**	Pn	**Pn**		**11 46 09.3**	**+1.8**
EPF	**Esparros**	**7.42**	**36**	*e*Pn	**Pn**		**11 46 12.8**	**+0.4**
EPF				*e*Sn	**Sn**		**11 47 33.3**	**-3.4**
	comp=E,3.9nm,0.6s							
EPF	**Esparros**	**7.42**	**36**	Pn	**Pn**		**11 46 12.8**	**+0.4**
EPF				Sn	**Sn**		**11 47 33.3**	**-3.4**
	comp=E,1.9nm,0.6s							
LFF	**La Frestale**	**9.12**	**29**	*e*Pn	**Pn**		**11 46 36.1**	**+0.2**
LFF				*e*Sn	**Sn**		**11 48 13.8**	**-4.9**
	comp=E,0.9nm,0.2s							
LFF	**La Frestale**	**9.12**	**29**	*e*Pn	**Pn**		**11 46 36.1**	**+0.2**
LFF				*e*Sn	**Sn**		**11 48 13.8**	**-4.9**
	comp=E,0.4nm,0.2s							
CAF	**Calviac**	**9.67**	**34**	*e*Pn	**Pn**		**11 46 43.3**	**0.0**
CAF				*e*Sn	**Sn**		**11 48 27.5**	**-4.6**
	comp=E,1.3nm,0.3s							
CAF	**Calviac**	**9.67**	**34**	*e*Pn	**Pn**		**11 46 43.3**	**0.0**
CAF				*e*Sn	**Sn**		**11 48 27.5**	**-4.6**
	comp=E,0.6nm,0.3s							
RJF	**Les Rejaudoux**	**9.74**	**31**	*e*Pn	**Pn**		**11 46 43.7**	**-0.5**
RJF				*e*Sn	**Sn**		**11 48 28.8**	**-4.9**
	comp=E,0.8nm,0.3s							
RJF	**Les Rejaudoux**	**9.74**	**31**	*e*Pn	**Pn**		**11 46 43.7**	**-0.5**
RJF				*e*Sn	**Sn**		**11 48 28.8**	**-4.9**
	comp=E,0.4nm,0.3s							
QUIF	**Quistinic**	**10.91**	**9**	*e*Pn	**Pn**		**11 47 00.4**	**+0.1**
QUIF				*e*Sn	**Sn**		**11 48 55.6**	**-7.0**
	comp=E,2.3nm,0.4s							
QUIF	**Quistinic**	**10.91**	**9**	*e*Pn	**Pn**		**11 47 00.4**	**+0.1**
QUIF				*e*Sn	**Sn**		**11 48 55.6**	**-7.0**
	comp=E,1.1nm,0.4s							
ROSF	**Rostrenen**	**11.31**	**8**	*e*Pn	**Pn**		**11 47 06.4**	**+0.6**
ROSF				*e*Sn	**Sn**		**11 49 05.6**	**-6.8**
	comp=E,1.2nm,0.3s							
ROSF	**Rostrenen**	**11.31**	**8**	*e*Pn	**Pn**		**11 47 06.4**	**+0.6**
ROSF				*e*Sn	**Sn**		**11 49 05.6**	**-6.8**
	comp=E,0.6nm,0.3s							
GRR	**Gorron**	**11.76**	**16**	*e*Pn	**Pn**		**11 47 11.9**	**0.0**

IDC 10 11:48:52.3±4.0, 4703N×15607E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.3/3, Error ellipse: s-maj=137.6km s-min=35.2km az=178.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.60**	**298**	P	P	11 57 37.3	-0.3
	0.1nm,0.3s,baz=60,slow=12,SNR=2.5						
YKA	**Yellowknife Ar**	**49.47**	**38**	P	P	11 57 43.5	-0.8
	0.3nm,0.6s,baz=295,slow=7.2,SNR=5.2						
TXAR	**Lajitas Array**	**75.57**	**63**	P	P	12 00 39.2	+0.4
	0.3nm,0.5s,baz=295,slow=4.7,SNR=5.4						

*NEIC **10** 12:04:07.6, 1595N×9487W, h47km, MD4.2(MEX), After MEX.*

MEX 10 12:04:07.6±0.8, 1595N×9486W, h42km±33km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.14**	**359**	*i* P	Pn	12 04 25.2	-1.8
CMIG				*i* S	Sn	12 04 39.5	-2.0
HUIG	**Huatulco**	**1.22**	**262**	*i* P	Pn	12 04 26.2	-1.9
HUIG				*i* S	Sn	12 04 41.7	-1.7
VHO	**Vista Hermosa**	**2.12**	**302**	*i* P	Pn	12 04 40.2	-0.4
VHO				*i* S	Sn	12 05 03.7	-1.9
CCIG	**Comitan**	**2.64**	**82**	*i* P	Pn	12 04 47.0	-0.6
CCIG				*i* S	Sn	12 05 16.4	-1.9
PNIG	**Pinotepa**	**3.17**	**279**	*i* P	Pn	12 04 53.0	-2.0
PNIG				*i* S	Sn	12 05 28.8	-2.8
PNIG	**Pinotepa**	**3.17**	**279**	*i* P	Pn	12 04 53.0	-2.0
PNIG				*i* S	Sn	12 05 27.4	-4.1
UTMO	**Huajuapan**	**3.39**	**304**	*i* P	Pn	12 04 57.6	-0.3
TPIG	**Tehuac#an**	**3.43**	**316**	*i* P	Pn	12 04 58.5	0.0
TPIG				*i* S	Sn	12 05 35.6	-2.4
PPM	**Popocatepetl**	**4.75**	**311**	*i* P	Pn	12 05 20.5	+3.8
PPM	**Popocatepetl**	**4.75**	**311**	*i* P	Pn	12 05 03.7	-13
MEIG	**Mezcala**	**4.97**	**294**	*i* P	Pn	12 05 19.5	-0.1
MEIG				*i* S	Sn	12 06 13.6	-2.1
IIO	**Organos**	**5.17**	**315**	*i* P	Pn	12 05 24.2	+1.8
MOIG	**Morelia**	**7.08**	**303**	*i* P	Pn	12 05 49.6	+1.0
MOIG	**Morelia**	**7.08**	**303**	*i* P	Pn	12 05 50.1	+1.4
TEIG	**Tepich**	**7.57**	**55**	*i* P	Pn	12 05 53.2	-2.1
TEIG				*i* S	Sn	12 07 20.0	+0.2
TEIG	**Tepich**	**7.57**	**55**	*i* P	Pn	12 05 52.4	-3.0
TEIG				*i* S	Sn	12 07 10.0	-10

*GII **10** 12:23:39.8±0.8, 3210N×3500E, h0km, ML2.2/5*
*GRAL **10** 12:23:39.6±1.0, 3182N×3540E, h0km±12km, MD3.2*
*ISCJB **10** 12:23:40.6±0.6, 3210N±002×3492E±006, h0km, Error ellipse: s-maj=6.9km s-min=2.6km az=22.2*

ISC 10 12:23:41.1±0.6, 3210N±002×3493E±006, h0km, n15, σ1§05/24, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLTI	**Sal'it**	**0.17**	**35**	Pg	**Pg**	**12 23 43.4**	**-0.9**
SLTI				Sg	**Sg**	**12 23 46.5**	**0.0**
OFRI	**'Ofer**	**0.52**	**5**	Sg	**Sg**	**12 23 59.8**	**+2.0**
HMDT	**Nahal Hemdat**	**0.53**	**74**	Pg	**Pg**	**12 23 49.9**	**-1.4**
HMDT				Sg	**Sg**	**12 23 58.7**	**+0.5**
MMLI	**Mount Malkishu**	**0.54**	**51**	Pg	**Pg**	**12 23 50.6**	**-0.8**
MMLI				Sg	**Sg**	**12 23 59.1**	**+0.7**
DRGI	**Dragot**	**0.65**	**142**	Pg	**Pg**	**12 23 52.7**	**-0.8**
DRGI				Sg	**Sg**	**12 24 03.6**	**+1.7**
DSI	**Dead Sea**	**0.66**	**144**	Pg	**Pg**	**12 23 53.5**	**-0.2**
YTIR	**Yattir**	**0.76**	**168**	Pg	**Pg**	**12 23 55.2**	**-0.4**
YTIR				Sg	**Sg**	**12 24 07.0**	**+1.6**
MZDA	**Masada**	**0.88**	**155**	Sg	**Sg**	**12 24 09.1**	**-0.1**
KZIT	**Kziot**	**1.28**	**201**	Sg	**Sg**	**12 24 23.7**	**+1.6**
ZFRI	**Zfri**	**1.56**	**172**	Pn	**Pn**	**12 24 08.1**	**-2.0**
ZFRI				Sn	**Sn**	**12 24 30.3**	**-0.7**
RCY	**Rachaya**	**1.57**	**28**	*e*P	**Pn**	**12 24 09.1**	**-1.1**
RCY				*e*S	**Sn**	**12 24 31.3**	**+0.1**
PRNI	**Paran**	**1.75**	**178**	Pn	**Pn**	**12 24 11.2**	**-1.5**
PRNI				Sn	**Sn**	**12 24 36.0**	**+0.3**
BHL	**Bhannes**	**1.90**	**19**	*e*P	**Pn**	**12 24 14.2**	**-0.5**
BHL				*e*S	**Sn**	**12 24 41.0**	**+1.7**
HRFI	**Mount Harif**	**2.06**	**177**	Sn	**Sn**	**12 24 43.9**	**+0.4**
HWQ	**Hawqa**	**2.33**	**21**	*e*P	**Pn**	**12 24 20.9**	**+0.2**

MAN 10 12:25:33.0, 582N×12628E, h102km, mb3.6, ML4.7, MS2.9, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.12**	**359**	*e*P	Pn	12 25 55.4	+0.6
MATI				*e*S	Sn	12 26 12.1	+0.8
GSPH	**General Santos**	**1.35**	**281**	⇓*i*P	Pn	12 25 54.8	-2.8
GSPH				*i* S	Sn	12 26 12.2	-3.9
KCP	**Kidapawan**	**1.67**	**315**	⇑*e*P	Pn	12 26 07.0	+5.6
KCP				*i* S	Sn	12 26 22.6	-0.4
BUKP	**Musuan**	**2.37**	**329**	*e*P	Pn	12 26 11.1	+0.5
BUKP				*e*S	Sn	12 26 39.8	+0.5
SCPH	**Surigao**	**4.01**	**349**	⇓*e*P	Pn	12 26 34.1	+1.8

*IDC **10** 13:02:31.1±3.6, 4604N×15303E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=113.0km s-min=31.4km az=4.0*
*MOS **10** 13:02:35.2±0.8, 4613N×15288E, h38km, mb3.9/3, Error ellipse: s-maj=61.3km s-min=28.5km az=80.3*
*ISCJB **10** 13:02:36.9±11.0, 463N±08×1530E±03, h47km±71km, mb3.6/5, Error ellipse: s-maj=135.4km s-min=32.6km az=176.7*

ISC 10 13:02:38.9±9.5, 463N±07×1530E±03, h50km±58km, n9, σ0§26/9, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.90**	**24**	*e*PN	**Pn**	**13 03 50.0**	**0.0**
MKAR	**Makanchi Array**	**47.09**	**298**	P	**P**	**13 11 05.5**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=70,slow=7.5,SNR=6.4						
YKA	**Yellowknife Ar**	**51.38**	**36**	P	**P**	**13 11 38.2**	**-0.3**
	0.5nm,0.9s,mb3.4,baz=295,slow=7.1,SNR=3.8						
YKA	**Yellowknife Ar**	**51.38**	**36**	P	**P**	**13 11 38.2**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**13 13 09.8**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=46,slow=5.5,SNR=4.4						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**13 13 09.9**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.91**	**326**	P	**P**	**13 13 57.2**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=32,slow=6.2,SNR=3.6						
TXAR	**Lajitas Array**	**77.82**	**60**	P	**P**	**13 14 30.9**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=303,slow=4.3,SNR=10.0						
TXAR	**Lajitas Array**	**77.82**	**60**	P	**P**	**13 14 31.0**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*STR **10** 13:07:09.7±0.2, 4305N×073W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 13:07:09.6±0.1, 4305N×071W, h8km, Md1.8/3, Ml1.8/5, Error ellipse: s-maj=1.3km s-min=0.8km az=178.0*

MDD 10 13:07:10.2±0.3, 4308N×070W, h7km±3km, mbLg1.1/7, Error ellipse: s-maj=3.5km s-min=1.8km az=21.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.01**	**335**	Pg	Pg	13 07 11.5	0.0
ATE				Sg	Sg	13 07 12.5	+0.1
ATE	**Arette**	**0.01**	**335**	P	Pg	13 07 11.5	0.0
ATE				S	Sg	13 07 12.6	+0.2
ETSF	**Etsaut**	**0.20**	**151**	*e*Pg	Pg	13 07 13.8	-0.5
ETSF				*e*Sg	Sg	13 07 16.7	-0.4
	12nm,0.2s						
ETSF	**Etsaut**	**0.20**	**151**	Pg	Pg	13 07 13.8	-0.5
ETSF				Lg		13 07 16.7	
	5.8nm,0.2s						
LARF	**Larrau**	**0.22**	**260**	Pg	Pg	13 07 13.7	-0.9
LARF				Sg	Sg	13 07 17.0	-0.5
LARF	**Larrau**	**0.22**	**260**	P	Pg	13 07 14.0	-0.5
LARF				S	Sg	13 07 17.2	-0.3
ORDF	**Ordiarp**	**0.22**	**308**	Pg	Pg	13 07 14.7	+0.1
ORDF				Sg	Sg	13 07 17.9	+0.2
ORDF	**Ordiarp**	**0.22**	**308**	P	Pg	13 07 14.7	0.0
ORDF				S	Sg	13 07 18.2	+0.6
SJPF	**Ste Jean**	**0.39**	**275**	*e*Pg	Pg	13 07 17.1	-0.7
SJPF				*e*Sg	Sg	13 07 22.3	-0.6
	11nm,0.3s						
SJPF	**Ste Jean**	**0.39**	**275**	Pg	Pg	13 07 17.1	-0.7
SJPF				Lg		13 07 22.3	
	5.3nm,0.3s						
EALK	**Alkurruntz**	**0.61**	**284**	Pg	Pg	13 07 21.5	-0.5
	0.4nm,0.1s,SNR=6.8						
EALK				Lg		13 07 30.6	
	2.5nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.62**	**278**	Pg	Pg	13 07 21.2	-0.8
	2.3nm,0.3s,SNR=7.9						
ELIZ				Lg		13 07 30.0	
	1.0nm,0.3s,SNR=6.9						
EBIE	**Bielsa**	**0.73**	**122**	Pg	Pg	13 07 24.3	+0.1
	0.3nm,0.0s,SNR=7.9						
EBIE				Lg		13 07 33.8	
	1.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.76**	**93**	*e*Pg	Pg	13 07 24.2	-0.6
EPF				*e*Sg	Sg	13 07 34.4	-0.3
	1.8nm,0.2s						
EPF	**Esparros**	**0.76**	**93**	Pg	Pg	13 07 24.2	-0.6
EPF				Lg		13 07 34.4	
	0.9nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**173**	Pg	Pg	13 07 36.9	+0.5
	5.6nm,0.2s,SNR=7.9						
ESAC				Lg		13 07 55.6	
	13nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**1.42**	**251**	Pg	Pg	13 07 37.7	+0.4
	0.7nm,0.1s,SNR=4.0						
ECRI				Lg		13 07 56.4	
	1.4nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.13**	**29**	*e*Pn	Pn	13 07 44.4	-1.7
LFF	**La Frestale**	**2.13**	**29**	*e*Pg	Pg	13 07 49.5	-1.5
LFF				*e*Sg	Sg	13 08 17.3	-1.4
	2.6nm,0.3s						
LFF	**La Frestale**	**2.13**	**29**	Pn	Pn	13 07 44.4	-1.7
LFF				Pg	Pg	13 07 49.5	-1.5
LFF				Lg		13 08 17.3	
	1.3nm,0.3s						
MTLF	**Montolieu**	**2.15**	**82**	*e*Pg	Pg	13 07 49.7	-1.6
MTLF				*e*Sg	Sg	13 08 17.6	-1.5
	0.4nm,0.2s						
MTLF	**Montolieu**	**2.15**	**82**	Pg	Pg	13 07 49.7	-1.6
MTLF				Lg		13 08 17.6	
	0.2nm,0.2s						
CAF	**Calviac**	**2.72**	**46**	*e*Pg	Pg	13 08 00.4	-1.9
CAF				*e*Sn	Sn	13 08 23.0	-4.3
	0.9nm,0.2s						
CAF				*e*Sg	Sg	13 08 35.7	-1.8
	0.8nm,0.2s						
CAF	**Calviac**	**2.72**	**46**	Pg	Pg	13 08 00.4	-1.9
CAF				Sn	Sn	13 08 23.0	-4.3
	0.4nm,0.2s						
CAF				Lg		13 08 35.7	
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.74**	**35**	*e*Pg	Pg	13 08 00.3	-2.3
RJF				*e*Sg	Sg	13 08 36.4	-1.7
	1.6nm,0.4s						
RJF	**Les Rejaudoux**	**2.74**	**35**	Pg	Pg	13 08 00.3	-2.3
RJF				Lg		13 08 36.4	
	0.8nm,0.4s						

WEL 10 13:31:08.6±0.2, 4503S×16751E, h73km±1km, ML3.5/12, 4C-2D, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.46**	**40**	PN	Pn	13 31 20.9	-0.3
MSZ				SN	Sn	13 31 31.2	+0.6
DCZ	**Deep Cove**	**0.51**	**209**	PN	Pn	13 31 21.5	-0.3
MLZ	**Mavora Lakes**	**0.56**	**124**	⇓PN	Pn	13 31 21.9	-0.3
MLZ				SN	Sn	13 31 31.4	-0.8
WHZ	**Wether Hill Ro**	**0.92**	**161**	⇓PN	Pn	13 31 26.0	-0.1
WKZ	**Wanaka**	**1.09**	**80**	⇑PN	Pn	13 31 28.2	0.0
EAZ	**Earnscleugh**	**1.29**	**100**	⇑PN	Pn	13 31 30.7	-0.1
JCZ	**Jackson Bay**	**1.31**	**43**	PN	Pn	13 31 30.9	-0.2
JCZ				SN	Sn	13 31 47.5	-0.4
TUZ	**Tuapeka**

couple: $M_0$1.75000×10^{14} NP1:ϕ_s10.00000°, δ80.00000°, λ61.00000°. NP2:ϕ_s262.00000°, δ31.00000°, λ159.00000°.
*IDC **10** 14:48:47.5±1.2, 36.08N×141.59E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.5/24, mbtmp3.5/8, ML3.4/3, Error ellipse: s-maj=32.4km s-min=19.1km az=83.0*
*ISCJB **10** 14:48:48.6±1.3, 36.05N±004×141.60E±008, h22km±9km, mb3.5/5, Error ellipse: s-maj=10.5km s-min=7.0km az=24.2*
*JMA **10** 14:48:50.9±0.2, 36.01N×141.40E, h40km±3km, M3.6*
*NEIC **10** 14:48:53.3±1.1, 36.04N×141.37E, h35km, MG3.6(JMA), Error ellipse: s-maj=27.9km s-min=16.6km az=224.0*

ISC 10 14:48:49.1±1.3, 36.05N±004×141.53E±007, h11km±7km, n18, σ0§88/24, mb3.5/5, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.65**	**238**	⇑P	**Pg**	**14 49 02.0**	**+0.3**
CHOJ				S	**Sg**	**14 49 10.5**	**+0.3**
JHO	**Hitachi**	**0.96**	**306**	⇓P	**Pg**	**14 49 07.2**	**-0.4**
JYT	**Yasato**	**1.10**	**280**	⇓P	**Pb**	**14 49 08.7**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.20**	**331**	P	**Pn**	**14 49 11.5**	**-0.4**
JFK	**Kawauchi**	**1.42**	**338**	P	**Pn**	**14 49 14.6**	**-0.2**
BSO1	**Boso 1**	**1.47**	**198**	P	**Pn**	**14 49 15.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.73**	**281**	Pn	**Pn**	**14 49 32.6**	**-0.3**
	3.7nm,0.3s,baz=84,slow=10,SNR=28						
MJAR				Sn	**Sn**	**14 50 07.8**	**+2.0**
	4.6nm,0.3s,baz=69,slow=4.9,SNR=8.8						
MJAR	**Matsushiro Arr**	**2.73**	**281**	Pn	**Pn**	**14 49 32.6**	**-0.3**
MJAR				Sn	**Sn**	**14 50 07.8**	**+2.0**
MAJO	**Matsushiro**	**2.73**	**281**	*e*Pn	**Pn**	**14 49 33.1**	**+0.2**
MAT	**Matsushiro**	**2.73**	**281**	P	**Pn**	**14 49 33.2**	**+0.3**
MAT				*e*S	**Sn**	**14 50 05.3**	**-0.6**
JHJ	**Hachijo jima 2**	**3.26**	**207**	Pn	**Pn**	**14 49 40.9**	**+0.7**
	8.1nm,0.3s,baz=83,slow=21,SNR=5.5						
JHJ				Sn	**Sn**	**14 50 16.6**	**-2.4**
	26nm,0.3s,baz=68,slow=23,SNR=7.7						
ASAJ	**Asahikawa**	**8.10**	**5**	Pn	**Pn**	**14 50 46.8**	**+0.1**
	0.6nm,0.3s,baz=101,slow=1.3,SNR=8.6						
ASAJ				Sn	**Sn**	**14 52 18.2**	**+0.1**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.0						
MKAR	**Makanchi Array**	**44.73**	**303**	P	**P**	**14 57 03.0**	**+0.6**
	0.4nm,0.6s,mb3.4,baz=84,slow=7.9,SNR=6.1						
MKAR	**Makanchi Array**	**44.73**	**303**	P	**P**	**14 57 03.0**	**+0.6**
WRA	**Warramunga Arr**	**56.10**	**188**	P	**P**	**14 58 28.1**	**-0.3**
	0.3nm,0.5s,mb3.6,baz=6.7,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**59.83**	**188**	P	**P**	**14 58 55.8**	**+1.3**
	0.3nm,1.1s,mb3.2,baz=1.5,slow=8.3,SNR=4.4						
NOA	**NORSAR Array B**	**75.13**	**337**	P	**P**	**15 00 32.0**	**+0.7**
	1.6nm,1.0s,mb3.9,baz=35,slow=5.5,SNR=2.8						
AKASG	**Malin Array Be**	**75.13**	**323**	P	**P**	**15 00 29.8**	**-1.5**
	0.2nm,0.3s,mb3.5,baz=48,slow=5.8,SNR=4.1						

*ISCJB **10** 15:22:29.2±0.5, 47.51N±002×146.71E±004, h12km±5km, Error ellipse: s-maj=4.4km s-min=3.1km az=176.1*
*STR **10** 15:22:29.9±0.3, 47.56N×76.16E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **10** 15:22:30.5, 47.58N×76.16E, h4km±1km, ML1.6*
*LDG **10** 15:22:30.6±0.1, 47.59N×75.88E, h8km, Md2.1/3, Ml2.2/12, Error ellipse: s-maj=1.6km s-min=1.1km az=125.0*

ISC 10 15:22:29.9±0.5, 47.56N±002×73.62E±004, h18km±5km, n24, σ0§76/42, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**153**	⇓*i*Pg	**Pg**	**15 22 35.8**	**+0.2**
	339nm,0.3s						
BOURR	**Bourrignon**	**0.26**	**232**	⇑*i*Pg	**Pg**	**15 22 37.0**	**+1.2**
	71nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.40**	**94**	⇑*i*Pg	**Pg**	**15 22 37.4**	**-0.8**
	107nm,0.2s						
MOF	**Molkenrain**	**0.40**	**318**	Pg	**Pg**	**15 22 38.4**	**+0.2**
MOF				Sg	**Sg**	**15 22 44.2**	**+0.4**
LOMF	**Lomont**	**0.52**	**247**	Pg	**Pg**	**15 22 41.5**	**+1.1**
HINF	**Hinteralfeld**	**0.53**	**300**	*e*Pg	**Pg**	**15 22 40.7**	**+0.2**
HINF	**Hinteralfeld**	**0.53**	**300**	*e*Pn	**Pg**	**15 22 42.5**	**+2.0**
HINF				*e*Sg	**Sg**	**15 22 48.0**	**+0.4**
HINF				*e*Sn	**Sg**	**15 22 51.6**	**+4.0**
	8.0nm,0.2s						
SLE	**Schleitheim**	**0.68**	**72**	*e*Pg	**Pg**	**15 22 42.3**	**-1.1**
	241nm,0.3s						
ECH	**Echery**	**0.71**	**339**	Pg	**Pg**	**15 22 44.4**	**+0.6**
ECH				Sg	**Sg**	**15 22 52.9**	**-0.3**
CDF	**Champ du Feu**	**0.87**	**349**	*e*Pg	**Pg**	**15 22 46.9**	**-0.1**
CDF	**Champ du Feu**	**0.87**	**349**	*e*Pn	**Pn**	**15 22 47.2**	**-0.1**
CDF				*e*Sg	**Sg**	**15 22 57.2**	**-1.3**
CDF				*e*Sn	**Sn**	**15 22 59.1**	**-0.4**
	15nm,0.2s						
HAU	**Haudompre**	**0.92**	**300**	*e*Pg	**Pg**	**15 22 48.1**	**+0.3**
HAU				*e*Sg	**Sg**	**15 23 00.6**	**+0.8**
	11nm,0.3s						
CABF	**La Chapelle**	**1.37**	**227**	*e*Pn	**Pn**	**15 22 55.5**	**+1.4**
CABF	**La Chapelle**	**1.37**	**227**	*e*Pg	**Pg**	**15 22 57.4**	**+1.1**
CABF				*e*Sg	**Sg**	**15 23 14.6**	**+0.5**
	6.8nm,0.3s						
SFTF	**Sexfontaines**	**1.80**	**292**	*e*Pg	**Pg**	**15 23 04.8**	**+0.3**
SFTF				*e*Sg	**Sg**	**15 23 28.2**	**+0.3**
	4.6nm,0.3s						
MEZF	**Maizieres J'vi**	**1.91**	**301**	*e*Pn	**Pn**	**15 23 02.7**	**+1.1**
MEZF				*e*Sg	**Sg**	**15 23 31.5**	**-0.1**
	2.0nm,0.2s						
LPL	**La Plagne**	**2.11**	**195**	*e*Pg	**Pg**	**15 23 11.0**	**+0.5**
LPL				*e*Sg	**Sg**	**15 23 38.2**	**+0.2**
	1.0nm,0.2s						
LPG	**La Plagne**	**2.13**	**195**	*e*Pg	**Pg**	**15 23 11.3**	**+0.5**
LPG				*e*Sg	**Sg**	**15 23 38.5**	**+0.1**
	2.9nm,0.3s						
LOR	**Lormes**	**2.51**	**265**	*e*Pg	**Pg**	**15 23 17.8**	**-0.3**
LOR				*e*Sg	**Sg**	**15 23 50.1**	**-0.6**
	4.4nm,0.3s						
SMF	**Signal de Mont**	**2.68**	**251**	*e*Pg	**Pg**	**15 23 21.0**	**-0.3**
SMF				*e*Sg	**Sg**	**15 23 54.8**	**-1.3**
	3.1nm,0.3s						
SSF	**Saint Saulge**	**2.78**	**261**	*e*Pg	**Pg**	**15 23 23.2**	**-0.1**
SSF				*e*Sg	**Sg**	**15 23 58.5**	**-0.9**
	4.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.88**	**204**	*e*Pg	**Pg**	**15 23 24.9**	**-0.2**
ORIF				*e*Sg	**Sg**	**15 24 01.9**	**-0.5**
	1.3nm,0.3s						
AVF	**Avril sur Loir**	**2.95**	**256**	*e*Pg	**Pg**	**15 23 26.2**	**-0.3**
AVF				*e*Sg	**Sg**	**15 24 03.4**	**-1.4**
	0.4nm,0.2s						
VIVF	**Saint-Julien-l**	**3.35**	**217**	*e*Pg	**Pg**	**15 23 33.4**	**-0.7**
VIVF				*e*Sg	**Sg**	**15 24 16.2**	**-1.4**
	1.4nm,0.3s						

*NIED **10** 15:28:00, 29.70N×130.70E, h38km, Mw5.8 Best double couple: $M_0$6.23000×10^{17} NP1:ϕ_s20.00000°, δ80.00000°, λ77.00000°. NP2:ϕ_s252.00000°, δ17.00000°, λ141.00000°.*
*IDC **10** 15:28:03.9±0.4, 29.82N×130.58E, h0km, mb5.1/35, mb1 5.2/38, mb1mx5.2/39, mbtmp5.1/38, ML4.5/3, MS5.5/27, Ms1 5.5/27, ms1mx5.3/36, Error ellipse: s-maj=13.7km s-min=11.5km az=55.0*
*BJI **10** 15:28:05.3, 29.58N×130.95E, h35km, mB5.5, mb5.1, Ms5.8, Msz5.6*
*SZGRF **10** 15:28:06.5, 29.31N×131.39E, h33km, mb5.3, MS6.2, Southeast of Ryukyu Islands, Japan*
*JMA **10** 15:28:08.5±0.2, 29.73N×130.68E, h54km±4km, M5.7*
JMA Felt III J1.
*MOS **10** 15:28:09.4±0.8, 30.13N×130.44E, h33km, mb5.5/93, MS6.0/35, Error ellipse: s-maj=7.5km s-min=4.0km az=113.4*
*NEIC **10** 15:28:09.3±0.1, 29.76N×130.52E, h35km, mb5.3/107, MS5.6/22, MW5.7, MW5.8(NIED), Error ellipse: s-maj=4.3km s-min=3.8km az=130.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}2.41; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-2.09; $M_{r\theta}$2.63; $M_{\theta\phi}$-2.06; $M_{\phi r}$1.58; Best double couple: $M_0$4.30000×10^{17} NP1:ϕ_s54.00000°, δ70.00000°, λ110.00000°. NP2:ϕ_s187.00000°, δ28.00000°, λ46.00000°. Principal axes: T 4.0300, Plg60.0000°, Azm354.0000°; N 0.5700, Plg19.0000°, Azm227.0000°; P -4.5900, Plg22.0000°, Azm129.0000°;*
NEIC Recorded [2 JMA] on Nakano-shima and [1 JMA] on Amami-oshima, Tanega-shima and Yaku-shima. Also recorded [2 JMA] in Kagoshima and [1 JMA] in Miyazaki Prefectures, Kyushu.

*ISCJB **10** 15:28:09.0±0.3, 29.75N±002×130.50E±002, h41km±2km, mb5.3/190, MS5.8/78 Error ellipse: s-maj=3.7km s-min=2.7km az=104.4*
*GCMT **10** 15:28:09.3±0.1, 29.67N×130.85E, h36km, MW5.7/89, Moment Tensor Solution. s81,c176; s89,c246; Duration: 1§8 Moment tensor: Scale 10^{17}Nm; M_{rr}4.03±.06; $M_{\theta\theta}$-1.03±.04; $M_{\phi\phi}$-3.00±.04; $M_{r\theta}$1.82±.06; $M_{\theta\phi}$-2.02±.03; $M_{\phi r}$2.16±.06; Best double couple: $M_0$5.01800×10^{17} NP1:ϕ_s207.00000°, δ28.00000°, λ81.00000°. NP2:ϕ_s37.00000°, δ62.00000°, λ95.00000°. Principal axes: T 4.9160, Plg72.0000°, Azm318.0000°; N 0.2040, Plg4.0000°, Azm215.0000°; P -5.1200, Plg17.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 10 15:28:10.7±0.3, 29.78N±002×130.52E±002, h42km±2km, h38km±1.6km: pP-P, n717, σ1§06/737, mb5.3/190, MS5.8/78, 97C-68D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.57**	**276**	⇓P	**Pn**	**15 28 22.5**	**+0.1**
JNN				*e*S	**Sn**	**15 28 34.2**	**+3.6**
JKC	**Kuchinoerabu**	**0.73**	**337**	P	**Pn**	**15 28 24.3**	**-0.3**
JTN	**Tanegashima 3**	**0.96**	**24**	⇑P	**Pn**	**15 28 26.2**	**-1.4**
JTN				S	**Sn**	**15 28 40.7**	**+0.6**
JTSR	**Tashiro 2**	**1.42**	**14**	⇑P	**Pn**	**15 28 33.1**	**-0.9**
JTSR				S	**Sn**	**15 28 53.0**	**+1.5**
JZK	**Kikaishima**	**1.54**	**198**	P	**Pn**	**15 28 34.6**	**-1.0**
JAM	**Amami Oshima**	**1.58**	**211**	P	**Pn**	**15 28 35.0**	**-1.2**
JSU	**Suzuyama**	**1.72**	**358**	⇑P	**Pn**	**15 28 37.6**	**-0.5**
JNAR	**Kushima--Naru**	**1.86**	**20**	P	**Pn**	**15 28 39.2**	**-0.8**
JSJ	**Shimokoshiki**	**2.01**	**340**	⇓P	**Pn**	**15 28 42.0**	**-0.2**
JTZ	**Takazaki**	**2.17**	**13**	P	**Pn**	**15 28 43.7**	**-0.6**
JZO	**Okuchi**	**2.35**	**2**	⇑P	**Pn**	**15 28 46.6**	**-0.2**
JTK	**Tokunoshima**	**2.42**	**215**	P	**Pn**	**15 28 47.0**	**-0.7**
JTSN	**Tsuno**	**2.60**	**19**	⇑P	**Pn**	**15 28 48.9**	**-1.3**
JHD	**Hondo**	**2.70**	**353**	P	**Pn**	**15 28 52.0**	**+0.5**
JIU2	**Izumi 2**	**2.77**	**5**	P	**Pn**	**15 28 52.5**	**0.0**
NGSJ	**Nagasakinomoza**	**2.91**	**348**	P	**Pn**	**15 28 54.7**	**+0.3**
JKIT	**Kitakata**	**2.94**	**15**	P	**Pn**	**15 28 54.2**	**-0.7**
JFU	**Fukue jima 2**	**3.24**	**333**	P	**Pn**	**15 28 59.9**	**+0.9**
JUR	**Ureshino**	**3.34**	**352**	P	**Pn**	**15 29 02.2**	**+1.9**
JNU	**Nakatsue**	**3.34**	**5**	Pn	**Pn**	**15 29 01.1**	**+0.7**
	159nm,0.3s,baz=220,slow=19,SNR=444						
JNU				Sn	**Sn**	**15 29 36.9**	**-2.0**
	187nm,0.3s,baz=199,slow=20,SNR=4.3						
JNU				LR	LR	15 29 39.9	
	comp=Z,44μm,19.9s,baz=281,slow=29						
JUS	**Usuki**	**3.44**	**17**	P	**Pn**	**15 29 00.6**	**-1.1**
JOW	**Kunigami**	**3.54**	**215**	Pn	**Pn**	**15 29 02.4**	**-0.8**
	69nm,0.3s,baz=58,slow=8.9,SNR=134						
JOW				Sn	**Sn**	**15 29 44.8**	**+1.0**
	85nm,0.3s,baz=23,slow=24,SNR=6.4						
OIT2	**Oita 2**	**3.58**	**13**	P	**Pn**	**15 29 03.8**	**+0.2**
OIT2				S	**Sn**	**15 29 46.3**	**+1.7**
JFI	**Itaya**	**3.64**	**358**	P	**Pn**	**15 29 05.5**	**+1.1**
JFA	**Akaike**	**3.93**	**3**	P	**Pn**	**15 29 08.7**	**+0.3**
JKI	**Kunimi**	**3.94**	**13**	P	**Pn**	**15 29 08.3**	**-0.3**
JII	**Iki**	**4.06**	**351**	P	**Pn**	**15 29 12.6**	**+2.4**
JKD	**Kudamatsu**	**4.41**	**15**	P	**Pn**	**15 29 13.8**	**-1.3**
JKD				S	**Sn**	**15 30 03.9**	**-1.3**
JTY	**Toyota**	**4.49**	**6**	P	**Pn**	**15 29 16.3**	**+0.1**
JTU	**Tsushima**	**4.82**	**349**	P	**Pn**	**15 29 22.9**	**+2.1**
JKN2	**Miekihoku**	**6.60**	**46**	P	**Pn**	**15 29 43.2**	**-2.0**
JAO	**Obara**	**7.89**	**44**	P	**Pn**	**15 30 01.8**	**-1.0**
KSRS	**Korea Array**	**7.95**	**345**	Pn	**Pn**	**15 30 05.8**	**+2.1**
	baz=158,slow=14,SNR=90						
KSRS				Sn	**Sn**	**15 31 44.2**	**+12**
	baz=153,slow=22,SNR=3.0						
KSRS				LR	LR	15 33 29.2	
	comp=Z,53μm,18.2s,baz=163,slow=41						
SSE	**Sheshan**	**8.17**	**282**	⇓P	**Pn**	**15 30 10.1**	**+3.5**
SSE				AP		15 30 17.7	
SSE				XP		15 30 23.1	
SSE				S	**Sn**	**15 31 40.9**	**+3.3**
SSE				XS		15 31 53.6	
SSE				AMB	AMB		
	comp=Z,180nm,1.0s						
SSE				AMB	AMB		
	comp=Z,939nm,7.7s						
SSE				LR	LR		
	comp=N,9μm,16.1s						
SSE				LR	LR		
	comp=E,29μm,16.2s						
SSE				LR	LR		
	comp=Z,40μm,15.2s						
INCN	**Inchon**	**8.34**	**338**	*e*P	**Pn**	**15 30 11.5**	**+2.5**
	comp=Z,218nm,1.0s						
JHJ	**Hachijo jima 2**	**8.58**	**65**	Pn	**Pn**	**15 30 11.3**	**-1.0**
	comp=Z,59nm,0.3s,baz=261,slow=21,SNR=23						
JHJ				Sn	**Sn**	**15 31 44.8**	**-3.0**
	comp=Z,22nm,0.3s,baz=94,slow=21,SNR=3.8						
JHJ				LR	LR	15 33 10.1	
	comp=Z,19μm,20.7s,baz=275,slow=36						
MAJO	**Matsushiro**	**9.32**	**42**	*e*P	**Pn**	**15 30 21.1**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,89nm,0.4s						
MAJO	**Matsushiro**	**9.32**	**42**	*e*P	**Pn**	**15 30 21.1**	**-1.4**
	comp=Z,89nm,0.4s						
MAT	**Matsushiro**	**9.32**	**42**	P	**Pn**	**15 30 21.6**	**-0.8**
MAT				S	**Sn**	**15 32 00.8**	**-5.1**
MJAR	**Matsushiro Arr**	**9.32**	**42**	Pn	**Pn**	**15 30 22.0**	**-0.5**
	comp=Z,11nm,0.3s,baz=248,slow=14,SNR=59						
YHNB	**Yeheng**	**9.60**	**240**	*e*P	**Pn**	**15 30 29.4**	**+3.1**
NACB	**Ninganchiao**	**9.72**	**237**	*e*P	**Pn**	**15 30 27.6**	**-0.3**
CBIJ	**Chichi jima**	**10.61**	**102**	Pn	**Pn**	**15 30 35.2**	**-4.8**
	comp=Z,25nm,0.3s,baz=111,slow=22,SNR=9.0						
CBIJ				Sn	**Sn**	**15 32 27.2**	**-10**
	comp=Z,5.0nm,0.3s,baz=141,slow=22,SNR=2.6						
CBIJ				LR	LR	15 34 05.0	
	comp=Z,22μm,21.1s,baz=304,slow=34						
QZH	**Quanzhou**	**11.64**	**248**	P	**Pn**	**15 30 57.4**	**+3.2**
QZH				S	**Sn**	**15 33 18.2**	**+15**
QZH				AMB	AMB		
	comp=Z,160nm,1.2s						
QZH				LR	LR		
	comp=N,48μm,23.1s						
QZH				LR	LR		
	comp=E,23μm,14.6s						
QZH				LR	LR		
	comp=Z,42μm,22.1s						
DL2	**Dalian**	**11.69**	**323**	⇑*i*P	**Pn**	**15 30 58.9**	**+4.0**
DL2				*e*S	**Sn**	**15 33 09.3**	**+5.3**
DL2				LG1		15 34 22.0	
DL2				LG2		15 34 46.7	
DL2				AMB	AMB		
	comp=Z,70nm,0.9s						
DL2				AMB	AMB		
	comp=Z,2μm,7.5s						
DL2				LR	LR		
	comp=N,19μm,15.0s						
DL2				LR	LR		
	comp=E,17μm,14.8s						
DL2				LR	LR		
	comp=Z,28μm,14.9s						
TIA	**Tai'an**	**12.94**	**303**	P	**Pn**	**15 31 14.0**	**+2.1**
TIA				AMB	AMB		
	comp=Z,84nm,1.0s						
TIA				AMB	AMB		
	comp=Z,2μm,8.0s						
TIA				LR	LR		
	comp=N,21μm,13.0s						
TIA				LR	LR		
	comp=E,31μm,14.0s						
SNY	**Shenyang**	**13.27**	**337**	⇑P	**Pn**	**15 31 19.7**	**+3.3**
SNY				AP		15 31 28.8	
SNY				XP		15 31 33.5	
SNY				S	**Sn**	**15 33 47.7**	**+5.2**
SNY				XS		15 33 59.4	
SNY				SS		15 34 04.2	
SNY				AMB	AMB		
	comp=Z,61nm,2.5s						
SNY				AMB	AMB		
	comp=Z,4μm,8.4s						
SNY				LR	LR		
	comp=N,32μm,13.2s						
SNY				LR	LR		
	comp=E,30μm,13.9s						
SNY				LR	LR		
	comp=Z,50μm,13.2s						
VLA	**Vladivostok**	**13.36**	**4**	*e*P	**Pn**	**15 31 21.0**	**+3.4**
VLA				pmax	pmax		
	comp=Z,88nm,1.3s						
VLA				MLR	MLR		
	comp=Z,14μm,14.8s						
VLA	**Vladivostok**	**13.36**	**4**	⇑*e*P	**Pn**	**15 31 18.9**	**+1.3**
WHN	**Wuhan**	**14.02**	**277**	*e*P	**Pn**	**15 31 30.0**	**+3.4**
WHN				LR	LR		
	comp=Z,43μm,18.6s						
CN2	**Changchun**	**14.57**	**345**	*e*P	**Pn**	**15 31 37.1**	**+3.0**
CN2				*e*AP	pP	15 31 44.6	-5.2
CN2				*e*S	**Sn**	**15 34 18.3**	**+4.2**
CN2				AMB	AMB		
	comp=Z,50nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,45μm,15.0s						
CN2				LR	LR		
	comp=E,13μm,15.0s						
CN2				LR	LR		
	comp=Z,43μm,16.0s						
MDJ	**Mudanjiang**	**14.83**	**357**	P	**Pn**	**15 31 36.3**	**-1.2**
MDJ				S	**Sn**	**15 34 20.7**	**+0.2**
MDJ				PCP	PcP	15 36 46.2	0.0
MDJ				SCP	ScP	15 40 17.0	+0.3
MDJ				PCS	PcS	15 40 21.0	-0.3
MDJ				SCS	ScS	15 43 54.9	+0.4
MDJ				AMB	AMB		
	comp=Z,1μm,8.6s						
MDJ				LR	LR		
	comp=N,14μm,18.5s						
MDJ				LR	LR		
	comp=E,7μm,15.7s						
MDJ				LR	LR		
	comp=Z,18μm,15.7s						
BJT	**Baijiatuau**	**15.57**	**315**	*e*P	**Pn**	**15 31 47.4**	**+0.3**
BJT				pmax	pmax		
	comp=Z,172nm,0.9s						
BJT	**Baijiatuau**	**15.57**	**315**	*e*P	**Pn**	**15 31 47.4**	**+0.2**
	comp=Z,172nm,0.9s						
BJI	**Beijing**	**15.58**	**315**	P	**Pn**	**15 31 50.4**	**+3.1**
BJI				S	**S**	**15 34 54.2**	**+1.6**
BJI				AMB	AMB		
	comp=Z,63nm,1.3s						
BJI				AMB	AMB		
	comp=Z,247nm,6.7s						
BJI				LR	LR		
	comp=N,39μm,17.9s						
BJI				LR	LR		
	comp=E,35μm,13.9s						
BJI				LR	LR		
	comp=Z,26μm,22.5s						
ERM	**Erimo**	**15.91**	**36**	⇑*i*P	**Pn**	**15 31 52.0**	**+0.5**
HKC	**Hong Kong**	**16.46**	**247**	P	**Pn**	**15 32 00.0**	**+1.5**
HKC				S	**S**	**15 35 10.0**	**-0.7**
GZH	**Guangzhou**	**16.76**	**251**	P	**Pn**	**15 31 59.3**	**-3.0**
GZH				S	**S**	**15 35 01.3**	**-15**
GZH				LR	LR		
	comp=N,10μm,19.1s						
GZH				LR	LR		
	comp=E,17μm,19.1s						
GZH				LR	LR		
	comp=Z,25μm,19.4s						
ASAJ	**Asahikawa**	**17.23**	**31**	P	**Pn**	**15 32 05.7**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=205,slow=11,SNR=18						
ASAJ				LR	LR	15 38 56.3	
	comp=Z,23μm,21.0s,baz=231,slow=38						
ASAJ	**Asahikawa**	**17.23**	**31**	P	**Pn**	**15 32 05.7**	**-2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,23μm,21.0s						
TGY	**Tagaytay City**	**17.94**	**212**	P	**Pn**	**15 32 22.6**	**+5.7**
	comp=Z,51nm,0.3s,baz=148,slow=5.5,SNR=3.7						
XAN	**Xi'an**	**18.82**	**289**	P	**Pn**	**15 32 26.9**	**-0.6**
XAN				AP	pP	15 32 37.2	+0.3
XAN				S	**S**	**15 35 59.2**	**+1.0**
XAN				AMB	AMB		
	comp=Z,82nm,0.8s						
XAN				AMB	AMB		
	comp=Z,2μm,9.2s						
XAN				LR	LR		
	comp=N,9μm,13.2s						
XAN				LR	LR		
	comp=E,12μm,14.3s						
XAN				LR	LR		
	comp=Z,14μm,16.1s						
HHC	**Hu-ho-hao-te**	**18.97**	**311**	*e*P	**Pn**	**15 32 31.2**	**+1.9**
HHC				AP	pP	15 32 38.5	-0.1
HHC				XP	sP	15 32 43.9	0.0
HHC				PP		15 32 47.4	
HHC				S	**S**	**15 36 00.7**	**-0.8**
HHC				SS		15 36 23.3	
HHC				AMB	AMB		
	comp=Z,58nm,0.9s						
HHC				AMB	AMB		
	comp=Z,9μm,9.3s						
HHC				LR	LR		
	comp=N,11μm,14.9s						
HHC				LR	LR		
	comp=E,26μm,16.6s						
HHC				LR	LR		
	comp=Z,30μm,16.1s						
KLR	**Kul'dur**	**19.45**	**2**	*e*P	**Pn**	**15 32 29.3**	**-5.8**
KLR				*e*S	**S**	**15 35 58.5**	**-13**
KLR				MLR	MLR		
	comp=Z,16μm,13.5s						
YSS	**Yuzh-Sakhalins**	**19.60**	**26**	*ce*P	**Pn**	**15 32 34.6**	**-2.4**
YSS				*e*S	**S**	**15 36 04.0**	**-10**
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
YSS				pmax	pmax		
	comp=Z,1μm,6.0s						
YSS				pmax	pmax		
	comp=E,500nm,5.0s						
YSS				MLR	MLR		
	comp=E,9μm,18.0s						
YSS				MLR	MLR		
	comp=Z,10μm,18.0s						
YSS				MLR	MLR		
	comp=N,8μm,17.0s						
YSS	**Yuzh-Sakhalins**	**19.60**	**26**	*e*P	**Pn**	**15 32 34.9**	**-2.0**
	comp=N,80nm,0.8s						
BTO	**Baotou**	**19.89**	**308**	*e*P	**Pn**	**15 32 40.1**	**-0.2**
BTO				LR	LR		
	comp=N,1μm,12.2s						
BTO				LR	LR		
	comp=E,3μm,14.7s						
GUMO	**Guam**	**20.88**	**137**	P	**P**	**15 32 47.7**	**-1.4**
	comp=E,257nm,1.1s,baz=180,slow=11,SNR=5.7						
GUMO				LR	LR	15 39 13.6	
	comp=E,8μm,19.2s,MS5.1,baz=150,slow=32						
GUMO	**Guam**	**20.88**	**137**	*e*P	**P**	**15 32 47.7**	**-1.4**
GUMO				pmax	pmax		
	comp=Z,619nm,1.3s						
GUMO	**Guam**	**20.88**	**137**	*e*P	**P**	**15 32 47.7**	**-1.5**
	comp=Z,619nm,1.3s						
HIA	**Hailar**	**21.12**	**340**	*e*P	**P**	**15 32 50.6**	**-1.2**
HIA				pmax	pmax		
	comp=Z,30nm,0.6s						
HIA	**Hailar**	**21.12**	**340**	*e*P	**P**	**15 32 50.6**	**-1.2**
	comp=Z,30nm,0.

comp=Z,15μm,18.9s,MS5.4
QIZ Qiongzhong 21.63 245 P **P** **15 32 56.8 -0.4**
QIZ XP sP 15 33 09.3 -3.5
QIZ S **S** **15 36 55.3 +1.0**
QIZ XS sS 15 37 06.9 -4.1
QIZ SS 15 37 28.5
QIZ AMB AMB
comp=Z,18nm,1.5s,mb4.3
QIZ AMB AMB
comp=Z,1μm,11.7s
QIZ LR LR
comp=N,11μm,20.6s
QIZ LR LR
comp=Z,12μm,17.7s,MS5.4
CD2 Chengdu 23.11 280 P **P** **15 33 12.7 -0.2**
CD2 AP 15 33 24.1
CD2 XP sP 15 33 29.9 +1.2
CD2 PP 15 33 43.9
CD2 PPP 15 33 57.6
CD2 S **S** **15 37 15.9 -5.1**
CD2 XS sS 15 37 34.8 -4.9
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,1μm,7.5s
CD2 LR LR
comp=N,20μm,19.2s
CD2 LR LR
comp=E,19μm,12.0s
CD2 LR LR
comp=Z,18μm,19.2s,MS5.5
LZH Lanzhou 23.22 293 *e*P **P** **15 33 13.8 -0.3**
LZH AP 15 33 23.7
LZH XP sP 15 33 27.3 -2.5
LZH PP 15 33 45.0
LZH PCP PcP 15 37 03.2 +2.4
LZH S **S** **15 37 20.0 -2.8**
LZH AMB AMB
comp=Z,170nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,1μm,4.5s
LZH LR LR
comp=E,35μm,13.9s
LZH LR LR
comp=Z,49μm,16.2s,MS6.0
KMI Kunming 25.06 266 P **P** **15 33 31.4 +0.4**
KMI AP pP 15 33 41.4 -0.9
KMI XP sP 15 33 45.0 -2.3
KMI PP 15 34 08.9
KMI PPP 15 34 20.8
KMI S **S** **15 37 50.9 -1.6**
KMI XS sS 15 38 06.7 -4.6
KMI SS 15 38 51.5
KMI SSS 15 39 07.3
KMI AMB AMB
comp=Z,182nm,0.8s,mb5.7
KMI AMB AMB
comp=Z,532nm,8.2s
KMI LR LR
comp=N,8μm,15.9s,MS5.7
KMI LR LR
comp=E,16μm,16.3s,MS5.7
KMI LR LR
comp=Z,18μm,14.9s,MS5.7
CIT Chita 25.53 335 *e*P **P** **15 33 34.9 -0.4**
CIT *e* pP 15 33 44.5 -2.1
CIT *e* 15 34 10.6
CIT *e* 15 44 29.1
CIT pmax pmax
comp=Z,143nm,1.6s,mb5.2
SONM Songino Array 25.88 321 P **P** **15 33 37.2 -1.2**
comp=Z,35nm,0.8s,mb4.9,baz=137,slow=10,SNR=141
SONM ScP ScP 15 40 44.8 +2.0
comp=Z,2.2nm,1.1s,baz=80,slow=2.2,SNR=3.6
SONM LR LR 15 45 09.1
comp=Z,24μm,20.8s,MS5.7,baz=122,slow=40
GTA Gaotai 26.93 299 *e*P **P** **15 33 47.7 -0.3**
GTA AP pP 15 33 56.9 -2.4
GTA XP sP 15 34 01.4 -2.9
GTA PP 15 34 35.3
GTA PCP PcP 15 37 10.9 +1.8
GTA S **S** **15 38 23.4 +1.3**
GTA XS sS 15 38 37.9 -3.1
GTA SS 15 39 42.1
GTA SCP ScP 15 40 48.2 +2.3
GTA PCS PcS 15 40 52.0 +1.5
GTA SCS ScS 15 44 37.4 +0.6
GTA AMB AMB
comp=Z,7.0nm,1.4s
GTA AMB AMB
comp=Z,757nm,9.9s
GTA LR LR
comp=N,10μm,21.7s,MS5.6
GTA LR LR
comp=E,16μm,19.0s,MS5.6
GTA LR LR
comp=Z,20μm,19.8s,MS5.7
KKM Kota Kinabalu 27.19 213 P **P** **15 33 55.4 +5.1**
CLNS Chul'man 27.33 353 *e*P **P** **15 33 50.8 -0.8**
SKR Severo-Kuril's 28.35 35 *e*P **P** **15 33 59.0 -1.6**
SKR pmax pmax
comp=N,30nm,0.5s
SKR pmax pmax
comp=E,30nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s,mb5.6
KKTK Khon Kaen 28.69 248 P **P** **15 34 04.0 +0.3**
comp=Z,432nm,0.5s,mb6.4
ZAK Zakamensk 29.02 323⇓ *i*P **P** **15 34 06.3 -0.3**
ZAK *e* 15 40 39.0
NANT Nan 29.21 255⇑P **P** **15 34 06.6 -1.7**
comp=Z,160nm,1.0s,mb5.7
TLY Talaya 29.60 325 P **P** **15 34 12.3 +0.6**
comp=Z,260nm,0.7s,mb6.1,SNR=6.8
TLY Talaya 29.60 325 *e*P **P** **15 34 11.9 +0.2**
TLY *e* 15 35 09.0
TLY *e*PPP 15 35 22.4
TLY *e*SS SS 15 40 39.4 -31
TLY pmax pmax
comp=Z,28nm,0.7s,mb5.1
TLY MLR MLR
comp=Z,14μm,16.0s,MS5.7
TLY Talaya 29.60 325 *e*P **P** **15 34 11.6 -0.1**
comp=Z,30nm,0.7s,mb5.1
IRK Irkutsk 29.64 327 *e*P **P** **15 34 11.3 -0.8**
IRK *e* pP 15 34 23.5 0.0
IRK *e* 15 38 51.9
IRK pmax pmax
comp=Z,59nm,0.8s,mb5.4
BOD Bodaibo 30.29 342 *e*P **P** **15 34 16.2 -1.6**
BOD pmax pmax
comp=Z,11nm,1.2s,mb4.5
CHG Chiang Mai 30.69 256⇓P **P** **15 34 21.6 +0.2**
comp=Z,28nm,0.9s,mb5.1
CHTO Chiang Mai 30.69 256 *e*P **P** **15 34 21.2 -0.2**
CHTO pmax pmax
comp=Z,21nm,0.8s,mb5.0
CHTO Chiang Mai 30.69 256 *e*P **P** **15 34 21.2 -0.1**
comp=Z,21nm,0.8s,mb5.0
MOY Mondy 30.94 323 *e*P **P** **15 34 24.0 +0.5**
MOY pmax pmax
comp=Z,35nm,1.1s,mb5.1
PET Petropavlovsk 31.02 34 *e*P **P** **15 34 24.1 -0.2**
PET *e*S **S** **15 39 24.7 -1.7**
PET 15 41 22.2
PET smax
comp=E,800nm,4.2s
PET MLR MLR
comp=Z,6μm,21.0s,MS5.3
PET MLR MLR
comp=Z,8μm,19.0s
PET Petropavlovsk 31.02 34⇑ *e*P **P** **15 34 23.8 -0.5**
NST Nakhon Sawan 31.23 250 P **P** **15 34 26.3 +0.1**
YAK Yakutsk 32.26 359 *e*P **P** **15 34 32.7 -2.5**
YAK *e**PP pP 15 34 41.4 -5.2
YAK *e* 15 35 41.4
YAK *e*PPP 15 35 53.5
YAK *i* 15 37 23.2
YAK *e*S **S** **15 39 46.4 +0.7**
YAK *e**SS sS 15 39 59.5 -5.2
YAK *i* 15 44 59.6
YAK pmax pmax
comp=Z,32nm,0.8s,mb5.2
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,5.0nm,0.7s
YAK smax
comp=N,94nm,3.7s
YAK smax
comp=E,36nm,1.4s
YAK MLR MLR
comp=Z,7μm,15.0s,MS5.5
YAK MLR MLR
comp=N,5μm,16.0s,MS5.5
YAK MLR MLR
comp=E,6μm,17.0s,MS5.5
YAK Yakutsk 32.26 359 *e*P **P** **15 34 32.5 -2.7**
comp=E,48nm,0.6s,mb5.5
YAK LR LR
comp=Z,8μm,21.0s,MS5.4
MA2 Magadan 32.81 19 *e*P **P** **15 34 39.3 -0.7**
MA2 *e*S **S** **15 39 52.5 -1.7**
MA2 15 45 00.4
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 MLR MLR
comp=Z,16μm,18.6s,MS5.8
NNT Nongplab 33.27 246 P **P** **15 34 46.2 +2.2**
LSA Lhasa 34.07 280 P **P** **15 34 52.6 +1.6**
LSA AP pP 15 35 01.1 -1.3
LSA XP sP 15 35 05.1 -2.3
LSA AMB AMB
comp=Z,60nm,0.8s,mb5.6
LSA LR LR
comp=N,6μm,21.4s,MS5.8
LSA LR LR
comp=E,15μm,17.4s,MS5.8
LSA LR LR
comp=Z,19μm,15.9s,MS5.9
LSA Lhasa 34.07 280 *e*P **P** **15 34 52.7 +1.7**
LSA pmax pmax
comp=Z,34nm,0.6s,mb5.5
LSA MLR MLR
comp=Z,16μm,19.0s,MS5.8
LSA Lhasa 34.07 280 *e*P **P** **15 34 52.7 +1.7**
comp=Z,34nm,0.6s,mb5.5
LSA LR LR
comp=Z,16μm,19.0s,MS5.8
KSM Kuching 34.09 218 *e*P **P** **15 34 52.1 +1.0**
SHL Shillong 34.37 272⇓ *i*P **P** **15 34 54.0 +0.4**
SEY Seymchan 36.05 17⇓ *e*P **P** **15 35 07.9 -0.1**
WMQ Urumqi 36.63 304 P **P** **15 35 13.9 +0.9**
WMQ XP sP 15 35 29.4 -0.1
WMQ PP PP 15 36 38.9 +2.0
WMQ PPP 15 36 58.9
WMQ PCP PcP 15 37 36.1 +0.8
WMQ S **S** **15 40 53.9 +0.8**
WMQ XS sS 15 41 10.7 -1.6
WMQ SCP ScP 15 41 19.7 +1.1
WMQ PCS PcS 15 41 23.9 +0.6
WMQ SS SS 15 43 22.5 -12
WMQ SCS ScS 15 45 23.9 -1.4
WMQ AMB AMB
comp=Z,21nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,1μm,12.0s
WMQ LR LR
comp=N,10μm,15.0s,MS5.8
WMQ LR LR
comp=E,5μm,15.0s,MS5.8
WMQ LR LR
comp=Z,10μm,20.0s,MS5.6
KULM Kulim 37.26 235 *e*P **P** **15 35 18.7 +0.5**
IPM Ipoh 37.56 234 P **P** **15 35 21.8 +0.9**
IPM Ipoh 37.56 234 P **P** **15 35 21.8 +1.0**
CAL Calcutta 38.39 269 *e*x x 15 37 01.2
CAL *e*x x 15 44 39.1
GUN Gumba 38.97 279 *e*P **P** **15 35 33.7 +1.0**
comp=Z,2μm,0.8s
PKI Pulchoki 39.45 278 *e*P **P** **15 35 37.1 +0.3**
comp=Z,775nm,0.8s
KKN Kakani 39.51 279 *e*P **P** **15 35 37.5 +0.3**
comp=Z,833nm,0.8s
DMN Daman 39.70 278 *e*P **P** **15 35 39.4 +0.5**
comp=Z,243nm,0.7s,mb6.0
GKN Gorkha 40.01 279 *e*P **P** **15 35 41.3 -0.1**
comp=Z,374nm,0.6s,mb6.3
BOK Bokaro 40.10 272 *e*P **P** **15 35 42.8 +0.7**
ZAL Zalesovo 40.77 320 P **P** **15 35 46.7 -0.9**
comp=Z,16nm,0.7s,mb4.8,baz=11,slow=8.3,SNR=74
ZAL PcP PcP 15 37 46.1 -2.2
comp=Z,10nm,0.8s,baz=329,slow=3.8,SNR=5.4
ZAL LR LR 15 55 03.0
comp=Z,18μm,18.0s,MS6.0,baz=131,slow=40
ZAL Zalesovo 40.77 320 P **P** **15 35 46.7 -0.9**
ZAL 15 37 46.1
MKAR Makanchi Array 40.80 308 P **P** **15 35 46.3 -1.7**
comp=Z,76nm,0.7s,mb5.4,baz=89,slow=11,SNR=262
MKAR PcP PcP 15 37 46.9 -1.5
comp=Z,13nm,0.7s,baz=90,slow=4.0,SNR=6.1
KOLN Koldanda 40.96 279 *e*P **P** **15 35 49.3 +0.1**
comp=Z,461nm,0.8s,mb6.2
NVS Novosibirsk 41.91 320 *e*P **P** **15 35 55.1 -1.9**
NVS *i* 15 37 52.0
NVS pmax pmax
comp=Z,48nm,1.5s,mb4.9
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,50nm,1.6s
TIXI Tiksi 41.93 359 *e*P **P** **15 35 53.6 -3.6**
TIXI *e* 15 37 30.9
TIXI *e*S **S** **15 42 04.1 -8.5**
TIXI *e*SS SS 15 45 14.5 -5.8
TIXI pmax pmax
comp=Z,32nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,8μm,15.0s,MS5.7
TIXI Tiksi 41.93 359 *e*P **P** **15 35 54.6 -2.6**
comp=Z,27nm,0.7s,mb5.0
PMG Port Moresby 42.12 155⇓ *e*P **P** **15 35 57.5 -1.3**
KAKA Kakadu 42.28 177 *e*P **P** **15 35 59.2 -0.9**
comp=Z,7.6nm,0.9s,mb4.3
KAKA *i* pP 15 36 08.9 -2.8
ALBI Allahabad 43.17 276 *e*P **P** **15 36 05.5 -1.8**
LGTI Lohaghat 43.42 283 *e*P **P** **15 36 11.0 +1.7**
BILL Bilibino 43.67 19 *c i*P **P** **15 36 10.7 -0.6**
BILL *e* pP 15 36 20.0 -3.0
BILL *e* 15 37 59.9
BILL *i*S **S** **15 42 40.5 +2.2**
BILL pmax pmax
comp=Z,69nm,0.9s,mb5.4
BILL MLR MLR
comp=Z,9μm,24.0s,MS5.6
BILL Bilibino 43.67 19 *e*P **P** **15 36 10.1 -1.2**
comp=Z,54nm,0.8s,mb5.3
KURK Kurchatov 43.74 314 P **P** **15 36 11.9 0.0**
comp=Z,1μm,0.6s
KURK Kurchatov 43.74 314 *e*P **P** **15 36 11.0 -0.9**
KURK pmax pmax
comp=Z,136nm,0.6s,mb5.9
KURK MLR MLR
comp=Z,6μm,21.0s,MS5.5
KURK Kurchatov 43.74 314 *e*P **P** **15 36 11.0 -0.8**
comp=Z,136nm,0.6s,mb5.9
KURK LR LR
comp=Z,6μm,21.0s,MS5.5
VIS Vishakhapatnam 44.55 265 *e*P **P** **15 36 18.7 +0.3**
VIS AMb AMB 15 36 21.1
comp=Z,44nm,0.5s,mb5.5
ULHL Ulahol 44.94 301 P **P** **15 36 24.4 +2.9**
SNR=5.7
DDI Dehra Dun 45.07 284 *e*P **P** **15 36 23.0 +0.5**
TKM2 Tokmak 2 45.39 302 P **P** **15 36 26.6 +1.6**
SNR=63
KZA Kyzart 45.68 301 P **P** **15 36 29.3 +2.0**
SNR=36
KBK Karagaybulak 45.88 302 P **P** **15 36 31.0 +2.1**
SNR=25
CHMS Chumysh 46.01 303 P **P** **15 36 31.2 +1.3**
SNR=49
FRU Bishkek 46.11 302 *e*P **P** **15 36 31.2 +0.5**
FRU *e* 15 36 49.0
FRU pmax pmax
comp=Z,90nm,1.6s,mb5.5
FRU MLR MLR
comp=Z,10μm,16.0s,MS5.9
FRU MLR MLR
comp=E,11μm,16.0s
NDI New Delhi 46.18 282 *e*P **P** **15 36 30.7 -0.5**
USP Ospenovka 46.18 303 P **P** **15 36 32.1 +0.9**
SNR=55
AAK Ala-Archa 46.21 302 P **P** **15 36 32.5 +1.0**
SNR=45
AAK Ala-Archa 46.21 302 P **P** **15 36 31.6 +0.1**
comp=E,215nm,0.7s,mb6.2,SNR=30
AAK Ala-Archa 46.21 302 *e*P **P** **15 36 31.0 -0.5**
AAK pmax pmax
comp=Z,27nm,0.8s,mb5.2
AAK MLR MLR
comp=Z,2μm,19.0s,MS5.2
AAK Ala-Archa 46.21 302 *e*P **P** **15 36 30.9 -0.5**
comp=Z,27nm,0.8s,mb5.2
AAK LR LR
comp=Z,2μm,19.0s,MS5.2
UCH Uchtor 46.22 301 P **P** **15 36 34.5 +2.9**
SNR=84
THN Thein Dam 46.57 288 *ex* x 15 36 22.5
EKS2 Erkin-Say 46.74 302 P **P** **15 36 36.9 +1.3**
SNR=21
AML Almayashu 46.84 301 P **P** **15 36 37.9 +1.6**
SNR=29
NGP Nagpur 46.94 272 *e*P **P** **15 36 35.8 -1.4**
NGP *ex* x 15 36 37.8
comp=Z,96nm,0.6s
NGP *e*S **S** **15 43 23.8 -1.7**
BHPL Bhopal 47.62 275 *e*P **P** **15 36 41.7 -0.8**
BHPL AMb AMB 15 36 44.1
comp=Z,47nm,0.8s,mb5.6
FITZ Fitzroy Crossi 47.84 186⇑ *i*P **P** **15 36 43.7 -0.5**
comp=Z,24nm,0.6s,mb5.4
FITZ *i*S **S** **15 43 35.9 -2.2**
HYB Hyderabad 48.83 268 *i*P **P** **15 36 52.0 +0.2**
comp=Z,60nm,1.0s,mb5.6
HYB *e*S **S** **15 44 04.0 +12**
HYB Hyderabad 48.83 268 *e*P **P** **15 36 52.0 +0.2**
HYB *e*S **S** **15 44 12.0 +20**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 48.83 268 *e*P **P** **15 36 52.0 +0.2**
comp=Z,60nm,1.0s,mb5.6
HYB *e*S **S** **15 44 12.0 +20**
AKL Akola 48.87 272 *e*P **P** **15 36 53.5 +1.4**
AKL AMb AMB 15 36 56.0
comp=Z,156nm,0.7s,mb6.2
CHKZ Chkalovo 48.96 317 *e*P **P** **15 36 51.7 -1.1**
CHKZ pmax pmax
comp=Z,57nm,0.6s,mb5.8
CHKZ Chkalovo 48.96 317 *e*P **P** **15 36 51.7 -1.1**
comp=Z,57nm,0.6s,mb5.8
AJM Ajmer 48.99 280 *e*P **P** **15 36 52.0 -1.0**
AJM AMb AMB 15 36 55.0
comp=Z,49nm,0.7s,mb5.7
BVA0 Borovoye Array 49.05 316 *i*P **P** **15 36 53.1 -0.4**
BVA0 pmax pmax
comp=Z,12nm,0.6s,mb5.1
BVAR Borovoye Array 49.05 316 P **P** **15 36 53.1 -0.5**
comp=Z,167nm,0.6s,mb6.2,baz=96,slow=9.1,SNR=358
BVAR ScP ScP 15 42 13.3 +4.8
comp=Z,2.3nm,0.8s,baz=120,slow=8.5,SNR=4.7
BVAR LR LR 15 59 24.8
comp=Z,9μm,19.1s,MS5.8,baz=321,slow=38
KK31 Karatay Array 49.10 303 *i*P **P** **15 36 54.9 +1.0**
KKAR Karatay Array 49.10 303 *i*P **P** **15 36 54.9 +1.0**
KKAR pmax pmax
comp=Z,81nm,0.8s,mb5.8
BRVK Borovoye 49.12 316 P **P** **15 36 53.0 -1.0**
comp=Z,2μm,0.6s
BRVK Borovoye 49.12 316 *e*P **P** **15 36 53.7 -0.3**
BRVK pmax pmax
comp=Z,223nm,0.6s,mb6.4
BRVK Borovoye 49.12 316 *e*P **P** **15 36 53.7 -0.3**
comp=Z,223nm,0.6s,mb6.4
MDRS Chennai 49.27 261 *e*P **P** **15 36 52.7 -2.5**
MDRS AMb AMB 15 36 58.4
comp=Z,74nm,0.8s,mb5.8
WRAB Tennant Creek 49.56 175⇑ *e*P **P** **15 36 57.4 0.0**
WRAB Tennant Creek 49.56 175 *e*P **P** **15 36 55.2 -2.2**
comp=Z,38nm,1.1s,mb5.3
WRAB LR LR
comp=Z,607nm,22.0s
WRA Warramunga Arr 49.57 175 P **P** **15 36 56.2 -1.3**
comp=Z,7.7nm,0.9s,mb4.7,baz=350,slow=8.1,SNR=24
WRA LR LR 15 56 15.3
comp=Z,2μm,21.6s,MS5.0,baz=340,slow=34
WB2 Warramunga Arr 49.57 175 *e*P **P** **15 36 55.2 -2.3**
WB2 *i*S S 15 43 38.1 -24
TNA Tin City 51.56 28 *e*P **P** **15 37 12.6 +0.1**
CTA Charters Tower 51.84 161 *e*P **P** **15 37 13.7 -0.9**
comp=Z,18nm,1.2s,mb4.9
CTA *e*S **S** **15 44 33.6 -0.5**
CTA Charters Tower 51.84 161 *e*P **P** **15 37 13.7 -0.9**
CTA *e*S **S** **15 44 33.6 -0.5**
CTA pmax pmax
comp=Z,18nm,1.2s
POO Poona 52.46 271 *e*P **P** **15 37 16.0 -3.2**
KAD Karad 52.67 270 *e*P **P** **15 37 21.0 +0.3**
KAD AMb AMB 15 37 23.8
comp=Z,56nm,0.8s,mb5.5
ASAR Alice Springs 53.24 176 P **P** **15 37 24.9 0.0**
comp=Z,4.8nm,0.6s,mb4.6,baz=8.4,slow=7.6,SNR=41
GOA Goa 53.74 268 *e*P **P** **15 37 28.1 -0.5**
GOA AMb AMB 15 37 32.2
comp=Z,30nm,1.0s,mb5.2
MNGI Mangalore 54.01 264 *e*P **P** **15 37 31.2 +0.6**
MNGI AMb AMB 15 37 33.5
comp=Z,72nm,0.6s,mb5.8
TRD Trivandrum 54.31 258 *e*P **P** **15 37 33.3 +0.5**
TRD AMb AMB 15 37 35.5
comp=Z,45nm,0.9s,mb5.4
TRD *i*x x 15 45 45.4
BHJ Bhuj 54.32 278 *e*P **P** **15 37 31.4 -1.4**
BHJ AMb AMB 15 37 35.1
comp=Z,62nm,0.7s,mb5.6
SVE Sverdlovsk 54.75 321⇓ *i*P **P** **15 37 35.0 -0.9**
SVE *e* pP 15 37 46.0 -2.0
SVE pmax pmax
comp=Z,250nm,1.5s,mb6.0
SVE MLR MLR
comp=N,4μm,16.0s,MS6.3
SVE MLR MLR
comp=E,19μm,16.0s,MS6.3
SVE MLR MLR
comp=Z,28μm,16.0s,MS6.4
AB31 Akbulak array 55.76 312⇑ *e*P **P** **15 37 42.3 -0.9**
ARU Arti 55.91 320 P **P** **15 37 43.4 -0.9**
comp=Z,1μm,0.7s,SNR=73
ARU Arti 55.91 320⇑ *i*P **P** **15 37 43.1 -1.2**
ARU *e* 15 39 44.8
ARU *e*PPP 15 41 04.8
ARU *e*S **S** **15 45 29.1 0.0**
ARU *e* 15 47 28.4
ARU pmax pmax
comp=Z,188nm,0.8s,mb6.2
ARU MLR MLR
comp=E,18μm,17.0s,MS6.2
ARU MLR MLR
comp=Z,23μm,17.0s,MS6.3
ARU MLR MLR
comp=N,2μm,18.0s,MS6.2
ARU Arti 55.91 320 *e*P **P** **15 37 43.4 -0.9**
comp=N,191nm,0.8s,mb6.2
ARU LR LR
comp=Z,5μm,22.0s,MS5.6
SOKR Solikamsk 56.68 324 *c i*P **P** **15 37 49.4 -0.4**
SOKR pmax pmax
comp=Z,80nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,11μm,19.0s,MS6.0
SVW2 Sparrevohn 56.70 34 *e*P **P** **15 37 49.8 -0.1**
AKTK Aktyubinsk 56.84 313 P **P** **15 37 51.2 +0.3**
AKTK LR LR 16 04 25.8
AKTO Aktyubinsk 56.84 313 P **P** **15 37 51.2 +0.3**
comp=Z,54nm,0.8s,mb5.6,baz=81,slow=4.8,SNR=46
AKTO LR LR 16 04 25.8
comp=Z,27μm,18.7s,MS6.4,baz=92,slow=38
AKTO Aktyubinsk 56.84 313 P **P** **15 37 51.2 +0.3**
AKTO pmax pmax
comp=Z,54nm,0.8s,mb5.6
AKTO MLR MLR
comp=Z,27μm,18.7s,MS6.4
IMA2 Indian Mountai 57.44 28 *e*P **P** **15 37 54.7 -0.4**
KDAK Kodiak Island 58.48 38 P **P** **15 38 00.9 -1.5**
comp=Z,19nm,0.6s,mb5.3,baz=282,slow=4.5,SNR=13
KDAK LR LR 15 59 04.0

comp=Z,498nm,21.8s,baz=264,slow=32
ORR Orenburg 58.69 315 *e*P **P 15 38 03.4 -0.5**
ORR MLR MLR
comp=Z,12µm,17.0s,MS6.1
ABKT Ailbek 59.31 299 P **P 15 38 09.9 +1.7**
comp=Z,413nm,0.7s,SNR=12
MCK McKinley 59.59 31 P **P 15 38 09.5 -0.7**
MCK pmax pmax
comp=Z,32nm,1.0s,mb5.3
MCK McKinley 59.59 31 *e*P **P 15 38 08.6 -1.6**
comp=Z,32nm,1.0s,mb5.3
PMR Palmer 59.75 33 *e*P **P 15 38 10.0 -1.3**
PMR pmax pmax
comp=Z,39nm,1.4s,mb5.2
PMR MLR MLR
comp=Z,2µm,20.0s,MS5.1
PMR Palmer 59.75 33 *e*P **P 15 38 10.0 -1.3**
comp=Z,39nm,1.4s,mb5.2
PMR LR LR
comp=Z,2µm,20.0s,MS5.1
COLA College 59.94 29⇑*i*P **P 15 38 12.8 +0.3**
COLA College 59.94 29 *e*P **P 15 38 11.1 -1.4**
comp=Z,20nm,0.7s,mb5.2
COLA LR LR
comp=Z,3µm,20.0s,MS5.3
SML Sawmill 60.10 33 P **P 15 38 13.7 0.0**
SML Sawmill 60.10 33 *e*P **P 15 38 12.4 -1.3**
FORT Forrest 60.27 182 *e*P pP 15 38 24.5 -2.5
comp=Z,22nm,0.7s
MENT Mentasta 62.04 31 *e*P **P 15 38 26.2 -0.6**
STKA Stephens Creek 62.21 169 *e*P **P 15 38 26.1 -1.9**
comp=Z,6.6nm,0.4s,mb5.1
STKA *i*S **S 15 46 48.5 -2.1**
STKA Stephens Creek 62.21 169 P **P 15 38 26.7 -1.3**
comp=Z,5.9nm,0.6s,mb4.9,baz=351,slow=6.5,SNR=13
STKA LR LR 16 04 10.3
comp=Z,2µm,21.4s,MS5.3,baz=347,slow=35
KLBR Kellerberrin 62.23 192 *e*P **P 15 38 28.2 +0.1**
comp=Z,30nm,1.1s,mb5.3
EGAK Eagle 62.78 29 *e*P **P 15 38 30.4 -1.3**
comp=Z,25nm,1.0s,mb5.3
EGAK LR LR
comp=Z,2µm,22.0s,MS5.3
PECR Pechory 63.87 322 *e*P **P 15 38 38.6 -0.3**
PECR MLR MLR
comp=N,4µm,18.0s
PECR MLR MLR
comp=Z,5µm,18.0s,MS5.8
INK Inuvik 64.84 24 P **P 15 38 44.0 -1.2**
comp=Z,12nm,0.6s,mb5.2,baz=293,slow=6.6,SNR=112
INK Inuvik 64.84 24 P **P 15 38 44.5 -0.8**
KLMR Klimovskoe 64.95 327 *e*P **P 15 38 43.4 -2.6**
KLMR *e**PP pP 15 38 55.6 -2.7
KLMR *e*PPP 15 42 42.1
KLMR *e*S **S 15 47 26.1 +1.4**
APA Apatity 65.48 335⇑*i*P **P 15 38 48.0 -1.5**
APA *e* 15 48 45.0
APA pmax pmax
comp=Z,47nm,1.0s,mb5.5
APA MLR MLR
comp=Z,11µm,17.0s,MS6.1
MAK Makhachkala 65.60 307 *e*P **P 15 38 50.5 +0.3**
MAK MLR MLR
comp=Z,10µm,17.0s,MS6.1
SPB4 Spitsbergen Ar 65.79 348 *e*P **P 15 38 51.1 -0.3**
KBS Kingsbay 66.14 349 AMS AMS 16 09 24.4
comp=Z,2µm,21.3s,MS5.3
VRHR Novokhopersk 66.79 317 *e*P **P 15 38 56.7 -1.2**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR MLR MLR
comp=Z,6µm,18.0s,MS5.8
VRHR MLR MLR
comp=E,7µm,23.0s
SKAG Skagway 66.88 34 *e*P **P 15 38 58.6 +0.2**
comp=E,46nm,1.4s,mb5.3
SKAG LR LR
comp=Z,2µm,20.0s,MS5.3
KEV Kevo 66.89 338 *e*p **P 15 38 55.9 -2.6**
comp=Z,4.6nm,0.5s,mb4.8
KEV Kevo 66.89 338 P **P 15 38 57.3 -1.2**
KEV pmax pmax
comp=Z,29nm,0.9s,mb5.3
ARCES ARCESS Array B 67.46 338 P **P 15 39 00.7 -1.4**
comp=Z,10nm,0.9s,mb4.9,baz=67,slow=8.9,SNR=20
ARCES LR LR 16 13 42.5
comp=Z,9µm,18.8s,MS6.0,baz=57,slow=41
MOS Moscow 67.50 322 *e*P **P 15 39 00.8 -1.5**
MOS pmax pmax
comp=Z,61nm,0.7s,mb5.7
MOS MLR MLR
comp=N,6µm,17.0s,MS6.1
MOS MLR MLR
comp=E,6µm,17.0s,MS6.1
MOS MLR MLR
comp=Z,18µm,17.0s,MS6.3
JOF Joensuu 67.93 331 *e*p **P 15 39 02.4 -2.7**
comp=Z,33nm,0.8s,mb5.4
ZEI Tsey 68.16 308 *e*P **P 15 39 06.2 -0.3**
ZEI pmax pmax
comp=Z,54nm,0.9s,mb5.6
VRSR Storozhevoye 68.19 317 *e*P **P 15 39 05.8 -0.9**
VRSR pmax pmax
comp=Z,40nm,0.8s,mb5.5
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,60nm,0.9s
VRSR MLR MLR
comp=Z,9µm,18.0s,MS6.0
VRSR MLR MLR
comp=N,5µm,19.0s,MS6.0
VRSR MLR MLR
comp=E,7µm,19.0s,MS6.0
OBN Obninsk 68.28 322⇑*e*P **P 15 39 06.3 -1.0**
OBN *i* 15 39 29.9
OBN *i*S S 15 48 09.0 +4.0
OBN pmax pmax
comp=Z,54nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,15µm,21.0s,MS6.2
KTK1 Kautokeino 68.41 338 *e*P **P 15 39 07.4 -0.7**
KTK1 AMb AMB 15 39 13.5
comp=Z,48nm,1.5s,mb5.3
KTK1 Kautokeino 68.41 338 *e*P **P 15 39 07.4 -0.7**
comp=Z,48nm,1.5s,mb5.3
TOO Toolangi 68.45 167 *e*P **P 15 39 06.7 -1.6**
comp=Z,5.3nm,0.5s,mb4.8
TOO Toolangi 68.45 167 *e*P **P 15 39 06.7 -1.6**
TOO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
GNI Garni 68.51 305 P **P 15 39 10.0 +1.3**
comp=Z,19nm,0.6s,mb5.2,baz=350,slow=2.7,SNR=16
GNI LR LR 16 09 24.8
comp=Z,760nm,21.2s,MS4.9,baz=257,slow=36
GNI Garni 68.51 305 P **P 15 39 10.0 +1.3**
GNI pmax pmax
comp=Z,19nm,0.6s
GNI MLR MLR
comp=Z,761nm,21.2s
GNI Garni 68.51 305 *e*P **P 15 39 09.2 +0.5**
comp=Z,37nm,0.8s,mb5.4
KIV Kislovodsk 68.56 309 P **P 15 39 09.3 +0.3**
comp=Z,426nm,0.9s,mb6.4,SNR=7.7
KIV Kislovodsk 68.56 309 *e*P **P 15 39 08.7 -0.3**
KIV *e* 15 39 34.8
KIV *e* 15 41 39.0
KIV *e*PPP 15 43 20.2
KIV *e*S S 15 48 06.0 -2.3
KIV pmax pmax
comp=Z,189nm,1.7s,mb5.8
KIV pmax pmax
comp=Z,72nm,1.0s,mb5.6
KIV MLR MLR
comp=Z,2µm,16.0s,MS5.5
KIV Kislovodsk 68.56 309 *e*P **P 15 39 09.2 +0.2**
comp=Z,59nm,0.8s,mb5.6
KIV LR LR
comp=Z,663nm,20.0s,MS4.9
DIGO Kars 69.38 305 *i*P **P 15 39 15.9 +1.8**
CRAG Craig 69.43 37 *e*P **P 15 39 14.8 +0.5**
TRO Tromso 69.46 340 *e*P **P 15 39 13.0 -1.6**
TRO AMS AMS 16 14 50.3
comp=Z,5µm,17.7s,MS5.8

TVAN Van 70.07 304 *i*P **P 15 39 18.5 +0.1**
KAF Kangasniemi 70.38 331 *e*p **P 15 39 17.2 -3.0**
comp=Z,28nm,0.9s,mb5.2,baz=62,slow=5.8
KAF Kangasniemi 70.38 331 *e*P **P 15 39 17.2 -3.0**
KAF pmax pmax
comp=Z,28nm,0.9s,mb5.2
QRN Al-Qurain 70.45 292 *e*P **P 15 39 21.1 +0.5**
QRN AMb AMB 15 39 22.1
comp=Z,130nm,0.7s,mb6.0
KBD Kabd 70.45 293 *e*P **P 15 39 20.8 +0.1**
KBD AMb AMB 15 39 23.1
comp=Z,391nm,0.6s
RDF Al-Radifah 70.67 293 *e*P **P 15 39 21.9 -0.1**
RDF AMb AMB 15 39 24.3
comp=Z,207nm,0.6s,mb6.2
SOC Sochi 70.69 310*c* *i*P **P 15 39 20.7 -1.5**
SOC *e**PP pP 15 39 33.5 -1.0
SOC *e* 15 39 40.5
SOC *e* 15 41 59.3
SOC *e*S S 15 48 31.7 -1.7
SOC *e* 15 49 22.4
SOC *e*SS SS 15 53 02.8 -2.9
SOC pmax pmax
comp=Z,56nm,0.7s,mb5.6
FIA1 FINESS Array S 70.78 330 *e*P **P 15 39 19.9 -2.8**
FINES FINESS Array B 70.78 330 P **P 15 39 20.6 -2.1**
comp=Z,6.5nm,0.4s,mb4.9,baz=70,slow=5.7,SNR=49
FINES PP PP 15 41 49.7 -10
comp=Z,5.0nm,0.8s,baz=65,slow=14,SNR=5.7
FINES LR LR 16 13 47.0
comp=Z,6µm,18.6s,MS5.9,baz=61,slow=39
FINES FINESS Array B 70.78 330 P **P 15 39 20.6 -2.1**
FINES PP PP 15 41 49.7 -10
FINES LR LR 16 13 47.0
ERZM Erzurum 71.00 306 *i*P **P 15 39 25.4 +1.4**
EZM Erzurum 71.00 306 *e*P **P 15 39 25.7 +1.7**
MSL Mosul 71.18 301 *e*x x 15 39 27.0
BHD Baghdad 71.41 298 *e*x x 15 39 24.0
BHD *e*x x 15 48 43.5
RES Resolute Bay 71.69 12 P **P 15 39 27.3 -0.8**
RES Resolute Bay 71.69 12 *e*P **P 15 39 27.0 -1.1**
comp=Z,1µm,0.8s
ANN Anapa 71.72 312 *e*P **P 15 39 27.3 -1.1**
ANN *e**PP pP 15 39 38.8 -2.0
ANN *e* 15 39 45.7
ANN *e* 15 42 02.2
ANN *e*S S 15 48 48.5 +3.3
ANN pmax pmax
comp=Z,76nm,0.8s,mb5.7
ANN MLR MLR
comp=N,8µm,21.0s,MS6.0
ANN MLR MLR
comp=E,4µm,21.0s,MS6.0
ANN MLR MLR
comp=Z,8µm,21.0s,MS6.0
ANN Anapa 71.72 312 *e*P **P 15 39 27.7 -0.7**
VSU Vasula 71.85 328⇑*e*P **P 15 39 27.6 -1.5**
EZC Erzincan 72.15 306 *e*P **P 15 39 32.6 +1.7**
MOR8 Moi Rana 72.77 338 *e*P **P 15 39 32.2 -2.4**
STOK Stokkvaagen 73.14 338 *e*P **P 15 39 34.5 -2.3**
STOK AMb AMB 15 39 37.9
comp=Z,128nm,1.5s,mb5.6
STOK Stokkvaagen 73.14 338 *e*P **P 15 39 34.5 -2.3**
comp=Z,128nm,1.5s,mb5.6
MNK Minsk 73.14 324 *e*P **P 15 39 33.0 -3.8**
MNK *e*S S 15 49 05.0 +3.5
ELZG Elazig 73.26 305 *i*P **P 15 39 38.0 +0.5**
SIM Simferopol' 73.80 313 *e*P **P 15 39 42.0 +1.3**
SIM pmax pmax
comp=Z,60nm,0.8s,mb5.6
SIM MLR MLR
comp=Z,6µm,19.0s,MS5.9
SIM Simferopol' 73.80 313 *e*P **P 15 39 42.1 +1.4**
URFA Urfa 73.82 304 *e*P **P 15 39 42.6 +1.7**
AKASG Malin Array Be 74.15 320 P **P 15 39 41.1 -1.6**
comp=Z,34nm,0.7s,mb5.4,baz=57,slow=6.2,SNR=86
AKASG LR LR 16 15 02.2
comp=Z,6µm,20.1s,MS5.9,baz=75,slow=38
AKBB Malin Array Si 74.15 320 *e*P **P 15 39 40.9 -1.9**
KIEV Kiev 74.17 320 *e*P **P 15 39 40.8 -2.0**
KIEV pmax pmax
comp=Z,25nm,0.6s,mb5.3
KIEV Kiev 74.17 320 *e*P **P 15 39 40.8 -2.0**
comp=Z,24nm,0.6s,mb5.3
YKA Yellowknife Ar 74.46 26 P **P 15 39 43.4 -1.1**
comp=Z,17nm,0.7s,mb5.1,baz=302,slow=5.6,SNR=139
YKA LR LR 16 17 35.8
comp=Z,792nm,20.6s,MS5.0,baz=225,slow=40
YKA Yellowknife Ar 74.46 26 P **P 15 39 43.4 -1.1**
YKA LR LR 16 17 35.8
NSS Namsos 74.58 337 *e*P **P 15 39 43.1 -2.1**
NSS AMS AMS 16 17 39.2
comp=Z,7µm,21.3s,MS5.9
GZT Gaziantep 74.76 304 *i*P **P 15 39 46.6 +0.3**
BOYT Boyabat 74.83 309 *i*P **P 15 39 45.1 -1.6**
CTKT Corum 75.26 308 *i*P **P 15 39 49.3 +0.1**
TOS Tosya 75.60 309 *e*P **P 15 39 52.2 +1.1**
SUW Suwalki 75.76 324 *e*P **P 15 39 51.3 -0.7**
SUW L 16 16 12.8
comp=Z,10nm,18.5s
SUW Suwalki 75.76 324 P **P 15 39 51.4 -0.6**
SUW pmax pmax
comp=Z,81nm,1.0s,mb5.6
BALT Daday 75.80 310 *i*P **P 15 39 51.8 -0.5**
AVNT Avonos 76.05 307 *i*P **P 15 39 53.7 0.0**
COBT Iskenderun 76.07 304 *i*P **P 15 39 54.4 +0.6**
KIS Kishinev 76.14 316 *e*P **P 15 39 54.0 -0.2**
KIS *e* 15 50 22.0
KIS MLR MLR
comp=N,4µm,16.0s,MS6.0
KIS MLR MLR
comp=Z,6µm,16.0s,MS6.0
KIS MLR MLR
comp=E,5µm,17.0s,MS6.0
KIS MLR MLR
comp=Z,3µm,16.0s
ELDT Eldivan 76.25 309 *i*P **P 15 39 54.7 -0.1**
BR131 Keskin Array S 76.45 308 *e*P **P 15 39 55.5 -0.5**
comp=Z,29nm,0.7s,mb5.3
BRTR Keskin Array B 76.45 308 P **P 15 39 55.8 -0.2**
comp=Z,39nm,0.7s,mb5.5,baz=104,slow=5.0,SNR=106
BRTR LR LR 16 18 05.2
comp=Z,2µm,21.2s,MS5.3,baz=280,slow=39
KAMT Kaman 76.57 308 P **P 15 39 56.4 -0.2**
HFS Hagfors 76.62 333 P **P 15 39 54.9 -2.0**
comp=Z,20nm,0.8s,mb5.1,baz=57,slow=3.2,SNR=25
ANTO Ankara 76.97 308 P **P 15 39 58.8 -0.1**
ANTO *e* pP 15 40 08.6 -2.8
ANTO pmax pmax
comp=Z,17nm,0.7s,mb5.1
ANTO Ankara 76.97 308 *e*P **P 15 39 58.4 -0.4**
comp=Z,17nm,0.7s,mb5.1
ANTO LR LR
comp=Z,3µm,20.0s,MS5.5
ANTO Ankara 76.97 308⇓*i*P **P 15 39 59.2 +0.3**
NB2 NORSAR Subarra 77.02 334 P **P 15 39 57.2 -2.0**
comp=Z,72nm,1.4s,mb5.4,baz=49,slow=5.6
NOA NORSAR Array B 77.02 334 P **P 15 39 57.2 -2.0**
comp=Z,19nm,0.8s,mb5.1,baz=49,slow=5.4,SNR=37
NOA PP PP 15 42 47.8 -5.1
comp=Z,2.8nm,1.0s,baz=62,slow=12,SNR=3.1
NOA LR LR 16 18 55.1
comp=Z,3µm,19.0s,MS5.7,baz=20,slow=40
NOA NORSAR Array B 77.02 334 P **P 15 39 57.2 -2.0**
NOA 15 42 47.8
NOA NORSAR Array B 77.02 334 P **P 15 39 57.2 -2.0**
NOA PP PP 15 42 47.8 -5.1
NOA LR LR 16 18 55.1
SGKT Sivrigoynuk 77.13 309 *i*P **P 15 39 58.2 -1.6**
NAO01 NORSAR Array S 77.27 334 *e*P **P 15 39 58.0 -2.6**
CFR Carcaliu 77.44 315 P **P 15 40 05.6 +4.1**
LVV L'vov 77.49 320 *e*P **P 15 40 01.3 -0.5**
LVV *e* 15 42 50.7
LVV *e*S S 15 49 42.3 -7.4
LVV *e*PS 15 50 40.9
LVV MLR MLR
comp=Z,7µm,17.0s,MS6.0
LVV MLR MLR
comp=N,2µm,16.0s,MS6.0
LVV MLR MLR
comp=E,5µm,18.0s,MS6.0
ASF Jabal al Asfar 77.57 300 P **P 15 40 03.2 +1.0**
comp=E,36nm,0.8s,mb5.4,baz=300,slow=1.6,SNR=49
TIRR Tirgusor 77.62 314 P **P 15 40 03.1 +0.5**

TIRR pmax pmax
comp=Z,22nm,0.9s,mb5.1
TIRR Tirgusor 77.62 314 *e*P **P 15 40 02.0 -0.6**
comp=Z,22nm,0.9s,mb5.1
TIRR Tirgusor 77.62 314⇑*i*P **P 15 40 02.6 0.0**
BHL Bhannes 77.70 302 *e*P **P 15 40 04.2 +1.3**
HENT Hendek 77.79 310 *i*P **P 15 40 05.2 +1.7**
VRI Vrincioaia 77.96 316 P **P 15 40 05.6 +1.2**
VRI Vrincioaia 77.96 316⇑*i*P **P 15 40 05.3 +0.9**
BURAR Bucovina Array 77.96 316⇓*i*P **P 15 40 03.9 -0.5**
KIZT Kizilcal 78.06 308 *e*P **P 15 40 07.2 +2.3**
MMAI Mount Meron Ar 78.30 301 P **P 15 40 07.3 +1.0**
comp=Z,14nm,0.6s,mb5.1,baz=69,slow=9.2,SNR=23
KWP Kalwaria 78.32 321 *e*P **P 15 40 06.4 0.0**
KWP L 16 17 40.0
comp=Z,12nm,18.0s
A05A Maple Falls 78.42 40⇑P **P 15 40 06.2 -0.8**
baz=78
ESKT Eskisehir 78.45 309 *e*P **P 15 40 07.7 +0.5**
ESKT Eskisehir 78.45 309 *i*P **P 15 40 06.3 -0.8**
KONO Kongsberg 78.53 334 *e*P **P 15 40 05.6 -2.0**
MLR Muntele Rosu 78.62 316 P **P 15 40 08.0 -0.1**
comp=Z,20nm,0.9s,mb5.0,baz=304,slow=3.5,SNR=15
MLR Muntele Rosu 78.62 316 P **P 15 40 08.0 -0.1**
MLR pmax pmax
comp=Z,20nm,0.9s
MLR Muntele Rosu 78.62 316 P **P 15 40 09.2 +1.1**
MLR Muntele Rosu 78.62 316⇑*i*P **P 15 40 06.9 -1.2**
E03A Lebam 78.87 43⇑P **P 15 40 10.0 +0.5**
baz=79
CSS Prodhromos 78.90 304 *e*P **P 15 40 08.1 -1.5**
comp=Z,27nm,0.8s,mb5.2
KOLS Kolonicke sedl 78.93 320 *e*P **P 15 40 09.6 -0.2**
UZH Uzhgorod 79.09 320 *e*P **P 15 40 10.0 -0.6**
UZH *i* 15 40 15.3
UZH *i* pP 15 40 23.3 +0.1
UZH *e*S S 15 50 01.0 -5.8
UZH *e*SS SS 15 55 16.0 +2.8
BSD Bornholm Skovb 79.13 328 *i*P **P 15 40 10.4 -0.5**
comp=Z,45nm,0.7s,mb5.5
BSD Bornholm Skovb 79.13 328 *i*P **P 15 40 10.4 -0.5**
BSD pmax pmax
comp=Z,45nm,0.7s,mb5.5
STHS Stebnicka Huta 79.24 321 *e*P **P 15 40 11.4 0.0**
STHS pmax pmax
comp=Z,17nm,1.0s,mb4.9
STHS Stebnicka Huta 79.24 321 *e*P **P 15 40 11.4 0.0**
comp=Z,17nm,1.0s,mb4.9
ULDT Uludag 79.30 310 *i*P **P 15 40 11.4 -0.4**
A07A Ashnola River, 79.34 39⇓P **P 15 40 12.1 +0.1**
baz=79,SNR=8.0
CRVS Cervenica-Dubn 79.40 321 *e*P **P 15 40 11.9 -0.4**
D05A Enumclaw 79.44 41⇓P **P 15 40 12.1 -0.4**
baz=79
ISP Isparta 79.50 308⇑*e*P **P 15 40 11.8 -1.1**
ISP Isparta 79.50 308 *e*P **P 15 40 12.1 -0.8**
comp=Z,17nm,0.8s,mb5.0
OJC Ojcow 79.57 322 *e*P **P 15 40 12.7 -0.5**
BER Bergen 79.63 336 AMS AMS 16 19 30.8
comp=Z,7µm,20.1s,MS6.0
NIE Niedzica 79.74 321 *e*P **P 15 40 14.4 +0.2**
B07A Winthrop 79.81 40⇓P **P 15 40 14.3 -0.2**
baz=80
F04A Amboy 79.87 43⇑P **P 15 40 15.2 +0.3**
baz=80
COP Copenhagen 79.89 330 *i*P **P 15 40 14.4 -0.6**
comp=Z,30nm,0.8s,mb5.3
COP Copenhagen 79.89 330 *e*P **P 15 40 14.4 -0.6**
COP pmax pmax
comp=Z,30nm,0.8s,mb5.3
A08A Turner Farm, O 80.00 39⇑P **P 15 40 15.7 +0.2**
baz=80
KECS Kecovo 80.17 321 *e*P **P 15 40 16.6 +0.1**
comp=Z,4.2nm,0.7s,mb4.5
EIL Elat 80.22 298 *e*P **P 15 40 16.9 +0.2**
comp=Z,350nm,0.8s,mb6.3
BTOK Tokmak 80.22 310 *i*P **P 15 40 16.6 -0.2**
B08A Colville Reser 80.30 39⇑P **P 15 40 17.2 0.0**
baz=80,SNR=12
A09A Danville 80.36 39 P **P 15 40 17.9 +0.4**
baz=80,SNR=14
E06A Yakima 80.38 42⇓P **P 15 40 17.7 0.0**
baz=80
EDM Edmonton 80.52 33 *e*P **P 15 40 17.9 -0.5**
GZR Gura Zlata 80.56 317⇑*i*P **P 15 40 19.0 +0.4**
DNZL Cakiroluk 80.58 308 *i*P **P 15 40 23.6 +4.9**
D07A Quincy 80.59 41⇑P **P 15 40 18.5 -0.3**
baz=80
OKC Ostrava-Krasne 80.66 323 *e*P **P 15 40 17.9 -1.2**
OKC AMS AMS 16 20 40.0
comp=Z,5µm,12.8s
C08A Higginbotham F 80.78 40⇓P **P 15 40 19.8 0.0**
baz=80,SNR=8.7
MUD Monsted U'grnd 80.80 331 *i*P **P 15 40 18.8 -1.1**
comp=Z,30nm,1.0s,mb5.2
MUD Monsted U'grnd 80.80 331 *e*P **P 15 40 18.8 -1.1**
MUD pmax pmax
comp=Z,30nm,1.0s,mb5.2
PSZ Piszkesteto 80.81 320 *e*P **P 15 40 19.6 -0.4**
PSZ pmax pmax
comp=Z,22nm,1.1s,mb5.0
PSZ Piszkesteto 80.81 320 *e*P **P 15 40 19.6 -0.4**
comp=Z,22nm,1.1s,mb5.0
PSZ Piszkesteto 80.81 320⇓*i*P **P 15 40 19.9 -0.1**
PSZ Piszkesteto 80.81 320 *e*P **P 15 40 20.5 +0.5**
B09A Rice 80.91 39⇑P **P 15 40 20.8 +0.3**
baz=81,SNR=12
F06A Goldendale 80.92 42⇑P **P 15 40 23.1 +2.5**
baz=81
MORC Moravsky Berou 81.01 323 *e*P **P 15 40 20.6 -0.4**
MORC pmax pmax
comp=Z,27nm,1.3s,mb5.0
MORC Moravsky Berou 81.01 323 *e*P **P 15 40 20.6 -0.4**
comp=Z,26nm,1.3s,mb5.0
MORC Moravsky Berou 81.01 323⇓*i*P **P 15 40 20.7 -0.3**
E07A Sunnyside 81.02 41⇓P **P 15 40 20.4 -0.6**
baz=81
KSP Ksiaz 81.03 324 *e*P **P 15 40 22.0 +0.9**
KSP L 16 19 45.5
comp=Z,18nm,16.3s
KSP Ksiaz 81.03 324 *e*P **P 15 40 20.8 -0.3**
KSP *e* 15 50 35.0
KSP MLR MLR
comp=Z,19µm,17.1s,MS6.5
KSP Ksiaz 81.03 324 *e*P **P 15 40 20.8 -0.3**
KSP *e*SKS 15 50 35.0
KSP *e*SS SS 15 56 04.0 +22
KSP LR LR
comp=Z,19µm,17.1s,MS6.5
VYHS Vyhne 81.07 321 *i*P **P 15 40 21.3 0.0**
VYHS pmax pmax
comp=Z,12nm,0.9s,mb4.8
VYHS MLR MLR
comp=Z,8µm,17.9s,MS6.1
VYHS Vyhne 81.07 321 *i*P **P 15 40 21.3 0.0**
comp=Z,12nm,0.9s,mb4.8
VYHS LR LR
comp=Z,8µm,17.9s,MS6.1
BZS Buzias 81.12 318 P **P 15 40 20.8 -0.8**
BZS Buzias 81.12 318⇑*i*P **P 15 40 20.4 -1.2**
D08A Wollman Farm, 81.26 40⇑P **P 15 40 22.6 +0.2**
baz=81,SNR=11
DPC Dobruska-Polom 81.31 324 *e*P **P 15 40 22.3 -0.3**
DPC AMS AMS 16 19 40.0
comp=Z,13µm,16.2s
F07A Phinny Hill Vi 81.34 42⇑P **P 15 40 23.5 +0.8**
baz=81,SNR=6.3
UPC Upice 81.37 324 *e*P **P 15 40 22.6 -0.3**
KDAG Bornova 81.43 309 *i*P **P 15 40 22.7 -0.5**
IZM Izmir 81.43 309 *e*P **P 15 40 23.2 0.0**
E08A Dider Farm, El 81.51 41⇑P **P 15 40 24.0 +0.4**
baz=81,SNR=8.1
NEW Newport 81.56 39 P **P 15 40 23.9 0.0**
comp=Z,8.7nm,0.7s,mb4.8,baz=306,slow=4.3,SNR=17
NEW Newport 81.56 39 *e*P **P 15 40 23.7 -0.2**
NEW pmax pmax
comp=Z,28nm,1.0s
NEW Newport 81.56 39 *e*P **P 15 40 23.7 -0.2**
comp=Z,28nm,1.0s,mb5.1
A11A Hall Mountain, 81.57 38⇑P **P 15 40 25.2 +1.3**
baz=81,SNR=10
H06A Lindquist Farm 81.75 43⇑P **P 15 40 25.9 +1.0**
baz=82
VRAC Vranov 81.79 323 P **P 15 40 25.0 -0.1**
comp=Z,18nm,0.9s,mb5.0,baz=63,slow=5.8,SNR=18

VRAC **Vranov** 81.79 323 P P 15 40 25.0 -0.1
VRAC pmax pmax
comp=Z,18nm,0.9s
VRAC **Vranov** 81.79 323 P P 15 40 25.8 +0.6
VRAC **Vranov** 81.79 323 ⇓*i*P P 15 40 25.3 +0.2
SMOL **Smolenice** 81.82 322 *e*P P 15 40 26.1 +0.8
VTS **Vitosha** 81.83 315 ⇓*i*P P 15 40 25.5 +0.2
B11A **Sandpoint** 81.87 38 ⇓P P 15 40 25.8 +0.2
baz=82,SNR=9.4
YBH **Yreka Blue Hor** 81.95 46 P P 15 40 26.4 +0.4
comp=Z,5.6nm,1.0s,mb4.5,baz=249,slow=1.7,SNR=5.8
A12A **Yaak River Ran** 81.96 38 ⇑P P 15 40 27.0 +0.9
baz=82,SNR=7.0
BSEG **Bad Segeberg** 81.96 329 *e*P P 15 40 25.5 -0.5
comp=Z,24nm,0.9s,mb5.1
E09A **Wood Farm, Sta** 82.01 41 ⇓P P 15 40 26.8 +0.5
baz=82,SNR=9.2
F08A **Pendleton** 82.06 41 P P 15 40 27.2 +0.7
baz=82,SNR=11
PVCC **Panska Ves** 82.09 325 *e*P P 15 40 26.5 -0.2
PVCC AMS AMS 16 21 30.0
comp=Z,8µm,14.3s
O01C **Eel River Cons** 82.10 48 ⇑P P 15 40 27.8 +1.1
baz=82
ZST **Bratislava** 82.18 322 *e*P P 15 40 27.8 +0.6
ZST pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZST MLR MLR
comp=Z,9µm,17.8s,MS6.2
ZST **Bratislava** 82.18 322 *e*P P 15 40 27.8 +0.6
comp=Z,9.5nm,1.0s,mb4.7
ZST LR LR
comp=Z,9µm,17.8s,MS6.2
D10A **Wagner Farm, O** 82.19 40 ⇑P P 15 40 27.1 -0.2
baz=82
BRG **Berggiesshubel** 82.19 325 *e*P P 15 40 27.0 -0.2
comp=Z,17nm,1.3s,mb4.8
BRG **Berggiesshubel** 82.19 325 *e*P P 15 40 27.1 -0.1
comp=Z,3.2nm,0.5s,mb4.5
BRG
comp=N,4µm,14.0s
BRG
comp=E,3µm,14.2s
BRG
comp=Z,6µm,13.6s
BRG **Berggiesshubel** 82.19 325 *e*P P 15 40 27.1 -0.1
BRG pmax pmax
comp=Z,21nm,0.5s,mb5.3
BRG MLR MLR
comp=N,3µm,14.0s,MS6.0
BRG MLR MLR
comp=E,4µm,14.2s,MS6.0
BRG MLR MLR
comp=Z,3µm,13.6s,MS5.8
I06A **Prineville** 82.27 43 ⇑P P 15 40 28.7 +1.0
baz=82
H07A **Lands Inn, Kim** 82.29 43 ⇑P P 15 40 30.4 +2.6
baz=82
ATD **Arta Tunnel** 82.37 279 P P 15 40 29.8 +1.6
comp=Z,8.2nm,0.6s,mb4.8,baz=166,slow=23,SNR=5.8
CLL **Collm** 82.38 326 *e*P P 15 40 27.7 -0.5
comp=Z,29nm,0.7s,mb5.3
CLL **Collm** 82.38 326 ⇓*i*P P 15 40 27.7 -0.5
CLL pmax pmax
comp=Z,29nm,0.7s,mb5.3
CLL MLR MLR
comp=Z,12µm,15.5s,MS6.4
CLL **Collm** 82.38 326 ⇓*i*P P 15 40 27.7 -0.5
comp=Z,29nm,0.7s,mb5.3
CLL *i* 15 40 47.6
CLL *e*S S 15 50 59.0 +18
CLL LR LR
comp=Z,12µm,15.5s,MS6.4
CLL **Collm** 82.38 326 ⇓*i*P P 15 40 27.7 -0.5
comp=Z,29nm,0.7s,mb5.3
CLL *e*PP PP 15 43 41.0 +3.6
CLL *e*S S 15 50 59.0 +18
PRU **Pruhonice** 82.44 324 *e*P P 15 40 27.8 -0.7
PRU AMS AMS 16 20 40.0
comp=Z,11µm,15.1s
FBE **Freiberg** 82.45 325 *e*P P 15 40 28.5 -0.1
comp=Z,24nm,1.2s,mb5.0
M04C **Macdoel** 82.47 46 ⇓P P 15 40 29.6 +0.9
baz=82
PKSM **Moragy** 82.50 319 P P 15 40 28.1 -0.7
PKSM **Moragy** 82.50 319 ⇑*i*P P 15 40 28.0 -0.8
K05A **Summer Lake** 82.54 45 ⇑P P 15 40 30.0 +0.9
baz=82
M03C **McCloud** 82.57 47 ⇑P P 15 40 29.7 +0.5
baz=82,SNR=5.2
A13A **Flathead Natio** 82.61 37 ⇓P P 15 40 29.7 +0.2
baz=82
E10A **Myers Farm, Un** 82.61 40 ⇓P P 15 40 29.9 +0.5
baz=82,SNR=8.3
F09A **S2 Ranch, Elgi** 82.61 41 ⇑P P 15 40 30.1 +0.6
baz=82,SNR=8.0
I07A **Izee** 82.61 43 ⇓P P 15 40 31.0 +1.5
baz=82
GRUS **Gruza** 82.62 317 ⇑*i*P P 15 40 29.1 -0.4
WDC **Whiskeytown Da** 82.69 47 ⇓P P 15 40 30.9 +1.0
baz=82
J06A **Christmas Vall** 82.69 44 ⇑P P 15 40 30.6 +0.7
baz=82
D11A **Klaveano Farm,** 82.71 39 ⇓P P 15 40 30.0 0.0
baz=82,SNR=8.2
F10A **Beach Ranch, E** 82.84 41 ⇑P P 15 40 31.1 +0.4
baz=83
H08A **Prairie City** 82.86 42 ⇓P P 15 40 30.9 +0.2
baz=83,SNR=9.6
VAY **Valandovo** 82.92 314 *e*P P 15 40 30.0 -1.0
VAY **Valandovo** 82.92 314 *e*P P 15 40 30.0 -1.0
DIVS **Divcibare** 82.93 317 ⇑*i*P P 15 40 30.2 -0.9
CONA **Conrad Observa** 83.01 322 ⇑*i*P P 15 40 30.0 -1.5
comp=Z,19nm,0.8s,mb5.2,SNR=17
E11A **Bogner Ranch,** 83.19 40 ⇓P P 15 40 32.5 +0.1
baz=83
I08A **Drewsey** 83.27 43 P P 15 40 33.7 +0.9
baz=83,SNR=10
WERD **Werda** 83.27 325 *e*P P 15 40 32.8 0.0
comp=Z,15nm,0.8s,mb5.1
C13A **Hot Springs** 83.29 38 ⇓P P 15 40 33.7 +0.8
baz=83,SNR=9.2
CLZ **Clausthal** 83.30 327 *e*P P 15 40 33.1 +0.1
comp=Z,47nm,1.1s,mb5.4
CLZ **Clausthal** 83.30 327 *e*P P 15 40 33.1 +0.1
CLZ pmax pmax
comp=Z,47nm,1.1s,mb5.4
GUNZ **Gunzen** 83.31 325 *e*P P 15 40 32.9 -0.2
comp=Z,35nm,1.2s,mb5.3
NKC **Novy Kostel** 83.34 325 *e*P P 15 40 32.9 -0.3
NKC AMS AMS 16 22 00.0
comp=Z,13µm,14.6s
WERN **Wernitzgruen** 83.34 325 *e*P P 15 40 33.2 0.0
comp=Z,25nm,1.2s,mb5.1
H09A **Durkee** 83.36 42 ⇓P P 15 40 34.2 +0.9
baz=83,SNR=12
MOD **Modoc** 83.36 45 *e*P P 15 40 33.3 0.0
comp=Z,66nm,1.8s,mb5.4
KHC **Kasperske Hory** 83.46 324 *e*P P 15 40 32.1 -1.7
KHC pP pP 15 40 43.0 -3.5
KHC sP sP 15 40 50.0 -1.2
KHC AMS AMS 16 21 10.0
comp=Z,10µm,16.7s
KHC **Kasperske Hory** 83.46 324 *e*P P 15 40 32.1 -1.7
KHC *e* pP 15 40 43.0 -3.5
KHC *e* 15 40 50.0
KHC LR LR
comp=Z,10µm,16.7s,MS6.3
MOX **Moxa** 83.48 326 *e*P P 15 40 33.8 -0.1
comp=Z,32nm,1.7s,mb5.1
MOX
comp=Z,9µm,18.0s
MOX **Moxa** 83.48 326 *e*P P 15 40 33.8 -0.1
MOX pmax pmax
comp=Z,32nm,1.7s,mb5.1
MOX MLR MLR
comp=Z,9µm,18.0s,MS6.2
F11A **Grangeville** 83.50 40 ⇑P P 15 40 34.1 0.0
baz=83,SNR=7.4
SFJD **Kangerlussuaq** 83.53 0 P P 15 40 33.2 -1.0
comp=Z,17nm,0.6s,mb5.3,baz=238,slow=0.7,SNR=5.7
SFJD **Kangerlussuaq** 83.53 0 *i*P P 15 40 32.8 -1.4
comp=Z,27nm,0.7s,mb5.5
SFJD *i* 15 40 49.7
SFJD **Kangerlussuaq** 83.53 0 *i*P P 15 40 32.8 -1.4
SFJD *i* 15 40 49.7
SFJD pmax pmax
comp=Z,27nm,0.7s,mb5.5
K07A **Rock Creek Ran** 83.56 44 ⇑P P 15 40 35.3 +1.0
baz=83
GEC2 **GERESS Array S** 83.58 324 *e*P P 15 40 34.2 -0.2
comp=Z,14nm,1.1s,mb5.0
GEC2 **GERESS Array S** 83.58 324 *e*P P 15 40 34.2 -0.2
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb5.0
GERES **GERESS Array B** 83.58 324 P P 15 40 33.9 -0.5
comp=Z,5.2nm,0.8s,mb4.7,baz=48,slow=4.2,SNR=44
GERES LR LR 16 21 44.4
comp=Z,9µm,18.2s,MS6.2,baz=35,slow=38
ARSA **Arzberg** 83.60 322 ⇑*i*P P 15 40 34.9 +0.4
comp=Z,30nm,1.6s,mb5.2
J08A **Circle Bar Ran** 83.64 43 ⇓P P 15 40 35.7 +0.9
baz=83,SNR=12
MANZ **Manzenberg** 83.66 325 *e*P P 15 40 34.9 0.0
comp=Z,22nm,1.2s,mb5.2
C14A **Swan Lake** 83.68 38 ⇑P P 15 40 35.5 +0.6
baz=83
D13A **Huson** 83.71 39 ⇓P P 15 40 37.4 +2.3
baz=84
I09A **Lost Marbles R** 83.72 42 ⇓P P 15 40 35.9 +0.8
baz=84,SNR=12
KRUS **Krusevo** 83.72 314 *e*P P 15 40 34.6 -0.6
KRUS **Krusevo** 83.72 314 *e*P P 15 40 34.6 -0.6
G11A **Walters Elk Ra** 83.73 41 ⇑P P 15 40 35.2 0.0
baz=84,SNR=36
ROTZ **Rotzenmuhle** 83.75 325 *e*P P 15 40 35.5 +0.2
comp=Z,22nm,1.1s,mb5.2
O04C **Chester** 83.76 47 ⇓P P 15 40 35.9 +0.6
baz=84
WET **Wettzell** 83.81 324 *e*P P 15 40 35.6 0.0
comp=Z,12nm,1.2s,mb4.9
WET **Wettzell** 83.81 324 *e*P P 15 40 35.6 0.0
WET pmax pmax
comp=Z,12nm,1.2s,mb4.9
L07A **Adell** 83.89 45 ⇓P P 15 40 37.3 +1.3
baz=84,SNR=10.0
MOA **Molln** 83.90 323 ⇓*i*P P 15 40 35.9 -0.2
comp=Z,25nm,0.9s,mb5.3,SNR=18
H10A **Noah's Angus R** 83.93 42 ⇓P P 15 40 36.3 +0.1
baz=84,SNR=21
O05C **Quincy** 84.06 47 ⇓P P 15 40 39.7 +2.8
baz=84
J09A **Fry Pan Ranch,** 84.07 43 ⇑P P 15 40 38.0 +1.0
baz=84,SNR=12
WVOR **Wild Horse Val** 84.08 44 *e*P P 15 40 37.0 0.0
WVOR pmax pmax
comp=Z,86nm,1.6s,mb5.6
WVOR **Wild Horse Val** 84.08 44 *e*P P 15 40 37.0 0.0
comp=Z,86nm,1.6s,mb5.6
F12A **Elk City** 84.08 40 ⇑P P 15 40 37.3 +0.3
baz=84
IBBN **Ibbenburen** 84.19 329 *e*P P 15 40 37.0 -0.6
comp=Z,38nm,0.9s,mb5.5
PERS **Pernice** 84.20 321 *i*P P 15 40 37.7 +0.2
D14A **Greenough** 84.23 38 ⇑P P 15 40 37.7 -0.1
baz=84,SNR=9.0
H11A **Donnelly** 84.29 41 ⇑P P 15 40 38.0 0.0
baz=84,SNR=11
GRA1 **Grafenberg Arr** 84.29 325 *e*P P 15 40 38.2 +0.1
comp=Z,45nm,1.0s,mb5.5
GRA1 *e*PP PP 15 44 01.8 +8.8
GRA1 *e*S sS 15 51 20.7 -0.9
GRA1 *e*SS SS 15 56 58.8 +28
GRA1 LR LR
comp=Z,10µm,18.7s,MS6.2
GRF **Grafenberg Arr** 84.29 325 *e*P P 15 40 38.2 +0.1
comp=Z,45nm,1.0s,mb5.5
GRF *e*PP PP 15 44 01.8 +8.8
GRF *e*S sS 15 51 20.7 -0.9
GRF *e*SS SS 15 56 58.8 +28
GRF *e*L 16 21 56.5
comp=Z,9µm,18.7s
GRF **Grafenberg Arr** 84.29 325 *e*P P 15 40 38.2 +0.1
GRF pmax pmax
comp=Z,45nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,10µm,18.7s,MS6.2
GRF **Grafenberg Arr** 84.29 325 *e*P P 15 40 38.2 +0.1
GRF pmax pmax
comp=Z,45nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,10µm,18.7s,MS6.2
GRFO **Grafenberg** 84.29 325 *e*P P 15 40 38.0 -0.1
GRFO pmax pmax
comp=Z,39nm,1.0s,mb5.5
GRFO **Grafenberg** 84.29 325 *e*P P 15 40 38.0 -0.1
comp=Z,39nm,1.0s,mb5.5
GOLS **Golise** 84.30 321 *i*P P 15 40 37.8 -0.3
M07A **Soldier Meadow** 84.35 45 P P 15 40 40.2 +1.8
baz=84,SNR=6.9
L08A **Fields** 84.39 44 ⇓P P 15 40 39.6 +1.0
baz=84,SNR=10
CHMT **Chamberlain Mo** 84.47 38 *e*P P 15 40 38.9 -0.1
K09A **Rome** 84.47 43 ⇑P P 15 40 39.8 +0.8
baz=84,SNR=8.6
BEKR **Beckwourth** 84.47 47 P P 15 40 39.6 +0.6
baz=84,SNR=8.7
FFC **Flin Flon** 84.52 28 P P 15 40 39.3 +0.1
comp=Z,158nm,0.8s,mb6.2,SNR=9.9
F13A **Darby** 84.57 40 ⇓P P 15 40 39.0 -0.5
baz=84
OBKA **Obir** 84.58 321 ⇑*i*P P 15 40 39.2 -0.3
comp=Z,23nm,0.8s,mb5.4,SNR=25
PDKS **Podkum** 84.62 321 *i*P P 15 40 39.4 -0.3
O06A **Flanigan** 84.64 46 ⇑P P 15 40 40.6 +0.8
baz=84,SNR=10
D15A **Lincoln** 84.78 38 ⇑P P 15 40 41.5 +0.9
baz=84,SNR=7.2
I11A **Placerville** 84.79 42 ⇑P P 15 40 41.8 +1.2
baz=84,SNR=8.7
M08A **Happy Creek Ra** 84.80 45 ⇑P P 15 40 42.5 +1.9
baz=85
BOJS **Bojanci** 84.82 320 *e*P P 15 40 41.0 +0.3
N07B **Gerlach** 84.82 46 ⇓P P 15 40 42.4 +1.7
baz=85
LAVA **Lava Cap Winer** 84.85 48 ⇑P P 15 40 40.9 0.0
baz=85,SNR=6.0
VISS **Visnje** 84.86 321 *e*P P 15 40 40.9 0.0
KBA **Koelnbreinsper** 84.87 322 ⇑*i*P P 15 40 41.5 +0.4
comp=Z,19nm,0.7s,mb5.3
KBA **Koelnbreinsper** 84.87 322 ⇑*i*P P 15 40 41.5 +0.5
KBA pmax pmax
comp=Z,19nm,0.7s,mb5.3
LJU **Ljubljana** 84.88 321 *e*P P 15 40 40.9 -0.1
H12A **Diamond D Ranc** 85.04 41 ⇑P P 15 40 42.4 +0.6
baz=85,SNR=22
G13A **Cobalt** 85.06 40 ⇑P P 15 40 42.0 0.0
baz=85
F14A **Wisdom** 85.09 39 ⇑P P 15 40 43.3 +1.2
baz=85
E15A **Deer Lodge** 85.10 38 ⇓P P 15 40 42.5 +0.3
baz=85,SNR=9.1
CEY **Cerknica** 85.13 321 *i*P P 15 40 42.0 -0.3
MFID **Camas Ranch** 85.17 42 ⇑P P 15 40 43.2 +0.8
baz=85
VOY **Vojsko** 85.24 321 *e*P P 15 40 41.8 -1.0
VOY *e* 15 41 03.4
VOY *e* 15 41 07.7
O07A **Toulon** 85.24 46 P P 15 40 43.6 +0.8
baz=85,SNR=11
TNS **Taunus Mts** 85.29 327 *e*P P 15 40 42.6 -0.5
comp=Z,30nm,1.2s,mb5.3
TNS **Taunus Mts** 85.29 327 *e*P P 15 40 42.6 -0.5
TNS pmax pmax
comp=Z,30nm,1.2s,mb5.3
ROBS **Robic** 85.31 322 *i*P P 15 40 42.1 -1.1
N08A **GE Springer Mi** 85.34 45 ⇓P P 15 40 44.5 +1.1
baz=85,SNR=22
FVI **Forni Avoltri** 85.48 322 P P 15 40 43.9 -0.1
FVI pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
FVI **Forni Avoltri** 85.48 322 P P 15 40 43.9 -0.1
comp=Z,8.8nm,0.6s,mb5.1
GVD **Gavdhos** 85.49 308 *e*P P 15 40 43.2 -0.9
comp=Z,40nm,0.7s,mb5.7
CMB **Columbia Colle** 85.49 48 *e*P P 15 40 43.6 -0.5
CMB pmax pmax
comp=Z,66nm,1.3s,mb5.6
CMB MLR MLR
comp=Z,1µm,19.0s,MS5.3
CMB **Columbia Colle** 85.49 48 *e*P P 15 40 43.6 -0.5
comp=Z,66nm,1.3s,mb5.6
CMB LR LR
comp=Z,1µm,19.0s,MS5.3
CMB **Columbia Colle** 85.49 48 ⇑P P 15 40 44.2 +0.2
baz=85,SNR=9.4
F15A **Butte** 85.55 39 ⇓P P 15 40 45.0 +0.6
baz=85,SNR=16
EGMT **Eagleton** 85.59 36 *e*P P 15 40 43.8 -0.8
comp=Z,43nm,1.1s,mb5.6
EGMT **Eagleton** 85.59 36 ⇑P P 15 40 44.9 +0.3
baz=85,SNR=8.6
HAST **UC Hastings Re** 85.64 50 ⇓P P 15 40 45.1 +0.3
baz=85
WTTA **Wattenberg** 85.65 323 ⇑*i*P P 15 40 46.2 +1.3
comp=Z,21nm,1.6s,mb5.1
WTTA **Wattenberg** 85.65 323 ⇑*i*P P 15 40 46.2 +1.3
WTTA pmax pmax
comp=Z,21nm,1.6s,mb5.1
J12A **Stokes Ranch,** 85.69 42 ⇑P P 15 40 46.0 +0.9
baz=85
DLMT **Dillon** 85.80 39 *e*P P 15 40 45.6 0.0
comp=Z,56nm,1.0s,mb5.8
R06C **Coleville** 85.82 48 ⇓P P 15 40 46.6 +0.9
baz=86,SNR=5.1
M10A **I.L. Ranch, Tu** 85.88 44 P P 15 40 47.2 +1.2
baz=86,SNR=13
HLID **Hailey** 85.89 41 *e*P P 15 40 46.3 +0.2
comp=Z,60nm,1.3s,mb5.7
HLID **Hailey** 85.89 41 ⇓P P 15 40 47.3 +1.2
baz=86,SNR=27
S05C **Merced** 85.92 49 ⇑P P 15 40 47.1 +0.9
baz=86
S06C **San Francisco** 85.92 48 ⇑P P 15 40 46.5 +0.3
baz=86
G15A **Dillon** 85.98 39 ⇑P P 15 40 47.3 +0.8
baz=86,SNR=27
MCMT **McKenzie Canyo** 85.99 40 P P 15 40 46.9 +0.3
MEM **Membach** 86.16 328 P P 15 40 47.0 -0.4
CTI **Castel Tesino** 86.43 322 P P 15 40 48.4 -0.3
CTI pmax pmax
comp=Z,44nm,1.4s,mb5.5
CTI **Castel Tesino** 86.43 322 P P 15 40 48.4 -0.3
comp=Z,44nm,1.4s,mb5.5
T06C **Milleton Lake** 86.52 49 ⇑P P 15 40 49.1 0.0
baz=86,SNR=6.1
Q08A **Gabbs** 86.59 47 ⇑P P 15 40 50.8 +1.3
baz=86
KCC **Kaiser Creek** 86.59 49 ⇓P P 15 40 50.1 +0.6
baz=86
NVAR **Mina Array Bea** 86.60 47 P P 15 40 50.0 +0.5
comp=Z,7.0nm,0.8s,mb5.0,baz=302,slow=4.7,SNR=30
O10A **Cortez Mining,** 86.63 45 ⇑P P 15 40 50.2 +0.5
baz=86
QLMT **Earthquake Lak** 86.77 39 *e*P P 15 40 51.3 +0.9
N11A **Elko Archery C** 86.78 44 ⇓P P 15 40 51.7 +1.2
baz=86
M12A **Wells** 86.91 43 ⇑P P 15 40 51.9 +0.8
baz=87,SNR=9.7
RGNG **Rignano Grg** 86.98 317 P P 15 40 51.0 -0.4
GIVF **Givet** 87.06 328 *e*P P 15 40 51.9 +0.1
CDF **Champ du Feu** 87.08 326 *e*P P 15 40 51.3 -0.6
comp=Z,15nm,0.9s,mb4.9
CDF **Champ du Feu** 87.08 326 *e*P P 15 40 51.3 -0.6
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
CDF **Champ du Feu** 87.08 326 *e*P P 15 40 51.3 -0.6
comp=Z,7.3nm,0.9s,mb4.9
GCMT **Greycliff** 87.10 37 *e*P P 15 40 50.4 -1.6
N12A **Clover Valley,** 87.18 44 ⇓P P 15 40 53.7 +1.3
baz=87,SNR=6.8
O11A **Cowboy Ranch,** 87.25 45 ⇓P P 15 40 53.7 +1.0
baz=87,SNR=6.9
YFT **Old Faithful** 87.34 39 *e*P P 15 40 55.5 +2.3
BAIF **Baives** 87.36 329 *e*P P 15 40 53.1 -0.2
comp=Z,37nm,1.3s,mb5.1
BAIF **Baives** 87.36 329 *e*P P 15 40 53.1 -0.2
BAIF pmax pmax
comp=Z,18nm,1.3s,mb5.1
BAIF **Baives** 87.36 329 *e*P P 15 40 53.1 -0.2
comp=Z,18nm,1.3s,mb5.2
R09A **Tonopah** 87.50 47 ⇓P P 15 40 55.0 +1.1
baz=87,SNR=8.9
TPH **Tonopah** 87.50 47 P P 15 40 54.7 +0.8
TPH pmax pmax
comp=Z,22nm,1.3s,mb5.2
TPH **Tonopah** 87.50 47 P P 15 40 54.7 +0.8
comp=Z,22nm,1.3s,mb5.2
LKWY **Lake** 87.50 39 *e*P P 15 40 56.0 +2.0
LKWY pmax pmax
comp=Z,24nm,1.0s,mb5.4
LKWY **Lake** 87.50 39 *e*P P 15 40 56.0 +2.0
comp=Z,24nm,1.0s,mb5.4
SNTG **Esanatoglia** 87.52 320 P P 15 40 54.6 +0.6
comp=Z,17nm,0.7s,mb5.4
IMW **Indian Meadow** 87.64 39 *e*P P 15 40 55.1 +0.5
comp=Z,30nm,1.0s,mb5.5
N13A **Wendover, West** 87.68 43 ⇓P P 15 40 56.8 +2.0
baz=87,SNR=6.2
NRCA **Norcia** 87.69 319 P P 15 40 55.4 +0.6
comp=Z,15nm,0.8s,mb5.3
HINF **Hinteralfeld** 87.69 326 *e*P P 15 40 54.5 -0.4
comp=Z,18nm,0.9s,mb5.0
HINF **Hinteralfeld** 87.69 326 *e*P P 15 40 54.5 -0.4
HINF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
HINF **Hinteralfeld** 87.69 326 *e*P P 15 40 54.5 -0.4
comp=Z,8.9nm,0.9s,mb5.0
DCID1 **Drake Creek** 87.70 40 *e*P P 15 40 57.1 +2.2
S09A **Goldfield** 87.71 47 ⇓P P 15 40 56.3 +1.4
baz=88
O12A **Currie** 87.72 44 ⇑P P 15 40 56.1 +1.1
baz=88,SNR=12
TIP **Timpagrande** 87.79 315 *e*P P 15 40 55.1 -0.2
HAU **Haudompre** 87.81 326 *e*P P 15 40 55.1 -0.3
HAU *e*MLR
comp=Z,9µm,17.0s
HAU **Haudompre** 87.81 326 *e*P P 15 40 55.1 -0.3
HAU LR LR
comp=Z,9µm,17.0s,MS6.2
VMG **Vicchio** 87.84 321 P P 15 40 57.1 +1.5
comp=Z,25nm,0.6s,mb5.5
SEI **Scarperia** 87.88 321 P P 15 40 57.3 +1.5
comp=Z,88nm,0.6s,mb6.2
MEZF **Maizieres J'vi** 88.08 327 *e*P P 15 40 56.1 -0.6
comp=Z,54nm,1.3s,mb5.3
MEZF **Maizieres J'vi** 88.08 327 *e*P P 15 40 56.1 -0.6
comp=Z,54nm,1.3s,mb5.6
P12A **McGill** 88.10 45 P P 15 40 58.1 +1.3
baz=88,SNR=9.7
LAO **LASA Array** 88.27 35 *e*P P 15 40 57.8 +0.2
comp=Z,62nm,1.2s,mb5.7
BGU **Big Grassy Mou** 88.33 43 *e*P P 15 40 58.0 +0.1
MPMC **Manual Prospec** 88.52 49 ⇑P P 15 41 00.9 +2.1
baz=88
FURC **Furnace Creek,** 88.69 48 ⇑P P 15 41 01.2 +1.7
baz=88
LRMC **Laurel Mountai** 88.73 49 ⇓P P 15 41 02.5 +2.7
baz=88
HWUT **Hardware Ranch** 88.76 42 *e*P P 15 40 59.4 -0.5
comp=Z,81nm,1.5s,mb5.8
SOI **Samo** 88.90 314 P P 15 41 01.0 +0.5
SOI pmax pmax
comp=Z,13nm,0.5s,mb5.5
SOI **Samo** 88.90 314 P P 15 41 01.0 +0.5
comp=Z,13nm,0.5s,mb5.5
CABF **La Chapelle** 88.91 325 *e*P P 15 40 59.7 -0.9
DUG **Dugway** 88.92 43 ⇑P P 15 41 01.6 +0.9
baz=89,SNR=7.7
NOQ **North Oquirrh** 89.04 43 P P 15 41 00.9 -0.4
comp=Z,117nm,1.5s,mb6.0
PDAR **Pinedale Array** 89.14 40 P P 15 41 01.7 0.0
comp=Z,5.9nm,0.8s,mb5.0,baz=326,slow=0.7,SNR=37
PDAR PP PP 15 44 42.1 +10
comp=Z,1.0nm,0.9s,baz=358,slow=2.3,SNR=3.3
PDAR PKKPbc PKKPbc 15 58 38.5 0.0
comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=6.4
LPL **La Plagne** 89.34 324 *e*P P 15 41 02.1 -0.6
comp=Z,14nm,0.8s,mb5.0
LPL **La Plagne** 89.34 324 *e*P P 15 41 02.1 -0.6
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LPL **La Plagne** 89.34 324 *e*P P 15 41 02.1 -0.6
comp=Z,7.3nm,0.8s,mb5.1
LPG **La Plagne** 89.35 324 *e*P P 15 41 02.2 -0.5
comp=Z,19nm,0.8s,mb5.2
LPG **La Plagne** 89.35 324 *e*P P 15 41 02.2 -0.5
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
LPG **La Plagne** 89.35 324 *e*P P 15 41 02.2 -0.5
comp=Z,9.5nm,0.8s,mb5.2

GSC Goldstone 89.42 49 ⇓P P 15 41 05.2 +2.2
baz=89
LOR Lormes 89.52 327 *eP* **P 15 41 02.5 -1.0**
comp=Z,23nm,1.1s,mb5.1
LOR *e*MLR
comp=Z,8μm,20.8s
LOR Lormes 89.52 327 *eP* **P 15 41 02.5 -1.0**
LOR pmax pmax
comp=Z,12nm,1.1s,mb5.1
LOR MLR MLR
comp=Z,8μm,20.8s,MS6.1
LOR Lormes 89.52 327 *eP* **P 15 41 02.5 -1.0**
comp=Z,12nm,1.1s,mb5.1
LOR LR LR
comp=Z,8μm,20.8s,MS6.1
SSF Saint Saulge 89.84 327 *eP* **P 15 41 04.0 -1.0**
comp=Z,5.1nm,0.7s,mb4.7
SSF Saint Saulge 89.84 327 *eP* **P 15 41 04.0 -1.0**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
SSF Saint Saulge 89.84 327 *eP* **P 15 41 04.0 -1.0**
comp=Z,2.5nm,0.7s,mb4.7
MBDF Montbardon 89.87 324 *eP* **P 15 41 04.7 -0.4**
comp=Z,18nm,1.0s,mb5.0
MBDF Montbardon 89.87 324 *eP* **P 15 41 04.7 -0.4**
MBDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
MBDF Montbardon 89.87 324 *eP* **P 15 41 04.7 -0.4**
comp=Z,9.2nm,1.0s,mb5.1
SMF Signal de Mont 89.98 326 *eP* **P 15 41 04.6 -1.0**
comp=Z,13nm,0.8s,mb5.0
SMF Signal de Mont 89.98 326 *eP* **P 15 41 04.6 -1.0**
SMF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
SMF Signal de Mont 89.98 326 *eP* **P 15 41 04.6 -1.0**
comp=Z,6.3nm,0.8s,mb5.0
ARUT Antelope Range 90.05 45 *eP* **P 15 41 05.5 -0.4**
HYF Humbligny 90.10 327 *eP* **P 15 41 05.9 -0.3**
AVF Avril sur Loir 90.11 327 *eP* **P 15 41 05.4 -0.8**
comp=Z,6.8nm,0.8s,mb4.7
AVF Avril sur Loir 90.11 327 *eP* **P 15 41 05.4 -0.8**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
AVF Avril sur Loir 90.11 327 *eP* **P 15 41 05.4 -0.8**
comp=Z,3.4nm,0.8s,mb4.7
SBF Sospel 90.12 323 *eP* **P 15 41 05.3 -1.0**
comp=Z,40nm,0.8s,mb5.5
SBF Sospel 90.12 323 *eP* **P 15 41 05.3 -1.0**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.5
SBF Sospel 90.12 323 *eP* **P 15 41 05.3 -1.0**
comp=Z,20nm,0.8s,mb5.5
PPT Papeete 90.16 110 *eS* S 15 52 03.0 +6.0
comp=Z,498nm,25.8s
PPT *e*SS SS 15 58 03.2 +6.7
comp=Z,859nm,25.5s
PPT *e*LR LR 16 09 28.0
comp=Z,2μm,25.5s,baz=320
PPT Papeete 90.16 110 LR LR 16 12 12.8
comp=Z,643nm,20.7s,MS5.0,baz=265,slow=29
PGF Pioggiola 90.17 321 *eP* **P 15 41 05.7 -0.8**
comp=Z,42nm,1.0s,mb5.4
PGF Pioggiola 90.17 321 *eP* **P 15 41 05.7 -0.8**
PGF pmax pmax
comp=Z,21nm,1.0s,mb5.4
PGF Pioggiola 90.17 321 *eP* **P 15 41 05.7 -0.8**
comp=Z,21nm,1.0s,mb5.4
ORIF Oris-en-Rattie 90.19 324 *eP* **P 15 41 06.3 -0.3**
comp=Z,12nm,0.9s,mb4.9
ORIF *e*MLR
comp=Z,9μm,18.2s
ORIF Oris-en-Rattie 90.19 324 *eP* **P 15 41 06.3 -0.3**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
ORIF Oris-en-Rattie 90.19 324 *eP* **P 15 41 06.3 -0.3**
comp=Z,5.9nm,0.9s,mb4.9
ULM Lac du Bonnet 90.35 28 P **P 15 41 07.0 -0.3**
comp=Z,17nm,0.8s,mb5.5,baz=329,slow=5.7,SNR=31
ULM LR LR 16 22 47.3
comp=Z,1μm,21.9s,MS5.3,baz=84,slow=36
ULM Lac du Bonnet 90.35 28 *eP* **P 15 41 06.1 -1.3**
comp=Z,66nm,1.0s,mb5.9
MSU Marysvale 90.37 44 *eP* **P 15 41 08.5 +1.1**
LDF La Druitiere 90.37 330 *eP* **P 15 41 06.8 -0.6**
comp=Z,17nm,0.7s,mb5.2
LDF La Druitiere 90.37 330 *eP* **P 15 41 06.8 -0.6**
LDF pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
LDF La Druitiere 90.37 330 *eP* **P 15 41 06.8 -0.6**
comp=Z,8.4nm,0.7s,mb5.2
FLN La Foliniere 90.40 330 *eP* **P 15 41 07.3 -0.3**
comp=Z,91nm,1.4s,mb5.6
FLN *e*MLR
comp=Z,15μm,19.0s
FLN La Foliniere 90.40 330 *eP* **P 15 41 07.3 -0.3**
FLN pmax pmax
comp=Z,45nm,1.4s,mb5.6
FLN MLR MLR
comp=Z,15μm,19.0s,MS6.5
FLN La Foliniere 90.40 330 *eP* **P 15 41 07.3 -0.3**
comp=Z,45nm,1.4s,mb5.6
FLN LR LR
comp=Z,15μm,19.0s,MS6.5
BGF Bois d'Agland 90.52 327 *eP* **P 15 41 07.1 -1.0**
FRF La Foret Royal 90.74 323 *eP* **P 15 41 08.8 -0.4**
comp=Z,18nm,1.0s,mb5.1
FRF La Foret Royal 90.74 323 *eP* **P 15 41 08.8 -0.4**
FRF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
FRF La Foret Royal 90.74 323 *eP* **P 15 41 08.8 -0.4**
comp=Z,9.0nm,1.0s,mb5.0
GRR Gorron 90.84 330 *eP* **P 15 41 08.7 -0.9**
VIVF Saint-Julien-l 90.85 325 *eP* **P 15 41 08.8 -0.9**
LMR La Mourre 90.97 323 *eP* **P 15 41 10.2 0.0**
comp=Z,115nm,1.7s,mb5.6
LMR La Mourre 90.97 323 *eP* **P 15 41 10.2 0.0**
LMR pmax pmax
comp=Z,57nm,1.7s,mb5.6
LMR La Mourre 90.97 323 *eP* **P 15 41 10.2 0.0**
comp=Z,57nm,1.7s,mb5.6
SRU San Rafael 90.97 43 *eP* **P 15 41 10.6 +0.4**
SRU pmax pmax
comp=Z,15nm,0.7s,mb5.4
SRU San Rafael 90.97 43 P **P 15 41 11.0 +0.8**
SRU pmax pmax
comp=Z,15nm,0.7s,mb5.4
SRU San Rafael 90.97 43 *eP* **P 15 41 10.6 +0.4**
comp=Z,15nm,0.7s,mb5.4
SMRF Simiane la Rot 91.01 324 *eP* **P 15 41 09.7 -0.7**
TCF Toulx Ste Croi 91.02 327 *eP* **P 15 41 09.9 -0.5**
W13A Hualapai Mount 91.44 48 ⇓P **P 15 41 14.1 +1.7**
baz=91
SGMF Saint Gilles 91.68 331 *eP* **P 15 41 12.3 -1.2**
X13A Yucca 91.79 48 ⇓P **P 15 41 14.3 +0.3**
baz=92
MFF Saint Martin d 91.88 328 *eP* **P 15 41 13.8 -0.6**
comp=Z,18nm,0.7s,mb5.2
MFF Saint Martin d 91.88 328 *eP* **P 15 41 13.8 -0.6**
MFF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
MFF Saint Martin d 91.88 328 *eP* **P 15 41 13.8 -0.6**
comp=Z,8.9nm,0.7s,mb5.2
W14A Seligman 91.88 47 ⇓P **P 15 41 16.3 +1.9**
baz=92
ROSF Rostrenen 91.91 331 *eP* **P 15 41 14.0 -0.6**
comp=Z,72nm,1.3s,mb5.5
ROSF Rostrenen 91.91 331 *eP* **P 15 41 14.0 -0.6**
ROSF pmax pmax
comp=Z,36nm,1.3s,mb5.5
ROSF Rostrenen 91.91 331 *eP* **P 15 41 14.0 -0.6**
comp=Z,36nm,1.3s,mb5.5
RJF Les Rejaudoux 92.07 327 *eP* **P 15 41 14.7 -0.6**
RJF *e*MLR
comp=Z,7μm,18.2s
RJF Les Rejaudoux 92.07 327 *eP* **P 15 41 14.7 -0.6**
RJF LR LR
comp=Z,7μm,18.3s,MS6.1
CAF Calviac 92.08 326 *eP* **P 15 41 15.1 -0.3**
QUIF Quistinic 92.20 331 *eP* **P 15 41 15.5 -0.4**
PV10 Paradox Valley 92.33 43 *eP* **P 15 41 17.1 +0.6**
X14A Yava 92.47 48 ⇑P **P 15 41 18.7 +1.5**
baz=92,SNR=7.0
LFF La Frestale 92.71 327 *eP* **P 15 41 18.7 +0.4**
Y14A Wickenburg 92.73 48 ⇓P **P 15 41 19.2 +0.9**
baz=92,SNR=5.4
PV01 Paradox Valley 92.77 43 *eP* **P 15 41 19.5 +0.9**
WUAZ Wupatki 92.77 46 *eP* **P 15 41 19.0 +0.4**
comp=Z,16nm,1.2s,mb5.3
X15A Humboldt 92.88 47 ⇑P **P 15 41 20.6 +1.5**
baz=93,SNR=10
MTLF Montolieu 93.16 325 *eP* **P 15 41 19.6 -0.8**
TBI Tubuai 93.22 115 *eS* S 15 52 27.0 +2.4
comp=Z,1μm,26.5s
TBI *e*SS SS 15 58 49.7 +9.2
comp=Z,767nm,26.0s
TBI *e*LR LR 16 11 06.8
comp=Z,2μm,33.8s,baz=314
KMBO Kilima Mbogo 93.40 271 P **P 15 41 22.1 +0.6**
comp=Z,3.0nm,0.8s,mb4.8,baz=53,slow=11,SNR=8.1
KMBO LR LR 16 25 11.6
comp=Z,1μm,21.8s,MS5.4,baz=88,slow=37
KMBO Kilima Mbogo 93.40 271 P **P 15 41 22.2 +0.8**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 93.40 271 *eP* **P 15 41 21.5 +0.1**
comp=Z,3.7nm,0.9s,mb4.8
KMBO LR LR
comp=Z,1μm,21.0s,MS5.4
MVCO Mesa Verde 93.42 43 ⇑P **P 15 41 24.5 +2.9**
baz=93
TAOE Nuku Hiva Isla 93.76 98 *eS*P SP 15 53 48.2 +5.3
comp=Z,2μm,33.8s
TAOE *e*SS SS 15 58 55.9 +7.8
comp=Z,2μm,24.1s
TAOE *e*LR LR 16 11 37.9
comp=Z,6μm,22.4s,baz=299
EYMN Ely 93.92 27 *eP* **P 15 41 22.7 -1.2**
comp=Z,31nm,0.9s,mb5.7
EPF Esparros 94.32 326 *eP* **P 15 41 24.8 -0.9**
comp=Z,65nm,1.5s,mb5.5
EPF Esparros 94.32 326 *eP* **P 15 41 24.8 -0.9**
EPF pmax pmax
comp=Z,33nm,1.5s,mb5.5
EPF Esparros 94.32 326 *eP* **P 15 41 24.8 -0.9**
comp=Z,33nm,1.5s,mb5.5
SCHQ Schefferville 94.42 10 P **P 15 41 25.2 -0.9**
comp=Z,7.0nm,0.8s,mb5.1,baz=16,slow=8.2,SNR=4.7
SCHQ LR LR 16 27 00.2
comp=Z,2μm,18.3s,MS5.7,baz=341,slow=38
KEST Kesra 94.52 316 P **P 15 41 26.8 +0.2**
comp=Z,1.1nm,0.8s,mb4.4,baz=2.6,slow=6.9,SNR=4.1
KEST LR LR 16 33 01.0
comp=Z,2μm,18.3s,MS5.5,baz=157,slow=41
ETSF Etsaut 94.86 326 *eP* **P 15 41 27.5 -0.6**
ANMO Albuquerque 96.16 44⇑ *eP* **P 15 41 35.1 +1.0**
DRV Dumont d'Urvil 96.41 176 P **P 15 41 31.0 -4.2**
ESDC Sonseca Array 98.97 326 P **P 15 41 45.1 -1.7**
comp=Z,0.4nm,0.5s,baz=33,slow=4.3,SNR=3.2
ESDC PP PP 15 45 36.0 -13
comp=Z,0.6nm,0.6s,baz=16,slow=7.7,SNR=4.7
ESDC LR LR 16 34 37.3
comp=Z,4μm,18.4s,MS6.0,baz=45,slow=40
TXAR Lajitas Array 101.73 46 P Pdif 15 41 59.5 +0.5
comp=Z,1.3nm,0.8s,baz=298,slow=3.1,SNR=16
TXAR PP PP 15 46 16.0 +6.1
comp=Z,0.8nm,1.0s,baz=318,slow=5.4,SNR=2.7
TXAR PKKPbc PKKPbc 15 58 04.7 -0.2
comp=Z,0.5nm,0.8s,baz=142,slow=4.7,SNR=5.7
TXAR Lajitas Array 101.73 46 P Pdif 15 41 59.6 +0.6
TXAR 15 46 16.0
RKT Rikitea 104.82 108 *e*SKSac SKSac 15 52 54.1 +4.7
comp=Z,428nm,28.7s
RKT *e*SP SP 15 55 43.9 +2.0
comp=Z,1μm,33.2s
RKT *e*SS SS 16 01 36.4 +14
comp=Z,1μm,29.5s
RKT *e*LR LR 16 16 21.2
comp=Z,1μm,27.8s,baz=305
TORD Torodi Ar. Bea 114.79 303 PKP PKiKP 15 46 46.2 -0.4
comp=Z,1.8nm,0.8s,baz=32,slow=2.6,SNR=8.5
TORD PP PP 15 47 43.0 -2.0
comp=Z,4.8nm,0.9s,baz=37,slow=7.2,SNR=9.3
TORD PKKPab PKKPab 15 57 31.9 +2.1
comp=Z,1.8nm,1.1s,baz=290,slow=3.2,SNR=4.1
TORD Torodi Ar. Bea 114.79 303 PKP PKiKP 15 46 46.2 -0.4
TORD PP PP 15 47 43.0 -2.0
TORD PKKPab PKKPab 15 57 31.9 +2.1
BOSA Boshof 115.89 251 PKP PKPdf 15 46 48.8 0.0
comp=Z,5.0nm,0.7s,baz=53,slow=2.2,SNR=8.7
LIC Lamto 124.32 303 *e*PKIKP PKPdf 15 47 03.1 -1.8
comp=Z,32nm,0.9s
LIC *e*MLR
comp=Z,3μm,21.0s
LIC Lamto 124.32 303 *e*PKPdf PKPdf 15 47 03.1 -1.8
LIC LR LR
comp=Z,1μm,21.0s,MS5.6
SNAA Sanae 131.12 198 ⇓*i*PKIKP PKPdf 15 47 17.5 -0.4
ROSC El Rosal 138.12 39 PKP PKPdf 15 47 33.4 +2.5
comp=Z,4.0nm,0.3s,baz=88,slow=19,SNR=5.4
NNA Nana 149.03 61 *e*PKPbc PKPbc 15 47 54.3 +0.1
LPAZ La Paz 158.25 56 PKP PKPdf 15 48 05.0 +1.9
comp=Z,2.2nm,1.0s,baz=3.1,slow=3.9,SNR=5.9
LPAZ PKPab PKPab 15 48 37.2 -0.2
comp=Z,11nm,1.1s,baz=251,slow=5.2,SNR=7.0
LPAZ La Paz 158.25 56 PKP2 PKPab 15 48 37.2 -0.1
LPAZ pmax pmax
comp=Z,11nm,1.1s
LPAZ La Paz 158.25 56 *e*PKPdf PKPdf 15 48 05.8 +2.6
CFAA Coronel Fontan 163.76 101 PKP PKPdf 15 48 09.1 0.0
comp=Z,0.3nm,0.9s,baz=260,slow=3.6,SNR=4.7
CFAA PKPab PKPab 15 49 01.4 0.0
comp=Z,0.5nm,1.0s,baz=305,slow=5.4,SNR=4.6

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*IDC **10** 15:28:33.0± 4.3, 359S× 101 82E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, Error ellipse: s-maj=172.4km s-min=30.2km az=60.0*
*ISCJB **10** 15:28:36.2± 1.6, 38S± 0.1× 1017E± 02, h35km, mb4.0/4, Error ellipse: s-maj=33.6km s-min=15.5km az=136.4*
*NEIC **10** 15:28:37.0± 1.3, 389S× 101 58E, h30km, Error ellipse: s-maj=30.3km s-min=14.4km az=68.0*
NEIC Felt [III] at Bengkulu and [II] at Kapahiang.
ISC 10 15:28:38.3± 1.6, 39S± 01× 1016E± 02, h35km, n8, σ0§79/7, mb4.0/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.13**	**354**	*e*P	**Pn**	**15 30 48.5**	**+1.0**
KSM	**Kuching**	**10.15**	**59**	P	**Pn**	**15 31 01.6**	**0.0**
WRA	**Warramunga Arr**	**35.66**	**119**	P	**P**	**15 35 32.6**	**-0.4**
0.7nm,0.3s,mb4.0,baz=308,slow=8.7,SNR=19							
ASAR	**Alice Springs**	**36.86**	**125**	P	**P**	**15 35 43.6**	**+0.4**
0.8nm,0.3s,mb4.0,baz=299,slow=7.8,SNR=17							
STKA	**Stephens Creek**	**46.71**	**131**	P	**P**	**15 37 04.3**	**+0.5**
1.2nm,0.7s,mb3.9,baz=314,slow=12,SNR=4.3							
STKA	**Stephens Creek**	**46.71**	**131**	P	**P**	**15 37 04.3**	**+0.5**
SONM	**Songino Array**	**51.63**	**4**	P	**P**	**15 37 39.9**	**-1.5**
1.3nm,0.7s,mb4.0,baz=185,slow=8.6,SNR=1.8							
TXAR	**Lajitas Array**	**145.10**	**41**	PKP	PKPdf	15 48 11.2	-0.7
0.3nm,0.5s,baz=238,slow=1.7,SNR=7.5							

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*CSEM **10** 15:54:00.8± 0.2, 2861N× 5176E, h2km± 1km, mb4.3/14, Error ellipse: s-maj=2.8km s-min=1.5km az=160.0*
*IDC **10** 15:54:01.7± 1.2, 2861N× 5199E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.9/25, mbtmp3.9/17, ML3.9/2, Error ellipse: s-maj=29.5km s-min=17.2km az=178.0*
*THR **10** 15:54:02.8± 0.3, 2853N× 5164E, h42km± 6km, ML3.9*
*ISCJB **10** 15:54:02.3± 0.9, 2867N± 004× 5168E± 003, h8km± 7km, mb4.1/30, Error ellipse: s-maj=6.8km s-min=4.0km az=142.4*
*TEH **10** 15:54:02.9, 2843N× 5168E, h19km, Mn3.8*
*NEIC **10** 15:54:03.3, 2874N× 5166E, h15km, mb4.3/14, ML3.8(THR), After THR.*
*MOS **10** 15:54:04.9± 0.6, 2869N× 5183E, h29km, mb4.6/12, Error ellipse: s-maj=14.4km s-min=6.8km az=125.8*
*KISR **10** 15:54:05.8± 1.4, 2855N× 5181E, h34km, ML3.6*
ISC 10 15:54:04.2± 1.0, 2866N± 004× 5171E± 003, h10km± 7km, n107, σ1§06/124, mb4.1/30, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**0.96**	**66**	*e*Pg	**Pg**	**15 54 18.3**	**-4.4**
IKAZ	**Kazeroon**	**1.12**	**6**	*e*Pn	**Pb**	**15 54 26.4**	**+0.8**
IKAZ				*e*Sn	**Sn**	**15 54 45.2**	**+3.8**
GHIR	**Ghir-Karzin**	**1.19**	**108**	*e*Pg	**Pg**	**15 54 25.4**	**-1.6**
GHIR				*e*Sg	**Sg**	**15 54 41.9**	**-0.5**
GHIR				AML	AML	15 54 49.5	
comp=N,2μm,0.5s							
GHIR				AML	AML	15 54 51.0	
comp=E,3μm,0.6s							
GHIR	**Ghir-Karzin**	**1.19**	**108**	*e*Pg	**Pg**	**15 54 26.0**	**-1.0**
GHIR				*e*Sg	**Sg**	**15 54 43.0**	**+0.6**
GHIR	**Ghir-Karzin**	**1.19**	**108**	*e*Pg	**Pg**	**15 54 25.4**	**-1.6**
SNR=104							
GHIR				*e*Sg	**Sg**	**15 54 41.9**	**-0.5**
comp=E,3μm,0.6s,SNR=104							
ISRV	**Sarvestan**	**1.43**	**59**	*e*Pn	**Pn**	**15 54 30.5**	**+0.4**
ISRV				*e*Sn	**Sb**	**15 54 50.2**	**+1.2**
IPAR	**Pars**	**1.66**	**45**	*e*Pn	**Pn**	**15 54 33.0**	**-0.3**
IPAR				*e*Sn	**Sb**	**15 54 56.8**	**+1.0**
QRN	**Al-Qurain**	**3.33**	**272**	*e*P	**Pb**	**15 54 59.7**	**-3.5**
QRN				*e*S	**Sb**	**15 55 41.4**	**-2.4**
QRN				AML	AML	15 55 50.1	
comp=Z,66nm,0.3s							
KBD	**Kabd**	**3.56**	**279**	*e*P	**Pb**	**15 55 04.6**	**-2.5**
KBD				*e*S	**Sb**	**15 55 46.5**	**-3.8**
KBD				AML	AML	15 55 48.9	
comp=Z,339nm,0.3s							
IGAR	**Garneh**	**3.60**	**7**	*e*Pn	**Pn**	**15 55 02.6**	**+2.7**
RDF	**Al-Radifah**	**3.66**	**275**	*e*P	**Pn**	**15 55 04.6**	**+3.8**
RDF				*e*S	**Sn**	**15 55 49.6**	**+5.7**
RDF				AML	AML	15 56 02.3	
comp=Z,73nm,0.4s							
ISAD	**Sadrabad**	**3.67**	**27**	*e*Pn	**Pn**	**15 55 03.4**	**+2.5**
ISAD				*e*Sn	**Sn**	**15 55 44.5**	**+0.3**
IMEH	**Mehriz**	**3.71**	**42**	*e*Pn	**Pn**	**15 55 01.6**	**+0.1**
IPIR	**Pirpir**	**4.07**	**350**	*e*Pn	**Pn**	**15 55 07.0**	**+0.5**
IPIR				*e*Sn	**Sn**	**15 55 54.4**	**+0.2**
BNDS	**Bandar-Abbas**	**4.14**	**107**	*e*Pn	**Pn**	**15 55 09.0**	**+1.6**
BNDS				*e*Sg	**Sg**	**15 56 13.0**	**-4.1**
NASN	**Na'in**	**4.24**	**13**	*e*Pn	**Pn**	**15 55 08.5**	**-0.2**
NASN	**Na'in**	**4.24**	**13**	*e*Pn	**Pn**	**15 55 08.0**	**-0.7**
IZEF	**Zefreh**	**4.26**	**7**	*e*Pn	**Pn**	**15 55 09.7**	**+0.7**
IZEF				*e*Sn	**Sn**	**15 55 59.3**	**+0.6**
ICHK	**Chekchek**	**4.27**	**32**	*e*Pn	**Pn**	**15 55 08.9**	**-0.2**
ICHK				*e*Sn	**Sn**	**15 55 58.7**	**-0.3**
IBAF	**Bafgh**	**4.44**	**48**	*e*Pn	**Pn**	**15 55 11.4**	**-0.1**
IBAF				*e*Sn	**Sn**	**15 56 02.0**	**-1.2**
KRBR	**Kerman**	**4.61**	**72**	*e*Pn	**Pn**	**15 55 13.1**	**-0.7**
KRBR				AML	AML	15 56 34.2	
comp=E,68nm,0.5s							
KRBR	**Kerman**	**4.61**	**72**	*e*Pn	**Pn**	**15 55 15.0**	**+1.2**
IKLH	**Kalahroud**	**4.65**	**359**	*e*Pn	**Pn**	**15 55 14.9**	**+0.6**
IKLH				*e*Sn	**Sn**	**15 56 08.3**	**0.0**
ISFB	**Sefidab**	**5.70**	**4**	*e*Pn	**Pn**	**15 55 28.8**	**0.0**
IRAZ	**Razeghan**	**6.89**	**348**	*e*Pn	**Pn**	**15 55 45.3**	**+0.1**
IRAZ				*e*Sn	**Sn**	**15 57 01.0**	**-2.7**
IDMV	**Damavand**	**6.90**	**2**	*e*Pn	**Pn**	**15 55 45.7**	**+0.3**
IDMV				*e*Sn	**Sn**	**15 57 01.8**	**-2.1**
DAMV	**Damavand**	**6.96**	**2**	*e*Pn	**Pn**	**15 55 46.0**	**0.0**
IFIR	**Firoozkooh**	**7.02**	**7**	*e*Pn	**Pn**	**15 55 45.3**	**-1.6**
IFIR				*e*Sn	**Sn**	**15 57 04.4**	**-2.4**
IGHG	**Ghaleghazi**	**7.16**	**323**	*e*Pn	**Pn**	**15 55 48.0**	**-0.8**
BHD	**Baghdad**	**7.79**	**308**	*ex*	x	15 55 53.0	
BHD				*ex*	x	15 57 22.3	
BHD				*ex*	x	15 57 48.7	
BHD				*ex*	x	15 58 13.3	
MMAI	**Mount Meron Ar**	**14.66**	**291**	Pn	**Pn**	**15 57 35.2**	**+3.6**
comp=E,0.5nm,0.3s,baz=105,slow=20,SNR=2.9							
ZEI	**Tsey**	**15.43**	**338**	*e*P	**Pn**	**15 57 41.6**	**-0.2**
BR131	**Keskin Array S**	**18.55**	**311**	*e*P	**Pn**	**15 58 22.8**	**+1.8**
comp=E,1.1nm,0.4s							
BR131	**Keskin Array S**	**18.55**	**311**	*e*P	**Pn**	**15 58 22.8**	**+1.8**
comp=E,1.0nm,0.4s							
BRTR	**Keskin Array B**	**18.55**	**311**	P	**Pn**	**15 58 21.6**	**+0.6**
comp=E,0.4nm,0.3s,baz=134,slow=13,SNR=8.7							
ORR	**Orenburg**	**23.05**	**5**	*e*P	**P**	**15 59 11.7**	**+2.2**
ORR				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**23.09**	**47**	*e*P	**P**	**15 59 09.2**	**-0.8**
comp=Z,2.3nm,0.8s,mb3.7							
AAK	**Ala-Archa**	**23.09**	**47**	*e*P	**P**	**15 59 09.2**	**-0.8**
IDI	**Anoyia**	**23.65**	**293**	P	**P**	**15 59 18.1**	**+2.4**
comp=Z,3.6nm,0.6s,mb4.0							
AKASG	**Malin Array Be**	**27.80**	**329**	P	**P**	**15 59 53.3**	**0.0**
comp=Z,0.6nm,0.5s,mb3.5,baz=131,slow=7.4,SNR=6.9							
KIEV	**Kiev**	**27.80**	**329**	*e*P	**P**	**15 59 53.6**	**+0.3**
KIEV				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.9							
KIEV	**Kiev**	**27.80**	**329**	*e*P	**P**	**15 59 53.6**	**+0.3**
comp=Z,2.0nm,0.6s,mb3.9							
BVAR	**Borovoye Array**	**27.98**	**24**	P	**P**	**15 59 54.3**	**-0.6**
comp=Z,1.3nm,0.8s,mb3.6,baz=232,slow=9.3,SNR=8.1							
BVAR				PcP	PcP	16 03 08.6	-1.3
comp=Z,0.6nm,0.6s,baz=107,slow=2.3,SNR=4.3							
BVAR	**Borovoye Array**	**27.98**	**24**	PcP	PcP	16 03 08.6	-1.3
MKAR	**Makanchi Array**	**29.95**	**44**	P	**P**	**16 00 10.2**	**-2.2**
comp=Z,1.0nm,0.8s,mb3.6,baz=236,slow=8.4,SNR=7.3							
ZAL	**Zalesovo**	**34.90**	**34**	P	**P**	**16 00 52.9**	**-2.9**
comp=Z,0.9nm,0.4s,mb4.0,baz=172,slow=10,SNR=3.1							
GERES	**GERESS Array B**	**35.35**	**315**	P	**P**	**16 01 00.5**	**+0.9**
comp=Z,0.5nm,0.5s,mb3.7,baz=108,slow=7.6,SNR=5.5							
JOF	**Joensuu**	**36.75**	**345**	*ep*	**P**	**16 01 11.0**	**-0.7**
FIA1	**FINESS Array S**	**36.95**	**340**	*eP*	**P**	**16 01 13.6**	**+0.2**
FIA1	**FINESS Array S**	**36.95**	**340**	*eP*	**P**	**16 01 13.6**	**+0.3**
FINES	**FINESS Array B**	**36.95**	**340**	P	**P**	**16 01 13.7**	**+0.3**
comp=Z,1.8nm,0.6s,mb4.1,baz=144,slow=9.5,SNR=14							
KAF	**Kangasniemi**	**37.41**	**341**	*ep*	**P**	**16 01 18.0**	**+0.8**
FRF	**La Foret Royal**	**38.84**	**305**	*eP*	**P**	**16 01 29.5**	**+0.2**
comp=Z,73nm,1.5s,mb4.9							
FRF	**La Foret Royal**	**38.84**	**305**	*eP*	**P**	**16 01 29.5**	**+0.2**
FRF				pmax	pmax		
comp=Z,36nm,1.5s,mb4.9							
FRF	**La Foret Royal**	**38.84**	**305**	*eP*	**P**	**16 01 29.5**	**+0.2**
comp=Z,36nm,1.5s,mb4.9							
MBDF	**Montbardon**	**38.91**	**307**	*eP*	**P**	**16 01 30.3**	**+0.4**
comp=Z,12nm,0.9s,mb4.3							
MBDF	**Montbardon**	**38.91**	**307**	*eP*	**P**	**16 01 30.3**	**+0.4**
MBDF				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.3							
MBDF	**Montbardon**	**38.91**	**307**	*eP*	**P**	**16 01 30.3**	**+0.4**
comp=Z,6.0nm,0.9s,mb4.3							
LPG	**La Plagne**	**39.05**	**308**	*eP*	**P**	**16 01 31.7**	**+0.6**
comp=Z,12nm,1.0s,mb4.3							
LPG	**La Plagne**	**39.05**	**308**	*eP*	**P**	**16 01 31.7**	**+0.6**
LPG				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.3							
LPG	**La Plagne**	**39.05**	**308**	*eP*	**P**	**16 01 31.7**	**+0.6**
comp=Z,5.9nm,1.0s,mb4.3							
LPL	**La Plagne**	**39.07**	**308**	*eP*	**P**	**16 01 31.7**	**+0.5**
comp=Z,8.2nm,0.8s,mb4.2							
LPL	**La Plagne**	**39.07**	**308**	*eP*	**P**	**16 01 31.7**	**+0.5**
LPL				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
LPL	**La Plagne**	**39.07**	**308**	*eP*	**P**	**16 01 31.7**	**+0.5**
comp=Z,4.1nm,0.8s,mb4.2							
ORIF	**Oris-en-Rattie**	**39.57**	**307**	*eP*	**P**	**16 01 34.6**	**-0.8**
comp=Z,7.2nm,0.8s,mb4.1							
ORIF	**Oris-en-Rattie**	**39.57**	**307**	*eP*	**P**	**16 01 34.6**	**-0.8**
ORIF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
ORIF	**Oris-en-Rattie**	**39.57**	**307**	*eP*	**P**	**16 01 34.6**	**-0.8**
comp=Z,3.6nm,0.8s,mb4.1							
CABF	**La Chapelle**	**39.70**	**310**	*eP*	**P**	**16 01 36.5**	**0.0**
comp=Z,23nm,1.1s,mb4.5							
CABF	**La Chapelle**	**39.70**	**310**	*eP*	**P**	**16 01 36.5**	**0.0**
CABF				pmax	pmax		
comp=Z,12nm,1.1s,mb4.5							
CABF	**La Chapelle**	**39.70**	**310**	*eP*	**P**	**16 01 36.5**	**0.0**
comp=Z,12nm,1.1s,mb4.5							
HAU	**Haudompre**	**39.81**	**312**	*eP*	**P**	**16 01 37.8**	**+0.4**
SMF	**Signal de Mont**	**41.23**	**309**	*eP*	**P**	**16 01 49.4**	**+0.2**
comp=Z,25nm,1.0s,mb4.5							
SMF	**Signal de Mont**	**41.23**	**309**	*eP*	**P**	**16 01 49.4**	**+0.2**
SMF				pmax	pmax		
comp=Z,12nm,1.0s,mb4.5							
SMF	**Signal de Mont**	**41.23**	**309**	*eP*	**P**	**16 01 49.4**	**+0.2**
comp=Z,12nm,1.0s,mb4.5							
LOR	**Lormes**	**41.32**	**310**	*eP*

comp=Z,0.6nm,0.4s,mb3.6,baz=120,slow=8.6
NB2 NORSAR Subarra 42.09 332 P P 16 01 56.0 -0.2
comp=Z,0.6nm,0.4s,mb3.6,baz=120,slow=8.1,SNR=3.5
NOA NORSAR Array B 42.09 332 P P 16 01 56.0 -0.2
comp=Z,0.8nm,0.6s,mb3.5,baz=120,slow=8.0,SNR=3.4
CAF Calviac 42.26 306 *eP* **P 16 01 58.0 +0.4**
RJF Les Rejaudoux 42.68 307 *eP* **P 16 02 01.3 +0.3**
comp=Z,26nm,1.3s,mb4.5
RJF Les Rejaudoux 42.68 307 *eP* **P 16 02 01.3 +0.3**
RJF pmax pmax
comp=Z,13nm,1.3s,mb4.5
RJF Les Rejaudoux 42.68 307 *eP* **P 16 02 01.3 +0.3**
comp=Z,13nm,1.3s,mb4.5
LFF La Frestale 43.20 306 *eP* **P 16 02 05.2 0.0**
comp=Z,9.9nm,0.7s,mb4.3
LFF La Frestale 43.20 306 *eP* **P 16 02 05.2 0.0**
LFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
LFF La Frestale 43.20 306 *eP* **P 16 02 05.2 0.0**
comp=Z,4.9nm,0.7s,mb4.3
EPF Esparros 43.39 304 *eP* **P 16 02 07.0 +0.3**
ARCES ARCESS Array B 43.62 347 P P 16 02 08.7 +0.1
comp=Z,1.7nm,0.8s,mb3.8,baz=130,slow=7.0,SNR=4.5
MFF Saint Martin d 43.96 309 *eP* **P 16 02 11.5 +0.2**
LDF La Druitiere 44.16 311 *eP* **P 16 02 13.0 0.0**
FLN La Foliniere 44.42 312 *eP* **P 16 02 15.2 +0.2**
SJPF Ste Jean 44.53 304 *eP* **P 16 02 16.2 +0.3**
GRR Gorron 44.62 311 *eP* **P 16 02 16.8 +0.2**
SONM Songino Array 45.99 50 P **P 16 02 26.9 -0.6**
comp=Z,0.3nm,0.5s,mb3.5,baz=251,slow=9.6,SNR=4.6
TORD Torodi Ar. Bea 48.85 262 P **P 16 02 51.3 +1.5**
comp=Z,1.8nm,0.7s,mb4.2,baz=58,slow=7.8,SNR=14
LIC Lamto 57.95 259 *eP* **P 16 03 56.8 +0.2**
comp=Z,4.7nm,0.4s,mb4.5
LIC Lamto 57.95 259 *eP* **P 16 03 56.8 +0.2**
comp=Z,2.3nm,0.4s,mb4.5
KSRS Korea Array 62.90 60 P **P 16 04 27.6 -2.8**
comp=Z,0.6nm,0.5s,mb4.0,baz=286,slow=6.3,SNR=4.3
SCHQ Schefferville 81.59 329 P **P 16 06 21.9 -0.3**
comp=Z,2.9nm,0.7s,mb4.3,baz=56,slow=11,SNR=4.8
YKA Yellowknife Ar 88.50 354 P **P 16 06 55.9 -0.9**
comp=Z,0.6nm,0.7s,mb4.0,baz=12,slow=5.6,SNR=9.5
YKA Yellowknife Ar 88.50 354 P **P 16 06 55.9 -0.9**
ASAR Alice Springs 94.65 114 P **P 16 07 23.8 -1.5**
comp=Z,0.5nm,0.8s,mb4.0,baz=305,slow=4.6,SNR=5.0

GUC 10 15:59:10.3±0.9, 2762S×7072W, h63km±23km, MD3.7, ML3.7, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.55**	**350**	⇑*i*P	Pn	15 59 23.2	+0.2
CDCH				*i* S	Sn	15 59 32.8	+0.5
CDCH				AML	AML	15 59 33.3	
	comp=E,3μm,0.3s						
VACH	**Vallenar**	**0.96**	**182**	⇑*i*P	Pn	15 59 28.8	+0.9
VACH				*i* S	Sn	15 59 41.4	+0.5
VACH				AML	AML	15 59 42.4	
	comp=N,9μm,0.2s						
TLL	**Tololo Astrono**	**2.54**	**182**	⇓*i*P	Pn	15 59 50.2	+1.0
TLL				AML	AML	16 00 32.9	
	comp=N,444nm,0.6s						
CPN1	**Cerro Paranal**	**2.99**	**6**	*i* P	Pn	15 59 56.8	+1.5
CPN1				*i* S	Sn	16 00 31.8	+1.9
CPN1				AML	AML	16 00 51.8	
	comp=E,190nm,0.2s						
CEN1	**Los Morros**	**4.24**	**7**	*eP*	Pn	16 00 09.7	-2.6

*IDC **10** 16:14:09.7±6.0, 2440N×11573W, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.7/20, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=96.2km s-min=34.2km az=27.0*
*ISCJB **10** 16:14:10.8±2.8, 245N±02×1156W±02, h10km, mb3.4/2, Error ellipse: s-maj=37.5km s-min=13.9km az=67.0*
*NEIC **10** 16:14:10.9±2.3, 2435N×11574W, h10km, Error ellipse: s-maj=30.5km s-min=11.9km az=212.0*

ISC 10 16:14:10.5±2.8, 243N±02×1158W±02, h10km, n12, σ0§61/14, mb3.4/2, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**4.99**	**91**	Pn	**Pn**	**16 15 25.8**	**+0.3**
	63nm,0.3s,baz=272,slow=5.6,SNR=50						
LPIG				Sn	**Sn**	**16 16 16.2**	**-7.0**
	51nm,0.3s,baz=216,slow=17,SNR=11						
LPIG	**La Paz**	**4.99**	**91**	Pn	**Pn**	**16 15 25.8**	**+0.3**
LPIG				Sn	**Sn**	**16 16 16.2**	**-7.0**
TUC	**Tucson**	**9.10**	**28**	ePn	**Pn**	**16 16 21.2**	**-0.6**
PFO	**Pinyon Flat Ob**	**9.29**	**356**	Pn	**Pn**	**16 16 25.8**	**+1.4**
MNTX	**Cornudas Mount**	**11.76**	**49**	P	**Pn**	**16 16 58.4**	**+0.2**
TXAR	**Lajitas Array**	**11.91**	**63**	Pn	**Pn**	**16 17 00.2**	**0.0**
	0.1nm,0.3s,baz=246,slow=16,SNR=10.0						
DAC	**Darwin (Calif)**	**12.03**	**353**	*eP*	**Pn**	**16 17 01.6**	**-0.4**
	13nm,1.1s						
ANMO	**Albuquerque**	**13.33**	**35**	Pn	**Pn**	**16 17 19.2**	**-0.5**
	0.1nm,0.3s,baz=247,slow=13,SNR=3.8						
PDAR	**Pinedale Array**	**19.11**	**14**	P	**Pn**	**16 18 34.9**	**+0.6**
	0.0nm,0.3s,baz=192,slow=13,SNR=4.9						
NEW	**Newport**	**23.93**	**358**	P	**P**	**16 19 24.0**	**-0.7**
	1.6nm,0.7s,mb3.6,baz=198,slow=10,SNR=4.0						
YKA	**Yellowknife Ar**	**38.18**	**1**	P	**P**	**16 21 29.8**	**-0.3**
	0.4nm,0.8s,mb3.2,baz=183,slow=8.4,SNR=8.7						
YKA	**Yellowknife Ar**	**38.18**	**1**	P	**P**	**16 21 29.8**	**-0.3**

*IDC **10** 17:12:02.5±2.4, 4992N×12746W, h0km, mb3.4/2, mb1 3.8/6, mb1mx3.5/23, mbtmp3.5/6, ML3.4/4, Error ellipse: s-maj=31.9km s-min=19.3km az=72.0*
*PGC **10** 17:12:03.8±0.3, 5000N×12752W, h42km, ML3.5/9, 78km southwest of Pt. Hardy, Bc Vancouver Island Region*
*NEIC **10** 17:12:03.8, 5000N×12752W, h42km, ML3.5(PGC), After PGC.*
*ISCJB **10** 17:12:04.1±0.4, 5002N±003×12745W±006, h41km±5km, mb2.9/1, Error ellipse: s-maj=6.8km s-min=4.2km az=113.1*

ISC 10 17:12:05.4±0.4, 5007N±003×12744W±006, h30km±3km, n82, σ1§01/91, mb2.9/1, 29C-20D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**0.23**	**292**	P	**Pb**	**17 12 11.3**	**-0.8**
BPBC				S	**Sb**	**17 12 16.3**	**-0.2**
BPBC				Trac			
EDB	**Eliza Dome**	**0.28**	**134**	P	**Pb**	**17 12 11.8**	**-0.9**
EDB				S	**Sb**	**17 12 17.1**	**-0.5**
EDB	**Eliza Dome**	**0.28**	**134**	Trac			
MAYB	**Maynard**	**0.37**	**27**	Trac			
MAYB	**Maynard**	**0.37**	**27**	P	**Pb**	**17 12 14.0**	**+0.1**
MAYB				S	**Sb**	**17 12 21.4**	**+1.7**
WOSB	**Woss**	**0.56**	**80**	Trac			
WOSB	**Woss**	**0.56**	**80**	P	**Pb**	**17 12 16.5**	**-0.4**
WOSB				S	**Sb**	**17 12 25.5**	**+0.8**
PHC	**Port Hardy**	**0.64**	**0**	Trac			
PHC	**Port Hardy**	**0.64**	**0**	P	**Pb**	**17 12 17.2**	**-0.9**
PHC				S	**Sb**	**17 12 26.5**	**-0.3**
HOLB	**Holberg**	**0.73**	**322**	Trac			
HOLB	**Holberg**	**0.73**	**322**	P	**Pb**	**17 12 17.9**	**-1.6**
HOLB				S	**Sb**	**17 12 27.8**	**-1.4**
NCRB	**Newcastle Ridg**	**0.95**	**69**	Trac			
NCRB	**Newcastle Ridg**	**0.95**	**69**	P	**Pn**	**17 12 22.1**	**-0.5**
NCRB				S	**Sn**	**17 12 34.8**	**-0.3**
CBB	**Campbell River**	**1.33**	**91**	Trac			
CBB	**Campbell River**	**1.33**	**91**	P	**Pn**	**17 12 27.4**	**-0.6**
CBB				S	**Sn**	**17 12 44.1**	**-0.6**
BTB	**Buttle Lake**	**1.38**	**115**	Trac			
BTB	**Buttle Lake**	**1.38**	**115**	P	**Pn**	**17 12 27.4**	**-1.2**
BTB				S	**Sn**	**17 12 44.5**	**-1.3**
C03A	**Quillayute Air**	**2.84**	**137**	⇑Pn	**Pn**	**17 12 48.0**	**-0.7**
	baz=2.8						
C03A				⇓Sn	**Sn**	**17 13 19.4**	**-2.5**
	baz=2.8						
OTR	**Olympics--Tyee**	**2.84**	**133**	P	**Pn**	**17 12 48.7**	**0.0**
PGC	**Sidney**	**2.97**	**117**	*eP*	**Pn**	**17 12 48.6**	**-1.8**
B04A	**Port Angeles**	**3.28**	**126**	⇓Pn	**Pn**	**17 12 54.1**	**-0.6**
	baz=3.3						
B04A				⇓Sn	**Sn**	**17 13 30.7**	**-1.9**
	baz=3.3						
MCW	**Mount Constitu**	**3.31**	**113**	P	**Pn**	**17 12 55.1**	**-0.1**
A04A	**Legoe Bay, Lum**	**3.37**	**112**	⇑Pn	**Pn**	**17 12 56.1**	**+0.2**
	baz=3.4,SNR=5.0						
A04A				⇑Sn	**Sn**	**17 13 34.6**	**-0.4**
	baz=3.4						
VDB	**Vedder Mountai**	**3.63**	**105**	P	**Pn**	**17 12 59.2**	**-0.2**
A05A	**Maple Falls**	**3.65**	**105**	⇑Pn	**Pn**	**17 13 00.5**	**+0.7**
	baz=3.7,SNR=19						
C04A	**Brinnon**	**3.77**	**127**	⇑Pn	**Pn**	**17 13 01.8**	**+0.4**
	baz=3.8						
C04A				⇓Sn	**Sn**	**17 13 41.3**	**-3.5**
	baz=3.8						
HDW	**Hoodsport**	**3.77**	**128**	P	**Pn**	**17 13 01.2**	**-0.2**
MBW	**Mount Baker**	**3.83**	**107**	P	**Pn**	**17 13 02.2**	**-0.1**
CMW	**Cultus Mountai**	**3.85**	**113**	P	**Pn**	**17 13 03.4**	**+0.8**
JCW	**Jim Creek**	**4.07**	**115**	P	**Pn**	**17 13 05.8**	**+0.1**
RPW	**Rockport**	**4.20**	**110**	P	**Pn**	**17 13 07.5**	**+0.1**
D04A	**Dobbs Creek Ra**	**4.27**	**132**	⇑Sn	**Sn**	**17 13 54.7**	**-2.4**
	baz=4.3						
HTW	**Haystack Looko**	**4.37**	**119**	P	**Pn**	**17 13 11.4**	**+1.7**
E03A	**Lebam**	**4.37**	**142**	⇑Pn	**Pn**	**17 13 08.8**	**-0.9**
	baz=4.3						
E03A				⇑Sn	**Sn**	**17 13 55.6**	**-4.0**
	baz=4.3						
D05A	**Enumclaw**	**4.62**	**127**	⇑Pn	**Pn**	**17 13 13.8**	**+0.7**
	baz=4.6						
D05A				⇓Sn	**Sn**	**17 14 04.1**	**-1.6**
	baz=4.6						
E04A	**Onalaska**	**4.69**	**136**	⇓Sn	**Sn**	**17 14 07.8**	**+0.4**
	baz=4.7						
A07A	**Ashnola River,**	**4.70**	**100**	⇓Pn	**Pn**	**17 13 14.5**	**+0.2**
	baz=4.7						
F03A	**Seaside**	**4.89**	**146**	⇓Sn	**Sn**	**17 14 10.8**	**-1.6**
	baz=4.9						
B07A	**Winthrop**	**5.05**	**106**	⇑Pn	**Pn**	**17 13 19.6**	**+0.6**
	baz=5.1,SNR=26						
NLW	**Nelson Butte**	**5.07**	**110**	P	**Pn**	**17 13 19.4**	**0.0**
FL2	**Flat Top 2**	**5.16**	**137**	P	**Pn**	**17 13 21.8**	**+1.3**
WPW	**White Pass**	**5.17**	**128**	P	**Pn**	**17 13 22.0**	**+1.2**
D06A	**Cle Elum**	**5.23**	**121**	⇓Pn	**Pn**	**17 13 22.5**	**+0.9**
	baz=5.2,SNR=16						
D06A				⇓Sn	**Sn**	**17 14 18.6**	**-2.2**
	baz=5.2						
F04A	**Amboy**	**5.33**	**139**	⇑Pn	**Pn**	**17 13 23.8**	**+0.9**
	baz=5.3,SNR=8.1						
TBM	**Table Mountain**	**5.38**	**120**	P	**Pn**	**17 13 24.2**	**+0.6**
C07A	**Waterville**	**5.42**	**113**	⇑Pn	**Pn**	**17 13 24.0**	**-0.1**
	baz=5.4,SNR=11						
A08A	**Turner Farm, O**	**5.43**	**99**	⇑Pn	**Pn**	**17 13 24.6**	**+0.3**
	baz=5.5,SNR=6.5						
WTV	**Waterville**	**5.47**	**113**	P	**Pn**	**17 13 25.2**	**+0.3**
EBG	**Ellensburg**	**5.55**	**122**	P	**Pn**	**17 13 26.6**	**+0.6**
E06A	**Yakima**	**5.57**	**127**	⇑Pn	**Pn**	**17 13 27.2**	**+1.1**
	baz=5.6						
B08A	**Colville Reser**	**5.58**	**105**	⇑Pn	**Pn**	**17 13 26.4**	**+0.1**
	baz=5.6,SNR=6.2						
A09A	**Danville**	**5.87**	**97**	⇓Pn	**Pn**	**17 13 30.7**	**+0.4**
	baz=5.9,SNR=7.2						
G04A	**Mulino**	**5.91**	**144**	⇓Pn	**Pn**	**17 13 32.1**	**+1.3**
	baz=5.9						
C08A	**Higginbotham F**	**5.98**	**109**	⇑Pn	**Pn**	**17 13 32.2**	**+0.4**
	baz=6.0,SNR=12						
H03A	**Soap Creek Ran**	**6.08**	**151**	⇑Pn	**Pn**	**17 13 34.9**	**+1.6**
	baz=6.0						
E07A	**Sunnyside**	**6.16**	**122**	⇑Pn	**Pn**	**17 13 34.2**	**-0.1**
	baz=6.1						
B09A	**Rice**	**6.30**	**102**	⇑Pn	**Pn**	**17 13 36.5**	**+0.3**
	baz=6.3						
D08A	**Wollman Farm,**	**6.40**	**115**	⇑Pn	**Pn**	**17 13 38.2**	**+0.6**
	baz=6.4,SNR=7.3						
C09A	**Chrisman Ranch**	**6.45**	**107**	⇑Pn	**Pn**	**17 13 39.0**	**+0.8**
	baz=6.5,SNR=17						
H04A	**Detroit Lake**	**6.46**	**145**	⇓Pn	**Pn**	**17 13 39.6**	**+1.2**
	baz=6.4						
H04A				⇑Sn	**Sn**	**17 14 49.0**	**-2.1**
	baz=6.4						
G06A	**Carlson Farm,**	**6.67**	**134**	⇓Pn	**Pn**	**17 13 42.9**	**+1.6**
	baz=6.6						
D09A	**Jones Farm, Ri**	**6.76**	**113**	⇓Pn	**Pn**	**17 13 41.9**	**-0.7**
	baz=6.8,SNR=9.0						
NEW	**Newport**	**7.00**	**101**	Pn	**Pn**	**17 13 46.2**	**+0.4**
	0.6nm,0.3s,baz=292,slow=11,SNR=7.5						
NEW				Lg		17 15 42.0	
	0.2nm,0.3s,baz=270,slow=21,SNR=4.2						
NEW	**Newport**	**7.00**	**101**	*e*Pn	**Pn**	**17 13 45.7**	**-0.1**
	1.8nm,0.3s						
I05A	**Bend**	**7.25**	**142**	⇑Pn	**Pn**	**17 13 50.4**	**+1.1**
	baz=7.2						
D10A	**Wagner Farm, O**	**7.38**	**110**	⇑Pn	**Pn**	**17 13 51.1**	**0.0**
	baz=7.4,SNR=20						
H08A	**Prairie City**	**8.14**	**130**	⇓Pn	**Pn**	**17 14 03.5**	**+2.1**
	baz=8.1						
E11A	**Bogner Ranch,**	**8.37**	**112**	⇑Pn	**Pn**	**17 14 04.7**	**+0.1**
	baz=8.4,SNR=7.1						
A13A	**Flathead Natio**	**8.55**	**93**	⇑Pn	**Pn**	**17 14 08.3**	**+1.1**
	baz=8.6						
F11A	**Grangeville**	**8.64**	**115**	⇓Pn	**Pn**	**17 14 08.5**	**+0.1**
	baz=8.6						
F12A	**Elk City**	**9.25**	**113**	⇑Pn	**Pn**	**17 14 16.3**	**-0.4**
	baz=9.2						
E13A	**Victor**	**9.55**	**107**	⇓Pn	**Pn**	**17 14 20.9**	**+0.1**
	baz=9.6						
D14A	**Greenough**	**9.71**	**103**	⇓Pn	**Pn**	**17 14 23.3**	**+0.4**
	baz=9.7						
F13A	**Darby**	**9.78**	**111**	⇑Pn	**Pn**	**17 14 23.7**	**-0.3**
	baz=9.8,SNR=9.7						
E14A	**Clinton**	**9.99**	**106**	⇑Pn	**Pn**	**17 14 28.0**	**+1.1**
	baz=10.0						
G13A	**Cobalt**	**10.21**	**114**	⇓Pn	**Pn**	**17 14 30.0**	**+0.1**
	baz=10						
NVAR	**Mina Array Bea**	**13.34**	**147**	Pn	**Pn**	**17 15 15.1**	**+2.5**
	0.1nm,0.3s,baz=336,slow=11,SNR=2.3						
YKA	**Yellowknife Ar**	**14.31**	**25**	Pn	**Pn**	**17 15 23.8**	**-2.0**
	0.1nm,0.3s,baz=213,slow=12,SNR=19						
YKA	**Yellowknife Ar**	**14.31**	**25**	Pn	**Pn**	**17 15 23.8**	**-2.0**
PDAR	**Pinedale Array**	**14.31**	**114**	Pn	**Pn**	**17 15 29.4**	**+3.5**
	0.0nm,0.3s,baz=317,slow=13,SNR=4.0						
ULM	**Lac du Bonnet**	**20.15**	**77**	P	**P**	**17 16 37.5**	**+0.4**
	1.2nm,0.8s,baz=288,slow=13,SNR=5.1						
TXAR	**Lajitas Array**	**27.42**	**130**	P	**P**	**17 17 48.4**	**+0.1**
	0.3nm,0.8s,mb2.9,baz=326,slow=6.5,SNR=3.6						

IDC 10 17:14:36.3±1.4, 2015N×11880E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=150.0km s-min=22.7km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.39**	**343**	P	P	17 20 42.1	+0.9
	0.4nm,0.9s,baz=160,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**39.85**	**320**	P	P	17 22 10.9	-0.6
	0.3nm,0.6s,baz=126,slow=8.8,SNR=4.2						
WRA	**Warramunga Arr**	**42.65**	**158**	P	P	17 22 34.2	-0.3
	0.7nm,0.6s,baz=341,slow=8.9,SNR=8.8						
ASAR	**Alice Springs**	**45.97**	**161**	P	P	17 23 01.9	+0.8
	0.5nm,0.9s,baz=344,slow=7.1,SNR=5.3						

*STR **10** 17:30:31.0±0.3, 4759N×761E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 17:30:31.2±0.1, 4759N×758E, h9km, Md1.9/3, Ml2.0/7, Error ellipse: s-maj=1.2km s-min=0.9km az=120.0*

ZUR 10 17:30:31.2, 4758N×760E, h4km±1km, ML1.2, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Pg	17 30 36.5	+0.3
	174nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	17 30 37.6	+0.3
	36nm,0.7s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg	Pg	17 30 38.1	+0.1
	42nm,0.5s						
MOF	**Molkenrain**	**0.42**	**310**	Pg	Pg	17 30 39.3	+0.1
MOF				Sg	Sg	17 30 44.9	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	17 30 41.4	-0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	17 30 43.0	+1.1
HINF				*e*Sg	Sg	17 30 48.5	-0.7
HINF				*e*Sn	Sg	17 30 52.2	+3.0
	2.5nm,0.2s						
LOMF	**Lomont**	**0.58**	**246**	Pg	Pg	17 30 42.5	+0.2
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	17 30 43.2	-0.1
	107nm,0.4s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	17 30 45.1	+0.4
ECH				Sg	Sg	17 30 53.6	-0.1
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	17 30 47.3	-0.4
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	17 30 47.8	-2.2
CDF				*e*Sg	Sg	17 30 57.8	-1.0
CDF				*e*Sn	Sn	17 30 59.8	-3.1
	5.3nm,0.2s						
HAU	**Haudompre**	**0.95**	**297**	*e*Pg	Pg	17 30 48.6	-0.8
HAU				*e*Sg	Sg	17 31 01.1	-0.5
	3.2nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	17 30 58.0	-0.4
CABF				*e*Sg	Sg	17 31 15.2	-1.7
	4.0nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	17 31 05.0	-1.4
SFTF				*e*Sg	Sg	17 31 28.7	-1.5
	2.0nm,0.2s						
LPL	**La Plagne**	**2.15**	**197**	*e*Pg	Pg	17 31 11.6	-0.9
LPL				*e*Sg	Sg	17 31 39.0	-1.4
	0.5nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	17 31 12.2	-0.5
LPG				*e*Sg	Sg	17 31 39.0	-1.8
	1.4nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	17 31 18.5	-1.8
LOR				*e*Sg	Sg	17 31 51.0	-2.5
	1.7nm,0.2s						
SSF	**Saint Saulge**	**2.84**	**261**	*e*Pg	Pg	17 31 23.5	-2.1
SSF				*e*Sg	Sg	17 31 59.5	-2.8
	1.3nm,0.3s						

IDC 10 17:39:56.6±8.3, 535S×15139E, h98km±56km, mb3.3/3, mb1 3.4/4, mb1mx3.1/15, mbtmp3.2/4, Error ellipse: s-maj=101.4km s-min=56.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.82**	**226**	P	Pn	17 41 20.5	+0.2
	0.9nm,0.3s,baz=48,slow=9.9,SNR=11						
PMG				S	Sn	17 42 26.7	+1.0
	2.0nm,0.3s,baz=81,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**22.04**	**227**	P	P	17 44 43.3	+0.2
	0.8nm,0.5s,baz=52,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**24.81**	**221**	P	P	17 45 09.8	+0.3
	0.8nm,0.6s,baz=57,slow=8.5,SNR=19						
FITZ	**Fitzroy Crossi**	**28.16**	**241**	P	P	17 45 40.0	+0.4
	0.5nm,0.4s,baz=53,slow=10,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.13**	**287**	PKPbc	PKPbc	17 59 34.2	+0.7
	0.6nm,0.9s,baz=65,slow=4.2,SNR=2.3						

*NEIC **10** 17:52:27.9, 3783N×2101E, h7km, ML3.5(ATH), After ATH.*
*ATH **10** 17:52:27.9, 3783N×2101E, h7km±2km, MD3.6/9, ML3.5*
*ISCJB **10** 17:52:28.4±1.1, 3783N±007×2097E±008, h10km, Error ellipse: s-maj=12.2km s-min=5.5km az=84.5*
*THE **10** 17:52:30.7, 3782N×2107E, h14km, ML2.9*
*CSEM **10** 17:52:30.7±0.2, 3787N×2120E, h2km, ML3.5, Error ellipse: s-maj=4.7km s-min=2.1km az=54.0*

ISC 10 17:52:29.1±1.1, 3784N±007×2099E±008, h10km, n23, σ1§16/25, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.43**	**60**	*e*PG	**Pg**	**17 52 35.9**	**-1.7**
VLS	**Valsamata**	**0.46**	**317**	*e*PB	**Pg**	**17 52 37.2**	**-0.9**
VLS				*e*SB	**Sg**	**17 52 44.4**	**+0.1**
ITM	**Ithomi**	**0.99**	**131**	*e*PB	**Pb**	**17 52 46.4**	**-2.0**
EVR	**Evrytania**	**1.25**	**31**	*e*PB	**Pb**	**17 52 51.6**	**-1.2**
AGG	**Agios Georgios**	**1.58**	**41**	*e*Pg	**Pg**	**17 52 57.0**	**-2.4**
IGT	**Igoumenitsa**	**1.77**	**343**	*e*Pb	**Pb**	**17 53 00.3**	**-1.3**
IGT				*e*Sb	**Sb**	**17 53 24.0**	**+0.2**
THL	**Klokotos Trika**	**1.90**	**25**	*e*PN	**Pn**	**17 53 02.6**	**+1.1**
VLI	**Veliai**	**1.91**	**125**	*e*PN	**Pn**	**17 53 02.7**	**+1.0**
MEV	**Metsovon**	**1.95**	**5**	*e*Pb	**Pb**	**17 53 03.8**	**-1.0**
NAIG	**Nisos Aigina**	**1.98**	**92**	*e*PG	**Pg**	**17 53 04.1**	**-3.0**
ATH	**Athens Observa**	**2.16**	**86**	*e*PG	**Pn**	**17 53 07.5**	**+2.4**
NEO	**Neokhori**	**2.28**	**49**	*e*PN	**Pn**	**17 53 07.7**	**+0.9**
XOR	**Xorichti**	**2.30**	**48**	*e*Pn	**Pn**	**17 53 06.8**	**-0.2**
AOS	**Alonnisos**	**2.63**	**59**	*e*Pn	**Pn**	**17 53 12.2**	**+0.7**
AOS	**Alonnisos**	**2.63**	**59**	*e*Pn	**Pn**	**17 53 12.2**	**+0.7**
PAIG	**Paliouri**	**2.96**	**44**	*e*Pn	**Pn**	**17 53 16.3**	**+0.2**
HORT	**Hortiatis**	**3.20**	**30**	*e*Pn	**Pn**	**17 53 20.3**	**+0.8**
GRG	**Griva**	**3.30**	**19**	*e*Pn	**Pn**	**17 53 21.3**	**+0.5**
OUR	**Ouranopolis**	**3.41**	**42**	*e*Pn	**Pn**	**17 53 22.7**	**+0.4**
SOH	**Sokhos**	**3.50**	**31**	*e*Pn	**Pn**	**17 53 24.7**	**+1.2**
KNT	**Kendrikon**	**3.63**	**23**	*e*Pn	**Pn**	**17 53 26.4**	**+1.1**
LOS	**Limnos**	**3.81**	**56**	*e*Pn	**Pn**	**17 53 28.4**	**+0.6**
SRS	**Serrai**	**3.84**	**31**	*e*Pn	**Pn**	**17 53 28.6**	**+0.4**

*ISCJB **10** 18:00:30.0±1.0, 4044N±004×12466W±008, h10km, Error ellipse: s-maj=9.8km s-min=3.7km az=134.1*
*NEIC **10** 18:00:32.7, 4037N×12464W, h17km, ML3.5(NCEDC), After NCEDC.*

ISC 10 18:00:31.0±1.3, 4039N±004×12480W±009, h28km±7km, n30, σ0§93/41, 19C-8D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.72**	**53**	P	**Pb**	**18 00 44.4**	**-0.7**
	baz=0.6,SNR=460						
O01C	**Eel River Cons**	**0.79**	**108**	⇑P	**Pb**	**18 00 45.9**	**-0.2**
	baz=0.7,SNR=217						
O01C				⇑S	**Sb**	**18 00 56.2**	**-0.2**
	baz=0.7						
KIPM	**Iron Peak**	**1.16**	**119**	*e*Pn	**Pn**	**18 00 50.8**	**-0.6**
KCPM	**Cahto Peak**	**1.17**	**

K06A	Valley Falls	4.17	53	⇑P		Pn	18 01 33.5 +0.8
	baz=4.1,SNR=5.5						
M07A	Soldier Meadow	4.38	75	⇓P		Pn	18 01 35.3 -0.2
	baz=4.2,SNR=15						

ISCJB ***10*** *18:07:08.8±0.7, 4758N±007×156.1E±0.1, h10km, mb3.9/15, Error ellipse: s-maj=14.3km s-min=9.3km az=49.4*
IDC ***10*** *18:07:08.5±0.8, 4743N×156.12E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.9/23, mbtmp3.8/12, Error ellipse: s-maj=25.6km s-min=18.3km az=138.0*
NEIC ***10*** *18:07:10.1±0.5, 4743N×15621E, h10km, mb4.1/3, Error ellipse: s-maj=13.8km s-min=9.7km az=155.0*
MOS ***10*** *18:07:13.1±1.0, 4755N×15604E, h44km, mb4.3/3, Error ellipse: s-maj=24.7km s-min=13.8km az=92.2*

ISC 10 18:07:10.4±0.6, 4758N±007×1562E±01, h10km, n23, σ0§83/24, mb3.9/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.10	360	*e*PN	Pn	18 07 59.1	-0.3
SKR				*e*S	Sn	18 08 35.1	-1.4
SKR				smax			
	comp=N,160nm,0.4s						
SKR				smax			
	comp=E,140nm,0.2s						
YSS	Yuzh-Sakhalins	9.13	271	*e*PN	Pn	18 09 23.7	+1.5
BILL	Bilibino	21.15	11	*e*P	P	18 11 56.7	+1.2
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
BILL	Bilibino	21.15	11	*e*P	P	18 11 56.7	+1.1
	comp=Z,7.0nm,0.8s,mb4.0						
KSRS	Korea Array	23.02	254	P	P	18 12 15.1	-0.4
	comp=Z,1.3nm,0.9s,mb3.4,baz=67,slow=9.3,SNR=3.4						
INK	Inuvik	39.83	33	P	P	18 14 44.5	+0.6
	comp=Z,1.2nm,0.6s,mb3.8,baz=299,slow=6.1,SNR=15						
INK	Inuvik	39.83	33	*e*P	P	18 14 44.3	+0.5
	comp=Z,38nm,0.6s,mb5.3						
MKAR	Makanchi Array	48.39	298	P	P	18 15 52.8	+0.3
	comp=Z,1.3nm,0.7s,mb4.0,baz=58,slow=6.7,SNR=13						
YKA	Yellowknife Ar	49.00	38	P	P	18 15 57.2	0.0
	comp=Z,0.6nm,0.7s,mb3.8,baz=296,slow=7.3,SNR=6.3						
YKA	Yellowknife Ar	49.00	38	P	P	18 15 57.2	0.0
CHKZ	Chkalovo	51.47	311	*e*P	P	18 16 15.4	-0.5
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CHKZ	Chkalovo	51.47	311	*e*P	P	18 16 15.4	-0.5
	comp=Z,1.4nm,0.6s,mb4.1						
BRVK	Borovoye	51.96	310	P	P	18 16 20.1	+0.6
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	Borovoye	51.96	310	P	P	18 16 20.1	+0.6
	comp=Z,1.2nm,0.4s,mb4.2						
PDAR	Pinedale Array	62.57	56	P	P	18 17 35.4	+0.8
	comp=Z,0.8nm,0.8s,mb3.9,baz=264,slow=1.5,SNR=5.8						
FINES	FINESS Array B	64.15	336	P	P	18 17 44.9	0.0
	comp=Z,1.7nm,0.9s,mb4.1,baz=1.0,slow=8.3,SNR=3.7						
WRA	Warramunga Arr	70.02	202	P	P	18 18 20.4	-1.8
	comp=Z,0.5nm,0.6s,mb3.6,baz=21,slow=6.6,SNR=6.4						
AKASG	Malin Array Be	71.98	328	P	P	18 18 33.4	-0.7
	comp=Z,0.5nm,0.3s,mb4.0,baz=30,slow=5.9,SNR=4.3						
ASAR	Alice Springs	73.69	201	P	P	18 18 43.4	-1.0
	comp=Z,0.6nm,0.8s,mb3.6,baz=18,slow=5.6,SNR=8.8						
TXAR	Lajitas Array	75.27	63	P	P	18 18 54.0	+0.5
	comp=Z,0.8nm,0.7s,mb3.8,baz=293,slow=4.2,SNR=9.0						
TXAR	Lajitas Array	75.27	63	P	P	18 18 54.0	+0.4
GERES	GERESS Array B	78.58	336	P	P	18 19 12.1	-0.1
	comp=Z,0.4nm,0.6s,mb3.5,baz=38,slow=5.0,SNR=5.3						
BRTR	Keskin Array B	79.17	319	P	P	18 19 16.1	+0.6
	comp=Z,0.8nm,0.9s,mb3.7,baz=150,slow=2.7,SNR=4.5						

NEIC ***10*** *18:10:56.1±0.8, 4673N×15265E, h10km, mb4.1/1, Error ellipse: s-maj=24.4km s-min=14.4km az=124.0*
ISCJB ***10*** *18:11:00.2±1.5, 466N±0.1×1526E±02, h53km±12km, mb4.0/15, Error ellipse: s-maj=25.1km s-min=9.9km az=100.7*
MOS ***10*** *18:11:00.5±1.8, 4655N×15259E, h65km, mb4.3/1, Error ellipse: s-maj=18.2km s-min=13.1km az=57.8*
IDC ***10*** *18:11:04.5±4.4, 4667N×15253E, h78km±39km, mb3.3/11, mb1 3.5/12, mb1mx3.4/23, mbtmp3.3/12, ML3.5/1, Error ellipse: s-maj=29.8km s-min=19.5km az=110.0*

ISC 10 18:11:02.7±1.4, 467N±01×1527E±02, h63km±11km, n27, σ1§11/28, mb4.0/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.63	249	PN	Pn	18 11 51.0	-5.4
KUR				*e*S	Sn	18 12 34.0	-4.0
KUR				pmax	pmax		
	comp=Z,180nm,0.8s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,110nm,0.8s						
SKR	Severo-Kuril's	4.64	28	*e*PN	Pn	18 12 11.1	+0.9
SKR				*e*		18 13 01.6	
YSS	Yuzh-Sakhalins	6.80	276	PN	Pn	18 12 43.1	+3.2
ASAJ	Asahikawa	7.52	254	P	Pn	18 12 50.0	+0.3
	comp=E,0.8nm,0.3s,baz=68,slow=17,SNR=5.7						
ASAJ	Asahikawa	7.52	254	PN	Pn	18 12 50.0	+0.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	Erimo	8.24	239	*e*PN	Pn	18 12 58.2	-1.3
KSRS	Korea Array	20.47	252	P	P	18 15 36.3	+1.1
	comp=Z,1.1nm,0.7s,baz=58,slow=11,SNR=3.5						
INK	Inuvik	41.90	32	P	P	18 18 46.8	-0.1
	comp=Z,0.5nm,0.6s,mb3.3,baz=30,slow=18,SNR=5.0						
MKAR	Makanchi Array	46.71	297	P	P	18 19 24.3	-1.0
	comp=Z,0.3nm,0.6s,mb3.4,baz=71,slow=6.6,SNR=5.4						
MKAR				PcP	PcP	18 20 57.2	-0.8
	comp=Z,0.3nm,0.6s,baz=48,slow=3.2,SNR=3.6						
MKAR	Makanchi Array	46.71	297	P	P	18 19 24.3	-1.0
MKAR				PcP	PcP	18 20 57.2	-0.8
CHKZ	Chkalovo	50.26	310	*e*P	P	18 19 51.0	-1.6
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	Chkalovo	50.26	310	*e*P	P	18 19 51.0	-1.6
	comp=Z,1.1nm,0.5s,mb4.1						
YKA	Yellowknife Ar	51.19	37	P	P	18 19 59.8	+0.2
	comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=6.9,SNR=3.2						
GUN	Gumba	54.70	275	*e*P	P	18 20 26.5	+1.1
	comp=Z,7.4nm,0.7s,mb4.8						
KKN	Kakani	55.18	275	*e*P	P	18 20 30.4	+1.5
	comp=Z,6.0nm,0.6s,mb4.8						
DMN	Daman	55.42	275	*e*P	P	18 20 31.9	+1.3
GKN	Gorkha	55.49	276	*e*P	P	18 20 32.2	+1.1
	comp=Z,8.2nm,0.6s,mb5.0						
KOLN	Koldanda	56.35	276	*e*P	P	18 20 38.5	+1.2
	comp=Z,8.1nm,0.7s,mb4.8						
FINES	FINESS Array B	64.00	335	P	P	18 21 28.0	-1.5
	comp=Z,2.5nm,1.0s,mb4.2,baz=18,slow=6.6,SNR=6.0						
NB2	NORSAR Subarra	68.22	341	P	P	18 21 55.5	-1.1
	comp=Z,0.9nm,0.6s,mb4.1,baz=28,slow=6.5						
NOA	NORSAR Array B	68.22	341	P	P	18 21 55.9	-0.7
	comp=Z,1.5nm,0.8s,mb4.1,baz=28,slow=6.2,SNR=3.8						
WRA	Warramunga Arr	68.32	199	P	P	18 21 55.8	-1.4
	comp=Z,0.1nm,0.6s,mb3.0,baz=18,slow=6.5,SNR=3.2						
AKASG	Malin Array Be	71.45	326	P	P	18 22 15.6	-0.9
	comp=Z,1.0nm,0.5s,mb4.0,baz=34,slow=6.3,SNR=7.9						
ASAR	Alice Springs	72.02	198	P	P	18 22 20.4	+0.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=12,slow=5.5,SNR=7.3						
CLL	Collm	76.42	335	*e*P	P	18 22 45.0	-0.5
BRTR	Keskin Array B	78.25	316	P	P	18 22 56.2	+0.5
	comp=Z,0.8nm,0.9s,mb3.6,baz=54,slow=5.3,SNR=4.4						
GERES	GERESS Array B	78.41	334	P	P	18 22 56.4	-0.2
	comp=Z,0.3nm,0.5s,mb3.5,baz=28,slow=9.1,SNR=5.1						

LDG ***10*** *18:26:24.4±0.1, 4300N×000E, h10km, Md1.7/3, Ml1.8/5, Error ellipse: s-maj=1.9km s-min=0.9km az=161.0*

MDD 10 18:26:24.9±0.6, 4303N×000W, h8km±5km, mbLg1.1/6, Error ellipse: s-maj=3.2km s-min=2.6km az=172.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.06	70	P	Pg	18 26 26.8	+0.1
LABF				S	Sg	18 26 28.1	+0.1
VIEF	Viey	0.15	173	P	Pg	18 26 28.0	-0.1
VIEF				S	Sg	18 26 30.1	-0.1
EPF	Esparros	0.25	89	*e*Pg	Pg	18 26 29.6	-0.3
EPF				*e*Sg	Sg	18 26 33.0	-0.3
	4.4nm,0.2s						
EPF	Esparros	0.25	89	Pg	Pg	18 26 29.6	-0.3
EPF				Lg		18 26 33.0	
	2.2nm,0.2s						
EBIE	Bielsa	0.36	163	Pg	Pg	18 26 31.7	-0.2
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		18 26 36.4	
	3.7nm,0.1s,SNR=7.9						
ETSF	Etsaut	0.43	253	*e*Pg	Pg	18 26 33.1	-0.2
ETSF				*e*Sg	Sg	18 26 38.3	-0.7
	3.8nm,0.2s						
ETSF	Etsaut	0.43	253	Pg	Pg	18 26 33.1	-0.2
ETSF				Lg		18 26 38.3	
	1.9nm,0.2s						
SJPF	Ste Jean	0.90	276	*e*Pg	Pg	18 26 41.3	-0.9
SJPF				*e*Sg	Sg	18 26 53.2	-0.8
	1.1nm,0.3s						
SJPF	Ste Jean	0.90	276	Pg	Pg	18 26 41.3	-0.9
SJPF				Lg		18 26 53.2	
	0.6nm,0.3s						
ESAC	San Caprasio	1.35	195	Pg	Pg	18 26 51.5	+0.7
	0.9nm,0.1s,SNR=7.9						
ESAC				Lg		18 27 10.2	
	3.0nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.65	78	*e*Pg	Pg	18 26 55.2	-1.4
MTLF				*e*Sg	Sg	18 27 16.5	-1.5
	1.4nm,0.3s						
MTLF	Montolieu	1.65	78	Pg	Pg	18 26 55.2	-1.4
MTLF				Lg		18 27 16.5	
	0.7nm,0.3s						
EPOB	Poblet	1.86	154	Pg	Pg	18 26 58.6	-1.9
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg		18 27 24.7	
	0.3nm,0.1s,SNR=7.9						
LFF	La Frestale	1.98	15	*e*Pg	Pg	18 27 01.9	-1.0
LFF				*e*Sg	Sg	18 27 27.8	-0.9
	2.7nm,0.3s						
LFF	La Frestale	1.98	15	Pg	Pg	18 27 01.9	-1.0
LFF				Lg		18 27 27.8	
	1.4nm,0.3s						
CAF	Calviac	2.41	37	*e*Pg	Pg	18 27 09.7	-1.4
CAF				*e*Sg	Sg	18 27 41.2	-1.2
	0.9nm,0.3s						
CAF	Calviac	2.41	37	Pg	Pg	18 27 09.7	-1.4
CAF				Lg		18 27 41.2	
	0.4nm,0.3s						
RJF	Les Rejaudoux	2.52	25	*e*Pg	Pg	18 27 11.6	-1.7
RJF				*e*Sg	Sg	18 27 44.5	-1.5
	2.4nm,0.2s						
RJF	Les Rejaudoux	2.52	25	Pg	Pg	18 27 11.6	-1.7
RJF				Lg		18 27 44.5	
	1.2nm,0.2s						

CSEM ***10*** *18:40:44.0±0.1, 3647N×2849E, h60km, MD3.3, Error ellipse: s-maj=2.3km s-min=1.3km az=63.0*
ISCJB ***10*** *18:40:44.8±0.5, 3642N±004×2833E±004, h70km±6km, Error ellipse: s-maj=6.5km s-min=5.7km az=35.9*
ATH ***10*** *18:40:46.8, 3656N×2820E, h48km±2km, MD3.3/5*
NEIC ***10*** *18:40:46.8, 3656N×2820E, h48km, MD3.3(ATH), After ATH.*
ISK ***10*** *18:40:46.2, 3647N×2835E, h29km, MD3.1*
HLW ***10*** *18:40:46.5, 3634N×2839E, h33km, Mb3.4*

ISC 10 18:40:46.3±0.5, 3647N±004×2835E±004, h57km±7km, n27, σ0§80/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.31	215	*e*P	Pn	18 40 56.9	+0.7
ARG				*e*S	Sn	18 41 04.3	+1.1
DALT	Dalyan (Mudla)	0.38	38	PG	Pn	18 40 55.7	-1.1
DALT				SG	Sn	18 41 02.0	-2.3
FETY	Fethiye	0.62	74	PG	Pn	18 40 58.9	-0.4
FETY				SG	Sn	18 41 08.4	-0.4
YER	Yerkesik	0.67	356	PG	Pn	18 40 59.7	-0.2
DAT	Datca	0.67	293	PG	Pn	18 41 00.1	+0.1
DAT				SG	Sn	18 41 09.9	-0.1
BDRM	Kayabasi	0.94	310	*i* P	Pn	18 41 03.1	-0.3
BDRM				*i* S	Sn	18 41 15.6	-0.4
MLSB	Milas	0.94	331	PG	Pn	18 41 03.6	+0.1
AKAS	Kas	1.04	103	*i* P	Pn	18 41 04.8	0.0
AKAS				*i* S	Sn	18 41 19.3	+0.8
GOLH	Golhisar	1.24	51	*i* P	Pn	18 41 08.0	+0.6
GOLH				*i* S	Sn	18 41 25.6	+2.5
GOLH	Golhisar	1.24	51	*i* P	Pn	18 41 07.9	+0.5
ELL	Elmali	1.29	77	*e*PN	Pn	18 41 08.5	+0.5
KARP	Karpathos	1.33	227	*e*P	Pn	18 41 10.1	+1.5
DNZL	Cakiroluk	1.34	24	*i* P	Pn	18 41 15.0	+6.2
DNZL				*i* S	Sn	18 41 34.0	+8.4
DENT	Denizli	1.39	23	*e*PN	Pn	18 41 10.5	+1.0
SMG	Samos	1.73	316	*e*P	Pn	18 41 13.7	-0.3
KDAG	Bornova	2.11	336	*i* P	Pn	18 41 18.6	-0.6
KDAG				*i* S	Sn	18 41 38.5	-5.8
NPS	Neapolis	2.53	242	*e*P	Pn	18 41 25.7	+0.8
PRK	Paraskevi	3.22	330	*e*P	Pn	18 41 34.7	+0.3
HMAT	Matruh	5.46	191	P	Pn	18 42 05.3	+0.2
HMAT	Matruh	5.46	191	P	Pn	18 42 05.3	+0.2
SLUM		5.61	209	P	Pn	18 42 06.8	-0.3
AMAG	Maghara	7.09	144	P	Pn	18 42 26.8	-0.6
HHAG	Hagoal	7.22	153	P	Pn	18 42 28.5	-0.6
GLL	Jalalah	7.43	157	P	Pn	18 42 31.5	-0.5
SWA1		7.52	198	P	Pn	18 42 32.9	-0.4
SUZ		7.60	149	P	Pn	18 42 33.9	-0.5
HFRF	Wahat Farafira	9.29	180	P	Pn	18 42 56.7	-0.8

IDC 10 19:23:32.2±9.2, 562S×15005E, h53km±70km, mb2.6/2, mb1 3.1/3, mb1mx3.0/14, mbtmp2.9/3, ML2.3/1, Error ellipse: s-maj=134.1km s-min=57.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.73	217	P	Pn	19 24 41.0	+0.1
	1.0nm,0.3s,baz=51,slow=4.7,SNR=7.5						
PMG				S	Sn	19 25 35.6	+1.1
	1.9nm,0.3s,baz=66,slow=20,SNR=5.3						
WRA	Warramunga Arr	20.88	226	P	P	19 28 10.2	+0.3
	1.8nm,1.0s,baz=51,slow=10,SNR=6.5						
ASAR	Alice Springs	23.74	219	P	P	19 28 39.5	-0.1
	0.7nm,0.9s,baz=57,slow=8.9,SNR=4.3						
TORD	Torodi Ar. Bea	147.92	286	PKPbc	PKPbc	19 43 12.2	+0.7
	0.6nm,0.9s,baz=91,slow=2.2,SNR=8.8						

NEIC ***10*** *19:38:47.7, 3819S×17634E, h160km, MG4.2(WEL), After WEL.*

WEL 10 19:38:48.3±0.3, 3820S×17634E, h155km±2km, ML4.2/22, 16C-1D, Error ellipse: s-maj=2.3km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	Whakaora	0.56	212	PN	Pn	19 39 11.0	+0.4
URZ	Urewera	0.61	96	P	Pn	19 39 10.6	-0.2
URZ	Urewera	0.61	96	⇓PN	Pn	19 39 10.6	-0.2
URZ				SN	Sn	19 39 27.3	-0.7
WATZ	Wairara	0.70	223	P	Pn	19 39 11.5	+0.1
WATZ	Wairara	0.70	223	⇑PN	Pn	19 39 11.5	+0.2
HATZ	Hinemaiaia	0.72	195	PN	Pn	19 39 11.5	0.0
RATZ	Rangitukua	0.81	213	P	Pn	19 39 12.2	+0.1
RATZ	Rangitukua	0.81	213	⇑PN	Pn	19 39 12.1	+0.1
RITZ	Rihia Road	0.87	206	PN	Pn	19 39 13.0	+0.5
KATZ	Kakaramea	0.93	213	P	Pn	19 39 13.0	0.0
KATZ	Kakaramea	0.93	213	PN	Pn	19 39 13.0	0.0
MWZ	Matawai	0.95	99	P	Pn	19 39 13.3	+0.2
MWZ				S	Sn	19 39 31.8	-0.3
MWZ	Matawai	0.95	99	PN	Pn	19 39 13.2	+0.1
MWZ				SN	Sn	19 39 32.0	-0.1
BKZ	Black Stump Fm	0.98	173	P	Pn	19 39 13.6	+0.2
BKZ	Black Stump Fm	0.98	173	⇑PN	Pn	19 39 13.5	+0.2
BKZ				SN	Sn	19 39 32.2	-0.4
OTVZ	Oturere	1.10	208	PN	Pn	19 39 14.8	+0.4
OTVZ				SN	Sn	19 39 35.4	+1.0
TWVZ	Taurewa	1.12	219	P	Pn	19 39 14.6	0.0
TWVZ	Taurewa	1.12	219	⇑PN	Pn	19 39 14.5	-0.1
NGZ	Ngauruhoe	1.14	210	PN	Pn	19 39 14.8	+0.1
WPVZ	Whakapapa	1.18	211	P	Pn	19 39 15.0	-0.2
WPVZ	Whakapapa	1.18	211	PN	Pn	19 39 15.3	+0.1
TUVZ	Tukino	1.20	206	PN	Pn	19 39 15.5	+0.2
HIZ	Hauiti	1.21	254	P	Pn	19 39 15.1	-0.3
HIZ				S	Sn	19 39 36.5	+0.4
HIZ	Hauiti	1.21	254	⇑PN	Pn	19 39 15.1	-0.3
HIZ				SN	Sn	19 39 36.5	+0.4
FWVZ	Far West T-bar	1.22	210	P	Pn	19 39 15.6	+0.1
FWVZ	Far West T-bar	1.22	210	PN	Pn	19 39 15.5	-0.1
TRVZ	Turoa	1.26	209	PN	Pn	19 39 16.1	+0.1
WNVZ	Wahianoa	1.27	207	P	Pn	19 39 16.0	0.0
WNVZ	Wahianoa	1.27	207	⇑PN	Pn	19 39 16.0	+0.1
MOVZ	Moawhango	1.29	201	P	Pn	19 39 15.8	-0.4
MOVZ	Moawhango	1.29	201	⇑PN	Pn	19 39 15.8	-0.4
KNZ	Kokohu	1.33	129	P	Pn	19 39 17.1	+0.5
KNZ	Kokohu	1.33	129	PN	Pn	19 39 17.0	+0.5
PKVZ	Pokaka	1.34	215	PN	Pn	19 39 16.4	-0.2
MTVZ	Mangateitei	1.37	209	PN	Pn	19 39 16.7	-0.2
PUZ	Puketiti	1.52	86	P	Pn	19 39 18.2	-0.2
PUZ	Puketiti	1.52	86	PN	Pn	19 39 18.2	-0.2
VRZ	Vera Road	1.55	233	P	Pn	19 39 18.6	-0.1
VRZ	Vera Road	1.55	233	⇑PN	Pn	19 39 18.6	-0.1
MXZ	Matakaoa Point	1.68	69	P	Pn	19 39 20.1	-0.1
MXZ	Matakaoa Point	1.68	69	PN	Pn	19 39 20.2	0.0
PXZ	Pawanui	1.88	168	⇑PN	Pn	19 39 22.3	0.0
WAZ	Wanganui	1.88	214	P	Pn	19 39 21.9	-0.5
WAZ	Wanganui	1.88	214	⇑PN	Pn	19 39 21.9	-0.5
TSZ	Takapari Road	1.89	189	P	Pn	19 39 21.8	-0.6
TSZ	Takapari Road	1.89	189	PN	Pn	19 39 21.8	-0.6
NEZ	North Egmont	2.06	238	P	Pn	19 39 24.5	+0.1
NEZ	North Egmont	2.06	238	PN	Pn	19 39 24.6	+0.2
NRZ	Ngariki Road	2.20	238	P	Pn	19 39 25.1	-0.9
BFZ	Birch Farm	2.48	182	P	Pn	19 39 28.3	-1.2
BFZ	Birch Farm	2.48	182	PN	Pn	19 39 28.3	-1.2
MRZ	Mangatainoka R	2.53	193	P	Pn	19 39 28.5	-1.6
MRZ	Mangatainoka R	2.53	193	⇑PN	Pn	19 39 28.5	-1.6
TIWZ	Tintock	2.60	188	⇑PN	Pn	19 39 29.5	-1.4
KIW	Kapiti Island	2.88	202	P	Pn	19 39 32.0	-2.4
KIW	Kapiti Island	2.88	202	PN	Pn	19 39 32.0	-2.4
MTW	Mount Morrison	3.03	192	P	Pn	19 39 33.8	-2.4
MTW	Mount Morrison	3.03	192	⇑PN	Pn	19 39 33.8	-2.4
DUWZ	D'Urville Isla	3.21	215	PN	Pn	19 39 35.8	-2.7
TRWZ	Traveller	3.24	189	⇑PN	Pn	19 39 36.4	-2.4
PAWZ	Paruwai Farm	3.26	192	P	Pn	19 39 36.5	-2.6
PAWZ	Paruwai Farm	3.26	192	⇑PN	Pn	19 39 36.5	-2.6
WEL	Wellington	3.31	201	P	Pn	19 39 37.3	-2.5
WEL	Wellington	3.31	201	PN	Pn	19 39 37.3	-2.5
MSWZ	Moikau Station	3.32	194	P	Pn	19 39 37.2	-2.8
MSWZ	Moikau Station	3.32	194	⇑PN	Pn	19 39 37.2	-2.8
SNZO	South Karori	3.35	202	P	Pn	19 39 37.4	-3.0
SNZO	South Karori	3.35	202	PN	Pn	19 39 37.4	-3.0
BHW	Baring Head	3.40	199	PN	Pn	19 39 38.0	-3.0
TCW	Tory Channel	3.41	207	P	Pn	19 39 38.0	-3.0
TCW	Tory Channel	3.41	207	PN	Pn	19 39 38.1	-3.0
TUWZ	Tuamarina	3.72	209	PN	Pn	19 39 41.7	-3.3
NNZ	Nelson	3.78	216	P	Pn	19 39 42.6	-3.3
BSWZ	Blackbirch Sta	3.99	208	P	Pn	19 39 45.4	-3.2
THZ	Tophouse	4.43	215	*e*P	Pn	19 39 50.4	-3.9
KHZ	Kahutara	4.73	206	P	Pn	19 39 54.7	-3.5
DSZ	Denniston Nort	4.97	223	*e*P	Pn	19 39 56.5	-4.9
LTZ	Lake Taylor	5.53	213	*e*P	Pn	19 40 04.0	-4.8
MQZ	McQueen's Vall	6.17	206	P	Pn	19 40 11.9	-5.4
LBZ	Lake Benmore	7.73	215	*e*P	Pn	19 40 32.2	-5.8
ODZ	Otahua Downs	8.06	210	*e*P	Pn	19 40 37.7	-4.7
JCZ	Jackson Bay	8.20	222	*e*P	Pn	19 40 39.2	-5.0

ISCJB ***10*** *19:40:29.5±0.7, 1827N±005×10343W±003, h25km±4km, mb3.5/4, MS4.2/1, Error ellipse: s-maj=8.5km s-min=4.1km az=50.7*
IDC ***10*** *19:40:32.8±8.4, 1840N×10329W, h35km±58km, mb3.5/4, mb1 3.8/6, mb1mx3.7/19, mbtmp3.5/6, ML3.5/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/20, Error ellipse: s-maj=67.1km s-min=29.0km az=40.0*
MEX ***10*** *19:40:32.3±1.0, 1827N×10342W, h11km±5km, MD4.5*
NEIC ***10*** *19:40:32.4, 1831N×10344W, h7km, MD4.5(MEX), After MEX.*

ISC 10 19:40:30.5±0.7, 1830N±005×10343W±003, h18km±3km, n35, σ1§04/51, mb3.5/4, MS4.2/1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.09	100	*i* P	Pg	19 40 33.6	-0.4
MMIG				*i* S	Sg	19 40 36.3	-0.1
CJM	Chamela	1.93	308	*i* P	Pn	19 41 03.2	+0.9
CJM				*i* S	Sn	19 41 25.1	-1.1
SFJM	Santa Fe	2.20	10	*i* P	Pn	19 41 06.0	-0.1
SFJM				*i* S	Sn	19 41 33.0	+0.2
MOIG	Morelia	2.53	57	*e*P	Pn	19 41 11.0	+0.5
MOIG				*i* S	Sn	19 41 40.9	0.0
MOIG	Morelia	2.53	57	*e*P	Pn	19 41 11.0	+0.5
MOIG				*i* S	Sb	19 41 45.9	-0.1
ANIG	Ahuacatlan	2.92	340	*i* P	Pn	19 41 15.6	-0.3
ANIG				*i* S	Sn	19 41 50.2	-0.4
CAIG	El Cayaco	3.27	112	*e*P	Pn	19 41 20.5	-0.2
CAIG				*i* S	Sn	19 41 58.8	-0.3
ACX	Acapulco	3.65	113	*e*P	Pn	19 41 26.0	+0.1
MEIG	Mezcala	3.65	95	*i* P	Pn	19 41 26.7	+0.7
MEIG				*i* S	Sn	19 42 07.1	-1.

s-min=2.0km az=158.7
KRSC ***10*** *19:53:42.1±0.8,* **54.18N**×**161.59E,** *h31km±30km, ML5.1*
SZGRF ***10*** *19:53:44.6,* **54.88N**×**161.14E,** *h33km, mb4.7, Near east coast of Kamchatka Peninsula, Russia*
ISC 10 19:53:39.9±0.1,5418N±002×16192E±002,h32km, h32km±2.3km:pP-P,n406,σ1§06/426,mb4.7/100,MS4.3/30, 82C-60D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.39**	**344**	*i* P		**Pb**		**19 53 48.8**	**0.0**
TUMR	**Tumrok**	**1.51**	**318**	*i* P		**Pn**		**19 54 06.8**	**+2.2**
TUMR				*i* S		**Sn**		**19 54 24.5**	**+1.3**
SPN	**Mys Shipunski**	**1.56**	**227**	*i* P		**Pn**		**19 54 05.2**	**-0.2**
SPN				*i* S		**Sn**		**19 54 21.8**	**-2.7**
NLC	**Nalytchevo**	**1.83**	**238**	*e*P		**Pn**		**19 54 09.7**	**+0.6**
NLC				*i* S		**Sn**		**19 54 29.6**	**-1.5**
KMNR	**Kamenistaya**	**1.85**	**329**	*i* P		**Pn**		**19 54 12.0**	**+2.6**
KMNR				*e*S		**Sn**		**19 54 33.5**	**+1.8**
BZMR	**Bezymyannaya**	**1.94**	**336**	*i* P		**Pn**		**19 54 12.7**	**+2.1**
BZMR				*e*S		**Sn**		**19 54 35.0**	**+1.1**
ZLN	**Zelenaya**	**1.95**	**341**	*i* P		**Pn**		**19 54 13.0**	**+2.3**
KPT	**Kopyto**	**2.04**	**332**	*i* P		**Pn**		**19 54 14.4**	**+2.5**
KPT				*i* S		**Sn**		**19 54 37.7**	**+1.4**
AVH	**Avacha**	**2.10**	**245**	*i* P		**Pn**		**19 54 14.6**	**+1.9**
AVH				*e*S		**Sn**		**19 54 37.9**	**+0.2**
KRSR	**Krestovskiy**	**2.19**	**340**	*i* P		**Pn**		**19 54 16.0**	**+2.1**
KRSR				*i* S		**Sn**		**19 54 40.6**	**+0.7**
KOZR	**Kozyr**	**2.22**	**329**	PN		**Pn**		**19 54 17.8**	**+3.4**
KOZR				S		**Sn**		**19 54 43.6**	**+2.9**
KOZ	**Kozyrevsk**	**2.22**	**329**	*e*P		**Pn**		**19 54 17.8**	**+3.4**
KOZ				*i* S		**Sn**		**19 54 43.6**	**+2.9**
KLY	**Klyuchi**	**2.26**	**342**	*i* P		**Pn**		**19 54 16.5**	**+1.6**
KLY				*i* S		**Sn**		**19 54 41.4**	**-0.3**
PET	**Petropavlovsk**	**2.26**	**241**α	*i*PN		**Pn**		**19 54 16.0**	**+1.0**
PET				*e*S		**Sn**		**19 54 44.6**	**+2.9**
PET				pmax	pmax				
	comp=Z,2μm,1.1s								
PET				pmax	pmax				
	comp=Z,1μm,0.9s								
PET				smax					
	comp=E,6μm,1.3s								
PET				smax					
	comp=N,5μm,0.8s								
PET				smax					
	comp=E,4μm,0.9s								
PET				MLR	MLR				
	comp=Z,5μm,16.0s								
PET				MLR	MLR				
	comp=Z,5μm,16.0s								
PET	**Petropavlovsk**	**2.26**	**241**	*e*Pn		**Pn**		**19 54 15.9**	**+0.9**
PET	**Petropavlovsk**	**2.26**	**241**	*e*P		**Pn**		**19 54 16.3**	**+1.3**
PET				*i* S		**Sn**		**19 54 41.2**	**-0.5**
INSR	**Institute**	**2.26**	**242**	P		**Pn**		**19 54 16.8**	**+1.8**
INSR				*i* S		**Sn**		**19 54 41.9**	**+0.1**
GNL	**Ganaly**	**2.40**	**260**	*i* P		**Pn**		**19 54 19.9**	**+3.0**
GNL				*e*S		**Sn**		**19 54 47.2**	**+2.1**
SRDR	**Sredinnyy**	**2.49**	**330**	*e*P		**Pn**		**19 54 20.6**	**+2.5**
SRDR				*e*S		**Sn**		**19 54 48.3**	**+1.0**
SRKR	**Sorokina**	**2.52**	**351**	*i* P		**Pn**		**19 54 20.4**	**+1.9**
RUS	**Russkaya**	**2.69**	**231**	*e*P		**Pn**		**19 54 21.4**	**+0.6**
RUS				*i* S		**Sn**		**19 54 50.1**	**-2.1**
GRL	**Gorelyy**	**2.82**	**236**	*e*P		**Pn**		**19 54 24.9**	**+2.2**
GRL				*e*S		**Sn**		**19 54 55.7**	**+0.2**
SKR	**Severo-Kuril's**	**4.98**	**228**	*e*PN		**Pn**		**19 54 52.5**	**+0.1**
SKR				pmax	pmax				
	comp=Z,80nm,0.5s								
SMY	**Shemya**	**7.42**	**96**	*e*PN		**Pn**		**19 55 23.4**	**-2.5**
SEY	**Seymchan**	**10.08**	**334**⇑	*e*PN		**Pn**		**19 56 03.5**	**+1.2**
UGL	**Uglegorsk**	**13.33**	**256**	*e*PN		**Pn**		**19 56 52.0**	**+5.3**
UGL				pmax	pmax				
	comp=Z,112nm,1.0s								
BILL	**Bilibino**	**14.06**	**7**⇓	*e*P		**Pn**		**19 56 58.0**	**+1.2**
BILL				pmax	pmax				
	comp=Z,18nm,1.5s								
BILL				MLR	MLR				
	comp=Z,1μm,18.0s								
BILL	**Bilibino**	**14.06**	**7**	*e*P		**Pn**		**19 56 57.6**	**+0.8**
	comp=Z,25nm,0.9s								
YSS	**Yuzh-Sakhalins**	**14.13**	**247**⇑	*e*P		**Pn**		**19 57 02.6**	**+4.9**
YSS				S		**Sn**		**19 59 36.0**	**+2.7**
YSS				pmax	pmax				
	comp=E,50nm,1.1s								
YSS				pmax	pmax				
	comp=Z,60nm,1.1s								
YSS				MLR	MLR				
	comp=Z,1μm,15.0s								
YSS				MLR	MLR				
	comp=E,600nm,16.0s								
YSS	**Yuzh-Sakhalins**	**14.13**	**247**	*e*P		**Pn**		**19 57 01.3**	**+3.6**
	comp=E,52nm,1.0s								
ASAJ	**Asahikawa**	**16.11**	**239**	Pn		**Pn**		**19 57 24.1**	**+0.3**
	comp=E,1.8nm,0.3s,baz=68,slow=7.9,SNR=15								
ASAJ				LR	LR			20 04 22.6	
	comp=E,618nm,18.1s,baz=9.2,slow=40								
ASAJ	**Asahikawa**	**16.11**	**239**	P		**Pn**		**19 57 24.2**	**+0.4**
ASAJ				pmax	pmax				
	comp=Z,2.0nm,0.3s								
ASAJ				MLR	MLR				
	comp=Z,618nm,18.1s								
ERM	**Erimo**	**17.40**	**233**⇑	*e*P		**Pn**		**19 57 40.3**	**+0.2**
ERM	**Erimo**	**17.40**	**233**	*e*P		**Pn**		**19 57 38.1**	**-1.9**
	comp=Z,41nm,0.6s								
YAK	**Yakutsk**	**18.59**	**308**	*e*P		**Pn**		**19 57 52.9**	**-1.7**
YAK				*e*S		**Sn**		**20 01 19.1**	**-2.3**
YAK				pmax	pmax				
	comp=N,9.0nm,1.0s								
YAK				pmax	pmax				
	comp=Z,29nm,1.0s								
YAK				pmax	pmax				
	comp=E,21nm,1.2s								
YAK				smax					
	comp=N,45nm,1.5s								
YAK				smax					
	comp=E,41nm,1.3s								
YAK				smax					
	comp=Z,20nm,1.3s								
YAK				MLR	MLR				
	comp=Z,923nm,17.0s								
YAK				MLR	MLR				
	comp=N,385nm,12.0s								
YAK				MLR	MLR				
	comp=E,829nm,19.0s								
YAK	**Yakutsk**	**18.59**	**308**	*e*P		**Pn**		**19 57 54.5**	**-0.1**
	comp=E,30nm,0.6s								
KLR	**Kul'dur**	**19.25**	**267**	*e*P		**Pn**		**19 58 01.7**	**-1.0**
KLR				*e*S		**Sn**		**20 01 37.8**	**+0.3**
KLR				pmax	pmax				
	comp=E,68nm,1.6s								
KLR				pmax	pmax				
	comp=Z,62nm,1.6s								
SDPT	**Sand Point**	**21.56**	**72**	P		**P**		**19 58 27.0**	**+0.4**
VLA	**Vladivostok**	**22.53**	**253**	P		**P**		**19 58 38.0**	**+1.1**
VLA				MLR	MLR				
	comp=Z,600nm,17.7s,MS4.1								
TIXI	**Tiksi**	**22.57**	**333**	*e*P		**P**		**19 58 34.7**	**-2.6**
TIXI				*e*S		**S**		**20 02 43.2**	**0.0**
TIXI				pmax	pmax				
	comp=Z,16nm,1.0s,mb4.4								
TIXI				MLR	MLR				
	comp=Z,594nm,11.0s,MS4.3								
TIXI	**Tiksi**	**22.57**	**333**	*e*P		**P**		**19 58 35.6**	**-1.7**
	comp=Z,11nm,0.8s,mb4.3								
MDJ	**Mudanjiang**	**22.92**	**259**	P		**P**		**19 58 39.5**	**-1.5**
MDJ				S		**S**		**20 02 46.1**	**-2.8**
MDJ				PCS		PcS		20 06 09.2	-0.5
MDJ				AMB		AMB			
	comp=Z,6.0nm,0.8s,mb4.1								
MDJ				AMB		AMB			
	comp=Z,82nm,4.8s								
MDJ				LR		LR			
	comp=N,339nm,20.6s,MS3.9								
MDJ				LR		LR			
	comp=E,217nm,20.6s,MS3.9								
MDJ				LR		LR			
	comp=Z,302nm,19.7s,MS3.7								
SVW2	**Sparrevohn**	**23.42**	**56**	*e*P		**P**		**19 58 45.1**	**-1.1**
MAJO	**Matsushiro**	**24.07**	**233**	*e*P		**P**		**19 58 52.5**	**+0.3**
MAJO				pmax	pmax				
	comp=Z,58nm,0.8s,mb5.1								
MAJO	**Matsushiro**	**24.07**	**233**	*e*P		**P**		**19 58 52.5**	**+0.3**
	comp=Z,58nm,0.8s,mb5.1								
MAT	**Matsushiro**	**24.07**	**233**	P		**P**		**19 58 53.9**	**+1.7**
MAT				S		**S**		**20 03 11.6**	**+4.1**
MJAR	**Matsushiro Arr**	**24.07**	**233**	P		**P**		**19 58 52.3**	**+0.1**
	comp=Z,38nm,0.8s,mb4.9,baz=19,slow=11,SNR=44								
MJAR				LR		LR		20 08 60.0	
	comp=Z,214nm,20.6s,MS3.6,baz=25,slow=38								
IMA2	**Indian Mountai**	**24.50**	**43**	*e*P		**P**		**19 58 55.3**	**-0.9**
KDAK	**Kodiak Island**	**25.34**	**63**	P		**P**		**19 59 02.0**	**-1.7**
	comp=Z,14nm,0.7s,mb4.6,baz=254,slow=10,SNR=12								
HIA	**Hailar**	**26.28**	**277**	P		**P**		**19 59 10.7**	**-1.6**
HIA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
HIA	**Hailar**	**26.28**	**277**	P		**P**		**19 59 10.7**	**-1.5**
	comp=Z,5.5nm,0.6s,mb4.3								
SML	**Sawmill**	**26.84**	**53**	P		**P**		**19 59 17.3**	**0.0**
SML	**Sawmill**	**26.84**	**53**	*e*P		**P**		**19 59 16.1**	**-1.2**
COLA	**College**	**26.87**	**47**	P		**P**		**19 59 16.9**	**-0.7**
COLA				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.2								
COLA	**College**	**26.87**	**47**	*e*P		**P**		**19 59 16.6**	**-0.9**
	comp=Z,9.3nm,1.0s,mb4.3								
COLA				*e*		pP		19 59 25.8	-1.1
KSRS	**Korea Array**	**28.63**	**248**	P		**P**		**19 59 34.4**	**+1.1**
	comp=Z,2.2nm,0.6s,mb4.1,baz=39,slow=9.5,SNR=9.3								
KSRS				LR		LR		20 11 36.2	
	comp=Z,204nm,19.3s,MS3.7,baz=55,slow=38								
DAWY	**Dawson**	**30.59**	**48**	*e*P		**P**		**19 59 48.7**	**-2.0**
INK	**Inuvik**	**32.35**	**39**	P		**P**		**20 00 05.7**	**-0.4**
	comp=Z,4.6nm,0.6s,mb4.5,baz=279,slow=7.5,SNR=27								
BJI	**Beijing**	**33.56**	**264**	P		**P**		**20 00 19.0**	**+2.3**
BJI				AMB		AMB			
	comp=Z,5.0nm,0.8s,mb4.5								
BJI				LR		LR			
	comp=N,441nm,17.1s								
BJI				LR		LR			
	comp=E,303nm,24.4s								
BJI				LR		LR			
	comp=Z,319nm,19.9s,MS4.0								
SKAG	**Skagway**	**33.60**	**55**	*e*P		**P**		**20 00 17.5**	**+0.4**
	comp=Z,19nm,1.0s,mb5.0								
SONM	**Songino Array**	**34.71**	**283**	P		**P**		**20 00 23.8**	**-3.0**
	comp=Z,0.4nm,0.5s,baz=68,slow=7.5,SNR=4.3								
SONM				PcP		PcP		20 03 00.4	+0.3
	comp=Z,2.6nm,0.7s,baz=85,slow=2.0,SNR=10								
SONM				LR		LR		20 16 28.3	
	comp=Z,426nm,18.0s,MS4.2,baz=171,slow=40								
SONM	**Songino Array**	**34.71**	**283**	P		**P**		**20 00 23.8**	**-2.9**
SONM								20 03 00.4	
ZAK	**Zakamensk**	**35.18**	**288**	*e*P		**P**		**20 00 36.3**	**+5.5**
HHC	**Hu-ho-hao-te**	**35.74**	**269**	*e*P		**P**		**20 00 36.2**	**+0.6**
HHC				PP		PP		20 01 57.7	+0.6
HHC				S		**S**		**20 06 08.6**	**-1.9**
HHC				SS		SS		20 08 29.6	-17
HHC				AMB		AMB			
	comp=Z,16nm,0.4s,mb5.3								
HHC				AMB		AMB			
	comp=Z,350nm,7.0s								
HHC				LR		LR			
	comp=N,454nm,17.2s,MS4.4								
HHC				LR		LR			
	comp=E,387nm,16.1s,MS4.4								
HHC				LR		LR			
	comp=Z,507nm,17.2s,MS4.3								
SSE	**Sheshan**	**37.07**	**248**	*e*P		**P**		**20 00 46.5**	**-0.4**
SSE				AP		pP		20 00 56.7	+0.3
SSE				S		**S**		**20 06 32.5**	**+1.8**
SSE				AMB		AMB			
	comp=Z,52nm,0.7s,mb5.5								
SSE				AMB		AMB			
	comp=Z,78nm,4.1s								
SSE				LR		LR			
	comp=N,112nm,24.5s,MS3.7								
SSE				LR		LR			
	comp=E,104nm,24.5s,MS3.7								
SSE				LR		LR			
	comp=Z,94nm,18.2s								
YKA	**Yellowknife Ar**	**41.63**	**44**	P		**P**		**20 01 24.0**	**-0.9**
	comp=Z,4.0nm,0.9s,mb4.1,baz=300,slow=8.1,SNR=24								
YKA				PcP		PcP		20 03 20.4	-1.1
	comp=Z,0.8nm,0.9s,baz=301,slow=3.5,SNR=3.6								
YKA	**Yellowknife Ar**	**41.63**	**44**	P		**P**		**20 01 24.0**	**-1.0**
YKA								20 03 20.4	
YKA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ZAL	**Zalesovo**	**43.12**	**303**	P		**P**		**20 01 34.9**	**-2.3**
	comp=Z,0.5nm,0.4s,baz=3.8,slow=15,SNR=2.1								
ZAL				PcP		PcP		20 03 24.9	-1.6
	comp=Z,0.8nm,0.3s,baz=82,slow=7.0,SNR=3.9								
ZAL				LR		LR		20 21 37.5	
	comp=Z,592nm,21.3s,MS4.5,baz=59,slow=39								
ZAL	**Zalesovo**	**43.12**	**303**	P		**P**		**20 01 34.9**	**-2.2**
ZAL								20 03 24.9	
NVS	**Novosibirsk**	**43.40**	**304**	*e*P		**P**		**20 01 37.4**	**-1.9**
LZH	**Lanzhou**	**43.43**	**270**	*e*P		**P**		**20 01 41.2**	**+1.6**
LZH				PP		PP		20 03 24.5	+3.7
LZH				*e*S		**S**		**20 08 04.0**	**-1.7**
LZH				SS		SS		20 11 13.0	-7.4
LZH				AMB		AMB			
	comp=Z,13nm,1.0s,mb4.6								
LZH				AMB		AMB			
	comp=Z,70nm,4.2s								
LZH				LR		LR			
	comp=N,789nm,13.7s								
LZH				LR		LR			
	comp=Z,1μm,14.9s,MS4.9								
GTA	**Gaotai**	**43.56**	**277**	*e*P		**P**		**20 01 40.3**	**-0.4**
GTA				PP		PP		20 03 23.3	+1.0
GTA				PCP		PcP		20 03 29.0	+1.0
GTA				S		**S**		**20 08 03.2**	**-4.4**
GTA				SS		SS		20 11 09.5	-13
GTA				AMB		AMB			
	comp=Z,2.0nm,1.2s,mb3.7								
GTA				AMB		AMB			
	comp=Z,326nm,6.8s								
GTA				LR		LR			
	comp=N,629nm,14.8s,MS4.8								
GTA				LR		LR			
	comp=E,677nm,12.9s,MS4.8								
GTA				LR		LR			
	comp=Z,387nm,11.0s,MS4.6								
A07A	**Ashnola River,**	**46.24**	**63**	⇑P		**P**		**20 02 02.1**	**+0.1**
	baz=46,SNR=8.1								
B07A	**Winthrop**	**46.74**	**63**	P		**P**		**20 02 05.9**	**0.0**
	baz=46,SNR=6.2								
A08A	**Turner Farm, O**	**46.88**	**62**	⇑P		**P**		**20 02 06.9**	**-0.1**
	baz=47,SNR=7.7								
CD2	**Chengdu**	**47.15**	**265**	*e*P		**P**		**20 02 08.6**	**-0.5**
CD2				PP		PP		20 03 59.1	-1.0
CD2				S		**S**		**20 08 56.0**	**-3.4**
CD2				SS		SS		20 12 16.1	-11
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s,mb5.0								
CD2				AMB		AMB			
	comp=Z,30nm,4.8s								
CD2				LR		LR			
	comp=N,680nm,18.0s,MS4.8								
CD2				LR		LR			
	comp=E,630nm,16.8s,MS4.8								
CD2				LR		LR			
	comp=Z,440nm,15.6s,MS4.5								
B08A	**Colville Reser**	**47.22**	**63**	⇓P		**P**		**20 02 09.5**	**-0.1**
	baz=47,SNR=16								
A09A	**Danville**	**47.23**	**62**	⇓P		**P**		**20 02 09.9**	**+0.2**
	baz=47,SNR=10.0								
C07A	**Waterville**	**47.25**	**64**	⇓P		**P**		**20 02 09.4**	**-0.5**
	baz=47,SNR=5.2								
EDM	**Edmonton**	**47.25**	**55**	P		**P**		**20 02 08.9**	**-1.0**
EDM	**Edmonton**	**47.25**	**55**	*e*P		**P**		**20 02 08.8**	**-1.1**
WMQ	**Urumqi**	**47.63**	**289**	*e*P		**P**		**20 02 13.8**	**+1.0**
WMQ				AMB		AMB			
	comp=Z,9.0nm,1.0s,mb4.8								
WMQ				LR		LR			
	comp=N,372nm,24.0s,MS4.4								
WMQ				LR		LR			
	comp=E,343nm,22.0s,MS4.4								
WMQ				LR		LR			
	comp=Z,399nm,20.0s,MS4.4								
C08A	**Higginbotham F**	**47.73**	**63**	⇑P		**P**		**20 02 13.2**	**-0.4**
	baz=48,SNR=8.5								
B09A	**Rice**	**47.80**	**62**	⇓P		**P**		**20 02 14.1**	**-0.1**
	baz=48,SNR=8.1								
H04A	**Detroit Lake**	**48.00**	**69**	⇓P		**P**		**20 02 16.5**	**+0.8**
	baz=48								
E07A	**Sunnyside**	**48.07**	**65**	P		**P**		**20 02 16.3**	**+0.1**
	baz=48,SNR=6.6								
KURK	**Kurchatov**	**48.08**	**302**⇓	*e*P		**P**		**20 02 14.5**	**-1.8**
KURK	**Kurchatov**	**48.08**	**302**	*e*P		**P**		**20 02 13.8**	**-2.6**
	comp=Z,6.1nm,0.8s,mb4.7								
G05A	**Wamic**	**48.12**	**67**	⇑P		**P**		**20 02 17.3**	**+0.7**
	baz=48								
C09A	**Chrisman Ranch**	**48.12**	**63**	⇑P		**P**		**20 02 16.2**	**-0.4**
	baz=48,SNR=6.0								
D08A	**Wollman Farm,**	**48.25**	**64**	⇑P		**P**		**20 02 16.9**	**-0.8**
	baz=48								
A11A	**Hall Mountain,**	**48.38**	**61**	⇓P		**P**		**20 02 19.0**	**+0.3**
	baz=48,SNR=6.9								
NEW	**Newport**	**48.43**	**62**	P		**P**		**20 02 18.6**	**-0.4**
	comp=Z,7.8nm,0.8s,mb4.8,baz=308,slow=7.9,SNR=17								
NEW				LR		LR		20 20 37.1	
	comp=Z,515nm,19.8s,MS4.5,baz=294,slow=34								
F07A	**Phinny Hill Vi**	**48.45**	**66**	⇓P		**P**		**20 02 19.0**	**-0.2**
	baz=48,SNR=7.1								
MKAR	**Makanchi Array**	**48.66**	**296**	P		**P**		**20 02 18.9**	**-1.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=59,slow=6.4,SNR=16								
B11A	**Sandpoint**	**48.71**	**61**	⇑P		**P**		**20 02 20.4**	**-0.7**
	baz=48,SNR=5.9								
A12A	**Yaak River Ran**	**48.76**	**60**	⇑P		**P**		**20 02 21.4**	**-0.2**
	baz=48,SNR=5.2								
GYA	**Guiyang**	**48.79**	**258**	P		**P**		**20 02 25.1**	**+3.4**
GYA				PCP		PcP		20 03 49.0	+2.7
GYA				PP		PP		20 04 17.5	+2.5
GYA				SCP		ScP		20 07 38.8	0.0
GYA				S		**S**		**20 09 22.3**	**-0.3**
GYA				SCS		ScS		20 12 09.9	-1.8
GYA				SS		SS		20 12 48.5	-4.7
GYA				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.2								
GYA				AMB		AMB			
	comp=Z,120nm,4.9s								
GYA				LR		LR			
	comp=N,520nm,15.9s,MS4.8								
GYA				LR		LR			
	comp=E,490nm,16.0s,MS4.8								
GYA				LR		LR			
	comp=Z,460nm,15.6s,MS4.6								
H06A	**Lindquist Farm**	**48.98**	**67**	⇑P		**P**		**20 02 23.2**	**0.0**
	baz=49								
G07A	**Ruggs Ranch, H**	**49.00**	**66**	⇓P		**P**		**20 02 23.3**	**-0.1**
	baz=49								
E09A	**Wood Farm, Sta**	**49.01**	**64**	⇑P		**P**		**20 02 23.1**	**-0.4**
	baz=49,SNR=15								
D10A	**Wagner Farm, O**	**49.12**	**63**	⇓P		**P**		**20 02 23.7**	**-0.6**
	baz=49,SNR=12								
A13A	**Flathead Natio**	**49.39**	**60**	⇑P		**P**		**20 02 26.4**	**0.0**
	baz=49								
J05A	**Fort Rock**	**49.43**	**69**	⇓P		**P**		**20 02 27.5**	**+0.8**
	baz=49								
E10A	**Myers Farm, Un**	**49.57**	**64**	⇑P		**P**		**20 02 27.4**	**-0.4**
	baz=49,SNR=6.6								
D11A	**Klaveano Farm,**	**49.62**	**63**	⇓P		**P**		**20 02 27.5**	**-0.6**
	baz=49,SNR=13								
YBH	**Yreka Blue Hor**	**49.64**	**72**	LR		LR		20 20 34.0	
	comp=Z,277nm,19.4s,MS4.3,baz=338,slow=33								
F10A	**Beach Ranch, E**	**49.84**	**64**	⇓P		**P**		**20 02 29.1**	**-0.7**
	baz=50,SNR=6.4								
G09A	**Cove**	**50.00**	**65**	⇓P		**P**		**20 02 30.6**	**-0.4**
	baz=50								
H08A	**Prairie City**	**50.02**	**67**	⇓P		**P**		**20 02 31.3**	**+0.1**
	baz=50								
CHKZ	**Chkalovo**	**50.04**	**309**	P		**P**		**20 02 29.3**	**-2.0**
CHKZ				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
CHKZ	**Chkalovo**	**50.04**	**309**	*e*P		**P**		**20 02 28.9**	**-2.4**
	comp=Z,5.0nm,0.8s,mb4.6								
J06A	**Christmas Vall**	**50.05**	**69**	⇓P		**P**		**20 02 31.9**	**+0.5**
	baz=50,SNR=7.8								
C13A	**Hot Springs**	**50.12**	**61**	⇑P		**P**		**20 02 32.1**	**+0.2**
	baz=50,SNR=15								
E11A	**Bogner Ranch,**	**50.13**	**63**	⇑P		**P**		**20 02 31.0**	**-1.0**
	baz=50,SNR=12								
K06A	**Valley Falls**	**50.30**	**69**	⇑P		**P**		**20 02 34.0**	**+0.8**
	baz=50,SNR=6.9								
F11A	**Grangeville**	**50.47**	**64**	⇑P		**P**		**20 02 34.0**	**-0.6**
	baz=50,SNR=10								
C14A	**Swan Lake**	**50.48**	**60**	⇓P		**P**		**20 02 34.8**	**+0.1**
	baz=50								
WDC	**Whiskeytown Da**	**50.51**	**73**	*e*P		**P**		**20 02 33.9**	**-1.0**
WDC				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.7								
WDC	**Whiskeytown Da**	**50.51**	**73**	*e*P		**P**		**20 02 33.9**	**-1.0**
	comp=Z,12nm,1.1s,mb4.8								
D13A	**Huson**	**50.56**	**62**	⇓P		**P**		**20 02 34.1**	**-1.1**
	baz=50,SNR=8.0								
BVAR	**Borovoye Array**	**50.56**	**309**	P		**P**		**20 02 33.9**	**-1.3**
	comp=Z,2.5nm,0.5s,mb4.4,baz=60,slow=7.9,SNR=29								
BVAR				LR		LR		20 26 41.8	
	comp=Z,494nm,19.2s,MS4.5,baz=128,slow=39								
BRVK	**Borovoye**	**50.59**	**309**	P		**P**		**20 02 34.0**	**-1.5**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
BRVK	**Borovoye**	**50.59**	**309**	*e*P		**P**		**20 02 33.2**	**-2.3**
	comp=Z,3.1nm,0.6s,mb4.4								
G11A	**Walters Elk Ra**	**50.73**	**64**	⇑P		**P**		**20 02 36.2**	**-0.3**
	baz=50,SNR=15								
M05C	**Lookout**	**50.76**	**71**	⇓P		**P**		**20 02 37.3**	**+0.5**
	baz=51								
MOD	**Modoc**	**50.87**	**70**	⇑P		**P**		**20 02 38.0**	**+0.4**
	baz=51,SNR=9.3								
K07A	**Rock Creek Ran**	**50.92**	**69**	⇑P		**P**		**20 02 37.5**	**-0.4**
	baz=51								
H10A	**Noah's Angus R**	**51.01**	**65**	⇓P		**P**		**20 02 38.4**	**-0.2**
	baz=51,SNR=9.8								
F12A	**Elk City**	**51.02**	**63**	⇓P		**P**		**20 02 38.9**	**+0.

F15A **Butte** 52.41 62 ⇑P P 20 02 49.0 -0.1
baz=52,SNR=10
ARCES **ARCESS Array B** 52.59 342 P P 20 02 49.5 -1.0
comp=Z,2.7nm,0.9s,mb4.2,baz=35,slow=8.9,SNR=6.0
LAVA **Lava Cap Winer** 52.77 73 ⇑P P 20 02 52.2 +0.4
baz=53,SNR=5.9
J12A **Stokes Ranch,** 52.79 66 ⇓P P 20 02 52.4 +0.5
baz=53
O07A **Toulon** 52.84 71 ⇑P P 20 02 53.2 +0.9
baz=53,SNR=8.3
G15A **Dillon** 52.87 62 ⇓P P 20 02 52.4 -0.1
baz=53,SNR=10
MCMT **McKenzie Canyo** 52.91 63 eP P 20 02 52.5 -0.3
HLID **Hailey** 52.94 65 P P 20 02 53.1 +0.1
baz=53,SNR=9.9
WCN **Washoe City** 52.94 72 ⇑P P 20 02 54.1 +1.0
baz=53
BOZ **Bozeman (W)** 52.98 61 ⇑P P 20 02 53.8 +0.5
baz=53
J13A **Cove Ranch, Pi** 53.18 65 ⇑P P 20 02 55.1 +0.3
baz=53
ARU **Arti** 53.33 318 ⇓iP P 20 02 54.8 -1.1
ARU e 20 04 02.5
ARU e 20 04 56.2
ARU ePPP 20 06 03.5
ARU eS S 20 10 24.3 -1.1
ARU eSS SS 20 14 03.5 -1.9
ARU pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ARU MLR MLR
comp=N,400nm,20.0s,MS4.6
ARU MLR MLR
comp=Z,500nm,20.0s,MS4.6
ARU MLR MLR
comp=E,400nm,18.0s,MS4.6
ARU **Arti** 53.33 318 eP P 20 02 53.8 -2.1
comp=E,4.8nm,0.6s,mb4.6
QLMT **Earthquake Lak** 53.65 62 eP P 20 02 58.7 +0.5
R06C **Coleville** 53.66 73 ⇓P P 20 02 59.5 +1.2
baz=54,SNR=9.3
O09A **Fish Creek Ran** 53.77 70 ⇑P P 20 02 59.9 +0.8
baz=54,SNR=12
S06C **San Francisco** 53.88 74 ⇓P P 20 03 00.7 +0.8
baz=54
GCMT **Greycliff** 53.89 60 eP P 20 03 00.3 +0.3
YMR **Madison River** 54.00 62 eP P 20 03 00.7 -0.1
comp=E,22nm,0.9s,mb5.1
O10A **Cortez Mining,** 54.06 69 ⇓P P 20 03 02.7 +1.5
baz=54
Q08A **Gabbs** 54.27 71 ⇑P P 20 03 03.8 +1.1
baz=54,SNR=33
NVAR **Mina Array Bea** 54.36 72 P P 20 03 04.2 +0.7
comp=E,16nm,0.8s,mb5.0,baz=303,slow=7.6,SNR=80
N12A **Clover Valley,** 54.47 68 ⇑P P 20 03 05.4 +1.2
baz=54,SNR=16
IMW **Indian Meadow** 54.54 62 eP P 20 03 05.4 +0.7
comp=E,15nm,0.8s,mb5.1
KCC **Kaiser Creek** 54.57 74 P P 20 03 05.6 +0.7
baz=54,SNR=9.5
T06C **Millerton Lake** 54.58 74 ⇑P P 20 03 05.0 0.0
baz=54,SNR=5.3
M13A **Montello** 54.59 67 P P 20 03 06.0 +0.9
baz=54,SNR=9.8
O11A **Cowboy Ranch,** 54.64 69 ⇑P P 20 03 06.5 +1.1
baz=54,SNR=12
Q09A **Carvers** 54.71 71 ⇑P P 20 03 06.8 +0.8
baz=54
TPAW **Teton Pass** 54.82 63 eP P 20 03 07.7 +0.9
comp=E,2μm,1.2s
MTUM **Tungsten Hills** 54.98 73 eP P 20 03 08.8 +0.9
P11A **Circle Ranch,** 54.99 69 ⇑P P 20 03 09.1 +1.2
baz=55
LAO **LASA Array** 55.00 57 eP P 20 03 08.2 +0.1
comp=E,34nm,1.0s,mb5.3
O12A **Currie** 55.04 68 ⇓P P 20 03 09.4 +1.0
baz=55,SNR=13
HVU **Hansel Valley** 55.05 65 P P 20 03 08.1 -0.3
HVU pmax pmax
comp=Z,16nm,0.9s,mb5.0
HVU **Hansel Valley** 55.05 65 eP P 20 03 07.3 -1.1
comp=Z,16nm,0.9s,mb5.1
S08C **White Mtn Res** 55.09 73 ⇓P P 20 03 08.2 -0.5
baz=55,SNR=8.2
R09A **Tonopah** 55.19 71 P P 20 03 09.9 +0.5
baz=55,SNR=18
HELL **Mitchell Peak,** 55.19 74 ⇑P P 20 03 09.8 +0.4
baz=55
TPH **Tonopah** 55.22 72 eP P 20 03 10.2 +0.6
TPH pmax pmax
comp=Z,34nm,0.8s,mb5.4
TPH **Tonopah** 55.22 72 eP P 20 03 10.2 +0.6
comp=Z,34nm,0.8s,mb5.4
LSA **Lhasa** 55.44 274 P P 20 03 12.0 +0.8
LSA **Lhasa** 55.44 274 eP P 20 03 10.7 -0.5
LSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LSA **Lhasa** 55.44 274 eP P 20 03 10.7 -0.5
comp=Z,4.0nm,0.9s,mb4.5
S09A **Goldfield** 55.46 72 ⇓P P 20 03 12.3 +1.0
baz=55,SNR=12
P12A **McGill** 55.51 69 ⇓P P 20 03 12.6 +0.8
baz=55,SNR=14
Q11A **Duckwater** 55.54 70 ⇑P P 20 03 12.9 +0.9
baz=55,SNR=7.9
AAK **Ala-Archa** 55.57 297 ⇓iP P 20 03 11.5 -0.6
AAK pmax pmax
comp=Z,8.0nm,2.5s,mb4.3
AAK MLR MLR
comp=Z,300nm,18.0s,MS4.4
VES **Vestal, Richgr** 55.76 75 ⇑P P 20 03 12.9 -0.7
baz=56
HWUT **Hardware Ranch** 55.81 65 eP P 20 03 14.3 +0.5
comp=Z,41nm,1.2s,mb5.3
Q12A **Willow Creek R** 55.86 69 ⇓P P 20 03 15.5 +1.2
baz=56,SNR=7.8
GRAC **Grapevine Rang** 55.90 73 ⇑P P 20 03 15.6 +1.1
baz=56,SNR=7.9
PDAR **Pinedale Array** 56.05 63 P P 20 03 16.1 +0.5
comp=Z,13nm,1.0s,mb4.9,baz=316,slow=2.6,SNR=74
DUG **Dugway** 56.14 67 eP P 20 03 16.8 +0.6
DUG pmax pmax
comp=Z,36nm,0.9s,mb5.4
DUG **Dugway** 56.14 67 eP P 20 03 16.8 +0.5
comp=Z,36nm,0.9s,mb5.4
DUG **Dugway** 56.14 67 ⇓P P 20 03 17.3 +1.0
baz=56
NOQ **North Oquirrh** 56.19 66 eP P 20 03 17.3 +0.7
comp=Z,33nm,0.8s,mb5.4
ISA **Isabella** 56.23 74 P P 20 03 16.9 0.0
baz=56,SNR=5.8
CTU **Camp Tracy** 56.36 66 eP P 20 03 18.3 +0.5
comp=Z,25nm,1.0s,mb5.2
MPMC **Manual Prospec** 56.50 73 ⇓P P 20 03 19.8 +0.9
baz=56,SNR=9.8
FURC **Furnace Creek,** 56.56 73 P P 20 03 20.2 +0.9
baz=56,SNR=12
NLU **North Lily Min** 56.71 67 eP P 20 03 21.0 +0.7
LRMC **Laurel Mountai** 56.81 74 ⇑P P 20 03 21.6 +0.6
baz=57,SNR=8.2
U10A **Ash Meadows, A** 56.90 72 ⇑P P 20 03 22.6 +1.0
baz=57
JOF **Joensuu** 57.03 336 ep P 20 03 20.2 -2.4
comp=Z,4.6nm,0.6s,mb4.7
EDW2 **Edwards Air Fo** 57.07 75 ⇓P P 20 03 23.4 +0.6
baz=57,SNR=7.9
ULM **Lac du Bonnet** 57.29 48 P P 20 03 23.4 -0.9
comp=Z,5.0nm,0.9s,mb4.5,baz=322,slow=9.5,SNR=8.1
GSC **Goldstone** 57.43 74 ⇑P P 20 03 26.0 +0.6
baz=57,SNR=12
ARUT **Antelope Range** 57.52 69 eP P 20 03 26.6 +0.6
MSU **Marysvale** 57.69 68 eP P 20 03 28.3 +1.1
BFSC **Mount Baldy St** 57.72 75 ⇓P P 20 03 27.2 -0.2
baz=58
V11A **Goodsprings** 57.82 72 ⇓P P 20 03 28.8 +0.6
baz=58,SNR=9.5
U12A **Valley of Fire** 57.89 71 ⇑P P 20 03 29.7 +1.1
baz=58,SNR=5.1
SRU **San Rafael** 58.15 66 eP P 20 03 31.1 +0.7
SRU pmax pmax
comp=Z,30nm,0.9s,mb5.3
SRU **San Rafael** 58.15 66 eP P 20 03 31.1 +0.6
comp=Z,30nm,0.9s,mb5.3
KAF **Kangasniemi** 58.91 337 ep P 20 03 34.0 -1.7
comp=Z,3.8nm,0.6s,mb4.6,baz=28,slow=6.5
KAF **Kangasniemi** 58.91 337 eP P 20 03 34.0 -1.7
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6

CHTO **Chiang Mai** 59.18 259 eP P 20 03 37.9 +0.3
CHTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CHTO **Chiang Mai** 59.18 259 eP P 20 03 37.9 +0.3
comp=Z,5.4nm,0.7s,mb4.7
IRM **Iron Mountain** 59.20 73 ⇑P P 20 03 37.3 -0.4
baz=59,SNR=13
W13A **Hualapai Mount** 59.22 72 ⇓P P 20 03 38.0 +0.1
baz=59,SNR=10
PV10 **Paradox Valley** 59.48 66 eP P 20 03 40.6 +0.9
FINES **FINESS Array B** 59.55 337 P P 20 03 38.8 -1.4
comp=Z,4.9nm,0.5s,mb4.8,baz=35,slow=9.7,SNR=34
FINES LR LR 20 31 03.1
comp=Z,209nm,19.4s,MS4.3,baz=348,slow=38
FINES **FINESS Array B** 59.55 337 iP P 20 03 39.0 -1.2
FINES pmax pmax
comp=Z,5.0nm,0.5s
W14A **Seligman** 59.58 71 ⇓P P 20 03 41.7 +1.3
baz=59,SNR=16
X13A **Yucca** 59.62 72 ⇓P P 20 03 41.1 +0.4
baz=59,SNR=7.8
PDMCI **Parker Dam,Lak** 59.66 73 ⇓P P 20 03 41.4 +0.5
baz=60,SNR=7.4
Y12C **Blythe** 59.85 73 ⇑P P 20 03 42.7 +0.5
baz=60,SNR=5.8
GUN **Gumba** 59.85 277 eP P 20 03 46.0 +3.8
comp=Z,6.0nm,0.5s,mb4.8
X14A **Yava** 60.24 72 ⇑P P 20 03 46.1 +1.2
baz=60,SNR=13
KKN **Kakani** 60.29 277 eP P 20 03 47.9 +2.6
comp=Z,7.4nm,0.6s,mb4.9
WUAZ **Wupatki** 60.31 70 ⇑P P 20 03 46.5 +1.1
baz=60
PKI **Pulchoki** 60.38 277 eP P 20 03 48.6 +2.7
GKN **Gorkha** 60.51 278 eP P 20 03 49.1 +2.4
comp=Z,7.1nm,0.7s,mb4.9
DMN **Daman** 60.53 277 eP P 20 03 50.0 +3.1
comp=Z,8.1nm,0.6s,mb5.0
Y14A **Wickenburg** 60.56 72 ⇓P P 20 03 47.9 +0.8
baz=60,SNR=6.3
X15A **Humboldt** 60.59 71 ⇓P P 20 03 48.7 +1.4
baz=60,SNR=17
MVCO **Mesa Verde** 60.63 66 ⇑P P 20 03 48.3 +0.7
baz=60
KOLN **Koldanda** 61.29 278 eP P 20 03 54.1 +2.1
comp=Z,6.4nm,0.8s,mb4.8
115A **Sonoran Desert** 61.92 72 ⇑P P 20 03 56.9 +0.6
baz=62,SNR=19
OBN **Obninsk** 62.18 328 ⇓eP P 20 03 57.3 -0.7
OBN e 20 04 35.5
OBN e 20 06 14.8
OBN pmax pmax
comp=Z,39nm,2.8s,mb5.0
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.6
NB2 **NORSAR Subarra** 62.80 344 P P 20 04 00.9 -1.3
comp=Z,6.8nm,0.7s,mb4.9,baz=20,slow=6.9
NOA **NORSAR Array B** 62.80 344 P P 20 04 00.9 -1.2
comp=Z,6.7nm,0.7s,mb4.9,baz=20,slow=6.7,SNR=15
HNR **Honiara** 63.38 182 LR LR 20 28 18.3
comp=Z,164nm,18.7s,MS4.2,baz=359,slow=33
ANMO **Albuquerque** 63.41 67 LR LR 20 30 23.5
comp=Z,179nm,18.8s,MS4.3,baz=95,slow=35
ANMO **Albuquerque** 63.41 67 ⇑iP P 20 04 04.7 -1.5
SCHQ **Schefferville** 64.18 29 P P 20 04 09.2 -2.1
comp=Z,5.7nm,0.7s,mb4.7,baz=74,slow=15,SNR=4.3
KSM **Kuching** 67.32 238 eP P 20 04 34.4 +2.8
WMOK **Wichita Mounta** 67.63 62 eP P 20 04 32.9 -0.6
WMOK pmax pmax
comp=Z,23nm,0.9s,mb5.2
WMOK **Wichita Mounta** 67.63 62 eP P 20 04 32.9 -0.6
comp=Z,23nm,0.9s,mb5.2
AKASG **Malin Array Be** 68.23 330 P P 20 04 35.8 -1.5
comp=Z,1.4nm,0.5s,mb4.2,baz=28,slow=6.1,SNR=8.3
AKASG LR LR 20 38 22.0
comp=Z,381nm,18.8s,MS4.7,baz=345,slow=40
AKASG **Malin Array Be** 68.23 330 iP P 20 04 35.9 -1.4
AKASG pmax pmax
comp=Z,1.0nm,0.5s
TXAR **Lajitas Array** 69.22 69 P P 20 04 43.6 +0.2
comp=Z,13nm,0.8s,mb4.9,baz=297,slow=4.4,SNR=140
KIV **Kislovodsk** 69.38 318 ⇑eP P 20 04 44.2 -0.2
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIV MLR MLR
comp=Z,300nm,20.0s,MS4.5
KIV **Kislovodsk** 69.38 318 eP P 20 04 44.5 +0.1
comp=Z,5.9nm,0.7s,mb4.6
BSEG **Bad Segeberg** 69.72 343 eP P 20 04 45.9 -0.6
comp=Z,7.0nm,0.9s,mb4.6
ZEI **Tsey** 69.88 316 eP P 20 04 46.6 -0.9
ZEI i pP 20 04 56.5 -1.1
ZEI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
JCT **Junction City** 70.42 65 eP P 20 04 50.1 -0.7
JCT pmax pmax
comp=Z,23nm,1.0s,mb5.1
JCT **Junction City** 70.42 65 eP P 20 04 50.1 -0.7
comp=Z,23nm,1.0s,mb5.1
OJC **Ojcow** 71.22 335 eP P 20 04 55.2 -0.5
KSP **Ksiaz** 71.46 338 eP P 20 04 57.6 +0.5
STHS **Stebnicka Huta** 71.60 334 eP P 20 04 58.3 +0.3
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS **Stebnicka Huta** 71.60 334 eP P 20 04 58.3 +0.3
comp=Z,4.6nm,0.8s,mb4.5
CLZ **Clausthal** 71.71 342 eP P 20 04 58.4 -0.2
comp=Z,8.0nm,0.9s,mb4.7
CLZ **Clausthal** 71.71 342 eP P 20 04 58.4 -0.2
CLZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GNI **Garni** 71.71 314 ⇑eP P 20 04 59.2 +0.5
GNI pmax pmax
comp=Z,12nm,1.7s
GNI MLR MLR
comp=Z,200nm,19.0s
CLL **Collm** 71.72 340 eP P 20 04 57.9 -0.8
comp=Z,12nm,0.9s,mb4.8
CLL epP pP 20 05 08.8 0.0
CLL **Collm** 71.72 340 ⇑iP P 20 04 57.9 -0.8
CLL i pP 20 05 08.8 0.0
CLL pmax pmax
comp=Z,19nm,1.2s,mb4.9
CLL **Collm** 71.72 340 ⇑iP P 20 04 57.9 -0.8
comp=Z,19nm,1.2s,mb4.9
CLL i 20 05 03.5
CLL i pP 20 05 08.8 0.0
CLL **Collm** 71.72 340 ⇑iP P 20 04 57.9 -0.8
comp=Z,19nm,1.2s,mb4.9
CLL i pP pP 20 05 03.5 -5.3
CLL i sP sP 20 05 05.9 -6.6
CLL **Collm** 71.72 340 ⇑i(P) pP 20 05 08.8 0.0
comp=Z,25nm,1.1s
KOLS **Kolonicke sedl** 71.78 333 eP P 20 04 58.6 -0.4
UPC **Upice** 71.84 338 eP P 20 04 59.3 -0.1
DPC **Dobruska-Polom** 71.92 338 eP P 20 05 00.0 +0.1
BRG **Berggiesshubel** 71.94 339 eP P 20 04 59.0 -1.0
comp=Z,5.0nm,0.9s,mb4.4
BRG **Berggiesshubel** 71.94 339 eP P 20 04 59.3 -0.7
comp=Z,10.0nm,1.8s,mb4.5
BRG e pP 20 05 10.2 +0.1
comp=Z,11nm,1.2s
BRG **Berggiesshubel** 71.94 339 eP P 20 04 59.3 -0.7
BRG e pP 20 05 10.2 +0.1
BRG pmax pmax
comp=Z,10.0nm,1.8s,mb4.4
OKC **Ostrava-Krasne** 71.97 336 eP P 20 05 01.0 +0.8
BURAR **Bucovina Array** 72.17 331 ⇓iP P 20 05 00.5 -0.9
MORC **Moravsky Berou** 72.17 337 eP P 20 05 00.9 -0.5
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MORC **Moravsky Berou** 72.17 337 eP P 20 05 00.9 -0.5
comp=Z,7.3nm,0.9s,mb4.6
MORC **Moravsky Berou** 72.17 337 ⇓iP P 20 05 01.1 -0.3
MOX **Moxa** 72.62 341 eP P 20 05 03.5 -0.6
comp=Z,6.0nm,0.9s,mb4.5
MOX **Moxa** 72.62 341 eP P 20 05 03.5 -0.6
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.8
PRU **Pruhonice** 72.65 339 eP P 20 05 04.1 -0.1
PRU epP pP 20 05 11.7 -2.6
KECS **Kecovo** 72.66 334 eP P 20 05 02.0 -2.3
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS **Kecovo** 72.66 334 eP P 20 05 02.0 -2.3
comp=Z,1.6nm,0.8s,mb4.0

TANN **Tannenbergstha** 72.67 340 eP P 20 05 04.0 -0.4
comp=Z,3.0nm,0.8s,mb4.3
VRAC **Vranov** 72.83 337 ⇑iP P 20 05 05.6 +0.3
NKC **Novy Kostel** 72.85 340 eP P 20 05 05.2 -0.2
NKC epP pP 20 05 13.6 -1.9
VYHS **Vyhne** 73.06 335 eP P 20 05 06.8 +0.1
MANZ **Manzenberg** 73.15 340 eP P 20 05 06.8 -0.4
comp=Z,4.0nm,0.9s,mb4.3
ROTZ **Rotzenmuhle** 73.34 340 eP P 20 05 08.4 +0.1
comp=Z,6.0nm,1.0s,mb4.5
GRA1 **Grafenberg Arr** 73.61 341 eP P 20 05 10.1 +0.2
comp=Z,12nm,0.8s,mb4.9
GRF **Grafenberg Arr** 73.61 341 eP P 20 05 10.1 +0.2
comp=Z,12nm,0.8s,mb4.9
GRF **Grafenberg Arr** 73.61 341 eP P 20 05 10.1 +0.2
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF **Grafenberg Arr** 73.61 341 eP P 20 05 10.1 +0.2
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRFO **Grafenberg** 73.61 341 eP P 20 05 09.8 -0.1
GRFO pmax pmax
comp=Z,30nm,1.3s,mb5.1
GRFO **Grafenberg** 73.61 341 eP P 20 05 09.8 -0.1
comp=Z,30nm,1.3s,mb5.1
DRGR 73.62 332 ⇑iP P 20 05 09.7 -0.3
MEM **Membach** 73.65 344 P P 20 05 09.5 -0.7
MEM E 20 05 15.9
MEM AP pP 20 05 20.5 +0.2
comp=Z,19nm,1.1s
KHC **Kasperske Hory** 73.66 339 eP P 20 05 07.7 -2.5
KHC epP pP 20 05 15.3 -5.0
KHC **Kasperske Hory** 73.66 339 ⇑eP P 20 05 07.9 -2.3
ZST **Bratislava** 73.75 336 eP P 20 05 11.6 +0.8
ZST pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZST **Bratislava** 73.75 336 eP P 20 05 11.6 +0.8
comp=Z,5.6nm,0.9s,mb4.5
WET **Wettzell** 73.80 339 eP P 20 05 10.9 -0.1
comp=Z,5.0nm,0.8s,mb4.5
WET **Wettzell** 73.80 339 eP P 20 05 10.9 -0.1
WET pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MLR **Muntele Rosu** 73.88 329 ⇑iP P 20 05 10.5 -1.0
GEC2 **GERESS Array S** 73.91 339 eP P 20 05 11.2 -0.5
comp=Z,3.0nm,0.8s,mb4.3
GEC2 **GERESS Array S** 73.91 339 eP P 20 05 11.2 -0.5
GEC2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GERES **GERESS Array B** 73.91 339 P P 20 05 11.4 -0.2
comp=Z,1.7nm,0.6s,mb4.1,baz=32,slow=4.5,SNR=21
VOIR 74.19 330 ⇑iP P 20 05 13.2 -0.1
GIVF **Givet** 74.33 345 eP P 20 05 13.4 -0.7
BAIF **Baives** 74.46 345 eP P 20 05 14.1 -0.8
GZR **Gura Zlata** 74.89 331 ⇓iP P 20 05 17.1 -0.3
BZS **Buzias** 75.00 332 ⇑iP P 20 05 15.9 -2.1
PKSM **Moragy** 75.23 335 ⇓iP P 20 05 16.6 -2.8
BFO **Black Forest** 75.46 342 eP P 20 05 19.9 -0.7
comp=Z,4.0nm,0.9s,mb4.3
BFO **Black Forest** 75.46 342 eP P 20 05 19.9 -0.7
BFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CDF **Champ du Feu** 75.56 343 eP P 20 05 20.5 -0.8
comp=Z,11nm,0.8s,mb4.5
CDF **Champ du Feu** 75.56 343 eP P 20 05 20.5 -0.8
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF **Champ du Feu** 75.56 343 eP P 20 05 20.5 -0.8
comp=Z,5.4nm,0.8s,mb4.5
KBA **Koelnbreinsper** 75.66 338 ⇑iP P 20 05 22.8 +1.0
comp=Z,39nm,1.6s,mb5.1
KBA **Koelnbreinsper** 75.66 338 ⇑iP P 20 05 22.8 +1.0
KBA pmax pmax
comp=Z,39nm,1.5s,mb5.1
MEZF **Maizieres J'vi** 75.84 344 eP P 20 05 21.9 -1.0
comp=Z,13nm,0.8s,mb4.6
MEZF **Maizieres J'vi** 75.84 344 eP P 20 05 21.9 -1.0
comp=Z,13nm,0.8s,mb4.9
OBKA **Obir** 75.93 337 ⇑iP P 20 05 23.9 +0.5
comp=Z,16nm,1.1s,mb4.9
SQTA **Sankt Quirin** 75.97 340 ⇑iP P 20 05 24.0 +0.4
comp=Z,34nm,1.9s,mb5.0
SQTA **Sankt Quirin** 75.97 340 ⇑iP P 20 05 24.0 +0.4
SQTA pmax pmax
comp=Z,34nm,1.9s,mb5.0
HAU **Haudompre** 76.11 343 eP P 20 05 23.6 -0.8
comp=Z,9.7nm,0.8s,mb4.5
HAU **Haudompre** 76.11 343 eP P 20 05 23.6 -0.8
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HAU **Haudompre** 76.11 343 eP P 20 05 23.6 -0.8
comp=Z,4.8nm,0.8s,mb4.5
HINF **Hinteralfeld** 76.21 343 eP P 20 05 24.3 -0.7
FLN **La Foliniere** 76.36 348 eP P 20 05 24.1 -1.7
comp=Z,99nm,1.4s,mb5.2
FLN **La Foliniere** 76.36 348 eP P 20 05 24.1 -1.7
FLN pmax pmax
comp=Z,50nm,1.4s,mb5.2
FLN **La Foliniere** 76.36 348 eP P 20 05 24.1 -1.7
comp=Z,50nm,1.4s,mb5.2
BR131 **Keskin Array S** 76.46 321 eP P 20 05 27.1 +0.8
comp=Z,1.1nm,0.6s,mb4.0
BRTR **Keskin Array B** 76.46 321 P P 20 05 26.2 -0.2
comp=Z,5.4nm,1.2s,mb4.4,baz=29,slow=2.8,SNR=13
BRTR LR LR 20 38 41.6
comp=Z,108nm,21.1s,MS4.1,baz=112,slow=36
LDF **La Druitiere** 76.49 348 eP P 20 05 25.2 -1.3
LHS **Liberty Hill** 76.51 49 eP P 20 05 22.4 -4.3
GRR **Gorron** 76.78 348 eP P 20 05 26.9 -1.3
DIVS **Divcibare** 76.85 333 ⇑iP P 20 05 27.5 -1.0
ROSF **Rostrenen** 77.10 350 eP P 20 05 28.8 -1.2
LOR **Lormes** 77.23 345 eP P 20 05 29.6 -1.1
comp=Z,9.4nm,0.7s,mb4.5
LOR **Lormes** 77.23 345 eP P 20 05 29.6 -1.1
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LOR **Lormes** 77.23 345 eP P 20 05 29.6 -1.1
comp=Z,4.7nm,0.7s,mb4.5
SSF **Saint Saulge** 77.49 345 eP P 20 05 31.5 -0.6
QUIF **Quistinic** 77.50 350 eP P 20 05 31.4 -0.8
CABF **La Chapelle** 77.51 343 eP P 20 05 31.7 -0.6
WRAB **Tennant Creek** 77.52 206 P P 20 05 32.5 +0.2
WRAB pmax pmax
comp=Z,21nm,1.3s,mb4.9
WRAB **Tennant Creek** 77.52 206 eP P 20 05 32.0 -0.3
comp=Z,21nm,1.3s,mb4.9
WRA **Warramunga Arr** 77.53 206 P P 20 05 32.1 -0.3
comp=Z,5.9nm,0.7s,mb4.6,baz=21,slow=6.0,SNR=47
AVF **Avril sur Loir** 77.78 345 eP P 20 05 32.8 -0.9
comp=Z,18nm,1.1s,mb4.6
AVF **Avril sur Loir** 77.78 345 eP P 20 05 32.8 -0.9
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
AVF **Avril sur Loir** 77.78 345 eP P 20 05 32.8 -0.9
comp=Z,9.1nm,1.0s,mb4.7
SMF **Signal de Mont** 77.84 345 eP P 20 05 33.0 -1.1
BGF **Bois d'Agland** 78.08 345 eP P 20 05 34.9 -0.5
TCF **Toulx Ste Croi** 78.44 346 eP P 20 05 36.8 -0.6
MFF **Saint Martin d** 78.45 347 eP P 20 05 36.3 -1.2
comp=Z,12nm,0.9s,mb4.5
MFF **Saint Martin d** 78.45 347 eP P 20 05 36.3 -1.2
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MFF **Saint Martin d** 78.45 347 eP P 20 05 36.3 -1.2
comp=Z,6.0nm,0.9s,mb4.5
LPL **La Plagne** 78.46 342 eP P 20 05 37.4 -0.1
comp=Z,10nm,0.8s,mb4.5
LPL **La Plagne** 78.46 342 eP P 20 05 37.4 -0.1
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL **La Plagne** 78.46 342 eP P 20 05 37.4 -0.1
comp=Z,5.2nm,0.8s,mb4.5
LPG **La Plagne** 78.47 342 eP P 20 05 37.3 -0.3
comp=Z,13nm,0.8s,mb4.6
LPG **La Plagne** 78.47 342 eP P 20 05 37.3 -0.3
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPG **La Plagne** 78.47 342 eP P 20 05 37.3 -0.3
comp=Z,6.6nm,0.8s,mb4.6
ORIF **Oris-en-Rattie** 79.19 343 eP P 20 05 40.6 -0.9
MBDF **Montbardon** 79.22 342 eP P 20 05 40.7 -1.0
VIVF **Saint-Julien-l** 79.45 344 eP P 20 05 42.1 -0.9
CAF **Calviac** 79.79 346 eP P 20 05 44.7 -0.1
LMR **La Mourre** 80.61 342 eP P 20 05 47.9 -1.3
comp=Z,188nm,1.8s,mb5.4

LMR	La Mourre	80.61	342	eP	P	20 05 47.9	-1.3
LMR				pmax	pmax		
comp=Z,94nm,1.8s,mb5.4							
LMR	La Mourre	80.61	342	eP	P	20 05 47.9	-1.3
comp=Z,94nm,1.8s,mb5.4							
PMOR	Pomariorio Ree	81.05	131	eT		21 35 33.1	
comp=Z,3.9nm,0.2s							
ASAR	Alice Springs	81.20	206	P	P	20 05 52.8	+0.4
comp=Z,9.3nm,0.9s,mb4.7,baz=12,slow=5.1,SNR=63							
SJPF	Ste Jean	82.02	348	eP	P	20 05 55.8	-0.9
comp=Z,38nm,1.2s,mb4.9							
SJPF	Ste Jean	82.02	348	eP	P	20 05 55.8	-0.9
SJPF				pmax	pmax		
comp=Z,19nm,1.2s,mb4.9							
SJPF	Ste Jean	82.02	348	eP	P	20 05 55.8	-0.9
comp=Z,19nm,1.2s,mb4.9							
ETSF	Etsaut	82.14	347	eP	P	20 05 55.7	-1.7
TIP	Timpagrande	82.30	333	eP	P	20 05 58.1	0.0
PPT	Papeete	82.60	134	eLR	LR	20 32 30.0	
comp=Z,190nm,21.8s							
CMIG	Matias Romero	83.81	69	LR	LR	20 46 11.7	
comp=Z,156nm,18.3s,MS4.4,baz=202,slow=38							
ESDC	Sonseca Array	85.73	349	P	P	20 06 14.2	-1.5
comp=Z,2.5nm,0.7s,mb4.5,baz=2.7,slow=5.4,SNR=18							
KEST	Kesra	87.38	338	P	P	20 06 22.2	-1.5
comp=Z,1.0nm,1.0s,mb4.0,baz=57,slow=2.6,SNR=3.9							
KEST				LR	LR	20 52 11.2	
comp=Z,62nm,20.0s,MS4.0,baz=298,slow=40							
STKA	Stephens Creek	87.48	197	P	P	20 06 24.3	+0.1
comp=Z,5.9nm,0.8s,mb4.8,baz=359,slow=6.1,SNR=6.1							
QSPA	South Pole Qui	143.93	180	ePKPdf	PKPdf	20 13 06.8	-5.1
TRQA	Tornquist	146.20	80	ePKP	PKPdf	20 13 15.3	-0.5
SYO	Syowa Base	150.21	218⇑	ePKP	PKPdf	20 13 25.4	+3.0
VNA3	Neumayer Olymp	162.47	189	ePKPdf	PKPab	20 14 22.5	-3.7
VNA3				e		20 14 32.2	
VNA3				e		20 14 35.8	
VNA3				e		20 14 40.1	
VNA2	Neumayer--Watz	162.54	192	ePKPdf	PKPab	20 14 23.7	-2.7
baz=171,slow=4.4							
VNA2				e		20 14 36.8	
VNA2				e		20 14 41.1	

SKHL ***10*** *20:19:00.4±1.3, 45.55N×154.44E, h41km±11km, Ms4.4/3, msh5.3/1*
IDC ***10*** *20:19:04.7±0.6, 46.38N×153.14E, h0km, mb4.3/18, mb1 4.5/19, mb1mx4.4/25, mbtmp4.3/19, MS4.1/5, Ms1 4.1/5, ms1mx3.7/23, Error ellipse: s-maj=17.7km s-min=15.1km az=167.0*
ISCJB ***10*** *20:19:05.4±1.5, 46.39N×005.15325E±006, h15km±10km, mb4.6/73, MS4.2/7, Error ellipse: s-maj=9.9km s-min=4.6km az=118.4*
BJI ***10*** *20:19:06.3, 46.59N×153.29E, h18km, mB4.9, mb4.5, Ms4.5, Msz4.1*
NEIC ***10*** *20:19:07.4±2.6, 46.37N×153.17E, h16km±16km, mb4.7/34, Error ellipse: s-maj=7.7km s-min=4.9km az=152.0*
MOS ***10*** *20:19:09.2±1.2, 46.33N×153.21E, h44km, mb4.9/33, Error ellipse: s-maj=8.5km s-min=6.0km az=95.2*
SZGRF ***10*** *20:19:13.8, 47.11N×154.46E, h33km, mb4.9, Kuril Islands, Russia*
ISC 10 20:19:09.8±1.6, 4642N±005×15321E±006, h29km±11km, h20km±4.2km:pP-P, n202, σ1§14/203, mb4.6/73, MS4.2/7, 19C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.92	254⇑	iPN	Pn	20 20 07.0	-0.9
KUR				eS	Sn	20 20 52.0	-0.9
KUR				pmax	pmax		
comp=N,220nm,0.8s							
KUR				pmax	pmax		
comp=E,220nm,0.8s							
KUR				pmax	pmax		
comp=Z,860nm,0.8s							
KUR				smax			
comp=N,430nm,0.9s							
KUR				smax			
comp=E,990nm,0.9s							
SKR	Severo-Kuril's	4.69	23	eP	Pn	20 20 17.5	-1.0
SKR				AMB	AMB	20 20 24.1	
comp=E,90nm,0.5s							
SKR				A		20 21 20.0	
comp=E,2μm,5.0s							
SKR				A		20 21 20.0	
comp=E,3μm,5.0s							
SKR				A		20 21 31.0	
comp=E,360nm,0.8s							
SKR				A		20 21 31.0	
comp=E,80nm,0.8s							
SKR				AMS	AMS	20 22 14.0	
comp=E,3μm,12.0s							
SKR				AMS	AMS	20 22 14.0	
comp=E,3μm,12.0s							
YUK	Yuzh-Kuril'sk	5.71	248	eP	Pn	20 20 33.9	+1.4
YUK				i S	Sn	20 21 45.0	+8.0
YUK				A		20 21 45.7	
comp=E,1μm,0.8s							
YUK				A		20 21 45.7	
comp=E,560nm,0.8s							
YSS	Yuzh-Sakhalins	7.21	278	ePN	Pn	20 20 59.6	+6.4
YSS				i S	Sn	20 22 28.0	+14
YSS				pmax	pmax		
comp=Z,40nm,1.0s							
YSS				pmax	pmax		
comp=Z,60nm,0.9s							
YSS				smax			
comp=N,40nm,1.0s							
YSS				MLR	MLR		
comp=Z,2μm,17.0s							
YSS				MLR	MLR		
comp=E,1μm,16.0s							
YSS	Yuzh-Sakhalins	7.21	278	Pn	Pn	20 20 51.5	-1.6
comp=E,88nm,1.1s							
YSS	Yuzh-Sakhalins	7.21	278	eP	Pn	20 20 59.6	+6.4
YSS				AMB	AMB	20 21 02.0	
comp=E,40nm,1.0s							
YSS				i S	Sn	20 22 28.0	+14
YSS				AMS	AMS	20 23 36.0	
comp=E,1μm,16.0s							
YSS				AMS	AMS	20 23 36.0	
comp=E,2μm,16.0s							
PET	Petropavlovsk	7.50	26⇑	ePN	Pn	20 20 58.4	+1.3
PET	Petropavlovsk	7.50	26	ePn	Pn	20 20 56.8	-0.2
PET				eSn	Sn	20 22 22.3	+1.2
ASAJ	Asahikawa	7.83	257	Pn	Pn	20 21 04.2	+2.5
comp=E,1.7nm,0.3s,baz=99,slow=13,SNR=11							
ASAJ	Asahikawa	7.83	257	PN	Pn	20 21 04.2	+2.5
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
UGL	Uglegorsk	7.97	294	eP	Pn	20 21 08.5	+4.9
UGL				AMB	AMB	20 21 10.0	
comp=Z,160nm,1.2s							
UGL				AMS	AMS	20 21 14.0	
comp=Z,1μm,16.0s							
UGL				AMS	AMS	20 21 14.0	
comp=Z,2μm,16.0s							
UGL				AMS	AMS	20 21 14.0	
comp=Z,1μm,16.0s							
ERM	Erimo	8.45	242⇓	ePN	Pn	20 21 12.1	+1.9
ERM	Erimo	8.45	242	ePn	Pn	20 21 10.6	+0.4
comp=Z,50nm,0.6s							
ERM				eSn	Sn	20 22 41.8	-2.8
KLR	Kul'dur	14.68	289	eP	Pn	20 22 35.2	-0.2
KLR				MLR	MLR		
comp=E,1μm,15.0s							
KLR				MLR	MLR		
comp=Z,2μm,15.0s							
MAJO	Matsushiro	14.93	234	eP	Pn	20 22 36.4	-2.4
MAJO				pmax	pmax		
comp=Z,15nm,0.8s							
MAJO	Matsushiro	14.93	234	ePn	Pn	20 22 36.4	-2.4
comp=Z,15nm,0.8s							
MJAR	Matsushiro Arr	14.93	234	Pn	Pn	20 22 36.3	-2.5
comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=12							
MJAR				LR	LR	20 28 16.7	
comp=Z,148nm,19.9s,baz=20,slow=37							
MAT	Matsushiro	14.93	234	P	Pn	20 22 34.6	-4.2
MAT				S	sS	20 26 00.2	+7.5
MDJ	Mudanjiang	16.64	272	P	Pn	20 23 00.6	-0.2
MDJ				AMB	AMB		
comp=Z,24nm,1.1s							
MDJ				AMB	AMB		
comp=Z,352nm,6.8s							
CN2	Changchun	19.73	272	eP	Pn	20 23 35.8	-2.8
CN2				eAP	pP	20 23 42.2	-2.6
CN2				AMB	AMB		
comp=Z,10.0nm,1.2s							
CN2				LR	LR		
comp=N,600nm,16.0s							
CN2				LR	LR		
comp=E,600nm,16.0s							
CN2				LR	LR		
comp=Z,500nm,16.0s							
YAK	Yakutsk	20.64	328	eP	P	20 23 47.4	+0.5
YAK				pmax	pmax		
comp=Z,17nm,1.1s							
YAK				pmax	pmax		
comp=N,11nm,1.3s							
YAK				pmax	pmax		
comp=E,13nm,1.2s							
YAK	Yakutsk	20.64	328	eP	P	20 23 45.3	-1.6
comp=E,16nm,0.8s							
KSRS	Korea Array	20.76	254	P	P	20 23 49.5	+1.3
comp=E,6.0nm,0.8s,baz=58,slow=10,SNR=22							
INCN	Inchon	21.61	255	eP	P	20 23 56.0	-1.3
comp=E,44nm,1.0s,mb4.8							
JNU	Nakatsue	21.61	240	LR	LR	20 31 44.2	
comp=E,748nm,19.7s,MS4.1,baz=80,slow=35							
SNY	Shenyang	21.69	269	⇑P	P	20 23 58.8	+0.6
SNY				S	S	20 27 53.8	-2.9
SNY				AMB	AMB		
comp=Z,21nm,1.0s,mb4.5							
SNY				AMB	AMB		
comp=Z,279nm,7.2s							
SNY				LR	LR		
comp=N,461nm,8.4s							
SNY				LR	LR		
comp=E,516nm,10.8s							
SNY				LR	LR		
comp=Z,594nm,16.5s							
BILL	Bilibino	22.70	13	eP	P	20 24 10.7	+1.7
BILL				eS	S	20 28 19.7	+3.8
BILL				pmax	pmax		
comp=Z,14nm,1.5s,mb4.2							
BILL				MLR	MLR		
comp=Z,300nm,16.0s,MS3.8							
BILL	Bilibino	22.70	13	eP	P	20 24 08.1	-0.9
comp=Z,32nm,1.3s,mb4.6							
BOD	Bodaibo	26.25	310	eP	P	20 24 37.2	-5.1
BOD				pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.0							
BJT	Baijiatuau	27.55	270	eP	P	20 24 53.2	-0.8
BJT				pmax	pmax		
comp=Z,13nm,0.8s							
BJT	Baijiatuau	27.55	270	eP	P	20 24 53.2	-0.8
comp=Z,13nm,0.8s,mb4.6							
TIXI	Tiksi	27.81	344⇑	eP	P	20 24 57.5	+1.2
TIXI				pmax	pmax		
comp=Z,2.0nm,0.7s,mb3.9							
SONM	Songino Array	31.51	290	P	P	20 25 28.6	-0.5
comp=Z,1.3nm,0.8s,mb3.8,baz=71,slow=7.9,SNR=10							
SONM				PcP	PcP	20 28 20.8	-0.7
comp=Z,1.2nm,0.9s,baz=135,slow=2.1,SNR=4.2							
ZAK	Zakamensk	32.88	296	eP	P	20 25 40.3	-0.8
NACB	Ninganchiao	33.68	240	eP	P	20 25 46.7	-1.3
WHN	Wuhan	33.91	256	eP	P	20 25 51.5	+1.4
IMA2	Indian Mountai	34.04	36	eP	P	20 25 50.8	-0.4
XAN	Xi'an	35.55	266	P	P	20 26 04.7	+0.4
XAN				AP	pP	20 26 16.8	+3.9
XAN				AMB	AMB		
comp=Z,12nm,1.2s,mb4.7							
MCK	McKinley	35.87	40	eP	P	20 26 08.1	+1.1
MCK				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
MCK	McKinley	35.87	40	eP	P	20 26 08.1	+1.2
comp=Z,2.6nm,0.8s,mb4.2							
SML	Sawmill	36.17	43	eP	P	20 26 09.0	-0.6
COLA	College	36.36	38	eP	P	20 26 10.8	-0.4
COLA				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
COLA	College	36.36	38	eP	P	20 26 10.8	-0.4
comp=Z,6.3nm,0.8s,mb4.6							
LZH	Lanzhou	37.97	272	⇑P	P	20 26 26.8	+2.0
LZH				AP	pP	20 26 31.4	-2.1
LZH				XP	sP	20 26 34.6	-2.4
LZH				AMB	AMB		
comp=Z,40nm,1.2s,mb5.0							
GTA	Gaotai	39.09	279	eP	P	20 26 36.1	+1.9
GTA				AP	pP	20 26 40.9	-2.0
GTA				XP	sP	20 26 43.8	-2.7
GTA				PCP	PcP	20 28 45.2	+1.5
GTA				AMB	AMB		
comp=Z,13nm,1.3s,mb4.5							
CD2	Chengdu	40.92	266	P	P	20 26 50.9	+1.5
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
GYA	Guiyang	41.71	258⇑	iP	P	20 26 57.1	+1.2
GYA				AMB	AMB		
comp=Z,30nm,1.1s,mb4.8							
INK	Inuvik	41.90	32	P	P	20 26 57.1	-0.4
comp=Z,2.5nm,0.6s,mb4.0,baz=259,slow=6.7,SNR=11							
INK	Inuvik	41.90	32	eP	P	20 26 57.4	-0.1
comp=Z,107nm,0.8s,mb5.5							
ZAL	Zalesovo	42.88	306	P	P	20 27 03.1	-2.3
comp=Z,0.9nm,0.6s,mb3.7,baz=45,slow=8.9,SNR=7.7							
ZAL				PcP	PcP	20 28 56.5	+0.5
comp=Z,1.8nm,0.9s,baz=49,slow=4.3,SNR=6.8							
KMI	Kunming	45.25	260	P	P	20 27 25.9	+1.5
KMI				AP	pP	20 27 30.7	-2.5
KMI				AMB	AMB		
comp=Z,14nm,1.1s,mb4.7							
KMI				AMB	AMB		
comp=Z,235nm,7.8s							
KMI				LR	LR		
comp=Z,92nm,15.8s,MS3.8							
DLBC	Dease Lake	45.78	46	eP	P	20 27 32.4	+3.7
MKAR	Makanchi Array	47.15	298	P	P	20 27 38.5	-1.0
comp=Z,8.1nm,0.9s,mb4.7,baz=65,slow=7.9,SNR=62							
MKAR				PcP	PcP	20 29 10.1	-0.7
comp=Z,1.3nm,0.7s,baz=70,slow=4.5,SNR=3.5							
MKAR	Makanchi Array	47.15	298	P	P	20 27 38.5	-1.0
MKAR				PcP	PcP	20 29 10.1	-0.7
KURK	Kurchatov	47.60	304	eP	P	20 27 41.8	-1.1
KURK				pmax	pmax		
comp=Z,13nm,0.9s,mb5.0							
KURK	Kurchatov	47.60	304	eP	P	20 27 41.8	-1.1
comp=Z,13nm,0.9s,mb5.0							
LSA	Lhasa	50.36	273	P	P	20 28 06.4	+2.4
LSA	Lhasa	50.36	273	eP	P	20 28 06.2	+2.2
LSA				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
LSA	Lhasa	50.36	273	eP	P	20 28 06.2	+2.2
comp=Z,10nm,0.9s,mb4.8							
CHKZ	Chkalovo	50.70	310	eP	P	20 28 05.2	-1.4
CHKZ				pmax	pmax		
comp=Z,15nm,0.9s,mb4.9							
CHKZ	Chkalovo	50.70	310	eP	P	20 28 05.2	-1.4
comp=Z,15nm,0.9s,mb4.9							
NANT	Nan	50.94	255	⇑P	P	20 28 07.0	-1.4
comp=Z,61nm,1.0s,mb5.5							
BVAR	Borovoye Array	51.12	310	P	P	20 28 08.2	-1.6
comp=Z,1.3nm,0.4s,mb4.2,baz=57,slow=5.7,SNR=7.5							
BVAR	Borovoye Array	51.12	310	P	P	20 28 08.2	-1.6
RES	Resolute Bay	51.13	18	eP	P	20 28 09.7	-0.2
comp=Z,209nm,0.9s							
YKA	Yellowknife Ar	51.15	37	P	P	20 28 09.4	-0.6
comp=Z,4.0nm,0.7s,mb4.5,baz=294,slow=7.0,SNR=22							
YKA	Yellowknife Ar	51.15	37	P	P	20 28 09.4	-0.6
BRVK	Borovoye	51.16	310	P	P	20 28 09.3	-0.8
CHG	Chiang Mai	52.10	257	⇑P	P	20 28 18.8	+1.7
comp=Z,18nm,0.9s,mb5.0							
CHTO	Chiang Mai	52.10	257	eP	P	20 28 18.6	+1.5
CHTO				pmax	pmax		
comp=Z,16nm,1.0s,mb4.9							
CHTO	Chiang Mai	52.10	257	eP	P	20 28 18.6	+1.4
comp=Z,16nm,1.0s,mb4.9							
USP	Ospenovka	53.70	297	P	P	20 28 29.1	+0.2
SNR=16							
KBK	Karagaybulak	53.75	296	P	P	20 28 30.1	+0.8
SNR=6.2							
KZA	Kyzart	53.88	296	P	P	20 28 31.6	+1.4
SNR=8.2							
AAK	Ala-Archa	54.04	297	P	P	20 28 32.1	+0.7
SNR=8.8							
AAK	Ala-Archa	54.04	297	⇓iP	P	20 28 31.0	-0.4
AAK				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.7							
AAK	Ala-Archa	54.04	297	eP	P	20 28 30.3	-1.2
comp=Z,7.8nm,0.9s,mb4.6							
EKS2	Erkin-Say	54.47	297	P	P	20 28 34.7	+0.1
SNR=9.0							
JIRN	Jiri	55.04	275	eP	P	20 28 40.6	+2.0
comp=Z,5.2nm,0.3s,mb5.1							
GUN	Gumba	55.09	275	eP	P	20 28 40.9	+1.8
comp=Z,61nm,1.2s,mb5.5							
ARU	Arti	55.30	318⇓	iP	P	20 28 39.2	-1.4
ARU				e		20 29 38.4	
ARU				e		20 30 42.6	
ARU				eS	S	20 36 20.9	-1.7
ARU				eSS	SS	20 40 02.3	-4.8
ARU				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
ARU	Arti	55.30	318	eP	P	20 28 38.7	-1.8
KKN	Kakani	55.58	276	eP	P	20 28 44.2	+1.6
comp=Z,33nm,0.8s,mb5.4							
PKI	Pulchoki	55.63	275	eP	P	20 28 44.7	+1.8
DMN	Daman	55.82	276	eP	P	20 28 46.2	+1.9
comp=Z,42nm,0.9s,mb5.5							
GKN	Gorkha	55.89	276	eP	P	20 28 46.5	+1.7
comp=Z,85nm,1.1s,mb5.7							
KK31	Karatay Array	56.22	299	i P	P	20 28 46.5	-0.6
KK31				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
KKAR	Karatay Array	56.22	299	i P	P	20 28 46.5	-0.6
KKAR				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
EDM	Edmonton	56.50	46	eP	P	20 28 48.1	-1.0
KOLN	Koldanda	56.75	277	eP	P	20 28 52.8	+1.9
comp=Z,60nm,1.1s,mb5.5							
KEV	Kevo	57.68	341	ep	P	20 28 55.9	-1.6
comp=Z,3.3nm,0.7s,mb4.5							
KEV	Kevo	57.68	341	eP	P	20 28 55.9	-1.6
KEV				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
ARCES	ARCESS Array B	58.19	341	P	P	20 28 59.4	-1.6
comp=Z,6.8nm,1.1s,mb4.6,baz=24,slow=7.3,SNR=8.8							
ARCES				LR	LR	20 54 56.6	
comp=Z,219nm,20.7s,MS4.2,baz=29,slow=37							
ARCES	ARCESS Array B	58.19	341	P	P	20 28 59.4	-1.6
ARCES				LR	LR	20 54 56.6	
WALA	Waterton Lakes	58.60	50	P	P	20 29 04.7	+0.7
AB31	Akbulak array	58.69	310	P	P	20 29 03.5	-1.0
AB31				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
NDI	New Delhi	60.53	282	eP	P	20 29 18.5	+1.3
CMB	Columbia Colle	61.49	64	eP	P	20 29 22.4	-1.4
HLID	Hailey	61.64	56	P	P	20 29 25.2	+0.4
JOF	Joensuu	61.66	334	ep	P	20 29 23.5	-1.4
QLMT	Earthquake Lak	62.53	53	P	P	20 29 30.6	-0.2
NVAR	Mina Array Bea	62.53	62	P	P	20 29 30.1	-0.7
comp=Z,0.7nm,0.7s,mb3.9,baz=119,slow=21,SNR=5.5							
AJM	Ajmer	63.70	281	eP	P	20 29 38.2	-0.3
AJM				AMb	AMB	20 29 41.6	
comp=Z,18nm,1.3s,mb5.0							
KAF	Kangasniemi	63.77	335	ep	P	20 29 36.5	-2.5
baz=37,slow=6.1							
BHPL	Bhopal	63.92	277	eP	P	20 29 39.6	-0.4
BHPL				AMb	AMB	20 29 42.5	
comp=Z,25nm,0.9s,mb5.2							
NGP	Nagpur	64.19	274	eP	P	20 29 40.4	-1.3
FINES	FINESS Array B	64.37	335	P	P	20 29 42.0	-0.8
comp=Z,3.4nm,0.5s,mb4.6,baz=39,slow=7.0,SNR=31							
FINES				LR	LR	20 58 54.3	
comp=Z,248nm,19.8s,MS4.4,baz=347,slow=37							
FINES	FINESS Array B	64.37	335	i P	P	20 29 42.0	-0.9
FINES				pmax	pmax		
comp=Z,3.0nm,0.5s							
HWUT	Hardware Ranch	64.51	56	eP	P	20 29 43.9	+0.1
comp=Z,3.4nm,0.9s,mb4.4							
DUG	Dugway	64.70	58	eP	P	20 29 45.7	+0.7
DUG				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
DUG	Dugway	64.70	58	eP	P	20 29 45.7	+0.6
comp=Z,3.7nm,1.0s,mb4.4							
BW06	Boulder Array	64.89	54	eP	P	20 29 45.9	-0.3
comp=Z,4.5nm,1.1s,mb4.4							
PDAR	Pinedale Array	64.89	54	P	P	20 29 46.0	-0.2
comp=Z,2.0nm,0.8s,mb4.2,baz=304,slow=2.0,SNR=11							
AKL	Akola	65.90	275	eP	P	20 29 54.7	+1.9
RSSD	Black Hills	66.99	50	eP	P	20 29 58.7	-1.1
RSSD				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
RSSD	Black Hills	66.99	50	eP	P	20 29 58.7	-1.1
comp=Z,5.7nm,1.0s,mb4.6							
PV10	Paradox Valley	68.10	57	eP	P	20 30 07.4	+0.6
WRAB	Tennant Creek	68.20	199	P	P	20 30 06.7	-0.7
WRA	Warramunga Arr	68.22	199	P	P	20 30 05.6	-1.9
comp=Z,1.9nm,1.0s,mb4.1,baz=18,slow=6.5,SNR=7.3							
NB2	NORSAR Subarra	68.57	341	P	P	20 30 09.2	-0.5
comp=Z,8.6nm,0.7s,mb4.8,baz=28,slow=6.5							
NOA	NORSAR Array B	68.57	341	P	P	20 30 09.2	-0.5
comp=Z,6.3nm,0.6s,mb4.7,baz=27,slow=6.3,SNR=16							
NOA				LR	LR	21 03 18.5	
comp=Z,144nm,18.7s,MS4.2,baz=290,slow=39							
ISCO	Idaho Springs	69.08	54	eP	P	20 30 13.5	+0.6
ISCO				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
ISCO	Idaho Springs	69.08	54	eP	P	20 30 13.5	+0.6
comp=Z,2.2nm,0.8s,mb4.1							
POO	Poona	69.56	276	ex	x	20 31 14.0	
KAD	Karad	70.16	274	eP	P	20 30 20.3	+0.7
KAD				AMb	AMB	20 30 22.9	
comp=Z,23nm,1.4s,mb4.9							
KIV	Kislovodsk	71.08	314	eP	P	20 30 26.4	+1.2
KIV				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
KIV				MLR	MLR		
comp=Z,283nm,17.0s,MS4.6							
KIV	Kislovodsk	71.08	314	eP	P	20 30 23.9	-1.2
comp=Z,6.7nm,0.8s,mb4.6							
SUW	Suwalki	71.32	332	eP	P	20 30 26.2	-0.4
ZEI	Tsey	71.33	313	eP	P	20 30 26.5	-0.2
ZEI				e*PP	pP	20 30 40.4	+4.5
ZEI				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
AKASG	Malin Array Be	71.86	326	P	P	20 30 29.1	-0.8
comp=Z,8.8nm,0.7s,mb4.8,baz=34,slow=6.3,SNR=58							
KIEV	Kiev	71.87	326	eP	P	20 30 29.2	-0.8
KIEV				pmax	pmax		
comp=Z,16nm,0.9s,mb5.0							
KIEV	Kiev	71.87	326	eP	P	20 30 29.1	-0.8
comp=Z,16nm,0.9s,mb4.9							
ASAR	Alice Springs	71.91	199	P	P	20 30 30.5	+0.3
comp=Z,1.8nm,0.9s,mb4.0,baz=12,slow=4.7,SNR=12							
ANMO	Albuquerque	71.95	58	P	P	20 30 31.7	+1.3
comp=Z,1.5nm,0.8s,mb4.0,baz=302,slow=5.0,SNR=5.3							
ANMO	Albuquerque	71.95	58⇑	eP	P	20 30 30.1	-0.3
ANMO	Albuquerque	71.95	58	P	P	20 30 30.9	+0.5
PALK	Pallekele	72.71	262	eP	P	20 30 33.3	-1.7
GNI	Garni	72.80	310⇓	eP	P	20 30 37.5	+2.0
GNI				pmax	pmax		
comp=Z,17nm,1.7s							
TRD	Trivandrum	74.41	266	eP	P	20 30 45.1	+0.2
KWP	Kalwaria	75.14	329	eP	P	20 30 50.0	+0.8
OJC	Ojcow	75.64	331	eP	P	20 30 53.4	+1.3
STHS	Stebnicka Huta	75.84	330	eP	P	20 30 54.1	+0.9
STHS				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.5							
STHS	Stebnicka Huta	75.84	330	eP	P	20 30 54.0	+0.8

CLL			e(PcP)	PcP		20 31 08.0	-1.8
KECS	**Kecovo**	**76.90 330**	*eP*	**P**		**20 30 59.1**	**-0.1**
KECS			pmax	pmax			
comp=Z,3.0nm,0.8s,mb4.3							
KECS	**Kecovo**	**76.90 330**	*eP*	**P**		**20 30 59.1**	**-0.1**
comp=Z,2.9nm,0.8s,mb4.3							
BRG	**Berggiesshubel**	**76.91 335**	e(P)	**P**		**20 31 01.3**	**+2.1**
comp=Z,19nm,2.0s,mb4.7							
BRG	**Berggiesshubel**	**76.91 335**	P	**P**		**20 31 01.3**	**+2.0**
BRG			pmax	pmax			
comp=Z,19nm,2.0s,mb4.7							
MLR	**Muntele Rosu**	**77.38 325**	⇑*iP*	**P**		**20 31 02.5**	**+0.6**
VYHS	**Vyhne**	**77.45 331**	*eP*	**P**		**20 31 02.0**	**-0.3**
VYHS			pmax	pmax			
comp=Z,4.0nm,1.0s,mb4.3							
VYHS	**Vyhne**	**77.45 331**	*eP*	**P**		**20 31 02.0**	**-0.3**
comp=Z,3.9nm,1.0s,mb4.3							
PRU	**Pruhonice**	**77.52 334**	*eP*	**P**		**20 31 02.5**	**-0.2**
DRGR		**77.53 328**	⇓*iP*	**P**		**20 31 03.4**	**+0.7**
LTX	**Lajitas**	**77.60 61**	*eP*	**P**		**20 31 02.9**	**-0.2**
LTX			pmax	pmax			
comp=Z,6.0nm,0.8s,mb4.6							
LTX	**Lajitas**	**77.60 61**	*eP*	**P**		**20 31 02.9**	**-0.2**
comp=Z,6.0nm,0.8s,mb4.6							
TXAR	**Lajitas Array**	**77.60 61**	P	**P**		**20 31 03.1**	**0.0**
comp=Z,5.9nm,0.8s,mb4.5,baz=299,slow=4.2,SNR=26							
VOIR		**77.77 325**	⇑*iP*	**P**		**20 31 05.0**	**+0.9**
MOX	**Moxa**	**77.78 336**	*eP*	**P**		**20 31 04.6**	**+0.5**
comp=Z,8.0nm,1.1s,mb4.6							
MOX	**Moxa**	**77.78 336**	*eP*	**P**		**20 31 04.6**	**+0.5**
MOX			pmax	pmax			
comp=Z,8.0nm,1.1s,mb4.6							
KHC	**Kasperske Hory**	**78.57 334**	*eP*	**P**		**20 31 08.0**	**-0.5**
BRTR	**Keskin Array B**	**78.68 317**	P	**P**		**20 31 09.0**	**-0.1**
comp=Z,3.5nm,1.1s,mb4.2,baz=57,slow=4.6,SNR=16							
GZR	**Gura Zlata**	**78.69 327**	⇑*iP*	**P**		**20 31 09.6**	**+0.5**
GRA1	**Grafenberg Arr**	**78.75 336**	*eP*	**P**		**20 31 10.0**	**+0.5**
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**78.75 336**	*eP*	**P**		**20 31 10.0**	**+0.5**
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**78.75 336**	*eP*	**P**		**20 31 10.0**	**+0.5**
GRF			pmax	pmax			
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**78.75 336**	*eP*	**P**		**20 31 10.0**	**+0.5**
GRF			pmax	pmax			
comp=Z,10.0nm,0.9s,mb4.8							
GERES	**GERESS Array B**	**78.79 334**	P	**P**		**20 31 09.7**	**0.0**
comp=Z,2.2nm,0.8s,mb4.1,baz=39,slow=5.1,SNR=18							
BZS	**Buzias**	**78.93 328**	⇑*iP*	**P**		**20 31 10.7**	**+0.2**
PKSM	**Moragy**	**79.49 330**	⇑*iP*	**P**		**20 31 12.8**	**-0.7**
BFO	**Black Forest**	**80.79 337**	*eP*	**P**		**20 31 20.9**	**+0.4**
BFO			pmax	pmax			
comp=Z,11nm,1.1s,mb4.7							
BFO	**Black Forest**	**80.79 337**	*eP*	**P**		**20 31 20.9**	**+0.4**
comp=Z,11nm,1.1s,mb4.7							
DIVS	**Divcibare**	**80.83 328**	⇑*iP*	**P**		**20 31 20.6**	**-0.2**
VTS	**Vitosha**	**80.88 325**	⇑*iP*	**P**		**20 31 21.7**	**+0.7**
CDF	**Champ du Feu**	**80.99 338**	*eP*	**P**		**20 31 20.6**	**-1.0**
comp=Z,43nm,1.3s,mb4.9							
CDF	**Champ du Feu**	**80.99 338**	*eP*	**P**		**20 31 20.6**	**-1.0**
CDF			pmax	pmax			
comp=Z,21nm,1.3s,mb4.9							
CDF	**Champ du Feu**	**80.99 338**	*eP*	**P**		**20 31 20.6**	**-1.0**
comp=Z,21nm,1.3s,mb4.9							
GRR	**Gorron**	**82.91 343**	*eP*	**P**		**20 31 30.5**	**-1.2**
SMF	**Signal de Mont**	**83.50 339**	*eP*	**P**		**20 31 33.9**	**-0.8**
comp=Z,44nm,1.1s,mb5.2							
SMF	**Signal de Mont**	**83.50 339**	*eP*	**P**		**20 31 33.9**	**-0.8**
SMF			pmax	pmax			
comp=Z,22nm,1.1s,mb5.2							
SMF	**Signal de Mont**	**83.50 339**	*eP*	**P**		**20 31 33.9**	**-0.8**
comp=Z,22nm,1.1s,mb5.2							
LPG	**La Plagne**	**83.82 337**	*eP*	**P**		**20 31 36.5**	**+0.1**
comp=Z,20nm,1.2s,mb4.8							
LPG	**La Plagne**	**83.82 337**	*eP*	**P**		**20 31 36.5**	**+0.1**
LPG			pmax	pmax			
comp=Z,10.0nm,1.2s,mb4.8							
LPG	**La Plagne**	**83.82 337**	*eP*	**P**		**20 31 36.5**	**+0.1**
comp=Z,9.9nm,1.2s,mb4.8							
CAF	**Calviac**	**85.54 340**	*eP*	**P**		**20 31 43.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**115.42 329**	PKP	PKPdf		20 37 47.1	-1.6
comp=Z,1.0nm,1.0s,baz=331,slow=4.6,SNR=3.9							
CFAA	**Coronel Fontan**	**144.99 80**	PKPbc	PKPdf		20 38 42.6	-1.5
comp=Z,0.3nm,0.3s,baz=18,slow=1.4,SNR=5.0							
SNAA	**Sanae**	**152.25 196**	PKPbc	PKPbc		20 38 59.8	-2.8
comp=Z,0.6nm,0.9s,baz=352,slow=0.9,SNR=6.1							
SNAA	**Sanae**	**152.25 196**	*e*PKPdf	PKPdf		20 38 59.4	+3.6
SNAA			*e*			20 39 12.1	
SNAA			*e*			20 39 29.8	
VNA2	**Neumayer--Watz**	**153.69 194**	*e*PKPdf	PKPdf		20 39 03.3	+5.4
baz=230,slow=1.1							
VNA2			*e*			20 39 14.9	
VNA2			*e*			20 39 28.7	
VNA2			*e*			20 39 35.5	
VNA3	**Neumayer Olymp**	**153.78 192**	*e*PKPdf	PKPdf		20 39 02.9	+4.8
VNA3			*e*			20 39 28.8	
VNA3			*e*			20 39 36.1	

*IDC **10** 20:21:40.6±4.0, 42.19N×14628E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=137.8km s-min=32.8km az=12.0*
*ISCJB **10** 20:21:51.9±1.6, 429N±0.1×1456E±0.1, h50km±9km, mb3.6/4, Error ellipse: s-maj=20.9km s-min=11.8km az=119.2*
*JMA **10** 20:21:52.3±0.1, 4286N×14555E, h42km±2km, M3.1*

ISC 10 20:21:52.6±1.7, 429N±01×1456E±01, h42km±11km, n10, σ0°59/15, mb3.6/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.50**	**13**	P	**Pn**	**20 22 03.3**	**-0.1**
NEM2				*e*S	**Sn**	**20 22 10.8**	**-0.2**
JAK	**Akkeshi**	**0.66**	**280**	P	**Pn**	**20 22 05.0**	**-0.5**
JAK				*e*S	**Sn**	**20 22 14.5**	**-0.3**
JNK	**Nakash**	**0.95**	**318**	P	**Pn**	**20 22 09.2**	**-0.2**
JNK				*e*S	**Sn**	**20 22 21.2**	**-0.6**
JRA	**Rausu**	**1.11**	**342**	P	**Pn**	**20 22 11.9**	**+0.3**
JRA				*e*S	**Sn**	**20 22 26.1**	**+0.4**
JAR	**Ashorobuto**	**1.39**	**288**	P	**Pn**	**20 22 15.7**	**+0.2**
ASAJ	**Asahikawa**	**2.50**	**301**	Pn	**Pn**	**20 22 32.3**	**+1.6**
3.6nm,0.3s,baz=144,slow=12,SNR=10							
ASAJ				Sn	**Sn**	**20 23 06.8**	**+6.9**
2.6nm,0.3s,baz=30,slow=27,SNR=4.3							
SONM	**Songino Array**	**27.77**	**294**	P	**P**	**20 27 37.9**	**+0.6**
0.3nm,0.5s,mb3.2,baz=87,slow=10,SNR=3.4							
FINES	**FINESS Array B**	**65.13**	**333**	P	**P**	**20 32 28.9**	**0.0**
1.6nm,0.6s,mb4.3,baz=70,slow=8.1,SNR=6.0							
AKASG	**Malin Array Be**	**71.60**	**323**	P	**P**	**20 33 08.5**	**-0.9**
0.5nm,0.5s,mb3.7,baz=39,slow=6.3,SNR=3.8							
TXAR	**Lajitas Array**	**84.08**	**55**	P	**P**	**20 34 13.0**	**-5.8**
0.3nm,0.8s,mb3.5,baz=287,slow=6.5,SNR=2.7							

KRSC 10 20:21:53.5±0.3, 5411N×16188E, h17km±17km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.46**	**349**	*e*P	Pg	20 22 03.4	+0.7
MKZ				*e*S	Sg	20 22 10.8	+1.9
SPN	**Mys Shipunski**	**1.50**	**228**	*e*P	Pn	20 22 20.2	+0.6
SPN				*e*S	Sn	20 22 39.9	+1.1
TUMR	**Tumrok**	**1.55**	**320**	P	Pn	20 22 21.1	+0.8
TUMR				S	Sn	20 22 41.9	+2.0
NLC	**Nalytchevo**	**1.78**	**239**	*e*P	Pn	20 22 24.7	+1.3
NLC				*e*S	Sn	20 22 48.0	+2.4
KMNR	**Kamenistaya**	**1.90**	**331**	*e*P	Pn	20 22 26.8	+1.6
KMNR				S	Sn	20 22 50.7	+2.0
ZLN	**Zelenaya**	**2.01**	**342**	*e*P	Pn	20 22 27.8	+1.2
ZLN				*e*S	Sn	20 22 53.4	+2.1
AVH	**Avacha**	**2.05**	**247**	P	Pn	20 22 27.8	+0.6
AVH				*e*S	Sn	20 22 52.8	+0.4
KPT	**Kopyto**	**2.09**	**334**	P	Pn	20 22 28.8	+1.1
KPT				S	Sn	20 22 54.7	+1.3
KBTR	**Krutoberegovo**	**2.17**	**14**	P	Pn	20 22 29.5	+0.7
KBTR				S	Sn	20 22 55.7	+0.4
PET	**Petropavlovsk**	**2.21**	**242**	S	Sn	20 22 56.8	+0.5
KRSR	**Krestovskiy**	**2.24**	**341**	P	Pn	20 22 31.0	+1.2
KRSR				S	Sn	20 22 58.2	+1.1
KOZ	**Kozyrevsk**	**2.27**	**330**	P	Pn	20 22 32.4	+2.2
KOZ				S	Sn	20 22 59.8	+2.1
KLY	**Klyuchi**	**2.32**	**343**	P	Pn	20 22 31.5	+0.6
KLY				S	Sn	20 22 58.9	0.0
GNL	**Ganaly**	**2.37**	**261**	*e*P	Pn	20 22 35.1	+3.6
GNL				S	Sn	20 23 05.3	+5.1
SRDR	**Sredinnyy**	**2.54**	**332**	P	Pn	20 22 35.4	+1.5
SRKR	**Sorokina**	**2.58**	**351**	P	Pn	20 22 36.2	+1.7
SRKR				S	Sn	20 23 07.6	+2.1

*NSSP **10** 20:22:27.0, 3947N×4408E, h11km, ML3.2*
*CSEM **10** 20:22:30.1±0.1, 3960N×4397E, h2km, ML3.2, Error ellipse: s-maj=2.6km s-min=2.0km az=131.0*
*ISK **10** 20:22:30.7, 3955N×4396E, h5km, ML3.2*
*ISCJB **10** 20:22:32.8±0.5, 3954N±003×4399E±005, h10km, Error ellipse: s-maj=5.8km s-min=3.2km az=59.1*

ISC 10 20:22:33.3±0.5, 3953N±003×4397E±004, h10km, n21, σ1°31/33, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.39**	**186**	*i*PG	**Pg**	**20 22 39.9**	**-1.1**
ERE	**Yerevan**	**0.74**	**31**	P	**Pg**	**20 22 41.0**	**-6.7**
ERE				S	**Sg**	**20 22 53.0**	**-4.4**
AGRB	**Hanur-Agry**	**0.76**	**273**	*i*PG	**Pg**	**20 22 45.8**	**-2.1**
AGRB				*i*SG	**Sg**	**20 22 57.8**	**0.0**
GNI	**Garni**	**0.85**	**44**	*e*PG	**Pg**	**20 22 47.9**	**-1.9**
GNI				*e*SG	**Sg**	**20 23 01.0**	**+0.1**
DIGO	**Kars**	**0.99**	**333**	*i*P	**Pg**	**20 22 49.8**	**-2.6**
DIGO				*i*S	**Sg**	**20 23 07.3**	**+2.0**
HARI	**Harich**	**1.07**	**1**	P	**Pg**	**20 22 50.7**	**-3.2**
HARI				S	**Sg**	**20 23 06.3**	**-1.6**
TVAN	**Van**	**1.10**	**204**	*i*P	**Pb**	**20 22 53.4**	**-1.0**
TVAN				*i*S	**Sg**	**20 23 12.0**	**+3.4**
VANT	**Van**	**1.18**	**203**	*e*PN	**Pn**	**20 22 55.4**	**-0.4**
KARS	**Kars**	**1.27**	**328**	*e*PN	**Pn**	**20 22 56.6**	**-0.5**
KAMZ	**Kamo**	**1.29**	**359**	⇓P	**Pn**	**20 22 53.6**	**-3.8**
KAMZ				S	**Sb**	**20 23 13.1**	**-1.2**
KZR	**Kazreti**	**1.88**	**10**	P	**Pn**	**20 23 05.5**	**+0.1**
KZR				S	**Sn**	**20 23 31.4**	**+2.3**
HKR	**Hakkari**	**1.96**	**185**	*e*PN	**Pn**	**20 23 06.8**	**+0.2**
ERZM	**Erzurum**	**2.04**	**281**	*i*P	**Pn**	**20 23 09.8**	**+2.1**
EZM	**Erzurum**	**2.05**	**281**	*e*PN	**Pn**	**20 23 08.2**	**+0.4**
DGRG	**David-gareji**	**2.19**	**29**	P	**Pb**	**20 23 13.4**	**+0.3**
DGRG				S	**Sg**	**20 23 43.6**	**-0.3**
MTA	**Mtatsminda**	**2.25**	**16**	P	**Pn**	**20 23 12.3**	**+1.8**
MTA				S	**Sb**	**20 23 42.5**	**+0.7**
BNGL	**BINGOL**	**2.27**	**256**	*i*P	**Pn**	**20 23 11.0**	**+0.2**
BNGL				*i*S	**Sg**	**20 23 45.3**	**-0.8**
ARTV	**Artvin**	**2.27**	**317**	*i*P	**Pb**	**20 23 14.7**	**+0.3**
CUKT	**Cukurca**	**2.30**	**187**	*e*PN	**Pn**	**20 23 11.7**	**+0.4**
BTMT	**Batman**	**2.35**	**236**	*e*PN	**Pn**	**20 23 14.4**	**+2.4**
DUS	**Dusheti**	**2.61**	**12**	P	**Pb**	**20 23 21.3**	**+1.1**
DUS				S	**Sg**	**20 23 57.6**	**+0.3**

KRSC 10 20:23:08.2±0.6, 5408N×16198E, h18km±17km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.50**	**343**	*i*P	Pg	20 23 18.3	+0.1
MKZ				*e*S	Sg	20 23 25.7	+0.7
SPN	**Mys Shipunski**	**1.53**	**231**	*e*P	Pn	20 23 34.7	+0.1
SPN				*e*S	Sn	20 23 53.9	0.0
TUMR	**Tumrok**	**1.61**	**319**	P	Pn	20 23 36.3	+0.6
TUMR				S	Sn	20 23 57.2	+1.2
NLC	**Nalytchevo**	**1.81**	**241**	*e*P	Pn	20 23 38.5	0.0
NLC				*e*S	Sn	20 24 00.7	-0.3
KMNR	**Kamenistaya**	**1.96**	**330**	P	Pn	20 23 42.0	+1.5
KMNR				*e*S	Sn	20 24 06.4	+1.8
ZLN	**Zelenaya**	**2.06**	**341**	P	Pn	20 23 43.4	+1.6
ZLN				S	Sn	20 24 09.6	+2.6
AVH	**Avacha**	**2.09**	**248**	P	Pn	20 23 43.5	+1.1
AVH				S	Sn	20 24 09.6	+1.6
KPT	**Kopyto**	**2.14**	**333**	P	Pn	20 23 44.1	+1.0
KBTR	**Krutoberegovo**	**2.19**	**12**	P	Pn	20 23 42.3	-1.3
KBTR				*e*S	Sn	20 24 06.9	-3.3
PET	**Petropavlovsk**	**2.25**	**243**	*e*S	Sn	20 24 13.4	+1.6
KRSR	**Krestovskiy**	**2.29**	**340**	S	Sn	20 24 17.2	+4.4
KOZ	**Kozyrevsk**	**2.32**	**329**	*e*P	Pn	20 23 47.2	+1.7
KOZ				*e*S	Sn	20 24 15.5	+1.9
KLY	**Klyuchi**	**2.36**	**342**	P	Pn	20 23 47.2	+1.1
KLY				S	Sn	20 24 14.9	+0.3
GNL	**Ganaly**	**2.42**	**262**	P	Pn	20 23 49.6	+2.7
GNL				S	Sn	20 24 19.6	+3.6
SRDR	**Sredinnyy**	**2.59**	**331**	P	Pn	20 23 50.6	+1.4
SRDR				S	Sn	20 24 21.8	+1.6
SRKR	**Sorokina**	**2.62**	**350**	S	Sn	20 24 25.3	+4.3
RUS	**Russkaya**	**2.66**	**233**	P	Pn	20 23 51.8	+1.7
RUS				*e*S	Sn	20 24 23.3	+1.5
GRL	**Gorelyy**	**2.80**	**238**	P	Pn	20 23 55.0	+2.9

*CSEM **10** 20:57:04.9, 6788N×2016E, h0km, ML3.4, Suspected Mining explosion. After UPP*
*UPP **10** 20:57:04.9, 6788N×2016E, h0km, ML3.4, Suspected Mining explosion.*

HEL 10 20:57:05.8±0.2, 6786N×2015E, h0km, ML2.0, ML3.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**36**	*i*P	Pg	20 57 07.1	-1.0
NIKU	**Nikkaluokta**	**0.42**	**271**	*i*P	Pg	20 57 13.1	-0.9
LANU	**Lannavaara**	**0.72**	**74**	*i*P	Pg	20 57 18.6	-1.0
DUNU	**Dundret**	**0.76**	**168**	*i*P	Pg	20 57 19.6	-0.8
SALU	**Saltoluokta**	**0.80**	**233**	*i*P	Pg	20 57 20.1	-0.9
SALU	**Saltoluokta**	**0.80**	**233**	P	Pg	20 57 20.1	-0.9
baz=63							
MASU	**Masugnsbyn**	**0.81**	**119**	*i*P	Pg	20 57 20.2	-1.2
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*P	Pg	20 57 28.6	+0.3
KIF				*e*S	Sg	20 57 44.8	+1.3
PAJU	**Pajala**	**1.42**	**125**	*e*P	Pn	20 57 29.5	-3.3
HARU	**Harads**	**1.74**	**169**	*e*P	Pn	20 57 36.2	-1.0
SJUU	**Sjulsmark**	**2.43**	**166**	*e*P	Pn	20 57 48.1	+1.3
SGF	**Sodankyl**	**2.47**	**97**	*e*P	Pn	20 57 47.9	+0.6
SGF				*e*S	Sn	20 58 17.5	-0.7
SGF				MSG		20 58 24.6	
comp=Z,6.3nm,0.2s							
KEV	**Kevo**	**3.13**	**49**	*e*P	Pn	20 57 56.9	+0.5
KEV				*e*S	Sn	20 58 34.4	-0.1
KEV				MSG		20 58 44.0	
comp=Z,3.1nm,0.3s							
OUL	**Oulu**	**3.62**	**138**	*e*SG	Sg	20 58 56.8	-5.1
OUL				MSG		20 59 03.2	
comp=Z,2.6nm,0.3s							
KU4	**Liikasenvaara**	**3.98**	**108**	*e*S	Sn	20 58 53.7	-1.6
KU4				*e*SG	Sg	20 59 07.5	-6.0

*ISCJB **10** 21:20:46.4±0.8, 2235N±008×1456E±02, h10km, mb4.1/17, Error ellipse: s-maj=21.1km s-min=12.0km az=166.8*
*IDC **10** 21:20:46.7±1.3, 2238N×14559E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/23, mbtmp4.0/11, Error ellipse: s-maj=49.6km s-min=19.1km az=80.0*
*MOS **10** 21:20:51.2±1.3, 2236N×14556E, h45km, mb4.7/5, Error ellipse: s-maj=23.4km s-min=10.7km az=115.5*
*NEIC **10** 21:20:52.9±2.9, 2235N×14553E, h43km±25km, mb4.4/6, Error ellipse: s-maj=19.5km s-min=11.4km az=89.0*

ISC 10 21:20:52.6±3.2, 2236N±009×1456E±02, h39km±27km, n34, σ0°88/33, mb4.1/17, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.63**	**327**	Pn	**Pn**	**21 22 19.2**	**+5.4**
24nm,0.3s,baz=287,slow=21,SNR=8.2							
CBIJ				Sn	**Sn**	**21 23 13.6**	**-3.7**
6.1nm,0.3s,baz=277,slow=21,SNR=2.5							
MJAR	**Matsushiro Arr**	**15.51**	**337**	Pn	**Pn**	**21 24 29.7**	**+1.3**
0.2nm,0.3s,baz=154,slow=11,SNR=2.8							
KSRS	**Korea Array**	**21.41**	**319**	P	**P**	**21 25 37.4**	**+0.4**
3.8nm,0.7s,mb3.9,baz=133,slow=12,SNR=5.2							
YHNB	**Yeheng**	**22.31**	**281**	P	**P**	**21 25 45.4**	**-1.2**
BJT	**Baijiatuau**	**30.51**	**312**	*e*P	**P**	**21 27 01.5**	**-0.5**
BJT				pmax	pmax		
comp=Z,7.0nm,0.5s							
BJT	**Baijiatuau**	**30.51**	**312**	*e*P	**P**	**21 27 01.5**	**-0.5**
comp=Z,6.7nm,0.5s,mb4.7							
PET	**Petropavlovsk**	**32.20**	**15**	P	**P**	**21 27 15.9**	**-0.9**
ENH	**Enshi**	**33.20**	**291**	*e*P	**P**	**21 27 26.7**	**+1.2**
comp=Z,0.3nm,0.4s,mb3.6							
SONM	**Songino Array**	**40.28**	**319**	P	**P**	**21 28 24.6**	**-1.2**
comp=Z,2.5nm,0.6s,mb4.1,baz=132,slow=7.6,SNR=16							
ZAK	**Zakamensk**	**43.21**	**321**	*e*P	**P**	**21 28 49.8**	**+0.1**
WRAB	**Tennant Creek**	**43.45**	**195**	*e*P	**P**	**21 28 52.0**	**+0.3**
WRAB				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.2							
WRAB	**Tennant Creek**	**43.45**	**195**	*e*P	**P**	**21 28 52.0**	**+0.3**
comp=Z,4.9nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**43.46**	**195**	P	**P**	**21 28 51.2**	**-0.5**
comp=Z,2.1nm,0.8s,mb3.9,baz=17,slow=9.2,SNR=12							
ASAR	**Alice Springs**	**47.14**	**195**	P	**P**	**21 29 21.2**	**+0.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=15,slow=10,SNR=13							
LSA	**Lhasa**	**49.09**	**291**	*e*P	**P**	**21 29 35.1**	**-0.9**
LSA				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4							
LSA	**Lhasa**	**49.09**	**291**	*e*P	**P**	**21 29 35.1**	**-0.9**
comp=Z,1.6nm,0.5s,mb4.3							
ZAL	**Zalesovo**	**55.10**	**321**	P	**P**	**21 30 20.1**	**-0.6**
comp=Z,1.7nm,0.8s,mb4.1,baz=12,slow=8.3,SNR=12							
MKAR	**Makanchi Array**	**55.90**	**312**	P	**P**	**21 30 25.2**	**-1.2**
comp=Z,1.0nm,0.6s,mb4.0,baz=79,slow=6.9,SNR=10.0							
MKAR	**Makanchi Array**	**55.90**	**312**	P	**P**	**21 30 25.2**	**-1.2**
NVS	**Novosibirsk**	**56.15**	**322**	*e*P	**P**	**21 30 29.6**	**+1.4**
KURK	**Kurchatov**	**58.52**	**317**	*e*P	**P**	**21 30 44.9**	**0.0**
KURK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
KURK	**Kurchatov**	**58.52**	**317**	*e*P	**P**	**21 30 44.9**	**0.0**
comp=Z,4.1nm,0.8s,mb4.5							
CHKZ	**Chkalovo**	**63.46**	**320**	*e*P	**P**	**21 31 18.2**	**-0.2**
CHKZ				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
CHKZ	**Chkalovo**	**63.46**	**320**	*e*P	**P**	**21 31 18.2**	**-0.2**
comp=Z,4.2nm,0.9s,mb4.6							
BVAR	**Borovoye Array**	**63.62**	**319**	P	**P**	**21 31 19.4**	**-0.1**
comp=Z,6.1nm,0.8s,mb4.7,baz=94,slow=12,SNR=7.6							
BRVK	**Borovoye**	**63.68**	**319**	P	**P**	**21 31 19.6**	**-0.3**
INK	**Inuvik**	**66.07**	**24**	P	**P**	**21 31 34.5**	**-1.0**
comp=Z,1.1nm,1.0s,mb3.8,baz=211,slow=9.2,SNR=2.6							
INK	**Inuvik**	**66.07**	**24**	P	**P**	**21 31 34.5**	**-1.0**
AKTK	**Aktyubinsk**	**71.58**	**318**	P	**P**	**21 32 10.3**	**+0.6**
AKTO	**Aktyubinsk**	**71.58**	**318**	P	**P**	**21 32 10.3**	**+0.6**
comp=Z,0.9nm,0.6s,mb3.9,baz=42,slow=3.7,SNR=4.2							
AKASG	**Malin Array Be**	**88.25**	**325**	P	**P**	**21 33 41.2**	**+1.5**
comp=Z,0.1nm,0.3s,mb3.5,baz=54,slow=4.2,SNR=2.4							
BRTR	**Keskin Array B**	**91.49**	**314**	P	**P**	**21 33 56.3**	**+1.4**
comp=Z,0.9nm,0.8s,mb4.1,baz=97,slow=4.0,SNR=5.3							
VNA2	**Neumayer--Watz**	**128.93**	**191**	*e*	PKPdf	21 39 58.9	+2.9
baz=45,slow=0.8							
VNA3	**Neumayer Olymp**	**129.04**	**190**	*e*	PKPdf	21 40 00.2	+4.0

*NIED **10** 21:20:00, 2690N×13000E, h8km, Mw3.9 Best double couple: M0:8.87000×10^14 NP1:φs16.00000°, δ50.00000°, λ-109.00000°. NP2:φs224.00000°, δ44.00000°, λ-69.00000°.*
*JMA **10** 21:20:50.9±0.1, 2687N×12996E, h44km, M4.0*
*ISCJB **10** 21:20:51.3±0.3, 2688N±003×12992E±003, h35km, mb3.8/14, Error ellipse: s-maj=4.2km s-min=3.9km az=127.9*
*MOS **10** 21:20:51.5±0.6, 2693N×13006E, h34km, mb4.3/4, Error ellipse: s-maj=23.0km s-min=11.6km az=114.8*
*IDC **10** 21:20:52.8±6.8, 2687N×12988E, h29km±48km, mb3.6/10, mb1 3.8/11, mb1mx3.7/23, mbtmp3.7/11, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/27, Error ellipse: s-maj=27.6km s-min=17.6km az=68.0*
*NEIC **10** 21:20:53.5±0.4, 2689N×12989E, h35km, mb4.3/5, Error ellipse: s-maj=9.6km s-min=6.9km az=61.0*

ISC 10 21:20:53.0±0.4, 2690N±003×12987E±003, h35km, n49, σ1°09/62, mb3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.20**	**318**	P	**Pn**	**21 21 13.0**	**-0.3**
JTK				S	**Sn**	**21 21 27.6**	**-0.8**
JZK	**Kikaishima**	**1.41**	**4**	P	**Pn**	**21 21 15.5**	**-0.7**
JZK				S	**Sn**	**21 21 33.5**	**-0.1**
JOW	**Kunigami**	**1.42**	**268**	Pn	**Pn**	**21 21 16.6**	**+0.2**
113nm,0.3s,baz=106,slow=13,SNR=263							
JOW				Sn	**Sn**	**21 21 34.1**	**+0.2**
275nm,0.3s,baz=120,slow=28,SNR=26							
JOW	**Kunigami**	**1.42**	**268**	P	**Pn**	**21 21 16.5**	**+0.1**
JOW				S	**Sn**	**21 21 34.3**	**+0.4**
JAM	**Amami Oshima**	**1.

*ISK **10** 21:21:41.2, 3608N×3860E, h6km, MD3.6, ML3.5*
*ISCJB **10** 21:22:43.5±0.5, 3626N±004×3872E±005, h6km, Error ellipse: s-maj=6.8km s-min=3.8km az=94.8*
*GRAL **10** 21:22:44.0±5.7, 3633N×3888E, h0km±71km, MD3.7*
ISC 10 21:22:44.1±1.3,**3628N**±005×**3870E**±005,**h3**km±9km,**n21,**
σ1§21/29,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**1.16**	**5**	PN	**Pg**	**21 23 07.1**	**+0.7**
URFA				SN	**Sg**	**21 23 26.2**	**+4.8**
ATAB	**Bozova**	**1.23**	**345**	*i* P	**Pg**	**21 23 08.6**	**+0.9**
ATAB				*i* S	**Sg**	**21 23 29.3**	**+5.7**
GZT	**Gaziantep**	**1.41**	**320**	*i* P	**Pn**	**21 23 09.4**	**-1.1**
GZT				*i* S	**Sb**	**21 23 35.3**	**+6.1**
GAZ	**Gaziantep**	**1.49**	**307**	PN	**Pn**	**21 23 09.8**	**-1.9**
GAZ				SN	**Sn**	**21 23 31.7**	**+0.1**
KMRS	**Kahramanmaras**	**1.89**	**311**	PN	**Pn**	**21 23 15.7**	**-1.5**
MARD	**Mardin**	**1.96**	**58**	*i* P	**Pn**	**21 23 16.1**	**-2.1**
MARD				*i* S	**Sn**	**21 23 43.2**	**-0.1**
COBT	**Iskenderun**	**1.98**	**278**	*i* P	**Pn**	**21 23 18.4**	**-0.1**
COBT				*i* S	**Sn**	**21 23 46.9**	**+3.0**
DIY	**Diyarbakir**	**2.02**	**37**	PN	**Pn**	**21 23 20.1**	**+1.1**
MYA	**Malataya**	**2.05**	**354**	PN	**Pn**	**21 23 20.0**	**+0.6**
HTY	**Hatay**	**2.08**	**266**	PN	**Pn**	**21 23 16.3**	**-3.5**
ELZG	**Elazig**	**2.23**	**6**	*i* P	**Pg**	**21 23 26.6**	**-0.1**
KOZT	**Kozan**	**2.59**	**298**	*e*PN	**Pn**	**21 23 25.7**	**-1.2**
PTK	**Pertek**	**2.66**	**12**	*e*PN	**Pn**	**21 23 29.4**	**+1.5**
FKH	**Fakeheh**	**2.77**	**223**	*e*P	**Pn**	**21 23 28.9**	**-0.4**
FKH				*e*S	**Sn**	**21 24 04.1**	**+0.8**
BTMT	**Batman**	**2.93**	**49**	*e*PN	**Pn**	**21 23 30.3**	**-1.3**
HWQ	**Hawqa**	**3.01**	**229**	*e*P	**Pn**	**21 23 33.4**	**+0.8**
HWQ				*e*S	**Sn**	**21 24 10.1**	**+0.9**
SIRT	**Sirnak**	**3.24**	**67**	*e*PN	**Pn**	**21 23 36.8**	**+1.1**
BHL	**Bhannes**	**3.44**	**227**	*e*P	**Pn**	**21 23 38.6**	**0.0**
BHL				*e*S	**Sb**	**21 24 25.1**	**-2.7**
MSL	**Mosul**	**3.55**	**89**	*ex*	x	21 23 21.5	
MSL				*ex*	x	21 23 34.5	
MSL				*i* x	x	21 24 31.5	
MSL				*i* x	x	21 24 35.5	
MATL	**Matirih**	**3.93**	**226**	*e*P	**Pn**	**21 23 46.4**	**+1.2**
CUKT	**Cukurca**	**4.06**	**75**	*e*PN	**Pn**	**21 23 47.1**	**+0.1**

*ISCJB **10** 22:16:08.3±2.2, 2377S±008×1797W±02, h503km±44km, mb4.0/9, Error ellipse: s-maj=27.7km s-min=12.6km az=174.7*
*IDC **10** 22:16:08.1±10.0, 2376S×17979W, h474km±93km, mb3.3/4, mb1 3.5/5, mb1mx3.2/12, mbtmp3.3/5, Error ellipse: s-maj=89.3km s-min=22.6km az=46.0*
*NEIC **10** 22:16:08.8±1.1, 2376S×17978W, h489km±18km, mb4.3/7, Error ellipse: s-maj=14.5km s-min=10.9km az=104.0*
ISC 10 22:16:08.3±1.7,**2388S**±008×**1798W**±02,**h477**km±37km,
n21,σ0§73/19,mb4.0/9,2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.47**	**39**	*e*P	**P**	**22 18 51.5**	**-0.4**
URZ	**Urewera**	**14.58**	**190**	P	**P**	**22 19 15.5**	**+1.2**
	1.3nm,0.3s,baz=207,slow=7.4,SNR=5.8						
URZ				S	**S**	**22 21 46.2**	**-1.8**
	0.4nm,0.3s,baz=187,slow=8.1,SNR=2.6						
HNR	**Honiara**	**24.12**	**303**	P	**P**	**22 20 45.0**	**-0.1**
	13nm,0.4s,mb4.7						
CTA	**Charters Tower**	**31.68**	**270**	*e*P	**P**	**22 21 52.5**	**+1.1**
	5.1nm,0.4s,mb4.3						
CTAO	**Charters Tower**	**31.68**	**270**	*e*P	**P**	**22 21 51.9**	**+0.5**
	5.1nm,0.4s,mb4.3						
TAU	**Tasmania Unive**	**33.10**	**227**	*e*P	**P**	**22 22 04.2**	**+0.7**
PMG	**Port Moresby**	**34.69**	**289**	P	**P**	**22 22 16.9**	**0.0**
STKA	**Stephens Creek**	**34.92**	**248**	‖ *i*P	**P**	**22 22 19.5**	**+0.6**
	2.3nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**22 22 19.8**	**+0.9**
	3.0nm,0.8s,mb3.8,baz=103,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**42.24**	**261**	P	**P**	**22 23 18.9**	**+0.4**
	3.7nm,0.7s,mb3.9,baz=98,slow=7.9,SNR=28						
WB2	**Warramunga Arr**	**42.61**	**266**	‖ *i*P	**P**	**22 23 20.8**	**-0.6**
WRAB	**Tennant Creek**	**42.61**	**266**	*e*P	**P**	**22 23 21.1**	**-0.3**
	3.7nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**22 23 21.2**	**-0.3**
	3.5nm,0.4s,mb4.2,baz=96,slow=8.4,SNR=167						
FORT	**Forrest**	**46.51**	**250**	*e*P	**P**	**22 23 50.9**	**-0.7**
	15nm,0.5s,mb4.7						
KAKA	**Kakadu**	**46.52**	**275**	*e*P	**P**	**22 23 51.0**	**-0.6**
	2.0nm,0.3s,mb4.0						
GUMO	**Guam**	**50.81**	**313**	P	**P**	**22 24 23.4**	**-0.3**
VNDA	**Vanda**	**54.41**	**185**	P	**P**	**22 24 50.3**	**+0.8**
	0.4nm,0.6s,mb3.0,baz=18,slow=6.4,SNR=4.0						
VNDA	**Vanda**	**54.41**	**185**	*e*P	**P**	**22 24 50.5**	**+0.9**
	0.4nm,0.7s,mb2.9						
KURK	**Kurchatov**	**115.33**	**316**	PKPdf	PKPdf	22 33 53.5	-1.5
MMAI	**Mount Meron Ar**	**147.88**	**294**	PKPbc	PKPbc	22 34 59.3	+0.3
	0.7nm,0.5s,baz=92,slow=8.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**169.23**	**188**	PKPab	PKPab	22 36 35.2	-0.4
	0.6nm,0.9s,baz=166,slow=4.6,SNR=2.7						

*ISK **10** 22:20:38.8, 3848N×2675E, h5km, MD2.8*
*ISCJB **10** 22:20:39.2±0.5, 3841N±004×2676E±004, h14km±5km, Error ellipse: s-maj=6.1km s-min=5.1km az=136.8*
*CSEM **10** 22:20:39.7±0.2, 3843N×2683E, h15km, MD2.8, Error ellipse: s-maj=5.0km s-min=3.8km az=154.0*
*ATH **10** 22:20:39.6, 3838N×2654E, h10km, MD3.0/3*
ISC 10 22:20:39.3±0.6,**3842N**±004×**2674E**±004,**h15**km±5km,**n11,**
σ0§56/18,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.13**	**240**	*i* P	**Pg**	**22 20 42.5**	**-0.3**
URLA				*i* S	**Sg**	**22 20 45.8**	**+0.5**
BLCB	**Balcova**	**0.24**	**99**	*i* PG	**Pg**	**22 20 44.3**	**-0.3**
BLCB				*i* SG	**Sg**	**22 20 48.3**	**+0.1**
IZM	**Izmir**	**0.41**	**93**	*i* PG	**Pg**	**22 20 47.1**	**-0.5**
IZM				*i* SG	**Sg**	**22 20 53.6**	**+0.4**
KDAG	**Bornova**	**0.42**	**93**	*i* P	**Pg**	**22 20 47.2**	**-0.4**
KDAG				*i* S	**Sg**	**22 20 53.5**	**+0.2**
SMG	**Samos**	**0.72**	**174**	*e*PB	**Pb**	**22 20 53.1**	**-0.4**
AYVA	**Ayvalik**	**0.88**	**358**	*i* P	**Pb**	**22 20 55.7**	**-0.6**
AYVA				*i* S	**Sb**	**22 21 08.9**	**+1.1**
PRK	**Paraskevi**	**0.90**	**336**	*e*PB	**Pb**	**22 20 56.5**	**0.0**
AKS	**Akhisar**	**0.96**	**61**	*i* PG	**Pg**	**22 20 57.0**	**-0.8**
AKS				*i* SG	**Sg**	**22 21 10.1**	**-0.2**
BDRM	**Kayabasi**	**1.47**	**157**	*i* P	**Pg**	**22 21 08.2**	**+0.7**
BDRM				*i* S	**Sg**	**22 21 27.3**	**+0.8**
CANB	**Canakkale**	**1.61**	**9**	*e*PN	**Pn**	**22 21 07.8**	**+0.7**
APE	**Apeiranthos**	**1.66**	**216**	*e*PB	**Pb**	**22 21 08.5**	**-1.0**

*NEIC **10** 22:22:55.1, 1683N×9501W, h110km, MD4.1(MEX), After MEX.*
MEX 10 22:22:54.6±0.9,**1680N×9497W,h110**km±6km,**MD4.2,**
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.30**	**15**	*i* P	Pn	22 23 09.4	-1.0
CMIG				*i* S	Sn	22 23 20.3	-1.9
TUIG	**Tuzandepetl**	**1.33**	**23**	*i* P	Pn	22 23 18.3	-1.1
TUIG				*i* S	Sn	22 23 36.5	-1.8
HUIG	**Huatulco**	**1.50**	**227**	*i* P	Pn	22 23 19.7	-1.8
HUIG				*i* S	Sn	22 23 40.8	-1.1
OXX	**Oaxaca**	**1.71**	**280**	*i* P	Pn	22 23 23.5	-0.4
OXX				*i* S	Sn	22 23 44.5	-1.7
VHO	**Vista Hermosa**	**1.71**	**279**	*i* P	Pn	22 23 23.7	-0.3
VHO				*i* S	Sn	22 23 45.1	-1.2
CCIG	**Comitan**	**2.76**	**100**	*i* P	Pn	22 23 36.6	-0.9
CCIG				*i* S	Sn	22 24 09.2	-1.2
CCIG	**Comitan**	**2.76**	**100**	*i* P	Pn	22 23 36.6	-0.9
CCIG				*i* S	Sn	22 24 12.3	+1.9
TPIG	**Tehuac#an**	**2.79**	**306**	*i* P	Pn	22 23 36.1	-1.7
TPIG				*i* S	Sn	22 24 09.2	-1.9
UTMO	**Huajuapan**	**2.90**	**291**	*i* P	Pn	22 23 38.9	-0.3
UTMO				*i* S	Sn	22 24 11.5	-2.1
PNIG	**Pinotepa**	**3.06**	**263**	*i* P	Pn	22 23 39.0	-2.3
PNIG				*i* S	Sn	22 24 15.0	-2.4
PPM	**Popocatepetl**	**4.15**	**303**	*i* P	Pn	22 23 57.5	+1.6
PPM				*i* S	Sn	22 24 42.2	-1.3
IIO	**Organos**	**4.52**	**308**	*i* P	Pn	22 24 01.7	+0.8
IIO				*i* S	Sn	22 24 49.9	-2.6
MEIG	**Mezcala**	**4.58**	**285**	*i* P	Pn	22 24 01.3	-0.5
MEIG				*i* S	Sn	22 24 50.9	-3.0
PLIG	**Platanillo**	**4.61**	**291**	*i* P	Pn	22 24 02.3	+0.3
PLIG				*i* S	Sn	22 24 51.6	-2.9

*CSEM **10** 22:34:18.8±0.1, 3842N×2674E, h12km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.0km az=19.0*
*ISCJB **10** 22:34:19.8±0.5, 3843N±003×2676E±004, h11km±5km, Error ellipse: s-maj=6.1km s-min=5.2km az=114.7*
*ISK **10** 22:34:19.4, 3847N×2676E, h10km, MD3.0*
*ATH **10** 22:34:19.4, 3838N×2673E, h56km, MD3.2/3*
ISC 10 22:34:19.9±0.5,**3842N**±004×**2674E**±004,**h14**km±5km,**n11,**
σ0§59/18,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.13**	**242**	*i* P	**Pg**	**22 34 23.1**	**-0.2**
URLA				*i* S	**Sg**	**22 34 26.1**	**+0.2**
BLCB	**Balcova**	**0.24**	**99**	PG	**Pg**	**22 34 24.6**	**-0.4**
BLCB				SG	**Sg**	**22 34 28.3**	**-0.2**
IZM	**Izmir**	**0.41**	**93**	PG	**Pg**	**22 34 27.9**	**-0.1**
KDAG	**Bornova**	**0.41**	**93**	*i* P	**Pg**	**22 34 27.9**	**-0.2**
KDAG				*i* S	**Sg**	**22 34 34.3**	**+0.7**
SMG	**Samos**	**0.72**	**174**	*e*P	**Pg**	**22 34 33.9**	**+0.1**
SMG				*e*S	**Sg**	**22 34 44.5**	**+1.2**
AYVA	**Ayvalik**	**0.89**	**357**	*i* P	**Pb**	**22 34 36.8**	**-0.2**
AYVA				*i* S	**Sb**	**22 34 49.4**	**+0.7**
PRK	**Paraskevi**	**0.90**	**336**	*e*P	**Pb**	**22 34 37.3**	**0.0**
AKS	**Akhisar**	**0.95**	**61**	PG	**Pg**	**22 34 37.6**	**-0.7**
AKS				SG	**Sg**	**22 34 50.5**	**-0.2**
EZN	**Ezine**	**1.44**	**347**	*e*PN	**Pn**	**22 34 45.3**	**-0.2**
EZN				*e*SN	**Sn**	**22 35 04.7**	**+0.5**
APE	**Apeiranthos**	**1.66**	**216**	*e*P	**Pn**	**22 34 47.0**	**-1.5**
DST	**Dursunbey**	**1.88**	**51**	*e*PN	**Pn**	**22 34 52.0**	**+0.4**

*LDG **10** 22:48:41.7±0.8, 3168N×9427E, h10km, Mb4.8/22, Ms3.2/1, Error ellipse: s-maj=38.5km s-min=10.2km az=133.0*
*IDC **10** 22:48:42.6±0.7, 3176N×9430E, h0km, mb4.0/14, mb1 4.1/16, mb1mx4.1/22, mbtmp4.0/16, ML4.0/2, MS3.5/3, Ms1 3.5/3, ms1mx3.2/28, Error ellipse: s-maj=25.1km s-min=15.4km az=43.0*
*ISCJB **10** 22:48:42.2±0.3, 3170N±004×9420E±004, h10km, mb4.3/39, MS3.6/2, Error ellipse: s-maj=5.6km s-min=4.2km az=136.3*
*BJI **10** 22:48:46.9, 3177N×9426E, h53km, mB4.6, mb4.4, ML3.9, Ms3.9, Msz3.6*
*MOS **10** 22:48:49.0±0.8, 3191N×9434E, h58km, mb4.7/20, Error ellipse: s-maj=11.2km s-min=6.7km az=119.7*
*NEIC **10** 22:48:50.8±1.1, 3192N×9429E, h55km±10km, mb4.5/25, Error ellipse: s-maj=7.5km s-min=6.7km az=207.0*
ISC 10 22:48:44.3±0.3,**3175N**±004×**9421E**±004,**h10**km,**n124,**
σ1§02/126,mb4.3/39,MS3.6/2,3C-3D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.33**	**233**	*e*P	**Pb**	**22 49 42.7**	**-0.7**
LSA				*e*S	**Sg**	**22 50 32.0**	**+0.7**
SHL	**Shillong**	**6.49**	**199**	*e*P	**Pn**	**22 50 19.1**	**-0.7**
SHL				*e*P		22 50 24.0	
SHL				*e*S	**Sn**	**22 51 28.8**	**-5.0**
SHL				*e*S	**Sn**	**22 51 37.0**	**+3.1**
IMP	**Imphal**	**6.94**	**182**	*ex*	x	22 50 43.0	
IMP				*ex*	x	22 52 16.0	
CD2	**Chengdu**	**8.21**	**93**	*e*P	**Pn**	**22 50 47.0**	**+3.5**
CD2				S	**Sn**	**22 52 20.6**	**+4.2**
CD2				XS		22 52 25.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=N,380nm,9.6s						
CD2				LR	LR		
	comp=E,390nm,6.0s						
CD2				LR	LR		
	comp=Z,290nm,8.4s						
GTA	**Gaotai**	**8.90**	**29**	*e*P	**Pn**	**22 50 52.5**	**-0.5**
GTA				AP		22 50 59.9	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s						
KMI	**Kunming**	**9.99**	**129**	P	**Pn**	**22 51 07.0**	**-1.0**
BOK	**Bokaro**	**10.81**	**225**	*e*P	**Pn**	**22 51 19.3**	**+0.1**
BOK				AMb	AMB	22 51 24.1	
	comp=Z,15nm,0.6s						
BOK				*ex*	x	22 53 15.1	
GYA	**Guiyang**	**12.10**	**113**	‖ *i*P	**Pn**	**22 51 36.2**	**-0.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
XAN	**Xi'an**	**12.58**	**76**	P	**Pn**	**22 51 43.1**	**-0.2**
XAN				AP		22 51 51.7	
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s						
AGRA	**Agra**	**14.86**	**257**	*e*P	**Pn**	**22 52 13.4**	**-1.0**
AGRA				AMb	AMB	22 52 14.7	
	comp=Z,78nm,0.1s						
AYAN	**Aya Nagar**	**15.13**	**262**	*e*P	**Pn**	**22 52 16.3**	**-1.8**
AYAN				AMb	AMB	22 52 18.6	
	comp=Z,7.8nm,0.2s						
BHGR	**Bahadurgarh**	**15.24**	**263**	*ex*	x	22 52 26.7	
SONA	**Sohna**	**15.24**	**261**	*e*P	**Pn**	**22 52 17.4**	**-2.1**
SONA				AMb	AMB	22 52 20.3	
	comp=Z,15nm,0.6s						
KUDL	**Kundal**	**15.77**	**261**	*e*P	**Pn**	**22 52 20.9**	**-5.6**
KUDL				AMb	AMB	22 52 29.6	
	comp=Z,6.0nm,0.3s						
KHET	**Khetri**	**16.37**	**262**	*e*P	**Pn**	**22 52 31.2**	**-2.9**
KHET				AMb	AMB	22 52 34.5	
	comp=Z,13nm,1.2s						
BHPL	**Bhopal**	**17.11**	**244**	*e*P	**Pn**	**22 52 41.3**	**-2.3**
BHPL				AMb	AMB	22 52 48.1	
	comp=Z,26nm,1.0s						
BHPL				AMb	AMB	22 52 48.1	
	comp=Z,26nm,1.0s						
MKAR	**Makanchi Array**	**17.60**	**332**	P	**Pn**	**22 52 48.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=139,slow=14,SNR=16						
MKAR	**Makanchi Array**	**17.60**	**332**	P	**Pn**	**22 52 48.9**	**-0.7**
AJM	**Ajmer**	**17.88**	**258**	*e*P	**Pn**	**22 52 51.2**	**-1.8**
AJM				AMb	AMB	22 52 57.2	
	comp=Z,30nm,1.6s						
SONM	**Songino Array**	**18.56**	**27**	P	**Pn**	**22 53 00.2**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=218,slow=12,SNR=45						
SONM				LR	LR	23 01 12.9	
	comp=Z,134nm,19.6s,baz=345,slow=40						
AAK	**Ala-Archa**	**19.05**	**310**	*e*P	**Pn**	**22 53 08.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,40nm,1.5s						
AAK	**Ala-Archa**	**19.05**	**310**	*e*P	**Pn**	**22 53 08.2**	**+0.8**
	comp=Z,40nm,1.5s						
FRU	**Bishkek**	**19.07**	**311**	*e*P	**Pn**	**22 53 08.5**	**+0.9**
FRU				pmax	pmax		
	comp=Z,35nm,2.1s						
ZAK	**Zakamensk**	**19.81**	**17**	*e*P	**Pn**	**22 53 14.8**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HYB	**Hyderabad**	**20.12**	**228**	*i* P	**P**	**22 53 24.5**	**+6.2**
HYB	**Hyderabad**	**20.12**	**228**	*e*P	**P**	**22 53 24.5**	**+6.2**
KURK	**Kurchatov**	**22.20**	**333**	*e*P	**P**	**22 53 40.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**22.20**	**333**	*e*P	**P**	**22 53 40.7**	**-0.1**
	comp=Z,5.9nm,0.6s,mb4.2						
NVS	**Novosibirsk**	**24.37**	**345**	*e*P	**P**	**22 54 00.8**	**-1.7**
NVS				*e*S	**S**	**22 58 19.3**	**-2.6**
NVS				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.2						
NVS				pmax	pmax		
	comp=N,11nm,1.5s						
NVS				smax			
	comp=N,17nm,1.9s						
NACB	**Ninganchiao**	**25.30**	**100**	P	**P**	**22 54 13.2**	**+2.2**
HIA	**Hailar**	**25.95**	**40**	P	**P**	**22 54 17.4**	**+0.6**
CN2	**Changchun**	**27.31**	**55**	*e*P	**P**	**22 54 27.5**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**27.37**	**328**	P	**P**	**22 54 30.5**	**+0.9**
	comp=Z,2.4nm,0.7s,mb3.8,baz=136,slow=12,SNR=14						
BRVK	**Borovoye**	**27.44**	**328**	*e*P	**P**	**22 54 31.1**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
BRVK	**Borovoye**	**27.44**	**328**	*e*P	**P**	**22 54 31.1**	**+0.9**
	comp=Z,3.7nm,0.8s,mb4.0						
CHKZ	**Chkalovo**	**27.70**	**329**	*e*P	**P**	**22 54 33.4**	**+0.7**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
CHKZ	**Chkalovo**	**27.70**	**329**	*e*P	**P**	**22 54 33.4**	**+0.7**
	comp=Z,3.3nm,0.8s,mb4.0						
KSRS	**Korea Array**	**28.23**	**69**	P	**P**	**22 54 36.9**	**-0.5**
	comp=Z,1.0nm,0.4s,mb3.8,baz=280,slow=10.0,SNR=5.3						
KSRS				LR	LR	23 06 39.4	
	comp=Z,69nm,19.0s,MS3.3,baz=255,slow=38						
MAJO	**Matsushiro**	**36.49**	**70**	P	**P**	**22 55 50.9**	**+1.3**
YAK	**Yakutsk**	**37.92**	**26**	*e*P	**P**	**22 56 01.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.8						
YAK	**Yakutsk**	**37.92**	**26**	*e*P	**P**	**22 56 01.1**	**-0.7**
	comp=Z,8.7nm,0.4s,mb4.8						
KIV	**Kislovodsk**	**41.84**	**302**	P	**P**	**22 56 35.4**	**+1.1**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
KIV	**Kislovodsk**	**41.84**	**302**	P	**P**	**22 56 35.4**	**+1.0**
	comp=Z,1.8nm,0.6s,mb3.9						
TIXI	**Tiksi**	**44.06**	**15**	*e*P	**P**	**22 56 49.1**	**-3.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
TIXI	**Tiksi**	**44.06**	**15**	*e*P	**P**	**22 56 50.8**	**-1.5**
	comp=Z,1.6nm,0.6s,mb3.9						
OBN	**Obninsk**	**46.32**	**318**	P	**P**	**22 57 10.5**	**+0.2**
BR131	**Keskin Array S**	**48.99**	**297**	*e*P	**P**	**22 57 32.0**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**48.99**	**297**	P	**P**	**22 57 31.8**	**+0.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=102,slow=7.2,SNR=11						
JOF	**Joensuu**	**49.97**	**328**	*ep*	**P**	**22 57 38.4**	**-0.1**
AKASG	**Malin Array Be**	**50.71**	**312**	P	**P**	**22 57 43.5**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.3,baz=74,slow=6.9,SNR=12						
FINES	**FINESS Array B**	**52.29**	**326**	P	**P**	**22 57 55.9**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=81,slow=12,SNR=9.6						
VRI	**Vrincioaia**	**52.94**	**306**	‖ *i*P	**P**	**22 58 02.1**	**+1.3**
ARCES	**ARCESS Array B**	**53.20**	**336**	P	**P**	**22 58 02.5**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3,baz=76,slow=10,SNR=7.0						
MLR	**Muntele Rosu**	**53.55**	**306**	‖ *i*P	**P**	**22 58 07.0**	**+1.8**
BURAR	**Bucovina Array**	**53.68**	**306**	‖ *i*P	**P**	**22 58 07.2**	**+1.0**
DRGR		**55.51**	**308**	‖ *i*P	**P**	**22 58 20.3**	**+0.8**
PKSM	**Moragy**	**58.38**	**308**	‖ *i*P	**P**	**22 58 39.9**	**+0.1**
NB2	**NORSAR Subarra**	**59.47**	**326**	P	**P**	**22 58 46.8**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=79,slow=6.9						
NOA	**NORSAR Array B**	**59.47**	**326**	P	**P**	**22 58 47.1**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=80,slow=6.5,SNR=5.8						
GERES	**GERESS Array B**	**60.93**	**312**	P	**P**	**22 58 57.9**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.3,baz=70,slow=5.7,SNR=17						
KHC	**Kasperske Hory**	**60.93**	**312**	*e*P	**P**	**22 58 56.0**	**-1.4**
KMBO	**Kilima Mbogo**	**62.98**	**250**	P	**P**	**22 59 12.4**	**+1.2**
	comp=Z,0.3nm,0.3s,mb4.0,baz=53,slow=18,SNR=3.7						
WRAB	**Tennant Creek**	**64.20**	**138**	P	**P**	**22 59 20.1**	**+0.9**
WRA	**Warramunga Arr**	**64.20**	**138**	P	**P**	**22 59 18.9**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.6,baz=322,slow=8.1,SNR=10						
CDF	**Champ du Feu**	**65.11**	**313**	*e*P	**P**	**22 59 25.2**	**0.0**
	comp=Z,7.4nm,0.8s,mb4.4						
CDF	**Champ du Feu**	**65.11**	**313**	*e*P	**P**	**22 59 25.2**	**0.0**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**65.11**	**313**	*e*P	**P**	**22 59 25.2**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.5						
WLF	**Walferdange**	**65.37**	**314**	P	**P**	**22 59 28.5**	**+1.6**
HINF	**Hinteralfeld**	**65.59**	**312**	*e*P	**P**	**22 59 28.1**	**-0.2**
	comp=Z,4.9nm,0.7s,mb4.3						
HINF	**Hinteralfeld**	**65.59**	**312**	*e*P	**P**	**22 59 28.1**	**-0.2**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
HINF	**Hinteralfeld**	**65.59**	**312**	*e*P	**P**	**22 59 28.1**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.3						
PGF	**Pioggiola**	**66.08**	**306**	*e*P	**P**	**22 59 31.6**	**+0.1**
	comp=Z,31nm,0.9s,mb5.0						
PGF	**Pioggiola**	**66.08**	**306**	*e*P	**P**	**22 59 31.6**	**+0.1**
PGF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
PGF	**Pioggiola**	**66.08**	**306**	*e*P	**P**	**22 59 31.6**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0						
LPG	**La Plagne**	**66.50**	**310**	*e*P	**P**	**22 59 35.1**	**+1.0**
	comp=Z,16nm,0.7s,mb4.9						
LPG	**La Plagne**	**66.50**	**310**	*e*P	**P**	**22 59 35.1**	**+1.0**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
LPG	**La Plagne**	**66.50**	**310**	*e*P	**P**	**22 59 35.1**	**+1.0**
	comp=Z,7.8nm,0.7s,mb4.8						
LPL	**La Plagne**	**66.50**	**310**	*e*P	**P**	**22 59 35.1**	**+0.9**
	comp=Z,23nm,0.6s,mb5.0						
LPL	**La Plagne**	**66.50**	**310**	*e*P	**P**	**22 59 35.1**	**+0.9**
LPL				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
LPL	**La Plagne**	**66.50**	**310**	*e*P	**P**	**22

comp=Z,13nm,0.6s,mb4.8
ETSF Etsaut 72.35 310 *e*P **P 23 00 11.3 +0.9**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ETSF Etsaut 72.35 310 *e*P **P 23 00 11.3 +0.9**
comp=Z,6.4nm,0.6s,mb4.7
SJPF Ste Jean 72.69 310 *e*P **P 23 00 13.4 +1.0**
comp=Z,12nm,0.7s,mb4.6
SJPF Ste Jean 72.69 310 *e*P **P 23 00 13.4 +1.0**
SJPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SJPF Ste Jean 72.69 310 *e*P **P 23 00 13.4 +1.0**
comp=Z,5.8nm,0.7s,mb4.6
ESDC Sonseca Array 76.14 308 P **P 23 00 32.9 +0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=58,slow=5.8,SNR=7.7
YKA Yellowknife Ar 83.27 13 P **P 23 01 09.9 -1.3**
comp=Z,0.5nm,0.8s,mb3.6,baz=332,slow=4.5,SNR=6.0
TORD Torodi Ar. Bea 85.30 282 P **P 23 01 22.4 +1.0**
comp=Z,1.3nm,0.6s,mb4.2,baz=51,slow=4.5,SNR=20

*ISCJB **10** 23:04:37.6±0.2, 3821N±002×11835W±002, h9km, Error ellipse: s-maj=2.2km s-min=2.0km az=130.9*
*NEIC **10** 23:04:37.6, 38.19N×118.39W, h9km, ML3.7(REN), After REN.*
NEIC Felt at Incline Village. Also felt at Modesto, California.
ISC 10 23:04:37.9±0.2, 3821N±001×11837W±002, h9km, n61, σ1§25/125, 32C-28D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R08A	**Mina** baz=0.3,SNR=436	**0.25**	**56**	P	**Pg**	**23 04 43.1**	**+0.3**
R08A	baz=0.3			⇓S	**Sg**	**23 04 47.5**	**+1.3**
R07C	**Lee Vining** baz=0.5,SNR=690	**0.55**	**257**	P	**Pg**	**23 04 48.0**	**-0.6**
R07C	baz=0.5			⇓S	**Sg**	**23 04 55.4**	**-0.3**
MLAC	**Mammoth Lakes** baz=0.7,SNR=33	**0.69**	**213**	⇓P	**Pg**	**23 04 50.3**	**-0.8**
S08C	**White Mtn Res** baz=0.7,SNR=171	**0.73**	**168**	⇑P	**Pg**	**23 04 51.2**	**-0.7**
S08C	baz=0.7			⇑S	**Sg**	**23 05 01.0**	**-0.4**
Q08A	**Gabbs** baz=0.8,SNR=264	**0.73**	**28**	⇑P	**Pg**	**23 04 51.9**	**-0.1**
Q07A	**Schurz** baz=0.8,SNR=8.7	**0.81**	**335**	⇓P	**Pg**	**23 04 52.9**	**-0.5**
Q07A	baz=0.8			⇑S	**Sg**	**23 05 04.5**	**+0.6**
MTUM	**Tungsten Hills**	**0.87**	**190**	*e*P	**Pg**	**23 04 53.5**	**-1.1**
MTUM				*e*S	**Sg**	**23 05 05.4**	**-0.5**
R06C	**Coleville** baz=0.9,SNR=716	**0.91**	**290**	P	**Pg**	**23 04 54.5**	**-0.9**
R06C	baz=0.9			⇓S	**Sg**	**23 05 06.7**	**-0.4**
TPH	**Tonopah**	**0.91**	**98**	*e*P	**Pg**	**23 04 55.0**	**-0.4**
TPH				*e*S	**Sg**	**23 05 08.5**	**+1.2**
R09A	**Tonopah** baz=1.0,SNR=67	**1.02**	**88**	⇑P	**Pg**	**23 04 57.1**	**-0.4**
R09A	baz=1.0			⇑S	**Sg**	**23 05 11.3**	**+0.5**
S09A	**Goldfield** baz=1.0,SNR=1000	**1.02**	**118**	P	**Pg**	**23 04 57.0**	**-0.6**
Q09A	**Carvers** baz=1.1,SNR=108	**1.12**	**56**	P	**Pg**	**23 04 59.2**	**-0.2**
Q09A	baz=1.1			⇓S	**Sg**	**23 05 15.1**	**+1.2**
TIN	**Tinemaha** baz=1.1,SNR=14	**1.16**	**174**	⇑P	**Pb**	**23 04 59.3**	**-0.8**
TIN	baz=1.1			⇓S	**Sb**	**23 05 15.0**	**-0.1**
KCC	**Kaiser Creek** baz=1.1,SNR=118	**1.16**	**221**	⇓P	**Pb**	**23 04 58.6**	**-1.5**
KCC	baz=1.1			⇓S	**Sb**	**23 05 13.6**	**-1.7**
S06C	**San Francisco** baz=1.2,SNR=1000	**1.22**	**255**	P	**Pn**	**23 04 59.5**	**-1.5**
S06C	baz=1.2			⇓S	**Sb**	**23 05 14.9**	**-1.9**
P07A	**Fallon** baz=1.4,SNR=29	**1.39**	**343**	⇓P	**Pn**	**23 05 03.6**	**+0.2**
P07A	baz=1.4			⇓S	**Sb**	**23 05 23.6**	**+1.8**
R05C	**Kirkwood Meado** baz=1.4,SNR=222	**1.43**	**291**	⇑P	**Pn**	**23 05 03.6**	**-0.3**
R05C	baz=1.4			⇑S	**Sn**	**23 05 22.2**	**-0.7**
GRAC	**Grapevine Rang** baz=1.4,SNR=185	**1.45**	**146**	⇓P	**Pn**	**23 05 04.4**	**+0.2**
GRAC	baz=1.4			⇑S	**Sn**	**23 05 25.3**	**+2.0**
P08A	**Dixie Valley** baz=1.5,SNR=71	**1.50**	**8**	⇓P	**Pn**	**23 05 05.1**	**+0.2**
WCN	**Washoe City** baz=1.5,SNR=1000	**1.54**	**316**	⇑P	**Pn**	**23 05 05.3**	**-0.1**
WCN	baz=1.5			⇓S	**Sn**	**23 05 26.8**	**+1.2**
CMB	**Columbia Colle**	**1.60**	**264**	*e*P	**Pn**	**23 05 05.5**	**-0.8**
CMB				*e*S	**Sn**	**23 05 25.7**	**-1.5**
CMB	**Columbia Colle** baz=1.6,SNR=755	**1.60**	**264**	⇑P	**Pn**	**23 05 05.5**	**-0.8**
CMB	baz=1.6			⇓S	**Sn**	**23 05 26.8**	**-0.4**
T06C	**Millerton Lake** baz=1.6,SNR=124	**1.61**	**222**	⇑P	**Pn**	**23 05 06.2**	**-0.2**
T06C	baz=1.6			⇓S	**Sn**	**23 05 27.2**	**-0.1**
HELL	**Mitchell Peak,** baz=1.6	**1.61**	**199**	⇑P	**Pn**	**23 05 06.4**	**-0.1**
HELL	baz=1.6			⇑S	**Sn**	**23 05 27.6**	**+0.1**
P09A	**Austin** baz=1.7,SNR=41	**1.65**	**35**	⇑P	**Pn**	**23 05 08.4**	**+1.4**
S05C	**Merced** baz=1.8,SNR=113	**1.78**	**242**	⇑P	**Pn**	**23 05 09.4**	**+0.6**
S05C	baz=1.8			⇓S	**Sn**	**23 05 32.2**	**+0.7**
CWC	**Cottonwood Cre** baz=1.8,SNR=15	**1.78**	**173**	⇑P	**Pn**	**23 05 09.0**	**+0.2**
CWC	baz=1.8			⇓S	**Sn**	**23 05 33.3**	**+1.7**
P06A	**Stead Airport,** baz=1.9,SNR=57	**1.89**	**321**	⇓P	**Pn**	**23 05 11.9**	**+1.6**
P06A	baz=1.9			⇑S	**Sn**	**23 05 38.4**	**+4.1**
LAVA	**Lava Cap Winer** baz=1.9,SNR=27	**1.94**	**287**	⇓P	**Pn**	**23 05 11.2**	**+0.2**
O07A	**Toulon** baz=2.0,SNR=65	**1.99**	**349**	⇑P	**Pn**	**23 05 11.7**	**0.0**
O07A	baz=2.0			⇑S	**Sn**	**23 05 41.1**	**+4.5**
RCTC	**Rector, Farmer** baz=2.0,SNR=23	**2.02**	**200**	⇑P	**Pn**	**23 05 12.7**	**+0.6**
RCTC	baz=2.0			⇑S	**Sn**	**23 05 40.5**	**+3.1**
R04C	**Big Horse Ranc** baz=2.0,SNR=35	**2.02**	**272**	⇓P	**Pn**	**23 05 12.6**	**+0.4**
R04C	baz=2.0			⇑S	**Sn**	**23 05 40.4**	**+2.9**
DAC	**Darwin (Calif)**	**2.03**	**162**	*e*Pn	**Pn**	**23 05 12.2**	**0.0**
DAC				*e*Sn	**Sn**	**23 05 37.1**	**-0.4**
P10A	**Eureka** baz=2.1	**2.05**	**46**	⇑P	**Pn**	**23 05 15.4**	**+2.9**
P05C	**Yuba Gap, Truc** baz=2.1,SNR=34	**2.06**	**303**	⇑P	**Pn**	**23 05 14.4**	**+1.7**
O08A	**Rochester Mine** baz=2.1	**2.08**	**4**	⇑P	**Pn**	**23 05 12.8**	**-0.1**
O08A	baz=2.1			⇓S	**Sn**	**23 05 44.1**	**+5.1**
FURC	**Furnace Creek,** baz=2.1	**2.11**	**145**	⇑P	**Pn**	**23 05 16.2**	**+2.8**
O09A	**Fish Creek Ran** baz=2.2,SNR=25	**2.16**	**25**	⇓P	**Pn**	**23 05 13.9**	**-0.1**
Q11A	**Duckwater** baz=2.2	**2.22**	**73**	⇓P	**Pn**	**23 05 18.4**	**+3.6**
T05C	**Eagle Field, D** baz=2.2,SNR=14	**2.25**	**235**	⇑P	**Pn**	**23 05 18.4**	**+3.1**
BEKR	**Beckwourth** baz=2.3,SNR=52	**2.27**	**317**	⇑P	**Pn**	**23 05 16.5**	**+1.1**
U10A	**Ash Meadows, A** baz=2.4,SNR=23	**2.42**	**137**	⇓P	**Pn**	**23 05 21.4**	**+3.9**
VES	**Vestal, Richgr** baz=2.4	**2.43**	**194**	⇑P	**Pn**	**23 05 19.4**	**+1.6**
Q04C	**Lincoln** baz=2.4	**2.44**	**286**	⇓P	**Pn**	**23 05 22.0**	**+4.1**
S04C	**Ingram Canyon,** baz=2.4,SNR=62	**2.45**	**254**	⇓P	**Pn**	**23 05 21.1**	**+3.1**
OHCM	**Honcut**	**2.68**	**296**	*e*Pn	**Pn**	**23 05 20.8**	**-0.5**
OHCM				*e*Pg	**Pg**	**23 05 25.2**	**-4.1**
OHCM				*e*Sn	**Sn**	**23 05 57.9**	**+4.1**
OHCM				*e*Sg	**Sg**	**23 06 00.4**	**-3.6**
LRV	**Little Rabbit**	**2.77**	**231**	Pn	**Pn**	**23 05 20.6**	**-1.7**
LRV				Sn	**Sn**	**23 06 00.1**	**+4.2**
PKD	**Parkfield** baz=2.8,SNR=5.4	**2.85**	**218**	⇑P	**Pn**	**23 05 26.4**	**+2.8**
NSHM	**Saint Helena R**	**3.35**	**277**	*e*P	**Pn**	**23 05 35.7**	**+5.4**
NSHM				Sn	**Sn**	**23 06 18.9**	**+8.7**
ELK	**Elko**	**3.50**	**43**	*e*Pn	**Pn**	**23 05 32.4**	**-0.1**
ELK				*e*Pg	**Pg**	**23 05 42.7**	**-2.3**
ELK				*e*Sn	**Sg**	**23 06 26.2**	**-4.2**
ARUT	**Antelope Range**	**3.92**	**95**	Pn	**Pn**	**23 05 38.3**	**+0.2**
ARUT				*e*Pg	**Pg**	**23 05 50.6**	**-2.2**
ARUT				*e*Sn	**Sg**	**23 06 38.6**	**-4.9**
MOD	**Modoc**	**3.98**	**339**	Pn	**Pn**	**23 05 39.2**	**+0.2**
MOD				*e*Pg	**Pg**	**23 05 53.1**	**-0.9**
MOD				*e*Sn	**Sg**	**23 06 43.9**	**-1.7**
CCUT	**Cedar City**	**4.01**	**98**	*e*Pn	**Pn**	**23 05 39.9**	**+0.4**
CCUT				*e*Pg	**Pg**	**23 05 54.6**	**-0.2**
CCUT				*e*Sn	**Sn**	**23 06 26.5**	**-0.1**
CCUT				*e*Sg	**Sg**	**23 06 44.6**	**-2.2**
WVOR	**Wild Horse Val**	**4.22**	**357**	*e*Pn	**Pn**	**23 05 43.1**	**+0.7**
WVOR				*e*Pg	**Pg**	**23 05 55.3**	**-3.5**
WVOR				Sn	**Sn**	**23 06 31.7**	**-0.1**
WVOR				*e*Sg	**Sg**	**23 06 50.4**	**-3.1**
DUG	**Dugway**	**4.75**	**64**	*e*Pn	**Pn**	**23 05 50.6**	**+1.0**
DUG				*e*Pg	**Pg**	**23 06 09.4**	**+0.6**
DUG				*e*Sn	**Sn**	**23 06 46.5**	**+1.8**
DUG				*e*Sg	**Sg**	**23 07 07.2**	**-3.1**
MSU	**Marysvale**	**4.87**	**85**	*e*Pn	**Pn**	**23 05 52.1**	**+0.8**
MSU				*e*Pg	**Pg**	**23 06 08.7**	**-2.6**
MSU				*e*Sn	**Sn**	**23 06 52.9**	**+5.0**
MSU				*e*Sg	**Sg**	**23 07 14.2**	**-0.2**
BGU	**Big Grassy Mou**	**4.94**	**55**	*e*Pn	**Pn**	**23 05 52.8**	**+0.6**
BGU				*e*Pg	**Pg**	**23 06 11.7**	**-0.7**
BGU				*e*Sn	**Sb**	**23 07 00.7**	**-3.2**
BGU				*e*Sg	**Sg**	**23 07 13.3**	**-3.0**
NLU	**North Lily Min**	**5.20**	**68**	*e*Pn	**Pn**	**23 06 00.8**	**+5.1**
NLU				*e*Pg	**Pg**	**23 06 16.6**	**-0.8**
NLU				*e*Sn	**Sn**	**23 07 04.0**	**+8.3**
NLU				*e*Sg	**Sg**	**23 07 23.4**	**-1.3**
HVU	**Hansel Valley** 5.7nm,0.6s	**5.58**	**49**	Pn	**Pn**	**23 06 02.8**	**+1.8**
HVU				*e*Pg	**Pg**	**23 06 22.3**	**-2.5**
HVU				*e*S	**Sg**	**23 07 31.7**	**-5.3**
TMUT	**Trail Mountain**	**5.70**	**77**	Pn	**Pn**	**23 06 02.9**	**+0.3**
TMUT				*e*Pg	**Pg**	**23 06 25.1**	**-1.9**
TMUT				*e*Sg	**Sg**	**23 07 37.0**	**-3.8**
SRU	**San Rafael** 3.8nm,0.5s	**6.20**	**79**	*e*Pn	**Pn**	**23 06 10.9**	**+1.3**
SRU				*e*Pg	**Pg**	**23 06 32.7**	**-3.9**
SRU				*e*Sn	**Sn**	**23 07 22.1**	**+1.4**
SRU				*e*Sg	**Sg**	**23 07 50.1**	**-6.9**

*ISCJB **10** 23:09:33.4±3.4, 308S±02×178.1W±02, h52km±36km, mb4.0/6, Error ellipse: s-maj=36.7km s-min=23.9km az=81.3*
*IDC **10** 23:09:34.0±6.4, 3083S×178.12W, h38km±50km, mb3.8/3, mb1 4.0/3, mb1mx3.6/12, mbtmp3.8/3, Error ellipse: s-maj=53.1km s-min=28.1km az=142.0*
*NEIC **10** 23:09:33.3±0.9, 3088S×178.06W, h35km, mb4.0/2, Error ellipse: s-maj=22.8km s-min=14.5km az=116.0*
ISC 10 23:09:33.1±3.7, 309S±02×1780W±02, h37km±40km, n14, σ0§50/12, mb4.0/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 53nm,0.3s,baz=152,slow=19,SNR=3.6	**1.63**	**1**	Pn	**Pn**	**23 09 59.6**	**+0.2**
RAO	315nm,0.3s,baz=78,slow=23,SNR=6.3			Sn	**Sn**	**23 10 18.9**	**-0.3**
STKA	**Stephens Creek** 1.6nm,0.4s,mb4.3,baz=80,slow=11,SNR=3.8	**34.40**	**258**	P	**P**	**23 16 17.5**	**+0.7**
STKA	**Stephens Creek**	**34.40**	**258**	P	**P**	**23 16 17.5**	**+0.7**
PMG	**Port Moresby** 2.3nm,0.4s,mb4.3	**38.85**	**296**	*e*P	**P**	**23 16 54.2**	**-0.4**
ASAR	**Alice Springs** 0.5nm,0.5s,mb3.5,baz=105,slow=7.3,SNR=8.6	**43.12**	**267**	P	**P**	**23 17 29.8**	**0.0**
WRAB	**Tennant Creek** 2.8nm,0.9s,mb4.0	**44.15**	**273**	*e*P	**P**	**23 17 37.9**	**-0.2**
WRA	**Warramunga Arr** 0.8nm,0.4s,mb3.8,baz=111,slow=8.1,SNR=29	**44.15**	**273**	P	**P**	**23 17 37.3**	**-0.8**
GUMO	**Guam**	**56.85**	**315**	P	**P**	**23 19 14.9**	**+1.0**
SNAA	**Sanae** 1.4nm,1.0s,mb3.9	**77.67**	**178**	*e*P	**P**	**23 21 26.0**	**+0.2**
VNA3	**Neumayer Olymp**	**77.82**	**176**	*e*	**P**	**23 21 26.6**	**0.0**
VNA3				*e*		23 21 32.0	
VNA3				*e*		23 21 41.7	
VNA2	**Neumayer--Watz** baz=178,slow=5.9	**78.25**	**177**	*e*	**P**	**23 21 28.6**	**-0.4**
VNA2				*e*		23 21 35.4	
VNA2				*e*		23 21 44.6	
FINES	**FINESS Array B** 1.5nm,0.5s,baz=56,slow=4.3,SNR=11	**145.62**	**340**	PKPbc	PKPbc	23 29 06.1	-1.6
AKASG	**Malin Array Be** 0.6nm,0.6s,baz=49,slow=2.6,SNR=4.1	**151.71**	**322**	PKPbc	PKPbc	23 29 24.3	+0.7
TORD	**Torodi Ar. Bea** 0.6nm,1.1s,baz=183,slow=5.2,SNR=4.4	**162.34**	**179**	PKPab	PKPab	23 30 18.9	+0.7

BJI 10 23:19:20.7, 4066N×11366E, h14km, ML3.7, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**1.60**	**277**	*e*PG	Pg	23 19 49.7	-1.8
HHC				SG	Sg	23 20 10.7	-1.6
HHC				Smax			
	comp=N,574nm,0.5s						
HHC				Smax			
	comp=E,909nm,0.7s						
BJI	**Beijing**	**2.02**	**107**	PG	Pg	23 19 55.2	-4.2
BJI				SG	Sg	23 20 20.9	-4.7
BJI				Smax			
	comp=N,2μm,0.7s						
BJI				Smax			
	comp=E,1μm,0.8s						
TIA	**Tai'an**	**5.21**	**147**	PG	Pg	23 20 52.6	-7.8
TIA				SG	Sg	23 21 57.9	-10
TIA				Smax			
	comp=N,48nm,0.6s						
TIA				Smax			
	comp=E,45nm,0.6s						
DL2	**Dalian**	**6.38**	**103**	*e*PG	Pg	23 21 17.9	-5.0
DL2				SG	Sg	23 22 40.7	-4.8
DL2				Smax			
	comp=N,20nm,0.6s						
DL2				Smax			
	comp=E,10.0nm,0.6s						
SNY	**Shenyang**	**7.56**	**78**	⇑PG	Pn	23 21 35.9	+25
SNY				SG	Sn	23 23 13.5	+37
SNY				Smax			
	comp=N,47nm,1.1s						
SNY				Smax			
	comp=E,17nm,0.4s						

*IDC **10** 23:25:27.3±0.9, 4499N×8253E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.8/24, mbtmp3.8/12, ML3.8/3, Error ellipse: s-maj=17.5km s-min=10.8km az=74.0*
*NEIC **10** 23:25:29.8±0.5, 4510N×8252E, h10km, mb4.3/6, Error ellipse: s-maj=9.8km s-min=7.6km az=220.0*
*ISCJB **10** 23:25:29.5±0.3, 4537N±003×8241E±005, h10km, mb4.0/14, Error ellipse: s-maj=4.9km s-min=3.5km az=133.6*
*BJI **10** 23:25:30.5, 4508N×8259E, h17km, ML4.2*
*MOS **10** 23:25:31.2±1.6, 4511N×8246E, h33km, mb4.7/5, Error ellipse: s-maj=11.7km s-min=6.8km az=105.8*
*NNC **10** 23:25:34.7±1.6, 4527N×8177E, h0km, mb4.3, mpv4.4, Error ellipse: s-maj=19.0km s-min=6.0km az=126.0*
ISC 10 23:25:31.0±0.3, 4528N±003×8250E±004, h10km, n85, σ1§38/106, mb4.0/14, 12C-14D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK05	**Makanchi Array** 2μm,0.3s	**1.52**	**355**	⇓P	**Pg**	**23 26 02.3**	**+2.2**
MK05	2μm,0.6s			⇑S	**Sg**	**23 26 25.2**	**+5.3**
MKAR	**Makanchi Array** 1μm,0.3s,baz=172,slow=16	**1.52**	**355**	Pg	**Pg**	**23 26 01.7**	**+1.6**
MKAR	1μm,0.3s,baz=167,slow=29,SNR=30			Lg		23 26 24.2	
WMQ	**Urumqi**	**3.99**	**110**	⇓*i*P	**Pn**	**23 26 31.4**	**-0.8**
WMQ				S	**Sn**	**23 27 17.0**	**-2.0**
WMQ				Smax			
	comp=N,510nm,0.7s						
WMQ				Smax			
	comp=E,612nm,0.7s						
AAA	**Alma-Ata**	**4.46**	**245**	*i* PN	**Pb**	**23 26 49.5**	**+0.1**
AAA				*i* S	**Sb**	**23 27 47.9**	**+4.6**
AAA				smax			
	comp=E,1.0nm,0.5s						
KNDC	**Almaty** comp=E,185nm,0.6s	**4.48**	**245**	⇓Pn	**Pn**	**23 26 38.2**	**-0.7**
KNDC				⇓Lg		23 27 46.0	
	comp=E,648nm,0.5s						
ULHL	**Ulahol** SNR=6.4	**5.45**	**238**	P	**Pn**	**23 26 52.0**	**-0.2**
TKM2	**Tokmak 2** SNR=7.7	**5.50**	**247**	P	**Pn**	**23 26 51.7**	**-1.2**
TKM2	**Tokmak 2** comp=E,5.8nm,0.6s	**5.50**	**247**	⇓Pn	**Pn**	**23 26 52.1**	**-0.9**
TKM2				⇓Lg		23 28 16.2	
	comp=E,28nm,0.7s						
UKR	**Ust'-Kan**	**5.86**	**14**	*e*PN	**Pn**	**23 27 02.4**	**+4.5**
CHMS	**Chumysh** SNR=12	**6.02**	**250**	P	**Pn**	**23 26 59.6**	**-0.5**
KURK	**Kurchatov** comp=E,6.4nm,0.4s	**6.03**	**336**	⇑Pn	**Pn**	**23 27 02.2**	**+2.0**
KURK				⇓Lg		23 28 44.7	
	comp=E,182nm,0.7s						
KURK	**Kurchatov**	**6.03**	**336**	*e*PN	**Pn**	**23 27 01.2**	**+1.0**
KURK				*e*		23 27 24.1	
KURK				pmax	pmax		
	comp=Z,27nm,0.4s						
KURK	**Kurchatov** comp=Z,27nm,0.4s	**6.03**	**336**	*e*Pn	**Pn**	**23 27 01.2**	**+1.0**
KURK				*e*Pg	**Pg**	**23 27 24.1**	**-2.4**
KURK				*e*Sn	**Sn**	**23 28 11.2**	**+1.9**
KURK				*e*Sg	**Sg**	**23 28 46.5**	**+2.0**
KBK	**Karagaybulak** SNR=70	**6.05**	**247**	P	**Pn**	**23 27 00.8**	**+0.3**
USP	**Ospenovka** SNR=7.1	**6.08**	**254**	P	**Pn**	**23 27 00.7**	**-0.3**
AKAR	**Aktash**	**6.11**	**33**	*e*PN	**Pn**	**23 27 06.0**	**+4.7**
AKAR				*e*		23 28 18.6	
KZA	**Kyzart** SNR=14	**6.15**	**241**	P	**Pn**	**23 27 05.2**	**+3.3**
FRU	**Bishkek**	**6.18**	**249**	*e*PN	**Pb**	**23 27 20.5**	**+1.8**
FRU				*e*S	**Sb**	**23 28 33.5**	**+0.7**
FRU				pmax	pmax		
	comp=Z,70nm,1.7s						
FRU				smax			
	comp=N,500nm,1.1s						
AAK	**Ala-Archa** SNR=5.7	**6.35**	**248**	P	**Pn**	**23 27 04.8**	**+0.1**
AAK	**Ala-Archa**	**6.35**	**248**	*e*PN	**Pn**	**23 27 01.8**	**-2.9**
AAK				*e*		23 28 21.0	
AAK				pmax	pmax		
	comp=Z,43nm,0.4s						
AAK	**Ala-Archa** comp=Z,43nm,0.4s	**6.35**	**248**	*e*Pn	**Pn**	**23 27 01.8**	**-2.9**
AAK				*e*Pg	**Pb**	**23 27 15.7**	**-5.9**
AAK				*e*Sn	**Sn**	**23 28 21.0**	**+3.7**
AAK				*e*Sg	**Sg**	**23 28 48.0**	**-6.9**
UCH	**Uchtor** SNR=7.9	**6.54**	**245**	P	**Pb**	**23 27 28.5**	**+3.8**
EKS2	**Erkin-Say** SNR=5.8	**6.81**	**250**	P	**Pn**	**23 27 11.2**	**+0.2**
TASR	**Tashtagol**	**8.28**	**23**	*e*P	**Pn**	**23 27 34.2**	**+3.1**
TASR				*e*		23 29 07.9	
KK31	**Karatay Array** comp=Z,1.8nm,0.3s,baz=72,slow=12,SNR=124	**8.88**	**260**	⇑Pn	**Pn**	**23 27 38.4**	**-0.9**
KK31				⇑Lg		23 30 07.1	
	comp=Z,24nm,0.5s,baz=65,slow=21,SNR=3.5						
NVS	**Novosibirsk**	**9.58**	**3**	*e*P	**Pn**	**23 27 50.0**	**+1.0**
NVS				*e*		23 29 42.1	
BVA0	**Borovoye Array** comp=Z,0.5nm,0.4s,baz=130,slow=14,SNR=31	**11.08**	**319**	⇑Pn	**Pn**	**23 28 10.6**	**+1.2**
BVA0				⇓Sn	**Sn**	**23 30 11.0**	**-2.3**
	comp=Z,2.3nm,0.8s,baz=114,slow=23,SNR=5.3						
BVA0				⇑Lg		23 31 22.5	
	comp=Z,15nm,1.3s,baz=136,slow=28,SNR=5.0						
BVAR	**Borovoye Array** comp=Z,1.5nm,0.3s,baz=126,slow=14,SNR=26	**11.08**	**319**	Pn	**Pn**	**23 28 09.7**	**+0.2**
BVAR				Sn	**Sn**	**23 30 11.7**	**-1.6**
	comp=Z,3.3nm,0.3s,baz=118,slow=21,SNR=6.9						
BVAR				Lg		23 31 25.7	
	comp=Z,3.4nm,0.3s,baz=132,slow=27,SNR=7.1						
BVAR	**Borovoye Array**	**11.08**	**319**	P	**Pn**	**23 28 09.7**	**+0.3**
BVAR						23 30 11.7	
BRVK	**Borovoye**	**11.15**	**319**	*e*P	**Pn**	**23 28 10.3**	**-0.1**
BRVK				*e*		23 30 13.4	
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BRVK	**Borovoye** comp=Z,4.8nm,0.4s	**11.15**	**319**	*e*Pn	**Pn**	**23 28 10.3**	**-0.1**
BRVK				*e*Sn	**Sn**	**23 30 13.4**	**-1.6**
CHKZ	**Chkalovo** comp=Z,6.7nm,0.7s	**11.40**	**322**	⇓Pn	**Pn**	**23 28 13.4**	**-0.5**
CHKZ				⇓Sn	**Sn**	**23 30 17.5**	**-3.8**
	comp=Z,4.6nm,0.4s						
CHKZ				⇓Lg		23 31 30.9	
	comp=Z,55nm,0.8s						
CHKZ	**Chkalovo**	**11.40**	**322**	*e*P	**Pn**	**23 28 14.2**	**+0.3**
CHKZ				*e*		23 30 18.6	
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CHKZ	**Chkalovo** comp=Z,10nm,0.7s	**11.40**	**322**	*e*Pn	**Pn**	**23 28 14.2**	**+0.3**
CHKZ				*e*Sn	**Sn**	**23 30 18.6**	**-2.8**
AB31	**Akbulak array** comp=Z,3.2nm,0.7s,baz=100,slow=14	**15.80**	**293**	⇑Pn	**Pn**	**23 29 10.4**	**-3.1**
AB31				⇑Sn	**Sn**	**23 31 59.4**	**-9.3**
	comp=Z,1.3nm,0.5s						
AB31				⇑Lg		23 33 41.9	
	comp=Z,18nm,0.8s,baz=72,slow=26						
SONM	**Songino Array** comp=Z,0.1nm,0.3s,baz=265,slow=14,SNR=5.6	**16.62**	**73**	Pn	**Pn**	**23 29 23.1**	**-0.9**
SONM				Lg		23 34 17.0	
	comp=Z,0.2nm,0.3s,baz=281,slow=22,SNR=4.0						
LSA	**Lhasa** comp=Z,2.0nm,0.7s	**16.98**	**153**	*e*P	**Pn**	**23 29 27.1**	**-1.5**
LSA				pmax	pmax		
LSA	**Lhasa** comp=Z,2.1nm,0.7s	**16.98**	**153**	*e*Pn	**Pn**	**23 29 27.1**	**-1.5**
AKTK	**Aktyubinsk**	**17.18**	**296**	P	**Pn**	**23 29 30.6**	**-0.6**
AKTK				S	**Sn**	**23 32 37.1**	**-5.2**
AKTK				Lg		23 34 33.3	
AKTO	**Aktyubinsk** comp=Z,0.6nm,1.6s	**17.18**	**296**	⇓Pn	**Pn**	**23 29 30.6**	**-0.6**
AKTO				⇓Sn	**Sn**	**23 32 33.3**	**-9.0**
	comp=Z,0.1nm,0.7s						
AKTO				⇑Lg		23 34 31.8	
	comp=Z,0.9nm,1.3s						
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.3s,baz=92,slow=11,SNR=5.8	**17.18**	**296**	P	**Pn**	**23 29 30.6**	**-0.6**
AKTO				S	**Sn**	**23 32 37.1**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=210,slow=21,SNR=5.7						
AKTO				Lg		23 34 33.3	
	comp=Z,0.2nm,0.3s,baz=20,slow=19,SNR=3.8						
AKTO	**Aktyubinsk**	**17.18**	**296**	P	**Pn**	**23 29 30.6**	**-0.5**
AKTO				S	**Sn**	**23 32 37.1**	**-5.2**
GKN	**Gorkha** comp=Z,18nm,0.8s	**17.33**	**174**	*e*P	**Pn**	**23 29 34.5**	**+1.6**
KOLN	**Koldanda** comp=Z,26nm,0.7s	**17.50**	**177**	*e*P	**Pn**	**23 29 37.5**	**+2.4**
GUN	**Gumba** comp=Z,8.4nm,0.4s	**17.54**	**170**	*e*P	**Pn**	**23 29 37.2**	**+1.

HIA	**Hailar**	**25.41**	**68**⇑	*e*P	**P**	**23 30 55.3**	**-3.3**
HIA	**Hailar**	**25.41**	**68**	P	**P**	**23 30 58.6**	**-0.1**
KIV	**Kislovodsk**	**28.17**	**282**	P	**P**	**23 31 21.1**	**-2.4**
KIV	**Kislovodsk**	**28.17**	**282**	P	**P**	**23 31 21.1**	**-2.5**
TIXI	**Tiksi**	**34.31**	**24**⇑	*e*P	**P**	**23 32 16.4**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.2						
BR131	**Keskin Array S**	**36.00**	**279**	*e*P	**P**	**23 32 32.0**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.6						
BRTR	**Keskin Array B**	**36.00**	**279**	P	**P**	**23 32 31.1**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=89,slow=6.2,SNR=5.1						
FINES	**FINESS Array B**	**36.03**	**317**	P	**P**	**23 32 32.3**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.0,baz=84,slow=7.1,SNR=3.3						
ARCES	**ARCESS Array B**	**37.04**	**331**	P	**P**	**23 32 41.3**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.0,baz=86,slow=6.4,SNR=12						
KWP	**Kalwaria**	**39.73**	**298**	P	**P**	**23 33 02.9**	**-0.7**
NB2	**NORSAR Subarra**	**43.20**	**318**	P	**P**	**23 33 31.8**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.0,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**43.20**	**318**	P	**P**	**23 33 32.1**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.2,baz=77,slow=8.0,SNR=6.8						
LPG	**La Plagne**	**51.27**	**299**	*e*P	**P**	**23 34 35.3**	**+0.3**
	comp=Z,3.8nm,0.5s,mb4.3						
LPG	**La Plagne**	**51.27**	**299**	*e*P	**P**	**23 34 35.3**	**+0.3**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LPG	**La Plagne**	**51.27**	**299**	*e*P	**P**	**23 34 35.3**	**+0.3**
	comp=Z,1.9nm,0.5s,mb4.3						
LPL	**La Plagne**	**51.27**	**299**	*e*P	**P**	**23 34 35.3**	**+0.3**
	comp=Z,7.5nm,0.6s,mb4.5						
LPL	**La Plagne**	**51.27**	**299**	*e*P	**P**	**23 34 35.3**	**+0.3**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LPL	**La Plagne**	**51.27**	**299**	*e*P	**P**	**23 34 35.3**	**+0.3**
	comp=Z,3.8nm,0.6s,mb4.5						
PGF	**Pioggiola**	**51.29**	**295**	*e*P	**P**	**23 34 36.0**	**+0.8**
	comp=Z,33nm,1.0s,mb4.9						
PGF	**Pioggiola**	**51.29**	**295**	*e*P	**P**	**23 34 36.0**	**+0.8**
PGF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
PGF	**Pioggiola**	**51.29**	**295**	*e*P	**P**	**23 34 36.0**	**+0.8**
	comp=Z,16nm,1.0s,mb4.9						
EPF	**Esparros**	**56.48**	**299**	*e*P	**P**	**23 35 11.8**	**-1.3**
	comp=Z,32nm,1.3s,mb4.9						
EPF	**Esparros**	**56.48**	**299**	*e*P	**P**	**23 35 11.8**	**-1.3**
EPF				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
EPF	**Esparros**	**56.48**	**299**	*e*P	**P**	**23 35 11.8**	**-1.3**
	comp=Z,16nm,1.3s,mb4.9						
ESDC	**Sonseca Array**	**61.06**	**298**	P	**P**	**23 35 44.9**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.6,baz=43,slow=6.7,SNR=4.0						
YKA	**Yellowknife Ar**	**71.70**	**8**	P	**P**	**23 36 51.7**	**-1.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=342,slow=6.2,SNR=13						
YKA	**Yellowknife Ar**	**71.70**	**8**	P	**P**	**23 36 51.7**	**-1.4**
TORD	**Torodi Ar. Bea**	**74.34**	**273**	P	**P**	**23 37 05.8**	**-2.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=44,slow=4.8,SNR=17						
WRA	**Warramunga Arr**	**80.20**	**131**	P	**P**	**23 37 38.2**	**-3.4**
	comp=Z,0.6nm,0.8s,mb3.8,baz=335,slow=5.6,SNR=3.6						
ASAR	**Alice Springs**	**83.04**	**134**	P	**P**	**23 37 53.4**	**-3.2**
	comp=Z,0.4nm,0.7s,mb3.6,baz=326,slow=5.4,SNR=5.1						

NIED ***10*** *23:35:00,27*^{40}*N×14280E,h35km,Mw4.4 Best double couple: M*$_0$*=4.06000×10*^{15} *NP1:*ϕ_s*=265.00000°,*δ*60.00000°,* λ*-60.00000°. NP2:*ϕ_s*=35.00000°,*δ*41.00000°,* λ*-132.00000°.*

IDC ***10*** *23:35:16.8±1.0,2726N×14284E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.8/19,mbtmp3.7/9,Error ellipse: s-maj=22.4km s-min=16.2km az=139.0*

ISCJB ***10*** *23:35:18.3±1.7,2730N±008×1430E±01,h24km±11km, mb3.8/9,Error ellipse: s-maj=16.4km s-min=12.3km az=73.3*

JMA ***10*** *23:35:19.7±0.4,2738N×14279E,h53km,M3.7*

ISC 10 23:35:20.0±1.9,2727N±008×14290E±010,h21km±12km**, n14,**σ0°**76/17,mb3.8/9,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.66**	**255**	Pn	**Pn**	**23 35 33.0**	**-1.2**
	546nm,0.3s,baz=275,slow=23,SNR=144						
CBIJ				Sn	**Sn**	**23 35 44.5**	**+0.6**
	1μm,0.3s,baz=273,slow=23,SNR=20						
CBIJ	**Chichi jima**	**0.66**	**255**	P	**Pb**	**23 35 32.5**	**-0.4**
CBIJ				*e*S	**Sb**	**23 35 41.5**	**-0.2**
JHHJ	**Haha-jima-NKT**	**0.91**	**226**	P	**Pb**	**23 35 36.4**	**-0.7**
JHHJ				S	**Sb**	**23 35 49.9**	**+1.2**
JOD2	**Odawara 2**	**8.61**	**339**	P	**Pn**	**23 37 24.7**	**+1.3**
SONM	**Songino Array**	**35.04**	**316**	P	**P**	**23 42 10.8**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=124,slow=9.6,SNR=2.3						
WRA	**Warramunga Arr**	**47.66**	**191**	P	**P**	**23 43 54.4**	**-0.3**
	1.9nm,0.6s,mb4.3,baz=12,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**50.86**	**309**	P	**P**	**23 44 18.4**	**-0.8**
	0.2nm,0.4s,mb3.4,baz=85,slow=8.6,SNR=7.3						
MKAR				PcP	PcP	23 45 36.0	+0.3
	0.4nm,0.7s,baz=75,slow=6.1,SNR=3.7						
ASAR	**Alice Springs**	**51.37**	**191**	P	**P**	**23 44 23.4**	**+0.3**
	0.2nm,0.5s,mb3.3,baz=4.2,slow=5.1,SNR=4.7						
BVAR	**Borovoye Array**	**58.35**	**317**	P	**P**	**23 45 13.1**	**-0.5**
	1.6nm,0.6s,mb4.2,baz=90,slow=7.4,SNR=8.2						
AKTO	**Aktyubinsk**	**66.36**	**316**	P	**P**	**23 46 06.0**	**-1.1**
	0.9nm,0.5s,mb4.1,baz=74,slow=13,SNR=4.9						
YKA	**Yellowknife Ar**	**71.69**	**29**	P	**P**	**23 46 40.6**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=297,slow=6.5,SNR=2.8						
JOF	**Joensuu**	**75.21**	**334**	*e*p	**P**	**23 47 01.4**	**-0.4**
FINES	**FINESS Array B**	**78.08**	**334**	P	**P**	**23 47 18.5**	**+1.3**
	3.9nm,1.0s,mb4.3,baz=81,slow=5.4,SNR=8.3						
BRTR	**Keskin Array B**	**86.36**	**313**	P	**P**	**23 48 00.7**	**+0.2**
	0.3nm,0.6s,mb3.7,baz=50,slow=3.7,SNR=3.8						

IDC ***10*** *23:36:00.9±3.4,4628N×15281E,h0km,mb4.1/7, mb1 4.3/7,mb1mx3.9/21,mbtmp4.1/7,Error ellipse: s-maj=89.4km s-min=31.7km az=9.0*

NEIC ***10*** *23:36:03.0±0.5,4637N×15283E,h10km,mb4.1/4,Error ellipse: s-maj=14.4km s-min=10.5km az=152.0*

MOS ***10*** *23:36:06.6±1.9,4648N×15303E,h49km,mb4.4/4,Error ellipse: s-maj=21.5km s-min=13.7km az=79.3*

ISCJB ***10*** *23:36:08.5±1.6,469N±02×1529E±02,h44km±14km, mb4.0/11,Error ellipse: s-maj=36.0km s-min=10.1km az=119.7*

ISC 10 23:36:10.5±1.5,469N±02×1529E±02,h48km±13km**, n25,**σ0°**85/26,mb4.0/11,1C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**247**	*e*PN	**Pn**	**23 37 06.5**	**-0.6**
KUR				*e*S	**Sn**	**23 37 52.0**	**+1.1**
KUR				pmax	pmax		
	comp=Z,170nm,0.9s						
KUR				smax			
	comp=N,180nm,0.4s						
KUR				smax			
	comp=E,150nm,0.4s						
SKR	**Severo-Kuril's**	**4.38**	**28**	*e*PN	**Pn**	**23 37 14.1**	**-0.4**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
IMA2	**Indian Mountai**	**33.81**	**36**	*e*P	**P**	**23 42 48.6**	**+0.7**
GUMO	**Guam**	**33.85**	**194**	P	**P**	**23 42 41.4**	**-6.9**
COLA	**College**	**36.15**	**38**⇓	*i*P	**P**	**23 43 08.8**	**+0.7**
INK	**Inuvik**	**41.65**	**32**	P	**P**	**23 43 54.5**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.0,baz=300,slow=6.8,SNR=18						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**23 43 54.5**	**+0.4**
KURK	**Kurchatov**	**47.15**	**303**	*e*P	**P**	**23 44 37.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KURK	**Kurchatov**	**47.15**	**303**	*e*P	**P**	**23 44 37.1**	**-1.0**
	comp=Z,1.0nm,0.4s,mb4.1						
LSA	**Lhasa**	**50.09**	**273**	*e*P	**P**	**23 44 58.2**	**-2.4**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
LSA	**Lhasa**	**50.09**	**273**	*e*P	**P**	**23 44 58.2**	**-2.4**
	comp=Z,1.1nm,0.3s,mb4.4						
CHKZ	**Chkalovo**	**50.22**	**310**	*e*P	**P**	**23 45 00.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**50.22**	**310**	*e*P	**P**	**23 45 00.9**	**-0.7**
	comp=Z,1.2nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**23 45 07.3**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=297,slow=7.2,SNR=14						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**23 45 07.3**	**+0.4**
AKTK	**Aktyubinsk**	**58.52**	**312**	P	**P**	**23 46 06.0**	**+4.1**
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**23 46 38.0**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.2,baz=50,slow=6.3,SNR=8.8						
PDAR	**Pinedale Array**	**64.82**	**54**	P	**P**	**23 46 43.6**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=270,slow=1.5,SNR=4.8						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**23 47 05.3**	**+0.3**
	comp=Z,3.0nm,0.9s,mb4.3,baz=29,slow=6.4,SNR=3.7						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**23 47 05.3**	**+0.3**
AKASG	**Malin Array Be**	**71.35**	**326**	P	**P**	**23 47 25.2**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=34,slow=5.7,SNR=3.9						
AKASG	**Malin Array Be**	**71.35**	**326**	P	**P**	**23 47 25.2**	**-0.1**
GNI	**Garni**	**72.32**	**310**⇑	*e*P	**P**	**23 47 32.4**	**+1.3**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**23 48 01.1**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=300,slow=4.7,SNR=12						
BR131	**Keskin Array S**	**78.18**	**317**	P	**P**	**23 48 05.6**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.5						

ISCJB ***11*** *00:04:06.6±1.5,4215N±007×7652E±007,h10km±6km, Error ellipse: s-maj=12.7km s-min=7.5km az=126.7*

KNET ***11*** *00:04:07.9±0.4,4222N×7638E,h17km±1km,ml1.8,Error ellipse: s-maj=3.3km s-min=2.2km az=102.0*

NNC ***11*** *00:04:07.2±2.2,4222N×7646E,h0km,mb2.8,mpv2.2, Error ellipse: s-maj=14.3km s-min=6.1km az=168.0*

ISC 11 00:04:06.4±1.5,4216N±007×7652E±007,h5km±5km**, n11,**σ0°**62/20,15C-4D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.23**	**293**	P	**Pg**	**00 04 11.5**	**+0.7**
	142nm,0.1s,SNR=1683						
ULHL				⇑S	**Sg**	**00 04 15.1**	**+1.3**
	465nm,0.2s						
KZA	**Kyzart**	**0.95**	**266**	⇑P	**Pg**	**00 04 24.4**	**-0.2**
	5.1nm,0.2s,SNR=22						
KZA				⇑S	**Sg**	**00 04 36.9**	**0.0**
	6.0nm,0.1s						
TKM2	**Tokmak 2**	**1.02**	**318**	⇑P	**Pg**	**00 04 25.3**	**-0.8**
	8.4nm,0.1s,SNR=5.1						
TKM2				⇑S	**Sg**	**00 04 39.0**	**-0.4**
	40nm,0.1s						
TKM2	**Tokmak 2**	**1.02**	**318**	⇓P	**Pg**	**00 04 25.2**	**-0.9**
	0.1nm,0.3s						
TKM2				⇑S	**Sg**	**00 04 38.8**	**-0.6**
	0.2nm,0.2s						
KNDC	**Almaty**	**1.11**	**17**	⇑P	**Pg**	**00 04 27.4**	**-0.2**
	5.3nm,0.3s						
KNDC				⇑S	**Sg**	**00 04 42.4**	**+0.3**
	38nm,0.3s						
KBK	**Karagaybulak**	**1.27**	**294**	P	**Pg**	**00 04 30.1**	**-0.6**
	2.6nm,0.1s,SNR=11						
KBK				⇓S	**Sg**	**00 04 46.8**	**-0.3**
	37nm,0.2s						
UCH	**Uchtor**	**1.50**	**273**	⇓P	**Pn**	**00 04 33.9**	**0.0**
	0.6nm,0.1s						
CHMS	**Chumysh**	**1.56**	**303**	⇑P	**Pn**	**00 04 34.5**	**-0.2**
	2.2nm,0.2s,SNR=5.2						
CHMS				⇑S	**Sn**	**00 04 54.7**	**-0.6**
	8.7nm,0.2s						
AAK	**Ala-Archa**	**1.58**	**288**	⇑P	**Pn**	**00 04 35.2**	**+0.2**
	1.8nm,0.1s,SNR=5.7						
AAK				⇑S	**Sn**	**00 04 55.5**	**-0.3**
	6.3nm,0.2s						
USP	**Ospenovka**	**1.86**	**307**	⇓P	**Pn**	**00 04 39.8**	**+0.9**
	3.6nm,0.1s,SNR=6.5						
USP				⇑S	**Sn**	**00 05 03.4**	**+0.6**
	12nm,0.2s						
KK31	**Karatay Array**	**4.54**	**284**	⇑Pg	**Pg**	**00 05 29.5**	**-3.7**
	1.3nm,0.8s,baz=93,slow=17,SNR=6.3						
KK31				⇑Lg		00 06 29.7	
	1.1nm,0.6s,baz=97,slow=30						

CSEM ***11*** *00:09:06.6±0.1,3024N×5761E,h16km,ML3.6,Error ellipse: s-maj=1.8km s-min=1.0km az=168.0*

THR ***11*** *00:09:06.1±0.4,3032N×5761E,h15km±2km,ML3.6*

ISCJB ***11*** *00:09:07.9±1.2,3026N±006×5761E±004,h20km±13km, Error ellipse: s-maj=9.5km s-min=4.9km az=157.6*

TEH ***11*** *00:09:07.5,3021N×5765E,h9km,Mn3.7*

ISC 11 00:09:07.0±1.1,3026N±005×5762E±003,h5km±8km**, n15,**σ0°**81/28,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.80**	**250**	*e*Pg	**Pg**	**00 09 21.7**	**-0.6**
KRBR				*e*Sg	**Sg**	**00 09 32.9**	**+0.2**
KRBR				AML	AML	00 09 33.3	
	comp=E,2μm,0.2s						
KRBR				AML	AML	00 09 33.8	
	comp=N,2μm,0.2s						
KRBR	**Kerman**	**0.80**	**250**	*e*Pg	**Pg**	**00 09 21.7**	**-0.6**
	SNR=91						
KRBR				*e*Sg	**Sg**	**00 09 32.9**	**+0.2**
	SNR=91						
IBAF	**Bafgh**	**2.21**	**307**	*e*Pn	**Pn**	**00 09 45.5**	**+1.2**
IBAF				*e*Sn	**Sn**	**00 10 12.5**	**+0.5**
IKOO		**2.46**	**28**	*e*Pn	**Pn**	**00 09 48.3**	**+0.5**
IKOO				*e*Sn	**Sn**	**00 10 18.3**	**+0.1**
ITEG		**2.80**	**20**	*e*Pn	**Pn**	**00 09 52.6**	**+0.2**
ITEG				*e*Sn	**Sn**	**00 10 26.6**	**+0.1**
ZHSF	**Zahedan**	**2.81**	**103**	*e*Pn	**Pn**	**00 09 52.9**	**+0.3**
ZHSF				Sn	**Sn**	**00 10 27.4**	**+0.6**
ZHSF				*e*Sg	**Sg**	**00 10 35.0**	**-2.3**
ZHSF				AML	AML	00 10 41.9	
	comp=N,153nm,0.6s						
ZHSF	**Zahedan**	**2.81**	**103**	*e*Pn	**Pn**	**00 09 52.9**	**+0.3**
	SNR=52						
ZHSF				Sn	**Sn**	**00 10 27.5**	**+0.6**
	SNR=52						
ZHSF				*e*Sg	**Sg**	**00 10 35.0**	**-2.3**
	SNR=90						
IMEH	**Mehriz**	**2.82**	**294**	*e*Pn	**Pn**	**00 09 53.1**	**+0.3**
IMEH				*e*Sn	**Sn**	**00 10 26.8**	**-0.4**
BNDS	**Bandar-Abbas**	**3.12**	**204**	*e*Pn	**Pn**	**00 09 57.8**	**+0.9**
IDAH		**3.13**	**37**	*e*Pn	**Pn**	**00 09 57.4**	**+0.5**
IDAH				*e*Sn	**Sn**	**00 10 34.1**	**-0.6**
ICHK	**Chekchek**	**3.39**	**306**	*e*Pn	**Pn**	**00 10 02.0**	**+1.4**
ICHK				*e*Sn	**Sn**	**00 10 40.5**	**-0.7**
IMON		**3.40**	**30**	*e*Pn	**Pn**	**00 10 01.3**	**+0.6**
IMON				*e*Sn	**Sn**	**00 10 40.5**	**-0.9**
ISAD	**Sadrabad**	**3.76**	**297**	*e*Sn	**Sn**	**00 10 49.5**	**-0.8**
IPAR	**Pars**	**3.99**	**265**	*e*Sn	**Sn**	**00 10 54.3**	**-1.6**
NASN	**Na'in**	**4.83**	**303**	*e*Pn	**Pn**	**00 10 20.1**	**-0.2**

ISCJB ***11*** *00:14:17.5±1.8,2163N±010×1434E±03,h266km±15km, mb3.3/10,Error ellipse: s-maj=37.9km s-min=16.0km az=179.5*

IDC ***11*** *00:14:18.4±2.1,2166N×14338E,h259km±20km,mb3.2/10, mb1 3.4/11,mb1mx3.3/22,mbtmp3.2/11,Error ellipse: s-maj=30.2km s-min=12.7km az=92.0*

ISC 11 00:14:18.6±1.8,217N±01×1434E±02,h264km±15km**, n12,**σ0°**67/13,mb3.3/10,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.50**	**348**	P	**Pn**	**00 15 41.5**	**+0.7**
	31nm,0.3s,baz=254,slow=15,SNR=12						
CBIJ				S	**S**	**00 16 45.9**	**-0.8**
	7.6nm,0.3s,baz=256,slow=22,SNR=3.6						
KSRS	**Korea Array**	**20.66**	**323**	P	**P**	**00 18 39.7**	**+1.0**
	1.1nm,0.3s,baz=138,slow=10,SNR=5.3						
SONM	**Songino Array**	**39.49**	**320**	P	**P**	**00 21 24.5**	**+0.7**
	0.2nm,0.5s,mb2.8,baz=128,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**42.32**	**193**	P	**P**	**00 21 46.9**	**+0.1**
	2.3nm,0.7s,mb3.5,baz=16,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**43.21**	**205**	P	**P**	**00 21 53.8**	**-0.2**
	2.7nm,0.7s,mb3.6,baz=4.6,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**46.03**	**192**	P	**P**	**00 22 15.8**	**-0.3**
	0.5nm,0.7s,mb3.0,baz=17,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**54.88**	**313**	P	**P**	**00 23 22.0**	**0.0**
	0.1nm,0.5s,mb2.5,baz=63,slow=9.6,SNR=4.2						
INK	**Inuvik**	**67.48**	**24**	P	**P**	**00 24 46.6**	**+0.3**
	2.8nm,1.3s,mb3.8,baz=243,slow=6.8,SNR=3.2						
YKA	**Yellowknife Ar**	**76.35**	**28**	P	**P**	**00 25 39.4**	**+0.6**
	0.4nm,0.6s,mb3.2,baz=291,slow=6.0,SNR=8.5						
JOF	**Joensuu**	**80.42**	**335**	*e*p	**P**	**00 25 59.8**	**-1.2**
	0.4nm,0.3s,mb3.6						
FINES	**FINESS Array B**	**83.29**	**335**	P	**P**	**00 26 14.8**	**-1.1**
	1.6nm,0.9s,mb3.9,baz=46,slow=5.5,SNR=6.9						
BRTR	**Keskin Array B**	**90.52**	**313**	P	**P**	**00 26 50.9**	**+0.2**
	0.4nm,0.5s,mb3.5,baz=47,slow=6.3,SNR=3.5						

IDC 11 00:17:07.8±2.4,392N×9544E,h0km,mb3.4/3,mb1 3.6/4, mb1mx3.4/21,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=88.0km s-min=25.3km az=47.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.66**	**108**	Pn	Pn	00 18 05.9	+0.3
	2.5nm,0.3s,baz=310,slow=14,SNR=11						
PSI				Sn	Sn	00 18 52.6	+3.2
	3.4nm,0.3s,baz=197,slow=17,SNR=6.9						
MKAR	**Makanchi Array**	**44.20**	**347**	P	P	00 25 18.6	0.0
	0.1nm,0.4s,baz=156,slow=8.8,SNR=5.9						
WRA	**Warramunga Arr**	**44.98**	**123**	P	P	00 25 24.6	-0.1
	0.7nm,0.4s,baz=300,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**46.44**	**128**	P	P	00 25 37.1	+0.8
	0.3nm,0.4s,baz=298,slow=7.6,SNR=5.0						

KRSC 11 00:51:52.9±0.4,5326N×16037E,h39km±28km**,ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.27**	**232**	*i*P	Pn	00 52 00.3	-0.4
SPN				*i*S	Sn	00 52 05.6	-0.5
NLC	**Nalytchevo**	**0.62**	**262**	*i*P	Pn	00 52 05.3	0.0
NLC				*i*S	Sn	00 52 14.2	+0.2
AVH	**Avacha**	**0.98**	**271**	*i*P	Pn	00 52 11.2	+1.0
AVH				*e*S	Sn	00 52 24.2	+1.4
PET	**Petropavlovsk**	**1.06**	**258**	P	Pn	00 52 11.3	0.0
PET				*e*S	Sn	00 52 24.0	-0.8
RUS	**Russkaya**	**1.40**	**234**	*e*P	Pn	00 52 15.7	-0.2
RUS				*e*S	Sn	00 52 31.4	-1.7
GNL	**Ganaly**	**1.52**	**288**	*e*P	Pn	00 52 18.8	+1.3
GNL				*e*S	Sn	00 52 37.8	+1.8
MKZ	**Mys Kozlova**	**1.53**	**31**	*e*P	Pn	00 52 15.6	-2.1
MKZ				*e*S	Sn	00 52 31.7	-4.6
GRL	**Gorelyy**	**1.56**	**244**	*e*P	Pn	00 52 19.0	+0.9
GRL				*e*S	Sn	00 52 37.6	+0.5
TUMR	**Tumrok**	**2.03**	**356**	*e*P	Pn	00 52 25.6	+1.0
TUMR				*e*S	Sn	00 52 49.2	+0.5
KMNR	**Kamenistaya**	**2.50**	**358**	*e*P	Pn	00 52 32.9	+1.8
KMNR				S	Sn	00 53 02.7	+2.4
KPT	**Kopyto**	**2.71**	**358**	S	Sn	00 53 09.4	+3.9
ZLN	**Zelenaya**	**2.77**	**5**	*e*P	Pn	00 52 36.5	+1.7
ZLN				*e*S	Sn	00 53 08.7	+1.6
KLY	**Klyuchi**	**3.06**	**3**	S	Sn	00 53 15.7	+1.5
SRDR	**Sredinnyy**	**3.09**	**353**	P	Pn	00 52 40.6	+1.5
KBTR	**Krutoberegovo**	**3.28**	**25**	*e*P	Pn	00 52 41.6	-0.1
KBTR				S	Sn	00 53 17.0	-2.5
SRKR	**Sorokina**	**3.43**	**7**	P	Pn	00 52 46.5	+2.6
SRKR				S	Sn	00 53 26.3	+3.0

ISCJB ***11*** *00:52:15.5±0.2,4633N±001×1362E±002,h10km,Error ellipse: s-maj=2.3km s-min=1.7km az=64.3*

CSEM ***11*** *00:52:15.5±0.1,4631N×1361E,h12km,ML2.7/6,Error ellipse: s-maj=1.1km s-min=0.8km az=25.0*

VIE ***11*** *00:52:15.2±0.3,4631N×1361E,h10km±4km,mb1.8/3, ML2.4/7,Error ellipse: s-maj=2.8km s-min=1.4km az=18.0*

6 km SE of Bovec

LJU ***11*** *00:52:15.8,4633N×1361E,h7km,ML2.1*

ROM ***11*** *00:52:15.0±0.5,4629N×1363E,h2km,Md2.6/3,Ml2.1/2, Error ellipse: s-maj=7.4km s-min=2.9km az=132.0*

PRU ***11*** *00:52:16.4,4629N×1363E,h0km*

ISC 11 00:52:16.3±0.2,4632N±001×1362E±002,h10km**, n40,**σ0°**94/78,17C-17D,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.10**	**226**⇓	*i*Pg	**Pg**	**00 52 18.2**	**-0.7**
ROBS				*i*Sg	**Sg**	**00 52 20.1**	**-0.7**
ROBS							
	comp=Z,432nm,0.1s						
ROBS	**Robic**	**0.10**	**226**⇓	*i*Pg	**Pg**	**00 52 18.2**	**-0.7**
ROBS				*i*Sg	**Sg**	**00 52 20.1**	**-0.7**
	comp=Z,432nm,0.1s						
CADS	**Cadrg**	**0.12**	**136**⇑	*i*Pg	**Pg**	**00 52 18.6**	**-0.6**
CADS				*i*Sg	**Sg**	**00 52 21.1**	**-0.2**
CADS							
	comp=Z,339nm,0.1s						
CADS	**Cadrg**	**0.12**	**136**⇑	*i*Pg	**Pg**	**00 52 18.6**	**-0.6**
CADS				*i*Sg	**Sg**	**00 52 21.1**	**-0.1**
	comp=Z,339nm,0.1s						
DRE	**Drenchia**	**0.14**	**172**⇓	*e*Pg	**Pg**	**00 52 18.9**	**-0.6**
DRE				*e*Sg	**Sg**	**00 52 21.6**	**-0.2**
LSR	**Lussari**	**0.17**	**339**⇓	*i*Pg	**Pg**	**00 52 19.1**	**-0.9**
LSR				*i*Sg	**Sg**	**00 52 22.1**	**-0.4**
PTCC	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,5.3nm,0.3s						
ARSA	**Arzberg**	**1.61**	**54**	⇑*i*Pg	**Pg**	**00 52 45.9**	**-1.3**
ARSA				⇑*i*Sg	**Sg**	**00 53 06.8**	**-1.3**
	comp=Z,8.3nm,0.3s						
WTTA	**Wattenberg**	**1.66**	**306**	*e*Pg	**Pg**	**00 52 47.2**	**-0.9**
WTTA	SNR=7.7			⇓*i*Sg	**Sg**	**00 53 09.0**	**-0.6**
	comp=Z,15nm,0.4s						
APPI	**Appiano**	**1.66**	**277**	Pg	**Pg**	**00 52 48.1**	**0.0**
TEOL	**Teolo**	**1.66**	**236**	⇓*e*Pg	**Pg**	**00 52 47.1**	**-1.1**
TEOL				*e*Sg	**Sg**	**00 53 08.9**	**-0.8**
SQTA	**Sankt Quirin**	**1.89**	**300**	⇑*e*Pg	**Pg**	**00 52 51.8**	**-0.6**
SQTA	SNR=13			⇓*i*Sg	**Sg**	**00 53 16.6**	**-0.3**
	comp=Z,6.8nm,0.3s						
NVLJ	**Novalja**	**1.96**	**153**	*i* Pn	**Pn**	**00 52 50.9**	**+1.3**
NVLJ				*i* Sn	**Sg**	**00 53 19.2**	**-0.1**
MOTA	**Moosalm**	**2.01**	**302**	⇑*e*Pg	**Pg**	**00 52 53.7**	**-1.1**
MOTA	SNR=10			⇓*i*Sg	**Sg**	**00 53 22.1**	**+1.3**
	comp=Z,14nm,0.7s						
KHC	**Kasperske Hory**	**2.82**	**360**	*e*PN	**Pn**	**00 53 03.9**	**+2.6**
KHC				*ex*	x	00 53 15.5	
KHC				*e*SN	**Sn**	**00 53 38.4**	**+3.1**
KHC				*e*SG	**Sg**	**00 53 48.0**	**+1.2**
NKC	**Novy Kostel**	**4.00**	**349**	*e*SG	**Sg**	**00 54 23.2**	**-1.5**

*CSEM **11** 01:16:45.6±1.3, 3871N×2903W, h3km±6km, ML1.8, Error ellipse: s-maj=12.3km s-min=7.0km az=62.0, After PDA*
*PDA **11** 01:16:45.6±1.3, 3871N×2903W, h3km±6km, MD3.0, ML1.8, Error ellipse: s-maj=12.3km s-min=7.0km az=62.0*
SVSA 11 01:16:45.6±1.3, 3871N×2903W, h3km±6km, MD3.0, ML1.8, Error ellipse: s-maj=12.3km s-min=7.0km az=62.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.22**	**125**	*e*S	Sg	01 16 53.0	+0.4
PTCA	26nm,0.2s						
PCED	**Cedros**	**0.27**	**108**	*e*P	Pg	01 16 50.4	-0.3
PCED				*i* S	Sg	01 16 54.2	0.0
PCED	93nm,0.2s						
PCED	**Cedros**	**0.27**	**108**	*e*P	Pg	01 16 50.4	-0.3
PCED				*i* S	Sg	01 16 54.2	0.0
CALA	**Caldeira**	**0.28**	**117**	*e*S	Sg	01 16 54.4	-0.3
HOR	**Horta**	**0.36**	**120**	*e*P	Pg	01 16 52.0	-0.5
PCND	**Candelaria**	**0.50**	**118**	*e*S	Sg	01 17 00.6	-1.1
PCND	25nm,0.2s						
PICO	**Pico**	**0.51**	**114**	*e*P	Pg	01 16 54.6	-0.9
PICO				*e*S	Sg	01 17 01.6	-0.5
PTEI	**Pico do Teixo**	**0.57**	**112**	*e*S	Sg	01 17 03.0	-0.8
PTEI	20nm,0.2s						
PBOI	**Pico dos Bois**	**0.58**	**118**	*e*S	Sg	01 17 03.1	-1.1
PBOI	13nm,0.1s						
ROSA	**Rosais**	**0.61**	**89**	*e*P	Pg	01 16 56.1	-1.3
ROSA				*e*S	Sg	01 17 03.6	-1.7
PAMA	**Santo Amaro**	**0.66**	**92**	*e*S	Sg	01 17 05.9	-1.0
PAMA	25nm,0.2s						
PMAN	**Manadas**	**0.74**	**96**	*e*S	Sg	01 17 07.1	-2.2
PMAN	20nm,0.2s						

*IDC **11** 02:30:18.4±1.1, 5257N×16064E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=34.0km s-min=26.5km az=170.0*
*MOS **11** 02:30:18.0±1.3, 5245N×16079E, h14km, mb4.2/4, Error ellipse: s-maj=17.1km s-min=8.9km az=99.1*
*ISCJB **11** 02:30:23.2±0.8, 5260N±005×16064E±008, h47km±7km, mb3.8/8, Error ellipse: s-maj=9.9km s-min=5.0km az=86.5*
*KRSC **11** 02:30:23.0±0.7, 5273N×16057E, h18km±18km, ML4.2*
*NEIC **11** 02:30:23.7±0.9, 5260N×16060E, h35km, Error ellipse: s-maj=25.1km s-min=14.1km az=181.0*
ISC 11 02:30:21.3±1.1, 5257N±004×16063E±005, h15km±6km, n39, σ1°35/57, mb3.8/8, 2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.64**	**326**	*i* P	**Pg**	**02 30 33.5**	**-0.4**
SPN				*i* S	**Sg**	**02 30 41.0**	**-1.5**
NLC	**Nalytchevo**	**0.98**	**308**	*i* P	**Pb**	**02 30 39.3**	**-0.8**
NLC				*i* S	**Sb**	**02 30 51.2**	**-1.6**
PET	**Petropavlovsk**	**1.28**	**292**	⇓*i*PN	**Pn**	**02 30 44.8**	**+0.1**
PET				*e*S	**Sb**	**02 31 01.8**	**+0.4**
PET				pmax	pmax		
	comp=Z,303nm,0.4s						
PET				smax			
	comp=N,2μm,3.2s						
PET				smax			
	comp=E,960nm,0.6s						
PET				smax			
	comp=N,2μm,0.6s						
PET	**Petropavlovsk**	**1.28**	**292**	*e*Pn	**Pn**	**02 30 44.6**	**-0.1**
PET				*e*Sn	**Sn**	**02 31 02.9**	**+1.3**
PET	**Petropavlovsk**	**1.28**	**292**	*e*P	**Pn**	**02 30 44.7**	**0.0**
PET				*i* S	**Sb**	**02 30 59.8**	**-1.6**
RUS	**Russkaya**	**1.30**	**265**	*e*P	**Pn**	**02 30 45.7**	**+0.8**
RUS				*i* S	**Sb**	**02 31 02.7**	**+0.8**
AVH	**Avacha**	**1.34**	**302**	*e*P	**Pn**	**02 30 45.3**	**-0.2**
AVH				*i* S	**Sn**	**02 31 01.3**	**-1.7**
GRL	**Gorelyy**	**1.56**	**270**	*e*P	**Pn**	**02 30 50.2**	**+1.7**
GRL				*i* S	**Sn**	**02 31 10.3**	**+1.9**
GNL	**Ganaly**	**1.97**	**306**	*e*P	**Pn**	**02 30 55.4**	**+1.2**
GNL				*i* S	**Sn**	**02 31 19.3**	**+0.7**
MKZ	**Mys Kozlova**	**2.10**	**18**	*e*P	**Pn**	**02 30 53.9**	**-2.0**
MKZ				*i* S	**Sn**	**02 31 16.6**	**-5.2**
TUMR	**Tumrok**	**2.73**	**354**	*e*P	**Pn**	**02 31 05.4**	**+0.7**
TUMR				*i* S	**Sn**	**02 31 36.6**	**-0.9**
KMNR	**Kamenistaya**	**3.20**	**356**	*e*P	**Pn**	**02 31 12.7**	**+1.6**
KMNR				*e*S	**Sn**	**02 31 48.5**	**-0.5**
SKR	**Severo-Kuril's**	**3.38**	**238**	*e*PN	**Pn**	**02 31 11.0**	**-2.6**
SKR				*e*S	**Sn**	**02 31 53.5**	**0.0**
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,100nm,0.8s						
KPT	**Kopyto**	**3.41**	**356**	P	**Pn**	**02 31 16.0**	**+2.0**
ZLN	**Zelenaya**	**3.46**	**2**	*e*P	**Pn**	**02 31 16.4**	**+1.8**
ZLN				*i* S	**Sn**	**02 31 56.0**	**+0.7**
KOZ	**Kozyrevsk**	**3.52**	**353**	P	**Pn**	**02 31 17.7**	**+2.2**
KOZR	**Kozyr**	**3.53**	**353**	PN	**Pn**	**02 31 17.7**	**+2.1**
KRSR	**Krestovskiy**	**3.66**	**359**	P	**Pn**	**02 31 18.7**	**+1.3**
KLY	**Klyuchi**	**3.75**	**0**	P	**Pn**	**02 31 20.2**	**+1.5**
KLY				*i* S	**Sn**	**02 32 01.3**	**-1.3**
SRDR	**Sredinnyy**	**3.79**	**352**	P	**Pn**	**02 31 20.8**	**+1.5**
KBTR	**Krutoberegovo**	**3.87**	**19**	*e*P	**Pn**	**02 31 19.5**	**-0.7**
KBTR				*i* S	**Sn**	**02 32 00.8**	**-4.6**
SRKR	**Sorokina**	**4.11**	**4**	P	**Pn**	**02 31 25.7**	**+2.1**
SRKR				*i* S	**Sn**	**02 32 11.4**	**+0.1**
SEY	**Seymchan**	**11.27**	**340**	*e*PN	**Pn**	**02 32 58.3**	**-3.6**
YAK	**Yakutsk**	**19.03**	**312**	*e*P	**Pn**	**02 34 41.7**	**-1.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YKA	**Yellowknife Ar**	**43.33**	**42**	P	**P**	**02 38 21.2**	**-1.6**
	comp=Z,0.1nm,0.5s,mb2.8,baz=314,slow=6.0,SNR=5.5						
YKA	**Yellowknife Ar**	**43.33**	**42**	P	**P**	**02 38 21.2**	**-1.6**
MKAR	**Makanchi Array**	**48.67**	**296**	P	**P**	**02 39 02.7**	**-2.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=57,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**48.67**	**296**	P	**P**	**02 39 03.6**	**-1.3**
MKAR	**Makanchi Array**	**48.67**	**296**	P	**P**	**02 39 02.7**	**-2.2**
ARCES	**ARCESS Array B**	**53.89**	**342**	P	**P**	**02 39 44.0**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=36,slow=9.4,SNR=4.0						
ARCES	**ARCESS Array B**	**53.89**	**342**	P	**P**	**02 39 44.0**	**0.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	**Arti**	**54.00**	**318**	⇓*i*P	**P**	**02 39 43.0**	**-1.8**
ARU				*e*S	**S**	**02 47 15.5**	**-4.7**
ARU				*e*SS	SS	02 51 01.0	-0.5
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**57.50**	**61**	P	**P**	**02 40 09.2**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=298,slow=1.8,SNR=5.6						
FINES	**FINESS Array B**	**60.73**	**337**	P	**P**	**02 40 31.0**	**-1.3**
	comp=Z,3.2nm,0.9s,mb4.5,baz=49,slow=8.6,SNR=5.4						
FINES	**FINESS Array B**	**60.73**	**337**	P	**P**	**02 40 31.0**	**-1.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**02 41 34.8**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=298,slow=5.2,SNR=10						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**02 41 34.8**	**-0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**79.41**	**205**	P	**P**	**02 42 26.6**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=22,slow=6.2,SNR=4.9						
ASAR	**Alice Springs**	**79.41**	**205**	P	**P**	**02 42 26.6**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISCJB **11** 02:39:53.0±0.7, 4737N±004×14189E±005, h6km±5km, mb3.7/14, Error ellipse: s-maj=7.2km s-min=5.0km az=79.3*
*MOS **11** 02:39:53.3±1.2, 4744N×14202E, h9km, mb4.1/8, Error ellipse: s-maj=29.3km s-min=12.9km az=105.3*
MOS Felt (IV-V) at Chekhov; (III-IV) at Kostromskoye.
*IDC **11** 02:39:53.7±0.8, 4747N×14198E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.8/20, mbtmp3.7/11, Error ellipse: s-maj=21.7km s-min=20.3km az=57.0*
*NEIC **11** 02:39:55.0±0.4, 4740N×14202E, h10km, Error ellipse: s-maj=14.8km s-min=7.9km az=216.0*
NEIC Felt [V] at Chekhov and [IV] at Kostromskoye.
*SKHL **11** 02:39:54.1±1.5, 4720N×14440E, h10km, mb4.0/4*
ISC 11 02:39:55.3±0.8, 4737N±004×14204E±006, h12km±6km, n35, σ0°79/42, mb3.7/14, 4C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.64**	**130**	⇑*i*PN	**Pg**	**02 40 07.6**	**-0.2**
YSS				*i* S	**Sg**	**02 40 17.1**	**+0.8**
YSS				pmax	pmax		
	comp=Z,220nm,0.6s						
YSS				smax			
	comp=N,2μm,0.7s						
YSS				smax			
	comp=E,2μm,0.7s						
YSS	**Yuzh-Sakhalins**	**0.64**	**130**	⇑*i*P	**Pg**	**02 40 07.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**0.64**	**130**	⇑*i*Pg	**Pg**	**02 40 07.5**	**-0.3**
YSS				AMB	AMB	02 40 08.0	
	comp=E,220nm,0.6s						
YSS				*i* Sg	**Sg**	**02 40 16.9**	**+0.6**
YSS				A		02 40 22.3	
	comp=E,2μm,0.5s						
YSS				A		02 40 22.3	
	comp=E,2μm,0.5s						
YSS				A		02 40 22.6	
	comp=E,3μm,0.5s						
YSS				A		02 40 22.6	
	comp=E,2μm,0.5s						
YSS				AMS	AMS	02 40 32.0	
	comp=E,3μm,5.0s						
YSS				AMS	AMS	02 40 32.0	
	comp=E,2μm,5.0s						
UGL	**Uglegorsk**	**1.71**	**1**	*e*P	**Pn**	**02 40 25.0**	**+0.1**
UGL				⇓*i*P		02 40 25.0	
UGL				AMB	AMB	02 40 25.6	
	comp=E,400nm,0.8s						
UGL				AMB	AMB	02 40 25.6	
	comp=E,260nm,0.6s						
UGL				*e*S	**Sn**	**02 40 47.3**	**+0.6**
UGL				*i* S	**Sn**	**02 40 48.0**	**+1.3**
UGL				A		02 40 49.5	
	comp=E,700nm,1.1s						
UGL				A		02 40 49.5	
	comp=E,2μm,1.1s						
UGL				A		02 40 50.0	
	comp=E,460nm,0.4s						
ASAJ	**Asahikawa**	**3.28**	**173**	Pn	**Pn**	**02 40 47.4**	**+0.9**
	comp=E,4.6nm,0.3s,baz=18,slow=16,SNR=13						
ASAJ				Sn	**Sn**	**02 41 31.5**	**+6.1**
	comp=E,2.8nm,0.3s,baz=336,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**3.28**	**173**	PN	**Pn**	**02 40 47.4**	**+0.9**
ASAJ						02 41 31.5	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
TYV	**Tymovskoe**	**3.52**	**6**	*e*Pb	**Pb**	**02 40 56.5**	**-1.0**
TYV				AMB	AMB	02 41 04.5	
	comp=N,8.0nm,0.7s						
TYV				AMB	AMB	02 41 04.5	
	comp=N,23nm,0.7s						
TEY	**Ternei**	**4.44**	**240**	*e*Pg	**Pg**	**02 41 20.0**	**-0.4**
TEY				AMB	AMB	02 41 20.4	
	comp=N,19nm,0.4s						
TEY				*e*Sg	**Sg**	**02 42 17.5**	**-0.4**
TEY				A		02 42 19.5	
	comp=N,15nm,0.6s						
GRNR	**Gornyy**	**5.02**	**315**	*e*Pg	**Pg**	**02 41 32.1**	**+0.6**
GRNR				*e*Sg	**Sg**	**02 42 40.7**	**+4.2**
GRNR				A		02 42 44.0	
	comp=N,24nm,0.5s						
GRNR				A		02 42 44.0	
	comp=N,35nm,0.5s						
GRNR				A		02 42 44.0	
	comp=N,39nm,0.5s						
EKMR	**Ekimchan**	**8.15**	**318**	*e*P	**Pn**	**02 41 54.0**	**+0.5**
EKMR				AMB	AMB	02 41 54.9	
	comp=N,2.0nm,0.5s						
EKMR				*e*Sg	Sn	02 44 20.0	+54
EKMR				A		02 44 30.0	
	comp=N,9.0nm,0.6s						
EKMR				A		02 44 30.0	
	comp=N,4.0nm,0.6s						
EKMR				A		02 44 30.0	
	comp=N,5.0nm,0.6s						
KROS	**Kirovskiy**	**11.84**	**312**	*e*S	**Sn**	**02 44 57.2**	**+1.3**
SONM	**Songino Array**	**23.91**	**284**	P	**P**	**02 45 09.3**	**+0.3**
	comp=N,0.4nm,0.7s,mb3.0,baz=84,slow=15,SNR=3.3						
BILL	**Bilibino**	**24.11**	**22**	⇑*e*P	**P**	**02 45 10.2**	**-0.6**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.3s,mb3.8						
TIXI	**Tiksi**	**25.13**	**350**	⇓*e*P	**P**	**02 45 19.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**39.81**	**292**	P	**P**	**02 47 27.8**	**-0.5**
	comp=Z,0.6nm,1.0s,mb3.3,baz=66,slow=5.7,SNR=4.8						
MKAR	**Makanchi Array**	**39.81**	**292**	*i* P	**P**	**02 47 29.7**	**+1.4**
YKA	**Yellowknife Ar**	**54.78**	**34**	P	**P**	**02 49 24.2**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=305,slow=7.0,SNR=11						
YKA				PcP	PcP	02 50 26.5	-0.8
	comp=Z,0.1nm,0.5s,baz=310,slow=3.5,SNR=4.6						
YKA	**Yellowknife Ar**	**54.78**	**34**	P	**P**	**02 49 24.2**	**-0.7**
YKA						02 50 26.5	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**54.78**	**34**	P	**P**	**02 49 24.2**	**-0.7**
YKA				PcP	PcP	02 50 26.5	-0.8
FINES	**FINESS Array B**	**59.98**	**330**	P	**P**	**02 50 00.8**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=62,slow=4.5,SNR=6.4						
FINES	**FINESS Array B**	**59.98**	**330**	*i* P	**P**	**02 50 01.6**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**59.98**	**330**	P	**P**	**02 50 00.8**	**-0.8**
NOA	**NORSAR Array B**	**64.88**	**336**	P	**P**	**02 50 33.1**	**-1.3**
	comp=Z,2.4nm,0.9s,mb4.2,baz=32,slow=6.3,SNR=3.7						
NOA	**NORSAR Array B**	**64.88**	**336**	P	**P**	**02 50 33.1**	**-1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**66.52**	**320**	P	**P**	**02 50 43.4**	**-1.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=40,slow=7.2,SNR=6.9						
AKASG	**Malin Array Be**	**66.52**	**320**	P	**P**	**02 50 43.4**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SIM	**Simferopol'**	**68.42**	**313**	*e*P	**P**	**02 51 02.4**	**+5.4**
SIM				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**68.62**	**56**	P	**P**	**02 50 58.7**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=292,slow=4.8,SNR=3.8						
PDAR	**Pinedale Array**	**70.23**	**48**	P	**P**	**02 51 08.5**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=322,slow=1.6,SNR=6.1						
ASAR	**Alice Springs**	**71.08**	**188**	P	**P**	**02 51 13.7**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=1.3,slow=6.4,SNR=4.2						
ASAR	**Alice Springs**	**71.08**	**188**	P	**P**	**02 51 13.7**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**72.46**	**310**	P	**P**	**02 51 21.8**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=17,slow=6.0,SNR=3.4						
TXAR	**Lajitas Array**	**83.49**	**53**	P	**P**	**02 52 23.7**	**+0.7**
	comp=Z,0.6nm,0.9s,mb3.6,baz=300,slow=3.8,SNR=5.7						
TXAR	**Lajitas Array**	**83.49**	**53**	P	**P**	**02 52 23.7**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**83.49**	**53**	P	**P**	**02 52 23.7**	**+0.7**

*NEIC **11** 02:43:09.9±0.7, 231N×126.15E, h35km, mb4.3/3, Error ellipse: s-maj=58.3km s-min=8.9km az=68.0*
*ISCJB **11** 02:43:12.3±2.5, 22N±02×1260E±05, h74km±24km, mb4.1/6, Error ellipse: s-maj=86.5km s-min=11.5km az=136.6*
*IDC **11** 02:43:22.0±1.2, 2.17N×12606E, h148km±9km, mb3.6/5, mb1 3.7/5, mb1mx3.4/17, mbtmp3.5/5, Error ellipse: s-maj=78.1km s-min=11.0km az=69.0*
ISC 11 02:43:14.7±2.8, 23N±02×1263E±05, h81km±26km, n12, σ0°68/13, mb4.1/6, 2C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.09**	**158**	⇑*i*P	**Pn**	**02 46 55.1**	**-0.8**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.24**	**182**	P	**P**	**02 47 43.4**	**+0.1**
	1.8nm,0.6s,baz=34,slow=14,SNR=6.7						
WRAB	**Tennant Creek**	**23.44**	**161**	*e*P	**P**	**02 48 16.6**	**+0.1**
	4.6nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**23.45**	**161**	P	**P**	**02 48 16.7**	**+0.1**
	5.3nm,0.7s,mb4.0,baz=340,slow=11,SNR=18						
WRA				pP		02 48 46.3	
	3.0nm,0.7s,baz=336,slow=11,SNR=1.8						
WRA				S	**S**	**02 52 19.5**	**-4.3**
	0.8nm,0.7s,baz=336,slow=14,SNR=3.1						
WB2	**Warramunga Arr**	**23.45**	**161**	⇑*i*P	**P**	**02 48 16.8**	**+0.1**
ASAR	**Alice Springs**	**26.82**	**164**	P	**P**	**02 48 48.3**	**+1.1**
	2.1nm,0.4s,mb4.0,baz=347,slow=13,SNR=25						
ASAR				pP	pP	02 49 19.6	+14
	1.3nm,0.6s,baz=340,slow=9.1,SNR=2.9						
ASAR				S	**S**	**02 53 17.7**	**+0.2**
	0.3nm,0.6s,baz=345,slow=16,SNR=4.1						
STKA	**Stephens Creek**	**36.94**	**158**	*e*P	**P**	**02 50 23.9**	**+8.2**
SONM	**Songino Array**	**48.54**	**342**	P	**P**	**02 51 50.1**	**+0.6**
	0.6nm,0.5s,mb3.8,baz=170,slow=6.9,SNR=5.2						
MK31	**Makanchi Array**	**58.50**	**326**	*e*P	**P**	**02 53 02.1**	**-0.2**
MKAR	**Makanchi Array**	**58.50**	**326**	P	**P**	**02 53 02.3**	**0.0**
	1.4nm,0.4s,mb4.4,baz=121,slow=8.0,SNR=54						
MKAR				pP		02 53 38.7	+16
	0.4nm,0.6s,baz=124,slow=7.7,SNR=2.6						
KURK	**Kurchatov**	**62.73**	**328**	*e*P	**P**	**02 53 30.4**	**-0.7**
	4.0nm,0.4s,mb4.7						
TORD	**Torodi Ar. Bea**	**122.92**	**287**	PKP	PKPdf	03 02 02.0	+0.7
	0.3nm,0.7s,baz=59,slow=2.4,SNR=2.5						

*LDG **11** 02:46:07.4±0.1, 4190N×2.11W, h3km, Ml2.5/4, Error ellipse: s-maj=2.6km s-min=2.2km az=141.0*
*CSEM **11** 02:46:08.2±0.1, 4194N×209W, h8km, ML2.4/7, Error ellipse: s-maj=1.5km s-min=1.3km az=151.0*
*NEIC **11** 02:46:08.7, 4192N×2.14W, h11km, ML2.5(LDG), MN1.7(MDD), After MDD.*
MDD 11 02:46:08.7±0.5, 4193N×213W, h11km, mbLg1.8/13, Error ellipse: s-maj=3.4km s-min=3.1km az=59.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECRI	**Cripan**	**0.74**	**338**	Pg	Pg	02 46 21.9	-1.0
	SNR=7.9						
ECRI				Lg		02 46 32.3	
	6.7nm,0.1s,SNR=7.9						
ECRI	**Cripan**	**0.74**	**338**	Pg	Pg	02 46 21.9	-1.0
	1.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**1.11**	**177**	Pg	Pg	02 46 28.4	-1.6
	18nm,0.3s,SNR=41						
ETOR				Lg		02 46 42.8	
	35nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**1.26**	**99**	Pg	Pg	02 46 32.0	-0.8
	7.7nm,0.2s,SNR=10						
ESAC				Lg		02 46 48.7	
	32nm,0.3s,SNR=14						
ESAC	**San Caprasio**	**1.26**	**99**	Pg	Pg	02 46 32.0	-0.8
	7.7nm,0.2s,SNR=10						
ELIZ	**Elizondo**	**1.31**	**20**	Pg	Pg	02 46 32.9	-1.0
	1.6nm,0.2s,SNR=9.5						
ELIZ				Lg		02 46 49.8	
	18nm,1.1s,SNR=7.0						
SJPF	**Ste Jean**	**1.36**	**29**	*e*Pg	Pg	02 46 32.7	-2.1
SJPF				*e*Sn	Sn	02 46 49.0	-2.5
SJPF				*e*Sg	Sg	02 46 50.3	-2.1
	9.9nm,0.3s						
SJPF	**Ste Jean**	**1.36**	**29**	*e*Pg	Pg	02 46 32.7	-2.1
SJPF				*e*Sn	Sn	02 46 49.0	-2.5
SJPF				*e*Sg	Sg	02 46 50.3	-2.1
	4.9nm,0.3s						
EALK	**Alkurruntz**	**1.37**	**19**	Pg	Pg	02 46 33.2	-1.7
	3.3nm,0.3s,SNR=9.6						
EALK				Lg		02 46 51.3	
	11nm,0.3s,SNR=5.0						
ETSF	**Etsaut**	**1.51**	**50**	*e*Pg	Pg	02 46 35.4	-2.3
ETSF				*e*Sg	Sg	02 46 55.0	-2.4
	17nm,0.4s						
ETSF	**Etsaut**	**1.51**	**50**	*e*Pg	Pg	02 46 35.4	-2.3
ETSF				*e*Sg	Sg	02 46 55.0	-2.4
	8.4nm,0.4s						
ELAN	**Lanestosa**	**1.62**	**324**	Pn	Pn	02 46 36.1	-0.9
	0.1nm,0.1s,SNR=22						
ELAN				Pg	Pg	02 46 37.8	-2.0
	2.1nm,0.2s,SNR=7.9						
ELAN				Lg		02 46 59.2	
	26nm,1.2s,SNR=5.0						
ELAN	**Lanestosa**	**1.62**	**324**	Pn	Pn	02 46 36.2	-0.9
	0.1nm,0.1s,SNR=22						
ELAN	**Lanestosa**	**1.62**	**324**	Pg	Pg	02 46 37.8	-1.9
	2.1nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.85**	**65**	Pn	Pn	02 46 39.6	-0.6
	1.8nm,0.3s,SNR=12						
EBIE				Pg	Pg	02 46 42.0	-2.1
	0.7nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	02 47 03.1	-0.5
	4.2nm,0.3s,SNR=5.0						
EBIE			

0.9nm,0.2s,SNR=7.9
EPOB Poblet 2.47 102 Pn Pn 02 46 48.1 -0.7
0.2nm,0.1s,SNR=7.9
EPOB Sn Sn 02 47 17.0 -2.0
0.5nm,0.1s,SNR=7.9
ESDC Sonseca Array 2.65 212 Pn Pn 02 46 49.7 -1.6
0.3nm,0.2s,baz=37,slow=14,SNR=9.6
ESDC Pg Pg 02 46 57.1 -2.3
0.3nm,0.1s,baz=31,slow=17,SNR=7.2
ESDC Sn Sn 02 47 20.8 -2.5
0.1nm,0.2s,baz=38,slow=26,SNR=4.1
ESDC Lg 02 47 30.3
0.8nm,0.3s,baz=31,slow=29,SNR=11
ESDC Sonseca Array 2.65 212 Pn Pn 02 46 49.7 -1.5
0.3nm,0.2s,slow=14,SNR=9.6
ESDC Sonseca Array 2.65 212 Pg Pg 02 46 57.1 -2.3
0.3nm,0.1s,baz=31,slow=17,SNR=7.2
ESDC Sn Sn 02 47 20.8 -2.5
0.1nm,0.2s,SNR=4.1
EARI Arriondas 2.66 302 Pn Pn 02 46 50.6 -0.7
0.1nm,0.1s,SNR=4.0
EARI Lg 02 47 30.4
0.1nm,0.4s,SNR=7.9
EMIR Miracle 2.73 89 Pn Pn 02 46 52.6 +0.3
0.1nm,0.1s,SNR=7.9
EMIR Pg Pg 02 46 57.6 -3.3
1.2nm,0.2s,SNR=7.9
EMIR Sn Sn 02 47 23.3 -2.0
0.5nm,0.1s,SNR=7.9
EMIR Lg 02 47 32.8
4.2nm,0.4s,SNR=4.9
EMIR Miracle 2.73 89 Pn Pn 02 46 52.6 +0.3
0.1nm,0.1s,SNR=7.9
EMIR Miracle 2.73 89 Pg Pg 02 46 57.6 -3.3
1.2nm,0.2s,SNR=7.9
EMIR Sn Sn 02 47 23.3 -2.0
0.5nm,0.1s,SNR=7.9
ECAL Calabor 3.44 272 Pn Pn 02 47 01.0 -1.1
0.8nm,0.3s,SNR=7.9
ECAL Sn Sn 02 47 42.6 -0.2
1.3nm,0.2s,SNR=7.9
ECAL Lg 02 47 54.3
0.8nm,0.1s,SNR=7.9
ECAL Calabor 3.44 272 Pn Pn 02 47 01.0 -1.1
0.8nm,0.3s,SNR=7.9
ECAL Sn Sn 02 47 42.6 -0.2
1.3nm,0.2s,SNR=7.9
MTLF Montolieu 3.50 65 *e*Sg Sg 02 47 56.9 -4.3
1.6nm,0.4s
MTLF Montolieu 3.50 65 *e*Sg Sg 02 47 56.9 -4.3
0.8nm,0.4s

MAN 11 02:47:38.8,719N×12417E,h15km,mb3.1,ML4.4,MS3.6,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.11**	**52**	*e*P	Pb	02 47 59.1	-0.6
SCPH	**Surigao**	**2.88**	**27⇓**	*e*P	Pn	02 48 24.5	+0.4

*NEIC **11** 02:50:48.8,3771N×21.12E,h5km,MD3.5(ATH),After ATH.*
*CSEM **11** 02:50:48.8,3771N×21.12E,h5km,MD3.5/8,After ATH*
ATH 11 02:50:48.8,3771N×2112E,h5km±4km,MD3.5/8,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.44**	**38**	*e*PB	Pg	02 50 57.9	+0.6
VLS	**Valsamata**	**0.63**	**318**	*e*PB	Pb	02 51 01.2	-1.0
ITM	**Ithomi**	**0.83**	**129**	*e*PB	Pb	02 51 04.9	-0.8
EVR	**Evrytania**	**1.32**	**24**	*e*PB	Pb	02 51 14.1	0.0
LKR	**Lokris**	**1.75**	**57**	*e*PG	Pg	02 51 21.7	-0.7
JAN	**Janina**	**1.96**	**354**	*e*PN	Pn	02 51 25.5	+2.9
THL	**Klokotos Trika**	**1.98**	**20**	*e*PG	Pg	02 51 25.4	-1.4
NEO	**Neokhori**	**2.29**	**45**	*e*PN	Pn	02 51 30.5	+3.2

*CSEM **11** 03:28:57.0±1.0,3885N×2894W,h5km±6km,ML1.7,Error ellipse: s-maj=10.9km s-min=4.7km az=82.0,After PDA*
*PDA **11** 03:28:57.0±1.0,3885N×2894W,h5km±6km,MD3.0,ML1.7,Error ellipse: s-maj=10.9km s-min=4.7km az=82.0*
SVSA 11 03:28:57.0±1.0,3885N×2894W,h5km±6km,MD3.0,ML1.7,Error ellipse: s-maj=10.9km s-min=4.7km az=82.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.29**	**141**	*i*P	Pg	03 29 02.0	-0.6
PCED				*e*S	Sg	03 29 05.9	-0.5
PCED							
25nm,0.1s							
PCED	**Cedros**	**0.29**	**141**	*e*S	Sg	03 29 05.9	-0.5
PTCA	**Ponta do Capel**	**0.29**	**158**	*e*S	Sg	03 29 06.7	+0.3
PTCA							
18nm,0.2s							
CALA	**Caldeira**	**0.33**	**146**	*e*P	Pg	03 29 03.0	-0.3
CALA				*e*S	Sg	03 29 07.6	0.0
HOR	**Horta**	**0.40**	**144**	*e*S	Sg	03 29 09.1	-1.0
PICO	**Pico**	**0.53**	**131**	*e*P	Pg	03 29 06.4	-0.8
PICO				*e*S	Sg	03 29 13.0	-1.1
ROSA	**Rosais**	**0.56**	**104**	*e*P	Pg	03 29 06.3	-1.4
ROSA				*e*S	Sg	03 29 13.8	-1.2

MAN 11 03:42:36.2,991N×12624E,h2km,mb3.0,ML4.3,MS2.3,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.75**	**260⇑**	*e*P	Pg	03 42 50.9	+0.3
SCPH				*e*S	Sg	03 43 02.4	+2.1
MSLP	**Maasin**	**1.38**	**279**	*e*P	Pn	03 43 02.0	-0.5
MSLP				*e*S	Sg	03 43 21.0	+0.6
BUKP	**Musuan**	**2.33**	**210**	*e*P	Pn	03 43 15.6	+0.1
BUKP				*e*S	Sn	03 43 45.9	+1.2

*IDC **11** 04:10:00.4±1.2,285S×12001E,h0km,mb3.5/5,mb1 3.6/5,mb1mx3.5/17,mbtmp3.5/5,MS3.9/1,Ms1 3.9/1,ms1mx2.4/14,Error ellipse: s-maj=57.0km s-min=21.7km az=52.0*
NEIC 11 04:10:05.2±0.7,292S×11997E,h35km,mb3.6/1,Error ellipse: s-maj=33.7km s-min=11.3km az=49.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**21.80**	**285**	P	P	04 14 54.1	0.0
1.4nm,0.3s,baz=90,slow=6.1,SNR=7.2							
WRA	**Warramunga Arr**	**21.98**	**141**	P	P	04 14 56.1	+0.1
1.0nm,0.8s,baz=318,slow=11,SNR=6.3							
WRAB	**Tennant Creek**	**21.98**	**141**	*e*P	P	04 14 55.8	-0.3
2.1nm,0.9s							
ASAR	**Alice Springs**	**24.64**	**148**	P	P	04 15 23.6	+1.2
0.2nm,0.2s,baz=340,slow=13,SNR=5.0							
SONM	**Songino Array**	**51.92**	**348**	P	P	04 19 10.6	+0.1
0.3nm,0.5s,baz=177,slow=6.9,SNR=3.7							
MKAR	**Makanchi Array**	**59.58**	**331**	P	P	04 20 05.8	+0.4
0.6nm,0.8s,baz=125,slow=8.0,SNR=4.5							
MKAR				LR	LR	04 45 43.2	
comp=Z,91nm,20.4s,baz=160,slow=36							

*CSEM **11** 04:13:47.5±1.0,3879N×2877W,h4km±6km,ML1.8,Error ellipse: s-maj=9.1km s-min=5.1km az=96.0,After PDA*
*PDA **11** 04:13:47.5±1.0,3879N×2877W,h4km±6km,MD2.9,ML1.8,Error ellipse: s-maj=9.1km s-min=5.1km az=96.0*
SVSA 11 04:13:47.5±1.0,3879N×2877W,h4km±6km,MD2.9,ML1.8,Error ellipse: s-maj=9.1km s-min=5.1km az=96.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.17**	**163**	*e*P	Pg	04 13 50.7	-0.1
PCED				*e*S	Sg	04 13 53.0	0.0
PCED							
28nm,0.2s							
PCED	**Cedros**	**0.17**	**163**	*e*P	Pg	04 13 50.7	-0.1
PCED				*e*S	Sg	04 13 53.0	0.0
PTCA	**Ponta do Capel**	**0.21**	**187**	*e*P	Pg	04 13 52.3	+0.8
CALA	**Caldeira**	**0.21**	**167**	*e*P	Pg	04 13 51.6	0.0
CALA				*e*S	Sg	04 13 54.3	-0.1
HOR	**Horta**	**0.28**	**158**	*e*S	Sg	04 13 56.1	-0.5

PICO	**Pico**	**0.39**	**137**	*i*P	Pg	04 13 54.8	-0.2
PICO				*e*S	Sg	04 14 00.3	+0.2
PICO	**Pico**	**0.39**	**137**	*e*S	Sg	04 14 00.3	+0.2
PCND	**Candelaria**	**0.40**	**143**	*e*S	Sg	04 14 00.1	-0.2
PCND							
27nm,0.2s							
ROSA	**Rosais**	**0.41**	**99**	*e*S	Sg	04 14 00.1	-0.8
PTEI	**Pico do Teixo**	**0.43**	**132**	*e*S	Sg	04 14 01.4	-0.1
PTEI							
44nm,0.2s							
PBOI	**Pico dos Bois**	**0.47**	**139**	*e*S	Sg	04 14 01.9	-0.6
PBOI							
42nm,0.2s							
PMAN	**Manadas**	**0.55**	**106**	*e*S	Sg	04 14 03.9	-1.4
PMAN							
30nm,0.1s							
PID	**Ribeirinha**	**0.61**	**124**	*e*S	Sg	04 14 06.1	-1.1

*IDC **11** 04:15:27.9±0.8,220N×9606E,h0km,mb4.3/11,mb1 4.4/12,mb1mx4.2/21,mbtmp4.3/12,ML3.4/1,MS3.7/5,Ms1 3.7/5,ms1mx3.3/30,Error ellipse: s-maj=33.3km s-min=14.5km az=45.0*
*BJI **11** 04:15:27.5,171N×9622E,h41km,mB4.9,mb4.9*
*ISCJB **11** 04:15:29.3±3.0,223N±008×96.10E±008,h21km±21km,mb4.6/32,MS3.8/4,Error ellipse: s-maj=16.2km s-min=7.6km az=89.3*
*NEIC **11** 04:15:32.1±0.4,222N×9608E,h30km,mb4.5/12,Error ellipse: s-maj=10.6km s-min=5.9km az=213.0*
ISC 11 04:15:31.2±4.2,226N±007×9609E±008,h18km±26km,n52,σ1§00/48,mb4.6/32,MS3.8/4,3C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.88**	**79**	Pn	**Pn**	**04 16 16.2**	**+0.1**
5.0nm,0.3s,baz=273,slow=4.8,SNR=33							
PSI				LR	LR	04 17 38.0	
comp=Z,680nm,18.1s,baz=248,slow=45							
BSI	**Banda Aceh**	**3.31**	**346**	P	**Pn**	**04 16 20.2**	**-1.9**
154nm,0.5s							
PPI	**Padang Panjang**	**5.08**	**122**	P	**Pn**	**04 16 48.5**	**+2.2**
47nm,0.6s							
KULM	**Kulim**	**5.46**	**56⇑**	*i*Pn	**Pn**	**04 16 51.5**	**0.0**
KSM	**Kuching**	**14.23**	**93**	*e*Pn	**Pn**	**04 18 52.6**	**+0.9**
PALK	**Pallekele**	**16.12**	**289**	P	**Pn**	**04 19 15.4**	**-1.4**
18nm,1.0s							
CHTO	**Chiang Mai**	**16.69**	**9**	*e*P	**Pn**	**04 19 21.8**	**-2.3**
4.5nm,0.7s							
KKM	**Kota Kinabalu**	**20.41**	**79**	*e*P	**P**	**04 20 07.7**	**+0.5**
KMI	**Kunming**	**23.62**	**15**	P	**P**	**04 20 41.7**	**+0.4**
KMI				AMB	AMB		
comp=Z,15nm,0.9s,mb4.4							
GYA	**Guiyang**	**26.12**	**22⇓**	*i*P	**P**	**04 21 03.8**	**-0.2**
GYA				AMB	AMB		
comp=Z,20nm,0.9s,mb4.7							
JIRN	**Jiri**	**26.98**	**340**	*e*P	**P**	**04 21 13.2**	**+1.4**
comp=Z,4.3nm,0.3s,mb4.5							
DMN	**Daman**	**27.31**	**338**	*e*P	**P**	**04 21 16.4**	**+1.6**
comp=Z,16nm,0.6s,mb4.7							
GUN	**Gumba**	**27.32**	**340**	*e*P	**P**	**04 21 16.3**	**+1.5**
comp=Z,104nm,0.9s,mb5.4							
KKN	**Kakani**	**27.41**	**339**	*e*P	**P**	**04 21 16.0**	**+0.3**
comp=Z,37nm,0.8s,mb5.0							
LSA	**Lhasa**	**27.69**	**351**	P	**P**	**04 21 19.8**	**+1.6**
LSA	**Lhasa**	**27.69**	**351⇑**	*i*P	**P**	**04 21 19.7**	**+1.5**
comp=Z,25nm,0.9s,mb4.8							
GKN	**Gorkha**	**27.84**	**338**	*e*P	**P**	**04 21 21.0**	**+1.5**
KOLN	**Koldanda**	**28.04**	**336**	*e*P	**P**	**04 21 23.9**	**+2.6**
comp=Z,49nm,0.6s,mb5.3							
CD2	**Chengdu**	**29.41**	**14**	P	**P**	**04 21 32.7**	**-0.7**
CD2				AMB	AMB		
comp=Z,30nm,0.5s,mb5.3							
XAN	**Xi'an**	**33.81**	**19**	P	**P**	**04 22 11.1**	**-1.1**
XAN				AMB	AMB		
comp=Z,61nm,0.8s,mb5.6							
FITZ	**Fitzroy Crossi**	**35.44**	**126**	P	**P**	**04 22 25.5**	**-0.7**
comp=Z,4.4nm,0.8s,mb4.5,baz=312,slow=4.1,SNR=9.4							
GTA	**Gaotai**	**37.13**	**5**	P	**P**	**04 22 40.9**	**+0.2**
GTA				AP	pP	04 22 47.9	+1.5
GTA				XP	sP	04 22 51.9	+3.3
GTA				AMB	AMB		
comp=Z,18nm,1.1s,mb4.8							
KAKA	**Kakadu**	**39.03**	**113**	*e*P	**P**	**04 22 55.2**	**-1.5**
comp=Z,8.7nm,0.6s,mb4.7							
BJT	**Baijiatuau**	**41.77**	**23**	*e*P	**P**	**04 23 19.7**	**+0.3**
comp=Z,19nm,0.6s,mb4.9							
WRA	**Warramunga Arr**	**43.53**	**122**	P	**P**	**04 23 33.3**	**-0.4**
comp=Z,3.4nm,0.8s,mb4.1,baz=302,slow=9.0,SNR=19							
WRAB	**Tennant Creek**	**43.53**	**122**	*e*P	**P**	**04 23 33.4**	**-0.3**
comp=Z,3.2nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**43.54**	**122**	*e*P	**P**	**04 23 33.2**	**-0.5**
WB2	**Warramunga Arr**	**43.54**	**122**	*e*P	**P**	**04 23 33.3**	**-0.4**
ASAR	**Alice Springs**	**44.91**	**127**	P	**P**	**04 23 44.6**	**-0.1**
comp=Z,1.7nm,0.7s,mb4.0,baz=301,slow=8.0,SNR=19							
KSRS	**Korea Array**	**45.63**	**36**	P	**P**	**04 23 49.9**	**-0.6**
comp=Z,0.7nm,0.3s,mb4.1,baz=233,slow=9.0,SNR=5.7							
KSRS				LR	LR	04 46 16.1	
comp=Z,75nm,18.2s,MS3.7,baz=321,slow=40							
MK31	**Makanchi Array**	**45.96**	**347⇑**	*e*P	**P**	**04 23 53.1**	**0.0**
MKAR	**Makanchi Array**	**45.96**	**347**	P	**P**	**04 23 53.4**	**+0.3**
comp=Z,12nm,0.8s,mb4.9,baz=162,slow=8.0,SNR=97							
SONM	**Songino Array**	**46.27**	**10**	P	**P**	**04 23 55.4**	**-0.1**
comp=Z,5.4nm,0.4s,mb4.8,baz=189,slow=9.3,SNR=40							
SONM				PcP	PcP	04 25 31.5	+0.8
comp=Z,1.3nm,0.6s,baz=181,slow=3.3,SNR=3.9							
PMG	**Port Moresby**	**52.17**	**104**	P	**P**	**04 24 40.6**	**0.0**
comp=Z,23nm,1.6s,mb4.8							
CTA	**Charters Tower**	**53.96**	**117**	LR	LR	04 50 53.8	
comp=Z,82nm,18.9s,MS3.8,baz=50,slow=39							
STKA	**Stephens Creek**	**54.88**	**132**	P	**P**	**04 25 01.1**	**+0.6**
comp=Z,4.0nm,0.9s,mb4.4,baz=309,slow=13,SNR=2.9							
STKA	**Stephens Creek**	**54.88**	**132**	*e*P	**P**	**04 25 00.2**	**-0.3**
BRVK	**Borovoye**	**54.96**	**341**	*e*P	**P**	**04 25 00.3**	**-0.8**
comp=Z,4.9nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**55.38**	**342**	*e*P	**P**	**04 25 04.2**	**+0.1**
comp=Z,3.1nm,0.8s,mb4.9							
KMBO	**Kilima Mbogo**	**58.92**	**267**	LR	LR	04 47 05.6	
comp=Z,63nm,21.0s,MS3.7,baz=83,slow=32							
BRTR	**Keskin Array B**	**67.59**	**312**	P	**P**	**04 26 26.5**	**-0.1**
comp=Z,0.7nm,0.7s,mb3.8,baz=133,slow=8.3,SNR=9.2							
BR131	**Keskin Array S**	**67.59**	**312**	*e*P	**P**	**04 26 26.0**	**-0.5**
comp=Z,0.8nm,0.8s,mb3.8							
TIXI	**Tiksi**	**72.35**	**10**	*e*P	**P**	**04 26 54.1**	**-1.7**
comp=Z,3.5nm,0.8s,mb4.3							
AKASG	**Malin Array Be**	**73.75**	**322**	P	**P**	**04 27 03.7**	**-0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=88,slow=5.2,SNR=7.3							
AKASG	**Malin Array Be**	**73.75**	**322**	P	**P**	**04 27 03.7**	**-0.5**
JOF	**Joensuu**	**76.72**	**335**	*e*p	**P**	**04 27 25.2**	**+3.9**
comp=Z,2.7nm,0.8s,mb4.2							
FINES	**FINESS Array B**	**78.56**	**333**	P	**P**	**04 27 31.1**	**-0.3**
comp=Z,2.3nm,0.7s,mb4.2,baz=108,slow=6.2,SNR=6.9							
KAF	**Kangasniemi**	**78.65**	**333**	*e*p	**P**	**04 27 31.5**	**-0.5**
comp=Z,3.9nm,0.7s,mb4.5							
ARCES	**ARCESS Array B**	**81.17**	**340**	P	**P**	**04 27 45.6**	**-0.1**
comp=Z,2.9nm,0.7s,mb4.3,baz=98,slow=3.7,SNR=13							
GERES	**GERESS Array B**	**83.30**	**319**	P	**P**	**04 27 57.7**	**+1.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=103,slow=4.2,SNR=8.8							
VNDA	**Vanda**	**87.07**	**169**	LR	LR	05 01 48.8	
comp=Z,72nm,19.0s,MS4.1,baz=336,slow=32							
TXAR	**Lajitas Array**	**143.33**	**30**	PKP	PKPdf	04 35 03.1	-1.3
comp=Z,0.4nm,0.7s,baz=280,slow=1.0,SNR=5.3							

*IDC **11** 04:40:18.0±1.1,864S×120.14E,h0km,mb3.7/3,mb1 3.9/6,mb1mx3.8/18,mbtmp3.7/6,ML3.6/2,MS3.4/1,Ms1 3.4/1,ms1mx2.7/25,Error ellipse: s-maj=72.8km s-min=14.0km az=51.0*
NEIC 11 04:40:22.5±1.3,895S×11967E,h35km,mb3.5/1,Error ellipse: s-maj=76.0km s-min=13.6km az=56.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.79**	**148**	Pn	Pn	04 42 53.7	-0.7
0.5nm,0.3s,baz=330,slow=9.4,SNR=14							
FITZ				Sn	Sn	04 44 52.2	-1.7
0.4nm,0.3s,baz=203,slow=7.7,SNR=4.2							
WRA	**Warramunga Arr**	**17.91**	**129**	P	Pn	04 44 27.2	-1.5
0.1nm,0.3s,baz=308,slow=14,SNR=4.8							
WRA				S	S	04 47 45.3	-7.5
0.1nm,0.3s,baz=302,slow=23,SNR=3.1							
WRAB	**Tennant Creek**	**17.91**	**129**	*e*Pn	Pn	04 44 30.0	+1.3
3.1nm,0.8s							
WRAB				*e*Sn	Sn	04 47 46.1	-1.3
ASAR	**Alice Springs**	**19.99**	**139**	P	Pn	04 44 53.4	-0.5
0.3nm,0.3s,baz=314,slow=8.5,SNR=20							
STKA	**Stephens Creek**	**30.58**	**141**	P	P	04 46 33.9	+1.0
2.7nm,0.6s,baz=291,slow=8.5,SNR=6.5							
GUMO	**Guam**	**33.57**	**48**	LR	LR	04 59 16.8	
comp=Z,58nm,19.1s,baz=66,slow=34							
SONM	**Songino Array**	**57.74**	**349**	P	P	04 50 10.1	+0.3
0.3nm,0.5s,baz=167,slow=6.4,SNR=2.1							
MKAR	**Makanchi Array**	**64.71**	**333**	P	P	04 50 56.8	-0.3
0.2nm,0.6s,baz=151,slow=8.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**119.10**	**280**	PKP	PKPdf	04 59 10.1	+2.6
0.4nm,1.1s,baz=85,slow=2.9,SNR=2.5							

*NEIC **11** 04:42:19.5±1.2,5134S×15837E,h10km,mb3.9/2,Error ellipse: s-maj=27.0km s-min=14.2km az=138.0*
*ISCJB **11** 04:43:48.2±1.4,4706S±008×1660E±01,h10km,Error ellipse: s-maj=11.5km s-min=10.4km az=92.0*
*WEL **11** 04:43:48.6±0.6,4712S×16566E,h33km,ML4.2/9,Error ellipse: s-maj=6.3km s-min=3.7km az=90.0*
ISC 11 04:43:49.0±1.4,4709S±008×1660E±01,h10km,n26,σ1§09/37,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.36**	**80**	PN	**Pn**	**04 44 13.9**	**-0.2**
APZ				SN	**Sn**	**04 44 30.2**	**-2.0**
WHZ	**Wether Hill Ro**	**1.78**	**49**	P	**Pn**	**04 44 19.7**	**-0.1**
WHZ	**Wether Hill Ro**	**1.78**	**49**	PN	**Pn**	**04 44 19.6**	**-0.2**
WHZ				SN	**Sn**	**04 44 42.4**	**-0.1**
DCZ	**Deep Cove**	**1.79**	**26**	P	**Pn**	**04 44 18.5**	**-1.4**
DCZ				S	**Sn**	**04 44 41.3**	**-1.4**
DCZ	**Deep Cove**	**1.79**	**26**	PN	**Pn**	**04 44 18.6**	**-1.4**
DCZ				SN	**Sn**	**04 44 41.7**	**-0.9**
SYZ	**Scrubby Hill**	**2.20**	**77**	PN	**Pn**	**04 44 26.9**	**+1.2**
SYZ				SN	**Sn**	**04 44 53.5**	**+0.5**
MLZ	**Mavora Lakes**	**2.29**	**41**	P	**Pn**	**04 44 26.7**	**-0.1**
MLZ	**Mavora Lakes**	**2.29**	**41**	PN	**Pn**	**04 44 26.7**	**-0.1**
MLZ				SN	**Sn**	**04 44 54.6**	**-0.4**
TUZ	**Tuapeka**	**2.73**	**67**	PN	**Pn**	**04 44 33.5**	**+0.6**
TUZ				SN	**Sn**	**04 45 06.1**	**+0.2**
EAZ	**Earnscleugh**	**2.94**	**52**	P	**Pn**	**04 44 35.8**	**+0.1**
EAZ				S	**Sn**	**04 45 11.9**	**+0.9**
EAZ	**Earnscleugh**	**2.94**	**52**	PN	**Pn**	**04 44 35.7**	**0.0**
EAZ				SN	**Sn**	**04 45 11.7**	**+0.7**
WKZ	**Wanaka**	**3.07**	**44**	P	**Pn**	**04 44 38.6**	**+1.0**
WKZ	**Wanaka**	**3.07**	**44**	PN	**Pn**	**04 44 38.6**	**+1.0**
HHSZ	**Highcliff Hill**	**3.38**	**71**	PN	**Pn**	**04 44 42.7**	**+0.9**
JCZ	**Jackson Bay**	**3.57**	**33**	P	**Pn**	**04 44 46.2**	**+1.8**
JCZ	**Jackson Bay**	**3.57**	**33**	PN	**Pn**	**04 44 45.9**	**+1.5**
ODZ	**Otahua Downs**	**3.80**	**59**	*e*P	**Pn**	**04 44 46.3**	**-1.3**
ODZ	**Otahua Downs**	**3.80**	**59**	PN	**Pn**	**04 44 46.3**	**-1.4**
LBZ	**Lake Benmore**	**3.97**	**49**	*e*P	**Pn**	**04 44 48.4**	**-1.5**
LBZ	**Lake Benmore**	**3.97**	**49**	PN	**Pn**	**04 44 48.2**	**-1.7**
FOZ	**Fox Glacier**	**4.37**	**38**	*e*P	**Pn**	**04 44 57.3**	**+1.9**
FOZ				S	**Sn**	**04 45 47.9**	**+1.6**
FOZ	**Fox Glacier**	**4.37**	**38**	PN	**Pn**	**04 44 56.8**	**+1.4**
FOZ				SN	**Sn**	**04 45 47.9**	**+1.6**
DSZ	**Denniston Nort**	**6.75**	**40**	*e*P	**Pn**	**04 45 28.3**	**+0.2**
DSZ	**Denniston Nort**	**6.75**	**40**	PN	**Pn**	**04 45 28.3**	**+0.1**
QRZ	**Quartz Range**	**7.82**	**39**	PN	**Pn**	**04 45 42.4**	**-0.3**
MWZ	**Matawai**	**12.15**	**48**	P	**Pn**	**04 46 39.7**	**-2.5**

*IDC **11** 04:58:52.3±2.4,6175S×15146E,h0km,mb3.8/4,mb1 3.9/5,mb1mx3.7/15,mbtmp3.8/5,ML2.4/1,Error ellipse: s-maj=66.4km s-min=38.3km az=128.0*
NEIC 11 04:58:51.5±5.1,599S×15160E,h10km,mb3.8/1,Error ellipse: s-maj=85.4km s-min=50.1km az=187.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.56**	**232**	Pn	Pn	05 00 15.4	+1.2
0.9nm,0.3s,baz=48,slow=7.7,SNR=6.4							
PMG				Sn	Sn	05 01 16.8	-1.3
2.5nm,0.3s,baz=139,slow=20,SNR=4.8							
WRAB	**Tennant Creek**	**21.75**	**229**	*e*P	P	05 03 42.4	-0.6
2.9nm,0.8s							
WRA	**Warramunga Arr**	**21.76**	**229**	P	P	05 03 42.1	-1.1
0.9nm,0.6s,baz=54,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**24.47**	**222**	P	P	05 04 10.5	0.0
1.1nm,0.6s,baz=65,slow=9.4,SNR=12							
STKA	**Stephens Creek**	**27.40**	**199**	P	P	05 04 38.0	+0.9
2.0nm,0.7s,baz=21,slow=9.1,SNR=3.1							
FITZ	**Fitzroy Crossi**	**28.05**	**242**	P	P	05 04 44.2	+1.3
1.0nm,0.4s,baz=58,slow=10.0,SNR=9.8							
TORD	**Torodi Ar. Bea**	**149.51**	**286**	PKPbc	PKPbc	05 18 44.1	+3.2
0.8nm,0.7s,baz=79,slow=2.8,SNR=6.4							

*ISCJB **11** 05:12:39.6±1.4,472N±0.1×1527E±02,h71km±13km,mb3.5/10,Error ellipse: s-maj=27.0km s-min=11.0km az=94.1*
*MOS **11** 05:12:40.1±1.4,4728N×15256E,h76km,mb4.1/4,Error ellipse: s-maj=29.3km s-min=13.6km az=59.4*
*IDC **11** 05:12:43.1±3.8,4720N×15264E,h89km±35km,mb3.3/10,mb1 3.6/12,mb1mx3.5/24,mbtmp3.4/12,Error ellipse: s-maj=24.7km s-min=16.4km az=130.0*
ISC 11 05:12:41.4±1.3,473N±01×1526E±02,h73km±12km,n23,σ0§83/23,mb3.5/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.89**	**240**	*e*PN	**Pn**	**05 13 37.0**	**-1.8**
KUR				pmax	pmax		
comp=N,80nm,0.8s							
KUR				pmax	pmax		
comp=Z,140nm,0.8s							
SKR	**Severo-Kuril's**	**4.11**	**33**	*e*PN	**Pn**	**05 13 41.7**	**0.0**
SKR				*e*S	**Sn**	**05 14 22.5**	**-6.0**
SKR				pmax	pmax		
comp=Z,30nm,0.5s							
SKR				smax			
comp=N,60nm,0.7s							
SKR				smax			
comp=E,40nm,0.5s							
ASAJ	**Asahikawa**	**7.71**	**249**	P	**Pn**	**05 14 31.5**	**+0.6**
comp=E,2.0nm,0.3s,baz=14,slow=8.3,SNR=4.4							
ASAJ	**Asahikawa**	**7.71**	**249**	PN	**Pn**	**05 14 31.5**	**+0.6**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.15**	**230**	P

TORD Torodi Ar. Bea 114.48 329 PKiKP PKiKP 05 31 12.1 -0.8
comp=Z,0.2nm,0.9s,baz=40,slow=3.2,SNR=3.0

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*NEIC **11** 05:22:51.0±0.4, 588S×15064E, h10km, mb4.8/6, Error ellipse: s-maj=14.3km s-min=8.9km az=120.0*
*ISCJB **11** 05:22:53.6±2.3, 598S±009×15053E±010, h36km±19km, mb4.3/13, MS3.8/8, Error ellipse: s-maj=18.1km s-min=13.0km az=78.0*
*IDC **11** 05:22:58.4±2.5, 609S×15049E, h63km±21km, mb4.0/11, mb1 4.2/13, mb1mx4.1/17, mbtmp4.1/13, MS3.8/11, Ms1 3.8/11, ms1mx3.7/19, Error ellipse: s-maj=19.5km s-min=12.5km az=126.0*
ISC 11 05:22:57.5±1.9, 604S±009×15053E±010, h55km±17km, n39, σ0°90/27, mb4.3/13, MS3.8/8, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.73 225**		P	**Pn**	**05 24 06.7**	**+0.5**
	10nm,0.3s,baz=46,slow=6.2,SNR=35						
PMG				S	**Sn**	**05 24 58.9**	**-0.8**
	29nm,0.3s,baz=87,slow=20,SNR=7.2						
PMG				LR	LR	05 25 14.5	
	comp=Z,260nm,20.4s,baz=148,slow=29						
HNR	**Honiara**	**9.92 110**		LR	LR	05 28 34.8	
	comp=Z,385nm,19.1s,baz=356,slow=34						
CTA	**Charters Tower**	**14.57 196**		*e*P	**Pn**	**05 26 20.4**	**0.0**
	13nm,1.2s						
CTA	**Charters Tower**	**14.57 196**		P	**Pn**	**05 26 20.4**	**-0.1**
	0.3nm,0.3s,baz=3.1,slow=15,SNR=4.2						
CTA				LR	LR	05 31 23.0	
	comp=Z,319nm,20.1s,baz=251,slow=35						
CTAO	**Charters Tower**	**14.57 196**		*e*P	**Pn**	**05 26 20.5**	**+0.1**
	14nm,0.8s						
KAKA	**Kakadu**	**19.03 248**		⇑*i*P	**Pn**	**05 27 14.8**	**-1.3**
	15nm,0.6s						
GUMO	**Guam**	**20.30 344**		LR	LR	05 34 07.4	
	comp=Z,192nm,18.5s,MS3.5,baz=245,slow=33						
WRAB	**Tennant Creek**	**20.93 227**		*e*P	**P**	**05 27 35.9**	**+0.4**
	53nm,0.9s						
WB2	**Warramunga Arr**	**20.93 227**		*e*P	**P**	**05 27 35.7**	**+0.2**
WRA	**Warramunga Arr**	**20.94 227**		P	**P**	**05 27 36.7**	**+1.0**
	15nm,0.8s,baz=50,slow=10,SNR=49						
WRA				S	**S**	**05 31 25.1**	**-0.8**
	2.4nm,1.2s,baz=53,slow=19,SNR=6.7						
WRA				PcP	PcP	05 31 42.6	+1.2
	3.1nm,0.8s,baz=34,slow=1.9,SNR=9.1						
WRA				LR	LR	05 36 20.5	
	comp=Z,189nm,18.7s,MS3.5,baz=45,slow=38						
DZM	**Mont Dzumac**	**22.14 138**		P	**P**	**05 27 48.1**	**-0.4**
	10nm,0.9s,mb4.3,baz=309,slow=14,SNR=8.1						
DZM				LR	LR	05 35 27.0	
	comp=Z,516nm,18.9s,MS4.0,baz=206,slow=34						
ASAR	**Alice Springs**	**23.73 221**		P	**P**	**05 28 05.5**	**+1.0**
	4.6nm,0.8s,mb4.0,baz=52,slow=9.0,SNR=32						
STKA	**Stephens Creek**	**27.03 197**		P	**P**	**05 28 34.5**	**+0.1**
	9.6nm,0.8s,mb4.4,baz=20,slow=13,SNR=13						
STKA				LR	LR	05 39 13.7	
	comp=Z,286nm,18.5s,MS3.9,baz=26,slow=36						
STKA	**Stephens Creek**	**27.03 197**		*e*P	**P**	**05 28 33.6**	**-0.8**
	9.0nm,0.8s,mb4.3						
STKA				*e*P		05 28 34.6	
FITZ	**Fitzroy Crossi**	**27.09 242**		⇑*i*P	**P**	**05 28 34.9**	**0.0**
	16nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.09 242**		P	**P**	**05 28 35.0**	**+0.1**
	6.3nm,0.6s,mb4.3,baz=67,slow=7.0,SNR=32						
FITZ				LR	LR	05 40 50.1	
	comp=Z,150nm,18.2s,MS3.6,baz=262,slow=40						
KLBR	**Kellerberrin**	**39.82 226**		*e*P	**P**	**05 30 32.7**	**+7.4**
	19nm,0.7s,mb4.9						
MUN	**Mundaring**	**41.14 227**		*e*P	**P**	**05 30 37.1**	**+0.9**
MJAR	**Matsushiro Arr**	**43.91 346**		LR	LR	05 48 57.9	
	comp=Z,91nm,18.8s,MS3.7,baz=165,slow=36						
KSRS	**Korea Array**	**48.14 336**		P	**P**	**05 31 33.0**	**+1.1**
	4.0nm,0.8s,mb4.5,baz=154,slow=8.6,SNR=15						
KSRS				LR	LR	05 49 36.6	
	comp=Z,120nm,21.5s,MS3.8,baz=337,slow=33						
SONM	**Songino Array**	**66.20 329**		P	**P**	**05 33 40.1**	**+0.7**
	0.9nm,0.8s,mb3.9,baz=117,slow=5.5,SNR=5.5						
VNDA	**Vanda**	**71.69 177**		P	**P**	**05 34 13.6**	**+0.1**
	1.2nm,0.7s,mb4.0,baz=329,slow=5.7,SNR=8.6						
VNDA	**Vanda**	**71.69 177**		P	**P**	**05 34 13.6**	**+0.1**
MKAR	**Makanchi Array**	**79.79 320**		P	**P**	**05 34 58.5**	**-1.2**
	0.6nm,0.8s,mb3.6,baz=111,slow=6.6,SNR=4.7						
MKAR				LR	LR	06 11 56.6	
	comp=Z,123nm,18.9s,MS4.3,baz=77,slow=37						
QSPA	**South Pole Qui**	**83.92 180**		*e*P	**P**	**05 35 21.6**	**+0.1**
	10nm,0.9s,mb5.0						
INK	**Inuvik**	**90.42 21**		P	**P**	**05 35 51.9**	**-1.0**
	1.5nm,0.9s,mb4.3,baz=214,slow=21,SNR=4.3						
NVAR	**Mina Array Bea**	**94.62 52**		P	**P**	**05 36 13.4**	**+1.1**
	1.9nm,0.8s,mb4.6,baz=263,slow=6.7,SNR=12						
YKA	**Yellowknife Ar**	**97.57 28**		P	**P**	**05 36 23.4**	**-2.3**
	0.4nm,0.9s,mb3.9,baz=273,slow=4.7,SNR=4.2						
YKA				PKiKP	PKiKP	05 40 59.5	-0.5
	0.3nm,0.7s,baz=255,slow=1.1,SNR=3.9						
PDAR	**Pinedale Array**	**101.35 48**		P	Pdif	05 36 42.1	-0.5
	0.4nm,0.8s,baz=194,slow=3.8,SNR=4.0						
KIV	**Kislovodsk**	**107.01 314**		*e*PKPdf	PKiKP	05 41 19.2	+2.2
OBN	**Obninsk**	**108.52 326**		*e*PKPdf	PKiKP	05 41 21.7	+1.8
AKASG	**Malin Array Be**	**114.16 323**		PKP	PKiKP	05 41 29.8	-0.8
	0.7nm,0.8s,baz=73,slow=2.8,SNR=4.0						
AKASG	**Malin Array Be**	**114.16 323**		PKP	PKiKP	05 41 29.8	-0.8
BRTR	**Keskin Array B**	**114.43 311**		PKP	PKiKP	05 41 31.4	+0.3
	1.0nm,0.9s,baz=25,slow=1.6,SNR=5.4						
GERES	**GERESS Array B**	**123.90 327**		PKP	PKPdf	05 41 49.4	+0.1
	1.2nm,0.7s,baz=27,slow=1.5,SNR=9.1						
LPAZ	**La Paz**	**135.78 121**		PKP	PKPdf	05 42 11.8	0.0
	0.6nm,0.6s,baz=239,slow=1.9,SNR=3.7						
LPAZ	**La Paz**	**135.78 121**		PKP	PKPdf	05 42 11.8	0.0
SDV	**Santo Domingo**	**139.10 83**		*e*PKPdf	PKPdf	05 42 19.5	+1.6
TORD	**Torodi Ar. Bea**	**148.50 285**		PKPbc	PKPbc	05 42 38.6	+0.7
	13nm,0.7s,baz=62,slow=2.3,SNR=92						

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*IDC **11** 05:34:13.0±3.3, 553S×15022E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=112.7km s-min=44.2km az=120.0*
NEIC 11 05:34:10.7±4.6, 557S×15075E, h10km, mb3.8/1, Error ellipse: s-maj=70.3km s-min=46.3km az=85.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22 223**		*e*Pn	Pn	05 35 28.9	+0.1
	30nm,0.6s						
PMG				*e*Sn	Sn	05 36 24.7	-4.4
KAKA	**Kakadu**	**19.41 247**		*e*P	Pn	05 38 37.7	-0.5
	2.6nm,0.5s						
WB2	**Warramunga Arr**	**21.41 227**		*e*P	P	05 38 58.9	+0.2
WRA	**Warramunga Arr**	**21.42 227**		P	P	05 38 59.3	+0.4
	4.7nm,0.7s,baz=51,slow=10,SNR=20						
ASAR	**Alice Springs**	**24.23 220**		P	P	05 39 28.0	+0.4
	0.5nm,0.5s,baz=54,slow=8.8,SNR=6.9						
FITZ	**Fitzroy Crossi**	**27.50 241**		P	P	05 39 57.6	+0.3
	1.3nm,0.4s,baz=66,slow=9.1,SNR=9.2						
TORD	**Torodi Ar. Bea**	**148.58 286**		PKPbc	PKPbc	05 54 01.3	+3.4
	2.2nm,0.6s,baz=67,slow=2.6,SNR=28						

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*IDC **11** 05:34:27.9±2.1, 4731N×15493E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.7/5, Error ellipse: s-maj=63.7km s-min=27.1km az=162.0*
*NEIC **11** 05:34:29.8±1.0, 4738N×15487E, h10km, mb4.4/4, Error ellipse: s-maj=26.9km s-min=13.8km az=140.0*
*ISCJB **11** 05:34:31.2±4.6, 473N±0.1×1549E±02, h33km±33km, mb3.9/9, Error ellipse: s-maj=30.2km s-min=10.4km az=66.5*
*MOS **11** 05:34:31.6±0.5, 4732N×15475E, h39km, mb4.3/6, Error ellipse: s-maj=33.5km s-min=18.9km az=83.3*
ISC 11 05:34:32.1±4.8, 473N±01×1549E±02, h28km±35km, n21, σ0°79/22, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.49**	**13**	*e*PN	**Pn**	**05 35 24.5**	**+0.1**
SKR				*e*S	**Sn**	**05 36 05.5**	**+0.7**
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,50nm,0.5s						
MAJO	**Matsushiro**	**16.38 235**		P	**Pn**	**05 38 19.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MAJO	**Matsushiro**	**16.38 235**		Pn	**Pn**	**05 38 19.4**	**-0.5**
	comp=Z,5.1nm,0.3s						
KSRS	**Korea Array**	**22.11 253**		P	**P**	**05 39 25.9**	**+0.7**
	comp=Z,0.7nm,0.3s,mb3.6,baz=57,slow=11,SNR=4.4						
INK	**Inuvik**	**40.54 33**		P	**P**	**05 42 08.1**	**-0.7**
	comp=Z,0.6nm,0.9s,mb3.2,baz=268,slow=4.4,SNR=3.7						
INK	**Inuvik**	**40.54 33**		P	**P**	**05 42 08.1**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
QIZ	**Qiongzhong**	**46.17 248**		P	**P**	**05 42 56.6**	**+2.4**
	comp=Z,249nm,2.0s						
MKAR	**Makanchi Array**	**47.76 298**		P	**P**	**05 43 06.3**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=70,slow=8.1,SNR=10						
MKAR	**Makanchi Array**	**47.76 298**		P	**P**	**05 43 06.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.76 298**		P	**P**	**05 43 06.3**	**-0.3**
KURK	**Kurchatov**	**48.07 304**		*e*P	**P**	**05 43 08.2**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**48.07 304**		*e*P	**P**	**05 43 08.2**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**51.00 310**		*e*P	**P**	**05 43 30.6**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**51.00 310**		*e*P	**P**	**05 43 30.6**	**-0.8**
	comp=Z,4.5nm,0.6s,mb4.6						
JOF	**Joensuu**	**61.38 334**		*e*p	**P**	**05 44 45.2**	**-0.2**
	comp=Z,0.4nm,0.3s,mb4.0						
KAF	**Kangasniemi**	**63.45 336**		*e*p	**P**	**05 45 05.3**	**+6.0**
	comp=Z,2.8nm,0.8s,mb4.4						
KAF	**Kangasniemi**	**63.45 336**		*e*P	**P**	**05 45 05.3**	**+6.0**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**64.06 335**		P	**P**	**05 45 03.2**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=42,slow=7.8,SNR=7.8						
FINES	**FINESS Array B**	**64.06 335**		P	**P**	**05 45 03.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**64.06 335**		P	**P**	**05 45 03.2**	**-0.1**
TXAR	**Lajitas Array**	**76.17 62**		P	**P**	**05 46 17.7**	**+0.2**
	comp=Z,0.2nm,0.9s,mb3.1,baz=293,slow=2.5,SNR=3.9						

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*NEIC **11** 05:44:29.2, 1939N×6510W, h81km, MD3.5(RSPR), After RSPR.*
RSPR 11 05:44:29.2, 1939N×6510W, h81km±9km, MD3.5/7, MD3.5/7, 8C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.32 213**		⇑*e*P	Pn	05 44 51.3	-0.9
CBYP				*e*S	Sn	05 45 09.6	0.0
MTP	**Monte Pirata**	**1.35 199**		⇑*e*P	Pn	05 44 52.0	-0.6
MTP				*e*S	Sn	05 45 09.9	-0.4
HUMP	**Col San Antoni**	**1.43 210**		⇑*e*P	Pn	05 44 53.2	-0.5
HUMP				*e*S	Sn	05 45 11.7	-0.4
CPD	**Cerro la Pandu**	**1.55 210**		⇑*e*P	Pn	05 44 54.4	-0.8
CPD				*e*S	Sn	05 45 14.8	0.0
SJG	**San Juan**	**1.61 218**		⇑*e*P	Pn	05 44 55.4	-0.6
SJG				*e*S	Sn	05 45 15.8	-0.5
AOPR	**Arecibo Observ**	**1.88 237**		⇑*e*P	Pn	05 44 59.2	-0.3
AOPR				*e*S	Sn	05 45 22.1	-0.4
CELP	**Cerrillos**	**1.92 227**		⇑*e*P	Pn	05 44 59.8	-0.2
CELP				*e*S	Sn	05 45 22.8	-0.6
CRPR	**Cabo Rojo, PR**	**2.35 235**		⇑*e*P	Pn	05 45 05.6	-0.2
CRPR				*e*S	Sn	05 45 33.5	-0.2

GUC 11 06:20:52.3±0.7, 3117S×6927W, h108km±5km, MD3.5, ML3.1, 4C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.63 127**		⇓*i*P	Pn	06 21 10.5	+0.6
ZON				*i* S	Sn	06 21 23.5	+0.4
CMCH	**Combarbala**	**1.49 269**		⇑*i*P	Pn	06 21 19.4	+0.6
CMCH				*i* S	Sn	06 21 39.9	+0.9
CMCH				AML	AML	06 21 41.1	
	comp=N,432nm,0.5s						
PEL	**Peldehue**	**2.31 211**		⇑*i*P	Pn	06 21 29.7	+0.6
PEL				*i* S	Sn	06 21 58.0	+0.7
PEL				AML	AML	06 21 60.0	
	comp=E,80nm,0.3s						
CLCH	**Cerro Calan**	**2.47 206**		⇑*i*P	Pn	06 21 32.1	+0.9
CLCH				*i* S	Sn	06 22 02.2	+1.1
CLCH				AML	AML	06 22 07.3	
	comp=E,62nm,0.4s						
RCDM	**Rinconada Maip**	**2.65 209**		⇑*i*P	Pn	06 21 34.1	+0.5
RCDM				*i* S	Sn	06 22 06.1	+0.7
RCDM				AML	AML	06 22 08.4	
	comp=E,101nm,0.2s						
ANTU	**Antumapu**	**2.66 205**		*i* P	Pn	06 21 34.0	+0.3
ANTU				*i* S	Sn	06 22 06.2	+0.7
ANTU				AML	AML	06 22 08.2	
	comp=E,72nm,0.5s						
TACH	**Talagante**	**2.85 209**		*i* S	Sn	06 22 10.7	+0.6
VACH	**Vallenar**	**2.89 333**		*i* S	Sn	06 22 11.5	+0.5

IDC 11 06:32:10.2±1.2, 034N×12196E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=153.6km s-min=21.5km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**23.15 276**		LR	LR	06 45 59.2	
	comp=Z,26nm,18.8s,baz=34,slow=36						
WRA	**Warramunga Arr**	**23.53 150**		P	P	06 37 22.3	+0.2
	0.7nm,0.5s,baz=326,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**26.54 155**		P	P	06 37 49.8	+0.2
	0.2nm,0.5s,baz=344,slow=14,SNR=5.5						
SONM	**Songino Array**	**49.20 346**		P	P	06 41 00.5	+0.4
	0.2nm,0.4s,baz=166,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**57.78 329**		P	P	06 42 03.1	0.0
	0.5nm,0.3s,baz=128,slow=8.5,SNR=17						

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*CSEM **11** 07:26:19.6±0.8, 3876N×2893W, h1km±9km, ML1.6, Error ellipse: s-maj=11.6km s-min=3.0km az=93.0, After PDA*
*PDA **11** 07:26:19.6±0.8, 3876N×2893W, h1km±9km, MD2.9, ML1.6, Error ellipse: s-maj=11.6km s-min=3.0km az=93.0*
SVSA 11 07:26:19.6±0.8, 3876N×2893W, h1km±9km, MD2.9, ML1.6, Error ellipse: s-maj=11.6km s-min=3.0km az=93.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.21 149**		*e*P	Pg	07 26 23.8	+0.2
PTCA				*e*S	Sg	07 26 26.9	+0.6
PTCA							
	31nm,0.2s						
PTCA	**Ponta do Capel**	**0.21 149**		*e*P	Pg	07 26 23.8	+0.2
PTCA				*e*S	Sg	07 26 26.9	+0.6
PCED	**Cedros**	**0.23 127**		*i* P	Pg	07 26 24.0	+0.1
PCED				*e*S	Sg	07 26 27.5	+0.6
PCED							
	124nm,0.1s						
PCED	**Cedros**	**0.23 127**		*e*S	Sg	07 26 27.5	+0.6
CALA	**Caldeira**	**0.26 135**		*i* P	Pg	07 26 24.4	-0.1
CALA				*e*S	Sg	07 26 28.1	+0.2
CALA	**Caldeira**	**0.26 135**		*e*S	Sg	07 26 28.1	+0.2
HOR	**Horta**	**0.34 135**		*e*P	Pg	07 26 25.6	-0.4
HOR				*e*S	Sg	07 26 30.3	-0.1
PCND	**Candelaria**	**0.47 128**		*e*S	Sg	07 26 34.6	-0.2
PCND							
	11nm,0.2s						
PICO	**Pico**	**0.48 123**		*e*P	Pg	07 26 28.5	-0.2
PICO				*e*S	Sg	07 26 35.0	+0.1
PTEI	**Pico do Teixo**	**0.53 121**		*e*P	Pg	07 26 34.8	+5.1
ROSA	**Rosais**	**0.54 94**		*e*P	Pg	07 26 29.4	-0.6
ROSA				*e*S	Sg	07 26 36.2	-0.8
PBOI	**Pico dos Bois**	**0.55 127**		*e*P	Pg	07 26 34.7	+4.6
PAMA	**Santo Amaro**	**0.59 98**		*e*S	Sg	07 26 38.3	-0.4
PAMA							
	15nm,0.1s						
PMAN	**Manadas**	**0.67 101**		*e*S	Sg	07 26 40.0	-1.2
PMAN							
	9.5nm,0.1s						
PID	**Ribeirinha**	**0.71 116**		*e*S	Sg	07 26 41.0	-1.5

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*SKHL **11** 07:46:37.3±0.2, 4760N×15540E, h37km±6km, mb5.7/4, mbh5.9/1, mbv6.3/1, ms4.3/2, msh5.6/1*
*IDC **11** 07:46:37.4±0.5, 4807N×15450E, h0km, mb4.7/22, mb1 4.9/23, mb1mx4.9/24, mbtmp4.7/23, ML4.2/1, MS4.1/16, Ms1 4.1/16, ms1mx3.9/31, Error ellipse: s-maj=16.3km s-min=13.0km az=145.0*
*BJI **11** 07:46:37.5, 4829N×15486E, h20km, mB5.2, mb4.8, Ms4.5, Msz4.3*
*ISCJB **11** 07:46:37.8±1.2, 4799N±003×15462E±002, h13km±7km, mb5.0/136, MS4.1/26, Error ellipse: s-maj=5.5km s-min=2.6km az=157.0*
*NEIC **11** 07:46:39.1±0.2, 4803N×15452E, h10km, mb5.2/77, Error ellipse: s-maj=5.0km s-min=3.0km az=167.0*
*MOS **11** 07:46:41.2±0.9, 4803N×15458E, h36km, mb5.2/60, Error ellipse: s-maj=7.6km s-min=4.7km az=97.9*
*SZGRF **11** 07:46:44.9, 48.16N×15458E, h33km, mb5.3, Kuril Islands, Russia*
ISC 11 07:46:43.6±0.6, 4813N±003×15455E±003, h39km±4km, h13km±4.4km: pP-P, n562, σ0°76/560, mb5.0/136, MS4.1/25, 101C-61D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.75**	**21**	*e*PN	**Pn**	**07 47 24.1**	**-1.2**
SKR				*i* S	**Sn**	**07 47 59.0**	**+1.7**
SKR				pmax	pmax		
	comp=N,460nm,0.5s						
SKR				pmax	pmax		
	comp=E,770nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,3μm,2.0s						
SKR				pmax	pmax		
	comp=Z,4μm,2.0s						
SKR				smax			
	comp=N,6μm,2.0s						
SKR				smax			
	comp=E,5μm,2.0s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				MLR	MLR		
	comp=N,4μm,14.0s						
SKR				MLR	MLR		
	comp=E,5μm,14.0s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
SKR	**Severo-Kuril's**	**2.75**	**21**	*e*P	**Pn**	**07 47 24.1**	**-1.2**
SKR				AMB	AMB	07 47 30.0	
	comp=Z,1μm,2.0s						
SKR				AMB	AMB	07 47 30.0	
	comp=Z,3μm,2.0s						
SKR				AMB	AMB	07 47 30.0	
	comp=Z,4μm,2.0s						
SKR				AMB	AMB	07 47 30.0	
	comp=Z,460nm,0.5s						
SKR				AMB	AMB	07 47 30.0	
	comp=Z,770nm,0.5s						
SKR				AMB	AMB	07 47 30.0	
	comp=Z,2μm,0.5s						
SKR				*i* S	**Sn**	**07 47 59.0**	**+1.7**
SKR				A		07 48 09.0	
	comp=Z,6μm,2.0s						
SKR				A		07 48 09.0	
	comp=Z,5μm,2.0s						
SKR				A		07 48 12.0	
	comp=Z,3μm,0.5s						
SKR				A		07 48 12.0	
	comp=Z,2μm,0.5s						
SKR				AMS	AMS	07 48 43.0	
	comp=Z,4μm,14.0s						
SKR				AMS	AMS	07 48 43.0	
	comp=Z,5μm,14.0s						
KUR	**Kuril'sk**	**5.43 240**		*e*PN	**Pn**	**07 47 59.9**	**-2.2**
KUR				pmax	pmax		
	comp=N,410nm,1.0s						
KUR				pmax	pmax		
	comp=E,700nm,1.0s						
KUR				pmax	pmax		
	comp=Z,1μm,1.0s						
KUR	**Kuril'sk**	**5.43 240**		*e*P	**Pn**	**07 47 59.9**	**-2.2**
KUR				AMB	AMB	07 48 03.6	
	comp=Z,410nm,1.0s						
KUR				AMB	AMB	07 48 03.6	
	comp=Z,700nm,1.0s						
KUR				AMB	AMB	07 48 03.6	
	comp=Z,1μm,1.0s						
KUR				*i* S	**Sn**	**07 49 02.0**	**-1.4**
KUR				A		07 49 16.5	
	comp=Z,910nm,0.8s						
KUR				A		07 49 16.5	
	comp=Z,2μm,0.8s						
PET	**Petropavlovsk**	**5.55**	**26α**	*i*PN	**Pn**	**07 48 03.5**	**-0.2**
PET				pmax	pmax		
	comp=Z,600nm,3.8s						
PET				pmax	pmax		
	comp=Z,346nm,0.4s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,8.0s						
PET	**Petropavlovsk**	**5.55**	**26**	*e*Pn	**Pn**	**07 48 03.4**	**-0.4**
PET				*e*Sn	**Sn**	**07 49 05.9**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**7.30 239**		*e*P	**Pn**	**07 48 28.6**	**+0.9**
YUK				AMB	AMB	07 48 30.0	
	comp=Z,190nm,0.5s						
YUK				AMB	AMB	07 48 30.0	
	comp=Z,400nm,0.5s						
YUK				*e*S	**Sn**	**07 49 50.0**	**+0.8**
YUK				A		07 50 17.4	
	comp=Z,1μm,0.4s						
YUK				A		07 50 17.4	
	comp=Z,460nm,0.4s						
YUK				A		07 50 32.0	
	comp=Z,6μm,1.0s						
YUK				A		07 50 32.0	
	comp=Z,3μm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.07 266**		*e*Pn	**Pn**	**07 48 41.6**	**+3.3**
YSS	**Yuzh-Sakhalins**	**8.07 266**		*i* P	**Pn**	**07 48 41.8**	**+3.5**
YSS				AMB	AMB	07 48 44.2	
	comp=Z,70nm,0.8s						
YSS				*e*S	**Sn**	**07 50 10.5**	**+2.3**
YSS				A		07 50 14.0	
	comp=Z,60nm,0.6s						
YSS				AMS	AMS	07 51 10.0	
	comp=Z,500nm,16.0s						
OKH	**Okha**	**9.13 311**		*e*P	**Pn**	**07 48 54.0**	**+1.1**
OKH				AMS	AMS	07 53 54.0	
	comp=Z,1μm,10.0s						
OKH				AMS	AMS	07 53 54.0	
	comp=Z,1μm,10.0s						
ASAJ	**Asahikawa**	**9.22 249**		Pn	**Pn**	**07 48 57.5**	**+3.5**
	comp=Z,4.7nm,0.3s,baz=76,slow=15,SNR=21						
ASAJ				LR	LR	07 52 14.0	
	comp=Z,684nm,20.7s,baz=255,slow=37						
ASAJ	**Asahikawa**	**9.22 249**		PN	**Pn**	**07 48 57.5**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	

MAJO Matsushiro 16.70 232 *e*P **Pn 07 50 30.8 -3.8**
comp=Z,25nm,0.6s
MAT Matsushiro 16.70 232 P **Pn 07 50 30.7 -3.9**
MJAR Matsushiro Arr 16.70 232 Pn **Pn 07 50 30.6 -4.0**
comp=Z,0.9nm,0.3s,baz=26,slow=13,SNR=23
MJAR Matsushiro Arr 16.70 232 P **Pn 07 50 30.6 -4.0**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MDJ Mudanjiang 17.55 268 P **Pn 07 50 42.7 -2.6**
MDJ AP pP 07 50 46.7 -9.0
MDJ S **S 07 53 57.0 -9.3**
MDJ AMB AMB
comp=Z,174nm,5.7s
MDJ LR LR
comp=Z,237nm,23.3s
YAK Yakutsk 19.73 324 *e*P **Pn 07 51 13.1 +1.5**
YAK pmax pmax
comp=Z,83nm,0.8s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,33nm,0.9s
YAK MLR MLR
comp=N,219nm,10.0s
YAK MLR MLR
comp=Z,237nm,10.0s
YAK MLR MLR
comp=E,219nm,14.0s
YAK Yakutsk 19.73 324 *e*P **Pn 07 51 10.8 -0.8**
comp=E,114nm,0.7s
CLNS Chul'man 19.92 307 *e*P **Pn 07 51 15.1 +1.3**
CLNS *e*S **S 07 54 45.2 -8.7**
CLNS pmax pmax
comp=N,44nm,1.1s
CLNS pmax pmax
comp=Z,138nm,1.1s
CLNS pmax pmax
comp=E,72nm,1.0s
CLNS smax
comp=N,114nm,15.7s
CLNS smax
comp=Z,54nm,12.5s
CLNS smax
comp=E,1µm,13.3s
CLNS MLR MLR
comp=Z,300nm,12.0s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,2µm,13.0s
NRGR Nerungri 19.97 306 *i*P **Pn 07 51 16.4 +2.0**
NRGR S **S 07 54 51.7 -3.3**
NRGR smax
comp=E,59nm,0.5s
CN2 Changchun 20.63 269 *e*P **P 07 51 16.9 -2.7**
CN2 AMB AMB
comp=Z,30nm,0.8s
BILL Bilibino 20.83 12⇓*e*P **P 07 51 19.7 -2.2**
BILL *e* 07 51 30.5
BILL *e* 07 51 39.2
BILL pmax pmax
comp=Z,21nm,1.0s
BILL MLR MLR
comp=Z,300nm,14.0s,MS3.8
BILL Bilibino 20.83 12 *e*P **P 07 51 19.6 -2.3**
comp=Z,16nm,0.8s
KSRS Korea Array 22.16 251 P **P 07 51 36.0 0.0**
comp=Z,32nm,0.9s,mb4.7,baz=52,slow=10,SNR=48
SNY Shenyang 22.70 265 ⇓P **P 07 51 42.3 +0.5**
SNY AMB AMB
comp=Z,20nm,0.7s,mb4.7
SNY AMB AMB
comp=Z,242nm,6.2s
SNY LR LR
comp=E,531nm,13.4s
SNY LR LR
comp=Z,360nm,16.3s,MS3.9
HIA Hailar 22.89 286 *e*P **P 07 51 44.1 +0.3**
HIA pmax pmax
comp=Z,9.0nm,0.5s
HIA Hailar 22.89 286 *e*P **P 07 51 44.1 +0.2**
comp=Z,9.4nm,0.5s,mb4.5
JNU Nakatsue 23.27 239 P **P 07 51 49.5 +1.7**
comp=Z,20nm,0.8s,mb4.6,baz=247,slow=20,SNR=5.4
JNU LR LR 08 01 34.9
comp=Z,524nm,19.8s,MS4.0,baz=94,slow=39
BOD Bodaibo 25.90 307 *e*P **P 07 52 10.5 -1.4**
BOD *e* 07 52 25.2
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
TIXI Tiksi 26.44 342 *e*P **P 07 52 11.7 -5.1**
TIXI pmax pmax
comp=Z,6.0nm,1.2s,mb4.0
TIXI MLR MLR
comp=Z,317nm,12.0s,MS4.1
TIXI Tiksi 26.44 342 *e*P **P 07 52 15.9 -0.8**
comp=Z,4.6nm,0.6s,mb4.2
BJI Beijing 28.49 268 P **P 07 52 34.3 -0.8**
BJI AMB AMB
comp=Z,5.0nm,0.5s,mb4.4
BJI AMB AMB
comp=Z,289nm,6.8s
BJI LR LR
comp=N,502nm,17.7s,MS4.2
BJI LR LR
comp=E,300nm,17.6s,MS4.2
BJI LR LR
comp=Z,247nm,24.4s
SVW2 Sparrevohn 30.83 46 *e*P **P 07 52 56.4 +0.6**
HHC Hu-ho-hao-te 31.19 273 *e*P **P 07 52 59.1 +0.1**
HHC XP sP 07 53 05.5 -9.0
HHC PP PP 07 54 01.4 -8.4
HHC PCP PcP 07 55 55.2 +2.0
HHC S **S 07 58 04.0 +1.6**
HHC SS SS 07 59 51.9 -25
HHC AMB AMB
comp=Z,14nm,0.7s,mb4.9
HHC AMB AMB
comp=Z,346nm,7.0s
HHC LR LR
comp=N,424nm,16.7s,MS4.3
HHC LR LR
comp=E,413nm,17.8s,MS4.3
HHC LR LR
comp=Z,260nm,17.2s,MS4.0
ULN Ulaanbaatar 31.39 288 *e*P **P 07 53 03.3 +2.5**
ULN Ulaanbaatar 31.39 288 *e*P **P 07 53 01.6 +0.8**
comp=Z,3.4nm,0.6s,mb4.3
SONM Songino Array 31.82 288 P **P 07 53 03.8 -0.7**
comp=Z,1.8nm,0.6s,mb4.1,baz=64,slow=8.3,SNR=15
SONM PcP PcP 07 55 54.3 -0.6
comp=Z,1.5nm,0.9s,baz=81,slow=3.5,SNR=5.0
SONM LR LR 08 06 45.4
comp=Z,291nm,19.9s,MS4.0,baz=41,slow=38
SONM Songino Array 31.82 288 P **P 07 53 03.8 -0.8**
SONM 07 55 54.3
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM MLR MLR
comp=Z,291nm,19.9s
IMA2 Indian Mountai 32.12 37 *e*P **P 07 53 07.1 -0.1**
TLY Talaya 32.44 296 *e*P **P 07 53 09.4 -0.6**
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,285nm,21.0s,MS3.9
TLY Talaya 32.44 296 *e*P **P 07 53 09.8 -0.2**
comp=Z,10nm,0.8s,mb4.7
ZAK Zakamensk 33.00 294 *e*P **P 07 53 15.0 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PMR Palmer 33.93 45 *e*P **P 07 53 22.2 -0.8**
PMR pmax pmax
comp=Z,18nm,1.2s,mb4.9
PMR Palmer 33.93 45 *e*P **P 07 53 22.2 -0.8**
comp=Z,18nm,1.2s,mb4.9
MCK McKinley 33.97 42 *e*P **P 07 53 23.1 -0.2**
MCK pmax pmax
comp=Z,13nm,1.1s,mb4.8
MCK McKinley 33.97 42 *e*P **P 07 53 23.1 -0.2**
comp=Z,14nm,1.1s,mb4.8
MCK *e*PcP PcP 07 55 59.5 -1.3
SML Sawmill 34.30 45 *e*P **P 07 53 25.8 -0.4**
COLA College 34.45 40⇑*i*P **P 07 53 27.3 -0.2**
COLA College 34.45 40 *e*P **P 07 53 27.2 -0.4**
comp=Z,43nm,1.1s,mb5.3

WHN Wuhan 35.23 255 P **P 07 53 33.6 -0.6**
XAN Xi'an 36.61 264 P **P 07 53 45.0 -1.1**
XAN AP pP 07 53 52.3 -4.7
XAN AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
EGAK Eagle 37.31 40 *e*P **P 07 53 51.0 -1.0**
comp=Z,26nm,0.9s,mb5.0
DAWY Dawson 38.16 41 *e*P **P 07 53 59.5 +0.3**
GTA Gaotai 39.73 278 P **P 07 54 12.4 +0.1**
GTA AP pP 07 54 16.6 -6.7
GTA XP sP 07 54 18.9 -9.0
GTA PP PP 07 55 48.7 +4.7
GTA PPP 07 56 13.4
GTA PCP PcP 07 56 19.2 +0.9
GTA S **S 08 00 15.9 +2.5**
GTA SS SS 08 03 04.8 -5.2
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,331nm,6.8s
GTA LR LR
comp=N,260nm,18.2s,MS4.3
GTA LR LR
comp=E,382nm,20.5s,MS4.3
GTA LR LR
comp=Z,369nm,17.5s,MS4.3
INK Inuvik 39.97 33 P **P 07 54 14.6 +0.4**
comp=Z,6.1nm,0.4s,mb4.7,baz=291,slow=6.2,SNR=112
INK Inuvik 39.97 33 *e*P **P 07 54 14.7 +0.4**
INK Inuvik 39.97 33 *e*P **P 07 54 14.6 +0.3**
comp=Z,216nm,0.4s
CD2 Chengdu 41.97 265 P **P 07 54 30.8 0.0**
CD2 AP pP 07 54 35.1 -6.8
CD2 XP sP 07 54 37.8 -8.7
CD2 PP PP 07 56 09.7 +1.4
CD2 S **S 08 00 48.9 +2.1**
CD2 SS SS 08 03 51.9 -2.6
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.0
CD2 AMB AMB
comp=Z,180nm,5.3s
CD2 LR LR
comp=N,550nm,6.1s
CD2 LR LR
comp=E,390nm,9.6s
CD2 LR LR
comp=Z,350nm,7.7s
ZAL Zalesovo 42.63 305 P **P 07 54 35.2 -0.9**
comp=Z,4.4nm,0.4s,mb4.5,baz=86,slow=5.7,SNR=6.5
ZAL PcP PcP 07 56 27.0 -0.7
comp=Z,3.4nm,0.8s,baz=19,slow=2.7,SNR=6.6
ZAL LR LR 08 13 59.2
comp=Z,233nm,21.2s,MS4.0,baz=81,slow=38
ZAL Zalesovo 42.63 305 *i*P **P 07 54 36.0 -0.1**
ZAL pmax pmax
comp=Z,4.0nm,0.4s
ZAL Zalesovo 42.63 305 P **P 07 54 35.2 -0.9**
ZAL PcP PcP 07 56 27.0 -0.7
ZAL LR LR 08 13 59.2
GYA Guiyang 42.97 257⇑*i*P **P 07 54 38.6 -0.3**
GYA AP pP 07 54 42.8 -7.2
GYA XP sP 07 54 46.0 -8.6
GYA PP PP 07 56 21.2 +2.2
GYA PCP PcP 07 56 30.0 +1.2
GYA SCP ScP 08 00 20.5 +3.7
GYA S **S 08 01 03.6 +2.2**
GYA SCS ScS 08 04 38.0 +1.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,480nm,15.8s,MS4.7
GYA LR LR
comp=E,510nm,16.0s,MS4.7
GYA LR LR
comp=Z,470nm,16.2s,MS4.5
NVS Novosibirsk 43.14 307 *e*P **P 07 54 39.8 -0.4**
DLBC Dease Lake 43.94 47 *e*P **P 07 54 47.9 +1.2**
WMQ Urumqi 45.35 291 *e*P **P 07 54 57.7 -0.2**
WMQ PP PP 07 56 44.4 0.0
WMQ PPP 07 57 26.4
WMQ *e*S **S 08 01 37.4 +1.4**
WMQ SCS ScS 08 04 51.3 0.0
WMQ SS SS 08 04 52.6 -7.3
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,515nm,6.0s
WMQ LR LR
comp=N,237nm,20.0s,MS4.2
WMQ LR LR
comp=E,150nm,18.0s,MS4.2
WMQ LR LR
comp=Z,155nm,18.0s,MS4.0
KMI Kunming 46.46 259 P **P 07 55 06.3 -0.4**
KMI AP pP 07 55 11.0 -6.8
KMI XP sP 07 55 13.0 -9.4
KMI PP PP 07 56 55.6 -0.5
KMI AMB AMB
comp=Z,15nm,1.0s,mb4.9
KMI LR LR
comp=Z,72nm,25.1s,MS3.5
KMI Kunming 46.46 259 P **P 07 55 06.3 -0.4**
KMI pP pP 07 55 11.0 -6.8
KMI sP sP 07 55 13.0 -9.4
KMI PP PP 07 56 55.6 -0.5
MK31 Makanchi Array 47.18 297 *i*P **P 07 55 11.3 -1.1**
MK31 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
MKAR Makanchi Array 47.18 297 P **P 07 55 11.5 -0.8**
comp=Z,8.5nm,0.6s,mb4.9,baz=70,slow=7.4,SNR=43
MKAR LR LR 08 16 40.5
comp=Z,301nm,19.1s,MS4.3,baz=146,slow=38
MKAR Makanchi Array 47.18 297 P **P 07 55 11.5 -0.9**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR MLR MLR
comp=Z,301nm,19.1s
MKAR Makanchi Array 47.18 297 P **P 07 55 11.5 -0.8**
MKAR LR LR 08 16 40.5
KURK Kurchatov 47.42 303 P **P 07 55 13.0 -1.2**
comp=Z,159nm,0.6s,mb6.1,SNR=16
KURK Kurchatov 47.42 303 *e*P **P 07 55 13.1 -1.1**
KURK *e* 07 56 43.5
KURK pmax pmax
comp=Z,16nm,0.7s,mb5.1
KURK Kurchatov 47.42 303 *e*P **P 07 55 13.1 -1.2**
comp=Z,16nm,0.7s,mb5.1
KURK *e*PcP PcP 07 56 43.5 -0.7
ALE Alert 48.27 6 P **P 07 55 20.0 -0.8**
comp=Z,140nm,0.6s,SNR=10
YKW3 Yellowknife Ar 49.20 38 *e*P **P 07 55 27.5 -0.4**
RES Resolute Bay 49.22 19 *e*P **P 07 55 28.1 +0.1**
comp=Z,1µm,0.9s
YKA Yellowknife Ar 49.24 38 P **P 07 55 28.0 -0.2**
comp=Z,5.9nm,0.7s,mb4.7,baz=295,slow=7.1,SNR=59
YKA PcP PcP 07 56 50.1 -0.7
comp=Z,1.1nm,0.4s,baz=304,slow=3.7,SNR=12
YKA LR LR 08 19 52.1
comp=Z,163nm,18.9s,MS4.0,baz=350,slow=40
YKA Yellowknife Ar 49.24 38 P **P 07 55 28.0 -0.2**
YKA 07 56 50.1
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA MLR MLR
comp=Z,163nm,18.9s
CHKZ Chkalovo 50.30 310 *e*P **P 07 55 34.9 -1.4**
CHKZ *e* 07 56 53.6
CHKZ pmax pmax
comp=Z,44nm,0.4s,mb5.8
CHKZ Chkalovo 50.30 310 *e*P **P 07 55 34.9 -1.4**
comp=Z,44nm,0.4s,mb5.8
CHKZ *e*PcP PcP 07 56 53.6 -1.1
BVA0 Borovoye Array 50.74 309 *i*P **P 07 55 38.8 -0.8**
BRVK Borovoye 50.78 309 P **P 07 55 39.9 0.0**
comp=Z,258nm,0.4s,SNR=23
BRVK Borovoye 50.78 309 *e*P **P 07 55 39.2 -0.7**
BRVK pmax pmax
comp=Z,19nm,0.4s,mb5.4
BRVK Borovoye 50.78 309 *e*P **P 07 55 39.2 -0.7**
comp=Z,19nm,0.4s,mb5.4
BRVK *e*PcP PcP 07 56 56.1 -0.4
LSA Lhasa 51.18 273 P **P 07 55 45.3 +2.4**
LSA Lhasa 51.18 273 *e*P **P 07 55 44.4 +1.5**

LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.18 273 *e*P **P 07 55 44.4 +1.6**
comp=Z,8.5nm,0.6s,mb4.8
NANT Nan 52.25 255 ⇓P **P 07 55 49.0 -1.9**
comp=Z,88nm,0.7s,mb5.8
D04A Dobbs Creek Ra 53.07 58 ⇑P **P 07 55 57.8 +0.8**
baz=53
A07A Ashnola River, 53.34 55 ⇑P **P 07 55 58.8 -0.1**
baz=53
C05A Tolt Reservoir 53.38 57 ⇑P **P 07 55 59.1 -0.1**
baz=53
CHG Chiang Mai 53.39 257 ⇑P **P 07 55 59.8 +0.5**
comp=Z,21nm,0.9s,mb5.1
CHTO Chiang Mai 53.39 257 *e*P **P 07 55 59.7 +0.4**
CHTO pmax pmax
comp=Z,11nm,0.6s,mb5.0
CHTO Chiang Mai 53.39 257 *e*P **P 07 55 59.6 +0.4**
comp=Z,11nm,0.6s,mb5.0
F04A Amboy 53.95 59 ⇑P **P 07 56 02.8 -0.7**
baz=54
A08A Turner Farm, O 54.00 54 P **P 07 56 03.8 0.0**
baz=54,SNR=5.5
AAK Ala-Archa 54.10 296 P **P 07 56 03.2 -1.3**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AAK Ala-Archa 54.10 296 *e*P **P 07 56 02.9 -1.6**
comp=Z,3.1nm,0.6s,mb4.4
D06A Cle Elum 54.13 57 ⇑P **P 07 56 03.7 -1.0**
baz=54
C07A Waterville 54.29 56 ⇑P **P 07 56 04.2 -1.6**
baz=54
B08A Colville Reser 54.31 55 P **P 07 56 05.6 -0.4**
baz=54,SNR=5.1
A09A Danville 54.37 54 P **P 07 56 06.2 -0.2**
baz=54,SNR=12
E06A Yakima 54.43 58 ⇑P **P 07 56 07.1 +0.2**
baz=54
D07A Quincy 54.62 56 ⇓P **P 07 56 07.0 -1.3**
baz=54
ARU Arti 54.66 317⇓*i*P **P 07 56 06.9 -1.7**
ARU *e* 07 57 08.7
ARU *e*S **S 08 03 44.3 -1.5**
ARU *e*SS SS 08 07 23.9 -5.0
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.1
ARU Arti 54.66 317 *e*P **P 07 56 06.6 -2.0**
comp=Z,19nm,0.6s,mb5.3
EDM Edmonton 54.66 47 *e*P **P 07 56 07.7 -0.9**
J02A Umpqua 54.76 62 ⇑P **P 07 56 09.3 0.0**
baz=55
C08A Higginbotham F 54.79 55 P **P 07 56 09.2 -0.4**
baz=55,SNR=5.5
B09A Rice 54.92 54 ⇑P **P 07 56 08.5 -1.9**
baz=55
F06A Goldendale 54.99 58 ⇑P **P 07 56 10.0 -1.0**
baz=55
E07A Sunnyside 55.05 57 ⇓P **P 07 56 10.7 -0.7**
baz=55
C09A Chrisman Ranch 55.21 55 ⇓P **P 07 56 12.1 -0.4**
baz=55
D08A Wollman Farm, 55.28 56 ⇓P **P 07 56 12.1 -1.0**
baz=55
F07A Phinny Hill Vi 55.40 58 ⇓P **P 07 56 13.8 -0.1**
baz=55
E08A Dider Farm, El 55.54 57 ⇑P **P 07 56 13.9 -1.0**
baz=55
NEW Newport 55.57 54 *e*P **P 07 56 13.8 -1.3**
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 55.57 54 *e*P **P 07 56 13.8 -1.3**
comp=Z,8.7nm,1.1s,mb4.7
A11A Hall Mountain, 55.57 53 ⇓P **P 07 56 15.0 -0.2**
baz=55
D09A Jones Farm, Ri 55.62 56 ⇑P **P 07 56 15.4 -0.1**
baz=56
I05A Bend 55.65 60 ⇑P **P 07 56 15.9 +0.3**
baz=56
C10A Spilker Farm, 55.73 55 ⇑P **P 07 56 15.8 -0.4**
baz=56
JIRN Jiri 55.81 275 *e*P **P 07 56 18.1 +1.2**
comp=Z,4.4nm,0.2s,mb5.1
H06A Lindquist Farm 55.85 59 ⇓P **P 07 56 16.8 -0.4**
baz=56
B11A Sandpoint 55.88 54 ⇓P **P 07 56 17.2 -0.1**
baz=56
A12A Yaak River Ran 55.97 53 ⇑P **P 07 56 17.2 -0.7**
baz=56
E09A Wood Farm, Sta 56.03 56 P **P 07 56 18.4 -0.1**
baz=56,SNR=5.0
F08A Pendleton 56.10 57 ⇑P **P 07 56 18.9 -0.1**
baz=56
J05A Fort Rock 56.19 61 ⇓P **P 07 56 20.1 +0.6**
baz=56
D10A Wagner Farm, O 56.20 55 P **P 07 56 18.9 -0.8**
baz=56,SNR=5.7
YBH Yreka Blue Hor 56.24 63 ⇑P **P 07 56 20.9 +0.9**
baz=56
G08A Pilot Rock 56.30 58 ⇓P **P 07 56 19.4 -1.0**
baz=56
KKN Kakani 56.33 275 *e*P **P 07 56 21.2 +0.6**
comp=Z,18nm,0.5s,mb5.3
M02C Callahan 56.36 64 ⇓P **P 07 56 22.0 +1.2**
baz=56
KEV Kevo 56.37 341 *e*p **P 07 56 19.7 -1.2**
comp=Z,0.9nm,0.4s,mb4.2
KEV Kevo 56.37 341 *e*P **P 07 56 19.7 -1.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
I06A Prineville 56.39 60 ⇑P **P 07 56 21.2 +0.3**
baz=56
PKI Pulchoki 56.39 275 *e*P **P 07 56 22.5 +1.5**
L04A Klamath Falls 56.46 62 ⇓P **P 07 56 21.5 0.0**
baz=56
DMN Daman 56.57 275 *e*P **P 07 56 23.2 +0.9**
comp=Z,49nm,0.8s,mb5.6
GKN Gorkha 56.62 276 *e*P **P 07 56 23.3 +0.7**
comp=Z,34nm,0.6s,mb5.5
A13A Flathead Natio 56.62 52 P **P 07 56 22.8 +0.1**
baz=56,SNR=9.5
E10A Myers Farm, Un 56.63 56 ⇑P **P 07 56 22.0 -0.7**
baz=56
F09A S2 Ranch, Elgi 56.65 57 ⇑P **P 07 56 23.6 +0.8**
baz=56
I07A Izee 56.71 59 ⇑P **P 07 56 23.3 0.0**
baz=57
D11A Klaveano Farm, 56.72 55 P **P 07 56 22.6 -0.7**
baz=57,SNR=5.9
K05A Summer Lake 56.72 61 ⇑P **P 07 56 24.2 +0.9**
baz=57
M04C Macdoel 56.73 63 ⇓P **P 07 56 23.7 +0.3**
baz=57
WALA Waterton Lakes 56.81 52 *e*P **P 07 56 23.7 -0.3**
comp=Z,28nm,1.1s,mb5.2
J06A Christmas Vall 56.84 60 P **P 07 56 24.9 +0.7**
baz=57,SNR=6.2
F10A Beach Ranch, E 56.87 56 ⇓P **P 07 56 23.7 -0.7**
baz=57
M03C McCloud 56.87 63 ⇑P **P 07 56 24.7 +0.3**
baz=57
ARCES ARCESS Array B 56.87 341 P **P 07 56 22.3 -2.1**
comp=Z,2.0nm,0.5s,mb4.4,baz=39,slow=7.9,SNR=18
ARCES LR LR 08 26 47.0
comp=Z,349nm,18.6s,MS4.5,baz=206,slow=42
ARCES ARCESS Array B 56.87 341 P **P 07 56 22.3 -2.2**
ARCES LR LR 08 26 47.0
H08A Prairie City 56.93 58 ⇑P **P 07 56 24.2 -0.6**
baz=57
G09A Cove 56.98 57 ⇓P **P 07 56 25.1 -0.1**
baz=57
WDC Whiskeytown Da 57.04 64 ⇓P **P 07 56 26.3 +0.7**
baz=57
K06A Valley Falls 57.05 61 P **P 07 56 26.7 +1.0**
baz=57,SNR=8.8
BSMT Bassoo Peak 57.08 53 *e*P **P 07 56 26.4 +0.6**
E11A Bogner Ranch, 57.20 55 ⇑P **P 07 56 26.1 -0.7**
baz=57
C13A Hot Springs 57.29 53 ⇑P **P 07 56 27.6 +0.2**
baz=57
I08A Drewsey 57.35 59 P **P 07 56 28.4 +0.6**
baz=57,SNR=7.5
M05C Lookout 57.40 63 ⇓P **P 07 56 28.5 +0.3**
baz=57
H09A Durkee 57.41 58 P **P 07 56 28.9 +0.6**
baz=57,SNR=6.0
KOLN Koldanda 57.47 277 *e*P **P 07 56 29.3 +0.7**
comp=Z,14nm,0.5s,mb5.2
GASB Alder Springs 57.50 65 ⇓P **P 07 56 29.2 +0.4**

baz=57
BMO Blue Mountains 57.50 57 eP P 07 56 28.9 +0.1
HNR Honiara 57.50 174 LR LR 08 17 11.2
comp=Z,111nm,19.3s,MS4.0,baz=0,0,slow=32
F11A Grangeville 57.52 56 ⇑P P 07 56 28.0 -1.0
baz=57
HATC Hat Creek Radi 57.54 63 ⇑P P 07 56 28.6 -0.5
baz=57
MOD Modoc 57.57 62 P P 07 56 30.0 +0.7
baz=57,SNR=5.1
PMG Port Moresby 57.65 189 LR LR 08 17 00.2
comp=Z,116nm,19.9s,MS4.0,baz=244,slow=32
C14A Swan Lake 57.68 53 ⇓P P 07 56 30.3 +0.2
baz=58
K07A Rock Creek Ran 57.70 60 ⇓P P 07 56 30.9 +0.6
baz=58
D13A Huson 57.71 54 ⇑P P 07 56 29.9 -0.4
baz=58
J08A Circle Bar Ran 57.75 59 ⇓P P 07 56 30.9 +0.3
baz=58
G11A Walters Elk Ra 57.75 56 P P 07 56 30.8 +0.1
baz=58,SNR=5.3
I09A Lost Marbles R 57.79 58 P P 07 56 31.3 +0.4
baz=58,SNR=5.8
M06C Likely Place G 57.89 63 ⇓P P 07 56 31.4 -0.3
baz=58
H10A Noah's Angus R 57.98 57 P P 07 56 32.2 0.0
baz=58,SNR=10
L07A Adell 58.06 61 ⇑P P 07 56 33.1 +0.3
baz=58
O04C Chester 58.08 64 ⇓P P 07 56 33.0 +0.1
baz=58
F12A Elk City 58.09 56 ⇓P P 07 56 33.3 +0.2
baz=58
K08A Mann Creek Ran 58.12 60 P P 07 56 34.1 +0.9
baz=58,SNR=5.3
MSO Missoula 58.15 54 eP P 07 56 33.5 0.0
J09A Fry Pan Ranch, 58.17 59 P P 07 56 35.0 +1.5
baz=58,SNR=6.7
D14A Greenough 58.23 53 P P 07 56 34.0 0.0
baz=58,SNR=15
E13A Victor 58.26 54 P P 07 56 34.6 +0.4
baz=58,SNR=6.0
AB31 Akbulak array 58.30 310 i P P 07 56 33.4 -1.0
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ORV Oroville 58.30 65 ⇑P P 07 56 33.4 -1.1
baz=58
H11A Donnelly 58.32 57 P P 07 56 34.7 +0.1
baz=58,SNR=24
O05C Quincy 58.40 64 ⇓P P 07 56 34.6 -0.5
baz=58
OHCM Honcut 58.45 65 eP P 07 56 34.9 -0.6
L08A Fields 58.54 60 ⇑P P 07 56 36.2 0.0
baz=58
M07A Soldier Meadow 58.55 62 P P 07 56 37.1 +0.9
baz=58,SNR=9.6
N06A Buffalo Meadow 58.56 63 P P 07 56 36.8 +0.5
baz=58,SNR=5.3
Q03C Winters 58.56 66 ⇑P P 07 56 35.8 -0.5
baz=58
F13A Darby 58.58 55 P P 07 56 36.5 +0.1
baz=58,SNR=7.6
K09A Rome 58.58 60 ⇑P P 07 56 36.5 0.0
baz=58
E14A Clinton 58.65 54 P P 07 56 37.0 +0.1
baz=58,SNR=9.8
J10A Berg Farm, Mel 58.68 58 ⇓P P 07 56 36.8 -0.3
baz=58
D15A Lincoln 58.79 53 P P 07 56 38.3 +0.4
baz=59,SNR=5.6
BEKR Beckwourth 58.79 64 P P 07 56 38.1 +0.2
baz=59,SNR=7.0
I11A Placerville 58.84 58 P P 07 56 38.5 +0.2
baz=59,SNR=5.7
O06A Flanigan 58.92 63 ⇑P P 07 56 38.3 -0.5
baz=59
M08A Happy Creek Ra 58.98 61 ⇑P P 07 56 38.7 -0.6
baz=59
L09A Wilkinson Ranc 59.04 60 ⇑P P 07 56 39.9 +0.3
baz=59
N07B Gerlach 59.05 62 ⇓P P 07 56 39.7 +0.1
baz=59
FFC Flin Flon 59.06 41 P P 07 56 39.7 0.0
comp=Z,112nm,0.8s,mb6.0,SNR=6.1
H12A Diamond D Ranc 59.06 56 P P 07 56 39.7 -0.1
baz=59,SNR=6.3
G13A Cobalt 59.07 56 P P 07 56 39.8 -0.1
baz=59,SNR=17
F14A Wisdom 59.10 55 P P 07 56 40.4 +0.4
baz=59,SNR=5.4
E15A Deer Lodge 59.11 54 P P 07 56 40.1 +0.1
baz=59,SNR=8.0
P06A Stead Airport, 59.19 64 ⇑P P 07 56 40.4 -0.2
baz=59
MFID Camas Ranch 59.23 58 ⇓P P 07 56 40.3 -0.6
baz=59
LAVA Lava Cap Winer 59.26 65 P P 07 56 40.8 -0.4
baz=59,SNR=5.5
O07A Toulon 59.49 63 P P 07 56 43.5 +0.7
baz=59,SNR=6.5
WCN Washoe City 59.51 64 ⇑P P 07 56 43.0 +0.1
baz=59
M09A Marrel Ranch, 59.54 61 ⇑P P 07 56 43.1 0.0
baz=59
N08A GE Springer Mi 59.54 62 P P 07 56 43.6 +0.6
baz=59,SNR=6.5
F15A Butte 59.55 54 P P 07 56 43.4 +0.2
baz=59,SNR=13
LRM Limekiln Ridge 59.59 54 eP P 07 56 43.9 +0.5
EGMT Eagleton 59.63 51 ⇑P P 07 56 44.1 +0.5
baz=60
R05C Kirkwood Meado 59.70 65 ⇑P P 07 56 42.8 -1.4
baz=60
J12A Stokes Ranch, 59.74 58 ⇑P P 07 56 44.8 +0.3
baz=60
N09A Rock Creek Ran 59.86 61 ⇓P P 07 56 45.9 +0.7
baz=60
CMB Columbia Colle 59.93 65 eP P 07 56 45.7 -0.1
CMB pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
CMB Columbia Colle 59.93 65 eP P 07 56 45.7 -0.1
comp=Z,7.4nm,1.1s,mb4.6
CMB Columbia Colle 59.93 65 ⇓P P 07 56 45.0 -0.7
baz=60
HLID Hailey 59.93 57 eP P 07 56 46.0 +0.3
comp=Z,8.0nm,1.1s,mb4.7
HLID Hailey 59.93 57 ⇑P P 07 56 45.8 0.0
baz=60
G15A Dillon 59.98 55 P P 07 56 46.3 +0.2
baz=60,SNR=11
MCMT McKenzie Canyo 60.00 55 eP P 07 56 46.3 +0.1
M10A I.L. Ranch, Tu 60.01 60 P P 07 56 47.4 +1.1
baz=60,SNR=8.5
BOZ Bozeman (W) 60.15 54 P P 07 56 47.6 +0.4
BOZ pmax pmax
comp=Z,20nm,1.0s,mb5.1
BOZ Bozeman (W) 60.15 54 eP P 07 56 47.9 +0.6
comp=Z,20nm,1.1s,mb5.1
BOZ Bozeman (W) 60.15 54 ⇓P P 07 56 47.5 +0.2
baz=60
J13A Cove Ranch, Pi 60.17 57 ⇑P P 07 56 47.4 0.0
baz=60
R06C Coleville 60.19 64 P P 07 56 48.2 +0.7
baz=60,SNR=6.8
S06C San Francisco 60.35 65 ⇑P P 07 56 48.2 -0.4
baz=60
S05C Merced 60.40 66 ⇑P P 07 56 48.6 -0.4
baz=60
O09A Fish Creek Ran 60.49 62 P P 07 56 50.2 +0.6
baz=60,SNR=7.5
M11A Holland Ranch, 60.50 60 P P 07 56 50.6 +1.0
baz=60,SNR=7.7
JOF Joensuu 60.53 334 ep P 07 56 47.8 -2.1
comp=Z,2.9nm,0.4s,mb4.8
JOF Joensuu 60.53 334 eP P 07 56 47.8 -2.1
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
R07C Lee Vining 60.71 65 ⇑P P 07 56 50.9 -0.1
baz=61
U04C Hernandez Rese 60.76 67 ⇑P P 07 56 51.6 +0.2
baz=61
QLMT Earthquake Lak 60.78 54 eP P 07 56 52.5 +1.0
O10A Cortez Mining, 60.82 61 ⇓P P 07 56 52.2 +0.4
baz=61
Q08A Gabbs 60.88 63 P P 07 56 52.5 +0.3
baz=61,SNR=9.4
P09A Austin 60.91 62 ⇓P P 07 56 52.9 +0.4
baz=61
NVAR Mina Array Bea 60.94 64 P P 07 56 52.4 -0.2
comp=Z,6.0nm,1.0s,mb4.7,baz=298,slow=7.8,SNR=17
NVAR Mina Array Bea 60.94 64 P P 07 56 52.4 -0.2
T06C Millerton Lake 61.00 66 ⇑P P 07 56 52.1 -1.0
baz=61
M12A Wells 61.02 59 P P 07 56 54.0 +0.8
baz=61,SNR=8.3
KCC Kaiser Creek 61.04 65 ⇑P P 07 56 53.2 -0.1
baz=61
R08A Mina 61.11 64 ⇑P P 07 56 54.2 +0.4
baz=61
MLAC Mammoth Lakes 61.13 65 ⇓P P 07 56 54.7 +0.8
baz=61
YNR Norris Junctio 61.26 54 eP P 07 56 57.1 +2.3
P10A Eureka 61.27 62 ⇑P P 07 56 54.7 -0.2
baz=61
N12A Clover Valley, 61.31 60 P P 07 56 55.9 +0.7
baz=61,SNR=7.1
Q09A Carvers 61.35 63 ⇑P P 07 56 54.7 -0.8
baz=61
O11A Cowboy Ranch, 61.41 61 P P 07 56 56.3 +0.5
baz=61,SNR=7.5
M13A Montello 61.48 59 P P 07 56 57.1 +0.8
baz=61,SNR=10.0
S08C White Mtn Res 61.62 65 ⇓P P 07 56 56.8 -0.4
baz=62
HELL Mitchell Peak, 61.63 66 ⇑P P 07 56 56.9 -0.4
baz=62
DCID1 Drake Creek 61.71 55 eP P 07 56 58.2 +0.4
P11A Circle Ranch, 61.73 61 ⇓P P 07 56 57.8 -0.2
baz=62
N13A Wendover, West 61.79 59 ⇓P P 07 56 59.0 +0.7
baz=62
R09A Tonopah 61.80 63 P P 07 56 58.5 0.0
baz=62,SNR=16
TPH Tonopah 61.82 64 eP P 07 56 58.5 -0.1
TPH pmax pmax
comp=Z,18nm,1.1s,mb5.1
TPH Tonopah 61.82 64 eP P 07 56 58.5 0.0
comp=Z,18nm,1.1s,mb5.1
MOOW Moose Ponds 61.85 55 eP P 07 56 59.8 +1.0
O12A Currie 61.86 60 P P 07 56 59.2 +0.4
baz=62,SNR=18
TPAW Teton Pass 61.91 55 eP P 07 57 00.3 +1.1
comp=Z,34nm,1.1s,mb5.4
SMMC Simmler 61.92 68 ⇑P P 07 57 00.1 +0.9
baz=62
HVU Hansel Valley 62.00 58 eP P 07 57 01.0 +1.2
SNOW Snow King Moun 62.03 55 eP P 07 57 01.4 +1.4
S09A Goldfield 62.04 64 ⇑P P 07 57 00.3 +0.2
baz=62
REDW Red Top Meadow 62.05 55 eP P 07 57 00.9 +0.8
comp=Z,30nm,1.1s,mb5.3
VES Vestal, Richgr 62.14 67 ⇑P P 07 57 00.4 -0.4
baz=62
Q11A Duckwater 62.25 62 ⇓P P 07 57 01.3 -0.2
baz=62
P12A McGill 62.28 61 ⇓P P 07 57 02.1 +0.4
baz=62
GRAC Grapevine Rang 62.43 65 ⇓P P 07 57 02.9 +0.2
baz=62
SPUT South Promonto 62.50 58 eP P 07 56 58.9 -4.2
KAF Kangasniemi 62.60 335 ep P 07 57 02.0 -1.8
comp=Z,1.1nm,0.4s,mb4.3
KAF Kangasniemi 62.60 335 eP P 07 57 02.0 -1.8
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
Q12A Willow Creek R 62.61 61 P P 07 57 04.5 +0.6
baz=62,SNR=5.8
ISA Isabella 62.63 66 ⇑P P 07 57 04.0 0.0
baz=62
HWUT Hardware Ranch 62.80 57 eP P 07 57 05.2 +0.1
comp=Z,17nm,1.1s,mb5.1
MPMC Manual Prospec 62.97 65 P P 07 57 06.4 +0.2
baz=63,SNR=5.3
DUG Dugway 63.02 59 eP P 07 57 07.1 +0.5
DUG pmax pmax
comp=Z,21nm,1.1s,mb5.2
DUG Dugway 63.02 59 eP P 07 57 07.1 +0.5
comp=Z,21nm,1.1s,mb5.2
DUG Dugway 63.02 59 P P 07 57 07.1 +0.5
baz=63,SNR=21
FURC Furnace Creek, 63.09 65 P P 07 57 07.1 +0.1
baz=63,SNR=9.7
NOQ North Oquirrh 63.12 58 eP P 07 57 08.1 +0.8
BW06 Boulder Array 63.15 55 eP P 07 57 07.3 -0.1
comp=Z,18nm,1.0s,mb5.2
PDAR Pinedale Array 63.15 55 P P 07 57 07.5 +0.1
comp=Z,13nm,1.0s,mb5.0,baz=296,slow=2.4,SNR=56
OSI Osito Adit 63.17 67 ⇓P P 07 57 07.9 +0.3
baz=63
FINES FINESS Array B 63.21 335 P P 07 56 06.6 -1.2
comp=Z,5.9nm,0.5s,mb5.0,baz=40,slow=7.6,SNR=40
FINES FINESS Array B 63.21 335 i P P 07 56 06.5 -1.4
FINES pmax pmax
comp=Z,6.0nm,0.5s
LRMC Laurel Mountai 63.23 66 ⇑P P 07 57 08.3 +0.3
baz=63
U10A Ash Meadows, A 63.44 64 ⇑P P 07 57 09.6 +0.2
baz=63
EDW2 Edwards Air Fo 63.45 67 P P 07 57 09.2 -0.2
baz=63,SNR=6.3
NLU North Lily Min 63.60 59 eP P 07 57 10.4 -0.1
DECC Green Verdugo 63.65 67 ⇑P P 07 57 10.2 -0.6
baz=64
KAKA Kakadu 63.68 204 eP P 07 57 11.3 +0.3
comp=Z,4.1nm,0.8s,mb4.5
DAU Daniels Canyon 63.77 58 eP P 07 57 12.2 +0.6
SHOC Shoshone 63.81 65 ⇓P P 07 57 10.9 -0.9
baz=64
GSC Goldstone 63.89 66 ⇓P P 07 57 12.3 0.0
baz=64
U11A Corn Creek 64.01 64 ⇑P P 07 57 13.4 +0.2
baz=64
BFSC Mount Baldy St 64.08 67 ⇓P P 07 57 13.3 -0.3
baz=64
ARUT Antelope Range 64.25 62 eP P 07 57 14.9 +0.2
TUQ Turquoise Mtn. 64.34 65 P P 07 57 15.3 0.0
baz=64,SNR=8.3
V11A Goodsprings 64.37 64 ⇑P P 07 57 15.2 -0.3
baz=64
HEC Hector,Ludlow 64.50 66 ⇑P P 07 57 16.6 +0.3
baz=64
MSU Marysvale 64.51 60 eP P 07 57 17.0 +0.6
U12A Valley of Fire 64.51 63 ⇓P P 07 57 15.7 -0.7
baz=64
MURC Murrieta 64.78 67 ⇑P P 07 57 18.0 -0.2
baz=65
V12A Nelson 64.79 64 ⇓P P 07 57 18.5 +0.3
baz=65
ULM Lac du Bonnet 64.84 42 P P 07 57 18.2 -0.4
comp=Z,3.7nm,0.5s,mb4.7,baz=297,slow=6.3,SNR=17
ULM Lac du Bonnet 64.84 42 P P 07 57 18.2 -0.4
GMRC Granite Mounta 64.94 65 ⇓P P 07 57 19.5 +0.3
baz=65
SRU San Rafael 65.06 59 eP P 07 57 20.1 +0.1
SRU pmax pmax
comp=Z,29nm,1.0s,mb5.3
SRU San Rafael 65.06 59 eP P 07 57 20.1 +0.1
comp=Z,28nm,1.0s,mb5.2
W12A Cal Nev Ari 65.07 64 ⇑P P 07 57 20.6 +0.6
baz=65
RSSD Black Hills 65.19 51 eP P 07 57 20.7 -0.2
RSSD pmax pmax
comp=Z,30nm,1.1s,mb5.2
RSSD Black Hills 65.19 51 eP P 07 57 20.7 -0.2
comp=Z,30nm,1.1s,mb5.2
BELC Belle Mtn. 65.25 66 ⇓P P 07 57 20.1 -1.2
baz=65
IRM Iron Mountain 65.67 66 P P 07 57 23.7 -0.2
baz=66,SNR=8.4
W13A Hualapai Mount 65.80 64 ⇓P P 07 57 24.5 -0.3
baz=66
BC3 Big Chuckw Mtn 65.82 66 ⇓P P 07 57 24.4 -0.6
baz=66
SWSC Sam W. Stewart 66.10 67 ⇑P P 07 57 26.2 -0.5
baz=66
X13A Yucca 66.17 64 P P 07 57 27.1 -0.1
baz=66,SNR=7.8
PDMCI Parker Dam,Lak 66.19 65 P P 07 57 26.9 -0.3
baz=66,SNR=8.2
W14A Seligman 66.20 63 P P 07 57 27.6 +0.3
baz=66,SNR=17
Y12C Blythe 66.33 65 P P 07 57 28.3 +0.2
baz=66,SNR=5.9
PV10 Paradox Valley 66.41 58 eP P 07 57 29.0 +0.3
GLA Glamis 66.62 66 P P 07 57 29.9 -0.1
baz=66,SNR=6.8
Y13A Salome 66.70 65 P P 07 57 30.5 -0.1
baz=67,SNR=7.0
W15A Williams 66.71 63 ⇑P P 07 57 30.6 0.0
baz=67
X14A Yava 66.83 64 P P 07 57 31.9 +0.5
baz=67,SNR=8.5
PV01 Paradox Valley 66.84 58 eP P 07 57 31.8 +0.4
WUAZ Wupatki 67.01 62 ⇓P P 07 57 32.8 +0.3
baz=67
Y14A Wickenburg 67.12 64 P P 07 57 33.2 0.0
baz=67,SNR=10
X15A Humboldt 67.20 63 P P 07 57 34.5 +0.7
baz=67,SNR=13
NB2 NORSAR Subarra 67.23 342 P P 07 57 33.4 -0.6
comp=Z,37nm,1.2s,mb5.3,baz=25,slow=6.5
NOA NORSAR Array B 67.23 342 P P 07 57 33.7 -0.2
comp=Z,15nm,0.9s,mb5.0,baz=25,slow=6.3,SNR=21
NOA NORSAR Array B 67.23 342 P P 07 57 33.7 -0.3
NOA pmax pmax
comp=Z,15nm,0.9s
NOA NORSAR Array B 67.23 342 P P 07 57 33.7 -0.2
ISCO Idaho Springs 67.35 55 eP P 07 57 35.2 +0.5
ISCO pmax pmax
comp=Z,17nm,1.1s,mb5.0
ISCO Idaho Springs 67.35 55 eP P 07 57 35.2 +0.5
comp=Z,17nm,1.1s,mb5.0
MVCO Mesa Verde 67.52 59 eP P 07 57 36.0 +0.2
comp=Z,22nm,1.1s,mb5.1
MVCO Mesa Verde 67.52 59 ⇓P P 07 57 36.3 +0.5
baz=67
Z14A Wintersburg 67.55 65 ⇓P P 07 57 35.1 -0.8
baz=67
CTA Charters Tower 68.31 188 LR LR 08 24 01.9
comp=Z,66nm,21.8s,MS3.8,baz=51,slow=33
115A Sonoran Desert 68.44 65 P P 07 57 42.2 +0.7
baz=68,SNR=8.6
AFI Afiamalu 68.65 145 LR LR 08 23 36.7
comp=Z,144nm,18.9s,MS4.2,baz=319,slow=32
KONO Kongsberg 68.84 342 eP P 07 57 44.3 +0.3
SDCO Great Sand Dun 68.85 57 eP P 07 57 44.1 +0.1
comp=Z,13nm,1.4s,mb4.7
116A Eloy 68.86 65 P P 07 57 44.5 +0.4
baz=69,SNR=5.7
WB2 Warramunga Arr 70.14 200 eP P 07 57 50.2 -1.8
WRA Warramunga Arr 70.14 200 P P 07 57 50.8 -1.2
comp=Z,1.3nm,0.5s,mb4.1,baz=17,slow=6.4,SNR=9.1
WRA LR LR 08 25 09.7
comp=Z,91nm,21.3s,MS4.0,baz=50,slow=33
SUW Suwalki 70.25 332 eP P 07 57 53.0 +0.3
ANMO Albuquerque 70.28 60 eP P 07 57 52.9 0.0
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 70.28 60 eP P 07 57 52.9 0.0
comp=Z,9.6nm,1.1s,mb4.6
POO Poona 70.30 276 eP P 07 57 49.0 -4.0
KIV Kislovodsk 70.53 315 eP P 07 57 55.9 +1.4
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.0
Y22C IRIS PASSCAL I 70.64 60 ⇑P P 07 57 56.0 +0.9
baz=70
DZM Mont Dzumac 70.68 168 LR LR 08 22 23.8
comp=Z,111nm,20.3s,MS4.1,baz=23,slow=30
FITZ Fitzroy Crossi 70.82 209 eP P 07 57 59.9 +3.7
comp=Z,10.0nm,1.9s,mb4.4
ZEI Tsey 70.84 313 eP P 07 57 55.2 -1.1
ZEI e*PP pP 07 58 06.4 -1.6
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KAD Karad 70.94 275 i P P 07 57 57.0 +0.1
AKASG Malin Array Be 70.94 327 P P 07 57 55.0 -2.0
comp=Z,4.7nm,0.4s,mb4.8,baz=33,slow=5.9,SNR=21
AKASG Malin Array Be 70.94 327 i P P 07 57 52.2 -4.7
AKASG pmax pmax
comp=Z,5.0nm,0.4s
SCHQ Schefferville 71.66 24 P P 07 58 01.4 +0.1
comp=Z,9.9nm,0.4s,mb4.6,baz=36,slow=4.3,SNR=22
SCIA State Center 72.25 47 eP P 07 58 04.2 -0.6
comp=Z,27nm,0.7s,mb5.3
ANN Anapa 72.31 318 eP P 07 58 03.8 -1.4
ANN eS S 08 07 26.9 +1.3
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.2
GNI Garni 72.38 311 eP P 07 58 06.7 +1.1
GNI pmax pmax
comp=Z,17nm,1.2s
LVV L'vov 73.52 329 eP P 07 58 05.3 -7.1
SIM Simferopol' 73.64 320 eP P 07 58 13.6 +0.6
SIM pmax pmax
comp=Z,21nm,0.6s,mb5.2
ASAR Alice Springs 73.83 200 P P 07 58 13.7 -0.5
comp=Z,1.0nm,0.6s,baz=14,slow=4.9,SNR=16
ASAR Alice Springs 73.83 200 P P 07 58 13.7 -0.5
ASAR pmax pmax
comp=Z,1.0nm,0.6s
KWP Kalwaria 74.13 330 eP P 07 58 16.2 +0.3
RUE Ruedersdorf 74.34 336 eP P 07 58 17.0 -0.1
comp=Z,61nm,1.3s,mb5.4
OJC Ojcow 74.58 332 eP P 07 58 18.5 0.0
WMOK Wichita Mounta 74.76 55 eP P 07 58 18.8 -0.8
WMOK pmax pmax
comp=Z,14nm,1.1s,mb4.8
WMOK Wichita Mounta 74.76 55 eP P 07 58 18.8 -0.7
comp=Z,14nm,1.1s,mb4.8
STHS Stebnicka Huta 74.81 330 eP P 07 58 20.6 +0.8
STHS pmax pmax
comp=Z,16nm,0.8s,mb5.0
STHS Stebnicka Huta 74.81 330 eP P 07 58 20.6 +0.8
comp=Z,16nm,0.8s,mb5.0
KOLS Kolonicke sedl 74.88 330 eP P 07 58 20.2 -0.1
BURAR Bucovina Array 74.97 327 ⇑i P P 07 58 20.5 -0.3
KSP Ksiaz 75.10 334 eP P 07 58 21.5 0.0
KSP Ksiaz 75.10 334 eP P 07 58 21.3 -0.2
NIE Niedzica 75.11 331 eP P 07 58 22.1 +0.5
CRVS Cervenica-Dubn 75.18 330 eP P 07 58 22.1 +0.1
OKC Ostrava-Krasne 75.43 333 eP P 07 58 23.7 +0.3
UPC Upice 75.48 334 eP P 07 58 23.7 0.0
UPC epP pP 07 58 29.1 -6.4
DPC Dobruska-Polom 75.53 334 eP P 07 58 24.3 +0.3
CLL Collm 75.61 336 eP P 07 58 23.8 -0.7
comp=Z,59nm,1.1s,mb5.4
CLL Collm 75.61 336 ⇑i P P 07 58 23.8 -0.7
CLL pmax pmax
comp=Z,24nm,1.1s,mb5.0
CLL Collm 75.61 336 ⇑i P P 07 58 23.8 -0.7
comp=Z,58nm,1.1s,mb5.4
MORC Moravsky Berou 75.67 333 P P 07 58 25.6 +0.8
MORC Moravsky Berou 75.67 333 eP P 07 58 24.5 -0.3
comp=Z,39nm,1.0s,mb5.3
MORC Moravsky Berou 75.67 333 ⇑i P P 07 58 24.8 0.0
BRG Berggiesshubel 75.74 335 eP P 07 58 24.9 -0.3
comp=Z,17nm,1.1s,mb4.9
BRG Berggiesshubel 75.74 335 i P P 07 58 24.7 -0.6
comp=Z,14nm,1.2s,mb4.8
BRG Berggiesshubel 75.74 335 i P P 07 58 24.7 -0.5
BRG pmax pmax
comp=Z,13nm,1.2s,mb4.7
CLZ Clausthal 75.81 338 eP P 07 58 25.8 +0.2
comp=Z,63nm,1.2s,mb5.4
CLZ Clausthal 75.81 338 eP P 07 58 25.8 +0.2
CLZ pmax pmax
comp=Z,63nm,1.2s,mb5.4
FBE Freiberg 75.86 336 eP P 07 58 25.7 -0.2
comp=Z,35nm,1.2s,mb5.2
KECS Kecovo 75.87 330 eP P 07 58 25.8 -0.1
KECS pmax pmax
comp=Z,11nm,1.2s,mb4.7
KECS Kecovo 75.87 330 eP P 07 58 25.8 -0.1
comp=Z,11nm,1.2s,mb4.7
PVCC Panska Ves 75.88 335 eP P 07 58 25.2 -0.8
LTX Lajitas 75.97 62 eP P 07 58 26.3 -0.2
LTX pmax pmax
comp=Z,30nm,1.1s,mb5.1
LTX Lajitas 75.97 62 eP P 07 58 26.3 -0.2
comp=Z,30nm,1.1s,mb5.1
TXAR Lajitas Array 75.97 62 P P 07 58 26.5 -0.1
comp=Z,8.9nm,0.6s,mb4.8,baz=298,slow=4.8,SNR=194
TXAR Lajitas Array 75.97 62 P P 07 58 26.5 0.0
TXAR pmax pmax
comp=Z,9.0nm,0.6s
IBBN Ibbenburen 76.01 340 eP P 07 58 26.7 0.0
comp=Z,42nm,1.2s,mb5.2
BOYT Boyabat 76.11 318 i P P 07 58 28.2 +0.9
PRU Pruhonice 76.37 335 eP P 07 58 28.7 -0.1
PRU ex x 07 58 37.5

VRAC Vranov 76.37 333 P **P 07 58 29.4 +0.6**
VRAC Vranov 76.37 333⇑*iP* **P 07 58 28.9 +0.1**
VYHS Vyhne 76.39 331 *eP* **P 07 58 28.9 0.0**
VYHS pmax pmax
comp=Z,15nm,1.3s,mb4.8
VYHS Vyhne 76.39 331 *eP* **P 07 58 28.9 0.0**
comp=Z,15nm,1.3s,mb4.8
TIRR Tirgusor 76.40 323 P **P 07 58 29.0 +0.1**
TIRR pmax pmax
comp=Z,14nm,1.0s,mb4.8
TIRR Tirgusor 76.40 323 *eP* **P 07 58 28.9 0.0**
comp=Z,14nm,0.9s,mb4.9
TIRR Tirgusor 76.40 323⇑*iP* **P 07 58 28.6 -0.3**
MLR Muntele Rosu 76.49 326 P **P 07 58 30.7 +1.2**
MLR Muntele Rosu 76.49 326⇓*iP* **P 07 58 29.9 +0.4**
PSZ Piszkesteto 76.55 331 *eP* **P 07 58 30.0 +0.2**
comp=Z,14nm,0.9s,mb4.9
PSZ Piszkesteto 76.55 331⇑*iP* **P 07 58 30.0 +0.2**
TANN Tannenbergstha 76.56 336 *eP* **P 07 58 30.0 +0.1**
comp=Z,16nm,1.4s,mb4.8
DRGR 76.57 328 P **P 07 58 29.9 0.0**
DRGR 76.57 328⇑*iP* **P 07 58 29.7 -0.2**
WERD Werda 76.58 336 *eP* **P 07 58 29.9 -0.1**
comp=Z,27nm,1.2s,mb5.0
MOX Moxa 76.58 337 *eP* **P 07 58 29.9 -0.1**
comp=Z,24nm,1.1s,mb5.0
MOX Moxa 76.58 337 *eP* **P 07 58 29.7 -0.3**
comp=Z,34nm,1.2s,mb5.2
MOX Moxa 76.58 337 *eP* **P 07 58 29.7 -0.3**
MOX pmax pmax
comp=Z,34nm,1.2s,mb5.2
GUNZ Gunzen 76.64 336 *eP* **P 07 58 30.5 +0.2**
comp=Z,40nm,1.3s,mb5.2
BALT Daday 76.70 319 *iP* **P 07 58 31.6 +0.9**
WERN Wernitzgruen 76.70 336 *eP* **P 07 58 30.8 +0.1**
comp=Z,32nm,1.2s,mb5.1
NKC Novy Kostel 76.73 336 *eP* **P 07 58 30.6 -0.2**
CTKT Corum 76.80 317 *iP* **P 07 58 32.3 +1.0**
VOIR 76.87 326⇓*iP* **P 07 58 31.9 +0.3**
BUG Bochum--Univer 76.93 340 *eP* **P 07 58 31.6 -0.3**
comp=Z,44nm,1.2s,mb5.3
MANZ Manzenberg 77.05 336 *eP* **P 07 58 32.7 +0.1**
comp=Z,19nm,1.1s,mb4.9
ZST Bratislava 77.20 332 *eP* **P 07 58 34.1 +0.6**
ZST pmax pmax
comp=Z,20nm,1.1s,mb5.0
ZST Bratislava 77.20 332 *eP* **P 07 58 34.1 +0.6**
comp=Z,20nm,1.1s,mb5.0
ROTZ Rotzenmuhle 77.22 336 *eP* **P 07 58 34.0 +0.4**
comp=Z,26nm,1.1s,mb5.1
KHC Kasperske Hory 77.42 335 *eP* **P 07 58 34.7 0.0**
ELDT Eldivan 77.53 318 *iP* **P 07 58 36.1 +0.8**
GRA1 Grafenberg Arr 77.55 337 *eP* **P 07 58 35.9 +0.5**
comp=Z,77nm,1.3s,mb5.5
GRF Grafenberg Arr 77.55 337 *eP* **P 07 58 35.9 +0.5**
comp=Z,77nm,1.3s,mb5.5
GRF Grafenberg Arr 77.55 337 *eP* **P 07 58 35.9 +0.5**
GRF pmax pmax
comp=Z,77nm,1.3s,mb5.5
GRFO Grafenberg 77.56 337 *eP* **P 07 58 35.8 +0.3**
GRFO pmax pmax
comp=Z,45nm,1.1s,mb5.3
GRFO Grafenberg 77.56 337 *eP* **P 07 58 35.8 +0.4**
comp=Z,45nm,1.1s,mb5.3
WET Wettzell 77.60 335 *eP* **P 07 58 36.1 +0.4**
comp=Z,44nm,1.1s,mb5.3
WET Wettzell 77.60 335 *eP* **P 07 58 36.1 +0.4**
WET pmax pmax
comp=Z,44nm,1.1s,mb5.3
GERES GERESS Array B 77.64 335 P **P 07 58 35.8 -0.1**
comp=Z,6.7nm,0.8s,mb4.6,baz=45,slow=4.0,SNR=27
GERES GERESS Array B 77.64 335 P **P 07 58 35.8 -0.1**
GERES pmax pmax
comp=Z,7.0nm,0.8s
MIAR Mount Ida 77.70 52 *eP* **P 07 58 35.7 -0.6**
MIAR pmax pmax
comp=Z,16nm,1.1s,mb4.9
MIAR Mount Ida 77.70 52 *eP* **P 07 58 35.7 -0.6**
comp=Z,16nm,1.1s,mb4.9
TNS Taunus Mts 77.78 338 *eP* **P 07 58 36.8 +0.1**
comp=Z,31nm,1.2s,mb5.1
TNS Taunus Mts 77.78 338 *eP* **P 07 58 36.8 +0.1**
TNS pmax pmax
comp=Z,31nm,1.2s,mb5.1
HGN Heimansgroeve 77.87 340 *eP* **P 07 58 38.0 +0.8**
comp=Z,44nm,1.1s,mb5.3
BZS Buzias 77.97 328 P **P 07 58 37.8 0.0**
BZS Buzias 77.97 328⇓*iP* **P 07 58 37.3 -0.4**
MEM Membach 77.99 340 P **P 07 58 37.5 -0.4**
comp=Z,26nm,1.2s,mb5.0
USIN University of 78.00 46 *eP* **P 07 58 37.8 -0.1**
comp=Z,30nm,0.9s,mb5.2
BRTR Keskin Array B 78.05 317 P **P 07 58 38.5 +0.3**
comp=Z,26nm,1.0s,mb5.1,baz=65,slow=3.3,SNR=72
BRTR Keskin Array B 78.05 317 P **P 07 58 38.5 +0.3**
BRTR pmax pmax
comp=Z,26nm,1.0s
SGKT Sivrigoynuk 78.07 319 *iP* **P 07 58 38.8 +0.5**
GZT Gaziantep 78.10 313 *iP* **P 07 58 39.7 +1.2**
ANTO Ankara 78.31 318 P **P 07 58 40.7 +1.0**
ANTO pmax pmax
comp=Z,36nm,1.0s,mb5.3
ANTO Ankara 78.31 318 *eP* **P 07 58 40.4 +0.7**
comp=Z,36nm,1.0s,mb5.3
ANTO Ankara 78.31 318⇑*iP* **P 07 58 40.3 +0.6**
BCLA Clavier 78.33 340 P **P 07 58 40.5 +0.7**
comp=Z,20nm,1.2s,mb4.9
MOA Molln 78.37 334⇑*iP* **P 07 58 40.1 +0.1**
comp=Z,12nm,0.9s,mb4.8
WCI Wyandotte Cave 78.44 45 *eP* **P 07 58 39.4 -1.0**
WCI pmax pmax
comp=Z,20nm,0.9s,mb5.0
WCI Wyandotte Cave 78.44 45 *eP* **P 07 58 40.0 -0.3**
comp=Z,20nm,0.8s,mb5.1
PKSM Moragy 78.46 330 P **P 07 58 39.9 -0.6**
PKSM Moragy 78.46 330⇑*iP* **P 07 58 39.4 -1.1**
SNF Seneffe 78.47 341 P **P 07 58 40.6 0.0**
ARSA Arzberg 78.53 333⇑*iP* **P 07 58 41.1 +0.2**
comp=Z,19nm,1.2s,mb4.9
DOU Dourbes 78.79 341 P **P 07 58 41.8 -0.5**
STU Stuttgart 78.93 337 *eP* **P 07 58 43.1 0.0**
comp=Z,34nm,1.4s,mb5.1
FUR Furstenfeldbru 78.93 336 *eP* **P 07 58 43.4 +0.3**
comp=Z,65nm,1.3s,mb5.4
FUR Furstenfeldbru 78.93 336 *eP* **P 07 58 43.4 +0.3**
FUR pmax pmax
comp=Z,65nm,1.3s,mb5.4
PERS Pernice 79.21 333 *eP* **P 07 58 44.5 -0.1**
KBA Koelnbreinsper 79.34 334⇑*iP* **P 07 58 46.2 +0.9**
comp=Z,49nm,1.1s,mb5.3
KBA Koelnbreinsper 79.34 334⇑*iP* **P 07 58 46.2 +0.9**
KBA pmax pmax
comp=Z,49nm,1.1s,mb5.3
BFO Black Forest 79.56 338 P **P 07 58 46.7 +0.2**
comp=Z,132nm,1.1s,mb5.8,SNR=5.8
BFO Black Forest 79.56 338 *eP* **P 07 58 46.5 0.0**
comp=Z,44nm,1.3s,mb5.2
BFO Black Forest 79.56 338 *eP* **P 07 58 45.6 -0.9**
BFO pmax pmax
comp=Z,25nm,1.1s,mb5.1
WATA Walderalm 79.61 335⇑*iP* **P 07 58 47.2 +0.5**
comp=Z,35nm,1.1s,mb5.2
WATA Walderalm 79.61 335⇑*iP* **P 07 58 47.3 +0.5**
WATA pmax pmax
comp=Z,35nm,1.1s,mb5.2
GOLS Golise 79.61 332 *eP* **P 07 58 46.3 -0.4**
WTTA Wattenberg 79.66 335⇑*iP* **P 07 58 47.8 +0.8**
comp=Z,67nm,1.1s,mb5.5
WTTA Wattenberg 79.66 335⇑*iP* **P 07 58 47.8 +0.8**
WTTA pmax pmax
comp=Z,67nm,1.1s,mb5.5
ULDT Uludag 79.68 321 *iP* **P 07 58 47.6 +0.5**
MOTA Moosalm 79.73 336⇑*iP* **P 07 58 47.8 +0.4**
comp=Z,50nm,1.1s,mb5.3
MOTA Moosalm 79.73 336⇑*iP* **P 07 58 47.8 +0.4**
MOTA pmax pmax
comp=Z,50nm,1.1s,mb5.4
CDF Champ du Feu 79.74 339 *eP* **P 07 58 47.0 -0.5**
comp=Z,96nm,1.3s,mb5.3
CDF Champ du Feu 79.74 339 *eP* **P 07 58 47.0 -0.5**
CDF pmax pmax
comp=Z,48nm,1.3s,mb5.3
CDF Champ du Feu 79.74 339 *eP* **P 07 58 47.0 -0.5**
comp=Z,48nm,1.3s,mb5.3
GRUS Gruza 79.78 328⇑*iP* **P 07 58 46.9 -0.8**
SQTA Sankt Quirin 79.81 336⇑*iP* **P 07 58 48.5 +0.6**
comp=Z,43nm,1.2s,mb5.3
SQTA Sankt Quirin 79.81 336⇑*iP* **P 07 58 48.5 +0.6**
SQTA pmax pmax
comp=Z,43nm,1.2s,mb5.2
CRES Cresnjev 79.83 332 *eP* **P 07 58 47.4 -0.5**
DIVS Divcibare 79.86 329⇑*iP* **P 07 58 47.5 -0.6**
OXF Oxford 79.87 49 *eP* **P 07 58 47.2 -1.0**
OXF pmax pmax
comp=Z,40nm,1.1s,mb5.3
OXF Oxford 79.87 49 *eP* **P 07 58 47.2 -1.0**
comp=Z,40nm,1.1s,mb5.3
VTS Vitosha 79.99 326⇑*iP* **P 07 58 48.7 -0.2**
DAVA Damuels 80.12 336⇑*iP* **P 07 58 49.0 -0.5**
comp=Z,31nm,1.0s,mb5.2
MCWV Mont Chateau 80.17 40 *eP* **P 07 58 49.2 -0.5**
comp=Z,7.1nm,0.5s,mb4.8
RAR Rarotonga 80.23 137 LR LR 08 27 40.5
comp=Z,119nm,19.4s,MS4.2,baz=59,slow=31
STKA Stephens Creek 80.48 191 P **P 07 58 52.0 +0.5**
comp=Z,4.1nm,1.0s,mb4.3,baz=63,slow=4.5,SNR=2.9
STKA LR LR 08 35 21.9
comp=Z,89nm,18.6s,MS4.1,baz=24,slow=36
VAY Valandovo 81.33 326 *eP* **P 07 58 55.1 -0.9**
VAY Valandovo 81.33 326 *eP* **P 07 58 55.1 -0.9**
GRR Gorron 81.53 344 *eP* **P 07 58 56.8 -0.3**
comp=Z,72nm,1.1s,mb5.2
GRR Gorron 81.53 344 *eP* **P 07 58 56.8 -0.3**
GRR pmax pmax
comp=Z,36nm,1.0s,mb5.3
GRR Gorron 81.53 344 *eP* **P 07 58 56.8 -0.3**
comp=Z,36nm,1.0s,mb5.2
KRUS Krusevo 81.78 326 *eP* **P 07 58 58.3 -0.1**
KRUS Krusevo 81.78 326 *eP* **P 07 58 58.3 -0.1**
ELN Prospectdale 81.79 42 *eP* **P 07 58 57.8 -0.7**
SMF Signal de Mont 82.21 340 *eP* **P 07 59 00.3 -0.3**
comp=Z,146nm,1.5s,mb5.4
SMF Signal de Mont 82.21 340 *eP* **P 07 59 00.3 -0.3**
SMF pmax pmax
comp=Z,73nm,1.5s,mb5.4
SMF Signal de Mont 82.21 340 *eP* **P 07 59 00.3 -0.3**
comp=Z,73nm,1.5s,mb5.4
LPG La Plagne 82.59 338 *eP* **P 07 59 03.4 +0.8**
comp=Z,51nm,0.9s,mb5.2
LPG La Plagne 82.59 338 *eP* **P 07 59 03.4 +0.8**
LPG pmax pmax
comp=Z,25nm,0.9s,mb5.2
LPG La Plagne 82.59 338 *eP* **P 07 59 03.4 +0.8**
comp=Z,25nm,0.9s,mb5.2
TCF Toulx Ste Croi 82.91 341 *eP* **P 07 59 03.8 -0.5**
CAF Calviac 84.24 341 *eP* **P 07 59 10.0 -1.1**
comp=Z,31nm,1.0s,mb5.1
CAF Calviac 84.24 341 *eP* **P 07 59 10.0 -1.1**
CAF pmax pmax
comp=Z,16nm,1.0s,mb5.1
CAF Calviac 84.24 341 *eP* **P 07 59 10.0 -1.1**
comp=Z,16nm,1.0s,mb5.1
TIP Timpagrande 85.33 328 *eP* **P 07 59 16.4 -0.2**
EIL Elat 85.55 311 *eP* **P 07 59 17.9 +0.2**
comp=Z,170nm,1.0s
ESDC Sonseca Array 90.52 344 P **P 07 59 41.2 -0.3**
comp=Z,1.2nm,0.5s,mb4.5,baz=22,slow=1.6,SNR=7.0
KEST Kesra 90.92 332 P **P 07 59 43.8 +0.5**
comp=Z,2.1nm,0.7s,mb4.6,baz=39,slow=2.4,SNR=3.9
KEST LR LR 08 45 37.5
comp=Z,78nm,21.8s,MS4.1,baz=204,slow=39
TORD Torodi Ar. Bea 114.39 331 PKiKP PKiKP 08 05 18.2 -0.9
comp=Z,0.4nm,0.5s,baz=5.8,slow=2.4,SNR=4.6
VNDA Vanda 125.45 178 PKP PKPdf 08 05 37.5 -2.9
comp=Z,0.9nm,0.9s,baz=317,slow=6.6,SNR=4.3
VNDA Vanda 125.45 178 PKIKP PKPdf 08 05 37.5 -2.9
VNDA pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 132.84 63 PKP PKPdf 08 05 54.6 +0.1
comp=Z,0.6nm,0.7s,baz=243,slow=9.0,SNR=3.2
MAW Mawson 133.89 212 PKP PKPdf 08 05 53.6 -2.9
comp=Z,3.7nm,1.0s,baz=338,slow=3.4,SNR=4.2
MAW Mawson 133.89 212 PKIKP PKPdf 08 05 53.6 -2.8
MAW pmax pmax
comp=Z,4.0nm,1.0s
NVL N'lazarevskaya 151.29 205 *d iP*KIKP PKPdf 08 06 30.1 +3.2
NVL pmax pmax
comp=Z,16nm,0.9s
SNAA Sanae 154.15 196 PKPbc PKPbc 08 06 35.7 -3.6
comp=Z,0.7nm,0.6s,baz=183,slow=2.9,SNR=12
SNAA Sanae 154.15 196 *e*PKPdf PKPdf 08 06 36.3 +5.2
SNAA *e* 08 06 47.3
SNAA *e* 08 06 51.3
SNAA *e* 08 06 56.9
SNAA *e* 08 07 01.6
SNAA *e* 08 07 08.1
SNAA Sanae 154.15 196 PKIKP PKPdf 08 06 35.7 +4.6
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA Sanae 154.15 196 *e*PKPbc PKPbc 08 06 35.9 -3.4
SNAA *e*PKPab PKPab 08 06 51.0 -2.1
VNA2 Neumayer--Watz 155.58 194 *e*PKPdf PKPdf 08 06 35.2 +2.1
VNA2 *e* 08 06 39.5
VNA2 *e* 08 06 49.7
VNA2 *e* 08 06 54.3
VNA2 *e* 08 06 58.1
VNA2 *e* 08 07 05.9
VNA3 Neumayer Olymp 155.65 192 *e*PKPdf PKPdf 08 06 35.3 +2.1
VNA3 *e* 08 06 38.8
VNA3 *e* 08 06 49.8
VNA3 *e* 08 06 57.2

IDC 11 08:11:54.5±1.1, 2003S×6889W, h108km±6km, mb3.9/2, mb1 4.1/4, mb1mx3.6/16, mbtmp4.0/4, Error ellipse: s-maj=24.1km s-min=18.1km az=106.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.79**	**11**	P	Pn	08 12 53.5	+2.6
	5.1nm,0.3s,baz=191,slow=7.9,SNR=117						
LPAZ				S	Sn	08 13 36.1	+1.4
	0.7nm,0.3s,baz=116,slow=7.4,SNR=3.6						
SIV	**San Ignacio**	**8.45**	**63**	P	Pn	08 13 54.1	0.0
	7.6nm,0.3s,baz=256,slow=12,SNR=299						
SIV				S	Sn	08 15 27.4	-0.4
	baz=334,slow=18,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.85**	**71**	P	P	08 23 35.2	+0.6
	1.8nm,0.4s,baz=252,slow=5.5,SNR=32						
TORD				pP	pP	08 24 03.7	+1.7
	1.0nm,0.5s,baz=245,slow=6.4,SNR=2.7						
TORD				sP	sP	08 24 14.6	+1.1
	1.9nm,0.9s,baz=257,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**89.81**	**341**	P	P	08 24 40.4	-0.5
	0.6nm,0.7s,baz=133,slow=4.7,SNR=15						
YKA				pP	pP	08 25 08.0	-1.0
	0.6nm,0.8s,baz=134,slow=4.8,SNR=4.3						
YKA				sP	sP	08 25 19.4	-1.0
	0.5nm,0.7s,baz=132,slow=4.6,SNR=3.5						
MKAR	**Makanchi Array**	**144.43**	**35**	PKP	PKPdf	08 31 16.5	-1.5
	0.7nm,0.8s,baz=314,slow=2.6,SNR=5.0						
SONM	**Songino Array**	**152.00**	**7**	PKPbc	PKPbc	08 31 37.7	+0.7
	0.3nm,0.5s,baz=328,slow=2.5,SNR=5.5						
SONM				PKPab	PKPab	08 31 45.9	-0.8
	0.3nm,0.6s,baz=27,slow=3.5,SNR=2.2						

*IDC **11** 08:14:22.7±3.5, 1537S×16750E, h122km±26km, mb3.7/7, mb1 3.8/8, mb1mx3.7/17, mbtmp3.8/8, Error ellipse: s-maj=33.3km s-min=23.0km az=69.0*
*ISCJB **11** 08:14:25.8±3.5, 156S±02×1673E±02, h157km±26km, mb3.9/7, Error ellipse: s-maj=35.8km s-min=17.2km az=101.4*

ISC 11 08:14:25.5±3.4, 155S±02×1675E±02, h148km±25km, n16, σ0:70/17, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.58**	**189**	*eP*	**Pn**	**08 16 00.1**	**+0.3**
DZM				*eS*	**Sn**	**08 17 11.6**	**-2.0**
DZM	**Mont Dzumac**	**6.58**	**189**	P	**Pn**	**08 16 00.3**	**+0.5**
	24nm,0.3s,baz=40,slow=15,SNR=172						
DZM				S	**Sn**	**08 17 14.7**	**+1.1**
	11nm,0.3s,baz=148,slow=21,SNR=9.1						
PMG	**Port Moresby**	**20.77**	**285**	P	**P**	**08 18 54.3**	**-0.4**
	6.0nm,0.6s,baz=121,slow=19,SNR=3.2						
STKA	**Stephens Creek**	**28.66**	**231**	P	**P**	**08 20 09.6**	**+1.4**
	1.1nm,0.4s,mb3.9,baz=54,slow=9.5,SNR=4.1						
WB2	**Warramunga Arr**	**31.85**	**257**	*eP*	**P**	**08 20 35.6**	**-0.7**
WRA	**Warramunga Arr**	**31.86**	**257**	P	**P**	**08 20 36.0**	**-0.4**
	1.4nm,0.5s,mb3.9,baz=85,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**32.61**	**250**	P	**P**	**08 20 42.9**	**0.0**
	4.4nm,0.6s,mb4.4,baz=78,slow=9.0,SNR=80						
ASAR				ScP	ScP	08 26 60.0	+4.4
	0.3nm,0.8s,baz=74,slow=3.3,SNR=4.6						
FITZ	**Fitzroy Crossi**	**40.10**	**260**	*eP*	**P**	**08 21 46.9**	**+0.4**
	8.7nm,0.4s,mb4.7						
VNDA	**Vanda**	**62.06**	**181**	P	**P**	**08 24 30.8**	**+0.6**
	0.2nm,0.4s,mb3.3,baz=1.1,slow=10,SNR=3.7						
SONM	**Songino Array**	**83.28**	**324**	P	**P**	**08 26 35.2**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=157,slow=7.7,SNR=4.5						
SNAA	**Sanae**	**92.76**	**183**	*e*	**P**	**08 27 20.3**	**-0.6**
VNA3	**Neumayer Olymp**	**93.42**	**181**	*e*	**P**	**08 27 23.3**	**-0.6**
VNA3				*e*		08 27 26.1	
VNA3				*e*		08 27 34.4	
VNA2	**Neumayer--Watz**	**93.69**	**182**	*e*	**P**	**08 27 24.7**	**-0.5**
	baz=186,slow=4.8						
VNA2				*e*		08 27 28.2	
VNA2				*e*		08 27 33.4	
VNA2				*e*		08 27 38.1	
VNA1	**Neumayer--Stat**	**93.98**	**181**	*e*	**P**	**08 27 26.9**	**+0.4**
VNA1				*e*		08 27 30.1	
VNA1				*e*		08 27 35.4	
MKAR	**Makanchi Array**	**97.94**	**316**	P	**P**	**08 27 45.2**	**+0.7**
	0.2nm,0.5s,mb3.8,baz=83,slow=5.4,SNR=2.7						
ARCES	**ARCESS Array B**	**121.09**	**345**	PKP	PKPdf	08 32 59.1	-1.4
	3.1nm,0.8s,baz=64,slow=2.8,SNR=11						

*NEIC **11** 08:43:00.6, 3140S×6895W, h106km, MD3.8(GUC), After GUC.*

GUC 11 08:43:00.6±0.8, 3140S×6895W, h106km±4km, MD3.8, ML3.9, 5C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.27**	**122**⇑	*iP*	Pn	08 43 16.5	+0.7
ZON				*i* S	Sn	08 43 27.6	+0.4
ZON				AML	AML	08 43 28.6	
	comp=E,5μm,0.3s						
CMCH	**Combarbala**	**1.77**	**277**⇓	*iP*	Pn	08 43 31.1	+0.6
CMCH				*i* S	Sn	08 43 54.4	+1.1
CMCH				AML	AML	08 43 55.4	
	comp=N,8μm,0.4s						
CMCH	**Combarbala**	**1.77**	**277**⇓	*iP*	Pn	08 43 31.1	+0.6
CMCH				*i* S	Sn	08 43 54.4	+1.1
PTCH	**Petorca**	**1.89**	**242**⇓	*iP*	Pn	08 43 32.5	+0.5
PTCH				*i* S	Sn	08 43 56.7	+0.6
PTCH				AML	AML	08 43 58.2	
	comp=E,2μm,0.5s						
PTCH	**Petorca**	**1.89**	**242**⇓	*iP*	Pn	08 43 32.5	+0.5
PTCH				*i* S	Sn	08 43 56.7	+0.6
TLL	**Tololo Astrono**	**2.02**	**307**	*eP*	Pn	08 43 35.1	+1.5
TLL				*i* S	Sn	08 44 00.3	+1.5
TLL				AML	AML	08 44 04.9	
	comp=N,506nm,0.5s						
TLL	**Tololo Astrono**	**2.02**	**307**	*eP*	Pn	08 43 35.1	+1.5
TLL				*i* S	Sn	08 44 00.3	+1.5
PEL	**Peldehue**	**2.28**	**220**⇓	*iP*	Pn	08 43 37.7	+0.7
PEL				*i* S	Sn	08 44 05.6	+0.7
PEL				AML	AML	08 44 11.6	
	comp=N,484nm,0.7s						
DSCH	**Colegio Aleman**	**2.42**	**214**	AML	AML	08 44 10.3	
	comp=N,72nm,0.6s						
PCH	**Pirque**	**2.58**	**210**	*eP*	Pn	08 43 41.7	+0.8
RCDM	**Rinconada Maip**	**2.61**	**217**⇑	*iP*	Pn	08 43 42.2	+0.9
RCDM				*i* S	Sn	08 44 13.5	+0.9
RCDM				AML	AML	08 44 15.8	
	comp=E,284nm,0.3s						
RCDM	**Rinconada Maip**	**2.61**	**217**⇑	*iP*	Pn	08 43 42.2	+0.9
RCDM				*i* S	Sn	08 44 13.5	+0.9
TACH	**Talagante**	**2.80**	**216**⇓	*iP*	Pn	08 43 44.0	+0.1
TACH				*i* S	Sn	08 44 17.5	+0.3
CHCH	**Chadas Angostu**	**2.91**	**209**	*eP*	Pn	08 43 46.0	+0.8
CHCH				*i* S	Sn	08 44 19.9	+0.3
VACH	**Vallenar**	**3.22**	**330**⇑	*iP*	Pn	08 43 49.9	+0.4
VACH				*i* S	Sn	08 44 27.3	+0.1
VACH				AML	AML	08 44 28.6	
	comp=E,885nm,0.1s						
VACH	**Vallenar**	**3.22**	**330**⇑	*iP*	Pn	08 43 49.9	+0.4
VACH				*i* S	Sn	08 44 27.3	+0.1
VNA3	**Neumayer Olymp**	**50.81**	**159**	*e*	P	08 51 52.9	+2.8
VNA3				*e*		08 51 57.9	
VNA2	**Neumayer--Watz**	**51.42**	**158**	*e*	P	08 51 56.0	+1.3
	baz=287,slow=8.4						
VNA2				*e*		08 52 00.9	
SNAA	**Sanae**	**53.03**	**159**	*e*	P	08 52 07.8	+1.3

*BJI **11** 09:08:41.9, 5607N×11027E, h10km, mB5.1, mb4.7, Ms5.3, Msz5.0*
*LDG **11** 09:08:43.0±0.3, 5588N×11025E, h10km, Mb4.9/17, Ms4.4/7, Error ellipse: s-maj=18.2km s-min=2.6km az=96.0*
*IDC **11** 09:08:44.4±0.5, 5573N×11011E, h0km, mb4.6/21, mb1 4.8/23, mb1mx4.7/24, mbtmp4.6/23, ML4.7/2, MS4.4/16, Ms1 4.4/16, ms1mx4.0/34, Error ellipse: s-maj=12.1km s-min=10.8km az=9.0*
*ISCJB **11** 09:08:45.1±0.1, 5574N±002×11006E±003, h12km, mb4.8/104, MS4.7/37, Error ellipse: s-maj=2.5km s-min=2.0km az=107.4*
*MOS **11** 09:08:45.0±1.0, 5577N×11006E, h13km, mb5.0/58, MS4.6/24, Error ellipse: s-maj=6.1km s-min=4.3km az=100.6*
MOS Felt (III-IV) at Nizhneangarsk, Ulyunkhan, Severobaikal'sk.
*GCMT **11** 09:08:46.5±0.2, 5572N×11012E, h13km, MW5.1/82, Moment Tensor Solution. s46,c63; s82,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~4.84±.15; $M_{\theta\theta}$1.74±.10; $M_{\phi\phi}$3.11±.12; $M_{r\theta}$-1.42±.28; $M_{\phi\phi}$1.99±.07; $M_{\phi r}$-1.36±.27; Best double couple: $M_0$5.08000×10^{16} NP1:ϕ_s212.00000°, δ34.00000°, λ-86.00000°. NP2: ϕ_s39.00000°, δ56.00000°, λ-86.00000°. Principal axes: T 4.9130, Plg11.0000°, Azm126.0000°; N 0.3420, Plg3.0000°, Azm217.0000°; P -5.2460, Plg78.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 09:08:46.5±0.2, 5576N×11005E, h10km, mb4.9/64 Error ellipse: s-maj=4.6km s-min=3.3km az=163.0*
NEIC Felt [IV] at Nizhneangarsk, Severobaykal'sk and Ulyunkhan.
*BYKL **11** 09:08:46.3±0.3, 5569N×11018E, h11km±4km, FELT I=IV MSK at Kichera, Verchnya Zaimka, Nizhneangarsk, Severobaykalsk, III-IV at Mayskiy; III at Kumora, Ulyunkan; II at Uoyan*
*SZGRF **11** 09:08:51.5, 5590N×11026E, h33km, mb5.1, MS4.7, Lake Baykal, Russia, region*

ISC 11 09:08:46.5±0.1, 5574N±002×11013E±002, h13km, h13km±.7km: pP-P, n361, σ1:13/450, mb4.8/104, MS4.7/37, 34C-30D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.33**	**276**	*e*PG	**Pg**	**09 08 52.9**	**-0.3**
NIZ				*e*		09 08 58.7	
NIZ				pmax	pmax		
	comp=Z,17μm,0.5s						
NIZ				smax			
	comp=E,66μm,0.8s						
NIZ	**Nizh Angarsk**	**0.33**	**276**⇑	*i*Pg	**Pg**	**09 08 52.9**	**-0.3**
NIZ				Pmax		09 08 54.5	
	comp=E,6μm,0.2s						
NIZ				*e*Sg	**Sg**	**09 08 57.1**	**-0.7**
NIZ				Smax		09 09 00.3	
	comp=E,67μm,0.6s						
KMO	**Kumora**	**0.62**	**76**	*e*PG	**Pg**	**09 08 56.6**	**-2.1**
KMO				*e*		09 09 04.2	
KMO				pmax	pmax		
	comp=Z,6μm,0.4s						
KMO				smax			
	comp=N,76μm,1.0s						
KMO	**Kumora**	**0.62**	**76**⇑	*i*Pg	**Pg**	**09 08 56.7**	**-2.0**
KMO				max		09 09 03.6	
	comp=N,10μm,0.7s						
KMO				*e*Sg	**Sg**	**09 09 04.8**	**-2.1**
KMO				Smax		09 09 15.4	
	comp=N,90μm,1.4s						
YOA	**Uoyan**	**0.98**	**66**⇓	*i*PG	**Pg**	**09 09 03.6**	**-1.8**
YOA				*e*		09 09 18.0	
YOA				pmax	pmax		
	comp=Z,5μm,0.2s						

YOA				smax			
	comp=N,111μm,0.4s						
YOA	**Uoyan**	**0.98**	**66**	⇓*i*Pg	**Pg**	**09 09 03.4**	**-2.0**
YOA				*e*Pb	**Pb**	**09 09 05.3**	**-0.1**
YOA				max		09 09 13.1	
	comp=N,6μm,0.5s						
YOA				*i* Sg	**Sg**	**09 09 18.0**	**-0.2**
YOA				*e*		09 09 25.0	
YOA				max		09 09 26.3	
	comp=N,85μm,0.5s						
YLYR	**Ulyunkhan**	**1.05**	**145**	⇑*i*PG	**Pg**	**09 09 03.9**	**-2.9**
YLYR				*e*		09 09 17.2	
YLYR				pmax	pmax		
	comp=Z,4μm,0.5s						
YLYR				smax			
	comp=N,28μm,0.2s						
YLYR	**Ulyunkhan**	**1.05**	**145**	⇓*i*Pg	**Pg**	**09 09 03.8**	**-3.0**
	comp=N,7μm,1.0s						
YLYR				⇑*i*Pg	**Pg**	**09 09 03.8**	**-3.0**
	comp=N,4μm,1.0s						
YLYR				⇑*i*Pg	**Pg**	**09 09 03.8**	**-3.0**
	comp=N,7μm,1.0s						
YLYR				*e*Pb	**Pb**	**09 09 05.3**	**-1.3**
YLYR				max		09 09 07.9	
	comp=N,5μm,0.6s						
YLYR				*i* Sg	**Sg**	**09 09 17.5**	**-3.0**
YLYR				Smax		09 09 25.0	
	comp=N,24μm,0.2s						
SVKR	**Severomuysk**	**1.97**	**78**	*e*PN	**Pn**	**09 09 21.2**	**+1.6**
SVKR	**Severomuysk**	**1.97**	**78**	⇑*i*Pg	**Pn**	**09 09 21.2**	**+1.6**
SVKR				Pmax		09 09 27.7	
	comp=N,8μm,0.6s						
SVKR				*i* Sg	**Sg**	**09 09 47.7**	**-2.1**
SVKR				Smax		09 09 58.8	
	comp=N,82μm,1.2s						
SYVR	**Suvo**	**2.09**	**182**	*e*PN	**Pn**	**09 09 22.7**	**+1.4**
SYVR				*e*		09 09 51.0	
SYVR				pmax	pmax		
	comp=Z,3μm,0.5s						
SYVR				smax			
	comp=N,41μm,0.6s						
SYVR	**Suvo**	**2.09**	**182**	*e*Pn	**Pn**	**09 09 21.7**	**+0.4**
SYVR				⇑*i*Pg	**Pn**	**09 09 22.7**	**+1.4**
SYVR				*e*		09 09 24.5	
SYVR				max		09 09 25.0	
	comp=N,5μm,1.6s						
SYVR				*e*Sg	**Sg**	**09 09 50.9**	**-2.9**
SYVR				Smax		09 09 52.8	
	comp=N,45μm,0.9s						
OGRR	**Ongureny**	**2.57**	**216**	*e*PN	**Pn**	**09 09 28.7**	**+0.9**
OGRR				*e*		09 09 32.7	
OGRR				*e*		09 10 05.3	
OGRR				pmax	pmax		
	comp=Z,815nm,0.4s						
OGRR				smax			
	comp=E,9μm,1.0s						
MXMB	**Maximikha**	**2.61**	**199**	⇑*i*Pn	**Pn**	**09 09 29.0**	**+0.5**
MXMB				max		09 09 29.4	
	comp=E,3μm,1.3s						
MXMB				⇑*i*		09 09 33.7	
MXMB				*e*		09 10 03.1	
MXMB				*i* Sg	**Sg**	**09 10 06.9**	**-3.6**
MXMB				Smax		09 10 09.4	
	comp=E,21μm,0.7s						
BOD	**Bodaibo**	**2.98**	**44**	*e*PN	**Pn**	**09 09 34.2**	**+0.7**
BOD				*e*		09 09 39.2	
BOD				*e*		09 10 17.3	
BOD				pmax	pmax		
	comp=Z,444nm,0.3s						
BOD				smax			
	comp=N,12μm,1.2s						
BOD	**Bodaibo**	**2.98**	**44**	⇓*i*Pn	**Pn**	**09 09 34.4**	**+0.9**
BOD				max		09 10 03.0	
	comp=N,2μm,1.2s						
BOD				*e*Sn	**Sn**	**09 10 11.6**	**+2.5**
BOD				*i* Sg	**Sg**	**09 10 17.9**	**-4.3**
BOD				Smax		09 10 22.2	
	comp=N,14μm,1.5s						
NLYR	**Nelyaty**	**3.21**	**74**	*e*PN	**Pn**	**09 09 37.7**	**+1.0**
NLYR				*e*		09 09 45.2	
NLYR				*e*		09 10 26.9	
TRG	**Tyrgan**	**3.72**	**218**	*e*PN	**Pb**	**09 09 52.6**	**+0.5**
TRG				*e*S	**Sn**	**09 10 27.4**	**0.0**
TRG				*e*		09 10 40.8	
TRG				pmax	pmax		
	comp=Z,516nm,0.5s						
TRG				smax			
	comp=E,5μm,0.5s						
TRG	**Tyrgan**	**3.72**	**218**	⇑*i*Pn	**Pn**	**09 09 44.6**	**+0.9**
	comp=E,394nm,1.5s						
TRG				⇑*i*Pn	**Pn**	**09 09 44.6**	**+0.9**
	comp=E,171nm,1.5s						
TRG				⇓*i*Pn	**Pn**	**09 09 44.6**	**+0.9**
	comp=E,428nm,1.5s						
TRG				max		09 09 50.3	
	comp=E,953nm,0.5s						
TRG				*e*		09 10 00.1	
TRG				*e*Sn	**Sn**	**09 10 29.5**	**+2.1**
TRG				*e*Sg	**Sg**	**09 10 40.4**	**-5.6**
TRG				Smax		09 10 46.9	
	comp=E,5μm,0.8s						
TRG				*e*L		09 11 23.2	
TRTB	**Turuntaevo**	**3.82**	**204**	⇓*i*Pn	**Pn**	**09 09 45.4**	**+0.4**
TRTB				*e*		09 09 50.0	
TRTB				max		09 10 01.0	
	comp=E,752nm,0.9s						
TRTB				*e*		09 10 21.6	
TRTB				*e*Sg	**Sg**	**09 10 43.7**	**-5.4**
TRTB				Smax		09 10 50.6	
	comp=E,4μm,1.5s						
UUDB	**Ulan-Yde**	**4.15**	**202**	*e*Pn	**Pn**	**09 09 50.8**	**+1.2**
UUDB				*e*Pg	**Pg**	**09 10 01.7**	**-4.3**
UUDB				Pmax		09 10 08.1	
	comp=E,610nm,1.6s						
UUDB						09 10 41.7	
UUDB				*e*Sg	**Sg**	**09 10 54.4**	**-5.4**
UUDB				Smax		09 11 12.2	
	comp=E,8μm,1.5s						
FFNB	**Fofonovo**	**4.20**	**210**	⇑*i*Pn	**Pn**	**09 09 50.6**	**+0.3**
FFNB				⇓*i*		09 09 53.4	
FFNB				max		09 09 57.4	
	comp=E,56nm,0.5s						
FFNB				*e*		09 10 40.3	
FFNB				*e*Sg	**Sg**	**09 10 53.8**	**-7.7**
FFNB				Smax		09 11 06.9	
	comp=E,8μm,0.7s						
KAB	**Kabansk**	**4.23**	**210**	*e*PN	**Pb**	**09 09 59.6**	**-1.2**
KAB				*e*		09 10 56.4	
KAB				pmax	pmax		
	comp=Z,642nm,1.0s						
KAB				smax			
	comp=N,22μm,1.6s						
KAB	**Kabansk**	**4.23**	**210**	*e*	**Pg**	**09 10 07.2**	**-0.4**
KAB				max		09 10 33.0	
	comp=N,1μm,1.0s						
KAB						09 10 43.2	
KAB				*e*Sg	**Sg**	**09 10 55.6**	**-6.8**
KAB				Smax		09 11 11.0	
	comp=N,18μm,1.2s						
CIT	**Chita**	**4.24**	**150**	*e*PN	**Pn**	**09 09 49.9**	**-1.0**
CIT				*e*		09 09 59.2	
CIT				*e*S	**Sn**	**09 10 39.0**	**-1.3**
CIT				*e*		09 10 53.9	
CIT				pmax	pmax		
	comp=Z,3μm,1.6s						
CIT				smax			
	comp=E,10μm,1.3s						
CIT	**Chita**	**4.24**	**150**	⇑*i*Pn	**Pn**	**09 09 50.0**	**-0.9**
CIT				⇓*i*Pg	**Pg**	**09 09 59.9**	**-7.9**
CIT				*e*		09 10 01.2	
CIT				max		09 10 03.3	
	comp=E,3μm,1.7s						
CIT				*i* Sg	**Sg**	**09 10 54.1**	**-8.7**
CIT				*e*		09 11 04.4	
CIT				max		09 11 14.8	
	comp=E,10μm,1.7s						
CRS	**Chara**	**4.68**	**72**	*e*PN	**Pb**	**09 10 09.7**	**+1.3**
CRS				*e*		09 11 12.3	
CRS				pmax	pmax		
	comp=Z,5μm,1.0s						
CRS				smax			
	comp=N,14μm,1.6s						
CRS	**Chara**	**4.68**	**72**	*e*Pn	**Pn**	**09 09 57.6**	**+0.7**
CRS				⇓*i*Pg	**Pg**	**09 10 11.9**	**-4.2**
CRS				Pmax		09 10 13.4	
	comp=N,5μm,1.0s						
CRS				*e*		09 10 21.8	
CRS				*i* Sg	**Sg**	**09 11 12.3**	**-4.4**
CRS				Smax		09 11 28.1	
	comp=N,15μm,1.7s						
BTMB	**Babushkin**	**4.79**	**214**	⇓*i*Pn	**Pn**	**09 09 58.8**	**+0.4**
BTMB				*e*		09 10 14.0	
BTMB				max		09 10 16.0	
	comp=N,289nm,0.5s						
BTMB				*e*		09 10 54.1	
BTMB				*e*Sg	**Sg**	**09 11 13.3**	**-6.9**
BTMB				Smax		09 11 25.3	
	comp=N,4μm,0.8s						
IRK	**Irkutsk**	**4.92**	**227**	*e*PN	**Pn**	**09 09 59.6**	**-0.6**
IRK				*e*S	**Sn**	**09 10 54.5**	**-2.5**
IRK				*e*S	**Sg**	**09 11 17.4**	**-7.1**
IRK				smax			
	comp=N,8μm,0.5s						
IRK	**Irkutsk**	**4.92**	**227**	*e*	**Pn**	**09 10 00.7**	**+0.5**
IRK				max		09 10 11.1	
	comp=N,650nm,0.5s						
IRK				*e*Sn	**Sn**	**09 10 56.6**	**-0.4**
IRK				*e*Sg	**Sg**	**09 11 19.1**	**-5.4**
IRK				Smax		09 11 23.2	
	comp=N,8μm,0.4s						
LSTR	**Listvyanka**	**4.99**	**221**	⇑*i*Pn	**Pn**	**09 10 01.2**	**0.0**
	comp=N,187nm,1.4s						
LSTR				⇑*i*Pn	**Pn**	**09 10 01.2**	**0.0**
	comp=N,42nm,1.4s						
LSTR				⇓*i*Pn	**Pn**	**09 10 01.2**	**0.0**
	comp=N,109nm,1.4s						
LSTR				*e*		09 10 10.5	
LSTR				max		09 10 25.6	
	comp=N,354nm,0.8s						
LSTR				*e*Sn	**Sn**	**09 10 58.5**	**-0.2**
LSTR				*e*		09 11 15.8	
LSTR				*e*Sg	**Sg**	**09 11 18.6**	**-8.2**
LSTR				Smax		09 11 32.4	
	comp=N,4μm,1.5s						
TLY	**Talaya**	**5.60**	**226**	P	**Pn**	**09 10 09.3**	**-0.3**
	SNR=35						
TLY	**Talaya**	**5.60**	**226**	*e*PN	**Pn**	**09 10 09.3**	**-0.2**
TLY				*e*		09 10 26.1	
TLY				*e*S	**Sn**	**09 11 13.0**	**-0.8**
TLY				*e*		09 11 38.2	
TLY				pmax	pmax		
	comp=Z,234nm,0.5s						
TLY				smax			
	comp=E,3μm,1.3s						
TLY	**Talaya**	**5.60**	**226**	*e*Pn	**Pn**	**09 10 09.2**	**-0.3**
	comp=E,201nm,0.5s						
TLY	**Talaya**	**5.60**	**226**	⇓*i*Pn	**Pn**	**09 10 08.8**	**-0.7**
TLY				⇑*i*		09 10 09.4	
TLY				max		09 10 34.2	
	comp=E,224nm,1.0s						
TLY				*i* Sn	**Sn**	**09 11 13.3**	**-0.5**
TLY				*e*Sg	**Sg**	**09 11 38.2**	**-8.1**
TLY				Smax		09 11 54.8	
	comp=E,3μm,1.6s						
KHNR	**Khani**	**5.61**	**74**	*e*Pn	**Pn**	**09 10 11.2**	**+1.6**
KHNR				⇓*i*Pg	**Pg**	**09 10 25.6**	**-8.3**
KHNR				*e*Sg	**Sg**	**09 11 40.8**	**-5.7**
TUP	**Tupik**	**5.80**	**99**	*e*PN	**Pn**	**09 10 11.9**	**-0.3**
TUP				*e*		09 10 29.6	
TUP				*e*S	**Sn**	**09 11 16.4**	**-2.2**
TUP				*e*		09 11 44.2	
TUP				pmax	pmax		
	comp=Z,1μm,1.4s						
TUP				smax			
	comp=N,14μm,1.9s						
TUP	**Tupik**	**5.80**	**99**	⇑*i*Pn	**Pn**	**09 10 11.6**	**-0.6**
TUP				*e*Pg	**Pg**	**09 10 30.0**	**-7.5**
TUP				Pmax		09 10 39.4	
	comp=N,1μm,1.7s						
TUP				*e*Sn	**Sn**	**09 11 16.4**	**-2.2**
TUP				*e*Sg	**Sg**	**09 11 46.0**	**-6.6**
TUP				Smax		09 12 06.1	
	comp=N,16μm,1.8s						
ARS	**Arshan**	**5.95**	**233**	*e*PN	**Pn**	**09 10 14.7**	**+0.3**
ARS				*e*S	**Sn**	**09 11 20.3**	**-2.2**
ARS	**Arshan**	**5.95**	**233**	⇑*i*Pn	**Pn**	**09 10 14.3**	**-0.1**
	comp=N,142nm,0.7s						
ARS				⇑*i*Pn	**Pn**	**09 10 14.3**	**-0.1**
	comp=N,81nm,0.7s						
ARS				⇓*i*Pn	**Pn**	**09 10 14.3**	**-0.1**
	comp=N,177nm,0.7s						
ARS				max		09 10 20.3	
	comp=N,715nm,0.5s						
ARS				*e*		09 10 23.4	
ARS				*e*Pg	**Pg**	**09 10 33.4**	**-7.1**
ARS				*e*Sn	**Sn**	**09 11 20.6**	**-1.9**
ARS				*e*Sg	**Sg**	**09 11 51.0**	**-6.6**
ARS				Smax		09 11 54.9	
	comp=N,10μm,1.0s						
KPC	**Khapcheranga**	**6.20**	**166**	*e*PN	**Pg**	**09 10 36.5**	**-8.8**
KPC				*e*		09 11 56.9	
KPC				pmax	pmax		
	comp=Z,268nm,0.6s						
KPC				smax			
	comp=E,7μm,1.4s						
KPC	**Khapcheranga**	**6.20**	**166**	*e*Pn	**Pn**	**09 10 16.3**	**-1.5**
KPC				⇑*i*		09 10 18.1	
KPC				*e*Pg	**Pg**	**09 10 36.5**	**-8.8**
KPC				Pmax		09 10 38.3	
	comp=E,266nm,0.8s						
KPC				*e*		09 11 36.5	
KPC				*i* Sg	**Sg**	**09 11 56.5**	**-9.1**
KPC				*e*		09 12 05.5	
KPC				max		09 12 08.2	
	comp=E,7μm,1.3s						
ZAK	**Zakamensk**	**6.77**	**220**	*e*PN	**Pn**	**09 10 26.2**	**+0.6**
ZAK				*e*		09 10 49.0	
ZAK				*e*S	**Sn**	**09 11 44.8**	**+2.2**
ZAK				*e*		09 12 16.5	
ZAK				pmax	pmax		
	comp=Z,111nm,0.6s						
ZAK				smax			
	comp=N,3μm,1.8s						
ZAK	**Zakamensk**	**6.77**	**220**	⇓*i*Pn	**Pn**	**09 10 26.1**	**+0.5**
ZAK				max		09 10 27.8	
	comp=N,110nm,1.1s						
ZAK				*e*		09 11 45.4	
ZAK				*e*Sg	**Sg**	**09 12 16.7**	**-7.1**
ZAK				Smax		09 12 22.5	
	comp=N,3μm,1.8s						
MOY	**Mondy**	**6.79**	**237**	*e*PN	**Pn**	**09 10 27.1**	**+1.3**
MOY				*e*S	**Sn**	**09 11 41.6**	**-1.4**
MOY	**Mondy**	**6.79**	**237**	⇑*i*Pn	**Pn**	**09 10 27.3**	**+1.5**
	comp=N,232nm,1.8s						
MOY				⇑*i*Pn	**Pn**	**09 10 27.3**	**+1.5**
	comp=N,255nm,1.8s						
MOY				⇓*i*Pn	**Pn**	**09 10 27.3**	**+1.5**
	comp=N,364nm,1.8s						
MOY				max		09 10 28.4	
	comp=N,760nm,0.9s						
MOY				*i* Sn	**Sn**	**09 11 42.6**	**-0.4**
MOY				*i* Sg	**Sg**	**09 12 17.9**	**-6.4**
MOY				Smax		09 12 32.3	
	comp=N,5μm,1.8s						
ORL	**Orlik**	**6.86**	**246**	*e*PN	**Pn**	**09 10 28.3**	**+1.5**
ORL				*e*		09 10 49.9	
ORL				*e*		09 12 17.8	
ORL				pmax	pmax		
	comp=Z,331nm,0.7s						
ORL				smax			
	comp=N,5μm,1.3s						
ORL	**Orlik**	**6.86**	**246**	⇓*i*Pn	**Pn**	**09 10 28.2**	**+1.4**
ORL				max		09 10 31.3	
	comp=N,315nm,1.2s						
ORL				*e*Sn	**Sn**	**09 11 44.7**	**0.0**
ORL				*e*Sg	**Sg**	**09 12 17.9**	**-8.7**
ORL				Smax		09 12 21.7	
	comp=N,5μm,1.4s						
ULN	**Ulaanbaatar**	**8.12**	**195**	*e*PN	**Pn**	**09 10 45.3**	**+1.2**
NRGR	**Nerungri**	**8.19**	**78**	*e*PN	**Pn**	**09 10 50.6**	**+5.5**
NRGR				S	**Sn**	**09 12 16.8**	**-0.8**
NRGR				smax			
	comp=E,892nm,0.8s						
SONM	**Songino Array**	**8.25**	**198**	Pn	**Pn**	**09 10 46.2**	**+0.3**
	comp=E,4.3nm,0.3s,baz=15,slow=13,SNR=54						
SONM				Lg		09 13 04.6	
	comp=E,37nm,0.3s,baz=24,slow=32,SNR=10						
SONM				LR	LR	09 14 20.9	
	comp=E,2μm,20.0s,baz=18,slow=41						
CLNS	**Chul'man**	**8.29**	**76**	*e*PN	**Pn**	**09 10 48.6**	**+2.1**
CLNS				pmax	pmax		
	comp=Z,14nm,1.1s						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				MLR	MLR		
	comp=E,7μm,11.0s						
CLNS				MLR	MLR		
	comp=Z,8μm,11.0s						
CLNS				MLR	MLR		
	comp=N,6μm,10.0s						
HIA	**Hailar**	**8.74**	**134**	*e*PN	**Pn**	**09 10 49.5**	**-3.1**
HIA				*e*		09 12 28.6	
HIA				pmax	pmax		
	comp=Z,40nm,0.4s						
HIA	**Hailar**	**8.74**	**134**	*e*Pn	**Pn**	**09 10 49.5**	**-3.1**
	comp=Z,40nm,0.4s						
HIA				*e*Sn	**Sn**	**09 12 28.6**	**-2.4**
TDJR	**Todzha**	**8.90**	**254**	⇓*i*Pn	**Pn**	**09 10 55.5**	**+0.7**
TDJR				*e*Sg	Sn	09 13 21.9	+47
KRAR	**Krasnoyarsk**	**9.70**	**279**	*i* P	**Pn**	**09 11 05.0**	**-0.8**
YAK	**Yakutsk**	**11.88**	**50**	*e*P	**Pn**	**09 11 33.3**	**-2.4**
YAK				*e*S	**Sn**	**09 13 41.4**	**-6.7**
YAK				pmax	pmax		
	comp=Z,24nm,0.8s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,42nm,1.4s						
YAK				smax			
	comp=E,316nm,1.1s						
YAK				smax			
	comp=Z,190nm,1.1s						
YAK				smax			
	comp=N,414nm,1.4s						
YAK				MLR	MLR		
	comp=Z,11μm,5.0s						
YAK				MLR	MLR		
	comp=N,5μm,3.0s						
YAK				MLR	MLR		
	comp=E,7μm,4.0s						
YAK	**Yakutsk**	**11.88**	**50**	*e*Pn	**Pn**	**09 11 33.6**	**-2.1**
YAK				*e*Sn	**Sn**	**09 13 40.8**	**-7.4**
ZAL	**Zalesovo**	**14.68**	**273**	Pn	**Pn**	**09 12 14.0**	**+0.1**
	comp=E,1.2nm,0.3s,baz=37,slow=13,SNR=49						
ZAL				Lg		09 16 28.7	
	comp=E,1.2nm,0.3s,baz=117,slow=16,SNR=3.0						
HHC	**Hu-ho-hao-te**	**14.94**	**176**	*e*P	**Pn**	**09 12 19.1**	**+1.8**
HHC				XP	sP	09 12 25.2	-2.9
HHC				PP		09 12 31.2	
HHC				S	**Sn**	**09 15 05.2**	**+2.5**
HHC				XS	sS	09 15 11.7	-14
HHC				SS		09 15 21.8	
HHC				AMB	AMB		
	comp=Z,14nm,0.7s						
HHC				AMB	AMB		
	comp=Z,238nm,8.3s						
HHC				LR	LR		
	comp=N,8μm,9.5s						
HHC				LR	LR		
	comp=E,4μm,8.9s						
HHC				LR	LR		
	comp=Z,9μm,10.1s						
NVS	**Novosibirsk**	**15.31**	**278**	*e*P	**Pn**	**09 12 20.6**	**-1.7**
NVS				*e*		09 15 14.4	
CN2	**Changchun**	**15.47**	**134**	*e*P	**Pn**	**09 12 23.9**	**-0.5**
CN2				XP	sP	09 12 31.1	-3.0
CN2				*e*S	**Sn**	**09 15 16.6**	**+0.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				LR	LR		
	comp=N,6μm,10.0s						
CN2				LR	LR		
	comp=E,4μm,10.0s						
CN2				LR	LR		
	comp=Z,7μm,10.0s						
BJI	**Beijing**	**16.22**	**163**	P	**Pn**	**09 12 36.2**	**+2.1**
BJI				LR	LR		
	comp=N,10μm,17.6s						
BJI				LR	LR		
	comp=E,10μm,16.8s						
BJI				LR	LR		
	comp=Z,3μm,16.2s						
BJT	**Baijiatuau**	**16.24**	**163**	*e*P	**Pn**	**09 12 36.3**	**+2.0**
BJT				pmax	pmax		
	comp=Z,12nm,0.6s						
BJT	**Baijiatuau**	**16.24**	**163**	*e*P	**Pn**	**09 12 36.3**	**+2.0**
	comp=Z,12nm,0.6s						
BJT				*e*PcP	PcP	09 17 20.5	-8.0
SNY	**Shenyang**	**16.46**	**142**	⇓P	**Pn**	**09 12 41.4**	**+4.2**
SNY				AP	pP	09 12 45.4	+2.0
SNY				XP	sP	09 12 47.5	+2.4
SNY				S	**Sn**	**09 15 50.2**	**+10**
SNY				AMB	AMB		
	comp=Z,16nm,1.7s						
SNY				AMB	AMB		
	comp=Z,496nm,4.4s						
SNY				LR	LR		
	comp=N,11μm,8.0s						
SNY				LR	LR		
	comp=E,3μm,7.9s						
SNY				LR	LR		
	comp=Z,10μm,8.5s						
MDJ	**Mudanjiang**	**16.65**	**124**	P	**Pn**	**09 12 40.3**	**+0.7**
MDJ				AP	pP	09 12 45.7	+0.2
MDJ				XP	sP	09 12 47.1	0.0
MDJ				AMB	AMB		
	comp=Z,192nm,8.1s						
MDJ				LR	LR		
	comp=N,9μm,8.0s						
MDJ				LR	LR		
	comp=E,5μm,8.5s						
MDJ				LR	LR		
	comp=Z,11μm,8.2s						
GTA	**Gaotai**	**17.73**	**207**	P	**Pn**	**09 12 53.8**	**+0.7**
GTA				AP	pP	09 12 57.7	+0.3
GTA				XP	sP	09 12 59.7	+0.6
GTA				PP		09 13 08.4	
GTA				S	**Sn**	**09 16 10.9**	**+0.5**
GTA				SS		09 16 33.7	
GTA				PCP	PcP	09 17 30.5	-0.3
GTA				AMB	AMB		
	comp=Z,27nm,1.9s						
GTA				AMB	AMB		
	comp=Z,668nm,5.3s						
GTA				LR	LR		
	comp=N,4μm,7.6s						
GTA				LR	LR		
	comp=E,4μm,8.7s						
GTA				LR	LR		
	comp=Z,4μm,9.1s						
TIXI	**Tiksi**	**17.84**	**19***c*	*i*P	**Pn**	**09 12 50.0**	**-4.5**
TIXI				pmax	pmax		
	comp=Z,27nm,0.6s						
TIXI	**Tiksi**	**17.84**	**19**	*e*P	**Pn**	**09 12 50.1**	**-4.4**
TIXI				*e*S	**Sn**	**09 15 55.1**	**-18**
DL2	**Dalian**	**18.52**	**151**	⇑P	**Pn**	**09 13 04.9**	**+2.1**
DL2				PP		09 13 24.4	
DL2				S	**Sn**	**09 16 36.5**	**+6.9**
DL2				AMB	AMB		
	comp=Z,20nm,1.2s						
DL2				AMB	AMB		
	comp=Z,230nm,4.7s						
DL2				LR	LR		
	comp=N,2μm,13.6s						
DL2				LR	LR		
	comp=E,2μm,11.7s						
DL2				LR	LR		
	comp=Z,3μm,10.1s						
WMQ	**Urumqi**	**18.66**	**240**	P	**Pn**	**09 13 05.6**	**+1.0**
WMQ				S	**Sn**	**09 16 30.6**	**-2.5**
WMQ				XS	sS	09 16 35.8	-6.4
WMQ				SS		09 16 54.0	
WMQ				PCP	PcP	09 17 35.3	+2.9
WMQ				AMB	AMB		
	comp=Z,23nm,1.9s						
WMQ				AMB	AMB		
	comp=Z,558nm,4.5s						
WMQ				LR	LR		
	comp=N,7μm,7.0s						
WMQ				LR	LR		
	comp=E,4μm,6.0s						
WMQ				LR	LR		

comp=Z,820nm,15.0s
VLA Vladivostok 18.87 123 P Pn 09 13 02.0 -5.0
VLA *i* 09 16 41.6
VLA MLR MLR
comp=Z,3μm,8.5s
KURK Kurchatov 19.41 268 P Pn 09 13 12.5 -1.1
SNR=59
KURK Kurchatov 19.41 268 *d i* P **Pn 09 13 11.8 -1.8**
KURK Kurchatov 19.41 268 *eP* **Pn 09 13 12.8 -0.8**
comp=Z,97nm,0.8s
MK31 Makanchi Array 19.47 254 *i* P **Pn 09 13 12.7 -1.5**
MK31 pmax pmax
comp=Z,33nm,0.5s
MK31 Makanchi Array 19.47 254 *eP* **Pn 09 13 12.8 -1.5**
MKAR Makanchi Array 19.47 254 P **Pn 09 13 12.5 -1.7**
comp=Z,5.0nm,0.3s,baz=66,slow=9.1,SNR=240
MKAR S **Sn 09 16 52.5 0.0**
baz=33,slow=17,SNR=3.0
MKAR LR LR 09 21 08.3
comp=Z,728nm,21.8s,baz=44,slow=38
MKAR Makanchi Array 19.47 254 P **Pn 09 13 12.5 -1.7**
MKAR S **Sn 09 16 52.5 0.0**
MKAR pmax pmax
comp=Z,5.0nm,0.3s
MKAR MLR MLR
comp=Z,729nm,21.8s
LZH Lanzhou 20.12 195 *eP* **P 09 13 21.9 +1.7**
LZH AP 09 13 25.2
LZH XP sP 09 13 26.7 +1.3
LZH PP 09 13 41.5
LZH S **S 09 17 02.0 -3.9**
LZH AMB AMB
comp=Z,69nm,1.3s
LZH AMB AMB
comp=Z,497nm,5.2s
LZH LR LR
comp=E,2μm,8.6s
LZH LR LR
comp=Z,4μm,12.9s,MS5.0
LZH Lanzhou 20.12 195 *eP* **P 09 13 21.9 +1.7**
LZH pP 09 13 25.2
LZH sP sP 09 13 26.7 +1.3
LZH PP 09 13 41.5
LZH S **S 09 17 02.0 -3.9**
LZH sS sS 09 17 06.8 -4.8
LZH SS 09 17 29.3
XAN Xi'an 21.72 183 P **P 09 13 36.9 -0.5**
XAN AP 09 13 47.6
XAN S **S 09 17 38.3 +0.8**
XAN AMB AMB
comp=Z,17nm,1.0s,mb4.4
XAN LR LR
comp=N,4μm,10.2s
XAN LR LR
comp=E,3μm,7.2s
XAN LR LR
comp=Z,7μm,10.4s,MS5.3
MA2 Magadan 21.82 63 *e* **S 09 17 42.4 +2.9**
KSRS Korea Array 21.89 139 P **P 09 13 39.5 +0.3**
comp=Z,2.6nm,0.7s,mb3.8,baz=334,slow=7.8,SNR=3.9
KSRS LR LR 09 21 27.7
comp=Z,475nm,19.7s,MS3.9,baz=324,slow=35
YSS Yuzh-Sakhalins 22.02 100 *eP* **P 09 13 49.0 +8.4**
YSS *e* 09 14 11.0
YSS *eS* **S 09 17 48.0 +4.8**
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.7
YSS MLR MLR
comp=Z,4μm,13.0s,MS5.0
YSS MLR MLR
comp=E,5μm,12.0s
SEY Seymchan 22.35 54 *i* P **P 09 13 42.3 -1.9**
CHKZ Chkalovo 22.71 281 *eP* **P 09 13 47.0 -1.0**
comp=E,724nm,1.2s
BVA0 Borovoye Array 23.08 280 *i* P **P 09 13 51.3 -0.6**
BVA0 pmax pmax
comp=Z,36nm,1.6s,mb4.5
BVAR Borovoye Array 23.08 280 P **P 09 13 51.3 -0.6**
comp=Z,26nm,0.7s,mb4.8,baz=70,slow=12,SNR=70
BVAR S **S 09 18 02.9 +0.3**
comp=Z,5.8nm,0.8s,baz=62,slow=20,SNR=3.3
BVAR LR LR 09 23 44.1
comp=Z,1μm,20.0s,MS4.4,baz=320,slow=39
BVAR Borovoye Array 23.08 280 P **P 09 13 51.3 -0.6**
BVAR S **S 09 18 02.9 +0.3**
BVAR pmax pmax
comp=Z,26nm,0.7s
BVAR smax
comp=N,6.0nm,0.8s
BVAR MLR MLR
comp=Z,1μm,20.0s
BRVK Borovoye 23.13 280 ⇑P **P 09 13 52.1 -0.3**
SNR=49
BRVK Borovoye 23.13 280 *eP* **P 09 13 52.2 -0.2**
BRVK *eS* **S 09 18 03.4 0.0**
BRVK pmax pmax
comp=Z,73nm,0.9s,mb5.1
BRVK Borovoye 23.13 280 *eP* **P 09 13 52.2 -0.2**
comp=Z,73nm,0.9s,mb5.1
BRVK *eS* **S 09 18 03.4 +0.1**
ASAJ Asahikawa 23.69 106 LR LR 09 24 10.1
comp=Z,1μm,18.9s,MS4.5,baz=311,slow=39
CD2 Chengdu 25.23 193 P **P 09 14 13.5 +1.4**
CD2 AP pP 09 14 17.5 +1.6
CD2 XP sP 09 14 20.5 +3.0
CD2 PP 09 14 51.9
CD2 S **S 09 18 35.9 -1.4**
CD2 XS sS 09 18 43.1 -0.5
CD2 SS 09 19 36.1
CD2 AMB AMB
comp=Z,30nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,300nm,4.1s
CD2 LR LR
comp=N,2μm,8.8s
CD2 LR LR
comp=E,4μm,11.2s
CD2 LR LR
comp=Z,2μm,8.1s
TKM2 Tokmak 2 25.60 255 P **P 09 14 18.0 +2.5**
SNR=28
SSE Sheshan 25.85 158 P **P 09 14 18.3 +0.5**
SSE S **S 09 18 48.3 +1.2**
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,248nm,6.7s
SSE LR LR
comp=N,357nm,19.3s,MS4.5
SSE LR LR
comp=E,1μm,19.3s,MS4.5
SSE LR LR
comp=Z,5μm,12.2s
FRU Bishkek 26.19 255 *eP* **P 09 14 23.0 +2.1**
FRU pmax pmax
comp=Z,120nm,1.8s,mb5.1
KZA Kyzart 26.36 253 P **P 09 14 26.7 +4.3**
SNR=9.2
AAK Ala-Archa 26.39 255 P **P 09 14 26.2 +3.5**
SNR=8.2
AAK Ala-Archa 26.39 255 ⇓P **P 09 14 22.8 +0.1**
SNR=14
AAK Ala-Archa 26.39 255 *eP* **P 09 14 23.0 +0.3**
AAK pmax pmax
comp=Z,17nm,0.8s,mb4.6
AAK Ala-Archa 26.39 255 *eP* **P 09 14 23.0 +0.3**
comp=Z,17nm,0.8s,mb4.6
UCH Uchtor 26.66 255 P **P 09 14 29.5 +4.5**
SNR=9.1
EKS2 Erkin-Say 26.77 256 P **P 09 14 28.3 +2.3**
SNR=13
MAT Matsushiro 27.03 123 P **P 09 14 27.0 -1.5**
MAT S **S 09 19 06.0 +0.2**
SKR Severo-Kuril's 27.59 81 P **P 09 14 37.0 +3.6**
SKR *e* 09 15 31.0
SKR *eSS* 09 20 50.0
SKR MLR MLR
comp=E,1μm,12.0s
SKR MLR MLR
comp=Z,1μm,12.0s,MS4.6
PET Petropavlovsk 27.93 75 *eP* **P 09 14 36.9 +0.4**
PET *eS* **S 09 19 21.7 +1.7**
PET pmax pmax
comp=Z,39nm,1.5s,mb4.8
PET pmax pmax
comp=Z,400nm,3.6s
PET smax
comp=N,400nm,5.2s
PET MLR MLR
comp=Z,1μm,11.0s,MS4.8
PET MLR MLR
comp=Z,1μm,16.0s
PET Petropavlovsk 27.93 75 *eP* **P 09 14 38.0 +1.5**
comp=Z,49nm,1.2s,mb5.0
BILL Bilibino 28.03 42 *de*P **P 09 14 38.4 +1.0**
BILL *e* 09 15 22.6
BILL 09 17 52.0
BILL *eS* **S 09 19 14.2 -7.4**
BILL pmax pmax
comp=Z,23nm,1.3s,mb4.7
BILL MLR MLR
comp=Z,300nm,15.0s,MS4.0
BILL Bilibino 28.03 42 *eP* **P 09 14 38.4 +1.0**
comp=Z,19nm,1.1s,mb4.6
ARU Arti 28.23 293 *eP* **P 09 14 38.9 -0.3**
ARU pmax pmax
comp=Z,17nm,0.8s,mb4.7
ARU MLR MLR
comp=Z,2μm,17.0s,MS4.8
ARU Arti 28.23 293 *eP* **P 09 14 39.0 -0.1**
comp=Z,17nm,0.8s,mb4.7
GYA Guiyang 29.37 186 *eP* **P 09 14 51.8 +2.5**
GYA AP pP 09 14 55.9 +2.8
GYA XP sP 09 14 58.7 +4.0
GYA PP PP 09 15 48.3 -7.2
GYA PCP PcP 09 17 58.8 +3.5
GYA S **S 09 19 45.5 +2.9**
GYA SCP ScP 09 21 39.4 +2.6
GYA SCS ScS 09 25 32.4 +1.2
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
GYA AMB AMB
comp=Z,110nm,4.7s
GYA LR LR
comp=N,430nm,15.4s,MS4.3
GYA LR LR
comp=E,470nm,15.8s,MS4.3
GYA LR LR
comp=Z,480nm,15.6s,MS4.2
AB31 Akbulak array 30.65 279 *eP* **P 09 15 00.2 -0.4**
AB31 pmax pmax
comp=Z,20nm,0.5s,mb5.2
KMI Kunming 31.06 193 P **P 09 15 08.5 +4.2**
KMI AP pP 09 15 11.4 +3.3
KMI XP sP 09 15 12.7 +3.0
KMI PP PP 09 16 11.2 -3.2
KMI PPP 09 16 25.3
KMI S **S 09 20 09.7 +0.5**
KMI SS SS 09 21 53.6 -28
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,183nm,5.4s
KMI LR LR
comp=N,1μm,10.8s,MS5.1
KMI LR LR
comp=E,2μm,12.5s,MS5.1
KMI LR LR
comp=Z,1μm,12.1s,MS4.7
KMI Kunming 31.06 193 P **P 09 15 08.5 +4.2**
KMI pP pP 09 15 11.4 +3.3
KMI sP sP 09 15 12.7 +3.0
KMI PP PP 09 16 11.2 -3.2
KMI PPP 09 16 25.3
KMI S **S 09 20 09.7 +0.5**
KMI SS SS 09 21 53.6 -28
AKTO Aktyubinsk 31.11 282 LR LR 09 28 51.7
comp=Z,857nm,18.1s,MS4.5,baz=252,slow=39
AKTO Aktyubinsk 31.11 282 P **P 09 15 04.5 -0.2**
AKTO pmax pmax
comp=Z,51nm,3.0s
ORR Orenburg 32.31 286 *eP* **P 09 15 15.7 +0.5**
ORR pmax pmax
comp=Z,40nm,0.7s,mb5.4
GUN Gumba 32.83 222 *eP* **P 09 15 21.8 +2.1**
KKN Kakani 33.16 223 *eP* **P 09 15 23.7 +1.0**
comp=Z,50nm,0.6s,mb5.6
GKN Gorkha 33.22 224 *eP* **P 09 15 23.8 +0.6**
comp=Z,26nm,0.8s,mb5.2
DMN Daman 33.39 223 *eP* **P 09 15 25.8 +1.1**
comp=Z,34nm,0.7s,mb5.4
KOLN Koldanda 33.84 225 *eP* **P 09 15 29.0 +0.4**
comp=Z,22nm,0.9s,mb5.1
APA Apatity 35.76 320 ⇑*i* P **P 09 15 43.0 -2.2**
APA *i* pP 09 15 46.6 -2.5
APA *eS* **S 09 21 14.4 -7.6**
KLMR Klimovskoe 35.80 308 *eP* **P 09 15 45.5 0.0**
KLMR pmax pmax
comp=Z,101nm,2.3s,mb5.3
QIZ Qiongzhong 36.65 180 *eP* **P 09 15 51.1 -1.7**
QIZ S **S 09 21 42.0 +6.3**
QIZ LR LR
comp=N,1μm,10.4s
QIZ LR LR
comp=Z,2μm,11.2s,MS5.1
KEV Kevo 37.18 325 *ep* **P 09 15 56.3 -1.0**
comp=Z,2.9nm,0.3s,mb4.6
KEV Kevo 37.18 325 *eP* **P 09 15 56.3 -1.0**
KEV pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
ARCES ARCESS Array B 37.75 325 P **P 09 16 01.3 -0.8**
comp=Z,3.8nm,0.5s,mb4.4,baz=70,slow=7.6,SNR=58
ARCES PcP PcP 09 18 17.4 -1.5
comp=Z,1.7nm,0.5s,baz=79,slow=6.3,SNR=3.5
ARCES LR LR 09 35 24.7
comp=Z,645nm,18.2s,MS4.5,baz=62,slow=42
ARCES ARCESS Array B 37.75 325 P **P 09 16 01.3 -0.8**
ARCES 09 18 17.4
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARCES MLR MLR
comp=Z,645nm,18.2s
TNA Tin City 38.47 41 *eP* **P 09 16 09.0 +0.8**
comp=Z,31nm,0.8s,mb5.1
KTK1 Kautokeino 38.70 325 *eP* **P 09 16 10.8 +0.7**
KTK1 AMb AMB 09 16 15.8
comp=Z,63nm,1.7s,mb5.1
KTK1 Kautokeino 38.70 325 *eP* **P 09 16 10.8 +0.7**
comp=Z,63nm,1.7s,mb5.1
MOS Moscow 39.07 301 *eP* **P 09 16 12.5 -0.8**
MOS pmax pmax
comp=Z,56nm,0.7s,mb5.4
MOS MLR MLR
comp=Z,1μm,10.0s,MS5.1
VRHR Novokhopersk 39.58 293 *eP* **P 09 16 17.6 +0.1**
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.3
VRHR pmax pmax
comp=E,10.0nm,0.3s
VRHR MLR MLR
comp=Z,3μm,13.0s,MS5.3
VRHR MLR MLR
comp=N,2μm,12.0s,MS5.3
VRHR MLR MLR
comp=E,2μm,14.0s,MS5.3
TRO Tromso 39.79 327 *eP* **P 09 16 18.1 -1.1**
TRO AMb AMB 09 16 25.6
comp=Z,84nm,2.0s,mb5.1
TRO Tromso 39.79 327 *eP* **P 09 16 18.1 -1.1**
comp=Z,84nm,2.0s,mb5.1
OBN Obninsk 39.91 301 P **P 09 16 21.0 +0.7**
OBN *e* 09 17 59.9
OBN *e* 09 18 16.7
OBN pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
OBN MLR MLR
comp=Z,2μm,16.0s,MS4.9
KAF Kangasniemi 40.84 314 *ep* **P 09 16 26.9 -1.1**
comp=Z,2.6nm,0.3s,mb4.3,baz=61,slow=7.8
KAF Kangasniemi 40.84 314 *eP* **P 09 16 26.9 -1.1**
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb4.4
FINES FINESS Array B 41.28 314 P **P 09 16 30.9 -0.7**
comp=Z,15nm,0.7s,mb4.8,baz=64,slow=8.7,SNR=56
FINES LR LR 09 35 06.1
comp=Z,677nm,18.8s,MS4.5,baz=359,slow=38
FINES FINESS Array B 41.28 314 P **P 09 16 30.9 -0.7**
FINES pmax pmax
comp=Z,15nm,0.7s
FINES MLR MLR
comp=Z,677nm,18.8s
MOR8 Moi Rana 43.04 324 *eP* **P 09 16 44.4 -1.6**
MOR8 AMb AMB 09 16 49.3
comp=Z,57nm,1.8s,mb5.0
MOR8 Moi Rana 43.04 324 *eP* **P 09 16 44.4 -1.6**
comp=Z,57nm,1.8s,mb5.0
IMA2 Indian Mountai 43.27 36 *eP* **P 09 16 48.2 +0.4**
KIV Kislovodsk 43.35 284 *eP* **P 09 16 48.7 +0.2**
KIV *e* 09 18 37.1
KIV *eS* **S 09 23 17.7 +1.8**
KIV pmax pmax
comp=Z,125nm,2.3s,mb5.2
KIV pmax pmax
comp=Z,46nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,410nm,18.0s,MS4.4
KIV Kislovodsk 43.35 284 *eP* **P 09 16 50.1 +1.6**
comp=Z,41nm,0.9s,mb5.2
ZEI Tsey 43.46 282 *eP* **P 09 16 47.5 -1.8**
GNI Garni 44.75 278 *eP* **P 09 17 00.6 +1.0**
GNI pmax pmax
comp=Z,21nm,1.3s
GNI MLR MLR
comp=Z,500nm,15.0s
NSS Namsos 44.85 323 *eP* **P 09 16 58.9 -1.5**
SOC Sochi 45.22 285 *eP* **P 09 17 04.8 +1.4**
SOC *e* 09 18 44.6
SOC *eS* **S 09 23 47.2 +4.1**
SOC *e*SSS 09 27 55.6
SOC pmax pmax
comp=Z,24nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,902nm,18.0s,MS4.8
SVW2 Sparrevohn 45.55 43 *eP* **P 09 17 06.6 +0.6**
ANN Anapa 45.66 288 *eP* **P 09 17 05.6 -1.3**
ANN pmax pmax
comp=Z,25nm,1.2s,mb5.0
ANN MLR MLR
comp=N,984nm,20.0s,MS5.0
ANN MLR MLR
comp=E,1μm,20.0s,MS5.0
ANN MLR MLR
comp=Z,1μm,20.0s,MS4.9
COLA College 45.93 36 *eP* **P 09 17 09.4 +0.4**
COLA pmax pmax
comp=Z,25nm,0.8s,mb5.2
COLA College 45.93 36 *eP* **P 09 17 09.4 +0.4**
comp=Z,25nm,0.8s,mb5.2
AKASG Malin Array Be 46.10 299 P **P 09 17 08.7 -1.7**
comp=Z,7.8nm,0.6s,mb4.8,baz=44,slow=8.6,SNR=34
AKASG LR LR 09 38 26.3
comp=Z,1μm,18.8s,MS4.8,baz=25,slow=39
AKASG Malin Array Be 46.10 299 P **P 09 17 08.7 -1.7**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG MLR MLR
comp=Z,1μm,18.8s
KIEV Kiev 46.12 299 *eP* **P 09 17 09.8 -0.7**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIEV Kiev 46.12 299 *eP* **P 09 17 09.8 -0.7**
comp=Z,9.7nm,0.8s,mb4.8
MCK McKinley 46.30 37 *eP* **P 09 17 12.9 +0.9**
MCK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MCK McKinley 46.30 37 *eP* **P 09 17 12.9 +1.0**
comp=Z,9.7nm,1.1s,mb4.7
NB2 NORSAR Subarra 47.33 319 P **P 09 17 19.4 -0.6**
comp=Z,13nm,0.7s,mb5.0,baz=52,slow=7.9
NOA NORSAR Array B 47.33 319 P **P 09 17 19.2 -0.7**
comp=Z,16nm,0.8s,mb5.0,baz=47,slow=7.3,SNR=32
NOA LR LR 09 38 58.3
comp=Z,524nm,18.5s,MS4.5,baz=45,slow=38
NOA NORSAR Array B 47.33 319 P **P 09 17 19.3 -0.7**
NOA pmax pmax
comp=Z,16nm,0.9s
NOA MLR MLR
comp=Z,524nm,18.5s
SIM Simferopol' 47.33 290 *eP* **P 09 17 25.7 +5.7**
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,700nm,15.1s,MS4.8
PMR Palmer 47.63 39 *eP* **P 09 17 23.1 +0.8**
PMR pmax pmax
comp=Z,79nm,1.7s,mb5.5
PMR Palmer 47.63 39 *eP* **P 09 17 23.1 +0.8**
comp=Z,79nm,1.7s,mb5.5
INK Inuvik 47.76 27 *eP* **P 09 17 22.8 -0.5**
comp=Z,1μm,1.2s
SML Sawmill 47.77 39 *eP* **P 09 17 23.3 -0.1**
EGAK Eagle 48.13 33 *eP* **P 09 17 26.2 0.0**
comp=Z,44nm,1.2s,mb5.4
MENT Mentasta 48.59 36 *eP* **P 09 17 30.2 +0.5**
RES Resolute Bay 48.78 9 *eP* **P 09 17 30.2 -1.1**
comp=Z,862nm,1.4s
DAWY Dawson 49.18 33 *eP* **P 09 17 33.6 -0.7**
BOYT Boyabat 49.30 286 *i* P **P 09 17 35.6 +0.4**
EYAK Cordova Ski Ar 49.55 39 *eP* **P 09 17 38.5 +1.4**
CTKT Corum 49.92 286 *i* P **P 09 17 40.6 +0.7**
BURAR Bucovina Array 50.11 299 ⇓*i* P **P 09 17 41.3 -0.1**
KOLS Kolonicke sedl 50.66 302 *eP* **P 09 17 45.9 +0.4**
OJC Ojcow 50.95 304 *eP* **P 09 17 47.9 +0.2**
CRVS Cervenica-Dubn 51.07 302 *eP* **P 09 17 48.1 -0.5**
BR131 Keskin Array S 51.18 286 *eP* **P 09 17 50.6 +1.2**
comp=Z,14nm,0.9s,mb4.9
BRTR Keskin Array B 51.18 286 P **P 09 17 50.0 +0.6**
comp=Z,11nm,0.9s,mb4.8,baz=69,slow=5.6,SNR=17
BRTR LR LR 09 44 19.9
comp=Z,365nm,19.1s,MS4.4,baz=237,slow=42
BRTR Keskin Array B 51.18 286 ⇑*eP* **P 09 17 51.7 +2.3**
BRTR Keskin Array B 51.18 286 P **P 09 17 50.0 +0.6**
BRTR LR LR 09 44 19.9
AVNT Avonos 51.18 284 *i* P **P 09 17 40.0 -10**
MLR Muntele Rosu 51.20 296 ⇑*i* P **P 09 17 51.0 +1.4**
VOIR 51.70 297 ⇓*i* P **P 09 17 53.9 +0.6**
KECS Kecovo 51.83 302 *eP* **P 09 17 54.8 +0.5**
KECS pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KECS Kecovo 51.83 302 *eP* **P 09 17 54.8 +0.5**
comp=Z,6.2nm,0.6s,mb4.7
DRGR 51.92 299 ⇑*i* P **P 09 17 56.0 +1.0**
KSP Ksiaz 52.13 307 *eP* **P 09 17 56.6 0.0**
DPC Dobruska-Polom 52.47 306 *eP* **P 09 17 59.6 +0.6**
DPC *ep*P pP 09 18 03.5 +0.5
UPC Upice 52.50 307 *eP* **P 09 17 59.7 +0.4**
UPC *ep*P pP 09 18 04.0 +0.8
VYHS Vyhne 52.60 303 *eP* **P 09 18 00.7 +0.6**
VYHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VYHS Vyhne 52.60 303 *eP* **P 09 18 00.7 +0.6**
comp=Z,6.5nm,0.9s,mb4.6
GZR Gura Zlata 52.87 298 ⇑*i* P **P 09 18 02.9 +0.9**
VRAC Vranov 53.08 305 ⇑*i* P **P 09 18 05.1 +1.5**
BRG Berggiesshubel 53.17 308 *i* P **P 09 18 04.3 +0.1**
comp=Z,4.7nm,0.7s,mb4.6
BRG *e* 09 37 52.3
comp=Z,16nm,1.7s
CLL Collm 53.27 309 *i* P **P 09 18 04.6 -0.4**
BZS Buzias 53.29 299 ⇑*i* P **P 09 18 05.6 +0.5**
PSI Prapat 53.55 194 P **P 09 18 07.8 +0.7**
comp=Z,8.5nm,0.8s,mb4.7,baz=322,slow=6.0,SNR=6.0
PSI LR LR 09 41 55.7
comp=Z,216nm,18.4s,MS4.2,baz=182,slow=37
PSI Prapat 53.55 194 P **P 09 18 07.8 +0.8**
PSI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PSI MLR MLR
comp=Z,216nm,18.4s,MS4.2
PKSM Moragy 54.32 301 ⇑*i* P **P 09 18 12.9 +0.2**
MOX Moxa 54.36 309 *eP* **P 09 18 13.1 +0.1**
comp=Z,38nm,1.3s,mb5.2
MOX Moxa 54.36 309 *eP* **P 09 18 13.1 +0.1**
MOX pmax pmax
comp=Z,38nm,1.3s,mb5.2
KHC Kasperske Hory 54.58 307 *eP* **P 09 18 15.2 +0.6**
KHC *ep*P pP 09 18 19.1 +0.5
VTS Vitosha 54.65 295 ⇓*i* P **P 09 18 15.7 +0.6**
GERES GERESS Array B 54.73 306 P **P 09 18 16.0 +0.3**
comp=Z,3.3nm,0.8s,mb4.4,baz=46,slow=7.6,SNR=14
GERES LR LR 09 43 56.3
comp=Z,598nm,22.0s,MS4.6,baz=98,slow=39
GERES GERESS Array B 54.73 306 P **P 09 18 16.0 +0.3**
GERES pmax pmax
comp=Z,3.0nm,0.8s

GERES MLR MLR
comp=Z,598nm,22.0s
MOA Molln 55.20 305⇑ *iP* **P 09 18 20.0 +1.0**
comp=Z,13nm,1.0s,mb4.9
GRA1 Grafenberg Arr 55.23 309 *eP* **P 09 18 19.5 +0.2**
comp=Z,23nm,1.3s,mb5.0
GRA1 LR LR
comp=Z,600nm,18.9s,MS4.7
GRF Grafenberg Arr 55.23 309 *eP* **P 09 18 19.5 +0.2**
comp=Z,23nm,1.3s,mb5.0
GRF *eL* 09 44 21.6
comp=Z,635nm,18.9s
GRF Grafenberg Arr 55.23 309 *eP* **P 09 18 19.5 +0.2**
GRF pmax pmax
comp=Z,23nm,1.3s,mb5.0
GRF MLR MLR
comp=Z,600nm,18.9s,MS4.7
OBKA Obir 56.05 304⇓ *iP* **P 09 18 26.1 +1.0**
comp=Z,13nm,0.5s,mb5.2
KBA Koelnbreinsper 56.19 305⇓ *iP* **P 09 18 27.3 +1.1**
comp=Z,19nm,1.1s,mb5.0
KBA Koelnbreinsper 56.19 305⇓ *iP* **P 09 18 27.3 +1.1**
KBA pmax pmax
comp=Z,19nm,1.1s,mb5.0
DLBC Dease Lake 56.40 33 *eP* **P 09 18 27.9 +0.3**
MEM Membach 56.79 312 P **P 09 18 33.0 +2.6**
comp=Z,13nm,1.1s,mb4.9
YKW3 Yellowknife Ar 56.99 23 *eP* **P 09 18 29.3 -2.5**
YKA Yellowknife Ar 57.05 23 P **P 09 18 30.5 -1.7**
comp=Z,8.5nm,0.7s,mb4.9,baz=334,slow=7.1,SNR=100
DAVA Damuels 57.61 308⇓ *iP* **P 09 18 38.2 +1.9**
comp=Z,11nm,1.0s,mb4.9
GIVF Givet 57.66 313 *eP* **P 09 18 35.9 -0.7**
CDF Champ du Feu 57.91 310 *eP* **P 09 18 37.7 -0.6**
comp=Z,8.0nm,0.5s,mb4.7
CDF Champ du Feu 57.91 310 *eP* **P 09 18 37.7 -0.6**
CDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
CDF Champ du Feu 57.91 310 *eP* **P 09 18 37.7 -0.6**
comp=Z,4.0nm,0.5s,mb4.7
BAIF Baives 57.95 313 *eP* **P 09 18 38.0 -0.6**
HAU Haudompre 58.62 310 *eP* **P 09 18 42.6 -0.7**
comp=Z,14nm,0.8s,mb4.7
HAU *e*MLR
comp=Z,566nm,19.5s
HAU Haudompre 58.62 310 *eP* **P 09 18 42.6 -0.7**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
HAU MLR MLR
comp=Z,570nm,19.5s,MS4.7
HAU Haudompre 58.62 310 *eP* **P 09 18 42.6 -0.7**
comp=Z,7.1nm,0.8s,mb4.8
HAU LR LR
comp=Z,570nm,19.5s,MS4.7
CABF La Chapelle 59.81 309 *eP* **P 09 18 50.9 -0.6**
LOR Lormes 60.26 311 *eP* **P 09 18 53.8 -0.8**
comp=Z,32nm,1.0s,mb5.0
LOR *e*MLR
comp=Z,530nm,19.8s
LOR Lormes 60.26 311 *eP* **P 09 18 53.8 -0.8**
LOR pmax pmax
comp=Z,16nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,530nm,19.8s,MS4.7
LOR Lormes 60.26 311 *eP* **P 09 18 53.8 -0.8**
comp=Z,16nm,1.0s,mb5.0
LOR LR LR
comp=Z,530nm,19.8s,MS4.7
LPL La Plagne 60.37 308 *eP* **P 09 18 54.5 -0.9**
comp=Z,17nm,0.9s,mb4.8
LPL La Plagne 60.37 308 *eP* **P 09 18 54.5 -0.9**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LPL La Plagne 60.37 308 *eP* **P 09 18 54.5 -0.9**
comp=Z,8.3nm,0.9s,mb4.8
LPG La Plagne 60.38 308 *eP* **P 09 18 55.0 -0.4**
TIP Timpagrande 60.46 297 *eP* **P 09 18 55.4 -0.6**
SSF Saint Saulge 60.57 311 *eP* **P 09 18 55.8 -1.0**
comp=Z,26nm,0.9s,mb5.0
SSF Saint Saulge 60.57 311 *eP* **P 09 18 55.8 -1.0**
SSF pmax pmax
comp=Z,13nm,0.9s,mb5.1
SSF Saint Saulge 60.57 311 *eP* **P 09 18 55.8 -1.0**
comp=Z,13nm,0.9s,mb5.0
BNI Bardonecchia 60.76 308 *eP* **P 09 18 57.7 -0.3**
BNI pmax pmax
comp=Z,12nm,0.8s,mb5.1
BNI Bardonecchia 60.76 308 *eP* **P 09 18 57.7 -0.3**
comp=Z,12nm,0.8s,mb5.1
SMF Signal de Mont 60.76 311 *eP* **P 09 18 57.3 -0.7**
comp=Z,8.3nm,0.6s,mb4.8
SMF Signal de Mont 60.76 311 *eP* **P 09 18 57.3 -0.7**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
SMF Signal de Mont 60.76 311 *eP* **P 09 18 57.3 -0.7**
comp=Z,4.2nm,0.6s,mb4.8
AVF Avril sur Loir 60.85 311 *eP* **P 09 18 57.6 -1.1**
comp=Z,16nm,0.9s,mb4.9
AVF Avril sur Loir 60.85 311 *eP* **P 09 18 57.6 -1.1**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AVF Avril sur Loir 60.85 311 *eP* **P 09 18 57.6 -1.1**
comp=Z,8.1nm,0.9s,mb4.8
LDF La Druitiere 60.87 315 *eP* **P 09 18 57.5 -1.3**
comp=Z,27nm,0.7s,mb5.2
LDF La Druitiere 60.87 315 *eP* **P 09 18 57.5 -1.3**
LDF pmax pmax
comp=Z,13nm,0.7s,mb5.2
LDF La Druitiere 60.87 315 *eP* **P 09 18 57.5 -1.3**
comp=Z,13nm,0.7s,mb5.2
FLN La Foliniere 60.88 315 *eP* **P 09 18 57.9 -0.9**
FLN *e*MLR
comp=Z,523nm,17.5s
FLN La Foliniere 60.88 315 *eP* **P 09 18 57.9 -0.9**
FLN LR LR
comp=Z,520nm,17.5s,MS4.7
MBDF Montbardon 60.97 308 *eP* **P 09 18 58.6 -0.8**
comp=Z,12nm,0.6s,mb4.9
MBDF Montbardon 60.97 308 *eP* **P 09 18 58.6 -0.8**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
MBDF Montbardon 60.97 308 *eP* **P 09 18 58.6 -0.8**
comp=Z,5.9nm,0.6s,mb4.9
ORIF Oris-en-Rattie 61.22 308 *eP* **P 09 19 00.4 -0.7**
ORIF *e*MLR
comp=Z,726nm,17.4s
BGF Bois d'Agland 61.25 311 *eP* **P 09 19 00.4 -1.0**
GRR Gorron 61.33 315 *eP* **P 09 19 01.1 -0.8**
SBF Sospel 61.34 306 *eP* **P 09 19 01.4 -0.6**
PGF Pioggiola 61.64 305 *eP* **P 09 19 03.4 -0.6**
TCF Toulx Ste Croi 61.73 311 *eP* **P 09 19 03.9 -0.7**
comp=Z,36nm,1.2s,mb5.1
TCF Toulx Ste Croi 61.73 311 *eP* **P 09 19 03.9 -0.7**
TCF pmax pmax
comp=Z,18nm,1.2s,mb5.1
TCF Toulx Ste Croi 61.73 311 *eP* **P 09 19 03.9 -0.7**
comp=Z,18nm,1.2s,mb5.1
VIVF Saint-Julien-l 61.80 309 *eP* **P 09 19 04.4 -0.7**
comp=Z,5.9nm,0.5s,mb4.6
VIVF Saint-Julien-l 61.80 309 *eP* **P 09 19 04.4 -0.7**
VIVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
VIVF Saint-Julien-l 61.80 309 *eP* **P 09 19 04.4 -0.7**
comp=Z,3.0nm,0.5s,mb4.7
FRF La Foret Royal 61.93 307 *eP* **P 09 19 04.8 -1.2**
comp=Z,26nm,1.0s,mb5.0
FRF La Foret Royal 61.93 307 *eP* **P 09 19 04.8 -1.2**
FRF pmax pmax
comp=Z,13nm,1.0s,mb5.0
FRF La Foret Royal 61.93 307 *eP* **P 09 19 04.8 -1.2**
comp=Z,13nm,1.0s,mb5.0
SMRF Simiane la Rot 62.09 308 *eP* **P 09 19 05.9 -1.1**
SGMF Saint Gilles 62.11 316 *eP* **P 09 19 06.3 -0.9**
LMR La Mourre 62.17 307 *eP* **P 09 19 06.7 -0.9**
ROSF Rostrenen 62.33 316 *eP* **P 09 19 07.6 -1.0**
MFF Saint Martin d 62.47 313 *eP* **P 09 19 08.8 -0.8**
QUIF Quistinic 62.62 316 *eP* **P 09 19 09.4 -1.2**
LASF Ste Croix 62.77 309 *eP* **P 09 19 10.9 -0.7**
RJF Les Rejaudoux 62.81 311 *eP* **P 09 19 11.1 -0.7**
RJF *e*MLR
comp=Z,781nm,20.0s
RJF Les Rejaudoux 62.81 311 *eP* **P 09 19 11.1 -0.7**
RJF LR LR
comp=Z,780nm,20.0s,MS4.9
MTLF Montolieu 64.08 309 *eP* **P 09 19 19.3 -0.9**
EPF Esparros 65.14 310 *eP* **P 09 19 26.2 -1.0**
comp=Z,11nm,0.6s,mb4.7
EPF Esparros 65.14 310 *eP* **P 09 19 26.2 -1.0**
EPF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
EPF Esparros 65.14 310 *eP* **P 09 19 26.2 -1.0**
comp=Z,5.3nm,0.6s,mb4.8
ETSF Etsaut 65.63 311 *eP* **P 09 19 29.4 -1.0**
EDM Edmonton 65.65 27 *eP* **P 09 19 29.7 -0.8**
SJPF Ste Jean 65.74 312 *eP* **P 09 19 29.9 -1.2**
KEST Kesra 66.83 300 P **P 09 19 38.0 0.0**
comp=Z,1.0nm,0.5s,mb4.1,baz=288,slow=7.7,SNR=3.5
KEST LR LR 09 51 54.9
comp=Z,195nm,20.8s,MS4.3,baz=294,slow=39
NEW Newport 69.08 32 *eP* **P 09 19 52.1 -0.1**
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW Newport 69.08 32 *eP* **P 09 19 52.1 0.0**
comp=Z,2.3nm,0.7s,mb4.2
WALA Waterton Lakes 69.28 29 *eP* **P 09 19 53.1 -0.3**
comp=Z,6.0nm,0.7s,mb4.6
ESDC Sonseca Array 69.74 311 P **P 09 19 57.1 +0.9**
comp=Z,6.9nm,0.8s,mb4.7,baz=27,slow=6.6,SNR=14
ESDC LR LR 09 56 13.6
comp=Z,142nm,22.0s,MS4.2,baz=350,slow=41
ESLA Sonseca Array 69.74 311 *eP* **P 09 19 57.2 +0.9**
comp=Z,1.0nm,0.7s,mb3.9
SCHQ Schefferville 69.76 358 P **P 09 19 55.5 -0.9**
comp=Z,4.0nm,0.8s,mb4.4,baz=315,slow=4.3,SNR=4.2
CHMT Chamberlain Mo 71.42 30 *eP* **P 09 20 07.0 +0.5**
BMO Blue Mountains 72.08 33 *eP* **P 09 20 11.1 +0.6**
ULM Lac du Bonnet 72.18 17 P **P 09 20 09.7 -1.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=40,slow=3.2,SNR=4.5
DLMT Dillon 73.02 30 *eP* **P 09 20 16.9 +0.8**
BOZ Bozeman (W) 73.03 29 *eP* **P 09 20 16.5 +0.3**
BOZ pmax pmax
comp=Z,21nm,1.8s,mb4.8
BOZ Bozeman (W) 73.03 29 *eP* **P 09 20 16.5 +0.3**
comp=Z,21nm,1.8s,mb4.8
AGMN Agassiz Refuge 74.07 18 *eP* **P 09 20 20.9 -1.4**
comp=Z,7.0nm,0.7s,mb4.7
HLID Hailey 74.14 32 *eP* **P 09 20 23.3 +0.6**
FITZ Fitzroy Crossi 74.72 165 *eP* **P 09 20 25.7 -0.3**
comp=Z,6.8nm,0.6s,mb4.8
FITZ Fitzroy Crossi 74.72 165 P **P 09 20 25.3 -0.7**
comp=Z,4.5nm,0.7s,mb4.5,baz=4.4,slow=5.0,SNR=12
IMW Indian Meadow 74.83 29 *eP* **P 09 20 28.4 +1.6**
comp=Z,2.3nm,1.0s,mb4.1
MOOW Moose Ponds 75.02 29 *eP* **P 09 20 29.0 +1.2**
DCID1 Drake Creek 75.04 30 *eP* **P 09 20 30.5 +2.6**
LOHW Long Hollow 75.19 29 *eP* **P 09 20 29.5 +0.7**
TPAW Teton Pass 75.21 30 *eP* **P 09 20 30.4 +1.5**
REDW Red Top Meadow 75.35 30 *eP* **P 09 20 31.6 +1.9**
HVU Hansel Valley 76.25 32 *eP* **P 09 20 36.3 +1.4**
BW06 Boulder Array 76.26 29 *eP* **P 09 20 34.8 -0.1**
comp=Z,1.6nm,0.6s,mb4.1
PDAR Pinedale Array 76.26 29 P **P 09 20 34.6 -0.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=25,slow=2.5,SNR=15
RSSD Black Hills 76.40 25 *eP* **P 09 20 36.1 +0.4**
RSSD pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
RSSD Black Hills 76.40 25 *eP* **P 09 20 36.1 +0.4**
comp=Z,4.1nm,0.7s,mb4.5
HWUT Hardware Ranch 76.77 31 *eP* **P 09 20 38.5 +0.7**
comp=Z,13nm,0.8s,mb4.9
NVAR Mina Array Bea 77.54 37 P **P 09 20 42.9 +0.8**
comp=Z,3.8nm,0.6s,mb4.5,baz=331,slow=5.2,SNR=33
DUG Dugway 77.70 32 *eP* **P 09 20 43.6 +0.6**
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
DUG Dugway 77.70 32 *eP* **P 09 20 43.5 +0.6**
comp=Z,6.3nm,1.0s,mb4.5
JLU Jordanelle 77.73 31 *eP* **P 09 20 45.1 +2.0**
WRAB Tennant Creek 78.13 157 *i* P **P 09 20 44.6 -0.8**
WRAB Tennant Creek 78.13 157 *eP* **P 09 20 44.6 -0.8**
comp=Z,7.8nm,0.8s,mb4.7
WRA Warramunga Arr 78.14 157 P **P 09 20 44.7 -0.7**
comp=Z,6.0nm,0.6s,mb4.7,baz=349,slow=6.0,SNR=73
WRA Warramunga Arr 78.14 157 P **P 09 20 44.7 -0.7**
WRA pmax pmax
comp=Z,6.0nm,0.6s
WB2 Warramunga Arr 78.14 157⇓ *iP* **P 09 20 44.2 -1.2**
WB2 *e*pP pP 09 20 47.4 -2.2
MSU Marysvale 79.44 32 *eP* **P 09 20 53.6 +1.0**
ISCO Idaho Springs 80.08 27 *eP* **P 09 20 57.6 +1.5**
ISCO pmax pmax
comp=Z,53nm,2.4s,mb5.0
ISCO Idaho Springs 80.08 27 *eP* **P 09 20 57.6 +1.5**
comp=Z,53nm,2.4s,mb5.0
PV10 Paradox Valley 80.49 30 *eP* **P 09 20 59.1 +0.9**
PV01 Paradox Valley 80.84 30 *eP* **P 09 21 01.2 +1.0**
KMBO Kilima Mbogo 81.35 255 P **P 09 21 03.1 +0.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=219,slow=23,SNR=6.0
KMBO Kilima Mbogo 81.35 255⇑ *eP* **P 09 21 04.4 +1.5**
KMBO Kilima Mbogo 81.35 255 *eP* **P 09 21 03.6 +0.7**
comp=Z,2.8nm,0.8s,mb4.2
ASAR Alice Springs 81.65 158 P **P 09 21 04.0 -0.4**
comp=Z,3.8nm,0.6s,mb4.5,baz=354,slow=5.1,SNR=102
ASAR Alice Springs 81.65 158 P **P 09 21 04.0 -0.4**
ASAR pmax pmax
comp=Z,4.0nm,0.6s
SDCO Great Sand Dun 82.05 28 *eP* **P 09 21 07.2 +0.6**
comp=Z,17nm,1.5s,mb4.8
ANMO Albuquerque 84.41 29 *eP* **P 09 21 19.7 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 84.41 29 *eP* **P 09 21 19.7 +1.0**
comp=Z,5.7nm,1.0s,mb4.7
WCI Wyandotte Cave 85.35 13 *eP* **P 09 21 23.2 -0.3**
WCI pmax pmax
comp=Z,11nm,0.7s,mb5.1
WCI Wyandotte Cave 85.35 13 *eP* **P 09 21 23.2 -0.3**
comp=Z,11nm,0.7s,mb5.1
SIUC Southern Illin 85.45 15 *eP* **P 09 21 23.9 0.0**
comp=Z,8.8nm,0.6s,mb5.1
WMOK Wichita Mounta 86.55 24 *eP* **P 09 21 30.0 +0.6**
WMOK pmax pmax
comp=Z,15nm,1.3s,mb5.1
WMOK Wichita Mounta 86.55 24 *eP* **P 09 21 29.9 +0.5**
comp=Z,15nm,1.3s,mb5.1
WVT Waverly 87.21 14 *eP* **P 09 21 32.5 -0.1**
WVT pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
WVT Waverly 87.21 14 *eP* **P 09 21 32.5 -0.2**
comp=Z,7.6nm,0.8s,mb5.0
FORT Forrest 87.53 165 *eP* **P 09 21 33.2 -1.0**
comp=Z,16nm,0.6s,mb5.4
FORT *e*pP pP 09 21 36.6 -1.8
TORD Torodi Ar. Bea 89.30 292 P **P 09 21 42.9 +0.3**
comp=Z,3.1nm,0.7s,mb4.8,baz=38,slow=4.1,SNR=14
TORD PP PP 09 25 11.4 -1.7
comp=Z,0.6nm,0.8s,baz=36,slow=7.7,SNR=2.6
TORD LR LR 10 07 57.2
comp=Z,251nm,18.0s,MS4.7,baz=0.0,slow=40
TXAR Lajitas Array 90.48 29 P **P 09 21 48.5 +0.4**
comp=Z,0.7nm,0.8s,mb4.1,baz=324,slow=2.3,SNR=7.7
TXAR Lajitas Array 90.48 29 P **P 09 21 48.5 +0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 91.32 154 *eP* **P 09 21 51.1 -0.9**
comp=Z,11nm,1.6s,mb5.0
STKA *e*pP pP 09 21 54.0 -2.2
STKA Stephens Creek 91.32 154 P **P 09 21 50.9 -1.0**
comp=Z,3.4nm,0.5s,mb4.9,baz=322,slow=7.5,SNR=12
LPAZ La Paz 140.60 357 PKP PKPdf 09 28 17.2 +1.4
comp=Z,1.0nm,0.5s,baz=251,slow=2.7,SNR=4.2
LPAZ La Paz 140.60 357 *e*PKPdf PKPdf 09 28 17.4 +1.6
SNAA Sanae 148.45 214 *e*PKPdf PKPdf 09 28 31.1 +1.7
SNAA *e* 09 28 35.7
SNAA *e* 09 28 39.7
VNA2 Neumayer--Watz 149.86 216 *e*PKPdf PKPdf 09 28 35.4 +3.8
baz=54,slow=2.0
VNA2 *e* 09 28 38.0
VNA2 *e* 09 28 40.2
VNA2 *e* 09 28 45.2
VNA2 *e* 09 29 09.7
VNA1 Neumayer--Stat 150.14 216 *e*PKPdf PKPdf 09 28 36.2 +4.1
VNA1 *e* 09 28 39.0
VNA1 *e* 09 28 43.5
VNA1 *e* 09 29 10.4
VNA3 Neumayer Olymp 150.61 215 *e*PKPdf PKPdf 09 28 36.8 +4.0
VNA3 *e* 09 28 39.7
VNA3 *e* 09 29 10.2

HLW ***11*** *09:15:09.9, 3133N×3532E, h17km, Mb2.7*

GII ***11*** *09:15:10.7±0.4, 3109N×3518E, h0km±2km, ML2.9/5*
ISCJB ***11*** *09:15:11.4±0.5, 3109N±003×3519E±005, h10km±5km, Error ellipse: s-maj=7.2km s-min=4.0km az=52.1*
ISC 11 09:15:11.8±0.5, 3110N±003×3518E±004, h0km, n19, σ1§08/24, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.26**	**37**	Pg	**Pg**	**09 15 16.5**	**-0.2**
MZDA				Sg	**Sg**	**09 15 21.5**	**+1.4**
YTIR	**Yattir**	**0.27**	**348**	Pg	**Pg**	**09 15 17.1**	**+0.2**
MASH	**Mash'abbe Sade**	**0.36**	**253**	Pg	**Pg**	**09 15 18.7**	**0.0**
MASH				Sg	**Sg**	**09 15 24.1**	**+0.9**
RTMI	**Retamim**	**0.42**	**264**	Pg	**Pg**	**09 15 20.2**	**+0.3**
SVTA	**Shivta**	**0.51**	**251**	Pg	**Pg**	**09 15 21.6**	**0.0**
DRGI	**Dragot**	**0.52**	**20**	Pg	**Pg**	**09 15 22.3**	**+0.5**
ZFRI	**Zfri**	**0.55**	**180**	Pg	**Pg**	**09 15 21.7**	**-0.5**
ZFRI	**Zfri**	**0.55**	**180**	T		09 18 04.3	
ZFRI	**Zfri**	**0.55**	**180**	Pg	**Pg**	**09 15 22.4**	**+0.2**
KZIT	**Kziot**	**0.70**	**254**	Pg	**Pg**	**09 15 24.7**	**-0.6**
KZIT				Sg	**Sg**	**09 15 36.1**	**+1.8**
PRNI	**Paran**	**0.76**	**192**	Pg	**Pg**	**09 15 25.9**	**-0.5**
PRNI				Sg	**Sg**	**09 15 37.6**	**+1.3**
HRFI	**Mount Harif**	**1.07**	**187**	Pg	**Pg**	**09 15 32.5**	**+0.2**
HRFI				Sg	**Sg**	**09 15 47.9**	**+1.7**
HMDT	**Nahal Hemdat**	**1.19**	**14**	Pg	**Pg**	**09 15 34.1**	**-0.4**
OFRI	**'Ofer**	**1.52**	**354**	Pn	**Pn**	**09 15 39.3**	**-1.0**
OFRI				Sn	**Sn**	**09 16 01.9**	**+1.1**
HNKL	**Nakhl**	**1.56**	**222**	P	**Pn**	**09 15 38.9**	**-1.8**
AMAG	**Maghara**	**1.76**	**255**	P	**Pn**	**09 15 40.8**	**-2.7**
MMC4	**Mount Meron ar**	**1.91**	**6**	Pn	**Pn**	**09 15 45.6**	**0.0**
SUZ		**2.39**	**239**	P	**Pn**	**09 15 50.2**	**-1.9**
HKAT	**Jabal Katrina**	**2.77**	**202**	P	**Pn**	**09 15 56.1**	**-1.3**

IDC 11 09:20:01.6±1.0, 2175N×14352E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/21, mbtmp3.7/5, Error ellipse: s-maj=47.5km s-min=23.0km az=102.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.66**	**323**	P	P	09 24 43.1	+0.3
	2.1nm,0.8s,baz=142,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**42.40**	**193**	P	P	09 27 57.8	+0.1
	0.7nm,0.7s,baz=16,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	**46.10**	**192**	P	P	09 28 27.5	+0.1
	0.6nm,0.6s,baz=12,slow=8.3,SNR=14						
YKA	**Yellowknife Ar**	**76.26**	**28**	P	P	09 31 51.2	-0.8
	0.5nm,0.5s,baz=292,slow=5.9,SNR=13						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	P	09 32 29.5	+1.6
	0.5nm,0.7s,baz=297,slow=5.2,SNR=3.2						

BJI ***11*** *09:23:09.6, 5578N×11055E, h8km, mb4.0*
IDC ***11*** *09:23:10.6±0.8, 5575N×110.19E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, ML4.1/2, Error ellipse: s-maj=19.6km s-min=16.5km az=96.0*
ISCJB ***11*** *09:23:10.3±0.2, 5563N±002×110.17E±003, h10km, mb4.1/18, Error ellipse: s-maj=3.4km s-min=2.2km az=109.5*
MOS ***11*** *09:23:10.1±1.3, 5576N×110.17E, h10km, mb4.3/12, Error ellipse: s-maj=9.3km s-min=6.0km az=68.3*
NEIC ***11*** *09:23:11.7±0.4, 5575N×11022E, h10km, mb4.3/5, Error ellipse: s-maj=9.5km s-min=7.5km az=127.0*
BYKL ***11*** *09:23:11.9±0.2, 5569N×110.17E, h3km±3km*
ISC 11 09:23:11.9±0.2, 5568N±002×11017E±003, h10km, n98, σ1§28/148, mb4.1/18, 7C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**286**	*e*PG	**Pg**	**09 23 18.7**	**-0.4**
NIZ				*e*		09 23 23.9	
NIZ				pmax	pmax		
	comp=Z,1μm,0.3s						
NIZ				smax			
	comp=N,4μm,1.3s						
NIZ	**Nizh Angarsk**	**0.37**	**286⇑**	*i*Pg	**Pg**	**09 23 18.8**	**-0.3**
NIZ				*e*Sg	**Sg**	**09 23 24.1**	**0.0**
KMO	**Kumora**	**0.62**	**70**	*e*PG	**Pg**	**09 23 22.8**	**-1.1**
KMO				*e*		09 23 30.4	
KMO				pmax	pmax		
	comp=Z,655nm,0.3s						
KMO				smax			
	comp=N,4μm,0.7s						
KMO	**Kumora**	**0.62**	**70⇑**	*i*Pg	**Pg**	**09 23 22.8**	**-1.1**
KMO				Pmax		09 23 23.2	
	comp=N,708nm,0.3s						
KMO				*e*Sg	**Sg**	**09 23 31.2**	**-0.8**
KMO				Smax		09 23 50.6	
	comp=N,4μm,1.0s						
YLYR	**Ulyunkhan**	**0.98**	**144⇑**	*i*PG	**Pg**	**09 23 30.0**	**-0.8**
YLYR				*e*		09 23 43.0	
YLYR				pmax	pmax		
	comp=Z,982nm,0.4s						
YLYR				smax			
	comp=N,4μm,0.3s						
YLYR	**Ulyunkhan**	**0.98**	**144⇑**	*i*Pg	**Pg**	**09 23 30.0**	**-0.8**
YLYR				Pmax		09 23 30.2	
	comp=N,971nm,0.5s						
YLYR				*e*Sg	**Sg**	**09 23 43.6**	**+0.1**
YLYR				Smax		09 23 51.4	
	comp=N,4μm,0.5s						
YOA	**Uoyan**	**0.99**	**62⇓**	*i*PG	**Pg**	**09 23 30.5**	**-0.4**
YOA				*i*		09 23 43.5	
YOA				pmax	pmax		
	comp=Z,446nm,0.3s						
YOA				smax			
	comp=N,5μm,0.4s						
YOA	**Uoyan**	**0.99**	**62**	*e*Pg	**Pg**	**09 23 30.5**	**-0.4**
YOA				Pmax		09 23 33.8	
	comp=N,542nm,0.2s						
YOA				*e*Sg	**Sg**	**09 23 43.5**	**-0.2**
YOA				Smax		09 23 52.2	
	comp=N,5μm,0.7s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*PN	**Pn**	**09 23 46.8**	**+1.7**
SVKR				*e*		09 23 47.8	
SVKR				*e*		09 24 14.0	
SVKR				pmax	pmax		
	comp=Z,978nm,0.4s						
SVKR				smax			
	comp=N,7μm,0.9s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pg	**Pg**	**09 23 46.9**	**-2.5**
SVKR				Pmax		09 23 51.2	
	comp=N,987nm,0.5s						
SVKR				*e*Sg	**Sg**	**09 24 13.9**	**-0.9**
SVKR				Smax		09 24 17.0	
	comp=N,7μm,1.0s						
SYVR	**Suvo**	**2.02**	**183**	*e*PN	**Pn**	**09 23 48.6**	**+2.6**
SYVR				*e*		09 24 17.0	
SYVR				pmax	pmax		
	comp=Z,2μm,0.6s						
SYVR				smax			
	comp=E,4μm,0.4s						
SYVR	**Suvo**	**2.02**	**183⇓**	*i*Pg	**Pg**	**09 23 48.7**	**-2.0**
SYVR				⇓*i*Pg	**Pg**	**09 23 48.7**	**-2.0**
	comp=E,377nm,0.7s						
SYVR				⇑*i*Pg	**Pg**	**09 23 48.7**	**-2.0**
	comp=E,1μm,0.7s						
SYVR				Pmax		09 23 48.9	
	comp=E,2μm,0.7s						
SYVR				*e*Sg	**Sg**	**09 24 16.6**	**-0.4**
SYVR				Smax		09 24 18.5	
	comp=E,5μm,0.7s						
OGRR	**Ongureny**	**2.53**	**217**	*e*PN	**Pn**	**09 23 55.1**	**+2.2**
OGRR				*e*		09 23 58.6	
OGRR				*e*		09 24 30.5	
OGRR				pmax	pmax		
	comp=Z,293nm,0.5s						
OGRR				smax			
	comp=E,2μm,0.6s						
OGRR	**Ongureny**	**2.53**	**217⇑**	*i*Pn	**Pn**	**09 23 54.9**	**+2.0**
OGRR				*e*Pg	**Pg**	**09 23 57.6**	**-2.7**
OGRR				Pmax		09 24 01.1	
	comp=E,296nm,0.5s						
OGRR				*e*Sn	**Sn**	**09 24 25.4**	**+1.6**
OGRR				*e*Sg	**Sg**	**09 24 30.5**	**-2.6**
OGRR				Smax		09 24 31.3	
	comp=E,2μm,0.6s						
MXMB	**Maximikha**	**2.56**	**200**	*e*Pg	**Pg**	**09 23 57.9**	**-3.0**
MXMB				Pmax		09 24 00.3	
	comp=E,546nm,0.6s						

MXMB				*e*Sg	**Sg**	**09 24 32.3**	**-1.7**
MXMB				Smax		09 24 43.4	
comp=E,4μm,0.9s							
BOD	**Bodaibo**	**3.01**	**43**	*e*PN	**Pn**	**09 23 59.6**	**0.0**
BOD				*e*		09 24 05.3	
BOD				*e*		09 24 43.2	
BOD				pmax	pmax		
comp=Z,116nm,0.6s							
BOD				smax			
comp=N,748nm,0.5s							
BOD	**Bodaibo**	**3.01**	**43**	*e*Pn	**Pn**	**09 24 00.6**	**+1.0**
BOD				*e*Pg	**Pg**	**09 24 05.3**	**-4.3**
BOD				Pmax		09 24 07.4	
comp=N,135nm,0.7s							
BOD				*e*Sn	**Sn**	**09 24 37.4**	**+1.7**
BOD				*e*Sg	**Sg**	**09 24 43.9**	**-4.7**
BOD				Smax		09 24 46.6	
comp=N,755nm,0.7s							
TRG	**Tyrgan**	**3.68**	**219**	*e*PN	**Pn**	**09 24 10.5**	**+1.7**
TRG				*e*		09 24 18.9	
TRG				*e*S	**Sn**	**09 24 53.6**	**+1.3**
TRG				*e*		09 25 06.6	
TRG				pmax	pmax		
comp=Z,162nm,0.5s							
TRG				smax			
comp=E,652nm,0.4s							
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	**Pn**	**09 24 10.6**	**+1.8**
TRG				max		09 24 11.7	
comp=E,271nm,0.4s							
TRG				*e*Sn	**Sn**	**09 24 53.0**	**+0.7**
TRG				*e*Sg	**Sg**	**09 25 05.7**	**-4.5**
TRG				Smax		09 25 08.9	
comp=E,658nm,0.4s							
TRTB	**Turuntaevo**	**3.77**	**205**	*e*Pn	**Pn**	**09 24 11.7**	**+1.7**
TRTB				*e*		09 24 14.3	
TRTB				*e*Pg	**Pg**	**09 24 19.6**	**-4.4**
TRTB				Pmax		09 24 24.6	
comp=E,142nm,0.9s							
TRTB				*e*Sg	**Sg**	**09 25 08.3**	**-4.5**
TRTB				Smax		09 25 15.8	
comp=E,841nm,1.0s							
UUDB	**Ulan-Yde**	**4.10**	**202**	*e*Pn	**Pn**	**09 24 15.9**	**+1.4**
UUDB				*e*Pg	**Pg**	**09 24 24.8**	**-5.5**
UUDB				Pmax		09 24 30.1	
comp=E,212nm,0.4s							
UUDB				*e*Sg	**Sg**	**09 25 18.8**	**-4.6**
UUDB				Smax		09 25 31.3	
comp=E,902nm,1.2s							
FFNB	**Fofonovo**	**4.16**	**210**	*e*Pn	**Pn**	**09 24 16.6**	**+1.2**
FFNB				*e*Sn	**Sn**	**09 25 04.5**	**+0.5**
FFNB				*e*Sg	**Sg**	**09 25 19.2**	**-6.2**
FFNB				Smax		09 25 27.3	
comp=E,1μm,0.5s							
CIT	**Chita**	**4.17**	**150**	*e*PN	**Pn**	**09 24 16.6**	**+1.0**
CIT				*e*		09 24 25.6	
CIT				*e*S	**Sn**	**09 25 04.4**	**0.0**
CIT				*e*		09 25 19.9	
CIT				pmax	pmax		
comp=Z,376nm,1.0s							
CIT				smax			
comp=E,672nm,0.9s							
CIT	**Chita**	**4.17**	**150**	*e*Pn	**Pn**	**09 24 16.6**	**+1.0**
CIT				*e*Pg	**Pg**	**09 24 27.1**	**-4.7**
CIT				Pmax		09 24 28.5	
comp=E,374nm,1.4s							
CIT				*e*Sg	**Sg**	**09 25 20.0**	**-5.9**
CIT				Smax		09 25 29.6	
comp=E,678nm,1.0s							
KAB	**Kabansk**	**4.19**	**211**	*e*PN	**Pb**	**09 24 26.3**	**+0.7**
KAB				*e*		09 25 19.8	
KAB				pmax	pmax		
comp=Z,217nm,0.6s							
KAB				smax			
comp=N,3μm,0.9s							
KAB	**Kabansk**	**4.19**	**211**	*e*Sg	**Sg**	**09 25 22.0**	**-4.3**
KAB				Smax		09 25 35.7	
comp=N,3μm,0.9s							
HRMR	**Khuramsha**	**4.48**	**207**	⇓*i*Pn	**Pn**	**09 24 21.7**	**+1.9**
HRMR				*e*Pg	**Pg**	**09 24 31.7**	**-6.1**
HRMR				Pmax		09 24 35.5	
comp=N,372nm,0.7s							
HRMR				*e*Sg	**Sg**	**09 25 30.5**	**-5.3**
HRMR				Smax		09 25 35.7	
comp=N,2μm,0.9s							
CRS	**Chara**	**4.68**	**71**	*e*PN	**Pb**	**09 24 37.8**	**+3.9**
CRS				*e*		09 25 36.5	
CRS				pmax	pmax		
comp=Z,191nm,1.0s							
CRS				smax			
comp=E,1μm,1.5s							
CRS	**Chara**	**4.68**	**71**	*e*Pn	**Pn**	**09 24 23.8**	**+1.3**
CRS				*e*		09 24 37.8	
CRS				max		09 24 48.0	
comp=E,192nm,0.9s							
CRS				*e*Sg	**Sg**	**09 25 36.1**	**-5.9**
CRS				Smax		09 25 44.3	
comp=E,1μm,1.5s							
IRK	**Irkutsk**	**4.89**	**228**	*e*PN	**Pn**	**09 24 25.9**	**+0.4**
IRK				*e*S	**Sn**	**09 25 20.4**	**-1.8**
IRK				*e*S	**Sg**	**09 25 43.3**	**-5.7**
IRK				smax			
comp=N,2μm,0.9s							
IRK	**Irkutsk**	**4.89**	**228**	*e*Sn	**Sn**	**09 25 21.5**	**-0.7**
IRK				*e*Sg	**Sg**	**09 25 43.4**	**-5.6**
IRK				Smax		09 25 46.4	
comp=N,2μm,0.9s							
TLY	**Talaya**	**5.57**	**227**	*e*PN	**Pn**	**09 24 35.1**	**+0.3**
TLY				*e*		09 24 52.9	
TLY				*e*S	**Sn**	**09 25 38.5**	**-0.4**
TLY				*e*		09 26 03.2	
TLY				pmax	pmax		
comp=Z,64nm,0.5s							
TLY				smax			
comp=E,280nm,0.5s							
TLY	**Talaya**	**5.57**	**227**	*e*Pn	**Pn**	**09 24 35.1**	**+0.3**
TLY				*e*Sn	**Sn**	**09 25 38.9**	**0.0**
TLY	**Talaya**	**5.57**	**227**	*e*Pn	**Pn**	**09 24 35.1**	**+0.3**
TLY				*e*Pg	**Pg**	**09 24 53.1**	**-5.5**
TLY				Pmax		09 24 56.9	
comp=E,67nm,0.5s							
TLY				*e*Sn	**Sn**	**09 25 37.9**	**-1.0**
TLY				*e*Sg	**Sg**	**09 26 04.4**	**-6.4**
TLY				Smax		09 26 08.8	
comp=E,282nm,0.5s							
TUP	**Tupik**	**5.76**	**99**	*e*PN	**Pn**	**09 24 38.0**	**+0.6**
TUP				*e*		09 24 55.8	
TUP				*e*S	**Sn**	**09 25 43.6**	**0.0**
TUP				*e*		09 26 10.7	
TUP				pmax	pmax		
comp=Z,85nm,0.9s							
TUP				smax			
comp=N,446nm,1.3s							
TUP	**Tupik**	**5.76**	**99**	*e*Pn	**Pn**	**09 24 38.0**	**+0.6**
TUP				max		09 25 01.4	
comp=N,42nm,0.6s							
TUP				*e*Sn	**Sn**	**09 25 42.2**	**-1.4**
TUP				*e*Sg	**Sg**	**09 26 10.4**	**-6.5**
TUP				Smax		09 26 23.6	
comp=N,496nm,1.9s							
ARS	**Arshan**	**5.93**	**234**	*e*PN	**Pn**	**09 24 40.9**	**+1.1**
ARS				*e*S	**Sn**	**09 25 46.8**	**-1.0**
ARS	**Arshan**	**5.93**	**234**	*e*Pn	**Pn**	**09 24 40.9**	**+1.1**
ARS				max		09 24 50.1	
comp=N,98nm,0.5s							
ARS				*e*Sn	**Sn**	**09 25 46.8**	**-1.0**
ARS				*e*Sg	**Sg**	**09 26 16.4**	**-5.9**
ARS				Smax		09 26 22.6	
comp=N,2μm,0.8s							
KPC	**Khapcheranga**	**6.13**	**166**	*e*Pn	**Pn**	**09 24 43.9**	**+1.4**
KPC				*e*Pg	**Pg**	**09 25 02.4**	**-6.9**
KPC				Pmax		09 25 04.1	
comp=N,83nm,0.7s							
KPC				*e*Sg	**Sg**	**09 26 23.1**	**-5.6**
KPC				Smax		09 26 32.6	
comp=N,353nm,0.8s							
ZAK	**Zakamensk**	**6.74**	**221**	*e*PN	**Pn**	**09 24 53.0**	**+2.2**
ZAK				*e*		09 25 11.3	
ZAK				*e*S	**Sn**	**09 26 06.4**	**-1.1**
ZAK				*e*		09 26 38.5	
ZAK				pmax	pmax		
comp=Z,27nm,0.7s							
ZAK				smax			
comp=N,349nm,1.1s							
ZAK	**Zakamensk**	**6.74**	**221**	*e*Pn	**Pn**	**09 24 53.1**	**+2.3**
ZAK				*e*Sn	**Sn**	**09 26 08.0**	**+0.5**
ZAK				*e*Sg	**Sg**	**09 26 41.6**	**-6.4**
ZAK				Smax		09 26 44.4	
comp=N,348nm,1.2s							
MOY	**Mondy**	**6.77**	**237**	*e*PN	**Pn**	**09 24 53.6**	**+2.4**
MOY				*e*		09 25 12.9	
MOY				*e*S	**Sn**	**09 26 07.2**	**-1.2**
MOY				*e*		09 26 38.7	
MOY				pmax	pmax		
comp=Z,29nm,0.4s							
MOY				smax			
comp=N,365nm,1.1s							
MOY	**Mondy**	**6.77**	**237**	*e*Pn	**Pn**	**09 24 54.0**	**+2.8**
MOY				max		09 24 58.9	
comp=N,130nm,0.6s							
MOY				*e*Sn	**Sn**	**09 26 07.6**	**-0.8**
MOY				*e*Sg	**Sg**	**09 26 41.3**	**-7.9**
MOY				Smax		09 26 51.1	
comp=N,372nm,1.0s							
ORL	**Orlik**	**6.85**	**247**	*e*PN	**Pn**	**09 24 54.5**	**+2.1**
ORL				*e*S	**Sn**	**09 26 09.3**	**-1.1**
ORL				*e*S	**Sg**	**09 26 44.9**	**-6.9**
ORL				smax			
comp=N,465nm,1.2s							
ORL	**Orlik**	**6.85**	**247**	*e*Pn	**Pn**	**09 24 54.5**	**+2.1**
ORL				max		09 24 59.0	
comp=N,77nm,0.9s							
ORL				*e*Sn	**Sn**	**09 26 09.7**	**-0.7**
ORL				*e*Sg	**Sg**	**09 26 45.0**	**-6.8**
ORL				Smax		09 26 49.3	
comp=N,413nm,0.7s							
ULN	**Ulaanbaatar**	**8.06**	**195**	*e*Pn	**Pn**	**09 25 09.2**	**+0.3**
ULN				*e*Sg	Sn	09 27 29.0	+49
SONM	**Songino Array**	**8.19**	**198**	Pn	**Pn**	**09 25 12.7**	**+2.0**
comp=N,2.5nm,0.3s,baz=14,slow=14,SNR=28							
SONM				Pg	Pn	09 25 40.5	+30
comp=N,3.6nm,0.3s,baz=9.6,slow=17,SNR=11							
SONM				Lg		09 27 32.7	
comp=N,6.7nm,0.3s,baz=11,slow=28,SNR=4.8							
SONM	**Songino Array**	**8.19**	**198**	PG	Px	09 25 40.5	
SONM				pmax	pmax		
comp=Z,4.0nm,0.3s							
HIA	**Hailar**	**8.67**	**134**	*e*PN	**Pn**	**09 25 18.0**	**+0.6**
YAK	**Yakutsk**	**11.91**	**50**	*e*P	**Pn**	**09 25 59.9**	**-1.8**
YAK				*e*S	**Sn**	**09 28 08.8**	**-5.8**
YAK				pmax	pmax		
comp=Z,8.0nm,0.8s							
YAK				pmax	pmax		
comp=N,14nm,1.3s							
YAK				pmax	pmax		
comp=E,15nm,1.5s							
YAK				smax			
comp=N,260nm,3.9s							
YAK				smax			
comp=Z,87nm,2.8s							
YAK				smax			
comp=E,170nm,3.0s							
YAK				MLR	MLR		
comp=E,100nm,7.0s							
YAK				MLR	MLR		
comp=Z,100nm,7.0s							
YAK				MLR	MLR		
comp=N,100nm,8.0s							
ZAL	**Zalesovo**	**14.71**	**274**	Pn	**Pn**	**09 26 40.8**	**+0.9**
comp=N,0.4nm,0.3s,baz=50,slow=16,SNR=3.1							
TIXI	**Tiksi**	**17.90**	**19**	*e*P	**Pn**	**09 27 17.1**	**-3.7**
TIXI				pmax	pmax		
comp=Z,10.0nm,0.7s							
TIXI	**Tiksi**	**17.90**	**19**	*e*Pn	**Pn**	**09 27 16.4**	**-4.4**
KURK	**Kurchatov**	**19.44**	**268**	⇑*i*P	**Pn**	**09 27 38.6**	**-1.0**
KURK	**Kurchatov**	**19.44**	**268**	*e*P	**Pn**	**09 27 38.5**	**-1.0**
comp=Z,7.9nm,0.6s							
MK31	**Makanchi Array**	**19.47**	**255**	*e*P	**Pn**	**09 27 38.5**	**-1.5**
MKAR	**Makanchi Array**	**19.47**	**255**	Pn	**Pn**	**09 27 38.9**	**-1.1**
comp=Z,0.6nm,0.3s,baz=47,slow=9.1,SNR=45							
MKAR	**Makanchi Array**	**19.47**	**255**	P	**Pn**	**09 27 38.9**	**-1.1**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CHKZ	**Chkalovo**	**22.75**	**282**	P	**P**	**09 28 14.1**	**0.0**
CHKZ				pmax	pmax		
comp=Z,13nm,1.3s,mb4.2							
CHKZ	**Chkalovo**	**22.75**	**282**	*e*P	**P**	**09 28 13.5**	**-0.6**
comp=Z,3.9nm,0.6s,mb4.0							
BVAR	**Borovoye Array**	**23.12**	**280**	P	**P**	**09 28 17.3**	**-0.7**
comp=Z,3.3nm,0.6s,mb3.9,baz=71,slow=11,SNR=15							
BVAR	**Borovoye Array**	**23.12**	**280**	P	**P**	**09 28 17.3**	**-0.7**
BVAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**23.16**	**280**	*e*P	**P**	**09 28 18.8**	**+0.3**
BRVK				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.1							
BRVK	**Borovoye**	**23.16**	**280**	*e*P	**P**	**09 28 18.8**	**+0.3**
comp=Z,6.8nm,0.8s,mb4.1							
AAK	**Ala-Archa**	**26.40**	**255**	*e*P	**P**	**09 28 48.5**	**0.0**
AAK				pmax	pmax		
comp=Z,7.0nm,2.0s,mb3.8							
ARCES	**ARCESS Array B**	**37.82**	**325**	P	**P**	**09 30 26.9**	**-1.5**
comp=Z,1.6nm,0.8s,mb3.8,baz=67,slow=6.7,SNR=6.5							
ARCES	**ARCESS Array B**	**37.82**	**325**	P	**P**	**09 30 26.9**	**-1.5**
ARCES				pmax	pmax		
comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**37.82**	**325**	P	**P**	**09 30 26.9**	**-1.5**
FINES	**FINESS Array B**	**41.35**	**314**	P	**P**	**09 30 57.2**	**-0.6**
comp=Z,4.5nm,0.9s,mb4.1,baz=66,slow=9.4,SNR=6.5							
FINES	**FINESS Array B**	**41.35**	**314**	P	**P**	**09 30 57.3**	**-0.5**
FINES				pmax	pmax		
comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**43.39**	**284**	*e*P	**P**	**09 31 15.4**	**+0.9**
KIV				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.5							
COLA	**College**	**45.97**	**36**	*e*P	**P**	**09 31 35.1**	**0.0**
COLA				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
COLA	**College**	**45.97**	**36**	*e*P	**P**	**09 31 35.1**	**0.0**
comp=Z,4.8nm,0.9s,mb4.4							
AKASG	**Malin Array Be**	**46.16**	**299**	P	**P**	**09 31 35.8**	**-0.7**
comp=Z,0.3nm,0.3s,mb3.7,baz=44,slow=8.5,SNR=4.4							
NB2	**NORSAR Subarra**	**47.39**	**319**	P	**P**	**09 31 45.6**	**-0.6**
comp=Z,3.0nm,0.8s,mb4.3,baz=50,slow=7.4							
NOA	**NORSAR Array B**	**47.39**	**319**	P	**P**	**09 31 45.8**	**-0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=49,slow=7.1,SNR=4.0							
NOA	**NORSAR Array B**	**47.39**	**319**	P	**P**	**09 31 45.8**	**-0.4**
NOA				pmax	pmax		
comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**47.80**	**27**	P	**P**	**09 31 48.7**	**-0.7**
comp=Z,2.2nm,1.0s,mb4.2,baz=340,slow=10,SNR=7.4							
INK	**Inuvik**	**47.80**	**27**	P	**P**	**09 31 48.7**	**-0.7**
INK				pmax	pmax		
comp=Z,2.0nm,1.0s							
INK	**Inuvik**	**47.80**	**27**	*e*P	**P**	**09 31 48.5**	**-0.9**
comp=Z,103nm,1.1s							
BRTR	**Keskin Array B**	**51.22**	**286**	P	**P**	**09 32 16.6**	**+1.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=77,slow=6.5,SNR=4.0							
YKA	**Yellowknife Ar**	**57.10**	**23**	P	**P**	**09 32 56.9**	**-1.4**
comp=Z,0.8nm,0.7s,mb3.8,baz=333,slow=6.7,SNR=7.4							
YKA	**Yellowknife Ar**	**57.10**	**23**	P	**P**	**09 32 56.9**	**-1.5**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**57.10**	**23**	P	**P**	**09 32 56.9**	**-1.4**
PMG	**Port Moresby**	**71.78**	**141**	*e*P	**P**	**09 34 33.4**	**-1.1**
PMG				pmax	pmax		
comp=Z,25nm,0.8s							
PMG	**Port Moresby**	**71.78**	**141**	*e*P	**P**	**09 34 33.4**	**-1.1**
comp=Z,25nm,0.8s,mb5.2							
NVAR	**Mina Array Bea**	**77.58**	**37**	P	**P**	**09 35 08.9**	**+0.8**
comp=Z,0.5nm,0.6s,mb3.6,baz=339,slow=6.8,SNR=3.5							
WRA	**Warramunga Arr**	**78.07**	**157**	P	**P**	**09 35 10.9**	**+0.1**
comp=Z,1.9nm,0.9s,mb4.0,baz=349,slow=6.4,SNR=7.3							
WRA	**Warramunga Arr**	**78.07**	**157**	P	**P**	**09 35 10.9**	**+0.1**
WRA				pmax	pmax		
comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**81.57**	**158**	P	**P**	**09 35 30.3**	**+0.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=350,slow=5.0,SNR=6.2							
ASAR	**Alice Springs**	**81.57**	**158**	P	**P**	**09 35 30.3**	**+0.5**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**89.35**	**292**	P	**P**	**09 36 08.7**	**+0.2**
comp=Z,0.8nm,0.9s,mb4.0,baz=28,slow=6.0,SNR=2.8							
SNAA	**Sanae**	**148.41**	**214**	*e*PKPdf	PKPdf	09 42 57.5	+2.4
SNAA	**Sanae**	**148.41**	**214**	*e*PKPdf	PKPdf	09 42 57.5	+2.4
SNAA				*e*		09 43 00.3	
VNA2	**Neumayer--Watz**	**149.82**	**215**	*e*PKPdf	PKPbc	09 43 01.8	-0.3
baz=48,slow=2.1							
VNA2	**Neumayer--Watz**	**149.82**	**215**	*e*PKPdf	PKPbc	09 43 01.8	-0.3
baz=295,slow=15							
VNA2				*e*		09 43 04.0	
VNA2				*e*		09 43 08.2	
VNA1	**Neumayer--Stat**	**150.10**	**216**	*e*PKPdf	PKPbc	09 43 02.6	-0.2
VNA1	**Neumayer--Stat**	**150.10**	**216**	*e*PKPdf	PKPbc	09 43 02.6	-0.2
VNA1				*e*		09 43 05.2	
VNA1				*e*		09 43 08.9	

ISCJB ***11*** *09:24:28.7±1.4,2194N±003×14301E±002,h15km±9km, mb5.1/113,MS4.4/32,Error ellipse: s-maj=5.8km s-min=3.8km az=10.5*

BJI ***11*** *09:24:28.0,2192N×14338E,h16km,mB5.4,mb5.1,Ms4.6, Msz4.4*

MOS ***11*** *09:24:31.0±0.9,2194N×14302E,h33km,mb5.5/48,Error ellipse: s-maj=9.4km s-min=5.3km az=108.6*

NEIC ***11*** *09:24:32.6±2.4,2194N×14302E,h33km±16km,mb5.3/61, Error ellipse: s-maj=5.6km s-min=4.6km az=110.0*

GCMT ***11*** *09:24:32.7±0.3,2187N×143.11E,h12km,MW5.0/85, Moment Tensor Solution. s28,c31; s85,c126; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.38±.10; Mθθ1.29±.09; Mφφ3.09±.10; Mrθ=0.23±.38; Mφφ=1.64±.08; Mφr1.50±.35; Best double couple: M0=4.48100×10^16 NP1:φs323.00000°,δ36.00000°,λ=100.00000°. NP2: φs156.00000°,δ55.00000°,λ=83.00000°. Principal axes: T 4.2910, Plg9.0000°, Azm241.0000°; N 0.3800, Plg6.0000°, Azm332.0000°; P -4.6710, Plg79.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***11*** *09:24:33.3±2.9,2196N×143.12E,h41km±24km,mb4.7/22, mb1 4.8/24,mb1mx4.7/26,mbtmp4.6/24,ML4.4/2,MS4.3/23, Ms1 4.3/23,ms1mx4.2/35 Error ellipse: s-maj=18.4km s-min=12.4km az=94.0*

ISC 11 09:24:32.5±1.3,2196N±003×14306E±002,h27km±8km, h23km±1.4km:pP-P,n535,σ0979/539,mb5.1/113,MS4.4/32, 90C-83D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.17**	**351**	P	**Pn**	**09 25 48.8**	**+0.6**
51nm,0.3s,baz=119,slow=15,SNR=14							
CBIJ				S	**Sn**	**09 26 47.1**	**+0.1**
51nm,0.3s,baz=296,slow=23,SNR=8.2							
CBIJ				LR	LR	09 27 31.5	
comp=Z,2μm,19.4s,baz=129,slow=34							
GUMO	**Guam**	**8.50**	**168**	LR	LR	09 29 14.8	
comp=Z,2μm,18.7s,baz=165,slow=33							
JHJ	**Hachijo jima 2**	**11.49**	**346**	LR	LR	09 31 38.5	
comp=Z,1μm,18.5s,baz=104,slow=37							
JOD2	**Odawara 2**	**13.70**	**346**	P	**Pn**	**09 27 42.8**	**-2.2**
JOW	**Kunigami**	**14.31**	**293**	LR	LR	09 32 33.4	
comp=Z,2μm,19.1s,baz=52,slow=34							
JRY	**Ryogami san**	**14.47**	**346**	P	**Pn**	**09 27 51.9**	**-3.5**
JAD	**Aida**	**15.10**	**331**	P	**Pn**	**09 28 13.6**	**+10**
MJAR	**Matsushiro Arr**	**15.13**	**345**	P	**Pn**	**09 28 02.1**	**-2.2**
0.5nm,0.3s,baz=157,slow=9.6,SNR=14							
MJAR				LR	LR	09 33 22.4	
comp=Z,2μm,21.1s,baz=165,slow=35							
MAJO	**Matsushiro**	**15.13**	**345**	*e*P	**Pn**	**09 28 02.6**	**-1.8**
MAT	**Matsushiro**	**15.13**	**345**	P	**Pn**	**09 28 01.2**	**-3.2**
MAT				S	**Sn**	**09 30 57.0**	**+5.9**
JHS	**Saijyo**	**15.64**	**328**	P	**Pn**	**09 28 16.2**	**+5.2**
JMM	**Marumori**	**15.97**	**353**	P	**Pn**	**09 28 12.5**	**-2.8**
JMM				*e*S	**Sn**	**09 31 00.2**	**-11**
JYA	**Atsumi**	**16.82**	**351**	P	**Pn**	**09 28 28.8**	**+2.7**
JOM	**Ohasama**	**17.52**	**355**	P	**Pn**	**09 28 36.7**	**+1.9**
JOT	**Ohata**	**19.44**	**355**	P	**Pn**	**09 29 00.0**	**+1.9**
YHNB	**Yeheng**	**20.09**	**282**	*e*P	**P**	**09 29 02.7**	**-1.3**
KSRS	**Korea Array**	**20.23**	**323**	P	**P**	**09 29 04.2**	**-1.3**
2.6nm,0.7s,baz=137,slow=11,SNR=9.4							
KSRS				LR	LR	09 36 01.6	
comp=Z,740nm,19.0s,MS4.1,baz=135,slow=34							
KS15	**Wonju Array Si**	**20.25**	**323**	*e*Pn	**P**	**09 29 09.8**	**+4.1**
JSH	**Shimam**	**20.78**	**354**	P	**P**	**09 29 12.1**	**+0.7**
JEW	**Eniwo**	**20.86**	**357**	P	**P**	**09 29 13.8**	**+1.4**
INCN	**Inchon**	**20.99**	**321**	*e*P	**P**	**09 29 12.5**	**-1.2**
38nm,1.4s							
ASAJ	**Asahikawa**	**22.10**	**359**	P	**P**	**09 29 25.9**	**+0.3**
14nm,0.7s,mb4.5,baz=198,slow=14,SNR=6.4							
ASAJ				LR	LR	09 38 42.7	
comp=Z,456nm,18.9s,MS3.9,baz=184,slow=38							
TGY	**Tagaytay City**	**22.42**	**253**	LR	LR	09 37 53.8	
comp=Z,8.1nm,20.7s,baz=178,slow=36							
QZH	**Quanzhou**	**22.63**	**282**	⇓*i*P	**P**	**09 29 33.2**	**+1.9**
VLA	**Vladivostok**	**23.06**	**339**	*e*P	**P**	**09 29 35.5**	**-0.3**
DL2	**Dalian**	**24.93**	**317**	P	**P**	**09 29 55.5**	**+2.1**
DL2				S	**S**	**09 34 21.3**	**+6.1**
DL2				AMB	AMB		
comp=Z,40nm,1.0s,mb4.9							
DL2				AMB	AMB		
comp=Z,270nm,4.2s							
DL2				LR	LR		
comp=N,210nm,12.3s,MS4.1							
DL2				LR	LR		
comp=E,290nm,13.3s,MS4.1							
DL2				LR	LR		
comp=Z,270nm,14.6s,MS3.9							
YSS	**Yuzh-Sakhalins**	**24.93**	**360**	*e*P	**P**	**09 29 53.0**	**-0.4**
YSS				*e*		09 30 36.0	
YSS				*e*		09 35 28.0	
YSS				pmax	pmax		
comp=Z,80nm,1.1s,mb5.2							
YSS				MLR	MLR		
comp=Z,500nm,15.0s,MS4.1							
YSS	**Yuzh-Sakhalins**	**24.93**	**360**	*e*P	**P**	**09 29 53.1**	**-0.4**
comp=Z,74nm,1.1s,mb5.1							
MDJ	**Mudanjiang**	**25.17**	**337**	P	**P**	**09 29 55.7**	**+0.1**
MDJ				AP	pP	09 30 01.7	-1.8
MDJ				XP	sP	09 30 04.4	-2.4
MDJ				PCP	PcP	09 33 28.0	-1.0
MDJ				S	**S**	**09 34 21.3**	**+2.2**
MDJ				AMB	AMB		
comp=Z,27nm,1.4s,mb4.6							
MDJ				AMB	AMB		
comp=Z,245nm,6.3s							
MDJ				LR	LR		
comp=N,252nm,18.4s,MS3.9							
MDJ				LR	LR		
comp=E,241nm,19.1s,MS3.9							
MDJ				LR	LR		
comp=Z,367nm,19.1s,MS3.9							
SNY	**Shenyang**	**25.69**	**325**	⇑P	**P**	**09 30 00.2**	**-0.1**
SNY				AP	pP	09 30 05.5	-2.7
SNY				XP	sP	09 30 07.4	-4.1
SNY				PP		09 30 40.6	
SNY				S	**S**	**09 34 32.5**	**+5.2**
SNY				AMB	AMB		
comp=Z,38nm,1.1s,mb4.8							
SNY				AMB	AMB		
comp=Z,537nm,5.2s							
SNY				LR	LR		
comp=N,638nm,19.2s,MS4.3							
SNY				LR	LR		
comp=E,582nm,19.6

comp=Z,27nm,1.0s,mb5.0
HHC Hu-ho-hao-te 32.57 313 eP P 09 31 02.5 +1.0
HHC AP pP 09 31 08.2 -1.2
HHC XP sP 09 31 11.2 -1.5
HHC PP PP 09 32 12.4 -2.9
HHC S **S 09 36 16.2 +0.9**
HHC XS sS 09 36 25.8 -2.6
HHC PCS PcS 09 37 33.5 +0.9
HHC AMB AMB
comp=Z,36nm,0.6s,mb5.5
HHC AMB AMB
comp=Z,549nm,5.6s
HHC LR LR
comp=N,245nm,19.0s,MS4.2
HHC LR LR
comp=E,394nm,17.2s,MS4.2
HHC LR LR
comp=Z,468nm,19.0s,MS4.2
HIA Hailar 32.92 332 eP P 09 31 04.2 -0.4
HIA pmax pmax
comp=Z,19nm,1.0s
HIA Hailar 32.92 332 eP P 09 31 04.2 -0.4
comp=Z,19nm,1.0s,mb5.0
PET Petropavlovsk 33.23 17 eP P 09 31 06.6 -0.7
PET pmax pmax
comp=Z,42nm,1.2s,mb5.2
PET Petropavlovsk 33.23 17 eP P 09 31 06.0 -1.3
comp=Z,50nm,1.4s,mb5.2
GYA Guiyang 33.42 285 P **P 09 31 10.0 +1.1**
GYA AP pP 09 31 16.8 -0.1
GYA XP sP 09 31 18.8 -1.4
GYA PP PP 09 32 22.3 -2.4
GYA PCP PcP 09 33 51.5 +1.6
GYA S **S 09 36 29.3 +0.8**
GYA SS SS 09 38 32.2 -21
GYA SCS ScS 09 41 33.3 -0.1
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,140nm,5.0s
GYA LR LR
comp=N,540nm,15.8s,MS4.5
GYA LR LR
comp=E,570nm,16.0s,MS4.5
GYA LR LR
comp=Z,610nm,16.2s,MS4.4
CD2 Chengdu 36.15 293 P **P 09 31 32.4 -0.1**
CD2 AP pP 09 31 42.1 +1.6
CD2 XP sP 09 31 46.0 +2.2
CD2 PP PP 09 32 54.1 -0.8
CD2 PCP PcP 09 33 58.8 +1.0
CD2 S **S 09 37 08.9 -1.6**
CD2 SCS ScS 09 41 45.3 -2.7
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
CD2 AMB AMB
comp=Z,580nm,7.8s
CD2 LR LR
comp=N,770nm,10.8s,MS5.0
CD2 LR LR
comp=E,1μm,11.7s,MS5.0
CD2 LR LR
comp=Z,1μm,9.3s
LZH Lanzhou 36.81 301 eP P 09 31 38.7 +0.6
LZH AP pP 09 31 44.6 -1.5
LZH XP sP 09 31 47.8 -1.6
LZH PP PP 09 33 04.2 +2.1
LZH eS **S 09 37 22.7 +2.1**
LZH SS SS 09 39 49.5 -13
LZH AMB AMB
comp=Z,59nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,217nm,5.6s
LZH LR LR
comp=N,1μm,13.6s
LZH LR LR
comp=Z,2μm,17.7s,MS5.0
LZH Lanzhou 36.81 301 eP P 09 31 38.7 +0.6
LZH *SP sP 09 31 47.8 -1.6
LZH 09 33 04.2
LZH eS **S 09 37 22.7 +2.1**
LZH SS SS 09 39 49.5 -13
LZH Lanzhou 36.81 301 eP P 09 31 38.7 +0.6
LZH pP pP 09 31 44.6 -1.5
LZH sP sP 09 31 47.8 -1.6
LZH PP PP 09 33 04.2 +2.1
LZH eS **S 09 37 22.7 +2.1**
LZH sS sS 09 37 30.9 -2.9
LZH SS SS 09 39 49.5 -13
KMI Kunming 37.00 283 P **P 09 31 42.4 +2.7**
KMI AP pP 09 31 48.1 +0.3
KMI XP sP 09 31 50.5 -0.5
KMI PP PP 09 33 05.6 +1.3
KMI S **S 09 37 23.2 -0.4**
KMI AMB AMB
comp=Z,20nm,1.5s,mb4.7
KMI AMB AMB
comp=Z,170nm,3.1s
KMI LR LR
comp=N,406nm,24.0s,MS4.3
KMI LR LR
comp=E,411nm,24.0s,MS4.3
KMI LR LR
comp=Z,435nm,19.5s,MS4.2
KMI Kunming 37.00 283 P **P 09 31 42.4 +2.7**
KMI pP pP 09 31 48.1 +0.3
KMI sP sP 09 31 50.5 -0.5
KMI PP PP 09 33 05.6 +1.3
KMI S **S 09 37 23.2 -0.4**
KMI sS sS 09 37 33.0 -3.8
KMI SS SS 09 39 47.7 -18
CIT Chita 37.67 330 eP P 09 31 46.0 +0.6
CIT pmax pmax
comp=Z,107nm,2.9s,mb5.1
KKTK Khon Kaen 38.34 269 P **P 09 31 53.0 +2.0**
ULN Ulaanbaatar 38.69 321 eP P 09 31 54.5 +0.5
ULN pmax pmax
comp=Z,50nm,1.3s,mb5.1
ULN Ulaanbaatar 38.69 321 eP P 09 31 54.5 +0.5
comp=Z,50nm,1.3s,mb5.1
SONM Songino Array 39.06 320 P **P 09 31 56.7 -0.4**
comp=Z,16nm,0.7s,mb4.9,baz=123,slow=6.1,SNR=15
SONM LR LR 09 49 24.6
comp=Z,415nm,18.4s,MS4.3,baz=204,slow=38
NANT Nan 39.74 273 ⇑P P 09 32 02.3 -0.5
GTA Gaotai 40.62 305 ⇑P P 09 32 11.6 +1.5
GTA AP pP 09 32 17.3 -0.9
GTA XP sP 09 32 20.8 -0.6
GTA PP PP 09 33 49.6 +5.7
GTA PCP PcP 09 34 11.8 +0.1
GTA S **S 09 38 21.8 +3.6**
GTA XS sS 09 38 31.3 -0.2
GTA SS SS 09 41 19.0 +0.3
GTA AMB AMB
comp=Z,20nm,1.9s,mb4.4
GTA AMB AMB
comp=Z,418nm,6.8s
GTA LR LR
comp=N,500nm,19.8s,MS4.5
GTA LR LR
comp=E,416nm,18.3s,MS4.5
GTA LR LR
comp=Z,312nm,17.9s,MS4.2
NST Nakhon Sawan 41.01 269 P **P 09 32 16.1 +2.8**
YAK Yakutsk 41.09 350 eP P 09 32 13.1 -0.8
YAK pmax pmax
comp=Z,73nm,1.1s,mb5.2
YAK pmax pmax
comp=N,19nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK Yakutsk 41.09 350 eP P 09 32 13.3 -0.7
comp=E,67nm,0.9s,mb5.3
CHG Chiang Mai 41.37 274 ⇓P P 09 32 17.5 +1.3
comp=E,21nm,1.2s,mb4.7
CHTO Chiang Mai 41.37 274 P **P 09 32 18.5 +2.3**
SNR=7.6
CHTO Chiang Mai 41.37 274 P **P 09 32 16.4 +0.2**
CHTO pmax pmax
comp=Z,22nm,1.1s,mb4.7
CHTO Chiang Mai 41.37 274 P **P 09 32 16.4 +0.2**
comp=Z,22nm,1.1s,mb4.7
SEY Seymchan 41.44 6 eP P 09 32 16.9 +0.1
CTA Charters Tower 41.91 175 eP P 09 32 18.9 -1.7
comp=Z,43nm,1.0s,mb5.0
CTA Charters Tower 41.91 175 eP P 09 32 18.9 -1.7
CTA pmax pmax
comp=Z,43nm,1.0s
CTAO Charters Tower 41.91 175 eP P 09 32 19.9 -0.7
CTAO pmax pmax
comp=Z,74nm,1.0s,mb5.3
CTAO Charters Tower 41.91 175 eP P 09 32 19.9 -0.8
comp=Z,74nm,1.0s,mb5.3
ZAK Zakamensk 42.06 322 eP P 09 32 21.9 0.0
ZAK pmax pmax
comp=Z,34nm,1.2s,mb4.8
IRK Irkutsk 42.42 325 eP P 09 32 25.2 +0.3
IRK e 09 34 17.4
IRK pmax pmax
comp=Z,102nm,2.4s,mb5.0
TLY Talaya 42.48 324 P **P 09 32 26.9 +1.6**
comp=Z,154nm,1.1s,mb5.5,SNR=5.3
TLY Talaya 42.48 324 P **P 09 32 26.4 +1.1**
SNR=6.2
TLY Talaya 42.48 324 eP P 09 32 25.6 +0.3
TLY e 09 34 02.4
TLY pmax pmax
comp=Z,50nm,1.4s,mb5.0
TLY MLR MLR
comp=Z,351nm,23.0s,MS4.2
TLY Talaya 42.48 324 eP P 09 32 26.0 +0.7
comp=Z,49nm,1.3s,mb5.0
WRAB Tennant Creek 42.50 192 P **P 09 32 24.9 -0.6**
comp=Z,176nm,1.1s,mb5.6,SNR=13
WRAB Tennant Creek 42.50 192 eP P 09 32 24.0 -1.5
WRAB Tennant Creek 42.50 192 eP P 09 32 23.5 -1.9
comp=Z,40nm,1.1s,mb5.0
WB2 Warramunga Arr 42.51 192 eP P 09 32 22.7 -2.8
WRA Warramunga Arr 42.51 192 P **P 09 32 24.3 -1.2**
comp=Z,22nm,1.0s,mb4.8,baz=14,slow=8.7,SNR=59
WRA LR LR 09 48 41.1
comp=Z,274nm,21.1s,MS4.1,baz=0.0,slow=34
FITZ Fitzroy Crossi 43.31 205 eP P 09 32 32.9 +0.8
comp=Z,21nm,1.1s,mb4.8
KULM Kulim 44.22 254 eP P 09 32 41.3 +1.9
ASAR Alice Springs 46.22 192 P **P 09 32 54.4 -0.9**
comp=Z,5.6nm,0.7s,mb4.6,baz=16,slow=9.3,SNR=49
PSI Prapat 46.88 252 P **P 09 33 02.1 +1.7**
comp=Z,22nm,0.9s,mb5.1,baz=73,slow=2.1,SNR=10
LSA Lhasa 47.03 291 P **P 09 33 04.4 +2.8**
LSA Lhasa 47.03 291 eP P 09 33 03.6 +2.0
LSA pmax pmax
comp=Z,18nm,0.9s,mb5.0
LSA Lhasa 47.03 291 eP P 09 33 03.6 +2.1
comp=Z,18nm,0.9s,mb5.0
BILL Bilibino 48.28 11κeP P 09 33 11.0 -0.3
BILL e 09 33 24.9
BILL pmax pmax
comp=Z,26nm,1.0s,mb5.2
BILL Bilibino 48.28 11 eP P 09 33 11.1 -0.2
comp=Z,27nm,1.1s,mb5.2
WMQ Urumqi 50.32 309 P **P 09 33 27.8 +0.9**
WMQ XP sP 09 33 39.7 +1.4
WMQ PCP PcP 09 34 45.0 -0.3
WMQ S **S 09 40 36.8 -1.2**
WMQ PS PS 09 40 50.1
WMQ XS sS 09 40 54.0 +2.5
WMQ SCS ScS 09 43 13.0 -3.1
WMQ AMB AMB
comp=Z,46nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,417nm,3.0s
WMQ LR LR
comp=N,202nm,26.0s,MS4.2
WMQ LR LR
comp=E,231nm,26.0s,MS4.2
WMQ LR LR
comp=Z,309nm,26.0s,MS4.2
TIXI Tiksi 50.38 354 eP P 09 33 24.5 -2.8
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KKN Kakani 52.34 289 eP P 09 33 42.7 +0.7
comp=Z,31nm,1.1s,mb5.2
DMN Daman 52.52 289 eP P 09 33 43.9 +0.6
comp=Z,70nm,1.1s,mb5.5
ARMA Armidale 52.73 171 eP P 09 33 44.5 -0.3
GKN Gorkha 52.88 289 eP P 09 33 46.6 +0.6
comp=Z,65nm,1.1s,mb5.5
STKA Stephens Creek 53.55 182 eP P 09 33 49.5 -1.4
comp=Z,7.5nm,0.9s,mb4.6
STKA Stephens Creek 53.55 182 P **P 09 33 49.4 -1.5**
comp=Z,10nm,1.0s,mb4.7,baz=0.1,slow=7.5,SNR=9.1
STKA LR LR 09 56 13.8
comp=Z,169nm,18.3s,MS4.1,baz=19,slow=36
DANN Dangsing 53.60 290 eP P 09 33 52.8 +1.5
KOLN Koldanda 53.82 289 eP P 09 33 53.5 +0.6
comp=Z,47nm,1.1s,mb5.3
ZAL Zalesovo 53.94 322 P **P 09 33 52.7 -1.1**
comp=Z,21nm,1.0s,mb5.0,baz=12,slow=8.3,SNR=17
ZAL LR LR 09 59 37.4
comp=Z,339nm,18.2s,MS4.5,baz=88,slow=39
FORT Forrest 54.38 196 eP P 09 33 56.1 -0.9
comp=Z,22nm,0.9s,mb5.1
MK31 Makanchi Array 54.43 313 *i* P **P 09 33 57.6 +0.2**
MK31 pmax pmax
comp=Z,21nm,0.9s,mb5.1
MK31 Makanchi Array 54.43 313 eP P 09 33 57.0 -0.3
MKAR Makanchi Array 54.43 313 P **P 09 33 57.7 +0.3**
comp=Z,6.7nm,0.8s,mb4.6,baz=93,slow=9.2,SNR=40
MKAR PcP PcP 09 35 00.0 -0.8
comp=Z,6.6nm,1.0s,baz=102,slow=5.0,SNR=4.1
MKAR LR LR 09 59 49.7
comp=Z,258nm,18.1s,MS4.3,baz=95,slow=39
MKAR Makanchi Array 54.43 313 P **P 09 33 57.7 +0.3**
MKAR 09 35 00.0
NVS Novosibirsk 55.02 322 eP P 09 34 00.1 -1.6
NVS pmax pmax
comp=N,39nm,1.7s
NVS pmax pmax
comp=Z,70nm,1.7s,mb5.4
NVS pmax pmax
comp=E,50nm,1.5s
KURK Kurchatov 57.20 317 P **P 09 34 16.8 -0.4**
comp=E,240nm,1.0s,mb6.2,SNR=12
KURK Kurchatov 57.20 317 P **P 09 34 17.6 +0.4**
SNR=12
KURK Kurchatov 57.20 317 *i* P **P 09 34 16.5 -0.7**
KURK Kurchatov 57.20 317 eP P 09 34 16.4 -0.9
comp=E,43nm,1.0s,mb5.4
SVW2 Sparrevohn 57.24 30 eP P 09 34 17.3 -0.2
KDAK Kodiak Island 58.05 35 eP P 09 34 22.0 -1.2
KLBR Kellerberrin 58.51 205 eP P 09 34 26.9 +0.5
comp=E,28nm,1.3s,mb5.1
TKM2 Tokmak 2 59.09 308 P **P 09 34 31.8 +1.4**
SNR=22
IMA2 Indian Mountai 59.34 25 eP P 09 34 31.8 -0.4
KZA Kyzart 59.38 307 P **P 09 34 34.7 +2.2**
SNR=21
KBK Karagaybulak 59.58 307 P **P 09 34 35.4 +1.6**
SNR=11
CHMS Chumysh 59.71 308 P **P 09 34 35.3 +0.6**
SNR=10
FRU Bishkek 59.81 308 eP P 09 34 36.0 +0.6
FRU *e* pP 09 34 42.0 -1.8
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.5
USP Ospenovka 59.88 308 P **P 09 34 36.5 +0.6**
SNR=11
AAK Ala-Archa 59.91 307 P **P 09 34 37.0 +0.9**
SNR=11
AAK Ala-Archa 59.91 307 P **P 09 34 35.6 -0.5**
comp=Z,84nm,1.1s,mb5.7,SNR=8.3
AAK Ala-Archa 59.91 307 P **P 09 34 36.2 +0.1**
SNR=7.6
AAK Ala-Archa 59.91 307 ⇓*i* P **P 09 34 35.5 -0.6**
AAK pmax pmax
comp=Z,23nm,1.2s,mb5.1
AAK Ala-Archa 59.91 307 *eP* **P 09 34 35.2 -0.9**
comp=Z,19nm,1.1s,mb5.0
UCH Uchtor 59.92 307 P **P 09 34 38.1 +1.9**
SNR=48
PMR Palmer 60.38 31 eP P 09 34 38.2 -1.1
PMR pmax pmax
comp=Z,56nm,1.2s,mb5.5
PMR Palmer 60.38 31 eP P 09 34 38.2 -1.1
comp=Z,56nm,1.2s,mb5.5
EKS2 Erkin-Say 60.44 308 P **P 09 34 41.0 +1.3**
SNR=11
HYB Hyderabad 60.52 278 *i* P **P 09 34 41.0 +0.7**
HYB Hyderabad 60.52 278 eP P 09 34 41.0 +0.7
AML Almayashu 60.54 307 P **P 09 34 42.0 +1.6**
SNR=22
SML Sawmill 60.79 30 eP P 09 34 41.6 -0.5
MCK McKinley 60.81 28 eP P 09 34 41.1 -1.2
MCK pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MCK McKinley 60.81 28 eP P 09 34 41.1 -1.1
comp=Z,10nm,0.9s,mb5.0
COLA College 61.47 27 eP P 09 34 45.8 -0.9
COLA College 61.47 27 eP P 09 34 45.5 -1.2
comp=Z,11nm,0.9s,mb5.0
CHKZ Chkalovo 62.26 320 eP P 09 34 51.2 -0.8
CHKZ pmax pmax
comp=Z,53nm,1.1s,mb5.6
CHKZ Chkalovo 62.26 320 eP P 09 34 51.2 -0.8
comp=Z,53nm,1.1s,mb5.6
BVA0 Borovoye Array 62.40 319 *i* P **P 09 34 52.5 -0.4**
BVA0 pmax pmax
comp=Z,13nm,1.1s,mb5.0
BVAR Borovoye Array 62.40 319 P **P 09 34 52.3 -0.6**
comp=Z,43nm,0.9s,mb5.6,baz=92,slow=7.4,SNR=125
BRVK Borovoye 62.46 319 P **P 09 34 53.6 +0.3**
comp=Z,330nm,1.0s,SNR=31
BRVK Borovoye 62.46 319 P **P 09 34 53.5 +0.1**
SNR=21
BRVK Borovoye 62.46 319 eP P 09 34 53.0 -0.3
BRVK pmax pmax
comp=Z,83nm,1.1s,mb5.8
BRVK Borovoye 62.46 319 eP P 09 34 53.0 -0.3
comp=Z,83nm,1.1s,mb5.8
KK31 Karatay Array 62.80 308 *i* P **P 09 34 55.7 +0.1**
KKAR Karatay Array 62.80 308 *i* P **P 09 34 55.7 +0.1**
KKAR pmax pmax
comp=Z,67nm,1.2s,mb5.7
EGAK Eagle 64.30 27 eP P 09 35 04.2 -1.3
comp=Z,8.5nm,0.9s,mb4.8
KAD Karad 64.56 279 eP P 09 35 08.0 +0.8
DAWY Dawson 65.04 28 eP P 09 35 10.0 -0.4
INK Inuvik 67.38 24 P **P 09 35 24.4 -0.9**
comp=Z,21nm,1.0s,mb5.1,baz=265,slow=6.3,SNR=36
INK Inuvik 67.38 24 eP P 09 35 24.3 -1.0
comp=Z,1μm,1.1s
ARU Arti 68.98 324 ⇓*i P* **P 09 35 33.8 -1.6**
ARU *e* 09 35 53.4
ARU *e* 09 38 05.2
ARU *e*S S 09 44 38.3 -0.1
ARU *e*SS SS 09 49 05.6 +1.4
ARU pmax pmax
comp=Z,50nm,1.1s,mb5.4
ARU Arti 68.98 324 eP P 09 35 33.6 -1.8
comp=Z,73nm,1.2s,mb5.5
SOKR Solikamsk 69.46 327 eP P 09 35 36.0 -2.4
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.1
DLBC Dease Lake 69.97 34 eP P 09 35 41.8 +0.3
AKTK Aktyubinsk 70.30 317 P **P 09 35 42.8 -0.7**
AKTO Aktyubinsk 70.30 317 P **P 09 35 42.8 -0.7**
comp=Z,4.6nm,0.8s,mb4.5,baz=88,slow=6.2,SNR=16
B04A Port Angeles 76.21 44 ⇓P **P 09 36 18.7 +0.3**
baz=76
YKW3 Yellowknife Ar 76.25 28 eP P 09 36 17.2 -1.4
YKA Yellowknife Ar 76.28 28 P **P 09 36 17.0 -1.7**
comp=Z,11nm,0.8s,mb4.8,baz=291,slow=5.7,SNR=76
YKA LR LR 10 06 31.6
comp=Z,362nm,21.5s,MS4.7,baz=275,slow=33
LVZ Lovozero 76.51 338 eP P 09 36 19.6 -0.5
E03A Lebam 76.63 45 ⇓P **P 09 36 21.0 +0.3**
baz=76
PPT Papeete 76.75 115 LR LR 10 01 53.5
comp=Z,329nm,21.1s,MS4.6,baz=72,slow=29
GNW Green Mountain 76.80 44 eP P 09 36 22.8 +1.0
F03A Seaside 76.82 46 ⇓P **P 09 36 21.8 0.0**
baz=77
A05A Maple Falls 76.82 42 ⇑P **P 09 36 21.5 -0.3**
baz=77
RES Resolute Bay 76.85 13 eP P 09 36 20.9 -1.1
comp=Z,2μm,1.2s
RES *e* pP 09 36 29.6 -1.0
APA Apatity 77.08 338 ⇓*i P* **P 09 36 22.8 -0.5**
APA *i* pP 09 36 29.0 -2.9
APA pmax pmax
comp=Z,31nm,1.0s,mb5.2
E04A Onalaska 77.17 45 ⇑P **P 09 36 23.8 0.0**
baz=77
JCW Jim Creek 77.17 43 P **P 09 36 24.4 +0.6**
H03A Soap Creek Ran 77.39 47 ⇑P **P 09 36 24.8 -0.3**
baz=77
KLMR Klimovskoe 77.42 331 eP P 09 36 23.1 -2.1
KLMR pmax pmax
comp=Z,71nm,2.0s,mb5.2
D05A Enumclaw 77.45 44 ⇓P **P 09 36 25.2 -0.2**
baz=77
C05A Tolt Reservoir 77.48 44 ⇑P **P 09 36 25.6 0.0**
baz=77
RMW Rattlesnake Mo 77.49 44 P **P 09 36 26.4 +0.8**
F04A Amboy 77.57 45 ⇑P **P 09 36 25.8 -0.3**
baz=78
J02A Umpqua 77.61 48 ⇓P **P 09 36 26.4 +0.1**
baz=78
G04A Mulino 77.77 46 ⇑P **P 09 36 27.5 +0.4**
baz=78
K02A Glendale 77.86 49 ⇓P **P 09 36 28.1 +0.4**
baz=78
A07A Ashnola River, 77.86 42 P **P 09 36 28.2 +0.5**
baz=78,SNR=8.2
WRW Wenatchee Ridg 77.95 43 P **P 09 36 28.6 +0.4**
L02A Cave Junction 77.97 49 ⇑P **P 09 36 28.6 +0.3**
baz=78
JCC Jacoby Creek 78.10 51 ⇓P **P 09 36 29.4 +0.4**
baz=78
H04A Detroit Lake 78.13 47 ⇑P **P 09 36 29.2 0.0**
baz=78,SNR=5.4
D06A Cle Elum 78.19 44 ⇑P **P 09 36 29.7 +0.2**
baz=78,SNR=6.2
SLFW Sugar Loaf 78.20 43 P **P 09 36 30.1 +0.5**
NLW Nelson Butte 78.22 43 P **P 09 36 29.9 +0.2**
F05A White Salmon 78.22 45 ⇓P **P 09 36 30.0 +0.3**
baz=78
B07A Winthrop 78.23 42 ⇑P **P 09 36 29.5 -0.2**
baz=78,SNR=6.2
I04A Tendick Farm, 78.27 48 ⇑P **P 09 36 29.7 -0.3**
baz=78
HUMO Hull Mountain 78.28 49 ⇓P **P 09 36 30.3 +0.3**
baz=78
HOOD Mount Hood Mea 78.28 46 eP P 09 36 31.0 +1.0
KHMM Horse Mountain 78.29 51 eP P 09 36 32.0 +1.9
E06A Yakima 78.32 45 ⇓P **P 09 36 29.9 -0.3**
baz=78
TBM Table Mountain 78.36 44 P **P 09 36 30.6 +0.2**
O01C Eel River Cons 78.47 51 ⇓P **P 09 36 30.9 -0.1**
baz=78
C07A Waterville 78.52 43 ⇑P **P 09 36 30.7 -0.6**
baz=78
A08A Turner Farm, O 78.58 42 ⇑P **P 09 36 31.7 0.0**
baz=78,SNR=8.8
WTV Waterville 78.59 43 P **P 09 36 31.6 -0.2**
N02C Big Bar 78.61 51 ⇑P **P 09 36 32.2 +0.3**
baz=78
ARCES ARCESS Array B 78.64 341 P **P 09 36 31.0 -1.0**
comp=Z,26nm,1.0s,mb5.1,baz=49,slow=5.5,SNR=15
ARCES LR LR 10 18 31.9
comp=Z,211nm,19.2s,MS4.5,baz=277,slow=41
ARCES ARCESS Array B 78.64 341 P **P 09 36 31.0 -1.0**
ARCES LR LR 10 18 31.9
J04A Umpqua Nationa 78.66 48 ⇑P **P 09 36 32.4 +0.3**
baz=79
F06A Goldendale 78.71 45 ⇑P **P 09 36 31.4 -1.0**
baz=79
YBH Yreka Blue Hor 78.74 50 ⇑P **P 09 36 32.8 +0.3**
baz=79,SNR=6.7
D07A Quincy 78.75 44 ⇓P **P 09 36 32.3 -0.3**
baz=79
M02C Callahan 78.75 50 ⇑P **P 09 36 33.4 +0.8**
baz=79,SNR=5.3
B08A Colville Reser 78.75 42 P **P 09 36 32.4 -0.3**
baz=79,SNR=15
H05A Madras 78.79 46 ⇑P **P 09 36 32.5 -0.3**
baz=79
BUOR Burton Butte 78.89 49 P **P 09 36 33.9 +0.5**
I05A Bend 78.93 47 ⇑P **P 09 36 33.6 0.0**
baz=79
EPH Ephrata 78.94 43 P **P 09 36 33.6 0.0**
G06A Carlson Farm, 78.99 46 ⇓P **P 09 36 33.6 -0.3**
baz=79
A09A Danville 79.00 42 ⇓P **P 09 36 34.0 0.0**
baz=79,SNR=11

E07A	Sunnyside	79.04	44	P	P	09 36 34.5	+0.3
	baz=79,SNR=5.3						
LHEM	Herd Peak	79.12	50	P	P	09 36 35.2	+0.5
K04A	Chilquin	79.13	48	⇑P	P	09 36 34.4	-0.3
	baz=79						
C08A	Higginbotham F	79.13	43	P	P	09 36 34.9	+0.2
	baz=79,SNR=11						
L04A	Klamath Falls	79.17	49	⇑P	P	09 36 35.2	+0.3
	baz=79,SNR=6.0						
O02C	Red Bluff	79.20	51	⇓P	P	09 36 36.0	+0.9
	baz=79,SNR=6.4						
F07A	Phinny Hill Vi	79.23	45	⇑P	P	09 36 35.6	+0.4
	baz=79						
WDC	Whiskeytown Da	79.24	51	P	P	09 36 35.5	+0.2
	baz=79,SNR=9.6						
J05A	Fort Rock	79.25	48	P	P	09 36 36.0	+0.7
	baz=79,SNR=8.5						
GBL	Gable Mountain	79.29	44	P	P	09 36 35.9	+0.4
M03C	McCloud	79.31	50	⇑P	P	09 36 35.6	-0.1
	baz=79,SNR=12						
M04C	Macdoel	79.34	49	⇑P	P	09 36 36.1	+0.3
	baz=79,SNR=10						
H06A	Lindquist Farm	79.36	46	⇓P	P	09 36 35.8	-0.1
	baz=79,SNR=7.8						
GASB	Alder Springs	79.42	52	⇓P	P	09 36 36.0	-0.3
	baz=79						
B09A	Rice	79.47	42	⇑P	P	09 36 36.5	0.0
	baz=79,SNR=7.7						
D08A	Wollman Farm,	79.47	44	⇑P	P	09 36 36.5	0.0
	baz=79,SNR=8.4						
OD2	Odessa Site #2	79.49	43	P	P	09 36 36.3	-0.3
E08A	Dider Farm, El	79.58	44	⇑P	P	09 36 37.2	0.0
	baz=80,SNR=7.1						
C09A	Chrisman Ranch	79.61	43	⇑P	P	09 36 37.1	-0.2
	baz=80,SNR=7.5						
G07A	Ruggs Ranch, H	79.62	45	⇑P	P	09 36 37.0	-0.3
	baz=80						
K05A	Summer Lake	79.67	48	⇓P	P	09 36 38.2	+0.5
	baz=80,SNR=15						
I06A	Prineville	79.72	47	⇓P	P	09 36 38.2	+0.3
	baz=80,SNR=8.6						
O03C	Acorn Hollow,	79.81	51	⇓P	P	09 36 38.4	0.0
	baz=80						
D09A	Jones Farm, Ri	79.86	43	⇑P	P	09 36 38.7	0.0
	baz=80,SNR=5.6						
MNRC	McLaughlin Nat	79.89	52	⇑P	P	09 36 39.5	+0.7
	baz=80						
H07A	Lands Inn, Kim	79.92	46	⇑P	P	09 36 38.9	-0.1
	baz=80						
HATC	Hat Creek Radi	79.94	50	⇑P	P	09 36 39.4	+0.3
	baz=80,SNR=6.2						
M05C	Lookout	79.97	50	⇓P	P	09 36 39.5	+0.3
	baz=80,SNR=8.6						
J06A	Christmas Vall	80.00	47	⇑P	P	09 36 39.6	+0.2
	baz=80,SNR=6.2						
LBCM	Butte Creek Ri	80.01	50	P	P	09 36 39.8	+0.3
F08A	Pendleton	80.01	45	⇑P	P	09 36 39.5	0.0
	baz=80						
CVS	Carmenet Viney	80.06	53	⇓P	P	09 36 39.5	-0.3
	baz=80						
VRHR	Novokhopersk	80.06	321	eP	P	09 36 39.8	0.0
VRHR				pmax	pmax		
	comp=Z,20nm,0.4s,mb5.4						
VRHR				pmax	pmax		
	comp=N,20nm,0.5s						
VRHR				pmax	pmax		
	comp=E,20nm,0.5s						
G08A	Pilot Rock	80.08	45	P	P	09 36 40.5	+0.6
	baz=80,SNR=8.7						
K06A	Valley Falls	80.09	48	P	P	09 36 40.2	+0.3
	baz=80,SNR=6.8						
I07A	Izee	80.15	46	⇑P	P	09 36 40.5	+0.3
	baz=80						
E09A	Wood Farm, Sta	80.16	44	⇑P	P	09 36 40.6	+0.3
	baz=80,SNR=16						
NEW	Newport	80.16	42	eP	P	09 36 39.8	-0.5
NEW				pmax	pmax		
	comp=Z,23nm,0.9s						
NEW	Newport	80.16	42	eP	P	09 36 39.8	-0.5
	comp=Z,23nm,0.9s,mb5.1						
C10A	Spilker Farm,	80.21	42	P	P	09 36 40.8	+0.2
	baz=80,SNR=8.0						
Q03C	Winters	80.29	52	⇓P	P	09 36 41.6	+0.6
	baz=80						
ORV	Oroville	80.34	51	P	P	09 36 40.9	-0.3
	baz=80,SNR=15						
A11A	Hall Mountain,	80.37	41	P	P	09 36 42.1	+0.7
	baz=80,SNR=10						
MOD	Modoc	80.37	49	P	P	09 36 41.6	+0.2
	baz=80,SNR=7.8						
O04C	Chester	80.38	50	P	P	09 36 41.9	+0.5
	baz=80,SNR=27						
MOS	Moscow	80.39	326	eP	P	09 36 38.5	-3.0
MOS				e		09 39 38.1	
MOS				pmax	pmax		
	comp=Z,65nm,0.7s,mb5.7						
OHCM	Honcut	80.43	52	eP	P	09 36 41.0	-0.8
EDM	Edmonton	80.45	36	eP	P	09 36 40.5	-1.4
M06C	Likely Place G	80.50	49	P	P	09 36 42.5	+0.4
	baz=80,SNR=11						
D10A	Wagner Farm, O	80.52	43	P	P	09 36 42.2	0.0
	baz=80,SNR=7.8						
JRSC	Jasper Ridge	80.55	54	⇓P	P	09 36 42.1	-0.2
	baz=80						
H08A	Prairie City	80.55	46	P	P	09 36 42.6	+0.2
	baz=80,SNR=6.8						
B11A	Sandpoint	80.57	42	⇑P	P	09 36 42.6	+0.2
	baz=80,SNR=6.5						
F09A	S2 Ranch, Elgi	80.61	45	⇓P	P	09 36 42.6	-0.1
	baz=80						
O05C	Quincy	80.62	51	⇓P	P	09 36 42.5	-0.3
	baz=80						
BDM	Black Diamond	80.63	53	⇑P	P	09 36 43.1	+0.3
	baz=80						
Q04C	Lincoln	80.68	52	⇓P	P	09 36 43.0	-0.1
	baz=81						
A12A	Yaak River Ran	80.81	41	⇓P	P	09 36 44.1	+0.3
	baz=81,SNR=12						
K07A	Rock Creek Ran	80.82	48	P	P	09 36 44.1	+0.3
	baz=81,SNR=17						
WENL	Wente Brothers	80.83	53	⇑P	P	09 36 44.2	+0.4
	baz=81						
I08A	Drewsey	80.84	46	⇓P	P	09 36 44.1	+0.2
	baz=81,SNR=9.3						
E10A	Myers Farm, Un	80.84	44	P	P	09 36 44.2	+0.3
	baz=81,SNR=9.7						
G09A	Cove	80.86	45	⇑P	P	09 36 44.3	+0.2
	baz=81						
F10A	Beach Ranch, E	80.95	44	⇑P	P	09 36 44.5	0.0
	baz=81						
L07A	Adell	81.00	48	P	P	09 36 45.3	+0.5
	baz=81,SNR=16						
BEKR	Beckwourth	81.06	51	P	P	09 36 45.1	0.0
	baz=81,SNR=24						
P05C	Yuba Gap, Truc	81.08	51	⇑P	P	09 36 45.4	+0.2
	baz=81,SNR=9.0						
J08A	Circle Bar Ran	81.10	47	P	P	09 36 45.6	+0.3
	baz=81,SNR=17						
N06A	Buffalo Meadow	81.11	50	⇑P	P	09 36 45.4	0.0
	baz=81,SNR=20						
D11A	Klaveano Farm,	81.12	43	⇓P	P	09 36 45.2	-0.2
	baz=81,SNR=14						
H09A	Durkee	81.16	45	⇑P	P	09 36 45.5	-0.1
	baz=81,SNR=7.4						
LAVA	Lava Cap Winer	81.18	52	⇓P	P	09 36 45.4	-0.3
	baz=81,SNR=12						
S04C	Ingram Canyon,	81.19	53	⇓P	P	09 36 45.5	-0.3
	baz=81						
OBN	Obninsk	81.20	326	eP	P	09 36 45.4	-0.5
OBN				e		09 37 01.6	
OBN				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.3						
OBN	Obninsk	81.20	326	eP	P	09 36 44.9	-1.0
R04C	Big Horse Ranc	81.21	52	⇓P	P	09 36 45.6	-0.3
	baz=81						
K08A	Mann Creek Ran	81.33	47	P	P	09 36 46.6	+0.1
	baz=81,SNR=16						
O06A	Flanigan	81.33	50	P	P	09 36 46.7	+0.2
	baz=81,SNR=15						
WVOR	Wild Horse Val	81.33	48	eP	P	09 36 45.9	-0.7
WVOR				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
WVOR	Wild Horse Val	81.33	48	eP	P	09 36 45.9	-0.7
	comp=Z,20nm,1.1s,mb5.0						
M07A	Soldier Meadow	81.35	49	⇑P	P	09 36 46.9	+0.3
	baz=81,SNR=9.7						
I09A	Lost Marbles R	81.37	46	P	P	09 36 46.6	-0.1
	baz=81,SNR=9.2						
PACP	Pacheco Peak	81.40	54	⇓P	P	09 36 47.1	+0.2
	baz=81,SNR=7.6						
HAST	UC Hastings Re	81.42	54	⇑P	P	09 36 47.1	+0.1
	baz=81,SNR=5.1						
P06A	Stead Airport,	81.46	51	⇓P	P	09 36 47.5	+0.3
	baz=81						
E11A	Bogner Ranch,	81.46	43	P	P	09 36 46.9	-0.4
	baz=81,SNR=13						
A13A	Flathead Natio	81.56	41	⇑P	P	09 36 48.0	+0.2
	baz=81,SNR=9.7						
J09A	Fry Pan Ranch,	81.60	47	P	P	09 36 48.2	+0.3
	baz=82,SNR=17						
L08A	Fields	81.63	48	⇑P	P	09 36 48.3	+0.2
	baz=82,SNR=22						
F11A	Grangeville	81.68	44	⇑P	P	09 36 48.3	-0.1
	baz=82						
R05C	Kirkwood Meado	81.68	52	⇓P	P	09 36 48.5	+0.1
	baz=82						
WCN	Washoe City	81.69	51	⇓P	P	09 36 48.9	+0.4
	baz=82,SNR=6.5						
CMB	Columbia Colle	81.70	52	eP	P	09 36 48.0	-0.5
CMB				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
CMB	Columbia Colle	81.70	52	eP	P	09 36 48.0	-0.5
	comp=Z,43nm,1.2s,mb5.2						
CMB	Columbia Colle	81.70	52	P	P	09 36 48.6	+0.1
	baz=82,SNR=17						
N07B	Gerlach	81.71	49	⇑P	P	09 36 48.8	+0.3
	baz=82,SNR=12						
BSMT	Bassoo Peak	81.77	42	eP	P	09 36 49.4	+0.5
ZEI	Tsey	81.79	313	eP	P	09 36 48.3	-0.7
ZEI				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
H10A	Noah's Angus R	81.80	45	⇓P	P	09 36 48.8	-0.2
	baz=82,SNR=17						
G11A	Walters Elk Ra	81.80	44	P	P	09 36 48.4	-0.6
	baz=82,SNR=15						
WALA	Waterton Lakes	81.82	40	eP	P	09 36 49.1	0.0
	comp=Z,33nm,1.1s,mb5.2						
K09A	Rome	81.86	47	⇓P	P	09 36 49.2	-0.1
	baz=82,SNR=11						
M08A	Happy Creek Ra	81.88	49	⇑P	P	09 36 49.5	+0.1
	baz=82,SNR=6.7						
T05C	Eagle Field, D	81.89	54	⇓P	P	09 36 50.2	+0.6
	baz=82						
C13A	Hot Springs	81.97	42	P	P	09 36 49.9	0.0
	baz=82,SNR=16						
S05C	Merced	81.99	53	⇓P	P	09 36 50.0	0.0
	baz=82,SNR=7.3						
U04C	Hernandez Rese	82.01	54	⇓P	P	09 36 50.6	+0.5
	baz=82,SNR=6.6						
O07A	Toulon	82.01	50	⇑P	P	09 36 50.3	+0.1
	baz=82,SNR=6.7						
S06C	San Francisco	82.15	52	⇑P	P	09 36 50.9	0.0
	baz=82,SNR=7.5						
KIV	Kirovodsk	82.16	314	P	P	09 36 51.7	+0.8
	comp=Z,348nm,1.0s,mb6.2,SNR=7.9						
KIV	Kislovodsk	82.16	314	P	P	09 36 51.2	+0.3
	SNR=20						
KIV	Kislovodsk	82.16	314	eP	P	09 36 50.4	-0.5
KIV				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
KIV	Kislovodsk	82.16	314	eP	P	09 36 50.6	-0.2
	comp=Z,86nm,1.1s,mb5.6						
L09A	Wilkinson Ranc	82.16	48	P	P	09 36 51.3	+0.4
	baz=82,SNR=15						
GNI	Garni	82.19	310	eP	P	09 36 50.6	-0.5
GNI				pmax	pmax		
	comp=Z,76nm,1.5s						
GNI	Garni	82.19	310	eP	P	09 36 50.6	-0.4
	comp=Z,76nm,1.5s,mb5.4						
R06C	Coleville	82.20	52	⇓P	P	09 36 51.7	+0.5
	baz=82,SNR=12						
V04C	Ramage Ranch,	82.20	55	⇑P	P	09 36 51.8	+0.6
	baz=82						
J10A	Berg Farm, Mel	82.23	46	⇓P	P	09 36 51.1	-0.1
	baz=82						
P07A	Fallon	82.23	51	⇑P	P	09 36 51.7	+0.4
	baz=82						
H11A	Donnelly	82.23	45	P	P	09 36 50.8	-0.5
	baz=82,SNR=13						
D13A	Huson	82.28	42	⇑P	P	09 36 50.8	-0.7
	baz=82						
N08A	GE Springer Mi	82.30	49	P	P	09 36 51.9	+0.2
	baz=82,SNR=14						
F12A	Elk City	82.31	44	⇑P	P	09 36 51.6	-0.1
	baz=82						
PKD	Parkfield	82.34	54	⇑P	P	09 36 51.8	0.0
	baz=82,SNR=8.0						
C14A	Swan Lake	82.44	41	⇓P	P	09 36 52.0	-0.4
	baz=82						
U05C	Westside ANR,	82.51	54	⇓P	P	09 36 53.4	+0.6
	baz=82,SNR=5.4						
M09A	Marrel Ranch,	82.54	48	⇑P	P	09 36 53.4	+0.5
	baz=82						
T06C	Millerton Lake	82.57	53	P	P	09 36 52.7	-0.4
	baz=82,SNR=27						
I11A	Placerville	82.58	46	P	P	09 36 53.2	+0.1
	baz=82,SNR=5.9						
R07C	Lee Vining	82.66	52	⇓P	P	09 36 54.3	+0.8
	baz=83,SNR=7.3						
N09A	Rock Creek Ran	82.70	49	P	P	09 36 54.2	+0.5
	baz=83,SNR=8.3						
E13A	Victor	82.71	43	⇓P	P	09 36 53.2	-0.6
	baz=83						
KCC	Kaiser Creek	82.75	53	P	P	09 36 54.4	+0.5
	baz=83,SNR=14						
MFID	Camas Ranch	82.86	46	⇓P	P	09 36 54.8	+0.2
	baz=83						
D14A	Greenough	82.88	42	⇑P	P	09 36 54.0	-0.6
	baz=83						
F13A	Darby	82.89	43	P	P	09 36 53.9	-0.8
	baz=83,SNR=13						
FINES	FINESS Array B	82.89	334	P	P	09 36 53.5	-1.2
	comp=Z,3.5nm,0.7s,mb4.5,baz=85,slow=3.7,SNR=7.4						
FINES				LR	LR	10 13 55.3	
	comp=Z,311nm,19.6s,MS4.7,baz=11,slow=36						
FINES	FINESS Array B	82.89	334	i P	P	09 36 53.5	-1.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SMMC	Simmler	82.98	55	⇑P	P	09 36 55.5	+0.3
	baz=83						
MLAC	Mammoth Lakes	82.99	52	⇓P	P	09 36 55.7	+0.5
	baz=83,SNR=6.4						
H12A	Diamond D Ranc	83.05	45	P	P	09 36 55.4	-0.2
	baz=83,SNR=12						
NVAR	Mina Array Bea	83.07	51	P	P	09 36 55.1	-0.6
	comp=Z,19nm,1.0s,mb5.1,baz=276,slow=6.2,SNR=57						
CHMT	Chamberlain Mo	83.11	42	eP	P	09 36 55.5	-0.3
M10A	I.L. Ranch, Tu	83.13	48	⇓P	P	09 36 56.3	+0.3
	baz=83,SNR=7.4						
E14A	Clinton	83.16	43	⇓P	P	09 36 55.7	-0.4
	baz=83						
Q08A	Gabbs	83.18	51	P	P	09 36 56.4	+0.2
	baz=83,SNR=9.0						
RCTC	Rector, Farmer	83.18	54	P	P	09 36 56.3	+0.1
	baz=83,SNR=5.8						
O09A	Fish Creek Ran	83.20	50	P	P	09 36 56.8	+0.5
	baz=83,SNR=11						
HELL	Mitchell Peak,	83.21	53	P	P	09 36 56.4	+0.1
	baz=83,SNR=13						
G13A	Cobalt	83.24	44	P	P	09 36 56.2	-0.3
	baz=83,SNR=23						
R08A	Mina	83.25	51	⇓P	P	09 36 56.8	+0.3
	baz=83						
PKM	Peak Mountain	83.28	55	⇑P	P	09 36 57.2	+0.5
	baz=83,SNR=6.5						
J12A	Stokes Ranch,	83.42	46	⇓P	P	09 36 57.7	+0.2
	baz=83						
P09A	Austin	83.48	50	⇓P	P	09 36 57.7	0.0
	baz=83						
VES	Vestal, Richgr	83.48	54	⇑P	P	09 36 57.2	-0.6
	baz=83,SNR=12						
F14A	Wisdom	83.49	43	⇓P	P	09 36 57.8	0.0
	baz=83						
D15A	Lincoln	83.50	42	⇓P	P	09 36 58.4	+0.5
	baz=83						
S08C	White Mtn Res	83.53	52	P	P	09 36 58.6	+0.6
	baz=83,SNR=12						
O10A	Cortez Mining,	83.64	49	⇓P	P	09 36 59.1	+0.5
	baz=84						
TIN	Tinemaha	83.65	53	⇑P	P	09 36 59.0	+0.4
	baz=84						
M11A	Holland Ranch,	83.68	48	P	P	09 36 59.5	+0.8
	baz=84,SNR=9.8						
E15A	Deer Lodge	83.69	42	P	P	09 36 58.5	-0.3
	baz=84,SNR=12						
Q09A	Carvers	83.73	51	⇑P	P	09 36 58.7	-0.3
	baz=84						
HLID	Hailey	83.75	46	eP	P	09 36 59.3	+0.2
	comp=Z,14nm,1.3s,mb4.9						
HLID	Hailey	83.75	46	⇑P	P	09 36 58.8	-0.4
	baz=84						
P10A	Eureka	83.93	50	⇑P	P	09 37 00.0	0.0
	baz=84						
ARVC	Arvin	83.94	55	⇓P	P	09 36 59.9	-0.2
	baz=84						
N11A	Elko Archery C	83.96	48	⇓P	P	09 37 00.5	+0.2
	baz=84,SNR=7.4						
J13A	Cove Ranch, Pi	83.97	46	⇑P	P	09 37 00.2	-0.1
	baz=84						
TPH	Tonopah	83.99	51	eP	P	09 37 00.3	-0.1
TPH				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
TPH	Tonopah	83.99	51	eP	P	09 37 00.3	-0.1
	comp=Z,7.4nm,0.8s,mb4.9						
CWC	Cottonwood Cre	84.00	53	⇓P	P	09 37 00.4	0.0
	baz=84						
ISA	Isabella	84.00	54	P	P	09 37 00.3	-0.2
	baz=84,SNR=6.8						
F15A	Butte	84.03	43	P	P	09 37 00.6	0.0
	baz=84,SNR=19						
R09A	Tonopah	84.04	51	P	P	09 37 00.8	+0.2
	baz=84,SNR=29						
S09A	Goldfield	84.13	52	P	P	09 37 01.2	+0.1
	baz=84,SNR=17						
BLG	Laguna Peak	84.15	56	⇓P	P	09 37 00.9	-0.3
	baz=84						
DLMT	Dillon	84.17	43	eP	P	09 37 01.5	+0.2
	comp=Z,22nm,1.1s,mb5.2						
OSI	Osito Adit	84.22	55	⇓P	P	09 37 01.6	0.0
	baz=84						
MCMT	McKenzie Canyo	84.24	44	eP	P	09 37 01.7	0.0
M12A	Wells	84.29	48	P	P	09 37 02.4	+0.5
	baz=84,SNR=20						
O11A	Cowboy Ranch,	84.30	49	P	P	09 37 02.1	+0.2
	baz=84,SNR=6.9						
GRAC	Grapevine Rang	84.31	52	⇑P	P	09 37 02.0	0.0
	baz=84						
G15A	Dillon	84.33	44	P	P	09 37 02.3	+0.2
	baz=84,SNR=14						
ELK	Elko	84.34	48	eP	P	09 37 02.8	+0.7
ELK				pmax	pmax		
	comp=Z,71nm,1.9s						
ELK	Elko	84.34	48	eP	P	09 37 02.8	+0.6
	comp=Z,71nm,1.9s,mb5.5						
N12A	Clover Valley,	84.43	48	P	P	09 37 03.0	+0.4
	baz=84,SNR=8.7						
P11A	Circle Ranch,	84.46	50	⇓P	P	09 37 03.0	+0.3
	baz=84						
MPMC	Manual Prospec	84.59	53	P	P	09 37 03.6	+0.2
	baz=84,SNR=22						
DECC	Green Verdugo	84.66	55	⇑P	P	09 37 03.5	-0.3
	baz=85						
BOZ	Bozeman (W)	84.66	43	eP	P	09 37 03.3	-0.5
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
BOZ	Bozeman (W)	84.66	43	eP	P	09 37 03.3	-0.5
	comp=Z,10nm,1.1s,mb4.9						
BOZ	Bozeman (W)	84.66	43	P	P	09 37 03.8	0.0
	baz=84,SNR=10						
LRMC	Laurel Mountai	84.67	54	P	P	09 37 04.0	+0.2
	baz=85,SNR=14						
ERZM	Erzurum	84.67	311	i P	P	09 37 04.5	+0.7
EDW2	Edwards Air Fo	84.67	55	P	P	09 37 04.0	+0.1
	baz=85,SNR=5.3						
EGMT	Eagleton	84.75	40	⇑P	P	09 37 04.1	-0.2
	baz=85						
Q11A	Duckwater	84.82	50	⇑P	P	09 37 04.6	+0.1
	baz=85,SNR=17						
M13A	Montello	84.83	47	P	P	09 37 04.8	+0.2
	baz=85,SNR=23						
O12A	Currie	84.88	49	P	P	09 37 05.0	+0.2
	baz=85,SNR=24						
FURC	Furnace Creek,	84.89	53	P	P	09 37 05.1	+0.2
	baz=85,SNR=17						
N13A	Wendover, West	85.01	48	⇑P	P	09 37 05.6	+0.1
	baz=85,SNR=6.0						
P12A	McGill	85.09	49	⇓P	P	09 37 06.2	+0.3
	baz=85,SNR=11						
QLMT	Earthquake Lak	85.15	43	eP	P	09 37 06.7	+0.5
ANN	Anapa	85.23	317	eP	P	09 37 01.3	-5.3
ANN				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.4						
U10A	Ash Meadows, A	85.31	53	P	P	09 37 07.5	+0.5
	baz=85,SNR=17						
Q12A	Willow Creek R	85.32	50	⇑P	P	09 37 07.3	+0.2
	baz=85,SNR=14						
GSC	Goldstone	85.40	54	P	P	09 37 07.6	+0.1
	baz=85,SNR=10						
YMR	Madison River	85.52	43	eP	P	09 37 08.4	+0.3
	comp=Z,82nm,1.2s,mb5.8						
SHOC	Shoshone	85.55	53	⇑P	P	09 37 08.3	+0.1
	baz=86,SNR=10						
FFC	Flin Flon	85.67	32	P	P	09 37 08.4	-0.4
	comp=Z,487nm,1.0s,SNR=31						
YNR	Norris Junctio	85.68	43	eP	P	09 37 10.5	+1.7
BBRC	Big Bear Sol-O	85.72	55	⇑P	P	09 37 08.9	-0.2
	baz=86						
MURC	Murrieta	85.78	56	⇓P	P	09 37 08.8	-0.5
	baz=86						
DCID1	Drake Creek	85.85	45	eP	P	09 37 10.3	+0.5
IMW	Indian Meadow	85.88	44	eP	P	09 37 09.6	-0.3
	comp=Z,29nm,1.0s,mb5.5						
LKWY	Lake	85.92	43	eP	P	09 37 12.2	+2.1
LKWY				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.5						
LKWY	Lake	85.92	43	eP	P	09 37 12.2	+2.1
	comp=Z,31nm,1.1s,mb5.5						
HEC	Hector,Ludlow	85.94	54	⇑P	P	09 37 10.2	0.0
	baz=86						
TUQ	Turquoise Mtn.	86.00	53	P	P	09 37 10.6	+0.1
	baz=86,SNR=18						
MOOW	Moose Ponds	86.07	44	eP	P	09 37 10.5	-0.4
	comp=Z,21nm,1.1s,mb5.3						
109C	Camp Elliot, M	86.13	56	⇑P	P	09 37 10.9	-0.3
	baz=86						
REDW	Red Top Meadow	86.17	45	eP	P	09 37 11.9	+0.6
	comp=Z,62nm,1.8s,mb5.5						
V11A	Goodsprings	86.20	53	⇓P	P	09 37 11.5	0.0
	baz=86,SNR=16						
DUG	Dugway	86.25	48	eP	P	09 37 11.6	-0.1
DUG				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.7						
DUG	Dugway	86.25	48	eP	P	09 37 11.6	-0.1
	comp=Z,58nm,1.3s,mb5.7						
DUG	Dugway	86.25	48	P	P	09 37 11.8	+0.1
	baz=86,SNR=52						
PFO	Pinyon Flat Ob	86.34	55	P	P	09 37 12.3	+0.2
	comp=Z,145nm,1.2s,mb6.1,SNR=6.3						
PFO	Pinyon Flat Ob	86.34	55	eP	P	09 37 12.3	+0.2
PFO				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.5						
PFO	Pinyon Flat Ob	86.34	55	eP	P	09 37 12.3	+0.2
	comp=Z,34nm,1.1s,mb5.5						
PFO	Pinyon Flat Ob	86.34	55	⇓P	P	09 37 12.1	0.0
	baz=86,

comp=Z,0.2nm,0.3s,baz=51,slow=8.6,SNR=4.4
AKASG Malin Array Be 87.22 324 *i* P **P 09 37 14.6 -1.9**
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 87.22 324 *e*P **P 09 37 14.7 -1.8**
KIEV Kiev 87.24 324 *e*P **P 09 37 14.5 -2.0**
KIEV pmax pmax
comp=Z,17nm,1.0s,mb5.2
KIEV Kiev 87.24 324 *e*P **P 09 37 14.5 -2.0**
comp=Z,17nm,1.0s,mb5.2
BW06 Boulder Array 87.29 45 *e*P **P 09 37 16.2 -0.6**
comp=Z,8.0nm,1.1s,mb4.9
PDAR Pinedale Array 87.29 45 P **P 09 37 15.8 -0.9**
comp=Z,4.8nm,1.0s,mb4.7,baz=262,slow=3.9,SNR=23
PDAR PP PP 09 40 39.5 -1.5
comp=Z,0.4nm,0.9s,baz=283,slow=5.4,SNR=3.2
PDAR LR LR 10 07 47.9
comp=Z,352nm,21.5s,MS4.7,baz=332,slow=30
PDAR Pinedale Array 87.29 45 P **P 09 37 15.8 -0.9**
PDAR PP PP 09 40 39.5 -1.5
PDAR LR LR 10 07 47.9
MSU Marysvale 87.42 49 *e*P **P 09 37 17.9 +0.5**
LAO LASA Array 87.50 40 *e*P **P 09 37 17.2 -0.6**
comp=Z,101nm,1.1s,mb6.0
W13A Hualapai Mount 87.66 53 P **P 09 37 19.0 +0.4**
baz=88,SNR=9.0
Y12C Blythe 87.75 55 ⇓P **P 09 37 19.0 0.0**
baz=88,SNR=8.4
PDMCI Parker Dam,Lak 87.81 54 P **P 09 37 19.4 +0.1**
baz=88,SNR=15
GLA Glamis 87.81 55 ⇓P **P 09 37 19.6 +0.3**
baz=88,SNR=15
X13A Yucca 87.92 54 P **P 09 37 20.0 +0.2**
baz=88,SNR=18
W14A Seligman 88.20 53 P **P 09 37 21.7 +0.6**
baz=88,SNR=19
Y13A Salome 88.25 54 P **P 09 37 21.9 +0.5**
baz=88,SNR=8.4
SRU San Rafael 88.31 48 *e*P **P 09 37 21.3 -0.4**
SRU pmax pmax
comp=Z,25nm,1.2s,mb5.3
SRU San Rafael 88.31 48 *e*P **P 09 37 21.3 -0.3**
comp=Z,25nm,1.2s,mb5.3
BOYT Boyabat 88.42 314 *i* P **P 09 37 21.2 -1.0**
SUW Suwalki 88.44 329 *e*P **P 09 37 20.8 -1.5**
GZT Gaziantep 88.45 310 *i* P **P 09 37 21.6 -0.7**
NOA NORSAR Array B 88.66 339 P **P 09 37 20.1 -3.2**
comp=Z,8.0nm,1.1s,mb5.0,baz=47,slow=4.6,SNR=3.3
X14A Yava 88.67 53 P **P 09 37 24.0 +0.7**
baz=89,SNR=20
Y14A Wickenburg 88.81 54 P **P 09 37 24.2 +0.2**
baz=89,SNR=28
W15A Williams 88.82 52 ⇑P **P 09 37 24.8 +0.7**
baz=89,SNR=13
Z14A Wintersburg 89.11 54 P **P 09 37 26.2 +0.8**
baz=89,SNR=6.7
X15A Humboldt 89.15 53 P **P 09 37 26.4 +0.8**
baz=89,SNR=24
WUAZ Wupatki 89.33 52 *e*P **P 09 37 26.7 +0.3**
comp=Z,44nm,1.4s,mb5.6
WUAZ Wupatki 89.33 52 ⇓P **P 09 37 26.9 +0.5**
baz=89,SNR=7.6
BALT Daday 89.37 315 *i* P **P 09 37 25.7 -1.0**
PV10 Paradox Valley 89.68 48 *e*P **P 09 37 28.0 -0.1**
AVNT Avonos 89.70 312 *i* P **P 09 37 26.9 -1.2**
ELDT Eldivan 89.85 314 *i* P **P 09 37 27.5 -1.4**
115A Sonoran Desert 89.94 55 ⇓P **P 09 37 29.7 +0.4**
baz=90,SNR=8.2
BR131 Keskin Array S 90.08 313 *e*P **P 09 37 27.9 -2.0**
comp=Z,12nm,0.9s,mb5.2
BRTR Keskin Array B 90.08 313 P **P 09 37 28.2 -1.7**
comp=Z,13nm,1.0s,mb5.2,baz=104,slow=3.1,SNR=45
PV01 Paradox Valley 90.12 48 *e*P **P 09 37 29.8 -0.4**
RSSD Black Hills 90.13 42 *e*P **P 09 37 29.4 -0.8**
RSSD pmax pmax
comp=Z,23nm,1.4s,mb5.3
RSSD Black Hills 90.13 42 *e*P **P 09 37 29.4 -0.8**
comp=Z,23nm,1.4s,mb5.3
116A Eloy 90.39 55 ⇑P **P 09 37 31.9 +0.5**
baz=90,SNR=5.7
MVCO Mesa Verde 90.61 49 *e*P **P 09 37 32.8 +0.3**
comp=Z,15nm,1.1s,mb5.2
MVCO Mesa Verde 90.61 49 P **P 09 37 33.0 +0.6**
baz=90,SNR=7.8
SFJD Kangerlussuaq 90.72 5 LR LR 10 16 52.5
comp=Z,46nm,19.5s,MS3.9,baz=326,slow=35
ULM Lac du Bonnet 91.29 33 P **P 09 37 33.6 -2.0**
comp=Z,7.7nm,1.0s,mb5.0,baz=307,slow=5.7,SNR=9.5
ULM LR LR 10 23 03.2
comp=Z,190nm,18.5s,MS4.6,baz=53,slow=38
KWP Kalwaria 91.29 326 *e*P **P 09 37 34.6 -1.0**
ISCO Idaho Springs 91.32 46 *e*P **P 09 37 35.7 0.0**
ISCO pmax pmax
comp=Z,19nm,1.1s,mb5.3
ISCO Idaho Springs 91.32 46 *e*P **P 09 37 35.7 -0.1**
comp=Z,20nm,1.1s,mb5.3
MMAI Mount Meron Ar 92.00 307 LR LR 10 23 24.1
comp=Z,72nm,19.0s,MS4.1,baz=110,slow=38
ESKT Eskisehir 92.05 314 *i* P **P 09 37 31.6 -7.5**
STHS Stebnicka Huta 92.18 326 *e*P **P 09 37 39.4 -0.3**
STHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
STHS Stebnicka Huta 92.18 326 *e*P **P 09 37 39.4 -0.3**
comp=Z,5.7nm,1.1s,mb4.8
CRVS Cervenica-Dubn 92.38 326 *e*P **P 09 37 39.2 -1.4**
OJC Ojcow 92.41 327 *e*P **P 09 37 39.1 -1.7**
SDCO Great Sand Dun 92.43 48 *e*P **P 09 37 40.5 -0.3**
comp=Z,22nm,1.2s,mb5.4
NIE Niedzica 92.66 327 *e*P **P 09 37 41.0 -0.9**
ANMO Albuquerque 93.14 50 *e*P **P 09 37 44.3 +0.2**
ANMO pmax pmax
comp=Z,18nm,1.4s
ANMO Albuquerque 93.14 50 *e*P **P 09 37 44.2 +0.1**
comp=Z,18nm,1.4s,mb5.3
KECS Kecovo 93.15 326 *e*P **P 09 37 43.0 -1.2**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
KECS Kecovo 93.15 326 *e*P **P 09 37 43.0 -1.2**
comp=Z,3.3nm,1.0s,mb4.7
KSP Ksiaz 93.71 329 *e*P **P 09 37 45.0 -1.8**
VYHS Vyhne 93.99 327 *e*P **P 09 37 47.1 -1.0**
VYHS Vyhne 93.99 327 *e*P **P 09 37 47.2 -0.9**
CLL Collm 94.91 331 *e*P **P 09 37 51.0 -1.2**
GERES GERESS Array B 96.30 329 P **P 09 37 56.5 -2.1**
comp=Z,0.9nm,0.8s,mb4.2,baz=66,slow=3.2,SNR=4.3
TXAR Lajitas Array 98.00 54 P **P 09 38 05.7 -0.5**
comp=Z,1.5nm,1.0s,mb4.5,baz=300,slow=2.7,SNR=9.0
TXAR PP PP 09 42 03.9 -1.2
comp=Z,0.8nm,1.1s,baz=269,slow=6.3,SNR=4.7
TXAR LR LR 10 18 37.6
comp=Z,190nm,22.0s,MS4.5,baz=185,slow=33
TXAR Lajitas Array 98.00 54 P **P 09 38 05.7 -0.6**
TXAR 09 42 03.9
TXAR Lajitas Array 98.00 54 P **P 09 38 05.7 -0.5**
TXAR PP PP 09 42 03.9 -1.2
TXAR LR LR 10 18 37.6
SCHQ Schefferville 99.35 17 P **P 09 38 10.7 -1.6**
comp=Z,6.3nm,1.0s,mb5.1,baz=10,slow=11,SNR=2.8
SCHQ LR LR 10 22 47.5
comp=Z,282nm,19.0s,MS4.8,baz=356,slow=35
VNDA Vanda 99.89 176 LR LR 10 20 31.5
comp=Z,140nm,18.4s,MS4.5,baz=334,slow=34
TORD Torodi Ar. Bea 128.49 309 PKP PKPdf 09 43 36.4 -0.4
comp=Z,2.5nm,1.0s,baz=344,slow=1.2,SNR=6.0
TORD PP PP 09 45 39.9 -2.1
comp=Z,1.5nm,1.0s,baz=36,slow=4.2,SNR=3.8
SDV Santo Domingo 134.93 51 *e*PKPdf PKPdf 09 43 48.8 -0.3
ARE Arequipa 146.97 87 PKP2 PKPab 09 44 13.0 -1.0
LPAZ La Paz 150.03 85 PKP PKPdf 09 44 15.8 +0.2
comp=Z,14nm,1.1s,baz=14,slow=5.5,SNR=10
LPAZ PKPbc PKPbc 09 44 21.1 +0.5
comp=Z,23nm,1.0s,baz=5.7,slow=4.3,SNR=33
LPAZ La Paz 150.03 85 *e*PKPdf PKPdf 09 44 16.3 +0.7
LPAZ *e*PKPbc PKPbc 09 44 21.6 +1.1
LPAZ *e*PKPab PKPab 09 44 28.0 +1.6

ISCJB ***11*** *09:49:46.2±1.9,2161S±006×683W±0.1,h68km±18km, mb3.7/6, Error ellipse: s-maj=17.8km s-min=10.5km az=9.6*
IDC ***11*** *09:49:54.1±0.8,2157S×6825W,h122km±6km,mb3.5/6, mb1 3.8/8,mb1mx3.7/17,mbtmp3.6/8, Error ellipse: s-maj=21.4km s-min=18.3km az=78.0*
ISC 11 09:49:48.2±1.3,2165S±005×684W±01,h69km±13km,n17,
σ1§09/15,mb3.7/6,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.33**	**3**	P	**Pn**	**09 51 12.7**	**+7.5**
	2.8nm,0.3s,baz=191,slow=7.3,SNR=68						
LPAZ				S	**Sn**	**09 52 04.9**	**-0.4**
	0.4nm,0.3s,baz=207,slow=12,SNR=5.2						
SIV	**San Ignacio**	**8.92**	**52**	P	**Pn**	**09 51 57.6**	**+3.3**
	4.0nm,0.3s,baz=244,slow=13,SNR=113						
SIV				S	**Sn**	**09 53 32.3**	**-0.9**
	0.1nm,0.3s,baz=305,slow=23,SNR=4.2						
CFAA	**Coronel Fontan**	**9.92**	**179**	P	**Pn**	**09 52 08.5**	**+0.6**
	0.1nm,0.3s,baz=353,slow=13,SNR=9.6						
CFAA				S	**Sn**	**09 53 54.6**	**-3.0**
	0.0nm,0.3s,baz=155,slow=5.6,SNR=4.0						
VNA3	**Neumayer Olymp**	**59.79**	**161**	*e*	**P**	**09 59 46.7**	**+0.6**
VNA3				*e*		09 59 49.8	
VNA2	**Neumayer--Watz**	**60.36**	**161**	*e*	**P**	**09 59 50.5**	**+0.5**
VNA2				*e*		09 59 54.2	
VNA2				*e*		10 00 19.1	
TXAR	**Lajitas Array**	**61.02**	**325**	P	**P**	**09 59 54.2**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=151,slow=8.6,SNR=8.8						
SNAA	**Sanae**	**61.99**	**161**	P	**P**	**10 00 00.6**	**-0.4**
	0.5nm,0.6s,mb3.7,baz=294,slow=6.1,SNR=13						
SNAA	**Sanae**	**61.99**	**161**	*e*	**P**	**10 00 01.1**	**+0.1**
SNAA				*e*		10 00 04.6	
TAOE	**Nuku Hiva Isla**	**69.89**	**268**	*e*LR	LR	10 00 35.5	
	1μm,23.2s,baz=312						
TBI	**Tubuai**	**73.90**	**251**	*e*LR	LR	10 00 15.7	
	273nm,28.8s,baz=341						
PDAR	**Pinedale Array**	**74.47**	**330**	P	**P**	**10 01 19.1**	**-0.1**
	0.5nm,0.9s,mb3.2,baz=134,slow=6.4,SNR=3.7						
NVAR	**Mina Array Bea**	**75.90**	**322**	P	**P**	**10 01 28.5**	**+1.2**
	0.4nm,0.6s,mb3.3,baz=169,slow=8.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	**P**	**10 01 33.2**	**-0.1**
	1.3nm,0.5s,mb3.9,baz=254,slow=5.0,SNR=14						
TORD				pP	pP	10 02 04.5	+13
	4.2nm,0.9s,baz=249,slow=5.6,SNR=9.0						
YKA	**Yellowknife Ar**	**91.48**	**340**	P	**P**	**10 02 45.5**	**-1.5**
	1.9nm,0.8s,mb4.3,baz=133,slow=4.6,SNR=36						
ASAR	**Alice Springs**	**130.01**	**207**	PKP	PKPdf	10 08 50.2	+0.2
	0.6nm,0.7s,baz=128,slow=1.7,SNR=8.2						
WRA	**Warramunga Arr**	**133.07**	**210**	PKP	PKPdf	10 08 55.8	0.0
	0.5nm,0.6s,baz=159,slow=1.6,SNR=15						
WRA				pPKP	pPKPdf	10 09 28.3	+13
	0.2nm,0.5s,baz=98,slow=6.7,SNR=2.0						
MKAR	**Makanchi Array**	**145.47**	**36**	PKPbc	PKPbc	10 09 18.4	0.0
	0.7nm,0.8s,baz=321,slow=4.7,SNR=9.8						
MKAR				pPKPbc	pPKPbc	10 09 48.6	+11
	1.4nm,0.8s,baz=298,slow=2.6,SNR=7.3						

IDC 11 10:36:44.0±1.1,2185N×14326E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.7/22,mbtmp3.8/7,ML4.0/1,Error ellipse: s-maj=45.2km s-min=19.6km az=84.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.31**	**350**	Pn	Pn	10 38 04.5	-0.1
	12nm,0.3s,baz=282,slow=18,SNR=4.0						
KSRS	**Korea Array**	**20.43**	**323**	P	P	10 41 24.9	+2.1
	2.0nm,0.8s,baz=139,slow=9.4,SNR=7.9						
SONM	**Songino Array**	**39.27**	**320**	P	P	10 44 13.9	-0.4
	0.9nm,0.7s,baz=128,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**42.44**	**192**	P	P	10 44 40.8	+0.3
	0.5nm,0.7s,baz=16,slow=8.8,SNR=8.0						
ASAR	**Alice Springs**	**46.15**	**192**	P	P	10 45 10.3	+0.1
	0.4nm,0.6s,baz=16,slow=10,SNR=8.8						
ZAL	**Zalesovo**	**54.14**	**322**	P	P	10 46 09.8	-1.0
	0.9nm,0.8s,baz=15,slow=8.8,SNR=3.4						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	P	10 48 34.5	0.0
	0.3nm,0.4s,baz=293,slow=5.9,SNR=11						

IDC 11 10:42:47.0±4.2,2188N×14314E,h50km±38km,mb3.6/9, mb1 3.9/10,mb1mx3.8/22,mbtmp3.7/10,ML4.3/1,Error ellipse: s-maj=31.5km s-min=17.2km az=86.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.27**	**351**	P	Pn	10 44 02.5	-0.7
	26nm,0.3s,baz=144,slow=17,SNR=8.0						
KSRS	**Korea Array**	**20.35**	**323**	P	P	10 47 20.3	+1.2
	2.4nm,0.7s,baz=138,slow=12,SNR=12						
SONM	**Songino Array**	**39.17**	**320**	P	P	10 50 10.3	+0.3
	1.9nm,0.6s,baz=129,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**42.45**	**192**	P	P	10 50 37.1	+0.2
	1.0nm,0.7s,baz=15,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**46.15**	**192**	P	P	10 51 06.8	+0.2
	0.6nm,0.6s,baz=17,slow=9.9,SNR=20						
ZAL	**Zalesovo**	**54.05**	**322**	P	P	10 52 05.5	-0.9
	1.0nm,0.4s,baz=1.0,slow=9.9,SNR=5.3						
MKAR	**Makanchi Array**	**54.55**	**313**	P	P	10 52 10.5	+0.5
	0.6nm,0.6s,baz=94,slow=8.5,SNR=9.3						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	P	10 54 30.5	0.0
	0.6nm,0.4s,baz=293,slow=5.9,SNR=26						
NVAR	**Mina Array Bea**	**83.06**	**51**	P	P	10 55 08.0	+0.9
	1.0nm,0.8s,baz=260,slow=4.9,SNR=4.0						
BRTR	**Keskin Array B**	**90.19**	**313**	P	P	10 55 41.2	-0.8
	0.9nm,0.9s,baz=52,slow=5.0,SNR=4.2						

IDC 11 10:45:10.2±4.3,2185N×14317E,h45km±41km,mb3.4/7, mb1 3.6/8,mb1mx3.5/22,mbtmp3.5/8,ML4.0/1,Error ellipse: s-maj=41.7km s-min=19.7km az=86.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.30**	**350**	P	Pn	10 46 26.1	-0.7
	11nm,0.3s,baz=193,slow=18,SNR=2.2						
KSRS	**Korea Array**	**20.39**	**323**	P	P	10 49 45.2	+2.1
	1.3nm,0.7s,baz=125,slow=11,SNR=5.6						
SONM	**Songino Array**	**39.21**	**320**	P	P	10 52 33.1	-0.9
	0.6nm,0.7s,baz=128,slow=7.8,SNR=4.8						
WRA	**Warramunga Arr**	**42.43**	**192**	P	P	10 53 00.6	+0.1
	0.4nm,0.5s,baz=15,slow=8.9,SNR=6.9						
ASAR	**Alice Springs**	**46.13**	**192**	P	P	10 53 30.4	+0.2
	0.5nm,0.9s,baz=15,slow=8.8,SNR=7.1						
ZAL	**Zalesovo**	**54.09**	**322**	P	P	10 54 30.2	-0.2
	1.5nm,0.3s,baz=41,slow=5.5,SNR=3.3						
MKAR	**Makanchi Array**	**54.59**	**313**	P	P	10 54 33.9	-0.1
	0.2nm,0.6s,baz=101,slow=7.5,SNR=2.9						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	P	10 56 54.4	-0.1
	0.3nm,0.6s,baz=293,slow=5.9,SNR=12						

BJI ***11*** *11:55:25.6,56.13N×110.39E,h10km,mB4.9,mb4.2,Ms4.6, Msz4.4*
ISCJB ***11*** *11:55:27.8±0.2,5563N±002×110.18E±003,h10km, mb4.0/26,MS3.8/10, Error ellipse: s-maj=3.4km s-min=2.2km az=106.7*
MOS ***11*** *11:55:28.5±1.0,5575N×110.15E,h14km,mb4.3/16, Error ellipse: s-maj=8.7km s-min=5.9km az=67.5*
MOS Felt (II) at Nizhneangarsk.
IDC ***11*** *11:55:28.2±0.6,5583N×110.07E,h0km,mb4.0/17, mb1 4.3/19,mb1mx4.2/25,mbtmp4.1/19,ML4.2/2,MS3.8/9, Ms1 3.8/9,ms1mx3.6/35, Error ellipse: s-maj=17.1km s-min=13.3km az=31.0*
BYKL ***11*** *11:55:29.6±0.2,5571N×110.20E,h8km±3km, FELT I=III-IV at Ulyunkhan; II at Uoyan*
NEIC ***11*** *11:55:29.9±0.4,5577N×110.09E,h10km,mb4.5/5, Error ellipse: s-maj=10.4km s-min=8.1km az=145.0*
NEIC Felt [II] at Nizhneangarsk.
ISC 11 11:55:29.2±0.2,5567N±002×11020E±003,h10km,n126, σ1§43/177,mb4.0/26,MS3.8/10,8C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.39**	**287**	*e*PG	**Pg**	**11 55 36.5**	**-0.3**
NIZ				*e*		11 55 42.4	
NIZ				pmax	pmax		
	comp=Z,13μm,1.5s						
NIZ				smax			
	comp=N,14μm,1.7s						
NIZ	**Nizh Angarsk**	**0.39**	**287**	⇑*i*Pg	**Pg**	**11 55 36.6**	**-0.2**
NIZ				Pmax		11 55 37.1	
	comp=N,3μm,0.3s						
NIZ				*e*Sg	**Sg**	**11 55 42.3**	**+0.4**
NIZ				Smax		11 55 44.9	
	comp=N,9μm,0.3s						
KMO	**Kumora**	**0.61**	**68**	*e*PG	**Pg**	**11 55 39.8**	**-1.2**
KMO				*e*		11 55 47.4	
KMO				pmax	pmax		
	comp=Z,917nm,0.2s						
KMO				smax			
	comp=N,16μm,0.9s						
KMO	**Kumora**	**0.61**	**68**	⇑*i*Pg	**Pg**	**11 55 39.8**	**-1.2**
KMO				Pmax		11 55 41.7	
	comp=N,1μm,0.2s						
KMO				*e*Sg	**Sg**	**11 55 47.6**	**-1.4**
KMO				Smax		11 55 50.7	
	comp=N,16μm,0.8s						
YLYR	**Ulyunkhan**	**0.96**	**145**	⇑*i*PG	**Pg**	**11 55 47.2**	**-0.6**
YLYR				*e*		11 56 00.5	
YLYR				pmax	pmax		
	comp=Z,1μm,0.2s						
YLYR				smax			
	comp=N,6μm,0.2s						
YLYR	**Ulyunkhan**	**0.96**	**145**	⇑*i*Pg	**Pg**	**11 55 47.2**	**-0.6**
YLYR				Pmax		11 55 47.5	
	comp=N,648nm,0.2s						
YLYR				*e*Sg	**Sg**	**11 56 01.2**	**+0.8**
YLYR				Smax		11 56 09.1	
	comp=N,5μm,0.2s						
YOA	**Uoyan**	**0.98**	**61**	⇓*i*PG	**Pg**	**11 55 46.9**	**-1.2**
YOA				*i*		11 56 00.4	
YOA				pmax	pmax		
	comp=Z,1μm,0.3s						
YOA				smax			
	comp=N,18μm,0.5s						
YOA	**Uoyan**	**0.98**	**61**	*e*Pg	**Pg**	**11 55 46.9**	**-1.2**
YOA				Pmax		11 55 52.5	
	comp=N,1μm,0.4s						
YOA				*e*Sg	**Sg**	**11 56 00.4**	**-0.4**
YOA				Smax		11 56 09.8	
	comp=N,19μm,0.5s						
SVKR	**Severomuysk**	**1.95**	**75**	*e*PN	**Pn**	**11 56 03.5**	**+1.2**
SVKR				*e*		11 56 05.1	
SVKR				*e*		11 56 30.1	
SVKR				pmax	pmax		
	comp=Z,2μm,0.7s						
SVKR				smax			
	comp=N,36μm,1.2s						
SVKR	**Severomuysk**	**1.95**	**75**	*e*Pg	**Pg**	**11 56 03.7**	**-2.9**
SVKR				Pmax		11 56 08.5	
	comp=N,2μm,0.5s						
SVKR				*e*Sg	**Sg**	**11 56 30.1**	**-1.7**
SVKR				Smax		11 56 34.0	
	comp=N,6μm,0.6s						
SYVR	**Suvo**	**2.02**	**183**	*e*PN	**Pn**	**11 56 06.0**	**+2.8**
SYVR				*e*		11 56 34.6	
SYVR				pmax	pmax		
	comp=Z,1μm,0.7s						
SYVR				smax			
	comp=N,4μm,1.1s						
SYVR	**Suvo**	**2.02**	**183**	⇑*i*Pg	**Pg**	**11 56 06.2**	**-1.6**
SYVR				*e*		11 56 10.2	
SYVR				max		11 56 10.5	
	comp=N,2μm,0.7s						
SYVR				*e*Sg	**Sg**	**11 56 34.6**	**+0.6**
SYVR				Smax		11 56 39.1	
	comp=N,9μm,1.3s						
OGRR	**Ongureny**	**2.53**	**218**	*e*PN	**Pn**	**11 56 12.7**	**+2.4**
OGRR				*e*		11 56 16.7	
OGRR				*e*		11 56 49.3	
OGRR				pmax	pmax		
	comp=Z,262nm,0.4s						
OGRR				smax			
	comp=E,2μm,1.3s						
OGRR	**Ongureny**	**2.53**	**218**	*e*Pn	**Pn**	**11 56 12.7**	**+2.4**
OGRR				*e*Pg	**Pg**	**11 56 15.6**	**-2.1**
OGRR				Pmax		11 56 18.5	
	comp=E,231nm,0.3s						
OGRR				*e*Sn	**Sn**	**11 56 43.7**	**+2.6**
OGRR				*e*Sg	**Sg**	**11 56 48.5**	**-1.9**
OGRR				Smax		11 56 51.4	
	comp=E,2μm,0.7s						
MXMB	**Maximikha**	**2.55**	**200**	*e*Pn	**Pn**	**11 56 12.4**	**+1.8**
MXMB				*e*Pg	**Pg**	**11 56 15.6**	**-2.5**
MXMB				Pmax		11 56 21.7	
	comp=E,471nm,0.7s						
MXMB				*e*Sg	**Sg**	**11 56 51.0**	**-0.2**
MXMB				Smax		11 57 06.8	
	comp=E,7μm,0.8s						
BOD	**Bodaibo**	**3.01**	**43**	*e*PN	**Pn**	**11 56 16.9**	**0.0**
BOD				*e*		11 56 22.7	
BOD				*e*		11 57 00.6	
BOD				pmax	pmax		
	comp=Z,148nm,0.4s						
BOD				smax			
	comp=N,2μm,0.4s						
BOD	**Bodaibo**	**3.01**	**43**	⇑*i*Pn	**Pn**	**11 56 17.5**	**+0.6**
BOD				*e*Pg	**Pg**	**11 56 23.0**	**-3.9**
BOD				Pmax		11 56 28.5	
	comp=N,180nm,0.6s						
BOD				*e*Sn	**Sn**	**11 56 53.7**	**+0.6**
BOD				*e*Sg	**Sg**	**11 57 00.9**	**-5.0**
BOD				Smax		11 57 05.3	
	comp=N,3μm,0.5s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*PN	**Pn**	**11 56 20.0**	**+0.5**
NLYR				*e*		11 56 28.8	
NLYR				*e*		11 57 08.0	
TRG	**Tyrgan**	**3.68**	**219**	*e*PN	**Pn**	**11 56 28.1**	**+1.9**
TRG				*e*		11 56 37.1	
TRG				*e*		11 57 24.9	
TRG				pmax	pmax		
	comp=Z,177nm,0.6s						
TRG				smax			
	comp=E,576nm,0.4s						
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	**Pn**	**11 56 28.3**	**+2.1**
TRG				max		11 56 34.4	
	comp=E,200nm,0.4s						
TRG				*e*		11 57 13.8	
TRG				*e*Sg	**Sg**	**11 57 25.7**	**-1.8**
TRG				Smax		11 57 28.2	
	comp=E,576nm,0.4s						
TRTB	**Turuntaevo**	**3.76**	**205**	*e*Pn	**Pn**	**11 56 29.1**	**+1.8**
TRTB				*e*Pg	**Pg**	**11 56 38.0**	**-3.3**
TRTB				Pmax		11 56 44.5	
	comp=E,126nm,0.6s						
TRTB				*e*Sg	**Sg**	**11 57 26.7**	**-3.3**
TRTB				Smax		11 57 46.0	
	comp=E,797nm,1.8s						
UUDB	**Ulan-Yde**	**4.09**	**203**	*e*	**Pn**	**11 56 36.5**	**+4.7**
UUDB				*e*Pg	**Pg**	**11 56 43.8**	**-3.8**
UUDB				Pmax		11 56 48.6	
	comp=E,209nm,1.1s						
UUDB				*e*Sg	**Sg**	**11 57 37.5**	**-3.1**
UUDB				Smax		11 57 49.7	
	comp=E,2μm,1.4s						
FFNB	**Fofonovo**	**4.16**	**211**	*e*Pn	**Pn**	**11 56 34.7**	**+2.0**
FFNB				*e*Sg	**Sg**	**11 57 38.4**	**-4.2**
FFNB				Smax		11 57 48.2	
	comp=E,1μm,0.5s						
CIT	**Chita**	**4.16**	**150**	*e*PN	**Pn**	**11 56 33.6**	**+0.9**
CIT				*e*S	**Sg**	**11 57 37.2**	**-5.5**
CIT				smax			
	comp=N,1μm,1.0s						
CIT	**Chita**	**4.16**	**150**	*e*Pn	**Pn**	**11 56 33.6**	**+0.9**
CIT				*e*Pg	**Pg**	**11 56 44.4**	**-4.5**
CIT				Pmax		11 56 46.4	
	comp=N,780nm,1.6s						
CIT				*e*Sg	**Sg**	**11 57 39.2**	**-3.5**
CIT				Smax		11 57 54.3	
	comp=N,1μm,1.6s						
KAB	**Kabansk**	**4.18**	**212**	*e*PN	**Pg**	**11 56 47.3**	**-2.1**
KAB				*e*		11 57 41.7	
KAB				pmax	pmax		
	comp=Z,244nm,0.5s						
KAB				smax			
	comp=E,3μm,1.4s						
KAB	**Kabansk**	**4.18**	**212**	*e*Sg	**Sg**	**11 57 41.0**	**-2.6**
KAB				Smax		11 58 00.4	
	comp=E,3μm,1.8s						
HRMR	**Khuramsha**	**4.48**	**207**	*e*Sg	**Sg**	**11 57 48.7**	**-4.4**
HRMR				Smax		11 57 58.9	
	comp=E,2μm,1.4s						
CRS	**Chara**	**4.67**	**71**	*e*PN	**Pn**	**11 56 41.0**	**+1.3**
CRS				*e*		11 56 53.5	
CRS				*e*		11 57 54.1	
CRS				pmax	pmax		
	comp=Z,355nm,1.0s						
CRS				smax			
	comp=E,3μm,1.5s						

CRS	**Chara**	**4.67**	**71**	*e*Pn	**Pn**	**11 56 40.7 +1.0**
CRS				max		11 56 55.4
	comp=E,347nm,1.1s					
CRS				*e*Sg	**Sg**	**11 57 53.9 -5.2**
CRS				Smax		11 58 01.4
	comp=E,3μm,1.7s					
IRK	**Irkutsk**	**4.90**	**228**	*e*PN	**Pn**	**11 56 44.2 +1.3**
IRK				*e*S	**Sn**	**11 57 40.4 +0.8**
IRK				*e*S	**Sg**	**11 58 01.1 -5.4**
IRK				smax		
	comp=N,2μm,0.5s					
IRK	**Irkutsk**	**4.90**	**228**	*e*Pn	**Pn**	**11 56 45.4 +2.5**
IRK				max		11 56 48.8
	comp=N,199nm,0.3s					
IRK				*e*Sn	**Sn**	**11 57 40.8 +1.2**
IRK				*e*Sg	**Sg**	**11 58 03.0 -3.5**
IRK				Smax		11 58 11.4
	comp=N,2μm,0.6s					
LSTR	**Listvyanka**	**4.96**	**222**	*e*Pn	**Pn**	**11 56 45.3 +1.6**
LSTR				max		11 57 05.8
	comp=N,123nm,0.6s					
LSTR				*e*Sn	**Sn**	**11 57 41.3 +0.2**
LSTR				*e*Sg	**Sg**	**11 58 02.9 -5.5**
LSTR				Smax		11 58 11.6
	comp=N,865nm,1.3s					
TLY	**Talaya**	**5.58**	**227**	*e*PN	**Pn**	**11 56 53.0 +0.8**
TLY				*e*		11 57 09.0
TLY				*e*S	**Sn**	**11 57 56.0 -0.3**
TLY				*e*		11 58 22.0
TLY				pmax	pmax	
	comp=Z,57nm,0.4s					
TLY				smax		
	comp=N,938nm,1.7s					
TLY	**Talaya**	**5.58**	**227**	*e*Pn	**Pn**	**11 56 51.6 -0.6**
	comp=N,61nm,0.5s					
TLY				*e*Sn	**Sn**	**11 57 55.6 -0.7**
TLY				*e*Sg	**Sg**	**11 58 28.6 +0.4**
TLY	**Talaya**	**5.58**	**227**	*e*Pn	**Pn**	**11 56 52.8 +0.6**
TLY				max		11 57 18.3
	comp=N,69nm,0.7s					
TLY				*e*Sn	**Sn**	**11 57 55.0 -1.3**
TLY				*e*Sg	**Sg**	**11 58 22.1 -6.1**
TLY				Smax		11 58 40.8
	comp=N,882nm,1.7s					
KHNR	**Khani**	**5.59**	**73**	*e*Sg	**Sg**	**11 58 21.8 -7.0**
TUP	**Tupik**	**5.75**	**98**	*e*PN	**Pn**	**11 56 55.3 +0.7**
TUP				*e*		11 57 12.8
TUP				*e*S	**Sn**	**11 57 59.8 -0.8**
TUP				*e*		11 58 27.7
TUP				pmax	pmax	
	comp=Z,172nm,1.0s					
TUP				smax		
	comp=N,2μm,1.3s					
TUP	**Tupik**	**5.75**	**98**	*e*Pn	**Pn**	**11 56 55.3 +0.7**
TUP				*e*Pg	**Pg**	**11 57 12.7 -6.6**
TUP				Pmax		11 57 16.1
	comp=N,189nm,1.1s					
TUP				*e*Sn	**Sn**	**11 57 58.6 -2.0**
TUP				*e*Sg	**Sg**	**11 58 27.9 -5.8**
TUP				Smax		11 58 33.4
	comp=N,2μm,1.1s					
ARS	**Arshan**	**5.94**	**234**	*e*PN	**Pn**	**11 56 58.3 +1.1**
ARS				*e*S	**Sn**	**11 58 03.0 -2.3**
ARS	**Arshan**	**5.94**	**234**	*e*Pn	**Pn**	**11 56 58.4 +1.2**
ARS				max		11 57 03.0
	comp=N,227nm,0.6s					
ARS				*e*Sn	**Sn**	**11 58 03.7 -1.6**
ARS				*e*Sg	**Sg**	**11 58 34.6 -5.3**
ARS				Smax		11 58 43.0
	comp=N,3μm,1.0s					
KPC	**Khapcheranga**	**6.12**	**167**	*e*PN	**Pn**	**11 57 01.1 +1.5**
KPC				*e*		11 57 21.1
KPC				*e*		11 58 40.4
KPC				pmax	pmax	
	comp=Z,122nm,1.5s					
KPC				smax		
	comp=E,727nm,1.2s					
KPC	**Khapcheranga**	**6.12**	**167**	*e*Pn	**Pn**	**11 57 00.8 +1.2**
KPC				*e*Pg	**Pg**	**11 57 21.0 -5.4**
KPC				Pmax		11 57 25.8
	comp=E,128nm,1.2s					
KPC				*e*Sg	**Sg**	**11 58 40.5 -5.1**
KPC				Smax		11 58 52.6
	comp=E,726nm,1.6s					
ZAK	**Zakamensk**	**6.74**	**221**	*e*PN	**Pn**	**11 57 10.4 +2.3**
ZAK				*e*		11 57 31.0
ZAK				*e*		11 58 29.6
ZAK				*e*S	**Sg**	**11 58 58.2 -7.2**
ZAK				pmax	pmax	
	comp=Z,30nm,0.5s					
ZAK				smax		
	comp=N,545nm,1.9s					
ZAK	**Zakamensk**	**6.74**	**221**	*e*Pn	**Pn**	**11 57 10.4 +2.3**
ZAK				*e*Pg	**Pg**	**11 57 32.2 -6.0**
ZAK				Pmax		11 57 39.7
	comp=N,29nm,0.5s					
ZAK				*e*Sg	**Sg**	**11 58 59.0 -6.4**
ZAK				Smax		11 59 25.3
	comp=N,545nm,1.8s					
MOY	**Mondy**	**6.78**	**238**	*e*PN	**Pn**	**11 57 10.8 +2.1**
MOY				*e*		11 57 31.8
MOY				*e*S	**Sn**	**11 58 25.8 -0.1**
MOY	**Mondy**	**6.78**	**238**	*e*Pn	**Pn**	**11 57 11.4 +2.7**
MOY				max		11 57 17.2
	comp=N,229nm,0.4s					
MOY				*e*Sn	**Sn**	**11 58 25.5 -0.4**
MOY				*e*Sg	**Sg**	**11 59 00.2 -6.5**
MOY				Smax		11 59 24.1
	comp=N,768nm,1.5s					
ORL	**Orlik**	**6.86**	**247**	*e*PN	**Pn**	**11 57 12.1 +2.2**
ORL				*e*S	**Sg**	**11 59 02.4 -7.1**
ORL				smax		
	comp=N,1μm,1.9s					
ORL	**Orlik**	**6.86**	**247**	*e*Pn	**Pn**	**11 57 12.0 +2.1**
ORL				max		11 57 26.2
	comp=N,112nm,1.0s					
ORL				*e*Sn	**Sn**	**11 58 27.0 -1.0**
ORL				*e*Sg	**Sg**	**11 59 02.3 -7.2**
ORL				Smax		11 59 07.3
	comp=N,1μm,1.4s					
SONM	**Songino Array**	**8.19**	**198**	Pn	**Pn**	**11 57 30.8 +2.7**
	comp=N,1.4nm,0.3s,baz=7.4,slow=14,SNR=21					
SONM				Sn	**Sn**	**11 59 02.4 +1.8**
	comp=N,0.9nm,0.3s,baz=5.6,slow=16,SNR=2.5					
SONM				Lg		11 59 46.2
	comp=N,3.0nm,0.3s,baz=14,slow=24,SNR=4.3					
SONM	**Songino Array**	**8.19**	**198**	PN	**Pn**	**11 57 30.8 +2.7**
SONM						11 59 02.4
SONM				pmax	pmax	
	comp=Z,1.0nm,0.3s					
SONM				smax		
	comp=N,1.0nm,0.3s					
CLNS	**Chul'man**	**8.27**	**76**	*e*PG	**Pb**	**11 57 51.8 -0.7**
CLNS				pmax	pmax	
	comp=N,9.0nm,0.9s					
CLNS				pmax	pmax	
	comp=E,8.0nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,6.0nm,0.9s					
CLNS				MLR	MLR	
	comp=Z,500nm,11.0s					
CLNS				MLR	MLR	
	comp=N,400nm,8.0s					
CLNS				MLR	MLR	
	comp=E,1μm,14.0s					
TDJR	**Todzha**	**8.92**	**254**	*e*Pn	**Pn**	**11 57 39.3 +1.3**
TDJR				*e*Sg	Sn	12 00 05.7 +47
ZAL	**Zalesovo**	**14.72**	**274**	Pn	**Pn**	**11 58 58.2 +0.8**
	comp=E,0.4nm,0.3s,baz=41,slow=14,SNR=6.1					
ZAL				Lg		12 03 13.2
	comp=E,0.4nm,0.3s,baz=153,slow=12,SNR=4.9					
ZAL	**Zalesovo**	**14.72**	**274**	*i* P	**Pn**	**11 59 02.7 +5.2**
ZAL				pmax	pmax	
	comp=Z,7.0nm,0.8s					
NVS	**Novosibirsk**	**15.36**	**278**	*e*P	**Pn**	**11 59 06.4 +0.4**
NVS				*e*S	**Sn**	**12 01 53.9 -2.3**
CN2	**Changchun**	**15.39**	**134**	*e*P	**Pn**	**11 59 06.9 +0.5**
CN2				AMB	AMB	
	comp=Z,10.0nm,1.2s					
CN2				LR	LR	
	comp=N,1μm,10.0s					
CN2				LR	LR	
	comp=E,520nm,10.0s					
CN2				LR	LR	
	comp=Z,880nm,10.0s					
GTA	**Gaotai**	**17.67**	**207**	*e*P	**Pn**	**11 59 40.4 +5.0**
GTA				AP	pP	11 59 44.1 +4.9
GTA				XP	sP	11 59 45.5 +5.0
GTA				AMB	AMB	
	comp=Z,5.0nm,1.4s					
GTA				AMB	AMB	
	comp=Z,218nm,5.3s					
GTA				LR	LR	
	comp=N,881nm,8.7s					
GTA				LR	LR	
	comp=E,609nm,9.1s					
GTA				LR	LR	
	comp=Z,893nm,8.7s					
TIXI	**Tiksi**	**17.90**	**19**	*e*P	**Pn**	**11 59 31.6 -6.7**
TIXI				pmax	pmax	
	comp=Z,29nm,1.2s					
TIXI				MLR	MLR	
	comp=Z,202nm,10.0s					
TIXI	**Tiksi**	**17.90**	**19**	*e*P	**Pn**	**11 59 33.1 -5.1**
	comp=Z,12nm,0.5s					
TIXI				*e*S	**Sn**	**12 02 41.9 -16**
VLA	**Vladivostok**	**18.80**	**123**	*e*P	**Pn**	**11 59 51.6 +2.4**
VLA				pmax	pmax	
	comp=Z,31nm,1.2s					
KURK	**Kurchatov**	**19.45**	**268**	⇑*i* P	**Pn**	**11 59 56.3 -0.8**
KURK	**Kurchatov**	**19.45**	**268**	*e*P	**Pn**	**11 59 56.0 -1.0**
	comp=Z,51nm,0.8s					
MK31	**Makanchi Array**	**19.48**	**255**	*i* P	**Pn**	**11 59 57.5 0.0**
MK31				pmax	pmax	
	comp=Z,6.0nm,0.4s					
MK31	**Makanchi Array**	**19.48**	**255**	*e*P	**Pn**	**11 59 55.7 -1.8**
MKAR	**Makanchi Array**	**19.48**	**255**	P	**Pn**	**11 59 57.2 -0.2**
	comp=Z,1.3nm,0.3s,baz=64,slow=11,SNR=38					
MKAR				LR	LR	12 07 48.4
	comp=Z,166nm,21.3s,baz=3.7,slow=38					
MKAR	**Makanchi Array**	**19.48**	**255**	P	**Pn**	**11 59 57.5 0.0**
MKAR				pmax	pmax	
	comp=Z,3.0nm,0.4s					
LZH	**Lanzhou**	**20.06**	**195**	*e*P	**P**	**12 00 08.0 +5.5**
LZH				AP		12 00 17.5
LZH				XP	sP	12 00 20.1 +13
LZH				AMB	AMB	
	comp=Z,20nm,1.3s					
LZH	**Lanzhou**	**20.06**	**195**	*e*P	**P**	**12 00 08.0 +5.5**
LZH				pP		12 00 17.5
LZH				sP	sP	12 00 20.1 +13
XAN	**Xi'an**	**21.64**	**183**	P	**P**	**12 00 21.2 +1.5**
XAN				LG2		12 07 57.7
XAN				AMB	AMB	
	comp=Z,2.0nm,0.6s,mb3.7					
XAN				LR	LR	
	comp=N,682nm,9.5s					
XAN				LR	LR	
	comp=E,413nm,6.9s					
XAN				LR	LR	
	comp=Z,998nm,9.5s					
KSRS	**Korea Array**	**21.80**	**139**	P	**P**	**12 00 25.4 +4.0**
	comp=Z,0.3nm,0.3s,mb3.2,baz=12,slow=29,SNR=3.9					
KSRS				LR	LR	12 09 46.5
	comp=Z,218nm,18.1s,MS3.6,baz=108,slow=39					
SEY	**Seymchan**	**22.37**	**54**	*i* P	**P**	**12 00 25.7 -1.7**
BVA0	**Borovoye Array**	**23.13**	**280**	*i* P	**P**	**12 00 35.4 -0.1**
BVA0				pmax	pmax	
	comp=Z,5.0nm,1.3s,mb3.8					
BVAR	**Borovoye Array**	**23.13**	**280**	P	**P**	**12 00 35.4 -0.1**
	comp=Z,5.5nm,0.5s,mb4.2,baz=77,slow=13,SNR=12					
BVAR				S	**S**	**12 04 45.7 -1.1**
	comp=Z,0.9nm,0.6s,baz=68,slow=16,SNR=3.5					
BVAR				LR	LR	12 10 40.6
	comp=Z,180nm,18.9s,MS3.5,baz=40,slow=40					
BVAR	**Borovoye Array**	**23.13**	**280**	P	**P**	**12 00 35.4 -0.1**
BVAR				S	**S**	**12 04 45.7 -1.1**
BVAR				pmax	pmax	
	comp=Z,6.0nm,0.5s					
BVAR				smax		
	comp=N,1.0nm,0.6s					
BVAR				MLR	MLR	
	comp=Z,181nm,19.0s					
BRVK	**Borovoye**	**23.18**	**280**	*e*P	**P**	**12 00 35.7 -0.3**
BRVK				pmax	pmax	
	comp=Z,11nm,0.7s,mb4.4					
BRVK	**Borovoye**	**23.18**	**280**	*e*P	**P**	**12 00 35.6 -0.3**
	comp=Z,11nm,0.7s,mb4.4					
ASAJ	**Asahikawa**	**23.63**	**106**	LR	LR	12 09 48.9
	comp=Z,92nm,20.7s,MS3.2,baz=146,slow=36					
SSE	**Sheshan**	**25.76**	**158**	P	**P**	**12 00 59.4 -0.6**
SSE				S	**S**	**12 05 29.8 +0.7**
SSE				AMB	AMB	
	comp=Z,210nm,5.3s					
SSE				LR	LR	
	comp=N,445nm,10.6s,MS4.3					
SSE				LR	LR	
	comp=E,205nm,10.6s,MS4.3					
SSE				LR	LR	
	comp=Z,636nm,11.6s,MS4.4					
AAK	**Ala-Archa**	**26.41**	**255**	⇑*i* P	**P**	**12 01 06.3 +0.4**
AAK				pmax	pmax	
	comp=Z,9.0nm,1.8s,mb4.0					
AAK	**Ala-Archa**	**26.41**	**255**	*e*P	**P**	**12 01 10.0 +4.1**
	comp=Z,4.0nm,0.8s,mb4.0					
MJAR	**Matsushiro Arr**	**26.96**	**123**	LR	LR	12 11 06.2
	comp=Z,146nm,20.0s,MS3.5,baz=0.0,slow=35					
BILL	**Bilibino**	**28.07**	**42**	P	**P**	**12 01 23.0 +2.2**
BILL				*e*		12 02 15.6
BILL						12 04 36.0
BILL				MLR	MLR	
	comp=Z,100nm,16.0s,MS3.5					
KK31	**Karatay Array**	**28.31**	**260**	*i* P	**P**	**12 01 33.1 +10**
KK31				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb3.8					
KKAR	**Karatay Array**	**28.31**	**260**	*i* P	**P**	**12 01 33.1 +10**
KKAR				pmax	pmax	
	comp=Z,1.0nm,0.5s,mb3.7					
AB31	**Akbulak array**	**30.70**	**279**	*i* P	**P**	**12 01 44.2 +0.1**
AB31				pmax	pmax	
	comp=Z,1.0nm,0.7s,mb3.8					
ARCES	**ARCESS Array B**	**37.84**	**325**	P	**P**	**12 02 44.8 -1.2**
	comp=Z,5.0nm,0.9s,mb4.2,baz=66,slow=9.0,SNR=12					
ARCES	**ARCESS Array B**	**37.84**	**325**	P	**P**	**12 02 44.8 -1.1**
ARCES				pmax	pmax	
	comp=Z,5.0nm,0.9s					
OBN	**Obninsk**	**39.99**	**301**	P	**P**	**12 03 03.0 -1.0**
OBN						12 04 44.0
OBN				MLR	MLR	
	comp=Z,200nm,9.0s					
FINES	**FINESS Array B**	**41.36**	**314**	P	**P**	**12 03 14.2 -1.2**
	comp=Z,2.2nm,0.6s,mb4.0,baz=60,slow=9.1,SNR=6.5					
FINES				LR	LR	12 23 21.9
	comp=Z,256nm,20.4s,MS4.1,baz=303,slow=41					
FINES	**FINESS Array B**	**41.36**	**314**	*i* P	**P**	**12 03 15.5 +0.1**
FINES				pmax	pmax	
	comp=Z,2.0nm,0.6s					
IMA2	**Indian Mountai**	**43.31**	**36**	*e*P	**P**	**12 03 31.3 +0.2**
KIV	**Kislovodsk**	**43.41**	**284**	*e*P	**P**	**12 03 32.8 +0.8**
KIV				pmax	pmax	
	comp=Z,12nm,1.0s,mb4.6					
COLA	**College**	**45.97**	**36**	*e*P	**P**	**12 03 53.9 +1.4**
COLA				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.7					
COLA	**College**	**45.97**	**36**	*e*P	**P**	**12 03 53.9 +1.4**
	comp=Z,8.0nm,0.8s,mb4.7					
AKASG	**Malin Array Be**	**46.17**	**299**	P	**P**	**12 03 51.5 -2.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=48,slow=8.8,SNR=7.2					
AKASG	**Malin Array Be**	**46.17**	**299**	*i* P	**P**	**12 03 54.0 0.0**
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.3s					
AKASG	**Malin Array Be**	**46.17**	**299**	P	**P**	**12 03 51.5 -2.6**
HFS	**Hagfors**	**47.06**	**317**	LR	LR	12 27 58.3
	comp=Z,378nm,19.7s,MS4.4,baz=134,slow=42					
NB2	**NORSAR Subarra**	**47.41**	**319**	P	**P**	**12 04 03.2 -0.5**
	comp=Z,3.5nm,0.7s,mb4.4,baz=49,slow=7.9					
NOA	**NORSAR Array B**	**47.41**	**319**	P	**P**	**12 04 03.0 -0.7**
	comp=Z,3.0nm,0.8s,mb4.3,baz=48,slow=7.3,SNR=4.3					
NOA	**NORSAR Array B**	**47.41**	**319**	P	**P**	**12 04 03.0 -0.7**
NOA				pmax	pmax	
	comp=Z,3.0nm,0.8s					
NOA	**NORSAR Array B**	**47.41**	**319**	P	**P**	**12 04 03.0 -0.7**
INK	**Inuvik**	**47.81**	**27**	P	**P**	**12 04 06.2 -0.6**
	comp=Z,3.2nm,0.9s,mb4.4,baz=337,slow=2.6,SNR=9.1					
INK	**Inuvik**	**47.81**	**27**	P	**P**	**12 04 06.2 -0.6**
INK				pmax	pmax	
	comp=Z,3.0nm,0.9s					
BRTR	**Keskin Array B**	**51.24**	**286**	P	**P**	**12 04 32.6 -0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=49,slow=3.8,SNR=5.4					
BRTR	**Keskin Array B**	**51.24**	**286**	P	**P**	**12 04 32.7 -0.3**
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
VRAC	**Vranov**	**53.15**	**305**	LR	LR	12 30 12.7
	comp=Z,209nm,20.9s,MS4.2,baz=339,slow=39					
GERES	**GERESS Array B**	**54.81**	**307**	P	**P**	**12 04 59.7 +0.4**
	comp=Z,0.3nm,0.2s,mb3.9,baz=103,slow=2.9,SNR=4.2					
ASF	**Jabal al Asfar**	**54.92**	**277**	LR	LR	12 29 51.2
	comp=Z,56nm,19.3s,MS3.6,baz=3.4,slow=38					
YKA	**Yellowknife Ar**	**57.10**	**23**	P	**P**	**12 05 13.8 -2.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=332,slow=7.1,SNR=17					
YKA	**Yellowknife Ar**	**57.10**	**23**	P	**P**	**12 05 13.8 -2.0**
YKA				pmax	pmax	
	comp=Z,2.0nm,0.8s					
ESDC	**Sonseca Array**	**69.82**	**311**	P	**P**	**12 06 41.1 +1.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=19,slow=6.6,SNR=4.2					
PDAR	**Pinedale Array**	**76.31**	**29**	P	**P**	**12 07 17.8 -0.5**
	comp=Z,0.2nm,0.6s,mb3.2,baz=79,slow=3.2,SNR=2.4					
NVAR	**Mina Array Bea**	**77.58**	**37**	P	**P**	**12 07 25.5 +0.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=334,slow=5.2,SNR=6.3					
NVAR	**Mina Array Bea**	**77.58**	**37**	P	**P**	**12 07 25.5 +0.1**
WRA	**Warramunga Arr**	**78.05**	**157**	P	**P**	**12 07 28.1 +0.1**
	comp=Z,4.6nm,1.0s,mb4.4,baz=350,slow=6.0,SNR=24					
WRA	**Warramunga Arr**	**78.05**	**157**	*i* P	**P**	**12 07 31.2 +3.1**
WRA				pmax	pmax	
	comp=Z,5.0nm,1.0s					
ASAR	**Alice Springs**	**81.56**	**158**	P	**P**	**12 07 47.6 +0.5**
	comp=Z,2.1nm,0.9s,mb4.0,baz=341,slow=7.4,SNR=16					
ASAR	**Alice Springs**	**81.56**	**158**	P	**P**	**12 07 47.6 +0.5**
ASAR				pmax	pmax	
	comp=Z,2.0nm,0.9s					
TORD	**Torodi Ar. Bea**	**89.36**	**293**	P	**P**	**12 08 26.3 +0.3**
	comp=Z,0.8nm,0.6s,mb4.2,baz=4.9,slow=2.6,SNR=4.5					
STKA	**Stephens Creek**	**91.23**	**154**	P	**P**	**12 08 37.5 +2.8**
	comp=Z,2.0nm,0.9s,mb4.4,baz=359,slow=13,SNR=4.2					
STKA	**Stephens Creek**	**91.23**	**154**	P	**P**	**12 08 37.5 +2.8**
QSPA	**South Pole Qui**	**145.43**	**180**	*e*PKPdf	PKPdf	12 15 06.7 -0.7
SNAA	**Sanae**	**148.41**	**214**	PKPbc	PKPbc	12 15 14.7 -1.2
	comp=Z,1.8nm,1.0s,baz=88,slow=4.5,SNR=11					
SNAA	**Sanae**	**148.41**	**214**	PKP2	PKPab	12 15 14.7 -4.4
SNAA				pmax	pmax	
	comp=Z,2.0nm,1.0s					

MOS ***11*** *12:28:24.7±1.0,5584N×11003E,h14km,mb4.2/1,Error ellipse: s-maj=45.0km s-min=20.4km az=53.7*

BYKL 11 12:28:25.1±0.3,5570N×11021E,h11km±4km,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.39**	**282**	*e*Pg	Pg	12 28 32.3	-0.4
NIZ				*e*Sg	Sg	12 28 37.8	-0.1
NIZ				Pmax			
	26nm,0.2s						
NIZ				Smax			
	265nm,0.4s						
KMO	**Kumora**	**0.59**	**71**	*e*Pg	Pg	12 28 34.9	-1.7
KMO				*e*Sg	Sg	12 28 42.7	-1.6
KMO				Pmax			
	51nm,0.3s						
KMO				Smax			
	252nm,0.6s						
YOA	**Uoyan**	**0.96**	**62**	*e*PG	Pg	12 28 42.7	-0.8
YOA				*e*		12 28 55.8	
YOA				pmax	pmax		
	comp=Z,82nm,0.2s						
YOA				smax			
	comp=N,452nm,0.4s						
YOA	**Uoyan**	**0.96**	**62**	*e*Pg	Pg	12 28 42.8	-0.7
YOA				*e*Sg	Sg	12 28 55.8	-0.2
YOA				Pmax			
	comp=N,75nm,0.2s						
YOA				Smax			
	comp=N,454nm,0.4s						
YLYR	**Ulyunkhan**	**0.99**	**146**	*e*Pg	Pg	12 28 42.8	-1.3
YLYR				*e*Sg	Sg	12 28 56.3	-0.7
YLYR				Pmax			
	comp=N,42nm,0.2s						
YLYR				Smax			
	comp=N,181nm,0.2s						
SVKR	**Severomuysk**	**1.93**	**76**	*e*PN	Pn	12 29 00.3	+2.4
SVKR				*e*S	Sn	12 29 24.3	+2.2
SVKR				*e*		12 29 25.6	
SVKR				pmax	pmax		
	comp=Z,60nm,0.3s						
SVKR				smax			
	comp=N,952nm,0.8s						
SVKR	**Severomuysk**	**1.93**	**76**	*e*Pg	Pg	12 29 00.4	-1.7
SVKR				*e*Sg	Sg	12 29 25.6	-1.6
SVKR				Pmax			
	comp=N,66nm,0.2s						
SVKR				Smax			
	comp=N,954nm,0.6s						
SYVR	**Suvo**	**2.05**	**184**	*e*PN	Pn	12 29 01.8	+2.3
SYVR				*e*		12 29 30.5	
SYVR				pmax	pmax		
	comp=Z,75nm,0.4s						
SYVR				smax			
	comp=E,271nm,0.6s						
SYVR	**Suvo**	**2.05**	**184**	*e*Pn	Pn	12 28 58.0	-1.5
SYVR				*e*Pg	Pg	12 29 01.8	-2.6
SYVR				*e*Sg	Sg	12 29 29.8	-1.2
SYVR				Pmax			
	comp=E,84nm,0.4s						
SYVR				Smax			
	comp=E,282nm,0.6s						
OGRR	**Ongureny**	**2.56**	**217**	*e*Pn	Pn	12 29 07.7	+1.2
OGRR				*e*		12 29 40.9	
OGRR				*e*Sg	Sg	12 29 44.1	-3.3
OGRR				Smax			
	comp=E,83nm,0.3s						
TRG	**Tyrgan**	**3.72**	**219**	*e*Pn	Pn	12 29 24.4	+2.0
TRG				*e*		12 30 08.0	
TRG				*e*Sg	Sg	12 30 21.2	-3.3
TRG				Smax			
	comp=E,32nm,0.4s						
TRTB	**Turuntaevo**	**3.80**	**205**	*e*Pn	Pn	12 29 24.0	+0.5
TRTB				*e*Pg	Pg	12 29 31.9	-5.9
TRTB				*e*Sg	Sg	12 30 22.2	-4.8
TRTB				Pmax			
	comp=E,11nm,0.7s						
TRTB				Smax			
	comp=E,37nm,0.7s						
UUDB	**Ulan-Yde**	**4.13**	**203**	*e*Pg	Pg	12 29 40.0	-4.2
UUDB				*e*Sg	Sg	12 30 32.5	-5.1
UUDB				Pmax			
	comp=E,13nm,0.7s						
UUDB				Smax			
	comp=E,64nm,1.7s						
CIT	**Chita**	**4.18**	**150**	*e*Sg	Sg	12 30 34.0	-5.4
CIT				Smax			
	comp=E,28nm,0.6s						
FFNB	**Fofonovo**	**4.19**	**211**	*e*Pn	Pn	12 29 30.2	+1.3
FFNB				*e*		12 29 38.3	
FFNB				*e*Sn	Sn	12 30 16.3	-1.5
FFNB				*e*Sg	Sg	12 30 33.5	-6.1
FFNB				Smax			
	comp=E,86nm,0.5s						
HRMR	**Khuramsha**	**4.51**	**207**	*e*Sg	Sg	12 30 44.1	-6.0
HRMR				Smax			
	comp=E,115nm,0.6s						
CRS	**Chara**	**4.65**	**72**	*e*Pn	Pn	12 29 35.5	+0.3
CRS				*e*Pg	Pg	12 29 49.3	-4.8
CRS				*e*Sg	Sg	12 30 48.3	-6.0
CRS				Pmax			
	comp=E,14nm,1.2s						
CRS				Smax			
	comp=E,36nm,1.1s						
TLY	**Talaya**	**5.61**	**227**	*e*Pn	Pn	12 29 48.7	+0.3
TLY				*e*Sn	Sn	12 30 51.0	-1.7
TLY				*e*Sg	Sg	12 31 18.0	-7.0
TLY				Smax			
	comp=E,15nm,0.7s						
TUP	**Tupik**	**5.74**	**99**	*e*Pn	Pn	12 29 50.7	+0.4
TUP				*e*Pg	Pg	12 30 09.0	-6.1
TUP				*e*Sg	Sg	12 31 22.7	-6.8
TUP				Pmax			
	comp=E,2.0nm,0.3s						
TUP				Smax			
	comp=E,23nm,1.0s						
ARS	**Arshan**	**5.97**	**234**	*e*PN	Pn	12 29 54.0	+0.7
ARS				*e*S	Sn	12 30 59.1	-2.5
ARS	**Arshan**	**5.97**	**234**	*e*Pn	Pn	12 29 53.6	+0.3

comp=E,81nm,0.8s
KPC Khapcheranga 6.15 167 *e*Pn Pn 12 29 56.8 +1.0
KPC *e*Pg Pg 12 30 16.8 -6.0
KPC *e*Sg Sg 12 31 35.1 -7.4
KPC Pmax
comp=E,4.0nm,0.5s
KPC Smax
comp=E,25nm,1.1s
MOY Mondy 6.80 237 *e*PN Pn 12 30 06.9 +2.1
MOY *e* 12 30 28.0
MOY *e* 12 31 55.8
MOY pmax pmax
comp=Z,1.0nm,0.2s
MOY smax
comp=E,43nm,1.5s
ORL Orlik 6.88 247 *e*PN Pn 12 30 07.6 +1.7
ORL *e*S Sn 12 31 23.0 -1.2
ORL *e*S Sg 12 31 58.9 -7.1
ORL smax
comp=N,21nm,0.9s

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*IDC **11** 12:29:45.2±1.6, 266N×9549E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/2, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=44.4km s-min=18.9km az=51.0*
*BJI **11** 12:29:46.8, 249N×9565E, h37km, mb4.4*
*MOS **11** 12:29:48.2±0.4, 266N×9550E, h33km, mb4.5/7, Error ellipse: s-maj=38.1km s-min=14.0km az=113.7*
*NEIC **11** 12:29:49.5±0.6, 259N×9549E, h30km, mb4.1/6, Error ellipse: s-maj=13.3km s-min=7.2km az=47.0*
*ISCJB **11** 12:29:51.5±2.8, 27N±01×956E±01, h60km±22km, mb4.2/16, Error ellipse: s-maj=27.9km s-min=10.8km az=93.0*
ISC 11 12:29:53.2±2.7, 27N±01×956E±01, h55km±22km, n34, σ0§93/35, mb4.2/16, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.30**	**88**	Pn	**Pn**	**12 30 40.8**	**-1.6**
	3.1nm,0.3s,baz=285,slow=6.0,SNR=21						
PSI				Sn	**Sn**	**12 31 22.7**	**+2.3**
	3.6nm,0.3s,baz=342,slow=20,SNR=2.5						
KULM	**Kulim**	**5.64**	**63**	*e*P	**Pn**	**12 31 13.0**	**-1.4**
CM31	**Chiang Mai Arr**	**15.99**	**12**	*e*P	**Pn**	**12 33 34.9**	**+0.3**
	2.5nm,0.4s						
CHTO	**Chiang Mai**	**16.34**	**11**	*e*P	**Pn**	**12 33 39.4**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHTO	**Chiang Mai**	**16.34**	**11**	*e*P	**Pn**	**12 33 39.4**	**+0.5**
	comp=Z,3.5nm,0.9s						
KKM	**Kota Kinabalu**	**20.80**	**80**	*e*P	**P**	**12 34 30.5**	**+0.7**
GYA	**Guiyang**	**25.89**	**23**	P	**P**	**12 35 19.0**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
DMN	**Daman**	**26.73**	**339**	*e*P	**P**	**12 35 29.8**	**+2.4**
GUN	**Gumba**	**26.74**	**341**	*e*P	**P**	**12 35 27.9**	**+0.4**
KKN	**Kakani**	**26.83**	**339**	*e*P	**P**	**12 35 29.1**	**+0.7**
	comp=Z,22nm,1.0s,mb4.7						
LSA	**Lhasa**	**27.18**	**351**	P	**P**	**12 35 32.0**	**+0.5**
LSA	**Lhasa**	**27.18**	**351**	*e*P	**P**	**12 35 32.2**	**+0.7**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
LSA	**Lhasa**	**27.18**	**351**	*e*P	**P**	**12 35 32.2**	**+0.7**
	comp=Z,4.0nm,0.7s,mb4.1						
GKN	**Gorkha**	**27.26**	**338**	*e*P	**P**	**12 35 33.2**	**+1.0**
KOLN	**Koldanda**	**27.45**	**336**	*e*P	**P**	**12 35 35.4**	**+1.5**
	comp=Z,14nm,0.9s,mb4.5						
WHN	**Wuhan**	**32.88**	**31**	*e*P	**P**	**12 36 21.7**	**-0.2**
XAN	**Xi'an**	**33.56**	**20**	P	**P**	**12 36 26.3**	**-1.5**
XAN				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**44.01**	**337**	*i* P	**P**	**12 37 55.2**	**0.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.1						
WRA	**Warramunga Arr**	**44.17**	**122**	P	**P**	**12 37 56.3**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.8,baz=299,slow=9.3,SNR=16						
WRAB	**Tennant Creek**	**44.17**	**122**	*e*P	**P**	**12 37 56.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
WRAB	**Tennant Creek**	**44.17**	**122**	*e*P	**P**	**12 37 56.5**	**0.0**
	comp=Z,1.8nm,0.8s,mb3.9						
MK31	**Makanchi Array**	**45.42**	**347**	*e*P	**P**	**12 38 05.9**	**-0.6**
MK31				*e*		12 38 13.1	
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**12 38 06.2**	**-0.3**
	comp=Z,5.6nm,0.8s,mb4.5,baz=163,slow=8.2,SNR=55						
KSRS	**Korea Array**	**45.55**	**37**	P	**P**	**12 38 07.4**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=224,slow=8.5,SNR=5.1						
ASAR	**Alice Springs**	**45.55**	**127**	P	**P**	**12 38 08.2**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=298,slow=7.7,SNR=13						
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**12 38 10.1**	**-0.3**
	comp=Z,2.5nm,1.0s,mb4.1,baz=191,slow=9.5,SNR=11						
SONM				PcP	PcP	12 39 47.1	+0.5
	comp=Z,0.9nm,0.7s,baz=212,slow=2.8,SNR=4.1						
KURK	**Kurchatov**	**49.95**	**346**⇑	*e*P	**P**	**12 38 41.2**	**-0.4**
ZAL	**Zalesovo**	**51.84**	**352**	P	**P**	**12 38 54.9**	**-0.8**
	comp=Z,2.6nm,0.7s,mb4.3,baz=308,slow=7.4,SNR=14						
ZAL	**Zalesovo**	**51.84**	**352**	*i* P	**P**	**12 38 55.5**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**54.39**	**341**	*e*P	**P**	**12 39 13.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**54.39**	**341**	*e*P	**P**	**12 39 13.7**	**-0.8**
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**54.81**	**342**	*e*P	**P**	**12 39 16.9**	**-0.7**
CHKZ				*e*		12 39 23.7	
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**54.81**	**342**	*e*P	**P**	**12 39 16.9**	**-0.7**
	comp=Z,5.9nm,0.7s,mb4.7						
CHKZ				*e*		12 39 23.6	
AB31	**Akbulak array**	**55.46**	**332**	*i* P	**P**	**12 39 21.5**	**-0.7**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						

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*IDC **11** 12:44:19.2±0.7, 5223N×17582W, h0km, mb3.8/11, mb1 4.1/11, mb1mx3.9/25, mbtmp3.8/11, Error ellipse: s-maj=29.7km s-min=16.0km az=166.0*
*ISCJB **11** 12:44:31.2±0.7, 522N±01×1756W±01, h109km±7km, mb3.7/11, Error ellipse: s-maj=19.2km s-min=10.6km az=157.9*
*NEIC **11** 12:44:32.5±0.9, 5214N×17564W, h109km±9km, mb4.1/1, Error ellipse: s-maj=17.4km s-min=9.8km az=166.0*
ISC 11 12:44:32.2±0.7, 522N±01×1756W±01, h105km±7km, n21, σ1§06/22, mb3.7/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.88**	**87**	P	**Pn**	**12 44 51.2**	**-0.5**
ATKA				S	**Sn**	**12 45 05.8**	**-0.7**
AMKA	**Amchitka**	**3.25**	**258**	P	**Pn**	**12 45 22.8**	**+1.5**
SVW2	**Sparrevohn**	**14.14**	**43**	*e*P	**Pn**	**12 47 52.1**	**+4.5**
IMA2	**Indian Mountai**	**17.76**	**30**	*e*P	**Pn**	**12 48 34.6**	**+2.0**
MCK	**McKinley**	**18.12**	**40**	*e*P	**P**	**12 48 36.0**	**+0.1**
BILL	**Bilibino**	**18.16**	**338**	*e*P	**P**	**12 48 37.5**	**+1.2**
	8.1nm,0.7s						
INK	**Inuvik**	**25.68**	**35**	P	**P**	**12 49 50.7**	**-1.5**
	0.3nm,0.3s,mb3.2,baz=217,slow=9.6,SNR=4.0						
INK	**Inuvik**	**25.68**	**35**	P	**P**	**12 49 50.7**	**-1.5**
YKA	**Yellowknife Ar**	**33.25**	**48**	P	**P**	**12 50 57.8**	**-1.4**
	0.3nm,0.4s,mb3.5,baz=282,slow=9.0,SNR=16						
YKA				PcP	PcP	12 53 38.5	-0.7
	0.1nm,0.4s,baz=288,slow=3.2,SNR=4.7						
YKA	**Yellowknife Ar**	**33.25**	**48**	P	**P**	**12 50 57.9**	**-1.4**
YKA				PcP	PcP	12 53 38.5	-0.7
MJAR	**Matsushiro Arr**	**35.85**	**263**	P	**P**	**12 51 21.2**	**-0.5**
	1.6nm,0.6s,mb4.1,baz=49,slow=7.2,SNR=6.5						
NVAR	**Mina Array Bea**	**41.51**	**86**	P	**P**	**12 52 10.1**	**+1.2**
	0.5nm,0.4s,mb3.6,baz=298,slow=8.0,SNR=6.5						
PDAR	**Pinedale Array**	**44.20**	**75**	P	**P**	**12 52 31.1**	**+0.5**
	1.5nm,0.6s,mb3.9,baz=307,slow=3.1,SNR=25						
PV10	**Paradox Valley**	**47.20**	**79**	*e*P	**P**	**12 52 55.3**	**+1.1**
PV01	**Paradox Valley**	**47.64**	**79**	*e*P	**P**	**12 52 57.9**	**+0.3**
SONM	**Songino Array**	**48.04**	**298**	P	**P**	**12 53 00.1**	**-0.6**
	0.4nm,0.6s,mb3.4,baz=41,slow=9.8,SNR=3.0						
TXAR	**Lajitas Array**	**56.60**	**84**	P	**P**	**12 54 04.3**	**+0.4**
	0.9nm,0.5s,mb4.1,baz=298,slow=6.0,SNR=24						
MKAR	**Makanchi Array**	**61.06**	**310**	P	**P**	**12 54 32.4**	**-2.5**
	0.2nm,0.3s,mb3.6,baz=51,slow=6.7,SNR=7.3						
FINES	**FINESS Array B**	**65.42**	**349**	P	**P**	**12 55 03.0**	**-0.6**
	3.5nm,1.0s,mb4.1,baz=38,slow=3.0,SNR=2.5						

WRA	**Warramunga Arr**	**83.97**	**226**	P	**P**	**12 56 50.0**	**-0.6**
	0.3nm,0.5s,mb3.4,baz=36,slow=6.2,SNR=11						
ASAR	**Alice Springs**	**87.42**	**225**	P	**P**	**12 57 07.9**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=23,slow=5.6,SNR=19						

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*GII **11** 12:57:23.9±0.5, 3376N×3586E, h0km±25km, ML2.4/3*
*ISCJB **11** 12:57:24.2±0.6, 3381N±002×3580E±006, h2km±8km, Error ellipse: s-maj=8.0km s-min=3.9km az=11.9*
*CSEM **11** 12:57:24.9, 3380N×3568E, h7km, ML3.2, After GRAL*
*GRAL **11** 12:57:24.9±2.3, 3380N×3568E, h8km±18km, MD3.2*
ISC 11 12:57:24.7±0.6, 3382N±002×3580E±006, h3km±7km, n12, σ0§78/22, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**305**	*i* Pg	**Pg**	**12 57 27.4**	**-0.1**
BHL				*i* Sg	**Sg**	**12 57 29.5**	**0.0**
RCY	**Rachaya**	**0.34**	**177**	*i* Pg	**Pg**	**12 57 30.0**	**-1.1**
RCY				*i* Sg	**Sg**	**12 57 35.2**	**-0.2**
HWQ	**Hawqa**	**0.47**	**15**	*i* Pg	**Pg**	**12 57 34.0**	**+0.2**
HWQ				*i* Sg	**Sg**	**12 57 40.6**	**+0.7**
MATL	**Matirih**	**0.51**	**230**	*i* Pg	**Pg**	**12 57 33.7**	**-0.8**
HRI	**Mount Hermon**	**0.56**	**186**	Pg	**Pg**	**12 57 34.5**	**-0.8**
HRI				Sg	**Sg**	**12 57 43.2**	**+0.7**
KSDI	**Kefar Szold**	**0.64**	**191**	Pg	**Pg**	**12 57 36.7**	**-0.2**
KSDI				Sg	**Sg**	**12 57 45.6**	**+0.5**
FKH	**Fakeheh**	**0.65**	**50**	*i* Pg	**Pg**	**12 57 37.7**	**+0.6**
FKH				*i* Sg	**Sg**	**12 57 49.9**	**+4.4**
KSHT	**Keshet**	**0.84**	**179**	Pg	**Pg**	**12 57 39.9**	**-0.8**
KSHT				Sg	**Sg**	**12 57 52.2**	**+0.7**
MMA0	**Mount Meron ar**	**0.87**	**203**	Pg	**Pg**	**12 57 40.3**	**-1.0**
MMA0				Sg	**Sg**	**12 57 54.0**	**+1.5**
HNTI	**Hanita**	**0.90**	**216**	Pg	**Pg**	**12 57 41.6**	**-0.3**
HNTI				Sg	**Sg**	**12 57 54.7**	**+1.1**
MMLI	**Mount Malkishu**	**1.41**	**193**	Pn	**Pn**	**12 57 50.0**	**-1.3**
SLTI	**Sal'it**	**1.70**	**202**	Pn	**Pn**	**12 57 54.9**	**-0.3**
SLTI				Sn	**Sn**	**12 58 18.3**	**+1.0**

IDC 11 13:08:11.5±10.0, 2178N×14296E, h175km±104km, mb3.1/7, mb1 3.3/7, mb1mx3.3/21, mbtmp3.1/7, Error ellipse: s-maj=45.1km s-min=16.0km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.32**	**324**	P	P	13 12 34.6	+0.5
	1.3nm,0.8s,baz=135,slow=11,SNR=4.9						
SONM	**Songino Array**	**39.14**	**321**	P	P	13 15 21.6	-0.4
	0.7nm,0.5s,baz=129,slow=7.8,SNR=7.6						
WRA	**Warramunga Arr**	**42.31**	**192**	P	P	13 15 47.9	-0.1
	1.2nm,0.9s,baz=17,slow=9.3,SNR=7.1						
ASAR	**Alice Springs**	**46.02**	**192**	P	P	13 16 17.9	+0.4
	0.4nm,0.7s,baz=12,slow=8.6,SNR=6.9						
ZAL	**Zalesovo**	**54.03**	**322**	P	P	13 17 17.3	-0.4
	0.6nm,0.3s,baz=59,slow=14,SNR=3.5						
MKAR	**Makanchi Array**	**54.49**	**313**	P	P	13 17 21.6	+0.5
	0.2nm,0.5s,baz=93,slow=8.3,SNR=4.9						
YKA	**Yellowknife Ar**	**76.48**	**28**	P	P	13 19 41.9	-0.2
	0.6nm,0.4s,baz=292,slow=5.9,SNR=19						

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*ISCJB **11** 13:21:07.6±0.4, 3179N±003×11626W±002, h8km, mb3.0/1, MS3.6/3, Error ellipse: s-maj=4.3km s-min=3.0km az=166.0*
*NEIC **11** 13:21:08.4, 3179N×11625W, h6km, ML4.0(PAS), ML4.2(ECX), After ECX.*
NEIC Felt [II] at Chula Vista; felt at El Cajon, Jamul, Orange, San Juan Bautista and Spring Valley, California.
*ECX **11** 13:21:08.3±0.7, 3179N×11626W, h8km±24km, MD4.1, ML4.2*
*IDC **11** 13:21:09.6±2.8, 3200N×11606W, h0km, mb3.0/1, mb1 3.8/5, mb1mx3.6/22, mbtmp3.4/5, ML3.6/4, MS3.6/5, Ms1 3.6/5, ms1mx3.4/11, Error ellipse: s-maj=41.2km s-min=10.6km az=49.0*
ISC 11 13:21:09.2±0.4, 3180N±003×11630W±003, h8km, n47, σ1§46/57, mb3.0/1, MS3.6/3, 5C-7D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECNX	**Esteban Cantu**	**0.29**	**240**⇑	*e*P	**Pg**	**13 21 14.1**	**-0.8**
ECNX				⇓*e*P		13 21 14.8	
ECNX				*e*S	**Sg**	**13 21 19.6**	**+0.8**
CCX	**Cicese**	**0.32**	**282**⇓	*e*P	**Pg**	**13 21 14.8**	**-0.6**
ENX	**Ensenada**	**0.32**	**285**⇓	*e*P	**Pg**	**13 21 14.8**	**-0.6**
ENX				*e*S	**Sg**	**13 21 19.6**	**-0.1**
ENX				⇓*e*		13 21 21.3	
	comp=N,23µm,1.0s						
RDX	**Rancho Dowling**	**0.33**	**66**⇑	*i* P	**Pg**	**13 21 14.4**	**-1.2**
RDX				*e*S	**Sg**	**13 21 18.9**	**-1.1**
RDX				⇓*e*		13 21 21.1	
	comp=N,43µm,0.7s						
RDX	**Rancho Dowling**	**0.33**	**66**⇑	*i* P	**Pg**	**13 21 14.4**	**-1.2**
RDX				*e*S	**Sg**	**13 21 18.9**	**-1.1**
PBX	**Punta Banda**	**0.36**	**261**⇑	*e*P	**Pg**	**13 21 15.8**	**-0.5**
PBX				*e*S	**Sg**	**13 21 21.4**	**+0.2**
PBX				⇓*e*		13 21 22.6	
	comp=N,22µm,0.6s						
PBX				⇑*e*		13 21 22.8	
	comp=E,26µm,0.8s						
CBX	**Cerro Bola**	**0.60**	**329**	*e*P	**Pg**	**13 21 19.3**	**-1.4**
CBX				*e*S	**Sg**	**13 21 28.1**	**-0.4**
RMX	**La Rumorosa**	**0.82**	**13**⇓	*e*P	**Pg**	**13 21 23.4**	**-1.5**
RMX				*e*S	**Sg**	**13 21 34.1**	**-1.5**
SPX	**San Pedro Mart**	**1.04**	**136**	*e*P	**Pg**	**13 21 26.2**	**-3.0**
SPX				*e*S	**Sg**	**13 21 39.6**	**-3.1**
CPBX	**Cerro Prieto**	**1.05**	**54**	*e*P	**Pg**	**13 21 27.5**	**-1.8**
PFO	**Pinyon Flat Ob**	**1.81**	**356**	Pg	**Pg**	**13 21 38.9**	**-5.0**
	comp=E,23nm,0.3s,baz=172,slow=16,SNR=119						
PFO				Lg		13 22 02.6	
	comp=E,50nm,0.3s,baz=257,slow=18,SNR=24						
PFO	**Pinyon Flat Ob**	**1.81**	**356**	*e*Pn	**Pn**	**13 21 38.8**	**-1.9**
PFO				*e*Sn	**Sn**	**13 22 00.4**	**-3.3**
DAC	**Darwin (Calif)**	**4.59**	**347**	*e*Pn	**Pn**	**13 22 18.8**	**-0.1**
DAC				*e*Sg	**Sg**	**13 23 34.3**	**-2.3**
TUC	**Tucson**	**4.71**	**82**	*e*Pn	**Pn**	**13 22 15.2**	**-5.4**
PTRM	**Twissleman Ran**	**5.04**	**321**	*e*Pn	**Pn**	**13 22 22.6**	**-2.5**
WUAZ	**Wupatki**	**5.53**	**47**	*e*Pn	**Pn**	**13 22 30.9**	**-1.0**
MTUM	**Tungsten Hills**	**5.84**	**342**	*e*Pn	**Pn**	**13 22 37.1**	**+1.0**
MTUM				*e*Pg	**Pg**	**13 22 55.2**	**-5.9**
MTUM				*e*Sg	**Sg**	**13 24 07.8**	**-9.0**
LRV	**Little Rabbit**	**6.05**	**321**	Pn	**Pn**	**13 22 41.3**	**+2.4**
CCUT	**Cedar City**	**6.22**	**22**	*e*Pn	**Pn**	**13 22 42.2**	**+0.8**
TPH	**Tonopah**	**6.30**	**353**	Pn	**Pn**	**13 22 51.3**	**+8.8**
TPH				*e*Sg	**Sg**	**13 24 26.6**	**-5.0**
ARUT	**Antelope Range**	**6.42**	**21**	*e*Pn	**Pn**	**13 22 44.9**	**+0.8**
NVAR	**Mina Array Bea**	**6.81**	**347**	Pn	**Pn**	**13 22 50.4**	**+1.0**
	comp=E,0.2nm,0.3s,baz=165,slow=15,SNR=4.5						
NVAR				Lg		13 24 42.7	
	comp=E,0.1nm,0.3s,baz=208,slow=18,SNR=2.1						
NVAR	**Mina Array Bea**	**6.81**	**347**	Pn	**Pn**	**13 22 50.4**	**+1.0**
NVAR				Lg		13 24 42.7	
MSU	**Marysvale**	**7.50**	**26**	*e*Pn	**Pn**	**13 23 01.1**	**+2.2**
MVCO	**Mesa Verde**	**8.40**	**48**	*e*Pn	**Pn**	**13 23 13.4**	**+2.2**
	comp=E,24nm,0.6s						
TMUT	**Trail Mountain**	**8.55**	**28**	Pn	**Pn**	**13 23 14.8**	**+1.5**
ANMO	**Albuquerque**	**8.81**	**66**	Pn	**Pn**	**13 23 16.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=274,slow=11,SNR=6.2						
ANMO				LR	LR	13 26 55.6	
	comp=E,212nm,21.9s,baz=332,slow=40						
ANMO	**Albuquerque**	**8.81**	**66**	*e*Pn	**Pn**	**13 23 15.7**	**-1.1**
	comp=E,4.7nm,0.8s						
DUG	**Dugway**	**8.84**	**18**	Pn	**Pn**	**13 23 20.1**	**+2.9**
	comp=E,10.0nm,1.1s						
PV10	**Paradox Valley**	**8.86**	**40**	*e*Pn	**Pn**	**13 23 19.2**	**+1.8**
PV01	**Paradox Valley**	**8.95**	**43**	*e*Pn	**Pn**	**13 23 21.0**	**+2.3**
MNTX	**Cornudas Mount**	**9.30**	**88**	*e*Pn	**Pn**	**13 23 22.8**	**-0.8**
LPIG	**La Paz**	**9.32**	**144**	LR	LR	13 26 54.9	
	comp=E,190nm,19.5s,baz=130,slow=37						
DAU	**Daniels Canyon**	**9.51**	**24**	Pn	**Pn**	**13 23 31.7**	**+5.2**
HWUT	**Hardware Ranch**	**10.50**	**20**	*e*Pn	**Pn**	**13 23 43.5**	**+3.5**
	comp=E,7.1nm,0.9s						
SDCO	**Great Sand Dun**	**10.68**	**53**	*e*Pn	**Pn**	**13 23 43.5**	**+1.1**
	comp=E,6.5nm,0.9s						
LTX	**Lajitas**	**11.16**	**99**	*e*Pn	**Pn**	**13 23 48.5**	**-0.6**
TXAR	**Lajitas Array**	**11.16**	**99**	Pn	**Pn**	**13 23 49.5**	**+0.4**
	comp=E,1.0nm,0.3s,baz=275,slow=13,SNR=69						
TXAR				Lg		13 26 56.0	
	comp=E,0.0nm,0.3s,baz=270,slow=24,SNR=3.0						
ISCO	**Idaho Springs**	**11.78**	**44**	Pn	**Pn**	**13 23 57.0**	**-0.6**
	comp=E,5.5nm,1.1s						
BW06	**Boulder Array**	**12.19**	**24**	*e*P	**Pn**	**13 24 06.3**	**+3.2**
	comp=E,3.7nm,1.2s						
PDAR	**Pinedale Array**	**12.19**	**24**	Pn	**Pn**	**13 24 05.0**	**+2.0**
	comp=E,0.0nm,0.3s,baz=226,slow=10.0,SNR=8.2						
TPAW	**Teton Pass**	**12.41**	**18**	*e*Pn	**Pn**	**13 24 08.7**	**+2.5**
	comp=E,16nm,1.4s						
SNOW	**Snow King Moun**	**12.44**	**19**	*e*Pn	**Pn**	**13 24 08.1**	**+1.6**
	comp=E,7.7nm,0.4s						
MOOW	**Moose Ponds**	**12.71**	**19**	*e*Pn	**Pn**	**13 24 15.3**	**+5.1**
	comp=E,22nm,2.1s						
ULM	**Lac du Bonnet**	**23.89**	**34**	LR	LR	13 35 55.0	
	comp=E,189nm,21.3s,MS3.5,baz=332,slow=38						
TKL	**Tuckaleechee C**	**27.26**	**73**	LR	LR	13 38 22.5	
	comp=E,234nm,19.1s,MS3.8,baz=343,slow=38						
YKA	**Yellowknife Ar**	**30.73**	**2**	P	**P**	**13 27 24.6**	**-0.1**
	comp=E,0.2nm,0.8s,mb3.0,baz=182,slow=8.6,SNR=3.4						
YKA				LR	LR	13 39 57.3	
	comp=E,154nm,21.5s,MS3.6,baz=210,slow=37						

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*NIED **11** 13:33:00, 4670N×15300E, h32km, Mw4.4 Best double couple: M0:3.99000×10^15 NP1:φ:133.00000°, δ:88.00000°, λ:-37.00000°. NP2:φ:224.00000°, δ:53.00000°, λ:-178.00000°.*
*IDC **11** 13:33:22.7±0.5, 4684N×15266E, h0km, mb4.5/20, mb1 4.7/21, mb1mx4.6/25, mbtmp4.5/21, ML4.0/1, MS3.9/7, Ms1 3.9/7, ms1mx3.6/25, Error ellipse: s-maj=16.9km s-min=13.4km az=146.0*
*BJI **11** 13:33:23.2, 4686N×15309E, h28km, mB4.9, mb4.7, Ms4.4, Msz4.2*
*SZGRF **11** 13:33:23.9, 4603N×15374E, h33km, mb4.9, Kuril Islands, Russia*
*NEIC **11** 13:33:24.3±0.3, 4677N×15264E, h10km, mb4.8/33, Error ellipse: s-maj=8.3km s-min=5.5km az=148.0*
*ISCJB **11** 13:33:27.5±0.6, 4662N±004×15282E±005, h50km±5km, mb4.8/80, MS4.0/13, Error ellipse: s-maj=7.3km s-min=4.3km az=94.8*
*MOS **11** 13:33:27.7±1.0, 4676N×15264E, h46km, mb4.8/31, Error ellipse: s-maj=9.8km s-min=5.9km az=100.7*
*JMA **11** 13:33:28.4±0.8, 4668N×15299E, h30km, M5.2*
*SKHL **11** 13:33:28.9±1.3, 4660N×153.10E, h58km±2km, mb5.3/4, msh5.2/1*
ISC 11 13:33:29.9±0.5, 4675N±004×15272E±006, h53km±4km, h11km±8.5km: pP-P, n249, σ1§23/268, mb4.8/80, MS4.0/13, 16C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.71**	**248**⇓	*i* PN	**Pn**	**13 34 23.8**	**-0.8**
KUR				*e*S	**Sn**	**13 35 05.5**	**-1.5**
KUR				pmax	pmax		
	comp=N,290nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,2µm,0.5s						
KUR				smax			
	comp=E,720nm,0.5s						
KUR				smax			
	comp=N,4µm,1.0s						
KUR				smax			
	comp=E,1µm,1.0s						
KUR	**Kuril'sk**	**3.71**	**248**	*i* P	**Pn**	**13 34 23.8**	**-0.8**
KUR				AMB	AMB	13 34 30.5	
	comp=E,290nm,0.5s						
KUR				AMB	AMB	13 34 30.5	
	comp=E,150nm,0.5s						
KUR				AMB	AMB	13 34 30.5	
	comp=E,380nm,0.5s						
KUR				*e*S	**Sn**	**13 35 05.5**	**-1.5**
KUR				A		13 35 18.0	
	comp=E,2µm,0.5s						
KUR				A		13 35 18.0	
	comp=E,720nm,0.5s						
KUR				A		13 35 25.4	
	comp=E,4µm,1.0s						
KUR				A		13 35 25.4	
	comp=E,1µm,1.0s						
SKR	**Severo-Kuril's**	**4.54**	**28**	*e*P	**Pn**	**13 34 35.0**	**-1.0**
SKR				AMB	AMB	13 34 36.1	
	comp=E,50nm,0.4s						
SKR				AMB	AMB	13 34 36.1	
	comp=E,60nm,0.4s						
SKR				*i* S	**Sn**	**13 35 23.9**	**-3.5**
SKR				A		13 35 38.0	
	comp=E,1µm,2.0s						
SKR				A		13 35 40.5	
	comp=E,420nm,0.5s						
SKR				A		13 35 40.5	
	comp=E,430nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**243**⇑	*i* PN	**Pn**	**13 34 52.4**	**+2.7**
YUK				*e*S	**Sn**	**13 35 57.0**	**+4.9**
YUK				pmax	pmax		
	comp=E,230nm,0.3s						
YUK				pmax	pmax		
	comp=Z,770nm,0.3s						
YUK				pmax	pmax		
	comp=N,340nm,0.2s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,2µm,0.6s						
YUK				smax			
	comp=N,5µm,0.9s						
YUK				smax			
	comp=E,6µm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**243**	*i* P	**Pn**	**13 34 52.4**	**+2.7**
YUK				AMB	AMB	13 34 53.8	
	comp=E,340nm,0.3s						
YUK				AMB	AMB	13 34 53.8	
	comp=E,230nm,0.3s						
YUK				AMB	AMB	13 34 53.8	
	comp=E,770nm,0.3s						
YUK				*e*S	**Sn**	**13 35 57.0**	**+4.9**
YUK				A		13

ASAJ Asahikawa 7.59 253 Pn **Pn 13 35 22.2 +4.4**
comp=Z,8.0nm,0.3s,baz=77,slow=13,SNR=72
ASAJ LR LR 13 38 07.8
comp=Z,320nm,21.6s,baz=354,slow=38
ASAJ Asahikawa 7.59 253 P **Pn 13 35 22.1 +4.2**
ASAJ Asahikawa 7.59 253 PN **Pn 13 35 22.3 +4.4**
ASAJ pmax pmax
comp=Z,8.0nm,0.3s
ASAJ MLR MLR
comp=Z,320nm,21.6s
JKK2 Kamakawa 2 7.59 251 P **Pn 13 35 21.6 +3.7**
JWK2 Keihoku 7.67 263 P **Pn 13 35 25.6 +6.7**
JCH Churui 7.84 242 P **Pn 13 35 21.8 +0.5**
JCH *e*S **Sn 13 36 46.1 -2.6**
JFR Furan 8.03 247 P **Pn 13 35 26.3 +2.5**
JAB Ashibetsu 8.10 250 P **Pn 13 35 28.3 +3.5**
ERM Erimo 8.32 239 *e*PN **Pn 13 35 28.7 +0.8**
ERM Erimo 8.32 239 *e*Pn **Pn 13 35 28.4 +0.6**
comp=Z,150nm,0.5s
JEM Erimo 8.32 239 P **Pn 13 35 29.1 +1.2**
JBT2 Biratori 2 8.37 245 P **Pn 13 35 30.0 +1.5**
JNBK Urakawa-nobuka 8.40 242 P **Pn 13 35 28.8 -0.2**
JNBK *e*S **Sn 13 36 58.8 -3.6**
JEW Eniwo 8.91 248 P **Pn 13 35 38.1 +2.1**
OKH Okha 9.26 321 *e*PN **Pn 13 35 41.8 +1.1**
OKH *e*S **Sn 13 37 30.2 +6.8**
OKH MLR MLR
comp=Z,1μm,8.0s
JNB Noboribetsu 9.37 247 P **Pn 13 35 42.4 +0.3**
JNB *e*S **Sn 13 37 23.7 -2.3**
JKB Kayabe 9.68 244 P **Pn 13 35 45.8 -0.7**
JKB *e*S **Sn 13 37 29.1 -4.6**
JSH Shimam 9.91 250 P **Pn 13 35 51.3 +1.7**
JOT Ohata 9.96 242 P **Pn 13 35 48.8 -1.5**
JYM2 Yakumo 2 9.97 247 P **Pn 13 35 50.7 +0.3**
JSR Shiriuchi 10.26 244 P **Pn 13 35 53.4 -1.0**
JTM Tenmabayashi 10.32 239 P **Pn 13 35 53.6 -1.5**
JTM *e*S **Sn 13 37 41.1 -8.2**
JANG Nango 10.32 236 P **Pn 13 35 52.6 -2.7**
JANG *e*S **Sn 13 37 41.5 -8.0**
JTH Tanohata 10.43 233 P **Pn 13 35 53.7 -2.9**
JTH *e*S **Sn 13 37 39.8 -12**
JOSM Okushiri--Mats 10.56 249 P **Pn 13 35 58.8 +0.4**
JOM Ohasama 11.07 233 P **Pn 13 36 02.9 -2.5**
OFUJ Ofunato 11.14 231 P **Pn 13 36 03.8 -2.7**
JRG Rokugo 11.48 235 *e*S **Sn 13 38 08.2 -10**
JIO Ouri 11.78 229 *e*S **Sn 13 38 13.3 -12**
JMM Marumori 12.51 229 P **Pn 13 36 24.7 -0.3**
JMM *e*S **Sn 13 38 31.0 -12**
JYA Atsumi 12.56 234 P **Pn 13 36 24.0 -1.8**
JFK Kawauchi 12.85 227 *e*S **Sn 13 38 40.2 -11**
MA2 Magadan 12.90 356 *c i*PN **Pn 13 36 31.6 +1.1**
MA2 S **Sn 13 38 58.8 +6.3**
MA2 pmax pmax
comp=N,20nm,0.5s
MA2 pmax pmax
comp=Z,40nm,0.5s
MAJO Matsushiro 14.87 232 *e*P **Pn 13 36 54.7 -2.1**
MAJO pmax pmax
comp=Z,17nm,0.6s
MAJO Matsushiro 14.87 232 *e*Pn **Pn 13 36 54.7 -2.1**
comp=Z,17nm,0.6s
MAJO *e* 13 37 03.7
MAT Matsushiro 14.87 232 P **Pn 13 36 54.9 -1.9**
MAT Matsushiro 14.87 232 P **Pn 13 36 52.5 -4.3**
MJAR Matsushiro Arr 14.87 232 Pn **Pn 13 36 54.7 -2.1**
comp=Z,0.6nm,0.3s,baz=24,slow=14,SNR=10
MJAR Matsushiro Arr 14.87 232 P **Pn 13 36 54.7 -2.1**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
VLA Vladivostok 15.18 264 *e*P **Pn 13 37 02.5 +1.6**
VLA pmax pmax
comp=Z,28nm,0.8s
SEY Seymchan 16.22 359 *e*P **Pn 13 37 17.0 +2.8**
MDJ Mudanjiang 16.30 271 P **Pn 13 37 16.2 +1.1**
MDJ AP pP 13 37 21.6 -7.4
MDJ XP sP 13 37 23.1 -13
MDJ S **S 13 40 20.7 -4.4**
MDJ PCP PcP 13 42 06.5 +0.3
MDJ AMB AMB
comp=Z,10.0nm,0.9s
MDJ AMB AMB
comp=Z,98nm,4.6s
MDJ LR LR
comp=N,90nm,20.5s
MDJ LR LR
comp=E,124nm,21.7s
MDJ LR LR
comp=Z,161nm,25.4s
CN2 Changchun 19.38 271 *e*P **Pn 13 37 51.2 -1.6**
CN2 *e*AP pP 13 37 56.6 -6.6
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,280nm,15.0s
CN2 LR LR
comp=E,440nm,15.0s
CN2 LR LR
comp=Z,320nm,15.0s
CLNS Chul'man 19.82 311 *e*P **Pn 13 37 51.0 -7.0**
CLNS *e*S **S 13 41 34.7 -1.7**
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=N,2.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=E,12nm,1.0s
CLNS smax
comp=N,6.0nm,0.9s
CLNS smax
comp=Z,4.0nm,0.9s
CLNS MLR MLR
comp=Z,200nm,11.0s
CLNS MLR MLR
comp=N,100nm,12.0s
CLNS MLR MLR
comp=E,2μm,14.0s
YAK Yakutsk 20.18 328 *e*P **P 13 38 01.1 +1.1**
YAK *e* 13 38 18.1
YAK *e*SS 13 42 27.2
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=Z,19nm,0.7s
YAK pmax pmax
comp=N,38nm,1.4s
YAK pmax pmax
comp=E,49nm,1.6s
YAK MLR MLR
comp=Z,90nm,8.0s
YAK MLR MLR
comp=N,278nm,23.0s
YAK Yakutsk 20.18 328 *e*P **P 13 38 00.7 +0.7**
comp=N,47nm,0.6s
KSRS Korea Array 20.54 252 P **P 13 38 04.6 +0.7**
comp=N,12nm,0.6s,baz=56,slow=10,SNR=27
KSRS PcP PcP 13 42 13.7 +0.3
comp=N,1.9nm,0.7s,baz=319,slow=1.1,SNR=8.4
KSRS LR LR 13 44 56.7
comp=N,163nm,20.1s,MS3.4,baz=349,slow=34
SNY Shenyang 21.37 267 ⇑P **P 13 38 14.6 +1.8**
SNY AP 13 38 18.7
SNY XP sP 13 38 21.9 -10
SNY PP 13 38 40.3
SNY S **S 13 42 11.6 +4.6**
SNY AMB AMB
comp=Z,18nm,0.7s,mb4.5
SNY AMB AMB
comp=Z,244nm,5.9s
SNY LR LR
comp=E,273nm,18.2s
SNY LR LR
comp=Z,276nm,21.4s,MS3.6
JNU Nakatsue 21.49 238 P **P 13 38 16.0 +1.9**
comp=Z,19nm,0.6s,mb4.7,baz=282,slow=16,SNR=14
JNU Nakatsue 21.49 238 P **P 13 38 15.6 +1.5**
HIA Hailar 22.11 289 *e*P **P 13 38 19.8 -0.9**
HIA Hailar 22.11 289 *e*P **P 13 38 16.8 -3.9**
comp=Z,4.5nm,0.5s,mb4.2

BILL Bilibino 22.46 13 *e*P **P 13 38 25.2 +0.8**
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.2
BILL Bilibino 22.46 13 *e*P **P 13 38 24.7 +0.4**
comp=Z,3.3nm,0.5s,mb4.0
BJI Beijing 27.21 269 P **P 13 39 09.4 +0.8**
BJI AMB AMB
comp=Z,4.0nm,0.5s,mb4.2
BJI LR LR
comp=N,268nm,18.1s,MS4.1
BJI LR LR
comp=E,356nm,17.7s,MS4.1
BJI LR LR
comp=Z,136nm,21.3s,MS3.5
BJT Baijiatuau 27.22 269 *e*P **P 13 39 09.6 +0.9**
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 27.22 269 *e*P **P 13 39 09.6 +0.8**
comp=Z,16nm,0.8s,mb4.6
HHC Hu-ho-hao-te 30.02 274 *e*P **P 13 39 33.7 0.0**
HHC PP PP 13 40 30.8 -11
HHC PCP PcP 13 42 37.5 +2.8
HHC S **S 13 44 28.1 +0.1**
HHC SS SS 13 46 05.6 -32
HHC SCS ScS 13 50 10.6 +2.8
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,207nm,6.2s
HHC LR LR
comp=N,296nm,14.3s,MS4.2
HHC LR LR
comp=E,361nm,16.1s,MS4.2
HHC LR LR
comp=Z,272nm,16.1s,MS4.0
SONM Songino Array 31.08 289 P **P 13 39 42.7 -0.2**
comp=Z,2.2nm,0.5s,mb4.3,baz=88,slow=7.8,SNR=9.8
SONM PcP PcP 13 42 37.5 +0.1
comp=Z,0.8nm,0.7s,baz=74,slow=4.0,SNR=3.7
SONM LR LR 13 53 17.7
comp=Z,174nm,19.7s,MS3.7,baz=40,slow=38
SONM Songino Array 31.08 289 P **P 13 39 42.7 -0.3**
SONM 13 42 37.5
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM MLR MLR
comp=Z,174nm,19.7s
ZAK Zakamensk 32.44 295 *e*P **P 13 39 50.4 -4.5**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
WHN Wuhan 33.67 255 *e*P **P 13 40 06.4 +0.8**
IMA2 Indian Mountai 33.97 36 *e*P **P 13 40 07.7 -0.5**
XAN Xi'an 35.25 265 P **P 13 40 20.0 +0.7**
XAN AMB AMB
comp=Z,25nm,0.8s,mb5.2
COLA College 36.31 38 *e*P **P 13 40 28.0 -0.3**
COLA College 36.31 38 P **P 13 40 28.5 +0.1**
comp=Z,6.8nm,0.6s,mb4.8
LZH Lanzhou 37.62 272 *e*P **P 13 40 38.5 -1.0**
LZH *e*PP PP 13 42 07.2 +1.1
LZH AMB AMB
comp=Z,21nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,56nm,5.6s
LZH LR LR
comp=E,416nm,13.4s
LZH LR LR
comp=Z,595nm,17.8s,MS4.4
LZH Lanzhou 37.62 272 *e*P **P 13 40 38.5 -1.0**
LZH pP pP 13 40 41.7 -11
LZH sP sP 13 40 43.2 -16
LZH *e*PP PP 13 42 07.2 +1.1
EGAK Eagle 39.17 38 *e*P **P 13 40 51.2 -1.3**
comp=Z,9.7nm,0.8s,mb4.6
CD2 Chengdu 40.61 265 P **P 13 41 05.0 +0.5**
CD2 AP pP 13 41 09.5 -8.8
CD2 XP sP 13 41 14.0 -10
CD2 PP PP 13 42 45.0 +6.2
CD2 S **S 13 47 14.4 +4.1**
CD2 XS sS 13 47 28.2 -5.4
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,250nm,4.6s
CD2 LR LR
comp=N,410nm,5.5s
CD2 LR LR
comp=E,360nm,5.1s
CD2 LR LR
comp=Z,310nm,5.3s
GYA Guiyang 41.45 257 ⇑*i*P **P 13 41 12.4 +1.0**
GYA AP pP 13 41 16.8 -8.4
GYA XP sP 13 41 19.7 -12
GYA PP PP 13 42 50.4 +2.5
GYA PCP PcP 13 43 10.6 +2.2
GYA S **S 13 47 25.7 +2.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,70nm,4.5s
GYA LR LR
comp=N,340nm,15.6s,MS4.5
GYA LR LR
comp=E,380nm,15.8s,MS4.5
GYA LR LR
comp=Z,290nm,15.3s,MS4.3
INK Inuvik 41.80 32 P **P 13 41 14.0 -0.2**
comp=Z,6.8nm,0.7s,mb4.4,baz=279,slow=7.0,SNR=33
INK Inuvik 41.80 32 *e*P **P 13 41 14.4 +0.2**
comp=Z,192nm,0.8s,mb5.8
ZAL Zalesovo 42.41 306 P **P 13 41 17.4 -1.8**
comp=Z,2.5nm,0.4s,mb4.2,baz=66,slow=5.0,SNR=5.8
ZAL PcP PcP 13 43 11.6 0.0
comp=Z,2.7nm,0.4s,baz=38,slow=4.3,SNR=8.2
ZAL LR LR 14 00 26.5
comp=Z,177nm,19.8s,MS4.0,baz=191,slow=38
ZAL Zalesovo 42.41 306 P **P 13 41 17.4 -1.8**
ZAL 13 43 11.6
ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL MLR MLR
comp=Z,177nm,19.8s
ZAL Zalesovo 42.41 306 P **P 13 41 17.4 -1.8**
ZAL PcP PcP 13 43 11.6 0.0
ZAL LR LR 14 00 26.5
WMQ Urumqi 44.68 291 *e*P **P 13 41 38.2 +0.8**
WMQ LR LR
comp=N,138nm,19.0s,MS3.9
WMQ LR LR
comp=E,91nm,24.0s,MS3.9
WMQ LR LR
comp=Z,142nm,23.0s,MS3.8
KMI Kunming 44.98 259 P **P 13 41 40.1 +0.3**
KMI AP pP 13 41 47.7 -6.1
KMI XP sP 13 41 50.5 -9.4
KMI S **S 13 48 15.9 +1.5**
KMI SS SS 13 51 26.9 -11
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,93nm,4.9s
KMI LR LR
comp=Z,48nm,22.7s,MS3.4
KMI Kunming 44.98 259 P **P 13 41 40.1 +0.3**
KMI pP pP 13 41 47.7 -6.1
KMI sP sP 13 41 50.5 -9.4
KMI S **S 13 48 15.9 +1.5**
KMI SS SS 13 51 26.9 -11
MK31 Makanchi Array 46.70 297 *i*P **P 13 41 52.7 -0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
MK31 Makanchi Array 46.70 297 *e*P **P 13 41 51.8 -1.6**
MK31 *e*PcP PcP 13 43 26.3 +0.1
MKAR Makanchi Array 46.70 297 P **P 13 41 52.2 -1.2**
comp=Z,5.1nm,0.7s,mb4.6,baz=68,slow=7.8,SNR=47
MKAR PcP PcP 13 43 26.2 0.0
comp=Z,2.2nm,0.6s,baz=72,slow=2.4,SNR=7.9
MKAR LR LR 14 02 41.8
comp=Z,237nm,18.0s,MS4.2,baz=233,slow=38
MKAR Makanchi Array 46.70 297 *i*P **P 13 41 52.7 -0.7**
KURK Kurchatov 47.14 303 *e*P **P 13 41 55.5 -1.3**
KURK Kurchatov 47.14 303 *e*P **P 13 41 54.6 -2.2**
comp=Z,6.5nm,0.6s,mb4.7
LSA Lhasa 50.01 273 P **P 13 42 21.0 +2.2**
LSA Lhasa 50.01 273 *e*P **P 13 42 21.1 +2.3**

LSA pmax pmax
comp=Z,22nm,0.6s,mb5.4
LSA Lhasa 50.01 273 *e*P **P 13 42 21.1 +2.3**
comp=Z,22nm,0.6s,mb5.4
CHKZ Chkalovo 50.23 310 *e*P **P 13 42 18.9 -1.6**
CHKZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
CHKZ Chkalovo 50.23 310 *e*P **P 13 42 18.9 -1.6**
comp=Z,11nm,0.8s,mb4.9
BRVK Borovoye 50.69 309 *e*P **P 13 42 23.4 -0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 50.69 309 *e*P **P 13 42 23.4 -0.6**
comp=Z,3.3nm,0.6s,mb4.4
NANT Nan 50.70 255 ⇓P **P 13 42 23.5 -0.6**
comp=Z,112nm,1.0s,mb5.8
YKA Yellowknife Ar 51.09 37 P **P 13 42 26.6 -0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=295,slow=7.0,SNR=18
YKA PcP PcP 13 43 41.8 -0.4
comp=Z,1.4nm,0.4s,baz=303,slow=3.7,SNR=14
YKA Yellowknife Ar 51.09 37 P **P 13 42 26.6 -0.4**
YKA PcP PcP 13 43 41.8 -0.4
CHG Chiang Mai 51.86 256 ⇑P **P 13 42 34.5 +1.8**
comp=Z,18nm,0.8s,mb5.0
CHTO Chiang Mai 51.86 256 *e*P **P 13 42 33.4 +0.7**
CHTO pmax pmax
comp=Z,13nm,0.8s,mb4.9
CHTO Chiang Mai 51.86 256 *e*P **P 13 42 33.4 +0.6**
comp=Z,13nm,0.8s,mb4.9
SHL Shillong 52.10 268 *e*P **P 13 42 33.0 -1.5**
AAK Ala-Archa 53.59 296 *e*P **P 13 42 44.6 -1.0**
AAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
AAK Ala-Archa 53.59 296 *e*P **P 13 42 44.5 -1.0**
comp=Z,5.3nm,0.8s,mb4.5
JIRN Jiri 54.68 274 *e*P **P 13 42 55.3 +1.8**
comp=Z,25nm,0.2s
GUN Gumba 54.73 275 *e*P **P 13 42 55.3 +1.4**
comp=Z,22nm,0.3s,mb5.6
ARU Arti 54.83 317 *e*P **P 13 42 53.8 -0.8**
ARU pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KKN Kakani 55.22 275 *e*P **P 13 42 59.4 +2.0**
comp=Z,45nm,0.6s,mb5.7
PKI Pulchoki 55.27 275 *e*P **P 13 42 59.2 +1.5**
DMN Daman 55.45 275 *e*P **P 13 43 00.8 +1.7**
comp=Z,82nm,0.8s,mb5.8
GKN Gorkha 55.52 276 *e*P **P 13 43 00.9 +1.3**
comp=Z,76nm,0.7s,mb5.8
KOLN Koldanda 56.38 276 *e*P **P 13 43 07.2 +1.5**
EDM Edmonton 56.51 46 *e*P **P 13 43 05.9 -0.7**
KEV Kevo 57.26 340 *ep* **P 13 43 09.9 -2.0**
comp=Z,0.7nm,0.4s,mb4.0
KEV Kevo 57.26 340 *e*P **P 13 43 09.9 -2.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BOK Bokaro 57.38 271 *e*P **P 13 43 13.1 +0.3**
BOK AMb AMB 13 43 15.7
comp=Z,20nm,0.8s,mb5.2
ARCES ARCESS Array B 57.77 341 P **P 13 43 14.2 -1.3**
comp=Z,1.9nm,0.7s,mb4.2,baz=34,slow=7.8,SNR=12
ARCES PcP PcP 13 44 06.0 -1.7
comp=Z,2.8nm,0.7s,baz=44,slow=5.4,SNR=3.9
ARCES ARCESS Array B 57.77 341 P **P 13 43 14.2 -1.3**
ARCES 13 44 06.0
ARCES pmax pmax
comp=Z,2.0nm,0.7s
AB31 Akbulak array 58.22 310 *e*P **P 13 43 17.6 -1.1**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
NDI New Delhi 60.14 281 *e*P **P 13 43 32.3 +0.4**
NDI AMb AMB 13 43 33.3
comp=Z,14nm,0.7s,mb5.1
JOF Joensuu 61.22 334 *ep* **P 13 43 38.0 -1.3**
comp=Z,1.5nm,0.3s,mb4.6
JOF Joensuu 61.22 334 *e*P **P 13 43 38.0 -1.3**
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.7
HLID Hailey 61.73 56 *e*P **P 13 43 43.6 +0.9**
comp=Z,1.2nm,0.8s,mb4.1
NVAR Mina Array Bea 62.67 62 P **P 13 43 49.6 +0.6**
comp=Z,1.7nm,0.6s,mb4.3,baz=305,slow=6.5,SNR=13
VIS Vishakhapatnam 63.23 268 *e*P **P 13 43 53.2 +0.5**
AJM Ajmer 63.30 281 *e*P **P 13 43 53.7 +0.5**
AJM AMb AMB 13 43 55.2
comp=Z,11nm,0.5s,mb5.2
KAF Kangasniemi 63.33 335 *ep* **P 13 43 51.7 -1.7**
comp=Z,2.8nm,0.3s,mb4.9,baz=37,slow=6.2
KAF Kangasniemi 63.33 335 *e*P **P 13 43 51.7 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb4.9
BHPL Bhopal 63.55 276 *e*P **P 13 43 55.7 +0.9**
BHPL AMb AMB 13 43 56.9
comp=Z,25nm,0.6s,mb5.4
NGP Nagpur 63.84 274 *e*P **P 13 43 55.2 -1.6**
NGP AMb AMB 13 43 56.9
comp=Z,17nm,1.0s,mb5.0
FIA1 FINESS Array S 63.93 335 *e*P **P 13 43 56.1 -1.3**
FINES FINESS Array B 63.93 335 P **P 13 43 56.1 -1.2**
comp=Z,11nm,0.4s,mb5.2,baz=38,slow=7.2,SNR=98
FINES FINESS Array B 63.93 335 P **P 13 43 56.2 -1.1**
FINES pmax pmax
comp=Z,11nm,0.4s
BW06 Boulder Array 64.97 54 *e*P **P 13 44 04.3 +0.2**
comp=Z,3.4nm,0.8s,mb4.4
PDAR Pinedale Array 64.97 54 P **P 13 44 04.6 +0.5**
comp=Z,3.7nm,0.8s,mb4.5,baz=305,slow=1.8,SNR=33
AKL Akola 65.54 275 *e*P **P 13 44 06.3 -1.5**
AKL AMb AMB 13 44 10.1
comp=Z,13nm,0.8s,mb5.0
ULM Lac du Bonnet 66.70 41 P **P 13 44 14.7 -0.6**
comp=Z,2.1nm,0.6s,mb4.4,baz=335,slow=5.9,SNR=5.9
HYB Hyderabad 66.73 271 *i*P **P 13 44 16.0 +0.6**
NB2 NORSAR Subarra 68.14 341 P **P 13 44 23.5 -0.9**
comp=Z,14nm,0.6s,mb5.2,baz=27,slow=6.5
NOA NORSAR Array B 68.14 341 P **P 13 44 23.7 -0.7**
comp=Z,10nm,0.5s,mb5.1,baz=28,slow=6.3,SNR=31
NOA NORSAR Array B 68.14 341 P **P 13 44 23.7 -0.7**
NOA pmax pmax
comp=Z,10.0nm,0.5s
PV10 Paradox Valley 68.20 57 *e*P **P 13 44 26.2 +1.4**
WRAB Tennant Creek 68.41 199 *e*P **P 13 44 26.0 0.0**
WRAB pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
WRAB Tennant Creek 68.41 199 *e*P **P 13 44 26.0 0.0**
comp=Z,4.3nm,1.0s,mb4.4
WRA Warramunga Arr 68.42 199 P **P 13 44 26.4 +0.2**
comp=Z,3.0nm,0.8s,mb4.4,baz=18,slow=6.8,SNR=24
WRA Warramunga Arr 68.42 199 P **P 13 44 26.4 +0.3**
WRA pmax pmax
comp=Z,3.0nm,0.8s
MDRS Chennai 68.60 266 *e*P **P 13 44 27.7 +0.5**
MDRS AMb AMB 13 44 32.9
comp=Z,35nm,1.0s,mb5.2
POO Poona 69.19 275 *e*P **P 13 44 32.1 +1.2**
POO AMb AMB 13 44 33.5
comp=Z,13nm,0.3s,mb5.3
KAD Karad 69.81 274 *e*P **P 13 44 35.5 +0.8**
KAD AMb AMB 13 44 36.1
comp=Z,16nm,0.6s,mb5.1
KIV Kislovodsk 70.61 314 *e*P **P 13 44 41.7 +2.1**
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AKASG Malin Array Be 71.40 326 P **P 13 44 43.1 -1.3**
comp=Z,17nm,0.4s,mb5.3,baz=33,slow=6.2,SNR=36
AKASG Malin Array Be 71.40 326 *i*P **P 13 44 43.5 -0.9**
AKASG pmax pmax
comp=Z,17nm,0.4s
KIEV Kiev 71.41 326 *e*P **P 13 44 43.1 -1.4**
KIEV pmax pmax
comp=Z,19nm,0.8s,mb5.1
KIEV Kiev 71.41 326 *e*P **P 13 44 43.1 -1.4**
comp=Z,19nm,0.8s,mb5.1
ASAR Alice Springs 72.12 198 P **P 13 44 50.1 +1.4**
comp=Z,4.6nm,0.7s,mb4.5,baz=13,slow=5.5,SNR=87
ASAR Alice Springs 72.12 198 P **P 13 44 50.2 +1.5**
ASAR pmax pmax
comp=Z,5.0nm,0.7s
SCHQ Schefferville 73.42 23 P **P 13 44 55.9 -0.5**
comp=Z,3.0nm,0.7s,mb4.3,baz=354,slow=10,SNR=3.4
TRD Trivandrum 74.10 265 *ex* x 13 43 05.0
TRD AMb AMB 13 43 13.2
comp=Z,22nm,1.4s,mb4.9
SCIA State Center 74.11 45 *e*P **P 13 45 00.1 -0.4**
comp=Z,25nm,0.6s,mb5.3
OJC Ojcow 75.19 331 *e*P **P 13 45 06.4 -0.3**

STHS	**Stebnicka Huta**	**75.38**	**330**	*e*P	**P**	**13 45 08.6**	**+0.8**
STHS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
STHS	**Stebnicka Huta**	**75.38**	**330**	*e*P	**P**	**13 45 08.6**	**+0.8**
	comp=Z,8.6nm,0.8s,mb4.7						
KOLS	**Kolonicke sedl**	**75.43**	**329**	*e*P	**P**	**13 45 07.6**	**-0.5**
BURAR	**Bucovina Array**	**75.44**	**326** ⇑	*i*P	**P**	**13 45 08.3**	**+0.1**
CRVS	**Cervenica-Dubn**	**75.74**	**329**	*e*P	**P**	**13 45 09.7**	**-0.2**
UPC	**Upice**	**76.17**	**333**	*e*P	**P**	**13 45 12.1**	**-0.2**
DPC	**Dobruska-Polom**	**76.21**	**333**	*e*P	**P**	**13 45 12.5**	**0.0**
CFR	**Carcaliu**	**76.28**	**323** ⇓	*i*P	**P**	**13 45 13.0**	**0.0**
VRI	**Vrincioaia**	**76.29**	**324** ⇓	P	**P**	**13 45 13.2**	**+0.2**
VRI	**Vrincioaia**	**76.29**	**324** ⇓	*i*P	**P**	**13 45 13.1**	**+0.1**
MORC	**Moravsky Berou**	**76.32**	**332** ⇑	*i*P	**P**	**13 45 13.2**	**+0.1**
CLL	**Collm**	**76.36**	**335** ⇓	*i*P	**P**	**13 45 12.7**	**-0.7**
	comp=Z,21nm,1.0s,mb5.0						
CLL				*i*		13 45 18.5	
CLL	**Collm**	**76.36**	**335** ⇓	*i*P	**P**	**13 45 12.7**	**-0.7**
	comp=Z,21nm,1.0s,mb5.0						
CLL				*i* (sP)	sP	13 45 18.5	-16
KECS	**Kecovo**	**76.44**	**330**	*e*P	**P**	**13 45 13.5**	**-0.4**
KECS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
KECS	**Kecovo**	**76.44**	**330**	*e*P	**P**	**13 45 13.5**	**-0.4**
	comp=Z,4.9nm,1.1s,mb4.3						
MLR	**Muntele Rosu**	**76.91**	**325** ⇓	*i*P	**P**	**13 45 16.6**	**+0.1**
VYHS	**Vyhne**	**77.00**	**331**	*e*P	**P**	**13 45 16.8**	**-0.2**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
VYHS	**Vyhne**	**77.00**	**331**	*e*P	**P**	**13 45 16.8**	**-0.2**
	comp=Z,5.8nm,1.1s,mb4.4						
VRAC	**Vranov**	**77.03**	**332** ⇑	*i*P	**P**	**13 45 17.3**	**+0.1**
PRU	**Pruhonice**	**77.07**	**334**	*e*P	**P**	**13 45 17.2**	**-0.2**
NKC	**Novy Kostel**	**77.48**	**335**	*e*P	**P**	**13 45 18.4**	**-1.3**
TXAR	**Lajitas Array**	**77.73**	**60**	P	**P**	**13 45 21.6**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=303,slow=4.8,SNR=27						
TXAR	**Lajitas Array**	**77.73**	**60**	P	**P**	**13 45 21.6**	**+0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZST	**Bratislava**	**77.83**	**331**	*e*P	**P**	**13 45 23.4**	**+1.7**
ZST				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
ZST	**Bratislava**	**77.83**	**331**	*e*P	**P**	**13 45 23.4**	**+1.7**
	comp=Z,11nm,0.9s,mb4.8						
KHC	**Kasperske Hory**	**78.12**	**334**	*e*P	**P**	**13 45 23.2**	**-0.1**
BR131	**Keskin Array S**	**78.21**	**316**	*e*P	**P**	**13 45 24.2**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**78.21**	**316**	P	**P**	**13 45 24.3**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.4,baz=70,slow=4.2,SNR=20						
BRTR	**Keskin Array B**	**78.21**	**316**	*i*P	**P**	**13 45 24.2**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GRA1	**Grafenberg Arr**	**78.31**	**336**	*e*P	**P**	**13 45 24.5**	**+0.2**
	comp=Z,11nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**78.31**	**336**	*e*P	**P**	**13 45 24.5**	**+0.2**
	comp=Z,11nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**78.31**	**336**	*e*P	**P**	**13 45 24.5**	**+0.2**
GRF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
GERES	**GERESS Array B**	**78.34**	**334**	P	**P**	**13 45 23.5**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=37,slow=5.3,SNR=12						
GERES	**GERESS Array B**	**78.34**	**334**	P	**P**	**13 45 23.5**	**-1.0**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BZS	**Buzias**	**78.47**	**327** ⇑	*i*P	**P**	**13 45 25.2**	**0.0**
SZH	**Strazhica**	**78.75**	**323**	*e*P	**P**	**13 45 26.4**	**-0.4**
MEM	**Membach**	**78.86**	**339**	P	**P**	**13 45 27.5**	**+0.2**
STKA	**Stephens Creek**	**78.90**	**190**	LR	LR	14 17 10.5	
	comp=Z,114nm,19.1s,MS4.2,baz=25,slow=33						
PKSM	**Moragy**	**79.03**	**329** ⇑	*i*P	**P**	**13 45 27.0**	**-1.3**
KBA	**Koelnbreinsper**	**80.02**	**333** ⇑	*i*P	**P**	**13 45 34.3**	**+0.7**
	comp=Z,16nm,0.8s,mb5.0						
KBA	**Koelnbreinsper**	**80.02**	**333** ⇑	*i*P	**P**	**13 45 34.4**	**+0.7**
KBA				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
PGB	**Panagyurishte**	**80.07**	**324**	*e*P	**P**	**13 45 34.1**	**+0.2**
DIVS	**Divcibare**	**80.37**	**328** ⇑	*i*P	**P**	**13 45 33.9**	**-1.6**
VTS	**Vitosha**	**80.42**	**325**	*e*P	**P**	**13 45 36.1**	**+0.3**
VTS	**Vitosha**	**80.42**	**325** ⇑	*i*P	**P**	**13 45 35.7**	**-0.1**
MOTA	**Moosalm**	**80.46**	**335** ⇓	*i*P	**P**	**13 45 36.3**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
MOTA	**Moosalm**	**80.46**	**335** ⇓	*i*P	**P**	**13 45 36.4**	**+0.4**
MOTA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
SQTA	**Sankt Quirin**	**80.54**	**335** ⇑	*i*P	**P**	**13 45 37.1**	**+0.6**
	comp=Z,11nm,1.0s,mb4.7						
SQTA	**Sankt Quirin**	**80.54**	**335** ⇑	*i*P	**P**	**13 45 37.1**	**+0.6**
SQTA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
CDF	**Champ du Feu**	**80.56**	**337**	*e*P	**P**	**13 45 36.7**	**+0.2**
	comp=Z,36nm,1.1s,mb4.9						
CDF	**Champ du Feu**	**80.56**	**337**	*e*P	**P**	**13 45 36.7**	**+0.2**
CDF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
CDF	**Champ du Feu**	**80.56**	**337**	*e*P	**P**	**13 45 36.7**	**+0.2**
	comp=Z,18nm,1.1s,mb4.9						
PPT	**Papeete**	**82.37**	**126**	LR	LR	14 13 13.6	
	comp=Z,134nm,21.8s,MS4.3,baz=251,slow=29						
GRR	**Gorron**	**82.49**	**343**	*e*P	**P**	**13 45 46.8**	**+0.1**
SMF	**Signal de Mont**	**83.07**	**339**	*e*P	**P**	**13 45 49.6**	**-0.2**
	comp=Z,92nm,1.4s,mb5.3						
SMF	**Signal de Mont**	**83.07**	**339**	*e*P	**P**	**13 45 49.6**	**-0.2**
SMF				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.3						
SMF	**Signal de Mont**	**83.07**	**339**	*e*P	**P**	**13 45 49.6**	**-0.2**
	comp=Z,46nm,1.4s,mb5.3						
LPG	**La Plagne**	**83.38**	**337**	*e*P	**P**	**13 45 52.1**	**+0.8**
	comp=Z,13nm,0.8s,mb4.7						
LPG	**La Plagne**	**83.38**	**337**	*e*P	**P**	**13 45 52.1**	**+0.8**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**83.38**	**337**	*e*P	**P**	**13 45 52.1**	**+0.8**
	comp=Z,6.4nm,0.8s,mb4.7						
TKL	**Tuckaleechee C**	**83.56**	**43**	P	**P**	**13 45 51.9**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.3,baz=349,slow=5.2,SNR=5.3						
TKL	**Tuckaleechee C**	**83.56**	**43**	P	**P**	**13 45 51.9**	**-0.3**
TKL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
LFF	**La Frestale**	**85.42**	**340**	*e*P	**P**	**13 46 01.0**	**-0.6**
	comp=Z,103nm,1.4s,mb5.5						
LFF	**La Frestale**	**85.42**	**340**	*e*P	**P**	**13 46 01.0**	**-0.6**
LFF				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.5						
LFF	**La Frestale**	**85.42**	**340**	*e*P	**P**	**13 46 01.0**	**-0.6**
	comp=Z,52nm,1.4s,mb5.5						
TORD	**Torodi Ar. Bea**	**114.96**	**329**	PKiKP	PKiKP	13 52 03.4	-1.4
	comp=Z,0.3nm,0.4s,baz=24,slow=2.0,SNR=6.2						
VNDA	**Vanda**	**124.12**	**178**	PKP	PKPdf	13 52 21.1	-1.3
	comp=Z,0.8nm,0.9s,baz=340,slow=4.7,SNR=3.9						
VNDA	**Vanda**	**124.12**	**178**	PKIKP	PKPdf	13 52 21.1	-1.3
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SNAA	**Sanae**	**152.47**	**196**	PKPbc	PKPbc	13 53 18.1	-2.0
	comp=Z,0.7nm,0.5s,baz=194,slow=4.1,SNR=21						
SNAA	**Sanae**	**152.47**	**196**	*e*PKPdf	PKPbc	13 53 18.2	-1.9
SNAA				*e*		13 53 29.7	
SNAA	**Sanae**	**152.47**	**196**	PKIKP	PKPbc	13 53 18.1	-2.0
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNA2	**Neumayer--Watz**	**153.93**	**195**	*e*PKPdf	PKPbc	13 53 22.1	-1.2
	baz=137,slow=2.3						
VNA2				*e*		13 53 27.6	
VNA2				*e*		13 53 35.0	
VNA2				*e*		13 53 44.8	
VNA2				*e*		13 53 51.7	
VNA3	**Neumayer Olymp**	**154.03**	**193**	*e*PKPdf	PKPbc	13 53 21.4	-2.1
VNA3				*e*		13 53 36.4	
VNA3				*e*		13 53 47.1	
VNA3				*e*		13 53 51.9	
VNA1	**Neumayer--Stat**	**154.32**	**195**	*e*PKPdf	PKPbc	13 53 26.6	+2.5
VNA1				*e*		13 53 38.0	

*NEIC **11** 14:19:54.7, 1676N×100.16W, h5km, MD3.6(MEX), After MEX.*

MEX 11 14:19:54.5±0.5, 1675N×10017W, h8km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.26**	**64**	*i* P	Pg	14 19 59.5	-0.2
ACX				*i* S	Sg	14 20 03.0	-0.3
CAIG	**El Cayaco**	**0.31**	**342**	*i* P	Pg	14 20 00.5	-0.2
CAIG				*i* S	Sg	14 20 04.6	-0.2
MEIG	**Mezcala**	**1.28**	**24**	*i* P	Pn	14 20 15.2	-3.5
MEIG				*i* S	Sb	14 20 31.7	-3.8
PLIG	**Platanillo**	**1.75**	**21**	*i* P	Pn	14 20 21.7	-3.5
PLIG				*i* S	Sn	14 20 43.0	-4.6
PLIG	**Platanillo**	**1.75**	**21**	*i* P	Pn	14 20 21.7	-3.5
PLIG				*i* S	Sn	14 20 44.4	-3.2
UTMO	**Huajuapan**	**2.50**	**64**	*i* P	Pn	14 20 32.8	-2.6
UTMO				*i* S	Sn	14 21 02.1	-4.0
PPM	**Popocatepetl**	**2.73**	**32**	*i* P	Pn	14 20 34.7	-4.0
PPM				*i* S	Sn	14 21 08.4	-3.5
PPM	**Popocatepetl**	**2.73**	**32**	*i* P	Pn	14 20 39.5	+0.9
PPM				*i* S	Sn	14 21 11.2	-0.6

IDC 11 14:23:01.4±6.9, 2148S×6800W, h112km±48km, mb3.7/2, mb1 3.7/4, mb1mx3.4/16, mbtmp3.6/4, Error ellipse: s-maj=59.5km s-min=28.0km az=26.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.17**	**359**	P	Pn	14 24 17.9	+1.5
	0.9nm,0.3s,baz=188,slow=9.0,SNR=13						
LPAZ				S	Sn	14 25 17.0	+2.1
	baz=178,slow=23,SNR=2.4						
SIV	**San Ignacio**	**8.54**	**51**	P	Pn	14 25 01.3	-0.8
	2.2nm,0.3s,baz=243,slow=13,SNR=56						
SIV				S	Sn	14 26 36.3	-0.4
	baz=256,slow=18,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.56**	**70**	P	P	14 34 40.2	+1.0
	1.3nm,0.4s,baz=257,slow=5.4,SNR=31						
YKA	**Yellowknife Ar**	**91.45**	**340**	P	P	14 35 52.9	-1.9
	0.3nm,0.6s,baz=135,slow=4.5,SNR=7.4						
MKAR	**Makanchi Array**	**145.12**	**37**	PKPbc	PKPbc	14 42 25.4	+0.2
	0.2nm,0.4s,baz=306,slow=4.0,SNR=5.0						

IDC 11 14:26:49.3±1.1, 085N×12438E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=133.1km s-min=18.5km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**155**	P	P	14 31 55.5	+1.4
	2.2nm,0.5s,baz=336,slow=10,SNR=48						
WB2	**Warramunga Arr**	**22.86**	**155**	*e*P	P	14 31 55.1	+1.0
ASAR	**Alice Springs**	**26.07**	**160**	P	P	14 32 24.1	-0.3
	0.3nm,0.5s,baz=330,slow=7.4,SNR=9.8						
STKA	**Stephens Creek**	**36.40**	**155**	P	P	14 33 55.1	-0.3
	2.1nm,0.7s,baz=348,slow=14,SNR=2.5						
SONM	**Songino Array**	**49.34**	**344**	P	P	14 35 42.3	+2.0
	0.4nm,1.0s,baz=152,slow=8.7,SNR=5.0						
MKAR	**Makanchi Array**	**58.63**	**327**	P	P	14 36 47.3	-0.9
	0.5nm,0.5s,baz=125,slow=7.8,SNR=15						

NEIC 11 14:27:11.6, 6615N×14921W, h22km, ML3.3(AEIC), After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLD	**Coldfoot**	**1.16**	**340**	P	Pn	14 27 32.0	-0.4
COLA	**College**	**1.40**	**155**	P	Pn	14 27 36.1	+0.3
COLA				S	Sn	14 27 54.6	+1.0
IL1	**Eielson Array**	**1.69**	**144**	P	Pn	14 27 40.8	+1.0
BM3	**Burnt Mountain**	**2.23**	**53**	P	Pn	14 27 49.4	+2.2
MCK	**McKinley**	**2.43**	**177**	P	Pn	14 27 50.2	+0.3
KTH	**Kantishna Hill**	**2.71**	**196**	P	Pn	14 27 55.0	+1.2
DOT	**Dot Lake**	**3.33**	**136**	P	Pn	14 28 02.8	+0.5
GCSA	**Galena City Sc**	**3.50**	**250**	P	Pn	14 28 06.0	+1.3
EGAK	**Eagle**	**3.63**	**109**	*e*Pn	Pn	14 28 05.4	-1.1
MENT	**Mentasta**	**4.00**	**141**	*e*P	Pn	14 28 11.1	-0.4
SML	**Sawmill**	**4.37**	**175**	P	Pn	14 28 19.9	+3.2
PMR	**Palmer**	**4.57**	**180**	*e*P	Pn	14 28 22.7	+3.3
DAWY	**Dawson**	**4.65**	**112**	*e*P	Pn	14 28 19.7	-0.8
INK	**Inuvik**	**6.46**	**63**	*e*P	Pn	14 28 43.1	-2.2
	92nm,0.5s						
EDM	**Edmonton**	**21.85**	**109**	*e*P	P	14 31 57.5	-5.1

*ISCJB **11** 14:43:19.1±0.2, 5567N±002×110.18E±003, h10km, mb3.8/14, Error ellipse: s-maj=3.3km s-min=2.3km az=108.7*

*IDC **11** 14:43:19.5±0.9, 5580N×11042E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.8/25, mbtmp3.9/11, ML3.6/3, Error ellipse: s-maj=20.3km s-min=16.8km az=52.0*

*MOS **11** 14:43:19.7±1.0, 5578N×110.12E, h13km, mb4.1/12, Error ellipse: s-maj=9.7km s-min=6.2km az=70.4*

*NEIC **11** 14:43:20.9±0.4, 5576N×11021E, h10km, mb4.1/5, Error ellipse: s-maj=7.0km s-min=6.8km az=53.0*

*BYKL **11** 14:43:20.8±0.2, 5572N×110.18E, h8km±3km*

ISC 11 14:43:20.6±0.2, 5570N±002×11020E±003, h10km, n89, σ1§21/136, mb3.8/14, 6C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**281**	*e*PG	**Pg**	**14 43 27.7**	**-0.4**
NIZ				*e*		14 43 32.7	
NIZ				pmax	pmax		
	comp=Z,886nm,0.3s						
NIZ				smax			
	comp=N,3μm,0.3s						
NIZ	**Nizh Angarsk**	**0.38**	**281**	*e*Pg	**Pg**	**14 43 27.6**	**-0.5**
NIZ				Pmax		14 43 30.1	
	comp=N,814nm,0.2s						
NIZ				*e*Sg	**Sg**	**14 43 33.0**	**-0.1**
NIZ				Smax		14 43 34.8	
	comp=N,4μm,0.2s						
KMO	**Kumora**	**0.59**	**72**	*e*PG	**Pg**	**14 43 31.4**	**-0.7**
KMO				*e*		14 43 38.9	
KMO				pmax	pmax		
	comp=Z,190nm,0.3s						
KMO				smax			
	comp=N,4μm,0.8s						
KMO	**Kumora**	**0.59**	**72** ⇑	*i*Pg	**Pg**	**14 43 31.5**	**-0.6**
KMO				Pmax		14 43 32.8	
	comp=N,273nm,0.3s						
KMO				*e*Sg	**Sg**	**14 43 39.7**	**-0.2**
KMO				Smax		14 43 42.1	
	comp=N,4μm,0.8s						
YOA	**Uoyan**	**0.96**	**63** ⇑	*i*PG	**Pg**	**14 43 38.4**	**-0.7**
YOA				*e*		14 43 52.3	
YOA				pmax	pmax		
	comp=Z,259nm,0.2s						
YOA				smax			
	comp=N,4μm,0.4s						
YOA	**Uoyan**	**0.96**	**63**	*e*Pg	**Pg**	**14 43 38.4**	**-0.7**
YOA				Pmax		14 43 45.4	
	comp=N,397nm,0.2s						
YOA				*e*Sg	**Sg**	**14 43 52.3**	**+0.7**
YOA				Smax		14 44 01.0	
	comp=N,4μm,0.7s						
YLYR	**Ulyunkhan**	**0.99**	**146** ⇑	*i*PG	**Pg**	**14 43 39.0**	**-0.7**
YLYR				*e*		14 43 52.3	
YLYR				pmax	pmax		
	comp=Z,802nm,0.4s						
YLYR				smax			
	comp=N,2μm,0.3s						
YLYR	**Ulyunkhan**	**0.99**	**146** ⇓	*i*Pg	**Pg**	**14 43 39.0**	**-0.7**
	comp=N,760nm,0.5s						
YLYR			⇑	*i*Pg	**Pg**	**14 43 39.0**	**-0.7**
	comp=N,552nm,0.5s						
YLYR			⇑	*i*Pg	**Pg**	**14 43 39.0**	**-0.7**
	comp=N,895nm,0.5s						
YLYR				Pmax		14 43 39.1	
	comp=N,797nm,0.4s						
YLYR				*e*Sg	**Sg**	**14 43 53.1**	**+0.4**
YLYR				Smax		14 44 00.7	
	comp=N,2μm,0.3s						
SVKR	**Severomuysk**	**1.94**	**76**	*e*PN	**Pn**	**14 43 56.3**	**+2.8**
SVKR				*e*		14 44 21.9	
SVKR				pmax	pmax		
	comp=Z,585nm,0.6s						
SVKR				smax			
	comp=N,8μm,0.6s						
SVKR	**Severomuysk**	**1.94**	**76**	*e*Pg	**Pg**	**14 43 55.9**	**-1.8**
SVKR				Pmax		14 43 58.2	
	comp=N,463nm,0.5s						
SVKR				*e*Sg	**Sg**	**14 44 22.5**	**-0.3**
SVKR				Smax		14 44 25.5	
	comp=N,8μm,0.6s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	**Pn**	**14 43 57.7**	**+2.5**
SYVR				*e*		14 44 26.6	
SYVR				pmax	pmax		
	comp=Z,660nm,0.7s						
SYVR				smax			
	comp=E,5μm,0.7s						
SYVR	**Suvo**	**2.05**	**183** ⇑	*i*Pg	**Pg**	**14 43 57.8**	**-2.2**
SYVR				Pmax		14 44 01.1	
	comp=E,632nm,0.5s						
SYVR				*e*Sg	**Sg**	**14 44 26.3**	**-0.3**
SYVR				Smax		14 44 28.5	
	comp=E,6μm,0.8s						
OGRR	**Ongureny**	**2.56**	**217**	*e*PN	**Pn**	**14 44 03.7**	**+1.6**
OGRR				*e*		14 44 07.3	
OGRR				*e*		14 44 40.0	
OGRR				pmax	pmax		
	comp=Z,100nm,0.4s						
OGRR				smax			
	comp=E,690nm,0.6s						
OGRR	**Ongureny**	**2.56**	**217**	*e*Pn	**Pn**	**14 44 04.0**	**+1.9**
OGRR				max		14 44 11.4	
	comp=E,102nm,0.3s						
OGRR				*e*Sn	**Sn**	**14 44 35.5**	**+2.2**
OGRR				*e*Sg	**Sg**	**14 44 40.8**	**-2.0**
OGRR				Smax		14 44 43.9	
	comp=E,663nm,0.3s						
MXMB	**Maximikha**	**2.59**	**200**	*e*Pg	**Pg**	**14 44 06.4**	**-3.8**
MXMB				Pmax		14 44 10.2	
	comp=E,310nm,0.8s						
MXMB				*e*Sg	**Sg**	**14 44 41.6**	**-2.2**
MXMB				Smax		14 44 47.2	
	comp=E,2μm,0.8s						
BOD	**Bodaibo**	**2.98**	**43**	*e*PN	**Pn**	**14 44 12.3**	**+4.4**
BOD				*e*		14 44 53.1	
BOD				pmax	pmax		
	comp=Z,25nm,0.3s						
BOD				smax			
	comp=N,412nm,0.3s						
BOD	**Bodaibo**	**2.98**	**43**	*e*Pn	**Pn**	**14 44 09.2**	**+1.3**
BOD				*e*Pg	**Pg**	**14 44 14.2**	**-3.5**
BOD				Pmax		14 44 22.9	
	comp=N,59nm,0.6s						
BOD				*e*Sn	**Sn**	**14 44 44.1**	**+0.4**
BOD				*e*Sg	**Sg**	**14 44 52.5**	**-3.8**
BOD				Smax		14 44 58.4	
	comp=N,386nm,0.6s						
TRG	**Tyrgan**	**3.71**	**219**	*e*PN	**Pn**	**14 44 19.4**	**+1.4**
TRG				*e*		14 44 28.3	
TRG				*e*		14 45 16.5	
TRG				pmax	pmax		
	comp=Z,52nm,0.7s						
TRG				smax			
	comp=E,365nm,0.7s						
TRG	**Tyrgan**	**3.71**	**219**	*e*Pn	**Pn**	**14 44 19.8**	**+1.8**
TRG				max		14 44 23.5	
	comp=E,110nm,0.4s						
TRG				*e*Sn	**Sn**	**14 45 03.4**	**+1.6**
TRG				*e*Sg	**Sg**	**14 45 15.9**	**-4.0**
TRG				Smax		14 45 18.1	
	comp=E,366nm,0.5s						
TRTB	**Turuntaevo**	**3.80**	**205**	*e*Pn	**Pn**	**14 44 20.9**	**+1.8**
TRTB				*e*		14 44 30.5	
TRTB				max		14 44 33.7	
	comp=E,43nm,0.4s						
TRTB				*e*Sn	**Sn**	**14 45 04.2**	**+0.4**
TRTB				*e*Sg	**Sg**	**14 45 17.8**	**-4.7**
TRTB				Smax		14 45 20.2	
	comp=E,393nm,1.1s						
UUDB	**Ulan-Yde**	**4.13**	**202**	*e*Pn	**Pn**	**14 44 25.5**	**+1.8**
UUDB				*e*Pg	**Pg**	**14 44 34.6**	**-5.1**
UUDB				Pmax		14 44 44.9	
	comp=E,70nm,0.9s						
UUDB				*e*Sg	**Sg**	**14 45 28.0**	**-5.1**
UUDB				Smax		14 45 47.0	
	comp=E,430nm,1.3s						
CIT	**Chita**	**4.19**	**150**	*e*PN	**Pn**	**14 44 25.5**	**+1.0**
CIT				*e*		14 44 34.4	
CIT				*e*S	**Sn**	**14 45 12.7**	**-0.8**
CIT				*e*		14 45 29.9	
CIT				pmax	pmax		
	comp=Z,276nm,0.6s						
CIT				smax			
	comp=N,480nm,1.1s						
CIT	**Chita**	**4.19**	**150**	*e*Pn	**Pn**	**14 44 25.5**	**+1.0**
CIT				*e*Pg	**Pg**	**14 44 36.1**	**-4.7**
CIT				Pmax		14 44 37.5	
	comp=N,277nm,1.4s						
CIT				*e*Sn	**Sn**	**14 45 13.4**	**-0.1**
CIT				*e*Sg	**Sg**	**14 45 31.6**	**-3.5**
CIT				Smax		14 45 39.8	
	comp=N,479nm,1.1s						
FFNB	**Fofonovo**	**4.19**	**210**	Pn	**Pn**	**14 44 25.6**	**+1.1**
FFNB				Pg	**Pg**	**14 44 35.2**	**-5.7**
FFNB				*e*Sn	**Sn**	**14 45 13.9**	**+0.4**
FFNB				*e*Sg	**Sg**	**14 45 29.5**	**-5.6**
FFNB				Smax		14 45 36.7	
	comp=N,1μm,0.6s						
KAB	**Kabansk**	**4.22**	**211**	*e*Sg	**Sg**	**14 45 32.1**	**-4.0**
KAB				Smax		14 45 47.9	
	comp=N,1μm,1.3s						
CRS	**Chara**	**4.65**	**72**	*e*Sg	**Sg**	**14 45 44.5**	**-5.5**
CRS				Smax		14 46 03.0	
	comp=N,257nm,1.3s						
IRK	**Irkutsk**	**4.92**	**228**	*e*PN	**Pn**	**14 44 34.3**	**-0.3**
IRK				*e*S	**Sn**	**14 45 31.9**	**+0.2**
IRK				*e*S	**Sg**	**14 45 51.6**	**-7.1**
IRK				smax			
	comp=N,1μm,0.6s						
IRK	**Irkutsk**	**4.92**	**228**	*e*Pn	**Pn**	**14 44 35.4**	**+0.8**
IRK				max		14 44 39.5	
	comp=N,302nm,0.1s						
IRK				*e*Sn	**Sn**	**14 45 31.2**	**-0.5**
IRK				*e*Sg	**Sg**	**14 45 54.0**	**-4.7**
IRK				Smax		14 45 58.0	
	comp=N,1μm,0.6s						
TLY	**Talaya**	**5.60**	**227**	*e*PN	**Pn**	**14 44 44.1**	**+0.1**
TLY				*e*		14 45 00.7	
TLY				*e*S	**Sn**	**14 45 47.4**	**-1.0**
TLY				*e*		14 46 13.0	
TLY				pmax	pmax		
	comp=Z,22nm,0.5s						
TLY				smax			
	comp=N,273nm,0.8s						
TLY	**Talaya**	**5.60**	**227**	*e*Pn	**Pn

ZAK				max		14 45 05.6	
	comp=N,19nm,0.7s						
ZAK				*e*		14 46 18.9	
ZAK				*e*Sg	**Sg**	**14 46 50.7**	**-7.1**
ZAK				Smax		14 46 53.8	
	comp=N,173nm,1.4s						
MOY	**Mondy**	**6.80 237**		*e*PN	**Pn**	**14 45 02.7**	**+2.3**
MOY				*e*		14 45 21.1	
MOY				*e*S	**Sn**	**14 46 17.2**	**-0.6**
MOY	**Mondy**	**6.80 237**		*e*Pn	**Pn**	**14 45 02.6**	**+2.2**
MOY				max		14 45 03.3	
	comp=N,175nm,0.7s						
MOY				*e*		14 45 10.5	
MOY				*e*Sn	**Sn**	**14 46 16.9**	**-0.9**
MOY				*e*Sg	**Sg**	**14 46 49.8**	**-9.0**
MOY				Smax		14 47 00.3	
	comp=N,241nm,1.6s						
ORL	**Orlik**	**6.88 247**		*e*PN	**Pn**	**14 45 03.1**	**+1.6**
ORL				*e*S	**Sg**	**14 46 53.8**	**-7.6**
ORL				smax			
	comp=N,288nm,1.1s						
ORL	**Orlik**	**6.88 247**		*e*Pn	**Pn**	**14 45 03.0**	**+1.5**
ORL				max		14 45 03.9	
	comp=N,63nm,0.8s						
ORL				*e*		14 45 12.3	
ORL				*e*Sn	**Sn**	**14 46 19.1**	**-0.7**
ORL				*e*Sg	**Sg**	**14 46 53.9**	**-7.5**
ORL				Smax		14 46 57.5	
	comp=N,288nm,1.0s						
NRGR	**Nerungri**	**8.16**	**77**	*e*PN	**Pn**	**14 45 27.7**	**+8.6**
NRGR				S	**Sn**	**14 46 55.9**	**+4.5**
NRGR				smax			
	comp=E,37nm,0.5s						
SONM	**Songino Array**	**8.22 198**		Pn	**Pn**	**14 45 22.5**	**+2.5**
	comp=E,0.6nm,0.3s,baz=6.7,slow=14,SNR=10						
SONM				Lg		14 47 42.3	
	comp=E,3.7nm,0.3s,baz=24,slow=26,SNR=11						
HIA	**Hailar**	**8.68 134**		*e*PN	**Pn**	**14 45 25.0**	**-1.2**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**8.68 134**		*e*Pn	**Pn**	**14 45 25.0**	**-1.2**
	comp=Z,4.4nm,0.6s						
TDJR	**Todzha**	**8.93 254**		*e*Pn	**Pn**	**14 45 29.8**	**+0.2**
TDJR				*e*		14 47 15.2	
TDJR				*e*Sg	Sn	14 47 56.5	+46
KRAR	**Krasnoyarsk**	**9.75 279**		*e*P	**Pn**	**14 45 40.3**	**-0.5**
YAK	**Yakutsk**	**11.88**	**50**	*i* P	**Pn**	**14 46 10.5**	**+0.5**
ZAL	**Zalesovo**	**14.72 274**		Pn	**Pn**	**14 46 48.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=31,slow=10,SNR=11						
ZAL				Lg		14 51 09.6	
	comp=Z,0.2nm,0.3s,baz=172,slow=10,SNR=3.7						
ZAL	**Zalesovo**	**14.72 274**		Pn	**Pn**	**14 46 48.5**	**-0.4**
ZAL				Lg		14 51 09.6	
TIXI	**Tiksi**	**17.86**	**19**	*e*P	**Pn**	**14 47 28.0**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**17.86**	**19**	P	**Pn**	**14 47 27.9**	**-1.3**
KURK	**Kurchatov**	**19.45 268**		*e*P	**Pn**	**14 47 48.2**	**-0.3**
KURK	**Kurchatov**	**19.45 268**		*e*P	**Pn**	**14 47 47.3**	**-1.2**
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**19.50 254**		*i* P	**Pn**	**14 47 47.9**	**-1.1**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MK31	**Makanchi Array**	**19.50 254**		*e*P	**Pn**	**14 47 47.5**	**-1.5**
MKAR	**Makanchi Array**	**19.50 254**		P	**Pn**	**14 47 48.8**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=58,slow=9.5,SNR=75						
MKAR	**Makanchi Array**	**19.50 254**		P	**Pn**	**14 47 48.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHKZ	**Chkalovo**	**22.76 281**		*e*P	**P**	**14 48 21.9**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**22.76 281**		*e*P	**P**	**14 48 21.9**	**-1.1**
	comp=Z,5.8nm,0.8s,mb4.1						
BVA0	**Borovoye Array**	**23.13 280**		*i* P	**P**	**14 48 27.9**	**+1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
BVAR	**Borovoye Array**	**23.13 280**		P	**P**	**14 48 27.4**	**+0.6**
	comp=Z,4.2nm,0.6s,mb4.0,baz=71,slow=9.7,SNR=26						
BVAR	**Borovoye Array**	**23.13 280**		P	**P**	**14 48 27.4**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**23.17 280**		*e*P	**P**	**14 48 27.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**23.17 280**		*e*P	**P**	**14 48 27.1**	**-0.3**
	comp=Z,6.8nm,0.8s,mb4.1						
KEV	**Kevo**	**37.23 325**		*e*p	**P**	**14 50 31.6**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	**37.80 325**		P	**P**	**14 50 36.5**	**-0.6**
	comp=Z,0.9nm,0.5s,mb3.8,baz=70,slow=9.2,SNR=8.9						
ARCES	**ARCESS Array B**	**37.80 325**		P	**P**	**14 50 36.5**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**38.48 314**		*e*p	**P**	**14 50 42.2**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.5						
KAF	**Kangasniemi**	**40.90 314**		*e*p	**P**	**14 51 02.2**	**-0.7**
	comp=Z,0.9nm,0.4s,mb3.8						
KAF	**Kangasniemi**	**40.90 314**		*e*P	**P**	**14 51 02.2**	**-0.7**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
FINES	**FINESS Array B**	**41.34 314**		P	**P**	**14 51 06.0**	**-0.6**
	comp=Z,1.5nm,0.5s,mb3.9,baz=70,slow=10,SNR=8.1						
FINES	**FINESS Array B**	**41.34 314**		P	**P**	**14 51 06.0**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**41.34 314**		P	**P**	**14 51 06.0**	**-0.6**
IMA2	**Indian Mountai**	**43.28**	**36**	*e*P	**P**	**14 51 23.4**	**+1.1**
AKASG	**Malin Array Be**	**46.16 299**		P	**P**	**14 51 45.2**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=44,slow=8.3,SNR=7.4						
AKASG	**Malin Array Be**	**46.16 299**		P	**P**	**14 51 45.2**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**47.38 319**		P	**P**	**14 51 54.5**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=51,slow=7.8,SNR=2.9						
NOA	**NORSAR Array B**	**47.38 319**		P	**P**	**14 51 54.5**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**57.07**	**23**	P	**P**	**14 53 06.1**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=331,slow=7.2,SNR=5.6						
YKA	**Yellowknife Ar**	**57.07**	**23**	P	**P**	**14 53 06.1**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**57.07**	**23**	P	**P**	**14 53 06.1**	**-0.7**
WRAB	**Tennant Creek**	**78.08 157**		*e*P	**P**	**14 55 19.8**	**+0.2**
WRA	**Warramunga Arr**	**78.08 157**		P	**P**	**14 55 20.3**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=349,slow=6.2,SNR=10.0						
WRA	**Warramunga Arr**	**78.08 157**		P	**P**	**14 55 20.3**	**+0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**81.59 158**		P	**P**	**14 55 39.4**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=353,slow=5.3,SNR=8.9						
VNA2	**Neumayer--Watz**	**149.85 215**		*e*PKPdf	PKPdf	15 03 10.2	+4.1
	baz=46,slow=2.8						
VNA2				*e*		15 03 12.2	
VNA2				*e*		15 03 15.5	
VNA3	**Neumayer Olymp**	**150.60 215**		*e*PKPdf	PKPdf	15 03 10.4	+3.1
VNA3				*e*		15 03 12.2	

*CSEM **11** 14:46:15.3, 3780N×4952E, h14km, ML3.6, After THR*
*THR **11** 14:46:15.3±0.4, 3780N×4952E, h14km±3km, ML3.6*
*ISCJB **11** 14:46:16.2±0.5, 3785N±004×4934E±004, h10km, Error ellipse: s-maj=7.4km s-min=2.9km az=65.6*
*TEH **11** 14:46:19.7, 3749N×4917E, h14km, Mn3.6*
ISC 11 14:46:17.8±0.5, 3778N±004×4930E±003, h10km, n40, σ1§06/65, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.51**	**314**	*e*Pg	**Pg**	**14 46 45.2**	**-1.6**
GRMI				*e*Sg	**Sg**	**14 47 07.0**	**+0.6**
GRMI				AML	AML	14 47 09.4	
	comp=N,922nm,0.4s						
GRMI				AML	AML	14 47 10.0	
	comp=E,579nm,0.6s						
GRMI	**Germi**	**1.51**	**314**	*e*Pg	**Pg**	**14 46 45.2**	**-1.6**
	SNR=90						
GRMI				*e*Sg	**Sg**	**14 47 07.0**	**+0.6**
	comp=E,579nm,0.6s,SNR=90						
IBST	**Bostanabad**	**1.91**	**268**	*e*Pn	**Pn**	**14 46 49.4**	**-1.0**
IBST	**Bostanabad**	**1.91**	**268**	*e*Pn	**Pn**	**14 46 49.8**	**-0.6**
IBST	**Bostanabad**	**1.91**	**268**	*e*Pn	**Pn**	**14 46 49.8**	**-0.6**
IBST				*e*Sn	**Sn**	**14 47 15.8**	**+1.4**
IBST				*e*Lg		14 47 16.7	
THKV	**Tehran--Karaj**	**2.25**	**145**	*e*Pg	**Pn**	**14 46 54.9**	**-0.1**
THKV				*e*Sg	**Sn**	**14 47 23.4**	**+0.6**
THKV				AML	AML	14 47 31.1	
	comp=E,275nm,0.5s						
THKV				AML	AML	14 47 31.9	
	comp=N,409nm,0.6s						
THKV	**Tehran--Karaj**	**2.25**	**145**	*e*Pg	**Pn**	**14 46 54.9**	**-0.2**
	SNR=90						
THKV				*e*Sg	**Sn**	**14 47 23.4**	**+0.5**
	comp=N,409nm,0.6s,SNR=90						
IMHD	**Mahdasht**	**2.36**	**152**	*e*Pn	**Pn**	**14 46 54.8**	**-1.8**
IMHD	**Mahdasht**	**2.36**	**152**	*e*Pn	**Pn**	**14 46 55.2**	**-1.4**
IMHD	**Mahdasht**	**2.36**	**152**	*e*Pn	**Pn**	**14 46 55.3**	**-1.3**
IMHD				*e*Sn	**Sb**	**14 47 28.8**	**-0.8**
IMHD				*e*Sn	**Sb**	**14 47 29.0**	**-0.6**
CHTH	**Charan**	**2.37**	**141**	*e*Pg	**Pn**	**14 46 56.9**	**+0.1**
IRAZ	**Razeghan**	**2.42**	**168**	*e*Pn	**Pn**	**14 46 54.3**	**-3.1**
IRAZ	**Razeghan**	**2.42**	**168**	*e*Pn	**Pn**	**14 46 54.8**	**-2.6**
IRAZ	**Razeghan**	**2.42**	**168**	*e*Pn	**Pn**	**14 46 55.5**	**-1.9**
IRAZ				*e*Sn	**Sn**	**14 47 28.4**	**+1.3**
IRAZ				*e*Sn	**Sn**	**14 47 28.8**	**+1.7**
IAZR	**Azarshahr**	**2.63**	**269**	*e*Pn	**Pn**	**14 47 00.1**	**-0.2**
IAZR	**Azarshahr**	**2.63**	**269**	*e*Pn	**Pn**	**14 47 00.6**	**+0.3**
IAZR	**Azarshahr**	**2.63**	**269**	*e*Pn	**Pn**	**14 47 00.6**	**+0.3**
IAZR				*e*Sn	**Sg**	**14 47 40.9**	**-1.4**
IAZR				*e*Sn	**Sg**	**14 47 41.9**	**-0.4**
IMRD	**Marand**	**2.98**	**289**	*e*Pn	**Pn**	**14 47 06.4**	**+1.3**
IMRD	**Marand**	**2.98**	**289**	*e*Pn	**Pn**	**14 47 06.4**	**+1.3**
IMRD	**Marand**	**2.98**	**289**	*e*Pn	**Pn**	**14 47 07.2**	**+2.1**
IMRD				*e*Sn	**Sg**	**14 47 53.8**	**+0.3**
IMRD				*e*Sn	**Sg**	**14 47 53.9**	**+0.4**
SNGE	**Sanandaj**	**3.10**	**211**	*e*Pn	**Pn**	**14 47 07.5**	**+0.7**
ASAO	**Ashtian**	**3.27**	**169**	*e*Pn	**Pn**	**14 47 08.3**	**-0.8**
ASAO				*e*Sg	**Sb**	**14 47 57.2**	**+1.3**
IFIR	**Firoozkooh**	**3.50**	**126**	*e*Pn	**Pn**	**14 47 12.2**	**-0.1**
IFIR	**Firoozkooh**	**3.50**	**126**	*e*Pn	**Pn**	**14 47 12.7**	**+0.4**
IFIR	**Firoozkooh**	**3.50**	**126**	*e*Pn	**Pn**	**14 47 13.1**	**+0.8**
IFIR				*e*Sn	**Sn**	**14 47 53.7**	**-0.1**
IFIR				*e*Sn	**Sn**	**14 47 53.9**	**+0.1**
ISHM	**Shahmirzad**	**3.76**	**120**	*e*Pn	**Pn**	**14 47 15.8**	**-0.1**
ISHM	**Shahmirzad**	**3.76**	**120**	*e*Pn	**Pn**	**14 47 16.3**	**+0.4**
ISHM	**Shahmirzad**	**3.76**	**120**	*e*Pn	**Pn**	**14 47 16.7**	**+0.8**
ISHM				*e*Sn	**Sn**	**14 47 59.7**	**-0.5**
ISHM				*e*Sn	**Sn**	**14 48 00.0**	**-0.2**
ILAS	**Lasjerd**	**3.79**	**128**	*e*Pn	**Pn**	**14 47 15.4**	**-0.9**
ILAS	**Lasjerd**	**3.79**	**128**	*e*Pn	**Pn**	**14 47 15.8**	**-0.5**
ILAS	**Lasjerd**	**3.79**	**128**	*e*Pn	**Pn**	**14 47 16.4**	**+0.1**
ILAS				*e*Sn	**Sn**	**14 48 03.3**	**+2.3**
ILAS				*e*Sn	**Sn**	**14 48 03.3**	**+2.3**
IKIA	**Kiasar**	**3.85**	**113**	*e*Pn	**Pn**	**14 47 16.3**	**-0.7**
IKIA	**Kiasar**	**3.85**	**113**	*e*Pn	**Pn**	**14 47 16.9**	**-0.1**
IKIA				*e*Sn	**Sn**	**14 48 01.6**	**-0.7**
IGHG	**Ghaleghazi**	**4.09**	**214**	*e*Pn	**Pn**	**14 47 21.2**	**+0.9**
IGHG	**Ghaleghazi**	**4.09**	**214**	*e*Pn	**Pn**	**14 47 22.1**	**+1.8**
IGHG				*e*Sn	**Sg**	**14 48 27.0**	**-2.0**
ISFB	**Sefidab**	**4.16**	**144**	*e*Pn	**Pn**	**14 47 19.8**	**-1.6**
ISFB	**Sefidab**	**4.16**	**144**	*e*Pn	**Pn**	**14 47 20.3**	**-1.1**
ISFB	**Sefidab**	**4.16**	**144**	*e*Pn	**Pn**	**14 47 20.5**	**-0.9**
ISFB				*e*Sn	**Sb**	**14 48 21.5**	**0.0**
ISFB				*e*Sn	**Sb**	**14 48 21.6**	**+0.1**
IANJ	**Anjiloo**	**4.37**	**120**	*e*Pn	**Pn**	**14 47 24.3**	**+0.1**
IANJ	**Anjiloo**	**4.37**	**120**	*e*Pn	**Pn**	**14 47 24.7**	**+0.5**
IANJ				*e*Sn	**Sn**	**14 48 19.4**	**+4.2**

*ISCJB **11** 14:52:18.8±0.8, 936N±007×12730E±007, h10km, mb3.8/7, Error ellipse: s-maj=10.8km s-min=8.7km az=60.1*
*IDC **11** 14:52:19.7±1.4, 927N×12702E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=108.6km s-min=16.7km az=73.0*
*MAN **11** 14:52:20.9, 943N×12706E, h5km, mb3.6, ML4.7*
ISC 11 14:52:20.9±0.8, 938N±007×12722E±007, h10km, n12, σ0§74/14, mb3.8/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.45**	**288**	*e*P	**Pn**	**14 53 00.2**	**-0.7**
MSLP				*e*S	**Sb**	**14 53 36.1**	**+0.9**
BUKP	**Musuan**	**2.60**	**235**	*e*P	**Pn**	**14 53 03.1**	**+0.1**
BUKP				*e*S	**Sn**	**14 53 35.0**	**+0.3**
OCLP	**Ormoc**	**3.06**	**303**	*e*P	**Pn**	**14 53 08.4**	**-1.0**
GUIM	**Jordan**	**4.73**	**286**	*e*P	**Pn**	**14 53 31.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**27.35**	**183**	*e*P	**P**	**14 58 06.2**	**+0.2**
	3.9nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**27.35**	**183**	P	**P**	**14 58 06.1**	**+0.1**
	1.4nm,0.7s,mb3.6,baz=354,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**29.96**	**167**	P	**P**	**14 58 29.2**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=348,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**33.48**	**169**	P	**P**	**14 59 00.2**	**0.0**
	0.4nm,0.4s,mb3.7,baz=353,slow=6.6,SNR=17						
SONM	**Songino Array**	**42.18**	**339**	P	**P**	**15 00 15.5**	**+1.8**
	0.4nm,0.5s,mb3.3,baz=158,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**53.30**	**323**	P	**P**	**15 01 39.6**	**-0.4**
	1.3nm,0.9s,mb3.9,baz=119,slow=8.1,SNR=10						
BVAR	**Borovoye Array**	**62.93**	**325**	P	**P**	**15 02 47.3**	**-0.1**
	0.9nm,0.6s,mb4.0,baz=99,slow=9.1,SNR=4.0						
ARCES	**ARCESS Array B**	**85.35**	**340**	P	**P**	**15 04 58.8**	**+0.5**
	4.5nm,0.9s,mb4.6,baz=64,slow=7.1,SNR=4.9						

*MOS **11** 15:11:42.5±1.5, 5568N×110.11E, h4km, mb4.2/1, Error ellipse: s-maj=24.0km s-min=15.4km az=76.0*
BYKL 11 15:11:43.5±0.3, 5571N×11017E, h1km±5km, 3C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**281**	*e*Pg	Pg	15 11 49.9	-0.5
NIZ				*e*Sg	Sg	15 11 55.5	+0.4
NIZ				Pmax			
	68nm,0.1s						
NIZ				Smax			
	691nm,0.2s						
KMO	**Kumora**	**0.61**	**73⇑**	*i*Pg	Pg	15 11 53.9	-1.3
KMO				*e*Sg	Sg	15 12 02.0	-1.0
KMO				Pmax			
	48nm,0.2s						
KMO				Smax			
	569nm,1.0s						
YOA	**Uoyan**	**0.97**	**64**	*e*PG	Pg	15 11 59.8	-2.3
YOA				*e*		15 12 13.9	
YOA				pmax	pmax		
	comp=Z,234nm,0.3s						
YOA				smax			
	comp=N,562nm,0.3s						
YOA	**Uoyan**	**0.97**	**64**	*e*Sg	Sg	15 12 13.8	-0.9
YOA				Smax			
	comp=N,560nm,0.4s						
YLYR	**Ulyunkhan**	**1.01**	**145⇑**	*i*PG	Pg	15 12 01.4	-1.5
YLYR				*e*		15 12 14.4	
YLYR				pmax	pmax		
	comp=Z,110nm,0.3s						
YLYR				smax			
	comp=E,280nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**145⇑**	*i*Pg	Pg	15 12 01.4	-1.5
YLYR				*e*Sg	Sg	15 12 15.7	-0.3
YLYR				*e*Sb	Sb	15 12 20.3	+2.7
YLYR				Pmax			
	comp=E,110nm,0.4s						
YLYR				max			
	comp=E,276nm,0.3s						
SVKR	**Severomuysk**	**1.95**	**77**	*e*Pg	Pg	15 12 18.7	-2.2
SVKR				*e*Sg	Sg	15 12 44.8	-1.4
SVKR				Pmax			
	comp=E,115nm,0.2s						
SVKR				Smax			
	comp=E,823nm,0.4s						
SYVR	**Suvo**	**2.06**	**183**	*e*PN	Pn	15 12 20.4	+1.2
SYVR	**Suvo**	**2.06**	**183**	*e*Pg	Pg	15 12 20.2	-2.8
SYVR				*e*Sg	Sg	15 12 48.7	-1.0
SYVR				Pmax			
	comp=E,95nm,0.5s						
SYVR				Smax			
	comp=E,736nm,0.8s						
OGRR	**Ongureny**	**2.55**	**217**	*e*Pn	Pn	15 12 26.6	+0.6
OGRR				*e*		15 12 31.5	
OGRR				*e*Sn	Sn	15 12 58.6	+0.9
OGRR				*e*Sg	Sg	15 13 02.5	-3.1
OGRR				Smax			
	comp=E,88nm,0.2s						
MXMB	**Maximikha**	**2.59**	**199**	*e*Pg	Pg	15 12 30.2	-2.9
MXMB				*e*Sg	Sg	15 13 04.7	-2.0
MXMB				Pmax			
	comp=E,27nm,0.3s						
MXMB				Smax			
	comp=E,338nm,0.9s						
BOD	**Bodaibo**	**2.99**	**43**	*e*Pn	Pn	15 12 34.1	+2.1
BOD				*e*Sn	Sn	15 13 08.0	-0.4
BOD				*e*Sg	Sg	15 13 14.9	-4.6
BOD				Smax			
	comp=E,49nm,0.3s						
TRG	**Tyrgan**	**3.71 219**		*e*Pn	Pn	15 12 42.3	+0.4
TRG				*e*Sn	Sn	15 13 25.8	-0.5
TRG				*e*Sg	Sg	15 13 38.0	-4.7
TRG				Smax			
	comp=E,48nm,0.4s						
TRTB	**Turuntaevo**	**3.80 204**		*e*Pn	Pn	15 12 43.7	+0.6
TRTB				*e*Pg	Pg	15 12 51.4	-4.9
TRTB				*e*Sg	Sg	15 13 40.3	-5.2
TRTB				Pmax			
	comp=E,6.0nm,0.2s						
TRTB				Smax			
	comp=E,44nm,0.4s						
UUDB	**Ulan-Yde**	**4.13 202**		*e*Pg	Pg	15 12 57.5	-5.1
UUDB				*e*Sg	Sg	15 13 51.6	-4.5
UUDB				Pmax			
	comp=E,6.0nm,0.1s						
UUDB				Smax			
	comp=E,64nm,1.1s						
FFNB	**Fofonovo**	**4.19 210**		*e*Sg	Sg	15 13 52.3	-5.7
FFNB				Smax			
	comp=E,164nm,0.5s						
CIT	**Chita**	**4.20 150**		*e*PN	Pn	15 12 55.9	+7.2
CIT				*e*S	Sn	15 13 35.0	-3.4
CIT				*e*		15 13 52.4	
CIT				pmax	pmax		
	comp=Z,42nm,0.6s						
CIT				smax			
	comp=N,72nm,1.0s						
CIT	**Chita**	**4.20 150**		*e*Pg	Pg	15 12 58.0	-6.1
CIT				*e*Sg	Sg	15 13 52.9	-5.6
CIT				Pmax			
	comp=N,42nm,0.8s						
CIT				Smax			
	comp=N,72nm,1.1s						
HRMR	**Khuramsha**	**4.51 206**		*e*Pg	Pg	15 13 04.5	-5.5
HRMR				*e*Sg	Sg	15 14 02.7	-5.8
HRMR				Pmax			
	comp=N,25nm,0.6s						
HRMR				Smax			
	comp=N,161nm,0.9s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pb	15 13 08.8	+2.7
CRS				*e*		15 14 07.9	
CRS				pmax	pmax		
	comp=Z,35nm,1.5s						
CRS				smax			
	comp=E,42nm,1.6s						
CRS	**Chara**	**4.67**	**72**	*e*Pn	Pn	15 12 56.8	+1.7
CRS				*e*Pg	Pg	15 13 08.4	-4.5
CRS				*e*Sg	Sg	15 14 08.4	-5.0
CRS				Pmax			
	comp=E,16nm,0.8s						
CRS				Smax			
	comp=E,43nm,1.3s						
TLY	**Talaya**	**5.60 227**		*e*PN	Pn	15 13 06.8	-1.0
TLY				*e*		15 13 23.1	
TLY				*e*		15 14 33.8	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TLY				smax			
	comp=N,49nm,1.5s						
TLY	**Talaya**	**5.60 227**		*e*Pn	Pn	15 13 06.8	-1.0
TLY				*e*		15 13 26.1	
TLY				*e*Sn	Sn	15 14 10.2	-2.6
TLY				*e*Sg	Sg	15 14 36.1	-7.1
TLY				Smax			
	comp=N,25nm,0.7s						
TUP	**Tupik**	**5.77**	**99**	*e*PN	Pn	15 13 09.6	-0.6
TUP				*e*		15 13 27.0	
TUP				*e*S	Sn	15 14 14.6	-2.4
TUP				*e*		15 14 41.3	
TUP				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TUP				smax			
	comp=N,50nm,0.8s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	15 13 09.1	-1.1
TUP				*e*Pg	Pg	15 13 26.5	-7.5
TUP				*e*Sn	Sn	15 14 15.0	-2.0
TUP				*e*Sg	Sg	15 14 42.6	-6.2
TUP				Pmax			
	comp=N,4.0nm,0.2s						
TUP				Smax			
	comp=N,50nm,0.7s						
ARS	**Arshan**	**5.95 234**		*e*PN	Pn	15 13 12.3	-0.5
ARS				*e*S	Sn	15 14 16.5	-5.1
ARS	**Arshan**	**5.95 234**		*e*Pn	Pn	15 13 12.3	-0.5
ARS				*e*Sn	Sn	15 14 19.1	-2.5
ARS				*e*Sg	Sg	15 14 48.6	-6.1
ARS				Smax			
	comp=N,106nm,0.6s						
KPC	**Khapcheranga**	**6.16 167**		*e*Pn	Pn	15 13 14.8	-0.8
KPC				*e*Pg	Pg	15 13 33.9	-7.7
KPC				*e*Sn	Sn	15 14 25.6	-1.2
KPC				*e*Sg	Sg	15 14 53.6	-7.9
KPC				Pmax			
	comp=N,8.0nm,0.4s						
KPC				Smax			
	comp=N,32nm,1.1s						
ZAK	**Zakamensk**	**6.76 221**		*e*Pn	Pn	15 13 24.6	+0.8
ZAK				*e*Sg	Sg	15 15 13.3	-7.3
ZAK				Smax			
	comp=N,12nm,0.5s						
MOY	**Mondy**	**6.79 237**		*e*Pn	Pn	15 13 25.3	+1.1
MOY				*e*Sn	Sn	15 14 40.0	-2.1
MOY				*e*Sg	Sg	15 15 12.4	-9.1
MOY				Smax			
	comp=N,14nm,0.6s						
ORL	**Orlik**	**6.87 247**		*e*PN	Pn	15 13 25.8	+0.5
ORL				*e*S	Sg	15 15 16

KUR	**Kuril'sk**	**3.81**	**265**	*i* P	**Pn**	**15 31 27.0**	**-1.8**
KUR				AMB	AMB	15 31 27.8	
	comp=E,170nm,0.5s						
KUR				AMB	AMB	15 31 27.8	
	comp=E,80nm,0.5s						
KUR				AMB	AMB	15 31 27.8	
	comp=E,360nm,0.5s						
KUR				*i* S	**Sn**	**15 32 12.0**	**-0.3**
KUR				A		15 32 15.0	
	comp=E,320nm,0.8s						
KUR				A		15 32 15.0	
	comp=E,540nm,0.8s						
SKR	**Severo-Kuril's**	**5.35**	**20**	*e*PN	**Pn**	**15 31 45.5**	**-4.5**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**255**	*e*PN	**Pn**	**15 31 52.7**	**+0.7**
YUK				*e*S	**Sn**	**15 32 56.2**	**+2.2**
YUK				pmax	pmax		
	comp=Z,410nm,0.2s						
YUK				smax			
	comp=N,350nm,0.4s						
YUK				smax			
	comp=E,320nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**255**	*e*P	**Pn**	**15 31 52.7**	**+0.7**
YUK				AMB	AMB	15 31 55.4	
	comp=E,410nm,0.2s						
YUK				*e*S	**Sn**	**15 32 56.2**	**+2.2**
YUK				A		15 33 02.0	
	comp=E,350nm,0.4s						
YUK				A		15 33 02.0	
	comp=E,320nm,0.4s						
NEM2	**Nemuro 2**	**5.84**	**249**	P	**Pn**	**15 31 55.9**	**-0.8**
NEM2				*e*S	**Sn**	**15 33 01.5**	**-0.9**
JRA	**Rausu**	**6.04**	**256**	P	**Pn**	**15 32 00.8**	**+1.4**
JRA				*e*S	**Sn**	**15 33 10.4**	**+3.3**
JNK	**Nakash**	**6.43**	**254**	P	**Pn**	**15 32 05.8**	**+1.0**
JNK				*e*S	**Sn**	**15 33 18.1**	**+1.2**
JAK	**Akkeshi**	**6.69**	**249**	P	**Pn**	**15 32 07.8**	**-0.6**
JAK				*e*S	**Sn**	**15 33 21.7**	**-1.6**
JTKR	**Abashiri--Toko**	**6.86**	**259**	P	**Pn**	**15 32 12.3**	**+1.7**
JAR	**Ashorobuto**	**7.18**	**254**	P	**Pn**	**15 32 16.4**	**+1.3**
JAR				*e*S	**Sn**	**15 33 37.1**	**+1.7**
JMP	**Maruseppu**	**7.22**	**260**	P	**Pn**	**15 32 17.5**	**+1.8**
JOB	**Onbets**	**7.30**	**251**	P	**Pn**	**15 32 17.5**	**+0.8**
JOB				*e*S	**Sn**	**15 33 37.8**	**-0.4**
JKK2	**Kamakawa 2**	**7.68**	**260**	P	**Pn**	**15 32 24.0**	**+2.0**
ASAJ	**Asahikawa**	**7.72**	**262**	Pn	**Pn**	**15 32 24.9**	**+2.5**
	comp=E,1.6nm,0.3s,baz=74,slow=18,SNR=15						
ASAJ	**Asahikawa**	**7.72**	**262**	P	**Pn**	**15 32 24.8**	**+2.3**
ASAJ	**Asahikawa**	**7.72**	**262**	PN	**Pn**	**15 32 25.0**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**7.74**	**250**	P	**Pn**	**15 32 23.0**	**+0.2**
JCH				*e*S	**Sn**	**15 33 47.8**	**-1.3**
JFR	**Furan**	**8.03**	**255**	P	**Pn**	**15 32 28.7**	**+2.0**
JEM	**Erimo**	**8.16**	**247**	P	**Pn**	**15 32 29.6**	**+1.1**
JAB	**Ashibetsu**	**8.16**	**258**	P	**Pn**	**15 32 31.4**	**+2.9**
JNBK	**Urakawa-nobuka**	**8.29**	**249**	P	**Pn**	**15 32 30.2**	**-0.2**
JNBK				*e*S	**Sn**	**15 33 59.8**	**-2.9**
JBT2	**Biratori 2**	**8.34**	**253**	P	**Pn**	**15 32 31.4**	**+0.5**
JNB	**Noboribetsu**	**9.35**	**254**	P	**Pn**	**15 32 45.5**	**+0.6**
JNB				*e*S	**Sn**	**15 34 27.6**	**-1.0**
JKB	**Kayabe**	**9.61**	**251**	P	**Pn**	**15 32 47.4**	**-1.0**
JKB				*e*S	**Sn**	**15 34 30.0**	**-5.0**
JYM2	**Yakumo 2**	**9.95**	**254**	P	**Pn**	**15 32 52.8**	**-0.2**
JYM2				*e*S	**Sn**	**15 34 40.8**	**-2.5**
JANG	**Nango**	**10.09**	**242**	P	**Pn**	**15 32 52.3**	**-2.7**
JANG				*e*S	**Sn**	**15 34 40.4**	**-6.4**
JTH	**Tanohata**	**10.14**	**239**	P	**Pn**	**15 32 53.2**	**-2.4**
JTH				*e*S	**Sn**	**15 34 40.6**	**-7.3**
JTM	**Tenmabayashi**	**10.14**	**245**	P	**Pn**	**15 32 54.1**	**-1.5**
JTM				*e*S	**Sn**	**15 34 41.8**	**-6.1**
JOSM	**Okushiri--Mats**	**10.57**	**255**	P	**Pn**	**15 33 01.3**	**-0.2**
OFUJ	**Ofunato**	**10.81**	**236**	P	**Pn**	**15 33 02.1**	**-2.6**
OFUJ				*e*S	**Sn**	**15 34 55.9**	**-8.3**
JRG	**Rokugo**	**11.22**	**240**	P	**Pn**	**15 33 09.0**	**-1.4**
JIO	**Ouri**	**11.41**	**235**	P	**Pn**	**15 33 10.0**	**-3.0**
JIO				*e*S	**Sn**	**15 35 09.3**	**-10**
MAJO	**Matsushiro**	**14.54**	**236**	*e*P	**Pn**	**15 34 04.2**	**+8.7**
MAT	**Matsushiro**	**14.54**	**236**	P	**Pn**	**15 34 04.5**	**+9.0**
MJAR	**Matsushiro Arr**	**14.54**	**236**	Pn	**Pn**	**15 33 55.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=34,slow=13,SNR=3.5						
KSRS	**Korea Array**	**20.59**	**255**	P	**P**	**15 35 11.4**	**+3.8**
	comp=Z,0.9nm,0.6s,baz=54,slow=12,SNR=6.3						
KSRS				LR	LR	15 43 56.3	
	comp=Z,31nm,19.2s,MS2.7,baz=350,slow=39						
YAK	**Yakutsk**	**21.26**	**329**	*e*P	**P**	**15 35 12.6**	**-2.4**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
YAK	**Yakutsk**	**21.26**	**329**	*e*P	**P**	**15 35 12.6**	**-2.4**
	comp=Z,7.0nm,0.5s,mb4.2						
BILL	**Bilibino**	**23.40**	**12⇓**	*e*P	**P**	**15 35 38.0**	**+0.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.4						
BILL	**Bilibino**	**23.40**	**12**	*e*P	**P**	**15 35 33.8**	**-3.7**
	comp=Z,6.7nm,0.8s,mb4.1						
SONM	**Songino Array**	**31.78**	**291**	P	**P**	**15 36 55.1**	**+2.5**
	comp=Z,0.3nm,0.6s,mb3.3,baz=80,slow=10,SNR=3.1						
MK31	**Makanchi Array**	**47.51**	**298**	*e*P	**P**	**15 39 03.4**	**+0.2**
MKAR	**Makanchi Array**	**47.51**	**298**	P	**P**	**15 39 03.8**	**+0.7**
	comp=Z,1.2nm,0.6s,mb4.1,baz=65,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**47.51**	**298**	P	**P**	**15 39 03.8**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**15 39 30.1**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**15 39 30.1**	**-1.0**
	comp=Z,3.4nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**51.72**	**36**	P	**P**	**15 39 34.4**	**-0.8**
	comp=Z,0.2nm,0.6s,mb3.2,baz=300,slow=7.1,SNR=7.0						
KEV	**Kevo**	**58.37**	**341**	*e*p	**P**	**15 40 15.7**	**-7.5**
	comp=Z,5.7nm,0.8s,mb4.7						
KEV	**Kevo**	**58.37**	**341**	*e*P	**P**	**15 40 15.7**	**-7.5**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ARCES	**ARCESS Array B**	**58.88**	**341**	P	**P**	**15 40 26.0**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=40,slow=7.1,SNR=2.6						
ARCES	**ARCESS Array B**	**58.88**	**341**	P	**P**	**15 40 26.0**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.88**	**341**	P	**P**	**15 40 25.9**	**-0.8**
JOF	**Joensuu**	**62.32**	**334**	*e*p	**P**	**15 40 50.4**	**+0.2**
	comp=Z,0.4nm,0.3s,mb4.0						
NVAR	**Mina Array Bea**	**62.85**	**62**	P	**P**	**15 40 55.1**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.8,baz=292,slow=4.8,SNR=3.4						
KAF	**Kangasniemi**	**64.44**	**335**	*e*p	**P**	**15 40 57.7**	**-6.5**
	comp=Z,0.4nm,0.2s,mb4.1						
FINES	**FINESS Array B**	**65.03**	**335**	P	**P**	**15 41 07.4**	**-0.6**
	comp=Z,4.1nm,0.8s,mb4.5,baz=30,slow=6.7,SNR=10						
FINES	**FINESS Array B**	**65.03**	**335**	P	**P**	**15 41 07.4**	**-0.6**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PDAR	**Pinedale Array**	**65.30**	**54**	P	**P**	**15 41 09.1**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.7,baz=98,slow=0.4,SNR=4.5						
WRA	**Warramunga Arr**	**67.54**	**199**	P	**P**	**15 41 25.4**	**+1.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=15,slow=6.7,SNR=5.7						
NOA	**NORSAR Array B**	**69.26**	**341**	P	**P**	**15 41 34.8**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=28,slow=6.5,SNR=2.3						
NOA	**NORSAR Array B**	**69.26**	**341**	P	**P**	**15 41 34.8**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**71.23**	**199**	P	**P**	**15 41 49.8**	**+2.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=15,slow=6.1,SNR=7.3						
AKASG	**Malin Array Be**	**72.48**	**326**	P	**P**	**15 41 54.3**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=37,slow=6.3,SNR=4.8						
AKASG	**Malin Array Be**	**72.48**	**326**	P	**P**	**15 41 54.3**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.94**	**60**	P	**P**	**15 42 24.8**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=299,slow=3.5,SNR=4.6						
TXAR	**Lajitas Array**	**77.94**	**60**	P	**P**	**15 42 24.8**	**-0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

CASC 11 15:30:34.0±2.7, 1401N×9228W, h91km±35km, MD4.1, 1C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.69**	**64⇓**	*e*P	Pn	15 30 51.5	+1.1
JAT				*e*S	Sn	15 31 02.7	0.0
FUG	**Fuego 3**	**1.46**	**73⇑**	*e*P	Pn	15 30 59.1	-0.2
PCG	**Pacaya**	**1.67**	**77**	*e*P	Pn	15 31 02.5	+0.7
PCG				*e*S	Sn	15 31 25.0	+2.0
RBDL	**Robledal**	**2.52**	**87⇓**	*e*P	x	15 31 08.9	
RBDL				*e*S	x	15 31 39.5	
RTR	**El Retiro**	**2.56**	**92**	*e*P	x	15 31 09.4	
RTR				*e*S	x	15 31 41.4	
SBLS	**San Blas**	**2.58**	**94**	*e*P	x	15 31 09.2	
SBLS				*e*S	x	15 31 40.9	
SNJE	**San Jose**	**2.60**	**93**	*e*P	x	15 31 08.8	
SNJE				*e*S	x	15 31 42.0	

*IDC **11** 15:37:46.0±1.9, 3195S×17792W, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML3.7/2, MS3.5/2, Ms1 3.4/2, ms1mx2.9/21, Error ellipse: s-maj=55.3km s-min=29.9km az=122.0*

NEIC 11 15:37:47.2±0.8, 3194S×17789W, h10km, mb4.4/1, Error ellipse: s-maj=22.5km s-min=11.6km az=112.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.52**	**212**	Pn	Pn	15 39 36.9	0.0
	1.1nm,0.3s,baz=92,slow=5.1,SNR=8.8						
URZ				Sn	Sn	15 41 02.4	+0.2
	3.4nm,0.3s,baz=189,slow=17,SNR=9.3						
RPZ	**Rata Peaks**	**14.63**	**213**	Pn	Pn	15 41 14.3	+0.1
	0.4nm,0.3s,baz=76,slow=4.2,SNR=2.4						
RPZ				Sn	Sn	15 43 43.4	-13
	0.4nm,0.3s,baz=15,slow=17,SNR=3.1						
DZM	**Mont Dzumac**	**17.05**	**301**	LR	LR	15 46 44.9	
	comp=Z,150nm,20.5s,baz=181,slow=32						
TBI	**Tubuai**	**26.54**	**78**	*e*LR	LR	15 50 19.4	
	139nm,38.2s						
PPT	**Papeete**	**29.32**	**68**	*e*LR	LR	15 51 35.1	
	99nm,20.8s						
STKA	**Stephens Creek**	**34.25**	**259**	LR	LR	15 56 28.3	
	comp=Z,64nm,18.9s,baz=25,slow=33						
ASAR	**Alice Springs**	**43.14**	**269**	P	P	15 45 48.2	+0.4
	1.0nm,0.5s,baz=109,slow=7.4,SNR=25						
WB2	**Warramunga Arr**	**44.26**	**274**	*e*P	P	15 45 57.2	+0.4
WRAB	**Tennant Creek**	**44.26**	**274**	*e*P	P	15 45 56.9	0.0
	4.5nm,0.8s						
WRA	**Warramunga Arr**	**44.27**	**274**	P	P	15 45 57.4	+0.5
	1.4nm,0.3s,baz=112,slow=8.0,SNR=82						
VNA3	**Neumayer Olymp**	**76.77**	**176**	*e*	P	15 49 50.0	+11
VNA3				*e*		15 50 01.5	
VNA2	**Neumayer--Watz**	**77.20**	**177**	*e*	P	15 49 51.7	+10
	baz=174,slow=3.8						
VNA2				*e*		15 49 56.7	
VNA2				*e*		15 50 04.3	
MKAR	**Makanchi Array**	**118.82**	**309**	PKP	PKPdf	15 56 35.8	0.0
	0.1nm,0.4s,baz=155,slow=0.7,SNR=5.3						
FINES	**FINESS Array B**	**146.62**	**339**	PKPbc	PKPbc	15 57 28.6	-0.4
	1.4nm,0.5s,baz=70,slow=4.5,SNR=10						
BRTR	**Keskin Array B**	**153.38**	**296**	PKPbc	PKPbc	15 57 45.5	-0.2
	0.5nm,0.4s,baz=86,slow=6.4,SNR=5.6						
BRTR				PKPab	PKPab	15 57 57.9	+0.2
	0.5nm,0.5s,baz=138,slow=2.7,SNR=3.6						

CASC 11 16:02:38.1±3.0, 1243N×8823W, h148km±57km, MD4.0, ML3.1, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.93**	**24**	*e*P	x	16 02 55.7	
CNCH				*e*S	x	16 03 15.6	
VSM	**San Miguel**	**1.00**	**357**	*e*P	x	16 02 55.1	
VSM				*e*S	x	16 03 15.4	
BLLM	**Bellamira**	**1.01**	**359⇑**	*e*P	x	16 02 54.9	
BLLM				*e*S	x	16 03 14.3	
SNVI	**San Vicente**	**1.32**	**333**	*e*P	x	16 02 57.0	
SNVI				*e*S	x	16 03 18.7	
LCBS	**La Ceiba**	**1.42**	**329**	*e*P	x	16 02 57.4	
LCBS				*e*S	x	16 03 21.1	
MOMJ	**Momotombo**	**1.65**	**90**	*e*P	Pn	16 03 09.3	+0.3
MOMJ				*e*S	Sn	16 03 34.3	+1.5
MOMJ				*i*		16 03 36.5	
	comp=Z,39nm,0.3s						
BOQS	**Boqueron**	**1.66**	**322**	*e*P	x	16 03 00.4	
BOQS				*e*S	x	16 03 24.8	
MGAN	**Managua**	**1.95**	**98**	*e*P	Pn	16 03 13.6	+1.0
MGAN				*e*S	Sn	16 03 40.1	+1.1
SBLS	**San Blas**	**1.96**	**316**	*e*P	x	16 03 03.9	
SBLS				*e*S	x	16 03 32.0	
SNJE	**San Jose**	**1.96**	**317**	*e*P	x	16 03 04.1	
SNJE				*e*S	x	16 03 32.8	
TICN	**Ticuantepe**	**1.99**	**101**	*e*P	Pn	16 03 13.7	+0.7
TICN				*e*S	Sn	16 03 41.9	+2.2
TICN				*i*		16 03 43.1	
	comp=Z,535nm,0.4s						
RTR	**El Retiro**	**2.01**	**317**	*e*P	x	16 03 05.3	
RTR				*e*S	x	16 03 33.4	
RBDL	**Robledal**	**2.20**	**320⇑**	*e*P	x	16 03 08.2	
RBDL				*e*S	x	16 03 38.4	
MTO2	**Montecristo 2**	**2.25**	**331**	*e*P	x	16 03 10.1	
MTO2				*e*S	x	16 03 40.3	

MEX 11 16:09:22.7±0.8, 1701N×9924W, h26km±61km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.67**	**258**	*i* P	Pb	16 09 33.0	-2.7
ACX				*i* S	Sb	16 09 42.5	-2.0
MEIG	**Mezcala**	**0.98**	**338**	*i* P	Pn	16 09 38.2	-2.6
MEIG				*i* S	Sb	16 09 50.2	-3.4
CAIG	**El Cayaco**	**0.99**	**272**	*i* P	Pn	16 09 38.7	-2.2
CAIG				*i* S	Sb	16 09 50.5	-3.2
PLIG	**Platanillo**	**1.40**	**350**	*i* P	Pn	16 09 44.0	-2.5
PLIG				*i* S	Sn	16 10 01.5	-2.7
UTMO	**Huajuapan**	**1.59**	**59**	*i* P	Pn	16 09 47.4	-1.8
UTMO				*i* S	Sn	16 10 06.0	-3.0

*IDC **11** 16:35:42.7±2.3, 1127S×11782E, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.8/15, mbtmp4.0/5, ML4.1/2, Error ellipse: s-maj=113.8km s-min=24.3km az=50.0*

*NEIC **11** 16:35:44.8±0.5, 11.11S×118.15E, h10km, mb4.1/3, Error ellipse: s-maj=18.3km s-min=7.8km az=58.0*

*ISCJB **11** 16:35:45.5±0.6, 11.14S±009×11851E±010, h35km, mb4.0/4, Error ellipse: s-maj=18.0km s-min=6.2km az=96.0*

ISC 11 16:35:48.1±0.6, 1113S±009×1184E±01, h35km, n14, σ1§41/18, mb4.0/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.86**	**136**	*e*P	**Pn**	**16 38 08.3**	**+1.0**
	28nm,0.4s						
FITZ				*e*S	**Sn**	**16 39 53.9**	**-2.8**
KKM	**Kota Kinabalu**	**17.20**	**353**	*e*P	**Pn**	**16 39 46.2**	**+0.7**
WRA	**Warramunga Arr**	**17.67**	**122**	P	**Pn**	**16 39 53.8**	**+2.4**
	0.5nm,0.3s,baz=295,slow=11,SNR=41						
WRA				S	**S**	**16 43 02.3**	**-11**
	0.4nm,0.3s,baz=294,slow=25,SNR=7.0						
WRAB	**Tennant Creek**	**17.68**	**122**	*e*P	**Pn**	**16 39 53.8**	**+2.3**
	3.4nm,0.6s						
WB2	**Warramunga Arr**	**17.68**	**122**	*e*P	**Pn**	**16 39 53.7**	**+2.2**
WB2				*e*S	**S**	**16 43 01.9**	**-12**
ASAR	**Alice Springs**	**19.33**	**132**	P	**Pn**	**16 40 14.6**	**+3.1**
	1.3nm,0.3s,baz=305,slow=12,SNR=60						
ASAR				S	**S**	**16 43 39.2**	**-7.9**
	0.2nm,0.3s,baz=312,slow=24,SNR=8.0						
KLBR	**Kellerberrin**	**20.37**	**182**	*e*P	**P**	**16 40 21.9**	**+0.3**
	12nm,0.8s						
KLBR				*e*S	S	16 43 42.8	-25
MUN	**Mundaring**	**20.85**	**185**	*e*P	**P**	**16 40 27.5**	**+0.7**
MUN				*e*S	S	16 43 53.5	-24
SONM	**Songino Array**	**59.66**	**351**	P	**P**	**16 45 49.3**	**+0.6**
	1.4nm,0.7s,mb4.1,baz=167,slow=8.8,SNR=12						
MK31	**Makanchi Array**	**66.08**	**334**	*e*P	**P**	**16 46 30.6**	**-0.8**
MKAR	**Makanchi Array**	**66.08**	**334**	P	**P**	**16 46 31.1**	**-0.4**
	0.9nm,0.5s,mb4.0,baz=149,slow=7.4,SNR=14						
ZAL	**Zalesovo**	**70.81**	**340**	P	**P**	**16 46 59.7**	**-1.3**
	1.0nm,0.5s,mb4.0,baz=232,slow=1.0,SNR=5.1						
ZAL	**Zalesovo**	**70.81**	**340**	P	**P**	**16 46 59.7**	**-1.3**
CHKZ	**Chkalovo**	**76.22**	**333**	*e*P	**P**	**16 47 31.8**	**-1.0**
	0.9nm,0.5s,mb4.0						

PRE 11 16:56:51.6±1.2, 2640S×2749E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.53**	**192**	*e*P	Pg	16 57 01.4	-0.4
SLR	**Silverton**	**0.98**	**47**	*e*P	Pg	16 57 10.9	+0.6
SLR				*e*S	Sg	16 57 24.2	+1.2
SLR				AML	AML	16 57 31.7	
	comp=Z,589nm,0.2s						
SEK	**Senekal**	**1.92**	**176**	*e*P	Pn	16 57 25.7	+0.5
SEK				*e*S	Sn	16 57 51.0	+1.0
SEK				AML	AML	16 57 51.5	
	comp=Z,721nm,0.2s						
SWZ	**Schweizer**	**2.08**	**248**	*e*P	Pn	16 57 28.6	+1.2
SWZ				*e*S	Sn	16 57 54.3	+0.5
SWZ				AML	AML	16 57 55.7	
	comp=Z,404nm,0.3s						
LBTB	**Lobatse**	**2.19**	**309**	*e*P	Pn	16 57 29.9	+0.8
LBTB				*e*S	Sn	16 57 57.1	+0.3
LBTB				AML	AML	16 58 00.9	
	comp=Z,264nm,0.2s						
BOSA	**Boshof**	**2.96**	**221**	*e*P	Pn	16 57 40.4	+0.8
BOSA				*e*S	Sn	16 58 16.2	+0.5
BOSA				AML	AML	16 58 22.5	
	comp=Z,102nm,0.3s						
POGA	**Pongola**	**3.81**	**106**	*e*P	Pn	16 57 52.9	+1.7
POGA				*e*S	Sn	16 58 37.3	+0.7
POGA				AML	AML	16 59 02.0	
	comp=Z,85nm,0.6s						
KSD	**Kokstad**	**4.46**	**158**	*e*P	Pn	16 58 01.4	+1.2
KSD				*e*S	Sn	16 58 51.4	-1.2
KSD				AML	AML	16 59 12.5	
	comp=Z,58nm,0.4s						
HVD	**Hendrik Verwoe**	**4.54**	**202**	*e*P	Pn	16 58 01.5	+0.2
HVD				*e*S	Sn	16 58 53.2	-1.3
HVD				AML	AML	16 59 12.7	
	comp=Z,56nm,0.3s						
MSNA	**Messina**	**4.66**	**30**	*e*P	Pn	16 58 01.7	-1.2
MSNA				*e*S	Sn	16 58 53.8	-3.7
MSNA				AML	AML	16 59 26.3	
	comp=Z,130nm,0.6s						
PKA	**Prieska**	**5.30**	**231**	*e*P	Pn	16 58 12.2	+0.5
PKA				*e*S	Sn	16 59 11.6	-1.7
PKA				AML	AML	16 59 49.3	
	comp=Z,46nm,0.6s						
UPI	**Upington**	**5.87**	**249**	*e*P	Pn	16 58 20.5	+0.9
UPI				*e*S	Sn	16 59 26.1	-1.5
UPI				AML	AML	16 59 54.9	
	comp=Z,44nm,0.7s						
SUR	**Sutherland**	**8.33**	**223**	*e*P	Pn	16 58 54.6	+1.3
SUR				*e*S	Sn	17 00 23.9	-4.0
CVNA	**Calvinia**	**8.45**	**231**	*e*P	Pn	16 58 56.7	+1.7
CVNA				*e*S	Sn	17 00 26.6	-4.3
CVNA				AML	AML	17 01 22.3	
	comp=Z,40nm,0.7s						

*ISCJB **11** 17:06:16.7±0.8, 150S±03×1792W±02, h500km, mb3.3/5, Error ellipse: s-maj=40.0km s-min=19.3km az=118.6*

*IDC **11** 17:06:19.4±8.3, 15.22S×17908W, h524km±87km, mb2.9/5, mb1 3.3/5, mb1mx3.0/14, mbtmp2.9/5, Error ellipse: s-maj=209.7km s-min=25.7km az=153.0*

ISC 11 17:06:17.8±0.8, 152S±03×1791W±02, h500km, n9, σ0§35/7, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.58**	**257**	P	**P**	**17 13 44.4**	**-0.2**
	0.4nm,0.8s,mb2.9,baz=95,slow=8.1,SNR=9.8						
WRA				PcP	PcP	17 15 15.3	-1.6
	0.3nm,0.8s,baz=97,slow=5.0,SNR=5.9						
ASAR	**Alice Springs**	**45.00**	**252**	P	**P**	**17 13 48.1**	**+0.3**
	2.8nm,0.5s,mb4.0,baz=84,slow=8.6,SNR=94						
NVAR	**Mina Array Bea**	**77.90**	**44**	P	**P**	**17 17 23.5**	**0.0**
	0.6nm,0.5s,mb3.3,baz=217,slow=7.2,SNR=4.3						
TXAR	**Lajitas Array**	**85.07**	**58**	P	**P**	**17 18 00.9**	**+0.6**
	0.4nm,0.7s,mb3.2,baz=221,slow=4.8,SNR=6.1						
PDAR	**Pinedale Array**	**85.81**	**44**	P	**P**	**17 18 03.2**	**-0.6**
	0.5nm,0.6s,mb3.3,baz=189,slow=8.4,SNR=4.3						
VNA3	**Neumayer Olymp**	**93.50**	**177**	*e*	**P**	**17 18 39.3**	**-0.2**
VNA3				*e*		17 18 44.4	
VNA2	**Neumayer--Watz**	**93.93**	**177**	*e*	**P**	**17 18 41.6**	**+0.1**
	baz=223,slow=4.0						
VNA2				*e*		17 18 46.6	
BRTR	**Keskin Array B**	**142.39**	**317**	PKP	PKPdf	17 24 52.3	-0.8
	0.4nm,0.6s,baz=342,slow=7.0,SNR=3.7						
GERES	**GERESS Array B**	**144.82**	**345**	PKP	PKPdf	17 24 58.4	+1.1
	0.5nm,0.7s,baz=325,slow=1.6,SNR=3.8						

IDC 11 17:48:28.6±2.0, 363S×12541E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=278.8km s-min=26.5km az=63.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.40**	**152**	P	Pn	17 52 47.3	+2.1
	0.4nm,0.3s,baz=333,slow=9.6,SNR=9.9						
ASAR	**Alice Springs**	**21.54**	**158**	P	P	17 53 18.5	-0.9
	0.4nm,0.4s,baz=341,slow=10,SNR=13						
MKAR	**Makanchi Array**	**62.95**	**328**	P	P	17 58 57.0	+0.2
	0.6nm,0.7s,baz=128,slow=7.1,SN

EZN				*e*SG	**Sg**	**18 28 03.2**	**+1.0**
BOZC	**Bozcaada**	**1.09**	**350**	*i* P	**Pb**	**18 27 48.4**	**-0.4**
BOZC				*i* S	**Sb**	**18 28 03.0**	**0.0**
SMG	**Samos**	**1.14**	**158**	*e*PN	**Pn**	**18 27 50.0**	**+0.3**
SMG				*e*SN	**Sn**	**18 28 05.1**	**-0.1**
AKS	**Akhisar**	**1.19**	**84**	*e*PN	**Pn**	**18 27 48.9**	**-1.5**
CANB	**Canakkale**	**1.38**	**25**	*e*PN	**Pn**	**18 27 53.2**	**+0.1**
CANB				*e*SN	**Sn**	**18 28 12.0**	**+0.7**
CANB	**Canakkale**	**1.38**	**25**	*i* P	**Pn**	**18 27 52.5**	**-0.5**
CANB				*i* S	**Sn**	**18 28 11.0**	**-0.3**
CANB	**Canakkale**	**1.38**	**25**	*i* P	**Pn**	**18 27 52.5**	**-0.6**
APE	**Apeiranthos**	**1.80**	**200**	*e*PN	**Pn**	**18 27 58.7**	**-0.1**
ENEZ	**Enez**	**1.97**	**357**	*e*PN	**Pn**	**18 28 02.2**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.04**	**19**	*e*PN	**Pn**	**18 28 02.9**	**+0.8**

PRU ***11*** *18:53:12.6, 5031N×1891E, h0km*
WAR 11 18:53:12.9, 5023N×1908E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**91**	*e*Pg	Pg	18 53 22.0	+0.2
OJC				*e*Sg	Sg	18 53 28.8	+1.0
OKC	**Ostrava-Krasne**	**0.72**	**237**	*e*PG	Pg	18 53 26.4	-0.2
NIE	**Niedzica**	**1.14**	**135**	*e*Pg	Pg	18 53 35.5	+0.7
NIE				*e*Sg	Sg	18 53 51.9	+2.3
STHS	**Stebnicka Huta**	**1.62**	**119**	*i* PN	Pn	18 53 44.1	+1.3
STHS				*e*SN	Sn	18 54 07.5	+3.1
VYHS	**Vyhne**	**1.75**	**185**	*e*PN	Pn	18 53 43.2	-1.2
VYHS				*e*SN	Sn	18 54 06.5	-0.9
DPC	**Dobruska-Polom**	**1.77**	**275**	*e*PG	Pg	18 53 43.5	-3.3
DPC				*e*SG	Sg	18 54 08.2	-1.6
	10nm,0.5s						
KSP	**Ksiaz**	**1.88**	**290**	*e*Pg	Pg	18 53 46.2	-2.7
KSP				*e*Sg	Sg	18 54 12.8	-0.4
KECS	**Kecovo**	**1.98**	**152**	*e*PN	Pn	18 53 49.5	+1.9
KECS				*e*SN	Sn	18 54 14.1	+1.0
UPC	**Upice**	**1.98**	**279**	*e*SG	Sg	18 54 13.2	-3.3
CRVS	**Cervenica-Dubn**	**2.05**	**130**	*e*PN	Pn	18 53 52.0	+3.4
CRVS				*e*SN	Sn	18 54 19.6	+4.8
PVCC	**Panska Ves**	**2.90**	**278**	*e*SG	Sg	18 54 41.9	-4.2
PRU	**Pruhonice**	**2.93**	**267**	*e*SG	Sg	18 54 43.4	-3.6
KHC	**Kasperske Hory**	**3.74**	**255**	*e*PN	Pn	18 54 06.5	-5.3
KHC				*e*PG	Pg	18 54 16.5	-8.0
KHC				*e*SN	Sn	18 54 50.0	-6.5
KHC				*e*SG	Sg	18 55 09.8	-3.1

CSEM ***11*** *19:01:36.3, 6790N×2013E, h0km, ML3.8, Suspected Mining explosion. After UPP*
UPP ***11*** *19:01:36.3, 6790N×2013E, h0km, ML3.8, Suspected Mining explosion.*
HEL 11 19:01:36.9±0.1, 6791N×2010E, h0km, ML3.8(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**63**	*i* P	Pg	19 01 38.4	-0.4
NIKU	**Nikkaluokta**	**0.41**	**264**	*i* P	Pg	19 01 44.4	-0.3
LANU	**Lannavaara**	**0.72**	**78**	*i* P	Pg	19 01 50.1	-0.7
SALU	**Saltoluokta**	**0.81**	**230**	*i* P	Pg	19 01 51.1	-1.3
SALU	**Saltoluokta**	**0.81**	**230**	P	Pg	19 01 51.1	-1.3
	baz=87						
DUNU	**Dundret**	**0.81**	**167**	*i* P	Pg	19 01 51.5	-1.0
KIF	**Kilpisjarvi**	**1.13**	**13**	*e*P	Pg	19 02 00.5	+1.9
KIF				*e*S	Sg	19 02 17.7	+4.5
HARU	**Harads**	**1.79**	**169**	*e*P	Pn	19 02 08.3	-0.7
SGF	**Sodankyl**	**2.50**	**98**	*e*PG	Pg	19 02 22.3	-2.4
SGF				*e*SB	Sb	19 02 51.9	-2.0
KEV	**Kevo**	**3.12**	**50**	*e*	Pn	19 03 24.0	+57

IDC ***11*** *19:03:31.8±1.8, 4358N×10540W, h0km, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=39.9km s-min=8.6km az=151.0*
ISCJB ***11*** *19:03:32.2±0.5, 4373N±004×10526W±006, h0km, Error ellipse: s-maj=6.7km s-min=5.4km az=16.2*
NEIC ***11*** *19:03:33.6±0.4, 4367N×10527W, h0km, ML3.1, Error ellipse: s-maj=6.2km s-min=4.8km az=129.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 11 19:03:33.6±0.5, 4371N±003×10527W±006, h0km, n33, σ1§24/43, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**65**	*e*Pg	**Pg**	**19 03 52.3**	**-0.1**
PHWY	**Pilot Hill**	**2.41**	**183**	*e*Pn	**Pn**	**19 04 13.7**	**-0.6**
PHWY				*e*Sn	**Sn**	**19 04 46.5**	**+2.0**
RWWY	**Rawlins**	**2.48**	**216**	*e*Pn	**Pn**	**19 04 15.7**	**+0.5**
RWWY				*e*Sn	**Sn**	**19 04 47.0**	**+0.9**
LAO	**LASA Array**	**3.05**	**348**	*e*Pn	**Pn**	**19 04 24.7**	**+1.6**
RLMT	**Red Lodge**	**3.19**	**298**	*e*Pn	**Pn**	**19 04 24.4**	**-0.6**
RLMT				*e*Sn	**Sn**	**19 05 10.4**	**+6.6**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**19 04 25.8**	**-0.3**
	2.6nm,0.3s,baz=82,slow=15,SNR=78						
PDAR				Pg	**Pg**	**19 04 31.8**	**-4.5**
	8.0nm,0.3s,baz=77,slow=21,SNR=71						
PDAR				Lg		19 05 10.2	
	8.2nm,0.3s,baz=73,slow=35,SNR=9.0						
LKWY	**Lake**	**3.79**	**285**	*e*Pn	**Pn**	**19 04 34.4**	**+1.2**
LOHW	**Long Hollow**	**3.87**	**270**	*e*Pn	**Pn**	**19 04 32.7**	**-1.6**
ISCO	**Idaho Springs**	**3.92**	**184**	*e*Pn	**Pn**	**19 04 35.0**	**0.0**
ISCO				*e*Sg	**Sg**	**19 05 29.6**	**-10**
MOOW	**Moose Ponds**	**3.97**	**272**	*e*Pn	**Pn**	**19 04 36.3**	**+0.6**
SNOW	**Snow King Moun**	**3.99**	**268**	*e*Pn	**Pn**	**19 04 37.9**	**+1.8**
YNR	**Norris Junctio**	**4.01**	**286**	Pn	**Pn**	**19 04 36.1**	**-0.2**
YNR				*e*Pg	**Pg**	**19 04 46.7**	**-3.9**
REDW	**Red Top Meadow**	**4.07**	**267**	*e*Pn	**Pn**	**19 04 36.3**	**-0.8**
YFT	**Old Faithful**	**4.08**	**282**	Pn	**Pn**	**19 04 40.3**	**+3.1**
IMW	**Indian Meadow**	**4.11**	**275**	*e*Pn	**Pn**	**19 04 38.1**	**+0.4**
TPAW	**Teton Pass**	**4.13**	**269**	*e*Pn	**Pn**	**19 04 38.6**	**+0.6**
YMR	**Madison River**	**4.21**	**285**	Pn	**Pn**	**19 04 41.8**	**+2.9**
AHID	**Auburn Hatcher**	**4.36**	**259**	*e*Pg	**Pg**	**19 04 52.8**	**-4.4**
QLMT	**Earthquake Lak**	**4.56**	**286**	Pn	**Pn**	**19 04 43.7**	**-0.2**
QLMT				*e*Pg	**Pg**	**19 04 54.3**	**-6.8**
BOZ	**Bozeman (W)**	**4.93**	**295**	*e*Pn	**Pn**	**19 04 48.2**	**-0.7**
HWUT	**Hardware Ranch**	**5.09**	**248**	*e*Pn	**Pn**	**19 04 50.4**	**-0.8**
	5.0nm,0.4s						
EGMT	**Eagleton**	**5.33**	**326**	*e*Pn	**Pn**	**19 04 54.7**	**+0.3**
	11nm,0.5s						
EGMT				*e*Pg	**Pg**	**19 05 12.6**	**-3.1**
JLU	**Jordanelle**	**5.54**	**238**	Pg	**Pg**	**19 05 17.1**	**-2.8**
MCMT	**McKenzie Canyo**	**5.55**	**284**	*e*Pn	**Pn**	**19 04 59.9**	**+2.4**
SRU	**San Rafael**	**6.06**	**222**	*e*Pn	**Pn**	**19 05 03.2**	**-1.3**
	6.6nm,0.5s						
SRU				*e*Pg	**Pg**	**19 05 21.6**	**-8.1**
SRU				*e*Sg	**Sg**	**19 06 46.5**	**-1.7**
PV01	**Paradox Valley**	**6.11**	**205**	*e*Pn	**Pn**	**19 05 05.9**	**+0.8**
CHMT	**Chamberlain Mo**	**6.47**	**302**	*e*Pn	**Pn**	**19 05 10.3**	**+0.1**
MSU	**Marysvale**	**7.36**	**227**	*e*Pn	**Pn**	**19 05 22.5**	**+0.2**
AGMN	**Agassiz Refuge**	**8.00**	**52**	Pn	**Pn**	**19 05 31.0**	**0.0**
	7.5nm,0.5s						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**19 05 44.8**	**-2.2**
	0.6nm,0.3s,baz=231,slow=12,SNR=8.5						
ULM				Lg		19 08 20.5	
	0.1nm,0.3s,baz=131,slow=20,SNR=4.7						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**19 05 44.8**	**-2.2**
ULM				Lg		19 08 20.5	
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**19 08 04.0**	**-0.5**
	0.1nm,0.3s,baz=161,slow=12,SNR=5.4						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**Pn**	**19 08 04.0**	**-0.5**

NEIC ***11*** *19:05:33.2±0.5, 2189N×14307E, h35km, mb4.2/4, Error ellipse: s-maj=19.4km s-min=8.7km az=82.0*
ISCJB ***11*** *19:05:49.5±7.5, 218N±01×1428E±03, h199km±70km, mb3.6/13, Error ellipse: s-maj=39.0km s-min=14.8km az=152.9*
IDC ***11*** *19:05:49.1±7.7, 2180N×14291E, h182km±73km, mb3.4/10, mb1 3.6/10, mb1mx3.5/21, mbtmp3.4/10, Error ellipse: s-maj=33.5km s-min=13.7km az=82.0*
ISC 11 19:05:50.2±6.6, 2179N±010×1429E±03, h191km±62km, n15, σ0§49/15, mb3.8/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.26**	**324**	P	**P**	**19 10 11.3**	**+0.4**
	2.2nm,0.7s,baz=140,slow=9.0,SNR=9.0						
SONM	**Songino Array**	**39.08**	**321**	P	**P**	**19 12 58.3**	**-0.4**
	1.3nm,0.7s,mb3.7,baz=132,slow=7.1,SNR=12						
WRAB	**Tennant Creek**	**42.29**	**192**	*e*P	**P**	**19 13 24.5**	**-0.4**
	2.2nm,0.8s,mb3.8						
WB2	**Warramunga Arr**	**42.30**	**192**	*e*P	**P**	**19 13 25.0**	**0.0**
WRA	**Warramunga Arr**	**42.30**	**192**	P	**P**	**19 13 25.1**	**+0.1**
	1.2nm,0.7s,mb3.6,baz=17,slow=9.3,SNR=13						
ASAR	**Alice Springs**	**46.01**	**191**	P	**P**	**19 13 54.5**	**0.0**
	0.8nm,0.6s,mb3.5,baz=16,slow=9.9,SNR=22						
ZAL	**Zalesovo**	**53.96**	**322**	P	**P**	**19 14 53.4**	**-0.8**
	0.9nm,0.2s,mb4.1,baz=357,slow=9.6,SNR=3.9						
MKAR	**Makanchi Array**	**54.41**	**313**	P	**P**	**19 14 57.9**	**+0.4**
	0.5nm,0.7s,mb3.3,baz=80,slow=8.5,SNR=5.2						
KURK	**Kurchatov**	**57.20**	**317**	*e*P	**P**	**19 15 17.3**	**0.0**
	2.0nm,0.8s,mb4.0						
CHKZ	**Chkalovo**	**62.27**	**320**	*e*P	**P**	**19 15 51.7**	**-0.1**
	2.4nm,1.1s,mb3.9						
BRVK	**Borovoye**	**62.47**	**320**	*e*P	**P**	**19 15 53.3**	**+0.1**
	2.7nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**19 17 18.3**	**-0.8**
	1.0nm,0.6s,mb3.6,baz=293,slow=5.8,SNR=18						
ARCES	**ARCESS Array B**	**78.74**	**341**	P	**P**	**19 17 31.1**	**-0.3**
	2.5nm,0.5s,mb4.1,baz=225,slow=25,SNR=7.7						
NVAR	**Mina Array Bea**	**83.32**	**51**	P	**P**	**19 17 56.4**	**+0.8**
	0.7nm,0.6s,mb3.5,baz=261,slow=5.4,SNR=5.0						
BRTR	**Keskin Array B**	**90.06**	**313**	P	**P**	**19 18 29.1**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=84,slow=5.1,SNR=4.2						

CSEM ***11*** *19:16:57.5±0.1, 3706N×554W, h2km, ML3.3/9, Error ellipse: s-maj=1.6km s-min=1.0km az=11.0*
NEIC ***11*** *19:16:58.3, 3704N×554W, h11km, MN2.6(MDD), After MDD.*
NEIC Felt [III] at Montellano.
SFS ***11*** *19:16:58.0, 3707N×555W, h0km, ML2.6*
INMG ***11*** *19:16:58.1±1.1, 3704N×555W, h11km±3km, ML2.6, Error ellipse: s-maj=1.8km s-min=1.3km az=33.0*
MDD 11 19:16:58.2±0.2, 3705N×553W, h10km, mbLg2.6/26, 4C-2D, Error ellipse: s-maj=2.6km s-min=1.9km az=2.0, PRXIMO I EL CORONIL CORIPE, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.18**	**145**	⇑P	Pg	19 17 00.7	-1.4
LIJA	**Lijar**	**0.18**	**145**	*i* P	Pg	19 17 00.7	-1.4
ESPR	**Espera**	**0.32**	**235**	⇑Pg	Pg	19 17 04.3	-0.3
	56nm,0.3s,SNR=18						
ESPR				Lg		19 17 09.0	
	490nm,0.3s,SNR=5.0						
ESPR	**Espera**	**0.32**	**235**	Pg	Pg	19 17 04.3	-0.3
	56nm,0.3s,SNR=18						
GIBL	**Gibalbin**	**0.41**	**238**	P	Pg	19 17 06.3	0.0
GIBL				S	Sg	19 17 13.8	+2.0
GIBL	**Gibalbin**	**0.41**	**238**	*e*P	Pg	19 17 06.3	-0.1
EJIF	**Jimena Fronter**	**0.60**	**175**	⇓Pg	Pg	19 17 08.6	-1.3
	7.5nm,0.2s,SNR=18						
EJIF				Lg		19 17 17.1	
	61nm,0.4s,SNR=7.9						
REAL	**Reales**	**0.62**	**155**	P	Pg	19 17 09.6	-0.7
REAL				S	Sg	19 17 18.4	0.0
REAL	**Reales**	**0.62**	**155**	*i* P	Pg	19 17 09.6	-0.7
SCRT	**Cerro San Cris**	**0.66**	**231**	P	Pg	19 17 12.2	+1.1
SCRT				S	Sg	19 17 21.2	+1.4
SCRT	**Cerro San Cris**	**0.66**	**231**	*i* P	Pg	19 17 12.1	+1.0
MOMI	**Momias**	**0.73**	**192**	P	Pg	19 17 12.4	0.0
MOMI	**Momias**	**0.73**	**192**	*e*P	Pg	19 17 12.4	0.0
EMIJ	**Mijas**	**0.78**	**128**	Pg	Pg	19 17 12.1	-1.2
	20nm,0.2s,SNR=39						
EMIJ				Lg		19 17 23.3	
	104nm,0.4s,SNR=10						
CNIL	**Conil**	**0.80**	**212**	*e*P	Pg	19 17 15.5	+1.9
ELOJ	**Sierra Loja**	**1.11**	**85**	Pg	Pg	19 17 18.9	-0.6
	6.4nm,0.2s,SNR=7.9						
ELOJ				Lg		19 17 34.2	
	34nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**1.13**	**63**	Pg	Pg	19 17 19.4	-0.5
	7.8nm,0.2s,SNR=11						
ELUQ				Lg		19 17 36.0	
	30nm,0.2s,SNR=9.4						
EMIN	**Mina Concepcio**	**1.16**	**309**	⇓Pg	Pg	19 17 18.3	-2.2
	107nm,0.3s,SNR=18						
EMIN				Lg		19 17 34.8	
	79nm,0.2s,SNR=24						
EMIN	**Mina Concepcio**	**1.16**	**309**	Pg	Pg	19 17 18.3	-2.2
	107nm,0.3s,SNR=18						
EADA	**Adamuz**	**1.35**	**34**	Pn	Pn	19 17 21.6	-1.4
	0.8nm,0.1s,SNR=7.9						
EADA				Pg	Pg	19 17 23.1	-1.0
	9.7nm,0.1s,SNR=80						
EADA				Lg		19 17 41.2	
	39nm,0.1s,SNR=27						
EADA	**Adamuz**	**1.35**	**34**	Pn	Pn	19 17 21.6	-1.4
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.35**	**34**	Pg	Pg	19 17 23.1	-1.0
	9.7nm,0.1s,SNR=80						
ERON	**Agron**	**1.38**	**91**	Pg	Pg	19 17 24.4	-0.3
	3.6nm,0.2s,SNR=11						
ERON				Lg		19 17 44.4	
	6.8nm,0.2s,SNR=5.0						
ERIP	**Rio Piedras**	**1.41**	**284**	⇑Pg	Pg	19 17 22.9	-2.4
ERIP				Lg		19 17 41.9	
ERIP	**Rio Piedras**	**1.41**	**284**	⇑Pg	Pg	19 17 22.9	-2.4
	34nm,0.1s,SNR=18						
ERIP				Lg		19 17 41.9	
	73nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.58**	**81**	Pg	Pg	19 17 25.8	-2.8
	6.5nm,0.3s,SNR=7.9						
ECOG				Lg		19 17 48.8	
	20nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**1.59**	**97**	Pg	Pg	19 17 26.7	-2.1
	2.5nm,0.2s,SNR=7.9						
EGUA				Lg		19 17 49.5	
	5.8nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**1.63**	**288**	Pn	Pn	19 17 24.8	-2.1
	1.4nm,0.1s,SNR=7.9						
EGRO				Pg	Pg	19 17 27.0	-2.5
	15nm,0.1s,SNR=38						
EGRO				Lg		19 17 47.7	
	54nm,0.2s,SNR=28						
EGRO	**El Granado**	**1.63**	**288**	Pn	Pn	19 17 24.8	-2.1
	1.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.63**	**288**	Pg	Pg	19 17 27.0	-2.5
	15nm,0.1s,SNR=38						
EQUE	**Quentar**	**1.68**	**84**	Pn	Pn	19 17 27.0	-0.5
	2.9nm,0.3s,SNR=36						
EQUE				Lg		19 17 52.4	
	33nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**1.78**	**51**	Pn	Pn	19 17 27.6	-1.3
EBAN				Sn	Sn	19 17 50.4	-1.2
EBAN				Lg		19 17 54.0	
EBAN	**Banos Encina**	**1.78**	**51**	Pn	Pn	19 17 27.6	-1.3
	4.0nm,0.2s,SNR=9.4						
EBAN				Sn	Sn	19 17 50.4	-1.2
	SNR=4.0						
EBAN				Lg		19 17 54.0	
	32nm,0.2s,SNR=5.0						
EBAN	**Banos Encina**	**1.78**	**51**	Pn	Pn	19 17 27.6	-1.3
	4.0nm,0.2s,SNR=9.4						
EBAN				Sn	Sn	19 17 50.3	-1.2
EBAD	**Badajoz**	**2.07**	**326**	Pn	Pn	19 17 30.9	-2.0
	1.4nm,0.1s,SNR=14						
EBAD				Pg	Pg	19 17 34.9	-2.9
	2.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	19 17 57.0	-1.7
	18nm,0.2s,SNR=7.9						
EBAD				Lg		19 18 02.5	
	46nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**2.07**	**326**	Pn	Pn	19 17 30.9	-2.0
	1.4nm,0.1s,SNR=14						
EBAD	**Badajoz**	**2.07**	**326**	Pg	Pg	19 17 34.9	-3.0
	2.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	19 17 57.0	-1.7
	18nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.10**	**68**	Pg	Pg	19 17 36.3	-2.2
	2.1nm,0.1s,SNR=12						
EQES				Sn	Sn	19 18 00.0	+0.6
	6.9nm,0.2s,SNR=4.0						
EQES				Lg		19 18 05.1	
	48nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.10**	**68**	Pg	Pg	19 17 36.2	-2.2
EQES				Sn	Sn	19 18 00.0	+0.6
	6.9nm,0.2s,SNR=4.0						
PBEJ	**Beja**	**2.10**	**298**	*e*Pn	Pn	19 17 31.6	-1.7
PBEJ				*e*Sg	Sg	19 18 02.2	-3.4
PBEJ				A		19 18 10.0	
	30nm,0.2s						
PBEJ	**Beja**	**2.10**	**298**	*e*Pn	Pn	19 17 31.6	-1.7
PBEJ				*e*Sg	Sg	19 18 02.2	-3.4
	30nm,0.2s						
EBER	**Berja**	**2.12**	**93**	Pg	Pg	19 17 38.5	-0.3
	SNR=7.9						
EBER				Lg		19 18 10.7	
	39nm,0.5s,SNR=7.9						
EBER	**Berja**	**2.12**	**93**	Pg	Pg	19 17 38.5	-0.4
	SNR=7.9						
PESTR	**Estremoz**	**2.44**	**319**	*e*Pn	Pn	19 17 36.5	-1.5
PESTR				A		19 18 19.8	
	28nm,0.3s						
PESTR	**Estremoz**	**2.44**	**319**	*e*Pn	Pn	19 17 36.5	-1.5
	28nm,0.3s						
EHUE	**Huescar**	**2.46**	**71**	Pn	Pn	19 17 36.8	-1.5
	1.3nm,0.1s,SNR=7.9						
EHUE				Lg		19 18 14.8	
	7.1nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.59**	**282**	*e*Pn	Pn	19 17 38.3	-1.9
PTEO				*e*P		19 17 46.1	
PTEO				*e*Sn	Sn	19 18 09.0	-2.7
PTEO				*e*Sg	Sg	19 18 18.1	-3.5
PTEO				A		19 18 23.8	
	31nm,0.3s						
PTEO	**Sao Teotonio**	**2.59**	**282**	*e*Pn	Pn	19 17 38.3	-1.9
PTEO				*e*Sn	Sn	19 18 09.0	-2.7
PTEO				*e*Sg	Sg	19 18 18.1	-3.5
	31nm,0.3s						
MOE	**Montemor**	**2.67**	**304**	*e*Pn	Pn	19 17 39.9	-1.4
MOE	**Montemor**	**2.67**	**304**	*e*Pg	Pg	19 17 46.0	-3.5
MOE				*e*Sn	Sn	19 18 11.6	-2.1
MOE				*e*Sg	Sg	19 18 19.5	-4.6
MOE	**Montemor**	**2.67**	**304**	Pn	Pn	19 17 39.9	-1.4
MOE				Pg	Pg	19 17 46.0	-3.5
MOE				Sn	Sn	19 18 11.6	-2.1
MOE	**Montemor**	**2.67**	**304**	*e*Pg	Pg	19 17 46.0	-3.5
MOE				*e*Sn	Sn	19 18 11.6	-2.1
MOE				*e*Sg	Sg	19 18 19.5	-4.6
EVIA	**Vianos**	**2.87**	**56**	Pn	Pn	19 17 43.1	-0.9
	1.0nm,0.1s,SNR=7.9						
EVIA				Pg	Pg	19 17 52.3	-1.0
	1.4nm,0.2s,SNR=7.9						
EVIA				Lg		19 18 29.8	
	26nm,0.5s,SNR=7.6						
ESDC	**Sonseca Array**	**2.90**	**25**	Pn	Pn	19 17 43.5	-0.8
	0.4nm,0.1s,baz=203,slow=12,SNR=7.9						
ESDC				Pg	Pg	19 17 52.0	-1.7
	1.0nm,0.1s,baz=215,slow=17,SNR=25						
ESDC				Sn	Sn	19 18 19.0	-0.1
	1.4nm,0.1s,baz=208,slow=22,SNR=5.3						
ESDC				Lg		19 18 28.5	
	9.7nm,0.3s,baz=215,slow=29,SNR=15						
ESDC	**Sonseca Array**	**2.90**	**25**	Pn	Pn	19 17 43.5	-0.8
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**2.90**	**25**	Pg	Pg	19 17 52.0	-1.7
	1.0nm,0.1s,SNR=25						
ESDC				Sn	Sn	19 18 19.0	-0.1
	1.4nm,0.1s,SNR=5.3						
PCBR	**Castelo Branco**	**3.18**	**332**	*e*Pn	Pn	19 17 46.9	-1.3
PCBR				*e*Sn	Sn	19 18 22.9	-3.2
PCBR				*e*Sg	Sg	19 18 36.3	-4.0
PCBR				A		19 18 42.7	
	12nm,0.5s						
PCBR	**Castelo Branco**	**3.18**	**332**	Pn	Pn	19 17 46.9	-1.3
PCBR				Sn	Sn	19 18 22.9	-3.2
PCBR	**Castelo Branco**	**3.18**	**332**	*e*Pn	Pn	19 17 46.9	-1.3
PCBR				*e*Sn	Sn	19 18 22.9	-3.2
PCBR				*e*Sg	Sg	19 18 36.3	-4.0
	12nm,0.5s						
PLOU	**Loures**	**3.40**	**304**	*e*Pn	Pn	19 17 49.7	-1.5
PLOU				*e*Sn	Sn	19 18 28.4	-3.1
PLOU				A		19 18 52.9	
	23nm,0.4s						
PLOU	**Loures**	**3.40**	**304**	*e*Pn	Pn	19 17 49.7	-1.5
PLOU				*e*Sn	Sn	19 18 28.4	-3.1
	23nm,0.4s						
EMUR	**La Murta**	**3.50**	**76**	Lg		19 18 53.3	
	11nm,0.4s,SNR=4.0						
PMAFR	**Mafra**	**3.52**	**304**	*e*Pn	Pn	19 17 51.2	-1.7
PMAFR				*e*Sn	Sn	19 18 31.7	-2.9
PMAFR				A		19 18 53.9	
	30nm,0.5s						
PMAFR	**Mafra**	**3.52**	**304**	*e*Pn	Pn	19 17 51.2	-1.7
PMAFR				*e*Sn	Sn	19 18 31.7	-2.9
	30nm,0.5s						
ETOB	**Tobarra**	**3.53**	**62**	Pn	Pn	19 17 52.1	-1.0
	SNR=7.9						
ETOB				Pg	Pg	19 18 04.1	-1.8
	SNR=7.9						
ETOB				Sn	Sn	19 18 33.2	-1.6
	1.1nm,0.1s,SNR=7.9						
ETOB				Lg		19 18 49.1	
	5.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.53**	**62**	Pn	Pn	19 17 52.1	-0.9
	SNR=7.9						
ETOB	**Tobarra**	**3.53**	**62**	Pg	Pg	19 18 04.1	-1.8
	SNR=7.9						
ETOB				Sn	Sn	19 18 33.2	-1.6
	1.1

YKA	Yellowknife Ar	50.05	37	P	P	19 37 14.1	+0.9
	comp=Z,0.1nm,0.4s,mb3.2,baz=294,slow=6.5,SNR=4.6						
LSA	Lhasa	50.62	273	eP	P	19 37 18.2	+0.7
LSA				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
LSA	Lhasa	50.62	273	eP	P	19 37 18.2	+0.7
	comp=Z,0.9nm,0.4s,mb4.0						
FINES	FINESS Array B	63.48	335	P	P	19 38 48.8	+0.2
	comp=Z,0.7nm,0.4s,mb4.1,baz=50,slow=7.4,SNR=3.4						
FINES	FINESS Array B	63.48	335	P	P	19 38 48.8	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	63.97	54	P	P	19 38 51.1	-0.7
	comp=Z,0.4nm,0.8s,mb3.5,baz=289,slow=5.4,SNR=3.8						
NOA	NORSAR Array B	67.60	341	P	P	19 39 16.2	+1.0
	comp=Z,1.0nm,0.7s,mb4.0,baz=27,slow=6.6,SNR=2.4						
NOA	NORSAR Array B	67.60	341	P	P	19 39 16.2	+1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	Hagfors	67.84	340	P	P	19 39 17.4	+0.6
	comp=Z,4.2nm,0.7s,mb4.6,baz=54,slow=5.8,SNR=8.2						
HFS	Hagfors	67.84	340	P	P	19 39 17.4	+0.7
HFS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAR	Alice Springs	73.09	199	P	P	19 39 43.0	-5.8
	comp=Z,0.3nm,0.8s,mb3.3,baz=9.7,slow=6.0,SNR=5.4						
TXAR	Lajitas Array	76.77	61	P	P	19 40 08.9	-1.1
	comp=Z,0.7nm,0.6s,mb3.7,baz=304,slow=3.7,SNR=9.6						
TXAR	Lajitas Array	76.77	61	P	P	19 40 08.9	-1.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*BJI **11** 20:07:12.4, 2186N×14360E, h34km, mB5.1, mb4.5, Ms4.4, Msz4.1*
*NEIC **11** 20:07:16.2±0.5, 2189N×14322E, h35km, mb4.6/9, Error ellipse: s-maj=20.3km s-min=9.5km az=81.0*
*ISCJB **11** 20:07:20.6±7.6, 2187N±008×143.1E±02, h90km±69km, mb4.3/19, Error ellipse: s-maj=29.4km s-min=11.3km az=150.5*
*IDC **11** 20:07:24.4±8.5, 2185N×14304E, h108km±78km, mb3.7/12, mb1 3.9/12, mb1mx3.9/22, mbtmp3.7/12, MS3.5/6, Ms1 3.5/6, ms1mx3.2/33, Error ellipse: s-maj=34.2km s-min=13.3km az=77.0*

ISC 11 20:07:23.5±6.2, 2188N±008×1431E±02, h101km±57km, n34, σ0§94/29, mb4.3/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.27	351	LR	LR		20 10 25.9	
	comp=Z,324nm,19.7s,baz=125,slow=34							
JHJ	Hachijo jima 2	11.59	346	LR	LR		20 13 07.7	
	comp=Z,167nm,20.8s,baz=57,slow=30							
MJAR	Matsushiro Arr	15.23	345	LR	LR		20 16 06.2	
	comp=Z,226nm,19.5s,baz=205,slow=34							
KSRS	Korea Array	20.34	323	P	P		20 11 51.7	0.0
	2.4nm,0.7s,baz=140,slow=8.8,SNR=8.9							
KSRS				LR	LR		20 19 40.3	
	comp=Z,114nm,19.7s,baz=357,slow=36							
ASAJ	Asahikawa	22.18	359	LR	LR		20 21 06.0	
	comp=Z,118nm,19.3s,baz=142,slow=37							
SONM	Songino Array	39.17	320	P	P		20 14 40.9	-0.5
	2.4nm,0.8s,mb4.1,baz=134,slow=6.7,SNR=17							
GTA	Gaotai	40.73	305	eP	P		20 14 55.3	+1.0
GTA				AMB	AMB			
	comp=Z,4.0nm,1.9s,mb3.9							
CTA	Charters Tower	41.82	176	eP	P		20 15 02.1	-1.1
	comp=Z,8.4nm,1.0s,mb4.4							
CTA	Charters Tower	41.82	176	P	P		20 15 04.6	+1.4
	comp=Z,16nm,1.1s,mb4.7,baz=336,slow=6.9,SNR=4.3							
WRAB	Tennant Creek	42.43	192	eP	P		20 15 08.0	-0.1
	comp=Z,9.8nm,1.1s,mb4.5							
WB2	Warramunga Arr	42.44	192	eP	P		20 15 08.2	0.0
WB2	Warramunga Arr	42.44	192	eP	P		20 15 08.1	-0.1
WRA	Warramunga Arr	42.44	192	P	P		20 15 07.8	-0.4
	comp=Z,4.7nm,0.9s,mb4.2,baz=14,slow=8.7,SNR=20							
FITZ	Fitzroy Crossi	43.26	205	eP	P		20 15 14.8	-0.1
	comp=Z,3.4nm,0.8s,mb4.1							
ASAR	Alice Springs	46.15	192	P	P		20 15 37.5	-0.3
	comp=Z,1.4nm,0.7s,mb3.8,baz=19,slow=10,SNR=18							
LSA	Lhasa	47.12	291	eP	P		20 15 48.3	+2.9
	comp=Z,5.2nm,1.1s,mb4.2							
WMQ	Urumqi	50.43	309	P	P		20 16 09.4	-1.3
WMQ				AMB	AMB			
	comp=Z,15nm,1.4s,mb4.7							
WMQ				LR	LR			
	comp=N,108nm,10.0s							
WMQ				LR	LR			
	comp=E,92nm,12.0s							
WMQ				LR	LR			
	comp=Z,99nm,11.0s							
STKA	Stephens Creek	53.47	182	eP	P		20 16 34.0	+0.8
	comp=Z,3.3nm,1.1s,mb4.3							
STKA	Stephens Creek	53.47	182	P	P		20 16 33.3	+0.1
	comp=Z,2.7nm,0.8s,mb4.3,baz=341,slow=18,SNR=3.5							
ZAL	Zalesovo	54.05	322	P	P		20 16 38.6	+1.1
	comp=Z,2.8nm,1.0s,mb4.2,baz=3.5,slow=7.5,SNR=9.9							
MK31	Makanchi Array	54.54	313	P	P		20 16 40.1	-1.0
MKAR	Makanchi Array	54.54	313	P	P		20 16 41.4	+0.4
	comp=Z,0.9nm,0.8s,mb3.9,baz=85,slow=7.4,SNR=5.1							
KURK	Kurchatov	57.31	317	eP	P		20 17 00.4	-0.4
	comp=Z,29nm,1.8s,mb5.0							
CHKZ	Chkalovo	62.37	320	eP	P		20 17 35.0	-0.4
	comp=Z,12nm,1.3s,mb4.8							
BRVK	Borovoye	62.57	319	eP	P		20 17 36.2	-0.5
	comp=Z,17nm,1.3s,mb4.8							
INK	Inuvik	67.43	24	eP	P		20 18 07.5	-0.7
	comp=Z,113nm,0.8s							
YKA	Yellowknife Ar	76.32	28	P	P		20 19 00.9	-0.4
	comp=Z,1.7nm,0.8s,mb3.8,baz=294,slow=5.9,SNR=14							
YKA	Yellowknife Ar	76.32	28	P	P		20 19 00.9	-0.4
PPT	Papeete	76.65	115	LR	LR		20 47 37.5	
	comp=Z,70nm,18.8s,baz=74,slow=32							
KIV	Kislovodsk	82.26	314	eP	P		20 19 36.8	+3.1
	comp=Z,10nm,1.0s,mb4.6							
NVAR	Mina Array Bea	83.07	51	P	P		20 19 39.6	+1.7
	comp=Z,1.9nm,0.8s,mb4.0,baz=280,slow=4.4,SNR=8.8							
AKASG	Malin Array Be	87.33	324	P	P		20 19 57.9	-1.2
	comp=Z,0.1nm,0.3s,baz=46,slow=5.2,SNR=5.1							
AKASG	Malin Array Be	87.33	324	P	P		20 19 57.9	-1.2
BRTR	Keskin Array B	90.18	313	P	P		20 20 12.4	0.0
	comp=Z,1.7nm,0.9s,mb4.2,baz=108,slow=4.0,SNR=9.0							

IDC 11 20:11:33.9±0.8, 672N×7290W, h169km±12km, mb2.8/1, mb1 3.3/3, mb1mx3.0/19, mbtmp3.2/3, Error ellipse: s-maj=62.3km s-min=7.6km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.33	218	P		Pn	20 12 14.8	+0.8
	22nm,0.3s,baz=102,slow=22,SNR=29							
ROSC				S		Sn	20 12 46.2	+1.3
	34nm,0.3s,baz=76,slow=22,SNR=15							
SDV	Santo Domingo	3.11	46	P		Pn	20 12 24.3	+0.9
	13nm,0.3s,baz=246,slow=5.2,SNR=70							
SDV				S		Sn	20 13 02.4	+0.6
	14nm,0.3s,baz=86,slow=23,SNR=23							
YKA	Yellowknife Ar	63.43	340	P		P	20 21 45.4	-0.2
	0.2nm,0.5s,baz=137,slow=6.7,SNR=4.1							
WRA	Warramunga Arr	150.48	241	PKPbc		PKPbc	20 31 06.1	+0.7
	0.3nm,0.5s,baz=109,slow=2.5,SNR=13							

*ISCJB **11** 20:22:03.2±0.8, 3145S±003×719W±0.1, h47km±7km, mb4.3/5, MS3.9/4, Error ellipse: s-maj=14.8km s-min=4.2km az=175.6*
*NEIC **11** 20:22:03.3, 3146S×7168W, h28km, MD4.4(GUC), After GUC.*
*GUC **11** 20:22:03.3±0.6, 3146S×7168W, h28km±2km, MD4.4, ML4.4*
*IDC **11** 20:22:05.7±4.6, 3136S×7184W, h54km±37km, mb4.1/5, mb1 4.1/8, mb1mx3.9/17, mbtmp4.0/8, ML3.9/3, MS3.7/5, Ms1 3.7/5, ms1mx3.4/26, Error ellipse: s-maj=42.5km s-min=21.5km az=77.0*

ISC 11 20:22:04.2±0.9, 3144S±003×719W±01, h39km±8km, n50, σ0§77/55, mb4.3/5, MS3.9/4, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PACH	Papudo	1.17	160	⇑iP		Pn	20 22 22.8	-1.3
PACH				iS		Sn	20 22 37.1	-1.6
TLL	Tololo Astrono	1.58	37	⇑iP		Pn	20 22 29.2	-0.5
TLL				iS		Sn	20 22 49.1	+0.1
TLL				AML		AML	20 22 52.4	
	comp=N,7μm,1.1s							
TLL	Tololo Astrono	1.58	37	⇑iP		Pn	20 22 29.2	-0.5
TLL				iS		Sn	20 22 49.1	+0.1
LSCH	La Serena	1.63	21	eP		Pn	20 22 30.3	0.0
LSCH				iS		Sn	20 22 51.0	+0.8
JACH	Jahuel	1.67	138	eP		Pn	20 22 30.0	-0.9
JACH				eS		Sn	20 22 50.0	-1.1
ROCH	El Roble	1.71	154	⇑iP		Pn	20 22 31.3	-0.2
ROCH				iS		Sn	20 22 52.5	+0.5
PEL	Peldehue	1.99	149	eP		Pn	20 22 35.0	-0.3
PEL				iS		Sn	20 22 59.3	+0.3
PEL				AML		AML	20 23 05.5	
	comp=E,11μm,0.4s							
RCDM	Rinconada Maip	2.25	156	eP		Pn	20 22 38.5	-0.4
RCDM				eS		Sn	20 23 05.3	-0.1
RCDM				AML		AML	20 23 14.7	
	comp=E,4μm,0.5s							
RCDM	Rinconada Maip	2.25	156	eP		Pn	20 22 38.5	-0.4
RCDM				eS		Sn	20 23 05.3	-0.1
DSCH	Colegio Aleman	2.26	150	AML		AML	20 23 17.8	
	comp=N,1μm,0.5s							
STL	Santa Lucia	2.26	152	AML		AML	20 23 15.2	
	comp=E,928nm,0.5s							
SAN	Santiago	2.27	153	AML		AML	20 23 14.7	
	comp=E,5μm,0.5s							
CLCH	Cerro Calan	2.27	150	⇑iP		Pn	20 22 39.1	-0.1
CLCH				eS		Sn	20 23 05.7	-0.2
CLCH				AML		AML	20 23 11.6	
	comp=E,8μm,0.4s							
FCH	Farellones	2.33	144	⇑iP		Pn	20 22 40.2	+0.2
FCH				⇑iP			20 22 40.3	
FCH				iS		Sn	20 23 07.9	+0.6
FCH				iS		Sn	20 23 08.0	+0.6
FCH				AML		AML	20 23 17.4	
	comp=E,3μm,0.6s							
FCH	Farellones	2.33	144	⇑iP		Pn	20 22 40.3	+0.3
FCH				iS		Sn	20 23 08.0	+0.6
TACH	Talagante	2.36	160	⇓iP		Pn	20 22 40.4	+0.1
TACH				iS		Sn	20 23 08.6	+0.6
ANTU	Antumapu	2.38	153	AML		AML	20 23 17.6	
	comp=E,5μm,0.4s							
PCH	Pirque	2.48	152	iP		Pn	20 22 41.8	-0.2
PCH				iS		Sn	20 23 10.8	-0.1
LNV	Longovilo	2.54	171	iP		Pn	20 22 43.4	+0.4
LNV				iS		Sn	20 23 13.8	+1.1
YECH	El Yeso	2.70	146	AML		AML	20 23 30.4	
	comp=N,3μm,0.4s							
CHCH	Chadas Angostu	2.70	157	iP		Pn	20 22 45.0	-0.1
CHCH				iS		Sn	20 23 16.7	+0.1
ZON	Zonda	2.76	93	AML		AML	20 23 34.0	
	comp=E,3μm,0.6s							
CACH	El Canelo	2.89	158	eP		Pn	20 22 48.3	+0.6
MDZ	Mendoza	2.97	120	eP		Pn	20 22 51.3	+2.5
MDZ				e			20 23 23.8	
MDZ				eS		Sn	20 23 36.6	+13
CICH	Cipreses	3.13	157	eP		Pn	20 22 51.5	+0.4
CICH				iS		Sn	20 23 27.6	+0.4
CFAA	Coronel Fontan	3.14	94	P		Pn	20 22 52.8	+1.6
	comp=E,7.2nm,0.3s,baz=273,slow=9.7,SNR=133							
CFAA				S		Sn	20 23 36.4	+9.1
	comp=E,24nm,0.3s,baz=7.5,slow=22,SNR=11							
CFAA				LR		LR	20 24 17.6	
	comp=E,178nm,20.7s,baz=300,slow=43							
CFAA	Coronel Fontan	3.14	94	P		Pn	20 22 52.8	+1.6
CFAA				S		Sn	20 23 36.4	+9.1
CFAA				LR		LR	20 24 17.6	
TRQA	Tornquist	10.50	132	ePn		Pn	20 24 30.4	-1.7
	comp=E,29nm,1.0s							
LPAZ	La Paz	15.47	14	P		Pn	20 25 39.6	+0.1
	comp=E,0.3nm,0.3s,baz=193,slow=8.9,SNR=13							
SIV	San Ignacio	18.28	35	P		Pn	20 26 12.3	-2.4
	comp=E,0.3nm,0.3s,baz=224,slow=12,SNR=15							
USHA	Ushuaia	23.51	175	LR		LR	20 37 05.2	
	comp=E,310nm,20.7s,MS3.8,baz=131,slow=38							
ATAH	Atahualpa	25.06	345	LR		LR	20 35 53.1	
	comp=E,114nm,18.5s,MS3.4,baz=178,slow=33							
VNA3	Neumayer Olymp	51.69	159	e		P	20 31 07.2	0.0
VNA3				e		pP	20 31 19.6	+1.0
VNA3				e			20 31 28.6	
VNA3				e			20 31 47.9	
VNA2	Neumayer--Watz	52.33	158	e		P	20 31 12.1	+0.1
	baz=285,slow=8.1							
VNA2				e			20 31 26.4	
VNA2				e			20 31 34.9	
VNA2				e			20 31 53.4	
SNAA	Sanae	53.92	159	P		P	20 31 23.5	-0.1
	comp=E,2.3nm,0.8s,mb4.2,baz=287,slow=4.8,SNR=17							
SNAA	Sanae	53.92	159	e		P	20 31 23.6	-0.1
SNAA				e			20 31 59.4	
TXAR	Lajitas Array	67.56	330	P		P	20 32 56.9	+0.4
	comp=E,0.5nm,0.8s,mb3.6,baz=124,slow=6.2,SNR=5.1							
TXAR	Lajitas Array	67.56	330	P		P	20 32 56.9	+0.4
MAW	Mawson	75.60	164	P		P	20 33 45.2	+0.3
	comp=E,4.7nm,1.0s,mb4.4,baz=294,slow=2.2,SNR=5.9							
MAW				LR		LR	21 09 11.3	
	comp=E,70nm,19.7s,MS4.0,baz=248,slow=37							
BOSA	Boshof	81.17	118	P		P	20 34 16.0	+0.4
	comp=E,4.6nm,0.8s,mb4.4,baz=253,slow=7.1,SNR=6.6							
TOA0	Torodi Ar. Sit	83.24	70	eP		P	20 34 26.3	-0.2
TORD	Torodi Ar. Bea	83.24	70	P		P	20 34 26.3	-0.1
	comp=E,10nm,0.8s,mb4.9,baz=258,slow=4.7,SNR=55							
TORD				LR		LR	21 09 33.0	
	comp=E,137nm,18.2s,MS4.4,baz=10.0,slow=34							
AKASG	Malin Array Be	120.37	46	PKP		PKPdf	20 40 49.2	-1.9
	comp=E,0.5nm,0.5s,baz=271,slow=2.9,SNR=7.6							
WRA	Warramunga Arr	123.04	210	PKP		PKPdf	20 40 55.1	-1.2
	comp=E,0.2nm,0.5s,baz=154,slow=1.7,SNR=9.1							
CHKZ	Chkalovo	145.16	39	ePKPbc		PKPbc	20 41 36.8	-0.2
BRVK	Borovoye	145.23	40	ePKPbc		PKPbc	20 41 37.1	-0.1
HYB	Hyderabad	149.81	111	eP		PKPdf	20 41 51.0	+5.9
KURK	Kurchatov	150.90	40	ePKPbc		PKPbc	20 41 52.1	-0.3
ZAL	Zalesovo	151.98	30	PKPbc		PKPbc	20 41 55.0	0.0
	comp=E,9.3nm,0.7s,baz=179,slow=3.0,SNR=39							
MKAR	Makanchi Array	154.94	45	PKP		PKPdf	20 41 52.4	-0.3
	comp=E,1.3nm,1.0s,baz=274,slow=4.7,SNR=4.0							
MKAR				PKPbc		PKPbc	20 42 01.1	-0.3
	comp=E,1.7nm,0.7s,baz=314,slow=2.0,SNR=9.5							

*IDC **11** 20:33:27.2±0.7, 4737N×156.15E, h0km, mb3.8/15, mb1 4.0/16, mb1mx4.0/23, mbtmp3.8/16, ML3.6/1, Error ellipse: s-maj=22.9km s-min=16.4km az=153.0*
*NEIC **11** 20:33:28.6±0.5, 4738N×15601E, h10km, mb4.2/4, Error ellipse: s-maj=11.9km s-min=8.6km az=151.0*
*MOS **11** 20:33:31.5±1.5, 4749N×15585E, h45km, mb4.2/13, Error ellipse: s-maj=20.0km s-min=10.7km az=89.8*
*ISCJB **11** 20:33:32.0±0.6, 4756N±007×1560E±01, h45km, mb3.8/18, Error ellipse: s-maj=13.4km s-min=9.1km az=34.6*

ISC 11 20:33:28.1±4.2, 4750N±007×1560E±01, h5km±26km, n37, σ1§05/38, mb3.8/18, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.19	1	ePN		Pn	20 34 20.0	+1.2
SKR				eS		Sn	20 34 55.5	-1.7
SKR				pmax		pmax		
	comp=Z,50nm,0.5s							
SKR				smax				
	comp=N,80nm,0.5s							
SKR				smax				
	comp=E,120nm,0.5s							
PET	Petropavlovsk	5.78	16	ePN		Pn	20 34 53.5	-0.9
PET				pmax		pmax		
	comp=Z,19nm,0.5s							
YSS	Yuzh-Sakhalins	9.06	271	ePN		Pn	20 35 38.9	-0.5
MJAR	Matsushiro Arr	17.14	237	P		Pn	20 37 26.0	-2.4
	comp=Z,0.2nm,0.3s,baz=22,slow=13,SNR=3.4							
YAK	Yakutsk	20.83	324	eP		P	20 38 09.6	-0.8
YAK				pmax		pmax		
	comp=Z,8.0nm,0.6s							
YAK	Yakutsk	20.83	324	eP		P	20 38 09.4	-1.0
	comp=Z,6.0nm,0.4s							
BILL	Bilibino	21.25	11	deP		P	20 38 16.3	+1.3
BILL				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.0							
BILL	Bilibino	21.25	11	eP		P	20 38 16.1	+1.1
	comp=Z,6.7nm,0.7s,mb4.1							
KSRS	Korea Array	22.93	254	P		P	20 38 34.9	+2.0
	comp=Z,1.1nm,0.7s,mb3.4,baz=55,slow=10,SNR=4.3							
TIXI	Tiksi	27.35	342	eP		P	20 39 13.2	-0.7
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb3.9							
TIXI	Tiksi	27.35	342	eP		P	20 39 13.3	-0.7
	comp=Z,5.7nm,1.1s,mb4.0							
SONM	Songino Array	32.97	289	P		P	20 40 03.6	-0.1
	comp=Z,0.4nm,0.8s,mb3.4,baz=63,slow=9.3,SNR=3.5							
MKAR	Makanchi Array	48.36	298	P		P	20 42 11.6	+0.9
	comp=Z,1.4nm,0.7s,mb4.1,baz=55,slow=6.0,SNR=10							
MKAR	Makanchi Array	48.36	298	P		P	20 42 11.6	+0.9
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
YKA	Yellowknife Ar	49.12	38	P		P	20 42 16.4	-0.1
	comp=Z,0.5nm,0.6s,mb3.8,baz=294,slow=7.2,SNR=6.0							
YKA	Yellowknife Ar	49.12	38	iP		P	20 42 16.3	-0.2
YKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
CHKZ	Chkalovo	51.47	311	eP		P	20 42 34.7	+0.4
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
CHKZ	Chkalovo	51.47	311	eP		P	20 42 34.7	+0.4
	comp=Z,1.2nm,0.4s,mb4.2							
ARCES	ARCESS Array B	57.79	342	P		P	20 43 20.6	+0.4
	comp=Z,4.3nm,1.0s,mb4.4,baz=43,slow=9.0,SNR=4.1							
ARCES	ARCESS Array B	57.79	342	P		P	20 43 20.7	+0.5
ARCES				pmax		pmax		
	comp=Z,4.0nm,1.0s							
NVAR	Mina Array Bea	60.31	64	P		P	20 43 38.5	+0.8
	comp=Z,0.3nm,0.4s,mb3.7,baz=332,slow=7.5,SNR=3.1							
PDAR	Pinedale Array	62.68	56	P		P	20 43 53.6	-0.1
	comp=Z,0.6nm,0.8s,mb3.8,baz=328,slow=5.3,SNR=3.7							
FINES	FINESS Array B	64.19	336	P		P	20 44 04.4	+0.7
	comp=Z,0.8nm,0.4s,mb4.1,baz=27,slow=8.8,SNR=5.4							
FINES	FINESS Array B	64.19	336	iP		P	20 44 04.6	+0.9
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ULM	Lac du Bonnet	64.64	42	P		P	20 44 05.2	-1.4
	comp=Z,1.6nm,0.6s,mb4.2,baz=329,slow=12,SNR=4.1							
ULM	Lac du Bonnet	64.64	42	P		P	20 44 05.2	-1.4
WRA	Warramunga Arr	69.91	202	P		P	20 44 39.5	-0.6
	comp=Z,0.4nm,0.7s,mb3.4,baz=20,slow=6.4,SNR=6.6							
WRA	Warramunga Arr	69.91	202	iP		P	20 44 38.7	-1.4
AKASG	Malin Array Be	72.01	328	P		P	20 44 52.6	-0.2
	comp=Z,0.9nm,0.4s,mb4.0,baz=35,slow=5.9,SNR=7.6							
AKASG	Malin Array Be	72.01	328	P		P	20 44 52.6	-0.2
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ASAR	Alice Springs	73.59	201	P		P	20 45 01.2	-1.0
	comp=Z,0.4nm,0.6s,mb3.5,baz=17,slow=5.1,SNR=5.2							
TXAR	Lajitas Array	75.38	63	P		P	20 45 12.9	+0.3
	comp=Z,1.0nm,0.7s,mb3.9,baz=300,slow=4.4,SNR=9.9							
TXAR	Lajitas Array	75.38	63	P		P	20 45 12.9	+0.3
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
GERES	GERESS Array B	78.63	336	P		P	20 45 32.0	+1.1
	comp=Z,0.5nm,0.6s,mb3.6,baz=28,slow=6.0,SNR=4.5							
GERES	GERESS Array B	78.63	336	P		P	20 45 32.0	+1.1
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	Keskin Array B	79.18	318	P		P	20 45 35.0	+1.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=49,slow=3.9,SNR=4.7							
BRTR	Keskin Array B	79.18	318	iP		P	20 45 36.2	+2.2
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							

IDC 11 21:04:20.0±1.8, 079N×12574E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=177.2km s-min=23.6km az=65.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.26	158	P		P	21 09 18.0	-0.5
	0.8nm,0.5s,baz=336,slow=11,SNR=15							
ASAR	Alice Springs	25.57	162	P		P	21 09 51.6	+1.0
	0.5nm,0.4s,baz=345,slow=13,SNR=9.8							
MKAR	Makanchi Array	59.42	327	P		P	21 14 24.4	+0.1
	0.4nm,0.5s,baz=123,slow=7.2,SNR=12							

*IDC **11** 21:04:23.4±2.7, 4327N×10531W, h0km, mb2.6/1, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=58.0km s-min=8.3km az=154.0*
*ISCJB **11** 21:04:25.5±0.7, 4372N±006×10523W±009, h0km, Error ellipse: s-maj=10.4km s-min=7.8km az=74.7*
*NEIC **11** 21:04:26.8±0.5, 4372N×105.19W, h0km, ML3.0, Error ellipse: s-maj=8.4km s-min=5.9km az=130.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 11 21:04:26.7±0.7, 4374N±006×10520W±009, h0km, n19, σ0§90/22, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.92	65	ePn		Pn	21 04 46.3	-0.5
RWWY	Rawlins	2.53	217	ePn		Pn	21 05 09.3	+0.4
RWWY				eSg		Sg	21 05 43.0	-4.9
LAO	LASA Array	3.04	347	ePn		Pn	21 05 16.7	+0.8
RLMT	Red Lodge	3.23	297	ePn		Pn	21 05 18.6	0.0
PDAR	Pinedale Array	3.33	255	Pn		Pn	21 05 16.9	-3.0
	1.6nm,0.3s,baz=75,slow=16,SNR=44							
PDAR				Pg		Pg	21 05 24.9	-5.6
	11nm,0.3s,baz=68,slow=20,SNR=82							
PDAR				Lg			21 06 01.1	
	6.8nm,0.3s,baz=75,slow=35,SNR=5.4							
LOHW	Long Hollow	3.92	270	Pg		Pg	21 05 34.1	-7.8
ISCO	Idaho Springs

JMA 11 21:15:45.3±0.1, 2997N×14175E, h52km, M4.2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.89**	**172**	P	Pn	21 16 30.4	+1.6
CBIJ				*e*S	Sn	21 17 02.0	-0.3
JHHJ	**Haha-jima-NKT**	**3.35**	**173**	P	Pn	21 16 36.9	+1.8
JHHJ				*e*S	Sn	21 17 14.6	+1.0
JHJ2	**Mitsune**	**3.54**	**333**	P	Pn	21 16 39.0	+1.3
JHJ2				*e*S	Sn	21 17 17.1	-1.2
BSO1	**Boso 1**	**4.71**	**352**	P	Pn	21 16 56.4	+2.6
BSO3	**Boso 3**	**4.93**	**348**	P	Pn	21 16 58.5	+1.7
BSO4	**Boso 4**	**5.15**	**347**	P	Pn	21 17 01.8	+2.0
JOD2	**Odawara 2**	**5.74**	**338**	P	Pn	21 17 10.0	+2.2
JHU	**Hanno**	**6.22**	**341**	P	Pn	21 17 17.6	+3.1
JRY	**Ryogami san**	**6.49**	**339**	P	Pn	21 17 20.3	+2.2
JRY				*e*S	Sn	21 18 33.0	+2.2
JHO	**Hitachi**	**6.70**	**352**	P	Pn	21 17 22.5	+1.5
JAG	**Ashikaga**	**6.72**	**344**	P	Pn	21 17 21.9	+0.6
MAT	**Matsushiro**	**7.19**	**337**	P	Pn	21 17 29.6	+1.8
MAT				S	Sn	21 18 47.6	-0.5
JFK	**Kawauchi**	**7.41**	**355**	P	Pn	21 17 31.2	+0.4
JFK				*e*S	Sn	21 18 49.8	-3.7
JMK	**Ichinoseki**	**8.97**	**357**	P	Pn	21 17 53.3	+1.1
JMK				*e*S	Sn	21 19 28.8	-2.9

*IDC **11** 21:16:35.6±1.0, 620S×14779E, h0km, mb4.2/7, mb1 4.4/11, mb1mx4.2/18, mbtmp4.3/11, ML4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/16, Error ellipse: s-maj=30.6km s-min=12.9km az=109.0*
*ISCJB **11** 21:16:40.0±2.5, 63S±0.1×1479E±0.1, h51km±26km, mb4.0/7, Error ellipse: s-maj=22.5km s-min=13.5km az=101.0*
*NEIC **11** 21:16:41.3±1.4, 627S×14788E, h45km±15km, mb4.0/4, Error ellipse: s-maj=16.2km s-min=8.7km az=142.0*

ISC 11 21:16:37.9±3.2, 620S±006×14785E±009, h14km±21km, n21, σ0°76/22, mb4.0/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.26**	**192**	Pn	**Pn**	**21 17 29.8**	**+1.2**
	96nm,0.3s,baz=31,slow=5.1,SNR=100						
PMG				Sn	**Sn**	**21 18 06.7**	**-0.5**
	32nm,0.3s,baz=194,slow=22,SNR=6.6						
PMG	**Port Moresby**	**3.26**	**192**	*e*P	**Pn**	**21 17 30.0**	**+1.5**
PMG				Sn	**Sn**	**21 18 06.7**	**-0.5**
HNR	**Honiara**	**12.41**	**106**	Pn	**Pn**	**21 19 34.0**	**-0.1**
	6.0nm,0.3s,baz=263,slow=7.5,SNR=1.9						
CTA	**Charters Tower**	**13.89**	**186**	Pn	**Pn**	**21 19 55.0**	**+0.7**
	0.3nm,0.3s,baz=348,slow=14,SNR=2.3						
KAKA	**Kakadu**	**16.51**	**246**	*e*P	**Pn**	**21 20 29.7**	**+0.7**
	4.3nm,0.4s						
WRAB	**Tennant Creek**	**18.93**	**223**	*e*P	**Pn**	**21 20 58.2**	**-0.8**
	5.0nm,0.8s						
WB2	**Warramunga Arr**	**18.94**	**223**	*e*P	**Pn**	**21 20 58.2**	**-0.8**
WB2	**Warramunga Arr**	**18.94**	**223**	*e*P	**Pn**	**21 20 58.0**	**-1.1**
WRA	**Warramunga Arr**	**18.94**	**223**	P	**Pn**	**21 20 58.4**	**-0.8**
	0.5nm,0.3s,baz=48,slow=11,SNR=35						
WRA				LR	LR	21 28 59.6	
	comp=Z,58nm,18.6s,baz=270,slow=39						
ASAR	**Alice Springs**	**21.94**	**216**	P	**P**	**21 21 31.2**	**+0.2**
	5.7nm,0.6s,mb4.2,baz=52,slow=9.7,SNR=56						
ASAR				S	**S**	**21 25 34.2**	**+1.3**
	2.1nm,0.9s,baz=31,slow=24,SNR=6.7						
FITZ	**Fitzroy Crossi**	**24.68**	**239**	*e*P	**P**	**21 21 58.8**	**+0.5**
	11nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.68**	**239**	P	**P**	**21 21 59.1**	**+0.7**
	4.2nm,0.5s,mb4.2,baz=77,slow=8.8,SNR=22						
STKA	**Stephens Creek**	**26.21**	**192**	*e*P	**P**	**21 22 11.2**	**-1.0**
	3.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**26.21**	**192**	P	**P**	**21 22 11.2**	**-1.0**
	5.9nm,0.5s,mb4.3,baz=13,slow=6.6,SNR=11						
MJAR	**Matsushiro Arr**	**43.46**	**349**	P	**P**	**21 24 40.8**	**+0.3**
	0.4nm,0.4s,mb3.5,baz=173,slow=7.8,SNR=5.2						
SONM	**Songino Array**	**64.99**	**331**	P	**P**	**21 27 17.9**	**+0.6**
	0.1nm,0.3s,mb3.3,baz=123,slow=5.5,SNR=4.3						
MKAR	**Makanchi Array**	**78.18**	**320**	P	**P**	**21 28 35.6**	**-1.2**
	0.3nm,0.5s,mb3.5,baz=98,slow=8.9,SNR=7.7						
INK	**Inuvik**	**91.53**	**21**	P	**P**	**21 29 44.3**	**+0.2**
	1.6nm,0.3s,mb4.9,baz=172,slow=17,SNR=9.1						
INK	**Inuvik**	**91.53**	**21**	*e*P	**P**	**21 29 44.4**	**+0.3**
	84nm,0.6s						
TOA0	**Torodi Ar. Sit**	**145.95**	**284**	*e*P	PKPdf	21 36 16.8	+0.5
TORD	**Torodi Ar. Bea**	**145.95**	**284**	PKPbc	PKPbc	21 36 16.9	-0.2
	1.1nm,0.7s,baz=66,slow=3.8,SNR=21						

*IDC **11** 22:24:50.0±0.6, 243S×14003E, h0km, mb4.2/13, mb1 4.5/16, mb1mx4.5/17, mbtmp4.3/16, ML4.3/3, MS3.9/10, Ms1 3.9/10, ms1mx3.6/23, Error ellipse: s-maj=23.4km s-min=13.8km az=76.0*
*BJI **11** 22:24:49.5, 312S×14015E, h31km, mb4.7*
*ISCJB **11** 22:24:55.3±1.9, 268S±004×14005E±008, h56km±18km, mb4.4/23, MS3.9/7, Error ellipse: s-maj=12.8km s-min=7.2km az=16.0*
*NEIC **11** 22:24:55.6±0.4, 246S×14021E, h35km, mb4.4/11, Error ellipse: s-maj=12.4km s-min=8.0km az=68.0*
NEIC Felt [V] at Genyem and [III] at Jayapura and Sentani.

ISC 11 22:24:58.2±1.8, 283S±007×13995E±007, h61km±18km, n58, σ1°47/55, mb4.4/22, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.69**	**133**	Pn	**Pn**	**22 27 14.9**	**0.0**
	3.3nm,0.3s,baz=326,slow=4.4,SNR=15						
KAKA	**Kakadu**	**12.31**	**217**	*e*P	**Pn**	**22 27 50.8**	**+0.2**
	65nm,0.5s						
KAKA				*e*S	**Sn**	**22 30 04.3**	**-1.8**
GUMO	**Guam**	**17.03**	**17**	LR	LR	22 33 53.6	
	comp=Z,176nm,18.4s,baz=204,slow=33						
WRAB	**Tennant Creek**	**17.85**	**197**	*e*Pn	**Pn**	**22 29 02.7**	**+0.4**
	20nm,0.6s						
WRAB				*e*Sn	**Sn**	**22 32 18.3**	**-2.2**
WB2	**Warramunga Arr**	**17.86**	**197**	*e*P	**Pn**	**22 29 04.4**	**+2.1**
WB2				*e*S	**S**	**22 32 19.1**	**-5.2**
WB2	**Warramunga Arr**	**17.86**	**197**	*e*Pn	**Pn**	**22 29 05.3**	**+2.9**
WB2				*e*Sn	**Sn**	**22 32 18.5**	**-2.2**
WRA	**Warramunga Arr**	**17.87**	**197**	P	**Pn**	**22 29 05.3**	**+2.9**
	2.7nm,0.3s,baz=19,slow=12,SNR=63						
WRA				S	**S**	**22 32 17.8**	**-6.6**
	0.2nm,0.3s,baz=16,slow=21,SNR=4.7						
WRA				LR	LR	22 36 41.3	
	comp=Z,221nm,20.7s,baz=30,slow=39						
CTA	**Charters Tower**	**18.22**	**161**	*e*P	**Pn**	**22 29 09.4**	**+2.7**
	12nm,1.0s						
CTA	**Charters Tower**	**18.22**	**161**	P	**Pn**	**22 29 08.9**	**+2.3**
	0.4nm,0.3s,baz=350,slow=20,SNR=3.7						
CTA				LR	LR	22 37 01.1	
	comp=Z,429nm,19.4s,baz=171,slow=39						
CTAO	**Charters Tower**	**18.22**	**161**	*e*P	**Pn**	**22 29 10.5**	**+3.8**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.67**	**222**	*e*P	**P**	**22 29 34.8**	**+1.9**
	32nm,0.7s						
FITZ				*e*S	**S**	**22 33 13.0**	**-7.4**
FITZ	**Fitzroy Crossi**	**20.67**	**222**	P	**P**	**22 29 34.9**	**+2.0**
	26nm,0.9s,baz=40,slow=11,SNR=19						
FITZ				S	**S**	**22 33 19.0**	**-1.4**
	7.4nm,0.9s,baz=87,slow=22,SNR=3.3						
FITZ				LR	LR	22 38 16.5	
	comp=Z,111nm,20.0s,baz=168,slow=38						
HNR	**Honiara**	**20.92**	**109**	LR	LR	22 37 11.3	
	comp=Z,100nm,19.8s,baz=177,slow=35						
HNR	**Honiara**	**20.92**	**109**	P	**P**	**22 29 32.5**	**-3.2**
ASAR	**Alice Springs**	**21.52**	**195**	P	**P**	**22 29 44.6**	**+2.5**
	11nm,0.6s,mb4.5,baz=26,slow=9.8,SNR=66						
KKM	**Kota Kinabalu**	**25.29**	**290**	*e*P	**P**	**22 30 20.9**	**+2.1**
STKA	**Stephens Creek**	**28.93**	**177**	*e*P	**P**	**22 30 55.1**	**+3.6**
	6.1nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**28.93**	**177**	P	**P**	**22 30 55.0**	**+3.5**
	7.4nm,0.9s,mb4.4,baz=355,slow=9.5,SNR=7.8						
STKA				LR	LR	22 44 26.5	
	comp=Z,408nm,18.8s,baz=8.4,slow=40						
KSM	**Kuching**	**29.94**	**278**	*e*P	**P**	**22 31 04.7**	**+4.2**
DZM	**Mont Dzumac**	**32.06**	**129**	P	**P**	**22 31 19.1**	**0.0**
	3.9nm,0.6s,mb4.4,baz=26,slow=24,SNR=4.5						
JNU	**Nakatsue**	**36.77**	**347**	LR	LR	22 44 45.1	
	comp=Z,620nm,18.4s,baz=105,slow=33						
MJAR	**Matsushiro Arr**	**39.20**	**358**	P	**P**	**22 32 16.5**	**-3.8**
	1.2nm,0.6s,mb3.8,baz=183,slow=12,SNR=4.1						
PSI	**Prapat**	**41.39**	**277**	P	**P**	**22 32 38.2**	**-0.2**
	8.1nm,0.7s,mb4.5,baz=128,slow=6.0,SNR=9.3						
KSRS	**Korea Array**	**41.61**	**346**	P	**P**	**22 32 36.1**	**-4.0**
	0.6nm,0.4s,mb3.5,baz=259,slow=25,SNR=3.2						
KSRS				LR	LR	22 47 29.3	
	comp=Z,94nm,19.4s,baz=345,slow=33						
COCO	**West Island**	**43.68**	**255**	*e*P	**P**	**22 33 01.3**	**+4.4**
LZH	**Lanzhou**	**51.33**	**322**	*e*P	**P**	**22 33 55.0**	**-1.3**
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.8						
LZH	**Lanzhou**	**51.33**	**322**	*e*P	**P**	**22 33 55.0**	**-1.3**
LZH				pP	pP	22 33 59.2	-13
LZH				sP	sP	22 34 02.1	-17
GTA	**Gaotai**	**55.91**	**323**	*e*P	**P**	**22 34 29.8**	**0.0**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
LSA	**Lhasa**	**56.76**	**308**	P	**P**	**22 34 37.5**	**+1.7**
SONM	**Songino Array**	**58.36**	**334**	P	**P**	**22 34 44.3**	**-2.8**
	comp=Z,0.4nm,0.8s,mb3.5,baz=123,slow=5.3,SNR=3.1						
SONM				LR	LR	22 57 58.6	
	comp=Z,150nm,18.2s,baz=10,slow=34						
GUN	**Gumba**	**60.28**	**304**	*e*P	**P**	**22 35 00.6**	**+0.3**
KKN	**Kakani**	**60.73**	**304**	*e*P	**P**	**22 35 03.6**	**+0.2**
	comp=Z,7.1nm,0.7s,mb4.9						
DMN	**Daman**	**60.81**	**304**	*e*P	**P**	**22 35 04.6**	**+0.7**
	comp=Z,3.4nm,0.2s,mb5.0						
GKN	**Gorkha**	**61.34**	**304**	*e*P	**P**	**22 35 07.7**	**+0.2**
	comp=Z,21nm,1.0s,mb5.2						
KOLN	**Koldanda**	**62.12**	**303**	*e*P	**P**	**22 35 14.2**	**+1.5**
	comp=Z,27nm,1.4s,mb5.2						
MK31	**Makanchi Array**	**70.64**	**322**	*e*P	**P**	**22 36 06.9**	**-0.3**
MKAR	**Makanchi Array**	**70.64**	**322**	P	**P**	**22 36 06.7**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.4,baz=93,slow=8.5,SNR=33						
MKAR	**Makanchi Array**	**70.64**	**322**	P	**P**	**22 36 06.7**	**-0.5**
ZAL	**Zalesovo**	**72.67**	**329**	P	**P**	**22 36 17.4**	**-2.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=309,slow=8.9,SNR=4.1						
AAK	**Ala-Archa**	**74.16**	**316**	P	**P**	**22 36 28.8**	**+0.7**
	comp=Z,3.5nm,1.1s,mb4.2						
KURK	**Kurchatov**	**74.53**	**325**	*e*P	**P**	**22 36 28.9**	**-1.4**
	comp=Z,3.0nm,0.8s,mb4.3						
VNDA	**Vanda**	**75.55**	**175**	P	**P**	**22 36 36.9**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.0,baz=316,slow=7.1,SNR=11						
VNDA				LR	LR	23 10 20.3	
	comp=Z,157nm,18.0s,baz=311,slow=36						
VNDA	**Vanda**	**75.55**	**175**	P	**P**	**22 36 36.9**	**+0.8**
VNDA				LR	LR	23 10 20.3	
SBA	**Scott Base**	**76.30**	**174**	*e*P	**P**	**22 36 44.6**	**+4.1**
BRVK	**Borovoye**	**80.19**	**325**	*e*P	**P**	**22 37 01.0**	**-0.9**
	comp=Z,2.9nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**80.20**	**326**	*e*P	**P**	**22 37 01.0**	**-0.9**
	comp=Z,1.6nm,0.4s,mb4.3						
MAW	**Mawson**	**82.48**	**202**	P	**P**	**22 37 16.9**	**+2.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=69,slow=14,SNR=8.9						
MAW	**Mawson**	**82.48**	**202**	*e*P	**P**	**22 37 17.7**	**+3.7**
	comp=Z,1.6nm,0.4s,mb4.3						
COLA	**College**	**85.07**	**24**	P	**P**	**22 37 26.4**	**-0.9**
QSPA	**South Pole Qui**	**87.11**	**180**	P	**P**	**22 37 40.7**	**+3.4**
	comp=Z,4.5nm,0.5s,mb5.0						
DAWY	**Dawson**	**88.44**	**26**	*e*P	**P**	**22 37 42.2**	**-1.4**
YKA	**Yellowknife Ar**	**99.61**	**27**	P	Pdif	22 38 32.0	-2.9
	comp=Z,0.3nm,0.9s,baz=284,slow=4.5,SNR=2.8						
EIL	**Elat**	**104.43**	**300**	*e*Pdif	Pdif	22 38 58.9	+2.7
TORD	**Torodi Ar. Bea**	**137.48**	**286**	PKP	PKPdf	22 44 17.9	+3.0
	comp=Z,0.5nm,0.7s,baz=73,slow=1.7,SNR=5.4						
LPAZ	**La Paz**	**146.37**	**125**	PKPbc	PKPbc	22 44 34.8	+2.7
	comp=Z,5.0nm,0.6s,baz=276,slow=5.9,SNR=12						
SDV	**Santo Domingo**	**149.00**	**77**	PKPbc	PKPbc	22 44 39.8	+0.6
	comp=Z,9.4nm,0.8s,baz=289,slow=3.4,SNR=9.9						
SDV	**Santo Domingo**	**149.00**	**77**	PKPbc	PKPbc	22 44 39.8	+0.6
SIV	**San Ignacio**	**152.04**	**133**	PKP	PKPdf	22 44 42.5	+2.6
	comp=Z,0.8nm,0.3s,baz=238,slow=11,SNR=12						
SIV				PKPbc	PKPbc	22 44 50.2	+3.7
	comp=Z,2.5nm,0.7s,baz=258,slow=2.2,SNR=10						

*NEIC **11** 22:31:16.5, 1597N×9906W, h16km, MD3.6(MEX), After MEX.*

MEX 11 22:31:16.3±0.6, 1597N×9904W, h16km±21km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.98**	**64**	*i* P	Pb	22 31 31.5	-3.3
PNIG				*i* S	Sb	22 31 42.8	-4.7
ACX	**Acapulco**	**1.23**	**317**	*e*P	Pn	22 31 35.0	-3.7
ACX				*i* S	Sb	22 31 49.0	-5.6
UTMO	**Huajuapan**	**2.20**	**32**	*i* P	Pn	22 31 49.8	-2.4
UTMO				*e*S	Sn	22 32 15.0	-4.0
PLIG	**Platanillo**	**2.45**	**350**	*i* P	Pn	22 31 53.0	-2.6
PLIG				*i* S	Sn	22 32 21.0	-4.2
VHO	**Vista Hermosa**	**2.47**	**63**	*i* P	Pn	22 31 53.9	-2.0
VHO				*i* S	Sn	22 32 22.8	-3.0
TPIG	**Tehuac#an**	**2.92**	**33**	*i* S	Sn	22 32 35.1	-1.6

*NEIC **11** 22:31:48.8, 3148S×7157W, h31km, ML2.7(GUC), After GUC.*

GUC 11 22:31:48.8±0.5, 3148S×7157W, h31km±3km, MD3.5, ML2.7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.57**	**58**	*i* P	Pb	22 32 00.3	-0.2
CMCH				*i* S	Sb	22 32 08.9	+0.4
CMCH				AML	AML	22 32 21.6	
	comp=E,397nm,0.7s						
CMCH	**Combarbala**	**0.57**	**58**	*i* P	Pb	22 32 00.3	-0.2
CMCH				*i* S	Sb	22 32 08.9	+0.4
PTCH	**Petorca**	**0.95**	**145**	*e*P	Pn	22 32 05.5	-0.5
PTCH				*e*S	Sn	22 32 18.3	-0.1
PTCH				AML	AML	22 32 22.3	
	comp=N,855nm,0.2s						
PTCH	**Petorca**	**0.95**	**145**	*e*P	Pn	22 32 05.5	-0.5
PTCH				*e*S	Sn	22 32 18.3	-0.1
JACH	**Jahuel**	**1.45**	**146**	↑*i* P	Pn	22 32 14.2	+1.4
JACH				*e*S	Sn	22 32 33.4	+2.6
TLL	**Tololo Astrono**	**1.47**	**27**	↓*i* P	Pn	22 32 14.4	+1.3
TLL				*i* S	Sn	22 32 34.2	+3.0
ROCH	**El Roble**	**1.56**	**163**	*e*P	Pn	22 32 16.0	+1.7
ROCH				*i* S	Sn	22 32 36.6	+3.2
PEL	**Peldehue**	**1.82**	**156**	*e*P	Pn	22 32 19.1	+1.2
PEL				*e*S	Sn	22 32 42.9	+3.1
PEL				AML	AML	22 32 47.2	
	comp=E,190nm,0.3s						
FCH	**Farellones**	**2.13**	**150**	*e*P	Pn	22 32 24.4	+2.1
FCH				*e*S	Sn	22 32 51.2	+3.6
FCH				AML	AML	22 32 54.7	
	comp=E,47nm,0.4s						

*IDC **11** 22:39:52.0±1.6, 244S×140.16E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.8/13, mbtmp4.0/4, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx1.9/17, Error ellipse: s-maj=55.0km s-min=25.6km az=94.0*
*ISCJB **11** 22:39:53.7±3.2, 258S±006×140.1E±0.1, h25km±25km, mb3.9/3, Error ellipse: s-maj=20.2km s-min=9.4km az=17.0*
*NEIC **11** 22:39:56.8±0.6, 254S×140.12E, h35km, mb3.9/3, Error ellipse: s-maj=13.7km s-min=8.6km az=82.0*

ISC 11 22:39:55.5±3.9, 254S±008×1401E±01, h23km±30km, n16, σ0°84/18, mb3.9/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.79**	**134**	Pn	**Pn**	**22 42 14.3**	**-0.5**
KAKA	**Kakadu**	**12.64**	**216**	*e*P	**Pn**	**22 42 53.2**	**-0.6**
	11nm,0.4s						
KAKA				*e*S	**Sn**	**22 45 12.8**	**-1.0**
GUMO	**Guam**	**16.70**	**16**	LR	LR	22 48 30.4	
	comp=Z,84nm,21.6s,baz=96,slow=31						
WRAB	**Tennant Creek**	**18.18**	**198**	*e*Pn	**Pn**	**22 44 07.0**	**+0.7**
	3.2nm,0.4s						
WRAB				*e*Sn	**Sn**	**22 47 23.9**	**-4.7**
WB2	**Warramunga Arr**	**18.19**	**198**	*e*P	**Pn**	**22 44 06.0**	**-0.4**
WB2				*e*S	**Sn**	**22 47 25.3**	**-3.5**
WRA	**Warramunga Arr**	**18.19**	**198**	P	**Pn**	**22 44 06.5**	**+0.1**
	0.3nm,0.3s,baz=18,slow=12,SNR=44						
FITZ	**Fitzroy Crossi**	**20.99**	**222**	*e*P	**P**	**22 44 38.6**	**+1.5**
	7.5nm,0.9s						
FITZ				*e*S	**S**	**22 48 30.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.99**	**222**	P	**P**	**22 44 39.0**	**+1.9**
	2.5nm,0.6s,baz=55,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**21.84**	**195**	P	**P**	**22 44 47.0**	**+0.7**
	3.0nm,0.7s,mb3.9,baz=26,slow=9.3,SNR=24						
KKM	**Kota Kinabalu**	**25.33**	**290**	P	**P**	**22 45 20.9**	**+0.4**
STKA	**Stephens Creek**	**29.22**	**177**	P	**P**	**22 45 56.2**	**+0.8**
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**22 51 08.4**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=112,slow=8.9,SNR=12						
KURK	**Kurchatov**	**74.38**	**325**	P	**P**	**22 51 30.1**	**-1.3**
BRVK	**Borovoye**	**80.04**	**325**	*e*P	**P**	**22 52 02.7**	**-0.4**
	0.7nm,0.5s,mb3.9						
CHKZ	**Chkalovo**	**80.04**	**326**	P	**P**	**22 52 03.2**	**0.0**
LPAZ	**La Paz**	**146.41**	**125**	PKPbc	PKPbc	22 59 36.5	+1.9
	0.9nm,0.7s,baz=288,slow=6.4,SNR=5.9						

*ISCJB **11** 23:07:27.8±0.5, 4757N±003×753E±004, h14km±4km, Error ellipse: s-maj=5.0km s-min=4.0km az=87.1*
*ZUR **11** 23:07:28.9, 4758N×760E, h5km±1km, ML1.2*
*STR **11** 23:07:28.5±0.7, 4756N×757E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **11** 23:07:29.2±0.2, 4760N×756E, h8km, Md2.0/3, Ml2.0/7, Error ellipse: s-maj=2.8km s-min=1.8km az=106.0*

ISC 11 23:07:28.2±0.5, 4757N±003×756E±004, h18km±5km, n17, σ0°71/28, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.25**	**158**	*i* Sg	**Pg**	**23 07 34.2**	**+0.2**
BALST	**Balsthal**	**0.25**	**158**	↓*i* Pg	**Sg**	**23 07 38.1**	**+0.2**
BOURR	**Bourrignon**	**0.28**	**231**	↑*i* Pg	**Pg**	**23 07 35.4**	**+0.9**
	27nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.38**	**96**	*e*Pg	**Pg**	**23 07 35.9**	**-0.3**
	42nm,0.3s						
SULZ				*e*Sg	**Sg**	**23 07 40.8**	**-0.7**
	42nm,0.3s						
MOF	**Molkenrain**	**0.40**	**315**	Pg	**Pg**	**23 07 37.0**	**+0.5**
MOF				Sg	**Sg**	**23 07 42.8**	**+0.7**
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pg	**Pg**	**23 07 39.2**	**+0.3**
HINF	**Hinteralfeld**	**0.54**	**298**	*e*Pn	**Pg**	**23 07 40.6**	**+1.7**
HINF				*e*Sg	**Sg**	**23 07 46.3**	**+0.1**
HINF				*e*Sn	**Sg**	**23 07 49.8**	**+3.6**
	6.0nm,0.2s						
SLE	**Schleitheim**	**0.66**	**73**	*e*Pg	**Pg**	**23 07 40.8**	**-0.5**
	58nm,0.3s						
ECH	**Echery**	**0.70**	**338**	Pg	**Pg**	**23 07 42.6**	**+0.6**
ECH				Sg	**Sg**	**23 07 51.2**	**-0.1**
CDF	**Champ du Feu**	**0.86**	**347**	*e*Pg	**Pg**	**23 07 45.2**	**+0.2**
CDF	**Champ du Feu**	**0.86**	**347**	*e*Pn	**Pn**	**23 07 45.6**	**+0.2**
CDF				*e*Sg	**Sg**	**23 07 55.4**	**-1.0**
CDF				*e*Sn	**Sn**	**23 07 57.4**	**-0.2**
	7.6nm,0.2s						
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	**Pg**	**23 07 46.3**	**+0.1**
HAU				*e*Sg	**Sg**	**23 07 58.8**	**+0.4**
	10nm,0.3s						
CABF	**La Chapelle**	**1.39**	**227**	*e*Pn	**Pn**	**23 07 54.0**	**+1.3**
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg	**Pg**	**23 07 55.7**	**+0.7**
CABF				*e*Sg	**Sg**	**23 08 12.9**	**-0.3**
	2.4nm,0.3s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Sg	**Sg**	**23 08 26.5**	**-0.1**
	3.8nm,0.3s						
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**23 08 16.0**	**-0.8**
LOR				*e*Sg	**Sg**	**23 08 48.3**	**-1.3**
	1.1nm,0.2s						
SSF	**Saint Saulge**	**2.80**	**261**	*e*Pg	**Pg**	**23 08 21.3**	**-0.7**
SSF				*e*Sg	**Sg**	**23 08 56.9**	**-1.4**
	0.7nm,0.3s						

*BJI **11** 23:26:31.7, 213N×12878E, h51km, mB5.1, mb4.9, Ms4.9, Msz4.7*
*ISCJB **11** 23:26:34.6±0.2, 256N±003×12854E±004, h45km, mb5.0/68, MS4.1/24, Error ellipse: s-maj=6.8km s-min=4.0km az=132.7*
*MOS **11** 23:26:35.2±1.1, 261N×12834E, h48km, mb5.1/18, Error ellipse: s-maj=15.9km s-min=6.7km az=107.9*
*IDC **11** 23:26:37.0±2.8, 254N×12827E, h52km±25km, mb4.4/19, mb1 4.5/19, mb1mx4.4/21, mbtmp4.4/19, MS4.0/17, Ms1 4.0/17, ms1mx3.7/29, Error ellipse: s-maj=26.8km s-min=10.5km az=80.0*
*NEIC **11** 23:26:36.1±0.5, 257N×12847E, h44km±5km, mb4.9/19, Error ellipse: s-maj=10.2km s-min=5.1km az=76.0*

ISC 11 23:26:36.6±0.3, 256N±003×12862E±005, h47km, h47km±3.5km: pP-P, n158, σ1°04/161, mb5.0/67, MS4.1/24, 3C-4D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.95**	**332**	*e*P	**Pn**	**23 27 50.3**	**+1.9**
MATI				*e*S	**Sn**	**23 28 56.0**	**+12**
GSPH	**General Santos**	**5.07**	**314**	↓*i* P	**Pn**	**23 27 49.8**	**-0.1**
GSPH				*i* S	**Sn**	**23 28 47.8**	**+0.6**
DAV	**Davao City (W)**	**5.41**	**326**	*e*Pn	**Pn**	**23 27 58.9**	**+4.3**
	675nm,0.8s						

comp=Z,32nm,0.8s,mb5.0,baz=319,slow=12,SNR=22
CTA LR LR 23 45 03.7
comp=Z,287nm,20.5s,MS3.9,baz=329,slow=39
CTA Charters Tower 28.39 143 *e*P **P 23 32 30.7 +4.3**
CTA pmax pmax
comp=Z,26nm,0.8s
CTAO Charters Tower 28.39 143 *e*P **P 23 32 31.0 +4.6**
comp=Z,43nm,0.9s,mb5.1
PSI Prapat 29.66 271 LR LR 23 46 51.5
comp=Z,112nm,18.1s,MS3.5,baz=278,slow=41
WHN Wuhan 30.94 336 P **P 23 32 49.9 +1.0**
WHN S **S 23 37 53.2 +3.2**
WHN LR LR
comp=Z,1μm,20.0s,MS4.7
GYA Guiyang 31.76 320⇓ *i*P **P 23 32 57.3 +1.2**
GYA AP pP 23 33 08.2 -0.4
GYA XP sP 23 33 12.7 -1.5
GYA PP PP 23 34 05.3 -3.1
GYA S **S 23 38 05.3 +2.5**
GYA XS sS 23 38 24.0 +0.3
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,640nm,16.9s,MS4.5
GYA LR LR
comp=E,540nm,17.4s,MS4.5
GYA LR LR
comp=Z,480nm,17.8s,MS4.2
CHTO Chiang Mai 33.24 301 *e*P **P 23 33 08.9 -0.2**
CHTO *e* pP 23 33 24.4 +2.9
CHTO pmax pmax
comp=Z,13nm,1.0s,mb4.8
CHTO Chiang Mai 33.24 301 *e*P **P 23 33 08.9 -0.1**
comp=Z,13nm,1.0s,mb4.8
CHTO *e* pP 23 33 24.4 +2.9
KMI Kunming 33.54 314 P **P 23 33 12.8 +1.1**
KMI AP pP 23 33 25.3 +1.1
KMI XP sP 23 33 30.1 +0.3
KMI PP PP 23 34 26.1 -2.1
KMI S **S 23 38 29.5 -1.0**
KMI XS sS 23 38 51.7 +0.3
KMI AMB AMB
comp=Z,16nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,157nm,7.1s
KMI LR LR
comp=N,264nm,26.2s
KMI LR LR
comp=E,202nm,32.0s
KMI LR LR
comp=Z,247nm,28.4s,MS3.8
KMI Kunming 33.54 314 P **P 23 33 12.8 +1.1**
KMI pP pP 23 33 25.3 +1.1
KMI sP sP 23 33 30.1 +0.3
KMI PP PP 23 34 26.1 -2.1
KMI S **S 23 38 29.5 -1.0**
KMI sS sS 23 38 51.7 +0.3
KMI SS SS 23 40 33.9 -23
KS15 Wonju Array Si 34.72 359 *e*P **P 23 33 23.1 +1.2**
KSRS Korea Array 34.73 359 P **P 23 33 22.7 +0.7**
comp=Z,33nm,0.7s,mb5.3,baz=175,slow=9.9,SNR=97
KSRS LR LR 23 46 58.6
comp=Z,211nm,20.1s,MS3.9,baz=171,slow=35
MJAR Matsushiro Arr 34.95 14 P **P 23 33 23.5 -0.4**
comp=Z,15nm,0.7s,mb5.0,baz=185,slow=9.3,SNR=42
MJAR LR LR 23 45 44.8
comp=Z,185nm,20.0s,MS3.8,baz=200,slow=33
MJAR Matsushiro Arr 34.95 14 P **P 23 33 23.5 -0.5**
MJAR LR LR 23 45 44.8
MAJO Matsushiro 34.96 14 *e*P **P 23 33 23.7 -0.3**
MAJO pmax pmax
comp=Z,20nm,0.8s,mb5.1
MAJO Matsushiro 34.96 14 *e*P **P 23 33 23.7 -0.3**
comp=Z,20nm,0.8s,mb5.1
MAT Matsushiro 34.96 14 P **P 23 33 23.6 -0.4**
MAT *e*S **S 23 38 53.0 +0.7**
KLBR Kellerberrin 35.50 196 *e*P **P 23 33 27.7 -0.9**
comp=Z,17nm,0.7s,mb5.1
MUN Mundaring 36.31 198 *e*P **P 23 33 34.2 -1.4**
XAN Xi'an 36.32 332 P **P 23 33 35.0 -0.6**
XAN AMB AMB
comp=Z,31nm,1.2s,mb5.1
STKA Stephens Creek 36.40 161 *e*P **P 23 33 37.5 +1.2**
comp=Z,13nm,0.5s,mb5.1
STKA Stephens Creek 36.40 161 P **P 23 33 37.7 +1.4**
comp=Z,21nm,0.7s,mb5.2,baz=327,slow=8.9,SNR=34
STKA PcP PcP 23 35 59.9 +0.1
comp=Z,5.0nm,0.8s,baz=345,slow=12,SNR=2.8
STKA LR LR 23 50 31.2
comp=Z,356nm,19.6s,MS4.2,baz=239,slow=39
STKA Stephens Creek 36.40 161 *e*P **P 23 33 37.6 +1.2**
STKA PP PP 23 34 54.0 -5.7
CD2 Chengdu 36.70 323 P **P 23 33 38.7 -0.2**
CD2 AP pP 23 33 50.8 -0.7
CD2 XP sP 23 33 56.2 -0.9
CD2 PP PP 23 35 04.5 +1.4
CD2 S **S 23 39 17.4 -1.7**
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.3
CD2 AMB AMB
comp=Z,120nm,3.9s
CD2 LR LR
comp=N,440nm,7.4s
CD2 LR LR
comp=E,480nm,8.4s
CD2 LR LR
comp=Z,440nm,7.4s
NWAO Narrogin (SRO) 36.90 196 P **P 23 33 40.0 -0.7**
comp=Z,8.6nm,0.6s,mb4.8,baz=22,slow=7.4,SNR=8.0
NWAO LR LR 23 48 05.4
comp=Z,102nm,20.4s,MS3.6,baz=238,slow=35
NWAO Narrogin (SRO) 36.90 196 *e*P **P 23 33 39.8 -0.8**
NWAO pmax pmax
comp=Z,7.0nm,0.5s
NWAO Narrogin (SRO) 36.90 196 *e*P **P 23 33 39.8 -0.9**
comp=Z,6.6nm,0.5s,mb4.7
NWAO LR LR 23 48 05.4
BJT Baijiatuau 38.96 345 *e*P **P 23 33 57.8 -0.2**
BJT pmax pmax
comp=Z,49nm,1.1s
BJT Baijiatuau 38.96 345 *e*P **P 23 33 57.8 -0.2**
comp=Z,49nm,1.1s,mb5.2
BJI Beijing 38.98 345 P **P 23 33 56.8 -1.3**
BJI S **S 23 39 46.9 -6.6**
BJI AMB AMB
comp=Z,32nm,1.2s,mb4.9
BJI AMB AMB
comp=Z,165nm,4.3s
BJI LR LR
comp=N,159nm,20.8s
BJI LR LR
comp=E,205nm,33.1s
BJI LR LR
comp=Z,149nm,22.4s,MS3.8
LZH Lanzhou 40.47 328 *e*P **P 23 34 11.5 +1.0**
LZH AP pP 23 34 22.4 -0.8
LZH XP sP 23 34 26.3 -2.5
LZH *e*PP PP 23 35 49.0 +4.7
LZH *e*S **S 23 40 16.7 +0.8**
LZH XS sS 23 40 36.5 -0.6
LZH *e*SS SS 23 43 11.6 -4.9
LZH AMB AMB
comp=Z,37nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,188nm,6.2s
LZH LR LR
comp=N,1μm,14.3s
LZH LR LR
comp=Z,1μm,18.1s,MS4.9
LZH Lanzhou 40.47 328 *e*P **P 23 34 11.5 +1.0**
LZH pP pP 23 34 22.4 -0.8
LZH sP sP 23 34 26.3 -2.5
LZH *e*PP PP 23 35 49.0 +4.7
LZH *e*S **S 23 40 16.7 +0.8**
LZH sS sS 23 40 36.5 -0.6
LZH *e*SS SS 23 43 11.6 -4.9
HHC Hu-ho-hao-te 41.11 340 *e*P **P 23 34 16.0 +0.2**
HHC AP pP 23 34 26.3 -2.2
HHC XP sP 23 34 30.5 -3.6
HHC PP PP 23 35 54.9 +3.6
HHC S **S 23 40 27.3 +1.9**
HHC SS SS 23 43 26.9 -2.4
HHC AMB AMB
comp=Z,14nm,0.8s,mb4.6
HHC AMB AMB
comp=Z,172nm,7.8s
HHC LR LR
comp=N,410nm,17.2s,MS4.5
HHC LR LR
comp=E,310nm,16.6s,MS4.5
HHC LR LR
comp=Z,301nm,18.4s,MS4.2
MDJ Mudanjiang 41.89 1 P **P 23 34 23.2 +1.0**
MDJ PP PP 23 36 02.0 +2.3
MDJ PCP PcP 23 36 17.0 -0.2
MDJ S **S 23 40 37.8 +0.9**
MDJ AMB AMB
comp=Z,14nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,152nm,6.1s
MDJ LR LR
comp=N,150nm,27.5s
MDJ LR LR
comp=Z,172nm,33.5s
SHL Shillong 42.08 306 *e*P **P 23 34 20.5 -3.3**
TOO Toolangi 42.89 160 *e*P **P 23 34 31.0 +0.7**
comp=Z,7.8nm,0.8s,mb4.5
TOO Toolangi 42.89 160 *e*P **P 23 34 31.0 +0.7**
TOO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
LSA Lhasa 44.62 311 *e*P **P 23 34 45.6 +1.4**
LSA pmax pmax
comp=Z,14nm,0.7s,mb4.9
LSA Lhasa 44.62 311 *e*P **P 23 34 45.6 +1.4**
comp=Z,14nm,0.7s,mb4.9
GTA Gaotai 45.07 328 ⇑P **P 23 34 48.2 +0.4**
GTA AP pP 23 35 00.4 -0.2
GTA XP sP 23 35 03.9 -2.3
GTA PP PP 23 36 34.3 +0.6
GTA S **S 23 41 24.0 +0.6**
GTA SS SS 23 44 37.9 -8.8
GTA AMB AMB
comp=Z,19nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,159nm,6.5s
GTA LR LR
comp=N,368nm,19.8s,MS4.4
GTA LR LR
comp=E,174nm,19.0s,MS4.4
GTA LR LR
comp=Z,442nm,18.6s,MS4.4
YSS Yuzh-Sakhalins 45.90 13 *e*P **P 23 34 55.3 +1.0**
YSS pmax pmax
comp=Z,28nm,1.2s,mb5.1
BOK Bokaro 46.37 301 *ex* x 23 34 52.3
BOK AMb AMB 23 35 04.5
comp=Z,12nm,0.8s,mb4.9
VIS Vishakhapatnam 46.90 292 *e*P **P 23 35 01.2 -0.9**
VIS AMb AMB 23 35 11.4
comp=Z,14nm,0.9s,mb4.9
HIA Hailar 47.15 352 *e*P **P 23 35 04.2 +0.1**
JIRN Jiri 47.58 306 *e*P **P 23 35 08.0 +0.5**
comp=Z,4.5nm,0.3s,mb5.0
GUN Gumba 47.93 306 *e*P **P 23 35 10.7 +0.5**
comp=Z,80nm,0.7s,mb5.9
PKI Pulchoki 48.18 305 *e*P **P 23 35 12.3 +0.2**
comp=Z,21nm,0.6s,mb5.3
KKN Kakani 48.37 306 *e*P **P 23 35 13.7 +0.1**
comp=Z,34nm,0.7s,mb5.5
DMN Daman 48.44 305 *e*P **P 23 35 14.4 +0.3**
comp=Z,54nm,0.8s,mb5.6
MDRS Chennai 48.95 285 *ex* x 23 35 23.9
MDRS AMb AMB 23 35 34.6
comp=Z,23nm,0.1s
GKN Gorkha 48.98 306 *e*P **P 23 35 18.2 -0.1**
comp=Z,35nm,0.9s,mb5.4
SONM Songino Array 49.01 340 P **P 23 35 18.2 -0.3**
comp=Z,6.4nm,0.8s,mb4.7,baz=151,slow=8.7,SNR=50
SONM LR LR 23 56 38.3
comp=Z,206nm,19.8s,MS4.1,baz=14,slow=37
KOLN Koldanda 49.73 305 *e*P **P 23 35 24.6 +0.6**
comp=Z,97nm,0.8s,mb5.9
CIT Chita 50.88 348 *e*P **P 23 35 32.9 +0.2**
HYB Hyderabad 51.28 290⇑ *i*P **P 23 35 36.0 +0.3**
comp=Z,45nm,1.0s,mb5.3
NGP Nagpur 51.63 295 *e*P **P 23 35 37.2 -1.1**
NGP AMb AMB 23 35 38.2
comp=Z,17nm,1.6s,mb4.7
TRD Trivandrum 51.72 279 *e*P **P 23 35 39.1 +0.1**
TRD AMb AMB 23 35 53.1
comp=Z,47nm,1.5s,mb5.2
ZAK Zakamensk 52.26 340 *e*P **P 23 35 41.9 -1.1**
ZAK *e* 23 36 53.5
AKL Akola 53.38 294 *e*P **P 23 35 51.0 -0.3**
AKL AMb AMB 23 35 53.6
comp=Z,49nm,0.9s,mb5.4
BHPL Bhopal 53.61 297 *e*P **P 23 35 53.1 +0.2**
BHPL AMb AMB 23 35 54.0
comp=Z,26nm,0.8s,mb5.2
WMQ Urumqi 54.76 325 *e*P **P 23 36 01.4 +0.1**
WMQ AMB AMB
comp=Z,20nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,396nm,12.0s
WMQ LR LR
comp=N,234nm,24.0s,MS4.4
WMQ LR LR
comp=E,298nm,20.0s,MS4.4
WMQ LR LR
comp=Z,308nm,25.0s,MS4.3
NDI New Delhi 55.33 303 *e*P **P 23 36 04.4 -1.1**
NDI AMb AMB 23 36 05.1
comp=Z,18nm,1.8s,mb4.8
KAD Karad 55.38 289 *e*P **P 23 36 05.5 -0.2**
KAD AMb AMB 23 36 14.1
comp=Z,26nm,1.1s,mb5.2
POO Poona 55.89 291 *e*P **P 23 36 05.0 -4.4**
BOD Bodaibo 56.30 351 *e*P **P 23 36 10.1 -2.3**
BOD *e* pP 23 36 26.3 +0.7
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
AJM Ajmer 56.89 300 *e*P **P 23 36 16.4 -0.1**
AJM AMb AMB 23 36 24.3
comp=Z,14nm,0.7s,mb5.1
THN Thein Dam 57.77 307 *e*P **P 23 36 20.7 -2.1**
YAK Yakutsk 59.33 1 *e*P **P 23 36 33.3 -0.4**
YAK pmax pmax
comp=Z,25nm,0.7s,mb5.3
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK Yakutsk 59.33 1 *e*P **P 23 36 33.0 -0.7**
MK31 Makanchi Array 59.59 325 *e*P **P 23 36 34.9 -0.5**
MKAR Makanchi Array 59.59 325 P **P 23 36 35.0 -0.4**
comp=E,7.0nm,0.7s,mb4.8,baz=121,slow=8.1,SNR=49
MKAR ScP ScP 23 41 16.5 -2.7
comp=E,0.9nm,0.7s,baz=93,slow=5.2,SNR=4.2
MKAR LR LR 00 02 08.8
comp=E,74nm,20.2s,MS3.8,baz=148,slow=36
MKAR Makanchi Array 59.59 325 P **P 23 36 35.0 -0.4**
MKAR ScP ScP 23 41 16.5 -2.7
MKAR LR LR 00 02 08.8
URZ Urewera 60.41 137 LR LR 00 02 48.8
comp=E,288nm,18.1s,MS4.5,baz=278,slow=36
AFI Afiamalu 61.30 107 LR LR 23 57 59.5
comp=E,72nm,21.1s,MS3.8,baz=209,slow=30
AAK Ala-Archa 62.48 318 *e*P **P 23 36 59.1 +4.1**
AAK *e*PP pP 23 37 10.3 +1.9
ZAL Zalesovo 62.48 333 P **P 23 36 53.6 -1.4**
comp=E,1.3nm,0.6s,mb4.2,baz=346,slow=7.0,SNR=6.7
SEY Seymchan 62.76 12 *e*P **P 23 36 58.2 +1.3**
KURK Kurchatov 63.74 327 *e*P **P 23 37 02.6 -0.8**
KURK pmax pmax
comp=Z,12nm,0.8s,mb5.0
KURK Kurchatov 63.74 327 *e*P **P 23 37 02.5 -0.8**
comp=Z,12nm,0.8s,mb5.0
NVS Novosibirsk 63.76 333 *i* P **P 23 37 01.3 -2.2**
NVS pmax pmax
comp=Z,11nm,0.9s,mb4.9
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.1s
TIXI Tiksi 68.99 0 *e*P **P 23 37 36.3 -0.7**
TIXI pmax pmax
comp=Z,14nm,0.7s,mb5.0
TIXI Tiksi 68.99 0 *e*P **P 23 37 35.5 -1.5**
BVA0 Borovoye Array 69.32 327 *i* P **P 23 37 37.9 -1.1**
BRVK Borovoye 69.39 327 P **P 23 37 38.6 -0.9**
comp=Z,86nm,1.1s,mb5.6,SNR=6.0
BRVK Borovoye 69.39 327 *e*P **P 23 37 38.7 -0.8**
CHKZ Chkalovo 69.48 327 *e*P **P 23 37 39.0 -1.0**
BILL Bilibino 70.21 14 P **P 23 37 45.0 +0.6**
BILL *e* pP 23 37 56.3 -1.7
BILL *e* pP 23 38 01.9 +3.9
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BILL Bilibino 70.21 14 *e*P **P 23 37 44.6 +0.1**
comp=Z,4.4nm,0.8s,mb4.4
BILL *e* 23 37 51.1
AB31 Akbulak array 74.24 321 *i* P **P 23 38 07.0 -1.5**
AKTO Aktyubinsk 75.74 322 LR LR 00 15 48.6
comp=Z,161nm,19.1s,MS4.3,baz=152,slow=39
ARU Arti 76.93 328⇓ *i*P **P 23 38 24.1 +0.2**
ARU *e* 23 41 17.2
ARU *e*PPP 23 43 02.2
ARU *e*S S 23 48 10.5 +2.1
ARU *e*SS SS 23 53 07.8 +2.2
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ARU Arti 76.93 328 *e*P **P 23 38 22.4 -1.5**
comp=Z,5.2nm,0.6s,mb4.6
KDAK Kodiak Island 81.87 32 *e*pP pP 23 39 03.5 -1.1
VNDA Vanda 82.04 173 P **P 23 38 51.2 -0.5**
comp=Z,10nm,0.8s,mb4.8,baz=321,slow=5.4,SNR=51
VNDA LR LR 00 15 15.1
comp=Z,101nm,19.1s,MS4.2,baz=336,slow=36
VNDA Vanda 82.04 173 *e*P **P 23 38 51.4 -0.3**
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA Vanda 82.04 173 *e*P **P 23 38 51.4 -0.3**
comp=Z,12nm,0.9s,mb4.8
VNDA LR LR 00 15 15.1
IMA2 Indian Mountai 82.68 24 *e*P **P 23 38 57.7 +2.7**
SBA Scott Base 82.93 172 *e*P **P 23 38 56.9 +0.6**
SBA *e**PP pP 23 39 10.9 +0.7
SBA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
SBA Scott Base 82.93 172 *e*P **P 23 38 56.9 +0.6**
comp=Z,6.5nm,0.7s,mb4.8
SBA *e*pP pP 23 39 10.9 +0.7
MAW Mawson 83.32 201 P **P 23 38 57.0 -1.3**
comp=Z,2.8nm,0.9s,mb4.3,baz=96,slow=10,SNR=3.8
GNI Garni 83.67 310 P **P 23 38 58.2 -2.0**
PMR Palmer 84.07 28 *e*P **P 23 39 03.1 +0.9**
PMR pmax pmax
comp=Z,21nm,0.8s,mb5.3
PMR Palmer 84.07 28 *e*P **P 23 39 03.1 +0.9**
comp=Z,21nm,0.8s,mb5.3
KIV Kislovodsk 85.30 314 P **P 23 39 07.9 -0.5**
KIV Kislovodsk 85.30 314 P **P 23 39 07.9 -0.5**
KMBO Kilima Mbogo 91.41 269 P **P 23 39 36.8 -0.7**
comp=Z,0.8nm,0.8s,mb4.1,baz=58,slow=20,SNR=3.7
ARCES ARCESS Array B 92.19 340 P **P 23 39 39.1 -2.0**
comp=Z,1.4nm,0.6s,mb4.5,baz=76,slow=5.9,SNR=6.7
BR131 Keskin Array S 92.21 310 *e*pP pP 23 39 53.4 -1.9
BRTR Keskin Array B 92.21 310 P **P 23 39 40.9 -0.3**
comp=Z,0.5nm,0.8s,mb3.9,baz=103,slow=11,SNR=3.4
QSPA South Pole Qui 92.47 180 *e*P **P 23 39 42.7 +0.3**
comp=Z,11nm,0.9s,mb5.2
FINES FINESS Array B 93.75 332 P **P 23 39 47.4 -0.9**
comp=Z,3.0nm,0.9s,mb4.7,baz=161,slow=24,SNR=2.4
FINES LR LR 00 23 17.8
comp=Z,328nm,19.7s,MS4.8,baz=341,slow=36
YKA Yellowknife Ar 99.77 25 P Pdif 23 40 16.0 +0.4
comp=Z,0.9nm,0.7s,baz=298,slow=4.6,SNR=11
YKA Yellowknife Ar 99.77 25 P Pdif 23 40 16.0 +0.4
TXAR Lajitas Array 120.80 54 PKP PKPdf 23 45 25.2 +1.8
comp=Z,1.0nm,0.8s,baz=204,slow=1.7,SNR=13
JCT Junction City 123.37 51 *e*PKIKP PKPdf 23 45 29.5 +1.2
TORD Torodi Ar. Bea 125.07 288 PKP PKPdf 23 45 30.7 -0.9
comp=Z,1.3nm,0.8s,baz=114,slow=2.1,SNR=16
TRQA Tornquist 143.36 166 *e*PKPdf PKPdf 23 46 03.6 -2.0
LPAZ La Paz 158.60 131 PKP PKPdf 23 46 31.2 +2.4
comp=Z,1.3nm,0.8s,baz=212,slow=1.8,SNR=4.3
LPAZ PKPab PKPab 23 47 06.6 +2.5
comp=Z,1.5nm,0.7s,baz=191,slow=1.9,SNR=4.5

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*IDC **11** 23:34:52.2±9.6, 675S×12968E, h143km±94km, mb3.8/2, mb1 3.9/5, mb1mx3.5/15, mbtmp3.8/5, Error ellipse: s-maj=73.1km s-min=29.2km az=50.0*
*NEIC **11** 23:34:52.4±1.8, 672S×12974E, h148km±19km, mb4.0/4, Error ellipse: s-maj=16.5km s-min=12.4km az=62.0*
*ISCJB **11** 23:34:53.2±1.8, 687S±008×12979E±0.10, h176km±19km, mb3.9/4, Error ellipse: s-maj=16.2km s-min=12.5km az=165.8*

ISC 11 23:34:53.8±1.4, 687S±007×1298E±01, h162km±14km, n19, σ1§14/28, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.38**	**156**	*e*P	**Pn**	**23 36 26.2**	**+0.6**
	29nm,0.2s						
KAKA				*e*S	**Sn**	**23 37 36.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**11.87**	**199**	*e*P	**Pn**	**23 37 39.6**	**+1.6**
	13nm,1.5s						
FITZ				*e*S	**Sn**	**23 39 45.2**	**-4.1**
FITZ	**Fitzroy Crossi**	**11.87**	**199**	P	**Pn**	**23 37 39.7**	**+1.7**
	1.1nm,0.3s,baz=33,slow=12,SNR=33						
FITZ				S	**Sn**	**23 39 47.9**	**-1.4**
	1.3nm,0.3s,baz=188,slow=19,SNR=7.1						
WRAB	**Tennant Creek**	**13.73**	**161**	*e*Pn	**Pn**	**23 38 02.8**	**+1.0**
	8.0nm,0.3s						
WRAB				*e*Sn	**Sn**	**23 40 27.0**	**-7.1**
WRA	**Warramunga Arr**	**13.74**	**162**	P	**Pn**	**23 38 01.2**	**-0.7**
	1.1nm,0.3s,baz=340,slow=13,SNR=28						
WRA				S	**Sn**	**23 40 28.1**	**-6.2**
	1.9nm,0.3s,baz=334,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**13.74**	**162**	P	**Pn**	**23 38 01.2**	**-0.7**
WRA				S	**Sn**	**23 40 28.1**	**-6.2**
WB2	**Warramunga Arr**	**13.74**	**162**	*e*P	**Pn**	**23 38 00.4**	**-1.5**
WB2				*e*S	**Sn**	**23 40 25.8**	**-8.6**
WB2	**Warramunga Arr**	**13.74**	**162**	*e*Pn	**Pn**	**23 38 02.7**	**+0.7**
WB2				*e*Sn	**Sn**	**23 40 27.6**	**-6.8**
ASAR	**Alice Springs**	**17.17**	**167**	P	**Pn**	**23 38 46.5**	**+2.4**
	1.3nm,0.3s,baz=343,slow=9.1,SNR=36						
ASAR				S	**S**	**23 41 52.1**	**-1.5**
	0.2nm,0.3s,baz=350,slow=26,SNR=3.7						
PMG	**Port Moresby**	**17.41**	**99**	*e*P	**Pn**	**23 38 46.0**	**-0.9**
CTAO	**Charters Tower**	**20.71**	**131**	*e*P	**P**	**23 39 22.6**	**+1.1**
	2.5nm,0.8s						
STKA	**Stephens Creek**	**27.23**	**158**	*e*P	**P**	**23 40 23.6**	**+1.0**
	2.2nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**27.23**	**158**	P	**P**	**23 40 23.8**	**+1.2**
	1.3nm,0.3s,mb4.0,baz=334,slow=8.8,SNR=5.5						
NWAO	**Narrogin (SRO)**	**28.42**	**203**	P	**P**	**23 40 33.1**	**-0.1**
YHNB	**Yeheng**	**32.39**	**346**	*e*P	**P**	**23 41 07.3**	**-0.8**
LSA	**Lhasa**	**51.94**	**316**	P	**P**	**23 43 45.6**	**-0.4**
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	**23 45 34.9**	**-0.5**
	1.0nm,0.5s,mb3.8,baz=121,slow=7.9,SNR=23						
AAK	**Ala-Archa**	**70.28**	**320**	*e*P	**P**	**23 45 48.9**	**-0.6**
	2.4nm,1.0s,mb3.9						
SBA	**Scott Base**	**73.50**	**172**	*e*P	**P**	**23 46 10.0**	**+1.3**
	4.3nm,1.2s,mb4.0						

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*NEIC **11** 23:39:57.0, 3270S×7158W, h25km, ML3.9(GUC), After GUC.*
NEIC Felt [III] at Puchuncavi, Quillota and Vina del Mar; [II] at La Ligua.

GUC 11 23:39:57.3±0.8, 3270S×7158W, h25km±6km, MD4.1, ML3.9, 13C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.20**	**37**⇓	*i*P	Pb	23 40 03.5	+0.5
IHA	**Instituto Hidr**	**0.33**	**189**⇑	*i*P	Pb	23 40 04.6	-0.1
IHA				*i* S	Sb	23 40 10.0	+0.2
ROCH	**El Roble**	**0.55**	**120**⇑	*i*P	Pb	23 40 08.6	+0.3
ROCH				*i* S	Sb	23 40 16.5	+0.6
PTCH	**Petorca**	**0.70**	**52**⇓	*i*P	Pb	23 40 10.5	-0.3
PTCH				*i* S	Sb	23 40 20.5	+0.4
PTCH				AML	AML	23 40 21.3	
	comp=E,7μm,0.5s						
PTCH	**Petorca**	**0.70**	**52**⇓	*i*P	Pb	23 40 10.5	-0.3
PTCH				*i* S	Sb	23 40 20.5	+0.4
LCCH	**Las Cruces**	**0.77**	**179**⇑	*i*P	Pb	23 40 11.2	-0.9
JACH	**Jahuel**	**0.83**	**89**⇑	*i*P	Pb	23 40 12.6	-0.5
JACH				*i* S	Sb	23 40 23.9	+0.1
PEL	**Peldehue**	**0.87**	**121**⇑	*i*P	Pb	23 40 13.7	-0.1
PEL				*i* S	Sb	23 40 26.2	+1.2

PEL AML AML 23 40 27.0
comp=E,19μm,0.2s
SAN Santiago 1.08 135⇑ *i*P Pn 23 40 16.7 -0.1
SAN *e*S Sb 23 40 31.1 +0.2
SAN AML AML 23 40 37.9
comp=E,3μm,0.6s
SAN Santiago 1.08 135⇑ *i*P Pn 23 40 16.7 -0.1
SAN *e*S Sb 23 40 31.1 +0.2
STL Santa Lucia 1.08 133⇓ *i*P Pn 23 40 15.8 -1.0
STL *i*S Sb 23 40 30.7 -0.2
TACH Talagante 1.09 151 *e*P Pn 23 40 16.7 -0.3
TACH *i*S Sn 23 40 31.1 -0.2
DSCH Colegio Aleman 1.10 130⇑ *i*P Pn 23 40 16.3 -0.8
DSCH *i*S Sn 23 40 31.4 0.0
CLCH Cerro Calan 1.12 129⇓ *i*P Pn 23 40 17.4 0.0
CLCH *i*S Sn 23 40 32.6 +0.7
CLCH AML AML 23 40 33.7
comp=N,6μm,0.5s
ANTU Antumapu 1.18 138⇑ *i*P Pn 23 40 18.3 +0.1
ANTU *i*S Sn 23 40 34.4 +1.0
ANTU AML AML 23 40 38.6
comp=E,2μm,0.5s
ANTU Antumapu 1.18 138⇑ *i*P Pn 23 40 18.3 +0.1
ANTU *i*S Sn 23 40 34.4 +1.0
FCH Farellones 1.25 120⇓ *i*P Pn 23 40 19.5 +0.3
FCH *i*S Sn 23 40 36.6 +1.4
FCH AML AML 23 40 37.7
comp=N,4μm,0.2s
PCH Pirque 1.28 136⇑ *i*P Pn 23 40 19.8 +0.2
PCH *i*S Sn 23 40 37.0 +1.0
CHCH Chadas Angostu 1.46 148 *e*P Pn 23 40 22.7 +0.7
CHCH *i*S Sn 23 40 41.5 +1.2
YECH El Yeso 1.58 128⇓ *i*P Pn 23 40 24.6 +0.9
YECH *i*S Sn 23 40 45.9 +2.6
CMCH Combarbala 1.60 18⇓ *i*P Pn 23 40 23.5 -0.5
CMCH *i*S Sn 23 40 44.3 +0.5
CMCH AML AML 23 40 47.3
comp=E,5μm,0.5s
CMCH Combarbala 1.60 18⇓ *i*P Pn 23 40 23.5 -0.5
CMCH *i*S Sn 23 40 44.3 +0.5
CACH El Canelo 1.64 150⇑ *i*P Pn 23 40 26.0 +1.5
CACH *i*S Sn 23 40 48.1 +3.5
CICH Cipreses 1.89 149⇓ *i*P Pn 23 40 29.2 +1.3
SFDO San Fernando 1.97 166⇑ *i*P Pn 23 40 29.4 +0.3
SFDO *i*S Sn 23 40 54.5 +1.7
MDZ Mendoza 2.31 95 *e*P Pn 23 40 37.6 +3.9
MDZ *e* 23 41 14.4

WEL 11 23:49:00.0±0.6,3694S×17689E,h283km±7km,ML3.5/7,
Error ellipse: s-maj=15.1km s-min=9.4km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.33**	**172**	PN	Pn	23 49 40.6	+0.2
MWZ	**Matawai**	**1.49**	**160**	PN	Pn	23 49 41.7	+0.3
MWZ				SN	S	23 50 12.6	-1.6
PUZ	**Puketiti**	**1.57**	**137**	PN	Pn	23 49 41.7	-0.3
KNZ	**Kokohu**	**2.17**	**164**	PN	Pn	23 49 47.1	+0.4
BKZ	**Black Stump Fm**	**2.25**	**188**	PN	Pn	23 49 48.2	+0.8
BKZ				SN	S	23 50 24.0	-1.1
PXZ	**Pawanui**	**3.09**	**180**	SN	S	23 50 39.4	-0.4
TCW	**Tory Channel**	**4.73**	**205**	SN	S	23 51 11.8	-0.9
THZ	**Tophouse**	**5.73**	**211**	PN	Pn	23 50 26.0	+0.4
KHZ	**Kahutara**	**6.05**	**204**	PN	Pn	23 50 29.7	+0.2

IDC 11 23:51:00.6±4.6,1594S×17506W,h0km,mb3.8/4,
mb1 4.2/4,mb1mx3.8/14,mbtmp3.8/4,Error ellipse: s-maj=366.4km s-min=25.9km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.17**	**257**	P	P	23 59 43.0	+0.4
	0.2nm,0.4s,baz=93,slow=6.8,SNR=9.5						
ASAR	**Alice Springs**	**48.43**	**252**	P	P	23 59 45.0	+0.4
	1.2nm,0.5s,baz=89,slow=8.0,SNR=20						
NVAR	**Mina Array Bea**	**75.80**	**43**	P	P	00 02 49.7	+1.2
	0.2nm,0.4s,baz=249,slow=9.6,SNR=4.3						
PDAR	**Pinedale Array**	**83.73**	**42**	P	P	00 03 31.2	-0.2
	0.9nm,0.7s,baz=213,slow=3.1,SNR=5.8						

IDC 12 00:07:50.0±0.9,4606N×15537E,h0km,mb3.6/9,
mb1 3.9/9,mb1mx3.7/22,mbtmp3.6/9,Error ellipse: s-maj=30.8km s-min=22.4km az=172.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.65**	**299**	P	P	00 16 36.5	+0.9
	0.2nm,0.5s,baz=69,slow=6.9,SNR=3.9						
YKA	**Yellowknife Ar**	**50.55**	**37**	P	P	00 16 49.7	-0.4
	0.5nm,0.7s,baz=294,slow=7.0,SNR=5.6						
BVAR	**Borovoye Array**	**52.50**	**311**	P	P	00 17 04.3	-0.4
	0.5nm,0.5s,baz=55,slow=8.0,SNR=3.5						
NVAR	**Mina Array Bea**	**61.37**	**63**	P	P	00 18 08.8	+1.2
	0.4nm,0.8s,baz=298,slow=6.1,SNR=3.5						
PDAR	**Pinedale Array**	**63.89**	**55**	P	P	00 18 24.5	0.0
	0.7nm,0.8s,baz=282,slow=1.8,SNR=4.7						
WRA	**Warramunga Arr**	**68.40**	**201**	P	P	00 18 53.3	-0.1
	0.4nm,0.7s,baz=22,slow=6.4,SNR=3.6						
TXAR	**Lajitas Array**	**76.46**	**62**	P	P	00 19 41.5	-0.1
	0.6nm,0.7s,baz=302,slow=3.7,SNR=8.9						
GERES	**GERESS Array B**	**79.75**	**335**	P	P	00 19 59.3	-0.6
	0.4nm,0.6s,baz=56,slow=8.7,SNR=2.2						
BRTR	**Keskin Array B**	**79.96**	**318**	P	P	00 20 00.3	-0.6
	0.4nm,0.9s,baz=38,slow=7.3,SNR=3.7						

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*CSEM **12** 00:29:11.0,6783N×2019E,h4km,ML3.4,Mining explosion. After UPP*
*UPP **12** 00:29:11.0,6783N×2019E,h4km,ML3.4,Mining explosion.*
HEL 12 00:29:11.4±0.1,6783N×2019E,h0km,ML3.4(UPP),
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	*i*P	Pg	00 29 13.7	-0.4
KUA				*i*S	Sg	00 29 15.6	-0.2
NIKU	**Nikkaluokta**	**0.44**	**276**	*i*P	Pg	00 29 19.2	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i*P	Pg	00 29 24.2	-0.9
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 29 24.2	-0.9
	baz=305						
DUNU	**Dundret**	**0.72**	**168**	*i*P	Pg	00 29 24.3	-1.0
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 29 24.3	-1.0
	baz=60						
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	00 29 25.7	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i*P	Pg	00 29 25.6	-0.9
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 29 34.0	-0.5
KIF				*e*S	Sg	00 29 49.8	-0.2
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	00 29 36.1	-1.9
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 29 41.6	-0.7
HARU	**Harads**	**1.70**	**169**	P	Pn	00 29 41.6	-0.7
	baz=337						
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 29 53.7	-2.7
SGF				*e*SB	Sb	00 30 24.1	-3.0

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*CSEM **12** 00:31:54.4,6786N×2018E,h0km,ML3.3,Mining explosion. After UPP*
*HEL **12** 00:31:54.2,6786N×2007E,h0km,ML1.7,Explosion*
UPP 12 00:31:54.4,6786N×2018E,h0km,ML3.3,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.43**	**271**	P	Pg	00 32 02.8	+0.1
LANU	**Lannavaara**	**0.71**	**74**	P	Pg	00 32 08.2	+0.2
	baz=295						
DUNU	**Dundret**	**0.76**	**168**	P	Pg	00 32 08.6	-0.4
	baz=50						
SALU	**Saltoluokta**	**0.80**	**234**	P	Pg	00 32 09.6	-0.2
MASU	**Masugnsbyn**	**0.81**	**119**	P	Pg	00 32 09.5	-0.4
KIF	**Kilpisjarvi**	**1.17**	**11**	PN	Pn	00 32 17.0	-1.0
KIF				SG	Sg	00 32 33.3	+1.3
PAJU	**Pajala**	**1.41**	**125**	P	Pn	00 32 19.8	-1.5
HARU	**Harads**	**1.73**	**169**	P	Pn	00 32 26.1	+0.3
SGF	**Sodankyl**	**2.46**	**97**	SG	Sb	00 33 10.6	+0.1
KEV	**Kevo**	**3.12**	**49**	SG	Sb	00 33 27.9	-1.6
OUL	**Oulu**	**3.61**	**138**	SG	Sb	00 33 43.7	+0.3

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*JMA **12** 00:34:52.7±0.3,3316N×13801E,h366km,M3.3*
*ISCJB **12** 00:34:53.8±0.5,3314N±007×13802E±008,h349km±4km, mb3.3/10,Error ellipse: s-maj=12.2km s-min=9.6km az=129.9*
*IDC **12** 00:34:54.9±1.7,3308N×13793E,h337km±17km,mb3.1/7, mb1 3.2/9,mb1mx3.0/25,mbtmp3.0/9,Error ellipse: s-maj=25.0km s-min=14.1km az=73.0*
*NEIC **12** 00:34:55.0±0.9,3317N×138.10E,h346km±10km,mb3.4/3, Error ellipse: s-maj=22.3km s-min=13.4km az=75.0*
ISC 12 00:34:54.9±0.5,3317N±007×13802E±008,h343km±4km,
n33,σ0°90/38,mb3.3/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.51**	**92**	P	**Pn**	**00 35 44.0**	**+1.6**
JIE	**Ise**	**1.63**	**318**	P	**Pn**	**00 35 43.4**	**+0.3**
JWZ	**Kozaga**	**1.96**	**281**	P	**Pn**	**00 35 44.6**	**-0.6**
JOD2	**Odawara 2**	**2.27**	**23**	P	**Pn**	**00 35 48.5**	**+1.0**
JOD2				S	**S**	**00 36 31.1**	**+1.4**
JWY	**Kouya**	**2.27**	**298**	P	**Pn**	**00 35 47.6**	**+0.1**
JYN	**Shimob**	**2.36**	**11**	P	**Pn**	**00 35 49.3**	**+1.1**
JGM	**Miyama**	**2.74**	**337**	P	**Pn**	**00 35 52.0**	**+0.6**
BSO1	**Boso 1**	**2.87**	**58**	P	**Pn**	**00 35 51.3**	**-1.2**
BSO1				S	**S**	**00 36 37.0**	**-1.9**
JRY	**Ryogami san**	**2.93**	**14**	P	**Pn**	**00 35 54.0**	**+0.9**
JRY				S	**S**	**00 36 39.6**	**-0.2**
JWT	**Wachi**	**3.02**	**315**	P	**Pn**	**00 35 53.6**	**-0.3**
JAI	**Aioi**	**3.04**	**283**	P	**Pn**	**00 35 53.5**	**-0.6**
MAJO	**Matsushiro**	**3.36**	**3**	*e*Pn	**Pn**	**00 35 57.5**	**+0.4**
MAT	**Matsushiro**	**3.36**	**3**	P	**Pn**	**00 35 57.5**	**+0.4**
MAT				S	**S**	**00 36 45.9**	**-1.3**
MJAR	**Matsushiro Arr**	**3.36**	**3**	P	**Pn**	**00 35 57.3**	**+0.2**
	3.1nm,0.3s,baz=181,slow=9.4,SNR=22						
JAG	**Ashikaga**	**3.45**	**20**	P	**Pn**	**00 35 57.3**	**-0.7**
JAG				S	**S**	**00 36 45.2**	**-3.5**
JMN	**Monobe**	**3.50**	**280**	P	**Pn**	**00 35 58.0**	**-0.4**
JTO	**Tosashimizu**	**4.39**	**267**	P	**Pn**	**00 36 06.7**	**-0.9**
JHS	**Saijyo**	**4.45**	**295**	P	**Pn**	**00 36 08.3**	**+0.1**
KSRS	**Korea Array**	**9.29**	**300**	P	**Pn**	**00 37 04.7**	**+0.4**
	baz=120,slow=9.9,SNR=9.9						
SONM	**Songino Array**	**27.92**	**311**	P	**P**	**00 40 15.3**	**+0.8**
	0.9nm,0.6s,mb3.1,baz=116,slow=9.7,SNR=7.2						
LSA	**Lhasa**	**39.88**	**278**	P	**P**	**00 41 52.9**	**-3.6**
MK31	**Makanchi Array**	**43.93**	**305**	P	**P**	**00 42 29.0**	**+0.1**
MKAR	**Makanchi Array**	**43.93**	**305**	P	**P**	**00 42 28.9**	**0.0**
	0.6nm,0.3s,mb3.2,baz=87,slow=9.5,SNR=23						
MKAR	**Makanchi Array**	**43.93**	**305**	P	**P**	**00 42 28.9**	**0.0**
KURK	**Kurchatov**	**46.23**	**311**	*e*P	**P**	**00 42 46.5**	**-0.3**
	1.5nm,0.3s,mb3.6						
BVAR	**Borovoye Array**	**51.18**	**314**	P	**P**	**00 43 24.3**	**+0.2**
	0.6nm,0.4s,mb3.1,baz=96,slow=7.2,SNR=8.8						
BRVK	**Borovoye**	**51.24**	**314**	*e*P	**P**	**00 43 20.2**	**-4.4**
	0.6nm,0.4s,mb3.2						
WRAB	**Tennant Creek**	**52.92**	**184**	*e*P	**P**	**00 43 36.8**	**0.0**
	0.9nm,0.7s,mb3.2						
WRA	**Warramunga Arr**	**52.93**	**184**	P	**P**	**00 43 36.5**	**-0.4**
	0.5nm,0.3s,mb3.3,baz=0.1,slow=7.6,SNR=29						
ASAR	**Alice Springs**	**56.66**	**185**	P	**P**	**00 44 03.7**	**+0.3**
	0.3nm,0.5s,mb2.9,baz=6.6,slow=9.1,SNR=4.8						
INK	**Inuvik**	**59.08**	**26**	P	**P**	**00 44 17.1**	**-2.9**
ARCES	**ARCESS Array B**	**66.62**	**339**	P	**P**	**00 45 09.6**	**+0.3**
	5.2nm,1.0s,mb4.2,baz=61,slow=8.2,SNR=5.6						
YKA	**Yellowknife Ar**	**68.53**	**28**	P	**P**	**00 45 22.1**	**+1.0**
	0.1nm,0.4s,mb2.9,baz=302,slow=5.9,SNR=3.0						

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*NEIC **12** 00:39:01.1±0.6,4685N×15478E,h10km,mb4.5/10,Error ellipse: s-maj=13.1km s-min=9.9km az=144.0*
*ISCJB **12** 00:39:04.5±0.6,4694N±008×1548E±01,h45km,mb4.0/24, MS4.5/1,Error ellipse: s-maj=13.4km s-min=8.5km az=93.7*
*IDC **12** 00:39:05.7±0.7,4689N×15487E,h44km±5km,mb3.7/15, mb1 3.9/16,mb1mx3.8/24,mbtmp3.7/16,ML3.5/1,Error ellipse: s-maj=17.8km s-min=15.9km az=157.0*
*MOS **12** 00:39:09.6±0.8,4744N×15387E,h45km,mb4.5/14,Error ellipse: s-maj=20.6km s-min=13.0km az=117.6*
ISC 12 00:39:06.5±0.6,4697N±008×1548E±01,h47km,
h47km±1.2km:pP-P,n60,σ1°30/58,mb4.0/24,MS4.5/1,
2C-1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.81**	**13**	*e*PN	**Pn**	**00 40 08.1**	**+5.4**
KUR	**Kuril'sk**	**5.13**	**253**	*e*PN	**Pn**	**00 40 28.0**	**+7.2**
KUR				*e*S	**Sn**	**00 41 13.5**	**-5.2**
KUR				pmax	pmax		
	comp=Z,100nm,0.7s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
PET	**Petropavlovsk**	**6.54**	**21**	Pn	**Pn**	**00 40 40.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.25**	**274**	PN	**Pn**	**00 41 06.0**	**+2.5**
YSS	**Yuzh-Sakhalins**	**8.25**	**274**	Pn	**Pn**	**00 41 02.7**	**-0.8**
ASAJ	**Asahikawa**	**9.04**	**256**	P	**Pn**	**00 41 13.1**	**-1.2**
	comp=E,0.6nm,0.3s,baz=85,slow=32,SNR=2.8						
ASAJ	**Asahikawa**	**9.04**	**256**	PN	**Pn**	**00 41 13.1**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.16**	**236**	*e*P	**Pn**	**00 42 51.3**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAJO	**Matsushiro**	**16.16**	**236**	*e*P	**Pn**	**00 42 51.3**	**+1.1**
	comp=Z,9.4nm,0.9s						
MAT	**Matsushiro**	**16.16**	**236**	P	**Pn**	**00 42 52.2**	**+2.0**
YAK	**Yakutsk**	**20.78**	**326**	*e*P	**P**	**00 43 46.8**	**+3.3**
YAK				pmax	pmax		
	comp=Z,19nm,0.4s						
YAK	**Yakutsk**	**20.78**	**326**	*e*P	**P**	**00 43 46.8**	**+3.3**
	comp=Z,19nm,0.4s						
BILL	**Bilibino**	**21.93**	**12**	P	**P**	**00 43 55.6**	**-0.2**
	comp=Z,4.9nm,0.9s,mb3.9						
KSRS	**Korea Array**	**21.98**	**254**	P	**P**	**00 43 59.1**	**+2.8**
	comp=Z,0.6nm,0.3s,mb3.5,baz=64,slow=11,SNR=4.5						
TIXI	**Tiksi**	**27.59**	**343**	*e*P	**P**	**00 44 47.2**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.2						
TIXI	**Tiksi**	**27.59**	**343**	*e*P	**P**	**00 44 47.8**	**-1.5**
	comp=Z,1.4nm,0.4s,mb3.9						
SONM	**Songino Array**	**32.36**	**290**	P	**P**	**00 45 30.1**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=63,slow=9.3,SNR=3.9						
SONM				PcP	PcP	00 48 17.8	-0.4
	comp=Z,0.2nm,0.4s,baz=90,slow=2.9,SNR=4.8						
INK	**Inuvik**	**40.84**	**33**	P	**P**	**00 46 43.1**	**-0.4**
	comp=Z,2.0nm,0.8s,mb3.8,baz=285,slow=7.9,SNR=6.1						
INK	**Inuvik**	**40.84**	**33**	*e*P	**P**	**00 46 43.5**	**-0.1**
	comp=Z,67nm,0.7s						
ZAL	**Zalesovo**	**43.44**	**306**	P	**P**	**00 47 03.3**	**-1.4**
	comp=Z,1.1nm,0.5s,mb3.8,baz=48,slow=9.1,SNR=4.5						
ZAL	**Zalesovo**	**43.44**	**306**	P	**P**	**00 47 03.3**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**47.87**	**298**	*e*P	**P**	**00 47 39.1**	**-0.6**
MKAR	**Makanchi Array**	**47.87**	**298**	P	**P**	**00 47 38.6**	**-1.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=67,slow=7.4,SNR=14						
MKAR				pP	pP	00 47 51.8	-0.7
	comp=Z,0.8nm,0.6s,baz=68,slow=7.8,SNR=4.0						
MKAR	**Makanchi Array**	**47.87**	**298**	*i*P	**P**	**00 47 39.2**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**48.21**	**304**	*e*P	**P**	**00 47 41.7**	**-0.6**
KURK				*e*	pP	00 47 53.3	-1.9
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**48.21**	**304**	*e*P	**P**	**00 47 41.7**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.5						
KURK				*e*	pP	00 47 53.3	-1.9
YKA	**Yellowknife Ar**	**50.05**	**37**	P	**P**	**00 47 54.0**	**-2.4**
	comp=Z,0.1nm,0.3s,mb3.4,baz=294,slow=6.9,SNR=4.7						
YKA				pP	pP	00 48 07.2	-2.1
	comp=Z,0.4nm,0.8s,baz=295,slow=7.1,SNR=3.6						
YKA				PcP	PcP	00 49 15.3	-0.3
	comp=Z,0.2nm,0.6s,baz=315,slow=3.8,SNR=3.7						
YKA	**Yellowknife Ar**	**50.05**	**37**	P	**P**	**00 47 54.0**	**-2.4**
YKA				pP	pP	00 48 07.2	-2.1
YKA				PcP	PcP	00 49 15.3	-0.3
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**00 48 03.6**	**-1.3**
CHKZ				*e*	pP	00 48 16.4	-1.4
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**51.18**	**311**	*e*P	**P**	**00 48 03.6**	**-1.3**
	comp=Z,6.6nm,0.8s,mb4.6						
CHKZ				*e*	pP	00 48 16.4	-1.5
BVAR	**Borovoye Array**	**51.61**	**310**	P	**P**	**00 48 07.7**	**-0.5**
	comp=Z,1.8nm,0.4s,mb4.3,baz=59,slow=7.7,SNR=26						
BVAR				pP	pP	00 48 20.2	-1.0
	comp=Z,1.6nm,0.5s,baz=52,slow=8.4,SNR=7.5						
BVAR	**Borovoye Array**	**51.61**	**310**	P	**P**	**00 48 07.7**	**-0.5**
BVAR				*PP	pP	00 48 20.2	-0.9
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.65**	**310**	*e*P	**P**	**00 48 07.5**	**-1.0**
BRVK				*e*	pP	00 48 20.1	-1.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**51.65**	**310**	*e*P	**P**	**00 48 07.5**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.4						
BRVK				*e*	pP	00 48 20.1	-1.3
ARCES	**ARCESS Array B**	**58.02**	**341**	P	**P**	**00 48 54.2**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.4,baz=23,slow=7.8,SNR=5.4						
ARCES	**ARCESS Array B**	**58.02**	**341**	P	**P**	**00 48 54.2**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**00 49 36.0**	**-1.3**
	comp=Z,3.9nm,0.8s,mb4.5,baz=43,slow=6.5,SNR=16						
FINES	**FINESS Array B**	**64.33**	**335**	*i*P	**P**	**00 49 38.0**	**+0.8**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael**	**65.51**	**58**	*e*P	**P**	**00 49 46.4**	**+1.4**
	comp=Z,5.8nm,0.5s,mb4.9						
SRU				*e*PcP	PcP	00 50 16.2	-0.2
OBN	**Obninsk**	**65.78**	**326**	*e*P	**P**	**00 49 46.8**	**+0.2**
OBN				*e*SS	SS	01 02 33.3	-11
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,12.0s,MS4.5						
NB2	**NORSAR Subarra**	**68.39**	**342**	P	**P**	**00 50 04.4**	**+1.2**
	comp=Z,0.5nm,0.3s,mb4.0,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.39**	**342**	P	**P**	**00 50 04.3**	**+1.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=27,slow=6.5,SNR=3.1						
WRAB	**Tennant Creek**	**69.10**	**201**	*e*P	**P**	**00 50 06.3**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**69.11**	**201**	P	**P**	**00 50 06.4**	**-1.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=19,slow=7.0,SNR=4.5						
AKASG	**Malin Array Be**	**72.00**	**327**	P	**P**	**00 50 25.1**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.1,baz=33,slow=6.3,SNR=8.4						
AKASG				pP	pP	00 50 38.9	+0.1
	comp=Z,1.6nm,0.7s,baz=34,slow=6.2,SNR=4.3						
AKASG	**Malin Array Be**	**72.00**	**327**	*i*P	**P**	**00 50 26.2**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**72.80**	**200**	P	**P**	**00 50 29.6**	**-0.4**
	comp=Z,1.0nm,1.0s,mb3.7,baz=17,slow=5.0,SNR=6.5						
ASAR				pP	pP	00 50 42.0	-1.5
	comp=Z,0.6nm,0.7s,baz=14,slow=4.6,SNR=4.4						
BURAR	**Bucovina Array**	**76.04**	**328⇑**	*i*P	**P**	**00 50 50.5**	**+1.6**
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**00 50 50.4**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=296,slow=4.5,SNR=8.6						
TXAR				pP	pP	00 51 02.5	-1.8
	comp=Z,0.8nm,0.6s,baz=303,slow=4.8,SNR=7.5						
TXAR	**Lajitas Array**	**76.37**	**62**	P	**P**	**00 50 50.4**	**-0.3**
TXAR				pP	pP	00 51 02.5	-1.8
MLR	**Muntele Rosu**	**77.54**	**326⇓**	*i*P	**P**	**00 51 00.4**	**+3.0**
KHC	**Kasperske Hory**	**78.54**	**335**	*e*P	**P**	**00 51 03.0**	**+0.1**
GERES	**GERESS Array B**	**78.76**	**335**	P	**P**	**00 51 05.5**	**+1.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=6.1						
GERES				pP	pP	00 51 18.3	+0.6
	comp=Z,0.7nm,0.7s,baz=20,slow=4.4,SNR=3.2						
GERES	**GERESS Array B**	**78.76**	**335**	P	**P**	**00 51 05.5**	**+1.4**
GERES				*PP	pP	00 51 18.3	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**79.02**	**318**	P	**P**	**00 51 05.9**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=35,slow=7.8,SNR=5.5						
BRTR	**Keskin Array B**	**79.02**	**318**	*i*P	**P**	**00 51 07.9**	**+2.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BZS	**Buzias**	**79.04**	**329⇑**	*i*P	**P**	**00 51 08.0**	**+2.4**
VNA2	**Neumayer--Watz**	**154.50**	**193**	*e*PKPdf	PKPbc	00 58 59.7	-2.2
VNA2				*e*		00 59 15.9	
VNA2				*e*		00 59 21.2	
VNA3	**Neumayer Olymp**	**154.56**	**192**	*e*PKPdf	PKPbc	00 59 01.1	-0.9
VNA3				*e*		00 59 17.4	
VNA3				*e*		00 59 25.1	
VNA1	**Neumayer--Stat**	**154.88**	**193**	*e*PKPdf	PKPbc	00 59 02.3	-0.4
VNA1				*e*		00 59 22.3	

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*ISCJB **12** 00:40:31.6±0.6,4680N±008×1548E±01,h10km,mb3.9/17, Error ellipse: s-maj=14.0km s-min=7.1km az=95.6*
*IDC **12** 00:40:31.9±0.9,4681N×15479E,h0km,mb3.8/13, mb1 4.0/14,mb1mx3.9/25,mbtmp3.8/14,ML3.6/1,Error ellipse: s-maj=25.6km s-min=21.6km az=122.0*
*NEIC **12** 00:40:33.4±0.5,4678N×15476E,h10km,mb4.7/5,Error ellipse: s-maj=13.5km s-min=7.2km az=124.0*
*MOS **12** 00:40:37.6±1.2,4674N×15464E,h59km,mb4.3/11,Error ellipse: s-maj=16.3km s-min=11.7km az=80.7*
ISC 12 00:40:33.3±0.6,4681N±008×1548E±01,h10km,n41,
σ0°93/42,mb3.9/17,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.06**	**254**	*e*PN	**Pn**	**00 41 51.5**	**+2.3**
KUR				*i*S	**Sn**	**00 42 47.0**	**-0.7**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				sm

comp=Z,1.0nm,0.3s,mb4.4
FINES FINESS Array B 64.46 335 P **P** **00 51 09.8 -0.1**
comp=Z,6.0nm,1.0s,mb4.6,baz=36,slow=7.4,SNR=11
FINES FINESS Array B 64.46 335 P **P** **00 51 09.8 -0.1**
FINES pmax pmax
comp=Z,6.0nm,1.0s
NOA NORSAR Array B 68.53 342 P **P** **00 51 37.2 +1.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=23,slow=6.0,SNR=2.4
NOA NORSAR Array B 68.53 342 P **P** **00 51 37.2 +1.3**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 68.53 342 P **P** **00 51 37.2 +1.2**
WRA Warramunga Arr 68.96 201 P **P** **00 51 39.1 +0.5**
comp=Z,0.4nm,0.8s,mb3.4,baz=22,slow=6.9,SNR=2.8
AKASG Malin Array Be 72.12 327 P **P** **00 51 57.8 -0.1**
comp=Z,0.3nm,0.4s,mb3.6,baz=33,slow=6.2,SNR=4.8
ASAR Alice Springs 72.64 200 P **P** **00 52 01.3 +0.3**
comp=Z,0.8nm,0.9s,mb3.6,baz=22,slow=5.2,SNR=4.7
ASAR Alice Springs 72.64 200 P **P** **00 52 01.3 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 76.47 62 P **P** **00 52 23.4 +0.2**
comp=Z,0.5nm,0.6s,mb3.6,baz=313,slow=4.2,SNR=4.1
TXAR Lajitas Array 76.47 62 P **P** **00 52 23.4 +0.2**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 78.89 335 P **P** **00 52 38.4 +1.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=32,slow=7.8,SNR=5.2
GERES GERESS Array B 78.89 335 P **P** **00 52 38.4 +1.7**
GERES pmax pmax
comp=Z,1.0nm,0.5s

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*ISCJB **12** 01:28:39.6±0.8,4135N±005×4633E±003,h10km,Error ellipse: s-maj=7.2km s-min=3.4km az=152.4*
*TIF **12** 01:28:39.4,4140N×4619E,h6km±3km*
*CSEM **12** 01:28:42.0,4153N×4632E,h5km,mb4.1,Error ellipse: s-maj=17.1km s-min=9.8km az=189.0,After OBN*
*MOS **12** 01:28:42.0±1.0,4153N×4632E,h5km,mb4.1/1,Error ellipse: s-maj=17.1km s-min=9.8km az=108.9*
ISC 12 01:28:40.0±0.8,4135N±005×4631E±004,h10km,n18,σ1§22/34,1C-1D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.71**	**279**	P	**Pg**	**01 28 54.8**	**+1.0**
DGRG				S	**Sg**	**01 29 06.3**	**+3.1**
KMKR	**Kumukh**	**0.98**	**37**	⇑iPG	**Pg**	**01 28 56.0**	**-2.9**
KMKR				*i* S	**Sg**	**01 29 10.5**	**-1.1**
GNBR	**Gunib**	**1.15**	**25**	*i* Pg	**Pg**	**01 29 00.2**	**-1.9**
GNBR				*e*Sg	**Sg**	**01 29 15.2**	**-1.8**
MTA	**Mtatsminda**	**1.19**	**287**	P	**Pb**	**01 29 01.2**	**-1.5**
MTA				S	**Sb**	**01 29 16.6**	**-1.6**
DUS	**Dusheti**	**1.42**	**302**	P	**Pn**	**01 29 05.9**	**+0.1**
DUS				S	**Sn**	**01 29 24.2**	**-0.3**
KZR	**Kazreti**	**1.43**	**272**	P	**Pn**	**01 29 04.4**	**-1.6**
KZR				S	**Sn**	**01 29 22.7**	**-2.2**
DRN	**Derbent**	**1.66**	**65**	*e*PG	**Pg**	**01 29 12.2**	**+0.4**
DRN				*e*S	**Sn**	**01 29 31.4**	**+0.9**
GOR	**Gori**	**1.77**	**292**	P	**Pn**	**01 29 10.7**	**0.0**
GOR				S	**Sn**	**01 29 32.9**	**-0.4**
MAK	**Makhachkala**	**1.84**	**28**	⇓*i*PN	**Pb**	**01 29 14.9**	**+1.2**
MAK				*i*		01 29 40.4	
MAK				pmax	pmax		
	comp=Z,99nm,0.4s						
MAK				smax			
	comp=E,831nm,0.9s						
MAK				smax			
	comp=N,271nm,0.5s						
MAK	**Makhachkala**	**1.84**	**28**	*i* Pn	**Pb**	**01 29 14.9**	**+1.2**
	comp=N,99nm,0.4s						
MAK				*i* Sg	**Sg**	**01 29 40.4**	**+1.2**
	comp=N,271nm,0.5s						
SNJR	**Sundja**	**2.05**	**328**	*e*Pn	**Pb**	**01 29 17.0**	**-0.3**
SNJR				*e*Sg	**Sb**	**01 29 43.0**	**+0.1**
VLKR	**Vladikavkaz**	**2.09**	**325**	*e*Pn	**Pb**	**01 29 17.3**	**-0.7**
VLKR				*e*Sg	**Sb**	**01 29 43.6**	**-0.4**
LACR	**Lac**	**2.11**	**315**	*i* Pn	**Pn**	**01 29 16.7**	**+1.4**
ZEI	**Tsey**	**2.29**	**309**	*i* Pn	**Pn**	**01 29 19.2**	**+1.3**
ZEI				*i* Sn	**Sn**	**01 29 46.8**	**+0.7**
ARNR	**Ardon**	**2.38**	**321**	*i* Pn	**Pb**	**01 29 23.1**	**+0.1**
ARNR				*i* Sb	**Sb**	**01 29 52.7**	**+0.3**
ONI	**Oni**	**2.46**	**301**	P	**Pn**	**01 29 20.5**	**+0.3**
ONI				S	**Sb**	**01 29 54.3**	**-0.5**
DIGR	**Digorskoe uzhe**	**2.56**	**308**	*i* Pn	**Pn**	**01 29 22.7**	**+1.2**
DIGR				*e*Sn	**Sn**	**01 29 52.5**	**-0.2**
PRTR	**Priterechnaya**	**2.83**	**329**	*e*Pn	**Pn**	**01 29 27.7**	**+2.4**
PRTR				*e*Sn	**Sn**	**01 30 01.6**	**+2.1**

WEL 12 01:39:20.3±0.3,3860S×17582E,h144km±2km,ML3.6/17,3C-1D,Error ellipse: s-maj=3.6km s-min=3.3km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	**Tukino**	**0.68**	**191**	⇑PN	Pn	01 39 42.3	+0.4
TUVZ				SN	Sn	01 39 59.2	+0.8
FWVZ	**Far West T-bar**	**0.68**	**197**	PN	Pn	01 39 41.9	-0.1
TRVZ	**Turoa**	**0.72**	**197**	PN	Pn	01 39 42.8	+0.5
WHVZ	**Wahianoa**	**0.74**	**193**	PN	Pn	01 39 42.7	+0.3
BKZ	**Black Stump Fm**	**0.77**	**137**	PN	Pn	01 39 43.0	+0.4
BKZ				SN	Sn	01 40 00.0	+0.5
PKVZ	**Pokaka**	**0.78**	**208**	PN	Pn	01 39 42.6	-0.1
PKVZ				SN	Sn	01 40 00.1	+0.4
MOVZ	**Moawhango**	**0.80**	**183**	⇑PN	Pn	01 39 42.8	-0.1
MOVZ				SN	Sn	01 39 59.3	-0.7
URZ	**Urewera**	**1.07**	**72**	PN	Pn	01 39 45.0	-0.1
URZ				SN	Sn	01 40 03.7	-0.3
WAZ	**Wanganui**	**1.32**	**209**	PN	Pn	01 39 47.0	-0.5
TSZ	**Takapari Road**	**1.46**	**176**	PN	Pn	01 39 48.6	-0.3
KNZ	**Kokohu**	**1.51**	**107**	PN	Pn	01 39 49.9	+0.5
PXZ	**Pawanui**	**1.64**	**151**	PN	Pn	01 39 50.8	-0.1
MRZ	**Mangatainoka R**	**2.06**	**185**	⇑PN	Pn	01 39 54.1	-1.6
MXZ	**Matakaoa Point**	**2.22**	**63**	PN	Pn	01 39 57.6	-0.1
MXZ				SN	Sn	01 40 27.1	+0.7
KIW	**Kapiti Island**	**2.36**	**197**	⇓PN	Pn	01 39 57.1	-2.3
MTW	**Mount Morrison**	**2.56**	**185**	PN	Pn	01 39 59.3	-2.6
CAW	**Cannon Point**	**2.57**	**193**	PN	Pn	01 39 59.5	-2.4
DUWZ	**D'Urville Isla**	**2.64**	**213**	PN	Pn	01 39 60.0	-2.8
MRW	**Makara Radio**	**2.76**	**198**	PN	Pn	01 40 01.5	-2.8
TRWZ	**Traveller**	**2.79**	**182**	PN	Pn	01 40 02.2	-2.5
MSWZ	**Moikau Station**	**2.84**	**189**	PN	Pn	01 40 02.4	-2.9
TCW	**Tory Channel**	**2.86**	**204**	PN	Pn	01 40 02.6	-3.0
BHW	**Baring Head**	**2.89**	**194**	PN	Pn	01 40 02.9	-3.1
TUWZ	**Tuamarina**	**3.17**	**206**	PN	Pn	01 40 06.0	-3.5
KHZ	**Kahutara**	**4.18**	**204**	PN	Pn	01 40 18.9	-3.9

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*CSEM **12** 01:40:57.7±0.1,3707N×556W,h2km,ML3.4/15,Error ellipse: s-maj=1.5km s-min=0.9km az=4.0*
*NEIC **12** 01:40:58.2,3709N×556W,h4km,MN2.5(MDD),After MDD.*
NEIC Felt [II] at Montellano.
*SFS **12** 01:40:58.0,3709N×557W,h0km,ML2.4*
*IGIL **12** 01:40:58.4,37.10N×550W,h13km,ML3.3*
*INMG **12** 01:40:58.6±1.2,3707N×556W,h12km±2km,ML2.6,Error ellipse: s-maj=1.7km s-min=1.1km az=10.0*
MDD 12 01:40:58.2±0.2,3710N×556W,h4km±3km,mbLg2.5/23,3C-3D,Error ellipse: s-maj=2.7km s-min=1.7km az=166.0,PRXIMO I EL CORONIL CORIPE,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.23**	**147**	⇑P	Pg	01 41 00.8	-1.9
LIJA	**Lijar**	**0.23**	**147**	*i* P	Pg	01 41 00.9	-1.8
ESPR	**Espera**	**0.33**	**225**	⇓Pg	Pg	01 41 04.2	-0.4
	194nm,0.4s,SNR=18						
ESPR				Lg		01 41 08.6	
	149nm,0.2s,SNR=5.0						
ESPR	**Espera**	**0.33**	**225**	Pg	Pg	01 41 04.2	-0.4
	194nm,0.4s,SNR=18						
GIBL	**Gibalbin**	**0.42**	**230**	P	Pg	01 41 06.3	-0.1
GIBL				S	Sg	01 41 13.5	+1.6
GIBL	**Gibalbin**	**0.42**	**230**	*e*P	Pg	01 41 06.3	-0.1
SCRT	**Cerro San Cris**	**0.68**	**227**	P	Pg	01 41 12.5	+1.2
SCRT				S	Sg	01 41 21.5	+1.5
SCRT	**Cerro San Cris**	**0.68**	**227**	*i* P	Pg	01 41 12.5	+1.3
REAL	**Reales**	**0.68**	**155**	P	Pg	01 41 10.2	-1.0
REAL				S	Sg	01 41 21.3	+1.3
REAL	**Reales**	**0.68**	**155**	*i* P	Pg	01 41 10.2	-1.0
MOMI	**Momias**	**0.78**	**189**	P	Pg	01 41 13.6	+0.4
MOMI	**Momias**	**0.78**	**189**	*i* P	Pg	01 41 13.6	+0.4
EMIJ	**Mijas**	**0.83**	**130**	⇑Pg	Pg	01 41 12.3	-1.8
EMIJ				Lg		01 41 24.3	
EMIJ	**Mijas**	**0.83**	**130**	⇑Pg	Pg	01 41 12.3	-1.8
	16nm,0.1s,SNR=18						
EMIJ				Lg		01 41 24.3	
	50nm,0.3s,SNR=10.0						
CNIL	**Conil**	**0.83**	**209**	P	Pg	01 41 14.7	+0.5
CNIL	**Conil**	**0.83**	**209**	*e*P	Pg	01 41 14.7	+0.5
EMIN	**Mina Concepcio**	**1.11**	**307**	⇓Pg	Pg	01 41 18.5	-0.9
	21nm,0.2s,SNR=18						
EMIN				Lg		01 41 34.7	
	92nm,0.2s,SNR=21						
EMIN	**Mina Concepcio**	**1.11**	**307**	Pg	Pg	01 41 18.5	-0.9
	21nm,0.2s,SNR=18						
ELOJ	**Sierra Loja**	**1.13**	**87**	Pg	Pg	01 41 19.2	-0.6
	10nm,0.1s,SNR=7.9						
ELOJ				Lg		01 41 34.3	
	11nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**1.13**	**66**	Pg	Pg	01 41 19.4	-0.5
	23nm,0.2s,SNR=15						
ELUQ				Lg		01 41 34.7	
	45nm,0.1s,SNR=5.0						
EADA	**Adamuz**	**1.32**	**36**	Pg	Pg	01 41 22.0	-1.5
	9.3nm,0.1s,SNR=138						
EADA				Pn	Pn	01 41 23.2	-0.1
	10nm,0.1s,SNR=7.9						
EADA				Lg		01 41 42.1	
	35nm,0.1s,SNR=28						
EADA	**Adamuz**	**1.32**	**36**	Pg	Pg	01 41 22.0	-1.5
	9.3nm,0.1s,SNR=138						
EADA	**Adamuz**	**1.32**	**36**	Pn	Pn	01 41 23.2	-0.1
	10nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**1.38**	**282**	Pn	Pn	01 41 22.3	-1.9
	0.4nm,0.0s,SNR=7.9						
ERIP				Pg	Pg	01 41 23.0	-1.7
	SNR=7.9						
ERIP				Lg		01 41 42.2	
	208nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**1.38**	**282**	Pg	Pg	01 41 23.0	-1.6
	SNR=7.9						
ERON	**Agron**	**1.41**	**93**	Pg	Pg	01 41 23.7	-1.5
	2.9nm,0.2s,SNR=12						
ERON				Lg		01 41 43.1	
	5.4nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**1.59**	**286**	Pn	Pn	01 41 25.1	-2.0
EGRO				Pg	Pg	01 41 26.7	-2.0
EGRO				Lg		01 41 48.3	
EGRO	**El Granado**	**1.59**	**286**	Pn	Pn	01 41 25.1	-2.0
	12nm,0.2s,SNR=7.9						
EGRO				Pg	Pg	01 41 26.7	-2.0
	13nm,0.1s,SNR=7.9						
EGRO				Lg		01 41 48.3	
	1.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.59**	**286**	Pn	Pn	01 41 25.0	-2.1
	12nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.59**	**286**	Pg	Pg	01 41 26.7	-2.0
	13nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.60**	**83**	Pn	Pn	01 41 25.4	-1.8
	3.4nm,0.1s,SNR=7.9						
ECOG				Lg		01 41 49.7	
	12nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.62**	**99**	Pn	Pn	01 41 26.7	-0.8
	4.1nm,0.1s,SNR=7.9						
EGUA				Lg		01 41 50.7	
	3.8nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.70**	**86**	Pn	Pn	01 41 27.5	-1.0
	5.7nm,0.1s,SNR=60						
EQUE				Lg		01 41 53.0	
	6.8nm,0.1s,SNR=6.4						
EBAN	**Banos Encina**	**1.76**	**53**	Pn	Pn	01 41 27.9	-1.5
	7.9nm,0.1s,SNR=18						
EBAN				Pg	Pg	01 41 30.2	-1.8
	13nm,0.2s,SNR=7.9						
EBAN				Lg		01 41 54.7	
	49nm,0.2s,SNR=20						
EBAD	**Badajoz**	**2.01**	**326**	⇓Pn	Pn	01 41 31.1	-1.7
	1.0nm,0.1s,SNR=18						
EBAD				Pg	Pg	01 41 35.1	-1.6
	3.9nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	01 41 57.3	-1.1
	36nm,0.2s,SNR=7.9						
EBAD				Lg		01 42 02.1	
	15nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.01**	**326**	Pn	Pn	01 41 31.1	-1.8
	1.0nm,0.1s,SNR=18						
EBAD	**Badajoz**	**2.01**	**326**	Pg	Pg	01 41 35.1	-1.6
	3.9nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	01 41 57.3	-1.1
	36nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**2.05**	**297**	*e*Pn	Pn	01 41 31.5	-1.9
PBEJ	**Beja**	**2.05**	**297**	*e*Pg	Pg	01 41 35.1	-2.4
PBEJ				*e*Sn	Sn	01 41 56.1	-3.3
PBEJ				*e*Sg	Sg	01 42 02.4	-1.7
PBEJ				A		01 42 10.2	
	38nm,0.3s						
PBEJ	**Beja**	**2.05**	**297**	Pn	Pn	01 41 31.5	-1.9
PBEJ				Pg	Pg	01 41 35.1	-2.4
PBEJ				Sn	Sn	01 41 56.1	-3.3
PBEJ				Lg		01 42 02.4	
PBEJ	**Beja**	**2.05**	**297**	*e*Pg	Pg	01 41 35.1	-2.4
PBEJ				*e*Sn	Sn	01 41 56.1	-3.3
PBEJ				*e*Sg	Sg	01 42 02.4	-1.7
	38nm,0.3s						
EQES	**Quesada**	**2.10**	**70**	Pn	Pn	01 41 33.0	-1.1
	2.4nm,0.1s,SNR=20						
EQES				Pg	Pg	01 41 36.6	-1.8
	6.4nm,0.2s,SNR=7.9						
EQES				Lg		01 42 05.8	
	11nm,0.1s,SNR=15						
EQES	**Quesada**	**2.10**	**70**	Pn	Pn	01 41 33.0	-1.1
	2.4nm,0.1s,SNR=20						
EQES	**Quesada**	**2.10**	**70**	Pg	Pg	01 41 36.6	-1.9
	6.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.15**	**95**	Pn	Pn	01 41 34.5	-0.2
	1.5nm,0.1s,SNR=7.9						
EBER				Pg	Pg	01 41 38.2	-1.2
	9.1nm,0.3s,SNR=7.9						
EBER				Lg		01 42 08.5	
	2.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.15**	**95**	Pn	Pn	01 41 34.5	-0.2
	1.5nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.15**	**95**	Pg	Pg	01 41 38.2	-1.2
	9.1nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**2.38**	**318**	*e*Pn	Pn	01 41 36.4	-1.6
PESTR	**Estremoz**	**2.38**	**318**	*e*Pg	Pg	01 41 41.4	-2.5
PESTR				*e*Sn	Sn	01 42 05.5	-2.1
PESTR				*e*Sg	Sg	01 42 12.6	-2.1
PESTR				A		01 42 20.0	
	34nm,0.2s						
PESTR	**Estremoz**	**2.38**	**318**	*e*Pg	Pg	01 41 41.4	-2.5
PESTR				*e*Sn	Sn	01 42 05.5	-2.1
PESTR				*e*Sg	Sg	01 42 12.6	-2.1
	34nm,0.2s						
EHUE	**Huescar**	**2.47**	**72**	Lg		01 42 16.6	
	8.0nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.56**	**281**	*e*Pn	Pn	01 41 38.5	-1.9
PTEO	**Sao Teotonio**	**2.56**	**281**	*e*Pg	Pg	01 41 43.3	-4.0
PTEO				*e*Sn	Sn	01 42 09.3	-2.7
PTEO				*e*Sg	Sg	01 42 18.2	-2.2
PTEO				A		01 42 24.0	
	45nm,0.3s						
PTEO	**Sao Teotonio**	**2.56**	**281**	Pn	Pn	01 41 38.5	-1.9
PTEO				Pg	Pg	01 41 43.3	-4.0
PTEO				Sn	Sn	01 42 09.3	-2.7
PTEO				Lg		01 42 18.2	
PTEO	**Sao Teotonio**	**2.56**	**281**	*e*Pg	Pg	01 41 43.3	-4.0
PTEO				*e*Sn	Sn	01 42 09.3	-2.7
PTEO				*e*Sg	Sg	01 42 18.2	-2.2
	45nm,0.3s						
MOE	**Montemor**	**2.62**	**304**	*e*Pn	Pn	01 41 39.9	-1.4
MOE	**Montemor**	**2.62**	**304**	*e*Pg	Pg	01 41 46.1	-2.4
MOE				*e*Sg	Sg	01 42 19.7	-2.8
MOE	**Montemor**	**2.62**	**304**	Pn	Pn	01 41 39.9	-1.4
MOE				Pg	Pg	01 41 46.1	-2.4
MOE				Lg		01 42 19.7	
MOE	**Montemor**	**2.62**	**304**	*e*Pg	Pg	01 41 46.1	-2.4
MOE				*e*Sg	Sg	01 42 19.7	-2.8
ESDC	**Sonseca Array**	**2.86**	**26**	Pn	Pn	01 41 43.9	-0.7
	3.0nm,0.1s,baz=204,slow=12,SNR=20						
ESDC				Pg	Pg	01 41 51.8	-1.2
	baz=215,slow=17,SNR=7.9						
ESDC				Sn	Sn	01 42 18.1	-1.2
	2.7nm,0.1s,baz=217,slow=17,SNR=7.9						
ESDC				Lg		01 42 30.3	
	3.6nm,0.1s,baz=213,slow=29,SNR=19						
ESDC	**Sonseca Array**	**2.86**	**26**	Pn	Pn	01 41 43.9	-0.6
	3.0nm,0.1s,SNR=20						
ESDC	**Sonseca Array**	**2.86**	**26**	Pg	Pg	01 41 51.8	-1.2
	SNR=7.9						
ESDC				Sn	Sn	01 42 18.1	-1.2
	2.7nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.87**	**57**	Pn	Pn	01 41 43.3	-1.3
	2.9nm,0.1s,SNR=10.0						
EVIA				Lg		01 42 30.1	
	3.6nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.12**	**332**	*e*Pn	Pn	01 41 46.5	-1.6
PCBR				*e*Sn	Sn	01 42 23.0	-2.8
PCBR				A		01 42 42.9	
	14nm,0.4s						
PCBR	**Castelo Branco**	**3.12**	**332**	*e*Pn	Pn	01 41 46.5	-1.6
PCBR				*e*Sn	Sn	01 42 23.0	-2.8
	14nm,0.4s						
ALMR	**Almeirim**	**3.14**	**312**	*e*P	Pn	01 41 46.8	-1.5
ALMR				*e*S	Sn	01 42 22.0	-4.3
ALMR				*e*S	Sn	01 42 22.1	-4.2
ALMR				AML	AML	01 42 55.7	
	comp=E,114nm,0.7s						
ALMR	**Almeirim**	**3.14**	**312**	P	Pn	01 41 46.9	-1.5
	SNR=7.9						
ALMR				S	Sn	01 42 22.0	-4.3
	SNR=7.9						
LIS	**Lisbon**	**3.26**	**301**	*e*P	Pn	01 41 48.0	-2.1
LIS				*e*S	Sn	01 42 23.9	-5.4
LIS				*e*S	Sn	01 42 23.9	-5.4
LIS				AML	AML	01 42 30.1	
	comp=N,71nm,0.3s						
LIS	**Lisbon**	**3.26**	**301**	P	Pn	01 41 48.0	-2.1
	SNR=7.9						
LIS				S	Sn	01 42 23.9	-5.4
	SNR=7.9						
PLOU	**Loures**	**3.35**	**303**	*e*Pn	Pn	01 41 49.9	-1.4
PLOU				*e*Sn	Sn	01 42 28.9	-2.5
PLOU				A		01 42 53.1	
	comp=N,28nm,0.3s						
PLOU	**Loures**	**3.35**	**303**	*e*Pn	Pn	01 41 49.9	-1.4
PLOU				*e*Sn	Sn	01 42 28.9	-2.5
	comp=N,28nm,0.3s						
PMAFR	**Mafra**	**3.47**	**303**	*e*Pg	Pg	01 41 57.3	-7.4
PMAFR				*e*Sn	Sn	01 42 31.8	-2.7
PMAFR				A		01 42 55.9	
	comp=N,33nm,0.2s						
PMAFR	**Mafra**	**3.47**	**303**	*e*Pn	Pn	01 41 51.5	-1.5
PMAFR				*e*Sn	Sn	01 42 31.8	-2.7
	comp=N,33nm,0.2s						
EMUR	**La Murta**	**3.52**	**77**	Pg	Pg	01 42 02.6	-3.0
	SNR=7.9						
EMUR				Lg		01 42 50.3	
	comp=N,0.7nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.52**	**77**	Pg	Pg	01 42 02.6	-3.0
	SNR=7.9						
ETOB	**Tobarra**	**3.53**	**63**	Pn	Pn	01 41 52.1	-1.7
	comp=N,0.4nm,0.1s,SNR=15						
ETOB				Sn	Sn	01 42 34.0	-1.9
	comp=N,1.0nm,0.1s,SNR=7.9						
ETOB				Lg		01 42 49.9	
	comp=N,3.5nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**3.53**	**63**	Pn	Pn	01 41 52.1	-1.6
	comp=N,0.4nm,0.1s,SNR=15						
ETOB				Sn	Sn	01 42 34.0	-1.9
	comp=N,1.0nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**3.70**	**17**	Pn	Pn	01 41 55.4	-0.8
	comp=N,0.3nm,0.1s,SNR=7.9						
GUD				Pg	Pg	01 42 07.0	-2.1
	SNR=7.9						
GUD				Sn	Sn	01 42 34.7	-5.5
	comp=N,0.9nm,0.2s,SNR=7.9						
GUD				Lg		01 42 57.2	
	comp=N,4.1nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.04**	**334**	*e*Pn	Pn	01 42 00.0	-0.8
PVIS				*e*Sn	Sn	01 42 45.7	-2.8
PVIS				A		01 43 13.7	
	comp=N,7.1nm,0.3s						
PVIS	**Viseu**	**4.04**	**334**	*e*Pn	Pn	01 42 00.0	-0.8
PVIS				*e*Sn	Sn	01 42 45.7	-2.8
	comp=N,7.1nm,0.3s						
ECHE	**Chera**	**4.38**	**54**	Pn	Pn	01 42 04.7	-0.8
	comp=N,0.3nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.49**	**339**	*e*Sn	Sn	01 42 56.6	-3.0
EBEN	**Beniarda**	**4.51**	**68**	Pn	Pn	01 42 06.4	-0.9
	comp=N,0.3nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	01 42 56.0	-4.1
	comp=N,0.3nm,0.2s,SNR=4.0						
EBEN				Lg		01 43 18.6	
	comp=N,0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.51**	**68**	Pn	Pn	01 42 06.4	-0.9
	comp=N,0.3nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	01 42 56.0	-4.2
	comp=N,0.3nm,0.2s,SNR=4.0						
ETOR	**Torete**	**4.61**	**35**	Pn	Pn	01 42 07.9	-0.7
	comp=N,8.1nm,0.2s,SNR=20						
ETOR				Sn	Sn	01 42 56.8	-5.7
	comp=N,2.5nm,0.1s,SNR=7.9						
ETOR				Lg		01 43 26.6	
	comp=N,7.5nm,0.2s,SNR=5.0						
PBRG	**Braganca**	**4.78**	**349**	*e*Sn	Sn	01 43 03.8	-3.0
PBRG				A		01 43 37.9	
	comp=N,5.4nm,0.4s						
PBRG	**Braganca**	**4.78**	**349**	*e*Sn	Sn	01 43 03.8	-3.0
	comp=N,5.4nm,0.4s						
ECAL	**Calabor**	**4.92**	**350**	Sn	Sn	01 43 06.4	-3.8
	comp=N,1.2nm,0.1s,SNR=7.9						
ECAL				Lg		01 43 36.4	
	comp=N,2.1nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**4.92**	**350**	Sn	Sn	01 43 06.4	-3.7
	comp=N,1.2nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**4.98**	**338**	*e*Sn	Sn	01 43 07.7	-4.0
PCAB				A		01 43 51.0	
	comp=N,8.4nm,0.5s						
PCAB	**Cabril**	**4.98**	**338**	*e*Sn	Sn	01 43 07.7	-4.0
	comp=N,8.4nm,0.5s						
ELOB	**

ENH	**Enshi**	**39.18**	**262**	P	**P**	**02 02 52.7**	**+1.0**
INK	**Inuvik**	**40.62**	**33**	*e*P	**P**	**02 03 03.1**	**-0.5**
43nm,0.8s,mb5.1							
MKAR	**Makanchi Array**	**48.53**	**298**	P	**P**	**02 04 06.5**	**-0.3**
0.6nm,0.8s,mb3.7,baz=66,slow=8.1,SNR=3.8							
KURK	**Kurchatov**	**48.84**	**305**	*e*P	**P**	**02 04 09.4**	**+0.1**
KURK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
KURK	**Kurchatov**	**48.84**	**305**	*e*P	**P**	**02 04 09.4**	**+0.1**
comp=Z,1.5nm,0.4s,mb4.4							
YKA	**Yellowknife Ar**	**49.77**	**37**	P	**P**	**02 04 15.1**	**-1.3**
comp=Z,0.2nm,0.8s,mb3.2,baz=292,slow=6.9,SNR=2.4							
CHKZ	**Chkalovo**	**51.78**	**311**	*e*P	**P**	**02 04 30.8**	**-0.7**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**51.78**	**311**	*e*P	**P**	**02 04 30.8**	**-0.7**
comp=Z,2.5nm,0.6s,mb4.3							
CHKZ				*e*		02 04 39.0	
BRVK	**Borovoye**	**52.26**	**310**	*e*P	**P**	**02 04 35.1**	**0.0**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
BRVK	**Borovoye**	**52.26**	**310**	*e*P	**P**	**02 04 35.1**	**0.0**
comp=Z,1.7nm,0.5s,mb4.2							
PMG	**Port Moresby**	**56.49**	**190**	P	**P**	**02 05 06.7**	**+0.8**
FINES	**FINESS Array B**	**64.75**	**336**	P	**P**	**02 06 02.9**	**+0.7**
comp=Z,9.0nm,1.1s,mb4.7,baz=46,slow=8.2,SNR=5.6							
FINES	**FINESS Array B**	**64.75**	**336**	P	**P**	**02 06 02.9**	**+0.7**
FINES				pmax	pmax		
comp=Z,9.0nm,1.1s							
WRAB	**Tennant Creek**	**69.19**	**202**	P	**P**	**02 06 30.1**	**-0.4**
WRAB				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
WRAB	**Tennant Creek**	**69.19**	**202**	P	**P**	**02 06 30.1**	**-0.4**
comp=Z,0.8nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**69.21**	**202**	P	**P**	**02 06 30.5**	**-0.1**
comp=Z,0.3nm,0.6s,mb4.4,baz=21,slow=6.9,SNR=5.3							
TXAR	**Lajitas Array**	**75.86**	**62**	P	**P**	**02 07 11.0**	**+0.8**
comp=Z,0.3nm,0.5s,mb3.5,baz=323,slow=6.3,SNR=7.6							

ISCJB ***12*** *02:02:51.2±1.9, 317S±02×1776W±04, h35km, mb3.8/3, Error ellipse: s-maj=48.8km s-min=16.3km az=57.4*
NEIC ***12*** *02:02:53.9±1.5, 3164S×17773W, h35km, mb4.5/2, Error ellipse: s-maj=38.8km s-min=14.4km az=118.0*
IDC ***12*** *02:02:56.8±2.8, 3165S×17883W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, ML4.1/1, Error ellipse: s-maj=66.4km s-min=44.3km az=116.0*

ISC 12 02:02:53.8±1.9, 317S±02×1777W±03, h35km, n6, σ 9 58/6, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.86**	**212**	Pn	**Pn**	**02 04 45.5**	**0.0**
2.8nm,0.3s,baz=250,slow=2.7,SNR=12							
URZ				Sn	**Sn**	**02 06 06.0**	**-7.2**
1.2nm,0.3s,baz=96,slow=20,SNR=6.9							
AFI	**Afiamalu**	**18.47**	**18**	P	**Pn**	**02 07 06.9**	**0.0**
17nm,1.5s							
ASAR	**Alice Springs**	**43.34**	**268**	P	**P**	**02 10 52.8**	**+0.4**
0.6nm,0.6s,mb3.5,baz=112,slow=8.4,SNR=6.9							
WRAB	**Tennant Creek**	**44.44**	**273**	*e*P	**P**	**02 11 00.5**	**-0.7**
1.1nm,0.5s,mb3.8							
WRA	**Warramunga Arr**	**44.44**	**273**	P	**P**	**02 11 01.7**	**+0.4**
0.7nm,0.3s,mb3.9,baz=114,slow=7.7,SNR=9.4							
FINES	**FINESS Array B**	**146.42**	**340**	PKPbc	PKPbc	02 22 37.1	+6.1
4.7nm,0.9s,baz=60,slow=3.7,SNR=9.8							

ISCJB ***12*** *02:15:38.0±1.1, 132N±0.1×9003W±007, h48km±12km, mb3.6/2, MS3.9/1, Error ellipse: s-maj=21.9km s-min=6.7km az=58.5*
NEIC ***12*** *02:15:39.6±1.0, 1326N×9000W, h35km, Error ellipse: s-maj=21.3km s-min=9.7km az=209.0*
IDC ***12*** *02:15:40.4±2.0, 1336N×8986W, h67km±23km, mb3.1/3, mb1 3.7/6, mb1mx3.5/19, mbtmp3.5/6, MS4.0/1, Ms1 3.9/1, ms1mx2.8/16, Error ellipse: s-maj=52.6km s-min=12.9km az=36.0*
CASC ***12*** *02:15:40.0±2.4, 1333N×9006W, h41km±58km, MD4.0*

ISC 12 02:15:39.9±1.0, 133N±01×8995W±008, h50km±12km, n28, σ 1 9 02/19, mb3.6/2, MS3.9/1, 1C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.62**	**31**	⇓*i*P	x	02 15 53.5	
SNJE	**San Jose**	**0.65**	**31**	⇓*i*P	x	02 15 53.8	
RTR	**El Retiro**	**0.66**	**27**	⇓*i*P	x	02 15 54.1	
BOQS	**Boqueron**	**0.78**	**57**	⇑*e*P	x	02 15 55.7	
BOQS				*e*S	x	02 16 07.4	
RBDL	**Robledal**	**0.84**	**18**	⇓*i*P	x	02 15 56.4	
LFRS	**El Faro**	**0.92**	**70**	⇓*e*P	x	02 15 57.2	
LFRS				*e*S	x	02 16 15.0	
LFU	**La Fuente**	**0.92**	**62**	*e*P	x	02 15 57.8	
LBRS	**Las Brisas**	**0.98**	**64**	⇓*e*P	x	02 15 58.5	
LBRS				*e*S	x	02 16 12.8	
LCBS	**La Ceiba**	**1.01**	**70**	*e*P	x	02 15 58.8	
LCBS				*e*S	x	02 16 13.1	
SNVI	**San Vicente**	**1.12**	**74**	*e*P	x	02 16 00.6	
SNVI				*e*S	x	02 16 18.3	
TER	**Terranova**	**1.22**	**324**	⇓*e*P	**Pn**	**02 15 59.9**	**-0.7**
TER				*e*S	**Sn**	**02 16 14.9**	**-1.0**
MTO2	**Montecristo 2**	**1.23**	**28**	⇓*e*P	x	02 16 01.8	
MTO2				*e*S	x	02 16 18.7	
PCG	**Pacaya**	**1.25**	**329**	*e*P	**Pn**	**02 16 01.1**	**+0.1**
FUG	**Fuego 3**	**1.43**	**323**	⇓*e*P	**Pn**	**02 16 02.8**	**-0.6**
VSM	**San Miguel**	**1.64**	**86**	*e*P	x	02 16 08.7	
VSM				*e*S	x	02 16 29.4	
JAT	**Jato**	**1.92**	**302**	*e*P	**Pn**	**02 16 10.4**	**+0.2**
JAT				*e*S	**Sn**	**02 16 29.6**	**-3.5**
CNCH	**Conchagua**	**2.06**	**91**	*e*P	x	02 16 13.6	
CNCH				*e*S	x	02 16 41.8	
TGUH	**Tegucigalpa,Un**	**2.71**	**74**	*e*Pn	**Pn**	**02 16 21.8**	**+0.8**
JTS	**JuntasAbangare**	**5.74**	**121**	P	**Pn**	**02 17 02.6**	**+0.1**
3.9nm,0.3s,baz=309,slow=20,SNR=21							
JTS				S	**Sn**	**02 18 07.1**	**0.0**
0.8nm,0.3s,baz=316,slow=20,SNR=1.5							
JTS	**JuntasAbangare**	**5.74**	**121**	*e*Pn	**Pn**	**02 17 02.6**	**+0.1**
30nm,0.8s							
JTS				*e*Sn	**Sn**	**02 18 00.6**	**-6.4**
CMIG	**Matias Romero**	**6.07**	**309**	P	**Pn**	**02 17 07.5**	**+0.4**
1.7nm,0.3s,baz=117,slow=9.9,SNR=14							
CMIG				S	**Sn**	**02 18 15.7**	**+0.6**
2.4nm,0.3s,baz=58,slow=18,SNR=4.2							
TEIG	**Tepich**	**7.06**	**13**	P	**Pn**	**02 17 21.7**	**+1.1**
TEIG	**Tepich**	**7.06**	**13**	*e*Pn	**Pn**	**02 17 21.2**	**+0.6**
8.0nm,0.4s							
SDV	**Santo Domingo**	**19.45**	**101**	S	**S**	**02 23 37.4**	**-2.1**
0.3nm,0.3s,baz=45,slow=18,SNR=2.7							
TXAR	**Lajitas Array**	**20.40**	**324**	P	**P**	**02 20 13.6**	**+1.0**
0.3nm,0.4s,baz=148,slow=10,SNR=8.9							
NVAR	**Mina Array Bea**	**35.47**	**320**	P	**P**	**02 22 32.4**	**+0.9**
1.1nm,0.7s,mb3.9,baz=129,slow=9.4,SNR=5.5							
ULM	**Lac du Bonnet**	**37.16**	**354**	LR	LR	02 41 32.7	
comp=Z,210nm,20.1s,MS3.9,baz=22,slow=42							
YKA	**Yellowknife Ar**	**52.17**	**346**	P	**P**	**02 24 41.8**	**-3.6**
0.2nm,0.5s,mb3.3,baz=138,slow=7.4,SNR=8.3							

IDC 12 02:20:20.4±29.0, 1862S×6819W, h206km±145km, mb3.1/2, mb1 3.2/4, mb1mx3.0/17, mbtmp3.0/4, Error ellipse: s-maj=529.9km s-min=32.8km az=19.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.32**	**1**	P	Pn	02 21 03.5	+0.9
0.4nm,0.3s,baz=181,slow=8.9,SNR=18							
LPAZ				S	Sn	02 21 44.4	+8.7
0.2nm,0.3s,baz=185,slow=0.7,SNR=4.0							
SIV	**San Ignacio**	**7.28**	**70**	P	Pn	02 22 04.4	+0.1
0.8nm,0.3s,baz=258,slow=12,SNR=26							
TORD	**Torodi Ar. Bea**	**75.76**	**71**	P	P	02 31 44.1	+0.7
0.2nm,0.4s,baz=254,slow=5.2,SNR=6.7							
YKA	**Yellowknife Ar**	**88.71**	**340**	P	P	02 32 49.9	-0.5
0.3nm,0.8s,baz=131,slow=4.8,SNR=7.9							

ATH ***12*** *02:33:32.8, 3665N×2810E, h39km±20km, MD2.7/3*
NEIC ***12*** *02:33:32.8, 3665N×2810E, h39km, MD2.7(ATH), After ATH.*
CSEM ***12*** *02:33:33.7±0.2, 3652N×2826E, h54km±1km, MD3.0, Error ellipse: s-maj=2.4km s-min=1.8km az=135.0*
ISCJB ***12*** *02:33:34.7±1.0, 3646N±005×2817E±006, h55km±10km, Error ellipse: s-maj=8.6km s-min=8.1km az=98.8*
ISK ***12*** *02:33:34.1, 3639N×2818E, h30km, MD3.0*

ISC 12 02:33:35.0±1.0, 3646N±005×2818E±006, h53km±10km, n12, σ 0 68/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.25**	**189**	*e*PB	**Pn**	**02 33 43.9**	**-0.1**
ARG				*e*SB	**Sn**	**02 33 50.5**	**0.0**
DALT	**Dalyan (Mudla)**	**0.48**	**50**	*i* PG	**Pn**	**02 33 45.7**	**-0.5**
DALT				*i* SG	**Sn**	**02 33 54.2**	**-0.1**
DAT	**Datca**	**0.55**	**299**	PG	**Pn**	**02 33 46.4**	**-0.6**
DAT				SG	**Sn**	**02 33 56.0**	**+0.3**
YER	**Yerkesik**	**0.68**	**7**	PG	**Pn**	**02 33 49.7**	**+1.1**
YER				SG	**Sn**	**02 33 59.3**	**+0.9**
FETY	**Fethiye**	**0.75**	**76**	PG	**Pn**	**02 33 49.1**	**-0.4**
BDRM	**Kayabasi**	**0.84**	**316**	*i* P	**Pn**	**02 33 50.6**	**-0.1**
BDRM				*i* S	**Sn**	**02 34 01.4**	**-0.8**
MLSB	**Milas**	**0.89**	**339**	*e*PG	**Pn**	**02 33 51.8**	**+0.5**
KARP	**Karpathos**	**1.23**	**222**	*e*PB	**Pn**	**02 33 56.3**	**+0.4**
DNZL	**Cakiroluk**	**1.41**	**29**	*i* P	**Pn**	**02 34 07.0**	**+8.7**
DNZL				*i* S	**Sn**	**02 34 25.4**	**+10**
ELL	**Elmali**	**1.42**	**78**	*e*PN	**Pn**	**02 33 58.4**	**-0.1**
SMG	**Samos**	**1.64**	**320**	*e*PN	**Pn**	**02 33 58.2**	**-3.3**
NPS	**Neapolis**	**2.40**	**241**	*e*PN	**Pn**	**02 34 12.4**	**+0.6**

ISCJB ***12*** *02:35:20.2±3.6, 807N±0.1×25W±0.4, h3km±23km, mb3.6/8, MS3.9/5, Error ellipse: s-maj=21.4km s-min=8.7km az=33.3*
NEIC ***12*** *02:35:22.9±0.8, 8078N×272W, h10km, mb4.5/2, Error ellipse: s-maj=23.5km s-min=9.9km az=203.0*
IDC ***12*** *02:35:22.1±0.9, 8086N×277W, h0km, mb3.6/9, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, ML3.2/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/31, Error ellipse: s-maj=33.5km s-min=15.9km az=34.0*
CSEM ***12*** *02:35:23.9±0.1, 8077N×369W, h30km, mb3.4, Error ellipse: s-maj=5.8km s-min=2.3km az=16.0*
BER ***12*** *02:35:26.0±2.6, 8143N×278E, h10km, MD2.6, ML2.7, ML2.4(NAO)*
NAO ***12*** *02:35:29.1±6.2, 8124N×405E, ML2.4*

ISC 12 02:35:21.4±4.1, 808N±01×23W±04, h2km±26km, n30, σ 1 9 10/41, mb3.6/8, MS3.9/5, 1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.15**	**120**	Pn	**Pn**	**02 36 11.0**	**-1.1**
KBS				Sn	**Sn**	**02 36 43.9**	**-6.5**
KBS	**Kingsbay**	**3.15**	**120**	*e*P	**Pn**	**02 36 10.9**	**-1.2**
KBS				*e*S	**Sn**	**02 36 43.8**	**-6.5**
KBS				AML	AML	02 36 48.6	
comp=Z,58nm,0.4s							
KBS	**Kingsbay**	**3.15**	**120**	*e*Pn	**Pn**	**02 36 10.8**	**-1.3**
KBS				*e*Sn	**Sn**	**02 36 44.1**	**-6.3**
KBS	**Kingsbay**	**3.15**	**120**	*e*Pn	**Pn**	**02 36 10.8**	**-1.3**
SPB4	**Spitsbergen Ar**	**4.31**	**118**	*e*Pn	**Pn**	**02 36 28.0**	**0.0**
SPB4				*e*Sn	**Sn**	**02 37 16.6**	**-2.2**
SPB4	**Spitsbergen Ar**	**4.31**	**118**	*e*Pn	**Pn**	**02 36 28.0**	**0.0**
SPB4				*e*Sn	**Sn**	**02 37 16.6**	**-2.2**
SPA0	**Spitsbergen Ar**	**4.31**	**118**	Pn	**Pn**	**02 36 27.3**	**-0.7**
baz=335,slow=16							
SPA0				Sn	**Sn**	**02 37 12.5**	**-6.4**
baz=333,slow=18							
DAG	**Danmarks Havn**	**5.14**	**226**	⇓*i*P	**Pn**	**02 36 38.0**	**-1.4**
comp=Z,13nm,0.5s							
ARA0	**ARCESS Array S**	**13.12**	**134**	Pn	**Pn**	**02 38 29.6**	**+0.8**
baz=342,slow=12							
ARA0				Sn	**Sn**	**02 40 46.0**	**-9.3**
baz=2.6,slow=22							
ARA0	**ARCESS Array S**	**13.12**	**134**	Pn	**Pn**	**02 38 29.6**	**+0.8**
ARA0				Sn	**Sn**	**02 40 46.0**	**-9.4**
ARCES	**ARCESS Array B**	**13.12**	**134**	Pn	**Pn**	**02 38 29.6**	**+0.7**
comp=Z,0.2nm,0.3s,baz=353,slow=8.3,SNR=10							
ARCES				Sn	**Sn**	**02 40 45.1**	**-10**
comp=Z,0.1nm,0.3s,baz=3.6,slow=7.8,SNR=2.9							
ARCES	**ARCESS Array B**	**13.12**	**134**	Pn	**Pn**	**02 38 29.5**	**+0.7**
ARCES				Sn	**Sn**	**02 40 45.1**	**-10**
RES	**Resolute Bay**	**18.26**	**302**	*e*Pn	**Pn**	**02 39 29.9**	**-6.2**
comp=Z,240nm,1.0s							
SFJD	**Kangerlussuaq**	**18.27**	**249**	P	**Pn**	**02 39 31.1**	**-5.0**
comp=Z,1.2nm,0.3s,baz=2.2,slow=13,SNR=4.3							
SFJD				S	**Sn**	**02 42 39.0**	**-22**
comp=Z,1.1nm,0.3s,baz=154,slow=9.7,SNR=4.3							
SFJD	**Kangerlussuaq**	**18.27**	**249**	*e*Pn	**Pn**	**02 39 32.4**	**-3.8**
comp=Z,2.8nm,0.4s							
SFJD	**Kangerlussuaq**	**18.27**	**249**	*e*Pn	**Pn**	**02 39 32.4**	**-3.7**
comp=Z,2.8nm,0.4s							
NB2	**NORSAR Subarra**	**20.25**	**161**	P	**P**	**02 39 59.9**	**+1.9**
comp=Z,1.9nm,0.7s,baz=352,slow=11							
NOA	**NORSAR Array B**	**20.25**	**161**	P	**P**	**02 39 58.5**	**+0.5**
comp=Z,1.7nm,0.8s,baz=349,slow=11,SNR=3.9							
HFS	**Hagfors**	**21.29**	**158**	P	**P**	**02 40 10.7**	**+1.4**
comp=Z,11nm,0.8s,mb4.2,baz=352,slow=9.1,SNR=12							
YKA	**Yellowknife Ar**	**32.23**	**306**	P	**P**	**02 41 50.5**	**-0.6**
comp=Z,0.5nm,0.8s,mb3.4,baz=14,slow=8.7,SNR=8.3							
YKA				LR	LR	02 53 11.0	
comp=Z,159nm,21.5s,MS3.7,baz=0.0,slow=33							
YKA	**Yellowknife Ar**	**32.23**	**306**	P	**P**	**02 41 50.5**	**-0.6**
YKA				LR	LR	02 53 11.0	
YKA	**Yellowknife Ar**	**32.23**	**306**	P	**P**	**02 41 50.5**	**-0.6**
AKTK	**Aktyubinsk**	**35.94**	**109**	P	**P**	**02 42 23.2**	**-0.1**
AKTK				LR	LR	02 58 56.3	
AKTK	**Aktyubinsk**	**35.94**	**109**	P	**P**	**02 42 23.2**	**-0.2**
AKTO	**Aktyubinsk**	**35.94**	**109**	P	**P**	**02 42 23.2**	**-0.1**
comp=Z,0.5nm,0.5s,mb3.8,baz=340,slow=15,SNR=3.4							
AKTO				LR	LR	02 58 56.3	
comp=Z,187nm,18.4s,MS3.9,baz=322,slow=39							
ULM	**Lac du Bonnet**	**41.37**	**284**	P	**P**	**02 43 08.8**	**-0.2**
comp=Z,1.7nm,1.0s,mb3.6,baz=34,slow=7.3,SNR=3.2							
ULM				LR	LR	03 00 02.2	
comp=Z,204nm,21.8s,MS4.0,baz=38,slow=36							
BRTR	**Keskin Array B**	**43.24**	**139**	P	**P**	**02 43 25.9**	**+1.8**
comp=Z,0.6nm,0.7s,mb3.4,baz=12,slow=5.7,SNR=3.6							
MKAR	**Makanchi Array**	**43.32**	**86**	P	**P**	**02 43 26.0**	**+1.1**
comp=Z,0.5nm,0.6s,mb3.4,baz=349,slow=6.8,SNR=3.4							
MKAR				LR	LR	03 04 20.4	
comp=Z,148nm,19.3s,MS3.9,baz=172,slow=40							
TXAR	**Lajitas Array**	**63.03**	**286**	P	**P**	**02 45 50.0**	**0.0**
comp=Z,0.2nm,0.6s,mb3.4,baz=34,slow=4.5,SNR=6.0							
TXAR				LR	LR	03 11 11.0	
comp=Z,117nm,20.6s,MS4.0,baz=0.0,slow=34							
TORD	**Torodi Ar. Bea**	**67.72**	**176**	P	**P**	**02 46 20.8**	**+0.4**
comp=Z,0.3nm,0.5s,mb3.6,baz=356,slow=6.3,SNR=12							

MAN ***12*** *02:37:32.0, 1947N×12105E, h6km, mb4.3, ML5.2, MS3.5*
BJI ***12*** *02:37:35.3, 1932N×12097E, h8km, mB4.8, mb4.7, ML4.3, Ms4.1, Msz4.0*
NEIC ***12*** *02:37:37.1±0.3, 1894N×12124E, h35km, mb4.6/11, Error ellipse: s-maj=9.4km s-min=6.0km az=86.0*
ISCJB ***12*** *02:37:38.5±0.5, 1913N±003×12126E±006, h60km±5km, mb4.4/38, Error ellipse: s-maj=9.9km s-min=4.8km az=2.8*
IDC ***12*** *02:37:39.4±2.5, 1905N×12136E, h54km±23km, mb3.9/22, mb1 4.1/25, mb1mx4.1/30, mbtmp3.9/25, ML4.3/4, MS3.8/8, Ms1 3.8/8, ms1mx3.6/28, Error ellipse: s-maj=19.6km s-min=10.7km az=79.0*

ISC 12 02:37:40.1±0.4, 1910N±003×12133E±006, h62km±5km, n80, σ 1 9 12/76, mb4.4/38, 6C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.02**	**221**	⇑*i*P	**Pn**	**02 37 54.0**	**-4.5**
SGCP	**Mt. Cagua**	**1.09**	**141**	*e*P	**Pn**	**02 37 59.4**	**0.0**
APYP	**Conner**	**1.23**	**184**	*e*P	**Pn**	**02 38 00.0**	**-1.3**
APYP				*e*S	**Sn**	**02 38 17.3**	**+0.2**
ABRA	**Dolores**	**1.56**	**202**	*e*P	**Pn**	**02 38 03.7**	**-1.9**
CAUP	**Cauayan**	**2.19**	**167**	*e*P	**Pn**	**02 38 16.6**	**+2.3**
PALP	**Palanan**	**2.28**	**153**	⇑*e*P	**Pn**	**02 38 17.3**	**+1.9**
PALP	**Palanan**	**2.28**	**153**	*e*P	**Pn**	**02 38 17.2**	**+1.9**
BOLP	**Bolinao**	**3.02**	**207**	*e*P	**Pn**	**02 38 24.8**	**-0.7**
BALP	**Baler**	**3.35**	**176**	*e*P	**Pn**	**02 38 31.4**	**+1.5**
PCPH	**Palayan**	**3.52**	**184**	⇑*e*P	**Pn**	**02 38 33.6**	**+1.2**
PCPH				*e*S	**Sn**	**02 39 20.3**	**+7.5**
TGY	**Tagaytay City**	**4.98**	**184**	P	**Pn**	**02 38 53.2**	**+0.9**
50nm,0.3s,baz=106,slow=8.2,SNR=4.7							
NACB	**Ninganchiao**	**5.06**	**3**	*e*Pn	**Pn**	**02 38 52.2**	**-1.2**
NACB				*e*Sn	**Sn**	**02 39 49.4**	**-1.0**
YHNB	**Yeheng**	**5.54**	**0**	*e*Pn	**Pn**	**02 39 00.0**	**0.0**
YHNB				*e*Sn	**Sn**	**02 40 02.4**	**0.0**
QZH	**Quanzhou**	**6.34**	**337**	⇑*i*P	**Pn**	**02 39 05.6**	**-5.4**
QZH				Smax			
comp=N,200nm,1.0s							
QZH				Smax			
comp=E,200nm,0.8s							
JOW	**Kunigami**	**10.01**	**38**	P	**Pn**	**02 40 01.9**	**+0.8**
comp=E,3.5nm,0.3s,baz=203,slow=12,SNR=7.8							
QIZ	**Qiongzhong**	**10.86**	**272**	P	**Pn**	**02 40 06.9**	**-5.8**
QIZ				S	**Sn**	**02 42 01.1**	**-11**
QIZ				AMB	AMB		
comp=Z,36nm,0.7s							
QIZ				LR	LR		
comp=E,676nm,13.0s							
QIZ				LR	LR		
comp=Z,699nm,17.5s							
QIZ	**Qiongzhong**	**10.86**	**272**	*e*Pn	**Pn**	**02 40 07.0**	**-5.7**
comp=Z,36nm,0.6s							
GYA	**Guiyang**	**15.37**	**301**	⇑*i*P	**Pn**	**02 41 09.2**	**-4.0**
GYA				AMB	AMB		
comp=Z,20nm,1.1s							
JNU	**Nakatsue**	**16.38**	**30**	P	**Pn**	**02 41 27.6**	**+1.7**
comp=Z,1.0nm,0.3s,baz=184,slow=23,SNR=2.7							
JNU				LR	LR	02 47 55.9	
comp=Z,459nm,19.8s,baz=105,slow=38							
KSRS	**Korea Array**	**19.18**	**16**	P	**Pn**	**02 41 58.4**	**-1.7**
baz=197,slow=12,SNR=8.1							
KSRS				LR	LR	02 49 29.6	
comp=Z,130nm,18.5s,baz=22,slow=37							
CD2	**Chengdu**	**19.76**	**310**	P	**Pn**	**02 42 04.5**	**-2.5**
CD2				AP	pP	02 42 12.6	-5.7
CD2				XP	sP	02 42 17.1	-9.0
CD2				PP		02 42 21.8	
CD2				S	**S**	**02 45 33.4**	**-11**
CD2				XS	sS	02 45 44.2	-22
CD2				AMB	AMB		
comp=Z,30nm,0.6s							
CD2				AMB	AMB		
comp=Z,210nm,3.6s							
CD2				LR	LR		
comp=N,480nm,9.3s							
CD2				LR	LR		
comp=E,480nm,7.4s							
CD2				LR	LR		
comp=Z,460nm,9.3s							
CBIJ	**Chichi jima**	**20.75**	**64**	LR	LR	02 48 29.6	
comp=Z,220nm,18.5s,baz=345,slow=31							
BJT	**Baijiatuau**	**21.32**	**349**	*e*P	**P**	**02 42 24.8**	**+3.0**
comp=Z,40nm,1.1s,mb4.7							
MJAR	**Matsushiro Arr**	**22.85**	**37**	P	**P**	**02 42 37.0**	**-1.0**
comp=Z,2.6nm,0.7s,mb3.8,baz=223,slow=9.5,SNR=5.7							
MJAR				LR	LR	02 51 38.5	
comp=Z,172nm,19.2s,baz=235,slow=37							
MJAR	**Matsushiro Arr**	**22.85**	**37**	P	**P**	**02 42 37.0**	**-1.0**
MJAR				LR	LR	02 51 38.5	
LZH	**Lanzhou**	**22.88**	**321**	*e*P	**P**	**02 42 37.5**	**-0.9**
LZH				AP		02 42 44.6	
LZH				XP	sP	02 42 48.0	-12
LZH				AMB	AMB		
comp=Z,19nm,1.3s,mb4.4							
LZH				LR	LR		
comp=E,312nm,10.2s							
LZH				LR	LR		
comp=Z,493nm,14.5s							
GUMO	**Guam**	**23.23**	**100**	LR	LR	02 49 46.2	
comp=Z,247nm,19.3s,baz=252,slow=31							
PSI	**Prapat**	**27.25**	**236**	P	**P**	**02 43 18.2**	**-0.1**
comp=Z,2.9nm,0.7s,mb3.9,baz=336,slow=21,SNR=2.3							
PSI				PcP	PcP	02 46 38.5	+1.7
comp=Z,2.0nm,0.3s,baz=327,slow=13,SNR=3.9							
PSI				LR	LR	02 53 31.3	
comp=Z,151nm,18.3s,baz=224,slow=35							
HIA	**Hailar**	**30.12**	**358**	*e*P	**P**	**02 43 43.6**	**-0.3**
comp=Z,6.6nm,0.6s,mb4.5							
SONM	**Songino Array**	**31.14**	**340**	P	**P**	**02 43 54.2**	**+1.3**
comp=Z,1.5nm,0.7s,mb3.9,baz=162,slow=9.5,SNR=7.3							
SONM				PcP	PcP	02 46 46.9	+0.2
comp=Z,0.5nm,0.8s,baz=134,slow=4.2,SNR=2.8							
SONM				LR	LR	02 57 39.1	
comp=Z,167nm,18.1s,baz=292,slow=38							
KAKA	**Kakadu**	**33.45**	**160**	*e*P	**P**	**02 44 12.4**	**-0.7**
comp=Z,2.7nm,0.6s,mb4.3							
GUN	**Gumba**	**33.57**	**292**	*e*P	**P**	**02 44 14.5**	**+0.4**
comp=Z,27nm,0.8s,mb5.2							
PKI	**Pulchoki**	**33.94**	**291**	*e*P	**P**	**02 44 16.2**	**-1.2**
comp=Z,5.7nm,0.4s,mb4.8							
KKN	**Kakani**	**34.08**	**292**	*e*P	**P**	**02 44 18.6**	**0.0**
comp=Z,31nm,1.0s,mb5.2							
GKN	**Gorkha**	**34.67**	**292**	*e*P	**P**	**02 44 24.8**	**+1.1**
comp=Z,29nm,1.0s,mb5.2							
KOLN	**Koldanda**	**35.56**	**291**	*e*P	**P**	**02 44 31.5**	**+0.2**
comp=Z,16nm,1.0s,mb4.9							
FITZ	**Fitzroy Crossi**	**37.21**	**173**	*e*P	**P**	**02 44 43.9**	**-1.5

SNAA	Sanae	118.46	197	e		PKPdf	02 56 20.2	-0.4
VNA2	Neumayer--Watz	120.11	197	‖i		PKPdf	02 56 24.0	+0.2
	baz=82,slow=1.3							
VNA2				e			02 56 27.6	
VNA2				e			02 56 40.3	
VNA2				e			02 56 52.1	
VNA1	Neumayer--Stat	120.50	197	‖i		PKPdf	02 56 24.8	+0.2
VNA3	Neumayer Olymp	120.56	196	‖i		PKPdf	02 56 24.5	-0.2
VNA3				e			02 56 28.0	
SDV	Santo Domingo	149.80	24	ePKPdf		PKPdf	02 57 20.4	+2.2
SDV				ePKPbc		PKPbc	02 57 24.9	+1.8
ROSC	El Rosal	151.64	34	ePKPbc		PKPbc	02 57 30.1	+2.7

NIED ***12*** *02:38:00,4630N×153.10E,h5km,Mw3.9 Best double couple: M0 8.98000×10^14 NP1:φ=17.00000°,δ=58.00000°, λ=70.00000°. NP2:φ=232.00000°,δ=37.00000°,λ=119.00000°.*
ISCJB ***12*** *02:38:35.8±1.6,459N±0.1×1528E±0.1,h61km±16km, mb3.8/15,Error ellipse: s-maj=25.8km s-min=11.5km az=131.4*
IDC ***12*** *02:38:37.2±4.6,4614N×15291E,h50km±42km,mb3.6/15, mb1 3.8/16,mb1mx3.7/26,mbtmp3.6/16,ML3.5/1,Error ellipse: s-maj=20.5km s-min=18.9km az=128.0*

ISC 12 02:38:37.7±1.4,460N±01×1527E±01,h57km±13km,n32, σ1§22/39,mb3.8/15,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	5.63	244	P	Pn	02 39 57.7	-1.1
NEM2				eS	Sn	02 41 00.3	-1.8
JNK	Nakash	6.18	250	P	Pn	02 40 07.3	+1.0
JAK	Akkeshi	6.48	245	P	Pn	02 40 09.3	-1.1
JAK				eS	Sn	02 41 22.3	-0.6
JTKR	Abashiri--Toko	6.57	255	P	Pn	02 40 13.3	+1.7
JAR	Ashorobuto	6.93	250	P	Pn	02 40 17.6	+1.0
JAR				eS	Sn	02 41 36.5	+2.5
JOB	Onbets	7.07	247	P	Pn	02 40 18.6	+0.1
JOB				eS	Sn	02 41 38.1	+0.6
JKK2	Kamakawa 2	7.39	257	P	Pn	02 40 25.0	+2.2
ASAJ	Asahikawa	7.41	259	P	Pn	02 40 24.9	+1.8
	0.8nm,0.3s,baz=145,slow=21,SNR=3.3						
JCH	Churui	7.52	246	P	Pn	02 40 24.5	-0.1
JCH				eS	Sn	02 41 47.1	-1.3
JNBK	Urakawa-nobuka	8.08	246	P	Pn	02 40 31.2	-1.1
JNBK				eS	Sn	02 41 59.2	-2.9
JNB	Noboribetsu	9.10	251	P	Pn	02 40 47.0	+0.8
JKB	Kayabe	9.38	248	P	Pn	02 40 49.3	-0.8
JKB				eS	Sn	02 42 30.4	-3.6
JTM	Tenmabayashi	9.96	242	eS	Sn	02 42 41.3	-6.8
CN2	Changchun	19.40	273	eP	Pn	02 42 59.8	-0.7
INK	Inuvik	42.41	32	P	P	02 46 25.9	-0.6
	1.4nm,0.9s,mb3.6,baz=271,slow=4.2,SNR=5.1						
MKAR	Makanchi Array	47.03	298	P	P	02 47 03.2	-0.1
	0.4nm,0.4s,mb3.7,baz=64,slow=6.4,SNR=3.1						
BVAR	Borovoye Array	51.10	310	P	P	02 47 34.2	-0.2
	0.5nm,0.4s,mb3.8,baz=31,slow=8.3,SNR=4.3						
YKA	Yellowknife Ar	51.67	36	P	P	02 47 38.0	-0.7
	0.6nm,0.7s,mb3.6,baz=298,slow=7.3,SNR=6.1						
ARCES	ARCESS Array B	58.44	341	P	P	02 48 26.2	-1.3
	2.0nm,0.8s,mb4.2,baz=32,slow=7.1,SNR=4.3						
NVAR	Mina Array Bea	63.02	62	P	P	02 48 57.2	-1.4
	0.2nm,0.3s,mb3.7,baz=302,slow=8.4,SNR=2.5						
FINES	FINESS Array B	64.57	335	P	P	02 49 07.8	-1.0
	2.9nm,1.0s,mb4.3,baz=34,slow=14,SNR=5.8						
WRA	Warramunga Arr	67.74	199	P	P	02 49 30.1	+1.0
	0.5nm,0.7s,mb3.7,baz=16,slow=6.5,SNR=4.9						
NB2	NORSAR Subarra	68.82	341	P	P	02 49 35.6	-0.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=28,slow=6.5						
NOA	NORSAR Array B	68.82	341	P	P	02 49 34.8	-1.1
	comp=Z,1.0nm,0.4s,mb4.1,baz=28,slow=6.4,SNR=2.9						
HFS	Hagfors	69.03	339	P	P	02 49 36.9	-0.3
	comp=Z,3.0nm,0.6s,mb4.4,baz=44,slow=4.7,SNR=9.4						
ASAR	Alice Springs	71.43	198	P	P	02 49 53.8	+2.0
	comp=Z,0.4nm,0.7s,mb3.5,baz=12,slow=4.9,SNR=4.4						
AKASG	Malin Array Be	71.99	326	P	P	02 49 55.0	-0.2
	comp=Z,1.2nm,0.5s,mb4.1,baz=34,slow=6.2,SNR=5.9						
BURAR	Bucovina Array	76.03	326	‖i	P	02 50 20.0	+1.2
TXAR	Lajitas Array	78.09	60	P	P	02 50 29.3	-1.1
	comp=Z,0.6nm,0.6s,mb3.7,baz=303,slow=4.7,SNR=10						
BRTR	Keskin Array B	78.72	317	P	P	02 50 35.4	+1.6
	comp=Z,0.8nm,0.9s,mb3.6,baz=54,slow=6.0,SNR=2.9						
GERES	GERESS Array B	78.98	334	P	P	02 50 36.2	+0.9
	comp=Z,0.2nm,0.5s,mb3.4,baz=45,slow=5.7,SNR=3.1						
BZS	Buzias	79.07	327	‖i	P	02 50 37.3	+1.6

MAN 12 03:02:48.1,718N×12515E,h32km,mb2.7,ML4.1,MS1.9, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.70	353	eP	Pn	03 03 01.6	-0.2
CTBH	Cotabato--PC H	0.90	273	eP	Pn	03 03 04.5	0.0
CTBH				i S	Sn	03 03 17.0	+0.5
CGP	Cagayan de Oro	1.35	340	‖eP	Pn	03 03 11.3	+0.6
CGP				i S	Sn	03 03 27.8	+0.3

IDC ***12*** *03:04:18.4±0.9,4685N×15486E,h0km,mb3.7/12, mb1 3.9/12,mb1mx3.8/24,mbtmp3.7/12,Error ellipse: s-maj=23.5km s-min=21.3km az=144.0*
NEIC ***12*** *03:04:20.0±0.7,4686N×15487E,h10km,mb4.4/4,Error ellipse: s-maj=17.3km s-min=13.9km az=143.0*
ISCJB ***12*** *03:04:25.0±2.8,469N±0.1×1548E±02,h64km±23km, mb3.8/16,Error ellipse: s-maj=23.5km s-min=18.0km az=135.7*
MOS ***12*** *03:04:24.6±1.3,4688N×15477E,h60km,mb4.1/11,Error ellipse: s-maj=26.3km s-min=12.8km az=93.8*

ISC 12 03:04:27.1±2.6,469N±01×1549E±02,h68km±22km,n32, σ1§02/32,mb3.8/16,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.84	12	ePN	Pn	03 05 24.1	+0.5
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
BILL	Bilibino	21.95	11	eP	P	03 09 14.0	-1.1
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
BILL	Bilibino	21.95	11	eP	P	03 09 14.0	-1.1
	comp=Z,2.2nm,0.3s,mb4.0						
TIXI	Tiksi	27.64	343	eP	P	03 10 09.6	+1.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.3						
TIXI	Tiksi	27.64	343	eP	P	03 10 09.6	+1.3
	comp=Z,2.9nm,0.3s,mb4.3						
SONM	Songino Array	32.40	290	P	P	03 10 48.5	-1.8
	comp=Z,0.2nm,0.5s,mb3.1,baz=64,slow=9.8,SNR=2.1						
EGAK	Eagle	38.11	39	eP	P	03 11 38.8	-0.6
	comp=Z,31nm,1.9s,mb4.8						
INK	Inuvik	40.85	33	P	P	03 12 02.5	+0.3
	comp=Z,1.3nm,0.5s,mb4.0,baz=296,slow=7.1,SNR=9.3						
INK	Inuvik	40.85	33	P	P	03 12 02.5	+0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	40.85	33	P	P	03 12 02.5	+0.3
ZAL	Zalesovo	43.49	306	P	P	03 12 24.1	+0.5
	comp=Z,0.7nm,0.5s,mb3.6,baz=61,slow=5.0,SNR=3.3						
ZAL	Zalesovo	43.49	306	P	P	03 12 24.1	+0.5
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	47.92	298	P	P	03 12 58.9	+0.4
	comp=Z,0.6nm,0.8s,mb3.5,baz=67,slow=9.3,SNR=3.7						
MKAR	Makanchi Array	47.92	298	P	P	03 12 58.9	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	47.92	298	P	P	03 12 58.9	+0.4
YKA	Yellowknife Ar	50.05	37	P	P	03 13 13.8	-1.1
	comp=Z,0.1nm,0.4s,mb3.1,baz=294,slow=7.2,SNR=4.5						
YKA	Yellowknife Ar	50.05	37	P	P	03 13 13.8	-1.1
CHKZ	Chkalovo	51.22	311	eP	P	03 13 22.9	-0.8
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CHKZ	Chkalovo	51.22	311	eP	P	03 13 22.9	-0.8
	comp=Z,2.5nm,0.7s,mb4.3						
BVAR	Borovoye Array	51.66	310	P	P	03 13 26.9	0.0
	comp=Z,0.5nm,0.4s,mb3.9,baz=67,slow=7.3,SNR=4.0						
BVAR	Borovoye Array	51.66	310	P	P	03 13 26.9	0.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	64.38	335	P	P	03 14 55.3	-0.6
	comp=Z,2.5nm,0.8s,mb4.1,baz=54,slow=9.7,SNR=5.8						
FINES	FINESS Array B	64.38	335	P	P	03 14 55.3	-0.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA	Warramunga Arr	69.10	201	P	P	03 15 24.7	-1.2
	comp=Z,0.2nm,0.7s,mb3.1,baz=6.8,slow=5.7,SNR=2.7						
AKASG	Malin Array Be	72.05	327	P	P	03 15 44.1	+0.3
	comp=Z,1.5nm,0.7s,mb4.0,baz=32,slow=6.0,SNR=7.5						
AKASG	Malin Array Be	72.05	327	P	P	03 15 44.1	+0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	72.78	200	P	P	03 15 49.5	+1.3
	comp=Z,0.5nm,0.9s,mb3.3,baz=22,slow=5.3,SNR=4.0						
ASAR	Alice Springs	72.78	200	P	P	03 15 49.5	+1.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	Lajitas Array	76.35	62	P	P	03 16 09.6	+0.7
	comp=Z,0.8nm,0.7s,mb3.5,baz=295,slow=3.9,SNR=8.9						
TXAR	Lajitas Array	76.35	62	P	P	03 16 09.6	+0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	79.07	318	P	P	03 16 26.7	+2.7
	comp=Z,0.6nm,0.8s,mb3.5,baz=68,slow=4.1,SNR=3.8						
BRTR	Keskin Array B	79.07	318	P	P	03 16 26.7	+2.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC ***12*** *03:07:27.0±0.7,5276N×16053E,h0km,mb3.9/14, mb1 4.2/15,mb1mx4.0/24,mbtmp3.9/15,ML3.6/1,Error ellipse: s-maj=21.9km s-min=15.0km az=149.0*
MOS ***12*** *03:07:28.3±1.2,5256N×16075E,h21km,mb4.3/9,Error ellipse: s-maj=14.7km s-min=8.5km az=88.7*
NEIC ***12*** *03:07:28.6±0.6,5265N×16056E,h10km,mb4.2/2,Error ellipse: s-maj=16.4km s-min=11.7km az=143.0*
ISCJB ***12*** *03:07:29.3±1.0,5255N±003×16070E±006,h21km±7km, mb3.9/15,Error ellipse: s-maj=6.3km s-min=4.2km az=55.8*
KRSC ***12*** *03:07:30.9±0.4,5264N×16057E,h17km±17km,ML4.4*

ISC 12 03:07:29.1±1.0,5256N±003×16063E±006,h9km±5km,n53, σ1§31/73,mb3.9/15,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.66	326	i P	Pg	03 07 41.9	+0.1
SPN				i S	Sg	03 07 49.4	-0.9
NLC	Nalytchevo	0.99	309	i P	Pg	03 07 47.5	-0.7
NLC				i S	Sg	03 07 59.8	-1.3
PET	Petropavlovsk	1.29	292	eP	Pn	03 07 52.7	-0.6
PET				eS	Sb	03 08 10.6	+0.5
PET	Petropavlovsk	1.29	292	eP	Pn	03 07 52.8	-0.5
PET				i S	Sb	03 08 09.0	-1.1
RUS	Russkaya	1.30	265	eP	Pn	03 07 53.4	0.0
RUS				i S	Sb	03 08 10.5	+0.1
AVH	Avacha	1.35	303	i P	Pn	03 07 53.6	-0.5
AVH				i S	Sb	03 08 10.6	-1.2
GRL	Gorelyy	1.56	271	i P	Pn	03 07 58.4	+1.4
GRL				i S	Sn	03 08 18.1	+0.8
GNL	Ganaly	1.98	306	i P	Pn	03 08 03.6	+0.8
GNL				i S	Sn	03 08 28.1	+0.4
MKZ	Mys Kozlova	2.11	18	i P	Pn	03 08 02.6	-2.0
MKZ				i S	Sn	03 08 26.1	-4.8
TUMR	Tumrok	2.75	354	eP	Pn	03 08 14.1	+0.7
TUMR				i S	Sn	03 08 44.6	-2.1
KMNR	Kamenistaya	3.21	356	eP	Pn	03 08 21.3	+1.5
KMNR				eS	Sn	03 08 57.3	-0.9
SKR	Severo-Kuril's	3.38	238	ePN	Pn	03 08 22.5	+0.5
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
BZMR	Bezymyannaya	3.39	359	eP	Pn	03 08 23.7	+1.5
BZMR				eS	Sn	03 09 01.9	-0.6
KPT	Kopyto	3.43	356	P	Pn	03 08 24.6	+1.9
KPT				i S	Sn	03 09 04.0	+0.6
ZLN	Zelenaya	3.47	2	eP	Pn	03 08 24.8	+1.5
ZLN				i S	Sn	03 09 05.2	+0.7
KOZ	Kozyrevsk	3.54	353	P	Pn	03 08 27.1	+2.9
KOZ				i S	Sn	03 09 07.6	+1.4
KOZR	Kozyr	3.54	353	PN	Pn	03 08 27.1	+2.8
KOZR				S	Sn	03 09 07.6	+1.3
KRSR	Krestovskiy	3.67	359	eP	Pn	03 08 27.0	+1.0
KRSR				eS	Sn	03 09 07.5	-1.9
KLY	Klyuchi	3.77	0	P	Pn	03 08 29.2	+1.8
KLY				i S	Sn	03 09 12.0	+0.2
SRDR	Sredinnyy	3.81	352	P	Pn	03 08 29.2	+1.3
KBTR	Krutoberegovo	3.88	18	P	Pn	03 08 27.6	-1.3
KBTR				i S	Sn	03 09 10.2	-4.4
SRKR	Sorokina	4.12	4	eP	Pn	03 08 36.0	+3.8
SRKR				i S	Sn	03 09 23.7	+3.2
ASAJ	Asahikawa	14.63	242	Pn	Pn	03 10 56.6	+0.4
	comp=Z,0.4nm,0.3s,baz=63,slow=14,SNR=3.3						
BILL	Bilibino	15.77	8	eP	Pn	03 11 16.2	+4.8
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BILL	Bilibino	15.77	8	Pn	Pn	03 11 12.3	+0.9
	comp=Z,7.6nm,0.9s						
MAJO	Matsushiro	22.48	233	eP	P	03 12 28.6	0.0
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
MAJO	Matsushiro	22.48	233	eP	P	03 12 28.6	-0.1
	comp=Z,10nm,0.7s,mb4.4						
MAT	Matsushiro	22.48	233	P	P	03 12 30.3	+1.7
MJAR	Matsushiro Arr	22.48	233	P	P	03 12 29.9	+1.3
	comp=Z,4.6nm,0.7s,mb4.0,baz=20,slow=12,SNR=12						
MJAR	Matsushiro Arr	22.48	233	P	P	03 12 29.9	+1.3
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSRS	Korea Array	27.32	250	P	P	03 13 15.1	+0.9
	comp=Z,0.6nm,0.5s,mb3.4,baz=40,slow=9.6,SNR=2.5						
SONM	Songino Array	34.34	284	P	P	03 14 14.0	-2.1
	comp=Z,0.3nm,0.6s,mb3.4,baz=69,slow=7.9,SNR=3.4						
YKA	Yellowknife Ar	43.34	42	P	P	03 15 29.8	-1.8
	comp=Z,0.2nm,0.4s,mb3.2,baz=210,slow=21,SNR=5.7						
YKA	Yellowknife Ar	43.34	42	P	P	03 15 29.8	-1.8
MKAR	Makanchi Array	48.68	296	P	P	03 16 09.7	-3.9
	comp=Z,0.4nm,0.5s,mb3.7,baz=60,slow=6.3,SNR=2.9						
ARCES	ARCESS Array B	53.90	342	P	P	03 16 51.3	-1.5
	comp=Z,3.2nm,0.9s,mb4.2,baz=19,slow=9.0,SNR=5.5						
ARCES	ARCESS Array B	53.90	342	P	P	03 16 51.3	-1.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	Mina Array Bea	55.62	70	P	P	03 17 04.8	-0.5
	comp=Z,0.4nm,0.5s,mb3.7,baz=110,slow=15,SNR=3.9						
PDAR	Pinedale Array	57.51	61	P	P	03 17 17.8	-0.9
	comp=Z,1.3nm,0.8s,mb4.0,baz=318,slow=2.8,SNR=12						
JOF	Joensuu	58.19	335	ep	P	03 17 20.4	-3.1
FINES	FINESS Array B	60.74	337	P	P	03 17 38.2	-2.9
	comp=Z,1.9nm,0.7s,mb4.3,baz=52,slow=7.5,SNR=5.0						
FINES	FINESS Array B	60.74	337	P	P	03 17 38.2	-2.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	69.24	329	P	P	03 18 33.5	-2.8
	comp=Z,0.7nm,0.5s,mb3.8,baz=28,slow=6.0,SNR=3.6						
AKASG	Malin Array Be	69.24	329	P	P	03 18 33.5	-2.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	70.55	67	P	P	03 18 43.5	-0.9
	comp=Z,1.2nm,0.7s,mb3.9,baz=293,slow=4.1,SNR=14						
TXAR	Lajitas Array	70.55	67	P	P	03 18 43.5	-0.9
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	Collm	72.97	339	eP	P	03 18 59.0	0.0
WRA	Warramunga Arr	75.73	205	P	P	03 19 14.1	-0.9
	comp=Z,1.9nm,0.7s,mb4.2,baz=22,slow=6.1,SNR=20						
WRA	Warramunga Arr	75.73	205	P	P	03 19 14.1	-1.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	77.24	321	P	P	03 19 22.1	-1.6
	comp=Z,0.6nm,0.8s,mb3.6,baz=33,slow=6.2,SNR=3.3						
BRTR	Keskin Array B	77.24	321	P	P	03 19 22.1	-1.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	79.40	205	P	P	03 19 35.6	0.0
	comp=Z,2.1nm,0.6s,mb4.2,baz=17,slow=5.6,SNR=25						
ASAR	Alice Springs	79.40	205	P	P	03 19 35.6	0.0
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						

MDD ***12*** *03:34:37.9±1.2,3544N×477W,h0km,mbLg2.2/14,Error ellipse: s-maj=11.0km s-min=6.7km az=180.0,PRXIMO*
INMG ***12*** *03:34:37.6±1.2,3521N×475W,h24km±36km,ML2.2,Error ellipse: s-maj=21.3km s-min=5.7km az=1.0*
NEIC ***12*** *03:34:39.1,3536N×475W,h18km,MG3.7(MDD),After MDD.*
CSEM ***12*** *03:34:40.9±0.4,3569N×466W,h2km,ML3.2/3,Error ellipse: s-maj=7.7km s-min=5.4km az=1.0*
ISCJB ***12*** *03:34:41.7±0.5,3583N±003×493W±003,h10km,Error ellipse: s-maj=3.7km s-min=3.3km az=33.5*
CNRM ***12*** *03:34:56.1,3529N×462W,h11km,MD2.6*

ISC 12 03:34:42.5±0.5,3579N±003×489W±003,h10km,n55, σ1§16/99,3D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.78	7	P	Pg	03 34 59.9	+2.5
	0.9nm,0.2s,SNR=7.9						
EMIJ				S	Sg	03 35 15.4	+7.8
	6.0nm,0.1s,SNR=7.9						
EJIF	Jimena Fronter	0.81	324	Pn	Pg	03 35 01.2	+3.1
EJIF				Sn	Sg	03 35 16.8	+8.1
EJIF	Jimena Fronter	0.81	324	P	Pg	03 35 03.1	+5.0
	2.0nm,0.2s,SNR=7.9						
EJIF				S	Sg	03 35 16.8	+8.1
	2.0nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	0.81	324	Pn	Pg	03 35 01.2	+3.1
RSA	Sarsar	1.20	220	eP	Pg	03 35 15.5	+10
RSA				eS	Sg	03 35 29.0	+8.0
TOU	Touzarine	1.24	132	i P	Pg	03 35 10.5	+4.1
TOU				eS	Sb	03 35 22.0	-0.1
ESPR	Espera	1.33	324	P	Pn	03 35 08.8	+1.6
	1.2nm,0.1s,SNR=7.9						
ESPR				S	Sg	03 35 29.7	+4.4
	5.1nm,0.2s,SNR=7.9						
ESPR	Espera	1.33	324	P	Pn	03 35 08.8	+1.7
	1.2nm,0.1s,SNR=7.9						
EGUA	Guajares	1.49	45	Pn	Pn	03 35 07.1	-2.2
EGUA				Sn	Sn	03 35 28.8	0.0
EGUA	Guajares	1.49	45	P	Pn	03 35 07.2	-2.1
	2.1nm,0.1s,SNR=7.9						
EGUA				S	Sn	03 35 28.8	0.0
	3.3nm,0.2s,SNR=7.9						
EGUA	Guajares	1.49	45	Pn	Pn	03 35 07.1	-2.2
TGT	Taghat	1.73	185	eP	Pg	03 35 18.0	+2.4
TGT				eS	Sn	03 35 35.0	+0.4
ECOG	Cogollos-Vega	1.82	35	S	Sn	03 35 38.9	+1.9
	1.4nm,0.2s,SNR=7.9						
EQUE	Quentar	1.83	39	P	Pn	03 35 13.7	-0.3
	0.3nm,0.1s,SNR=6.6						
EQUE				S	Sn	03 35 38.9	+1.8
	2.3nm,0.3s,SNR=7.9						
ELUQ	Luque	1.83	16	S	Sg	03 35 41.9	+0.5
	3.0nm,0.1s,SNR=7.9						
EBER	Berja	1.95	55	Pn	Pn	03 35 12.4	-3.2
EBER				Sn	Sn	03 35 40.5	+0.3
EBER	Berja	1.95	55	P	Pn	03 35 12.5	-3.2
	1.9nm,0.1s,SNR=7.9						
EBER				S	Sn	03 35 39.1	-1.2
	14nm,0.5s,SNR=7.9						
EBER	Berja	1.95	55	Pn	Pn	03 35 12.4	-3.3
EBER				Sn	Sn	03 35 40.5	+0.3
EADA	Adamuz	2.38	6	Pn	Pn	03 35 22.3	+0.7
EADA				Sn	Sn	03 35 54.1	+3.3
EADA	Adamuz	2.38	6	P	Pn	03 35 22.3	+0.7
	0.4nm,0.2s,SNR=9.7						
EADA				S	Sn	03 35 53.5	+2.7
	6.3nm,0.0s,SNR=4.8						
EADA	Adamuz	2.38	6	P	Pn	03 35 22.3	+0.7
	0.4nm,0.2s,SNR=9.7						
EADA				Sn	Sn	03 35 54.2	+3.3
EMIN	Mina Concepcio	2.44	324	Pn	Pn	03 35 22.4	+0.1
EMIN				Sn	Sn	03 35 53.8	+1.6
EMIN	Mina Concepcio	2.44	324	‖P	Pn	03 35 22.4	+0.1
	3.9nm,0.1s,SNR=18						
EMIN				S	Sn	03 35 53.7	+1.5
	3.0nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	2.44	324	P	Pn	03 35 22.4	0.0
	3.9nm,0.1s,SNR=18						
EMIN				Sn	Sn	03 35 53.8	+1.6
EQES	Quesada	2.48	35	P	Pn	03 35 22.4	-0.5
	0.0nm,0.2s,SNR=10						
EQES				S	Sn	03 35 54.5	+1.3
	0.6nm,0.1s,SNR=5.0						
EQES	Quesada	2.48	35	P	Pn	03 35 22.5	-0.4
	SNR=10						
EBAN	Banos Encina	2.52	20	Pn	Pn	03 35 22.8	-0.7
EBAN				Sn	Sn	03 35 54.8	+0.4
EBAN	Banos Encina	2.52	20	P	Pn	03 35 22.8	-0.7
	2.3nm,0.1s,SNR=7.9						
EBAN				S	Sn	03 35 54.9	+0.5
	4.4nm,0.2s,SNR=7.9						
EBAN	Banos Encina	2.52	20	P	Pn	03 35 22.8	-0.8
	2.3nm,0.1s,SNR=7.9						
EBAN				Sn	Sn	03 35 54.8	+0.4
EGRO	El Granado	2.72	311	‖P	Pn	03 35 25.6	-0.6
	8.6nm,0.0s,SNR=18						
EGRO				S	Sn	03 35 59.8	+0.6
	2.4nm,0.1s,SNR=7.9						
EGRO	El Granado	2.72	311	P	Pn	03 35 25.6	-0.6
	8.6nm,0.0s,SNR=18						
PBEJ	Beja	3.27	314	ePn	Pn	03 35 33.3	-0.5
PBEJ				eSn	Sn	03 36 12.4	-0.3
EBAD	Badajoz	3.41	331	Pn	Pn	03 35 36.1	+0.4
EBAD				Sn	Sn	03 36 17.7	+1.5
EBAD	Badajoz	3.41	331	‖P	Pn	03 35 36.1	+0.4
	3.4nm,0.1s,SNR=18						
EBAD				S	Sn	03 36 17.7	+1.5
	6.5nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.41	331	P	Pn	03 35 36.1	+0.4
	3.4nm

ISCJB 12 03:34:56.7±0.5, 3853N×002×2678E±004, h7km±5km, Error ellipse: s-maj=4.8km s-min=4.0km az=137.2
CSEM 12 03:34:56.0±0.1, 3852N×2679E, h10km, MD3.1, Error ellipse: s-maj=2.5km s-min=2.1km az=49.0
ISK 12 03:34:56.4, 3853N×2680E, h6km, MD3.1
ATH 12 03:34:56.9, 3844N×2651E, h30km±8km, MD3.1/3
NEIC 12 03:34:57.0, 3835N×2692E, h24km, MD3.0(ISK), MD3.1(ATH), After ISK.

ISC 12 03:34:57.2±0.4, 3852N±002×2678E±004, h10km±4km, n21, σ1°03/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.21	223	*i* P	Pg	03 35 01.4	-0.2
URLA				*i* S	Sg	03 35 05.6	+1.0
BLCB	Balcova	0.24	123	*i* PG	Pg	03 35 01.5	-0.7
BLCB				*i* SG	Sg	03 35 05.3	-0.2
IZM	Izmir	0.40	107	*i* PG	Pg	03 35 04.4	-0.6
IZM				*i* SG	Sg	03 35 10.5	+0.3
KDAG	Bornova	0.40	107	*i* P	Pg	03 35 04.3	-0.7
KDAG				*i* S	Sg	03 35 10.5	+0.2
AYVA	Ayvalik	0.79	355	*i* P	Pg	03 35 11.2	-1.3
AYVA				*i* S	Sg	03 35 24.4	+1.6
SMG	Samos	0.81	177	*e*PN	Pg	03 35 11.4	-1.4
SMG				*e*SB	Sg	03 35 24.3	+1.0
PRK	Paraskevi	0.83	332	*e*PN	Pg	03 35 13.2	0.0
PRK				*e*SN	Sg	03 35 25.2	+1.2
AKS	Akhisar	0.89	66	PG	Pg	03 35 13.4	-0.8
AKS				SG	Sg	03 35 25.6	-0.1
EZN	Ezine	1.35	345	*e*PN	Pn	03 35 21.5	-0.6
BOZC	Bozcaada	1.44	337	*i* P	Pn	03 35 20.3	-3.0
BOZC				*i* S	Sn	03 35 40.3	-2.0
CANB	Canakkale	1.51	8	*e*PN	Pn	03 35 25.1	+0.8
CANB				*e*SN	Sn	03 35 44.7	+0.6
BDRM	Kayabasi	1.54	160	*i* P	Pn	03 35 26.1	+1.4
BDRM				*i* S	Sn	03 35 45.5	+0.8
BDRM	Kayabasi	1.54	160	*i* P	Pn	03 35 26.1	+1.4
APE	Apeiranthos	1.75	215	*e*PN	Pn	03 35 24.8	-2.8
LIA	Limnos Island	1.86	319	*e*PB	Pn	03 35 27.9	-1.1
DAT	Datca	1.89	160	*e*PN	Pn	03 35 29.9	+0.3
EDC	Edincik	2.01	24	*e*PN	Pn	03 35 31.8	+0.6
RKY	Sarkoy-Tekirda	2.19	8	*e*PN	Pn	03 35 34.6	+1.0
MFT	Murefte	2.30	10	*e*PN	Pn	03 35 35.6	+0.5
IZI	Iznik	2.77	48	*e*PN	Pn	03 35 41.1	-0.5
YLV	Yalova	2.86	44	*e*PN	Pn	03 35 44.4	+1.5

HLW 12 03:40:50.5, 3572N×2259E, h26km, Mb3.6
ISCJB 12 03:40:54.3±0.6, 3526N±004×2258E±007, h61km±8km, mb3.6/7, Error ellipse: s-maj=10.4km s-min=4.8km az=108.2
ATH 12 03:40:55.0, 3554N×2281E, h17km±2km, MD3.8/18, ML3.7
NEIC 12 03:40:55.0, 3554N×2281E, h17km, ML3.7(ATH), After ATH.
CSEM 12 03:40:57.4±0.2, 3568N×2279E, h12km, ML3.7, Error ellipse: s-maj=5.4km s-min=2.4km az=33.0
IDC 12 03:41:00.0±2.7, 3545N×2284E, h75km±29km, mb3.4/7, mb1 3.4/8, mb1mx3.3/21, mbtmp3.3/8, Error ellipse: s-maj=31.4km s-min=21.6km az=128.0

ISC 12 03:40:56.4±0.6, 3531N±004×2264E±006, h54km±8km, n65, σ1°05/71, mb3.6/7, 2C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	1.02	18	*e*PN	Pn	03 41 09.8	-4.7
KARN	Karanos	1.05	84	*e*P	Pn	03 41 12.6	-2.2
KARN				*e*S	Sn	03 41 30.6	+2.1
GVD	Gavdhos	1.28	111	*e*P	Pn	03 41 14.7	-3.3
GVD	Gavdhos	1.28	111	P	Pn	03 41 14.7	-3.3
GVD				*e*Pn	Pn	03 41 19.0	+1.1
GVD	Gavdhos	1.28	111	*e*Pn	Pn	03 41 19.0	+1.1
VAM	Vamos	1.28	85	*e*PN	Pn	03 41 16.7	-1.3
VLI	Veliai	1.43	10	*e*PN	Pn	03 41 17.5	-2.4
VLI				*e*SN	Sn	03 41 32.8	-4.8
SIVA	Sivas	1.81	99	*e*P	Pn	03 41 23.6	-1.4
IDI	Anoyia	1.84	90	P	Pn	03 41 27.3	+1.7
IDI	21nm,0.3s,baz=275,slow=14,SNR=186			S	Sn	03 41 52.8	+5.0
	21nm,0.3s,baz=297,slow=20,SNR=6.6						
ITM	Ithomi	1.96	343	*e*PN	Pn	03 41 27.0	-0.1
NPS	Neapolis	2.44	90	*e*PN	Pn	03 41 33.0	-0.7
THR5	Thira Island,	2.47	63	*e*P	Pn	03 41 34.2	+0.1
THR6	Thira Island,	2.48	64	*e*P	Pn	03 41 34.9	+0.7
THR3	Thira Island,	2.50	63	*e*P	Pn	03 41 35.5	+0.9
SANT	Santorini	2.53	64	*e*Pn	Pn	03 41 35.2	+0.3
SANT				*e*S	Sn	03 42 16.2	+12
SANT	Santorini	2.53	64	*e*Pn	Pn	03 41 35.2	+0.3
THR1	Thera Island	2.53	64	*e*P	Pn	03 41 36.2	+1.2
NAIG	Nisos Aigina	2.54	15	*e*PN	Pn	03 41 35.0	-0.1
KVR	Kavouri	2.68	20	*e*PB	Pn	03 41 36.0	-1.0
ATH	Athens Observa	2.80	18	*e*PB	Pn	03 41 38.4	-0.2
RLS	Riolos of Patr	2.90	341	*e*PB	Pn	03 41 41.5	+1.4
PTL	Penteli	2.91	19	*e*PB	Pn	03 41 40.0	-0.2
APE	Apeiranthos	2.93	52	*e*P	Pn	03 41 40.6	+0.2
APE	Apeiranthos	2.93	52	*e*Pb	Pn	03 41 40.3	-0.1
APE	Apeiranthos	2.93	52	*e*P	Pn	03 41 40.7	+0.3
VLS	Valsamata	3.30	331	*e*PN	Pn	03 41 45.7	+0.2
LKR	Lokris	3.35	5	*e*PN	Pn	03 41 45.6	-0.6
EVR	Evrytania	3.66	350	*e*PB	Pn	03 41 53.4	+2.9
KARP	Karpathos	3.70	85	*e*PN	Pn	03 41 52.7	+1.7
AGG	Agios Georgios	3.72	356	*e*P	Pn	03 41 52.4	+1.2
AGG				*e*S	Sn	03 42 39.2	+5.5
NEO	Neokhori	4.02	7	*e*PN	Pn	03 41 55.7	+0.3
SMG	Samos	4.15	53	*e*PN	Pn	03 41 55.9	-1.2
THL	Klokotos Trika	4.28	354	*e*PN	Pn	03 41 59.2	+0.3
SLUM		4.37	150	P	Pn	03 42 00.0	-0.2
ARG	Arkhangelos	4.56	77	*e*PN	Pn	03 42 03.4	+0.7
JAN	Janina	4.57	342	*e*PN	Pn	03 42 03.5	+0.6
PRK	Paraskevi	4.89	35	*e*PN	Pn	03 42 06.0	-1.2
KEK	Kerkira	4.94	334	*e*PN	Pn	03 42 08.1	+0.1
KZN	Kozani	5.04	352	*e*PN	Pn	03 42 09.1	-0.2
LSK	Leskovik	5.10	342	*i* Pn	Pn	03 42 09.9	-0.2
HMAT	Matruh	5.62	137	P	Pn	03 42 16.7	-0.7
HMAT	Matruh	5.62	137	P	Pn	03 42 16.7	-0.6
BIA	Bitola	5.80	350	⇑*i*Pn	Pn	03 42 19.0	-0.7
BIA	Bitola	5.80	350	⇑*i*Pn	Pn	03 42 19.0	-0.7
OHR	Ohrid	5.97	347	*i* Pn	Pn	03 42 21.4	-0.8
OHR	Ohrid	5.97	347	*i* Pn	Pn	03 42 21.4	-0.8
OHR	Ohrid	5.97	347	*i* Pn	Pn	03 42 21.3	-0.8
KRUS	Krusevo	6.15	350	*i* Pn	Pn	03 42 24.4	-0.2
KRUS	Krusevo	6.15	350	*i* Pn	Pn	03 42 24.4	-0.2
KRUS	Krusevo	6.15	350	*i* Pn	Pn	03 42 24.3	-0.3
SWA1		6.56	156	P	Pn	03 42 30.8	+0.5
HFRF	Wahat Farafira	9.47	148	P	Pn	03 43 10.0	0.0
GLL	Jalalah	9.56	124	P	Pn	03 43 10.2	-1.0
BR131	Keskin Array S	9.79	60	*e*Pn	Pn	03 43 14.9	+0.5
	0.6nm,0.5s						
BRTR	Keskin Array B	9.79	60	P	Pn	03 43 16.8	+2.4
	0.1nm,0.3s,baz=275,slow=6.8,SNR=5.2						
AMAG	Maghara	10.02	115	P	Pn	03 43 16.4	-1.2
MLR	Muntele Rosu	10.48	13	P	Pn	03 43 30.4	+6.6
	0.2nm,0.3s,baz=170,slow=15,SNR=3.4						
HDK1	Dakhla	11.34	147	P	Pn	03 43 36.2	+0.6
HFS	Hagfors	25.51	350	P	P	03 46 19.7	0.0
	4.4nm,0.9s,mb4.0,baz=157,slow=8.0,SNR=6.1						
FINES	FINESS Array B	26.25	4	P	P	03 46 25.8	-0.6
	1.9nm,0.8s,mb3.7,baz=170,slow=9.3,SNR=3.4						
TORD	Torodi Ar. Bea	29.05	226	P	P	03 46 54.9	+3.4
	0.3nm,0.5s,mb3.3,baz=36,slow=10.0,SNR=7.8						
ARCES	ARCESS Array B	34.32	2	P	P	03 47 37.0	-0.6
	2.0nm,0.8s,mb4.1,baz=191,slow=9.3,SNR=5.8						
MKAR	Makanchi Array	45.42	56	P	P	03 49 08.4	-1.3
	0.6nm,0.6s,mb3.6,baz=269,slow=7.9,SNR=7.4						
SONM	Songino Array	60.98	50	P	P	03 51 04.3	+0.2
	0.1nm,0.4s,mb3.3,baz=190,slow=28,SNR=2.3						
YKA	Yellowknife Ar	76.66	341	P	P	03 52 43.3	+1.9
	0.2nm,0.5s,mb3.3,baz=34,slow=5.3,SNR=8.4						

IDC 12 04:06:43.8±3.6, 341S×15175E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/14, mbtmp3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx1.9/25, Error ellipse: s-maj=150.9km s-min=46.3km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	17.43	198	LR	LR	04 16 52.5	
	comp=Z,41nm,18.7s,baz=232,slow=35						
WB2	Warramunga Arr	23.63	225	*e*P	P	04 11 57.1	+0.4
WRA	Warramunga Arr	23.64	225	P	P	04 11 57.2	+0.4
	3.0nm,0.5s,baz=49,slow=9.5,SNR=88						
ASAR	Alice Springs	26.52	219	P	P	04 12 23.4	+0.5
	1.3nm,1.0s,baz=54,slow=8.2,SNR=5.3						
TORD	Torodi Ar. Bea	148.87	290	PKPbc	PKPbc	04 26 33.8	+0.4
	0.4nm,0.8s,baz=45,slow=1.8,SNR=3.8						

IDC 12 04:12:28.9±1.4, 2622S×11424W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/15, mbtmp3.8/5, MS3.5/3, Ms1 3.5/3, ms1mx3.4/19, Error ellipse: s-maj=108.2km s-min=30.7km az=79.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	4.48	103	LR	LR	04 14 25.1	
	comp=Z,248nm,19.2s,baz=136,slow=26						
RKT	Rikitea	19.09	275	*e*LR	LR	04 20 44.3	
	108nm,25.0s						
RKT	Rikitea	19.09	275	*e*T		04 35 53.2	
	4.3nm,0.4s						
TBI	Tubuai	32.04	267	*e*T		04 52 06.0	
	13nm,0.3s						
PPT	Papeete	33.81	277	*e*LR	LR	04 27 32.9	
	155nm,25.8s						
LPAZ	La Paz	43.90	87	LR	LR	04 34 28.5	
	comp=Z,66nm,19.3s,baz=70,slow=30						
SDV	Santo Domingo	54.88	56	LR	LR	04 40 33.9	
	comp=Z,62nm,18.8s,baz=61,slow=31						
NVAR	Mina Array Bea	64.42	356	P	P	04 23 08.2	+1.2
	1.1nm,0.9s,baz=171,slow=8.5,SNR=7.5						
PDAR	Pinedale Array	68.78	4	P	P	04 23 34.6	-0.1
	0.7nm,0.9s,baz=205,slow=6.6,SNR=5.4						
VNA3	Neumayer Olymp	69.96	161	*e*	P	04 23 40.9	-1.2
VNA3				*e*		04 23 45.2	
VNA3				*e*		04 24 02.3	
VNA3				*e*		04 24 06.4	
VNA2	Neumayer--Watz	70.77	161	*e*	P	04 23 43.4	-3.6
VNA2				*e*		04 23 48.7	
VNA2				*e*		04 24 04.5	
VNA2				*e*		04 24 09.8	
SNAA	Sanae	71.75	162	P	P	04 23 53.1	+0.1
	0.4nm,0.8s,baz=326,slow=3.8,SNR=4.1						
ULM	Lac du Bonnet	77.86	12	P	P	04 24 28.7	+0.3
	1.6nm,0.9s,baz=196,slow=21,SNR=3.5						
YKA	Yellowknife Ar	88.41	360	P	P	04 25 21.8	-1.1
	0.4nm,0.7s,baz=174,slow=4.9,SNR=11						
ZAL	Zalesovo	148.92	338	PKPbc	PKPbc	04 32 16.4	-2.3
	1.8nm,0.3s,baz=64,slow=4.0,SNR=4.6						
BRTR	Keskin Array B	150.05	55	PKP	PKPdf	04 32 17.5	+1.0
	0.6nm,0.7s,baz=321,slow=1.6,SNR=4.6						
BRTR				PKPbc	PKPbc	04 32 21.4	0.0
	0.5nm,0.7s,baz=327,slow=2.3,SNR=4.8						
BRTR				PKPab	PKPab	04 32 26.1	-1.2
	0.7nm,0.9s,baz=235,slow=4.4,SNR=3.9						

ISCJB 12 04:20:52.9±0.3, 3475N±002×2699E±003, h64km±6km, mb3.7/9, Error ellipse: s-maj=4.7km s-min=3.9km az=136.8
NEIC 12 04:20:52.0, 3460N×2701E, h10km, ML3.1(ATH), After ATH.
CSEM 12 04:20:52.0±0.1, 3480N×2704E, h60km, ML3.1, Error ellipse: s-maj=2.9km s-min=1.1km az=65.0
IDC 12 04:20:53.8±2.4, 3503N×2681E, h35km±19km, mb3.6/9, mb1 3.7/11, mb1mx3.6/20, mbtmp3.5/11, ML3.0/2, Error ellipse: s-maj=27.2km s-min=14.6km az=173.0
ATH 12 04:20:54.7, 3501N×2683E, h84km±4km
ISK 12 04:20:54.1, 3506N×2707E, h5km, MD3.6
HLW 12 04:20:58.2, 3447N×2719E, h25km, Mb3.7

ISC 12 04:20:54.3±0.3, 3480N±002×2694E±003, h56km±6km, n62, σ1°05/72, mb3.7/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.67	298	*e*P	Pn	04 21 07.3	-0.7
KARP	Karpathos	0.77	13	*e*P	Pn	04 21 09.5	+0.3
KARP				*e*S	Sn	04 21 22.0	+2.0
XRY	Khrisi	1.03	275	*e*P	Pn	04 21 13.5	+0.9
NPS	Neapolis	1.19	293	*e*P	Pn	04 21 15.5	+0.9
ARG	Arkhangelos	1.71	34	*e*P	Pn	04 21 23.0	+1.2
IDI	Anoyia	1.75	287	Pg	Pn	04 21 23.6	+1.3
IDI	7.0nm,0.3s,baz=114,slow=14,SNR=91			Lg		04 21 47.1	
	16nm,0.3s,baz=267,slow=12,SNR=8.5						
SANT	Santorini	1.98	323	*e*Pn	Pn	04 21 24.6	-0.9
SANT				*e*Sn	Sn	04 21 46.1	-3.0
SANT	Santorini	1.98	323	*e*Pn	Pn	04 21 24.6	-0.8
SANT				*e*Sn	Sn	04 21 46.1	-3.0
THR1	Thera Island	1.98	323	*e*P	Pn	04 21 25.1	-0.4
DAT	Datca	1.99	15	*i* PN	Pn	04 21 25.4	-0.3
DAT				SN	Sn	04 21 48.3	-1.2
THR6	Thira Island,	2.00	321	*e*P	Pn	04 21 25.1	-0.6
THR3	Thira Island,	2.04	322	*e*P	Pn	04 21 25.4	-0.8
BDRM	Kayabasi	2.30	10	*i* P	Pn	04 21 29.8	0.0
BDRM				*i* S	Sn	04 21 54.6	-2.2
VAM	Vamos	2.33	286	*e*P	Pn	04 21 31.5	+1.3
GVD	Gavdhos	2.35	272	*e*P	Pn	04 21 31.5	+1.0
DALT	Dalyan (Mudla)	2.40	35	PN	Pn	04 21 31.8	+0.6
FETY	Fethiye	2.53	43	PN	Pn	04 21 33.0	+0.1
APE	Apeiranthos	2.54	334	*e*P	Pn	04 21 32.5	-0.5
APE				*e*S	Sn	04 21 59.5	-3.3
YER	Yerkesik	2.57	25	*e*PN	Pn	04 21 33.7	+0.2
MLSB	Milas	2.58	15	*e*PN	Pn	04 21 33.6	0.0
AKAS	Kas	2.60	56	*i* P	Pn	04 21 34.8	+0.8
AKAS				*i* S	Sn	04 22 03.9	-0.4
ELL	Elmali	3.10	50	*e*PN	Pn	04 21 42.2	+1.5
GOLH	Golhisar	3.23	40	*i* P	Pn	04 21 43.8	+1.3
GOLH				*i* S	Sn	04 22 19.7	0.0
DNZL	Cakiroluk	3.35	30	*i* P	Pn	04 21 50.7	+6.6
DNZL				*i* S	Sn	04 22 29.1	+6.5
KYTH	Kithira	3.51	296	*e*P	Pn	04 21 46.0	-0.4
SLUM		3.60	204	P	Pn	04 21 48.6	+1.0
KDAG	Bornova	3.61	4	*i* P	Pn	04 21 47.8	+0.1
HMAT	Matruh	3.70	178	P	Pn	04 21 48.7	-0.2
VLI	Veliai	3.78	302	*e*P	Pn	04 21 49.5	-0.5
KHL	Karahalli	4.08	30	*e*PN	Pn	04 21 54.5	+0.3
HDMB	Hadim	4.99	63	*e*PN	Pn	04 22 09.1	+2.4
SWA1		5.62	191	P	Pn	04 22 15.8	+0.6
IKL	Isikli	5.68	73	*e*PN	Pn	04 22 19.3	+3.2
HMYD	Mayadein	5.96	146	P	Pn	04 22 19.2	-0.8
HNAT	Natroun	6.02	148	P	Pn	04 22 20.1	-0.7
AYT	Al 'Ayyat	6.21	144	P	Pn	04 22 22.8	-0.5
KOT	Kottamia	6.38	138	P	Pn	04 22 25.1	-0.5
KOT	Kottamia	6.38	138	P	Pn	04 22 25.1	-0.5
HSAF	As Saff	6.48	142	P	Pn	04 22 26.0	-1.0
GLL	Jalalah	6.59	141	P	Pn	04 22 27.7	-0.9
SUZ		7.02	133	P	Pn	04 22 34.0	-0.4
SUZ		7.02	133	P	Pn	04 22 34.0	-0.4
MMAI	Mount Meron Ar	7.26	102	Pn	Pn	04 22 39.4	+1.7
	0.9nm,0.3s,baz=283,slow=11,SNR=5.6						
MMAI				Sn	Sn	04 23 57.5	-1.2
	3.8nm,0.3s,baz=269,slow=21,SNR=7.2						
BRTR	Keskin Array B	7.26	45	Pn	Pn	04 22 35.7	-2.0
	0.1nm,0.3s,baz=260,slow=5.7,SNR=3.2						
ZAF		7.27	138	P	Pn	04 22 37.3	-0.6
ZNM		7.39	135	P	Pn	04 22 38.8	-0.7
HNKL	Nakhl	7.68	127	P	Pn	04 22 42.7	-0.8
HFRF	Wahat Farafira	7.72	171	P	Pn	04 22 44.0	0.0
GRB	Gharib	8.20	141	P	Pn	04 22 49.8	-0.8
ASUT		8.37	151	P	Pn	04 22 52.5	-0.5
HBST	Basata	8.64	128	P	Pn	04 22 56.7	+0.1
HDHB	Dhahab	8.91	131	P	Pn	04 23 00.4	+0.1
HDK1	Dakhla	9.47	166	P	Pn	04 23 08.3	+0.4
ESDC	Sonseca Array	25.01	290	P	P	04 26 12.9	0.0
	0.8nm,0.4s,mb3.6,baz=82,slow=9.4,SNR=11						
HFS	Hagfors	26.78	345	P	P	04 26 26.8	-2.1
	3.1nm,0.9s,mb3.9,baz=165,slow=12,SNR=2.7						
TORD	Torodi Ar. Bea	31.41	233	P	P	04 27 11.2	+1.2
	0.6nm,0.8s,mb3.5,baz=36,slow=8.6,SNR=8.5						
ARCES	ARCESS Array B	34.80	359	P	P	04 27 37.9	-1.7
	3.0nm,0.9s,mb4.2,baz=172,slow=7.3,SNR=3.2						
MKAR	Makanchi Array	42.76	56	P	P	04 28 48.1	+1.9
	0.4nm,0.7s,mb3.3,baz=275,slow=8.4,SNR=5.4						
ZAL	Zalesovo	44.19	46	P	P	04 28 58.5	+0.8
	1.7nm,0.4s,mb4.2,baz=254,slow=4.0,SNR=2.8						
SONM	Songino Array	58.58	51	P	P	04 30 47.9	+2.6
	0.2nm,0.5s,mb3.4,baz=293,slow=7.7,SNR=2.1						
SCHQ	Schefferville	64.41	320	P	P	04 31 24.4	-0.2
	1.5nm,0.5s,mb4.3,baz=45,slow=10.0,SNR=4.2						
YKA	Yellowknife Ar	78.23	343	P	P	04 32 47.8	-0.2
	0.2nm,0.6s,mb3.3,baz=33,slow=5.3,SNR=5.3						

ISCJB 12 04:23:46.4±0.5, 6178N±005×1517W±01, h102km±5km, mb3.6/8, Error ellipse: s-maj=8.4km s-min=7.1km az=108.1
NEIC 12 04:23:48.8, 6175N×15170W, h87km, MG3.4(AEIC), After AEIC.
IDC 12 04:23:50.9±5.8, 6204N×15158W, h115km±50km, mb3.4/8, mb1 3.5/10, mb1mx3.4/23, mbtmp3.3/10, Error ellipse: s-maj=41.1km s-min=17.7km az=41.0

ISC 12 04:23:47.4±0.5, 6177N±005×1517W±01, h97km±6km, n34, σ0°71/34, mb3.6/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	Fire Island	0.96	128	P	Pn	04 24 08.1	+1.0
RC01	Rabbit Creek A	1.18	124	P	Pn	04 24 09.4	-0.1
PMR	Palmer	1.25	97	P	Pn	04 24 09.8	-0.7
GHO	Glory Hole Cre	1.34	88	P	Pn	04 24 11.4	0.0
SLKM	Skilak Lake	1.46	149	P	Pn	04 24 12.9	-0.1
SML	Sawmill	1.62	87	P	Pn	04 24 14.5	-0.3
TRF	Thorofare Moun	1.82	21	P	Pn	04 24 18.1	+0.6
KTH	Kantishna Hill	1.83	11	P	Pn	04 24 18.0	+0.4
SVW2	Sparrevohn	1.97	252	P	Pn	04 24 19.3	-0.1
SEW	Seward	2.01	145	P	Pn	04 24 19.9	0.0
TT01	Tatalina	2.31	302	P	Pn	04 24 23.4	-0.3
MCK	McKinley	2.36	32	P	Pn	04 24 24.8	+0.4
EYAK	Cordova Ski Ar	3.15	110	P	Pn	04 24 33.8	-1.2
COLA	College	3.58	28	P	Pn	04 24 41.5	+0.8
GCSA	Galena City Sc	3.79	324	P	Pn	04 24 44.0	+0.4
MENT	Mentasta	3.92	69	*e*P	Pn	04 24 45.2	-0.1
DOT	Dot Lake	4.01	59	P	Pn	04 24 46.6	+0.1
KDAK	Kodiak Island	4.02	187	P	Pn	04 24 46.2	-0.5
IM3	Indian Mountai	4.33	349	P	Pn	04 24 50.8	-0.1
IMA2	Indian Mountai	4.41	350	P	Pn	04 24 52.3	+0.3
BCA3	Beaver Creek A	4.81	70	P	Pn	04 24 56.9	-0.4
COLD	Coldfoot	5.53	6	P	Pn	04 25 07.4	+0.3
EGAK	Eagle	5.65	53	P	Pn	04 25 08.4	-0.4
DAWY	Dawson	6.09	62	P	Pn	04 25 14.7	-0.1
INK	Inuvik	10.08	42	P	Pn	04 26 08.6	-0.5
	0.2nm,0.3s,baz=230,slow=14,SNR=8.0						
YKA	Yellowknife Ar	17.22	71	P	Pn	04 27 41.7	-0.1
	0.1nm,0.3s,baz=281,slow=12,SNR=13						
YKA				PcP	PcP	04 32 19.5	-0.1
	0.0nm,0.3s,baz=281,slow=1.3,SNR=5.2						
NVAR	Mina Array Bea	31.11	123	P	P	04 29 59.3	+2.8
	0.4nm,0.6s,mb3.3,baz=95,slow=14,SNR=3.5						
ULM	Lac du Bonnet	32.24	85	P	P	04 30 07.3	+0.9
	0.5nm,0.4s,mb3.6,baz=290,slow=6.3,SNR=4.5						
TXAR	Lajitas Array	45.07	113	P	P	04 31 55.0	+1.4
	0.2nm,0.4s,mb3.2,baz=350,slow=6.6,SNR=5.4						
ARCES	ARCESS Array B	48.97	1	P	P	04 32 22.9	-1.1
	3.8nm,1.0s,mb4.3,baz=355,slow=6.6,SNR=4.1						
SONM	Songino Array	54.26	306	P	P	04 33 04.1	+0.7
	0.2nm,0.6s,mb3.4,baz=42,slow=5.6,SNR=2.5						
HFS	Hagfors	57.91	9	P	P	04 33 28.4	-0.9
	1.2nm,0.7s,mb4.0,baz=355,slow=4.8,SNR=5.1						
MKAR	Makanchi Array	63.44	322	P	P	04 34 06.5	-0.3
	0.5nm,0.8s,mb3.5,baz=14,slow=4.6,SNR=3.2						
AKASG	Malin Array Be	67.88	359	P	P	04 34 34.0	-1.4
	0.5nm,0.4s,mb3.7,baz=4.1,slow=6.3,SNR=4.1						

NEIC 12 04:39:56.5, 4007S×17495E, h62km, ML3.7(WEL), After WEL.

WEL 12 04:39:56.3±0.1, 4007S×17494E, h64km±2km, ML3.7/18, 1C-4D, Error ellipse: s-maj=1.2km s-min=0.4km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.31	7	P	Pn	04 40 06.6	-0.3
WAZ	Wanganui	0.31	7	⇓PN	Pn	04 40 06.6	-0.3
WAZ				SN	Sn	04 40 14.5	-0.1
MRZ	Mangatainoka R	0.77	141	P	Pn	04 40 11.9	+0.3
MRZ				S	Sn	04 40 22.7	-0.2
MRZ	Mangatainoka R	0.77	141	PN	Pn	04 40 11.9	+0.2
MRZ				SN	Sn	04 40 22.4	-0.5
TSZ	Takapari Road	0.79	90	P	Pn	04 40 11.7	-0.1
TSZ	Takapari Road	0.79	90	PN	Pn	04 40 11.7	-0.1
TSZ				SN	Sn	04 40 23.6	+0.4
MTVZ	Mangateitei	0.79	31	PN	Pn	04 40 11.7	-0.2
KIW	Kapiti Island	0.80	182	P	Pn	04 40 11.9	0.0
KIW				S	Sn	04 40 23.3	-0.1
KIW	Kapiti Island

ODZ	**Otahua Downs**	**5.90**	**211**	*e*P	Pn	04 41 18.5	-2.6
ODZ	**Otahua Downs**	**5.90**	**211**	PN	Pn	04 41 18.5	-2.6

IDC ***12*** *04:41:12.5±0.8,5131N×17887W,h0km,mb4.1/16, mb1 4.3/16,mb1mx4.2/25,mbtmp4.1/16,MS3.6/3, Ms1 3.6/3,ms1mx3.2/33,Error ellipse: s-maj=24.8km s-min=15.6km az=161.0*
BJI ***12*** *04:41:15.8,5103N×17948W,h18km,mB5.0,mb4.6,Ms4.7, Msz4.4*
NEIC ***12*** *04:41:18.0±0.4,5133N×17893W,h35km,mb4.6/19, ML4.2(AEIC),Error ellipse: s-maj=10.7km s-min=5.5km az=174.0*
ISCJB ***12*** *04:41:18.3±1.1,5136N±009×17890W±006,h49km±8km, mb4.5/49,MS4.0/5,Error ellipse: s-maj=15.9km s-min=6.1km az=162.3*
ISC 12 04:41:20.8±0.9,5149N±010×17889W±006,h56km±7km, h37km±1.1km:pP-P,n106,σ0§87/104,mb4.5/49,MS4.0/5, 1C-1D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**3.00**	**74**	P	**Pn**	**04 42 04.8**	**-1.0**
ATKA				S	**Sn**	**04 42 41.4**	**+0.8**
SMY	**Shemya**	**4.50**	**289**	*e*Pn	**Pn**	**04 42 25.6**	**-0.8**
SMY				*e*Sn	**Sn**	**04 43 13.5**	**-3.9**
FX1	**Attu Island--F**	**5.08**	**289**	P	**Pn**	**04 42 34.8**	**+0.3**
SVW2	**Sparrevohn**	**16.03**	**44**	*e*P	**Pn**	**04 45 04.7**	**+2.1**
SLKM	**Skilak Lake**	**18.26**	**49**	*e*P	**Pn**	**04 45 31.5**	**+1.3**
IMA2	**Indian Mountai**	**19.38**	**32**	*e*Pn	**Pn**	**04 45 42.9**	**-0.7**
EGAK	**Eagle**	**23.50**	**41**	*e*Pn	**P**	**04 46 25.1**	**-0.5**
	2.2nm,0.4s,mb3.9						
DAWY	**Dawson**	**24.07**	**43**	*e*P	**P**	**04 46 30.0**	**-0.8**
ASAJ	**Asahikawa**	**26.65**	**269**	LR	LR	04 56 52.7	
	comp=Z,101nm,18.1s,MS3.4,baz=316,slow=35						
INK	**Inuvik**	**27.40**	**35**	P	**P**	**04 47 00.7**	**-0.3**
	0.7nm,0.4s,mb3.5,baz=278,slow=9.0,SNR=9.2						
MJAR	**Matsushiro Arr**	**33.74**	**261**	P	**P**	**04 47 55.8**	**-1.2**
	0.5nm,0.3s,mb3.9,baz=241,slow=43,SNR=3.7						
YKA	**Yellowknife Ar**	**35.20**	**47**	P	**P**	**04 48 08.6**	**-0.9**
	0.6nm,0.4s,mb3.9,baz=282,slow=7.2,SNR=23						
YKA				PcP	PcP	04 50 41.5	+2.0
	0.2nm,0.4s,baz=350,slow=5.2,SNR=6.3						
YKA	**Yellowknife Ar**	**35.20**	**47**	P	**P**	**04 48 08.6**	**-0.9**
YKA				PcP	PcP	04 50 41.5	+2.0
EDM	**Edmonton**	**38.81**	**61**	*e*P	**P**	**04 48 39.5**	**-0.7**
KSRS	**Korea Array**	**39.58**	**271**	P	**P**	**04 48 46.6**	**0.0**
	0.5nm,0.3s,mb3.7,baz=56,slow=9.8,SNR=4.7						
KSRS				LR	LR	05 03 53.7	
	comp=Z,40nm,20.3s,MS3.2,baz=305,slow=34						
MCMT	**McKenzie Canyo**	**43.20**	**72**	*e*P	**P**	**04 49 16.2**	**-0.1**
BOZ	**Bozeman (W)**	**43.47**	**70**	*e*P	**P**	**04 49 14.2**	**-4.2**
BJI	**Beijing**	**45.29**	**282**	P	**P**	**04 49 34.0**	**+1.0**
DUG	**Dugway**	**45.90**	**77**	*e*P	**P**	**04 49 38.6**	**+0.9**
	5.9nm,1.2s,mb4.4						
BW06	**Boulder Array**	**46.33**	**72**	*e*P	**P**	**04 49 41.4**	**+0.2**
	3.7nm,0.6s,mb4.5						
PDAR	**Pinedale Array**	**46.33**	**72**	P	**P**	**04 49 41.1**	**0.0**
	3.8nm,0.6s,mb4.5,baz=300,slow=4.0,SNR=45						
SONM	**Songino Array**	**46.55**	**296**	P	**P**	**04 49 43.5**	**+0.7**
	2.6nm,0.9s,mb4.1,baz=58,slow=9.0,SNR=13						
HHC	**Hu-ho-hao-te**	**47.60**	**286**	*e*P	**P**	**04 49 50.4**	**-0.7**
HHC				AP	pP	04 50 00.2	-5.6
HHC				XP	sP	04 50 04.3	-7.9
HHC				PP	PP	04 51 40.7	-2.2
HHC				S	**S**	**04 56 40.4**	**-2.0**
HHC				XS	sS	04 56 58.2	-9.0
HHC				SCS	ScS	04 59 39.9	+0.3
HHC				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
HHC				AMB	AMB		
	comp=Z,279nm,7.0s						
HHC				LR	LR		
	comp=N,268nm,14.3s,MS4.6						
HHC				LR	LR		
	comp=E,391nm,13.1s,MS4.6						
HHC				LR	LR		
	comp=Z,370nm,13.7s,MS4.5						
SRU	**San Rafael**	**47.96**	**77**	*e*P	**P**	**04 49 55.0**	**+1.1**
LZH	**Lanzhou**	**55.30**	**286**	*e*P	**P**	**04 50 47.6**	**-1.0**
LZH				AP	pP	04 50 58.1	-5.5
LZH				XP	sP	04 51 02.3	-7.6
LZH				*e*PP	PP	04 52 52.6	0.0
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,46nm,7.2s						
LZH				LR	LR		
	comp=E,178nm,15.4s						
LZH				LR	LR		
	comp=Z,297nm,18.2s,MS4.4						
LZH	**Lanzhou**	**55.30**	**286**	*e*P	**P**	**04 50 47.6**	**-1.0**
LZH				pP	pP	04 50 58.1	-5.5
LZH				sP	sP	04 51 02.3	-7.6
LZH				*e*PP	PP	04 52 52.6	0.0
GTA	**Gaotai**	**55.47**	**292**	*e*P	**P**	**04 50 50.8**	**+1.0**
GTA				AP	pP	04 51 01.3	-3.5
GTA				XP	sP	04 51 04.8	-6.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
WMOK	**Wichita Mounta**	**57.92**	**73**	*e*P	**P**	**04 51 08.3**	**+1.1**
	comp=Z,2.3nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**57.97**	**350**	P	**P**	**04 51 07.3**	**-0.3**
	comp=Z,2.8nm,0.9s,mb4.3,baz=25,slow=6.8,SNR=6.0						
TXAR	**Lajitas Array**	**58.70**	**81**	P	**P**	**04 51 11.8**	**-0.7**
	comp=Z,1.6nm,1.1s,mb4.0,baz=307,slow=6.6,SNR=4.4						
CD2	**Chengdu**	**58.90**	**282**	P	**P**	**04 51 15.6**	**+1.6**
CD2				AP	pP	04 51 25.8	-3.3
CD2				XP	sP	04 51 29.5	-6.0
CD2				PP	PP	04 53 27.5	+2.9
CD2				S	**S**	**04 59 17.5**	**+1.8**
CD2				XS	sS	04 59 33.9	-7.3
CD2				SS	SS	05 03 12.5	+2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CD2				AMB	AMB		
	comp=Z,240nm,6.1s						
CD2				LR	LR		
	comp=N,310nm,6.1s						
CD2				LR	LR		
	comp=E,310nm,6.9s						
CD2				LR	LR		
	comp=Z,410nm,6.5s						
WMQ	**Urumqi**	**59.23**	**303**	*e*P	**P**	**04 51 17.6**	**+1.3**
MKAR	**Makanchi Array**	**59.92**	**308**	P	**P**	**04 51 21.1**	**0.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=53,slow=6.1,SNR=10						
BVAR	**Borovoye Array**	**60.77**	**320**	P	**P**	**04 51 26.2**	**-0.7**
	baz=39,slow=9.3						
BVAR				PcP	PcP	04 52 10.2	0.0
	comp=Z,1.2nm,0.5s,baz=69,slow=3.1,SNR=6.6						
USIN	**University of**	**62.13**	**63**	*e*P	**P**	**04 51 35.8**	**-0.2**
JOF	**Joensuu**	**63.48**	**345**	*e*p	**P**	**04 51 43.0**	**-2.0**
	comp=Z,4.1nm,0.5s,mb4.8						
KMI	**Kunming**	**63.65**	**278**	P	**P**	**04 51 45.7**	**-0.4**
KMI				AP	pP	04 51 57.3	-4.1
KMI				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.7						
KAF	**Kangasniemi**	**64.99**	**347**	*e*p	**P**	**04 51 52.7**	**-2.2**
	baz=13,slow=5.8						
FINES	**FINESS Array B**	**65.66**	**347**	P	**P**	**04 51 58.3**	**-0.9**
	comp=Z,3.1nm,0.7s,mb4.4,baz=0.0,slow=7.6,SNR=8.1						
MYNC	**Murphy**	**66.18**	**63**	*e*P	**P**	**04 52 02.5**	**-0.1**
	comp=Z,9.5nm,0.7s,mb4.9						
AAK	**Ala-Archa**	**66.75**	**310**	*e*P	**P**	**04 52 07.1**	**+0.9**
KK31	**Karatay Array**	**68.27**	**312**	⇓P	**P**	**04 52 21.7**	**+6.0**
	comp=Z,0.4nm,0.5s,mb3.8,baz=166,slow=12,SNR=5.3						
GUN	**Gumba**	**71.76**	**292**	*e*P	**P**	**04 52 38.8**	**+1.6**
	comp=Z,47nm,0.7s,mb5.5						
JIRN	**Jiri**	**71.77**	**291**	*e*P	**P**	**04 52 38.7**	**+1.5**
	comp=Z,2.2nm,0.2s,mb4.7						
KKN	**Kakani**	**72.20**	**292**	*e*P	**P**	**04 52 40.6**	**+0.8**
	comp=Z,23nm,0.9s,mb5.1						
PKI	**Pulchoki**	**72.29**	**292**	*e*P	**P**	**04 52 41.4**	**+1.1**
	comp=Z,23nm,0.8s,mb5.2						
GKN	**Gorkha**	**72.41**	**293**	*e*P	**P**	**04 52 42.2**	**+1.1**
	comp=Z,34nm,1.0s,mb5.2						
DMN	**Daman**	**72.44**	**292**	*e*P	**P**	**04 52 42.0**	**+0.8**
	comp=Z,19nm,0.8s,mb5.1						
KOLN	**Koldanda**	**73.18**	**293**	*e*P	**P**	**04 52 46.9**	**+1.3**
	comp=Z,19nm,1.1s,mb5.0						
DZM	**Mont Dzumac**	**74.36**	**194**	LR	LR	05 23 25.8	
	comp=Z,103nm,18.5s,MS4.2,baz=51,slow=34						
AKASG	**Malin Array Be**	**75.43**	**342**	P	**P**	**04 52 58.2**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=17,slow=5.7,SNR=11						
AKASG	**Malin Array Be**	**75.43**	**342**	P	**P**	**04 52 58.2**	**-0.5**
GIVF	**Givet**	**78.74**	**358**	*e*P	**P**	**04 53 17.3**	**0.0**
BAIF	**Baives**	**78.80**	**358**	*e*P	**P**	**04 53 17.7**	**+0.1**
GERES	**GERESS Array B**	**79.47**	**352**	P	**P**	**04 53 20.2**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=24,slow=4.5,SNR=5.3						
FLN	**La Foliniere**	**80.12**	**1**	*e*P	**P**	**04 53 24.8**	**0.0**
LDF	**La Druitiere**	**80.29**	**1**	*e*P	**P**	**04 53 25.5**	**-0.2**
ROSF	**Rostrenen**	**80.48**	**3**	*e*P	**P**	**04 53 26.7**	**0.0**
GRR	**Gorron**	**80.49**	**1**	*e*P	**P**	**04 53 26.7**	**-0.1**
	comp=Z,8.2nm,0.6s,mb4.5						
GRR	**Gorron**	**80.49**	**1**	*e*P	**P**	**04 53 26.7**	**-0.1**
	comp=Z,4.1nm,0.6s,mb4.5						
SGMF	**Saint Gilles**	**80.59**	**2**	*e*P	**P**	**04 53 27.6**	**+0.3**
QUIF	**Quistinic**	**80.91**	**3**	*e*P	**P**	**04 53 29.1**	**+0.1**
	comp=Z,60nm,1.3s,mb5.1						
QUIF	**Quistinic**	**80.91**	**3**	*e*P	**P**	**04 53 29.1**	**+0.1**
	comp=Z,30nm,1.3s,mb5.1						
KBA	**Koelnbreinsper**	**81.25**	**352**	⇑*i*P	**P**	**04 53 32.1**	**+1.2**
	comp=Z,9.8nm,0.9s,mb4.8						
LOR	**Lormes**	**81.59**	**358**	*e*P	**P**	**04 53 32.8**	**+0.2**
SSF	**Saint Saulge**	**81.81**	**358**	*e*P	**P**	**04 53 33.9**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.4						
SSF	**Saint Saulge**	**81.81**	**358**	*e*P	**P**	**04 53 33.9**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**82.05**	**224**	P	**P**	**04 53 32.2**	**-2.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=30,slow=6.0,SNR=4.1						
AVF	**Avril sur Loir**	**82.08**	**358**	*e*P	**P**	**04 53 35.2**	**0.0**
	comp=Z,20nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**82.08**	**358**	*e*P	**P**	**04 53 35.2**	**0.0**
	comp=Z,9.8nm,1.2s,mb4.6						
CABF	**La Chapelle**	**82.19**	**357**	*e*P	**P**	**04 53 35.9**	**+0.1**
SMF	**Signal de Mont**	**82.22**	**358**	*e*P	**P**	**04 53 35.8**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.3						
SMF	**Signal de Mont**	**82.22**	**358**	*e*P	**P**	**04 53 35.8**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.3						
MFF	**Saint Martin d**	**82.28**	**1**	*e*P	**P**	**04 53 36.4**	**+0.1**
LPL	**La Plagne**	**83.25**	**356**	*e*P	**P**	**04 53 41.5**	**+0.2**
LPG	**La Plagne**	**83.27**	**356**	*e*P	**P**	**04 53 41.8**	**+0.4**
RJF	**Les Rejaudoux**	**83.59**	**360**	*e*P	**P**	**04 53 42.6**	**-0.4**
ORIF	**Oris-en-Rattie**	**83.89**	**357**	*e*P	**P**	**04 53 44.5**	**0.0**
	comp=Z,12nm,1.1s,mb4.6						
ORIF	**Oris-en-Rattie**	**83.89**	**357**	*e*P	**P**	**04 53 44.5**	**0.0**
	comp=Z,5.8nm,1.1s,mb4.6						
LFF	**La Frestale**	**83.95**	**0**	*e*P	**P**	**04 53 44.8**	**-0.1**
CAF	**Calviac**	**83.96**	**359**	*e*P	**P**	**04 53 44.8**	**-0.1**
	comp=Z,7.4nm,0.8s,mb4.6						
CAF	**Calviac**	**83.96**	**359**	*e*P	**P**	**04 53 44.8**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.6						
MBDF	**Montbardon**	**84.04**	**356**	*e*P	**P**	**04 53 45.1**	**-0.2**
	comp=Z,6.4nm,0.7s,mb4.5						
MBDF	**Montbardon**	**84.04**	**356**	*e*P	**P**	**04 53 45.1**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.6						
LASF	**Ste Croix**	**84.79**	**358**	*e*P	**P**	**04 53 48.9**	**-0.2**
BR131	**Keskin Array S**	**84.82**	**335**	*e*P	**P**	**04 53 49.8**	**+0.5**
BRTR	**Keskin Array B**	**84.82**	**335**	P	**P**	**04 53 49.5**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.5,baz=42,slow=2.3,SNR=14						
SBF	**Sospel**	**84.87**	**355**	*e*P	**P**	**04 53 49.2**	**-0.3**
	comp=Z,21nm,0.9s,mb5.0						
SBF	**Sospel**	**84.87**	**355**	*e*P	**P**	**04 53 49.2**	**-0.3**
	comp=Z,10nm,0.9s,mb5.0						
FRF	**La Foret Royal**	**85.21**	**356**	*e*P	**P**	**04 53 51.0**	**-0.2**
	comp=Z,6.0nm,0.7s,mb4.5						
FRF	**La Foret Royal**	**85.21**	**356**	*e*P	**P**	**04 53 51.0**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**85.53**	**222**	P	**P**	**04 53 50.6**	**-2.1**
	comp=Z,0.3nm,0.6s,mb3.7,baz=28,slow=5.9,SNR=4.7						
MTLF	**Montolieu**	**85.55**	**359**	*e*P	**P**	**04 53 52.9**	**0.0**
	comp=Z,7.1nm,0.9s,mb4.6						
MTLF	**Montolieu**	**85.55**	**359**	*e*P	**P**	**04 53 52.9**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.6						
SJPF	**Ste Jean**	**85.76**	**2**	*e*P	**P**	**04 53 53.6**	**-0.3**
	comp=Z,17nm,0.9s,mb5.0						
SJPF	**Ste Jean**	**85.76**	**2**	*e*P	**P**	**04 53 53.6**	**-0.3**
	comp=Z,8.6nm,0.9s,mb5.0						
EPF	**Esparros**	**85.86**	**1**	*e*P	**P**	**04 53 54.0**	**-0.4**
ETSF	**Etsaut**	**85.98**	**1**	*e*P	**P**	**04 53 54.8**	**-0.2**
PGF	**Pioggiola**	**86.09**	**354**	*e*P	**P**	**04 53 55.5**	**-0.1**
	comp=Z,11nm,0.7s,mb4.9						
PGF	**Pioggiola**	**86.09**	**354**	*e*P	**P**	**04 53 55.5**	**-0.1**
	comp=Z,5.6nm,0.7s,mb4.9						
ESDC	**Sonseca Array**	**89.11**	**4**	P	**P**	**04 54 09.0**	**-1.0**
	comp=Z,0.3nm,0.5s,mb3.9,baz=350,slow=4.0,SNR=4.6						
STKA	**Stephens Creek**	**89.99**	**213**	*e*P	**P**	**04 54 13.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**115.64**	**359**	PKP	PKPdf	04 59 55.8	-0.9
	comp=Z,0.3nm,0.7s,baz=344,slow=2.9,SNR=4.1						
LIC	**Lamto**	**122.27**	**7**	*e*PKIKP	PKPdf	05 00 08.5	-0.9
	comp=Z,13nm,1.0s						
LBTB	**Lobatse**	**147.61**	**315**	PKPbc	PKPbc	05 00 59.7	+0.8
	comp=Z,3.3nm,0.7s,baz=78,slow=3.4,SNR=10						
BOSA	**Boshof**	**150.86**	**312**	PKPbc	PKPbc	05 01 07.1	+0.1
	comp=Z,2.1nm,0.5s,baz=2.6,slow=2.2,SNR=7.9						

IDC ***12*** *04:54:44.8±0.8,4456N×7966E,h0km,mb4.1/11, mb1 4.2/16,mb1mx4.0/27,mbtmp4.1/16,ML4.0/5,MS3.1/1, Ms1 3.1/1,ms1mx2.9/25,Error ellipse: s-maj=12.5km s-min=10.5km az=172.0*
BJI ***12*** *04:54:44.2,4439N×7936E,h23km,mb4.2,ML4.2*
NNC ***12*** *04:54:46.9±0.9,4488N×7939E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=15.5km s-min=6.9km az=134.0*
NEIC ***12*** *04:54:46.5±0.6,4456N×7955E,h10km,mb4.4/3,Error ellipse: s-maj=10.9km s-min=8.1km az=159.0*
MOS ***12*** *04:54:49.2±1.2,4474N×7947E,h33km,mb4.6/12,Error ellipse: s-maj=9.5km s-min=6.4km az=79.2*
ISCJB ***12*** *04:54:50.9±0.5,4496N±003×7926E±005,h33km±7km, mb4.1/17,MS3.9/2,Error ellipse: s-maj=6.5km s-min=4.2km az=71.2*
ISC 12 04:54:52.3±0.4,4485N±003×7938E±005,h43km±5km,n76, σ1§23/96,mb4.1/17,MS3.9/2,11C-8D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**2.36**	**229**	*e*PN	**Pn**	**04 55 30.1**	**+1.6**
AAA				*e*S	**Sn**	**04 56 01.4**	**+5.3**
AAA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAA				smax			
	comp=E,2.0nm,0.5s						
KNDC	**Almaty**	**2.38**	**228**	⇓Pn	**Pn**	**04 55 29.0**	**+0.2**
	comp=E,396nm,0.5s						
KNDC				⇑Sn	**Sn**	**04 55 59.3**	**+2.6**
	comp=E,1μm,0.5s						
MK31	**Makanchi Array**	**2.82**	**45**	⇑Pn	**Pn**	**04 55 35.1**	**+0.2**
	comp=E,16nm,0.3s						
MK31				⇓Lg		04 56 14.0	
	comp=E,360nm,0.5s						
MK31	**Makanchi Array**	**2.82**	**45**	⇑*i*Pn	**Pn**	**04 55 34.9**	**+0.1**
MK31				*e*Sn	**Sn**	**04 56 08.9**	**+1.4**
MKAR	**Makanchi Array**	**2.82**	**45**	Pn	**Pn**	**04 55 33.8**	**-1.0**
	comp=E,32nm,0.3s,baz=214,slow=16,SNR=642						
MKAR				Pg	**Pn**	**04 55 40.9**	**+6.0**
	comp=E,33nm,0.3s,baz=213,slow=16,SNR=36						
MKAR				Lg		04 56 16.6	
	comp=E,142nm,0.3s,baz=216,slow=28,SNR=14						
MKAR				LR	LR	04 56 57.0	
	comp=E,360nm,21.7s,baz=149,slow=46						
MKAR	**Makanchi Array**	**2.82**	**45**	*i* PN	**Pn**	**04 55 33.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,43nm,0.3s						
TKM2	**Tokmak 2**	**3.34**	**236**	P	**Pn**	**04 55 41.4**	**-0.7**
	SNR=18						
TKM2	**Tokmak 2**	**3.34**	**236**	⇓Pn	**Pn**	**04 55 41.3**	**-0.7**
	comp=Z,8.9nm,0.6s						
TKM2				⇑Lg		04 56 32.8	
	comp=Z,42nm,0.8s						
ULHL	**Ulahol**	**3.46**	**222**	P	**Pn**	**04 55 47.5**	**+3.9**
	SNR=8.3						
CHMS	**Chumysh**	**3.82**	**243**	P	**Pn**	**04 55 47.2**	**-1.3**
	SNR=8.5						
USP	**Ospenovka**	**3.85**	**248**	P	**Pn**	**04 55 48.2**	**-0.8**
	SNR=7.2						
KBK	**Karagaybulak**	**3.88**	**237**	P	**Pn**	**04 55 48.8**	**-0.7**
	SNR=18						
FRU	**Bishkek**	**3.99**	**241**	*e*PN	**Pn**	**04 55 54.8**	**+3.9**
FRU				*i*		04 56 05.8	
FRU				*e*S	**Sn**	**04 56 52.0**	**+16**
FRU				pmax	pmax		
	comp=Z,126nm,1.6s						
FRU				smax			
	comp=E,460nm,1.2s						
KZA	**Kyzart**	**4.08**	**229**	P	**Pn**	**04 55 53.1**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**4.17**	**240**	P	**Pn**	**04 55 52.0**	**-1.4**
	SNR=19						
AAK	**Ala-Archa**	**4.17**	**240**	*e*Pn	**Pn**	**04 55 52.4**	**-1.0**
AAK				*e*Sn	**Sn**	**04 56 38.1**	**-2.8**
UCH	**Uchtor**	**4.40**	**235**	P	**Pn**	**04 55 56.8**	**+0.3**
	SNR=29						
EKS2	**Erkin-Say**	**4.61**	**244**	P	**Pn**	**04 55 59.1**	**-0.3**
	SNR=10						
AML	**Almayashu**	**4.95**	**239**	P	**Pn**	**04 56 04.5**	**+0.5**
	SNR=19						
KSH	**Kashi**	**5.89**	**207**	*e*PG	**Pn**	**04 56 21.0**	**+3.9**
KSH				Smax			
	comp=N,317nm,0.6s						
KSH				Smax			
	comp=E,463nm,1.0s						
KURK	**Kurchatov**	**5.90**	**355**	⇑Pn	**Pn**	**04 56 17.4**	**+0.3**
	comp=E,8.4nm,0.6s						
KURK				⇑Lg		04 57 52.0	
	comp=E,333nm,1.1s						
KURK	**Kurchatov**	**5.90**	**355**	*e*PN	**Pn**	**04 56 17.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,25nm,0.5s						
KURK	**Kurchatov**	**5.90**	**355**	*e*Pn	**Pn**	**04 56 17.0**	**0.0**
	comp=Z,26nm,0.5s						
KURK				*e*Sn	**Sn**	**04 57 22.4**	**-0.9**
WMQ	**Urumqi**	**6.05**	**97**	*e*P	**Pn**	**04 56 16.4**	**-2.8**
WMQ				S	**Sn**	**04 57 23.0**	**-4.2**
WMQ				SG	Sn	04 57 53.6	+26
WMQ				Smax			
	comp=N,204nm,0.7s						
WMQ				Smax			
	comp=E,234nm,0.6s						
KK31	**Karatay Array**	**6.63**	**258**	⇓Pn	**Pn**	**04 56 26.6**	**-0.6**
	comp=E,2.5nm,0.5s,baz=67,slow=14,SNR=12						
KK31				⇑Lg		04 58 15.0	
	comp=E,34nm,0.5s,baz=74,slow=29,SNR=6.9						
KK31	**Karatay Array**	**6.63**	**258**	*i* PN	**Pn**	**04 56 26.5**	**-0.7**
KK31				pmax	pmax		
	comp=Z,16nm,0.6s						
KKAR	**Karatay Array**	**6.63**	**258**	*e*PN	**Pn**	**04 56 26.5**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
UKR	**Ust'-Kan**	**7.09**	**29**	*e*PN	**Pn**	**04 56 35.1**	**+1.6**
AKAR	**Aktash**	**7.81**	**43**	*e*P	**Pn**	**04 56 44.9**	**+1.6**
AKAR				*e*		04 58 10.7	
ZAL	**Zalesovo**	**9.76**	**19**	Pn	**Pn**	**04 57 09.7**	**-0.4**
	comp=Z,4.3nm,0.3s,baz=264,slow=14,SNR=59						
ZAL				Sn	**Sn**	**04 58 57.1**	**-1.1**
	comp=Z,4.6nm,0.3s,baz=114,slow=20,SNR=5.6						
ZAL				Lg		04 59 59.6	
	comp=Z,3.7nm,0.3s,baz=339,slow=8.9,SNR=4.0						
ZAL	**Zalesovo**	**9.76**	**19**	*i* P	**Pn**	**04 57 09.6**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,23nm,0.7s						
BVA0	**Borovoye Array**	**10.09**	**327**	⇓Pn	**Pn**	**04 57 15.9**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=148,slow=14,SNR=25						
BVA0				⇓Sn	**Sn**	**04 59 05.2**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=127,slow=18,SNR=6.4						
BVA0				⇑Lg		05 00 09.9	
	comp=Z,10.0nm,0.8s,baz=138,slow=27,SNR=5.1						
BVAR	**Borovoye Array**	**10.09**	**327**	Pn	**Pn**	**04 57 15.6**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=142,slow=13,SNR=10.0						
BVAR				Sn	**Sn**	**04 59 06.3**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=132,slow=20,SNR=8.8						
BVAR				Lg		05 00 14.4	
	comp=Z,4.6nm,0.3s,baz=118,slow=26,SNR=5.9						
BVAR	**Borovoye Array**	**10.09**	**327**	P	**Pn**	**04 57 15.6**	**+1.0**
BVAR						04 59 06.3	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,2.0nm,0.3s						
BRVK	**Borovoye**	**10.16**	**327**	*e*P	**Pn**	**04 57 17.5**	**+2.0**
BRVK				*e*		04 59 07.8	
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BRVK	**Borovoye**	**10.16**	**327**	*e*Pn	**Pn**	**04 57 17.5**	**+2.0**
	comp=Z,8.7nm,0.6s						
BRVK				*e*Sn	**Sn**	**04 59 07.8**	**-0.2**
NVS	**Novosibirsk**	**10.31**	**13**	*e*P	**Pn**	**04 57 17.0**	**-0.5**
NVS				*e*		04 59 13.8	
CHKZ	**Chkalovo**	**10.52**	**330**	⇑Pn	**Pn**	**04 57 21.6**	**+1.1**
	comp=Z,7.4nm,0.5s						
CHKZ				⇓Sn	**Sn**	**04 59 16.4**	**-0.6**
	comp=Z,11nm,0.6s						
CHKZ				⇓Lg		05 00 25.6	
	comp=Z,79nm,1.1s						
CHKZ	**Chkalovo**	**10.52**

comp=Z,3.2nm,0.6s,mb4.2,baz=81,slow=8.1,SNR=9.1
NOA NORSAR Array B 42.04 318 P **P 05 02 40.0 +0.4**
NOA pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 43.85 300 P **P 05 02 55.8 +1.6**
comp=Z,0.4nm,0.6s,mb3.3,baz=72,slow=13,SNR=4.0
BILL Bilibino 48.26 30 *eP* **P 05 03 29.6 +0.6**
BILL *e* 05 04 54.1
BILL *e* 05 05 21.1
BILL *eS* **S 05 10 27.0 +1.4**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.8
INK Inuvik 64.51 13 P **P 05 05 25.1 +0.4**
comp=Z,5.2nm,0.8s,mb4.6,baz=359,slow=7.3,SNR=19
INK Inuvik 64.51 13 P **P 05 05 25.1 +0.5**
INK pmax pmax
comp=Z,5.0nm,0.8s
TORD Torodi Ar. Bea 72.14 271 P **P 05 06 11.7 -0.7**
comp=Z,1.4nm,0.7s,mb4.0,baz=42,slow=5.2,SNR=18
YKA Yellowknife Ar 72.43 7 P **P 05 06 13.9 -0.2**
comp=Z,2.6nm,0.7s,mb4.3,baz=346,slow=5.9,SNR=40
YKA Yellowknife Ar 72.43 7 *i P* **P 05 06 13.8 -0.3**
YKA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 81.61 129 P **P 05 07 02.6 -3.1**
comp=Z,0.5nm,0.8s,mb3.5,baz=330,slow=5.5,SNR=2.9
WRA Warramunga Arr 81.61 129 P **P 05 07 02.6 -3.1**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 84.38 131 P **P 05 07 16.4 -3.6**
comp=Z,0.3nm,0.8s,mb3.5,baz=321,slow=4.8,SNR=3.9

IDC 12 05:00:02.8±2.3,2962S×13940E,h0^{km},mb1 2.8/3, mb1mx2.8/13,mbtmp2.6/3,ML2.3/3,Error ellipse: s-maj=140.1km s-min=15.4km az=53.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.94**	**140**	Pn	Pn	05 00 50.0	-0.7
0.1nm,0.3s,baz=303,slow=16,SNR=1.6							
STKA				Pg	Pg	05 00 56.3	-2.8
0.4nm,0.3s,baz=317,slow=8.7,SNR=4.0							
STKA				Sn	Sn	05 01 28.4	+1.8
1.1nm,0.3s,baz=255,slow=12,SNR=5.9							
STKA				Lg		05 01 36.4	
1.6nm,0.3s,baz=5.3,slow=21,SNR=5.4							
ASAR	**Alice Springs**	**7.70**	**319**	Pn	Pn	05 01 57.4	+1.2
0.1nm,0.3s,baz=152,slow=12,SNR=4.4							
WRA	**Warramunga Arr**	**10.67**	**333**	Pn	Pn	05 02 37.2	+0.3
0.0nm,0.3s,baz=155,slow=14,SNR=3.1							
WRA				Sn	Sn	05 04 35.9	-1.2
0.0nm,0.3s,baz=159,slow=16,SNR=3.1							

*NEIC **12** 05:06:52.5,45.13S×16733E,h125^{km},MG4.1(WEL),After WEL.*

WEL 12 05:06:52.9±0.3,4515S×16738E,h125^{km}±2^{km},ML4.1/12, 4C-2D,Error ellipse: s-maj=2.9km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**206**	P	Pn	05 07 10.1	-0.5
DCZ				S	Sn	05 07 23.1	-0.9
DCZ	**Deep Cove**	**0.36**	**206**	PN	Pn	05 07 10.1	-0.5
DCZ				SN	Sn	05 07 23.1	-0.9
MLZ	**Mavora Lakes**	**0.59**	**110**	P	Pn	05 07 11.7	-0.2
MLZ				S	Sn	05 07 25.9	-0.4
MLZ	**Mavora Lakes**	**0.59**	**110**	⇑PN	Pn	05 07 11.7	-0.1
MLZ				SN	Sn	05 07 25.9	-0.3
MSZ	**Milford Sound**	**0.62**	**39**	P	Pn	05 07 12.2	+0.1
MSZ				S	Sn	05 07 26.5	-0.1
MSZ	**Milford Sound**	**0.62**	**39**	PN	Pn	05 07 12.1	0.0
MSZ				SN	Sn	05 07 26.0	-0.5
WHZ	**Wether Hill Ro**	**0.84**	**152**	P	Pn	05 07 13.8	0.0
WHZ				S	Sn	05 07 29.5	-0.2
WHZ	**Wether Hill Ro**	**0.84**	**152**	PN	Pn	05 07 13.8	0.0
WHZ				SN	Sn	05 07 29.5	-0.2
WKZ	**Wanaka**	**1.20**	**75**	P	Pn	05 07 17.4	+0.1
WKZ				S	Sn	05 07 35.6	-0.3
WKZ	**Wanaka**	**1.20**	**75**	⇑PN	Pn	05 07 17.4	+0.1
WKZ				SN	Sn	05 07 35.6	-0.3
EAZ	**Earnscleugh**	**1.36**	**94**	P	Pn	05 07 18.8	-0.2
EAZ	**Earnscleugh**	**1.36**	**94**	⇑PN	Pn	05 07 18.8	-0.2
EAZ				SN	Sn	05 07 37.0	-2.0
JCZ	**Jackson Bay**	**1.46**	**43**	P	Pn	05 07 19.6	-0.5
JCZ				S	Sn	05 07 39.6	-1.2
JCZ	**Jackson Bay**	**1.46**	**43**	PN	Pn	05 07 19.6	-0.5
JCZ				SN	Sn	05 07 39.3	-1.5
APZ	**The Paps**	**1.73**	**166**	PN	Pn	05 07 23.0	-0.3
APZ				SN	Sn	05 07 45.6	-1.0
TUZ	**Tuapeka**	**1.77**	**118**	P	Pn	05 07 23.7	-0.1
TUZ	**Tuapeka**	**1.77**	**118**	⇓PN	Pn	05 07 23.7	-0.1
TUZ				SN	Sn	05 07 44.7	-2.7
SYZ	**Scrubby Hill**	**1.85**	**139**	⇓PN	Pn	05 07 24.5	-0.2
LBZ	**Lake Benmore**	**2.14**	**70**	P	Pn	05 07 26.6	-1.6
LBZ	**Lake Benmore**	**2.14**	**70**	⇑PN	Pn	05 07 26.6	-1.6
FOZ	**Fox Glacier**	**2.29**	**47**	*eP*	Pn	05 07 29.5	-0.7
FOZ	**Fox Glacier**	**2.29**	**47**	PN	Pn	05 07 29.5	-0.7
ODZ	**Otahua Downs**	**2.31**	**88**	*eP*	Pn	05 07 29.2	-1.2
ODZ	**Otahua Downs**	**2.31**	**88**	PN	Pn	05 07 29.2	-1.2
HHSZ	**Highcliff Hill**	**2.38**	**109**	PN	Pn	05 07 30.8	-0.4
RPZ	**Rata Peaks**	**3.00**	**63**	*eP*	Pn	05 07 36.9	-2.3
RPZ	**Rata Peaks**	**3.00**	**63**	PN	Pn	05 07 37.0	-2.3
MQZ	**McQueen's Vall**	**4.04**	**71**	*eP*	Pn	05 07 50.6	-2.4
LTZ	**Lake Taylor**	**4.25**	**58**	PN	Pn	05 07 55.1	-0.6
DSZ	**Denniston Nort**	**4.68**	**45**	P	Pn	05 07 59.1	-2.5
DSZ	**Denniston Nort**	**4.68**	**45**	PN	Pn	05 07 59.1	-2.6
QRZ	**Quartz Range**	**5.74**	**43**	*eP*	Pn	05 08 13.6	-2.2
MRZ	**Mangatainoka R**	**7.50**	**56**	P	Pn	05 08 29.8	-10

*CSEM **12** 05:26:19.7,6789N×2013E,h0^{km},ML3.7,Suspected Mining explosion. After UPP*

UPP 12 05:26:19.7,6789N×2013E,h0^{km},ML3.7,Suspected Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.42**	**267**	P	Pg	05 26 27.8	+0.1
LANU	**Lannavaara**	**0.72**	**76**	P	Pg	05 26 34.1	+0.6
SALU	**Saltoluokta** baz=86	**0.81**	**231**	P	Pg	05 26 34.7	-0.5
MASU	**Masugnsbyn**	**0.84**	**121**	P	Pg	05 26 34.6	-1.1

*IDC **12** 05:34:35.4±0.9,1600N×6029W,h0^{km},mb3.8/9, mb1 4.2/12,mb1mx4.0/23,mbtmp4.0/12,ML3.7/3,MS3.2/2, Ms1 3.2/2,ms1mx2.9/28,Error ellipse: s-maj=18.2km s-min=16.4km az=83.0*
*TRN **12** 05:34:39.0,1575N×6050W,h16^{km},MD3.9,M3.7(FDF)*
*ISCJB **12** 05:34:40.9±0.7,1583N±003×6041W±005,h57^{km}±6^{km}, mb3.8/11,Error ellipse: s-maj=9.1km s-min=3.5km az=143.3*
*NEIC **12** 05:34:41.7,1573N×6046W,h52^{km},mb3.9/2,MD3.7(FDF), MD3.9(TRN),After TRN.*
*RSPR **12** 05:34:44.9,1545N×6083W,h10^{km}±58^{km},MD4.7/5, MD4.7/5*

ISC 12 05:34:41.9±0.7,1581N±003×6038W±005,h47^{km}±7^{km},n48, σ1§17/73,mb3.8/11,12C-2D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.83**	**308**	*eP*	**Pn**	**05 34 55.4**	**-1.8**
DEG				*eS*	**Sn**	**05 35 05.6**	**-2.7**
SFG	**Saint Francois**	**0.90**	**299**	*eP*	**Pn**	**05 34 57.0**	**-1.3**
MGG	**Marie-Galante**	**0.91**	**277**	⇑*eP*	**Pn**	**05 34 57.0**	**-1.4**
DWS	**Wesley**	**0.93**	**255**	*eP*	**Pn**	**05 34 58.0**	**-0.6**
DWS				*eS*	**Sn**	**05 35 10.2**	**-0.6**
DBCT	**Belle View Cho**	**1.07**	**240**	⇑*iP*	**Pn**	**05 35 01.3**	**+0.7**
DBCT				*eS*	**Sn**	**05 35 14.4**	**+0.1**
BBL	**Barber's Block**	**1.09**	**255**	*eP*	**Pn**	**05 34 59.1**	**-1.6**
BBL				*eS*	**Sn**	**05 35 13.2**	**-1.5**
MDN	**Morne-Daniel**	**1.09**	**244**	⇑*iP*	**Pn**	**05 35 01.4**	**+0.7**
MDN				*eS*	**Sn**	**05 35 15.0**	**+0.3**
DSHT	**Scott's Head**	**1.13**	**238**	*eP*	**Pn**	**05 35 01.8**	**+0.6**
DSHT				*eS*	**Sn**	**05 35 15.3**	**-0.3**
TBG	**Guadaloupe-3**	**1.22**	**272**	⇑*eP*	**Pn**	**05 35 01.3**	**-1.2**
SCG	**Saint Claude**	**1.27**	**280**	⇑*eP*	**Pn**	**05 35 02.4**	**-0.8**
FDF	**Fort de France**	**1.30**	**215**	⇑*iP*	**Pn**	**05 35 02.5**	**-1.2**
MVM	**Montagne Vaucl**	**1.34**	**202**	*eP*	**Pn**	**05 35 02.7**	**-1.5**
LZG	**Guadaloupe-1**	**1.38**	**284**	⇓*eP*	**Pn**	**05 35 04.2**	**-0.6**
BIM	**Bigot**	**1.45**	**208**	*eP*	**Pn**	**05 35 04.6**	**-1.0**
SLW	**Petit Monier**	**1.86**	**197**	*eP*	**Pn**	**05 35 10.1**	**-1.2**
SLW				*eS*	**Sn**	**05 35 33.3**	**-0.2**
BPA	**Boggy Peak**	**1.88**	**311**	*eP*	**Pn**	**05 35 12.9**	**+1.3**
BPA				*eS*	**Sn**	**05 35 35.7**	**+1.7**
SLB	**Belfond**	**2.07**	**198**	*eP*	**Pn**	**05 35 13.9**	**-0.2**
SLB				*eS*	**Sn**	**05 35 39.2**	**+0.4**
CPB	**Codrington**	**2.29**	**323**	*eP*	**Pn**	**05 35 19.7**	**+2.5**
CPB				*eS*	**Sn**	**05 35 46.4**	**+2.3**
SSV	**Crater Summit**	**2.59**	**198**	*eP*	**Pn**	**05 35 21.3**	**0.0**
SSV				*eS*	**Sn**	**05 35 54.1**	**+2.6**
BHS	**Barnard House**	**2.60**	**196**	*eP*	**Pn**	**05 35 21.0**	**-0.5**
BHS				*eS*	**Sn**	**05 35 50.3**	**-1.5**
SVV	**Soufriere Volc**	**2.60**	**198**	*eP*	**Pn**	**05 35 22.1**	**+0.6**
SVV				*eS*	**Sn**	**05 35 54.1**	**+2.3**
SVB	**Belmont**	**2.66**	**199**	⇑*eP*	**Pn**	**05 35 22.9**	**+0.6**
SVB				*eS*	**Sn**	**05 35 54.2**	**+1.0**
FCV	**Fort Charlotte**	**2.77**	**198**	*eP*	**Pn**	**05 35 23.2**	**-0.5**
FCV				*eS*	**Sn**	**05 35 55.4**	**-0.4**
GRSS	**Sisters**	**3.69**	**199**	*eP*	**Pn**	**05 35 40.7**	**+4.3**
GRSS				*eS*	**Sn**	**05 36 25.4**	**+6.9**
GRW	**Mount Saint Ca**	**3.83**	**199**	*eP*	**Pn**	**05 35 38.7**	**+0.3**
GRW				*eS*	**Sn**	**05 36 24.1**	**+1.9**
STVI	**Saint Thomas**	**5.05**	**301**	⇓*eP*	**Pn**	**05 35 57.4**	**+2.3**
STVI				*eS*	**Sn**	**05 36 53.3**	**+1.2**
TRN	**Trinidad (W)**	**5.22**	**191**	*eP*	**Pn**	**05 35 57.6**	**+0.2**
MTP	**Monte Pirata**	**5.45**	**295**	*eP*	**Pn**	**05 36 01.1**	**+0.5**
MTP				*eS*	**Sn**	**05 36 59.1**	**-2.8**
HUMP	**Col San Antoni**	**5.73**	**295**	⇑*eP*	**Pn**	**05 36 04.8**	**+0.5**
HUMP				*eS*	**Sn**	**05 37 04.4**	**-4.3**
CPD	**Cerro la Pandu**	**5.74**	**293**	*ePn*	**Pn**	**05 36 04.3**	**-0.2**
CPD				*eSn*	**Sn**	**05 37 10.0**	**+0.8**
SJG	**San Juan**	**5.98**	**293**	⇓*eP*	**Pn**	**05 36 08.9**	**+1.2**
SJG				*eS*	**Sn**	**05 37 04.4**	**-11**
CELP	**Cerrillos**	**6.35**	**292**	⇑*eP*	**Pn**	**05 36 12.8**	**0.0**
AOPR	**Arecibo Observ**	**6.60**	**293**	⇑*eP*	**Pn**	**05 36 17.4**	**+1.1**
AOPR				*eS*	**Sn**	**05 37 30.5**	**+0.3**
LSP	**Las Mesas**	**6.84**	**291**	⇑*eP*	**Pn**	**05 36 21.4**	**+1.8**
LSP				*eS*	**Sn**	**05 37 35.9**	**-0.1**
PCRV	**Puerto La Cruz**	**6.97**	**217**	Pn	**Pn**	**05 36 22.1**	**+0.7**
4.1nm,0.3s,baz=56,slow=0.5,SNR=18							
PCRV				Sn	**Sn**	**05 37 38.0**	**-1.2**
baz=20,slow=18,SNR=1.9							
PCRV				LR	LR	05 39 20.4	
comp=Z,168nm,19.0s,baz=66,slow=40							
SDV	**Santo Domingo**	**12.15**	**237**	Pn	**Pn**	**05 37 31.8**	**-0.4**
1.6nm,0.3s,baz=78,slow=8.6,SNR=15							
SDV				LR	LR	05 42 20.9	
comp=Z,98nm,20.3s,baz=297,slow=38							
ROSC	**El Rosal**	**17.50**	**233**	P	**Pn**	**05 38 45.0**	**+2.5**
1.2nm,0.3s,baz=99,slow=20,SNR=5.6							
OTAV	**Otavalo**	**23.61**	**231**	*eP*	**P**	**05 39 48.1**	**-0.5**
2.8nm,0.8s,mb3.7							
LPAZ	**La Paz**	**32.80**	**194**	P	**P**	**05 41 13.8**	**+3.2**
0.9nm,0.7s,mb3.8,baz=338,slow=13,SNR=3.7							
TXAR	**Lajitas Array**	**41.94**	**296**	P	**P**	**05 42 27.1**	**-0.9**
0.2nm,0.4s,mb3.1,baz=109,slow=7.5,SNR=5.8							
MNTX	**Cornudas Mount**	**43.80**	**299**	*eP*	**P**	**05 42 42.6**	**-0.4**
1.9nm,0.6s,mb4.0							
ULM	**Lac du Bonnet**	**44.71**	**328**	P	**P**	**05 42 49.3**	**-1.0**
1.2nm,0.6s,mb3.9,baz=151,slow=8.8,SNR=5.2							
PDAR	**Pinedale Array**	**49.72**	**313**	P	**P**	**05 43 29.4**	**+0.2**
1.1nm,0.6s,mb4.1,baz=121,slow=9.4,SNR=13							
NVAR	**Mina Array Bea**	**55.31**	**306**	P	**P**	**05 44 10.7**	**0.0**
0.4nm,0.6s,mb3.7,baz=81,slow=7.4,SNR=3.6							
YKA	**Yellowknife Ar**	**59.93**	**334**	P	**P**	**05 44 42.2**	**-0.9**
1.7nm,0.5s,mb4.3,baz=107,slow=7.5,SNR=45							
GERES	**GERESS Array B**	**67.81**	**43**	P	**P**	**05 45 33.6**	**-1.3**
0.3nm,0.6s,mb3.5,baz=288,slow=5.1,SNR=4.1							
INK	**Inuvik**	**69.20**	**338**	P	**P**	**05 45 42.6**	**-1.0**
2.3nm,0.8s,mb4.1,baz=89,slow=3.9,SNR=6.3							
BRTR	**Keskin Array B**	**83.09**	**51**	P	**P**	**05 47 03.4**	**+0.8**
0.5nm,0.7s,mb3.7,baz=328,slow=1.6,SNR=3.7							

NEIC 12 05:45:43.6,904N×8404W,h8^{km},MD4.3(CASC),5C-4D, After CASC.,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.40**	**342**	⇓*eP*	Pg	05 45 52.2	+0.9
BUS	**Buena Vista**	**0.58**	**29**	⇓*eP*	Pg	05 45 55.1	+0.3
LCR2	**La Lucha 2**	**0.69**	**3**	⇓*iP*	Pg	05 45 57.2	+0.2
SJS	**Escuela Geolog**	**0.89**	**359**	⇓*eP*	Pg	05 46 00.4	-0.3
SJS				*eS*	Sg	05 46 13.7	+1.5
ACR	**Cerro Adams**	**0.95**	**114**	*eP*	Pg	05 46 01.4	-0.4
ACR				*eS*	Sg	05 46 14.2	+0.2
PRS1	**Puriscal**	**0.97**	**344**	⇓*eP*	Pg	05 46 00.2	-2.0
CGA2	**Cerro Gallo 2**	**1.05**	**337**	⇓*eP*	Pg	05 46 02.8	-1.0
JCR	**Jicaral**	**1.32**	**307**	⇓*eP*	Pn	05 46 05.4	-3.0
JTS	**JuntasAbangare**	**1.53**	**324**	⇑*iP*	Pn	05 46 08.1	-3.2
JTS				*eS*	Sn	05 46 29.9	-1.5
TRTC	**Tortuguero**	**1.56**	**12**	⇑*eP*	Pn	05 46 11.5	-0.1
TRTC				*eS*	Sn	05 46 32.9	+0.9
VCR	**Vista de Mar**	**1.90**	**305**	*eP*	Pn	05 46 18.0	+1.7
BCIP	**Isla Barro Col**	**4.15**	**88**	*ePn*	Pn	05 46 47.8	+0.5
TGUH	**Tegucigalpa,Un** 29nm,0.8s	**5.90**	**328**	Pn	Pn	05 47 11.9	+0.6
OTAV	**Otavalo** 0.7nm,0.6s	**10.37**	**147**	Pn	Pn	05 48 12.8	+0.2
SDV	**Santo Domingo** 2.3nm,0.6s	**13.25**	**90**	*ePn*	Pn	05 48 53.4	+1.4
SDV				*eSn*	Sn	05 51 20.2	+0.7

JMA 12 05:50:22.8±0.2,2456N×14084E,h120^{km},M4.3,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.39**	**30**	P	Pn	05 51 01.6	+0.5
JHHJ				S	Sn	05 51 30.8	+0.2
CBIJ	**Chichi jima**	**2.80**	**25**	P	Pn	05 51 07.0	+0.5
CBIJ				S	Sn	05 51 41.8	+1.7
BSO1	**Boso 1**	**10.06**	**1**	P	Pn	05 52 44.1	+0.1
BSO3	**Boso 3**	**10.21**	**358**	P	Pn	05 52 46.0	-0.1
BSO4	**Boso 4**	**10.40**	**358**	P	Pn	05 52 49.5	+0.8
JOD2	**Odawara 2**	**10.77**	**352**	P	Pn	05 52 55.5	+1.9
JHU	**Hanno**	**11.33**	**354**	P	Pn	05 53 00.9	-0.1
JRY	**Ryogami san**	**11.54**	**352**	P	Pn	05 53 04.7	+0.9
JAG	**Ashikaga**	**11.89**	**355**	P	Pn	05 53 06.7	-1.6
JHO	**Hitachi**	**12.01**	**359**	P	Pn	05 53 08.8	-1.2
JHO				S	Sn	05 55 17.2	-5.1

*IDC **12** 05:50:42.3±1.0,3863N×2309E,h0^{km},mb3.9/8, mb1 3.9/13,mb1mx3.8/24,mbtmp3.8/13,ML3.7/6,Error ellipse: s-maj=18.9km s-min=14.3km az=114.0*
*NEIC **12** 05:50:43.7,3862N×2331E,h20^{km},mb4.1/2,ML4.1(ATH), ML4.3(THE),After ATH.*
*ATH **12** 05:50:43.7,3862N×2331E,h20^{km}±1^{km},MD4.0/24,ML4.1*
*ISCJB **12** 05:50:43.8±0.4,3865N±001×2328E±002,h12^{km}±3^{km}, mb3.8/10,Error ellipse: s-maj=2.7km s-min=1.9km az=84.3*
*PDG **12** 05:50:44.5±0.4,3864N×2327E,h17^{km}±1^{km}*
*CSEM **12** 05:50:44.6±0.1,3865N×2337E,h10^{km},mb4.1/4,Error ellipse: s-maj=1.3km s-min=1.1km az=43.0*
*THE **12** 05:50:45.6,3865N×2333E,h11^{km},ML4.0*
*MOS **12** 05:50:45.0±0.8,3867N×2331E,h21^{km},mb4.2/6,Error ellipse: s-maj=8.1km s-min=4.0km az=97.6*
*NAO **12** 05:51:06.5,4023N×2142E,h33^{km},mb3.7*

ISC 12 05:50:44.8±0.3,3863N±001×2327E±002,h9^{km}±2^{km},n207, σ1§03/246,mb3.8/10,25C-6D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.21**	**275**	*ePB*	**Pg**	**05 50 49.1**	**0.0**
LKR				*eSB*	**Sg**	**05 50 52.8**	**+0.8**
NEO	**Neokhori**	**0.67**	**357**	*ePN*	**Pg**	**05 50 58.6**	**+0.8**
AOS	**Alonnisos**	**0.72**	**41**	*ePg*	**Pg**	**05 50 59.0**	**+0.3**
AOS	**Alonnisos**	**0.72**	**41**	P	**Pg**	**05 50 58.9**	**+0.2**
XOR	**Xorichti**	**0.73**	**355**	*ePg*	**Pg**	**05 50 59.7**	**+0.8**
XOR	**Xorichti**	**0.73**	**355**	P	**Pg**	**05 50 59.6**	**+0.7**
ATH	**Athens Observa**	**0.75**	**152**	*ePN*	**Pg**	**05 50 58.5**	**-0.7**
ATH				*eSN*	**Sg**	**05 51 08.3**	**-0.6**
PTL	**Penteli**	**0.75**	**141**	*ePN*	**Pg**	**05 50 58.0**	**-1.2**
AGG	**Agios Georgios**	**0.83**	**298**	*ePg*	**Pg**	**05 51 00.6**	**-0.1**
AGG	**Agios Georgios**	**0.83**	**298**	P	**Pg**	**05 51 00.3**	**-0.4**
AGG				S	**Sg**	**05 51 13.0**	**+1.5**
NAIG	**Nisos Aigina**	**0.89**	**169**	*ePN*	**Pg**	**05 51 00.1**	**-1.8**
KVR	**Kavouri**	**0.90**	**154**	*ePN*	**Pg**	**05 51 00.5**	**-1.5**
EVR	**Evrytania**	**1.18**	**284**	*ePN*	**Pn**	**05 51 06.7**	**-0.7**
PAIG	**Paliouri**	**1.33**	**14**	*ePg*	**Pn**	**05 51 08.7**	**-0.8**
PAIG				*eSg*	**Sg**	**05 51 26.8**	**-0.8**
PAIG	**Paliouri**	**1.33**	**14**	P	**Pn**	**05 51 08.9**	**-0.7**
PAIG				S	**Sb**	**05 51 24.0**	**-3.1**
THL	**Klokotos Trika**	**1.35**	**314**	*ePN*	**Pn**	**05 51 09.4**	**-0.3**
RLS	**Riolos of Patr**	**1.53**	**249**	*ePN*	**Pn**	**05 51 13.0**	**+0.8**
LIT	**Litokhoron**	**1.58**	**338**	*ePg*	**Pn**	**05 51 12.5**	**-0.5**
LIT				*eSg*	**Sg**	**05 51 34.1**	**-1.6**
LIT	**Litokhoron**	**1.58**	**338**	P	**Pn**	**05 51 12.6**	**-0.4**
PLG	**Polygyros**	**1.75**	**4**	*ePb*	**Pn**	**05 51 14.7**	**-0.5**
OUR	**Ouranopolis**	**1.79**	**18**	*ePb*	**Pn**	**05 51 15.1**	**-0.7**
OUR	**Ouranopolis**	**1.79**	**18**	P	**Pn**	**05 51 15.3**	**-0.5**
ITM	**Ithomi**	**1.80**	**217**	*ePN*	**Pn**	**05 51 15.9**	**0.0**
ITM				*eSN*	**Sn**	**05 51 39.6**	**+0.8**
VLI	**Veliai**	**1.93**	**188**	*ePB*	**Pn**	**05 51 16.3**	**-1.4**
LIA	**Limnos Island**	**1.95**	**49**	*ePN*	**Pn**	**05 51 17.3**	**-0.8**
HORT	**Hortiatis**	**1.97**	**356**	*ePb*	**Pn**	**05 51 17.9**	**-0.4**
HORT	**Hortiatis**	**1.97**	**356**	P	**Pn**	**05 51 17.1**	**-1.2**
THE	**Thessaloniki**	**2.01**	**353**	*ePn*	**Pn**	**05 51 18.2**	**-0.7**
THE	**Thessaloniki**	**2.01**	**353**	P	**Pn**	**05 51 18.2**	**-0.6**
KZN	**Kozani**	**2.03**	**326**	*ePN*	**Pn**	**05 51 20.1**	**+0.9**
JAN	**Janina**	**2.14**	**299**	P	**Pg**	**05 51 26.4**	**+0.6**
VLS	**Valsamata**	**2.15**	**259**	*ePN*	**Pn**	**05 51 21.9**	**+1.1**
SOH	**Sokhos**	**2.19**	**2**	*ePn*	**Pn**	**05 51 21.3**	**0.0**
SOH	**Sokhos**	**2.19**	**2**	P	**Pn**	**05 51 21.8**	**+0.5**
SOH				S	**Sn**	**05 51 46.4**	**-2.1**
KYTH	**Kithira**	**2.35**	**185**	*ePN*	**Pn**	**05 51 22.5**	**-1.1**
APE	**Apeiranthos**	**2.38**	**130**	*ePn*	**Pn**	**05 51 22.9**	**-1.0**
APE	**Apeiranthos**	**2.38**	**130**	*i P*	**Pn**	**05 51 22.8**	**-1.1**
APE				*i S*	**Sn**	**05 51 49.3**	**-3.8**
APE	**Apeiranthos**	**2.38**	**130**	⇑*iP*	**Pn**	**05 51 22.8**	**-1.1**
APE	**Apeiranthos**	**2.38**	**130**	*ePn*	**Pn**	**05 51 23.1**	**-0.8**
GRG	**Griva**	**2.42**	**344**	*ePn*	**Pn**	**05 51 24.1**	**-0.3**
GRG	**Griva**	**2.42**	**344**	P	**Pn**	**05 51 24.2**	**-0.3**
PRK	**Paraskevi**	**2.42**	**74**	*ePN*	**Pn**	**05 51 24.1**	**-0.4**
IGT	**Igoumenitsa**	**2.45**	**292**	*ePn*	**Pn**	**05 51 27.1**	**+2.2**
IGT	**Igoumenitsa**	**2.45**	**292**	P	**Pn**	**05 51 26.7**	**+1.8**
BOZC	**Bozcaada**	**2.48**	**60**	*i P*	**Pn**	**05 51 24.3**	**-1.0**
BOZC				*i S*	**Sg**	**05 52 04.1**	**-0.3**
SRS	**Serrai**	**2.50**	**6**	*ePn*	**Pn**	**05 51 25.3**	**-0.2**
SRS	**Serrai**	**2.50**	**6**	P	**Pn**	**05 51 26.0**	**+0.5**
KNT	**Kendrikon**	**2.54**	**354**	*ePn*	**Pn**	**05 51 26.7**	**+0.5**
KNT	**Kendrikon**	**2.54**	**354**	P	**Pn**	**05 51 26.7**	**+0.5**
LSK	**Leskovik**	**2.56**	**307**	*i Pn*	**Pb**	**05 51 32.0**	**+1.1**
LSK				*i Sn*	**Sb**	**05 52 05.9**	**-1.2**
URLA	**Izmir**	**2.63**	**95**	*i P*	**Pn**	**05 51 27.0**	**-0.3**
URLA				*i S*	**Sg**	**05 52 08.3**	**-0.8**
EZN	**Ezine**	**2.66**	**62**	*eP*	**Pn**	**05 51 26.3**	**-1.4**
VAY	**Valandovo**	**2.74**	**349**	*i Pn*	**Pn**	**05 51 29.0**	**+0.1**
VAY	**Valandovo**	**2.74**	**349**	*i Pn*	**Pn**	**05 51 29.0**	**+0.1**
VAY	**Valandovo**	**2.74**	**349**	*i Pn*	**Pn**	**05 51 28.9**	**0.0**
THR4	**Thira Island,**	**2.75**	**141**	P	**Pn**	**05 51 28.7**	**-0.4**
THR4	**Thira Island,**	**2.75**	**141**	P	**Pn**	**05 51 28.7**	**-0.3**
AYVA	**Ayvalik**	**2.75**	**75**	*i P*	**Pn**	**05 51 28.7**	**-0.4**
AYVA				*i S*	**Sg**	**05 52 13.3**	**+0.1**
NVR	**Nevrokopi**	**2.75**	**9**	P	**Pb**	**05 51 32.8**	**-1.3**
KBN	**Korca**	**2.76**	**317**	*i Pn*	**Pb**	**05 51 32.5**	**-1.8**
KBN				*i Sn*	**Sb**	**05 52 06.3**	**-1.9**
THR5	**Thira Island,**	**2.76**	**143**	*ePn*	**Pn**	**05 51 28.4**	**-0.8**
THR5	**Thira Island,**	**2.76**	**143**	P	**Pn**	**05 51 28.0**	**-1.2**
THR3	**Thira Island,**	**2.79**	**142**	*ePn*	**Pn**	**05 51 29

OSMT Osmaniye 5.34 66 *eP* **Pn 05 52 05.8 +1.1**
GRI Girifalco 5.36 274 P **Pn 05 52 05.0 +0.1**
GRI pmax pmax
comp=Z,11nm,0.2s
GRI Girifalco 5.36 274 Pn **Pn 05 52 05.0 +0.1**
comp=Z,11nm,0.2s
ALT Altintas 5.36 83 *eP* **Pn 05 52 06.1 +1.2**
PLE Pljevlja 5.53 329 ⇑*i*Pn **Pn 05 52 07.8 +0.5**
PLE *e*Sn **Sn 05 53 10.2 -0.8**
BRY Bratogost 5.57 321 ⇑*i*Pn **Pn 05 52 08.2 +0.4**
BRY *e*Sn **Sn 05 53 11.5 -0.4**
GRUS Gruza 5.59 341 ⇑*i*Pn **Pn 05 52 09.4 +1.3**
ELL Elmali 5.59 108 *eP* **Pn 05 52 09.1 +0.9**
UPM Unac-Piva 5.63 326 ⇑*i*Pn **Pn 05 52 09.2 +0.6**
UPM *e*Sn **Sn 05 53 12.9 -0.5**
UPM Unac-Piva 5.63 326 ⇑*i*Pn **Pn 05 52 09.2 +0.5**
UPM *e*Sn **Sn 05 53 12.9 -0.6**
GPA Golpazari 5.70 71 *eP* **Pn 05 52 10.4 +0.9**
SHUT Suhut-Afyon 5.71 89 *eP* **Pn 05 52 11.0 +1.3**
BCK Bucak 5.90 99 *eP* **Pn 05 52 12.9 +0.6**
ESKT Eskisehir 5.97 79 *eP* **Pn 05 52 14.4 +1.2**
BBLS Bajina Basta - 5.98 332 ⇑*i*Pn **Pn 05 52 16.2 +2.7**
DIVS Divcibare 5.99 337 ⇑*i*Pn **Pn 05 52 14.2 +0.6**
FGMS Monte Sant'Ang 6.39 301 Pn **Pn 05 52 19.2 +0.2**
SGO Sicignano 6.44 290 P **Pn 05 52 21.5 +1.7**
SGO pmax pmax
comp=Z,18nm,0.4s
SGO Sicignano 6.44 290 Pn **Pn 05 52 21.5 +1.7**
comp=Z,18nm,0.4s
RGNG Rignano Grg 6.62 300 Pn **Pn 05 52 22.7 +0.5**
KIZT Kizilcal 6.74 85 *eP* **Pn 05 52 24.3 +0.5**
GZR Gura Zlata 6.77 357 ⇓*i*P **Pn 05 52 24.6 +0.4**
GZR Gura Zlata 6.77 357 P **Pn 05 52 24.7 +0.5**
VOIR 6.93 10 ⇑*i*P **Pn 05 52 27.3 +0.9**
MLR Muntele Rosu 7.14 15 Pn **Pn 05 52 30.0 +0.7**
comp=Z,1.9nm,0.3s,baz=199,slow=7.3,SNR=12
MLR Sn **Sn 05 53 50.7 +0.2**
baz=224,slow=15,SNR=1.7
MLR Muntele Rosu 7.14 15 P **Pn 05 52 30.0 +0.7**
MLR 05 53 50.7
MLR pmax pmax
comp=Z,2.0nm,0.3s
MLR Muntele Rosu 7.14 15 ⇑P **Pn 05 52 30.2 +0.9**
MLR Muntele Rosu 7.14 15 ⇑P **Pn 05 52 30.2 +0.9**
MLR Muntele Rosu 7.14 15 ⇑*i*P **Pn 05 52 30.2 +0.9**
KONT Konya--Tatoy 7.19 93 *eP* **Pn 05 52 30.7 +0.7**
CFR Carcaliu 7.48 27 ⇑*i*P **Pn 05 52 38.2 +4.2**
HDMB Hadim 7.49 100 *eP* **Pn 05 52 34.5 +0.4**
PLOR Plostina 7.64 18 ⇑*i*P **Pn 05 52 37.5 +1.3**
VRI Vrincioaia 7.67 18 ⇑*i*P **Pn 05 52 38.2 +1.6**
BR131 Keskin Array S 8.13 79 *ePn* **Pn 05 52 44.0 +1.1**
comp=Z,1.3nm,0.4s
BR131 Keskin Array S 8.13 79 *ePn* **Pn 05 52 44.0 +1.0**
comp=Z,1.3nm,0.4s
BRTR Keskin Array B 8.13 79 Pn **Pn 05 52 44.6 +1.7**
comp=Z,0.5nm,0.3s,baz=255,slow=13,SNR=11
BRTR Keskin Array B 8.13 79 P **Pn 05 52 44.7 +1.7**
BRTR pmax pmax
comp=Z,1.0nm,0.3s
PKSM Moragy 8.31 337 ⇑*i*P **Pn 05 52 46.4 +1.0**
CORM Corum 8.93 76 *eP* **Pn 05 52 54.0 +0.1**
BOJS Bojanci 9.09 322 *ePn* **Pn 05 52 57.9 +1.8**
BOJS *e*Sn **Sn 05 54 34.9 -3.6**
BURAR Bucovina Array 9.09 8 ⇓*i*P **Pn 05 52 57.2 +1.1**
DOBS Dobrina 9.47 325 *ePn* **Pn 05 53 04.2 +3.0**
PERS Pernice 10.00 326 *i*Pn **Pn 05 53 09.3 +0.7**
KECS Kecovo 10.05 349 *ePN* **Pn 05 53 10.4 +1.1**
STHS Stebnicka Huta 10.88 353 *ePN* **Pn 05 53 16.7 -3.9**
KEST Kesra 11.48 260 Pn **Pn 05 53 25.1 -3.7**
comp=Z,0.1nm,0.3s,baz=23,slow=3.4,SNR=4.2
GERES GERESS Array B 12.32 329 Pn **Pn 05 53 38.2 -2.1**
comp=Z,0.1nm,0.3s,baz=156,slow=17,SNR=2.1
GERES GERESS Array B 12.32 329 Pn **Pn 05 53 38.2 -2.1**
AKASG Malin Array Be 12.78 17 Pn **Pn 05 53 45.2 -1.5**
comp=Z,0.3nm,0.3s,baz=209,slow=11,SNR=3.4
EIL Elat 13.16 129 *ePn* **Pn 05 53 48.7 -3.2**
comp=Z,122nm,0.8s
SUW Suwalki 15.38 360 *eP* **Pn 05 54 27.1 +5.1**
SUW pmax pmax
comp=Z,44nm,0.8s
SUW Suwalki 15.38 360 *eP* **Pn 05 54 27.1 +5.1**
comp=Z,44nm,0.8s
ZEI Tsey 16.18 69 *eP* **Pn 05 54 35.1 +2.8**
ESDC Sonseca Array 21.12 281 P **P 05 55 27.8 -1.9**
comp=Z,1.9nm,0.8s,mb3.5,baz=82,slow=11,SNR=5.1
ESLA Sonseca Array 21.12 281 *eP* **P 05 55 29.3 -0.4**
comp=Z,1.6nm,1.0s,mb3.3
HFS Hagfors 22.36 347 P **P 05 55 41.1 -1.9**
comp=Z,4.9nm,0.7s,mb4.1,baz=148,slow=14,SNR=9.7
HFS Hagfors 22.36 347 P **P 05 55 41.1 -1.9**
HFS pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 22.90 3 P **P 05 55 47.8 -1.0**
comp=Z,4.1nm,0.9s,mb3.8,baz=189,slow=16,SNR=2.8
FINES FINESS Array B 22.90 3 P **P 05 55 47.8 -1.0**
FINES pmax pmax
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra 23.66 345 P **P 05 55 54.9 -1.7**
comp=Z,2.2nm,0.6s,mb3.8,baz=158,slow=11
NOA NORSAR Array B 23.66 345 P **P 05 55 54.8 -1.8**
comp=Z,5.1nm,0.9s,mb3.9,baz=151,slow=9.2,SNR=5.0
NOA NORSAR Array B 23.66 345 P **P 05 55 54.8 -1.8**
NOA pmax pmax
comp=Z,5.0nm,0.9s
TOA0 Torodi Ar. Sit 31.79 223 *eP* **P 05 57 07.6 -1.8**
TORD Torodi Ar. Bea 31.79 223 P **P 05 57 07.9 -1.6**
comp=Z,1.1nm,0.5s,mb3.9,baz=33,slow=9.8,SNR=13
MKAR Makanchi Array 43.22 59 P **P 05 58 45.7 -0.5**
comp=Z,2.4nm,0.6s,mb4.1,baz=273,slow=7.4,SNR=21
MKAR Makanchi Array 43.22 59 P **P 05 58 45.7 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 58.49 52 P **P 06 00 40.0 -1.3**
comp=Z,0.3nm,0.5s,mb3.6,baz=307,slow=5.4,SNR=4.2
BOSA Boshof 66.92 178 P **P 06 01 40.0 +2.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=348,slow=4.3,SNR=3.9
BOSA Boshof 66.92 178 P **P 06 01 40.0 +2.5**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
YKA Yellowknife Ar 73.68 341 P **P 06 02 17.3 -1.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=31,slow=5.2,SNR=29
YKA Yellowknife Ar 73.68 341 P **P 06 02 17.3 -1.5**
YKA pmax pmax
comp=Z,1.0nm,0.6s

IDC 12 05:56:36.9±2.7, 2328N×14305E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=147.6km s-min=24.8km az=86.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.88**	**349**	Pn	Pn	05 57 38.6	+1.0
3.8nm,0.3s,baz=114,slow=19,SNR=5.9							
CBIJ				Sn	Sn	05 58 23.2	-0.7
15nm,0.3s,baz=314,slow=22,SNR=5.8							
WRA	**Warramunga Arr**	**43.79**	**192**	P	P	06 04 44.1	-0.2
1.1nm,0.5s,baz=12,slow=8.1,SNR=8.7							
FITZ	**Fitzroy Crossi**	**44.51**	**204**	P	P	06 04 50.4	+0.4
1.5nm,0.8s,baz=51,slow=6.5,SNR=3.7							
ASAR	**Alice Springs**	**47.51**	**191**	P	P	06 05 13.7	0.0
0.3nm,0.6s,baz=19,slow=9.9,SNR=5.3							
STKA	**Stephens Creek**	**54.87**	**182**	P	P	06 06 09.1	+0.1
0.8nm,0.5s,baz=0.0,slow=8.1,SNR=3.0							

*ISCJB **12** 06:07:08.8±2.0, 235S±02×1799E±0.1, h568km±24km, mb4.0/10, Error ellipse: s-maj=26.6km s-min=15.9km az=12.4*
*IDC **12** 06:07:10.1±2.1, 2341S×17994E, h569km±23km, mb3.5/9, mb1 3.7/10, mb1mx3.5/17, mbtmp3.5/10, Error ellipse: s-maj=20.7km s-min=12.9km az=1.0*
ISC 12 06:07:08.6±1.9, 236S±02×1800W±01, h555km±22km, n22, σ0°70/19, mb4.0/10, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.61**	**274**	P	P	06 09 52.9	-0.5
0.6nm,0.3s,baz=53,slow=20,SNR=5.7							
CTA	**Charters Tower**	**31.50**	**270**	⇓*i*P	P	06 12 46.2	+0.7
15nm,0.4s,mb4.9							
CTA	**Charters Tower**	**31.50**	**270**	P	P	06 12 46.4	+0.9
18nm,0.4s,mb4.9,baz=94,slow=11,SNR=41							
PMG	**Port Moresby**	**34.41**	**289**	P	P	06 13 09.9	-0.1
15nm,0.7s,mb4.6,baz=104,slow=4.0,SNR=8.3							
ASAR	**Alice Springs**	**42.11**	**260**	P	P	06 14 12.8	+0.4
1.9nm,0.3s,mb4.0,baz=100,slow=7.3,SNR=32							
ASAR				S	S	06 19 53.3	+1.1
0.5nm,0.6s,baz=100,slow=14,SNR=7.6							
WB2	**Warramunga Arr**	**42.44**	**266**	⇓*i*P	P	06 14 14.8	-0.3
WRA	**Warramunga Arr**	**42.45**	**266**	P	P	06 14 14.9	-0.3
2.5nm,0.3s,mb4.2,baz=90,slow=5.9,SNR=82							
WRA				S	S	06 19 55.8	-1.3
1.1nm,0.8s,baz=99,slow=14,SNR=6.3							
KAKA	**Kakadu**	**46.30**	**275**	*eP*	P	06 14 44.3	-0.5
2.6nm,0.6s,mb3.9							
FITZ	**Fitzroy Crossi**	**50.88**	**265**	*eP*	P	06 15 19.9	+1.2
4.2nm,0.9s,mb3.8							
FITZ	**Fitzroy Crossi**	**50.88**	**265**	P	P	06 15 19.4	+0.7
1.8nm,0.6s,mb3.6,baz=278,slow=20,SNR=8.1							
VNDA	**Vanda**	**54.71**	**185**	P	P	06 15 46.9	+0.9
1.0nm,0.6s,mb3.2,baz=352,slow=5.7,SNR=8.7							
MAW	**Mawson**	**78.07**	**200**	P	P	06 18 10.9	+0.5
3.0nm,0.6s,mb3.8,baz=138,slow=6.2,SNR=9.5							
SNAA	**Sanae**	**85.00**	**179**	*e*	P	06 18 44.8	-1.0
SNAA				*e*		06 18 46.6	
VNA3	**Neumayer Olymp**	**85.20**	**177**	⇓*i*	P	06 18 46.1	-0.7
VNA3				*e*		06 18 48.1	
VNA3				*e*		06 19 01.9	
VNA3				*e*		06 19 09.4	
VNA2	**Neumayer--Watz**	**85.62**	**178**	⇓*i*	P	06 18 48.3	-0.5
baz=186,slow=3.9							
VNA2				*e*		06 18 50.4	
VNA2				*e*		06 19 04.0	
VNA2				*e*		06 19 10.9	
TXAR	**Lajitas Array**	**90.24**	**58**	P	P	06 19 11.4	+1.0
1.2nm,0.7s,mb3.9,baz=220,slow=6.5,SNR=12							
PDAR	**Pinedale Array**	**92.44**	**44**	P	P	06 19 20.0	-0.5
0.8nm,0.7s,mb3.9,baz=216,slow=4.1,SNR=6.9							
ARCES	**ARCESS Array B**	**131.57**	**348**	PKP	PKPdf	06 25 17.1	-1.5
1.6nm,0.7s,baz=17,slow=1.6,SNR=6.6							
NOA	**NORSAR Array B**	**141.76**	**351**	PKhKP		06 25 30.6	
1.7nm,0.8s,baz=21,slow=3.9,SNR=3.8							
AKASG	**Malin Array Be**	**144.71**	**328**	PKP	PKPdf	06 25 41.8	-0.6
0.7nm,0.4s,baz=44,slow=4.0,SNR=8.3							
BRTR	**Keskin Array B**	**147.39**	**308**	PKPbc	PKPbc	06 25 49.8	-0.5
0.6nm,0.6s,baz=62,slow=3.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**169.51**	**189**	PKP	PKPdf	06 26 12.3	-0.3
0.7nm,0.9s,baz=356,slow=1.2,SNR=3.2							
TORD				PKPab	PKPab	06 27 30.6	+0.6
1.5nm,0.9s,baz=168,slow=4.3,SNR=6.7							

*NEIC **12** 06:29:53.6, 3172S×7173W, h25km, ML2.8(GUC), After GUC.*
GUC 12 06:29:53.6±0.6, 3172S×7173W, h25km±3km, MD3.5, ML2.8, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.85**	**163**	⇑*i*P	Pb	06 30 09.4	-0.3
PACH				*i* S	Sb	06 30 20.9	+0.1
PTCH	**Petorca**	**0.87**	**129**	⇓*i*P	Pb	06 30 09.2	-0.8
PTCH				*i* S	Sb	06 30 21.1	-0.2
PTCH				AML	AML	06 30 23.7	
comp=N,659nm,0.6s							
PTCH	**Petorca**	**0.87**	**129**	⇓*i*P	Pb	06 30 09.2	-0.8
PTCH				*i* S	Sb	06 30 21.1	-0.2
JACH	**Jahuel**	**1.36**	**135**	*eP*	Pn	06 30 18.0	+1.0
JACH				*e*S	Sn	06 30 36.3	+2.1
ROCH	**El Roble**	**1.39**	**154**	*eP*	Pn	06 30 17.9	+0.5
ROCH				*i* S	Sn	06 30 36.4	+1.4
PEL	**Peldehue**	**1.67**	**148**	*eP*	Pn	06 30 22.0	+0.7
PEL				*i* S	Sn	06 30 44.0	+2.1
PEL				AML	AML	06 30 49.5	
comp=N,186nm,0.3s							
CLCH	**Cerro Calan**	**1.95**	**149**	*eP*	Pn	06 30 26.4	+1.3
CLCH				*i* S	Sn	06 30 51.8	+2.9
CLCH				AML	AML	06 30 54.7	
comp=N,104nm,0.5s							
TACH	**Talagante**	**2.04**	**161**	*eP*	Pn	06 30 27.6	+1.2
ANTU	**Antumapu**	**2.06**	**154**	*i* P	Pn	06 30 27.9	+1.2
ANTU				*i* S	Sn	06 30 54.5	+2.9
ANTU				AML	AML	06 31 03.9	
comp=N,75nm,1.0s							
ANTU	**Antumapu**	**2.06**	**154**	*i* P	Pn	06 30 27.9	+1.2
ANTU				*i* S	Sn	06 30 54.5	+2.9

*BJI **12** 06:35:32.9, 509S×15182E, h164km, mB5.2, mb4.8*
*MOS **12** 06:35:33.3±0.9, 493S×151.16E, h139km, mb4.6/16, Error ellipse: s-maj=11.8km s-min=7.5km az=92.5*
*NEIC **12** 06:35:34.2±0.3, 504S×151.15E, mb4.7/21, Error ellipse: s-maj=8.8km s-min=6.1km az=102.0*
*ISCJB **12** 06:35:34.3±0.3, 505S±003×151.19E±005, h148km, mb4.7/55, Error ellipse: s-maj=7.0km s-min=4.8km az=28.7*
*GCMT **12** 06:35:34.2±0.3, 5.14S×151.24E, h151km±4km, MW5.0/66, Moment Tensor Solution. s13,c14; s66,c92; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=0.87±.19; $M_{\theta\theta}$=0.29±.21; $M_{\phi\phi}$=0.58±.23; $M_{r\theta}$=2.95±.14; $M_{r\phi}$=3.05±.20; $M_{\theta\phi}$=-0.86±.15; Best double couple: M=4.31300×10^16 NP1:φs178.00000°, δ43.00000°, λ-71.00000°. NP2: φs81.00000°, δ84.00000°, λ-48.00000°. Principal axes: T 4.8080, Plg26.0000°, Azm139.0000°; N -0.9900, Plg42.0000°, Azm256.0000°; P -3.8180, Plg37.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **12** 06:35:35.5±0.5, 5.12S×151.11E, h144km±4km, mb4.5/19, mb1 4.6/23, mb1mx4.6/23, mbtmp4.5/23, MS3.5/5, Ms1 3.5/5, ms1mx3.1/22 Error ellipse: s-maj=11.1km s-min=7.2km az=101.0*
ISC 12 06:35:35.9±0.3, 510S±003×15124E±005, h150km, h150km±4.0km: pP-P, n142, σ1°10/139, mb4.7/55, 9C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.89**	**223**	P	Pn	06 37 00.9	-0.2
128nm,0.3s,baz=43,slow=6.6,SNR=140							
PMG				S	Sn	06 38 08.8	+1.1
134nm,0.3s,baz=180,slow=20,SNR=14							
PMG				LR	LR	06 39 19.5	
comp=Z,353nm,21.0s,baz=198,slow=39							
PMG	**Port Moresby**	**5.89**	**223**	*d*P	Pn	06 37 00.8	-0.3
PMG	**Port Moresby**	**5.89**	**223**	*e*Pn	Pn	06 37 00.9	-0.2
1μm,0.9s							
PMG				*e*Sn	Sn	06 38 06.7	-1.0
HNR	**Honiara**	**9.65**	**117**	P	Pn	06 37 51.8	+0.7
25nm,0.3s,baz=238,slow=1.6,SNR=12							
HNR	**Honiara**	**9.65**	**117**	*eP*	Pn	06 37 51.6	+0.5
HNR				pmax	pmax		
comp=Z,232nm,0.8s							
HNR	**Honiara**	**9.65**	**117**	*e*Pn	Pn	06 37 51.6	+0.5
comp=Z,232nm,0.8s							
CTA	**Charters Tower**	**15.67**	**198**	*eP*	Pn	06 39 05.3	-3.2
comp=Z,19nm,0.6s							
CTA				*e*S	S	06 42 05.1	+2.0
CTA	**Charters Tower**	**15.67**	**198**	P	Pn	06 39 09.8	+1.4
comp=Z,1.2nm,0.3s,baz=35,slow=13,SNR=15							
CTA				LR	LR	06 44 14.7	
comp=Z,157nm,19.6s,baz=24,slow=33							
CTA	**Charters Tower**	**15.67**	**198**	P	Pn	06 39 09.8	+1.4
CTA				LR	LR	06 44 14.7	
CTAO	**Charters Tower**	**15.67**	**198**	*eP*	Pn	06 39 10.4	+1.9
CTAO				pmax	pmax		
comp=Z,22nm,0.6s							
CTAO	**Charters Tower**	**15.67**	**198**	*eP*	Pn	06 39 10.4	+1.9
comp=Z,22nm,0.6s							
GUMO	**Guam**	**19.62**	**341**	P	P	06 39 54.2	+1.6
comp=Z,9.0nm,0.3s,baz=172,slow=9.0,SNR=4.7							
GUMO	**Guam**	**19.62**	**341**	*eP*	P	06 39 53.8	+1.2
GUMO				pmax	pmax		
comp=Z,367nm,1.3s							
GUMO	**Guam**	**19.62**	**341**	*eP*	P	06 39 53.8	+1.1
comp=Z,367nm,1.3s							
KAKA	**Kakadu**	**20.04**	**247**	*eP*	P	06 39 56.5	-0.7
comp=Z,22nm,0.5s							
KAKA				*e*S	S	06 43 29.7	-4.5
KAKA				*e*SCP	ScP	06 47 29.0	+0.2
WRAB	**Tennant Creek**	**22.08**	**227**	*eP*	P	06 40 17.9	-1.0
WRAB				pmax	pmax		
comp=Z,17nm,0.6s,mb4.7							
WRAB	**Tennant Creek**	**22.08**	**227**	*eP*	P	06 40 17.9	-1.0
comp=Z,17nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**22.09**	**227**	⇓*i*P	P	06 40 17.9	-1.0
WB2				*e*S	S	06 44 10.7	-1.0
WB2				*e*SCP	ScP	06 47 34.1	+0.3
WRA	**Warramunga Arr**	**22.10**	**227**	P	P	06 40 18.2	-0.9
comp=Z,13nm,0.6s,mb4.6,baz=49,slow=9.9,SNR=83							
WRA				pP		06 40 43.7	
comp=Z,30nm,0.7s,baz=51,slow=10,SNR=9.9							
WRA				S	S	06 44 11.2	-0.7
comp=Z,7.1nm,1.0s,baz=45,slow=14,SNR=13							
WRA				ScP	ScP	06 47 34.3	+0.5
comp=Z,8.7nm,0.8s,baz=48,slow=2.8,SNR=22							
WRA	**Warramunga Arr**	**22.10**	**227**	P	P	06 40 18.2	-0.8
WRA				*PP		06 40 43.7	
WRA				S	S	06 44 11.2	-0.7
DZM	**Mont Dzumac**	**22.39**	**140**	*eP*	P	06 40 21.0	-0.9
DZM	**Mont Dzumac**	**22.39**	**140**	P	P	06 40 22.6	+0.7
comp=Z,32nm,0.5s,mb5.0,baz=302,slow=8.8,SNR=51							
ASAR	**Alice Springs**	**24.90**	**220**	P	P	06 40 44.9	+0.1
comp=Z,21nm,0.4s,mb5.0,baz=53,slow=8.8,SNR=132							
ASAR				pP		06 41 12.8	
comp=Z,14nm,0.9s,baz=50,slow=9.1,SNR=3.7							
ASAR				PcP	PcP	06 44 18.4	+2.0
comp=Z,2.7nm,0.7s,baz=61,slow=2.7,SNR=6.0							
ASAR				S	S	06 44 56.5	-0.4
comp=Z,2.0nm,0.7s,baz=47,slow=14,SNR=4.6							
ASAR				ScP	ScP	06 47 42.4	+1.0
comp=Z,6.0nm,0.8s,baz=48,slow=3.4,SNR=17							
ASAR	**Alice Springs**	**24.90**	**220**	P	P	06 40 44.9	+0.1
ASAR				*PP		06 41 12.8	
ASAR						06 44 18.5	
ASAR				S	S	06 44 56.5	-0.4
STKA	**Stephens Creek**	**28.13**	**198**	*eP*	P	06 41 13.0	-0.8
comp=Z,15nm,0.9s,mb4.7							
STKA				*e*S	S	06 45 47.3	-0.5
STKA				*e*SCP	ScP	06 47 53.6	+2.7
STKA	**Stephens Creek**	**28.13**	**198**	P	P	06 41 13.7	-0.1
comp=Z,18nm,0.8s,mb4.9,baz=360,slow=8.7,SNR=23							
STKA				pP	pP	06 41 42.2	-3.0
comp=Z,9.2nm,0.7s,baz=24,slow=15,SNR=3.0							
STKA				S	S	06 45 47.3	-0.5
comp=Z,1.7nm,0.8s,baz=73,slow=19,SNR=4.3							
STKA				LR	LR	06 51 58.6	
comp=Z,172nm,19.2s,baz=291,slow=35							
FITZ	**Fitzroy Crossi**	**28.16**	**241**	*eP*	P	06 41 13.1	-0.9
comp=Z,19nm,0.9s,mb4.8							
FITZ	**Fitzroy Crossi**	**28.16**	**241**	P	P	06 41 13.6	-0.5
comp=Z,6.1nm,0.4s,mb4.7,baz=59,slow=9.4,SNR=41							
CBIJ	**Chichi jima**	**33.18**	**345**	LR	LR	06 53 19.8	
comp=Z,45nm,19.9s,baz=267,slow=32							
FORT	**Forrest**	**33.59**	**218**	*eP*	P	06 42 01.1	-0.6
comp=Z,17nm,0.8s,mb4.8							
URZ	**Urewera**	**40.53**	**148**	P	P	06 43 01.4	+1.2
comp=Z,16nm,0.5s,mb4.9,baz=359,slow=21,SNR=12							
KLBR	**Kellerberrin**	**40.98**	**226**	*eP**	P	06 42 58.3	-5.6
comp=Z,17nm,1.0s,mb4.6							
NACB	**Ninganchiao**	**41.00**	**316**	*eP*	P	06 43 04.7	+0.6
YHNB	**Yeheng**	**41.48**	**317**	*eP*	P	06 43 09.2	+1.3
NWAO	**Narrogin (SRO)**	**42.08**	**225**	LR	LR	06 59 08.0	
comp=Z,91nm,21.7s,baz=231,slow=34							
RPZ	**Rata Peaks**	**42.24**	**159**	P	P	06 43 15.3	+1.1
comp=Z,54nm,0.6s,mb5.4,baz=287,slow=2.5,SNR=26							
MUN	**Mundaring**	**42.30**	**226**	*eP*	P	06 43 11.8	-2.8
JNU	**Nakatsue**	**42.64**	**334**	P	P	06 43 17.8	+0.4
comp=Z,39nm,0.8s,mb5.1,baz=200,slow=20,SNR=6.4							
MJAR	**Matsushiro Arr**	**43.18**	**345**	P	P	06 43 20.3	-1.5
comp=Z,11nm,0.9s,mb4.5,baz=168,slow=9.0,SNR=20							
MJAR				PcP	PcP	06 45 08.2	-0.3
comp=Z,1.8nm,0.6s,baz=159,slow=4.4,SNR=4.6							
MAJO	**Matsushiro**	**43.19**	**345**	*eP*	P	06 43 20.3	-1.5
MAJO				pmax	pmax		
comp=Z,18nm,0.8s,mb4.8							
MAJO	**Matsushiro**	**43.19**	**345**	*eP*	P	06 43 20.2	-1.5
comp=Z,18nm,0.8s,mb4.8							
MAT	**Matsushiro**	**43.19**	**345**	P	P	06 43 19.9	-1.9
QIZ	**Qiongzhong**	**47.30**	**302**	P	P	06 43 54.5	+0.3
QIZ				PP	PP	06 45 46.5	0.0
QIZ				S	S	06 50 38.7	+2.6
QIZ				AMB	AMB		
comp=Z,21nm,1.7s,mb4.5							
QIZ				AMB	AMB		
comp=Z,372nm,6.6s							
KSRS	**Korea Array**	**47.59**	**335**	P	P	06 43 57.2	+0.8
comp=Z,7.0nm,0.8s,mb4.4,baz=149,slow=8.5,SNR=26							
ASAJ	**Asahikawa**	**49.61**	**352**	P	P	06 44 13.2	+1.4
comp=Z,12nm,0.7s,mb4.6,baz=18,slow=20,SNR=3.8							
MDJ	**Mudanjiang**	**53.17**	**341**	P	P	06 44 38.6	+0.2
MDJ				AP	pP	06 45 14.2	+1.4
MDJ				XP	sP	06 45 30.4	+1.0
MDJ				PCP	PcP	06 45 44.9	+0.5
MDJ				PP	PP	06 46 42.2	+2.4
MDJ				SCP	ScP	06 49 26.4	-1.5
MDJ				PCS	PcS	06 49 42.9	-0.6
MDJ				S	S	06 51 58.7	+1.2
MDJ				XS	sS	06 53 00.8	+3.6
MDJ				SCS	ScS	06 54 10.9	-1.9
MDJ				SS	SS	06 55 37.1	-1.9
MDJ				AMB	AMB		
comp=Z,13nm,0.9s,mb4.7							
MDJ				AMB	AMB		
comp=Z,157nm,5.4s							
MDJ	**Mudanjiang**	**53.17**	**341**	*eP*	P	06 44 38.8	+0.4
comp=Z,7.3nm,0.6s,mb4.6							
CN2	**Changchun**	**53.95**	**337**	*eP*	P	06 44 44.8	+0.8
CN2				AMB	AMB		
comp=Z,20nm,1.2s,mb4.7							
NANT	**Nan**	**55.15**	**297**	⇑P	P	06 44 52.0	-0.7
HABR	**Khabarovsk**	**55.20**	**347**	*eP*	P	06 44 52.7	-0.4
HABR				S	S	06 52 25.6	+0.9
XAN	**Xi'an**	**55.78**	**317**	P	P	06 44 58.0	+0.8
XAN				AMB	AMB		
comp=Z,17nm,1.2s,mb4.8							
KMI	**Kunming**	**55.88**	**305**	P	P	06 44 59.7	+1.8
KMI				AMB	AMB		
comp=Z,19nm,1.3s,mb4.8							
KMI				LR	LR		
comp=Z,67nm,24.3s							
CHG	**Chiang Mai**	**56.72**	**296**	⇑P	P	06 45 05.5	+1.6
CD2	**Chengdu**	**57.76**	**311**	*eP*	P	06 45 11.7	+0.5
CD2				AP	pP	06 45 49.0	+2.8
CD2				XP	sP	06 46 06.9	+4

GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.4
CIT Chita 65.31 335 *e*P **P 06 46 02.0 +0.2**
CLNS Chul'man 65.37 344 *e*P **P 06 45 59.3 -2.8**
CLNS pmax pmax
comp=Z,18nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,12nm,0.7s
CLNS pmax pmax
comp=E,15nm,1.0s
SONM Songino Array 65.76 329 P **P 06 46 05.8 +1.2**
comp=E,6.2nm,0.6s,mb4.6,baz=134,slow=5.2,SNR=28
SONM pP pP 06 46 40.3 -0.2
comp=E,2.1nm,0.8s,baz=138,slow=5.1,SNR=2.0
SEY Seymchan 67.85 1⇑*e*P **P 06 46 17.3 -0.6**
ZAK Zakamensk 68.95 329 ⇓*i*P **P 06 46 24.9 +0.2**
ZAK *e* pP 06 47 01.7 +0.8
ZAK pmax pmax
comp=Z,15nm,0.9s,mb4.7
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
YAK Yakutsk 68.97 349⇑*e*P **P 06 46 24.3 -0.5**
YAK pmax pmax
comp=Z,23nm,0.6s,mb5.1
BOD Bodaibo 69.53 340 *e*P **P 06 46 27.1 -1.2**
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.6
TLY Talaya 69.57 331 *i*P **P 06 46 28.0 -0.5**
GUN Gumba 70.95 302 *e*P **P 06 46 38.0 +1.1**
comp=Z,10.0nm,0.6s,mb4.8
PKI Pulchoki 71.26 301 *e*P **P 06 46 39.8 +1.0**
KKN Kakani 71.43 301 *e*P **P 06 46 40.5 +0.7**
DMN Daman 71.53 301 *e*P **P 06 46 41.5 +1.1**
comp=Z,15nm,0.6s,mb4.9
GKN Gorkha 72.03 301 *e*P **P 06 46 44.0 +0.6**
comp=Z,11nm,0.5s,mb4.9
VNDA Vanda 72.59 178 P **P 06 46 46.9 +0.2**
comp=Z,3.3nm,0.8s,mb4.1,baz=328,slow=5.8,SNR=14
VNDA pP pP 06 47 20.6 -2.5
comp=Z,4.2nm,1.0s,baz=337,slow=6.2,SNR=5.9
VNDA Vanda 72.59 178 *e*P **P 06 46 47.0 +0.3**
VNDA *e* pP 06 47 20.4 -2.8
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 72.59 178 *e*P **P 06 46 47.0 +0.3**
comp=Z,3.7nm,0.8s,mb4.2
VNDA *e* pP 06 47 20.4 -2.8
KOLN Koldanda 72.85 301 *e*P **P 06 46 48.6 +0.3**
comp=Z,12nm,0.7s,mb4.7
BILL Bilibino 73.74 6 *i*P **P 06 46 52.9 -0.5**
BILL *e*PP pP 06 47 30.1 +0.1
BILL pmax pmax
comp=Z,26nm,1.0s,mb4.9
BILL Bilibino 73.74 6 *e*P **P 06 46 53.0 -0.4**
comp=Z,18nm,0.9s,mb4.8
WMQ Urumqi 74.92 318 *e*P **P 06 47 00.5 +0.2**
WMQ AMB AMB
comp=Z,6.0nm,1.0s,mb4.2
WMQ AMB AMB
comp=Z,460nm,8.0s
SVW2 Sparrevohn 77.71 23 *e*P **P 06 47 16.1 +0.1**
TIXI Tiksi 78.00 353 *i*P **P 06 47 17.7 +0.1**
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
MK31 Makanchi Array 79.54 319 *e*P **P 06 47 25.7 -0.3**
MKAR Makanchi Array 79.54 319 P **P 06 47 25.7 -0.3**
comp=Z,4.1nm,0.8s,mb4.1,baz=97,slow=7.9,SNR=30
MKAR Makanchi Array 79.54 319⇑*e*P **P 06 47 26.0 0.0**
SLKM Skilak Lake 79.60 25 *e*P **P 06 47 25.3 -1.0**
ZAL Zalesovo 80.55 327 P **P 06 47 29.8 -1.6**
comp=Z,5.8nm,0.8s,mb4.2,baz=0.2,slow=5.9,SNR=30
PMR Palmer 80.60 25 *e*P **P 06 47 30.7 -1.0**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PMR Palmer 80.60 25 *e*P **P 06 47 30.7 -1.1**
comp=Z,9.4nm,0.8s,mb4.5
IMA2 Indian Mountai 81.26 20 *e*P **P 06 47 34.5 -0.7**
NVS Novosibirsk 81.74 327 *i*P **P 06 47 36.0 -1.7**
COLA College 82.71 22⇑*e*P **P 06 47 41.0 -1.8**
COLA College 82.71 22 *e*P **P 06 47 40.8 -2.0**
comp=Z,16nm,0.8s,mb4.8
KURK Kurchatov 83.05 322⇑*i*P **P 06 47 43.8 -0.7**
KURK Kurchatov 83.05 322 *e*P **P 06 47 43.6 -0.9**
comp=Z,17nm,1.1s,mb4.7
KZA Kyzart 83.08 313 P **P 06 47 46.5 +1.8**
SNR=6.4
UCH Uchtor 83.64 313 P **P 06 47 49.4 +1.8**
SNR=8.4
AAK Ala-Archa 83.75 314 P **P 06 47 48.5 +0.4**
SNR=6.0
AAK Ala-Archa 83.75 314⇑*e*P **P 06 47 48.0 -0.1**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
AAK Ala-Archa 83.75 314 *e*P **P 06 47 47.4 -0.7**
comp=Z,5.9nm,0.8s,mb4.4
USP Ospenovka 83.88 314 P **P 06 47 49.3 +0.6**
SNR=14
AML Almayashu 84.22 313 P **P 06 47 52.1 +1.6**
SNR=15
EKS2 Erkin-Say 84.27 314 P **P 06 47 51.8 +1.1**
SNR=9.0
MAW Mawson 84.70 203 P **P 06 47 52.8 -0.1**
comp=Z,1.9nm,0.6s,mb4.0,baz=89,slow=5.2,SNR=2.5
MAW pP pP 06 48 27.8 -2.5
comp=Z,1.6nm,0.5s,baz=112,slow=8.3,SNR=2.2
MAW Mawson 84.70 203 *e*P **P 06 47 52.4 -0.5**
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 84.70 203 *e*P **P 06 47 52.4 -0.5**
comp=Z,1.9nm,0.6s,mb4.0
QSPA South Pole Qui 84.86 180 *e*P **P 06 47 53.5 -0.2**
comp=Z,8.3nm,0.7s,mb4.6
EGAK Eagle 85.25 23 *e*P **P 06 47 55.1 -0.6**
comp=Z,11nm,0.8s,mb4.6
DAWY Dawson 85.70 24 *e*P **P 06 47 57.7 -0.1**
KK31 Karatay Array 86.71 314 *i*P **P 06 48 01.5 -1.3**
KK31 pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
KKAR Karatay Array 86.71 314 *i*P **P 06 48 01.5 -1.3**
KKAR pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
CHKZ Chkalovo 88.54 324 *e*P **P 06 48 09.5 -2.0**
CHKZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CHKZ Chkalovo 88.54 324 *e*P **P 06 48 09.4 -2.1**
comp=Z,4.6nm,0.6s,mb4.6
BVA0 Borovoye Array 88.55 323 *i*P **P 06 48 09.4 -2.2**
BRVK Borovoye 88.62 323 *e*P **P 06 48 10.2 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 88.62 323 *e*P **P 06 48 10.2 -1.7**
comp=Z,4.0nm,0.8s,mb4.4
MTUM Tungsten Hills 93.21 53 *e*P **P 06 48 34.8 +1.6**
NVAR Mina Array Bea 93.49 52 P **P 06 48 35.9 +1.4**
comp=Z,4.3nm,0.7s,mb4.7,baz=261,slow=6.5,SNR=24
AB31 Akbulak array 94.68 319 P **P 06 48 38.3 -1.6**
YKA Yellowknife Ar 96.41 28 P **P 06 48 47.1 -0.7**
comp=Z,1.1nm,0.6s,mb4.4,baz=271,slow=4.8,SNR=37
YKA PKiKP PKiKP 06 53 24.5 -0.2
comp=Z,0.2nm,0.5s,baz=279,slow=1.3,SNR=9.4
YKA Yellowknife Ar 96.41 28⇑*e*P **P 06 48 47.0 -0.8**
EDM Edmonton 97.30 37 *e*P **P 06 48 52.6 +0.8**
PDAR Pinedale Array 100.20 48 P Pdif 06 49 04.8 0.0
comp=Z,2.0nm,0.6s,baz=231,slow=2.5,SNR=26
ARCES ARCESS Array B 106.70 343 PKiKP PKiKP 06 53 42.7 -0.6
comp=Z,2.1nm,0.9s,baz=103,slow=1.9,SNR=5.7
OBN Obninsk 108.13 327 *e*P Pdif 06 49 38.7 -1.3
OBN *e* 06 54 08.7
OBN pmax pmax
comp=Z,4.0nm,0.8s
BOSA Boshof 118.20 234 PKP PKPdf 06 54 05.8 +0.6
comp=Z,1.0nm,0.5s,baz=80,slow=6.9,SNR=5.7
SCHQ Schefferville 121.72 25 PKP PKPdf 06 54 11.2 -0.7
comp=Z,2.3nm,0.7s,baz=180,slow=20,SNR=2.9
CLL Collm 122.35 330 *e*PKPdf PKPdf 06 54 13.0 -0.1
GERES GERESS Array B 123.49 328 PKP PKPdf 06 54 14.8 -0.5
comp=Z,2.6nm,0.8s,baz=50,slow=2.1,SNR=13
GERES pPKP pPKPdf 06 54 52.2 -2.7
comp=Z,0.3nm,0.3s,baz=99,slow=1.3,SNR=2.3
GIVF Givet 127.01 334 *e*PKIKP PKPdf 06 54 22.1 +0.1
BAIF Baives 127.31 334 *e*PKIKP PKPdf 06 54 22.4 -0.2
LPG La Plagne 129.28 328 *e*PKIKP PKPdf 06 54 27.7 +1.3
comp=Z,1.5nm,0.4s
PGF Pioggiola 129.90 324 *e*PKIKP PKPdf 06 54 28.0 +0.5
comp=Z,27nm,1.0s
ORIF Oris-en-Rattie 130.12 328 *e*PKIKP PKPdf 06 54 27.9 -0.1
comp=Z,7.1nm,0.7s
LMR La Mourre 130.83 326 *e*PKIKP PKPdf 06 54 30.0 +0.7
LPAZ La Paz 135.63 119 PKhKP 06 54 37.2
comp=Z,1.0nm,0.5s,baz=234,slow=4.9,SNR=4.0
SDV Santo Domingo 138.28 82 *e*PKPdf PKPdf 06 54 44.4 +1.1
TOA0 Torodi Ar. Sit 148.92 287 *e*PKPbc PKPbc 06 55 06.0 +0.1
TORD Torodi Ar. Bea 148.92 287 PKPbc PKPbc 06 55 06.1 +0.2
comp=Z,5.8nm,0.6s,baz=46,slow=0.8,SNR=60
TORD pPKPbc pPKPbc 06 55 46.4 +1.1
comp=Z,3.2nm,0.7s,baz=72,slow=2.6,SNR=3.3

NIED ***12*** *06:47:00,4620N×15220E,h38km,Mw4.3 Best double couple: M0=2.68000×10^15 NP1:φ=318.00000°,δ83.00000°, λ40.00000°. NP2:φ=223.00000°,δ50.00000°,λ171.00000°.*
IDC ***12*** *06:47:48.6±0.6,4620N×15177E,h0km,mb4.1/17, mb1 4.3/19,mb1mx4.3/25,mbtmp4.1/19,ML3.9/2,MS3.6/2, Ms1 3.6/2,ms1mx2.8/31,Error ellipse: s-maj=18.7km s-min=14.3km az=136.0*
BJI ***12*** *06:47:48.6,4625N×15204E,h16km,mB4.7,mb4.3,Ms4.4, Msz4.1*
NEIC ***12*** *06:47:50.4±0.5,4619N×15189E,h10km,mb4.4/7,Error ellipse: s-maj=15.6km s-min=8.9km az=133.0*
JMA ***12*** *06:47:52.3±0.7,4625N×15217E,h30km,M4.8*
ISCJB ***12*** *06:47:53.9±0.9,4598N±006×15192E±008,h53km±7km, mb4.4/38,MS4.0/2,Error ellipse: s-maj=12.6km s-min=6.3km az=106.6*
SKHL ***12*** *06:47:53.0±1.1,4590N×15230E,h49km±2km,mb5.0/3, msh5.3/1*
SZGRF ***12*** *06:47:53.3,4654N×15450E,h33km,mb4.8,East of Kuril Islands, Russia*
MOS ***12*** *06:47:54.5±1.2,4607N×15187E,h57km,mb4.5/15,Error ellipse: s-maj=11.1km s-min=8.9km az=58.6*
ISC 12 06:47:55.8±0.8,4610N±007×15190E±008,h52km±6km, n122,σ1§24/131,mb4.4/38,MS4.0/2,5C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KUR	**Kuril'sk**	**2.96**	**254**	⇓*i*PN	**Pn**	**06 48 38.5**	**-1.7**
KUR				*i* S	**Sn**	**06 49 13.0**	**-1.4**
KUR				pmax	pmax		
	comp=Z,340nm,0.7s						
KUR				smax			
	comp=N,430nm,0.8s						
KUR				smax			
	comp=E,970nm,0.8s						
KUR				smax			
	comp=N,2μm,2.0s						
KUR				smax			
	comp=E,2μm,2.0s						
KUR	**Kuril'sk**	**2.96**	**254**	*i* P	**Pn**	**06 48 38.5**	**-1.7**
KUR				AMB	AMB	06 48 39.5	
	comp=E,340nm,0.7s						
KUR				*i* S	**Sn**	**06 49 13.0**	**-1.4**
KUR				A		06 49 17.5	
	comp=E,430nm,0.8s						
KUR				A		06 49 17.5	
	comp=E,970nm,0.8s						
KUR				A		06 49 19.0	
	comp=E,2μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**4.75**	**246**	*i* P	**Pn**	**06 49 06.4**	**+1.6**
YUK				AMB	AMB	06 49 13.9	
	comp=E,540nm,0.5s						
YUK				*e*S	**Sn**	**06 50 00.5**	**+2.0**
YUK				A		06 50 21.5	
	comp=E,770nm,0.5s						
YUK				A		06 50 21.5	
	comp=E,210nm,0.5s						
NEM2	**Nemuro 2**	**5.17**	**240**	P	**Pn**	**06 49 10.0**	**-0.5**
NEM2				*e*S	**Sn**	**06 50 06.2**	**-2.6**
JRA	**Rausu**	**5.27**	**248**	P	**Pn**	**06 49 14.2**	**+2.3**
SKR	**Severo-Kuril's**	**5.38**	**30**	*e*PN	**Pn**	**06 49 14.5**	**+1.0**
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
JNK	**Nakash**	**5.69**	**246**	P	**Pn**	**06 49 19.3**	**+1.6**
JNK				*e*S	**Sn**	**06 50 24.2**	**+2.6**
JAK	**Akkeshi**	**6.01**	**242**	P	**Pn**	**06 49 21.5**	**-0.5**
JAK				*e*S	**Sn**	**06 50 29.1**	**-0.3**
JTKR	**Abashiri--Toko**	**6.05**	**252**	P	**Pn**	**06 49 25.1**	**+2.5**
YSS	**Yuzh-Sakhalins**	**6.37**	**281**	*i* PN	**Pn**	**06 49 30.2**	**+3.2**
YSS				pmax	pmax		
	comp=Z,51nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.37**	**281**	*e*Pn	**Pn**	**06 49 29.5**	**+2.5**
	comp=Z,44nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.37**	**281**	*i* P	**Pn**	**06 49 29.7**	**+2.7**
YSS				AMB	AMB	06 49 30.6	
	comp=Z,40nm,1.0s						
JMP	**Maruseppu**	**6.40**	**254**	P	**Pn**	**06 49 30.2**	**+2.8**
JAR	**Ashorobuto**	**6.43**	**247**	P	**Pn**	**06 49 29.5**	**+1.6**
JAR				*e*S	**Sn**	**06 50 40.7**	**+0.8**
JOB	**Onbets**	**6.59**	**244**	P	**Pn**	**06 49 30.5**	**+0.5**
JOB				*e*S	**Sn**	**06 50 43.0**	**-0.8**
JKK2	**Kamakawa 2**	**6.86**	**254**	P	**Pn**	**06 49 36.1**	**+2.4**
ASAJ	**Asahikawa**	**6.87**	**257**	Pn	**Pn**	**06 49 37.4**	**+3.4**
	comp=Z,4.1nm,0.3s,baz=89,slow=15,SNR=12						
ASAJ				LR	LR	06 52 12.7	
	comp=Z,260nm,19.9s,baz=350,slow=39						
ASAJ	**Asahikawa**	**6.87**	**257**	P	**Pn**	**06 49 37.2**	**+3.3**
JCH	**Churui**	**7.04**	**243**	P	**Pn**	**06 49 35.9**	**-0.3**
JCH				*e*S	**Sn**	**06 50 53.9**	**-0.9**
ERM	**Erimo**	**7.50**	**240**	*e*PN	**Pn**	**06 49 42.8**	**+0.3**
ERM				pmax	pmax		
	comp=Z,62nm,0.5s						
ERM	**Erimo**	**7.50**	**240**	*e*Pn	**Pn**	**06 49 42.8**	**+0.3**
	comp=Z,62nm,0.5s						
JEM	**Erimo**	**7.50**	**240**	P	**Pn**	**06 49 42.7**	**+0.2**
JBT2	**Biratori 2**	**7.59**	**247**	P	**Pn**	**06 49 44.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**7.60**	**243**	P	**Pn**	**06 49 43.1**	**-0.7**
JNB	**Noboribetsu**	**8.59**	**249**	P	**Pn**	**06 49 58.0**	**+0.5**
JKB	**Kayabe**	**8.89**	**246**	P	**Pn**	**06 50 00.9**	**-0.6**
JKB				*e*S	**Sn**	**06 51 35.9**	**-4.3**
JSH	**Shimam**	**9.16**	**252**	P	**Pn**	**06 50 06.6**	**+1.3**
JYM2	**Yakumo 2**	**9.20**	**248**	P	**Pn**	**06 50 05.5**	**-0.2**
JTM	**Tenmabayashi**	**9.49**	**240**	P	**Pn**	**06 50 08.5**	**-1.3**
JTM				*e*S	**Sn**	**06 51 46.6**	**-8.4**
JTH	**Tanohata**	**9.58**	**234**	*e*S	**Sn**	**06 51 47.6**	**-10**
OFUJ	**Ofunato**	**10.29**	**231**	P	**Pn**	**06 50 17.4**	**-3.3**
OFUJ				*e*S	**Sn**	**06 52 05.7**	**-8.9**
JRG	**Rokugo**	**10.64**	**235**	P	**Pn**	**06 50 23.3**	**-2.2**
JIO	**Ouri**	**10.92**	**229**	P	**Pn**	**06 50 26.1**	**-2.8**
HABR	**Khabarovsk**	**11.69**	**288**	*e*PN	**Pn**	**06 50 38.2**	**-1.6**
MAJO	**Matsushiro**	**14.01**	**232**	*e*P	**Pn**	**06 51 09.2**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAJO	**Matsushiro**	**14.01**	**232**	*e*Pn	**Pn**	**06 51 09.2**	**-2.4**
	comp=Z,8.7nm,0.7s						
MAJO				*e*		06 51 19.3	
MAT	**Matsushiro**	**14.01**	**232**	P	**Pn**	**06 51 08.2**	**-3.3**
MJAR	**Matsushiro Arr**	**14.01**	**232**	Pn	**Pn**	**06 51 08.8**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=9.5						
KSRS	**Korea Array**	**19.80**	**253**	P	**Pn**	**06 52 21.9**	**-1.8**
	baz=57,slow=11,SNR=17						
YAK	**Yakutsk**	**20.44**	**329**	*e*P	**P**	**06 52 33.5**	**+4.8**
YAK				pmax	pmax		
	comp=Z,67nm,0.8s						
YAK	**Yakutsk**	**20.44**	**329**	*e*P	**P**	**06 52 33.5**	**+4.7**
	comp=Z,66nm,0.8s						
BILL	**Bilibino**	**23.22**	**14**	*i* P	**P**	**06 52 56.7**	**-1.7**
BILL				*e*		06 53 18.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
SONM	**Songino Array**	**30.76**	**290**	P	**P**	**06 54 08.4**	**+2.3**
	comp=Z,0.6nm,0.7s,mb3.5,baz=81,slow=8.9,SNR=2.9						
SONM	**Songino Array**	**30.76**	**290**	P	**P**	**06 54 08.4**	**+2.3**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZAL	**Zalesovo**	**42.33**	**306**	PcP	PcP	06 57 36.9	-0.4
	comp=Z,0.9nm,0.4s,baz=82,slow=8.2,SNR=4.8						
INK	**Inuvik**	**42.65**	**32**	P	**P**	**06 55 46.0**	**-1.1**
	comp=Z,2.8nm,0.9s,mb4.0,baz=278,slow=12,SNR=5.5						
INK	**Inuvik**	**42.65**	**32**	*e*P	**P**	**06 55 46.4**	**-0.7**
	comp=Z,137nm,1.0s,mb5.6						
KMI	**Kunming**	**44.30**	**259**	P	**P**	**06 56 00.2**	**-0.1**
KMI				AP	pP	06 56 08.0	-6.2
KMI				XP	sP	06 56 12.8	-7.4
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
KMI	**Kunming**	**44.30**	**259**	P	**P**	**06 56 00.2**	**-0.1**
KMI				pP	pP	06 56 08.0	-6.2
KMI				sP	sP	06 56 12.8	-7.4
WMQ	**Urumqi**	**44.38**	**291**	*e*P	**P**	**06 56 01.4**	**+0.4**
WMQ				LR	LR		
	comp=N,163nm,12.0s,MS4.3						
WMQ				LR	LR		
	comp=E,144nm,13.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,154nm,17.0s,MS4.0						
MKAR	**Makanchi Array**	**46.50**	**297**	P	**P**	**06 56 15.4**	**-2.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=64,slow=8.4,SNR=9.6						
MKAR				PcP	PcP	06 57 51.2	-0.3
	comp=Z,1.6nm,0.8s,baz=75,slow=1.4,SNR=7.1						
MKAR				LR	LR	07 18 13.2	
	comp=Z,172nm,21.9s,MS4.0,baz=155,slow=39						
MKAR	**Makanchi Array**	**46.50**	**297**	P	**P**	**06 56 15.4**	**-2.4**
MKAR						06 57 51.3	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,172nm,21.9s						
KURK	**Kurchatov**	**47.03**	**304**	*e*P	**P**	**06 56 20.0**	**-1.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**47.03**	**304**	*e*P	**P**	**06 56 20.0**	**-2.0**
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**50.21**	**310**	*e*P	**P**	**06 56 45.5**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**50.21**	**310**	*e*P	**P**	**06 56 45.5**	**-0.8**
	comp=Z,2.4nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**06 56 48.8**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.9,baz=59,slow=8.5,SNR=6.5						
BVAR				PcP	PcP	06 58 05.6	-0.9
	comp=Z,1.0nm,0.7s,baz=64,slow=5.1,SNR=4.0						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**06 56 48.8**	**-0.7**
BVAR						06 58 05.6	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHTO	**Chiang Mai**	**51.15**	**256**	*e*P	**P**	**06 56 54.4**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**51.15**	**256**	*e*P	**P**	**06 56 54.4**	**+0.9**
	comp=Z,4.8nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**51.95**	**36**	P	**P**	**06 56 59.0**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=297,slow=6.9,SNR=21						
YKA				PcP	PcP	06 58 10.8	-0.5
	comp=Z,0.4nm,0.8s,baz=300,slow=4.2,SNR=4.4						
YKA	**Yellowknife Ar**	**51.95**	**36**	P	**P**	**06 56 59.0**	**-0.4**
YKA						06 58 10.8	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**51.95**	**36**	P	**P**	**06 56 59.0**	**-0.4**
YKA				PcP	PcP	06 58 10.8	-0.5
JIRN	**Jiri**	**54.16**	**274**	*e*P	**P**	**06 57 16.5**	**+0.8**
	comp=Z,2.5nm,0.3s,mb4.6						
GUN	**Gumba**	**54.22**	**275**	*e*P	**P**	**06 57 17.3**	**+1.2**
	comp=Z,26nm,1.1s,mb5.1						
KKN	**Kakani**	**54.71**	**275**	*e*P	**P**	**06 57 21.0**	**+1.3**
	comp=Z,26nm,0.9s,mb5.3						
DMN	**Daman**	**54.94**	**275**	*e*P	**P**	**06 57 22.8**	**+1.5**
	comp=Z,24nm,0.8s,mb5.3						
GKN	**Gorkha**	**55.02**	**276**	*e*P	**P**	**06 57 23.1**	**+1.2**
	comp=Z,48nm,1.0s,mb5.5						
KOLN	**Koldanda**	**55.88**	**276**	*e*P	**P**	**06 57 29.4**	**+1.3**
	comp=Z,34nm,0.9s,mb5.4						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**06 57 44.3**	**-0.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=34,slow=6.6,SNR=4.0						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**06 57 44.3**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PSI	**Prapat**	**63.04**	**243**	P	**P**	**06 58 18.2**	**+0.8**
	comp=Z,1.4nm,0.4s,mb4.4,baz=2.6,slow=7.0,SNR=4.1						
PSI	**Prapat**	**63.04**	**243**	P	**P**	**06 58 18.2**	**+0.8**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
PSI	**Prapat**	**63.04**	**243**	P	**P**	**06 58 18.2**	**+0.8**
NVAR	**Mina Array Bea**	**63.48**	**61**	P	**P**	**06 58 21.4**	**+1.0**
	comp=Z,1.2nm,0.7s,mb4.2,baz=296,slow=7.2,SNR=9.6						
FINES	**FINESS Array B**	**64.27**	**334**	P	**P**	**06 58 23.4**	**-2.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=42,slow=5.9,SNR=8.4						
FINES	**FINESS Array B**	**64.27**	**334**	*e*P	**P**	**06 58 24.0**	**-1.6**
BW06	**Boulder Array**	**65.81**	**53**	*e*P	**P**	**06 58 35.7**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**65.81**	**53**	P	**P**	**06 58 35.8**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=306,slow=1.6,SNR=14						
WRAB	**Tennant Creek**	**67.61**	**198**	*i* P	**P**	**06 58 51.4**	**+4.4**
WRA	**Warramunga Arr**	**67.62**	**198**	P	**P**	**06 58 46.9**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=15,slow=6.7,SNR=8.6						
WRA	**Warramunga Arr**	**67.62**	**198**	*e*P	**P**	**06 58 48.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**68.17**	**207**	P	**P**	**06 58 51.5**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.1,baz=309,slow=3.8,SNR=5.6						
NB2	**NORSAR Subarra**	**68.57**	**341**	P	**P**	**06 58 51.6**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**06 58 52.1**	**-0.9**
	comp=Z,1.9nm,0.6s,mb4.2,baz=29,slow=6.4,SNR=5.3						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**06 58 52.1**	**-0.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIV	**Kislovodsk**	**70.65**	**314**	*e*P	**P**	**06 59 06.7**	**+0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
ASAR	**Alice Springs**	**71.33**	**197**	P	**P**	**06 59 10.6**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=14,slow=5.2,SNR=7.0						
ASAR	**Alice Springs**	**71.33**	**197**	P	**P**	**06 59 10.6**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.62**	**326**	P	**P**	**06 59 09.9**	**-1.8**
	comp=Z,1.4nm,0.4s,mb4.2,baz=33,slow=6.2,SNR=8.3						
AKASG	**Malin Array Be**	**71.62**	**326**	*e*P	**P**	**06 59 10.8**	**-0.9**
ANMO	**Albuquerque**	**72.89**	**57**	*i* P	**P**	**06 59 19.8**	**+0.5**
STHS	**Stebnicka Huta**	**75.66**	**329**	*e*P	**P**	**06 59 36.1**	**+0.7**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BURAR	**Bucovina Array**	**75.67**	**326**⇑*i*P		**P**	**06 59 35.4**	**0.0**
KOLS	**Kolonicke sedl**	**75.69**	**328**	*e*P	**P**	**06 59 35.0**	**-0.6**
MORC	**Moravsky Berou**	**76.62**	**332**	*e*P	**P**	**06 59 40.5**	**-0.4**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
MORC	**Moravsky Berou**	**76.62**	**332**	*e*P	**P**	**06 59 40.5**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.4						
CLL	**Collm**	**76.71**	**335**	*e*P	**P**	**06 59 41.0**	**-0.3**
MLR	**Muntele Rosu**	**77.11**	**324** ⇓*i*P		**P**	**06 59 44.1**	**+0.5**
VYHS	**Vyhne**	**77.28**	**330**	*e*P	**P**	**06 59 44.8**	**+0.2**
VOIR		**77.52**	**325** ⇓*i*P		**P**	**06 59 46.7**	**+0.8**
BR131	**Keskin Array S**	**78.28**	**316**	*e*P	**P**	**06 59 50.9**	**+0.8**
	comp=Z,2.6nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**78.28**	**316**	P	**P**	**06 59 50.0**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.3,baz=65,slow=4.8

mb1mx4.0/13, mbtmp4.1/5, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=51.5km s-min=25.1km az=78.0

*ISCJB **12** 07:06:11.4±2.1, 394S±007×1355E±01, h120km±24km, mb4.6/6, Error ellipse: s-maj=19.5km s-min=10.3km az=24.3*

ISC 12 07:06:09.8±3.3, 38S±02×1355E±01, h77km±39km, n13, σ0§95/19, mb4.6/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.37**	**199**	*eP*	**Pn**	**07 08 21.9**	**0.0**
	34nm,0.6s						
KAKA				*eS*	**Sn**	**07 10 06.5**	**+1.0**
PMG	**Port Moresby**	**12.82**	**116**	Pn	**Pn**	**07 09 09.6**	**+0.6**
	0.6nm,0.3s,baz=337,slow=10.0,SNR=5.3						
WB2	**Warramunga Arr**	**16.09**	**184**	*eP*	**Pn**	**07 09 49.8**	**-1.4**
WB2				*eS*	**S**	**07 12 44.4**	**-13**
WRA	**Warramunga Arr**	**16.09**	**184**	Pn	**Pn**	**07 09 50.3**	**-0.9**
	0.5nm,0.3s,baz=3.8,slow=13,SNR=34						
WRA				Sn	**Sn**	**07 12 42.0**	**-6.9**
	0.8nm,0.3s,baz=6.1,slow=22,SNR=7.4						
WRA				LR	LR	07 16 02.3	
	comp=Z,44nm,20.7s,baz=350,slow=36						
FITZ	**Fitzroy Crossi**	**17.20**	**214**	*eP*	**Pn**	**07 10 04.2**	**-0.8**
	8.8nm,0.8s						
FITZ				*eS*	**S**	**07 13 06.2**	**-14**
FITZ	**Fitzroy Crossi**	**17.20**	**214**	P	**Pn**	**07 10 04.7**	**-0.4**
	0.5nm,0.3s,baz=37,slow=13,SNR=15						
FITZ				S	**S**	**07 13 06.1**	**-14**
	0.6nm,0.3s,baz=186,slow=14,SNR=4.5						
ASAR	**Alice Springs**	**19.81**	**184**	P	**Pn**	**07 10 39.1**	**+2.8**
	10nm,0.5s,baz=8.2,slow=11,SNR=105						
ASAR				S	**S**	**07 14 15.4**	**+2.3**
	2.3nm,0.8s,baz=357,slow=26,SNR=5.0						
GUN	**Gumba**	**57.24**	**307**	*eP*	**P**	**07 15 50.1**	**+0.9**
	22nm,1.0s,mb5.1						
SONM	**Songino Array**	**57.41**	**337**	P	**P**	**07 15 49.2**	**-1.2**
	0.2nm,0.5s,mb3.4,baz=154,slow=7.2,SNR=2.2						
PKI	**Pulchoki**	**57.48**	**306**	*eP*	**P**	**07 15 51.2**	**+0.3**
	6.6nm,0.4s,mb5.0						
DMN	**Daman**	**57.74**	**306**	*eP*	**P**	**07 15 52.0**	**-0.7**
	10nm,0.6s,mb5.0						
GKN	**Gorkha**	**58.28**	**306**	*eP*	**P**	**07 15 57.1**	**+0.6**
	12nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**68.75**	**324**	P	**P**	**07 17 06.0**	**+0.6**
	1.6nm,0.6s,mb4.0,baz=117,slow=7.7,SNR=13						

KRSC 12 07:24:13.5±0.6, 5555N×16601E, h41km±40km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.92**	**291**	*eP*	Pn	07 24 44.4	+0.8
KBTR				S	Sn	07 25 07.0	+0.5
MKZ	**Mys Kozlova**	**2.66**	**250**	*eP*	Pn	07 24 56.0	+2.2
MKZ				*eS*	Sn	07 25 27.2	+2.5
SRKR	**Sorokina**	**2.93**	**294**	P	Pn	07 24 58.2	+0.7
SRKR				S	Sn	07 25 31.7	+0.2
ZLN	**Zelenaya**	**2.98**	**281**	*eP*	Pn	07 25 01.4	+3.2
ZLN				*eS*	Sn	07 25 37.1	+4.5
KLY	**Klyuchi**	**3.11**	**286**	S	Sn	07 25 36.6	+0.7
KRSR	**Krestovskiy**	**3.14**	**285**	P	Pn	07 25 02.6	+2.2
KRSR				S	Sn	07 25 39.0	+2.4
KMNR	**Kamenistaya**	**3.28**	**276**	*eP*	Pn	07 25 06.1	+3.8
KMNR				S	Sn	07 25 45.2	+5.1
KPT	**Kopyto**	**3.30**	**280**	P	Pn	07 25 06.2	+3.6
KPT				S	Sn	07 25 45.5	+5.0
TUMR	**Tumrok**	**3.35**	**268**	*eP*	Pn	07 25 06.7	+3.3
TUMR				*eS*	Sn	07 25 46.0	+4.1
KOZ	**Kozyrevsk**	**3.50**	**281**	P	Pn	07 25 09.5	+4.1
KOZ				S	Sn	07 25 50.8	+5.2
SRDR	**Sredinnyy**	**3.62**	**285**	*eP*	Pn	07 25 10.2	+3.1
SRDR				*eS*	Sn	07 25 52.2	+3.6
SPN	**Mys Shipunski**	**4.28**	**237**	*eP*	Pn	07 25 18.2	+2.1
SPN				*eS*	Sn	07 26 05.7	+0.9
NLC	**Nalytchevo**	**4.57**	**241**	*eP*	Pn	07 25 22.1	+2.0
NLC				*eS*	Sn	07 26 13.2	+1.3
AVH	**Avacha**	**4.83**	**245**	*eP*	Pn	07 25 27.7	+4.1
AVH				S	Sn	07 26 20.0	+1.8
GNL	**Ganaly**	**5.04**	**252**	*eP*	Pn	07 25 30.8	+4.2
RUS	**Russkaya**	**5.41**	**238**	*eP*	Pn	07 25 34.3	+2.6
GRL	**Gorelyy**	**5.56**	**241**	P	Pn	07 25 37.6	+4.0

*IDC **12** 07:25:02.4±1.9, 3602N×14138E, h0km, mb4.0/6, mb1 4.0/10, mb1mx3.8/26, mbtmp4.0/10, ML3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx1.8/30, Error ellipse: s-maj=52.3km s-min=17.0km az=60.0*

*ISCJB **12** 07:25:06.5±0.8, 3593N±005×14119E±008, h35km, mb3.9/6, Error ellipse: s-maj=10.5km s-min=5.9km az=124.7*

*JMA **12** 07:25:10.0±0.1, 3589N×14080E, h39km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs242.00000°, δ26.00000°, λ166.00000°. NP2: φs344.00000°, δ84.00000°, λ64.00000°. Principal axes: T Plg45.0000°, Azm229.0000°; N Plg25.0000°, Azm347.0000°; P Plg34.0000°, Azm96.0000°;*

ISC 12 07:25:08.3±0.8, 3591N±005×14112E±009, h35km, n18, σ0§83/23, mb3.9/6, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.30**	**225**	⇑P	**Pn**	**07 25 17.0**	**+0.8**
CHOJ				S	**Sn**	**07 25 21.4**	**-0.2**
JYT	**Yasato**	**0.81**	**293**	⇓P	**Pn**	**07 25 21.9**	**-1.4**
JHO	**Hitachi**	**0.83**	**328**	P	**Pn**	**07 25 24.0**	**+0.5**
BSO4	**Boso 4**	**1.12**	**215**	P	**Pn**	**07 25 27.5**	**0.0**
BSO3	**Boso 3**	**1.21**	**204**	P	**Pn**	**07 25 29.2**	**+0.4**
BSO1	**Boso 1**	**1.26**	**185**	P	**Pn**	**07 25 29.7**	**+0.3**
JAG	**Ashikaga**	**1.44**	**291**	⇓P	**Pn**	**07 25 30.6**	**-1.3**
MJAR	**Matsushiro Arr**	**2.44**	**286**	Pn	**Pn**	**07 25 45.3**	**-0.3**
	12nm,0.3s,baz=94,slow=12,SNR=63						
MJAR				Sn	**Sn**	**07 26 14.2**	**+0.1**
	6.6nm,0.3s,baz=137,slow=26,SNR=4.9						
MAT	**Matsushiro**	**2.44**	**286**	P	**Pn**	**07 25 45.4**	**-0.2**
MAT				*eS*	**Sn**	**07 26 14.5**	**+0.3**
JHJ	**Hachijo jima 2**	**3.00**	**202**	Pn	**Pn**	**07 25 53.4**	**+0.1**
	28nm,0.3s,baz=77,slow=18,SNR=3.5						
JHJ				Sn	**Sn**	**07 26 27.4**	**-0.5**
	49nm,0.3s,baz=239,slow=24,SNR=5.9						
CBIJ	**Chichi jima**	**8.84**	**174**	Pn	**Pn**	**07 27 12.4**	**-1.0**
	12nm,0.3s,baz=283,slow=21,SNR=6.8						
CBIJ				Sn	**Sn**	**07 28 44.5**	**-7.3**
	4.3nm,0.3s,baz=299,slow=19,SNR=3.3						
CBIJ				LR	LR	07 30 21.9	
	comp=Z,111nm,18.2s,baz=78,slow=36						
KSRS	**Korea Array**	**10.71**	**282**	Pn	**Pn**	**07 27 41.5**	**+2.4**
	baz=94,slow=14,SNR=4.5						
SONM	**Songino Array**	**28.23**	**306**	P	**P**	**07 30 58.7**	**+0.8**
	0.4nm,0.5s,mb3.3,baz=95,slow=12,SNR=3.0						
ZAL	**Zalesovo**	**42.51**	**313**	P	**P**	**07 32 59.4**	**-0.8**
	0.8nm,0.5s,mb3.7,baz=82,slow=5.3,SNR=3.2						
MKAR	**Makanchi Array**	**44.52**	**303**	P	**P**	**07 33 16.0**	**-0.4**
	1.5nm,0.7s,mb3.9,baz=90,slow=8.5,SNR=12						
PMG	**Port Moresby**	**45.43**	**172**	P	**P**	**07 33 25.3**	**+1.6**
	4.5nm,0.3s,mb4.7,baz=37,slow=9.7,SNR=5.6						
WRA	**Warramunga Arr**	**55.92**	**188**	P	**P**	**07 34 42.2**	**-0.6**
	1.1nm,0.8s,mb3.9,baz=0.4,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**59.64**	**188**	P	**P**	**07 35 08.8**	**-0.1**
	0.5nm,0.7s,mb3.6,baz=6.9,slow=6.8,SNR=7.0						

*MOS **12** 07:33:37.5±1.4, 5581N×110.18E, h9km, mb4.3/1, Error ellipse: s-maj=27.4km s-min=18.8km az=63.0*

BYKL 12 07:33:39.2±0.3, 5572N×11025E, h5km±4km, 2C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.41**	**278**	⇑*i*Pg	Pg	07 33 46.3	-0.7
NIZ				*e*Sg	Sg	07 33 52.8	+0.5
NIZ				Pmax			
	75nm,0.1s						
NIZ				Smax			
	437nm,0.3s						
KMO	**Kumora**	**0.56**	**72**	⇓*i*Pg	Pg	07 33 49.2	-0.8
KMO				*e*Sg	Sg	07 33 57.0	-0.3
KMO				Pmax			
	64nm,0.3s						
KMO				Smax			
	549nm,0.4s						
YOA	**Uoyan**	**0.93**	**63**	*e*PG	Pg	07 33 53.1	-3.9
YOA				*i*		07 34 05.8	
YOA				pmax	pmax		
	comp=Z,100nm,0.3s						
YOA				smax			
	comp=N,713nm,0.4s						
YLYR	**Ulyunkhan**	**0.99**	**148**	*e*PG	Pg	07 33 57.0	-1.3
YLYR				*e*		07 34 10.2	
YLYR				pmax	pmax		
	comp=Z,59nm,0.3s						
YLYR				smax			
	comp=N,480nm,0.2s						
YLYR	**Ulyunkhan**	**0.99**	**148**	⇑*i*Pg	Pg	07 33 57.0	-1.3
YLYR				*e*Sg	Sg	07 34 10.3	-0.9
YLYR				Pmax			
	comp=N,34nm,0.2s						
YLYR				Smax			
	comp=N,480nm,0.3s						
SVKR	**Severomuysk**	**1.91**	**77**	*e*PN	Pn	07 34 10.1	-2.2
SVKR				*e*		07 34 12.0	
SVKR				*e*		07 34 38.5	
SVKR				pmax	pmax		
	comp=Z,184nm,0.5s						
SVKR				smax			
	comp=N,1μm,0.7s						
SVKR	**Severomuysk**	**1.91**	**77**	*e*Pg	Pg	07 34 13.2	-2.5
SVKR				*e*Sg	Sg	07 34 39.7	-0.7
SVKR				Pmax			
	comp=N,194nm,0.3s						
SVKR				Smax			
	comp=N,1μm,0.7s						
SYVR	**Suvo**	**2.07**	**184**	*e*PN	Pn	07 34 15.9	+1.3
SYVR				*e*		07 34 44.4	
SYVR				pmax	pmax		
	comp=Z,40nm,0.4s						
SYVR				smax			
	comp=E,266nm,0.6s						
SYVR	**Suvo**	**2.07**	**184**	*e*Pn	Pn	07 34 14.8	+0.2
SYVR				*e*Pg	Pg	07 34 16.1	-2.8
SYVR				*e*Sg	Sg	07 34 44.4	-1.4
SYVR				Pmax			
	comp=E,40nm,0.4s						
SYVR				Smax			
	comp=E,270nm,0.4s						
OGRR	**Ongureny**	**2.59**	**218**	*e*Pn	Pn	07 34 22.7	+1.0
OGRR				*e*Sg	Sg	07 34 58.9	-3.5
OGRR				Smax			
	comp=E,64nm,0.5s						
MXMB	**Maximikha**	**2.61**	**200**	*e*Pn	Pn	07 34 22.3	+0.2
MXMB				*e*Pg	Pg	07 34 26.3	-3.0
MXMB				*e*Sg	Sg	07 35 00.6	-2.6
MXMB				Pmax			
	comp=E,7.0nm,0.1s						
MXMB				Smax			
	comp=E,208nm,0.5s						
BOD	**Bodaibo**	**2.95**	**43**	*e*Pn	Pn	07 34 27.5	+0.8
BOD				*e*Sn	Sn	07 35 02.7	+0.3
BOD				*e*Sg	Sg	07 35 09.7	-4.2
BOD				Smax			
	comp=E,74nm,0.8s						
TRG	**Tyrgan**	**3.75**	**219**	*e*Pn	Pn	07 34 38.9	+1.3
TRG				*e*Sn	Sn	07 35 22.2	+0.1
TRG				*e*Sg	Sg	07 35 35.7	-3.8
TRG				Smax			
	comp=E,33nm,0.4s						
TRTB	**Turuntaevo**	**3.82**	**205**	*e*Pn	Pn	07 34 39.0	+0.3
TRTB				*e*Sg	Sg	07 35 38.1	-3.9
TRTB				Smax			
	comp=E,30nm,0.5s						
UUDB	**Ulan-Yde**	**4.15**	**203**	*e*Sg	Sg	07 35 47.9	-4.7
UUDB				Smax			
	comp=E,51nm,1.3s						
CIT	**Chita**	**4.19**	**151**	*e*Pg	Pg	07 34 53.2	-6.3
CIT				*e*Sg	Sg	07 35 47.9	-5.9
CIT				Pmax			
	comp=E,10.0nm,0.2s						
CIT				Smax			
	comp=E,59nm,0.4s						
CRS	**Chara**	**4.62**	**72**	*e*PN	Pn	07 35 00.5	+11
CRS				*e*		07 36 02.9	
CRS				pmax	pmax		
	comp=Z,22nm,1.1s						
CRS				smax			
	comp=E,54nm,1.1s						
CRS	**Chara**	**4.62**	**72**	*e*Pn	Pn	07 34 51.4	+1.8
CRS				*e*		07 35 04.2	
CRS				*e*Sg	Sg	07 36 02.2	-5.4
CRS				Smax			
	comp=E,55nm,1.1s						
TLY	**Talaya**	**5.63**	**227**	*e*Pn	Pn	07 35 03.5	-0.1
TLY				*e*Pg	Pg	07 35 20.8	-6.4
TLY				*e*Sn	Sn	07 36 06.6	-2.1
TLY				*e*Sg	Sg	07 36 32.5	-7.7
TLY				Pmax			
	comp=E,4.0nm,0.3s						
TLY				Smax			
	comp=E,20nm,0.6s						
TUP	**Tupik**	**5.72**	**99**	*e*PN	Pn	07 35 04.8	0.0
TUP				*e*		07 35 22.4	
TUP				*e*		07 36 36.5	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TUP				smax			
	comp=N,56nm,0.9s						
TUP	**Tupik**	**5.72**	**99**	*e*Pn	Pn	07 35 04.8	0.0
TUP				*e*Pg	Pg	07 35 21.4	-7.5
TUP				*e*Sn	Sn	07 36 08.8	-2.1
TUP				*e*Sg	Sg	07 36 36.7	-6.3
TUP				Pmax			
	comp=N,27nm,0.4s						
TUP				Smax			
	comp=N,58nm,0.9s						
ARS	**Arshan**	**6.00**	**234**	*e*PN	Pn	07 35 08.2	-0.4
ARS				*e*S	Sn	07 36 14.6	-3.0
ARS	**Arshan**	**6.00**	**234**	*e*Pn	Pn	07 35 08.2	-0.4
ARS				*e*Sn	Sn	07 36 14.8	-2.8
ARS				*e*Sg	Sg	07 36 43.9	-7.9
ARS				Smax			
	comp=N,113nm,0.6s						
KPC	**Khapcheranga**	**6.16**	**167**	*e*Pn	Pn	07 35 10.7	-0.2
KPC				*e*Pg	Pg	07 35 29.4	-7.9
KPC				*e*Sg	Sg	07 36 49.4	-7.7
KPC				Pmax			
	comp=N,2.0nm,0.5s						
KPC				Smax			
	comp=N,29nm,1.2s						
MOY	**Mondy**	**6.83**	**237**	*e*PG	Pg	07 35 40.7	-9.4
MOY				*e*		07 37 08.4	
MOY				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MOY				smax			
	comp=E,56nm,1.6s						
ORL	**Orlik**	**6.91**	**247**	*e*Pn	Pn	07 35 21.9	+0.8
ORL				*e*Sn	Sn	07 36 37.2	-3.0
ORL				*e*Sg	Sg	07 37 13.7	-7.4
ORL				Smax			
	comp=E,43nm,1.2s						

IDC 12 07:38:07.5±2.4, 586S×13069E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=143.4km s-min=31.0km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.44**	**166**	Pn	Pn	07 41 33.2	+0.2
	0.3nm,0.3s,baz=349,slow=13,SNR=20						
WRA				Sn	Sn	07 43 57.9	-16
	0.8nm,0.3s,baz=339,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**17.97**	**170**	P	Pn	07 42 18.8	+0.1
	0.1nm,0.3s,baz=351,slow=10,SNR=6.5						
ASAR				S	Sn	07 45 24.3	-15
	0.1nm,0.3s,baz=346,slow=25,SNR=4.6						
MKAR	**Makanchi Array**	**67.66**	**326**	P	P	07 49 06.5	+0.2
	0.4nm,0.4s,baz=115,slow=7.9,SNR=8.0						

*CSEM **12** 07:41:28.9±1.4, 3911N×2834W, h8km±8km, ML2.4, Error ellipse: s-maj=5.9km s-min=3.7km az=155.0, After PDA*

*PDA **12** 07:41:28.9±1.4, 3911N×2834W, h8km±8km, MD3.0, ML2.4, Error ellipse: s-maj=5.9km s-min=3.7km az=155.0*

SVSA 12 07:41:28.9±1.4, 3911N×2834W, h8km±8km, MD3.0, ML2.4, Error ellipse: s-maj=5.9km s-min=3.7km az=155.0,

Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**0.23**	**101**	*eP*	Pg	07 41 33.1	-0.3
PVIA				*eS*	Sg	07 41 36.6	+0.1
PVIA							
	72nm,0.2s						
SRBC	**Serra Branca**	**0.24**	**108**	*eP*	Pg	07 41 33.2	-0.5
SRBC				*eS*	Sg	07 41 37.3	+0.4
STGR	**Santa Cruz**	**0.26**	**96**	*eP*	Pg	07 41 33.7	-0.3
STGR				*eS*	Sg	07 41 37.5	0.0
STGR							
	245nm,0.2s						
STGR	**Santa Cruz**	**0.26**	**96**	*eP*	Pg	07 41 33.7	-0.3
STGR				*eS*	Sg	07 41 37.5	0.0
PGRA	**Graciosa**	**0.29**	**106**	*eP*	Pg	07 41 33.7	-0.9
PGRA				*eS*	Sg	07 41 37.7	-0.7
PGRA							
	398nm,0.4s						
PGRA	**Graciosa**	**0.29**	**106**	*eP*	Pg	07 41 33.7	-0.9
PGRA				*eS*	Sg	07 41 37.7	-0.7
ROSA	**Rosais**	**0.40**	**169**	*i* P	Pg	07 41 35.5	-1.1
PAMA	**Santo Amaro**	**0.45**	**164**	*eS*	Sg	07 41 42.8	-0.6
PAMA							
	85nm,0.3s						
PLUZ	**Luz**	**0.51**	**260**	*eP*	Pg	07 41 34.2	-4.5
PLUZ				*eS*	Sg	07 41 38.4	-7.0
PLUZ							
	118nm,0.2s						
PMAN	**Manadas**	**0.51**	**158**	*eP*	Pg	07 41 37.0	-1.8
PMAN				*eS*	Sg	07 41 43.9	-1.7
PMAN							
	136nm,0.2s						
PMAN	**Manadas**	**0.51**	**158**	*eP*	Pg	07 41 37.0	-1.8
PMAN				*eS*	Sg	07 41 43.9	-1.7
PCED	**Cedros**	**0.56**	**211**	*i* P	Pg	07 41 38.1	-1.6
PCED				*eS*	Sg	07 41 45.7	-1.3
PCED							
	571nm,0.3s						
PCED	**Cedros**	**0.56**	**211**	*eS*	Sg	07 41 45.7	-1.3
CALA	**Caldeira**	**0.60**	**209**	*i* P	Pg	07 41 39.0	-1.5
CALA				*eS*	Sg	07 41 46.6	-1.7
CALA	**Caldeira**	**0.60**	**209**	*eS*	Sg	07 41 46.6	-1.7
PICO	**Pico**	**0.61**	**187**	*eP*	Pg	07 41 39.0	-1.7
PICO				*eS*	Sg	07 41 46.7	-2.0
PTEI	**Pico do Teixo**	**0.61**	**182**	*eS*	Sg	07 41 46.7	-2.1
PTEI							
	32nm,0.3s						
HOR	**Horta**	**0.63**	**202**	*eS*	Sg	07 41 47.4	-1.7
PTCA	**Ponta do Capel**	**0.64**	**215**	*eP*	Pg	07 41 39.7	-1.5
PTCA				*eS*	Sg	07 41 47.8	-1.7
PTCA							
	153nm,0.3s						
PTCA	**Ponta do Capel**	**0.64**	**215**	*eP*	Pg	07 41 39.7	-1.5
PTCA				*eS*	Sg	07 41 47.8	-1.7
PCND	**Candelaria**	**0.65**	**189**	*eP*	Pg	07 41 39.6	-1.8
PCND				*eS*	Sg	07 41 47.6	-2.2
PCND							
	58nm,0.3s						
PBOI	**Pico dos Bois**	**0.67**	**183**	*eS*	Sg	07 41 48.5	-2.1
PBOI							
	39nm,0.2s						
PID	**Ribeirinha**	**0.69**	**166**	*eS*	Sg	07 41 48.2	-2.9
PIED	**Piedade**	**0.72**	**162**	*eS*	Sg	07 41 49.0	-3.3

*ISCJB **12** 08:06:51.0±0.5, 4230N±002×4539E±002, h1km±5km, Error ellipse: s-maj=4.1km s-min=2.8km az=166.5*

*CSEM **12** 08:06:51.1±0.3, 4221N×4536E, h2km, mb4.1, Error ellipse: s-maj=5.9km s-min=3.2km az=14.0*

*TIF **12** 08:06:51.0, 4226N×4539E, h11km±2km*

*MOS **12** 08:06:53.0±2.1, 4228N×4543E, h33km, mb4.1/1, Error ellipse: s-maj=13.2km s-min=9.2km az=129.1*

ISC 12 08:06:51.7±0.4, 4229N±002×4539E±002, h2km±6km, n24, σ1§19/44, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.55**	**249**	P	**Pg**	**08 07 02.4**	**+0.1**
DUS				S	**Sg**	**08 07 10.9**	**+1.5**
BTLR	**Botlikh**	**0.72**	**59**	*e*PG	**Pg**	**08 07 03.8**	**-1.8**
BTLR				*i* S	**Sg**	**08 07 14.4**	**-0.5**
MTA	**Mtatsminda**	**0.74**	**217**	P	**Pg**	**08 07 06.0**	**0.0**
MTA				S	**Sg**	**08 07 16.7**	**+1.1**
SNJR	**Sundja**	**0.89**	**332**	*e*Pg	**Pg**	**08 07 09.4**	**+0.7**
SNJR				*i* Sg	**Sg**	**08 07 21.7**	**+1.5**
VLKR	**Vladikavkaz**	**0.92**	**325**	*e*Pg	**Pg**	**08 07 09.6**	**+0.2**
VLKR				*e*Sg	**Sg**	**08 07 22.1**	**+0.8**
LACR	**Lac**	**0.97**	**304**	*i* Pg	**Pg**	**08 07 09.7**	**-0.6**
LACR				*i* Sg	**Sg**	**08 07 22.2**	**-0.6**
GOR	**Gori**	**1.00**	**253**	P	**Pg**	**08 07 07.9**	**-3.0**
GOR				S	**Sg**	**08 07 23.7**	**-0.1**
XNZR	**Khunzakh**	**1.01**	**75**	*e*Pg	**Pg**	**08 07 12.7**	**+1.7**
XNZR				*i* Sg	**Sg**	**08 07 26.0**	**+1.9**
UNCR	**Uncukul**	**1.12**	**67**	*e*Pg	**Pg**	**08 07 14.2**	**+0.9**
UNCR				*i* Sg	**Sg**	**08 07 27.2**	**-0.6**
KZR	**Kazreti**	**1.16**	**219**	P	**Pg**	**08 07 12.8**	**-1.2**
KZR				S	**Sg**	**08 07 28.3**	**-0.8**
ZEI	**Tsey**	**1.20**	**294**	*e*Pg	**Pg**	**08 07 13.5**	**-1.3**
ZEI				*i* Sg	**Sg**	**08 07 29.9**	**-0.4**
ARNR	**Ardon**	**1.21**	**318**	*i* Pg	**Pg**	**08 07 15.6**	**+0.6**
ARNR				*i* Sg	**Sg**	**08 07 33.2**	**+2.5**
KRNR	**Karanay**	**1.24**	**64**	*e*PG	**Pg**	**08 07 15.0**	**-0.6**
KRNR				*i* S	**Sg**	**08 07 30.8**	**-0.9**
KMKR	**Kumukh**	**1.28**	**97**	*e*PG	**Pg**	**08 07 15.0**	**-1.3**
KMKR				*eS*	**Sg**	**08 07 34.0**	**+1.1**
ONI	**Oni**	**1.46**	**282**	P	**Pn**	**08 07 18.3**	**-0.9**
ONI				S	**Sg**	**08 07 40.1**	**+1.4**
DIGR	**Digorskoe uzhe**	**1.47**	**295**	*i* Pg	**Pg**	**08 07 18.5**	**-1.4**
PRTR	**Priterechnaya**	**1.67**	**331**	*e*Pn	**Pn**	**08 07 22.7**	**+0.7**
PRTR				*e*Sg	**Sg**	**08 07 44.7**	**-0.7**
GNI	**Garni**	**2.19**	**193**	*c* iPN	**Pn**	**08 07 30.5**	**+1.3**
GNI	**Garni**	**2.19**	**193**	*i* Pn	**Pn**	**08 07 30.5**	**+1.3**
DIGO	**Kars**	**2.41**	**220**	*i* P	**Pb**	**08 07 34.0**	**-1.8**
DIGO				*i* S	**Sb**	**08 08 06.8**	**+0.8**
SHAR	**Shatzhatmas**	**2.47**	**307**	⇓*e*PN	**Pb**	**08 07 35.2**	**-1.6**
SHAR				*i* S	**Sb**	**08 08 06.1**	**-1.5**
SHAR				pmax	Sb		
	comp=Z,5.0nm,0.8s						
SHAR				smax			
	comp=N,42nm,0.8s						
SHAR	**Shatzhatmas**	**2.47**	**307**	*e*Pn	**Pb**	**08 07 35.2**	**-1.6**
	comp=N,5.0nm,0.8s						
SHAR				*i* Sn	**Sb**	**08 08 06.1**	**-1.5**
KIV	**Kislovodsk**	**2.58**	**311**	*i* PN	**Pn**	**08 07 38.7**	**+4.1**
ARTV	**Artvin**	**2.81**	**248**	*i* P	**Pn**	**08 07 39.7**	**+2.0**
ARTV				*i* S	**Sg**	**08 08 17.6**	**-4.6**

*IDC **12** 08:15:29.6±6.7, 3614N×7107E, h100km±58km, mb3.5/8, mb1 3.6/11, mb1mx3.4/24, mbtmp3.5/11, Error ellipse: s-maj=35.3km s-min=21.6km az=27.0*

*ISCJB **12** 08:15:33.0±0.5, 3639N±003×7117E±008, h145km±7km, mb3.5/7, Error ellipse: s-maj=10.9km s-min=5.0km az=0.5*

*NNC **12** 08:15:39.7±2.1, 3691N×7073E, h143km±31km, mb3.0, mpv3.7, Error ellipse: s-maj=26.6km s-min=18.8km az=48.0*

**ISC 12 08

EKS2 Erkin-Say 6.58 17 P Pn 08 17 08.1 -0.3
SNR=13
KK31 Karatay Array 6.72 356 P Pn 08 17 08.7 -1.6
8.3nm,0.4s,baz=182,slow=13,SNR=142
KK31 ⇓S Sn 08 18 20.4 -5.3
4.1nm,0.3s,baz=186,slow=20,SNR=5.0
AAK Ala-Archa 6.74 21 P Pn 08 17 10.9 +0.3
SNR=15
CHMS Chumysh 7.15 22 P Pn 08 17 16.8 +0.7
SNR=6.5
USP Ospenovka 7.33 19 P Pn 08 17 18.6 +0.1
SNR=8.9
TKM2 Tokmak 2 7.36 26 P Pn 08 17 21.7 +2.9
SNR=17
TKM2 Tokmak 2 7.36 26 ⇑P **Pn 08 17 20.6 +1.7**
0.9nm,0.5s
TKM2 ⇓S Sn 08 18 39.8 -1.2
1.0nm,0.6s
KLP Kalpa 7.61 127 *e*P **Pn 08 17 20.8 -1.5**
KLP *e*S Sn 08 18 41.8 -5.3
KLP AML AML 08 18 53.1
comp=N,105nm,0.9s
KLP AML AML 08 18 55.3
comp=E,111nm,0.6s
KHET Khetri 9.17 153 *e*P **Pn 08 17 39.6 -3.5**
KHET *e*S Sn 08 19 15.1 -10
KHET AML AML 08 19 20.6
comp=E,15nm,0.3s
KHET AML AML 08 19 22.6
comp=N,16nm,0.5s
KUDL Kundal 9.37 150 *e*P **Pn 08 17 41.1 -4.7**
KUDL *e*S Sn 08 19 18.7 -11
KUDL AML AML 08 19 21.6
comp=E,12nm,0.4s
KUDL AML AML 08 19 23.0
comp=N,8.8nm,0.3s
SONA Sohna 9.53 147 *e*S **Sn 08 19 22.3 -11**
SONA AML AML 08 19 30.3
comp=E,15nm,0.3s
SONA AML AML 08 19 31.2
comp=N,11nm,0.2s
MKAR Makanchi Array 13.30 35 P Pn 08 18 38.1 +0.7
comp=N,0.1nm,0.3s,baz=229,slow=16,SNR=8.3
AB31 Akbulak array 15.25 331 ⇓P **Pn 08 18 59.9 -2.0**
comp=N,5.8nm,0.7s
AB31 ⇓S **S 08 21 39.6 -18**
comp=N,1.2nm,0.5s
BVAR Borovoye Array 16.64 358 P Pn 08 19 18.4 -0.6
comp=N,0.5nm,0.3s,baz=153,slow=10.0,SNR=10.0
AKTO Aktyubinsk 16.95 330 ⇑P **Pn 08 19 21.2 -1.6**
comp=N,0.2nm,0.8s
AKTO ⇑S **S 08 22 21.8 -9.4**
comp=N,0.3nm,1.5s
AKTO Aktyubinsk 16.95 330 P Pn 08 19 23.3 +0.6
comp=N,0.7nm,0.3s,baz=142,slow=12,SNR=20
ZAL Zalesovo 19.94 24 P P 08 19 55.4 +0.4
comp=N,2.2nm,0.5s,baz=216,slow=2.5,SNR=8.4
FINES FINESS Array B 37.66 326 P P 08 22 36.2 +0.7
comp=N,0.6nm,0.4s,mb3.6,baz=118,slow=8.0,SNR=4.6
ARCES ARCESS Array B 41.30 338 P P 08 23 06.7 +1.0
comp=N,2.5nm,0.8s,mb3.9,baz=109,slow=9.1,SNR=5.7
NB2 NORSAR Subarra 44.55 323 P P 08 23 31.9 0.0
comp=Z,0.7nm,0.5s,mb3.5,baz=95,slow=8.6
NOA NORSAR Array B 44.55 323 P P 08 23 32.1 +0.3
comp=Z,1.1nm,0.5s,mb3.8,baz=98,slow=7.7,SNR=3.2
TORD Torodi Ar. Bea 65.86 269 P P 08 26 03.7 -0.9
comp=Z,0.4nm,0.5s,mb3.5,baz=51,slow=5.6,SNR=7.9
YKA Yellowknife Ar 81.35 3 P P 08 27 35.7 +0.7
comp=Z,0.4nm,0.4s,mb3.4,baz=352,slow=5.3,SNR=19
WRA Warramunga Arr 81.81 122 P P 08 27 37.6 +0.2
comp=Z,0.2nm,0.4s,mb3.1,baz=324,slow=4.8,SNR=5.1
ASAR Alice Springs 84.07 125 P P 08 27 49.2 +0.2
comp=Z,0.2nm,0.4s,mb3.2,baz=317,slow=4.7,SNR=6.3

IDC ***12*** *08:34:32.2±2.1, 970N×8436W, h31km±14km, mb4.1/12, mb1 4.4/14, mb1mx4.2/20, mbtmp4.1/14, ML4.1/2, MS3.8/7, Ms1 3.8/7, ms1mx3.4/27, Error ellipse: s-maj=31.9km s-min=16.0km az=50.0*
ISCJB ***12*** *08:34:33.4±0.4, 965N±005×8441W±004, h48km±3km, mb4.4/31, MS4.3/6, Error ellipse: s-maj=9.3km s-min=4.4km az=62.6*
NEIC ***12*** *08:34:33.4±0.5, 960N×8448W, h43km±4km, mb4.6/20, MD4.6(CASC), Error ellipse: s-maj=9.3km s-min=4.9km az=209.0*
NEIC Felt at Atenas and San Jose.
BJI ***12*** *08:34:33.3, 960N×8450W, h43km, mB5.0, Ms5.3, Msz4.9*
CASC ***12*** *08:34:33.2±2.1, 952N×8449W, h26km±5km, MD3.5, ML4.0, mb4.6(NEIC)*
ISC 12 08:34:34.8±0.4, 971N±005×8438W±004, h41km±3km, n136, σ1§05/135, mb4.4/31, MS4.3/6, 30C-37D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRS1	**Puriscal**	**0.28**	**14**	⇑*i*P	**Pn**	**08 34 41.9**	**-1.0**
PRS1	**Puriscal**	**0.28**	**14**	⇑*i*P	**Pn**	**08 34 42.0**	**-0.9**
PRS1				*e*S	**Sn**	**08 34 47.1**	**-1.4**
CGA2	**Cerro Gallo 2**	**0.31**	**345**	⇑*i*P	**Pn**	**08 34 43.6**	**+0.3**
CGA2	**Cerro Gallo 2**	**0.31**	**345**	⇑*i*P	**Pn**	**08 34 43.6**	**+0.3**
QCR	**Quepos**	**0.36**	**143**	⇓*e*P	**Pn**	**08 34 41.0**	**-2.8**
LCR2	**La Lucha 2**	**0.37**	**85**	⇓*e*P	**Pn**	**08 34 43.8**	**-0.2**
LCR2	**La Lucha 2**	**0.37**	**85**	⇓*i*P	**Pn**	**08 34 43.8**	**-0.2**
LCR2				*e*S	**Sn**	**08 34 51.2**	**+0.8**
SJS	**Escuela Geolog**	**0.39**	**55**	⇓*e*P	**Pn**	**08 34 45.2**	**+1.0**
SJS	**Escuela Geolog**	**0.39**	**55**	⇓*i*P	**Pn**	**08 34 45.3**	**+1.0**
BUS	**Buena Vista**	**0.63**	**104**	⇓*i*P	**Pn**	**08 34 47.1**	**-0.3**
BUS	**Buena Vista**	**0.63**	**104**	⇓*i*P	**Pn**	**08 34 47.1**	**-0.3**
JCR	**Jicaral**	**0.73**	**281**	⇓*i*P	**Pn**	**08 34 45.6**	**-3.1**
JCR	**Jicaral**	**0.73**	**281**	⇓*i*P	**Pn**	**08 34 45.6**	**-3.1**
JCR				*e*S	**Sn**	**08 34 56.3**	**-2.4**
JTS	**JuntasAbangare**	**0.81**	**316**	Pg	**Pn**	**08 34 47.8**	**-1.9**
	1μm,0.3s,baz=122,slow=10,SNR=391						
JTS				Lg		08 35 00.3	
	2μm,0.3s,baz=217,slow=20,SNR=32						
JTS	**JuntasAbangare**	**0.81**	**316**	*e*Pn	**Pn**	**08 34 48.0**	**-1.7**
JTS				*e*Sn	**Sn**	**08 35 01.0**	**+0.5**
FORC	**Fortuna**	**0.81**	**339**	⇑*i*P	**Pn**	**08 34 51.0**	**+1.3**
FORC				*i* S	**Sn**	**08 35 04.8**	**+4.3**
TRTC	**Tortuguero**	**1.08**	**37**	⇓*e*P	**Pn**	**08 34 56.2**	**+2.7**
TRTC				*e*S	**Sn**	**08 35 13.1**	**+5.9**
VCR	**Vista de Mar**	**1.30**	**289**	⇓*e*P	**Pn**	**08 34 53.4**	**-3.1**
VCR	**Vista de Mar**	**1.30**	**289**	⇓*i*P	**Pn**	**08 34 53.4**	**-3.1**
CNI	**Changuinola**	**1.86**	**99**	⇓*i*P	**Pn**	**08 35 04.5**	**+0.3**
BRU	**Baru**	**2.01**	**116**	*e*P	**Pn**	**08 35 06.0**	**-0.3**
MADN	**Villa Maderas**	**2.03**	**326**	*e*P	**Pn**	**08 35 07.7**	**+1.1**
CONN	**Concepcion**	**2.21**	**326**	*e*P	**Pn**	**08 35 09.8**	**+0.8**
DVD	**David**	**2.29**	**123**	*e*P	**Pn**	**08 35 12.0**	**+1.9**
APON	**Apoyo**	**2.75**	**323**	*e*P	**Pn**	**08 35 18.1**	**+1.7**
MGAN	**Managua**	**3.04**	**323**	*e*S	**Sn**	**08 36 01.6**	**+6.2**
MGAN				⇑*i*		08 36 04.3	
	comp=E,825nm,0.4s						
AZU	**Azuero**	**4.49**	**115**	*e*P	**Pn**	**08 35 41.3**	**+1.1**
BCIP	**Isla Barro Col**	**4.51**	**97**	*e*Pn	**Pn**	**08 35 40.8**	**+0.1**
TGUH	**Tegucigalpa,Un**	**5.16**	**327**	*e*Pn	**Pn**	**08 35 50.6**	**+1.0**
	comp=E,206nm,0.8s						
TEIG	**Tepich**	**11.11**	**341**	LR	LR	08 41 35.1	
	comp=E,261nm,19.3s,baz=129,slow=38						
OTAV	**Otavalo**	**11.11**	**148**	*e*Pn	**Pn**	**08 37 11.3**	**+0.2**
CMIG	**Matias Romero**	**12.57**	**307**	Pn	**Pn**	**08 37 30.0**	**-1.1**
	comp=E,0.6nm,0.3s,baz=121,slow=12,SNR=15						
CMIG				Sn	**Sn**	**08 39 48.2**	**-1.5**
	comp=E,0.7nm,0.3s,baz=350,slow=10,SNR=4.0						
CMIG				LR	LR	08 42 55.6	
	comp=E,184nm,20.6s,baz=126,slow=40						
CMIG	**Matias Romero**	**12.57**	**307**	Pn	**Pn**	**08 37 30.0**	**-1.1**
CMIG				Sn	**Sn**	**08 39 48.2**	**-1.5**
CMIG				LR	LR	08 42 55.6	
SDV	**Santo Domingo**	**13.59**	**92**	Pn	**Pn**	**08 37 45.9**	**+0.9**
	comp=E,0.6nm,0.3s,baz=265,slow=2.7,SNR=10						
SDV	**Santo Domingo**	**13.59**	**92**	*e*Pn	**Pn**	**08 37 45.9**	**+0.9**
IIO	**Organos**	**16.99**	**307**	*i* P	**Pn**	**08 38 30.0**	**+0.6**
ATAH	**Atahualpa**	**17.64**	**160**	P	**Pn**	**08 38 36.7**	**-0.7**
	comp=E,0.8nm,0.3s,baz=6.3,slow=18,SNR=2.9						
ATAH				LR	LR	08 44 27.6	
	comp=E,290nm,21.4s,baz=0.5,slow=34						
LRAL	**Lakeview Retre**	**23.34**	**354**	*e*P	**P**	**08 39 39.8**	**+0.2**
	comp=E,54nm,0.8s,mb5.0						
GOGA	**Godfrey**	**23.60**	**2**	*e*P	**P**	**08 39 42.0**	**0.0**
	comp=E,17nm,0.5s,mb4.7						
NHSC	**New Hope**	**23.60**	**9**	*e*P	**P**	**08 39 41.0**	**-1.0**
	comp=E,24nm,0.8s,mb4.7						
LHS	**Liberty Hill**	**24.86**	**7**	*e*P	**P**	**08 39 53.9**	**+0.4**
OXF	**Oxford**	**25.11**	**350**	*e*P	**P**	**08 39 54.8**	**-1.0**
	comp=E,26nm,0.5s,mb5.0						
JCT	**Junction City**	**25.17**	**327**	*e*P	**P**	**08 39 56.2**	**-0.2**
	comp=E,11nm,0.7s,mb4.5						
PLAL	**Pickwick Lake**	**25.38**	**353**	*e*P	**P**	**08 39 57.4**	**-0.8**
	comp=E,8.6nm,0.8s,mb4.3						
TKL	**Tuckaleechee C**	**25.83**	**1**	P	**P**	**08 40 01.6**	**-0.7**
	comp=E,10nm,0.9s,mb4.4,baz=160,slow=13,SNR=6.1						
TKL				LR	LR	08 49 55.7	
	comp=E,186nm,21.0s,MS3.6,baz=242,slow=36						
UALR	**University of**	**25.99**	**345**	*e*P	**P**	**08 40 03.0**	**-0.8**
	comp=E,18nm,0.9s,mb4.6						
MIAR	**Mount Ida**	**26.11**	**343**	*e*P	**P**	**08 40 04.7**	**-0.2**
	comp=E,22nm,0.6s,mb4.9						
WVT	**Waverly**	**26.48**	**354**	*e*P	**P**	**08 40 06.6**	**-1.6**
	comp=E,9.2nm,1.0s,mb4.3						
LTX	**Lajitas**	**26.59**	**320**	*e*P	**P**	**08 40 08.6**	**-0.6**
	comp=E,4.8nm,0.4s,mb4.4						
TXAR	**Lajitas Array**	**26.59**	**320**	P	**P**	**08 40 08.1**	**-1.1**
	comp=E,4.6nm,0.6s,mb4.2,baz=146,slow=8.7,SNR=44						
TXAR				LR	LR	08 53 16.3	
	comp=E,186nm,20.7s,MS3.6,baz=100,slow=42						
SIUC	**Southern Illin**	**28.22**	**352**	*e*P	**P**	**08 40 23.3**	**-0.4**
	comp=E,21nm,1.2s,mb4.6						
FVM	**French Village**	**28.67**	**350**	*e*P	**P**	**08 40 26.4**	**-1.3**
	comp=E,5.8nm,0.5s,mb4.6						
MNTX	**Cornudas Mount**	**29.29**	**321**	*e*P	**P**	**08 40 33.1**	**-0.1**
KSU1	**Kansas State U**	**31.24**	**341**	*e*P	**P**	**08 40 48.6**	**-1.9**
	comp=E,5.2nm,0.5s,mb4.6						
ANMO	**Albuquerque**	**32.22**	**325**	*e*P	**P**	**08 40 58.3**	**-0.8**
	comp=E,2.1nm,0.8s,mb4.0						
SCIA	**State Center**	**33.00**	**348**	*e*P	**P**	**08 41 04.5**	**-1.5**
	comp=E,13nm,0.4s,mb5.2						
116A	**Eloy**	**33.96**	**316**	P	**P**	**08 41 14.4**	**+0.1**
	baz=34,SNR=13						
115A	**Sonoran Desert**	**34.40**	**316**	⇓P	**P**	**08 41 18.3**	**+0.1**
	baz=34						
SIV	**San Ignacio**	**34.42**	**138**	P	**P**	**08 41 16.5**	**-1.8**
	comp=E,0.9nm,0.8s,mb3.7,baz=312,slow=9.8,SNR=5.4						
MVCO	**Mesa Verde**	**34.98**	**325**	⇑P	**P**	**08 41 23.4**	**+0.2**
	baz=35						
Z14A	**Wintersburg**	**35.28**	**316**	⇑P	**P**	**08 41 25.8**	**+0.1**
	baz=35						
X15A	**Humboldt**	**35.47**	**318**	⇓P	**P**	**08 41 27.7**	**+0.4**
	baz=36,SNR=8.1						
WUAZ	**Wupatki**	**35.55**	**320**	⇓P	**P**	**08 41 28.8**	**+0.7**
	baz=36						
Y14A	**Wickenburg**	**35.65**	**317**	⇓P	**P**	**08 41 29.7**	**+0.8**
	baz=36,SNR=8.6						
X14A	**Yava**	**35.89**	**318**	⇑P	**P**	**08 41 31.8**	**+0.9**
	baz=36,SNR=11						
PV10	**Paradox Valley**	**36.12**	**326**	*e*P	**P**	**08 41 32.2**	**-0.6**
Y13A	**Salome**	**36.14**	**316**	⇓P	**P**	**08 41 33.7**	**+0.6**
	baz=36,SNR=6.2						
GLA	**Glamis**	**36.41**	**314**	⇑P	**P**	**08 41 36.2**	**+0.8**
	baz=36						
W14A	**Seligman**	**36.46**	**319**	⇓P	**P**	**08 41 36.9**	**+1.1**
	baz=36,SNR=8.0						
Y12C	**Blythe**	**36.58**	**315**	⇑P	**P**	**08 41 38.0**	**+1.2**
	baz=37						
X13A	**Yucca**	**36.59**	**317**	⇓P	**P**	**08 41 38.0**	**+1.1**
	baz=37,SNR=6.8						
PDMCI	**Parker Dam,Lak**	**36.63**	**316**	⇑P	**P**	**08 41 38.2**	**+1.0**
	baz=37,SNR=10						
W13A	**Hualapai Mount**	**36.92**	**318**	⇓P	**P**	**08 41 40.9**	**+1.2**
	baz=37,SNR=11						
BC3	**Big Chuckw Mtn**	**37.18**	**315**	⇓P	**P**	**08 41 42.4**	**+0.5**
	baz=37						
NEE2	**Needles Airpor**	**37.22**	**317**	⇑P	**P**	**08 41 43.1**	**+0.8**
	baz=37						
SRU	**San Rafael**	**37.45**	**326**	*e*P	**P**	**08 41 43.4**	**-0.8**
	comp=E,5.2nm,0.6s,mb4.5						
W12A	**Cal Nev Ari**	**37.69**	**317**	⇓P	**P**	**08 41 46.9**	**+0.6**
	baz=38						
BELC	**Belle Mtn.**	**37.74**	**315**	⇓P	**P**	**08 41 47.0**	**+0.2**
	baz=38						
PFO	**Pinyon Flat Ob**	**37.86**	**314**	⇑P	**P**	**08 41 48.1**	**+0.4**
	baz=38						
V12A	**Nelson**	**37.93**	**318**	P	**P**	**08 41 48.4**	**+0.1**
	baz=38,SNR=7.2						
ARUT	**Antelope Range**	**38.28**	**322**	*e*P	**P**	**08 41 51.1**	**-0.1**
V11A	**Goodsprings**	**38.38**	**318**	⇑P	**P**	**08 41 52.9**	**+0.8**
	baz=38						
MURC	**Murrieta**	**38.39**	**313**	⇑P	**P**	**08 41 52.8**	**+0.6**
	baz=38						
HEC	**Hector,Ludlow**	**38.42**	**316**	⇑P	**P**	**08 41 53.3**	**+0.8**
	baz=38						
TUQ	**Turquoise Mtn.**	**38.48**	**317**	⇑P	**P**	**08 41 53.4**	**+0.5**
	baz=38						
SHOC	**Shoshone**	**38.98**	**317**	⇓P	**P**	**08 41 57.3**	**+0.2**
	baz=39						
GSC	**Goldstone**	**39.01**	**316**	⇑P	**P**	**08 41 58.3**	**+1.0**
	baz=39						
U10A	**Ash Meadows, A**	**39.30**	**318**	⇓P	**P**	**08 42 01.1**	**+1.3**
	baz=39						
PDAR	**Pinedale Array**	**39.61**	**331**	P	**P**	**08 42 01.4**	**-1.0**
	comp=E,0.7nm,0.6s,mb3.5,baz=130,slow=9.9,SNR=7.4						
PDAR				PcP	PcP	08 44 06.5	-2.3
	comp=E,0.7nm,0.7s,baz=119,slow=5.2,SNR=4.4						
AGMN	**Agassiz Refuge**	**39.66**	**348**	*e*P	**P**	**08 42 00.2**	**-2.5**
	comp=E,13nm,0.8s,mb4.7						
FURC	**Furnace Creek,**	**39.67**	**317**	⇑P	**P**	**08 42 04.0**	**+1.0**
	baz=40						
LRMC	**Laurel Mountai**	**39.71**	**315**	⇓P	**P**	**08 42 03.4**	**+0.2**
	baz=40						
HWUT	**Hardware Ranch**	**39.78**	**328**	*e*P	**P**	**08 42 02.8**	**-1.0**
	comp=E,2.1nm,0.6s,mb4.0						
MPMC	**Manual Prospec**	**39.88**	**316**	⇑P	**P**	**08 42 05.2**	**+0.6**
	baz=40						
P12A	**McGill**	**40.23**	**323**	⇓P	**P**	**08 42 08.6**	**+1.0**
	baz=40						
Q11A	**Duckwater**	**40.30**	**321**	⇓P	**P**	**08 42 09.1**	**+1.0**
	baz=40						
S09A	**Goldfield**	**40.63**	**319**	⇓P	**P**	**08 42 11.4**	**+0.6**
	baz=41						
R09A	**Tonopah**	**40.83**	**319**	⇑P	**P**	**08 42 13.4**	**+0.9**
	baz=41,SNR=6.4						
VES	**Vestal, Richgr**	**40.86**	**315**	⇑P	**P**	**08 42 13.6**	**+0.9**
	baz=41						
PKM	**Peak Mountain**	**40.91**	**313**	⇓P	**P**	**08 42 14.4**	**+1.2**
	baz=41						
S08C	**White Mtn Res**	**41.13**	**318**	⇓P	**P**	**08 42 16.4**	**+1.5**
	baz=41						
SMMC	**Simmler**	**41.25**	**314**	⇓P	**P**	**08 42 16.5**	**+0.6**
	baz=41						
HELL	**Mitchell Peak,**	**41.26**	**316**	⇑P	**P**	**08 42 17.0**	**+1.0**
	baz=41						
ULM	**Lac du Bonnet**	**41.52**	**349**	P	**P**	**08 42 15.4**	**-2.7**
	comp=E,10nm,0.6s,mb4.7,baz=166,slow=8.8,SNR=35						
ULM	**Lac du Bonnet**	**41.52**	**349**	*e*P	**P**	**08 42 15.3**	**-2.8**
	comp=E,21nm,1.1s,mb4.7						
N11A	**Elko Archery C**	**41.57**	**323**	⇓P	**P**	**08 42 18.5**	**-0.1**
	baz=42						
NVAR	**Mina Array Bea**	**41.73**	**319**	P	**P**	**08 42 19.8**	**-0.1**
	comp=E,3.9nm,0.8s,mb4.1,baz=116,slow=7.5,SNR=22						
NVAR				PcP	PcP	08 44 15.8	+0.1
	comp=E,1.1nm,0.7s,baz=129,slow=5.2,SNR=4.9						
NVAR	**Mina Array Bea**	**41.73**	**319**	P	**P**	**08 42 19.8**	**-0.1**
NVAR				PcP	PcP	08 44 15.8	+0.1
Q08A	**Gabbs**	**41.74**	**320**	P	**P**	**08 42 20.7**	**+0.8**
	baz=42,SNR=5.5						
S06C	**San Francisco**	**42.45**	**317**	⇑P	**P**	**08 42 26.2**	**+0.4**
	baz=42						
R06C	**Coleville**	**42.53**	**318**	⇑P	**P**	**08 42 27.2**	**+0.8**
	baz=43						
E15A	**Deer Lodge**	**43.80**	**332**	⇑P	**P**	**08 42 37.6**	**+1.0**
	baz=44						
M07A	**Soldier Meadow**	**43.98**	**322**	⇑P	**P**	**08 42 37.0**	**-1.1**
	baz=44						
F13A	**Darby**	**44.16**	**330**	⇓P	**P**	**08 42 39.0**	**-0.4**
	baz=44						
E14A	**Clinton**	**44.20**	**331**	⇓P	**P**	**08 42 40.1**	**+0.3**
	baz=44						
E13A	**Victor**	**44.55**	**331**	⇑P	**P**	**08 42 41.7**	**-0.9**
	baz=45						
F12A	**Elk City**	**44.59**	**329**	⇓P	**P**	**08 42 42.3**	**-0.7**
	baz=45						
SCHQ	**Schefferville**	**47.11**	**14**	P	**P**	**08 43 01.0**	**-1.9**
	comp=E,8.0nm,1.1s,mb4.6,baz=193,slow=10,SNR=6.5						
SCHQ				LR	LR	09 04 10.3	
	comp=E,178nm,21.9s,MS4.0,baz=165,slow=38						
SCHQ	**Schefferville**	**47.11**	**14**	P	**P**	**08 43 00.9**	**-1.9**
SCHQ				LR	LR	09 04 10.3	
E07A	**Sunnyside**	**47.52**	**327**	⇓P	**P**	**08 43 04.5**	**-1.5**
	baz=48						
YKA	**Yellowknife Ar**	**57.05**	**344**	P	**P**	**08 44 13.3**	**-3.3**
	comp=E,2.1nm,0.6s,mb4.3,baz=142,slow=7.0,SNR=58						
YKA				PcP	PcP	08 45 11.6	+0.3
	comp=E,0.1nm,0.5s,baz=146,slow=4.0,SNR=3.8						
INK Inuvik 66.71 342 *e*P **P 08 45 19.4 -2.2**							
comp=E,72nm,0.7s							
ESDC Sonseca Array 76.51 52 P P 08 46 20.7 +0.1							
comp=E,1.8nm,0.5s,mb4.3,baz=276,slow=5.7,SNR=12							
ESLA Sonseca Array 76.51 52 *e*P **P 08 46 20.3 -0.3**							
comp=E,0.9nm,0.7s,mb3.8							
TORD Torodi Ar. Bea 84.05 78 P P 08 47 00.7 -0.5							
comp=E,0.7nm,1.0s,mb3.8,baz=301,slow=5.3,SNR=4.7							
NB2 NORSAR Subarra 84.28 29 P P 08 47 00.7 -1.6							
comp=Z,1.9nm,0.7s,mb4.3,baz=281,slow=5.1							
NOA NORSAR Array B 84.28 29 P P 08 47 01.4 -1.0							
comp=Z,1.7nm,0.7s,mb4.3,baz=280,slow=8.0,SNR=5.1							
GERES GERESS Array B 88.04 41 P P 08 47 19.2 -1.6							
comp=Z,0.4nm,0.3s,mb4.2,baz=298,slow=2.9,SNR=4.8							
GERES				LR	LR	09 22 31.3	
comp=Z,245nm,18.9s,MS4.6,baz=294,slow=33							
WMQ Urumqi 126.24 7 *e*PKP PKPdf 08 53 31.7 -1.2							
BJI Beijing 126.96 340 PKP PKPdf 08 53 34.9 +0.6							
HHC Hu-ho-hao-te 127.58 345 *e*PKP PKPdf 08 53 31.6 -3.9							
HHC PP PP 08 55 35.6 -1.0							
HHC SKS SKSdf 09 00 37.1 -6.9							
HHC SKKS SKKSac 09 02 24.2 -6.7							
HHC SS SS 09 12 40.4 -4.2							
HHC PP PP							
comp=Z,249nm,11.9s							
HHC LR LR							
comp=N,251nm,21.4s,MS5.1							
HHC LR LR							
comp=E,368nm,23.8s,MS5.1							
HHC LR LR							
comp=Z,274nm,20.8s,MS4.9							
LZH Lanzhou 133.79 351 *e*PKP PKPdf 08 53 48.5 +1.2							
LZH XPKP 08 54 06.3							
LZH LR LR							
comp=E,143nm,18.3s							
LZH LR LR							
comp=Z,215nm,20.2s,MS4.9							
CD2 Chengdu 138.86 349 *e*PKP PKPdf 08 53 57.5 +0.8							
ASAR Alice Springs 140.93 244 PKP PKPdf 08 53 59.9 -0.5							
comp=Z,0.5nm,0.6s,baz=111,slow=3.3,SNR=6.2							
WRA Warramunga Arr 141.30 250 PKP PKPdf 08 54 01.4 +0.3							
comp=Z,1.6nm,0.7s,baz=93,slow=2.7,SNR=6.4							
KMI Kunming 144.69 349 PKP PKPdf 08 54 05.3 -1.8							

GII ***12*** *08:53:11.4±0.1, 3085N×3500E, h0km±1km, ML2.8/5*
ISCJB ***12*** *08:53:12.3±0.4, 3084N±002×3502E±004, h8km±4km, Error ellipse: s-maj=5.5km s-min=3.2km az=12.5*
HLW ***12*** *08:53:14.2, 3078N×3482E, h3km, Mb3.0*
ISC 12 08:53:12.5±0.3, 3085N±002×3502E±004, h0km, n27, σ0§98/36, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.25**	**305**	Pg	**Pg**	**08 53 17.1**	**-0.2**
ZFRI	**Zfri**	**0.33**	**155**	Pg	**Pg**	**08 53 19.0**	**+0.3**
RMNI	**Mount Ramon**	**0.34**	**221**	Pg	**Pg**	**08 53 18.9**	**-0.1**
RMNI				Sg	**Sg**	**08 53 24.9**	**+1.6**
RTMI	**Retamim**	**0.35**	**305**	Pg	**Pg**	**08 53 18.9**	**-0.2**
RTMI				Sg	**Sg**	**08 53 25.4**	**+1.7**
SVTA	**Shivta**	**0.35**	**283**	Pg	**Pg**	**08 53 19.6**	**+0.4**
PRNI	**Paran**	**0.50**	**182**	Pg	**Pg**	**08 53 22.1**	**+0.1**
PRNI				Sg	**Sg**	**08 53 30.9**	**+2.4**
YTIR	**Yattir**	**0.52**	**9**	Pg	**Pg**	**08 53 22.3**	**-0.1**
KZIT	**Kziot**	**0.54**	**276**	Pg	**Pg**	**08 53 22.4**	**-0.4**
KZIT				Sg	**Sg**	**08 53 31.2**	**+1.4**
MZDA	**Masada**	**0.54**	**33**	Pg	**Pg**	**08 53 23.0**	**+0.2**
MZDA				Sg	**Sg**	**08 53 31.6**	**+1.7**
AMAZ	**Amatzia**	**0.68**	**352**	Pg	**Pg**	**08 53 25.8**	**+0.2**
DSI	**Dead Sea**	**0.78**	**23**	Pg	**Pg**	**08 53 28.1**	**+0.7**
DRGI	**Dragot**	**0.80**	**23**	Pg	**Pg**	**08 53 28.0**	**+0.1**
HRFI	**Mount Harif**	**0.81**	**179**	Pg	**Pg**	**08 53 27.5**	**-0.6**
HRFI				Sg	**Sg**	**08 53 40.7**	**+2.1**
AQBJ	**Aqaba**	**1.12**	**179**	Pg	**Pg**	**08 53 33.4**	**-0.6**
EIL	**Elat**	**1.18**	**183**	Pg	**Pg**	**08 53 34.3**	**-0.8**
EIL				Sg	**Sg**	**08 53 51.2**	**+0.8**
HNKL	**Nakhl**	**1.29**	**225**	P	**Pg**	**08 53 35.4**	**-1.7**
SLTI	**Sal'it**	**1.38**	**1**	Pn	**Pn**	**08 53 39.0**	**-0.1**
SLTI				Sn	**Sn**	**08 53 57.6**	**-0.4**
AMAG	**Maghara**	**1.57**	**263**	P	**Pn**	**08 53 39.9**	**-1.8**
AMAG	**Maghara**	**1.57**	**263**	P	**Pn**	**08 53 39.8**	**-1.8**
MMLI	**Mount Malkishu**	**1.62**	**12**	Pn	**Pn**	**08 53 41.4**	**-0.8**
MMLI				Sn	**Sn**	**08 54 04.2**	**+0.5**
HBST	**Basata**	**1.65**	**189**	P	**Pn**	**08 53 42.3**	**-0.4**
OFRI	**'Ofer**	**1.76**	**359**	Pn	**Pn**	**08 53 43.5**	**-0.7**
SUZ		**2.14**	**242**	P	**Pn**	**08 53 47.6**	**-1.8**
HDHB	**Dhahab**	**2.15**	**189**	P	**Pn**	**08 53 48.4**	**-1.2**
MMA0	**Mount Meron

comp=E,40nm,0.3s
MK31 Makanchi Array 10.42 33 P **Pn 09 40 00.3 -0.6**
comp=E,3.3nm,0.7s,baz=210,slow=13,SNR=15
MKAR Makanchi Array 10.42 33 P **Pn 09 40 00.1 -0.8**
comp=E,0.2nm,0.3s,baz=211,slow=14,SNR=17
KOLN Koldanda 13.15 140 *e*Pn **Pn 09 40 36.0 -1.0**
KOLN *e*Sn **Sn 09 42 53.5 -8.2**
comp=E,25nm,0.6s
GKN Gorkha 13.50 136 *e*Pn **Pn 09 40 41.5 -0.1**
GKN *e*Sn **Sn 09 43 02.5 -7.8**
comp=E,29nm,0.3s
DMN Daman 14.07 136 *e*Pn **Pn 09 40 48.9 0.0**
PKI Pulchoki 14.27 135 *e*Pn **Pn 09 40 54.1 +2.7**
BVA0 Borovoye Array 14.97 351 P **Pn 09 41 03.8 +3.4**
comp=E,0.7nm,0.5s,baz=159,slow=10,SNR=19
BVAR Borovoye Array 14.97 351 P **Pn 09 40 57.6 -2.8**
comp=E,0.3nm,0.3s,baz=154,slow=12,SNR=6.1
AB31 Akbulak array 14.98 322 ⇑P **Pn 09 40 57.5 -3.0**
comp=E,0.5nm,0.5s
AB31 ⇑S **Sn 09 43 31.5 -15**
comp=E,3.2nm,0.6s
ZAL Zalesovo 17.29 22 P **Pn 09 41 27.6 -1.4**
comp=E,3.3nm,0.3s,baz=266,slow=8.4,SNR=24
SONM Songino Array 25.28 57 P **P 09 42 52.0 +1.6**
comp=E,1.6nm,0.8s,mb3.5,baz=245,slow=9.4,SNR=8.0
ARCES ARCESS Array B 40.49 336 P **P 09 45 02.6 +0.2**
comp=E,7.1nm,1.0s,mb4.5,baz=106,slow=7.7,SNR=11
ASAJ Asahikawa 50.51 60 LR LR 10 09 16.4
comp=E,76nm,19.4s,baz=335,slow=38
TORD Torodi Ar. Bea 68.23 270 P **P 09 48 23.6 +0.6**
comp=E,0.8nm,0.4s,mb3.9,baz=47,slow=5.7,SNR=13
INK Inuvik 71.73 10 P **P 09 48 44.6 +0.1**
comp=E,0.9nm,0.4s,mb3.9,baz=316,slow=3.6,SNR=5.5
YKA Yellowknife Ar 79.33 4 P **P 09 49 27.6 -0.2**
comp=E,0.4nm,0.4s,mb3.6,baz=346,slow=5.7,SNR=13

BJI ***12*** *09:37:29.5, 572N×12603E, h81km, mB5.2, mb5.1, Ms4.6, Msz4.3*
ISCJB ***12*** *09:37:35.8±0.4, 641N±003×12598E±004, h91km±3km, mb4.9/78, Error ellipse: s-maj=6.1km s-min=4.4km az=132.0*
MOS ***12*** *09:37:35.7±1.2, 637N×12577E, h92km, mb4.9/25, Error ellipse: s-maj=11.9km s-min=6.4km az=110.5*
IDC ***12*** *09:37:36.1±2.1, 646N×12584E, h80km±18km, mb4.6/30, mb1 4.6/30, mb1mx4.6/33, mbtmp4.6/30, MS4.1/15, Ms1 4.2/15, ms1mx3.7/35, Error ellipse: s-maj=14.7km s-min=8.2km az=76.0*
NEIC ***12*** *09:37:38.7±0.8, 643N×12591E, h104km±7km, mb5.0/29, Error ellipse: s-maj=8.2km s-min=5.2km az=73.0*
NEIC Felt [IV PIVS] at Digos and [III PIVS] at General Santos and Kidapawan.
GCMT ***12*** *09:37:38.7±0.3, 655N×12613E, h98km±3km, MW5.0/63, Moment Tensor Solution. s33,c40; s63,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.97±.18; Mθθ-0.51±.18; Mφφ-1.47±.22; Mrθ-1.36±.10; Mφθ-1.50±.16; Mφr-3.28±.12; Best double couple: M0=4.22400×10^16 NP1:φs=54.00000°, δ18.00000°, λ119.00000°. NP2: φs=204.00000°, δ74.00000°, λ81.00000°. Principal axes: T 3.9910, Plg60.0000°, Azm101.0000°; N 0.4610, Plg9.0000°, Azm206.0000°; P -4.4570, Plg29.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MAN ***12*** *09:37:38.4, 658N×12593E, h56km, mb5.2, ML5.7, MS1.6*
MAN F KIDAPAWAN CITY - INTENSITY III.
ISC 12 09:37:37.1±0.4, 642N±003×12600E±004, h86km±3km, h97km±.9km: pP-P, n207, σ1.9s18/208, mb4.9/78, 20C-13D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**26**	*e*P	**Pn**	**09 37 51.4**	**-0.8**
MATI				*e*S	**Sn**	**09 38 02.0**	**-1.3**
DAV	**Davao City (W)**	**0.77**	**327**	⇑*i*P	**Pn**	**09 37 53.5**	**-0.5**
DAV	**Davao City (W)** SNR=530	**0.77**	**327**	P	**Pn**	**09 37 53.9**	**-0.1**
DAV	**Davao City (W)**	**0.77**	**327**	*e*Pn	**Pn**	**09 37 53.7**	**-0.3**
KCP	**Kidapawan**	**1.08**	**303**	⇑*i*P	**Pn**	**09 37 56.0**	**-1.5**
BUKP	**Musuan**	**1.73**	**327**	*e*P	**Pn**	**09 38 05.5**	**-0.1**
BUKP				*e*S	**Sn**	**09 38 28.1**	**+0.9**
CTBH	**Cotabato--PC H**	**1.92**	**295**		**Pn**	**09 38 07.8**	**-0.3**
CTBH				*i* S	**Sn**	**09 38 30.1**	**-1.5**
CGP	**Cagayan de Oro**	**2.40**	**327**	⇓*e*P	**Pn**	**09 38 14.1**	**-0.4**
CGP				*i* S	**Sn**	**09 38 40.0**	**-3.2**
DCPH	**Dipolog City**	**3.40**	**309**	⇑*e*P	**Pn**	**09 38 28.8**	**+0.9**
MSLP	**Maasin**	**3.86**	**343**	*e*P	**Pn**	**09 38 34.3**	**+0.2**
TBP	**Tagbilaran**	**3.88**	**327**	*e*P	**Pn**	**09 38 34.6**	**+0.1**
TBP				*e*S	**Sn**	**09 39 17.3**	**-1.6**
SNPH	**Sibulan**	**3.99**	**317**	*e*P	**Pn**	**09 38 36.7**	**+0.7**
LLP	**Lapu-Lapu**	**4.37**	**333**	*e*P	**Pn**	**09 38 29.8**	**-11**
LLP				*e*S	**Sn**	**09 39 29.8**	**-0.9**
OCLP	**Ormoc**	**4.80**	**343**	*e*P	**Pn**	**09 38 47.9**	**+0.9**
GUIM	**Jordan**	**5.37**	**321**	*e*P	**Pn**	**09 38 55.1**	**+0.4**
RCP	**Roxas**	**6.04**	**328**	⇓*e*P	**Pn**	**09 39 05.2**	**+1.4**
CUYO	**Cuyo Island**	**6.61**	**312**	*e*P	**Pn**	**09 39 12.7**	**+1.1**
OTRP	**Odiongan**	**7.09**	**327**	*e*P	**Pn**	**09 39 19.9**	**+1.7**
ENPP	**El Nido**	**8.05**	**307**	*e*P	**Pn**	**09 39 31.7**	**+0.5**
TSM	**Tawau**	**8.36**	**256**	P	**Pn**	**09 39 36.2**	**+0.7**
TGY	**Tagaytay City** 45nm,0.3s,baz=214,slow=19,SNR=3.9	**9.12**	**327**	P	**Pn**	**09 39 50.2**	**+4.4**
KKM	**Kota Kinabalu**	**9.74**	**268**	P	**Pn**	**09 39 56.0**	**+1.8**
KKM	**Kota Kinabalu**	**9.74**	**268**	*e*Pn	**Pn**	**09 39 56.3**	**+2.1**
CAUP	**Cauayan**	**11.23**	**339**	*e*P	**Pn**	**09 40 15.5**	**+1.0**
APYP	**Conner**	**12.29**	**338**	*e*P	**Pn**	**09 40 37.1**	**+8.2**
KSM	**Kuching**	**16.40**	**253**	*e*P	**Pn**	**09 41 24.2**	**+2.2**
YHNB	**Yeheng**	**18.68**	**347**	*e*P	**Pn**	**09 41 50.9**	**+1.2**
QZH	**Quanzhou**	**19.74**	**340**	⇑*i*P	**Pn**	**09 42 01.6**	**-0.6**
QZH				AP	pP	09 42 18.0	+1.2
QZH				*e*S	**S**	**09 45 40.0**	**+2.3**
QZH				AMB	AMB		
comp=Z,460nm,1.3s							
GUMO	**Guam**	**19.89**	**68**	P	**Pn**	**09 42 02.4**	**-1.5**
comp=Z,75nm,0.8s,baz=204,slow=18,SNR=3.2							
GUMO	**Guam**	**19.89**	**68**	P	**Pn**	**09 42 02.4**	**-1.5**
KAKA	**Kakadu**	**20.05**	**161**	⇑*i*P	**P**	**09 42 04.0**	**+0.7**
comp=Z,415nm,0.6s							
QIZ	**Qiongzhong**	**20.11**	**310**	P	**P**	**09 42 03.6**	**-0.3**
QIZ				XP	sP	09 42 32.7	+1.0
QIZ				S	**S**	**09 45 44.6**	**-0.5**
QIZ				XS	sS	09 46 13.7	+0.7
QIZ				AMB	AMB		
comp=Z,22nm,2.3s							
QIZ				AMB	AMB		
comp=Z,390nm,5.1s							
QIZ				LR	LR		
comp=N,364nm,16.3s							
QIZ				LR	LR		
comp=Z,615nm,15.2s							
JOW	**Kunigami**	**20.42**	**6**	P	**P**	**09 42 06.7**	**-0.6**
comp=Z,32nm,0.6s,baz=164,slow=9.3,SNR=10							
GZH	**Guangzhou**	**20.57**	**325**	P	**P**	**09 42 11.2**	**+2.3**
GZH				S	**S**	**09 45 58.8**	**+4.6**
GZH				LR	LR		
comp=N,547nm,25.5s							
GZH				LR	LR		
comp=E,580nm,26.7s							
GZH				LR	LR		
comp=Z,799nm,29.5s							
FITZ	**Fitzroy Crossi**	**24.37**	**181**	⇑*i*P	**P**	**09 42 46.8**	**-0.2**
comp=Z,74nm,0.6s,mb5.2							
FITZ				*e*S	**S**	**09 47 04.8**	**+4.5**
FITZ	**Fitzroy Crossi**	**24.37**	**181**	P	**P**	**09 42 47.0**	**-0.1**
comp=Z,35nm,0.5s,mb5.0,baz=7.5,slow=8.8,SNR=139							
KKTK	**Khon Kaen**	**24.74**	**295**	P	**P**	**09 42 52.1**	**+1.7**
comp=Z,605nm,0.8s							
IPM	**Ipoh**	**24.94**	**267**	P	**P**	**09 42 53.1**	**+0.9**
SSE	**Sheshan**	**24.96**	**350**	P	**P**	**09 42 54.6**	**+2.2**
SSE				AP		09 43 14.3	
SSE				XP	sP	09 43 26.8	+4.7
SSE				S	**S**	**09 47 11.0**	**+1.2**
SSE				AMB	AMB		
comp=Z,83nm,1.0s,mb5.1							
SSE				AMB	AMB		
comp=Z,197nm,3.8s							
SSE	**Sheshan**	**24.96**	**350**	P	**P**	**09 42 54.6**	**+2.2**
SSE				pP		09 43 14.3	
SSE				sP	sP	09 43 26.8	+4.7
SSE				S	**S**	**09 47 11.0**	**+1.2**
SNG	**Songkhla**	**25.22**	**273**	P	**P**	**09 42 55.5**	**+0.8**
comp=Z,240nm,0.7s,mb5.7							
KULM	**Kulim**	**25.24**	**269**	*e*P	**P**	**09 42 55.5**	**+0.5**
CBIJ	**Chichi jima**	**25.69**	**35**	P	**P**	**09 42 57.8**	**-1.3**
comp=Z,80nm,0.5s,mb5.5,baz=261,slow=20,SNR=15							
CBIJ				LR	LR	09 53 28.9	
comp=Z,78nm,18.1s,baz=356,slow=37							
PMG	**Port Moresby**	**26.30**	**126**	P	**P**	**09 43 04.8**	**+0.3**
comp=Z,60nm,0.8s,mb5.1,baz=330,slow=6.6,SNR=38							
PMG	**Port Moresby**	**26.30**	**126**	*e*P	**P**	**09 43 04.7**	**+0.2**
PMG				pmax	pmax		
comp=Z,79nm,0.9s							
PMG	**Port Moresby**	**26.30**	**126**	*e*P	**P**	**09 43 04.7**	**+0.2**
comp=Z,79nm,0.9s,mb5.1							
WHN	**Wuhan**	**26.38**	**337**	*e*P	**P**	**09 43 04.2**	**-1.0**
JNU	**Nakatsue**	**26.95**	**9**	P	**P**	**09 43 09.9**	**-0.5**
comp=Z,25nm,0.8s,mb4.8,baz=213,slow=19,SNR=7.5							
GYA	**Guiyang**	**27.15**	**319**	P	**P**	**09 43 14.6**	**+2.5**
GYA				AP	pP	09 43 35.2	+3.4
GYA				XP	sP	09 43 46.4	+4.5
GYA				PP		09 44 04.6	
GYA				S	**S**	**09 47 44.9**	**+0.6**
GYA				XS	sS	09 48 20.7	+2.3
GYA				SS		09 49 06.6	
GYA				SCP	ScP	09 50 03.9	+0.8
GYA				SCS	ScS	09 53 54.0	-0.5
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.7							
GYA				AMB	AMB		
comp=Z,120nm,4.6s							
GYA				LR	LR		
comp=N,560nm,15.4s							
GYA				LR	LR		
comp=E,510nm,15.2s							
GYA				LR	LR		
comp=Z,610nm,15.6s							
PSI	**Prapat**	**27.22**	**264**	P	**P**	**09 43 12.7**	**-0.2**
comp=Z,5.0nm,0.6s,mb4.2,baz=74,slow=5.4,SNR=7.1							
PSI				LR	LR	09 55 20.6	
comp=Z,187nm,20.1s,baz=242,slow=39							
WRA	**Warramunga Arr**	**27.45**	**163**	P	**P**	**09 43 14.3**	**-0.6**
comp=Z,15nm,0.4s,mb4.8,baz=342,slow=9.2,SNR=196							
WRA	**Warramunga Arr**	**27.45**	**163**	*i* P	**P**	**09 43 13.3**	**-1.5**
WRA				pmax	pmax		
comp=Z,15nm,0.4s							
WB2	**Warramunga Arr**	**27.45**	**163**	⇑*i*P	**P**	**09 43 14.5**	**-0.4**
NANT	**Nan**	**27.54**	**299**	⇓P	**P**	**09 43 13.5**	**-2.1**
comp=Z,114nm,0.6s,mb5.6							
KMI	**Kunming**	**29.01**	**312**	P	**P**	**09 43 28.6**	**-0.1**
KMI				AP	pP	09 43 50.1	+1.6
KMI				XP	sP	09 44 00.9	+2.4
KMI				PP	PP	09 44 28.6	-7.0
KMI				S	**S**	**09 48 13.1**	**-0.5**
KMI				XS	sS	09 48 52.4	+4.6
KMI				SS	SS	09 49 52.7	-27
KMI				AMB	AMB		
comp=Z,27nm,1.3s,mb4.7							
KMI				AMB	AMB		
comp=Z,115nm,3.3s							
KMI				LR	LR		
comp=N,356nm,20.2s							
KMI				LR	LR		
comp=E,271nm,27.9s							
KMI				LR	LR		
comp=Z,429nm,29.5s							
KMI	**Kunming**	**29.01**	**312**	P	**P**	**09 43 28.6**	**-0.1**
KMI				pP	pP	09 43 50.1	+1.6
KMI				sP	sP	09 44 00.9	+2.4
KMI				PP	PP	09 44 28.6	-7.0
KMI				S	**S**	**09 48 13.1**	**-0.5**
KMI				sS	sS	09 48 52.4	+4.6
KMI				SS	SS	09 49 52.7	-27
CHG	**Chiang Mai**	**29.08**	**298**	⇓P	**P**	**09 43 29.4**	**0.0**
comp=Z,20nm,0.7s,mb4.9							
CHTO	**Chiang Mai** SNR=7.2	**29.08**	**298**	P	**P**	**09 43 29.7**	**+0.4**
CHTO	**Chiang Mai**	**29.08**	**298**	*e*P	**P**	**09 43 29.4**	**0.0**
CHTO				pmax	pmax		
comp=Z,17nm,0.8s,mb4.7							
CHTO	**Chiang Mai**	**29.08**	**298**	*e*P	**P**	**09 43 29.4**	**+0.1**
comp=Z,17nm,0.8s,mb4.7							
ASAR	**Alice Springs**	**30.88**	**166**	P	**P**	**09 43 45.5**	**+0.3**
comp=Z,89nm,0.5s,mb5.7,baz=343,slow=7.1,SNR=992							
ASAR				ScP	ScP	09 50 15.1	+0.1
comp=Z,1.7nm,0.8s,baz=345,slow=2.8,SNR=5.0							
KSRS	**Korea Array**	**30.94**	**3**	P	**P**	**09 43 46.7**	**+0.9**
comp=Z,20nm,1.0s,mb4.8,baz=190,slow=9.9,SNR=37							
KSRS				PcP	PcP	09 46 41.0	+0.8
comp=Z,2.9nm,0.5s,baz=180,slow=2.8,SNR=12							
KSRS				ScP	ScP	09 50 14.3	-0.9
comp=Z,0.9nm,0.6s,baz=196,slow=2.1,SNR=3.2							
XAN	**Xi'an**	**31.71**	**332**	P	**P**	**09 43 51.4**	**-1.1**
XAN				AMB	AMB		
comp=Z,18nm,1.1s,mb4.7							
MAT	**Matsushiro**	**32.00**	**19**	P	**P**	**09 43 53.6**	**-1.5**
MJAR	**Matsushiro Arr**	**32.00**	**19**	P	**P**	**09 43 53.2**	**-1.8**
comp=Z,2.8nm,0.6s,mb4.2,baz=196,slow=8.7,SNR=6.6							
CD2	**Chengdu**	**32.07**	**322**	P	**P**	**09 43 57.1**	**+1.4**
CD2				AP	pP	09 44 19.1	+3.5
CD2				PP	PP	09 45 08.0	-1.6
CD2				S	**S**	**09 49 02.2**	**+0.7**
CD2				XS	sS	09 49 40.4	+4.5
CD2				SS	SS	09 51 02.2	-20
CD2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.8							
CD2				AMB	AMB		
comp=Z,150nm,5.4s							
CD2				LR	LR		
comp=N,550nm,11.8s							
CD2				LR	LR		
comp=E,350nm,10.0s							
CD2				LR	LR		
comp=Z,390nm,10.4s							
DL2	**Dalian**	**32.58**	**354**	P	**P**	**09 44 03.0**	**+2.8**
DL2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.3							
CTA	**Charters Tower**	**33.02**	**143**	*e*P	**P**	**09 44 05.5**	**+1.5**
comp=Z,19nm,0.9s,mb4.9							
CTA	**Charters Tower**	**33.02**	**143**	P	**P**	**09 44 05.7**	**+1.7**
comp=Z,13nm,0.4s,mb5.1,baz=325,slow=10,SNR=26							
CTA				LR	LR	09 59 15.1	
comp=Z,262nm,18.7s,baz=247,slow=39							
CTA	**Charters Tower**	**33.02**	**143**	*e*P	**P**	**09 44 05.5**	**+1.5**
CTA				pmax	pmax		
comp=Z,19nm,0.9s							
CTAO	**Charters Tower**	**33.02**	**143**	*e*P	**P**	**09 44 05.5**	**+1.5**
CTAO				pmax	pmax		
comp=Z,18nm,0.7s,mb5.0							
CTAO	**Charters Tower**	**33.02**	**143**	*e*P	**P**	**09 44 05.5**	**+1.4**
comp=Z,18nm,0.7s,mb5.0							
BJT	**Baijiatuau**	**34.60**	**347**	*e*P	**P**	**09 44 18.0**	**+0.3**
BJT				pmax	pmax		
comp=Z,119nm,1.3s							
BJT	**Baijiatuau**	**34.60**	**347**	*e*P	**P**	**09 44 18.0**	**+0.3**
comp=Z,119nm,1.3s,mb5.6							
BJI	**Beijing**	**34.62**	**347**	P	**P**	**09 44 17.8**	**-0.1**
BJI				S	**S**	**09 49 41.8**	**+0.8**
BJI				AMB	AMB		
comp=Z,65nm,1.2s,mb5.3							
BJI				LR	LR		
comp=N,162nm,23.3s							
BJI				LR	LR		
comp=E,177nm,19.8s							
BJI				LR	LR		
comp=Z,181nm,35.1s							
SNY	**Shenyang**	**35.33**	**357**	⇓P	**P**	**09 44 25.6**	**+1.7**
SNY				AP	pP	09 44 47.8	+3.8
SNY				XP	sP	09 44 59.4	+5.4
SNY				S	**S**	**09 49 50.1**	**-1.7**
SNY				XS	sS	09 50 29.4	+3.0
SNY				AMB	AMB		
comp=Z,50nm,0.7s,mb5.5							
SNY				AMB	AMB		
comp=Z,320nm,3.5s							
SNY				LR	LR		
comp=N,307nm,8.6s							
SNY				LR	LR		
comp=E,171nm,6.5s							
SNY				LR	LR		
comp=Z,181nm,8.6s							
LZH	**Lanzhou**	**35.84**	**329**	⇑P	**P**	**09 44 28.4**	**+0.1**
LZH				AP	pP	09 44 50.5	+2.1
LZH				XP	sP	09 45 02.6	+4.2
LZH				PP	PP	09 45 52.5	+1.2
LZH				XS	sS	09 50 37.6	+3.3
LZH				AMB	AMB		
comp=Z,32nm,1.3s,mb5.1							
LZH				AMB	AMB		
comp=Z,157nm,5.4s							
LZH				LR	LR		
comp=N,857nm,13.4s							
LZH				LR	LR		
comp=Z,1μm,17.7s							
LZH	**Lanzhou**	**35.84**	**329**	⇑P	**P**	**09 44 28.4**	**+0.1**
LZH				pP	pP	09 44 50.5	+2.1
LZH				sP	sP	09 45 02.6	+4.2
LZH				PP	PP	09 45 52.5	+1.2
LZH				sS	sS	09 50 37.6	+3.3
LZH				SS	SS	09 52 26.5	-13
HHC	**Hu-ho-hao-te**	**36.63**	**342**	*e*P	**P**	**09 44 38.1**	**+3.0**
HHC				AP	pP	09 45 00.5	+5.2
HHC				PP	PP	09 46 04.8	+4.8
HHC				S	**S**	**09 50 13.9**	**+2.1**
HHC				PCS	PcS	09 50 46.0	+1.6
HHC				XS	sS	09 50 52.0	+5.5
HHC				AMB	AMB		
comp=Z,36nm,1.1s,mb5.2							
HHC				AMB	AMB		
comp=Z,293nm,5.7s							
HHC				LR	LR		
comp=N,259nm,19.6s							
HHC				LR	LR		
comp=E,334nm,18.4s							
HHC				LR	LR		
comp=Z,258nm,16.7s							
VLA	**Vladivostok**	**36.92**	**7**	*d i*P	**P**	**09 44 40.4**	**+2.9**
VLA				pmax	pmax		
comp=Z,81nm,1.0s,mb5.6							
FORT	**Forrest**	**37.04**	**177**	⇑*i*P	**P**	**09 44 38.6**	**+0.1**
comp=Z,78nm,0.6s,mb5.8							
CN2	**Changchun**	**37.24**	**359**	*e*P	**P**	**09 44 40.8**	**+0.6**
CN2				AMB	AMB		
comp=Z,20nm,0.9s,mb5.0							
MDJ	**Mudanjiang**	**38.18**	**4**	P	**P**	**09 44 49.8**	**+1.7**
MDJ				AP	pP	09 45 10.8	+2.4
MDJ				XP	sP	09 45 21.8	+3.5
MDJ				PP	PP	09 46 21.2	+4.2
MDJ				PCP	PcP	09 47 02.1	+1.0
MDJ				S	**S**	**09 50 37.0**	**+1.8**
MDJ				SCP	ScP	09 50 42.0	+1.0
MDJ				PCS	PcS	09 50 50.9	+0.7
MDJ				SS	SS	09 53 30.2	+4.0
MDJ				SCS	ScS	09 54 53.1	+2.3
MDJ				AMB	AMB		
comp=Z,60nm,1.1s,mb5.3							
MDJ				AMB	AMB		
comp=Z,171nm,5.0s							
MDJ				LR	LR		
comp=N,22nm,25.4s							
MDJ				LR	LR		
comp=E,156nm,35.0s							
MDJ				LR	LR		
comp=Z,129nm,31.1s							
MDJ	**Mudanjiang**	**38.18**	**4**	*e*P	**P**	**09 44 49.1**	**+1.0**
comp=Z,92nm,1.2s,mb5.5							
KLBR	**Kellerberrin**	**38.61**	**191**	⇑*i*P	**P**	**09 44 51.3**	**-0.4**
comp=Z,23nm,0.5s,mb5.3							
MUN	**Mundaring**	**39.31**	**193**	*e*P	**P**	**09 44 56.7**	**-0.9**
NWAO	**Narrogin (SRO)**	**40.00**	**192**	P	**P**	**09 45 03.5**	**+0.2**
comp=Z,22nm,0.5s,mb5.2,baz=22,slow=8.3,SNR=35							
NWAO	**Narrogin (SRO)**	**40.00**	**192**	*e*P	**P**	**09 45 03.4**	**0.0**
NWAO				pmax	pmax		
comp=Z,14nm,0.5s							
NWAO	**Narrogin (SRO)**	**40.00**	**192**	*e*P	**P**	**09 45 03.4**	**0.0**
comp=Z,14nm,0.5s,mb5.0							
LSA	**Lhasa**	**40.15**	**310**	P	**P**	**09 45 05.0**	**+0.4**
LSA	**Lhasa**	**40.15**	**310**	*e*P	**P**	**09 45 05.6**	**+1.0**
LSA				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.7							
LSA	**Lhasa**	**40.15**	**310**	*e*P	**P**	**09 45 05.6**	**+1.0**
comp=Z,8.6nm,0.7s,mb4.7							
ASAJ	**Asahikawa**	**40.27**	**19**	P	**P**	**09 45 06.0**	**+0.5**
comp=Z,11nm,0.4s,mb5.0,baz=186,slow=5.5,SNR=12							
GTA	**Gaotai**	**40.44**	**328**	*e*P	**P**	**09 45 07.0**	**0.0**
GTA				AP	pP	09 45 29.7	+2.3
GTA				XP	sP	09 45 39.8	+2.5
GTA				PP	PP	09 46 44.4	+2.8
GTA				PCP	PcP	09 47 08.9	+0.6
GTA				S	**S**	**09 51 05.6**	**-3.5**
GTA				XS	sS	09 51 44.4	+0.3
GTA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.6							
GTA				AMB	AMB		
comp=Z,238nm,5.3s							
GTA				LR	LR		
comp=N,410nm,17.5s							
GTA				LR	LR		
comp=E,381nm,16.4s							
GTA				LR	LR		
comp=Z,402nm,19.0s							
STKA	**Stephens Creek**	**40.88**	**160**	⇑*i*P	**P**	**09 45 11.4**	**+0.8**
comp=Z,39nm,0.6s,mb5.4							
STKA	**Stephens Creek**	**40.88**	**160**	P	**P**	**09 45 11.4**	**+0.8**
comp=Z,40nm,0.5s,mb5.5,baz=334,slow=8.0,SNR=164							
STKA				PP	PP	09 46 47.6	+1.2
comp=Z,17nm,0.9s,baz=341,slow=12,SNR=3.9							
STKA				LR	LR	10 02 39.4	
comp=Z,144nm,20.0s,baz=127,slow=37							
HABR	**Khabarovsk**	**42.61**	**9**	*e*P	**P**	**09 45 27.0**	**+2.3**
HABR				S	**S**	**09 51 51.0**	**+10**
HABR				pmax	pmax		
comp=Z,80nm,1.7s,mb5.2							
YSS	**Yuzh-Sakhalins**	**42.88**	**17**	P	**P**	**09 45 30.0**	**+3.1**
HIA	**Hailar**	**43.03**	**354**	*e*P	**P**	**09 45 28.9**	**+0.8**
HIA				*e*		09 47 17.6	
HIA				pmax	pmax		
comp=Z,17nm,0.8s							
HIA	**Hailar**	**43.03**	**354**	*e*P	**P**	**09 45 28.9**	**+0.8**
comp=Z,17nm,0.8s,mb4.8							
HIA				*e*PcP	PcP	09 47 17.6	+0.8
JIRN	**Jiri**	**43.25**	**304**	*e*P	**P**	**09 45 30.6**	**+0.8**
comp=Z,3.3nm,0.2s,mb4.7							
GUN	**Gumba**	**43.59**	**304**	*e*P	**P**	**09 45 33.0**	**+0.4**
comp=Z,50nm,0.5s,mb5.5							
PKI	**Pulchoki**	**43.86**	**304**	*e*P	**P**	**09 45 35.0**	**+0.2**
KKN	**Kakani**	**44.05**	**304**	*e*P	**P**	**09 45 36.3**	**+0.1**
comp=Z,78nm,1.2s,mb5.3							
ARMA	**Armidale**	**44.10**	**148**	*e*P	**P**	**09 45 38.0**	**+1.3**
DMN	**Daman**	**44.12**	**303**	*e*P	**P**	**09 45 37.5**	**+0.6**
comp=Z,47nm,1.0s,mb5.2							
SONM	**Songino Array**	**44.54**	**341**	P	**P**	**09 45 39.2**	**-0.9**
comp=Z,1.9nm,0.4s,mb4.2,baz=161,slow=7.8,SNR=14							
SONM				PcP	PcP	09 47 21.4	-0.5
comp=Z,1.7nm,0.6s,baz=164,slow=4.2,SNR=4.6							
SONM				LR	LR	10 04 52.8	
comp=Z,143nm,19.6s,baz=186,slow=37							
SONM	**Songino Array**	**44.54**	**341**	P	**P**	**09 45 39.2**	**-0.9**
SONM						09 47 21.4	
GKN	**Gorkha**	**44.65**	**304**	*e*P	**P**	**09 45 40.7**	**-0.4**
comp=Z,17nm,0.5s,mb5.1							
PALK	**Pallekele**	**44.97**	**274**	*e*P	**P**	**09 45 44.4**	**+0.8**
comp=Z,6.3nm,0.6s,mb4.5							
KOLN	**Koldanda**	**45.43**	**303**	*e*P	**P**	**09 45 47.4**	**+0.1**
comp=Z,14nm,0.3s,mb5.2

CLNS	**Chul'man**	**50.29**	**359**	*e*P	**P**	**09 46 25.2**	**+0.4**
CLNS				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.3						
CLNS				pmax	pmax		
	comp=N,27nm,0.9s						
CLNS				pmax	pmax		
	comp=E,18nm,1.0s						
BOD	**Bodaibo**	**52.12**	**352**	*e*P	**P**	**09 46 37.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
MK31	**Makanchi Array**	**54.95**	**325**	*e*P	**P**	**09 46 58.2**	**-1.0**
MKAR	**Makanchi Array**	**54.95**	**325**	P	**P**	**09 46 58.1**	**-1.0**
	comp=Z,3.5nm,0.4s,mb4.8,baz=118,slow=7.3,SNR=70						
MKAR				LR	LR	10 14 43.8	
	comp=Z,72nm,19.1s,baz=122,slow=41						
YAK	**Yakutsk**	**55.56**	**2**	*d i*P	**P**	**09 47 04.4**	**+0.9**
YAK	**Yakutsk**	**55.56**	**2**	*e*P	**P**	**09 47 04.6**	**+1.0**
	comp=Z,153nm,0.8s						
YAK				*e*	pP	09 47 28.7	+3.7
ZAL	**Zalesovo**	**57.88**	**333**	P	**P**	**09 47 18.0**	**-2.0**
	comp=Z,2.3nm,0.4s,mb4.6,baz=345,slow=5.9,SNR=6.2						
ZAL				LR	LR	10 15 49.3	
	comp=Z,220nm,18.2s,baz=314,slow=40						
ZAL	**Zalesovo**	**57.88**	**333**	*i* P	**P**	**09 47 19.2**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**57.90**	**317**	*i* P	**P**	**09 47 18.4**	**-1.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
AAK	**Ala-Archa**	**57.90**	**317**	*e*P	**P**	**09 47 18.4**	**-1.6**
	comp=Z,7.7nm,1.3s,mb4.6						
KURK	**Kurchatov**	**59.10**	**327**	⇑P	**P**	**09 47 27.3**	**-1.1**
	SNR=6.9						
KURK	**Kurchatov**	**59.10**	**327**	*d i*P	**P**	**09 47 26.8**	**-1.6**
KURK	**Kurchatov**	**59.10**	**327**	*e*P	**P**	**09 47 26.6**	**-1.8**
	comp=Z,23nm,1.0s,mb5.2						
NVS	**Novosibirsk**	**59.16**	**333**	*e*P	**P**	**09 47 26.6**	**-2.2**
NVS				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.7						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
SEY	**Seymchan**	**59.60**	**14**	⇓*e*P	**P**	**09 47 33.8**	**+1.9**
RPZ	**Rata Peaks**	**64.37**	**145**	P	**P**	**09 48 03.3**	**-0.5**
	comp=E,6.5nm,0.5s,mb4.7,baz=210,slow=2.1,SNR=6.0						
BVAR	**Borovoye Array**	**64.69**	**327**	P	**P**	**09 48 04.4**	**-1.5**
	comp=E,2.5nm,0.5s,mb4.3,baz=141,slow=10,SNR=10						
BRVK	**Borovoye**	**64.76**	**327**	*e*P	**P**	**09 48 04.8**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**64.76**	**327**	*e*P	**P**	**09 48 04.8**	**-1.6**
	comp=Z,5.8nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**64.84**	**327**	*e*P	**P**	**09 48 04.7**	**-2.2**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**64.84**	**327**	*e*P	**P**	**09 48 04.7**	**-2.2**
	comp=Z,5.9nm,0.9s,mb4.4						
TIXI	**Tiksi**	**65.18**	**1**	*d i*P	**P**	**09 48 08.7**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,59nm,1.4s,mb5.2						
TIXI	**Tiksi**	**65.18**	**1**	*e*P	**P**	**09 48 08.9**	**-0.2**
	comp=Z,28nm,0.8s,mb5.2						
BILL	**Bilibino**	**67.16**	**15**	*d i*P	**P**	**09 48 22.2**	**+0.5**
BILL				*e*		09 50 51.8	
BILL				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
BILL	**Bilibino**	**67.16**	**15**	*e*P	**P**	**09 48 21.8**	**0.0**
	comp=Z,19nm,1.0s,mb4.9						
AKTK	**Aktyubinsk**	**71.12**	**321**	P	**P**	**09 48 45.2**	**-0.9**
AKTK				LR	LR	10 24 00.6	
AKTO	**Aktyubinsk**	**71.12**	**321**	P	**P**	**09 48 45.2**	**-0.9**
	comp=Z,2.4nm,0.5s,mb4.3,baz=83,slow=9.0,SNR=5.3						
AKTO				LR	LR	10 24 00.6	
	comp=Z,204nm,20.0s,baz=74,slow=39						
WHFO	**Wadi Hawf**	**71.17**	**287**	P	**P**	**09 48 46.0**	**-0.5**
	SNR=5.9						
ARU	**Arti**	**72.29**	**327**	⇑*i*P	**P**	**09 48 51.8**	**-1.4**
ARU				*e*		09 49 06.7	
ARU				*e*PPP		09 53 20.0	
ARU				*e*S	S	09 58 13.1	+3.6
ARU				*e*SS	SS	10 02 55.0	+6.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CASY	**Casey**	**73.38**	**186**	⇑*i*P	**P**	**09 48 59.1**	**-0.6**
GNI	**Garni**	**79.22**	**310**	⇑*e*P	**P**	**09 49 33.1**	**+0.4**
GNI				pmax	pmax		
	comp=Z,13nm,1.7s						
IMA2	**Indian Mountai**	**80.23**	**24**	*e*P	**P**	**09 49 39.3**	**+1.1**
SLKM	**Skilak Lake**	**81.39**	**30**	*e*P	**P**	**09 49 44.2**	**-0.1**
PMR	**Palmer**	**81.95**	**29**	*e*P	**P**	**09 49 47.5**	**+0.2**
PMR				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.2						
PMR	**Palmer**	**81.95**	**29**	*e*P	**P**	**09 49 47.5**	**+0.2**
	comp=Z,28nm,0.7s,mb5.2						
COLA	**College**	**82.59**	**25**	*e*P	**P**	**09 49 50.6**	**-0.1**
COLA				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.0						
COLA	**College**	**82.59**	**25**	*e*P	**P**	**09 49 50.6**	**-0.1**
	comp=Z,22nm,0.8s,mb5.0						
COLA				*e*PcP	PcP	09 49 56.5	+1.0
OBN	**Obninsk**	**84.46**	**325**	*i* P	**P**	**09 49 58.8**	**-1.4**
OBN				*e*	pP	09 50 23.6	+0.5
OBN				*e*SS	SS	10 05 47.7	-4.0
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
OBN				MLR	MLR		
	comp=Z,300nm,12.0s						
EGAK	**Eagle**	**85.46**	**25**	*e*P	**P**	**09 50 06.0**	**+0.9**
	comp=Z,16nm,1.0s,mb4.9						
ASF	**Jabal al Asfar**	**85.87**	**302**	P	**P**	**09 50 06.8**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.3,baz=6.1,slow=3.9,SNR=4.6						
MAW	**Mawson**	**86.01**	**200**	P	**P**	**09 50 07.1**	**-0.9**
	comp=Z,3.3nm,0.6s,mb4.4,baz=79,slow=8.3,SNR=9.0						
MAW	**Mawson**	**86.01**	**200**	*e*P	**P**	**09 50 07.0**	**-0.9**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAW	**Mawson**	**86.01**	**200**	*e*P	**P**	**09 50 07.0**	**-0.9**
	comp=Z,3.9nm,0.7s,mb4.5						
VNDA	**Vanda**	**86.17**	**173**	P	**P**	**09 50 07.9**	**-0.8**
	comp=Z,2.6nm,0.6s,mb4.4,baz=317,slow=4.6,SNR=26						
VNDA				LR	LR	10 30 36.5	
	comp=Z,80nm,18.2s,baz=331,slow=37						
VNDA	**Vanda**	**86.17**	**173**	*e*P	**P**	**09 50 07.7**	**-1.0**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VNDA	**Vanda**	**86.17**	**173**	*e*P	**P**	**09 50 07.7**	**-1.0**
	comp=Z,2.9nm,0.7s,mb4.3						
DAWY	**Dawson**	**86.30**	**26**	*e*P	**P**	**09 50 10.3**	**+0.9**
DAWY				*e*	pP	09 50 36.6	+4.3
JOF	**Joensuu**	**86.47**	**333**	*e*p	**P**	**09 50 08.3**	**-1.9**
	comp=Z,4.1nm,0.4s,mb4.7						
PPT	**Papeete**	**86.63**	**108**	*e*LR	LR	10 17 18.0	
	comp=Z,219nm,27.8s						
PPT	**Papeete**	**86.63**	**108**	LR	LR	10 22 25.9	
	comp=Z,171nm,21.2s,baz=256,slow=31						
KEV	**Kevo**	**87.13**	**340**	*e*p	**P**	**09 50 11.7**	**-1.7**
TBI	**Tubuai**	**87.52**	**114**	*e*LR	LR	10 17 42.3	
	comp=Z,170nm,34.0s						
ARCES	**ARCESS Array B**	**87.69**	**340**	P	**P**	**09 50 15.0**	**-1.1**
	comp=Z,4.9nm,0.7s,mb4.6,baz=91,slow=5.6,SNR=15						
ARCES				PKKPbc	PKKPbc	10 08 02.2	-0.9
	comp=Z,5.0nm,1.0s,baz=248,slow=3.2,SNR=5.1						
ARCES				LR	LR	10 37 49.7	
	comp=Z,378nm,19.8s,baz=240,slow=41						
ARCES	**ARCESS Array B**	**87.69**	**340**	P	**P**	**09 50 15.0**	**-1.1**
ARCES				PKKPbc	PKKPbc	10 08 02.2	-0.9
ARCES				LR	LR	10 37 49.8	
BRTR	**Keskin Array B**	**87.76**	**310**	P	**P**	**09 50 14.2**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=120,slow=4.3,SNR=2.9						
INK	**Inuvik**	**87.94**	**21**	P	**P**	**09 50 17.6**	**+0.3**
	comp=Z,5.6nm,0.6s,mb4.8,baz=292,slow=4.8,SNR=12						
INK	**Inuvik**	**87.94**	**21**	*e*P	**P**	**09 50 17.1**	**-0.2**
	comp=Z,455nm,1.0s						
KMBO	**Kilima Mbogo**	**88.88**	**269**	P	**P**	**09 50 20.8**	**-1.0**
	comp=Z,0.8nm,0.2s,mb4.4,baz=79,slow=23,SNR=3.7						
KMBO				LR	LR	10 30 58.5	
	comp=Z,46nm,18.4s,baz=94,slow=36						
KAF	**Kangasniemi**	**88.89**	**332**	*e*p	**P**	**09 50 18.7**	**-3.1**
	baz=74,slow=4.3						
FINES	**FINESS Array B**	**89.14**	**332**	P	**P**	**09 50 20.9**	**-2.0**
	comp=Z,1.7nm,0.5s,mb4.4,baz=82,slow=4.1,SNR=13						
FINES	**FINESS Array B**	**89.14**	**332**	*i* P	**P**	**09 50 21.6**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**89.36**	**321**	P	**P**	**09 50 23.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=68,slow=5.2,SNR=3.2						
MLR	**Muntele Rosu**	**92.47**	**316**	LR	LR	10 35 43.2	
	comp=Z,287nm,21.7s,baz=230,slow=38						
DAG	**Danmarks Havn**	**94.51**	**352**	⇓*i*P	**P**	**09 50 46.8**	**-1.0**
	comp=Z,16nm,1.1s,mb5.4						
DAG	**Danmarks Havn**	**94.51**	**352**	⇓*i*P	**P**	**09 50 46.8**	**-1.0**
DAG				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.4						
SYO	**Syowa Base**	**94.66**	**201**	⇑*e*P	**P**	**09 50 47.0**	**-1.4**
TAOE	**Nuku Hiva Isla**	**94.76**	**98**	*e*LR	LR	10 21 03.2	
	comp=Z,758nm,29.7s						
RES	**Resolute Bay**	**95.31**	**10**	*e*P	**P**	**09 50 51.6**	**+0.1**
	comp=Z,115nm,0.7s						
IDI	**Anoyia**	**95.33**	**306**	LR	LR	10 43 44.0	
	comp=Z,142nm,18.5s,baz=280,slow=42						
NOA	**NORSAR Array B**	**96.07**	**334**	LR	LR	10 38 36.5	
	comp=Z,442nm,18.6s,baz=50,slow=38						
YKA	**Yellowknife Ar**	**97.36**	**24**	P	**P**	**09 51 01.1**	**+0.4**
	comp=Z,3.4nm,0.7s,mb4.9,baz=299,slow=4.5,SNR=58						
YKA				PKiKP	PKiKP	09 55 35.0	-0.3
	comp=Z,0.4nm,0.5s,baz=302,slow=1.9,SNR=13						
YKA				PKKPbc	PKKPbc	10 07 36.2	-2.1
	comp=Z,0.4nm,0.5s,baz=123,slow=3.4,SNR=16						
YKA	**Yellowknife Ar**	**97.36**	**24**	P	**P**	**09 51 01.1**	**+0.4**
RKT	**Rikitea**	**100.77**	**112**	*e*LR	LR	10 23 50.9	
	comp=Z,125nm,26.8s						
ULM	**Lac du Bonnet**	**112.95**	**28**	PKiKP	PKiKP	09 56 03.5	-0.5
	comp=Z,1.5nm,0.6s,baz=261,slow=4.5,SNR=6.1						
SCHQ	**Schefferville**	**118.04**	**8**	PKP	PKPdf	09 56 14.3	+0.5
	comp=Z,4.8nm,0.6s,baz=263,slow=13,SNR=10						
TXAR	**Lajitas Array**	**120.50**	**51**	PKP	PKPdf	09 56 20.0	+1.4
	comp=Z,0.4nm,0.5s,baz=23,slow=0.8,SNR=12						
TORD	**Torodi Ar. Bea**	**121.37**	**290**	PKP	PKPdf	09 56 20.0	-0.2
	comp=Z,1.6nm,0.5s,baz=48,slow=2.0,SNR=19						
TORD	**Torodi Ar. Bea**	**121.37**	**290**	PKP	PKPdf	09 56 20.0	-0.2
JCT	**Junction City**	**122.82**	**47**	*e*PKIKP	PKPdf	09 56 24.3	+1.3
LRAL	**Lakeview Retre**	**129.78**	**37**	*e*PKPdf	PKPdf	09 56 37.3	+1.0
JTS	**JuntasAbangare**	**144.99**	**62**	*e*PKIKP	PKPdf	09 57 05.1	+0.9
TRQA	**Tornquist**	**147.68**	**168**	*e*PKPbc	PKPbc	09 57 11.9	+0.3
CPD	**Cerro la Pandu**	**153.00**	**26**	*e*PKPbc	PKPbc	09 57 26.0	+1.6
CPD				*e*PKPab	PKPab	09 57 37.5	+1.5
MTP	**Monte Pirata**	**153.10**	**25**	*e*PKPbc	PKPbc	09 57 26.1	+1.4
MTP				*e*PKPab	PKPab	09 57 37.4	+0.9
LPAZ	**La Paz**	**163.04**	**127**	PKP	PKPdf	09 57 31.4	+2.2
	comp=Z,1.7nm,0.9s,baz=46,slow=6.7,SNR=4.9						
LPAZ				PKPab	PKPab	09 58 22.9	+3.5
	comp=Z,5.1nm,0.9s,baz=258,slow=3.2,SNR=12						
LPAZ	**La Paz**	**163.04**	**127**	PKP	PKPdf	09 57 31.4	+2.2
LPAZ				PKPab	PKPab	09 58 22.9	+3.5
LPAZ				*e*PKPab	PKPab	09 58 23.8	+4.4

OTT 12 09:45:41.9±0.4, 7359N×7349W, h18km, ML2.7/2, Baffin Bay Seismic Zone. 177km northeast from Pond Inlet, Nu, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**1.59**	**238**	PN	Pn	09 46 09.1	0.0
PINU				SG	Sg	09 46 31.6	-1.6
PINU				Trac		09 46 35.2	
	comp=E,14nm,0.2s						
ILON	**Igloolik, Nuna**	**5.00**	**216**	PN	Pn	09 46 55.5	-0.5
ILON				SN	Sn	09 47 50.3	-3.1
ILON				Trac		09 47 53.5	
	comp=Z,4.4nm,0.3s						
RES	**Resolute Bay**	**5.96**	**291**	PN	Pn	09 47 07.9	-1.2
RES				SN	Sn	09 48 13.6	-3.3
RES				Trac		09 48 19.1	
	comp=Z,0.8nm,0.3s						
EUNU	**Eureka**	**7.11**	**342**	PN	Pn	09 47 21.6	-3.4
EUNU				SN	Sn	09 48 41.5	-3.7
QILN	**Qililugaq Expl**	**8.21**	**218**	PN	Pn	09 47 38.3	-1.9
QILN				SN	Sn	09 49 04.5	-7.9
QILN				Trac		09 49 12.0	
	comp=Z,3.6nm,0.7s						
SEDN	**First Sedna Si**	**12.18**	**221**	PN	Pn	09 48 32.0	-2.5
SEDN				SN	Sn	09 50 41.9	-7.9

*IDC **12** 10:04:08.5±8.6, 256N×12731E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/17, mbtmp4.1/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/31, Error ellipse: s-maj=140.9km s-min=102.6km az=138.0*

NEIC 12 10:04:06.7±1.6, 295N×12707E, h15km, mb4.4/1, Error ellipse: s-maj=68.6km s-min=16.7km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.96**	**184**	P	P	10 08 49.4	+0.3
	1.3nm,0.5s,baz=30,slow=12,SNR=6.4						
WRA	**Warramunga Arr**	**23.84**	**163**	P	P	10 09 19.2	-0.1
	4.2nm,0.3s,baz=342,slow=11,SNR=109						
ASAR	**Alice Springs**	**27.27**	**166**	P	P	10 09 50.8	+0.3
	1.4nm,0.4s,baz=345,slow=7.6,SNR=40						
JHJ	**Hachijo jima 2**	**32.29**	**20**	LR	LR	10 23 10.4	
	comp=Z,156nm,18.5s,baz=247,slow=35						
STKA	**Stephens Creek**	**37.28**	**159**	P	P	10 11 18.6	+0.6
	2.4nm,0.4s,baz=353,slow=6.2,SNR=11						
LSA	**Lhasa**	**43.21**	**312**	*e*P	P	10 12 08.0	+0.9
	5.9nm,0.7s						

IDC 12 10:09:00.6±1.8, 082N×12497E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=201.9km s-min=26.1km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.59**	**156**	P	P	10 14 01.2	-1.4
	0.2nm,0.6s,baz=335,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**25.84**	**161**	P	P	10 14 37.9	+4.2
	0.3nm,0.6s,baz=348,slow=7.1,SNR=6.3						
STKA	**Stephens Creek**	**36.13**	**156**	P	P	10 16 06.2	+1.8
	2.3nm,1.0s,baz=329,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**58.97**	**327**	P	P	10 19 01.8	0.0
	0.4nm,0.5s,baz=118,slow=6.8,SNR=6.4						

IDC 12 10:11:46.9±2.4, 978S×10796E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=129.9km s-min=22.0km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.40**	**324**	LR	LR	10 22 36.7	
	comp=Z,80nm,18.4s,baz=253,slow=42						
FITZ	**Fitzroy Crossi**	**19.03**	**118**	LR	LR	10 22 21.7	
	comp=Z,36nm,20.6s,baz=272,slow=33						
WRA	**Warramunga Arr**	**27.38**	**115**	P	P	10 17 34.1	+0.2
	0.6nm,0.9s,baz=284,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**28.36**	**122**	P	P	10 17 42.8	+0.3
	0.5nm,0.9s,baz=298,slow=8.1,SNR=3.9						
STKA	**Stephens Creek**	**38.11**	**130**	P	P	10 19 08.1	+0.6
	2.7nm,1.0s,baz=311,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**60.80**	**340**	P	P	10 22 01.4	+0.7
	1.0nm,0.8s,baz=148,slow=7.1,SNR=5.6						
MKAR				pP		10 22 11.0	
	1.3nm,0.7s,baz=144,slow=6.1,SNR=7.3						
BVAR	**Borovoye Array**	**70.28**	**337**	P	P	10 23 01.2	-0.8
	0.6nm,0.6s,baz=123,slow=5.5,SNR=3.8						

IDC 12 10:59:16.9±2.2, 1513N×9193W, h116km±18km, mb3.3/2, mb1 3.6/6, mb1mx3.4/20, mbtmp3.3/6, MS2.7/1, Ms1 2.7/1, ms1mx2.4/19, Error ellipse: s-maj=44.2km s-min=16.5km az=26.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.45**	**305**	P	Pn	11 00 10.2	+1.3
	4.8nm,0.3s,baz=130,slow=9.1,SNR=110						
CMIG				S	Sn	11 00 48.9	-0.2
	6.0nm,0.3s,baz=114,slow=13,SNR=7.4						
TEIG	**Tepich**	**6.15**	**34**	P	Pn	11 00 46.3	+1.1
TEIG				LR	LR	11 03 05.4	
	comp=Z,73nm,19.9s,baz=297,slow=37						
JTS	**JuntasAbangare**	**8.33**	**124**	P	Pn	11 01 14.2	-0.6
	1.5nm,0.3s,baz=313,slow=19,SNR=8.5						
TXAR	**Lajitas Array**	**17.81**	**324**	P	Pn	11 03 16.9	-0.4
	0.1nm,0.3s,baz=150,slow=12,SNR=9.1						
NVAR	**Mina Array Bea**	**32.85**	**320**	P	P	11 05 41.6	+2.1
	1.1nm,0.6s,baz=128,slow=8.2,SNR=8.1						
YKA	**Yellowknife Ar**	**49.95**	**346**	P	P	11 07 57.2	-1.7
	0.4nm,0.6s,baz=151,slow=7.4,SNR=12						

IDC 12 10:59:27.7±9.0, 4563N×15510E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/22, mbtmp3.5/3, Error ellipse: s-maj=627.7km s-min=36.3km az=130.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**67.93**	**201**	P	P	11 10 27.8	-0.4
	0.4nm,0.9s,baz=22,slow=6.3,SNR=4.7						
ASAR	**Alice Springs**	**71.61**	**200**	P	P	11 10 51.1	+0.3
	0.4nm,0.7s,baz=12,slow=6.5,SNR=7.4						
TXAR	**Lajitas Array**	**76.83**	**62**	P	P	11 11 21.6	+0.3
	0.3nm,0.7s,baz=303,slow=4.1,SNR=4.3						

*ISCJB **12** 11:14:13.8±0.5, 3047N×002×3501E×006, h10km±4km, Error ellipse: s-maj=9.4km s-min=3.8km az=173.4*
*GII **12** 11:14:13.3±0.3, 3047N×3497E, h0km±2km, ML2.5/2*
*HLW **12** 11:14:14.2, 3055N×3521E, h23km, Mb2.6*

ISC 12 11:14:14.2±0.4, 3046N±002×3496E±006, h0km, n19, σ1°17/24, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRNI	**Paran**	**0.12**	**162**	Pg	**Pg**	**11 14 16.2**	**-0.2**
PRNI				Sg	**Sg**	**11 14 19.4**	**+1.5**
RMNI	**Mount Ramon**	**0.22**	**307**	Pg	**Pg**	**11 14 18.7**	**+0.3**
HRFI	**Mount Harif**	**0.43**	**172**	Pg	**Pg**	**11 14 22.1**	**-0.4**
HRFI				Sg	**Sg**	**11 14 30.3**	**+2.2**
RTMI	**Retamim**	**0.64**	**338**	Pg	**Pg**	**11 14 27.0**	**+0.6**
KZIT	**Kziot**	**0.66**	**312**	Pg	**Pg**	**11 14 26.7**	**-0.2**
KZIT				Sg	**Sg**	**11 14 37.5**	**+2.2**
EIL	**Elat**	**0.79**	**181**	Pg	**Pg**	**11 14 29.9**	**+0.5**
EIL				Sg	**Sg**	**11 14 42.0**	**+2.4**
MZDA	**Masada**	**0.91**	**22**	Pg	**Pg**	**11 14 31.0**	**-0.7**
AMAZ	**Amatzia**	**1.07**	**358**	Pg	**Pg**	**11 14 34.4**	**-0.2**
AMAZ				Sg	**Sg**	**11 14 50.1**	**+1.6**
DSI	**Dead Sea**	**1.16**	**18**	Pg	**Pg**	**11 14 36.2**	**-0.2**
DRGI	**Dragot**	**1.19**	**18**	Pg	**Pg**	**11 14 36.0**	**-1.0**
HBST	**Basata**	**1.26**	**189**	P	**Pg**	**11 14 37.4**	**-1.0**
HBST	**Basata**	**1.26**	**189**	P	**Pg**	**11 14 37.3**	**-1.0**
AMAG	**Maghara**	**1.52**	**277**	P	**Pn**	**11 14 41.7**	**-1.0**
HDHB	**Dhahab**	**1.76**	**190**	P	**Pn**	**11 14 43.8**	**-2.1**
SLTI	**Sal'it**	**1.77**	**2**	Sn	**Sn**	**11 15 10.0**	**+0.6**
HMDT	**Nahal Hemdat**	**1.85**	**15**	Pn	**Pn**	**11 14 47.0**	**-0.1**
SUZ		**1.95**	**252**	P	**Pn**	**11 14 48.0**	**-0.5**
HKAT	**Jabal Katrina**	**2.11**	**204**	P	**Pn**	**11 14 49.0**	**-1.7**
TR1		**2.60**	**200**	P	**Pn**	**11 14 56.1**	**-1.5**

*ISCJB **12** 11:52:59.8±0.6, 3617N±008×1373E±0.1, h256km±4km, mb3.4/3, Error ellipse: s-maj=17.2km s-min=8.4km az=85.3*
*IDC **12** 11:52:59.1±1.6, 3626N×13694E, h244km±11km, mb3.3/3, mb1 3.7/4, mb1mx3.1/23, mbtmp3.4/4, Error ellipse: s-maj=51.0km s-min=22.1km az=108.0*
*JMA **12** 11:53:00.8±0.2, 3618N×13735E, h252km±2km, M2.8*

ISC 12 11:53:00.7±0.6, 3619N±008×1373E±01, h251km±4km, n19, σ0°60/27, mb3.5/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.04**	**359**	P	**Pn**	**11 53 33.2**	**+0.2**
JGN				S	**S**	**11 53 58.2**	**-0.1**
JGM	**Miyama**	**0.69**	**225**	P	**Pn**	**11 53 34.4**	**+0.1**
JGM				S	**S**	**11 54 00.2**	**-0.6**
JKG	**Kaga**	**0.80**	**277**	P	**Pn**	**11 53 35.4**	**+0.6**
MAT	**Matsushiro**	**0.80**	**63**	P	**Pn**	**11 53 35.0**	**+0.2**
MAT				S	**S**	**11 54 01.9**	**+0.3**
MAT	**Matsushiro**	**0.80**	**63**	P	**Pn**	**11 53 35.0**	**+0.2**
MAT				S	**S**	**11 54 02.0**	**+0.4**
MJAR	**Matsushiro Arr**	**0.80**	**64**	P	**Pn**	**11 53 34.9**	**+0.1**
	12nm,0.3s,baz=244,slow=6.0,SNR=94						
MJAR				S	**S**	**11 54 01.6**	**-0.1**
	0.0nm,0.3s,baz=264,slow=9.7,SNR=3.8						
JYN	**Shimob**	**1.21**	**124**	P	**Pn**	**11 53 37.0**	**-0.1**
JSZ	**Suzu**	**1.26**	**2**	P	**Pn**	**11 53 37.6**	**+0.2**
JRY	**Ryogami san**	**1.29**	**97**	P	**Pn**	**11 53 38.4**	**+0.8**
JRY				*e*S	**S**	**11 54 06.4**	**-0.3**
JAG	**Ashikaga**	**1.74**	**82**	P	**Pn**	**11 53 40.8**	**-0.2**
JWT	**Wachi**	**1.80**	**241**	P	**Pn**	**11 53 41.8**	**+0.3**
JWT				S	**S**	**11 54 13.4**	**-0.2**
JIE	**Ise**	**1.86**	**196**	P	**Pn**	**11 53 42.6**	**+0.6**
JIE				S	**S**	**11 54 14.2**	**-0.3**
JSD	**Sado**	**2.00**	**22**	P	**Pn**	**11 53 43.4**	**+0.2**
JNS	**Sasagawa**	**2.28**	**44**	P	**P

KNZ	Kokohu	3.46 187	PN	Pn	12 13 51.7	-0.1
BKZ	Black Stump Fm	3.83 201	*e*P	Pn	12 13 55.8	-0.3
BKZ	Black Stump Fm	3.83 201	PN	Pn	12 13 55.7	-0.4
BKZ			SN	S	12 14 44.6	-0.6
MOVZ	Moawhango	4.29 207	P	Pn	12 14 01.2	-0.3
MOVZ	Moawhango	4.29 207	PN	Pn	12 14 01.2	-0.3
PXZ	Pawanui	4.57 193	⇓PN	Pn	12 14 04.0	-0.8
TSZ	Takapari Road	4.81 201	P	Pn	12 14 06.8	-0.9
TSZ	Takapari Road	4.81 201	PN	Pn	12 14 06.8	-0.9
MRZ	Mangatainoka R	5.48 202	*e*P	Pn	12 14 12.1	-3.8
KIW	Kapiti Island	5.88 205	PN	Pn	12 14 19.0	-1.8

ISCJB ***12*** *12:17:11.9±1.4, 3387N±007×37.1E±0.1, h31km±11km, Error ellipse: s-maj=15.4km s-min=9.6km az=126.8*
GRAL ***12*** *12:17:11.0±1.6, 3379N×37.11E, h29km±59km, MD3.4*
GII ***12*** *12:17:12.2±0.0, 3375N×3688E, h0km, ML2.8/3*
ISC 12 12:17:10.8±1.2, 3375N±004×3701E±007, h0km, n15, σ0°69/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	Fakeheh	0.70	314	*e*Pg	Pg	12 17 24.5	+0.2
FKH				*e*Sg	Sg	12 17 34.1	+0.8
RCY	Rachaya	1.03	256	*e*Pg	Pg	12 17 29.7	-0.8
RCY				*e*Sg	Sg	12 17 45.6	+1.8
HWQ	Hawqa	1.03	301	*e*Pg	Pg	12 17 30.1	-0.4
HWQ				*e*Sg	Sg	12 17 44.0	+0.2
BHL	Bhannes	1.14	278	*e*Pg	Pg	12 17 31.7	-1.0
BHL				*e*Sg	Sg	12 17 46.8	-0.6
HRI	Mount Hermon	1.17	246	Pg	Pg	12 17 32.4	-0.8
HRI				Sg	Sg	12 17 48.2	-0.1
KSDI	Kefar Szold	1.26	244	Pg	Pg	12 17 34.2	-0.7
KSDI				Sg	Sg	12 17 50.5	-0.6
KSHT	Keshet	1.26	233	Pg	Pg	12 17 34.5	-0.5
KSHT				Sg	Sg	12 17 50.9	-0.4
MATL	Matirih	1.43	260	*e*Pg	Pg	12 17 38.0	-0.1
MMA0	Mount Meron ar	1.53	242	Pn	Pn	12 17 38.6	-0.7
MMA0				Sn	Sn	12 18 00.2	+0.3
GLH	Golan-Tel Qazi	1.54	228	Pn	Pn	12 17 38.8	-0.6
GLH				Sn	Sn	12 18 00.6	+0.5
HNTI	Hanita	1.67	247	Pn	Pn	12 17 41.6	+0.3
MMLI	Mount Malkishu	1.86	226	Pn	Pn	12 17 43.7	-0.2
MMLI				Sn	Sn	12 18 09.1	+0.9
HMDT	Nahal Hemdat	1.94	220	Pn	Pn	12 17 45.5	+0.5
OFRI	'Ofer	2.04	237	Pn	Pn	12 17 47.1	+0.8
SLTI	Sal'it	2.23	228	Pn	Pn	12 17 50.2	+1.2
SLTI				Sn	Sn	12 18 17.5	+0.1

KRSC 12 12:21:44.3±2.7, 5286N×16832E, h19km±21km, ML3.8, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	4.27	296	*e*P	Pn	12 22 50.8	+2.6
MKZ				*e*S	Sn	12 23 39.3	+1.8
KBTR	Krutoberegovo	4.64	319	*e*P	Pn	12 22 54.5	+1.2
KBTR				S	Sn	12 23 45.8	-0.8
SPN	Mys Shipunski	5.02	276	*e*P	Pn	12 23 01.8	+3.2
TUMR	Tumrok	5.39	300	P	Pn	12 23 06.8	+3.1
TUMR				S	Sn	12 24 06.8	+1.6
ZLN	Zelenaya	5.41	309	P	Pn	12 23 06.5	+2.6
ZLN				S	Sn	12 24 06.1	+0.5
NLC	Nalytchevo	5.43	277	S	Sn	12 24 06.3	+0.2
SRKR	Sorokina	5.62	315	P	Pn	12 23 11.1	+4.3
SRKR				S	Sn	12 24 14.5	+3.7
KLY	Klyuchi	5.64	311	P	Pn	12 23 09.5	+2.4
KLY				S	Sn	12 24 12.0	+0.6
KPT	Kopyto	5.66	307	S	Sn	12 24 13.8	+2.0
AVH	Avacha	5.79	278	*i* P	Pn	12 23 13.3	+4.1
PET	Petropavlovsk	5.85	275	P	Pn	12 23 12.4	+2.5
PET				*e*S	Sn	12 24 16.5	0.0
RUS	Russkaya	5.99	270	*e*P	Pn	12 23 15.1	+3.3
RUS				*e*S	Sn	12 24 20.6	+0.7
SRDR	Sredinnyy	6.08	308	P	Pn	12 23 18.1	+4.9
GRL	Gorelyy	6.24	271	*e*P	Pn	12 23 19.6	+4.3
GNL	Ganaly	6.28	282	*e*P	Pn	12 23 20.6	+4.7

IDC 12 12:32:06.0±1.2, 2191N×14336E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=54.6km s-min=24.1km az=96.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.28	320	P	P	12 39 36.1	-0.4
	0.3nm,0.5s,baz=120,slow=9.6,SNR=4.9						
WRA	Warramunga Arr	42.52	193	P	P	12 40 03.3	+0.1
	1.1nm,1.1s,baz=17,slow=9.2,SNR=7.2						
ASAR	Alice Springs	46.23	192	P	P	12 40 33.1	+0.2
	0.3nm,0.7s,baz=14,slow=12,SNR=5.2						
YKA	Yellowknife Ar	76.19	28	P	P	12 43 56.1	+0.1
	0.3nm,0.5s,baz=294,slow=5.8,SNR=13						

IDC 12 12:41:20.6±4.7, 1434S×17545W, h225km±69km, mb3.6/3, mb1 3.9/4, mb1mx3.3/15, mbtmp3.6/4, Error ellipse: s-maj=229.2km s-min=20.6km az=155.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.59	84	P	Pn	12 42 19.1	+0.7
	6.7nm,0.3s,baz=334,slow=8.6,SNR=15						
AFI				S	S	12 43 04.3	+0.3
	5.9nm,0.3s,baz=30,slow=22,SNR=5.6						
WRA	Warramunga Arr	48.17	256	P	P	12 49 38.7	+0.4
	0.8nm,0.5s,baz=91,slow=7.4,SNR=41						
ASAR	Alice Springs	48.57	251	P	P	12 49 41.5	+0.3
	8.6nm,0.5s,baz=88,slow=7.9,SNR=224						
PDAR	Pinedale Array	82.82	43	P	P	12 53 19.9	+0.2
	0.7nm,0.8s,baz=231,slow=2.8,SNR=5.8						
BRTR	Keskin Array B	144.09	320	PKP	PKPdf	13 00 30.1	+0.8
	0.7nm,0.6s,baz=90,slow=3.7,SNR=3.6						

MAN 12 12:42:50.0, 1569N×12173E, h9km, mb2.3, ML3.9, MS1.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	Baler	0.15	289	*e*P	Pg	12 42 54.2	+0.9
PCPH	Palayan	0.62	258	⇓*i*P	Pg	12 43 02.2	+0.2
PCPH				*i* S	Sg	12 43 10.2	+0.1
POLP	Polilio Island	0.98	168	*e*P	Pg	12 43 08.6	-0.2
POLP				*e*S	Sg	12 43 23.9	+2.3
CAUP	Cauayan	1.25	4	*e*P	Pn	12 43 12.0	-1.7
BCPH	Baguio City Da	1.30	302	⇑*i*P	Pn	12 43 14.3	0.0
BCPH				*i* S	Sb	12 43 31.7	+0.4
PALP	Palanan	1.52	26	*e*P	Sn	12 43 32.8	-4.5
ABRA	Dolores	2.18	334	*e*P	Sg	12 43 57.6	-2.4
APYP	Conner	2.21	348	*e*P	Pn	12 43 26.8	-0.1
APYP				*e*S	Sn	12 43 53.6	-0.7
LUBP	Lubang	2.42	217	*e*P	Pn	12 43 32.4	+2.7

ISCJB ***12*** *12:46:24.0±1.5, 68N±05×73.1W±06, h166km±42km, mb3.3/4, Error ellipse: s-maj=128.1km s-min=9.9km az=88.4*
IDC ***12*** *12:46:25.2±1.2, 678N×7296W, h167km±16km, mb3.0/4, mb1 3.3/6, mb1mx3.2/19, mbtmp3.1/6, MS3.1/1, Ms1 3.2/1, ms1mx2.6/8, Error ellipse: s-maj=39.2km s-min=14.2km az=129.0*
NEIC ***12*** *12:46:25.4±0.8, 675N×7299W, h170km±12km, Error ellipse: s-maj=33.8km s-min=13.2km az=129.0*
ISC 12 12:46:25.2±1.5, 68N±06×731W±06, h161km±45km, n9, σ0°77/10, mb3.3/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.29	214	P	Pn	12 47 05.7	+1.3
	25nm,0.3s,baz=54,slow=3.0,SNR=37						
ROSC				S	Sn	12 47 33.6	-1.0
	9.8nm,0.3s,baz=87,slow=15,SNR=6.9						
SDV	Santo Domingo	3.18	49	P	Pn	12 47 15.8	+0.6
	4.3nm,0.3s,baz=271,slow=5.0,SNR=14						
SDV				S	Sn	12 47 53.6	-0.4
	7.1nm,0.3s,baz=71,slow=20,SNR=15						
SDV	Santo Domingo	3.18	49	P	Pn	12 47 15.8	+0.6
SDV				S	Sn	12 47 53.6	-0.4

LPAZ	La Paz	23.43	168	LR	LR	13 00 34.9
	comp=Z,42nm,18.8s,baz=283,slow=36					
TXAR	Lajitas Array	36.54	312	P	P	12 53 15.4 +0.2
	0.1nm,0.4s,mb2.8,baz=128,slow=9.7,SNR=4.1					
ULM	Lac du Bonnet	47.35	340	P	P	12 54 42.0 -0.7
	2.7nm,1.1s,mb3.8,baz=136,slow=6.4,SNR=4.5					
PDAR	Pinedale Array	48.15	324	P	P	12 54 49.6 +0.7
	0.2nm,0.5s,mb3.0,baz=160,slow=8.3,SNR=2.7					
YKA	Yellowknife Ar	63.33	340	P	P	12 56 36.3 -0.6
	0.4nm,0.6s,mb3.5,baz=133,slow=6.6,SNR=17					
WRA	Warramunga Arr	150.38	241	PKPbc	PKPbc	13 05 57.7 +0.3
	0.1nm,0.3s,baz=106,slow=2.8,SNR=9.1					

NEIC ***12*** *12:59:45.0, 3764S×17650E, h214km, MG4.1(WEL), After WEL.*
WEL 12 12:59:45.3±0.3, 3768S×17653E, h213km±2km, ML4.0/21, 3C, Error ellipse: s-maj=3.5km s-min=2.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.33	160	P	Pn	13 00 13.5	+0.1
MARZ	Manawahe	0.33	160	PN	Pn	13 00 13.5	+0.1
URZ	Urewera	0.74	142	⇑PN	Pn	13 00 14.7	-0.2
URZ				SN	S	13 00 37.8	-0.2
MWZ	Matawai	1.03	130	P	Pn	13 00 16.6	0.0
MWZ				S	S	13 00 41.9	+0.9
MWZ	Matawai	1.03	130	PN	Pn	13 00 16.5	-0.1
MWZ				SN	S	13 00 40.7	-0.3
RATZ	Rangitukua	1.33	206	P	Pn	13 00 19.2	+0.4
MXZ	Matakaoa Point	1.42	86	*e*P	Pn	13 00 19.4	0.0
MXZ				S	S	13 00 46.0	-0.1
MXZ	Matakaoa Point	1.42	86	PN	Pn	13 00 19.3	-0.2
MXZ				SN	S	13 00 46.0	-0.1
PUZ	Puketiti	1.43	107	P	Pn	13 00 19.7	+0.2
PUZ				S	S	13 00 46.4	+0.2
PUZ	Puketiti	1.43	107	PN	Pn	13 00 19.7	+0.1
PUZ				SN	S	13 00 45.9	-0.3
BKZ	Black Stump Fm	1.49	181	P	Pn	13 00 20.2	+0.1
BKZ				S	S	13 00 47.1	-0.1
BKZ	Black Stump Fm	1.49	181	⇑PN	Pn	13 00 20.2	+0.2
BKZ				SN	S	13 00 47.1	-0.1
KNZ	Kokohu	1.62	147	P	Pn	13 00 22.1	+0.9
KNZ	Kokohu	1.62	147	⇑PN	Pn	13 00 22.1	+0.9
TWVZ	Taurewa	1.64	211	PN	Pn	13 00 21.6	+0.3
NGZ	Ngauruhoe	1.67	206	P	Pn	13 00 22.2	+0.6
NGZ	Ngauruhoe	1.67	206	PN	Pn	13 00 22.2	+0.6
WPVZ	Whakapapa	1.71	206	P	Pn	13 00 22.4	+0.4
WPVZ	Whakapapa	1.71	206	PN	Pn	13 00 22.2	+0.2
TUVZ	Tukino	1.73	203	P	Pn	13 00 22.7	+0.5
TUVZ	Tukino	1.73	203	PN	Pn	13 00 22.6	+0.4
FWVZ	Far West T-bar	1.75	206	P	Pn	13 00 22.9	+0.5
WNVZ	Wahianoa	1.81	204	P	Pn	13 00 23.2	+0.3
MOVZ	Moawhango	1.83	199	P	Pn	13 00 23.0	-0.2
MOVZ	Moawhango	1.83	199	PN	Pn	13 00 22.9	-0.3
PKVZ	Pokaka	1.86	210	PN	Pn	13 00 23.7	+0.3
MTVZ	Mangateitei	1.90	206	PN	Pn	13 00 24.0	+0.2
VRZ	Vera Road	2.01	223	*e*P	Pn	13 00 25.4	+0.6
VRZ	Vera Road	2.01	223	PN	Pn	13 00 25.4	+0.6
RAEZ	Rainy Point	2.32	225	P	Pn	13 00 29.2	+1.1
PXZ	Pawanui	2.37	174	PN	Pn	13 00 28.8	+0.2
WAZ	Wanganui	2.40	210	*e*P	Pn	13 00 28.8	-0.1
WAZ	Wanganui	2.40	210	PN	Pn	13 00 28.8	-0.1
NEZ	North Egmont	2.49	229	P	Pn	13 00 30.6	+0.8
BFZ	Birch Farm	3.01	184	P	Pn	13 00 35.4	-0.3
BFZ	Birch Farm	3.01	184	PN	Pn	13 00 35.4	-0.3
MRZ	Mangatainoka R	3.07	194	P	Pn	13 00 35.2	-1.2
MRZ	Mangatainoka R	3.07	194	PN	Pn	13 00 35.2	-1.2
KIW	Kapiti Island	3.42	201	P	Pn	13 00 38.8	-1.7
KIW	Kapiti Island	3.42	201	PN	Pn	13 00 38.8	-1.7
MTW	Mount Morrison	3.57	193	P	Pn	13 00 40.4	-1.9
MTW	Mount Morrison	3.57	193	PN	Pn	13 00 40.4	-1.9
CAW	Cannon Point	3.61	198	PN	Pn	13 00 41.2	-1.6
TRWZ	Traveller	3.78	190	PN	Pn	13 00 43.2	-1.6
PAWZ	Paruwai Farm	3.80	193	P	Pn	13 00 43.3	-1.8
PAWZ	Paruwai Farm	3.80	193	PN	Pn	13 00 43.3	-1.8
MRW	Makara Radio	3.82	201	P	Pn	13 00 43.5	-1.8
MRW	Makara Radio	3.82	201	PN	Pn	13 00 43.5	-1.9
WEL	Wellington	3.85	200	P	Pn	13 00 43.9	-1.8
WEL	Wellington	3.85	200	PN	Pn	13 00 43.9	-1.9
MSWZ	Moikau Station	3.87	194	P	Pn	13 00 43.6	-2.3
MSWZ	Moikau Station	3.87	194	PN	Pn	13 00 43.6	-2.2
SNZO	South Karori	3.90	201	P	Pn	13 00 43.9	-2.3
SNZO	South Karori	3.90	201	PN	Pn	13 00 43.9	-2.3
TCW	Tory Channel	3.94	206	P	Pn	13 00 44.8	-2.0
TCW	Tory Channel	3.94	206	PN	Pn	13 00 44.8	-2.0
BHW	Baring Head	3.94	198	P	Pn	13 00 44.6	-2.2
BHW	Baring Head	3.94	198	PN	Pn	13 00 44.6	-2.2
TUWZ	Tuamarina	4.25	207	PN	Pn	13 00 48.1	-2.5
NNZ	Nelson	4.30	214	P	Pn	13 00 48.5	-2.7
NNZ	Nelson	4.30	214	PN	Pn	13 00 48.5	-2.7
QRZ	Quartz Range	4.42	223	*e*P	Pn	13 00 49.4	-3.3
QRZ	Quartz Range	4.42	223	PN	Pn	13 00 49.4	-3.3
BSWZ	Blackbirch Sta	4.52	206	P	Pn	13 00 51.6	-2.4
BSWZ	Blackbirch Sta	4.52	206	PN	Pn	13 00 51.6	-2.3
THZ	Tophouse	4.95	213	*e*P	Pn	13 00 56.9	-2.4
THZ	Tophouse	4.95	213	PN	Pn	13 00 56.9	-2.4
KHZ	Kahutara	5.26	205	*e*P	Pn	13 01 00.8	-2.5
KHZ	Kahutara	5.26	205	PN	Pn	13 01 00.8	-2.5
DSZ	Denniston Nort	5.46	220	*e*P	Pn	13 01 02.4	-3.4
LTZ	Lake Taylor	6.05	211	*e*P	Pn	13 01 09.9	-3.5
LTZ	Lake Taylor	6.05	211	PN	Pn	13 01 09.9	-3.5
CRLZ	Canterbury Las	6.60	206	*e*P	Pn	13 01 17.1	-3.3
MQZ	McQueen's Vall	6.71	205	*e*P	Pn	13 01 17.7	-4.1
MQZ	McQueen's Vall	6.71	205	PN	Pn	13 01 17.7	-4.1
ODZ	Otahua Downs	8.59	209	*e*P	Pn	13 01 43.1	-3.0
ODZ	Otahua Downs	8.59	209	PN	Pn	13 01 43.1	-3.0

NEIC ***12*** *13:01:22.8, 1855N×6830W, h168km, MD3.6(RSPR), After RSPR.*
RSPR 12 13:01:22.8, 1855N×6830W, h168km±3km, MD3.6/12, MD3.6/12, 12C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.13	94	⇑*e*P	Pn	13 01 51.1	+0.7
AGPR				*e*S	Sn	13 02 12.2	+0.6
LSP	Las Mesas	1.21	108	⇑*e*P	Pn	13 01 51.7	+0.6
LSP				*e*S	Sn	13 02 12.5	-0.3
CRPR	Cabo Rojo, PR	1.25	115	⇑*e*P	Pn	13 01 50.5	-0.9
CRPR				*e*S	Sn	13 02 13.2	-0.3
LRS	Lares	1.40	100	⇑*e*P	Pn	13 01 52.5	-0.4
LRS				*e*S	Sn	13 02 15.4	-0.6
GBPR	Guanica, Bosqu	1.46	113	⇑*e*P	Pn	13 01 53.5	0.0
GBPR	Guanica, Bosqu	1.46	113	*e*S	Sn	13 02 17.5	+0.6
AOPR	Arecibo Observ	1.48	97	⇑*e*P	Pn	13 01 53.9	+0.3
AOPR				*e*S	Sn	13 02 18.0	+0.7
OBIP	Obispado Ponce	1.68	107	⇑*e*P	Pn	13 01 55.2	-0.5
OBIP				*e*S	Sn	13 02 22.1	+1.2
CELP	Cerrillos	1.70	106	⇑*e*P	Pn	13 01 56.3	+0.5
CELP				*e*S	Sn	13 02 22.2	+1.0
ICM	Isla Caja Muer	1.81	111	⇑*e*P	Pn	13 01 57.0	0.0
ICM				*e*S	Sn	13 02 24.4	+1.0
CBYP	Canovanas	2.33	96	⇑*e*P	Pn	13 02 02.3	-0.5
CBYP				*e*S	Sn	13 02 34.5	+0.6
HUMP	Col San Antoni	2.36	99	⇑*e*P	Pn	13 02 03.4	+0.2
HUMP				*e*S	Sn	13 02 34.5	+0.1
MTP	Monte Pirata	2.64	99	⇑*e*P	Pn	13 02 07.6	+1.1
MTP				*e*S	Sn	13 02 41.4	+0.9

IDC 12 13:15:18.2±1.7, 297N×12342E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=203.4km s-min=24.4km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	17.97	150	*e*P	Pn	13 19 34.7	+5.3
	1.9nm,0.6s						
FITZ	Fitzroy Crossi	21.05	174	*e*P	P	13 20 12.4	+8.7
	2.4nm,0.2s						
WRA	Warramunga Arr	25.17	155	P	P	13 20 44.9	-0.3
	0.6nm,0.5s,baz=333,slow=11,SNR=20						
WB2	Warramunga Arr	25.17	155	*e*P	P	13 20 45.4	+0.2
ASAR	Alice Springs	28.38	159	P	P	13 21 15.3	+1.2
	0.3nm,0.5s,baz=342,slow=7.4,SNR=15						
STKA	Stephens Creek	38.72	155	P	P	13 22 43.8	-0.2
	0.5nm,0.4s,baz=345,slow=12,SNR=2.9						
MKAR	Makanchi Array	56.34	327	P	P	13 25 01.2	+0.2
	0.1nm,0.4s,baz=122,slow=7.4,SNR=6.5						

IGQ 12 13:21:50.4, 034N×7815W, h5km±2km, Mb4.3, Ms4.1, 10C-1D, Error ellipse: s-maj=1.3km s-min=0.5km az=108.0, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAYA	Cayambe	0.31	149	⇑P	Pg	13 21 57.3	+0.9
CAYR	Refugio Cayamb	0.35	156	⇑P	Pg	13 21 58.2	+1.0
YANA	Yana	0.62	223	⇑P	Pg	13 22 02.9	+0.6
PINO	Pino	0.67	223	⇑P	Pg	13 22 04.0	+0.7
LAV3	Lava3-Reventad	0.68	130	⇓P	Pg	13 22 03.6	+0.2
GGP	Refugio Guagua	0.68	221	⇑P	Pg	13 22 04.0	+0.7
JUA2	San Juan 2	0.71	220	⇑P	Pg	13 22 04.4	+0.3
ANTI	Antisana	0.78	181	⇑P	Pg	13 22 06.2	+0.8
VC1	Cotopaxi 1	1.01	195	⇑P	Pg	13 22 10.4	+0.7
TAMB	Tambo	1.05	192	⇑P	Pg	13 22 11.2	+0.7
CAMI	Rancho Maria	1.07	199	⇑P	Pg	13 22 11.8	+0.9
PISA	Pisayambo	1.41	190	P	Pn	13 22 17.4	+0.8
MAG1	Magdalena	1.67	256	P	Pn	13 22 21.0	+0.7
ULBA	Ulba	1.80	188	P	Pn	13 22 24.5	+2.5

NEIC ***12*** *13:26:22.9, 1789N×6885W, h177km, MD3.8(RSPR), After RSPR.*
RSPR 12 13:26:22.9, 1789N×6885W, h177km±6km, MD3.8/4, MD3.8/4, 3C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	1.66	86	⇓*e*P	Pn	13 26 55.6	-0.6
CRPR				*e*S	Sn	13 27 22.6	+0.7
LSP	Las Mesas	1.71	80	⇑*e*P	Pn	13 26 56.6	0.0
AOPR	Arecibo Observ	2.05	77	⇑*e*P	Pn	13 27 01.0	+0.8
AOPR				*e*S	Sn	13 27 30.2	+1.1
CBYP	Canovanas	2.88	82	⇑*e*P	Pn	13 27 09.9	0.0
CBYP				*e*S	Sn	13 27 47.1	+0.7
MTP	Monte Pirata	3.15	86	⇓*e*P	Pn	13 27 14.7	+1.5
MTP				*e*S	Sn	13 27 53.5	+1.1

BJI 12 13:34:17.3, 3722N×7455E, h11km, ML3.1, 2C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.55	26	*e*P	Pn	13 34 58.9	+0.3
KSH				S	Sn	13 35 29.8	+0.2
KSH				Smax			
	comp=N,337nm,0.9s						
KSH				Smax			
	comp=E,342nm,0.7s						
TKM2	Tokmak 2	5.75	8	⇓P	Pn	13 35 43.5	+0.9
	comp=E,1.1nm,0.9s						
TKM2				⇑S	Sn	13 36 45.1	-3.4
	comp=E,0.6nm,0.8s						
KK31	Karatay Array	6.64	334	⇑P	Pn	13 35 54.9	+0.1
	comp=E,0.5nm,0.3s,baz=141,slow=13						
KK31				⇓S	Sn	13 37 08.4	-2.0
	comp=E,0.9nm,0.3s,baz=151,slow=24						

IDC 12 13:43:36.1±2.2, 549S×13063E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.4/14, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=84.4km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.45	201	Pn	Pn	13 46 48.9	+0.8
	0.1nm,0.3s,baz=26,slow=3.7,SNR=3.9						
FITZ				Sn	Sn	13 49 08.1	-10
	0.1nm,0.3s,baz=253,slow=14,SNR=4.2						
WRA	Warramunga Arr	14.81	166	Pn	Pn	13 47 05.8	-1.0
	0.1nm,0.3s,baz=346,slow=11,SNR=10.0						
WRA				Sn	Sn	13 49 38.7	-13
	0.3nm,0.3s,baz=336,slow=20,SNR=9.5						
ASAR	Alice Springs	18.34	170	P	Pn	13 47 52.1	+0.3
	0.2nm,0.3s,baz=349,slow=9.8,SNR=17						
ASAR				S	Sn	13 51 07.1	-10
	0.1nm,0.3s,baz=358,slow=28,SNR=4.4						
MKAR	Makanchi Array	67.32	326	P	P	13 54 33.0	+0.2
	0.4nm,0.9s,baz=121,slow=6.9,SNR=4.3						

ISCJB ***12*** *14:38:48.9±0.3, 5563N±002×110.19E±004, h10km, mb3.7/9, Error ellipse: s-maj=3.8km s-min=2.3km az=111.5*
IDC ***12*** *14:38:49.0±1.0, 5581N×11040E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.6/24, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=28.8km s-min=21.4km az=64.0*
MOS ***12*** *14:38:49.1±0.8, 5579N×110.13E, h8km, mb4.6/6, Error ellipse: s-maj=10.1km s-min=6.6km az=64.9*
NEIC ***12*** *14:38:50.7±0.7, 5580N×110.27E, h10km, mb3.9/3, Error ellipse: s-maj=11.4km s-min=10.3km az=89.0*
BYKL ***12*** *14:38:50.7±0.2, 5572N×110.18E, h4km±3km*
ISC 12 14:38:50.5±0.3, 5567N±002×11020E±003, h10km, n72, σ1°36/124, mb3.7/9, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.39	286	*e*Pg	Pg	14 38 57.6	-0.6
NIZ				*e*Sg	Sg	14 39 03.0	-0.3
NIZ				Pmax			
	121nm,0.1s						
NIZ				Smax			
	2μm,0.2s						
KMO	Kumora	0.60	68	*e*PG	Pg	14 39 01.0	-1.2
KMO				*e*		14 39 08.6	
KMO				pmax	pmax		
	comp=Z,171nm,0.2s						
KMO				smax			
	comp=N,670nm,0.5s						
KMO	Kumora	0.60	68	*i*Pg	Pg	14 39 01.1	-1.1
KMO			

SYVR	**Suvo**	**2.02 183**	*e*Pg	**Pg**	**14 39 27.7**	**-1.5**
SYVR			*e*Sg	**Sg**	**14 39 55.7**	**+0.3**
SYVR			Pmax			
	comp=E,377nm,0.4s					
SYVR			Smax			
	comp=E,2μm,0.7s					
OGRR	**Ongureny**	**2.53 218**	*e*PN	**Pn**	**14 39 34.0**	**+2.3**
OGRR			*e*		14 39 37.8	
OGRR			*e*		14 40 10.2	
OGRR			pmax	pmax		
	comp=Z,75nm,0.9s					
OGRR			smax			
	comp=E,473nm,0.6s					
OGRR	**Ongureny**	**2.53 218**	*e*Pn	**Pn**	**14 39 34.0**	**+2.3**
OGRR			*e*Sn	**Sn**	**14 40 04.8**	**+2.2**
OGRR			*e*Sg	**Sg**	**14 40 10.1**	**-1.8**
OGRR			Smax			
	comp=E,385nm,0.3s					
MXMB	**Maximikha**	**2.56 200**	*e*Pg	**Pg**	**14 39 36.6**	**-2.9**
MXMB			*e*Sg	**Sg**	**14 40 11.7**	**-1.0**
MXMB			Pmax			
	comp=E,56nm,0.4s					
MXMB			Smax			
	comp=E,2μm,0.7s					
BOD	**Bodaibo**	**3.00 43**	*e*PN	**Pn**	**14 39 38.1**	**0.0**
BOD			*e*		14 39 43.3	
BOD			*e*		14 40 20.8	
BOD			pmax	pmax		
	comp=Z,30nm,0.3s					
BOD			smax			
	comp=N,403nm,0.9s					
BOD	**Bodaibo**	**3.00 43**	*e*Pn	**Pn**	**14 39 39.4**	**+1.3**
BOD			*e*Sn	**Sn**	**14 40 15.4**	**+1.2**
BOD			*e*Sg	**Sg**	**14 40 22.1**	**-4.9**
BOD			Smax			
	comp=N,403nm,0.9s					
TRG	**Tyrgan**	**3.69 219**	*e*PN	**Pn**	**14 39 49.9**	**+2.3**
TRG			*e*		14 39 57.5	
TRG			*e*S	**Sn**	**14 40 32.6**	**+1.5**
TRG			*e*		14 40 46.2	
TRG			pmax	pmax		
	comp=Z,48nm,0.6s					
TRG			smax			
	comp=E,254nm,0.4s					
TRG	**Tyrgan**	**3.69 219**	*e*Pn	**Pn**	**14 39 50.0**	**+2.4**
TRG			*e*Sn	**Sn**	**14 40 33.6**	**+2.5**
TRG			*e*Sg	**Sg**	**14 40 45.2**	**-3.8**
TRG			Smax			
	comp=E,251nm,0.4s					
TRTB	**Turuntaevo**	**3.77 205**	*e*Pn	**Pn**	**14 39 51.0**	**+2.4**
TRTB			*e*Pg	**Pg**	**14 39 59.2**	**-3.5**
TRTB			*e*Sg	**Sg**	**14 40 48.0**	**-3.5**
TRTB			Pmax			
	comp=E,49nm,0.6s					
TRTB			Smax			
	comp=E,172nm,0.7s					
UUDB	**Ulan-Yde**	**4.10 203**	*e*Pg	**Pg**	**14 40 03.7**	**-5.3**
UUDB			*e*Sg	**Sg**	**14 40 58.3**	**-3.8**
UUDB			Pmax			
	comp=E,48nm,0.5s					
UUDB			Smax			
	comp=E,219nm,1.0s					
CIT	**Chita**	**4.16 150**	*e*PN	**Pn**	**14 39 55.5**	**+1.5**
CIT			*e*		14 40 04.1	
CIT			*e*		14 41 00.3	
CIT			pmax	pmax		
	comp=Z,114nm,1.3s					
CIT			smax			
	comp=E,278nm,1.0s					
CIT	**Chita**	**4.16 150**	*e*Pn	**Pn**	**14 39 55.5**	**+1.5**
CIT			*e*Pg	**Pg**	**14 40 06.0**	**-4.2**
CIT			*e*Sn	**Sn**	**14 40 43.4**	**+0.7**
CIT			*e*Sg	**Sg**	**14 41 00.5**	**-3.5**
CIT			Pmax			
	comp=E,115nm,0.6s					
CIT			Smax			
	comp=E,280nm,1.0s					
KAB	**Kabansk**	**4.19 212**	*e*Sg	**Sg**	**14 41 01.9**	**-3.2**
KAB			Smax			
	comp=E,746nm,1.0s					
CRS	**Chara**	**4.66 71**	*e*PN	**Pn**	**14 40 02.4**	**+1.5**
CRS			*e*		14 40 16.9	
CRS			*e*		14 41 15.8	
CRS			pmax	pmax		
	comp=Z,56nm,0.8s					
CRS			smax			
	comp=E,115nm,1.3s					
CRS	**Chara**	**4.66 71**	*e*Pn	**Pn**	**14 40 02.0**	**+1.1**
CRS			*e*Pg	**Pg**	**14 40 15.1**	**-4.7**
CRS			*e*Sg	**Sg**	**14 41 14.3**	**-5.9**
CRS			Pmax			
	comp=E,56nm,0.9s					
CRS			Smax			
	comp=E,126nm,1.0s					
IRK	**Irkutsk**	**4.90 228**	*e*PN	**Pn**	**14 40 04.3**	**0.0**
IRK			*e*S	**Sn**	**14 41 01.2**	**+0.2**
IRK			*e*		14 41 21.4	
IRK			smax			
	comp=N,818nm,0.6s					
IRK	**Irkutsk**	**4.90 228**	*e*Sn	**Sn**	**14 41 00.2**	**-0.8**
IRK			*e*Sg	**Sg**	**14 41 22.9**	**-5.0**
IRK			Smax			
	comp=N,820nm,0.6s					
LSTR	**Listvyanka**	**4.96 222**	*e*Pn	**Pn**	**14 40 06.4**	**+1.3**
LSTR			*e*Sn	**Sn**	**14 41 02.6**	**+0.1**
LSTR			*e*Sg	**Sg**	**14 41 24.7**	**-5.2**
LSTR			Smax			
	comp=N,139nm,0.6s					
TLY	**Talaya**	**5.58 227**	*e*PN	**Pn**	**14 40 13.9**	**+0.3**
TLY			*e*		14 40 33.8	
TLY			*e*		14 41 17.4	
TLY					14 41 43.4	
TLY			pmax	pmax		
	comp=Z,13nm,0.4s					
TLY	**Talaya**	**5.58 227**	*e*Pn	**Pn**	**14 40 13.9**	**+0.3**
	comp=Z,13nm,0.4s					
TLY			*e*Pg	**Pg**	**14 40 33.8**	**-3.6**
TLY			*e*Sn	**Sn**	**14 41 17.4**	**-0.3**
TLY			Sg	**Sg**	**14 41 43.4**	**-6.3**
TLY	**Talaya**	**5.58 227⇑**	*i*Pn	**Pn**	**14 40 14.4**	**+0.8**
TLY			*e*Pg	**Pg**	**14 40 32.1**	**-5.3**
TLY			*e*Sn	**Sn**	**14 41 16.6**	**-1.1**
TLY			*e*Sg	**Sg**	**14 41 43.6**	**-6.1**
TLY			Pmax			
	comp=Z,17nm,0.5s					
TLY			Smax			
	comp=Z,117nm,0.7s					
KHNR	**Khani**	**5.59 73**	*e*Sg	**Sg**	**14 41 43.1**	**-6.8**
TUP	**Tupik**	**5.74 99**	*e*PN	**Pn**	**14 40 16.7**	**+0.9**
TUP			*e*		14 40 34.0	
TUP			*e*S	**Sn**	**14 41 21.2**	**-0.5**
TUP			*e*		14 41 47.9	
TUP			pmax	pmax		
	comp=Z,8.0nm,0.7s					
TUP			smax			
	comp=N,133nm,1.0s					
TUP	**Tupik**	**5.74 99**	*e*Pn	**Pn**	**14 40 16.6**	**+0.8**
TUP			*e*Sn	**Sn**	**14 41 19.4**	**-2.3**
TUP			*e*Sg	**Sg**	**14 41 49.5**	**-5.4**
TUP			Smax			
	comp=N,136nm,1.2s					
ARS	**Arshan**	**5.95 234**	*e*PN	**Pn**	**14 40 19.7**	**+1.1**
ARS			*e*S	**Sn**	**14 41 25.9**	**-0.8**
ARS			*e*S	**Sg**	**14 41 56.9**	**-4.4**
ARS			smax			
	comp=E,592nm,0.8s					
ARS	**Arshan**	**5.95 234**	*e*Pn	**Pn**	**14 40 19.7**	**+1.1**
ARS			*e*Sn	**Sn**	**14 41 25.9**	**-0.8**
ARS			*e*Sg	**Sg**	**14 41 55.4**	**-5.9**
ARS			Smax			
	comp=E,592nm,0.8s					
KPC	**Khapcheranga**	**6.12 167**	*e*Pn	**Pn**	**14 40 22.2**	**+1.2**
KPC			*e*Pg	**Pg**	**14 40 41.3**	**-6.4**
KPC			*e*Sg	**Sg**	**14 42 01.9**	**-5.1**
KPC			Pmax			
	comp=E,20nm,0.9s					
KPC			Smax			
	comp=E,126nm,1.0s					
ZAK	**Zakamensk**	**6.74 221**	*e*PN	**Pn**	**14 40 31.4**	**+1.9**
ZAK			*e*		14 40 52.5	
ZAK			*e*S	**Sn**	**14 41 50.3**	**+4.0**
ZAK			*e*		14 42 19.9	
ZAK			pmax	pmax		
	comp=Z,8.0nm,0.7s					
ZAK			smax			
	comp=N,72nm,1.1s					
ZAK	**Zakamensk**	**6.74 221**	*e*Pn	**Pn**	**14 40 32.2**	**+2.7**
ZAK			*e*Sg	**Sg**	**14 42 20.9**	**-6.0**
ZAK			Smax			
	comp=N,73nm,1.4s					
MOY	**Mondy**	**6.78 238**	*e*PN	**Pn**	**14 40 32.8**	**+2.7**
MOY			*e*		14 40 54.3	
MOY			*e*S	**Sn**	**14 41 46.8**	**-0.5**
MOY			*e*		14 42 20.0	
MOY			pmax	pmax		
	comp=Z,23nm,0.6s					
MOY			smax			
	comp=N,108nm,1.3s					
MOY	**Mondy**	**6.78 238⇑**	*i*Pn	**Pn**	**14 40 32.9**	**+2.8**
MOY			*e*		14 40 41.9	
MOY			*e*Sn	**Sn**	**14 41 46.9**	**-0.4**
MOY			*e*Sg	**Sg**	**14 42 20.1**	**-8.1**
MOY			Smax			
	comp=N,108nm,1.3s					
ORL	**Orlik**	**6.87 247**	*e*PN	**Pn**	**14 40 33.1**	**+1.9**
ORL			*e*S	**Sg**	**14 42 23.9**	**-7.0**
ORL			smax			
	comp=N,126nm,0.8s					
ORL	**Orlik**	**6.87 247⇑**	*i*Pn	**Pn**	**14 40 33.5**	**+2.3**
ORL			*e*Sn	**Sn**	**14 41 48.5**	**-0.9**
ORL			*e*Sg	**Sg**	**14 42 23.9**	**-7.0**
ORL			Smax			
	comp=N,130nm,0.9s					
NRGR	**Nerungri**	**8.17 77**	*e*PN	**Pn**	**14 40 43.0**	**-6.1**
NRGR			S	**Sn**	**14 42 11.8**	**-10**
NRGR			smax			
	comp=N,14nm,0.6s					
SONM	**Songino Array**	**8.19 198**	Pn	**Pn**	**14 40 53.2**	**+3.8**
	comp=N,0.4nm,0.3s,baz=13,slow=12,SNR=13					
SONM			Pg	Pn	14 41 18.5	+29
	comp=N,1.2nm,0.3s,baz=9.1,slow=16,SNR=11					
SONM			Sn	**Sn**	**14 42 33.1**	**+11**
	baz=242,slow=40,SNR=2.6					
SONM			Lg		14 43 10.7	
	comp=N,2.7nm,0.3s,baz=17,slow=29,SNR=13					
TDJR	**Todzha**	**8.92 254**	*e*Pn	**Pn**	**14 41 00.3**	**+0.9**
TDJR			*e*		14 42 46.8	
TDJR			*e*Sg	Sn	14 43 26.5	+47
KRAR	**Krasnoyarsk**	**9.76 279**	*i* P	**Pn**	**14 41 10.7**	**-0.2**
ZAL	**Zalesovo**	**14.73 274**	Pn	**Pn**	**14 42 19.2**	**+0.4**
	comp=N,0.3nm,0.3s,baz=121,slow=5.2,SNR=5.0					
TIXI	**Tiksi**	**17.90 19**	*i* P	**Pn**	**14 42 58.1**	**-1.4**
TIXI			pmax	pmax		
	comp=Z,3.0nm,1.3s					
TIXI			MLR	MLR		
	comp=Z,200nm,26.0s					
KURK	**Kurchatov**	**19.45 268**	*e*P	**Pn**	**14 43 18.4**	**0.0**
KURK			pmax	pmax		
	comp=Z,5.0nm,0.6s					
KURK	**Kurchatov**	**19.45 268**	*e*P	**Pn**	**14 43 18.4**	**0.0**
	comp=Z,5.0nm,0.6s					
MK31	**Makanchi Array**	**19.49 255**	*e*P	**Pn**	**14 43 18.1**	**-0.7**
MKAR	**Makanchi Array**	**19.49 255**	P	**Pn**	**14 43 17.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=58,slow=9.7,SNR=19					
MKAR	**Makanchi Array**	**19.49 255**	*e*P	**Pn**	**14 43 18.7**	**-0.1**
MKAR	**Makanchi Array**	**19.49 255**	P	**Pn**	**14 43 17.9**	**-0.9**
CHKZ	**Chkalovo**	**22.77 282**	*e*P	**P**	**14 43 53.0**	**+0.1**
CHKZ			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7					
CHKZ	**Chkalovo**	**22.77 282**	*e*P	**P**	**14 43 53.0**	**+0.1**
	comp=Z,2.1nm,0.7s,mb3.7					
BVAR	**Borovoye Array**	**23.14 280**	P	**P**	**14 43 57.0**	**+0.1**
	comp=Z,2.5nm,0.6s,mb3.8,baz=64,slow=10,SNR=11					
BVAR	**Borovoye Array**	**23.14 280**	P	**P**	**14 43 57.0**	**+0.2**
BVAR			pmax	pmax		
	comp=Z,3.0nm,0.6s					
BRVK	**Borovoye**	**23.18 280**	*e*P	**P**	**14 43 56.8**	**-0.5**
BRVK			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8					
BRVK	**Borovoye**	**23.18 280**	*e*P	**P**	**14 43 56.8**	**-0.5**
	comp=Z,3.0nm,0.7s,mb3.8					
ARCES	**ARCESS Array B**	**37.84 325**	P	**P**	**14 46 06.5**	**-0.7**
	comp=Z,5.1nm,1.0s,mb4.2,baz=60,slow=8.5,SNR=3.5					
ARCES	**ARCESS Array B**	**37.84 325**	P	**P**	**14 46 06.6**	**-0.6**
ARCES			pmax	pmax		
	comp=Z,5.0nm,1.0s					
FINES	**FINESS Array B**	**41.37 314**	P	**P**	**14 46 35.6**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.5,baz=69,slow=10,SNR=3.6					
FINES	**FINESS Array B**	**41.37 314**	P	**P**	**14 46 35.6**	**-1.0**
FINES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
NOA	**NORSAR Array B**	**47.41 319**	P	**P**	**14 47 25.1**	**+0.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=34,slow=6.4,SNR=2.2					
NOA	**NORSAR Array B**	**47.41 319**	P	**P**	**14 47 25.1**	**+0.1**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
YKA	**Yellowknife Ar**	**57.10 23**	P	**P**	**14 48 34.8**	**-2.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=328,slow=7.2,SNR=4.4					
YKA	**Yellowknife Ar**	**57.10 23**	*i* P	**P**	**14 48 35.7**	**-1.3**
WRA	**Warramunga Arr**	**78.05 157**	P	**P**	**14 50 49.4**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=347,slow=6.1,SNR=4.6					
WRA	**Warramunga Arr**	**78.05 157**	*e*P	**P**	**14 50 52.2**	**+2.8**
ASAR	**Alice Springs**	**81.56 158**	P	**P**	**14 51 08.8**	**+0.5**
	comp=Z,0.2nm,0.6s,mb3.2,baz=353,slow=5.3,SNR=4.1					

IDC 12 14:41:41.0±11.0, 174N×12263E, h0km, mb4.3/1, Error ellipse: s-maj=214.8km s-min=132.0km az=120.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.93**	**172**	P	Pn	14 46 14.2	-1.7
	baz=22,slow=11						
WRA	**Warramunga Arr**	**24.42**	**152**	P	P	14 47 00.2	-0.9
	1.5nm,0.3s,baz=330,slow=9.5,SNR=31						
ASAR	**Alice Springs**	**27.53**	**157**	P	P	14 47 29.6	+0.3
	1.9nm,0.5s,baz=346,slow=15,SNR=46						
STKA	**Stephens Creek**	**37.96**	**153**	P	P	14 49 02.2	+1.9
	1.4nm,0.7s,baz=331,slow=10,SNR=4.0						

MAN 12 14:52:17.4, 1196N×12195E, h8km, mb3.5, ML4.6, MS1.4, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTRP	**Odiongan**	**0.40**	**10**	*e*P	Pg	14 52 25.8	+0.5
KALP	**Kalibo**	**0.47**	**127‖**	*e*P	Pg	14 52 27.2	+0.6
CUYO	**Cuyo Island**	**1.43**	**220**	*e*P	Pn	14 52 42.5	-1.1
GUIM	**Jordan**	**1.47**	**155**	*e*P	Pn	14 52 44.4	+0.2
BOAC	**Boac**	**1.49**	**356**	*e*P	Pn	14 52 43.5	-1.0
BOAC				*e*S	Sn	14 53 04.7	+0.6
BUSP	**Coron**	**1.71**	**272**	*e*P	Pn	14 52 47.5	0.0
ENPP	**El Nido**	**2.59**	**253**	*e*P	Pn	14 52 59.6	+0.1
POLP	**Polilio Island**	**2.75**	**360**	*e*P	Pn	14 53 02.8	+1.0

*NEIC **12** 15:12:21.3±0.6, 4680N×15274E, h10km, mb4.0/1, Error ellipse: s-maj=17.7km s-min=13.0km az=165.0*
*BJI **12** 15:12:21.2, 4680N×15270E, h10km, mB4.7, mb4.1*
*SKHL **12** 15:12:24.2±2.4, 4650N×153.10E, h60km±14km, mb4.6/2, msh5.8/1*
*ISCJB **12** 15:12:25.6±0.9, 4665N±007×15278E±008, h59km±8km, mb4.1/19, Error ellipse: s-maj=13.8km s-min=6.9km az=112.2*
*MOS **12** 15:12:26.5±1.2, 4677N×15274E, h68km, mb4.3/8, Error ellipse: s-maj=14.4km s-min=11.2km az=61.2*
*IDC **12** 15:12:31.6±3.6, 4684N×15275E, h94km±33km, mb3.5/14, mb1 3.7/16, mb1mx3.7/25, mbtmp3.5/16, MS2.9/1, Ms1 2.9/1, ms1mx1.9/31, Error ellipse: s-maj=19.8km s-min=15.3km az=128.0*

ISC 12 15:12:27.4±0.8, 4666N±007×15282E±008, h60km±7km, n73, σ1°42/88, mb4.1/19, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.74**	**249**	*e*PN	**Pn**	**15 13 20.5**	**-2.2**
KUR				*e*S	**Sn**	**15 14 04.5**	**-1.0**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,270nm,0.8s						
KUR				smax			
	comp=E,540nm,0.8s						
KUR	**Kuril'sk**	**3.74**	**249**	*e*P	**Pn**	**15 13 20.5**	**-2.2**
KUR				AMB	AMB	15 13 23.0	
	comp=E,80nm,0.5s						
KUR				*e*S	**Sn**	**15 14 04.5**	**-1.0**
KUR				A		15 14 20.5	
	comp=E,270nm,0.8s						
KUR				A		15 14 20.5	
	comp=E,540nm,0.8s						
SKR	**Severo-Kuril's**	**4.58**	**27**	*e*PN	**Pn**	**15 13 33.5**	**-0.6**
SKR				*e*S	**Sn**	**15 14 19.5**	**-6.5**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,160nm,0.6s						
SKR				smax			
	comp=E,60nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**244**	*e*PN	**Pn**	**15 13 48.8**	**+1.1**
YUK				*i* S	**Sn**	**15 14 58.9**	**+8.7**
YUK				smax			
	comp=E,2μm,2.0s						
YUK				smax			
	comp=N,3μm,2.0s						
YUK				smax			
	comp=N,390nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
NEM2	**Nemuro 2**	**6.00**	**239**	P	**Pn**	**15 13 53.0**	**-0.7**
NEM2				*e*S	**Sn**	**15 14 58.6**	**-2.4**
JRA	**Rausu**	**6.08**	**246**	P	**Pn**	**15 13 56.5**	**+1.9**
JNK	**Nakash**	**6.51**	**245**	P	**Pn**	**15 14 01.7**	**+1.2**
JNK				*e*S	**Sn**	**15 15 12.9**	**-0.4**
JTKR	**Abashiri--Toko**	**6.84**	**250**	P	**Pn**	**15 14 07.1**	**+2.0**
JAK	**Akkeshi**	**6.84**	**241**	P	**Pn**	**15 14 04.3**	**-0.8**
JAK				*e*S	**Sn**	**15 15 19.1**	**-2.5**
YSS	**Yuzh-Sakhalins**	**6.92**	**276**	*e*PN	**Pn**	**15 14 08.2**	**+2.0**
YSS				*e*S	**Sn**	**15 15 24.4**	**+1.0**
YSS				pmax	pmax		
	comp=Z,50nm,1.2s						
YSS	**Yuzh-Sakhalins**	**6.92**	**276**	*e*Pn	**Pn**	**15 14 08.3**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.92**	**276**	*e*P	**Pn**	**15 14 08.2**	**+2.0**
YSS				AMB	AMB	15 14 10.2	
	comp=Z,50nm,1.2s						
YSS				*e*S	**Sn**	**15 15 24.4**	**+1.0**
JAR	**Ashorobuto**	**7.25**	**246**	P	**Pn**	**15 14 12.0**	**+1.3**
JAR				*e*S	**Sn**	**15 15 32.1**	**+0.6**
PET	**Petropavlovsk**	**7.40**	**28**	*e*PN	**Pn**	**15 14 19.1**	**+6.4**
JOB	**Onbets**	**7.42**	**243**	P	**Pn**	**15 14 13.5**	**+0.5**
JOB				*e*S	**Sn**	**15 15 34.5**	**-1.2**
JKK2	**Kamakawa 2**	**7.64**	**252**	P	**Pn**	**15 14 18.6**	**+2.6**
ASAJ	**Asahikawa**	**7.64**	**254**	P	**Pn**	**15 14 19.1**	**+3.1**
	comp=Z,2.1nm,0.3s,baz=100,slow=10,SNR=20						
ASAJ				LR	LR	15 17 03.8	
	comp=Z,89nm,20.1s,baz=121,slow=36						
JWK2	**Keihoku**	**7.73**	**264**	P	**Pn**	**15 14 22.6**	**+5.3**
JCH	**Churui**	**7.87**	**242**	P	**Pn**	**15 14 18.8**	**-0.3**
JCH				*e*S	**Sn**	**15 15 44.2**	**-2.5**
JFR	**Furan**	**8.06**	**248**	P	**Pn**	**15 14 24.3**	**+2.5**
ERM	**Erimo**	**8.34**	**240**	*c i*PN	**Pn**	**15 14 26.0**	**+0.4**
JBT2	**Biratori 2**	**8.40**	**246**	P	**Pn**	**15 14 26.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.43**	**242**	P	**Pn**	**15 14 26.1**	**-0.7**
JNBK				*e*S	**Sn**	**15 15 56.9**	**-3.6**
JNB	**Noboribetsu**	**9.40**	**248**	P	**Pn**	**15 14 40.3**	**+0.2**
JKB	**Kayabe**	**9.71**	**245**	P	**Pn**	**15 14 43.0**	**-1.3**
JKB				*e*S	**Sn**	**15 16 26.8**	**-5.0**
JYM2	**Yakumo 2**	**10.00**	**247**	P	**Pn**	**15 14 48.2**	**-0.2**
JANG	**Nango**	**10.34**	**237**	P	**Pn**	**15 14 49.5**	**-3.4**
JRG	**Rokugo**	**11.49**	**235**	P	**Pn**	**15 15 06.7**	**-2.0**
JRG				*e*S	**Sn**	**15 17 07.6**	**-7.9**
JIO	**Ouri**	**11.77**	**230**	*e*S	**Sn**	**15 17 10.3**	**-12**
MJAR	**Matsushiro Arr**	**14.87**	**232**	P	**Pn**	**15 15 59.5**	**+5.3**
	comp=Z,0.6nm,0.3s,baz=41,slow=8.8,SNR=4.1						
MJAR	**Matsushiro Arr**	**14.87**	**232**	P	**Pn**	**15 15 59.5**	**+5.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**20.29**	**328**	*i* P	**P**	**15 16 57.9**	**-0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSRS	**Korea Array**	**20.58**	**252**	P	**P**	**15 17 03.4**	**+2.0**
	comp=Z,2.1nm,0.6s,baz=61,slow=8.9,SNR=11						
SONM	**Songino Array**	**31.18**	**289**	P	**P**	**15 18 42.2**	**+1.5**
	comp=Z,0.5nm,0.8s,mb3.4,baz=100,slow=8.6,SNR=2.6						
SONM	**Songino Array**	**31.18**	**289**	P	**P**	**15 18 42.2**	**+1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
IMA2	**Indian Mountai**	**33.99**	**36**	*e*P	**P**	**15 19 04.9**	**-0.4**
INK	**Inuvik**	**41.83**	**32**	*e*P	**P**	**15 20 10.9**	**-0.5**
	comp=Z,1.6nm,0.7s,mb3.8,baz=288,slow=8.6,SNR=5.0						
INK	**Inuvik**	**41.83**	**32**	*e*P	**P**	**15 20 11.0**	**-0.4**
MK31	**Makanchi Array**	**46.80**	**297**	*e*P	**P**	**15 20 49.8**	**-1.3**
MKAR	**Makanchi Array**	**46.80**	**297**	P	**P**	**15 20 49.9**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=64,slow=7.5,SNR=8.1						
MKAR				PcP	PcP	15 22 23.4	0.0
	comp=Z,0.6nm,0.6s,baz=74,slow=5.4,SNR=4.0						
MKAR	**Makanchi Array**	**46.80**	**297**	*e*P	**P**	**15 20 49.8**	**-1.3**
MKAR	**Makanchi Array**	**46.80**	**297**	P	**P**	**15 20 49.9**	**-1.2**
MKAR				PcP	PcP	15 22 23.4	0.0
LSA	**Lhasa**	**50.08**	**273**	P	**P**	**15 21 19.4**	**+3.1**
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**	**15 21 15.8**	**-2.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**50.34**	**310**	*e*P	**P**	**15 21 15.8**	**-2.4**
	comp=Z,0.9nm,0.5s,mb4.1						
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**15 21 23.7**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=296,slow=7.2,SNR=5.2						
YKA				PcP	PcP	15 22 38.5	-0.5
	comp=Z,0.3nm,0.5s,baz=304,slow=3.8,SNR=3.7						
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**15 21 23.8**	**-0.3**
YKA				PcP	PcP	15 22 38.5	-0.5
JIRN	**Jiri**	**54.76**	**274**	*e*P	**P**	**15 21 52.5**	**+1.6**
GUN	**Gumba**	**54.81**	**275**	*e*P	**P**	**15 21 53.7**	**+2.4**
	comp=Z,5.6nm,0.4s,mb5.0						
KKN	**Kakani**	**55.30**	**275**	*e*P	**P**	**15 21 56.4**	**+1.6**
	comp=Z,7.7nm,0.7s,mb4.8						
DMN	**Daman**	**55.53**	**275**	*e*P	**P**	**15 21 57.9**	**+1.4**
	comp=Z,17nm,0.9s,mb5.1						
GKN	**Gorkha**	**55.60**	**276**	*e*P	**P**	**15 21 58.0**	**+1.0**
	comp=Z,16nm,0.9s,mb5.0						
KOLN	**Koldanda**	**56.46**	**276**	*e*P	**P**	**15 22 03.9**	**+0.8**
	comp=Z,10.0nm,0.8s,mb4.9						
NVAR	**Mina Array Bea**	**62.65**	**62**	P	**P**	**15 22 46.4**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.6,baz=299,slow=8.8,SNR=3.0						
KAF	**Kangasniemi**	**63.44**	**335**	*ep*	**P**	**15 22 49.0**	**-1.9**
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**15 22 53.2**	**-1.6**
	comp=Z,1.8nm,0.4s,mb4.5,baz=38,slow=7.2,SNR=22						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**15 22 53.2**	**-1.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**15 22 53.2**	**-1.6**
PDAR	**Pinedale Array**	**64.96**	**54**	P	**P**	**15 23 00.5**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.8,baz=243,slow=0.6,SNR=6.2						
NB2	**NORSAR Subarra**	**68.25**	**341**	P	**P**	**15 23 19.7**	**-2.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**

ellipse: s-maj=40.8km s-min=23.6km az=72.6

IDC ***12*** *15:32:40.9±7.2, 46.93N×155.04E, h38km±63km, mb3.3/5, mb1 3.6/6, mb1mx3.3/23, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=36.5km s-min=28.9km az=135.0*

ISC 12 15:32:41.2±2.4, 470N±01×1550E±03, h40km±21km, n11, σ0°42/12, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.74**	**11**	*e*PN	**Pn**	**15 33 37.0**	**+0.7**
SKR				*e*S	**Sn**	**15 34 18.5**	**-0.6**
SKR				smax			
	comp=E,80nm,0.4s						
ASAJ	**Asahikawa**	**9.16**	**256**	Pn	**Pn**	**15 34 50.6**	**-0.1**
	comp=E,0.3nm,0.3s,baz=83,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**15 41 15.9**	**+0.3**
	comp=E,0.6nm,0.6s,mb3.8,baz=66,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**15 41 16.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**49.93**	**37**	P	**P**	**15 41 30.6**	**-0.3**
	comp=Z,0.1nm,0.5s,mb3.1,baz=296,slow=7.3,SNR=3.4						
YKA	**Yellowknife Ar**	**49.93**	**37**	P	**P**	**15 41 30.6**	**-0.3**
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**15 43 12.8**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=28,slow=7.3,SNR=7.4						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**15 43 12.8**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.89**	**200**	P	**P**	**15 44 05.5**	**-0.5**
	comp=Z,0.4nm,1.0s,mb3.3,baz=19,slow=4.6,SNR=4.6						
TXAR	**Lajitas Array**	**76.24**	**62**	P	**P**	**15 44 25.8**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=293,slow=3.3,SNR=8.1						
TXAR	**Lajitas Array**	**76.24**	**62**	P	**P**	**15 44 25.8**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

SZGRF ***12*** *15:47:38.0, 3.15N×126.37E, h33km, mb5.6, Talaud Islands, Indonesia*

BJI ***12*** *15:47:57.4, 331N×125.38E, h213km, mB6.1, mb6.2*

MOS ***12*** *15:48:00.7±1.0, 374N×124.83E, h204km, mb6.1/76, MS5.4/15, Error ellipse: s-maj=10.6km s-min=5.9km az=109.7*

ISCJB ***12*** *15:48:01.8±0.1, 370N±002×124.84E±002, h213km, mb6.0/189, Error ellipse: s-maj=3.3km s-min=2.4km az=140.6*

GCMT ***12*** *15:48:03.3±0.1, 383N×125.10E, h215km, MW6.3/107, Moment Tensor Solution. s103,c262; s107,c413; Duration: 3s5 Moment tensor: Scale 10^18Nm; Mrr-1.00±.02; Mθθ0.20±.02; Mφφ0.80±.02; Mrθ-0.11±.02; Mθφ-1.37±.02; Mφr-3.35±.02; Best double couple: M0 3.73300×10^18 NP1:φs107.00000°, δ23.00000°, λ-159.00000°. NP2:φs358.00000°, δ82.00000°, λ-69.00000°. Principal axes: T 3.6780, Plg34.0000°, Azm70.0000°; N 0.1100, Plg21.0000°, Azm175.0000°; P -3.7880, Plg49.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***12*** *15:48:03.3±0.1, 373N×124.68E, mb6.0/112, ME6.1, MW6.3 Error ellipse: s-maj=4.9km s-min=3.5km az=58.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^18Nm; Mrr-1.27; Mθθ-0.04; Mφφ1.32; Mrθ-0.16; Mθφ-1.12; Mφr-3.32; Best double couple: M0 3.70000×10^18 NP1:φs360.00000°, δ79.00000°, λ-72.00000°. NP2: φs120.00000°, δ20.00000°, λ-148.00000°. Principal axes: T 3.7700, Plg32.0000°, Azm75.0000°; N -0.0700, Plg17.0000°, Azm176.0000°; P -3.7000, Plg53.0000°, Azm290.0000°; Broadband fault plane solution: P waves. NP1:φs180.00000°, δ10.00000°, λ-90.00000°. NP2: φs360.00000°, δ80.00000°, λ-90.00000°. Principal axes: T Plg35.0000°, Azm90.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm270.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV PIVS] at Davao and General Santos, Philippines. Felt [II] on Ternate, Indonesia.

IDC ***12*** *15:48:04.6±0.4, 373N×124.89E, h228km±3km, mb5.6/34, mb1 5.5/34, mb1mx5.5/34, mbtmp5.6/34 Error ellipse: s-maj=7.5km s-min=4.6km az=71.0*

ISC 12 15:48:03.6±0.1, 370N±002×12489E±002, h215km, h215km±1.7km:pP-P, n1007, σ1§35/769, mb6.0/187, 50C-105D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.30**	**3**	⇓*e*P	**Pn**	**15 49 00.3**	**+2.9**
DAV	**Davao City (W)**	**3.42**	**12**	*e*Pn	**Pn**	**15 49 01.4**	**+2.6**
MATI	**Mati**	**3.50**	**23**	*e*P	**Pn**	**15 48 59.8**	**0.0**
MATI				*e*S	**S**	**15 49 44.2**	**0.0**
CTBH	**Cotabato--PC H**	**3.56**	**350**		**Pn**	**15 49 03.0**	**+2.5**
CTBH				*i* S	**S**	**15 49 51.4**	**+6.0**
BUKP	**Musuan**	**4.16**	**2**	*e*P	**Pn**	**15 49 10.1**	**+2.3**
BUKP				*e*S	**S**	**15 50 05.2**	**+6.7**
ZMPH	**Zamboanga City**	**4.29**	**319**	⇑*i*P	**Pn**	**15 49 12.8**	**+3.4**
CGP	**Cagayan de Oro**	**4.73**	**358**	⇓*e*P	**Pn**	**15 49 17.3**	**+2.4**
CGP				*i* S	**S**	**15 50 00.6**	**-11**
DCPH	**Dipolog City**	**5.09**	**343**	⇓*i*P	**Pn**	**15 49 23.3**	**+3.9**
SNPH	**Sibulan**	**5.84**	**344**	*e*P	**Pn**	**15 49 33.5**	**+4.5**
SNPH				*e*S	**S**	**15 50 25.5**	**-11**
TBP	**Tagbilaran**	**6.04**	**350**	*e*P	**Pn**	**15 49 34.6**	**+3.1**
SCPH	**Surigao**	**6.07**	**6**	⇑*e*P	**Pn**	**15 49 35.8**	**+3.8**
MSLP	**Maasin**	**6.39**	**360**	*e*P	**Pn**	**15 49 37.9**	**+1.8**
LLP	**Lapu-Lapu**	**6.64**	**352**	*e*P	**Pn**	**15 49 42.2**	**+3.0**
LLP				*e*S	**S**	**15 51 00.1**	**+4.7**
PCI	**Palu**	**6.81**	**228**	P	**Pn**	**15 49 43.0**	**+1.6**
	5μm,1.1s						
TSM	**Tawau**	**7.03**	**275**	P	**Pn**	**15 49 47.4**	**+3.2**
TSM	**Tawau**	**7.03**	**275**	S	**S**	**15 51 11.8**	**+7.4**
GUIM	**Jordan**	**7.25**	**342**	*e*P	**Pn**	**15 49 49.4**	**+2.2**
OCLP	**Ormoc**	**7.31**	**358**	*e*P	**Pn**	**15 49 50.5**	**+2.6**
TARAI	**Tarakan**	**7.32**	**267**	P	**Pn**	**15 49 51.0**	**+3.1**
	7μm,1.7s						
PLP	**Palo**	**7.42**	**1**	*e*P	**Pn**	**15 49 51.1**	**+1.9**
AAI	**Ambon**	**8.04**	**156**	P	**Pn**	**15 49 55.7**	**-1.6**
	5μm,0.8s						
CUYO	**Cuyo Island**	**8.08**	**332**	*e*P	**Pn**	**15 50 00.1**	**+2.3**
RCP	**Roxas**	**8.10**	**345**	⇓*e*P	**Pn**	**15 50 00.6**	**+2.6**
KALP	**Kalibo**	**8.32**	**342**		**Pn**	**15 50 02.2**	**+1.3**
BATP	**Bataraza**	**8.68**	**306**	*e*P	**Pn**	**15 50 07.5**	**+2.0**
MMPH	**Masbate**	**8.70**	**352**	⇑*e*P	**Pn**	**15 50 09.4**	**+3.7**
CNP	**Catarman**	**8.76**	**359**	*e*P	**Pn**	**15 50 09.5**	**+2.9**
KKM	**Kota Kinabalu**	**8.95**	**285**	P	**Pn**	**15 50 12.6**	**+3.5**
KKM	**Kota Kinabalu**	**8.95**	**285**	S	**S**	**15 51 58.4**	**+8.6**
KKM	**Kota Kinabalu**	**8.95**	**285**	*e*Pn	**Pn**	**15 50 12.4**	**+3.3**
KKM				*e*ScP	ScP	15 59 21.8	-0.8
OTRP	**Odiongan**	**9.06**	**342**	*e*P	**Pn**	**15 50 11.9**	**+1.4**
ENPP	**El Nido**	**9.22**	**324**	*e*P	**Pn**	**15 50 15.2**	**+2.7**
BUSP	**Coron**	**9.47**	**331**	*e*P	**Pn**	**15 50 18.3**	**+2.6**
BOAC	**Boac**	**10.15**	**343**	*e*P	**Pn**	**15 50 25.7**	**+1.1**
GQP	**Guinayangan**	**10.43**	**347**	*e*P	**Pn**	**15 50 30.8**	**+2.8**
LUBP	**Lubang**	**10.98**	**336**	*e*P	**Pn**	**15 50 38.7**	**+3.7**
TGY	**Tagaytay City**	**11.05**	**340**	P	**Pn**	**15 50 38.7**	**+2.8**
	35nm,0.3s,baz=183,slow=4.2,SNR=139						
TGY				S	**S**	**15 52 42.7**	**+3.2**
	29nm,0.3s,baz=141,slow=14,SNR=1.6						
TGY				ScS	ScS	16 02 60.0	-0.6
	76nm,0.3s,baz=120,slow=5.5,SNR=6.7						
TGY	**Tagaytay City**	**11.05**	**340**	*e*P	**Pn**	**15 50 37.0**	**+1.1**
TGY	**Tagaytay City**	**11.05**	**340**	P	**Pn**	**15 50 38.7**	**+2.8**
TGY				S	**S**	**15 52 42.7**	**+3.2**
TGY				pmax	pmax		
	comp=Z,35nm,0.3s						
TGY				smax			
	comp=N,29nm,0.3s						
POLP	**Polilio Island**	**11.34**	**345**	*e*P	**Pn**	**15 50 41.6**	**+2.0**
PCPH	**Palayan**	**12.37**	**343**	⇓*e*P	**Pn**	**15 50 52.9**	**+0.3**
BALP	**Baler**	**12.40**	**345**	*e*P	**Pn**	**15 50 53.4**	**+0.4**
BCPH	**Baguio City Da**	**13.30**	**342**	⇑*e*P	**Pn**	**15 51 05.5**	**+1.3**
PALP	**Palanan**	**13.50**	**350**	⇑*e*P	**Pn**	**15 51 18.0**	**+11**
PALP	**Palanan**	**13.50**	**350**	*e*P	**Pn**	**15 51 08.0**	**+1.3**
CAUP	**Cauayan**	**13.50**	**347**	*e*P	**Pn**	**15 51 07.6**	**+0.8**
BOLP	**Bolinao**	**13.52**	**339**	*e*P	**Pn**	**15 51 08.9**	**+2.0**
WSI	**Waingapu**	**14.04**	**199**	P	**Pn**	**15 51 15.0**	**+1.6**
	comp=N,1μm,0.7s						
CVP	**Callao Caves**	**14.24**	**348**	⇓*e*P	**Pn**	**15 51 17.0**	**+1.2**
ABRA	**Dolores**	**14.46**	**344**	*e*P	**Pn**	**15 51 19.4**	**+0.9**
APYP	**Conner**	**14.52**	**346**	*e*P	**Pn**	**15 51 20.7**	**+1.4**
SGCP	**Mt. Cagua**	**14.72**	**349**	*e*P	**Pn**	**15 51 23.6**	**+1.9**
KSM	**Kuching**	**14.73**	**262**	*e*P	**Pn**	**15 51 25.6**	**+3.8**
KSM				*e*ScP	ScP	15 59 29.8	-1.3
PIP	**Pasuquin**	**15.13**	**344**	⇑*e*P	**Pn**	**15 51 28.0**	**+1.4**
KMMI	**Kalianget**	**15.26**	**226**	P	**Pn**	**15 51 29.7**	**+1.5**
	comp=N,2μm,1.2s						
DNP	**Denpasar**	**15.63**	**218**	P	**Pn**	**15 51 34.8**	**+2.1**
	comp=N,7μm,1.3s						
NBBI	**Negara**	**15.77**	**220**	P	**Pn**	**15 51 35.0**	**+0.7**
	comp=N,1μm,1.1s						
BBP	**Basco**	**16.89**	**351**	⇓*e*P	**P**	**15 51 42.9**	**-3.2**
BBP				*e*S	**S**	**15 54 42.0**	**-9.1**
JAY	**Jayapura**	**16.97**	**111**	P	**P**	**15 51 47.5**	**+0.4**
	comp=N,3μm,0.7s						
KRKI	**Karangkates**	**17.11**	**226**	P	**P**	**15 51 49.4**	**+0.8**
	comp=N,3μm,0.8s						
KAKA	**Kakadu**	**17.94**	**155**	*e*P	**P**	**15 51 58.2**	**+0.5**
	comp=N,4μm,1.5s						
KAKA				*e*S	**S**	**15 55 10.2**	**-2.1**
BJII	**Banjamegara**	**18.70**	**234**	P	**P**	**15 52 06.8**	**+1.0**
	comp=N,6μm,1.8s						
MMPI	**Merauke**	**19.61**	**128**	P	**P**	**15 52 15.8**	**+0.1**
	comp=N,5μm,1.0s						
LEM	**Lembang**	**20.16**	**239**	P	**P**	**15 52 22.5**	**+0.9**
	comp=N,3μm,1.2s						
NACB	**Ninganchiao**	**20.60**	**351**	*e*P	**P**	**15 52 23.3**	**-2.9**
NACB				*e*S	**S**	**15 55 57.2**	**-7.1**
CBJI	**Citeko**	**20.62**	**241**	P	**P**	**15 52 27.5**	**+1.0**
	comp=N,6μm,1.5s						
TNG	**Tangerang**	**20.69**	**242**	P	**P**	**15 52 29.3**	**+2.2**
	comp=N,3μm,1.0s						
SBJI	**Serang**	**21.12**	**243**	P	**P**	**15 52 32.6**	**+0.9**
	comp=N,5μm,1.8s,mb6.8						
YHNB	**Yeheng**	**21.12**	**351**	*e*P	**P**	**15 52 29.2**	**-2.5**
YHNB				*e*S	**S**	**15 56 07.6**	**-5.5**
QIZ	**Qiongzhong**	**21.18**	**317**	P	**P**	**15 52 33.8**	**+1.5**
QIZ				XP	sP	15 53 34.9	-0.3
QIZ				S	**S**	**15 56 12.4**	**-1.6**
QIZ				AMB	AMB		
	comp=Z,2μm,1.6s,mb6.4						
QIZ				AMB	AMB		
	comp=Z,16μm,9.6s						
HKC	**Hong Kong**	**21.21**	**332**	⇓*i*P	**P**	**15 52 30.0**	**-2.7**
HKC				*i* S	**S**	**15 56 31.0**	**+16**
TATO	**Taipei**	**21.41**	**352**	⇑P	**P**	**15 52 34.6**	**-0.1**
SNR=26							
TATO	**Taipei**	**21.41**	**352**	*e*P	**P**	**15 52 32.0**	**-2.7**
	comp=Z,1μm,1.1s,mb6.3						
TATO				*e*S	**S**	**15 56 14.2**	**-3.5**
KGM	**Kluang**	**21.61**	**266**	P	**P**	**15 52 39.4**	**+2.6**
FITZ	**Fitzroy Crossi**	**21.67**	**178**	⇓*i*P	**P**	**15 52 36.2**	**-1.2**
	comp=Z,722nm,0.8s,mb6.3						
FITZ				*e*S	**S**	**15 56 19.8**	**-2.3**
FITZ				*es*S	sS	15 57 26.9	+0.3
FITZ				*e*SCP	ScP	15 59 48.1	+2.0
FITZ	**Fitzroy Crossi**	**21.67**	**178**	P	**P**	**15 52 36.4**	**-1.0**
	comp=Z,157nm,0.5s,mb5.8,baz=8.7,slow=9.4,SNR=383						
FITZ				pP		15 53 14.4	
	comp=Z,118nm,0.7s,baz=1.1,slow=7.3,SNR=1.9						
FITZ				S	**S**	**15 56 17.7**	**-4.3**
	comp=Z,41nm,0.8s,baz=306,slow=17,SNR=2.4						
FITZ				ScP	ScP	15 59 46.6	+0.5
	baz=0.0,slow=0.0						
KLI	**Kotabumi**	**21.75**	**247**	P	**P**	**15 52 39.5**	**+1.5**
	comp=Z,3μm,1.2s,mb6.7						
QZH	**Quanzhou**	**21.98**	**345**	*i* P	**P**	**15 52 40.2**	**0.0**
QZH				S	**S**	**15 56 20.5**	**-6.5**
QZH				SCP	ScP	15 59 46.0	-0.8
QZH				SCS	ScS	16 03 30.2	-1.5
QZH				AMB	AMB		
	comp=Z,3μm,1.1s,mb6.7						
GUMO	**Guam**	**22.04**	**62**	P	**P**	**15 52 40.5**	**-0.2**
	comp=Z,2μm,0.8s,mb6.8,baz=202,slow=5.1,SNR=58						
GUMO				S	**S**	**15 56 18.8**	**-9.3**
	comp=Z,139nm,1.0s,baz=261,slow=19,SNR=1.5						
GUMO	**Guam**	**22.04**	**62**	P	**P**	**15 52 40.5**	**-0.2**
GUMO				S	**S**	**15 56 18.8**	**-9.2**
GUMO				smax			
	comp=N,139nm,1.0s						
GUMO	**Guam**	**22.04**	**62**	*e*P	**P**	**15 52 40.2**	**-0.5**
	comp=N,3μm,0.9s,mb6.9						
GZH	**Guangzhou**	**22.28**	**331**	P	**P**	**15 52 45.3**	**+2.4**
GZH				S	**S**	**15 56 34.1**	**+2.2**
GZH				AMB	AMB		
	comp=Z,2μm,1.2s,mb6.5						
GZH				LR	LR		
	comp=N,10μm,14.3s						
GZH				LR	LR		
	comp=E,7μm,15.2s						
GZH				LR	LR		
	comp=Z,13μm,18.0s						
JOW	**Kunigami**	**23.23**	**8**	P	**P**	**15 52 52.9**	**+1.2**
	comp=Z,980nm,0.9s,mb6.3,baz=194,slow=7.7,SNR=104						
JOW				S	**S**	**15 56 45.5**	**-1.8**
	comp=Z,58nm,1.0s,baz=195,slow=16,SNR=4.1						
JOW				ScP	ScP	15 59 49.5	-0.6
	baz=180,slow=0.0						
IPM	**Ipoh**	**23.82**	**273**	P	**P**	**15 52 59.0**	**+2.0**
KULM	**Kulim**	**24.22**	**275**	*e*P	**P**	**15 53 02.1**	**+1.6**
SNG	**Songkhla**	**24.41**	**279**	P	**P**	**15 53 04.0**	**+1.7**
	comp=Z,1μm,1.0s,mb6.5						
PPI	**Padang Panjang**	**24.82**	**261**	P	**P**	**15 53 06.5**	**+0.5**
	comp=Z,3μm,1.3s,mb6.7						
KKTK	**Khon Kaen**	**25.06**	**302**	⇓P	**P**	**15 53 10.2**	**+2.0**
	comp=Z,7μm,0.6s						
WRA	**Warramunga Arr**	**25.26**	**159**	P	**P**	**15 53 09.6**	**-0.4**
	comp=Z,189nm,0.5s,mb6.0,baz=335,slow=10,SNR=347						
WRA				pP	pP	15 53 52.8	+0.7
	comp=Z,184nm,0.8s,baz=339,slow=10,SNR=2.4						
WRA				S	**S**	**15 57 15.6**	**-3.8**
	comp=Z,147nm,0.8s,baz=338,slow=16,SNR=6.6						
WRA				ScP	ScP	15 59 55.4	-0.3
	comp=Z,18nm,0.5s,baz=337,slow=2.8,SNR=7.4						
WRA				ScS	ScS	16 03 41.8	-3.0
	comp=Z,17nm,1.1s,baz=320,slow=3.7,SNR=6.3						
WRA				P3KPbc		16 26 04.5	
	comp=Z,1.5nm,1.1s,baz=159,slow=3.1,SNR=5.3						
WRA	**Warramunga Arr**	**25.26**	**159**	P	**P**	**15 53 09.6**	**-0.4**
WRA				*PP	pP	15 53 52.8	+0.6
WRA				S	**S**	**15 57 15.6**	**-3.8**
WRA						16 03 41.8	
WRA				pmax	pmax		
	comp=Z,189nm,0.5s						
WRA				smax			
	comp=N,147nm,0.8s						
WRA	**Warramunga Arr**	**25.26**	**159**	P	**P**	**15 53 09.6**	**-0.4**
WRA				pP	pP	15 53 52.8	+0.7
WRA				S	**S**	**15 57 15.7**	**-3.8**
WRA				ScP	ScP	15 59 55.4	-0.3
WRA				ScS	ScS	16 03 41.8	-3.0
WRA				*e*		16 26 04.5	
WB2	**Warramunga Arr**	**25.27**	**159**	*e*P	**P**	**15 53 09.4**	**-0.6**
WB2				*e*S	**S**	**15 57 14.9**	**-4.6**
WB2				*es*S	sS	15 58 36.0	-0.1
PMG	**Port Moresby**	**25.73**	**121**	P	**P**	**15 53 14.5**	**+0.3**
	comp=N,200nm,0.6s,mb5.9,baz=325,slow=6.6,SNR=150						
PMG				S	**S**	**15 57 23.2**	**-3.6**
	comp=N,34nm,1.0s,baz=229,slow=18,SNR=1.6						
PMG				ScP	ScP	15 59 57.4	+0.4
	baz=202,slow=5.4						
PMG	**Port Moresby**	**25.73**	**121**	P	**P**	**15 53 14.5**	**+0.3**
PMG				S	**S**	**15 57 23.2**	**-3.6**
PMG				pmax	pmax		
	comp=Z,200nm,0.6s						
PMG				smax			
	comp=N,34nm,1.0s						
PMG	**Port Moresby**	**25.73**	**121**	*e*P	**P**	**15 53 14.0**	**-0.2**
	comp=N,585nm,1.0s,mb6.2						
PMG				*e*ScP	ScP	15 59 57.0	0.0
PSI	**Prapat**	**25.94**	**269**	P	**P**	**15 53 17.5**	**+1.4**
	comp=N,503nm,1.0s,mb6.1,baz=90,slow=4.9,SNR=188						
PSI				pP	pP	15 54 00.3	+1.5
	comp=N,318nm,1.0s,baz=25,slow=3.1,SNR=3.1						
PSI				ScP	ScP	15 59 55.3	-2.4
	baz=270,slow=0.4						
PSI				ScS	ScS	16 03 45.3	-2.3
	comp=N,13nm,0.6s,baz=120,slow=23,SNR=7.8						
PSI	**Prapat**	**25.94**	**269**	P	**P**	**15 53 17.5**	**+1.4**
PSI				*PP	pP	15 54 00.3	+1.5
PSI						16 03 45.3	
PSI				pmax	pmax		
	comp=Z,503nm,1.0s,mb6.1						
PSI				pmax	pmax		
	comp=Z,318nm,1.0s,mb5.9						
PSI	**Prapat**	**25.94**	**269**	P	**P**	**15 53 17.5**	**+1.4**
PSI				pP	pP	15 54 00.3	+1.5
PSI				ScP	ScP	15 59 55.3	-2.4
PSI				ScS	ScS	16 03 45.3	-2.3
NNT	**Nongplab**	**26.40**	**291**	P	**P**	**15 53 22.5**	**+2.3**
SSE	**Sheshan**	**27.48**	**353**	P	**P**	**15 53 30.0**	**+0.2**
SSE				XP	sP	15 54 37.6	-0.2
SSE				S	**S**	**15 57 56.4**	**+2.1**
SSE				XS	sS	15 59 12.0	+0.4
SSE				AMB	AMB		
	comp=Z,186nm,1.0s,mb5.7						
SSE				AMB	AMB		
	comp=Z,2μm,10.0s						
SSE				LR	LR		
	comp=N,5μm,16.6s						
SSE				LR	LR		
	comp=E,10μm,16.6s						
SSE				LR	LR		
	comp=Z,5μm,17.1s						
WHN	**Wuhan**	**28.50**	**341**	⇓P	**P**	**15 53 39.2**	**+0.3**
WHN				S	**S**	**15 58 08.1**	**-2.3**
WHN				AMB	AMB		
	comp=Z,2μm,1.5s,mb6.5						
WHN				LR	LR		
	comp=Z,15μm,13.5s						
CBIJ	**Chichi jima**	**28.54**	**34**	P	**P**	**15 53 38.4**	**-0.9**
	comp=Z,1μm,0.5s,mb6.8,baz=162,slow=3.1,SNR=95						
CBIJ				S	**S**	**15 58 03.6**	**-7.4**
	comp=Z,602nm,0.9s,baz=280,slow=18,SNR=11						
CBIJ				ScS	ScS	16 03 54.9	-4.3
	comp=Z,283nm,1.2s,baz=300,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**28.58**	**163**	P	**P**	**15 53 39.7**	**+0.1**
	comp=Z,26nm,0.3s,mb5.3,baz=337,slow=7.3,SNR=597						
ASAR				S	**S**	**15 58 12.3**	**+0.7**
	comp=Z,108nm,0.8s,baz=334,slow=12,SNR=9.3						
ASAR				ScP	ScP	16 00 05.1	-0.6
	comp=Z,7.4nm,0.3s,baz=343,slow=2.7,SNR=14						
ASAR				P3KPbc		16 25 45.9	
	comp=Z,0.8nm,0.8s,baz=152,slow=3.2,SNR=8.5						
ASAR				P3KP		16 27 02.0	
	comp=Z,1.5nm,0.8s,baz=159,slow=4.1,SNR=4.6						
ASAR	**Alice Springs**	**28.58**	**163**	P	**P**	**15 53 39.7**	**+0.1**
ASAR				S	**S**	**15 58 12.3**	**+0.7**
ASAR				ScP	ScP	16 00 05.1	-0.6
ASAR				*e*		16 25 45.9	
GYA	**Guiyang**	**28.58**	**324**	⇓*i*P	**P**	**15 53 41.2**	**+1.6**
GYA				AP	pP	15 54 24.0	+1.2
GYA				PP	PP	15 54 43.0	-5.7
GYA				XP	sP	15 54 48.9	+1.2
GYA				PPP		15 55 02.7	
GYA				PCP	PcP	15 56 46.8	+1.7
GYA				S	**S**	**15 58 11.5**	**-0.2**
GYA				XS	sS	15 59 28.1	-1.0
GYA				SCP	ScP	16 00 06.3	+0.6
GYA				SCS	ScS	16 03 58.4	-1.0
GYA				AMB	AMB		
	comp=Z,440nm,1.0s,mb6.0						
GYA				AMB	AMB		
	comp=Z,4μm,11.1s						
GYA				LR	LR		
	comp=N,7μm,16.8s						
GYA				LR	LR		
	comp=E,13μm,15.6s						
GYA				LR	LR		
	comp=Z,11μm,15.0s						
CM31	**Chiang Mai Arr**	**29.32**	**302**	*e*P	**P**	**15 53 48.5**	**+2.4**
	comp=Z,749nm,1.0s,mb6.3						
CHG	**Chiang Mai**	**29.48**	**303**	⇓P	**P**	**15 53 50.0**	**+2.5**
	comp=Z,150nm,1.0s,mb5.6						
CHTO	**Chiang Mai**	**29.48**	**303**	P	**P**	**15 53 49.8**	**+2.3**
SNR=454							
CHTO	**Chiang Mai**	**29.48**	**303**	*e*P	**P**	**15 53 49.4**	**+1.9**
CHTO				pmax	pmax		
	comp=Z,1μm,1.1s,mb6.5						
CHTO	**Chiang Mai**	**29.48**	**303**	*e*P	**P**	**15 53 49.4**	**+1.9**
	comp=Z,1μm,1.1s,mb6.5						
BSI	**Banda Aceh**	**29.55**	**275**	P	**P**	**15 53 47.1**	**-1.0**
	comp=Z,423nm,1.3s,mb5.9						
JNU	**Nakatsue**	**29.80**	**10**	P	**P**	**15 53 50.3**	**-0.1**
	comp=Z,417nm,1.0s,mb6.0,baz=218,slow=19,SNR=62						
JNU				S	**S**	**15 58 28.5**	**-2.3**
	comp=Z,96nm,1.0s,baz=278,slow=26,SNR=3.7						
JNU				ScS	ScS	16 04 04.3	-0.8
	comp=Z,556nm,1.3s,baz=255,slow=21,SNR=25						
KMI	**Kunming**	**30.13**	**317**	P	**P**	**15 53 55.9**	**+2.7**
KMI				AP	pP	15 54 39.3	+2.7
KMI				XP	sP	15 55 01.4	-0.1
KMI				PPP		15 55 24.7	
KMI				PCP	PcP	15 56 50.3	+1.3
KMI				S	**S**	**15 58 37.0**	**+1.1**
KMI				XS	sS	15 59 56.3	+2.9
KMI				SCP	ScP	16 00 10.5	-0.2
KMI				SCS	ScS	16 04 06.0	-0.7
KMI				AMB	AMB		
	comp=Z,1μm,1.3s,mb6.3						
KMI				AMB	AMB		
	comp=Z,7μm,7.3s						
KMI				LR	LR		
	comp=N,16μm,15.2s						
KMI				LR	LR		
	comp=E,13μm,16.3s						
KMI				LR	LR		
	comp=Z,17μm,19.6s						
KMI	**Kunming**	**30.13**	**317**	P	**P**	**15 53 55.9**	**+2.7**
KMI				*PP	pP	15 54 39.3	+2.7
KMI				*SP	sP	15 55 01.4	-0.1
KMI						15 56 50.3	
KMI				S	**S**	**15 58 37.0**	**+1.1**
KMI				SS	SS	16 00 35.3	-19
KMI						16 04 06.0	
KMI	**Kunming**	**30.13**	**317**	P	**P**	**15 53 55.9**	**+2.7**
KMI				pP	pP	15 54 39.3	+2.7
KMI				sP	sP	15 55 01.4	-0.1
KMI				PPP		15 55 24.7	
KMI				PcP	PcP	15 56 50.3	+1.3
KMI				S	**S**	**15

CD2 AMB AMB
comp=Z,5μm,6.2s
CD2 LR LR
comp=N,14μm,18.0s
CD2 LR LR
comp=E,14μm,15.0s
CD2 LR LR
comp=Z,11μm,12.6s
XAN Xi'an 33.65 336 P **P 15 54 23.8 -0.1**
XAN S **S 15 59 27.2 -3.4**
XAN SS SS 16 01 54.7 -7.4
XAN AMB AMB
comp=Z,415nm,1.3s,mb5.8
XAN AMB AMB
comp=Z,3μm,12.7s
XAN LR LR
comp=N,3μm,15.1s
XAN LR LR
comp=E,4μm,13.8s
XAN LR LR
comp=Z,6μm,17.5s
INCN Inchon 33.66 3 P **P 15 54 24.2 +0.2**
SNR=7.4
INCN Inchon 33.66 3 *e*P **P 15 54 23.6 -0.4**
comp=Z,96nm,0.8s,mb5.4
INCN *e*PcP PcP 15 56 59.7 +1.0
KSRS Korea Array 33.71 4 P **P 15 54 24.9 +0.4**
comp=Z,137nm,0.9s,mb5.5,baz=183,slow=10.0,SNR=186
KSRS PcP PcP 15 56 59.9 +1.1
comp=Z,58nm,0.9s,baz=192,slow=2.4,SNR=7.4
KSRS ScP ScP 16 00 22.2 -0.6
comp=Z,57nm,0.7s,baz=182,slow=2.8,SNR=26
FORT Forrest 34.41 175⇓ *i*P **P 15 54 30.5 0.0**
comp=Z,114nm,0.5s,mb5.7
FORT *e*pP pP 15 55 17.5 +3.0
FORT *e*S **S 15 59 39.7 -2.6**
FORT *e*SCP ScP 16 00 24.2 -1.2
FORT *e*sS sS 16 00 50.9 -10
MAJO Matsushiro 34.91 19 P **P 15 54 34.1 -0.6**
MAJO pmax pmax
comp=Z,350nm,1.0s,mb5.8
MAJO Matsushiro 34.91 19 *e*P **P 15 54 34.1 -0.7**
comp=Z,347nm,0.9s,mb5.9
MAJO *e*pP pP 15 55 17.3 -1.6
MAJO *e*S **S 15 59 46.0 -3.9**
MAJO *e*ScP ScP 16 00 27.1 -0.1
MAT Matsushiro 34.91 19 P **P 15 54 34.1 -0.6**
MAT S **S 15 59 40.0 -10**
MJAR Matsushiro Arr 34.91 19 P **P 15 54 34.2 -0.5**
comp=Z,302nm,0.8s,mb5.8,baz=196,slow=9.1,SNR=296
MJAR S **S 15 59 45.7 -4.1**
comp=Z,35nm,0.9s,baz=196,slow=13,SNR=5.6
MJAR ScP ScP 16 00 26.8 -0.4
comp=Z,79nm,0.9s,baz=181,slow=4.0,SNR=7.5
MJAR ScS ScS 16 04 30.7 -0.6
comp=Z,1.7nm,0.9s,baz=167,slow=4.1,SNR=3.5
MJAR P3KPbc 16 25 22.5
comp=Z,2.8nm,0.7s,baz=15,slow=3.6,SNR=7.4
MJAR Matsushiro Arr 34.91 19 P **P 15 54 34.2 -0.5**
MJAR S **S 15 59 45.7 -4.2**
MJAR 16 04 30.7
MJAR pmax pmax
comp=Z,303nm,0.9s
MJAR smax
comp=N,35nm,0.9s
MJAR Matsushiro Arr 34.91 19 P **P 15 54 34.2 -0.5**
MJAR S **S 15 59 45.7 -4.1**
MJAR ScP ScP 16 00 26.8 -0.4
MJAR ScS ScS 16 04 30.7 -0.6
MJAR *e* 16 25 22.5
DL2 Dalian 35.17 356 *i* P **P 15 54 36.5 -0.5**
DL2 XP sP 15 55 48.9 +3.2
DL2 PCP PcP 15 57 04.4 +1.3
DL2 S **S 15 59 49.6 -4.2**
DL2 SCP ScP 16 00 27.3 -0.8
DL2 PCS PcS 16 00 49.7 -0.6
DL2 SS SS 16 02 25.2 -11
DL2 SCS ScS 16 04 31.2 -1.5
DL2 AMB AMB
comp=Z,360nm,1.0s,mb5.9
DL2 AMB AMB
comp=Z,880nm,6.1s
KLBR Kellerberrin 35.74 190 *e*P **P 15 54 41.6 -0.2**
comp=Z,837nm,1.3s,mb6.1
KLBR *e*pP pP 15 55 30.5 +4.4
KLBR *e*SCP ScP 16 00 28.9 -1.3
IMP Imphal 36.43 308 *e*P **P 15 54 48.0 +0.4**
IMP *e*PCP PcP 15 57 03.0 -3.8
IMP *ex* x 16 00 30.0
BJI Beijing 37.03 349 P **P 15 54 52.2 -0.5**
BJI PCP PcP 15 57 10.3 +1.6
BJI S **S 16 00 15.9 -6.1**
BJI AMB AMB
comp=Z,1μm,1.0s,mb6.4
NWAO Narrogin (SRO) 37.14 191 P **P 15 54 54.0 +0.4**
comp=Z,247nm,0.8s,mb5.8,baz=21,slow=8.5,SNR=217
NWAO pP pP 15 55 41.4 +3.3
comp=Z,181nm,1.1s,baz=26,slow=11,SNR=2.7
NWAO S **S 16 00 20.5 -3.2**
baz=76,slow=18
NWAO Narrogin (SRO) 37.14 191 P **P 15 54 54.1 +0.5**
NWAO *PP pP 15 55 41.4 +3.3
NWAO S **S 16 00 20.5 -3.2**
NWAO pmax pmax
comp=Z,247nm,0.8s
NWAO Narrogin (SRO) 37.14 191 *e*P **P 15 54 53.9 +0.3**
comp=Z,672nm,1.4s,mb6.0
NWAO *e*pP pP 15 55 41.3 +3.1
HNR Honiara 37.29 111 P **P 15 54 54.7 -0.2**
comp=Z,636nm,0.7s,mb6.3,baz=260,slow=1.7,SNR=48
HNR pP pP 15 55 41.4 +1.9
comp=Z,317nm,0.9s,baz=280,slow=3.3,SNR=1.9
HNR S **S 16 00 23.5 -2.4**
baz=263,slow=14
HNR Honiara 37.29 111 P **P 15 54 54.7 -0.2**
HNR *PP pP 15 55 41.4 +2.0
HNR S **S 16 00 23.5 -2.5**
HNR pmax pmax
comp=Z,636nm,0.7s,mb6.3
HNR Honiara 37.29 111 *e*P **P 15 54 54.5 -0.4**
comp=Z,1μm,1.1s,mb6.3
HNR *e*ScP ScP 16 00 36.4 +0.4
LZH Lanzhou 37.63 332⇓P **P 15 54 59.4 +1.7**
LZH AP pP 15 55 43.5 +1.2
LZH XP sP 15 56 06.7 -0.1
LZH PP PP 15 56 34.9 +6.5
LZH PCP PcP 15 57 13.0 +2.5
LZH S **S 16 00 31.6 +0.5**
LZH SCP ScP 16 00 39.5 +2.3
LZH PCS PcS 16 01 01.1 +1.7
LZH XS sS 16 01 49.7 -0.5
LZH SS SS 16 03 20.7 -5.1
LZH SCS ScS 16 04 45.5 -0.9
LZH AMB AMB
comp=Z,1μm,1.3s,mb6.3
LZH AMB AMB
comp=Z,5μm,5.6s
LZH Lanzhou 37.63 332⇓P **P 15 54 59.4 +1.7**
LZH *PP pP 15 55 43.5 +1.2
LZH *SP sP 15 56 06.7 -0.1
LZH 15 56 34.9
LZH 15 57 13.0
LZH S **S 16 00 31.6 +0.5**
LZH *SS sS 16 01 49.7 -0.5
LZH SS SS 16 03 20.7 -5.1
LZH 16 04 45.5
LZH Lanzhou 37.63 332⇓P **P 15 54 59.4 +1.7**
LZH pP pP 15 55 43.5 +1.2
LZH sP sP 15 56 06.7 -0.1
LZH PP PP 15 56 34.9 +6.5
LZH PcP PcP 15 57 13.0 +2.5
LZH S **S 16 00 31.6 +0.5**
LZH ScP ScP 16 00 39.5 +2.3
LZH PcS PcS 16 01 01.1 +1.7
LZH sS sS 16 01 49.7 -0.5
LZH SS SS 16 03 20.7 -5.1
LZH ScS ScS 16 04 45.5 -0.9
SNY Shenyang 37.98 358⇓P **P 15 55 00.0 -0.7**
SNY AP pP 15 55 48.9 +3.6
SNY S **S 16 00 32.3 -4.1**
SNY XS sS 16 01 55.3 -0.3
SNY AMB AMB
comp=Z,397nm,1.1s,mb5.9
SNY AMB AMB
comp=Z,2μm,3.5s
SNY LR LR
comp=N,6μm,18.4s
SNY LR LR
comp=Z,6μm,20.6s
AGT Agartala 38.16 305 *i* x **P 15 55 07.0 +4.9**
AGT *i* x x 15 55 34.0
SHL Shillong 38.43 308 *e*P **P 15 55 03.2 -1.2**
SHL AMb AMB 15 55 03.9
comp=Z,5μm,1.9s,mb6.7
SHL *ex* x 16 00 38.5
SHL *ex* x 16 00 38.8
STKA Stephens Creek 38.78 157⇑ *i*P **P 15 55 07.7 +0.4**
comp=Z,194nm,1.2s,mb5.5
STKA *e*SCP ScP 16 00 40.6 -1.0
comp=Z,108nm,1.0s
STKA *e*S **S 16 00 45.0 -3.4**
STKA Stephens Creek 38.78 157 P **P 15 55 08.3 +1.0**
comp=Z,183nm,0.8s,mb5.7,baz=330,slow=7.9,SNR=142
STKA S **S 16 00 40.8 -7.6**
comp=Z,112nm,1.0s,baz=324,slow=9.4,SNR=4.6
STKA ScS ScS 16 04 48.5 -4.6
comp=Z,20nm,1.0s,baz=198,slow=19,SNR=3.2
HHC Hu-ho-hao-te 38.88 344 *e*P **P 15 55 08.7 +0.5**
HHC AP pP 15 55 52.3 -0.7
HHC XP sP 15 56 15.5 -2.0
HHC PP PP 15 56 42.2 +0.2
HHC S **S 16 00 48.4 -1.5**
HHC XS sS 16 02 08.7 -0.7
HHC SS SS 16 03 47.1 -3.7
HHC SCS ScS 16 04 52.1 -1.6
HHC AMB AMB
comp=Z,488nm,1.4s,mb5.8
HHC AMB AMB
comp=Z,4μm,5.3s
BTO Baotou 39.11 342 *e*P **P 15 55 09.5 -0.6**
BTO AMB AMB
comp=Z,147nm,2.0s,mb5.2
VLA Vladivostok 39.75 8*c* *i*P **P 15 55 15.9 +0.6**
VLA *e**PP pP 15 55 58.5 -1.8
VLA *e**SP sP 15 56 22.4 -2.3
VLA *e* 15 56 47.9
VLA *i* S **S 16 00 59.2 -3.6**
VLA *i* *SS sS 16 02 18.4 -4.0
VLA *i* SS SS 16 04 05.0 -2.8
VLA *i* 16 04 53.7
VLA pmax pmax
comp=Z,859nm,1.8s,mb5.9
VLA MLR MLR
comp=Z,3μm,15.0s
VLA Vladivostok 39.75 8⇑ *i*P **P 15 55 16.2 +0.9**
CN2 Changchun 39.94 1 *e*P **P 15 55 15.8 -1.1**
CN2 *e*AP pP 15 55 59.5 -2.4
CN2 *e*XP sP 15 56 22.6 -3.7
CN2 *e*S **S 16 01 05.6 0.0**
CN2 LR LR
comp=N,2μm,15.0s
CN2 LR LR
comp=E,10μm,15.0s
CN2 LR LR
comp=Z,3μm,14.0s
CAL Calcutta 40.05 301⇓ *i*P **P 15 55 20.6 +2.8**
CAL *ex* x 15 57 53.5
CAL *e*S **S 16 01 09.7 +2.4**
MDJ Mudanjiang 40.96 5 P **P 15 55 26.2 +1.0**
MDJ AP pP 15 56 12.0 +1.5
MDJ XP sP 15 56 35.2 +0.4
MDJ PP PP 15 57 05.4 +1.0
MDJ PCP PcP 15 57 21.7 +0.6
MDJ SCP ScP 16 00 50.6 +0.5
MDJ PCS PcS 16 01 12.2 -0.2
MDJ S **S 16 01 15.0 -5.7**
MDJ XS sS 16 02 43.8 +3.1
MDJ AMB AMB
comp=Z,139nm,1.2s,mb5.3
MDJ AMB AMB
comp=Z,1μm,6.9s
LSA Lhasa 41.10 313 P **P 15 55 29.0 +2.7**
ERM Erimo 41.50 21 P **P 15 55 31.2 +1.6**
comp=Z,959nm,0.8s,mb6.3,SNR=28
ERM Erimo 41.50 21 *e*P **P 15 55 30.3 +0.7**
ERM *e*S **S 16 01 22.8 -5.9**
ERM pmax pmax
comp=Z,283nm,1.1s,mb5.6
ERM Erimo 41.50 21 *e*P **P 15 55 30.3 +0.7**
comp=Z,283nm,1.1s,mb5.6
ERM *e*S **S 16 01 22.8 -5.9**
GTK Gangtok 41.84 308 *ex* x 15 55 22.0
GTA Gaotai 42.20 331⇓ *i*P **P 15 55 36.4 +1.1**
GTA AP pP 15 56 23.8 +3.0
GTA XP sP 15 56 48.9 +3.8
GTA PP PP 15 57 20.1 +2.4
GTA PCP PcP 15 57 26.4 +1.2
GTA SCP ScP 16 00 55.3 +0.2
GTA S **S 16 01 38.4 -0.6**
GTA XS sS 16 03 00.9 +1.6
GTA SCS ScS 16 05 10.9 -2.8
GTA AMB AMB
comp=Z,436nm,1.7s,mb5.6
GTA AMB AMB
comp=Z,4μm,10.7s
GTA LR LR
comp=N,10μm,18.2s
GTA LR LR
comp=E,8μm,17.1s
GTA LR LR
comp=Z,8μm,15.6s
ARMA Armidale 42.47 145 *e*P **P 15 55 38.9 +1.4**
ARMA *e*SCP ScP 16 00 57.2 +1.0
ARMA *e*S **S 16 01 42.5 -0.4**
BOK Bokaro 42.60 302⇓ *i*P **P 15 55 40.0 +1.5**
BOK AMb AMB 15 55 42.6
comp=Z,450nm,1.1s,mb5.8
VIS Vishakhapatnam 43.02 292⇓ *i*P **P 15 55 43.1 +1.3**
JIRN Jiri 43.91 307 *e*P **P 15 55 50.5 +1.5**
comp=Z,194nm,0.4s,mb5.8
PALK Pallekele 44.11 277 P **P 15 55 52.7 +2.1**
comp=Z,2μm,1.2s,mb6.3,SNR=26
PALK Pallekele 44.11 277⇑P **P 15 55 51.0 +0.4**
SNR=37
PALK Pallekele 44.11 277 *e*P **P 15 55 50.7 +0.2**
comp=Z,736nm,1.4s,mb5.8
PALK *e*ScP ScP 16 01 02.0 -0.8
GUN Gumba 44.27 307 *e*P **P 15 55 53.1 +1.3**
comp=Z,1μm,0.7s,mb6.3
PKI Pulchoki 44.50 306 *e*P **P 15 55 54.6 +1.0**
comp=Z,754nm,1.1s,mb5.9
KKN Kakani 44.70 307 *e*P **P 15 55 56.1 +0.9**
comp=Z,904nm,1.0s,mb6.0
DMN Daman 44.76 306 *e*P **P 15 55 56.8 +1.1**
comp=Z,1μm,1.0s,mb6.2
RIV Riverview 44.81 148 *e*P **P 15 55 58.2 +2.1**
RIV *e*pP pP 15 56 45.4 +3.3
MDRS Chennai 45.07 285⇓ *i*P **P 15 55 58.0 -0.1**
MDRS *ex* x 16 02 21.7
CNB Canberra Magne 45.09 151 *e*P **P 15 56 00.1 +1.8**
comp=Z,177nm,1.2s,mb5.3
CNB *e*pP pP 15 56 44.4 0.0
GKN Gorkha 45.30 307 *e*P **P 15 56 00.6 +0.7**
comp=Z,716nm,0.8s,mb6.1
TOO Toolangi 45.30 157⇑ *i*P **P 15 56 02.1 +2.1**
comp=Z,131nm,1.1s,mb5.2
TOO *e*pP pP 15 56 47.8 +1.7
TOO *e*S **S 16 02 22.0 -1.9**
TOO *e*sS sS 16 03 50.9 +5.8
TOO Toolangi 45.30 157⇑ *i*P **P 15 56 02.1 +2.1**
TOO *e**PP pP 15 56 47.8 +1.7
TOO *e*S **S 16 02 22.0 -1.9**
TOO pmax pmax
comp=Z,131nm,1.1s,mb5.2
HABR Khabarovsk 45.45 9⇓ *i*P **P 15 56 02.0 +0.9**
HABR *e*S **S 16 02 24.0 -2.0**
HABR *e* 16 05 30.0
HABR pmax pmax
comp=Z,1μm,1.5s,mb6.0
YSS Yuzh-Sakhalins 45.79 17*b* *i*P **P 15 56 04.0 +0.3**
YSS *i* *PP pP 15 56 51.3 +1.3
YSS *e**SP sP 15 57 13.5 -0.5
YSS *i* S **S 16 02 28.0 -2.8**
YSS *e* 16 05 34.0
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s,mb5.4
YSS pmax pmax
comp=Z,600nm,3.0s
YSS MLR MLR
comp=Z,2μm,14.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,2μm,15.0s
YSS Yuzh-Sakhalins 45.79 17 *e*P **P 15 56 03.8 +0.1**
comp=E,193nm,1.0s,mb5.4
KUR Kuril'sk 46.01 23⇓ *i*P **P 15 56 03.0 -2.5**
KUR *e*S **S 16 02 30.0 -3.9**
KUR pmax pmax
comp=Z,280nm,0.9s,mb5.6
KUR pmax pmax
comp=N,380μm,5.0s
KUR pmax pmax
comp=Z,380μm,5.0s
KUR smax
comp=N,380nm,1.0s
KUR smax
comp=E,380nm,1.0s
KUR smax
comp=N,22μm,5.0s
KUR smax
comp=E,30μm,5.0s
KOLN Koldanda 46.04 306 *e*P **P 15 56 07.0 +1.3**
comp=E,1μm,0.8s,mb6.2
ALBI Allahabad 46.61 302 *i* P **P 15 56 09.5 -0.6**
SONM Songino Array 46.77 343 P **P 15 56 11.1 -0.3**
comp=E,482nm,1.0s,mb5.8,baz=159,slow=7.8,SNR=476
SONM PcP PcP 15 57 41.0 0.0
comp=E,81nm,0.9s,baz=172,slow=3.9,SNR=5.1
SONM ScP ScP 16 01 12.1 -1.8
comp=E,24nm,1.1s,baz=186,slow=5.4,SNR=3.5
SONM S **S 16 02 41.1 -3.6**
comp=E,6.0nm,1.1s,baz=159,slow=8,6,SNR=2.7
SONM PKPPKP 16 27 24.4
comp=E,1.7nm,1.1s,baz=345,slow=3.4,SNR=5.0
SONM P4KPbc 16 33 51.9
comp=E,1.6nm,1.1s,baz=134,slow=4.3,SNR=4.5
SONM Songino Array 46.77 343 P **P 15 56 11.1 -0.2**
SONM 15 57 41.0
SONM S **S 16 02 41.1 -3.6**
SONM pmax pmax
comp=Z,482nm,1.0s
SONM smax
comp=N,6.0nm,1.1s
SONM Songino Array 46.77 343 P **P 15 56 11.1 -0.3**
SONM PcP PcP 15 57 41.0 0.0
SONM ScP ScP 16 01 12.1 -1.8
SONM S **S 16 02 41.1 -3.6**
SONM P'P' 16 27 24.4
HYB Hyderabad 47.40 290⇓ *i*P **P 15 56 17.0 +0.8**
comp=N,760nm,1.0s,mb6.0
HYB *e*pP pP 15 57 04.0 +1.2
HYB *e* 15 57 11.5
HYB *e*sP sP 15 57 27.0 +0.2
HYB *e*PcP PcP 15 57 45.0 +1.8
HYB *e*PP PP 15 58 09.0 -0.5
HYB *e* 15 59 16.0
HYB *e*ScP ScP 16 01 14.5 -2.0
HYB *e*PcS PcS 16 01 38.5 -0.3
HYB *e*S **S 16 02 52.0 -1.6**
HYB *e* 16 04 12.0
HYB Hyderabad 47.40 290⇓ *e*P **P 15 56 17.0 +0.8**
HYB *e**PP pP 15 57 02.0 -0.8
HYB *e**SP sP 15 57 26.0 -0.8
HYB *e* 15 57 38.0
HYB *e* 15 58 06.5
HYB *e*S **S 16 02 52.0 -1.6**
HYB pmax pmax
comp=Z,760nm,1.0s,mb6.0
HYB Hyderabad 47.40 290⇓ *e*P **P 15 56 17.0 +0.8**
comp=Z,760nm,1.0s,mb6.0
HYB *e*pP pP 15 57 02.0 -0.8
HYB *e* 15 57 11.5
HYB *e*sP sP 15 57 26.0 -0.8
HYB *e*PcP PcP 15 57 38.0 -5.2
HYB *e*PP PP 15 58 06.5 -3.0
HYB *e* 15 59 16.0
HYB *e*ScP ScP 16 01 14.5 -2.0
HYB *e*PcS PcS 16 01 38.5 -0.3
HYB *e*S **S 16 02 52.0 -1.6**
HYB *e*SS sS 16 04 16.0 +0.5
JBP Jabalpur 47.50 298 *e*P **P 15 56 17.7 +0.7**
JBP *e*S **S 16 02 52.5 -2.6**
NGP Nagpur 47.78 295 *e*P **P 15 56 18.7 -0.5**
NGP *e*S **S 16 02 57.3 -1.7**
TRD Trivandrum 47.87 278 *e*P **P 15 56 21.2 +1.4**
TRD AMb AMB 15 56 23.4
comp=Z,639nm,1.1s,mb5.9
DZM Mont Dzumac 48.03 124 *e*P **P 15 56 22.1 +1.0**
CIT Chita 49.08 351 *e*P **P 15 56 29.4 +0.3**
CIT pmax pmax
comp=Z,2μm,1.2s,mb6.2
LGTI Lohaghat 49.41 306 *i* P **P 15 56 31.7 +0.1**
LATR Latur 49.46 291 *e*P **P 15 56 30.1 -1.8**
AKL Akola 49.52 294⇑ *i*P **P 15 56 33.6 +1.3**
AKL *ex* x 15 56 36.4
comp=Z,2μm,1.3s
AKL *i* S **S 16 03 21.3 -2.0**
BHPL Bhopal 49.78 297⇓ *i*P **P 15 56 35.1 +0.7**
BHPL AMb AMB 15 56 37.6
comp=Z,650nm,1.0s,mb5.9
ZAK Zakamensk 49.97 342 *e*P **P 15 56 34.8 -1.0**
ZAK *e* 15 57 52.3
ZAK pmax pmax
comp=Z,120nm,1.3s,mb5.1
MNGI Mangalore 50.30 284 *i* P **P 15 56 38.7 +0.5**
MNGI AMb AMB 15 56 41.7
comp=Z,606nm,0.7s,mb6.0
MNGI *i* S **S 16 03 33.2 -0.8**
TAU Tasmania Unive 50.63 159 P **P 15 56 42.6 +1.9**
comp=Z,302nm,1.3s,mb5.6,SNR=8.8
TAU Tasmania Unive 50.63 159 *e*P **P 15 56 41.9 +1.2**
TAU pmax pmax
comp=Z,110nm,1.2s,mb5.2
TAU Tasmania Unive 50.63 159 *e*P **P 15 56 41.9 +1.2**
comp=Z,109nm,1.3s,mb5.1
TAU *e*pP pP 15 57 29.4 +1.6
TLY Talaya 51.01 343 P **P 15 56 43.7 +0.2**
comp=Z,4μm,0.9s,mb6.8
TLY Talaya 51.01 343 P **P 15 56 44.0 +0.5**
SNR=168
TLY Talaya 51.01 343 *e*P **P 15 56 43.3 -0.2**
TLY *e*S **S 16 03 36.9 -6.9**
TLY *e*SS ScS 16 06 08.1 -3.4
TLY pmax pmax
comp=Z,736nm,1.0s,mb6.1
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 51.01 343 *e*P **P 15 56 43.6 +0.1**
comp=Z,649nm,0.9s,mb6.1
TLY *e*S **S 16 03 41.1 -2.7**
IRK Irkutsk 51.33 344 *e*P **P 15 56 45.4 -0.5**
IRK *e*S **S 16 03 47.4 -0.8**
IRK pmax pmax
comp=Z,808nm,1.6s,mb5.9
KAD Karad 51.49 289⇓ *i*P **P 15 56 46.8 -0.2**
KAD AMb AMB 15 56 49.8
comp=Z,673nm,1.4s,mb5.9
DDI Dehra Dun 51.50 306 *e*P **P 15 56 48.5 +1.3**
GOA Goa 51.56 287 *e*P **P 15 56 44.7 -2.9**
NDI New Delhi 51.61 304 *e*P **P 15 56 47.5 -0.4**
NDI AMb AMB 15 56 49.7
comp=Z,573nm,0.9s,mb6.0
WMQ Urumqi 51.71 326⇓ *i*P **P 15 56 49.2 +0.5**
WMQ AP pP 15 57 35.5 -0.6
WMQ XP sP 15 57 59.6 -0.3
WMQ PCP PcP 15 58 01.5 +2.5
WMQ PP PP 15 58 49.4 +0.8
WMQ PPP 15 59 56.1
WMQ SCP ScP 16 01 36.6 +1.6
WMQ PCS PcS 16 01 54.3 -3.0
WMQ S **S 16 03 51.6 -1.8**
WMQ SCS ScS 16 06 15.1 -1.3
WMQ AMB AMB
comp=Z,891nm,1.3s,mb6.0
WMQ AMB AMB
comp=Z,1μm,7.0s
WMQ LR LR
comp=N,9μm,18.5s
WMQ LR LR

comp=E,6μm,17.5s
WMQ LR LR
comp=Z,4μm,20.0s
POO Poona 52.01 291⇓ *i*P P 15 56 47.0 -3.9
comp=Z,680nm,1.0s,mb6.0
POO *ex* x 15 58 12.5
POO *ex* x 15 58 40.5
NRGR Nerungri 52.81 360 *i* P **P 15 56 56.8 0.0**
NRGR S **S 16 04 06.4 -1.9**
NRGR smax
comp=N,420nm,1.2s
CLNS Chul'man 52.99 0⇓ *i*P P 15 56 58.1 0.0
CLNS *e*S **S 16 04 11.4 +0.7**
CLNS *e* 16 06 22.1
CLNS pmax pmax
comp=N,157nm,0.9s
CLNS pmax pmax
comp=E,34nm,0.9s
CLNS pmax pmax
comp=Z,246nm,0.9s,mb5.6
CLNS smax
comp=N,69nm,1.1s
CLNS smax
comp=E,73nm,1.1s
CLNS smax
comp=Z,26nm,1.1s
CLNS MLR MLR
comp=N,900nm,14.0s
CLNS MLR MLR
comp=Z,2μm,14.0s
CLNS MLR MLR
comp=E,3μm,13.0s
AJM Ajmer 53.10 300⇑ *i*P P 15 56 57.3 -1.6
AJM AMb AMB 15 57 01.5
comp=Z,512nm,1.1s,mb5.9
BHK Bhakra 53.21 307 *e*P **P 15 56 58.0 -1.7**
DGAR Diego Garcia 53.48 258 P **P 15 57 00.6 -1.1**
comp=Z,4μm,1.0s,mb6.8,SNR=7.3
DGAR Diego Garcia 53.48 258 ⇓P **P 15 57 01.6 -0.1**
SNR=6.8
DGAR Diego Garcia 53.48 258 P **P 15 57 00.9 -0.8**
DGAR pmax pmax
comp=Z,340nm,0.8s,mb5.8
DGAR Diego Garcia 53.48 258 *e*P **P 15 57 00.5 -1.2**
comp=Z,335nm,0.8s,mb5.8
SKR Severo-Kuril's 53.68 24 *e*P **P 15 57 03.5 +0.4**
SKR *e**PP pP 15 57 47.0 -3.8
SKR *e* 15 58 13.0
SKR *e* 15 59 02.0
SKR *i* S **S 16 04 18.0 -2.0**
SKR *e**SS sS 16 05 36.0 -7.7
SKR *e* 16 06 22.0
SKR *e*SSS 16 10 04.0
SKR pmax pmax
comp=Z,2.0nm,4.0s
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,2μm,8.0s
SKR smax
comp=N,13μm,10.0s
SKR smax
comp=E,12μm,10.0s
SKR MLR MLR
comp=N,1μm,18.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,2μm,18.0s
DLH Dalhousie 53.98 308 *e*P **P 15 57 07.0 +1.7**
DLH *ex* x 15 58 09.0
THN Thein Dam 54.13 308 *e*P **P 15 57 05.8 -0.6**
THN *e*S **S 16 04 24.2 -1.9**
BHV Bhavnagar 54.18 294 *e*P **P 15 57 07.0 +0.2**
BOD Bodaibo 54.65 353⇑ *i*P P 15 57 09.1 -1.0
BOD pmax pmax
comp=Z,392nm,1.2s,mb5.8
FUNA Funafuti 55.50 103 *e*P **P 15 57 17.5 +1.3**
comp=Z,2μm,1.8s,mb6.3
PET Petropavlovsk 56.48 24α *i*P P 15 57 24.0 +0.8
PET *i**PP pP 15 58 08.8 -2.5
PET *e* pP 15 58 13.5 +2.2
PET *e**SP sP 15 58 31.9 -3.0
PET *i* S **S 16 04 57.3 +0.1**
PET *e* 16 06 46.0
PET *e*SS SS 16 08 54.9 +7.1
PET *e*SSS 16 11 11.7
PET pmax pmax
comp=Z,2μm,5.2s
PET pmax pmax
comp=Z,514nm,0.9s,mb6.1
PET pmax pmax
comp=Z,800nm,13.7s
PET smax
comp=N,104nm,2.3s
PET smax
comp=N,11μm,7.4s
PET MLR MLR
comp=Z,2μm,22.0s
PET MLR MLR
comp=Z,1μm,20.0s
PET Petropavlovsk 56.48 24 *e*P **P 15 57 23.9 +0.7**
comp=Z,447nm,1.0s,mb6.0
PET *e* pP 15 58 11.7 +0.4
MK31 Makanchi Array 56.55 326 *i* P **P 15 57 23.7 +0.1**
MK31 pmax pmax
comp=Z,1μm,1.1s,mb6.4
MKAR Makanchi Array 56.55 326 P **P 15 57 23.7 +0.1**
comp=Z,201nm,0.5s,mb6.0,baz=120,slow=6.8,SNR=1417
MKAR pP pP 15 58 16.9 +5.1
comp=Z,184nm,0.7s,baz=115,slow=4.4,SNR=5.8
MKAR ScP ScP 16 01 54.0 -2.1
comp=Z,73nm,0.8s,baz=116,slow=5.5,SNR=6.3
MKAR S **S 16 04 56.9 -1.2**
comp=Z,24nm,1.0s,baz=123,slow=8.8,SNR=6.2
MKAR PKPPKP 16 27 10.1
comp=Z,2.5nm,1.1s,baz=308,slow=6.0,SNR=4.9
MKAR PKP2bc 16 27 25.4
comp=Z,4.0nm,1.1s,baz=305,slow=4.3,SNR=4.0
MKAR P4KPbc 16 34 35.6
comp=Z,8.5nm,0.8s,baz=120,slow=3.9,SNR=35
MKAR Makanchi Array 56.55 326 P **P 15 57 23.7 +0.1**
MKAR *PP pP 15 58 16.9 +5.1
MKAR S **S 16 04 56.9 -1.2**
MKAR pmax pmax
comp=Z,201nm,0.5s
MKAR smax
comp=N,24nm,1.0s
MKAR Makanchi Array 56.55 326 P **P 15 57 23.7 +0.1**
MKAR pP pP 15 58 16.9 +5.1
MKAR ScP ScP 16 01 54.0 -2.1
MKAR S **S 16 04 56.9 -1.2**
MKAR P'P' 16 27 10.1
MKAR ⇑*e* 16 27 25.4
BHJ Bhuj 56.74 295⇑ *e*P **P 15 57 21.2 -3.8**
BHJ *e*P 15 57 26.2
BHJ AMb AMB 15 57 28.2
comp=Z,1μm,1.3s,mb6.4
BHJ *e*S **S 16 04 57.5 -3.0**
KSH Kashi 56.78 316 *i* P **P 15 57 27.4 +2.2**
KSH AP pP 15 58 13.9 +0.4
KSH PCP PcP 15 58 20.2 +1.7
KSH XP sP 15 58 36.5 -0.5
KSH PP PP 15 59 37.9 +4.0
KSH PPP 16 01 01.6
KSH SCP ScP 16 01 58.4 +1.3
KSH PCS PcS 16 02 20.2 +0.7
KSH S **S 16 05 02.7 +1.6**
KSH SCS ScS 16 06 52.7 +0.2
KSH SS SS 16 08 55.3 +2.8
KSH AMB AMB
comp=Z,4μm,1.2s,mb6.9
KSH AMB AMB
comp=Z,13μm,3.0s
KSH LR LR
comp=N,10μm,14.4s
KSH LR LR
comp=E,8μm,10.3s
KSH LR LR
comp=Z,13μm,18.3s
ULHL Ulahol 57.83 319 P **P 15 57 34.1 +1.5**
SNR=23
AAA Alma-Ata 57.86 320 *e*P **P 15 57 34.0 +1.2**

AAA *e*S **S 16 05 14.5 -0.7**
AAA pmax pmax
comp=Z,4μm,3.5s
AAA smax
comp=N,4μm,8.5s
KRAR Krasnoyarsk 58.12 339⇑ *e*P **P 15 57 34.4 -0.2**
KRAR pmax pmax
comp=Z,285nm,1.1s,mb5.8
YAK Yakutsk 58.31 3 *e*P **P 15 57 35.5 -0.4**
YAK *e* pP 15 58 24.2 -0.2
YAK *e*S **S 16 05 16.3 -4.7**
YAK pmax pmax
comp=Z,1μm,1.1s,mb6.4
YAK Yakutsk 58.31 3 *e*P **P 15 57 35.5 -0.4**
comp=Z,1μm,1.1s,mb6.4
YAK *e* pP 15 58 24.2 -0.2
YAK *e*S **S 16 05 16.3 -4.7**
KZA Kyzart 58.41 318 P **P 15 57 38.3 +1.8**
SNR=603
TKM2 Tokmak 2 58.56 319 P **P 15 57 38.5 +0.9**
SNR=405
TKM2 Tokmak 2 58.56 319 P **P 15 57 38.4 +0.7**
TKM2 pmax pmax
comp=Z,2μm,1.7s,mb6.5
TKM2 Tokmak 2 58.56 319 *i* P **P 15 57 38.4 +0.7**
KBK Karagaybulak 58.87 319 P **P 15 57 40.9 +1.1**
SNR=352
UCH Uchtor 58.96 318 P **P 15 57 42.0 +1.6**
SNR=992
CHMS Chumysh 59.15 319 P **P 15 57 42.1 +0.4**
SNR=118
AAK Ala-Archa 59.16 319 P **P 15 57 42.8 +1.0**
SNR=320
AAK Ala-Archa 59.16 319 P **P 15 57 41.5 -0.2**
comp=Z,2μm,1.3s,mb6.6
AAK Ala-Archa 59.16 319 P **P 15 57 42.0 +0.3**
SNR=398
AAK Ala-Archa 59.16 319 *e*P **P 15 57 41.7 0.0**
AAK pmax pmax
comp=Z,726nm,1.4s,mb6.1
AAK Ala-Archa 59.16 319 *e*P **P 15 57 41.7 0.0**
comp=Z,726nm,1.4s,mb6.1
AAK *e*ScP ScP 16 02 05.7 -1.9
FRU Bishkek 59.16 319⇓ *i*P **P 15 57 41.5 -0.3**
FRU *e* 16 05 30.0
MA2 Magadan 59.20 15 *d i*P **P 15 57 43.3 +1.3**
MA2 *e**PP pP 15 58 29.4 -1.2
MA2 *e* 15 58 51.4
MA2 *i* S **S 16 05 27.8 -4.6**
MA2 *e*SSS 16 12 04.5
MA2 pmax pmax
comp=N,600nm,0.8s
MA2 pmax pmax
comp=Z,2μm,0.8s,mb6.7
USP Ospenovka 59.44 319 P **P 15 57 44.2 +0.5**
SNR=580
AML Almayashu 59.47 318 P **P 15 57 45.3 +1.5**
SNR=659
EKS2 Erkin-Say 59.64 318 P **P 15 57 46.0 +1.0**
SNR=512
ZAL Zalesovo 59.80 334 P **P 15 57 44.7 -1.4**
comp=Z,98nm,0.9s,mb5.5,baz=356,slow=6.4,SNR=296
ZAL S **S 16 05 35.0 -5.1**
comp=Z,7.1nm,0.9s,baz=204,slow=18,SNR=4.0
ZAL P3KP 16 25 49.8
comp=Z,0.9nm,0.4s,baz=252,slow=6.4,SNR=4.4
ZAL PKPPKP 16 27 07.2
comp=Z,0.9nm,0.7s,baz=120,slow=2.2,SNR=4.1
ZAL PKP2bc 16 27 20.8
comp=Z,4.6nm,1.0s,baz=172,slow=4.2,SNR=12
ZAL Zalesovo 59.80 334 P **P 15 57 44.7 -1.4**
ZAL S **S 16 05 35.0 -5.1**
ZAL pmax pmax
comp=Z,98nm,0.9s
ZAL smax
comp=N,7.0nm,0.9s
ZAL Zalesovo 59.80 334 P **P 15 57 44.7 -1.4**
ZAL S **S 16 05 35.0 -5.1**
ZAL PKKKP 16 25 49.8
ZAL P'P' 16 27 07.2
ZAL ⇑*e* 16 27 20.8
MIDW Midway 59.99 60 *e*P **P 15 57 49.1 +1.7**
comp=N,84nm,0.6s,mb5.5
MIDW *e*pP pP 15 58 37.1 +1.0
KURK Kurchatov 60.79 328 P **P 15 57 52.3 -0.5**
comp=N,14μm,0.9s
KURK Kurchatov 60.79 328 P **P 15 57 52.7 -0.1**
SNR=651
KURK Kurchatov 60.79 328 *d i*P **P 15 57 52.4 -0.4**
KURK Kurchatov 60.79 328 *e*P **P 15 57 52.4 -0.5**
comp=N,1μm,0.7s,mb6.7
NVS Novosibirsk 61.08 334⇓ *i*P **P 15 57 53.4 -1.4**
NVS *e**PP pP 15 58 34.3 -9.4
NVS *i* 15 59 02.6
NVS *i* S **S 16 05 49.7 -6.7**
NVS *e**SS sS 16 07 15.6 -6.4
NVS pmax pmax
comp=Z,1μm,1.6s,mb6.2
NVS pmax pmax
comp=N,706nm,1.7s
NVS pmax pmax
comp=E,550nm,1.3s
NVS smax
comp=N,765nm,1.9s
NVS smax
comp=E,656nm,1.9s
KK31 Karatay Array 62.01 318 *i* P **P 15 58 00.7 -0.3**
KKAR Karatay Array 62.01 318 P **P 15 58 00.6 -0.4**
KKAR pmax pmax
comp=Z,629nm,1.1s,mb6.2
KUZ Kuaotunu 62.09 135 PN **P 15 58 02.7 +1.3**
SEY Seymchan 62.49 14 *i* P **P 15 58 05.7 +1.6**
LBZ Lake Benmore 62.70 145 PN **P 15 58 06.3 +0.8**
LBZ pP pP 15 58 58.9 +4.1
LTZ Lake Taylor 62.99 143 PN **P 15 58 07.9 +0.4**
SMY Shemya 63.43 31 *e*P **P 15 58 11.9 +1.6**
SMY pmax pmax
comp=Z,787nm,1.3s,mb6.2
SMY Shemya 63.43 31 *e*P **P 15 58 11.9 +1.6**
comp=Z,787nm,1.3s,mb6.2
SNZO South Karori 63.71 140 *e*P **P 15 58 11.3 -0.8**
comp=Z,66nm,0.5s,mb5.5
MQZ McQueen's Vall 63.74 143 PN **P 15 58 14.3 +1.9**
URZ Urewera 63.78 136 S **S 16 06 28.4 -1.7**
comp=Z,16nm,1.1s,baz=255,slow=12,SNR=6.0
URZ PKP2bc 16 27 10.8
comp=Z,33nm,1.2s,baz=123,slow=2.2,SNR=4.8
URZ Urewera 63.78 136 PN **P 15 58 12.7 0.0**
BKZ Black Stump Fm 63.80 137 PN **P 15 58 13.3 +0.6**
BKZ pP pP 15 59 01.3 -0.8
BKZ SN **S 16 06 31.5 +1.3**
MWZ Matawai 64.11 136 PN **P 15 58 15.1 +0.3**
AFI Afiamalu 65.19 107 P **P 15 58 23.2 +1.4**
comp=Z,264nm,1.1s,mb5.8,baz=296,slow=1.6,SNR=14
AFI Afiamalu 65.19 107 *e*P **P 15 58 23.7 +1.9**
AFI pmax pmax
comp=Z,370nm,1.2s,mb5.9
AFI Afiamalu 65.19 107 *e*P **P 15 58 23.6 +1.9**
comp=Z,369nm,1.2s,mb5.9
AMKA Amchitka 65.55 34 *e*P **P 15 58 25.1 +1.1**
BVA0 Borovoye Array 66.35 328 *i* P **P 15 58 28.2 -1.0**
BVA0 pmax pmax
comp=Z,208nm,1.2s,mb5.6
BVAR Borovoye Array 66.35 328 P **P 15 58 28.4 -0.8**
comp=Z,686nm,1.0s,mb6.2,baz=124,slow=7.9,SNR=564
BVAR S S 16 06 57.6 -3.8
comp=Z,6.1nm,0.9s,baz=128,slow=11,SNR=5.0
BVAR PKP2bc 16 26 58.3
comp=Z,1.2nm,0.8s,baz=262,slow=3.0,SNR=6.7
BVAR P4KPbc 16 35 17.9
comp=Z,1.7nm,0.9s,baz=134,slow=4.3,SNR=8.3
BVAR Borovoye Array 66.35 328 P **P 15 58 28.4 -0.8**
BVAR S S 16 06 57.6 -3.8
BVAR ⇑*e* 16 26 58.3
WBK Wadi Bani Khal 66.38 293 P **P 15 58 29.2 -0.1**
SNR=52
BRVK Borovoye 66.42 328 P **P 15 58 28.5 -1.1**
comp=Z,5μm,0.9s
BRVK Borovoye 66.42 328 P **P 15 58 29.0 -0.7**
SNR=1119
BRVK P 15 58 29.3
SNR=318
BRVK Borovoye 66.42 328 *e*P **P 15 58 28.9 -0.7**
BRVK pmax pmax
comp=Z,1μm,1.1s,mb6.4

BRVK Borovoye 66.42 328 *e*P **P 15 58 28.9 -0.7**
comp=Z,1μm,1.1s,mb6.4
CHKZ Chkalovo 66.54 328 *e*P **P 15 58 29.3 -1.0**
CHKZ pmax pmax
comp=Z,168nm,0.7s,mb5.8
CHKZ Chkalovo 66.54 328 *e*P **P 15 58 29.3 -1.0**
comp=Z,168nm,0.7s,mb5.8
JMDO Jabal Madar 67.15 293 P **P 15 58 33.8 -0.4**
SNR=111
BIDO Bidbid 67.24 294 P **P 15 58 34.7 0.0**
SNR=58
SMDO Samad 67.27 293 P **P 15 58 34.6 -0.3**
SNR=38
TIXI Tiksi 67.91 1 *d i*P **P 15 58 37.4 -1.5**
TIXI *e* 15 59 02.1
TIXI *e**PP pP 15 59 27.9 -1.0
TIXI *e* 16 01 09.7
TIXI *i* S S 16 07 13.5 -6.4
TIXI *e* 16 08 09.6
TIXI *e*SS SS 16 11 43.3 -2.8
TIXI *e*SSS 16 14 53.0
TIXI pmax pmax
comp=Z,598nm,1.1s,mb6.1
TIXI pmax pmax
comp=N,180nm,1.2s
TIXI pmax pmax
comp=E,77nm,1.2s
TIXI pmax pmax
comp=Z,1μm,1.4s,mb6.4
TIXI smax
comp=N,3μm,11.1s
TIXI smax
comp=E,5μm,10.7s
TIXI MLR MLR
comp=Z,2μm,17.0s
TIXI Tiksi 67.91 1 *e*P **P 15 58 37.4 -1.5**
comp=Z,798nm,1.1s,mb6.3
TIXI *e*S S 16 07 16.0 -3.9
HOQ Hoqain 67.99 294 P **P 15 58 39.2 -0.2**
SNR=63
BSY Bisya 68.02 293 P **P 15 58 39.4 -0.2**
SNR=64
ARQ Araqi 68.69 293 P **P 15 58 43.7 -0.1**
SNR=55
BANOM Banah 69.15 296 P **P 15 58 47.1 +0.5**
SNR=15
SHAO Shalim 69.15 288 P **P 15 58 46.6 0.0**
SNR=29
HATD Hatta, Dubai 69.19 295 P **P 15 58 46.7 -0.1**
SNR=12
ASHO Ashiyiah 69.24 295 P **P 15 58 47.2 0.0**
SNR=24
ABKT Ailbek 69.48 309 P **P 15 58 49.0 +0.3**
comp=Z,4μm,1.0s,mb7.0
MSEY Mahe Island 69.84 264 P **P 15 58 51.8 +1.0**
comp=Z,2μm,1.1s,mb6.6,SNR=12
MSEY Mahe Island 69.84 264 P **P 15 58 51.3 +0.4**
SNR=12
MSEY Mahe Island 69.84 264 *e*P **P 15 58 51.1 +0.3**
comp=Z,650nm,1.4s,mb6.1
BILL Bilibino 70.06 15 *d i*P **P 15 58 51.6 -0.6**
BILL *e* 15 59 12.1
BILL *e* 16 01 30.8
BILL *e*S S 16 07 42.7 -2.5
BILL *e*SS SS 16 12 21.2 +2.0
BILL pmax pmax
comp=Z,335nm,2.8s,mb5.5
BILL MLR MLR
comp=Z,1μm,20.0s
BILL Bilibino 70.06 15 *e*P **P 15 58 51.8 -0.4**
comp=Z,114nm,1.0s,mb5.5
BILL *e*S S 16 07 41.9 -3.2
RBK Rabkut 70.48 287 P **P 15 58 54.3 -0.5**
SNR=39
CASY Casey 70.58 186 *e*P **P 15 58 55.4 +0.1**
WHFO Wadi Hawf 70.91 288 P **P 15 58 56.6 -0.7**
SNR=104
AB31 Akbulak array 71.02 321 *i* P **P 15 58 56.9 -1.1**
DRV Dumont d'Urvil 71.03 174 P **P 15 59 01.0 +3.0**
DRV S S 16 07 59.0 +2.6
ABTO Aybut 71.34 287 P **P 15 58 59.3 -0.6**
SNR=89
AKTK Aktyubinsk 72.55 322 P **P 15 59 06.3 -0.7**
AKTK S S 16 08 08.8 -4.9
AKTO Aktyubinsk 72.55 322 P **P 15 59 06.3 -0.7**
comp=Z,248nm,0.8s,mb5.9
AKTO S S 16 08 08.8 -4.8
comp=Z,6.3nm,0.9s,baz=254,slow=20,SNR=10
AKTO Aktyubinsk 72.55 322 P **P 15 59 06.4 -0.7**
AKTO S S 16 08 08.8 -4.9
AKTO pmax pmax
comp=Z,248nm,0.8s,mb5.9
AKTO smax
comp=N,6.0nm,0.9s
MIR Mirnyy 73.71 193 *d i*P **P 15 59 16.0 +2.1**
MIR *i* pP 16 00 07.0 +2.4
MIR *e* 16 00 24.0
MIR *i* 16 02 10.0
MIR *e* 16 09 04.0
MIR *e*SSS 16 13 22.0
MIR pmax pmax
comp=Z,2μm,1.0s,mb6.7
ARU Arti 73.99 328 P **P 15 59 13.8 -1.7**
comp=Z,4μm,0.9s
ARU Arti 73.99 328 *d i*P **P 15 59 13.7 -1.8**
ARU pmax pmax
comp=Z,472nm,0.7s,mb6.2
ARU Arti 73.99 328 *e*P **P 15 59 13.8 -1.7**
comp=Z,620nm,0.9s,mb6.2
ORR Orenburg 74.84 323⇓ *i*P **P 15 59 19.5 -0.9**
ORR pmax pmax
comp=Z,1μm,1.4s,mb6.4
AKUT Akutan 74.99 35 *e*P **P 15 59 22.0 +0.8**
comp=Z,695nm,1.0s,mb6.2
MUKL Al Mukalla 75.39 284 *e*P **P 15 59 24.2 +0.7**
KIP Kipapa 76.65 69 *e*P **P 15 59 32.4 +1.8**
KIP pmax pmax
comp=Z,304nm,1.1s,mb5.8
KIP Kipapa 76.65 69 *e*P **P 15 59 32.4 +1.8**
comp=Z,304nm,1.1s,mb5.8
HON Honolulu 76.66 69 *e*P **P 15 59 33.5 +2.8**
RAR Rarotonga 77.72 113 P **P 15 59 38.3 +1.7**
comp=Z,39nm,0.5s,mb5.3
RAR Rarotonga 77.72 113 P **P 15 59 38.3 +1.7**
RAR pmax pmax
comp=Z,39nm,0.5s
SDPT Sand Point 78.25 34 *e*P **P 15 59 39.7 +0.2**
comp=Z,586nm,1.0s,mb6.2
MAK Makhachkala 78.26 313 *i* P **P 15 59 36.8 -2.7**
MAK *e* 15 59 45.6
MAK *e* 16 02 35.6
MAK *e*PPP 16 04 28.4
MAK *e*S S 16 09 13.2 -3.2
MAK *e* 16 10 21.9
MAK pmax pmax
comp=Z,721nm,1.9s,mb6.0
MAK MLR MLR
comp=Z,3μm,18.0s
HKL Haleakala 78.28 70 *e*P **P 15 59 42.5 +2.9**
KKH Kailua Kona 78.50 71 P **P 15 59 43.1 +2.3**
BDHA Al Bayda' 78.76 283⇓ *e*P **P 15 59 43.2 +0.9**
BDHA AMb AMB 15 59 44.6
comp=Z,1μm,1.4s,mb6.3
KHU Kahuku 78.88 71 *e*P **P 15 59 45.3 +2.4**
POHA Pohakuloa 78.96 71 *e*P **P 15 59 46.1 +2.8**
comp=Z,650nm,1.1s,mb6.2
LBOS 79.07 283⇓ *e*P **P 15 59 45.0 +1.0**
OPO Ambohidratompo 79.55 250 P **P 15 59 46.5 0.0**
CHGN Chignik 79.56 33 *e*P **P 15 59 47.3 +0.7**
DGRG David-gareji 79.70 311 P **P 15 59 48.1 +0.7**
DHBB Dhamar BB 79.89 284⇑ *e*P **P 15 59 49.7 +1.3**
DHBB ⇓*e*P 15 59 49.8
DHBB AMb AMB 15 59 50.4
comp=Z,753nm,1.1s,mb6.2
BHD Baghdad 80.05 303 *i* x x 15 59 47.0
BHD *i* x x 16 09 28.0
BHD *ex* x 16 09 46.0
GNI Garni 80.09 310 P **P 15 59 50.1 +0.7**
comp=Z,80nm,0.9s,mb5.3,baz=88,slow=0.2,SNR=93
GNI S S 16 09 34.2 -1.5
comp=Z,1.8nm,0.5s,baz=135,slow=11,SNR=2.5
GNI Garni 80.09 310⇑ P **P 15 59 50.5 +1.1**
SNR=72
GNI Garni 80.09 310 *d i*P **P 15 59 49.9 +0.5**
GNI pmax pmax

comp=Z,513nm,1.8s
GNI Garni 80.09 310 *e*P **P 15 59 50.0 +0.6**
comp=Z,254nm,0.8s,mb5.9
MTA Mtatsminda 80.16 312 P **P 15 59 49.7 -0.1**
TRBA At Turbah 80.19 283⇓*e*P **P 15 59 51.0 +1.1**
TRBA AMb AMB 15 59 52.6
comp=Z,923nm,1.3s,mb6.2
DUS Dusheti 80.25 312 P **P 15 59 52.9 +2.7**
KZR Kazreti 80.42 311 P **P 15 59 51.6 +0.4**
HAJJ Hajjah 80.63 285⇓*e*P **P 15 59 53.2 +0.9**
HAJJ AMb AMB 15 59 54.5
comp=Z,761nm,1.3s,mb6.2
CLDR Caldiran 80.67 309 P **P 15 59 52.9 +0.4**
GOR Gori 80.68 312 P **P 15 59 53.7 +1.1**
HKR Hakkari 80.74 307 P **P 15 59 53.2 +0.3**
CUKT Cukurca 80.83 307 P **P 15 59 52.9 -0.4**
ZEI Tsey 80.89 313 *e*P **P 15 59 53.4 -0.2**
ZEI *e*S S 16 09 42.3 -1.6
ZEI pmax pmax
comp=Z,426nm,0.9s,mb6.1
ZEI smax
comp=E,90nm,1.7s
VANT Van 81.06 308 P **P 15 59 56.2 +1.7**
VANB Van 81.06 308 P **P 15 59 57.1 +2.6**
ONI Oni 81.20 312 P **P 15 59 55.8 +0.4**
MSL Mosul 81.21 306 *i* x x 15 59 57.0
MSL *i* x x 16 00 19.5
MSL *e*x x 16 00 56.0
MSL *e*x x 16 01 13.5
MSL *e*x x 16 02 45.5
MSL *e*x x 16 09 43.0
MSL *e*x x 16 09 53.0
MSL *e*x x 16 11 10.5
KARS Kars 81.38 310 P **P 15 59 57.1 +0.9**
AGRB Hanur-Agry 81.41 309 P **P 15 59 56.9 +0.5**
ATD Arta Tunnel 81.48 281 P **P 15 59 58.0 +1.2**
ATD Arta Tunnel 81.48 281 P **P 15 59 58.0 +1.2**
SVW2 Sparrevohn 81.72 29 *e*P **P 15 59 59.4 +1.4**
SIRT Sirnak 81.77 307 P **P 15 59 58.4 +0.1**
KIV Kislovodsk 81.83 314 P **P 15 59 58.4 -0.2**
comp=E,1μm,0.8s,mb6.5,SNR=26
KIV Kislovodsk 81.83 314 P **P 15 59 58.3 -0.4**
SNR=61
KIV Kislovodsk 81.83 314 *d i*P **P 15 59 58.1 -0.5**
KIV *e* 16 03 03.5
KIV *e*S S 16 09 49.8 -3.8
KIV *e*SS SS 16 15 13.6 -3.1
KIV *e*SSS 16 18 47.6
KIV pmax pmax
comp=Z,3μm,6.3s
KIV pmax pmax
comp=Z,234nm,1.1s,mb5.7
KIV Kislovodsk 81.83 314 *e*P **P 15 59 58.0 -0.6**
comp=Z,151nm,0.8s,mb5.7
PECR Pechory 81.83 326 *e*P **P 15 59 57.0 -1.6**
PECR *i* pP 16 00 46.0 -4.4
PECR *e*S S 16 09 42.0 -12
PECR pmax pmax
comp=Z,2μm,1.6s,mb6.6
PECR pmax pmax
comp=Z,3μm,5.4s
PECR smax
comp=N,3μm,7.0s
PECR smax
comp=E,3μm,7.0s
BCA Borcka 82.52 311 P **P 16 00 01.6 -0.6**
BTMT Batman 82.54 308 P **P 16 00 02.4 +0.1**
ERZM Erzurum 82.67 310 *i* P **P 16 00 03.9 +1.0**
EZM Erzurum 82.68 310 P **P 16 00 03.5 +0.5**
BNGL BINGOL 82.82 309 *i* P **P 16 00 05.0 +1.3**
KDAK Kodiak Island 82.90 32 P **P 16 00 06.0 +1.9**
comp=E,794nm,0.7s,mb6.5,SNR=11
KDAK Kodiak Island 82.90 32 *e*P **P 16 00 05.2 +1.1**
comp=E,87nm,0.7s,mb5.6
KDAK *e*pP pP 16 00 56.6 +0.6
VRHR Novokhopersk 82.91 321 *e*P **P 16 00 02.7 -1.5**
VRHR *e*S S 16 09 58.6 -5.9
VRHR pmax pmax
comp=N,80nm,0.8s
VRHR pmax pmax
comp=Z,790nm,0.8s,mb6.5
VRHR pmax pmax
comp=E,130nm,0.5s
VRHR smax
comp=N,2μm,2.1s
VRHR smax
comp=Z,180nm,2.0s
VRHR smax
comp=E,520nm,1.6s
MARD Mardin 83.09 307 *i* P **P 16 00 05.4 +0.3**
MAW Mawson 83.09 200 *e*P **P 16 00 05.0 -0.1**
comp=E,111nm,1.1s,mb5.5
MAW Mawson 83.09 200 P **P 16 00 05.2 0.0**
comp=E,112nm,0.9s,mb5.6,baz=60,slow=6.3,SNR=110
MAW S S 16 10 02.8 -3.6
comp=E,2.0nm,0.4s,baz=221,slow=19,SNR=2.6
MAW PKKPbc PKKPbc 16 18 25.3 +0.4
comp=E,4.9nm,0.8s,baz=252,slow=5.6,SNR=5.0
MAW Mawson 83.09 200 P **P 16 00 05.2 +0.1**
MAW S S 16 10 02.8 -3.6
MAW pmax pmax
comp=Z,112nm,0.9s
MAW smax
comp=N,2.0nm,0.4s
IMA2 Indian Mountai 83.15 24 *e*P **P 16 00 06.4 +1.0**
DIY Diyarbakir 83.53 308 P **P 16 00 07.7 +0.3**
VNDA Vanda 83.63 172 P **P 16 00 07.5 -0.3**
comp=N,21nm,0.9s,mb4.9,baz=316,slow=5.8,SNR=53
VNDA pP pP 16 00 59.2 -0.6
comp=N,20nm,0.7s,baz=337,slow=8.9,SNR=1.8
VNDA S S 16 10 07.3 -4.4
comp=N,6.9nm,1.2s,baz=74,slow=18,SNR=7.8
VNDA PKKPbc PKKPbc 16 18 24.8 +1.1
comp=N,6.9nm,1.0s,baz=211,slow=2.7,SNR=10
VNDA PKPPKP 16 26 28.8
comp=N,6.7nm,1.1s,baz=153,slow=1.4,SNR=6.9
VNDA Vanda 83.63 172 P **P 16 00 07.5 -0.3**
VNDA pP pP 16 00 59.2 -0.6
VNDA S S 16 10 07.3 -4.4
VNDA PKKPbc PKKPbc 16 18 24.8 +1.1
VNDA P'P' 16 26 28.8
BSHR Al Beshri 83.86 305⇓P **P 16 00 11.1 +2.1**
DRBT Darb Altahta 83.86 307⇓P **P 16 00 14.6 +5.6**
EZC Erzincan 83.86 309 P **P 16 00 11.3 +2.2**
MACK Trabzon 83.91 311 *i* P **P 16 00 09.3 +0.1**
KTUT Trabzon 83.91 311 P **P 16 00 08.4 -0.9**
SOC Sochi 83.97 313 *d i*P **P 16 00 08.2 -1.4**
SOC *e* 16 03 28.2
SOC *e*PPP 16 05 23.4
SOC *e*S SKSac 16 10 04.8 -7.2
SOC *e* 16 11 25.8
SOC *e**SS sS 16 12 01.8 +16
SOC *e*SS SS 16 15 51.7 +3.4
SOC *e*SSS 16 19 24.5
SOC pmax pmax
comp=Z,792nm,1.7s,mb6.2
SOC pmax pmax
comp=Z,290nm,1.0s,mb6.0
SOC Sochi 83.97 313 *i* P **P 16 00 07.9 -1.7**
PTK Pertek 84.19 309 P **P 16 00 11.4 +0.7**
SLKM Skilak Lake 84.28 30 *e*P **P 16 00 11.1 0.0**
SLKM *e**PP pP 16 01 03.2 0.0
KELT Kelkit 84.30 310 *i* P **P 16 00 11.9 +0.7**
VORD Divnogorie 84.37 321 *e*P **P 16 00 07.7 -3.9**
VORD pmax pmax
comp=E,190nm,0.8s
VORD pmax pmax
comp=Z,420nm,0.8s,mb6.2
VORD pmax pmax
comp=N,40nm,0.9s
KLMR Klimovskoe 84.53 331 *d i*P **P 16 00 11.0 -1.4**
KLMR *e*S SKSac 16 10 08.8 -6.8
KLMR pmax pmax
comp=Z,1μm,1.1s,mb6.6
SBA Scott Base 84.56 172 *e*P **P 16 00 13.2 +0.7**
SBA pmax pmax
comp=Z,921nm,2.5s,mb6.1
SBA Scott Base 84.56 172 *e*P **P 16 00 13.2 +0.6**
comp=Z,921nm,2.5s,mb6.1
DESE Dese 84.65 281 *i* P **P 16 00 15.7 +2.8**
DESE *i* S S 16 10 18.9 -3.0
URFA Urfa 84.65 307 P **P 16 00 13.0 0.0**
PMR Palmer 84.85 29 *e*P **P 16 00 14.4 +0.4**
PMR pmax pmax
comp=Z,21nm,0.4s,mb5.2
PMR Palmer 84.85 29 *e*P **P 16 00 14.4 +0.4**
comp=Z,21nm,0.4s,mb5.2
MYA Malataya 84.95 308 P **P 16 00 15.5 +1.0**
JHLN Al Jahlan 84.98 305⇓P **P 16 00 15.4 +0.7**
GRSN GIRESUNGRSN 85.05 311 *i* P **P 16 00 13.8 -1.2**
SLMH Al Salmeh 85.39 306⇓P **P 16 00 17.0 +0.4**
MOS Moscow 85.42 325κ *i* P **P 16 00 15.4 -1.4**
MOS *i **PP pP 16 01 30.0 +21
MOS *e* 16 03 36.4
MOS *e*S SKSac 16 10 22.7 +1.4
MOS *e**SS sS 16 12 25.9 +25
MOS pmax pmax
comp=Z,1μm,1.0s,mb6.5
MOS pmax pmax
comp=Z,3μm,2.0s,mb6.7
COLA College 85.51 25 *i* P **P 16 00 17.6 +0.3**
COLA College 85.51 25 *e*P **P 16 00 16.5 -0.7**
comp=Z,33nm,0.8s,mb5.1
ANN Anapa 85.61 314 *d i*P **P 16 00 16.3 -1.5**
ANN *e* 16 03 38.1
ANN *e*S SKSac 16 10 16.6 -5.8
ANN *e*SS SS 16 16 17.4 +5.0
ANN pmax pmax
comp=Z,881nm,6.3s
ANN Anapa 85.61 314 *i* P **P 16 00 16.2 -1.6**
GZT Gaziantep 85.65 307 *i* P **P 16 00 18.4 +0.4**
FURI Furi 85.70 279 *e*P **P 16 00 20.8 +2.6**
FURI S S 16 10 23.3 -8.8
GAZ Gaziantep 85.94 307 P **P 16 00 19.2 -0.2**
ROOS tl_alroos 85.96 304⇓P **P 16 00 19.7 +0.2**
RABH Abou Rabah 86.02 304⇓P **P 16 00 21.0 +1.3**
OBN Obninsk 86.03 325 P **P 16 00 18.2 -1.6**
comp=Z,5μm,0.7s,SNR=44
OBN Obninsk 86.03 325 *d i*P **P 16 00 18.4 -1.4**
OBN *e*S SKSac 16 10 19.4 -5.6
OBN pmax pmax
comp=Z,439nm,0.6s,mb6.4
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 86.03 325 *e*P **P 16 00 18.1 -1.7**
comp=Z,614nm,0.8s,mb6.4
SVSK Karacayir 86.03 310 P **P 16 00 19.7 -0.1**
KMRS Kahramanmaras 86.18 307 P **P 16 00 20.0 -0.5**
ASF Jabal al Asfar 86.35 302 P **P 16 00 22.3 +0.9**
comp=Z,374nm,1.0s,mb6.1,baz=326,slow=1.8,SNR=222
ASF Jabal al Asfar 86.35 302 P **P 16 00 22.3 +0.9**
ASF pmax pmax
comp=Z,374nm,1.0s
TOKT Tokat 86.37 310 P **P 16 00 21.4 -0.1**
MARH Ras Al Marh 86.64 304⇓P **P 16 00 23.9 +1.1**
LVZ Lovozero 86.69 338 P **P 16 00 21.6 -1.4**
comp=Z,971nm,0.8s,mb6.6,SNR=6.7
LVZ Lovozero 86.69 338⇑*e*P **P 16 00 20.6 -2.4**
LVZ *e* 16 10 29.8
LVZ pmax pmax
comp=N,26nm,1.0s
LVZ pmax pmax
comp=Z,168nm,1.0s,mb5.7
LVZ pmax pmax
comp=E,28nm,0.9s
LVZ Lovozero 86.69 338 *i* P **P 16 00 21.6 -1.4**
FKH Fakeheh 86.69 304 *e*P **P 16 00 23.6 +0.5**
TOTH TOTAH 86.70 303⇓P **P 16 00 23.7 +0.6**
KVT Kavak 86.72 311 P **P 16 00 23.0 -0.2**
COBT Iskenderun 86.73 306 *i* P **P 16 00 23.3 +0.1**
HTY Hatay 86.84 306 P **P 16 00 24.0 +0.3**
PPT Papeete 86.85 108 *e*P **P 16 00 27.0 +3.2**
comp=E,64nm,1.4s,mb5.2
PPT *e*pP pP 16 01 16.6 +0.4
comp=E,56nm,1.3s
PPT Papeete 86.85 108 *e*SKSac SKSac 16 10 32.4 +2.3
PPT *e*SS SS 16 16 22.2 -8.3
comp=E,3μm,25.2s
PPT *e*LQ 16 24 37.5
comp=E,6μm,20.0s
PPT *e*LR LR 16 28 25.8
comp=E,5μm,21.2s
PPT Papeete 86.85 108 P **P 16 00 27.1 +3.3**
comp=E,12nm,0.5s,mb4.9,baz=259,slow=5.2,SNR=6.3
PPT Papeete 86.85 108 P **P 16 00 27.1 +3.3**
PPT pmax pmax
comp=Z,12nm,0.5s
PAE Paea 86.86 108 *e*P **P 16 00 26.7 +2.9**
BNN Bunyan 86.96 309 P **P 16 00 24.0 -0.4**
KOZT Kozan 87.03 307 P **P 16 00 24.0 -0.7**
BRBR Barbar 87.10 303⇓P **P 16 00 25.8 +0.8**
CEYT Ceyhan 87.11 307 *e*P **P 16 00 24.9 -0.2**
TCHB Talchebab 87.12 302⇓P **P 16 00 25.8 +0.7**
APA Apatity 87.18 337⇓*i*P **P 16 00 23.0 -2.4**
APA *i **PP pP 16 01 15.3 -2.5
APA *i* 16 01 38.0
APA *e* 16 10 29.0
APA *e*S S 16 10 44.0 -2.4
APA *i* PS PS 16 12 09.0 -7.2
APA pmax pmax
comp=Z,180nm,1.0s,mb5.8
TVO Taravao 87.18 108 *e*P **P 16 00 28.7 +3.3**
comp=Z,261nm,1.3s,mb5.8
TVO Taravao 87.18 108 *e*P **P 16 00 28.7 +3.3**
TVO pmax pmax
comp=Z,261nm,1.3s,mb5.8
RCY Rachaya 87.21 303 *e*P **P 16 00 25.7 +0.2**
DIKM Dikmen 87.29 311 P **P 16 00 24.4 -1.5**
BHL Bhannes 87.33 304 *e*P **P 16 00 26.1 0.0**
YOZ Yozgat 87.33 309 *e*P **P 16 00 26.2 +0.1**
MENT Mentasta 87.37 27 *e*P **P 16 00 26.7 +0.4**
KRTS Karatas 87.43 306 *e*P **P 16 00 26.8 +0.3**
TBI Tubuai 87.46 113 *e*LQ 16 24 45.3
comp=Z,10μm,59.5s
TBI Tubuai 87.46 113 *e*SKSac SKSac 16 10 36.8 +3.0
comp=Z,7μm,16.5s
TBI *e*SS SS 16 16 32.4 -7.0
comp=Z,3μm,26.2s
TBI *e*LR LR 16 28 47.1
comp=Z,14μm,65.0s
TBI *e*SKSac SKSac
comp=Z,212nm,5.5s
TBI Tubuai 87.46 113 *e*P **P 16 00 29.8 +3.1**
comp=Z,209nm,1.0s,mb5.8
TBI *e*SS SS 16 16 32.4 -7.0
TBI *e*LQ 16 24 45.3
BOYT Boyabat 87.57 311 *i* P **P 16 00 26.9 -0.3**
KARA Karaisali 87.66 307 *e*P **P 16 00 26.0 -1.6**
BYBT Boyabat 87.67 311 *e*P **P 16 00 26.8 -0.9**
CTKT Corum 87.69 310 *i* P **P 16 00 27.6 -0.2**
KMBO Kilima Mbogo 87.71 269 P **P 16 00 29.2 +1.3**
KMBO pP pP 16 01 21.1 +0.6
KMBO SKSac SKSac 16 10 34.7 -0.6
KMBO pS 16 11 57.7
KMBO Kilima Mbogo 87.71 269 P **P 16 00 29.2 +1.3**
comp=Z,80nm,0.8s,mb5.6,baz=63,slow=5.9,SNR=136
KMBO pP pP 16 01 20.9 +0.5
comp=Z,24nm,1.0s,baz=101,slow=8.9,SNR=1.5
KMBO Kilima Mbogo 87.71 269 P **P 16 00 29.2 +1.3**
KMBO *PP pP 16 01 20.9 +0.5
KMBO pmax pmax
comp=Z,80nm,0.8s
KMBO Kilima Mbogo 87.71 269 *e*P **P 16 00 28.9 +1.0**
comp=Z,102nm,0.8s,mb5.7
AVNT Avonos 87.74 309 *i* P **P 16 00 27.6 -0.4**
CORM Corum 87.84 310 *e*P **P 16 00 26.2 -2.3**
SIM Simferopol' 87.96 315 *de*P **P 16 00 29.0 -0.1**
SIM *e*S SKSac 16 10 32.9 -3.9
SIM pmax pmax
comp=Z,244nm,0.8s,mb6.1
SIM pmax pmax
comp=Z,790nm,10.0s
SIM MLR MLR
comp=Z,2μm,22.0s
CDAG Cicekdag 88.07 309 *i* P **P 16 00 28.7 -0.8**
MERS Mersin 88.10 307 *e*P **P 16 00 28.4 -1.3**
EIL Elat 88.14 299 *e*P **P 16 00 30.1 +0.2**
comp=Z,4μm,0.8s
BZK Bozkurt 88.22 312 *e*P **P 16 00 29.0 -1.3**
TOS Tosya 88.25 311 *e*P **P 16 00 30.1 -0.4**
PMOR Pomariorio Ree 88.26 105 *e*P **P 16 00 33.9 +3.4**
comp=Z,206nm,1.3s,mb5.8
JOF Joensuu 88.37 333 *e*p **P 16 00 27.4 -3.6**
comp=Z,162nm,0.5s,mb6.1
JOF Joensuu 88.37 333 *e*P **P 16 00 27.4 -3.6**
JOF pmax pmax
comp=Z,162nm,0.5s,mb6.1
EGAK Eagle 88.37 25 *e*P **P 16 00 30.6 -0.4**
comp=Z,33nm,0.8s,mb5.2
VAH Vaihoa 88.53 105 *e*P **P 16 00 35.0 +3.2**
comp=Z,196nm,1.2s,mb5.8
CANT Cankiri 88.58 310 *e*P **P 16 00 31.4 -0.6**
KAMT Kaman 88.59 309 *e*P **P 16 00 30.0 -2.0**
BR131 Keskin Array S 88.63 310 *e*P **P 16 00 30.9 -1.3**
comp=Z,81nm,0.8s,mb5.6
BRTR Keskin Array B 88.63 310 P **P 16 00 30.9 -1.3**
comp=Z,81nm,0.8s,mb5.6,baz=127,slow=4.5,SNR=183
BRTR Keskin Array B 88.63 310 *i* P **P 16 00 30.8 -1.4**
BRTR pmax pmax
comp=Z,81nm,0.8s
BALT Daday 88.70 311 *i* P **P 16 00 32.5 -0.1**
ELDT Eldivan 88.74 310 *i* P **P 16 00 31.8 -1.0**
IKL Isikli 88.81 306 *e*P **P 16 00 31.0 -2.1**
PUL Pulkovo 89.14 330⇓*e*P **P 16 00 33.4 -1.2**
PUL *e* 16 10 54.2
PUL pmax pmax
comp=Z,375nm,0.8s,mb6.3
PUL pmax pmax
comp=N,287nm,0.6s
PUL pmax pmax
comp=E,184nm,0.6s
PUL Pulkovo 89.14 330 *i* P **P 16 00 34.2 -0.4**
CSS Prodhromos 89.18 305 *e*P **P 16 00 33.1 -1.7**
CSS Prodhromos 89.18 305 *e*P **P 16 00 33.9 -0.9**
comp=E,24nm,1.8s
DAWY Dawson 89.21 26 *e*P **P 16 00 35.0 +0.1**
SAFT Safranbolu 89.25 311 *e*P **P 16 00 33.6 -1.5**
ANTO Ankara 89.27 310 P **P 16 00 34.5 -0.7**
SNR=15
ANTO Ankara 89.27 310 *e*P **P 16 00 33.9 -1.3**
comp=E,51nm,0.8s,mb5.4
ANTO Ankara 89.27 310⇓*i*P **P 16 00 34.1 -1.1**
KEV Kevo 89.29 340 *e*p **P 16 00 32.4 -2.9**
comp=E,17nm,0.7s,mb5.0
KEV Kevo 89.29 340 P **P 16 00 33.4 -1.9**
KEV pmax pmax
comp=Z,33nm,0.8s,mb5.2
HDMB Hadim 89.72 307 *e*P **P 16 00 36.2 -1.1**
KONT Konya--Tatoy 89.75 308 *e*P **P 16 00 35.5 -2.0**
SGKT Sivrigoynuk 89.78 310 *i* P **P 16 00 36.6 -1.0**
ARCES ARCESS Array B 89.84 340 P **P 16 00 35.9 -2.0**
comp=Z,73nm,0.9s,mb5.5,baz=87,slow=3.3,SNR=64
ARCES PKiKP PKiKP 16 05 32.8 -0.4
comp=Z,6.1nm,0.6s,baz=180,slow=0.1,SNR=4.1
ARCES PKKPbc PKKPbc 16 18 09.8 +1.0
comp=Z,4.1nm,1.0s,baz=245,slow=3.9,SNR=6.2
ARCES ARCESS Array B 89.84 340 P **P 16 00 35.9 -2.0**
KIZT Kizilcal 90.05 309 *e*P **P 16 00 36.8 -2.0**
KDZE Karadeniz Ereo 90.18 311 *e*P **P 16 00 37.8 -1.6**
BJO Bjornoya 90.62 345 *e* SKKSac 16 11 05.4 -2.1
BJO AMS AMS 16 46 33.3
comp=Z,1μm,19.1s
HENT Hendek 90.63 311 *i* P **P 16 00 40.2 -1.4**
KBS Kingsbay 90.71 350 *e*P **P 16 00 41.4 -0.5**
KBS *e* 16 00 44.6
KBS *e* 16 11 17.9
KBS AMS AMS 16 48 24.2
comp=Z,1μm,21.9s
KBS Kingsbay 90.71 350 *i* P **P 16 00 41.2 -0.7**
KBS Kingsbay 90.71 350 *i* P **P 16 00 41.3 -0.6**
KBS *e* 16 00 44.6
KBS LR LR
comp=Z,1μm,21.9s
KTK1 Kautokeino 90.74 339 *e*P **P 16 00 40.2 -1.9**
KTK1 AMb AMB 16 00 48.3
comp=Z,124nm,1.3s,mb5.7
KTK1 Kautokeino 90.74 339 *e*P **P 16 00 40.2 -1.9**
comp=Z,124nm,1.3s,mb5.7
AKASG Malin Array Be 90.76 321 P **P 16 00 40.1 -2.0**
comp=Z,56nm,0.7s,mb5.6,baz=68,slow=4.6,SNR=137
AKASG pP pP 16 01 37.1 +2.2
comp=Z,18nm,1.0s,baz=75,slow=3.9,SNR=1.6
AKASG S SKSac 16 10 48.7 -4.4
comp=Z,0.3nm,0.2s,baz=78,slow=6.3,SNR=4.2
AKASG ScS ScS 16 11 17.6 -4.9
comp=Z,0.3nm,0.3s,baz=77,slow=9.1,SNR=4.6
AKASG Malin Array Be 90.76 321 P **P 16 00 40.1 -2.0**
AKASG S SKSac 16 10 48.7 -4.4
AKASG 16 11 17.7
AKASG pmax pmax
comp=Z,56nm,0.7s
AKBB Malin Array Si 90.76 321 P **P 16 00 40.1 -2.0**
AKBB Malin Array Si 90.76 321 *e*P **P 16 00 39.9 -2.2**
KIEV Kiev 90.77 321 P **P 16 00 40.1 -2.1**
KIEV pmax pmax
comp=Z,63nm,0.8s,mb5.6
KIEV Kiev 90.77 321 *e*P **P 16 00 39.8 -2.4**
comp=Z,62nm,0.8s,mb5.6
KAF Kangasniemi 90.77 332 *e*p **P 16 00 39.1 -3.1**
comp=Z,96nm,0.5s,mb6.0,baz=78,slow=4.2
KAF Kangasniemi 90.77 332 *e*P **P 16 00 39.1 -3.1**
KAF pmax pmax
comp=Z,96nm,0.5s,mb6.0
ESKT Eskisehir 90.79 309 *e*P **P 16 00 40.7 -1.5**
ESKT Eskisehir 90.79 309 *i* P **P 16 00 40.8 -1.5**
INK Inuvik 90.86 21 *e*P **P 16 00 41.8 -0.9**
comp=Z,3μm,1.1s
INK pP pP 16 01 33.4 -1.9
FINES FINESS Array B 90.99 332 P **P 16 00 41.1 -2.1**
comp=Z,68nm,0.6s,mb5.8,baz=68,slow=4.6,SNR=119
FINES PKiKP PKiKP 16 05 34.9 -0.2
comp=Z,3.8nm,0.5s,baz=87,slow=6.3,SNR=4.1
FINES S SKSac 16 10 48.3 -6.1
comp=Z,5.1nm,1.0s,baz=176,slow=34,SNR=2.1
FINES PKKPbc PKKPbc 16 18 11.8 +5.8
comp=Z,2.4nm,0.8s,baz=288,slow=1.8,SNR=4.0
FINES FINESS Array B 90.99 332 P **P 16 00 41.1 -2.1**
FINES S SKSac 16 10 48.3 -6.1
FINES pmax pmax
comp=Z,68nm,0.6s
FINES smax
comp=N,5.0nm,1.0s
MNK Minsk 91.12 325 *e*P **P 16 00 40.0 -3.8**
MNK pmax pmax
comp=Z,560nm,1.0s,mb6.5
ISP Isparta 91.22 308 *e*P **P 16 00 41.2 -3.0**
ISP Isparta 91.22 308 P **P 16 00 44.4 +0.2**
ISP pmax pmax
comp=Z,140nm,1.2s,mb5.8
ISP Isparta 91.22 308 *e*P **P 16 00 42.1 -2.1**
comp=Z,136nm,1.2s,mb5.8
TKTP Tekketepe 91.34 308 *i* P **P 16 00 43.0 -1.9**
KIS Kishinev 91.46 317 *j e*P **P 16 00 42.0 -3.4**
KIS *e* 16 04 30.0
KIS *e*S S 16 11 17.0 -9.1
KIS *e**SS sS 16 13 05.0 +6.3
KIS *e*PS PS 16 13 16.0 +12
KIS pmax pmax
comp=Z,320nm,2.0s,mb5.9
KIS pmax pmax
comp=Z,3μm,8.0s
KIS MLR MLR
comp=Z,3μm,18.0s
KIS Kishinev 91.46 317 *e*P **P 16 00 42.0 -3.4**
comp=Z,300nm,2.0s,mb5.9
KIS *e*pP pP 16 01 42.0 +3.8
KIS Kishinev 91.46 317 *e*PP PP 16 04 30.0 +3.7
KIS *e*S S 16 11 17.0 -9.1
KIS *e*sS sS 16 13 05.0 +6.3
KIS Kishinev 91.46 317 *e*PS PS 16 13 16.0 +12
KIS *e*LR LR 16 35 52.0
comp=Z,3μm,18.0s
ADVT Abdulvahap 91.55 310 *e*P **P 16 00 43.8 -2.0**
HRT Hereke 91.56 311 *e*P **P 16 00 43.7 -2.1**
IDID Didziasalis 91.62 326 *e*P **P 16 00 44.8 -1.3**
IDID AMb AMB 16 00 46.9
comp=Z,2μm,1.0s,mb6.9
SYO Syowa Base 91.73 201⇑*i*P **P 16 00 46.2 -0.4**
SYO Syowa Base 91.73 201⇑*i*PcP PcP 16 00 47.9 +0.5
SYO Syowa Base 91.73 201 *e*SH 16 11 25.6
IZI Iznik 91.76 310 *e*P **P 16 00 45.4 -1.3**
ELL Elmali 91.80 307 *e*P **P 16 00 44.9 -2.1**
SKAG Skagway 91.81 30 *e*P **P 16 00 47.9 +0.9**
comp=Z,49nm,1.0s,mb5.4
YLV Yalova 91.81 311 *e*P **P 16 00 44.9 -2.1**
IZAR Zarasai 91.83 326 *e*P **P 16 00 45.7 -1.4**
IZAR AMb AMB 16 00 47.7
comp=Z,2μm,0.9s,mb7.0
IIGN Ignalina 91.91 326 *e*P **P 16 00 46.2 -1.2**
IIGN AMb AMB 16 00 48.2
comp=Z,2μm,1.0s,mb6.9
GEMT Gemlik 91.96 311 *e*P **P 16 00 45.8 -1.9**
ISK Istanbul-Kandi 91.99 311 *e*P **P 16 00 45.9 -2.0**

GOLH	Golhisar	92.03	307	*i* P	P	16 00 45.0	-3.0
ULDT	Uludag	92.04	310	*i* P	P	16 00 47.0	-1.1
TIRR	Tirgusor	92.06	315	P	P	16 00 48.8	+0.7
TIRR	Tirgusor	92.06	315	*e*P	P	16 00 46.7	-1.4
	comp=Z,70nm,0.8s,mb5.6						
TIRR	Tirgusor	92.06	315	⇓*i*P	P	16 00 46.8	-1.3
TRO	Tromso	92.07	340	*e*P	P	16 00 44.9	-3.3
TRO				AMS	AMS	16 47 12.6	
	comp=Z,1μm,18.8s						
CFR	Carcaliu	92.16	315	P	P	16 00 52.4	+3.8
HARR	Harsova	92.37	315	P	P	16 00 52.9	+3.3
DNZL	Cakiroluk	92.38	308	*i* P	P	16 00 53.8	+4.2
DENT	Denizli	92.39	308	*e*P	P	16 00 47.9	-1.8
CTT	Catalca	92.45	311	*e*P	P	16 00 48.0	-2.0
FETY	Fethiye	92.47	307	*e*P	P	16 00 47.5	-2.6
DALT	Dalyan (Mudla)	92.81	307	*e*P	P	16 00 49.0	-2.6
BNT	Bandirma	92.94	311	*e*P	P	16 00 51.1	-1.1
VRI	Vrincioaia	93.05	316	P	P	16 00 52.4	-0.3
YER	Yerkesik	93.05	307	*e*P	P	16 00 50.8	-1.9
PLOR	Plostina	93.10	316	⇓*i*P	P	16 00 52.3	-0.7
AKS	Akhisar	93.21	309	*e*P	P	16 00 52.0	-1.4
MFT	Murefte	93.36	311	*e*P	P	16 00 52.6	-1.5
RKY	Sarkoy-Tekirda	93.45	311	*e*P	P	16 00 52.3	-2.3
QSPA	South Pole Qui	93.61	180	*e*P	P	16 00 55.5	+0.2
	comp=Z,761nm,2.1s,mb6.4						
QSPA				*e*pP	pP	16 01 48.1	+0.1
QSPA				*e*sP	sP	16 02 09.2	-1.3
EDRB	Edirne	93.62	312	*e*P	P	16 00 53.0	-2.4
CANB	Canakkale	93.63	310	*e*P	P	16 00 53.4	-2.0
MLR	Muntele Rosu	93.65	316	P	P	16 00 54.4	-1.1
	comp=Z,92nm,0.7s,mb5.9,baz=2.5,slow=1.6,SNR=95						
MLR				S	SKSac	16 11 06.3	-2.9
	comp=Z,6.8nm,0.9s,baz=172,slow=19,SNR=5.7						
MLR	Muntele Rosu	93.65	316	P	P	16 00 54.8	-0.6
MLR	Muntele Rosu	93.65	316	⇓*i*P	P	16 00 54.5	-1.0
DAT	Datca	93.66	307	*e*P	P	16 00 52.1	-3.5
IZM	Izmir	93.69	309	*e*P	P	16 00 53.7	-2.0
BDRM	Kayabasi	93.73	307	*i* P	P	16 00 54.0	-1.9
CRAG	Craig	93.75	34	*e*P	P	16 00 58.0	+2.0
	comp=Z,61nm,1.2s,mb5.5						
BURAR	Bucovina Array	93.80	318	P	P	16 00 56.5	+0.3
BURAR	Bucovina Array	93.80	318	⇓*i*P	P	16 00 55.6	-0.6
ALE	Alert	93.81	1	P	P	16 00 55.0	-1.2
	comp=Z,256nm,1.2s,mb6.1,SNR=22						
BLCB	Balcova	93.87	309	*e*P	P	16 00 54.8	-1.7
SUW	Suwalki	93.89	325	*e*P	P	16 00 55.1	-1.5
SUW				*e*SKS		16 11 09.0	
SUW				*e*S	S	16 11 42.3	-5.2
SNX	Sinaia	93.97	316	⇑*i*P	P	16 00 56.6	-0.3
WRAK	Wrangell Islan	93.97	33	*e*P	P	16 00 58.7	+1.8
	comp=Z,57nm,0.8s,mb5.7						
LVV	L'vov	94.19	320	*e*P	P	16 00 56.6	-1.3
LVV				*e*		16 04 50.2	
EZN	Ezine	94.22	310	*e*P	P	16 00 55.9	-2.2
ALN	Alexandroupoli	94.27	311	*e*P	P	16 00 56.6	-1.7
VOIR		94.28	316	⇑*i*P	P	16 00 57.1	-1.2
MTUR	Matau	94.30	316	⇑*i*P	P	16 00 58.2	-0.3
DLBC	Dease Lake	94.71	31	*e*P	P	16 01 01.5	+1.2
DLBC				*e*pP	pP	16 01 54.3	+1.1
MOR8	Moi Rana	94.77	338	*e*P	P	16 00 57.9	-2.7
KWP	Kalwaria	95.06	320	*e*P	P	16 01 01.3	-0.6
APE	Apeiranthos	95.24	308	⇓*i*P	P	16 01 00.0	-2.7
SANT	Santorini	95.40	307	*e*P	P	16 01 00.1	-3.4
SANT	Santorini	95.40	307	*e*P	P	16 01 00.9	-2.6
	comp=Z,4μm,0.3s						
TAOE	Nuku Hiva Isla	95.46	98	*e*SKSac	SKSac	16 11 21.4	+2.5
	comp=Z,19μm,17.0s						
TAOE				*e*SS	SS	16 18 40.5	+6.4
	comp=Z,6μm,24.3s						
TAOE				*e*LQ		16 27 47.6	
	comp=Z,26μm,39.8s						
TAOE				*e*LR	LR	16 32 18.7	
	comp=Z,11μm,19.5s						
KOLS	Kolonicke sedl	95.48	320	*e*P	P	16 01 03.4	-0.5
UZH	Uzhgorod	95.53	319	*c i*P	P	16 01 03.0	-1.1
UZH				*e*		16 11 12.0	
UZH				*i* S	S	16 11 58.0	-3.7
UZH				*e*		16 13 18.0	
DRGR		95.63	318	P	P	16 01 03.9	-0.6
DRGR		95.63	318	⇑*i*P	P	16 01 03.6	-0.9
GZR	Gura Zlata	95.86	316	P	P	16 01 05.1	-0.5
GZR	Gura Zlata	95.86	316	⇓*i*P	P	16 01 04.3	-1.3
CRVS	Cervenica-Dubn	96.02	320	*e*P	P	16 01 05.8	-0.5
STHS	Stebnicka Huta	96.04	320	*i* P	P	16 01 06.0	-0.4
STHS				pmax	pmax		
	comp=Z,65nm,0.8s,mb5.9						
STHS	Stebnicka Huta	96.04	320	*i* P	P	16 01 06.0	-0.4
	comp=Z,65nm,0.8s,mb5.9						
VTS	Vitosha	96.09	313	P	P	16 01 05.5	-1.1
VTS	Vitosha	96.09	313	⇑*i*P	P	16 01 04.7	-1.9
NSS	Namsos	96.33	336	*e*P	P	16 01 04.5	-3.2
BZS	Buzias	96.61	317	P	P	16 01 07.7	-1.3
BZS	Buzias	96.61	317	⇓*i*P	P	16 01 07.6	-1.4
NIE	Niedzica	96.63	320	*e*P	P	16 01 08.6	-0.5
KECS	Kecovo	96.74	320	*i* P	P	16 01 08.4	-1.1
KECS				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.8						
KECS	Kecovo	96.74	320	*i* P	P	16 01 08.4	-1.1
	comp=Z,54nm,0.8s,mb5.8						
KECS				*e*PP	PP	16 05 05.8	-1.4
OJC	Ojcow	96.77	321	*e*P	P	16 01 08.6	-1.1
OJC				*e*PP	PP	16 04 49.7	-18
VAY	Valandovo	96.79	312	*i* P	P	16 01 06.8	-3.0
VAY	Valandovo	96.79	312	*i* P	P	16 01 06.8	-3.0
DAG	Danmarks Havn	97.04	352	⇑*i*P	P	16 01 08.9	-2.0
	comp=Z,353nm,1.2s,mb6.5						
DAG	Danmarks Havn	97.04	352	⇑*i*P	P	16 01 08.9	-2.0
DAG				pmax	pmax		
	comp=Z,350nm,1.2s,mb6.5						
BARS	Barje	97.04	314	⇓*i*P	P	16 01 11.2	+0.3
SVIS	Svilajnac	97.17	315	⇓*i*P	P	16 01 10.0	-1.5
PSZ	Piszkesteto	97.25	319	*e*P	P	16 01 10.7	-1.1
	comp=Z,61nm,0.9s,mb5.8						
PSZ	Piszkesteto	97.25	319	⇓*i*P	P	16 01 11.6	-0.3
PSZ	Piszkesteto	97.25	319	⇓*e*PcP	PcP	16 01 10.8	-1.1
LSZ	Lusaka	97.42	255	P	P	16 01 12.2	-0.4
	SNR=26						
LSZ	Lusaka	97.42	255	P	P	16 01 12.1	-0.5
LSZ				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.6						
LSZ	Lusaka	97.42	255	*e*P	P	16 01 12.0	-0.6
	comp=Z,32nm,0.9s,mb5.6						
LIKS	Likavka	97.49	320	*e*P	P	16 01 12.9	0.0
LIKS				pmax	pmax		
	comp=Z,73nm,0.9s,mb5.9						
LIKS	Likavka	97.49	320	*e*P	P	16 01 12.9	0.0
	comp=Z,73nm,0.9s,mb5.9						
SKO	Skopje	97.49	313	*i* P	P	16 01 11.3	-1.6
SKO	Skopje	97.49	313	*i* P	P	16 01 11.3	-1.6
GKP	Gorka Klasztor	97.50	325	*e*P	P	16 01 13.3	+0.3
GKP				*e*SKS		16 11 26.7	
GRUS	Gruza	97.61	315	⇓*i*P	P	16 01 11.6	-1.8
KRUS	Krusevo	97.76	312	*i* P	P	16 01 11.8	-2.4
KRUS	Krusevo	97.76	312	*i* P	P	16 01 11.8	-2.4
VYHS	Vyhne	97.80	320	*i* P	P	16 01 13.1	-1.2
VYHS				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.4						
VYHS	Vyhne	97.80	320	*i* P	P	16 01 13.1	-1.2
	comp=Z,26nm,1.3s,mb5.4						
VYHS				*e*PP	PP	16 05 14.8	-0.5
OKC	Ostrava-Krasne	97.89	321	*e*P	P	16 01 14.2	-0.5
OKC				*e*PP	PP	16 05 14.8	-1.2
OKC				*e*SKS		16 11 27.4	
BUD	Budapest	97.93	319	⇓*e*PcP	PcP	16 01 14.3	-0.6
NB2	NORSAR Subarra	97.99	333	Pdif	P	16 01 12.5	-2.7
	comp=Z,32nm,0.8s,mb5.7,baz=67,slow=4.4						
NOA	NORSAR Array B	97.99	333	P	P	16 01 12.7	-2.5
	comp=Z,19nm,0.6s,mb5.6,baz=70,slow=4.5,SNR=45						
NOA				pP	pP	16 02 11.8	+3.7
	comp=Z,9.9nm,0.7s,baz=66,slow=4.5,SNR=3.0						
NOA				PP	PP	16 05 17.3	+0.5
	comp=Z,11nm,1.0s,baz=75,slow=7.7,SNR=3.3						
NOA	NORSAR Array B	97.99	333	P	P	16 01 12.7	-2.5
NOA						16 05 17.3	
NOA				pmax	pmax		
	comp=Z,19nm,0.6s						
NOA	NORSAR Array B	97.99	333	P	P	16 01 12.7	-2.5
NOA				pP	pP	16 02 11.8	+3.6
NOA				PP	PP	16 05 17.3	+0.5
DIVS	Divcibare	98.07	315	⇓*i*P	P	16 01 14.1	-1.4
OHR	Ohrid	98.14	312	*i* P	P	16 01 11.2	-4.7
OHR	Ohrid	98.14	312	*i* P	P	16 01 11.2	-4.7
RES	Resolute Bay	98.17	10	*e*P	P	16 01 15.3	-0.6
RES				*e*PP	pP	16 02 09.1	+0.2
RES				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.2						
RES	Resolute Bay	98.17	10	*e*P	P	16 01 15.3	-0.6
	comp=Z,6.7nm,0.5s,mb5.2						
RES				*e*pP	pP	16 02 09.1	+0.2
BSD	Bornholm Skovb	98.25	327	*i* P	P	16 01 15.0	-1.3
	comp=Z,51nm,0.9s,mb5.8						
BSD				*e*S	SKSac	16 11 37.8	+4.6
BSD	Bornholm Skovb	98.25	327	*e*P	P	16 01 15.0	-1.3
BSD				*e*S	SKSac	16 11 37.8	+4.6
BSD				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.8						
MORC	Moravsky Berou	98.29	321	*e*P	P	16 01 15.9	-0.6
	comp=Z,88nm,1.2s,mb6.0						
MORC	Moravsky Berou	98.29	321	⇓*i*P	P	16 01 17.0	+0.5
PKSM	Moragy	98.50	318	P	P	16 01 16.5	-0.9
PKSM	Moragy	98.50	318	⇓*i*P	P	16 01 16.0	-1.4
OSL	Oslo	98.65	332	*e*	P	16 01 10.3	-7.8
KSP	Ksiaz	98.76	323	*e*P	P	16 01 18.2	-0.4
KSP				*e*SKS		16 11 33.2	
KSP	Ksiaz	98.76	323	⇓*e*P	P	16 01 17.9	-0.7
KSP				*e*SKS		16 11 32.7	
KSP				*e*S	S	16 12 27.5	-1.7
KSP				*e*SP	SP	16 13 53.0	-3.0
KSP				*e*SS	SS	16 19 19.0	-1.4
DPC	Dobruska-Polom	98.88	322	*e*P	P	16 01 18.6	-0.5
DPC				*e*PP	PP	16 05 25.8	+2.2
DPC				*e*SKS		16 11 32.5	
DPC				*e*S	S	16 12 27.5	-2.7
ZST	Bratislava	99.00	320	*e*P	Pdif	16 01 20.6	+1.0
ZST				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.7						
ZST	Bratislava	99.00	320	PDIF	Pdif	16 01 20.6	+1.0
ZST				*e*PP	PP	16 05 22.8	-1.6
ZST	Bratislava	99.00	320	*e*P	Pdif	16 01 20.6	+1.0
	comp=Z,25nm,0.7s						
ZST				*e*PP	PP	16 05 22.8	-1.6
VRAC	Vranov	99.01	321	P	Pdif	16 01 19.7	0.0
VRAC	Vranov	99.01	321	⇓*i*P	Pdif	16 01 19.2	-0.5
UPC	Upice	99.03	322	*e*P	Pdif	16 01 18.7	-1.1
UPC				*e*PP	PP	16 05 28.0	+3.3
KONO	Kongsberg	99.28	332	*e*P	Pdif	16 01 21.1	+0.2
KONO	Kongsberg	99.28	332	P	Pdif	16 01 20.7	-0.2
KONO				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.6						
KONO	Kongsberg	99.28	332	*e*Pdif	Pdif	16 01 18.8	-2.1
	comp=Z,21nm,0.6s						
RGN	Rugen	99.30	327	*e*SKSac	SKSac	16 11 38.2	-0.3
SOP	Sopron	99.49	319	⇓*e*PcP		16 01 20.8	
RUE	Ruedersdorf	99.74	325	*e*Pdiff	Pdif	16 01 21.9	-1.0
RUE				*e*PP	PP	16 05 32.0	+1.9
RUE				*e*SKSac	SKSac	16 11 39.2	-1.4
RUE	Ruedersdorf	99.74	325	*e*Pdif	Pdif	16 01 22.6	-0.3
	comp=Z,194nm,0.8s						
CONA	Conrad Observa	99.87	320	⇓*i*Pdiff	Pdif	16 01 20.9	-2.6
	comp=Z,13nm,0.8s,SNR=8.8						
PVCC	Panska Ves	99.90	323	*e*PDIF	Pdif	16 01 23.0	-0.7
PVCC				*e*PP	PP	16 05 35.3	+4.0
PVCC				*e*SKS		16 11 36.3	
LBTB	Lobatse	99.97	245	P	Pdif	16 01 24.0	0.0
LBTB				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.6						
LBTB	Lobatse	99.97	245	*e*Pdif	Pdif	16 01 23.6	-0.3
	comp=Z,36nm,1.3s						
PRU	Pruhonice	100.08	322	*e*PDIF	Pdif	16 01 24.2	-0.3
PRU				*e*PP	PP	16 05 35.8	+3.2
PRU				*e*SKS		16 11 40.4	
PRU				*e*x	x	16 12 22.3	
PRU	Pruhonice	100.08	322	*e*P	Pdif	16 01 24.2	-0.3
PRU				*e*		16 05 35.8	
PRU				*e*		16 11 40.4	
PRA	Prague	100.12	322	PP	PP	16 05 40.0	+7.0
BRG	Berggiesshubel	100.17	323	*e*Pdiff	Pdif	16 01 23.6	-1.2
BRG				*e*PP	PP	16 05 36.7	+3.4
BRG				*e*SKSac	SKSac	16 11 42.6	-0.1
BRG	Berggiesshubel	100.17	323	⇓*i*P	Pdif	16 01 24.3	-0.5
	comp=Z,65nm,0.9s						
BRG				*i* sP		16 02 34.9	
	comp=Z,22nm,1.4s						
BRG				PP	PP	16 05 33.0	-0.3
BRG				*e*SKS		16 11 41.2	
	comp=Z,5.3nm,1.4s						
BRG				S	Sdif	16 12 39.0	-1.9
BRG				PS	sS	16 14 13.0	-1.6
BRG							
	comp=N,1μm,20.6s						
BRG							
	comp=E,2μm,24.1s						
BRG							
	comp=Z,1μm,17.4s						
BRG	Berggiesshubel	100.17	323	⇓*i*P	Pdif	16 01 24.3	-0.5
	comp=Z,65nm,0.9s						
BRG				*i* sP		16 02 34.9	
BRG				PP	PP	16 05 33.0	-0.3
BRG				*e*SKS		16 11 41.2	
BRG				S	Sdif	16 12 39.0	-1.9
BRG				PS	sS	16 14 13.0	-1.6
BRG				LR	LR		
	comp=Z,1μm,17.4s						
BOSA	Boshof	100.22	242	P	Pdif	16 01 24.6	-0.5
	comp=Z,3.6nm,0.6s,baz=81,slow=9.8,SNR=6.1						
BOSA				PKKPbc	PKKPbc	16 17 44.9	+3.6
	comp=Z,5.7nm,1.2s,baz=276,slow=4.7,SNR=5.1						
YKA	Yellowknife Ar	100.28	24	P	Pdif	16 01 25.2	-0.2
	comp=Z,7.5nm,0.9s,baz=299,slow=4.4,SNR=32						
YKA				pP	pP	16 02 19.2	+0.9
	comp=Z,18nm,1.0s,baz=300,slow=4.5,SNR=5.7						
YKA				PKiKP	PKiKP	16 05 52.1	+0.8
	comp=Z,2.8nm,0.6s,baz=310,slow=1.6,SNR=11						
YKA				SKiKP		16 09 08.4	
	comp=Z,1.4nm,0.6s,baz=304,slow=1.9,SNR=4.0						
YKA				PKKPbc	PKKPbc	16 17 39.7	-1.4
	comp=Z,6.9nm,0.8s,baz=109,slow=2.9,SNR=28						
YKA				PKPPKP		16 26 01.3	
	comp=Z,4.1nm,1.4s,baz=122,slow=2.3,SNR=3.8						
YKA	Yellowknife Ar	100.28	24	P	Pdif	16 01 25.2	-0.2
YKA				pP	pP	16 02 19.2	+0.9
ARSA	Arzberg	100.29	319	*i* P	Pdif	16 01 24.4	-1.0
	comp=Z,25nm,0.8s,SNR=9.7						
FBE	Freiberg	100.50	323	*e*Pdiff	Pdif	16 01 25.2	-1.1
FBE				*e*PP	PP	16 05 39.5	+3.7
ODD1	Odda	100.53	333	*e*P	Pdif	16 01 26.0	-0.5
CLL	Collm	100.58	324	⇓*i*Pdiff	Pdif	16 01 25.8	-0.9
	comp=Z,51nm,1.0s						
CLL				*e*pPdiff		16 02 18.1	
CLL				*e*PP	PP	16 05 39.1	+2.7
CLL				*e*SKSac	SKSac	16 11 41.9	-2.8
CLL				*e*Sdiff	Sdif	16 12 42.3	-2.1
CLL				*e*PS	PS	16 14 47.1	+4.8
CLL				*e*PPS		16 15 28.4	
CLL				*e*sSS		16 21 15.5	
CLL				*e*L		16 49 29.3	
	comp=Z,2μm,22.0s						
CLL	Collm	100.58	324	*i* P	Pdif	16 01 25.6	-1.1
CLL				*i*		16 05 39.1	
CLL				*e*		16 11 43.0	
CLL				*e*S	Sdif	16 12 38.0	-6.4
CLL				pmax	pmax		
	comp=Z,21nm,1.0s						
CLL				pmax	pmax		
	comp=Z,50nm,1.4s						
CLL	Collm	100.58	324	*i* Pdif	Pdif	16 01 25.6	-1.1
	comp=Z,50nm,1.0s						
CLL				*i* PP	PP	16 05 39.1	+2.7
CLL				*e*SKS		16 11 43.0	
CLL				*e*Sdif	Sdif	16 12 38.0	-6.4
CLL	Collm	100.58	324	*i* Pdif	Pdif	16 01 25.6	-1.1
	comp=Z,50nm,1.0s						
CLL				*i* x	x	16 01 37.5	
CLL				*i* x	x	16 03 07.2	
CLL				*i* x	x	16 04 57.2	
CLL				*i* PP	PP	16 05 39.1	+2.7
	comp=Z,125nm,1.4s						
CLL				*i* x	x	16 05 59.6	
CLL				*e*x	x	16 06 53.0	
CLL				*e*SKSac	SKSac	16 11 43.0	-1.7
CLL				*e*Sdif	Sdif	16 12 38.0	-6.4
CLL				*i* SP	SP	16 14 09.4	-6.1
CLL				*e*PS	PS	16 14 48.0	+5.7
CLL				*e*PPS		16 15 28.0	
CLL				*e*sSS		16 21 14.0	
PERS	Pernice	100.73	319	*i* Pdiff	Pdif	16 01 26.0	-1.4
PERS				*e*PP	PP	16 05 40.0	+2.4
RKT	Rikitea	100.76	113	*e*SKSac	SKSac	16 11 48.1	+2.5
	comp=Z,4μm,27.8s						
RKT				*e*SS	SS	16 19 50.8	+2.5
	comp=Z,2μm,31.2s						
RKT				*e*LQ		16 29 52.8	
	comp=Z,7μm,50.0s						
RKT				*e*LR	LR	16 34 54.7	
	comp=Z,12μm,79.8s						
MUD	Monsted U'grnd	100.78	329	*i* P	Pdif	16 01 27.3	-0.3
	comp=Z,81nm,1.2s						
MUD	Monsted U'grnd	100.78	329	*i* P	Pdif	16 01 27.3	-0.3
MUD				pmax	pmax		
	comp=Z,81nm,1.2s						
BLS5	Blasjo	100.83	333	*e*P	Pdif	16 01 28.5	+0.7
BLS5				AMb	AMB	16 01 30.1	
	comp=Z,76nm,1.3s						
BLS5	Blasjo	100.83	333	*e*P	Pdif	16 01 29.6	+1.8
BER	Bergen	100.89	334	*e*P	Pdif	16 01 27.2	-0.9
BER				AMb	AMB	16 01 28.8	
	comp=Z,204nm,1.4s						
BER	Bergen	100.89	334	*e*P	Pdif	16 01 27.2	-0.9
	comp=Z,204nm,1.4s						
MOA	Molln	100.92	320	*i* P	Pdif	16 01 27.5	-0.7
	comp=Z,63nm,0.8s,SNR=23						
KHC	Kasperske Hory	100.95	321	*e*PDIF	Pdif	16 01 27.8	-0.5
KHC				x	x	16 01 39.5	
KHC				*e*PP	PP	16 05 34.0	-5.2
KHC				*e*SKS		16 11 44.8	
KHC				*e*SDIF	Sdif	16 12 45.6	-1.9
KHC	Kasperske Hory	100.95	321	*e*Pdif	Pdif	16 01 27.8	-0.5
KHC				*e*		16 01 39.5	
KHC				*e*PP	PP	16 05 34.0	-5.2
KHC				*e*SKS		16 11 44.8	
KHC				*e*Sdif	Sdif	16 12 45.6	-1.9
NVL	N'lazarevskaya	100.95	198	*d i*P	Pdif	16 01 28.1	-0.2
NVL				*i* S	SKSac	16 11 41.0	-5.5
NVL				*i* *SS		16 12 42.5	
NVL				*i*		16 14 19.5	
NVL				pmax	pmax		
	comp=Z,37nm,1.5s						
GEC2	GERESS Array S	100.96	321	*e*Pdiff	Pdif	16 01 27.2	-1.2
GEC2				*e*PP	PP	16 05 42.6	+3.3
GEC2				*e*SKSac	SKSac	16 11 45.4	-1.2
GEC2	GERESS Array S	100.96	321	*e*P	Pdif	16 01 27.2	-1.2
GEC2				*e*		16 05 42.6	
GERES	GERESS Array B	100.96	321	P	Pdif	16 01 27.5	-0.9
	comp=Z,37nm,1.0s,baz=75,slow=5.7,SNR=93						
GERES				PP	PP	16 05 43.1	+3.9
	comp=Z,24nm,1.0s,baz=79,slow=6.9,SNR=11						
GERES				SKiKP		16 09 08.5	
	comp=Z,1.5nm,0.6s,baz=92,slow=2.3,SNR=4.6						
GERES				PKKPbc	PKKPbc	16 17 38.5	-0.6
	comp=Z,2.0nm,1.0s,baz=225,slow=2.7,SNR=4.6						
GERES	GERESS Array B	100.96	321	P	Pdif	16 01 27.5	-0.9
GERES				PP	PP	16 05 43.1	+3.9
GERES				PKKPbc	PKKPbc	16 17 38.5	-0.6
BOJS	Bojanci	100.97	318	*e*Pdiff	Pdif	16 01 27.7	-0.7
BOJS				*e*		16 02 41.8	
BOJS				*e*PP	PP	16 05 42.1	+2.7
BOJS				*e*SKSac	SKSac	16 11 44.2	-2.5
OBKA	Obir	101.14	319	*i* P	Pdif	16 01 28.7	-0.5
	comp=Z,29nm,1.0s,SNR=6.1						
BSEG	Bad Segeberg	101.17	327	*e*Pdiff	Pdif	16 01 28.4	-0.9
BSEG				*e*SKSac	SKSac	16 11 46.7	-0.9
TANN	Tannenbergstha	101.21	323	*e*Pdiff	Pdif	16 01 28.3	-1.2
TANN				*e*PP	PP	16 05 44.6	+3.5
TANN				*e*SKSac	SKSac	16 11 50.1	+2.3
NKC	Novy Kostel	101.28	323	*e*PDIF	Pdif	16 01 29.3	-0.5
NKC				*e*PP	PP	16 05 42.4	+0.8
NKC				*e*SDIF	Sdif	16 12 48.3	-1.9
WERD	Werda	101.29	323	*e*Pdiff	Pdif	16 01 28.6	-1.2
WERD				*e*PP	PP	16 05 45.2	+3.5
LJU	Ljubljana	101.30	318	*e*Pdiff	Pdif	16 01 28.9	-0.9
LJU				*e*		16 02 33.0	
LJU				*e*PP	PP	16 05 43.9	+2.1
LJU				*e*SKSac	SKSac	16 11 44.1	-4.1
WERN	Wernitzgruen	101.30	323	*e*Pdiff	Pdif	16 01 28.8	-1.1
WERN				*e*PP	PP	16 05 45.6	+3.8
GUNZ	Gunzen	101.30	323	*e*Pdiff	Pdif	16 01 28.9	-1.0
GUNZ				*e*PP	PP	16 05 45.5	+3.7
WET	Wettzell	101.38	322	*e*Pdiff	Pdif	16 01 29.2	-1.0
WET				*e*SKSac	SKSac	16 11 49.2	+0.6
MANZ	Manzenberg	101.57	323	*e*Pdiff	Pdif	16 01 30.3	-0.8
MANZ				*e*PP	PP	16 05 47.8	+4.0
MANZ				*e*SKSac	SKSac	16 11 51.4	+1.9
ROTZ	Rotzenmuhle	101.58	322	*e*Pdiff	Pdif	16 01 30.4	-0.7
ROTZ				*e*PP	PP	16 05 47.7	+3.8
ROTZ				*e*SKSac	SKSac	16 11 51.7	+2.2
TIP	Timpagrande	101.60	311	*e*Pdif	Pdif	16 01 30.2	-1.0
TIP				*e*		16 05 47.2	
MOX	Moxa	101.63	323	*e*Pdiff	Pdif	16 01 30.2	-1.2
MOX				*e*PP	PP	16 05 47.9	+3.6
MOX				*e*SKSac	SKSac	16 11 50.7	+0.9
MOX	Moxa	101.63	323	*e*P	Pdif	16 01 31.0	-0.4
	com

SQTA Sankt Quirin 103.08 320⇑ *i*P Pdif 16 01 37.2 -0.6
SQTA pmax pmax
comp=Z,29nm,1.0s
MOTA Moosalm 103.11 320⇓ *i*P Pdif 16 01 36.7 -1.2
comp=Z,33nm,1.0s,SNR=10
MOTA Moosalm 103.11 320⇓ *i*P Pdif 16 01 36.7 -1.2
MOTA pmax pmax
comp=Z,33nm,1.0s
FSSB Fossombrone 103.20 316 P Pdif 16 01 38.7 +0.4
comp=Z,30nm,1.0s
SNTG Esanatoglia 103.23 316 P Pdif 16 01 38.5 +0.1
IBBN Ibbenburen 103.23 326 *e*Pdif Pdif 16 01 37.7 -0.8
NRCA Norcia 103.23 315 P Pdif 16 01 38.3 -0.2
FETA Feichten 103.46 320⇓ *i*Pdif Pdif 16 01 38.5 -1.0
comp=Z,35nm,1.0s
TNS Taunus Mts 103.67 324 *e*Pdif Pdif 16 01 39.6 -0.8
TNS *e*SKSac SKSac 16 12 00.7 +1.4
SFI Santa Sofia 103.77 317 P Pdif 16 01 41.7 +0.8
SFI pmax pmax
comp=Z,28nm,1.0s
SFI Santa Sofia 103.77 317 P Pdif 16 01 41.7 +0.8
comp=Z,28nm,1.0s
STU Stuttgart 103.78 322 *e*Pdif Pdif 16 01 39.7 -1.2
STU *e*SKSac SKSac 16 11 57.6 -2.2
CRE Caprese Michel 103.80 316 P Pdif 16 01 41.8 +0.8
CRE pmax pmax
comp=Z,13nm,0.7s
CRE Caprese Michel 103.80 316 P Pdif 16 01 41.8 +0.8
comp=Z,13nm,0.7s
BUG Bochum--Univer 103.86 325 *e*Pdif Pdif 16 01 40.4 -0.9
BUG *e*PP PP 16 06 03.4 +2.5
BUG *e*SKSac SKSac 16 11 58.2 -2.0
BRMO Bormio 103.88 320 P Pdif 16 01 41.5 +0.1
DAVA Damuels 103.91 321⇑ *i*P Pdif 16 01 41.0 -0.4
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 104.01 46 PKKPab PKKPab 16 17 50.6 +0.2
comp=Z,4.3nm,0.9s,baz=1.3,slow=4.7,SNR=4.4
GSCL Gusciola 104.48 318 P Pdif 16 01 44.5 +0.5
BFO Black Forest 104.48 322 *e*Pdif Pdif 16 01 43.2 -0.8
BFO *e*PP PP 16 06 08.6 +3.1
BFO *e*SKSac SKSac 16 12 00.4 -2.6
BFO Black Forest 104.48 322 *e*P Pdif 16 01 43.2 -0.8
BFO *e* 16 06 08.6
BFO Black Forest 104.48 322 P Pdif 16 01 44.1 +0.1
BFO pmax pmax
comp=Z,4.0nm,0.8s
SNAA Sanae 104.71 195 PKKPbc PKKPbc 16 17 28.2 0.0
comp=Z,2.9nm,1.0s,baz=325,slow=2.5,SNR=15
SNAA PKKPab PKKPab 16 17 46.5 -0.8
comp=Z,4.7nm,0.9s,baz=321,slow=5.7,SNR=9.0
SNAA Sanae 104.71 195 *e*Pdif Pdif 16 01 45.3 +0.2
SNAA *e* 16 01 49.3
SNAA *e* 16 01 53.7
SNAA *e* 16 01 59.9
SNAA *e* 16 02 41.6
SNAA *e* 16 05 59.2
SNAA *e* 16 06 06.3
SNAA Sanae 104.71 195 *e* PKKPbc 16 17 27.6 -0.6
SNAA *e* 16 17 46.2
SNAA *e* 16 18 38.5
SNAA *e* 16 20 46.7
SNAA Sanae 104.71 195 *e*P Pdif 16 01 45.4 +0.3
SNAA pmax pmax
comp=Z,26nm,1.3s
SNAA Sanae 104.71 195 *e*Pdif Pdif 16 01 45.4 +0.3
comp=Z,26nm,1.3s
SNAA *e*PKiKP PKiKP 16 05 58.3 -1.1
CDF Champ du Feu 105.09 322 *e*P Pdif 16 01 46.6 -0.2
comp=Z,34nm,0.9s
CDF Champ du Feu 105.09 322 *e*P Pdif 16 01 46.6 -0.2
CDF pmax pmax
comp=Z,17nm,0.9s
CDF Champ du Feu 105.09 322 *e*P Pdif 16 01 46.6 -0.2
comp=Z,17nm,0.9s
WLF Walferdange 105.25 324 *e*Pdif Pdif 16 01 47.0 -0.5
WLF *e*PP PP 16 06 15.5 +4.3
WLF *e*SKSac SKSac 16 12 09.8 +3.3
HINF Hinteralfeld 105.59 322 *e*P Pdif 16 01 49.2 +0.2
HAU Haudompre 105.83 322 *e*P Pdif 16 01 50.1 +0.1
HAU *e*MLR
comp=Z,3μm,18.8s
HAU Haudompre 105.83 322 *e*P Pdif 16 01 50.1 +0.1
HAU LR LR
comp=Z,3μm,18.8s
GIVF Givet 105.84 325 *e*P Pdif 16 01 50.2 +0.1
PGF Pioggiola 106.19 316 *e*P Pdif 16 01 51.5 -0.1
comp=Z,41nm,1.1s
PGF Pioggiola 106.19 316 *e*P Pdif 16 01 51.5 -0.1
PGF pmax pmax
comp=Z,21nm,1.1s
PGF Pioggiola 106.19 316 *e*P Pdif 16 01 51.5 -0.1
comp=Z,20nm,1.1s
VNA2 Neumayer--Watz 106.33 195 *e*Pdif Pdif 16 01 53.5 +1.2
VNA2 *e* 16 01 57.3
VNA2 *e* 16 02 05.2
VNA2 *e* 16 02 12.4
VNA2 *e* 16 02 16.8
VNA2 *e* 16 02 50.5
VNA2 *e* 16 03 16.7
VNA2 *e* 16 04 05.6
VNA2 *e* 16 06 03.9
VNA2 *e* 16 06 08.7
VNA2 *e* 16 06 18.3
VNA2 *e* 16 07 02.1
LPG La Plagne 106.59 320 *e*P Pdif 16 01 53.7 +0.3
comp=Z,34nm,0.8s
LPG La Plagne 106.59 320 *e*P Pdif 16 01 53.7 +0.3
LPG pmax pmax
comp=Z,17nm,0.8s
LPG La Plagne 106.59 320 *e*P Pdif 16 01 53.7 +0.3
comp=Z,17nm,0.8s
LPL La Plagne 106.59 320 *e*P Pdif 16 01 53.6 +0.2
comp=Z,18nm,0.7s
LPL La Plagne 106.59 320 *e*P Pdif 16 01 53.6 +0.2
LPL pmax pmax
comp=Z,9.0nm,0.7s
LPL La Plagne 106.59 320 *e*P Pdif 16 01 53.6 +0.2
comp=Z,9.1nm,0.7s
SAOF Saorge 106.64 318 PKP PKiKP 16 06 02.7 -0.3
VNA3 Neumayer Olymp 106.69 194 *e*Pdif Pdif 16 01 55.0 +1.2
VNA3 *e* 16 01 58.6
VNA3 *e* 16 02 05.3
VNA3 *e* 16 02 12.7
VNA3 *e* 16 06 04.6
VNA3 *e* 16 06 20.8
VNA3 *e* 16 07 04.5
AUTN L'Aution 106.73 318 PKP PKiKP 16 05 56.9 -6.3
VNA1 Neumayer--Stat 106.73 195 *e*Pdif Pdif 16 01 56.1 +2.1
VNA1 *e* 16 02 00.5
VNA1 *e* 16 02 05.7
VNA1 *e* 16 02 52.3
VNA1 *e* 16 03 23.2
VNA1 *e* 16 06 21.8
VNA1 *e* 16 07 03.2
SBF Sospel 106.77 318 *e*P Pdif 16 01 54.4 +0.2
comp=Z,21nm,0.7s
SBF Sospel 106.77 318 *e*P Pdif 16 01 54.4 +0.2
SBF pmax pmax
comp=Z,11nm,0.7s
SBF Sospel 106.77 318 *e*P Pdif 16 01 54.4 +0.2
comp=Z,11nm,0.7s
BNI Bardonecchia 106.81 319 P Pdif 16 01 53.3 -1.1
BNI pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 106.81 319 *e*Pdif Pdif 16 01 53.0 -1.4
comp=Z,8.6nm,0.8s
BNI *e*PKiKP PKiKP 16 06 02.1 -1.2
TOUF Mont Tournerai 106.84 318 PKP PKiKP 16 05 59.2 -4.2
REVF Revere 106.86 318 PKP PKiKP 16 06 03.7 +0.3
MBDF Montbardon 106.88 319 *e*P Pdif 16 01 54.9 +0.2
MVIF Mont Vial 106.95 318 PKP PKiKP 16 05 57.9 -5.7
ORIF Oris-en-Rattie 107.38 319 *e*P Pdif 16 01 56.8 -0.1
comp=Z,22nm,0.8s
ORIF *e*MLR
comp=Z,3μm,22.0s
ORIF Oris-en-Rattie 107.38 319 *e*P Pdif 16 01 56.8 -0.1
ORIF pmax pmax
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 107.38 319 *e*P Pdif 16 01 56.8 -0.1
comp=Z,11nm,0.8s
FRF La Foret Royal 107.42 318 *e*P Pdif 16 01 57.4 +0.3
comp=Z,32nm,1.1s
FRF La Foret Royal 107.42 318 *e*P Pdif 16 01 57.4 +0.3
FRF pmax pmax
comp=Z,16nm,1.1s
FRF La Foret Royal 107.42 318 *e*P Pdif 16 01 57.4 +0.3
comp=Z,16nm,1.1s
LMR La Mourre 107.60 318 *e*P Pdif 16 01 58.3 +0.4
comp=Z,28nm,1.0s
LMR La Mourre 107.60 318 *e*P Pdif 16 01 58.3 +0.4
LMR pmax pmax
comp=Z,14nm,1.0s
LMR La Mourre 107.60 318 *e*P Pdif 16 01 58.3 +0.4
comp=Z,14nm,1.0s
STOF St-Étienne Org 107.73 318 *e*P PKiKP 16 06 05.7 +0.7
TAVF Tavernes 107.79 318 *e*P PKiKP 16 06 04.2 -0.9
SMF Signal de Mont 107.95 322 *e*P Pdif 16 02 00.3 +0.8
comp=Z,22nm,0.9s
SMF Signal de Mont 107.95 322 *e*P Pdif 16 02 00.3 +0.8
SMF pmax pmax
comp=Z,11nm,0.9s
SMF Signal de Mont 107.95 322 *e*P Pdif 16 02 00.3 +0.8
comp=Z,11nm,0.9s
SMRF Simiane la Rot 107.97 319 *e*P Pdif 16 02 00.3 +0.8
comp=Z,20nm,1.1s
SMRF Simiane la Rot 107.97 319 *e*P Pdif 16 02 00.3 +0.8
comp=Z,20nm,1.1s
VIVF Saint-Julien-l 108.19 320 *e*P Pdif 16 02 01.2 +0.7
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 108.19 320 *e*P Pdif 16 02 01.2 +0.7
VIVF pmax pmax
comp=Z,11nm,1.0s
VIVF Saint-Julien-l 108.19 320 *e*P Pdif 16 02 01.2 +0.7
comp=Z,11nm,1.0s
KEST Kesra 108.23 309 Pdif Pdif 16 02 03.9 +3.2
comp=Z,1.8nm,0.9s,baz=64,slow=2.7,SNR=4.8
NVAR Mina Array Bea 108.29 48 Pdif Pdif 16 02 02.8 +1.9
comp=Z,3.1nm,0.8s,baz=280,slow=5.2,SNR=12
NVAR SKiKP 16 09 21.0
comp=Z,2.8nm,0.6s,baz=252,slow=1.7,SNR=8.3
NVAR PKKPbc PKKPbc 16 17 19.1 +1.9
comp=Z,3.1nm,0.6s,baz=116,slow=4.1,SNR=15
NVAR PKKPab PKKPab 16 17 32.5 +1.2
comp=Z,4.6nm,0.6s,baz=110,slow=5.2,SNR=12
PRAF Pradon 108.30 319 *e*P PKiKP 16 06 04.6 -1.5
AGO Saint Agoulin 108.65 321 *e*P PKiKP 16 06 07.2 +0.4
LBL Lubilhac 108.94 321 *e*P PKiKP 16 06 07.9 +0.6
TCF Toulx Ste Croi 109.12 322 *e*P Pdif 16 02 05.6 +1.0
SFJD Kangerlussuaq 109.40 358 *i*P PKiKP 16 06 07.9 -0.3
comp=Z,17nm,0.9s
SFJD *i* 16 06 40.2
CMAH Djebel Manchou 109.41 311 P PKiKP 16 06 09.0 +0.8
ABSA Djebel Ababsia 109.48 310 P PKiKP 16 06 10.0 +1.7
CAEH 'Ain El Ouahch 109.78 311 P PKiKP 16 06 09.5 +0.6
EGMT Eagleton 109.89 36 *e*PKiKP PKiKP 16 06 09.8 +0.7
CKFL Kef-Lekhel 110.01 311 P PKiKP 16 06 10.0 +0.7
CASM Ain Smara 110.24 311 P PKiKP 16 06 11.0 +1.3
DFRA Djebel Bou Aff 110.60 311 P PKiKP 16 06 12.0 +1.6
YMR Madison River 110.78 39 *e*SKPdf SKPdf 16 09 24.6 -1.0
HVU Hansel Valley 110.90 43 *e*SKPdf SKPdf 16 09 25.6 -0.1
SET Setif 111.08 311 P PKiKP 16 06 13.0 +1.7
PFO Pinyon Flat Ob 111.35 52 SKiKP 16 09 26.8
PFO PKKPab PKKPab 16 17 19.2 +1.4
comp=Z,5.7nm,0.9s,baz=94,slow=7.3,SNR=5.3
PFO Pinyon Flat Ob 111.35 52 *e*SKPdf SKPdf 16 09 27.0 +0.4
REDW Red Top Meadow 111.46 40 *e*PKiKP PKiKP 16 06 13.1 +1.0
REDW *e*SKPdf SKPdf 16 09 26.9 0.0
SNOW Snow King Moun 111.48 40 *e*PKiKP PKiKP 16 06 13.3 +1.2
SNOW *e*SKPdf SKPdf 16 09 27.2 +0.4
LOHW Long Hollow 111.51 40 *e*PKiKP PKiKP 16 06 12.7 +0.5
LOHW *e*SKPdf SKPdf 16 09 26.9 -0.1
DUG Dugway 111.55 44 *e*PKIKP PKiKP 16 06 13.9 +1.7
DUG *e* 16 09 26.1
HWUT Hardware Ranch 111.79 42 *e*SKPdf SKPdf 16 09 27.2 -0.2
JLU Jordanelle 112.31 43 *e*PKKPbc PKKPbc 16 17 05.8 +1.6
JLU *e*PKKPab PKKPab 16 17 14.1 +0.6
PDAR Pinedale Array 112.58 40 Pdif Pdif 16 02 20.7 +0.7
comp=Z,0.4nm,0.9s,baz=258,slow=4.5,SNR=3.0
PDAR PKiKP PKiKP 16 06 15.3 +1.1
comp=Z,2.5nm,0.6s,baz=95,slow=0.9,SNR=12
PDAR PP PP 16 07 01.6 -2.5
comp=Z,6.2nm,0.8s,baz=316,slow=4.1,SNR=5.6
PDAR SKiKP 16 09 28.6
comp=Z,6.6nm,0.7s,baz=158,slow=2.3,SNR=6.0
PDAR PKKPbc PKKPbc 16 17 03.1 -0.2
comp=Z,3.3nm,0.6s,baz=131,slow=5.5,SNR=8.8
PDAR PKKPab PKKPab 16 17 12.1 -0.2
comp=Z,16nm,0.8s,baz=121,slow=6.6,SNR=24
PDAR Pinedale Array 112.58 40 Pdif Pdif 16 02 20.7 +0.7
PDAR PKPdf PKiKP 16 06 15.3 +1.1
PDAR PP PP 16 07 01.6 -2.5
PDAR PKKPbc PKKPbc 16 17 03.1 -0.2
PDAR PKKPab PKKPab 16 17 12.1 -0.2
LAO LASA Array 112.63 35 PKiKP PKiKP 16 06 15.9 +1.6
LAO *e*SKPdf SKPdf 16 09 29.1 0.0
MSU Marysvale 112.70 46 *e*PKIKP PKiKP 16 06 16.5 +2.1
MSU *e* 16 09 29.9
EMHD Djebel Mahouad 112.91 312 P PP 16 07 08.0 +1.5
TMUT Trail Mountain 113.05 44 *e*SKPdf SKPdf 16 09 30.3 +0.4
SRU San Rafael 113.61 44 *e*PKiKP PKiKP 16 06 17.5 +1.4
SRU *e*SKPdf SKPdf 16 09 30.9 -0.1
SRU *e*PKKPbc PKKPbc 16 17 00.7 +0.8
SRU *e*PKKPab PKKPab 16 17 08.2 +0.4
EBNR Beni Rached 113.93 312 P PP 16 07 15.0 +1.3
EANR 'Ain N'Sour 114.39 312 P PP 16 07 19.0 +2.1
ETRT Tiaret 114.47 312 P PP 16 07 18.0 +0.5
WUAZ Wupatki 114.53 48 *e*PKiKP PKiKP 16 06 19.4 +1.4
WUAZ *e*PP PP 16 07 15.3 -2.6
WUAZ *e*SKPdf SKPdf 16 09 33.4 +0.6
WUAZ *e*PKKPbc PKKPbc 16 16 57.8 +1.0
WUAZ *e*PKKPab PKKPab 16 17 05.1 +1.4
RWWY Rawlins 114.63 41 *e*PKiKP PKiKP 16 06 19.0 +0.9
RWWY *e*SKPdf SKPdf 16 09 30.8 -2.1
PV10 Paradox Valley 114.97 44 *e*PKPdf PKiKP 16 06 19.9 +1.2
PV10 *e*PP PP 16 07 16.8 -4.3
PV10 *e*SKPdf SKPdf 16 09 34.1 +0.5
RSSD Black Hills 115.33 37 *e*PKPdf PKPdf 16 06 20.0 +0.5
RSSD *e*PP PP 16 07 16.4 -7.1
RSSD *e*SKPdf SKPdf 16 09 33.2 -1.1
RSSD *e*PKKPab PKKPab 16 17 00.4 +0.2
PV01 Paradox Valley 115.41 45 *e*PKPdf PKPdf 16 06 21.4 +1.7
PV01 *e*SKPdf SKPdf 16 09 34.5 0.0
PV01 *e*PKKPbc PKKPbc 16 16 55.2 +1.4
PV01 *e*PKKPab PKKPab 16 17 00.9 +1.1
ULM Lac du Bonnet 115.86 28 PKP PKPdf 16 06 20.0 -0.5
comp=Z,6.7nm,0.6s,baz=297,slow=2.8,SNR=15
ULM SKiKP 16 09 33.5
comp=Z,8.5nm,0.7s,baz=345,slow=3.1,SNR=5.8
ULM PKKPbc PKKPbc 16 16 53.5 +1.2
comp=Z,3.1nm,0.6s,baz=108,slow=4.2,SNR=7.8
ULM Lac du Bonnet 115.86 28 *e*PKiKP PKiKP 16 06 19.8 -0.7
ULM *e*SKPdf SKPdf 16 09 33.4 -1.9
MVCO Mesa Verde 115.89 45 *e*PKPdf PKPdf 16 06 21.6 +1.1
MVCO *e*pPKPdf pPKPdf 16 07 18.6 +2.7
MVCO *e*SKPdf SKPdf 16 09 36.0 +0.6
MVCO *e*PKPab PKKPab 16 16 58.9 +1.2
ESDC Sonseca Array 116.26 318 PKP PKPdf 16 06 22.2 +0.9
comp=Z,3.3nm,0.6s,baz=20,slow=3.8,SNR=16
ESDC pPKP pPKPdf 16 07 20.3 +3.8
comp=Z,6.9nm,0.9s,baz=54,slow=6.3,SNR=3.4
PAB San Pablo 116.58 318 *e*PKIKP PKPdf 16 06 22.8 +0.9
PBRG Braganca 116.94 321 *e*PKP PKPdf 16 06 23.2 +0.6
AGMN Agassiz Refuge 117.20 29 *e*PKPdf PKPdf 16 06 22.1 -0.9
AGMN *e*PKKPbc PKKPbc 16 16 47.6 +0.1
SDCO Great Sand Dun 117.73 44 *e*PKPdf PKPdf 16 06 25.8 +1.7
SDCO *e*pPKPdf pPKPdf 16 07 21.4 +2.0
SDCO *e*SKPdf SKPdf 16 09 39.0 +0.1
PCAB Cabril 117.80 322 *e*PKP PKPdf 16 06 25.0 +0.8
PVRL Vila Real 117.85 321 *e*PKP PKPdf 16 06 25.5 +1.2
PVIS Viseu 118.27 321 *e*PKP PKPdf 16 06 26.1 +1.0
ANMO Albuquerque 118.39 47 *e*PKIKP PKPdf 16 06 27.0 +1.7
ANMO *e* 16 07 23.3
ANMO Albuquerque 118.39 47 *e*PKPdf PKPdf 16 06 27.0 +1.7
ANMO *e*pPKPdf pPKPdf 16 07 23.3 +2.7
ANMO *e*SKPdf SKPdf 16 09 40.2 +0.1
PCBR Castelo Branco 118.48 320 *e*PKP PKPdf 16 06 26.5 +1.0
PESTR Estremoz 119.08 319 *e*PKP PKPdf 16 06 27.5 +0.8
EYMN Ely 119.52 27 *e*PKPdf PKPdf 16 06 27.5 0.0
LPIG La Paz 119.64 60 SKiKP 16 09 43.4
comp=Z,21nm,0.3s,baz=22,slow=6.6,SNR=4.2
PBEJ Beja 119.72 318 *e*PKP PKPdf 16 06 28.9 +1.0
MOE Montemor 119.77 319 *e*PKP PKPdf 16 06 29.4 +1.4
PLOU Loures 120.09 320 *e*PKP PKPdf 16 06 29.5 +0.9
PMAFR Mafra 120.14 320 *e*PKP PKPdf 16 06 29.4 +0.7
PTEO Sao Teotonio 120.55 318 *e*PKP PKPdf 16 06 30.8 +1.3
MNTX Cornudas Mount 120.68 50 *e*PKPdf PKPdf 16 06 31.3 +1.6
MNTX *e*pPKPdf pPKPdf 16 07 25.1 0.0
MNTX *e*SKPdf SKPdf 16 09 44.7 +0.2
SCHQ Schefferville 120.87 8 PKP PKPdf 16 06 29.4 -0.7
comp=Z,34nm,0.7s,baz=12,slow=1.8,SNR=46
SCHQ pPKP pPKPdf 16 07 27.5 +2.1
comp=Z,18nm,0.8s,baz=25,slow=3.5,SNR=3.0
SCHQ SKiKP 16 09 45.5
comp=Z,9.5nm,0.7s,baz=63,slow=5.9,SNR=4.1
SCHQ PKKPbc PKKPbc 16 16 34.6 +0.3
comp=Z,5.2nm,0.6s,baz=127,slow=9.7,SNR=10
SCHQ Schefferville 120.87 8 *e*PKPdf PKPdf 16 06 30.2 +0.1
CBKS Cedar Bluff 120.99 40 *e*PKPdf PKPdf 16 06 31.1 +0.8
CBKS *e*SKPdf SKPdf 16 09 43.8 -1.3
TOA0 Torodi Ar. Sit 121.18 288 *e*PKPdf PKPdf 16 06 30.2 -0.5
TORD Torodi Ar. Bea 121.18 288 PKP PKPdf 16 06 30.6 -0.1
comp=Z,58nm,0.6s,baz=52,slow=1.8,SNR=156
TORD pPKP pPKPdf 16 07 28.9 +2.9
comp=Z,24nm,1.0s,baz=56,slow=2.0,SNR=2.8
TORD PKKPbc PKKPbc 16 16 36.7 +3.6
comp=Z,2.2nm,0.6s,baz=282,slow=2.9,SNR=14
TORD SKKPbc 16 20 02.2
comp=Z,1.0nm,0.7s,baz=255,slow=0.8,SNR=4.4
TORD Torodi Ar. Bea 121.18 288 PKP PKPdf 16 06 30.6 -0.1
TORD pPKP pPKPdf 16 07 28.9 +2.9
TORD PKKPbc PKKPbc 16 16 36.7 +3.6
TORD SKKPbc 16 20 02.2
AMTX Amarillo 121.84 45 *e*PKPdf PKPdf 16 06 33.2 +1.2
KSU1 Kansas State U 122.78 38 *e*PKPdf PKPdf 16 06 34.6 +0.8
KSU1 *ep*PKPdf pPKPdf 16 07 30.4 +1.3
KSU1 *e*SKPdf SKPdf 16 09 47.8 -0.8
SCIA State Center 122.93 33 *e*PKPdf PKPdf 16 06 34.4 +0.3
SCIA *ep*PKPdf pPKPdf 16 07 30.7 +1.3
LTX Lajitas 123.06 51 *e*PKPdf PKPdf 16 06 36.0 +1.7
LTX *e*SKPdf SKPdf 16 09 49.2 +0.1
TXAR Lajitas Array 123.06 51 PKP PKPdf 16 06 35.5 +1.2
comp=Z,11nm,0.7s,baz=229,slow=0.8,SNR=37
TXAR pPKP pPKPdf 16 07 29.0 -0.7
comp=Z,3.5nm,0.7s,baz=255,slow=1.8,SNR=1.8
TXAR SKPbc 16 09 26.3
comp=Z,5.9nm,0.8s,baz=261,slow=3.2,SNR=3.4
TXAR SKP 16 09 49.3
comp=Z,13nm,0.9s,baz=343,slow=2.0,SNR=6.7
TXAR PKKPbc PKKPbc 16 16 27.1 +1.2
comp=Z,3.8nm,0.5s,baz=136,slow=6.1,SNR=26
TXAR Lajitas Array 123.06 51 PKIKP PKPdf 16 06 35.5 +1.2
TXAR 16 07 29.0
TXAR pmax pmax
comp=Z,11nm,0.7s
JFWS Jewell Farm 123.79 31 *e*PKPdf PKPdf 16 06 35.4 -0.3
JFWS *e*SKPdf SKPdf 16 09 49.0 -1.5
WMOK Wichita Mounta 123.93 43 *e*PKIKP PKPdf 16 06 36.7 +0.7
WMOK *e* 16 07 33.0
WMOK 16 07 49.3
GLMI Grayling 124.96 25 *e*PKPdf PKPdf 16 06 37.7 -0.2
JCT Junction City 125.46 48 *e*PKIKP PKPdf 16 06 40.0 +1.1
JCT *e* 16 07 32.9
JCT Junction City 125.46 48 *e*PKPdf PKPdf 16 06 40.0 +1.1
JCT *ep*PKPdf pPKPdf 16 07 32.9 -1.4
JCT *e*SKPdf SKPdf 16 09 54.3 +0.7
FVM French Village 127.17 35 *e*PKIKP PKPdf 16 06 42.4 +0.2
FVM *e* 16 07 38.7
FVM *e* 16 07 55.0
FVM French Village 127.17 35 *e*PKPdf PKPdf 16 06 42.4 +0.3
FVM *ep*PKPdf pPKPdf 16 07 38.7 +1.2
FVM *es*PKPdf 16 07 55.0
FVM *e*SKPbc 16 09 38.3
AAM Ann Arbor 127.40 27 *e*PKIKP PKPdf 16 06 42.5 -0.1
MIAR Mount Ida 127.51 40 *e*PKIKP PKPdf 16 06 44.0 +1.2
MIAR *e* 16 07 40.2
MIAR *e* 16 07 56.8
MIAR Mount Ida 127.51 40 *e*PKPdf PKPdf 16 06 44.0 +1.2
MIAR *ep*PKPdf pPKPdf 16 07 40.2 +2.0
MIAR *es*PKPdf 16 07 56.8
MIAR *e*SKPdf SKPdf 16 09 40.8 -17
USHA Ushuaia 127.89 170 SKPbc 16 09 42.2
comp=Z,28nm,1.1s,baz=153,slow=5.2,SNR=3.2
SIUC Southern Illin 128.04 34 *e*PKPdf PKPdf 16 06 44.3 +0.4
UALR University of 128.15 39 *e*PKPdf PKPdf 16 06 44.7 +0.6
UALR *ep*PKPdf pPKPdf 16 07 40.7 +1.3
UALR *es*PKPdf 16 07 57.3
UALR *e*SKP 16 09 42.4
MSNY Massena 128.41 18 *e*PKPdf PKPdf 16 06 44.6 0.0
BLO Bloomington 128.44 31 *e*PKPdf PKPdf 16 06 44.9 +0.3
BLO *e*SKP 16 09 42.7
NATX Nacogdoches 128.46 44 *e*PKPdf PKPdf 16 06 46.4 +1.8
NATX *e*SKP 16 09 44.6
USIN University of 128.72 33 *e*PKPdf PKPdf 16 06 44.5 -0.6
USIN *e*SKP 16 09 44.2
LONY Lake Ozonia 128.84 18 *e*PKPdf PKPdf 16 06 45.5 +0.1
LONY *ep*PKPdf pPKPdf 16 07 41.9 +1.2
LONY *e*SKP 16 09 43.5
LIC Lamto 129.03 281⇓ *i*PKIKP PKPdf 16 06 46.0 +0.3
comp=Z,633nm,1.3s
LIC *e*MLR
comp=Z,1μm,21.0s
LIC Lamto 129.03 281⇓ *i*PKPdf PKPdf 16 06 46.0 +0.3
LIC LR LR
comp=Z,560nm,21.0s
MOIG Morelia 129.12 61 *i*P SKPdf 16 09 46.0 -15
NCB Newcomb 129.53 18 *e*PKPdf PKPdf 16 06 47.0 +0.3
NCB *ep*PKPdf pPKPdf 16 07 42.3 +0.3
NCB *e*SKP 16 09 47.3
ZIIG Zihuatanejo 129.62 64 *i*P SKPdf 16 09 48.1 -13
PKME Peaks-Kenny Pk 129.64 13 *e*PKPdf PKPdf 16 06 47.3 +0.5
PKME *ep*PKPdf pPKPdf 16 07 43.8 +1.6
PKME *e*SKP 16 09 47.8
LBNH Lisbon 129.95 16 *e*PKPdf PKPdf 16 06 48.0 +0.6
LBNH *e*SKP 16 09 48.8
WVT Waverly 129.95 35 *e*PKIKP PKPdf 16 06 47.7 +0.2
WVT *e* 16 07 44.1
WVT Waverly 129.95 35 *e*PKPdf PKPdf 16 06 47.7 +0.2
WVT *ep*PKPdf pPKPdf 16 07 44.1 +1.3
WVT *e*SKP 16 09 48.7
OXF Oxford 130.14 37 *e*PKIKP PKPdf 16 06 48.6 +0.8
OXF *e* 16 07 44.5
OXF Oxford 130.14 37 *e*PKPdf PKPdf 16 06 48.6 +0.7
OXF *ep*PKPdf pPKPdf 16 07 44.5 +1.3
OXF *e*SKP 16 09 49.6
ACCN Adirondack Com 130.23 18 *e*PKPdf PKPdf 16 06 48.4 +0.4
ACCN *e*SKPbc SKPbc 16 09 50.0 -0.7
HNH Hanover 130.34 16 *e*PKPdf PKPdf 16 06 48.7 +0.5
HNH *e*SKP 16 09 50.8
BINY Binghamton 130.54 20 *e*PKPdf PKPdf 16 06 48.9 +0.3
BINY *e*SKP 16 09 50.8
PLAL Pickwick Lake 130.61 36 *e*PKPdf PKPdf 16 06 48.8 0.0
PLAL *ep*PKPdf pPKPdf 16 07 44.4 +0.3
PLAL *es*PKPdf 16 08 01.4
PLAL *e*SKPbc SKPbc 16 09 50.5 -1.6
CAIG El Cayaco 130.88 64 *i*P SKPbc 16 09 53.2 0.0
PTVM Pico Tres Padr 130.95 60 *i*P SKPbc 16 09 50.2 -3.1
UNM Universidad Na 131.00 60 *i*P SKPbc 16 09 54.3 +0.7
PLIG Platanillo 131.07 62 *i*P SKPbc 16 09 54.1 +0.3
SSPA Standing Stone 131.20 23 *e*PKPdf PKPdf 16 06 50.1 +0.2
SSPA *e*SKP 16 09 53.5
ACX Acapulco 131.26 64 *i*P SKPbc 16 09 54.0 -0.5
IIO Organos 131.29 60 *i*P SKPbc 16 09 56.2 +1.6
QUA2 Belchertown 131.64 17 *e*PKPdf PKPdf 16 06 51.2 +0.6
QUA2 *ep*PKPdf pPKPdf 16 07 47.9 +1.9
QUA2 *e*SKPbc SKPbc 16 09 54.8 -1.0
WES Weston 131.83 16 *e*SKPbc SKPbc 16 09 55.6 -1.0
TZTN Tazewell 131.97 31 *e*PKPpre 16 06 37.0
TZTN *e*PKPdf PKPdf 16 06 52.2 +0.9
TZTN *e*SKPbc SKPbc 16 09 56.2 -0.8
PAL Palisades 132.31 19 *e*PKPdf PKPdf 16 06 52.4 +0.5
PAL *e*SKPbc SKPbc 16 09 57.5 -0.7
MVL Millersville 132.34 22 *e*PKPdf PKPdf 16 06 52.7 +0.7
MVL *ep*PKPdf pPKPdf 16 07 48.0 +0.6
MVL *e*SKPbc SKPbc 16 09 57.3 -1.0
LRAL Lakeview Retre 132.61 37 *e*PKPdf PKPdf 16 06 53.0 +0.5
LRAL *ep*PKPdf pPKPdf 16 07 49.2 +1.4
LRAL *e*SKPbc SKPbc 16 09 58.2 -1.0
ELN Prospectdale 132.81 28 *e*PKPdf PKPdf 16 06 53.4 +0.6
ELN *e*SKPbc SKPbc 16 09 58.7 -1.2
BLA Blacksburg 132.97 28 *e*PKPpre 16 06 40.2
BLA *e*SKPbc SKPbc 16 09 59.5 -1.0
PNIG Pinotepa 133.03 64 *i*P SKPbc 16 09 59.8 -0.9
LVIG Laguna Verde 133.21 59 *i*P SKPbc 16 10 01.0 -0.3
VHO Vista Hermosa 134.01 62 *i*P SKPbc 16 10 04.9 +1.0
OXX Oaxaca 134.02 62 *i*P SKPbc 16 10 06.0 +2.0
GOGA Godfrey 134.38 34 PKPpre 16 06 44.8
GOGA *e*SKPbc SKPbc 16 10 04.5 -0.6
JSC Jenkinsville 134.90 31 PKIKP PKPdf 16 06 59.5 +2.7

JSC	**Jenkinsville**	**134.90**	**31**	*e*PKPpre		16 06 47.8	
JSC				*e*SKPbc	SKPbc	16 10 05.9	-0.9
HUIG	**Huatulco**	**135.06**	**63**	*i* P	SKPbc	16 10 07.7	+0.3
CMIG	**Matias Romero**	**135.63**	**61**	SKPbc	SKPbc	16 10 09.2	+0.1
	comp=Z,140nm,1.0s,baz=274,slow=2.3,SNR=16						
CMIG	**Matias Romero**	**135.63**	**61**	*i* P	SKPbc	16 10 08.7	-0.4
TUIG	**Tuzandepetl**	**135.64**	**60**	*i* P	SKPbc	16 10 10.6	+1.5
TEIG	**Tepich**	**139.68**	**53**	SKPbc	SKPbc	16 10 21.0	+0.3
	comp=Z,218nm,1.2s,baz=333,slow=7.3,SNR=8.1						
SOR	**Soroa**	**142.12**	**45**	*e*P	PKPdf	16 07 08.3	-1.7
	baz=244						
SOR				*e*S	pPKPdf	16 08 05.5	+0.1
	comp=N,1.0nm,0.8s						
SOR				*e*			
	comp=E,0.8nm,0.7s						
BBSR	**BB Station**	**142.99**	**14**	*e*PKPpre		16 07 10.3	
TGUH	**Tegucigalpa,Un**	**143.55**	**60**	*e*PKPdf	PKPdf	16 07 14.5	+2.0
TGUH				*e*SKPbc	SKPbc	16 10 30.8	+0.2
CCHI	**Chillan**	**143.72**	**157**	||*i* P	PKPdf	16 07 11.6	-1.3
CCHI				*i*		16 08 10.7	
MGV	**Manicaragua**	**144.65**	**42**	*e*P	PKPdf	16 07 18.4	+4.0
PAYG	**Puerto Ayora**	**144.73**	**86**	*e*PKPbc	PKPdf	16 07 17.2	+2.7
PAYG				*e*pPKPdf	pPKPdf	16 08 11.5	+1.5
PAYG				*e*SKPbc	SKPbc	16 10 36.5	+2.2
LNV	**Longovilo**	**146.28**	**155**	*e*P	PKPdf	16 07 19.0	+1.8
LNV				*e*		16 08 13.7	
CICH	**Cipreses**	**146.37**	**157**	*e*P	PKPdf	16 07 18.7	+1.3
CICH				*e*		16 08 14.4	
CACH	**El Canelo**	**146.47**	**156**	||*e*P	PKPdf	16 07 19.4	+1.9
CACH				*e*		16 08 15.4	
CHCH	**Chadas Angostu**	**146.61**	**156**	*e*P	PKPdf	16 07 19.0	+1.2
CHCH				*i*		16 08 15.4	
CCCC	**Cccc**	**146.76**	**41**	*e*P	PKPdf	16 07 20.0	+1.9
LMEL	**Las Melosas**	**146.87**	**157**	||*e*P	PKPdf	16 07 21.8	+3.5
LMEL				*e*		16 08 17.9	
CLCH	**Cerro Calan**	**147.13**	**156**	*e*P	PKPdf	16 07 20.2	+1.6
CLCH				*e*		16 08 16.1	
JTS	**JuntasAbangare**	**147.19**	**65**	PKP2	PKPab	16 07 22.0	-1.6
JTS	**JuntasAbangare**	**147.19**	**65**	*e*PKPdf	PKPdf	16 07 19.9	+1.2
FCH	**Farellones**	**147.29**	**156**	*e*P	PKPdf	16 07 20.5	+1.6
FCH				*e*		16 08 15.3	
MDZ	**Mendoza**	**148.24**	**158**	*e*P	PKPdf	16 07 23.3	+2.8
MDZ				*e*S		16 08 22.6	
LPA	**La Plata**	**148.84**	**176**	*ce*PKP	PKPdf	16 07 21.0	-0.4
LPA	**La Plata**	**148.84**	**176**	*e*PKP	PKPbc	16 07 29.0	+3.4
LPA				*ep*PKP	pPKPdf	16 08 20.0	+3.1
CFAA	**Coronel Fontan**	**149.62**	**157**	PKP	PKPdf	16 07 23.6	+1.0
	comp=E,8.0nm,0.9s,baz=217,slow=1.6,SNR=26						
CFAA				PKPbc	PKPbc	16 07 29.1	+1.6
	comp=E,12nm,0.8s,baz=219,slow=1.9,SNR=51						
CFAA				pPKP	pPKPdf	16 08 19.2	+1.0
	comp=E,15nm,0.8s,baz=254,slow=7.5,SNR=2.2						
BCIP	**Isla Barro Col**	**152.24**	**62**	*e*PKPdf	PKPdf	16 07 27.7	+1.0
BCIP				*e*PKPbc	PKPbc	16 07 34.5	+0.9
CPD	**Cerro la Pandu**	**155.92**	**26**	*e*PKIKP	PKPdf	16 07 32.9	+1.0
MTP	**Monte Pirata**	**156.02**	**25**	*e*PKPdf	PKPdf	16 07 32.6	+0.6
ATAH	**Atahualpa**	**156.59**	**99**	PKP	PKPdf	16 07 35.5	+2.8
	comp=E,25nm,1.0s,baz=325,slow=8.6,SNR=25						
ATAH				PKPab	PKPab	16 08 04.9	+2.0
	comp=E,36nm,0.9s,baz=275,slow=5.1,SNR=11						
ATAH				pPKP	pPKPdf	16 08 30.7	+2.3
	comp=E,54nm,1.1s,baz=111,slow=1.3,SNR=2.6						
NNA	**Nana**	**156.97**	**112**	PKP	PKPdf	16 07 35.1	+1.9
	comp=E,22nm,0.9s,baz=260,slow=3.9,SNR=10						
NNA				PKPab	PKPab	16 08 06.1	+1.6
	comp=E,15nm,0.7s,baz=272,slow=7.5,SNR=4.0						
NNA				pPKP	pPKPdf	16 08 31.6	+2.7
	comp=E,19nm,0.7s,baz=315,slow=2.6,SNR=3.0						
NNA	**Nana**	**156.97**	**112**	*e*PKPdf	PKPdf	16 07 35.3	+2.1
CAM4	**Nova Friburgo**	**157.82**	**212**	||*i* P	PKPdf	16 07 36.7	+2.4
CAM4				*i*		16 07 47.5	
CAM4				*i*		16 08 08.9	
CAM4				*i*		16 08 35.2	
CAM4				*i*		16 09 06.3	
CAM4				*i*		16 09 25.8	
CAM4				*i*		16 09 26.1	
CAM4				*i*		16 10 15.8	
CAM3	**Guarapari**	**157.90**	**219**	||*i* P	PKPdf	16 07 36.1	+1.7
CAM3				*i*		16 08 09.3	
CAM3				*i*		16 08 09.6	
CAM3				*i*		16 08 50.7	
CAM3				*i*		16 09 05.4	
ROSC	**El Rosal**	**159.00**	**66**	PKP	PKPdf	16 07 38.4	+2.7
	comp=E,44nm,1.1s,baz=143,slow=7.1,SNR=19						
ROSC				PKPab	PKPab	16 08 14.7	+1.3
	comp=E,19nm,0.7s,baz=88,slow=21,SNR=2.1						
ROSC	**El Rosal**	**159.00**	**66**	*e*PKPdf	PKPdf	16 07 38.5	+2.9
ARE	**Arequipa**	**159.51**	**129**	*e*PKIKP	PKPdf	16 07 39.0	+2.7
SDV	**Santo Domingo**	**160.11**	**51**	PKP	PKPdf	16 07 38.1	+1.1
	comp=E,53nm,1.0s,baz=316,slow=0.4,SNR=10						
SDV				PKPab	PKPab	16 08 18.5	+0.4
	comp=E,44nm,0.7s,baz=294,slow=4.2,SNR=7.4						
SDV				pPKP	pPKPdf	16 08 35.1	+2.5
	comp=E,46nm,0.8s,baz=128,slow=1.2,SNR=3.8						
SDV	**Santo Domingo**	**160.11**	**51**	*e*PKPdf	PKPdf	16 07 38.0	+1.0
SDV				*ep*PKPab	PKPab	16 08 20.4	+2.2
SDV				*ep*PKPdf	pPKPdf	16 08 34.6	+2.0
LPAZ	**La Paz**	**162.10**	**135**	PKP	PKPdf	16 07 41.9	+2.9
	comp=E,61nm,1.3s,baz=19,slow=1.5,SNR=85						
LPAZ				PKPab	PKPab	16 08 27.7	+0.8
	comp=E,3.0nm,0.6s,baz=13,slow=7.0,SNR=2.9						
LPAZ				pPKP	pPKPdf	16 08 37.6	+2.8
	comp=E,20nm,0.9s,baz=331,slow=2.9,SNR=4.3						
LPAZ	**La Paz**	**162.10**	**135**	*e*PKPdf	PKPdf	16 07 41.7	+2.6
PCRV	**Puerto La Cruz**	**163.27**	**34**	PKP	PKPdf	16 07 39.9	-0.3
	comp=E,62nm,1.2s,baz=337,slow=7.1,SNR=5.7						
SIV	**San Ignacio**	**166.45**	**155**	PKP	PKPdf	16 07 44.4	+1.5
	comp=E,27nm,0.9s,baz=183,slow=1.1,SNR=83						
SIV				pPKP	pPKPdf	16 08 40.1	+1.4
	comp=E,24nm,0.9s,baz=142,slow=0.9,SNR=6.8						

*NEIC **12** 15:53:28.3, 1606N×9653W, h55km, MD3.6(MEX), After MEX.*

MEX 12 15:53:28.6±0.8, 1607N×9651W, h53km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.49**	**128**	*i* P	Pn	15 53 38.5	-1.4
HUIG				*i* S	Sn	15 53 46.3	-1.7
VHO	**Vista Hermosa**	**1.02**	**348**	*i* P	Pn	15 53 45.1	-1.6
VHO				*i* S	Sn	15 53 58.4	-1.6
OXX	**Oaxaca**	**1.03**	**349**	*i* P	Pn	15 53 45.0	-1.7
OXX				*i* S	Sn	15 53 58.5	-1.6
CMIG	**Matias Romero**	**1.86**	**57**	*i* P	Pn	15 53 56.4	-1.6
CMIG				*i* S	Sn	15 54 19.0	-1.4
UTMO	**Huajuapan**	**2.14**	**325**	*i* P	Pn	15 54 02.3	+0.4
UTMO				*i* S	Sn	15 54 24.9	-2.3
TPIG	**Tehuac#an**	**2.47**	**341**	*e*P	Pn	15 54 09.8	+3.4
TPIG				*i* S	Sn	15 54 33.0	-2.4

IDC 12 16:05:10.6±5.4, 3028S×17756W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.6/2, Error ellipse: s-maj=266.9km s-min=45.7km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.50**	**267**	P	P	16 13 15.4	-0.2
	0.2nm,0.4s,baz=106,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**44.48**	**272**	P	P	16 13 24.1	+0.6
	0.7nm,0.3s,baz=110,slow=8.1,SNR=38						
VNA3	**Neumayer Olymp**	**78.40**	**176**	*e*	P	16 17 21.4	+8.4
VNA3				*e*		16 17 37.4	
VNA3				*e*		16 18 31.5	
VNA3				*e*		16 20 39.9	
VNA2	**Neumayer--Watz**	**78.84**	**177**	*e*	P	16 17 22.2	+6.8
	baz=349,slow=5.0						
VNA2				*e*		16 17 38.8	
VNA2				*e*		16 18 31.7	
VNA2				*e*		16 20 43.2	
VNA1	**Neumayer--Stat**	**79.07**	**176**	*e*	P	16 17 21.6	+4.9
VNA1				*e*		16 17 36.9	
VNA1				*e*		16 20 41.8	
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	PKPbc	16 24 48.2	-1.4
	3.8nm,1.0s,baz=93,slow=3.8,SNR=6.4						
AKASG	**Malin Array Be**	**151.44**	**323**	PKPbc	PKPbc	16 25 05.7	-0.6
	0.2nm,0.3s,baz=94,slow=1.6,SNR=3.0						

*NEIC **12** 16:28:47.4, 3871N×2183E, h16km, ML3.3(ATH), After ATH.*

*CSEM **12** 16:28:47.2±0.1, 3868N×2188E, h5km, ML3.3, Error ellipse: s-maj=2.1km s-min=1.6km az=62.0*

*ATH **12** 16:28:47.4, 3871N×2184E, h16km±2km, MD3.6/14, ML3.3*

*ISCJB **12** 16:28:47.2±0.6, 3870N±002×2186E±003, h3km±4km, mb3.3/3, Error ellipse: s-maj=4.3km s-min=3.5km az=130.5*

*THE **12** 16:28:47.4, 3868N×2186E, h10km, ML3.5*

*IDC **12** 16:28:47.4±1.4, 3857N×2198E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/22, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=32.2km s-min=22.2km az=110.0*

ISC 12 16:28:47.8±0.5, 3869N±002×2186E±003, h2km±4km, n50, σ1§03/61, mb3.3/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.23**	**350**	*e*PB	**Pg**	**16 28 51.9**	**-0.2**
EVR				*e*SB	**Sg**	**16 28 55.9**	**+0.8**
AGG	**Agios Georgios**	**0.49**	**48**	*e*Pg	**Pg**	**16 28 56.7**	**-0.5**
AGG				*e*Sg	**Sg**	**16 29 04.9**	**+1.2**
RLS	**Riolos of Patr**	**0.70**	**206**	*e*PN	**Pg**	**16 29 01.8**	**+0.5**
THL	**Klokotos Trika**	**0.88**	**8**	*e*PB	**Pg**	**16 29 03.4**	**-1.2**
THL				*e*SN	**Sg**	**16 29 16.6**	**+0.6**
LKR	**Lokris**	**0.89**	**92**	*e*PN	**Pg**	**16 29 03.6**	**-1.3**
LKR				*e*SN	**Sg**	**16 29 17.3**	**+0.8**
LKD	**Levkas**	**0.94**	**271**	*e*Pg	**Pg**	**16 29 05.3**	**-0.5**
LKD	**Levkas**	**0.94**	**271**	*e*Pg	**Pg**	**16 29 05.3**	**-0.6**
VLS	**Valsamata**	**1.12**	**243**	*e*PN	**Pg**	**16 29 08.4**	**-0.9**
MEV	**Metsovon**	**1.20**	**336**	*e*Pg	**Pg**	**16 29 09.1**	**-1.5**
MEV				*e*Sg	**Sg**	**16 29 27.0**	**+0.8**
NEO	**Neokhori**	**1.23**	**60**	*e*PN	**Pn**	**16 29 10.8**	**-1.2**
JAN	**Janina**	**1.24**	**321**	*e*PN	**Pn**	**16 29 10.7**	**-1.5**
IGT	**Igoumenitsa**	**1.45**	**306**	*e*Pg	**Pn**	**16 29 14.6**	**-0.5**
IGT				*e*Sg	**Sg**	**16 29 35.6**	**+1.1**
LIT	**Litokhoron**	**1.49**	**19**	*e*Pg	**Pn**	**16 29 14.7**	**-0.9**
LIT				*e*Sg	**Sg**	**16 29 35.2**	**-0.4**
ITM	**Ithomi**	**1.51**	**178**	*e*PN	**Pn**	**16 29 15.8**	**-0.1**
NAIG	**Nisos Aigina**	**1.59**	**125**	*e*PN	**Pn**	**16 29 17.0**	**+0.1**
KZN	**Kozani**	**1.61**	**358**	*e*PN	**Pn**	**16 29 16.5**	**-0.8**
KZN				*e*SN	**Sb**	**16 29 38.7**	**-0.4**
ATH	**Athens Observa**	**1.63**	**116**	*e*PN	**Pn**	**16 29 17.5**	**0.0**
ATH	**Athens Observa**	**1.63**	**116**	*e*Pn	**Pg**	**16 29 19.8**	**+0.8**
PTL	**Penteli**	**1.70**	**112**	*e*PN	**Pn**	**16 29 20.0**	**+1.5**
KVR	**Kavouri**	**1.73**	**119**	*e*PN	**Pn**	**16 29 20.0**	**+1.1**
KEK	**Kerkira**	**1.90**	**303**	*e*PN	**Pn**	**16 29 22.8**	**+1.6**
KEK	**Kerkira**	**1.90**	**303**	*e*Pn	**Pb**	**16 29 23.9**	**+0.8**
VLI	**Veliai**	**2.15**	**156**	*e*PB	**Pn**	**16 29 24.1**	**-0.5**
GRG	**Griva**	**2.30**	**10**	*e*Pn	**Pn**	**16 29 26.3**	**-0.5**
GRG				*e*Sn	**Sb**	**16 29 59.0**	**+0.1**
BIA	**Bitola**	**2.36**	**350**	*i* Pn	**Pn**	**16 29 27.1**	**-0.4**
OHR	**Ohrid**	**2.55**	**342**	*i* Pn	**Pb**	**16 29 33.8**	**-0.4**
KNT	**Kendrikon**	**2.59**	**18**	*e*Pn	**Pn**	**16 29 30.6**	**-0.2**
KNT				*e*Sn	**Sn**	**16 30 03.6**	**+0.7**
VAY	**Valandovo**	**2.68**	**12**	*i* Pn	**Pb**	**16 29 35.6**	**-0.9**
VAY	**Valandovo**	**2.68**	**12**	*i* Pn	**Pb**	**16 29 35.6**	**-0.9**
VAY	**Valandovo**	**2.68**	**12**	*i* Pn	**Pb**	**16 29 35.5**	**-1.0**
KRUS	**Krusevo**	**2.71**	**350**	*i* Pn	**Pn**	**16 29 33.8**	**+1.3**
KRUS	**Krusevo**	**2.71**	**350**	*i* Pn	**Pn**	**16 29 33.8**	**+1.3**
KRUS	**Krusevo**	**2.71**	**350**	*i* Pn	**Pn**	**16 29 33.7**	**+1.3**
SRS	**Serrai**	**2.77**	**28**	*e*Pn	**Pn**	**16 29 31.8**	**-1.4**
STIP	**Stip**	**3.01**	**5**	*i* Pn	**Pn**	**16 29 36.8**	**+0.3**
STIP	**Stip**	**3.01**	**5**	*i* Pn	**Pn**	**16 29 36.8**	**+0.3**
STIP	**Stip**	**3.01**	**5**	*i* Pn	**Pn**	**16 29 36.7**	**+0.2**
SKO	**Skopje**	**3.29**	**355**	*e*Pn	**Pb**	**16 29 44.2**	**-2.7**
SKO	**Skopje**	**3.29**	**355**	*e*Pn	**Pb**	**16 29 44.2**	**-2.7**
SKO	**Skopje**	**3.29**	**355**	*e*Pn	**Pb**	**16 29 44.2**	**-2.7**
TIP	**Timpagrande**	**4.01**	**279**	P	**Pn**	**16 29 51.8**	**+1.6**
BARS	**Barje**	**4.12**	**360**	*e*Pn	**Pn**	**16 29 53.6**	**+1.8**
IDI	**Anoyia**	**4.17**	**144**	Pn	**Pn**	**16 29 51.7**	**-0.8**
	0.3nm,0.3s,baz=0.0,slow=12,SNR=6.4						
DIVS	**Divcibare**	**5.58**	**346**	*e*Pn	**Pn**	**16 30 12.2**	**+0.4**
DIVS				Sg	**Sn**	**16 31 15.7**	**-0.9**
DIVS	**Divcibare**	**5.58**	**346**	Pn	**Pn**	**16 30 12.2**	**+0.4**
MLR	**Muntele Rosu**	**7.44**	**23**	Pn	**Pn**	**16 30 39.8**	**+2.4**
	0.4nm,0.3s,baz=162,slow=19,SNR=3.6						
BRTR	**Keskin Array B**	**9.20**	**80**	Pn	**Pn**	**16 31 02.2**	**+0.7**
	0.1nm,0.3s,baz=267,slow=12,SNR=3.5						
NOA	**NORSAR Array B**	**23.34**	**347**	P	**P**	**16 33 59.3**	**+1.8**
	0.5nm,0.7s,mb3.0,baz=150,slow=10.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**31.10**	**221**	P	**P**	**16 35 07.0**	**-0.5**
	0.4nm,0.7s,mb3.4,baz=31,slow=8.4,SNR=4.0						
MKAR	**Makanchi Array**	**44.14**	**59**	P	**P**	**16 36 55.8**	**-1.9**
	0.5nm,0.6s,mb3.5,baz=278,slow=7.6,SNR=7.0						

*BJI **12** 16:41:43.6, 3026S×17756W, h11km, mB5.8, mb5.1, Ms5.4, Msz5.0*

*IDC **12** 16:41:44.0±0.5, 3022S×17770W, h0km, mb4.7/11, mb1 4.9/13, mb1mx4.8/15, mbtmp4.7/13, ML3.6/2, MS4.3/3, Ms1 4.3/3, ms1mx3.6/26, Error ellipse: s-maj=20.2km s-min=18.4km az=139.0*

*NEIC **12** 16:41:45.1±0.4, 3027S×17763W, h10km, mb5.1/11, Error ellipse: s-maj=13.8km s-min=9.5km az=131.0*

*ISCJB **12** 16:41:48.3±2.5, 3055S±004×17798W±009, h33km±17km, mb4.8/27, MS4.7/3, Error ellipse: s-maj=13.3km s-min=6.2km az=33.9*

*MOS **12** 16:41:49.3±2.5, 3012S×17786W, h33km, mb5.1/5, Error ellipse: s-maj=15.0km s-min=13.8km az=76.8*

ISC 12 16:41:49.5±2.6, 3047S±004×17786W±009, h32km±17km, n169, σ1§21/81, mb4.8/27, MS4.7/3, 4C-3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**8.23**	**202**	SN	**Sn**	**16 45 18.2**	**-0.3**
MWZ	**Matawai**	**8.72**	**205**	*e*PN	**Pn**	**16 43 52.3**	**-1.0**
MWZ				SN	**Sn**	**16 45 32.2**	**+1.7**
URZ	**Urewera**	**8.81**	**207**	Pn	**Pn**	**16 43 54.0**	**-0.6**
	2.2nm,0.3s,baz=298,slow=5.3,SNR=9.3						
URZ				Sn	**Sn**	**16 45 36.8**	**+4.1**
	14nm,0.3s,baz=170,slow=24,SNR=13						
URZ	**Urewera**	**8.81**	**207**	PN	**Pn**	**16 43 53.2**	**-1.3**
KNZ	**Kokohu**	**9.29**	**202**	SN	**Sn**	**16 45 43.4**	**-1.0**
BKZ	**Black Stump Fm**	**9.84**	**207**	PN	**Pn**	**16 44 05.1**	**-3.5**
BKZ				SN	**Sn**	**16 45 57.3**	**-0.6**
TIWZ	**Tintock**	**11.47**	**205**	SN	**Sn**	**16 46 34.6**	**-3.3**
MRZ	**Mangatainoka R**	**11.48**	**206**	SN	**Sn**	**16 46 32.8**	**-5.4**
KIW	**Kapiti Island**	**11.91**	**208**	SN	**Sn**	**16 46 43.8**	**-5.0**
MTW	**Mount Morrison**	**11.94**	**205**	SN	**Sn**	**16 46 44.3**	**-5.2**
MRW	**Makara Radio**	**12.31**	**207**	SN	**Sn**	**16 46 52.9**	**-5.5**
SNZO	**South Karori**	**12.38**	**207**	Pn	**Pn**	**16 44 38.1**	**-5.3**
SNZO				*e*Sn	**Sn**	**16 46 50.4**	**-10**
TCW	**Tory Channel**	**12.47**	**209**	SN	**Sn**	**16 46 56.0**	**-6.3**
THZ	**Tophouse**	**13.51**	**211**	PN	**Pn**	**16 45 00.5**	**+1.6**
THZ				SN	**Sn**	**16 47 21.9**	**-5.8**
KHZ	**Kahutara**	**13.78**	**208**	SN	**Sn**	**16 47 25.5**	**-8.8**
LTZ	**Lake Taylor**	**14.61**	**210**	SN	**Sn**	**16 47 44.5**	**-10**
MQZ	**McQueen's Vall**	**15.21**	**207**	SN	**Sn**	**16 47 57.8**	**-11**
RPZ	**Rata Peaks**	**15.88**	**211**	Pn	**Pn**	**16 45 30.5**	**-0.1**
	1.0nm,0.3s,baz=27,slow=11,SNR=4.9						
RPZ				Sn	**Sn**	**16 48 21.5**	**-4.1**
	2.8nm,0.3s,baz=16,slow=19,SNR=6.1						
DZM	**Mont Dzumac**	**16.37**	**297**	*e*P	**Pn**	**16 45 44.6**	**+7.8**
DZM	**Mont Dzumac**	**16.37**	**297**	Pn	**Pn**	**16 45 42.1**	**+5.3**
	0.7nm,0.3s,baz=120,slow=16,SNR=8.2						
DZM				LR	LR	16 50 34.9	
	comp=Z,1μm,19.2s,baz=320,slow=32						
JCZ	**Jackson Bay**	**17.23**	**214**	PN	**Pn**	**16 45 44.7**	**-2.9**
AFI	**Afiamalu**	**17.41**	**20**	P	**Pn**	**16 45 44.5**	**-5.4**
	2.3nm,0.3s,baz=262,slow=3.0,SNR=3.4						
AFI				S	Sn	16 48 40.2	-22
	1.9nm,0.3s,baz=233,slow=20,SNR=4.0						
RAR	**Rarotonga**	**18.69**	**65**	LR	LR	16 50 48.0	
	comp=Z,763nm,20.7s,baz=335,slow=30						
TBI	**Tubuai**	**26.25**	**81**	*e*LQ		16 52 27.0	
	974nm,26.0s						
TBI				*e*LR	LR	16 53 31.6	
	1μm,27.8s						
ARMA	**Armidale**	**26.27**	**262**	*e*P	**P**	**16 47 26.7**	**+4.9**
CNB	**Canberra Magne**	**27.87**	**251**	*e*P	**P**	**16 47 39.8**	**+3.6**
	17nm,0.8s,mb4.7						
PPT	**Papeete**	**28.76**	**70**	*e*LQ		16 53 19.0	
	772nm,24.8s						
PPT				*e*LR	LR	16 54 38.9	
	1μm,26.2s						
TOO	**Toolangi**	**31.05**	**247**	*e*P	**P**	**16 48 07.3**	**+2.9**
	17nm,0.8s,mb4.9						
TOO	**Toolangi**	**31.05**	**247**	*e*P	**P**	**16 48 07.3**	**+2.9**
TOO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						

CTA	**Charters Tower**	**33.93**	**279**	*e*P	**P**	**16 48 32.0**	**+2.4**
	comp=Z,54nm,0.6s,mb5.7						
CTA	**Charters Tower**	**33.93**	**279**	P	**P**	**16 48 32.1**	**+2.5**
	comp=Z,86nm,0.8s,mb5.7,baz=103,slow=11,SNR=67						
CTA	**Charters Tower**	**33.93**	**279**	*e*P	**P**	**16 48 32.0**	**+2.4**
CTA				pmax	pmax		
	comp=Z,54nm,0.6s						
CTAO	**Charters Tower**	**33.93**	**279**	*e*P	**P**	**16 48 32.1**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,91nm,0.8s,mb5.8						
CTAO	**Charters Tower**	**33.93**	**279**	*e*P	**P**	**16 48 32.1**	**+2.5**
	comp=Z,91nm,0.8s,mb5.8						
STKA	**Stephens Creek**	**34.58**	**257**	*e*P	**P**	**16 48 38.7**	**+3.4**
	comp=Z,31nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**34.58**	**257**	P	**P**	**16 48 37.4**	**+2.1**
	comp=Z,45nm,0.9s,mb5.4,baz=90,slow=9.0,SNR=54						
PMG	**Port Moresby**	**38.75**	**295**	P	**P**	**16 49 12.0**	**+1.2**
	comp=Z,12nm,1.0s,mb4.6,baz=126,slow=6.9,SNR=5.7						
PMG	**Port Moresby**	**38.75**	**295**	*e*P	**P**	**16 49 11.4**	**+0.6**
RKT	**Rikitea**	**38.79**	**90**	*e*LR	LR	16 59 22.9	
	comp=Z,801nm,26.2s						
TAOE	**Nuku Hiva Isla**	**41.22**	**67**	*e*LR	LR	17 00 20.8	
	comp=Z,2μm,26.4s						
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**16 49 47.9**	**+0.3**
	comp=Z,14nm,0.8s,mb4.8,baz=105,slow=7.2,SNR=155						
ASAR				ScP	ScP	16 55 26.9	+1.7
	comp=Z,1.1nm,0.7s,baz=106,slow=4.1,SNR=7.7						
WB2	**Warramunga Arr**	**44.22**	**272**	*e*P	**P**	**16 49 55.6**	**+0.1**
WRA	**Warramunga Arr**	**44.23**	**272**	P	**P**	**16 49 56.1**	**+0.5**
	comp=Z,44nm,0.9s,mb5.2,baz=111,slow=7.8,SNR=205						
WRA				S	**S**	**16 56 25.3**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=108,slow=14,SNR=3.2						
FORT	**Forrest**	**46.15**	**255**	*e*P	**P**	**16 50 10.9**	**0.0**
	comp=Z,16nm,0.6s,mb5.1						
SBA	**Scott Base**	**47.97**	**184**	*e*P	**P**	**16 50 29.0**	**+3.9**
SBA				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
SBA	**Scott Base**	**47.97**	**184**	*e*P	**P**	**16 50 29.0**	**+3.8**
	comp=Z,14nm,0.8s,mb5.0						
VNDA	**Vanda**	**48.03**	**186**	P	**P**	**16 50 28.9**	**+3.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=16,slow=7.5,SNR=12						
VNDA	**Vanda**	**48.03**	**186**	*e*P	**P**	**16 50 30.0**	**+4.4**
KAKA	**Kakadu**	**49.07**	**280**	*e*P	**P**	**16 50 33.5**	**0.0**
	comp=Z,8.1nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.48**	**270**	*e*P	**P**	**16 50 59.4**	**+0.1**
	comp=Z,26nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.48**	**270**	LR	LR	17 11 05.3	
	comp=Z,303nm,19.2s,MS4.3,baz=96,slow=34						
KLBR	**Kellerberrin**	**54.44**	**251**	*e*P	**P**	**16 51 13.2**	**-0.5**
	comp=Z,36nm,1.2s,mb5.2						
CASY	**Casey**	**55.13**	**208**	*e*P	**P**	**16 51 18.9**	**+0.2**
MUN	**Mundaring**	**55.59**	**250**	*e*P	**P**	**16 51 22.1**	**+0.2**
QSPA	**South Pole Qui**	**59.64**	**180**	*e*P	**P**	**16 51 52.9**	**+2.5**
	comp=Z,57nm,0.8s,mb5.7						
QSPA				*e*		16 51 59.9	
MAW	**Mawson**	**72.28**	**201**	*e*P	**P**	**16 53 13.0**	**+1.3**
	comp=Z,8.0nm,0.8s,mb4.7						
MAW	**Mawson**	**72.28**	**201**	P	**P**	**16 53 13.0**	**+1.3**
	comp=Z,8.9nm,0.8s,mb4.8,baz=115,slow=8.7,SNR=15						
MAW	**Mawson**	**72.28**	**201**	*e*P	**P**	**16 53 13.0**	**+

AKTK	Aktyubinsk	134.24	312	PKP	PKPdf	17 01 03.0	-0.9
AKTO	Aktyubinsk	134.24	312	PKP	PKPdf	17 01 03.0	-0.9
	comp=Z,4.9nm,0.8s,baz=102,slow=1.4,SNR=19						
ARCES	ARCESS Array B	138.69	348	PKhKP		17 01 02.7	
	comp=Z,3.5nm,0.7s,baz=2.3,slow=6.1,SNR=3.8						
ARCES				PKP	PKPdf	17 01 08.6	-3.6
	comp=Z,4.4nm,0.8s,baz=43,slow=2.3,SNR=9.9						
ARCES	ARCESS Array B	138.69	348	PKP		17 01 02.7	
ARCES				PKP	PKPdf	17 01 08.6	-3.6
JOF	Joensuu	142.53	338	epkp	PKPdf	17 01 12.1	-7.0
GNI	Garni	144.22	297	PKP	PKPdf	17 01 20.2	-1.8
	comp=Z,2.9nm,0.6s,baz=31,slow=5.4,SNR=3.2						
GNI	Garni	144.22	297	ePKP	PKPdf	17 01 19.6	-2.5
ZEI	Tsey	144.66	302	ePKIKP	PKPdf	17 01 21.6	-1.2
KAF	Kangasniemi	144.66	341	epkp	PKPdf	17 01 18.5	-4.3
FIA1	FINESS Array S	145.26	340	ePKP	PKPdf	17 01 20.9	-2.9
FINES	FINESS Array B	145.26	340	PKPbc	PKPbc	17 01 21.2	-2.4
	comp=Z,49nm,0.7s,baz=74,slow=3.3,SNR=115						
FINES	FINESS Array B	145.26	340	PKPbc	PKPbc	17 01 21.2	-2.4
OBN	Obninsk	145.30	325	ePKP	PKPdf	17 01 21.8	-2.1
KIV	Kislovodsk	145.37	304	ePKP2	PKPab	17 01 21.9	-2.2
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	Kislovodsk	145.37	304	ePKP	PKPdf	17 01 22.8	-1.3
SOC	Sochi	147.56	304	*i* PKP2	PKPab	17 01 30.3	-2.2
NB2	NORSAR Subarra	148.84	351	PKP	PKPdf	17 01 31.3	+1.5
	comp=Z,12nm,0.8s,baz=12,slow=2.9						
NOA	NORSAR Array B	148.84	351	PKPbc	PKPbc	17 01 31.6	-2.1
	comp=Z,9.7nm,0.8s,baz=14,slow=4.3,SNR=19						
ASF	Jabal al Asfar	150.34	282	PKPbc	PKPbc	17 01 37.5	+0.1
	comp=Z,7.4nm,0.9s,baz=75,slow=1.2,SNR=8.6						
AKASG	Malin Array Be	151.43	323	PKPbc	PKPbc	17 01 38.4	-1.7
	comp=Z,21nm,0.7s,baz=49,slow=2.6,SNR=99						
AKBB	Malin Array Si	151.43	323	ePKIKP	PKPdf	17 01 38.2	+4.3
KIEV	Kiev	151.45	323	ePKIKP	PKPdf	17 01 38.2	+4.3
EIL	Elat	151.65	277	ePKPbc	PKPbc	17 01 40.9	+0.4
MMAI	Mount Meron Ar	151.67	284	PKPbc	PKPbc	17 01 41.0	+0.4
	comp=Z,12nm,0.6s,baz=101,slow=4.3,SNR=34						
MMAI				PKPab	PKPab	17 01 51.3	+2.0
	comp=Z,8.4nm,0.8s,baz=98,slow=3.7,SNR=5.1						
SUW	Suwalki	152.00	333	ePKIKP	PKPdf	17 01 40.0	+5.3
BR131	Keskin Array S	152.74	298	ePKPbc	PKPbc	17 01 42.4	-0.6
BRTR	Keskin Array B	152.74	298	PKP	PKPdf	17 01 35.0	-0.9
	comp=Z,0.7nm,0.8s,baz=165,slow=5.1,SNR=3.7						
BRTR				PKPbc	PKPbc	17 01 42.0	-1.0
	comp=Z,6.5nm,1.0s,baz=133,slow=4.0,SNR=18						
BSEG	Bad Segeberg	155.82	348	ePKP2	PKPab	17 02 05.1	-1.8
STHS	Stebnicka Huta	156.20	328	ePKP	PKPab	17 02 08.5	0.0
CRVS	Cervenica-Dubn	156.46	327	ePKP	PKPab	17 02 07.6	-2.0
KECS	Kecovo	157.21	327	ePKP	PKPab	17 02 11.5	-1.4
UPC	Upice	157.45	336	ePKPab	PKPab	17 02 13.1	-0.8
DPC	Dobruska-Polom	157.47	336	ePKPab	PKPab	17 02 13.0	-1.0
CLL	Collm	157.67	342	⇓*i* PKP2	PKPab	17 02 12.2	-2.7
CLL				pmax	pmax		
	comp=Z,125nm,0.9s						
CLL	Collm	157.67	342	⇓*i* PKPab	PKPab	17 02 12.2	-2.7
	comp=Z,13nm,0.9s						
BRG	Berggiesshubel	157.80	340	*i* P	PKPab	17 02 14.0	-1.4
	comp=Z,8.6nm,0.9s						
BRG				*e*		17 13 56.9	
	comp=Z,4.5nm,0.9s						
CLZ	Clausthal	157.80	346	ePKP2	PKPab	17 02 14.1	-1.3
PVCC	Panska Ves	157.91	339	ePKPab	PKPab	17 02 14.9	-1.0
VYHS	Vyhne	157.95	329	ePKP	PKPab	17 02 14.7	-1.4
PRU	Pruhonice	158.39	338	ePKPab	PKPab	17 02 17.0	-1.0
NKC	Novy Kostel	158.80	341	ePKPab	PKPab	17 02 18.5	-1.3
KHC	Kasperske Hory	159.44	338	ePKPab	PKPab	17 02 21.4	-1.2
GRA1	Grafenberg Arr	159.62	343	ePKPab	PKPab	17 02 22.4	-0.9
GRF	Grafenberg Arr	159.62	343	ePKP2	PKPab	17 02 22.4	-0.9
WET	Wettzell	159.65	339	ePKP2	PKPab	17 02 22.4	-1.1
GERES	GERESS Array B	159.65	338	PKP	PKPdf	17 01 43.6	-1.3
	comp=Z,0.1nm,0.2s,baz=52,slow=8.6,SNR=3.2						
GERES				PKPab	PKPab	17 02 21.8	-1.7
	comp=Z,2.5nm,0.9s,baz=34,slow=5.0,SNR=10						
TNS	Taunus Mts	159.71	348	ePKP2	PKPab	17 02 21.8	-1.9
GIVF	Givet	160.29	355	ePKP2	PKPab	17 02 24.5	-1.7
BAIF	Baives	160.38	356	ePKP2	PKPab	17 02 24.6	-2.0
	comp=Z,88nm,1.5s						
FUR	Furstenfeldbru	161.00	341	ePKP2	PKPab	17 02 28.4	-0.9
BFO	Black Forest	161.55	347	ePKP2	PKPab	17 02 29.5	-2.2
FLN	La Foliniere	161.62	6	ePKP2	PKPab	17 02 29.6	-2.5
CDF	Champ du Feu	161.66	349	ePKP2	PKPab	17 02 30.2	-2.0
	comp=Z,11nm,0.9s						
MEZF	Maizieres J'vi	161.86	354	ePKP2	PKPab	17 02 31.3	-1.8
SGMF	Saint Gilles	161.88	10	ePKP2	PKPab	17 02 30.9	-2.3
HAU	Haudompre	162.20	351	ePKP2	PKPab	17 02 32.5	-2.1
HINF	Hinteralfeld	162.31	350	ePKP2	PKPab	17 02 32.8	-2.3
TORD	Torodi Ar. Bea	162.75	179	PKP	PKPdf	17 01 49.0	+0.8
	comp=Z,0.6nm,0.9s,baz=299,slow=1.3,SNR=3.0						
TORD				PKPab	PKPdf	17 02 37.9	+0.8
	comp=Z,3.5nm,0.9s,baz=175,slow=3.8,SNR=11						
LOR	Lormes	163.18	356	ePKP2	PKPab	17 02 36.8	-2.1
SSF	Saint Saulge	163.40	357	ePKP2	PKPab	17 02 37.9	-2.0
	comp=Z,34nm,1.1s						
SMF	Signal de Mont	163.80	356	ePKP2	PKPab	17 02 39.6	-2.0
	comp=Z,70nm,1.4s						
TCF	Toulx Ste Croi	164.21	360	ePKP2	PKPab	17 02 41.6	-1.8
LPL	La Plagne	164.56	348	ePKP2	PKPab	17 02 44.0	-0.9
	comp=Z,13nm,0.9s						
LPG	La Plagne	164.57	348	ePKP2	PKPab	17 02 44.1	-0.9
	comp=Z,19nm,0.9s						
RJF	Les Rejaudoux	165.19	2	ePKP2	PKPab	17 02 45.5	-2.2
ORIF	Oris-en-Rattie	165.28	350	ePKP2	PKPab	17 02 46.9	-1.2
	comp=Z,20nm,0.8s						
MBDF	Montbardon	165.31	347	ePKP2	PKPab	17 02 46.7	-1.6
	comp=Z,22nm,1.1s						
VIVF	Saint-Julien-l	165.50	353	ePKP2	PKPab	17 02 47.6	-1.5
	comp=Z,16nm,1.1s						
SBF	Sospel	165.99	344	ePKP2	PKPab	17 02 49.3	-2.0
	comp=Z,50nm,0.9s						
SMRF	Simiane la Rot	166.25	350	ePKP2	PKPab	17 02 51.3	-1.1
FRF	La Foret Royal	166.46	346	ePKP2	PKPab	17 02 51.3	-2.0
LMR	La Mourre	166.70	346	ePKP2	PKPab	17 02 52.5	-1.9
	comp=Z,19nm,1.0s						
PGF	Pioggiola	166.76	337	ePKP2	PKPab	17 02 52.6	-2.0
	comp=Z,8.0nm,0.9s						
MTLF	Montolieu	167.16	360	ePKP2	PKPab	17 02 54.6	-1.8
	comp=Z,15nm,1.2s						

*ISCJB **12** 16:43:19.8±0.7,3480N±009×13570E±007,h380km±4km, mb3.1/3,Error ellipse: s-maj=14.9km s-min=6.8km az=126.0*
*IDC **12** 16:43:20.1±2.4,3468N×13592E,h383km±15km,mb2.8/3, mb1 3.0/7,mb1mx2.8/26,mbtmp2.9/7,Error ellipse: s-maj=58.8km s-min=20.4km az=163.0*
*JMA **12** 16:43:20.0±0.1,3481N×13566E,h378km±2km,M2.7*
ISC 12 16:43:20.8±0.6,3482N±009×13568E±007,h373km±4km, n26,σ0°68/40,mb3.1/3,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JHE	Heguri	0.17	179		P	Pn	16 44 07.0	-0.2
JHE					eS	S	16 44 44.2	-0.3
JWT	Wachi	0.51	333		P	Pn	16 44 07.6	0.0
JWT					eS	S	16 44 44.5	-0.8
JWY	Kouya	0.61	187		P	Pn	16 44 07.2	-0.6
JWY					S	S	16 44 45.3	-0.4
JIE	Ise	0.95	117		P	Pn	16 44 08.9	+0.1
JIE					S	S	16 44 47.7	+0.2
JGM	Miyama	1.22	44		P	Pn	16 44 10.1	+0.2
JGM					S	S	16 44 50.0	+0.6
JWZ	Kozaga	1.29	179		P	Pn	16 44 09.9	-0.3
JWZ					eS	S	16 44 49.8	-0.2
JAI	Aioi	1.45	225		P	Pn	16 44 10.9	-0.1
JAI					eS	S	16 44 51.6	+0.2
JKG	Kaga	1.54	20		P	Pn	16 44 11.4	-0.1
JKG					eS	S	16 44 52.1	-0.2
JMN	Monobe	1.85	234		P	Pn	16 44 13.1	-0.1
JHS	Saijyo	2.12	275		P	Pn	16 44 15.1	+0.1
JHS					eS	S	16 44 58.4	-0.3
JYN	Shimob	2.44	73		P	Pn	16 44 17.3	0.0
MAT	Matsushiro	2.68	49		P	Pn	16 44 18.9	-0.3
MAT					eS	S	16 45 07.1	+0.8
MAT	Matsushiro	2.68	49		P	Pn	16 44 19.3	+0.1
MJAR	Matsushiro Arr	2.68	49		P	Pn	16 44 19.2	0.0
	4.3nm,0.3s,baz=226,slow=7.3,SNR=83							
JHT	Toyohira	2.69	268		P	Pn	16 44 19.3	0.0
JHT					eS	S	16 45 05.0	-1.5
JOD2	Odawara 2	2.83	80		P	Pn	16 44 20.2	-0.2
JOD2					eS	S	16 45 12.0	+3.5
JRY	Ryogami san	2.89	65		P	Pn	16 44 21.0	+0.1
JRY					eS	S	16 45 09.6	+0.2
JNA	Nagahama	2.94	245		P	Pn	16 44 21.7	+0.4
JNA					eS	S	16 45 10.6	+0.4
JSZ	Suzu	2.95	27		P	Pn	16 44 21.8	+0.4
JTO	Tosashimizu	3.10	232		P	Pn	16 44 22.7	0.0
JNU	Nakatsue	4.34	248		P	Pn	16 44 35.6	+1.1
	1.1nm,0.3s,baz=227,slow=12,SNR=7.2							
KSRS	Korea Array	6.80	295		P	Pn	16 45 04.5	+3.0
	baz=108,slow=13,SNR=4.8							
ASAJ	Asahikawa	10.71	28		P	Pn	16 45 45.5	-1.4
	1.6nm,0.3s,baz=225,slow=9.2,SNR=14							
SONM	Songino Array	25.38	310		P	P	16 48 16.4	+0.8
	0.5nm,0.6s,mb2.9,baz=106,slow=9.3,SNR=3.7							
MKAR	Makanchi Array	41.40	303		P	P	16 50 32.4	+0.3
	0.5nm,0.5s,mb3.0,baz=82,slow=9.9,SNR=14							
YKA	Yellowknife Ar	68.00	28		P	P	16 53 39.2	-1.5
	0.6nm,0.9s,mb3.3,baz=296,slow=6.8,SNR=4.3							

*ISCJB **12** 16:44:37.1±0.3,5151N±002×1606E±002,h0km,mb3.5/7, Error ellipse: s-maj=2.6km s-min=1.7km az=20.9*
*NEIC **12** 16:44:39.3±0.4,5155N×1601E,h5km,ML3.6(SZGRF), Error ellipse: s-maj=5.7km s-min=4.0km az=190.0*
*BGR **12** 16:44:39.6±0.4,5154N×1617E,h1km,ML3.6/16,Error ellipse: s-maj=5.6km s-min=2.2km az=16.0*
*CSEM **12** 16:44:40.6±0.1,5150N×1611E,h1km,ML3.9/11,Error ellipse: s-maj=1.8km s-min=1.1km az=17.0*
*WAR **12** 16:44:40.9,5151N×1611E,ML3.2,Mining Induced*
*PRU **12** 16:44:41.1,5149N×1607E,h0km*
*LDG **12** 16:44:42.1±0.1,5126N×1595E,h1km,Ml3.8/24,Error ellipse: s-maj=2.2km s-min=1.3km az=171.0,Suspected Mining induced.*
*IDC **12** 16:44:43.3±1.5,5147N×1604E,h22km±12km,mb3.5/7, mb1 3.6/13,mb1mx3.6/23,mbtmp3.5/13,ML3.3/6,Error ellipse: s-maj=10.3km s-min=8.4km az=104.0*
*VIE **12** 16:44:43.1±0.7,5127N×1600E,h0km,mb3.0/7,ML3.4/8, Error ellipse: s-maj=4.2km s-min=3.4km az=13.0 73 km WNW of Breslau Suspected Mining induced.*
ISC 12 16:44:38.7±0.2,5156N±002×1609E±002,h0km,n131, σ1°25/231,mb3.5/7,15C-13D,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.73	170	*i*	Pg	Pg	16 44 53.4	+0.7
KSP					eSg	Sg	16 45 02.4	+0.2
KSP					eL		16 45 07.0	
KSP	Ksiaz	0.73	170		ePg	Pg	16 44 53.4	+0.7
KSP					eSg	Sg	16 45 02.7	+0.5
KSP	Ksiaz	0.73	170	⇓	*i* Pg	Pg	16 44 53.4	+0.7
KSP					eSg	Sg	16 45 02.4	+0.2
KSP					*e*		16 45 07.0	
KSP	Ksiaz	0.73	170		Pg	Pg	16 44 53.4	+0.7
KSP					eSg	Sg	16 45 02.4	+0.2
UPC	Upice	1.06	183		ePG	Sg	16 44 59.5	+0.5
DPC	Dobruska-Polom	1.22	173		ePg	Pg	16 45 02.1	0.0
DPC					eSg	Sg	16 45 17.8	-0.2
DPC	Dobruska-Polom	1.22	173		ePG	Pg	16 45 02.2	+0.1
DPC					eSG	Sg	16 45 17.4	-0.5
	297nm,0.8s							
PVCC	Panska Ves	1.41	224		ePG	Pg	16 45 05.9	+0.1
BRG	Berggiesshubel	1.52	244		ePn	Pn	16 45 08.2	+1.1
BRG					eSg	Sg	16 45 29.0	+1.6
BRG	Berggiesshubel	1.52	244		PN	Pn	16 45 07.2	+0.1
BRG					PG	Pg	16 45 08.8	+1.0
BRG					SG	Sg	16 45 29.0	+1.5
	193nm,0.6s							
BRG	Berggiesshubel	1.52	244		Pg	Pg	16 45 08.8	+1.0
BRG					Sg	Sg	16 45 29.0	+1.5
RUE	Ruedersdorf	1.70	304		eP	Pn	16 45 08.6	-1.0
RUE					eS	Sn	16 45 36.2	+4.1
PRA	Prague	1.83	216		PG	Pg	16 45 12.0	-1.7
PRA					SG	Sg	16 45 37.0	-0.4
FBE	Freiberg	1.84	251		ePn	Pn	16 45 12.9	+1.4
FBE					eSg	Sg	16 45 39.0	+1.2
GKP	Gorka Klasztor	1.85	22		ePn	Pg	16 45 19.6	+5.4
GKP					eSg	Sg	16 45 49.0	+11
PRU	Pruhonice	1.86	213		ePN	Pn	16 45 11.8	0.0
PRU					ePG	Pg	16 45 13.9	-0.4
PRU					eSG	Sg	16 45 37.9	-0.5
	205nm,0.3s							
PRU	Pruhonice	1.86	213		ePn	Pn	16 45 11.8	0.0
PRU					ePg	Pg	16 45 13.9	-0.4
PRU					eSg	Sg	16 45 37.9	-0.5
CLL	Collm	1.95	264		ePn	Pn	16 45 13.3	+0.2
CLL					eSg	Sg	16 45 43.0	+1.7
CLL	Collm	1.95	264	*i*	Pn	Pn	16 45 13.3	+0.2
CLL					ePg	Pg	16 45 17.0	+0.9
CLL				*i*	Sn	Sn	16 45 38.1	-0.1
CLL				*i*	Sg	Sg	16 45 43.1	+1.7
CLL	Collm	1.95	264	*i*	Pn	Pn	16 45 13.3	+0.2
CLL					ePg	Pg	16 45 17.0	+0.9
CLL				*ex*		x	16 45 19.0	
CLL				*i*	x	x	16 45 20.6	
CLL				*i*	Sn	Sn	16 45 38.1	-0.1
CLL				*i*	Sg	Sg	16 45 43.1	+1.7
	comp=Z,310nm,0.6s							
CLL				*i*	x	x	16 45 48.7	
CLL				*i*	x	x	16 45 53.0	
RAC	Raciborz	1.99	137		ePg	Pg	16 45 17.0	+0.1
RAC					eSg	Sg	16 45 41.7	-1.0
MORC	Moravsky Berou	2.01	152		ePn	Pn	16 45 13.8	-0.1
MORC	Moravsky Berou	2.01	152	⇓	P	Pn	16 45 13.8	-0.1
MORC	Moravsky Berou	2.01	152		S	Sn	16 45 42.0	+2.3
MORC	Moravsky Berou	2.01	152	⇓	*i* P	Pn	16 45 13.8	-0.1
MORC	Moravsky Berou	2.01	152		ePn	Pn	16 45 13.8	-0.1
MORC					eSg	Sg	16 45 41.9	-1.4
OKC	Ostrava-Krasne	2.16	142		ePn	Pn	16 45 15.2	-0.8
OKC					eSg	Sg	16 45 46.3	-2.0
OKC	Ostrava-Krasne	2.16	142		ePN	Pn	16 45 15.4	-0.6
OKC					ePG	Pg	16 45 19.8	-0.4
OKC					eSG	Sg	16 45 47.9	-0.4
	comp=Z,294nm,0.7s							
OKC	Ostrava-Krasne	2.16	142		ePn	Pn	16 45 15.4	-0.6
OKC					ePg	Pg	16 45 19.8	-0.4
OKC					eSg	Sg	16 45 47.9	-0.4
OKC	Ostrava-Krasne	2.16	142		ePg	Pg	16 45 19.8	-0.4
OKC					Sg	Sg	16 45 46.3	-2.0
VRAC	Vranov	2.28	172		Pn	Pn	16 45 17.9	+0.4
	comp=Z,4.0nm,0.3s,baz=335,slow=13,SNR=13							
VRAC					Pg	Pg	16 45 24.8	+2.4
	comp=Z,11nm,0.3s,baz=352,slow=14,SNR=25							
VRAC					Lg		16 45 50.8	
	comp=Z,30nm,0.3s,baz=84,slow=22,SNR=11							
VRAC	Vranov	2.28	172	⇑	P	Pn	16 45 18.6	+1.0
VRAC					S	Sn	16 45 52.1	+5.7
VRAC	Vranov	2.28	172	⇑	*i* P	Pn	16 45 18.9	+1.3
VRAC	Vranov	2.28	172		S	Sg	16 45 49.8	-2.1
VRAC	Vranov	2.28	172		ePn	Pn	16 45 18.6	+1.0
VRAC					eSg	Sg	16 45 49.8	-2.1
TANN	Tannenbergstha	2.56	245		ePn	Pn	16 45 22.3	+0.8
TANN					eSg	Sg	16 46 01.7	+0.6
WERD	Werda	2.64	246		ePn	Pn	16 45 23.2	+0.6
WERD					eSg	Sg	16 46 03.6	+0.1
NKC	Novy Kostel	2.66	241		ePN	Pn	16 45 24.0	+1.1
NKC					ePG	Pg	16 45 30.5	+0.7
NKC					eSG	Sg	16 46 05.5	+1.2
	comp=Z,314nm,0.7s							
OJC	Ojcow	2.70	118		ePg	Pg	16 45 31.2	+0.6
OJC					eSg	Sg	16 46 05.7	+0.1
OJC	Ojcow	2.70	118		ePn	Pn	16 45 23.4	0.0
OJC	Ojcow	2.70	118		ePg	Pg	16 45 31.2	+0.6
OJC					eSg	Sg	16 46 05.7	+0.1
KHC	Kasperske Hory	2.92	214		ePN	Pn	16 45 26.7	+0.3
KHC					ePG	Pg	16 45 33.0	-1.6
KHC					eSN	Sn	16 46 02.0	-0.1
KHC					eSG	Sg	16 46 11.4	-1.0
	comp=Z,69nm,0.4s							
MOX	Moxa	2.97	254		ePn	Pn	16 45 28.3	+1.3
MOX					eSg	Sg	16 46 16.2	+2.1
MOX	Moxa	2.97	254		ePN	Pn	16 45 28.6	+1.6
MOX					ePG	Pg	16 45 36.5	+0.9
MOX					*i* SG	Sg	16 46 16.2	+2.1
MANZ	Manzenberg	2.98	240		ePn	Pn	16 45 28.5	+1.3
MANZ					eSg	Sg	16 46 16.9	+2.4
ROTZ	Rotzenmuhle	3.06	236		ePn	Pn	16 45 29.3	+1.1
ROTZ					eSg	Sg	16 46 15.7	-1.2
GEC2	GERESS Array S	3.12	210		ePn	Pn	16 45 30.7	+1.5
GEC2					eSg	Sg	16 46 17.4	-1.6
GEC2	GERESS Array S	3.12	210		ePn	Pn	16 45 30.7	+1.5
GEC2					eSg	Sg	16 46 17.4	-1.6
GERES	GERESS Array B	3.12	210		Pn	Pn	16 45 29.7	+0.6
	comp=Z,3.2nm,0.3s,baz=32,slow=12,SNR=91							
GERES					Pg	Pg	16 45 38.9	+0.4
	comp=Z,7.2nm,0.3s,baz=34,slow=15,SNR=52							
GERES					Lg		16 46 20.5	
	comp=Z,16nm,0.3s,baz=31,slow=27,SNR=16							
GERES	GERESS Array B	3.12	210		Pg	Pg	16 45 38.9	+0.3
SMOL	Smolenice	3.17	164		ePG	Pg	16 45 39.0	-0.5
SMOL					eSG	Sg	16 46 23.1	+2.5
WET	Wettzell	3.18	222		ePn	Pn	16 45 30.5	+0.6
WET	Wettzell	3.18	222		ePn	Pn	16 45 30.5	+0.6
ZST	Bratislava	3.43	169		ePG	Pg	16 45 42.0	-2.5
ZST					eSG	Sg	16 46 28.0	-1.0
NIE	Niedzica	3.44	127		eP	Pg	16 45 44.2	-0.5
NIE					eS	Sg	16 46 30.2	+0.8
VYHS	Vyhne	3.54	149		ePN	Pn	16 45 34.7	-0.3
VYHS					ePG	Pg	16 45 47.0	+0.4
VYHS					eSG	Sg	16 46 32.3	-0.3
CLZ	Clausthal	3.57	277		eSg	Sg	16 46 35.1	+1.7
GRA1	Grafenberg Arr	3.62	241		ePn	Pn	16 45 37.3	+1.3
GRA1					eSg	Sg	16 46 36.4	+1.3
GRA1	Grafenberg Arr	3.62	241		Pn	Pn	16 45 37.3	+1.3
GRA1					Sg	Sg	16 46 36.4	+1.3
GRF	Grafenberg Arr	3.62	241		ePn	Pn	16 45 37.3	+1.2
GRF					eSg	Sg	16 46 36.4	+1.4
GRFO	Grafenberg	3.62	241		ePn	Pn	16 45 35.3	-0.7
GRFO	Grafenberg	3.62	241		ePn	Pn	16 45 35.3	-0.8
BSD	Bornholm Skovb	3.63	349		*i* P	Pn	16 45 36.3	+0.1
BSD					*i* S	Sn	16 46 16.5	-3.2
CONA	Conrad Observa	3.64	182	⇑	*i* Pn	Pn	16 45 37.1	+0.8
CONA				⇓	*i* Sg	Sg	16 46 33.0	-2.7
	comp=Z,63nm,0.4s							
HROE	Hohe Rhon--Fla	3.88	257	⇓	*i* Pn	Pn	16 45 40.5	+0.9
MOA	Molln	3.90	198	⇑	*i* Pn	Pn	16 45 40.8	+0.9
	SNR=6.5							
MOA				⇑	*i* Sg	Sg	16 46 43.5	-0.5
	comp=Z,104nm,0.8s							
STHS	Stebnicka Huta	3.93	121		ePN	Pn	16 45 41.4	+1.1
STHS					ePG	Pg	16 45 55.5	+1.5
STHS					eSG	Sg	16 46 48.9	+4.0
STHS	Stebnicka Huta	3.93	121		ePn	Pn	16 45 41.4	+1.1
STHS					ePg	Pg	16 45 55.6	+1.6
STHS					eSg	Sg	16 46 48.9	+4.0
KECS	Kecovo	4.18	136		ePN	Pn	16 45 43.7	-0.1
KECS					ePG	Pg	16 45 59.2	+0.3
KECS					eSG	Sg	16 46 57.0	+3.8
ARSA	Arzberg	4.33	185	⇑	*i* Pn	Pn	16 45 47.2	+1.4
ARSA				⇑	*i* Sg	Sg	16 46 55.9	-1.9
	comp=Z,65nm,0.6s							
CRVS	Cervenica-Dubn	4.35	126		ePN	Pn	16 45 47.2	+1.1
CRVS					ePG	Pg	16 46 01.8	-0.4
CRVS	Cervenica-Dubn	4.35	126		ePn	Pn	16 45 47.2	+1.1
CRVS					ePg	Pg	16 46 01.8	-0.4
CRVS					eSg	Sg	16 46 59.1	+0.5
CRVS	Cervenica-Dubn	4.35	126		ePg	Pg	16 46 01.8	-0.4
CRVS					eSg	Sg	16 46 59.1	+0.5
PSZ	Piszkesteto	4.40	144	⇑	P	Pn	16 45 47.7	+1.0
PSZ					S	Sn	16 46 46.6	+7.9
PSZ	Piszkesteto	4.40	144	⇓	*i* P	Pn	16 45 47.9	+1.1
PSZ	Piszkesteto	4.40	144	⇑	P	Pn	16 45 47.7	+0.9
KOLS	Kolonicke sedl	4.76	121		ePN	Pn	16 45 52.0	+0.3
KOLS					ePG	Pg	16 46 10.2	+0.3
KBA	Koelnbreinsper	4.83	203	⇓	*i* Pn	Pn	16 45 54.0	+1.3
	SNR=8.4							
KBA				⇑	*i* Sg	Sg	16 47 14.8	+0.8
	comp=Z,31nm,0.7s							
PERS	Pernice	4.97	188		*i* Pn	Pn	16 45 57.2	+2.6
TOD	Tromm	5.04	250		P	Pn	16 45 55.1	-0.4
TOD					S	Sg	16 47 19.0	-1.6
WATA	Walderalm	5.15	217	⇑	*i* Pn	Pn	16 45 58.0	+0.9

comp=Z,1.2nm,0.2s
SGMF Saint Gilles 12.46 262 *e*Pn **Pn 16 47 36.1 -1.3**
SGMF *e*Sg 16 51 07.9
comp=Z,0.6nm,0.2s
ROSF Rostrenen 12.88 263 *e*Pn **Pn 16 47 41.7 -1.3**
ROSF *e*Sg 16 51 20.8
comp=Z,6.8nm,0.7s
QUIF Quistinic 12.97 261 *e*Pn **Pn 16 47 43.5 -0.8**
QUIF *e*Sg 16 51 23.5
comp=Z,2.4nm,0.3s
ARCES ARCESS Array B 18.57 10 Pn **Pn 16 48 54.0 -3.3**
comp=Z,0.4nm,0.3s,baz=195,slow=14,SNR=12
AKTK Aktyubinsk 26.15 76 P **P 16 50 14.8 +0.2**
AKTO Aktyubinsk 26.15 76 P **P 16 50 14.8 +0.2**
comp=Z,1.1nm,0.6s,mb3.7,baz=284,slow=8.7,SNR=5.5
TORD Torodi Ar. Bea 40.04 202 P **P 16 52 16.3 +0.8**
comp=Z,0.7nm,0.9s,mb3.3,baz=16,slow=8.4,SNR=2.8
ZAL Zalesovo 40.18 59 P **P 16 52 18.4 +1.8**
comp=Z,0.5nm,0.4s,mb3.5,baz=33,slow=3.1,SNR=3.9
MKAR Makanchi Array 42.21 69 P **P 16 52 34.4 +1.1**
comp=Z,0.4nm,0.8s,mb3.2,baz=302,slow=6.1,SNR=4.3
SONM Songino Array 54.90 55 P **P 16 54 10.5 -0.6**
comp=Z,0.6nm,0.9s,mb3.6,baz=303,slow=8.3,SNR=3.6
YKA Yellowknife Ar 59.81 336 P **P 16 54 46.0 +0.3**
comp=Z,0.5nm,0.7s,mb3.7,baz=30,slow=6.6,SNR=7.0
YKA Yellowknife Ar 59.81 336 P **P 16 54 46.0 +0.2**
TXAR Lajitas Array 83.67 310 P **P 16 57 10.0 +0.8**
comp=Z,0.2nm,0.3s,mb3.8,baz=33,slow=4.9,SNR=3.8

IDC 12 16:52:30.1±31.0,3030S×17960W,h568km±298km, mb3.1/4,mb1 3.2/4,mb1mx3.0/13,mbtmp3.1/4,Error ellipse: s-maj=212.4km s-min=101.4km az=88.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.42**	**280**	P	P	16 58 14.2	+0.1
	3.4nm,0.5s,baz=121,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**33.15**	**257**	P	P	16 58 19.9	-0.4
	2.1nm,0.7s,baz=103,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**41.73**	**268**	P	P	16 59 30.1	0.0
	0.6nm,0.5s,baz=106,slow=7.3,SNR=29						
WRA	**Warramunga Arr**	**42.71**	**273**	P	P	16 59 38.6	+0.7
	1.4nm,0.3s,baz=110,slow=8.1,SNR=60						
VNA3	**Neumayer Olymp**	**78.50**	**177**	*e*	P	17 03 27.7	-5.4
VNA3				*e*		17 03 37.7	
VNA2	**Neumayer--Watz**	**78.91**	**177**	*e*	P	17 03 27.8	-7.5
	baz=184,slow=5.8						
VNA2				*e*		17 03 38.5	
FINES	**FINESS Array B**	**144.56**	**339**	PKP	PKPdf	17 11 02.6	+0.2
	1.5nm,0.5s,baz=72,slow=4.5,SNR=12						
AKASG	**Malin Array Be**	**150.37**	**322**	PKPbc	PKPbc	17 11 16.3	-1.5
	0.7nm,0.5s,baz=42,slow=2.9,SNR=6.4						

*BJI **12** 17:02:26.9,1875N×9897E,h13km,mB5.0,mb4.6,ML5.1, Ms4.6,Msz4.3*
*IDC **12** 17:02:27.9±0.6,1886N×9890E,h0km,mb4.4/15, mb1 4.5/16,mb1mx4.3/25,mbtmp4.4/16,ML4.0/1,Error ellipse: s-maj=29.5km s-min=12.1km az=56.0*
*ISCJB **12** 17:02:29.4±0.5,1882N±003×9887E±003,h22km±3km, mb4.6/43,MS4.2/5,Error ellipse: s-maj=5.1km s-min=4.8km az=166.0*
*NEIC **12** 17:02:29.7±0.8,1890N×9892E,h10km±5km,mb4.6/14, Error ellipse: s-maj=11.5km s-min=4.9km az=56.0*
NEIC At least five buildings damaged in the Mae Rim area. Felt [IV] at Chiang Mai, Sankamphaeng and Sansai; [III] at Hangdong. Felt at Chiang Rai.
*MOS **12** 17:02:31.1±0.9,1892N×9897E,h33km,mb4.8/18,Error ellipse: s-maj=15.5km s-min=6.1km az=115.1*
*SZGRF **12** 17:02:32.9,1914N×9955E,h33km,mb4.5,Thailand*
*PLV **12** 17:03:32.7±2.9,1928N×9924E,h0km±30km,ML4.6*

ISC 12 17:02:30.3±0.6,1886N±003×9886E±003,h12km±4km, n111,σ§16/126,mb4.6/43,MS4.2/5,6C-6D,Thailand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**0.09**	**119**	PG	**Pg**	**17 02 32.8**	**-0.2**
CHG				SG	**Sg**	**17 02 34.4**	**-0.5**
CHTO	**Chiang Mai**	**0.09**	**119**	⇓*i*P	**Pg**	**17 02 31.9**	**-1.1**
CM31	**Chiang Mai Arr**	**0.41**	**169**	⇓*i*P	**Pg**	**17 02 38.5**	**+0.2**
KKTK	**Khon Kaen**	**4.54**	**123**	PG	Px	17 04 55.5	
KKTK				SG	**Sg**	**17 05 00.0**	**+4.0**
LCVN	**Lai Chau**	**5.12**	**51**	*e*PN	**Pn**	**17 03 44.0**	**-2.9**
LCVN				*e*PG	**Pb**	**17 04 00.3**	**+0.5**
LCVN				*e*SG	**Sb**	**17 05 01.2**	**-0.2**
LCVN				*e*		17 05 10.8	
	comp=E,583nm,0.4s						
SLVN	**Son La**	**5.34**	**62**	*e*PN	**Pn**	**17 03 46.9**	**-3.0**
SLVN				*e*PG	**Pb**	**17 04 04.9**	**+1.3**
	baz=258,slow=12						
SLVN				*e*SG	**Sb**	**17 05 08.1**	**+0.3**
NNT	**Nongplab**	**6.29**	**172**	P	**Pn**	**17 04 04.0**	**+1.1**
IMP	**Imphal**	**7.46**	**323**	*e*P	**Pn**	**17 04 21.0**	**+2.0**
IMP				*e*S	**Sb**	**17 06 11.0**	**+2.3**
SHL	**Shillong**	**9.29**	**317**	*e*P	**Pn**	**17 04 43.5**	**-0.6**
QIZ	**Qiongzhong**	**10.40**	**87**	P	**Pn**	**17 04 59.1**	**-0.1**
QIZ				S	**Sn**	**17 06 57.1**	**+1.4**
QIZ				LR	LR		
	comp=N,3μm,11.6s						
QIZ				LR	LR		
	comp=E,1μm,13.0s						
QIZ				LR	LR		
	comp=Z,570nm,16.5s						
GYA	**Guiyang**	**10.44**	**42**	P	**Pn**	**17 05 01.0**	**+1.1**
GYA				PP		17 05 10.7	
GYA				S	**Sn**	**17 07 00.1**	**+3.2**
GYA				SS		17 07 13.0	
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,2μm,7.8s						
GYA				LR	LR		
	comp=E,770nm,6.3s						
GYA				LR	LR		
	comp=Z,1μm,7.8s						
CD2	**Chengdu**	**12.79**	**19**	P	**Pn**	**17 05 33.7**	**+1.7**
CD2				AP		17 05 37.0	
CD2				XP		17 05 40.1	
CD2				PP		17 05 44.0	
CD2				S	**Sn**	**17 07 56.8**	**+2.4**
CD2				XS		17 08 02.0	
CD2				SS		17 08 11.2	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,240nm,4.5s						
CD2				LR	LR		
	comp=N,2μm,8.7s						
CD2				LR	LR		
	comp=E,3μm,11.7s						
CD2				LR	LR		
	comp=Z,2μm,10.2s						
LSA	**Lhasa**	**12.88**	**328**	P	**Pn**	**17 05 35.2**	**+2.1**
LSA	**Lhasa**	**12.88**	**328**	*e*P	**Pn**	**17 05 33.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	**12.88**	**328**	*e*P	**Pn**	**17 05 33.5**	**+0.4**
	comp=Z,14nm,0.8s						
GUN	**Gumba**	**14.93**	**310**	*e*P	**Pn**	**17 06 01.6**	**+0.4**
	comp=Z,86nm,0.6s						
PKI	**Pulchoki**	**15.09**	**308**	*e*P	**Pn**	**17 06 08.9**	**+5.5**
	comp=Z,102nm,1.0s						
KKN	**Kakani**	**15.31**	**308**	*e*P	**Pn**	**17 06 07.2**	**+1.0**
	comp=Z,151nm,0.9s						
DMN	**Daman**	**15.34**	**307**	*e*P	**Pn**	**17 06 10.9**	**+4.3**
	comp=Z,115nm,1.1s						
GKN	**Gorkha**	**15.90**	**308**	*e*P	**Pn**	**17 06 10.9**	**-3.0**
PSI	**Prapat**	**15.96**	**180**	Pn	**Pn**	**17 06 16.9**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=194,slow=5.3,SNR=10						
PSI				Lg		17 11 00.8	
	comp=Z,0.4nm,0.3s,baz=221,slow=5.8,SNR=5.3						
KOLN	**Koldanda**	**16.57**	**305**	*e*P	**Pn**	**17 06 21.1**	**-1.5**
	comp=Z,250nm,1.3s						
XAN	**Xi'an**	**17.58**	**29**	P	**Pn**	**17 06 32.2**	**-3.0**
XAN				AP	pP	17 06 43.3	+3.8
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s						
LZH	**Lanzhou**	**17.72**	**13**	*e*P	**Pn**	**17 06 37.2**	**+0.3**
LZH				AP	pP	17 06 40.5	-0.5
LZH				XP	sP	17 06 41.8	-0.7
LZH				PP		17 06 51.9	
LZH				*e*S	**Sn**	**17 09 53.2**	**-1.0**
LZH				XS	sS	17 09 58.5	-8.1
LZH				*e*SS		17 10 15.3	
LZH				AMB	AMB		
	comp=Z,88nm,1.2s						
LZH				AMB	AMB		
	comp=Z,328nm,5.0s						
LZH				LR	LR		
	comp=E,1μm,7.8s						
LZH				LR	LR		
	comp=Z,2μm,10.2s						
LZH	**Lanzhou**	**17.72**	**13**	*e*P	**Pn**	**17 06 37.2**	**+0.3**
LZH				*e*S	**Sn**	**17 09 53.2**	**-1.0**
LZH	**Lanzhou**	**17.72**	**13**	*e*P	**Pn**	**17 06 37.2**	**+0.3**
LZH				pP	pP	17 06 40.5	-0.5
LZH				sP	sP	17 06 41.8	-0.7
LZH				PP		17 06 51.9	
LZH				*e*S	**Sn**	**17 09 53.2**	**-1.0**
LZH				sS	sS	17 09 58.5	-8.1
LZH				*e*SS		17 10 15.3	
WHN	**Wuhan**	**18.24**	**47**	*e*P	**Pn**	**17 06 43.0**	**-0.3**
GTA	**Gaotai**	**20.50**	**2**	⇑P	**P**	**17 07 08.8**	**+0.6**
GTA				AP		17 07 12.4	
GTA				XP	sP	17 07 15.2	+2.2
GTA				PP		17 07 31.5	
GTA				S	**S**	**17 10 57.3**	**-0.1**
GTA				XS	sS	17 11 04.5	+1.9
GTA				AMB	AMB		
	comp=Z,30nm,1.0s						
GTA				AMB	AMB		
	comp=Z,287nm,6.5s						
GTA				LR	LR		
	comp=N,587nm,10.3s,MS4.8						
GTA				LR	LR		
	comp=E,2μm,12.9s,MS4.8						
GTA				LR	LR		
	comp=Z,571nm,16.0s,MS4.0						
KSM	**Kuching**	**20.60**	**146**	*e*P	**P**	**17 07 08.9**	**-0.4**
KKM	**Kota Kinabalu**	**21.17**	**125**	P	**P**	**17 07 17.4**	**+1.9**
BTO	**Baotou**	**23.70**	**22**	*e*P	**P**	**17 07 39.8**	**-2.3**
HHC	**Hu-ho-hao-te**	**24.48**	**24**	*e*P	**P**	**17 07 48.7**	**-0.5**
HHC				XP	sP	17 07 54.3	+0.1
HHC				PP		17 08 24.0	
HHC				PCP	PcP	17 11 29.5	+1.8
HHC				S	**S**	**17 12 04.6**	**-4.7**
HHC				SS		17 12 58.7	
HHC				PCS	PcS	17 15 07.6	0.0
HHC				AMB	AMB		
	comp=Z,36nm,1.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,388nm,10.3s						
HHC				LR	LR		
	comp=N,350nm,16.7s,MS4.0						
HHC				LR	LR		
	comp=E,317nm,19.6s,MS4.0						
HHC				LR	LR		
	comp=Z,658nm,18.4s,MS4.2						
WMQ	**Urumqi**	**26.60**	**342**	*e*P	**P**	**17 08 10.6**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.3						
WMQ				LR	LR		
	comp=N,423nm,17.0s						
WMQ				LR	LR		
	comp=E,571nm,25.0s						
WMQ				LR	LR		
	comp=Z,160nm,17.0s,MS3.6						
SONM	**Songino Array**	**29.55**	**10**	P	**P**	**17 08 34.7**	**-0.2**
	comp=Z,9.4nm,1.1s,mb4.4,baz=195,slow=9.1,SNR=22						
KBL	**Kabul**	**30.73**	**307**	*e*P	**P**	**17 08 46.4**	**+1.1**
MK31	**Makanchi Array**	**31.01**	**338**	*e*P	**P**	**17 08 47.8**	**0.0**
MKAR	**Makanchi Array**	**31.01**	**338**	P	**P**	**17 08 48.2**	**+0.5**
	comp=Z,3.9nm,0.5s,mb4.5,baz=151,slow=9.2,SNR=71						
MKAR	**Makanchi Array**	**31.01**	**338**	P	**P**	**17 08 48.2**	**+0.5**
AAK	**Ala-Archa**	**31.41**	**324**	*i* P	**P**	**17 08 51.4**	**+0.1**
HIA	**Hailar**	**34.68**	**24**	*e*P	**P**	**17 09 18.2**	**-1.6**
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
HIA	**Hailar**	**34.68**	**24**	*e*P	**P**	**17 09 18.2**	**-1.6**
	comp=Z,14nm,0.9s,mb4.9						
KURK	**Kurchatov**	**35.62**	**338**	*d i*P	**P**	**17 09 28.2**	**+0.2**
KURK	**Kurchatov**	**35.62**	**338**	*e*P	**P**	**17 09 27.7**	**-0.2**
	comp=Z,3.3nm,0.4s,mb4.6						
MDJ	**Mudanjiang**	**36.27**	**38**	P	**P**	**17 09 34.5**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.3s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,161nm,6.4s						
ZAL	**Zalesovo**	**36.66**	**346**	P	**P**	**17 09 35.9**	**-0.9**
	comp=Z,2.7nm,0.5s,mb4.3,baz=317,slow=8.6,SNR=13						
NVS	**Novosibirsk**	**37.85**	**345**	*e*P	**P**	**17 09 45.4**	**-1.5**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
NVS				pmax	pmax		
	comp=N,9.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.5s						
BOD	**Bodaibo**	**40.48**	**12**	*e*P	**P**	**17 10 03.8**	**-5.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.1						
BRVK	**Borovoye**	**40.70**	**334**	*e*P	**P**	**17 10 10.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**40.70**	**334**	*e*P	**P**	**17 10 10.3**	**-0.4**
	comp=Z,10nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**41.01**	**335**	*e*P	**P**	**17 10 13.0**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
CHKZ	**Chkalovo**	**41.01**	**335**	*e*P	**P**	**17 10 13.0**	**-0.3**
	comp=Z,18nm,1.2s,mb4.6						
GUMO	**Guam**	**44.39**	**90**	P	**P**	**17 10 41.6**	**+0.8**
	comp=Z,76nm,0.8s,mb5.5,baz=192,slow=24,SNR=3.1						
AKTK	**Aktyubinsk**	**45.16**	**324**	P	**P**	**17 10 46.0**	**-0.9**
AKTO	**Aktyubinsk**	**45.16**	**324**	P	**P**	**17 10 46.0**	**-0.9**
	comp=Z,3.3nm,0.9s,mb4.2,baz=150,slow=6.7,SNR=8.7						
YSS	**Yuzh-Sakhalins**	**45.45**	**42**	⇑*e*P	**P**	**17 10 52.8**	**+3.6**
YSS				pmax	pmax		
	comp=Z,32nm,1.6s,mb4.9						
RDF	**Al-Radifah**	**47.66**	**292**	*e*P	**P**	**17 11 07.2**	**+0.7**
RDF				AMb	AMB	17 11 11.8	
	comp=Z,45nm,1.3s,mb5.3						
MIB	**Mutribah**	**47.85**	**293**	*e*P	**P**	**17 11 08.7**	**+0.7**
MIB				AMb	AMB	17 11 09.7	
	comp=Z,19nm,0.5s,mb5.3						
NAY	**Al-Naaiem**	**47.93**	**293**	*e*P	**P**	**17 11 09.3**	**+0.7**
NAY				AMb	AMB	17 11 11.0	
	comp=Z,9.1nm,0.7s,mb5.0						
ARU	**Arti**	**48.06**	**331**	⇑*i*P	**P**	**17 11 08.9**	**-0.7**
ARU				*e*		17 12 32.6	
ARU				*e*		17 12 59.6	
ARU				*e*S	**S**	**17 18 06.6**	**-1.1**
ARU				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
YAK	**Yakutsk**	**48.18**	**19**	⇑*e*P	**P**	**17 11 09.9**	**-0.7**
YAK				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.8						
GNI	**Garni**	**50.82**	**307**	P	**P**	**17 11 31.1**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.4,baz=342,slow=21,SNR=4.6						
WRA	**Warramunga Arr**	**51.94**	**136**	P	**P**	**17 11 38.0**	**-1.0**
	comp=Z,4.2nm,0.7s,mb4.5,baz=322,slow=7.7,SNR=25						
WB2	**Warramunga Arr**	**51.94**	**136**	*e*P	**P**	**17 11 38.1**	**-1.0**
KIV	**Kislovodsk**	**52.92**	**311**	⇑*e*P	**P**	**17 11 46.6**	**+0.3**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**52.92**	**311**	*e*P	**P**	**17 11 46.3**	**-0.1**
	comp=Z,11nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**54.36**	**140**	P	**P**	**17 11 56.2**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=319,slow=7.0,SNR=29						
NWAO	**Narrogin (SRO)**	**54.41**	**161**	P	**P**	**17 11 56.9**	**-0.4**
	comp=Z,7.2nm,0.8s,mb4.7,baz=266,slow=7.7,SNR=2.5						
TIXI	**Tiksi**	**55.63**	**11**	*i* P	**P**	**17 12 03.3**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
OBN	**Obninsk**	**58.94**	**324**	*e*P	**P**	**17 12 30.9**	**+1.4**
OBN				*e*		17 13 18.8	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
OBN				MLR	MLR		
	comp=Z,400nm,23.0s,MS4.5						
BRTR	**Keskin Array B**	**59.30**	**305**	P	**P**	**17 12 32.0**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=117,slow=7.5,SNR=9.1						
CTA	**Charters Tower**	**60.47**	**127**	*e*P	**P**	**17 12 41.6**	**+1.6**
	comp=Z,3.6nm,0.8s,mb4.5						
CTA	**Charters Tower**	**60.47**	**127**	*e*P	**P**	**17 12 41.6**	**+1.6**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	**Malin Array Be**	**62.77**	**318**	P	**P**	**17 12 54.3**	**-1.3**
	comp=Z,5.1nm,0.6s,mb4.8,baz=77,slow=6.2,SNR=5.6						
JOF	**Joensuu**	**63.18**	**332**	*ep*	**P**	**17 12 57.2**	**-1.1**
BILL	**Bilibino**	**64.25**	**23**	*e*P	**P**	**17 13 02.8**	**-2.5**
BILL				*e*		17 15 26.2	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
VRI	**Vrincioaia**	**64.35**	**312**	⇓*i*P	**P**	**17 13 07.3**	**+1.3**
MLR	**Muntele Rosu**	**64.91**	**312**	P	**P**	**17 13 10.1**	**+0.5**
	comp=Z,32nm,0.9s,mb5.3,baz=98,slow=0.8,SNR=31						
MLR	**Muntele Rosu**	**64.91**	**312**	⇓*i*P	**P**	**17 13 10.5**	**+0.9**
STKA	**Stephens Creek**	**64.98**	**140**	*e*P	**P**	**17 13 09.7**	**-0.4**
	comp=Z,3.5nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**64.98**	**140**	P	**P**	**17 13 09.5**	**-0.6**
	comp=Z,3.4nm,0.8s,mb4.5,baz=360,slow=11,SNR=6.9						
KAF	**Kangasniemi**	**65.35**	**330**	*ep*	**P**	**17 13 10.8**	**-1.7**
	baz=93,slow=6.1						
BURAR	**Bucovina Array**	**65.35**	**314**	⇑*i*P	**P**	**17 13 12.8**	**+0.3**
FINES	**FINESS Array B**	**65.39**	**330**	P	**P**	**17 13 11.9**	**-0.8**
	comp=Z,5.5nm,0.7s,mb4.7,baz=98,slow=5.9,SNR=17						
KEV	**Kevo**	**66.18**	**339**	*ep*	**P**	**17 13 15.5**	**-2.3**
ARCES	**ARCESS Array B**	**66.66**	**338**	P	**P**	**17 13 19.4**	**-1.5**
	comp=Z,3.3nm,1.0s,mb4.3,baz=99,slow=7.5,SNR=5.3						
KWP	**Kalwaria**	**66.95**	**317**	*e*P	**P**	**17 13 22.8**	**0.0**
KWP				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
KWP	**Kalwaria**	**66.95**	**317**	*e*P	**P**	**17 13 22.8**	**0.0**
	comp=Z,30nm,0.9s,mb5.3						
KOLS	**Kolonicke sedl**	**67.27**	**316**	*e*P	**P**	**17 13 24.8**	**0.0**
CRVS	**Cervenica-Dubn**	**67.81**	**316**	*e*P	**P**	**17 13 29.0**	**+0.8**
STHS	**Stebnicka Huta**	**67.92**	**316**	*e*P	**P**	**17 13 28.8**	**-0.1**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
STHS	**Stebnicka Huta**	**67.92**	**316**	*e*P	**P**	**17 13 28.8**	**-0.1**
	comp=Z,3.7nm,0.9s,mb4.4						
BZS	**Buzias**	**67.94**	**312**	⇓*i*P	**P**	**17 13 28.8**	**-0.2**
KECS	**Kecovo**	**68.48**	**316**	*e*P	**P**	**17 13 34.3**	**+1.9**
KECS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
KECS	**Kecovo**	**68.48**	**316**	*e*P	**P**	**17 13 34.3**	**+1.9**
	comp=Z,1.4nm,0.8s,mb4.0						
OJC	**Ojcow**	**68.80**	**317**	*e*P	**P**	**17 13 34.8**	**+0.4**
VYHS	**Vyhne**	**69.57**	**316**	*e*P	**P**	**17 13 38.8**	**-0.4**
KSP	**Ksiaz**	**70.97**	**318**	*e*P	**P**	**17 13 48.4**	**+0.7**
NB2	**NORSAR Subarra**	**72.57**	**329**	P	**P**	**17 13 55.5**	**-1.9**
	comp=Z,1.3nm,0.6s,mb4.0,baz=82,slow=6.2						
NOA	**NORSAR Array B**	**72.57**	**329**	P	**P**	**17 13 56.3**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=83,slow=5.9,SNR=4.2						
GERES	**GERESS Array B**	**72.90**	**316**	P	**P**	**17 13 59.8**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=76,slow=5.6,SNR=19						
CLL	**Collm**	**72.96**	**319**	*i* P	**P**	**17 13 59.9**	**+0.2**
GRA1	**Grafenberg Arr**	**74.36**	**318**	*e*P	**P**	**17 14 08.4**	**+0.5**
	comp=Z,6.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**74.36**	**318**	*e*P	**P**	**17 14 08.4**	**+0.5**
	comp=Z,6.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**74.36**	**318**	*e*P	**P**	**17 14 08.4**	**+0.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**74.36**	**318**	*e*P	**P**	**17 14 08.4**	**+0.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
LPG	**La Plagne**	**78.24**	**314**	*e*P	**P**	**17 14 29.4**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.4						
LPG	**La Plagne**	**78.24**	**314**	*e*P	**P**	**17 14 29.4**	**-0.5**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
LPG	**La Plagne**	**78.24**	**314**	*e*P	**P**	**17 14 29.4**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.4						
LPL	**La Plagne**	**78.24**	**314**	*e*P	**P**	**17 14 30.0**	**0.0**
	comp=Z,6.6nm,0.7s,mb4.4						
LPL	**La Plagne**	**78.24**	**314**	*e*P	**P**	**17 14 30.0**	**0.0**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LPL	**La Plagne**	**78.24**	**314**	*e*P	**P**	**17 14 30.0**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.4						

*NEIC **12** 17:14:59.6,3146S×7165W,h25km,ML3.3(GUC),After GUC.*

GUC 12 17:14:59.6±0.8,3146S×7165W,h25km±3km,MD3.9, ML3.3,7C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.62**	**63**	⇑*i*P	Pb	17 15 11.6	-0.2
CMCH				*i* S	Sb	17 15 20.6	+0.4
CMCH				AML	AML	17 15 25.3	
	comp=N,4μm,0.6s						
CMCH	**Combarbala**	**0.62**	**63**	⇑*i*P	Pb	17 15 11.6	-0.2
CMCH				*i* S	Sb	17 15 20.6	+0.4
PTCH	**Petorca**	**1.01**	**143**	⇑*i*P	Pn	17 15 17.6	-0.5
PTCH				*i* S	Sb	17 15 30.6	-0.5
PTCH				AML	AML	17 15 32.1	
	comp=E,3μm,0.2s						
PTCH	**Petorca**	**1.01**	**143**	⇑*i*P	Pn	17 15 17.6	-0.5
PTCH				*i* S	Sb	17 15 30.6	-0.5
PACH	**Papudo**	**1.09**	**171**	*e*P	Pn	17 15 18.7	-0.5
PACH				*i* S	Sn	17 15 33.2	-0.3
JACH	**Jahuel**	**1.51**	**144**	*e*P	Pn	17 15 26.1	+1.0
JACH				*i* S	Sn	17 15 45.4	+1.5
LSCH	**La Serena**	**1.58**	**13**	*i* S	Sn	17 15 46.8	+1.1
LSCH				AML	AML	17 15 53.2	
	comp=N,140nm,0.5s						
ROCH	**El Roble**	**1.60**	**161**	*e*P	Pn	17 15 27.4	+1.1
ROCH				*e*S	Sn	17 15 48.6	+2.6
PEL	**Peldehue**	**1.87**	**154**	⇑*i*P	Pn	17 15 31.4	+1.5
PEL				*i* S	Sn	17 15 54.9	+2.2
PEL				AML	AML	17 15 57.5	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**2.15**	**154**	⇑*i*P	Pn	17 15 35.6	+1.8
CLCH				*i* S	Sn	17 16 02.5	+3.0
CLCH				AML	AML	17 16 10.6	
	comp=N,676nm,0.5s						
FCH	**Farellones**	**2.19**	**149**	⇓*i*P	Pn

*IDC **12** 17:53:53.1±3.2, 22.04S×170.55E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/13, mbtmp3.5/4, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/18, Error ellipse: s-maj=127.2km s-min=35.9km az=161.0*
*ISCJB **12** 17:53:56.2±1.3, 22.5S±0.3×170.5E±0.1, h35km, mb3.4/3, Error ellipse: s-maj=44.5km s-min=12.8km az=29.3*
ISC 12 17:53:57.4±1.3, 22.6S±0.3×170.6E±0.1, h35km, n8, σ0§67/9, mb3.4/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.88**	**277**	*e*P	**Pn**	**17 54 54.5**	**0.0**
DZM				*e*S	**Sn**	**17 55 37.3**	**-1.6**
DZM	**Mont Dzumac**	**3.88**	**277**	Pn	**Pn**	**17 54 54.6**	**+0.1**
	5.5nm,0.3s,baz=122,slow=23,SNR=174						
DZM				LR	LR	17 55 38.3	
	comp=Z,122nm,21.4s,baz=209,slow=28						
DZM				Sn	**Sn**	**17 55 39.6**	**+0.8**
	12nm,0.3s,baz=115,slow=22,SNR=17						
ASAR	**Alice Springs**	**33.71**	**261**	P	**P**	**18 00 36.4**	**+1.1**
	0.2nm,0.6s,mb3.2,baz=76,slow=8.8,SNR=6.1						
WRA	**Warramunga Arr**	**33.85**	**268**	P	**P**	**18 00 36.3**	**-0.1**
	0.4nm,1.0s,mb3.3,baz=95,slow=9.0,SNR=4.0						
VNA3	**Neumayer Olymp**	**86.44**	**180**	*e*	**P**	**18 06 35.7**	**-0.6**
VNA2	**Neumayer--Watz**	**86.75**	**181**	*e*	**P**	**18 06 37.8**	**0.0**
	baz=179,slow=5.4						
VNA2				*e*	pP	18 06 49.7	+0.8
SONM	**Songino Array**	**90.63**	**323**	P	**P**	**18 06 56.0**	**-0.1**
	0.3nm,0.6s,mb3.8,baz=129,slow=7.0,SNR=4.2						
GERES	**GERESS Array B**	**148.01**	**331**	PKPbc	PKPbc	18 13 38.3	-0.7
	0.5nm,0.6s,baz=48,slow=1.5,SNR=4.1						

*IDC **12** 18:02:11.8±1.6, 870S×124.48E, h0km, mb4.1/1, mb1 4.3/4, mb1mx3.8/16, mbtmp4.1/4, ML4.1/3, Error ellipse: s-maj=107.2km s-min=25.8km az=65.0*
*ISCJB **12** 18:02:14.8±1.0, 9.1S±0.2×123.9E±0.3, h35km, mb4.0/2, Error ellipse: s-maj=41.2km s-min=13.0km az=116.8*
*NEIC **12** 18:02:16.8±0.8, 8.94S×124.19E, h35km, mb3.9/1, Error ellipse: s-maj=38.4km s-min=10.7km az=60.0*
ISC 12 18:02:16.9±1.0, 8.9S±0.2×124.2E±0.3, h35km, n8, σ0§39/8, mb4.0/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.95**	**115**	*e*P	**Pn**	**18 04 30.7**	**+7.0**
	3.6nm,0.3s						
KAKA				*e*S	Sx	18 06 09.2	
FITZ	**Fitzroy Crossi**	**9.22**	**171**	*e*P	**Pn**	**18 04 27.0**	**-0.3**
	6.7nm,0.3s						
FITZ				*e*S	Sx	18 06 00.2	
FITZ	**Fitzroy Crossi**	**9.22**	**171**	Pn	**Pn**	**18 04 27.2**	**-0.2**
	1.0nm,0.3s,baz=3.3,slow=10,SNR=33						
FITZ				Sn	Sx	18 05 59.6	
	1.6nm,0.3s,baz=57,slow=24,SNR=11						
WRA	**Warramunga Arr**	**14.71**	**139**	Pn	**Pn**	**18 05 42.1**	**-0.3**
	0.8nm,0.3s,baz=319,slow=13,SNR=55						
WRA				Sn	Sx	18 08 18.0	
	0.5nm,0.3s,baz=298,slow=23,SNR=7.3						
WB2	**Warramunga Arr**	**14.72**	**139**	*e*P	**Pn**	**18 05 42.3**	**-0.2**
WB2				*e*S	Sx	18 08 19.0	
ASAR	**Alice Springs**	**17.36**	**149**	Pn	**Pn**	**18 06 17.1**	**+0.8**
	0.9nm,0.3s,baz=318,slow=12,SNR=116						
ASAR				Sn	Sx	18 09 20.0	
	0.2nm,0.3s,baz=308,slow=21,SNR=7.8						
MKAR	**Makanchi Array**	**66.84**	**330**	P	**P**	**18 13 05.2**	**+0.1**
	0.9nm,0.5s,mb4.1,baz=132,slow=7.6,SNR=21						
KURK	**Kurchatov**	**71.30**	**331**	*e*P	**P**	**18 13 32.7**	**-0.1**
	1.0nm,0.7s,mb3.9						

IDC 12 18:07:29.3±1.5, 796S×128.91E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=72.4km s-min=23.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.57**	**197**	Pn	Pn	18 10 01.9	-0.1
	0.9nm,0.3s,baz=30,slow=14,SNR=10						
FITZ				Sn	Sn	18 11 55.2	-6.0
	1.5nm,0.3s,baz=260,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**13.03**	**157**	Pn	Pn	18 10 33.9	-1.6
	0.8nm,0.3s,baz=340,slow=13,SNR=14						
WRA				Sn	Sn	18 12 53.1	-8.1
	1.5nm,0.3s,baz=332,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**16.34**	**164**	Pn	Pn	18 11 18.8	-1.3
	0.2nm,0.3s,baz=336,slow=9.6,SNR=9.1						
ASAR				Sn	Sn	18 14 15.7	-6.2
	0.4nm,0.3s,baz=348,slow=17,SNR=5.7						
STKA	**Stephens Creek**	**26.57**	**155**	P	P	18 13 10.5	+1.5
	1.2nm,0.6s,baz=335,slow=17,SNR=3.6						
MKAR	**Makanchi Array**	**68.44**	**328**	P	P	18 18 33.0	+0.1
	0.5nm,0.6s,baz=119,slow=7.9,SNR=17						

*ISCJB **12** 18:21:09.0±0.9, 469N±0.1×155.1E±0.2, h10km, mb3.8/12, MS4.8/1, Error ellipse: s-maj=20.7km s-min=10.7km az=93.6*
*IDC **12** 18:21:09.5±1.1, 4681N×155.16E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/25, mbtmp3.7/10, ML3.3/1, Error ellipse: s-maj=30.9km s-min=24.5km az=174.0*
*NEIC **12** 18:21:11.1±0.8, 4683N×155.13E, h10km, mb4.3/1, Error ellipse: s-maj=21.2km s-min=15.9km az=182.0*
*MOS **12** 18:21:13.7±1.4, 4691N×154.93E, h44km, mb4.2/9, Error ellipse: s-maj=18.8km s-min=12.8km az=89.5*
ISC 12 18:21:10.8±0.9, 469N±0.1×155.1E±0.2, h10km, n24, σ0§78/24, mb3.8/12, MS4.8/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.83**	**9**	*e*PN	**Pn**	**18 22 09.9**	**0.0**
SKR				pmax	pmax		
	comp=Z,30nm,0.4s						
ASAJ	**Asahikawa**	**9.23**	**257**	Pn	**Pn**	**18 23 24.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=114,slow=17,SNR=3.4						
ERM	**Erimo**	**9.85**	**245**	*i* PN	**Pn**	**18 23 31.5**	**-1.0**
BILL	**Bilibino**	**21.95**	**11**	*e*P	**P**	**18 26 03.8**	**-0.8**
BILL				*e*		18 26 25.2	
TIXI	**Tiksi**	**27.72**	**342**	*i* P	**P**	**18 26 58.5**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.1s,mb3.9						
SONM	**Songino Array**	**32.58**	**290**	P	**P**	**18 27 42.2**	**-0.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=91,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**18 29 51.5**	**+0.9**
	comp=Z,0.9nm,0.7s,mb3.9,baz=73,slow=7.2,SNR=5.5						
MKAR	**Makanchi Array**	**48.09**	**298**	P	**P**	**18 29 51.5**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**48.42**	**304**	*i* P	**P**	**18 29 53.0**	**-0.2**
YKA	**Yellowknife Ar**	**49.97**	**37**	P	**P**	**18 30 04.7**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=293,slow=7.7,SNR=3.0						
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**	**18 30 15.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**51.38**	**311**	*e*P	**P**	**18 30 15.3**	**-0.4**
	comp=Z,2.7nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**51.82**	**310**	P	**P**	**18 30 19.7**	**+0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=57,slow=8.2,SNR=14						
BVAR	**Borovoye Array**	**51.82**	**310**	P	**P**	**18 30 19.7**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTK	**Aktyubinsk**	**59.64**	**313**	P	**P**	**18 31 16.1**	**+1.0**
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**18 31 16.1**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=66,slow=13,SNR=3.9						
AKTO	**Aktyubinsk**	**59.64**	**313**	P	**P**	**18 31 16.2**	**+1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.48**	**336**	P	**P**	**18 31 48.0**	**+0.5**
	comp=Z,3.6nm,1.0s,mb4.4,baz=56,slow=7.1,SNR=5.0						
FINES	**FINESS Array B**	**64.48**	**336**	*i* P	**P**	**18 31 48.2**	**+0.6**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN	**Obninsk**	**65.95**	**326**	*e*P	**P**	**18 31 55.3**	**-1.9**
OBN				*e*		18 32 27.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
OBN				MLR	MLR		
	comp=Z,300nm,11.0s,MS4.8						
AKASG	**Malin Array Be**	**72.17**	**327**	P	**P**	**18 32 35.7**	**-0.1**
	comp=Z,0.1nm,0.3s,mb3.3,baz=41,slow=7.4,SNR=3.6						
ASAR	**Alice Springs**	**72.81**	**200**	P	**P**	**18 32 39.2**	**-0.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=20,slow=5.2,SNR=5.4						
TXAR	**Lajitas Array**	**76.21**	**62**	P	**P**	**18 33 00.4**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=258,slow=8.8,SNR=5.0						
TXAR	**Lajitas Array**	**76.21**	**62**	P	**P**	**18 33 00.4**	**+1.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*UPP **12** 18:51:00.4, 6787N×2023E, h2km, ML3.5, Suspected Mining explosion.*
*CSEM **12** 18:51:00.4, 6787N×2023E, h2km, ML3.5, Suspected Mining explosion. After UPP*
HEL 12 18:51:01.7±0.1, 6784N×2013E, h0km, ML1.9, ML3.5(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**34**	*i* P	Pg	18 51 02.4	-2.0
NIKU	**Nikkaluokta**	**0.42**	**275**	*i* P	Pg	18 51 08.9	-0.8
SALU	**Saltoluokta**	**0.77**	**234**	*i* P	Pg	18 51 15.8	-0.7
SALU	**Saltoluokta**	**0.77**	**234**	P	Pg	18 51 15.8	-0.7
	baz=77						
KIF	**Kilpisjarvi**	**1.20**	**12**	*e*P	Pg	18 51 23.6	-1.1
KIF				*e*S	Sg	18 51 40.4	+0.2
PAJU	**Pajala**	**1.41**	**124**	*e*P	Pn	18 51 25.8	-2.8
HARU	**Harads**	**1.71**	**168**	*e*P	Pn	18 51 31.9	-0.9
HARU	**Harads**	**1.71**	**168**	P	Pn	18 51 31.9	-0.9
	baz=338						
SGF	**Sodankyl**	**2.48**	**96**	*e*P	Pn	18 51 43.1	-0.2
SGF				*e*S	Sn	18 52 14.5	+0.3
SGF				MSG		18 52 20.0	
	comp=Z,8.4nm,0.3s						
KEV	**Kevo**	**3.15**	**49**	*e*P	Pn	18 51 52.6	0.0
KEV				*e*S	Sn	18 52 30.0	-0.9
KEV				*e*SG	Sg	18 52 38.6	-4.5
KEV				MSG		18 52 39.0	
	comp=Z,2.6nm,0.3s						
OUL	**Oulu**	**3.60**	**137**	*e*SB	Sb	18 52 48.3	-2.2
OUL				MSG		18 52 53.5	
	comp=Z,1.6nm,0.3s						
MSF	**Maaselka**	**4.01**	**115**	*e*SB	Sb	18 53 00.7	-1.6

*CSEM **12** 18:51:05.5±0.1, 3693N×479W, h20km, ML2.9/10, Error ellipse: s-maj=2.1km s-min=1.5km az=173.0*
*NEIC **12** 18:51:05.8, 3692N×482W, h21km, MN2.6(MDD), After MDD.*
*SFS **12** 18:51:05.0, 3691N×481W, h21km, ML2.6*
*INMG **12** 18:51:06.0±1.6, 3694N×480W, h24km±5km, ML2.4, Error ellipse: s-maj=2.5km s-min=2.2km az=149.0*
MDD 12 18:51:06.0±0.2, 3691N×480W, h21km±1km, mbLg2.6/24, 6D, Error ellipse: s-maj=2.8km s-min=1.9km az=148.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.34**	**177**	⇓Pg	Pb	18 51 13.0	-0.5
EMIJ				Lg		18 51 18.3	
EMIJ	**Mijas**	**0.34**	**177**	⇓Pg	Pb	18 51 13.0	-0.5
	SNR=18						
EMIJ				Lg		18 51 18.3	
	264nm,0.3s						
LIJA	**Lijar**	**0.49**	**270**	⇓P	Pb	18 51 16.2	+0.3
LIJA				S	Sb	18 51 25.0	+2.4
LIJA	**Lijar**	**0.49**	**270**	*i* P	Pb	18 51 16.2	+0.3
REAL	**Reales**	**0.54**	**218**	⇓P	Pb	18 51 16.2	-0.5
REAL				S	Sb	18 51 24.1	0.0
REAL	**Reales**	**0.54**	**218**	*i* P	Pb	18 51 16.2	-0.5
ELOJ	**Sierra Loja**	**0.57**	**65**	Pg	Pb	18 51 17.3	0.0
	5.2nm,0.1s,SNR=7.9						
ELOJ				Lg		18 51 25.1	
	28nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.71**	**230**	Pg	Pb	18 51 19.1	-0.5
	5.0nm,0.1s,SNR=7.9						
EJIF				Lg		18 51 29.5	
	35nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**0.78**	**33**	Pg	Pb	18 51 20.7	0.0
	9.8nm,0.1s,SNR=22						
ELUQ				Lg		18 51 31.7	
	164nm,0.2s,SNR=26						
ELUQ	**Luque**	**0.78**	**33**	Pg	Pb	18 51 20.7	-0.1
	9.8nm,0.1s,SNR=22						
ELUQ				Lg		18 51 31.7	
	164nm,0.2s,SNR=26						
ERON	**Agron**	**0.80**	**82**	Pg	Pb	18 51 21.1	-0.1
	25nm,0.2s,SNR=40						
ERON				Lg		18 51 31.7	
	16nm,0.2s						
ESPR	**Espera**	**0.85**	**268**	Pg	Pb	18 51 21.2	-0.9
	16nm,0.1s,SNR=18						
ESPR				Lg		18 51 32.4	
	78nm,0.2s,SNR=7.0						
ESPR	**Espera**	**0.85**	**268**	Pg	Pb	18 51 21.2	-0.9
	16nm,0.1s,SNR=18						
ESPR				Lg		18 51 32.4	
	78nm,0.2s,SNR=7.0						
GIBL	**Gibalbin**	**0.94**	**266**	P	Pb	18 51 23.7	+0.1
GIBL	**Gibalbin**	**0.94**	**266**	*e*P	Pb	18 51 23.7	+0.1
EGUA	**Guajares**	**0.99**	**94**	Pg	Pb	18 51 22.8	-1.6
	3.3nm,0.1s,SNR=7.9						
EGUA				Lg		18 51 35.8	
	8.2nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.05**	**69**	Pg	Pn	18 51 24.9	-0.5
	5.5nm,0.1s,SNR=7.9						
ECOG				Lg		18 51 40.9	
	44nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.12**	**74**	⇓Pg	Pn	18 51 25.6	-0.8
	1.8nm,0.1s,SNR=18						
EQUE				Lg		18 51 41.8	
	34nm,0.2s,SNR=20						
EADA	**Adamuz**	**1.27**	**8**	Pg	Pn	18 51 26.8	-1.6
	1.9nm,0.1s,SNR=125						
EADA				Lg		18 51 45.3	
	66nm,0.1s,SNR=28						
EADA	**Adamuz**	**1.27**	**8**	Pg	Pn	18 51 26.8	-1.6
	1.9nm,0.1s,SNR=125						
EADA				Lg		18 51 45.3	
	66nm,0.1s,SNR=28						
EBAN	**Banos Encina**	**1.49**	**32**	Pg	Pn	18 51 29.7	-1.8
EBAN				Sn	Sn	18 51 49.0	-1.2
EBAN				Lg		18 51 52.0	
EBAN	**Banos Encina**	**1.49**	**32**	Pg	Pn	18 51 29.7	-1.8
	1.5nm,0.1s,SNR=26						
EBAN				Sn	Sn	18 51 49.0	-1.2
	10nm,0.2s,SNR=7.9						
EBAN				Lg		18 51 52.0	
	96nm,0.1s,SNR=5.0						
EBAN	**Banos Encina**	**1.49**	**32**	Pg	Pn	18 51 29.7	-1.8
	1.5nm,0.1s,SNR=26						
EBAN				Sn	Sn	18 51 49.0	-1.3
	10nm,0.2s,SNR=7.9						
EBAN				Lg		18 51 52.0	
	96nm,0.1s,SNR=5.0						
EBER	**Berja**	**1.53**	**90**	Pg	Pn	18 51 33.3	+1.3
	1.5nm,0.0s,SNR=7.9						
EBER				Lg		18 51 55.1	
	15nm,0.3s,SNR=4.0						
EBER	**Berja**	**1.53**	**90**	Pg	Pn	18 51 33.3	+1.3
	1.5nm,0.0s,SNR=7.9						
EBER				Lg		18 51 55.1	
	15nm,0.3s,SNR=4.0						
EQES	**Quesada**	**1.64**	**56**	Pn	Pn	18 51 32.2	-1.3
	0.5nm,0.1s,SNR=21						
EQES				Pg	Pn	18 51 35.1	+1.6
	2.7nm,0.1s,SNR=7.9						
EQES				Lg		18 51 57.9	
	41nm,0.1s						
EQES	**Quesada**	**1.64**	**56**	Pn	Pn	18 51 32.2	-1.3
	0.5nm,0.1s,SNR=21						
EQES	**Quesada**	**1.64**	**56**	Pg	Pn	18 51 35.1	+1.6
	2.7nm,0.1s,SNR=7.9						
EQES				Lg		18 51 57.9	
	41nm,0.1s						
EMIN	**Mina Concepcio**	**1.72**	**300**	⇓Pn	Pn	18 51 31.8	-2.9
	1.7nm,0.1s,SNR=18						
EMIN				Pg	Pn	18 51 36.9	+2.2
	0.8nm,0.0s,SNR=18						
EMIN				Sn	Sn	18 51 51.4	-4.7
	3.3nm,0.1s,SNR=7.9						
EMIN				Lg		18 51 58.3	
	27nm,0.2s,SNR=20						
EMIN	**Mina Concepcio**	**1.72**	**300**	Pn	Pn	18 51 31.8	-2.9
	1.7nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.72**	**300**	Pg	Pn	18 51 36.9	+2.2
	0.8nm,0.0s,SNR=18						
EMIN				Lg		18 51 58.3	
	27nm,0.2s,SNR=20						
EHUE	**Huescar**	**1.98**	**62**	Pn	Pn	18 51 36.7	-1.4
	1.3nm,0.1s,SNR=7.9						
EHUE				Lg		18 52 06.5	
	7.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.23**	**287**	Pn	Pn	18 51 39.0	-2.7
	0.8nm,0.1s,SNR=16						
EGRO				Sn	Sn	18 52 04.5	-4.1
	1.8nm,0.1s,SNR=6.4						
EGRO				Lg		18 52 14.3	
	7.5nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**2.23**	**287**	Pn	Pn	18 51 39.0	-2.7
	0.8nm,0.1s,SNR=16						
EGRO				Sn	Sn	18 52 04.5	-4.1
	1.8nm,0.1s,SNR=6.4						
EGRO				Lg		18 52 14.3	
	7.5nm,0.2s,SNR=5.0						
EVIA	**Vianos**	**2.51**	**46**	Pn	Pn	18 51 43.7	-1.7
	0.4nm,0.2s,SNR=7.9						
EVIA				Lg		18 52 23.7	
	14nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**2.55**	**317**	Pn	Pn	18 51 43.5	-2.5
	1.3nm,0.1s,SNR=8.4						
EBAD				Sn	Sn	18 52 12.8	-3.5
	4.3nm,0.1s,SNR=6.7						
EBAD				Lg		18 52 23.8	
	25nm,0.2s,SNR=9.4						
EBAD	**Badajoz**	**2.55**	**317**	Pn	Pn	18 51 43.5	-2.5
	1.3nm,0.1s,SNR=8.4						
EBAD				Sn	Sn	18 52 12.8	-3.5
	4.3nm,0.1s,SNR=6.7						
EBAD				Lg		18 52 23.8	
	25nm,0.2s,SNR=9.4						
PBEJ	**Beja**	**2.69**	**295**	*e*Sg	Sn	18 52 28.9	+9.1
PBEJ				A		18 52 34.1	
	8.0nm,0.2s						
PBEJ	**Beja**	**2.69**	**295**	*e*Sg	Sn	18 52 28.9	+9.1
	8.0nm,0.2s						
ESDC	**Sonseca Array**	**2.84**	**13**	Pn	Pn	18 51 49.0	-1.0
	6.1nm,0.2s,baz=194,slow=12,SNR=5.7						
ESDC				Pg	Pn	18 51 57.1	+7.1
	0.6nm,0.1s,baz=195,slow=16,SNR=10						
ESDC				Sn	Sn	18 52 19.4	-4.2
	1.7nm,0.1s,baz=193,slow=16,SNR=7.9						
ESDC				Lg		18 52 32.2	
	7.5nm,0.1s,baz=261,slow=45,SNR=7.9						
ESDC	**Sonseca Array**	**2.84**	**13**	Pn	Pn	18 51 49.0	-1.0
	6.1nm,0.2s,SNR=5.7						
ESDC	**Sonseca Array**	**2.84**	**13**	Pg	Pn	18 51 57.1	+7.1
	0.6nm,0.1s,SNR=10						
ESDC				Sn	Sn	18 52 19.4	-4.2
	1.7nm,0.1s,SNR=7.9						
ESDC				Lg		18 52 32.2	
	7.5nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.95**	**312**	*e*Pg	Pn	18 51 56.8	+5.2
PESTR				*e*Sg	Sn	18 52 36.5	+10
PESTR				A		18 52 39.7	
	11nm,0.4s						
PESTR	**Estremoz**	**2.95**	**312**	*e*Pg	Pn	18 51 56.8	+5.2
PESTR				*e*Sg	Sn	18 52 36.5	+10
	11nm,0.4s						
EMUR	**La Murta**	**2.98**	**71**	Lg		18 52 37.9	
	1.1nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**2.98**	**71**	Lg		18 52 37.9	
	1.1nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**3.10**	**55**	Pn	Pn	18 51 51.8	-1.9
	0.6nm,0.1s,SNR=12						
ETOB				Sn	Sn	18 52 27.6	-2.4
	1.1nm,0.1s,SNR=5.0						
ETOB				Lg		18 52 43.6	
	8.3nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**3.10**	**55**	Pn	Pn	18 51 51.8	-1.9
	0.6nm,0.1s,SNR=12						
ETOB				Sn	Sn	18 52 27.6	-2.5
	1.1nm,0.1s,SNR=5.0						
ETOB				Lg		18 52 43.6	
	8.3nm,0.2s,SNR=5.0						
MOE	**Montemor**	**3.25**	**301**	*e*Sg	Sn	18 52 45.9	+12
PCBR	**Castelo Branco**	**3.61**	**325**	*e*Sg	Sn	18 52 56.6	+14
PCBR				A		18 53 02.2	
	6.2nm,0.2s						
PCBR	**Castelo Branco**	**3.61**	**325**	*e*Sg	Sn	18 52 56.6	+14
	6.2nm,0.2s						
GUD	**Guadarrama**	**3.76**	**7**	Pn	Pn	18 52 01.7	-1.0
	0.5nm,0.1s,SNR=7.9						
GUD				Sn	Sn	18 52 43.3	-3.1
	0.4nm,0.1s,SNR=7.9						
GUD				Lg		18 53 00.7	
	6.0nm,0.4s,SNR=7.9						
ECHE	**Chera**	**4.03**	**47**	Lg		18 53 11.1	
	3.5nm,0.3s,SNR=7.9						
ECHE	**Chera**	**4.03**	**47**	Lg		18 53 11.1	
	3.5nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.04**	**62**	Pn	Pn	18 52 04.3	-2.2
	0.2nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	18 52 49.7	-3.5
	0.2nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**4.04**	**62**	Pn	Pn	18 52 04.3	-2.2
	0.2nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	18 52 49.7	-3.5
	0.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**4.45**	**28**	Pn	Pn	18 52 11.0	-1.2
ETOR				Sn	Sn	18 52 59.2	-4.2
ETOR				Lg		18 53 21.5	
ETOR	**Torete**	**4.45**	**28**	Pn	Pn	18 52 11.0	-1.2
	1.5nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	18 52 59.2	-4.2
	2.6nm,0.1s,SNR=7.9						
ETOR				Lg		18 53 21.5	
	6.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**4.45**	**28**	Pn	Pn	18 52 11.0	-1.2
ETOR				Sn	Sn	18 52 59.2	-4.2
EMOS	**Mosqueruela**	**4.83**	**43**	Sn	Sn	18 53 06.0	-6.8
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		18 53 35.7	
	2.8nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**4.92**	**333**	*e*Sg	Sn	18 53 36.4	+22

OTT 12 19:02:43.6±0.4, 6772N×6666W, h18km, MN2.6/2, Baffin Island Seismic Zone, Nt. 113km west from Qikiqtarjuaq, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.07**	**192**	PN	Pn	19 03 43.9	-1.1
FRB				SN	Sn	19 04 30.1	-2.1
FRB				SG	Sg	19 04 47.2	-7

KNDC Lg 20 02 40.0
comp=E,482nm,1.0s
TKM2 Tokmak 2 3.11 324 P **Pn 20 02 12.9 +0.5**
SNR=11
TKM2 Tokmak 2 3.11 324 Pn **Pn 20 02 12.5 0.0**
comp=E,3.3nm,0.7s
TKM2 Lg 20 02 47.5
comp=E,3.5nm,0.5s
UCH Uchtor 3.23 305 P **Pn 20 02 13.2 -0.9**
SNR=9.4
KBK Karagaybulak 3.24 315 P **Pn 20 02 15.0 +0.9**
SNR=60
AAK Ala-Archa 3.48 311 P **Pn 20 02 19.3 +1.9**
SNR=49
CHMS Chumysh 3.58 317 P **Pn 20 02 20.8 +2.0**
SNR=47
AML Almayashu 3.71 299 P **Pn 20 02 25.0 +4.3**
SNR=9.5
USP Ospenovka 3.90 318 P **Pn 20 02 26.6 +3.3**
SNR=17
EKS2 Erkin-Say 3.92 306 P **Pn 20 02 28.5 +4.9**
SNR=13
KK31 Karatay Array 6.25 298 ⇑Pn **Pb 20 03 10.5 -1.7**
comp=E,2.1nm,0.5s,baz=102,slow=16
KK31 ⇓Lg 20 04 22.7
comp=E,4.4nm,0.5s,baz=112,slow=29
MK31 Makanchi Array 7.08 24 ⇑Pn **Pn 20 03 07.1 +0.2**
comp=E,7.9nm,1.0s
MK31 ⇑Lg 20 04 49.8
comp=E,4.3nm,0.7s
KURK Kurchatov 10.31 2 ⇑Lg 20 06 34.3
comp=E,9.3nm,1.3s

*MOS **12** 20:13:26.3±1.4, 55.71N×110.14E, h9km, mb4.3/1, Error ellipse: s-maj=17.2km s-min=12.5km az=67.2*
BYKL 12 20:13:26.7±0.2, 55.70N×110.15E, h5km±3km, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**283**	*e*PG	Pg	20 13 33.4	-0.1
NIZ				*e*		20 13 39.3	
NIZ				pmax	pmax		
	comp=Z,270nm,0.3s						
NIZ				smax			
	comp=N,2μm,0.3s						
NIZ	**Nizh Angarsk**	**0.35**	**283**	⇑*i*Pg	Pg	20 13 33.5	0.0
NIZ				*e*Sg	Sg	20 13 38.7	+0.6
NIZ				Pmax			
	comp=N,187nm,0.2s						
NIZ				Smax			
	comp=N,2μm,0.2s						
KMO	**Kumora**	**0.62**	**72**	*e*PG	Pg	20 13 37.3	-1.4
KMO				*e*		20 13 45.3	
KMO				pmax	pmax		
	comp=Z,214nm,0.3s						
KMO				smax			
	comp=N,487nm,0.6s						
KMO	**Kumora**	**0.62**	**72**	⇑*i*Pg	Pg	20 13 37.3	-1.4
KMO				*e*Sg	Sg	20 13 45.6	-1.1
KMO				Pmax			
	comp=N,224nm,0.3s						
KMO				Smax			
	comp=N,444nm,0.3s						
YOA	**Uoyan**	**0.99**	**63**	*e*PG	Pg	20 13 43.7	-1.9
YOA				*e*		20 13 57.1	
YOA				pmax	pmax		
	comp=Z,317nm,0.2s						
YOA				smax			
	comp=N,925nm,0.3s						
YOA	**Uoyan**	**0.99**	**63**	*e*Pg	Pg	20 13 45.8	+0.2
YOA				*e*Sg	Sg	20 13 59.0	+0.6
YOA				Pmax			
	comp=N,252nm,0.2s						
YOA				Smax			
	comp=N,927nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**145**	⇑*i*PG	Pg	20 13 44.4	-1.6
YLYR				*e*		20 13 57.6	
YLYR				pmax	pmax		
	comp=Z,86nm,0.1s						
YLYR				smax			
	comp=N,540nm,0.1s						
YLYR	**Ulyunkhan**	**1.01**	**145**	⇑*i*Pg	Pg	20 13 44.4	-1.6
YLYR				*e*Sg	Sg	20 13 58.5	-0.6
YLYR				Pmax			
	comp=N,89nm,0.2s						
YLYR				Smax			
	comp=N,536nm,0.1s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pn	Pn	20 14 01.2	+0.6
SVKR				*e*Pg	Pg	20 14 02.3	-2.1
SVKR				*e*Sg	Sg	20 14 27.8	-2.0
SVKR				Pmax			
	comp=N,109nm,0.4s						
SVKR				Smax			
	comp=N,1μm,0.7s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	20 14 03.2	+1.4
SYVR				*e*		20 14 31.8	
SYVR				pmax	pmax		
	comp=Z,66nm,0.5s						
SYVR				smax			
	comp=E,689nm,0.6s						
SYVR	**Suvo**	**2.05**	**183**	⇑*i*Pg	Pg	20 14 03.1	-2.9
SYVR				*e*Sg	Sg	20 14 31.0	-1.5
SYVR				Pmax			
	comp=E,61nm,0.5s						
SYVR				Smax			
	comp=E,771nm,0.8s						
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn	Pn	20 14 09.5	+1.0
OGRR				*e*Pg	Pg	20 14 13.4	-2.0
OGRR				*e*Sn	Sn	20 14 40.9	+1.1
OGRR				*e*Sg	Sg	20 14 45.3	-3.0
OGRR				Pmax			
	comp=E,21nm,0.3s						
OGRR				Smax			
	comp=E,108nm,0.5s						
MXMB	**Maximikha**	**2.58**	**199**	*e*Pg	Pg	20 14 13.5	-2.6
MXMB				*e*Sg	Sg	20 14 47.5	-2.0
MXMB				Pmax			
	comp=E,49nm,0.6s						
MXMB				Smax			
	comp=E,182nm,0.6s						
BOD	**Bodaibo**	**3.00**	**43**	*e*Pn	Pn	20 14 15.0	+0.1
BOD				*e*Pg	Pg	20 14 20.9	-3.3
BOD				*e*Sn	Sn	20 14 51.5	+0.2
BOD				*e*Sg	Sg	20 14 59.0	-4.1
BOD				Pmax			
	comp=E,12nm,0.3s						
BOD				Smax			
	comp=E,72nm,0.4s						
NLYR	**Nelyaty**	**3.21**	**73**	*e*Pg	Pg	20 14 23.8	-4.4
NLYR				*e*Sg	Sg	20 15 06.2	-3.6
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	Pn	20 14 25.6	+1.2
TRG				*e*Sn	Sn	20 15 09.0	+0.6
TRG				*e*Sg	Sg	20 15 22.3	-3.1
TRG				Smax			
	comp=E,28nm,0.6s						
TRTB	**Turuntaevo**	**3.78**	**204**	*e*Pn	Pn	20 14 26.1	+0.5
TRTB				*e*Pg	Pg	20 14 35.1	-4.1
TRTB				*e*Sg	Sg	20 15 24.0	-4.2
TRTB				Pmax			
	comp=E,10.0nm,0.3s						
TRTB				Smax			
	comp=E,41nm,0.7s						
UUDB	**Ulan-Yde**	**4.11**	**202**	*e*Pg	Pg	20 14 39.7	-5.8
UUDB				*e*Sg	Sg	20 15 34.3	-4.5
UUDB				Pmax			
	comp=E,15nm,0.8s						
UUDB				Smax			
	comp=E,61nm,1.2s						
CIT	**Chita**	**4.20**	**150**	*e*Pg	Pg	20 14 41.3	-5.9
CIT				*e*Sg	Sg	20 15 36.3	-5.3
CIT				Pmax			
	comp=E,16nm,0.6s						
CIT				Smax			
	comp=E,69nm,0.7s						
HRMR	**Khuramsha**	**4.50**	**206**	*e*Pn	Pn	20 14 36.3	+0.8
HRMR				*e*Pg	Pg	20 14 46.7	-6.2
HRMR				*e*Sg	Sg	20 15 45.1	-6.1
HRMR				Pmax			
	comp=E,17nm,0.5s						
HRMR				Smax			
	comp=E,139nm,0.7s						
CRS	**Chara**	**4.68**	**72**	*e*PN	Pn	20 14 52.0	+14
CRS				*e*		20 15 51.3	
CRS				pmax	pmax		
	comp=E,43nm,1.4s						
CRS				smax			
	comp=E,92nm,1.4s						
CRS	**Chara**	**4.68**	**72**	*e*Pn	Pn	20 14 38.1	+0.1
CRS				*e*Pg	Pg	20 14 51.6	-4.8
CRS				*e*Sg	Sg	20 15 51.2	-5.8
CRS				Pmax			
	comp=E,23nm,0.9s						
CRS				Smax			
	comp=E,91nm,1.5s						
TLY	**Talaya**	**5.58**	**227**	*e*Pn	Pn	20 14 51.1	+0.8
TLY				*e*Sn	Sn	20 15 52.5	-2.3
TLY				*e*Sg	Sg	20 16 18.8	-7.1
TLY				Smax			
	comp=E,25nm,0.9s						
TUP	**Tupik**	**5.78**	**99**	*e*PN	Pn	20 14 52.5	-0.6
TUP				*e*		20 15 10.0	
TUP				*e*S	Sn	20 15 56.6	-3.1
TUP				*e*		20 16 24.8	
TUP				pmax	pmax		
	comp=Z,17nm,0.7s						
TUP				smax			
	comp=N,46nm,1.0s						
TUP	**Tupik**	**5.78**	**99**	*e*Pn	Pn	20 14 52.8	-0.3
TUP				*e*Pg	Pg	20 15 09.8	-7.6
TUP				*e*Sn	Sn	20 15 55.5	-4.2
TUP				*e*Sg	Sg	20 16 25.1	-7.1
TUP				Pmax			
	comp=N,4.0nm,0.3s						
TUP				Smax			
	comp=N,46nm,0.6s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	Pn	20 14 55.1	-0.2
ARS				*e*S	Sn	20 16 00.9	-2.8
ARS				*e*S	Sn	20 16 27.7	+24
ARS				smax			
	comp=E,119nm,0.6s						
ARS	**Arshan**	**5.94**	**234**	*e*Pn	Pn	20 14 55.2	-0.1
ARS				*e*Sn	Sn	20 16 00.8	-2.9
ARS				*e*Sg	Sg	20 16 29.7	-7.7
ARS				Smax			
	comp=E,118nm,0.7s						
KPC	**Khapcheranga**	**6.16**	**166**	*e*PN	Pn	20 14 59.3	+1.0
KPC				*e*		20 15 18.1	
KPC				*e*		20 16 36.8	
KPC				pmax	pmax		
	comp=Z,36nm,2.1s						
KPC				smax			
	comp=E,41nm,1.3s						
KPC	**Khapcheranga**	**6.16**	**166**	*e*Pn	Pn	20 14 58.2	-0.1
KPC				*e*Pg	Pg	20 15 17.5	-7.1
KPC				*e*Sg	Sg	20 16 36.3	-8.1
KPC				Pmax			
	comp=E,7.0nm,0.6s						
KPC				Smax			
	comp=E,41nm,1.1s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*Pn	Pn	20 15 07.7	+1.3
ZAK				*e*Sg	Sg	20 16 55.4	-7.9
ZAK				Smax			
	comp=E,24nm,1.8s						
MOY	**Mondy**	**6.77**	**237**	*e*PN	Pn	20 15 08.2	+1.5
MOY				*e*		20 15 28.1	
MOY				*e*S	Sn	20 16 22.3	-1.9
MOY				*e*		20 16 55.3	
MOY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MOY				smax			
	comp=N,30nm,1.5s						
MOY	**Mondy**	**6.77**	**237**	*e*Pn	Pn	20 15 08.2	+1.5
MOY				*e*Sn	Sn	20 16 21.5	-2.7
MOY				*e*Sg	Sg	20 16 55.1	-9.1
MOY				Smax			
	comp=N,31nm,1.7s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	Pn	20 15 08.9	+1.1
ORL				*e*S	Sn	20 16 23.8	-2.4
ORL				*e*S	Sn	20 16 58.6	+32
ORL				smax			
	comp=N,34nm,1.1s						
ORL	**Orlik**	**6.85**	**247**	*e*Pn	Pn	20 15 08.9	+1.1
ORL				*e*Sn	Sn	20 16 23.7	-2.5
ORL				*e*Sg	Sg	20 16 59.0	-7.7
ORL				Smax			
	comp=N,35nm,1.0s						

*NEIC **12** 20:21:20.7±0.6, 46.50N×152.32E, h10km, mb4.3/8, Error ellipse: s-maj=15.0km s-min=9.9km az=146.0*
*BJI **12** 20:21:20.0, 46.44N×153.03E, h6km, mB4.6, mb4.2*
*ISCJB **12** 20:21:23.1±1.3, 46.48N±0.09×153.2E±0.1, h36km±11km, mb4.2/27, Error ellipse: s-maj=17.3km s-min=8.6km az=103.8*
*MOS **12** 20:21:23.5±1.3, 46.49N×153.16E, h42km, mb4.3/16, Error ellipse: s-maj=11.7km s-min=9.6km az=64.9*
*IDC **12** 20:21:26.4±4.2, 46.42N×153.18E, h53km±39km, mb3.6/15, mb1 3.8/17, mb1mx3.7/27, mbtmp3.6/17, ML3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/43, Error ellipse: s-maj=22.0km s-min=18.2km az=152.0*
ISC 12 20:21:25.7±1.2, 46.52N±0.09×153.2E±0.1, h44km±9km, h25km±2.9km; pP-P, n64, σ1§19/65, mb4.2/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.96**	**253**	*e*PN	**Pn**	**20 22 20.0**	**-3.9**
KUR				*e*S	**Sn**	**20 23 06.0**	**-3.1**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
KUR				smax			
	comp=N,240nm,0.8s						
KUR				smax			
	comp=E,240nm,0.8s						
SKR	**Severo-Kuril's**	**4.59**	**24**	*e*PN	**Pn**	**20 22 32.0**	**-0.5**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.76**	**247**	PN	**Pn**	**20 22 49.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	*e*PN	**Pn**	**20 23 13.8**	**+5.2**
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	*e*Pn	**Pn**	**20 23 11.5**	**+2.9**
ASAJ	**Asahikawa**	**7.87**	**256**	P	**Pn**	**20 23 18.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=101,slow=22,SNR=4.5						
ASAJ				LR	LR	20 26 10.0	
	comp=Z,160nm,18.8s,baz=307,slow=36						
ASAJ	**Asahikawa**	**7.87**	**256**	PN	**Pn**	**20 23 18.1**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,160nm,18.8s						
ERM	**Erimo**	**8.52**	**242**	*i* PN	**Pn**	**20 23 27.8**	**+1.4**
MJAR	**Matsushiro Arr**	**15.01**	**234**	P	**Pn**	**20 24 52.7**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=42,slope=9.7,SNR=3.5						
MJAR	**Matsushiro Arr**	**15.01**	**234**	P	**Pn**	**20 24 52.7**	**-2.1**
MDJ	**Mudanjiang**	**16.65**	**272**	P	**Pn**	**20 25 15.7**	**-0.2**
	comp=Z,5.6nm,0.7s						
YAK	**Yakutsk**	**20.56**	**328**	*i* P	**P**	**20 26 01.1**	**+0.5**
KSRS	**Korea Array**	**20.81**	**253**	P	**P**	**20 26 03.5**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=52,slow=12,SNR=6.1						
HIA	**Hailar**	**22.52**	**289**	*i* P	**P**	**20 26 19.2**	**-2.4**
BILL	**Bilibino**	**22.60**	**13**	*e*P	**P**	**20 26 24.2**	**+1.8**
BILL				*e*		20 26 41.0	
BJT	**Baijiatuau**	**27.57**	**270**	P	**P**	**20 27 10.6**	**+2.1**
BJT				pmax	pmax		
	comp=Z,11nm,1.1s						
BJT	**Baijiatuau**	**27.57**	**270**	P	**P**	**20 27 10.6**	**+2.1**
	comp=Z,11nm,1.1s,mb4.4						
SONM	**Songino Array**	**31.49**	**290**	P	**P**	**20 27 42.4**	**-0.8**
	comp=Z,0.4nm,0.8s,mb3.3,baz=90,slow=8.6,SNR=3.1						
LZH	**Lanzhou**	**37.98**	**272**	*e*P	**P**	**20 28 40.1**	**+0.9**
LZH				AP	pP	20 28 47.2	-4.0
LZH				XP	sP	20 28 50.5	-5.9
LZH				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7						
LZH	**Lanzhou**	**37.98**	**272**	*e*P	**P**	**20 28 40.1**	**+0.9**
LZH				pP	pP	20 28 47.2	-4.0
LZH				sP	sP	20 28 50.5	-5.9
GTA	**Gaotai**	**39.09**	**279**	*e*P	**P**	**20 28 49.6**	**+1.1**
GTA				AP	pP	20 28 56.7	-3.8
GTA				XP	sP	20 28 59.3	-6.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
INK	**Inuvik**	**41.80**	**32**	P	**P**	**20 29 11.1**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.6,baz=170,slow=21,SNR=4.6						
INK	**Inuvik**	**41.80**	**32**	P	**P**	**20 29 11.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**41.80**	**32**	*e*P	**P**	**20 29 10.6**	**-0.4**
	comp=Z,126nm,1.2s,mb5.4						
MKAR	**Makanchi Array**	**47.12**	**298**	P	**P**	**20 29 52.6**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=72,slow=9.1,SNR=6.7						
MKAR	**Makanchi Array**	**47.12**	**298**	P	**P**	**20 29 52.6**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**47.56**	**304**	*i* P	**P**	**20 29 55.5**	**-1.4**
KURK	**Kurchatov**	**47.56**	**304**	*e*P	**P**	**20 29 54.8**	**-2.1**
	comp=Z,5.0nm,1.0s,mb4.5						
LSA	**Lhasa**	**50.37**	**273**	*e*P	**P**	**20 30 20.2**	**+1.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.37**	**273**	*e*P	**P**	**20 30 20.2**	**+1.9**
	comp=Z,2.3nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**50.65**	**310**	*e*P	**P**	**20 30 18.5**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**50.65**	**310**	*e*P	**P**	**20 30 18.5**	**-1.9**
	comp=Z,4.2nm,0.9s,mb4.4						
YKA	**Yellowknife Ar**	**51.06**	**37**	P	**P**	**20 30 23.6**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=295,slow=7.0,SNR=7.3						
BVAR	**Borovoye Array**	**51.07**	**310**	P	**P**	**20 30 22.7**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=45,slow=6.7,SNR=6.8						
BVAR	**Borovoye Array**	**51.07**	**310**	P	**P**	**20 30 22.7**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHTO	**Chiang Mai**	**52.15**	**257**	*e*P	**P**	**20 30 31.8**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
CHTO	**Chiang Mai**	**52.15**	**257**	*e*P	**P**	**20 30 31.8**	**+0.1**
	comp=Z,1.1nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**54.01**	**297**	*e*P	**P**	**20 30 44.3**	**-1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**54.01**	**297**	*e*P	**P**	**20 30 44.3**	**-1.1**
	comp=Z,1.8nm,0.8s,mb4.0						
GUN	**Gumba**	**55.10**	**275**	*e*P	**P**	**20 30 54.3**	**+1.0**
KKN	**Kakani**	**55.59**	**276**	*e*P	**P**	**20 30 57.8**	**+1.0**
	comp=Z,22nm,1.1s,mb5.1						
DMN	**Daman**	**55.83**	**275**	*e*P	**P**	**20 30 59.4**	**+0.9**
GKN	**Gorkha**	**55.90**	**276**	*e*P	**P**	**20 31 00.0**	**+1.0**
	comp=Z,8.4nm,0.5s,mb5.0						
KOLN	**Koldanda**	**56.76**	**277**	*e*P	**P**	**20 31 06.3**	**+1.2**
	comp=Z,10nm,0.9s,mb4.9						
JOF	**Joensuu**	**61.58**	**334**	*e*p	**P**	**20 31 35.9**	**-2.6**
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**20 31 55.8**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.5,baz=33,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**20 31 55.8**	**-0.7**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PDAR	**Pinedale Array**	**64.82**	**54**	P	**P**	**20 32 00.2**	**+0.3**
	comp=Z,0.9nm,1.0s,mb3.8,baz=3.8,slow=2.7,SNR=3.4						
OBN	**Obninsk**	**65.55**	**326**	*e*P	**P**	**20 32 04.5**	**-0.2**
OBN				*e**PP	pP	20 32 13.5	-3.9
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**68.32**	**199**	P	**P**	**20 32 20.6**	**-1.7**
	comp=Z,0.6nm,1.0s,mb3.6,baz=15,slow=6.6,SNR=3.2						
NB2	**NORSAR Subarra**	**68.48**	**341**	P	**P**	**20 32 23.0**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.48**	**341**	P	**P**	**20 32 23.6**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=28,slow=6.3,SNR=4.6						
NOA	**NORSAR Array B**	**68.48**	**341**	P	**P**	**20 32 23.6**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**20 32 42.9**	**-0.6**
	comp=Z,2.4nm,0.5s,mb4.4,baz=34,slow=6.2,SNR=17						
AKASG	**Malin Array Be**	**71.79**	**326**	*e*P	**P**	**20 32 43.0**	**-0.5**
ASAR	**Alice Springs**	**72.01**	**199**	P	**P**	**20 32 44.2**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=11,slow=5.3,SNR=4.7						
MORC	**Moravsky Berou**	**76.69**	**332**	P	**P**	**20 33 12.5**	**+0.4**
MORC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MORC	**Moravsky Berou**	**76.69**	**332**	P	**P**	**20 33 12.5**	**+0.5**
	comp=Z,3.4nm,1.0s,mb4.2						
TXAR	**Lajitas Array**	**77.53**	**61**	P	**P**	**20 33 16.8**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=300,slow=4.5,SNR=8.6						
TXAR	**Lajitas Array**	**77.53**	**61**	P	**P**	**20 33 16.8**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**78.48**	**334**	*e*P	**P**	**20 33 17.0**	**-5.1**
GERES	**GERESS Array B**	**78.70**	**334**	P	**P**	**20 33 23.0**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=28,slow=6.0,SNR=5.3						
GERES	**GERESS Array B**	**78.70**	**334**	P	**P**	**20 33 23.0**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MMAI	**Mount Meron Ar**	**83.03**	**312**	P	**P**	**20 33 48.2**	**+1.8**
	comp=Z,1.5nm,0.6s,mb4.2,baz=22,slow=9.0,SNR=4.6						

MAN 12 20:28:12.2, 10.60N×122.54E, h25km, mb4.6, ML5.4, MS1.9, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.05**	**66**	*e*P	Pb	20 28 17.2	+0.7
GUIM				*e*S	Sb	20 28 21.1	+1.6
RCP	**Roxas**	**0.97**	**12**		Pn	20 28 26.9	-3.3
RCP				*e*S	Sb	20 28 39.5	-3.3
KALP	**Kalibo**	**1.08**	**350**		Pn	20 28 31.2	-0.5
KALP				*i* S	Sn	20 28 46.9	+0.9
LLP	**Lapu-Lapu**	**1.43**	**101**	⇓*e*P	Pn	20 28 36.7	+0.2
LLP				*e*S	Sn	20 28 55.1	+0.6
CUYO	**Cuyo Island**	**1.52**	**279**	*e*P	Pn	20 28 38.3	+0.7
OTRP	**Odiongan**	**1.82**	**344**	*e*P	Pn	20 28 41.5	-0.4
OCLP	**Ormoc**	**2.08**	**77**	*e*P	Pn	20 28 45.5	+0.1
MSLP	**Maasin**	**2.33**	**101**	*e*P	Pn	20 28 49.7	+0.8
BUSP	**Coron**	**2.68**	**301**	*e*P	Pn	20 28 53.8	+0.1
ENPP	**El Nido**	**3.12**	**281**	*e*P	Pn	20 29 00.6	+0.9

*CSEM **12** 20:32:45.8±0.1, 36.53N×3.16E, h5km, ML3.1/7, Error ellipse: s-maj=2.0km s-min=1.7km az=16.0*
*CRAAG **12** 20:32:45.9, 36.53N×3.20E, Ml3.6*
*MDD **12** 20:32:47.6±0.5, 36.50N×3.14E, h4km±5km, mb4.2/6, Error ellipse: s-maj=5.5km s-min=4.5km az=85.0, PRXIMO*
*ISCJB **12** 20:32:47.2±0.5, 36.72N±0.03×3.10E±0.04, h10km, Error ellipse: s-maj=4.6km s-min=4.1km az=138.1*
*NEIC **12** 20:32:49.9, 36.67N×3.02E, h0km, MN2.5(MDD), After MDD.*
*LDG **12** 20:32:51.1±0.2, 36.61N×3.10E, h10km, Ml3.1/7, Error ellipse: s-maj=4.6km s-min=2.6km az=156.0*
ISC 12 20:32:49.5±0.5, 36.70N±0.03×3.01E±0.04, h10km, n70, σ1§12/96, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.10**	**12**	P	**Pg**	**20 32 53.7**	**+1.6**
EMHD	**Djebel Mahouad**	**0.50**	**185**	P	**Pg**	**20 32 53.0**	**-6.2**
ADJB	**Djebel Djouab**	**0.64**	**147**	P	**Pg**	**20 32 55.2**	**-6.7**
AKET	**Djebel Ketaf**	**0.96**	**132**	P	**Pg**	**20 33 01.7**	**-6.2**
EBNR	**Beni Rached**	**1.26**	**252**	P	**Pn**	**20 33 13.0**	**-0.1**
ECHA	**Ech Chlef**	**1.43**	**248**	P	**Pn**	**20 33 15.5**	**0.0**
ECHF	**Ech Chlef**	**1.45**	**249**	P	**Pn**	**20 33 15.5**	**-0.2**
EANR	**'Ain N'Sour**	**1.71**	**245**	P	**Pn**	**20 33 17.5**	**-1.8**
ETRT	**Tiaret**	**1.90**	**227**	P	**Pn**	**20 33 19.5**	**-2.5**
SET	**Setif**	**1.99**	**104**	P	**Pn**	**20 33 24.0**	**+0.8**
DFRA	**Djebel Bou Aff**	**2.31**	**93**	P	**Pn**	**20 33 24.0**	**-3.6**
CMER	**Merouana**	**2.58**	**114**	P	**Pb**	**20 33 35.0**	**-0.7**
EIBI	**Ibiza**	**2.67**	**331**	P	**Pn**	**20 33 33.4**	**+0.9**
	6.7nm,0.2s,SNR=38						
EIBI				S	**Sn**	**20 34 05.8**	**+0.9**
	29nm,0.2s,SNR=9.1						
EIBI	**Ibiza**	**2.67**	**331**	P	**Pn**	**20 33 33.5**	**+1.0**
ETOS	**Mallorca**	**3.07**	**357**	⇓P	**Pn**	**20 33 38.3**	**+0.3**
	4.2nm,0.1s,SNR=18						
ETOS				S	**Sn**	**20 34 13.8**	**-0.9**

	0.1nm,0.5s,SNR=7.9					
ETOB	**Tobarra**	**4.10 300**	P	**Pn**	**20 33 53.2**	**+1.0**
	4.5nm,0.2s,SNR=14					
ETOB			S	**Sn**	**20 34 40.1**	**-0.2**
	4.6nm,0.3s					
ETOB	**Tobarra**	**4.10 300**	P	**Pn**	**20 33 53.2**	**+1.0**
	4.5nm,0.2s,SNR=14					
EMOS	**Mosqueruela**	**4.56 324**	P	**Pn**	**20 34 00.2**	**+1.7**
	1.5nm,0.2s,SNR=44					
EMOS			S	**Sn**	**20 34 51.6**	**0.0**
	6.7nm,0.3s,SNR=7.5					
EMOS	**Mosqueruela**	**4.56 324**	P	**Pn**	**20 34 00.2**	**+1.7**
	1.5nm,0.2s,SNR=44					
ERTA	**Horta de San J**	**4.74 335**	P	**Pn**	**20 34 01.3**	**+0.4**
	0.2nm,0.2s,SNR=7.9					
ERTA			S	**Sn**	**20 34 54.3**	**-1.6**
	3.0nm,0.3s,SNR=7.5					
ERTA	**Horta de San J**	**4.74 335**	P	**Pn**	**20 34 01.3**	**+0.4**
	0.2nm,0.2s,SNR=7.9					
EBER	**Berja**	**4.74 274**	P	**Pn**	**20 34 01.9**	**+1.0**
	0.3nm,0.1s,SNR=4.0					
EBER			S	**Sn**	**20 34 54.2**	**-1.8**
	1.4nm,0.4s,SNR=7.9					
EBER	**Berja**	**4.74 274**	P	**Pn**	**20 34 01.9**	**+1.0**
	0.3nm,0.1s,SNR=4.0					
EPOB	**Poblet**	**4.88 343**	P	**Pn**	**20 34 03.7**	**+0.7**
	0.2nm,0.2s,SNR=7.9					
EPOB			S	**Sn**	**20 34 58.5**	**-1.0**
	1.0nm,0.3s,SNR=7.9					
EPOB	**Poblet**	**4.88 343**	P	**Pn**	**20 34 03.7**	**+0.8**
	0.2nm,0.2s,SNR=7.9					
EQES	**Quesada**	**4.97 285**	P	**Pn**	**20 34 05.7**	**+1.5**
	0.7nm,0.2s,SNR=9.7					
EQES			S	**Sn**	**20 35 02.5**	**+0.8**
	1.1nm,0.3s					
EQES	**Quesada**	**4.97 285**	P	**Pn**	**20 34 05.7**	**+1.5**
	0.7nm,0.2s,SNR=9.7					
EMIR	**Miracle**	**5.33 348**	P	**Pn**	**20 34 11.3**	**+2.2**
EMIR			S	**Sn**	**20 35 10.4**	**-0.2**
EMIR	**Miracle**	**5.33 348**	P	**Pn**	**20 34 11.3**	**+2.2**
	11nm,0.3s,SNR=34					
EMIR			S	**Sn**	**20 35 10.4**	**-0.2**
	22nm,0.3s,SNR=4.9					
EMIR	**Miracle**	**5.33 348**	P	**Pn**	**20 34 11.3**	**+2.2**
	11nm,0.3s,SNR=34					
ETOR	**Torete**	**5.71 318**	P	**Pn**	**20 34 15.4**	**+1.1**
ETOR	**Torete**	**5.71 318**	P	**Pn**	**20 34 18.8**	**+4.5**
	1.6nm,0.2s,SNR=8.6					
ETOR	**Torete**	**5.71 318**	P	**Pn**	**20 34 15.4**	**+1.1**
EPF	**Esparros**	**6.65 343**	*e*Pn	**Pn**	**20 34 28.2**	**+1.0**
EPF			*e*Sn	**Sn**	**20 35 40.6**	**-2.4**
	2.3nm,0.4s					
EPF	**Esparros**	**6.65 343**	*e*Pn	**Pn**	**20 34 28.2**	**+1.0**
EPF			*e*Sn	**Sn**	**20 35 40.6**	**-2.4**
	1.1nm,0.4s					
MTLF	**Montolieu**	**6.66 355**	*e*Pn	**Pn**	**20 34 28.0**	**+0.6**
MTLF			*e*Sn	**Sn**	**20 35 40.6**	**-2.7**
	1.1nm,0.3s					
MTLF	**Montolieu**	**6.66 355**	*e*Pn	**Pn**	**20 34 28.0**	**+0.6**
MTLF			*e*Sn	**Sn**	**20 35 40.6**	**-2.7**
	0.6nm,0.3s					
ETSF	**Etsaut**	**6.77 337**	*e*Pn	**Pn**	**20 34 29.9**	**+1.0**
ETSF			*e*Sn	**Sn**	**20 35 43.8**	**-2.3**
	0.7nm,0.2s					
ETSF	**Etsaut**	**6.77 337**	*e*Pn	**Pn**	**20 34 29.9**	**+1.0**
ETSF			*e*Sn	**Sn**	**20 35 43.8**	**-2.3**
	0.3nm,0.2s					
LMR	**La Mourre**	**7.15 21**	*e*Pn	**Pn**	**20 34 33.1**	**-1.0**
LMR			*e*Sn	**Sn**	**20 35 51.4**	**-3.9**
	4.5nm,0.3s					
LMR	**La Mourre**	**7.15 21**	*e*Pn	**Pn**	**20 34 33.1**	**-1.0**
LMR			*e*Sn	**Sn**	**20 35 51.4**	**-3.9**
	2.2nm,0.3s					
SJPF	**Ste Jean**	**7.18 334**	*e*Pn	**Pn**	**20 34 35.2**	**+0.7**
SJPF			*e*Sn	**Sn**	**20 35 53.4**	**-2.8**
	2.5nm,0.3s					
SJPF	**Ste Jean**	**7.18 334**	*e*Pn	**Pn**	**20 34 35.2**	**+0.7**
SJPF			*e*Sn	**Sn**	**20 35 53.4**	**-2.8**
	1.2nm,0.3s					
FRF	**La Foret Royal**	**7.40 21**	*e*Pn	**Pn**	**20 34 36.6**	**-0.9**
FRF			*e*Sn	**Sn**	**20 35 57.7**	**-3.7**
	4.3nm,0.4s					
FRF	**La Foret Royal**	**7.40 21**	*e*Pn	**Pn**	**20 34 36.6**	**-0.9**
FRF			*e*Sn	**Sn**	**20 35 57.7**	**-3.7**
	2.2nm,0.4s					
LASF	**Ste Croix**	**7.40 5**	*e*Pn	**Pn**	**20 34 38.2**	**+0.7**
LASF			*e*Sn	**Sn**	**20 35 57.4**	**-4.0**
	1.8nm,0.3s					
LASF	**Ste Croix**	**7.40 5**	Pn	**Pn**	**20 34 38.2**	**+0.7**
LASF			Sn	**Sn**	**20 35 57.4**	**-4.0**
	0.9nm,0.3s					
PGF	**Pioggiola**	**7.45 37**	*e*Pn	**Pn**	**20 34 36.6**	**-1.6**
SMRF	**Simiane la Rot**	**7.53 14**	*e*Pn	**Pn**	**20 34 39.8**	**+0.5**
VIVF	**Saint-Julien-l**	**8.25 8**	*e*Pn	**Pn**	**20 34 50.0**	**+0.9**
CAF	**Calviac**	**8.25 355**	*e*Pn	**Pn**	**20 34 49.4**	**+0.2**
LFF	**La Frestale**	**8.41 349**	*e*Pn	**Pn**	**20 34 51.7**	**+0.4**
ORIF	**Oris-en-Rattie**	**8.49 14**	*e*Pn	**Pn**	**20 34 52.9**	**+0.4**
MBDF	**Montbardon**	**8.51 18**	*e*Pn	**Pn**	**20 34 53.3**	**+0.5**
RJF	**Les Rejaudoux**	**8.67 353**	*e*Pn	**Pn**	**20 34 55.4**	**+0.5**
LPG	**La Plagne**	**9.23 17**	*e*Pn	**Pn**	**20 35 03.1**	**+0.5**
LPL	**La Plagne**	**9.24 17**	*e*Pn	**Pn**	**20 35 03.6**	**+0.8**
TCF	**Toulx Ste Croi**	**9.60 357**	*e*Pn	**Pn**	**20 35 08.0**	**+0.3**
BGF	**Bois d'Agland**	**9.85 359**	*e*Pn	**Pn**	**20 35 10.9**	**-0.2**
SMF	**Signal de Mont**	**9.96 3**	*e*Pn	**Pn**	**20 35 12.6**	**0.0**
AVF	**Avril sur Loir**	**10.09 1**	*e*Pn	**Pn**	**20 35 14.5**	**+0.2**
SSF	**Saint Saulge**	**10.36 2**	*e*Pn	**Pn**	**20 35 18.0**	**-0.1**
HAU	**Haudompre**	**11.56 11**	*e*Pn	**Pn**	**20 35 34.4**	**-0.2**
GRR	**Gorron**	**12.02 348**	*e*Pn	**Pn**	**20 35 40.9**	**+0.1**

WEL 12 21:01:26.6±0.2, 3717S×17738E, h136km±2km, ML3.5/5, 1C, Error ellipse: s-maj=2.1km s-min=2.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.84**	**118**	PN	Pn	21 01 48.6	0.0
MXZ				SN	Sn	21 02 05.5	+0.2
URZ	**Urewera**	**1.11**	**191**	⇑PN	Pn	21 01 51.1	+0.1
URZ				SN	Sn	21 02 09.9	+0.3
PUZ	**Puketiti**	**1.14**	**143**	PN	Pn	21 01 51.2	-0.1
PUZ				SN	Sn	21 02 09.7	-0.4
MWZ	**Matawai**	**1.17**	**174**	PN	Pn	21 01 51.6	+0.1
MWZ				SN	Sn	21 02 10.5	-0.2

IDC 12 21:19:40.4±2.0, 020N×12690E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=171.4km s-min=26.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.30**	**160**	P	P	21 24 28.1	-0.5
	0.1nm,0.3s,baz=339,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.68**	**164**	P	P	21 25 03.9	+1.0
	0.2nm,0.4s,baz=340,slow=9.5,SNR=4.4						
MKAR	**Makanchi Array**	**60.55**	**326**	P	P	21 29 52.6	+0.1
	2.0nm,1.1s,baz=126,slow=7.1,SNR=7.1						

KRSC 12 21:32:03.4±0.2, 5265N×16064E, h19km±19km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.58**	**320**	*i* P	Pb	21 32 14.9	-0.1
SPN				*e*S	Sb	21 32 22.4	-0.5
NLC	**Nalytchevo**	**0.94**	**304**	*i* P	Pb	21 32 20.5	-0.6
NLC				*e*S	Sb	21 32 32.7	-0.5
PET	**Petropavlovsk**	**1.26**	**288**	*i* P	Pn	21 32 25.9	-0.1
PET				*e*S	Sb	21 32 42.8	+0.4
AVH	**Avacha**	**1.30**	**299**	*e*P	Pn	21 32 26.6	0.0
AVH				*e*S	Sn	21 32 44.1	+0.6
RUS	**Russkaya**	**1.32**	**261**	*i* P	Pn	21 32 26.1	-0.7
RUS				*e*S	Sn	21 32 43.0	-0.8
GRL	**Gorelyy**	**1.57**	**267**	*e*P	Pn	21 32 30.9	+0.7
GRL				*e*S	Sn	21 32 51.5	+1.5
GNL	**Ganaly**	**1.93**	**304**	*e*P	Pn	21 32 36.6	+1.4
GNL				*e*S	Sn	21 33 01.6	+2.6
MKZ	**Mys Kozlova**	**2.02**	**18**	*e*P	Pn	21 32 34.8	-1.6
MKZ				*e*S	Sn	21 32 57.6	-3.5
TUMR	**Tumrok**	**2.65**	**354**	*e*P	Pn	21 32 46.7	+1.6
TUMR				*e*S	Sn	21 33 19.5	+2.7
KMNR	**Kamenistaya**	**3.12**	**356**	P	Pn	21 32 53.8	+2.2
KMNR				S	Sn	21 33 31.5	+3.2
KPT	**Kopyto**	**3.33**	**356**	P	Pn	21 32 59.0	+4.5
ZLN	**Zelenaya**	**3.38**	**2**	*e*P	Pn	21 32 57.2	+2.1
ZLN				*e*S	Sn	21 33 36.9	+2.3
KRSR	**Krestovskiy**	**3.58**	**359**	P	Pn	21 33 00.5	+2.7
KRSR				S	Sn	21 33 42.9	+3.4
KLY	**Klyuchi**	**3.67**	**0**	S	Sn	21 33 45.8	+3.9
SRDR	**Sredinnyy**	**3.71**	**352**	P	Pn	21 33 00.8	+1.1
KBTR	**Krutoberegovo**	**3.79**	**19**	*e*P	Pn	21 33 00.1	-0.6
KBTR				S	Sn	21 33 42.4	-2.3
SRKR	**Sorokina**	**4.03**	**4**	P	Pn	21 33 06.3	+2.3
SRKR				*e*S	Sn	21 33 52.4	+1.8

*IDC **12** 21:36:20.1±5.1, 4073N×14360E, h0km, mb3.9/4, mb1 3.8/6, mb1mx3.6/23, mbtmp3.8/6, ML2.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/33, Error ellipse: s-maj=99.4km s-min=31.1km az=107.0*
*ISCJB **12** 21:36:21.8±0.8, 4066N±004×14373E±008, h40km, mb3.8/4, Error ellipse: s-maj=9.1km s-min=3.8km az=55.2*
*NEIC **12** 21:36:21.9, 4065N×14368E, h40km, MG3.4(JMA), After JMA.*
*JMA **12** 21:36:21.9±0.2, 4065N×14367E, h40km, M3.4*
ISC 12 21:36:22.8±1.9, 4067N±004×14373E±008, h34km±18km, n21, σ0§98/31, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.41**	**342**	*e*Pn	**Pn**	**21 36 44.4**	**-1.6**
JEM	**Erimo**	**1.41**	**342**	P	**Pn**	**21 36 46.4**	**+0.3**
JEM				*e*S	**Sn**	**21 37 04.6**	**+1.2**
JTH	**Tanohata**	**1.60**	**243**	P	**Pn**	**21 36 47.8**	**-0.9**
JTH				S	**Sn**	**21 37 06.9**	**-1.3**
JANG	**Nango**	**1.71**	**261**	P	**Pn**	**21 36 49.6**	**-0.6**
JANG				*e*S	**Sn**	**21 37 09.3**	**-1.6**
JNBK	**Urakawa-nobuka**	**1.77**	**336**	P	**Pn**	**21 36 51.3**	**+0.4**
JNBK				S	**Sn**	**21 37 12.6**	**+0.4**
JCH	**Churui**	**1.96**	**352**	P	**Pn**	**21 36 53.4**	**-0.2**
JCH				*e*S	**Sn**	**21 37 16.9**	**-0.1**
JOT	**Ohata**	**2.15**	**290**	P	**Pn**	**21 36 56.3**	**+0.1**
JOM	**Ohasama**	**2.22**	**238**	P	**Pn**	**21 36 57.5**	**+0.3**
JKB	**Kayabe**	**2.37**	**302**	P	**Pn**	**21 36 59.5**	**+0.3**
JKB				*e*S	**Sn**	**21 37 26.6**	**-0.5**
JAK	**Akkeshi**	**2.43**	**17**	P	**Pn**	**21 37 00.1**	**0.0**
JAK				S	**Sn**	**21 37 27.9**	**-0.8**
JMK	**Ichinoseki**	**2.58**	**229**	P	**Pn**	**21 37 02.5**	**+0.3**
JMK				*e*S	**Sn**	**21 37 32.0**	**-0.4**
JAR	**Ashorobuto**	**2.62**	**1**	P	**Pn**	**21 37 02.1**	**-0.6**
JAR				S	**Sn**	**21 37 32.1**	**-1.3**
NEM2	**Nemuro 2**	**3.08**	**28**	P	**Pn**	**21 37 08.6**	**-0.4**
NEM2				S	**Sn**	**21 37 41.9**	**-2.8**
JYK	**Kaneyama**	**3.13**	**237**	P	**Pn**	**21 37 10.4**	**+0.7**
ASAJ	**Asahikawa**	**3.54**	**347**	**Pn**	**Pn**	**21 37 16.2**	**+0.9**
	0.6nm,0.3s,baz=335,slow=26,SNR=4.0						
ASAJ				Sn	**Sn**	**21 37 58.8**	**+2.7**
	1.6nm,0.3s,baz=263,slow=32,SNR=3.4						
MJAR	**Matsushiro Arr**	**5.97**	**228**	Pn	**Pn**	**21 37 50.3**	**+1.5**
	0.5nm,0.3s,baz=33,slow=14,SNR=5.8						
JHJ	**Hachijo jima 2**	**8.17**	**204**	LR	LR	21 40 24.3	
	comp=Z,66nm,21.9s,baz=19,slow=30						
SONM	**Songino Array**	**27.48**	**298**	P	**P**	**21 42 06.1**	**+0.3**
	0.8nm,0.7s,mb3.4,baz=81,slow=8.8,SNR=6.4						
ZAL	**Zalesovo**	**40.92**	**309**	P	**P**	**21 44 02.9**	**+1.1**
	1.2nm,0.8s,mb3.6,baz=28,slow=8.5,SNR=7.2						
MKAR	**Makanchi Array**	**43.82**	**299**	P	**P**	**21 44 26.8**	**+1.4**
	1.4nm,0.8s,mb3.6,baz=87,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**66.44**	**332**	P	**P**	**21 47 09.7**	**+1.1**
	4.5nm,1.1s,mb4.4,baz=38,slow=9.6,SNR=3.6						

RSPR 12 21:44:32.9, 1791N×6893W, h127km±5km, MD3.8/3, MD3.8/3, 3C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.73**	**87**	*e*S	Sn	21 45 26.7	-0.1
CRPR	**Cabo Rojo, PR**	**1.73**	**87**	⇑*e*P	Pn	21 45 03.0	-0.4
LSP	**Las Mesas**	**1.77**	**81**	*e*S	Sn	21 45 28.3	+0.7
AOPR	**Arecibo Observ**	**2.11**	**78**	*e*S	Sn	21 45 34.8	-0.1
AOPR	**Arecibo Observ**	**2.11**	**78**	⇑*e*P	Pn	21 45 08.1	+0.1
MTP	**Monte Pirata**	**3.21**	**86**	⇑*e*P	Pn	21 45 22.4	+0.2
MTP	**Monte Pirata**	**3.21**	**86**	*e*S	Sn	21 46 01.1	+0.8

*NIED **12** 21:44:00, 32.10N×130.40E, h5km, Mw3.9 Best double couple: M0:8.82000×10^14 NP1:φ=215.00000°, δ54.00000°, λ-126.00000°. NP2:φ=86.00000°, δ49.00000°, λ-51.00000°.*
*ISCJB **12** 21:44:40.4±0.4, 32.13N±003×130.37E±004, h21km±4km, mb3.8/11, Error ellipse: s-maj=5.3km s-min=4.6km az=14.3*
*JMA **12** 21:44:40.5, 32.14N×130.38E, h7km±1km, M3.8*
JMA Felt III J1.
*IDC **12** 21:44:42.1±3.7, 32.18N×130.39E, h18km±23km, mb3.7/10, mb1 3.8/13, mb1mx3.7/26, mbtmp3.7/13, ML3.2/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=18.9km s-min=11.6km az=109.0*
*NEIC **12** 21:44:44.6±1.1, 32.22N×130.38E, h38km±12km, mb4.2/1, Error ellipse: s-maj=16.8km s-min=10.2km az=106.0*
ISC 12 21:44:40.5±0.4, 3213N±003×13037E±003, h10km±3km, n31, σ0§89/39, mb3.8/11, 4C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.20**	**87**	⇓P	**Pg**	**21 44 44.5**	**-0.1**
JZO				*e*S	**Sg**	**21 44 47.4**	**0.0**
JHD	**Hondo**	**0.39**	**330**	⇑P	**Pg**	**21 44 48.3**	**+0.2**
JHD				S	**Sg**	**21 44 54.1**	**+0.8**
JIU2	**Izumi 2**	**0.56**	**42**	⇓P	**Pg**	**21 44 50.9**	**-0.5**
JIU2				*e*S	**Sg**	**21 44 59.1**	**+0.4**
JSU	**Suzuyama**	**0.63**	**173**	⇑P	**Pg**	**21 44 52.3**	**-0.3**
JSU				*e*S	**Sg**	**21 45 01.0**	**+0.1**
JTZ	**Takazaki**	**0.65**	**110**	⇑P	**Pg**	**21 44 53.2**	**+0.1**
JTZ				*e*S	**Sg**	**21 45 01.8**	**+0.1**
JSJ	**Shimokoshiki**	**0.72**	**231**	⇓P	**Pg**	**21 44 54.0**	**-0.3**
JSJ				S	**Sg**	**21 45 03.7**	**0.0**
JTA	**Tamana**	**0.84**	**9**	⇓P	**Pg**	**21 44 56.3**	**-0.4**
JTA				S	**Sg**	**21 45 07.7**	**0.0**
JTSN	**Tsuno**	**0.97**	**83**	⇓P	**Pg**	**21 44 58.9**	**-0.2**
JTSN				S	**Sg**	**21 45 11.6**	**-0.2**
JNAR	**Kushima--Naru**	**0.98**	**128**	⇑P	**Pg**	**21 44 59.6**	**+0.3**
JNU	**Nakatsue**	**1.08**	**23**	Pg	**Pg**	**21 45 00.7**	**-0.5**
	237nm,0.3s,baz=216,slow=19,SNR=473						
JNU				Lg		21 45 15.2	
JOW	**Kunigami**	**5.59**	**200**	Pn	**Pn**	**21 46 07.0**	**+3.4**
	1.2nm,0.3s,baz=147,slow=3.7,SNR=5.1						
KSRS	**Korea Array**	**5.68**	**340**	Pn	**Pn**	**21 46 07.1**	**+2.3**
	baz=154,slow=14,SNR=3.4						
KSRS				Pg	**Pg**	**21 46 25.9**	**-3.4**
	baz=157,slow=17,SNR=9.2						
KSRS				Lg		21 47 39.4	
	baz=163,slow=30,SNR=6.5						
KSRS				LR	LR	21 48 20.1	
	comp=Z,238nm,18.1s,baz=155,slow=39						
MJAR	**Matsushiro Arr**	**7.83**	**54**	Pn	**Pn**	**21 46 36.3**	**+1.8**
	1.5nm,0.3s,baz=242,slow=14,SNR=14						
CBIJ	**Chichi jima**	**11.44**	**113**	LR	LR	21 51 04.9	
	comp=Z,76nm,19.0s,baz=291,slow=34						
SONM	**Songino Array**	**24.01**	**318**	P	**P**	**21 49 55.9**	**+0.5**
	0.8nm,0.9s,mb3.2,baz=138,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**39.28**	**306**	P	**P**	**21 52 09.7**	**+0.3**
	0.7nm,0.8s,mb3.5,baz=90,slow=8.7,SNR=4.0						
BVAR	**Borovoye Array**	**47.30**	**315**	P	**P**	**21 53 14.6**	**+0.5**
	1.6nm,0.7s,mb4.1,baz=95,slow=11,SNR=7.4						
BRVK	**Borovoye**	**47.36**	**315**	*e*P	**P**	**21 53 12.3**	**-2.3**
	2.1nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**51.91**	**175**	P	**P**	**21 53 48.9**	**-0.4**
	0.3nm,0.6s,mb3.4,baz=354,slow=7.7,SNR=4.3						
ASAR	**Alice Springs**	**55.58**	**176**	P	**P**	**21 54 17.1**	**+1.0**
	0.9nm,0.9s,mb3.8,baz=0.7,slow=5.3,SNR=8.9						
INK	**Inuvik**	**62.76**	**25**	P	**P**	**21 55 06.2**	**+0.3**
	0.8nm,0.9s,mb3.9,baz=152,slow=2.1,SNR=3.9						
INK	**Inuvik**	**62.76**	**25**	*e*P	**P**	**21 55 04.8**	**-1.0**
KBS	**Kingsbay**	**63.82**	**349**	*e*P	**P**	**21 55 13.7**	**+0.8**
	18nm,0.5s						
JOF	**Joensuu**	**65.83**	**330**	*e*p	**P**	**21 55 24.5**	**-1.5**
FINES	**FINESS Array B**	**68.68**	**330**	P	**P**	**21 55 43.4**	**-0.7**
	1.6nm,0.7s,mb4.1,baz=64,slow=6.6,SNR=9.2						
RES	**Resolute Bay**	**69.42**	**12**	P	**P**	**21 55 47.0**	**-1.6**
	64nm,0.7s						
AKASG	**Malin Array Be**	**72.29**	**319**	P	**P**	**21 56 05.6**	**-0.5**
	1.4nm,0.5s,mb4.2,baz=55,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**72.29**	**319**	P	**P**	**21 56 05.6**	**-0.6**
YKA	**Yellowknife Ar**	**72.42**	**26**	P	**P**	**21 56 07.0**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=298,slow=5.9,SNR=8.5						
YKA	**Yellowknife Ar**	**72.42**	**26**	P	**P**	**21 56 07.0**	**+0.1**
BRTR	**Keskin Array B**	**74.92**	**308**	P	**P**	**21 56 22.2**	**+0.7**
	0.9nm,0.7s,mb3.8,baz=81,slow=6.2,SNR=5.7						

*IDC **12** 22:05:05.1±24.0, 2526N×12603E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=426.6km s-min=53.5km az=152.0*
*JMA **12** 22:05:11.1±0.2, 2661N×12593E, h0km, M3.2*
*ISCJB **12** 22:05:12.4±1.0, 266N±0.1×12597E±006, h2km, mb3.5/3, Error ellipse: s-maj=19.2km s-min=6.5km az=29.8*
ISC 12 22:05:13.3±1.6, 265N±02×12600E±006, h2km±11km, n10, σ0§88/14, mb3.5/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.74**	**107**	P	**Pg**	**22 05 27.3**	**-0.2**
JKE				*e*S	**Sg**	**22 05 38.8**	**+1.7**
JAGN	**Aguni-jima**	**1.11**	**87**	P	**Pg**	**22 05 33.9**	**-0.8**
JAGN				*e*S	**Sg**	**22 05 49.2**	**0.0**
NAH1	**Naha**	**1.56**	**102**	P	**Pn**	**22 05 41.5**	**-0.5**
JJT2	**Tamagusuku 2**	**1.62**	**104**	P	**Pn**	**22 05 42.4**	**-0.5**
JIH	**Iheya**	**1.83**	**74**	P	**Pn**	**22 05 45.3**	**-0.4**
JIH				*e*S	**Sn**	**22 06 09.7**	**+0.3**
JOW	**Kunigami**	**2.06**	**81**	P	**Pn**	**22 05 47.8**	**-1.1**
JOW				*e*S	**Sn**	**22 06 15.2**	**+0.1**
JNU	**Nakatsue**	**7.81**	**32**	Pn	**Pn**	**22 07 15.2**	**+7.3**
	0.5nm,0.3s,baz=230,slow=12,SNR=2.8						
SONM	**Songino Array**	**26.23**	**329**	P	**P**	**22 10 52.1**	**+2.5**
	0.5nm,0.8s,mb3.1,baz=133,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**39.84**	**312**	P	**P**	**22 12 47.8**	**-0.3**
	1.3nm,0.7s,mb3.8,baz=104,slow=8.9,SNR=5.9						
ZAL	**Zalesovo**	**40.80**	**323**	P	**P**	**22 12 56.0**	**0.0**
	0.6nm,0.4s,mb3.6,baz=141,slow=9.8,SNR=4.7						

*NEIC **12** 22:06:36.0±1.2, 624S×151.14E, h10km, mb3.7/1, Error ellipse: s-maj=38.0km s-min=13.3km az=114.0*
*ISCJB **12** 22:06:39.8±4.9, 63S±02×1510E±03, h42km±37km, mb3.5/4, Error ellipse: s-maj=48.7km s-min=27.9km az=42.3*
*IDC **12** 22:06:41.7±8.8, 625S×150.94E, h43km±65km, mb3.3/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML2.1/1, Error ellipse: s-maj=104.2km s-min=57.6km az=132.0*
ISC 12 22:06:40.7±4.8, 63S±02×1510E±03, h38km±37km, n11, σ0§64/11, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.93**	**230**	P	**Pn**	**22 07 52.8**	**+0.6**
	0.5nm,0.3s,baz=79,slow=16,SNR=2.4						
PMG				S	**Sn**	**22 08 48.8**	**+0.8**
	1.2nm,0.3s,baz=165,slow=20,SNR=3.2						
PMG	**Port Moresby**	**4.93**	**230**	Pn	**Pn**	**22 07 51.9**	**-0.3**
PMG				Sn	**Sn**	**22 08 46.8**	**-1.2**
WRA	**Warramunga Arr**	**21.15**	**228**	P	**P**	**22 11 22.5**	**0.0**
	1.0nm,0.6s,mb3.3,baz=52,slow=10,SNR=16						
ASAR	**Alice Springs**	**23.88**	**222**	P	**P**	**22 11 49.9**	**-0.9**
	0.5nm,0.5s,mb3.2,baz=56,slow=8.7,SNR=7.4						
STKA	**Stephens Creek**	**26.97**	**198**	*e*P	**P**	**22 12 19.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.40**	**242**	P	**P**	**22 12 23.6**	**+1.0**
	1.2nm,0.5s,mb3.6,baz=56,slow=10,SNR=6.4						
KURK	**Kurchatov**	**83.81**	**322**	*e*P	**P**	**22 19 06.2**	**0.0**
CHKZ	**Chkalovo**	**89.32**	**324**	*e*P	**P**	**22 19 32.4**	**-0.7**
	0.2nm,0.4s,mb3.8						
BRVK	**Borovoye**	**89.39**	**323**	P	**P**	**22 19 33.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**149.00**	**285**	PKPbc	PKPbc	22 26 25.7	+1.0
	0.2nm,0.4s,baz=86,slow=2.6,SNR=6.6						
TORD	**Torodi Ar. Bea**	**149.00**	**285**	PKPbc	PKPbc	22 26 25.7	+1.0

*NEIC **12** 22:06:52.3±0.7, 47.38N×153.58E, h10km, mb4.1/8, Error ellipse: s-maj=19.5km s-min=10.6km az=139.0*
*ISCJB **12** 22:06:55.8±1.1, 47.29N±009×153.6E±01, h54km±9km, mb4.0/18, Error ellipse: s-maj=20.6km s-min=6.0km az=86.4*
*MOS **12** 22:06:56.2±1.4, 4731N×15356E, h59km, mb4.4/11, Error ellipse: s-maj=14.2km s-min=8.6km az=69.5*
*IDC **12** 22:07:02.2±3.8, 4731N×15342E, h100km±36km, mb3.6/12, mb1 3.7/14, mb1mx3.6/26, mbtmp3.6/14, Error ellipse: s-maj=26.0km s-min=19.1km az=152.0*
**ISC 12 22:06:57.6±1.0, 4728N±009×1537E±01, h56km±8km, n58, σ1§37/60, m

comp=Z,2.3nm,0.7s,mb4.3,baz=296,slow=7.2,SNR=20
YKA Yellowknife Ar 50.28 37 P P 22 15 48.4 +0.1
YKA pmax pmax
comp=Z,2.0nm,0.7s
CHKZ Chkalovo 50.37 310 *eP* **P 22 15 48.0 -1.0**
CHKZ pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
CHKZ Chkalovo 50.37 310 *eP* **P 22 15 48.0 -1.0**
comp=Z,1.2nm,0.6s,mb4.1
LSA Lhasa 50.61 273 *eP* **P 22 15 53.3 +2.5**
LSA pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
LSA Lhasa 50.61 273 *eP* **P 22 15 53.3 +2.5**
comp=Z,1.4nm,0.6s,mb4.1
BVAR Borovoye Array 50.81 309 P **P 22 15 50.9 -1.4**
comp=Z,0.4nm,0.4s,mb3.7,baz=64,slow=5.6,SNR=5.6
BRVK Borovoye 50.85 309 *eP* **P 22 15 54.4 +1.8**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BRVK Borovoye 50.85 309 *eP* **P 22 15 54.4 +1.8**
comp=Z,0.6nm,0.5s,mb3.8
GUN Gumba 55.32 275 *eP* **P 22 16 27.5 +2.0**
KKN Kakani 55.80 275 *eP* **P 22 16 30.7 +1.7**
PKI Pulchoki 55.86 275 *eP* **P 22 16 31.0 +1.7**
DMN Daman 56.04 275 *eP* **P 22 16 31.4 +0.8**
GKN Gorkha 56.10 276 *eP* **P 22 16 31.7 +0.6**
KOLN Koldanda 56.95 276 *eP* **P 22 16 35.6 -1.5**
ARCES ARCESS Array B 57.47 341 P **P 22 16 38.7 -2.1**
comp=Z,3.4nm,0.9s,mb4.4,baz=27,slow=6.1,SNR=3.8
ARCES ARCESS Array B 57.47 341 P **P 22 16 38.7 -2.1**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 61.02 334 *ep* **P 22 17 04.0 -1.3**
KAF Kangasniemi 63.12 335 *ep* **P 22 17 10.8 -8.6**
FINES FINESS Array B 63.72 335 P **P 22 17 21.9 -1.4**
comp=Z,1.1nm,0.4s,mb4.3,baz=40,slow=7.3,SNR=26
FINES FINESS Array B 63.72 335 P **P 22 17 21.9 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 63.72 335 P **P 22 17 21.9 -1.4**
NB2 NORSAR Subarra 67.84 341 P **P 22 17 49.4 -0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 67.84 341 P **P 22 17 49.3 -0.6**
comp=Z,5.3nm,1.0s,mb4.5,baz=28,slow=6.0,SNR=4.1
NOA NORSAR Array B 67.84 341 P **P 22 17 49.3 -0.6**
NOA pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 71.31 326 P **P 22 18 09.6 -1.7**
comp=Z,0.7nm,0.4s,mb4.0,baz=32,slow=6.3,SNR=4.8
AKASG Malin Array Be 71.31 326 *eP* **P 22 18 09.0 -2.2**
AKASG Malin Array Be 71.31 326 P **P 22 18 09.6 -1.7**
ASAR Alice Springs 72.83 199 P **P 22 18 20.3 0.0**
comp=Z,0.2nm,0.4s,mb3.4,baz=13,slow=6.0,SNR=3.2
TXAR Lajitas Array 76.92 61 P **P 22 18 44.1 +0.2**
comp=Z,0.2nm,0.4s,mb3.4,baz=295,slow=4.9,SNR=5.3
BRTR Keskin Array B 78.25 317 P **P 22 18 52.0 +0.6**
comp=Z,0.7nm,0.8s,mb3.6,baz=72,slow=4.0,SNR=3.6
BRTR Keskin Array B 78.25 317 P **P 22 18 52.0 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
CFAA Coronel Fontan 144.53 79 PKP PKPdf 22 26 24.5 -3.2
comp=Z,0.2nm,0.5s,baz=48,slow=2.9,SNR=4.1

ISCJB ***12*** *22:08:23.2±0.4, 4461N±002×12.10E±004, h1km±6km, Error ellipse: s-maj=5.1km s-min=3.2km az=171.5*
CSEM ***12*** *22:08:23.2±0.1, 4457N×1212E, h12km, ML2.6/4, Error ellipse: s-maj=1.7km s-min=1.2km az=109.0*
VIE ***12*** *22:08:24.0±0.8, 4458N×1264E, h13km±3km, ML2.0/3, Error ellipse: s-maj=5.1km s-min=4.7km az=142.0 75 km N of San Marino*
ROM ***12*** *22:08:25.0±0.2, 4458N×1206E, h12km, Md2.5/14, Ml2.0/3, Error ellipse: s-maj=4.0km s-min=2.3km az=126.0*
ISC 12 22:08:24.3±0.4, 4459N±002×1209E±004, h11km±6km, n27, σ1§07/44, 6C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIU	**Minerbio Fiu**	**0.43**	**277**	Pg	**Pg**	**22 08 32.7**	**0.0**
FIU				Sg	**Sg**	**22 08 41.2**	**+2.8**
334nm,0.3s							
SFI	**Santa Sofia**	**0.71**	**194**	Pg	**Pg**	**22 08 36.7**	**-1.3**
SFI				Sg	**Sg**	**22 08 48.6**	**+1.3**
18nm,0.2s							
RSM	**Repubblica di**	**0.71**	**158**	Pg	**Pg**	**22 08 38.9**	**+0.8**
12nm,0.2s							
VMG	**Vicchio**	**0.74**	**212**	Pg	**Pg**	**22 08 37.9**	**-0.7**
VMG				Sg	**Sg**	**22 08 48.8**	**+0.5**
12nm,0.2s							
FNVD	**Fontana Vidola**	**0.81**	**239**	Pg	**Pg**	**22 08 39.0**	**-0.9**
TEOL	**Teolo**	**0.82**	**339**	⇑*i*Pg	**Pg**	**22 08 40.4**	**+0.2**
TEOL				*i* Sg	**Sg**	**22 08 52.7**	**+1.8**
ZCCA	**Zocca**	**0.83**	**253**	Pg	**Pg**	**22 08 40.8**	**+0.5**
12nm,0.4s							
PESA	**Pesaro**	**0.85**	**140**	Pg	**Pg**	**22 08 41.6**	**+0.9**
CRE	**Caprese Michel**	**0.98**	**186**	Pg	**Pg**	**22 08 42.9**	**-0.2**
23nm,0.6s							
PZZT	**Monte Pizzetto**	**0.99**	**243**	Pg	**Pg**	**22 08 43.0**	**-0.4**
PZZT				Sg	**Sg**	**22 08 57.8**	**+1.5**
FSSB	**Fossombrone**	**1.03**	**151**	Pg	**Pg**	**22 08 43.4**	**-0.7**
FSSB				Sg	**Sg**	**22 08 59.3**	**+1.8**
22nm,0.3s							
BDI	**Bagni Di Lucca**	**1.19**	**244**	Pg	**Pg**	**22 08 46.7**	**-0.5**
CSNT	**Castellina Chi**	**1.26**	**207**	Pg	**Pg**	**22 08 47.0**	**-1.5**
20nm,0.6s							
SNTG	**Esanatoglia**	**1.47**	**155**	Pg	**Pg**	**22 08 51.4**	**-1.2**
7.0nm,0.3s							
CTI	**Castel Tesino**	**1.49**	**348**	Pg	**Pg**	**22 08 52.3**	**-0.6**
MAGA	**Magasa**	**1.57**	**319**	Pg	**Pg**	**22 08 53.3**	**-1.1**
MAGA				Sg	**Sg**	**22 09 14.0**	**-0.8**
SKDS	**Skadanscina**	**1.67**	**54**	*i* Pn	**Pn**	**22 08 52.9**	**-0.6**
SKDS				*i* Sg	**Sb**	**22 09 16.0**	**-0.1**
NRCA	**Norcia**	**1.91**	**157**	Pg	**Pb**	**22 08 58.1**	**-1.1**
7.0nm,1.0s							
JAVS	**Javornik**	**1.91**	**46**	*i* Pn	**Pn**	**22 08 56.4**	**-0.4**
JAVS				*i* Sn	**Sn**	**22 09 22.5**	**+1.6**
VOY	**Vojsko**	**1.92**	**41**	*e*	**Pg**	**22 09 05.1**	**+3.9**
VOY				*e*		22 09 22.4	
VOY				*e*Sn	**Sb**	**22 09 24.2**	**+0.7**
VOY				*e*		22 09 28.4	
NVLJ	**Novalja**	**1.99**	**90**	*i* Pn	**Pn**	**22 08 57.8**	**-0.2**
NVLJ				*i* Sn	**Sn**	**22 09 23.0**	**+0.1**
NVLJ	**Novalja**	**1.99**	**90**	*i* Pn	**Pn**	**22 08 57.7**	**-0.2**
NVLJ				*i* Sn	**Sn**	**22 09 23.0**	**+0.1**
CADS	**Cadrg**	**2.01**	**35**	*i* Pn	**Pn**	**22 08 58.2**	**0.0**
CADS				*i* Sn	**Sn**	**22 09 24.3**	**+1.0**
ABTA	**Abfaltersbach**	**2.18**	**8**	⇑*i*Pg	**Pg**	**22 09 06.1**	**+0.1**
ABTA				⇑*i*Sg	**Sg**	**22 09 36.1**	**+1.8**
2.3nm,0.3s							
OBKA	**Obir**	**2.58**	**41**	⇓*i*Pn	**Pn**	**22 09 02.3**	**-3.8**
OBKA				⇓*i*Sg	**Sb**	**22 09 41.8**	**-0.7**
9.6nm,0.4s							
KBA	**Koelnbreinsper**	**2.64**	**19**	⇑*i*Pg	**Pg**	**22 09 13.3**	**-1.6**
KBA				⇑*i*Sg	**Sg**	**22 09 47.9**	**-1.1**
2.0nm,0.3s							
SQTA	**Sankt Quirin**	**2.70**	**347**	⇑*i*Pn	**Pn**	**22 09 09.2**	**+1.5**
SQTA				⇓*i*Sn	**Sb**	**22 09 44.3**	**-1.5**

JMA ***12*** *22:21:40.8±0.2, 2662N×12596E, h7km±3km, M3.1*
ISCJB ***12*** *22:21:41.1±1.7, 2643N±009×12591E±007, h15km±14km, mb3.8/9, Error ellipse: s-maj=16.3km s-min=9.3km az=45.9*
IDC ***12*** *22:21:50.0±2.9, 2668N×12646E, h90km±30km, mb3.4/7, mb1 3.6/8, mb1mx3.4/22, mbtmp3.4/8, MS3.3/1, Ms1 3.3/1, ms1mx2.8/15, Error ellipse: s-maj=42.1km s-min=15.4km az=63.0*
ISC 12 22:21:44.2±1.4, 2644N±009×12605E±006, h24km±11km, n21, σ0§77/24, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.67**	**100**	P	**Pb**	**22 21 56.2**	**-1.0**
JKE				*e*S	**Sb**	**22 22 06.7**	**+0.6**
JAGN	**Aguni-jima**	**1.08**	**82**	P	**Pn**	**22 22 02.4**	**-1.4**
JAGN				*e*S	**Sn**	**22 22 18.1**	**+0.2**
NAH1	**Naha**	**1.49**	**99**	P	**Pn**	**22 22 09.9**	**+0.5**
NAH1				*e*S	**Sn**	**22 22 31.8**	**+3.7**
JJT2	**Tamagusuku 2**	**1.55**	**101**	P	**Pn**	**22 22 10.6**	**+0.3**
JIH	**Iheya**	**1.81**	**70**	P	**Pn**	**22 22 13.5**	**-0.4**
JOW	**Kunigami**	**2.03**	**78**	P	**Pn**	**22 22 17.0**	**+0.2**
11nm,0.3s,baz=114,slow=5.2,SNR=58							
JOW	**Kunigami**	**2.03**	**78**	P	**Pn**	**22 22 16.9**	**+0.1**
KSRS	**Korea Array**	**11.10**	**8**	P	**Pn**	**22 24 22.5**	**+1.2**
baz=177,slow=16,SNR=3.9							
KSRS				LR	LR	22 28 51.2	
comp=Z,150nm,20.8s,baz=180,slow=39							
SONM	**Songino Array**	**26.35**	**329**	P	**P**	**22 27 18.5**	**+0.3**
1.1nm,1.0s,mb3.3,baz=121,slow=11,SNR=5.2							
GUN	**Gumba**	**35.66**	**282**	*eP*	**P**	**22 28 41.0**	**+0.7**
PKI	**Pulchoki**	**36.12**	**281**	*eP*	**P**	**22 28 44.0**	**-0.2**
KKN	**Kakani**	**36.20**	**282**	*eP*	**P**	**22 28 45.1**	**+0.2**
DMN	**Daman**	**36.38**	**281**	*eP*	**P**	**22 28 46.6**	**+0.1**
GKN	**Gorkha**	**36.74**	**282**	*eP*	**P**	**22 28 49.4**	**-0.1**
9.6nm,1.0s,mb4.6							
KOLN	**Koldanda**	**37.68**	**282**	*eP*	**P**	**22 28 58.2**	**+0.7**
9.3nm,0.9s,mb4.5							
MKAR	**Makanchi Array**	**39.94**	**312**	P	**P**	**22 29 15.6**	**-0.9**
1.6nm,0.6s,mb3.9,baz=103,slow=10,SNR=17							
ZAL	**Zalesovo**	**40.91**	**323**	P	**P**	**22 29 23.4**	**-1.1**
1.6nm,0.7s,mb3.8,baz=2.7,slow=8.3,SNR=11							
WRA	**Warramunga Arr**	**46.80**	**169**	P	**P**	**22 30 12.0**	**+0.2**
0.9nm,0.9s,mb3.7,baz=352,slow=8.2,SNR=5.3							
ASAR	**Alice Springs**	**50.38**	**171**	P	**P**	**22 30 40.3**	**+0.9**
0.5nm,0.9s,mb3.5,baz=7.4,slow=8.1,SNR=4.6							
STKA	**Stephens Creek**	**59.85**	**165**	P	**P**	**22 31 46.6**	**-1.1**
1.5nm,0.7s,mb4.1,baz=13,slow=14,SNR=2.9							
YKA	**Yellowknife Ar**	**79.15**	**24**	P	**P**	**22 33 42.5**	**-4.4**
0.1nm,0.3s,mb3.2,baz=302,slow=5.1,SNR=4.9							

IDC 12 22:22:30.2±1.1, 2652N×12598E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=38.5km s-min=21.3km az=56.0, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**2.07**	**81**	Pn	Pn	22 23 06.2	0.0
9.0nm,0.3s,baz=252,slow=20,SNR=3.9							
SONM	**Songino Array**	**26.25**	**329**	P	P	22 28 07.8	+0.9
0.6nm,0.4s,baz=132,slow=8.0,SNR=2.5							
MKAR	**Makanchi Array**	**39.85**	**312**	P	P	22 30 05.4	+0.1
1.1nm,0.6s,baz=97,slow=8.8,SNR=4.8							
ZAL	**Zalesovo**	**40.82**	**323**	P	P	22 30 12.4	-0.9
0.9nm,0.5s,baz=349,slow=9.0,SNR=4.0							
WRA	**Warramunga Arr**	**46.89**	**169**	P	P	22 31 02.1	-0.1
0.6nm,0.7s,baz=349,slow=8.6,SNR=5.0							
ASAR	**Alice Springs**	**50.47**	**171**	P	P	22 31 30.2	+0.4
0.3nm,0.7s,baz=349,slow=9.0,SNR=3.8							

NIED ***12*** *22:32:00, 4630N×15330E, h5km, Mw4.9 Best double couple: M0 2.88000×10^16 NP1:φ=213.00000°, δ65.00000°, λ93.00000°. NP2:φ=25.00000°, δ25.00000°, λ83.00000°.*
SZGRF ***12*** *22:32:05.8, 4540N×15398E, h33km, mb5.0, MS4.8, East of Kuril Islands, Russia*
JMA ***12*** *22:32:06.3±0.9, 4633N×15329E, h30km, M5.1*
BJI ***12*** *22:32:06.2, 4651N×15291E, h17km, mB5.2, mb4.9, Ms4.7, Msz4.5*
SKHL ***12*** *22:32:07.8±3.1, 4614N×15328E, h41km±11km, mb5.9/4, mbh5.7/2, Ms4.9/4, msh5.7/2*
ISCJB ***12*** *22:32:08.8±0.2, 4616N±003×15303E±003, h40km, mb4.9/116, MS4.6/38, Error ellipse: s-maj=5.4km s-min=2.4km az=125.5*
NEIC ***12*** *22:32:08.5±0.7, 4624N×15300E, h23km±5km, mb5.0/56, MS4.9/3, Error ellipse: s-maj=5.6km s-min=4.0km az=161.0*
GCMT ***12*** *22:32:08.5±0.4, 4625N×15320E, h15km±1km, MW5.0/64, Moment Tensor Solution. s20,c30; s64,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.87±.22; Mθθ-0.47±.15; Mφφ-2.40±.14; Mrθ-0.16±.53; Mθφ-1.43±.08; Mφr1.65±.42; Best double couple: M0 3.45000×10^16 NP1:φ=224.00000°, δ35.00000°, λ117.00000°. NP2: φ=12.00000°, δ59.00000°, λ73.00000°. Principal axes: T 3.4260, Plg70.0000°, Azm244.0000°; N 0.0450, Plg15.0000°, Azm21.0000°; P -3.4730, Plg13.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***12*** *22:32:09.1±1.1, 4632N×15300E, h38km, mb5.1/46, MS4.7/16 Error ellipse: s-maj=7.3km s-min=4.7km az=103.4*
IDC ***12*** *22:32:10.4±0.4, 4625N×15296E, h40km±3km, mb4.2/20, mb1 4.4/20, mb1mx4.4/23, mbtmp4.2/20, MS4.4/16, Ms1 4.4/16, ms1mx4.2/35, Error ellipse: s-maj=13.0km s-min=10.8km az=127.0*
ISC 12 22:32:10.8±0.2, 4621N±003×15299E±003, h42km, h42km±1.6km: pP-P, n380, σ1§15/393, mb4.9/116, MS4.6/38, 26C-23D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.72**	**257**	⇓*i*PN	**Pn**	**22 33 04.0**	**-1.7**
KUR				pmax	pmax		
comp=N,150nm,0.6s							
KUR				pmax	pmax		
comp=E,80nm,0.6s							
KUR				pmax	pmax		
comp=Z,1μm,0.6s							
KUR				pmax	pmax		
comp=N,2μm,5.0s							
KUR				pmax	pmax		
comp=E,5μm,5.0s							
KUR				pmax	pmax		
comp=Z,5μm,5.0s							
KUR	**Kuril'sk**	**3.72**	**257**	*i* P	**Pn**	**22 33 04.0**	**-1.7**
KUR				AMB	AMB	22 33 04.5	
comp=Z,150nm,0.6s							
KUR				AMB	AMB	22 33 04.5	
comp=Z,80nm,0.6s							
KUR				AMB	AMB	22 33 04.5	
comp=Z,1μm,0.6s							
KUR				AMB	AMB	22 33 07.0	
comp=Z,2μm,5.0s							
KUR				AMB	AMB	22 33 07.0	
comp=Z,5μm,5.0s							
KUR				AMB	AMB	22 33 07.0	
comp=Z,5μm,5.0s							
KUR				*e*S	**Sn**	**22 33 48.0**	**-0.2**
KUR				A		22 33 59.0	
comp=Z,10μm,2.0s							
KUR				A		22 33 59.0	
comp=Z,5μm,2.0s							
SKR	**Severo-Kuril's**	**4.94**	**24**	*eP*	**Pn**	**22 33 20.5**	**-1.9**
SKR				AMB	AMB	22 33 22.1	
comp=Z,80nm,0.5s							
SKR				AMB	AMB	22 33 23.0	
comp=Z,1μm,3.0s							
SKR				*e*S	**Sn**	**22 34 13.0**	**-5.2**
SKR				A		22 34 40.5	
comp=Z,440nm,0.9s							
SKR				A		22 34 40.5	
comp=Z,820nm,0.9s							
SKR				A		22 34 41.0	
comp=Z,2μm,4.0s							
SKR				A		22 34 41.0	
comp=Z,4μm,4.0s							
SKR				AMS	AMS	22 35 36.0	
comp=Z,2μm,12.0s							
SKR				AMS	AMS	22 35 36.0	
comp=Z,5μm,12.0s							
SKR				AMS	AMS	22 35 36.0	
comp=Z,3μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**5.49**	**249**	*e*PN	**Pn**	**22 33 31.0**	**+1.0**
YUK				*e*S	**Sn**	**22 34 35.5**	**+3.6**
YUK				pmax	pmax		
comp=Z,2μm,1.0s							
YUK				smax			
comp=N,6μm,2.0s							
YUK				smax			
comp=E,4μm,1.6s							
YUK				smax			
comp=N,2μm,0.8s							
YUK				smax			
comp=E,2μm,0.8s							
YUK				MLR	MLR		
comp=N,6μm,15.0s							
YUK				MLR	MLR		
comp=E,6μm,15.0s							
YUK				MLR	MLR		
comp=Z,6μm,17.0s							
NEM2	**Nemuro 2**	**5.89**	**244**	P	**Pn**	**22 33 34.0**	**-1.5**
NEM2				*e*S	**Sn**	**22 34 38.1**	**-3.6**
JRA	**Rausu**	**6.01**	**251**	P	**Pn**	**22 33 38.3**	**+1.1**
JNK	**Nakash**	**6.43**	**249**	P	**Pn**	**22 33 43.5**	**+0.6**
JNK				*e*S	**Sn**	**22 34 55.2**	**+0.2**
JAK	**Akkeshi**	**6.73**	**244**	P	**Pn**	**22 33 45.7**	**-1.4**
JAK				*e*S	**Sn**	**22 34 59.1**	**-3.4**
JTKR	**Abashiri--Toko**	**6.80**	**254**	P	**Pn**	**22 33 49.3**	**+1.2**
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	*αe*PN	**Pn**	**22 33 55.0**	**+3.0**
YSS				pmax	pmax		
comp=E,140nm,1.1s							
YSS				pmax	pmax		
comp=Z,160nm,1.1s							
YSS				MLR	MLR		
comp=Z,4μm,15.0s							
YSS				MLR	MLR		
comp=E,3μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	*e*Pn	**Pn**	**22 33 56.4**	**+4.4**
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	*eP*	**Pn**	**22 33 55.0**	**+3.0**
YSS				AMB	AMB	22 33 57.5	
comp=E,140nm,1.1s							
YSS				AMB	AMB	22 33 57.5	
comp=E,160nm,1.1s							
YSS				*e*S	**Sn**	**22 35 13.4**	**+2.2**
YSS				AMS	AMS	22 36 40.0	
comp=E,3μm,15.0s							
YSS				AMS	AMS	22 36 40.0	
comp=E,4μm,15.0s							
JMP	**Maruseppu**	**7.16**	**256**	P	**Pn**	**22 33 54.8**	**+1.9**
JAR	**Ashorobuto**	**7.18**	**249**	P	**Pn**	**22 33 53.5**	**+0.3**
JAR				*e*S	**Sn**	**22 35 13.4**	**0.0**
JOB	**Onbets**	**7.33**	**246**	P	**Pn**	**22 33 55.1**	**-0.1**
JOB				*e*S	**Sn**	**22 35 15.2**	**-1.8**
JKK2	**Kamakawa 2**	**7.62**	**256**	P	**Pn**	**22 34 00.9**	**+1.7**
ASAJ	**Asahikawa**	**7.64**	**258**	P	**Pn**	**22 34 01.3**	**+1.8**
comp=E,1.6nm,0.3s,baz=93,slow=14,SNR=21							
ASAJ				LR	LR	22 36 43.7	
comp=E,2μm,21.2s,baz=54,slow=36							
ASAJ	**Asahikawa**	**7.64**	**258**	P	**Pn**	**22 34 01.9**	**+2.4**
ASAJ	**Asahikawa**	**7.64**	**258**	PN	**Pn**	**22 34 01.3**	**+1.8**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,2μm,21.2s							
PET	**Petropavlovsk**	**7.75**	**26**	*e*PN	**Pn**	**22 34 02.7**	**+1.7**
PET				pmax	pmax		
comp=Z,56nm,0.8s							
PET				MLR	MLR		
comp=Z,2μm,14.0s							
PET				MLR	MLR		
comp=Z,2μm,14.0s							
PET	**Petropavlovsk**	**7.75**	**26**	*e*Pn	**Pn**	**22 34 04.3**	**+3.4**
PET				*e*Sn	**Sn**	**22 35 23.1**	**-4.3**
JCH	**Churui**	**7.77**	**246**	P	**Pn**	**22 34 00.4**	**-0.9**
JCH				*e*S	**Sn**	**22 35 24.2**	**-3.8**
JWK2	**Keihoku**	**7.81**	**267**	P	**Pn**	**22 34 07.0**	**+5.2**
UGL	**Uglegorsk**	**7.91**	**295**	*e*PN	**Pn**	**22 34 07.0**	**+3.8**
UGL				S	**Sn**	**22 35 38.5**	**+7.1**
UGL				pmax	pmax		
comp=Z,180nm,0.9s							
UGL				smax			
comp=N,32nm,0.7s							
UGL				MLR	MLR		
comp=N,12μm,17.0s							
UGL				MLR	MLR		
comp=E,3μm,17.0s							
UGL				MLR	MLR		
comp=Z,3μm,17.0s							
UGL	**Uglegorsk**	**7.91**	**295**	*eP*	**Pn**	**22 34 07.0**	**+3.8**
UGL				AMB	AMB	22 34 08.5	
comp=Z,180nm,0.9s							
UGL				AMB	AMB	22 34 13.0	
comp=Z,600nm,5.0s							
UGL				AMB	AMB	22 34 13.0	
comp=Z,1μm,5.0s							
UGL				AMB	AMB	22 34 13.0	
comp=Z,1μm,5.0s							
UGL				*e*S	**Sn**	**22 35 38.5**	**+7.1**
UGL				A		22 35 39.2	
comp=Z,30nm,0.7s							
UGL				AMS	AMS	22 37 12.0	
comp=Z,12μm,17.0s							
UGL				AMS	AMS	22 37 12.0	
comp=Z,3μm,17.0s							
UGL				AMS	AMS	22 37 12.0	
comp=Z,3μm,17.0s							
JEM	**Erimo**	**8.22**	**243**	*e*S	**Sn**	**22 35 33.4**	**-5.6**
ERM	**Erimo**	**8.22**	**243**	Pn	**Pn**	**22 34 08.4**	**+0.9**
comp=Z,613nm,0.9s,SNR=9.0							
ERM	**Erimo**	**8.22**	**243**	*i* PN	**Pn**	**22 34 10.2**	**+2.7**
ERM	**Erimo**	**8.22**	**243**	*e*Pn	**Pn**	**22 34 07.8**	**+0.3**
comp=Z,208nm,1.1s							
ERM				*e*Sn	**Sn**	**22 35 36.6**	**-2.4**
JNBK	**Urakawa-nobuka**	**8.33**	**246**	*e*S	**Sn**	**22 35 39.2**	**-2.5**
JBT2	**Biratori 2**	**8.33**	**249**	P	**Pn**	**22 34 09.1**	**+0.1**
JNB	**Noboribetsu**	**9.34**	**251**	P	**Pn**	**22 34 22.4**	**-0.4**
JNB				*e*S	**Sn**	**22 36 03.5**	**-3.0**
JKB	**Kayabe**	**9.63**	**248**	P	**Pn**	**22 34 25.1**	**-1.7**
JKB				*e*S	**Sn**	**22 36 07.8**	**-5.8**
OKH	**Okha**	**9.79**	**322**	*eP*	**Pn**	**22 34 29.0**	**0.0**
OKH				AMB	AMB	22 34 32.0	
comp=Z,2μm,5.0s							
OKH				AMS	AMS	22 39 25.4	
comp=Z,3μm,14.0s							
OKH				AMS	AMS	22 39 25.4	
comp=Z,3μm,14.0s							
OKH				AMS	AMS	22 39 25.4	
comp=Z,5μm,14.0s							
JOT	**Ohata**	**9.89**	**245**	P	**Pn**	**22 34 27.6**	**-2.7**
JYM2	**Yakumo 2**	**9.95**	**250**	P	**Pn**	**22 34 30.7**	**-0.4**
JANG	**Nango**	**10.19**	**239**	P	**Pn**	**22 34 29.4**	**-5.1**
JANG				*e*S	**Sn**	**22 36 17.1**	**-10**
JSR	**Shiriuchi**	**10.21**	**247**	*e*S	**Sn**	**22 36 21.1**	**-6.7**
JTM	**Tenmabayashi**	**10.21**	**242**	P	**Pn**	**22 34 32.1**	**-2.7**
JOSM	**Okushiri--Mats**	**10.55**	**252**	P	**Pn**	**22 34 38.8**	**-0.6**
JOM	**Ohasama**	**10.90**	**236**	P	**Pn**	**22 34 38.9**	**-5.3**
OFUJ	**Ofunato**	**10.96**	**233**	*e*S	**Sn**	**22 36 34.9**	**-11**
JIO	**Ouri**	**11.58**	**232**	*e*S	**Sn**	**22 36 49.4**	**-12**
JMM	**Marumori**	**12.30**	**232**	P	**Pn**	**22 34 58.1**	**-5.3**
HABR	**Khabarovsk**	**12.38**	**287**	*e*PN	**Pn**	**22 35 09.4**	**+5.1**
HABR				*e*S	**Sn**	**22 37 33.4**	**+13**
HABR				pmax	pmax		
comp=Z,79nm,2.0s							
HABR				MLR	MLR		
comp=Z,3μm,17.9s							
JYA	**Atsumi**	**12.41**	**237**	P	**Pn**	**22 35 00.3**	**-4.5**
MA2	**Magadan**	**13.45**	**355**	*e*PN	**Pn**	**22 35 18.8**	**-0.2**
MA2				*e*S	**Sn**	**22 37 53.9**	**+6.8**
MA2				pmax	pmax		
comp=Z,10.0nm,0.6s							
MA2				MLR	MLR		
comp=Z,18μm,12.3s							
MA2	**Magadan**	**13.45**	**355**	*e*Pn	**Pn**	**22 35 19.2**	**+0.2**
MJAR	**Matsushiro Arr**	**14.69**	**234**	P	**Pn**	**22 35 32.0**	**-3.8**
comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=17							
JRY	**Ryogami san**	**14.69**	**231**	P	**Pn**	**22 35 32.9**	**-2.9**
MAJO	**Matsushiro**	**14.69**	**234**	*eP*	**Pn**	**22 35 33.0**	**-2.8**
MAT	**Matsushiro**	**14.69**	**234**	P	**Pn**	**22 35 35.1**	**-0.7**
MAT				*e*S	**Sn**	**22 38 20.0**	**+2.8**
MAT	**Matsushiro**	**14.69**	**234**	P	**Pn**	**22 35 32.8**	**-3.0**
JOD2	**Odawara 2**	**15.16**	**229**	P	**Pn**	**22 35 46.5**	**+4.5**
VLA	**Vladiv

CLNS *e*PPP 22 36 57.9
CLNS *e* 22 41 13.8
CLNS pmax pmax
comp=Z,44nm,0.9s
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=E,18nm,0.8s
CLNS MLR MLR
comp=Z,3μm,16.0s,MS4.8
CLNS MLR MLR
comp=N,800nm,15.0s,MS4.7
CLNS MLR MLR
comp=E,2μm,13.0s,MS4.7
KSRS Korea Array 20.56 254 P **P** **22 36 46.5 +0.7**
comp=E,14nm,0.8s,baz=60,slow=10,SNR=41
KSRS LR LR 22 43 44.3
comp=E,750nm,20.7s,MS4.0,baz=66,slow=34
KS15 Wonju Array Si 20.59 254 *e*Pn **P** **22 36 48.1 +1.9**
YAK Yakutsk 20.73 328*d i*P **P** **22 36 46.9 -0.8**
YAK pmax pmax
comp=Z,40nm,0.7s
YAK MLR MLR
comp=Z,1μm,22.0s,MS4.1
YAK Yakutsk 20.73 328 *e*P **P** **22 36 46.2 -1.5**
comp=Z,52nm,0.8s
JTU Tsushima 21.34 245 P **P** **22 36 54.6 +0.3**
JNU Nakatsue 21.37 240 P **P** **22 36 58.8 +4.2**
comp=Z,33nm,0.9s,mb4.7,baz=243,slow=20,SNR=6.5
JNU LR LR 22 44 35.7
comp=Z,2μm,21.3s,MS4.4,baz=71,slow=35
JNU Nakatsue 21.37 240 P **P** **22 36 58.5 +3.9**
INCN Inchon 21.40 255 *e*P **P** **22 36 54.6 -0.4**
comp=Z,21nm,0.4s,mb4.8
SNY Shenyang 21.53 269 ⇓P **P** **22 36 56.2 -0.1**
SNY AP 22 37 00.4
SNY XP sP 22 37 03.7 -8.3
SNY S **S** **22 40 58.5 +5.9**
SNY XS sS 22 41 05.5 -3.9
SNY AMB AMB
comp=Z,28nm,0.6s,mb4.9
SNY AMB AMB
comp=Z,420nm,6.5s
SNY LR LR
comp=E,1μm,15.2s
SNY LR LR
comp=Z,1μm,16.6s,MS4.4
HIA Hailar 22.46 290 P **P** **22 37 03.6 -2.6**
HIA *e* 22 37 09.0
HIA pmax pmax
comp=Z,16nm,0.9s
HIA Hailar 22.46 290 *e*P **P** **22 37 03.9 -2.3**
comp=Z,16nm,0.9s,mb4.4
BILL Bilibino 22.94 13 *i*P **P** **22 37 09.3 -1.9**
BILL *e* 22 37 33.0
BILL *e* 22 41 01.3
BILL *e*S **S** **22 41 13.8 -4.5**
BILL pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
BILL MLR MLR
comp=Z,800nm,19.0s,MS4.2
BILL Bilibino 22.94 13 *e*P **P** **22 37 08.9 -2.3**
comp=Z,30nm,1.2s,mb4.6
BILL *e*PcP PcP 22 41 00.7 +0.4
BILL *e*S **S** **22 41 21.1 +2.9**
DL2 Dalian 24.11 264⇑*i*P **P** **22 37 23.0 +0.5**
DL2 S **S** **22 41 42.2 +4.9**
DL2 XS sS 22 41 52.3 -3.9
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
DL2 AMB AMB
comp=Z,260nm,5.1s
DL2 LR LR
comp=N,330nm,17.9s,MS4.0
DL2 LR LR
comp=E,190nm,16.0s,MS4.0
DL2 LR LR
comp=Z,250nm,15.0s,MS3.8
BJI Beijing 27.39 270 P **P** **22 37 52.7 +0.6**
BJI AMB AMB
comp=Z,22nm,2.5s,mb4.2
BJI LR LR
comp=N,544nm,14.8s,MS4.6
BJI LR LR
comp=E,1μm,16.8s,MS4.6
BJI LR LR
comp=Z,1μm,19.9s,MS4.4
BJT Baijiatuau 27.40 270 *e*P **P** **22 37 55.6 +3.3**
TIXI Tiksi 27.96 344 *e*P **P** **22 37 53.3 -4.0**
TIXI *e* 22 38 41.3
TIXI *e*S **S** **22 42 33.8 -4.5**
TIXI pmax pmax
comp=Z,6.0nm,1.6s,mb4.0
TIXI MLR MLR
comp=Z,917nm,15.0s,MS4.5
TIXI Tiksi 27.96 344 *e*P **P** **22 37 54.9 -2.4**
SSE Sheshan 28.83 250 P **P** **22 38 04.9 -0.1**
SSE S **S** **22 42 52.3 +0.3**
SSE AMB AMB
comp=Z,29nm,1.2s,mb4.9
SSE AMB AMB
comp=Z,186nm,4.3s
SSE LR LR
comp=N,222nm,19.8s,MS4.0
SSE LR LR
comp=E,248nm,19.8s,MS4.0
SSE LR LR
comp=Z,354nm,22.1s,MS3.9
HHC Hu-ho-hao-te 30.25 275 *e*P **P** **22 38 18.8 +1.2**
HHC XP sP 22 38 25.6 -8.4
HHC PP PP 22 39 17.4 -8.9
HHC PCP PcP 22 41 18.7 +1.2
HHC S **S** **22 43 15.8 +1.5**
HHC XS sS 22 43 22.4 -11
HHC SS SS 22 44 55.1 -29
HHC AMB AMB
comp=Z,32nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,154nm,5.5s
HHC LR LR
comp=N,628nm,16.1s,MS4.5
HHC LR LR
comp=E,759nm,17.2s,MS4.5
HHC LR LR
comp=Z,1μm,16.1s,MS4.6
SONM Songino Array 31.43 290 P **P** **22 38 27.4 -0.6**
comp=Z,2.1nm,0.8s,mb4.0,baz=71,slow=8.5,SNR=16
SONM PcP PcP 22 41 19.2 -1.4
comp=Z,1.8nm,0.9s,baz=124,slow=2.3,SNR=4.5
SONM LR LR 22 52 10.5
comp=Z,1μm,19.1s,MS4.5,baz=265,slow=38
SONM Songino Array 31.43 290 P **P** **22 38 27.4 -0.6**
SONM 22 41 19.2
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,1μm,19.1s
TLY Talaya 32.35 298 *e*P **P** **22 38 32.9 -3.2**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,2μm,16.0s,MS4.9
TLY Talaya 32.35 298 P **P** **22 38 35.0 -1.0**
ZAK Zakamensk 32.83 296 *e*P **P** **22 38 38.8 -1.5**
ZAK *e* 22 41 21.4
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
YHNB Yeheng 33.20 241 P **P** **22 38 42.9 -0.7**
NACB Ninganchiao 33.44 240 P **P** **22 38 44.0 -1.7**
IMA2 Indian Mountai 34.29 36 *e*P **P** **22 38 51.9 -1.1**
KDAK Kodiak Island 34.51 50 *e*pP pP 22 39 11.3 +4.9
XAN Xi'an 35.38 266 P **P** **22 39 03.0 +0.6**
XAN AMB AMB
comp=Z,15nm,1.0s,mb4.9
COLA College 36.62 38 *i*P **P** **22 39 12.9 0.0**
COLA College 36.62 38 *e*P **P** **22 39 12.2 -0.8**
comp=Z,19nm,1.0s,mb4.9
LZH Lanzhou 37.82 272 ⇑P **P** **22 39 24.9 +1.7**
LZH AP pP 22 39 34.1 -0.7
LZH XP sP 22 39 37.2 -2.6
LZH PP PP 22 40 53.5 +3.5
LZH *e*S **S** **22 45 12.4 +1.2**
LZH XS sS 22 45 28.5 -2.1
LZH SS SS 22 47 48.7 -10
LZH AMB AMB
comp=Z,51nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,153nm,5.4s
LZH LR LR
comp=N,1μm,13.5s
LZH LR LR
comp=Z,1μm,17.6s,MS4.8
LZH Lanzhou 37.82 272 ⇑P **P** **22 39 24.9 +1.7**
LZH pP pP 22 39 34.1 -0.7
LZH sP sP 22 39 37.2 -2.6
LZH PP PP 22 40 53.5 +3.5
LZH *e*S **S** **22 45 12.4 +1.2**
LZH sS sS 22 45 28.5 -2.1
LZH SS SS 22 47 48.7 -10
KRAR Krasnoyarsk 37.84 307 *i*P **P** **22 39 21.3 -2.0**
KRAR MLR MLR
comp=Z,2μm,16.0s,MS4.9
GTA Gaotai 38.97 280 P **P** **22 39 34.1 +1.3**
GTA AP pP 22 39 37.8 -6.7
GTA XP sP 22 39 40.8 -8.7
GTA PP PP 22 41 08.4 +5.8
GTA PCP PcP 22 41 43.8 +1.2
GTA S **S** **22 45 33.5 +4.9**
GTA XS sS 22 45 41.4 -6.6
GTA AMB AMB
comp=Z,33nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,436nm,7.2s
GTA LR LR
comp=N,723nm,15.2s,MS4.7
GTA LR LR
comp=E,567nm,16.3s,MS4.7
GTA LR LR
comp=Z,761nm,16.0s,MS4.6
EGAK Eagle 39.48 38 *e*P **P** **22 39 35.4 -1.7**
comp=Z,7.2nm,0.3s,mb4.9
CD2 Chengdu 40.75 266 P **P** **22 39 48.5 +0.9**
CD2 AP pP 22 39 53.0 -6.3
CD2 XP sP 22 39 55.6 -8.7
CD2 PP PP 22 41 24.7 +2.7
CD2 S **S** **22 45 58.9 +3.7**
CD2 XS sS 22 46 07.7 -7.0
CD2 SS SS 22 48 50.9 -6.1
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,300nm,5.1s
CD2 LR LR
comp=N,500nm,10.6s
CD2 LR LR
comp=E,410nm,6.5s
CD2 LR LR
comp=Z,420nm,11.0s,MS4.5
GYA Guiyang 41.51 258⇑*i*P **P** **22 39 54.5 +0.6**
GYA AP pP 22 39 58.8 -6.8
GYA XP sP 22 40 01.9 -8.7
GYA PP PP 22 41 35.8 +5.5
GYA PCP PcP 22 41 54.1 +3.3
GYA SCP ScP 22 45 43.0 +5.6
GYA S **S** **22 46 11.2 +4.6**
GYA SS SS 22 49 09.2 -3.0
GYA SCS ScS 22 49 57.7 +3.9
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,490nm,15.8s,MS4.6
GYA LR LR
comp=E,510nm,16.0s,MS4.6
GYA LR LR
comp=Z,520nm,15.7s,MS4.5
INK Inuvik 42.15 32 P **P** **22 39 58.4 -0.7**
comp=Z,8.6nm,0.8s,mb4.4,baz=277,slow=7.7,SNR=17
INK Inuvik 42.15 32 *e*P **P** **22 39 58.9 -0.2**
ZAL Zalesovo 42.87 306 P **P** **22 40 03.0 -2.0**
comp=Z,2.7nm,0.8s,mb4.0,baz=45,slow=9.2,SNR=16
ZAL PcP PcP 22 41 55.4 +0.1
comp=Z,2.6nm,0.9s,baz=28,slow=2.6,SNR=5.5
ZAL LR LR 22 59 54.8
comp=Z,3μm,18.1s,MS5.2,baz=37,slow=39
QIZ Qiongzhong 44.56 247 P **P** **22 40 20.1 +1.6**
QIZ S **S** **22 46 55.5 +4.3**
QIZ LR LR
comp=N,271nm,21.1s
QIZ LR LR
comp=Z,281nm,19.4s,MS4.2
WMQ Urumqi 45.04 292 P **P** **22 40 22.8 +0.5**
WMQ XP sP 22 40 29.1 -10
WMQ PP PP 22 42 06.8 -1.3
WMQ PPP 22 42 48.9
WMQ S **S** **22 47 00.3 +2.1**
WMQ SS SS 22 50 13.8 -7.3
WMQ SCS ScS 22 50 17.5 +1.7
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,518nm,7.0s
WMQ LR LR
comp=N,961nm,12.0s
WMQ LR LR
comp=E,1μm,9.0s
WMQ LR LR
comp=Z,591nm,15.0s,MS4.6
KMI Kunming 45.06 260 P **P** **22 40 24.0 +1.5**
KMI AP pP 22 40 30.3 -4.0
KMI XP sP 22 40 32.9 -6.4
KMI PP PP 22 42 09.9 +1.6
KMI PPP 22 42 48.3
KMI S **S** **22 47 06.1 +7.7**
KMI XS sS 22 47 17.3 -0.8
KMI AMB AMB
comp=Z,18nm,1.1s,mb4.8
KMI AMB AMB
comp=Z,232nm,4.9s
KMI LR LR
comp=N,294nm,14.4s,MS4.5
KMI LR LR
comp=E,408nm,17.0s,MS4.5
KMI LR LR
comp=Z,397nm,15.2s,MS4.5
KMI Kunming 45.06 260 P **P** **22 40 24.0 +1.5**
KMI pP pP 22 40 30.3 -4.0
KMI sP sP 22 40 32.9 -6.4
KMI PP PP 22 42 09.9 +1.6
KMI PPP 22 42 48.3
KMI S **S** **22 47 06.1 +7.7**
KMI sS sS 22 47 17.3 -0.8
KMI SS SS 22 50 28.8 +7.3
MKAR Makanchi Array 47.11 298 P **P** **22 40 37.2 -1.5**
comp=Z,12nm,0.8s,mb4.9,baz=66,slow=8.2,SNR=51
MKAR PcP PcP 22 42 09.8 -0.1
comp=Z,1.4nm,0.6s,baz=66,slow=4.6,SNR=2.4
MKAR Makanchi Array 47.11 298 *i*P **P** **22 40 38.0 -0.6**
MKAR pmax pmax
comp=Z,12nm,0.8s
MKAR Makanchi Array 47.11 298 P **P** **22 40 37.2 -1.5**
MKAR PcP PcP 22 42 09.8 -0.1
KURK Kurchatov 47.59 304 P **P** **22 40 41.7 -0.7**
comp=Z,156nm,0.8s,SNR=16
KURK Kurchatov 47.59 304 P **P** **22 40 41.0 -1.4**
SNR=8.5
KURK Kurchatov 47.59 304*c i*P **P** **22 40 40.8 -1.6**
KURK Kurchatov 47.59 304 *e*P **P** **22 40 40.9 -1.4**
POHA Pohakuloa 49.53 104 P **P** **22 40 56.5 -0.7**
LSA Lhasa 50.22 273 *e*P **P** **22 41 05.3 +2.8**
LSA pmax pmax
comp=Z,12nm,0.7s,mb5.0
LSA Lhasa 50.22 273 *e*P **P** **22 41 05.3 +2.8**
comp=Z,12nm,0.6s,mb5.1
ALE Alert 50.29 6 P **P** **22 41 01.8 -1.2**
comp=Z,71nm,0.7s,mb5.8,SNR=6.3
CHKZ Chkalovo 50.71 310 *e*P **P** **22 41 04.3 -1.9**
BRVK Borovoye 51.17 310 P **P** **22 41 08.2 -1.5**
comp=Z,91nm,0.7s,mb5.8,SNR=12
BRVK Borovoye 51.17 310 P **P** **22 41 08.9 -0.8**
SNR=6.7
BRVK Borovoye 51.17 310 *e*P **P** **22 41 08.8 -0.9**
YKW3 Yellowknife Ar 51.37 36 *e*P **P** **22 41 10.5 -0.6**
RES Resolute Bay 51.38 18 *e*P **P** **22 41 10.7 -0.5**
comp=Z,1μm,1.6s
YKA Yellowknife Ar 51.41 36 P **P** **22 41 10.7 -0.7**
comp=Z,3.9nm,1.0s,mb4.3,baz=298,slow=7.5,SNR=19
YKA pP pP 22 41 21.9 -1.5
comp=Z,7.2nm,1.0s,baz=299,slow=7.1,SNR=15
YKA LR LR 23 03 05.4
comp=Z,148nm,21.1s,MS4.0,baz=250,slow=36
YKA Yellowknife Ar 51.41 36 P **P** **22 41 10.7 -0.8**
YKA *PP pP 22 41 21.9 -1.5
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA MLR MLR
comp=Z,148nm,21.1s
YKA Yellowknife Ar 51.41 36 P **P** **22 41 10.7 -0.7**
YKA pP pP 22 41 21.9 -1.5
YKA LR LR 23 03 05.4
CHTO Chiang Mai 51.91 257 P **P** **22 41 16.9 +1.7**
SNR=6.1
CHTO Chiang Mai 51.91 257 *e*P **P** **22 41 16.6 +1.4**
CHTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CHTO Chiang Mai 51.91 257 *e*P **P** **22 41 16.6 +1.4**
comp=Z,10nm,0.8s,mb4.8
CHTO *e*ScP ScP 22 46 24.2 +3.4
TKM2 Tokmak 2 53.16 296 P **P** **22 41 25.0 +0.6**
SNR=8.8
CHMS Chumysh 53.64 297 P **P** **22 41 27.7 -0.3**
SNR=7.1
USP Ospenovka 53.65 297 P **P** **22 41 28.7 +0.7**
SNR=26
KBK Karagaybulak 53.70 296 P **P** **22 41 28.6 +0.1**
SNR=14
KZA Kyzart 53.83 296 P **P** **22 41 30.8 +1.5**
SNR=9.8
AAK Ala-Archa 54.00 297 P **P** **22 41 31.0 +0.4**
SNR=17
AAK Ala-Archa 54.00 297 P **P** **22 41 30.5 -0.1**
comp=Z,108nm,0.8s,mb5.8,SNR=13
AAK Ala-Archa 54.00 297 P **P** **22 41 30.1 -0.5**
SNR=19
AAK Ala-Archa 54.00 297⇑*e*P **P** **22 41 30.0 -0.6**
AAK pmax pmax
comp=Z,13nm,0.7s,mb5.0
AAK Ala-Archa 54.00 297 *e*P **P** **22 41 29.9 -0.7**
EKS2 Erkin-Say 54.42 297 P **P** **22 41 33.8 +0.1**
SNR=17
AML Almayashu 54.77 297 P **P** **22 41 37.6 +1.4**
SNR=8.6
GUN Gumba 54.96 275 *e*P **P** **22 41 39.3 +1.7**
comp=Z,17nm,0.5s,mb5.3
ARU Arti 55.35 318⇑*i*P **P** **22 41 38.8 -1.6**
ARU *e* 22 43 44.1
ARU *e*PPP 22 44 53.4
ARU *e*S **S** **22 49 22.7 +1.1**
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.8
ARU Arti 55.35 318 *e*P **P** **22 41 38.9 -1.5**
comp=Z,13nm,0.8s,mb5.0
KKN Kakani 55.45 276 *e*P **P** **22 41 42.8 +1.7**
comp=Z,43nm,0.7s,mb5.6
PKI Pulchoki 55.50 275 *e*P **P** **22 41 43.1 +1.7**
comp=Z,48nm,1.0s,mb5.5
DMN Daman 55.68 276 *e*P **P** **22 41 44.7 +1.9**
comp=Z,110nm,1.2s,mb5.8
GKN Gorkha 55.76 276 *e*P **P** **22 41 44.9 +1.6**
comp=Z,66nm,0.8s,mb5.7
KOLN Koldanda 56.62 277 *e*P **P** **22 41 51.2 +1.7**
comp=Z,55nm,0.8s,mb5.6
EDM Edmonton 56.75 46 *e*P **P** **22 41 49.8 -0.6**
DAG Danmarks Havn 57.18 358⇑*i*P **P** **22 41 52.0 -1.4**
comp=Z,10nm,0.7s,mb5.0
DAG Danmarks Havn 57.18 358⇑*i*P **P** **22 41 52.0 -1.4**
DAG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KEV Kevo 57.82 341 *e*p **P** **22 41 55.8 -2.1**
ARCES ARCESS Array B 58.33 341 P **P** **22 41 59.8 -1.7**
comp=Z,2.2nm,0.6s,mb4.3,baz=28,slow=5.8,SNR=13
ARCES LR LR 23 12 05.9
comp=Z,448nm,21.8s,MS4.5,baz=146,slow=41
ARCES ARCESS Array B 58.33 341 P **P** **22 41 59.8 -1.7**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,448nm,21.8s
WALA Waterton Lakes 58.85 50 *e*P **P** **22 42 04.7 -0.4**
comp=Z,6.3nm,0.6s,mb4.8
BSMT Bassoo Peak 59.09 52 *e*P **P** **22 42 07.5 +0.7**
THN Thein Dam 59.10 286 *e*P **P** **22 42 06.9 0.0**
comp=Z,1.1nm,0.5s,mb4.1
BMO Blue Mountains 59.45 56 *e*P **P** **22 42 09.2 -0.1**
comp=Z,9.9nm,1.0s,mb4.8
WVOR Wild Horse Val 60.11 59 *e*P **P** **22 42 14.0 +0.2**
WVOR *e* pP 22 42 25.8 -0.2
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WVOR Wild Horse Val 60.11 59 *e*P **P** **22 42 14.0 +0.2**
comp=Z,4.0nm,0.9s,mb4.5
WVOR *e* pP 22 42 25.8 -0.2
MSO Missoula 60.16 52 *e*P **P** **22 42 13.8 -0.4**
comp=Z,14nm,1.0s,mb5.0
NDI New Delhi 60.42 282 *e*x x 22 42 17.0
CHMT Chamberlain Mo 60.49 52 *e*P **P** **22 42 14.9 -1.5**
KLMR Klimovskoe 60.52 329 *e*P **P** **22 42 14.5 -2.1**
KLMR pmax pmax
comp=Z,76nm,2.6s,mb5.4
KAKA Kakadu 61.50 203 *e*P **P** **22 42 25.2 +2.0**
comp=Z,3.0nm,0.6s,mb4.6
LRM Limekiln Ridge 61.59 52 *e*P **P** **22 42 24.3 +0.4**
CMB Columbia Colle 61.72 64 *e*P **P** **22 42 23.5 -1.2**
CMB pmax pmax
comp=Z,21nm,1.3s,mb5.1
CMB Columbia Colle 61.72 64 P **P** **22 42 23.8 -1.0**
comp=Z,9.3nm,1.2s,mb4.8
JOF Joensuu 61.78 334 *e*p **P** **22 42 24.1 -1.0**
comp=Z,4.4nm,0.5s,mb4.8
JOF Joensuu 61.78 334 *e*P **P** **22 42 24.1 -1.0**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
HLID Hailey 61.89 55 *e*P **P** **22 42 25.2 -0.6**
comp=Z,8.6nm,1.0s,mb4.8
BOZ Bozeman (W) 62.15 52 *e*P **P** **22 42 28.0 +0.4**
BOZ pmax pmax
comp=Z,11nm,1.0s,mb4.9
BOZ Bozeman (W) 62.15 52 *e*P **P** **22 42 28.0 +0.4**
comp=Z,11nm,1.0s,mb4.9
BMN Battle Mountai 62.18 60 *e*P **P** **22 42 26.8 -1.0**
BMN pmax pmax
comp=Z,11nm,0.8s,mb5.0
BMN Battle Mountai 62.18 60 *e*P **P** **22 42 26.8 -1.0**
comp=Z,11nm,0.8s,mb5.0
NVAR Mina Array Bea 62.76 62 P **P** **22 42 31.6 -0.1**
comp=Z,4.0nm,0.8s,mb4.6,baz=295,slow=6.8,SNR=27
NVAR pP pP 22 42 44.3 +0.3
comp=Z,9.8nm,0.8s,baz=300,slow=7.2,SNR=21
QLMT Earthquake Lak 62.77 53 *e*P **P** **22 42 33.8 +2.0**
YNR Norris Junctio 63.26 53 *e*pP pP 22 42 49.3 +2.0
YFT Old Faithful 63.34 53 *e*P **P** **22 42 35.4 -0.2**
TPH Tonopah 63.65 62 *e*P **P** **22 42 37.1 -0.5**
TPH Tonopah 63.65 62 *e*P **P** **22 42 37.9 +0.3**
comp=Z,4.9nm,0.6s,mb4.7
TPH *e* pP 22 42 49.0 -0.8
MOOW Moose Ponds 63.84 53 *e*P **P** **22 42 39.6 +0.7**
comp=Z,12nm,1.1s,mb4.8
KAF Kangasniemi 63.89 335 *e*p **P** **22 42 37.1 -2.1**
baz=37,slow=6.2
SNOW Snow King Moun 64.02 54 *e*P **P** **22 42 41.7 +1.7**
comp=Z,26nm,1.1s,mb5.2
REDW Red Top Meadow 64.03 54 *e*P **P** **22 42 38.8 -1.3**
SPUT South Promonto 64.43 56 *e*pP pP 22 42 50.6 -4.4
FINES FINESS Array B 64.49 335 P **P** **22 42 42.1 -0.9**
comp=Z,9.0nm,0.6s,mb5.0,baz=41,slow=6.7,SNR=59
FINES pP pP 22 42 53.3 -2.1
comp=Z,4.3nm,0.8s,baz=30,slow=6.6,SNR=2.7
FINES LR LR 23 13 17.0
comp=Z,308nm,19.0s,MS4.5,baz=167,slow=38
FINES FINESS Array B 64.49 335 P **P** **22 42 42.2 -0.9**
FINES *PP pP 22 42 53.3 -2.1
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES MLR MLR
comp=Z,308nm,19.0s
HWUT Hardware Ranch 64.75 56 *e*P **P** **22 42 45.1 +0.3**
comp=Z,19nm,1.2s,mb5.0
DUG Dugway 64.94 57 *e*P **P** **22 42 46.5 +0.5**
BW06 Boulder Array 65.14 54 *e*P **P** **22 42 47.1 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
PDAR Pinedale Array 65.14 54 P **P** **22 42 46.9 -0.5**
comp=Z,2.8nm,0.7s,mb4.4,baz=257,slow=2.1,SNR=24
PDAR pP pP 22 42 58.5 -1.2
comp=Z,8.5nm,0.9s,baz=308,slow=1.0,SNR=17
PDAR LR LR 23 09 04.0

comp=Z,164nm,18.6s,MS4.3,baz=340,slow=34
NLU North Lily Min 65.53 57 *e*P **P 22 42 50.2 +0.4**
NLU *e*pP pP 22 42 56.2 -5.9
DAU Daniels Canyon 65.70 56 *e*P **P 22 42 51.6 +0.6**
OBN Obninsk 65.70 326 *i* P **P 22 42 49.6 -1.4**
OBN *e* 22 45 12.9
OBN *e*SS SS 22 55 43.0 -5.7
OBN pmax pmax
comp=Z,14nm,1.8s,mb4.7
OBN MLR MLR
comp=Z,500nm,16.0s,MS4.8
OBN Obninsk 65.70 326 *e*P **P 22 42 49.7 -1.3**
comp=Z,9,6nm,0.5s,mb5.1
MPU Maple Canyon 65.74 57 *e*pP pP 22 42 54.8 -8.8
ARUT Antelope Range 66.12 60 *e*P **P 22 42 53.8 +0.1**
ARUT *e* pP 22 43 05.8 -0.2
CTAO Charters Tower 66.27 187 P **P 22 42 56.2 +1.6**
MSU Marysvale 66.41 59 *e*P **P 22 42 55.7 +0.2**
MSU *e* pP 22 43 08.5 +0.7
HYB Hyderabad 66.92 271 *i* P **P 22 42 59.5 +0.7**
HYB Hyderabad 66.92 271 *e*P **P 22 42 59.5 +0.7**
SRU San Rafael 66.98 57 *e*P **P 22 42 59.3 +0.1**
ULM Lac du Bonnet 66.99 41 P **P 22 42 58.2 -1.0**
comp=Z,1.0nm,0.6s,mb4.0,baz=315,slow=8.3,SNR=3.4
ULM Lac du Bonnet 66.99 41 P **P 22 42 58.2 -1.0**
WB2 Warramunga Arr 67.97 199 *e*P **P 22 43 04.5 -0.9**
WRA Warramunga Arr 67.97 199 P **P 22 43 04.6 -0.8**
comp=Z,2.9nm,0.9s,mb4.3,baz=16,slow=6.5,SNR=16
WRA pP pP 22 43 16.7 -1.1
comp=Z,6.3nm,1.0s,baz=13,slow=6.6,SNR=10
WRA LR LR 23 11 42.2
comp=Z,83nm,18.4s,MS4.0,baz=50,slow=35
WRA Warramunga Arr 67.97 199 P **P 22 43 04.6 -0.8**
WRA *PP pP 22 43 16.7 -1.1
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA MLR MLR
comp=Z,83nm,18.4s
PV10 Paradox Valley 68.34 57 *e*P **P 22 43 08.5 +0.8**
PV10 *e* pP 22 43 20.6 +0.5
FITZ Fitzroy Crossi 68.63 208 *e*P **P 22 43 09.4 -0.1**
comp=Z,7.8nm,0.9s,mb4.6
NB2 NORSAR Subarra 68.71 341 P **P 22 43 08.9 -1.1**
comp=Z,4.1nm,0.6s,mb4.5,baz=28,slow=6.2
NOA NORSAR Array B 68.71 341 P **P 22 43 08.9 -1.1**
comp=Z,5.2nm,0.5s,mb4.7,baz=28,slow=6.4,SNR=15
NOA pP pP 22 43 20.6 -1.8
comp=Z,14nm,1.0s,baz=28,slow=6.3,SNR=8.5
NOA LR LR 23 18 08.9
comp=Z,421nm,18.1s,MS4.7,baz=350,slow=40
NOA NORSAR Array B 68.71 341 P **P 22 43 08.9 -1.1**
NOA *PP pP 22 43 20.7 -1.7
NOA pmax pmax
comp=Z,5.0nm,0.5s
NOA MLR MLR
comp=Z,421nm,18.1s
PV01 Paradox Valley 68.77 57 *e*P **P 22 43 11.6 +1.2**
WUAZ Wupatki 68.87 60 *e*P **P 22 43 10.8 -0.2**
comp=Z,7.7nm,1.0s,mb4.6
ISCO Idaho Springs 69.33 54 *e*P **P 22 43 14.5 +0.6**
POO Poona 69.42 276 *ex* x 22 43 12.0
SDCO Great Sand Dun 70.81 55 *e*P **P 22 43 23.3 +0.4**
comp=Z,14nm,1.6s,mb4.6
KIV Kislovodsk 71.11 314 ⇓P **P 22 43 26.5 +1.7**
SNR=9.9
KIV Kislovodsk 71.11 314 *e*P **P 22 43 26.3 +1.5**
KIV *e* 22 43 47.5
KIV *e*S S 22 52 45.6 +7.3
KIV pmax pmax
comp=Z,24nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,694nm,17.0s,MS5.0
KIV Kislovodsk 71.11 314 *e*P **P 22 43 25.1 +0.4**
ZEI Tsey 71.36 313 *e*P **P 22 43 25.7 -0.6**
ZEI pmax pmax
comp=Z,16nm,1.0s,mb4.9
SUW Suwalki 71.43 331 *e*P **P 22 43 25.9 -0.8**
ASAR Alice Springs 71.67 198 P **P 22 43 28.2 +0.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=14,slow=5.2,SNR=20
ASAR pP pP 22 43 40.1 -0.5
comp=Z,5.4nm,1.0s,baz=11,slow=5.0,SNR=12
ASAR Alice Springs 71.67 198 P **P 22 43 28.3 +0.2**
ASAR *PP pP 22 43 40.1 -0.5
ASAR pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 71.94 326 P **P 22 43 28.9 -0.9**
comp=Z,22nm,0.6s,mb5.3,baz=34,slow=6.2,SNR=72
AKASG LR LR 23 16 55.8
comp=Z,608nm,18.1s,MS4.9,baz=35,slow=37
AKASG Malin Array Be 71.94 326 *i* P **P 22 43 28.8 -1.0**
AKASG pmax pmax
comp=Z,22nm,0.6s
AKBB Malin Array Si 71.94 326 *e*P **P 22 43 27.4 -2.4**
KIEV Kiev 71.96 326 P **P 22 43 29.0 -0.9**
KIEV pmax pmax
comp=Z,26nm,0.7s,mb5.3
KIEV Kiev 71.96 326 *e*P **P 22 43 27.5 -2.4**
comp=Z,26nm,0.7s,mb5.3
ANMO Albuquerque 72.19 58 *e*pP pP 22 43 37.9 -5.9
GNI Garni 72.81 310 P **P 22 43 37.5 +2.5**
SNR=5.1
GNI Garni 72.81 310 *i* P **P 22 43 37.1 +2.1**
GNI pmax pmax
comp=Z,24nm,1.2s
GNI MLR MLR
comp=Z,500nm,15.0s
GNI Garni 72.81 310 *e*P **P 22 43 37.5 +2.5**
comp=Z,20nm,0.9s,mb5.1
SOC Sochi 72.84 316 *e*P **P 22 43 34.4 -0.8**
SOC *e* 22 43 52.8
SOC *e* 22 46 18.7
SOC *e*S S 22 53 00.8 +2.6
SOC pmax pmax
comp=Z,18nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,852nm,20.0s,MS5.0
ANN Anapa 73.02 318 *e*P **P 22 43 32.3 -3.9**
ANN *e* 22 43 49.7
ANN *e* 22 46 14.0
ANN *e*S S 22 52 57.4 -2.8
ANN *e*SS SS 22 57 37.6 -3.8
ANN pmax pmax
comp=Z,38nm,1.4s,mb5.1
LVV L'vov 74.61 329 *e*P **P 22 43 46.4 +0.9**
KIS Kishinev 75.07 324 *e*P **P 22 43 47.0 -1.2**
KIS *e* 22 43 55.0
KIS MLR MLR
comp=Z,600nm,16.0s,MS5.0
KWP Kalwaria 75.24 329 *e*P **P 22 43 49.6 +0.5**
OJC Ojcow 75.75 331 *e*P **P 22 43 51.9 -0.2**
STHS Stebnicka Huta 75.94 330 *e*P **P 22 43 54.0 +0.9**
STHS pmax pmax
comp=Z,12nm,1.0s,mb4.8
STHS Stebnicka Huta 75.94 330 *e*P **P 22 43 54.0 +0.9**
comp=Z,12nm,1.0s,mb4.8
KOLS Kolonicke sedl 75.98 329 *e*P **P 22 43 53.5 +0.1**
BURAR Bucovina Array 75.99 327 ⇓*i*P **P 22 43 53.7 +0.3**
UZH Uzhgorod 76.23 329 *e*P **P 22 43 54.0 -0.8**
UZH *i* pP 22 44 07.6 +0.2
CRVS Cervenica-Dubn 76.30 329 *e*P **P 22 43 55.3 +0.1**
OKC Ostrava-Krasne 76.62 332 *e*P **P 22 43 58.8 +1.8**
OKC *ex* x 22 44 10.3
UPC Upice 76.72 333 *e*P **P 22 43 57.9 +0.3**
WMOK Wichita Mounta 76.75 53 *e*P **P 22 43 56.7 -1.0**
WMOK *e* pP 22 44 09.5 -0.8
WMOK *e*PP pP 22 44 09.8 -0.5
DPC Dobruska-Polom 76.77 333 *e*P **P 22 43 56.5 -1.3**
BOYT Boyabat 76.80 317 *i* P **P 22 43 59.7 +1.7**
MORC Moravsky Berou 76.87 332 *e*P **P 22 43 58.5 +0.1**
MORC pmax pmax
comp=Z,12nm,1.0s,mb4.8
MORC Moravsky Berou 76.87 332 *e*P **P 22 43 58.5 0.0**
comp=Z,12nm,0.9s,mb4.8
MORC Moravsky Berou 76.87 332 ⇑*i*P **P 22 43 58.5 +0.1**
CLL Collm 76.92 336 ⇓*i*P **P 22 43 58.3 -0.4**
CLL *i* pP 22 44 09.6 -1.7
CLL *i* pP 22 44 11.8 +0.5
CLL pmax pmax
comp=Z,13nm,0.8s,mb4.9
CLL Collm 76.92 336 ⇓⇑*i*P **P 22 43 58.3 -0.4**
comp=Z,20nm,0.8s,mb5.1
CLL *i* pP 22 44 09.6 -1.7
CLL *i* pP 22 44 11.8 +0.5
CLL Collm 76.92 336 ⇓*i*P **P 22 43 58.3 -0.4**
comp=Z,20nm,0.8s,mb5.1
CLL *i* sP sP 22 44 09.6 -6.5
CLL *i* PcP PcP 22 44 11.8 +2.2
KECS Kecovo 76.99 330 *e*P **P 22 43 59.0 -0.1**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 76.99 330 *e*P **P 22 43 59.0 -0.1**
comp=Z,4.4nm,1.0s,mb4.3
BRG Berggiesshubel 77.03 335 *e*P **P 22 43 59.8 +0.5**
comp=Z,5.0nm,1.2s,mb4.3
BRG Berggiesshubel 77.03 335 *e*P **P 22 43 59.8 +0.5**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
PVCC Panska Ves 77.15 334 *e*P **P 22 43 59.9 -0.1**
BALT Daday 77.42 318 *i* P **P 22 44 02.7 +1.2**
MLR Muntele Rosu 77.45 325 ⇑*i*P **P 22 44 02.8 +1.1**
CTKT Corum 77.47 317 *i* P **P 22 44 03.6 +1.8**
VYHS Vyhne 77.55 331 *e*P **P 22 44 02.6 +0.4**
VYHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
VYHS Vyhne 77.55 331 *e*P **P 22 44 02.6 +0.4**
comp=Z,6.7nm,1.1s,mb4.5
VRAC Vranov 77.59 332 ⇓*i*P **P 22 44 02.5 +0.1**
DRGR 77.62 328 ⇓*i*P **P 22 44 02.9 +0.3**
PRU Pruhonice 77.63 334 *e*P **P 22 44 02.5 -0.2**
PRU *e*P pP 22 44 15.9 +0.6
PSZ Piszkesteto 77.68 330 *e*P **P 22 44 03.4 +0.4**
PSZ pmax pmax
comp=Z,11nm,1.0s,mb4.7
PSZ Piszkesteto 77.68 330 *e*P **P 22 44 03.4 +0.4**
comp=Z,12nm,1.0s,mb4.8
SNX Sinaia 77.74 325 ⇑*i*P **P 22 44 04.6 +1.3**
LTX Lajitas 77.83 60 *e*P **P 22 44 03.8 0.0**
LTX pmax pmax
comp=Z,11nm,0.8s,mb4.8
LTX Lajitas 77.83 60 *e*P **P 22 44 03.8 0.0**
comp=Z,11nm,0.8s,mb4.8
TXAR Lajitas Array 77.83 60 P **P 22 44 03.6 -0.2**
comp=Z,3.1nm,0.5s,mb4.5,baz=300,slow=4.2,SNR=44
TXAR pP pP 22 44 16.1 -0.3
comp=Z,8.7nm,0.7s,baz=298,slow=3.9,SNR=18
TXAR Lajitas Array 77.83 60 P **P 22 44 03.6 -0.2**
TXAR *PP pP 22 44 16.1 -0.3
TXAR pmax pmax
comp=Z,3.0nm,0.5s
VOIR 77.85 325 ⇑*i*P **P 22 44 04.3 +0.4**
MOX Moxa 77.91 336 *e*P **P 22 44 04.5 +0.3**
comp=Z,12nm,1.0s,mb4.8
MOX Moxa 77.91 336 *e*P **P 22 44 04.5 +0.3**
MOX pmax pmax
comp=Z,1.0nm,1.0s
WTSB Winterswijk 77.97 339 *e*P **P 22 44 06.0 +1.4**
comp=Z,18nm,0.4s,mb5.4
SMOL Smolenice 78.01 332 *e*P **P 22 44 05.6 +0.8**
NKC Novy Kostel 78.04 335 *e*P **P 22 44 05.0 +0.1**
NKC *e*pP pP 22 44 14.3 -3.2
ZST Bratislava 78.39 332 *e*P **P 22 44 07.6 +0.7**
comp=Z,9.8nm,0.9s,mb4.7
ZST LR LR
comp=Z,500nm,18.8s,MS4.9
STKA Stephens Creek 78.41 190 P **P 22 44 07.1 +0.2**
comp=Z,1.4nm,0.7s,mb4.0,baz=357,slow=16,SNR=2.6
STKA pP pP 22 44 20.0 +0.4
comp=Z,4.0nm,1.0s,baz=340,slow=8.0,SNR=3.4
STKA Stephens Creek 78.41 190 P **P 22 44 07.1 +0.2**
STKA pP pP 22 44 20.0 +0.4
KHC Kasperske Hory 78.68 334 *e*P **P 22 44 08.7 +0.2**
KHC *ex* x 22 44 22.4
BR131 Keskin Array S 78.72 317 *e*P **P 22 44 09.9 +1.2**
BRTR Keskin Array B 78.72 317 P **P 22 44 09.3 +0.6**
comp=Z,5.5nm,1.0s,mb4.5,baz=79,slow=3.1,SNR=22
BRTR pP pP 22 44 21.0 -0.3
comp=Z,8.8nm,1.0s,baz=46,slow=3.6,SNR=13
BRTR LR LR 23 25 08.4
comp=Z,333nm,18.9s,MS4.7,baz=350,slow=40
BRTR Keskin Array B 78.72 317 P **P 22 44 09.3 +0.6**
BRTR *PP pP 22 44 21.0 -0.3
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR MLR MLR
comp=Z,333nm,18.9s
GZR Gura Zlata 78.77 327 ⇓*i*P **P 22 44 09.1 +0.1**
SGKT Sivrigoynuk 78.79 318 *i* P **P 22 44 08.2 -0.9**
UMR Umm Al-Rimmam 78.83 301 *e*P **P 22 44 10.3 +1.0**
UMR AMb AMB 22 44 12.1
comp=Z,74nm,0.7s,mb5.8
MIB Mutribah 78.87 301 *e*P **P 22 44 10.3 +0.7**
MIB AMb AMB 22 44 12.3
comp=Z,82nm,0.7s,mb5.7
GRA1 Grafenberg Arr 78.88 336 *e*P **P 22 44 09.9 +0.3**
comp=Z,18nm,0.9s,mb5.0
GRA1 *e* pP 22 44 23.9 +1.7
GRA1 LR LR
comp=Z,500nm,20.0s,MS4.8
GRF Grafenberg Arr 78.88 336 *e*P **P 22 44 09.9 +0.3**
comp=Z,18nm,0.9s,mb5.0
GRF *e* pP 22 44 23.9 +1.7
GRF *e*L 23 21 57.0
comp=Z,452nm,20.0s
GRF Grafenberg Arr 78.88 336 *e*P **P 22 44 09.9 +0.3**
GRF *e* pP 22 44 23.9 +1.7
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRF MLR MLR
comp=Z,18μm,20.0s
GRF Grafenberg Arr 78.88 336 *e*P **P 22 44 09.9 +0.3**
GRF *e* pP 22 44 23.9 +1.7
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.0
GRF MLR MLR
comp=Z,500nm,20.0s,MS4.8
GRFO Grafenberg 78.88 336 *e*P **P 22 44 09.0 -0.6**
GRFO pmax pmax
comp=Z,28nm,0.9s,mb5.2
GRFO Grafenberg 78.88 336 *e*P **P 22 44 09.0 -0.6**
comp=Z,28nm,0.9s,mb5.2
GERES GERESS Array B 78.90 334 P **P 22 44 09.8 +0.1**
comp=Z,4.8nm,0.9s,mb4.5,baz=37,slow=4.7,SNR=29
GERES pP pP 22 44 22.1 -0.2
comp=Z,3.0nm,0.7s,baz=21,slow=5.7,SNR=7.8
GERES LR LR 23 21 37.8
comp=Z,487nm,18.1s,MS4.9,baz=284,slow=38
GERES GERESS Array B 78.90 334 P **P 22 44 09.8 +0.1**
GERES *PP pP 22 44 22.1 -0.2
GERES pmax pmax
comp=Z,5.0nm,0.9s
GERES MLR MLR
comp=Z,487nm,18.1s
ANTO Ankara 79.01 317 *e*P **P 22 44 10.8 +0.5**
ANTO *e* pP 22 44 21.0 -1.9
ANTO pmax pmax
comp=Z,14nm,1.0s,mb4.8
ANTO Ankara 79.01 317 *e*P **P 22 44 10.8 +0.5**
comp=Z,14nm,1.0s,mb4.8
ANTO *e* pP 22 44 21.0 -1.9
ANTO Ankara 79.01 317 ⇓*i*P **P 22 44 11.6 +1.3**
BZS Buzias 79.02 328 ⇑*i*P **P 22 44 09.8 -0.6**
CONA Conrad Observa 79.03 332 ⇓*i*P **P 22 44 11.3 +0.9**
comp=Z,6.9nm,0.8s,mb4.6
KBD Kabd 79.12 301 *e*P **P 22 44 11.7 +0.9**
KBD AMb AMB 22 44 13.9
comp=Z,139nm,0.8s,mb5.9
HGN Heimansgroeve 79.30 339 *e*P **P 22 44 11.5 -0.4**
comp=Z,33nm,1.8s,mb5.0
NAY Al-Naaiem 79.33 301 *e*P **P 22 44 12.6 +0.5**
NAY AMb AMB 22 44 14.8
comp=Z,30nm,0.8s,mb5.3
RDF Al-Radifah 79.38 301 *e*P **P 22 44 13.3 +1.0**
RDF AMb AMB 22 44 15.4
comp=Z,76nm,0.7s,mb5.7
MEM Membach 79.42 339 P **P 22 44 12.5 0.0**
PKSM Moragy 79.59 330 ⇓*i*P **P 22 44 12.8 -0.6**
ARSA Arzberg 79.74 332 ⇑*i*P **P 22 44 15.4 +1.1**
comp=Z,11nm,1.2s,mb4.6
BCLA Clavier 79.77 340 P **P 22 44 14.3 -0.1**
STU Stuttgart 80.28 337 P **P 22 44 16.8 -0.4**
PERS Pernice 80.41 332 *i* P **P 22 44 18.4 +0.5**
KBA Koelnbreinsper 80.58 333 *i* P **P 22 44 19.7 +0.9**
comp=Z,34nm,0.8s,mb5.3,SNR=34
KBA Koelnbreinsper 80.58 333 *i* P **P 22 44 19.7 +0.9**
KBA pmax pmax
comp=Z,34nm,0.8s,mb5.3
TAOE Nuku Hiva Isla 80.82 113 *e*LR LR 23 08 48.7
comp=Z,744nm,23.5s
WATA Walderalm 80.89 335 ⇓*i*P **P 22 44 20.9 +0.4**
comp=Z,18nm,1.0s,mb4.9
WATA Walderalm 80.89 335 ⇓*i*P **P 22 44 20.9 +0.4**
WATA pmax pmax
comp=Z,18nm,1.0s,mb5.0
BFO Black Forest 80.91 337 *e*P **P 22 44 20.2 -0.4**
BFO pmax pmax
comp=Z,17nm,1.0s,mb4.9
BFO Black Forest 80.91 337 *e*P **P 22 44 20.2 -0.3**
comp=Z,17nm,1.0s,mb4.9
WTTA Wattenberg 80.94 334 *i* P **P 22 44 21.6 +0.9**
comp=Z,38nm,0.7s,mb5.4,SNR=22
WTTA Wattenberg 80.94 334 *i* P **P 22 44 21.6 +0.9**
WTTA pmax pmax
comp=Z,38nm,0.7s,mb5.4
VTS Vitosha 80.96 325 ⇓*i*P **P 22 44 21.5 +0.7**
MOTA Moosalm 81.02 335 ⇑*i*P **P 22 44 21.3 +0.1**
comp=Z,18nm,1.0s,mb5.0,SNR=15
MOTA Moosalm 81.02 335 ⇑*i*P **P 22 44 21.3 +0.1**
MOTA pmax pmax
comp=Z,18nm,1.0s,mb5.0
SQTA Sankt Quirin 81.10 335 ⇓*i*P **P 22 44 22.2 +0.6**
comp=Z,12nm,0.9s,mb4.8,SNR=12
SQTA Sankt Quirin 81.10 335 ⇓*i*P **P 22 44 22.2 +0.6**
SQTA pmax pmax
comp=Z,12nm,0.9s,mb4.8
CDF Champ du Feu 81.12 338 *e*P **P 22 44 21.4 -0.3**
comp=Z,54nm,1.1s,mb5.1
CDF Champ du Feu 81.12 338 *e*P **P 22 44 21.4 -0.3**
CDF pmax pmax
comp=Z,27nm,1.1s,mb5.1
CDF Champ du Feu 81.12 338 *e*P **P 22 44 21.4 -0.3**
comp=Z,27nm,1.1s,mb5.1
ABTA Abfaltersbach 81.14 334 ⇑*i*P **P 22 44 22.0 +0.2**
comp=Z,6.6nm,1.0s,mb4.5
ECH Echery 81.33 338 *e*P **P 22 44 22.3 -0.5**
BOJS Bojanci 81.36 331 *e*P **P 22 44 23.0 0.0**
FELD Feldberg im Sc 81.42 337 *e*P **P 22 44 22.3 -1.0**
FETA Feichten 81.42 335 ⇓*i*P **P 22 44 23.4 +0.1**
comp=Z,8.9nm,1.0s,mb4.7
DAVA Damuels 81.43 336 ⇑*i*P **P 22 44 23.7 +0.4**
comp=Z,13nm,0.8s,mb4.9
THEF They Montfort 81.63 338 *e*P **P 22 44 23.6 -0.8**
MOF Molkenrain 81.67 338 *e*P **P 22 44 24.3 -0.3**
PPT Papeete 81.92 126 *e*LR LR 23 09 18.2
comp=Z,454nm,24.2s,baz=321
BBS Basel-Blauen 81.93 337 *e*P **P 22 44 27.3 +1.3**
LOMF Lomont 82.22 338 *e*P **P 22 44 24.5 -3.0**
GRR Gorron 83.06 343 ⇑*i*P **P 22 44 31.5 -0.3**
comp=Z,33nm,1.0s,mb5.0
GRR Gorron 83.06 343 ⇑*i*P **P 22 44 31.5 -0.3**
GRR pmax pmax
comp=Z,17nm,1.0s,mb5.0
GRR Gorron 83.06 343 ⇑*i*P **P 22 44 31.5 -0.3**
comp=Z,17nm,1.0s,mb5.0
SMF Signal de Mont 83.64 339 ⇓*i*P **P 22 44 34.8 0.0**
comp=Z,48nm,1.1s,mb5.2
SMF Signal de Mont 83.64 339 ⇓*i*P **P 22 44 34.8 0.0**
SMF pmax pmax
comp=Z,24nm,1.1s,mb5.2
SMF Signal de Mont 83.64 339 ⇓*i*P **P 22 44 34.8 0.0**
comp=Z,24nm,1.1s,mb5.2
TKL Tuckaleechee C 83.82 43 LR LR 23 20 42.9
comp=Z,239nm,18.2s,MS4.6,baz=115,slow=35
LPG La Plagne 83.94 337 ⇑*i*P **P 22 44 37.3 +0.9**
comp=Z,26nm,0.9s,mb5.0
LPG La Plagne 83.94 337 ⇑*i*P **P 22 44 37.3 +0.9**
LPG pmax pmax
comp=Z,13nm,0.9s,mb5.1
LPG La Plagne 83.94 337 ⇑*i*P **P 22 44 37.3 +0.9**
comp=Z,13nm,0.9s,mb5.1
PLDF La Plantade 84.32 339 *e*P **P 22 44 39.4 +1.1**
AGO Saint Agoulin 84.36 339 *e*P **P 22 44 39.4 +0.9**
NWAO Narrogin (SRO) 85.14 210 P **P 22 44 42.3 -0.1**
CAF Calviac 85.68 340 *e*P **P 22 44 45.1 0.0**
comp=Z,25nm,0.9s,mb5.1
CAF Calviac 85.68 340 *e*P **P 22 44 45.1 0.0**
CAF pmax pmax
comp=Z,13nm,0.9s,mb5.2
CAF Calviac 85.68 340 *e*P **P 22 44 45.1 0.0**
comp=Z,12nm,0.9s,mb5.1
EIL Elat 85.97 310 *e*P **P 22 44 49.2 +2.7**
LHS Liberty Hill 86.18 42 *e*pP pP 22 45 01.1 +0.8
TBI Tubuai 86.63 129 *e*LR LR 23 11 27.9
comp=Z,253nm,33.8s
TAU Tasmania Unive 88.88 184 P **P 22 45 01.2 +0.6**
KEST Kesra 92.10 331 P **P 22 45 16.1 +0.5**
comp=Z,1.9nm,0.9s,mb4.4,baz=328,slow=2.3,SNR=6.1
RKT Rikitea 94.81 118 *e*LR LR 23 15 16.1
comp=Z,296nm,33.8s
TORD Torodi Ar. Bea 115.51 329 PKP PKPdf 22 50 47.4 -0.7
comp=Z,0.5nm,0.9s,baz=355,slow=1.7,SNR=4.0
TORD Torodi Ar. Bea 115.51 329 PKP PKPdf 22 50 47.4 -0.7
SBA Scott Base 124.08 177 PKIKP PKPdf 22 51 04.5 -0.1
LPAZ La Paz 134.67 63 PKIKP PKPdf 22 51 25.8 +1.1
QSPA South Pole Qui 135.95 180 *e*PKPdf PKPdf 22 51 26.5 -0.6
SNAA Sanae 152.01 196 PKPbc PKPbc 22 51 59.2 -2.2
comp=Z,0.8nm,0.8s,baz=217,slow=2.7,SNR=8.9
SNAA PKPab PKPab 22 52 09.4 -1.4
comp=Z,2.6nm,1.0s,baz=71,slow=1.2,SNR=10
SNAA Sanae 152.01 196 *e*PKPdf PKPbc 22 52 00.3 -1.0
SNAA *e* 22 52 10.8
SNAA *e* 22 52 21.6
SNAA Sanae 152.01 196 PKIKP PKPdf 22 51 59.0 +4.2
VNA2 Neumayer--Watz 153.46 194 *e*PKPdf PKPbc 22 52 02.4 -2.1
baz=97,slow=1.0
VNA2 *e* 22 52 16.0
VNA2 *e* 22 52 27.5
VNA3 Neumayer Olymp 153.55 193 *e*PKPdf PKPbc 22 52 03.5 -1.2
VNA3 *e* 22 52 16.2
VNA3 *e* 22 52 27.1
VNA1 Neumayer--Stat 153.84 194 *e*PKPdf PKPab 22 52 18.7 +0.2
VNA1 *e* 22 52 29.6

MOS ***12*** *23:08:34.9± 1.3, 41.38S×85.98W, h10km, mb5.0/12, MS4.8/8, Error ellipse: s-maj=22.8km s-min=12.1km az=97.2*

IDC ***12*** *23:08:34.2± 0.8, 41.39S×85.94W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/19, mbtmp4.3/11, ML3.8/1, MS4.7/18, Ms1 4.7/18, ms1mx4.6/21, Error ellipse: s-maj=32.2km s-min=19.1km az=87.0*

ISCJB ***12*** *23:08:34.5± 0.3, 41.37S±0.005×85.90W±0.007, h10km, mb4.7/26, MS5.0/64, Error ellipse: s-maj=8.2km s-min=7.0km az=137.7*

BJI ***12*** *23:08:35.6, 41.40S×86.00W, h10km, mB5.3, Ms5.4, Msz5.1*

GCMT ***12*** *23:08:35.7± 0.1, 41.42S×86.14W, h12km, MW5.5/83, Moment Tensor Solution. s70,c116; s83,c160; Duration: 1ŝ4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.03; $M_{\theta\theta}$0.60±.03; $M_{\phi\phi}$-0.45±.03; $M_{r\theta}$0.27±.07; $M_{\theta\phi}$-2.08±.02; $M_{r\phi}$0.00±.07; Best double couple: M_o2.16200×10^{17} NP1:ϕ_s173.00000°, δ83.00000°, λ0.00000°. NP2:ϕ_s83.00000°, δ90.00000°, λ173.00000°. Principal axes: T 2.2330, Plg5.0000°, Azm38.0000°; N -0.1430, Plg83.0000°, Azm262.0000°; P -2.0910, Plg5.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *23:08:35.7± 0.3, 41.39S×86.00W, h10km, mb4.9/20, MS5.0/54 Error ellipse: s-maj=12.5km s-min=8.4km az=89.0*

ISC 12 23:08:36.0± 0.3, 41.39S±0.005×85.95W±0.007, h10km, n161, σ1ŝ13/82, mb4.7/26, MS5.0/64, 3C, West Chile Rise

Code	Station Name	Δ°	AΣ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	**16.05**	**64**	*e*P	**Pn**	**23 12 29.6**	**+8.0**
CFAA	**Coronel Fontan**	**17.24**	**61**	P	**Pn**	**23 12 35.2**	**-1.6**
	0.3nm,0.3s,baz=224,slow=11,SNR=24						
CFAA				LR	LR	23 17 54.9	
	comp=Z,889nm,19.6s,baz=229,slow=32						
CFAA	**Coronel Fontan**	**17.24**	**61**	P	**Pn**	**23 12 35.2**	**-1.6**
CFAA				LR	LR	23 17 54.9	
USHA	**Ushuaia**	**17.75**	**145**	LR	LR	23 17 48.8	
	comp=Z,4μm,18.1s,baz=289,slow=31						
TRQA	**Tornquist**	**18.72**	**88**	*e*Pn	**Pn**	**23 12 55.9**	**+0.9**
	101nm,1.3s						
EFI	**East Falkland**	**21.64**	**128**	*e*P	**P**	**23 13 26.6**	**+0.2**
EFI				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.2						
EFI				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.4						
EFI	**East Falkland**	**21.64**	**128**	*e*P	**P**	**23 13 26.6**	**+0.2**
	comp=Z,91nm,0.9s,mb5.2						

EFI LR LR
comp=Z,1µm,19.0s,MS4.4
PMSA Palmer Station 26.58 159 LR LR 23 21 28.7
comp=Z,1µm,21.2s,MS4.4,baz=177,slow=29
PMSA Palmer Station 26.58 159 P **P 23 14 15.4 +1.2**
LPAZ La Paz 29.36 37 P **P 23 14 40.0 +0.9**
comp=Z,8.0nm,0.7s,mb4.5,baz=182,slow=3.6,SNR=25
LPAZ LR LR 23 24 13.9
comp=Z,1µm,19.0s,MS4.5,baz=191,slow=32
LPAZ La Paz 29.36 37⇑*e*P **P 23 14 39.2 +0.1**
LPAZ pmax pmax
comp=Z,10.0nm,0.8s
LPAZ MLR MLR
comp=Z,2µm,19.0s
LPAZ La Paz 29.36 37⇑*e*P **P 23 14 39.2 +0.1**
comp=Z,9.9nm,0.8s,mb4.6
LPAZ LR LR
comp=Z,2µm,19.0s,MS4.8
NNA Nana 30.36 18 P **P 23 14 49.6 +1.7**
comp=Z,4.5nm,0.5s,mb4.5,baz=223,slow=17,SNR=4.4
NNA LR LR 23 23 43.7
comp=Z,2µm,18.3s,MS4.8,baz=186,slow=30
NNA Nana 30.36 18 *e*P **P 23 14 45.3 -2.6**
comp=Z,15nm,0.9s,mb4.7
NNA LR LR 23 23 43.7
SIV San Ignacio 33.19 48 P **P 23 15 11.7 -1.0**
comp=Z,4.5nm,0.8s,mb4.5,baz=232,slow=9.7,SNR=23
HOPE Hope Point 34.88 129 PFAKE 23 15 40.0 +13
HOPE LR LR
comp=Z,976nm,22.0s,MS4.5
PAYG Puerto Ayora 40.72 353 P **P 23 16 16.6 -0.2**
OTAV Otavalo 41.99 11 *e*P **P 23 16 27.4 +0.2**
comp=Z,7.5nm,0.9s,mb4.3
RKT Rikitea 44.65 279 *e*S **S 23 23 23.4 -1.5**
comp=Z,434nm,27.8s
RKT *e*LQ 23 27 06.3
comp=Z,2µm,29.5s
RKT *e*LR LR 23 29 20.6
comp=Z,2µm,28.5s,baz=132
VNA3 Neumayer Olymp 47.08 155 *e* **P 23 17 06.4 -1.5**
VNA3 *e* 23 17 30.3
ROSC El Rosal 47.23 16 LR LR 23 34 42.4
comp=Z,2µm,20.8s,MS5.1,baz=190,slow=33
ROSC El Rosal 47.23 16 P **P 23 17 10.2 +1.1**
VNA1 Neumayer--Stat 47.59 154 *e* **P 23 17 11.5 -0.3**
VNA1 *e* 23 17 17.0
VNA2 Neumayer--Watz 47.85 154 *e* **P 23 17 12.8 -1.1**
baz=280,slow=4.0
VNA2 *e* pP 23 17 14.9 -2.1
VNA2 *e* 23 17 18.6
VNA2 *e* 23 17 24.1
VNA2 *e* 23 17 31.4
VNA2 *e* 23 17 36.4
QSPA South Pole Qui 48.85 180 *e*P **P 23 17 21.1 -0.5**
comp=Z,8.1nm,0.2s,mb5.4
SNAA Sanae 49.20 155 P **P 23 17 23.0 -1.3**
comp=Z,4.0nm,0.9s,mb4.4,baz=264,slow=4.7,SNR=17
SNAA Sanae 49.20 155 *e* **P 23 17 23.3 -1.0**
SNAA *e* pP 23 17 26.2 -1.3
SNAA *e* pP 23 17 27.8 +0.3
SNAA Sanae 49.20 155 *e*P **P 23 17 22.5 -1.8**
SNAA pmax pmax
comp=Z,19nm,1.2s
SNAA Sanae 49.20 155 *e*P **P 23 17 22.5 -1.8**
comp=Z,19nm,1.2s,mb5.0
JTS JuntasAbangare 51.43 1 *e*P **P 23 17 38.7 -2.5**
JTS pmax pmax
comp=Z,15nm,0.9s
JTS MLR MLR
comp=Z,227nm,22.0s
JTS JuntasAbangare 51.43 1 *e*P **P 23 17 38.7 -2.5**
comp=Z,15nm,0.9s,mb4.9
JTS LR LR
comp=Z,227nm,22.0s,MS4.2
SDV Santo Domingo 51.97 19 *e*P **P 23 17 42.9 -2.3**
comp=Z,15nm,1.0s,mb4.9
SBA Scott Base 53.39 195 P **P 23 17 52.2 -3.5**
SBA pmax pmax
comp=Z,16nm,1.4s,mb4.8
SBA Scott Base 53.39 195 P **P 23 17 52.2 -3.5**
comp=Z,16nm,1.4s,mb4.8
NVL N'lazarevskaya 54.01 156 *e*P **P 23 18 05.6 +5.4**
NVL *e*S **S 23 25 41.7 +5.5**
NVL *e* 23 27 45.8
NVL *e*SS SS 23 29 17.1 -0.3
NVL pmax pmax
comp=Z,18nm,1.3s,mb4.8
VNDA Vanda 54.48 194 LR LR 23 36 37.9
comp=Z,1µm,20.2s,MS4.9,baz=122,slow=31
VNDA Vanda 54.48 194 P **P 23 18 02.5 -1.2**
TGUH Tegucigalpa,Un 55.18 358 P **P 23 18 08.5 -0.3**
TBI Tubuai 55.39 268 *e*S **S 23 25 54.8 +0.1**
comp=Z,386nm,28.2s
TBI *e*LQ 23 31 57.3
comp=Z,2µm,30.2s
TBI *e*LR LR 23 34 01.4
comp=Z,812nm,27.2s,baz=134
RCBR Riachuelo 56.83 66 *e*P **P 23 18 23.2 +2.6**
TAOE Nuku Hiva Isla 57.61 288 *e*S **S 23 26 24.5 +0.4**
comp=Z,2µm,26.2s
TAOE *e*LR LR 23 35 35.3
comp=Z,3µm,27.1s,baz=151
PPT Papeete 58.91 274 *e*S **S 23 26 42.2 +1.1**
comp=Z,432nm,25.5s
PPT *e*LQ 23 33 16.2
comp=Z,3µm,30.5s
PPT *e*LR LR 23 35 45.6
comp=Z,1µm,28.2s,baz=134
BBGH Gun Hill 59.48 30 *e*P **P 23 18 45.3 +6.1**
BBGH *e*S **S 23 26 43.5 -5.1**
BBGH LR LR
comp=Z,3µm,22.0s,MS5.4
TEIG Tepich 61.34 358 LR LR 23 39 48.3
comp=Z,697nm,22.0s,MS4.8,baz=186,slow=31
TEIG Tepich 61.34 358 P **P 23 18 52.1 +0.3**
comp=Z,28nm,1.1s,mb5.3
SYO Syowa Base 62.82 161⇑*e*P **P 23 19 03.2 +1.4**
MAW Mawson 68.80 168 P **P 23 19 40.6 +0.3**
comp=Z,4.4nm,1.0s,mb4.3,baz=207,slow=2.3,SNR=2.8
MAW LR LR 23 47 07.1
comp=Z,552nm,20.2s,MS4.8,baz=42,slow=34
MAW Mawson 68.80 168 *e*P **P 23 19 39.2 -1.1**
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW Mawson 68.80 168 *e*P **P 23 19 39.2 -1.1**
comp=Z,4.4nm,0.8s,mb4.4
DWPF Disney 69.28 4 P **P 23 19 40.9 -2.4**
DWPF *e*S S 23 28 40.2 -9.5
DWPF LR LR
comp=Z,578nm,20.0s,MS4.8
SNZO South Karori 70.06 232 *e*P **P 23 19 45.6 -2.5**
comp=Z,63nm,1.0s,mb5.5
CASY Casey 71.91 187 PFAKE 23 20 10.0 +11
CASY LR LR
comp=Z,862nm,19.0s,MS5.0
LTX Lajitas 72.25 344 P **P 23 20 00.9 -0.5**
LTX pmax pmax
comp=Z,11nm,1.0s,mb4.7
LTX MLR MLR
comp=Z,813nm,19.0s,MS5.0
LTX Lajitas 72.25 344 P **P 23 20 00.9 -0.5**
comp=Z,11nm,1.0s,mb4.7
LTX LR LR
comp=Z,813nm,19.0s,MS5.0
TXAR Lajitas Array 72.25 344 P **P 23 20 00.8 -0.6**
comp=Z,8.7nm,1.0s,mb4.7,baz=166,slow=9.3,SNR=15
TXAR LR LR 23 46 28.5
comp=Z,457nm,19.3s,MS4.8,baz=280,slow=32
JCT Junction City 72.65 347 PFAKE 23 20 20.0 +16
JCT LR LR
comp=Z,2µm,20.0s,MS5.4
RAO Raoul Island 72.68 246 *e*P **P 23 20 05.3 +1.3**
comp=Z,138nm,0.4s
LRAL Lakeview Retre 74.06 359 *e*P **P 23 20 13.3 +1.2**
comp=Z,14nm,1.1s,mb4.8
LRAL LR LR
comp=Z,675nm,22.0s,MS4.9
GOGA Godfrey 74.47 2 *e*P **P 23 20 12.4 -2.1**
GOGA MLR MLR
comp=Z,652nm,19.0s,MS4.9
MIAR Mount Ida 75.89 354 P **P 23 20 22.7 +0.1**
MIAR pmax pmax
comp=Z,20nm,1.6s,mb4.8
MIAR Mount Ida 75.89 354 P **P 23 20 22.6 0.0**
comp=Z,20nm,1.6s,mb4.8
BBSR BB Station 75.97 18 *e*P **P 23 20 28.9 +5.8**
BBSR *e*S S 23 30 01.8 -4.3
BBSR LR LR
comp=Z,452nm,22.0s,MS4.7
WMOK Wichita Mounta 76.67 349 P **P 23 20 27.2 +0.1**
WMOK pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
WMOK Wichita Mounta 76.67 349 P **P 23 20 27.2 +0.1**
comp=Z,8.7nm,1.3s,mb4.5
TKL Tuckaleechee C 76.70 2 P **P 23 20 28.1 +0.8**
comp=Z,5.4nm,0.9s,mb4.5,baz=152,slow=5.8,SNR=4.4
WVT Waverly 77.16 358 *e*P **P 23 20 29.7 -0.2**
WVT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WVT MLR MLR
comp=Z,369nm,19.0s,MS4.7
WVT Waverly 77.16 358 *e*P **P 23 20 29.7 -0.2**
comp=Z,10nm,1.1s,mb4.7
WVT LR LR
comp=Z,369nm,19.0s,MS4.7
AFI Afiamalu 77.85 262 P **P 23 20 34.4 +0.7**
ANMO Albuquerque 78.27 343 P **P 23 20 35.2 -0.8**
comp=Z,1.1nm,0.6s,mb4.0,baz=167,slow=8.3,SNR=3.4
ELN Prospectdale 78.39 4 *e*P **P 23 20 37.6 +0.9**
BLA Blacksburg 78.39 5 *e*P **P 23 20 43.8 +7.1**
BLA MLR MLR
comp=Z,572nm,19.0s,MS4.9
KSU1 Kansas State U 80.70 352 PFAKE 23 21 00.0 +11
KSU1 LR LR
comp=Z,367nm,19.0s,MS4.8
SDCO Great Sand Dun 80.76 344 *e*P **P 23 20 50.1 +0.5**
comp=Z,6.7nm,1.1s,mb4.5
ACSO Alum Creek Sta 81.28 2 P **P 23 20 52.2 -0.1**
ISCO Idaho Springs 82.77 345 PFAKE 23 21 10.0 +10
ISCO LR LR
comp=Z,319nm,21.0s,MS4.7
TAU Tasmania Unive 83.33 216 P **P 23 21 03.0 -0.1**
AAM Ann Arbor 83.33 2 PFAKE 23 21 10.0 +6.9
AAM LR LR
comp=Z,913nm,22.0s,MS5.1
TMUT Trail Mountain 83.54 341 *e*P **P 23 21 05.1 +0.9**
BINY Binghamton 83.69 7 PFAKE 23 21 20.0 +15
BINY LR LR
comp=Z,459nm,20.0s,MS4.8
TPH Tonopah 84.08 336 *e*P **P 23 21 07.7 +0.7**
MPU Maple Canyon 84.32 340 PFAKE 23 21 20.0 +12
MPU LR LR
comp=Z,884nm,19.0s,MS5.2
WES Weston 84.43 11 PFAKE 23 21 20.0 +11
WES LR LR
comp=Z,965nm,22.0s,MS5.1
DUG Dugway 84.79 340 PFAKE 23 21 20.0 +9.4
DUG LR LR
comp=Z,370nm,19.0s,MS4.8
CMB Columbia Colle 85.07 333 *e*P **P 23 21 11.5 -0.4**
BOSA Boshof 85.73 125 LR LR 23 54 21.5
comp=Z,470nm,19.6s,MS4.9,baz=213,slow=32
BOSA Boshof 85.73 125 PFAKE 23 21 30.0 +15
BOSA LR LR
comp=Z,635nm,21.0s,MS5.0
HWUT Hardware Ranch 85.81 341 PFAKE 23 21 30.0 +14
HWUT LR LR
comp=Z,571nm,20.0s,MS5.0
GLMI Grayling 85.84 1 PFAKE 23 21 30.0 +14
GLMI LR LR
comp=Z,784nm,19.0s,MS5.1
BMN Battle Mountai 86.25 337 PFAKE 23 21 30.0 +12
BMN LR LR
comp=Z,668nm,19.0s,MS5.1
PDAR Pinedale Array 86.44 343 P **P 23 21 17.9 -0.8**
comp=Z,2.3nm,0.9s,mb4.4,baz=161,slow=5.5,SNR=4.3
PDAR LR LR 23 54 08.0
comp=Z,253nm,21.1s,MS4.6,baz=348,slow=32
DZM Mont Dzumac 88.00 242 LR LR 23 51 24.2
comp=Z,533nm,21.8s,MS4.9,baz=167,slow=29
FUNA Funafuti 88.05 260 PFAKE 23 21 40.0 +13
FUNA LR LR
comp=Z,4µm,22.0s,MS5.8
KHU Kahuku 88.21 298 *e*P **P 23 21 28.2 +0.9**
LKWY Lake 88.34 343 PFAKE 23 21 40.0 +12
LKWY LR LR
comp=Z,616nm,19.0s,MS5.0
HLID Hailey 88.36 340 *e*P **P 23 21 28.8 +0.7**
comp=Z,6.2nm,0.9s,mb4.8
LBTB Lobatse 88.50 122 *e*P **P 23 21 30.5 +1.9**
LBTB Lobatse 88.50 122 PFAKE 23 21 40.0 +11
LBTB LR LR
comp=Z,447nm,20.0s,MS4.9
POHA Pohakuloa 88.52 298 *e*P **P 23 21 29.0 +0.3**
YMR Madison River 88.56 342 PFAKE 23 21 40.0 +11
YMR LR LR
comp=Z,1µm,20.0s,MS5.2
EYMN Ely 89.09 356 PFAKE 23 21 40.0 +8.6
EYMN LR LR
comp=Z,395nm,20.0s,MS4.8
LAO LASA Array 89.53 346 PFAKE 23 21 40.0 +6.5
LAO LR LR
comp=Z,507nm,20.0s,MS4.9
BOZ Bozeman (W) 89.64 342 PFAKE 23 21 40.0 +6.0
BOZ LR LR
comp=Z,505nm,19.0s,MS5.0
AGMN Agassiz Refuge 89.73 353 PFAKE 23 21 40.0 +5.5
AGMN LR LR
comp=Z,574nm,21.0s,MS5.0
HON Honolulu 91.26 297 *e*P **P 23 21 42.1 +0.6**
KIP Kipapa 91.33 298 *e*P **P 23 21 42.5 +0.6**
ULM Lac du Bonnet 91.67 354 LR LR 23 57 26.8
comp=Z,306nm,21.1s,MS4.7,baz=177,slow=32
WALA Waterton Lakes 93.38 342 P **P 23 21 51.8 +0.4**
NEW Newport 93.43 340 LR LR 23 57 35.6
comp=Z,325nm,19.3s,MS4.8,baz=139,slow=32
STKA Stephens Creek 94.93 219 LR LR 23 56 29.1
comp=Z,498nm,19.5s,MS5.0,baz=308,slow=30
TOA0 Torodi Ar. Sit 96.82 79 P **P 23 22 08.3 +1.2**
TORD Torodi Ar. Bea 96.82 79 P **P 23 22 06.8 -0.3**
comp=Z,0.6nm,0.9s,mb4.0,baz=255,slow=2.1,SNR=2.8
TORD LR LR 00 01 20.2
comp=Z,412nm,21.7s,MS4.9,baz=230,slow=33
LSZ Lusaka 97.15 117 *e*P **P 23 22 10.6 +2.0**
LSZ Lusaka 97.15 117 PFAKE 23 22 20.0 +11
LSZ LR LR
comp=Z,787nm,21.0s,MS5.2
SCHQ Schefferville 97.23 11 LR LR 00 03 34.2
comp=Z,321nm,19.5s,MS4.8,baz=108,slow=34
HNR Honiara 101.30 247 *e*P Pdif 23 22 27.9 +0.8
CTAO Charters Tower 102.04 229 P Pdif 23 22 29.7 -0.7
CTAO MLR MLR
comp=Z,594nm,22.0s,MS5.1
NWAO Narrogin (SRO) 103.03 200 *e*P Pdif 23 22 35.6 +0.8
DLBC Dease Lake 106.01 338 *e*PKiKP PKiKP 23 26 59.2 -1.1
SFJD Kangerlussuaq 111.37 14 P Pdif 23 23 15.5 +3.6
KMBO Kilima Mbogo 113.52 114 *e*PKIKP PKiKP 23 27 16.3 +2.0
KMBO Kilima Mbogo 113.52 114 PFAKE 23 27 30.0 +16
KMBO LR LR
comp=Z,663nm,22.0s,MS5.2
INK Inuvik 115.01 342 *e*PKIKP PKiKP 23 27 16.8 -0.4
RES Resolute Bay 115.94 357 *e*PKIKP PKPdf 23 27 17.3 -1.7
COLA College 116.38 335 *e*PKIKP PKPdf 23 27 19.5 -0.3
COLA College 116.38 335 PFAKE 23 27 30.0 +10
COLA LR LR
comp=Z,210nm,19.0s,MS4.8
ESK Eskdalemuir 119.09 40 *e*PKIKP PKPdf 23 27 25.4 +0.4
MSEY Mahe Island 122.21 133 PFAKE 23 27 40.0 +9.0
MSEY LR LR
comp=Z,79nm,20.0s,MS4.4
GERES GERESS Array B 125.30 53 PKP PKPdf 23 27 35.9 -1.1
comp=Z,0.2nm,0.6s,baz=264,slow=3.0,SNR=3.1
BILL Bilibino 134.16 330 PFAKE 23 28 00.0 +6.2
BILL LR LR
comp=Z,481nm,19.0s,MS5.2
ANTO Ankara 134.35 71 PFAKE 23 28 10.0 +16
ANTO LR LR
comp=Z,516nm,21.0s,MS5.2
BRTR Keskin Array B 134.90 71 PKP PKPdf 23 27 53.8 -1.4
comp=Z,0.6nm,0.8s,baz=358,slow=4.3,SNR=3.1
KIEV Kiev 135.38 55 PFAKE 23 28 10.0 +14
KIEV LR LR
comp=Z,657nm,19.0s,MS5.4
DAV Davao City (W) 135.81 228 PFAKE 23 28 10.0 +13
DAV LR LR
comp=Z,2µm,19.0s,MS5.8
OBN Obninsk 140.49 50 *e*PKIKP PKPdf 23 28 14.9 +9.4
OBN pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 142.64 68 *e*PKIKP PKPdf 23 28 09.4 +0.1
KIV MLR MLR
comp=Z,178nm,20.0s,MS4.8
KIV Kislovodsk 142.64 68 *e*PKPdf PKPdf 23 28 09.4 0.0
KIV LR LR
comp=Z,178nm,20.0s,MS4.8
GNI Garni 143.04 75 PFAKE 23 28 20.0 +10
GNI LR LR
comp=Z,521nm,19.0s,MS5.3
ERM Erimo 143.74 288 PFAKE 23 28 20.0 +8.8
ERM LR LR
comp=Z,141nm,21.0s,MS4.7
TIXI Tiksi 145.13 342 *e*PKIKP PKPdf 23 28 12.4 -1.3
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 145.13 342 *e*PKPdf PKPdf 23 28 13.4 -0.2
MAJO Matsushiro 145.61 277 PFAKE 23 28 30.0 +16
MAJO LR LR
comp=Z,1µm,20.0s,MS5.6
YAK Yakutsk 150.37 326 *e*PKIKP PKPdf 23 28 25.1 +2.8
POO Poona 151.41 137 *e*x x 23 28 23.0
YHNB Yeheng 151.83 242 *e*PKP PKPdf 23 28 15.2 -9.4
ARU Arti 152.63 45 PFAKE 23 28 40.0 +14
ARU LR LR
comp=Z,660nm,21.0s,MS5.4
HYB Hyderabad 152.65 146 *i* PKP PKPbc 23 28 31.5 -1.3
HYB Hyderabad 152.65 146 *e*P PKPbc 23 28 31.5 -1.3
MDJ Mudanjiang 153.94 289 PFAKE 23 28 40.0 +12
MDJ LR LR
comp=Z,1µm,20.0s,MS5.8
INCN Inchon 154.62 272 PFAKE 23 28 40.0 +11
INCN LR LR
comp=Z,320nm,21.0s,MS5.1
CHTO Chiang Mai 157.11 192 PFAKE 23 28 40.0 +8.1
CHTO LR LR
comp=Z,409nm,21.0s,MS5.2
BRVK Borovoye 160.19 46 PFAKE 23 28 50.0 +14
BRVK LR LR
comp=Z,375nm,21.0s
HIA Hailar 160.36 302 PFAKE 23 28 50.0 +14
HIA LR LR
comp=Z,3µm,21.0s
KMI Kunming 162.24 207 PKP PKPdf 23 28 37.7 0.0
KMI APKP 23 28 41.9
KMI XPKP 23 28 44.4
KMI PKP2 PKPab 23 29 26.3 +1.6
KMI PP PP
comp=Z,164nm,6.7s
KMI LR LR
comp=N,265nm,16.5s
KMI LR LR
comp=E,325nm,17.7s
KMI LR LR
comp=Z,232nm,18.9s
BJT Baijiatuau 163.17 273 PFAKE 23 28 50.0 +11
BJT LR LR
comp=Z,525nm,20.0s
ENH Enshi 163.30 233 PFAKE 23 28 50.0 +11
ENH LR LR
comp=Z,2.0nm,20.0s
AAK Ala-Archa 165.41 79 PFAKE 23 28 50.0 +9.3
AAK LR LR
comp=Z,239nm,22.0s
KURK Kurchatov 165.82 44 PFAKE 23 28 50.0 +9.0
KURK LR LR
comp=Z,320nm,20.0s
HHC Hu-ho-hao-te 166.78 273 *e*PKP PKPdf 23 28 38.9 -2.8
HHC XPKP 23 28 45.8
HHC PKS 23 32 10.3
HHC PP PP 23 33 33.6 +1.1
HHC SKS SKSdf 23 35 39.7 -6.1
HHC SKKS SKKSac 23 40 14.4 -5.7
HHC SS SS 23 54 11.3 -4.6
HHC LR LR
comp=N,444nm,21.4s
HHC LR LR
comp=E,493nm,19.6s
HHC LR LR
comp=Z,283nm,20.8s
CD2 Chengdu 166.94 220 *e*PKP PKPdf 23 28 39.6 -2.3
CD2 PKP2 PKPab 23 29 45.5 +0.1
CD2 PP PP 23 33 34.6 +1.3
CD2 SKS SKSdf 23 35 38.2 -7.7
CD2 SKKS SKKSac 23 40 16.5 -4.4
CD2 SS SS 23 54 13.6 -3.9
CD2 PP PP
comp=Z,230nm,10.8s
CD2 LR LR
comp=E,360nm,22.8s
CD2 LR LR
comp=Z,360nm,20.4s
LSA Lhasa 168.10 168 PFAKE 23 28 50.0 +7.3
LSA LR LR
comp=Z,973nm,22.0s
WMQ Urumqi 174.72 61 *e*PKP PKPdf 23 28 44.1 -1.9
WMQ LR LR
comp=N,288nm,23.0s
WMQ LR LR
comp=E,215nm,22.0s
WMQ LR LR
comp=Z,295nm,22.0s

ISCJB ***12*** *23:21:06.6±0.6, 38.42N±0.04×139.23E±0.04, h17km±5km, mb3.7/1, Error ellipse: s-maj=7.1km s-min=4.2km az=109.4*
JMA ***12*** *23:21:06.7, 38.42N×139.24E, h18km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs20.00000°, δ18.00000°, λ100.00000°. NP2: φs189.00000°, δ72.00000°, λ87.00000°. Principal axes: T Plg63.0000°, Azm94.0000°; N Plg3.0000°, Azm190.0000°; P Plg27.0000°, Azm282.0000°;*
JMA Felt I J1.
IDC ***12*** *23:21:10.0±5.7, 38.45N×139.11E, h48km±43km, mb3.4/1, mb1 3.6/3, mb1mx3.1/24, mbtmp3.4/3, ML3.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.1/25 Error ellipse: s-maj=58.5km s-min=29.1km az=68.0*
ISC 12 23:21:06.7±0.5**, 38.39N**±0.03×**139.26E**±0.04**, h13**km±4km**, n15, σ0§87**/26**, mb3.7**/1**, 3C-3D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.07**	**352**	⇑P	**Pg**	**23 21 09.7**	**+0.3**
JAW				S	**Sg**	**23 21 11.9**	**+0.5**
JYA	**Atsumi**	**0.41**	**60**	⇓P	**Pg**	**23 21 15.0**	**+0.1**
JYA				S	**Sg**	**23 21 21.0**	**+0.6**
JNS	**Sasagawa**	**0.57**	**176**	⇓P	**Pg**	**23 21 17.8**	**-0.1**
JNS				*e*S	**Sg**	**23 21 25.7**	**+0.2**
JYS	**Shirataka**	**0.65**	**105**	P	**Pg**	**23 21 19.5**	**0.0**
JYS				S	**Sg**	**23 21 28.4**	**+0.3**
JSD	**Sado**	**0.86**	**246**	⇓P	**Pb**	**23 21 22.2**	**-1.3**
JSD				S	**Sg**	**23 21 33.8**	**-0.9**
JIZZ	**Izumozaki**	**0.96**	**207**	P	**Pb**	**23 21 24.9**	**-0.3**
JIZZ				*e*S	**Sb**	**23 21 39.2**	**+1.4**
JYK	**Kaneyama**	**1.01**	**58**	⇑P	**Pb**	**23 21 25.4**	**-0.6**
JYK				S	**Sb**	**23 21 39.0**	**-0.2**
JFY	**Yanaizu**	**1.04**	**160**	⇑P	**Pb**	**23 21 25.8**	**-0.8**
JFY				*e*S	**Sb**	**23 21 40.0**	**-0.1**
JOU	**Okura**	**1.10**	**91**	P	**Pb**	**23 21 27.0**	**-0.6**
JOU				*e*S	**Sb**	**23 21 42.4**	**+0.5**
JHK	**Hiroka**	**1.15**	**190**	P	**Pn**	**23 21 26.9**	**-1.6**
JHK				*e*S	**Sb**	**23 21 42.1**	**-1.3**
MAT	**Matsushiro**	**2.02**	**205**	P	**Pn**	**23 21 41.1**	**+0.6**
MAT				S	**Sn**	**23 22 07.3**	**+1.7**
MJAR	**Matsushiro Arr**	**2.02**	**205**	P	**Pn**	**23 21 40.3**	**-0.2**
	4.4nm,0.3s,baz=12,slow=16,SNR=28						
MJAR				S	**Sn**	**23 22 07.1**	**+1.5**
	4.6nm,0.3s,baz=18,slow=15,SNR=4.7						
ASAJ	**Asahikawa**	**6.25**	**23**	LR	LR	23 25 27.0	
	comp=Z,85nm,20.2s,baz=297,slow=41						
KSRS	**Korea Array**	**9.01**	**268**	P	**Pn**	**23 23 17.9**	**+1.5**
	baz=78,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**58.20**	**185**	P	**P**	**23 30 59.6**	**-0.9**
	0.5nm,0.6s,mb3.7,baz=1.1,slow=7.4,SNR=11						

NIED ***12*** *23:27:00, 26.60N×125.90E, h5km, Mw4.4 Best double couple: M₀3.92000×10^15 NP1: φs36.00000°, δ57.00000°, λ-118.00000°. NP2: φs260.00000°, δ42.00000°, λ-54.00000°.*
JMA ***12*** *23:27:01.5±0.3, 26.56N×125.89E, h8km±3km, M3.7*
BJI ***12*** *23:27:02.6, 26.49N×126.05E, h12km, mB4.6, mb4.4, Ms4.4,*

Msz4.2
MOS ***12*** *23:27:05.1±1.0, 2657N×126.12E, h33km, mb4.7/5, Error ellipse: s-maj=17.3km s-min=10.6km az=118.0*
ISCJB ***12*** *23:27:06.3±0.6, 2649N±004×12600E±004, h41km±7km, mb4.4/24, MS4.1/6, Error ellipse: s-maj=7.7km s-min=5.5km az=117.4*
NEIC ***12*** *23:27:07.2±0.3, 2658N×126.10E, h35km, mb4.5/8, MW4.3(NIED), Error ellipse: s-maj=7.0km s-min=6.3km az=144.0*
IDC ***12*** *23:27:07.2±5.8, 2657N×12608E, h33km±46km, mb3.8/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.8/9, ML3.4/1, MS3.8/7, Ms1 3.8/7, ms1mx3.3/33, Error ellipse: s-maj=30.2km s-min=15.2km az=67.0*

ISC 12 23:27:04.4±1.1, 2651N±004×12601E±003, h12km±7km, n64, σ1§14/67, mb4.4/24, MS4.1/6, 1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.72**	**105**	P	**Pg**	**23 27 17.5**	**-0.9**
JKE				S	**Sg**	**23 27 28.4**	**+0.5**
JAGN	**Aguni-jima**	**1.11**	**86**	P	**Pb**	**23 27 23.8**	**-1.7**
JAGN				S	**Sb**	**23 27 40.4**	**+0.5**
NAH1	**Naha**	**1.54**	**101**	P	**Pn**	**23 27 31.6**	**-0.1**
NAH1				*e*S	**Sn**	**23 27 52.7**	**+1.0**
JJT2	**Tamagusuku 2**	**1.61**	**103**	P	**Pn**	**23 27 32.3**	**-0.3**
JJT2				*e*S	**Sn**	**23 27 54.7**	**+1.4**
JMJ	**Miyako jima 2**	**1.81**	**201**	*e*S	**Sn**	**23 27 57.5**	**-0.7**
JOGS	**Gusukube**	**1.83**	**197**	P	**Pn**	**23 27 33.4**	**-2.2**
JIH	**Iheya**	**1.83**	**73**	P	**Pn**	**23 27 35.0**	**-0.6**
JOW	**Kunigami**	**2.06**	**81**	**Pn**	**Pn**	**23 27 38.0**	**-0.7**
	20nm,0.3s,baz=259,slow=10,SNR=33						
JOW				Sn	**Sn**	**23 28 08.4**	**+4.1**
	27nm,0.3s,baz=119,slow=26,SNR=4.7						
JOW				LR	LR	23 28 43.0	
	comp=Z,454nm,20.3s,baz=274,slow=48						
JOW	**Kunigami**	**2.06**	**81**	P	**Pn**	**23 27 38.3**	**-0.5**
JTJ	**Tarama**	**2.20**	**213**	P	**Pn**	**23 27 43.9**	**+3.1**
JTK	**Tokunoshima**	**2.91**	**64**	P	**Pn**	**23 27 50.6**	**0.0**
JAM	**Amami Oshima**	**3.72**	**59**	P	**Pn**	**23 28 03.9**	**+2.3**
TATO	**Taipei**	**4.35**	**250**	*e*Pn	**Pn**	**23 28 12.6**	**+2.3**
NACB	**Ninganchiao**	**4.62**	**241**	*e*Pn	**Pn**	**23 28 16.0**	**+2.0**
JNN	**Nakanoshima**	**4.76**	**45**	P	**Pn**	**23 28 20.1**	**+4.2**
JNU	**Nakatsue**	**7.83**	**32**	Pn	**Pn**	**23 29 02.0**	**+3.9**
JNU				LR	LR	23 31 44.2	
	comp=Z,410nm,19.2s,baz=79,slow=36						
KSRS	**Korea Array**	**11.03**	**8**	Pn	**Pn**	**23 29 43.2**	**+1.2**
	baz=184,slow=13,SNR=5.8						
KSRS				LR	LR	23 34 12.1	
	comp=Z,382nm,19.7s,baz=188,slow=39						
MAJO	**Matsushiro**	**14.42**	**43**	P	**Pn**	**23 30 26.1**	**-2.1**
MJAR	**Matsushiro Arr**	**14.42**	**43**	Pn	**Pn**	**23 30 31.9**	**+3.6**
	0.4nm,0.3s,baz=227,slow=12,SNR=4.9						
MJAR				LR	LR	23 35 46.2	
	comp=Z,178nm,21.6s,baz=230,slow=36						
CN2	**Changchun**	**17.26**	**359**	*e*P	**Pn**	**23 31 09.5**	**+4.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
MDJ	**Mudanjiang**	**18.30**	**8**	*e*P	**Pn**	**23 31 21.1**	**+3.1**
	comp=Z,17nm,0.9s						
KMI	**Kunming**	**20.99**	**271**	P	**P**	**23 31 49.1**	**+1.6**
KMI				AMB	AMB		
	comp=Z,22nm,1.2s						
KMI				AMB	AMB		
	comp=Z,162nm,6.4s						
LZH	**Lanzhou**	**21.17**	**302**	*e*P	**P**	**23 31 50.6**	**+1.1**
LZH				AMB	AMB		
	comp=Z,52nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,169nm,4.2s						
LZH				LR	LR		
	comp=N,903nm,8.6s						
LZH				LR	LR		
	comp=Z,2μm,12.2s,MS4.6						
LZH	**Lanzhou**	**21.17**	**302**	*e*P	**P**	**23 31 50.6**	**+1.1**
LZH				*e*		23 32 06.3	
LZH				*e*SS		23 35 42.4	
LZH	**Lanzhou**	**21.17**	**302**	*e*P	**P**	**23 31 50.6**	**+1.1**
LZH				pP		23 31 54.2	
LZH				sP	sP	23 31 57.6	+3.3
LZH				*e*PP		23 32 06.3	
LZH				*e*S	S	23 35 13.0	-32
LZH				sS	sS	23 35 18.6	-31
LZH				*e*SS		23 35 42.4	
GUMO	**Guam**	**21.85**	**122**	LR	LR	23 39 01.8	
	comp=Z,74nm,18.7s,MS3.1,baz=133,slow=33						
HIA	**Hailar**	**23.23**	**350**	*i* P	**P**	**23 32 11.3**	**-0.2**
HIA	**Hailar**	**23.23**	**350**	*e*P	**P**	**23 32 11.8**	**+0.3**
	comp=Z,20nm,1.3s,mb4.4						
GTA	**Gaotai**	**25.36**	**307**	*e*P	**P**	**23 32 31.3**	**0.0**
GTA				PP		23 33 09.8	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,144nm,5.7s						
GTA				LR	LR		
	comp=N,408nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=E,371nm,16.4s,MS4.2						
GTA				LR	LR		
	comp=Z,514nm,14.4s,MS4.2						
SONM	**Songino Array**	**26.26**	**329**	P	**P**	**23 32 40.2**	**+0.7**
	comp=Z,2.2nm,0.7s,mb3.8,baz=145,slow=9.4,SNR=15						
SONM				LR	LR	23 44 38.4	
	comp=Z,441nm,19.0s,MS4.0,baz=286,slow=40						
TLY	**Talaya**	**30.30**	**332**	*e*P	**P**	**23 33 14.3**	**-1.2**
LSA	**Lhasa**	**30.84**	**284**	*e*P	**P**	**23 33 21.5**	**+1.2**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
LSA	**Lhasa**	**30.84**	**284**	*e*P	**P**	**23 33 21.5**	**+1.2**
	comp=Z,1.4nm,0.5s,mb4.0						
GUN	**Gumba**	**35.60**	**282**	*e*P	**P**	**23 34 02.1**	**+0.3**
	comp=Z,26nm,1.0s,mb5.1						
KKN	**Kakani**	**36.15**	**281**	*e*P	**P**	**23 34 06.5**	**0.0**
	comp=Z,26nm,1.1s,mb5.1						
DMN	**Daman**	**36.32**	**281**	*e*P	**P**	**23 34 08.1**	**+0.1**
	comp=Z,31nm,1.1s,mb5.2						
GKN	**Gorkha**	**36.68**	**282**	*e*P	**P**	**23 34 10.9**	**-0.2**
	comp=Z,37nm,1.1s,mb5.1						
KOLN	**Koldanda**	**37.62**	**282**	*e*P	**P**	**23 34 19.3**	**+0.3**
	comp=Z,24nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**39.87**	**312**	P	**P**	**23 34 37.0**	**-0.8**
	comp=Z,3.3nm,0.6s,mb4.2,baz=99,slow=7.4,SNR=27						
ZAL	**Zalesovo**	**40.83**	**323**	P	**P**	**23 34 44.8**	**-1.0**
	comp=Z,2.7nm,0.6s,mb4.0,baz=360,slow=8.2,SNR=13						
ZAL				LR	LR	23 53 46.5	
	comp=Z,203nm,18.6s,MS4.0,baz=232,slow=39						
KURK	**Kurchatov**	**43.25**	**317**	*e*P	**P**	**23 35 05.7**	**+0.1**
KURK	**Kurchatov**	**43.25**	**317**	*e*P	**P**	**23 35 04.5**	**-1.1**
	comp=Z,14nm,1.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**44.35**	**180**	P	**P**	**23 35 14.2**	**-0.2**
	comp=Z,4.2nm,1.1s,mb4.1,baz=4.4,slow=7.8,SNR=5.2						
AAK	**Ala-Archa**	**44.67**	**305**	*e*P	**P**	**23 35 16.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
AAK	**Ala-Archa**	**44.67**	**305**	*e*P	**P**	**23 35 16.5**	**-0.5**
	comp=Z,2.9nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**46.88**	**169**	P	**P**	**23 35 34.5**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=352,slow=8.2,SNR=12						
WB2	**Warramunga Arr**	**46.88**	**169**	*e*P	**P**	**23 35 34.1**	**-0.4**
BILL	**Bilibino**	**48.04**	**19**	*e*P	**P**	**23 35 42.1**	**-1.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BILL	**Bilibino**	**48.04**	**19**	P	**P**	**23 35 41.8**	**-1.7**
CHKZ	**Chkalovo**	**48.73**	**319**	*e*P	**P**	**23 35 47.7**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
CHKZ	**Chkalovo**	**48.73**	**319**	*e*P	**P**	**23 35 47.7**	**-1.1**
	comp=Z,12nm,1.3s,mb4.8						
BRVK	**Borovoye**	**48.81**	**318**	*e*P	**P**	**23 35 48.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
BRVK	**Borovoye**	**48.81**	**318**	*e*P	**P**	**23 35 48.9**	**-0.5**
	comp=Z,13nm,1.1s,mb4.9						
ASAR	**Alice Springs**	**50.46**	**171**	P	**P**	**23 36 02.5**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.8,baz=355,slow=6.1,SNR=9.9						
ASAR				PcP	PcP	23 37 20.8	+0.6
	comp=Z,0.7nm,0.9s,baz=355,slow=5.0,SNR=3.4						
ARU	**Arti**	**55.94**	**322**	*e*P	**P**	**23 36 41.5**	**-0.8**
ARU	**Arti**	**55.94**	**322**	*e*P	**P**	**23 36 41.5**	**-0.8**
KIV	**Kislovodsk**	**67.52**	**309**	*e*P	**P**	**23 37 56.9**	**-3.5**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**67.52**	**309**	P	**P**	**23 38 00.8**	**+0.4**
RES	**Resolute Bay**	**75.64**	**10**	P	**P**	**23 38 49.4**	**+0.1**
YKA	**Yellowknife Ar**	**79.10**	**24**	P	**P**	**23 39 06.8**	**-1.9**
	comp=Z,0.5nm,0.8s,mb3.5,baz=300,slow=5.1,SNR=6.7						
GERES	**GERESS Array B**	**83.76**	**322**	LR	LR	00 19 24.7	
	comp=Z,314nm,19.1s,MS4.7,baz=263,slow=38						
HLID	**Hailey**	**90.95**	**39**	P	**P**	**23 40 08.4**	**+0.1**
HWUT	**Hardware Ranch**	**93.82**	**39**	*e*P	**P**	**23 40 20.7**	**-0.8**
	comp=Z,0.8nm,0.3s,mb4.6						
PDAR	**Pinedale Array**	**94.17**	**38**	P	**P**	**23 40 23.2**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.9,baz=336,slow=2.0,SNR=3.1						

IDC ***12*** *23:40:36.7±0.7, 4150S×8627W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.4/15, mbtmp4.3/11, ML3.2/1, MS4.4/13, Ms1 4.4/13, ms1mx4.3/16, Error ellipse: s-maj=30.6km s-min=19.5km az=90.0*
ISCJB ***12*** *23:40:37.1±0.4, 4145S±007×8612W±009, h10km, mb4.6/19, MS4.5/11, Error ellipse: s-maj=10.2km s-min=8.9km az=86.4*
NEIC ***12*** *23:40:38.6±0.4, 4145S×8621W, h10km, mb4.8/12, Error ellipse: s-maj=12.0km s-min=8.4km az=68.0*
GCMT ***12*** *23:40:38.6±0.2, 4145S×8631W, h17km±1km, MW5.3/83, Moment Tensor Solution. s47,c64; s83,c136; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr0.00±.03; Mθθ0.10±.03; Mφφ-0.10±.03; Mrθ0.09±.07; Mφφ-1.03±.02; Mφr-0.06±.07; Best double couple: M0 1.04100×10^17 NP1:φs177.00000°, δ85.00000°, λ4.00000°. NP2: φs87.00000°, δ86.00000°, λ175.00000°. Principal axes: T 1.0450, Plg6.0000°, Azm42.0000°; N -0.0070, Plg84.0000°, Azm230.0000°; P -1.0380, Plg1.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 23:40:38.5±0.4, 4148S±007×8619W±009, h10km, n52, σ0§92/44, mb4.6/19, MS4.5/11, 1C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**16.24**	**64**	*e*P	**Pn**	**23 44 31.8**	**+5.1**
CFAA	**Coronel Fontan**	**17.44**	**61**	P	**Pn**	**23 44 40.5**	**-1.2**
	0.1nm,0.3s,baz=226,slow=13,SNR=16						
CFAA				LR	LR	23 50 00.4	
	comp=Z,338nm,19.4s,baz=229,slow=32						
USHA	**Ushuaia**	**17.78**	**145**	LR	LR	23 50 17.2	
	comp=Z,2μm,18.8s,baz=288,slow=33						
TRQA	**Tornquist**	**18.91**	**88**	*e*P	**Pn**	**23 45 01.0**	**+1.2**
	21nm,1.0s						
EFI	**East Falkland**	**21.73**	**128**	*e*P	**P**	**23 45 30.0**	**+0.2**
	62nm,1.0s,mb5.0						
PMSA	**Palmer Station**	**26.56**	**159**	LR	LR	23 53 45.2	
	comp=Z,740nm,21.0s,MS4.2,baz=134,slow=30						
LPAZ	**La Paz**	**29.54**	**37**	P	**P**	**23 46 43.9**	**+0.7**
	5.5nm,0.9s,mb4.3,baz=196,slow=8.7,SNR=17						
LPAZ				LR	LR	23 56 18.6	
	comp=Z,505nm,18.9s,MS4.2,baz=187,slow=32						
LPAZ	**La Paz**	**29.54**	**37**	*e*P	**P**	**23 46 43.3**	**+0.1**
	11nm,1.0s,mb4.6						
LPAZ				LR	LR	23 56 18.6	
NNA	**Nana**	**30.50**	**18**	LR	LR	23 55 38.8	
	comp=Z,898nm,18.2s,MS4.5,baz=8.5,slow=30						
NNA	**Nana**	**30.50**	**18**	P	**P**	**23 46 52.3**	**+0.7**
PAYG	**Puerto Ayora**	**40.79**	**354**	P	**P**	**23 48 19.9**	**0.0**
OTAV	**Otavalo**	**42.11**	**12**	*e*P	**P**	**23 48 32.2**	**+1.4**
	10nm,1.1s,mb4.4						
RKT	**Rikitea**	**44.49**	**279**	*e*S	**S**	**23 55 24.5**	**-0.6**
	252nm,29.5s						
RKT				*e*LQ		23 59 07.0	
	873nm,30.0s						
RKT				*e*LR	LR	00 01 23.2	
	1μm,27.5s,baz=129						
ROSC	**El Rosal**	**47.37**	**16**	P	**P**	**23 49 13.4**	**+0.8**
	2.3nm,0.4s,mb4.5,baz=264,slow=22,SNR=5.4						
ROSC				LR	LR	00 06 25.1	
	comp=Z,1μm,21.1s,MS4.8,baz=191,slow=33						
QSPA	**South Pole Qui**	**48.76**	**180**	P	**P**	**23 49 24.0**	**+0.6**
	8.0nm,1.0s,mb4.7						
SNAA	**Sanae**	**49.20**	**155**	*e*P	**P**	**23 49 26.0**	**-0.8**
	4.0nm,1.2s,mb4.3,baz=284,slow=3.2,SNR=9.0						
SNAA	**Sanae**	**49.20**	**155**	*e*P	**P**	**23 49 26.0**	**-0.7**
	8.5nm,1.0s,mb4.7						
JTS	**JuntasAbangare**	**51.52**	**2**	*e*P	**P**	**23 49 43.8**	**-0.6**
SDV	**Santo Domingo**	**52.12**	**20**	*e*P	**P**	**23 49 47.4**	**-1.4**
	18nm,1.3s,mb4.8						
VNDA	**Vanda**	**54.34**	**194**	P	**P**	**23 50 03.7**	**-1.5**
	2.9nm,1.2s,mb4.1,baz=126,slow=12,SNR=2.4						
VNDA				LR	LR	00 09 01.2	
	comp=Z,587nm,19.2s,MS4.7,baz=123,slow=31						
VNDA	**Vanda**	**54.34**	**194**	P	**P**	**23 50 05.2**	**0.0**
VNDA				LR	LR	00 09 01.1	
TBI	**Tubuai**	**55.21**	**268**	*e*S	**S**	**23 57 55.9**	**+1.1**
	190nm,28.2s						
TBI				*e*LQ		00 04 01.9	
	688nm,28.8s						
TBI				*e*LR	LR	00 06 00.8	
	407nm,27.8s						
TAOE	**Nuku Hiva Isla**	**57.47**	**289**	*e*S	**S**	**23 58 25.2**	**+0.4**
	783nm,26.3s						
TAOE				*e*LR	LR	00 07 33.3	
	1μm,26.3s,baz=148						
PPT	**Papeete**	**58.73**	**274**	*e*S	**S**	**23 58 42.6**	**+1.3**
	173nm,26.2s						
PPT				*e*LQ		00 05 17.8	
	862nm,28.0s						
PPT				*e*LR	LR	00 07 47.0	
	692nm,26.8s,baz=132						
TEIG	**Tepich**	**61.42**	**358**	*e*P	**P**	**23 50 55.0**	**+0.1**
SYO	**Syowa Base**	**62.79**	**161**	*e*P	**P**	**23 51 03.5**	**-0.6**
MAW	**Mawson**	**68.75**	**168**	LR	LR	00 17 43.1	
	comp=Z,277nm,21.7s,MS4.5,baz=48,slow=32						
LTX	**Lajitas**	**72.29**	**344**	*e*P	**P**	**23 52 04.2**	**+0.1**
	15nm,1.2s,mb4.8						
TXAR	**Lajitas Array**	**72.29**	**344**	P	**P**	**23 52 04.2**	**+0.1**
	2.1nm,0.7s,mb4.2,baz=166,slow=8.0,SNR=18						
TXAR				LR	LR	00 19 06.1	
	comp=Z,234nm,20.5s,MS4.4,baz=310,slow=32						
MIAR	**Mount Ida**	**75.96**	**354**	*e*P	**P**	**23 52 24.8**	**-0.7**
WMOK	**Wichita Mounta**	**76.72**	**349**	P	**P**	**23 52 29.0**	**-0.9**
WVT	**Waverly**	**77.25**	**359**	P	**P**	**23 52 33.7**	**+0.8**
	11nm,1.1s,mb4.7						
SDCO	**Great Sand Dun**	**80.80**	**345**	*e*P	**P**	**23 52 52.1**	**-0.2**
	7.7nm,1.2s,mb4.5						
MVCO	**Mesa Verde**	**80.93**	**342**	*e*P	**P**	**23 52 54.6**	**+1.6**
	71nm,2.2s,mb5.2						
PV01	**Paradox Valley**	**81.83**	**342**	*e*P	**P**	**23 52 58.5**	**+0.7**
PV10	**Paradox Valley**	**82.17**	**342**	*e*P	**P**	**23 52 59.5**	**-0.1**
SRU	**San Rafael**	**83.22**	**341**	*e*P	**P**	**23 53 04.5**	**-0.5**
NVAR	**Mina Array Bea**	**84.75**	**335**	P	**P**	**23 53 12.9**	**+0.1**
	1.6nm,0.7s,mb4.2,baz=158,slow=6.1,SNR=6.3						
BOSA	**Boshof**	**85.82**	**125**	P	**P**	**23 53 19.3**	**+1.1**
	2.0nm,0.8s,mb4.4,baz=96,slow=17,SNR=3.6						
BOSA				LR	LR	00 25 25.7	
	comp=Z,300nm,19.3s,MS4.7,baz=207,slow=31						
BOSA	**Boshof**	**85.82**	**125**	P	**P**	**23 53 19.3**	**+1.1**
BOSA				LR	LR	00 25 25.7	
PDAR	**Pinedale Array**	**86.47**	**343**	P	**P**	**23 53 21.3**	**-0.1**
	2.9nm,0.9s,mb4.5,baz=154,slow=4.9,SNR=19						
PDAR				LR	LR	00 24 57.4	
	comp=Z,81nm,21.9s,MS4.1,baz=348,slow=31						
HLID	**Hailey**	**88.39**	**340**	*e*P	**P**	**23 53 28.5**	**-2.1**
	11nm,1.3s,mb4.9						
LBTB	**Lobatse**	**88.60**	**123**	*e*P	**P**	**23 53 32.0**	**+0.3**
MCMT	**McKenzie Canyo**	**89.18**	**341**	*e*P	**P**	**23 53 36.1**	**+1.7**
CHMT	**Chamberlain Mo**	**91.24**	**342**	*e*P	**P**	**23 53 43.6**	**-0.4**
ULM	**Lac du Bonnet**	**91.74**	**354**	P	**P**	**23 53 44.0**	**-2.3**
	1.0nm,0.6s,mb4.3,baz=108,slow=9.0,SNR=3.0						
ULM				LR	LR	00 31 08.2	
	comp=Z,238nm,19.1s,MS4.7,baz=125,slow=33						
WALA	**Waterton Lakes**	**93.41**	**342**	*e*P	**P**	**23 53 52.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**97.01**	**79**	P	**P**	**23 54 10.7**	**+0.2**
	3.0nm,1.2s,mb4.6,baz=251,slow=3.3,SNR=5.4						
TORD				LR	LR	00 35 11.8	
	comp=Z,157nm,18.6s,MS4.5,baz=355,slow=34						
GERES	**GERESS Array B**	**125.49**	**53**	PKP	PKPdf	23 59 40.5	+0.7
	0.2nm,0.6s,baz=246,slow=6.3,SNR=3.0						
BRTR	**Keskin Array B**	**135.09**	**71**	PKP	PKPdf	23 59 58.2	+0.1
	0.4nm,0.7s,baz=348,slow=6.3,SNR=3.1						
MJAR	**Matsushiro Arr**	**145.44**	**277**	PKPbc	PKPbc	00 00 14.5	-2.2
	2.0nm,0.5s,baz=135,slow=4.0,SNR=6.1						
HYB	**Hyderabad**	**152.67**	**147**	*e*P	PKPbc	00 00 36.0	+0.6

IDC ***12*** *23:41:12.4±1.3, 2657N×12602E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=34.8km s-min=23.1km az=47.0*
ISCJB ***12*** *23:41:14.6±3.6, 2662N±009×12605E±009, h27km±29km, mb3.8/6, Error ellipse: s-maj=14.6km s-min=12.9km az=154.0*
MOS ***12*** *23:41:15.1±0.6, 2655N×12603E, h33km, mb3.9/4, Error ellipse: s-maj=26.2km s-min=15.3km az=115.8*
NEIC ***12*** *23:41:17.3±0.4, 2659N×12608E, h35km, mb4.4/3, Error ellipse: s-maj=8.6km s-min=7.0km az=184.0*

ISC 12 23:41:15.6±5.4, 2664N±008×12608E±009, h20km±37km, n22, σ0§42/22, mb3.8/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.97**	**84**	Pn	**Pn**	**23 41 48.5**	**+0.6**
	7.1nm,0.3s,baz=117,slow=17,SNR=13						
YHNB	**Yeheng**	**4.68**	**246**	P	**Pn**	**23 42 25.2**	**+0.2**
KSRS	**Korea Array**	**10.90**	**8**	Pn	**Pn**	**23 43 49.4**	**-0.9**
	baz=200,slow=31,SNR=5.7						
BJT	**Baijiatuan**	**15.69**	**331**	*e*P	**Pn**	**23 44 48.0**	**-7.4**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BJT	**Baijiatuan**	**15.69**	**331**	*e*P	**Pn**	**23 44 48.0**	**-7.5**
	comp=Z,9.3nm,0.5s						
MDJ	**Mudanjiang**	**18.16**	**8**	P	**Pn**	**23 45 26.6**	**+0.1**
GUMO	**Guam**	**21.86**	**123**	*e*P	**P**	**23 46 06.8**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.0						
GUMO	**Guam**	**21.86**	**123**	*e*P	**P**	**23 46 06.8**	**-0.1**
	comp=Z,43nm,0.7s,mb5.0						
YSS	**Yuzh-Sakhalins**	**24.18**	**29**	P	**P**	**23 46 30.8**	**+0.2**
SONM	**Songino Array**	**26.19**	**329**	P	**P**	**23 46 49.1**	**+0.3**
	comp=Z,1.5nm,1.1s,mb3.4,baz=141,slow=4.8,SNR=7.1						
SONM	**Songino Array**	**26.19**	**329**	P	**P**	**23 46 49.1**	**+0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.1s						
LSA	**Lhasa**	**30.88**	**284**	*e*P	**P**	**23 47 30.7**	**+0.1**
YAK	**Yakutsk**	**35.47**	**3**	*e*P	**P**	**23 48 11.4**	**+0.8**
PET	**Petropavlovsk**	**35.80**	**34**	P	**P**	**23 48 13.0**	**-0.5**
MKAR	**Makanchi Array**	**39.83**	**312**	P	**P**	**23 48 47.6**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.5,baz=94,slow=9.0,SNR=6.3						
MKAR	**Makanchi Array**	**39.83**	**312**	P	**P**	**23 48 47.6**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**40.77**	**323**	P	**P**	**23 48 55.4**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=341,slow=18,SNR=3.8						
ZAL	**Zalesovo**	**40.77**	**323**	P	**P**	**23 48 55.4**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**46.99**	**169**	P	**P**	**23 49 44.7**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.4,baz=351,slow=8.7,SNR=4.6						
CHKZ	**Chkalovo**	**48.68**	**319**	P	**P**	**23 49 58.2**	**-0.1**
BRVK	**Borovoye**	**48.76**	**318**	*e*P	**P**	**23 49 58.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	**48.76**	**318**	*e*P	**P**	**23 49 58.8**	**-0.2**
	comp=Z,3.5nm,1.0s,mb4.3						

CSEM ***13*** *00:08:16.5±0.5, 3745N×1584W, h2km, ML3.6/4, Error ellipse: s-maj=10.9km s-min=7.2km az=116.0*
MDD ***13*** *00:08:26.1±3.0, 3757N×1530W, h0km, mb4.4/4, Error ellipse: s-maj=27.6km s-min=23.3km az=30.0, PRXIMO*
NEIC ***13*** *00:08:27.6, 3765N×1525W, h0km, MN3.0(MDD), After MDD.*

INMG 13 00:08:27.5±1.1, 3728N×1564W, h10km±31km, ML2.6, Error ellipse: s-maj=15.9km s-min=9.3km az=121.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.25**	**188**	*e*Sn	Sn	00 10 10.1	-12
PMAFR	**Mafra**	**5.29**	**70**	*e*Pn	Pn	00 09 41.2	-5.3
PMAFR				*e*Sn	Sn	00 10 35.1	-12
PMAFR				A		00 10 39.2	
	14nm,0.3s						
PLOU	**Loures**	**5.37**	**71**	*e*Pn	Pn	00 09 42.0	-5.6
PLOU				*e*Sn	Sn	00 10 38.1	-11
PLOU	**Loures**	**5.37**	**71**	*e*P	Pn	00 09 42.0	-5.6
PLOU				*e*S	Sn	00 10 38.1	-11
PTEO	**Sao Teotonio**	**5.51**	**85**	*e*Pn	Pn	00 09 43.1	-6.5
PTEO				*e*Sn	Sn	00 10 38.8	-14
PTEO				A		00 10 42.8	
	3.3nm,0.2s						
PTEO	**Sao Teotonio**	**5.51**	**85**	*e*P	Pn	00 09 43.1	-6.5
PTEO				*e*S	Sn	00 10 39.2	-14
PTEO	**Sao Teotonio**	**5.51**	**85**	*e*P	Pn	00 09 43.2	-6.4
PTEO				*e*Sn	Sn	00 10 38.8	-14
	3.3nm,0.2s						
MOE	**Montemor**	**5.90**	**76**	*e*Sn	Sn	00 10 49.6	-13
PBEJ	**Beja**	**6.22**	**81**	*e*Sn	Sn	00 10 56.3	-14
PBEJ				A		00 11 01.0	
	3.5nm,0.2s						
PBEJ	**Beja**	**6.22**	**81**

*MOS **13** 00:08:54.0±1.5, 2661N×12626E, h33km, mb4.7/15, MS4.8/6, Error ellipse: s-maj=16.4km s-min=8.2km az=122.4*

*BJI **13** 00:08:54.9, 2652N×126.19E, h49km, mB4.7, mb4.3, ML4.8, Ms5.2, Msz5.0*

*ISCJB **13** 00:08:55.4±0.5, 2652N±005×126.17E±005, h48km±6km, mb4.6/31, MS4.9/9, Error ellipse: s-maj=7.7km s-min=6.8km az=38.0*

*NEIC **13** 00:08:57.5±0.7, 2658N×126.19E, h50km±7km, mb4.4/9, Error ellipse: s-maj=7.2km s-min=5.4km az=57.0*

*IDC **13** 00:08:57.7±3.0, 2658N×126.18E, h48km±33km, mb3.9/10, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, ML3.4/1, MS4.4/2, Ms1 4.4/2, ms1mx2.9/16, Error ellipse: s-maj=34.7km s-min=12.8km az=65.0*

ISC 13 00:08:56.7±0.5, 2654N±005×12621E±004, h42km±7km, n81, σ1§12/80, mb4.6/31, MS4.9/9, 3C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.56**	**112**	P	**Pn**	**00 09 05.5**	**-2.9**
JKE				*e*S	**Sn**	**00 09 16.3**	**-0.4**
JAGN	**Aguni-jima**	**0.93**	**87**	P	**Pn**	**00 09 11.9**	**-1.4**
NAH1	**Naha**	**1.38**	**104**	P	**Pn**	**00 09 19.7**	**+0.3**
JJT2	**Tamagusuku 2**	**1.44**	**106**	P	**Pn**	**00 09 21.0**	**+0.6**
JIH	**Iheya**	**1.65**	**72**	P	**Pn**	**00 09 23.4**	**+0.2**
JOW	**Kunigami**	**1.87**	**81**	P	**Pn**	**00 09 27.0**	**+0.7**
	36nm,0.3s,baz=262,slow=12,SNR=108						
JOW	**Kunigami**	**1.87**	**81**	P	**Pn**	**00 09 25.9**	**-0.4**
JIJ	**Ishigaki jima**	**2.86**	**221**	P	**Pn**	**00 09 38.8**	**-1.0**
TATO	**Taipei**	**4.53**	**251**	Pn	**Pn**	**00 10 04.7**	**+2.0**
NACB	**Ninganchiao**	**4.79**	**242**	*e*Pn	**Pn**	**00 10 05.8**	**-0.5**
JNU	**Nakatsue**	**7.71**	**31**	P	**Pn**	**00 10 52.8**	**+6.4**
	1.2nm,0.3s,baz=214,slow=12,SNR=4.6						
JNU				LR	LR	00 13 08.7	
	comp=Z,2μm,21.6s,baz=74,slow=33						
KSRS	**Korea Array**	**10.98**	**7**	P	**Pn**	**00 11 33.4**	**+2.3**
	baz=188,slow=13,SNR=7.9						
MAJO	**Matsushiro**	**14.27**	**43**	*e*P	**Pn**	**00 12 15.3**	**-0.9**
MJAR	**Matsushiro Arr**	**14.27**	**43**	P	**Pn**	**00 12 23.6**	**+7.5**
	0.3nm,0.3s,baz=234,slow=11,SNR=4.9						
ENH	**Enshi**	**15.17**	**288**	Pn	**Pn**	**00 12 29.0**	**+0.9**
BJT	**Baijiatuau**	**15.83**	**331**	*e*P	**Pn**	**00 12 36.5**	**0.0**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJT	**Baijiatuau**	**15.83**	**331**	*e*Pn	**Pn**	**00 12 36.5**	**-0.1**
	comp=Z,4.8nm,0.4s						
BJI	**Beijing**	**15.84**	**331**	*e*P	**Pn**	**00 12 45.8**	**+9.1**
XAN	**Xi'an**	**16.68**	**301**	P	**Pn**	**00 12 48.2**	**+0.9**
XAN				AP	pP	00 12 56.0	-3.4
XAN				LG2		00 17 25.2	
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s						
XAN				LR	LR		
	comp=N,2μm,10.0s						
XAN				LR	LR		
	comp=E,4μm,12.9s						
XAN				LR	LR		
	comp=Z,7μm,12.9s						
CN2	**Changchun**	**17.23**	**358**	*e*P	**Pn**	**00 12 56.3**	**+2.1**
MDJ	**Mudanjiang**	**18.24**	**8**	P	**Pn**	**00 13 09.6**	**+3.0**
MDJ	**Mudanjiang**	**18.24**	**8**	*e*P	**Pn**	**00 13 06.8**	**+0.2**
	comp=Z,33nm,1.0s						
CD2	**Chengdu**	**20.15**	**288**	P	**P**	**00 13 26.0**	**-1.3**
CD2				AP		00 13 35.9	
CD2				XP	sP	00 13 39.8	-3.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,250nm,5.1s						
CD2				LR	LR		
	comp=N,5μm,9.5s						
CD2				LR	LR		
	comp=E,5μm,8.0s						
CD2				LR	LR		
	comp=Z,5μm,9.8s						
KMI	**Kunming**	**21.16**	**271**	P	**P**	**00 13 39.0**	**+0.7**
KMI				PP		00 14 06.4	
KMI				AMB	AMB		
	comp=Z,34nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,126nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,9.5s						
KMI				LR	LR		
	comp=E,2μm,8.3s						
KMI				LR	LR		
	comp=Z,2μm,10.4s,MS4.9						
LZH	**Lanzhou**	**21.30**	**302**	*e*P	**P**	**00 13 40.2**	**+0.4**
LZH				AP		00 13 49.5	
LZH				XP	sP	00 13 53.6	-1.8
LZH				AMB	AMB		
	comp=Z,62nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,197nm,4.3s						
LZH				LR	LR		
	comp=E,4μm,10.6s						
LZH				LR	LR		
	comp=Z,5μm,13.2s,MS5.1						
LZH	**Lanzhou**	**21.30**	**302**	*e*P	**P**	**00 13 40.2**	**+0.4**
LZH				*SP	sP	00 13 53.6	-1.8
LZH						00 14 17.1	
LZH	**Lanzhou**	**21.30**	**302**	*e*P	**P**	**00 13 40.2**	**+0.4**
LZH				pP		00 13 49.5	
LZH				sP	sP	00 13 53.6	-1.8
LZH				PP		00 14 17.1	
LZH				SS		00 18 59.3	
GUMO	**Guam**	**21.72**	**123**	P	**P**	**00 13 45.2**	**+1.0**
HIA	**Hailar**	**23.23**	**349**	*e*P	**P**	**00 13 59.6**	**-0.7**
HIA				pmax	pmax		
	comp=Z,32nm,1.4s						
HIA	**Hailar**	**23.23**	**349**	*e*P	**P**	**00 13 59.6**	**-0.7**
	comp=Z,32nm,1.4s,mb4.6						
GTA	**Gaotai**	**25.48**	**307**	⇓P	**P**	**00 14 19.7**	**-1.2**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,58nm,3.8s						
GTA				LR	LR		
	comp=N,3μm,13.3s,MS5.1						
GTA				LR	LR		
	comp=E,3μm,14.1s,MS5.1						
GTA				LR	LR		
	comp=Z,4μm,14.1s,MS5.1						
SONM	**Songino Array**	**26.33**	**329**	P	**P**	**00 14 29.3**	**+0.7**
	comp=Z,7.7nm,1.1s,mb4.2,baz=142,slow=8.0,SNR=19						
SONM	**Songino Array**	**26.33**	**329**	P	**P**	**00 14 29.3**	**+0.7**
SONM				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CIT	**Chita**	**27.18**	**343**	*e*P	**P**	**00 14 34.2**	**-2.1**
CIT				pmax	pmax		
	comp=Z,115nm,1.4s,mb5.2						
LSA	**Lhasa**	**31.01**	**284**	*e*P	**P**	**00 15 11.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
LSA	**Lhasa**	**31.01**	**284**	*e*P	**P**	**00 15 11.4**	**+1.2**
	comp=Z,2.2nm,0.5s,mb4.2						
GUN	**Gumba**	**35.77**	**282**	*e*P	**P**	**00 15 51.3**	**-0.4**
	comp=Z,17nm,0.9s,mb5.0						
PKI	**Pulchoki**	**36.23**	**281**	*e*P	**P**	**00 15 54.8**	**-0.8**
	comp=Z,32nm,0.9s,mb5.3						
KKN	**Kakani**	**36.31**	**281**	*e*P	**P**	**00 15 55.7**	**-0.6**
	comp=Z,50nm,1.1s,mb5.4						
DMN	**Daman**	**36.49**	**281**	*e*P	**P**	**00 15 57.2**	**-0.6**
GKN	**Gorkha**	**36.85**	**282**	*e*P	**P**	**00 15 59.6**	**-1.3**
	comp=Z,37nm,1.1s,mb5.1						
KOLN	**Koldanda**	**37.79**	**282**	*e*P	**P**	**00 16 07.8**	**-1.1**
	comp=Z,34nm,1.1s,mb5.0						
KAKA	**Kakadu**	**39.49**	**170**	*e*P	**P**	**00 16 22.8**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**39.98**	**312**	P	**P**	**00 16 26.6**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.3,baz=100,slow=6.3,SNR=24						
MKAR	**Makanchi Array**	**39.98**	**312**	P	**P**	**00 16 26.6**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**40.91**	**323**	P	**P**	**00 16 34.2**	**-0.7**
	comp=Z,3.7nm,0.7s,mb4.1,baz=4.5,slow=8.5,SNR=19						
ZAL	**Zalesovo**	**40.91**	**323**	P	**P**	**00 16 34.2**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PMG	**Port Moresby**	**41.12**	**148**	*i* P	**P**	**00 16 45.0**	**+8.4**
PMG	**Port Moresby**	**41.12**	**148**	P	**P**	**00 16 37.3**	**+0.7**
NVS	**Novosibirsk**	**42.12**	**324**	*e*P	**P**	**00 16 43.4**	**-1.4**
NVS				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.3						
NVS				pmax	pmax		
	comp=N,6.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
KURK	**Kurchatov**	**43.35**	**317**	⇑*e*P	**P**	**00 16 53.7**	**-1.0**
KURK	**Kurchatov**	**43.35**	**317**	*e*P	**P**	**00 16 52.9**	**-1.9**
	comp=E,14nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**44.38**	**181**	*e*P	**P**	**00 17 03.1**	**+0.1**
	comp=E,5.7nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**44.38**	**181**	P	**P**	**00 17 03.3**	**+0.3**
	comp=E,4.8nm,1.0s,mb4.2,baz=7.4,slow=6.1,SNR=7.2						
AAK	**Ala-Archa**	**44.80**	**305**	*i* P	**P**	**00 17 08.1**	**+1.7**
AAK				pmax	pmax		
	comp=Z,12nm,2.0s,mb4.4						
AAK				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.0						
WRA	**Warramunga Arr**	**46.88**	**169**	P	**P**	**00 17 23.1**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=350,slow=8.3,SNR=22						
WRA	**Warramunga Arr**	**46.88**	**169**	P	**P**	**00 17 23.1**	**+0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Arr**	**46.88**	**169**	*e*P	**P**	**00 17 23.3**	**+0.5**
BILL	**Bilibino**	**47.96**	**19**	⇑*e*P	**P**	**00 17 27.4**	**-3.7**
BILL				*e*		00 19 17.7	
BILL				pmax	pmax		
	comp=Z,11nm,2.4s,mb4.5						
BILL				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.5						
BILL	**Bilibino**	**47.96**	**19**	P	**P**	**00 17 30.6**	**-0.5**
CHKZ	**Chkalovo**	**48.82**	**319**	*e*P	**P**	**00 17 36.8**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
CHKZ	**Chkalovo**	**48.82**	**319**	*e*P	**P**	**00 17 36.8**	**-1.0**
	comp=Z,13nm,1.2s,mb4.8						
BVAR	**Borovoye Array**	**48.84**	**318**	P	**P**	**00 17 37.2**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=96,slow=6.7,SNR=14						
BVAR	**Borovoye Array**	**48.84**	**318**	P	**P**	**00 17 37.2**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**48.90**	**318**	*e*P	**P**	**00 17 37.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
BRVK	**Borovoye**	**48.90**	**318**	*e*P	**P**	**00 17 37.3**	**-1.1**
	comp=Z,15nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**50.47**	**171**	P	**P**	**00 17 51.4**	**+1.0**
	comp=Z,1.2nm,0.9s,mb3.9,baz=352,slow=9.1,SNR=12						
ARU	**Arti**	**56.02**	**322**	*i* P	**P**	**00 18 34.1**	**+3.0**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.2						
AKTK	**Aktyubinsk**	**56.32**	**314**	P	**P**	**00 18 34.1**	**+0.9**
AKTO	**Aktyubinsk**	**56.32**	**314**	P	**P**	**00 18 34.1**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.4,baz=104,slow=11,SNR=7.6						
AKTO				LR	LR	00 43 48.8	
	comp=Z,474nm,20.9s,MS4.6,baz=187,slow=37						
AKTO	**Aktyubinsk**	**56.32**	**314**	P	**P**	**00 18 34.2**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AKTO				MLR	MLR		
	comp=Z,474nm,20.9s,MS4.6						
STKA	**Stephens Creek**	**59.92**	**165**	*e*P	**P**	**00 19 02.8**	**+4.4**
	comp=Z,2.4nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**59.92**	**165**	P	**P**	**00 19 00.0**	**+1.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=344,slow=7.4,SNR=5.1						
STKA	**Stephens Creek**	**59.92**	**165**	P	**P**	**00 18 59.2**	**+0.8**
KIV	**Kislovodsk**	**67.64**	**309**	*e*P	**P**	**00 19 49.4**	**+0.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=Z,398nm,18.0s,MS4.7						
OBN	**Obninsk**	**68.47**	**322**	⇑*e*P	**P**	**00 19 57.3**	**+2.8**
OBN				*e*		00 22 21.2	
OBN				*e*S	S	00 28 45.2	-8.0
OBN				pmax	pmax		
	comp=Z,40nm,2.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
YKA	**Yellowknife Ar**	**79.00**	**24**	P	**P**	**00 20 56.0**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=303,slow=5.2,SNR=9.5						
YKA	**Yellowknife Ar**	**79.00**	**24**	P	**P**	**00 20 56.0**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**79.00**	**24**	P	**P**	**00 20 56.0**	**-0.2**
VNA2	**Neumayer--Watz**	**128.52**	**198**	*e*	PKPdf	00 28 06.8	+7.8
VNA2				*e*		00 28 24.5	
VNA2				*e*		00 28 28.4	
VNA2				*e*		00 28 36.8	
VNA2				*e*		00 28 52.8	
VNA3	**Neumayer Olymp**	**128.94**	**197**	*e*	PKPdf	00 28 06.5	+6.7
VNA3				*e*		00 28 24.8	
VNA3				*e*		00 28 29.0	
VNA3				*e*		00 28 51.9	

*NIED **13** 00:09:00, 2650N×12590E, h5km, Mw4.9 Best double couple: M0 2.95000×10^16 NP1:φs 34.00000°, δ53.00000°, λ-127.00000°. NP2:φs 265.00000°, δ50.00000°, λ-51.00000°.*

*JMA **13** 00:09:15.2±0.2, 2655N×12593E, h6km±2km, M5.2*

JMA Felt I J1.

*IDC **13** 00:09:15.6±0.6, 2653N×126.12E, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/27, mbtmp4.4/17, ML3.9/2, MS4.8/7, Ms1 4.9/7, ms1mx4.0/16, Error ellipse: s-maj=19.2km s-min=12.6km az=67.0*

*ISCJB **13** 00:09:15.1±1.0, 2652N±003×12595E±002, h1km±6km, mb4.8/28, MS4.9/7, Error ellipse: s-maj=4.5km s-min=3.2km az=118.7*

*BJI **13** 00:09:20.0, 2658N×12594E, h18km, mB5.0, mb4.5, ML4.9, Ms5.1, Msz4.9*

*NEIC **13** 00:09:21.3±0.3, 2655N×12607E, h35km, mb5.1/16, MW4.9(NIED), Error ellipse: s-maj=8.5km s-min=6.7km az=103.0*

ISC 13 00:09:16.5±0.9, 2649N±003×12600E±003, h0km±6km, n104, σ1§18/104, mb4.8/28, MS4.9/7, 1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.72**	**103**	P	**Pg**	**00 09 30.6**	**+0.2**
JKE				S	**Sg**	**00 09 41.2**	**+1.4**
JAGN	**Aguni-jima**	**1.12**	**85**	P	**Pg**	**00 09 37.2**	**-0.7**
JAGN				S	**Sg**	**00 09 52.8**	**+0.4**
NAH1	**Naha**	**1.54**	**100**	P	**Pn**	**00 09 44.6**	**-0.6**
JJT2	**Tamagusuku 2**	**1.61**	**102**	P	**Pn**	**00 09 45.4**	**-0.7**
JJT2				*e*S	**Sn**	**00 10 08.2**	**+0.7**
JMJ	**Miyako jima 2**	**1.79**	**201**	P	**Pn**	**00 09 47.2**	**-1.4**
JMJ				*e*S	**Sn**	**00 10 11.0**	**-0.9**
JOGS	**Gusukube**	**1.81**	**197**	*e*S	**Sn**	**00 10 12.3**	**-0.1**
JIH	**Iheya**	**1.84**	**72**	P	**Pn**	**00 09 48.7**	**-0.6**
JIH				*e*S	**Sn**	**00 10 13.9**	**+0.7**
JOW	**Kunigami**	**2.06**	**80**	Pn	**Pn**	**00 09 51.0**	**-1.3**
	89nm,0.3s,baz=283,slow=12,SNR=15						
JOW				Sn	**Sn**	**00 10 20.6**	**+1.9**
	109nm,0.3s,baz=310,slow=27,SNR=5.6						
JOW				LR	LR	00 10 50.5	
	comp=Z,4μm,18.6s,baz=88,slow=48						
JOW	**Kunigami**	**2.06**	**80**	P	**Pn**	**00 09 51.3**	**-1.1**
JTJ	**Tarama**	**2.18**	**213**	P	**Pn**	**00 09 53.3**	**-0.7**
JIJ	**Ishigaki jima**	**2.70**	**219**	*e*S	**Sn**	**00 10 32.6**	**-2.0**
JKRS	**Kuro-shima**	**2.88**	**219**	*e*S	**Sn**	**00 10 40.3**	**+1.4**
JTK	**Tokunoshima**	**2.93**	**63**	P	**Pn**	**00 10 03.2**	**-1.1**
IRIF	**Iriomote-Funau**	**2.97**	**224**	P	**Pn**	**00 10 04.4**	**-0.5**
IRIF				*e*S	**Sn**	**00 10 43.4**	**+2.2**
HATJ	**Hateruma jima**	**3.13**	**220**	P	**Pn**	**00 10 08.7**	**+1.6**
YOJ	**Yonaguni jima**	**3.37**	**234**	P	**Pn**	**00 10 09.7**	**-0.7**
JAM	**Amami Oshima**	**3.73**	**58**	P	**Pn**	**00 10 16.3**	**+1.0**
JZK	**Kikaishima**	**3.97**	**62**	P	**Pn**	**00 10 19.7**	**+1.1**
JZK				S	**Sn**	**00 11 07.2**	**+1.4**
YHNB	**Yeheng**	**4.55**	**248**	*e*Pn	**Pn**	**00 10 27.6**	**+0.9**
NACB	**Ninganchiao**	**4.61**	**241**	Pn	**Pn**	**00 10 29.8**	**+2.5**
JNN	**Nakanoshima**	**4.78**	**45**	P	**Pn**	**00 10 30.9**	**+1.2**
OZH	**Quanzhou**	**6.86**	**259**	*e*P	**Pn**	**00 11 05.1**	**+6.8**
QZH				S	**Sn**	**00 12 26.4**	**+9.4**
QZH				Smax			
	comp=N,1μm,1.6s						
QZH				Smax			
	comp=E,780nm,1.3s						
QZH				LR	LR		
	comp=N,5μm,5.6s						
QZH				LR	LR		
	comp=E,9μm,7.3s						
QZH				LR	LR		
	comp=Z,7μm,7.3s						
JNU	**Nakatsue**	**7.85**	**32**	Pn	**Pn**	**00 11 08.1**	**-3.8**
	comp=Z,2.5nm,0.3s,baz=249,slow=20,SNR=8.2						
INCN	**Inchon**	**10.97**	**3**	Pn	**Pn**	**00 11 52.7**	**-2.0**
	comp=Z,29nm,0.7s						
WHN	**Wuhan**	**11.01**	**294**	P	**Pn**	**00 11 56.0**	**+0.8**
WHN				LR	LR		
	comp=Z,16μm,12.1s						
KSRS	**Korea Array**	**11.05**	**8**	Pn	**Pn**	**00 11 50.4**	**-5.4**
	baz=192,slow=14,SNR=5.3						
GZH	**Guangzhou**	**11.99**	**256**	P	**Pn**	**00 12 10.1**	**+1.5**
GZH				S	**Sn**	**00 14 24.1**	**+1.2**
GZH				LR	LR		
	comp=N,2μm,10.3s						
GZH				LR	LR		
	comp=E,3μm,9.0s						
GZH				LR	LR		
	comp=Z,3μm,9.0s						
TIA	**Tai'an**	**12.30**	**324**	*e*P	**Pn**	**00 12 20.8**	**+8.0**
TIA				LR	LR		
	comp=N,5μm,12.0s						
TIA				LR	LR		
	comp=E,4μm,12.0s						
DL2	**Dalian**	**12.91**	**345**	⇑*i* P	**Pn**	**00 12 22.2**	**+1.0**
DL2				S	**Sn**	**00 14 47.1**	**+1.5**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
DL2				AMB	AMB		
	comp=Z,190nm,6.7s						
DL2				LR	LR		
	comp=N,3μm,11.6s						
DL2				LR	LR		
	comp=E,2μm,11.3s						
DL2				LR	LR		
	comp=Z,4μm,11.3s						
MAT	**Matsushiro**	**14.44**	**43**	P	**Pn**	**00 12 40.7**	**-1.3**
MAT				*e*S	**Sn**	**00 15 26.6**	**+3.8**
MJAR	**Matsushiro Arr**	**14.44**	**43**	Pn	**Pn**	**00 12 40.5**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=235,slow=13,SNR=5.9						
MJAR				LR	LR	00 18 54.7	
	comp=Z,1μm,18.4s,baz=230,slow=40						
SNY	**Shenyang**	**15.43**	**353**	⇓P	**Pn**	**00 12 56.7**	**+1.3**
SNY				AP	pP	00 13 03.9	+3.6
SNY				XP	sP	00 13 08.8	+8.5
SNY				AMB	AMB		
	comp=Z,380nm,5.5s						
SNY				LR	LR		
	comp=N,5μm,13.1s						
SNY				LR	LR		
	comp=Z,7μm,11.8s						
BJI	**Beijing**	**15.80**	**331**	S	**Sn**	**00 16 05.1**	**+9.1**
CN2	**Changchun**	**17.28**	**359**	*e*P	**Pn**	**00 13 24.9**	**+5.8**
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,3μm,13.0s						
CN2				LR	LR		
	comp=E,3μm,13.0s						
CN2				LR	LR		
	comp=Z,4μm,15.0s						
MDJ	**Mudanjiang**	**18.32**	**8**	*e*Pn	**Pn**	**00 13 34.3**	**+2.4**
	comp=Z,74nm,0.9s						
BTO	**Baotou**	**19.34**	**321**	*e*P	**Pn**	**00 13 51.0**	**+6.7**
LZH				sS	sS	00 18 14.5	+15
LZH	**Lanzhou**	**21.17**	**302**	*e*S	**S**	**00 18 00.0**	**+0.5**
LZH				*SS	sS	00 18 14.5	+15
LZH	**Lanzhou**	**21.17**	**302**	*e*S	**S**	**00 18 00.0**	**+0.5**
ASAJ	**Asahikawa**	**22.12**	**33**	LR	LR	00 22 39.9	
	comp=Z,561nm,18.7s,MS4.0,baz=279,slow=36						
KKM	**Kota Kinabalu**	**22.37**	**206**	*e*P	**P**	**00 14 17.1**	**+1.0**
HIA	**Hailar**	**23.25**	**350**	*e*P	**P**	**00 14 24.9**	**-0.6**
	comp=Z,69nm,1.3s,mb5.0						
SONM	**Songino Array**	**26.28**	**329**	P	**P**	**00 14 54.2**	**+0.8**
	comp=Z,14nm,0.9s,mb4.6,baz=142,slow=7.3,SNR=16						
TLY	**Talaya**	**30.32**	**332**	P	**P**	**00 15 28.8**	**-0.8**
LSA	**Lhasa**	**30.84**	**284**	P	**P**	**00 15 36.2**	**+2.0**
PSI	**Prapat**	**35.06**	**232**	P	**P**	**00 16 12.1**	**+1.1**
	comp=Z,2.5nm,0.4s,mb4.5,baz=321,slow=21,SNR=4.8						
PSI	**Prapat**	**35.06**	**232**	P	**P**	**00 16 12.1**	**+1.1**
WMQ	**Urumqi**	**35.40**	**309**	P	**P**	**00 16 13.4**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,535nm,7.0s						
WMQ				LR	LR		
	comp=N,2μm,18.0s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,18.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,1μm,16.0s,MS4.8						
YAK	**Yakutsk**	**35.62**	**3**	*e*P	**P**	**00 16 13.2**	**-2.6**
	comp=Z,17nm,0.4s,mb5.2						
PET	**Petropavlovsk**	**35.97**	**34**	*e*P	**P**	**00 16 16.7**	**-2.2**
	comp=Z,20nm,0.8s,mb5.0						
KAKA	**Kakadu**	**39.47**	**170**	*e*P	**P**	**00 16 47.4**	**-1.0**
	comp=Z,11nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**39.88**	**312**	P	**P**	**00 16 51.0**	**-0.8**
	comp=Z,5.4nm,0.8s,mb4.2,baz=98,slow=10,SNR=9.2						
ZAL	**Zalesovo**	**40.85**	**323**	P	**P**	**00 16 59.0**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.3,baz=345,slow=8.3,SNR=3.5						
ZAL	**Zalesovo**	**40.85**	**323**	P	**P**	**00 16 59.0**	**-0.9**
PMG	**Port Moresby**	**41.18**	**147**	P	**P**	**00 17 01.3**	**-1.3**
	comp=Z,18nm,1.1s,mb4.7,baz=311,slow=8.0,SNR=6.8						
PMG	**Port Moresby**	**41.18**	**147**	*e*P	**P**	**00 17 03.3**	**+0.7**
KURK	**Kurchatov**	**43.26**	**317**	*e*P	**P**	**00 17 19.2**	**-0.4**
	comp=Z,45nm,1.2s,mb5.1						
FITZ	**Fitzroy Crossi**	**44.33**	**180**	*e*P	**P**	**00 17 27.8**	**-0.4**
	comp=Z,17nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**44.33**	**180**	P	**P**	**00 17 27.9**	**-0.3**
	comp=Z,8.8nm,0.8s,mb4.5,baz=14,slow=9.4,SNR=12						
AAK	**Ala-Archa**	**44.68**	**305**	*e*P	**P**	**00 17 30.2**	**-0.8**
WRA	**Warramunga Arr**	**46.86**	**169**	P	**P**	**00 17 46.5**	**-1.7**
	comp=Z,9.0nm,0.8s,mb5.0,baz=350,slow=8.0,SNR=24						
WB2	**Warramunga Arr**	**46.86**	**169**	*e*P	**P**	**00 17 47.8**	**-0.5**
CHKZ	**Chkalovo**	**48.74**	**319**	*e*P	**P**	**00 18 01.9**	**-0.9**
	comp=Z,30nm,1.2s,mb5.2						
BVAR	**Borovoye Array**	**48.75**	**318**	P	**P**	**00 18 03.1**	**+0.2**
	comp=Z,9.9nm,1.1s,mb4.8,baz=85,slow=6.2,SNR=15						
BRVK	**Borovoye**	**48.82**	**318**	*e*P	**P**

PPT	Papeete	92.87	108	eLR	LR	00 52 25.0	
	comp=Z,434nm,25.0s,baz=301						
MOOW	Moose Ponds	92.89	37	eP	P	00 22 32.9	+1.7
REDW	Red Top Meadow	93.09	38	eP	P	00 22 32.9	+0.7
	comp=Z,18nm,1.5s,mb5.3						
DUG	Dugway	94.03	41	eP	P	00 22 37.7	+1.2
	comp=Z,12nm,1.5s,mb5.0						
PDAR	Pinedale Array	94.19	38	P	P	00 22 36.8	-0.5
	comp=Z,1.3nm,0.9s,mb4.3,baz=63,slow=0.3,SNR=6.1						
TBI	Tubuai	95.53	113	eLR	LR	00 53 39.2	
	comp=Z,160nm,25.0s						
TAOE	Nuku Hiva Isla	97.31	96	eLR	LR	00 54 29.1	
	comp=Z,403nm,24.0s						
PV10	Paradox Valley	97.43	41	eP	P	00 22 51.3	-0.7
TXAR	Lajitas Array	106.87	44	PKiKP	PKiKP	00 27 44.5	+0.5
	comp=Z,0.4nm,0.8s,baz=253,slow=1.3,SNR=5.1						
RKT	Rikitea	107.62	107	eLR	LR	00 59 15.3	
	comp=Z,324nm,32.8s						
SDV	Santo Domingo	141.30	27	ePKPdf	PKPdf	00 28 49.3	+0.2
LPAZ	La Paz	163.39	55	PKP	PKPdf	00 29 22.8	+1.7
	comp=Z,2.6nm,1.1s,baz=343,slow=4.6,SNR=6.5						
LPAZ				PKPab	PKPab	00 30 11.4	-0.6
	comp=Z,3.3nm,1.1s,baz=358,slow=4.3,SNR=5.1						

WEL 13 00:15:20.4±0.3, 3812S×17629E, h145km±2km, ML3.6/17, 1C-1D, Error ellipse: s-maj=2.8km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.67	103	⇑PN	Pn	00 15 42.1	0.0
URZ				SN	Sn	00 15 58.9	+0.3
MWZ	Matawai	1.00	103	PN	Pn	00 15 45.0	+0.3
MWZ				SN	Sn	00 16 03.3	+0.2
BKZ	Black Stump Fm	1.06	171	⇓PN	Pn	00 15 45.4	+0.2
BKZ				SN	Sn	00 16 04.1	0.0
TUVZ	Tukino	1.25	203	PN	Pn	00 15 47.3	+0.3
WNVZ	Wahianoa	1.33	204	PN	Pn	00 15 48.0	+0.2
MOVZ	Moawhango	1.36	198	PN	Pn	00 15 47.7	-0.3
KNZ	Kokohu	1.41	130	PN	Pn	00 15 48.8	+0.2
KNZ				SN	Sn	00 16 09.5	-0.8
MXZ	Matakaoa Point	1.69	72	PN	Pn	00 15 51.7	0.0
MXZ				SN	Sn	00 16 14.7	-0.9
TSZ	Takapari Road	1.96	187	PN	Pn	00 15 53.9	-0.8
PXZ	Pawanui	1.97	167	PN	Pn	00 15 54.3	-0.5
MRZ	Mangatainoka R	2.60	192	PN	Pn	00 16 00.5	-2.0
MRZ				SN	Sn	00 16 31.8	-3.2
TIWZ	Tintock	2.68	187	PN	Pn	00 16 01.6	-1.9
KIW	Kapiti Island	2.94	201	PN	Pn	00 16 04.1	-2.7
MTW	Mount Morrison	3.10	191	PN	Pn	00 16 05.9	-2.9
CAW	Cannon Point	3.13	197	PN	Pn	00 16 06.5	-2.7
TRWZ	Traveller	3.31	188	PN	Pn	00 16 08.6	-2.9
PAWZ	Paruwai Farm	3.33	191	PN	Pn	00 16 08.7	-3.1
MRW	Makara Radio	3.34	201	PN	Pn	00 16 08.9	-3.1
MSWZ	Moikau Station	3.39	193	PN	Pn	00 16 09.3	-3.3
SNZO	South Karori	3.42	200	PN	Pn	00 16 09.6	-3.3
TCW	Tory Channel	3.46	206	PN	Pn	00 16 10.3	-3.2
TUWZ	Tuamarina	3.77	208	PN	Pn	00 16 14.1	-3.4
THZ	Tophouse	4.48	214	PN	Pn	00 16 23.7	-3.1
KHZ	Kahutara	4.78	205	PN	Pn	00 16 26.9	-3.9

JMA 13 00:21:27.7±0.4, 2661N×12596E, h2km, M3.0
ISCJB 13 00:21:29.8±0.9, 266N±0.1×1260 7E±007, h2km, mb3.6/3, Error ellipse: s-maj=18.8km s-min=5.9km az=44.9
IDC 13 00:21:37.0±5.6, 2701N×12671E, h45km±68km, mb3.4/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, Error ellipse: s-maj=53.7km s-min=22.3km az=58.0

ISC 13 00:21:32.2±1.9, 267N±01×12623E±010, h6km±12km, n11, σ1°15/16, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.65	130	P	Pg	00 21 43.2	-1.5
JKE				S	Sg	00 21 53.9	+0.8
JAGN	Aguni-jima	0.92	99	P	Pg	00 21 49.5	-0.3
JAGN				S	Sg	00 22 05.8	+4.1
NAH1	Naha	1.41	112	P	Pn	00 21 57.9	-0.6
NAH1				eS	Sg	00 22 19.1	+1.4
JJT2	Tamagusuku 2	1.49	114	P	Pn	00 21 57.3	-2.2
JJT2				eS	Sb	00 22 19.2	-0.2
JIH	Iheya	1.58	79	P	Pn	00 22 01.1	+0.3
JOW	Kunigami	1.83	87	P	Pn	00 21 60.0	-4.3
	2.8nm,0.3s,baz=275,slow=14,SNR=2.8						
JOW				S	Sn	00 22 18.1	-10
	10nm,0.3s,baz=288,slow=17,SNR=7.5						
JOW	Kunigami	1.83	87	P	Pn	00 22 04.4	+0.2
SONM	Songino Array	26.17	329	P	P	00 27 07.9	+0.5
	0.1nm,0.3s,mb2.8,baz=134,slow=8.4,SNR=4.1						
MKAR	Makanchi Array	39.86	312	P	P	00 29 08.4	+1.8
	baz=101,slow=10.0,SNR=4.1						
WRA	Warramunga Arr	47.07	170	P	P	00 30 05.7	+1.0
	0.6nm,0.7s,mb3.7,baz=350,slow=8.6,SNR=6.6						
AKTO	Aktyubinsk	56.20	314	P	P	00 31 11.7	-1.4
	2.1nm,0.6s,mb4.3,baz=88,slow=7.0,SNR=6.1						

WEL 13 00:24:22.2±0.6, 3669S×17719E, h33km, ML3.6/3, Error ellipse: s-maj=5.4km s-min=3.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	Mayor Island	0.96	232	P*	Pb	00 24 39.3	-1.1
MYRZ				eS*	Sb	00 24 49.8	-2.9
KUZ	Kuaotunu	1.18	267	PN	Pn	00 24 41.7	-0.6
KUZ				eSN	Sn	00 24 55.8	-1.5
MXZ	Matakaoa Point	1.25	135	eP*	Pb	00 24 42.8	-2.4
MXZ				eS*	Sb	00 24 57.4	-3.6
URZ	Urewera	1.57	182	eP*	Pb	00 24 47.6	-3.0

IDC 13 00:24:05.7±2.5, 3629N×7224E, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.5/24, mbtmp3.7/8, ML3.7/4, Error ellipse: s-maj=54.1km s-min=26.9km az=139.0
NEIC 13 00:24:21.0±3.6, 3690N×7215E, h106km±26km, mb3.5/4, Error ellipse: s-maj=35.7km s-min=18.3km az=168.0
ISCJB 13 00:24:24.6±1.0, 3714N±005×7221E±0.1, h148km±13km, mb3.4/5, Error ellipse: s-maj=17.5km s-min=6.0km az=136.0

ISC 13 00:24:25.6±0.9, 3715N±005×722E±01, h145km±12km, n32, σ0°90/34, mb3.4/5, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.12	13	P	Pn	00 25 40.5	0.0
	SNR=52						
UCH	Uchtor	5.39	19	P	Pn	00 25 44.7	+0.6
	SNR=32						
KZA	Kyzart	5.48	25	P	Pn	00 25 45.5	+0.2
	SNR=22						
THN	Thein Dam	5.54	147	eP	Pn	00 25 47.2	+1.1
	1.7nm,0.3s						
THN				eS	Sn	00 26 48.3	-0.6
EKS2	Erkin-Say	5.65	12	P	Pn	00 25 47.7	+0.2
	SNR=23						
AAK	Ala-Archa	5.77	17	P	Pn	00 25 49.8	+0.6
	SNR=32						
AAK	Ala-Archa	5.77	17	ePn	Pn	00 25 48.7	-0.5
	27nm,0.5s						
AAK				eSn	Sn	00 26 37.8	-17
KBK	Karagaybulak	5.91	20	P	Pn	00 25 51.6	+0.6
	SNR=11						
ULHL	Ulahol	5.99	31	P	Pn	00 25 52.3	+0.2
	SNR=12						
CHMS	Chumysh	6.18	18	P	Pn	00 25 54.7	+0.1
	SNR=23						
TKM2	Tokmak 2	6.35	24	P	Pn	00 25 58.2	+1.3
	SNR=9.1						
USP	Ospenovka	6.37	16	P	Pn	00 25 57.0	-0.2
	SNR=9.8						
MKAR	Makanchi Array	12.23	35	Pn	Pn	00 27 12.7	-2.3
	0.1nm,0.3s,baz=208,slow=14,SNR=5.1						
KOLN	Koldanda	13.44	131	eP	Pn	00 27 30.5	0.0
GKN	Gorkha	13.91	127	eP	Pn	00 27 35.5	-1.1
KURK	Kurchatov	14.34	17	ePn	Pn	00 27 38.4	-3.5
	3.4nm,0.9s						
PKI	Pulchoki	14.71	127	eP	Pn	00 27 46.9	+0.4
	4.7nm,0.2s						
GUN	Gumba	14.78	125	eP	Pn	00 27 46.9	-0.6
	4.9nm,0.3s						
JIRN	Jiri	15.15	125	eP	Pn	00 27 52.6	+0.5
	6.0nm,0.2s						
BVAR	Borovoye Array	15.93	356	Pn	Pn	00 27 59.6	-2.1
	0.3nm,0.3s,baz=168,slow=9.9,SNR=7.4						
BRVK	Borovoye	15.97	356	ePn	Pn	00 28 02.0	-0.1
	1.5nm,0.7s						
CHKZ	Chkalovo	16.57	357	ePn	Pn	00 28 09.1	-0.3
	1.1nm,0.7s						
AKTK	Aktyubinsk	16.71	327	P	Pn	00 28 10.2	-1.0
AKTO	Aktyubinsk	16.71	327	P	Pn	00 28 10.2	-1.0
	0.6nm,0.3s,baz=116,slow=4.8,SNR=5.9						
ZAL	Zalesovo	18.93	24	P	P	00 28 37.1	+1.7
	0.9nm,0.3s,baz=233,slow=4.9,SNR=7.8						
KIV	Kislovodsk	23.32	296	eP	P	00 29 21.5	+0.9
	2.5nm,0.7s,mb3.8						
AKASG	Malin Array Be	33.27	308	P	P	00 30 50.1	+1.0
	0.3nm,0.3s,mb3.5,baz=108,slow=8.5,SNR=4.7						
JOF	Joensuu	35.78	329	ep	P	00 31 10.9	+0.2
FINES	FINESS Array B	37.47	325	P	P	00 31 25.0	-0.1
	1.3nm,0.7s,mb3.7,baz=127,slow=5.0,SNR=5.1						
PSZ	Piszkesteto	39.29	303	P	P	00 31 40.7	+0.5
TORD	Torodi Ar. Bea	66.65	269	P	P	00 34 59.9	-0.8
	0.2nm,0.8s,mb3.0,baz=42,slow=5.6,SNR=6.7						
YKA	Yellowknife Ar	80.56	3	P	P	00 36 22.6	+0.8
	0.4nm,0.5s,mb3.3,baz=348,slow=5.4,SNR=7.2						

IDC 13 00:37:08.2±2.5, 4632N×15297E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, Error ellipse: s-maj=74.0km s-min=20.1km az=3.0
ISCJB 13 00:37:09.2±3.9, 464N±0.1×1529E±0.1, h16km±28km, mb3.8/15, Error ellipse: s-maj=25.2km s-min=12.4km az=123.1
NEIC 13 00:37:10.0±0.6, 4640N×15290E, h10km, mb4.4/3, Error ellipse: s-maj=15.0km s-min=7.6km az=157.0
MOS 13 00:37:11.5±0.8, 4640N×15285E, h33km, mb4.3/7, Error ellipse: s-maj=20.6km s-min=13.0km az=94.2

ISC 13 00:37:11.9±3.8, 464N±01×1529E±01, h24km±28km, n33, σ0°63/33, mb3.8/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.80	26	ePN	Pn	00 38 23.1	+0.3
MAJO	Matsushiro	14.73	233	P	Pn	00 40 39.0	+0.2
INCN	Inchon	21.37	255	P	P	00 41 57.0	-0.6
HIA	Hailar	22.32	290	eP	P	00 42 08.0	+0.2
HIA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
HIA	Hailar	22.32	290	eP	P	00 42 08.0	+0.2
	comp=Z,2.9nm,0.3s,mb4.2						
SONM	Songino Array	31.29	290	P	P	00 43 35.1	+5.0
	comp=Z,0.3nm,0.7s,mb3.2,baz=84,slow=9.5,SNR=3.3						
INK	Inuvik	42.04	32	P	P	00 45 01.5	-0.1
	comp=Z,1.1nm,0.8s,mb3.5,baz=330,slow=5.1,SNR=8.3						
INK	Inuvik	42.04	32	eP	P	00 45 01.6	0.0
	comp=Z,33nm,0.5s,mb5.2						
MKAR	Makanchi Array	46.95	298	P	P	00 45 41.2	+0.3
	comp=Z,1.1nm,0.8s,mb3.8,baz=65,slow=7.2,SNR=10						
MKAR	Makanchi Array	46.95	298	P	P	00 45 41.2	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	46.95	298	P	P	00 45 41.2	+0.3
KURK	Kurchatov	47.42	304	P	P	00 45 43.7	-0.8
CHKZ	Chkalovo	50.53	310	eP	P	00 46 07.8	-0.5
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	Chkalovo	50.53	310	eP	P	00 46 07.8	-0.5
	comp=Z,2.4nm,0.7s,mb4.2						
BVAR	Borovoye Array	50.95	310	P	P	00 46 11.4	-0.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=76,slow=6.1,SNR=3.2						
BRVK	Borovoye	50.99	310	eP	P	00 46 11.5	-0.3
YKA	Yellowknife Ar	51.31	36	P	P	00 46 13.8	-0.4
	comp=Z,0.4nm,0.7s,mb3.4,baz=300,slow=7.0,SNR=4.6						
JOF	Joensuu	61.58	334	ep	P	00 47 26.2	-1.1
NVAR	Mina Array Bea	62.75	62	P	P	00 47 35.3	+0.1
	comp=Z,0.2nm,0.6s,mb3.5,baz=312,slow=9.5,SNR=2.6						
KAF	Kangasniemi	63.69	335	ep	P	00 47 41.0	-0.4
FINES	FINESS Array B	64.29	335	P	P	00 47 45.0	-0.4
	comp=Z,1.1nm,0.4s,mb4.3,baz=41,slow=6.2,SNR=13						
FINES	FINESS Array B	64.29	335	P	P	00 47 45.0	-0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	65.09	54	P	P	00 47 50.7	+0.1
	comp=Z,0.7nm,1.0s,mb3.6,baz=336,slow=3.3,SNR=3.7						
NOA	NORSAR Array B	68.51	341	P	P	00 48 12.2	-0.2
	comp=Z,1.6nm,0.8s,mb4.0,baz=27,slow=6.4,SNR=2.9						
NOA	NORSAR Array B	68.51	341	P	P	00 48 12.2	-0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	71.75	326	P	P	00 48 32.3	+0.1
	comp=Z,2.3nm,0.4s,mb4.4,baz=33,slow=6.2,SNR=16						
AKASG	Malin Array Be	71.75	326	P	P	00 48 32.3	+0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BURAR	Bucovina Array	75.79	326	⇓iP	P	00 48 56.9	+1.0
TXAR	Lajitas Array	77.82	60	P	P	00 49 06.7	-0.6
	comp=Z,0.4nm,0.6s,mb3.5,baz=286,slow=3.7,SNR=6.6						
KHC	Kasperske Hory	78.48	334	eP	P	00 49 11.5	+0.5
BRTR	Keskin Array B	78.53	317	P	P	00 49 13.3	+2.1
	comp=Z,0.5nm,0.8s,mb3.5,baz=104,slow=6.1,SNR=3.5						
BRTR	Keskin Array B	78.53	317	P	P	00 49 13.4	+2.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	78.70	334	P	P	00 49 12.9	+0.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=50,slow=6.5,SNR=3.2						

CSEM 13 00:40:35.6, 6786N×20.16E, h14km, ML3.0, Mining explosion. After UPP
UPP 13 00:40:35.6, 6786N×20.16E, h14km, ML3.0, Mining explosion.

HEL 13 00:40:35.9±0.1, 6784N×2019E, h0km, ML1.4, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	26	iP	Pg	00 40 38.0	-0.4
KUA				iS	Sg	00 40 40.0	0.0
NIKU	Nikkaluokta	0.44	274	iP	Pg	00 40 43.6	-0.6
LANU	Lannavaara	0.71	72	iP	Pg	00 40 48.8	-0.7
LANU	Lannavaara	0.71	72	P	Pg	00 40 48.8	-0.8
	baz=307						
DUNU	Dundret	0.74	168	iP	Pg	00 40 50.0	-0.1
DUNU	Dundret	0.74	168	P	Pg	00 40 50.0	0.0
	baz=65						
SALU	Saltoluokta	0.79	235	iP	Pg	00 40 50.1	-0.9
MASU	Masugnsbyn	0.79	118	iP	Pg	00 40 50.0	-1.0
MASU	Masugnsbyn	0.79	118	P	Pg	00 40 50.0	-1.1
KIF	Kilpisjarvi	1.19	11	eP	Pg	00 40 58.3	-0.5
KIF				eS	Sg	00 41 14.4	+0.2
PAJU	Pajala	1.40	125	eP	Pn	00 41 00.5	-2.1
HARU	Harads	1.71	169	eP	Pn	00 41 06.1	-0.9
SGF	Sodankyl	2.46	96	eP	Pn	00 41 16.8	-0.4
SGF				eS	Sn	00 41 48.0	0.0
SGF				MSG		00 41 54.7	
	comp=Z,1.6nm,0.2s						
KEV	Kevo	3.14	49	eP	Pn	00 41 26.8	+0.2
KEV				eS	Sn	00 42 04.7	-0.1
KEV				MSG		00 42 08.8	
	comp=Z,0.6nm,0.3s						
KU4	Liikasenvaara	3.96	108	eSG	Sg	00 42 37.4	-5.7
KU6	Riekki	4.23	111	eSG	Sg	00 42 45.4	-6.5

ISCJB 13 00:55:25.2±0.7, 150S±02×720W±0.1, h110km±15km, mb3.4/3, Error ellipse: s-maj=30.0km s-min=8.8km az=63.9
IDC 13 00:55:28.4±2.5, 1474S×7200W, h119km±26km, mb3.2/3, mb1 3.4/6, mb1mx3.3/18, mbtmp3.2/6, Error ellipse: s-maj=174.8km s-min=10.7km az=25.0
NEIC 13 00:55:28.6±1.3, 1461S×7189W, h116km±15km, mb3.3/1, Error ellipse: s-maj=52.7km s-min=11.2km az=208.0

ISC 13 00:55:26.5±0.7, 150S±01×720W±01, h108km±13km, n10, σ0°67/15, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.55	160	eP	Pn	00 55 54.0	+0.2
ARE				iS	Sn	00 56 14.0	-0.5
LPAZ	La Paz	3.98	109	P	Pn	00 56 29.8	+4.3
	2.7nm,0.3s,baz=292,slow=9.7,SNR=67						
LPAZ				S	Sn	00 57 16.8	+5.5
	baz=29,slow=19,SNR=2.0						
LPAZ	La Paz	3.98	109	ePn	Pn	00 56 29.5	+4.0
LPAZ				eSn	Sn	00 57 11.1	-0.2
NNA	Nana	5.54	302	P	Pn	00 56 47.7	+1.1
	8.1nm,0.3s,baz=139,slow=12,SNR=12						
NNA				S	Sn	00 57 48.5	-0.4
	9.2nm,0.3s,baz=241,slow=15,SNR=5.7						
NNA	Nana	5.54	302	ePn	Pn	00 56 47.4	+0.8
NNA				S	Sn	00 57 48.5	-0.4
SIV	San Ignacio	10.62	97	P	Pn	00 57 55.8	+0.3
	0.3nm,0.3s,baz=287,slow=12,SNR=10						
OTAV	Otavalo	16.41	337	ePn	Pn	00 59 09.4	-0.9
	1.3nm,0.7s						
TXAR	Lajitas Array	53.61	325	P	P	01 04 37.0	+0.5
	0.2nm,0.5s,mb3.4,baz=156,slow=10,SNR=7.2						
TORD	Torodi Ar. Bea	78.14	73	P	P	01 07 13.2	-0.5
	0.5nm,0.5s,mb3.5,baz=257,slow=5.4,SNR=8.7						
YKA	Yellowknife Ar	84.10	342	P	P	01 07 45.4	+0.1
	0.5nm,0.8s,mb3.4,baz=136,slow=5.0,SNR=8.1						

IDC 13 01:42:41.8±1.9, 5124N×9088E, h0km, mb1 3.1/3, mb1mx3.0/25, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=24.2km s-min=16.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	4.59	308	Pn	Pn	01 43 53.4	+0.9
	0.7nm,0.3s,baz=23,slow=9.4,SNR=4.3						
ZAL				Pg	Pg	01 44 01.8	-8.0
	2.2nm,0.3s,baz=2.9,slow=15,SNR=15						
ZAL				Lg		01 45 09.9	
	1.7nm,0.3s,baz=224,slow=18,SNR=6.1						
MKAR	Makanchi Array	7.19	235	Pn	Pn	01 44 29.1	+0.9
	0.2nm,0.3s,baz=46,slow=15,SNR=15						
SONM	Songino Array	10.64	103	Pn	Pn	01 45 15.6	+0.1
	0.1nm,0.3s,baz=298,slow=14,SNR=4.2						
SONM				Sn	Sn	01 47 18.8	+3.4
	0.3nm,0.3s,baz=292,slow=26,SNR=7.3						

NIED 13 01:57:00, 4630N×15330E, h11km, Mw5.0 Best double couple: M0:3.18000×10^16 NP1:φ=42.00000°, δ=89.00000°, λ=-142.00000°. NP2:φ=312.00000°, δ=52.00000°, λ=-1.00000°.
SKHL 13 01:57:38.5±2.3, 4555N×15381E, h38km±7km, mb6.2/2, mbh5.9/2, Ms5.0/5, msh5.5/3
ISCJB 13 01:57:39.8±0.8, 4608N±003×15309E±002, h1km±5km, mb5.2/169, MS4.5/37, Error ellipse: s-maj=5.3km s-min=2.1km az=149.9
IDC 13 01:57:41.0±0.5, 4614N×15307E, h0km, mb4.7/25, mb1 4.8/26, mb1mx4.8/28, mbtmp4.6/26, ML3.8/1, MS4.4/17, Ms1 4.4/17, ms1mx4.1/37, Error ellipse: s-maj=14.6km s-min=12.9km az=133.0
BJI 13 01:57:42.0, 4653N×15292E, h9km, mB5.2, mb5.0, Ms4.8, Msz4.6
JMA 13 01:57:42.8±0.8, 4631N×15327E, h30km, M5.0
NEIC 13 01:57:43.1±0.2, 4617N×15297E, h10km, mb5.2/88, Error ellipse: s-maj=5.3km s-min=3.1km az=165.0
GCMT 13 01:57:43.1±0.3, 4624N×15328E, h14km±1km, MW5.0/71, Moment Tensor Solution. s29,c45; s71,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.05±.19; Mθθ-0.55±.13; Mφφ-2.50±.13; Mrθ-0.40±.31; Mθφ-2.06±.09; Mθr2.27±.30; Best double couple: M0:4.18000×10^16 NP1:φs236.00000°, δ37.00000°, λ130.00000°. NP2: φs10.00000°, δ63.00000°, λ65.00000°. Principal axes: T 4.1290, Plg63.0000°, Azm237.0000°; N 0.1010, Plg22.0000°, Azm22.0000°; P -4.2320, Plg14.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS 13 01:57:46.5±1.1, 4628N×15291E, h43km, mb5.3/56, MS4.6/14 Error ellipse: s-maj=7.3km s-min=4.6km az=103.3
SZGRF 13 01:57:49.0, 4644N×15321E, h33km, mb5.2, Kuril Islands, Russia

ISC 13 01:57:43.6±1.0, 4619N±003×15300E±002, h12km±6km, h13km±1.6km: pP-P, n695, σ0°95/709, mb5.1/169, MS4.5/37, 129C-108D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.72	257	⇓iPN	Pn	01 58 40.2	-0.6
KUR				eS	Sn	01 59 25.0	+0.5
KUR				pmax	pmax		
	comp=N,430nm,0.7s						
KUR				pmax	pmax		
	comp=E,260nm,0.7s						
KUR				pmax	pmax		
	comp=Z,2μm,0.7s						
KUR				pmax	pmax		
	comp=E,5μm,2.0s						
KUR				pmax	pmax		
	comp=Z,4μm,2.0s						
KUR				smax			
	comp=N,9μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
KUR				smax			
	comp=E,1μm,0.5s						
KUR				smax			
	comp=Z,760nm,0.5s						
KUR	Kuril'sk	3.72	257	iP	Pn	01 58 40.2	-0.6
KUR				AMB	AMB	01 58 41.0	
KUR				AMB	AMB	01 58 41.0	
	comp=Z,5μm,2.0s						
KUR				AMB	AMB	01 58 41.0	
	comp=Z,4μm,2.0s						
KUR				AMB	AMB	01 58 41.0	
	comp=Z,430nm,0.7s						
KUR				AMB	AMB	01 58 41.0	
	comp=Z,260nm,0.7s						
KUR				AMB	AMB	01 58 41.0	
	comp=Z,2μm,0.7s						
KUR				eS	Sn	01 59 25.0	+0.5
KUR				A		01 59 35.0	
	comp=Z,9μm,2.0s						
KUR				A		01 59 35.0	
	comp=Z,5μm,2.0s						
KUR				A		01 59 44.0	
	comp=Z,1μm,0.5s						
KUR				A		01 59 44.0	
	comp=Z,760nm,0.5s						
KUR				AMS	AMS	02 00 12.0	
	comp=Z,8μm,12.0s						
SKR	Severo-Kuril's	4.95	24	eP	Pn	01 58 58.1	+0.3
SKR				AMB	AMB	01 59 01.5	
	comp=Z,120nm,0.5s						
SKR				AMB	AMB	01 59 01.5	
	comp=Z,130nm,0.5s						
SKR				AMB	AMB	01 59 01.5	
	comp=Z,230nm,0.5s						
SKR				A		02 00 02.0	
	comp=Z,3μm,6.0s						
SKR				A		02 00 02.0	
	comp=Z,6μm,6.0s						
SKR				A		02 00 15.0	
	comp=Z,2μm,1.0s						
SKR				A		02 00 15.0	
	comp=Z,470nm,1.0s						
SKR				AMS	AMS	02 00 52.0	
	comp=Z,3μm,14.0s						
SKR				AMS	AMS	02 00 52.0	
	comp=Z,6μm,14.0s						
YUK	Yuzh-Kuril'sk	5.49	249	eP	Pn	01 59 04.0	-1.2
YUK				AMB	AMB	01 59 06.0	
	comp=Z,2μm,1.2s						
YUK				AMB	AMB	01

comp=Z,6μm,18.0s
NEM2 Nemuro 2 5.88 244 P **Pn 01 59 10.0 -0.6**
NEM2 *e*S **Sn 02 00 14.8 -3.1**
JRA Rausu 6.01 251 P **Pn 01 59 14.8 +2.4**
JNK Nakash 6.43 249 P **Pn 01 59 19.4 +1.3**
JAK Akkeshi 6.73 245 P **Pn 01 59 21.8 -0.4**
JAK *e*S **Sn 02 00 35.9 -2.9**
JTKR Abashiri--Toko 6.81 254 P **Pn 01 59 25.7 +2.5**
YSS Yuzh-Sakhalins 7.10 280 *ce*PN **Pn 01 59 31.0 +3.7**
YSS *e*S **Sn 02 00 55.0 +7.1**
YSS pmax pmax
comp=Z,100nm,1.0s
YSS MLR MLR
comp=Z,4μm,16.0s
YSS MLR MLR
comp=E,3μm,15.0s
YSS Yuzh-Sakhalins 7.10 280 Pn **Pn 01 59 26.9 -0.4**
YSS Sn **Sn 02 00 48.0 +0.1**
YSS Yuzh-Sakhalins 7.10 280 *e*P **Pn 01 59 31.0 +3.7**
YSS AMB AMB 01 59 34.0
comp=E,100nm,1.0s
YSS *e*S **Sn 02 00 55.0 +7.1**
YSS AMS AMS 02 02 18.0
comp=E,3μm,16.0s
YSS AMS AMS 02 02 18.0
comp=E,4μm,16.0s
JMP Maruseppu 7.16 256 P **Pn 01 59 31.1 +3.0**
JAR Ashorobuto 7.18 250 P **Pn 01 59 30.1 +1.8**
JOB Onbets 7.32 247 P **Pn 01 59 30.5 +0.2**
JOB *e*S **Sn 02 00 48.8 -4.6**
JSE Soyaes 7.41 264 P **Pn 01 59 35.6 +4.1**
JKK2 Kamakawa 2 7.62 256 P **Pn 01 59 37.4 +3.0**
ASAJ Asahikawa 7.64 258 Pn **Pn 01 59 37.9 +3.2**
comp=E,3.9nm,0.3s,baz=98,slow=16,SNR=24
ASAJ LR LR 02 02 38.5
comp=E,2μm,18.0s,baz=100,slow=39
ASAJ Asahikawa 7.64 258 P **Pn 01 59 38.2 +3.5**
ASAJ Asahikawa 7.64 258 PN **Pn 01 59 37.9 +3.2**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 7.76 26 *e*PN **Pn 01 59 35.8 -0.6**
PET pmax pmax
comp=Z,153nm,1.3s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 7.76 26 *e*Pn **Pn 01 59 41.0 +4.6**
PET *e*Sn **Sn 02 00 58.8 -5.4**
JCH Churui 7.77 246 P **Pn 01 59 37.2 +0.8**
JCH *e*S **Sn 02 01 00.1 -4.2**
JWK2 Keihoku 7.81 268 P **Pn 01 59 42.8 +5.7**
UGL Uglegorsk 7.93 295 *e*P **Pn 01 59 44.0 +5.4**
UGL AMB AMB 01 59 48.5
comp=Z,180nm,0.8s
UGL AMS AMS 02 02 56.0
comp=Z,900nm,16.0s
UGL AMS AMS 02 02 56.0
comp=Z,4μm,16.0s
UGL AMS AMS 02 02 56.0
comp=Z,3μm,16.0s
JAB Ashibetsu 8.11 255 P **Pn 01 59 44.8 +3.6**
JEM Erimo 8.22 243 P **Pn 01 59 43.7 +1.1**
ERM Erimo 8.22 243 Pn **Pn 01 59 44.9 +2.3**
comp=Z,813nm,0.8s,SNR=8.0
ERM Erimo 8.22 243 *e*PN **Pn 01 59 43.6 +1.0**
ERM pmax pmax
comp=Z,96nm,0.6s
ERM Erimo 8.22 243 *e*Pn **Pn 01 59 43.6 +1.0**
comp=Z,96nm,0.6s
ERM *e*Sn **Sn 02 01 12.5 -2.9**
JNBK Urakawa-nobuka 8.33 246 P **Pn 01 59 43.5 -0.6**
JNBK *e*S **Sn 02 01 12.8 -5.3**
JEW Eniwo 8.90 252 P **Pn 01 59 55.2 +3.2**
JNB Noboribetsu 9.34 251 P **Pn 01 59 58.9 +0.9**
JKB Kayabe 9.63 248 P **Pn 02 00 01.6 -0.3**
OKH Okha 9.82 322 *i* PN **Pn 02 00 06.0 +1.5**
OKH *e*S **Sn 02 02 02.0 +7.4**
OKH pmax pmax
comp=Z,2μm,5.0s
OKH smax
comp=N,1.0nm,6.0s
OKH Okha 9.82 322 *i* P **Pn 02 00 06.0 +1.5**
OKH AMB AMB 02 00 08.0
comp=N,1μm,5.0s
OKH AMB AMB 02 00 08.0
comp=N,2μm,5.0s
OKH *e*S **Sn 02 02 02.0 +7.4**
OKH A 02 02 03.4
comp=N,600nm,6.0s
OKH AMS AMS 02 04 47.0
comp=N,3μm,16.0s
OKH AMS AMS 02 04 47.0
comp=N,5μm,16.0s
OKH AMS AMS 02 04 47.0
comp=N,3μm,16.0s
JOT Ohata 9.88 245 P **Pn 02 00 04.5 -0.9**
JOT S **Sn 02 01 49.1 -7.2**
JYM2 Yakumo 2 9.95 250 P **Pn 02 00 07.1 +0.8**
JTM Tenmabayashi 10.21 242 P **Pn 02 00 08.2 -1.7**
JTM *e*S **Sn 02 01 56.2 -8.1**
JTH Tanohata 10.26 236 P **Pn 02 00 07.6 -3.0**
JTH *e*S **Sn 02 01 57.3 -8.2**
JOSM Okushiri--Mats 10.55 252 P **Pn 02 00 14.8 +0.2**
JOM Ohasama 10.90 236 P **Pn 02 00 17.0 -2.3**
JOM S **Sn 02 02 11.7 -9.5**
OFUJ Ofunato 10.95 234 P **Pn 02 00 17.8 -2.3**
OFUJ *e*S **Sn 02 02 12.1 -10**
JRG Rokugo 11.33 238 P **Pn 02 00 22.9 -2.4**
JIO Ouri 11.57 232 P **Pn 02 00 25.4 -3.1**
JIO *e*S **Sn 02 02 26.2 -11**
JMM Marumori 12.30 232 P **Pn 02 00 33.2 -5.3**
HABR Khabarovsk 12.39 287 *e*PN **Pn 02 00 46.2 +6.5**
HABR *e*S **Sn 02 03 10.3 +13**
HABR pmax pmax
comp=Z,59nm,1.2s
HABR MLR MLR
comp=Z,2μm,14.1s
JYA Atsumi 12.40 237 P **Pn 02 00 36.8 -3.1**
MA2 Magadan 13.48 355 *e*PN **Pn 02 00 56.7 +2.1**
MA2 *e*S **Sn 02 03 33.6 +9.4**
MA2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 MLR MLR
comp=Z,2μm,12.4s
MA2 Magadan 13.48 355 *e*Pn **Pn 02 00 55.9 +1.3**
MA2 *e*Sn **Sn 02 03 19.1 -5.1**
JRY Ryogami san 14.68 231 P **Pn 02 01 04.9 -6.1**
MAJO Matsushiro 14.68 234 *e*Pn **Pn 02 01 08.9 -2.2**
MAJO *e* 02 01 19.1
MAJO *e*Sn **Sn 02 03 53.1 -0.5**
MAT Matsushiro 14.68 234 P **Pn 02 01 08.7 -2.3**
MAT S **Sn 02 03 59.8 +6.1**
MAT Matsushiro 14.68 234 P **Pn 02 01 09.3 -1.7**
MJAR Matsushiro Arr 14.68 234 Pn **Pn 02 01 09.0 -2.0**
comp=Z,0.4nm,0.3s,baz=26,slow=14,SNR=13
VLA Vladivostok 15.32 266 *e*P **Pn 02 01 19.5 -0.1**
VLA pmax pmax
comp=Z,51nm,0.9s
VLA MLR MLR
comp=Z,1μm,17.5s
JGF Kuroka 15.84 234 P **Pn 02 01 19.2 -7.1**
MDJ Mudanjiang 16.50 273 P **Pn 02 01 36.3 +1.4**
MDJ AP pP 02 01 41.8 +0.9
MDJ XP sP 02 01 43.1 +0.6
MDJ S **Sn 02 04 45.6 +7.6**
MDJ AMB AMB
comp=Z,83nm,1.2s
MDJ AMB AMB
comp=Z,247nm,6.6s
MDJ LR LR
comp=N,582nm,16.3s
MDJ LR LR
comp=E,914nm,17.0s
MDJ LR LR
comp=Z,1μm,17.0s
MDJ Mudanjiang 16.50 273 *e*Pn **Pn 02 01 35.2 +0.3**
comp=Z,65nm,0.9s
JHJ Hachijo jima 2 16.52 222 LR LR 02 07 19.7
comp=Z,205nm,20.2s,baz=272,slow=35
SEY Seymchan 16.78 359 *i* P **Pn 02 01 40.0 +1.6**
JAD Aida 18.14 238 P **Pn 02 01 48.3 -7.0**
CN2 Changchun 19.59 273 *e*P **Pn 02 02 12.6 -0.3**
CN2 *e*XP sP 02 02 19.6 +3.1
CN2 *e*S **Sn 02 05 45.3 -7.4**
CN2 AMB AMB
comp=Z,60nm,0.8s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,800nm,15.0s
CN2 LR LR
comp=E,900nm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
CLNS Chul'man 20.33 312 *e*P **P 02 02 20.7 +1.1**
CLNS *e* 02 02 36.6
CLNS *e*PPP 02 02 43.4
CLNS *e*S **S 02 06 06.0 -1.2**
CLNS *e* 02 06 30.1
CLNS *e*SS 02 06 46.5
CLNS pmax pmax
comp=Z,77nm,0.9s
CLNS pmax pmax
comp=N,48nm,1.0s
CLNS pmax pmax
comp=E,48nm,1.2s
CLNS smax
comp=E,15nm,1.3s
CLNS smax
comp=Z,7.0nm,0.9s
CLNS smax
comp=N,16nm,1.1s
CLNS MLR MLR
comp=Z,3μm,17.0s,MS4.7
CLNS MLR MLR
comp=N,800nm,16.0s,MS4.5
CLNS MLR MLR
comp=E,1μm,14.0s,MS4.5
KSRS Korea Array 20.56 254 P **P 02 02 24.4 +2.4**
comp=E,22nm,0.8s,baz=59,slow=11,SNR=40
KSRS LR LR 02 09 21.5
comp=E,723nm,21.7s,MS4.0,baz=67,slow=34
YAK Yakutsk 20.75 328 *e*P **P 02 02 23.2 -1.0**
YAK *e* 02 02 39.3
YAK *e*S **S 02 06 15.1 -0.5**
YAK *e*SS 02 06 48.4
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,21nm,1.5s
YAK pmax pmax
comp=E,20nm,1.2s
YAK smax
comp=E,3μm,0.1s
YAK MLR MLR
comp=Z,900nm,18.0s,MS4.2
YAK MLR MLR
comp=N,600nm,17.0s,MS4.3
YAK MLR MLR
comp=E,800nm,17.0s,MS4.3
YAK Yakutsk 20.75 328 *e*P **P 02 02 24.2 0.0**
comp=E,41nm,0.5s
YAK *e*S **S 02 06 16.1 +0.5**
JNU Nakatsue 21.37 240 P **P 02 02 35.4 +4.6**
comp=E,57nm,0.8s,mb5.0,baz=253,slow=21,SNR=11
JNU LR LR 02 10 21.8
comp=E,2μm,20.0s,MS4.4,baz=72,slow=36
INCN Inchon 21.41 255 *e*P **P 02 02 31.3 +0.1**
comp=E,53nm,0.8s,mb4.9
SNY Shenyang 21.54 269 ⇓P **P 02 02 33.0 +0.3**
SNY AMB AMB
comp=Z,120nm,1.1s,mb5.2
SNY AMB AMB
comp=Z,320nm,4.9s
SNY LR LR
comp=E,996nm,16.5s
SNY LR LR
comp=Z,1μm,16.7s,MS4.3
HIA Hailar 22.48 290 *e*P **P 02 02 40.5 -2.2**
HIA pmax pmax
comp=Z,11nm,0.6s
HIA Hailar 22.48 290 *e*P **P 02 02 40.5 -2.2**
comp=Z,11nm,0.6s,mb4.5
HIA *e* 02 02 45.5
BILL Bilibino 22.96 13⇑ *e*P **P 02 02 46.1 -1.6**
BILL *e* 02 03 13.9
BILL *e*S **S 02 06 54.5 -3.3**
BILL pmax pmax
comp=Z,17nm,1.4s,mb4.3
BILL MLR MLR
comp=Z,800nm,16.0s,MS4.3
BILL Bilibino 22.96 13 *e*P **P 02 02 46.0 -1.7**
comp=Z,47nm,0.9s,mb4.9
BILL *e* 02 03 02.0
BILL PcP PcP 02 06 34.3 -3.4
BILL *e*S **S 02 07 03.8 +6.1**
DL2 Dalian 24.12 264⇑ *i*P **P 02 02 59.8 +0.7**
DL2 S **S 02 07 20.2 +3.6**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.7
DL2 AMB AMB
comp=Z,330nm,4.7s
DL2 LR LR
comp=N,360nm,16.0s,MS4.0
DL2 LR LR
comp=E,150nm,17.4s,MS4.0
DL2 LR LR
comp=Z,290nm,15.5s,MS3.9
CIT Chita 26.23 297 *e*P **P 02 03 13.4 -4.9**
CIT *e* 02 03 55.7
CIT *e* 02 04 18.7
CIT *e* 02 06 45.0
CIT pmax pmax
comp=Z,27nm,1.7s,mb4.5
BOD Bodaibo 26.29 311 *e*P **P 02 03 15.7 -3.2**
BOD pmax pmax
comp=Z,20nm,1.4s,mb4.5
BJI Beijing 27.40 270 *e*P **P 02 03 30.0 +1.2**
BJI AMB AMB
comp=Z,38nm,1.0s,mb4.9
BJI AMB AMB
comp=Z,497nm,6.0s
BJI LR LR
comp=N,373nm,15.1s,MS4.5
BJI LR LR
comp=E,1μm,18.2s,MS4.5
BJI LR LR
comp=Z,895nm,17.7s,MS4.4
BJT Baijiatuau 27.41 270 *e*P **P 02 03 29.8 +0.8**
BJT 02 06 45.1
BJT pmax pmax
comp=Z,24nm,0.8s
BJT Baijiatuau 27.41 270 *e*P **P 02 03 29.8 +0.8**
comp=Z,24nm,0.8s,mb4.8
BJT PcP PcP 02 06 45.1 -2.6
JOW Kunigami 27.53 234 P **P 02 03 30.1 0.0**
comp=Z,6.0nm,0.7s,mb4.3,baz=100,slow=13,SNR=4.2
TIXI Tiksi 27.98 344⇑ *e*P **P 02 03 31.6 -2.5**
TIXI pmax pmax
comp=Z,11nm,1.5s,mb4.3
TIXI Tiksi 27.98 344 *e*P **P 02 03 31.9 -2.3**
comp=Z,14nm,1.4s,mb4.4
TIXI *e*PcP PcP 02 06 44.1 -5.0
TNA Tin City 28.54 33 *e*P **P 02 03 39.0 -0.1**
comp=Z,35nm,1.6s,mb4.8
TNA *e*PcP PcP 02 06 49.4 -1.0
TIA Tai'an 28.56 262 *e*P **P 02 03 40.3 +1.1**
SSE Sheshan 28.83 250 *e*P **P 02 03 45.5 +3.9**
SSE AP pP 02 03 48.2 +2.9
SSE XP sP 02 03 50.0 +3.2
SSE S **S 02 08 39.2 +8.0**
SSE XS sS 02 08 44.3 +7.0
SSE AMB AMB
comp=Z,35nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,171nm,4.0s
SSE LR LR
comp=N,82nm,19.4s,MS4.0
SSE LR LR
comp=E,340nm,19.4s,MS4.0
SSE LR LR
comp=Z,378nm,23.4s,MS3.9
HHC Hu-ho-hao-te 30.26 275 *e*P **P 02 03 55.7 +1.4**
HHC XP sP 02 04 02.0 +2.5
HHC PP PP 02 04 53.7 -8.9
HHC PCP PcP 02 06 56.2 +1.4
HHC S **S 02 08 52.8 -0.9**
HHC XS sS 02 09 00.8 +1.0
HHC SS SS 02 10 31.8 -31
HHC AMB AMB
comp=Z,66nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,343nm,6.7s
HHC LR LR
comp=N,685nm,16.1s,MS4.5
HHC LR LR
comp=E,714nm,16.6s,MS4.5
HHC LR LR
comp=Z,1μm,18.4s,MS4.5
SONM Songino Array 31.45 290 P **P 02 04 04.2 -0.6**
comp=Z,2.8nm,0.9s,mb4.1,baz=71,slow=8.5,SNR=19
SONM PcP PcP 02 06 57.6 -0.3
comp=Z,2.9nm,0.9s,baz=96,slow=1.5,SNR=5.6
SONM LR LR 02 17 47.4
comp=Z,1μm,18.1s,MS4.5,baz=247,slow=38
SONM Songino Array 31.45 290 P **P 02 04 04.2 -0.6**
SONM 02 06 57.6
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM MLR MLR
comp=Z,1μm,18.1s
SONM Songino Array 31.45 290 P **P 02 04 04.2 -0.6**
SONM PcP PcP 02 06 57.6 -0.3
SONM LR LR 02 17 47.4
TLY Talaya 32.37 298 *e*P **P 02 04 11.9 -1.0**
TLY *e*SS SS 02 11 18.7 -27
TLY pmax pmax
comp=Z,16nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,2μm,17.0s,MS4.8
TLY Talaya 32.37 298 *e*P **P 02 04 11.9 -1.0**
comp=Z,6.6nm,0.9s,mb4.5
TLY *e* 02 04 22.9
TLY *e*PP PP 02 05 24.9 -1.1
ZAK Zakamensk 32.85 296⇑ *i*P **P 02 04 16.2 -0.9**
ZAK *e* 02 07 00.5
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TATO Taipei 32.91 241 P **P 02 04 17.0 -0.6**
SVW2 Sparrevohn 32.95 44 *e*P **P 02 04 18.3 +0.3**
SVW2 *e*PP PP 02 05 30.1 -2.4
YHNB Yeheng 33.20 241 P **P 02 04 19.7 -0.5**
IMA2 Indian Mountai 34.31 35 *e*P **P 02 04 28.2 -1.6**
KDAK Kodiak Island 34.52 50 P **P 02 04 30.4 -1.2**
comp=Z,14nm,1.0s,mb4.9,baz=327,slow=14,SNR=6.7
KDAK LR LR 02 20 35.9
comp=Z,414nm,18.1s,MS4.2,baz=255,slow=40
KDAK Kodiak Island 34.52 50 *e*P **P 02 04 30.7 -0.9**
comp=Z,9.4nm,0.8s,mb4.8
KDAK LR LR 02 20 35.9
XAN Xi'an 35.39 266 P **P 02 04 40.0 +0.8**
XAN AP pP 02 04 49.1 +6.2
XAN AMB AMB
comp=Z,21nm,1.0s,mb5.0
PMR Palmer 36.06 43 P **P 02 04 44.9 0.0**
PMR *e**PP pP 02 04 55.2 +6.6
MCK McKinley 36.13 40 *e*P **P 02 04 45.6 +0.1**
MCK pmax pmax
comp=Z,24nm,1.0s,mb5.1
MCK McKinley 36.13 40 *e*P **P 02 04 45.6 +0.1**
comp=Z,24nm,1.0s,mb5.1
MCK *e* 02 04 56.8
SML Sawmill 36.43 43 P **P 02 04 48.2 +0.1**
SML Sawmill 36.43 43 *e*P **P 02 04 48.5 +0.4**
SML *e* 02 04 59.0
COLA College 36.63 38 *d i*P **P 02 04 49.4 -0.3**
COLA College 36.63 38 *e*P **P 02 04 49.4 -0.3**
comp=Z,30nm,0.8s,mb5.2
COLA *e* 02 05 01.3
COLA *e*PP PP 02 06 13.2 0.0
LZH Lanzhou 37.83 272 *e*P **P 02 05 01.8 +1.9**
LZH AP pP 02 05 05.0 +1.3
LZH XP sP 02 05 06.6 +1.4
LZH PP PP 02 06 30.7 +4.4
LZH *e*S **S 02 10 50.8 +0.1**
LZH XS sS 02 10 58.1 +1.2
LZH SS SS 02 13 25.7 -11
LZH AMB AMB
comp=Z,58nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,321nm,6.7s
LZH LR LR
comp=E,1μm,14.1s
LZH LR LR
comp=Z,2μm,17.5s,MS5.0
LZH Lanzhou 37.83 272 *e*P **P 02 05 01.8 +1.9**
LZH 02 06 30.7
LZH *e*S **S 02 10 50.8 +0.1**
LZH SS SS 02 13 25.7 -11
LZH Lanzhou 37.83 272 *e*P **P 02 05 01.8 +1.9**
LZH pP pP 02 05 05.0 +1.3
LZH sP sP 02 05 06.6 +1.4
LZH PP PP 02 06 30.7 +4.4
LZH *e*S **S 02 10 50.8 +0.1**
LZH sS sS 02 10 58.1 +1.2
LZH SS SS 02 13 25.7 -11
KRAR Krasnoyarsk 37.86 307 *e*P **P 02 04 59.4 -0.8**
KRAR pmax pmax
comp=Z,42nm,0.6s,mb5.3
GTA Gaotai 38.98 280 ⇑P **P 02 05 10.8 +1.2**
GTA AP pP 02 05 14.6 +1.2
GTA XP sP 02 05 17.2 +2.3
GTA PP PP 02 06 44.2 +5.2
GTA PCP PcP 02 07 20.9 +1.0
GTA S **S 02 11 10.3 +2.1**
GTA XS sS 02 11 16.8 +2.5
GTA AMB AMB
comp=Z,48nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,298nm,6.1s
GTA LR LR
comp=N,588nm,16.7s,MS4.6
GTA LR LR
comp=E,500nm,14.1s,MS4.6
GTA LR LR
comp=Z,800nm,16.4s,MS4.6
EGAK Eagle 39.49 38 *e*P **P 02 05 12.6 -1.3**
comp=Z,48nm,1.0s,mb5.2
DAWY Dawson 40.33 39 *e*P **P 02 05 20.4 -0.4**
DAWY *e*PP PP 02 06 53.2 -0.5
CD2 Chengdu 40.76 266 P **P 02 05 25.4 +1.0**
CD2 AP pP 02 05 29.0 +0.9
CD2 XP sP 02 05 32.5 +2.9
CD2 PP PP 02 07 03.0 +4.7
CD2 S **S 02 11 34.3 -0.4**
CD2 XS sS 02 11 41.6 +0.7
CD2 SS SS 02 14 29.0 -6.5
CD2 SCS ScS 02 15 28.5 -1.1
CD2 AMB AMB
comp=Z,70nm,0.9s,mb5.3
CD2 AMB AMB
comp=Z,310nm,4.9s
CD2 LR LR
comp=N,560nm,12.6s,MS4.7
CD2 LR LR
comp=E,430nm,11.6s,MS4.7
CD2 LR LR
comp=Z,490nm,12.0s,MS4.6
GYA Guiyang 41.52 258⇑ *i*P **P 02 05 30.9 +0.2**
GYA AP pP 02 05 35.1 +0.7
GYA XP sP 02 05 38.4 +2.5
GYA PP PP 02 07 12.8 +6.2
GYA PCP PcP 02 07 32.0 +3.9
GYA SCP ScP 02 11 20.9 +3.0
GYA S **S 02 11 48.8 +2.8**
GYA SS SS 02 14 46.7 -3.9
GYA SCS ScS 02 15 35.6 +1.4
GYA AMB AMB
comp=Z,70nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,140nm,5.2s
GYA LR LR
comp=N,690nm,15.6s,MS4.8
GYA LR LR
comp=E,740nm,16.0s,MS4.8
GYA LR LR
comp=Z,730nm,16.2s,MS4.6
INK Inuvik 42.17 32 P **P 02 05 35.6 -0.4**
comp=Z,9.7nm,0.9s,mb4.5,baz=294,slow=7.1,SNR=57
INK Inuvik 42.17 32 *e*P **P 02 05 35.7 -0.3**
comp=Z,897nm,0.8s
INK *e* 02 05 47.9
INK *e*PP PP 02 07 13.9 +0.3

ZAL	**Zalesovo**	**42.89**	**306**	P	**P**	**02 05 39.9**	**-2.0**
	comp=Z,4.3nm,0.8s,mb4.2,baz=74,slow=8.4,SNR=24						
ZAL				PcP	PcP	02 07 32.2	-0.4
	comp=Z,3.4nm,0.8s,baz=34,slow=4.6,SNR=6.5						
ZAL				LR	LR	02 25 41.1	
	comp=Z,2μm,18.0s,MS5.1,baz=39,slow=39						
ZAL	**Zalesovo**	**42.89**	**306**	P	**P**	**02 05 39.9**	**-2.0**
ZAL						02 07 32.2	
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,2μm,18.0s						
NVS	**Novosibirsk**	**43.47**	**308**	*i* P	**P**	**02 05 43.7**	**-2.8**
NVS				*e*		02 07 29.3	
NVS				pmax	pmax		
	comp=E,20nm,1.6s						
NVS				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.6						
NVS				pmax	pmax		
	comp=N,10.0nm,1.7s						
QIZ	**Qiongzhong**	**44.56**	**247**	P	**P**	**02 05 59.4**	**+4.1**
QIZ				S	**S**	**02 12 32.2**	**+1.6**
QIZ				LR	LR		
	comp=Z,748nm,16.3s,MS4.7						
WMQ	**Urumqi**	**45.06**	**292**	P	**P**	**02 05 59.6**	**+0.3**
WMQ				XP	sP	02 06 05.6	+1.1
WMQ				PP	PP	02 07 44.0	-0.5
WMQ				S	**S**	**02 12 36.4**	**-1.5**
WMQ				XS	sS	02 12 41.5	-2.6
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=N,510nm,20.0s,MS4.6						
WMQ				LR	LR		
	comp=E,490nm,22.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,557nm,16.0s						
KMI	**Kunming**	**45.06**	**260**	P	**P**	**02 06 00.3**	**+1.0**
KMI				XP	sP	02 06 05.9	+1.3
KMI				PP	PP	02 07 41.9	-2.7
KMI				PPP		02 08 25.7	
KMI				S	**S**	**02 12 39.7**	**+1.7**
KMI				SS	SS	02 15 53.8	-6.3
KMI				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,213nm,6.5s						
KMI				LR	LR		
	comp=N,380nm,12.5s,MS4.7						
KMI				LR	LR		
	comp=E,397nm,12.5s,MS4.7						
KMI				LR	LR		
	comp=Z,494nm,15.2s,MS4.6						
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**02 06 14.9**	**-0.7**
	comp=Z,19nm,0.8s,mb5.1,baz=66,slow=8.2,SNR=104						
MKAR				PcP	PcP	02 07 46.8	-0.4
	comp=Z,3.4nm,0.8s,baz=81,slow=3.9,SNR=3.5						
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**02 06 14.9**	**-0.7**
MKAR						02 07 46.8	
MKAR				pmax	pmax		
	comp=Z,19nm,0.8s						
KURK	**Kurchatov**	**47.61**	**304**	P	**P**	**02 06 18.2**	**-1.1**
	comp=Z,254nm,0.9s,mb6.2,SNR=17						
KURK	**Kurchatov**	**47.61**	**304**	P	**P**	**02 06 18.1**	**-1.2**
	SNR=12						
KURK	**Kurchatov**	**47.61**	**304**	⇑*i*P	**P**	**02 06 17.6**	**-1.7**
KURK	**Kurchatov**	**47.61**	**304**	*e*P	**P**	**02 06 17.6**	**-1.8**
	comp=Z,26nm,0.7s,mb5.4						
KURK				*e*PcP	PcP	02 07 55.4	+6.4
LSA	**Lhasa**	**50.23**	**274**	P	**P**	**02 06 42.1**	**+2.7**
LSA	**Lhasa**	**50.23**	**274**	*e*P	**P**	**02 06 40.2**	**+0.8**
LSA				*e*		02 07 59.3	
LSA				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
LSA	**Lhasa**	**50.23**	**274**	*e*P	**P**	**02 06 40.2**	**+0.8**
	comp=Z,26nm,0.9s,mb5.3						
LSA				*e*PcP	PcP	02 07 59.3	+0.9
ALE	**Alert**	**50.31**	**6**	P	**P**	**02 06 38.0**	**-2.0**
	comp=Z,121nm,0.7s,mb6.0,SNR=5.5						
CHKZ	**Chkalovo**	**50.73**	**310**	P	**P**	**02 06 41.1**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**02 06 41.2**	**-2.0**
	comp=Z,35nm,0.8s,mb5.3						
CHKZ				*e*PcP	PcP	02 08 03.3	+3.1
BVAR	**Borovoye Array**	**51.16**	**310**	LR	LR	02 30 27.3	
	comp=Z,744nm,18.4s,MS4.7,baz=326,slow=38						
BRVK	**Borovoye**	**51.20**	**310**	P	**P**	**02 06 45.3**	**-1.4**
	comp=Z,133nm,0.7s,mb6.0,SNR=14						
BRVK	**Borovoye**	**51.20**	**310**	P	**P**	**02 06 45.8**	**-0.9**
	SNR=11						
BRVK	**Borovoye**	**51.20**	**310**	P	**P**	**02 06 45.4**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
BRVK	**Borovoye**	**51.20**	**310**	*e*P	**P**	**02 06 45.3**	**-1.4**
	comp=Z,28nm,1.0s,mb5.2						
BRVK				*e*PcP	PcP	02 08 01.4	-0.6
YKW3	**Yellowknife Ar**	**51.39**	**36**	*e*P	**P**	**02 06 47.3**	**-0.9**
RES	**Resolute Bay**	**51.39**	**18**	*e*P	**P**	**02 06 47.6**	**-0.6**
	comp=Z,417nm,0.8s						
RES				*e*		02 07 00.1	
YKA	**Yellowknife Ar**	**51.42**	**36**	P	**P**	**02 06 47.5**	**-0.9**
	comp=Z,5.8nm,0.9s,mb4.5,baz=298,slow=7.3,SNR=31						
YKA	**Yellowknife Ar**	**51.42**	**36**	P	**P**	**02 06 47.5**	**-0.9**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA	**Yellowknife Ar**	**51.42**	**36**	P	**P**	**02 06 47.5**	**-0.9**
CHTO	**Chiang Mai**	**51.91**	**257**	P	**P**	**02 06 54.2**	**+2.1**
	SNR=6.7						
CHTO	**Chiang Mai**	**51.91**	**257**	*e*P	**P**	**02 06 53.2**	**+1.1**
CHTO				*e*		02 07 05.7	
CHTO						02 08 05.4	
CHTO				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**51.91**	**257**	*e*P	**P**	**02 06 53.2**	**+1.1**
	comp=Z,17nm,0.8s,mb5.0						
CHTO				*e*		02 07 05.7	
CHTO				PcP	PcP	02 08 05.4	+0.7
FRU	**Bishkek**	**53.83**	**297**	*e*P	**P**	**02 07 06.0**	**-0.2**
FRU				MLR	MLR		
	comp=N,1μm,16.0s						
FRU				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.0						
AAK	**Ala-Archa**	**54.02**	**297**	P	**P**	**02 07 07.2**	**-0.4**
	comp=Z,149nm,0.8s,mb6.0,SNR=6.0						
AAK	**Ala-Archa**	**54.02**	**297**	*d i*P	**P**	**02 07 07.1**	**-0.5**
AAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
AAK	**Ala-Archa**	**54.02**	**297**	*e*P	**P**	**02 07 06.9**	**-0.7**
	comp=Z,14nm,0.6s,mb5.1						
AAK				*e*PcP	PcP	02 08 15.0	+2.4
JIRN	**Jiri**	**54.91**	**275**	*e*P	**P**	**02 07 15.9**	**+1.8**
	comp=Z,5.2nm,0.2s,mb5.2						
GUN	**Gumba**	**54.97**	**275**	*e*P	**P**	**02 07 15.9**	**+1.4**
	comp=Z,84nm,1.1s,mb5.7						
A07A	**Ashnola River,**	**55.34**	**53**	⇓P	**P**	**02 07 16.9**	**-0.3**
	baz=55						
ARU	**Arti**	**55.37**	**318**	P	**P**	**02 07 15.0**	**-2.4**
	comp=Z,127nm,0.6s,mb6.1,SNR=5.8						
ARU	**Arti**	**55.37**	**318**	⇑*i*P	**P**	**02 07 15.8**	**-1.6**
ARU				*e*		02 09 18.4	
ARU				*e*PPP		02 10 33.2	
ARU				*e*S	**S**	**02 15 01.4**	**-0.2**
ARU				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
ARU				MLR	MLR		
	comp=N,400nm,18.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,600nm,18.0s,MS4.8						
ARU				MLR	MLR		
	comp=Z,700nm,18.0s,MS4.8						
ARU	**Arti**	**55.37**	**318**	*e*P	**P**	**02 07 15.0**	**-2.4**
	comp=Z,17nm,0.8s,mb5.1						
KKN	**Kakani**	**55.46**	**276**	*e*P	**P**	**02 07 19.5**	**+1.4**
	comp=Z,88nm,0.9s,mb5.8						
PKI	**Pulchoki**	**55.51**	**275**	*e*P	**P**	**02 07 19.8**	**+1.4**
	comp=Z,64nm,1.0s,mb5.6						
DMN	**Daman**	**55.70**	**276**	*e*P	**P**	**02 07 21.5**	**+1.7**
	comp=Z,117nm,0.9s,mb5.9						
GKN	**Gorkha**	**55.77**	**276**	*e*P	**P**	**02 07 21.5**	**+1.2**
	comp=Z,119nm,0.8s,mb6.0						
B07A	**Winthrop**	**55.81**	**53**	⇑P	**P**	**02 07 20.3**	**-0.3**
	baz=56						
A08A	**Turner Farm, O**	**56.01**	**53**	⇑P	**P**	**02 07 21.5**	**-0.5**
	baz=56						
D06A	**Cle Elum**	**56.09**	**55**	⇓P	**P**	**02 07 23.2**	**+0.5**
	baz=56						
C07A	**Waterville**	**56.27**	**54**	⇓P	**P**	**02 07 22.2**	**-1.6**
	baz=56						
B08A	**Colville Reser**	**56.30**	**53**	⇓P	**P**	**02 07 23.8**	**-0.3**
	baz=56						
A09A	**Danville**	**56.38**	**52**	⇑P	**P**	**02 07 24.5**	**-0.1**
	baz=56,SNR=6.0						
F05A	**White Salmon**	**56.47**	**57**	⇓P	**P**	**02 07 24.9**	**-0.4**
	baz=56						
D07A	**Quincy**	**56.59**	**55**	⇑P	**P**	**02 07 25.6**	**-0.5**
	baz=56						
J02A	**Umpqua**	**56.62**	**60**	⇓P	**P**	**02 07 25.9**	**-0.5**
	baz=56						
KOLN	**Koldanda**	**56.63**	**277**	*e*P	**P**	**02 07 27.8**	**+1.3**
	comp=Z,99nm,0.8s,mb5.9						
HOOD	**Mount Hood Mea**	**56.67**	**57**	*e*pP	pP	02 07 39.7	+9.2
H04A	**Detroit Lake**	**56.71**	**58**	⇑P	**P**	**02 07 27.0**	**-0.1**
	baz=56						
EDM	**Edmonton**	**56.76**	**46**	*e*P	**P**	**02 07 26.7**	**-0.7**
EDM				*e*		02 07 38.5	
G05A	**Wamic**	**56.91**	**57**	⇑P	**P**	**02 07 28.0**	**-0.4**
	baz=57						
B09A	**Rice**	**56.92**	**53**	⇓P	**P**	**02 07 28.2**	**-0.3**
	baz=57						
E07A	**Sunnyside**	**57.01**	**55**	⇑P	**P**	**02 07 28.7**	**-0.5**
	baz=57						
I04A	**Tendick Farm,**	**57.08**	**59**	⇑P	**P**	**02 07 29.4**	**-0.3**
	baz=57						
M01C	**Crescent City**	**57.15**	**62**	⇓P	**P**	**02 07 29.5**	**-0.7**
	baz=57						
C09A	**Chrisman Ranch**	**57.20**	**53**	⇑P	**P**	**02 07 30.5**	**0.0**
	baz=57						
D08A	**Wollman Farm,**	**57.26**	**54**	⇓P	**P**	**02 07 30.1**	**-0.8**
	baz=57						
HAWA	**Hanford**	**57.29**	**55**	*e*P	**P**	**02 07 28.7**	**-2.5**
H05A	**Madras**	**57.30**	**58**	⇓P	**P**	**02 07 31.4**	**+0.2**
	baz=57						
G06A	**Carlson Farm,**	**57.31**	**57**	⇑P	**P**	**02 07 33.1**	**+1.8**
	baz=57						
F07A	**Phinny Hill Vi**	**57.35**	**56**	⇓P	**P**	**02 07 31.9**	**+0.4**
	baz=57						
BOK	**Bokaro**	**57.58**	**272**	*e*P	**P**	**02 07 33.7**	**+0.5**
BOK				AMb	AMB	02 07 37.4	
	comp=Z,29nm,0.9s,mb5.3						
A11A	**Hall Mountain,**	**57.60**	**51**	⇓P	**P**	**02 07 34.0**	**+0.7**
	baz=57,SNR=5.5						
D09A	**Jones Farm, Ri**	**57.60**	**54**	⇓P	**P**	**02 07 33.3**	**0.0**
	baz=57						
C10A	**Spilker Farm,**	**57.73**	**53**	⇑P	**P**	**02 07 34.2**	**0.0**
	baz=58						
H06A	**Lindquist Farm**	**57.77**	**57**	⇑P	**P**	**02 07 34.7**	**+0.2**
	baz=58						
APA	**Apatity**	**57.82**	**337**	⇑*e*P	**P**	**02 07 32.7**	**-2.2**
APA				*i*		02 07 47.4	
APA				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
KEV	**Kevo**	**57.85**	**341**	*e*p	**P**	**02 07 32.6**	**-2.4**
G07A	**Ruggs Ranch, H**	**57.85**	**56**	⇓P	**P**	**02 07 34.1**	**-1.0**
	baz=58						
B11A	**Sandpoint**	**57.90**	**52**	⇑P	**P**	**02 07 35.3**	**-0.1**
	baz=58						
A12A	**Yaak River Ran**	**58.00**	**51**	⇑P	**P**	**02 07 36.5**	**+0.4**
	baz=58						
E09A	**Wood Farm, Sta**	**58.01**	**54**	⇓P	**P**	**02 07 36.5**	**+0.3**
	baz=58						
F08A	**Pendleton**	**58.06**	**55**	⇓P	**P**	**02 07 38.8**	**+2.3**
	baz=58						
J05A	**Fort Rock**	**58.07**	**59**	⇑P	**P**	**02 07 37.5**	**+0.8**
	baz=58						
YBH	**Yreka Blue Hor**	**58.08**	**61**	⇑P	**P**	**02 07 37.6**	**+1.0**
	baz=58						
D10A	**Wagner Farm, O**	**58.19**	**54**	⇓P	**P**	**02 07 37.7**	**+0.3**
	baz=58						
G08A	**Pilot Rock**	**58.25**	**56**	⇓P	**P**	**02 07 38.0**	**+0.1**
	baz=58						
I06A	**Prineville**	**58.30**	**58**	⇑P	**P**	**02 07 38.7**	**+0.5**
	baz=58						
O01C	**Eel River Cons**	**58.33**	**63**	⇑P	**P**	**02 07 38.1**	**-0.3**
	baz=58						
ARCES	**ARCESS Array B**	**58.36**	**341**	P	**P**	**02 07 37.5**	**-1.1**
	comp=Z,4.8nm,0.8s,mb4.6,baz=30,slow=6.8,SNR=7.1						
ARCES	**ARCESS Array B**	**58.36**	**341**	P	**P**	**02 07 37.5**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
M04C	**Macdoel**	**58.58**	**61**	⇑P	**P**	**02 07 40.3**	**+0.1**
	baz=58						
K05A	**Summer Lake**	**58.60**	**59**	⇑P	**P**	**02 07 40.6**	**+0.3**
	baz=58						
F09A	**S2 Ranch, Elgi**	**58.61**	**55**	⇑P	**P**	**02 07 40.5**	**+0.1**
	baz=58						
E10A	**Myers Farm, Un**	**58.61**	**54**	⇑P	**P**	**02 07 40.1**	**-0.2**
	baz=58						
I07A	**Izee**	**58.63**	**57**	⇓P	**P**	**02 07 41.0**	**+0.5**
	baz=58						
A13A	**Flathead Natio**	**58.67**	**50**	⇑P	**P**	**02 07 40.9**	**+0.1**
	baz=58						
D11A	**Klaveano Farm,**	**58.72**	**53**	⇑P	**P**	**02 07 40.3**	**-0.8**
	baz=58,SNR=5.2						
AB31	**Akbulak array**	**58.73**	**310**	P	**P**	**02 07 40.1**	**-1.1**
J06A	**Christmas Vall**	**58.73**	**59**	⇓P	**P**	**02 07 41.0**	**-0.3**
	baz=58						
F10A	**Beach Ranch, E**	**58.84**	**55**	⇓P	**P**	**02 07 41.5**	**-0.5**
	baz=59						
WDC	**Whiskeytown Da**	**58.86**	**62**	⇑P	**P**	**02 07 42.0**	**-0.1**
	baz=59						
WALA	**Waterton Lakes**	**58.86**	**50**	*e*P	**P**	**02 07 42.8**	**+0.7**
H08A	**Prairie City**	**58.86**	**57**	⇓P	**P**	**02 07 41.5**	**-0.7**
	baz=59						
G09A	**Cove**	**58.93**	**56**	⇑P	**P**	**02 07 42.5**	**-0.2**
	baz=59						
K06A	**Valley Falls**	**58.94**	**59**	⇓P	**P**	**02 07 43.3**	**+0.6**
	baz=59						
O02C	**Red Bluff**	**58.94**	**63**	⇑P	**P**	**02 07 42.7**	**0.0**
	baz=59						
B13A	**Whitefish**	**58.96**	**51**	P	**P**	**02 07 43.9**	**+1.0**
	baz=59,SNR=5.7						
BSMT	**Bassoo Peak**	**59.10**	**52**	*e*P	**P**	**02 07 45.0**	**+1.2**
THN	**Thein Dam**	**59.12**	**286**	*e*P	**P**	**02 07 44.1**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.2						
E11A	**Bogner Ranch,**	**59.19**	**54**	⇓P	**P**	**02 07 44.4**	**0.0**
	baz=59						
M05C	**Lookout**	**59.25**	**61**	⇓P	**P**	**02 07 45.0**	**+0.1**
	baz=59						
I08A	**Drewsey**	**59.28**	**57**	⇑P	**P**	**02 07 44.1**	**-0.9**
	baz=59						
GASB	**Alder Springs**	**59.30**	**63**	⇓P	**P**	**02 07 45.4**	**+0.3**
	baz=59						
C13A	**Hot Springs**	**59.31**	**52**	⇑P	**P**	**02 07 46.0**	**+0.7**
	baz=59						
HATC	**Hat Creek Radi**	**59.38**	**62**	⇑P	**P**	**02 07 45.4**	**-0.4**
	baz=59						
MOD	**Modoc**	**59.44**	**60**	*e*P	**P**	**02 07 46.1**	**0.0**
MOD				*e*		02 07 58.2	
MOD	**Modoc**	**59.44**	**60**	⇑P	**P**	**02 07 46.5**	**+0.4**
	baz=59						
BMO	**Blue Mountains**	**59.46**	**56**	*e*P	**P**	**02 07 46.8**	**+0.5**
	comp=Z,26nm,1.3s,mb5.1						
BMO				*e*		02 07 58.1	
HOPS	**Hopland**	**59.47**	**64**	⇑P	**P**	**02 07 46.7**	**+0.3**
	baz=59						
F11A	**Grangeville**	**59.50**	**54**	⇓P	**P**	**02 07 46.9**	**+0.3**
	baz=59						
O03C	**Acorn Hollow,**	**59.52**	**63**	⇓P	**P**	**02 07 47.7**	**+1.1**
	baz=59						
K07A	**Rock Creek Ran**	**59.60**	**59**	⇑P	**P**	**02 07 47.3**	**0.0**
	baz=59						
J08A	**Circle Bar Ran**	**59.66**	**58**	⇓P	**P**	**02 07 48.5**	**+0.8**
	baz=59						
C14A	**Swan Lake**	**59.71**	**51**	⇑P	**P**	**02 07 47.9**	**-0.1**
	baz=59						
G11A	**Walters Elk Ra**	**59.72**	**55**	⇓P	**P**	**02 07 48.4**	**+0.4**
	baz=60						
D13A	**Huson**	**59.73**	**52**	⇓P	**P**	**02 07 48.1**	**0.0**
	baz=59						
I09A	**Lost Marbles R**	**59.73**	**57**	⇓P	**P**	**02 07 48.0**	**-0.1**
	baz=60						
M06C	**Likely Place G**	**59.75**	**61**	⇓P	**P**	**02 07 48.1**	**-0.1**
	baz=60						
O04C	**Chester**	**59.91**	**62**	⇓P	**P**	**02 07 49.3**	**-0.1**
	baz=60						
H10A	**Noah's Angus R**	**59.93**	**56**	⇑P	**P**	**02 07 49.4**	**-0.1**
	baz=60						
L07A	**Adell**	**59.95**	**59**	⇑P	**P**	**02 07 49.7**	**+0.1**
	baz=60						
ORR	**Orenburg**	**59.98**	**315**	*e*P	**P**	**02 07 48.6**	**-1.3**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
K08A	**Mann Creek Ran**	**60.03**	**58**	⇓P	**P**	**02 07 50.5**	**+0.3**
	baz=60						
F12A	**Elk City**	**60.08**	**54**	⇓P	**P**	**02 07 51.1**	**+0.6**
	baz=60						
J09A	**Fry Pan Ranch,**	**60.09**	**57**	⇑P	**P**	**02 07 51.4**	**+0.8**
	baz=60						
ORV	**Oroville**	**60.11**	**63**	⇑P	**P**	**02 07 49.4**	**-1.4**
	baz=60						
WVOR	**Wild Horse Val**	**60.12**	**59**	*e*P	**P**	**02 07 50.8**	**0.0**
	comp=Z,17nm,0.9s,mb5.1						
WVOR				*e*		02 08 02.5	
WVOR				*e*PcP	PcP	02 08 39.0	+2.5
MSO	**Missoula**	**60.17**	**52**	*e*P	**P**	**02 07 50.9**	**-0.2**
	comp=Z,33nm,1.2s,mb5.2						
MSO				*e*		02 08 02.9	
O05C	**Quincy**	**60.22**	**62**	⇓P	**P**	**02 07 52.0**	**+0.5**
	baz=60						
OHCM	**Honcut**	**60.25**	**63**	*e*P	**P**	**02 07 50.6**	**-1.1**
OHCM				*e*		02 08 03.3	
D14A	**Greenough**	**60.25**	**52**	P	**P**	**02 07 52.4**	**+0.7**
	baz=60,SNR=11						
E13A	**Victor**	**60.27**	**53**	⇑P	**P**	**02 07 52.1**	**+0.3**
	baz=60						
H11A	**Donnelly**	**60.28**	**55**	P	**P**	**02 07 51.7**	**-0.2**
	baz=60,SNR=11						
N06A	**Buffalo Meadow**	**60.41**	**61**	⇓P	**P**	**02 07 53.0**	**+0.2**
	baz=60						
M07A	**Soldier Meadow**	**60.43**	**60**	P	**P**	**02 07 53.1**	**+0.2**
	baz=60,SNR=9.4						
L08A	**Fields**	**60.44**	**59**	⇑P	**P**	**02 07 53.3**	**+0.3**
	baz=60						
NDI	**New Delhi**	**60.44**	**282**	*e*P	**P**	**02 07 52.8**	**-0.2**
NDI				*e*P		02 07 54.0	
NDI				AMb	AMB	02 07 55.6	
	comp=Z,69nm,0.0s						
CHMT	**Chamberlain Mo**	**60.49**	**52**	*e*P	**P**	**02 07 52.8**	**-0.6**
CHMT				*e*		02 08 04.9	
CHMT				*e*PcP	PcP	02 08 38.5	+0.5
K09A	**Rome**	**60.50**	**58**	⇑P	**P**	**02 07 54.2**	**+0.8**
	baz=60						
KLMR	**Klimovskoe**	**60.55**	**329**	*e*P	**P**	**02 07 51.4**	**-2.3**
KLMR				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.4						
F13A	**Darby**	**60.58**	**53**	⇓P	**P**	**02 07 53.4**	**-0.5**
	baz=60						
J10A	**Berg Farm, Mel**	**60.62**	**57**	⇑P	**P**	**02 07 53.6**	**-0.6**
	baz=60						
BEKR	**Beckwourth**	**60.62**	**62**	⇑P	**P**	**02 07 53.9**	**-0.3**
	baz=60						
E14A	**Clinton**	**60.66**	**52**	⇓P	**P**	**02 07 54.2**	**-0.3**
	baz=60						
I11A	**Placerville**	**60.79**	**56**	⇓P	**P**	**02 07 55.6**	**+0.2**
	baz=60						
P05C	**Yuba Gap, Truc**	**60.81**	**62**	⇓P	**P**	**02 07 56.1**	**+0.5**
	baz=61						
D15A	**Lincoln**	**60.81**	**51**	⇑P	**P**	**02 07 55.2**	**-0.3**
	baz=60						
M08A	**Happy Creek Ra**	**60.87**	**59**	⇓P	**P**	**02 07 55.7**	**-0.2**
	baz=61						
N07B	**Gerlach**	**60.91**	**60**	⇓P	**P**	**02 07 56.4**	**+0.1**
	baz=61						
L09A	**Wilkinson Ranc**	**60.94**	**58**	⇑P	**P**	**02 07 56.5**	**0.0**
	baz=61						
JRSC	**Jasper Ridge**	**60.95**	**65**	⇑P	**P**	**02 07 58.6**	**+2.1**
	baz=61						
H12A	**Diamond D Ranc**	**61.04**	**55**	⇓P	**P**	**02 07 56.9**	**-0.2**
	baz=61						
G13A	**Cobalt**	**61.06**	**54**	P	**P**	**02 07 56.8**	**-0.4**
	baz=61,SNR=11						
LAVA	**Lava Cap Winer**	**61.06**	**63**	⇓P	**P**	**02 07 57.3**	**0.0**
	baz=61						
F14A	**Wisdom**	**61.10**	**53**	⇑P	**P**	**02 07 58.1**	**+0.6**
	baz=61						
E15A	**Deer Lodge**	**61.13**	**52**	⇑P	**P**	**02 07 57.6**	**0.0**
	baz=61						
BNLO	**Ben Lomond (Sa**	**61.16**	**65**	⇑P	**P**	**02 07 57.2**	**-0.7**
	baz=61						
MFID	**Camas Ranch**	**61.17**	**56**	⇓P	**P**	**02 07 57.6**	**-0.4**
	baz=61						
FFC	**Flin Flon**	**61.22**	**40**	P	**P**	**02 07 57.8**	**-0.5**
	comp=Z,94nm,1.2s,mb5.8,SNR=5.7						
WCN	**Washoe City**	**61.34**	**62**	⇑P	**P**	**02 07 59.3**	**+0.2**
	baz=61						
O07A	**Toulon**	**61.35**	**61**	⇑P	**P**	**02 07 58.8**	**-0.4**
	baz=61						
N08A	**GE Springer Mi**	**61.42**	**60**	⇓P	**P**	**02 07 59.0**	**-0.7**
	baz=61						
M09A	**Marrel Ranch,**	**61.43**	**59**	⇓P	**P**	**02 08 00.1**	**+0.3**
	baz=61						
S04C	**Ingram Canyon,**	**61.46**	**65**	⇑P	**P**	**02 08 00.9**	**+0.9**
	baz=61						
KAKA	**Kakadu**	**61.48**	**203**	*e*P	**P**	**02 07 58.4**	**-1.7**
	comp=Z,7.9nm,0.8s,mb4.9						
R05C	**Kirkwood Meado**	**61.51**	**63**	⇑P	**P**	**02 08 00.5**	**+0.3**
	baz=61						
F15A	**Butte**	**61.57**	**52**	P	**P**	**02 08 00.8**	**+0.2**
	baz=61,SNR=8.8						
LRM	**Limekiln Ridge**	**61.60**	**52**	*e*P	**P**	**02 08 00.9**	**0.0**
EGMT	**Eagleton**	**61.69**	**49**	*e*P	**P**	**02 08 02.0**	**+0.5**
	comp=Z,31nm,1.0s,mb5.4						
EGMT				*e*		02 08 13.3	
EGMT	**Eagleton**	**61.69**	**49**	⇓P	**P**	**02 08 01.6**	**+0.1**
	baz=61						
J12A	**Stokes Ranch,**	**61.69**	**56**	⇓P	**P**	**02 08 02.5**	**+1.0**
	baz=61						
CMB	**Columbia Colle**	**61.73**	**64**	*e*P	**P**	**02 08 01.6**	**-0.1**
CMB				*e*		02 08 13.1	
CMB	**Columbia Colle**	**61.73**	**64**	⇑P	**P**	**02 08 01.0**	**-0.7**
	baz=62						
N09A	**Rock Creek Ran**	**61.74**	**59**	⇑P	**P**	**02 08 01.9**	**+0.1**
	baz=62						
PACP	**Pacheco Peak**	**61.79**	**65**	⇓P	**P**	**02 08 02.6**	**+0.4**
	baz=62						
JOF	**Joensuu**	**61.80**	**334**	*e*p	**P**	**02 07 59.9**	**-2.3**
	comp=Z,7.7nm,0.6s,mb5.0						
JOF	**

GCMT e 02 08 23.5
GCMT ePcP PcP 02 08 48.9 +0.2
P10A Eureka 63.14 60 ⇑P P 02 08 11.6 +0.5
baz=63
YMR Madison River 63.14 53 P P 02 08 10.5 -0.7
comp=Z,12nm,0.7s,mb5.1
YMR e 02 08 21.2
ELK Elko 63.17 58 P P 02 08 12.0 +0.6
ELK e 02 08 23.3
N12A Clover Valley, 63.22 58 ⇓P P 02 08 11.2 -0.5
baz=63
YNR Norris Junctio 63.27 53 ePP pP 02 08 25.3 +9.4
MTUM Tungsten Hills 63.28 63 ePP pP 02 08 24.6 +8.6
O11A Cowboy Ranch, 63.30 59 ⇓P P 02 08 12.4 +0.1
baz=63
PTRM Twissleman Ran 63.32 66 eP **P 02 08 13.1 +0.8**
PTRM e 02 08 23.2
YFT Old Faithful 63.35 53 eP **P 02 08 13.1 +0.5**
YFT e 02 08 25.6
VIS Vishakhapatnam 63.41 268 eP **P 02 08 14.2 +1.3**
VIS AMb AMB 02 08 15.4
comp=Z,50nm,1.3s,mb5.5
M13A Montello 63.41 57 ⇑P P 02 08 13.3 +0.3
baz=63
S08C White Mtn Res 63.43 63 ⇑P P 02 08 12.1 -1.0
baz=63
RCTC Rector, Farmer 63.51 64 ⇑P P 02 08 14.4 +0.7
baz=63
AJM Ajmer 63.60 281 eP **P 02 08 13.7 -0.5**
AJM AMb AMB 02 08 17.8
comp=Z,40nm,1.1s,mb5.3
P11A Circle Ranch, 63.61 60 ⇓P P 02 08 14.2 -0.1
baz=63
R09A Tonopah 63.64 62 P P 02 08 14.1 -0.4
baz=63,SNR=10
TPH Tonopah 63.65 62 eP **P 02 08 16.2 +1.6**
TPH e 02 08 26.8
SMMC Simmler 63.67 66 ⇓P P 02 08 16.0 +1.3
baz=64
DCID1 Drake Creek 63.70 54 P P 02 08 15.3 +0.4
DCID1 e 02 08 26.6
N13A Wendover, West 63.70 58 ⇓P P 02 08 15.3 +0.3
baz=63
O12A Currie 63.76 58 P P 02 08 15.6 +0.3
baz=64,SNR=9.0
RRI2 Red Ridge 63.78 54 eP **P 02 08 05.8 -10**
comp=Z,44nm,0.8s,mb5.5
RRI2 e 02 08 18.0
BHPL Bhopal 63.81 277 eP **P 02 08 15.6 0.0**
BHPL AMb AMB 02 08 18.9
comp=Z,85nm,1.4s,mb5.6
MOOW Moose Ponds 63.85 53 eP **P 02 08 17.0 +1.1**
comp=Z,28nm,1.2s,mb5.2
MOOW e 02 08 28.4
S09A Goldfield 63.87 62 ⇑P P 02 08 16.1 0.0
baz=64
VES Vestal, Richgr 63.91 65 ⇓P P 02 08 15.9 -0.4
baz=64
KAF Kangasniemi 63.92 335 ep **P 02 08 13.9 -2.4**
comp=Z,24nm,0.9s,mb5.2,baz=37,slow=6.2
HVU Hansel Valley 63.95 56 eP **P 02 08 17.2 +0.7**
LOHW Long Hollow 64.01 53 eP **P 02 08 17.6 +0.6**
comp=Z,37nm,1.2s,mb5.3
LOHW e 02 08 29.5
REDW Red Top Meadow 64.03 54 eP **P 02 08 17.8 +0.7**
comp=Z,66nm,1.2s,mb5.5
REDW e 02 08 29.8
NGP Nagpur 64.07 274 eP **P 02 08 16.4 -0.9**
NGP AMb AMB 02 08 17.6
comp=Z,56nm,1.3s,mb5.4
Q11A Duckwater 64.12 60 ⇑P P 02 08 17.0 -0.6
baz=64
CWC Cottonwood Cre 64.16 64 ⇑P P 02 08 17.5 -0.4
baz=64
P12A McGill 64.17 59 ⇑P P 02 08 17.3 -0.7
baz=64
GRAC Grapevine Rang 64.24 63 ⇑P P 02 08 17.8 -0.7
baz=64
LAO LASA Array 64.39 49 eP **P 02 08 19.2 -0.2**
comp=Z,39nm,1.1s,mb5.3
LAO e 02 08 31.5
SPUT South Promonto 64.44 56 eP **P 02 08 14.1 -5.7**
SPUT e 02 08 27.0
Q12A Willow Creek R 64.49 60 ⇓P P 02 08 20.0 -0.1
baz=64
FINES FINESS Array B 64.52 335 P P 02 08 19.0 -1.2
comp=Z,16nm,0.6s,mb5.2,baz=38,slow=7.6,SNR=53
FINES FINESS Array B 64.52 335 P P 02 08 19.0 -1.2
FINES pmax pmax
comp=Z,16nm,0.6s
FINES FINESS Array B 64.52 335 P P 02 08 19.0 -1.2
ARVC Arvin 64.52 65 ⇓P P 02 08 21.6 +1.3
baz=64
DAC Darwin (Calif) 64.56 63 eP **P 02 08 20.4 -0.2**
BSC Santa Cruz Isl 64.74 67 ⇑P P 02 08 22.0 +0.3
baz=64
MPMC Manual Prospec 64.77 64 ⇑P P 02 08 21.2 -0.7
baz=64
MOS Moscow 64.86 326 eP **P 02 08 16.5 -6.0**
MOS pmax pmax
comp=Z,42nm,1.1s,mb5.4
FURC Furnace Creek, 64.89 63 P P 02 08 22.8 +0.1
baz=65,SNR=8.8
OSI Osito Adit 64.92 66 ⇓P P 02 08 22.3 -0.5
baz=65
DUG Dugway 64.94 57 eP **P 02 08 23.2 +0.2**
DUG pmax pmax
comp=Z,33nm,1.1s,mb5.3
DUG Dugway 64.94 57 eP **P 02 08 23.2 +0.2**
comp=Z,33nm,1.1s,mb5.3
DUG e 02 08 35.1
DUG Dugway 64.94 57 P P 02 08 23.3 +0.3
baz=65,SNR=39
LRMC Laurel Mountai 65.01 64 ⇓P P 02 08 22.9 -0.6
baz=65
NOQ North Oquirrh 65.05 57 eP **P 02 08 24.2 +0.4**
comp=Z,15nm,0.5s,mb5.3
NOQ e 02 08 35.5
BW06 Boulder Array 65.14 54 eP **P 02 08 24.4 0.0**
comp=Z,25nm,1.0s,mb5.2
BW06 e 02 08 36.5
PDAR Pinedale Array 65.14 54 P P 02 08 23.7 -0.7
comp=Z,3.7nm,0.8s,mb4.4,baz=280,slow=2.7,SNR=23
PDAR LR LR 02 34 08.3
comp=Z,120nm,21.0s,MS4.1,baz=334,slow=34
EDW2 Edwards Air Fo 65.21 65 ⇑P P 02 08 24.7 -0.1
baz=65
CTU Camp Tracy 65.24 56 eP **P 02 08 24.3 -0.7**
U10A Ash Meadows, A 65.25 63 ⇓P P 02 08 25.7 +0.7
baz=65
JLU Jordanelle 65.47 56 eP **P 02 08 27.4 +1.0**
JLU e 02 08 38.3
NLU North Lily Min 65.53 57 eP **P 02 08 27.9 +1.1**
NLU e 02 08 38.0
SHOC Shoshone 65.62 63 ⇓P P 02 08 27.3 -0.1
baz=65
GSC Goldstone 65.68 64 ⇑P P 02 08 27.5 -0.4
baz=66
DAU Daniels Canyon 65.71 56 eP **P 02 08 29.4 +1.4**
DAU e 02 08 40.0
DAU e 02 09 00.4
SFJD Kangerlussuaq 65.72 10 LR LR 02 40 15.2
comp=Z,376nm,18.8s,MS4.6,baz=326,slow=39
OBN Obninsk 65.73 326⇑ eP **P 02 08 26.2 -1.9**
OBN e 02 10 50.5
OBN eS S 02 17 09.8 -4.3
OBN pmax pmax
comp=Z,42nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.8
OBN Obninsk 65.73 326 eP **P 02 08 26.8 -1.3**
comp=Z,13nm,0.5s,mb5.2
MPU Maple Canyon 65.75 57 eP **P 02 08 27.9 -0.4**
FMP Fort Macarthur 65.77 66 ⇓P P 02 08 29.5 +1.1
baz=66
AKL Akola 65.78 275 eP **P 02 08 29.7 +1.3**
AKL AMb AMB 02 08 30.6
comp=Z,64nm,1.3s,mb5.5
BFSC Mount Baldy St 65.83 65 ⇑P P 02 08 28.0 -0.8
baz=66
U11A Corn Creek 65.83 62 ⇓P P 02 08 29.2 +0.4
baz=66
ARUT Antelope Range 66.13 60 eP **P 02 08 31.6 +0.9**
ARUT e 02 08 42.7
ARUT e 02 09 01.3

TUQ Turquoise Mtn. 66.14 63 ⇑P P 02 08 29.9 -0.9
baz=66
HEC Hector,Ludlow 66.28 64 ⇑P P 02 08 31.6 -0.1
baz=66
CCUT Cedar City 66.33 60 eP **P 02 08 32.7 +0.7**
CCUT e 02 08 44.0
MSU Marysvale 66.41 59 eP **P 02 08 35.0 +2.5**
MSU e 02 08 45.3
TMUT Trail Mountain 66.47 57 epP pP 02 08 45.5 +8.7
MURC Murrieta 66.53 65 ⇑P P 02 08 32.5 -0.8
baz=66
V12A Nelson 66.61 62 ⇓P P 02 08 33.4 -0.4
baz=66
GMRC Granite Mounta 66.73 64 ⇓P P 02 08 33.9 -0.6
baz=66,SNR=5.5
ABKT Ailbek 66.82 301 P P 02 08 36.8 +1.7
comp=Z,141nm,0.9s,mb6.0,SNR=5.2
HYB Hyderabad 66.93 271 *i P* **P 02 08 36.0 +0.2**
HYB Hyderabad 66.93 271 eP **P 02 08 36.0 +0.2**
SRU San Rafael 66.99 57 eP **P 02 08 36.5 +0.3**
comp=Z,19nm,0.6s,mb5.3
PFO Pinyon Flat Ob 67.00 65 ⇑P P 02 08 36.3 0.0
baz=67
ULM Lac du Bonnet 67.00 41 P P 02 08 34.7 -1.6
comp=Z,2.5nm,0.8s,mb4.3,baz=312,slow=3.8,SNR=4.3
ULM LR LR 02 41 14.9
comp=Z,184nm,18.1s,MS4.3,baz=310,slow=39
RSSD Black Hills 67.25 50 eP **P 02 08 36.8 -1.0**
RSSD e 02 08 49.5
RSSD pmax pmax
comp=Z,31nm,1.1s,mb5.2
RSSD Black Hills 67.25 50 eP **P 02 08 36.8 -1.1**
comp=Z,31nm,1.1s,mb5.2
RSSD e 02 08 49.5
IRM Iron Mountain 67.45 64 ⇓P P 02 08 37.8 -1.4
baz=67,SNR=6.8
BC3 Big Chuckw Mtn 67.60 64 ⇓P P 02 08 39.5 -0.5
baz=67
W13A Hualapai Mount 67.62 62 ⇓P P 02 08 40.6 +0.4
baz=67,SNR=5.5
WB2 Warramunga Arr 67.95 199 eP **P 02 08 41.1 -1.2**
WB2 Warramunga Arr 67.95 199 eP **P 02 08 41.3 -1.0**
WRA Warramunga Arr 67.95 199 P P 02 08 41.0 -1.4
comp=Z,3.7nm,0.8s,mb4.4,baz=15,slow=6.4,SNR=24
WRA Warramunga Arr 67.95 199 *i P* **P 02 08 41.2 -1.1**
WRA pmax pmax
comp=Z,4.0nm,0.9s
X13A Yucca 67.99 63 ⇑P P 02 08 42.7 +0.2
baz=68,SNR=7.3
PDMCI Parker Dam,Lak 67.99 63 ⇑P P 02 08 42.2 -0.4
baz=68
W14A Seligman 68.04 62 ⇓P P 02 08 43.0 +0.1
baz=68
Y12C Blythe 68.12 64 ⇓P P 02 08 43.3 0.0
baz=68
PV10 Paradox Valley 68.34 57 eP **P 02 08 45.1 +0.3**
PV10 e 02 08 57.3
GLA Glamis 68.39 65 ⇓P P 02 08 45.1 0.0
baz=68
AGMN Agassiz Refuge 68.40 42 eP **P 02 08 43.6 -1.5**
comp=Z,8.9nm,1.1s,mb4.7
AGMN e 02 08 55.8
Y13A Salome 68.51 63 ⇑P P 02 08 45.5 -0.3
baz=68
W15A Williams 68.56 61 ⇓P P 02 08 45.9 -0.2
baz=68
FITZ Fitzroy Crossi 68.61 208 eP **P 02 08 46.2 -0.2**
comp=Z,12nm,0.9s,mb4.8
X14A Yava 68.65 62 ⇓P P 02 08 46.8 +0.2
baz=68
NB2 NORSAR Subarra 68.73 341 P P 02 08 46.0 -1.2
comp=Z,135nm,2.0s,mb5.5,baz=28,slow=6.5
NOA NORSAR Array B 68.73 341 P P 02 08 46.2 -1.0
comp=Z,8.8nm,0.7s,mb4.8,baz=27,slow=6.3,SNR=28
NOA NORSAR Array B 68.73 341 P P 02 08 46.2 -1.0
NOA pmax pmax
comp=Z,9.0nm,0.7s
MDRS Chennai 68.76 267 eP **P 02 08 47.0 -0.4**
MDRS AMb AMB 02 08 53.3
comp=Z,83nm,0.3s,mb6.1
PV01 Paradox Valley 68.78 57 eP **P 02 08 47.8 +0.4**
PV01 e 02 08 59.1
WUAZ Wupatki 68.87 60 eP **P 02 08 48.4 +0.3**
comp=Z,20nm,1.2s,mb4.9
WUAZ e 02 09 00.5
WUAZ PcP PcP 02 09 10.0 -2.5
WUAZ Wupatki 68.87 60 ⇑P P 02 08 48.4 +0.4
baz=69
Y14A Wickenburg 68.93 63 ⇓P P 02 08 48.4 -0.1
baz=69,SNR=7.1
NAO01 NORSAR Array S 68.98 341 eP **P 02 08 47.5 -1.3**
X15A Humboldt 69.04 62 ⇓P P 02 08 48.4 -0.7
baz=69
ISCO Idaho Springs 69.33 54 eP **P 02 08 51.2 +0.3**
ISCO e 02 09 03.2
ISCO e 02 09 14.4
ISCO pmax pmax
comp=Z,17nm,0.9s,mb5.0
ISCO Idaho Springs 69.33 54 eP **P 02 08 51.2 +0.3**
comp=Z,17nm,0.9s,mb5.0
ISCO e 02 09 03.2
ISCO ePcP PcP 02 09 14.4 0.0
POO Poona 69.43 276⇑ *i P* **P 02 08 49.0 -2.5**
comp=Z,80nm,1.0s,mb5.6
MVCO Mesa Verde 69.44 57 eP **P 02 08 52.2 +0.6**
comp=Z,17nm,0.8s,mb5.0
MVCO e 02 09 03.5
MVCO Mesa Verde 69.44 57 ⇓P P 02 08 51.3 -0.3
baz=69
KAD Karad 70.04 274 eP **P 02 08 56.0 +0.8**
KAD AMb AMB 02 08 58.5
comp=Z,44nm,1.5s,mb5.2
115A Sonoran Desert 70.25 63 ⇓P P 02 08 57.1 +0.6
baz=70,SNR=6.5
SDCO Great Sand Dun 70.81 55 eP **P 02 09 01.1 +1.1**
KIV Kislovodsk 71.14 314 P P 02 09 02.5 +0.6
comp=Z,230nm,0.8s,mb6.2,SNR=5.0
KIV Kislovodsk 71.14 314 P P 02 09 01.9 -0.1
SNR=10
KIV Kislovodsk 71.14 314 eP **P 02 09 02.5 +0.6**
KIV pmax pmax
comp=Z,51nm,1.1s,mb5.4
KIV MLR MLR
comp=Z,632nm,17.0s,MS4.9
KIV Kislovodsk 71.14 314 eP **P 02 09 02.7 +0.8**
comp=Z,35nm,0.9s,mb5.3
KIV ePcP PcP 02 09 21.4 -0.7
ZEI Tsey 71.38 313 eP **P 02 09 02.7 -0.7**
ZEI pmax pmax
comp=Z,26nm,1.1s,mb5.1
TUC Tucson 71.40 63 eP **P 02 09 04.5 +0.9**
TUC e 02 09 15.3
TUC pmax pmax
comp=Z,12nm,1.2s,mb4.7
TUC Tucson 71.40 63 eP **P 02 09 04.5 +1.0**
comp=Z,12nm,1.2s,mb4.7
TUC e 02 09 15.3
SUW Suwalki 71.45 331 eP **P 02 09 02.5 -1.4**
DUS Dusheti 71.46 312 P P 02 09 05.6 +1.7
GOA Goa 71.53 273 eP **P 02 09 02.3 -2.1**
GOA AMb AMB 02 09 03.0
comp=Z,34nm,1.0s,mb5.2
DGRG David-gareji 71.56 311 P P 02 09 05.6 +1.1
ASAR Alice Springs 71.65 198 P P 02 09 04.8 -0.3
comp=Z,2.7nm,0.8s,mb4.2,baz=12,slow=5.0,SNR=23
ASAR Alice Springs 71.65 198 P P 02 09 04.8 -0.3
ASAR pmax pmax
comp=Z,3.0nm,0.8s
MTA Mtatsminda 71.69 311 P P 02 09 05.2 -0.2
ONI Oni 71.75 313 P P 02 09 06.8 +1.1
GOR Gori 71.84 312 P P 02 09 06.9 +0.8
AKASG Malin Array Be 71.97 326 P P 02 09 06.0 -1.0
comp=Z,30nm,0.6s,mb5.4,baz=34,slow=6.2,SNR=158
AKASG Malin Array Be 71.97 326 P P 02 09 06.0 -1.0
AKASG pmax pmax
comp=Z,30nm,0.6s
AKASG Malin Array Be 71.97 326 P P 02 09 06.0 -1.0
AKBB Malin Array Si 71.97 326 eP **P 02 09 05.9 -1.1**
KIEV Kiev 71.98 326 eP **P 02 09 05.7 -1.3**
KIEV pmax pmax
comp=Z,41nm,0.8s,mb5.4
KIEV Kiev 71.98 326 eP **P 02 09 05.7 -1.3**
comp=Z,41nm,0.8s,mb5.4
KZR Kazreti 72.12 311 P P 02 09 09.0 +1.1
ANMO Albuquerque 72.19 58 eP **P 02 09 08.6 +0.3**

ANMO e 02 09 20.2
PALK Pallekele 72.54 262 P P 02 09 11.4 +1.0
MNGI Mangalore 72.61 271 eP **P 02 09 10.0 -0.8**
MNGI AMb AMB 02 09 14.7
comp=Z,18nm,0.3s,mb5.5
GNI Garni 72.83 310 P P 02 09 13.6 +1.5
comp=Z,18nm,0.8s,mb5.0,baz=349,slow=5.2,SNR=18
GNI LR LR 02 41 03.3
comp=Z,183nm,21.6s,MS4.3,baz=32,slow=36
GNI Garni 72.83 310 P P 02 09 14.0 +1.9
SNR=14
GNI Garni 72.83 310*c i P* **P 02 09 13.7 +1.6**
GNI pmax pmax
comp=Z,44nm,1.0s
GNI Garni 72.83 310 eP **P 02 09 13.8 +1.7**
comp=Z,34nm,0.9s,mb5.3
GNI ePP PP 02 11 54.0 -0.1
SOC Sochi 72.87 316*c i P* **P 02 09 12.1 -0.2**
SOC e 02 09 27.5
SOC eS S 02 18 37.4 -1.0
SOC e 02 19 16.3
SOC pmax pmax
comp=Z,30nm,0.6s,mb5.4
SOC MLR MLR
comp=Z,723nm,16.0s,MS5.0
ANN Anapa 73.04 318 eP **P 02 09 12.7 -0.7**
ANN eS S 02 18 39.5 -0.9
ANN pmax pmax
comp=Z,33nm,0.9s,mb5.3
DIGO Kars 73.36 311 *i P* **P 02 09 16.3 +1.0**
SCHQ Schefferville 73.86 23 LR LR 02 42 19.9
comp=Z,221nm,18.5s,MS4.5,baz=330,slow=36
SCIA State Center 74.37 45 eP **P 02 09 20.0 -1.1**
comp=Z,55nm,1.1s,mb5.4
SCIA e 02 09 32.2
SIM Simferopol' 74.44 320*c* eP **P 02 09 22.8 +1.2**
SIM pmax pmax
comp=Z,27nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,830nm,19.0s,MS5.0
LVV L'vov 74.63 329 eP **P 02 09 21.8 -0.9**
ERZM Erzurum 74.78 312 *i P* **P 02 09 25.4 +1.9**
KIS Kishinev 75.09 324⇑ *i P* **P 02 09 24.0 -1.4**
KIS e 02 09 34.0
KIS pmax pmax
comp=Z,180nm,1.3s,mb5.8
KIS Kishinev 75.09 324⇑ *i* PUNK **P 02 09 24.0 -1.4**
KIS XM pP 02 09 26.0 -3.3
comp=Z,200nm,1.3s
KWP Kalwaria 75.27 329 eP **P 02 09 26.6 +0.3**
KWP Kalwaria 75.27 329 P P 02 09 26.5 +0.2
KWP pmax pmax
comp=Z,170nm,1.5s,mb5.8
HAKT HAKKARI 75.27 309 *i P* **P 02 09 27.3 +0.9**
IAS Iasi 75.44 325 P P 02 09 26.8 -0.6
GRSN GIRESUNGRSN 75.57 315 *i P* **P 02 09 27.8 -0.3**
OJC Ojcow 75.77 331 eP **P 02 09 28.5 -0.8**
STHS Stebnicka Huta 75.96 330 eP **P 02 09 30.4 +0.1**
STHS pmax pmax
comp=Z,13nm,0.9s,mb4.9
STHS Stebnicka Huta 75.96 330 eP **P 02 09 30.4 +0.1**
comp=Z,13nm,0.9s,mb4.9
KOLS Kolonicke sedl 76.01 329 eP **P 02 09 30.0 -0.6**
BURAR Bucovina Array 76.01 327⇓ *i P* **P 02 09 30.5 -0.1**
UZH Uzhgorod 76.25 329*c i P* **P 02 09 31.4 -0.6**
UZH e 02 09 46.3
UZH e 02 09 53.3
NIE Niedzica 76.28 330 eP **P 02 09 32.5 +0.3**
CRVS Cervenica-Dubn 76.32 329 eP **P 02 09 31.9 -0.5**
KSP Ksiaz 76.37 333 eP **P 02 09 31.8 -0.9**
MSL Mosul 76.54 309 *i x* x 02 09 36.5
OKC Ostrava-Krasne 76.65 332 eP **P 02 09 33.9 -0.3**
UPC Upice 76.75 333 eP **P 02 09 34.7 -0.1**
WMOK Wichita Mounta 76.76 53 P P 02 09 33.9 -0.9
WMOK pmax pmax
comp=Z,11nm,1.0s,mb4.7
WMOK Wichita Mounta 76.76 53 eP **P 02 09 35.3 +0.4**
WMOK e 02 09 46.1
DPC Dobruska-Polom 76.79 333 eP **P 02 09 35.2 +0.2**
BOYT Boyabat 76.82 317 *i P* **P 02 09 36.7 +1.5**
CFR Carcaliu 76.84 323 P P 02 09 37.3 +1.9
VRI Vrincioaia 76.86 325⇓ *i P* **P 02 09 37.2 +1.8**
MORC Moravsky Berou 76.90 332 eP **P 02 09 34.6 -1.0**
MORC ePcP PcP 02 09 47.1 +0.4
MORC Moravsky Berou 76.90 332⇓ *i P* **P 02 09 35.6 -0.1**
CLL Collm 76.94 336 *i P* **P 02 09 35.0 -0.9**
CLL *i* pP 02 09 39.5 -0.4
CLL pmax pmax
comp=Z,20nm,0.7s,mb5.2
CLL Collm 76.94 336 *i P* **P 02 09 35.0 -0.9**
comp=Z,21nm,0.7s,mb5.2
CLL *i* sP sP 02 09 39.5 -1.8
HATD Hatta, Dubai 77.00 292 ⇑P P 02 09 37.6 +1.3
SNR=7.1
KECS Kecovo 77.02 330 *i P* **P 02 09 35.5 -0.8**
comp=Z,5.4nm,0.8s,mb4.5
KECS e 02 09 47.9
BRG Berggiesshubel 77.06 335 eP **P 02 09 36.6 +0.1**
comp=Z,10nm,1.4s,mb4.6
BRG e pP 02 09 41.2 +0.7
comp=Z,32nm,1.8s
BRG Berggiesshubel 77.06 335 eP **P 02 09 36.6 +0.1**
BRG e pP 02 09 41.2 +0.7
BRG pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
ASHO Ashiyiah 77.15 292 P P 02 09 38.7 +1.6
SNR=6.4
PVCC Panska Ves 77.17 334 eP **P 02 09 36.4 -0.8**
BALT Daday 77.44 318 *i P* **P 02 09 39.6 +0.9**
JMDO Jabal Madar 77.45 289 P P 02 09 40.3 +1.6
SNR=5.9
MLR Muntele Rosu 77.48 325 P P 02 09 39.6 +0.7
comp=Z,11nm,0.6s,mb4.9,baz=39,slow=5.6,SNR=16
MLR Muntele Rosu 77.48 325 P P 02 09 40.2 +1.3
MLR Muntele Rosu 77.48 325⇓ *i P* **P 02 09 39.5 +0.6**
CTKT Corum 77.49 317 *i P* **P 02 09 40.5 +1.5**
VYHS Vyhne 77.58 331 eP **P 02 09 39.2 -0.3**
VYHS pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
VYHS Vyhne 77.58 331 eP **P 02 09 39.2 -0.3**
comp=Z,9.8nm,1.2s,mb4.6
VRAC Vranov 77.61 332 P P 02 09 39.6 -0.1
VRAC Vranov 77.61 332⇑ *i P* **P 02 09 39.8 +0.1**
DRGR 77.65 328⇓ *i P* **P 02 09 39.8 0.0**
PRU Pruhonice 77.66 334 eP **P 02 09 39.1 -0.8**
PSZ Piszkesteto 77.71 330 eP **P 02 09 40.3 +0.1**
comp=Z,17nm,1.0s,mb4.9
PSZ ePcP PcP 02 09 49.4 -0.8
PSZ e 02 09 54.9
PSZ Piszkesteto 77.71 330⇑ *i P* **P 02 09 40.3 +0.1**
BSY Bisya 77.78 290 P P 02 09 42.1 +1.5
SNR=5.2
LTX Lajitas 77.84 60 eP **P 02 09 40.4 -0.5**
LTX pmax pmax
comp=Z,27nm,1.0s,mb5.1
LTX Lajitas 77.84 60 eP **P 02 09 40.4 -0.6**
comp=Z,27nm,0.9s,mb5.2
LTX e 02 09 52.9
TXAR Lajitas Array 77.84 60 P P 02 09 40.2 -0.7
comp=Z,4.5nm,0.8s,mb4.5,baz=302,slow=4.3,SNR=53
TXAR Lajitas Array 77.84 60 P P 02 09 40.2 -0.7
VOIR 77.88 325⇑ *i P* **P 02 09 41.5 +0.4**
MOX Moxa 77.93 336 eP **P 02 09 41.1 -0.3**
comp=Z,10.0nm,0.9s,mb4.8
MOX Moxa 77.93 336 eP **P 02 09 41.1 -0.3**
MOX pmax pmax
comp=Z,12nm,0.9s,mb4.8
WTSB Winterswijk 78.00 339 eP **P 02 09 42.6 +0.8**
comp=Z,41nm,0.7s,mb5.5
SMOL Smolenice 78.03 332 eP **P 02 09 42.4 +0.4**
BHD Baghdad 78.06 306 *ex* x 02 09 40.0
BHD Baghdad 78.06 306 *ex* x 02 19 48.0
NKC Novy Kostel 78.06 335 eP **P 02 09 41.4 -0.8**
STKA Stephens Creek 78.38 190 P P 02 09 42.7 -1.2
comp=Z,1.2nm,0.7s,baz=334,slow=13,SNR=3.0
STKA Stephens Creek 78.38 190 eP **P 02 09 43.5 -0.4**
STKA ePcP PcP 02 09 51.9 -1.3
ZST Bratislava 78.42 332 eP **P 02 09 44.6 +0.5**
ZST pmax pmax
comp=Z,12nm,0.9s,mb4.8
ZST Bratislava 78.42 332 eP **P 02 09 44.6 +0.5**
comp=Z,12nm,0.9s,mb4.8
GZT Gaziantep 78.65 313 *i P* **P 02 09 46.6 +1.2**
KHC Kasperske Hory 78.71 334 eP **P 02 09 45.7 0.0**

KHC pP pP 02 09 49.5 -0.2
KHC Kasperske Hory 78.71 334 *d iP* **P 02 09 45.8 +0.1**
KHC Kasperske Hory 78.71 334 *eP* **P 02 09 45.7 0.0**
KHC *e* pP 02 09 49.5 -0.2
BR131 Keskin Array S 78.74 317 *eP* **P 02 09 46.6 +0.7**
comp=Z,5.3nm,0.9s,mb4.5
BR131 *e* 02 09 56.6
BRTR Keskin Array B 78.75 317 P **P 02 09 46.7 +0.8**
comp=Z,7.3nm,1.0s,mb4.5,baz=64,slow=2.9,SNR=29
BRTR LR LR 02 51 03.4
comp=Z,299nm,19.0s,MS4.7,baz=214,slow=41
GZR Gura Zlata 78.80 327⇑ *iP* **P 02 09 46.3 +0.1**
SGKT Sivrigoynuk 78.82 318 *i* P **P 02 09 46.8 +0.4**
AVNT Avonos 78.90 315 *i* P **P 02 09 47.0 +0.2**
AVNT Avonos 78.90 315 *i* P **P 02 09 51.3 +4.5**
GRA1 Grafenberg Arr 78.90 336 *eP* **P 02 09 46.6 -0.2**
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 78.90 336 *eP* **P 02 09 46.6 -0.2**
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 78.90 336 *eP* **P 02 09 46.6 -0.2**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
GERES GERESS Array B 78.93 334 P **P 02 09 46.6 -0.3**
comp=Z,4.0nm,0.7s,mb4.5,baz=36,slow=4.7,SNR=26
GERES GERESS Array B 78.93 334 P **P 02 09 46.6 -0.3**
GERES pmax pmax
comp=Z,4.0nm,0.7s
ANTO Ankara 79.03 317⇑ P **P 02 09 48.0 +0.5**
SNR=6.7
ANTO Ankara 79.03 317⇑ *iP* **P 02 09 48.6 +1.1**
BZS Buzias 79.05 328 P **P 02 09 47.2 -0.4**
BZS Buzias 79.05 328⇓ *iP* **P 02 09 47.2 -0.4**
CONA Conrad Observa 79.06 332⇑ *iP* **P 02 09 47.8 +0.1**
comp=Z,7.6nm,0.8s,mb4.7
KBD Kabd 79.14 301 *eP* **P 02 09 48.4 +0.3**
KBD AMb AMB 02 09 50.7
comp=Z,197nm,0.8s,mb6.1
JCT Junction City 79.30 57 *eP* **P 02 09 48.4 -0.6**
comp=Z,21nm,1.1s,mb5.0
JCT *e*PcP PcP 02 09 58.1 +1.0
HGN Heimansgroeve 79.32 339 *eP* **P 02 09 48.3 -0.8**
comp=Z,55nm,1.2s,mb5.3
NAY Al-Naaiem 79.35 301 *eP* **P 02 09 49.8 +0.5**
NAY AMb AMB 02 09 51.7
comp=Z,36nm,0.8s,mb5.4
BEBN Eben Emael 79.35 340 P **P 02 09 48.9 -0.3**
RDF Al-Radifah 79.40 301 *eP* **P 02 09 50.1 +0.6**
RDF AMb AMB 02 09 52.3
comp=Z,95nm,0.8s,mb5.8
MEM Membach 79.44 339 P **P 02 09 49.0 -0.7**
comp=Z,19nm,1.4s,mb4.8
SIUC Southern Illin 79.55 46 *e*pP pP 02 10 01.8 +7.4
PKSM Moragy 79.61 330 P **P 02 09 49.9 -0.7**
PKSM Moragy 79.61 330⇑ *iP* **P 02 09 49.7 -1.0**
MOA Molln 79.63 333⇓ *iP* **P 02 09 51.0 +0.2**
comp=Z,8.0nm,0.7s,mb4.8
ARSA Arzberg 79.76 332⇑ *iP* **P 02 09 50.9 -0.6**
comp=Z,7.6nm,0.7s,mb4.7
BCLA Clavier 79.79 340 P **P 02 09 51.4 -0.3**
BCLA E 02 09 52.6
FORT Forrest 79.87 202 *eP* PcP 02 10 03.6 +4.0
comp=Z,16nm,0.8s
SNF Seneffe 79.95 340 P **P 02 09 53.2 +0.7**
ESKT Eskisehir 80.22 318 *i* P **P 02 09 54.0 0.0**
DOU Dourbes 80.26 340 P **P 02 09 55.1 +0.9**
WLF Walferdange 80.28 339 P **P 02 09 57.4 +3.1**
comp=Z,28nm,1.8s,mb4.9
WLF Walferdange 80.28 339 *eP* **P 02 09 57.4 +3.1**
STU Stuttgart 80.30 337 *eP* **P 02 09 53.8 -0.6**
comp=Z,12nm,0.6s,mb5.0
STU *e*PcP PcP 02 10 01.8 +0.3
PERS Pernice 80.43 332 *eP* **P 02 09 54.7 -0.4**
ULDT Uludag 80.49 320 *i* P **P 02 09 56.2 +0.8**
WCI Wyandotte Cave 80.57 43 P **P 02 09 53.9 -1.9**
WCI *e* 02 10 06.4
WCI pmax pmax
comp=Z,14nm,1.0s,mb4.8
WCI Wyandotte Cave 80.57 43 P **P 02 09 53.9 -2.0**
comp=Z,14nm,1.0s,mb4.8
WCI *e* 02 10 06.4
KBA Koelnbreinsper 80.61 333⇓ *iP* **P 02 09 56.5 +0.5**
comp=Z,42nm,0.8s,mb5.4
TAOE Nuku Hiva Isla 80.80 113 *e*LR LR 02 34 21.9
comp=Z,975nm,31.7s,baz=314
GRUS Gruza 80.85 327⇑ *iP* **P 02 09 56.3 -1.1**
WATA Walderalm 80.92 335⇓ *iP* **P 02 09 57.7 0.0**
comp=Z,17nm,0.9s,mb5.0
WATA Walderalm 80.92 335⇓ *iP* **P 02 09 57.7 0.0**
WATA pmax pmax
comp=Z,17nm,0.9s,mb5.0
BFO Black Forest 80.94 337 P **P 02 09 57.2 -0.6**
comp=Z,116nm,0.9s,mb5.8,SNR=7.5
BFO Black Forest 80.94 337 P **P 02 09 57.6 -0.2**
BFO pmax pmax
comp=Z,18nm,0.9s,mb5.0
BFO Black Forest 80.94 337 *eP* **P 02 09 57.7 -0.2**
comp=Z,18nm,0.9s,mb5.0
WTTA Wattenberg 80.96 334⇑ *iP* **P 02 09 58.3 +0.4**
comp=Z,42nm,0.6s,mb5.5
WTTA Wattenberg 80.96 334⇑ *iP* **P 02 09 58.3 +0.3**
WTTA pmax pmax
comp=Z,42nm,0.6s,mb5.5
LEGS Legarje 80.97 332 *eP* **P 02 09 57.0 -1.1**
VTS Vitosha 80.98 325⇓ *iP* **P 02 09 56.9 -1.2**
CRES Cresnjev 81.04 331 *eP* **P 02 09 57.6 -0.7**
MOTA Moosalm 81.05 335⇑ *iP* **P 02 09 58.3 -0.1**
comp=Z,26nm,1.0s,mb5.1
MOTA Moosalm 81.05 335⇑ *iP* **P 02 09 58.3 -0.1**
MOTA pmax pmax
comp=Z,26nm,1.0s,mb5.1
SQTA Sankt Quirin 81.13 335⇓ *iP* **P 02 09 59.4 +0.6**
comp=Z,20nm,1.0s,mb5.0
SQTA Sankt Quirin 81.13 335⇓ *iP* **P 02 09 59.4 +0.6**
SQTA pmax pmax
comp=Z,20nm,1.0s,mb5.0
CDF Champ du Feu 81.15 338⇑ *iP* **P 02 09 58.5 -0.4**
comp=Z,61nm,1.0s,mb5.2
CDF Champ du Feu 81.15 338⇑ *iP* **P 02 09 58.5 -0.4**
CDF pmax pmax
comp=Z,31nm,1.0s,mb5.2
CDF Champ du Feu 81.15 338⇑ *iP* **P 02 09 58.5 -0.4**
comp=Z,31nm,1.0s,mb5.2
ABTA Abfaltersbach 81.16 334⇑ *iP* **P 02 09 58.9 -0.1**
comp=Z,8.9nm,0.9s,mb4.7
PTCC Patocco-Chiusa 81.20 333 P **P 02 09 58.2 -1.0**
comp=Z,8.8nm,0.6s,mb4.9
NATX Nacogdoches 81.27 53 *eP* **P 02 09 59.3 -0.3**
NATX *e* 02 10 11.7
ECH Echery 81.36 338 *eP* **P 02 09 59.0 -1.1**
BOJS Bojanci 81.39 331 *eP* **P 02 10 00.6 +0.4**
FETA Feichten 81.45 335⇑ *iP* **P 02 10 00.2 -0.3**
comp=Z,21nm,1.2s,mb4.9
TKTP Tekketepe 81.65 318 *i* P **P 02 10 01.2 -0.4**
THEF They Montfort 81.65 338 *eP* **P 02 09 59.9 -1.7**
MOF Molkenrain 81.70 338 *eP* **P 02 10 00.9 -1.0**
PPT Papeete 81.89 126 *e*LR LR 02 34 50.7
comp=Z,435nm,24.5s
PPT Papeete 81.89 126 LR LR 02 42 56.8
comp=Z,195nm,20.2s,MS4.5,baz=270,slow=33
OXF Oxford 81.95 48 P **P 02 10 05.1 +1.9**
comp=Z,35nm,1.1s,mb5.2
BRMO Bormio 82.05 335 P **P 02 10 03.8 +0.1**
CTI Castel Tesino 82.05 334 P **P 02 10 03.5 -0.2**
CTI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CTI Castel Tesino 82.05 334 P **P 02 10 03.5 -0.2**
comp=Z,9.1nm,0.6s,mb4.9
SKO Skopje 82.21 326⇑ *eP* **P 02 10 08.6 +4.1**
SKO Skopje 82.21 326⇑ *eP* **P 02 10 08.6 +4.1**
LOMF Lomont 82.24 338 *eP* **P 02 10 04.0 -0.7**
VAY Valandovo 82.31 325 *eP* **P 02 10 09.0 +3.9**
VAY Valandovo 82.31 325 *eP* **P 02 10 09.0 +3.9**
KRUS Krusevo 82.80 326 *i* P **P 02 10 07.5 -0.1**
KRUS Krusevo 82.80 326 *i* P **P 02 10 07.5 -0.1**
ASF Jabal al Asfar 83.00 310 P **P 02 10 08.9 +0.3**
comp=Z,8.4nm,1.0s,mb4.7,baz=41,slow=5.4,SNR=8.7
ASF Jabal al Asfar 83.00 310 P **P 02 10 08.9 +0.3**
ASF pmax pmax
comp=Z,8.0nm,1.0s
GRR Gorron 83.08 343 *eP* **P 02 10 08.5 -0.6**
comp=Z,167nm,1.5s,mb5.5
GRR Gorron 83.08 343 *eP* **P 02 10 08.5 -0.6**
GRR pmax pmax
comp=Z,84nm,1.5s,mb5.5
GRR Gorron 83.08 343 *eP* **P 02 10 08.5 -0.6**
comp=Z,84nm,1.5s,mb5.5
WHFO Wadi Hawf 83.46 289 P **P 02 10 11.5 +0.4**
SNR=9.1
SMF Signal de Mont 83.66 339⇑ *iP* **P 02 10 11.8 -0.3**
comp=Z,150nm,1.3s,mb5.7
SMF Signal de Mont 83.66 339⇑ *iP* **P 02 10 11.8 -0.3**
SMF pmax pmax
comp=Z,75nm,1.3s,mb5.7
SMF Signal de Mont 83.66 339⇑ *iP* **P 02 10 11.8 -0.3**
comp=Z,75nm,1.3s,mb5.7
RSM Repubblica di 83.70 332 P **P 02 10 13.2 +0.9**
comp=Z,175nm,1.7s,mb5.9
KLBR Kellerberrin 83.73 210 *eP* pP 02 10 23.6 +7.2
comp=Z,33nm,1.2s
FSSB Fossombrone 83.81 332 P **P 02 10 13.1 +0.3**
comp=Z,15nm,0.5s,mb5.4
SFI Santa Sofia 83.92 333 P **P 02 10 14.3 +0.9**
SFI pmax pmax
comp=Z,14nm,0.8s,mb5.1
SFI Santa Sofia 83.92 333 P **P 02 10 14.3 +0.9**
comp=Z,14nm,0.8s,mb5.2
SEI Scarperia 83.94 333 P **P 02 10 15.3 +1.8**
comp=Z,122nm,0.7s,mb6.1
VMG Vicchio 83.96 333 P **P 02 10 14.9 +1.3**
comp=Z,31nm,0.6s,mb5.6
LPG La Plagne 83.97 337⇑ *iP* **P 02 10 14.3 +0.7**
comp=Z,53nm,1.1s,mb5.3
LPG La Plagne 83.97 337⇑ *iP* **P 02 10 14.3 +0.7**
LPG pmax pmax
comp=Z,27nm,1.1s,mb5.3
LPG La Plagne 83.97 337⇑ *iP* **P 02 10 14.3 +0.7**
comp=Z,27nm,1.1s,mb5.3
CRE Caprese Michel 84.14 333 P **P 02 10 16.0 +1.5**
CRE pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
CRE Caprese Michel 84.14 333 P **P 02 10 16.0 +1.5**
comp=Z,6.8nm,0.6s,mb5.0
SNTG Esanatoglia 84.15 332 P **P 02 10 14.8 +0.3**
PLDF La Plantade 84.35 339 *eP* **P 02 10 15.7 +0.1**
BNI Bardonecchia 84.40 337 *eP* **P 02 10 16.4 +0.6**
BNI pmax pmax
comp=Z,44nm,1.6s,mb5.3
BNI Bardonecchia 84.40 337 *eP* **P 02 10 16.4 +0.5**
comp=Z,44nm,1.6s,mb5.3
NRCA Norcia 84.47 332 P **P 02 10 16.6 +0.4**
CSNT Castellina Chi 84.48 333 P **P 02 10 17.6 +1.4**
AQU L'Aquila 84.80 331 *eP* **P 02 10 18.7 +0.9**
comp=Z,31nm,1.0s,mb5.4
AQU L'Aquila 84.80 331⇓ *iP* **P 02 10 18.5 +0.7**
IMI Imperia 85.11 335 P **P 02 10 19.6 +0.2**
NWAO Narrogin (SRO) 85.13 210 P **P 02 10 19.0 -0.5**
CAF Calviac 85.71 340 *eP* **P 02 10 21.8 -0.6**
comp=Z,28nm,0.8s,mb5.2
CAF Calviac 85.71 340 *eP* **P 02 10 21.8 -0.6**
CAF pmax pmax
comp=Z,14nm,0.8s,mb5.2
CAF Calviac 85.71 340 *eP* **P 02 10 21.8 -0.6**
comp=Z,14nm,0.8s,mb5.2
EIL Elat 85.99 310 *eP* **P 02 10 24.6 +0.8**
comp=Z,564nm,1.2s
TIP Timpagrande 86.41 327 *e*pP pP 02 10 38.6 +8.7
TBI Tubuai 86.61 129 *e*LR LR 02 37 00.4
comp=Z,277nm,35.5s,baz=334
URZ Urewera 86.81 161 LR LR 02 43 09.2
comp=Z,155nm,20.1s,MS4.4,baz=339,slow=31
ESDC Sonseca Array 92.06 342 P **P 02 10 50.3 -2.3**
comp=Z,1.3nm,0.9s,mb4.3,baz=3.9,slow=6.5,SNR=4.5
KEST Kesra 92.12 331 P **P 02 10 52.3 -0.6**
comp=Z,2.9nm,0.8s,mb4.6,baz=29,slow=4.8,SNR=8.9
KEST LR LR 02 55 04.6
comp=Z,92nm,20.2s,MS4.2,baz=288,slow=37
RKT Rikitea 94.79 119 *e*LR LR 02 40 48.8
comp=Z,278nm,33.8s,baz=321
TORD Torodi Ar. Bea 115.53 329 PKP PKPdf 02 16 24.3 -1.2
comp=Z,0.6nm,0.7s,baz=8.6,slow=1.4,SNR=7.1
LPAZ La Paz 134.67 63 PKP PKPdf 02 17 03.2 +1.2
comp=Z,0.9nm,0.8s,baz=325,slow=3.6,SNR=4.4
LPAZ La Paz 134.67 63 PKP PKPdf 02 17 03.2 +1.2
LPAZ *e*PKPdf PKPdf 02 17 03.3 +1.3
NVL N'lazarevskaya 149.09 204 *e*PKP2 PKPab 02 17 28.8 -7.1
NVL pmax pmax
comp=Z,14nm,1.1s
SNAA Sanae 151.99 196 PKPbc PKPbc 02 17 35.4 -3.1
comp=Z,1.6nm,0.8s,baz=172,slow=1.3,SNR=14
SNAA PKPab PKPab 02 17 45.9 -2.0
comp=Z,2.5nm,0.9s,baz=302,slow=2.6,SNR=11
SNAA Sanae 151.99 196 *e*PKPdf PKPdf 02 17 35.7 +3.6
SNAA *e* 02 17 41.4
SNAA *e* 02 17 45.8
SNAA *e* 02 17 55.4
SNAA *e* 02 18 00.9
SNAA *e* 02 18 07.4
SNAA *e* 02 18 12.9
SNAA *e* 02 18 19.9
SNAA *e* 02 18 29.5
SNAA *e* 02 18 43.6
SNAA Sanae 151.99 196 PKIKP PKPdf 02 17 35.4 +3.3
SNAA 02 17 45.9
SNAA pmax pmax
comp=Z,2.0nm,0.8s
PMSA Palmer Station 152.56 146 PKPab PKPab 02 17 47.6 -2.7
comp=Z,20nm,0.6s,baz=251,slow=4.0,SNR=11
VNA2 Neumayer--Watz 153.44 194 *e*PKPdf PKPdf 02 17 34.4 +0.2
VNA2 *e* 02 17 39.5
VNA2 *e* 02 17 45.3
VNA2 *e* 02 17 52.7
VNA2 *e* 02 17 59.4
VNA2 *e* 02 18 05.2
VNA2 *e* 02 18 10.2
VNA2 *e* 02 18 25.7
VNA2 *e* 02 18 31.0
VNA3 Neumayer Olymp 153.53 192 *e*PKPdf PKPdf 02 17 33.6 -0.7
VNA3 *e* 02 17 39.5
VNA3 *e* 02 17 45.9
VNA3 *e* 02 17 52.3
VNA3 *e* 02 17 59.0
VNA3 *e* 02 18 05.4
VNA3 *e* 02 18 24.5
VNA3 *e* 02 18 40.3
VNA1 Neumayer--Stat 153.82 194 *e*PKPdf PKPbc 02 17 40.5 -2.1
VNA1 *e* 02 17 47.1
VNA1 *e* 02 17 54.0
VNA1 *e* 02 18 00.4
VNA1 *e* 02 18 07.3
VNA1 *e* 02 18 13.7

NIED ***13*** *02:11:00,4650N×15320E,h17km,Mw4.8 Best double couple: M0=1.68000×10^16 NP1:ϕs=50.00000°,δ=80.00000°, λ=-165.00000°. NP2:ϕs=318.00000°,δ=76.00000°, λ=-10.00000°.*

ISCJB ***13*** *02:11:05.7±1.0,4614N±004×15308E±002,h1km±6km, mb5.1/138,MS4.5/21,Error ellipse: s-maj=6.6km s-min=2.4km az=152.0*

BJI ***13*** *02:11:06.7,4652N×15307E,h8km,mB5.2,mb4.9,Ms4.7, Msz4.5*

IDC ***13*** *02:11:06.8±0.5,4615N×15304E,h0km,mb4.6/25, mb1 4.8/27,mb1mx4.7/31,mbtmp4.7/27,ML4.2/2,MS4.4/9, Ms1 4.5/9,ms1mx4.0/34,Error ellipse: s-maj=16.0km s-min=13.3km az=157.0*

JMA ***13*** *02:11:07.9±0.7,4651N×15322E,h30km,M4.9*

NEIC ***13*** *02:11:08.5±2.8,4621N×15302E,h7km±17km,mb5.1/71, Error ellipse: s-maj=6.8km s-min=3.8km az=170.0*

GCMT ***13*** *02:11:08.5±0.4,4618N×15334E,h18km±1km,MW5.0/77, Moment Tensor Solution. s21,c23; s77,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.60±.25; Mθθ-1.62±.15; Mϕϕ-1.97±.14; Mrθ-0.13±.38; Mϕθ-1.76±.08; Mϕr1.23±.31; Best double couple: M0 3.78400×10^16 NP1:ϕs235.00000°,δ40.00000°,λ110.00000°. NP2: ϕs29.00000°,δ53.00000°,λ74.00000°. Principal axes: T 3.9080, Plg75.0000°, Azm247.0000°; N -0.2380, Plg13.0000°, Azm39.0000°; P -3.6600, Plg7.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***13*** *02:11:12.2±1.2,4624N×15295E,h45km,mb5.2/72, MS4.6/10 Error ellipse: s-maj=7.4km s-min=5.0km az=105.4*

SZGRF ***13*** *02:11:13.6,4635N×15385E,h33km,mb5.2,Kuril Islands, Russia*

ISC 13 02:11:10.0±1.1,4623N±004×15301E±002,h15km±7km, h19km±4.7km:pP-P,n597,σ0:97/600,mb5.0/138,MS4.5/21, 104C-96D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.74**	**256**	⇓*i*PN		**Pn**	**02 12 06.0**	**-1.1**
KUR					pmax	pmax		
	comp=N,230nm,0.7s							
KUR					pmax	pmax		
	comp=Z,1μm,0.7s							
KUR					pmax	pmax		
	comp=Z,3μm,1.0s							
SKR	**Severo-Kuril's**	**4.91**	**24**	*e*PN		**Pn**	**02 12 23.5**	**+0.3**
SKR					pmax	pmax		
	comp=Z,160nm,0.6s							
NEM2	**Nemuro 2**	**5.91**	**244**	P		**Pn**	**02 12 36.2**	**-0.8**
NEM2				*e*S		**Sn**	**02 13 42.1**	**-2.4**
JRA	**Rausu**	**6.04**	**251**	P		**Pn**	**02 12 40.1**	**+1.4**
JNK	**Nakash**	**6.46**	**249**	P		**Pn**	**02 12 45.3**	**+0.8**
JAK	**Akkeshi**	**6.76**	**244**	P		**Pn**	**02 12 47.4**	**-1.2**
JAK				*e*S		**Sn**	**02 14 02.1**	**-3.2**
JTKR	**Abashiri--Toko**	**6.83**	**254**	P		**Pn**	**02 12 51.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.11**	**280**	*e*PN		**Pn**	**02 12 58.0**	**+4.6**
YSS				S		**Sn**	**02 14 20.0**	**+6.2**
YSS					pmax	pmax		
	comp=Z,80nm,0.9s							
YSS					MLR	MLR		
	comp=Z,2μm,16.0s							
YSS					MLR	MLR		
	comp=E,2μm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.11**	**280**	*e*Pn		**Pn**	**02 12 59.1**	**+5.7**
JMP	**Maruseppu**	**7.18**	**255**	P		**Pn**	**02 12 57.0**	**+2.6**
JAR	**Ashorobuto**	**7.20**	**249**	P		**Pn**	**02 12 55.7**	**+1.0**
JAR				*e*S		**Sn**	**02 14 17.6**	**+1.4**
JOB	**Onbets**	**7.35**	**246**	*e*S		**Sn**	**02 14 17.0**	**-2.8**
JKK2	**Kamakawa 2**	**7.64**	**256**	P		**Pn**	**02 13 03.0**	**+2.2**
ASAJ	**Asahikawa**	**7.66**	**258**	Pn		**Pn**	**02 13 03.0**	**+2.0**
	comp=E,3.1nm,0.3s,baz=90,slow=12,SNR=16							
ASAJ	**Asahikawa**	**7.66**	**258**	P		**Pn**	**02 13 03.9**	**+2.9**
ASAJ	**Asahikawa**	**7.66**	**258**	PN		**Pn**	**02 13 03.0**	**+2.0**
ASAJ					pmax	pmax		
	comp=Z,3.0nm,0.3s							
PET	**Petropavlovsk**	**7.72**	**26**	*e*PN		**Pn**	**02 13 02.8**	**+1.0**
PET					pmax	pmax		
	comp=Z,85nm,0.8s							
PET					MLR	MLR		
	comp=Z,1μm,13.0s							
PET					MLR	MLR		
	comp=Z,1μm,15.0s							
PET	**Petropavlovsk**	**7.72**	**26**	*e*Pn		**Pn**	**02 13 01.5**	**-0.3**
PET				*e*Sn		**Sn**	**02 14 24.0**	**-5.0**
JCH	**Churui**	**7.80**	**246**	P		**Pn**	**02 13 02.1**	**-0.8**
JCH				*e*S		**Sn**	**02 14 26.5**	**-4.3**
JAB	**Ashibetsu**	**8.13**	**254**	P		**Pn**	**02 13 10.2**	**+2.7**
ERM	**Erimo**	**8.25**	**243**	Pn		**Pn**	**02 13 10.5**	**+1.4**
	comp=Z,355nm,0.6s,SNR=6.8							
ERM	**Erimo**	**8.25**	**243**	PN		**Pn**	**02 13 09.8**	**+0.7**
ERM					pmax	pmax		
	comp=Z,110nm,0.9s							
ERM	**Erimo**	**8.25**	**243**	*e*Pn		**Pn**	**02 13 08.9**	**-0.1**
	comp=Z,107nm,0.9s							
ERM				*e*Sn		**Sn**	**02 14 37.9**	**-4.0**
JEM	**Erimo**	**8.25**	**243**	*e*S		**Sn**	**02 14 36.8**	**-5.1**
JNBK	**Urakawa-nobuka**	**8.36**	**245**	P		**Pn**	**02 13 08.8**	**-1.7**
JNBK				*e*S		**Sn**	**02 14 38.3**	**-6.3**
JNB	**Noboribetsu**	**9.37**	**251**	P		**Pn**	**02 13 25.5**	**+1.1**
JNB				*e*S		**Sn**	**02 15 07.9**	**-1.5**
JKB	**Kayabe**	**9.65**	**248**	P		**Pn**	**02 13 27.7**	**-0.6**
JOT	**Ohata**	**9.91**	**245**	P		**Pn**	**02 13 31.7**	**-0.2**
JOT				S		**Sn**	**02 15 15.3**	**-7.5**
JTM	**Tenmabayashi**	**10.24**	**242**	P		**Pn**	**02 13 33.7**	**-2.6**
JTM				*e*S		**Sn**	**02 15 21.9**	**-8.9**
JTH	**Tanohata**	**10.29**	**236**	*e*S		**Sn**	**02 15 21.2**	**-11**
JOSM	**Okushiri--Mats**	**10.57**	**252**	P		**Pn**	**02 13 40.4**	**-0.5**
JOM	**Ohasama**	**10.93**	**236**	P		**Pn**	**02 13 42.7**	**-3.1**
JOM				S		**Sn**	**02 15 37.2**	**-11**
OFUJ	**Ofunato**	**10.99**	**233**	*e*S		**Sn**	**02 15 38.1**	**-11**
JRG	**Rokugo**	**11.36**	**237**	*e*S		**Sn**	**02 15 49.1**	**-9.3**
JIO	**Ouri**	**11.61**	**232**	*e*S		**Sn**	**02 15 52.3**	**-12**
HABR	**Khabarovsk**	**12.39**	**287**	*e*PN		**Pn**	**02 14 12.5**	**+6.7**
HABR				*e*S		**Sn**	**02 16 37.9**	**+14**
HABR					pmax	pmax		
	comp=Z,46nm,1.2s							
MA2	**Magadan**	**13.43**	**355**	PN		**Pn**	**02 14 27.3**	**+7.2**
MA2				*e*S		**Sn**	**02 17 03.9**	**+15**
MA2					pmax	pmax		
	comp=Z,20nm,0.7s							
MA2					MLR	MLR		
	comp=Z,16μm,12.9s							
MAJO	**Matsushiro**	**14.71**	**234**	P		**Pn**	**02 14 34.4**	**-3.1**
MAJO					pmax	pmax		
	comp=Z,58nm,1.0s							
MAJO	**Matsushiro**	**14.71**	**234**	*e*Pn		**Pn**	**02 14 34.2**	**-3.3**
	comp=Z,58nm,0.9s							
MAT	**Matsushiro**	**14.71**	**234**	P		**Pn**	**02 14 37.5**	**0.0**
MAT	**Matsushiro**	**14.71**	**234**	P		**Pn**	**02 14 32.7**	**-4.8**
MJAR	**Matsushiro Arr**	**14.71**	**234**	Pn		**Pn**	**02 14 34.1**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=27,slow=12,SNR=8.2							
MJAR	**Matsushiro Arr**	**14.71**	**234**	P		**Pn**	**02 14 34.1**	**-3.4**
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
JRY	**Ryogami san**	**14.72**	**231**	P		**Pn**	**02 14 29.7**	**-7.8**
VLA	**Vladivostok**	**15.34**	**266**	*e*P		**Pn**	**02 14 45.3**	**-0.5**
VLA					pmax	pmax		
	comp=Z,43nm,0.9s							
VLA					MLR	MLR		
	comp=Z,1μm,15.4s							
MDJ	**Mudanjiang**	**16.51**	**273**	P		**Pn**	**02 15 02.1**	**+1.1**
MDJ				S		**Sn**	**02 18 06.6**	**+2.6**
MDJ				PCP		PcP	02 19 51.5	-0.5
MDJ				SCP		ScP	02 23 25.9	-0.1
MDJ				AMB		AMB		
	comp=Z,66nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,273nm,11.3s							
MDJ				LR		LR		
	comp=N,560nm,17.2s							
MDJ				LR		LR		
	comp=E,771nm,17.2s							
MDJ				LR		LR		
	comp=Z,1μm,18.5s							
MDJ	**Mudanjiang**	**16.51**	**273**	*e*P		**Pn**	**02 15 01.9**	**+0.8**
	comp=Z,78nm,1.0s							
JHJ	**Hachijo jima 2**	**16.56**	**222**	Pn		**Pn**	**02 14 59.4**	**-2.2**
	comp=Z,5.5nm,0.3s,baz=72,slow=19,SNR=2.3							
SEY	**Seymchan**	**16.74**	**359⇑**	*e*P		**Pn**	**02 15 04.8**	**+0.9**
CN2	**Changchun**	**19.60**	**273**	*e*P		**Pn**	**02 15 37.2**	**-1.8**
CN2				*e*XP		sP	02 15 44.2	+0.2
CN2				*e*S		**Sn**	**02 19 09.9**	**-8.8**
CN2				AMB		AMB		
	comp=Z,30nm,0.8s							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,2μm,15.0s							
CN2				LR		LR		
	comp=E,1μm,15.0s							
CN2				LR		LR		
	comp=Z,1μm,16.0s							
CLNS	**Chul'man**	**20.31**	**312**	*e*P		**P**	**02 15 46.5**	**+1.2**
CLNS				*e*PPP			02 16 04.1	
CLNS				*e*S		**S**	**02 19 19.2**	**-13**
CLNS				*e*			02 20 06.4	
CLNS					pmax	pmax		
	comp=E,34nm,0.9s							
CLNS					pmax	pmax		
	comp=Z,69nm,0.9s							
CLNS					pmax	pmax		
	comp=N,20nm,1.0s							
CLNS					smax			
	comp=N,8.0nm,0.9s							
CLNS					smax			
	comp=E,7.0nm,0.9s							
CLNS					smax			
	comp=Z,7.0nm,1.1s							
CLNS					MLR	MLR		
	comp=N,600nm,16.0s,MS4.6							
CLNS					MLR	MLR		
	comp=Z,2μm,16.0s,MS4.6							
CLNS					MLR	MLR		
	comp=E,2μm,14.0s,MS4.6							
NRGR	**Nerungri**	**20.34**	**311**	*e*P		**P**	**02 15 48.1**	**+2.5**
KSRS	**Korea Array**	**20.58**	**254**	P		**P**	**02 15 48.5**	**+0.3**
	comp=E,19nm,0.9s,baz=60,slow=11,SNR=25							

YAK	**Yakutsk**	**20.72 328**	*i* P	**P**	**02 15 49.4**	**-0.4**
YAK			pmax	pmax		
comp=Z,44nm,0.7s						
JTU	**Tsushima**	**21.37 245**	P	**P**	**02 15 59.7**	**+2.9**
JNU	**Nakatsue**	**21.40 240**	P	**P**	**02 15 58.7**	**+1.6**
comp=Z,41nm,0.9s,mb4.8,baz=256,slow=21,SNR=7.3						
JNU			LR	LR	02 23 37.8	
comp=Z,2μm,19.4s,MS4.4,baz=78,slow=35						
JNU	**Nakatsue**	**21.40 240**	*i* P	**P**	**02 16 00.4**	**+3.3**
HIA	**Hailar**	**22.47 290**	*i* P	**P**	**02 16 06.1**	**-2.5**
HIA	**Hailar**	**22.47 290**	*e*P	**P**	**02 16 06.0**	**-2.6**
comp=Z,14nm,0.9s,mb4.4						
BILL	**Bilibino**	**22.91 13**⇑	*e*P	**P**	**02 16 12.3**	**-1.0**
BILL			*e*S	**S**	**02 20 20.2**	**-2.5**
BILL			pmax	pmax		
comp=Z,23nm,0.8s,mb4.7						
BILL			MLR	MLR		
comp=Z,700nm,16.0s,MS4.2						
BILL	**Bilibino**	**22.91 13**	*e*P	**P**	**02 16 11.3**	**-1.9**
comp=Z,38nm,1.1s,mb4.7						
DL2	**Dalian**	**24.13 264**	⇑P	**P**	**02 16 25.7**	**+0.5**
DL2			S	**S**	**02 20 45.2**	**+2.7**
DL2			AMB	AMB		
comp=Z,20nm,1.0s,mb4.5						
DL2			AMB	AMB		
comp=Z,210nm,4.3s						
DL2			LR	LR		
comp=N,290nm,15.0s,MS4.0						
DL2			LR	LR		
comp=E,210nm,15.3s,MS4.0						
DL2			LR	LR		
comp=Z,280nm,16.1s,MS3.8						
CIT	**Chita**	**26.22 297**	*e*P	**P**	**02 16 41.0**	**-3.2**
CIT			*e*		02 16 53.2	
CIT			*e*		02 17 31.7	
CIT			*e*		02 21 02.4	
CIT			pmax	pmax		
comp=Z,28nm,1.7s,mb4.5						
BOD	**Bodaibo**	**26.27 310**	*e*P	**P**	**02 16 41.9**	**-2.7**
BOD			pmax	pmax		
comp=Z,20nm,1.3s,mb4.5						
BJI	**Beijing**	**27.41 270**	*e*P	**P**	**02 16 55.5**	**+0.6**
BJI			AMB	AMB		
comp=Z,30nm,1.2s,mb4.7						
BJI			AMB	AMB		
comp=Z,250nm,5.2s						
BJI			LR	LR		
comp=N,485nm,11.3s						
BJI			LR	LR		
comp=E,936nm,16.4s						
BJI			LR	LR		
comp=Z,618nm,18.2s						
BJT	**Baijiatuau**	**27.42 270**	*e*P	**P**	**02 16 55.2**	**+0.2**
BJT			pmax	pmax		
comp=Z,21nm,0.8s						
BJT	**Baijiatuau**	**27.42 270**	*e*P	**P**	**02 16 55.2**	**+0.2**
comp=Z,21nm,0.8s,mb4.7						
TIXI	**Tiksi**	**27.95 344**	*e*P	**P**	**02 16 54.8**	**-4.9**
TIXI			pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.2						
TIXI			MLR	MLR		
comp=Z,935nm,16.0s,MS4.5						
TIXI	**Tiksi**	**27.95 344**	*e*P	**P**	**02 16 57.8**	**-1.9**
HHC	**Hu-ho-hao-te**	**30.26 275**	*e*P	**P**	**02 17 21.4**	**+1.1**
HHC			XP	sP	02 17 27.2	+0.3
HHC			PP	PP	02 18 19.6	-9.0
HHC			PCP	PcP	02 20 23.3	+2.6
HHC			S	**S**	**02 22 19.2**	**-0.3**
HHC			XS	sS	02 22 26.3	-0.9
HHC			SS	SS	02 23 57.9	-31
HHC			SCS	ScS	02 27 57.0	-1.2
HHC			AMB	AMB		
comp=Z,49nm,1.1s,mb5.2						
HHC			AMB	AMB		
comp=Z,332nm,5.3s						
HHC			LR	LR		
comp=N,584nm,17.2s,MS4.5						
HHC			LR	LR		
comp=E,747nm,17.2s,MS4.5						
HHC			LR	LR		
comp=Z,950nm,17.8s,MS4.5						
SONM	**Songino Array**	**31.44 290**	P	**P**	**02 17 29.5**	**-1.2**
comp=Z,2.1nm,0.7s,mb4.0,baz=79,slow=7.8,SNR=14						
SONM			PcP	PcP	02 20 23.1	-0.7
comp=Z,1.9nm,0.9s,baz=44,slow=1.9,SNR=4.9						
SONM			LR	LR	02 30 08.5	
comp=Z,266nm,19.2s,MS3.9,baz=253,slow=36						
TLY	**Talaya**	**32.36 298**	*e*P	**P**	**02 17 37.3**	**-1.5**
TLY			pmax	pmax		
comp=Z,12nm,0.9s,mb4.7						
TLY			MLR	MLR		
comp=Z,1μm,17.0s,MS4.6						
TLY	**Talaya**	**32.36 298**	*e*P	**P**	**02 17 37.9**	**-0.9**
comp=Z,18nm,1.4s,mb4.7						
ZAK	**Zakamensk**	**32.84 296**⇑	*i*P	**P**	**02 17 42.3**	**-0.7**
ZAK			*e*		02 18 55.8	
ZAK			pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5						
GUMO	**Guam**	**33.26 195**	LR	LR	02 30 48.7	
comp=Z,400nm,18.9s,MS4.2,baz=12,slow=36						
IMA2	**Indian Mountai**	**34.27 36**	*e*P	**P**	**02 17 55.0**	**-0.4**
XAN	**Xi'an**	**35.41 266**	P	**P**	**02 18 05.6**	**+0.4**
XAN			AP	pP	02 18 16.3	+6.3
XAN			AMB	AMB		
comp=Z,13nm,0.9s,mb4.9						
MCK	**McKinley**	**36.09 40**	*e*P	**P**	**02 18 10.3**	**-0.8**
comp=Z,9μm,1.2s						
SML	**Sawmill**	**36.40 43**	*e*P	**P**	**02 18 13.2**	**-0.5**
COLA	**College**	**36.59 38**	P	**P**	**02 18 15.2**	**-0.2**
COLA			pmax	pmax		
comp=Z,29nm,1.0s,mb5.1						
COLA	**College**	**36.59 38**	*e*P	**P**	**02 18 15.2**	**-0.2**
comp=Z,29nm,1.0s,mb5.1						
LZH	**Lanzhou**	**37.84 272**	⇑P	**P**	**02 18 27.3**	**+1.3**
LZH			AP	pP	02 18 30.2	-0.5
LZH			XP	sP	02 18 32.1	-0.5
LZH			PP	PP	02 19 55.8	+3.4
LZH			*e*S	**S**	**02 24 16.5**	**0.0**
LZH			XS	sS	02 24 23.8	-0.5
LZH			AMB	AMB		
comp=Z,49nm,1.3s,mb5.1						
LZH			AMB	AMB		
comp=Z,276nm,5.4s						
LZH			LR	LR		
comp=N,1μm,13.4s						
LZH			LR	LR		
comp=Z,2μm,17.5s,MS5.0						
LZH	**Lanzhou**	**37.84 272**	⇑P	**P**	**02 18 27.3**	**+1.3**
LZH					02 19 55.8	
LZH			*e*S	**S**	**02 24 16.5**	**0.0**
LZH	**Lanzhou**	**37.84 272**	⇑P	**P**	**02 18 27.3**	**+1.3**
LZH			pP	pP	02 18 30.2	-0.5
LZH			sP	sP	02 18 32.1	-0.5
LZH			PP	PP	02 19 55.8	+3.4
LZH			*e*S	**S**	**02 24 16.5**	**0.0**
LZH			sS	sS	02 24 23.8	-0.5
LZH			SS	SS	02 26 57.7	-5.0
GTA	**Gaotai**	**38.98 280**⇑	*i*P	**P**	**02 18 36.9**	**+1.3**
GTA			AP	pP	02 18 40.5	+0.1
GTA			XP	sP	02 18 43.0	+0.7
GTA			PP	PP	02 20 11.5	+6.5
GTA			PCP	PcP	02 20 46.6	+0.8
GTA			S	**S**	**02 24 36.9**	**+3.1**
GTA			XS	sS	02 24 44.6	+2.9
GTA			SS	SS	02 27 20.4	-5.4
GTA			AMB	AMB		
comp=Z,37nm,1.0s,mb5.1						
GTA			AMB	AMB		
comp=Z,223nm,4.2s						
GTA			LR	LR		
comp=N,460nm,15.6s,MS4.6						
GTA			LR	LR		
comp=E,479nm,15.6s,MS4.6						
GTA			LR	LR		
comp=Z,506nm,16.0s,MS4.4						
EGAK	**Eagle**	**39.45 38**	*e*P	**P**	**02 18 38.1**	**-1.4**
comp=Z,24nm,1.0s,mb4.9						
DAWY	**Dawson**	**40.29 39**	*e*P	**P**	**02 18 46.2**	**-0.3**
CD2	**Chengdu**	**40.77 266**	P	**P**	**02 18 50.9**	**+0.5**
CD2			AP	pP	02 18 55.4	+0.2
CD2			XP	sP	02 18 57.0	-0.1
CD2			PP	PP	02 20 28.5	+4.1
CD2			PCP	PcP	02 20 52.4	+0.9
CD2			S	**S**	**02 25 00.8**	**+0.3**
CD2			XS	sS	02 25 08.6	+0.2
CD2			SS	SS	02 27 57.1	-4.3
CD2			SCS	ScS	02 28 53.5	-1.7
CD2			AMB	AMB		
comp=Z,60nm,1.0s,mb5.2						
CD2			AMB	AMB		
comp=Z,420nm,4.9s						
CD2			LR	LR		
comp=N,550nm,13.2s,MS4.7						
CD2			LR	LR		
comp=E,470nm,13.5s,MS4.7						
CD2			LR	LR		
comp=Z,390nm,7.2s						
GYA	**Guiyang**	**41.54 258**⇑	*i*P	**P**	**02 18 57.3**	**+0.5**
GYA			AP	pP	02 19 01.4	-0.1
GYA			XP	sP	02 19 04.8	+1.4
GYA			PP	PP	02 20 36.5	+3.7
GYA			PCP	PcP	02 20 55.9	+1.9
GYA			SCP	ScP	02 24 44.8	+1.3
GYA			S	**S**	**02 25 12.3**	**+0.4**
GYA			SS	SS	02 28 10.2	-6.5
GYA			SCS	ScS	02 28 59.4	-0.5
GYA			AMB	AMB		
comp=Z,60nm,1.0s,mb5.2						
GYA			AMB	AMB		
comp=Z,140nm,5.0s						
GYA			LR	LR		
comp=N,670nm,15.6s,MS4.8						
GYA			LR	LR		
comp=E,840nm,15.8s,MS4.8						
GYA			LR	LR		
comp=Z,740nm,16.0s,MS4.7						
INK	**Inuvik**	**42.13 32**	P	**P**	**02 19 01.3**	**-0.3**
comp=Z,14nm,0.9s,mb4.6,baz=276,slow=7.8,SNR=50						
INK	**Inuvik**	**42.13 32**	P	**P**	**02 19 01.3**	**-0.3**
INK			pmax	pmax		
comp=Z,14nm,0.9s						
INK	**Inuvik**	**42.13 32**	*e*P	**P**	**02 19 01.5**	**-0.1**
ZAL	**Zalesovo**	**42.88 306**	P	**P**	**02 19 05.6**	**-2.1**
comp=Z,3.0nm,0.8s,mb4.1,baz=48,slow=8.4,SNR=24						
ZAL			PcP	PcP	02 20 58.0	-0.5
comp=Z,3.0nm,0.9s,baz=33,slow=3.4,SNR=6.1						
ZAL			LR	LR	02 39 16.1	
comp=Z,1μm,18.1s,MS4.9,baz=43,slow=39						
ZAL	**Zalesovo**	**42.88 306**	P	**P**	**02 19 05.6**	**-2.1**
ZAL					02 20 58.0	
ZAL			pmax	pmax		
comp=Z,3.0nm,0.8s						
ZAL			MLR	MLR		
comp=Z,1μm,18.1s						
NVS	**Novosibirsk**	**43.45 308**	*i* P	**P**	**02 19 09.8**	**-2.5**
NVS			pmax	pmax		
comp=Z,18nm,1.7s,mb4.5						
NVS			pmax	pmax		
comp=N,13nm,2.0s						
NVS			pmax	pmax		
comp=E,16nm,1.6s						
KMI	**Kunming**	**45.08 260**	P	**P**	**02 19 25.9**	**+0.5**
KMI			XP	sP	02 19 31.2	-0.9
KMI			AMB	AMB		
comp=Z,22nm,1.1s,mb4.9						
DLBC	**Dease Lake**	**46.01 45**	*e*P	**P**	**02 19 33.2**	**+0.5**
MKAR	**Makanchi Array**	**47.12 298**	P	**P**	**02 19 40.7**	**-0.8**
comp=Z,17nm,0.8s,mb5.0,baz=67,slow=7.9,SNR=74						
MKAR			LR	LR	02 40 59.1	
comp=Z,752nm,18.2s,MS4.7,baz=71,slow=38						
MKAR	**Makanchi Array**	**47.12 298**	P	**P**	**02 19 40.7**	**-0.7**
MKAR			pmax	pmax		
comp=Z,17nm,0.8s						
MKAR			MLR	MLR		
comp=Z,752nm,18.2s						
MKAR	**Makanchi Array**	**47.12 298**	P	**P**	**02 19 40.7**	**-0.8**
MKAR			LR	LR	02 40 59.1	
KURK	**Kurchatov**	**47.59 304**	P	**P**	**02 19 43.4**	**-1.7**
comp=Z,205nm,0.9s,SNR=25						
KURK	**Kurchatov**	**47.59 304**	P	**P**	**02 19 44.1**	**-1.0**
SNR=10						
KURK	**Kurchatov**	**47.59 304**⇑	*i*P	**P**	**02 19 43.8**	**-1.3**
KURK	**Kurchatov**	**47.59 304**	*e*P	**P**	**02 19 43.7**	**-1.5**
comp=Z,34nm,0.9s,mb5.4						
LSA	**Lhasa**	**50.23 273**	P	**P**	**02 20 07.2**	**+1.8**
LSA	**Lhasa**	**50.23 273**	*e*P	**P**	**02 20 07.7**	**+2.3**
LSA			pmax	pmax		
comp=Z,14nm,0.8s,mb5.0						
LSA	**Lhasa**	**50.23 273**	*e*P	**P**	**02 20 07.7**	**+2.3**
comp=Z,14nm,0.8s,mb5.0						
ALE	**Alert**	**50.27 6**	P	**P**	**02 20 04.9**	**-0.7**
comp=Z,63nm,0.7s,mb5.8,SNR=6.3						
CHKZ	**Chkalovo**	**50.71 310**	P	**P**	**02 20 07.0**	**-2.0**
CHKZ			pmax	pmax		
comp=Z,35nm,1.1s,mb5.2						
CHKZ	**Chkalovo**	**50.71 310**	*e*P	**P**	**02 20 07.4**	**-1.6**
comp=Z,31nm,0.9s,mb5.2						
NANT	**Nan**	**50.76 255**	⇓P	**P**	**02 20 08.0**	**-1.4**
comp=Z,146nm,1.0s,mb5.9						
BVAR	**Borovoye Array**	**51.14 310**	P	**P**	**02 20 11.3**	**-0.9**
comp=Z,7.8nm,0.9s,mb4.6,baz=56,slow=7.9,SNR=30						
BVAR			PcP	PcP	02 21 27.1	-0.6
comp=Z,3.4nm,0.9s,baz=90,slow=5.9,SNR=4.4						
BVAR			LR	LR	02 43 36.1	
comp=Z,560nm,18.3s,MS4.6,baz=319,slow=38						
BVAR	**Borovoye Array**	**51.14 310**	P	**P**	**02 20 11.3**	**-0.9**
BVAR					02 21 27.1	
BVAR			pmax	pmax		
comp=Z,8.0nm,0.9s						
BVAR			MLR	MLR		
comp=Z,560nm,18.3s						
BRVK	**Borovoye**	**51.18 310**	P	**P**	**02 20 11.7**	**-0.8**
comp=Z,104nm,1.2s,mb5.6,SNR=7.4						
BRVK	**Borovoye**	**51.18 310**	P	**P**	**02 20 12.2**	**-0.3**
SNR=5.3						
BRVK	**Borovoye**	**51.18 310**	P	**P**	**02 20 11.3**	**-1.2**
BRVK			pmax	pmax		
comp=Z,18nm,1.0s,mb5.0						
BRVK	**Borovoye**	**51.18 310**	*e*P	**P**	**02 20 10.6**	**-1.9**
comp=Z,13nm,0.9s,mb4.8						
YKW3	**Yellowknife Ar**	**51.35 36**	*e*P	**P**	**02 20 13.0**	**-0.7**
RES	**Resolute Bay**	**51.35 18**	*e*P	**P**	**02 20 13.2**	**-0.6**
comp=Z,420nm,0.9s						
YKA	**Yellowknife Ar**	**51.38 36**	P	**P**	**02 20 13.2**	**-0.8**
comp=Z,7.2nm,0.8s,mb4.6,baz=296,slow=7.2,SNR=63						
YKA	**Yellowknife Ar**	**51.38 36**	*i* P	**P**	**02 20 13.1**	**-0.9**
YKA			pmax	pmax		
comp=Z,7.0nm,0.8s						
YKA	**Yellowknife Ar**	**51.38 36**	P	**P**	**02 20 13.2**	**-0.8**
CHG	**Chiang Mai**	**51.93 257**	P	**P**	**02 20 19.2**	**+1.0**
CHTO	**Chiang Mai**	**51.93 257**	P	**P**	**02 20 19.4**	**+1.2**
SNR=5.2						
CHTO	**Chiang Mai**	**51.93 257**	*e*P	**P**	**02 20 18.9**	**+0.7**
CHTO			pmax	pmax		
comp=Z,14nm,0.9s,mb4.9						
CHTO	**Chiang Mai**	**51.93 257**	*e*P	**P**	**02 20 18.9**	**+0.8**
comp=Z,14nm,0.9s,mb4.9						
SHL	**Shillong**	**52.29 269**	*ex*	x	02 19 42.1	
TKM2	**Tokmak 2**	**53.16 296**	P	**P**	**02 20 27.9**	**+0.6**
SNR=7.4						
TKM2	**Tokmak 2**	**53.16 296**	P	**P**	**02 20 26.2**	**-1.1**
TKM2			pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7						
USP	**Ospenovka**	**53.66 297**	P	**P**	**02 20 31.2**	**+0.3**
SNR=27						
KBK	**Karagaybulak**	**53.71 296**	P	**P**	**02 20 32.0**	**+0.7**
SNR=10						
FRU	**Bishkek**	**53.82 297**	*e*P	**P**	**02 20 32.0**	**-0.1**
KZA	**Kyzart**	**53.83 296**	P	**P**	**02 20 34.0**	**+1.8**
SNR=10.0						
AAK	**Ala-Archa**	**54.00 297**	P	**P**	**02 20 33.7**	**+0.3**
SNR=17						
AAK	**Ala-Archa**	**54.00 297**	P	**P**	**02 20 32.5**	**-0.9**
comp=Z,110nm,0.8s,mb5.8,SNR=11						
AAK	**Ala-Archa**	**54.00 297**	P	**P**	**02 20 32.6**	**-0.8**
SNR=5.5						
AAK	**Ala-Archa**	**54.00 297**⇓	*e*P	**P**	**02 20 31.9**	**-1.5**
AAK			pmax	pmax		
comp=Z,12nm,0.6s,mb5.0						
AAK	**Ala-Archa**	**54.00 297**	*e*P	**P**	**02 20 31.9**	**-1.6**
EKS2	**Erkin-Say**	**54.43 297**	P	**P**	**02 20 37.4**	**+0.8**
SNR=8.8						
AML	**Almayashu**	**54.77 297**	P	**P**	**02 20 40.1**	**+1.0**
SNR=6.5						
GUN	**Gumba**	**54.98 275**	*e*P	**P**	**02 20 41.8**	**+1.3**
comp=Z,55nm,1.0s,mb5.5						
A07A	**Ashnola River,**	**55.31 53**	⇓P	**P**	**02 20 42.0**	**-0.9**
baz=55						
ARU	**Arti**	**55.35 318**	P	**P**	**02 20 41.4**	**-1.8**
comp=Z,135nm,0.7s,mb6.1,SNR=5.0						
ARU	**Arti**	**55.35 318**⇓	*i*P	**P**	**02 20 41.2**	**-2.0**
ARU			*e*PPP		02 23 58.1	
ARU			*e*S	**S**	**02 28 25.2**	**-1.6**
ARU			*e*SS	SS	02 32 13.8	+2.5
ARU			*e*SSS		02 34 18.4	
ARU			pmax	pmax		
comp=Z,22nm,0.9s,mb5.2						
ARU	**Arti**	**55.35 318**	*e*P	**P**	**02 20 41.3**	**-1.9**
comp=Z,27nm,1.0s,mb5.2						
KKN	**Kakani**	**55.47 276**	*e*P	**P**	**02 20 45.4**	**+1.4**
comp=Z,88nm,1.0s,mb5.7						
PKI	**Pulchoki**	**55.52 275**	*e*P	**P**	**02 20 45.6**	**+1.2**
comp=Z,62nm,1.1s,mb5.5						
DMN	**Daman**	**55.70 276**	*e*P	**P**	**02 20 47.3**	**+1.6**
comp=Z,91nm,0.9s,mb5.8						
HNR	**Honiara**	**55.76 172**	LR	LR	02 45 22.0	
comp=Z,205nm,18.4s,MS4.2,baz=360,slow=37						
B07A	**Winthrop**	**55.78 53**	⇑P	**P**	**02 20 44.8**	**-1.5**
baz=56						
GKN	**Gorkha**	**55.78 276**	*e*P	**P**	**02 20 47.6**	**+1.3**
comp=Z,141nm,1.0s,mb6.0						
A08A	**Turner Farm, O**	**55.98 53**	⇓P	**P**	**02 20 46.9**	**-0.8**
baz=56						
C07A	**Waterville**	**56.23 54**	⇓P	**P**	**02 20 48.4**	**-1.1**
baz=56						
B08A	**Colville Reser**	**56.27 53**	⇓P	**P**	**02 20 49.2**	**-0.6**
baz=56						
A09A	**Danville**	**56.34 52**	⇓P	**P**	**02 20 49.4**	**-0.9**
baz=56,SNR=7.1						
D07A	**Quincy**	**56.56 55**	⇓P	**P**	**02 20 50.9**	**-0.9**
baz=56						
HOOD	**Mount Hood Mea**	**56.64 57**	*e*P	**P**	**02 20 57.7**	**+5.3**
KOLN	**Koldanda**	**56.64 277**	*e*P	**P**	**02 20 53.9**	**+1.5**
comp=Z,92nm,0.9s,mb5.8						
EDM	**Edmonton**	**56.73 46**	*e*P	**P**	**02 20 52.1**	**-0.9**
C08A	**Higginbotham F**	**56.75 54**	⇑P	**P**	**02 20 52.3**	**-0.9**
baz=57						
G05A	**Wamic**	**56.88 57**	⇓P	**P**	**02 20 52.9**	**-1.2**
baz=57						
B09A	**Rice**	**56.89 53**	⇑P	**P**	**02 20 53.6**	**-0.6**
baz=57						
F06A	**Goldendale**	**56.89 56**	⇓P	**P**	**02 20 53.7**	**-0.6**
baz=57						
DAG	**Danmarks Havn**	**57.16 358**⇓	*i*P	PcP	02 21 52.0	+1.3
comp=Z,22nm,1.2s						
C09A	**Chrisman Ranch**	**57.17 53**	⇓P	**P**	**02 20 55.3**	**-0.9**
baz=57						
D08A	**Wollman Farm,**	**57.23 54**	⇑P	**P**	**02 20 55.5**	**-1.1**
baz=57						
HAWA	**Hanford**	**57.26 55**	*e*P	**P**	**02 21 01.1**	**+4.2**
H05A	**Madras**	**57.27 58**	⇓P	**P**	**02 20 56.3**	**-0.5**
baz=57						
G06A	**Carlson Farm,**	**57.28 57**	⇑P	**P**	**02 20 57.1**	**+0.2**
baz=57						
F07A	**Phinny Hill Vi**	**57.31 56**	⇓P	**P**	**02 20 57.0**	**-0.2**
baz=57						
HUMO	**Hull Mountain**	**57.40 61**	⇑P	**P**	**02 20 57.8**	**0.0**
baz=57						
B10A	**Chitwood Farm,**	**57.47 52**	⇓P	**P**	**02 20 57.4**	**-0.9**
baz=57						
E08A	**Dider Farm, El**	**57.47 55**	⇓P	**P**	**02 20 57.8**	**-0.6**
baz=57						
J04A	**Umpqua Nationa**	**57.55 60**	⇓P	**P**	**02 20 58.9**	**0.0**
baz=57						
A11A	**Hall Mountain,**	**57.57 51**	⇓P	**P**	**02 20 58.6**	**-0.4**
baz=57						
D09A	**Jones Farm, Ri**	**57.57 54**	⇑P	**P**	**02 20 58.1**	**-0.9**
baz=57						
BOK	**Bokaro**	**57.59 272**	*e*P	**P**	**02 21 00.4**	**+1.2**
BOK			AMb	AMB	02 21 01.6	
comp=Z,28nm,0.9s,mb5.3						
C10A	**Spilker Farm,**	**57.70 53**	⇓P	**P**	**02 20 59.0**	**-0.9**
baz=58						
H06A	**Lindquist Farm**	**57.74 57**	⇓P	**P**	**02 20 59.5**	**-0.7**
baz=58						
KEV	**Kevo**	**57.81 341**	*ep*	**P**	**02 20 58.2**	**-2.5**
comp=Z,6.9nm,0.8s,mb4.7						
KEV	**Kevo**	**57.81 341**	*e*P	**P**	**02 20 58.2**	**-2.5**
KEV			pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7						
G07A	**Ruggs Ranch, H**	**57.82 56**	⇑P	**P**	**02 21 00.1**	**-0.7**
baz=58						
B11A	**Sandpoint**	**57.86 52**	⇑P	**P**	**02 21 00.5**	**-0.6**
baz=58						
A12A	**Yaak River Ran**	**57.96 51**	⇑P	**P**	**02 21 01.7**	**-0.1**
baz=58						
E09A	**Wood Farm, Sta**	**57.98 55**	⇑P	**P**	**02 21 01.8**	**0.0**
baz=58						
YBH	**Yreka Blue Hor**	**58.05 61**	⇓P	**P**	**02 21 02.4**	**0.0**
baz=58						
D10A	**Wagner Farm, O**	**58.15 54**	⇓P	**P**	**02 21 02.5**	**-0.6**
baz=58						
G08A	**Pilot Rock**	**58.22 56**	⇑P	**P**	**02 21 03.2**	**-0.4**
baz=58						
I06A	**Prineville**	**58.27 58**	⇓P	**P**	**02 21 04.6**	**+0.7**
baz=58						
ARCES	**ARCESS Array B**	**58.32 341**	P	**P**	**02 21 03.1**	**-1.1**
comp=Z,6.7nm,0.9s,mb4.7,baz=30,slow=9.8,SNR=4.5						
ARCES	**ARCESS Array B**	**58.32 341**	P	**P**	**02 21 03.2**	**-1.1**
ARCES			pmax	pmax		
comp=Z,7.0nm,0.9s						
K05A	**Summer Lake**	**58.57 59**	⇓P	**P**	**02 21 05.3**	**-0.7**
baz=58						
F09A	**S2 Ranch, Elgi**	**58.58 55**	⇓P	**P**	**02 21 05.5**	**-0.6**
baz=58						
E10A	**Myers Farm, Un**	**58.58 54**	⇓P	**P**	**02 21 05.7**	**-0.4**
baz=58						
I07A	**Izee**	**58.60 58**	⇓P	**P**	**02 21 06.4**	**+0.2**
baz=58						
A13A	**Flathead Natio**	**58.63 50**	P	**P**	**02 21 06.3**	**-0.1**
baz=58,SNR=6.2						
M03C	**McCloud**	**58.68 62**	⇑P	**P**	**02 21 06.1**	**-0.7**
baz=58						
D11A	**Klaveano Farm,**	**58.68 53**	P	**P**	**02 21 05.9**	**-0.9**
baz=58,SNR=5.2						
J06A	**Christmas Vall**	**58.70 59**	⇑P	**P**	**02 21 06.8**	**-0.2**
baz=58						
AB31	**Akbulak array**	**58.71 310**	P	**P**	**02 21 05.7**	**-1.3**
AB31			pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8						
F10A	**Beach Ranch, E**	**58.81 55**	⇑P	**P**	**02 21 07.5**	**-0.2**
baz=59						
WDC	**Whiskeytown Da**	**58.83 62**	*e*P	**P**	**02 21 05.8**	**-2.0**
WDC			pmax	pmax		
comp=Z,24nm,1.3s,mb5.1						
WDC	**Whiskeytown Da**	**58.83 62**	*e*P	**P**	**02 21 07.1**	**-0.8**
comp=Z,24nm,1.3s,mb5.1						
WDC	**Whiskeytown Da**	**58.83 62**	⇑P	**P**	**02 21 07.4**	**-0.5**
baz=59						
H08A	**Prairie City**	**58.83 57**	⇑P	**P**	**02 21 07.8**	**0.0**
baz=59						
G09A	**Cove**	**58.90 56**	⇑P	**P**	**02 21 08.1**	**-0.2**
baz=59						
K06A	**Valley Falls**	**58.91 59**	⇑P	**P**	**02 21 08.9**	**+0.5**
baz=59						
B13A	**Whitefish**	**58.93 51**	P	**P**	**02 21 08.6**	**+0.1**
baz=59,SNR=7.1						
AKTK	**Aktyubinsk**	**59.02 312**	P	**P**	**02 21 07.8**	**-1.4**
AKTK			PcP	PcP	02 21 57.6	-0.4
AKTO	**Aktyubinsk**	**59.02 312**	P	**P**	**02 21 07.8**	**-1.4**
comp=Z,3.3nm,0.7s,mb4.5,baz=66,slow=6.3,SNR=14						
AKTO			PcP	PcP	02 21 57.6	-0.4
comp=Z,4.4nm,0.8s,baz=19,slow=3.8,SNR=5.5						
AKTO	**Aktyubinsk**	**59.02 312**	P	**P**	**02 21 07.8**	**-1.4**
AKTO					02 21 57.7	

baz=59
K07A **Rock Creek Ran** 59.57 59 ⇑P P 02 21 12.6 -0.3
baz=59
J08A **Circle Bar Ran** 59.63 58 ⇑P P 02 21 13.6 +0.2
baz=59
C14A **Swan Lake** 59.68 51 ⇓P P 02 21 13.8 +0.1
baz=60
D13A **Huson** 59.69 52 ⇑P P 02 21 13.4 -0.4
baz=60
G11A **Walters Elk Ra** 59.69 55 P P 02 21 13.4 -0.3
baz=60,SNR=5.6
I09A **Lost Marbles R** 59.69 57 ⇑P P 02 21 13.5 -0.4
baz=60
H10A **Noah's Angus R** 59.90 56 P P 02 21 15.2 -0.1
baz=60,SNR=6.4
L07A **Adell** 59.92 59 ⇓P P 02 21 15.0 -0.3
baz=60
ORR **Orenburg** 59.96 315 *e*P P 02 21 14.6 -1.0
ORR pmax pmax
comp=Z,20nm,1.2s,mb5.0
K08A **Mann Creek Ran** 60.00 58 ⇓P P 02 21 16.1 +0.2
baz=60
F12A **Elk City** 60.05 54 P P 02 21 16.4 +0.1
baz=60,SNR=8.0
J09A **Fry Pan Ranch,** 60.06 57 ⇑P P 02 21 16.3 0.0
baz=60,SNR=5.1
ORV **Oroville** 60.08 63 ⇑P P 02 21 16.6 +0.1
baz=60
WVOR **Wild Horse Val** 60.09 59 *e*P P 02 21 16.3 -0.2
WVOR pmax pmax
comp=Z,19nm,1.1s,mb5.0
WVOR **Wild Horse Val** 60.09 59 *e*P P 02 21 16.3 -0.2
comp=Z,19nm,1.1s,mb5.0
MSO **Missoula** 60.13 52 *e*P P 02 21 17.9 +1.0
comp=Z,30nm,1.4s,mb5.1
D14A **Greenough** 60.22 52 P P 02 21 17.1 -0.3
baz=60,SNR=14
E13A **Victor** 60.23 53 ⇑P P 02 21 17.4 -0.1
baz=60
H11A **Donnelly** 60.25 55 P P 02 21 17.3 -0.3
baz=60,SNR=7.4
N06A **Buffalo Meadow** 60.38 61 ⇓P P 02 21 18.9 +0.4
baz=60,SNR=5.3
M07A **Soldier Meadow** 60.40 60 ⇑P P 02 21 18.8 +0.2
baz=60,SNR=5.3
L08A **Fields** 60.41 59 ⇑P P 02 21 18.9 +0.2
baz=60
NDI **New Delhi** 60.44 282 *e*P P 02 21 19.0 +0.1
NDI *e*P 02 21 20.0
NDI AMb AMB 02 21 22.1
comp=Z,51nm,1.3s,mb5.4
CHMT **Chamberlain Mo** 60.46 52 *e*P P 02 21 17.9 -1.1
K09A **Rome** 60.47 58 ⇓P P 02 21 18.9 -0.2
baz=60
KLMR **Klimovskoe** 60.52 329 *e*P P 02 21 17.5 -1.9
KLMR pmax pmax
comp=Z,65nm,2.0s,mb5.4
F13A **Darby** 60.55 53 ⇓P P 02 21 19.1 -0.6
baz=60
J10A **Berg Farm, Mel** 60.59 57 ⇑P P 02 21 19.8 -0.2
baz=60
BEKR **Beckwourth** 60.59 62 ⇑P P 02 21 19.4 -0.6
baz=60,SNR=6.5
E14A **Clinton** 60.63 52 P P 02 21 20.1 -0.2
baz=60,SNR=5.8
O06A **Flanigan** 60.74 61 ⇓P P 02 21 21.0 +0.1
baz=61
I11A **Placerville** 60.76 56 ⇓P P 02 21 20.9 -0.2
baz=61
D15A **Lincoln** 60.78 51 ⇓P P 02 21 21.2 -0.1
baz=61
M08A **Happy Creek Ra** 60.83 59 ⇓P P 02 21 21.7 0.0
baz=61
L09A **Wilkinson Ranc** 60.91 59 ⇑P P 02 21 22.2 0.0
baz=61
H12A **Diamond D Ranc** 61.00 55 ⇑P P 02 21 22.6 -0.2
baz=61
G13A **Cobalt** 61.02 54 P P 02 21 22.5 -0.4
baz=61,SNR=11
LAVA **Lava Cap Winer** 61.04 63 ⇓P P 02 21 23.4 +0.5
baz=61,SNR=5.1
F14A **Wisdom** 61.06 53 ⇑P P 02 21 23.5 +0.3
baz=61
E15A **Deer Lodge** 61.09 52 P P 02 21 23.2 -0.2
baz=61,SNR=7.6
MFID **Camas Ranch** 61.14 56 ⇓P P 02 21 23.5 -0.2
baz=61
FFC **Flin Flon** 61.18 40 P P 02 21 23.3 -0.7
comp=Z,104nm,0.8s,mb6.0,SNR=6.7
O07A **Toulon** 61.32 61 ⇓P P 02 21 25.7 +0.8
baz=61,SNR=5.8
N08A **GE Springer Mi** 61.39 60 ⇑P P 02 21 25.4 +0.1
baz=61
M09A **Marrel Ranch,** 61.40 59 ⇓P P 02 21 26.0 +0.6
baz=61
R05C **Kirkwood Meado** 61.48 63 ⇓P P 02 21 26.1 +0.1
baz=61
F15A **Butte** 61.53 52 P P 02 21 26.4 0.0
baz=61,SNR=11
LRM **Limekiln Ridge** 61.57 52 *e*P P 02 21 26.6 0.0
J12A **Stokes Ranch,** 61.66 56 ⇓P P 02 21 27.4 +0.2
baz=62
CMB **Columbia Colle** 61.70 64 *e*P P 02 21 28.8 +1.3
CMB pmax pmax
comp=Z,20nm,1.2s,mb5.1
CMB **Columbia Colle** 61.70 64 *e*P P 02 21 28.8 +1.4
comp=Z,20nm,1.2s,mb5.1
CMB **Columbia Colle** 61.70 64 ⇓P P 02 21 29.0 +1.5
baz=62,SNR=5.2
N09A **Rock Creek Ran** 61.71 59 ⇑P P 02 21 28.1 +0.6
baz=62
PACP **Pacheco Peak** 61.77 65 ⇓P P 02 21 27.9 0.0
baz=62
JOF **Joensuu** 61.77 334 *e*p P 02 21 24.8 -3.1
comp=Z,4.1nm,0.7s,mb4.7
JOF **Joensuu** 61.77 334 *e*P P 02 21 24.8 -3.1
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
DLMT **Dillon** 61.77 53 *e*P P 02 21 33.4 +5.4
comp=Z,25nm,1.5s,mb5.1
HLID **Hailey** 61.86 55 *e*P P 02 21 28.7 +0.1
comp=Z,11nm,1.2s,mb4.9
HLID **Hailey** 61.86 55 ⇓P P 02 21 28.6 0.0
baz=62
M10A **I.L. Ranch, Tu** 61.88 58 ⇑P P 02 21 28.9 +0.2
baz=62
G15A **Dillon** 61.95 53 P P 02 21 28.9 -0.3
baz=62,SNR=7.0
MCMT **McKenzie Canyo** 61.96 54 *e*P P 02 21 28.4 -0.8
R06C **Coleville** 61.98 63 ⇑P P 02 21 30.3 +1.0
baz=62,SNR=5.8
J13A **Cove Ranch, Pi** 62.10 55 ⇑P P 02 21 30.5 +0.3
baz=62
S06C **San Francisco** 62.12 63 ⇑P P 02 21 32.4 +2.0
baz=62,SNR=6.0
BOZ **Bozeman (W)** 62.13 52 *e*P P 02 21 30.6 +0.3
BOZ **Bozeman (W)** 62.13 52 ⇑P P 02 21 30.1 -0.2
baz=62
BMN **Battle Mountai** 62.15 60 *e*P P 02 21 35.2 +4.7
BMN pmax pmax
comp=Z,24nm,1.2s,mb5.2
BMN **Battle Mountai** 62.15 60 *e*P P 02 21 35.2 +4.7
comp=Z,24nm,1.2s,mb5.2
K12A **Draper Farm, C** 62.15 57 ⇑P P 02 21 30.7 +0.2
baz=62
O09A **Fish Creek Ran** 62.33 60 ⇑P P 02 21 31.8 +0.1
baz=62
M11A **Holland Ranch,** 62.38 58 ⇑P P 02 21 32.6 +0.6
baz=62
R07C **Lee Vining** 62.49 63 ⇑P P 02 21 34.3 +1.5
baz=62
O10A **Cortez Mining,** 62.67 59 ⇑P P 02 21 35.4 +1.5
baz=62
Q08A **Gabbs** 62.70 61 ⇑P P 02 21 34.1 -0.1
baz=62,SNR=5.7
NVAR **Mina Array Bea** 62.74 62 P P 02 21 34.4 0.0
comp=Z,2.6nm,0.7s,mb4.5,baz=297,slow=4.9,SNR=12
P09A **Austin** 62.75 60 ⇑P P 02 21 35.6 +1.1
baz=63
QLMT **Earthquake Lak** 62.75 53 *e*P P 02 21 34.8 +0.3
N11A **Elko Archery C** 62.80 59 ⇑P P 02 21 35.0 +0.2
baz=63
KCC **Kaiser Creek** 62.80 64 ⇓P P 02 21 35.7 +0.8
baz=63
M12A **Wells** 62.91 58 ⇑P P 02 21 36.3 +0.7
baz=63,SNR=5.5
GCMT **Greycliff** 63.10 51 *e*P P 02 21 36.8 -0.1
P10A **Eureka** 63.11 60 ⇓P P 02 21 37.2 +0.3
baz=63
N12A **Clover Valley,** 63.19 58 ⇑P P 02 21 38.0 +0.6
baz=63
O11A **Cowboy Ranch,** 63.27 59 ⇓P P 02 21 38.6 +0.6
baz=63
PTRM **Twissleman Ran** 63.29 66 *e*P P 02 21 40.1 +2.0
YFT **Old Faithful** 63.32 53 *e*P P 02 21 39.0 +0.7
YFT *e*pP pP 02 21 52.6 +9.3
M13A **Montello** 63.38 57 P P 02 21 38.8 +0.1
baz=63,SNR=5.0
S08C **White Mtn Res** 63.40 63 ⇑P P 02 21 39.5 +0.7
baz=63
VIS **Vishakhapatnam** 63.42 268 *e*P P 02 21 39.6 +0.6
VIS AMb AMB 02 21 42.8
comp=Z,31nm,1.5s,mb5.2
AJM **Ajmer** 63.60 281 *e*P P 02 21 41.4 +1.2
AJM AMb AMB 02 21 42.1
comp=Z,26nm,0.9s,mb5.3
R09A **Tonopah** 63.61 62 ⇓P P 02 21 40.5 +0.3
baz=63,SNR=6.8
TPH **Tonopah** 63.62 62 *e*P P 02 21 43.4 +3.1
TPH *e**PP pP 02 21 53.1 +7.8
TPH pmax pmax
comp=Z,25nm,1.1s,mb5.2
TPH **Tonopah** 63.62 62 *e*P P 02 21 43.4 +3.1
comp=Z,26nm,1.1s,mb5.2
TPH *e*pP pP 02 21 53.1 +7.8
TIN **Tinemaha** 63.65 63 ⇑P P 02 21 41.7 +1.2
baz=64
N13A **Wendover, West** 63.67 58 ⇑P P 02 21 41.2 +0.6
baz=64
O12A **Currie** 63.73 59 ⇑P P 02 21 41.2 +0.2
baz=64
PSI **Prapat** 63.79 244 LR LR 02 52 42.7
comp=Z,145nm,18.6s,MS4.2,baz=137,slow=39
BHPL **Bhopal** 63.81 277 *e*P P 02 21 42.2 +0.6
BHPL AMb AMB 02 21 44.8
comp=Z,73nm,1.6s,mb5.5
MOOW **Moose Ponds** 63.81 53 *e*P P 02 21 42.1 +0.5
comp=Z,18nm,1.2s,mb5.0
S09A **Goldfield** 63.84 62 ⇓P P 02 21 41.9 +0.1
baz=64,SNR=5.6
KAF **Kangasniemi** 63.88 335 *e*p P 02 21 37.7 -4.3
comp=Z,24nm,0.9s,mb5.2,baz=37,slow=6.2
KAF **Kangasniemi** 63.88 335 *e*P P 02 21 37.7 -4.3
KAF pmax pmax
comp=Z,24nm,0.9s,mb5.2
VES **Vestal, Richgr** 63.88 65 ⇓P P 02 21 42.9 +0.9
baz=64
LOHW **Long Hollow** 63.98 53 *e*P P 02 21 42.5 -0.2
comp=Z,27nm,1.3s,mb5.1
REDW **Red Top Meadow** 64.00 54 *e*P P 02 21 43.4 +0.6
comp=Z,57nm,1.3s,mb5.4
NGP **Nagpur** 64.07 274 *e*P P 02 21 42.4 -0.8
NGP AMb AMB 02 21 43.0
comp=Z,42nm,2.3s,mb5.1
Q11A **Duckwater** 64.09 60 ⇑P P 02 21 42.9 -0.4
baz=64
CWC **Cottonwood Cre** 64.13 64 ⇓P P 02 21 43.8 +0.2
baz=64
P12A **McGill** 64.14 59 ⇓P P 02 21 43.9 +0.3
baz=64
GRAC **Grapevine Rang** 64.21 63 ⇑P P 02 21 45.1 +0.9
baz=64
LAO **LASA Array** 64.35 49 *e*P P 02 21 45.3 +0.2
comp=Z,34nm,1.3s,mb5.2
ISA **Isabella** 64.38 65 ⇓P P 02 21 46.3 +1.1
baz=64
SPUT **South Promonto** 64.41 56 *e*P P 02 21 41.0 -4.5
Q12A **Willow Creek R** 64.46 60 ⇓P P 02 21 45.7 -0.1
baz=64
FIA1 **FINESS Array S** 64.48 335 *e*P P 02 21 44.8 -1.2
FINES **FINESS Array B** 64.48 335 P P 02 21 45.0 -0.9
comp=Z,12nm,0.6s,mb5.1,baz=39,slow=8.0,SNR=37
FINES **FINESS Array B** 64.48 335 P P 02 21 45.0 -0.9
FINES pmax pmax
comp=Z,12nm,0.6s
DAC **Darwin (Calif)** 64.53 64 *e*P P 02 21 51.7 +5.4
MPMC **Manual Prospec** 64.74 64 ⇑P P 02 21 48.2 +0.5
baz=65,SNR=7.2
FURC **Furnace Creek,** 64.87 63 ⇑P P 02 21 48.3 -0.2
baz=65,SNR=6.4
OSI **Osito Adit** 64.89 66 ⇑P P 02 21 49.7 +1.1
baz=65
DUG **Dugway** 64.91 58 *e*P P 02 21 48.9 +0.1
DUG pmax pmax
comp=Z,28nm,1.1s,mb5.2
DUG **Dugway** 64.91 58 *e*P P 02 21 48.9 +0.2
comp=Z,28nm,1.2s,mb5.2
DUG **Dugway** 64.91 58 P P 02 21 49.0 +0.2
baz=65,SNR=7.6
LRMC **Laurel Mountai** 64.99 64 ⇑P P 02 21 50.0 +0.7
baz=65
NOQ **North Oquirrh** 65.02 57 *e*P P 02 21 50.0 +0.6
BW06 **Boulder Array** 65.11 54 *e*P P 02 21 49.8 -0.3
comp=Z,17nm,1.1s,mb5.0
PDAR **Pinedale Array** 65.11 54 P P 02 21 49.7 -0.3
comp=Z,4.7nm,0.8s,mb4.6,baz=286,slow=2.0,SNR=44
EDW2 **Edwards Air Fo** 65.18 65 ⇑P P 02 21 51.7 +1.2
baz=65,SNR=6.7
U10A **Ash Meadows, A** 65.23 63 ⇓P P 02 21 51.3 +0.5
baz=65,SNR=5.4
JLU **Jordanelle** 65.44 56 *e*P P 02 21 53.0 +0.8
NLU **North Lily Min** 65.50 57 *e*P P 02 21 51.9 -0.7
GSC **Goldstone** 65.65 64 ⇑P P 02 21 54.1 +0.5
baz=66
DAU **Daniels Canyon** 65.68 56 *e*P P 02 21 52.6 -1.1
DAU *e**PP pP 02 22 06.8 +8.1
DAU **Daniels Canyon** 65.68 56 *e*P P 02 21 52.6 -1.1
MPU **Maple Canyon** 65.72 57 *e*P P 02 21 53.5 -0.5
comp=Z,22nm,1.1s,mb5.1
AKL **Akola** 65.78 275 *e*P P 02 21 54.9 +0.5
AKL AMb AMB 02 21 56.5
comp=Z,41nm,1.1s,mb5.4
BFSC **Mount Baldy St** 65.80 65 ⇓P P 02 21 55.8 +1.3
baz=66
U11A **Corn Creek** 65.81 62 ⇓P P 02 21 55.6 +1.0
baz=66
SHPR **Sheep Range** 65.89 62 *e*P P 02 21 58.7 +3.6
TUQ **Turquoise Mtn.** 66.11 63 ⇑P P 02 21 57.2 +0.7
baz=66,SNR=8.1
V11A **Goodsprings** 66.16 63 ⇓P P 02 21 56.8 0.0
baz=66
CCUT **Cedar City** 66.30 60 *e*P P 02 21 57.6 -0.2
U12A **Valley of Fire** 66.32 62 ⇓P P 02 21 58.3 +0.5
baz=66
MSU **Marysvale** 66.38 59 *e*P P 02 21 58.9 +0.7
TMUT **Trail Mountain** 66.44 57 *e*P P 02 21 58.3 -0.3
MURC **Murrieta** 66.51 66 ⇓P P 02 21 59.3 +0.3
baz=66
V12A **Nelson** 66.58 62 ⇓P P 02 21 59.9 +0.4
baz=66,SNR=5.7
GMRC **Granite Mounta** 66.70 64 ⇑P P 02 22 00.5 +0.2
baz=66,SNR=5.7
ABKT **Ailbek** 66.81 301 P P 02 22 01.5 +0.5
comp=Z,125nm,1.0s,mb5.9,SNR=7.5
HYB **Hyderabad** 66.94 271 *i* P P 02 22 02.0 +0.2
HYB **Hyderabad** 66.94 271 *e*P P 02 22 02.0 +0.2
SRU **San Rafael** 66.96 57 P P 02 22 01.7 -0.2
SRU pmax pmax
comp=Z,38nm,1.2s,mb5.3
SRU **San Rafael** 66.96 57 *e*P P 02 22 01.8 -0.1
comp=Z,25nm,1.0s,mb5.2
ULM **Lac du Bonnet** 66.96 41 P P 02 22 00.4 -1.5
comp=Z,2.0nm,0.7s,mb4.3,baz=317,slow=6.4,SNR=6.2
BELC **Belle Mtn.** 67.00 64 ⇓P P 02 22 02.8 +0.6
baz=67
109C **Camp Elliot, M** 67.03 66 ⇓P P 02 22 03.2 +0.8
baz=67
IRM **Iron Mountain** 67.43 64 ⇓P P 02 22 04.8 -0.1
baz=67,SNR=8.7
BC3 **Big Chuckw Mtn** 67.57 64 ⇓P P 02 22 05.7 -0.1
baz=67,SNR=5.5
W13A **Hualapai Mount** 67.59 62 ⇑P P 02 22 05.6 -0.3
baz=67
X13A **Yucca** 67.96 63 ⇑P P 02 22 07.9 -0.3
baz=68,SNR=7.3
PDMCI **Parker Dam,Lak** 67.96 63 ⇑P P 02 22 08.0 -0.3
baz=68,SNR=6.9
WB2 **Warramunga Arr** 68.00 199 *e*P P 02 22 06.6 -1.9
WRA **Warramunga Arr** 68.00 199 P P 02 22 06.9 -1.6
comp=Z,2.8nm,0.8s,mb4.3,baz=16,slow=6.4,SNR=14
WRA **Warramunga Arr** 68.00 199 P P 02 22 06.9 -1.6
WRA pmax pmax
comp=Z,3.0nm,0.8s
W14A **Seligman** 68.01 62 ⇑P P 02 22 08.9 +0.4
baz=68,SNR=7.5
Y12C **Blythe** 68.09 64 ⇑P P 02 22 09.0 -0.1
baz=68
PV10 **Paradox Valley** 68.31 57 *e*P P 02 22 10.8 +0.3
GLA **Glamis** 68.36 65 ⇓P P 02 22 10.7 -0.1
baz=68,SNR=5.5
Y13A **Salome** 68.48 63 ⇑P P 02 22 11.0 -0.5
baz=68
W15A **Williams** 68.53 61 ⇑P P 02 22 11.8 0.0
baz=68
X14A **Yava** 68.62 62 ⇑P P 02 22 12.8 +0.4
baz=68,SNR=6.9
FITZ **Fitzroy Crossi** 68.65 208 *e*P P 02 22 11.7 -0.9
comp=Z,6.0nm,1.1s,mb4.4
NB2 **NORSAR Subarra** 68.70 341 P P 02 22 12.0 -0.9
comp=Z,4.0nm,0.6s,mb4.5,baz=28,slow=6.2
NOA **NORSAR Array B** 68.70 341 P P 02 22 12.0 -0.9
comp=Z,6.0nm,0.7s,mb4.6,baz=27,slow=6.3,SNR=18
NOA **NORSAR Array B** 68.70 341 P P 02 22 12.0 -0.9
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA **NORSAR Array B** 68.70 341 P P 02 22 12.0 -0.9
PV01 **Paradox Valley** 68.75 57 *e*P P 02 22 13.3 +0.1
MDRS **Chennai** 68.77 267 *ex* x 02 22 36.4
WUAZ **Wupatki** 68.84 61 *e*P P 02 22 13.9 +0.1
comp=Z,28nm,1.4s,mb5.0
WUAZ **Wupatki** 68.84 61 ⇑P P 02 22 13.8 0.0
baz=69
Y14A **Wickenburg** 68.91 63 ⇑P P 02 22 14.4 +0.2
baz=69,SNR=6.8
HFS **Hagfors** 68.92 340 P P 02 22 13.2 -1.1
comp=Z,15nm,0.8s,mb5.0,baz=56,slow=3.7,SNR=16
HFS **Hagfors** 68.92 340 P P 02 22 13.2 -1.1
HFS pmax pmax
comp=Z,15nm,0.8s
X15A **Humboldt** 69.01 62 ⇑P P 02 22 15.6 +0.7
baz=69,SNR=6.7
BORG **Borgarnes** 69.27 357 P P 02 22 17.8 +1.3
comp=Z,18nm,0.7s,mb5.1,baz=56,slow=7.8,SNR=4.2
ISCO **Idaho Springs** 69.30 54 *e*P P 02 22 16.9 +0.3
ISCO *e**PP pP 02 22 29.6 +7.9
ISCO pmax pmax
comp=Z,17nm,1.2s,mb4.8
ISCO **Idaho Springs** 69.30 54 *e*P P 02 22 16.9 +0.3
comp=Z,17nm,1.3s,mb4.8
ISCO *e*pP pP 02 22 29.6 +8.0
MVCO **Mesa Verde** 69.41 58 *e*P P 02 22 17.1 -0.2
comp=Z,15nm,1.1s,mb4.8
MVCO **Mesa Verde** 69.41 58 ⇑P P 02 22 17.3 0.0
baz=69
POO **Poona** 69.44 276 ⇑*ix* x 02 22 14.5
comp=Z,30nm,1.0s
KAD **Karad** 70.04 274 *e*P P 02 22 21.7 +0.5
KAD AMb AMB 02 22 23.0
comp=Z,33nm,1.1s,mb5.2
115A **Sonoran Desert** 70.22 63 ⇓P P 02 22 23.4 +1.1
baz=70,SNR=6.3
116A **Eloy** 70.64 63 ⇑P P 02 22 25.4 +0.6
baz=70
SDCO **Great Sand Dun** 70.78 55 *e*P P 02 22 29.4 +3.7
KIV **Kislovodsk** 71.11 314 P P 02 22 29.7 +2.0
comp=Z,214nm,1.0s,mb6.0,SNR=6.1
KIV **Kislovodsk** 71.11 314 P P 02 22 29.0 +1.2
SNR=9.4
KIV **Kislovodsk** 71.11 314 *e*P P 02 22 27.5 -0.2
KIV pmax pmax
comp=Z,48nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,526nm,17.0s,MS4.9
KIV **Kislovodsk** 71.11 314 *e*P P 02 22 28.9 +1.2
comp=Z,39nm,1.0s,mb5.3
ZEI **Tsey** 71.36 313 *e*P P 02 22 29.1 -0.1
ZEI pmax pmax
comp=Z,21nm,1.0s,mb5.0
SUW **Suwalki** 71.42 331 *e*P P 02 22 28.6 -1.0
DUS **Dusheti** 71.44 312 P P 02 22 30.0 +0.4
DGRG **David-gareji** 71.55 311 P P 02 22 28.9 -1.4
MTA **Mtatsminda** 71.67 311 P P 02 22 32.2 +1.1
ASAR **Alice Springs** 71.69 198 P P 02 22 30.3 -0.9
comp=Z,2.2nm,0.8s,mb4.2,baz=17,slow=5.3,SNR=13
ASAR **Alice Springs** 71.69 198 P P 02 22 30.3 -0.9
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ONI **Oni** 71.72 313 P P 02 22 31.3 -0.2
GOR **Gori** 71.82 312 P P 02 22 33.6 +1.6
AKASG **Malin Array Be** 71.94 326 P P 02 22 31.9 -0.9
comp=Z,23nm,0.7s,mb5.2,baz=34,slow=6.2,SNR=108
AKASG **Malin Array Be** 71.94 326 *i* P P 02 22 31.8 -0.9
AKASG pmax pmax
comp=Z,23nm,0.7s
AKBB **Malin Array Si** 71.94 326 *e*P P 02 22 31.6 -1.1
KIEV **Kiev** 71.95 326 *e*P P 02 22 31.7 -1.1
KIEV pmax pmax
comp=Z,58nm,1.1s,mb5.4
KIEV **Kiev** 71.95 326 *e*P P 02 22 31.7 -1.1
comp=Z,58nm,1.1s,mb5.4
KZR **Kazreti** 72.09 311 P P 02 22 35.1 +1.4
ANMO **Albuquerque** 72.16 58 *e*P P 02 22 33.9 -0.2
GNI **Garni** 72.81 310 P P 02 22 39.2 +1.2
comp=Z,13nm,0.8s,mb4.9,baz=16,slow=2.1,SNR=16
GNI **Garni** 72.81 310 P P 02 22 39.9 +2.0
SNR=13
GNI **Garni** 72.81 310 P P 02 22 39.2 +1.3
GNI pmax pmax
comp=Z,13nm,0.8s
GNI **Garni** 72.81 310 *e*P P 02 22 39.8 +1.8
comp=Z,35nm,1.0s,mb5.2
SOC **Sochi** 72.84 316 *c i*P P 02 22 38.1 0.0
SOC *e*S S 02 31 58.8 -4.9
SOC *e* 02 32 44.7
SOC *e*SS SS 02 36 41.6 -2.1
SOC pmax pmax
comp=Z,44nm,1.2s,mb5.3
SOC MLR MLR
comp=Z,663nm,17.0s,MS5.0
SOC smax
comp=E,196nm,0.4s
ANN **Anapa** 73.02 318 *e*P P 02 22 38.3 -0.8
ANN *e*S S 02 32 05.6 0.0
ANN pmax pmax
comp=Z,54nm,1.4s,mb5.3
DIGO **Kars** 73.34 311 *i* P P 02 22 43.6 +2.6
SCIA **State Center** 74.33 45 *e*P P 02 22 45.4 -1.4
comp=Z,11nm,0.7s,mb4.9
SIM **Simferopol'** 74.42 320 ⇑*e*P P 02 22 47.2 -0.2
SIM pmax pmax
comp=Z,22nm,0.7s,mb5.2
LVV **L'vov** 74.60 329 *e*P P 02 22 47.8 -0.6
ERZM **Erzurum** 74.75 312 *i* P P 02 22 51.4 +2.1
KIS **Kishinev** 75.06 324 ⇓*i*P P 02 22 50.0 -1.1
KIS *e* 02 23 06.0
KIS *e* 02 23 11.0
KIS **Kishinev** 75.06 324 ⇓*i*PUNK P 02 22 50.0 -1.1
KWP **Kalwaria** 75.23 329 *e*P P 02 22 52.3 +0.2
GRSN **GIRESUNGRSN** 75.55 315 *i* P P 02 22 53.6 -0.3
BNGL **BINGOL** 75.58 312 *i* P P 02 22 57.0 +2.9
OJC **Ojcow** 75.74 331 *e*P P 02 22 54.7 -0.3
STHS **Stebnicka Huta** 75.93 330 *e*P P 02 22 56.3 +0.2
STHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
STHS **Stebnicka Huta** 75.93 330 *e*P P 02 22 56.3 +0.2
comp=Z,10nm,1.0s,mb4.7
KOLS **Kolonicke sedl** 75.97 329 *e*P P 02 22 56.4 +0.1
BURAR **Bucovina Array** 75.98 327 ⇓*i*P P 02 22 56.6 +0.2
UZH **Uzhgorod** 76.22 329 *d i*P P 02 22 55.2 -2.5
NIE **Niedzica** 76.25 330 *e*P P 02 22 58.1 +0.2
CRVS **Cervenica-Dubn** 76.29 329 *e*P P 02 22 58.0 -0.1
MSL **Mosul** 76.52 309 *ex* x 02 23 02.5
OKC **Ostrava-Krasne** 76.62 332 *e*P P 02 23 00.1 +0.1
OKC *e*pP pP 02 23 03.8 -1.2
UPC **Upice** 76.72 333 *e*P P 02 23 00.5 0.0
WMOK **Wichita Mounta** 76.72 53 *e*P P 02 22 59.2 -1.4
DPC **Dobruska-Polom** 76.76 333 *e*P P 02 23 00.8 0.0
DPC *e*pP pP 02 23 04.6 -1.2
BOYT **Boyabat** 76.80 317 *i* P P 02 23 02.5 +1.5
VRI **Vrincioaia** 76.83 325 ⇓*i*P P 02 23 02.9 +1.7
MORC **Moravsky Berou** 76.87 332 P P 02 23 00.8 -0.6
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.8
MORC **Moravsky Berou** 76.87 332 *e*P P 02 23 00.8 -0.5
comp=Z,8.9nm,0.9s,mb4.7
MORC **Moravsky Berou** 76.87 332 ⇓*i*P P 02 23 01.1 -0.3
CLL **Collm** 76.91 336 *i* P P 02 23 01.0 -0.6
CLL *e* 02 23 13.0
CLL pmax pmax
comp=Z,21nm,1.0s,mb5.0

CLL Collm 76.91 336 *i* P **P 02 23 01.0 -0.6**
comp=Z,19nm,1.0s,mb5.0
CLL *e*PcP PcP 02 23 13.0 +0.3
KECS Kecovo 76.99 330 *e*P **P 02 23 01.9 -0.2**
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS Kecovo 76.99 330 *e*P **P 02 23 01.9 -0.2**
comp=Z,5.1nm,1.0s,mb4.4
HATD Hatta, Dubai 77.00 292 ⇓P **P 02 23 04.0 +1.8**
SNR=7.9
BRG Berggiesshubel 77.02 335 *e*P **P 02 23 01.2 -1.0**
comp=Z,3.7nm,1.1s,mb4.2
BRG *e* 02 23 13.8
comp=Z,14nm,1.4s
BRG Berggiesshubel 77.02 335 *e*P **P 02 23 01.2 -1.1**
BRG *e* 02 23 13.8
BRG pmax pmax
comp=Z,32nm,1.1s,mb5.2
HOQ Hoqain 77.11 291 P **P 02 23 04.4 +1.6**
SNR=5.3
PVCC Panska Ves 77.14 334 *e*P **P 02 23 02.8 -0.1**
ASHO Ashiyiah 77.14 292 P **P 02 23 04.7 +1.7**
SNR=6.0
BALT Daday 77.42 318 *i* P **P 02 23 04.6 +0.2**
BALT Daday 77.42 318 *i* P **P 02 23 04.6 +0.2**
MLR Muntele Rosu 77.45 325 P **P 02 23 04.2 -0.4**
comp=Z,8.8nm,0.8s,mb4.8,baz=171,slow=3.4,SNR=11
MLR Muntele Rosu 77.45 325 P **P 02 23 04.2 -0.5**
MLR pmax pmax
comp=Z,9.0nm,0.8s
MLR Muntele Rosu 77.45 325 ⇓P **P 02 23 05.0 +0.3**
MLR Muntele Rosu 77.45 325 ⇓*i*P **P 02 23 05.0 +0.3**
CTKT Corum 77.47 317 *i* P **P 02 23 06.2 +1.4**
VYHS Vyhne 77.55 331 *i* P **P 02 23 05.2 0.0**
VYHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VYHS Vyhne 77.55 331 *i* P **P 02 23 05.2 0.0**
comp=Z,5.7nm,1.0s,mb4.5
VRAC Vranov 77.58 332 P **P 02 23 05.5 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=31,slow=6.5,SNR=8.9
VRAC Vranov 77.58 332 P **P 02 23 05.5 +0.1**
VRAC pmax pmax
comp=Z,13nm,1.0s
VRAC Vranov 77.58 332 ⇑*i*P **P 02 23 05.5 +0.1**
DRGR 77.61 328 ⇓*i*P **P 02 23 05.4 -0.2**
PRU Pruhonice 77.62 334 *e*P **P 02 23 05.6 0.0**
PSZ Piszkesteto 77.67 330 *e*P **P 02 23 04.5 -1.4**
PSZ pmax pmax
comp=Z,13nm,1.0s,mb4.8
PSZ Piszkesteto 77.67 330 *e*P **P 02 23 05.5 -0.4**
comp=Z,13nm,1.0s,mb4.8
PSZ Piszkesteto 77.67 330 ⇓*i*P **P 02 23 05.3 -0.6**
BSY Bisya 77.77 290 P **P 02 23 08.5 +2.1**
SNR=6.2
LTX Lajitas 77.81 60 *e*P **P 02 23 06.3 -0.4**
LTX pmax pmax
comp=Z,22nm,1.2s,mb5.0
LTX Lajitas 77.81 60 *e*P **P 02 23 06.3 -0.4**
comp=Z,22nm,1.2s,mb5.0
TXAR Lajitas Array 77.81 60 P **P 02 23 05.9 -0.7**
comp=Z,5.0nm,0.8s,mb4.5,baz=297,slow=3.9,SNR=55
TXAR Lajitas Array 77.81 60 P **P 02 23 05.9 -0.8**
TXAR pmax pmax
comp=Z,5.0nm,0.8s
VOIR 77.85 325 ⇓*i*P **P 02 23 07.6 +0.7**
MOX Moxa 77.90 336 *e*P **P 02 23 07.4 +0.2**
comp=Z,17nm,1.1s,mb4.9
MOX Moxa 77.90 336 *e*P **P 02 23 07.4 +0.2**
MOX pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
NKC Novy Kostel 78.03 335 *e*P **P 02 23 07.0 -0.9**
BHD Baghdad 78.04 306 *ex* x 02 23 04.0
ZST Bratislava 78.38 332 *e*P **P 02 23 11.3 +1.4**
ZST pmax pmax
comp=Z,11nm,0.8s,mb4.8
ZST Bratislava 78.38 332 *e*P **P 02 23 11.3 +1.4**
comp=Z,11nm,0.8s,mb4.8
GZT Gaziantep 78.63 313 *i* P **P 02 23 13.0 +1.8**
KHC Kasperske Hory 78.67 334 *e*P **P 02 23 11.3 -0.2**
BR131 Keskin Array S 78.72 317 *e*P **P 02 23 12.7 +1.0**
comp=Z,8.1nm,1.1s,mb4.6
BRTR Keskin Array B 78.72 317 P **P 02 23 12.4 +0.7**
comp=Z,5.9nm,1.0s,mb4.5,baz=85,slow=2.6,SNR=23
BRTR Keskin Array B 78.72 317 P **P 02 23 12.4 +0.7**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
GZR Gura Zlata 78.77 327 ⇑*i*P **P 02 23 12.3 +0.3**
SGKT Sivrigoynuk 78.79 318 *i* P **P 02 23 13.5 +1.4**
GRA1 Grafenberg Arr 78.86 336 *e*P **P 02 23 12.7 +0.2**
comp=Z,25nm,1.0s,mb5.1
GRF Grafenberg Arr 78.86 336 *e*P **P 02 23 12.7 +0.2**
comp=Z,25nm,1.0s,mb5.1
GRF Grafenberg Arr 78.86 336 *e*P **P 02 23 12.7 +0.2**
GRF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GRF Grafenberg Arr 78.86 336 *e*P **P 02 23 12.7 +0.2**
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.1
AVNT Avonos 78.88 315 *i* P **P 02 23 13.4 +0.8**
GERES GERESS Array B 78.89 334 P **P 02 23 12.0 -0.7**
comp=Z,5.2nm,0.9s,mb4.5,baz=41,slow=3.6,SNR=21
GERES GERESS Array B 78.89 334 P **P 02 23 12.0 -0.7**
GERES pmax pmax
comp=Z,5.0nm,0.9s
ANTO Ankara 79.01 317 *e*P **P 02 23 13.8 +0.5**
ANTO pmax pmax
comp=Z,28nm,1.3s,mb5.0
ANTO Ankara 79.01 317 *e*P **P 02 23 13.8 +0.5**
comp=Z,28nm,1.3s,mb5.0
ANTO Ankara 79.01 317 ⇑*i*P **P 02 23 14.3 +1.0**
BZS Buzias 79.02 328 ⇓*i*P **P 02 23 12.6 -0.7**
CONA Conrad Observa 79.02 332 ⇓*i*P **P 02 23 14.2 +0.8**
comp=Z,11nm,0.9s,mb4.8,SNR=8.8
MEM Membach 79.41 339 P **P 02 23 15.4 -0.1**
comp=Z,29nm,1.2s,mb5.1
PKSM Moragy 79.58 330 ⇓P **P 02 23 14.9 -1.5**
PKSM Moragy 79.58 330 ⇓*i*P **P 02 23 14.9 -1.5**
ARSA Arzberg 79.73 332 ⇓*i*P **P 02 23 17.7 +0.5**
comp=Z,12nm,1.0s,mb4.8
BCLA Clavier 79.75 340 P **P 02 23 17.3 -0.1**
ESKT Eskisehir 80.19 318 *i* P **P 02 23 20.4 +0.7**
DOU Dourbes 80.22 340 P **P 02 23 20.3 +0.4**
WLF Walferdange 80.25 339 E 02 23 26.2
STU Stuttgart 80.26 337 *e*P **P 02 23 20.8 +0.7**
GROS Grobnik 80.43 332 *e*P **P 02 23 20.4 -0.6**
KBA Koelnbreinsper 80.57 333 *i* P **P 02 23 22.6 +0.8**
comp=Z,41nm,0.8s,mb5.4,SNR=21
KBA Koelnbreinsper 80.57 333 *i* P **P 02 23 22.6 +0.8**
comp=Z,41nm,0.8s,mb5.4
TAOE Nuku Hiva Isla 80.81 113 *e*LR LR 02 47 28.4
comp=Z,718nm,29.4s
BFO Black Forest 80.90 337 P **P 02 23 23.2 -0.3**
comp=Z,119nm,0.9s,mb5.8,SNR=6.8
BFO Black Forest 80.90 337 *e*P **P 02 23 23.3 -0.2**
BFO pmax pmax
comp=Z,21nm,1.0s,mb5.0
BFO Black Forest 80.90 337 *e*P **P 02 23 23.3 -0.3**
comp=Z,21nm,1.0s,mb5.0
GCIS Gornji Cirnik 80.91 331 *e*P **P 02 23 23.2 -0.4**
WTTA Wattenberg 80.93 334 ⇑*i*P **P 02 23 24.1 +0.4**
comp=Z,32nm,0.7s,mb5.3
WTTA Wattenberg 80.93 334 ⇑*i*P **P 02 23 24.1 +0.4**
WTTA pmax pmax
comp=Z,32nm,0.7s,mb5.4
VTS Vitosha 80.96 325 ⇓*i*P **P 02 23 24.3 +0.5**
MOTA Moosalm 81.01 335 ⇓*i*P **P 02 23 24.6 +0.4**
comp=Z,37nm,1.2s,mb5.2,SNR=11
MOTA Moosalm 81.01 335 ⇓*i*P **P 02 23 24.6 +0.5**
MOTA pmax pmax
comp=Z,37nm,1.2s,mb5.2
SQTA Sankt Quirin 81.09 335 ⇓*i*P **P 02 23 25.2 +0.6**
comp=Z,24nm,1.2s,mb5.0,SNR=11
SQTA Sankt Quirin 81.09 335 ⇓*i*P **P 02 23 25.2 +0.6**
SQTA pmax pmax
comp=Z,24nm,1.2s,mb5.0
CDF Champ du Feu 81.11 338 ⇑*i*P **P 02 23 24.2 -0.5**
comp=Z,74nm,1.1s,mb5.2
CDF Champ du Feu 81.11 338 ⇑*i*P **P 02 23 24.2 -0.5**
comp=Z,37nm,1.1s,mb5.2
LJU Ljubljana 81.12 332 *e*P **P 02 23 23.9 -0.8**
PTCC Patocco-Chiusa 81.17 333 P **P 02 23 25.6 +0.6**
PPT Papeete 81.91 126 *e*LR LR 02 47 59.5
comp=Z,334nm,24.0s,baz=339
PPT Papeete 81.91 126 LR LR 02 54 19.4
comp=Z,354nm,21.2s,MS4.7,baz=78,slow=32

BRMO Bormio 82.01 335 P **P 02 23 30.4 +1.0**
ASF Jabal al Asfar 82.98 310 P **P 02 23 35.9 +1.4**
comp=Z,8.4nm,1.1s,mb4.7,baz=86,slow=1.8,SNR=6.1
ASF Jabal al Asfar 82.98 310 P **P 02 23 35.9 +1.5**
ASF pmax pmax
comp=Z,8.0nm,1.1s
GRR Gorron 83.04 343 *e*P **P 02 23 34.4 -0.4**
comp=Z,146nm,1.6s,mb5.5
GRR Gorron 83.04 343 *e*P **P 02 23 34.4 -0.4**
GRR pmax pmax
comp=Z,73nm,1.6s,mb5.5
GRR Gorron 83.04 343 *e*P **P 02 23 34.4 -0.4**
comp=Z,73nm,1.6s,mb5.5
SMF Signal de Mont 83.62 339 ⇑*i*P **P 02 23 37.6 -0.2**
comp=Z,138nm,1.3s,mb5.6
SMF Signal de Mont 83.62 339 ⇑*i*P **P 02 23 37.6 -0.2**
SMF pmax pmax
comp=Z,69nm,1.3s,mb5.6
SMF Signal de Mont 83.62 339 ⇑*i*P **P 02 23 37.6 -0.2**
comp=Z,69nm,1.3s,mb5.6
SFI Santa Sofia 83.88 333 P **P 02 23 40.3 +1.2**
SFI pmax pmax
comp=Z,17nm,0.9s,mb5.2
SFI Santa Sofia 83.88 333 P **P 02 23 40.3 +1.2**
comp=Z,17nm,0.9s,mb5.2
LPG La Plagne 83.93 337 *e*P **P 02 23 40.1 +0.7**
comp=Z,38nm,1.0s,mb5.2
LPG La Plagne 83.93 337 *e*P **P 02 23 40.1 +0.7**
LPG pmax pmax
comp=Z,19nm,1.0s,mb5.2
LPG La Plagne 83.93 337 *e*P **P 02 23 40.1 +0.7**
comp=Z,19nm,1.0s,mb5.2
BNI Bardonecchia 84.36 337 *e*P **P 02 23 43.5 +1.9**
BNI pmax pmax
comp=Z,11nm,1.0s,mb4.9
BNI Bardonecchia 84.36 337 *e*P **P 02 23 43.5 +1.9**
comp=Z,11nm,1.0s,mb5.0
NRCA Norcia 84.43 332 P **P 02 23 42.5 +0.6**
comp=Z,28nm,0.9s,mb5.4
AQU L'Aquila 84.77 331 *e*P **P 02 23 43.7 +0.1**
AQU pmax pmax
comp=Z,41nm,1.2s,mb5.4
AQU L'Aquila 84.77 331 *e*P **P 02 23 43.7 +0.1**
comp=Z,41nm,1.2s,mb5.4
NWAO Narrogin (SRO) 85.17 210 *e*P **P 02 23 44.4 -1.2**
NWAO pmax pmax
comp=Z,13nm,1.0s
NWAO Narrogin (SRO) 85.17 210 *e*P **P 02 23 44.4 -1.3**
comp=Z,13nm,1.0s,mb5.0
CAF Calviac 85.67 340 *e*P **P 02 23 47.7 -0.4**
comp=Z,25nm,0.9s,mb5.1
CAF Calviac 85.67 340 *e*P **P 02 23 47.7 -0.4**
CAF pmax pmax
comp=Z,13nm,0.9s,mb5.2
CAF Calviac 85.67 340 *e*P **P 02 23 47.7 -0.4**
comp=Z,13nm,0.9s,mb5.2
EIL Elat 85.97 310 *e*P **P 02 23 48.5 -1.1**
comp=Z,597nm,1.3s
TBI Tubuai 86.62 129 *e*LR LR 02 50 05.2
comp=Z,256nm,34.8s
ESDC Sonseca Array 92.03 342 P **P 02 24 16.3 -2.0**
comp=Z,1.0nm,0.8s,mb4.2,baz=2.7,slow=3.4,SNR=4.6
RKT Rikitea 94.80 119 *e*LR LR 02 53 59.2
comp=Z,268nm,29.2s,baz=317
TORD Torodi Ar. Bea 115.50 329 PKP PKPdf 02 29 49.8 -1.5
comp=Z,0.7nm,0.9s,baz=329,slow=3.9,SNR=4.0
TORD PP PP 02 30 46.1 -6.9
comp=Z,2.1nm,1.1s,baz=7.5,slow=5.4,SNR=3.8
MAW Mawson 131.72 211 *e*PKIKP PKPdf 02 30 19.3 -3.0
LPAZ La Paz 134.64 63 PKP PKPdf 02 30 27.6 -0.2
comp=Z,0.6nm,0.8s,baz=47,slow=4.4,SNR=4.1
SNAA Sanae 152.04 196 PKPbc PKPbc 02 31 01.1 -3.5
comp=Z,0.8nm,0.9s,baz=231,slow=2.4,SNR=6.5
SNAA Sanae 152.04 196 *e*PKPdf PKPdf 02 31 01.2 +3.2
SNAA *e* 02 31 05.0
SNAA *e* 02 31 13.5
SNAA Sanae 152.04 196 PKIKP PKPdf 02 31 01.1 +3.1
SNAA pmax pmax
comp=Z,1.0nm,0.9s
SNAA Sanae 152.04 196 *e*PKPbc PKPbc 02 31 01.2 -3.4
SNAA *e*PKPab PKPab 02 31 11.4 -2.6
VNA2 Neumayer--Watz 153.48 194 *e*PKPdf PKPdf 02 31 04.5 +4.4
VNA2 *e* 02 31 08.5
VNA2 *e* 02 31 17.3
VNA3 Neumayer Olymp 153.57 192 *e*PKPdf PKPdf 02 31 04.9 +4.6
VNA3 *e* 02 31 09.4
VNA3 *e* 02 31 16.2

BJI ***13*** *02:26:13.4, 46.20N×152.90E, h10km, mB4.4, mb4.4, Ms4.3, Msz3.8*
NEIC ***13*** *02:26:15.4±0.4, 46.22N×152.95E, h10km, mb4.3/5, Error ellipse: s-maj=11.9km s-min=8.3km az=139.0*
ISCJB ***13*** *02:26:17.5±1.4, 46.24N±0.08N×153.0E±0.01, h36km±11km, mb4.2/30, MS3.9/3, Error ellipse: s-maj=16.4km s-min=9.2km az=98.2*
MOS ***13*** *02:26:17.9±0.9, 46.24N×152.95E, h45km, mb4.3/15, Error ellipse: s-maj=13.8km s-min=10.8km az=87.9*
IDC ***13*** *02:26:21.5±4.0, 46.17N×152.96E, h58km±37km, mb3.6/17, mb1 3.8/19, mb1mx3.7/27, mbtmp3.6/19, ML3.9/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/28, Error ellipse: s-maj=18.0km s-min=15.0km az=146.0*
ISC 13 02:26:19.8±1.3, 46.27N±0.09N×153.0E±0.1, h41km±11km, n61, σ19.09/63, mb4.2/30, MS3.9/3, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.72**	**256**	*e*PN	**Pn**	**02 27 13.0**	**-1.8**
KUR				*e*S	**Sn**	**02 28 02.5**	**+5.1**
KUR				pmax	pmax		
	comp=Z,460nm,0.6s						
KUR				smax			
	comp=N,240nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.89**	**24**	*e*PN	**Pn**	**02 27 31.5**	**+0.7**
ASAJ	**Asahikawa**	**7.64**	**257**	P	**Pn**	**02 28 09.9**	**+1.4**
	comp=E,1.7nm,0.3s,baz=103,slow=16,SNR=4.4						
ASAJ	**Asahikawa**	**7.64**	**257**	PN	**Pn**	**02 28 10.0**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.71**	**234**	P	**Pn**	**02 29 44.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=9.2,SNR=3.2						
MJAR	**Matsushiro Arr**	**14.71**	**234**	P	**Pn**	**02 29 44.6**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.57**	**254**	P	**P**	**02 30 55.8**	**+0.8**
	comp=Z,3.8nm,0.8s,baz=54,slow=11,SNR=9.0						
BILL	**Bilibino**	**22.89**	**13**	⇑*e*P	**P**	**02 31 15.4**	**-4.4**
BILL				*e*S	**S**	**02 35 22.0**	**-4.7**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb3.9						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
BILL	**Bilibino**	**22.89**	**13**	*e*P	**P**	**02 31 20.6**	**+0.8**
	comp=Z,2.7nm,0.5s,mb3.9						
TIXI	**Tiksi**	**27.91**	**344**	*e*P	**P**	**02 32 03.7**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**31.41**	**290**	P	**P**	**02 32 37.0**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.4,baz=53,slow=7.4,SNR=3.2						
SONM				LR	LR	02 46 39.5	
	comp=Z,270nm,18.3s,MS4.0,baz=105,slow=39						
GTA	**Gaotai**	**38.96**	**280**	*e*P	**P**	**02 33 43.7**	**+1.8**
GTA				AP	pP	02 33 52.4	-0.8
GTA				XP	sP	02 33 55.2	-2.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
TGY	**Tagaytay City**	**41.84**	**230**	P	**P**	**02 34 05.4**	**-0.4**
	comp=Z,180nm,0.3s,baz=193,slow=6.1,SNR=3.9						
INK	**Inuvik**	**42.11**	**32**	P	**P**	**02 34 08.0**	**+0.1**
	comp=Z,1.4nm,0.9s,mb3.6,baz=258,slow=9.3,SNR=9.5						
INK	**Inuvik**	**42.11**	**32**	P	**P**	**02 34 08.0**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAL	**Zalesovo**	**42.84**	**306**	*i* P	**P**	**02 34 13.0**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	**Urumqi**	**45.02**	**292**	*e*P	**P**	**02 34 30.2**	**-1.1**
WMQ				LR	LR		
	comp=N,200nm,16.0s,MS4.2						
WMQ				LR	LR		
	comp=E,96nm,17.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,116nm,20.0s,MS3.8						
KMI	**Kunming**	**45.06**	**260**	P	**P**	**02 34 28.0**	**-3.7**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**47.08**	**298**	P	**P**	**02 34 47.2**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=66,slow=7.2,SNR=17						
MKAR	**Makanchi Array**	**47.08**	**298**	P	**P**	**02 34 47.2**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.56**	**304**	*e*P	**P**	**02 34 50.0**	**-1.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**47.56**	**304**	*e*P	**P**	**02 34 50.0**	**-1.3**
	comp=Z,2.7nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**50.67**	**310**	*e*P	**P**	**02 35 14.0**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**50.67**	**310**	*e*P	**P**	**02 35 14.0**	**-1.1**
	comp=Z,3.6nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**51.10**	**310**	P	**P**	**02 35 18.1**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=36,slow=7.1,SNR=8.7						
BVAR	**Borovoye Array**	**51.10**	**310**	P	**P**	**02 35 18.1**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.14**	**310**	*e*P	**P**	**02 35 17.7**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.14**	**310**	*e*P	**P**	**02 35 17.7**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.3						
YKA	**Yellowknife Ar**	**51.37**	**36**	P	**P**	**02 35 19.7**	**-0.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=294,slow=7.1,SNR=6.4						
YKA	**Yellowknife Ar**	**51.37**	**36**	*i* P	**P**	**02 35 18.7**	**-1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**53.97**	**297**	*i* P	**P**	**02 35 39.2**	**-0.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**53.97**	**297**	*e*P	**P**	**02 35 39.2**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.2						
GUN	**Gumba**	**54.95**	**275**	*e*P	**P**	**02 35 47.7**	**+1.0**
	comp=Z,5.9nm,0.4s,mb5.0						
PKI	**Pulchoki**	**55.49**	**275**	*e*P	**P**	**02 35 51.7**	**+1.2**
	comp=Z,5.7nm,0.4s,mb5.0						
GKN	**Gorkha**	**55.75**	**276**	*e*P	**P**	**02 35 54.2**	**+1.8**
	comp=Z,5.0nm,0.4s,mb4.9						
KOLN	**Koldanda**	**56.61**	**277**	*e*P	**P**	**02 36 00.6**	**+2.0**
	comp=Z,1.1nm,0.7s,mb5.0						
AKTK	**Aktyubinsk**	**58.98**	**312**	P	**P**	**02 36 15.2**	**+0.1**
AKTO	**Aktyubinsk**	**58.98**	**312**	P	**P**	**02 36 15.2**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=85,slow=7.0,SNR=5.4						
AKTO	**Aktyubinsk**	**58.98**	**312**	P	**P**	**02 36 15.3**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**62.74**	**62**	P	**P**	**02 36 41.2**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.7,baz=294,slow=8.7,SNR=3.8						
FINES	**FINESS Array B**	**64.44**	**335**	P	**P**	**02 36 51.3**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.5,baz=32,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**64.44**	**335**	*i* P	**P**	**02 36 51.2**	**-0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PDAR	**Pinedale Array**	**65.11**	**54**	P	**P**	**02 36 57.9**	**+1.5**
	comp=Z,0.5nm,0.9s,mb3.5,baz=241,slow=1.9,SNR=3.1						
OBN	**Obninsk**	**65.66**	**326**	⇑*e*P	**P**	**02 37 05.0**	**+5.1**
OBN				*e*		02 39 24.3	
OBN				pmax	pmax		
	comp=Z,62nm,2.2s,mb5.2						
WRA	**Warramunga Arr**	**68.02**	**199**	P	**P**	**02 37 13.0**	**-1.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=10,slow=6.7,SNR=3.0						
WRA	**Warramunga Arr**	**68.02**	**199**	P	**P**	**02 37 13.0**	**-1.9**
NB2	**NORSAR Subarr**	**68.66**	**341**	P	**P**	**02 37 18.5**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**02 37 18.5**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=27,slow=6.4,SNR=4.4						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**02 37 18.5**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KIV	**Kislovodsk**	**71.07**	**314**	*i* P	**P**	**02 37 36.4**	**+2.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
ASAR	**Alice Sprngs**	**71.72**	**198**	P	**P**	**02 37 37.3**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.3,baz=8.7,slow=6.7,SNR=2.9						
AKASG	**Malin Array Be**	**71.90**	**326**	P	**P**	**02 37 38.2**	**-0.4**
	comp=Z,4.0nm,0.5s,mb4.6,baz=33,slow=6.2,SNR=28						
AKASG	**Malin Array Be**	**71.90**	**326**	*i* P	**P**	**02 37 38.2**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKBB	**Malin Array Si**	**71.90**	**326**	*e*P	**P**	**02 37 37.4**	**-1.3**
BURAR	**Bucovina Array**	**75.94**	**327**	⇓*i*P	**P**	**02 38 02.9**	**+0.6**
CLL	**Collm**	**76.87**	**336**	*e*P	**P**	**02 38 08.0**	**+0.4**
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**02 38 12.6**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=300,slow=4.2,SNR=12						
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**02 38 12.6**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**02 38 12.6**	**-0.3**
BRTR	**Keskin Array B**	**78.68**	**317**	P	**P**	**02 38 18.9**	**+1.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=26,slow=8.0,SNR=2.7						
GERES	**GERESS Array B**	**78.85**	**334**	P	**P**	**02 38 19.0**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=42,slow=6.1,SNR=4.3						

CSEM ***13*** *02:34:53.5, 67.90N×20.15E, h18km, ML3.4, Suspected Mining explosion. After UPP*
UPP ***13*** *02:34:53.5, 67.90N×20.15E, h18km, ML3.4, Suspected Mining explosion.*
HEL 13 02:34:54.3±0.2, 67.82N×20.12E, h0km, ML2.0, ML3.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**32**	*i* P	Pg	02 34 55.0	-2.3
NIKU	**Nikkaluokta**	**0.41**	**277**	*i* P	Pg	02 35 01.3	-0.9
LANU	**Lannavaara**	**0.74**	**71**	*i* P	Pg	02 35 07.0	-1.5
SALU	**Saltoluokta**	**0.76**	**235**	*i* P	Pg	02 35 08.4	-0.5
MASU	**Masugnsbyn**	**0.81**	**116**	*i* P	Pg	02 35 08.6	-1.1
KIF	**Kilpisjarvi**	**1.21**	**12**	*e*P	Pg	02 35 16.7	-0.9
KIF				*e*S	Sg	02 35 33.7	+0.4
PAJU	**Pajala**	**1.41**	**123**	*e*P	Pn	02 35 18.9	-2.3
SGF	**Sodankyl**	**2.48**	**96**	*e*P	Pn	02 35 36.8	+0.8
SGF				*e*S	Sn	02 36 06.8	-0.1
SGF				MSG		02 36 13.0	
	comp=Z,7.4nm,0.3s						
KEV	**Kevo**	**3.17**	**49**	*e*P	Pn	02 35 45.6	+0.3
KEV				*e*S	Sn	02 36 23.3	-0.6
KEV				MSG		02 36 31.9	
	comp=Z,3.2nm,0.3s						
OUL	**Oulu**	**3.59**	**137**	*e*SG	Sg	02 36 45.0	-4.8
KU4	**Liikasenvaara**	**3.98**	**107**	*e*SG	Sg	02 36 56.9	-5.2

ISCJB ***13*** *02:37:49.9±3.2, 46.4N±0.6N×152.9E±0.2, h10km, mb3.6/7, Error ellipse: s-maj=86.8km s-min=24.0km az=171.8*
IDC ***13*** *02:37:49.1±3.4, 46.17N×152.96E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=94.7km s-min=30.0km az=179.0*
NEIC ***13*** *02:37:51.1±2.4, 46.26N×152.93E, h10km, mb4.1/1, Error ellipse: s-maj=67.0km s-min=18.3km az=176.0*
ISC 13 02:37:51.7±3.2, 46.4N±0.6N×152.9E±0.2, h10km, n7, σ0.9 42/7, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**42.00**	**32**	P	**P**	**02 45 43.4**	**+0.4**
	0.3nm,0.5s,mb3.1,baz=307,slow=5.1,SNR=3.9						
MKAR	**Makanchi Array**	**46.96**	**298**	P	**P**	**02 46 23.1**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=64,slow=8.2,SNR=4.2						
CHKZ	**Chkalovo**	**50.53**	**310**	*e*P	**P**	**02 46 49.8**	**-0.2**
	1.3nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**51.26**	**36**	P	**P**	**02 46 55.6**	**0.0**
	0.1nm,0.7s,mb2.9,baz=293,slow=6.8,SNR=3.7						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**02 48 26.2

LUBP	**Lubang**	**1.08 286**	*e*P	Pg	02 43 49.4	-1.0
GQP	**Guinayangan**	**1.20 67**⇓	*e*P	Pg	02 43 53.0	+0.2
GQP			*e*S	Sg	02 44 10.2	+1.9
OTRP	**Odiongan**	**1.27 147**	*e*P	Pg	02 43 52.2	-1.9
POLP	**Polilio Island**	**1.43 25**	*e*P	Pn	02 43 55.2	-1.1
BUSP	**Coron**	**1.79 217**	*e*P	Pn	02 44 01.9	+0.7
PCPH	**Palayan**	**2.13 354**	*e*P	Pn	02 44 05.7	-0.1
BALP	**Baler**	**2.31 6**	*e*P	Pn	02 44 09.0	+0.6
ENPP	**El Nido**	**2.88 220**	*e*P	Pn	02 44 16.9	+0.7

PRE 13 02:46:01.7±1.4, 2129S×3334E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.26**	**194**	*e*P	Pn	02 47 34.5	-0.2
POGA				*e*S	Sn	02 48 43.5	-3.0
POGA				AML	AML	02 49 27.9	
	comp=Z,39nm,0.6s						
KSR	**Koster**	**7.45**	**231**	*e*P	Pn	02 47 53.1	+2.1
KSR				*e*S	Sn	02 49 12.5	-3.4
PRYS	**Parys**	**7.83**	**223**	*e*P	Pn	02 47 57.0	+0.8
PRYS				*e*S	Sn	02 49 21.6	-3.6
PRYS				AML	AML	02 50 23.3	
	comp=Z,30nm,0.7s						
LBTB	**Lobatse**	**8.03**	**241**	*e*P	Pn	02 48 00.1	+1.1
LBTB				*e*S	Sn	02 49 26.8	-3.4
LBTB				AML	AML	02 50 12.8	
	comp=Z,32nm,0.7s						
SWZ	**Schweizer**	**9.37**	**230**	*e*P	Pn	02 48 19.6	+2.3
SWZ				*e*S	Sn	02 49 59.0	-4.1
SWZ				AML	AML	02 50 59.5	
	comp=Z,15nm,0.6s						
BOSA	**Boshof**	**10.34**	**224**	*e*P	Pn	02 48 31.3	+0.7
BOSA				*e*S	Sn	02 50 22.1	-4.7

*ISCJB **13** 04:01:19.9±0.3, 5554N±003×11030E±004, h10km, mb3.6/4, Error ellipse: s-maj=4.4km s-min=2.4km az=106.9*
*IDC **13** 04:01:20.6±1.9, 5584N×110.11E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=40.2km s-min=22.5km az=114.0*
*MOS **13** 04:01:20.6±1.1, 5582N×110.16E, h8km, mb4.5/3, Error ellipse: s-maj=12.7km s-min=7.3km az=61.7*
*NEIC **13** 04:01:22.4±1.1, 5588N×11025E, h10km, mb3.7/2, Error ellipse: s-maj=20.4km s-min=12.1km az=128.0*
*BYKL **13** 04:01:22.5±0.3, 5571N×11022E, h3km±4km*

ISC 13 04:01:21.8±0.3, 5561N±002×11027E±003, h10km, n53, σ1§66/95, mb3.6/4, 2C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.44**	**292**	*e*PG	**Pg**	**04 01 30.2**	**-0.3**
NIZ				*e*		04 01 35.3	
NIZ				pmax	pmax		
	comp=Z,337nm,0.6s						
NIZ				smax			
	comp=N,920nm,1.0s						
NIZ	**Nizh Angarsk**	**0.44**	**292**	*e*Pg	**Pg**	**04 01 29.5**	**-1.0**
NIZ				*e*		04 01 30.3	
NIZ				*e*Sg	**Sg**	**04 01 35.3**	**-1.0**
NIZ				max			
	comp=N,125nm,0.1s						
NIZ				Smax			
	comp=N,1μm,1.2s						
KMO	**Kumora**	**0.60**	**62**	*e*PG	**Pg**	**04 01 32.6**	**-0.8**
KMO				*e*		04 01 39.9	
KMO				pmax	pmax		
	comp=Z,115nm,0.2s						
KMO				smax			
	comp=E,982nm,0.9s						
KMO	**Kumora**	**0.60**	**62**⇑	*i*Pg	**Pg**	**04 01 32.6**	**-0.8**
KMO				*e*Sg	**Sg**	**04 01 40.4**	**-0.8**
KMO				Pmax			
	comp=E,128nm,0.3s						
KMO				Smax			
	comp=E,1μm,1.0s						
YLYR	**Ulyunkhan**	**0.90**	**145**	*e*PG	**Pg**	**04 01 40.4**	**+1.3**
YLYR				*e*		04 01 53.2	
YLYR				pmax	pmax		
	comp=Z,136nm,0.2s						
YLYR				smax			
	comp=N,1μm,0.2s						
YLYR	**Ulyunkhan**	**0.90**	**145**	*e*Pg	**Pg**	**04 01 40.1**	**+1.0**
YLYR				*e*Sg	**Sg**	**04 01 53.6**	**+2.8**
YLYR				*e*		04 02 01.5	
YLYR				Pmax			
	comp=N,109nm,0.3s						
YLYR				max			
	comp=N,1μm,0.2s						
YOA	**Uoyan**	**0.97**	**57**⇑	*i*PG	**Pg**	**04 01 40.1**	**-0.5**
YOA				*i*		04 01 53.0	
YOA				pmax	pmax		
	comp=Z,236nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
YOA	**Uoyan**	**0.97**	**57**	*e*Pg	**Pg**	**04 01 40.3**	**-0.3**
YOA				*e*Sg	**Sg**	**04 01 52.9**	**-0.3**
YOA				Pmax			
	comp=N,201nm,0.2s						
YOA				Smax			
	comp=N,2μm,0.4s						
SVKR	**Severomuysk**	**1.92**	**73**	*e*PN	**Pn**	**04 01 56.8**	**+2.2**
SVKR				*e*		04 01 58.4	
SVKR				*e*		04 02 23.5	
SVKR				pmax	pmax		
	comp=Z,265nm,0.6s						
SVKR				smax			
	comp=N,4μm,0.8s						
SVKR	**Severomuysk**	**1.92**	**73**	*e*Pn	**Pn**	**04 01 56.8**	**+2.2**
SVKR				*e*Pg	**Pg**	**04 01 58.2**	**-0.5**
SVKR				*e*Sg	**Sg**	**04 02 23.4**	**-0.3**
SVKR				Pmax			
	comp=N,269nm,0.4s						
SVKR				Smax			
	comp=N,4μm,0.6s						
SYVR	**Suvo**	**1.96**	**185**	*e*PN	**Pg**	**04 01 59.4**	**-0.1**
SYVR				*e*		04 02 28.4	
SYVR				pmax	pmax		
	comp=Z,344nm,0.7s						
SYVR				smax			
	comp=N,983nm,0.8s						
SYVR	**Suvo**	**1.96**	**185**	*e*Pg	**Pg**	**04 01 59.4**	**-0.1**
SYVR				*e*Sg	**Sg**	**04 02 27.0**	**+2.1**
SYVR				Pmax			
	comp=N,374nm,0.8s						
SYVR				Smax			
	comp=N,1μm,1.0s						
OGRR	**Ongureny**	**2.51**	**219**	*e*PN	**Pn**	**04 02 05.9**	**+3.2**
OGRR				*e*		04 02 09.7	
OGRR				*e*		04 02 41.9	
OGRR				pmax	pmax		
	comp=Z,58nm,0.4s						
OGRR				smax			
	comp=E,546nm,1.1s						
OGRR	**Ongureny**	**2.51**	**219**	*e*Pn	**Pn**	**04 02 05.5**	**+2.8**
OGRR				*e*Pg	**Pg**	**04 02 08.8**	**-1.1**
OGRR				*e*Sg	**Sg**	**04 02 41.9**	**-0.6**
OGRR				Pmax			
	comp=E,71nm,0.4s						
OGRR				Smax			
	comp=E,504nm,0.7s						
MXMB	**Maximikha**	**2.52**	**201**	*e*Pg	**Pg**	**04 02 08.4**	**-1.6**
MXMB				*e*Sg	**Sg**	**04 02 42.6**	**0.0**
MXMB				*e*SgSg		04 02 51.0	
MXMB				Pmax			
	comp=E,109nm,0.7s						
MXMB				max			
	comp=E,697nm,0.7s						
BOD	**Bodaibo**	**3.02**	**41**	*e*PN	**Pn**	**04 02 09.5**	**-0.2**
BOD				*e*		04 02 15.2	
BOD				*e*		04 02 52.5	
BOD				pmax	pmax		
	comp=Z,37nm,0.3s						
BOD				smax			
	comp=N,324nm,0.7s						
BOD	**Bodaibo**	**3.02**	**41**	*e*Pn	**Pn**	**04 02 10.3**	**+0.6**
BOD				*e*Sg	**Sg**	**04 02 52.8**	**-6.2**
BOD				Smax			
	comp=N,322nm,0.7s						
TRG	**Tyrgan**	**3.67**	**220**	*e*PN	**Pn**	**04 02 21.3**	**+2.7**
TRG				*e*		04 02 29.9	
TRG				*e*S	**Sn**	**04 03 04.8**	**+2.9**
TRG				*e*		04 03 18.1	
TRG				pmax	pmax		
	comp=Z,85nm,1.0s						
TRG				smax			
	comp=E,154nm,0.6s						
TRG	**Tyrgan**	**3.67**	**220**	*e*Pn	**Pn**	**04 02 21.4**	**+2.8**
TRG				*e*Sn	**Sn**	**04 03 05.3**	**+3.4**
TRG				*e*Sg	**Sg**	**04 03 17.1**	**-2.5**
TRG				Smax			
	comp=E,155nm,0.8s						
TRTB	**Turuntaevo**	**3.73**	**206**	*e*Pn	**Pn**	**04 02 22.0**	**+2.6**
TRTB				*e*Pg	**Pg**	**04 02 30.8**	**-2.5**
TRTB				*e*Sg	**Sg**	**04 03 19.7**	**-1.9**
TRTB				Pmax			
	comp=E,34nm,0.5s						
TRTB				Smax			
	comp=E,143nm,1.0s						
UUDB	**Ulan-Yde**	**4.06**	**203**	*e*Pg	**Pg**	**04 02 36.2**	**-3.4**
UUDB				*e*Sg	**Sg**	**04 03 30.3**	**-1.8**
UUDB				Pmax			
	comp=E,48nm,0.6s						
UUDB				Smax			
	comp=E,186nm,1.2s						
CIT	**Chita**	**4.09**	**150**	*e*PN	**Pb**	**04 02 36.4**	**+2.5**
CIT				*e*		04 03 30.1	
CIT				pmax	pmax		
	comp=Z,96nm,0.9s						
CIT				smax			
	comp=E,227nm,1.0s						
CIT	**Chita**	**4.09**	**150**	*e*Pg	**Pg**	**04 02 37.6**	**-2.6**
CIT				*e*Sg	**Sg**	**04 03 30.7**	**-2.5**
CIT				Pmax			
	comp=E,96nm,1.1s						
CIT				Smax			
	comp=E,226nm,1.2s						
CRS	**Chara**	**4.65**	**71**	*e*PN	**Pg**	**04 02 47.8**	**-3.0**
CRS				*e*		04 03 47.4	
CRS				pmax	pmax		
	comp=Z,52nm,0.9s						
CRS				smax			
	comp=E,204nm,1.3s						
CRS	**Chara**	**4.65**	**71**	*e*Pn	**Pn**	**04 02 33.6**	**+1.6**
CRS				*e*Pg	**Pg**	**04 02 46.9**	**-3.9**
CRS				*e*Sg	**Sg**	**04 03 46.2**	**-4.8**
CRS				Pmax			
	comp=E,53nm,1.3s						
CRS				Smax			
	comp=E,221nm,1.6s						
LSTR	**Listvyanka**	**4.95**	**223**	*e*Pn	**Pn**	**04 02 38.7**	**+2.5**
LSTR				*e*Sn	**Sn**	**04 03 34.7**	**+1.3**
LSTR				*e*Sg	**Sg**	**04 03 57.0**	**-3.6**
LSTR				Smax			
	comp=E,131nm,1.1s						
TLY	**Talaya**	**5.57**	**228**	*e*PN	**Pn**	**04 02 48.2**	**+3.5**
TLY				*e*		04 03 03.9	
TLY				*e*S	**Sn**	**04 03 48.9**	**+0.2**
TLY	**Talaya**	**5.57**	**228**	*e*Pn	**Pn**	**04 02 48.2**	**+3.5**
TLY				*e*		04 03 05.1	
TLY				*e*Sn	**Sn**	**04 03 48.7**	**0.0**
TLY				*e*Sg	**Sg**	**04 04 14.6**	**-6.0**
TLY				Smax			
	comp=E,128nm,1.6s						
TUP	**Tupik**	**5.70**	**98**	*e*PN	**Pn**	**04 02 48.5**	**+2.0**
TUP				*e*		04 03 05.7	
TUP				*e*S	**Sn**	**04 03 52.3**	**+0.3**
TUP				*e*		04 04 19.6	
TUP				pmax	pmax		
	comp=Z,22nm,0.8s						
TUP				smax			
	comp=N,70nm,1.0s						
TUP	**Tupik**	**5.70**	**98**	*e*Pn	**Pn**	**04 02 48.3**	**+1.8**
TUP				*e*		04 03 08.6	
TUP				*e*Sn	**Sn**	**04 03 52.2**	**+0.2**
TUP				*e*Sg	**Sg**	**04 04 20.3**	**-4.5**
TUP				Smax			
	comp=N,86nm,1.5s						
ARS	**Arshan**	**5.94**	**235**	*e*PN	**Pn**	**04 02 51.6**	**+1.8**
ARS				*e*S	**Sg**	**04 04 27.4**	**-5.1**
ARS				smax			
	comp=E,464nm,0.8s						
ARS	**Arshan**	**5.94**	**235**	*e*Pn	**Pn**	**04 02 51.6**	**+1.8**
ARS				*e*Sn	**Sn**	**04 03 57.9**	**0.0**
ARS				*e*Sg	**Sg**	**04 04 28.2**	**-4.3**
ARS				Smax			
	comp=E,460nm,0.8s						
KPC	**Khapcheranga**	**6.05**	**167**	*e*Pn	**Pn**	**04 02 54.4**	**+3.0**
KPC				*e*Pg	**Pg**	**04 03 14.3**	**-3.5**
KPC				*e*Sg	**Sg**	**04 04 33.9**	**-2.3**
KPC				Pmax			
	comp=E,18nm,0.6s						
KPC				Smax			
	comp=E,132nm,1.1s						
ZAK	**Zakamensk**	**6.72**	**222**	*e*PN	**Pn**	**04 03 02.2**	**+1.6**
ZAK				*e*		04 03 23.2	
ZAK				*e*S	**Sn**	**04 04 18.8**	**+1.6**
ZAK				*e*		04 04 50.5	
ZAK				smax			
	comp=N,88nm,1.2s						
ZAK	**Zakamensk**	**6.72**	**222**	*e*Pn	**Pn**	**04 03 04.1**	**+3.5**
ZAK				*e*Sg	**Sg**	**04 04 52.8**	**-4.8**
ZAK				Smax			
	comp=N,89nm,1.4s						
MOY	**Mondy**	**6.78**	**238**	*e*PN	**Pn**	**04 03 04.5**	**+3.1**
MOY				*e*		04 03 24.2	
MOY				*e*S	**Sn**	**04 04 18.1**	**-0.5**
MOY				*e*		04 04 51.3	
MOY				pmax	pmax		
	comp=Z,16nm,0.6s						
MOY				smax			
	comp=E,151nm,1.6s						
MOY	**Mondy**	**6.78**	**238**⇓	*i*Pn	**Pn**	**04 03 04.7**	**+3.3**
MOY				*e*Sn	**Sn**	**04 04 19.6**	**+1.0**
MOY				*e*Sg	**Sg**	**04 04 54.1**	**-5.4**
MOY				Smax			
	comp=E,151nm,1.4s						
ORL	**Orlik**	**6.88**	**248**	*e*PN	**Pn**	**04 03 05.2**	**+2.5**
ORL				*e*S	**Sn**	**04 04 20.8**	**-0.2**
ORL				*e*S	**Sg**	**04 04 54.8**	**-7.8**
ORL				smax			
	comp=N,112nm,0.8s						
ORL	**Orlik**	**6.88**	**248**	*e*Pn	**Pn**	**04 03 04.9**	**+2.2**
ORL				*e*Sn	**Sn**	**04 04 20.4**	**-0.6**
ORL				*e*Sg	**Sg**	**04 04 56.1**	**-6.5**
ORL				Smax			
	comp=N,118nm,1.1s						
SONM	**Songino Array**	**8.15**	**199**	Pn	**Pn**	**04 03 23.7**	**+3.6**
	comp=N,0.3nm,0.3s,baz=11,slow=14,SNR=8.9						
SONM				Lg		04 05 42.3	
	comp=N,1.2nm,0.3s,baz=20,slow=22,SNR=9.5						
ZAL	**Zalesovo**	**14.77**	**274**	Pn	**Pn**	**04 04 50.5**	**-0.1**
	baz=24,slow=15,SNR=2.2						
ZAL				Lg		04 09 07.7	
	comp=N,0.1nm,0.3s,baz=270,slow=20,SNR=2.9						
TIXI	**Tiksi**	**17.94**	**19**	*e*P	**Pn**	**04 05 28.6**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIXI	**Tiksi**	**17.94**	**19**	*e*P	**Pn**	**04 05 28.6**	**-2.8**
	comp=Z,6.1nm,0.9s						
MK31	**Makanchi Array**	**19.51**	**255**	*e*P	**Pn**	**04 05 51.0**	**+0.6**
MKAR	**Makanchi Array**	**19.51**	**255**	P	**Pn**	**04 05 50.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=62,slow=9.9,SNR=8.3						
CHKZ	**Chkalovo**	**22.81**	**282**	*e*P	**P**	**04 06 26.0**	**+1.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
CHKZ	**Chkalovo**	**22.81**	**282**	*e*P	**P**	**04 06 26.0**	**+1.3**
	comp=Z,3.4nm,1.0s,mb3.7						
BVAR	**Borovoye Array**	**23.18**	**280**	P	**P**	**04 06 26.8**	**-1.9**
	comp=Z,0.9nm,0.7s,mb3.3,baz=57,slow=14,SNR=3.7						
BVAR	**Borovoye Array**	**23.18**	**280**	P	**P**	**04 06 26.8**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**37.90**	**325**	P	**P**	**04 08 36.0**	**-3.2**
	comp=Z,2.4nm,0.8s,mb4.0,baz=53,slow=8.0,SNR=2.9						
ARCES	**ARCESS Array B**	**37.90**	**325**	P	**P**	**04 08 36.0**	**-3.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**57.14**	**23**	P	**P**	**04 11 07.4**	**-1.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=328,slow=6.9,SNR=5.9						
YKA	**Yellowknife Ar**	**57.14**	**23**	P	**P**	**04 11 07.4**	**-1.2**

*IDC **13** 04:01:51.8±1.0, 1805S×16775E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/15, mbtmp4.3/9, ML3.6/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/25, Error ellipse: s-maj=33.2km s-min=15.3km az=156.0*
*BJI **13** 04:01:55.9, 1756S×16763E, h14km, mB5.0, mb4.6, Ms4.9, Msz4.6*
*ISCJB **13** 04:01:56.2±0.4, 1804S±008×16755E±006, h35km, mb4.5/17, MS3.9/11, Error ellipse: s-maj=11.5km s-min=8.6km az=166.8*
*MOS **13** 04:01:56.4±1.4, 1795S×16755E, h33km, mb4.9/6, Error ellipse: s-maj=25.9km s-min=16.1km az=176.2*
*NEIC **13** 04:01:57.2±2.9, 1806S×16767E, h35km±27km, mb4.7/11, Error ellipse: s-maj=22.4km s-min=14.2km az=177.0*

ISC 13 04:01:57.9±0.4, 1811S±007×16761E±006, h35km, (h29km±7.6km:pP-P), n64, σ1§30/46, mb4.5/17, MS3.9/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.09**	**195**	*e*P	**Pn**	**04 02 56.8**	**-1.2**
DZM	**Mont Dzumac**	**4.09**	**195**	Pn	**Pn**	**04 02 58.1**	**+0.2**
	3.4nm,0.3s,baz=166,slow=20,SNR=25						
DZM				Sn	**Sn**	**04 03 42.1**	**-2.4**
	11nm,0.3s,baz=193,slow=17,SNR=3.8						
HNR	**Honiara**	**11.39**	**318**	LR	LR	04 08 17.9	
	comp=Z,319nm,19.3s,baz=180,slow=34						
RAO	**Raoul Island**	**17.27**	**133**	LR	LR	04 10 14.6	
	comp=Z,192nm,21.9s,baz=259,slow=29						
AFI	**Afiamalu**	**20.25**	**81**	LR	LR	04 12 28.3	
	comp=Z,456nm,21.0s,MS3.8,baz=266,slow=32						
CTA	**Charters Tower**	**20.27**	**261**	*e*P	**P**	**04 06 32.5**	**+2.1**
	11nm,1.1s						
CTA	**Charters Tower**	**20.27**	**261**	P	**P**	**04 06 31.1**	**+0.7**
	23nm,1.2s,baz=82,slow=11,SNR=6.7						
CTA				S	**S**	**04 10 22.1**	**+6.3**
	2.3nm,0.6s,baz=101,slow=16,SNR=2.3						
CTA				LR	LR	04 13 31.9	
	comp=Z,405nm,18.8s,MS3.8,baz=53,slow=34						
CTA	**Charters Tower**	**20.27**	**261**	*e*P	**P**	**04 06 32.5**	**+2.1**
CTA				pmax	pmax		
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**20.27**	**261**	*e*P	**P**	**04 06 32.2**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,59nm,1.5s						
CTAO	**Charters Tower**	**20.27**	**261**	*e*P	**P**	**04 06 32.1**	**+1.8**
	comp=Z,59nm,1.5s						
PMG	**Port Moresby**	**21.64**	**291**	LR	LR	04 14 05.9	
	comp=Z,357nm,18.5s,MS3.8,baz=156,slow=34						
RPZ	**Rata Peaks**	**25.69**	**174**	LR	LR	04 16 33.1	
	comp=Z,240nm,19.3s,MS3.7,baz=315,slow=34						
STKA	**Stephens Creek**	**27.18**	**235**	*e*P	**P**	**04 07 38.7**	**+0.6**
	comp=Z,6.5nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**27.18**	**235**	P	**P**	**04 07 39.0**	**+0.9**
	comp=Z,7.2nm,0.9s,mb4.2,baz=71,slow=7.9,SNR=9.6						
STKA				LR	LR	04 17 18.8	
	comp=Z,303nm,18.6s,MS3.9,baz=292,slow=34						
WB2	**Warramunga Arr**	**31.46**	**261**	*e*P	**P**	**04 08 13.9**	**-2.2**
WRA	**Warramunga Arr**	**31.48**	**261**	P	**P**	**04 08 14.9**	**-1.3**
	comp=Z,3.3nm,1.1s,mb4.1,baz=89,slow=9.3,SNR=8.4						
WRA				LR	LR	04 20 08.5	
	comp=Z,260nm,18.3s,MS3.9,baz=60,slow=35						
ASAR	**Alice Springs**	**31.92**	**254**	P	**P**	**04 08 19.6**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.1,baz=81,slow=8.1,SNR=24						
FORT	**Forrest**	**37.95**	**243**	*e*P	**P**	**04 09 11.7**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**39.83**	**263**	*e*P	**P**	**04 09 28.1**	**+0.3**
	comp=Z,18nm,0.9s,mb4.8						
TBI	**Tubuai**	**40.38**	**105**	*e*S	**S**	**04 15 37.8**	**-0.4**
	comp=Z,103nm,27.8s						
TBI				*e*LR	LR	04 20 22.1	
	comp=Z,133nm,28.8s						
PPT	**Papeete**	**40.70**	**96**	*e*S	**S**	**04 15 43.5**	**+0.7**
	comp=Z,81nm,25.5s						
PPT				*e*LR	LR	04 20 33.8	
	comp=Z,221nm,26.2s						
PPT	**Papeete**	**40.70**	**96**	LR	LR	04 21 11.0	
	comp=Z,155nm,21.7s,MS3.8,baz=257,slow=29						
TAOE	**Nuku Hiva Isla**	**51.49**	**87**	*e*S	**S**	**04 18 18.9**	**+1.2**
	comp=Z,346nm,23.2s						
TAOE				*e*LR	LR	04 25 37.2	
	comp=Z,647nm,26.4s						
RKT	**Rikitea**	**53.70**	**106**	*e*S	**S**	**04 18 47.3**	**-0.5**
	comp=Z,103nm,31.8s						
RKT				*e*LR	LR	04 26 33.4	
	comp=Z,147nm,33.5s						
KKM	**Kota Kinabalu**	**56.09**	**291**	*e*P	**P**	**04 11 34.2**	**+0.7**
VNDA	**Vanda**	**59.51**	**181**	LR	LR	04 36 24.2	
	comp=Z,90nm,18.6s,MS3.9,baz=247,slow=35						
MJAR	**Matsushiro Arr**	**61.04**	**333**	P	**P**	**04 12 07.4**	**-0.7**
	comp=Z,2.4nm,0.9s,mb4.3,baz=166,slow=6.7,SNR=4.4						
QSPA	**South Pole Qui**	**71.94**	**180**	*e*P	**P**	**04 13 18.0**	**+0.4**
	comp=Z,35nm,0.6s,mb5.5						
KMI	**Kunming**	**76.36**	**302**	P	**P**	**04 13 46.0**	**+2.5**
KMI				AP	pP	04 13 50.6	-3.8
KMI				XP	sP	04 13 52.9	-5.6
KMI				S	S	04 23 32.1	+6.0
KMI				SS	SS	04 28 28.3	+7.7
KMI				SSS		04 31 45.6	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
KMI				LR	LR		
	comp=Z,54nm,19.3s,MS3.9						
KMI	**Kunming**	**76.36**	**302**	P	**P**	**04 13 46.0**	**+2.5**
KMI				*SP	sP	04 13 52.9	-5.6
KMI				S	S	04 23 32.1	+6.0
KMI				SS	SS	04 28 28.2	+7.6
KMI	**Kunming**	**76.36**	**302**	P	**P**	**04 13 46.0**	**+2.5**
KMI				pP	pP	04 13 50.6	-3.8
KMI				sP	sP	04 13 52.9	-5.6
KMI				S	S	04 23 32.1	+6.0
KMI				SS	SS	04 28 28.2	+7.6
KMI				SSS		04 31 45.6	
CHTO	**Chiang Mai**	**76.77**	**295**	*e*P	**P**	**04 13 46.3**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHTO	**Chiang Mai**	**76.77**	**295**	*e*P	**P**	**04 13 46.3**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.3						
MAW	**Mawson**	**78.89**	**202**	LR	LR	04 43 02.4	
	comp=Z,106nm,18.4s,MS4.2,baz=245,slow=31						
ULN	**Ulaanbaatar**	**85.04**	**324**	*e*P	**P**	**04 14 27.3**	**-2.6**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**85.04**	**324**	*e*P	**P**	**04 14 27.3**	**-2.6**
	comp=Z,8.9nm,1.0s,mb4.8						
GTA	**Gaotai**	**85.23**	**314**	*e*P	**P**	**04 14 34.4**	**+3.6**
GTA				AP	pP	04 14 38.1	-3.8
GTA				XP	sP	04 14 40.9	-5.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**85.39**	**324**	P	**P**	**04 14 32.6**	**+0.9**
	comp=Z,2.9nm,1.0s,mb4.3,baz=141,slow=5.5,SNR=11						
BILL	**Bilibino**	**85.91**	**359**	*e*P	**P**	**04 14 32.7**	**-1.5**
BILL				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.1						
BILL	**Bilibino**	**85.91**	**359**	*e*P	**P**	**04 14 32.7**	**-1.5**
	comp=Z,18nm,1.3s,mb5.1						
NVAR	**Mina Array Bea**	**89.22**	**49**	P	**P**	**04 14 48.8**	**-1.3**
	comp=Z,2.0nm,0.9s,mb4.4,baz=207,slow=5.3,SNR=8.6						
COLA	**College**	**89.42**	**17**	*e*P	**P**	**04 14 48.8**	**-2.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.7						
COLA	**College**	**89.42**	**17**	*e*P	**P**	**04 14 48.8**	**-2.3**
	comp=Z,1.6nm,0.5s,mb4.6						
SNAA	**Sanae**	**90.21**	**183**	*e*	**P**	**04 14 56.3**	**+1.5**
SNAA				*e*		04 15 00.3	
SNAA				*e*	pP	04 15 04.8	-1.1
SNAA				*e*		04 15 12.7	
VNA3	**Neumayer Olymp**	**90.86**	**181**	*e*	**P**	**04 14 59.0**	**+1.2**
VNA3				*e*		04 15 02.8	
VNA3				*e*	pP	04 15 06.8	-2.1
VNA3				*e*	pP	04 15 11.5	+2.6
VNA2	**Neumayer--Watz**	**91.13**	**182

ANMO Albuquerque 96.94 56 *eP* **P 04 15 25.1 -0.6**
comp=Z,1.4nm,0.9s,mb4.4
TXAR Lajitas Array 97.59 62 P **P 04 15 28.1 -0.6**
comp=Z,0.5nm,0.9s,mb4.1,baz=254,slow=4.7,SNR=5.5
TXAR LR LR 04 53 05.2
comp=Z,108nm,21.8s,MS4.3,baz=5.0,slow=32
TXAR Lajitas Array 97.59 62 P **P 04 15 28.1 -0.6**
TXAR LR LR 04 53 05.2
ARCES ARCESS Array B 123.58 345 PKP PKPdf 04 20 50.4 -1.2
comp=Z,3.7nm,0.9s,baz=18,slow=3.8,SNR=3.5
WLF Walferdange 145.16 339 *e*PKIKP PKPdf 04 21 31.7 0.0
BFO Black Forest 145.46 335 *e*PKIKP PKPdf 04 21 32.2 0.0
CDF Champ du Feu 145.80 336 *e*PKP1 PKPbc 04 21 33.3 0.0
comp=Z,60nm,1.4s
HAU Haudompre 146.48 337 *e*PKP1 PKPbc 04 21 37.1 +1.7
comp=Z,21nm,1.0s
CABF La Chapelle 147.74 336 *e*PKP1 PKPbc 04 21 39.4 +0.5
LOR Lormes 148.00 339 *e*PKP1 PKPbc 04 21 39.9 +0.3
SSF Saint Saulge 148.30 339 *e*PKP1 PKPbc 04 21 40.4 0.0
comp=Z,29nm,1.3s
LPL La Plagne 148.37 334 *e*PKP1 PKPbc 04 21 41.1 +0.5
comp=Z,18nm,1.1s
LPG La Plagne 148.38 334 *e*PKP1 PKPbc 04 21 41.4 +0.8
comp=Z,11nm,0.8s
BNI Bardonecchia 148.77 333 *e*PKIKP PKPdf 04 21 38.2 +0.5
BNI *e* 04 21 45.3
TCF Toulx Ste Croi 149.41 340 *e*PKP1 PKPbc 04 21 44.2 +1.0
comp=Z,57nm,1.5s

ISCJB ***13*** *04:38:34.3±2.5, 112S±0.1×1635E±02, h39km±20km, mb4.0/6, MS3.3/1, Error ellipse: s-maj=33.8km s-min=18.3km az=120.0*
IDC ***13*** *04:38:36.5±3.8, 11.15S×16351E, h42km±32km, mb3.8/5, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, ML4.1/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/27, Error ellipse: s-maj=40.4km s-min=30.1km az=86.0*
NEIC ***13*** *04:38:36.4±1.5, 11.17S×16353E, h41km±12km, mb4.2/2, Error ellipse: s-maj=20.6km s-min=11.8km az=59.0*
ISC 13 04:38:36.4±2.1, 112S±01×1635E±02, h39km±17km, n12, σ0°26/11, mb4.0/6, MS3.3/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.93**	**295**	P	**Pn**	**04 39 34.1**	**0.0**
	54nm,0.3s,baz=83,slow=0.9,SNR=16						
HNR				LR	LR	04 40 24.4	
	comp=Z,103nm,18.9s,baz=359,slow=28						
HNR				S	**Sn**	**04 40 25.5**	**+6.5**
	34nm,0.3s,baz=274,slow=19,SNR=3.1						
DZM	**Mont Dzumac**	**11.21**	**166**	P	**Pn**	**04 41 14.0**	**0.0**
	0.4nm,0.3s,baz=10,slow=18,SNR=4.9						
CTA	**Charters Tower**	**18.86**	**240**	LR	LR	04 49 19.1	
	comp=Z,60nm,18.4s,baz=231,slow=34						
STKA	**Stephens Creek**	**28.91**	**221**	LR	LR	04 54 00.6	
	comp=Z,74nm,20.9s,MS3.3,baz=27,slow=32						
WB2	**Warramunga Arr**	**29.41**	**249**	*e*P	**P**	**04 44 36.5**	**+0.5**
WRA	**Warramunga Arr**	**29.42**	**249**	P	**P**	**04 44 36.2**	**0.0**
	2.3nm,0.6s,mb4.1,baz=78,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**30.82**	**242**	P	**P**	**04 44 48.5**	**0.0**
	1.6nm,0.5s,mb4.1,baz=62,slow=10,SNR=23						
FITZ	**Fitzroy Crossi**	**37.27**	**255**	*e*P	**P**	**04 45 43.7**	**-0.7**
	2.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**37.27**	**255**	P	**P**	**04 45 43.9**	**-0.5**
	1.6nm,0.5s,mb4.1,baz=62,slow=11,SNR=7.0						
ULN	**Ulaanbaatar**	**77.13**	**325**	*e*P	**P**	**04 50 25.9**	**+0.1**
	1.4nm,0.6s,mb4.1						
SONM	**Songino Array**	**77.48**	**325**	P	**P**	**04 50 27.6**	**-0.1**
	0.5nm,0.8s,mb3.5,baz=136,slow=5.6,SNR=3.5						
MKAR	**Makanchi Array**	**92.12**	**317**	P	**P**	**04 51 41.7**	**+0.1**
	0.5nm,0.9s,mb3.9,baz=85,slow=6.6,SNR=2.9						

SSNC ***13*** *04:40:29.1, 1734N×7958W, h0km, MD3.8, ML2.8*
IDC ***13*** *04:40:39.9±1.2, 1803N×7959W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML3.1/1, Error ellipse: s-maj=35.6km s-min=22.3km az=21.0*
JSN ***13*** *04:40:39.6±0.3, 1779N×7982W, h19km±796km, MD4.8*
ISCJB ***13*** *04:40:40.1±0.5, 1810N±007×7961W±005, h10km, mb3.7/11, Error ellipse: s-maj=11.3km s-min=5.1km az=50.2*
NEIC ***13*** *04:40:41.7±0.6, 1809N×7957W, h10km, mb3.8/7, Error ellipse: s-maj=12.5km s-min=9.5km az=225.0*
ISC 13 04:40:42.1±0.5, 1817N±007×7951W±004, h10km, n28, σ0°90/30, mb3.7/11, 4C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.75**	**98**	⇑*e*P	**Pn**	**04 41 11.9**	**-0.6**
MCJ				*e*S	**Sn**	**04 41 36.1**	**+1.2**
CVJ	**Coleyville**	**1.88**	**88**	⇑*e*P	**Pn**	**04 41 14.3**	**+0.1**
PCJ	**Portland Cotta**	**2.28**	**100**	⇑*e*P	**Pn**	**04 41 18.9**	**-0.8**
STH	**Stony Hill**	**2.57**	**92**	⇑*e*P	**Pn**	**04 41 23.8**	**0.0**
MGV	**Manicaragua**	**3.94**	**354**	*e*P	**Pn**	**04 41 43.4**	**+0.8**
MASC	**Masc**	**5.37**	**67**	*e*P	**Pn**	**04 42 09.6**	**+7.3**
	baz=121						
MASC				*e*S	**Sn**	**04 43 02.3**	**-1.8**
	comp=N,1.3nm,1.1s						
MASC				*e*			
	comp=E,1.1nm,0.5s						
SOR	**Soroa**	**5.65**	**325**	*e*P	**Pn**	**04 42 06.8**	**+0.8**
SOR				*e*S	**Sn**	**04 43 10.3**	**-0.6**
	comp=N,2.1nm,0.7s						
SOR				*e*			
	comp=E,3.3nm,0.5s						
TGUH	**Tegucigalpa,Un**	**8.51**	**242**	*e*Pn	**Pn**	**04 42 44.1**	**-1.3**
TEIG	**Tepich**	**8.53**	**285**	Pn	**Pn**	**04 42 43.5**	**-2.2**
TEIG				Sn	**Sn**	**04 44 13.8**	**-8.2**
SDV	**Santo Domingo**	**12.63**	**136**	Pn	**Pn**	**04 43 42.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=315,slow=10.0,SNR=1.7						
LRAL	**Lakeview Retre**	**16.26**	**337**	*e*Pn	**Pn**	**04 44 29.2**	**-1.4**
	comp=E,7.2nm,0.6s						
WVT	**Waverly**	**19.34**	**339**	*e*P	**Pn**	**04 45 08.5**	**-0.1**
	comp=E,2.2nm,0.6s						
WCI	**Wyandotte Cave**	**20.84**	**345**	*e*P	**P**	**04 45 23.5**	**-0.5**
	comp=E,2.1nm,0.5s						
JCT	**Junction City**	**22.14**	**307**	*e*P	**P**	**04 45 38.6**	**+0.8**
WMOK	**Wichita Mounta**	**23.80**	**318**	*e*P	**P**	**04 45 55.2**	**+0.1**
	comp=E,1.0nm,0.7s,mb3.4						
TXAR	**Lajitas Array**	**24.70**	**301**	P	**P**	**04 46 03.5**	**+0.3**
	comp=E,0.7nm,0.8s,mb3.2,baz=124,slow=8.8,SNR=7.6						
SDCO	**Great Sand Dun**	**29.96**	**316**	*e*P	**P**	**04 46 52.1**	**+1.6**
	comp=E,1.7nm,0.9s,mb3.8						
PDAR	**Pinedale Array**	**35.34**	**320**	P	**P**	**04 47 37.9**	**+0.3**
	comp=E,0.7nm,0.8s,mb3.6,baz=111,slow=11,SNR=6.1						
DUG	**Dugway**	**36.11**	**314**	*e*P	**P**	**04 47 45.3**	**+1.2**
	comp=E,1.2nm,0.6s,mb4.0						
MOOW	**Moose Ponds**	**36.61**	**321**	*e*P	**P**	**04 47 48.7**	**+0.3**
	comp=E,1.5nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**39.30**	**309**	P	**P**	**04 48 12.0**	**+0.9**
	comp=E,0.9nm,0.7s,mb3.6,baz=97,slow=7.8,SNR=7.2						
YKA	**Yellowknife Ar**	**50.53**	**340**	P	**P**	**04 49 40.1**	**-0.4**
	comp=E,0.6nm,0.7s,mb3.6,baz=130,slow=8.3,SNR=15						
INK	**Inuvik**	**60.30**	**340**	P	**P**	**04 50 50.3**	**-0.6**
	comp=E,1.3nm,1.1s,mb3.9,baz=180,slow=1.0,SNR=2.2						
ESDC	**Sonseca Array**	**67.65**	**54**	P	**P**	**04 51 39.4**	**+0.2**
	comp=E,0.9nm,0.7s,mb3.9,baz=296,slow=37,SNR=3.3						
FINES	**FINESS Array B**	**81.42**	**28**	P	**P**	**04 53 00.2**	**+1.0**
	comp=E,0.8nm,0.5s,mb4.0,baz=236,slow=2.1,SNR=9.4						
FINES	**FINESS Array B**	**81.42**	**28**	P	**P**	**04 53 00.2**	**+1.0**
WRA	**Warramunga Arr**	**147.99**	**261**	PKPbc	PKPbc	05 00 27.0	-0.7
	comp=E,0.5nm,0.8s,baz=89,slow=3.3,SNR=3.9						
ASAR	**Alice Springs**	**148.36**	**254**	PKPbc	PKPbc	05 00 27.4	-1.3
	comp=E,0.7nm,0.8s,baz=97,slow=3.8,SNR=6.3						

ISCJB ***13*** *04:40:55.8±0.8, 182N±0.1×796W±0.1, h10km, mb3.9/11, MS3.4/1, Error ellipse: s-maj=23.8km s-min=11.5km az=75.5*
IDC ***13*** *04:40:56.3±1.8, 1833N×7955W, h0km, mb3.9/7, mb1 4.2/9, mb1mx4.0/20, mbtmp4.0/9, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=52.8km s-min=22.6km az=16.0*
NEIC ***13*** *04:40:57.8±0.6, 1826N×7964W, h10km, mb3.9/5, Error ellipse: s-maj=18.7km s-min=9.3km az=216.0*
ISC 13 04:40:58.0±0.8, 183N±01×796W±01, h10km, n18, σ0°84/18, mb3.9/11, MS3.4/1, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**8.41**	**285**	Pn	**Pn**	**04 42 58.2**	**-1.8**
TEIG				Sn	**Sn**	**04 44 28.1**	**-6.7**
SDV	**Santo Domingo**	**12.79**	**136**	Pn	**Pn**	**04 43 59.9**	**0.0**
	0.3nm,0.3s,baz=336,slow=5.4,SNR=4.0						
SDV	**Santo Domingo**	**12.79**	**136**	*e*Pn	**Pn**	**04 43 60.0**	**0.0**
LRAL	**Lakeview Retre**	**16.10**	**337**	*e*Pn	**Pn**	**04 44 43.8**	**-0.7**
WVT	**Waverly**	**19.19**	**339**	*e*P	**Pn**	**04 45 23.0**	**+0.2**
	4.1nm,0.7s						
JCT	**Junction City**	**21.98**	**307**	P	**P**	**04 45 52.3**	**+0.1**
WMOK	**Wichita Mounta**	**23.64**	**318**	*e*P	**P**	**04 46 08.5**	**-1.0**
	1.6nm,0.8s,mb3.5						
TXAR	**Lajitas Array**	**24.55**	**301**	P	**P**	**04 46 18.1**	**+0.2**
	0.7nm,0.8s,mb3.2,baz=126,slow=6.4,SNR=4.1						
ANMO	**Albuquerque**	**29.04**	**310**	LR	LR	05 01 00.2	
	comp=Z,112nm,21.9s,MS3.4,baz=282,slow=41						
SDCO	**Great Sand Dun**	**29.80**	**316**	*e*P	**P**	**04 47 06.2**	**+1.2**
	1.7nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**35.18**	**320**	P	**P**	**04 47 52.4**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=125,slow=8.0,SNR=7.6						
DUG	**Dugway**	**35.95**	**314**	*e*P	**P**	**04 47 60.0**	**+1.3**
	1.0nm,0.6s,mb3.9						
MOOW	**Moose Ponds**	**36.45**	**321**	*e*P	**P**	**04 48 03.3**	**+0.3**
	1.9nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**39.14**	**309**	P	**P**	**04 48 27.4**	**+1.6**
	1.7nm,0.7s,mb3.9,baz=113,slow=8.9,SNR=9.3						
YKA	**Yellowknife Ar**	**50.37**	**340**	P	**P**	**04 49 54.4**	**-0.9**
	0.9nm,0.7s,mb3.9,baz=131,slow=8.4,SNR=16						
INK	**Inuvik**	**60.14**	**340**	P	**P**	**04 51 05.6**	**-0.1**
	2.5nm,1.2s,mb4.1,baz=117,slow=9.2,SNR=3.8						
ESDC	**Sonseca Array**	**67.65**	**54**	P	**P**	**04 51 54.8**	**-0.4**
	1.1nm,0.7s,mb4.0,baz=298,slow=38,SNR=3.8						
FINES	**FINESS Array B**	**81.35**	**28**	P	**P**	**04 53 14.5**	**-0.3**
	2.1nm,0.5s,mb4.3,baz=294,slow=2.9,SNR=12						

ISCJB ***13*** *05:08:44.9±0.6, 17.15N±005×14534E±004, h365km±7km, mb4.3/63, Error ellipse: s-maj=7.4km s-min=5.7km az=34.0*
MOS ***13*** *05:08:44.7±0.9, 1721N×14538E, h364km, mb4.3/20, Error ellipse: s-maj=12.9km s-min=7.5km az=107.3*
IDC ***13*** *05:08:45.7±0.8, 17.13N×14537E, h363km±8km, mb3.9/21, mb1 4.0/23, mb1mx4.0/26, mbtmp3.9/23, Error ellipse: s-maj=15.0km s-min=6.8km az=87.0*
NEIC ***13*** *05:08:46.0±0.8, 17.17N×14538E, h367km±8km, mb4.4/26, Error ellipse: s-maj=7.3km s-min=5.9km az=80.0*
BJI ***13*** *05:08:46.0, 1720N×14540E, h367km, mB4.6, mb4.3*
ISC 13 05:08:45.4±0.7, 1719N±005×14540E±004, h354km±7km, h364km±1.6km; pP-P, n320, σ0°68/317, mb4.3/62, 73C-93D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.62**	**188**	P	**Pn**	**05 09 51.3**	**+0.5**
	112nm,0.3s,baz=325,slow=1.7,SNR=16						
GUMO				S	**S**	**05 10 42.5**	**-1.0**
	110nm,0.3s,baz=313,slow=23,SNR=14						
GUMO	**Guam**	**3.62**	**188**	*e*Pn	**Pn**	**05 09 51.3**	**+0.5**
GUMO				*e*S	**S**	**05 10 41.9**	**-1.6**
JOW	**Kunigami**	**18.53**	**304**	P	**P**	**05 12 38.4**	**+0.7**
	1.1nm,0.3s,baz=172,slow=4.9,SNR=4.7						
MJAR	**Matsushiro Arr**	**20.30**	**343**	P	**P**	**05 12 55.1**	**-0.5**
	3.0nm,0.5s,baz=170,slow=11,SNR=8.9						
MAJO	**Matsushiro**	**20.30**	**343**	*e*P	**P**	**05 12 55.6**	**0.0**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MAJO	**Matsushiro**	**20.30**	**343**	*e*P	**P**	**05 12 55.6**	**0.0**
	comp=Z,9.0nm,0.6s						
MAT	**Matsushiro**	**20.30**	**343**	P	**P**	**05 12 55.7**	**+0.1**
MAT				S	**S**	**05 16 18.0**	**-2.5**
KSRS	**Korea Array**	**25.38**	**326**	P	**P**	**05 13 41.2**	**-0.4**
	comp=Z,11nm,0.6s,mb4.2,baz=145,slow=9.0,SNR=37						
ASAJ	**Asahikawa**	**26.94**	**356**	P	**P**	**05 13 55.8**	**+0.2**
	comp=Z,15nm,0.6s,mb4.4,baz=206,slow=10,SNR=6.7						
MDJ	**Mudanjiang**	**30.40**	**337**	P	**P**	**05 14 27.0**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.7						
MDJ				AMB	AMB		
	comp=Z,99nm,7.4s						
KKM	**Kota Kinabalu**	**30.61**	**252**	*e*P	**P**	**05 14 27.6**	**-0.1**
GYA	**Guiyang**	**37.00**	**291**	P	**P**	**05 15 22.8**	**+0.5**
GYA				AP	pP	05 16 33.9	+3.5
GYA				PP	PP	05 17 00.0	+4.5
GYA				XP	sP	05 17 14.5	+3.4
GYA				PCP	PcP	05 17 36.3	+1.7
GYA				S	**S**	**05 20 42.1**	**+1.2**
GYA				SCP	ScP	05 20 47.6	+0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.1						
GYA				AMB	AMB		
	comp=Z,60nm,4.8s						
CTAO	**Charters Tower**	**37.06**	**179**	*e*P	**P**	**05 15 23.0**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.0						
CTAO	**Charters Tower**	**37.06**	**179**	*e*P	**P**	**05 15 23.0**	**+0.3**
	comp=Z,14nm,1.3s,mb4.0						
HHC	**Hu-ho-hao-te**	**37.46**	**316**	*e*P	**P**	**05 15 27.8**	**+1.7**
HHC				AP	pP	05 16 38.0	+3.6
HHC				PP	PP	05 17 04.8	+4.3
HHC				XP	sP	05 17 20.3	+5.3
HHC				S	**S**	**05 20 51.4**	**+3.6**
HHC				XS	sS	05 22 51.5	-0.1
HHC				SS	SS	05 23 43.8	-5.7
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.3						
HHC				AMB	AMB		
	comp=Z,145nm,5.2s						
HIA	**Hailar**	**38.15**	**333**	*c iP*	**P**	**05 15 32.7**	**+0.9**
HIA	**Hailar**	**38.15**	**333**	*e*P	**P**	**05 15 32.6**	**+0.8**
	comp=Z,11nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**38.46**	**197**	⇓*i*P	**P**	**05 15 34.2**	**-0.2**
WRA	**Warramunga Arr**	**38.47**	**197**	P	**P**	**05 15 34.6**	**+0.2**
	comp=Z,3.0nm,0.3s,mb4.0,baz=20,slow=8.6,SNR=40						
WRA				PcP	PcP	05 17 38.3	-0.9
	comp=Z,1.4nm,0.6s,baz=17,slow=3.4,SNR=6.8						
WRA				S	**S**	**05 20 59.0**	**-3.8**
	comp=Z,0.2nm,0.4s,baz=50,slow=20,SNR=3.3						
FITZ	**Fitzroy Crossi**	**40.10**	**210**	*e*P	**P**	**05 15 47.8**	**0.0**
	comp=Z,5.2nm,0.8s,mb3.8						
FITZ	**Fitzroy Crossi**	**40.10**	**210**	P	**P**	**05 15 47.9**	**+0.1**
	comp=Z,2.1nm,0.6s,mb3.6,baz=42,slow=8.0,SNR=24						
KMI	**Kunming**	**40.42**	**289**	P	**P**	**05 15 51.9**	**+1.5**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.0						
LZH	**Lanzhou**	**41.26**	**305**	⇑P	**P**	**05 15 58.5**	**+1.3**
LZH				AP	pP	05 17 10.3	+3.5
LZH				PP	PP	05 17 43.6	+2.4
LZH				XP	sP	05 17 48.8	+1.7
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.2						
LZH				AMB	AMB		
	comp=Z,57nm,6.5s						
LZH	**Lanzhou**	**41.26**	**305**	⇑P	**P**	**05 15 58.5**	**+1.3**
LZH				pP	pP	05 17 10.2	+3.4
LZH				PP	PP	05 17 43.6	+2.4
LZH				sP	sP	05 17 48.7	+1.6
ASAR	**Alice Springs**	**42.13**	**196**	P	**P**	**05 16 03.9**	**-0.3**
	comp=Z,1.5nm,0.6s,mb3.3,baz=20,slow=8.0,SNR=27						
ASAR				PcP	PcP	05 17 50.8	-0.4
	comp=Z,0.7nm,0.6s,baz=32,slow=3.5,SNR=5.3						
ASAR				ScP	ScP	05 21 05.0	-2.1
	comp=Z,0.7nm,0.7s,baz=26,slow=4.2,SNR=6.1						
ASAR				S	**S**	**05 21 54.4**	**-2.3**
	comp=Z,0.8nm,0.8s,baz=19,slow=18,SNR=7.0						
ASAR	**Alice Springs**	**42.13**	**196**	P	**P**	**05 16 03.9**	**-0.2**
ASAR						05 17 50.8	
ASAR				S	**S**	**05 21 54.4**	**-2.3**
DZM	**Mont Dzumac**	**44.13**	**151**	P	**P**	**05 16 20.3**	**+0.4**
	comp=Z,2.9nm,0.6s,mb3.6,baz=58,slow=23,SNR=6.6						
SONM	**Songino Array**	**44.15**	**322**	P	**P**	**05 16 21.1**	**+1.0**
	comp=Z,7.5nm,0.6s,mb4.0,baz=132,slow=6.4,SNR=58						
SONM				PcP	PcP	05 17 55.2	-2.8
	comp=Z,1.7nm,0.7s,baz=143,slow=4.5,SNR=4.6						
YAK	**Yakutsk**	**46.14**	**350**	⇑*e*P	**P**	**05 16 34.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.4						
YAK	**Yakutsk**	**46.14**	**350**	*e*P	**P**	**05 16 34.2**	**-1.4**
	comp=Z,28nm,0.8s,mb4.4						
TLY	**Talaya**	**47.63**	**326**	*e*P	**P**	**05 16 47.6**	**+0.6**
TLY				*e*		05 18 47.1	
TLY				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.2						
TLY	**Talaya**	**47.63**	**326**	*e*P	**P**	**05 16 48.1**	**+1.1**
STKA	**Stephens Creek**	**48.92**	**184**	*e*P	**P**	**05 16 56.0**	**-0.8**
	comp=Z,2.9nm,1.2s,mb3.4						
STKA	**Stephens Creek**	**48.92**	**184**	P	**P**	**05 16 56.1**	**-0.7**
	comp=Z,1.7nm,0.6s,mb3.5,baz=345,slow=5.0,SNR=4.7						
UNV	**Unalaska Valle**	**52.06**	**34**	*e*P	**P**	**05 17 19.4**	**-0.6**
	comp=Z,45nm,0.5s,mb5.0						
BILL	**Bilibino**	**52.54**	**10**	*e*P	**P**	**05 17 22.9**	**-0.6**
BILL				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.5						
BILL	**Bilibino**	**52.54**	**10**	*e*P	**P**	**05 17 22.9**	**-0.6**
	comp=Z,11nm,0.4s,mb4.5						
WMQ	**Urumqi**	**55.08**	**312**	*e*P	**P**	**05 17 43.4**	**+1.7**
TIXI	**Tiksi**	**55.33**	**354**	*e*P	**P**	**05 17 42.2**	**-1.2**
GUN	**Gumba**	**55.53**	**292**	*e*P	**P**	**05 17 46.1**	**+1.2**
KKN	**Kakani**	**56.07**	**292**	*e*P	**P**	**05 17 49.7**	**+1.0**
DMN	**Daman**	**56.23**	**292**	*e*P	**P**	**05 17 50.6**	**+0.8**
GKN	**Gorkha**	**56.63**	**292**	*e*P	**P**	**05 17 53.2**	**+0.6**
	comp=Z,5.7nm,0.4s,mb4.2						
KOLN	**Koldanda**	**57.56**	**292**	*e*P	**P**	**05 17 59.8**	**+0.8**
	comp=Z,6.0nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**59.04**	**323**	P	**P**	**05 18 08.8**	**-0.4**
	comp=Z,5.3nm,0.5s,mb4.2,baz=358,slow=7.1,SNR=22						
MK31	**Makanchi Array**	**59.30**	**315**	*e*P	**P**	**05 18 11.6**	**+0.7**
MK31				*e*		05 18 53.8	
MK31	**Makanchi Array**	**59.30**	**315**	*i* P	**P**	**05 18 11.7**	**+0.8**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
MKAR	**Makanchi Array**	**59.30**	**315**	P	**P**	**05 18 11.7**	**+0.7**
	comp=Z,4.2nm,0.4s,mb4.2,baz=90,slow=8.2,SNR=82						
MKAR				PcP	PcP	05 18 53.7	-1.1
	comp=Z,4.6nm,0.7s,baz=88,slow=5.0,SNR=10.0						
MKAR	**Makanchi Array**	**59.30**	**315**	P	**P**	**05 18 11.7**	**+0.8**
MKAR				PcP	PcP	05 18 53.7	-1.1
NVS	**Novosibirsk**	**60.14**	**324**	*i* P	**P**	**05 18 16.3**	**-0.3**
NVS				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,11nm,0.8s						
KURK	**Kurchatov**	**62.20**	**319**	⇓*i*P	**P**	**05 18 30.3**	**0.0**
KURK	**Kurchatov**	**62.20**	**319**	*e*P	**P**	**05 18 30.0**	**-0.3**
	comp=E,31nm,0.9s,mb4.8						
PMR	**Palmer**	**63.40**	**29**	*e*P	**P**	**05 18 36.9**	**-1.2**
PMR				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.7						
PMR	**Palmer**	**63.40**	**29**	*e*P	**P**	**05 18 36.9**	**-1.2**
	comp=Z,24nm,1.0s,mb4.7						
SML	**Sawmill**	**63.82**	**29**	*e*P	**P**	**05 18 40.5**	**-0.3**
MCK	**McKinley**	**64.00**	**27**	*e*P	**P**	**05 18 40.8**	**-1.2**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
MCK	**McKinley**	**64.00**	**27**	*e*P	**P**	**05 18 40.8**	**-1.2**
	comp=Z,2.6nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**64.59**	**309**	*i* P	**P**	**05 18 45.8**	**0.0**
COLA	**College**	**64.74**	**26**	*i* P	**P**	**05 18 46.5**	**-0.2**
COLA	**College**	**64.74**	**26**	*e*P	**P**	**05 18 45.5**	**-1.3**
	comp=Z,20nm,1.4s,mb4.6						
CHKZ	**Chkalovo**	**67.33**	**322**	*e*P	**P**	**05 19 02.3**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**67.33**	**322**	*e*P	**P**	**05 19 02.3**	**-0.8**
	comp=Z,7.1nm,0.8s,mb4.5						
BVA0	**Borovoye Array**	**67.45**	**321**	*i* P	**P**	**05 19 03.3**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
BVAR	**Borovoye Array**	**67.45**	**321**	P	**P**	**05 19 03.7**	**-0.1**
	comp=Z,27nm,0.5s,mb5.2,baz=100,slow=7.6,SNR=148						
BVAR				PcP	PcP	05 19 27.1	-1.3
	comp=Z,2.1nm,0.5s,baz=103,slow=4.6,SNR=2.2						
KK31	**Karatay Array**	**67.51**	**310**	*i* P	**P**	**05 19 04.5**	**+0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
KKAR	**Karatay Array**	**67.51**	**310**	*i* P	**P**	**05 19 04.5**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**67.52**	**321**	*e*P	**P**	**05 19 04.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9						
BRVK	**Borovoye**	**67.52**	**321**	*e*P	**P**	**05 19 04.2**	**-0.1**
	comp=Z,22nm,0.8s,mb5.0						
EGAK	**Eagle**	**67.53**	**26**	*e*P	**P**	**05 19 03.1**	**-1.3**
	comp=Z,3.2nm,0.4s,mb4.4						
DAWY	**Dawson**	**68.22**	**27**	*e*P	**P**	**05 19 08.3**	**-0.2**
INK	**Inuvik**	**70.86**	**23**	P	**P**	**05 19 23.7**	**-0.9**
	comp=Z,10nm,0.8s,mb4.6,baz=272,slow=6.3,SNR=46						
INK	**Inuvik**	**70.86**	**23**	*e*P	**P**	**05 19 23.3**	**-1.3**
	comp=Z,372nm,0.8s						
DLBC	**Dease Lake**	**72.70**	**33**	*e*P	**P**	**05 19 36.3**	**+0.9**
ARU	**

MNRC	McLaughlin Nat	81.05	52	⇑P	P	05 20 21.9	+0.3
	baz=81						
H06A	Lindquist Farm	81.06	46	⇓P	P	05 20 21.2	-0.5
	baz=81						
O03C	Acorn Hollow,	81.08	51	⇓P	P	05 20 21.6	-0.1
	baz=81						
A09A	Danville	81.09	42	⇑P	P	05 20 22.0	+0.2
	baz=81						
C08A	Higginbotham F	81.11	43	⇑P	P	05 20 21.8	-0.1
	baz=81						
K05A	Summer Lake	81.20	48	⇑P	P	05 20 22.8	+0.4
	baz=81						
HATC	Hat Creek Radi	81.29	50	⇓P	P	05 20 22.7	-0.1
	baz=81						
I06A	Prineville	81.36	47	⇓P	P	05 20 23.2	+0.1
	baz=81						
M05C	Lookout	81.37	49	⇓P	P	05 20 23.5	+0.3
	baz=81						
G07A	Ruggs Ranch, H	81.38	45	⇑P	P	05 20 23.2	-0.1
	baz=81						
D08A	Wollman Farm,	81.39	43	⇑P	P	05 20 23.2	-0.1
	baz=81						
E08A	Dider Farm, El	81.45	44	⇑P	P	05 20 23.4	-0.3
	baz=81						
B09A	Rice	81.52	42	⇓P	P	05 20 24.2	+0.2
	baz=81						
J06A	Christmas Vall	81.58	47	⇓P	P	05 20 24.2	-0.1
	baz=82						
ORV	Oroville	81.59	51	⇓P	P	05 20 24.1	-0.3
	baz=82						
C09A	Chrisman Ranch	81.61	43	⇑P	P	05 20 23.8	-0.7
	baz=82						
K06A	Valley Falls	81.64	48	⇓P	P	05 20 24.9	+0.3
	baz=82						
O04C	Chester	81.69	50	P	P	05 20 25.8	+0.9
	baz=82,SNR=5.3						
D09A	Jones Farm, Ri	81.79	43	⇑P	P	05 20 25.5	0.0
	baz=82						
F08A	Pendleton	81.83	45	⇑P	P	05 20 26.1	+0.4
	baz=82						
MOD	Modoc	81.84	49	⇓P	P	05 20 26.3	+0.6
	baz=82						
G08A	Pilot Rock	81.85	45	⇑P	P	05 20 25.2	-0.5
	baz=82						
M06C	Likely Place G	81.90	49	⇓P	P	05 20 26.3	+0.3
	baz=82						
O05C	Quincy	81.91	51	⇓P	P	05 20 26.1	+0.1
	baz=82						
E09A	Wood Farm, Sta	82.06	44	⇑P	P	05 20 27.0	+0.2
	baz=82						
C10A	Spilker Farm,	82.23	42	⇑P	P	05 20 27.3	-0.3
	baz=82						
H08A	Prairie City	82.27	46	⇓P	P	05 20 27.4	-0.5
	baz=82						
P05C	Yuba Gap, Truc	82.32	51	⇑P	P	05 20 28.8	+0.6
	baz=82						
BEKR	Beckwourth	82.35	51	P	P	05 20 28.5	+0.2
	baz=82,SNR=12						
LAVA	Lava Cap Winer	82.37	52	⇑P	P	05 20 28.5	+0.1
	baz=82						
K07A	Rock Creek Ran	82.38	48	⇓P	P	05 20 28.7	+0.2
	baz=82						
HAST	UC Hastings Re	82.39	54	⇑P	P	05 20 28.3	-0.2
	baz=82						
PACP	Pacheco Peak	82.43	54	⇓P	P	05 20 28.8	+0.1
	baz=82						
F09A	S2 Ranch, Elgi	82.44	45	⇑P	P	05 20 29.0	+0.2
	baz=82						
D10A	Wagner Farm, O	82.47	43	⇓P	P	05 20 28.8	-0.2
	baz=82						
N06A	Buffalo Meadow	82.49	50	⇑P	P	05 20 28.9	-0.1
	baz=82						
A11A	Hall Mountain,	82.49	41	⇓P	P	05 20 28.1	-0.9
	baz=82						
L07A	Adell	82.50	48	P	P	05 20 30.1	+1.0
	baz=82,SNR=5.9						
I08A	Drewsey	82.51	46	⇓P	P	05 20 28.8	-0.3
	baz=82						
B11A	Sandpoint	82.65	42	⇑P	P	05 20 29.6	-0.2
	baz=82						
G09A	Cove	82.65	45	⇑P	P	05 20 29.5	-0.3
	baz=82						
O06A	Flanigan	82.66	50	P	P	05 20 30.4	+0.5
	baz=83,SNR=6.0						
J08A	Circle Bar Ran	82.73	47	P	P	05 20 30.7	+0.5
	baz=83,SNR=6.5						
V03C	Hunter Liggett	82.73	55	⇓P	P	05 20 31.1	+0.8
	baz=83						
E10A	Myers Farm, Un	82.75	44	⇓P	P	05 20 29.8	-0.5
	baz=83						
M07A	Soldier Meadow	82.80	49	⇑P	P	05 20 31.2	+0.6
	baz=83						
F10A	Beach Ranch, E	82.82	44	⇑P	P	05 20 31.3	+0.6
	baz=83						
CMB	Columbia Colle	82.83	53	*e*P	P	05 20 31.1	+0.3
CMB	Columbia Colle	82.83	53	P	P	05 20 31.0	+0.2
	baz=83,SNR=5.3						
WVOR	Wild Horse Val	82.88	48	*e*P	P	05 20 31.1	+0.1
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
WVOR	Wild Horse Val	82.88	48	*e*P	P	05 20 31.1	+0.1
	comp=Z,5.3nm,0.9s,mb4.4						
R05C	Kirkwood Meado	82.88	52	⇑P	P	05 20 31.6	+0.6
	baz=83						
K08A	Mann Creek Ran	82.90	48	P	P	05 20 31.3	+0.2
	baz=83,SNR=5.8						
A12A	Yaak River Ran	82.95	41	⇑P	P	05 20 31.3	0.0
	baz=83						
WCN	Washoe City	82.95	51	⇑P	P	05 20 31.8	+0.4
	baz=83						
I09A	Lost Marbles R	83.06	46	⇑P	P	05 20 31.4	-0.5
	baz=83						
S05C	Merced	83.07	53	⇓P	P	05 20 32.2	+0.3
	baz=83						
D11A	Klaveano Farm,	83.09	43	⇓P	P	05 20 31.2	-0.9
	baz=83						
BMO	Blue Mountains	83.10	45	*e*P	P	05 20 32.1	0.0
N07B	Gerlach	83.11	50	⇓P	P	05 20 32.4	+0.2
	baz=83						
V04C	Ramage Ranch,	83.12	55	⇓P	P	05 20 32.6	+0.3
	baz=83						
B12A	Libby	83.13	41	⇓P	P	05 20 32.4	+0.2
	baz=83						
L08A	Fields	83.16	48	⇑P	P	05 20 32.3	-0.1
	baz=83						
J09A	Fry Pan Ranch,	83.24	47	⇓P	P	05 20 32.8	0.0
	baz=83						
KEV	Kevo	83.27	342	*e*p	P	05 20 30.5	-2.5
	comp=Z,2.7nm,0.5s,mb4.3						
KEV	Kevo	83.27	342	*e*P	P	05 20 30.5	-2.5
KEV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
M08A	Happy Creek Ra	83.35	49	⇓P	P	05 20 34.0	+0.6
	baz=83						
O07A	Toulon	83.36	50	⇑P	P	05 20 33.9	+0.4
	baz=83						
E11A	Bogner Ranch,	83.38	44	P	P	05 20 33.4	-0.2
	baz=83,SNR=5.4						
R06C	Coleville	83.40	52	⇑P	P	05 20 34.1	+0.4
	baz=83						
K09A	Rome	83.45	47	⇑P	P	05 20 34.1	+0.2
	baz=83						
U05C	Westside ANR,	83.51	54	⇓P	P	05 20 34.5	+0.3
	baz=83						
P07A	Fallon	83.53	51	⇓P	P	05 20 34.9	+0.6
	baz=83						
H10A	Noah's Angus R	83.56	45	P	P	05 20 34.3	-0.2
	baz=84,SNR=6.1						
F11A	Grangeville	83.56	44	⇑P	P	05 20 33.4	-1.1
	baz=84						
G11A	Walters Elk Ra	83.64	45	P	P	05 20 34.1	-0.7
	baz=84,SNR=11						
T06C	Milleton Lake	83.64	53	⇑P	P	05 20 34.8	-0.1
	baz=84						
L09A	Wilkinson Ranc	83.69	48	P	P	05 20 35.7	+0.6
	baz=84,SNR=6.5						
N08A	GE Springer Mi	83.72	49	P	P	05 20 35.6	+0.3
	baz=84,SNR=7.7						
A13A	Flathead Natio	83.72	41	⇓P	P	05 20 34.9	-0.4
	baz=84						
ARCES	ARCESS Array B	83.83	342	P	P	05 20 34.3	-1.5
	comp=Z,4.1nm,0.8s,mb4.3,baz=68,slow=6.1,SNR=10.0						
R07C	Lee Vining	83.83	52	⇓P	P	05 20 35.9	+0.1
	baz=84						
BSMT	Bassoo Peak	83.84	42	*e*P	P	05 20 36.4	+0.5
KCC	Kaiser Creek	83.85	53	⇑P	P	05 20 35.8	-0.1
	baz=84						
B13A	Whitefish	83.87	41	P	P	05 20 36.4	+0.4
	baz=84,SNR=5.6						
J10A	Berg Farm, Mel	83.90	47	⇑P	P	05 20 36.0	-0.2
	baz=84						
H11A	Donnelly	84.02	45	⇑P	P	05 20 36.4	-0.4
	baz=84						
M09A	Marrel Ranch,	84.02	49	⇓P	P	05 20 37.2	+0.4
	baz=84						
C13A	Hot Springs	84.03	42	⇓P	P	05 20 36.6	-0.2
	baz=84						
P08A	Dixie Valley	84.08	50	⇓P	P	05 20 36.6	-0.5
	baz=84						
N09A	Rock Creek Ran	84.14	49	⇑P	P	05 20 37.6	+0.2
	baz=84						
F12A	Elk City	84.20	44	⇓P	P	05 20 37.8	+0.2
	baz=84						
D13A	Huson	84.29	43	P	P	05 20 37.7	-0.4
	baz=84,SNR=5.8						
NVAR	Mina Array Bea	84.29	52	P	P	05 20 38.8	+0.7
	comp=Z,5.8nm,0.7s,mb4.5,baz=271,slow=6.2,SNR=35						
I11A	Placerville	84.31	46	⇓P	P	05 20 38.4	+0.2
	baz=84						
Q08A	Gabbs	84.44	51	⇓P	P	05 20 38.9	+0.1
	baz=84						
C14A	Swan Lake	84.53	42	P	P	05 20 39.0	-0.2
	baz=84,SNR=9.6						
MFID	Camas Ranch	84.55	46	⇓P	P	05 20 39.9	+0.5
	baz=84						
O09A	Fish Creek Ran	84.59	50	⇓P	P	05 20 39.6	0.0
	baz=84						
M10A	I.L. Ranch, Tu	84.64	48	⇓P	P	05 20 40.1	+0.2
	baz=84						
S08C	White Mtn Res	84.67	53	⇓P	P	05 20 39.7	-0.3
	baz=85						
E13A	Victor	84.68	43	⇓P	P	05 20 39.5	-0.6
	baz=85						
F13A	Darby	84.80	44	P	P	05 20 40.0	-0.7
	baz=85,SNR=8.0						
H12A	Diamond D Ranc	84.86	45	⇓P	P	05 20 40.7	-0.2
	baz=85						
D14A	Greenough	84.91	42	⇑P	P	05 20 39.9	-1.3
	baz=85						
ISA	Isabella	84.99	54	⇓P	P	05 20 40.2	-1.3
	baz=85						
O10A	Cortez Mining,	85.06	49	⇓P	P	05 20 42.3	+0.4
	baz=85						
G13A	Cobalt	85.10	44	P	P	05 20 41.9	-0.2
	baz=85,SNR=16						
J12A	Stokes Ranch,	85.11	46	⇑P	P	05 20 42.9	+0.7
	baz=85						
CHMT	Chamberlain Mo	85.13	42	*e*P	P	05 20 41.8	-0.5
E14A	Clinton	85.14	43	⇓P	P	05 20 41.9	-0.4
	baz=85						
M11A	Holland Ranch,	85.21	48	⇓P	P	05 20 42.1	-0.5
	baz=85						
JOF	Joensuu	85.26	335	*e*p	P	05 20 40.0	-2.9
	comp=Z,1.8nm,0.4s,mb4.2						
R09A	Tonopah	85.27	52	P	P	05 20 43.4	+0.4
	baz=85,SNR=6.4						
P10A	Eureka	85.29	50	⇓P	P	05 20 43.3	+0.2
	baz=85						
S09A	Goldfield	85.32	52	P	P	05 20 43.6	+0.5
	baz=85,SNR=8.0						
F14A	Wisdom	85.43	43	⇓P	P	05 20 42.6	-1.1
	baz=85						
GRAC	Grapevine Rang	85.43	53	⇓P	P	05 20 44.3	+0.6
	baz=85						
N11A	Elko Archery C	85.44	49	⇓P	P	05 20 44.5	+0.7
	baz=85						
K12A	Draper Farm, C	85.45	47	⇑P	P	05 20 44.2	+0.4
	baz=85						
HLID	Hailey	85.48	46	*e*P	P	05 20 44.3	+0.3
	comp=Z,6.0nm,0.9s,mb4.4						
HLID	Hailey	85.48	46	P	P	05 20 44.4	+0.4
	baz=85,SNR=10						
MPMC	Manual Prospec	85.63	54	⇓P	P	05 20 45.1	+0.4
	baz=86						
LRMC	Laurel Mountai	85.65	54	⇓P	P	05 20 44.9	+0.1
	baz=86						
E15A	Deer Lodge	85.69	43	P	P	05 20 44.9	-0.1
	baz=86,SNR=11						
J13A	Cove Ranch, Pi	85.70	46	⇑P	P	05 20 45.2	+0.2
	baz=86						
O11A	Cowboy Ranch,	85.72	49	⇓P	P	05 20 45.3	+0.2
	baz=86						
P11A	Circle Ranch,	85.83	50	⇑P	P	05 20 45.9	+0.2
	baz=86						
N12A	Clover Valley,	85.93	49	⇑P	P	05 20 46.0	-0.2
	baz=86						
FURC	Furnace Creek,	85.98	53	⇑P	P	05 20 47.0	+0.6
	baz=86						
F15A	Butte	85.99	43	P	P	05 20 46.1	-0.3
	baz=86,SNR=8.4						
LRM	Limekiln Ridge	86.03	43	*e*P	P	05 20 46.8	+0.1
Q11A	Duckwater	86.14	51	⇓P	P	05 20 47.0	-0.2
	baz=86						
G15A	Dillon	86.23	44	⇓P	P	05 20 47.4	-0.2
	baz=86						
O12A	Currie	86.33	49	P	P	05 20 48.8	+0.6
	baz=86,SNR=7.2						
M13A	Montello	86.39	48	P	P	05 20 48.8	+0.4
	baz=86,SNR=11						
GSC	Goldstone	86.39	54	⇑P	P	05 20 48.8	+0.4
	baz=86						
P12A	McGill	86.48	50	⇑P	P	05 20 49.4	+0.5
	baz=86						
N13A	Wendover, West	86.53	48	⇑P	P	05 20 49.0	0.0
	baz=86						
BOZ	Bozeman (W)	86.63	43	*e*P	P	05 20 50.7	+1.2
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
BOZ	Bozeman (W)	86.63	43	*e*P	P	05 20 50.7	+1.2
	comp=Z,2.8nm,0.9s,mb4.1						
Q12A	Willow Creek R	86.68	50	⇑P	P	05 20 50.1	+0.4
	baz=87						
109C	Camp Elliot, M	86.92	57	⇑P	P	05 20 50.6	-0.3
	baz=87						
TUQ	Turquoise Mtn.	87.03	54	⇑P	P	05 20 51.5	0.0
	baz=87						
KIV	Kislovodsk	87.06	315	*e*P	P	05 20 51.0	-0.6
KIV	Kislovodsk	87.06	315	*e*P	P	05 20 51.0	-0.6
V11A	Goodsprings	87.28	53	⇓P	P	05 20 53.0	+0.4
	baz=87						
BELC	Belle Mtn.	87.44	55	⇓P	P	05 20 53.1	-0.3
	baz=87						
GMRC	Granite Mounta	87.45	54	⇓P	P	05 20 53.5	0.0
	baz=87						
DUG	Dugway	87.75	49	*e*P	P	05 20 55.1	+0.3
DUG				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
DUG	Dugway	87.75	49	*e*P	P	05 20 55.1	+0.3
	comp=Z,8.9nm,0.7s,mb4.7						
DUG	Dugway	87.75	49	P	P	05 20 55.1	+0.3
	baz=88,SNR=11						
V12A	Nelson	87.76	53	⇑P	P	05 20 55.1	+0.2
	baz=88						
U12A	Valley of Fire	87.77	53	⇓P	P	05 20 55.5	+0.6
	baz=88						
MOOW	Moose Ponds	87.91	45	*e*P	P	05 20 55.9	+0.4
	comp=Z,2.6nm,1.1s,mb4.0						
BC3	Big Chuckw Mtn	87.98	55	⇓P	P	05 20 55.8	-0.1
	baz=88						
IRM	Iron Mountain	88.05	55	⇑P	P	05 20 56.5	+0.2
	baz=88						
LOHW	Long Hollow	88.05	45	*e*P	P	05 20 56.4	+0.2
	comp=Z,1.4nm,0.6s,mb4.0						
FINES	FINESS Array B	88.12	335	P	P	05 20 54.8	-1.8
	comp=Z,1.5nm,0.7s,mb3.9,baz=69,slow=4.4,SNR=9.8						
FINES	FINESS Array B	88.12	335	*i* P	P	05 20 59.2	+2.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARUT	Antelope Range	88.13	51	*e*P	P	05 20 57.3	+0.7
QRN	Al-Qurain	88.21	299	*e*P	P	05 20 54.5	-2.5
QRN				AMb	AMB	05 20 56.3	
	comp=Z,38nm,0.8s,mb5.2						
MIB	Mutribah	88.35	301	*e*P	P	05 20 56.2	-1.5
MIB				AMb	AMB	05 20 57.5	
	comp=Z,13nm,0.8s,mb4.8						
NLU	North Lily Min	88.37	49	*e*P	P	05 20 58.4	+0.7
NAY	Al-Naaiem	88.61	300	*e*P	P	05 20 57.2	-1.6
NAY				AMb	AMB	05 20 58.6	
	comp=Z,14nm,0.8s,mb4.8						
GLA	Glamis	88.67	56	⇓P	P	05 20 59.6	+0.4
	baz=89						
Y12C	Blythe	88.68	55	⇑P	P	05 20 59.4	+0.2
	baz=89						
W13A	Hualapai Mount	88.72	54	⇑P	P	05 20 59.4	0.0
	baz=89						
DAU	Daniels Canyon	88.78	48	*e*P	P	05 21 00.0	+0.3
PDMCI	Parker Dam,Lak	88.79	55	⇓P	P	05 20 59.7	0.0
	baz=89						
MSU	Marysvale	88.81	50	*e*P	P	05 21 00.2	+0.4
X13A	Yucca	88.93	54	⇑P	P	05 21 00.7	+0.4
	baz=89						
PDAR	Pinedale Array	89.08	45	P	P	05 20 58.6	-2.5
	comp=Z,0.5nm,0.5s,mb3.6,baz=203,slow=0.7,SNR=6.8						
Y13A	Salome	89.20	55	⇓P	P	05 21 02.0	+0.4
	baz=89						
W14A	Seligman	89.29	53	⇓P	P	05 21 03.0	+0.9
	baz=89						
X14A	Yava	89.70	54	⇓P	P	05 21 04.3	+0.4
	baz=90						
SRU	San Rafael	89.79	49	*e*P	P	05 21 03.8	-0.6
SRU				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
SRU	San Rafael	89.79	49	*e*P	P	05 21 03.8	-0.5
	comp=Z,7.7nm,0.6s,mb4.8						
Y14A	Wickenburg	89.80	55	⇓P	P	05 21 04.8	+0.4
	baz=90						
W15A	Williams	89.93	53	⇑P	P	05 21 06.1	+1.1
	baz=90						
X15A	Humboldt	90.20	54	⇑P	P	05 21 06.8	+0.5
	baz=90						
WUAZ	Wupatki	90.49	53	*e*P	P	05 21 08.7	+1.1
	comp=Z,4.4nm,0.9s,mb4.4						
WUAZ	Wupatki	90.49	53	⇓P	P	05 21 08.1	+0.5
	baz=90						
115A	Sonoran Desert	90.85	55	⇓P	P	05 21 10.2	+0.9
	baz=91						
PV10	Paradox Valley	91.14	49	*e*P	P	05 21 10.9	+0.3
116A	Eloy	91.31	55	⇓P	P	05 21 11.9	+0.5
	baz=91						
MVCO	Mesa Verde	91.99	50	⇑P	P	05 21 14.5	-0.1
	baz=92						
TUC	Tucson	92.12	55	*e*P	P	05 21 14.9	-0.2
TUC				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
TUC	Tucson	92.12	55	*e*P	P	05 21 14.9	-0.3
	comp=Z,1.4nm,0.9s,mb3.9						
AKASG	Malin Array Be	92.37	325	P	P	05 21 13.2	-3.1
	comp=Z,0.3nm,0.4s,mb3.6,baz=54,slow=5.2,SNR=4.7						
AKASG	Malin Array Be	92.37	325	*i* P	P	05 21 13.1	-3.2
PHWY	Pilot Hill	92.47	45	*e*P	P	05 21 23.1	+6.4
ULM	Lac du Bonnet	94.00	34	P	P	05 21 22.4	-1.3
	comp=Z,1.2nm,0.8s,mb4.0,baz=236,slow=4.9,SNR=3.1						
BR131	Keskin Array S	94.95	314	*e*P	P	05 21 26.6	-1.5
	comp=Z,1.2nm,0.7s,mb4.0						
BRTR	Keskin Array B	94.95	314	P	P	05 21 26.7	-1.4
	comp=Z,1.0nm,0.4s,mb4.2,baz=129,slow=4.0,SNR=8.8						
TXAR	Lajitas Array	98.92	56	P	Pdif	05 21 46.3	+0.4
	comp=Z,0.1nm,0.5s,baz=268,slow=4.5,SNR=3.6						
SNAA	Sanae	122.40	191	*e*PKPdf	PKPdf	05 26 57.0	-1.8
VNA2	Neumayer--Watz	123.84	190	*e*PKPdf	PKPdf	05 27 00.5	-1.0
	baz=209,slow=1.0						
VNA3	Neumayer Olymp	123.94	189	*e*PKPdf	PKPdf	05 27 00.4	-1.3
VNA1	Neumayer--Stat	124.23	190	*e*PKPdf	PKPdf	05 27 01.8	-0.5
TOA0	Torodi Ar. Sit	133.16	308	*e*PKPdf	PKPdf	05 27 19.5	+0.2
TORD	Torodi Ar. Bea	133.16	308	PKP	PKPdf	05 27 19.4	+0.1
	comp=Z,0.3nm,0.5s,baz=157,slow=36,SNR=8.2						
SDV	Santo Domingo	135.96	57	*e*PKPdf	PKPdf	05 27 24.8	+0.3
LPAZ	La Paz	147.90	93	PKP	PKPdf	05 27 47.0	+1.4
	comp=Z,9.3nm,0.6s,baz=278,slow=3.0,SNR=19						
LPAZ				PKPbc	PKPbc	05 27 50.7	+1.6
	comp=Z,9.3nm,0.6s,baz=306,slow=2.5,SNR=59						
LPAZ	La Paz	147.90	93	*e*PKPdf	PKPdf	05 27 47.0	+1.4
LPAZ				*e*PKPbc	PKPbc	05 27 50.3	+1.2
TRQA	Tornquist	148.26	136	*e*PKPbc	PKPbc	05 27 49.0	-1.0

BJI ***13*** *05:21:29.3, 482N×9476E, h47km, mB5.0, mb5.0, Ms4.5, Msz4.1*

ISCJB ***13*** *05:21:32.0±0.2, 520N±004×9478E±003, h46km, mb4.8/112, MS3.9/21, Error ellipse: s-maj=5.7km s-min=4.1km az=48.9*

MOS ***13*** *05:21:31.1±0.9, 535N×9476E, h33km, mb5.0/64, Error ellipse: s-maj=9.5km s-min=4.7km az=120.1*

NEIC ***13*** *05:21:32.5±1.0, 526N×9476E, h35km±8km, mb4.9/68, Error ellipse: s-maj=6.4km s-min=3.9km az=214.0*

NEIC Felt [III] at Banda Aceh.

IDC ***13*** *05:21:34.2±0.6, 512N×9477E, h56km±5km, mb4.3/19, mb1 4.4/19, mb1mx4.3/22, mbtmp4.3/19, MS3.7/10, Ms1 3.7/10, ms1mx3.5/25, Error ellipse: s-maj=19.2km s-min=10.3km az=46.0*

ISC 13 05:21:34.2±0.2, 523N±004×9476E±003, h48km, h48km±4.5km:pP-P, n301, o0:94/296, mb4.8/112, MS3.9/21, 73C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.81	120	P	Pn	05 22 46.9	+2.8
	14nm,0.3s,baz=308,slow=8.0,SNR=45						
PSI				S	Sn	05 23 37.5	-0.8
	4.9nm,0.3s,baz=334,slow=10,SNR=4.0						
PSI				LR	LR	05 24 56.9	
	comp=Z,550nm,20.6s,baz=191,slow=42						
PSI	Prapat	4.81	120	P	Pn	05 22 46.9	+2.9
PSI				S	Sn	05 23 37.6	-0.8
KULM	Kulim	5.87	89	*e*Pn	Pn	05 22 59.5	+1.0
KULM				*e*Sn	Sn	05 24 02.7	-1.8
SNG	Songkhla	6.14	71	P	Pn	05 23 04.0	+1.8
	436nm,0.7s						
NNT	Nongplab	8.81	34	P	Pn	05 23 42.5	+3.7
CHG	Chiang Mai	14.10	16	⇑P	Pn	05 24 58.0	+6.8
	38nm,0.8s						
CHTO	Chiang Mai	14.10	16	*e*P	Pn	05 24 56.1	+4.9
CHTO				pmax	pmax		
	comp=Z,32nm,0.8s						
CHTO	Chiang Mai	14.10	16	*e*Pn	Pn	05 24 56.1	+4.9
	comp=Z,32nm,0.8s						
PALK	Pallekele	14.12	279	*e*Pn	Pn	05 24 49.1	-2.3
NANT	Nan	14.68	23	⇓P	Pn	05 25 01.0	+2.2
	comp=Z,156nm,1.0s						
KSM	Kuching	15.96	103	*e*P	Pn	05 25 15.9	+0.4
VIS	Vishakhapatnam	16.70	319	*e*P	Pn	05 25 25.8	+1.1
VIS				*e*S	S	05 28 17.4	-21
VIS				*ex*	x	05 28 18.4	
QIZ	Qiongzhong	20.11	46	P	P	05 26 03.1	-0.8
QIZ				S	S	05 29 48.8	+1.7
QIZ				LR	LR		
	comp=N,121nm,20.9s,MS3.4						
QIZ				LR	LR		
	comp=E,121nm,17.7s,MS3.4						
QIZ				LR	LR		
	comp=Z,189nm,21.7s,MS3.4						
KMI	Kunming	21.21	20	P	P	05 26 18.1	+2.4
KMI				AP		05 26 25.6	
KMI				XP	sP	05 26 31.0	-2.1
KMI				PP		05 26 41.4	
KMI				S	S	05 30 08.4	-0.4
KMI				XS	sS	05 30 24.5	-2.6
KMI				SS		05 30 43.8	
KMI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.5						
KMI				AMB	AMB		
	comp=Z,168nm,4.7s						

comp=Z,120nm,4.6s
GYA LR LR
comp=N,460nm,14.9s,MS4.2
GYA LR LR
comp=E,480nm,15.0s,MS4.2
GYA LR LR
comp=Z,540nm,15.2s,MS4.1
DMN Daman 24.07 339 *eP* **P 05 26 43.0 -2.0**
comp=Z,24nm,0.6s,mb4.8
GUN Gumba 24.08 340 *eP* **P 05 26 43.7 -1.4**
comp=Z,25nm,0.4s,mb5.0
KKN Kakani 24.18 339 *eP* **P 05 26 44.4 -1.5**
comp=Z,23nm,0.5s,mb4.8
BHPL Bhopal 24.50 319 *ex* **P 05 26 49.2 +0.3**
LSA Lhasa 24.57 352 *eP* **P 05 26 50.3 +0.8**
LSA pmax pmax
comp=Z,41nm,0.6s,mb5.1
LSA Lhasa 24.57 352 *eP* **P 05 26 50.3 +0.8**
comp=Z,41nm,0.6s,mb5.1
GKN Gorkha 24.60 338 *eP* **P 05 26 48.8 -1.0**
comp=Z,39nm,0.3s,mb5.4
KOLN Koldanda 24.80 336 *eP* **P 05 26 51.9 +0.3**
comp=Z,85nm,0.7s,mb5.4
CD2 Chengdu 26.91 17 P **P 05 27 11.3 +0.6**
CD2 AP pP 05 27 22.9 -0.2
CD2 XP sP 05 27 28.4 -0.5
CD2 PP 05 27 58.0
CD2 S **S 05 31 43.1 -1.0**
CD2 XS sS 05 32 04.0 -1.2
CD2 SS 05 32 59.6
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,250nm,5.2s
CD2 LR LR
comp=N,260nm,3.9s
CD2 LR LR
comp=E,280nm,5.2s
CD2 LR LR
comp=Z,340nm,4.3s
XAN Xi'an 31.53 23 P **P 05 27 51.1 -0.6**
XAN AMB AMB
comp=Z,30nm,0.6s,mb5.3
LZH Lanzhou 31.82 14 *eP* **P 05 27 54.5 +0.2**
LZH AP pP 05 28 06.0 -0.8
LZH XP sP 05 28 11.4 -1.1
LZH PP PP 05 29 00.6 -6.1
LZH AMB AMB
comp=Z,22nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,63nm,5.4s
LZH LR LR
comp=E,638nm,13.7s
LZH LR LR
comp=Z,885nm,17.8s,MS4.5
GTA Gaotai 34.33 7⇑*iP* **P 05 28 15.9 -0.2**
GTA AP pP 05 28 25.8 -3.0
GTA PP PP 05 29 30.0 -4.5
GTA PCP PcP 05 30 52.0 +0.7
GTA S **S 05 33 38.8 -1.4**
GTA SCP ScP 05 34 34.6 +2.2
GTA PCS PcS 05 34 38.6 +0.9
GTA AMB AMB
comp=Z,17nm,0.6s,mb5.2
GTA AMB AMB
comp=Z,118nm,3.9s
GTA LR LR
comp=N,169nm,11.0s,MS4.1
GTA LR LR
comp=E,153nm,13.7s,MS4.1
GTA LR LR
comp=Z,185nm,16.0s,MS3.9
FITZ Fitzroy Crossi 38.28 128⇑*iP* **P 05 28 48.9 -1.0**
comp=Z,9.3nm,0.6s,mb4.7
FITZ Fitzroy Crossi 38.28 128 LR LR 05 44 26.2
comp=Z,71nm,19.3s,MS3.5,baz=296,slow=36
HHC Hu-ho-hao-te 38.53 21 *eP* **P 05 28 52.8 +0.8**
HHC AP pP 05 29 02.4 -2.3
HHC XP sP 05 29 06.0 -4.4
HHC PP PP 05 30 24.5 +3.7
HHC PCP PcP 05 31 05.5 +1.6
HHC S **S 05 34 45.5 +1.2**
HHC AMB AMB
comp=Z,18nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,149nm,5.0s
HHC LR LR
comp=N,218nm,19.0s,MS4.1
HHC LR LR
comp=E,202nm,17.8s,MS4.1
HHC LR LR
comp=Z,214nm,16.6s,MS4.0
WMQ Urumqi 38.93 352 P **P 05 28 56.0 +0.7**
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
WMQ LR LR
comp=N,138nm,16.0s,MS3.8
WMQ LR LR
comp=E,37nm,20.0s,MS3.8
WMQ LR LR
comp=Z,95nm,18.0s,MS3.7
BJT Baijiatuau 39.64 26 *eP* **P 05 29 02.5 +1.3**
BJT pmax pmax
comp=Z,28nm,0.7s
BJT Baijiatuau 39.64 26 *eP* **P 05 29 02.5 +1.2**
comp=Z,28nm,0.7s,mb5.1
BJI Beijing 39.66 26 *eP* **P 05 29 02.8 +1.4**
BJI AMB AMB
comp=Z,40nm,0.9s,mb5.2
BJI LR LR
comp=N,241nm,6.3s
BJI LR LR
comp=E,178nm,8.6s
BJI LR LR
comp=Z,154nm,21.0s,MS3.8
BJI Beijing 39.66 26 *eP* **P 05 29 02.7 +1.3**
ULHL Ulahol 40.37 339 P **P 05 29 08.2 +1.0**
SNR=5.7
KZA Kyzart 40.59 338 P **P 05 29 10.2 +1.1**
SNR=5.5
UCH Uchtor 41.01 337 P **P 05 29 14.2 +1.6**
SNR=24
TKM2 Tokmak 2 41.19 339 P **P 05 29 14.6 +0.6**
SNR=15
TKM2 Tokmak 2 41.19 339 P **P 05 29 14.5 +0.5**
TKM2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
KBK Karagaybulak 41.20 338 P **P 05 29 15.8 +1.7**
SNR=14
AML Almayashu 41.25 336 P **P 05 29 15.9 +1.4**
SNR=33
AAK Ala-Archa 41.36 337 P **P 05 29 17.7 +2.3**
SNR=14
AAK Ala-Archa 41.36 337*d iP* **P 05 29 15.9 +0.5**
AAK pmax pmax
comp=Z,17nm,0.9s,mb4.7
AAK Ala-Archa 41.36 337 *eP* **P 05 29 15.6 +0.2**
comp=Z,14nm,0.7s,mb4.7
KAKA Kakadu 41.47 116 *eP* **P 05 29 14.8 -1.5**
comp=Z,4.6nm,0.4s,mb4.5
EKS2 Erkin-Say 41.66 337 P **P 05 29 19.1 +1.2**
SNR=8.2
USP Ospenovka 41.90 338 P **P 05 29 20.6 +0.8**
SNR=30
MK31 Makanchi Array 42.78 347 *eP* **P 05 29 26.7 -0.3**
MK31 *e* 05 31 16.7
MKAR Makanchi Array 42.78 347 P **P 05 29 26.9 -0.1**
comp=Z,20nm,0.6s,mb5.0,baz=168,slow=7.7,SNR=105
MKAR pP pP 05 29 42.4 +2.5
comp=Z,3.1nm,0.4s,baz=163,slow=8.0,SNR=4.1
MKAR PcP PcP 05 31 17.1 -0.5
comp=Z,2.2nm,0.5s,baz=203,slow=5.2,SNR=5.7
MKAR LR LR 05 49 39.6
comp=Z,93nm,19.4s,MS3.7,baz=61,slow=39
MKAR Makanchi Array 42.78 347 P **P 05 29 26.9 -0.1**
MKAR *PP pP 05 29 42.4 +2.5
MKAR 05 31 17.1
KK31 Karatay Array 43.38 334 *i* P **P 05 29 31.9 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
KKAR Karatay Array 43.38 334 *eP* **P 05 29 31.9 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
SONM Songino Array 43.60 11 P **P 05 29 33.2 -0.4**
comp=Z,11nm,0.8s,mb4.7,baz=190,slow=8.2,SNR=74
SONM PcP PcP 05 31 20.6 +0.1
comp=Z,2.8nm,0.5s,baz=196,slow=3.8,SNR=13
SONM LR LR 05 50 09.4
comp=Z,127nm,18.2s,MS3.9,baz=185,slow=39
SONM Songino Array 43.60 11 P **P 05 29 33.2 -0.4**
SONM 05 31 20.6
ULN Ulaanbaatar 43.76 12*c iP* **P 05 29 34.2 -0.7**
ULN Ulaanbaatar 43.76 12 *eP* **P 05 29 32.9 -2.0**
comp=Z,6.7nm,0.6s,mb4.5
ULN *e*PcP PcP 05 31 21.0 0.0
KSRS Korea Array 44.09 39 P **P 05 29 37.2 -0.3**
comp=Z,4.1nm,0.4s,mb4.5,baz=219,slow=8.5,SNR=20
KSRS LR LR 05 50 47.3
comp=Z,71nm,18.4s,MS3.6,baz=91,slow=40
ZAK Zakamensk 45.56 8 *eP* **P 05 29 46.5 -2.7**
ZAK *e* 05 31 27.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
WRA Warramunga Arr 46.26 124 P **P 05 29 54.3 -0.5**
comp=Z,28nm,0.7s,mb5.3,baz=303,slow=9.1,SNR=14
WRA LR LR 05 51 45.2
comp=Z,45nm,18.9s,MS3.5,baz=195,slow=39
WB2 Warramunga Arr 46.27 124⇑*iP* **P 05 29 54.9 +0.1**
TLY Talaya 46.88 8 *eP* **P 05 30 00.8 +1.2**
TLY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KURK Kurchatov 47.30 346⇑*iP* **P 05 30 03.0 +0.1**
KURK Kurchatov 47.30 346 *eP* **P 05 30 03.1 +0.2**
comp=Z,25nm,0.6s,mb5.3
ASAR Alice Springs 47.78 129 P **P 05 30 06.8 +0.2**
comp=Z,8.3nm,0.6s,mb5.0,baz=304,slow=7.6,SNR=86
ASAR pP pP 05 30 21.1 +1.4
comp=Z,4.5nm,0.6s,baz=306,slow=7.4,SNR=6.2
ASAR S **S 05 36 55.8 -3.9**
comp=Z,0.8nm,0.9s,baz=289,slow=14,SNR=6.6
FORT Forrest 47.91 140 *eP* **P 05 30 08.2 +0.6**
comp=Z,12nm,0.7s,mb5.0
HIA Hailar 48.72 22 *i* P **P 05 30 14.0 +0.2**
ZAL Zalesovo 49.23 352 P **P 05 30 17.4 -0.3**
comp=Z,26nm,0.5s,mb5.5,baz=301,slow=5.8,SNR=80
MDJ Mudanjiang 49.67 32 P **P 05 30 20.8 -0.3**
MDJ S **S 05 37 17.8 -8.5**
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,120nm,5.3s
MDJ LR LR
comp=Z,92nm,22.1s,MS3.7
NVS Novosibirsk 50.33 351 *i* P **P 05 30 25.2 -0.9**
NVS pmax pmax
comp=N,10.0nm,0.5s
NVS pmax pmax
comp=E,7.0nm,0.5s
NVS pmax pmax
comp=Z,12nm,0.5s,mb5.2
MAJO Matsushiro 50.51 46 *eP* **P 05 30 28.3 +0.8**
MAJO pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
MAJO Matsushiro 50.51 46 *eP* **P 05 30 28.3 +0.9**
comp=Z,6.0nm,0.4s,mb4.9
MAT Matsushiro 50.51 46 P **P 05 30 29.1 +1.6**
MAT *e*S **S 05 37 31.0 -7.0**
MJAR Matsushiro Arr 50.51 46 P **P 05 30 27.9 +0.4**
comp=Z,2.8nm,0.7s,mb4.3,baz=246,slow=7.6,SNR=6.9
MJAR LR LR 05 52 18.8
comp=Z,122nm,19.6s,MS3.9,baz=295,slow=36
BVA0 Borovoye Array 51.67 341 *i* P **P 05 30 35.6 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BRVK Borovoye 51.73 341 *eP* **P 05 30 36.2 -0.4**
BRVK pmax pmax
comp=Z,15nm,0.6s,mb5.1
BRVK Borovoye 51.73 341 *eP* **P 05 30 36.2 -0.4**
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 52.16 342 *eP* **P 05 30 40.0 +0.2**
CHKZ pmax pmax
comp=Z,43nm,0.7s,mb5.5
CHKZ Chkalovo 52.16 342 *eP* **P 05 30 40.0 +0.2**
comp=Z,43nm,0.7s,mb5.5
AB31 Akbulak array 52.83 332 *i* P **P 05 30 44.9 +0.1**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
PMG Port Moresby 54.21 105 P **P 05 30 54.5 -0.3**
comp=Z,7.0nm,0.4s,mb4.9,baz=333,slow=14,SNR=4.2
PMG Port Moresby 54.21 105 *eP* **P 05 30 55.4 +0.5**
PMG pmax pmax
comp=Z,9.0nm,0.6s
PMG Port Moresby 54.21 105 *eP* **P 05 30 55.4 +0.5**
comp=Z,9.0nm,0.6s,mb4.9
BOD Bodaibo 54.57 13 *eP* **P 05 30 55.7 -1.8**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
HABR Khabarovsk 55.03 32 *eP* **P 05 30 59.1 -1.7**
HABR *e*S **S 05 38 41.7 +2.1**
CTAO Charters Tower 56.51 118 *eP* **P 05 31 11.6 +0.2**
CTAO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CTAO Charters Tower 56.51 118 *eP* **P 05 31 11.6 +0.2**
comp=Z,4.3nm,0.6s,mb4.7
GNI Garni 56.72 315 *eP* **P 05 31 12.2 -0.8**
GNI pmax pmax
comp=Z,6.0nm,0.8s
GNI Garni 56.72 315 *eP* **P 05 31 12.2 -0.8**
comp=Z,6.2nm,0.8s,mb4.7
KMBO Kilima Mbogo 57.78 265 LR LR 05 50 31.6
comp=Z,101nm,21.4s,MS3.9,baz=85,slow=30
KMBO Kilima Mbogo 57.78 265 *eP* **P 05 31 22.9 +2.5**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 57.78 265 *eP* **P 05 31 22.9 +2.5**
comp=Z,6.1nm,1.0s,mb4.6
STKA Stephens Creek 57.86 133 *eP* **P 05 31 20.7 -0.3**
comp=Z,4.2nm,0.9s,mb4.5
STKA Stephens Creek 57.86 133 P **P 05 31 19.4 -1.6**
comp=Z,4.2nm,0.8s,mb4.5,baz=312,slow=7.6,SNR=11
ZEI Tsey 58.39 318 *eP* **P 05 31 24.6 0.0**
ZEI *e**PP pP 05 31 33.1 -5.0
ZEI *e* 05 33 34.0
ZEI pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ARU Arti 58.55 337⇑*iP* **P 05 31 24.8 -1.0**
ARU *e* 05 32 11.1
ARU *e* 05 33 34.2
ARU *e*S **S 05 39 29.6 +3.6**
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KIV Kislovodsk 59.68 319 *i* P **P 05 31 33.2 -0.4**
KIV pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
KIV Kislovodsk 59.68 319 *eP* **P 05 31 33.3 -0.3**
comp=Z,6.3nm,0.4s,mb5.0
EIL Elat 61.28 301 *eP* **P 05 31 44.3 -0.2**
comp=Z,54nm,0.6s
YAK Yakutsk 62.30 18 *i* P **P 05 31 49.9 -1.5**
YAK pmax pmax
comp=Z,28nm,0.6s,mb5.6
YAK MLR MLR
comp=Z,100nm,20.0s,MS4.0
YAK Yakutsk 62.30 18 *eP* **P 05 31 49.8 -1.6**
comp=Z,30nm,0.5s,mb5.7
ANN Anapa 63.49 318 *eP* **P 05 31 53.0 -6.3**
BR131 Keskin Array S 64.62 312 *eP* **P 05 32 06.4 -0.3**
comp=Z,2.4nm,0.6s,mb4.4
BRTR Keskin Array B 64.62 312 P **P 05 32 06.1 -0.6**
comp=Z,3.7nm,0.7s,mb4.5,baz=128,slow=7.1,SNR=23
BRTR Keskin Array B 64.62 312 *i* P **P 05 32 06.0 -0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
MOS Moscow 67.64 329 *eP* **P 05 32 22.6 -3.5**
OBN Obninsk 67.93 328⇓*eP* **P 05 32 22.4 -5.5**
OBN *e*S S 05 41 21.0 -2.1
OBN pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LSZ Lusaka 69.00 252 P **P 05 32 35.9 +1.4**
LSZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
LSZ Lusaka 69.00 252 P **P 05 32 35.9 +1.4**
comp=Z,5.8nm,1.1s,mb4.4
TIXI Tiksi 69.69 11*c iP* **P 05 32 36.7 -2.1**
TIXI pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
TIXI MLR MLR
comp=Z,100nm,20.0s,MS4.1
TIXI Tiksi 69.69 11 *eP* **P 05 32 36.8 -2.1**
comp=Z,13nm,0.5s,mb5.1
AKASG Malin Array Be 70.60 322 P **P 05 32 42.8 -1.6**
comp=Z,1.8nm,0.5s,mb4.3,baz=92,slow=5.3,SNR=17
AKASG Malin Array Be 70.60 322 *i* P **P 05 32 42.7 -1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 70.60 322 *eP* **P 05 32 42.5 -1.9**
VRI Vrincioaia 71.03 317⇑*iP* **P 05 32 47.3 +0.3**
VOIR 72.09 316⇓*iP* **P 05 32 52.8 -0.6**
CASY Casey 72.25 173 *eP* **P 05 32 54.6 +0.3**
comp=Z,3.1nm,0.5s,mb4.5
BURAR Bucovina Array 72.41 318⇑*iP* **P 05 32 55.7 +0.4**
VTS Vitosha 72.91 313⇓*iP* **P 05 32 57.2 -1.1**
JOF Joensuu 73.48 335 *ep* **P 05 32 59.5 -2.1**
comp=Z,4.4nm,0.6s,mb4.6
JOF Joensuu 73.48 335 *eP* **P 05 32 59.5 -2.1**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LBTB Lobatse 73.54 242 *eP* **P 05 33 02.8 +0.8**
DRGR 73.93 317⇑*iP* **P 05 33 04.5 +0.2**
LVZ Lovozero 74.23 340 *eP* **P 05 33 04.8 -1.2**
BZS Buzias 74.50 316⇓*iP* **P 05 33 07.5 -0.1**
KOLS Kolonicke sedl 74.59 319 *eP* **P 05 33 09.2 +1.1**
BOSA Boshof 74.73 239 P **P 05 33 07.6 -1.3**
comp=Z,3.3nm,1.0s,mb4.1,baz=100,slow=5.2,SNR=3.0
BOSA LR LR 06 00 05.1
comp=Z,76nm,20.8s,MS4.0,baz=124,slow=31
BOSA Boshof 74.73 239 *eP* **P 05 33 09.7 +0.8**
BOSA pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BOSA Boshof 74.73 239 *eP* **P 05 33 09.7 +0.8**
comp=Z,6.3nm,1.0s,mb4.5
CRVS Cervenica-Dubn 75.11 319 *eP* **P 05 33 11.6 +0.5**
FINES FINESS Array B 75.32 332 P **P 05 33 10.9 -1.4**
comp=Z,2.0nm,0.4s,mb4.4,baz=103,slow=5.5,SNR=21
STHS Stebnicka Huta 75.33 320 *eP* **P 05 33 13.3 +0.9**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.33 320 *eP* **P 05 33 13.3 +0.9**
comp=Z,6.2nm,0.8s,mb4.6
KAF Kangasniemi 75.41 333 *ep* **P 05 33 12.3 -0.5**
comp=Z,3.8nm,0.4s,mb4.7,baz=104,slow=5.3
KAF Kangasniemi 75.41 333 *eP* **P 05 33 12.3 -0.5**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KECS Kecovo 75.69 319 *eP* **P 05 33 14.4 0.0**
KECS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KECS Kecovo 75.69 319 *eP* **P 05 33 14.4 0.0**
comp=Z,4.0nm,0.7s,mb4.5
PSZ Piszkesteto 76.00 318 *eP* **P 05 33 15.7 -0.5**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 76.00 318 *eP* **P 05 33 15.7 -0.5**
comp=Z,6.6nm,0.8s,mb4.6
PSZ Piszkesteto 76.00 318⇓*iP* **P 05 33 15.5 -0.7**
MAW Mawson 76.09 192 LR LR 06 01 21.5
comp=Z,73nm,18.1s,MS4.0,baz=247,slow=31
OJC Ojcow 76.38 320 *eP* **P 05 33 18.1 -0.3**
PKSM Moragy 76.64 316⇑*iP* **P 05 33 19.4 -0.4**
VYHS Vyhne 76.77 318 *eP* **P 05 33 20.4 -0.2**
OKC Ostrava-Krasne 77.39 320 *eP* **P 05 33 24.3 +0.3**
TIP Timpagrande 77.41 309 *eP* **P 05 33 24.6 +0.4**
KEV Kevo 77.51 341 *ep* **P 05 33 22.5 -2.2**
comp=Z,11nm,0.7s,mb4.9
KEV Kevo 77.51 341 *eP* **P 05 33 22.5 -2.2**
KEV pmax pmax
comp=Z,11nm,0.7s,mb4.9
MORC Moravsky Berou 77.77 320 *eP* **P 05 33 26.1 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
MORC Moravsky Berou 77.77 320⇑*iP* **P 05 33 26.5 +0.3**
MORC Moravsky Berou 77.77 320 *eP* **P 05 33 26.1 -0.1**
comp=Z,3.2nm,0.5s,mb4.5
MORC Moravsky Berou 77.77 320⇑*iP* **P 05 33 26.5 +0.3**
ZST Bratislava 77.89 318 *eP* **P 05 33 27.5 +0.7**
ZST pmax pmax
comp=Z,18nm,0.6s,mb5.2
ZST Bratislava 77.89 318 *eP* **P 05 33 27.5 +0.7**
comp=Z,18nm,0.6s,mb5.2
ARCES ARCESS Array B 77.94 340 P **P 05 33 26.7 -0.4**
comp=Z,6.2nm,0.6s,mb4.7,baz=98,slow=5.9,SNR=39
ARCES pP pP 05 33 41.4 +0.4
comp=Z,2.1nm,0.5s,baz=94,slow=5.8,SNR=2.6
ARCES ARCESS Array B 77.94 340 P **P 05 33 26.7 -0.4**
ARCES pP pP 05 33 41.4 +0.4
BILL Bilibino 78.30 21⇓*eP* **P 05 33 27.9 -1.2**
BILL *e*S S 05 43 17.3 -3.4
BILL pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.2
BILL Bilibino 78.30 21 *eP* **P 05 33 27.6 -1.5**
comp=Z,2.6nm,0.5s,mb4.4
KOGS Kog 78.31 316 *eP* **P 05 33 29.3 +0.1**
DPC Dobruska-Polom 78.61 320 *eP* **P 05 33 31.6 +0.8**
UPC Upice 78.82 320 *eP* **P 05 33 32.0 0.0**
GROS Grobnik 78.83 316 *eP* **P 05 33 32.1 +0.1**
BOJS Bojanci 78.93 315 *eP* **P 05 33 32.8 +0.2**
LJU Ljubljana 79.47 316 *eP* **P 05 33 35.9 +0.3**
PRU Pruhonice 79.72 320 *eP* **P 05 33 37.0 +0.1**
PVCC Panska Ves 79.74 320 *eP* **P 05 33 37.5 +0.5**
VOJS Vojsko 79.92 316 *eP* **P 05 33 37.9 -0.1**
GEC2 GERESS Array S 80.19 319 *eP* **P 05 33 39.6 +0.1**
GERES GERESS Array B 80.19 319 P **P 05 33 40.0 +0.6**
comp=Z,7.0nm,0.6s,mb4.8,baz=103,slow=5.3,SNR=43
KHC Kasperske Hory 80.29 319 *eP* **P 05 33 40.0 0.0**
KHC Kasperske Hory 80.29 319⇓*eP* **P 05 33 40.3 +0.3**
PTCC Patocco-Chiusa 80.31 316 P **P 05 33 40.1 +0.1**
comp=Z,16nm,1.6s,mb4.7
FVI Forni Avoltri 80.71 316 P **P 05 33 42.1 -0.1**
FVI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
FVI Forni Avoltri 80.71 316 P **P 05 33 42.1 -0.1**
comp=Z,6.2nm,0.5s,mb4.8
CRE Caprese Michel 81.21 313 P **P 05 33 45.4 +0.5**
CRE pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
CRE Caprese Michel 81.21 313 P **P 05 33 45.4 +0.5**
comp=Z,8.0nm,0.4s,mb5.0
SFI Santa Sofia 81.29 313 P **P 05 33 46.6 +1.3**
SFI pmax pmax
comp=Z,22nm,0.6s,mb5.3
SFI Santa Sofia 81.29 313 P **P 05 33 46.6 +1.3**
comp=Z,22nm,0.6s,mb5.3
WTTA Wattenberg 81.51 317⇑*iP* **P 05 33 46.1 -0.4**
comp=Z,10nm,0.5s,mb5.0
WTTA Wattenberg 81.51 317⇑*iP* **P 05 33 46.1 -0.4**
WTTA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
WATA Walderalm 81.56 317⇑*iP* **P 05 33 46.0 -0.7**
comp=Z,2.0nm,0.7s,mb4.2
WATA Walderalm 81.56 317⇑*iP* **P 05 33 46.0 -0.7**
WATA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SQTA Sankt Quirin 81.80 317⇑*iP* **P 05 33 47.6 -0.4**
comp=Z,4.0nm,0.7s,mb4.5
SQTA Sankt Quirin 81.80 317⇑*iP* **P 05 33 47.6 -0.4**
SQTA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
GRA1 Grafenberg Arr 81.85 319 *eP* **P 05 33 49.0 +0.7**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 81.85 319 *eP* **P 05 33 49.0 +0.7**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 81.85 319 *eP* **P 05 33 49.0 +0.7**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 81.85 319 *eP* **P 05 33 49.0 +0.7**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MOTA Moosalm 81.88 317⇑*iP* **P 05 33 47.8 -0.6**
comp=Z,4.7nm,0.8s,mb4.5
MOTA Moosalm 81.88 317⇑*iP* **P 05 33 47.8 -0.6**
MOTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RETA Reutte 82.11 317⇑*iP* **P 05 33 49.5 -0.2**
comp=Z,13nm,0.5s,mb5.1
NOA NORSAR Array B 82.32 331 P **P 05 33 49.5 -1.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=92,slow=4.4,SNR=2.6
DAVA Damuels 82.71 317⇑*iP* **P 05 33 53.0 +0.2**
comp=Z,6.4nm,0.8s,mb4.7
SYO Syowa Base 83.08 197⇑*eP* **P 05 33 55.0 +0.3**
KEST Kesra 83.25 305 P **P 05 33 56.9 +1.4**
comp=Z,2.2nm,0.5s,mb4.4,baz=156,slow=1.7,SNR=14
PGF Pioggiola 83.37 312⇑*iP* **P 05 33 56.4 +0.2**
comp=Z,13nm,0.8s,mb4.8
PGF Pioggiola 83.37 312⇑*iP* **P 05 33 56.4 +0.2**
PGF pmax pmax

comp=Z,7.0nm,0.8s,mb4.7
PGF Pioggiola 83.37 312⇑iP P 05 33 56.4 +0.2
comp=Z,6.7nm,0.8s,mb4.7
CDF Champ du Feu 84.45 318 eP P 05 34 01.1 -0.6
comp=Z,7.0nm,0.7s,mb4.6
CDF Champ du Feu 84.45 318 eP P 05 34 01.1 -0.6
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
CDF Champ du Feu 84.45 318 eP P 05 34 01.1 -0.6
comp=Z,3.5nm,0.7s,mb4.6
SBF Sospel 84.48 313⇑iP P 05 34 01.8 0.0
comp=Z,34nm,0.7s,mb5.3
SBF Sospel 84.48 313⇑iP P 05 34 01.8 0.0
SBF pmax pmax
comp=Z,17nm,0.7s,mb5.3
SBF Sospel 84.48 313⇑iP P 05 34 01.8 0.0
comp=Z,17nm,0.7s,mb5.3
HINF Hinteralfeld 84.75 317⇑iP P 05 34 02.7 -0.5
comp=Z,4.5nm,0.6s,mb4.5
HINF Hinteralfeld 84.75 317⇑iP P 05 34 02.7 -0.5
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
HINF Hinteralfeld 84.75 317⇑iP P 05 34 02.7 -0.5
comp=Z,2.3nm,0.6s,mb4.5
LPG La Plagne 84.91 315⇑iP P 05 34 04.3 +0.3
comp=Z,16nm,0.6s,mb5.0
LPG La Plagne 84.91 315⇑iP P 05 34 04.3 +0.3
LPG pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
LPG La Plagne 84.91 315⇑iP P 05 34 04.3 +0.3
comp=Z,8.1nm,0.6s,mb5.0
LPL La Plagne 84.92 315⇑iP P 05 34 04.3 +0.3
comp=Z,24nm,0.7s,mb5.1
LPL La Plagne 84.92 315⇑iP P 05 34 04.3 +0.3
LPL pmax pmax
comp=Z,12nm,0.7s,mb5.1
LPL La Plagne 84.92 315⇑iP P 05 34 04.3 +0.3
comp=Z,12nm,0.7s,mb5.1
MBDF Montbardon 84.92 314 eP P 05 34 03.5 -0.6
comp=Z,7.0nm,0.5s,mb4.7
MBDF Montbardon 84.92 314 eP P 05 34 03.5 -0.6
MBDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
MBDF Montbardon 84.92 314 eP P 05 34 03.5 -0.6
comp=Z,3.5nm,0.5s,mb4.8
BNI Bardonecchia 84.98 315 eP P 05 34 06.7 +2.4
BNI pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BNI Bardonecchia 84.98 315 eP P 05 34 06.7 +2.4
comp=Z,5.0nm,0.8s,mb4.7
FRF La Foret Royal 85.06 313⇑iP P 05 34 04.9 +0.2
comp=Z,21nm,0.6s,mb5.1
FRF La Foret Royal 85.06 313⇑iP P 05 34 04.9 +0.2
FRF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
FRF La Foret Royal 85.06 313⇑iP P 05 34 04.9 +0.2
comp=Z,10nm,0.6s,mb5.1
HAU Haudompre 85.08 318⇑iP P 05 34 04.3 -0.6
comp=Z,19nm,0.7s,mb5.1
HAU Haudompre 85.08 318⇑iP P 05 34 04.3 -0.6
HAU pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
HAU Haudompre 85.08 318⇑iP P 05 34 04.3 -0.6
comp=Z,9.6nm,0.7s,mb5.0
LMR La Mourre 85.17 313⇑iP P 05 34 05.4 +0.1
comp=Z,9.3nm,0.6s,mb4.8
LMR La Mourre 85.17 313⇑iP P 05 34 05.4 +0.1
LMR pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LMR La Mourre 85.17 313⇑iP P 05 34 05.4 +0.1
comp=Z,4.7nm,0.6s,mb4.8
CABF La Chapelle 85.32 316⇑iP P 05 34 06.1 +0.1
comp=Z,12nm,0.6s,mb4.9
CABF La Chapelle 85.32 316⇑iP P 05 34 06.1 +0.1
CABF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
CABF La Chapelle 85.32 316⇑iP P 05 34 06.1 +0.1
comp=Z,6.2nm,0.6s,mb4.9
ORIF Oris-en-Rattie 85.55 315 eP P 05 34 06.8 -0.4
comp=Z,12nm,0.7s,mb5.0
ORIF Oris-en-Rattie 85.55 315 eP P 05 34 06.8 -0.4
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
ORIF Oris-en-Rattie 85.55 315 eP P 05 34 06.8 -0.4
comp=Z,5.8nm,0.7s,mb4.9
SMRF Simiane la Rot 85.82 314⇑iP P 05 34 09.2 +0.7
comp=Z,6.4nm,0.5s,mb4.8
SMRF Simiane la Rot 85.82 314⇑iP P 05 34 09.2 +0.7
comp=Z,6.4nm,0.5s,mb5.1
GIVF Givet 85.98 320 eP P 05 34 08.9 -0.4
BAIF Baives 86.38 320⇑iP P 05 34 11.3 0.0
comp=Z,9.5nm,0.6s,mb4.9
BAIF Baives 86.38 320⇑iP P 05 34 11.3 0.0
BAIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
BAIF Baives 86.38 320⇑iP P 05 34 11.3 0.0
comp=Z,4.8nm,0.6s,mb4.9
VIVF Saint-Julien-l 86.41 315⇑iP P 05 34 11.4 0.0
comp=Z,10nm,0.8s,mb4.8
VIVF Saint-Julien-l 86.41 315⇑iP P 05 34 11.4 0.0
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
VIVF Saint-Julien-l 86.41 315⇑iP P 05 34 11.4 0.0
comp=Z,5.1nm,0.8s,mb4.8
LOR Lormes 86.81 317⇑iP P 05 34 13.1 -0.3
comp=Z,11nm,0.6s,mb5.0
LOR Lormes 86.81 317⇑iP P 05 34 13.1 -0.3
LOR pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
LOR Lormes 86.81 317⇑iP P 05 34 13.1 -0.3
comp=Z,5.7nm,0.6s,mb5.0
SMF Signal de Mont 86.86 316⇑iP P 05 34 13.3 -0.4
comp=Z,16nm,0.7s,mb5.1
SMF Signal de Mont 86.86 316⇑iP P 05 34 13.3 -0.4
SMF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
SMF Signal de Mont 86.86 316⇑iP P 05 34 13.3 -0.4
comp=Z,8.0nm,0.7s,mb5.1
SSF Saint Saulge 87.06 317⇑iP P 05 34 14.4 -0.2
comp=Z,3.1nm,0.5s,mb4.5
SSF Saint Saulge 87.06 317⇑iP P 05 34 14.4 -0.2
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
SSF Saint Saulge 87.06 317⇑iP P 05 34 14.4 -0.2
comp=Z,1.5nm,0.5s,mb4.5
AVF Avril sur Loir 87.19 317⇑iP P 05 34 14.8 -0.4
comp=Z,13nm,1.0s,mb4.8
AVF Avril sur Loir 87.19 317⇑iP P 05 34 14.8 -0.4
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
AVF Avril sur Loir 87.19 317⇑iP P 05 34 14.8 -0.4
comp=Z,6.7nm,1.0s,mb4.8
BGF Bois d'Agland 87.56 316 eP P 05 34 17.1 +0.1
TCF Toulx Ste Croi 88.02 316 eP P 05 34 19.4 +0.2
CAF Calviac 88.25 315 eP P 05 34 20.7 +0.4
MTLF Montolieu 88.30 313 eP P 05 34 20.8 +0.3
comp=Z,6.4nm,0.8s,mb4.6
MTLF Montolieu 88.30 313 eP P 05 34 20.8 +0.3
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MTLF Montolieu 88.30 313 eP P 05 34 20.8 +0.3
comp=Z,3.2nm,0.8s,mb4.6
RJF Les Rejaudoux 88.60 315 eP P 05 34 21.9 0.0
comp=Z,7.2nm,0.6s,mb4.9
RJF Les Rejaudoux 88.60 315 eP P 05 34 21.9 0.0
RJF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
RJF Les Rejaudoux 88.60 315 eP P 05 34 21.9 0.0
comp=Z,3.6nm,0.6s,mb4.9
LFF La Frestale 89.19 315 eP P 05 34 25.3 +0.6
comp=Z,13nm,0.8s,mb5.0
LFF La Frestale 89.19 315 eP P 05 34 25.3 +0.6
LFF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LFF La Frestale 89.19 315 eP P 05 34 25.3 +0.6
comp=Z,6.6nm,0.8s,mb5.0
LDF La Druitiere 89.34 319 eP P 05 34 25.4 0.0
comp=Z,9.3nm,0.8s,mb4.9
LDF La Druitiere 89.34 319 eP P 05 34 25.4 0.0
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LDF La Druitiere 89.34 319 eP P 05 34 25.4 0.0
comp=Z,4.7nm,0.8s,mb4.9
FLN La Foliniere 89.56 319 eP P 05 34 26.4 0.0
comp=Z,12nm,0.5s,mb5.2
FLN La Foliniere 89.56 319 eP P 05 34 26.4 0.0
FLN pmax pmax
comp=Z,6.0nm,0.5s,mb5.2
FLN La Foliniere 89.56 319 eP P 05 34 26.4 0.0
comp=Z,5.8nm,0.5s,mb5.2
ETSF Etsaut 90.36 313 eP P 05 34 31.2 +1.0
comp=Z,6.9nm,0.6s,mb4.8
SJPF Ste Jean 90.82 313 eP P 05 34 33.2 +0.9
QUIF Quistinic 91.45 318 eP P 05 34 34.9 -0.4
ROSF Rostrenen 91.45 319 eP P 05 34 35.3 0.0
TORD Torodi Ar. Bea 91.80 283 P P 05 34 37.7 +0.8
comp=Z,0.5nm,0.6s,mb4.0,baz=88,slow=3.5,SNR=3.9
TORD pP pP 05 34 53.9 +2.8
comp=Z,0.5nm,0.7s,baz=87,slow=5.0,SNR=3.3
TORD Torodi Ar. Bea 91.80 283 P P 05 34 37.7 +0.8
TORD pP pP 05 34 53.9 +2.8
ESDC Sonseca Array 93.38 310 P P 05 34 45.1 +0.9
comp=Z,1.2nm,0.6s,mb4.5,baz=54,slow=4.3,SNR=3.8
IMA2 Indian Mountai 93.81 22 eP P 05 34 46.0 -0.2
INK Inuvik 99.34 16 eP P 05 35 10.4 -0.8
YKA Yellowknife Ar 108.83 14 Pdiff Pdif 05 35 53.2 -0.2
comp=Z,0.1nm,0.5s,baz=335,slow=5.7,SNR=6.1
YKA Yellowknife Ar 108.83 14 Pdif Pdif 05 35 53.2 -0.2
WVOR Wild Horse Val 123.69 29 ePKIKP PKPdf 05 40 27.3 +0.8
ULM Lac du Bonnet 123.98 8 PKP PKPdf 05 40 26.0 -1.0
comp=Z,2.2nm,0.6s,baz=46,slow=1.0,SNR=8.0
ULM pPKP pPKPdf 05 40 41.2 -0.5
comp=Z,1.2nm,0.5s,baz=261,slow=2.7,SNR=2.6
ULM Lac du Bonnet 123.98 8 ePKPdf PKPdf 05 40 26.1 -1.0
BOZ Bozeman (W) 124.14 22 ePKIKP PKPdf 05 40 27.8 +0.4
HLID Hailey 124.74 26 ePKPdf PKPdf 05 40 29.1 +0.6
LOHW Long Hollow 126.25 23 ePKPdf PKPdf 05 40 32.2 +0.8
NVAR Mina Array Bea 126.83 32 PKP PKPdf 05 40 33.6 +1.1
comp=Z,1.1nm,0.6s,baz=299,slow=3.4,SNR=8.8
BW06 Boulder Array 127.37 22 ePKPdf PKPdf 05 40 33.7 +0.2
PDAR Pinedale Array 127.37 22 PKP PKPdf 05 40 33.3 -0.2
comp=Z,1.4nm,0.6s,baz=111,slow=2.6,SNR=13
PDAR pPKP pPKPdf 05 40 48.4 +0.2
comp=Z,0.5nm,0.5s,baz=48,slow=2.2,SNR=3.5
DUG Dugway 128.17 27 ePKIKP PKPdf 05 40 35.7 +0.7
ANMO Albuquerque 135.31 25 ePKIKP PKPdf 05 40 50.8 +2.3
WCI Wyandotte Cave 136.75 1 ePKIKP PKPdf 05 40 52.4 +1.2
TXAR Lajitas Array 141.34 26 PKhKP 05 40 55.2
comp=Z,0.5nm,0.5s,baz=223,slow=0.8,SNR=12
TXAR Lajitas Array 141.34 26 PKP PKPdf 05 40 55.2 -4.4
LPAZ La Paz 159.94 235 ePKIKP PKPdf 05 41 29.8 +1.9
LPAZ e 05 42 09.3

*MOS **13** 05:40:00.4±1.9, 5565N×110.17E, h8km, mb4.4/1, Error ellipse: s-maj=14.9km s-min=9.3km az=66.7*
BYKL 13 05:39:59.7±0.3, 5570N×11017E, h4km±4km, 4C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**282**	*e*Pg	Pg	05 40 06.4	-0.3
NIZ				*e*		05 40 07.1	
NIZ				*e*Sg	Sg	05 40 11.9	+0.5
NIZ				max			
	383nm,0.1s						
NIZ				Smax			
	3μm,0.1s						
KMO	**Kumora**	**0.61**	**72**	⇑*i*PG	Pg	05 40 10.2	-1.2
KMO				*e*		05 40 18.2	
KMO				pmax	pmax		
	comp=Z,373nm,0.2s						
KMO				smax			
	comp=N,1μm,0.9s						
KMO	**Kumora**	**0.61**	**72**	⇑*i*Pg	Pg	05 40 10.3	-1.1
KMO				*e*Sg	Sg	05 40 18.5	-0.9
KMO				Pmax			
	comp=N,372nm,0.3s						
KMO				Smax			
	comp=N,1μm,0.9s						
YOA	**Uoyan**	**0.98**	**63**	*e*PG	Pg	05 40 18.4	0.0
YOA				*i*		05 40 31.3	
YOA				pmax	pmax		
	comp=Z,407nm,0.2s						
YOA				smax			
	comp=N,1μm,0.4s						
YOA	**Uoyan**	**0.98**	**63**	*e*Sg	Sg	05 40 31.4	+0.3
YOA				Smax			
	comp=N,1μm,0.4s						
YLYR	**Ulyunkhan**	**1.00**	**145**	*e*PG	Pg	05 40 17.4	-1.5
YLYR				*e*		05 40 30.4	
YLYR				pmax	pmax		
	comp=Z,251nm,0.4s						
YLYR				smax			
	comp=N,904nm,0.3s						
YLYR	**Ulyunkhan**	**1.00**	**145**	⇓*i*Pg	Pg	05 40 17.4	-1.5
	comp=N,237nm,0.4s						
YLYR				⇑*i*Pg	Pg	05 40 17.4	-1.5
	comp=N,153nm,0.4s						
YLYR				⇑*i*Pg	Pg	05 40 17.4	-1.5
	comp=N,264nm,0.4s						
YLYR				*e*Sg	Sg	05 40 30.8	-1.1
YLYR				Pmax			
	comp=N,250nm,0.4s						
YLYR				Smax			
	comp=N,896nm,0.3s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*PN	Pn	05 40 35.1	+1.5
SVKR				*e*		05 40 36.5	
SVKR	**Severomuysk**	**1.95**	**76**	*e*Pg	Pg	05 40 35.3	-1.8
SVKR				*e*Sg	Sg	05 41 02.0	-0.5
SVKR				Pmax			
	comp=N,265nm,0.4s						
SVKR				Smax			
	comp=N,3μm,0.8s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	05 40 36.1	+1.2
SYVR				*e*		05 41 04.2	
SYVR				pmax	pmax		
	comp=Z,123nm,0.5s						
SYVR				smax			
	comp=E,2μm,0.7s						
SYVR	**Suvo**	**2.05**	**183**	*e*Pg	Pg	05 40 36.2	-2.8
SYVR				*e*Sg	Sg	05 41 04.2	-1.3
SYVR				Pmax			
	comp=E,137nm,0.4s						
SYVR				Smax			
	comp=E,2μm,0.8s						
OGRR	**Ongureny**	**2.55**	**217**	*e*PN	Pn	05 40 42.3	+0.5
OGRR				*e*		05 40 46.1	
OGRR				*e*		05 41 18.2	
OGRR				pmax	pmax		
	comp=Z,35nm,0.3s						
OGRR				smax			
	comp=E,241nm,0.5s						
OGRR	**Ongureny**	**2.55**	**217**	*e*Pn	Pn	05 40 42.5	+0.7
OGRR				*e*Sn	Sn	05 41 14.1	+0.9
OGRR				*e*Sg	Sg	05 41 18.3	-3.2
OGRR				Smax			
	comp=E,209nm,0.4s						
MXMB	**Maximikha**	**2.58**	**199**	*e*Pg	Pg	05 40 46.6	-2.5
MXMB				*e*Sg	Sg	05 41 20.5	-2.1
MXMB				Pmax			
	comp=E,72nm,0.5s						
MXMB				Smax			
	comp=E,653nm,0.6s						
BOD	**Bodaibo**	**2.99**	**43**	*e*Pn	Pn	05 40 48.1	+0.2
BOD				*e*Sn	Sn	05 41 23.3	-1.0
BOD				*e*Sg	Sg	05 41 30.4	-5.5
BOD				Smax			
	comp=E,126nm,0.4s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*Pn	Pn	05 40 52.6	+1.9
NLYR				*e*Pg	Pg	05 40 57.2	-3.8
NLYR				*e*Sg	Sg	05 41 39.6	-2.9
TRG	**Tyrgan**	**3.70**	**219**	*e*PN	Pn	05 40 58.0	+0.3
TRG				*e*		05 41 05.9	
TRG				*e*S	Sn	05 41 41.1	-0.6
TRG				*e*		05 41 54.6	
TRG				pmax	pmax		
	comp=Z,17nm,0.5s						
TRG				smax			
	comp=E,128nm,0.6s						
TRG	**Tyrgan**	**3.70**	**219**	*e*Pn	Pn	05 40 58.2	+0.5
TRG				*e*Sn	Sn	05 41 42.3	+0.6
TRG				*e*Sg	Sg	05 41 54.7	-3.9
TRG				Smax			
	comp=E,128nm,0.4s						
TRTB	**Turuntaevo**	**3.79**	**204**	*e*Pn	Pn	05 40 59.2	+0.4
TRTB				*e*Sg	Sg	05 41 57.4	-3.9
TRTB				Smax			
	comp=E,97nm,0.7s						
UUDB	**Ulan-Yde**	**4.12**	**202**	*e*Pg	Pg	05 41 15.0	-3.6
UUDB				*e*Sg	Sg	05 42 07.5	-4.5
UUDB				Pmax			
	comp=E,22nm,0.4s						
UUDB				Smax			
	comp=E,161nm,1.3s						
CIT	**Chita**	**4.19**	**150**	*e*PN	Pn	05 41 13.0	+8.6
CIT				*e*S	Sn	05 41 49.9	-4.0
CIT	**Chita**	**4.19**	**150**	*e*Pg	Pg	05 41 14.5	-5.6
CIT				*e*Sg	Sg	05 42 08.5	-5.9
CIT				Pmax			
	comp=E,65nm,0.7s						
CIT				Smax			
	comp=E,133nm,0.7s						
HRMR	**Khuramsha**	**4.50**	**206**	*e*Pn	Pn	05 41 09.7	+1.0
HRMR				*e*Pg	Pg	05 41 21.0	-5.0
HRMR				*e*Sg	Sg	05 42 19.2	-5.2
HRMR				Pmax			
	comp=E,35nm,0.4s						
HRMR				Smax			
	comp=E,345nm,0.5s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pn	05 41 24.2	+13
CRS				*e*		05 42 24.4	
CRS				pmax	pmax		
	comp=Z,75nm,0.8s						
CRS				smax			
	comp=E,110nm,1.6s						
CRS	**Chara**	**4.67**	**72**	*e*Pn	Pn	05 41 12.9	+2.0
CRS				*e*Pg	Pg	05 41 24.0	-5.2
CRS				*e*Sg	Sg	05 42 24.0	-5.7
CRS				Pmax			
	comp=E,75nm,0.9s						
CRS				Smax			
	comp=E,116nm,1.5s						
TLY	**Talaya**	**5.59**	**227**	*e*Pn	Pn	05 41 23.2	-0.4
TLY				*e*Sn	Sn	05 42 25.2	-3.0
TLY				*e*Sg	Sg	05 42 51.3	-7.9
TLY				Smax			
	comp=E,46nm,0.4s						
TUP	**Tupik**	**5.77**	**99**	*e*PN	Pn	05 41 25.4	-0.6
TUP				*e*		05 41 42.8	
TUP				*e*S	Sn	05 42 30.3	-2.3
TUP				*e*		05 42 57.3	
TUP				pmax	pmax		
	comp=Z,17nm,0.8s						
TUP				smax			
	comp=N,94nm,1.1s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	05 41 25.2	-0.8
TUP				*e*Pg	Pg	05 41 42.6	-7.6
TUP				*e*Sg	Sg	05 42 58.0	-6.9
TUP				Pmax			
	comp=N,18nm,0.8s						
TUP				Smax			
	comp=N,94nm,1.1s						
ARS	**Arshan**	**5.95**	**234**	*e*PN	Pn	05 41 28.3	-0.2
ARS				*e*S	Sn	05 42 34.2	-2.9
ARS				*e*S	Sn	05 43 02.3	+25
ARS				smax			
	comp=N,278nm,0.7s						
ARS	**Arshan**	**5.95**	**234**	*e*Pn	Pn	05 41 28.3	-0.2
ARS				*e*Sn	Sn	05 42 34.2	-2.9
ARS				*e*Sg	Sg	05 43 03.5	-7.2
ARS				Smax			
	comp=N,278nm,0.7s						
KPC	**Khapcheranga**	**6.15**	**167**	*e*Pn	Pn	05 41 30.9	-0.5
KPC				*e*Pg	Pg	05 41 50.0	-7.6
KPC				*e*Sg	Sg	05 43 09.6	-7.7
KPC				Pmax			
	comp=N,9.0nm,0.6s						
KPC				Smax			
	comp=N,103nm,1.0s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*PN	Pn	05 41 39.9	+0.3
ZAK				*e*		05 42 00.8	
ZAK				*e*S	Sn	05 42 54.9	-2.0
ZAK				*e*		05 43 28.2	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZAK				smax			
	comp=N,39nm,1.5s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*Pn	Pn	05 41 40.7	+1.1
ZAK				*e*Sg	Sg	05 43 29.2	-7.3
ZAK				Smax			
	comp=N,32nm,0.7s						
MOY	**Mondy**	**6.78**	**237**	*e*PN	Pn	05 41 40.7	+0.7
MOY				*e*S	Sn	05 42 55.4	-2.3
MOY	**Mondy**	**6.78**	**237**	*e*Pn	Pn	05 41 41.2	+1.2
MOY				*e*Sn	Sn	05 42 55.2	-2.5
MOY				*e*Sg	Sg	05 43 29.8	-7.7
MOY				Smax			
	comp=N,70nm,1.3s						
ORL	**Orlik**	**6.86**	**247**	*e*PN	Pn	05 41 41.7	+0.6
ORL				*e*S	Sn	05 43 31.3	+32
ORL				smax			
	comp=N,98nm,0.6s						
ORL	**Orlik**	**6.86**	**247**	*e*Pn	Pn	05 41 42.0	+0.9
ORL				*e*Sn	Sn	05 42 56.7	-2.9
ORL				*e*Sg	Sg	05 43 31.4	-8.7
ORL				Smax			
	comp=N,98nm,0.7s						

*STR **13** 05:53:35.1±0.6, 4531N×648E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 13 05:53:35.5±0.0, 4534N×666E, h2km, Md2.1/3, Ml2.1/13, Error ellipse: s-maj=0.9km s-min=0.5km az=75.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.17**	**23**	*e*Pg	Pg	05 53 39.3	+0.6
LPG				*e*Sg	Sg	05 53 41.6	+0.7
	58nm,0.2s						
LPL	**La Plagne**	**0.18**	**17**	*e*Pg	Pg	05 53 39.4	+0.4
LPL				*e*Sg	Sg	05 53 41.8	+0.4
	54nm,0.3s						
RSL	**Roselend**	**0.35**	**356**	Pg	Pg	05 53 42.5	+0.4
RSL				Sg	Sg	05 53 48.4	+1.8
OG22	**Abries**	**0.56**	**159**	Pg	Pg	05 53 46.6	+0.4
OG22				Sg	Sg	05 53 54.6	+1.1
MBDF	**Montbardon**	**0.62**	**172**	*e*Pg	Pg	05 53 47.4	0.0
MBDF				*e*Sg	Sg	05 53 55.4	-0.1
	6.0nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.69**	**233**	*e*Pg	Pg	05 53 48.6	-0.2
ORIF				*e*Sg	Sg	05 53 57.7	-0.1
	13nm,0.3s						
CABF	**La Chapelle**	**1.33**	**343**	*e*Pg	Pg	05 54 00.5	-0.5
CABF				*e*Sg	Sg	05 54 17.6	-0.6
	6.0nm,0.4s						
VIVF	**Saint-Julien-l**	**1.49**	**252**	*e*Pg	Pg	05 54 03.5	-0.5
VIVF				*e*Sg	Sg	05 54 22.5	-0.8
	8.4nm,0.4s						
SMRF	**Simiane la Rot**	**1.57**	**210**	*e*Pg	Pg	05 54 04.8	-0.8
SMRF				*e*Sg	Sg	05 54 25.1	-0.8
	2.7nm,0.5s						
SBF	**Sospel**	**1.58**	**159**	*e*Pg	Pg	05 54 04.1	-1.7
SBF				*e*Sg	Sg	05 54 24.7	-1.6
	12nm,0.5s						
FRF	**La Foret Royal**	**1.78**	**180**	*e*Pg	Pg	05 54 08.8	-0.9
FRF				*e*Sg	Sg	05 54 31.3	-1.5
	3.9nm,0.4s						
LMR	**La Mourre**	**2.01**	**183**	*e*Pg	Pg	05 54 13.1	-1.0
LMR				*e*Sg	Sg	05 54 38.5	-1.6
	1.6nm,0.3s						
SMF	**Signal de Mont**	**2.36**	**305**	*e*Pg	Pg	05 54 19.2	-1.5
SMF				*e*Sg	Sg	05 54 49.3	-1.9
	3.8nm,0.4s						
AVF	**Avril sur Loir**	**2.72**	**303**	*e*Pg	Pg	05 54 25.5	-2.1
AVF				*e*Sg	Sg	05 55 00.7	-2.1
	2.3nm,0.4s						
LOR	**Lormes**	**2.73**	**316**	*e*Pg	Pg	05 54 26.3	-1.6
LOR				*e*Sg	Sg	05 55 01.6	-1.7
	1.3nm,0.3s						
SSF	**Saint Saulge**	**2.78**	**309**	*e*Pg	Pg	05 54 27.2	-1.6
SSF				*e*Sg	Sg	05 55 03.0	-1.9
	2.7nm,0.6s						
BGF	**Bois d'Agland**	**2.92**	**296**	*e*Pg	Pg	05 54 29.6	-1.9
BGF				*e*Sg	Sg	05 55 07.3	-2.1
	3.6nm,0.3s						
PGF	**Pioggiola**	**3.27**	**148**	*e*Pn	Pn	05 54 25.9	-1.8
PGF				*e*Sn	Sn	05 55 03.0	-4.1
	0.2nm,0.3s						

ISC 13 06:02:03.5±4.0, 366N±01×716E±06, h156km±21km, n15, σ0°28/16, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.40**	**140**	*eP*	**Pn**	**06 03 21.8**	**-0.4**
THN	1.6nm,0.3s			*eS*	**Sn**	**06 04 24.0**	**+0.2**
AML	**Almayashu**	**5.72**	**16**	P	**Pn**	**06 03 26.6**	**+0.2**
	SNR=50						
UCH	**Uchtor**	**6.02**	**21**	P	**Pn**	**06 03 30.8**	**+0.3**
	SNR=33						
KZA	**Kyzart**	**6.12**	**26**	P	**Pn**	**06 03 31.5**	**-0.3**
	SNR=17						
EKS2	**Erkin-Say**	**6.25**	**15**	P	**Pn**	**06 03 33.6**	**+0.2**
	SNR=12						
AAK	**Ala-Archa**	**6.39**	**20**	P	**Pn**	**06 03 35.5**	**+0.1**
	SNR=15						
KBK	**Karagaybulak**	**6.54**	**22**	P	**Pn**	**06 03 37.3**	**0.0**
	SNR=5.8						
ULHL	**Ulahol**	**6.65**	**31**	P	**Pn**	**06 03 38.6**	**-0.2**
	SNR=15						
TKM2	**Tokmak 2**	**6.99**	**25**	P	**Pn**	**06 03 43.1**	**-0.2**
	SNR=7.0						
KOLN	**Koldanda**	**13.46**	**128**	*eP*	**Pn**	**06 05 08.8**	**+0.6**
	3.7nm,0.2s						
GKN	**Gorkha**	**13.98**	**124**	*eP*	**Pn**	**06 05 14.9**	**+0.1**
	11nm,0.3s						
KKN	**Kakani**	**14.55**	**123**	*eP*	**Pn**	**06 05 21.7**	**-0.2**
	5.3nm,0.2s						
DMN	**Daman**	**14.55**	**124**	*eP*	**Pn**	**06 05 21.6**	**-0.3**
PKI	**Pulchoki**	**14.78**	**124**	*eP*	**Pn**	**06 05 24.4**	**-0.3**
	8.3nm,0.4s						
JIRN	**Jiri**	**15.25**	**122**	*eP*	**Pn**	**06 05 30.9**	**+0.3**
	4.1nm,0.2s						

NIED ***13*** *06:08:00,36.10N×13560E,h380km,Mw4.2 Best double couple: M₀2.02000×10¹⁵ NP1:φs106.00000°,δ50.00000°, λ-71.00000°. NP2:φs258.00000°,δ44.00000°, λ-111.00000°.*
BJI ***13*** *06:08:37.8,36.10N×13560E,h362km,mB4.4,mb4.5*
ISCJB ***13*** *06:08:39.0±0.3,36.10N±005×13558E±005,h360km±3km, mb3.7/18,Error ellipse: s-maj=8.1km s-min=5.7km az=143.9*
NEIC ***13*** *06:08:39.9,36.14N×13555E,h353km,mb4.2/2,After JMA.*
IDC ***13*** *06:08:39.8±0.6,3607N×13560E,h357km±6km,mb3.4/15, mb1 3.5/19,mb1mx3.5/26,mbtmp3.4/19,Error ellipse: s-maj=12.5km s-min=10.6km az=47.0*
JMA ***13*** *06:08:39.8±0.1,36.14N×13555E,h353km±1km,M4.0*
ISC 13 06:08:39.7±0.3,3610N±005×13559E±005,h355km±3km, n54,σ0§85/68,mb3.7/18,1C-6D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.61**	**220**	⇓P	**Pn**	**06 09 24.9**	**+0.2**
JKY				*eS*	**S**	**06 09 59.8**	**-1.0**
JKG	**Kaga**	**0.63**	**73**	⇓P	**Pn**	**06 09 25.0**	**+0.3**
JWT	**Wachi**	**0.83**	**191**	⇓P	**Pn**	**06 09 25.6**	**+0.3**
JWT				S	**S**	**06 10 00.7**	**-1.2**
JGM	**Miyama**	**1.00**	**113**	⇓P	**Pn**	**06 09 26.2**	**+0.3**
JGM				S	**S**	**06 10 02.5**	**-0.5**
SAI	**Saigo**	**1.82**	**274**	P	**Pn**	**06 09 30.4**	**+0.2**
JWY	**Kouya**	**1.88**	**180**	P	**Pn**	**06 09 31.0**	**+0.4**
JWY				*eS*	**S**	**06 10 10.8**	**-0.6**
JIE	**Ise**	**1.93**	**151**	⇓P	**Pn**	**06 09 31.7**	**+0.8**
JIE				S	**S**	**06 10 12.0**	**-0.1**
JSZ	**Suzu**	**1.96**	**46**	P	**Pn**	**06 09 31.3**	**+0.1**
MAJO	**Matsushiro**	**2.16**	**77**	*e*Pn	**Pn**	**06 09 33.3**	**+0.7**
MAT	**Matsushiro**	**2.16**	**77**	P	**Pn**	**06 09 33.1**	**+0.5**
MAT				S	**S**	**06 10 16.4**	**+1.4**
MAT	**Matsushiro**	**2.16**	**77**	P	**Pn**	**06 09 33.1**	**+0.5**
MAT				*eS*	**S**	**06 10 14.0**	**-1.0**
MJAR	**Matsushiro Arr**	**2.16**	**77**	P	**Pn**	**06 09 33.1**	**+0.6**
	5.5nm,0.3s,baz=262,slow=8.3,SNR=74						
MJAR				S	**S**	**06 10 16.1**	**+1.0**
	0.9nm,0.3s,baz=264,slow=17,SNR=3.0						
JHS	**Saijyo**	**2.29**	**242**	⇓P	**Pn**	**06 09 33.5**	**0.0**
JYN	**Shimob**	**2.48**	**103**	P	**Pn**	**06 09 35.2**	**+0.2**
JAI	**Aioi**	**2.48**	**202**	⇑P	**Pn**	**06 09 35.5**	**+0.5**
JAI				*eS*	**S**	**06 10 18.6**	**-0.9**
JWZ	**Kozaga**	**2.56**	**178**	P	**Pn**	**06 09 35.7**	**+0.1**
JWZ				*eS*	**S**	**06 10 20.1**	**-0.5**
JRY	**Ryogami san**	**2.69**	**91**	P	**Pn**	**06 09 37.1**	**+0.4**
JRY				S	**S**	**06 10 22.8**	**+0.3**
JMN	**Monobe**	**2.75**	**211**	P	**Pn**	**06 09 38.0**	**+0.8**
JMN				*eS*	**S**	**06 10 23.4**	**-0.1**
JGT	**Gotsu**	**2.86**	**249**	P	**Pn**	**06 09 37.9**	**-0.2**
JSD	**Sado**	**2.88**	**47**	P	**Pn**	**06 09 38.6**	**+0.2**
JHT	**Toyohira**	**2.96**	**242**	P	**Pn**	**06 09 39.1**	**+0.1**
JHT				*eS*	**S**	**06 10 26.0**	**-0.7**
JOD2	**Odawara 2**	**2.97**	**105**	P	**Pn**	**06 09 39.7**	**+0.6**
JOD2				*eS*	**S**	**06 10 26.4**	**-0.5**
JAG	**Ashikaga**	**3.14**	**83**	P	**Pn**	**06 09 40.0**	**-0.7**
JAG				*eS*	**S**	**06 10 28.0**	**-1.7**
JHJ	**Hachijo jima 2**	**4.56**	**129**	P	**Pn**	**06 09 56.7**	**+1.9**
	5.8nm,0.3s,baz=252,slow=21,SNR=2.3						
JHJ				S	**S**	**06 10 55.2**	**-0.2**
	11nm,0.3s,baz=260,slow=23,SNR=3.1						
JNU	**Nakatsue**	**4.89**	**234**	P	**Pn**	**06 09 59.8**	**+1.5**
	1.1nm,0.3s,baz=266,slow=23,SNR=3.3						
KSRS	**Korea Array**	**6.30**	**285**	P	**Pn**	**06 10 14.8**	**+0.8**
	baz=104,slow=12,SNR=40						
ASAJ	**Asahikawa**	**9.64**	**32**	P	**Pn**	**06 10 51.1**	**-2.1**
	25nm,0.3s,baz=230,slow=10.0,SNR=50						
MDJ	**Mudanjiang**	**9.66**	**334**	P	**Pn**	**06 10 53.9**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,44nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,75nm,5.5s						
MDJ	**Mudanjiang**	**9.66**	**334**	*e*Pn	**Pn**	**06 10 53.2**	**-0.3**
	comp=Z,37nm,0.9s						
CBIJ	**Chichi jima**	**10.59**	**146**	S	**S**	**06 12 54.0**	**-10**
	2.1nm,0.3s,baz=107,slow=23,SNR=6.8						
CN2	**Changchun**	**10.94**	**318**	*eP*	**Pn**	**06 11 09.3**	**+0.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
ULN	**Ulaanbaatar**	**24.11**	**308**	*eP*	**P**	**06 13 26.4**	**+1.8**
	comp=Z,3.1nm,0.6s,mb3.7						
SONM	**Songino Array**	**24.52**	**308**	P	**P**	**06 13 29.6**	**+1.4**
	comp=Z,1.8nm,0.7s,mb3.4,baz=111,slow=9.7,SNR=15						
ZAL	**Zalesovo**	**39.12**	**313**	P	**P**	**06 15 35.5**	**+1.4**
	comp=Z,1.2nm,0.3s,mb3.5,baz=8.2,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**40.64**	**302**	P	**P**	**06 15 46.0**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.1,baz=83,slow=11,SNR=13						
MKAR	**Makanchi Array**	**40.64**	**302**	P	**P**	**06 15 46.0**	**-0.5**
WB2	**Warramunga Arr**	**55.74**	**181**	*eP*	**P**	**06 17 40.3**	**-0.4**
WRA	**Warramunga Arr**	**55.74**	**181**	P	**P**	**06 17 40.0**	**-0.7**
	comp=Z,1.4nm,0.4s,mb3.7,baz=357,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**59.46**	**182**	P	**P**	**06 18 06.4**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.2,baz=13,slow=5.7,SNR=8.9						
KEV	**Kevo**	**62.61**	**338**	*ep*	**P**	**06 18 26.4**	**-0.9**
	comp=Z,4.7nm,0.7s,mb4.1						
ARCES	**ARCESS Array B**	**63.17**	**338**	P	**P**	**06 18 29.4**	**-1.5**
	comp=Z,2.0nm,0.5s,mb3.9,baz=63,slow=9.3,SNR=13						
YKA	**Yellowknife Ar**	**66.92**	**28**	P	**P**	**06 18 54.8**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=295,slow=6.4,SNR=21						
KAF	**Kangasniemi**	**66.92**	**331**	*ep*	**P**	**06 18 52.6**	**-2.3**
	comp=Z,0.2nm,0.2s,mb3.5,baz=54,slow=5.8						
FINES	**FINESS Array B**	**67.39**	**331**	P	**P**	**06 18 56.9**	**-0.9**
	comp=Z,1.6nm,0.5s,mb4.0,baz=69,slow=6.8,SNR=7.0						
AKASG	**Malin Array Be**	**72.09**	**320**	P	**P**	**06 19 25.2**	**-1.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=50,slow=6.2,SNR=4.1						
NB2	**NORSAR Subarra**	**73.15**	**335**	P	**P**	**06 19 31.2**	**-1.1**
	comp=Z,2.6nm,0.7s,mb4.1,baz=44,slow=5.9						
NOA	**NORSAR Array B**	**73.15**	**335**	P	**P**	**06 19 31.6**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.0,baz=45,slow=5.7,SNR=4.9						
BRTR	**Keskin Array B**	**75.87**	**309**	P	**P**	**06 19 47.1**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.5,baz=123,slow=4.6,SNR=3.8						
NVAR	**Mina Array Bea**	**79.25**	**50**	P	**P**	**06 20 07.6**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.6,baz=57,slow=23,SNR=5.8						
PDAR	**Pinedale Array**	**81.60**	**42**	P	**P**	**06 20 19.1**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.8,baz=331,slow=0.1,SNR=9.6						
ULM	**Lac du Bonnet**	**82.77**	**30**	P	**P**	**06 20 24.9**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.1,baz=334,slow=7.1,SNR=4.9						
TXAR	**Lajitas Array**	**94.34**	**49**	P	**P**	**06 21 20.2**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.8,baz=279,slow=2.4,SNR=14						
TORD	**Torodi Ar. Bea**	**114.48**	**310**	PKP	PKiKP	06 26 37.5	-0.3
	comp=Z,0.2nm,0.4s,baz=24,slow=1.3,SNR=6.2						
LPAZ	**La Paz**	**151.12**	**53**	PKPbc	PKPbc	06 27 52.7	+1.5
	comp=Z,1.5nm,0.6s,baz=15,slow=1.4,SNR=12						

IDC 13 06:32:54.0±3.0,3019S×17765W,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.7/12,mbtmp3.8/2,Error ellipse: s-maj=63.1km s-min=23.6km az=101.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**346**	Pn	Pn	06 33 16.0	+1.1
	122nm,0.3s,baz=98,slow=22,SNR=9.7						
RAO				Sn	Sn	06 33 28.4	-0.9
	1μm,0.3s,baz=109,slow=15,SNR=18						
ASAR	**Alice Springs**	**43.42**	**267**	P	P	06 40 59.0	+0.5
	0.3nm,0.3s,baz=105,slow=7.5,SNR=6.8						
WRA	**Warramunga Arr**	**44.40**	**272**	P	P	06 41 06.3	0.0
	0.9nm,0.3s,baz=110,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	PKPbc	06 52 30.6	-2.1
	3.8nm,0.9s,baz=66,slow=4.7,SNR=6.8						

CASC 13 06:53:25.8±1.5,1055N×8622W,h20km±4km,MD3.5, ML2.6,2C-7D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.71**	**126**	⇓*eP*	Pb	06 53 39.3	-0.3
VCR				*eS*	Sb	06 53 50.7	+1.9
SSNN	**San Juan del S**	**0.82**	**26**	⇓*eP*	Pb	06 53 40.4	-0.9
LIM1	**Limonal**	**0.96**	**81**	⇑*iP*	Pb	06 53 43.1	-0.6
LIM1				*i* S	Sb	06 53 56.4	+0.5
MADN	**Villa Maderas**	**1.09**	**38**	⇓*eP*	Pn	06 53 45.4	-0.5
MADN				*eS*	Sb	06 54 01.1	+1.5
CONN	**Concepcion**	**1.17**	**30**	⇓*eP*	Pn	06 53 46.2	-0.8
CONN				*eS*	Sb	06 54 02.5	+0.6
JCR	**Jicaral**	**1.29**	**122**	*eP*	Pn	06 53 49.1	+0.4
JCR				*eS*	Sn	06 54 06.8	+1.5
APON	**Apoyo**	**1.37**	**6**	⇓*eP*	Pn	06 53 49.5	-0.3
TICN	**Ticuantepe**	**1.48**	**359**	⇓*eP*	Pn	06 53 51.1	-0.1
TICN				*eS*	Sn	06 54 12.4	+2.5
MGAN	**Managua**	**1.59**	**359**	⇓*eP*	Pn	06 53 52.5	-0.3
MGAN				*eS*	Sn	06 54 14.5	+1.8
CGA2	**Cerro Gallo 2**	**1.80**	**107**	*eP*	Pn	06 53 56.8	+1.0
CGA2				*eS*	Sn	06 54 19.4	+1.4
MOMJ	**Momotombo**	**1.88**	**350**	*eP*	Pn	06 53 56.4	-0.3
PRS1	**Puriscal**	**1.96**	**106**	*eP*	Pn	06 53 58.0	+0.1
BOAB	**BOACO BROADBAN**	**.96**	**16**	⇓*eP*	Pn	06 53 57.3	-0.6
BOAB				*eS*	Sn	06 54 22.6	+0.6
BOAB				*i*		06 54 25.9	
	comp=E,40nm,0.4s						
CNGN	**Cerro Negro**	**2.00**	**346**	*eP*	Pn	06 53 57.8	-0.6
LCR2	**La Lucha 2**	**2.32**	**110**	*eP*	Pn	06 54 03.5	+0.7
LCR2				*eS*	Sn	06 54 31.1	+0.3

FUNV 13 07:15:02.0,1005N×6998W,h2km,MW3.7,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.04**	**155**	*eP*	Pg	07 15 02.8	-0.1
CURV				*eS*	Sg	07 15 03.9	+0.4
QARV	**Quebrada Arrib**	**0.56**	**286**	*eP*	Pg	07 15 12.2	-0.4
QARV				*eS*	Sg	07 15 20.6	+0.7
SIOV	**Siquisique**	**0.61**	**16**	*eP*	Pg	07 15 13.8	0.0
SIOV				*eS*	Sg	07 15 23.1	+1.3
SANV	**Sanarito**	**0.70**	**141**	*eP*	Pg	07 15 14.7	-0.7
TEPV	**Terepaima**	**0.78**	**97**	*eP*	Pg	07 15 16.7	-0.3
DABV	**Dabajuro**	**1.08**	**323**	*eP*	Pg	07 15 22.8	+0.2
DABV				*eS*	Sg	07 15 37.7	+1.1
JACV	**Jacura**	**1.53**	**48**	*eP*	Pn	07 15 29.9	-0.4
JACV				*eS*	Sn	07 15 50.6	-0.2
VIGV	**El Vigia**	**1.82**	**229**	*eP*	Pn	07 15 34.2	-0.2
VIGV				*eS*	Sn	07 15 57.1	-1.0
SOCV	**Socops**	**1.96**	**206**	*eP*	Pn	07 15 36.7	+0.4
SOCV				*eS*	Sn	07 16 01.1	-0.4
TURV	**Turiamo**	**2.14**	**79**	*eP*	Pn	07 15 38.2	-0.6
TURV				*eS*	Sn	07 16 05.1	-0.9
BAUV	**El Baul**	**2.21**	**120**	*eP*	Pn	07 15 39.6	-0.1
BAUV				*eS*	Sn	07 16 06.5	-1.1
VIRV	**Villa del Rosa**	**2.43**	**281**	*eP*	Pn	07 15 41.2	-1.6
VIRV				*eS*	Sn	07 16 11.1	-2.0
ELOV	**Elorza**	**3.07**	**171**	*eP*	Pn	07 15 51.4	-0.2
ELOV				*eS*	Sn	07 16 26.0	-2.9
CAPV	**Capacho**	**3.17**	**227**	*eP*	Pn	07 15 52.7	-0.2
CAPV				*eS*	Sn	07 16 29.8	-1.6
BIRV	**Birongo**	**3.68**	**83**	*eP*	Pn	07 15 58.7	-1.2
BIRV				*eS*	Sn	07 16 40.5	-3.3
CAOV	**Caicara del Or**	**4.52**	**127**	*eP*	Pn	07 16 10.1	-1.4

IDC 13 07:31:34.8±2.3,303S×12994E,h0km,mb3.6/2,mb1 3.8/4, mb1mx3.6/17,mbtmp3.6/4,ML3.6/2,MS3.5/1,Ms1 3.4/1, ms1mx2.0/18,Error ellipse: s-maj=116.0km s-min=26.8km az=73.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.56**	**195**	Pn	Pn	07 35 16.7	+1.3
	0.1nm,0.3s,baz=8.9,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**17.35**	**166**	P	Pn	07 35 37.4	-0.9
	0.4nm,0.3s,baz=348,slow=13,SNR=13						
ASAR	**Alice Springs**	**20.87**	**170**	P	P	07 36 18.9	+0.6
	3.5nm,0.7s,baz=348,slow=11,SNR=62						
STKA	**Stephens Creek**	**30.72**	**160**	LR	LR	07 50 38.9	
	comp=Z,90nm,19.0s,baz=21,slow=37						
MKAR	**Makanchi Array**	**64.91**	**326**	P	P	07 42 16.1	+0.1
	0.2nm,0.4s,baz=117,slow=7.8,SNR=5.0						

IDC 13 07:41:31.8±3.0,203S×9878E,h0km,mb3.6/4,mb1 3.8/5, mb1mx3.6/21,mbtmp3.6/5,ML3.0/1,MS3.7/1,Ms1 3.7/1, ms1mx2.1/28,Error ellipse: s-maj=112.9km s-min=21.7km az=60.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.80**	**2**	Pn	Pn	07 42 45.4	0.0
	0.6nm,0.3s,baz=166,slow=12,SNR=6.4						
NWAO	**Narrogin (SRO)**	**35.28**	**153**	LR	LR	08 00 36.2	
	comp=Z,134nm,20.9s,baz=278,slow=32						
WRA	**Warramunga Arr**	**39.03**	**120**	P	P	07 48 60.0	-0.2
	1.4nm,0.5s,baz=298,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**40.23**	**125**	P	P	07 49 10.8	+0.8
	0.6nm,0.7s,baz=293,slow=7.3,SNR=7.3						
SONM	**Songino Array**	**50.10**	**7**	P	P	07 50 28.6	0.0
	0.2nm,0.6s,baz=157,slow=4.1,SNR=2.8						
MKAR	**Makanchi Array**	**50.74**	**345**	P	P	07 50 32.8	-0.6
	0.8nm,0.6s,baz=162,slow=8.5,SNR=8.4						
TXAR	**Lajitas Array**	**145.46**	**36**	PKPbc	PKPbc	08 01 12.5	+0.8
	0.4nm,0.5s,baz=189,slow=0.8,SNR=8.8						

IDC 13 07:53:36.7±4.9,1570S×7165W,h172km±33km,mb3.2/2, mb1 3.4/3,mb1mx3.1/16,mbtmp3.2/3,Error ellipse: s-maj=123.2km s-min=40.4km az=21.0,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.44**	**100**	P	Pn	07 54 30.8	+0.4
	4.4nm,0.3s,baz=287,slow=9.3,SNR=140						
LPAZ				S	Sn	07 55 13.8	+1.6
	0.7nm,0.3s,baz=205,slow=25,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.99**	**73**	P	P	08 05 16.5	+0.6
	0.3nm,0.5s,baz=256,slow=5.8,SNR=3.6						
YKA	**Yellowknife Ar**	**84.88**	**341**	P	P	08 05 51.8	-0.3
	0.4nm,0.6s,baz=136,slow=5.1,SNR=17						

IDC ***13*** *07:59:15.9±1.1,202N×12636E,h0km,mb3.9/7,mb1 4.1/7, mb1mx3.9/17,mbtmp3.9/7,Error ellipse: s-maj=111.7km s-min=17.4km az=70.0*
ISCJB ***13*** *07:59:29.3±5.9,18N±02×1259E±05,h135km±60km, mb3.8/7,Error ellipse: s-maj=87.9km s-min=21.0km az=140.6*
NEIC ***13*** *07:59:32.8±4.8,176N×12606E,h154km±49km,mb4.2/3, Error ellipse: s-maj=64.5km s-min=16.2km az=69.0*
ISC 13 07:59:29.1±5.1,19N±02×1261E±05,h113km±50km,n11, σ1§04/11,mb3.9/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.77**	**157**	*eP*	**Pn**	**08 03 05.7**	**+0.9**
	13nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.83**	**181**	P	**P**	**08 03 50.6**	**-0.2**
	1.8nm,0.7s,baz=17,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**23.11**	**160**	P	**P**	**08 04 23.6**	**-1.5**
	8.1nm,0.6s,mb4.2,baz=340,slow=11,SNR=58						
WB2	**Warramunga Arr**	**23.12**	**160**	*eP*	**P**	**08 04 23.6**	**-1.6**
ASAR	**Alice Springs**	**26.47**	**164**	P	**P**	**08 04 56.5**	**+0.9**
	1.3nm,0.3s,mb3.8,baz=348,slow=14,SNR=32						
ASAR				PcP	PcP	08 08 19.9	+2.2
	0.6nm,0.4s,baz=348,slow=2.3,SNR=8.3						
STKA	**Stephens Creek**	**36.62**	**158**	*eP*	**P**	**08 06 24.6**	**+0.2**
	1.6nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**36.62**	**158**	P	**P**	**08 06 24.1**	**-0.3**
	0.8nm,0.4s,mb4.0,baz=328,slow=8.1,SNR=4.3						
SONM	**Songino Array**	**48.88**	**342**	P	**P**	**08 08 03.6**	**+0.3**
	0.6nm,0.8s,mb3.5,baz=153,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**58.75**	**326**	P	**P**	**08 09 14.9**	**-0.2**
	0.6nm,0.4s,mb4.0,baz=118,slow=7.7,SNR=13						
KURK	**Kurchatov**	**62.99**	**328**	*eP*	**P**	**08 09 43.4**	**-0.5**
	1.7nm,0.4s,mb4.3						
VNDA	**Vanda**	**81.65**	**173**	P	**P**	**08 11 37.0**	**+2.3**
	0.6nm,0.5s,mb3.7,baz=311,slow=7.3,SNR=7.9						

IDC 13 08:08:22.2±2.0,015N×12676E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.4/16,mbtmp3.3/3,Error ellipse: s-maj=172.2km s-min=25.2km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.30**	**160**	P	P	08 13 10.4	0.0
	0.3nm,0.3s,baz=339,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**24.67**	**164**	P	P	08 13 45.2	+0.6
	0.4nm,0.3s,baz=346,slow=11,SNR=9.9						
MKAR	**Makanchi Array**	**60.52**	**326**	P	P	08 18 34.3	+0.2
	0.2nm,0.3s,baz=123,slow=7.5,SNR=8.7						

IDC 13 08:12:21.5±2.4,316S×12905E,h0km,mb3.8/2,mb1 4.0/3, mb1mx3.7/16,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=171.7km s-min=27.7km az=69.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.22**	**192**	Pn	Pn	08 16 04.0	+6.3
	0.2nm,0.3s,baz=23,slow=15,SNR=3.5						
WRA	**Warramunga Arr**	**17.46**	**163**	P	Pn	08 16 25.1	-1.3
	0.3nm,0.3s,baz=346,slow=13,SNR=7.5						
ASAR	**Alice Springs**	**20.92**	**167**	P	P	08 17 06.7	+1.1
	5.7nm,0.7s,baz=346,slow=9.6,SNR=126						
MKAR	**Makanchi Array**	**64.52**	**326**	P	P	08 23 00.2	+0.1
	0.2nm,0.3s,baz=112,slow=8.0,SNR=5.4						

ISCJB ***13*** *08:16:10.3±1.2,353S±02×1046W±02,h10km,mb3.9/8, MS4.0/11,Error ellipse: s-maj=29.0km s-min=21.5km az=107.8*
IDC ***13*** *08:16:11.1±2.0,3522S×10456W,h0km,mb4.0/8, mb1 4.2/8,mb1mx4.0/16,mbtmp4.0/8,MS4.0/11, Ms1 4.0/11,ms1mx3.8/16,Error ellipse: s-maj=54.8km s-min=26.7km az=18.0*
NEIC ***13*** *08:16:12.9±1.6,3518S×10446W,h10km,Error ellipse: s-maj=49.4km s-min=23.5km az=201.0*
GCMT ***13*** *08:16:12.9±0.3,3542S×10504W,h22km±1km,MW5.0/68, Moment Tensor Solution. s38,c50; s68,c99; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.38±.16; Mθθ-1.12±.13; Mφφ 1.49±.15; Mrθ 0.92±.24; Mφθ-4.07±.13; Mφr-1.59±.26; Best double couple: M₀4.58600×10¹⁶ NP1:φs97.00000°,δ75.00000°,λ169.00000°. NP2: φs190.00000°,δ79.00000°,λ16.00000°. Principal axes: T 5.0700, Plg19.0000°, Azm54.0000°; N -0.9750, Plg71.0000°, Azm223.0000°; P -4.1010, Plg3.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 13 08:16:12.1±1.2,353S±02×1047W±02,h10km,n18,σ0§76/9, mb3.9/8,MS4.0/11,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.07**	**333**	T		08 27 38.3	
	40nm,0.3s,baz=188,slow=10,SNR=4.4						
CFAA	**Coronel Fontan**	**30.52**	**94**	P	**P**	**08 22 24.8**	**-0.6**
	0.1nm,0.3s,mb3.1,baz=235,slow=7.1,SNR=3.6						
CFAA				LR	LR	08 31 50.2	
	comp=Z,22nm,19.4s,MS2.8,baz=254,slow=31						
USHA	**Ushuaia**	**31.69**	**139**	LR	LR	08 32 28.2	
	comp=Z,726nm,18.4s,MS4.4,baz=275,slow=31						
ATAH	**Atahualpa**	**37.09**	**47**	P	**P**	**08 23 22.9**	**+0.3**
	4.6nm,0.8s,mb4.4,baz=150,slow=5.1,SNR=6.2						
ATAH				LR	LR	08 33 29.0	
	comp=Z,45nm,18.2s,MS3.3,baz=235,slow=28						
LPAZ	**La Paz**	**37.68**	**69**	P	**P**	**08 23 28.7**	**+1.2**
	6.2nm,1.2s,mb4.2,baz=244,slow=8.2,SNR=9.5						
LPAZ				LR	LR	08 36 05.6	
	comp=Z,183nm,18.2s,MS3.9,baz=33,slow=32						
PMSA	**Palmer Station**	**38.20**	**153**	LR	LR	08 33 58.3	
	comp=Z,145nm,21.4s,MS3.8,baz=134,slow=28						
SIV	**San Ignacio**	**43.35**	**75

NVAR Mina Array Bea 60.75 64 P **P** 08 38 41.9 -0.3
comp=Z,0.7nm,0.8s,mb3.9,baz=311,slow=8.2,SNR=3.1
PDAR Pinedale Array 63.12 55 P **P** 08 38 58.5 +0.3
comp=Z,0.3nm,0.6s,mb3.6,baz=306,slow=1.1,SNR=3.5
FINES FINESS Array B 64.26 336 P **P** 08 39 05.7 0.0
comp=Z,3.6nm,1.0s,mb4.4,baz=45,slow=3.0,SNR=5.7
FINES FINESS Array B 64.26 336 P **P** 08 39 05.7 0.0
FINES pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 68.26 342 P **P** 08 39 32.2 +0.9
comp=Z,1.2nm,0.8s,mb4.0,baz=25,slow=6.3,SNR=2.5
NOA NORSAR Array B 68.26 342 P **P** 08 39 32.2 +0.9
NOA pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 68.54 341 P **P** 08 39 33.7 +0.7
comp=Z,8.1nm,1.1s,mb4.6,baz=76,slow=6.1,SNR=4.2
HFS Hagfors 68.54 341 P **P** 08 39 33.7 +0.7
HFS pmax pmax
comp=Z,8.0nm,1.1s
WRA Warramunga Arr 69.55 201 P **P** 08 39 39.7 +0.4
comp=Z,0.4nm,0.8s,mb3.4,baz=18,slow=6.3,SNR=3.4
ASAR Alice Springs 73.23 201 P **P** 08 40 01.2 -0.3
comp=Z,0.5nm,0.8s,mb3.5,baz=17,slow=6.8,SNR=5.7
ASAR Alice Springs 73.23 201 P **P** 08 40 01.2 -0.3
ASAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 75.82 62 P **P** 08 40 16.9 +0.4
comp=Z,1.1nm,0.7s,mb3.9,baz=298,slow=4.3,SNR=17
TXAR Lajitas Array 75.82 62 P **P** 08 40 16.9 +0.4
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 75.82 62 P **P** 08 40 16.9 +0.4
GERES GERESS Array B 78.69 335 P **P** 08 40 32.7 +0.1
comp=Z,0.3nm,0.3s,mb3.7,baz=48,slow=4.0,SNR=2.0
KEST Kesra 91.98 333 LR LR 09 24 41.1
comp=Z,64nm,21.5s,MS4.0,baz=210,slow=37

LDG ***13*** *08:39:12.5±0.1, 4295N×0.18E, h11km, Md1.8/3, Ml1.6/2, Error ellipse: s-maj=2.3km s-min=0.8km az=167.0*
STR ***13*** *08:39:13.2±0.2, 4299N×004W, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 13 08:39:13.6±0.2, 4295N×017E, h0km, mbLg0.8/3, 1C, Error ellipse: s-maj=2.4km s-min=2.0km az=105.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.12**	**322**	Pg	Pg	08 39 15.8	0.0
LABF				Sg	Sg	08 39 17.8	+0.4
LABF	**Labassere**	**0.12**	**322**	P	Pg	08 39 15.9	0.0
LABF				S	Sg	08 39 17.8	+0.5
VIEF	**Viey**	**0.13**	**237**	Pg	Pg	08 39 16.1	+0.1
VIEF				Sg	Sg	08 39 18.0	+0.3
VIEF	**Viey**	**0.13**	**237**	P	Pg	08 39 16.1	+0.1
VIEF				S	Sg	08 39 18.1	+0.4
EPF	**Esparros**	**0.14**	**58**	*e*Pg	Pg	08 39 16.1	-0.2
EPF				*e*Sg	Sg	08 39 18.4	+0.2
	21nm,0.2s						
EPF	**Esparros**	**0.14**	**58**	Pg	Pg	08 39 16.1	-0.2
EPF				Lg		08 39 18.4	
	11nm,0.2s						
EBIE	**Bielsa**	**0.27**	**185**	⇑Pg	Pg	08 39 18.6	-0.1
	1.3nm,0.0s,SNR=18						
EBIE				Lg		08 39 22.2	
	2.8nm,0.1s,SNR=7.9						
ETSF	**Étsaut**	**0.54**	**264**	*e*Pg	Pg	08 39 22.9	-1.0
ETSF				*e*Sg	Sg	08 39 30.3	-0.6
	3.3nm,0.3s						
ETSF	**Etsaut**	**0.54**	**264**	Pg	Pg	08 39 22.9	-1.0
ETSF				Lg		08 39 30.3	
	1.6nm,0.3s						
SJPF	**Ste Jean**	**1.04**	**279**	*e*Pg	Pg	08 39 32.2	-1.2
SJPF				*e*Sg	Sg	08 39 45.6	-1.3
	1.2nm,0.2s						
SJPF	**Ste Jean**	**1.04**	**279**	Pg	Pg	08 39 32.2	-1.2
SJPF				Lg		08 39 45.6	
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.55**	**75**	*e*Pg	Pg	08 39 41.2	-2.0
MTLF				*e*Sg	Sg	08 40 00.7	-2.5
	1.3nm,0.3s						
MTLF	**Montolieu**	**1.55**	**75**	Pg	Pg	08 39 41.2	-2.0
MTLF				Lg		08 40 00.7	
	0.6nm,0.3s						

NAO ***13*** *08:50:20.4, 4036N×1954E, h33km, mb3.7*
LDG ***13*** *08:50:31.4±1.0, 4185N×1999E, h10km, Mb5.0/13, Error ellipse: s-maj=52.9km s-min=9.7km az=6.0*
MOS ***13*** *08:50:34.7±0.8, 4194N×2000E, h17km, mb4.2/5, Error ellipse: s-maj=5.3km s-min=3.5km az=122.4*
CSEM ***13*** *08:50:34.2±0.1, 4189N×2005E, h21km, mb4.1/6, Error ellipse: s-maj=2.0km s-min=1.3km az=36.0*
NEIC ***13*** *08:50:34.8, 4192N×2007E, h11km, MD4.0(ATH), ML3.8(BUC), ML3.9(PDG), ML4.4(THE), After PDG.*
PDG ***13*** *08:50:34.8±0.8, 4192N×2007E, h11km±1km*
SKO ***13*** *08:50:35.8, 4193N×2006E, h14km, M3.9, ML4.3*
ISCJB ***13*** *08:50:35.8±0.2, 4195N±001×2005E±002, h25km±2km, mb4.0/15, Error ellipse: s-maj=2.6km s-min=1.8km az=74.0*
TIR ***13*** *08:50:35.1, 4192N×2006E, h4km, Ml3.6*
THE ***13*** *08:50:35.3, 4195N×2013E, h10km, ML4.0*
PRU ***13*** *08:50:37.6, 4206N×2020E, h0km*
ATH ***13*** *08:50:38.1, 4163N×2025E, h7km±6km, MD4.0/12*
IDC ***13*** *08:50:39.0±2.1, 4201N×1999E, h44km±20km, mb3.7/12, mb1 3.8/20, mb1mx3.8/28, mbtmp3.7/20, ML3.5/8, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=17.5km s-min=13.9km az=157.0*
ISC 13 08:50:36.0±0.2, 4194N±001×2009E±002, h12km±1km, n243, σ1$15/307, mb4.0/15, 30C-23D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.18**	**306**	*i* Pg	**Pg**	08 50 39.9	-0.1
PUK				*i* Sg	**Sg**	08 50 43.7	+0.9
KKS	**Kukesi**	**0.28**	**60**	*i* Pg	**Pg**	08 50 41.7	0.0
KKS				*i* Sg	**Sg**	08 50 44.5	-1.1
PHP	**Peshkopia**	**0.36**	**134**	*i* Pg	**Pg**	08 50 42.7	-0.6
PHP				*i* Sg	**Sg**	08 50 49.1	+0.9
SDA	**Shkodra**	**0.46**	**285**	*i* Pg	**Pg**	08 50 44.3	-0.7
SDA				*i* Sg	**Sg**	08 50 52.2	+1.2
TIR	**Tirane**	**0.61**	**196**	*e*Pg	**Pg**	08 50 47.3	-0.6
TIR				*e*Sg	**Sg**	08 50 56.5	+0.5
TIR	**Tirane**	**0.61**	**196**	*i* Pg	**Pg**	08 50 47.4	-0.5
TIR				*i* Sg	**Sg**	08 50 57.4	+1.4
TIR	**Tirane**	**0.61**	**196**	*i* Pg	**Pg**	08 50 47.4	-0.5
TIR				*e*Sg	**Sg**	08 50 56.5	+0.5
ULC	**Ulcinj**	**0.63**	**273**	⇑*i*Pg	**Pg**	08 50 46.4	-1.8
ULC				*e*Sg	**Sg**	08 50 56.3	-0.2
PVY	**Plav**	**0.66**	**353**	*i*Pg	**Pg**	08 50 47.7	-1.2
PVY				*e*Sg	**Sg**	08 50 58.2	+0.6
PVY	**Plav**	**0.66**	**353**	*i*Pg	**Pg**	08 50 47.7	-1.2
PVY				*e*Sg	**Sg**	08 50 58.2	+0.6
TTG	**Podgorica**	**0.79**	**309**	⇑*i*Pg	**Pg**	08 50 49.5	-1.8
TTG				*e*Sg	**Sg**	08 51 02.8	+1.2
IVA	**Berane**	**0.95**	**351**	⇑*i*Pg	**Pg**	08 50 52.7	-1.5
IVA				*e*Sg	**Sg**	08 51 07.4	+0.8
BUM	**Brajici-Budva**	**0.96**	**293**	⇑*i*Pg	**Pg**	08 50 52.3	-2.1
BUM				*e*Sg	**Sg**	08 51 07.8	+0.8
OHR	**Ohrid**	**0.98**	**147**	*e*Pg	**Pg**	08 50 52.9	-2.0
OHR				*e*Sg	**Sg**	08 51 07.4	-0.3
OHR	**Ohrid**	**0.98**	**147**	*i* Pg	**Pg**	08 50 52.7	-2.2
OHR				*i* Sg	**Sg**	08 51 07.6	-0.1
OHR				*e*Lg		08 51 09.2	
	comp=N,6μm,0.5s						
OHR				*e*Lg		08 51 09.5	
	comp=E,6μm,0.5s						
OHR	**Ohrid**	**0.98**	**147**	*i* Pg	**Pg**	08 50 52.7	-2.2
OHR				*i* Sg	**Sg**	08 51 07.6	-0.1
OHR				*e*Lg		08 51 09.2	
	comp=N,6μm,0.5s						
OHR				*e*Lg		08 51 09.5	
	comp=E,6μm,0.5s						
OHR	**Ohrid**	**0.98**	**147**	*i* Pg	**Pg**	08 50 52.7	-2.2
OHR				*e*Sg	**Sg**	08 51 07.4	-0.3
SKO	**Skopje**	**1.01**	**87**	*e*Pg	**Pg**	08 50 54.3	-1.1
SKO				*e*Sg	**Sg**	08 51 10.0	+1.5
SKO	**Skopje**	**1.01**	**87**	*i* Pg	**Pg**	08 50 54.2	-1.2
SKO				*i* Sg	**Sg**	08 51 09.3	+0.7
SKO	**Skopje**	**1.01**	**87**	*i* Pg	**Pg**	08 50 54.2	-1.2
SKO				*i* Sg	**Sg**	08 51 09.3	+0.7
SKO	**Skopje**	**1.01**	**87**	*i* Pg	**Pg**	08 50 54.2	-1.2
SKO				*i* Sg	**Sg**	08 51 09.2	+0.6
NKY	**Niksic**	**1.19**	**318**	⇑*i*Pg	**Pg**	08 50 56.3	-2.7
NKY				*e*Sg	**Sg**	08 51 15.9	+1.5
NKY	**Niksic**	**1.19**	**318**	⇑*i*Pg	**Pg**	08 50 56.3	-2.6
NKY				*e*Sg	**Sg**	08 51 15.9	+1.5
HCY	**Herceg Novi**	**1.29**	**294**	⇓*i*Pg	**Pg**	08 50 57.9	-2.9
HCY				*e*Sg	**Sg**	08 51 18.4	+0.9
BIA	**Bitola**	**1.30**	**134**	*e*Pg	**Pg**	08 50 58.6	-2.5
BIA	**Bitola**	**1.30**	**134**	*i* Pg	**Pg**	08 50 58.6	-2.5
BIA				*i* Sg	**Sg**	08 51 17.4	-0.7
BIA	**Bitola**	**1.30**	**134**	*i* Pg	**Pg**	08 50 58.6	-2.5
BIA				*i* Sg	**Sg**	08 51 17.4	-0.7
BIA	**Bitola**	**1.30**	**134**	*i* Pg	**Pg**	08 50 58.6	-2.5
BIA				*i* Sg	**Sg**	08 51 17.3	-0.7
SJES	**Sjenica**	**1.34**	**355**	Pn	**Pn**	08 51 00.1	-0.4
KBN	**Korca**	**1.41**	**158**	*i* Pn	**Pn**	08 51 02.1	+0.6
KBN				*i* Sn	**Sn**	08 51 22.3	+2.2
PLE	**Pljevlja**	**1.48**	**340**	⇑*i*Pg	**Pn**	08 51 02.2	-0.3
PLE				*e*Sg	**Sg**	08 51 24.1	+0.3
BRY	**Bratogost**	**1.50**	**311**	⇓*i*Pg	**Pn**	08 51 01.6	-1.0
BRY				*e*Sg	**Sg**	08 51 25.2	+1.1
TREB	**Trebinje**	**1.51**	**302**	P	**Pn**	08 51 02.0	-0.8
UPM	**Unac-Piva**	**1.54**	**326**	⇑*i*Pg	**Pn**	08 51 03.0	-0.2
UPM				*e*Sg	**Sg**	08 51 25.8	+0.4
BARS	**Barje**	**1.56**	**55**	⇓*i*Pn	**Pn**	08 51 03.7	+0.1
STIP	**Stip**	**1.59**	**98**	*e*Pg	**Pn**	08 51 03.3	-0.6
STIP	**Stip**	**1.59**	**98**	*i* Pn	**Pn**	08 51 03.3	-0.6
STIP				*i* Sn	**Sn**	08 51 25.2	+0.8
STIP	**Stip**	**1.59**	**98**	*i* Pn	**Pn**	08 51 03.3	-0.6
STIP				*i* Sn	**Sn**	08 51 25.2	+0.8
STIP	**Stip**	**1.59**	**98**	*i* Pn	**Pn**	08 51 03.3	-0.6
STIP				*i* Sn	**Sn**	08 51 25.1	+0.8
LSK	**Leskovik**	**1.83**	**168**	*i* Pn	**Pn**	08 51 09.7	+2.5
LSK				*i* Sn	**Sg**	08 51 37.3	+2.6
VAY	**Valandovo**	**1.96**	**107**	*e*Pb	**Pn**	08 51 08.4	-0.7
VAY				*e*Sb	**Sb**	08 51 37.1	+1.1
BBLS	**Bajina Basta -**	**1.99**	**346**	⇑*i*Pn	**Pn**	08 51 11.1	+1.6
GRG	**Griva**	**2.00**	**119**	*e*Pb	**Pb**	08 51 09.6	-2.7
STON	**Ston**	**2.00**	**299**	*i* Pn	**Pn**	08 51 09.7	0.0
STON				*i* Sn	**Sg**	08 51 41.7	+1.3
STON	**Ston**	**2.00**	**299**	*i* Pn	**Pn**	08 51 09.6	0.0
GRUS	**Gruza**	**2.00**	**13**	⇓*i*Pn	**Pn**	08 51 09.0	-0.7
KZN	**Kozani**	**2.06**	**141**	*e*PN	**Pn**	08 51 11.1	+0.6
DIVS	**Divcibare**	**2.16**	**358**	⇑*i*Pn	**Pn**	08 51 12.1	+0.2
DIVS	**Divcibare**	**2.16**	**358**	*e*Pn	**Pn**	08 51 11.9	+0.1
DIVS				*e*Sn	**Sn**	08 51 40.1	+1.5
DIVS	**Divcibare**	**2.16**	**358**	Pn	**Pn**	08 51 12.1	+0.3
DIVS				*e*Sn	**Sn**	08 51 40.1	+1.5
LCI	**Lecce**	**2.19**	**224**	Pn	**Pn**	08 51 12.1	-0.1
KEK	**Kerkira**	**2.23**	**186**	*e*PN	**Pn**	08 51 12.6	-0.2
KNT	**Kendrikon**	**2.25**	**109**	*e*Pn	**Pn**	08 51 12.9	-0.1
PE1	**Pezze di Greco**	**2.30**	**241**	*e*Pn	**Pn**	08 51 13.8	0.0
BOLS	**Boljevac**	**2.34**	**35**	⇑*i*Pn	**Pn**	08 51 17.4	+3.2
BOLS				Sn	**Sn**	08 51 41.5	-1.4
JAN	**Janina**	**2.35**	**165**	*e*PG	**Pn**	08 51 16.0	+1.6
VTS	**Vitosha**	**2.41**	**73**	*e*Pn	**Pn**	08 51 15.7	+0.5
VTS				*e*Sn	**Sn**	08 51 44.2	-0.4
VTS	**Vitosha**	**2.41**	**73**	⇓P	**Pn**	08 51 16.0	+0.8
VTS	**Vitosha**	**2.41**	**73**	⇓*i*P	**Pn**	08 51 15.6	+0.4
IGT	**Igoumenitsa**	**2.41**	**176**	*e*Pn	**Pn**	08 51 15.9	+0.7
SVIS	**Švilajnac**	**2.50**	**19**	⇑*i*Pn	**Pn**	08 51 16.3	-0.2
THE	**Thessaloniki**	**2.53**	**120**	*e*Pn	**Pn**	08 51 16.7	-0.2
LIT	**Litokhoron**	**2.58**	**134**	*e*Pn	**Pn**	08 51 17.8	+0.2
HORT	**Hortiatis**	**2.63**	**120**	*e*Pn	**Pn**	08 51 18.2	-0.1
SOH	**Sokhos**	**2.70**	**113**	*e*Pn	**Pn**	08 51 19.5	+0.3
THL	**Klokotos Trika**	**2.78**	**148**	*e*PN	**Pn**	08 51 21.9	+1.5
THL				*e*SN	**Sn**	08 51 52.2	-1.7
SG1	**Sgolgore (BA)**	**2.79**	**248**	*e*Pn	**Pn**	08 51 20.5	0.0
NVR	**Nevrokopi**	**2.89**	**100**	*e*PN	**Pn**	08 51 25.7	+3.9
PLG	**Polygyros**	**2.98**	**121**	*e*Pn	**Pn**	08 51 23.5	+0.4
PLG	**Polygyros**	**2.98**	**121**	*e*Pb	**Pn**	08 51 23.3	+0.3
PLG	**Polygyros**	**2.98**	**121**	*e*Pn	**Pn**	08 51 23.5	+0.5
CDT	**Castel del Mon**	**2.99**	**255**	*e*Pn	**Pn**	08 51 22.3	-0.9
FGMS	**Monte Sant'Ang**	**3.10**	**267**	Pn	**Pn**	08 51 23.7	-1.0
MS1	**Monte Sant'Ang**	**3.11**	**267**	*e*Pn	**Pn**	08 51 23.7	-1.1
LKD	**Levkas**	**3.25**	**172**	*e*Pn	**Pn**	08 51 26.8	-0.1
EVR	**Evrytania**	**3.29**	**156**	*e*PN	**Pn**	08 51 29.7	+2.4
OUR	**Ouranopolis**	**3.35**	**117**	*e*Pn	**Pn**	08 51 28.1	0.0
AGG	**Agios Georgios**	**3.38**	**149**	*e*Pn	**Pn**	08 51 29.2	+0.7
AGG				*e*Sn	**Sn**	08 52 11.6	+3.1
RGNG	**Rignano Grg**	**3.38**	**267**	Pn	**Pn**	08 51 27.5	-1.0
PAIG	**Paliouri**	**3.38**	**125**	*e*Pn	**Pn**	08 51 28.7	+0.1
PLD	**Plovdiv**	**3.44**	**86**	*e*Pn	**Pn**	08 51 30.6	+1.2
MRLC	**Muro Lucano**	**3.66**	**253**	Pn	**Pn**	08 51 32.2	-0.2
TIP	**Timpagrande**	**3.75**	**224**	*e*Pn	**Pn**	08 51 32.4	-1.2
TIP	**Timpagrande**	**3.75**	**224**	*e*Pn	**Pn**	08 51 32.4	-1.2
VLS	**Valsamata**	**3.77**	**174**	*e*PN	**Pn**	08 51 34.5	+0.5
BZS	**Buzias**	**3.84**	**16**	P	**Pn**	08 51 34.9	0.0
BZS	**Buzias**	**3.84**	**16**	⇑*i*P	**Pn**	08 51 34.6	-0.3
SGO	**Sicignano**	**3.86**	**251**	Pn	**Pn**	08 51 35.4	+0.2
GZR	**Gura Zlata**	**3.97**	**29**	⇓P	**Pn**	08 51 37.0	+0.3
GZR	**Gura Zlata**	**3.97**	**29**	P	**Pn**	08 51 36.5	-0.1
GZR	**Gura Zlata**	**3.97**	**29**	⇑*i*P	**Pn**	08 51 36.8	+0.1
RLS	**Riolos of Patr**	**4.01**	**164**	*e*PN	**Pn**	08 51 38.5	+1.2
RHK3	**Tenkes**	**4.17**	**342**	⇓*e*P	**Pn**	08 51 40.1	+0.7
SGG	**Gregorio Mates**	**4.31**	**265**	Pn	**Pn**	08 51 41.9	+0.5
LIA	**Limnos Island**	**4.36**	**116**	*e*PN	**Pn**	08 51 42.9	+0.8
MIDA	**Miranda**	**4.37**	**268**	Pn	**Pn**	08 51 42.4	+0.2
PKSM	**Moragy**	**4.40**	**347**	⇓P	**Pn**	08 51 43.3	+0.7
PKSM	**Moragy**	**4.40**	**347**	P	**Pn**	08 51 43.1	+0.5
PKSM	**Moragy**	**4.40**	**347**	⇑*i*P	**Pn**	08 51 41.3	-1.3
PKSM	**Moragy**	**4.40**	**347**	*e*Pn	**Pn**	08 51 42.9	+0.3
PKSM				*e*Sn	**Sn**	08 52 33.9	+0.1
RNI2	**Rionero Sannit**	**4.44**	**269**	Pn	**Pn**	08 51 43.7	+0.5
SISC	**Sisak**	**4.44**	**324**	*i* Sg	**Sg**	08 52 58.7	0.0
ALN	**Alexandroupoli**	**4.60**	**101**	*e*Pn	**Pn**	08 51 45.7	+0.4
INTR	**Introdacqua**	**4.61**	**273**	Pn	**Pn**	08 51 44.7	-0.8
RFI	**Roccamonfina**	**4.62**	**264**	Pn	**Pn**	08 51 46.2	+0.6
NVLJ	**Novalja**	**4.63**	**306**	*i* Pn	**Pn**	08 51 45.7	0.0
NVLJ				*i* Sn	**Sn**	08 52 39.0	-0.4
MGER	**Gerania Oros**	**4.64**	**147**	*e*PN	**Pn**	08 51 47.2	+1.3
SDI	**San Donato**	**4.70**	**269**	Pn	**Pn**	08 51 47.0	+0.3
VVLD	**Villa Vallelon**	**4.83**	**271**	Pn	**Pn**	08 51 48.9	+0.4
JMB	**Yambol**	**4.85**	**82**	*e*Pn	**Pn**	08 51 49.6	+0.8
TERO	**Teramo**	**4.86**	**280**	Pn	**Pn**	08 51 49.1	+0.2
NAIG	**Nisos Aigina**	**4.92**	**147**	*e*PN	**Pn**	08 51 50.0	+0.2
ITM	**Ithomi**	**4.96**	**163**	*e*PN	**Pn**	08 51 51.5	+1.2
AQU	**L'Aquila**	**4.99**	**277**	⇓P	**Pn**	08 51 51.2	+0.5
AQU	**L'Aquila**	**4.99**	**277**	P	**Pn**	08 51 50.9	+0.2
AQU	**L'Aquila**	**4.99**	**277**	⇓*i*P	**Pn**	08 51 51.1	+0.4
BOJS	**Bojanci**	**5.00**	**317**	*i* Pn	**Pn**	08 51 52.0	+1.2
VOIR		**5.02**	**44**	⇓P	**Pn**	08 51 51.9	+0.8
VOIR		**5.02**	**44**	⇓*i*P	**Pn**	08 51 52.6	+1.5
FIAM	**Fiamignano**	**5.20**	**276**	Pn	**Pn**	08 51 54.3	+0.7
	comp=E,121nm,0.5s						
DRGR		**5.21**	**20**	⇑P	**Pn**	08 51 53.9	+0.2
DRGR		**5.21**	**20**	⇑*i*P	**Pn**	08 51 53.7	0.0
NRCA	**Norcia**	**5.24**	**282**	Pn	**Pn**	08 51 54.2	0.0
	comp=E,67nm,0.4s						
CING	**Cingoli**	**5.28**	**288**	Pn	**Pn**	08 51 54.6	-0.1
	comp=E,77nm,0.5s						
SNTG	**Esanatoglia**	**5.44**	**286**	Pn	**Pn**	08 51 56.5	-0.4
	comp=E,31nm,0.5s						
MNS	**Montasola**	**5.52**	**277**	P	**Pn**	08 51 59.0	+0.9
MNS				pmax	pmax		
	comp=Z,113nm,0.5s						
MNS	**Montasola**	**5.52**	**277**	Pn	**Pn**	08 51 59.0	+0.9
	comp=Z,113nm,0.5s						
MLR	**Muntele Rosu**	**5.54**	**48**	P	**Pn**	08 51 58.6	+0.4
	comp=Z,2.1nm,0.3s,baz=172,slow=4.2,SNR=10						
MLR				S	**Sn**	08 53 01.7	-0.1
	comp=Z,1.2nm,0.3s,baz=145,slow=21,SNR=3.5						
MLR	**Muntele Rosu**	**5.54**	**48**	P	**Pn**	08 51 58.6	+0.4
MLR				S	**Sn**	08 53 01.7	0.0
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MLR				smax			
	comp=N,1.0nm,0.3s						
MLR	**Muntele Rosu**	**5.54**	**48**	⇓P	**Pn**	08 51 59.4	+1.2
MLR	**Muntele Rosu**	**5.54**	**48**	⇓*i*P	**Pn**	08 51 59.3	+1.1
CEY	**Cerknica**	**5.59**	**315**	*e*Pn	**Pn**	08 51 59.8	+0.8
CEY				*e*Sn	**Sn**	08 53 03.3	+0.3
CEY							
	comp=Z,476nm,2.1s						
CEY	**Cerknica**	**5.59**	**315**	*e*Pn	**Pn**	08 51 59.8	+0.8
CEY				*e*Sn	**Sn**	08 53 03.3	+0.3
ASS	**Assisi**	**5.61**	**284**	P	**Pn**	08 51 59.4	+0.1
ASS				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ASS	**Assisi**	**5.61**	**284**	Pn	**Pn**	08 51 59.4	+0.1
	comp=Z,7.7nm,0.4s						
FSSB	**Fossombrone**	**5.66**	**291**	Pn	**Pn**	08 51 59.8	-0.1
	comp=Z,144nm,0.5s						
VLI	**Veliai**	**5.66**	**156**	*e*PN	**Pn**	08 52 00.3	+0.4
MURB	**Monte Urbino**	**5.74**	**286**	Pn	**Pn**	08 52 01.3	+0.3
	comp=Z,270nm,0.7s						
LJU	**Ljubljana**	**5.74**	**318**	*e*Pn	**Pn**	08 52 01.0	0.0
JAVS	**Javornik**	**5.88**	**314**	*e*Pn	**Pn**	08 52 03.3	+0.4
JAVS				*e*Sn	**Sn**	08 53 09.5	-0.8
JAVS							
	comp=Z,526nm,2.3s						
PERS	**Pernice**	**5.90**	**324**	*i* Pn	**Pn**	08 52 03.9	+0.7
PSZ	**Piszkesteto**	**5.98**	**359**	⇓P	**Pn**	08 52 03.8	-0.6
PSZ	**Piszkesteto**	**5.98**	**359**	*e*Pn	**Pn**	08 52 04.5	+0.1
PSZ				*e*Sn	**Sn**	08 53 12.3	-0.5
PSZ	**Piszkesteto**	**5.98**	**359**	⇓*i*P	**Pn**	08 52 03.9	-0.5
OBKA	**Obir**	**6.06**	**321**	⇑*i*Pn	**Pn**	08 52 05.9	+0.5
OBKA				⇓*i*Sn	**Sn**	08 53 17.6	+2.9
VOJS	**Vojsko**	**6.07**	**315**	*i* Pn	**Pn**	08 52 05.9	+0.4
VOJS				*e*Sn	**Sn**	08 53 12.2	-2.6
VRI	**Vrincioaia**	**6.20**	**48**	⇑*i*P	**Pn**	08 52 07.7	+0.4
CRE	**Caprese Michel**	**6.22**	**288**	P	**Pn**	08 52 07.7	+0.1
CRE				pmax	pmax		
	comp=Z,20nm,0.4s						
CRE	**Caprese Michel**	**6.22**	**288**	Pn	**Pn**	08 52 07.7	+0.1
	comp=Z,20nm,0.4s						
ARSA	**Arzberg**	**6.23**	**330**	⇓*i*Pn	**Pn**	08 52 09.3	+1.5
	SNR=6.3						
ARSA				⇑*i*Sn	**Sn**	08 53 20.6	+1.6
KECS	**Kecovo**	**6.55**	**2**	*e*PN	**Pn**	08 52 13.5	+1.3
KECS				*e*SN	**Sn**	08 53 22.9	-3.9
PTCC	**Patocco-Chiusa**	**6.59**	**315**	Pn	**Pn**	08 52 13.2	+0.5
	comp=Z,44nm,0.9s						
ZST	**Bratislava**	**6.61**	**342**	*e*SN	**Sn**	08 53 25.1	-3.1
VYHS	**Vyhne**	**6.62**	**353**	*e*PN	**Pn**	08 52 14.4	+1.3
VYHS				*e*SN	**Sn**	08 53 25.3	-3.1
CSNT	**Castellina Chi**	**6.66**	**286**	Pn	**Pn**	08 52 13.0	-0.7
	comp=Z,14nm,0.5s						
BURAR	**Bucovina Array**	**6.75**	**31**	⇑*i*P	**Pn**	08 52 18.3	+3.4
CRVS	**Cervenica-Dubn**	**7.03**	**7**	*e*PN	**Pn**	08 52 20.0	+1.2
KBA	**Koelnbreinsper**	**7.05**	**319**	⇑*i*Pn	**Pn**	08 52 19.6	+0.6
KBA				⇓*i*Sn	**Sn**	08 53 41.8	+2.8
KOLS	**Kolonicke sedl**	**7.16**	**12**	*e*PN	**Pn**	08 52 25.5	+4.9
MOA	**Molln**	**7.21**	**327**	⇑*i*Pn	**Pn**	08 52 22.0	+0.7
MOA				⇑*i*Sn	**Sn**	08 53 45.3	+2.2
CTI	**Castel Tesino**	**7.34**	**307**	P	**Pn**	08 52 22.3	-0.7
CTI				pmax	pmax		
	comp=Z,29nm,0.6s						
CTI	**Castel Tesino**	**7.34**	**307**	Pn	**Pn**	08 52 22.3	-0.7
	comp=Z,29nm,0.6s						
NIE	**Niedzica**	**7.49**	**1**	*e*P	**Pn**	08 52 27.8	+2.8
IDI	**Anoyia**	**7.63**	**149**	P	**Pn**	08 52 24.7	-2.2
	comp=Z,1.2nm,0.3s,baz=19,slow=21,SNR=5.7						
IDI				S	**Sn**	08 53 46.8	-6.4
	comp

OBN MLR MLR
comp=Z,200nm,15.0s
HFS Hagfors 18.64 350 P **Pn 08 54 53.0 -0.9**
comp=Z,0.4nm,0.3s,baz=158,slow=12,SNR=6.9
GNI Garni 18.67 87 P **Pn 08 54 55.7 +1.5**
comp=Z,1.0nm,0.3s,baz=345,slow=12,SNR=4.2
GNI Garni 18.67 87 P **Pn 08 54 55.7 +1.5**
GNI pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 19.87 8 P **Pn 08 55 04.6 -4.0**
comp=Z,0.2nm,0.3s,baz=340,slow=39,SNR=4.8
NB2 NORSAR Subarra 19.88 347 P **Pn 08 55 04.2 -4.5**
comp=Z,2.9nm,0.7s,baz=162,slow=11
NOA NORSAR Array B 19.88 347 P **Pn 08 55 03.4 -5.4**
comp=Z,0.3nm,0.3s,baz=155,slow=11,SNR=3.0
MDT Midelt 21.58 253 P **P 08 55 24.5 -1.0**
comp=Z,2.0nm,0.7s,mb3.6,baz=147,slow=14,SNR=3.1
MIB Mutribah 25.07 110 *eP* **P 08 55 58.8 -1.4**
MIB AMb AMB 08 56 00.3
comp=Z,113nm,0.6s
NAY Al-Naaiem 25.33 111 *eP* **P 08 56 00.7 -1.9**
NAY AMb AMB 08 56 02.2
comp=Z,20nm,0.8s,mb4.7
UMR Umm Al-Rimmam 25.48 110 *eP* **P 08 55 58.3 -5.7**
UMR AMb AMB 08 56 04.0
comp=Z,47nm,0.6s
RDF Al-Radifah 25.74 111 *eP* **P 08 55 59.3 -7.0**
RDF AMb AMB 08 56 06.4
comp=Z,22nm,0.8s,mb4.8
AKTK Aktyubinsk 27.35 59 P **P 08 56 18.6 -2.3**
AKTO Aktyubinsk 27.35 59 P **P 08 56 18.6 -2.3**
comp=Z,0.4nm,0.3s,mb3.4,baz=273,slow=13,SNR=3.8
ARU Arti 28.58 46 *eP* **P 08 56 32.5 +0.6**
ARU *e* 08 57 28.4
ARU *eS* **S 09 01 19.1 -0.8**
ARU *eSS* SS 09 02 46.2 -35
TORD Torodi Ar. Bea 32.84 215 P **P 08 57 08.8 -0.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=22,slow=8.9,SNR=5.3
BVAR Borovoye Array 35.06 54 P **P 08 57 28.1 -0.7**
comp=Z,2.9nm,0.7s,mb4.3,baz=269,slow=6.8,SNR=16
BVAR Borovoye Array 35.06 54 P **P 08 57 28.1 -0.7**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 39.66 70 *eP* **P 08 58 06.7 -1.1**
AAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.7
AAK Ala-Archa 39.66 70 *eP* **P 08 58 06.7 -1.1**
comp=Z,2.0nm,1.3s,mb3.7
KURK Kurchatov 40.40 57 *eP* **P 08 58 12.9 -1.0**
NVS Novosibirsk 42.43 50 *iP* **P 08 58 27.0 -3.6**
ZAL Zalesovo 43.50 51 P **P 08 58 38.1 -1.1**
comp=Z,6.7nm,0.6s,mb4.6,baz=177,slow=5.7,SNR=6.3
ZAL Zalesovo 43.50 51 P **P 08 58 38.1 -1.1**
ZAL pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 43.71 62 P **P 08 58 40.0 -0.9**
comp=Z,2.3nm,0.8s,mb4.0,baz=293,slow=6.8,SNR=4.1
MKAR Makanchi Array 43.71 62 P **P 08 58 40.0 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 58.37 52 P **P 09 00 30.3 -0.8**
comp=Z,1.6nm,0.7s,mb4.2,baz=291,slow=8.8,SNR=13
SONM Songino Array 58.37 52 P **P 09 00 30.3 -0.9**
SONM pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 69.75 339 P **P 09 01 43.9 -2.1**
comp=Z,0.3nm,0.7s,mb3.3,baz=36,slow=5.8,SNR=7.1
BOSA Boshof 70.36 175 P **P 09 01 48.5 -1.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=289,slow=19,SNR=3.5
BOSA Boshof 70.36 175 P **P 09 01 48.5 -1.2**
BOSA pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ULM Lac du Bonnet 72.50 323 P **P 09 01 59.2 -3.3**
comp=Z,0.5nm,0.4s,mb3.8,baz=76,slow=12,SNR=2.6
KSRS Korea Array 77.21 51 P **P 09 02 28.3 -1.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=319,slow=5.1,SNR=3.8
TXAR Lajitas Array 92.15 313 P **P 09 03 45.3 -0.1**
comp=Z,0.2nm,0.7s,mb3.5,baz=66,slow=3.1,SNR=3.2
WRA Warramunga Arr 120.93 90 PKP PKPdf 09 09 25.7 -2.6
comp=Z,0.6nm,1.1s,baz=357,slow=3.1,SNR=3.7
ASAR Alice Springs 122.82 94 PKP PKPdf 09 09 29.4 -2.6
comp=Z,0.4nm,0.5s,baz=307,slow=1.5,SNR=14

LDG ***13*** *08:57:25.6±0.9, 4183N×2001E, h10km, Mb4.8/7, Error ellipse: s-maj=48.9km s-min=10.4km az=5.0*
IDC ***13*** *08:57:27.4±1.0, 4194N×2009E, h0km, mb3.7/6, mb1 3.8/13, mb1mx3.7/25, mbtmp3.7/13, ML3.6/6, MS3.7/1, Ms1 3.7/1, ms1mx2.6/29, Error ellipse: s-maj=17.1km s-min=14.4km az=161.0*
MOS ***13*** *08:57:28.7±0.4, 4191N×2005E, h17km, mb4.0/1, Error ellipse: s-maj=7.3km s-min=4.4km az=115.4*
NEIC ***13*** *08:57:28.8, 4192N×2008E, h11km, ML3.5(BUC), ML3.6(SKO), ML3.7(PDG), ML4.2(THE), After PDG.*
PDG ***13*** *08:57:28.8±0.5, 4192N×2008E, h11km±1km*
CSEM ***13*** *08:57:28.7±0.1, 4192N×2006E, h20km, ML3.7, Error ellipse: s-maj=1.5km s-min=1.3km az=32.0*
ISCJB ***13*** *08:57:29.6±0.2, 4193N±002×2006E±002, h25km±2km, mb3.6/6, MS3.8/1, Error ellipse: s-maj=3.2km s-min=2.1km az=77.2*
PRU ***13*** *08:57:29.3, 4193N×2005E, h0km*
SKO ***13*** *08:57:29.4, 4194N×2006E, h17km, M3.7, ML4.1*
TIR ***13*** *08:57:29.6, 4190N×2006E, h5km, Ml3.5*
THE ***13*** *08:57:30.4, 4188N×2019E, h3km, ML3.7*
ISC 13 08:57:29.8±0.3, 4192N±002×2009E±002, h12km±2km, n148, σ1§12/200, mb3.6/6, MS3.8/1, 20C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.19**	**310**	*i*	Pg	**Pg**		**08 57 33.9**	**-0.1**
PUK				*i*	Sg	**Sg**		**08 57 37.9**	**+0.9**
KKS	**Kukesi**	**0.29**	**57**	*i*	Pg	**Pg**		**08 57 35.8**	**+0.1**
KKS				*i*	Sg	**Sg**		**08 57 39.8**	**+0.2**
PHP	**Peshkopia**	**0.35**	**131**	*i*	Pg	**Pg**		**08 57 36.5**	**-0.3**
PHP				*i*	Sg	**Sg**		**08 57 42.8**	**+1.2**
SDA	**Shkodra**	**0.46**	**287**	*i*	Pg	**Pg**		**08 57 38.2**	**-0.7**
SDA				*i*	Sg	**Sg**		**08 57 45.3**	**+0.3**
TIR	**Tirane**	**0.59**	**197**	*eP*	Pg	**Pg**		**08 57 40.5**	**-0.9**
TIR	**Tirane**	**0.59**	**197**	*i*	Pg	**Pg**		**08 57 40.5**	**-0.9**
TIR				*i*	Sg	**Sg**		**08 57 51.2**	**+2.0**
TIR	**Tirane**	**0.59**	**197**	*eP*	Pg	**Pg**		**08 57 40.5**	**-0.9**
TIR				*i*	Sg	**Sg**		**08 57 51.2**	**+2.0**
ULC	**Ulcinj**	**0.63**	**274**	⇑*i*	Pg	**Pg**		**08 57 40.8**	**-1.2**
ULC				*eSg*		**Sg**		**08 57 50.3**	**0.0**
PVY	**Plav**	**0.68**	**353**	⇑*i*	Pg	**Pg**		**08 57 42.0**	**-1.0**
PVY				*eSg*		**Sg**		**08 57 52.0**	**0.0**
TTG	**Podgorica**	**0.80**	**310**	⇑*i*	Pg	**Pg**		**08 57 43.5**	**-1.8**
TTG				*eSg*		**Sg**		**08 57 56.3**	**+0.5**
IVA	**Berane**	**0.96**	**352**	⇑*i*	Pg	**Pg**		**08 57 47.3**	**-1.1**
IVA				*eSg*		**Sg**		**08 58 01.8**	**+0.8**
BUM	**Brajici-Budva**	**0.96**	**294**	⇑*i*	Pg	**Pg**		**08 57 46.8**	**-1.6**
BUM				*eSg*		**Sg**		**08 58 01.8**	**+0.8**
OHR	**Ohrid**	**0.97**	**146**	*eP*	Pg	**Pg**		**08 57 46.7**	**-1.7**
OHR	**Ohrid**	**0.97**	**146**	*i*	Pg	**Pg**		**08 57 46.8**	**-1.7**
OHR				*i*	Sg	**Sg**		**08 58 01.1**	**+0.1**
OHR				*eLg*				08 58 02.5	
OHR	comp=E,3μm,0.4s			*eLg*				08 58 02.9	
OHR	comp=N,3μm,0.4s			*eLg*				08 58 02.9	
OHR	**Ohrid**	**0.97**	**146**	*i*	Pg	**Pg**		**08 57 46.8**	**-1.7**
OHR				*i*	Sg	**Sg**		**08 58 01.1**	**+0.1**
OHR				*eLg*				08 58 02.5	
OHR	comp=E,3μm,0.4s			*eLg*				08 58 02.9	
OHR	comp=N,3μm,0.4s			*eLg*				08 58 02.9	
OHR	**Ohrid**	**0.97**	**146**	*eP*	Pg	**Pg**		**08 57 46.7**	**-1.7**
OHR				*i*	Sg	**Sg**		**08 58 01.0**	**0.0**
SKO	**Skopje**	**1.01**	**86**	*eP*	Pg	**Pg**		**08 57 48.6**	**-0.6**
SKO	**Skopje**	**1.01**	**86**	*i*	Pg	**Pg**		**08 57 48.3**	**-0.9**
SKO				*i*	Sg	**Sg**		**08 58 02.4**	**0.0**
SKO	**Skopje**	**1.01**	**86**	*i*	Pg	**Pg**		**08 57 48.3**	**-0.9**
SKO				*i*	Sg	**Sg**		**08 58 02.4**	**0.0**
SKO	**Skopje**	**1.01**	**86**	*i*	Pg	**Pg**		**08 57 48.3**	**-0.9**
SKO				*i*	Sg	**Sg**		**08 58 02.3**	**-0.1**
NKY	**Niksic**	**1.21**	**318**	⇑*i*	Pg	**Pg**		**08 57 50.5**	**-2.5**
NKY				*eSg*		**Sg**		**08 58 10.0**	**+1.4**
BIA	**Bitola**	**1.29**	**134**	*eP*	Pg	**Pg**		**08 57 52.5**	**-2.1**
BIA				*eSg*		**Sg**		**08 58 10.4**	**-1.0**
BIA	**Bitola**	**1.29**	**134**	*i*	Pg	**Pg**		**08 57 52.5**	**-2.1**
BIA				*i*	Sg	**Sg**		**08 58 11.7**	**+0.3**
BIA	**Bitola**	**1.29**	**134**	*i*	Pg	**Pg**		**08 57 52.5**	**-2.1**
BIA				*i*	Sg	**Sg**		**08 58 11.7**	**+0.3**
BIA	**Bitola**	**1.29**	**134**	*eP*	Pg	**Pg**		**08 57 52.5**	**-2.1**
BIA				*i*	Sg	**Sg**		**08 58 11.7**	**+0.3**
HCY	**Herceg Novi**	**1.30**	**295**	⇓*i*	Pg	**Pg**		**08 57 52.4**	**-2.3**
HCY				*eSg*		**Sg**		**08 58 12.7**	**+1.2**
SJES	**Sjenica**	**1.35**	**355**	Pg		**Pg**		**08 57 55.2**	**-0.6**
KBN	**Korca**	**1.40**	**158**	*i*	Pn	**Pn**		**08 57 56.6**	**+1.5**
KBN				*i*	Sn	**Sg**		**08 58 19.3**	**+4.5**
PLE	**Pljevlja**	**1.50**	**340**	⇑*i*	Pg	**Pg**		**08 57 56.6**	**-2.1**
PLE				*eSg*		**Sg**		**08 58 18.9**	**+0.8**
BRY	**Bratogost**	**1.51**	**311**	⇓*i*	Pg	**Pn**		**08 57 55.8**	**-0.8**
BRY				*eSg*		**Sg**		**08 58 18.9**	**+0.5**
TREB	**Trebinje**	**1.52**	**302**	P		**Pn**		**08 57 56.4**	**-0.3**
UPM	**Unac-Piva**	**1.55**	**326**	⇓*i*	Pg	**Pn**		**08 57 57.2**	**0.0**
UPM				*eSg*		**Sg**		**08 58 20.2**	**+0.5**
BARS	**Barje**	**1.57**	**54**	⇓*i*	Pn	**Pn**		**08 57 57.5**	**+0.1**
BARS	**Barje**	**1.57**	**54**	Pn		**Pn**		**08 57 57.5**	**0.0**
STIP	**Stip**	**1.58**	**97**	*eP*	Pg	**Pn**		**08 57 57.4**	**-0.2**
STIP	**Stip**	**1.58**	**97**	*i*	Pn	**Pn**		**08 57 57.3**	**-0.3**
LSK	**Leskovik**	**1.81**	**168**	*i*	Pn	**Pg**		**08 58 06.5**	**+2.0**
LSK				*i*	Sg	**Sg**		**08 58 32.8**	**+4.9**
VAY	**Valandovo**	**1.95**	**107**	*ePb*		**Pn**		**08 58 02.3**	**-0.4**
VAY	**Valandovo**	**1.95**	**107**	*i*	Pn	**Pn**		**08 58 02.2**	**-0.5**
GRG	**Griva**	**1.99**	**118**	*ePb*		**Pn**		**08 58 03.2**	**0.0**
GRG				*eSb*		**Sb**		**08 58 29.1**	**-1.4**
STON	**Ston**	**2.01**	**299**	*i*	Pn	**Pn**		**08 58 03.9**	**+0.4**
STON				*i*	Sn	**Sg**		**08 58 35.9**	**+1.4**
STON	**Ston**	**2.01**	**299**	*i*	Pn	**Pn**		**08 58 03.9**	**+0.4**
STON				*i*	Sn	**Sg**		**08 58 35.8**	**+1.4**
BBLS	**Bajina Basta -**	**2.01**	**346**	⇓*i*	Pn	**Pn**		**08 58 04.7**	**+1.2**
GRUS	**Gruza**	**2.02**	**13**	⇓*i*	Pn	**Pn**		**08 58 03.0**	**-0.6**
GRUS	**Gruza**	**2.02**	**13**	Pn		**Pn**		**08 58 03.0**	**-0.7**
DIVS	**Divcibare**	**2.18**	**358**	⇓*i*	Pn	**Pn**		**08 58 05.7**	**-0.1**
DIVS	**Divcibare**	**2.18**	**358**	*ePn*		**Pn**		**08 58 06.8**	**+1.0**
DIVS				*eSn*		**Sn**		**08 58 36.7**	**+3.9**
KNT	**Kendrikon**	**2.24**	**109**	*ePn*		**Pn**		**08 58 06.7**	**0.0**
KNT				*eSn*		**Sn**		**08 58 34.0**	**-0.2**
PE1	**Pezze di Greco**	**2.29**	**242**	*ePn*		**Pn**		**08 58 07.3**	**-0.1**
MEV	**Metsovon**	**2.30**	**158**	*ePn*		**Pn**		**08 58 09.2**	**+1.8**
BOLS	**Boljevac**	**2.35**	**35**	*ePn*		**Pb**		**08 58 12.7**	**+0.6**
BOLS				Sn		**Sn**		**08 58 35.3**	**-1.7**
VTS	**Vitosha**	**2.41**	**73**	*ePn*		**Pn**		**08 58 09.8**	**+0.8**
VTS	**Vitosha**	**2.41**	**73**	⇓P		**Pn**		**08 58 09.4**	**+0.4**
VTS	**Vitosha**	**2.41**	**73**	⇓*i*P		**Pn**		**08 58 09.8**	**+0.8**
LIT	**Litokhoron**	**2.57**	**134**	*ePn*		**Pn**		**08 58 11.6**	**+0.4**
HORT	**Hortiatis**	**2.62**	**119**	*ePn*		**Pn**		**08 58 11.5**	**-0.4**
SOH	**Sokhos**	**2.69**	**113**	*ePn*		**Pn**		**08 58 13.4**	**+0.5**
SOH				*eSn*		**Sn**		**08 58 46.5**	**+1.2**
THL	**Klokotos Trika**	**2.77**	**147**	*eP*		**Pn**		**08 58 15.5**	**+1.6**
SG1	**Sgolgore (BA)**	**2.78**	**248**	*ePn*		**Pn**		**08 58 14.9**	**+0.8**
NVR	**Nevrokopi**	**2.88**	**100**	*eP*		**Pn**		**08 58 19.6**	**+4.1**
PLG	**Polygyros**	**2.97**	**120**	*ePn*		**Pn**		**08 58 17.3**	**+0.6**
PLG	**Polygyros**	**2.97**	**120**	*eP*		**Pn**		**08 58 17.2**	**+0.5**
EVR	**Evrytania**	**3.27**	**156**	*eP*		**Pn**		**08 58 24.6**	**+3.7**
AGG	**Agios Georgios**	**3.36**	**149**	*ePn*		**Pn**		**08 58 23.2**	**+1.1**
PAIG	**Paliouri**	**3.37**	**125**	*ePn*		**Pn**		**08 58 22.2**	**0.0**
TIP	**Timpagrande**	**3.73**	**224**	*ePn*		**Pn**		**08 58 26.4**	**-0.8**
TIP				*eSn*		**Sn**		**08 59 07.7**	**-3.4**
TIP	**Timpagrande**	**3.73**	**224**	*ePn*		**Pn**		**08 58 26.4**	**-0.8**
TIP				*eSn*		**Sn**		**08 59 07.7**	**-3.3**
VLS	**Valsamata**	**3.76**	**174**	*eP*		**Pn**		**08 58 26.7**	**-0.8**
BZS	**Buzias**	**3.86**	**16**	⇓P		**Pn**		**08 58 28.7**	**-0.2**
BZS	**Buzias**	**3.86**	**16**	P		**Pn**		**08 58 28.8**	**-0.1**
BZS	**Buzias**	**3.86**	**16**	P		**Pn**		**08 58 28.8**	**-0.1**
BZS	**Buzias**	**3.86**	**16**	⇑*i*P		**Pn**		**08 58 28.8**	**-0.1**
GZR	**Gura Zlata**	**3.98**	**28**	P		**Pn**		**08 58 31.4**	**+0.8**
GZR	**Gura Zlata**	**3.98**	**28**	⇓*i*P		**Pn**		**08 58 31.0**	**+0.4**
GZR	**Gura Zlata**	**3.98**	**28**	P		**Pn**		**08 58 30.9**	**+0.3**
RDO	**Rodhopi**	**4.16**	**99**	*eP*		**Pn**		**08 58 33.2**	**+0.1**
RHK3	**Tenkes**	**4.19**	**342**	⇑*eP*		**Pn**		**08 58 33.7**	**+0.3**
PKSM	**Moragy**	**4.42**	**347**	P		**Pn**		**08 58 36.8**	**+0.2**
PKSM	**Moragy**	**4.42**	**347**	⇓*i*P		**Pn**		**08 58 36.2**	**-0.4**
PKSM	**Moragy**	**4.42**	**347**	⇑*ePn*		**Pn**		**08 58 36.7**	**+0.1**
PKSM				*eSn*		**Sn**		**08 59 28.0**	**0.0**
ALN	**Alexandroupoli**	**4.59**	**101**	*ePn*		**Pn**		**08 58 38.6**	**-0.4**
NVLJ	**Novalja**	**4.64**	**306**	*i*	Pn	**Pn**		**08 58 39.8**	**+0.1**
NVLJ				*i*	Sn	**Sn**		**08 59 33.1**	**-0.3**
ITM	**Ithomi**	**4.94**	**163**	*eP*		**Pn**		**08 58 45.1**	**+1.3**
AQU	**L'Aquila**	**4.99**	**277**	⇑*i*P		**Pn**		**08 58 44.8**	**+0.3**
AQU	**L'Aquila**	**4.99**	**277**	*ePn*		**Pn**		**08 58 44.7**	**+0.2**
BOJS	**Bojanci**	**5.01**	**317**	*i*	Pn	**Pn**		**08 58 45.9**	**+1.0**
BOJS	**Bojanci**	**5.01**	**317**	*i*	Pn	**Pn**		**08 58 45.8**	**+1.0**
VOIR		**5.03**	**44**	⇑*i*P		**Pn**		**08 58 43.1**	**-1.9**
VOIR		**5.03**	**44**	P		**Pn**		**08 58 46.2**	**+1.2**
DRGR		**5.22**	**20**	⇑*i*P		**Pn**		**08 58 47.8**	**+0.1**
PRK	**Paraskevi**	**5.41**	**118**	*eP*		**Pn**		**08 58 51.0**	**+0.8**
MLR	**Muntele Rosu**	**5.55**	**48**	Pn		**Pn**		**08 58 52.9**	**+0.8**
MLR	comp=N,3.0nm,0.3s,baz=145,slow=20,SNR=16			Sn		**Sn**		**08 59 56.0**	**+0.3**
MLR	comp=N,1.1nm,0.3s,baz=263,slow=16,SNR=3.2 **Muntele Rosu**	**5.55**	**48**	P		**Pn**		**08 58 52.9**	**+0.8**
MLR								08 59 56.0	
MLR	comp=Z,3.0nm,0.3s			pmax		pmax			
MLR	comp=N,1.0nm,0.3s			smax					
MLR	**Muntele Rosu**	**5.55**	**48**	P		**Pn**		**08 58 54.6**	**+2.5**
MLR	**Muntele Rosu**	**5.55**	**48**	⇓*i*P		**Pn**		**08 58 53.5**	**+1.4**
CEY	**Cerknica**	**5.60**	**315**	*i*	Pn	**Pn**		**08 58 53.7**	**+0.9**
JAVS	**Javornik**	**5.89**	**314**	*ePn*		**Pn**		**08 58 57.2**	**+0.3**
JAVS				*eSn*		**Sn**		**09 00 01.2**	**-3.1**
JAVS	comp=Z,240nm,1.4s								
PENC	**Penc**	**5.90**	**355**	*eP*		**Pn**		**08 58 56.7**	**-0.3**
PERS	**Pernice**	**5.92**	**325**	*i*	Pn	**Pn**		**08 58 58.0**	**+0.9**
PSZ	**Piszkesteto**	**6.00**	**359**	⇑*i*P		**Pn**		**08 58 55.0**	**-3.4**
PSZ	**Piszkesteto**	**6.00**	**359**	⇓*ePn**		**Pn**		**08 58 58.7**	**+0.3**
PSZ				*e*				09 00 07.0	
VOJS	**Vojsko**	**6.08**	**315**	*i*	Pn	**Pn**		**08 58 59.9**	**+0.5**
VOJS				*eSn*		**Sn**		**09 00 09.6**	**+0.7**
VRI	**Vrincioaia**	**6.21**	**48**	⇓*i*P		**Pn**		**08 58 59.2**	**-2.0**
ARSA	**Arzberg**	**6.25**	**330**	⇓*i*Pn		**Pn**		**08 59 02.3**	**+0.5**
ARSA				⇑*i*Sn		**Sn**		**09 00 14.5**	**+1.4**
KECS	**Kecovo**	**6.57**	**2**	*e*PN		**Pn**		**08 59 06.7**	**+0.5**
KECS				*e*SN		**Sn**		**09 00 15.9**	**-5.1**
KECS	**Kecovo**	**6.57**	**2**	*ePn*		**Pn**		**08 59 06.7**	**+0.5**
KECS				*eSn*		**Sn**		**09 00 15.9**	**-5.1**
VYHS	**Vyhne**	**6.64**	**353**	*e*PN		**Pn**		**08 59 07.7**	**+0.6**
VYHS				*e*SN		**Sn**		**09 00 20.2**	**-2.4**
BURAR	**Bucovina Array**	**6.76**	**31**	⇓*i*P		**Pn**		**08 59 10.6**	**+1.8**
KBA	**Koelnbreinsper**	**7.06**	**319**	⇑*i*Pn		**Pn**		**08 59 13.2**	**+0.3**
KOLS	**Kolonicke sedl**	**7.18**	**12**	*e*PN		**Pn**		**08 59 15.9**	**+1.3**
NIE	**Niedzica**	**7.50**	**1**	*eP*		**Pn**		**08 59 21.2**	**+2.2**
STHS	**Stebnicka Huta**	**7.54**	**6**	*e*PN		**Pn**		**08 59 21.2**	**+1.7**
STHS				*e*SN		**Sn**		**09 00 46.4**	**+1.4**
IDI	**Anoyia**	**7.61**	**149**	Pn		**Pn**		**08 59 19.4**	**-1.1**
IDI	comp=Z,0.4nm,0.3s,baz=21,slow=13,SNR=3.4			Sn		**Sn**		**09 00 42.9**	**-3.7**
	comp=Z,1.8nm,0.3s,baz=338,slow=12,SNR=4.9								
WTTA	**Wattenberg**	**8.06**	**314**	⇑*i*Pn		**Pn**		**08 59 27.4**	**+0.8**
WTTA				⇑*i*Sn		**Sn**		**09 00 58.6**	**+1.0**
PGF	**Pioggiola**	**8.26**	**278**	*eP*		**Pn**		**08 59 30.0**	**+0.7**
	comp=Z,6.4nm,0.3s								
PGF	**Pioggiola**	**8.26**	**278**	*eP*		**Pn**		**08 59 30.0**	**+0.7**
	comp=Z,3.2nm,0.3s								
GERES	**GERESS Array B**	**8.26**	**329**	Pn		**Pn**		**08 59 30.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=158,slow=13,SNR=6.4								
GERES	**GERESS Array B**	**8.26**	**329**	P		**Pn**		**08 59 30.1**	**+0.8**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.3s								
SQTA	**Sankt Quirin**	**8.26**	**313**	⇑*i*Sn		**Sn**		**09 01 06.2**	**+3.6**
SQTA	**Sankt Quirin**	**8.26**	**313**	⇓*i*Pn		**Pn**		**08 59 29.7**	**+0.3**
	SNR=7.3								
SQTA				⇑*i*Sn		**Sn**		**09 01 06.2**	**+3.6**
SQTA	**Sankt Quirin**	**8.26**	**313**	Pn		**Pn**		**08 59 29.7**	**+0.3**
	comp=Z,7.0nm,3.0s								
MOTA	**Moosalm**	**8.39**	**313**	⇓*i*Pn		**Pn**		**08 59 31.8**	**+0.6**
KHC	**Kasperske Hory**	**8.54**	**330**	*e*PN		**Pn**		**08 59 34.7**	**+1.5**
KHC				*ex*		x		08 59 55.5	
KHC				*e*SN		**Sn**		**09 01 06.8**	**-2.6**
KHC	**Kasperske Hory**	**8.54**	**330**	*e*Pn		**Pn**		**08 59 34.7**	**+1.5**
KHC				*eSn*		**Sn**		**09 01 06.8**	**-2.6**
FRF	**La Foret Royal**	**10.03**	**284**	*eP*		**Pn**		**08 59 51.2**	**-2.4**
MBDF	**Montbardon**	**10.10**	**291**	*eP*		**Pn**		**08 59 53.8**	**-0.9**
	comp=Z,8.6nm,0.8s								
MBDF	**Montbardon**	**10.10**	**291**	*eP*		**Pn**		**08 59 53.8**	**-0.9**
	comp=Z,4.3nm,0.8s								
LPG	**La Plagne**	**10.30**	**295**	*eP*		**Pn**		**08 59 57.7**	**+0.4**
	comp=Z,6.5nm,0.4s								
LPG	**La Plagne**	**10.30**	**295**	*eP*		**Pn**		**08 59 57.7**	**+0.4**
	comp=Z,3.2nm,0.4s								
LPL	**La Plagne**	**10.32**	**295**	*eP*		**Pn**		**08 59 57.1**	**-0.5**
	comp=Z,5.6nm,0.4s								
LPL	**La Plagne**	**10.32**	**295**	*eP*		**Pn**		**08 59 57.1**	**-0.5**
	comp=Z,2.8nm,0.4s								
BRTR	**Keskin Array B**	**10.50**	**98**	Pn		**Pn**		**09 00 00.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=302,slow=8.4,SNR=2.4								
ORIF	**Oris-en-Rattie**	**10.76**	**291**	*eP*		**Pn**		**09 00 02.0**	**-1.7**
	comp=Z,4.3nm,0.5s								
CABF	**La Chapelle**	**11.08**	**300**	*eP*		**Pn**		**09 00 05.8**	**-2.2**
HINF	**Hinteralfeld**	**11.09**	**307**	*eP*		**Pn**		**09 00 07.8**	**-0.3**
	comp=Z,3.1nm,0.3s								
HINF	**Hinteralfeld**	**11.09**	**307**	*eP*		**Pn**		**09 00 07.8**	**-0.3**
	comp=Z,1.5nm,0.3s								
CDF	**Champ du Feu**	**11.13**	**310**	*eP*		**Pn**		**09 00 07.8**	**-0.9**
SMF	**Signal de Mont**	**12.56**	**298**	*eP*		**Pn**		**09 00 24.9**	**-3.4**
LOR	**Lormes**	**12.74**	**300**	*eP*		**Pn**		**09 00 29.9**	**-0.8**
HFS	**Hagfors**	**18.66**	**350**	P		**Pn**		**09 01 46.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=198,slow=14,SNR=4.4								
FINES	**FINESS Array B**	**19.89**	**8**	P		**Pn**		**09 01 59.3**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=2.9								
NOA	**NORSAR Array B**	**19.90**	**347**	P		**Pn**		**09 01 59.8**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=163,slow=10,SNR=2.7								
TORD	**Torodi Ar. Bea**	**32.83**	**215**	P		**P**		**09 04 02.9**	**-0.2**
	comp=Z,0.4nm,0.9s,mb3.4,baz=27,slow=8.1,SNR=2.3								
BVAR	**Borovoye Array**	**35.08**	**54**	P		**P**		**09 04 22.4**	**-0.2**
	comp=Z,1.3nm,0.7s,mb3.9,baz=282,slow=6.8,SNR=6.8								
ZAL	**Zalesovo**	**43.51**	**51**	P		**P**		**09 05 32.0**	**-1.0**
	comp=Z,2.1nm,0.6s,mb4.0,baz=178,slow=10,SNR=9.8								
MKAR	**Makanchi Array**	**43.72**	**62**	P		**P**		**09 05 34.1**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.6,baz=283,slow=7.4,SNR=7.1								
SONM	**Songino Array**	**58.38**	**52**	P		**P**		**09 07 24.0**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.7,baz=270,slow=5.9,SNR=4.7								
SONM				LR		LR		09 35 54.0	
	comp=Z,65nm,19.3s,MS3.8,baz=29,slow=40								
YKA	**Yellowknife Ar**	**69.77**	**339**	P		**P**		**09 08 37.8**	**-2.0**
	comp=Z,0.3nm,0.8s,mb3.3,baz=36,slow=5.2,SNR=6.4								

IDC ***13*** *09:09:59.3±1.6, 3298S×17897W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=42.8km s-min=37.9km az=139.0*
NEIC ***13*** *09:10:03.9±0.9, 3314S×17891W, h35km, Error ellipse: s-maj=32.5km s-min=16.9km az=120.0*
ISCJB ***13*** *09:10:06.3±2.4, 3355S±01×1793W±02, h44km±19km, mb3.8/

ADH	**Angra Heroismo**	**0.98 311**	*e*P	Pg	09 10 27.7	-3.6
ADH			*e*S	Sg	09 10 40.4	-3.6
PVNV	**Vila Nova**	**1.01 318**	*e*P	Pg	09 10 28.8	-3.1
PVNV			*e*S	Sg	09 10 41.0	-4.0
PVNV						
	113nm,0.2s					
PVNV	**Vila Nova**	**1.01 318**	*e*P	Pg	09 10 28.8	-3.1
PVNV			*e*S	Sg	09 10 41.0	-4.0
PPAD	**Pico dos Padre**	**1.04 311**	*e*P	Pg	09 10 29.3	-3.2
PPAD			*e*S	Sg	09 10 42.1	-3.9
PPAD						
	63nm,0.2s					
PPAD	**Pico dos Padre**	**1.04 311**	*e*P	Pg	09 10 29.3	-3.2
PPAD			*e*S	Sg	09 10 42.1	-3.9
PBIS	**Biscoitos**	**1.06 315**	*e*S	Sg	09 10 42.5	-4.1
PBIS						
	44nm,0.2s					
ASBA	**Santa Barbara**	**1.08 311**	*e*P	Pg	09 10 30.1	-3.0
ASBA			*e*S	Sg	09 10 43.0	-4.1
ASBA						
	272nm,0.3s					
ASBA	**Santa Barbara**	**1.08 311**	*e*P	Pg	09 10 30.1	-3.0
ASBA			*e*S	Sg	09 10 43.0	-4.1
PSMN	**Pico do Norte,**	**1.40 136**	*e*P	Pn	09 10 34.7	-4.5
PSMN			*e*S	Sg	09 10 50.4	-7.2
PAMA	**Santo Amaro**	**1.63 295**	*e*S	Sn	09 10 55.8	-8.1
PAMA						
	24nm,0.2s					
ROSA	**Rosais**	**1.69 295**	*e*P	Pn	09 10 37.9	-5.2
ROSA			*e*S	Sn	09 10 58.3	-7.0
SRBC	**Serra Branca**	**1.71 307**	*e*P	Pn	09 10 34.8	-8.6
STGR	**Santa Cruz**	**1.71 309**	*e*S	Sn	09 10 58.4	-7.6
STGR						
	23nm,0.2s					
PICO	**Pico**	**1.75 287**	*e*P	Pn	09 10 39.0	-5.0
PICO			*e*S	Sn	09 10 59.3	-7.6
HOR	**Horta**	**1.91 286**	*e*S	Sn	09 11 03.0	-7.9
CALA	**Caldeira**	**1.98 287**	*e*P	Pn	09 10 42.8	-4.3
CALA			*e*S	Sn	09 11 04.9	-7.7

*NEIC **13** 09:41:02.3, 1698N×100.12W, h6km, MD3.8(MEX), After MEX.*

MEX 13 09:41:02.3±1.1, 1697N×10012W, h7km±15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16 300**		*i* P	Pg	09 41 05.4	-0.2
CAIG				*i* S	Sg	09 41 07.7	-0.1
ACX	**Acapulco**	**0.22 117**		*i* P	Pg	09 41 06.0	-0.7
ACX				*i* S	Sg	09 41 10.0	+0.4
MEIG	**Mezcala**	**1.07**	**27**	*i* P	Pg	09 41 19.6	-3.2
MEIG				*i* S	Sg	09 41 32.7	-3.9
ZIIG	**Zihuatanejo**	**1.43 297**		*e*P	Pn	09 41 25.9	-2.8
ZIIG				*i* S	Sb	09 41 42.1	-5.7
PLIG	**Platanillo**	**1.53**	**23**	*i* P	Pn	09 41 27.8	-2.3
PLIG				*i* S	Sn	09 41 47.2	-3.1
UTMO	**Huajuapan**	**2.37**	**68**	*i* P	Pn	09 41 40.2	-1.5
UTMO				*i* S	Sn	09 42 09.1	-1.9
MOIG	**Morelia**	**2.88 340**		*i* P	Pn	09 41 47.2	-1.4
MOIG				*i* S	Sn	09 42 19.2	-4.3
IIO	**Organos**	**2.93**	**27**	*i* P	Pn	09 41 49.4	+0.1

*NEIC **13** 09:45:40.0, 3725N×2194E, h20km, MD3.5(ATH), After ATH.*
*CSEM **13** 09:45:40.0, 3725N×2194E, h20km, MD3.2/4, After ATH*

ATH 13 09:45:40.0, 3725N×2194E, h20km, MD3.2/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.07 189**		*e*PB	Pb	09 45 43.6	-0.1
VLI	**Veliai**	**0.96 123**		*e*PN	Pn	09 45 58.5	+0.2
VLS	**Valsamata**	**1.42 311**		*e*PN	Pn	09 46 07.0	+2.4
EVR	**Evrytania**	**1.67 356**		*e*PN	Pn	09 46 10.2	+2.1

*LDG **13** 10:06:24.9±0.6, 4161N×1981E, h10km, Mb5.0/10, Error ellipse: s-maj=30.3km s-min=8.3km az=4.0*
*SKO **13** 10:06:30.6, 4195N×2004E, h15km, M3.5, ML3.9*
*TIR **13** 10:06:30.2, 4197N×2002E, h15km, Ml3.5.*
*NEIC **13** 10:06:31.0, 4194N×2001E, h9km, MD3.8(ATH), ML3.5(BUC), ML3.7(PDG), ML4.0(THE), After PDG.*
*THE **13** 10:06:30.8, 4197N×2017E, h10km, ML3.7*
*PDG **13** 10:06:31.0±0.7, 4194N×2001E, h9km±1km*
*ISCJB **13** 10:06:30.2±0.2, 4195N±001×2006E±002, h15km, mb3.9/7, Error ellipse: s-maj=2.3km s-min=1.5km az=70.4*
*PRU **13** 10:06:30.6, 4192N×2015E, h0km*
*MOS **13** 10:06:30.0±0.6, 4194N×2005E, h12km, mb4.0/1, Error ellipse: s-maj=7.1km s-min=4.6km az=116.7*
*CSEM **13** 10:06:30.5±0.1, 4202N×2009E, h5km, ML3.7, Error ellipse: s-maj=1.7km s-min=1.0km az=12.0*
*IDC **13** 10:06:35.7±2.3, 4206N×1996E, h59km±22km, mb3.6/7, mb1 3.7/13, mb1mx3.6/24, mbtmp3.6/13, ML3.6/6, Error ellipse: s-maj=20.2km s-min=16.4km az=127.0*
*ATH **13** 10:06:39.6, 4139N×2040E, h28km, MD3.8/6*

ISC 13 10:06:31.1±0.3, 4192N±001×2007E±002, h11km±2km, n174, σ1§18/237, mb3.9/7, 18C-20D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKS	**Kukesi**	**0.29**	**59**	*i* Pg	**Pg**	**10 06 36.9**	**-0.1**
KKS				*i* Sg	**Sg**	**10 06 41.1**	**+0.1**
SDA	**Shkodra**	**0.45 287**		*i* Pg	**Pg**	**10 06 39.2**	**-0.6**
SDA				*i* Sg	**Sg**	**10 06 47.3**	**+1.5**
TIR	**Tirane**	**0.60 195**		*e*Pg	**Pg**	**10 06 42.7**	**+0.1**
ULC	**Ulcinj**	**0.61 274**		⇑*i*Pg	**Pg**	**10 06 42.0**	**-1.0**
ULC				*e*Sg	**Sg**	**10 06 50.8**	**-0.3**
PVY	**Plav**	**0.68 354**		⇓*i*Pg	**Pg**	**10 06 43.3**	**-0.8**
PVY				*e*Sg	**Sg**	**10 06 53.3**	**+0.3**
TTG	**Podgorica**	**0.79 310**		⇑*i*Pg	**Pg**	**10 06 44.6**	**-1.7**
TTG				*e*Sg	**Sg**	**10 06 57.0**	**+0.4**
BUM	**Brajici-Budva**	**0.95 294**		⇑*i*Pg	**Pg**	**10 06 48.0**	**-1.4**
BUM				*e*Sg	**Sg**	**10 07 02.6**	**+0.8**
IVA	**Berane**	**0.96 352**		⇓*i*Pg	**Pg**	**10 06 48.4**	**-1.1**
IVA				*e*Sg	**Sg**	**10 07 03.3**	**+1.3**
OHR	**Ohrid**	**0.98 146**		*e*Pg	**Pg**	**10 06 48.0**	**-1.9**
OHR				*e*Sg	**Sg**	**10 07 02.7**	**+0.1**
OHR	**Ohrid**	**0.98 146**		*i* Pg	**Pg**	**10 06 48.1**	**-1.8**
OHR				*i* Sg	**Sg**	**10 07 02.5**	**-0.1**
OHR				*e*Lg		10 07 03.8	
	comp=E,2μm,0.5s						
OHR				*e*Lg		10 07 04.0	
	comp=N,2μm,0.4s						
OHR	**Ohrid**	**0.98 146**		*i* Pg	**Pg**	**10 06 48.1**	**-1.8**
OHR				*i* Sg	**Sg**	**10 07 02.5**	**-0.1**
OHR				*e*Lg		10 07 03.8	
	comp=E,2μm,0.5s						
OHR				*e*Lg		10 07 04.0	
	comp=N,2μm,0.4s						
OHR	**Ohrid**	**0.98 146**		*i* Pg	**Pg**	**10 06 48.1**	**-1.8**
OHR				*i* Sg	**Sg**	**10 07 02.5**	**-0.1**
SKO	**Skopje**	**1.02**	**87**	*e*Pg	**Pg**	**10 06 49.5**	**-1.2**
SKO				*e*Sg	**Sg**	**10 07 04.4**	**+0.4**
SKO	**Skopje**	**1.02**	**87**	*i* Pg	**Pg**	**10 06 49.5**	**-1.2**
SKO				*i* Sg	**Sg**	**10 07 03.7**	**-0.3**
SKO	**Skopje**	**1.02**	**87**	*i* Pg	**Pg**	**10 06 49.5**	**-1.2**
SKO				*i* Sg	**Sg**	**10 07 03.7**	**-0.3**
SKO	**Skopje**	**1.02**	**87**	*e*Pg	**Pg**	**10 06 49.5**	**-1.2**
SKO				*e*Sg	**Sg**	**10 07 04.4**	**+0.4**
KRUS	**Krusevo**	**1.04 122**		*i* Pg	**Pg**	**10 06 50.1**	**-1.0**
KRUS				*i* Sg	**Sg**	**10 07 05.7**	**+1.1**
KRUS				*i* Sg	**Sg**	**10 07 05.8**	**+1.2**
KRUS	**Krusevo**	**1.04 122**		*i* Pg	**Pg**	**10 06 50.1**	**-1.0**
KRUS				*i* Sg	**Sg**	**10 07 05.7**	**+1.1**
KRUS				*i* Sg	**Sg**	**10 07 05.8**	**+1.2**
KRUS	**Krusevo**	**1.04 122**		*i* Pg	**Pg**	**10 06 50.1**	**-1.0**
KRUS				*i* Sg	**Sg**	**10 07 05.7**	**+1.0**
NKY	**Niksic**	**1.19 319**		⇑*i*Pg	**Pg**	**10 06 51.5**	**-2.5**
NKY				*e*Sg	**Sg**	**10 07 10.7**	**+1.2**
HCY	**Herceg Novi**	**1.28 295**		⇓*i*Pg	**Pg**	**10 06 53.4**	**-2.3**
HCY				*e*Sg	**Sg**	**10 07 14.0**	**+1.7**
BIA	**Bitola**	**1.30 133**		*e*Pg	**Pg**	**10 06 53.8**	**-2.3**
BIA				*e*Sg	**Sg**	**10 07 14.4**	**+1.4**
BIA	**Bitola**	**1.30 133**		*i* Pg	**Pg**	**10 06 53.8**	**-2.3**
BIA				*i* Sg	**Sg**	**10 07 12.6**	**-0.4**
BIA	**Bitola**	**1.30 133**		*i* Pg	**Pg**	**10 06 53.8**	**-2.3**
BIA				*i* Sg	**Sg**	**10 07 12.6**	**-0.4**
BIA	**Bitola**	**1.30 133**		*e*Pg	**Pg**	**10 06 53.8**	**-2.3**
BIA				*e*Sg	**Sg**	**10 07 12.6**	**-0.4**
SJES	**Sjenica**	**1.35 356**		Pg	**Pg**	**10 06 56.3**	**-0.7**
KBN	**Korca**	**1.41 157**		*i* Pn	**Pn**	**10 06 58.3**	**+1.7**
KBN				*i* Sn	**Sg**	**10 07 22.3**	**+6.0**
PLE	**Pljevlja**	**1.49 341**		⇑*i*Pg	**Pn**	**10 06 57.6**	**-0.2**
PLE				*e*Sg	**Sg**	**10 07 20.2**	**+1.1**
BRY	**Bratogost**	**1.50 311**		⇑*i*Pg	**Pn**	**10 06 56.8**	**-1.1**
BRY				*e*Sg	**Sg**	**10 07 20.0**	**+0.8**
TREB	**Trebinje**	**1.50 302**		P	**Pn**	**10 06 57.5**	**-0.5**
UPM	**Unac-Piva**	**1.54 327**		⇓*i*Pg	**Pn**	**10 06 58.3**	**-0.2**
UPM				*e*Sg	**Sg**	**10 07 21.6**	**+1.0**
BARS	**Barje**	**1.58**	**55**	⇓*i*Pn	**Pn**	**10 07 00.1**	**+1.1**
STIP	**Stip**	**1.60**	**98**	*e*Pg	**Pn**	**10 06 58.7**	**-0.6**
STIP	**Stip**	**1.60**	**98**	*i* Pn	**Pn**	**10 06 59.3**	**0.0**
STIP	**Stip**	**1.60**	**98**	*i* Pn	**Pn**	**10 06 59.3**	**0.0**
STIP	**Stip**	**1.60**	**98**	*i* Pn	**Pn**	**10 06 59.2**	**-0.1**
VAY	**Valandovo**	**1.97 107**		*e*Pb	**Pn**	**10 07 03.4**	**-1.0**
VAY				*e*Sb	**Sb**	**10 07 31.8**	**+0.3**
VAY	**Valandovo**	**1.97 107**		*i* Pn	**Pn**	**10 07 03.6**	**-0.7**
VAY	**Valandovo**	**1.97 107**		*i* Pn	**Pn**	**10 07 03.6**	**-0.7**
VAY	**Valandovo**	**1.97 107**		*i* Pn	**Pn**	**10 07 03.6**	**-0.8**
STON	**Ston**	**2.00 299**		*i* Pn	**Pn**	**10 07 04.7**	**-0.1**
STON				*i* Sn	**Sg**	**10 07 35.5**	**+0.2**
STON	**Ston**	**2.00 299**		*i* Pn	**Pn**	**10 07 04.7**	**-0.1**
STON				*i* Sn	**Sg**	**10 07 35.4**	**+0.1**
BBLS	**Bajina Basta -**	**2.00 346**		⇓*i*Pn	**Pn**	**10 07 06.3**	**+1.5**
GRUS	**Gruza**	**2.02**	**13**	⇓*i*Pn	**Pn**	**10 07 04.4**	**-0.7**
KZN	**Kozani**	**2.06 141**		*e*PB	**Pn**	**10 07 06.1**	**+0.4**
LCI	**Lecce**	**2.17 224**		Pn	**Pb**	**10 07 10.5**	**+0.1**
DIVS	**Divcibare**	**2.17 358**		⇑*i*Pn	**Pn**	**10 07 07.5**	**+0.3**
DIVS	**Divcibare**	**2.17 358**		*e*Pn	**Pn**	**10 07 06.9**	**-0.3**
KEK	**Kerkira**	**2.22 185**		*e*PB	**Pn**	**10 07 08.4**	**+0.6**
KNT	**Kendrikon**	**2.25 109**		*e*Pn	**Pn**	**10 07 07.8**	**-0.5**
KNT				*e*Sn	**Sn**	**10 07 35.9**	**-0.2**
KNT	**Kendrikon**	**2.25 109**		*e*Pn	**Pn**	**10 07 07.8**	**-0.5**
KNT				*e*Sn	**Sn**	**10 07 35.8**	**-0.3**
PE1	**Pezze di Greco**	**2.29 242**		*e*Pn	**Pn**	**10 07 07.8**	**-0.9**
MEV	**Metsovon**	**2.31 157**		*e*Pn	**Pn**	**10 07 11.0**	**+1.9**
JAN	**Janina**	**2.34 165**		*e*PN	**Pn**	**10 07 11.7**	**+2.2**
BOLS	**Boljevac**	**2.36**	**35**	*e*Pn	**Pn**	**10 07 11.7**	**+1.9**
BOLS				Sn	**Sn**	**10 07 36.1**	**-2.5**
BOLS	**Boljevac**	**2.36**	**35**	Pn	**Pn**	**10 07 11.6**	**+1.9**
BOLS				Sn	**Sn**	**10 07 36.1**	**-2.6**
VTS	**Vitosha**	**2.42**	**73**	*e*Pn	**Pn**	**10 07 10.4**	**-0.2**
VTS	**Vitosha**	**2.42**	**73**	⇑*i*P	**Pn**	**10 07 12.8**	**+2.2**
VTS	**Vitosha**	**2.42**	**73**	P	**Pn**	**10 07 12.8**	**+2.2**
SVIS	**Svilajnac**	**2.52**	**19**	*e*Pn	**Pn**	**10 07 10.1**	**-1.8**
LIT	**Litokhoron**	**2.58 134**		*e*Pn	**Pn**	**10 07 12.4**	**-0.4**
LIT				*e*Sn	**Sn**	**10 07 45.1**	**+0.9**
HORT	**Hortiatis**	**2.64 119**		*e*Pn	**Pn**	**10 07 15.4**	**+1.8**
SOH	**Sokhos**	**2.70 113**		*e*Pn	**Pn**	**10 07 14.5**	**0.0**
SRS	**Serrai**	**2.76 106**		*e*Pn	**Pn**	**10 07 15.1**	**-0.3**
SG1	**Sgolgore (BA)**	**2.77 248**		*e*Pn	**Pn**	**10 07 15.7**	**+0.3**
THL	**Klokotos Trika**	**2.78 147**		*e*PN	**Pn**	**10 07 16.6**	**+1.1**
NVR	**Nevrokopi**	**2.90 100**		*e*PN	**Pn**	**10 07 22.1**	**+4.9**
CDT	**Castel del Mon**	**2.97 255**		*e*Pn	**Pn**	**10 07 17.4**	**-0.8**
MS1	**Monte Sant'Ang**	**3.10 267**		*e*Pn	**Pn**	**10 07 19.1**	**-0.8**
EVR	**Evrytania**	**3.28 156**		*e*PB	**Pb**	**10 07 25.6**	**-3.7**
AGG	**Agios Georgios**	**3.37 149**		*e*Pn	**Pn**	**10 07 25.1**	**+1.5**
AGG				*e*Sn	**Sn**	**10 08 07.9**	**+4.2**
AGG	**Agios Georgios**	**3.37 149**		*e*Pn	**Pn**	**10 07 25.1**	**+1.4**
AGG				*e*Sn	**Sn**	**10 08 07.9**	**+4.2**
FG2	**Serracapriola**	**3.67 270**		Pn	**Pn**	**10 07 27.4**	**-0.4**
TIP	**Timpagrande**	**3.73 224**		*e*Pn	**Pn**	**10 07 27.5**	**-1.1**
SGO	**Sicignano**	**3.84 251**		P	**Pn**	**10 07 30.0**	**-0.1**
BZS	**Buzias**	**3.86**	**16**	⇑*i*P	**Pn**	**10 07 30.0**	**-0.4**
BZS	**Buzias**	**3.86**	**16**	P	**Pn**	**10 07 30.1**	**-0.3**
CIGN	**Sant'Elia a Pi**	**3.87 268**		Pn	**Pn**	**10 07 30.5**	**-0.1**
GZR	**Gura Zlata**	**3.98**	**29**	P	**Pn**	**10 07 31.8**	**-0.3**
GZR	**Gura Zlata**	**3.98**	**29**	⇓*i*P	**Pn**	**10 07 32.5**	**+0.4**
SGG	**Gregorio Mates**	**4.30 265**		Pn	**Pn**	**10 07 37.4**	**+1.0**
MIDA	**Miranda**	**4.36 268**		Pn	**Pn**	**10 07 37.6**	**+0.3**
PKSM	**Moragy**	**4.41 347**		P	**Pn**	**10 07 38.0**	**+0.1**
PKSM	**Moragy**	**4.41 347**		⇑*i*P	**Pn**	**10 07 38.7**	**+0.8**
PKSM	**Moragy**	**4.41 347**		⇓*e*Pn	**Pn**	**10 07 37.7**	**-0.2**
PKSM				*e*Sn	**Sn**	**10 08 29.3**	**0.0**
RNI2	**Rionero Sannit**	**4.43 269**		Pn	**Pn**	**10 07 38.7**	**+0.5**
INTR	**Introdacqua**	**4.60 273**		Pn	**Pn**	**10 07 39.9**	**-0.6**
RFI	**Roccamonfina**	**4.61 264**		Pn	**Pn**	**10 07 41.4**	**+0.8**
NVLJ	**Novalja**	**4.63 307**		*i* Pn	**Pn**	**10 07 41.5**	**+0.6**
NVLJ				*i* Sn	**Sn**	**10 08 34.8**	**+0.2**
SDI	**San Donato**	**4.69 269**		Pn	**Pn**	**10 07 42.2**	**+0.5**
VVLD	**Villa Vallelon**	**4.81 272**		Pn	**Pn**	**10 07 43.8**	**+0.3**
TERO	**Teramo**	**4.85 280**		Pn	**Pn**	**10 07 44.2**	**+0.2**
AQU	**L'Aquila**	**4.98 277**		*e*Pn	**Pn**	**10 07 45.9**	**+0.1**
AQU				*e*Sn	**Sn**	**10 08 42.4**	**-0.9**
AQU	**L'Aquila**	**4.98 277**		⇑*i*P	**Pn**	**10 07 46.2**	**+0.4**
AQU	**L'Aquila**	**4.98 277**		*e*Pn	**Pn**	**10 07 45.9**	**+0.1**
AQU				*e*Sn	**Sn**	**10 08 42.4**	**-0.9**
BOJS	**Bojanci**	**5.00 317**		*i* Pn	**Pn**	**10 07 47.1**	**+1.0**
VOIR		**5.04**	**44**	⇑*i*P	**Pn**	**10 07 47.6**	**+1.1**
FIAM	**Fiamignano**	**5.19 276**		Pn	**Pn**	**10 07 49.7**	**+1.1**
	comp=N,89nm,0.5s						
DRGR		**5.22**	**20**	⇑*i*P	**Pn**	**10 07 55.5**	**+6.4**
NRCA	**Norcia**	**5.23 282**		Pn	**Pn**	**10 07 49.4**	**+0.1**
	comp=N,53nm,0.3s						
CING	**Cingoli**	**5.28 288**		Pn	**Pn**	**10 07 49.8**	**0.0**
	comp=N,97nm,0.7s						
CERT	**Cerreto**	**5.29 273**		Pn	**Pn**	**10 07 51.0**	**+1.0**
	comp=N,61nm,0.7s						
SNTG	**Esanatoglia**	**5.43 287**		Pn	**Pn**	**10 07 51.6**	**-0.4**
	comp=N,33nm,0.6s						
MNS	**Montasola**	**5.51 277**		P	**Pn**	**10 07 54.2**	**+1.1**
MNS				pmax	pmax		
	comp=E,84nm,0.5s						
MNS	**Montasola**	**5.51 277**		Pn	**Pn**	**10 07 54.2**	**+1.1**
	comp=Z,84nm,0.5s						
MLR	**Muntele Rosu**	**5.55**	**48**	P	**Pn**	**10 07 55.7**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=192,slow=7.6,SNR=9.3						
MLR				S	**Sn**	**10 08 57.7**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=174,slow=21,SNR=6.0						
MLR	**Muntele Rosu**	**5.55**	**48**	P	**Pn**	**10 07 55.7**	**+2.1**
MLR				S	**Sn**	**10 08 57.7**	**+0.2**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MLR				smax			
	comp=N,1.0nm,0.3s						
MLR	**Muntele Rosu**	**5.55**	**48**	⇓*i*P	**Pn**	**10 07 55.8**	**+2.2**
CEY	**Cerknica**	**5.59 315**		*i* Pn	**Pn**	**10 07 55.0**	**+0.9**
CEY				*e*Sn	**Sn**	**10 08 58.5**	**+0.2**
CEY							
	comp=Z,400nm,2.1s						
CEY	**Cerknica**	**5.59 315**		*i* Pn	**Pn**	**10 07 55.0**	**+0.9**
CEY				*e*Sn	**Sn**	**10 08 58.5**	**+0.2**
CEY	**Cerknica**	**5.59 315**		*i* Pn	**Pn**	**10 07 55.0**	**+0.9**
CEY				*e*Sn	**Sn**	**10 08 58.5**	**+0.2**
ASS	**Assisi**	**5.60 284**		P	**Pn**	**10 07 54.6**	**+0.3**
ASS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASS	**Assisi**	**5.60 284**		Pn	**Pn**	**10 07 54.6**	**+0.3**
	comp=Z,2.1nm,0.5s						
BUD	**Budapest**	**5.61 353**		*e*Sn	**Sn**	**10 08 57.4**	**-1.5**
FSSB	**Fossombrone**	**5.65 291**		Pn	**Pn**	**10 07 55.0**	**0.0**
	comp=Z,111nm,0.4s						
MURB	**Monte Urbino**	**5.73 286**		Pn	**Pn**	**10 07 56.5**	**+0.4**
	comp=Z,186nm,0.3s						
JAVS	**Javornik**	**5.88 314**		*e*Pn	**Pn**	**10 07 58.6**	**+0.4**
JAVS				*e*Sn	**Sn**	**10 09 04.8**	**-0.8**
JAVS							
	comp=Z,322nm,2.2s						
JAVS	**Javornik**	**5.88 314**		*e*Pn	**Pn**	**10 07 58.6**	**+0.5**
JAVS				*e*Sn	**Sn**	**10 09 04.8**	**-0.7**
PERS	**Pernice**	**5.90 325**		*i* Pn	**Pn**	**10 07 59.6**	**+1.2**
PSZ	**Piszkesteto**	**6.00 359**		⇓*i*P	**Pn**	**10 08 00.6**	**+0.9**
PSZ	**Piszkesteto**	**6.00 359**		⇓*e*Pn	**Pn**	**10 08 00.5**	**+0.8**
PSZ				*e*Sn	**Sn**	**10 09 10.7**	**+2.3**
VOY	**Vojsko**	**6.06 315**		*e*Pn	**Pn**	**10 08 01.2**	**+0.6**
VOY				*e*Sn	**Sn**	**10 09 09.7**	**-0.3**
OBKA	**Obir**	**6.06 321**		⇑*i*Pn	**Pn**	**10 08 00.6**	**0.0**
OBKA				⇑*i*Sn	**Sn**	**10 09 13.0**	**+3.0**
VRI	**Vrincioaia**	**6.22**	**48**	⇑*i*P	**Pn**	**10 08 05.6**	**+2.8**
ARSA	**Arzberg**	**6.24 330**		⇓*i*Pn	**Pn**	**10 08 03.6**	**+0.5**
ARSA				⇓*i*Sn	**Sn**	**10 09 13.8**	**-0.5**
KECS	**Kecovo**	**6.57**	**2**	*e*PN	**Pn**	**10 08 09.4**	**+1.8**
KECS				*e*SN	**Sn**	**10 09 18.8**	**-3.6**
PTCC	**Patocco-Chiusa**	**6.59 315**		Pn	**Pn**	**10 08 08.6**	**+0.7**
	comp=Z,37nm,1.0s						
ZST	**Bratislava**	**6.62 342**		*e*SN	**Sn**	**10 09 21.5**	**-2.1**
VYHS	**Vyhne**	**6.63 353**		*e*PN	**Pn**	**10 08 09.8**	**+1.4**
VYHS				*e*SN	**Sn**	**10 09 22.2**	**-1.8**
CONA	**Conrad Observa**	**6.71 335**		⇑*i*Pn	**Pn**	**10 08 09.9**	**+0.4**
CONA				⇑*i*Sn	**Sn**	**10 09 28.4**	**+2.5**
BURAR	**Bucovina Array**	**6.76**	**31**	⇓*i*P	**Pn**	**10 08 17.2**	**+6.9**
CRVS	**Cervenica-Dubn**	**7.05**	**7**	*e*PN	**Pn**	**10 08 15.8**	**+1.6**
CRVS				*e*SN	**Sn**	**10 09 33.2**	**-1.1**
KBA	**Koelnbreinsper**	**7.05 319**		⇓*i*Pn	**Pn**	**10 08 14.7**	**+0.5**
MOA	**Molln**	**7.22 327**		⇓*i*Pn	**Pn**	**10 08 16.8**	**+0.3**
MOA				⇓*i*Sn	**Sn**	**10 09 40.7**	**+2.3**
CTI	**Castel Tesino**	**7.34 307**		P	**Pn**	**10 08 17.7**	**-0.5**
CTI				pmax	pmax		
	comp=Z,13nm,0.4s						
CTI	**Castel Tesino**	**7.34 307**		Pn	**Pn**	**10 08 17.7**	**-0.5**
	comp=Z,13nm,0.4s						
IDI	**Anoyia**	**7.62 149**		P	**Pn**	**10 08 25.8**	**+3.7**
	comp=Z,0.6nm,0.3s,baz=316,slow=15,SNR=4.5						
IDI				S	**Sn**	**10 09 44.9**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=353,slow=22,SNR=3.7						
WTTA	**Wattenberg**	**8.04 314**		⇓*i*Pn	**Pn**	**10 08 28.2**	**+0.4**
WTTA				⇓*i*Sn	**Sn**	**10 09 58.7**	**-0.1**
PGF	**Pioggiola**	**8.24 278**		*e*P	**Pn**	**10 08 26.3**	**-4.3**
	comp=Z,12nm,0.5s						
PGF	**Pioggiola**	**8.24 278**		*e*P	**Pn**	**10 08 26.3**	**-4.3**
	comp=Z,6.2nm,0.5s						
GERES	**GERESS Array B**	**8.24 329**		P	**Pn**	**10 08 31.5**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=153,slow=14,SNR=8.7						
GERES	**GERESS Array B**	**8.24 329**		P	**Pn**	**10 08 31.5**	**+0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KHC	**Kasperske Hory**	**8.53 330**		*e*PN	**Pn**	**10 08 35.9**	**+1.4**
KHC				*ex*	x	10 08 41.5	
KHC				*e*SN	**Sn**	**10 10 08.9**	**-1.7**
FRF	**La Foret Royal**	**10.01 284**		*e*P	**Pn**	**10 08 50.6**	**-4.3**
	comp=Z,14nm,0.6s						
FRF	**La Foret Royal**	**10.01 284**		*e*P	**Pn**	**10 08 50.6**	**-4.3**
	comp=Z,6.8nm,0.6s						
MBDF	**Montbardon**	**10.09 291**		*e*P	**Pn**	**10 08 51.9**	**-4.0**
	comp=Z,8.1nm,0.6s						
MBDF	**Montbardon**	**10.09 291**		*e*P	**Pn**	**10 08 51.9**	**-4.0**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MBDF	**Montbardon**	**10.09 291**		*e*P	**Pn**	**10 08 51.9**	**-4.0**
	comp=Z,4.1nm,0.6s						
LPG	**La Plagne**	**10.28 295**		*e*P	**Pn**	**10 08 55.6**	**-3.0**
	comp=Z,13nm,0.6s						
LPG	**La Plagne**	**10.28 295**		*e*P	**Pn**	**10 08 55.6**	**-3.0**
	comp=Z,6.7nm,0.6s						
LPL	**La Plagne**	**10.30 295**		*e*P	**Pn**	**10 08 55.0**	**-3.8**
	comp=Z,8.3nm,0.5s						
LPL	**La Plagne**	**10.30 295**		*e*P	**Pn**	**10 08 55.0**	**-3.8**
	comp=Z,4.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**10.75 291**		*e*P	**Pn**	**10 09 01.1**	**-3.8**
	comp=Z,5.7nm,0.5s						
ORIF	**Oris-en-Rattie**	**10.75 291**		*e*P	**Pn**	**10 09 01.1**	**-3.8**
	comp=Z,2.8nm,0.5s						
CABF	**La Chapelle**	**11.07 300**		*e*P	**Pn**	**10 09 05.6**	**-3.7**
HINF	**Hinteralfeld**	**11.07 307**		*e*P	**Pn**	**10

VAY	**Valandovo**	**1.96 106**	*i* Pn	**Pn**	**10 13 58.1**	**+0.8**
STON	**Ston**	**2.01 300**	*i* Pn	**Pn**	**10 13 59.8**	**+1.7**
STON			*i* Sn	**Sg**	**10 14 29.7**	**+0.3**

*ISCJB **13** 10:15:36.4±1.5, 1112N±003×12476E±006, h6km±9km, mb4.4/21, MS4.0/11, Error ellipse: s-maj=9.7km s-min=5.3km az=14.4*
*MAN **13** 10:15:37.6, 1109N×12469E, h5km, mb4.6, ML5.4, MS1.4*
MAN F ORMOC CITY - INTENSITY III.
*MOS **13** 10:15:41.2±0.9, 1101N×12457E, h45km, mb4.6/14, MS4.2/4, Error ellipse: s-maj=37.0km s-min=10.6km az=109.9*
*IDC **13** 10:15:46.5±7.4, 1104N×12470E, h75km±70km, mb4.0/12, mb1 4.1/12, mb1mx3.9/21, mbtmp4.0/12, MS4.0/11, Ms1 4.0/11, ms1mx3.8/25, Error ellipse: s-maj=49.6km s-min=12.7km az=73.0*

ISC 13 10:15:38.0±1.3, 1111N±003×12472E±006, h5km±7km, n57, σ0§92/55, mb4.4/21, MS4.0/11, 7C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.98**	**172**	*e*P	**Pg**	**10 15 56.4**	**-0.3**
LLP	**Lapu-Lapu**	**1.08**	**223**	⇓*e*P	**Pg**	**10 15 58.1**	**-0.5**
LLP				*i* S	**Sg**	**10 16 12.2**	**-0.4**
CNP	**Catarman**	**1.39**	**358**	*e*P	**Pn**	**10 16 02.7**	**-1.3**
MMPH	**Masbate**	**1.64**	**319**	*e*P	**Pn**	**10 16 07.5**	**+0.2**
TBP	**Tagbilaran**	**1.64**	**211**	*e*P	**Pn**	**10 16 07.5**	**+0.1**
TBP				*e*S	**Sn**	**10 16 29.6**	**+0.8**
RCP	**Roxas**	**1.98**	**283**	*e*P	**Pn**	**10 16 12.0**	**-0.1**
GUIM	**Jordan**	**2.14**	**257**	*e*P	**Pn**	**10 16 13.4**	**-0.9**
SNPH	**Sibulan**	**2.28**	**220**	⇓*e*P	**Pn**	**10 16 15.8**	**-0.4**
SNPH				*e*S	**Sg**	**10 16 51.5**	**+0.3**
KALP	**Kalibo**	**2.40**	**284**	*e*P	**Pg**	**10 16 25.1**	**+1.1**
CGP	**Cagayan de Oro**	**2.64**	**180**	*e*P	**Pn**	**10 16 20.5**	**-0.6**
DCPH	**Dipolog City**	**2.85**	**208**	⇑*e*P	**Pn**	**10 16 23.2**	**-0.8**
DCPH	**Dipolog City**	**2.85**	**208**	⇑*e*P	**Pn**	**10 16 23.2**	**-0.8**
OTRP	**Odiongan**	**2.92**	**296**	*e*P	**Pn**	**10 16 26.6**	**+1.6**
BUKP	**Musuan**	**3.23**	**174**	*e*P	**Pn**	**10 16 31.8**	**+2.5**
CUYO	**Cuyo Island**	**3.64**	**266**	*e*P	**Pn**	**10 16 34.7**	**-0.2**
JOW	**Kunigami**	**16.00**	**12**	LR	LR	10 25 00.9	
	comp=Z,445nm,20.3s,baz=180,slow=34						
JNU	**Nakatsue**	**22.63**	**14**	LR	LR	10 28 54.8	
	comp=Z,509nm,20.4s,MS4.0,baz=319,slow=35						
CBIJ	**Chichi jima**	**22.87**	**44**	LR	LR	10 28 02.6	
	comp=Z,119nm,20.1s,MS3.3,baz=183,slow=32						
KSRS	**Korea Array**	**26.39**	**6**	P	**P**	**10 21 16.2**	**+1.0**
	1.2nm,0.7s,mb3.5,baz=187,slow=11,SNR=6.7						
KSRS				LR	LR	10 31 40.4	
	comp=Z,230nm,18.2s,MS3.8,baz=197,slow=36						
MJAR	**Matsushiro Arr**	**28.10**	**24**	LR	LR	10 30 33.2	
	comp=Z,268nm,21.4s,MS3.8,baz=230,slow=32						
FITZ	**Fitzroy Crossi**	**29.04**	**178**	*e*P	**P**	**10 21 38.0**	**-0.9**
	5.3nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.04**	**178**	P	**P**	**10 21 38.3**	**-0.6**
	3.0nm,1.0s,mb4.0,baz=2.3,slow=11,SNR=5.2						
FITZ				LR	LR	10 33 22.8	
	comp=Z,62nm,18.6s,MS3.2,baz=0.8,slow=36						
WRA	**Warramunga Arr**	**32.28**	**163**	P	**P**	**10 22 07.0**	**-0.5**
	2.1nm,0.9s,mb4.0,baz=343,slow=9.1,SNR=16						
WRA	**Warramunga Arr**	**32.28**	**163**	P	**P**	**10 22 07.0**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WB2	**Warramunga Arr**	**32.28**	**163**	*e*P	**P**	**10 22 07.8**	**+0.3**
ASAR	**Alice Springs**	**35.71**	**165**	P	**P**	**10 22 37.6**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.5,baz=342,slow=6.6,SNR=37						
ASAR				PcP	PcP	10 25 04.8	-0.7
	comp=Z,0.5nm,0.6s,baz=341,slow=2.8,SNR=6.8						
ASAR	**Alice Springs**	**35.71**	**165**	P	**P**	**10 22 37.7**	**+0.4**
ASAR						10 25 04.8	
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ULN	**Ulaanbaatar**	**39.53**	**341**	⇑*e*P	**P**	**10 23 08.5**	**-1.2**
SONM	**Songino Array**	**39.72**	**341**	P	**P**	**10 23 12.5**	**+1.3**
	comp=Z,4.8nm,1.0s,mb4.2,baz=162,slow=8.7,SNR=24						
SONM				LR	LR	10 40 03.7	
	comp=Z,246nm,20.8s,MS4.0,baz=24,slow=37						
SONM	**Songino Array**	**39.72**	**341**	P	**P**	**10 23 12.5**	**+1.3**
SONM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,246nm,20.8s						
FORT	**Forrest**	**41.77**	**176**	*e*P	**P**	**10 23 28.9**	**+0.7**
	comp=Z,14nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**45.70**	**160**	*e*P	**P**	**10 24 00.2**	**+0.4**
	comp=Z,5.6nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**45.70**	**160**	P	**P**	**10 24 00.5**	**+0.7**
	comp=Z,5.5nm,0.8s,mb4.5,baz=312,slow=6.7,SNR=12						
BOD	**Bodaibo**	**47.33**	**352**	*e*P	**P**	**10 24 13.0**	**+0.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
MKAR	**Makanchi Array**	**50.44**	**323**	P	**P**	**10 24 37.0**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=122,slow=7.4,SNR=8.5						
MKAR				LR	LR	10 47 31.1	
	comp=Z,158nm,18.7s,MS4.0,baz=231,slow=38						
MKAR	**Makanchi Array**	**50.44**	**323**	⇑*e*P	**P**	**10 24 38.7**	**+2.2**
YAK	**Yakutsk**	**50.96**	**3**	⇑*e*P	**P**	**10 24 41.5**	**+1.1**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**53.17**	**332**	P	**P**	**10 24 57.0**	**+0.1**
	comp=Z,1.1nm,0.3s,mb4.3,baz=308,slow=2.8,SNR=7.0						
ZAL				LR	LR	10 48 46.8	
	comp=Z,230nm,20.4s,MS4.2,baz=310,slow=37						
ZAL	**Zalesovo**	**53.17**	**332**	P	**P**	**10 24 57.0**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,230nm,20.4s						
AAK	**Ala-Archa**	**53.66**	**315**	*e*P	**P**	**10 25 00.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
NVS	**Novosibirsk**	**54.45**	**332**	*e*P	**P**	**10 25 05.6**	**-0.6**
KURK	**Kurchatov**	**54.52**	**326**	⇑*e*P	**P**	**10 25 05.5**	**-1.2**
TIXI	**Tiksi**	**60.55**	**2**	*e*P	**P**	**10 25 48.9**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
BILL	**Bilibino**	**63.02**	**16**	⇑*i*P	**P**	**10 26 07.3**	**+1.4**
BILL				*e**PP	pP	10 26 27.3	+20
BILL				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.8						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
AKTO	**Aktyubinsk**	**66.71**	**320**	P	**P**	**10 26 29.3**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.3,baz=101,slow=9.9,SNR=6.2						
AKTO	**Aktyubinsk**	**66.71**	**320**	P	**P**	**10 26 29.3**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ARU	**Arti**	**67.69**	**327**	⇓*i*P	**P**	**10 26 35.4**	**-0.7**
ARU				*e*		10 29 00.2	
ARU				*e*PPP		10 30 39.7	
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
KLMR	**Klimovskoe**	**78.05**	**330**	*e*P	**P**	**10 27 36.2**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,76nm,1.9s,mb5.3						
COLA	**College**	**78.94**	**26**	*e*P	**P**	**10 27 45.9**	**+3.4**
OBN	**Obninsk**	**79.93**	**324**	⇓*e*P	**P**	**10 27 48.6**	**+0.7**
OBN				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
ARCES	**ARCESS Array B**	**82.88**	**340**	P	**P**	**10 28 03.0**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.5,baz=37,slow=3.0,SNR=5.9						
ARCES				LR	LR	11 07 19.4	
	comp=Z,276nm,20.2s,MS4.6,baz=269,slow=37						
ARCES	**ARCESS Array B**	**82.88**	**340**	P	**P**	**10 28 03.0**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,276nm,20.2s						
AKASG	**Malin Array Be**	**84.95**	**321**	P	**P**	**10 28 13.6**	**-0.6**
AKASG	**Malin Array Be**	**84.95**	**321**	P	**P**	**10 28 13.6**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**91.33**	**333**	LR	LR	11 13 40.9	
	comp=Z,238nm,19.5s,MS4.6,baz=35,slow=38						
YKA	**Yellowknife Ar**	**93.61**	**24**	P	**P**	**10 28 53.5**	**-1.7**
	comp=Z,0.2nm,0.6s,mb3.8,baz=299,slow=4.3,SNR=5.2						
YKA	**Yellowknife Ar**	**93.61**	**24**	P	**P**	**10 28 53.5**	**-1.7**

*NEIC **13** 10:33:52.8, 3261S×7171W, h20km, ML2.9(GUC), After GUC.*

GUC 13 10:33:52.8±0.6, 3261S×7171W, h20km±10km, MD3.6, ML2.9, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.24**	**72**	⇓*i*P	Pg	10 33 58.7	+0.3
PACH				*i* S	Sg	10 34 03.3	+0.9
ROCH	**El Roble**	**0.69**	**122**	⇑*i*P	Pb	10 34 05.7	-0.4
ROCH				*i* S	Sb	10 34 15.7	+0.5
LCCH	**Las Cruces**	**0.87**	**172**	*e*P	Pb	10 34 08.3	-0.9
LCCH				*i* S	Sb	10 34 19.8	-0.6
JACH	**Jahuel**	**0.94**	**95**	⇑*i*P	Pb	10 34 09.7	-0.8
JACH				*i* S	Sb	10 34 22.5	0.0
PEL	**Peldehue**	**1.01**	**122**	⇑*i*P	Pb	10 34 11.2	-0.4
PEL				*i* S	Sb	10 34 24.4	-0.1
PEL				AML	AML	10 34 29.2	
	comp=N,847nm,0.6s						
TACH	**Talagante**	**1.22**	**148**	*e*P	Pn	10 34 14.1	-0.7
CLCH	**Cerro Calan**	**1.26**	**129**	⇓*i*P	Pn	10 34 14.9	-0.4
CLCH				*i* S	Sb	10 34 31.7	+0.1
CLCH				AML	AML	10 34 38.0	
	comp=N,278nm,0.4s						
LNV	**Longovilo**	**1.36**	**170**	*e*P	Pn	10 34 16.0	-0.8
PCH	**Pirque**	**1.42**	**136**	⇓*i*P	Pn	10 34 17.5	0.0
CHCH	**Chadas Angostu**	**1.59**	**147**	*e*P	Pn	10 34 20.1	+0.3
CHCH				*e*S	Sn	10 34 40.9	+1.1
LMEL	**Las Melosas**	**1.76**	**135**	*e*P	Pn	10 34 23.1	+0.9
LMEL				*i* S	Sn	10 34 47.6	+3.5
LMEL				AML	AML	10 34 51.0	
	comp=N,276nm,0.2s						
LMEL	**Las Melosas**	**1.76**	**135**	*e*P	Pn	10 34 23.1	+0.9
LMEL				*i* S	Sn	10 34 47.6	+3.5
CICH	**Cipreses**	**2.02**	**148**	*e*P	Pn	10 34 27.2	+1.5
SFDO	**San Fernando**	**2.08**	**164**	*e*P	Pn	10 34 27.6	+1.0
SFDO				*i* S	Sn	10 34 54.6	+2.7

*HLW **13** 10:53:19.8, 3115N×3527E, h3km, Mb2.6*

GII 13 10:53:21.0±0.9, 3109N×3518E, h0km, ML2.5/4, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZDA	**Masada**	**0.27**	**36**	Pg	Pg	10 53 27.0	+0.8
MZDA				Sg	Sg	10 53 32.0	+2.3
YTIR	**Yattir**	**0.28**	**349**	Pg	Pg	10 53 27.6	+1.3
DSI	**Dead Sea**	**0.51**	**20**	Pg	Pg	10 53 33.0	+2.3
DSI				Sg	Sg	10 53 41.1	+3.7
ZFRI	**Zfri**	**0.53**	**180**	Pg	Pg	10 53 32.0	+0.8
RMNI	**Mount Ramon**	**0.61**	**216**	Pg	Pg	10 53 34.0	+1.4
PRNI	**Paran**	**0.75**	**192**	Pg	Pg	10 53 36.3	+0.9
PRNI				Sg	Sg	10 53 47.9	+2.8
HRFI	**Mount Harif**	**1.06**	**187**	Pg	Pg	10 53 42.4	+1.1
HRFI				Sg	Sg	10 53 58.5	+3.5
SLTI	**Sal'it**	**1.15**	**354**	Pg	Pg	10 53 43.4	+0.2
SLTI				Sg	Sg	10 54 00.4	+2.3
HMDT	**Nahal Hemdat**	**1.20**	**14**	Pg	Pg	10 53 44.7	+0.8
MMLI	**Mount Malkishu**	**1.36**	**9**	Pn	Pn	10 53 46.7	-0.6
MMLI				Sn	Sn	10 54 07.1	+1.2
EIL	**Elat**	**1.43**	**188**	Pn	Pn	10 53 48.1	-0.1
EIL				Sn	Sn	10 54 09.6	+2.0
OFRI	**'Ofer**	**1.54**	**354**	Pn	Pn	10 53 50.2	+0.6
HNKL	**Nakhl**	**1.55**	**222**	P	Pn	10 53 49.7	-0.2
AMAG	**Maghara**	**1.75**	**256**	P	Pn	10 53 52.1	-0.5
MMA0	**Mount Meron ar**	**1.93**	**6**	Pn	Pn	10 53 56.2	+1.2
MMA0				Sn	Sn	10 54 21.9	+1.9
SUZ		**2.38**	**239**	P	Pn	10 54 00.4	-0.8
HKAT	**Jabal Katrina**	**2.76**	**202**	P	Pn	10 54 05.7	-0.7

MAN 13 11:06:34.5, 1115N×12484E, h23km, mb3.3, ML4.6, MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.14**	**84**	*e*P	Pb	11 06 40.2	+0.9
PLP				*i* S	Sb	11 06 43.5	+1.0
MSLP	**Maasin**	**1.01**	**179**	*e*P	Pn	11 06 53.2	0.0
MSLP				*e*S	Sb	11 07 08.2	+1.9
CNP	**Catarman**	**1.36**	**353**	*e*P	Pn	11 06 58.2	+0.1
TBP	**Tagbilaran**	**1.74**	**214**	*e*P	Pn	11 07 03.5	+0.2
TBP				*e*S	Sn	11 07 25.6	+0.8
GUIM	**Jordan**	**2.27**	**257**	*e*P	Pn	11 07 10.5	-0.1

*IDC **13** 11:12:48.1±0.6, 2009S×6920W, h96km±4km, mb3.7/9, mb1 4.0/10, mb1mx3.9/17, mbtmp3.7/10, Error ellipse: s-maj=23.3km s-min=16.4km az=61.0*
*ISCJB **13** 11:12:50.1±1.9, 2014S±008×690W±02, h129km±18km, mb3.8/11, Error ellipse: s-maj=28.0km s-min=12.0km az=153.4*
*NEIC **13** 11:12:51.4±1.5, 2016S×6889W, h124km±16km, mb4.1/5, Error ellipse: s-maj=25.0km s-min=11.2km az=83.0*
NEIC Felt [IV] at Pisagua; [III] at Camina and Huara; [II] at Iquique and Pica.

ISC 13 11:12:51.5±1.7, 2012S±008×690W±02, h126km±17km, h95km±3.6km: pP-P, n30, σ0§82/22, mb3.9/11, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.90**	**12**	P	**Pn**	**11 13 50.7**	**+1.0**
	3.2nm,0.3s,baz=189,slow=9.2,SNR=57						
LPAZ	**La Paz**	**3.90**	**12**	*e*Pn	**Pn**	**11 13 50.8**	**+1.0**
SIV	**San Ignacio**	**8.57**	**63**	P	**Pn**	**11 14 51.8**	**-0.9**
	2.9nm,0.3s,baz=254,slow=11,SNR=50						
CFAA	**Coronel Fontan**	**11.46**	**177**	P	**Pn**	**11 15 23.5**	**-7.8**
	0.1nm,0.3s,baz=358,slow=14,SNR=11						
CFAA	**Coronel Fontan**	**11.46**	**177**	P	**Pn**	**11 15 23.5**	**-7.8**
TRQA	**Tornquist**	**18.88**	**163**	*e*P	**P**	**11 17 01.6**	**-0.4**
	8.1nm,0.8s						
PLCA	**Paso Flores**	**20.59**	**183**	P	**P**	**11 17 19.4**	**-1.1**
	6.3nm,0.9s,baz=1.0,slow=12,SNR=8.2						
PLCA	**Paso Flores**	**20.59**	**183**	*e*P	**P**	**11 17 19.7**	**-0.8**
	6.2nm,0.9s						
TXAR	**Lajitas Array**	**59.47**	**325**	P	**P**	**11 22 40.3**	**-0.9**
	0.4nm,0.6s,mb3.6,baz=154,slow=8.1,SNR=11						
TXAR				pP	pP	11 23 02.1	-9.2
	0.4nm,0.9s,baz=175,slow=16,SNR=3.7						
VNA3	**Neumayer Olymp**	**61.40**	**162**	*e*	**P**	**11 22 55.6**	**+1.3**
VNA3				*e*		11 22 58.6	
VNA2	**Neumayer--Watz**	**61.97**	**161**	*e*	**P**	**11 22 58.9**	**+0.8**
VNA2				*e*		11 23 02.1	
VNA2				*e*		11 23 12.6	
SNAA	**Sanae**	**63.60**	**161**	P	**P**	**11 23 09.1**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=270,slow=9.1,SNR=8.3						
SNAA	**Sanae**	**63.60**	**161**	*e*	**P**	**11 23 08.4**	**-0.5**
SNAA				*e*		11 23 10.6	
SDCO	**Great Sand Dun**	**67.03**	**329**	*e*P	**P**	**11 23 31.5**	**+0.4**
	8.5nm,1.6s,mb4.3						
QSPA	**South Pole Qui**	**70.07**	**180**	*e*P	**P**	**11 23 50.0**	**+0.1**
	2.9nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**72.89**	**330**	P	**P**	**11 24 06.7**	**-0.1**
	0.2nm,0.6s,mb3.1,baz=128,slow=5.8,SNR=2.4						
ULM	**Lac du Bonnet**	**73.99**	**342**	P	**P**	**11 24 11.9**	**-1.4**
	1.8nm,0.6s,mb4.0,baz=131,slow=6.0,SNR=8.9						
NVAR	**Mina Array Bea**	**74.37**	**322**	P	**P**	**11 24 15.9**	**+0.4**
	1.2nm,0.8s,mb3.7,baz=138,slow=8.3,SNR=7.1						
SCHQ	**Schefferville**	**74.67**	**1**	P	**P**	**11 24 16.2**	**-0.9**
	3.7nm,0.8s,mb4.1,baz=122,slow=13,SNR=2.7						
HLID	**Hailey**	**75.84**	**328**	*e*P	**P**	**11 24 25.1**	**+1.2**
	1.2nm,0.8s,mb3.7						
TORD	**Torodi Ar. Bea**	**76.96**	**71**	P	**P**	**11 24 31.0**	**+0.8**
	1.5nm,0.5s,mb4.0,baz=252,slow=5.3,SNR=28						
TORD				pP	pP	11 24 57.1	-4.6
	3.8nm,0.9s,baz=254,slow=5.6,SNR=7.7						
TORD				sP	sP	11 25 08.9	-6.2
	2.0nm,0.8s,baz=261,slow=5.1,SNR=3.7						
SYO	**Syowa Base**	**77.81**	**160**	⇑*e*pP	pP	11 25 02.8	-3.7
YKA	**Yellowknife Ar**	**89.87**	**341**	P	**P**	**11 25 35.6**	**-0.5**
	2.9nm,0.7s,mb4.5,baz=133,slow=4.7,SNR=73						
YKA				pP	pP	11 26 00.7	-7.8
	1.2nm,0.7s,baz=134,slow=4.8,SNR=6.7						
YKA				sP	sP	11 26 10.9	-11
	1.5nm,0.7s,baz=134,slow=4.6,SNR=6.2						
ASAR	**Alice Springs**	**131.10**	**208**	PKP	PKPdf	11 31 48.8	+0.4
	0.7nm,0.7s,baz=125,slow=1.6,SNR=10						
WRA	**Warramunga Arr**	**134.10**	**211**	PKP	PKPdf	11 31 54.7	+0.7
	0.9nm,0.7s,baz=160,slow=1.6,SNR=16						
WRA				pPKP	pPKPdf	11 32 21.2	-6.6
	0.6nm,0.8s,baz=149,slow=1.8,SNR=3.6						
ZAL	**Zalesovo**	**140.73**	**24**	PKP	PKPdf	11 32 06.7	+0.4
	2.0nm,0.4s,baz=197,slow=4.9,SNR=4.9						
MK31	**Makanchi Array**	**144.55**	**35**	*e*PKPdf	PKPdf	11 32 13.2	+0.1
MKAR	**Makanchi Array**	**144.55**	**35**	PKP	PKPdf	11 32 13.3	+0.3
	1.6nm,0.7s,baz=322,slow=3.0,SNR=14						
MKAR				pPKP	pPKPdf	11 32 39.4	-7.4
	0.4nm,0.6s,baz=315,slow=3.3,SNR=2.3						
MJAR	**Matsushiro Arr**	**151.15**	**310**	PKPbc	PKPbc	11 32 29.5	-0.4
	2.7nm,0.7s,baz=90,slow=2.4,SNR=7.1						
SONM	**Songino Array**	**152.10**	**7**	PKP	PKPdf	11 32 24.5	-0.8
	0.5nm,0.9s,baz=54,slow=3.7,SNR=3.2						
SONM				PKPbc	PKPbc	11 32 32.9	+0.9
	1.7nm,0.5s,baz=288,slow=1.2,SNR=24						
SONM				PKPab	PKPab	11 32 42.7	+0.6
	0.5nm,0.7s,baz=318,slow=2.4,SNR=3.6						
SONM				pPKPbc	pPKPbc	11 32 55.0	-11
	0.3nm,0.4s,baz=290,slow=2.4,SNR=2.2						

IDC 13 11:26:26.3±0.9, 689N×7307W, h156km±14km, mb2.7/1, mb1 3.1/3, mb1mx2.9/20, mbtmp3.0/3, Error ellipse: s-maj=58.1km s-min=7.8km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.38**	**212**	P	Pn	11 27 08.0	+1.8
	8.0nm,0.3s,baz=92,slow=22,SNR=38						
ROSC				S	Sn	11 27 38.1	+1.1
	23nm,0.3s,baz=67,slow=19,SNR=12						
SDV	**Santo Domingo**	**3.12**	**50**	P	Pn	11 27 17.6	+2.1
	3.4nm,0.3s,baz=236,slow=3.5,SNR=50						
SDV				S	Sn	11 27 53.8	+0.2
	6.6nm,0.3s,baz=112,slow=23,SNR=12						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	P	11 36 37.6	-0.3
	0.2nm,0.5s,baz=134,slow=7.0,SNR=6.2						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	PKPbc	11 45 56.6	+0.3
	0.2nm,0.6s,baz=121,slow=4.9,SNR=2.8						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPbc	11 46 00.0	+0.8
	0.2nm,0.6s,baz=109,slow=2.3,SNR=7.2						

*ISCJB **13** 11:31:07.6±2.2, 4108N±009×207E±0.1, h4km±25km, Error ellipse: s-maj=22.3km s-min=9.4km az=76.4*
*NEIC **13** 11:31:10.2, 4114N×2062E, h32km, ML3.9(THE), After THE.*

ISC 13 11:31:07.5±1.8, 4108N±007×207E±01, h0km±7km, n19, σ0§54/29, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRG	**Griva**	**1.29**	**95**	P	**Pg**	**11 31 31.5**	**-0.8**
GRG				S	**Sg**	**11 31 50.1**	**+1.2**
GRG	**Griva**	**1.29**	**95**	P	**Pg**	**11 31 31.5**	**-0.7**
GRG				S	**Sg**	**11 31 50.1**	**+1.2**
MEV	**Metsovon**	**1.35**	**163**	P	**Pg**	**11 31 32.8**	**-0.7**
MEV				S	**Sg**	**11 31 50.9**	**-0.1**
MEV	**Metsovon**	**1.35**	**163**	P	**Pg**	**11 31 32.8**	**-0.6**
MEV				S	**Sg**	**11 31 50.9**	**-0.1**
KNT	**Kendrikon**	**1.66**	**86**	P	**Pn**	**11 31 37.8**	**-0.1**
KNT	**Kendrikon**	**1.66**	**86**	P	**Pn**	**11 31 37.8**	**0.0**
LIT	**Litokhoron**	**1.67**	**125**	P	**Pn**	**11 31 38.0**	**-0.1**
LIT				S	**Sn**	**11 31 59.9**	**-0.3**
LIT	**Litokhoron**	**1.67**	**125**	P	**Pn**	**11 31 38.0**	**0.0**
LIT				S	**Sn**	**11 31 59.9**	**-0.3**
THE	**Thessaloniki**	**1.77**	**104**	P	**Pn**	**11 31 38.9**	**-0.5**
THE				S	**Sn**	**11 32 02.4**	**-0.2**
THE	**Thessaloniki**	**1.77**	**104**	P	**Pn**	**11 31 38.9**	**-0.5**
THE				S	**Sn**	**11 32 02.3**	**-0.3**
HORT	**Hortiatis**	**1.88**	**104**	P	**Pn**	**11 31 40.8**	**-0.1**
HORT	**Hortiatis**	**1.88**	**104**	P	**Pn**	**11 31 40.8**	**-0.1**
SOH	**Sokhos**	**2.02**	**96**	P	**Pn**	**11 31 43.0**	**+0.1**
SOH	**Sokhos**	**2.02**	**96**	P	**Pn**	**11 31 43.0**	**+0.2**
LKD	**Levkas**	**2.37**	**181**	P	**Pn**	**11 31 48.6**	**+1.0**
AGG	**Agios Georgios**	**2.40**	**148**	P	**Pn**	**11 31 48.9**	**+0.8**
AGG				S	**Sn**	**11 32 18.1**	**-0.1**
AGG	**Agios Georgios**	**2.40**	**148**	P	**Pn**	**11 31 48.9**	**+0.8**
AGG				S	**Sn**	**11 32 18.1**	**-0.1**
PAIG	**Paliouri**	**2.54**	**116**	P	**Pn**	**11 31 49.6**	**-0.3**
PAIG	**Paliouri**	**2.54**	**116**	P	**Pn**	**11 31 49.7**	**-0.3**

*NIED **13** 11:40:00, 4650N×15420E, h20km, Mw4.7 Best double couple: M0 1.40000×10^16 NP1:φs 181.00000°, δ60.00000°, λ-120.00000°. NP2:φs 50.00000°, δ41.00000°, λ-49.00000°.*
*ISCJB **13** 11:40:54.7±0.1, 4597N±003×15446E±002, h16km, mb5.0/165, MS4.2/37, Error ellipse: s-maj=5.1km s-min=1.8km az=149.0*
*IDC **13** 11:40:54.2±0.4, 4616N×15446E, h0km, mb4.7/22, mb1 4.8/23, mb1mx4.8/26, mbtmp4.7/23, ML4.2/1, MS4.1/17, Ms1 4.1/17, ms1mx3.8/34, Error ellipse: s-maj=15.4km s-min=11.6km az=148.

NEM2 eS Sn 11 43 46.0 -6.0
JRA Rausu 6.93 255 P Pn 11 42 38.7 +0.8
JRA eS Sn 11 43 55.2 -1.1
JNK Nakash 7.34 253 P Pn 11 42 43.8 +0.4
JNK eS Sn 11 44 02.8 -3.5
PET Petropavlovsk 7.43 20 ePN Pn 11 42 39.8 -4.9
PET pmax pmax
comp=Z,58nm,1.4s
PET MLR MLR
comp=Z,1µm,13.0s
PET Petropavlovsk 7.43 20 ePn Pn 11 42 41.4 -3.2
PET eSn Sn 11 43 57.5 -11
JAK Akkeshi 7.61 249 P Pn 11 42 46.4 -0.8
JAK eS Sn 11 44 06.6 -6.4
JTKR Abashiri--Toko 7.74 258 P Pn 11 42 49.8 +0.8
YSS Yuzh-Sakhalins 8.07 280 ⇓iPN Pn 11 42 56.8 +3.3
YSS eS Sn 11 44 26.0 +1.6
YSS pmax pmax
comp=Z,120nm,1.0s
YSS MLR MLR
comp=Z,1µm,15.0s
YSS MLR MLR
comp=N,500nm,12.0s
YSS MLR MLR
comp=E,1µm,14.0s
YSS Yuzh-Sakhalins 8.07 280 ePn Pn 11 42 56.4 +2.9
YSS eSn Sn 11 44 25.0 +0.6
YSS Yuzh-Sakhalins 8.07 280 iP Pn 11 42 56.8 +3.3
YSS AMB AMB 11 42 59.5
comp=E,120nm,1.0s
YSS eS Sn 11 44 26.0 +1.6
YSS AMS AMS 11 47 16.0
comp=E,500nm,13.0s
YSS AMS AMS 11 47 16.0
comp=E,1µm,13.0s
YSS AMS AMS 11 47 16.0
comp=E,1µm,13.0s
JAR Ashorobuto 8.09 253 P Pn 11 42 54.2 +0.5
JAR eS Sn 11 44 20.0 -4.7
JMP Maruseppu 8.10 259 P Pn 11 42 55.6 +1.7
JOB Onbets 8.21 251 P Pn 11 42 55.4 -0.1
JOB eS Sn 11 44 22.0 -5.8
JSE Soyaes 8.38 266 P Pn 11 43 00.8 +3.1
JKK2 Kamakawa 2 8.56 259 P Pn 11 43 01.6 +1.3
ASAJ Asahikawa 8.59 261 Pn Pn 11 43 02.0 +1.4
comp=E,3.3nm,0.3s,baz=97,slow=20,SNR=22
ASAJ Sn Sn 11 44 37.2 +0.1
baz=117,slow=16,SNR=1.2
ASAJ Asahikawa 8.59 261 P Pn 11 43 02.3 +1.7
ASAJ Asahikawa 8.59 261 PN Pn 11 43 02.0 +1.4
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
JCH Churui 8.65 250 P Pn 11 43 01.0 -0.5
JCH eS Sn 11 44 32.3 -6.4
JWK2 Keihoku 8.79 269 P Pn 11 43 06.3 +2.9
UGL Uglegorsk 8.84 294 eP Pn 11 43 08.0 +4.0
UGL AMB AMB 11 43 19.0
comp=Z,130nm,1.0s
UGL AMS AMS 11 48 06.0
comp=Z,1µm,14.0s
UGL AMS AMS 11 48 06.0
comp=Z,1µm,14.0s
UGL AMS AMS 11 48 06.0
comp=Z,2µm,14.0s
JFR Furan 8.93 255 P Pn 11 43 06.1 +0.8
JEM Erimo 9.08 247 P Pn 11 43 05.7 -1.6
JEM S Sn 11 44 39.1 -10
ERM Erimo 9.08 247 Pn Pn 11 43 11.7 +4.3
comp=Z,594nm,1.0s,SNR=5.3
ERM Erimo 9.08 247 ePn Pn 11 43 10.8 +3.4
comp=Z,82nm,0.8s
ERM eSn Sn 11 44 38.3 -11
JNBK Urakawa-nobuka 9.21 249 P Pn 11 43 08.1 -1.0
JNBK eS Sn 11 44 45.3 -7.0
JBT2 Biratori 2 9.24 253 P Pn 11 43 09.3 -0.2
JEW Eniwo 9.82 255 P Pn 11 43 16.4 -1.2
JNB Noboribetsu 10.26 254 P Pn 11 43 23.1 -0.4
JNB eS Sn 11 45 12.5 -5.5
OKH Okha 10.47 319 eP Pn 11 43 23.8 -2.7
OKH AMB AMB 11 43 30.0
comp=Z,800nm,6.0s
OKH eS Sn 11 45 19.0 -4.4
OKH AMS AMS 11 48 48.0
comp=Z,2µm,14.0s
OKH AMS AMS 11 48 48.0
comp=Z,1µm,14.0s
OKH AMS AMS 11 48 48.0
comp=Z,5µm,14.0s
JKB Kayabe 10.52 251 P Pn 11 43 25.8 -1.3
JKB eS Sn 11 45 15.0 -10
JOT Ohata 10.76 249 P Pn 11 43 29.6 -0.8
JOT S Sn 11 45 21.7 -8.7
JSH Shimam 10.85 256 P Pn 11 43 32.9 +1.3
JYM2 Yakumo 2 10.86 253 P Pn 11 43 31.1 -0.6
JANG Nango 11.02 243 P Pn 11 43 30.9 -3.0
JANG eS Sn 11 45 25.8 -11
JTM Tenmabayashi 11.06 246 P Pn 11 43 32.4 -2.1
JTM eS Sn 11 45 26.6 -11
JTH Tanohata 11.06 240 P Pn 11 43 30.9 -3.6
JTH eS Sn 11 45 25.3 -13
JOSM Okushiri--Mats 11.47 255 P Pn 11 43 39.0 -1.1
JOM Ohasama 11.70 240 P Pn 11 43 42.3 -0.9
JOM S Sn 11 45 43.6 -10
OFUJ Ofunato 11.73 238 P Pn 11 43 41.1 -2.5
JRG Rokugo 12.14 241 P Pn 11 43 47.6 -1.7
JIO Ouri 12.33 236 P Pn 11 43 47.9 -4.0
JIO eS Sn 11 45 55.8 -13
JMM Marumori 13.05 236 P Pn 11 44 02.3 +0.6
JMM S Sn 11 46 16.0 -10
HABR Khabarovsk 13.34 287 ePN Pn 11 44 10.4 +4.8
HABR eS Sn 11 46 40.7 +7.2
HABR pmax pmax
comp=Z,39nm,1.0s
JFK Kawauchi 13.35 234 P Pn 11 44 02.1 -3.7
JFK eS Sn 11 46 21.4 -12
JYT Yasato 14.55 232 P Pn 11 44 19.2 -3.0
JYT S Sn 11 46 49.8 -13
JRY Ryogami san 15.43 235 P Pn 11 44 32.8 -1.1
MAJO Matsushiro 15.46 237 eP Pn 11 44 32.7 -1.6
MAJO pmax pmax
comp=Z,52nm,0.9s
MAJO Matsushiro 15.46 237 eP Pn 11 44 32.6 -1.7
comp=Z,52nm,0.8s
MAT Matsushiro 15.46 237 P Pn 11 44 32.3 -2.0
MAT S Sn 11 47 34.8 +10
MAT Matsushiro 15.46 237 P Pn 11 44 32.5 -1.8
MJAR Matsushiro Arr 15.46 237 Pn Pn 11 44 31.5 -2.8
comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=15
VLA Vladivostok 16.30 267 eP Pn 11 44 42.5 -2.6
VLA pmax pmax
comp=Z,75nm,1.2s
VLA MLR MLR
comp=Z,600nm,15.7s
MDJ Mudanjiang 17.48 274 P Pn 11 45 00.8 +0.8
MDJ AP pP 11 45 04.3 -1.6
MDJ AMB AMB
comp=Z,69nm,1.1s
MDJ AMB AMB
comp=Z,74nm,5.6s
MDJ LR LR
comp=N,273nm,16.7s
MDJ LR LR
comp=E,437nm,15.7s
MDJ LR LR
comp=Z,617nm,14.6s
MDJ Mudanjiang 17.48 274 eP Pn 11 44 59.5 -0.6
comp=Z,67nm,1.0s
JWT Wachi 17.98 240 P Pn 11 45 06.0 -0.2
CN2 Changchun 20.57 274 eP P 11 45 33.0 -2.0
CN2 eXP sP 11 45 40.0 -2.1
CN2 eS S 11 49 16.0 -8.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,14.0s,MS4.1
CN2 LR LR
comp=E,500nm,14.0s,MS4.1
CN2 LR LR
comp=Z,600nm,15.0s,MS4.1
CLNS Chul'man 21.09 311 eP P 11 45 39.7 -1.0
CLNS ePPP 11 46 03.6
CLNS eS S 11 49 28.5 -6.3
CLNS e 11 49 46.1
CLNS eSS 11 50 07.2
CLNS pmax pmax
comp=Z,20nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,9.0nm,0.6s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS smax
comp=N,53nm,1.3s
CLNS smax
comp=Z,7.0nm,1.2s
CLNS smax
comp=E,30nm,1.1s
CLNS MLR MLR
comp=Z,1µm,12.0s,MS4.5
CLNS MLR MLR
comp=N,300nm,13.0s,MS4.7
CLNS MLR MLR
comp=E,2µm,14.0s,MS4.7
YAK Yakutsk 21.32 327 eP P 11 45 42.4 -0.7
YAK e 11 45 59.5
YAK ePPP 11 46 06.6
YAK eS S 11 49 31.3 -7.9
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
YAK pmax pmax
comp=N,3.0nm,1.7s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=E,178nm,3.4s
YAK smax
comp=N,117nm,2.1s
YAK MLR MLR
comp=N,389nm,14.0s,MS4.0
YAK MLR MLR
comp=Z,419nm,14.0s,MS4.0
YAK MLR MLR
comp=E,267nm,17.0s,MS4.0
YAK Yakutsk 21.32 327 eP P 11 45 41.5 -1.6
YAK eS S 11 49 37.1 -2.1
KSRS Korea Array 21.48 256 P P 11 45 47.0 +2.2
comp=E,22nm,1.1s,mb4.4,baz=59,slow=10.0,SNR=19
KSRS PcP PcP 11 49 47.1 -0.3
comp=E,2.5nm,1.0s,baz=180,slow=0.8,SNR=5.9
KSRS LR LR 11 53 49.3
comp=E,147nm,18.1s,MS3.4,baz=193,slow=36
KS15 Wonju Array Si 21.52 256 eP P 11 45 47.9 +2.7
JNU Nakatsue 22.20 242 P P 11 45 58.4 +5.9
comp=E,19nm,0.9s,mb4.5,baz=263,slow=22,SNR=4.7
INCN Inchon 22.34 257 eP P 11 45 56.1 +2.1
comp=E,42nm,0.8s,mb4.9
SNY Shenyang 22.52 270 ⇑P P 11 45 56.8 +0.9
SNY AMB AMB
comp=Z,33nm,0.7s,mb4.9
SNY LR LR
comp=N,233nm,14.7s,MS4.1
SNY LR LR
comp=E,490nm,15.0s,MS4.1
SNY LR LR
comp=Z,542nm,13.8s,MS4.1
BILL Bilibino 22.80 12 c iP P 11 45 57.8 -1.1
BILL eS S 11 49 56.0 -12
BILL pmax pmax
comp=Z,52nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,400nm,18.0s,MS3.9
BILL Bilibino 22.80 12 eP P 11 45 57.4 -1.6
comp=Z,56nm,0.9s,mb5.0
HIA Hailar 23.41 290 eP P 11 46 02.2 -3.1
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 23.41 290 eP P 11 46 02.2 -3.1
comp=Z,7.9nm,0.6s,mb4.3
DL2 Dalian 25.08 265 ⇑P P 11 46 23.8 +3.1
DL2 S S 11 50 48.0 +3.6
DL2 AMB AMB
comp=Z,30nm,1.1s,mb4.7
DL2 AMB AMB
comp=Z,120nm,4.5s
DL2 LR LR
comp=N,160nm,14.0s,MS3.8
DL2 LR LR
comp=E,120nm,15.6s,MS3.8
DL2 LR LR
comp=Z,180nm,14.2s,MS3.7
BOD Bodaibo 27.07 310 ⇑iP P 11 46 36.6 -2.1
BOD e 11 51 09.5
BOD pmax pmax
comp=Z,24nm,1.4s,mb4.5
CIT Chita 27.12 298 eP P 11 46 39.4 +0.3
CIT e 11 47 34.1
CIT pmax pmax
comp=Z,49nm,3.0s
JOW Kunigami 28.30 236 P P 11 46 49.0 -0.7
comp=Z,11nm,0.8s,mb4.5,baz=129,slow=19,SNR=5.0
TIXI Tiksi 28.31 343 eP P 11 46 47.9 -1.9
TIXI eS S 11 51 23.9 -12
TIXI pmax pmax
comp=Z,16nm,1.9s,mb4.3
TIXI MLR MLR
comp=Z,448nm,14.0s,MS4.2
TIXI Tiksi 28.31 343 eP P 11 46 48.4 -1.4
BJI Beijing 28.37 271 eP P 11 46 51.8 +1.5
BJI S S 11 51 42.6 +6.2
BJI AMB AMB
comp=Z,21nm,0.9s,mb4.8
BJI LR LR
comp=N,654nm,14.1s,MS4.4
BJI LR LR
comp=E,320nm,14.9s,MS4.4
BJI LR LR
comp=Z,300nm,15.2s,MS4.0
BJI Beijing 28.37 271 eP P 11 46 51.7 +1.4
BJI S S 11 51 42.6 +6.2
BJT Baijiatuau 28.39 271 eP P 11 46 54.8 +4.3
BJT pmax pmax
comp=Z,37nm,0.9s
BJT Baijiatuau 28.39 271 eP P 11 46 54.8 +4.3
comp=Z,37nm,0.9s,mb5.0
SSE Sheshan 29.73 251 eP P 11 47 03.3 +0.9
SSE AP pP 11 47 05.9 -1.7
SSE XP sP 11 47 07.5 -2.2
SSE S S 11 52 04.5 +6.8
SSE XS sS 11 52 09.8 +3.5
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,63nm,3.5s
SSE LR LR
comp=N,65nm,23.1s,MS3.6
SSE LR LR
comp=E,153nm,23.1s,MS3.6
SSE Sheshan 29.73 251 eP P 11 47 03.2 +0.8
SSE pP pP 11 47 05.9 -1.7
SSE sP sP 11 47 07.5 -2.2
SSE S S 11 52 04.5 +6.8
SSE sS sS 11 52 09.7 +3.4
HHC Hu-ho-hao-te 31.23 276 eP P 11 47 17.4 +1.7
HHC AP pP 11 47 26.8 +5.9
HHC XP sP 11 47 30.4 +7.4
HHC PP PP 11 48 19.8 -6.5
HHC S S 11 52 18.3 -3.0
HHC PCS PcS 11 53 54.5 +0.3
HHC SS SS 11 54 06.4 -29
HHC AMB AMB
comp=Z,21nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,152nm,4.3s
HHC LR LR
comp=N,432nm,18.4s,MS4.2
HHC LR LR
comp=E,248nm,16.1s,MS4.2
HHC LR LR
comp=Z,374nm,13.7s,MS4.2
ULN Ulaanbaatar 31.95 291 eP P 11 47 20.4 -1.5
ULN pmax pmax
comp=Z,19nm,1.0s,mb4.9
ULN Ulaanbaatar 31.95 291 eP P 11 47 20.9 -1.1
comp=Z,19nm,0.9s,mb4.9
SVW2 Sparrevohn 32.31 44 eP P 11 47 25.1 0.0
SONM Songino Array 32.38 291 P P 11 47 25.1 -0.7
comp=Z,2.4nm,0.8s,mb4.1,baz=70,slow=8.3,SNR=14
SONM PcP PcP 11 50 12.1 -1.1
comp=Z,3.1nm,0.9s,baz=104,slow=2.5,SNR=6.4
SONM LR LR 12 01 08.3
comp=Z,298nm,19.1s,MS4.0,baz=54,slow=38
SONM Songino Array 32.38 291 P P 11 47 25.1 -0.7
SONM 11 50 12.1
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,298nm,19.1s
TLY Talaya 33.25 298 eP P 11 47 32.7 -0.7
TLY eS S 11 52 47.7 -5.1
TLY pmax pmax
comp=Z,12nm,1.3s,mb4.7
TLY MLR MLR
comp=Z,603nm,14.0s,MS4.5
TLY Talaya 33.25 298 eP P 11 47 33.1 -0.3
ZAK Zakamensk 33.75 296 eP P 11 47 37.0 -0.7
ZAK e 11 47 48.0
ZAK e 11 50 17.0
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
IMA2 Indian Mountai 33.79 35 eP P 11 47 37.6 -0.4
KDAK Kodiak Island 33.80 50 P P 11 47 36.9 -1.3
comp=Z,51nm,0.8s,mb5.5,baz=291,slow=5.0,SNR=21
KDAK Kodiak Island 33.80 50 eP P 11 47 36.8 -1.4
comp=Z,49nm,0.7s,mb5.5
PMR Palmer 35.43 43 eP P 11 47 51.5 -0.7
comp=Z,51nm,1.2s,mb5.3
MCK McKinley 35.55 40 eP P 11 47 52.9 -0.4
MCK pmax pmax
comp=Z,29nm,1.1s,mb5.1
MCK McKinley 35.55 40 eP P 11 47 52.9 -0.4
comp=Z,29nm,1.1s,mb5.1
SML Sawmill 35.81 43 P P 11 47 55.0 -0.5
SML Sawmill 35.81 43 eP P 11 47 55.0 -0.4
COLA College 36.07 38 d iP P 11 47 57.5 -0.3
COLA College 36.07 38 eP P 11 47 57.9 +0.1
comp=Z,51nm,0.7s,mb5.6
XAN Xi'an 36.36 267 P P 11 48 01.5 +1.3
XAN AMB AMB
comp=Z,8.0nm,0.7s,mb4.8
MENT Mentasta 37.91 41 eP P 11 48 13.6 +0.2
LZH Lanzhou 38.81 273 ⇓P P 11 48 22.5 +1.6
LZH AP pP 11 48 25.8 -0.4
LZH XP sP 11 48 27.3 -1.0
LZH PP PP 11 49 54.5 +4.6
LZH eS S 11 54 18.6 +0.8
LZH XS sS 11 54 26.1 -0.4
LZH SS SS 11 57 00.8 -8.1
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,237nm,5.6s
LZH LR LR
comp=N,1µm,13.6s
LZH LR LR
comp=Z,1µm,17.9s,MS4.8
LZH Lanzhou 38.81 273 ⇓P P 11 48 22.5 +1.6
LZH 11 49 54.5
LZH eS S 11 54 18.6 +0.8
LZH SS SS 11 57 00.8 -8.1
LZH Lanzhou 38.81 273 ⇓P P 11 48 22.5 +1.6
LZH pP pP 11 48 25.7 -0.5
LZH sP sP 11 48 27.2 -1.1
LZH PP PP 11 49 54.5 +4.6
LZH eS S 11 54 18.6 +0.8
LZH sS sS 11 54 26.1 -0.4
LZH SS SS 11 57 00.8 -8.1
EGAK Eagle 38.93 38 eP P 11 48 21.2 -0.7
comp=Z,67nm,0.9s,mb5.4
DAWY Dawson 39.75 39 eP P 11 48 28.1 -0.8
GTA Gaotai 39.95 281 ⇑P P 11 48 32.8 +2.3
GTA AP pP 11 48 36.8 +1.0
GTA XP sP 11 48 39.4 +1.5
GTA PP PP 11 50 09.3 +6.9
GTA PCP PcP 11 50 37.0 +1.3
GTA PCS PcS 11 54 27.5 +1.6
GTA S S 11 54 39.6 +4.6
GTA XS sS 11 54 46.1 +2.4
GTA SCS ScS 11 58 38.8 +1.8
GTA AMB AMB
comp=Z,17nm,1.5s,mb4.5
GTA AMB AMB
comp=Z,238nm,3.8s
GTA LR LR
comp=N,331nm,14.1s,MS4.4
GTA LR LR
comp=E,248nm,14.1s,MS4.4
GTA LR LR
comp=Z,322nm,15.2s,MS4.3
INK Inuvik 41.70 32 P P 11 48 45.2 +0.3
comp=Z,28nm,0.5s,mb5.1,baz=292,slow=6.5,SNR=445
INK Inuvik 41.70 32 P P 11 48 45.0 +0.1
INK Inuvik 41.70 32 eP P 11 48 45.2 +0.3
comp=Z,970nm,0.6s
CD2 Chengdu 41.73 267 P P 11 48 46.8 +1.7
CD2 AP pP 11 48 51.3 +0.9
CD2 XP sP 11 48 53.9 +1.4
CD2 PP PP 11 50 26.5 +4.9
CD2 PCP PcP 11 50 43.5 +2.1
CD2 S S 11 55 02.8 +1.4
CD2 XS sS 11 55 11.3 +1.2
CD2 SS SS 11 58 05.0 -2.1
CD2 SCS ScS 11 58 47.3 -0.3
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,260nm,4.7s
CD2 LR LR
comp=N,240nm,4.9s
CD2 LR LR
comp=E,340nm,4.9s
CD2 LR LR
comp=Z,330nm,4.7s
SKAG Skagway 42.46 45 eP P 11 48 52.1 +1.0
comp=Z,56nm,1.4s,mb5.0
GYA Guiyang 42.46 259 P P 11 48 52.5 +1.4
GYA AP pP 11 48 56.8 +0.3
GYA XP sP 11 48 59.9 +1.3
GYA PP PP 11 50 35.3 +5.7
GYA PCP PcP 11 50 47.3 +3.4
GYA SCP ScP 11 54 36.9 +3.1
GYA S S 11 55 15.8 +3.5
GYA SCS ScS 11 58 53.6 +1.4
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,140nm,5.2s
GYA LR LR
comp=N,530nm,15.2s,MS4.7
GYA LR LR
comp=E,580nm,15.4s,MS4.7
GYA LR LR
comp=Z,480nm,16.0s,MS4.5
ZAL Zalesovo 43.71 307 P P 11 49 00.1 -1.1
comp=Z,5.6nm,0.6s,mb4.5,baz=42,slow=10,SNR=24
ZAL PcP PcP 11 50 47.5 -0.6
comp=Z,5.3nm,0.9s,baz=24,slow=3.2,SNR=10
ZAL LR LR 12 08 17.3
comp=Z,345nm,19.9s,MS4.3,baz=48,slow=38
ZAL Zalesovo 43.71 307 P P 11 49 00.2 -1.0
ZAL 11 50 47.5
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL MLR MLR
comp=Z,345nm,19.9s
NVS Novosibirsk 44.27 308 iP P 11 49 05.1 -0.6
NVS pmax pmax
comp=Z,28nm,1.7s,mb4.7
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,14nm,1.2s
DLBC Dease Lake 45.39 46 eP P 11 49 15.9 +1.3
QIZ Qiongzhong 45.44 249 P P 11 49 13.8 -1.3
QIZ S S 11 55 58.5 +2.8
QIZ LR LR
comp=N,114nm,19.8s
QIZ LR LR
comp=Z,85nm,21.4s,MS3.6
KMI Kunming 46.02 261 P P 11 49 21.3 +1.7
KMI AMB AMB
comp=Z,11nm,1.5s,mb4.6
MK31 Makanchi Array 48.02 298 eP P 11 49 35.0 -0.2
MK31 ePcP PcP 11 51 03.3 +0.2

MKAR Makanchi Array 48.02 298 P **P** **11 49 34.9 -0.3**
comp=Z,10nm,0.7s,mb5.0,baz=69,slow=7.6,SNR=108
MKAR PcP PcP 11 51 03.1 +0.1
comp=Z,4.6nm,0.7s,baz=66,slow=4.4,SNR=5.6
MKAR LR LR 12 12 00.7
comp=Z,323nm,18.1s,MS4.3,baz=62,slow=39
MKAR Makanchi Array 48.02 298 *i* P **P** **11 49 35.3 +0.1**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 48.02 298 P **P** **11 49 34.9 -0.3**
MKAR PcP PcP 11 51 03.1 +0.1
MKAR LR LR 12 12 00.7
KURK Kurchatov 48.45 305 P **P** **11 49 38.5 0.0**
comp=Z,185nm,0.5s,SNR=18
KURK Kurchatov 48.45 305 ⇓P **P** **11 49 38.0 -0.6**
SNR=9.9
KURK Kurchatov 48.45 305 *e*P **P** **11 49 37.8 -0.8**
comp=Z,15nm,0.5s,mb5.3
KURK *e*PcP PcP 11 51 04.7 0.0
YKW3 Yellowknife Ar 50.85 37 *e*P **P** **11 49 56.7 -0.1**
YKA Yellowknife Ar 50.88 37 P **P** **11 49 56.5 -0.6**
comp=Z,8.5nm,0.7s,mb4.8,baz=295,slow=7.1,SNR=20
YKA PcP PcP 11 51 12.8 -0.7
comp=Z,1.9nm,0.9s,baz=299,slow=3.6,SNR=5.3
YKA LR LR 12 14 10.9
comp=Z,77nm,19.4s,MS3.7,baz=295,slow=39
YKA Yellowknife Ar 50.88 37 *i* P **P** **11 49 55.0 -2.1**
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA Yellowknife Ar 50.88 37 P **P** **11 49 56.5 -0.6**
YKA PcP PcP 11 51 12.8 -0.7
YKA LR LR 12 14 10.9
RES Resolute Bay 51.13 19 *e*P **P** **11 49 58.2 -0.8**
comp=Z,198nm,0.5s
LSA Lhasa 51.20 275 P **P** **11 50 02.8 +3.3**
LSA Lhasa 51.20 275 *e*P **P** **11 50 02.7 +3.2**
LSA pmax pmax
comp=Z,23nm,0.8s,mb5.2
LSA Lhasa 51.20 275 *e*P **P** **11 50 02.7 +3.2**
comp=Z,23nm,0.8s,mb5.2
CHKZ Chkalovo 51.51 311 *e*P **P** **11 50 01.9 +0.1**
CHKZ pmax pmax
comp=Z,16nm,0.6s,mb5.1
CHKZ Chkalovo 51.51 311 *e*P **P** **11 50 01.3 -0.5**
comp=Z,16nm,0.6s,mb5.1
BVA0 Borovoye Array 51.94 310 *i* P **P** **11 50 04.9 -0.1**
BRVK Borovoye 51.98 310 P **P** **11 50 05.0 -0.3**
comp=Z,107nm,0.6s,mb6.0,SNR=8.2
BRVK Borovoye 51.98 310 ⇓P **P** **11 50 05.8 +0.5**
SNR=6.8
BRVK Borovoye 51.98 310 *e*P **P** **11 50 05.5 +0.2**
comp=Z,8.8nm,0.6s,mb4.9
BRVK *e*PcP PcP 11 51 17.8 +0.2
BRVK *e*PP PP 11 51 57.1 -6.3
CHTO Chiang Mai 52.85 258 *e*P **P** **11 50 13.4 +1.6**
CHTO *e* 11 51 22.2
CHTO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CHTO Chiang Mai 52.85 258 *e*P **P** **11 50 13.4 +1.6**
comp=Z,7.9nm,0.9s,mb4.6
CHTO *e*PcP PcP 11 51 22.2 +1.3
ULHL Ulahol 54.03 296 P **P** **11 50 18.5 -2.0**
SNR=8.3
F03A Seaside 54.42 58 ⇑P **P** **11 50 25.5 +2.3**
baz=54
USP Ospenovka 54.56 298 P **P** **11 50 25.7 +1.4**
SNR=16
C05A Tolt Reservoir 54.57 56 ⇑P **P** **11 50 24.2 -0.1**
baz=54
A07A Ashnola River, 54.59 54 ⇑P **P** **11 50 24.1 -0.5**
baz=54
KBK Karagaybulak 54.62 297 P **P** **11 50 24.9 +0.2**
SNR=9.9
FRU Bishkek 54.72 298 *e*P **P** **11 50 26.3 +0.8**
FRU pmax pmax
comp=Z,36nm,1.6s,mb5.2
KZA Kyzart 54.74 296 P **P** **11 50 28.2 +2.6**
SNR=15
SVE Sverdlovsk 54.89 318 *e*P **P** **11 50 26.0 -0.7**
AAK Ala-Archa 54.91 297 P **P** **11 50 28.2 +1.4**
SNR=9.9
AAK Ala-Archa 54.91 297 P **P** **11 50 27.9 +1.1**
comp=Z,96nm,0.9s,mb5.8,SNR=10.0
AAK Ala-Archa 54.91 297 ⇑P **P** **11 50 27.5 +0.7**
SNR=6.6
AAK Ala-Archa 54.91 297 ⇑*e*P **P** **11 50 26.9 +0.1**
AAK pmax pmax
comp=Z,12nm,1.1s,mb4.8
AAK Ala-Archa 54.91 297 *e*P **P** **11 50 27.0 +0.2**
comp=Z,14nm,0.9s,mb5.0
B07A Winthrop 55.05 54 ⇑P **P** **11 50 27.4 -0.5**
baz=55
F04A Amboy 55.09 58 ⇑P **P** **11 50 27.5 -0.6**
baz=55
SOKR Solikamsk 55.13 322 *e*P **P** **11 50 38.4 +10**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.1
H03A Soap Creek Ran 55.25 59 ⇑P **P** **11 50 31.3 +2.0**
baz=55
A08A Turner Farm, O 55.27 53 ⇑P **P** **11 50 28.9 -0.5**
baz=55
D06A Cle Elum 55.32 56 ⇑P **P** **11 50 29.4 -0.4**
baz=55
C07A Waterville 55.50 55 ⇑P **P** **11 50 30.4 -0.7**
baz=55
B08A Colville Reser 55.55 54 ⇓P **P** **11 50 31.3 -0.2**
baz=55
E06A Yakima 55.60 56 ⇓P **P** **11 50 31.7 -0.1**
baz=55
A09A Danville 55.64 53 P **P** **11 50 32.3 +0.2**
baz=55,SNR=9.7
F05A White Salmon 55.68 57 ⇓P **P** **11 50 31.7 -0.6**
baz=55
AML Almayashu 55.68 297 P **P** **11 50 34.3 +1.9**
SNR=7.7
KSH Kashi 55.71 293 *e*P **P** **11 50 36.0 +3.4**
KSH *e*AP pP 11 50 40.3 +2.2
KSH XP sP 11 50 43.0 +2.9
KSH PCP PcP 11 51 34.4 +2.6
KSH *e*PP PP 11 52 42.3 +5.3
KSH *e*PPP 11 53 56.3
KSH *e*SCP ScP 11 55 31.8 +1.8
KSH *e*PCS PcS 11 55 33.8 +1.7
KSH *e*S **S** **11 58 20.9 +2.5**
KSH *e*XS sS 11 58 28.4 +1.1
KSH *e*SCS ScS 12 00 20.9 -0.2
KSH *e*SS SS 12 02 06.1 +2.4
KSH AMB AMB
comp=Z,261nm,1.6s,mb6.0
KSH AMB AMB
comp=Z,665nm,3.5s
KSH LR LR
comp=Z,988nm,8.2s
J02A Umpqua 55.80 61 ⇓P **P** **11 50 33.3 +0.1**
baz=56
D07A Quincy 55.82 55 ⇓P **P** **11 50 33.9 +0.4**
baz=56
H04A Detroit Lake 55.91 59 ⇑P **P** **11 50 34.0 0.0**
baz=56
GUN Gumba 55.95 276 *e*P **P** **11 50 35.6 +1.3**
ARU Arti 56.06 318 P **P** **11 50 35.7 +0.6**
comp=Z,254nm,0.6s,SNR=8.4
ARU Arti 56.06 318 ⇓*i*P **P** **11 50 34.8 -0.3**
ARU *e* 11 52 42.0
ARU *e*PPP 11 53 55.4
ARU *e*S **S** **11 58 21.5 -1.5**
ARU pmax pmax
comp=Z,33nm,0.9s,mb5.4
ARU Arti 56.06 318 *e*P **P** **11 50 34.9 -0.2**
comp=Z,23nm,0.6s,mb5.4
EDM Edmonton 56.10 46 *e*P **P** **11 50 34.9 -0.5**
F06A Goldendale 56.14 57 ⇓P **P** **11 50 36.2 +0.5**
baz=56
J03A Ideyld Park 56.17 61 ⇑P **P** **11 50 36.5 +0.6**
baz=56
B09A Rice 56.18 53 P **P** **11 50 36.0 +0.1**
baz=56,SNR=6.3
E07A Sunnyside 56.24 56 ⇓P **P** **11 50 35.1 -1.3**
baz=56
I04A Tendick Farm, 56.27 60 ⇓P **P** **11 50 37.2 +0.6**
baz=56
KKN Kakani 56.44 277 *e*P **P** **11 50 39.9 +2.1**
comp=Z,87nm,0.9s,mb5.8
C09A Chrisman Ranch 56.45 54 P **P** **11 50 37.7 -0.2**
baz=56,SNR=5.1
PKI Pulchoki 56.48 276 *e*P **P** **11 50 39.5 +1.4**
comp=Z,37nm,0.7s,mb5.5
D08A Wollman Farm, 56.50 55 ⇑P **P** **11 50 36.9 -1.3**
baz=56
H05A Madras 56.50 58 ⇑P **P** **11 50 37.9 -0.3**
baz=56
G06A Carlson Farm, 56.52 58 ⇑P **P** **11 50 37.8 -0.6**
baz=56
F07A Phinny Hill Vi 56.56 57 ⇓P **P** **11 50 38.9 +0.2**
baz=56
DMN Daman 56.67 277 *e*P **P** **11 50 41.6 +2.1**
comp=Z,97nm,0.9s,mb5.8
I05A Bend 56.74 59 ⇑P **P** **11 50 39.7 -0.3**
baz=56
GKN Gorkha 56.75 277 *e*P **P** **11 50 41.9 +1.9**
comp=Z,122nm,0.9s,mb5.9
B10A Chitwood Farm, 56.76 53 ⇑P **P** **11 50 39.6 -0.5**
baz=56
D09A Jones Farm, Ri 56.84 55 ⇓P **P** **11 50 39.4 -1.3**
baz=57
A11A Hall Mountain, 56.87 52 ⇑P **P** **11 50 40.6 -0.2**
baz=57
JCC Jacoby Creek 56.95 64 ⇓P **P** **11 50 40.5 -0.9**
baz=57
H06A Lindquist Farm 56.98 58 ⇓P **P** **11 50 41.0 -0.6**
baz=57
C10A Spilker Farm, 56.98 53 ⇑P **P** **11 50 40.9 -0.8**
baz=57
G07A Ruggs Ranch, H 57.07 57 ⇑P **P** **11 50 41.4 -0.9**
baz=57
KK31 Karatay Array 57.08 300 *i* P **P** **11 50 43.0 +0.7**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KKAR Karatay Array 57.08 300 *e*P **P** **11 50 43.0 +0.7**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
B11A Sandpoint 57.16 52 ⇓P **P** **11 50 43.0 +0.1**
baz=57
E09A Wood Farm, Sta 57.24 55 ⇑P **P** **11 50 43.4 -0.1**
baz=57
YBH Yreka Blue Hor 57.25 62 ⇓P **P** **11 50 44.9 +1.3**
baz=57
A12A Yaak River Ran 57.27 52 ⇓P **P** **11 50 42.9 -0.8**
baz=57
F08A Pendleton 57.28 56 ⇓P **P** **11 50 44.3 +0.5**
baz=57
DAG Danmarks Havn 57.29 358 *i* P **P** **11 50 43.0 -0.9**
DAG Danmarks Havn 57.29 358 *e*P **P** **11 50 43.0 -0.9**
M02C Callahan 57.35 62 ⇑P **P** **11 50 45.3 +1.0**
baz=57
D10A Wagner Farm, O 57.43 54 ⇑P **P** **11 50 43.8 -1.0**
baz=57
G08A Pilot Rock 57.47 57 ⇑P **P** **11 50 45.3 +0.2**
baz=57
KOLN Koldanda 57.61 278 *e*P **P** **11 50 48.2 +2.1**
comp=Z,94nm,0.8s,mb5.8
M04C Macdoel 57.75 62 ⇑P **P** **11 50 47.3 +0.1**
baz=58
F09A S2 Ranch, Elgi 57.84 56 ⇑P **P** **11 50 48.2 +0.5**
baz=58
I07A Izee 57.84 58 ⇓P **P** **11 50 48.3 +0.6**
baz=58
E10A Myers Farm, Un 57.85 55 ⇑P **P** **11 50 47.1 -0.7**
baz=58
M03C McCloud 57.87 62 ⇓P **P** **11 50 47.5 -0.4**
baz=58
J06A Christmas Vall 57.93 59 ⇓P **P** **11 50 47.8 -0.5**
baz=58
D11A Klaveano Farm, 57.96 54 P **P** **11 50 47.8 -0.8**
baz=58,SNR=6.0
F10A Beach Ranch, E 58.08 55 ⇑P **P** **11 50 48.7 -0.7**
baz=58
H08A Prairie City 58.08 57 ⇑P **P** **11 50 49.1 -0.3**
baz=58
K06A Valley Falls 58.13 60 ⇑P **P** **11 50 50.4 +0.7**
baz=58
WALA Waterton Lakes 58.14 51 *e*P **P** **11 50 50.0 +0.2**
comp=Z,11nm,0.6s,mb5.0
G09A Cove 58.16 56 ⇓P **P** **11 50 49.6 -0.3**
baz=58
KEV Kevo 58.22 341 *e*p **P** **11 50 52.0 +1.6**
B13A Whitefish 58.24 52 P **P** **11 50 50.8 +0.3**
baz=58,SNR=22
M05C Lookout 58.42 62 ⇓P **P** **11 50 52.0 +0.2**
baz=58
E11A Bogner Ranch, 58.43 54 ⇑P **P** **11 50 50.9 -1.0**
baz=58
I08A Drewsey 58.49 58 ⇑P **P** **11 50 52.8 +0.6**
baz=58
BOK Bokaro 58.56 273 *e*P **P** **11 50 51.6 -1.2**
BOK AMb AMB 11 50 53.7
comp=Z,96nm,1.4s,mb5.7
H09A Durkee 58.58 57 P **P** **11 50 53.8 +0.9**
baz=58,SNR=5.6
C13A Hot Springs 58.58 52 ⇑P **P** **11 50 52.7 -0.2**
baz=58
MOD Modoc 58.62 61 ⇓P **P** **11 50 53.3 +0.1**
baz=58
O03C Acorn Hollow, 58.67 63 ⇑P **P** **11 50 54.1 +0.5**
baz=58
BMO Blue Mountains 58.68 56 *e*P **P** **11 50 53.7 +0.1**
comp=Z,17nm,1.2s,mb4.9
ARCES ARCESS Array B 58.72 341 P **P** **11 50 53.8 -0.1**
comp=Z,5.3nm,0.6s,mb4.7,baz=42,slow=5.9,SNR=12
ARCES LR LR 12 18 26.9
comp=Z,378nm,21.8s,MS4.5,baz=35,slow=38
ARCES ARCESS Array B 58.72 341 P **P** **11 50 53.8 -0.1**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES MLR MLR
comp=Z,378nm,21.8s
F11A Grangeville 58.73 55 ⇑P **P** **11 50 54.5 +0.5**
baz=58
K07A Rock Creek Ran 58.79 59 ⇓P **P** **11 50 54.5 +0.1**
baz=58
M06C Likely Place G 58.92 61 ⇑P **P** **11 50 55.4 +0.2**
baz=59
I09A Lost Marbles R 58.94 57 ⇓P **P** **11 50 55.4 0.0**
baz=59
G11A Walters Elk Ra 58.95 55 ⇑P **P** **11 50 54.9 -0.7**
baz=59
D13A Huson 58.98 53 P **P** **11 50 55.8 +0.1**
baz=59,SNR=8.0
L07A Adell 59.13 60 ⇓P **P** **11 50 56.6 -0.2**
baz=59
H10A Noah's Angus R 59.15 56 P **P** **11 50 56.8 -0.1**
baz=59,SNR=8.6
K08A Mann Creek Ran 59.23 59 ⇑P **P** **11 50 57.7 +0.4**
baz=59
ORV Oroville 59.26 63 ⇑P **P** **11 50 56.5 -1.2**
baz=59
J09A Fry Pan Ranch, 59.30 58 ⇑P **P** **11 50 57.9 0.0**
baz=59
F12A Elk City 59.32 54 ⇑P **P** **11 50 58.0 -0.1**
baz=59
O05C Quincy 59.38 63 ⇑P **P** **11 50 58.4 -0.1**
baz=59
OHCM Honcut 59.40 64 *e*P **P** **11 50 58.4 -0.2**
MSO Missoula 59.43 53 *e*P **P** **11 50 58.6 -0.2**
comp=Z,25nm,1.3s,mb5.1
AB31 Akbulak array 59.50 311 *i* P **P** **11 50 59.6 +0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
H11A Donnelly 59.51 56 P **P** **11 50 59.3 -0.1**
baz=59,SNR=12
D14A Greenough 59.52 52 P **P** **11 50 59.3 -0.1**
baz=59,SNR=18
E13A Victor 59.52 53 P **P** **11 50 59.6 +0.2**
baz=59,SNR=11
N06A Buffalo Meadow 59.58 61 ⇑P **P** **11 50 59.5 -0.4**
baz=59
M07A Soldier Meadow 59.61 61 P **P** **11 51 00.8 +0.7**
baz=59,SNR=10
K09A Rome 59.70 59 ⇓P **P** **11 51 01.0 +0.4**
baz=59
CHMT Chamberlain Mo 59.76 52 *e*P **P** **11 51 01.0 0.0**
BEKR Beckwourth 59.79 63 P **P** **11 51 01.5 +0.3**
baz=60,SNR=5.1
AKTO Aktyubinsk 59.80 313 P **P** **11 51 01.4 +0.1**
F13A Darby 59.82 54 P **P** **11 51 01.3 -0.2**
baz=60,SNR=10
J10A Berg Farm, Mel 59.83 57 ⇓P **P** **11 51 01.0 -0.6**
baz=60
E14A Clinton 59.92 53 P **P** **11 51 02.5 +0.3**
baz=60,SNR=6.5
O06A Flanigan 59.94 62 ⇓P **P** **11 51 01.9 -0.4**
baz=60
I11A Placerville 60.01 57 ⇓P **P** **11 51 02.2 -0.6**
baz=60
M08A Happy Creek Ra 60.05 60 ⇑P **P** **11 51 02.9 -0.2**
baz=60
D15A Lincoln 60.08 52 P **P** **11 51 03.6 +0.3**
baz=60,SNR=6.5
N07B Gerlach 60.09 61 ⇓P **P** **11 51 03.5 +0.2**
baz=60
L09A Wilkinson Ranc 60.14 59 ⇑P **P** **11 51 04.0 +0.4**
baz=60
P06A Stead Airport, 60.18 62 ⇑P **P** **11 51 03.3 -0.6**
baz=60
LAVA Lava Cap Winer 60.22 64 ⇓P **P** **11 51 03.3 -0.9**
baz=60
H12A Diamond D Ranc 60.27 55 ⇓P **P** **11 51 03.9 -0.6**
baz=60
G13A Cobalt 60.30 55 P **P** **11 51 04.6 -0.1**
baz=60,SNR=24
F14A Wisdom 60.35 54 P **P** **11 51 05.4 +0.3**
baz=60,SNR=5.0
MFID Camas Ranch 60.38 57 ⇑P **P** **11 51 05.7 +0.3**
baz=60
E15A Deer Lodge 60.39 53 P **P** **11 51 05.3 -0.1**
baz=60,SNR=16
R04C Big Horse Ranc 60.39 64 ⇓P **P** **11 51 04.0 -1.4**
baz=60
WCN Washoe City 60.50 63 ⇓P **P** **11 51 06.1 0.0**
baz=60
O07A Toulon 60.52 62 P **P** **11 51 06.8 +0.5**
baz=60,SNR=6.2
N08A GE Springer Mi 60.60 61 ⇑P **P** **11 51 07.0 +0.2**
baz=60
M09A Marrel Ranch, 60.62 60 ⇓P **P** **11 51 07.4 +0.4**
baz=60
FFC Flin Flon 60.63 40 P **P** **11 51 07.5 +0.4**
comp=Z,161nm,1.2s,mb6.0,SNR=12
R05C Kirkwood Meado 60.66 63 ⇓P **P** **11 51 07.2 0.0**
baz=60
ORR Orenburg 60.71 315 *e*P **P** **11 51 07.8 +0.2**
ORR *e* 11 51 18.6
ORR pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
F15A Butte 60.82 53 P **P** **11 51 08.5 +0.2**
baz=60,SNR=19
LRM Limekiln Ridge 60.86 53 *e*P **P** **11 51 09.1 +0.5**
CMB Columbia Colle 60.87 64 *e*P **P** **11 51 08.8 +0.1**
CMB pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
CMB Columbia Colle 60.87 64 *e*P **P** **11 51 08.8 +0.1**
comp=Z,9.1nm,1.3s,mb4.8
CMB Columbia Colle 60.87 64 ⇑P **P** **11 51 09.0 +0.3**
baz=61
P07A Fallon 60.89 62 ⇑P **P** **11 51 08.4 -0.3**
baz=61
J12A Stokes Ranch, 60.91 57 ⇑P **P** **11 51 09.0 0.0**
baz=61
N09A Rock Creek Ran 60.92 60 ⇑P **P** **11 51 09.2 +0.2**
baz=61
EGMT Eagleton 60.98 50 *e*P **P** **11 51 08.8 -0.6**
comp=Z,23nm,1.0s,mb5.2
EGMT Eagleton 60.98 50 P **P** **11 51 09.4 0.0**
baz=61,SNR=13
KLMR Klimovskoe 61.09 330 *e*P **P** **11 51 09.1 -1.1**
KLMR pmax pmax
comp=Z,50nm,1.4s,mb5.5
M10A I.L. Ranch, Tu 61.11 59 P **P** **11 51 11.3 +1.1**
baz=61,SNR=6.5
HLID Hailey 61.12 56 *e*P **P** **11 51 10.5 +0.2**
comp=Z,13nm,1.3s,mb4.9
HLID Hailey 61.12 56 P **P** **11 51 10.8 +0.4**
baz=61,SNR=8.9
R06C Coleville 61.16 63 ⇑P **P** **11 51 10.9 +0.3**
baz=61
G15A Dillon 61.23 54 P **P** **11 51 11.2 0.0**
baz=61,SNR=7.8
MCMT McKenzie Canyo 61.24 54 *e*P **P** **11 51 11.3 +0.2**
S06C San Francisco 61.30 64 ⇑P **P** **11 51 11.6 0.0**
baz=61
J13A Cove Ranch, Pi 61.35 56 ⇑P **P** **11 51 12.3 +0.3**
baz=61
BMN Battle Mountai 61.36 60 *e*P **P** **11 51 12.8 +0.8**
BMN pmax pmax
comp=Z,14nm,1.0s,mb5.0
BMN Battle Mountai 61.36 60 *e*P **P** **11 51 12.8 +0.8**
comp=Z,14nm,1.1s,mb5.0
K12A Draper Farm, C 61.40 57 ⇑P **P** **11 51 12.3 +0.1**
baz=61
NDI New Delhi 61.40 283 *e*P **P** **11 51 13.5 +1.2**
BOZ Bozeman (W) 61.42 53 *e*P **P** **11 51 12.6 +0.2**
BOZ pmax pmax
comp=Z,22nm,1.1s,mb5.2
BOZ Bozeman (W) 61.42 53 *e*P **P** **11 51 12.6 +0.2**
comp=Z,22nm,1.1s,mb5.2
BOZ Bozeman (W) 61.42 53 P **P** **11 51 13.3 +0.9**
baz=61,SNR=12
O09A Fish Creek Ran 61.54 61 P **P** **11 51 14.2 +1.0**
baz=61,SNR=6.0
M11A Holland Ranch, 61.61 59 P **P** **11 51 14.5 +0.8**
baz=61,SNR=7.4
R07C Lee Vining 61.67 63 P **P** **11 51 15.0 +0.9**
baz=61,SNR=6.7
KAKA Kakadu 61.82 204 ⇓*i*P **P** **11 51 15.3 +0.2**
comp=Z,22nm,0.8s,mb5.3
O10A Cortez Mining, 61.88 60 ⇓P **P** **11 51 16.0 +0.5**
baz=62
Q08A Gabbs 61.89 62 P **P** **11 51 16.2 +0.6**
baz=62,SNR=6.1
NVAR Mina Array Bea 61.93 63 P **P** **11 51 15.7 -0.2**
comp=Z,4.4nm,0.8s,mb4.6,baz=296,slow=6.7,SNR=23
T06C Millerton Lake 61.93 65 ⇓P **P** **11 51 15.3 -0.5**
baz=62
P09A Austin 61.95 61 ⇑P **P** **11 51 16.5 +0.5**
baz=62
KCC Kaiser Creek 61.98 64 ⇑P **P** **11 51 15.9 -0.2**
baz=62
N11A Elko Archery C 62.02 59 ⇑P **P** **11 51 16.6 +0.2**
baz=62
QLMT Earthquake Lak 62.03 53 *e*P **P** **11 51 17.1 +0.5**
PKD Parkfield 62.06 66 ⇑P **P** **11 51 16.8 +0.2**
baz=62
M12A Wells 62.14 58 ⇑P **P** **11 51 17.1 -0.2**
baz=62
JOF Joensuu 62.28 334 *e*p **P** **11 51 16.9 -1.3**
P10A Eureka 62.32 61 ⇑P **P** **11 51 19.0 +0.5**
baz=62
Q09A Carvers 62.37 62 ⇑P **P** **11 51 19.0 +0.3**
baz=62
N12A Clover Valley, 62.41 59 ⇓P **P** **11 51 19.5 +0.4**
baz=62
O11A Cowboy Ranch, 62.49 60 ⇑P **P** **11 51 19.8 +0.2**
baz=62
YNR Norris Junctio 62.52 53 *e*P **P** **11 51 21.4 +1.6**
S08C White Mtn Res 62.59 64 ⇑P **P** **11 51 20.6 +0.3**
baz=62
YFT Old Faithful 62.60 54 *e*P **P** **11 51 22.9 +2.6**
M13A Montello 62.62 58 P **P** **11 51 20.7 +0.3**
baz=62,SNR=8.6
RCTC Rector, Farmer 62.66 65 ⇓P **P** **11 51 20.8 +0.1**
baz=62
R09A Tonopah 62.80 62 P **P** **11 51 21.8 +0.1**
baz=62,SNR=16
N13A Wendover, West 62.91 58 P **P** **11 51 22.9 +0.5**
baz=63,SNR=5.0
DCID1 Drake Creek 62.94 54 *e*P **P** **11 51 21.8 -0.8**
O12A Currie 62.95 59 P **P** **11 51 22.9 +0.3**
baz=63,SNR=11
S09A Goldfield 63.03 63 P **P** **11 51 23.6 +0.4**
baz=63,SNR=5.1
RLMT Red Lodge 63.05 52 *e*P **P** **11 51 22.6 -0.7**
comp=Z,22nm,0.7s,mb5.4
VES Vestal, Richgr 63.05 65 ⇓P **P** **11 51 22.3 -1.0**
baz=63
MOOW Moose Ponds 63.09 54 *e*P **P** **11 51 24.8 +1.2**
comp=Z,14nm,1.2s,mb5.0
HVU Hansel Valley 63.17 57 *e*P **P** **11 51 25.2 +1.1**
PKM Peak Mountain 63.17 67 ⇑P **P** **11 51 23.0 -1.2**
baz=63
REDW Red Top Meadow 63.28 54 *e*P **P** **11 51 25.8 +0.9**
comp=Z,56nm,1.3s,mb5.5
Q11A Duckwater 63.29 61 ⇓P **P** **11 51 25.2 +0.3**
baz=63
CWC Cottonwood Cre 63.30 64 ⇑P **P** **11 51 24.8 -0.2**
baz=63
P12A McGill 63.35 60 ⇓P **P** **11 51 25.0 -0.4**
baz=63
GRAC Grapevine Rang 63.40 64 P **P** **11 51 26.3 +0.7**
baz=63,SNR=6.3
ISA Isabella 63.54 65 ⇑P **P** **11 51 25.9 -0.7**
baz=63
ARVC Arvin 63.66 66 ⇑P **P** **11 51 26.1 -1.2**

baz=63
Q12A Willow Creek R 63.67 60 ⇓P **P 11 51 28.0 +0.5**
baz=63
LAO LASA Array 63.69 49 *e*P **P 11 51 27.7 +0.2**
comp=Z,15nm,0.9s,mb5.0
MPMC Manual Prospec 63.91 64 P **P 11 51 29.4 +0.3**
baz=64,SNR=5.8
HWUT Hardware Ranch 63.98 56 *e*P **P 11 51 29.7 +0.2**
comp=Z,9.9nm,1.2s,mb4.7
FURC Furnace Creek, 64.05 64 P **P 11 51 29.9 0.0**
baz=64,SNR=9.0
DUG Dugway 64.14 58 *e*P **P 11 51 30.8 +0.2**
DUG pmax pmax
comp=Z,14nm,1.0s,mb5.0
DUG Dugway 64.14 58 *e*P **P 11 51 30.8 +0.2**
comp=Z,14nm,1.0s,mb5.0
DUG Dugway 64.14 58 P **P 11 51 30.9 +0.3**
baz=64,SNR=13
LRMC Laurel Mountai 64.16 65 ⇑P **P 11 51 30.5 -0.1**
baz=64
NOQ North Oquirrh 64.26 57 *e*P **P 11 51 32.0 +0.7**
EDW2 Edwards Air Fo 64.34 66 P **P 11 51 31.4 -0.5**
baz=64,SNR=5.5
KAF Kangasniemi 64.37 336 *e*p **P 11 51 30.5 -1.5**
VIS Vishakhapatnam 64.38 269 *e*P **P 11 51 33.7 +1.6**
BW06 Boulder Array 64.39 54 *e*P **P 11 51 32.0 -0.1**
comp=Z,25nm,1.3s,mb5.1
PDAR Pinedale Array 64.39 54 P **P 11 51 32.0 -0.1**
comp=Z,9.6nm,0.9s,mb4.8,baz=295,slow=2.2,SNR=52
U10A Ash Meadows, A 64.41 63 ⇓P **P 11 51 31.2 -1.0**
baz=64
AJM Ajmer 64.56 282 *e*P **P 11 51 35.0 +1.7**
AJM AMb AMB 11 51 38.6
comp=Z,41nm,0.8s,mb5.5
JLU Jordanelle 64.69 57 *e*P **P 11 51 34.9 +0.8**
NLU North Lily Min 64.73 58 *e*P **P 11 51 35.0 +0.6**
SHOC Shoshone 64.77 64 ⇑P **P 11 51 33.1 -1.6**
baz=64
BHPL Bhopal 64.78 278 *e*P **P 11 51 35.9 +1.2**
BHPL AMb AMB 11 51 37.0
comp=Z,43nm,0.9s,mb5.5
BHPL AMb AMB 11 51 37.0
comp=Z,44nm,0.9s,mb5.5
GSC Goldstone 64.82 65 ⇓P **P 11 51 33.4 -1.6**
baz=65
DAU Daniels Canyon 64.92 57 *e*P **P 11 51 36.0 +0.4**
MPU Maple Canyon 64.96 58 *e*P **P 11 51 36.5 +0.7**
BFSC Mount Baldy St 64.97 66 ⇓P **P 11 51 35.3 -0.6**
baz=65
FINES FINESS Array B 64.97 335 P **P 11 51 35.2 -0.8**
comp=Z,4.1nm,0.5s,mb4.7,baz=36,slow=6.1,SNR=18
FINES LR LR 12 20 17.2
comp=Z,272nm,21.9s,MS4.4,baz=181,slow=36
FINES FINESS Array B 64.97 335 P **P 11 51 35.2 -0.8**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES MLR MLR
comp=Z,272nm,21.9s
FINES FINESS Array B 64.97 335 P **P 11 51 35.2 -0.8**
FINES LR LR 12 20 17.2
U11A Corn Creek 64.99 63 ⇑P **P 11 51 37.1 +1.0**
baz=65
TUQ Turquoise Mtn. 65.29 64 ⇓P **P 11 51 37.9 -0.1**
baz=65
V11A Goodsprings 65.34 63 ⇑P **P 11 51 38.2 -0.2**
baz=65
BBRC Big Bear Sol-O 65.42 66 ⇑P **P 11 51 39.1 +0.2**
baz=65
HEC Hector,Ludlow 65.42 65 ⇓P **P 11 51 39.1 +0.2**
baz=65
U12A Valley of Fire 65.51 62 ⇑P **P 11 51 39.8 +0.4**
baz=65
SFJD Kangerlussuaq 65.60 11 LR LR 12 24 13.5
comp=Z,164nm,18.6s,MS4.3,baz=324,slow=40
SFJD Kangerlussuaq 65.60 11 *i* P **P 11 51 39.5 -0.5**
comp=Z,26nm,0.9s,mb5.3
SFJD Kangerlussuaq 65.60 11 *i* P **P 11 51 39.5 -0.5**
SFJD pmax pmax
comp=Z,26nm,0.9s,mb5.3
MSU Marysvale 65.60 59 P **P 11 51 40.4 +0.4**
MSU Marysvale 65.60 59 *e*P **P 11 51 40.5 +0.5**
MURC Murrieta 65.67 66 ⇓P **P 11 51 40.5 0.0**
baz=65
V12A Nelson 65.77 63 ⇓P **P 11 51 41.0 -0.2**
baz=66
GMRC Granite Mounta 65.88 64 ⇑P **P 11 51 42.0 +0.2**
baz=66
W12A Cal Nev Ari 66.03 64 ⇓P **P 11 51 43.0 +0.2**
baz=66
109C Camp Elliot, M 66.19 67 ⇓P **P 11 51 43.8 0.0**
baz=66
SRU San Rafael 66.19 58 *e*P **P 11 51 44.0 +0.1**
OBN Obninsk 66.32 326 ⇓*e*P **P 11 51 43.7 -0.9**
OBN *e**PP pP 11 52 11.1 +21
OBN *e* 11 54 05.9
OBN *e*S S 12 00 30.6 -2.9
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.8
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
ULM Lac du Bonnet 66.40 41 P **P 11 51 44.0 -1.1**
comp=Z,5.1nm,0.8s,mb4.6,baz=313,slow=6.6,SNR=12
IRM Iron Mountain 66.60 65 P **P 11 51 46.6 +0.1**
baz=66,SNR=6.3
BC3 Big Chuckw Mtn 66.74 65 ⇑P **P 11 51 47.0 -0.3**
baz=66
W13A Hualapai Mount 66.78 63 ⇑P **P 11 51 47.8 +0.2**
baz=66
PDMCI Parker Dam,Lak 67.14 64 ⇓P **P 11 51 50.4 +0.5**
baz=67
X13A Yucca 67.14 63 P **P 11 51 49.9 -0.1**
baz=67,SNR=6.0
W14A Seligman 67.20 63 P **P 11 51 50.7 +0.5**
baz=67,SNR=14
Y12C Blythe 67.26 65 ⇑P **P 11 51 50.9 +0.2**
baz=67
GLA Glamis 67.53 65 ⇓P **P 11 51 52.4 0.0**
baz=67
PV10 Paradox Valley 67.55 58 *e*P **P 11 51 52.9 +0.4**
Y13A Salome 67.66 64 ⇑P **P 11 51 53.4 +0.2**
baz=67
W15A Williams 67.72 62 ⇓P **P 11 51 54.0 +0.4**
baz=68
AGMN Agassiz Refuge 67.78 43 *e*P **P 11 51 52.9 -1.1**
comp=Z,19nm,1.1s,mb5.0
X14A Yava 67.81 63 P **P 11 51 54.6 +0.5**
baz=68,SNR=9.6
PV01 Paradox Valley 67.99 58 *e*P **P 11 51 55.6 +0.3**
WUAZ Wupatki 68.05 61 *e*P **P 11 51 56.2 +0.6**
comp=Z,13nm,1.3s,mb4.8
WUAZ Wupatki 68.05 61 P **P 11 51 56.3 +0.7**
baz=68,SNR=5.7
Y14A Wickenburg 68.09 64 P **P 11 51 56.2 +0.3**
baz=68,SNR=6.1
X15A Humboldt 68.20 63 P **P 11 51 57.1 +0.5**
baz=68,SNR=10.0
WB2 Warramunga Arr 68.23 200 *e*P **P 11 51 56.6 -0.2**
WRA Warramunga Arr 68.23 200 P **P 11 51 56.6 -0.2**
comp=Z,7.2nm,0.8s,mb4.8,baz=21,slow=6.9,SNR=40
WRA LR LR 12 21 38.3
comp=Z,31nm,19.9s,MS3.5,baz=30,slow=36
Z14A Wintersburg 68.51 64 ⇓P **P 11 51 58.2 -0.3**
baz=68
ISCO Idaho Springs 68.58 55 *e*P **P 11 51 59.3 +0.4**
ISCO pmax pmax
comp=Z,12nm,1.0s,mb4.8
ISCO Idaho Springs 68.58 55 *e*P **P 11 51 59.3 +0.4**
comp=Z,12nm,0.9s,mb4.8
MVCO Mesa Verde 68.65 58 *e*P **P 11 51 59.7 +0.3**
comp=Z,6.8nm,0.9s,mb4.6
MVCO Mesa Verde 68.65 58 P **P 11 51 59.6 +0.2**
baz=68,SNR=5.9
FITZ Fitzroy Crossi 69.03 209 ⇓*i*P **P 11 52 02.6 +0.8**
comp=Z,12nm,0.8s,mb4.9
NB2 NORSAR Subarra 69.09 342 P **P 11 52 01.3 -0.9**
comp=Z,3.1nm,0.6s,mb4.4,baz=27,slow=6.5
NOA NORSAR Array B 69.09 342 P **P 11 52 01.1 -1.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=26,slow=6.3,SNR=9.4
NOA LR LR 12 26 34.8
comp=Z,162nm,19.0s,MS4.3,baz=20,slow=40
NOA NORSAR Array B 69.09 342 P **P 11 52 01.1 -1.1**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA MLR MLR
comp=Z,162nm,19.0s
115A Sonoran Desert 69.39 64 ⇑P **P 11 52 03.4 -0.6**
baz=69
116A Eloy 69.82 64 ⇓P **P 11 52 06.9 +0.3**
baz=70
SDCO Great Sand Dun 70.04 56 *e*P **P 11 52 08.2 +0.2**
comp=Z,31nm,1.7s,mb5.0
POO Poona 70.41 277 *ex* x 11 52 01.1
POO ⇑*i*P 11 52 08.0
comp=Z,30nm,1.0s
POO AMb AMB 11 52 14.1
comp=Z,30nm,1.2s,mb5.1
KAD Karad 71.01 275 *e*P **P 11 52 15.4 +1.5**
KAD AMb AMB 11 52 17.8
comp=Z,31nm,1.4s,mb5.0
ANMO Albuquerque 71.39 59 *e*P **P 11 52 16.5 +0.3**
ANMO Albuquerque 71.39 59 *e*P **P 11 52 16.2 0.0**
comp=Z,5.0nm,0.9s,mb4.4
KIV Kislovodsk 71.86 315 ⇑*e*P **P 11 52 20.0 +0.9**
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KIV Kislovodsk 71.86 315 *e*P **P 11 52 20.9 +1.8**
comp=Z,19nm,0.8s,mb5.1
ASAR Alice Springs 71.92 200 P **P 11 52 20.2 +0.8**
comp=Z,8.6nm,1.0s,mb4.6,baz=12,slow=5.7,SNR=44
ASAR Alice Springs 71.92 200 P **P 11 52 20.2 +0.8**
ASAR pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 72.13 314 *e*P **P 11 52 21.9 +1.2**
ZEI pmax pmax
comp=Z,14nm,1.0s,mb4.8
AKASG Malin Array Be 72.55 327 P **P 11 52 22.4 -0.8**
comp=Z,5.5nm,0.6s,mb4.7,baz=33,slow=6.5,SNR=13
AKASG LR LR 12 25 17.5
comp=Z,172nm,20.0s,MS4.3,baz=40,slow=37
AKASG Malin Array Be 72.55 327 P **P 11 52 22.4 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG MLR MLR
comp=Z,172nm,20.0s
KIEV Kiev 72.56 327 P **P 11 52 22.6 -0.6**
KIEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KIEV Kiev 72.56 327 *e*P **P 11 52 22.7 -0.5**
comp=Z,7.1nm,0.6s,mb4.8
SCHQ Schefferville 73.53 23 P **P 11 52 27.0 -1.9**
comp=Z,5.2nm,0.9s,mb4.5,baz=288,slow=9.6,SNR=3.3
SCHQ LR LR 12 26 49.6
comp=Z,81nm,18.9s,MS4.0,baz=315,slow=38
GNI Garni 73.61 311 ⇑*e*P **P 11 52 29.5 +0.1**
GNI pmax pmax
comp=Z,21nm,1.6s
GNI Garni 73.61 311 *e*P **P 11 52 31.4 +2.0**
comp=Z,26nm,1.2s,mb5.0
GNI *e*PcP PcP 11 52 47.7 +2.4
SCIA State Center 73.71 46 *e*P **P 11 52 29.5 -0.5**
comp=Z,15nm,0.7s,mb5.0
ANN Anapa 73.73 319 *e*P **P 11 52 30.7 +0.5**
ANN pmax pmax
comp=Z,38nm,1.4s,mb5.1
KSU1 Kansas State U 74.02 50 *e*P **P 11 52 29.8 -2.0**
comp=Z,26nm,1.2s,mb5.0
KWP Kalwaria 75.81 330 *e*P **P 11 52 43.1 +0.9**
WMOK Wichita Mounta 76.00 54 *e*P **P 11 52 42.6 -0.7**
comp=Z,7.8nm,0.9s,mb4.6
STHS Stebnicka Huta 76.49 331 *e*P **P 11 52 46.8 +0.7**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 76.49 331 *e*P **P 11 52 46.8 +0.7**
comp=Z,6.2nm,0.9s,mb4.5
KOLS Kolonicke sedl 76.55 330 *e*P **P 11 52 46.4 0.0**
CRVS Cervenica-Dubn 76.86 330 *e*P **P 11 52 48.6 +0.5**
LTX Lajitas 77.01 61 *e*P **P 11 52 49.0 0.0**
LTX pmax pmax
comp=Z,19nm,0.9s,mb5.0
LTX Lajitas 77.01 61 *e*P **P 11 52 49.0 0.0**
comp=Z,19nm,0.9s,mb5.0
TXAR Lajitas Array 77.01 61 P **P 11 52 48.8 -0.2**
comp=Z,11nm,0.8s,mb4.9,baz=300,slow=4.3,SNR=117
TXAR Lajitas Array 77.01 61 P **P 11 52 48.8 -0.2**
TXAR pmax pmax
comp=Z,11nm,0.8s
OKC Ostrava-Krasne 77.15 333 *e*P **P 11 52 50.6 +0.8**
UPC Upice 77.23 334 *e*P **P 11 52 51.0 +0.8**
UPC *e*pP pP 11 52 55.8 0.0
DPC Dobruska-Polom 77.27 334 *e*P **P 11 52 50.5 0.0**
DPC *e*pP pP 11 52 56.2 +0.1
CLL Collm 77.39 336 *i* P **P 11 52 50.6 -0.5**
CLL *i* pP 11 52 56.6 -0.1
CLL *i* 11 53 10.0
CLL pmax pmax
comp=Z,19nm,1.9s,mb4.7
CLL Collm 77.39 336 *i* P **P 11 52 50.6 -0.5**
comp=Z,38nm,1.9s,mb5.0
CLL *i* pP 11 52 56.6 -0.1
CLL *i* 11 53 10.0
CLL Collm 77.39 336 *i* P **P 11 52 50.6 -0.5**
comp=Z,38nm,1.9s,mb5.0
CLL *i* pP pP 11 52 56.6 -0.1
CLL *i* sPcP 11 53 10.0
CLL *e*PP PP 11 55 43.0 -2.5
MORC Moravsky Berou 77.39 333 *e*P **P 11 52 51.2 +0.1**
comp=Z,24nm,1.4s,mb4.9
MORC Moravsky Berou 77.39 333 ⇓*i*P **P 11 52 51.5 +0.3**
BRG Berggiesshubel 77.51 336 *e*P **P 11 52 51.5 -0.3**
comp=Z,6.2nm,1.2s,mb4.4
BRG Berggiesshubel 77.51 336 *e*P **P 11 52 51.5 -0.3**
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BOYT Boyabat 77.52 318 *i* P **P 11 52 53.1 +1.2**
KECS Kecovo 77.55 331 *e*P **P 11 52 51.8 -0.2**
KECS *e* pP 11 52 58.1 +0.5
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 77.55 331 *e*P **P 11 52 51.8 -0.2**
comp=Z,4.2nm,0.9s,mb4.4
KECS *e* pP 11 52 58.1 +0.5
PVCC Panska Ves 77.64 335 *e*P **P 11 52 52.1 -0.4**
TIRR Tirgusor 77.94 324 ⇑*i*P **P 11 52 59.7 +5.5**
FVM French Village 78.07 47 *e*P **P 11 52 53.9 -1.0**
FVM pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
FVM French Village 78.07 47 *e*P **P 11 52 53.9 -1.0**
comp=Z,4.9nm,0.6s,mb4.6
MLR Muntele Rosu 78.08 326 ⇑*i*P **P 11 52 56.0 +1.0**
VYHS Vyhne 78.09 332 *e*P **P 11 52 55.1 0.0**
VYHS *e* 11 53 12.2
VYHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
VYHS Vyhne 78.09 332 *e*P **P 11 52 55.1 0.0**
comp=Z,6.8nm,1.3s,mb4.4
VYHS *e* 11 53 12.2
PRU Pruhonice 78.13 335 *e*P **P 11 52 53.7 -1.5**
PRU *e*pP pP 11 53 00.4 -0.5
BALT Daday 78.13 319 *i* P **P 11 52 54.7 -0.5**
CTKT Corum 78.20 317 *i* P **P 11 52 55.2 -0.4**
PSZ Piszkesteto 78.24 331 *e*P **P 11 52 56.1 +0.3**
PSZ pmax pmax
comp=Z,28nm,1.6s,mb4.9
PSZ Piszkesteto 78.24 331 *e*P **P 11 52 56.1 +0.3**
comp=Z,28nm,1.6s,mb5.0
MOX Moxa 78.37 337 *e*P **P 11 52 56.7 +0.1**
comp=Z,12nm,0.8s,mb4.9
MOX Moxa 78.37 337 *e*P **P 11 52 56.7 +0.1**
MOX pmax pmax
comp=Z,17nm,0.8s,mb5.0
JMDO Jabal Madar 78.39 290 ⇑P **P 11 52 58.9 +2.3**
SNR=5.4
VOIR 78.47 326 ⇑*i*P **P 11 52 58.0 +0.9**
JCT Junction City 78.51 58 *e*P **P 11 52 56.7 -0.6**
JCT pmax pmax
comp=Z,24nm,1.2s,mb5.0
JCT Junction City 78.51 58 *e*P **P 11 52 56.6 -0.7**
comp=Z,24nm,1.2s,mb5.0
STKA Stephens Creek 78.51 191 P **P 11 52 57.2 -0.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=4.3,slow=8.6,SNR=5.6
STKA LR LR 12 24 24.8
comp=Z,67nm,20.6s,MS4.0,baz=25,slow=33
STKA Stephens Creek 78.51 191 *e*P **P 11 52 57.3 0.0**
NKC Novy Kostel 78.51 336 *e*P **P 11 52 57.6 +0.2**
BSY Bisya 78.71 291 P **P 11 53 00.2 +1.8**
SNR=11
ZST Bratislava 78.92 332 *e*P **P 11 53 00.2 +0.6**
KHC Kasperske Hory 79.18 335 *e*P **P 11 53 00.6 -0.4**
KHC Kasperske Hory 79.18 335 *e*P **P 11 52 59.7 -1.3**
GRA1 Grafenberg Arr 79.34 337 *e*P **P 11 53 02.3 +0.4**
comp=Z,18nm,1.2s,mb4.9
GRF Grafenberg Arr 79.34 337 *e*P **P 11 53 02.3 +0.4**
comp=Z,18nm,1.2s,mb4.9
GRF Grafenberg Arr 79.34 337 *e*P **P 11 53 02.3 +0.4**
GRF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
GRF Grafenberg Arr 79.34 337 *e*P **P 11 53 02.3 +0.4**
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.9
GRFO Grafenberg 79.34 337 P **P 11 53 07.8 +5.9**
GRFO pmax pmax
comp=Z,32nm,1.0s,mb5.2
GZR Gura Zlata 79.37 328 ⇑P **P 11 53 02.6 +0.5**
GZR Gura Zlata 79.37 328 ⇑*i*P **P 11 53 02.5 +0.4**
GERES GERESS Array B 79.39 335 P **P 11 53 02.0 -0.2**
comp=Z,1.6nm,0.7s,mb4.1,baz=33,slow=5.1,SNR=8.8
GERES LR LR 12 32 02.1
comp=Z,142nm,20.6s,MS4.3,baz=273,slow=39
GERES GERESS Array B 79.39 335 P **P 11 53 02.0 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,142nm,20.6s
GZT Gaziantep 79.39 314 *i* P **P 11 53 03.8 +1.6**
BR131 Keskin Array S 79.45 318 *e*P **P 11 53 02.9 +0.4**
comp=Z,4.6nm,0.8s,mb4.5
BRTR Keskin Array B 79.45 318 P **P 11 53 02.6 +0.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=56,slow=3.1,SNR=16
BRTR Keskin Array B 79.45 318 P **P 11 53 02.6 +0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BZS Buzias 79.61 328 ⇑*i*P **P 11 53 09.5 +6.1**
MIB Mutribah 79.75 302 *e*P **P 11 53 04.9 +0.8**
MIB AMb AMB 11 53 12.3
comp=Z,65nm,0.7s,mb5.7
MEM Membach 79.83 340 P **P 11 53 04.9 +0.4**
MEM XP pP 11 53 09.6 -0.6
comp=Z,22nm,1.3s
TAOE Nuku Hiva Isla 79.89 114 *e*LR LR 12 17 08.2
comp=Z,731nm,28.7s
WCI Wyandotte Cave 79.93 44 *e*P **P 11 53 04.3 -0.8**
WCI pmax pmax
comp=Z,25nm,1.2s,mb5.0
WCI Wyandotte Cave 79.93 44 *e*P **P 11 53 04.3 -0.8**
comp=Z,25nm,1.2s,mb5.0
KBD Kabd 80.00 302 *e*P **P 11 53 06.4 +0.9**
KBD AMb AMB 11 53 08.1
comp=Z,152nm,1.0s,mb5.9
TOD Tromm 80.07 338 *e*P **P 11 53 06.1 +0.2**
BCLA Clavier 80.17 341 E 11 53 13.3
BCLA E 11 53 16.1
QRN Al-Qurain 80.18 301 *e*P **P 11 53 07.4 +0.9**
QRN AMb AMB 11 53 15.9
comp=Z,49nm,0.7s,mb5.6
NAY Al-Naaiem 80.21 302 *e*P **P 11 53 07.3 +0.7**
NAY AMb AMB 11 53 09.0
comp=Z,48nm,0.9s,mb5.4
RDF Al-Radifah 80.27 302 *e*P **P 11 53 07.7 +0.8**
RDF AMb AMB 11 53 09.7
comp=Z,115nm,1.2s,mb5.7
GIVF Givet 80.58 341 *e*P **P 11 53 08.0 -0.6**
comp=Z,26nm,0.9s,mb4.8
GIVF Givet 80.58 341 *e*P **P 11 53 08.0 -0.6**
GIVF pmax pmax
comp=Z,13nm,0.9s,mb4.9
GIVF Givet 80.58 341 *e*P **P 11 53 08.0 -0.6**
comp=Z,13nm,0.9s,mb4.8
COBT Iskenderun 80.70 314 *i* P **P 11 53 10.2 +0.9**
BAIF Baives 80.76 341 *e*P **P 11 53 09.0 -0.6**
comp=Z,83nm,1.5s,mb5.2
BAIF Baives 80.76 341 *e*P **P 11 53 09.0 -0.6**
BAIF pmax pmax
comp=Z,41nm,1.5s,mb5.1
BAIF Baives 80.76 341 *e*P **P 11 53 09.0 -0.6**
comp=Z,42nm,1.5s,mb5.1
PPT Papeete 81.08 127 *e*LR LR 12 17 48.8
comp=Z,264nm,26.2s,baz=343
PPT Papeete 81.08 127 LR LR 12 25 39.1
comp=Z,118nm,18.6s,MS4.3,baz=288,slow=33
KBA Koelnbreinsper 81.08 334 ⇑*i*P **P 11 53 12.5 +1.1**
comp=Z,34nm,0.8s,mb5.3
KBA Koelnbreinsper 81.08 334 ⇑*i*P **P 11 53 12.5 +1.2**
KBA pmax pmax
comp=Z,35nm,0.8s,mb5.3
OXF Oxford 81.27 49 P **P 11 53 11.8 -0.5**
OXF pmax pmax
comp=Z,19nm,1.0s,mb5.0
OXF Oxford 81.27 49 *e*P **P 11 53 11.8 -0.5**
comp=Z,19nm,1.0s,mb5.0
BFO Black Forest 81.36 338 *e*P **P 11 53 12.9 +0.1**
BFO pmax pmax
comp=Z,14nm,0.9s,mb4.9
BFO Black Forest 81.36 338 *e*P **P 11 53 12.9 +0.1**
comp=Z,14nm,0.9s,mb4.9
BFO *e*PcP PcP 11 53 19.5 +0.6
WTTA Wattenberg 81.42 335 ⇑*i*P **P 11 53 14.2 +1.1**
comp=Z,27nm,1.1s,mb5.1
WTTA Wattenberg 81.42 335 ⇑*i*P **P 11 53 14.2 +1.1**
WTTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
MOTA Moosalm 81.50 336 ⇑*i*P **P 11 53 13.6 +0.1**
comp=Z,19nm,1.1s,mb4.9
MOTA Moosalm 81.50 336 ⇑*i*P **P 11 53 13.6 +0.1**
MOTA pmax pmax
comp=Z,19nm,1.1s,mb4.9
CDF Champ du Feu 81.56 339 *e*P **P 11 53 13.4 -0.4**
comp=Z,46nm,1.1s,mb5.0
CDF Champ du Feu 81.56 339 *e*P **P 11 53 13.4 -0.4**
CDF pmax pmax
comp=Z,23nm,1.1s,mb5.0
CDF Champ du Feu 81.56 339 *e*P **P 11 53 13.4 -0.4**
comp=Z,23nm,1.1s,mb5.0
VTS Vitosha 81.58 326 ⇑*i*P **P 11 53 04.8 -9.2**
SQTA Sankt Quirin 81.59 336 ⇑*i*P **P 11 53 15.0 +1.0**
comp=Z,23nm,1.3s,mb5.0
SQTA Sankt Quirin 81.59 336 ⇑*i*P **P 11 53 15.0 +1.0**
SQTA pmax pmax
comp=Z,23nm,1.3s,mb5.0
ECH Echery 81.77 339 *e*P **P 11 53 14.8 -0.1**
FELD Feldberg im Sc 81.87 338 *e*P **P 11 53 15.7 +0.3**
MEZF Maizieres J'vi 82.02 340 *e*P **P 11 53 16.1 -0.2**
comp=Z,76nm,1.0s,mb5.3
MEZF Maizieres J'vi 82.02 340 *e*P **P 11 53 16.1 -0.2**
comp=Z,76nm,1.0s,mb5.6
THEF They Montfort 82.05 339 *e*P **P 11 53 16.7 +0.3**
MOF Molkenrain 82.11 338 *e*P **P 11 53 16.7 -0.1**
HAU Haudompre 82.17 339 *e*P **P 11 53 16.5 -0.5**
comp=Z,34nm,1.1s,mb4.9
HAU *e*MLR
comp=Z,336nm,20.0s
HAU Haudompre 82.17 339 *e*P **P 11 53 16.5 -0.5**
HAU pmax pmax
comp=Z,17nm,1.1s,mb4.9
HAU MLR MLR
comp=Z,340nm,20.0s,MS4.7
HAU Haudompre 82.17 339 *e*P **P 11 53 16.5 -0.5**
comp=Z,17nm,1.1s,mb4.9
HAU LR LR
comp=Z,340nm,20.0s,MS4.7
HINF Hinteralfeld 82.22 339 *e*P **P 11 53 16.5 -0.8**
comp=Z,28nm,1.0s,mb4.8
HINF Hinteralfeld 82.22 339 *e*P **P 11 53 16.5 -0.8**
HINF pmax pmax
comp=Z,14nm,1.0s,mb4.8
HINF Hinteralfeld 82.22 339 *e*P **P 11 53 16.5 -0.8**
comp=Z,14nm,1.0s,mb4.8
LOMF Lomont 82.66 338 *e*P **P 11 53 17.6 -2.0**
FLN La Foliniere 82.98 344 *e*P **P 11 53 20.5 -0.8**
FLN *e*MLR
comp=Z,245nm,18.4s
FLN La Foliniere 82.98 344 *e*P **P 11 53 20.5 -0.8**
FLN LR LR
comp=Z,250nm,18.4s,MS4.6
LDF La Druitiere 83.07 343 *e*P **P 11 53 21.0 -0.7**
GRR Gorron 83.41 344 *e*P **P 11 53 22.9 -0.6**
comp=Z,52nm,1.1s,mb5.2
GRR Gorron 83.41 344 *e*P **P 11 53 22.9 -0.6**
GRR pmax pmax
comp=Z,26nm,1.1s,mb5.2
GRR Gorron 83.41 344 *e*P **P 11 53 22.9 -0.6**
comp=Z,26nm,1.1s,mb5.2
LOR Lormes 83.46 340 *e*P **P 11 53 23.2 -0.5**
comp=Z,45nm,0.8s,mb5.2
LOR *e*MLR
comp=Z,213nm,21.0s
LOR Lormes 83.46 340 *e*P **P 11 53 23.2 -0.5**
LOR pmax pmax
comp=Z,23nm,0.8s,mb5.3

LOR MLR MLR
comp=Z,210nm,21.0s,MS4.5
LOR Lormes 83.46 340 *e*P **P 11 53 23.2 -0.5**
comp=Z,23nm,0.8s,mb5.2
LOR LR LR
comp=Z,210nm,21.0s,MS4.5
CABF La Chapelle 83.53 339 *e*P **P 11 53 24.0 -0.1**
comp=Z,24nm,0.9s,mb5.0
CABF La Chapelle 83.53 339 *e*P **P 11 53 24.0 -0.1**
CABF pmax pmax
comp=Z,12nm,0.9s,mb5.0
CABF La Chapelle 83.53 339 *e*P **P 11 53 24.0 -0.1**
comp=Z,12nm,0.9s,mb5.0
SSF Saint Saulge 83.74 340 *e*P **P 11 53 24.6 -0.6**
comp=Z,26nm,0.8s,mb5.1
SSF Saint Saulge 83.74 340 *e*P **P 11 53 24.6 -0.6**
SSF pmax pmax
comp=Z,13nm,0.8s,mb5.1
SSF Saint Saulge 83.74 340 *e*P **P 11 53 24.6 -0.6**
comp=Z,13nm,0.8s,mb5.1
HYF Humbligny 83.74 341 *e*P **P 11 53 25.3 +0.1**
SGMF Saint Gilles 83.86 345 *e*P **P 11 53 25.4 -0.4**
comp=Z,13nm,0.6s,mb4.9
SGMF Saint Gilles 83.86 345 *e*P **P 11 53 25.4 -0.4**
SGMF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
SGMF Saint Gilles 83.86 345 *e*P **P 11 53 25.4 -0.4**
comp=Z,6.5nm,0.6s,mb4.9
ROSF Rostrenen 83.91 345 *e*P **P 11 53 25.6 -0.5**
AVF Avril sur Loir 84.03 340 *e*P **P 11 53 26.1 -0.6**
comp=Z,97nm,1.6s,mb5.4
AVF Avril sur Loir 84.03 340 *e*P **P 11 53 26.1 -0.6**
AVF pmax pmax
comp=Z,48nm,1.6s,mb5.4
AVF Avril sur Loir 84.03 340 *e*P **P 11 53 26.1 -0.6**
comp=Z,48nm,1.6s,mb5.4
SMF Signal de Mont 84.05 340 *e*P **P 11 53 26.4 -0.4**
comp=Z,88nm,1.1s,mb5.5
SMF Signal de Mont 84.05 340 *e*P **P 11 53 26.4 -0.4**
SMF pmax pmax
comp=Z,44nm,1.1s,mb5.5
SMF Signal de Mont 84.05 340 *e*P **P 11 53 26.4 -0.4**
comp=Z,44nm,1.1s,mb5.5
QUIF Quistinic 84.30 345 *e*P **P 11 53 27.3 -0.7**
BGF Bois d'Agland 84.36 341 *e*P **P 11 53 28.0 -0.4**
comp=Z,13nm,0.6s,mb4.9
BGF Bois d'Agland 84.36 341 *e*P **P 11 53 28.0 -0.4**
BGF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
BGF Bois d'Agland 84.36 341 *e*P **P 11 53 28.0 -0.4**
comp=Z,6.7nm,0.6s,mb5.0
LPL La Plagne 84.38 338 *e*P **P 11 53 29.0 +0.5**
comp=Z,41nm,1.1s,mb5.2
LPL La Plagne 84.38 338 *e*P **P 11 53 29.0 +0.5**
LPL pmax pmax
comp=Z,21nm,1.1s,mb5.2
LPL La Plagne 84.38 338 *e*P **P 11 53 29.0 +0.5**
comp=Z,20nm,1.1s,mb5.2
LPG La Plagne 84.39 338 *e*P **P 11 53 29.3 +0.8**
comp=Z,67nm,1.1s,mb5.4
LPG La Plagne 84.39 338 *e*P **P 11 53 29.3 +0.8**
LPG pmax pmax
comp=Z,34nm,1.1s,mb5.4
LPG La Plagne 84.39 338 *e*P **P 11 53 29.3 +0.8**
comp=Z,34nm,1.1s,mb5.4
PLDF La Plantade 84.74 340 *e*P **P 11 53 36.6 +6.4**
TCF Toulx Ste Croi 84.76 341 *e*P **P 11 53 30.4 0.0**
comp=Z,18nm,0.8s,mb5.0
TCF Toulx Ste Croi 84.76 341 *e*P **P 11 53 30.4 0.0**
TCF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
TCF Toulx Ste Croi 84.76 341 *e*P **P 11 53 30.4 0.0**
comp=Z,8.9nm,0.8s,mb5.0
AGO Saint Agoulin 84.78 340 *e*P **P 11 53 36.8 +6.4**
BNI Bardonecchia 84.83 338 *e*P **P 11 53 31.6 +0.9**
BNI pmax pmax
comp=Z,29nm,1.4s,mb5.2
BNI Bardonecchia 84.83 338 *e*P **P 11 53 31.6 +0.9**
comp=Z,29nm,1.4s,mb5.2
MFF Saint Martin d 84.98 343 *e*P **P 11 53 31.1 -0.3**
comp=Z,19nm,0.8s,mb5.0
MFF Saint Martin d 84.98 343 *e*P **P 11 53 31.1 -0.3**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MFF Saint Martin d 84.98 343 *e*P **P 11 53 31.1 -0.3**
comp=Z,9.4nm,0.8s,mb5.0
MBDF Montbardon 85.10 337 *e*P **P 11 53 32.0 -0.1**
comp=Z,20nm,0.9s,mb5.0
MBDF Montbardon 85.10 337 *e*P **P 11 53 32.0 -0.1**
MBDF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MBDF Montbardon 85.10 337 *e*P **P 11 53 32.0 -0.1**
comp=Z,10nm,0.9s,mb5.0
ORIF Oris-en-Rattie 85.16 338 *e*P **P 11 53 32.8 +0.4**
comp=Z,26nm,0.9s,mb5.1
ORIF *e*MLR
comp=Z,232nm,23.0s
ORIF Oris-en-Rattie 85.16 338 *e*P **P 11 53 32.8 +0.4**
ORIF pmax pmax
comp=Z,13nm,0.9s,mb5.1
ORIF Oris-en-Rattie 85.16 338 *e*P **P 11 53 32.8 +0.4**
comp=Z,13nm,0.9s,mb5.0
VIVF Saint-Julien-I 85.53 339 *e*P **P 11 53 34.4 +0.2**
comp=Z,18nm,0.8s,mb5.0
VIVF Saint-Julien-I 85.53 339 *e*P **P 11 53 34.4 +0.2**
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
VIVF Saint-Julien-I 85.53 339 *e*P **P 11 53 34.4 +0.2**
comp=Z,8.9nm,0.8s,mb5.0
SAOF Saorge 85.58 337 *e*P **P 11 53 33.7 -0.8**
AUTN L'Aution 85.60 337 *e*P **P 11 53 35.0 +0.4**
TOUF Mont Tournerai 85.64 337 *e*P **P 11 53 35.4 +0.7**
SBF Sospel 85.72 337 *e*P **P 11 53 34.8 -0.4**
comp=Z,48nm,0.9s,mb5.4
SBF Sospel 85.72 337 *e*P **P 11 53 34.8 -0.4**
SBF pmax pmax
comp=Z,24nm,0.9s,mb5.4
SBF Sospel 85.72 337 *e*P **P 11 53 34.8 -0.4**
comp=Z,24nm,0.9s,mb5.4
MVIF Mont Vial 85.77 337 *e*P **P 11 53 35.0 -0.4**
TBI Tubuai 85.82 130 *e*LR LR 12 19 50.5
comp=Z,216nm,30.5s
RJF Les Rejaudoux 85.85 341 *e*P **P 11 53 35.4 -0.4**
comp=Z,19nm,0.9s,mb5.0
RJF *e*MLR
comp=Z,268nm,21.0s
RJF Les Rejaudoux 85.85 341 *e*P **P 11 53 35.4 -0.4**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,270nm,21.0s,MS4.6
RJF Les Rejaudoux 85.85 341 *e*P **P 11 53 35.4 -0.4**
comp=Z,9.7nm,0.9s,mb5.0
RJF LR LR
comp=Z,270nm,21.0s,MS4.6
REVF Revere 85.86 337 *e*P **P 11 53 34.2 -1.6**
CAF Calviac 86.09 341 *e*P **P 11 53 37.1 +0.1**
comp=Z,17nm,0.8s,mb5.0
CAF Calviac 86.09 341 *e*P **P 11 53 37.1 +0.1**
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
CAF Calviac 86.09 341 *e*P **P 11 53 37.1 +0.1**
comp=Z,8.3nm,0.8s,mb5.0
SMRF Simiane la Rot 86.12 338 *e*P **P 11 53 37.8 +0.7**
FRF La Foret Royal 86.22 337 *e*P **P 11 53 37.2 -0.4**
LFF La Frestale 86.37 342 *e*P **P 11 53 38.2 -0.2**
comp=Z,42nm,0.9s,mb5.4
LFF La Frestale 86.37 342 *e*P **P 11 53 38.2 -0.2**
LFF pmax pmax
comp=Z,21nm,0.9s,mb5.4
LFF La Frestale 86.37 342 *e*P **P 11 53 38.2 -0.2**
comp=Z,21nm,0.9s,mb5.4
LASF Ste Croix 86.46 339 *e*P **P 11 53 38.4 -0.4**
comp=Z,24nm,1.1s,mb5.1
LMR La Mourre 86.47 337 *e*P **P 11 53 38.7 -0.2**
comp=Z,47nm,1.1s,mb5.3
LMR La Mourre 86.47 337 *e*P **P 11 53 38.7 -0.2**
LMR pmax pmax
comp=Z,23nm,1.1s,mb5.3
LMR La Mourre 86.47 337 *e*P **P 11 53 38.7 -0.2**
comp=Z,23nm,1.1s,mb5.3
PGF Pioggiola 86.49 335 *e*P **P 11 53 38.7 -0.3**
comp=Z,17nm,0.9s,mb4.9
PGF Pioggiola 86.49 335 *e*P **P 11 53 38.7 -0.3**
PGF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
PGF Pioggiola 86.49 335 *e*P **P 11 53 38.7 -0.3**
comp=Z,8.3nm,0.9s,mb5.0
EIL Elat 86.77 311 *e*P **P 11 53 41.5 +1.1**
comp=Z,679nm,1.3s
MTLF Montolieu 87.55 340 *e*P **P 11 53 43.8 -0.3**
comp=Z,7.6nm,0.7s,mb4.8
MTLF Montolieu 87.55 340 *e*P **P 11 53 43.8 -0.3**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
MTLF Montolieu 87.55 340 *e*P **P 11 53 43.8 -0.3**
comp=Z,3.8nm,0.7s,mb4.7
EPF Esparros 88.28 341 *e*P **P 11 53 46.4 -1.2**
SJPF Ste Jean 88.54 342 *e*P **P 11 53 47.8 -1.0**
ESDC Sonseca Array 92.40 343 LR LR 12 42 05.6
comp=Z,123nm,21.1s,MS4.3,baz=345,slow=40
KEST Kesra 92.63 332 LR LR 12 45 34.7
comp=Z,55nm,18.3s,MS4.0,baz=295,slow=42
RKT Rikitea 93.91 119 *e*LR LR 12 23 41.3
comp=Z,228nm,32.5s
LPAZ La Paz 133.82 64 PKP PKPdf 12 00 11.2 -1.8
comp=Z,1.7nm,1.0s,baz=14,slow=2.9,SNR=6.2
LPAZ La Paz 133.82 64 PKIKP PKPdf 12 00 11.3 -1.8
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 133.82 64 *e*PKPdf PKPdf 12 00 13.8 +0.7
LBTB Lobatse 134.23 279 *e*PKIKP PKPdf 12 00 15.2 +1.3
QSPA South Pole Qui 135.87 180 *e*PKPdf PKPdf 12 00 16.4 -0.5
BOSA Boshof 136.75 276 PKP PKPdf 12 00 19.9 +1.3
comp=Z,4.0nm,1.0s,baz=1.8,slow=5.7,SNR=3.9
BOSA Boshof 136.75 276 PKIKP PKPdf 12 00 19.9 +1.4
BOSA pmax pmax
comp=Z,4.0nm,1.0s
SYO Syowa Base 140.85 211⇑ *e*X PKPdf 12 00 23.3 -2.8
CFAA Coronel Fontan 144.22 81 PKP PKPdf 12 00 28.8 -3.2
comp=Z,0.2nm,0.3s,baz=334,slow=2.4,SNR=6.9
PLCA Paso Flores 147.26 97 PKPbc PKPbc 12 00 39.0 -0.5
comp=Z,9.4nm,0.9s,baz=276,slow=3.6,SNR=17
PLCA Paso Flores 147.26 97 PKP2 PKPab 12 00 39.0 -2.3
PLCA pmax pmax
comp=Z,9.0nm,0.9s
NVL N'lazarevskaya 149.43 203 *e*PKP2 PKPab 12 00 43.3 -6.7
NVL pmax pmax
comp=Z,39nm,1.6s
USHA Ushuaia 151.78 124 PKPbc PKPbc 12 00 48.5 -2.3
comp=Z,18nm,1.0s,baz=297,slow=6.0,SNR=5.0
SNAA Sanae 152.20 195 PKPbc PKPbc 12 00 49.4 -2.4
comp=Z,2.2nm,0.9s,baz=164,slow=2.0,SNR=13
SNAA Sanae 152.20 195⇑ *i*PKPdf PKPbc 12 00 49.8 -1.9
SNAA *e* 12 01 00.7
SNAA *e* 12 01 11.2
SNAA Sanae 152.20 195 PKIKP PKPbc 12 00 49.4 -2.4
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 152.20 195 *e*PKPbc PKPbc 12 00 49.5 -2.2
VNA2 Neumayer--Watz 153.62 193⇑ *i*PKPdf PKPbc 12 00 53.4 -1.5
baz=122,slow=1.2
VNA2 *e* 12 00 56.4
VNA2 *e* 12 01 07.0
VNA2 *e* 12 01 19.4
VNA3 Neumayer Olymp 153.68 192⇑ *i*PKPdf PKPbc 12 00 53.3 -1.7
VNA3 *e* 12 00 56.9
VNA3 *e* 12 01 06.8
VNA3 *e* 12 01 17.9
VNA1 Neumayer--Stat 154.00 193 *e*PKPdf PKPab 12 01 08.7 -0.4
VNA1 *e* 12 01 17.2

*ISCJB **13** 12:14:10.0±0.5,2767N±005×1400E±01,h505km±7km, mb3.3/8, Error ellipse: s-maj=20.3km s-min=7.6km az=160.6*
*IDC **13** 12:14:10.4±0.6,2764N×13994E,h491km±9km,mb2.9/8, mb1 3.1/12,mb1mx3.0/22,mbtmp3.0/12, Error ellipse: s-maj=25.1km s-min=11.2km az=75.0*
*JMA **13** 12:14:11.7±0.3,2787N×14046E,h510km±4km,M4.0*
ISC 13 12:14:11.1±0.5,2771N±006×1400E±01,h501km±7km,n23, σ0§96/32,mb3.3/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.00**	**107**	P	**P**	**12 15 16.6**	**+0.5**
57nm,0.3s,baz=77,slow=4.0,SNR=70							
CBIJ				S	**S**	**12 16 07.5**	**-1.6**
59nm,0.3s,baz=310,slow=22,SNR=15							
CBIJ	**Chichi jima**	**2.00**	**107**	P	**P**	**12 15 16.8**	**+0.6**
CBIJ				S	**S**	**12 16 07.6**	**-1.5**
JHHJ	**Haha-jima-NKT**	**2.19**	**119**	P	**P**	**12 15 18.0**	**+0.9**
JHHJ				S	**S**	**12 16 10.7**	**-0.2**
JHJ	**Hachijo jima 2**	**5.40**	**358**	P	**P**	**12 15 42.6**	**+0.9**
11nm,0.3s,baz=72,slow=20,SNR=3.6							
JHJ				S	**S**	**12 16 54.8**	**-0.9**
4.5nm,0.3s,baz=75,slow=20,SNR=2.8							
BSO1	**Boso 1**	**6.97**	**6**	P	**P**	**12 15 57.9**	**+1.0**
BSO1				S	**S**	**12 17 22.9**	**-0.7**
BSO3	**Boso 3**	**7.08**	**3**	P	**P**	**12 15 58.6**	**+0.6**
BSO3				*e*S	**S**	**12 17 24.3**	**-1.4**
JIE	**Ise**	**7.25**	**338**	P	**P**	**12 16 01.8**	**+2.1**
JKN2	**Miekihoku**	**7.27**	**335**	P	**P**	**12 16 02.2**	**+2.3**
JDD2	**Odawara 2**	**7.58**	**354**	P	**P**	**12 16 04.1**	**+1.1**
JRY	**Ryogami san**	**8.34**	**354**	P	**P**	**12 16 11.4**	**+0.5**
JRY				S	**S**	**12 17 48.3**	**-1.1**
JAG	**Ashikaga**	**8.71**	**357**	P	**P**	**12 16 14.4**	**-0.3**
JAG				S	**S**	**12 17 52.4**	**-3.9**
JHO	**Hitachi**	**8.89**	**3**	P	**P**	**12 16 17.7**	**+1.0**
MJAR	**Matsushiro Arr**	**8.95**	**350**	P	**P**	**12 16 16.7**	**-0.5**
1.8nm,0.3s,baz=163,slow=9.4,SNR=13							
MAT	**Matsushiro**	**8.95**	**350**	P	**P**	**12 16 17.4**	**+0.2**
MAT				*e*S	**S**	**12 17 56.0**	**-4.9**
JOW	**Kunigami**	**10.50**	**268**	P	**P**	**12 16 32.9**	**-0.8**
0.6nm,0.3s,baz=119,slow=24,SNR=4.2							
SONM	**Songino Array**	**32.96**	**317**	P	**P**	**12 20 03.3**	**-0.3**
0.3nm,0.5s,mb3.0,baz=130,slow=8.9,SNR=4.1							
WRA	**Warramunga Arr**	**47.69**	**187**	P	**P**	**12 22 01.1**	**-0.4**
0.6nm,0.4s,mb3.3,baz=6.1,slow=7.7,SNR=47							
WRA				PcP	PcP	12 23 21.9	+0.6
0.7nm,1.1s,baz=358,slow=3.8,SNR=4.6							
ZAL	**Zalesovo**	**47.79**	**319**	P	**P**	**12 22 01.2**	**-1.0**
0.7nm,0.3s,mb3.4,baz=305,slow=23,SNR=3.2							
MKAR	**Makanchi Array**	**48.61**	**309**	P	**P**	**12 22 08.2**	**-0.3**
0.6nm,0.4s,mb3.3,baz=88,slow=9.9,SNR=19							
ASAR	**Alice Springs**	**51.41**	**187**	P	**P**	**12 22 28.1**	**-0.9**
0.2nm,0.5s,mb2.7,baz=21,slow=12,SNR=5.2							
ARCES	**ARCESS Array B**	**72.33**	**340**	P	**P**	**12 24 45.4**	**-0.1**
3.5nm,1.0s,mb3.8,baz=76,slow=10,SNR=4.5							
YKA	**Yellowknife Ar**	**72.51**	**28**	P	**P**	**12 24 47.4**	**+0.9**
0.3nm,1.0s,mb2.8,baz=287,slow=5.7,SNR=4.5							
FINES	**FINESS Array B**	**76.55**	**333**	P	**P**	**12 25 09.0**	**-0.3**
3.5nm,0.9s,mb3.9,baz=72,slow=4.7,SNR=11							

*IDC **13** 12:43:03.3±2.2,1933N×7746W,h0km,mb3.2/3,mb1 3.7/3, mb1mx3.4/17,mbtmp3.2/3, Error ellipse: s-maj=82.2km s-min=40.2km az=68.0*
*ISCJB **13** 12:43:05.6±0.8,1980N±004×7716W±005,h22km±8km, mb3.2/3, Error ellipse: s-maj=8.9km s-min=5.6km az=55.4*
*JSN **13** 12:43:08.4±0.8,1977N×7714W,h29km±999km,MD3.6*
*SSNC **13** 12:43:11.0,1999N×7708W,h0km,MD3.1,ML2.4*
ISC 13 12:43:05.7±1.0,1974N±005×7713W±006,h12km±7km,n16, σ1§27/22,mb3.2/3,3C-1D,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.34**	**20**	*i* PG	**Pg**	**12 43 13.1**	**+0.5**
LMGC				*i* SG	**Sg**	**12 43 16.3**	**-0.9**
comp=N,19μm,0.0s							
LMGC				*i*			
comp=E,19μm,0.0s							
MBJ	**Montego Bay**	**1.50**	**208**	*e*S	**Sn**	**12 43 50.4**	**-1.5**
HLGC	**Holguin**	**1.52**	**41**	*i* P	**Pn**	**12 43 29.9**	**-2.8**
HLGC				*i* S	**Sn**	**12 43 47.2**	**-5.2**
comp=N,653nm,0.1s							
HLGC				*i*			
comp=E,690nm,0.2s							
CVJ	**Coleyville**	**1.55**	**194⇑**	*i* P	**Pn**	**12 43 33.7**	**+0.6**
CCCC	**Cccc**	**1.57**	**338**	*i* P	**Pn**	**12 43 29.8**	**-3.6**
CCCC				*i* S	**Sn**	**12 43 47.2**	**-6.4**
comp=N,1.9nm,0.1s							
CCCC				*i*			
comp=E,2.1nm,0.1s							
STH	**Stony Hill**	**1.68**	**170⇓**	*i* P	**Pn**	**12 43 34.9**	**0.0**
MCJ	**Malvern**	**1.88**	**196⇑**	*e*P	**Pn**	**12 43 38.5**	**+0.8**
MCJ				*e*S	**Sn**	**12 44 00.9**	**-0.3**
PCJ	**Portland Cotta**	**1.99**	**181⇑**	*e*P	**Pn**	**12 43 39.9**	**+0.8**
PCJ				*e*S	**Sn**	**12 44 03.4**	**-0.5**
MOAC	**Moa**	**2.23**	**65**	*i* P	**Pn**	**12 43 47.0**	**+4.5**
MOAC				*i* S	**Sn**	**12 44 10.5**	**+0.6**
comp=N,142nm,0.5s							
MOAC				*i*			
comp=E,130nm,0.6s							
MASC	**Masc**	**2.76**	**80**	*e*P	**Pn**	**12 43 52.9**	**+3.2**
MASC				*e*S	**Sn**	**12 44 22.6**	**-0.3**
comp=N,0.7nm,0.1s							
MASC				*e*			
comp=E,0.9nm,0.1s							
MGV	**Manicaragua**	**3.56**	**312**	*e*P	**Pn**	**12 44 02.3**	**+1.6**
MGV				*e*S	**Sn**	**12 44 46.5**	**+3.8**
comp=N,65nm,1.0s							
MGV				*e*			
comp=E,89nm,1.0s							
TXAR	**Lajitas Array**	**25.91**	**297**	P	**P**	**12 48 37.9**	**+0.3**
comp=E,1.0nm,1.0s,mb3.3,baz=111,slow=9.7,SNR=7.6							
PDAR	**Pinedale Array**	**35.65**	**317**	P	**P**	**12 50 02.1**	**-1.4**
comp=E,0.2nm,0.6s,mb3.2,baz=116,slow=10,SNR=2.5							
YKA	**Yellowknife Ar**	**49.88**	**338**	P	**P**	**12 52 01.3**	**+2.5**
comp=E,0.1nm,0.5s,mb3.1,baz=127,slow=8.3,SNR=4.2							
WRA	**Warramunga Arr**	**150.42**	**264**	PKPbc	PKPbc	13 02 56.3	-0.7
comp=E,1.0nm,1.0s,baz=89,slow=2.6,SNR=9.6							
WRA				PKPab	PKPab	13 03 02.2	-1.3
comp=E,0.2nm,0.5s,baz=82,slow=3.0,SNR=8.4							
ASAR	**Alice Springs**	**150.94**	**257**	PKPbc	PKPbc	13 02 57.2	-1.0
comp=E,0.8nm,0.7s,baz=91,slow=1.8,SNR=12							

*ISCJB **13** 13:19:39.2±0.5,2973S±004×1793W±0.1,h316km±6km, mb4.0/11, Error ellipse: s-maj=14.7km s-min=5.4km az=37.9*
*NEIC **13** 13:19:41.2±0.8,2963S×17897W,h337km±10km,mb3.9/4, Error ellipse: s-maj=20.5km s-min=12.3km az=120.0*
*IDC **13** 13:19:42.6±1.0,2945S×17929W,h335km±9km,mb3.6/9, mb1 3.9/12,mb1mx3.8/17,mbtmp3.7/12, Error ellipse: s-maj=21.5km s-min=12.0km az=160.0*
ISC 13 13:19:41.6±0.6,2994S±005×1791W±01,h338km±7km, h342km±4.2km;pP-P,n61,σ1§29/68,mb3.9/11,1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**56**	P	**Pn**	**13 20 25.7**	**-1.4**
309nm,0.3s,baz=263,slow=23,SNR=20							
RAO				S	**S**	**13 20 56.5**	**-7.0**
424nm,0.3s,baz=72,slow=22,SNR=31							
RAO	**Raoul Island**	**1.23**	**56**	P	**Pn**	**13 20 25.7**	**-1.4**
RAO				S	**S**	**13 20 56.5**	**-7.0**
MXZ	**Matakaoa Point**	**7.90**	**195**	*e*PN	**Pn**	**13 21 35.5**	**+1.1**
MXZ				SN	**S**	**13 23 08.1**	**+1.9**
KUZ	**Kuaotunu**	**8.05**	**211**	*e*PN	**Pn**	**13 21 42.4**	**+6.3**
WCZ	**Waipu Caves**	**8.13**	**221**	‖PN	**Pn**	**13 21 45.0**	**+7.9**
PUZ	**Puketiti**	**8.40**	**194**	PN	**Pn**	**13 21 40.7**	**+0.4**
PUZ				*e*SN	**S**	**13 23 17.8**	**+0.7**
MWZ	**Matawai**	**8.83**	**198**	PN	**Pn**	**13 21 46.0**	**+0.6**
MWZ				*e*SN	**S**	**13 23 30.2**	**+3.7**
URZ	**Urewera**	**8.87**	**200**	P	**Pn**	**13 21 50.5**	**+4.5**
33nm,0.3s,baz=267,slow=3.2,SNR=40							
URZ				S	**S**	**13 23 31.1**	**+3.6**
40nm,0.3s,baz=84,slow=19,SNR=14							
URZ	**Urewera**	**8.87**	**200**	*e*PN	**Pn**	**13 21 46.5**	**+0.6**
URZ				*e*SN	**S**	**13 23 30.3**	**+2.8**
BKZ	**Black Stump Fm**	**9.89**	**200**	*e*PN	**Pn**	**13 21 57.8**	**-0.4**
BKZ				*e*SN	**S**	**13 23 51.8**	**+1.7**
VRZ	**Vera Road**	**10.47**	**207**	*e*PN	**Pn**	**13 22 07.1**	**+2.0**
PXZ	**Pawanui**	**10.60**	**197**	*e*PN	**Pn**	**13 22 05.4**	**-1.3**
PXZ				*e*SN	**S**	**13 24 04.9**	**-4.3**
TSZ	**Takapari Road**	**10.88**	**201**	*e*PN	**Pn**	**13 22 08.6**	**-1.4**
BFZ	**Birch Farm**	**11.37**	**198**	*e*PN	**Pn**	**13 22 15.6**	**-0.3**
MRZ	**Mangatainoka R**	**11.54**	**201**	*e*PN	**Pn**	**13 22 16.0**	**-2.0**
MRZ				*e*SN	**S**	**13 24 23.0**	**-3.8**
KIW	**Kapiti Island**	**11.94**	**203**	*e*PN	**Pn**	**13 22 23.0**	**+0.3**
CAW	**Cannon Point**	**12.11**	**202**	*e*PN	**Pn**	**13 22 23.1**	**-1.7**
CAW				*e*SN	**S**	**13 24 37.8**	**-1.5**
DUWZ	**D'Urville Isla**	**12.24**	**206**	*e*PN	**Pn**	**13 22 26.8**	**+0.5**
SNZO	**South Karori**	**12.41**	**202**	*e*Pn	**Pn**	**13 22 29.4**	**+1.1**
SNZO	**South Karori**	**12.41**	**202**	*e*PN	**Pn**	**13 22 27.0**	**-1.3**
SNZO				*e*SN	**S**	**13 24 43.9**	**-2.0**
NNZ	**Nelson**	**12.80**	**206**	*e*PN	**Pn**	**13 22 31.9**	**-1.1**
NNZ				*e*SN	**S**	**13 24 52.4**	**-1.7**
QRZ	**Quartz Range**	**12.82**	**210**	*e*PN	**Pn**	**13 22 33.8**	**+0.6**
THZ	**Tophouse**	**13.46**	**207**	*e*SN	**S**	**13 25 06.8**	**-0.6**
KHZ	**Kahutara**	**13.79**	**203**	*e*PN	**Pn**	**13 22 43.7**	**-0.9**
DSZ	**Denniston Nort**	**13.89**	**210**	*e*PN	**Pn**	**13 22 45.8**	**0.0**
DSZ				*e*SN	**S**	**13 25 15.4**	**-0.8**
LTZ	**Lake Taylor**	**14.57**	**206**	*e*PN	**Pn**	**13 22 53.8**	**+0.1**
DZM	**Mont Dzumac**	**15.18**	**298**	*e*P	**P**	**13 22 58.2**	**-0.4**
DZM	**Mont Dzumac**	**15.18**	**298**	P	**P**	**13 22 58.6**	**0.0**
7.0nm,0.3s,baz=107,slow=13,SNR=55							
MQZ	**McQueen's Vall**	**15.23**	**203**	*e*PN	**Pn**	**13 23 01.4**	**0.0**
MQZ				*e*SN	**S**	**13 25 42.9**	**-0.2**
RPZ	**Rata Peaks**	**15.83**	**207**	P	**P**	**13 23 09.7**	**+4.0**
1.8nm,0.3s,baz=142,slow=13,SNR=6.8							
RPZ				S	**S**	**13 25 56.1**	**+1.0**
6.3nm,0.3s,baz=181,slow=22,SNR=16							
JCZ	**Jackson Bay**	**17.09**	**211**	*e*PN	**P**	**13 23 22.3**	**+2.9**
AFI	**Afiamalu**	**17.33**	**25**	P	**P**	**13 23 17.4**	**-4.5**
5.5nm,0.3s,baz=107,slow=22,SNR=5.7							
CTA	**Charters Tower**	**32.79**	**279**	P	**P**	**13 25 45.2**	**+1.1**
2.5nm,0.5s,mb3.7,baz=90,slow=13,SNR=4.0							
STKA	**Stephens Creek**	**33.66**	**257**	*e*P	**P**	**13 25 54.1**	**+2.5**
0.8nm,0.3s,mb3.4							
STKA	**Stephens Creek**	**33.66**	**257**	P	**P**	**13 25 53.8**	**+2.2**
3.1nm,0.9s,mb3.5,baz=80,slow=9.2,SNR=7.0							
ASAR	**Alice Springs**	**42.19**	**267**	P	**P**	**13 27 02.9**	**+0.7**
2.0nm,0.6s,mb3.5,baz=100,slow=7.2,SNR=47							
ASAR				ScP	ScP	13 32 07.5	+0.6
0.6nm,0.7s,baz=119,slow=3.8,SNR=3.9							
ASAR				S	**S**	**13 32 53.2**	**-3.1**
1.0nm,0.9s,baz=111,slow=16,SNR=5.2							
WB2	**Warramunga Arr**	**43.13**	**272**	*e*P	**P**	**13 27 09.9**	**+0.3**
WRA	**Warramunga Arr**	**43.14**	**272**	P	**P**	**13 27 09.9**	**+0.2**
3.7nm,0.4s,mb3.8,baz=111,slow=6.5,SNR=102							
WRA				ScP	ScP	13 32 13.2	+2.5
1.4nm,0.8s,baz=104,slow=4.0,SNR=8.8							
WRA				S	**S**	**13 33 06.6**	**-3.4**
2.9nm,0.7s,baz=108,slow=14,SNR=13							
FITZ	**Fitzroy Crossi**	**51.41**	**270**	*e*P	**P**	**13 28 13.9**	**+1.0**
5.3nm,1.2s,mb3.6							
FITZ	**Fitzroy Crossi**	**51.41**	**270**	P	**P**	**13 28 14.7**	**+1.8**
2.2nm,0.7s,mb3.5,baz=126,slow=3.4,SNR=5.2							
MJAR	**Matsushiro Arr**	**77.33**	**326**	P	**P**	**13 30 57.6**	**-1.9**
5.0nm,0.9s,mb4.2,baz=162,slow=4.8,SNR=7.6							
MAJO	**Matsushiro**	**77.33**	**326**	*e*P	**P**	**13 30 57.7**	**-1.8**
28nm,1.4s,mb4.8							
SNAA	**Sanae**	**78.63**	**179**	*e*	**P**	**13 31 10.5**	**+3.9**
SNAA				*e*		13 31 15.7	
SNAA				*e*	pP	13 32 25.8	+1.9
VNA3	**Neumayer Olymp**	**78.82**	**177**	*e*	**P**	**13 31 11.2**	**+3.6**
VNA3				*e*		13 31 17.3	
VNA3				*e*	pP	13 32 30.9	+6.0
VNA2	**Neumayer--Watz**	**79.24**	**177**	*e*	**P**	**13 31 13.7**	**+3.8**
baz=184,slow=5.6							
VNA2				*e*		13 31 19.9	
VNA2				*e*	pP	13 32 32.4	+5.1
VNA1	**Neumayer--Stat**	**79.48**	**177**	*e*	**P**	**13 31 15.5**	**+4.4**
VNA1				*e*		13 31 19.7	
V

	comp=Z,1.4nm,0.9s,baz=348,slow=3.5,SNR=5.1							
TORD					PKPab	PKPab	13 40 00.0	+3.5
	comp=Z,2.8nm,0.8s,baz=177,slow=3.5,SNR=11							

JMA 13 13:20:56.3±0.2, 2984N×14291E, h47km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.81**	**193**	P	Pn	13 21 40.0	+1.3
JHJ2	**Mitsune**	**4.20**	**322**	*e*S	Sn	13 22 47.2	+1.7
BSO1	**Boso 1**	**5.07**	**342**	P	Pn	13 22 12.1	+2.4
JRY	**Ryogami san**	**7.02**	**332**	P	Pn	13 22 40.1	+3.6
JHO	**Hitachi**	**7.03**	**344**	P	Pn	13 22 39.0	+2.4
JFK	**Kawauchi**	**7.70**	**348**	P	Pn	13 22 47.4	+1.7
JFK				*e*S	Sn	13 24 08.1	-3.4
JMK	**Ichinoseki**	**9.20**	**352**	P	Pn	13 23 07.7	+1.4
JMK				*e*S	Sn	13 24 46.2	-2.2

*CSEM **13** 13:22:42.6±0.5, 3653N×1169W, h30km, ML3.6/5, Error ellipse: s-maj=10.2km s-min=8.3km az=77.0*
*NEIC **13** 13:22:50.3, 3688N×1104W, h0km, MN3.0(MDD), After MDD.*
*MDD **13** 13:22:50.2±2.0, 3685N×1104W, h0km, mb3.5/6, Error ellipse: s-maj=17.4km s-min=13.2km az=57.0, PRXIMO*

INMG 13 13:22:51.4±1.1, 3680N×1099W, h0km±34km, ML2.4, Error ellipse: s-maj=36.5km s-min=4.3km az=60.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.96**	**67**	*e*Pn	Pn	13 23 24.0	-1.8
PTEO				*e*Sn	Sn	13 23 48.2	-2.8
PTEO				A		13 23 49.5	
	17nm,0.1s						
PTEO	**Sao Teotonio**	**1.96**	**67**	*e*Pn	Pn	13 23 24.0	-1.8
PTEO				*e*Sn	Sn	13 23 48.2	-2.8
	17nm,0.1s						
LIS	**Lisbon**	**2.41**	**37**	*e*S	Sn	13 23 58.3	-3.9
LIS				*e*S	Sn	13 23 58.3	-3.9
LIS	**Lisbon**	**2.41**	**37**	S	Sn	13 23 58.2	-4.0
	SNR=7.9						
PLOU	**Loures**	**2.54**	**34**	*e*Sn	Sn	13 24 02.4	-3.1
PLOU				A		13 24 05.9	
	19nm,0.1s						
PLOU	**Loures**	**2.54**	**34**	*e*Sn	Sn	13 24 02.4	-3.1
	19nm,0.1s						
PMAFR	**Mafra**	**2.54**	**31**	*e*Pn	Pn	13 23 31.8	-2.1
PMAFR				*e*Sn	Sn	13 24 02.3	-3.2
PMAFR				A		13 24 05.6	
	32nm,0.3s						
PMAFR	**Mafra**	**2.54**	**31**	*e*Pn	Pn	13 23 31.8	-2.1
PMAFR				*e*Sn	Sn	13 24 02.3	-3.2
	32nm,0.3s						
MOE	**Montemor**	**2.71**	**50**	*e*Sn	Sn	13 24 06.1	-3.6
PBEJ	**Beja**	**2.77**	**63**	*e*Sn	Sn	13 24 07.6	-3.6
EGRO	**El Granado**	**2.89**	**74**	P	Pn	13 23 36.8	-1.9
	1.5nm,0.4s,SNR=9.3						
EGRO				S	Sn	13 24 10.5	-3.7
	6.2nm,0.1s,SNR=6.4						
EGRO	**El Granado**	**2.89**	**74**	P	Pn	13 23 36.8	-1.9
	1.5nm,0.4s,SNR=9.3						
EGRO				S	Sn	13 24 10.5	-3.7
	6.2nm,0.1s,SNR=6.4						
PESTR	**Estremoz**	**3.39**	**51**	*e*Sn	Sn	13 24 22.4	-4.1
PESTR				A		13 24 25.0	
	4.5nm,0.2s						
PESTR	**Estremoz**	**3.39**	**51**	*e*Sn	Sn	13 24 22.4	-4.1
	4.5nm,0.2s						
EMIN	**Mina Concepcio**	**3.58**	**73**	P	Pn	13 23 46.3	-1.8
	1.6nm,0.6s,SNR=12						
EMIN				S	Sn	13 24 26.5	-4.5
	4.6nm,0.2s						
EMIN	**Mina Concepcio**	**3.58**	**73**	P	Pn	13 23 46.3	-1.8
	1.6nm,0.6s,SNR=12						
EMIN				S	Sn	13 24 26.5	-4.5
	4.6nm,0.2s						
EBAD	**Badajoz**	**3.71**	**57**	P	Pn	13 23 48.3	-1.6
	1.6nm,0.6s,SNR=8.0						
EBAD				S	Sn	13 24 29.9	-4.3
	18nm,0.2s,SNR=7.5						
EBAD	**Badajoz**	**3.71**	**57**	P	Pn	13 23 48.3	-1.6
	1.6nm,0.6s,SNR=8.0						
EBAD				S	Sn	13 24 29.9	-4.3
	18nm,0.2s,SNR=7.5						
PCBR	**Castelo Branco**	**4.11**	**41**	*e*Pn	Pn	13 23 53.7	-1.7
PCBR				*e*Sn	Sn	13 24 39.6	-4.5
PCBR				A		13 24 42.2	
	4.9nm,0.4s						
PCBR	**Castelo Branco**	**4.11**	**41**	*e*Pn	Pn	13 23 53.7	-1.7
PCBR				*e*Sn	Sn	13 24 39.6	-4.5
	4.9nm,0.4s						
ESPR	**Espera**	**4.12**	**87**	P	Pn	13 23 53.3	-2.2
	SNR=7.9						
ESPR				S	Sn	13 24 40.0	-4.3
	16nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.12**	**87**	P	Pn	13 23 53.3	-2.2
	SNR=7.9						
ESPR				S	Sn	13 24 40.0	-4.3
	16nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.60**	**31**	*e*Pn	Pn	13 23 59.7	-2.5
PVIS				*e*Sn	Sn	13 24 51.5	-4.8
PVIS				A		13 24 54.6	
	7.0nm,0.1s						
PVIS	**Viseu**	**4.60**	**31**	*e*Pn	Pn	13 23 59.7	-2.5
PVIS				*e*Sn	Sn	13 24 51.5	-4.8
	7.0nm,0.1s						
PVRL	**Vila Real**	**5.15**	**29**	*e*Sn	Sn	13 25 04.5	-5.3
PVRL				A		13 25 06.3	
	6.9nm,0.1s						
PVRL	**Vila Real**	**5.15**	**29**	*e*Sn	Sn	13 25 04.5	-5.3
	6.9nm,0.1s						
EADA	**Adamuz**	**5.28**	**73**	P	Pn	13 24 10.0	-1.4
	3.2nm,0.9s,SNR=6.8						
EADA				S	Sn	13 25 07.4	-5.6
	2.5nm,0.1s						
EADA	**Adamuz**	**5.28**	**73**	P	Pn	13 24 10.1	-1.4
EADA				S	Sn	13 25 07.4	-5.6
	2.5nm,0.1s						
ELOJ	**Sierra Loja**	**5.48**	**84**	P	Pn	13 24 10.3	-4.0
ELOJ	**Sierra Loja**	**5.48**	**84**	P	Pn	13 24 10.3	-4.0
ELOB	**Lobios**	**5.55**	**23**	P	Pn	13 24 12.2	-3.0
	5.1nm,0.9s,SNR=6.3						
ELOB				S	Sn	13 25 12.8	-6.9
	2.2nm,0.1s						
ELOB	**Lobios**	**5.55**	**23**	P	Pn	13 24 12.2	-3.0
	5.1nm,0.9s,SNR=6.3						
ELOB				S	Sn	13 25 12.8	-6.9
	2.2nm,0.1s						
PBRG	**Braganca**	**5.99**	**32**	*e*Sn	Sn	13 25 24.4	-6.1
ECAL	**Calabor**	**6.10**	**31**	P	Pn	13 24 19.5	-3.3
	SNR=7.9						
ECAL				S	Sn	13 25 27.2	-6.1
	2.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.10**	**31**	P	Pn	13 24 19.5	-3.3
	SNR=7.9						
ECAL				S	Sn	13 25 27.2	-6.1
	2.8nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.34**	**13**	P	Pn	13 24 21.6	-4.5
	SNR=7.9						
EMAZ				S	Sn	13 25 30.2	-8.9
	2.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.34**	**13**	P	Pn	13 24 21.6	-4.4
	SNR=7.9						
EMAZ				S	Sn	13 25 30.2	-8.9
	2.0nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.16**	**23**	P	Pn	13 24 33.9	-3.3
	3.6nm,0.3s,SNR=7.8						
EPON	**Pontenova**	**7.16**	**23**	P	Pn	13 24 33.9	-3.4
	3.6nm,0.3s,SNR=7.8						
ETOR	**Torete**	**8.05**	**57**	P	Pn	13 24 47.1	-2.4
	SNR=7.9						
ETOR				S	Sn	13 26 11.9	-9.3
	2.7nm,0.2s,SNR=7.9						

*NEIC **13** 13:28:56.7, 3465N×1541E, h10km, ML3.5(ROM), After ROM.*

ROM 13 13:28:56.7±0.6, 3465N×1541E, h10km, Md3.0/8, Ml3.5/5, Error ellipse: s-maj=10.0km s-min=4.6km az=33.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDD	**Wield Dalam**	**1.42**	**329**	Pg	Pg	13 29 22.3	-1.6
WDD				Sg	Sg	13 29 41.6	-0.7
HAVL	**Avola**	**2.32**	**354**	Pg	Pn	13 29 36.2	+1.3
	200nm,0.4s						
HMDC	**Modica**	**2.36**	**348**	Pg	Pn	13 29 36.0	+0.5
	293nm,0.4s						
SSY	**Sortino**	**2.52**	**354**	Pg	Pn	13 29 38.5	+0.9
	326nm,0.6s						
RAFF	**Raffo Rosso**	**2.71**	**342**	Pg	Pn	13 29 41.0	+0.8
	357nm,0.9s						
MMME	**Mongiuffi-Meli**	**3.28**	**358**	Pg	Pn	13 29 48.9	+0.7
SOI	**Samo**	**3.46**	**8**	Pg	Pn	13 29 51.6	+1.0
SOI				Sg	Sn	13 30 30.9	-0.6
	55nm,1.1s						
SERS	**Sersale**	**4.50**	**13**	Pg	Pn	13 30 04.8	-0.1

*IDC **13** 13:32:03.0±0.7, 3040N×5755E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/28, mbtmp4.3/20, ML3.2/3, MS3.5/6, Ms1 3.5/6, ms1mx3.2/45, Error ellipse: s-maj=18.6km s-min=14.5km az=171.0*
*THR **13** 13:32:05.5±0.3, 3052N×5758E, h14km±4km, ML4.4*
*BJI **13** 13:32:06.3, 31.15N×5753E, h6km, mB4.9, mb4.5, Ms4.4, Msz4.2*
*CSEM **13** 13:32:06.9±0.1, 3056N×5752E, h25km, mb4.3/14, Error ellipse: s-maj=1.6km s-min=1.2km az=114.0*
*TEH **13** 13:32:07.7, 3055N×5752E, h7km, Mn4.7*
*NEIC **13** 13:32:07.7, 3055N×5752E, h7km, mb4.4/8, ML4.4(THR), MN4.7(TEH), After TEH.*
*ISCJB **13** 13:32:07.7±0.5, 3050N±003×5750E±003, h37km±5km, mb4.4/32, MS3.6/4, Error ellipse: s-maj=5.0km s-min=3.8km az=101.6*
*MOS **13** 13:32:08.4±1.8, 3064N×5749E, h33km, mb4.3/13, Error ellipse: s-maj=10.5km s-min=6.9km az=99.1*

ISC 13 13:32:05.2±0.7, 3046N±002×5761E±002, h5km±4km, n190, σ1°28/301, mb4.4/32, MS3.6/4, 3C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.88**	**237**	*e*Pg	**Pg**	**13 32 22.3**	**+0.3**
KRBR				*e*Sg	**Sg**	**13 32 34.8**	**+1.4**
KRBR				AML	AML	13 32 44.0	
	comp=E,9μm,0.5s						
KRBR	**Kerman**	**0.88**	**237**	Pg	**Pg**	**13 32 22.0**	**0.0**
KRBR				Sg	**Sg**	**13 32 34.0**	**+0.6**
KRBR	**Kerman**	**0.88**	**237**	Pg	**Pg**	**13 32 22.0**	**0.0**
KRBR				*e*Sg	**Sg**	**13 32 34.8**	**+1.4**
	SNR=90						
IBAF	**Bafgh**	**2.08**	**303**	*e*Pn	**Pn**	**13 32 40.5**	**-0.3**
IBAF				*e*Pn	**Pn**	**13 32 40.5**	**-0.3**
IBAF				*e*Pn	**Pn**	**13 32 41.4**	**+0.6**
IBAF				*e*Sn	**Sn**	**13 33 06.7**	**-0.4**
IBAF				*e*Sn	**Sn**	**13 33 06.7**	**-0.4**
IBAF	**Bafgh**	**2.08**	**303**	Pn	**Pn**	**13 32 41.3**	**+0.5**
IBAF				Sn	**Sn**	**13 33 06.7**	**-0.4**
IKOO		**2.29**	**31**	*e*Pn	**Pn**	**13 32 43.9**	**+0.3**
ITEG		**2.62**	**22**	*e*Pn	**Pn**	**13 32 48.4**	**+0.3**
ITEG				*e*Sn	**Sn**	**13 33 20.1**	**-0.1**
IMEH	**Mehriz**	**2.74**	**291**	*e*Pn	**Pn**	**13 32 49.8**	**0.0**
IMEH				*e*Pn	**Pn**	**13 32 50.7**	**+0.9**
IMEH				*e*Sn	**Sb**	**13 33 29.7**	**+1.2**
IMEH	**Mehriz**	**2.74**	**291**	Pn	**Pn**	**13 32 49.7**	**-0.1**
IMEH				Sn	**Sg**	**13 33 29.6**	**-3.6**
ZHSF	**Zahedan**	**2.87**	**106**	*e*Pn	**Pn**	**13 32 53.6**	**+2.0**
ZHSF				*e*Sg	**Sg**	**13 33 36.7**	**-0.8**
ZHSF				AML	AML	13 33 37.8	
	comp=N,2μm,0.5s						
ZHSF				AML	AML	13 33 51.8	
	comp=E,948nm,0.5s						
ZHSF	**Zahedan**	**2.87**	**106**	Pn	**Pn**	**13 32 53.0**	**+1.4**
ZHSF				Sg	**Sg**	**13 33 36.0**	**-1.5**
ZHSF	**Zahedan**	**2.87**	**106**	*e*Pn	**Pn**	**13 32 53.6**	**+2.0**
	SNR=52						
ZHSF				*e*Sg	**Sg**	**13 33 36.7**	**-0.8**
	SNR=90						
IDAH		**2.98**	**40**	*e*Pn	**Pn**	**13 32 54.2**	**+1.1**
IMON		**3.24**	**32**	*e*Pn	**Pn**	**13 32 57.5**	**+0.9**
ICHK	**Chekchek**	**3.27**	**304**	*e*Pn	**Pn**	**13 32 56.4**	**-0.6**
ICHK				*e*Pn	**Pn**	**13 32 57.3**	**+0.3**
ICHK				*e*Pn	**Pn**	**13 32 57.6**	**+0.6**
ICHK				*e*Sn	**Sb**	**13 33 45.5**	**+1.8**
ICHK				*e*Sn	**Sb**	**13 33 45.9**	**+2.2**
ICHK	**Chekchek**	**3.27**	**304**	Pn	**Pn**	**13 32 57.2**	**+0.2**
ICHK				Sn	**Sn**	**13 33 35.9**	**-0.4**
ICHK				Sn	**Sb**	**13 33 45.4**	**+1.7**
ICHK	**Chekchek**	**3.27**	**304**	*e*Pn	**Pn**	**13 32 57.3**	**+0.3**
ICHK				Sn	**Sn**	**13 33 35.9**	**-0.4**
ISAD	**Sadrabad**	**3.66**	**294**	*e*Pn	**Pn**	**13 33 02.1**	**-0.4**
ISAD				*e*Pn	**Pn**	**13 33 02.4**	**-0.1**
ISAD				*e*Sn	**Sb**	**13 33 56.8**	**+1.7**
ISAD				*e*Sn	**Sb**	**13 33 56.9**	**+1.8**
ISAD	**Sadrabad**	**3.66**	**294**	*e*Pn	**Pn**	**13 33 02.4**	**-0.1**
IPAR	**Pars**	**4.00**	**262**	*e*Pn	**Pn**	**13 33 08.5**	**+1.4**
IPAR				*e*Pn	**Pn**	**13 33 09.0**	**+1.9**
IPAR				*e*Pn	**Pn**	**13 33 09.0**	**+1.9**
IPAR				*e*Sn	**Sg**	**13 34 12.4**	**-1.3**
IPAR				*e*Sn	**Sg**	**13 34 12.9**	**-0.8**
IMOK	**Mook**	**4.48**	**253**	*e*Pn	**Pn**	**13 33 13.5**	**-0.3**
IMOK				*e*Pn	**Pn**	**13 33 14.7**	**+0.9**
IMOK				*e*Pn	**Pn**	**13 33 15.3**	**+1.5**
IMOK				*e*Sn	**Sg**	**13 34 30.5**	**+1.3**
IMOK				*e*Sn	**Sg**	**13 34 31.1**	**+1.9**
IMOK	**Mook**	**4.48**	**253**	*e*Pn	**Pn**	**13 33 14.7**	**+0.9**
GHIR	**Ghir-Karzin**	**4.58**	**243**	*e*Pn	**Pn**	**13 33 16.6**	**+1.5**
GHIR	**Ghir-Karzin**	**4.58**	**243**	Pn	**Pn**	**13 33 16.0**	**+0.9**
NASN	**Na'in**	**4.71**	**301**	*e*Pn	**Pn**	**13 33 17.9**	**+0.9**
NASN				AML	AML	13 34 41.9	
	comp=E,252nm,0.6s						
NASN				AML	AML	13 34 43.9	
	comp=N,278nm,0.6s						
NASN	**Na'in**	**4.71**	**301**	Pn	**Pn**	**13 33 17.0**	**+0.1**
IMOG	**Moghan**	**5.81**	**14**	*e*Pn	**Pn**	**13 33 32.5**	**+0.4**
IMOG				*e*Pn	**Pn**	**13 33 32.9**	**+0.8**
IMOG				*e*Pn	**Pn**	**13 33 33.0**	**+0.9**
IMOG				*e*Sn	**Sg**	**13 35 07.5**	**-4.5**
IMOG				*e*Sn	**Sg**	**13 35 07.6**	**-4.4**
IMOG	**Moghan**	**5.81**	**14**	Pn	**Pn**	**13 33 32.4**	**+0.3**
IMOG				Sn	**Sn**	**13 34 40.5**	**+1.4**
IMOG				Sn	**Sg**	**13 35 07.6**	**-4.4**
IMOG	**Moghan**	**5.81**	**14**	*e*Pn	**Pn**	**13 33 32.9**	**+0.8**
IANJ	**Anjiloo**	**5.88**	**329**	*e*Pn	**Pn**	**13 33 32.4**	**-0.6**
IANJ				*e*Pn	**Pn**	**13 33 32.4**	**-0.6**
IANJ				*e*Sn	**Sb**	**13 34 58.1**	**-0.8**
IANJ	**Anjiloo**	**5.88**	**329**	Pn	**Pn**	**13 33 32.3**	**-0.7**
IANJ				Sn	**Sb**	**13 34 58.1**	**-0.8**
ISFB	**Sefidab**	**5.98**	**312**	*e*Pn	**Pn**	**13 33 33.8**	**-0.5**
ISFB				*e*Pn	**Pn**	**13 33 34.1**	**-0.2**
ISFB				*e*Pn	**Pn**	**13 33 35.2**	**+0.9**
ISFB				*e*Sn	**Sb**	**13 35 03.9**	**+2.3**
ISFB				*e*Sn	**Sb**	**13 35 04.2**	**+2.6**
ISFB	**Sefidab**	**5.98**	**312**	Pn	**Pn**	**13 33 33.7**	**-0.6**
ISFB				Sn	**Sb**	**13 35 04.1**	**+2.5**
ISFB	**Sefidab**	**5.98**	**312**	*e*Pn	**Pn**	**13 33 34.1**	**-0.2**
IPAY	**Payeh**	**6.08**	**11**	*e*Pn	**Pn**	**13 33 35.2**	**-0.6**
IPAY				*e*Pn	**Pn**	**13 33 36.4**	**+0.6**
IPAY				*e*Pn	**Pn**	**13 33 37.6**	**+1.8**
IPAY				*e*Sn	**Sb**	**13 35 01.9**	**-2.9**
IPAY				*e*Sn	**Sb**	**13 35 02.0**	**-2.8**
IPAY	**Payeh**	**6.08**	**11**	Pn	**Pn**	**13 33 35.2**	**-0.6**
IPAY				Sn	**Sn**	**13 34 46.9**	**+1.1**
IPAY				Sn	**Sb**	**13 35 01.9**	**-2.9**
IPAY	**Payeh**	**6.08**	**11**	*e*Pn	**Pn**	**13 33 36.4**	**+0.6**
IAKL	**Akhlamad**	**6.17**	**8**	*e*Pn	**Pn**	**13 33 36.4**	**-0.6**
IAKL				*e*Pn	**Pn**	**13 33 37.4**	**+0.4**
IAKL				*e*Sn	**Sb**	**13 35 09.4**	**+2.1**
IAKL	**Akhlamad**	**6.17**	**8**	Pn	**Pn**	**13 33 36.3**	**-0.7**
IAKL				Sn	**Sb**	**13 35 09.3**	**+2.0**
IAKL	**Akhlamad**	**6.17**	**8**	*e*Pn	**Pn**	**13 33 37.4**	**+0.4**
IMYA	**Miamay**	**6.22**	**19**	*e*Pn	**Pn**	**13 33 38.6**	**+0.9**
IMYA				*e*Pn	**Pn**	**13 33 38.6**	**+0.9**
IMYA				*e*Pn	**Pn**	**13 33 38.6**	**+0.9**
IMYA				*e*Sn	**Sg**	**13 35 22.5**	**-2.6**
IMYA				*e*Sn	**Sg**	**13 35 23.6**	**-1.5**
IMYA	**Miamay**	**6.22**	**19**	Pn	**Pn**	**13 33 38.6**	**+0.9**
IMYA				Sn	**Sn**	**13 34 51.4**	**+2.2**
ILAS	**Lasjerd**	**6.27**	**323**	*e*Pn	**Pn**	**13 33 36.4**	**-2.0**
ILAS				*e*Pn	**Pn**	**13 33 38.1**	**-0.3**
ILAS				*e*Pn	**Pn**	**13 33 38.6**	**+0.2**
ILAS				*e*Sn	**Sg**	**13 35 22.4**	**-4.3**
ILAS				*e*Sn	**Sg**	**13 35 22.9**	**-3.8**
ILAS	**Lasjerd**	**6.27**	**323**	Pn	**Pn**	**13 33 38.1**	**-0.3**
ILAS				Sn	**Sn**	**13 34 50.9**	**+0.5**
ILAS	**Lasjerd**	**6.27**	**323**	*e*Pn	**Pn**	**13 33 38.1**	**-0.3**
IKRD	**Kardeh**	**6.34**	**7**	*e*Pn	**Pn**	**13 33 42.1**	**+2.8**
IKRD				*e*Pn	**Pn**	**13 33 43.2**	**+3.9**
IKRD				*e*Pn	**Pn**	**13 33 43.4**	**+4.1**
IKRD				*e*Sn	**Sn**	**13 34 56.0**	**+4.0**
IKRD				*e*Sn	**Sn**	**13 34 56.2**	**+4.2**
IKRD	**Kardeh**	**6.34**	**7**	Pn	**Pn**	**13 33 42.0**	**+2.7**
IKRD				Sn	**Sn**	**13 34 56.2**	**+4.2**
ISHM	**Shahmirzad**	**6.44**	**327**	*e*Pn	**Pn**	**13 33 39.8**	**-0.9**
ISHM				*e*Pn	**Pn**	**13 33 40.6**	**-0.1**
ISHM				*e*Pn	**Pn**	**13 33 40.9**	**+0.2**
ISHM				*e*Sn	**Sg**	**13 35 24.7**	**-7.4**
ISHM				*e*Sn	**Sg**	**13 35 24.7**	**-7.4**
ISHM	**Shahmirzad**	**6.44**	**327**	Pn	**Pn**	**13 33 40.6**	**-0.1**
ISHM				Sn	**Sn**	**13 34 54.7**	**+0.1**
ISHM	**Shahmirzad**	**6.44**	**327**	*e*Pn	**Pn**	**13 33 40.9**	**+0.2**
ISFR	**Esferayen**	**6.57**	**3**	*e*Pn	**Pn**	**13 33 43.2**	**+0.7**
ISFR				*e*Pn	**Pn**	**13 33 43.2**	**+0.7**
ISFR				*e*Pn	**Pn**	**13 33 43.3**	**+0.8**
ISFR				*e*Sn	**Sn**	**13 35 06.5**	**+8.7**
ISFR				*e*Sn	**Sn**	**13 35 07.1**	**+9.3**
ISFR	**Esferayen**	**6.57**	**3**	Pn	**Pn**	**13 33 43.2**	**+0.7**
ISFR				Sn	**Sn**	**13 34 59.1**	**+1.3**
ISFR				Sn	**Sn**	**13 35 07.1**	**+9.3**
IFIR	**Firoozkooh**	**6.58**	**323**	*e*Pn	**Pn**	**13 33 39.8**	**-2.8**
IFIR				*e*Pn	**Pn**	**13 33 40.9**	**-1.7**
IFIR				*e*Pn	**Pn**	**13 33 42.3**	**-0.3**
IFIR				*e*Sn	**Sg**	**13 35 36.1**	**-0.4**
IFIR				*e*Sn	**Sg**	**13 35 36.9**	**+0.4**
IFIR	**Firoozkooh**	**6.58**	**323**	Pn	**Pn**	**13 33 39.7**	**-2.9**
IFIR	**Firoozkooh**	**6.58**	**323**	*e*Pn	**Pn**	**13 33 42.3**	**-0.3**
IKIA	**Kiasar**	**6.61**	**331**	*e*Pn	**Pn**	**13 33 42.6**	**-0.3**
IKIA				*e*Pn	**Pn**	**13 33 43.2**	**+0.3**
IKIA				*e*Sn	**Sg**	**13 35 31.1**	**-6.2**
IKIA	**Kiasar**	**6.61**	**331**	Pn	**Pn**	**13 33 42.6**	**-0.3**
IVRN	**Varamin**	**6.71**	**314**	*e*Pn	**Pn**	**13 33 43.2**	**-1.1**
IVRN				*e*Pn	**Pn**	**13 33 44.2**	**-0.1**
IVRN				*e*Pn	**Pn**	**13 33 44.3**	**0.0**
IVRN				*e*Sn	**Sb**	**13 35 23.6**	**+0.9**
IVRN				*e*Sn	**Sb**	**13 35 24.3**	**+1.6**
IVRN	**Varamin**	**6.71**	**314**	Pn	**Pn**	**13 33 43.1**	**-1.2**
IVRN	**Varamin**	**6.71**	**314**	*e*Pn	**Pn**	**13 33 44.2**	**-0.1**
IDMV	**Damavand**	**6.92**	**319**	*e*Pn	**Pn**	**13 33 44.4**	**-2.9**
IDMV				*e*Pn	**Pn**	**13 33 46.6**	**-0.7**
IDMV				*e*Pn	**Pn**	**13 33 47.5**	**+0.2**
IDMV				*e*Sn	**Sg**	**13 35 37.3**	**-10**
IDMV				*e*Sn	**Sg**	**13 35 38.8**	**-8.8**
IDMV	**Damavand**	**6.92**	**319**	Pn	**Pn**	**13 33 44.3**	**-3.0**
IDMV	**Damavand**	**6.92**	**319**	*e*Pn	**Pn**	**13 33 47.5**	**+0.2**
IEMG	**Emamqoli**	**6.99**	**7**	*e*Pn	**Pn**	**13 33 47.8**	**-0.3**
IEMG				*e*Pn	**Pn**	**13 33 47.8**	**-0.3**
IEMG				*e*Pn	**Pn**	**13 33 48.7**	**+0.6**
IEMG				*e*Sn	**Sn**	**13 35 06.5**	**-1.4**
IEMG				*e*Sn	**Sn**	**13 35 07.2**	**-0.7**
IEMG	**Emamqoli**	**6.99**	**7**	Pn	**Pn**	**13 33 47.7**	**-0.4**
IEMG				Sn	**Sn**	**13 35 07.2**	**-0.7**
IEMG	**Emamqoli**	**6.99**	**7**	*e*Pn	**Pn**	**13 33 48.7**	**+0.6**
ISHV	**Shirvan**	**7.06**	**1**	*e*Pn	**Pn**	**13 33 49.8**	**+0.7**
ISHV				*e*Pn	**Pn**	**13 33 50.1**	**+1.0**
ISHV				*e*Pn	**Pn**	**13 33 50.1**	**+1.0**
ISHV				*e*Sn	**Sb**	**13 35 38.4**	**+5.7**
ISHV				*e*Sn	**Sb**	**13 35 39.7**	**+7.0**
ISHV	**Shirvan**	**7.06**	**1**	Pn	**Pn**	**13 33 49.8**	**+0.7**
ISHV				Sn	**Sn**	**13 35 10.4**	**+0.7**
IPRN	**Paran-Amol**	**7.31**	**324**	*e*Pn	**Pn**	**13 33 52.3**	**-0.3**
IPRN				*e*Pn	**Pn**	**13 33 52.3**	**-0.3**
IPRN				*e*Pn	**Pn**	**13 33 52.5**	**-0.1**
IPRN				*e*Sn	**Sg**	**13 35 53.2**	**-6.6**
IPRN				*e*Sn	**Sg**	**13 35 54.1**	**-5.7**
IPRN	**Paran-Amol**	**7.31**	**324**	Pn	**Pn**	**13 33 52.3**	**-0.3**
ASAO	**Ashtian**	**7.59**	**304**	*e*Pn	**Pn**	**13 33 57.7**	**+1.2**
ASAO	**Ashtian**	**7.59**	**304**	Pn	**Pn**	**13 33 57.0**	**+0.5**
BSYO	**Bisya**	**7.71**	**183**	P	**Pn**	**13 34 01.7**	**+3.7**
	SNR=22						
IMHD	**Mahdasht**	**7.81**	**314**	*e*Pn	**Pn**	**13 33 59.2**	**-0.3**
IMHD				*e*Pn	**Pn**	**13 33 59.2**	**-0.3**
IMHD				*e*Pn	**Pn**	**13 33 59.3**	**-0.2**
IMHD				*e*Sn	**Sg**	**13 36 15.6**	**-0.5**
IMHD				*e*Sn	**Sg**	**13 36 16.1**	**0.0**
IMHD	**Mahdasht**	**7.81**	**314**	Pn	**Pn**	**13 33 59.1**	**-0.4**
IMHD	**Mahdasht**	**7.81**	**314**	*e*Pn	**Pn**	**13 33 59.3**	**-0.2**
QRN	**Al-Qurain**	**8.61**	**261**	*e*P	**Pn**	**13 34 09.8**	**-0.7**
QRN				AML	AML	13 36 06.8	
	comp=Z,29nm,0

AKTO LR LR 13 45 38.3
comp=Z,136nm,20.7s,baz=168,slow=41
AKTO Aktyubinsk 19.95 1 P Pn 13 36 37.6 -2.1
AKTO pmax pmax
comp=Z,9.0nm,0.7s
AKTO MLR MLR
comp=Z,136nm,20.7s
AVNT Avonos 20.45 300 *i* P **P 13 36 43.9 +0.5**
ORR Orenburg 21.24 355 *eP* **P 13 36 51.6 -0.5**
ORR pmax pmax
comp=Z,40nm,0.9s,mb4.8
ORR Orenburg 21.24 355 *eP* **P 13 36 51.6 -0.5**
comp=Z,40nm,0.9s,mb4.8
BOYT Boyabat 21.33 307 *i* P **P 13 36 51.0 -2.0**
BRTR Keskin Array B 21.63 302 P **P 13 36 55.3 -0.9**
comp=Z,7.6nm,0.7s,mb4.2,baz=118,slow=13,SNR=50
BRTR Keskin Array B 21.63 302 P **P 13 36 55.3 -0.9**
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BR131 Keskin Array S 21.63 302 *eP* **P 13 36 55.5 -0.7**
comp=Z,6.4nm,0.7s,mb4.2
BR131 Keskin Array S 21.63 302 *eP* **P 13 36 55.5 -0.7**
comp=Z,6.4nm,0.7s,mb4.2
BALT Daday 22.43 306 *i* P **P 13 37 03.7 -1.0**
KOLN Koldanda 22.85 90 *eP* **P 13 37 11.1 +1.9**
comp=Z,30nm,1.2s,mb4.6
HYB Hyderabad 23.08 119 *i* P **P 13 37 17.0 +5.3**
HYB Hyderabad 23.08 119 *eP* **P 13 37 17.0 +5.3**
ATD Arta Tunnel 23.29 219 LR LR 13 46 42.7
comp=Z,55nm,18.6s,MS3.0,baz=37,slow=38
GKN Gorkha 23.69 89 *eP* **P 13 37 19.4 +1.5**
comp=Z,36nm,1.0s,mb4.7
DMN Daman 24.19 90 *eP* **P 13 37 23.5 +1.1**
KKN Kakani 24.30 89 *eP* **P 13 37 25.8 +2.4**
comp=Z,46nm,1.1s,mb4.8
BRVK Borovoye 24.41 19 *eP* **P 13 37 24.0 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
BRVK Borovoye 24.41 19 *eP* **P 13 37 24.0 -0.4**
comp=Z,8.2nm,0.8s,mb4.2
BRVK Borovoye 24.41 19 *eP* **P 13 37 24.0 -0.4**
comp=Z,8.0nm,0.8s,mb4.2
BVA0 Borovoye Array 24.41 19 *i* P **P 13 37 24.2 -0.2**
BVAR Borovoye Array 24.41 19 P **P 13 37 24.2 -0.3**
comp=Z,12nm,0.7s,mb4.4,baz=199,slow=7.8,SNR=51
BVAR PcP PcP 13 41 02.3 -1.3
comp=Z,0.9nm,0.6s,baz=186,slow=1.4,SNR=3.1
BVAR Borovoye Array 24.41 19 P **P 13 37 24.2 -0.2**
BVAR 13 41 02.3
BVAR pmax pmax
comp=Z,12nm,0.7s
BVAR Borovoye Array 24.41 19 PcP PcP 13 41 02.3 -1.3
PKI Pulchoki 24.46 90 *eP* **P 13 37 26.5 +1.6**
GUN Gumba 24.79 89 *eP* **P 13 37 30.8 +2.9**
CHKZ Chkalovo 25.05 18 *eP* **P 13 37 29.2 -1.1**
CHKZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.2
CHKZ Chkalovo 25.05 18 *eP* **P 13 37 29.2 -1.1**
comp=Z,7.9nm,1.1s,mb4.2
CHKZ Chkalovo 25.05 18 *eP* **P 13 37 29.2 -1.1**
comp=Z,8.0nm,1.1s,mb4.2
MK31 Makanchi Array 25.10 43 *i* P **P 13 37 30.7 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
MK31 Makanchi Array 25.10 43 *eP* **P 13 37 31.0 +0.2**
MK31 Makanchi Array 25.10 43 *i* P **P 13 37 30.7 -0.1**
comp=Z,4.0nm,0.6s,mb4.1
MKAR Makanchi Array 25.10 43 P **P 13 37 30.8 0.0**
comp=Z,1.2nm,0.5s,mb3.7,baz=227,slow=8.7,SNR=17
MKAR Makanchi Array 25.10 43 P **P 13 37 30.8 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 25.61 32 *eP* **P 13 37 33.2 -2.2**
ARU Arti 25.97 1⇓*iP* **P 13 37 39.0 +0.3**
ARU *e* 13 38 14.1
ARU *e*S **S 13 42 06.1 -3.5**
ARU *e*SS 13 43 04.5
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.4
ARU Arti 25.97 1 *eP* **P 13 37 40.2 +1.6**
comp=Z,6.4nm,0.8s,mb4.2
ARU Arti 25.97 1 *i* P **P 13 37 39.0 +0.3**
comp=Z,12nm,0.9s,mb4.4
OBN Obninsk 28.85 335⇓*eP* **P 13 38 03.9 -0.6**
OBN *e* 13 38 52.9
OBN pmax pmax
comp=Z,66nm,2.8s,mb4.9
OBN Obninsk 28.85 335 *eP* **P 13 38 03.9 -0.6**
comp=Z,66nm,2.8s,mb4.9
MLR Muntele Rosu 28.90 310 P **P 13 38 04.5 -0.4**
comp=Z,0.8nm,0.5s,mb3.7,baz=246,slow=20,SNR=2.5
MLR Muntele Rosu 28.90 310 P **P 13 38 04.5 -0.4**
MLR pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 29.27 322 P **P 13 38 06.5 -1.7**
comp=Z,0.9nm,0.5s,mb3.7,baz=122,slow=8.5,SNR=8.2
AKASG Malin Array Be 29.27 322 P **P 13 38 06.5 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 30.58 32 P **P 13 38 18.1 -1.7**
comp=Z,1.7nm,0.4s,mb4.2,baz=104,slow=19,SNR=3.3
ZAL Zalesovo 30.58 32 P **P 13 38 18.2 -1.6**
ZAL pmax pmax
comp=Z,2.0nm,0.4s
KLMR Klimovskoe 32.69 344 *eP* **P 13 38 35.6 -2.8**
KLMR pmax pmax
comp=Z,30nm,1.1s,mb5.1
KLMR Klimovskoe 32.69 344 *eP* **P 13 38 35.6 -2.8**
comp=Z,30nm,1.1s,mb5.1
GTA Gaotai 35.47 64 *eP* **P 13 39 04.1 +1.6**
GTA AP pP 13 39 07.8 +3.7
GTA XP sP 13 39 10.8 +6.0
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 37.85 312 P **P 13 39 21.0 -1.8**
comp=Z,1.4nm,0.7s,mb3.8,baz=110,slow=7.8,SNR=9.7
GERES PcP PcP 13 41 37.8 -1.4
comp=Z,1.0nm,0.6s,baz=124,slow=2.4,SNR=3.6
GERES LR LR 13 57 17.5
comp=Z,119nm,19.4s,MS3.7,baz=77,slow=40
GERES GERESS Array B 37.85 312 P **P 13 39 21.0 -1.8**
GERES 13 41 37.8
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,119nm,19.4s
GERES GERESS Array B 37.85 312 P **P 13 39 21.0 -1.8**
GERES PcP PcP 13 41 37.8 -1.4
GERES GERESS Array B 37.85 312 PcP PcP 13 41 37.8 -1.4
comp=Z,119nm,19.4s
KHC Kasperske Hory 37.99 312 *eP* **P 13 39 25.3 +1.3**
BRG Berggiesshubel 38.19 315 *eP* **P 13 39 27.7 +2.0**
comp=Z,3.4nm,0.5s,mb4.3
BRG Berggiesshubel 38.19 315 *eP* **P 13 39 27.7 +2.0**
BRG pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
CLL Collm 38.87 315⇑*iP* **P 13 39 27.1 -4.3**
CLL pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
CLL Collm 38.87 315⇑*i*PKPab **P 13 39 27.1 -4.3**
comp=Z,14nm,1.1s,mb4.6
CLL Collm 38.87 315 *eP* **P 13 39 31.0 -0.4**
CD2 Chengdu 39.47 77 *eP* **P 13 39 38.0 +1.6**
CD2 XP sP 13 39 46.9 +8.2
CD2 PP PP 13 41 12.8 +5.9
CD2 S **S 13 45 38.4 -0.4**
CD2 SS SS 13 48 25.0 -7.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 LR LR
comp=N,250nm,13.2s
CD2 LR LR
comp=Z,270nm,15.6s,MS4.2
KMI Kunming 40.08 86 P **P 13 39 45.9 +4.4**
KMI AMB AMB
comp=Z,17nm,0.9s,mb4.8
SONM Songino Array 40.88 51 P **P 13 39 47.9 -0.2**
comp=Z,1.2nm,0.8s,mb3.6,baz=277,slow=11,SNR=7.7
SONM LR LR 13 57 59.4
comp=Z,72nm,18.9s,MS3.5,baz=12,slow=38
SONM Songino Array 40.88 51 P **P 13 39 47.9 -0.2**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,72nm,18.9s
ULN Ulaanbaatar 41.33 51 *eP* **P 13 39 51.5 -0.3**

TOA0 Torodi Ar. Sit 54.17 264 *eP* **P 13 41 29.5 -1.9**
TOA0 Torodi Ar. Sit 54.17 264 *eP* **P 13 41 29.5 -1.9**
TORD Torodi Ar. Bea 54.17 264 P **P 13 41 30.0 -1.5**
comp=Z,11nm,0.7s,mb4.9,baz=57,slow=6.9,SNR=51
TIXI Tiksi 55.51 21 *eP* **P 13 41 40.1 -1.0**
TIXI pmax pmax
comp=Z,10.0nm,2.5s,mb4.4
TIXI Tiksi 55.51 21 *eP* **P 13 41 40.1 -1.0**
comp=Z,10.0nm,2.5s,mb4.4
KSRS Korea Array 57.52 63 P **P 13 41 54.6 -0.9**
comp=Z,2.4nm,0.8s,mb4.3,baz=274,slow=6.9,SNR=4.1
BOSA Boshof 66.36 211 P **P 13 42 53.9 -1.0**
comp=Z,5.5nm,0.6s,mb4.8,baz=31,slow=7.1,SNR=20
BOSA Boshof 66.36 211 *eP* **P 13 42 54.2 -0.7**
BOSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BOSA Boshof 66.36 211 *eP* **P 13 42 54.1 -0.8**
comp=Z,7.4nm,0.8s,mb4.8
BOSA Boshof 66.36 211 *eP* **P 13 42 54.2 -0.7**
comp=Z,7.0nm,0.8s,mb4.7
SCHQ Schefferville 82.60 331 P **P 13 44 27.6 -1.7**
comp=Z,3.3nm,0.7s,mb4.5,baz=222,slow=14,SNR=3.5
YKA Yellowknife Ar 87.16 356 P **P 13 44 50.3 -2.0**
comp=Z,4.0nm,0.9s,mb4.7,baz=357,slow=4.9,SNR=50
WRA Warramunga Arr 89.11 114 P **P 13 45 00.2 -1.4**
comp=Z,2.8nm,0.7s,mb4.7,baz=323,slow=4.0,SNR=3.4
ASAR Alice Springs 90.79 117 P **P 13 45 07.8 -1.7**
comp=Z,0.8nm,0.7s,mb4.2,baz=302,slow=4.2,SNR=3.0
ULM Lac du Bonnet 96.28 343 P **P 13 45 31.9 -2.7**
comp=Z,3.1nm,0.8s,mb4.8,baz=352,slow=1.1,SNR=6.4

IDC 13 13:36:12.7±2.1,944S×11878E,h0km,mb3.8/4,mb1 4.1/6, mb1mx3.8/18,mbtmp3.9/6,ML3.9/2,MS2.9/1,Ms1 2.9/1, ms1mx2.3/29,Error ellipse: s-maj=139.7km s-min=19.5km az=56.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.88**	**143**	*eP*	Pn	13 38 50.7	+1.1
	16nm,0.7s						
FITZ				*e*S	Sn	13 40 40.6	-11
FITZ	**Fitzroy Crossi**	**10.88**	**143**	Pn	Pn	13 38 50.6	+1.0
	0.7nm,0.3s,baz=332,slow=8.4,SNR=31						
FITZ				Sn	Sn	13 40 40.4	-12
	1.9nm,0.3s,baz=179,slow=20,SNR=12						
KAKA	**Kakadu**	**13.79**	**105**	*eP*	Pn	13 39 27.3	-2.1
	22nm,0.6s						
KAKA				*e*S	Sn	13 41 48.7	-15
WRA	**Warramunga Arr**	**18.30**	**127**	P	Pn	13 40 27.3	-0.6
	0.3nm,0.3s,baz=300,slow=13,SNR=37						
WRA				S	Sn	13 43 33.1	-20
	0.3nm,0.3s,baz=284,slow=25,SNR=5.3						
WRA				LR	LR	13 48 33.7	
	comp=Z,38nm,20.0s,baz=145,slow=40						
WB2	**Warramunga Arr**	**18.31**	**126**	*eP*	Pn	13 40 27.7	-0.3
WB2				*e*S	Sn	13 43 33.8	-19
ASAR	**Alice Springs**	**20.22**	**136**	P	P	13 40 50.0	+0.9
	1.4nm,0.5s,baz=308,slow=9.3,SNR=65						
ASAR				S	S	13 44 23.1	-14
	1.5nm,0.8s,baz=308,slow=22,SNR=7.2						
STKA	**Stephens Creek**	**30.75**	**140**	P	P	13 42 29.6	0.0
	1.7nm,0.8s,baz=315,slow=4.3,SNR=3.4						
SONM	**Songino Array**	**58.07**	**350**	P	P	13 46 07.9	+0.3
	1.0nm,0.6s,baz=168,slow=8.1,SNR=8.4						
MKAR	**Makanchi Array**	**64.75**	**333**	P	P	13 46 52.7	-0.1
	0.8nm,0.6s,baz=150,slow=7.9,SNR=7.0						

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*MOS **13** 13:52:22.8±1.5,5284N×10739E,h12km,mb4.3/1,Error ellipse: s-maj=28.8km s-min=16.4km az=52.8*

BYKL 13 13:52:23.5±0.2,5280N×10736E,h10km±15km,5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRTB	**Turuntaevo**	**0.59**	**164**	⇓*iPg*	Pg	13 52 34.5	-0.5
	475nm,0.3s						
TRTB				⇑*iPg*	Pg	13 52 34.5	-0.5
	85nm,0.3s						
TRTB				⇑*iPg*	Pg	13 52 34.5	-0.5
	524nm,0.3s						
TRTB				*e*Sg	Sg	13 52 42.5	-0.3
TRTB				Pmax			
	510nm,0.2s						
TRTB				Smax			
	1μm,0.3s						
TRG	**Tyrgan**	**0.62**	**267**	*eP*g	Pg	13 52 34.8	-0.6
TRG				*e*Sg	Sg	13 52 44.0	+0.5
TRG				Pmax			
	101nm,0.1s						
TRG				Smax			
	1μm,0.1s						
OGRR	**Ongureny**	**0.86**	**9**	*eP*G	Pg	13 52 39.0	-1.0
OGRR				*e*		13 52 50.0	
OGRR				pmax	pmax		
	comp=Z,59nm,0.1s						
OGRR				smax			
	comp=E,360nm,0.3s						
OGRR	**Ongureny**	**0.86**	**9**	⇑*iPg*	Pg	13 52 38.9	-1.1
OGRR				*e*Sg	Sg	13 52 50.1	-1.1
OGRR				Pmax			
	comp=E,44nm,0.1s						
OGRR				Smax			
	comp=E,365nm,0.2s						
KAB	**Kabansk**	**0.87**	**210**	*eP*G	Pg	13 52 40.4	+0.2
KAB				*e*		13 52 52.0	
KAB				pmax	pmax		
	comp=Z,140nm,0.1s						
KAB				smax			
	comp=N,2μm,0.2s						
KAB	**Kabansk**	**0.87**	**210**	*eP*g	Pg	13 52 40.2	0.0
KAB				*e*Sg	Sg	13 52 51.5	0.0
KAB				*e*Sb	Sb	13 52 56.0	+3.7
KAB				Pmax			
	comp=N,181nm,0.2s						
KAB				max			
	comp=N,2μm,0.3s						
UUDB	**Ulan-Yde**	**0.95**	**169**	⇑*iPg*	Pg	13 52 40.8	-1.0
UUDB				*e*Sg	Sg	13 52 53.2	-1.0
UUDB				*e*Sb	Sb	13 52 58.6	+3.8
UUDB				Pmax			
	comp=N,178nm,0.1s						
UUDB				max			
	comp=N,1μm,0.4s						
MXMB	**Maximikha**	**0.96**	**60**	*eP*g	Pg	13 52 40.5	-1.4
MXMB				*e*Sg	Sg	13 52 53.6	-0.8
MXMB				Pmax			
	comp=N,71nm,0.1s						
MXMB				Smax			
	comp=N,2μm,0.5s						
HRMR	**Khuramsha**	**1.20**	**192**	⇑*iPg*	Pg	13 52 45.3	-1.3
HRMR				*e*Sg	Sg	13 53 01.7	-0.4
HRMR				*e*Sb	Sb	13 53 04.4	+2.5
HRMR				Pmax			
	comp=N,251nm,0.1s						
HRMR				max			
	comp=N,6μm,0.2s						
BTMB	**Babushkin**	**1.45**	**221**	*eP*g	Pg	13 52 49.6	-1.7
BTMB				*e*Sg	Sg	13 53 09.6	-0.5
BTMB				Pmax			
	comp=N,44nm,0.3s						
BTMB				Smax			
	comp=N,647nm,0.7s						
SYVR	**Suvo**	**1.80**	**60**	*eP*n	Pn	13 52 54.6	0.0
SYVR				*e*Pg	Pg	13 52 55.6	-2.5
SYVR				*e*Sg	Sg	13 53 20.2	-1.3
SYVR				Pmax			
	comp=N,40nm,0.3s						
SYVR				Smax			
	comp=N,156nm,0.2s						
LSTR	**Listvyanka**	**1.81**	**240**	*eP*n	Pn	13 52 54.8	+0.1
LSTR				*e*Pg	Pg	13 52 56.1	-2.1
LSTR				*e*Sg	Sg	13 53 19.7	-2.0
LSTR				Pmax			
	comp=N,27nm,0.2s						
LSTR				Smax			
	comp=N,215nm,0.2s						
IRK	**Irkutsk**	**1.97**	**255**	*eP*N	Pn	13 53 00.2	+3.3
IRK				*e*		13 53 24.0	
IRK				pmax	pmax		
	comp=Z,90nm,0.2s						
IRK				smax			
	comp=N,2μm,0.3s						
IRK	**Irkutsk**	**1.97**	**255**	*eP*g	Pg	13 52 59.2	-2.0
IRK				*e*Sg	Sg	13 53 25.0	-1.8
IRK				Pmax			
	comp=N,90nm,0.2s						
IRK				Smax			
	comp=N,2μm,0.3s						
TLY	**Talaya**	**2.54**	**245**	*eP*N	Pn	13 53 04.9	+0.1
TLY				*e*		13 53 08.7	
TLY				*e*S	Sn	13 53 36.1	+0.2
TLY				*e*		13 53 41.9	
TLY				pmax	pmax		
	comp=Z,19nm,0.3s						
TLY				smax			
	comp=E,122nm,0.3s						
TLY	**Talaya**	**2.54**	**245**	*eP*n	Pn	13 53 04.9	+0.1
TLY				*eP*g	Pg	13 53 08.7	-3.6
TLY				*e*Sg	Sg	13 53 41.9	-3.4
TLY				Pmax			
	comp=E,11nm,0.1s						
TLY				Smax			
	comp=E,157nm,0.4s						
YLYR	**Ulyunkhan**	**3.07**	**46**	*eP*n	Pn	13 53 12.0	0.0
YLYR				*eP*g	Pg	13 53 18.0	-4.2
YLYR				*e*Sg	Sg	13 53 58.2	-3.8
YLYR				Pmax			
	comp=E,9.0nm,0.4s						
YLYR				Smax			
	comp=E,73nm,0.6s						
ARS	**Arshan**	**3.15**	**256**	*eP*N	Pn	13 53 14.3	+1.1
ARS				*e*		13 53 20.7	
ARS				*e*		13 53 59.2	
ARS				pmax	pmax		
	comp=Z,31nm,0.7s						
ARS				smax			
	comp=E,353nm,0.4s						
ARS	**Arshan**	**3.15**	**256**	*eP*n	Pn	13 53 14.2	+1.0
ARS				*eP*g	Pg	13 53 20.7	-3.2
ARS				*e*Sg	Sg	13 53 59.9	-4.9
ARS				Pmax			
	comp=E,36nm,0.4s						
ARS				Smax			
	comp=E,353nm,0.4s						
ZAK	**Zakamensk**	**3.51**	**228**	*eP*n	Pn	13 53 19.1	+1.0
ZAK				*eP*g	Pg	13 53 26.9	-3.9
ZAK				*e*Sn	Sn	13 53 59.7	0.0
ZAK				*e*Sg	Sg	13 54 12.1	-4.2
ZAK				Pmax			
	comp=E,2.0nm,0.2s						
ZAK				Smax			
	comp=E,38nm,0.4s						
CIT	**Chita**	**3.87**	**99**	*eP*n	Pn	13 53 23.9	+0.8
CIT				*eP*g	Pg	13 53 33.0	-4.7
CIT				*e*Sn	Sn	13 54 07.3	-1.3
CIT				*e*Sg	Sg	13 54 22.9	-4.9
CIT				Pmax			
	comp=E,23nm,0.3s						
CIT				Smax			
	comp=E,76nm,0.4s						
MOY	**Mondy**	**4.08**	**256**	*eP*n	Pn	13 53 27.7	+1.8
MOY				*eP*g	Pg	13 53 36.2	-5.4
MOY				*e*Sg	Sg	13 54 27.9	-6.5
MOY				Pmax			
	comp=E,20nm,0.4s						
MOY				Smax			
	comp=E,84nm,0.5s						
KPC	**Khapcheranga**	**4.42**	**133**	*eP*n	Pn	13 53 29.9	-0.7
KPC				*eP*g	Pg	13 53 42.4	-5.8
KPC				*e*Sn	Sn	13 54 21.3	-0.8
KPC				*e*Sg	Sg	13 54 39.3	-6.2
KPC				Pmax			
	comp=E,17nm,0.3s						
KPC				Smax			
	comp=E,32nm,0.7s						
ORL	**Orlik**	**4.60**	**270**	*eP*N	Pn	13 53 34.2	+1.1
ORL				*e*		13 53 46.7	
ORL				*e*		13 54 45.8	
ORL				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ORL				smax			
	comp=N,85nm,0.8s						
ORL	**Orlik**	**4.60**	**270**	*eP*n	Pn	13 53 34.4	+1.3
ORL				*e*		13 54 29.9	
ORL				*e*Sg	Sg	13 54 45.9	-5.4
ORL				Smax			
	comp=N,82nm,0.7s						
CRS	**Chara**	**7.52**	**53**	*e*Sg	Sg	13 56 15.0	-10
CRS				Smax			
	comp=N,22nm,1.2s						
TUP	**Tupik**	**7.67**	**73**	*e*Sg	Sg	13 56 20.4	-9.1
TUP				Smax			
	comp=N,44nm,1.0s						

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*IDC **13** 14:04:34.9±0.5,1009N×14036E,h0km,mb4.6/23, mb1 4.7/24,mb1mx4.6/29,mbtmp4.6/24,ML5.0/2,MS4.4/23, Ms1 4.4/23,ms1mx4.1/32,Error ellipse: s-maj=19.1km s-min=10.5km az=81.0*

*MOS **13** 14:04:37.4±0.8,1005N×14050E,h33km,mb5.0/22,Error ellipse: s-maj=23.5km s-min=8.3km az=109.3*

*ISCJB **13** 14:04:38.5±0.2,1007N±003×14050E±004,h38km, mb4.9/93,MS4.4/36,Error ellipse: s-maj=6.0km s-min=4.6km az=166.1*

*NEIC **13** 14:04:40.3±1.3,1008N×14042E,h37km±12km,mb4.9/29, Error ellipse: s-maj=7.9km s-min=5.0km az=84.0*

*GCMT **13** 14:04:40.3±0.2,1007N×14035E,h24km,MW5.3/88, Moment Tensor Solution. s49,c78; s88,c157; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01±.02; $M_{\theta\theta}$0.93±.02; $M_{\phi\phi}$-0.91±.02; $M_{r\theta}$0.26±.04; $M_{r\phi}$-0.48±.02; $M_{\theta\phi}$0.13±.05; Best double couple: $M_0$1.07600×10^{17} NP1:ϕ_s149.00000°,δ74.00000°,λ1.00000°. NP2: ϕ_s59.00000°,δ89.00000°,λ164.00000°. Principal axes: T 1.0860, Plg11.0000°, Azm13.0000°; N -0.0200, Plg74.0000°, Azm236.0000°; P -1.0650, Plg10.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **13** 14:04:40.4,1056N×14039E,h20km,mB5.2,mb4.9,Ms4.8, Msz4.3*

ISC 13 14:04:40.3±0.2,1010N±003×14052E±004,h35km, h35km±2.7km:pP-P,n166,σ1°03/172,mb4.9/93,MS4.4/36, 13C-3D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.49**	**50**	Pn	**Pn**	**14 06 00.6**	**+1.0**
	76nm,0.3s,baz=193,slow=8.9,SNR=33						
GUMO				Sn	**Sn**	**14 07 03.8**	**+2.4**
	172nm,0.3s,baz=46,slow=22,SNR=7.6						
GUMO				LR	LR	14 07 28.8	
	comp=Z,1μm,19.0s,baz=40,slow=31						
GUMO	**Guam**	**5.49**	**50**	*eP*n	**Pn**	**14 06 00.5**	**+1.0**
	864nm,0.9s						
GUMO				*e*Sn	**Sn**	**14 06 56.8**	**-4.6**
CBIJ	**Chichi jima**	**16.98**	**5**	P	**Pn**	**14 08 35.4**	**+0.4**
	17nm,0.3s,baz=167,slow=5.6,SNR=15						
JOW	**Kunigami**	**20.27**	**327**	P	**P**	**14 09 14.3**	**+1.6**
	45nm,0.9s,baz=151,slow=9.2,SNR=22						
JOW				LR	LR	14 15 01.2	
	comp=Z,738nm,21.5s,MS4.0,baz=153,slow=31						
PMG	**Port Moresby**	**20.47**	**161**	P	**P**	**14 09 14.6**	**-0.3**
	39nm,0.9s,baz=18,slow=7.9,SNR=9.6						
PMG	**Port Moresby**	**20.47**	**161**⇑	*eP*	**P**	**14 09 14.9**	**0.0**
PMG	**Port Moresby**	**20.47**	**161**	*eP*	**P**	**14 09 14.8**	**-0.1**
	134nm,1.1s						
JHJ	**Hachijo jima 2**	**22.92**	**358**	LR	LR	14 16 53.2	
	comp=Z,717nm,18.9s,MS4.1,baz=115,slow=32						
YHNB	**Yeheng**	**23.27**	**311**	*eP*	**P**	**14 09 45.8**	**+1.0**
KAKA	**Kakadu**	**24.04**	**200**	*eP*	**P**	**14 09 49.9**	**-2.1**
	116nm,1.7s,mb5.0						
KAKA				*i*		14 09 57.7	
KKM	**Kota Kinabalu**	**24.40**	**262**	*eP*	**P**	**14 09 54.6**	**-0.6**
JNU	**Nakatsue**	**24.58**	**340**	P	**P**	**14 09 57.2**	**+0.3**
	22nm,0.8s,mb4.8,baz=192,slow=21,SNR=5.7						
MJAR	**Matsushiro Arr**	**26.41**	**356**	P	**P**	**14 10 11.2**	**-2.3**
	6.8nm,0.8s,mb4.2,baz=175,slow=10,SNR=15						
MJAR				LR	LR	14 20 45.0	
	comp=Z,745nm,18.1s,MS4.3,baz=155,slow=37						
MAJO	**Matsushiro**	**26.41**	**356**	*eP*	**P**	**14 10 10.4**	**-3.1**
	14nm,0.7s,mb4.6						
MAT	**Matsushiro**	**26.41**	**356**	P	**P**	**14 10 11.0**	**-2.5**
MAT				S	**S**	**14 14 49.0**	**+4.4**
HNR	**Honiara**	**27.39**	**134**	LR	LR	14 20 33.4	
	comp=Z,442nm,19.5s,MS4.0,baz=357,slow=35						
HNR	**Honiara**	**27.39**	**134**	*eP*	**P**	**14 10 23.2**	**+0.9**
	86nm,1.1s,mb5.2						

SSE	**Sheshan**	**27.55 322**	*e*P	**P**	**14 10 23.5**	**-0.3**
SSE			AP	pP	14 10 35.1	+1.3
SSE			XP	sP	14 10 39.3	+1.2
SSE			S	**S**	**14 15 02.8**	**+0.2**
SSE			AMB	AMB		
	comp=Z,26nm,0.8s,mb4.9					
SSE			AMB	AMB		
	comp=Z,138nm,4.4s					
SSE			LR	LR		
	comp=N,1µm,17.1s,MS4.7					
SSE			LR	LR		
	comp=E,1µm,17.1s,MS4.7					
SSE			LR	LR		
	comp=Z,604nm,20.8s,MS4.2					
KSRS	**Korea Array**	**29.51 339**	P	**P**	**14 10 40.9**	**-0.3**
	comp=Z,8.0nm,0.9s,mb4.4,baz=163,slow=9.8,SNR=22					
KSRS			LR	LR	14 21 02.1	
	comp=Z,407nm,20.2s,MS4.0,baz=150,slow=34					
WB2	**Warramunga Arr**	**30.46 192** ‖	*i*P	**P**	**14 10 49.1**	**-0.5**
WB2			*e*	pP	14 10 56.1	-3.6
WRA	**Warramunga Arr**	**30.46 192**	P	**P**	**14 10 48.5**	**-1.1**
	comp=Z,7.0nm,0.9s,mb4.4,baz=11,slow=9.7,SNR=53					
WRA			PcP	PcP	14 13 56.2	+7.8
	comp=Z,3.5nm,0.9s,baz=359,slow=2.9,SNR=4.8					
WRA			LR	LR	14 23 36.5	
	comp=Z,1µm,18.1s,MS4.5,baz=30,slow=38					
WRA	**Warramunga Arr**	**30.46 192**	*i* P	**P**	**14 10 48.5**	**-1.1**
WRA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
CTA	**Charters Tower**	**30.52 169**	*e*P	**P**	**14 10 50.9**	**+0.8**
	comp=Z,11nm,0.9s,mb4.7					
CTA			*e*S	**S**	**14 15 55.4**	**+6.1**
CTA	**Charters Tower**	**30.52 169**	P	**P**	**14 10 50.4**	**+0.3**
	comp=Z,13nm,0.8s,mb4.8,baz=331,slow=11,SNR=11					
CTA			LR	LR	14 22 10.7	
	comp=Z,580nm,18.5s,MS4.3,baz=354,slow=35					
CTAO	**Charters Tower**	**30.52 169**	*e*P	**P**	**14 10 50.8**	**+0.7**
	comp=Z,27nm,1.1s,mb5.0					
QIZ	**Qiongzhong**	**30.95 290**	P	**P**	**14 10 52.9**	**-1.0**
QIZ			S	**S**	**14 15 50.9**	**-5.1**
QIZ			LR	LR		
	comp=N,445nm,29.6s					
FITZ	**Fitzroy Crossi**	**31.64 208**	*e*P	**P**	**14 10 59.1**	**-0.9**
	comp=N,7.6nm,0.9s,mb4.5					
FITZ			*e*	pP	14 11 06.2	-3.9
DL2	**Dalian**	**33.29 333**	P	**P**	**14 11 15.3**	**+0.8**
DL2			S	**S**	**14 16 34.9**	**+2.4**
DL2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9					
DL2			LR	LR		
	comp=N,500nm,17.6s,MS4.5					
DL2			LR	LR		
	comp=E,610nm,18.7s,MS4.5					
DL2			LR	LR		
	comp=Z,360nm,14.9s,MS4.2					
ASAJ	**Asahikawa**	**33.94 3**	P	**P**	**14 11 20.8**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.6,baz=250,slow=24,SNR=3.0					
ASAR	**Alice Springs**	**34.17 191**	P	**P**	**14 11 22.0**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.5,baz=18,slow=12,SNR=99					
ASAR			PcP	PcP	14 14 06.5	+8.0
	comp=Z,4.4nm,0.9s,baz=5.3,slow=3.5,SNR=6.4					
MDJ	**Mudanjiang**	**35.66 347**	P	**P**	**14 11 36.8**	**+1.8**
MDJ			PP	PP	14 12 58.6	+2.3
MDJ			S	**S**	**14 17 12.6**	**+3.5**
MDJ			AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.5					
MDJ			AMB	AMB		
	comp=Z,94nm,5.8s					
MDJ			LR	LR		
	comp=N,424nm,29.8s					
MDJ			LR	LR		
	comp=E,754nm,24.7s					
MDJ			LR	LR		
	comp=Z,553nm,27.6s,MS4.2					
GYA	**Guiyang**	**35.88 302**	P	**P**	**14 11 38.9**	**+2.1**
GYA			AP	pP	14 11 49.9	+2.9
GYA			XP	sP	14 11 54.6	+3.3
GYA			PP	PP	14 13 00.9	+2.2
GYA			PCP	PcP	14 14 05.8	+2.3
GYA			S	**S**	**14 17 12.8**	**+0.4**
GYA			SS	SS	14 19 34.9	-15
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8					
GYA			AMB	AMB		
	comp=Z,110nm,4.6s					
GYA			LR	LR		
	comp=N,430nm,16.2s,MS4.5					
GYA			LR	LR		
	comp=E,450nm,16.0s,MS4.5					
GYA			LR	LR		
	comp=Z,470nm,16.4s,MS4.3					
CN2	**Changchun**	**36.04 341**	*e*P	**P**	**14 11 37.8**	**-0.4**
CN2			*e*S	**S**	**14 17 14.1**	**-0.7**
CN2			AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1					
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,500nm,16.0s,MS4.5					
CN2			LR	LR		
	comp=E,300nm,16.0s,MS4.5					
CN2			LR	LR		
	comp=Z,600nm,17.0s,MS4.4					
YSS	**Yuzh-Sakhalins**	**36.78 3**	P	**P**	**14 11 43.0**	**-1.5**
YSS					14 22 00.0	
YSS			MLR	MLR		
	comp=Z,500nm,16.0s,MS4.4					
BJT	**Baijiatuau**	**36.82 328**	*e*P	**P**	**14 11 44.5**	**-0.4**
	comp=Z,27nm,0.9s,mb5.1					
BJI	**Beijing**	**36.84 328**	*e*P	**P**	**14 11 44.8**	**-0.2**
BJI			AP	pP	14 11 55.6	+0.4
BJI			XP	sP	14 12 00.8	+1.4
BJI			S	**S**	**14 17 26.5**	**-0.5**
BJI			AMB	AMB		
	comp=Z,24nm,0.9s,mb5.0					
BJI			AMB	AMB		
	comp=Z,286nm,5.5s					
BJI			LR	LR		
	comp=N,319nm,17.5s,MS4.3					
BJI			LR	LR		
	comp=E,392nm,19.8s,MS4.3					
BJI			LR	LR		
	comp=Z,498nm,19.1s,MS4.3					
BJI	**Beijing**	**36.84 328**	*e*P	**P**	**14 11 44.7**	**-0.3**
BJI			pP	pP	14 11 55.6	+0.4
BJI			sP	sP	14 12 00.7	+1.3
BJI			S	**S**	**14 17 26.5**	**-0.5**
BJI			SS	SS	14 20 12.3	+3.5
HABR	**Khabarovsk**	**38.52 354**⇑	*i*P	**P**	**14 11 59.4**	**+0.1**
HABR			*e*		14 14 09.5	
HABR			*e*S	**S**	**14 17 52.8**	**+0.2**
HABR			pmax	pmax		
	comp=Z,102nm,1.6s,mb5.3					
KMI	**Kunming**	**38.83 298**	P	**P**	**14 12 03.9**	**+2.1**
KMI			AP	pP	14 12 14.0	+1.9
KMI			PPP		14 13 54.6	
KMI			S	**S**	**14 17 56.8**	**-0.4**
KMI			AMB	AMB		
	comp=Z,15nm,1.3s,mb4.6					
KMI			LR	LR		
	comp=N,610nm,22.4s					
KMI			LR	LR		
	comp=E,450nm,13.2s					
KMI			LR	LR		
	comp=Z,487nm,28.5s					
NANT	**Nan**	**39.45 287** ⇑	P	**P**	**14 12 05.5**	**-1.5**
	comp=Z,128nm,1.0s,mb5.6					
HHC	**Hu-ho-hao-te**	**39.91 325**	*e*P	**P**	**14 12 12.6**	**+1.8**
HHC			AP	pP	14 12 24.4	+3.3
HHC			PP	PP	14 13 50.6	+7.8
HHC			PCS	PcS	14 18 07.5	+1.4
HHC			S	**S**	**14 18 13.4**	**+0.1**
HHC			AMB	AMB		
	comp=Z,13nm,0.5s,mb4.9					
HHC			AMB	AMB		
	comp=Z,140nm,6.8s					
HHC			LR	LR		
	comp=N,680nm,19.0s,MS4.7					
HHC			LR	LR		
	comp=E,790nm,20.2s,MS4.7					
HHC			LR	LR		
	comp=Z,443nm,20.8s,MS4.3					
CD2	**Chengdu**	**39.91 307**	P	**P**	**14 12 11.8**	**+1.0**
CD2			AP	pP	14 12 23.9	+2.8
CD2			PP	PP	14 13 48.8	+5.9
CD2			S	**S**	**14 18 13.3**	**-0.1**
CD2			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9					
CD2			AMB	AMB		
	comp=Z,200nm,4.3s					
CD2			LR	LR		
	comp=N,840nm,16.2s					
CD2			LR	LR		
	comp=E,530nm,9.0s					
CD2			LR	LR		
	comp=Z,460nm,10.2s					
DZM	**Mont Dzumac**	**40.85 142**	P	**P**	**14 12 19.5**	**+0.9**
	comp=Z,13nm,0.9s,mb4.5,baz=340,slow=12,SNR=6.4					
CM31	**Chiang Mai Arr**	**41.06 286**	*e*P	**P**	**14 12 20.7**	**+0.4**
	comp=Z,3.8nm,0.6s,mb4.2					
CHG	**Chiang Mai**	**41.10 287** ⇑	P	**P**	**14 12 21.0**	**+0.3**
	comp=Z,16nm,0.8s,mb4.7					
CHTO	**Chiang Mai**	**41.10 287**	P	**P**	**14 12 22.2**	**+1.5**
	SNR=8.3					
CHTO	**Chiang Mai**	**41.10 287**	*e*P	**P**	**14 12 20.9**	**+0.2**
	comp=Z,9.0nm,0.9s,mb4.4					
STKA	**Stephens Creek**	**41.75 179**	*e*P	**P**	**14 12 25.7**	**-0.3**
	comp=Z,5.5nm,0.6s,mb4.4					
STKA			*e*	pP	14 12 32.9	-3.4
STKA			*e*S	sS	14 19 00.5	+2.7
STKA	**Stephens Creek**	**41.75 179**	P	**P**	**14 12 25.8**	**-0.2**
	comp=Z,7.8nm,0.7s,mb4.4,baz=356,slow=6.8,SNR=15					
STKA			PP	PP	14 14 06.6	+3.8
	comp=Z,10nm,1.1s,baz=348,slow=11,SNR=4.9					
STKA			LR	LR	14 30 03.4	
	comp=Z,657nm,19.1s,MS4.5,baz=161,slow=37					
PSI	**Prapat**	**41.93 263**	P	**P**	**14 12 26.2**	**-1.2**
	comp=Z,8.5nm,0.6s,mb4.5,baz=87,slow=2.1,SNR=12					
PSI			LR	LR	14 30 25.7	
	comp=Z,245nm,18.5s,MS4.1,baz=88,slow=37					
LZH	**Lanzhou**	**42.11 314**	*e*P	**P**	**14 12 29.8**	**+0.9**
LZH			AP	pP	14 12 41.3	+2.0
LZH			XP	sP	14 12 46.5	+3.0
LZH			PP	PP	14 14 10.8	+4.0
LZH			*e*S	**S**	**14 18 45.6**	**-0.5**
LZH			SS	SS	14 21 46.6	-7.8
LZH			AMB	AMB		
	comp=Z,35nm,1.5s,mb4.8					
LZH			AMB	AMB		
	comp=Z,118nm,6.3s					
LZH			LR	LR		
	comp=E,743nm,14.5s					
LZH			LR	LR		
	comp=Z,938nm,18.1s,MS4.7					
LZH	**Lanzhou**	**42.11 314**	*e*P	**P**	**14 12 29.8**	**+0.9**
LZH			pP	pP	14 12 41.3	+2.0
LZH			sP	sP	14 12 46.5	+3.0
LZH			PP	PP	14 14 10.8	+4.0
LZH			*e*S	**S**	**14 18 45.6**	**-0.5**
LZH			sS	sS	14 19 04.8	+1.7
LZH			SS	SS	14 21 46.6	-7.8
FORT	**Forrest**	**42.37 196**	*e*P	**P**	**14 12 31.3**	**+0.3**
	comp=Z,6.6nm,0.4s,mb4.6					
FORT			*e*	pP	14 12 38.5	-2.9
HIA	**Hailar**	**42.72 340**	*e*P	**P**	**14 12 33.0**	**-0.9**
	comp=Z,24nm,1.0s,mb4.9					
GTA	**Gaotai**	**46.49 316**	*e*P	**P**	**14 13 04.4**	**+0.4**
GTA			AP	pP	14 13 15.4	+1.0
GTA			XP	sP	14 13 18.6	0.0
GTA			PP	PP	14 14 54.4	+0.9
GTA			S	**S**	**14 19 50.0**	**+0.2**
GTA			XS	sS	14 20 06.9	-0.1
GTA			AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3					
GTA			AMB	AMB		
	comp=Z,86nm,5.3s					
GTA			LR	LR		
	comp=N,719nm,20.9s,MS4.7					
GTA			LR	LR		
	comp=E,537nm,21.7s,MS4.7					
GTA			LR	LR		
	comp=Z,283nm,17.9s,MS4.3					
ULN	**Ulaanbaatar**	**47.01 329**	P	**P**	**14 13 09.0**	**+1.0**
	SNR=7.5					
ULN	**Ulaanbaatar**	**47.01 329**⇑	*e*P	**P**	**14 13 08.5**	**+0.5**
ULN	**Ulaanbaatar**	**47.01 329**	*e*P	**P**	**14 13 08.3**	**+0.3**
	comp=Z,12nm,0.8s,mb4.9					
CIT	**Chita**	**47.21 338**	*e*P	**P**	**14 13 10.4**	**+0.8**
CIT			pmax	pmax		
	comp=Z,95nm,1.8s,mb5.4					
SONM	**Songino Array**	**47.32 329**	P	**P**	**14 13 10.6**	**+0.2**
	comp=Z,5.9nm,0.9s,mb4.5,baz=134,slow=7.8,SNR=33					
SONM			LR	LR	14 31 36.3	
	comp=Z,408nm,20.8s,MS4.4,baz=311,slow=34					
TOO	**Toolangi**	**47.65 175** ‖	*i*P	**P**	**14 13 14.3**	**+1.3**
	comp=Z,11nm,0.9s,mb4.9					
MUN	**Mundaring**	**47.87 208**	*e*P	**P**	**14 13 13.4**	**-1.3**
CLNS	**Chul'man**	**48.19 349**	*e*P	**P**	**14 13 15.5**	**-1.7**
CLNS			pmax	pmax		
	comp=Z,36nm,0.8s,mb5.5					
CLNS			pmax	pmax		
	comp=N,20nm,1.0s					
CLNS			pmax	pmax		
	comp=E,15nm,0.8s					
NWAO	**Narrogin (SRO)**	**48.21 206**	LR	LR	14 32 36.1	
	comp=E,301nm,18.4s,MS4.3,baz=172,slow=35					
NWAO	**Narrogin (SRO)**	**48.21 206**	*e*P	**P**	**14 13 17.8**	**+0.5**
SHL	**Shillong**	**48.51 295**	*ex*	x	14 13 30.8	
LSA	**Lhasa**	**49.93 300**	*e*P	**P**	**14 13 31.2**	**+0.7**
	comp=E,21nm,1.1s,mb5.1					
MA2	**Magadan**	**49.98 7**	*e*P	**P**	**14 13 29.9**	**-1.0**
MA2			*e*S	**S**	**14 20 33.9**	**-5.1**
MA2			pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1					
ZAK	**Zakamensk**	**50.53 330**⇑	*i*P	**P**	**14 13 35.5**	**+0.5**
ZAK			pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8					
TLY	**Talaya**	**51.19 331**	*e*P	**P**	**14 13 40.2**	**+0.2**
TLY			*e*PPP		14 16 44.5	
TLY			*e*S	**S**	**14 20 52.7**	**-3.2**
TLY			pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9					
TLY			MLR	MLR		
	comp=Z,365nm,19.0s,MS4.4					
TLY	**Talaya**	**51.19 331**	*e*P	**P**	**14 13 40.5**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9					
IRK	**Irkutsk**	**51.27 332**	*e*P	**P**	**14 13 40.4**	**-0.2**
IRK			pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1					
BOD	**Bodaibo**	**51.78 342**	*e*P	**P**	**14 13 43.4**	**-1.0**
BOD			*e*	pP	14 13 52.3	-2.7
BOD			*e*		14 24 43.7	
BOD			pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8					
BOD			pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9					
YAK	**Yakutsk**	**52.44 354** *c*	*i*P	**P**	**14 13 49.4**	**+0.1**
YAK			*i*		14 14 56.5	
YAK			*e*		14 15 49.5	
YAK			*e*S	**S**	**14 21 12.1**	**-1.0**
YAK			pmax	pmax		
	comp=Z,94nm,0.8s,mb5.8					
YAK			pmax	pmax		
	comp=N,36nm,1.2s					
YAK			pmax	pmax		
	comp=E,7.0nm,0.7s					
YAK			pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9					
YAK			pmax	pmax		
	comp=N,50nm,1.7s					
YAK			pmax	pmax		
	comp=E,25nm,1.5s					
YAK			smax			
	comp=E,108nm,2.4s					
YAK			smax			
	comp=N,120nm,3.4s					
YAK	**Yakutsk**	**52.44 354**	*e*P	**P**	**14 13 48.5**	**-0.8**
	comp=N,120nm,0.8s,mb5.9					
SEY	**Seymchan**	**53.43 7**⇑	*e*P	**P**	**14 13 56.0**	**-0.7**
BOK	**Bokaro**	**53.71 292**	*e*P	**P**	**14 13 59.2**	**+0.6**
BOK			AMb	AMB	14 14 12.9	
	comp=Z,45nm,1.2s,mb5.3					
JIRN	**Jiri**	**53.86 297**	*e*P	**P**	**14 14 01.4**	**+1.6**
GUN	**Gumba**	**54.17 297**	*e*P	**P**	**14 14 03.0**	**+0.9**
	comp=Z,71nm,0.8s,mb5.6					
PKI	**Pulchoki**	**54.54 297**	*e*P	**P**	**14 14 05.8**	**+1.1**
	comp=Z,129nm,1.3s,mb5.8					
KKN	**Kakani**	**54.68 297**	*e*P	**P**	**14 14 06.1**	**+0.3**
	comp=Z,60nm,1.2s,mb5.5					
DMN	**Daman**	**54.81 297**	*e*P	**P**	**14 14 07.3**	**+0.6**
	comp=Z,87nm,1.2s,mb5.7					
GKN	**Gorkha**	**55.27 297**	*e*P	**P**	**14 14 10.5**	**+0.5**
	comp=Z,53nm,1.0s,mb5.5					
VIS	**Vishakhapatnam**	**55.86 285**	*e*P	**P**	**14 14 13.8**	**-0.5**
VIS			AMb	AMB	14 14 29.9	
	comp=Z,28nm,1.2s,mb5.2					
KOLN	**Koldanda**	**56.16 297**	*e*P	**P**	**14 14 16.9**	**+0.5**
	comp=Z,26nm,0.8s,mb5.3					
WMQ	**Urumqi**	**56.58 316**	*e*P	**P**	**14 14 20.1**	**+0.7**
WMQ			XP	sP	14 14 37.5	+3.4
WMQ			PCP	PcP	14 15 16.0	+0.4
WMQ			PP	PP	14 16 27.8	+2.4
WMQ			S	**S**	**14 22 06.8**	**-1.9**
WMQ			PS		14 22 26.0	
WMQ			SCS	ScS	14 24 01.8	-4.1
WMQ			SS	SS	14 25 55.6	-0.8
WMQ			AMB	AMB		
	comp=Z,34nm,1.0s,mb5.3					
WMQ			AMB	AMB		
	comp=Z,222nm,5.4s					
WMQ			LR	LR		
	comp=N,888nm,28.0s,MS4.7					
WMQ			LR	LR		
	comp=E,167nm,26.0s,MS4.7					
WMQ			LR	LR		
	comp=Z,168nm,26.0s,MS4.0					
KRAR	**Krasnoyarsk**	**58.89 331**	*e*P	**P**	**14 14 35.6**	**0.0**
KRAR			pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8					
MDRS	**Chennai**	**59.01 279**	*e*P	**P**	**14 14 38.2**	**+1.8**
MDRS			AMb	AMB	14 14 47.7	
	comp=Z,43nm,0.1s					
NGP	**Nagpur**	**59.90 289**	*ex*	**P**	**14 14 47.1**	**+4.5**
NGP			AMb	AMB	14 14 54.8	
	comp=Z,21nm,0.8s,mb5.2					
BILL	**Bilibino**	**60.33 11**⇑	*e*P	**P**	**14 14 45.1**	**-0.4**
BILL			*e*S	**S**	**14 22 55.4**	**-2.2**
BILL			pmax	pmax		
	comp=Z,58nm,1.7s,mb5.3					
BILL			MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0					
HYB	**Hyderabad**	**60.42 284**	*i* P	**P**	**14 14 47.5**	**+1.3**
HYB			*e*		14 14 54.0	
MK31	**Makanchi Array**	**61.13 318**	*i* P	**P**	**14 14 51.3**	**+0.3**
MK31			pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1					
MK31	**Makanchi Array**	**61.13 318**	*e*P	**P**	**14 14 50.8**	**-0.3**
MKAR	**Makanchi Array**	**61.13 318**	P	**P**	**14 14 51.5**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.5,baz=94,slow=8.5,SNR=17					
MKAR			LR	LR	14 41 22.7	
	comp=Z,185nm,19.2s,MS4.2,baz=104,slow=36					
MKAR	**Makanchi Array**	**61.13 318**	*i* P	**P**	**14 14 51.5**	**+0.5**
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
BHPL	**Bhopal**	**61.44 291**	*e*P	**P**	**14 14 51.9**	**-1.2**
BHPL			AMb	AMB	14 15 08.3	
	comp=Z,32nm,1.2s,mb5.3					
AKL	**Akola**	**61.81 288**	*e*P	**P**	**14 14 56.4**	**+0.9**
AKL			AMb	AMB	14 15 10.9	
	comp=Z,22nm,1.1s,mb5.2					
NDI	**New Delhi**	**61.85 297**	*e*P	**P**	**14 14 54.9**	**-0.9**
NDI			AMb	AMB	14 15 09.6	
	comp=Z,24nm,1.6s,mb5.1					
TIXI	**Tiksi**	**61.92 356**⇑	*e*P	**P**	**14 14 55.7**	**-0.6**
TIXI			pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.7					
TIXI	**Tiksi**	**61.92 356**	*e*P	**P**	**14 14 55.1**	**-1.2**
	comp=Z,13nm,0.8s,mb5.1					
ZAL	**Zalesovo**	**62.07 326**	P	**P**	**14 14 56.3**	**-1.0**
	comp=Z,1.0nm,0.7s,mb4.0,baz=343,slow=8.5,SNR=5.8					
ZAL			LR	LR	14 41 21.4	
	comp=Z,365nm,18.7s,MS4.6,baz=353,slow=36					
NVS	**Novosibirsk**	**63.26 327**	*i* P	**P**	**14 15 04.1**	**-1.2**
NVS			pmax	pmax		
	comp=N,6.0nm,1.1s					
NVS			pmax	pmax		
	comp=E,20nm,1.1s					
NVS			pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1					
THN	**Thein Dam**	**63.42 301**	*e*P	**P**	**14 15 05.5**	**-0.8**
AJM	**Ajmer**	**64.03 295**	*e*P	**P**	**14 15 10.2**	**-0.2**
AJM			AMb	AMB	14 15 13.1	
	comp=Z,12nm,0.8s,mb5.0					
KURK	**Kurchatov**	**64.58 322**	P	**P**	**14 15 13.7**	**-0.2**
	SNR=9.3					
KURK	**Kurchatov**	**64.58 322**⇑	*e*P	**P**	**14 15 13.2**	**-0.7**
KURK	**Kurchatov**	**64.58 322**	*e*P	**P**	**14 15 11.8**	**-2.1**
	comp=Z,17nm,0.8s,mb5.1					
KAD	**Karad**	**64.59 284**	*e*P	**P**	**14 15 16.0**	**+2.0**
KAD			AMb	AMB	14 15 27.8	
	comp=Z,21nm,0.8s,mb5.2					
POO	**Poona**	**64.85 286**	*ex*	x	14 15 21.2	
POO			AMb	AMB	14 15 29.6	
	comp=Z,40nm,1.0s,mb5.4					
FRU	**Bishkek**	**65.56 312**	*e*P	**P**	**14 15 24.0**	**+3.7**
AAK	**Ala-Archa**	**65.62 312**⇑	*e*P	**P**	**14 15 20.7**	**0.0**
AAK			pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.5					
AAK	**Ala-Archa**	**65.62 312**	*e*P	**P**	**14 15 18.5**	**-2.2**
	comp=Z,4.8nm,0.8s,mb4.6					
KK31	**Karatay Array**	**68.58 312**	*i* P	**P**	**14 15 39.8**	**+0.3**
KK31			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5					
KKAR	**Karatay Array**	**68.58 312**	*i* P	**P**	**14 15 39.8**	**+0.3**
KKAR			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4					
CHKZ	**Chkalovo**	**70.05 324**	P	**P**	**14 15 46.8**	**-1.7**
CHKZ			pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8					
CHKZ	**Chkalovo**	**70.05 324**	*e*P	**P**	**14 15 46.8**	**-1.8**
	comp=Z,17nm,1.1s,mb4.9					
BVA0	**Borovoye Array**	**70.07 323**	*i* P	**P**	**14 15 48.2**	**-0.5**
BVAR	**Borovoye Array**	**70.07 323**	P	**P**	**14 15 48.5**	**-0.2**
	comp=Z,5.7nm,0.6s,mb4.7,baz=110,slow=7.6,SNR=34					
BRVK	**Borovoye**	**70.13 323**	P	**P**	**14 15 48.9**	**-0.2**
	SNR=11					
BRVK	**Borovoye**	**70.13 323**	*e*P	**P**	**14 15 48.6**	**-0.5**
	comp=Z,14nm,0.9s,mb4.9					
SLKM	**Skilak Lake**	**71.10 29**	P	**P**	**14 15 55.7**	**+0.7**
IMA2	**Indian Mountai**	**71.11 23**	*e*P	**P**	**14 15 55.8**	**+0.8**
PMR	**Palmer**	**71.86 28**	*e*P	**P**	**14 15 59.4**	**-0.1**
	comp=Z,15nm,0.9s,mb4.9					
SML	**Sawmill**	**72.28 28**	*e*P	**P**	**14 16 01.9**	**-0.1**
MCK	**McKinley**	**72.42 26**	*e*P	**P**	**14 16 02.9**	**0.0**
	comp=Z,11nm,0.9s,mb4.8					
COLA	**College**	**73.14 25**	*e*P	**P**	**14 16 06.7**	**-0.5**
COLA	**College**	**73.14 25**	P	**P**	**14 16 06.9**	**-0.3**
	comp=Z,8.4nm,0.9s,mb4.7					
PPT	**Papeete**	**74.30 111**	*e*S	S	14 25 50.1	+4.6
	comp=Z,210nm,31.8s					
PPT			*e*LR	LR	14 38 37.3	
	comp=Z,613nm,31.5s					
PPT	**Papeete**	**74.30 111**	LR	LR	14 42 03.9	
	comp=Z,276nm,21.4s,MS4.5,baz=266,slow=30					
MENT	**Mentasta**	**74.59 27**	*e*P	**P**	**14 16 16.7**	**+1.0**
EGAK	**Eagle**	**75.95 26**	*e*P	**P**	**14 16 21.2**	**-2.2**
	comp=Z,9.7nm,0.8s,mb4.8					
TBI	**Tubuai**	**76.08 117**	*e*LR	LR	14 39 56.4	
	comp=Z,560nm,33.5s					
AB31	**Akbulak array**	**76.28 318**	*i* P	**P**	**14 16 25.1**	**-0.2**
AB31			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5					
DAWY	**Dawson**	**76.64 26**	*e*P	**P**	**14 16 28.4**	**+0.9**
ARU	**Arti**	**77.21 326** ‖	*i*P	**P**	**14 16 30.4**	**-0.2**
ARU			*e*	pP	14 16 40.1	-1.5
ARU			*e*		14 19 25.2	
ARU			*e*PPP		14 21 08.9	
ARU			*e*S	S	14 26 16.7	-0.9
ARU			*e*SS	SS	14 31 16.2	+0.4
ARU			pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4					
ARU	**Arti**	**77.21 326**	P	**P**	**14 16 30.7**	**+0.1**
	comp=Z,9.2nm,0.8s,mb4.8					
AKTK	**Aktyubinsk**	**77.52 320**	P	**P**	**14 16 31.9**	**-0.4**
AKTO	**Aktyubinsk**	**77.52 320**	P	**P**	**14 16 31.9**	**-0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=118,slow=9.2,SNR=4.5					

TAOE Nuku Hiva Isla 81.17 101 *e*LR LR 14 42 09.9
comp=Z,823nm,20.7s
YKA Yellowknife Ar 87.88 27 P **P** **14 17 26.8 +0.6**
comp=Z,5.3nm,0.8s,mb4.8,baz=292,slow=5.2,SNR=58
YKA LR LR 15 00 53.7
comp=Z,161nm,18.7s,MS4.5,baz=245,slow=38
YKA Yellowknife Ar 87.88 27 *i* P **P** **14 17 26.7 +0.5**
YKA pmax pmax
comp=Z,5.0nm,0.8s
ZEI Tsey 88.04 313 *e*P **P** **14 17 24.6 -2.3**
ZEI *e**PP pP 14 17 42.2 +4.1
ZEI *e* 14 20 51.9
ZEI pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
VNDA Vanda 88.31 175 P **P** **14 17 27.7 -0.4**
comp=Z,3.0nm,1.2s,mb4.4,baz=328,slow=8.3,SNR=3.2
VNDA LR LR 14 57 01.3
comp=Z,190nm,19.0s,MS4.5,baz=92,slow=36
KIV Kislovodsk 88.65 314 *e*P **P** **14 17 24.9 -4.9**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
RKT Rikitea 88.92 114 *e*SS SS 14 34 20.4 +11
comp=Z,99nm,29.0s
RKT *e*LR LR 14 45 09.4
comp=Z,201nm,30.5s
ARCES ARCESS Array B 89.05 341 P **P** **14 17 30.8 -0.9**
comp=Z,3.5nm,0.7s,mb4.8,baz=64,slow=6.3,SNR=7.5
ARCES LR LR 14 58 40.5
comp=Z,388nm,19.1s,MS4.8,baz=64,slow=36
ARCES ARCESS Array B 89.05 341 P **P** **14 17 30.8 -0.9**
ARCES LR LR 14 58 40.5
OBN Obninsk 89.65 326⇑ *e*P **P** **14 17 34.2 -0.3**
OBN *e* 14 21 03.9
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,300nm,22.0s,MS4.7
NVAR Mina Array Bea 92.41 50 P **P** **14 17 49.6 +2.3**
comp=Z,2.0nm,0.7s,mb4.6,baz=270,slow=5.4,SNR=15
FINES FINESS Array B 92.47 334 P **P** **14 17 46.0 -1.6**
comp=Z,1.8nm,0.7s,mb4.5,baz=70,slow=4.6,SNR=6.4
FINES LR LR 14 59 20.5
comp=Z,259nm,18.4s,MS4.7,baz=77,slow=36
FINES FINESS Array B 92.47 334 *i* P **P** **14 17 50.2 +2.6**
FINES pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 94.60 202 P **P** **14 17 57.9 +0.5**
comp=Z,2.8nm,1.0s,mb4.7,baz=68,slow=11,SNR=3.6
MAW LR LR 14 55 32.0
comp=Z,212nm,18.5s,MS4.6,baz=168,slow=32
MAW Mawson 94.60 202 P **P** **14 17 57.8 +0.4**
comp=Z,9.0nm,0.6s,mb5.4
AKASG Malin Array Be 95.34 323 LR LR 15 05 55.8
comp=Z,109nm,20.7s,MS4.3,baz=50,slow=39
PDAR Pinedale Array 97.42 44 LR LR 14 57 05.0
comp=Z,135nm,21.6s,MS4.4,baz=192,slow=32
NOA NORSAR Array B 98.71 338 LR LR 15 02 27.9
comp=Z,165nm,20.6s,MS4.5,baz=0.0,slow=35
VNA2 Neumayer--Watz 116.03 191 *e*PKPdf PKPdf 14 23 19.4 0.0
baz=102,slow=1.2
VNA2 *e* 14 23 25.5
VNA2 *e* 14 23 27.4
VNA2 *e* 14 23 43.5
VNA3 Neumayer Olymp 116.18 190 *e*PKPdf PKPdf 14 23 19.5 -0.2
VNA3 *e* 14 23 25.4
VNA3 *e* 14 23 27.5
VNA3 *e* 14 23 42.6
TORD Torodi Ar. Bea 133.05 299 PKP PKPdf 14 23 52.5 +0.5
comp=Z,1.1nm,0.8s,baz=46,slow=2.7,SNR=5.9
LPAZ La Paz 151.45 105 PKPbc PKPbc 14 24 33.2 +2.8
comp=Z,9.7nm,0.8s,baz=336,slow=5.5,SNR=3.7
LPAZ PKPab PKPab 14 24 41.4 +2.6
comp=Z,8.0nm,0.7s,baz=257,slow=3.6,SNR=9.0
LPAZ La Paz 151.45 105 PKPbc PKPbc 14 24 33.2 +2.8
LPAZ PKPab PKPab 14 24 41.4 +2.6

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*NEIC **13** 14:08:45.0, 3780S×17593E, h292km, MG3.7(WEL), After WEL.*
WEL 13 14:08:45.9±0.2, 3777S×17592E, h281km±2km, ML3.7/17, 5C, Error ellipse: s-maj=3.5km s-min=3.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.06**	**118**	P	Pn	14 09 24.3	-0.2
URZ	**Urewera**	**1.06**	**118**	PN	Pn	14 09 24.3	-0.2
URZ				SN	S	14 09 54.8	-0.3
HIZ	**Hauiti**	**1.12**	**228**	*e*PN	Pn	14 09 24.6	-0.2
WTVZ	**West Tongariro**	**1.37**	**191**	*e*PN	Pn	14 09 26.6	+0.3
MWZ	**Matawai**	**1.39**	**115**	P	Pn	14 09 26.8	+0.4
MWZ	**Matawai**	**1.39**	**115**	PN	Pn	14 09 26.6	+0.2
MWZ				SN	S	14 09 58.0	-0.5
WPVZ	**Whakapapa**	**1.47**	**191**	P	Pn	14 09 27.2	+0.3
WPVZ	**Whakapapa**	**1.47**	**191**	⇑PN	Pn	14 09 27.1	+0.1
BKZ	**Black Stump Fm**	**1.47**	**162**	P	Pn	14 09 27.0	+0.1
BKZ				S	S	14 09 59.1	-0.4
BKZ	**Black Stump Fm**	**1.47**	**162**	⇑PN	Pn	14 09 27.0	+0.1
BKZ				SN	S	14 09 59.0	-0.5
TUVZ	**Tukino**	**1.51**	**188**	P	Pn	14 09 27.6	+0.3
TUVZ	**Tukino**	**1.51**	**188**	PN	Pn	14 09 27.6	+0.3
FWVZ	**Far West T-bar**	**1.51**	**191**	PN	Pn	14 09 27.6	+0.3
WNVZ	**Wahianoa**	**1.58**	**189**	P	Pn	14 09 27.9	+0.2
WNVZ	**Wahianoa**	**1.58**	**189**	PN	Pn	14 09 27.9	+0.2
PKVZ	**Pokaka**	**1.59**	**196**	PN	Pn	14 09 27.9	+0.1
VRZ	**Vera Road**	**1.63**	**214**	*e*P	Pn	14 09 28.5	+0.4
VRZ	**Vera Road**	**1.63**	**214**	PN	Pn	14 09 28.5	+0.4
MOVZ	**Moawhango**	**1.64**	**185**	P	Pn	14 09 27.8	-0.4
MOVZ				S	S	14 10 02.4	+0.7
MOVZ	**Moawhango**	**1.64**	**185**	⇑PN	Pn	14 09 27.8	-0.4
MTVZ	**Mangateitei**	**1.65**	**192**	PN	Pn	14 09 28.2	-0.1
PUZ	**Puketiti**	**1.87**	**100**	*e*P	Pn	14 09 30.2	+0.3
PUZ				S	S	14 10 04.9	0.0
PUZ	**Puketiti**	**1.87**	**100**	PN	Pn	14 09 30.2	+0.3
MXZ	**Matakaoa Point**	**1.91**	**85**	PN	Pn	14 09 30.9	+0.8
WAZ	**Wanganui**	**2.12**	**200**	P	Pn	14 09 31.4	-0.5
WAZ	**Wanganui**	**2.12**	**200**	⇑PN	Pn	14 09 31.3	-0.6
TSZ	**Takapari Road**	**2.29**	**179**	P	Pn	14 09 32.4	-1.1
TSZ	**Takapari Road**	**2.29**	**179**	⇑PN	Pn	14 09 32.4	-1.1
PXZ	**Pawanui**	**2.38**	**162**	PN	Pn	14 09 33.7	-0.6
MRZ	**Mangatainoka R**	**2.90**	**185**	P	Pn	14 09 37.3	-2.0
MRZ	**Mangatainoka R**	**2.90**	**185**	PN	Pn	14 09 37.0	-2.3
MRZ				SN	S	14 10 19.0	-2.9
BFZ	**Birch Farm**	**2.92**	**175**	P	Pn	14 09 37.8	-1.7
BFZ	**Birch Farm**	**2.92**	**175**	PN	Pn	14 09 37.8	-1.7
TIWZ	**Tintock**	**3.01**	**180**	PN	Pn	14 09 39.0	-1.4
KIW	**Kapiti Island**	**3.19**	**194**	P	Pn	14 09 39.8	-2.5
KIW	**Kapiti Island**	**3.19**	**194**	PN	Pn	14 09 39.8	-2.5
CAW	**Cannon Point**	**3.40**	**191**	P	Pn	14 09 41.8	-2.7
CAW	**Cannon Point**	**3.40**	**191**	PN	Pn	14 09 41.8	-2.8
MTW	**Mount Morrison**	**3.40**	**185**	PN	Pn	14 09 41.9	-2.6
DUWZ	**D'Urville Isla**	**3.41**	**206**	PN	Pn	14 09 42.1	-2.4
MRW	**Makara Radio**	**3.58**	**195**	P	Pn	14 09 43.7	-2.8
MRW	**Makara Radio**	**3.58**	**195**	PN	Pn	14 09 43.7	-2.8
SNZO	**South Karori**	**3.66**	**194**	P	Pn	14 09 44.2	-3.1
SNZO	**South Karori**	**3.66**	**194**	PN	Pn	14 09 44.2	-3.2
TCW	**Tory Channel**	**3.67**	**200**	P	Pn	14 09 44.6	-2.8
TCW				S	S	14 10 32.4	-4.1
TCW	**Tory Channel**	**3.67**	**200**	PN	Pn	14 09 44.6	-2.9
TCW				*e*SN	S	14 10 31.1	-5.4
MSWZ	**Moikau Station**	**3.68**	**188**	P	Pn	14 09 44.4	-3.1
MSWZ	**Moikau Station**	**3.68**	**188**	PN	Pn	14 09 44.4	-3.1
BHW	**Baring Head**	**3.73**	**192**	P	Pn	14 09 45.1	-2.9
BHW	**Baring Head**	**3.73**	**192**	PN	Pn	14 09 45.1	-3.0
TUWZ	**Tuamarina**	**3.96**	**202**	PN	Pn	14 09 47.7	-3.0
NNZ	**Nelson**	**3.97**	**209**	*e*P	Pn	14 09 47.2	-3.5
NNZ	**Nelson**	**3.97**	**209**	PN	Pn	14 09 47.2	-3.5
NNZ				SN	S	14 10 37.4	-5.1
QRZ	**Quartz Range**	**4.03**	**220**	*e*P	Pn	14 09 47.3	-4.2
QRZ	**Quartz Range**	**4.03**	**220**	PN	Pn	14 09 47.3	-4.2
BSWZ	**Blackbirch Sta**	**4.25**	**201**	P	Pn	14 09 51.1	-2.8
THZ	**Tophouse**	**4.62**	**209**	*e*P	Pn	14 09 54.2	-4.0
THZ	**Tophouse**	**4.62**	**209**	PN	Pn	14 09 54.2	-4.0
THZ				SN	S	14 10 50.2	-5.8
KHZ	**Kahutara**	**4.99**	**201**	*e*P	Pn	14 09 58.9	-3.6
KHZ	**Kahutara**	**4.99**	**201**	PN	Pn	14 09 58.9	-3.7
DSZ	**Denniston Nort**	**5.08**	**217**	*e*P	Pn	14 09 59.4	-4.3
DSZ	**Denniston Nort**	**5.08**	**217**	PN	Pn	14 09 59.4	-4.2
LTZ	**Lake Taylor**	**5.73**	**208**	*e*P	Pn	14 10 07.0	-4.4
LTZ	**Lake Taylor**	**5.73**	**208**	PN	Pn	14 10 07.0	-4.4

IDC 13 14:27:50.0±6.5, 723S×12092E, h504km±99km, mb2.6/2, mb1 2.7/4, mb1mx2.5/18, mbtmp2.5/4, Error ellipse: s-maj=173.4km s-min=30.6km az=50.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.74**	**157**	P	P	14 30 25.7	0.0
	0.3nm,0.3s,baz=354,slow=12,SNR=9.9						
WRA	**Warramunga Arr**	**18.14**	**135**	P	P	14 31 31.6	+0.3
	0.1nm,0.3s,baz=315,slow=10,SNR=15						
ASAR	**Alice Springs**	**20.55**	**144**	P	P	14 31 53.5	+0.2
	0.2nm,0.4s,baz=317,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**63.79**	**331**	P	P	14 37 32.1	+0.1
	0.5nm,0.6s,baz=128,slow=7.9,SNR=7.5						

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*IDC **13** 14:46:36.6±0.5, 074S×122.04E, h0km, mb4.6/15, mb1 4.6/16, mb1mx4.5/23, mbtmp4.6/16, ML3.7/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/29, Error ellipse: s-maj=20.5km s-min=9.2km az=67.0*
*NEIC **13** 14:46:39.5±2.7, 072S×122.00E, h20km±20km, mb4.9/21, Error ellipse: s-maj=11.1km s-min=5.8km az=56.0*
NEIC Felt [III] at Ampana.
*MOS **13** 14:46:39.5±0.8, 058S×122.10E, h33km, mb5.0/23, Error ellipse: s-maj=15.6km s-min=7.4km az=114.0*
*GCMT **13** 14:46:39.5±0.4, 056S×121.87E, h22km±1km, MW4.9/59, Moment Tensor Solution. s22,c25; s59,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.47±.18; $M_{\theta\theta}$1.24±.11; $M_{\phi\phi}$-1.71±.16; $M_{r\theta}$0.23±.20; $M_{\phi\phi}$-2.71±.10; $M_{\phi r}$0.26±.23; Best double couple: $M_0$3.10100×10^{16} NP1:ϕ_s166.00000°, δ85.00000°, λ-2.00000°. NP2: ϕ_s256.00000°, δ88.00000°, λ-175.00000°. Principal axes: T 2.8520, Plg2.0000°, Azm31.0000°; N 0.4990, Plg85.0000°, Azm283.0000°; P -3.3500, Plg5.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **13** 14:46:39.5, 070S×122.00E, h20km, mB5.1, mb4.8, Ms4.6, Msz4.1*
*ISCJB **13** 14:46:42.5±0.8, 066S±004×122.12E±004, h60km±8km, mb4.8/57, MS4.0/20, Error ellipse: s-maj=7.6km s-min=6.3km az=123.1*
ISC 13 14:46:44.7±0.7, 069S±004×12210E±004, h63km±6km, h30km±5.4km: pP-P, n138, σ1§21/141, mb4.8/57, 9C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**6.51**	**320**	P	**Pn**	**14 48 12.9**	**-5.0**
AAI	**Ambon**	**6.78**	**116**	P	**Pn**	**14 48 23.1**	**+1.6**
	518nm,1.1s						
MATI	**Mati**	**8.65**	**29**	*e*P	**Pn**	**14 48 47.3**	**+0.2**
KKM	**Kota Kinabalu**	**8.91**	**319**	P	**Pn**	**14 48 48.8**	**-1.9**
KKM	**Kota Kinabalu**	**8.91**	**319**	P	**Pn**	**14 48 48.7**	**-1.9**
KKM	**Kota Kinabalu**	**8.91**	**319**	*e*P	**Pn**	**14 48 47.9**	**-2.7**
BUKP	**Musuan**	**9.01**	**19**	*e*P	**Pn**	**14 48 50.4**	**-1.7**
DCPH	**Dipolog City**	**9.30**	**8**	*e*P	**Pn**	**14 48 59.6**	**+3.7**
DCPH	**Dipolog City**	**9.30**	**8**	*e*P	**Pn**	**14 48 59.6**	**+3.7**
BATP	**Bataraza**	**10.36**	**336**	*e*P	**Pn**	**14 49 11.3**	**+0.9**
GUIM	**Jordan**	**11.26**	**2**	*e*P	**Pn**	**14 49 17.9**	**-4.8**
KSM	**Kuching**	**11.99**	**280**	P	**Pn**	**14 49 27.6**	**-5.1**
BJII	**Banjamegara**	**14.00**	**242**	P	**Pn**	**14 50 04.7**	**+4.7**
	52nm,1.3s						
LEM	**Lembang**	**15.68**	**247**	P	**Pn**	**14 50 23.4**	**+1.8**
	103nm,1.1s						
KAKA	**Kakadu**	**15.73**	**140**	*e*P	**Pn**	**14 50 19.9**	**-2.5**
	36nm,0.6s						
CBJI	**Citeko**	**16.24**	**249**	P	**Pn**	**14 50 29.1**	**+0.3**
	252nm,0.9s						
BALP	**Baler**	**16.34**	**358**	*e*P	**Pn**	**14 50 32.8**	**+2.8**
SBJI	**Serang**	**16.82**	**251**	P	**Pn**	**14 50 38.4**	**+2.4**
	147nm,1.4s						
CAUP	**Cauayan**	**17.53**	**359**	*e*P	**Pn**	**14 50 46.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**17.64**	**169**	*e*P	**Pn**	**14 50 43.1**	**-3.0**
	9.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.64**	**169**	P	**Pn**	**14 50 44.0**	**-2.1**
	0.2nm,0.3s,baz=12,slow=8.3,SNR=11						
FITZ				LR	LR	14 58 51.6	
	comp=Z,247nm,18.2s,baz=347,slow=42						
KGM	**Kluang**	**18.97**	**278**	P	**Pn**	**14 50 60.0**	**-2.2**
IPM	**Ipoh**	**21.68**	**284**	P	**P**	**14 51 30.2**	**+0.1**
PPI	**Padang Panjang**	**21.70**	**271**	P	**P**	**14 51 28.6**	**-1.8**
	68nm,1.1s,mb5.0						
KULM	**Kulim**	**22.23**	**286**	*e*P	**P**	**14 51 33.9**	**-2.2**
WRA	**Warramunga Arr**	**22.57**	**149**	P	**P**	**14 51 39.5**	**-0.1**
	22nm,0.7s,mb4.7,baz=331,slow=10.0,SNR=74						
WRA				S	**S**	**14 55 45.9**	**+3.2**
	4.7nm,1.3s,baz=310,slow=24,SNR=6.2						
WRA				LR	LR	15 00 45.3	
	comp=Z,194nm,20.1s,baz=0.0,slow=38						
WRA	**Warramunga Arr**	**22.57**	**149**	P	**P**	**14 51 39.5**	**-0.1**
WRA				S	**S**	**14 55 46.0**	**+3.2**
WB2	**Warramunga Arr**	**22.58**	**149**	*e*P	**P**	**14 51 38.7**	**-1.0**
QIZ	**Qiongzhong**	**23.00**	**329**	P	**P**	**14 51 43.3**	**-0.9**
QIZ				S	**S**	**14 55 48.8**	**-1.0**
QIZ				LR	LR		
	comp=Z,237nm,19.0s						
QIZ	**Qiongzhong**	**23.00**	**329**	*e*P	**P**	**14 51 43.6**	**-0.6**
PSI	**Prapat**	**23.43**	**279**	P	**P**	**14 51 46.4**	**-1.9**
	comp=Z,12nm,1.0s,mb4.3,baz=138,slow=2.2,SNR=9.4						
PSI				LR	LR	15 01 07.4	
	comp=Z,650nm,20.8s,baz=107,slow=37						
YHNB	**Yeheng**	**25.22**	**358**	*e*P	**P**	**14 52 04.1**	**-0.5**
ASAR	**Alice Springs**	**25.55**	**154**	P	**P**	**14 52 08.7**	**+1.1**
	comp=Z,4.9nm,0.6s,mb4.2,baz=345,slow=15,SNR=67						
ASAR				PcP	PcP	14 55 39.0	+1.6
	comp=Z,2.1nm,0.9s,baz=355,slow=1.9,SNR=6.5						
ASAR				S	**S**	**14 56 36.4**	**+5.7**
	comp=Z,0.5nm,0.5s,baz=348,slow=11,SNR=4.6						
NNT	**Nongplab**	**25.82**	**301**	P	**P**	**14 52 12.1**	**+2.1**
PMG	**Port Moresby**	**26.39**	**110**	P	**P**	**14 52 16.0**	**+0.8**
	comp=Z,17nm,0.8s,mb4.6,baz=315,slow=1.8,SNR=5.3						
PMG	**Port Moresby**	**26.39**	**110**	*e*P	**P**	**14 52 15.0**	**-0.2**
PMG				pmax	pmax		
	comp=Z,15nm,0.7s						
PMG	**Port Moresby**	**26.39**	**110**	*e*P	**P**	**14 52 15.0**	**-0.2**
	comp=Z,16nm,0.7s,mb4.7						
GUMO	**Guam**	**26.66**	**57**	LR	LR	15 01 11.7	
	comp=Z,83nm,21.6s,baz=129,slow=33						
JOW	**Kunigami**	**28.00**	**12**	P	**P**	**14 52 31.1**	**+1.5**
	comp=Z,15nm,1.1s,mb4.5,baz=152,slow=12,SNR=4.7						
JOW				LR	LR	15 04 01.5	
	comp=Z,304nm,20.8s,baz=161,slow=37						
NANT	**Nan**	**28.59**	**314**	⇑P	**P**	**14 52 33.5**	**-1.3**
	comp=Z,298nm,1.0s						
KMI	**Kunming**	**31.78**	**325**	P	**P**	**14 53 05.8**	**+2.8**
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.8						
KMI	**Kunming**	**31.78**	**325**	P	**P**	**14 53 05.7**	**+2.7**
CBIJ	**Chichi jima**	**33.72**	**33**	P	**P**	**14 53 19.4**	**-0.5**
	comp=Z,63nm,0.6s,mb5.8,baz=230,slow=23,SNR=4.9						
CD2	**Chengdu**	**35.94**	**333**	*e*P	**P**	**14 53 39.3**	**+0.2**
CD2				AP	pP	14 53 50.3	-4.3
CD2				XP	sP	14 53 54.8	-7.1
CD2				PP	PP	14 55 01.8	0.0
CD2				S	**S**	**14 59 14.0**	**+1.1**
CD2				XS	sS	14 59 32.4	-6.9
CD2				SS	SS	15 01 38.4	-13
CD2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
CD2				AMB	AMB		
	comp=Z,80nm,5.2s						
CD2				LR	LR		
	comp=N,260nm,15.6s						
CD2				LR	LR		
	comp=Z,280nm,15.6s						
STKA	**Stephens Creek**	**36.07**	**151**	*e*P	**P**	**14 53 40.5**	**+0.3**
	comp=Z,10nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**36.07**	**151**	P	**P**	**14 53 41.9**	**+1.6**
	comp=Z,5.1nm,0.6s,mb4.7,baz=320,slow=10,SNR=13						
STKA				LR	LR	15 07 22.7	
	comp=Z,216nm,20.7s,baz=179,slow=35						
XAN	**Xi'an**	**36.70**	**342**	P	**P**	**14 53 47.1**	**+1.5**
XAN				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.5						
KSRS	**Korea Array**	**38.34**	**7**	P	**P**	**14 54 00.5**	**+1.0**
	comp=Z,3.8nm,0.7s,mb4.3,baz=189,slow=9.3,SNR=17						
KSRS				LR	LR	15 09 26.5	
	comp=Z,131nm,20.9s,baz=4.8,slow=36						
HNR	**Honiara**	**38.65**	**104**	P	**P**	**14 54 02.4**	**+0.4**
	comp=Z,32nm,0.5s,mb5.3,baz=262,slow=5.2,SNR=5.7						
HNR	**Honiara**	**38.65**	**104**	*e*P	**P**	**14 54 03.2**	**+1.2**
HNR				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.2						
HNR	**Honiara**	**38.65**	**104**	*e*P	**P**	**14 54 03.2**	**+1.2**
	comp=Z,42nm,0.9s,mb5.2						
MAJO	**Matsushiro**	**39.96**	**20**	P	**P**	**14 54 11.4**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**39.96**	**20**	P	**P**	**14 54 11.4**	**-1.5**
	comp=Z,9.4nm,0.8s,mb4.6						
MAT	**Matsushiro**	**39.96**	**20**	P	**P**	**14 54 11.8**	**-1.1**
MAT				*e*S	**S**	**15 00 11.2**	**-2.5**
MJAR	**Matsushiro Arr**	**39.96**	**20**	P	**P**	**14 54 11.9**	**-1.0**
	comp=Z,7.0nm,0.8s,mb4.5,baz=193,slow=8.3,SNR=12						
MJAR				LR	LR	15 08 14.4	
	comp=Z,143nm,21.7s,baz=230,slow=32						
LZH	**Lanzhou**	**40.35**	**337**	*e*P	**P**	**14 54 18.5**	**+2.3**
LZH				AP	pP	14 54 25.4	-6.5
LZH				XP	sP	14 54 28.1	-11
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.7						
LZH	**Lanzhou**	**40.35**	**337**	*e*P	**P**	**14 54 18.5**	**+2.3**
LZH				pP	pP	14 54 25.4	-6.5
LZH				sP	sP	14 54 28.1	-11
BJT	**Baijiatuau**	**40.88**	**353**	*e*P	**P**	**14 54 19.8**	**-0.7**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**40.88**	**353**	*e*P	**P**	**14 54 19.8**	**-0.7**
	comp=Z,9.8nm,0.6s,mb4.6						
BJI	**Beijing**	**40.90**	**353**	*e*P	**P**	**14 54 23.5**	**+2.8**
BJI				S	**S**	**15 00 28.4**	**+0.7**
BJI				AMB	AMB		
	comp=Z,15nm,0.6s,mb4.8						
BJI				LR	LR		
	comp=N,193nm,23.0s						
BJI				LR	LR		
	comp=E,263nm,21.3s						
BJI				LR	LR		
	comp=Z,163nm,25.8s						
LSA	**Lhasa**	**42.25**	**318**	*e*P	**P**	**14 54 32.0**	**+0.2**
LSA				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.9						
LSA	**Lhasa**	**42.25**	**318**	*e*P	**P**	**14 54 32.0**	**+0.2**
	comp=Z,19nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**42.45**	**348**	*e*P	**P**	**14 54 34.3**	**+1.0**
HHC				AP	pP	14 54 46.0	-3.1
HHC				XP	sP	14 54 51.3	-5.1
HHC				PP	PP	14 56 16.4	+3.7
HHC				PCS	PcS	15 00 17.3	0.0
HHC				S	**S**	**15 00 55.9**	**+5.3**
HHC				XS	sS	15 01 13.1	-4.3
HHC				SS	SS	15 03 57.4	-4.3
HHC				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,178nm,5.1s						
HHC				LR	LR		
	comp=N,159nm,17.8s						
HHC				LR	LR		
	comp=E,255nm,19.0s						
HHC				LR	LR		
	comp=Z,230nm,20.2s						
GTA	**Gaotai**	**44.83**	**335**	⇑P	**P**	**14 54 53.9**	**+1.4**
GTA				AP	pP	14 55 00.4	-8.0
GTA				XP	sP	14 55 03.8	-12
GTA				PP	PP	14 56 42.9	+4.7
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,124nm,4.9s						
GTA				LR	LR		
	comp=N,210nm,15.6s						
GTA				LR	LR		
	comp=E,208nm,16.0s						
GTA				LR	LR		
	comp=Z,179nm,15.6s						
GUN	**Gumba**	**44.90**	**312**	*e*P	**P**	**14 54 52.8**	**-0.3**
	comp=Z,95nm,0.7s,mb5.7						
PKI	**Pulchoki**	**45.07**	**311**	*e*P	**P**	**14 54 53.6**	**-0.8**
	comp=Z,18nm,0.6s,mb5.1						
KKN	**Kakani**	**45.28**	**312**	*e*P	**P**	**14 54 55.6**	**-0.5**
	comp=Z,23nm,0.8s,mb5.1						
DMN	**Daman**	**45.32**	**311**	*e*P	**P**	**14 54 56.2**	**-0.2**
	comp=Z,29nm,0.6s,mb5.2						
MDJ	**Mudanjiang**	**45.60**	**7**	P	**P**	**14 55 01.3**	**+2.7**
MDJ				AP	pP	14 55 09.9	-4.7
MDJ				XP	sP	14 55 13.9	-7.9
MDJ				PP	PP	14 56 48.4	+2.1
MDJ				S	**S**	**15 01 43.1**	**+6.6**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,61nm,3.7s						
MDJ				LR	LR		
	comp=N,128nm,27.2s						
MDJ				LR	LR		
	comp=E,90nm,28.4s						
MDJ				LR	LR		
	comp=Z,137nm,29.0s						
MDJ	**Mudanjiang**	**45.60**	**7**	*e*P	**P**	**14 55 01.1**	**+2.4**
	comp=Z,7.9nm,0.8s,mb4.7						
GKN	**Gorkha**	**45.88**	**311**	*e*P	**P**	**14 55 00.9**	**+0.1**
	comp=Z,24nm,0.5s,mb5.4						
HYB	**Hyderabad**	**46.50**	**295**	*i* P	**P**	**14 55 07.0**	**+1.3**
HYB	**Hyderabad**	**46.50**	**295**	*e*P	**P**	**14 55 07.0**	**+1.3**
KOLN	**Koldanda**	**46.54**	**311**	*e*P	**P**	**14 55 06.9**	**+0.9**
	comp=Z,32nm,0.6s,mb5.4						
HIA	**Hailar**	**49.81**	**358**	P	**P**	**14 55 30.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**49.81**	**358**	P	**P**	**14 55 30.8**	**-0.3**
	comp=Z,7.3nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**50.11**	**347**	*e*P	**P**	**14 55 33.1**	**-0.3**
ULN				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
ULN	**Ulaanbaatar**	**50.11**	**347**	*e*P	**P**	**14 55 33.1**	**-0.3**
	comp=Z,13nm,0.6s,mb5.1						
SONM	**Songino Array**	**50.23**	**346**	P	**P**	**14 55 34.6**	**+0.2**
	comp=Z,12nm,0.8s,mb5.0,baz=162,slow=8.0,SNR=38						
SONM				L

KBK	**Karagaybulak**	**60.43**	**322**	P	**P**	**14 56 48.8 +1.1**
	SNR=7.6					
UCH	**Uchtor**	**60.47**	**321**	P	**P**	**14 56 48.8 +0.8**
	SNR=8.9					
AAK	**Ala-Archa**	**60.70**	**321⇑**	*e*P	**P**	**14 56 49.1 -0.4**
AAK				pmax	pmax	
	comp=Z,31nm,1.7s,mb5.2					
AAK	**Ala-Archa**	**60.70**	**321**	*e*P	**P**	**14 56 48.0 -1.5**
	comp=Z,13nm,0.9s,mb5.1					
FRU	**Bishkek**	**60.73**	**322**	*e*P	**P**	**14 56 50.0 +0.3**
AML	**Almayashu**	**60.94**	**320**	P	**P**	**14 56 52.1 +1.0**
	SNR=9.2					
USP	**Ospenovka**	**61.03**	**322**	P	**P**	**14 56 52.0 +0.2**
	SNR=7.0					
EKS2	**Erkin-Say**	**61.16**	**321**	P	**P**	**14 56 53.4 +0.7**
	SNR=7.8					
ZAL	**Zalesovo**	**62.58**	**336**	P	**P**	**14 57 01.9 -0.2**
	comp=Z,9.4nm,0.8s,mb5.0,baz=347,slow=6.0,SNR=51					
YAK	**Yakutsk**	**62.83**	**4⇑**	*e*P	**P**	**14 57 03.7 -0.1**
YAK				pmax	pmax	
	comp=Z,13nm,1.0s,mb5.0					
YAK	**Yakutsk**	**62.83**	**4**	*e*P	**P**	**14 57 03.5 -0.3**
	comp=Z,20nm,0.8s,mb5.3					
KURK	**Kurchatov**	**63.13**	**331⇑**	*e*P	**P**	**14 57 05.4 -0.4**
KURK	**Kurchatov**	**63.13**	**331**	*e*P	**P**	**14 57 05.1 -0.7**
	comp=Z,31nm,0.8s,mb5.5					
KK31	**Karatay Array**	**63.46**	**320**	*i*P	**P**	**14 57 07.4 -0.6**
KK31				pmax	pmax	
	comp=Z,8.0nm,0.7s,mb5.0					
KKAR	**Karatay Array**	**63.46**	**320**	*i*P	**P**	**14 57 07.4 -0.6**
KKAR				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.8					
NVS	**Novosibirsk**	**63.86**	**336**	*i*P	**P**	**14 57 09.8 -0.9**
NVS				pmax	pmax	
	comp=N,26nm,1.5s					
NVS				pmax	pmax	
	comp=E,28nm,1.5s					
NVS				pmax	pmax	
	comp=Z,27nm,1.5s,mb5.1					
BVA0	**Borovoye Array**	**68.61**	**329**	*i*P	**P**	**14 57 40.1 -1.0**
BVA0				pmax	pmax	
	comp=Z,2.0nm,1.0s,mb4.0					
BRVK	**Borovoye**	**68.69**	**329**	*e*P	**P**	**14 57 41.1 -0.4**
BRVK				pmax	pmax	
	comp=Z,19nm,1.0s,mb5.0					
BRVK	**Borovoye**	**68.69**	**329**	*e*P	**P**	**14 57 41.1 -0.4**
	comp=Z,19nm,1.0s,mb5.0					
CHKZ	**Chkalovo**	**68.85**	**330**	P	**P**	**14 57 42.1 -0.4**
CHKZ				pmax	pmax	
	comp=Z,11nm,1.1s,mb4.7					
CHKZ	**Chkalovo**	**68.85**	**330**	*e*P	**P**	**14 57 41.7 -0.8**
	comp=Z,15nm,1.0s,mb4.9					
TIXI	**Tiksi**	**72.36**	**2⇑**	*e*P	**P**	**14 58 01.9 -2.0**
TIXI				pmax	pmax	
	comp=Z,12nm,1.3s,mb4.7					
TIXI	**Tiksi**	**72.36**	**2**	*e*P	**P**	**14 58 01.6 -2.2**
	comp=Z,9.7nm,0.8s,mb4.8					
AB31	**Akbulak array**	**72.73**	**323**	*i*P	**P**	**14 58 05.9 -0.2**
AB31				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.4					
AKTK	**Aktyubinsk**	**74.32**	**323**	P	**P**	**14 58 16.5 +1.0**
AKTO	**Aktyubinsk**	**74.32**	**323**	P	**P**	**14 58 16.5 +1.0**
	comp=Z,3.3nm,0.8s,mb4.3,baz=102,slow=7.0,SNR=13					
AKTO	**Aktyubinsk**	**74.32**	**323**	P	**P**	**14 58 14.9 -0.5**
BILL	**Biiibino**	**75.01**	**16⇓**	*e*P	**P**	**14 58 17.8 -1.6**
BILL				pmax	pmax	
	comp=Z,3.0nm,1.2s,mb4.1					
ARU	**Arti**	**76.26**	**329⇑**	*i*P	**P**	**14 58 27.0 +0.5**
ARU				*e*		14 58 38.3
ARU				*e*		15 01 19.4
ARU				*e*SS	S	15 08 06.4 +0.2
ARU				*e*SS	SS	15 13 00.7 -0.3
ARU				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.6					
ARU	**Arti**	**76.26**	**329**	*e*P	**P**	**14 58 25.8 -0.8**
	comp=Z,12nm,1.1s,mb4.7					
MAW	**Mawson**	**78.05**	**200**	*e*P	**P**	**14 58 35.8 -0.8**
	comp=Z,6.1nm,1.2s,mb4.4					
MAW	**Mawson**	**78.05**	**200**	P	**P**	**14 58 36.6 +0.1**
	comp=Z,5.3nm,1.0s,mb4.4,baz=54,slow=10,SNR=5.8					
MAW				LR	LR	15 31 31.9
	comp=Z,128nm,18.4s,baz=248,slow=35					
MAW	**Mawson**	**78.05**	**200**	*e*P	**P**	**14 58 35.8 -0.8**
MAW				pmax	pmax	
	comp=Z,6.0nm,1.2s					
VNDA	**Vanda**	**79.69**	**172**	P	**P**	**14 58 45.5 -0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=317,slow=5.4,SNR=6.5					
VNDA				LR	LR	15 34 10.6
	comp=Z,171nm,20.0s,baz=327,slow=36					
VNDA	**Vanda**	**79.69**	**172**	P	**P**	**14 58 45.5 -0.1**
VNDA				LR	LR	15 34 10.6
KMBO	**Kilima Mbogo**	**84.84**	**269**	LR	LR	15 35 26.6
	comp=Z,152nm,20.1s,baz=88,slow=35					
SYO	**Syowa Base**	**86.66**	**201⇑**	*e*PcP	PcP	14 59 25.3 +1.5
SYO	**Syowa Base**	**86.66**	**201⇓**	*e*pP	pP	14 59 31.2 -7.8
OBN	**Obninsk**	**88.00**	**325⇑**	*e*P	**P**	**14 59 27.1 -0.8**
OBN				*e*		15 02 52.3
OBN				pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.8					
QSPA	**South Pole Qui**	**89.24**	**180**	*e*P	**P**	**14 59 34.4 +0.6**
	comp=Z,12nm,1.0s,mb5.2					
BRTR	**Keskin Array B**	**89.25**	**310**	LR	LR	15 42 06.0
	comp=Z,83nm,18.6s,baz=115,slow=37					
BOSA	**Boshof**	**95.68**	**241**	LR	LR	15 35 51.1
	comp=Z,145nm,21.5s,baz=36,slow=31					
TORD	**Torodi Ar. Bea**	**119.72**	**285**	PKP	PKPdf	15 05 28.0 +0.4
	comp=Z,0.7nm,0.7s,baz=115,slow=1.5,SNR=4.3					
TXAR	**Lajitas Array**	**127.95**	**53**	PKP	PKPdf	15 05 47.5 +4.2
	comp=Z,0.4nm,0.8s,baz=177,slow=1.0,SNR=5.0					

*NEIC **13** 15:07:30.8, 2829S×69.18W, h100km, MD3.9(GUC), After GUC.*

GUC 13 15:07:30.8±0.8, 2829S×6918W, h100km, MD3.6, ML4.3, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.40**	**312⇑**		*i*P	Pn	15 07 55.7	0.0
CPCH					*i* S	Sn	15 08 15.0	+0.3
VACH	**Vallenar**	**1.42**	**258**		*e*P	Pn	15 07 56.6	+0.5
VACH					*i* S	Sn	15 08 15.8	+0.6
VACH					AML	AML	15 08 18.6	
	comp=N,6μm,0.1s							
VACH	**Vallenar**	**1.42**	**258**		*e*P	Pn	15 07 56.6	+0.5
VACH					*i* S	Sn	15 08 15.8	+0.6
CDCH	**Caldera**	**1.90**	**309**		*e*P	Pn	15 08 02.9	+0.8
CDCH					*i* S	Sn	15 08 26.5	+0.5
ZON	**Zonda**	**3.27**	**173**		*e*P	Pn	15 08 18.8	-1.4
ZON					*i* S	Sn	15 08 56.4	-1.8
CMCH	**Combarbala**	**3.28**	**208⇓**		*i*P	Pn	15 08 18.8	-1.4
CMCH					*i* S	Sn	15 08 55.7	-2.8
CPN1	**Cerro Paranal**	**3.81**	**343**		*e*P	Pn	15 08 29.0	+1.5
CEN1	**Los Morros**	**4.97**	**349**		*e*P	Pn	15 08 41.4	-1.6

MAN 13 16:16:32.3, 1118N×12206E, h61km, mb1.8, ML3.6, MS4.5, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.56**	**28⇓**		*i*P	Pn	16 16 51.9	+6.9
GUIM	**Jordan**	**0.75**	**137**		*e*P	Pn	16 16 49.1	+1.9
RCP	**Roxas**	**0.77**	**60⇑**		*e*P	Pn	16 16 48.5	+1.1
CUYO	**Cuyo Island**	**1.08**	**252**		*e*P	Pn	16 16 51.9	+0.5
CUYO					*e*S	Sn	16 17 07.0	+1.5
OTRP	**Odiongan**	**1.18**	**358**		*e*P	Pn	16 16 53.8	+1.2
BUSP	**Coron**	**2.00**	**294**		*e*P	Pn	16 17 05.2	+1.5
BOAC	**Boac**	**2.28**	**355**		*e*P	Pn	16 17 08.3	+0.9

MOS 13 16:59:51.4±1.1, 4273N×4373E, h19km, mb3.9/1, 5C-2D, Error ellipse: s-maj=17.4km s-min=8.7km az=98.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.13**	**73**		*e*PG	Pg	16 59 57.3	+1.8
ZEI					*e*		17 00 00.0	
ZEI					pmax	pmax		
	comp=Z,436nm,0.1s							
ZEI					smax			
	comp=N,647nm,0.2s							
DIGR	**Digorskoe uzhe**	**0.20**	**326⇑**		*i*PG	Pg	16 59 56.7	+0.2
LACR	**Lac**	**0.42**	**77⇓**		*i*PG	Pg	17 00 01.8	+1.6
LACR					*i* S	Sg	17 00 07.5	+1.5
ARNR	**Ardon**	**0.61**	**41**		*e*PG	Pg	17 00 02.6	-0.9
ARNR					*e*S	Sb	17 00 09.1	-2.4
KUBR	**Kubataba**	**1.09**	**348⇓**		*i*PG	Pg	17 00 12.0	-0.6
KUBR					*e*S	Sb	17 00 25.5	0.0
PRTR	**Priterechnaya**	**1.09**	**21**		*e*PG	Pg	17 00 13.1	+0.5
PRTR					*e*S	Sb	17 00 27.5	+1.9
SHAR	**Shatzhatmas**	**1.27**	**323⇑**		*e*PG	Pg	17 00 14.5	-1.5
SHAR					*i* S	Sn	17 00 29.6	-1.1
PYA	**Pyatigorsk**	**1.39**	**339⇑**		*e*PG	Pg	17 00 16.7	-1.5
PYA					*e*S	Sn	17 00 33.6	0.0
KIV	**Kislovodsk**	**1.44**	**328⇑**		*i*PG	Pg	17 00 17.3	-1.9
BEYR	**Belyy Ugol+**	**1.44**	**333⇑**		*e*PG	Pg	17 00 17.4	-1.8

*NIED **13** 17:02:00, 2080N×12040E, h11km, Mw5.1 Best double couple: M0:5.02000×10^16 NP1:φs=304.00000°, δ67.00000°, λ-92.00000°. NP2:φs=128.00000°, δ23.00000°, λ-86.00000°.*

*IDC **13** 17:02:15.5±0.4, 2092N×11983E, h0km, mb4.7/24, mb1 4.8/27, mb1mx4.8/31, mbtmp4.7/27, ML4.0/3, MS4.2/22, Ms1 4.2/22, ms1mx4.0/38, Error ellipse: s-maj=18.1km s-min=8.9km az=68.0*

*ISCJB **13** 17:02:16.7±0.9, 2092N±002×11992E±002, h15km±5km, mb5.0/122, MS4.4/38, Error ellipse: s-maj=3.6km s-min=3.2km az=174.9*

*MAN **13** 17:02:18.0, 2090N×11986E, h34km, mb3.5, ML4.7, MS7.0*

*BJI **13** 17:02:19.7, 21.16N×11966E, h21km, mB5.0, mb4.6, ML4.6, Ms4.9, Msz4.7*

*MOS **13** 17:02:19.1±0.9, 2089N×11981E, h33km, mb5.3/60, MS4.4/7, Error ellipse: s-maj=9.4km s-min=4.4km az=117.6*

*NEIC **13** 17:02:19.2±0.1, 2089N×11990E, mb5.1/68, MS4.6/4, Error ellipse: s-maj=5.1km s-min=3.4km az=84.0*

*GCMT **13** 17:02:19.2±0.3, 2090N×11977E, h12km, MW5.1/82, Moment Tensor Solution. s40,c54; s82,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~5.12±.10; Mθθ2.30±.09; Mφφ2.81±.11; Mrθ0.63±.32; Mφθ-2.63±.07; Mφr~0.40±.34; Best double couple: M0:5.21200×10^16 NP1:φs140.00000°, δ41.00000°, λ-87.00000°. NP2: φs316.00000°, δ49.00000°, λ-93.00000°. Principal axes: T 5.2470, Plg4.0000°, Azm48.0000°; N -0.0800, Plg2.0000°, Azm317.0000°; P -5.1770, Plg85.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*JMA **13** 17:02:21.6±0.4, 2077N×12036E, h118km, M4.4*

*SZGRF **13** 17:02:27.0, 22.10N×119.12E, h27km, mb5.3, MS4.6, Taiwan region*

ISC 13 17:02:19.3±0.8, 2091N±002×11994E±002, h24km±6km, h26km±1.0km: pP-P, n377, σ0=96/393, mb5.0/122, MS4.4/38, 29C-27D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.95**	**103**		*e*P	**Pn**	**17 02 50.7**	**-0.2**
BBP					*e*S	**Sn**	**17 03 14.0**	**-0.6**
PIP	**Pasuquin**	**2.65**	**166⇓**		*i*P	**Pn**	**17 02 59.8**	**-0.7**
APYP	**Conner**	**3.27**	**158**		*e*P	**Pn**	**17 03 08.5**	**-0.5**
APYP					*e*S	**Sn**	**17 03 46.9**	**-0.2**
SGCP	**Mt. Cagua**	**3.31**	**143**		*e*P	**Pn**	**17 03 08.8**	**-0.9**
ABRA	**Dolores**	**3.32**	**167**		*e*P	**Pn**	**17 03 08.1**	**-1.6**
NACB	**Ninganchiao**	**3.60**	**25**		*e*Pn	**Pn**	**17 03 11.8**	**-1.7**
YHNB	**Yeheng**	**3.98**	**19**		*e*P	**Pn**	**17 03 18.0**	**-0.7**
QZH	**Quanzhou**	**4.21**	**343**		P	**Pn**	**17 03 18.5**	**-3.4**
QZH					S	**Sn**	**17 04 04.1**	**-6.2**
QZH					Smax			
	comp=N,870nm,0.9s							
QZH					Smax			
	comp=E,880nm,0.8s							
QZH					LR	LR		
	comp=N,7μm,6.3s							
QZH					LR	LR		
	comp=E,13μm,9.4s							
QZH					LR	LR		
	comp=Z,12μm,9.2s							
TATO	**Taipei**	**4.30**	**19**		*e*P	**Pn**	**17 03 24.5**	**+1.4**
CAUP	**Cauayan**	**4.33**	**155**		*e*P	**Pn**	**17 03 25.6**	**+2.0**
PALP	**Palanan**	**4.49**	**148⇑**		*e*P	**Pn**	**17 03 26.4**	**+0.6**
PALP					*e*S	**Sn**	**17 04 21.1**	**+3.9**
PALP	**Palanan**	**4.49**	**148**		*e*P	**Pn**	**17 03 26.3**	**+0.5**
BOLP	**Bolinao**	**4.50**	**180**		*e*P	**Pn**	**17 03 24.6**	**-1.3**
YOJ	**Yonaguni jima**	**4.54**	**38**		P	**Pn**	**17 03 27.7**	**+1.3**
YOJ					*e*S	**Sn**	**17 04 19.4**	**+1.0**
HATJ	**Hateruma jima**	**4.76**	**48**		P	**Pn**	**17 03 29.8**	**+0.3**
HATJ					*e*S	**Sn**	**17 04 22.3**	**-1.5**
IRIF	**Iriomote-Funau**	**4.89**	**45**		P	**Pn**	**17 03 31.6**	**+0.3**
IRIF					*e*S	**Sn**	**17 04 26.8**	**-0.4**
JKRS	**Kuro-shima**	**5.02**	**48**		P	**Pn**	**17 03 33.5**	**+0.5**
JKRS					*e*S	**Sn**	**17 04 28.7**	**-1.5**
JIJ	**Ishigaki jima**	**5.19**	**48**		P	**Pn**	**17 03 35.6**	**+0.2**
JIJ					*e*S	**Sn**	**17 04 31.7**	**-2.8**
BALP	**Baler**	**5.37**	**163**		*e*P	**Pn**	**17 03 39.1**	**+1.2**
PCPH	**Palayan**	**5.43**	**168⇑**		*e*P	**Pn**	**17 03 39.0**	**+0.3**
JTJ	**Tarama**	**5.76**	**49**		P	**Pn**	**17 03 43.7**	**+0.5**
JTJ					*e*S	**Sn**	**17 04 46.8**	**-1.7**
JMJ	**Miyako jima 2**	**6.29**	**51**		P	**Pn**	**17 03 50.8**	**+0.3**
JMJ					*e*S	**Sn**	**17 04 58.5**	**-3.1**
JOGS	**Gusukube**	**6.34**	**52**		P	**Pn**	**17 03 50.5**	**-0.7**
POLP	**Polilio Island**	**6.43**	**162**		*e*P	**Pn**	**17 03 53.3**	**+0.8**
GZH	**Guangzhou**	**6.49**	**291**		P	**Pn**	**17 03 48.8**	**-4.5**
GZH					S	**Sn**	**17 04 55.8**	**-11**
GZH					Smax			
	comp=N,427nm,1.1s							
GZH					Smax			
	comp=E,450nm,0.8s							
TGY	**Tagaytay City**	**6.83**	**172**		Pn	**Pn**	**17 03 59.3**	**+1.3**
	comp=E,30nm,0.3s,baz=136,slow=4.1,SNR=4.7							
TGY	**Tagaytay City**	**6.83**	**172⇑**		*e*P	**Pn**	**17 04 05.2**	**+7.3**
LUBP	**Lubang**	**7.14**	**178**		*e*P	**Pn**	**17 04 05.1**	**+2.9**
JKE	**Kume jima 2**	**8.28**	**48**		P	**Pn**	**17 04 16.1**	**-1.7**
BUSP	**Coron**	**8.86**	**178**		*e*P	**Pn**	**17 04 25.4**	**-0.4**
JOW	**Kunigami**	**9.64**	**51**		Pn	**Pn**	**17 04 35.2**	**-1.3**
	comp=E,1.8nm,0.3s,baz=209,slow=10,SNR=7.7							
QIZ	**Qiongzhong**	**9.68**	**261**		P	**Pn**	**17 04 36.8**	**-0.2**
QIZ					S	**Sn**	**17 06 23.3**	**-1.6**
QIZ					LR	LR		
	comp=N,7μm,13.7s							
QIZ					LR	LR		
	comp=E,4μm,14.6s							
QIZ					LR	LR		
	comp=Z,4μm,18.0s							
SSE	**Sheshan**	**10.21**	**6**		*e*P	**Pn**	**17 04 43.6**	**-0.7**
SSE					AP		17 04 50.4	
SSE					XP		17 04 55.3	
SSE					S	**Sn**	**17 06 38.9**	**+0.9**
SSE					XS		17 06 49.3	
SSE					AMB	AMB		
	comp=Z,40nm,0.6s							
SSE					AMB	AMB		
	comp=Z,202nm,5.1s							
SSE					LR	LR		
	comp=N,1μm,12.4s							
SSE					LR	LR		
	comp=E,4μm,12.5s							
SSE					LR	LR		
	comp=Z,3μm,13.9s							
WHN	**Wuhan**	**10.84**	**333**		P	**Pn**	**17 04 50.9**	**-2.0**
WHN					S	**Sn**	**17 06 44.0**	**-9.3**
WHN					LR	LR		
	comp=Z,11μm,12.8s							
GYA	**Guiyang**	**13.36**	**297**		P	**Pn**	**17 05 23.9**	**-3.4**
GYA					AP		17 05 30.8	
GYA					PPP		17 05 46.5	
GYA					S	**Sn**	**17 07 55.5**	**+0.5**
GYA					SS		17 08 11.3	
GYA					AMB	AMB		
	comp=Z,20nm,0.7s							
GYA					AMB	AMB		
	comp=Z,110nm,4.6s							
GYA					LR	LR		
	comp=N,3μm,10.2s							
GYA					LR	LR		
	comp=E,3μm,11.7s							
GYA					LR	LR		
	comp=Z,3μm,10.8s							
KKM	**Kota Kinabalu**	**15.21**	**194**		*e*P	**Pn**	**17 05 56.4**	**+4.0**
JNU	**Nakatsue**	**15.58**	**36**		Pn	**Pn**	**17 06 03.6**	**+6.3**
	comp=Z,1.4nm,0.3s,baz=168,slow=28,SNR=6.2							
JNU					LR	LR	17 12 51.1	
	comp=Z,4μm,20.4s,baz=330,slow=41							
JNU	**Nakatsue**	**15.58**	**36**		P	**Pn**	**17 06 03.8**	**+6.5**
XAN	**Xi'an**	**16.32**	**326**		P	**Pn**	**17 06 09.0**	**+2.2**
XAN					AMB	AMB		
	comp=Z,20nm,1.2s							
XAN					LR	LR		
	comp=N,2μm,11.5s							
XAN					LR	LR		
	comp=E,2μm,10.9s							
XAN					LR	LR		
	comp=Z,4μm,11.8s							
KMI	**Kunming**	**16.38**	**288**		P	**Pn**	**17 06 11.4**	**+3.8**
KMI					PP		17 06 20.0	
KMI					S	**Sn**	**17 09 07.5**	**-1.1**
KMI					AMB	AMB		
	comp=Z,12nm,1.3s							
KMI					LR	LR		
	comp=N,2μm,10.2s							
KMI					LR	LR		
	comp=E,2μm,8.7s							
KMI					LR	LR		
	comp=Z,2μm,7.5s							
KMI	**Kunming**	**16.38**	**288**		P	**Pn**	**17 06 11.5**	**+3.9**
KMI					S	**Sn**	**17 09 07.5**	**-1.1**
KMI	**Kunming**	**16.38**	**288**		P	**Pn**	**17 06 11.5**	**+3.9**
KMI					pP	pP	17 06 18.3	+1.5
KMI					PP		17 06 20.0	
KMI					S	**Sn**	**17 09 07.5**	**-1.1**
KMI					SS		17 09 26.4	
CD2	**Chengdu**	**17.62**	**308**		P	**Pn**	**17 06 23.6**	**+0.5**
CD2					AP	pP	17 06 31.5	+1.0
CD2					XP	sP	17 06 36.1	+2.5
CD2					PP		17 06 38.5	
CD2					S	**Sn**	**17 09 36.1**	**-2.5**
CD2					AMB	AMB		
	comp=Z,50nm,0.7s							
CD2					AMB	AMB		
	comp=Z,350nm,5.3s							
CD2					LR	LR		
	comp=N,4μm,9.0s							
CD2					LR	LR		
	comp=E,5μm,10.8s							
CD2					LR	LR		
	comp=Z,4μm,12.0s							
KSRS	**Korea Array**	**17.89**	**21**		P	**Pn**	**17 06 25.3**	**-1.2**
	baz=202,slow=12,SNR=13							
KSRS					LR	LR	17 14 43.3	
	comp=Z,936nm,19.0s,baz=194,slow=42							
DL2	**Dalian**	**18.00**	**4⇑**		*i*P	**Pn**	**17 06 29.0**	**+1.2**
DL2					XP	sP	17 06 40.4	+2.6
DL2					PP		17 06 44.0	
DL2					S	**Sn**	**17 09 50.5**	**+2.6**
DL2					AMB	AMB		
	comp=Z,20nm,0.9s							
DL2					AMB	AMB		
	comp=Z,320nm,6.1s							
DL2					LR	LR		
	comp=N,810nm,12.3s							
DL2					LR	LR		
	comp=E,1μm,13.5s							
DL2					LR	LR		
	comp=Z,970nm,11.1s							
JHS	**Saijyo**	**18.21**	**37**		P	**Pn**	**17 06 34.8**	**+4.4**
NANT	**Nan**	**18.22**	**267**		P	**Pn**	**17 06 30.0**	**-0.5**
BJT	**Baijiatuau**	**19.32**	**351**		*e*P	**Pn**	**17 06 42.2**	**-1.6**
BJT					pmax	pmax		
	comp=Z,54nm,1.0s							
BJT	**Baijiatuau**	**19.32**	**351**		*e*P	**Pn**	**17 06 42.2**	**-1.7**
	comp=Z,54nm,1.0s							
BJI	**Beijing**	**19.34**	**351**		*e*P	**Pn**	**17 06 43.9**	**-0.2**
BJI					AP	pP	17 06 52.0	+2.5
BJI					XP	sP	17 06 56.0	+3.4
BJI					S	**Sn**	**17 10 20.6**	**+0.3**
BJI					AMB	AMB		
	comp=Z,25nm,1.0s							
BJI					AMB	AMB		
	comp=Z,664nm,5.9s							
BJI					LR	LR		
	comp=N,2μm,12.6s							
BJI					LR	LR		
	comp=E,1μm,12.8s							
BJI					LR	LR		
	comp=Z,539nm,13.2s							
JWT	**Wachi**	**19.74**	**40**		P	**Pn**	**17 06 50.6**	**+1.7**
CHG	**Chiang Mai**	**19.86**	**268**		⇑P	**Pn**	**17 06 57.9**	**+7.7**
	comp=Z,13nm,1.0s							
CHTO	**Chiang Mai**	**19.86**	**268**		*e*P	**Pn**	**17 06 48.6**	**-1.6**
CHTO					pmax	pmax		
	comp=Z,12nm,1.1s							
CHTO	**Chiang Mai**	**19.86**	**268**		*e*P	**Pn**	**17 06 48.6**	**-1.6**
	comp=Z,12nm,1.1s							
JIE	**Ise**	**19.99**	**44**		P	**Pn**	**17 06 55.6**	**+3.8**
LZH	**Lanzhou**	**20.66**	**320**		⇑P	**P**	**17 06 57.8**	**+0.5**
LZH					AP		17 07 01.8	
LZH					XP	sP	17 07 04.9	-2.1
LZH					PP		17 07 18.8	
LZH					*e*S	**S**	**17 10 42.1**	**-4.9**
LZH					XS	sS	17 10 47.9	-10
LZH					SS		17 11 11.8	
LZH					AMB	AMB		
	comp=Z,47nm,1.3s							
LZH					AMB	AMB		
	comp=Z,163nm,4.4s							
LZH					LR	LR		
	comp=N,3μm,8.7s							
LZH					LR	LR		
	comp=Z,4μm,11.5s,MS5.0							
LZH	**Lanzhou**	**20.66**	**320**		⇑P	**P**	**17 06 57.8**	**+0.5**
LZH							17 07 18.7	
LZH					*e*S	**S**	**17 10 42.1**	**-4.9**
LZH					SS		17 11 11.8	
LZH	**Lanzhou**	**20.66**	**320**		⇑P	**P**	**17 06 57.8**	**+0.5**
LZH					pP		17 07 01.8	
LZH					sP	sP	17 07 04.9	-2.1
LZH					PP		17 07 18.7	
LZH					*e*S	**S**	**17 10 42.1**	**-4.9**
LZH					sS	sS	17 10 47.9	-10
LZH					SS		17 11 11.8	
SNY	**Shenyang**	**21.09**	**8**		⇑P	**P**	**17 07 03.3**	**+1.5**
SNY					AP		17 07 12.4	
SNY					XP	sP	17 07 17.1	+5.5
SNY					AMB	AMB		
	comp=Z,16nm,1.1s,mb4.3							
SNY					AMB	AMB		
	comp=Z,320nm,3.5s							
SNY					LR	LR		
	comp=N,1μm,14.4s,MS4.8							
SNY					LR	LR		
	comp=E,3μm,11.8s,MS4.8							
SNY					LR	LR		
	comp=Z,2μm,13.7s,MS4.6							
HHC	**Hu-ho-hao-te**	**21.12**	**342**		*e*P	**P**	**17 07 02.6**	**+0.4**
HHC					AP		17 07 11.5	
HHC					XP	sP	17 07 15.6	+3.7
HHC					PP		17 07 21.6	
HHC					S	**S**	**17 10 41.4**	**-15**
HHC					AMB	AMB		
	comp=Z,28nm,1.1s,mb4.5							
HHC					AMB	AMB		
	comp=Z,259nm,4.2s							
HHC					LR	LR		
	comp=N,2μm,10.7s,MS4.9							
HHC					LR	LR		
	comp=E,2μm,11.3s,MS4.9							
HHC					LR	LR		
	comp=Z,2μm,12.5s,MS4.8							
CBIJ	**

JRY	**Ryogami san**	**22.40**	**44**	P	**P**	**17 07 19.7**	**+3.7**
CN2	**Changchun**	**23.29**	**10**	*e*P	**P**	**17 07 25.1**	**-0.2**
CN2				*e*XP	sP	17 07 38.4	+3.3
CN2				*e*S	**S**	**17 11 31.3**	**-4.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1µm,14.0s,MS4.7						
CN2				LR	LR		
	comp=E,1µm,14.0s,MS4.7						
CN2				LR	LR		
	comp=Z,2µm,11.0s,MS4.8						
VLA	**Vladivostok**	**24.31**	**22**	*d i*P	**P**	**17 07 36.2**	**+1.3**
VLA				*e*		17 07 46.1	
VLA				*e*		17 07 52.0	
VLA				*e*S	**S**	**17 11 58.3**	**+5.7**
VLA				*e**SS	sS	17 12 12.0	+7.7
VLA				pmax	pmax		
	comp=Z,89nm,1.7s,mb4.9						
VLA				MLR	MLR		
	comp=Z,1µm,14.8s,MS4.5						
KULM	**Kulim**	**24.32**	**233**	*e*P	**P**	**17 07 35.4**	**+0.4**
JMM	**Marumori**	**24.73**	**42**	P	**P**	**17 07 40.5**	**+1.8**
GUMO	**Guam**	**24.87**	**103**	LR	LR	17 16 01.6	
	comp=Z,293nm,20.3s,MS3.8,baz=285,slow=33						
MDJ	**Mudanjiang**	**24.96**	**16**	P	**P**	**17 07 41.6**	**+0.8**
MDJ				AP		17 07 50.1	
MDJ				XP	sP	17 07 54.0	+3.1
MDJ				S	**S**	**17 12 04.6**	**+1.5**
MDJ				SCS	ScS	17 18 41.0	-0.4
MDJ				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,316nm,7.5s						
MDJ				LR	LR		
	comp=N,1µm,11.9s,MS4.7						
MDJ				LR	LR		
	comp=E,964nm,12.4s,MS4.7						
MDJ				LR	LR		
	comp=Z,1µm,13.3s,MS4.5						
MDJ	**Mudanjiang**	**24.96**	**16**	*e*P	**P**	**17 07 41.9**	**+1.1**
	comp=Z,35nm,0.9s,mb4.9						
GTA	**Gaotai**	**25.26**	**321**	*e*P	**P**	**17 07 42.8**	**-0.7**
GTA				AP	pP	17 07 51.9	+1.3
GTA				XP	sP	17 07 55.6	+2.0
GTA				PP		17 08 20.5	
GTA				PCP	PcP	17 11 17.5	+1.1
GTA				S	**S**	**17 12 04.4**	**-3.4**
GTA				XS	sS	17 12 19.6	+0.1
GTA				SS		17 13 05.3	
GTA				SCP	ScP	17 14 56.5	+2.5
GTA				PCS	PcS	17 14 56.8	0.0
GTA				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
GTA				AMB	AMB		
	comp=Z,248nm,5.7s						
GTA				LR	LR		
	comp=N,887nm,13.3s,MS4.8						
GTA				LR	LR		
	comp=E,1µm,10.3s,MS4.8						
GTA				LR	LR		
	comp=Z,2µm,11.8s,MS4.7						
JOM	**Ohasama**	**26.02**	**40**	P	**P**	**17 07 49.7**	**-0.8**
SHL	**Shillong**	**26.17**	**286**	*e*P	**P**	**17 07 52.5**	**+0.7**
SHL				*e*S	**S**	**17 12 20.0**	**-2.2**
PSI	**Prapat**	**27.25**	**231**	P	**P**	**17 08 00.7**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.1,baz=336,slow=7.9,SNR=7.7						
PSI				PcP	PcP	17 11 21.4	+0.4
	comp=Z,1.7nm,0.3s,baz=273,slow=5.1,SNR=6.0						
PSI				LR	LR	17 18 26.4	
	comp=Z,1µm,18.8s,MS4.4,baz=131,slow=36						
PSI	**Prapat**	**27.25**	**231**	P	**P**	**17 08 00.7**	**-0.9**
PSI						17 11 21.5	
LSA	**Lhasa**	**27.40**	**294**	P	**P**	**17 08 04.5**	**+1.6**
LSA	**Lhasa**	**27.40**	**294**	*e*P	**P**	**17 08 03.4**	**+0.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
LSA	**Lhasa**	**27.40**	**294**	*e*P	**P**	**17 08 03.4**	**+0.5**
	comp=Z,11nm,0.8s,mb4.4						
HIA	**Hailar**	**28.30**	**360**	*e*P	**P**	**17 08 10.2**	**-0.7**
HIA				pmax	pmax		
	comp=Z,23nm,1.1s						
HIA	**Hailar**	**28.30**	**360**	*e*P	**P**	**17 08 10.2**	**-0.7**
	comp=Z,23nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**28.84**	**342⇑**	*e*P	**P**	**17 08 15.3**	**-0.4**
ULN	**Ulaanbaatar**	**28.84**	**342**	*e*P	**P**	**17 08 15.5**	**-0.2**
	comp=Z,11nm,0.9s,mb4.6						
SONM	**Songino Array**	**29.01**	**341**	P	**P**	**17 08 17.0**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.2,baz=159,slow=9.7,SNR=35						
SONM				PcP	PcP	17 11 25.7	+0.4
	comp=Z,2.5nm,1.1s,baz=165,slow=6.2,SNR=3.7						
SONM				LR	LR	17 19 59.0	
	comp=Z,450nm,20.7s,MS4.1,baz=340,slow=37						
SONM	**Songino Array**	**29.01**	**341**	P	**P**	**17 08 17.0**	**-0.2**
SONM						17 11 25.7	
HABR	**Khabarovsk**	**30.07**	**20**	*e*P	**P**	**17 08 27.6**	**+1.0**
HABR				*e*S	**S**	**17 13 22.9**	**-0.7**
JMP	**Maruseppu**	**30.16**	**35**	P	**P**	**17 08 36.7**	**+9.3**
YSS	**Yuzh-Sakhalins**	**31.92**	**30⇑**	*e*P	**P**	**17 08 45.6**	**+2.7**
YSS				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.1						
YSS	**Yuzh-Sakhalins**	**31.92**	**30**	*e*P	**P**	**17 08 44.1**	**+1.2**
	comp=Z,32nm,1.0s,mb5.1						
ZAK	**Zakamensk**	**32.23**	**340**	*e*	**P**	**17 08 44.6**	**-1.0**
ZAK				*e*		17 11 30.7	
TLY	**Talaya**	**33.24**	**341**	*e*P	pP	17 09 05.5	+3.8
TLY				*e*PPP		17 10 03.7	
TLY				*e*		17 11 33.6	
TLY				*e*S	**S**	**17 14 20.0**	**+6.8**
TLY				*e*SS	SS	17 16 17.8	-19
TLY				*e*SSS		17 16 36.6	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,632nm,14.0s,MS4.5						
TLY	**Talaya**	**33.24**	**341**	*e*P	**P**	**17 08 54.3**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8						
IRK	**Irkutsk**	**33.56**	**343**	*e*P	**P**	**17 08 56.1**	**-1.2**
IRK				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
WMQ	**Urumqi**	**35.20**	**318**	P	**P**	**17 09 12.3**	**+0.8**
WMQ				XP	sP	17 09 24.3	+2.7
WMQ				PP	PP	17 10 30.3	-1.2
WMQ				PPP		17 10 48.6	
WMQ				S	**S**	**17 14 41.3**	**-2.1**
WMQ				XS	sS	17 14 56.8	+1.5
WMQ				SS	SS	17 16 57.0	-20
WMQ				SCS	ScS	17 19 28.3	-2.1
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,231nm,5.0s						
WMQ				LR	LR		
	comp=N,879nm,11.0s,MS4.9						
WMQ				LR	LR		
	comp=E,882nm,11.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,348nm,14.0s,MS4.3						
KAKA	**Kakadu**	**35.59**	**159**	*e*P	**P**	**17 09 13.4**	**-1.5**
	comp=Z,72nm,1.6s,mb5.3						
KAKA				*e*PCP	PcP	17 11 44.4	+1.0
CLNS	**Chul'man**	**36.07**	**5**	*e*P	**P**	**17 09 18.9**	**0.0**
CLNS				*e**PP	pP	17 09 25.8	-0.4
CLNS				*e*PPP		17 10 45.1	
CLNS				*e*		17 11 41.4	
CLNS				*e*S	**S**	**17 14 53.0**	**-3.7**
CLNS				pmax	pmax		
	comp=N,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CLNS				smax			
	comp=E,20nm,1.1s						
CLNS				smax			
	comp=Z,5.0nm,0.7s						
CLNS				smax			
	comp=N,6.0nm,1.4s						
CLNS				MLR	MLR		
	comp=E,1µm,13.0s,MS4.8						
CLNS				MLR	MLR		
	comp=Z,600nm,13.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s,MS4.8						
BOD	**Bodaibo**	**37.12**	**355**	*e*P	**P**	**17 09 24.8**	**-3.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**39.17**	**171**	*e*P	**P**	**17 09 43.2**	**-1.9**
	comp=Z,18nm,1.1s,mb4.7						
FITZ				*e*PCP	PcP	17 11 54.2	-0.1
FITZ	**Fitzroy Crossi**	**39.17**	**171**	P	**P**	**17 09 43.9**	**-1.2**
	comp=Z,8.8nm,0.8s,mb4.5,baz=350,slow=9.0,SNR=18						
HYB	**Hyderabad**	**39.17**	**272**	*i* P	**P**	**17 09 45.0**	**-0.2**
HYB	**Hyderabad**	**39.17**	**272**	*e*P	**P**	**17 09 45.0**	**-0.2**
MKAR	**Makanchi Array**	**39.97**	**319**	P	**P**	**17 09 51.7**	**-0.2**
	comp=Z,14nm,0.8s,mb4.8,baz=114,slow=9.7,SNR=137						
MKAR				PcP	PcP	17 11 57.4	+0.6
	comp=Z,8.3nm,0.7s,baz=94,slow=4.4,SNR=12						
MKAR				LR	LR	17 29 29.6	
	comp=Z,201nm,21.5s,MS3.9,baz=359,slow=41						
MKAR	**Makanchi Array**	**39.97**	**319**	*e*P	**P**	**17 09 52.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
MKAR	**Makanchi Array**	**39.97**	**319**	P	**P**	**17 09 51.7**	**-0.2**
MKAR				PcP	PcP	17 11 57.4	+0.6
MKAR				LR	LR	17 29 29.6	
PMG	**Port Moresby**	**40.29**	**136⇑**	*e*P	**P**	**17 09 55.6**	**+1.1**
YAK	**Yakutsk**	**41.65**	**7⇓**	*i*P	**P**	**17 10 05.2**	**-0.4**
YAK				*e**PP	pP	17 10 12.3	-0.7
YAK				*e*S	**S**	**17 16 21.7**	**+1.0**
YAK				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,18nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
YAK				smax			
	comp=N,100nm,16.0s						
YAK				smax			
	comp=E,100nm,17.1s						
YAK				MLR	MLR		
	comp=E,400nm,16.0s,MS4.6						
YAK				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,500nm,18.0s,MS4.6						
YAK	**Yakutsk**	**41.65**	**7**	*e*P	**P**	**17 10 04.9**	**-0.7**
	comp=N,77nm,0.8s,mb5.4						
KSH	**Kashi**	**41.81**	**306**	P	**P**	**17 10 09.5**	**+2.5**
KSH				AP	pP	17 10 18.6	+4.3
KSH				XP	sP	17 10 22.3	+5.1
KSH				PP	PP	17 11 49.4	+5.6
KSH				PCP	PcP	17 12 05.4	+2.6
KSH				PPP		17 12 20.8	
KSH				SCP	ScP	17 15 51.4	-0.1
KSH				PCS	PcS	17 15 55.9	+1.6
KSH				S	**S**	**17 16 24.3**	**+1.2**
KSH				XS	sS	17 16 40.3	+5.1
KSH				SS	SS	17 19 25.4	-4.1
KSH				SCS	ScS	17 20 07.1	-1.4
KSH				AMB	AMB		
	comp=Z,36nm,0.5s,mb5.3						
KSH				AMB	AMB		
	comp=Z,662nm,4.2s						
KSH				LR	LR		
	comp=N,2µm,10.7s						
KSH				LR	LR		
	comp=E,3µm,6.8s						
KSH				LR	LR		
	comp=Z,3µm,9.8s						
ULHL	**Ulahol**	**42.31**	**310**	P	**P**	**17 10 12.2**	**+1.1**
	SNR=5.6						
ZAL	**Zalesovo**	**42.43**	**330**	P	**P**	**17 10 11.3**	**-0.7**
	comp=Z,7.6nm,0.9s,mb4.3,baz=356,slow=7.7,SNR=38						
ZAL				PcP	PcP	17 12 03.9	-0.9
	comp=Z,1.8nm,0.8s,baz=310,slow=3.2,SNR=4.2						
ZAL				LR	LR	17 30 03.3	
	comp=Z,279nm,21.3s,MS4.1,baz=337,slow=39						
ZAL	**Zalesovo**	**42.43**	**330**	P	**P**	**17 10 11.4**	**-0.6**
ZAL						17 12 03.9	
ZAL	**Zalesovo**	**42.43**	**330**	P	**P**	**17 10 11.3**	**-0.7**
ZAL				PcP	PcP	17 12 03.9	-0.9
ZAL				LR	LR	17 30 03.3	
TKM2	**Tokmak 2**	**42.95**	**311**	P	**P**	**17 10 17.3**	**+1.0**
	SNR=12						
KZA	**Kyzart**	**42.97**	**310**	P	**P**	**17 10 18.3**	**+1.9**
	SNR=20						
WRA	**Warramunga Arr**	**42.97**	**160**	P	**P**	**17 10 15.8**	**-0.7**
	comp=Z,18nm,0.7s,mb4.9,baz=342,slow=9.0,SNR=110						
WRA				PcP	PcP	17 12 07.3	+0.7
	comp=Z,12nm,0.8s,baz=341,slow=3.6,SNR=13						
WRA				S	**S**	**17 16 47.6**	**+7.3**
	comp=Z,4.8nm,1.1s,baz=342,slow=15,SNR=7.8						
WB2	**Warramunga Arr**	**42.98**	**160**	*e*P	**P**	**17 10 15.5**	**-1.0**
WB2				*e*PCP	PcP	17 12 07.5	+0.8
WB2				*e*S	**S**	**17 16 46.9**	**+6.5**
KBK	**Karagaybulak**	**43.34**	**311**	P	**P**	**17 10 20.6**	**+1.2**
	SNR=11						
UCH	**Uchtor**	**43.54**	**310**	P	**P**	**17 10 23.0**	**+1.9**
	SNR=38						
CHMS	**Chumysh**	**43.57**	**311**	P	**P**	**17 10 21.8**	**+0.5**
	SNR=8.7						
FRU	**Bishkek**	**43.62**	**311**	*e*P	**P**	**17 10 22.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,60nm,2.2s,mb4.9						
AAK	**Ala-Archa**	**43.66**	**310**	P	**P**	**17 10 23.0**	**+1.0**
	SNR=5.2						
AAK	**Ala-Archa**	**43.66**	**310**	*e*P	**P**	**17 10 21.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**43.66**	**310**	*e*P	**P**	**17 10 21.7**	**-0.3**
	comp=Z,9.1nm,1.3s,mb4.3						
NVS	**Novosibirsk**	**43.70**	**330⇓**	*i*P	**P**	**17 10 21.6**	**-0.7**
NVS				pmax	pmax		
	comp=N,31nm,1.8s						
NVS				pmax	pmax		
	comp=E,16nm,1.4s						
USP	**Ospenovka**	**43.82**	**311**	P	**P**	**17 10 23.9**	**+0.6**
	SNR=11						
KURK	**Kurchatov**	**43.93**	**323⇑**	*e*P	**P**	**17 10 23.6**	**-0.5**
KURK	**Kurchatov**	**43.93**	**323**	*e*P	**P**	**17 10 23.7**	**-0.4**
	comp=E,27nm,1.0s,mb4.9						
AML	**Almayashu**	**44.10**	**309**	P	**P**	**17 10 27.2**	**+1.6**
	SNR=25						
EKS2	**Erkin-Say**	**44.18**	**310**	P	**P**	**17 10 26.5**	**+0.4**
	SNR=8.5						
ASAR	**Alice Springs**	**46.34**	**162**	P	**P**	**17 10 43.0**	**-0.3**
	comp=E,12nm,0.9s,mb4.8,baz=345,slow=7.2,SNR=138						
ASAR				PcP	PcP	17 12 18.6	+0.4
	comp=E,5.1nm,0.8s,baz=341,slow=3.0,SNR=7.1						
KKAR	**Karatay Array**	**46.61**	**310**	*i* P	**P**	**17 10 45.8**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
SEY	**Seymchan**	**47.44**	**19⇑**	*e*P	**P**	**17 10 52.7**	**+0.8**
CTA	**Charters Tower**	**48.20**	**146⇓**	*i*P	**P**	**17 10 59.3**	**+1.5**
	comp=Z,37nm,0.9s,mb5.4						
CTA				*e*PCP	PcP	17 12 26.6	+1.8
CTA	**Charters Tower**	**48.20**	**146**	P	**P**	**17 10 58.5**	**+0.8**
	comp=Z,47nm,0.9s,mb5.5,baz=331,slow=9.7,SNR=28						
CTA	**Charters Tower**	**48.20**	**146⇓**	*i*P	**P**	**17 10 59.3**	**+1.5**
CTA				*e*		17 12 26.6	
CTA				pmax	pmax		
	comp=Z,37nm,0.9s						
CTAO	**Charters Tower**	**48.20**	**146**	*e*P	**P**	**17 10 59.6**	**+1.9**
	comp=Z,204nm,1.6s,mb5.9						
BVA0	**Borovoye Array**	**49.52**	**323**	*i* P	**P**	**17 11 07.2**	**-0.8**
BVAR	**Borovoye Array**	**49.52**	**323**	P	**P**	**17 11 07.7**	**-0.2**
	comp=Z,5.9nm,0.6s,mb4.8,baz=108,slow=8.8,SNR=50						
BVAR				PcP	PcP	17 12 29.7	+0.1
	comp=Z,6.3nm,0.8s,baz=108,slow=3.3,SNR=9.9						
BRVK	**Borovoye**	**49.60**	**323**	*e*P	**P**	**17 11 08.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
BRVK	**Borovoye**	**49.60**	**323**	*e*P	**P**	**17 11 08.4**	**-0.1**
	comp=Z,8.6nm,0.6s,mb5.0						
CHKZ	**Chkalovo**	**49.63**	**324**	*e*P	**P**	**17 11 08.2**	**-0.6**
CHKZ				*e*		17 12 29.5	
CHKZ				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**49.63**	**324**	*e*P	**P**	**17 11 08.2**	**-0.6**
	comp=Z,12nm,0.9s,mb4.9						
CHKZ				*e*PcP	PcP	17 12 29.5	-0.5
TIXI	**Tiksi**	**51.02**	**4**	*e*P	**P**	**17 11 14.9**	**-4.4**
TIXI				*e*		17 11 24.6	
TIXI				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,708nm,14.0s,MS4.8						
TIXI	**Tiksi**	**51.02**	**4**	*e*P	**P**	**17 11 18.4**	**-0.9**
	comp=Z,15nm,1.0s,mb4.9						
FORT	**Forrest**	**51.98**	**171**	*e*P	**P**	**17 11 24.9**	**-1.5**
	comp=Z,38nm,0.7s,mb5.4						
KLBR	**Kellerberrin**	**52.24**	**182**	*e*P	**P**	**17 11 27.0**	**-1.4**
	comp=Z,25nm,1.0s,mb5.1						
MUN	**Mundaring**	**52.70**	**184**	*e*P	**P**	**17 11 31.2**	**-0.6**
NWAO	**Narrogin (SRO)**	**53.59**	**183**	P	**P**	**17 11 37.9**	**-0.4**
	comp=Z,12nm,0.8s,mb4.9,baz=359,slow=13,SNR=4.9						
NWAO	**Narrogin (SRO)**	**53.59**	**183**	P	**P**	**17 11 37.9**	**-0.5**
AB31	**Akbulak array**	**54.95**	**316**	*i* P	**P**	**17 11 48.2**	**-0.1**
AB31				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
BILL	**Bilibino**	**55.15**	**19⇑**	*e*P	**P**	**17 11 50.0**	**+0.3**
BILL				*e*		17 13 58.1	
BILL				pmax	pmax		
	comp=Z,24nm,2.5s,mb4.8						
BILL	**Bilibino**	**55.15**	**19**	*e*P	**P**	**17 11 49.3**	**-0.3**
	comp=Z,8.3nm,0.8s,mb4.8						
ABKT	**Ailbek**	**55.51**	**302**	P	**P**	**17 11 53.3**	**+1.0**
	comp=Z,130nm,1.1s,mb5.9,SNR=12						
SVE	**Sverdlovsk**	**56.03**	**325⇓**	*e*P	**P**	**17 11 55.0**	**-1.1**
SVE				pmax	pmax		
	comp=Z,90nm,1.5s,mb5.6						
AKTK	**Aktyubinsk**	**56.35**	**317**	P	**P**	**17 11 58.3**	**0.0**
AKTO	**Aktyubinsk**	**56.35**	**317**	P	**P**	**17 11 58.3**	**0.0**
	comp=Z,13nm,1.0s,mb4.9,baz=91,slow=7.5,SNR=33						
AKTO	**Aktyubinsk**	**56.35**	**317**	P	**P**	**17 11 57.5**	**-0.8**
STKA	**Stephens Creek**	**56.44**	**158⇓**	*i*P	**P**	**17 11 58.9**	**0.0**
	comp=Z,5.7nm,0.7s,mb4.7						
STKA				*e*PCP	PcP	17 12 26.4	-29
STKA	**Stephens Creek**	**56.44**	**158**	P	**P**	**17 11 59.1**	**+0.2**
	comp=Z,6.1nm,0.6s,mb4.8,baz=338,slow=6.7,SNR=19						
ARU	**Arti**	**57.06**	**324**	P	**P**	**17 12 02.9**	**-0.5**
	comp=Z,164nm,0.8s,mb6.1,SNR=7.9						
ARU	**Arti**	**57.06**	**324⇓**	*i*P	**P**	**17 12 02.6**	**-0.8**
ARU				*e*		17 12 21.4	
ARU				*e*		17 14 08.6	
ARU				*e*PPP		17 15 29.8	
ARU				*e*S	**S**	**17 19 51.2**	**-5.5**
ARU				*e*SS	SS	17 23 49.4	+4.0
ARU				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
ARU	**Arti**	**57.06**	**324**	*e*P	**P**	**17 12 02.5**	**-0.8**
	comp=Z,46nm,1.3s,mb5.3						
ORR	**Orenburg**	**58.53**	**318**	*e*P	**P**	**17 12 13.0**	**-0.7**
ORR				*e*	pP	17 12 20.7	-0.6
ORR				pmax	pmax		
	comp=Z,120nm,1.8s,mb5.6						
ORR				MLR	MLR		
	comp=Z,510nm,21.0s,MS4.6						
SOKR	**Solikamsk**	**58.65**	**328**	*e*P	**P**	**17 12 13.0**	**-1.5**
SOKR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
ARMA	**Armidale**	**59.43**	**148⇓**	*i*P	**P**	**17 12 21.6**	**+1.6**
CNB	**Canberra Magne**	**62.49**	**153**	*e*P	**P**	**17 12 49.8**	**+9.1**
	comp=Z,45nm,1.7s,mb5.3						
TOO	**Toolangi**	**62.94**	**157**	*e*P	**P**	**17 12 44.7**	**+0.9**
	comp=Z,7.7nm,0.6s,mb5.0						
TOO	**Toolangi**	**62.94**	**157**	*e*P	**P**	**17 12 44.7**	**+0.9**
TOO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.0						
GNI	**Garni**	**65.74**	**306**	P	**P**	**17 13 03.2**	**+1.1**
	comp=Z,7.4nm,0.8s,mb4.8,baz=41,slow=13,SNR=10						
GNI				LR	LR	17 47 06.0	
	comp=Z,149nm,19.1s,MS4.2,baz=244,slow=41						
GNI	**Garni**	**65.74**	**306**	*e*P	**P**	**17 13 02.6**	**+0.6**
GNI				pmax	pmax		
	comp=Z,18nm,1.1s						
GNI	**Garni**	**65.74**	**306**	*e*P	**P**	**17 13 02.6**	**+0.6**
	comp=Z,18nm,1.1s,mb5.0						
ZEI	**Tsey**	**66.04**	**309**	*e*P	**P**	**17 13 03.9**	**-0.1**
ZEI				*e**PP	pP	17 13 19.3	+7.7
ZEI				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
VRHR	**Novokhopersk**	**66.75**	**318**	*e*P	**P**	**17 13 07.9**	**-0.6**
VRHR				pmax	pmax		
	comp=N,5.0nm,0.5s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
KIV	**Kislovodsk**	**66.77**	**310**	*e*P	**P**	**17 13 08.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.4						
KIV				MLR	MLR		
	comp=Z,81nm,16.0s,MS4.0						
BHD	**Baghdad**	**67.11**	**298**	*e*x	x	17 13 09.0	
KLMR	**Klimovskoe**	**67.33**	**328**	*e*P	**P**	**17 13 09.5**	**-2.7**
KLMR				pmax	pmax		
	comp=Z,85nm,2.5s,mb5.3						
MSL	**Mosul**	**67.61**	**302**	*e*x	x	17 13 16.5	
MOS	**Moscow**	**68.70**	**323**	*e*P	**P**	**17 13 18.8**	**-2.0**
OBN	**Obninsk**	**69.37**	**322⇑**	*e*P	**P**	**17 13 24.1**	**-0.9**
OBN				*e**PP	pP	17 13 45.2	+13
OBN				*e*		17 15 59.4	
OBN				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.4						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
IMA2	**Indian Mountai**	**69.64**	**26**	*e*P	**P**	**17 13 27.5**	**+0.8**
ANN	**Anapa**	**70.37**	**311**	*e*P	**P**	**17 13 29.7**	**-1.4**
ANN				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
JOF	**Joensuu**	**71.00**	**331**	*e*p	**P**	**17 13 33.3**	**-1.6**
	comp=Z,11nm,0.7s,mb4.9						
KEV	**Kevo**	**71.58**	**339**	*e*p	**P**	**17 13 37.3**	**-1.2**
	comp=Z,3.3nm,0.6s,mb4.4						
KEV	**Kevo**	**71.58**	**339**	*e*P	**P**	**17 13 37.3**	**-1.2**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**72.14**	**338**	P	**P**	**17 13 41.8**	**-0.1**
	comp=Z,6.8nm,0.8s,mb4.6,baz=52,slow=4.8,SNR=11						
COLA	**College**	**72.22**	**27**	*e*P	**P**	**17 13 42.8**	**+0.5**
KAF	**Kangasniemi**	**73.43**	**331**	*e*p	**P**	**17 13 48.0**	**-1.5**
	baz=74,slow=5.5						
ASF	**Jabal al Asfar**	**73.50**	**299**	P	**P**	**17 13 50.9**	**+1.0**
	comp=Z,4.6nm,0.9s,mb4.4,baz=75,slow=1.0,SNR=7.4						
ASF				LR	LR	17 46 58.7	
	comp=Z,46nm,19.0s,MS3.8,baz=123,slow=37						
FINES	**FINESS Array B**	**73.69**	**330**	P	**P**	**17 13 50.0**	**-1.0**
	comp=Z,10nm,0.8s,mb4.8,baz=84,slow=7.9,SNR=20						
FINES	**FINESS Array B**	**73.69**	**330**	*i* P	**P**	**17

OJC **Ojcow** 80.44 320 *eP* **P** 17 14 29.1 +0.1
NOA **NORSAR Array B** 80.57 332 P **P** 17 14 28.1 -1.6
comp=Z,7.6nm,1.0s,mb4.6,baz=64,slow=5.3,SNR=9.1
NOA LR LR 17 56 11.3
comp=Z,316nm,18.5s,MS4.7,baz=170,slow=40
NOA **NORSAR Array B** 80.57 332 P **P** 17 14 28.1 -1.5
NOA LR LR 17 56 11.3
KECS **Kecovo** 80.64 318 *eP* **P** 17 14 30.0 0.0
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
KECS **Kecovo** 80.64 318 *eP* **P** 17 14 30.0 0.0
comp=Z,4.2nm,1.2s,mb4.2
GKP **Gorka Klasztor** 80.78 324 *eP* **P** 17 14 31.0 +0.2
VTS **Vitosha** 80.89 312⇑*iP* **P** 17 14 32.0 +0.6
BZS **Buzias** 80.93 315⇑*iP* **P** 17 14 31.0 -0.6
VYHS **Vyhne** 81.66 319 *eP* **P** 17 14 35.7 +0.3
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
VYHS **Vyhne** 81.66 319 *eP* **P** 17 14 35.7 +0.3
comp=Z,6.9nm,1.2s,mb4.5
JMIC **Jan Mayen** 81.69 345 LR LR 17 53 47.7
comp=Z,258nm,18.9s,MS4.6,baz=85,slow=38
MORC **Moravsky Berou** 81.95 320⇓*iP* **P** 17 14 37.3 +0.3
KSP **Ksiaz** 82.27 322 *eP* **P** 17 14 39.3 +0.6
KSP **Ksiaz** 82.27 322 *eP* **P** 17 14 38.9 +0.2
DPC **Dobruska-Polom** 82.45 321 *eP* **P** 17 14 40.0 +0.4
UPC **Upice** 82.57 321 *eP* **P** 17 14 40.8 +0.6
RUE **Ruedersdorf** 83.02 324 *eP* **P** 17 14 42.9 +0.3
comp=Z,38nm,0.9s,mb4.4
KMBO **Kilima Mbogo** 83.56 266 P **P** 17 14 46.4 +1.0
comp=Z,11nm,1.0s,mb5.0,baz=45,slow=9.1,SNR=22
KMBO LR LR 17 52 31.2
comp=Z,144nm,18.3s,MS4.4,baz=86,slow=36
KMBO **Kilima Mbogo** 83.56 266 *eP* **P** 17 14 47.4 +2.0
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO **Kilima Mbogo** 83.56 266 *eP* **P** 17 14 47.4 +2.0
comp=Z,12nm,1.0s,mb5.0
BRG **Berggiesshubel** 83.61 322 *eP* **P** 17 14 45.9 +0.3
comp=Z,19nm,1.1s,mb5.1
BRG **Berggiesshubel** 83.61 322 *iP* **P** 17 14 45.6 0.0
comp=Z,11nm,1.1s,mb4.9
BRG **Berggiesshubel** 83.61 322 *iP* **P** 17 14 45.6 0.0
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.9
PRU **Pruhonice** 83.64 321 *eP* **P** 17 14 46.4 +0.6
CONA **Conrad Observa** 83.71 319⇓*eP* **P** 17 14 47.4 +1.3
comp=Z,4.1nm,1.1s,mb4.5
FBE **Freiberg** 83.93 322 *eP* **P** 17 14 47.7 +0.4
comp=Z,37nm,1.1s,mb5.4
FBE *e*pP pP 17 14 55.5 +0.4
CLL **Collm** 83.96 323 *eP* **P** 17 14 47.4 0.0
comp=Z,20nm,0.9s,mb5.2
CLL *e*pP pP 17 14 55.2 0.0
CLL **Collm** 83.96 323 ⇓P **P** 17 14 47.3 -0.1
CLL *i* *PP pP 17 14 55.1 -0.1
CLL pmax pmax
comp=Z,21nm,0.9s,mb5.3
CLL **Collm** 83.96 323 ⇓P **P** 17 14 47.3 -0.1
comp=Z,21nm,0.9s,mb5.3
CLL *i* PcP PcP 17 14 51.1 -0.3
CLL *i* pP pP 17 14 55.1 -0.1
CLL **Collm** 83.96 323⇓*iP* **P** 17 14 47.3 -0.1
comp=Z,21nm,0.9s,mb5.3
CLL *i* PcP PcP 17 14 51.1 -0.3
CLL *i* pP pP 17 14 55.1 -0.1
CLL *i* sP sP 17 14 59.1 +1.0
CLL *e*(PP) 17 18 08.0
ARSA **Arzberg** 84.20 318⇑*iP* **P** 17 14 49.0 +0.4
comp=Z,10nm,1.6s,mb4.7
BSEG **Bad Segeberg** 84.24 326 *eP* **P** 17 14 49.2 +0.4
KHC **Kasperske Hory** 84.58 321 *eP* **P** 17 14 50.6 +0.1
KHC *e*pP pP 17 14 56.0 -2.4
GEC2 **GERESS Array S** 84.63 320 *eP* **P** 17 14 51.2 +0.4
comp=Z,13nm,1.0s,mb5.0
GEC2 **GERESS Array S** 84.63 320 *eP* **P** 17 14 51.2 +0.4
GEC2 pmax pmax
comp=Z,13nm,1.0s,mb5.0
GERES **GERESS Array B** 84.63 320 P **P** 17 14 51.1 +0.3
comp=Z,5.5nm,0.8s,mb4.7,baz=72,slow=4.3,SNR=41
TANN **Tannenbergstha** 84.66 322 *eP* **P** 17 14 51.1 +0.1
comp=Z,14nm,1.1s,mb5.0
TANN *e*pP pP 17 14 58.9 +0.1
PERS **Pernice** 84.71 318 *eP* **P** 17 14 51.0 -0.2
MOA **Molln** 84.72 319⇓*iP* **P** 17 14 51.7 +0.5
comp=Z,14nm,0.8s,mb5.1
WERD **Werda** 84.74 322 *eP* **P** 17 14 51.5 +0.1
comp=Z,40nm,1.7s,mb5.3
NKC **Novy Kostel** 84.75 322 *eP* **P** 17 14 51.3 -0.1
GUNZ **Gunzen** 84.76 322 *eP* **P** 17 14 52.0 +0.5
comp=Z,26nm,1.1s,mb5.3
WERN **Wernitzgruen** 84.77 322 *eP* **P** 17 14 51.9 +0.4
comp=Z,29nm,1.2s,mb5.3
CRES **Cresnjev** 84.83 317 *eP* **P** 17 14 52.1 +0.2
WET **Wettzell** 84.99 321 *eP* **P** 17 14 53.2 +0.6
comp=Z,23nm,1.5s,mb5.1
WET **Wettzell** 84.99 321 *eP* **P** 17 14 53.2 +0.6
WET pmax pmax
comp=Z,23nm,1.5s,mb5.1
PDKS **Podkum** 85.02 318 *iP* **P** 17 14 53.0 +0.3
MOX **Moxa** 85.04 323 *eP* **P** 17 14 53.1 +0.2
comp=Z,34nm,1.6s,mb5.2
MOX **Moxa** 85.04 323 *eP* **P** 17 14 52.9 0.0
comp=Z,16nm,1.1s,mb5.1
MOX **Moxa** 85.04 323 *eP* **P** 17 14 52.9 0.0
MOX pmax pmax
comp=Z,16nm,1.1s,mb5.1
MANZ **Manzenberg** 85.06 322 *eP* **P** 17 14 53.7 +0.7
comp=Z,18nm,1.3s,mb5.0
MANZ *e*pP pP 17 15 01.5 +0.7
BOJS **Bojanci** 85.10 317 *eP* **P** 17 14 53.5 +0.4
ROTZ **Rotzenmuhle** 85.10 322 *eP* **P** 17 14 53.9 +0.7
comp=Z,27nm,1.1s,mb5.3
ROTZ *e*pP pP 17 15 01.8 +0.8
OBKA **Obir** 85.11 318⇓*iP* **P** 17 14 53.5 +0.2
comp=Z,9.6nm,0.8s,mb5.0
CLZ **Clausthal** 85.18 324 *eP* **P** 17 14 54.3 +0.7
comp=Z,35nm,1.2s,mb5.4
CLZ **Clausthal** 85.18 324 *eP* **P** 17 14 54.3 +0.7
CLZ pmax pmax
comp=Z,35nm,1.2s,mb5.4
LJU **Ljubljana** 85.33 318 *eP* **P** 17 14 54.4 0.0
KBA **Koelnbreinsper** 85.61 319⇑*iP* **P** 17 14 56.0 +0.3
comp=Z,5.8nm,0.7s,mb4.9
KBA **Koelnbreinsper** 85.61 319⇑*iP* **P** 17 14 56.0 +0.3
KBA pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
JAVS **Javornik** 85.68 318 *iP* **P** 17 14 56.0 -0.1
GRA1 **Grafenberg Arr** 85.70 322 *eP* **P** 17 14 56.9 +0.7
comp=Z,43nm,1.7s,mb5.4
GRA1 *e*pP pP 17 15 04.7 +0.7
GRA1 LR LR
comp=Z,200nm,18.3s,MS4.5
GRF **Grafenberg Arr** 85.70 322 *eP* **P** 17 14 56.9 +0.7
comp=Z,43nm,1.7s,mb5.4
GRF *e*pP pP 17 15 04.7 +0.7
GRF *e*L 17 58 21.4
comp=Z,230nm,18.3s
GRF **Grafenberg Arr** 85.70 322 *eP* **P** 17 14 56.9 +0.7
GRF *e*PP pP 17 15 04.7 +0.7
GRF pmax pmax
comp=Z,43nm,1.7s,mb5.4
GRF MLR MLR
comp=Z,200nm,18.3s,MS4.5
GRF **Grafenberg Arr** 85.70 322 *eP* **P** 17 14 56.9 +0.7
GRF *e*PP pP 17 15 04.7 +0.7
GRF pmax pmax
comp=Z,43nm,1.7s,mb5.4
GRF MLR MLR
comp=Z,200nm,18.3s,MS4.5
CADS **Cadrg** 85.74 318 *eP* **P** 17 14 55.8 -0.6
UBBA **Unterbreizbach** 85.87 323 *eP* **P** 17 14 57.0 0.0
comp=Z,26nm,1.4s,mb5.3
IBBN **Ibbenburen** 86.37 325 *eP* **P** 17 15 00.1 +0.6
comp=Z,67nm,1.5s,mb5.7
FUR **Furstenfeldbru** 86.38 321 *eP* **P** 17 15 00.3 +0.8
comp=Z,31nm,0.8s,mb5.6
FUR **Furstenfeldbru** 86.38 321 *eP* **P** 17 15 00.3 +0.8
FUR pmax pmax
comp=Z,31nm,0.8s,mb5.6
YKA **Yellowknife Ar** 86.43 22 P **P** 17 14 59.9 +0.2
comp=Z,3.5nm,0.9s,mb4.6,baz=317,slow=4.7,SNR=36
YKA PKKPbc PKKPbc 17 32 54.3 -2.0
comp=Z,0.4nm,0.7s,baz=132,slow=2.7,SNR=7.1
YKA LR LR 18 02 29.2
comp=Z,107nm,19.0s,MS4.3,baz=325,slow=42
YKA **Yellowknife Ar** 86.43 22 P **P** 17 14 59.9 +0.2
YKA PKKPbc PKKPbc 17 32 54.4 -2.0
YKA LR LR 18 02 29.2
WTTA **Wattenberg** 86.57 320⇓*iP* **P** 17 15 00.5 +0.1
comp=Z,17nm,0.7s,mb5.4
WTTA **Wattenberg** 86.57 320⇓*iP* **P** 17 15 00.5 0.0
WTTA pmax pmax
comp=Z,17nm,0.7s,mb5.4
WATA **Walderalm** 86.58 320⇑*iP* **P** 17 15 00.7 +0.2
comp=Z,8.2nm,0.8s,mb5.0
WATA **Walderalm** 86.58 320⇑*iP* **P** 17 15 00.7 +0.2
WATA pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
SQTA **Sankt Quirin** 86.85 320⇓*iP* **P** 17 15 02.0 +0.1
comp=Z,10nm,0.7s,mb5.2
SQTA **Sankt Quirin** 86.85 320⇓*iP* **P** 17 15 02.0 +0.2
SQTA pmax pmax
comp=Z,11nm,0.7s,mb5.2
MOTA **Moosalm** 86.86 320⇓*iP* **P** 17 15 02.3 +0.4
comp=Z,14nm,1.0s,mb5.1
MOTA **Moosalm** 86.86 320⇓*iP* **P** 17 15 02.3 +0.4
MOTA pmax pmax
comp=Z,14nm,1.0s,mb5.2
BUG **Bochum--Univer** 87.07 325 *eP* **P** 17 15 03.3 +0.4
comp=Z,46nm,1.5s,mb5.5
CASY **Casey** 87.20 184 *eP* **P** 17 15 03.6 +0.1
FETA **Feichten** 87.23 320⇑*iP* **P** 17 15 04.0 +0.3
comp=Z,6.7nm,0.9s,mb4.9
STU **Stuttgart** 87.31 322 *eP* **P** 17 15 05.1 +1.0
comp=Z,10.0nm,0.7s,mb5.2
DAVA **Damuels** 87.62 320⇓*iP* **P** 17 15 05.7 +0.2
comp=Z,12nm,1.1s,mb5.0
WLF **Walferdange** 88.59 324 *eP* **P** 17 15 10.8 +0.6
comp=Z,21nm,1.0s,mb5.4
CDF **Champ du Feu** 88.59 322 *eP* **P** 17 15 09.9 -0.3
comp=Z,28nm,1.3s,mb5.1
CDF **Champ du Feu** 88.59 322 *eP* **P** 17 15 09.9 -0.3
CDF pmax pmax
comp=Z,14nm,1.3s,mb5.1
CDF **Champ du Feu** 88.59 322 *eP* **P** 17 15 09.9 -0.3
comp=Z,14nm,1.3s,mb5.1
GIVF **Givet** 89.09 324 *eP* **P** 17 15 12.3 -0.2
HAU **Haudompre** 89.34 322 *eP* **P** 17 15 13.0 -0.7
HAU *e*MLR
comp=Z,249nm,19.2s
HAU **Haudompre** 89.34 322 *eP* **P** 17 15 13.0 -0.7
HAU LR LR
comp=Z,250nm,19.3s,MS4.7
BAIF **Baives** 89.45 325 *eP* **P** 17 15 14.0 -0.2
comp=Z,14nm,1.0s,mb4.9
BAIF **Baives** 89.45 325 *eP* **P** 17 15 14.0 -0.2
BAIF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BAIF **Baives** 89.45 325 *eP* **P** 17 15 14.0 -0.2
comp=Z,7.2nm,1.0s,mb5.0
BORG **Borgarnes** 89.57 344 P **P** 17 15 14.5 -0.2
comp=Z,39nm,1.1s,mb5.6,baz=355,slow=3.9,SNR=3.4
LPG **La Plagne** 90.39 320 *eP* **P** 17 15 19.2 +0.6
comp=Z,50nm,0.9s,mb5.5
LPG **La Plagne** 90.39 320 *eP* **P** 17 15 19.2 +0.6
LPG pmax pmax
comp=Z,25nm,0.9s,mb5.5
LPG **La Plagne** 90.39 320 *eP* **P** 17 15 19.2 +0.6
comp=Z,25nm,0.9s,mb5.5
LPL **La Plagne** 90.39 320 *eP* **P** 17 15 19.1 +0.5
comp=Z,43nm,0.9s,mb5.5
LPL **La Plagne** 90.39 320 *eP* **P** 17 15 19.1 +0.5
LPL pmax pmax
comp=Z,22nm,0.9s,mb5.5
LPL **La Plagne** 90.39 320 *eP* **P** 17 15 19.1 +0.5
comp=Z,22nm,0.9s,mb5.5
PGF **Pioggiola** 90.45 316 *eP* **P** 17 15 19.1 +0.2
comp=Z,37nm,1.0s,mb5.3
PGF **Pioggiola** 90.45 316 *eP* **P** 17 15 19.1 +0.2
PGF pmax pmax
comp=Z,19nm,1.0s,mb5.4
PGF **Pioggiola** 90.45 316 *eP* **P** 17 15 19.1 +0.2
comp=Z,18nm,1.0s,mb5.4
BNI **Bardonecchia** 90.66 319 *eP* **P** 17 15 20.0 +0.2
BNI pmax pmax
comp=Z,17nm,1.1s,mb5.3
BNI **Bardonecchia** 90.66 319 *eP* **P** 17 15 20.0 +0.1
comp=Z,17nm,1.1s,mb5.3
MBDF **Montbardon** 90.77 319 *eP* **P** 17 15 20.1 -0.2
comp=Z,13nm,1.0s,mb4.9
MBDF **Montbardon** 90.77 319 *eP* **P** 17 15 20.1 -0.2
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
MBDF **Montbardon** 90.77 319 *eP* **P** 17 15 20.1 -0.2
comp=Z,6.7nm,1.0s,mb4.9
SBF **Sospel** 90.80 318 *eP* **P** 17 15 20.2 -0.3
comp=Z,39nm,0.8s,mb5.5
SBF **Sospel** 90.80 318 *eP* **P** 17 15 20.2 -0.3
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.5
SBF **Sospel** 90.80 318 *eP* **P** 17 15 20.2 -0.3
comp=Z,20nm,0.8s,mb5.5
LOR **Lormes** 91.16 322 *eP* **P** 17 15 21.7 -0.4
comp=Z,19nm,1.1s,mb5.0
LOR *e*MLR
comp=Z,235nm,19.8s
LOR **Lormes** 91.16 322 *eP* **P** 17 15 21.7 -0.4
LOR pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
LOR MLR MLR
comp=Z,240nm,19.8s,MS4.6
LOR **Lormes** 91.16 322 *eP* **P** 17 15 21.7 -0.4
comp=Z,9.6nm,1.1s,mb5.0
LOR LR LR
comp=Z,240nm,19.8s,MS4.6
ORIF **Oris-en-Rattie** 91.21 320 *eP* **P** 17 15 22.6 +0.2
comp=Z,35nm,1.0s,mb5.3
ORIF *e*MLR
comp=Z,247nm,18.2s
ORIF **Oris-en-Rattie** 91.21 320 *eP* **P** 17 15 22.6 +0.2
ORIF pmax pmax
comp=Z,18nm,1.0s,mb5.4
ORIF **Oris-en-Rattie** 91.21 320 *eP* **P** 17 15 22.6 +0.2
comp=Z,18nm,1.0s,mb5.3
FRF **La Foret Royal** 91.44 318 *eP* **P** 17 15 23.3 -0.2
comp=Z,28nm,1.0s,mb5.3
FRF **La Foret Royal** 91.44 318 *eP* **P** 17 15 23.3 -0.2
FRF pmax pmax
comp=Z,14nm,1.0s,mb5.2
FRF **La Foret Royal** 91.44 318 *eP* **P** 17 15 23.3 -0.2
comp=Z,14nm,1.0s,mb5.2
SSF **Saint Saulge** 91.47 322 *eP* **P** 17 15 23.1 -0.5
comp=Z,26nm,1.3s,mb5.1
SSF **Saint Saulge** 91.47 322 *eP* **P** 17 15 23.1 -0.5
SSF pmax pmax
comp=Z,13nm,1.3s,mb5.1
SSF **Saint Saulge** 91.47 322 *eP* **P** 17 15 23.1 -0.5
comp=Z,13nm,1.3s,mb5.1
SMF **Signal de Mont** 91.50 322 *eP* **P** 17 15 23.4 -0.4
LMR **La Mourre** 91.64 318 *eP* **P** 17 15 24.5 +0.1
comp=Z,36nm,1.0s,mb5.3
LMR **La Mourre** 91.64 318 *eP* **P** 17 15 24.5 +0.1
LMR pmax pmax
comp=Z,18nm,1.0s,mb5.4
LMR **La Mourre** 91.64 318 *eP* **P** 17 15 24.5 +0.1
comp=Z,18nm,1.0s,mb5.3
AVF **Avril sur Loir** 91.71 322 *eP* **P** 17 15 24.3 -0.4
HYF **Humbligny** 91.85 323 *eP* **P** 17 15 25.9 +0.5
SMRF **Simiane la Rot** 91.89 319 *eP* **P** 17 15 25.9 +0.3
comp=Z,34nm,1.1s,mb5.3
SMRF **Simiane la Rot** 91.89 319 *eP* **P** 17 15 25.9 +0.3
comp=Z,34nm,1.1s,mb5.6
VIVF **Saint-Julien-l** 91.98 320 *eP* **P** 17 15 25.9 0.0
comp=Z,39nm,1.1s,mb5.3
VIVF **Saint-Julien-l** 91.98 320 *eP* **P** 17 15 25.9 0.0
VIVF pmax pmax
comp=Z,19nm,1.1s,mb5.3
VIVF **Saint-Julien-l** 91.98 320 *eP* **P** 17 15 25.9 0.0
comp=Z,19nm,1.1s,mb5.3
CAF **Calviac** 93.49 321 *eP* **P** 17 15 32.2 -0.7
comp=Z,31nm,1.2s,mb5.3
CAF **Calviac** 93.49 321 *eP* **P** 17 15 32.2 -0.7
CAF pmax pmax
comp=Z,16nm,1.2s,mb5.3
CAF **Calviac** 93.49 321 *eP* **P** 17 15 32.2 -0.7
comp=Z,16nm,1.2s,mb5.3
YBH **Yreka Blue Hor** 94.95 42 LR LR 17 53 47.9
comp=Z,190nm,20.0s,MS4.6,baz=334,slow=32
PPT **Papeete** 96.55 106 LR LR 17 59 49.6
comp=Z,218nm,18.3s,MS4.7,baz=240,slow=36
LSZ **Lusaka** 96.92 256 *eP* **P** 17 15 48.1 -0.5
LSZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
LSZ **Lusaka** 96.92 256 *eP* **P** 17 15 48.1 -0.4
comp=Z,2.5nm,1.0s,mb4.6
MAW **Mawson** 97.64 199 LR LR 17 54 49.3
comp=Z,126nm,18.1s,MS4.4,baz=250,slow=32
TORD **Torodi Ar. Bea** 110.54 294 PKiKP PKiKP 17 20 49.8 +0.1
comp=Z,0.9nm,1.0s,baz=358,slow=1.7,SNR=4.9
TORD PKKPbc PKKPbc 17 31 51.0 +2.0
comp=Z,0.8nm,0.7s,baz=261,slow=3.3,SNR=4.3
TXAR **Lajitas Array** 114.73 42 PKP PKiKP 17 20 58.6 +1.0
comp=Z,0.6nm,0.7s,baz=308,slow=0.8,SNR=7.2
VNA2 **Neumayer--Watz** 121.43 198 *e*PKPdf PKPdf 17 21 09.8 -0.7
baz=71,slow=0.9
VNA2 **Neumayer--Watz** 121.43 198 *e*PKPdf PKPdf 17 21 09.8 -0.7
baz=313,slow=12
VNA2 *e* 17 21 17.8
VNA2 *e* 17 21 21.1
VNA2 *e* 17 21 24.0
VNA1 **Neumayer--Stat** 121.81 198 *e*PKPdf PKPdf 17 21 09.8 -1.5
VNA1 **Neumayer--Stat** 121.81 198 *e*PKPdf PKPdf 17 21 09.8 -1.5
VNA3 **Neumayer Olymp** 121.90 197 *e*PKPdf PKPdf 17 21 10.5 -0.9
VNA3 **Neumayer Olymp** 121.90 197 *e*PKPdf PKPdf 17 21 10.5 -0.9
VNA3 *e* 17 21 13.1
VNA3 *e* 17 21 18.8
SDV **Santo Domingo** 148.63 20 *e*PKPdf PKPdf 17 22 01.8 +1.3
SDV *e*PKPbc PKPbc 17 22 05.2 +1.0
ROSC **El Rosal** 150.82 30 PKPbc PKPbc 17 22 12.2 +2.5
comp=Z,5.0nm,0.4s,baz=91,slow=20,SNR=5.5
PLCA **Paso Flores** 158.31 158 PKPab PKPab 17 22 49.5 +0.8
comp=Z,3.3nm,0.8s,baz=166,slow=2.6,SNR=4.5
LPAZ **La Paz** 171.08 60 PKP PKPdf 17 22 27.9 +2.4
comp=Z,3.8nm,1.0s,baz=29,slow=5.5,SNR=12
LPAZ PKPab PKPab 17 23 46.2 +1.4
comp=Z,1.6nm,1.0s,baz=349,slow=4.7,SNR=3.1

MAN 13 17:32:17.8, 701N×12556E, h24km, mb3.1, ML4.4, MS2.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	0.09	324	⇓*iP*		Pb	17 32 22.2	0.0
DMPH				*i* S		Sb	17 32 27.4	+2.2
MATI	**Mati**	0.69	95	*eP*		Pb	17 32 31.4	+0.2
BUKP	**Musuan**	0.99	330	*eP*		Pn	17 32 35.2	-1.0
CGP	**Cagayan de Oro**	1.67	329	⇑*iP*		Pn	17 32 45.4	-0.1
CGP				*i* S		Sn	17 33 07.4	+1.1

IDC 13 17:33:06.3±3.3, 2081N×12079E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.4/4, Error ellipse: s-maj=295.1km s-min=23.2km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	2.96	172	*eP*		Pn	17 33 57.0	+2.5
MKAR	**Makanchi Array**	40.57	319	P		P	17 40 46.6	-0.8
	0.2nm,0.6s,baz=124,slow=7.8,SNR=4.1							
WRA	**Warramunga Arr**	42.61	161	P		P	17 41 04.4	+0.2
	0.5nm,0.6s,baz=343,slow=9.1,SNR=5.1							
ASAR	**Alice Springs**	46.01	163	P		P	17 41 31.6	+0.2
	0.2nm,0.4s,baz=344,slow=6.7,SNR=6.6							
BVAR	**Borovoye Array**	50.09	323	P		P	17 42 03.5	+0.6
	0.5nm,0.7s,baz=115,slow=7.0,SNR=4.5							

*JMA **13** 17:36:41.6±0.3, 2664N×12592E, h0km, M3.2*
*ISCJB **13** 17:36:43.6±0.7, 2664N±005×12593E±004, h10km, mb3.5/3, Error ellipse: s-maj=8.0km s-min=5.2km az=133.6*
*IDC **13** 17:36:43.0±1.3, 2647N×12598E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=32.3km s-min=22.4km az=28.0*
ISC 13 17:36:44.8±0.7, 2661N±005×12598E±004, h10km, n14, σt̂21/19, mb3.5/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	0.77	111	P		Pg	17 36 58.1	-1.6
JKE				*e*S		Sg	17 37 09.6	-0.2
JAGN	**Aguni-jima**	1.13	91	P		Pb	17 37 04.3	-2.1
JAGN				*e*S		Sb	17 37 21.5	+0.4
NAH1	**Naha**	1.58	104	P		Pn	17 37 12.4	-0.5
NAH1				*e*S		Sn	17 37 36.7	+3.3
JJT2	**Tamagusuku 2**	1.65	106	P		Pn	17 37 13.5	-0.3
JJT2				*e*S		Sn	17 37 37.1	+2.0
JIH	**Iheya**	1.82	76	P		Pn	17 37 15.4	-0.8
JMJ	**Miyako jima 2**	1.89	199	*e*S		Sn	17 37 41.7	+0.7
JOGS	**Gusukube**	1.91	196	*e*S		Sn	17 37 41.0	-0.5
JOW	**Kunigami**	2.06	83	Pn		Pn	17 37 18.9	-0.6
	13nm,0.3s,baz=248,slow=9.2,SNR=50							
JOW				Sn		Sn	17 37 48.0	+2.7
	15nm,0.3s,baz=108,slow=20,SNR=3.8							
JJJ	**Ishigaki jima**	2.79	217	P		Pn	17 37 30.3	+0.9
JTK	**Tokunoshima**	2.89	65	P		Pn	17 37 31.1	+0.2
JAM	**Amami Oshima**	3.68	60	P		Pn	17 37 40.8	-1.0
SONM	**Songino Array**	26.17	329	P		P	17 42 21.4	+2.1
	1.1nm,1.0s,mb3.3,baz=153,slow=9.7,SNR=6.1							
MKAR	**Makanchi Array**	39.78	312	P		P	17 44 17.6	-0.3
	0.8nm,0.6s,mb3.6,baz=102,slow=9.8,SNR=7.8							
WRA	**Warramunga Arr**	46.98	169	P		P	17 45 15.0	-0.9
	0.5nm,0.8s,mb3.5,baz=352,slow=8.5,SNR=3.9							

MAN 13 17:37:32.1, 1371N×12056E, h90km, mb2.2, ML3.8, MS2.9, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	0.30	275	*eP*		Pn	17 37 47.4	+1.9
LUBP				*e*S		Sn	17 37 58.1	+2.7
TGY	**Tagaytay City**	0.54	43	⇑*eP*		Pn	17 37 49.3	+2.2
TGY				*i* S		Sn	17 38 01.1	+2.8
BOAC	**Boac**	1.27	101	*eP*		Pn	17 37 54.7	-0.2
POLP	**Polilio Island**	1.68	53	*eP*		Pn	17 38 01.2	+1.1
BUSP	**Coron**	1.73	192	*eP*		Pn	17 38 01.8	+1.1
PCPH	**Palayan**	1.92	16	⇓*eP*		Pn	17 38 03.0	-0.2
PCPH				*e*S		Sn	17 38 28.3	+1.5
OTRP	**Odiongan**	1.95	133	*eP*		Pn	17 38 04.8	+1.2
BALP	**Baler**	2.25	26	*eP*		Pn	17 38 08.8	+1.3
BOLP	**Bolinao**	2.73	347	*eP*		Pn	17 38 14.2	+0.3
CAUP	**Cauayan**	3.44	21	*eP*		Pn	17 38 19.4	-4.1

*ISCJB **13** 17:41:59.9±2.4, 177S±02×1752W±02, h240km±38km, mb4.0/8, Error ellipse: s-maj=35.7km s-min=25.1km az=68.4*
*IDC **13** 17:41:59.0±3.4, 1799S×17545W, h191km±51km, mb3.8/6, mb1 4.0/7, mb1mx3.7/18, mbtmp3.9/7, Error ellipse: s-maj=43.4km s-min=26.3km az=56.0*
*NEIC **13** 17:41:60.0±1.9, 1792S×17538W, h208km±29km, mb4.0/4, Error ellipse: s-maj=26.5km s-min=18.2km az=224.0*
ISC 13 17:42:00.3±2.3, 180S±02×1753W±02, h211km±35km, n14, σ0̂65/15, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	5.27	40	P		Pn	17 43 18.4	+0.1
	38nm,0.3s,baz=154,slow=2.8,SNR=13							
AFI				S		S	17 44 14.2	-5.9
	40nm,0.3s,baz=45,slow=22,SNR=12							
URZ	**Urewera**	21.28	197	P		P	17 46 29.5	-0.8
	4.3nm,0.3s,mb4.4,baz=11,slow=10,SNR=7.0							
ARMA	**Armidale**	32.49	241	*eP*		P	17 48 12.4	+1.4
STKA	**Stephens Creek**	41.21	242	*eP*		P	17 49 25.0	+0.7
	3.3nm,1.0s,mb3.7							
STKA	**Stephens Creek**	41.21	242	P		P	17 49 24.7	+0.4
	4.4nm,0.9s,mb3.9,baz=94,slow=9.7,SNR=6.5							
WB2	**Warramunga Arr**	47.52	259	*eP*		P	17 50 13.3	-1.0
WRA	**Warramunga Arr**	47.53	259	P		P	17 50 13.8	-0.5
	1.8nm,0.5s,mb3.6,baz=96,slow=7.1,SNR=34							
ASAR	**Alice Springs**	47.62	254	P		P	17 50 15.2	+0.1
	18nm,0.6s,mb4.6,baz=89,slow=9.1,SNR=354							
KAKA	**Kakadu**	50.54	268	*eP*		P	17 50 37.0	-0.2
	1.9nm,0.3s,mb4.0							
FITZ	**Fitzroy Crossi**	55.94	260	*eP*		P	17 51 16.4	0.0
	2.8nm,0.9s,mb3.8							
FITZ	**Fitzroy Crossi**	55.94	260	P		P	17 51 16.4	0.0
	1.0nm,0.5s,mb3.6,baz=89,slow=7.6,SNR=6.2							
SBA	**Scott Base**	60.56	184	*eP*		P	17 51 49.1	+0.7
VNDA	**Vanda**	60.65	186	P		P	17 51 49.1	+0.1
	2.4nm,0.9s,mb3.8,baz=41,slow=8.6,SNR=7.4							

QSPA South Pole Qui 72.09 180 *e*P **P 17 53 01.0 -0.5**
6.3nm,0.9s,mb4.2

IGQ 13 17:42:10.8, 247S×7822W, h135km±4km, Mb4.3, Ms4.1, 1C-16D, Error ellipse: s-maj=5.3km s-min=2.5km az=45.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**0.98**	**347**	⇓P	Pn	17 42 34.9	+0.9
ARRY	**Arrayan**	**0.99**	**346**	⇓P	Pn	17 42 34.5	+0.5
ULBA	**Ulba**	**1.03**	**350**	⇓P	Pn	17 42 35.2	+0.8
RETU	**Refugio**	**1.04**	**347**	⇓P	Pn	17 42 35.5	+1.0
IGUA	**Igualata**	**1.06**	**337**	⇓P	Pn	17 42 35.9	+1.2
BILB	**Tungurahua vol**	**1.06**	**345**	P	Pn	17 42 35.7	+1.0
RUN5	**Runtun**	**1.07**	**349**	⇓P	Pn	17 42 35.5	+0.7
JUIV	**Juive**	**1.07**	**347**	⇓P	Pn	17 42 35.6	+0.8
PISA	**Pisayambo**	**1.41**	**353**	⇓P	Pn	17 42 39.6	+1.4
TAMB	**Tambo**	**1.77**	**355**	⇓P	Pn	17 42 44.1	+1.9
CAMI	**Rancho Maria**	**1.80**	**351**	P	Pn	17 42 44.3	+1.7
VC1	**Cotopaxi 1**	**1.82**	**354**	⇓P	Pn	17 42 44.8	+1.9
ANTI	**Antisana**	**2.01**	**2**	⇓P	Pn	17 42 46.5	+1.4
ANTI				S	Sn	17 43 11.8	+0.4
JUA2	**San Juan 2**	**2.27**	**350**	⇑P	Pn	17 42 50.1	+1.8
GGP	**Refugio Guagua**	**2.31**	**351**	P	Pn	17 42 50.2	+1.4
TERV	**Terraza Guagua**	**2.31**	**350**	P	Pn	17 42 50.6	+1.8
PINO	**Pino**	**2.33**	**350**	⇓P	Pn	17 42 50.6	+1.6
YANA	**Yana**	**2.36**	**351**	⇓P	Pn	17 42 50.8	+1.4
LAV3	**Lava3-Reventad**	**2.43**	**14**	⇓P	Pn	17 42 50.9	+0.7
LAV3				S	Sn	17 43 21.2	+0.6
CONE	**Cono NE Rev Vo**	**2.45**	**14**	⇓P	Pn	17 42 51.4	+0.8
CAYR	**Refugio Cayamb**	**2.48**	**5**	P	Pn	17 42 52.6	+1.7
CAYA	**Cayambe**	**2.54**	**5**	P	Pn	17 42 53.1	+1.5
CAYA				S	Sn	17 43 22.4	-0.6
COTA	**Cotacachi**	**2.79**	**358**	P	Pn	17 42 57.4	+2.6
MAG1	**Magdalena**	**2.84**	**327**	P	Pn	17 42 55.9	+0.4
CHIS	**Cerro-Chispas-**	**2.88**	**299**	⇓P	Pn	17 42 56.0	+0.1

BJI ***13*** *17:44:08.7, 5295N×10753E, h10km, mB4.8, mb4.4, Ms4.3, Msz4.2*
MOS ***13*** *17:44:09.7±1.1, 5285N×10735E, h13km, mb4.4/13, Error ellipse: s-maj=8.0km s-min=5.9km az=79.1*
MOS Felt (III-IV) at Irkutsk; (III) at Ulan-Ude.
ISCJB ***13*** *17:44:09.4±0.2, 5283N±002×10743E±003, h10km, mb4.2/28, MS3.6/7, Error ellipse: s-maj=2.6km s-min=2.0km az=96.8*
IDC ***13*** *17:44:09.7±0.6, 5282N×10733E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.1/28, mbtmp4.0/18, ML4.1/2, MS3.5/4, Ms1 3.6/4, ms1mx3.1/34, Error ellipse: s-maj=17.9km s-min=13.3km az=63.0*
NEIC ***13*** *17:44:10.8±0.4, 5286N×10739E, h10km, mb4.3/3, Error ellipse: s-maj=8.3km s-min=6.8km az=208.0*
NEIC Felt [IV] at Irkutsk and [III] at Kabansk and Ulan-Ude.
BYKL ***13*** *17:44:11.6±0.2, 5281N×10733E, h14km±19km, FELT I=IV MSK at Selenginsk, Kamensk; III-IV at Khuzhir, Yelantsy, Treskovo, Selenga, Elan; III at Irkutsk; II-III at Ulan-Ude, Angarsk; II at Shelekhov*
ISC 13 17:44:10.8±0.2, 5284N±001×10742E±002, h10km, n132, σ1§41/190, mb4.2/28, MS3.6/7, 9C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRTB	**Turuntaevo**	**0.63**	**168**	⇑*i*Pg	**Pg**	**17 44 22.5**	**-0.4**
TRTB				Pmax		17 44 23.3	
	3μm,0.2s						
TRTB				*e*Sg	**Sg**	**17 44 30.5**	**-0.6**
TRTB				Smax		17 44 30.8	
	21μm,0.5s						
TRG	**Tyrgan**	**0.66**	**263**	*e*PG	**Pg**	**17 44 22.8**	**-0.7**
TRG				*e*		17 44 31.9	
TRG				pmax	pmax		
	comp=Z,2μm,0.2s						
TRG				smax			
	comp=N,23μm,0.2s						
TRG	**Tyrgan**	**0.66**	**263**	⇑*i*Pg	**Pg**	**17 44 22.8**	**-0.7**
TRG				Pmax		17 44 24.5	
	comp=N,650nm,0.2s						
TRG				*e*Sg	**Sg**	**17 44 31.6**	**-0.5**
TRG				Smax		17 44 35.7	
	comp=N,6μm,0.3s						
OGRR	**Ongureny**	**0.81**	**7**	*e*PG	**Pg**	**17 44 27.0**	**+0.6**
OGRR				*e*		17 44 37.9	
OGRR				pmax	pmax		
	comp=Z,617nm,0.8s						
OGRR				smax			
	comp=E,5μm,1.2s						
OGRR	**Ongureny**	**0.81**	**7**	⇑*i*Pg	**Pg**	**17 44 27.0**	**+0.6**
OGRR				Pmax		17 44 27.3	
	comp=E,621nm,0.5s						
OGRR				*e*Sg	**Sg**	**17 44 37.6**	**+0.6**
OGRR				*e*Sb	**Sb**	**17 44 41.5**	**+3.6**
OGRR				max		17 44 42.4	
	comp=E,4μm,0.7s						
MXMB	**Maximikha**	**0.90**	**62**	⇑*i*Pg	**Pg**	**17 44 28.5**	**+0.3**
MXMB				Pmax		17 44 30.2	
	comp=E,375nm,0.2s						
MXMB				*e*Sg	**Sg**	**17 44 41.8**	**+1.9**
MXMB				Smax		17 44 45.4	
	comp=E,4μm,0.8s						
KAB	**Kabansk**	**0.92**	**211**	*e*PG	**Sg**	**17 44 39.7**	**-0.8**
KAB				pmax	pmax		
	comp=N,51μm,0.6s						
KAB	**Kabansk**	**0.92**	**211**	*e*Pg	**Pg**	**17 44 27.5**	**-1.0**
KAB				Pmax		17 44 30.0	
	comp=N,3μm,0.0s						
KAB				*e*Sg	**Sg**	**17 44 39.6**	**-0.9**
KAB				Smax		17 44 46.4	
	comp=N,540μm,0.0s						
UUDB	**Ulan-Yde**	**0.99**	**171**	⇑*i*Pg	**Pg**	**17 44 28.8**	**-1.0**
UUDB				Pmax		17 44 30.0	
	comp=N,4μm,0.4s						
UUDB				*e*Sg	**Sg**	**17 44 41.3**	**-1.3**
UUDB				*e*Sb	**Sb**	**17 44 45.9**	**+2.9**
UUDB				max		17 44 47.1	
	comp=N,22μm,0.6s						
HRMR	**Khuramsha**	**1.25**	**193**	⇑*i*Pg	**Pg**	**17 44 33.3**	**-1.5**
HRMR				*e*Sg	**Sg**	**17 44 49.8**	**-1.2**
HRMR				*e*Sb	**Sb**	**17 44 52.8**	**+2.2**
BTMB	**Babushkin**	**1.50**	**221**	*e*Pg	**Pg**	**17 44 37.1**	**-2.5**
BTMB				Pmax		17 44 38.2	
	comp=N,3μm,0.6s						
BTMB				*e*Sg	**Sg**	**17 44 56.6**	**-2.6**
BTMB				Smax		17 44 58.8	
	comp=N,22μm,0.6s						
SYVR	**Suvo**	**1.75**	**61**	*e*PN	**Pn**	**17 44 42.6**	**+1.4**
SYVR				*e*		17 45 07.3	
SYVR				pmax	pmax		
	comp=Z,466nm,0.6s						
SYVR				smax			
	comp=E,1μm,0.6s						
SYVR	**Suvo**	**1.75**	**61**	*e*Pn	**Pn**	**17 44 42.5**	**+1.3**
SYVR				*e*Pg	**Pg**	**17 44 43.8**	**-0.6**
SYVR				Pmax		17 44 48.8	
	comp=E,635nm,0.6s						
SYVR				*e*Sg	**Sg**	**17 45 08.2**	**+1.1**
SYVR				Smax		17 45 09.0	
	comp=E,1μm,0.9s						
LSTR	**Listvyanka**	**1.86**	**239**	*e*PN	**Pn**	**17 44 42.7**	**0.0**
LSTR				*e*		17 45 06.4	
LSTR				pmax	pmax		
	comp=Z,742nm,0.6s						
LSTR				smax			
	comp=N,6μm,0.4s						
LSTR	**Listvyanka**	**1.86**	**239**	⇑*i*Pg	**Pn**	**17 44 42.8**	**+0.1**
	comp=N,256nm,0.6s						
LSTR				⇑*i*Pg		17 44 42.8	
	comp=N,369nm,0.6s						
LSTR				⇓*i*Pg		17 44 42.8	
	comp=N,432nm,0.6s						
LSTR				Pmax		17 44 44.3	
	comp=N,641nm,0.5s						
LSTR				*e*Sg	**Sg**	**17 45 06.6**	**-4.1**
LSTR				Smax		17 45 08.2	
	comp=N,6μm,0.6s						
IRK	**Irkutsk**	**2.02**	**254**	*e*PN	**Pn**	**17 44 44.7**	**-0.1**
IRK				*e*		17 44 46.7	
IRK				*e*S	**Sn**	**17 45 10.2**	**+0.1**
IRK				*e*		17 45 12.2	
IRK				pmax	pmax		
	comp=Z,2μm,0.5s						
IRK				smax			
	comp=N,47μm,0.2s						
IRK	**Irkutsk**	**2.02**	**254**	*e*Pg	**Pg**	**17 44 47.2**	**-2.2**
IRK				Pmax		17 44 49.6	
	comp=N,1μm,0.2s						
IRK				*e*Sg	**Sg**	**17 45 13.2**	**-2.4**
IRK				Smax		17 45 15.4	
	comp=N,28μm,0.5s						
TLY	**Talaya**	**2.60**	**245**	*e*PN	**Pn**	**17 44 52.9**	**+0.1**
TLY				*e*		17 44 57.0	
TLY				*i*		17 45 30.0	
TLY				pmax	pmax		
	comp=Z,483nm,0.5s						
TLY				smax			
	comp=E,3μm,0.3s						
TLY	**Talaya**	**2.60**	**245**	*e*Pn	**Pn**	**17 44 52.9**	**0.0**
TLY				*e*S	**Sn**	**17 45 26.6**	**+2.2**
TLY	**Talaya**	**2.60**	**245**	⇓*i*Pn	**Pn**	**17 44 53.0**	**+0.2**
TLY				*e*Pg	**Pg**	**17 44 56.8**	**-3.8**
TLY				Pmax		17 45 05.8	
	comp=E,469nm,0.3s						
TLY				*e*Sg	**Sg**	**17 45 30.0**	**-4.2**
TLY				Smax		17 45 32.6	
	comp=E,3μm,0.4s						
YLYR	**Ulyunkhan**	**3.01**	**46**	*e*PN	**Pn**	**17 45 00.3**	**+1.8**
YLYR				*e*		17 45 06.2	
YLYR				*e*		17 45 47.5	
YLYR				pmax	pmax		
	comp=Z,187nm,0.7s						
YLYR				smax			
	comp=N,2μm,1.1s						
YLYR	**Ulyunkhan**	**3.01**	**46**	*e*Pn	**Pn**	**17 44 59.9**	**+1.4**
YLYR				*e*Pg	**Pg**	**17 45 06.2**	**-2.3**
YLYR				Pmax		17 45 21.3	
	comp=N,187nm,0.8s						
YLYR				*e*Sg	**Sg**	**17 45 46.5**	**-1.0**
YLYR				Smax		17 45 48.0	
	comp=N,2μm,1.3s						
NIZ	**Nizh Angarsk**	**3.19**	**22**	*e*PN	**Pn**	**17 45 02.8**	**+1.8**
NIZ				*e*		17 45 11.2	
NIZ	**Nizh Angarsk**	**3.19**	**22**	⇓*i*Pn	**Pn**	**17 45 02.8**	**+1.8**
NIZ				*e*Pg	**Pg**	**17 45 10.5**	**-1.4**
NIZ				Pmax		17 45 15.7	
	comp=N,233nm,0.7s						
NIZ				*e*Sg	**Sg**	**17 45 51.3**	**-2.0**
NIZ				Smax		17 46 00.4	
	comp=N,2μm,0.7s						
ARS	**Arshan**	**3.20**	**255**	*e*PN	**Pn**	**17 45 01.9**	**+0.8**
ARS				*e*		17 45 07.9	
ARS	**Arshan**	**3.20**	**255**	*e*Pn	**Pn**	**17 45 02.4**	**+1.3**
ARS				*e*Pg	**Pb**	**17 45 08.0**	**+0.3**
ARS				Pmax		17 45 17.1	
	comp=N,1μm,0.6s						
ARS				*e*Sg	**Sb**	**17 45 47.7**	**+1.0**
ARS				Smax		17 45 53.3	
	comp=N,10μm,0.6s						
ZAK	**Zakamensk**	**3.57**	**228**	*e*PN	**Pn**	**17 45 06.9**	**+0.7**
ZAK				*e*		17 45 14.2	
ZAK				*e*		17 45 59.9	
ZAK				pmax	pmax		
	comp=Z,155nm,0.4s						
ZAK				smax			
	comp=N,1μm,1.4s						
ZAK	**Zakamensk**	**3.57**	**228**	⇓*i*Pn	**Pn**	**17 45 06.9**	**+0.7**
ZAK				*e*Pg	**Pg**	**17 45 15.1**	**-4.0**
ZAK				Pmax		17 45 24.5	
	comp=N,158nm,0.4s						
ZAK				*e*Sg	**Sg**	**17 46 00.3**	**-5.1**
ZAK				Smax		17 46 06.1	
	comp=N,957nm,0.6s						
KMO	**Kumora**	**3.77**	**34**	*e*PN	**Pn**	**17 45 09.4**	**+0.5**
KMO				*e*		17 45 18.5	
KMO				*e*S	**Sn**	**17 45 53.6**	**+0.3**
KMO	**Kumora**	**3.77**	**34**	*e*Pn	**Pn**	**17 45 11.1**	**+2.2**
KMO				*e*Pg	**Pg**	**17 45 18.8**	**-4.2**
KMO				Pmax		17 45 25.0	
	comp=N,177nm,0.7s						
KMO				*e*Sg	**Sg**	**17 46 09.4**	**-2.4**
KMO				Smax		17 46 11.3	
	comp=N,1μm,1.2s						
CIT	**Chita**	**3.84**	**100**	*e*PN	**Pn**	**17 45 10.4**	**+0.5**
CIT				*e*		17 45 20.5	
CIT				*e*S	**Sn**	**17 45 55.3**	**+0.2**
CIT				*e*		17 46 10.3	
CIT				pmax	pmax		
	comp=Z,341nm,0.9s						
CIT				smax			
	comp=N,24μm,1.8s						
CIT	**Chita**	**3.84**	**100**	*e*Pn	**Pn**	**17 45 10.3**	**+0.4**
CIT				*e*Pg	**Pg**	**17 45 20.6**	**-3.8**
CIT				Pmax		17 45 21.0	
	comp=N,341nm,0.8s						
CIT				*e*Sn	**Sn**	**17 45 56.1**	**+1.0**
CIT				*e*Sg	**Sg**	**17 46 11.7**	**-2.4**
CIT				Smax		17 46 17.9	
	comp=N,2μm,1.9s						
MOY	**Mondy**	**4.12**	**256**	*e*PN	**Pb**	**17 45 24.0**	**+0.6**
MOY				*e*		17 46 15.6	
MOY				pmax	pmax		
	comp=Z,533nm,0.5s						
MOY				smax			
	comp=N,3μm,0.5s						
MOY	**Mondy**	**4.12**	**256**	*e*Pn	**Pn**	**17 45 16.0**	**+2.2**
MOY				*e*Pg	**Pb**	**17 45 24.5**	**+1.1**
MOY				Pmax		17 45 32.8	
	comp=N,581nm,0.6s						
MOY				*e*Sg	**Sb**	**17 46 16.1**	**+2.8**
MOY				Smax		17 46 34.1	
	comp=N,3μm,1.5s						
YOA	**Uoyan**	**4.14**	**36**	*e*PN	**Pb**	**17 45 25.7**	**+1.9**
YOA				*e*		17 46 22.0	
YOA				pmax	pmax		
	comp=Z,461nm,1.0s						
YOA				smax			
	comp=N,4μm,1.3s						
YOA	**Uoyan**	**4.14**	**36**	*e*Sg	**Sg**	**17 46 22.4**	**-1.4**
YOA				Smax		17 46 47.9	
	comp=N,4μm,1.6s						
KPC	**Khapcheranga**	**4.42**	**133**	*e*PN	**Pn**	**17 45 18.4**	**+0.5**
KPC				*e*		17 45 30.7	
KPC				*e*S	**Sn**	**17 46 09.8**	**+0.4**
KPC				*e*		17 46 27.6	
KPC				pmax	pmax		
	comp=Z,271nm,1.0s						
KPC				smax			
	comp=N,1μm,1.6s						
KPC	**Khapcheranga**	**4.42**	**133**	*e*Pn	**Pn**	**17 45 17.9**	**0.0**
KPC				*e*Pg	**Pg**	**17 45 32.1**	**-3.4**
KPC				Pmax		17 45 37.5	
	comp=N,273nm,1.0s						
KPC				*e*Sn	**Sn**	**17 46 08.6**	**-0.8**
KPC				*e*Sg	**Sg**	**17 46 30.3**	**-2.5**
KPC				Smax		17 46 42.0	
	comp=N,961nm,1.3s						
ORL	**Orlik**	**4.64**	**269**	*e*PN	**Pn**	**17 45 22.4**	**+1.5**
ORL				*e*		17 45 34.9	
ORL				*e*S	**Sn**	**17 46 15.0**	**+0.1**
ORL				*e*		17 46 33.9	
ORL				pmax	pmax		
	comp=Z,183nm,0.6s						
ORL				smax			
	comp=N,3μm,0.9s						
ORL	**Orlik**	**4.64**	**269**	⇓*i*Pn	**Pn**	**17 45 22.4**	**+1.5**
ORL				*e*		17 46 15.7	
ORL				*e*Sg	**Sg**	**17 46 33.9**	**-5.9**
ORL				Smax		17 46 42.0	
	comp=N,3μm,0.9s						
SVKR	**Severomuysk**	**4.86**	**45**	*e*PN	**Pg**	**17 45 41.3**	**-2.5**
SVKR	**Severomuysk**	**4.86**	**45**	*e*Pn	**Pn**	**17 45 26.0**	**+2.1**
SVKR				*e*Pg	**Pg**	**17 45 41.4**	**-2.4**
SVKR				Pmax		17 45 45.2	
	comp=N,94nm,0.6s						
SVKR				*e*Sg	**Sg**	**17 46 45.8**	**-0.9**
SVKR				Smax		17 46 51.2	
	comp=N,2μm,1.3s						
ULN	**Ulaanbaatar**	**4.99**	**183**	*d*PN	**Pn**	**17 45 26.9**	**+1.2**
ULN	**Ulaanbaatar**	**4.99**	**183**	*e*Pn	**Pn**	**17 45 26.9**	**+1.2**
	comp=N,301nm,0.9s						
ULN				*e*Pg	**Pb**	**17 45 39.9**	**+1.7**
ULN				*e*Sn	**Sn**	**17 46 21.8**	**-1.6**
ULN				*e*Sg	**Sb**	**17 46 45.1**	**+6.9**
SONM	**Songino Array**	**5.06**	**188**	Pn	**Pn**	**17 45 27.8**	**+1.2**
	comp=N,5.6nm,0.3s,baz=0.1,slow=14,SNR=113						
SONM				Pg	**Pg**	**17 45 42.0**	**-5.7**
	comp=N,46nm,0.3s,baz=0.7,slow=16,SNR=60						
SONM				Sn	**Sn**	**17 46 23.1**	**-2.0**
	comp=N,33nm,0.3s,baz=3.4,slow=19,SNR=4.4						
SONM				Lg		17 46 47.6	
	comp=N,142nm,0.3s,baz=359,slow=30,SNR=19						
SONM	**Songino Array**	**5.06**	**188**	PN	**Pn**	**17 45 27.8**	**+1.2**
SONM						17 45 42.0	
SONM						17 46 23.1	
SONM				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,46nm,0.3s						
SONM				smax			
	comp=N,33nm,0.3s						
NLYR	**Nelyaty**	**6.04**	**49**	*e*PG	**Pg**	**17 46 03.1**	**-3.3**
BOD	**Bodaibo**	**6.24**	**34**	*e*PN	**Pn**	**17 45 43.5**	**+0.6**
BOD				*e*		17 46 03.5	
BOD				*e*		17 47 24.2	
BOD				pmax	pmax		
	comp=Z,31nm,0.9s						
BOD				smax			
	comp=E,341nm,1.5s						
BOD	**Bodaibo**	**6.24**	**34**	*e*Pn	**Pn**	**17 45 43.6**	**+0.7**
BOD				*e*Pg	**Pg**	**17 46 04.4**	**-5.9**
BOD				Pmax		17 46 09.1	
	comp=E,31nm,0.9s						
BOD				*e*Sg	**Sg**	**17 47 25.2**	**-5.9**
BOD				Smax		17 47 40.2	
	comp=E,341nm,1.8s						
TDJR	**Todzha**	**6.91**	**271**	*e*Pn	**Pn**	**17 45 52.7**	**+0.6**
TDJR				*e*Sg	**Sg**	**17 47 43.1**	**-9.5**
CRS	**Chara**	**7.46**	**53**	*e*Pn	**Pn**	**17 46 01.5**	**+1.9**
CRS				*e*Pg	**Pg**	**17 46 28.2**	**-5.4**
CRS				Pmax		17 46 39.9	
	comp=E,73nm,1.0s						
CRS				*e*Sg	**Sg**	**17 48 05.2**	**-5.0**
CRS				Smax		17 48 11.4	
	comp=E,456nm,2.4s						
TUP	**Tupik**	**7.62**	**73**	*e*PN	**Pn**	**17 46 02.6**	**+0.8**
TUP				*e*		17 46 28.4	
TUP				*e*		17 48 09.5	
TUP				pmax	pmax		
	comp=Z,33nm,0.8s						
TUP				smax			
	comp=N,975nm,1.2s						
TUP	**Tupik**	**7.62**	**73**	*e*Pn	**Pn**	**17 46 02.4**	**+0.6**
TUP				*e*Sg	**Sg**	**17 48 08.4**	**-6.9**
TUP				Smax		17 48 14.8	
	comp=N,969nm,1.1s						
HIA	**Hailar**	**8.54**	**110**	*e*PN	**Pn**	**17 46 13.0**	**-1.5**
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
HIA	**Hailar**	**8.54**	**110**	*e*Pn	**Pn**	**17 46 13.0**	**-1.5**
	comp=Z,17nm,0.8s						
KRAR	**Krasnoyarsk**	**9.05**	**296**	*e*P	**Pn**	**17 46 21.1**	**-0.4**
HHC	**Hu-ho-hao-te**	**12.32**	**165**	*e*P	**Pn**	**17 47 07.6**	**+1.3**
HHC				XP		17 47 14.0	
HHC				PP		17 47 17.6	
HHC				S	**Sn**	**17 49 27.3**	**+3.6**
HHC				XS		17 49 32.0	
HHC				SS		17 49 41.5	
HHC				AMB	AMB		
	comp=Z,13nm,0.5s						
HHC				AMB	AMB		
	comp=Z,185nm,4.6s						
HHC				LR	LR		
	comp=N,1μm,8.6s						
HHC				LR	LR		
	comp=E,799nm,5.6s						
HHC				LR	LR		
	comp=Z,1μm,8.9s						
ZAL	**Zalesovo**	**13.54**	**284**	Pn	**Pn**	**17 47 23.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=18,slow=15,SNR=14						
ZAL				Lg		17 51 12.2	
	comp=Z,1.3nm,0.3s,baz=286,slow=23,SNR=3.4						
ZAL	**Zalesovo**	**13.54**	**284**	*i* P	**Pn**	**17 47 24.5**	**+1.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BJI	**Beijing**	**14.14**	**151**	*e*P	**Pn**	**17 47 31.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,11nm,0.6s						
BJI				LR	LR		
	comp=N,361nm,8.6s						
BJI				LR	LR		
	comp=E,549nm,7.8s						
BJI				LR	LR		
	comp=Z,221nm,15.9s						
BJT	**Baijiatuau**	**14.16**	**151**	P	**Pn**	**17 47 30.9**	**-0.4**
BJT				pmax	pmax		
	comp=Z,12nm,0.6s						
BJT	**Baijiatuau**	**14.16**	**151**	Pn	**Pn**	**17 47 30.9**	**-0.4**
	comp=Z,12nm,0.6s						
NVS	**Novosibirsk**	**14.40**	**288**	⇓*i*P	**Pn**	**17 47 32.6**	**-2.0**
NVS				*e*S	**Sn**	**17 50 11.8**	**-2.6**
GTA	**Gaotai**	**14.42**	**204**	*e*P	**Pn**	**17 47 36.8**	**+1.9**
GTA				AP	pP	17 47 42.9	-1.7
GTA				XP	sP	17 47 46.1	+0.2
GTA				PP		17 47 49.0	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s						
GTA				LR	LR		
	comp=N,498nm,9.1s						
GTA				LR	LR		
	comp=E,533nm,9.9s						
GTA				LR	LR		
	comp=Z,683nm,10.3s						
CN2	**Changchun**	**14.98**	**120**	*e*P	**Pn**	**17 47 42.9**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**15.03**	**44**	*e*P	**Pn**	**17 47 49.9**	**+6.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,11nm,1.5s						
YAK				pmax	pmax		
	comp=E,11nm,1.3s						
YAK				MLR	MLR		
	comp=Z,200nm,14.0s						
YAK	**Yakutsk**	**15.03**	**44**	*e*Pn	**Pn**	**17 47 43.2**	**0.0**
WMQ	**Urumqi**	**15.88**	**243**	*e*P	**Pn**	**17 47 57.5**	**+3.2**
WMQ				S	**Sn**	**17 50 50.9**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.1s						
WMQ				LR	LR		
	comp=N,546nm,9.0s						
WMQ				LR	LR		
	comp=E,465nm,6.0s						
WMQ				LR	LR		
	comp=Z,94nm,15.0s						
MDJ	**Mudanjiang**	**16.73**	**111**	P	**Pn**	**17 48 04.3**	**-0.9**
MDJ				AP	pP	17 48 08.3	-2.0
MDJ				XP	sP	17 48 09.8	-1.8
MDJ				S	**Sn**	**17 51 12.9**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,73nm,3.3s						
MDJ				LR	LR		
	comp=N,433nm,10.1s						
MDJ				LR	LR		
	comp=E,572nm,9.6s						
MDJ				LR	LR		
	comp=Z,742nm,9.6s						
LZH	**Lanzhou**	**16.94**	**190**	*e*P	**Pn**	**17 48 08.5**	**+0.6**
LZH				AP	pP	17 48 12.0	-0.6
LZH				XP	sP	17 48 15.4	+1.5
LZH				*e*PP		17 48 22.5	
LZH				*e*S	**Sn**	**17 51 12.1**	**-4.1**
LZH				AMB	AMB		
	comp=Z,24nm,1.1s						
LZH				AMB	AMB		
	comp=Z,103nm,4.0s						
LZH				LR	LR		
	comp=N,453nm,7.2s						
LZH				LR	LR		
	comp=Z,965nm,11.5s						
LZH	**Lanzhou**	**16.94**	**190**	*e*P	**Pn**	**17 48 08.5**	**+0.6**
LZH				*e*S	**Sn**	**17 51 12.1**	**-4.1**
LZH	**Lanzhou**	**16.94**	**190**	*e*P	**Pn**	**17 48 08.5**	**+0.6**
LZH				pP	pP	17 48 12.0	-0.6
LZH				sP	sP	17 48 15.4	+1.5
LZH				*e*PP		17 48 22.5	
LZH				*e*S	**Sn**	**17 51 12.1**	**-4.1**
LZH				sS	sS	17 51 17.6	-13
LZH				*e*SS		17 51 32.3	
MKAR	**Makanchi Array**	**17.26**	**260**	P	**Pn**	**17 48 12.7**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=68,slow=8.4,SNR=37						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR				Lg		17 53 13.6	
	comp=Z,0.0nm,0.3s,baz=54,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**17.26**	**260**	*i* P	**Pn**	**17 48 11.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**17.26**	**260**	P	**Pn**	**17 48 12.7**	**+0.9**
MKAR				Lg		17 53 13.6	
KURK	**Kurchatov**	**17.90**	**275**	*e*P	**Pn**	**17 48 18.5**	**-1.3**
KURK	**Kurchatov**	**17.90**	**275**	*e*P	**Pn**	**17 48 17.4**	**-2.4**
	comp=Z,7.1nm,0.8s						
KSRS	**Korea Array**	**21.00**	**129**	P	**P**	**17 48 55.9**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=331,slow=8.9,SNR=3.6						
KSRS				LR	LR	17 56 29.1	
	comp=Z,52nm,18.6s,MS2.9,baz=151,slow=35						
TIXI	**Tiksi**	**21.11**	**19**	*e*P	**P**	**17 48 54.7**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**21.88**	**287**	*e*P	**P**	**17 49 02.1**	**-1.7**
CHKZ				S	**S**	**17 53 06.3**	**+0.8**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**21.88**	**287**	*e*P	**P**	**17 49 02.1**	**-1.7**
	comp=Z,16nm,0.8s,mb4.5						
CHKZ				S	**S**	**17 53 06.3**	**+0.8**
CD2	**Chengdu**	**22.08**	**188**	P	**P**	**17 49 02.5**	**-3.4**
CD2				PP		17 49 27.3	
CD2				S	**S**	**17 52 57.5**	**-12**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,200nm,4.6s						
CD2				LR	LR		
	comp=N,420nm,9.0s						
CD2				LR	LR		
	comp=E,440nm,9.6s						
CD2				LR	LR		
	comp=Z,520nm,12.0s,MS4.2						
BVA0	**Borovoye Array**	**22.17**	**285**	*i* P	**P**	**17 49 05.5**	**-1.4**
BVAR	**Borovoye Array**	**22.17**	**285**	P	**P**	**17 49 05.3**	**-1.5**
	comp=Z,7.8nm,0.6s,mb4.3,baz=89,slow=11,SNR=38						
BVAR	**Borovoye Array**	**22.17**	**285**	P	**P**	**17 49 05.3**	**-1.6**
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**22.22**	**286**	*e*P	**P**	**17 49 05.9**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**22.22**	**286**	*e*P	**P**	**17 49 05.8**	**-1.6**
	comp=Z,8.3nm,0.6s,mb4.3						
ASAJ	**Asahikawa**	**24.68**	**96**	LR	LR	17 58 01.1	
	comp=Z,84nm,21.5s,MS3.2,baz=148,slow=34						
JNU	**Nakatsue**	**25.93**	**130**	LR	LR	18 01 16.7	
	comp=Z,246nm,20.8s,MS3.7,baz=118,slow=40						
KMI	**Kunming**	**27.91**	**189**	P	**P**	**17 50 02.0**	**+1.1**
KMI				AP	pP	17 50 05.5	+1.5
KMI				XP	sP	17 50 07.4	+2.2
KMI				S	**S**	**17 54 44.6**	**+0.1**
KMI				SSS		17 56 23.8	
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.1						
KMI				AMB	AMB		
	comp=Z,278nm,3.7s						
KMI				LR	LR		
	comp=N,492nm,10.2s						
KMI				LR	LR		
	comp=E,258nm,9.7s						
KMI				LR	LR		
	comp=Z,246nm,11.0s,MS4.0						
ARU	**Arti**	**28.02**	**297**	*i* P	**P**	**17 50 01.8**	**-0.2**
ARU				*e*		17 50 47.6	
ARU				*e*S	**S**	**17 54 46.0**	**-0.3**
ARU				*e*SS		17 56 00.9	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
GUN	**Gumba**	**29.60**	**221**	*e*P	**P**	**17 50 17.7**	**+1.7**
	comp=Z,16nm,1.0s,mb4.7						
KKN	**Kakani**	**29.95**	**222**	*e*P	**P**	**17 50 21.0**	**+2.0**
	comp=Z,21nm,0.7s,mb5.0						
GKN	**Gorkha**	**30.02**	**223**	*e*P	**P**	**17 50 21.4**	**+1.7**
	comp=Z,21nm,1.0s,mb4.8						
DMN	**Daman**	**30.18**	**222**	*e*P	**P**	**17 50 23.2**	**+2.1**
	comp=Z,16nm,0.8s,mb4.8						
AKTK	**Aktyubinsk**	**30.28**	**286**	P	**P**	**17 50 21.3**	**-0.7**
AKTO	**Aktyubinsk**	**30.28**	**286**	P	**P**	**17 50 21.3**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.9,baz=87,slow=12,SNR=6.0						
AKTO	**Aktyubinsk**	**30.28**	**286**	P	**P**	**17 50 21.3**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
KOLN	**Koldanda**	**30.66**	**225**	*e*P	**P**	**17 50 27.2**	**+1.8**
	comp=Z,14nm,0.9s,mb4.8						
BILL	**Bilibino**	**31.28**	**38↑**	*e*P	**P**	**17 50 28.3**	**-2.5**
BILL				*e*		17 51 31.5	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.6						
ARCES	**ARCESS Array B**	**39.27**	**327**	P	**P**	**17 51 38.0**	**-1.6**
	comp=Z,4.9nm,1.0s,mb4.2,baz=58,slow=9.3,SNR=3.6						
ARCES	**ARCESS Array B**	**39.27**	**327**	P	**P**	**17 51 38.0**	**-1.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
JOF	**Joensuu**	**39.33**	**315**	*e*p	**P**	**17 51 35.7**	**-4.4**
KAF	**Kangasniemi**	**41.78**	**316**	*e*p	**P**	**17 51 58.5**	**-1.8**
FINES	**FINESS Array B**	**42.18**	**315**	P	**P**	**17 52 02.6**	**-1.0**
	comp=Z,1.0nm,0.3s,mb3.9,baz=70,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**42.18**	**315**	*i* P	**P**	**17 52 03.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV	**Kislovodsk**	**42.54**	**285**	*e*P	**P**	**17 52 07.0**	**+0.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
KIV	**Kislovodsk**	**42.54**	**285**	*e*P	**P**	**17 52 07.3**	**+0.8**
AKASG	**Malin Array Be**	**46.18**	**300**	P	**P**	**17 52 34.2**	**-1.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=51,slow=8.6,SNR=4.4						
AKASG	**Malin Array Be**	**46.18**	**300**	*i* P	**P**	**17 52 35.2**	**-0.4**
AKASG	**Malin Array Be**	**46.18**	**300**	P	**P**	**17 52 34.2**	**-1.4**
NOA	**NORSAR Array B**	**48.51**	**320**	LR	LR	18 14 22.3	
	comp=Z,101nm,18.4s,MS3.8,baz=90,slow=37						
BRTR	**Keskin Array B**	**50.45**	**286**	P	**P**	**17 53 09.4**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=72,slow=4.7,SNR=7.0						
BRTR	**Keskin Array B**	**50.45**	**286**	*i* P	**P**	**17 53 09.6**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**51.06**	**25**	P	**P**	**17 53 13.3**	**+0.1**
	comp=Z,2.0nm,0.9s,mb4.0,baz=331,slow=4.0,SNR=5.3						
INK	**Inuvik**	**51.06**	**25**	*e*P	**P**	**17 53 13.5**	**+0.2**
	comp=Z,76nm,0.8s						
MMAI	**Mount Meron Ar**	**53.95**	**279**	P	**P**	**17 53 35.4**	**+0.7**
	comp=Z,0.6nm,0.4s,mb3.9,baz=89,slow=7.8,SNR=4.2						
YKA	**Yellowknife Ar**	**60.34**	**21**	P	**P**	**17 54 19.7**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=331,slow=6.8,SNR=17						
ESDC	**Sonseca Array**	**70.44**	**310**	P	**P**	**17 55 26.3**	**+1.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=27,slow=6.0,SNR=6.8						
WRA	**Warramunga Arr**	**76.15**	**154**	P	**P**	**17 55 58.7**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=347,slow=6.2,SNR=22						
WRA	**Warramunga Arr**	**76.15**	**154**	P	**P**	**17 55 58.7**	**-0.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MDT	**Midelt**	**76.28**	**307**	P	**P**	**17 56 01.1**	**+1.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=86,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**79.60**	**155**	P	**P**	**17 56 18.2**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=351,slow=5.3,SNR=23						
ASAR	**Alice Springs**	**79.60**	**155**	P	**P**	**17 56 18.3**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**80.82**	**35**	P	**P**	**17 56 26.1**	**+1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=342,slow=4.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**88.88**	**290**	P	**P**	**17 57 05.9**	**+0.6**
	comp=Z,0.8nm,0.7s,mb4.2,baz=34,slow=4.6,SNR=6.4						
LPAZ	**La Paz**	**143.36**	**353**	PKP	PKPdf	18 03 46.6	+1.2
	comp=Z,0.3nm,0.6s,baz=53,slow=3.7,SNR=3.5						
SNAA	**Sanae**	**145.15**	**211**	*e*PKPdf	PKPdf	18 03 45.5	-3.0
SNAA				*e*		18 03 48.4	
SNAA	**Sanae**	**145.15**	**211**	*e*PKP	PKPdf	18 03 46.2	-2.3
VNA2	**Neumayer--Watz**	**146.56**	**213**	*e*PKPdf	PKPdf	18 03 50.6	-0.3
	baz=53,slow=2.6						
VNA2				*e*		18 03 53.5	
VNA2				*e*		18 04 04.8	
VNA1	**Neumayer--Stat**	**146.84**	**213**	*e*PKPdf	PKPdf	18 03 52.5	+1.1
VNA3	**Neumayer Olymp**	**147.31**	**212**	*e*PKPdf	PKPdf	18 03 52.5	+0.3
VNA3				*e*		18 03 56.0	
VNA3				*e*		18 04 07.5	

MAN 13 18:16:17.8, 1642N×12226E, h36km, mb2.5, ML4.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.66**	**14**	*e*P	Pn	18 16 31.1	+0.5
PALP				*e*S	Sn	18 16 41.9	+2.3
CAUP	**Cauayan**	**0.67**	**321**	*e*P	Pn	18 16 30.4	-0.3
BALP	**Baler**	**0.95**	**224**	*e*P	Pn	18 16 34.6	+0.1
PCPH	**Palayan**	**1.41**	**233↑**	*e*P	Pn	18 16 41.6	+0.7
PCPH				*i* S	Sn	18 16 59.5	+1.2
POLP	**Polilio Island**	**1.71**	**191**	*e*P	Pn	18 16 45.8	+0.7
APYP	**Conner**	**1.73**	**326**	*e*P	Pn	18 16 46.0	+0.7
ABRA	**Dolores**	**1.92**	**310**	*e*P	Pn	18 16 49.0	+1.1

ISCJB ***13*** *18:25:09.2±0.4, 5773S±006×253W±0.1, h33km, mb5.0/23, MS4.4/17, Error ellipse: s-maj=9.6km s-min=7.0km az=82.4*
MOS ***13*** *18:25:10.9±2.0, 5778S×2534W, h44km, mb5.4/4, Error ellipse: s-maj=26.2km s-min=14.1km az=100.4*
IDC ***13*** *18:25:12.7±0.6, 5776S×2546W, h47km±4km, mb4.7/12, mb1 4.8/14, mb1mx4.7/18, mbtmp4.7/14, MS4.3/17, Ms1 4.3/17, ms1mx4.2/28, Error ellipse: s-maj=15.7km s-min=12.1km az=11.0*
BJI ***13*** *18:25:14.0, 5770S×2530W, h63km*
NEIC ***13*** *18:25:14.3±1.3, 5768S×2529W, h64km±11km, mb5.1/14, Error ellipse: s-maj=9.1km s-min=6.6km az=210.0*
GCMT ***13*** *18:25:14.3±0.4, 5816S×2506W, h29km±1km, MW5.1/51, Moment Tensor Solution. s24,c30; s51,c74; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.60±.29; Mθθ2.99±.25; Mφφ-4.59±.21; Mrθ1.92±.37; Mθφ0.75±.15; Mφr3.20±.34; Best double couple: M0=5.49000×10^16 NP1:φs133.00000°, δ43.00000°, λ16.00000°. NP2: φs31.00000°, δ79.00000°, λ131.00000°. Principal axes: T 5.0330, Plg41.0000°, Azm339.0000°; N 0.9140, Plg41.0000°, Azm202.0000°; P -5.9470, Plg23.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 13 18:25:06.0±3.6, 5771S±006×254W±01, h1km±22km, n117, σ0983/53, mb5.1/23, MS4.4/17, 2C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.11**	**294**	*e*Pn	**Pn**	**18 26 57.3**	**+6.1**
	773nm,1.3s						
VNA1	**Neumayer--Stat**	**14.88**	**158**	*e*Pn	**Pn**	**18 28 37.4**	**0.0**
VNA1				*e*		18 28 42.1	
VNA1				*e*		18 28 57.1	
VNA1				*e*		18 29 02.0	
VNA1				*e*		18 29 10.3	
VNA1				*e*		18 29 17.4	
VNA1				*e*		18 29 22.1	
VNA1				*e*		18 31 09.0	
VNA1				*e*		18 31 30.0	
VNA3	**Neumayer Olymp**	**15.09**	**160**	*e*Pn	**Pn**	**18 28 40.1**	**-0.2**
VNA3				*e*		18 28 45.1	
VNA3				*e*		18 28 48.3	
VNA3				*e*		18 28 56.3	
VNA3				*e*		18 29 10.4	
VNA3				*e*		18 29 19.5	
VNA3				*e*		18 31 12.7	
VNA3				*e*		18 31 21.1	
VNA3				*e*		18 31 38.6	
VNA2	**Neumayer--Watz**	**15.27**	**157**	*e*Pn	**Pn**	**18 28 42.1**	**-0.7**
	baz=318,slow=13						
VNA2				*e*		18 28 45.8	
VNA2				*e*		18 28 51.3	
VNA2				*e*		18 28 54.5	
VNA2				*e*		18 29 03.1	
VNA2				*e*		18 29 10.7	
VNA2				*e*		18 29 15.9	
VNA2				*e*		18 29 20.9	
VNA2				*e*		18 29 25.7	
VNA2				*e*		18 31 15.2	
VNA2				*e*		18 31 24.0	
VNA2				*e*		18 31 42.9	
SNAA	**Sanae**	**16.82**	**155**	P	**Pn**	**18 29 03.6**	**+0.9**
	5.6nm,0.3s,baz=326,slow=15,SNR=519						
SNAA				S	**Sn**	**18 31 54.7**	**-15**
	0.2nm,0.3s,baz=354,slow=19,SNR=2.8						
SNAA				LR	LR	18 34 04.6	
	comp=Z,498nm,21.2s,baz=351,slow=32						
SNAA	**Sanae**	**16.82**	**155**	*e*Pn	**Pn**	**18 29 03.5**	**+0.8**
SNAA				*e*		18 29 07.9	
SNAA				*e*		18 29 12.6	
SNAA				*e*		18 29 28.8	
SNAA				*e*		18 29 37.6	
SNAA				*e*		18 30 04.5	
SNAA				*e*		18 31 59.0	
SNAA				*e*		18 32 14.1	
SNAA	**Sanae**	**16.82**	**155**	*e*P	**Pn**	**18 29 03.2**	**+0.5**
SNAA				*e*		18 31 58.6	
SNAA	**Sanae**	**16.82**	**155**	*e*Pn	**Pn**	**18 29 03.2**	**+0.5**
SNAA				S	**Sn**	**18 31 54.7**	**-15**
SNAA				*e*Sn	**Sn**	**18 31 58.5**	**-11**
SNAA				LR	LR	18 34 04.6	
PMSA	**Palmer Station**	**19.62**	**233**	P	**Pn**	**18 29 36.3**	**-0.9**
	0.8nm,0.3s,baz=50,slow=11,SNR=2.5						
PMSA				LR	LR	18 36 05.6	
	comp=Z,647nm,20.7s,baz=113,slow=33						
PMSA	**Palmer Station**	**19.62**	**233**	*e*P	**Pn**	**18 29 39.4**	**+2.2**
PMSA				LR	LR	18 36 05.6	
EFI	**East Falkland**	**19.69**	**274↑**	*i*P	**Pn**	**18 29 38.5**	**+0.5**
EFI	**East Falkland**	**19.69**	**274**	*e*P	**Pn**	**18 29 38.4**	**+0.5**
	198nm,1.2s						
NVL	**N'lazarevskaya**	**20.33**	**145**	*d i*P	**P**	**18 29 42.8**	**-0.7**
NVL				*i* *SP	sP	18 30 00.9	+17
NVL				*i* S	**S**	**18 33 52.5**	**+0.4**
NVL				*i* SS		18 33 55.9	
NVL				*e*		18 41 14.9	
NVL				pmax	pmax		
	comp=Z,103nm,1.0s						
NVL				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.3						
USHA	**Ushuaia**	**23.78**	**258**	P	**P**	**18 30 21.3**	**+1.1**
	comp=Z,13nm,0.9s,mb4.5,baz=82,slow=9.1,SNR=4.5						
USHA				LR	LR	18 37 28.3	
	comp=Z,2μm,20.6s,MS4.6,baz=68,slow=31						
USHA	**Ushuaia**	**23.78**	**258**	P	**P**	**18 30 21.3**	**+1.1**
USHA				LR	LR	18 37 28.3	
TRQA	**Tornquist**	**30.89**	**294**	*e*P	**P**	**18 31 22.9**	**-1.1**
	comp=Z,7.5nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**32.53**	**180**	*e*P	**P**	**18 31 38.9**	**+0.5**
	comp=Z,39nm,0.6s,mb5.5						
PLCA	**Paso Flores**	**33.28**	**281**	P	**P**	**18 31 44.2**	**-0.8**
	comp=Z,5.2nm,0.8s,mb4.5,baz=156,slow=7.8,SNR=8.2						
PLCA				pP		18 31 57.3	
	comp=Z,14nm,0.9s,baz=134,slow=11,SNR=10						
PLCA				ScP	ScP	18 38 06.1	-6.6
	comp=Z,2.0nm,0.6s,baz=165,slow=6.0,SNR=5.2						
PLCA				LR	LR	18 45 39.6	
	comp=Z,687nm,18.5s,MS4.4,baz=127,slow=37						
PLCA	**Paso Flores**	**33.28**	**281**	*e*P	**P**	**18 31 44.7**	**-0.3**
PLCA				*e*		18 31 56.9	
PLCA				*PP		18 31 57.3	
PLCA	**Paso Flores**	**33.28**	**281**	*e*P	**P**	**18 31 44.7**	**-0.2**
PLCA				*e*		18 31 56.9	
PLCA				pP		18 31 57.3	
PLCA				ScP	ScP	18 38 06.1	-6.6
PLCA				LR	LR	18 45 39.6	
MAW	**Mawson**	**38.22**	**142**	P	**P**	**18 32 26.8**	**-0.6**
	comp=Z,12nm,0.5s,mb4.9,baz=234,slow=9.0,SNR=34						
MAW				LR	LR	18 45 24.9	
	comp=Z,683nm,21.9s,MS4.4,baz=250,slow=32						
CFAA	**Coronel Fontan**	**39.13**	**293**	P	**P**	**18 32 33.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=153,slow=7.8,SNR=8.0						
CFAA				ScP	ScP	18 38 27.8	-6.4
	comp=Z,1.1nm,0.6s,baz=196,slow=5.1,SNR=12						
CFAA	**Coronel Fontan**	**39.13**	**293**	P	**P**	**18 32 33.5**	**-1.5**
CFAA				ScP	ScP	18 38 27.8	-6.4
SUR	**Sutherland**	**40.17**	**71**	*e*P	**P**	**18 32 44.6**	**+0.9**
	comp=Z,52nm,1.3s,mb5.0						
SBA	**Scott Base**	**44.48**	**184**	*e*P	**P**	**18 33 20.1**	**+1.3**
SBA				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.0						
SBA	**Scott Base**	**44.48**	**184**	*e*P	**P**	**18 33 20.1**	**+1.3**
	comp=Z,43nm,1.4s,mb5.0						
VNDA	**Vanda**	**44.95**	**182**	P	**P**	**18 33 23.2**	**+0.7**
	comp=Z,29nm,1.0s,mb5.2,baz=186,slow=6.5,SNR=82						
VNDA				LR	LR	18 50 56.1	
	comp=Z,185nm,21.1s,MS4.0,baz=179,slow=34						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**45.47**	**72**	P	**P**	**18 33 26.6**	**-0.1**
	comp=Z,46nm,0.9s,mb5.4,baz=213,slow=7.8,SNR=53						
BOSA				LR	LR	18 48 21.2	
	comp=Z,585nm,21.6s,MS4.5,baz=218,slow=30						
LVC	**Limon Verde**	**46.99**	**299**	*e*P	**P**	**18 33 38.6**	**-0.1**
	comp=Z,17nm,0.8s,mb5.2						
LBTB	**Lobatse**	**48.59**	**70**	LR	LR	18 50 40.2	
	comp=Z,649nm,19.2s,MS4.6,baz=237,slow=31						
LBTB	**Lobatse**	**48.59**	**70**	*e*P	**P**	**18 33 50.8**	**-0.3**
LBTB				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.6						
LBTB	**Lobatse**	**48.59**	**70**	*e*P	**P**	**18 33 50.8**	**-0.3**
	comp=Z,53nm,0.9s,mb5.6						
TSUM	**Tsumeb**	**49.68**	**58**	LR	LR	18 49 59.6	
	comp=Z,292nm,21.9s,MS4.2,baz=213,slow=30						
TSUM	**Tsumeb**	**49.68**	**58**	*e*P	**P**	**18 33 59.3**	**-0.1**
	comp=Z,7.0nm,0.8s,mb4.6						
CASY	**Casey**	**52.00**	**159**	P	**P**	**18 34 16.6**	**-0.4**
	comp=Z,35nm,0.9s,mb5.3						
LPAZ	**La Paz**	**52.14**	**304**	P	**P**	**18 34 18.6**	**+0.7**
	comp=Z,5.6nm,0.5s,mb4.8,baz=155,slow=6.3,SNR=25						
LPAZ				pP		18 34 32.6	
	comp=Z,15nm,0.6s,baz=199,slow=8.8,SNR=11						
LPAZ				ScP	ScP	18 39 22.4	-5.5
	comp=Z,2.5nm,0.8s,baz=138,slow=4.3,SNR=5.6						
LPAZ				LR	LR	18 55 37.2	
	comp=Z,180nm,19.7s,MS4.1,baz=16,slow=35						
LPAZ	**La Paz**	**52.14**	**304**	*e*P	**P**	**18 34 18.6**	**+0.6**
LPAZ				*PP		18 34 32.7	
LPAZ	**La Paz**	**52.14**	**304**	*e*P	**P**	**18 34 18.6**	**+0.6**
LPAZ				pP		18 34 32.6	
LPAZ				ScP	ScP	18 39 22.4	-5.5
LPAZ				LR	LR	18 55 37.2	
MATP	**Matopo**	**53.88**	**70**	LR	LR	18 54 02.2	
	comp=Z,621nm,19.0s,MS4.7,baz=214,slow=32						
LSZ	**Lusaka**	**58.09**	**66**	P	**P**	**18 35 00.6**	**-0.3**
	comp=Z,44nm,0.8s,mb5.6,baz=203,slow=8.9,SNR=24						
LSZ				LR	LR	18 56 50.2	
	comp=Z,522nm,19.0s,MS4.7,baz=226,slow=33						
LSZ	**Lusaka**	**58.09**	**66**	*e*P	**P**	**18 35 00.7**	**-0.2**
LSZ				LR	LR	18 56 50.2	
OPO	**Ambohidratompo**	**65.19**	**86**	P	**P**	**18 35 49.8**	**+0.9**
	comp=Z,8.3nm,0.8s,mb5.0,baz=195,slow=4.8						
OTAV	**Otavalo**	**71.40**	**302**	*e*P	**P**	**18 36 28.6**	**+0.8**
	comp=Z,11nm,0.9s,mb5.0						
TORD	**Torodi Ar. Bea**	**74.05**	**27**	P	**P**	**18 36 44.1**	**+0.6**
	comp=Z,40nm,0.6s,mb5.6,baz=195,slow=6.3,SNR=232						
TORD				pP		18 36 58.0	
	comp=Z,18nm,0.8s,baz=195,slow=5.9,SNR=6.1						
TORD				LR	LR	19 02 09.0	
	comp=Z,143nm,19.4s,MS4.3,baz=185,slow=30						
KMBO	**Kilima Mbogo**	**74.74**	**67**	P	**P**	**18 36 49.8**	**+2.2**
	comp=Z,4.1nm,1.0s,mb4.4,baz=223,slow=21,SNR=8.4						
KMBO				LR	LR	19 05 52.0	
	comp=Z,269nm,21.5s,MS4.5,baz=263,slow=33						
KMBO	**Kilima Mbogo**	**74.74**	**67**	*e*P	**P**	**18 36 51.1**	**+3.5**
KMBO	**Kilima Mbogo**	**74.74**	**67**	*e*P	**P**	**18 36 51.3**	**+3.8**
	comp=Z,9.3nm,1.3s,mb4.7						
KMBO				LR	LR	19 05 52.0	
SDV	**Santo Domingo**	**75.88**	**314**	*e*P	**P**	**18 36 53.5**	**-0.6**
	comp=Z,21nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**84.39**	**149**	LR	LR	19 11 05.3	
	comp=Z,306nm,21.5s,MS4.7,baz=335,slow=33						
FORT	**Forrest**	**89.06**	**157**	*e*P	**P**	**18 38 02.2**	**-0.6**
	comp=Z,20nm,0.6s,mb5.5						
STKA	**Stephens Creek**	**90.09**	**169**	*e*P	**P**	**18 38 06.8**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**90.09**	**169**	P	**P**	**18 38 06.6**	**-1.0**
	comp=Z,7.1nm,1.0s,mb4.8,baz=162,slow=6.4,SNR=10.0						
ASAR	**Alice Springs**	**97.10**	**161**	P	**P**	**18 38 38.4**	**-1.5**
	comp=Z,3.5nm,0.6s,mb5.1,baz=180,slow=4.1,SNR=52						
KEST	**Kesra**	**97.56**	**28**	LR	LR	19 20 17.4	
	comp=Z,64nm,18.7s,MS4.1,baz=257,slow=34						
ESDC	**Sonseca Array**	**98.68**	**17**	LR	LR	19 17 13.5	
	comp=Z,124nm,21.0s,MS4.4,baz=345,slow=32						
WRA	**Warramunga Arr**	**100.81**	**161**	P	Pdif	18 38 54.9	-1.6
	comp=Z,0.9nm,0.7s,baz=194,slow=4.6,SNR=8.9						
MDRS	**Chennai**	**109.30**	**96**	*ex*	x	18 44 28.7	
MDRS				*ex*	x	18 55 34.7	
CLL	**Collm**	**113.12**	**25**	*e*PKPdf	PKiKP	18 43 46.0	+0.9
PDAR	**Pinedale Array**	**122.06**	**300**	PKP	PKPdf	18 44 00.6	-1.8
	comp=Z,0.8nm,0.5s,baz=128,slow=5.2,SNR=8.2						
PDAR				pPKP	pPKPdf	18 44 14.8	+12
	comp=Z,0.8nm,0.6s,baz=134,slow=5.7,SNR=4.5						
HWUT	**Hardware Ranch**	**122.10**	**298**	*e*PKPdf	PKPdf	18 44 01.4	-1.0
ULM	**Lac du Bonnet**	**122.13**	**314**	PKP	PKPdf	18 44 00.2	-2.2
	comp=Z,2.8nm,0.6s,baz=186,slow=1.2,SNR=6.8						
ULM				pPKP	pPKPdf	18 44 14.2	+11
	comp=Z,3.3nm,0.6s,baz=280,slow=2.9,SNR=4.0						
NVAR	**Mina Array Bea**	**122.94**	**291**	PKP	PKPdf	18 44 04.0	0.0
	comp=Z,1.3nm,0

BTO	**Baotou**	**146.93**	**102**	*e*PKP	PKPdf	18 44 49.3	+1.0
KRAR	**Krasnoyarsk**	**147.22**	**66**	*i* PKIKP	PKPdf	18 44 45.3	-3.5
INK	**Inuvik**	**147.71**	**319**	PKPbc	PKPbc	18 44 50.1	-2.3
	comp=Z,13nm,0.6s,baz=103,slow=1.7,SNR=41						
DAWY	**Dawson**	**148.63**	**309**	*e*PKPbc	PKPbc	18 44 52.8	-2.0
EGAK	**Eagle**	**149.59**	**310**	*e*PKPbc	PKPbc	18 44 55.2	-2.1
ZAK	**Zakamensk**	**149.63**	**81**	⇓*i*PKP2	PKPbc	18 44 55.8	-1.5
ZAK				pmax	pmax		
	comp=Z,19nm,1.1s						
BJT	**Baijiatuan**	**149.68**	**109**	*e*PKP2	PKPbc	18 44 56.1	-1.3
BJI	**Beijing**	**149.70**	**109**	*e*PKP	PKPdf	18 44 56.1	+3.3
SONM	**Songino Array**	**149.81**	**88**	PKPbc	PKPbc	18 44 55.6	-2.2
	comp=Z,19nm,0.7s,baz=98,slow=0.1,SNR=96						
EYAK	**Cordova Ski Ar**	**150.18**	**301**	*e*PKPbc	PKPbc	18 44 57.8	-0.9
ULN	**Ulaanbaatar**	**150.19**	**88**	*e*PKIKP	PKPdf	18 44 56.9	+3.3
TLY	**Talaya**	**150.54**	**80**	*i* PKIKP	PKPbc	18 44 58.1	-1.4
TLY				pmax	pmax		
	comp=Z,38nm,1.3s						
TLY	**Talaya**	**150.54**	**80**	*e*PKPbc	PKPbc	18 44 58.2	-1.3
JNU	**Nakatsue**	**150.59**	**137**	PKPbc	PKPbc	18 44 59.0	-0.7
	comp=Z,18nm,1.0s,baz=230,slow=19,SNR=4.2						
IRK	**Irkutsk**	**151.16**	**79**	*e*PKIKP	PKPdf	18 44 58.2	+3.1
IRK				*e*		18 45 07.4	
IRK				pmax	pmax		
	comp=Z,56nm,1.2s						
SML	**Sawmill**	**151.78**	**303**	*e*PKIKP	PKPdf	18 44 59.1	+3.0
SLKM	**Skilak Lake**	**152.25**	**299**	*e*PKIKP	PKPbc	18 45 02.0	-1.5
COLA	**College**	**152.38**	**309**	⇓*i*PKIKP	PKPbc	18 45 02.0	-1.8
COLA	**College**	**152.38**	**309**	*e*PKPbc	PKPbc	18 45 01.7	-2.1
MCK	**McKinley**	**152.58**	**306**	*e*PKIKP	PKPbc	18 45 02.8	-1.4
KSRS	**Korea Array**	**153.19**	**128**	PKPbc	PKPbc	18 45 02.9	-2.7
	comp=Z,3.1nm,0.7s,baz=211,slow=2.9,SNR=8.7						
KSRS				PKPab	PKPab	18 45 15.7	-1.5
	comp=Z,5.5nm,0.9s,baz=211,slow=3.9,SNR=9.6						
IMA2	**Indian Mountai**	**154.97**	**311**	*e*PKPbc	PKPbc	18 45 08.1	-1.3
CIT	**Chita**	**155.98**	**86**	*e*PKP2	PKPab	18 45 25.9	-3.2
CIT				pmax	pmax		
	comp=Z,43nm,1.3s						
MJAR	**Matsushiro Arr**	**156.18**	**146**	PKPab	PKPab	18 45 28.5	-1.5
	comp=Z,1.6nm,0.9s,baz=198,slow=6.2,SNR=4.7						
HIA	**Hailar**	**157.81**	**97**	*c i* PKP2	PKPab	18 45 35.8	-1.2
BOD	**Bodaibo**	**158.56**	**72**	*e*PKP2	PKPab	18 45 37.6	-2.6
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	**Tiksi**	**162.44**	**27**	*e*PKP2	PKPab	18 45 55.2	-2.0
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						

NIED ***13*** *18:26:00, 46.20N×152.10E, h44km, Mw4.2 Best double couple: M0=2.26000×10^15 NP1:φs=132.00000°, δ=85.00000°, λ=-26.00000°. NP2:φs=225.00000°, δ=64.00000°, λ=-175.00000°.*

NEIC ***13*** *18:26:28.1±0.5, 46.09N×151.83E, h10km, mb4.3/10, Error ellipse: s-maj=14.4km s-min=8.4km az=133.0*

JMA ***13*** *18:26:29.6±0.5, 46.21N×152.08E, h30km, M4.7*

SKHL ***13*** *18:26:29.8±1.3, 45.70N×152.20E, h68km±12km, mb4.9/2*

ISCJB ***13*** *18:26:30.7±0.9, 45.88N±0.07×151.92E±0.08, h48km±7km, mb4.2/28, Error ellipse: s-maj=13.1km s-min=5.9km az=107.5*

MOS ***13*** *18:26:30.7±1.7, 46.02N×151.89E, h47km, mb4.3/18, Error ellipse: s-maj=11.1km s-min=8.1km az=90.0*

SZGRF ***13*** *18:26:37.4, 46.96N×152.04E, h33km, mb4.8, Kuril Islands, Russia*

IDC ***13*** *18:26:37.0±3.7, 46.12N×151.71E, h84km±33km, mb3.7/14, mb1 4.0/16, mb1mx3.9/23, mbtmp3.7/16, MS3.1/2, Ms1 3.1/2, ms1mx2.6/45, Error ellipse: s-maj=17.7km s-min=14.5km az=140.0*

ISC 13 18:26:32.4±0.7, 45.93N±0.07×151.96E±0.08, h48km±6km, n116, σ1§40/133, mb4.2/28, 2C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.96**	**258**	*i* P	**Pn**	**18 27 14.5**	**-2.3**
KUR				AMB	AMB	18 27 15.0	
	320nm,0.8s						
KUR				*e*S	**Sn**	**18 27 49.0**	**-2.0**
KUR				A		18 27 59.8	
	2μm,0.8s						
KUR				A		18 27 59.8	
	590nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**4.72**	**248**	*e*P	**Pn**	**18 27 42.5**	**+1.5**
YUK				*e*S	**Sn**	**18 28 36.0**	**+1.5**
YUK				A		18 28 40.6	
	600nm,0.5s						
YUK				A		18 28 40.6	
	300nm,0.5s						
NEM2	**Nemuro 2**	**5.12**	**242**	P	**Pn**	**18 27 46.2**	**-0.3**
NEM2				*e*S	**Sn**	**18 28 41.2**	**-3.2**
JRA	**Rausu**	**5.25**	**250**	P	**Pn**	**18 27 50.6**	**+2.4**
JRA				*e*S	**Sn**	**18 28 51.0**	**+3.6**
SKR	**Severo-Kuril's**	**5.50**	**29**	*e*P	**Pn**	**18 27 52.0**	**+0.2**
SKR				AMB	AMB	18 27 54.5	
	50nm,0.5s						
SKR				AMB	AMB	18 27 54.5	
	80nm,0.5s						
SKR				*e*S	**Sn**	**18 28 49.8**	**-3.9**
SKR				A		18 28 55.5	
	110nm,0.4s						
SKR				A		18 28 55.5	
	100nm,0.4s						
JNK	**Nakash**	**5.66**	**248**	P	**Pn**	**18 27 55.1**	**+1.1**
JNK				*e*S	**Sn**	**18 28 59.4**	**+1.7**
JAK	**Akkeshi**	**5.97**	**243**	P	**Pn**	**18 27 57.8**	**-0.3**
JAK				*e*S	**Sn**	**18 29 03.8**	**-1.3**
JTKR	**Abashiri--Toko**	**6.04**	**254**	P	**Pn**	**18 28 01.2**	**+2.1**
JMP	**Maruseppu**	**6.40**	**256**	P	**Pn**	**18 28 06.3**	**+2.3**
JAR	**Ashorobuto**	**6.41**	**249**	P	**Pn**	**18 28 05.7**	**+1.5**
JAR				*e*S	**Sn**	**18 29 17.2**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.44**	**282**	*e*P	**Pn**	**18 28 06.7**	**+2.1**
	27nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.44**	**282**	*e*P	**Pn**	**18 28 06.0**	**+1.4**
JOB	**Onbets**	**6.56**	**245**	P	**Pn**	**18 28 06.7**	**+0.5**
JOB				*e*S	**Sn**	**18 29 19.4**	**-0.2**
JKK2	**Kamakawa 2**	**6.86**	**256**	P	**Pn**	**18 28 13.1**	**+2.8**
ASAJ	**Asahikawa**	**6.88**	**258**	P	**Pn**	**18 28 14.2**	**+3.5**
	4.9nm,0.3s,baz=84,slow=18,SNR=43						
ASAJ				LR	LR	18 30 47.2	
	comp=Z,219nm,20.1s,baz=79,slow=37						
ASAJ	**Asahikawa**	**6.88**	**258**	P	**Pn**	**18 28 14.0**	**+3.4**
JCH	**Churui**	**7.00**	**245**	P	**Pn**	**18 28 12.1**	**-0.2**
JCH				*e*S	**Sn**	**18 29 29.4**	**-1.2**
JFR	**Furan**	**7.24**	**251**	P	**Pn**	**18 28 17.5**	**+1.9**
JAB	**Ashibetsu**	**7.35**	**254**	P	**Pn**	**18 28 20.2**	**+3.2**
JEM	**Erimo**	**7.46**	**241**	P	**Pn**	**18 28 19.9**	**+1.4**
ERM	**Erimo**	**7.46**	**241**	*e*PN	**Pn**	**18 28 19.5**	**+0.9**
ERM				pmax	pmax		
	comp=Z,33nm,0.4s						
ERM	**Erimo**	**7.46**	**241**	*e*P	**Pn**	**18 28 19.5**	**+1.0**
	comp=Z,33nm,0.4s						
JBT2	**Biratori 2**	**7.56**	**249**	P	**Pn**	**18 28 20.4**	**+0.4**
JBT2				*e*S	**Sn**	**18 29 44.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**7.56**	**244**	P	**Pn**	**18 28 19.4**	**-0.6**
JNBK				*e*S	**Sn**	**18 29 42.5**	**-1.9**
JEW	**Eniwo**	**8.14**	**251**	P	**Pn**	**18 28 29.2**	**+1.3**
JNB	**Noboribetsu**	**8.57**	**250**	P	**Pn**	**18 28 34.4**	**+0.5**
JKB	**Kayabe**	**8.86**	**247**	P	**Pn**	**18 28 37.3**	**-0.5**
JKB				*e*S	**Sn**	**18 30 11.5**	**-4.7**
JYM2	**Yakumo 2**	**9.18**	**250**	P	**Pn**	**18 28 42.4**	**+0.3**
JANG	**Nango**	**9.44**	**238**	P	**Pn**	**18 28 42.7**	**-3.0**
JANG				*e*S	**Sn**	**18 30 21.8**	**-8.5**
JSR	**Shiriuchi**	**9.44**	**246**	P	**Pn**	**18 28 45.2**	**-0.5**
JTM	**Tenmabayashi**	**9.45**	**241**	P	**Pn**	**18 28 44.3**	**-1.5**
JTM				*e*S	**Sn**	**18 30 24.1**	**-6.6**
JTH	**Tanohata**	**9.52**	**235**	P	**Pn**	**18 28 43.7**	**-3.1**
JTH				*e*S	**Sn**	**18 30 23.5**	**-8.8**
JOSM	**Okushiri--Mats**	**9.78**	**251**	P	**Pn**	**18 28 50.1**	**-0.3**
OFUJ	**Ofunato**	**10.22**	**232**	P	**Pn**	**18 28 53.2**	**-3.2**
OFUJ				*e*S	**Sn**	**18 30 42.2**	**-7.4**
JRG	**Rokugo**	**10.59**	**236**	P	**Pn**	**18 28 59.6**	**-1.8**
JIO	**Ouri**	**10.85**	**230**	P	**Pn**	**18 29 02.2**	**-2.7**
JIO				*e*S	**Sn**	**18 30 54.6**	**-10**
HABR	**Khabarovsk**	**11.78**	**289**	*e*PN	**Pn**	**18 29 11.9**	**-5.8**
MJAR	**Matsushiro Arr**	**13.95**	**233**	P	**Pn**	**18 29 45.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=6.9						
MAJO	**Matsushiro**	**13.95**	**233**	*e*Pn	**Pn**	**18 29 45.4**	**-1.9**
MAJO				*e*		18 29 56.1	
MAT	**Matsushiro**	**13.95**	**233**	P	**Pn**	**18 29 45.2**	**-2.1**
MAT				S	**Sn**	**18 32 22.0**	**+1.4**
KSRS	**Korea Array**	**19.79**	**253**	P	**Pn**	**18 31 00.1**	**-0.4**
	baz=56,slow=11,SNR=13						
KSRS				LR	LR	18 37 48.6	
	comp=Z,46nm,20.0s,baz=65,slow=34						
YAK	**Yakutsk**	**20.60**	**329**	*e*P	**P**	**18 31 11.0**	**+3.6**
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,24nm,1.1s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK	**Yakutsk**	**20.60**	**329**	*e*P	**P**	**18 31 06.6**	**-0.8**
	comp=E,17nm,0.8s						
HIA	**Hailar**	**21.89**	**290**	*e*P	**P**	**18 31 20.0**	**-1.2**
BILL	**Bilibino**	**23.37**	**14**	⇓*e*P	**P**	**18 31 34.2**	**-2.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
BILL	**Bilibino**	**23.37**	**14**	*e*P	**P**	**18 31 36.0**	**-0.8**
TIXI	**Tiksi**	**28.04**	**345**	*e*P	**P**	**18 32 15.0**	**-4.0**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.3						
ULN	**Ulaanbaatar**	**30.42**	**290**	*e*P	**P**	**18 32 35.6**	**-4.5**
SONM	**Songino Array**	**30.86**	**290**	P	**P**	**18 32 43.2**	**-0.8**
	comp=Z,0.3nm,0.7s,mb3.3,baz=63,slow=12,SNR=2.8						
COLA	**College**	**37.27**	**38**	*e*P	**P**	**18 33 36.1**	**-3.5**
ZAL	**Zalesovo**	**42.46**	**306**	PcP	PcP	18 36 14.3	-0.6
	comp=Z,0.8nm,0.4s,baz=57,slow=4.6,SNR=6.4						
INK	**Inuvik**	**42.77**	**32**	P	**P**	**18 34 25.0**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=236,slow=3.6,SNR=9.6						
INK	**Inuvik**	**42.77**	**32**	P	**P**	**18 34 25.0**	**-0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**42.77**	**32**	P	**P**	**18 34 25.0**	**-0.1**
MK31	**Makanchi Array**	**46.61**	**298**	*e*P	**P**	**18 34 53.7**	**-2.0**
MKAR	**Makanchi Array**	**46.61**	**298**	P	**P**	**18 34 53.4**	**-2.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=68,slow=9.1,SNR=11						
MKAR				PcP	PcP	18 36 29.2	+0.1
	comp=Z,1.1nm,0.6s,baz=63,slow=2.5,SNR=8.5						
MKAR	**Makanchi Array**	**46.61**	**298**	P	**P**	**18 34 53.4**	**-2.3**
MKAR						18 36 29.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.61**	**298**	P	**P**	**18 34 53.4**	**-2.3**
MKAR				PcP	PcP	18 36 29.2	+0.1
LSA	**Lhasa**	**49.52**	**273**	*e*P	**P**	**18 35 20.1**	**+1.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**49.52**	**273**	*e*P	**P**	**18 35 20.1**	**+1.9**
	comp=Z,2.5nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**50.35**	**310**	*e*P	**P**	**18 35 21.4**	**-3.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**50.35**	**310**	*e*P	**P**	**18 35 21.4**	**-3.0**
	comp=Z,1.5nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**50.76**	**310**	PcP	PcP	18 36 43.3	-0.7
	comp=Z,0.6nm,0.5s,baz=73,slow=5.0,SNR=3.5						
CHTO	**Chiang Mai**	**51.15**	**256**	*e*P	**P**	**18 35 31.1**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
CHTO	**Chiang Mai**	**51.15**	**256**	*e*P	**P**	**18 35 31.1**	**+0.6**
	comp=Z,2.8nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**52.06**	**36**	P	**P**	**18 35 37.0**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=298,slow=6.9,SNR=18						
YKA	**Yellowknife Ar**	**52.06**	**36**	P	**P**	**18 35 37.0**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**52.06**	**36**	P	**P**	**18 35 37.0**	**-0.3**
GUN	**Gumba**	**54.27**	**275**	*e*P	**P**	**18 35 54.4**	**+0.8**
	comp=Z,12nm,0.7s,mb4.9						
KKN	**Kakani**	**54.77**	**275**	*e*P	**P**	**18 35 58.0**	**+0.9**
	comp=Z,5.9nm,0.5s,mb4.8						
DMN	**Daman**	**55.00**	**275**	*e*P	**P**	**18 35 59.8**	**+1.0**
	comp=Z,16nm,0.8s,mb5.1						
GKN	**Gorkha**	**55.08**	**276**	*e*P	**P**	**18 36 00.1**	**+0.7**
	comp=Z,22nm,1.0s,mb5.2						
KOLN	**Koldanda**	**55.94**	**276**	*e*P	**P**	**18 36 06.5**	**+0.9**
	comp=Z,20nm,0.9s,mb5.2						
KEV	**Kevo**	**57.84**	**340**	*ep*	**P**	**18 36 15.1**	**-4.0**
JOF	**Joensuu**	**61.71**	**333**	*ep*	**P**	**18 36 42.9**	**-2.7**
NVAR	**Mina Array Bea**	**63.53**	**61**	P	**P**	**18 36 59.6**	**+1.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=301,slow=8.0,SNR=6.3						
KAF	**Kangasniemi**	**63.85**	**335**	*ep*	**P**	**18 37 01.4**	**+1.6**
FINES	**FINESS Array B**	**64.44**	**334**	P	**P**	**18 37 01.6**	**-2.1**
	comp=Z,1.5nm,0.4s,mb4.4,baz=46,slow=7.0,SNR=21						
FINES	**FINESS Array B**	**64.44**	**334**	P	**P**	**18 37 01.6**	**-2.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BW06	**Boulder Array**	**65.88**	**53**	*e*P	**P**	**18 37 13.6**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**65.88**	**53**	P	**P**	**18 37 13.5**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=279,slow=1.4,SNR=9.5						
WRA	**Warramunga Arr**	**67.48**	**198**	P	**P**	**18 37 23.9**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=16,slow=6.8,SNR=13						
WRA	**Warramunga Arr**	**67.48**	**198**	P	**P**	**18 37 23.9**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.74**	**341**	P	**P**	**18 37 28.4**	**-2.8**
	comp=Z,1.4nm,0.5s,mb4.2,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.74**	**341**	P	**P**	**18 37 29.6**	**-1.6**
	comp=Z,1.3nm,0.4s,mb4.2,baz=28,slow=6.3,SNR=6.9						
NOA	**NORSAR Array B**	**68.74**	**341**	P	**P**	**18 37 29.6**	**-1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.18**	**197**	P	**P**	**18 37 47.6**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=12,slow=5.9,SNR=16						
ASAR	**Alice Springs**	**71.18**	**197**	P	**P**	**18 37 47.6**	**+1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.78**	**326**	P	**P**	**18 37 48.1**	**-1.6**
	comp=Z,2.7nm,0.4s,mb4.5,baz=36,slow=6.2,SNR=20						
AKASG	**Malin Array Be**	**71.78**	**326**	P	**P**	**18 37 48.1**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
STHS	**Stebnicka Huta**	**75.82**	**329**	*i* P	**P**	**18 38 14.1**	**+0.7**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
STHS	**Stebnicka Huta**	**75.82**	**329**	*i* P	**P**	**18 38 14.1**	**+0.7**
	comp=Z,3.2nm,0.8s,mb4.3						
STHS				*e*		18 38 16.7	
BURAR	**Bucovina Array**	**75.83**	**326**	⇓P	**P**	**18 38 13.2**	**-0.2**
BURAR	**Bucovina Array**	**75.83**	**326**	⇓*i*P	**P**	**18 38 13.1**	**-0.3**
KOLS	**Kolonicke sedl**	**75.85**	**328**	*e*P	**P**	**18 38 13.1**	**-0.5**
VRI	**Vrincioaia**	**76.64**	**324**	⇑*i*P	**P**	**18 38 19.3**	**+1.2**
DPC	**Dobruska-Polom**	**76.69**	**333**	*e*P	**P**	**18 38 19.3**	**+1.0**
CLL	**Collm**	**76.87**	**335**	*e*P	**P**	**18 38 19.0**	**-0.4**
MLR	**Muntele Rosu**	**77.27**	**324**	⇓*i*P	**P**	**18 38 22.7**	**+1.1**
VYHS	**Vyhne**	**77.44**	**330**	*e*P	**P**	**18 38 22.5**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
VYHS	**Vyhne**	**77.44**	**330**	*e*P	**P**	**18 38 22.5**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.0						
VRAC	**Vranov**	**77.50**	**332**	⇓*i*P	**P**	**18 38 22.7**	**-0.2**
VOIR		**77.67**	**325**	⇓*i*P	**P**	**18 38 24.3**	**+0.4**
NKC	**Novy Kostel**	**77.99**	**335**	*e*P	**P**	**18 38 24.3**	**-1.3**
BR131	**Keskin Array S**	**78.43**	**316**	*e*P	**P**	**18 38 28.1**	**0.0**
	comp=Z,2.6nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**78.43**	**316**	P	**P**	**18 38 28.2**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=71,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**78.43**	**316**	P	**P**	**18 38 28.3**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**78.59**	**60**	P	**P**	**18 38 30.1**	**+1.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=302,slow=4.3,SNR=15						
TXAR	**Lajitas Array**	**78.59**	**60**	P	**P**	**18 38 30.1**	**+1.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**78.62**	**334**	*e*P	**P**	**18 38 28.8**	**-0.3**
GRA1	**Grafenberg Arr**	**78.83**	**335**	*e*P	**P**	**18 38 30.5**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**78.83**	**335**	*e*P	**P**	**18 38 30.5**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**78.83**	**335**	*e*P	**P**	**18 38 30.5**	**+0.2**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GERES	**GERESS Array B**	**78.83**	**333**	P	**P**	**18 38 29.9**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=36,slow=5.3,SNR=16						
GERES	**GERESS Array B**	**78.83**	**333**	P	**P**	**18 38 29.9**	**-0.4**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VTS	**Vitosha**	**80.78**	**324**	⇑*i*P	**P**	**18 38 41.3**	**+0.5**

IDC ***13*** *18:32:01.0±1.5, 1.19N×96.95E, h0km, mb4.1/7, mb1 4.1/8, mb1mx3.8/23, mbtmp4.0/8, MS3.6/2, Ms1 3.6/2, ms1mx2.9/38, Error ellipse: s-maj=42.8km s-min=19.8km az=55.0*

BJI ***13*** *18:32:01.5, 0.97N×97.41E, h28km, mb4.5*

ISCJB ***13*** *18:32:05.4±4.1, 13.N±02×97.1E±02, h39km±31km, mb4.2/14, MS4.4/1, Error ellipse: s-maj=43.2km s-min=15.9km az=98.3*

NEIC ***13*** *18:32:05.8±0.7, 1.24N×97.05E, h30km, mb4.0/1, Error ellipse: s-maj=15.1km s-min=11.1km az=49.0*

ISC 13 18:32:08.1±3.9, 13.N±02×97.2E±02, h41km±30km, n22, σ0§95/21, mb4.2/14, MS4.4/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**49**	Pn	**Pn**	**18 32 43.3**	**-0.1**
	2.5nm,0.3s,baz=239,slow=6.2,SNR=30						
PSI				LR	LR	18 33 33.4	
	comp=Z,292nm,20.5s,baz=318,slow=37						
KULM	**Kulim**	**5.26**	**41**	*e*P	**Pn**	**18 33 23.9**	**-0.3**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**18 37 22.8**	**+1.4**
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.2						
KMI	**Kunming**	**24.29**	**12**	P	**P**	**18 37 22.7**	**+1.2**
PKI	**Pulchoki**	**28.45**	**338**	*e*P	**P**	**18 38 01.9**	**+2.9**
GUN	**Gumba**	**28.59**	**339**	*e*P	**P**	**18 38 00.3**	**+0.1**
	comp=Z,9.5nm,0.6s,mb4.7						
DMN	**Daman**	**28.61**	**337**	*e*P	**P**	**18 38 03.4**	**+3.0**
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**18 38 01.3**	**+0.1**
	comp=Z,12nm,1.0s,mb4.6						
LSA	**Lhasa**	**28.82**	**349**	P	**P**	**18 38 02.8**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.0						
GKN	**Gorkha**	**29.14**	**337**	*e*P	**P**	**18 38 03.2**	**-1.9**
	comp=Z,11nm,0.9s,mb4.6						
KOLN	**Koldanda**	**29.36**	**335**	*e*P	**P**	**18 38 07.4**	**+0.3**
	comp=Z,10nm,0.8s,mb4.6						
GTA	**Gaotai**	**38.01**	**3**	*e*P	**P**	**18 39 21.9**	**-0.2**
GTA				AP	pP	18 39 27.0	-6.4
GTA				XP	sP	18 39 29.5	-8.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**42.10**	**122**	P	**P**	**18 39 56.0**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.6,baz=301,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**18 40 07.5**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.6,baz=302,slow=7.8,SNR=6.0						
KSRS	**Korea Array**	**45.78**	**35**	P	**P**	**18 40 25.4**	**-0.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=224,slow=9.6,SNR=11						
SONM	**Songino Array**	**47.04**	**8**	P	**P**	**18 40 35.4**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=190,slow=9.2,SNR=21						
MK31	**Makanchi Array**	**47.14**	**346**	*e*P	**P**	**18 40 35.6**	**-0.6**
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**18 40 36.0**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=162,slow=9.1,SNR=24						
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**18 40 36.0**	**-0.3**
ZAL	**Zalesovo**	**53.45**	**351**	P	**P**	**18 41 23.2**	**-0.8**
	comp=Z,2.8nm,0.4s,mb4.5,baz=319,slow=6.6,SNR=13						
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**18 41 42.2**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.3,baz=139,slow=9.9,SNR=10						
GERES	**GERESS Array B**	**84.73**	**319**	LR	LR	19 25 50.8	
	comp=Z,162nm,20.4s,MS4.4,baz=265,slow=38						

VIE ***13*** *18:41:28.7±0.5, 44.45N×12.72E, h8km, ML2.4/1, Error ellipse: s-maj=2.8km s-min=2.6km az=114.0 63 km NNE of San Marino*

ROM ***13*** *18:41:31.6±1.0, 44.59N×13.05E, h10km, Md2.6/6, Ml1.9/3, Error ellipse: s-maj=12.3km s-min=6.4km az=40.0*

CSEM ***13*** *18:41:32.5±0.3, 44.50N×12.92E, h20km, ML2.9/3, Error ellipse: s-maj=9.7km s-min=5.2km az=124.0*

ISCJB ***13*** *18:41:33.2±0.6, 44.49N±0.03×12.85E±0.08, h10km, Error ellipse: s-maj=8.5km s-min=3.7km az=49.4*

**ISC 13 18:41:33.9±0.6, 44.44N±0.04×12.93E±0.10, h8km±11km, n12, σ1

*IDC **13** 18:58:00.3±0.6, 2406S×11561W, h0km, mb4.3/16, mb1 4.5/16, mb1mx4.4/19, mbtmp4.3/16, MS4.7/24, Ms1 4.7/24, ms1mx4.7/25, Error ellipse: s-maj=20.8km s-min=16.4km az=71.0*

*ISCJB **13** 18:58:00.3±4.0, 2406S±005×11551W±009, h11km±24km, mb4.7/34, MS4.8/33, Error ellipse: s-maj=13.1km s-min=9.2km az=1.0*

*GCMT **13** 18:58:01.7±0.1, 2425S×11551W, h12km, MW5.4/97, Moment Tensor Solution. s74,c120; s97,c183; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr=0.06±.02; Mθθ=0.84±.02; Mφφ0.90±.02; Mrθ=0.33±.05; Mθφ1.15±.02; Mφr0.36±.06; Best double couple: M0 1.52100×10^17 NP1:φs70.00000°, δ73.00000°, λ-7.00000°. NP2:φs163.00000°, δ83.00000°, λ-163.00000°. Principal axes: T 1.4940, Plg7.0000°, Azm295.0000°; N 0.0540, Plg72.0000°, Azm185.0000°; P -1.5470, Plg17.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **13** 18:58:01.7±0.3, 2412S×11551W, h10km, mb5.3/19, MS5.0/8 Error ellipse: s-maj=9.7km s-min=7.3km az=95.0*

*BJI **13** 18:58:03.6, 24.10S×11550W, h10km, mB5.4, Ms5.3, Msz5.3*

ISC 13 18:58:03.1±4.5, 2414S±005×11553W±009, h17km±27km, n108, σ0.94/70, mb4.7/34, MS4.8/33, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.33**	**119**	LR	LR	19 00 40.4	
	comp=Z,158nm,19.4s,baz=134,slow=25						
RPN				T		19 05 58.1	
	54nm,0.3s,baz=295,slow=18,SNR=9.0						
RKT	**Rikitea**	**17.85**	**269**	eLQ		19 05 35.3	
	12μm,27.2s						
RKT	**Rikitea**	**17.85**	**269**	*e*P	**Pn**	**19 02 11.2**	**+0.6**
	880nm,27.8s						
RKT				eLR	LR	19 06 13.7	
	11μm,26.5s,baz=108						
RKT	**Rikitea**	**17.85**	**269**	*e*P	**Pn**	**19 02 11.2**	**+0.6**
RKT				eLQ		19 05 35.3	
TAOE	**Nuku Hiva Isla**	**28.00**	**299**	*e*S	**S**	**19 08 40.9**	**+4.4**
TAOE				eLR	LR	19 10 59.7	
	22μm,25.9s,baz=136						
TBI	**Tubuai**	**31.03**	**264**	*e*S	**S**	**19 09 25.5**	**+1.4**
	815nm,28.2s						
TBI				eLQ		19 11 08.6	
	2μm,38.2s						
TBI				eLR	LR	19 12 17.7	
	3μm,27.0s,baz=101						
PPT	**Papeete**	**32.43**	**275**	eLQ		19 11 52.1	
	3μm,25.8s						
PPT				eLR	LR	19 12 53.0	
	5μm,28.0s,baz=107						
PPT	**Papeete**	**32.43**	**275**	LR	LR	19 14 23.9	
	comp=Z,1μm,20.4s,MS4.6,baz=110,slow=30						
PLCA	**Paso Flores**	**40.94**	**125**	P	**P**	**19 05 45.9**	**+1.3**
	7.0nm,1.0s,mb4.3,baz=284,slow=10,SNR=7.0						
PLCA				LR	LR	19 18 29.4	
	comp=Z,3μm,18.5s,MS5.2,baz=292,slow=30						
PLCA	**Paso Flores**	**40.94**	**125**	*e*P	**P**	**19 05 45.9**	**+1.3**
PLCA				pmax	pmax		
	comp=Z,21nm,1.1s						
PLCA	**Paso Flores**	**40.94**	**125**	*e*P	**P**	**19 05 45.9**	**+1.2**
	comp=Z,21nm,1.1s,mb4.7						
PLCA				LR	LR	19 18 29.4	
CFAA	**Coronel Fontan**	**42.20**	**111**	P	**P**	**19 05 55.7**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=259,slow=8.1,SNR=7.8						
CFAA				LR	LR	19 19 24.9	
	comp=Z,427nm,19.4s,MS4.3,baz=272,slow=30						
LVC	**Limon Verde**	**42.67**	**98**	P	**P**	**19 05 59.8**	**+1.0**
	comp=Z,3.7nm,0.9s,mb4.1,baz=271,slow=6.2,SNR=4.3						
LVC	**Limon Verde**	**42.67**	**98**	*e*P	**P**	**19 05 60.0**	**+1.2**
	comp=Z,46nm,1.8s,mb4.9						
LVC				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
LPAZ	**La Paz**	**44.99**	**89**	P	**P**	**19 06 18.9**	**+1.4**
	comp=Z,7.3nm,1.0s,mb4.5,baz=275,slow=5.4,SNR=23						
LPAZ				LR	LR	19 20 28.3	
	comp=Z,1μm,21.6s,MS4.8,baz=249,slow=30						
JTS	**JuntasAbangare**	**45.42**	**45**	*e*P	**P**	**19 06 20.4**	**-0.4**
JTS				pmax	pmax		
	comp=Z,139nm,1.6s						
JTS				MLR	MLR		
	comp=Z,444nm,22.0s						
JTS	**JuntasAbangare**	**45.42**	**45**	*e*P	**P**	**19 06 20.4**	**-0.4**
	comp=Z,139nm,1.6s,mb5.5						
JTS				LR	LR		
	comp=Z,444nm,22.0s,MS4.4						
CMIG	**Matias Romero**	**45.66**	**28**	LR	LR	19 21 24.0	
	comp=Z,1μm,20.5s,MS4.8,baz=189,slow=31						
USHA	**Ushuaia**	**46.25**	**144**	LR	LR	19 21 34.7	
	comp=Z,3μm,18.6s,MS5.2,baz=276,slow=30						
LPIG	**La Paz**	**48.22**	**6**	LR	LR	19 21 57.6	
	comp=Z,2μm,19.8s,MS5.0,baz=82,slow=30						
ROSC	**El Rosal**	**49.40**	**60**	P	**P**	**19 06 53.5**	**+1.7**
	comp=Z,4.1nm,0.3s,mb4.9,baz=90,slow=22,SNR=8.7						
ROSC				LR	LR	19 24 47.7	
	comp=Z,465nm,18.7s,MS4.5,baz=39,slow=32						
ROSC	**El Rosal**	**49.40**	**60**	*e*P	**P**	**19 06 52.4**	**+0.6**
ROSC				LR	LR	19 24 47.7	
TEIG	**Tepich**	**51.47**	**33**	LR	LR	19 25 44.2	
	comp=Z,869nm,18.2s,MS4.8,baz=175,slow=32						
PMSA	**Palmer Station**	**52.32**	**155**	LR	LR	19 24 14.0	
	comp=Z,525nm,18.7s,MS4.6,baz=302,slow=30						
LTX	**Lajitas**	**54.37**	**13**	*e*P	**P**	**19 07 29.4**	**+0.5**
LTX				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
LTX				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.9						
LTX	**Lajitas**	**54.37**	**13**	*e*P	**P**	**19 07 29.4**	**+0.5**
	comp=Z,9.1nm,1.1s,mb4.6						
LTX				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
TXAR	**Lajitas Array**	**54.37**	**13**	P	**P**	**19 07 29.4**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=189,slow=15,SNR=7.4						
TXAR				LR	LR	19 26 45.5	
	comp=Z,603nm,19.1s,MS4.7,baz=65,slow=32						
SDV	**Santo Domingo**	**54.75**	**59**	*e*P	**P**	**19 07 30.9**	**-0.8**
	comp=Z,37nm,1.0s,mb5.4						
JCT	**Junction City**	**56.36**	**16**	*e*P	**P**	**19 07 42.6**	**-0.6**
JCT				pmax	pmax		
	comp=Z,89nm,1.4s,mb5.6						
JCT	**Junction City**	**56.36**	**16**	*e*P	**P**	**19 07 42.6**	**-0.6**
	comp=Z,89nm,1.4s,mb5.6						
PFO	**Pinyon Flat Ob**	**57.43**	**359**	P	**P**	**19 07 53.1**	**+2.3**
	comp=Z,3.8nm,0.7s,mb4.5,baz=190,slow=7.6,SNR=4.7						
ANMO	**Albuquerque**	**59.39**	**9**	P	**P**	**19 08 05.1**	**+0.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=199,slow=8.1,SNR=5.3						
ANMO	**Albuquerque**	**59.39**	**9**	P	**P**	**19 08 05.1**	**+0.6**
ANMO				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
WUAZ	**Wupatki**	**59.46**	**4**	*e*P	**P**	**19 08 05.7**	**+0.8**
	comp=Z,4.1nm,1.6s,mb5.2						
MTUM	**Tungsten Hills**	**61.23**	**357**	P	**P**	**19 08 18.4**	**+1.4**
MVCO	**Mesa Verde**	**61.38**	**6**	*e*P	**P**	**19 08 17.4**	**-0.7**
	comp=Z,50nm,1.6s,mb5.4						
CMB	**Columbia Colle**	**62.01**	**356**	*e*P	**P**	**19 08 22.1**	**-0.2**
CMB				pmax	pmax		
	comp=Z,53nm,1.7s,mb5.4						
CMB				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0						
CMB	**Columbia Colle**	**62.01**	**356**	*e*P	**P**	**19 08 22.1**	**-0.2**
	comp=Z,53nm,1.7s,mb5.4						
CMB				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
TRCR	**Troy Canyon**	**62.15**	**360**	P	**P**	**19 08 23.8**	**+0.4**
SDCO	**Great Sand Dun**	**62.27**	**9**	*e*P	**P**	**19 08 23.9**	**-0.2**
	comp=Z,38nm,1.5s,mb5.3						
SDCO				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
PV01	**Paradox Valley**	**62.28**	**6**	*e*P	**P**	**19 08 23.5**	**-0.7**
NVAR	**Mina Array Bea**	**62.29**	**358**	P	**P**	**19 08 25.0**	**+0.8**
	comp=Z,3.6nm,0.9s,mb4.5,baz=193,slow=9.7,SNR=18						
MSU	**Marysvale**	**62.40**	**3**	*e*P	**P**	**19 08 25.6**	**+0.7**
PV10	**Paradox Valley**	**62.48**	**6**	*e*P	**P**	**19 08 25.7**	**+0.2**
SRU	**San Rafael**	**63.09**	**4**	*e*P	**P**	**19 08 29.1**	**-0.4**
SRU				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
SRU	**San Rafael**	**63.09**	**4**	*e*P	**P**	**19 08 29.1**	**-0.5**
	comp=Z,12nm,1.0s,mb5.0						
DUG	**Dugway**	**64.05**	**2**	*e*P	**P**	**19 08 35.2**	**-0.7**
DUG				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
DUG	**Dugway**	**64.05**	**2**	*e*P	**P**	**19 08 35.2**	**-0.7**
	comp=Z,22nm,1.2s,mb5.1						
ISCO	**Idaho Springs**	**64.27**	**8**	*e*P	**P**	**19 08 37.7**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ISCO				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.1						
ISCO	**Idaho Springs**	**64.27**	**8**	*e*P	**P**	**19 08 37.7**	**+0.3**
	comp=Z,8.3nm,1.0s,mb4.7						
ISCO				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
DAU	**Daniels Canyon**	**64.34**	**4**	*e*P	**P**	**19 08 37.5**	**-0.3**
JLU	**Jordanelle**	**64.52**	**3**	*e*P	**P**	**19 08 39.6**	**+0.7**
BGU	**Big Grassy Mou**	**64.77**	**2**	*e*P	**P**	**19 08 40.1**	**-0.4**
VNDA	**Vanda**	**65.01**	**194**	P	**P**	**19 08 43.0**	**+0.8**
	comp=Z,1.1nm,1.0s,mb3.9,baz=56,slow=3.6,SNR=3.0						
VNDA				LR	LR	19 30 42.7	
	comp=Z,841nm,19.2s,MS5.0,baz=86,slow=30						
KSU1	**Kansas State U**	**65.35**	**16**	*e*P	**P**	**19 08 44.2**	**-0.2**
QSPA	**South Pole Qui**	**66.02**	**180**	*e*P	**P**	**19 08 48.5**	**-0.2**
	comp=Z,8.2nm,0.2s,mb5.4						
BW06	**Boulder Array**	**66.79**	**5**	*e*P	**P**	**19 08 51.2**	**-2.4**
	comp=Z,10nm,1.1s,mb4.8						
PDAR	**Pinedale Array**	**66.79**	**5**	P	**P**	**19 08 52.5**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=183,slow=5.9,SNR=11						
PDAR				LR	LR	19 32 46.8	
	comp=Z,406nm,19.7s,MS4.6,baz=11,slow=31						
HLID	**Hailey**	**67.37**	**1**	*e*P	**P**	**19 08 58.2**	**+0.9**
	comp=Z,27nm,1.2s,mb5.2						
HLID				LR	LR		
	comp=Z,726nm,19.0s,MS4.9						
MOOW	**Moose Ponds**	**67.69**	**4**	*e*P	**P**	**19 08 58.4**	**-0.9**
	comp=Z,14nm,1.1s,mb4.9						
QLMT	**Earthquake Lak**	**68.73**	**3**	P	**P**	**19 09 04.8**	**-1.0**
CHMT	**Chamberlain Mo**	**70.74**	**2**	*e*P	**P**	**19 09 17.6**	**-0.6**
DZM	**Mont Dzumac**	**70.87**	**254**	LR	LR	19 31 57.2	
	comp=Z,329nm,20.4s,MS4.6,baz=130,slow=29						
LAO	**LASA Array**	**70.99**	**7**	P	**P**	**19 09 20.2**	**+0.4**
	comp=Z,16nm,0.8s,mb5.0						
EGMT	**Eagleton**	**72.01**	**4**	*e*P	**P**	**19 09 26.4**	**+0.5**
	comp=Z,72nm,1.5s,mb5.4						
VNA3	**Neumayer Olymp**	**72.30**	**161**	*e*	**P**	**19 09 26.8**	**-0.9**
VNA3				*e*	pP	19 09 32.5	-0.7
VNA3				*e*		19 09 36.3	
VNA3				*e*		19 09 41.9	
VNA3				*e*		19 09 50.6	
VNA1	**Neumayer--Stat**	**72.96**	**161**	*e*	**P**	**19 09 30.0**	**-1.6**
VNA1				*e*		19 09 40.8	
VNA2	**Neumayer--Watz**	**73.11**	**161**	*e*	**P**	**19 09 31.6**	**-0.9**
	baz=250,slow=4.6						
VNA2				*e*	pP	19 09 37.6	-0.4
VNA2				*e*		19 09 41.4	
VNA2				*e*		19 09 46.5	
VNA2				*e*		19 09 54.6	
DRV	**Dumont d'Urvil**	**73.62**	**204**	P	**P**	**19 09 34.0**	**-1.5**
SNAA	**Sanae**	**74.08**	**162**	P	**P**	**19 09 38.8**	**+0.6**
	comp=Z,1.3nm,0.9s,mb3.8,baz=231,slow=3.8,SNR=8.1						
SNAA				LR	LR	19 36 34.5	
	comp=Z,70nm,20.8s,MS3.9,baz=34,slow=31						
SNAA	**Sanae**	**74.08**	**162**	*e*P	**P**	**19 09 38.2**	**0.0**
SNAA				LR	LR	19 36 34.5	
ULM	**Lac du Bonnet**	**76.08**	**13**	P	**P**	**19 09 49.5**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=225,slow=4.3,SNR=3.4						
ULM				LR	LR	19 39 37.6	
	comp=Z,351nm,19.5s,MS4.7,baz=62,slow=33						
HNR	**Honiara**	**81.25**	**264**	LR	LR	19 38 35.4	
	comp=Z,356nm,20.5s,MS4.7,baz=177,slow=30						
SYO	**Syowa Base**	**85.37**	**171**	*e*P	**P**	**19 10 38.5**	**-0.9**
YKA	**Yellowknife Ar**	**86.33**	**0**	P	**P**	**19 10 42.7**	**-1.4**
	comp=Z,5.1nm,0.9s,mb4.8,baz=174,slow=5.1,SNR=62						
YKA				LR	LR	19 45 47.2	
	comp=Z,432nm,18.1s,MS4.9,baz=175,slow=33						
YKA	**Yellowknife Ar**	**86.33**	**0**	P	**P**	**19 10 42.7**	**-1.4**
YKA				LR	LR	19 45 47.2	
STKA	**Stephens Creek**	**87.68**	**236**	P	**P**	**19 10 50.9**	**+0.1**
	comp=Z,3.5nm,0.9s,mb4.6,baz=98,slow=5.3,SNR=5.4						
STKA				LR	LR	19 45 40.3	
	comp=Z,653nm,18.2s,MS5.1,baz=59,slow=33						
MAW	**Mawson**	**88.53**	**179**	LR	LR	19 45 19.2	
	comp=Z,885nm,21.1s,MS5.2,baz=179,slow=32						
SCHQ	**Schefferville**	**89.01**	**26**	LR	LR	19 50 18.9	
	comp=Z,363nm,18.8s,MS4.8,baz=55,slow=35						
PMG	**Port Moresby**	**92.79**	**258**	LR	LR	19 47 09.9	
	comp=Z,685nm,18.7s,MS5.1,baz=93,slow=32						
INK	**Inuvik**	**93.12**	**353**	P	**P**	**19 11 13.5**	**-2.6**
	comp=Z,1.6nm,0.9s,mb4.5,baz=159,slow=5.8,SNR=6.6						
INK	**Inuvik**	**93.12**	**353**	P	**P**	**19 11 13.5**	**-2.6**
ASAR	**Alice Springs**	**97.59**	**240**	P	**P**	**19 11 37.1**	**+0.6**
	comp=Z,0.3nm,0.8s,mb3.9,baz=114,slow=3.8,SNR=4.7						
WRA	**Warramunga Arr**	**99.09**	**243**	P	**P**	**19 11 44.3**	**+1.0**
	comp=Z,0.8nm,0.9s,mb4.3,baz=110,slow=4.5,SNR=5.7						
WRA				LR	LR	19 54 55.2	
	comp=Z,456nm,18.5s,MS5.0,baz=175,slow=34						
TORD	**Torodi Ar. Bea**	**119.93**	**88**	PKP	PKPdf	19 16 52.1	-0.4
	comp=Z,1.4nm,0.9s,baz=303,slow=3.1,SNR=6.2						
TORD				PP	PP	19 18 20.4	+3.8
	comp=Z,1.4nm,1.0s,baz=274,slow=7.9,SNR=4.4						
SONM	**Songino Array**	**139.33**	**316**	PKP	PKPdf	19 17 28.6	-0.7
	comp=Z,0.7nm,0.8s,baz=101,slow=1.5,SNR=5.8						
ZAK	**Zakamensk**	**140.19**	**321**	*e*PKHKP		19 17 08.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
AKASG	**Malin Array Be**	**142.02**	**37**	PKP	PKPdf	19 17 33.1	-1.0
	comp=Z,1.6nm,0.8s,baz=285,slow=3.1,SNR=6.3						
KMBO	**Kilima Mbogo**	**143.54**	**130**	PKP	PKPdf	19 17 36.5	-0.3
	comp=Z,4.7nm,0.8s,baz=237,slow=24,SNR=15						
LZH	**Lanzhou**	**144.15**	**299**	*e*PKP	PKPdf	19 17 36.1	-1.8
LZH				APKP		19 17 39.5	
LZH				XPKP		19 17 42.3	
LZH				LR	LR		
	comp=E,215nm,16.2s						
LZH				LR	LR		
	comp=Z,317nm,18.7s,MS5.1						
TIRR	**Tirgusor**	**144.36**	**46**	*e*PKIKP	PKPdf	19 17 36.2	-2.1
CANB	**Canakkale**	**144.86**	**54**	*i* P	PKPdf	19 17 37.7	-1.4
NVS	**Novosibirsk**	**146.31**	**340**	*i* PKP2	PKPab	19 17 41.5	-2.1
NVS				pmax	pmax		
	comp=Z,49nm,2.2s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,28nm,2.1s						
GTA	**Gaotai**	**146.56**	**306**	PKP	PKPdf	19 17 43.3	+1.3
GTA				PKS		19 21 18.3	
GTA				SKS	SKSdf	19 24 50.5	+0.4
GTA				PP	PP		
	comp=Z,161nm,6.8s						
GTA				LR	LR		
	comp=N,236nm,21.3s,MS5.2						
GTA				LR	LR		
	comp=E,384nm,26.2s,MS5.2						
GTA				LR	LR		
	comp=Z,672nm,24.0s,MS5.3						
ZAL	**Zalesovo**	**146.56**	**338**	PKPbc	PKPbc	19 17 42.6	-0.9
	comp=Z,5.0nm,0.9s,baz=92,slow=5.1,SNR=29						
BORA	**Eskisehir**	**147.39**	**53**	*i* P	PKPdf	19 17 43.9	+0.5
ARU	**Arti**	**147.45**	**6**	*e*PKP2	PKPab	19 17 44.5	-3.5
ARU	**Arti**	**147.45**	**6**	*e*PKPdf	PKPdf	19 17 43.1	-0.4
CHTO	**Chiang Mai**	**147.54**	**267**	*e*PKP2	PKPab	19 17 46.7	-1.7
SGKT	**Sivrigoynuk**	**148.31**	**51**	*i* P	PKPdf	19 17 47.5	+2.6
BR131	**Keskin Array S**	**149.75**	**52**	*e*PKPbc	PKPbc	19 17 51.9	-0.1
BRTR	**Keskin Array B**	**149.75**	**52**	PKPbc	PKPbc	19 17 51.5	-0.5
	comp=Z,5.4nm,0.9s,baz=243,slow=1.4,SNR=21						
CHKZ	**Chkalovo**	**150.14**	**353**	*e*PKP2	PKPbc	19 17 52.1	-0.8
BRVK	**Borovoye**	**150.78**	**353**	*e*PKIKP	PKPdf	19 17 48.7	-0.2
BRVK				*e*		19 17 53.6	
KURK	**Kurchatov**	**151.29**	**341**	*e*PKIKP	PKPbc	19 17 54.4	-1.2
MK31	**Makanchi Array**	**153.26**	**332**	*e*PKIKP	PKPdf	19 17 52.4	-0.2
MK31				*e*		19 17 59.5	
MKAR	**Makanchi Array**	**153.26**	**332**	PKP	PKPdf	19 17 51.8	-0.8
	comp=Z,0.7nm,0.8s,baz=64,slow=5.5,SNR=6.1						
MKAR				PKPbc	PKPbc	19 17 60.0	-0.1
	comp=Z,2.3nm,0.8s,baz=46,slow=3.5,SNR=16						
MKAR	**Makanchi Array**	**153.26**	**332**	PKP	PKPdf	19 17 51.8	-0.8
MKAR				PKPbc	PKPbc	19 17 60.0	-0.1

*NEIC **13** 18:58:24.8±0.8, 2078N×11978E, h10km, Error ellipse: s-maj=22.1km s-min=13.2km az=90.0*

*IDC **13** 18:58:25.0±1.2, 2021N×11880E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=126.6km s-min=18.8km az=64.0*

ISC 13 18:58:28.5±0.9, 208N±01×1198E±02, h35km, n8, σ0.82/8, mb3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.71**	**26**	*e*P	**Pn**	**18 59 24.7**	**+1.4**
YHNB	**Yeheng**	**4.08**	**20**	*e*P	**Pn**	**18 59 26.7**	**-1.6**
SONM	**Songino Array**	**29.05**	**341**	P	**P**	**19 04 30.5**	**+5.2**
	0.2nm,0.6s,mb3.0,baz=156,slow=8.3,SNR=2.2						
MK31	**Makanchi Array**	**39.97**	**319**	*e*P	**P**	**19 05 59.5**	**-0.1**
MKAR	**Makanchi Array**	**39.97**	**319**	P	**P**	**19 05 59.9**	**+0.4**
	0.2nm,0.5s,mb3.1,baz=108,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**42.93**	**160**	P	**P**	**19 06 23.7**	**-0.2**
	1.6nm,0.7s,mb3.9,baz=342,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**46.30**	**162**	P	**P**	**19 06 50.8**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=345,slow=6.9,SNR=9.2						
BVAR	**Borovoye Array**	**49.53**	**323**	P	**P**	**19 07 15.6**	**-0.1**
	0.5nm,0.8s,mb3.6,baz=96,slow=7.4,SNR=2.5						

KRSC 13 19:05:46.8±1.2, 5046N×15789E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.01**	**11**	*e*P	Pn	19 06 22.5	+1.1
RUS				*e*S	Sn	19 06 48.4	+1.4
GRL	**Gorelyy**	**2.10**	**3**	*e*P	Pn	19 06 23.2	+0.6
GRL				*e*S	Sn	19 06 50.0	+0.9
PET	**Petropavlovsk**	**2.61**	**10**	P	Pn	19 06 30.6	+1.0
PET				*e*S	Sn	19 07 02.4	+0.7
NLC	**Nalytchevo**	**2.86**	**18**	S	Sn	19 07 07.8	-0.1
SDLR	**Sedlovina**	**2.89**	**12**	P	Pn	19 06 35.0	+1.5
SDLR				S	Sn	19 07 10.6	+2.0
SPN	**Mys Shipunski**	**2.96**	**26**	P	Pn	19 06 36.1	+1.7
SPN				*e*S	Sn	19 07 12.2	+2.0
GNL	**Ganaly**	**3.24**	**1**	*e*P	Pn	19 06 40.2	+1.9
GNL				S	Sn	19 07 19.0	+1.8
KBTR	**Krutoberegovo**	**6.47**	**25**	*e*P	Pn	19 07 24.7	+2.0

*LDG **13** 19:12:15.2±0.1, 4310N×068W, h14km, Md1.7/2, Error ellipse: s-maj=4.8km s-min=1.7km az=8.0*

*STR **13** 19:12:15.0±0.2, 4318N×065W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 13 19:12:15.7±0.3, 4312N×066W, h10km±1km, mbLg1.1/6, Error ellipse: s-maj=4.3km s-min=1.6km az=16.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.04**	**219**	Pg	Pg	19 12 17.8	+0.2
ATE				Sg	Sg	19 12 19.6	+0.5
ATE	**Arette**	**0.04**	**219**	P	Pg	19 12 17.8	+0.1
ATE				S	Sg	19 12 19.6	+0.5
REYF	**Montagne du Re**	**0.20**	**104**	Pg	Pg	19 12 20.0	0.0
REYF				Sg	Sg	19 12 23.1	+0.2
REYF	**Montagne du Re**	**0.20**	**104**	P	Pg	19 12 19.7	-0.3
REYF				S	Sg	19 12 22.8	-0.1
ORDF	**Ordiarp**	**0.22**	**296**	P	Pg	19 12 20.1	-0.1
ORDF				S	Sg	19 12 23.7	+0.4
ETSF	**Etsaut**	**0.23**	**161**	*e*Pg	Pg	19 12 20.2	-0.3
ETSF				*e*Sg	Sg	19 12 23.5	-0.2
	26nm,0.3s						
ETSF	**Etsaut**	**0.23**	**161**	Pg	Pg	19 12 20.2	-0.3
ETSF				Lg		19 12 23.5	
	13nm,0.3s						
LARF	**Larrau**	**0.25**	**251**	Pg	Pg	19 12 20.7	-0.1
LARF				Sg	Sg	19 12 25.4	+1.2
LARF	**Larrau**	**0.25**	**251**	P	Pg	19 12 20.8	0.0
LARF				S	Sg	19 12 24.5	+0.3
SJPF	**Ste Jean**	**0.41**	**269**	*e*Pg	Pg	19 12 23.1	-0.6
SJPF				*e*Sg	Sg	19 12 28.5	-0.7
	3.9nm,0.2s						
SJPF	**Ste Jean**	**0.41**	**269**	Pg	Pg	19 12 23.1	-0.6
SJPF				Lg		19 12 28.5	
	1.9nm,0.2s						
VIEF	**Viey**	**0.56**	**115**	Pg	Pg	19 12 25.7	-0.8
VIEF	**Viey**	**0.56**	**115**	P	Pg	19 12 25.7	-0.7
VIEF				S	Sg	19 12 33.2	-0.6
EALK	**Alkurruntz**	**0.62**	**280**	Pg	Pg	19 12 26.7	-1.1
	0.3nm,0.1s,SNR=7.9						
EALK				Lg		19 12 35.1	
	0.6nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.63**	**274**	Pg	Pg	19 12 27.2	-0.8
	SNR=7.9						
ELIZ				Lg		19 12 36.6	
	0.5nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.67**	**255**	Lg		19 12 37.8	
	1.2nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.73**	**126**	Pg	Pg	19 12 29.0	-0.8
	0.7nm,0.1s,SNR=15						
EBIE				Lg		19 12 38.3	
	4.1nm,0.1s,SNR=24						
EPF	**Esparros**	**0.74**	**96**	*e*Pg	Pg	19 12 30.5	+0.5
EPF				*e*Sg	Sg	19 12 40.2	+0.5
	2.3nm,0.3s						
EPF	**Esparros**	**0.74**	**96**	Pg	Pg	19 12

SONM Songino Array 39.10 320 P P 19 39 38.8 +0.6
0.3nm,0.5s,baz=130,slow=7.6,SNR=4.9
WRA Warramunga Arr 42.50 192 P P 19 40 07.8 +1.5
0.4nm,0.9s,baz=15,slow=8.8,SNR=5.4
ASAR Alice Springs 46.21 192 P P 19 40 34.8 -1.3
0.1nm,0.7s,baz=16,slow=11,SNR=4.3
MKAR Makanchi Array 54.48 313 P P 19 41 38.1 -0.5
0.3nm,0.6s,baz=79,slow=8.5,SNR=3.5
YKA Yellowknife Ar 76.27 28 P P 19 43 59.7 0.0
0.4nm,0.6s,baz=293,slow=5.9,SNR=7.0

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*CSEM **13** 19:48:16.0±0.2,3651N×445W,h93km±2km,ML2.9/3, Error ellipse: s-maj=5.3km s-min=1.6km az=165.0*
*ISCJB **13** 19:48:17.6±0.6,3673N±003×450W±002,h92km±4km, Error ellipse: s-maj=5.8km s-min=2.8km az=160.0*
*LDG **13** 19:48:17.8,3659N×444W,h70km*
*INMG **13** 19:48:17.8±1.2,3652N×440W,h86km±3km,ML2.4, Error ellipse: s-maj=5.1km s-min=2.6km az=160.0*
*NEIC **13** 19:48:18.1,3652N×442W,h84km,MG2.8(MDD),After MDD.*
*SFS **13** 19:48:18.0,3650N×440W,h84km,ML2.8*
*MDD **13** 19:48:18.6±0.6,3656N×445W,h81km±4km,mb3.1/21, Error ellipse: s-maj=6.5km s-min=2.9km az=161.0, PRXIMO*

ISC 13 19:48:18.6±0.6,3672N±003×449W±002,h84km±5km,n76, σ1§31/130,8C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.28**	**237**	⇓P	**Pn**	**19 48 30.3**	**-0.9**
EMIJ	SNR=18			S	**Sn**	**19 48 39.1**	**-1.4**
EMIJ	**Mijas**	**0.28**	**237**	P	**Pn**	**19 48 30.3**	**-0.9**
EMIJ	16nm,0.1s,SNR=18			S	**Sn**	**19 48 39.1**	**-1.4**
ELOJ	**Sierra Loja**	**0.51**	**32**	P	**Pn**	**19 48 34.3**	**+1.6**
ELOJ	2.7nm,0.1s,SNR=7.9			S	**Sn**	**19 48 45.6**	**+2.3**
ERON	**Agron**	**0.62**	**61**	P	**Pn**	**19 48 34.6**	**+0.8**
ERON	4.7nm,0.1s,SNR=18			S	**Sn**	**19 48 45.4**	**+0.3**
REAL	**Reales**	**0.63**	**248**	P	**Pn**	**19 48 33.7**	**-0.2**
REAL				S	**Sn**	**19 48 42.3**	**-2.9**
REAL	**Reales**	**0.63**	**248**	*i* P	**Pn**	**19 48 33.7**	**-0.2**
REAL				*e*S	**Sn**	**19 48 42.3**	**-2.9**
EGUA	**Guajares**	**0.75**	**81**	P	**Pn**	**19 48 33.8**	**-1.3**
EGUA	0.5nm,0.1s,SNR=7.9			S	**Sn**	**19 48 45.2**	**-2.1**
LIJA	**Lijar**	**0.76**	**285**	⇑P	**Pn**	**19 48 36.4**	**+1.2**
LIJA	11nm,0.2s,SNR=7.9			S	**Sn**	**19 48 47.8**	**+0.2**
LIJA	**Lijar**	**0.76**	**285**	*i* P	**Pn**	**19 48 36.4**	**+1.2**
LIJA				*e*S	**Sn**	**19 48 47.8**	**+0.2**
EJIF	**Jimena Fronter**	**0.83**	**252**	⇓P	**Pn**	**19 48 35.8**	**-0.2**
EJIF	7.0nm,0.1s,SNR=18			S	**Sn**	**19 48 48.5**	**-0.5**
ELUQ	**Luque**	**0.86**	**12**	⇑P	**Pn**	**19 48 37.8**	**+1.5**
ELUQ	11nm,0.1s,SNR=18			S	**Sn**	**19 48 52.2**	**+2.8**
ECOG	**Cogollos-Vega**	**0.92**	**53**	P	**Pn**	**19 48 38.3**	**+1.3**
ECOG	2.4nm,0.1s,SNR=7.9			S	**Sn**	**19 48 51.4**	**+0.7**
EQUE	**Quentar**	**0.97**	**60**	P	**Pn**	**19 48 38.4**	**+0.9**
EQUE	2.1nm,0.1s,SNR=33			S	**Sn**	**19 48 51.7**	**+0.1**
MOMI	**Momias**	**1.07**	**249**	P	**Pn**	**19 48 38.5**	**-0.2**
MOMI	**Momias**	**1.07**	**249**	*e*P	**Pn**	**19 48 38.5**	**-0.2**
ESPR	**Espera**	**1.11**	**278**	⇓P	**Pn**	**19 48 39.7**	**+0.5**
ESPR	3.4nm,0.1s,SNR=18			S	**Sn**	**19 48 55.9**	**+1.3**
ESPR	**Espera**	**1.11**	**278**	P	**Pn**	**19 48 39.7**	**+0.5**
ESPR	3.4nm,0.1s,SNR=18			S	**Sn**	**19 48 55.9**	**+1.3**
GIBL	**Gibalbin**	**1.20**	**276**	⇑P	**Pn**	**19 48 40.9**	**+0.7**
GIBL	**Gibalbin**	**1.20**	**276**	*i* P	**Pn**	**19 48 40.9**	**+0.7**
GIBL				*e*S	**Sn**	**19 48 53.7**	**-2.8**
EBER	**Berja**	**1.29**	**82**	P	**Pn**	**19 48 40.7**	**-0.7**
EBER	0.8nm,0.0s,SNR=7.9			S	**Sn**	**19 48 57.0**	**-1.6**
EBER	**Berja**	**1.29**	**82**	P	**Pn**	**19 48 40.8**	**-0.6**
CNIL	**Conil**	**1.31**	**255**	P	**Pn**	**19 48 42.1**	**+0.4**
CNIL				S	**Sn**	**19 48 55.9**	**-3.2**
CNIL	**Conil**	**1.31**	**255**	*e*P	**Pn**	**19 48 42.1**	**+0.4**
CNIL				*e*S	**Sn**	**19 48 55.9**	**-3.1**
EADA	**Adamuz**	**1.45**	**357**	⇑P	**Pn**	**19 48 44.9**	**+1.5**
EADA	20nm,0.1s,SNR=18			S	**Sn**	**19 49 03.7**	**+1.6**
EADA	**Adamuz**	**1.45**	**357**	P	**Pn**	**19 48 44.9**	**+1.5**
EBAN	**Banos Encina**	**1.55**	**21**	⇑P	**Pn**	**19 48 45.7**	**+1.0**
EBAN	35nm,0.1s,SNR=18			S	**Sn**	**19 49 05.6**	**+1.3**
EQES	**Quesada**	**1.56**	**46**	P	**Pn**	**19 48 45.6**	**+0.8**
EQES	9.9nm,0.3s,SNR=5.6			S	**Sn**	**19 49 05.4**	**+0.6**
EQES	**Quesada**	**1.56**	**46**	P	**Pn**	**19 48 45.6**	**+0.7**
EHUE	**Huescar**	**1.86**	**53**	⇑P	**Pn**	**19 48 49.3**	**+0.5**
EHUE	2.9nm,0.1s,SNR=18			S	**Sn**	**19 49 11.2**	**-0.6**
EHUE	**Huescar**	**1.86**	**53**	P	**Pn**	**19 48 49.3**	**+0.5**
EMIN	**Mina Concepcio**	**2.04**	**302**	⇓P	**Pn**	**19 48 51.2**	**+0.2**
EMIN	9.7nm,0.1s,SNR=18			S	**Sn**	**19 49 15.3**	**-0.5**
EMIN	**Mina Concepcio**	**2.04**	**302**	P	**Pn**	**19 48 51.2**	**+0.1**
ERIP	5.4nm,0.3s 9.7nm,0.1s,SNR=18			S	**Sn**	**19 49 20.8**	**-1.6**
ERIP	**Rio Piedras**	**2.31**	**287**	P	**Pn**	**19 48 54.4**	**-0.3**
ERIP	10nm,0.1s,SNR=7.9			S	**Sn**	**19 49 20.8**	**-1.6**
ERIP	**Rio Piedras**	**2.31**	**287**	P	**Pn**	**19 48 54.4**	**-0.3**
EVIA	**Vianos**	**2.48**	**39**	P	**Pn**	**19 48 57.3**	**+0.3**
EVIA	67nm,0.1s,SNR=7.9 5.2nm,0.1s,SNR=15			S	**Sn**	**19 49 25.1**	**-1.4**
EGRO	**El Granado**	**2.53**	**290**	⇑P	**Pn**	**19 48 57.5**	**-0.1**
EGRO	5.4nm,0.4s 2.4nm,0.0s,SNR=18			S	**Sn**	**19 49 26.1**	**-1.5**
EGRO	**El Granado**	**2.53**	**290**	P	**Pn**	**19 48 57.5**	**-0.2**
EBAD	**Badajoz**	**2.85**	**316**	P	**Pn**	**19 49 03.0**	**+0.9**
EBAD	15nm,0.2s 4.4nm,0.1s,SNR=26			S	**Sn**	**19 49 35.6**	**+0.2**
EBAD	**Badajoz**	**2.85**	**316**	P	**Pn**	**19 49 03.0**	**+1.0**
ESDC	**Sonseca Array**	**2.98**	**8**	P	**Pn**	**19 49 04.8**	**+1.1**
ESDC	7.5nm,0.2s 4.4nm,0.1s,SNR=26 0.5nm,0.2s,baz=187,slow=14,SNR=17			S	**Sn**	**19 49 38.6**	**+0.1**
ESDC	**Sonseca Array**	**2.98**	**8**	P	**Pn**	**19 49 04.8**	**+1.1**
PBEJ	**Beja**	**2.99**	**297**	*e*P	**Pn**	**19 49 04.1**	**+0.2**
PBEJ	1.0nm,0.3s,baz=186,slow=23,SNR=10.0 0.5nm,0.2s,SNR=17			*e*S	**Sn**	**19 49 37.4**	**-1.4**
PBEJ				A		19 49 39.2	
PBEJ	**Beja**	**2.99**	**297**	*e*P	**Pn**	**19 49 04.1**	**+0.2**
PBEJ	11nm,0.1s			*e*S	**Sn**	**19 49 37.4**	**-1.4**
ETOB	**Tobarra**	**3.02**	**50**	P	**Pn**	**19 49 04.3**	**0.0**
ETOB	11nm,0.1s 2.7nm,0.1s,SNR=38			S	**Sn**	**19 49 37.5**	**-2.0**
ETOB	**Tobarra**	**3.02**	**50**	P	**Pn**	**19 49 04.3**	**0.0**
	2.7nm,0.1s,SNR=38						

PESTR	**Estremoz**	**3.26**	**312**	*e*P	**Pn**	**19 49 08.6**	**+1.1**
PESTR				*e*S	**Sn**	**19 49 45.0**	**-0.3**
PESTR				A		19 49 47.4	
PESTR	**Estremoz**	**3.26**	**312**	*e*P	**Pn**	**19 49 08.6**	**+1.1**
PESTR	8.1nm,0.2s			*e*S	**Sn**	**19 49 45.0**	**-0.3**
EVO	**Evora**	**3.33**	**304**	*e*Pn	**Pn**	**19 49 10.0**	**+1.5**
EVO	8.1nm,0.2s			*e*Sn	**Sn**	**19 49 47.7**	**+0.6**
PTEO	**Sao Teotonio**	**3.49**	**285**	*e*P	**Pn**	**19 49 10.7**	**+0.1**
PTEO	21nm,0.3s			*e*S	**Sn**	**19 49 49.1**	**-1.7**
MOE	**Montemor**	**3.56**	**302**	*e*P	**Pn**	**19 49 12.3**	**+0.8**
MOE				*e*S	**Sn**	**19 49 51.5**	**-1.0**
PCBR	**Castelo Branco**	**3.91**	**324**	*e*P	**Pn**	**19 49 19.1**	**+2.8**
PCBR				*e*S	**Sn**	**19 50 00.2**	**-0.8**
EBEN	**Beniarda**	**3.92**	**58**	P	**Pn**	**19 49 15.5**	**-0.9**
EBEN	SNR=7.9			S	**Sn**	**19 49 58.7**	**-2.5**
EBEN	**Beniarda**	**3.92**	**58**	P	**Pn**	**19 49 15.5**	**-0.9**
GUD	**Guadarrama**	**3.93**	**4**	P	**Pn**	**19 49 17.6**	**+1.0**
GUD	0.8nm,0.1s,SNR=7.9 0.4nm,0.1s,SNR=7.9			S	**Sn**	**19 50 01.3**	**-0.1**
ECHE	**Chera**	**3.99**	**43**	P	**Pn**	**19 49 17.1**	**-0.2**
ECHE	2.6nm,0.3s,SNR=7.9 1.1nm,0.2s,SNR=7.9			S	**Sn**	**19 50 00.3**	**-2.7**
PMAFR	**Mafra**	**4.41**	**302**	*e*P	**Pn**	**19 49 24.1**	**+1.1**
PMAFR				*e*S	**Sn**	**19 50 12.0**	**-1.1**
ETOR	**Torete**	**4.51**	**24**	⇑P	**Pn**	**19 49 25.3**	**+0.7**
ETOR	11nm,0.1s,SNR=18			S	**Sn**	**19 50 13.0**	**-2.8**
EMOS	**Mosqueruela**	**4.81**	**40**	P	**Pn**	**19 49 29.6**	**+1.1**
EMOS	4.6nm,0.5s 0.5nm,0.1s,SNR=7.6			S	**Sn**	**19 50 20.3**	**-2.7**
EMOS	**Mosqueruela**	**4.81**	**40**	P	**Pn**	**19 49 29.6**	**+1.0**
PVRL	**Vila Real**	**5.20**	**332**	*e*S	**Sn**	**19 50 31.8**	**-0.7**
PVRL	32nm,1.2s 0.5nm,0.1s,SNR=7.6			A		19 50 34.0	
PVRL	**Vila Real**	**5.20**	**332**	S	**Sn**	**19 50 31.8**	**-0.7**
PBRG	**Braganca**	**5.37**	**342**	*e*S	**Sn**	**19 50 36.6**	**-0.1**
ECAL	**Calabor**	**5.50**	**342**	P	**Pn**	**19 49 39.9**	**+2.0**
ECAL	15nm,0.1s 7.4nm,0.1s SNR=4.0			S	**Sn**	**19 50 40.8**	**+1.0**
ECAL	**Calabor**	**5.50**	**342**	P	**Pn**	**19 49 39.9**	**+1.9**
ELOB	**Lobios**	**5.84**	**333**	S	**Sn**	**19 50 46.7**	**-1.5**
EPOB	**Poblet**	**6.34**	**41**	P	**Pn**	**19 49 48.7**	**-0.7**
EPOB	1.4nm,0.1s,SNR=7.9 1.3nm,0.2s,SNR=7.9			S	**Sn**	**19 50 56.6**	**-3.6**
EPOB	**Poblet**	**6.34**	**41**	P	**Pn**	**19 49 48.7**	**-0.7**
SJPF	**Ste Jean**	**6.86**	**20**	*e*Pn	**Pn**	**19 49 58.6**	**+2.1**
SJPF	1.3nm,0.2s,SNR=7.9 1.2nm,0.3s			*e*Sn	**Sn**	**19 51 10.5**	**-2.6**
SJPF	**Ste Jean**	**6.86**	**20**	*e*Pn	**Pn**	**19 49 58.6**	**+2.1**
SJPF				*e*Sn	**Sn**	**19 51 10.5**	**-2.6**
ETSF	**Etsaut**	**6.87**	**25**	*e*Pn	**Pn**	**19 49 58.4**	**+1.7**
ETSF	0.6nm,0.3s 0.9nm,0.3s			*e*Sn	**Sn**	**19 51 10.8**	**-2.5**
ETSF	**Etsaut**	**6.87**	**25**	*e*Pn	**Pn**	**19 49 58.4**	**+1.7**
ETSF				*e*Sn	**Sn**	**19 51 10.8**	**-2.5**
EALK	**Alkurruntz**	**6.88**	**18**	P	**Pn**	**19 49 59.1**	**+2.2**
EALK	0.4nm,0.3s 1.1nm,0.1s,SNR=7.9			S	**Sn**	**19 51 11.6**	**-2.1**
EBIE	**Bielsa**	**6.95**	**29**	P	**Pn**	**19 49 58.6**	**+1.0**
EBIE	1.0nm,0.1s,SNR=7.9 0.3nm,0.1s,SNR=7.9			S	**Sn**	**19 51 11.9**	**-3.2**
EBIE	**Bielsa**	**6.95**	**29**	P	**Pn**	**19 49 58.7**	**+1.0**
EPF	**Esparros**	**7.31**	**29**	*e*Pn	**Pn**	**19 50 04.4**	**+1.7**
EPF	0.9nm,0.3s			*e*Sn	**Sn**	**19 51 21.0**	**-3.1**
EPF	**Esparros**	**7.31**	**29**	*e*Pn	**Pn**	**19 50 04.4**	**+1.7**
EPF	1.1nm,0.3s 0.6nm,0.3s			*e*Sn	**Sn**	**19 51 21.0**	**-3.1**

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*ISCJB **13** 19:57:48.0±0.5,4221N±004×141.14E±006,h129km±4km, mb3.2/3,Error ellipse: s-maj=8.4km s-min=5.0km az=82.1*
*JMA **13** 19:57:48.9±0.1,4226N×141.12E,h124km±1km,M2.7*
*IDC **13** 19:57:49.0±1.4,4227N×141.43E,h143km±22km,mb3.0/3, mb1 3.1/5,mb1mx2.9/22,mbtmp3.0/5,Error ellipse: s-maj=35.0km s-min=18.9km az=89.0*

ISC 13 19:57:48.7±0.5,4221N±004×14114E±006,h126km±4km, n21,σ0§61/34,mb3.3/3,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.27**	**344**	P	**Pn**	**19 58 05.9**	**-0.3**
JNB				S	**Sn**	**19 58 18.9**	**-0.5**
JKB	**Kayabe**	**0.33**	**194**	P	**Pn**	**19 58 06.6**	**+0.2**
JKB				*e*S	**Sn**	**19 58 19.7**	**-0.1**
JYM2	**Yakumo 2**	**0.58**	**261**	P	**Pn**	**19 58 07.8**	**0.0**
JYM2				*e*S	**Sn**	**19 58 22.4**	**+0.2**
JEW	**Eniwo**	**0.67**	**20**	P	**Pn**	**19 58 08.4**	**0.0**
JEW				*e*S	**Sn**	**19 58 23.3**	**0.0**
JOT	**Ohata**	**0.83**	**185**	P	**Pn**	**19 58 10.3**	**+0.7**
JSR	**Shiriuchi**	**0.87**	**219**	P	**Pn**	**19 58 10.4**	**+0.4**
JSR				*e*S	**Sn**	**19 58 26.1**	**0.0**
JSH	**Shimam**	**0.92**	**299**	P	**Pn**	**19 58 10.3**	**-0.2**
JBT2	**Biratori 2**	**1.07**	**57**	P	**Pn**	**19 58 11.8**	**-0.1**
JBT2				*e*S	**Sn**	**19 58 29.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.20**	**86**	P	**Pn**	**19 58 13.4**	**+0.2**
JSK	**Shakotan**	**1.24**	**337**	P	**Pn**	**19 58 13.4**	**-0.3**
JOSM	**Okushiri--Mats**	**1.25**	**265**	P	**Pn**	**19 58 13.5**	**-0.2**
JOSM				S	**Sn**	**19 58 32.2**	**-0.5**
JFR	**Furan**	**1.43**	**48**	P	**Pn**	**19 58 16.3**	**+0.6**
JFR				S	**Sn**	**19 58 36.6**	**+0.3**
JHR	**Hokuryu**	**1.59**	**15**	P	**Pn**	**19 58 18.0**	**+0.5**
JHR				*e*S	**Sn**	**19 58 40.5**	**+1.0**
JCH	**Churui**	**1.69**	**75**	P	**Pn**	**19 58 19.1**	**+0.4**
JCH				*e*S	**Sn**	**19 58 41.7**	**+0.1**
JANG	**Nango**	**1.85**	**171**	P	**Pn**	**19 58 20.4**	**-0.2**
JANG				*e*S	**Sn**	**19 58 43.7**	**-1.4**
JKK2	**Kamakawa 2**	**2.04**	**35**	P	**Pn**	**19 58 22.8**	**-0.1**
JKK2				S	**Sn**	**19 58 47.9**	**-1.2**
ASAJ	**Asahikawa**	**2.18**	**29**	P	**Pn**	**19 58 24.8**	**+0.1**
ASAJ	15nm,0.3s,baz=221,slow=13,SNR=136			S	**Sn**	**19 58 51.4**	**-0.9**
MJAR	**Matsushiro Arr**	**6.10**	**203**	P	**Pn**	**19 59 18.9**	**+2.5**
SONM	**Songino Array**	**25.05**	**295**	P	**P**	**20 03 00.8**	**-0.3**
MKAR	**Makanchi Array**	**41.38**	**297**	P	**P**	**20 05 22.6**	**+0.3**
WRA	**Warramunga Arr**	**62.15**	**187**	P	**P**	**20 07 55.4**	**-1.0**

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*NEIC **13** 20:12:08.8,1988N×6356W,h87km,MD3.5(RSPR),After RSPR.*

RSPR 13 20:12:08.8,1988N×6356W,h87km±17km,MD3.5/5, MD3.5/5,7C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDVI	**St. Croix**	**2.40**	**209**	⇑*e*P	Pn	20 12 45.7	-0.5
CDVI				*e*S	Sn	20 13 15.2	+0.3
MTP	**Monte Pirata**	**2.59**	**227**	⇑*e*P	Pn	20 12 47.9	-0.8
MTP				*e*S	Sn	20 13 19.1	-0.2
CBYP	**Canovanas**	**2.70**	**234**	⇑*e*P	Pn	20 12 49.5	-0.6
CBYP				*e*S	Sn	20 13 22.0	+0.1
HUMP	**Col San Antoni**	**2.77**	**232**	*e*S	Sn	20 13 23.7	+0.1
CPD	**Cerro la Pandu**	**2.88**	**231**	⇑*e*P	Pn	20 12 52.7	+0.1
CPD				*e*S	Sn	20 13 26.2	-0.2
SJG	**San Juan**	**3.02**	**235**	⇑*e*P	Pn	20 12 54.6	+0.2
SJG				*e*S	Sn	20 13 29.5	-0.1
CELP	**Cerrillos**	**3.37**	**238**	⇑*e*P	Pn	20 12 59.6	+0.4
CELP				*e*S	Sn	20 13 38.4	+0.1

AOPR	**Arecibo Observ**	**3.38**	**244**	*e*S	Sn	20 13 39.0	+0.6
LSP	**Las Mesas**	**3.74**	**244**	*e*S	Sn	20 13 47.6	+0.5
CRPR	**Cabo Rojo, PR**	**3.84**	**242**	⇑*e*P	Pn	20 13 05.7	+0.1
CRPR				*e*S	Sn	20 13 50.2	+0.6

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*ISCJB **13** 20:18:10.0±1.0,2025S±008×179.12W±008,h662km±14km, mb4.4/19,Error ellipse: s-maj=12.3km s-min=11.6km az=51.1*
*NEIC **13** 20:18:10.4±1.0,2017S×17896W,h654km±13km,mb4.7/10, Error ellipse: s-maj=13.9km s-min=11.0km az=156.0*
*IDC **13** 20:18:14.7±1.6,2013S×17924W,h698km±18km,mb3.7/11, mb1 3.9/12,mb1mx3.8/16,mbtmp3.7/12,Error ellipse: s-maj=15.3km s-min=12.2km az=167.0*

ISC 13 20:18:13.2±1.4,2035S±010×17911W±009,h684km±17km, n44,σ0§92/43,mb4.4/19,1C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.49**	**49**	P	**P**	**20 20 22.8**	**-5.7**
	8.0nm,0.3s,baz=18,slow=2.3,SNR=4.6						
DZM	**Mont Dzumac**	**13.58**	**260**	*e*P	**P**	**20 21 06.1**	**+0.2**
DZM	**Mont Dzumac**	**13.58**	**260**	P	**P**	**20 21 07.0**	**+1.1**
	2.8nm,0.3s,baz=75,slow=14,SNR=31						
WCZ	**Waipu Caves**	**16.57**	**199**	*e*PN	**P**	**20 21 34.0**	**+1.0**
URZ	**Urewera**	**18.15**	**190**	P	**P**	**20 21 45.7**	**-1.5**
	3.3nm,0.3s,baz=275,slow=21,SNR=13						
QRZ	**Quartz Range**	**21.62**	**197**	*e*PN	**P**	**20 22 19.2**	**+1.0**
THZ	**Tophouse**	**22.40**	**196**	*e*PN	**P**	**20 22 25.1**	**+0.1**
KHZ	**Kahutara**	**22.86**	**194**	*e*PN	**P**	**20 22 27.7**	**-1.4**
RPZ	**Rata Peaks**	**24.71**	**197**	P	**P**	**20 22 43.8**	**-1.6**
	6.2nm,0.4s,mb4.5,baz=352,slow=16,SNR=3.2						
FOZ	**Fox Glacier**	**24.98**	**200**	*e*PN	**P**	**20 22 46.4**	**-1.3**
JCZ	**Jackson Bay**	**25.73**	**200**	*e*PN	**P**	**20 22 53.6**	**-0.7**
ARMA	**Armidale**	**28.20**	**243**	*e*P	**P**	**20 23 17.0**	**+1.3**
CTA	**Charters Tower**	**32.47**	**264**	*e*P	**P**	**20 23 52.4**	**+0.6**
	35nm,0.4s,mb5.2						
CTA	**Charters Tower**	**32.47**	**264**	P	**P**	**20 23 52.5**	**+0.7**
	45nm,0.4s,mb5.4,baz=90,slow=10,SNR=137						
CTAO	**Charters Tower**	**32.47**	**264**	*e*P	**P**	**20 23 52.3**	**+0.5**
	48nm,0.5s,mb5.3						
PMG	**Port Moresby**	**34.30**	**283**	*e*P	**P**	**20 24 06.8**	**-0.1**
	58nm,0.9s,mb5.1						
TOO	**Toolangi**	**35.15**	**233**	*e*P	**P**	**20 24 15.1**	**+1.2**
	10nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**36.92**	**244**	⇑*i*P	**P**	**20 24 29.5**	**+1.2**
	3.6nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**36.92**	**244**	P	**P**	**20 24 29.6**	**+1.3**
	4.2nm,0.4s,mb4.3,baz=87,slow=10,SNR=44						
ASAR	**Alice Springs**	**43.54**	**257**	P	**P**	**20 25 20.9**	**+0.6**
	12nm,0.3s,mb4.7,baz=89,slow=8.4,SNR=238						
ASAR				ScP	ScP	20 29 43.6	+3.8
	0.6nm,0.7s,baz=109,slow=4.7,SNR=5.4						
ASAR				S	**S**	**20 31 03.5**	**+0.5**
	8.4nm,0.8s,baz=94,slow=16,SNR=39						
WB2	**Warramunga Arr**	**43.58**	**262**	⇓*i*P	**P**	**20 25 20.4**	**-0.2**
WB2				*e*S	**S**	**20 31 02.4**	**-1.1**
WB2				*e*SCS	ScS	20 34 08.3	+3.9
WRA	**Warramunga Arr**	**43.59**	**262**	P	**P**	**20 25 20.3**	**-0.5**
	11nm,0.3s,mb4.7,baz=98,slow=6.9,SNR=1050						
WRA				S	**S**	**20 31 02.7**	**-1.0**
	1.8nm,0.7s,baz=94,slow=14,SNR=9.8						
KAKA	**Kakadu**	**46.93**	**271**	⇓*i*P	**P**	**20 25 45.6**	**-0.3**
	19nm,0.5s,mb4.7						
FORT	**Forrest**	**48.40**	**247**	*e*P	**P**	**20 25 56.6**	**-0.1**
	18nm,0.8s,mb4.5						
GUMO	**Guam**	**48.91**	**311**	P	**P**	**20 25 59.8**	**-0.6**
	43nm,0.5s,mb5.0,baz=171,slow=19,SNR=2.8						
GUMO	**Guam**	**48.91**	**311**	P	**P**	**20 25 59.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.02**	**263**	⇓*i*P	**P**	**20 26 23.0**	**+0.2**
	11nm,0.4s,mb4.4						
VNDA	**Vanda**	**57.97**	**185**	P	**P**	**20 27 05.0**	**+1.3**
	2.2nm,0.4s,mb3.6,baz=352,slow=8.0,SNR=38						
MJAR	**Matsushiro Arr**	**69.47**	**324**	P	**P**	**20 28 14.7**	**-1.5**
	5.3nm,0.6s,mb4.1,baz=157,slow=6.0,SNR=17						
QSPA	**South Pole Qui**	**69.72**	**180**	*e*P	**P**	**20 28 18.6**	**+1.0**
	16nm,0.7s,mb4.5						
KSRS	**Korea Array**	**76.09**	**319**	P	**P**	**20 28 53.8**	**+0.1**
	2.6nm,0.7s,mb3.9,baz=127,slow=5.5,SNR=8.3						
TXAR	**Lajitas Array**	**87.85**	**58**	P	**P**	**20 29 53.7**	**+1.0**
	1.6nm,0.7s,mb3.7,baz=215,slow=5.9,SNR=15						
TXAR	**Lajitas Array**	**87.85**	**58**	P	**P**	**20 29 53.7**	**+1.0**
SNAA	**Sanae**	**88.19**	**179**	*e*	**P**	**20 29 53.3**	**-1.0**
SNAA	**Sanae**	**88.19**	**179**	*e*P	**P**	**20 29 53.2**	**-1.1**
	1.2nm,0.4s,mb3.9						
VNA3	**Neumayer Olymp**	**88.36**	**177**	*e*	**P**	**20 29 54.6**	**-0.5**
VNA2	**Neumayer--Watz**	**88.79**	**177**	*e*	**P**	**20 29 56.6**	**-0.5**
	baz=185,slow=4.0						
VNA1	**Neumayer--Stat**	**89.02**	**177**	*e*	**P**	**20 29 58.4**	**+0.3**
PDAR	**Pinedale Array**	**89.57**	**44**	P	**P**	**20 30 00.2**	**-0.5**
	0.8nm,0.7s,mb3.6,baz=205,slow=4.2,SNR=7.2						
PLCA	**Paso Flores**	**90.13**	**134**	P	**P**	**20 30 04.7**	**+1.4**
	1.2nm,0.6s,mb3.9,baz=229,slow=2.2,SNR=4.4						
FINES	**FINESS Array B**	**135.33**	**343**	PKP	PKPdf	20 36 16.7	-1.0
	1.9nm,0.9s,baz=87,slow=6.1,SNR=3.2						
FINES				SKP		20 38 47.8	
	1.4nm,0.7s,baz=80,slow=4.5,SNR=5.8						
AKASG	**Malin Array Be**	**142.37**	**330**	PKhKP		20 36 26.0	
	3.9nm,0.4s,baz=44,slow=4.2,SNR=34						
BRTR	**Keskin Array B**	**145.97**	**312**	PKPbc	PKPbc	20 36 38.3	-0.6
	0.9nm,0.6s,baz=138,slow=6.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**172.80**	**186**	PKP	PKPdf	20 37 05.5	-0.6
	0.7nm,0.8s,baz=348,slow=3.1,SNR=3.8						
TORD				PKPab	PKPab	20 38 39.0	+1.2
	0.6nm,0.5s,baz=189,slow=3.4,SNR=10						

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*ISCJB **13** 20:20:54.4±0.4,4352N±002×1779E±002,h6km±4km, Error ellipse: s-maj=2.8km s-min=2.7km az=58.6*
*NEIC **13** 20:20:54.2,4353N×1776E,h1km,ML3.0(BUC), ML3.3(ZAG),ML3.5(PDG),After PDG.*
*PDG **13** 20:20:54.2±0.5,4353N×1776E,h1km±1km*
*LDG **13** 20:20:55.8±0.1,4361N×1795E,h10km,Ml3.5/5,Error ellipse: s-maj=4.1km s-min=2.4km az=26.0*
*CSEM **13** 20:20:55.4±0.1,4347N×1793E,h15km,ML3.6/3,Error ellipse: s-maj=1.5km s-min=1.3km az=59.0*
*PRU **13** 20:20:58.1,4379N×1788E,h0km*

ISC 13 20:20:56.0±0.5,4348N±002×1780E±002,h9km±4km,n127, σ1§34/180,35C-25D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.61**	**187**	*i* Pg	**Pg**	**20 21 06.4**	**-1.5**
STON				*i* Sg	**Sg**	**20 21 16.2**	**+0.3**
BRY	**Bratogost**	**0.79**	**137**	⇓*i*Pg	**Pg**	**20 21 09.2**	**-2

NVLJ				*i* Sn	**Sn**	**20 22 08.4**	**+4.0**
RHK3	**Tenkes**	**2.43**	**7**	⇓*e*P	**Pn**	**20 21 34.3**	**-1.6**
RGNG	**Rignano Grg**	**2.44**	**223**	Pn	**Pn**	**20 21 35.2**	**-0.8**
BAI	**Bari**	**2.47**	**196**	*e*Pn	**Pn**	**20 21 34.6**	**-1.8**
FG2	**Serracapriola**	**2.57**	**230**	Pn	**Pn**	**20 21 37.1**	**-0.7**
SVIS	**Svilajnac**	**2.60**	**71**	⇓*i*Pn	**Pn**	**20 21 37.1**	**-1.2**
SVIS				Sg	**Sn**	**20 22 08.8**	**-1.2**
CDT	**Castel del Mon**	**2.65**	**206**	*e*Pn	**Pn**	**20 21 39.7**	**+0.8**
PE1	**Pezze di Greco**	**2.69**	**186**	*e*Pn	**Pn**	**20 21 37.9**	**-1.5**
BOJS	**Bojanci**	**2.73**	**319**	*i* Pn	**Pn**	**20 21 40.3**	**+0.3**
BOJS				*e*Sn	**Sn**	**20 22 12.4**	**-0.6**
BOJS	**Bojanci**	**2.73**	**319**	*i* Pn	**Pn**	**20 21 40.3**	**+0.3**
BOJS				*e*Sn	**Sn**	**20 22 12.4**	**-0.7**
SG1	**Sgolgore (BA)**	**2.77**	**198**	*e*Pn	**Pn**	**20 21 38.9**	**-1.6**
PKSM	**Moragy**	**2.80**	**12**	⇓*e*Pn	**Pn**	**20 21 39.3**	**-1.7**
GCIS	**Gornji Cirnik**	**2.85**	**328**	*i* Pn	**Pn**	**20 21 40.9**	**-0.7**
CRES	**Cresnjev**	**2.88**	**325**	*i* Pn	**Pn**	**20 21 41.5**	**-0.7**
CRES				*e*Sn	**Sn**	**20 22 17.2**	**+0.3**
CRES							
	comp=Z,54nm,0.6s						
CRES	**Cresnjev**	**2.88**	**325**	*e*Pn	**Pn**	**20 21 42.0**	**-0.2**
CRES				*e*Sn	**Sn**	**20 22 17.2**	**+0.3**
CRES	**Cresnjev**	**2.88**	**325**	*e*Pn	**Pn**	**20 21 42.0**	**-0.1**
CRES				*e*Sn	**Sn**	**20 22 17.2**	**+0.3**
FG5	**Orsara di Pugl**	**2.89**	**221**	Pn	**Pn**	**20 21 43.0**	**+0.8**
BARS	**Barje**	**3.02**	**101**	*e*Pn	**Pn**	**20 21 47.2**	**+3.2**
KNDS	**Knezji Dol**	**3.19**	**311**	*e*Pn	**Pn**	**20 21 47.9**	**+1.5**
MRLC	**Muro Lucano**	**3.22**	**213**	Pn	**Pn**	**20 21 46.3**	**-0.5**
SGG	**Gregorio Mates**	**3.29**	**232**	Pn	**Pn**	**20 21 47.1**	**-0.6**
KRUS	**Krusevo**	**3.31**	**128**	*i* Pn	**Pn**	**20 21 50.5**	**+2.5**
KRUS	**Krusevo**	**3.31**	**128**	*i* Pn	**Pn**	**20 21 50.5**	**+2.5**
KRUS	**Krusevo**	**3.31**	**128**	*i* Pn	**Pn**	**20 21 50.4**	**+2.4**
GROS	**Grobnik**	**3.40**	**332**	*i* Pn	**Pn**	**20 21 48.0**	**-1.2**
AQU	**L'Aquila**	**3.42**	**252**	⇓P	**Pn**	**20 21 52.6**	**+3.1**
AQU	**L'Aquila**	**3.42**	**252**	⇓*i*P	**Pn**	**20 21 52.6**	**+3.1**
SDI	**San Donato**	**3.44**	**240**	Pn	**Pn**	**20 21 50.2**	**+0.4**
BZS	**Buzias**	**3.46**	**51**	⇑P	**Pn**	**20 21 48.5**	**-1.6**
BZS	**Buzias**	**3.46**	**51**	⇑*i*P	**Pn**	**20 21 48.5**	**-1.6**
VVLD	**Villa Vallelon**	**3.48**	**244**	Pn	**Pn**	**20 21 50.1**	**-0.2**
NRCA	**Norcia**	**3.49**	**261**	Pn	**Pn**	**20 21 50.9**	**+0.4**
SNTG	**Esanatoglia**	**3.55**	**268**	Pn	**Pn**	**20 21 51.9**	**+0.6**
JAVS	**Javornik**	**3.60**	**313**	*e*Pn	**Pn**	**20 21 52.9**	**+1.0**
JAVS				*e*Sn	**Sn**	**20 22 36.3**	**+1.8**
JAVS							
	comp=Z,53nm,0.6s						
JAVS	**Javornik**	**3.60**	**313**	*e*Pn	**Pn**	**20 21 52.9**	**+1.0**
JAVS				*e*Sn	**Sn**	**20 22 36.3**	**+1.8**
	comp=Z,53nm,0.6s						
FSSB	**Fossombrone**	**3.66**	**275**	Pn	**Pn**	**20 21 53.7**	**+0.9**
PERS	**Pernice**	**3.69**	**330**	*i* Pn	**Pn**	**20 21 52.4**	**-0.8**
VOY	**Vojsko**	**3.78**	**314**	*e*Pn	**Pn**	**20 21 55.7**	**+1.3**
VOY				*e*Sn	**Sn**	**20 22 42.8**	**+3.8**
VOJS	**Vojsko**	**3.78**	**314**	*i* Pn	**Pn**	**20 21 55.9**	**+1.4**
ASS	**Assisi**	**3.78**	**265**	Pn	**Pn**	**20 21 56.1**	**+1.6**
OBKA	**Obir**	**3.81**	**324**	⇑*i*Pn	**Pn**	**20 21 55.0**	**+0.2**
OBKA				⇓*i*Sg	**Sg**	**20 22 59.2**	**+0.9**
OBKA							
	comp=Z,58nm,0.9s						
OBKA	**Obir**	**3.81**	**324**	⇑*i*Pn	**Pn**	**20 21 55.0**	**+0.2**
OBKA				*i* Sg	**Sg**	**20 22 59.2**	**+0.9**
MNS	**Montasola**	**3.92**	**256**	Pn	**Pn**	**20 21 57.0**	**+0.7**
PKSG		**3.94**	**6**	⇑*e*P	**Pn**	**20 21 55.5**	**-1.1**
GZR	**Gura Zlata**	**4.04**	**60**	⇑P	**Pn**	**20 21 57.2**	**-0.9**
GZR	**Gura Zlata**	**4.04**	**60**	⇑*i*P	**Pn**	**20 21 57.2**	**-0.9**
VTS	**Vitosha**	**4.06**	**101**	⇑P	**Pn**	**20 21 59.2**	**+0.8**
VTS	**Vitosha**	**4.06**	**101**	⇑*i*P	**Pn**	**20 21 59.2**	**+0.9**
ARSA	**Arzberg**	**4.10**	**338**	⇑*i*Pn	**Pn**	**20 21 57.9**	**-0.9**
	comp=Z,14nm,0.3s,SNR=36						
ARSA				⇑*i*Sn	**Sn**	**20 22 48.2**	**+1.3**
	comp=Z,8.9nm,0.6s						
GMNA	**Gemona**	**4.28**	**312**	Pn	**Pn**	**20 22 02.6**	**+1.2**
SOP	**Sopron**	**4.29**	**349**	⇓*e*Pn	**Pn**	**20 21 57.4**	**-4.1**
SOP				*e*Sg	**Sg**	**20 23 16.6**	**+2.7**
PTCC	**Patocco-Chiusa**	**4.30**	**314**	Pn	**Pn**	**20 22 02.7**	**+1.0**
SFI	**Santa Sofia**	**4.34**	**278**	Pn	**Pn**	**20 22 03.4**	**+1.2**
PENC	**Penc**	**4.43**	**13**	*e*P	**Pn**	**20 22 02.3**	**-1.2**
CONA	**Conrad Observa**	**4.65**	**344**	⇑*i*Pn	**Pn**	**20 22 06.6**	**+0.1**
	comp=Z,2.1nm,0.2s						
CONA				⇑*i*Sn	**Sn**	**20 22 58.8**	**-1.8**
	comp=Z,4.8nm,0.3s						
PSZ	**Piszkesteto**	**4.67**	**18**	*e*Pn	**Pn**	**20 22 03.9**	**-2.8**
PSZ	**Piszkesteto**	**4.67**	**18**	⇑*e*Pn	**Pn**	**20 22 05.4**	**-1.4**
PSZ				*e*Sg	**Sg**	**20 23 21.0**	**-5.2**
PSZ	**Piszkesteto**	**4.67**	**18**	*e*Pn	**Pn**	**20 22 03.9**	**-2.9**
FVI	**Forni Avoltri**	**4.73**	**313**	Pn	**Pn**	**20 22 08.1**	**+0.6**
ZST	**Bratislava**	**4.74**	**354**	*e*PN	**Pn**	**20 22 08.9**	**+1.2**
ZST				*e*SN	**Sn**	**20 23 02.8**	**0.0**
KBA	**Koelnbreinsper**	**4.78**	**320**	⇓*i*Sn	**Sn**	**20 23 03.6**	**-0.2**
	comp=Z,2.9nm,0.3s						
ABTA	**Abfaltersbach**	**4.97**	**313**	⇓*i*Pn	**Pn**	**20 22 11.5**	**+0.7**
	comp=Z,7.2nm,0.3s						
ABTA				⇑*i*Sn	**Sn**	**20 23 09.3**	**+0.9**
	comp=Z,13nm,0.6s						
MOA	**Molln**	**5.02**	**332**	⇑*i*Pn	**Pn**	**20 22 11.8**	**+0.2**
	SNR=16						
MOA				⇓*i*Sn	**Sn**	**20 23 09.4**	**-0.3**
	comp=Z,8.5nm,0.4s						
SMOL	**Smolenice**	**5.04**	**357**	*e*SN	**Sn**	**20 23 11.4**	**+1.2**
VYHS	**Vyhne**	**5.07**	**8**	*e*PN	**Pn**	**20 22 11.2**	**-1.0**
VYHS				*e*SN	**Sn**	**20 23 11.0**	**+0.2**
VYHS	**Vyhne**	**5.07**	**8**	*e*PN	**Pn**	**20 22 11.3**	**-0.9**
VYHS				*e*Sn	**Sn**	**20 23 11.0**	**+0.2**
CTI	**Castel Tesino**	**5.08**	**303**	Pn	**Pn**	**20 22 12.6**	**+0.3**
	comp=Z,11nm,0.3s						
KECS	**Kecovo**	**5.34**	**20**	*e*PN	**Pn**	**20 22 15.3**	**-0.7**
KECS				*e*SN	**Sn**	**20 23 16.5**	**-1.1**
APPI	**Appiano**	**5.54**	**305**	Pn	**Pn**	**20 22 19.7**	**+1.0**
	comp=Z,20nm,0.4s						
VOIR		**5.54**	**67**	⇑P	**Pn**	**20 22 19.8**	**+1.0**
VOIR		**5.54**	**67**	⇑*i*P	**Pn**	**20 22 19.8**	**+1.1**
SCE	**Schlegeis**	**5.58**	**312**	⇑*i*Pn	**Pn**	**20 22 20.1**	**+0.9**
WTTA	**Wattenberg**	**5.76**	**313**	⇓*i*Sn	**Sn**	**20 23 30.6**	**+2.8**
	comp=Z,13nm,0.5s						
WTTA	**Wattenberg**	**5.76**	**313**	⇓*i*Pn	**Pn**	**20 22 23.1**	**+1.4**
	comp=Z,5.6nm,0.2s						
WTTA				⇓*i*Sn	**Sn**	**20 23 28.1**	**+0.2**
	comp=Z,13nm,0.5s						
WATA	**Walderalm**	**5.84**	**314**	⇑*i*Pn	**Pn**	**20 22 22.5**	**-0.2**
	comp=Z,13nm,0.3s,SNR=7.6						
WATA				⇓*i*Sn	**Sn**	**20 23 28.6**	**-1.2**
	comp=Z,4.3nm,0.5s						
SQTA	**Sankt Quirin**	**5.96**	**311**	⇑*i*Pn	**Pn**	**20 22 26.0**	**+1.5**
	comp=Z,6.2nm,0.3s,SNR=9.0						
SQTA				⇑*i*Sn	**Sn**	**20 23 33.0**	**+0.1**
	comp=Z,8.5nm,0.4s						
GEC2	**GERESS Array S**	**6.08**	**333**	*e*Pn	**Pn**	**20 22 25.5**	**-0.5**
GEC2				*e*Sn	**Sn**	**20 23 38.1**	**+2.4**
MOTA	**Moosalm**	**6.10**	**312**	⇑*i*Pn	**Pn**	**20 22 27.9**	**+1.6**
	comp=Z,10nm,0.4s,SNR=22						
MOTA				⇓*i*Sn	**Sn**	**20 23 37.1**	**+1.0**
	comp=Z,7.5nm,0.6s						
FETA	**Feichten**	**6.12**	**308**	⇑*i*Pn	**Pn**	**20 22 28.4**	**+1.7**
	comp=Z,4.7nm,0.4s						
FETA				⇑*i*Sn	**Sn**	**20 23 39.6**	**+2.9**
	comp=Z,3.3nm,0.5s						
MORC	**Moravsky Berou**	**6.30**	**358**	⇓P	**Pn**	**20 22 28.1**	**-1.1**
MORC	**Moravsky Berou**	**6.30**	**358**	⇓*i*P	**Pn**	**20 22 28.0**	**-1.1**
MORC	**Moravsky Berou**	**6.30**	**358**	*e*Pn	**Pn**	**20 22 28.6**	**-0.5**
KHC	**Kasperske Hory**	**6.36**	**334**	*e*PN	**Pn**	**20 22 29.4**	**-0.6**
KHC				*ex*	x	20 22 41.1	
KHC				*e*SN	**Sn**	**20 23 38.1**	**-4.7**
OKC	**Ostrava-Krasne**	**6.37**	**2**	*e*PN	**Pn**	**20 22 28.6**	**-1.4**
OKC				*e*SN	**Sn**	**20 23 36.0**	**-6.8**
STHS	**Stebnicka Huta**	**6.40**	**21**	*e*PN	**Pn**	**20 22 31.4**	**+1.0**
PGF	**Pioggiola**	**6.52**	**265**	*e*Pn	**Pn**	**20 22 31.7**	**-0.4**
BURAR	**Bucovina Array**	**6.65**	**49**	⇑P	**Pn**	**20 22 34.1**	**+0.3**
BURAR	**Bucovina Array**	**6.65**	**49**	⇑*i*P	**Pn**	**20 22 34.1**	**+0.2**
DAVA	**Damuels**	**6.75**	**307**	⇑*i*Pn	**Pn**	**20 22 37.4**	**+2.1**
	comp=Z,1.5nm,0.2s						
DAVA				⇓*i*Sn	**Sn**	**20 23 54.0**	**+1.7**
	comp=Z,4.4nm,0.3s						
PRU	**Pruhonice**	**6.88**	**342**	*e*SN	**Sn**	**20 23 49.0**	**-6.6**
MBDF	**Montbardon**	**8.04**	**283**	*e*Pn	**Pn**	**20 22 51.0**	**-2.0**
MBDF				*e*Sn	**Sn**	**20 24 17.6**	**-6.4**
	comp=Z,6.8nm,0.5s						
FRF	**La Foret Royal**	**8.11**	**274**	*e*Pn	**Pn**	**20 22 53.3**	**-0.6**
LPG	**La Plagne**	**8.15**	**288**	*e*Pn	**Pn**	**20 22 53.7**	**-0.9**
LPG				*e*Sn	**Sn**	**20 24 20.2**	**-6.7**
	comp=Z,8.6nm,0.5s						
LPL	**La Plagne**	**8.17**	**288**	*e*Pn	**Pn**	**20 22 53.2**	**-1.6**
LPL				*e*Sn	**Sn**	**20 24 20.7**	**-6.6**
	comp=Z,8.7nm,0.5s						
LMR	**La Mourre**	**8.22**	**273**	*e*Pn	**Pn**	**20 22 54.6**	**-0.9**
ORIF	**Oris-en-Rattie**	**8.69**	**284**	*e*Pn	**Pn**	**20 23 00.5**	**-1.4**
ORIF				*e*Sn	**Sn**	**20 24 32.6**	**-7.3**
	comp=Z,5.1nm,0.6s						
HINF	**Hinteralfeld**	**8.81**	**303**	*e*Pn	**Pn**	**20 23 01.4**	**-2.1**
HINF				*e*Sn	**Sn**	**20 24 34.9**	**-8.0**
	comp=Z,3.1nm,0.5s						
HINF	**Hinteralfeld**	**8.81**	**303**	*e*Pn	**Pn**	**20 23 01.4**	**-2.1**
HINF				*e*Sn	**Sn**	**20 24 34.9**	**-8.0**
	comp=Z,1.5nm,0.5s						
CDF	**Champ du Feu**	**8.84**	**308**	*e*Pn	**Pn**	**20 23 02.0**	**-1.9**
CABF	**La Chapelle**	**8.87**	**295**	*e*Pn	**Pn**	**20 23 02.5**	**-1.8**
SMRF	**Simiane la Rot**	**8.87**	**277**	*e*Pn	**Pn**	**20 23 02.6**	**-1.8**
VIVF	**Saint-Julien-l**	**9.54**	**283**	*e*Pn	**Pn**	**20 23 11.2**	**-2.3**
SMF	**Signal de Mont**	**10.37**	**293**	*e*Pn	**Pn**	**20 23 22.9**	**-2.1**
LOR	**Lormes**	**10.52**	**296**	*e*Pn	**Pn**	**20 23 24.5**	**-2.4**

*IDC **13** 21:17:22.9±1.1, 1184N×8645W, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, ML3.6/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/29, Error ellipse: s-maj=44.9km s-min=12.1km az=48.0*

*ISCJB **13** 21:17:28.5±0.6, 1141N±005×8679W±007, h80km±7km, mb4.0/7, Error ellipse: s-maj=14.2km s-min=4.7km az=110.7*

*NEIC **13** 21:17:28.9±1.3, 1152N×8664W, h59km±11km, mb4.6/1, Error ellipse: s-maj=26.4km s-min=10.9km az=222.0*

*CASC **13** 21:17:28.0±2.0, 1133N×8684W, h21km±7km, MD4.1, ML3.6, mb4.6(NEIC)*

ISC 13 21:17:26.1±1.9,**1132N**±004×**8696W**±005,**h15**km±13km, **n41**,σ0°**98**/37,**mb4.1**/7,**MS3.4**/1,**3C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**1.01**	**45**	⇓*e*P	**Pb**	**21 17 45.2**	**0.0**
XAVN	**Gruta Xavier**	**1.03**	**37**	⇓*e*P	**Pb**	**21 17 45.5**	**-0.1**
APON	**Apoyo**	**1.06**	**56**	⇓*e*P	**Pb**	**21 17 45.5**	**-0.6**
MGAN	**Managua**	**1.08**	**40**	⇓*e*P	**Pb**	**21 17 46.3**	**-0.1**
MGAN				*e*S	**Sb**	**21 17 59.2**	**-1.1**
MGAN				*e*S	**Sb**	**21 17 59.9**	**-0.4**
MGAN				*i*		21 18 00.2	
	comp=N,6μm,0.4s						
MOMJ	**Momotombo**	**1.16**	**21**	⇓*e*P	**Pn**	**21 17 47.4**	**-0.3**
MOMJ				*e*S	**Sb**	**21 18 03.2**	**+0.6**
TELN	**Telica**	**1.28**	**6**	*e*P	**Pn**	**21 17 51.4**	**+1.9**
TELN				*e*S	**Sb**	**21 18 07.8**	**+1.6**
TELN				*i*		21 18 12.9	
	comp=Z,615nm,0.5s						
CONN	**Concepcion**	**1.33**	**79**	⇓*e*P	**Pn**	**21 17 49.2**	**-0.9**
MADN	**Villa Maderas**	**1.40**	**86**	⇓*e*P	**Pn**	**21 17 50.8**	**-0.3**
MADN				*e*S	**Sn**	**21 18 08.3**	**-1.0**
VCR	**Vista de Mar**	**1.76**	**132**	*e*P	**Pn**	**21 17 54.8**	**-1.3**
VCR				*e*S	**Sn**	**21 18 18.8**	**+0.6**
LIM1	**Limonal**	**1.78**	**110**	⇓*e*P	**Pn**	**21 17 55.6**	**-0.7**
CNCH	**Conchagua**	**2.13**	**336**	⇓*e*P	x	21 18 19.9	
CNCH				*e*S	x	21 18 46.2	
JTS	**JuntasAbangare**	**2.22**	**117**	Pg	**Pg**	**21 18 01.8**	**-6.9**
	comp=Z,30nm,0.3s,baz=311,slow=20,SNR=35						
JTS				Lg		21 18 31.2	
	comp=Z,39nm,0.3s,baz=112,slow=23,SNR=14						
JCR	**Jicaral**	**2.33**	**129**	*e*P	**Pn**	**21 18 03.2**	**-0.7**
JCR				*e*S	**Sn**	**21 18 32.5**	**+0.3**
BLLM	**Bellamira**	**2.45**	**330**	*e*P	x	21 18 25.0	
BLLM				*e*S	x	21 18 57.2	
VSM	**San Miguel**	**2.46**	**329**	*e*P	x	21 18 25.1	
VSM				*e*S	x	21 18 56.4	
TGUH	**Tegucigalpa,Un**	**2.74**	**354**	*e*Pn	**Pn**	**21 18 09.5**	**0.0**
CGA2	**Cerro Gallo 2**	**2.77**	**118**	*e*P	**Pn**	**21 18 10.4**	**+0.5**
PRS1	**Puriscal**	**2.92**	**117**	*e*P	**Pn**	**21 18 13.7**	**+1.7**
LCBS	**La Ceiba**	**3.05**	**320**	*e*P	x	21 18 31.5	
LCBS				*e*S	x	21 19 08.6	
LFRS	**El Faro**	**3.08**	**318**	*e*P	x	21 18 32.9	
LFRS				*e*S	x	21 19 10.2	
SNET	**Serv Nac Est T**	**3.24**	**317**	*e*P	x	21 18 26.0	
SNET				*e*S	x	21 19 06.6	
LCR2	**La Lucha 2**	**3.30**	**118**	*e*P	**Pn**	**21 18 18.7**	**+1.4**
LCR2				*e*S	**Sn**	**21 18 57.3**	**+1.1**
SBLS	**San Blas**	**3.61**	**314**	*e*P	x	21 18 40.9	
SBLS				*e*S	x	21 19 24.8	
TEIG	**Tepich**	**8.95**	**352**	LR	LR	21 23 04.9	
	comp=Z,140nm,21.8s,baz=94,slow=40						
CMIG	**Matias Romero**	**9.59**	**308**	Pn	**Pn**	**21 19 44.5**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=140,slow=9.3,SNR=9.3						
CMIG				Sn	**Sn**	**21 21 35.4**	**+4.4**
	comp=Z,0.8nm,0.3s,baz=109,slow=18,SNR=3.2						
CMIG	**Matias Romero**	**9.59**	**308**	Pn	**Pn**	**21 19 44.5**	**+0.9**
CMIG				Sn	**Sn**	**21 21 35.4**	**+4.4**
ROSC	**El Rosal**	**14.05**	**116**	LR	LR	21 25 48.5	
	comp=Z,84nm,18.9s,baz=51,slow=36						
SDV	**Santo Domingo**	**16.25**	**97**	Pn	**Pn**	**21 21 09.4**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=13,slow=18,SNR=1.7						
ATAH	**Atahualpa**	**20.09**	**155**	LR	LR	21 28 38.0	
	comp=Z,159nm,19.5s,MS3.4,baz=170,slow=33						
TXAR	**Lajitas Array**	**23.75**	**321**	P	**P**	**21 22 37.4**	**-0.5**
	comp=Z,2.7nm,0.8s,mb3.7,baz=136,slow=10,SNR=22						
TXAR				PcP	PcP	21 26 20.3	-1.0
	comp=Z,0.6nm,1.0s,baz=130,slow=5.1,SNR=3.5						
WMOK	**Wichita Mounta**	**25.68**	**337**	*e*P	**P**	**21 22 54.7**	**-0.7**
	comp=Z,20nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**36.99**	**332**	P	**P**	**21 24 33.8**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=128,slow=10,SNR=5.5						
NVAR	**Mina Array Bea**	**38.87**	**319**	PcP	PcP	21 27 02.1	+0.6
	comp=Z,1.6nm,0.7s,baz=122,slow=3.3,SNR=6.4						
ULM	**Lac du Bonnet**	**39.51**	**351**	P	**P**	**21 24 51.1**	**-4.9**
	comp=Z,6.6nm,1.0s,mb4.3,baz=168,slow=9.3,SNR=6.0						
SCHQ	**Schefferville**	**46.22**	**16**	P	**P**	**21 25 44.5**	**-6.0**
	comp=Z,1.2nm,0.5s,mb4.0,baz=219,slow=17,SNR=4.9						
YKA	**Yellowknife Ar**	**54.82**	**345**	P	**P**	**21 26 51.6**	**-3.9**
	comp=Z,1.6nm,0.7s,mb4.1,baz=142,slow=7.2,SNR=29						
YKA				PcP	PcP	21 27 54.4	-3.3
	comp=Z,0.4nm,0.6s,baz=145,slow=4.0,SNR=8.7						
YKA	**Yellowknife Ar**	**54.82**	**345**	P	**P**	**21 26 51.6**	**-3.9**
YKA				PcP	PcP	21 27 54.4	-3.3
INK	**Inuvik**	**64.42**	**343**	P	**P**	**21 27 58.0**	**-3.7**
	comp=Z,1.1nm,0.9s,mb3.9,baz=116,slow=14,SNR=3.2						
SONM	**Songino Array**	**119.93**	**350**	PKP	PKPdf	21 36 13.9	-2.0
	comp=Z,0.3nm,0.5s,baz=7.9,slow=0.9,SNR=5.1						
ASAR	**Alice Springs**	**139.28**	**247**	PKhKP		21 36 49.5	
	comp=Z,0.2nm,0.6s,baz=132,slow=2.6,SNR=3.4						
WRA	**Warramunga Arr**	**139.41**	**253**	PKP	PKPdf	21 36 51.9	-0.8
	comp=Z,0.4nm,0.7s,baz=91,slow=2.1,SNR=9.0						

IDC 13 21:21:20.1±2.2,**811S**×**13071E, h0**km,**mb3.9**/1,**mb1 3.6**/3, **mb1mx3.4**/13,**mbtmp3.5**/3,**Error ellipse: s-maj=136.1km s-min=31.2km az=70.0,Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.28**	**164**	Pn	Pn	21 24 16.6	+0.4
	0.3nm,0.3s,baz=347,slow=13,SNR=21						
WRA				Sn	Sn	21 26 28.9	-4.8
	0.6nm,0.3s,baz=346,slow=24,SNR=6.7						
ASAR	**Alice Springs**	**15.77**	**169**	Pn	Pn	21 25 03.5	0.0
	0.2nm,0.3s,baz=341,slow=9.2,SNR=9.0						
MKAR	**Makanchi Array**	**69.53**	**327**	P	P	21 32 30.8	+0.2
	0.8nm,0.6s,baz=128,slow=7.5,SNR=10						

KRSC 13 21:24:09.4±0.5,**5158N**×**15784E, h136**km±45km,**ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.95**	**26**	*i* P	Pn	21 24 33.3	+0.9
RUS				*i* S	Sn	21 24 51.0	+1.2
GRL	**Gorelyy**	**0.98**	**8**	*i* P	Pn	21 24 34.1	+1.4
GRL				*i* S	Sn	21 24 51.4	+1.0
PET	**Petropavlovsk**	**1.53**	**19**	P	Pn	21 24 39.5	+1.3
PET				*i* S	Sn	21 25 02.0	+1.8
SDLR	**Sedlovina**	**1.82**	**20**	*i* P	Pn	21 24 43.7	+2.2
SDLR				*i* S	Sn	21 25 08.1	+2.0
NLC	**Nalytchevo**	**1.84**	**29**	*i* P	Pn	21 24 42.9	+1.1
NLC				*i* S	Sn	21 25 07.4	+0.8
SPN	**Mys Shipunski**	**2.03**	**41**	*i* P	Pn	21 24 46.1	+2.1
SPN				*i* S	Sn	21 25 12.5	+2.0
GNL	**Ganaly**	**2.12**	**2**	*i* P	Pn	21 24 46.5	+1.4
GNL				*i* S	Sn	21 25 13.4	+0.9
MKZ	**Mys Kozlova**	**3.79**	**37**	*e*P	Pn	21 25 08.2	+1.7
MKZ				*i* S	Sn	21 25 50.6	-0.2
TUMR	**Tumrok**	**3.96**	**19**	*e*P	Pn	21 25 09.6	+0.9
KMNR	**Kamenistaya**	**4.42**	**18**	P	Pn	21 25 16.3	+1.5
ZLN	**Zelenaya**	**4.78**	**20**	*e*P	Pn	21 25 23.5	+3.9
SRDR	**Sredinnyy**	**4.87**	**12**	P	Pn	21 25 23.1	+2.2
SRKR	**Sorokina**	**5.45**	**20**	P	Pn	21 25 31.0	+2.5
KBTR	**Krutoberegovo**	**5.49**	**30**	*e*P	Pn	21 25 30.8	+1.7

*CSEM **13** 21:33:11.5, 6787N×2021E, h0km, ML2.9, Suspected Mining explosion. After UPP*

*UPP **13** 21:33:11.5, 6787N×2021E, h0km, ML2.9, Suspected Mining explosion.*

HEL 13 21:33:13.0±0.1,**6781N**×**2016E, h0**km,**ML2.2, ML2.9**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.71**	**167**	*i* P	Pg	21 33 25.8	-0.9
LANU	**Lannavaara**	**0.73**	**70**	*i* P	Pg	21 33 24.6	-2.4
SALU	**Saltoluokta**	**0.77**	**236**	*i* P	Pg	21 33 26.9	-0.9
SALU	**Saltoluokta**	**0.77**	**236**	P	Pg	21 33 26.9	-0.8
	baz=50						
MASU	**Masugnsbyn**	**0.79**	**116**	*i* P	Pg	21 33 26.6	-1.5
KIF	**Kilpisjarvi**	**1.22**	**11**	*e*P	Pg	21 33 35.6	-0.8
KIF				*e*S	Sg	21 33 51.6	-0.6
HARU	**Harads**	**1.69**	**169**	*e*P	Pn	21 33 43.0	-0.8
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	21 33 54.2	-0.2
SGF				*e*S	Sn	21 34 24.9	-0.3
SGF				MSG		21 34 30.3	
	comp=Z,15nm,0.3s						
KEV	**Kevo**	**3.16**	**49**	*e*S	Sn	21 34 42.0	-0.4
KEV				MSG		21 34 50.6	
	comp=Z,4.9nm,0.3s						
OUL	**Oulu**	**3.58**	**137**	*e*SG	Sg	21 35 03.5	-4.5
OUL				MSG		21 35 10.2	
	comp=Z,3.1nm,0.3s						
KU4	**Liikasenvaara**	**3.96**	**107**	*e*SG	Sg	21 35 15.4	-4.9
KU4				MSG		21 35 19.6	
	comp=Z,5.3nm,0.4s						

*ISCJB **13** 21:33:42.2±0.7, 526N±0.1×35.1W±0.1, h10km, mb3.8/14, MS3.5/2, Error ellipse: s-maj=18.7km s-min=11.5km az=18.3*

*IDC **13** 21:33:42.4±0.8, 5254N×35.14W, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.8/26, mbtmp3.7/13, ML2.2/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/40, Error ellipse: s-maj=23.9km s-min=16.4km az=10.0*

*CSEM **13** 21:33:43.8, 5253N×35.15W, h10km, mb4.5/3, After NEIC*

*NEIC **13** 21:33:43.8±0.4, 5253N×35.15W, h10km, mb4.3/2, Error ellipse: s-maj=13.3km s-min=8.4km az=188.0*

ISC 13 21:33:43.8±0

IDC 13 23:13:59.4±4.6, 30.19S×177.44W, h36km±30km, mb4.1/4, mb1 4.3/5, mb1mx3.9/14, mbtmp4.1/5, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=38.2km s-min=22.3km az=112.0
NEIC 13 23:13:59.3±1.7, 30.17S×177.43W, h39km±12km, mb4.4/3, Error ellipse: s-maj=22.0km s-min=12.6km az=99.0

ISC 13 23:13:59.6±1.2, 3017S±007×1775W±02, h35km, n23, σ0:75/16, mb4.3/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**338**	Pn	**Pn**	**23 14 17.1**	**+0.3**
	242nm,0.3s,baz=247,slow=15,SNR=19						
RAO				Sn	**Sn**	**23 14 30.1**	**+0.6**
	2um,0.3s,baz=101,slow=19,SNR=24						
RAO	**Raoul Island**	**0.98**	**338**	*e*Pn	**Pn**	**23 14 17.1**	**+0.2**
RAO				*e*Sn	**Sn**	**23 14 28.3**	**-1.2**
URZ	**Urewera**	**9.22**	**207**	Pn	**Pn**	**23 16 09.8**	**-0.3**
	0.7nm,0.3s,baz=136,slow=17,SNR=4.5						
URZ				Sn	**Sn**	**23 17 45.6**	**-7.0**
	4.3nm,0.3s,baz=210,slow=20,SNR=16						
DZM	**Mont Dzumac**	**16.50**	**295**	LR	LR	23 22 20.6	
	comp=Z,85nm,20.3s,baz=61,slow=30						
CTA	**Charters Tower**	**34.19**	**279**	*e*P	**P**	**23 20 42.8**	**+1.2**
	3.9nm,0.4s,mb4.7						
CTA	**Charters Tower**	**34.19**	**279**	P	**P**	**23 20 43.2**	**+1.6**
	6.1nm,0.6s,mb4.7,baz=103,slow=10,SNR=8.7						
STKA	**Stephens Creek**	**34.95**	**257**	*e*P	**P**	**23 20 49.2**	**+1.0**
	4.3nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**34.95**	**257**	P	**P**	**23 20 49.1**	**+1.0**
	3.7nm,0.8s,mb4.4,baz=109,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	**23 21 59.6**	**-0.4**
	1.0nm,0.5s,mb3.8,baz=103,slow=7.7,SNR=10						
WB2	**Warramunga Arr**	**44.51**	**272**	*e*P	**P**	**23 22 06.3**	**-1.3**
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**23 22 07.4**	**-0.4**
	3.2nm,0.6s,mb4.4,baz=111,slow=7.8,SNR=36						
MAW	**Mawson**	**72.68**	**200**	*e*P	**P**	**23 25 23.6**	**-0.2**
	1.4nm,0.6s,mb4.1						
VNA3	**Neumayer Olymp**	**78.51**	**176**	*e*	**P**	**23 25 57.0**	**-0.2**
VNA3				*e*	pP	23 26 06.8	-1.3
VNA2	**Neumayer--Watz**	**78.95**	**177**	*e*	**P**	**23 26 00.0**	**+0.4**
	baz=189,slow=6.7						
VNA2				*e*	pP	23 26 07.8	-2.8
MKAR	**Makanchi Array**	**117.95**	**310**	PKP	PKPdf	23 32 41.3	-1.2
	0.2nm,0.6s,baz=96,slow=2.9,SNR=2.8						
KURK	**Kurchatov**	**121.20**	**314**	*e*PKPdf	PKPdf	23 32 47.8	-0.9
CHKZ	**Chkalovo**	**126.43**	**317**	PKPdf	PKPdf	23 32 58.1	-0.7
KAF	**Kangasniemi**	**144.47**	**341**	*e*pkp	PKPdf	23 33 28.8	-3.4
FINES	**FINESS Array B**	**145.07**	**340**	PKPbc	PKPbc	23 33 31.8	-0.9
	3.1nm,0.5s,baz=52,slow=4.3,SNR=22						
FINES	**FINESS Array B**	**145.07**	**340**	PKPbc	PKPbc	23 33 31.8	-0.9
NOA	**NORSAR Array B**	**148.58**	**352**	PKPbc	PKPbc	23 33 41.9	-0.9
	1.1nm,0.9s,baz=11,slow=4.2,SNR=2.8						
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc	PKPbc	23 33 48.5	-1.1
	0.7nm,0.4s,baz=53,slow=2.8,SNR=7.0						
BRTR	**Keskin Array B**	**152.86**	**299**	PKPbc	PKPbc	23 33 52.2	-0.8
	0.3nm,0.5s,baz=64,slow=3.4,SNR=3.3						

IDC 13 23:55:33.7±3.6, 4837S×11513E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/13, mbtmp3.4/2, MS3.3/1, Ms1 3.2/1, ms1mx2.9/8, Error ellipse: s-maj=424.9km s-min=67.0km az=123.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.91**	**60**	LR	LR	00 08 18.5	
	comp=Z,65nm,20.6s,baz=207,slow=30						
ASAR	**Alice Springs**	**28.80**	**38**	P	P	00 01 31.9	-1.4
	0.4nm,0.8s,baz=187,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**32.32**	**35**	P	P	00 02 05.9	+1.5
	0.3nm,0.6s,baz=207,slow=9.0,SNR=3.9						
YKA	**Yellowknife Ar**	**149.33**	**44**	PKPbc	PKPbc	00 15 22.6	-1.8
	0.2nm,0.7s,baz=285,slow=2.4,SNR=3.3						

ISCJB 14 00:00:06.8±1.2, 1095N±006×62.17W±004, h88km±11km, Error ellipse: s-maj=10.3km s-min=5.8km az=169.0
NEIC 14 00:00:07.3, 1095N×6205W, h99km, MD2.9(TRN), After TRN.
TRN 14 00:00:07.3, 1095N×6205W, h99km, MD2.9
FUNV 14 00:00:09.7, 1094N×6224W, h75km, MW3.0

ISC 14 00:00:07.4±1.1, 1095N±006×6217W±004, h86km±11km, n10, σ0:83/19, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**190**	*e*P	**Pn**	**00 00 21.1**	**+0.8**
GUIV				*e*S	**Sn**	**00 00 30.0**	**+0.1**
TCE	**Chacachacare**	**0.48**	**121**	*e*P	**Pn**	**00 00 22.2**	**+0.6**
TCE				*e*S	**Sn**	**00 00 33.3**	**+1.3**
TRN	**Trinidad (W)**	**0.81**	**112**	↑*i*P	**Pn**	**00 00 25.2**	**+0.6**
TRN				*e*S	**Sn**	**00 00 37.1**	**-0.5**
ITEV	**Isla Los Testi**	**1.02**	**293**	*e*P	**Pn**	**00 00 27.1**	**0.0**
ITEV				*e*S	**Sn**	**00 00 41.1**	**-0.7**
CRUV	**Carupano**	**1.08**	**256**	*e*P	**Pn**	**00 00 28.0**	**+0.3**
CRUV				*e*S	**Sn**	**00 00 41.9**	**-1.1**
GUNV	**Guanoco**	**1.09**	**224**	*e*P	**Pn**	**00 00 29.0**	**+1.1**
GUNV				*e*S	**Sn**	**00 00 42.1**	**-1.1**
TBH	**Brigand Hill**	**1.18**	**113**	*e*P	**Pn**	**00 00 29.4**	**+0.4**
TBH				*e*S	**Sn**	**00 00 44.6**	**-0.5**
GRW	**Mount Saint Ca**	**1.30**	**23**	*e*P	**Pn**	**00 00 30.6**	**+0.2**
GRW				*e*S	**Sn**	**00 00 48.6**	**+0.8**
TPR	**Prospect**	**1.39**	**80**	*e*P	**Pn**	**00 00 29.9**	**-1.6**
TPR				*e*S	**Sn**	**00 00 48.3**	**-1.4**
PCRV	**Puerto La Cruz**	**2.54**	**253**	*e*P	**Pn**	**00 00 47.3**	**+0.7**

UPP 14 00:16:36.3, 6783N×2021E, h1km, ML3.4, Mining explosion.

CSEM 14 00:16:36.3, 6783N×2021E, h1km, ML3.4, Mining explosion. After UPP, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.45**	**275**	P		00 16 44.8	
LANU	**Lannavaara**	**0.71**	**71**	P		00 16 49.6	
DUNU	**Dundret**	**0.73**	**169**	P		00 16 49.9	
	baz=50						
SALU	**Saltoluokta**	**0.80**	**236**	P		00 16 51.4	
PAJU	**Pajala**	**1.38**	**125**	P		00 17 01.7	

UPP 14 00:16:58.1, 6783N×2021E, h6km, ML2.8, Mining explosion.
CSEM 14 00:16:58.1, 6783N×2021E, h6km, ML2.8, Mining explosion. After UPP

HEL 14 00:16:58.6±0.0, 6783N×2021E, h0km, ML1.8, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**21**	*i*P	Pg	00 17 00.8	-0.4
KUA				*i*S	Sg	00 17 02.7	-0.2
NIKU	**Nikkaluokta**	**0.45**	**275**	*i*P	Pg	00 17 06.5	-0.7
NIKU				*i*S	Sg	00 17 12.6	-0.4
LANU	**Lannavaara**	**0.71**	**71**	*i*P	Pg	00 17 11.3	-0.8
SALU	**Saltoluokta**	**0.80**	**236**	*i*P	Pg	00 17 12.8	-1.1
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*S	Sg	00 17 36.5	-0.6
PAJU	**Pajala**	**1.38**	**125**	*e*P	Pg	00 17 23.3	-1.8
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 17 28.8	-0.8
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	00 17 39.5	-0.3
SGF				*e*S	Sn	00 18 09.3	-1.1
SGF				MSG		00 18 14.3	
	comp=Z,4.1nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 17 49.5	+0.3
KEV				*e*S	Sn	00 18 26.6	-0.8
KEV				MSG		00 18 35.0	
	comp=Z,1.9nm,0.2s						

IDC 14 00:51:14.3±6.3, 1924S×17732W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/13, mbtmp3.7/2, Error ellipse: s-maj=296.9km s-min=63.3km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.42**	**261**	P	P	00 59 35.3	+0.6
	0.2nm,0.2s,baz=96,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**45.44**	**255**	P	P	00 59 35.0	0.0
	0.6nm,0.5s,baz=91,slow=8.0,SNR=7.9						
AKASG	**Malin Array Be**	**142.21**	**332**	PKP	PKPdf	01 10 46.2	-2.4
	1.3nm,0.4s,baz=42,slow=4.0,SNR=7.3						
BRTR	**Keskin Array B**	**146.44**	**314**	PKPbc	PKPbc	01 10 57.5	+0.2
	0.3nm,0.6s,baz=151,slow=2.9,SNR=2.7						

ISCJB 14 01:03:08.9±3.8, 2189N±005×143.12E±009, h6km±23km, mb4.4/31, MS3.4/4, Error ellipse: s-maj=14.0km s-min=7.9km az=170.2
IDC 14 01:03:09.5±0.6, 2187N×143.19E, h0km, mb4.2/15, mb1 4.4/17, mb1mx4.3/23, mbtmp4.2/17, ML3.9/2, MS3.3/7, Ms1 3.3/7, ms1mx3.1/26, Error ellipse: s-maj=22.4km s-min=13.3km az=88.0
MOS 14 01:03:12.4±0.9, 2192N×143.24E, h33km, mb4.8/11, Error ellipse: s-maj=17.2km s-min=8.2km az=112.7
BJI 14 01:03:13.1, 22.12N×143.14E, h22km, mB5.2, mb4.7
NEIC 14 01:03:14.7±0.3, 2190N×143.13E, h35km, mb4.6/13, Error ellipse: s-maj=9.4km s-min=6.3km az=82.0

ISC 14 01:03:09.8±4.2, 2189N±005×14317E±009, h0km±26km, n69, σ0:94/65, mb4.5/31, MS3.4/4, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.26**	**350**	Pn	**Pn**	**01 04 31.1**	**+1.5**
	11nm,0.3s,baz=153,slow=11,SNR=6.9						
CBIJ				Sn	**Sn**	**01 05 31.2**	**+0.2**
	18nm,0.3s,baz=270,slow=23,SNR=3.4						
CBIJ				LR	LR	01 06 02.1	
	comp=Z,70nm,19.8s,baz=119,slow=33						
GUMO	**Guam**	**8.41**	**169**	LR	LR	01 07 47.2	
	comp=Z,166nm,19.2s,baz=287,slow=33						
MJAR	**Matsushiro Arr**	**15.23**	**345**	Pn	**Pn**	**01 06 44.8**	**-1.3**
	0.4nm,0.3s,baz=157,slow=11,SNR=5.1						
MJAR				LR	LR	01 12 14.9	
	comp=Z,164nm,20.4s,baz=185,slow=36						
MAJO	**Matsushiro**	**15.23**	**345**	P	**Pn**	**01 06 46.1**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**15.23**	**345**	Pn	**Pn**	**01 06 46.1**	**0.0**
	comp=Z,4.4nm,0.6s						
NACB	**Ninganchiao**	**19.99**	**281**	P	**Pn**	**01 07 43.7**	**-1.7**
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**01 07 47.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=130,slow=12,SNR=3.1						
KSRS				LR	LR	01 14 44.7	
	comp=Z,71nm,19.4s,MS3.0,baz=15,slow=34						
INCN	**Inchon**	**21.11**	**321**	*e*P	**P**	**01 07 56.1**	**+0.1**
	comp=Z,18nm,0.3s,mb4.9						
ASAJ	**Asahikawa**	**22.18**	**359**	LR	LR	01 16 39.3	
	comp=Z,70nm,18.2s,MS3.1,baz=25,slow=36						
PMG	**Port Moresby**	**31.34**	**172**	LR	LR	01 19 19.3	
	comp=Z,76nm,20.7s,MS3.4,baz=44,slow=31						
PET	**Petropavlovsk**	**33.27**	**17**	*e*P	**P**	**01 09 47.3**	**-1.5**
PET				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
PET	**Petropavlovsk**	**33.27**	**17**	*e*P	**P**	**01 09 47.3**	**-1.5**
	comp=Z,25nm,0.8s,mb5.2						
LZH	**Lanzhou**	**36.94**	**301**	*e*P	**P**	**01 10 22.1**	**+1.7**
LZH				AP		01 10 27.4	
LZH				XP	sP	01 10 30.1	+10
LZH				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
LZH	**Lanzhou**	**36.94**	**301**	*e*P	**P**	**01 10 22.1**	**+1.7**
LZH				pP		01 10 27.4	
LZH				sP	sP	01 10 30.1	+10
ULN	**Ulaanbaatar**	**38.81**	**321**	*e*P	**P**	**01 10 36.9**	**+0.7**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**38.81**	**321**	*e*P	**P**	**01 10 36.9**	**+0.7**
	comp=Z,7.7nm,1.0s,mb4.3						
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**01 10 39.9**	**+0.5**
	comp=Z,3.3nm,0.7s,mb4.1,baz=125,slow=7.1,SNR=23						
GTA	**Gaotai**	**40.75**	**305**	*e*P	**P**	**01 10 54.0**	**+1.6**
GTA				AP		01 10 59.5	
GTA				XP	sP	01 11 02.8	+10
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
CM31	**Chiang Mai Arr**	**41.55**	**273**	P	**P**	**01 10 59.1**	**+0.1**
CTA	**Charters Tower**	**41.83**	**176**	P	**P**	**01 10 59.9**	**-1.4**
	comp=Z,8.8nm,1.0s,mb4.5,baz=19,slow=9.7,SNR=3.5						
CTAO	**Charters Tower**	**41.83**	**176**	*e*P	**P**	**01 11 00.8**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**41.83**	**176**	*e*P	**P**	**01 11 00.8**	**-0.4**
	comp=Z,11nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**42.19**	**322**	⇓*i*P	**P**	**01 11 04.7**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
WB2	**Warramunga Arr**	**42.46**	**192**	*e*P	**P**	**01 11 06.3**	**-0.1**
WRA	**Warramunga Arr**	**42.46**	**192**	P	**P**	**01 11 06.5**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.0,baz=15,slow=8.7,SNR=11						
TLY	**Talaya**	**42.60**	**324**	P	**P**	**01 11 07.1**	**-0.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
TLY	**Talaya**	**42.60**	**324**	P	**P**	**01 11 07.1**	**-0.4**
	comp=Z,3.5nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**43.29**	**205**	P	**P**	**01 11 13.4**	**+0.3**
	comp=Z,1.6nm,0.9s,mb3.8,baz=16,slow=16,SNR=3.7						
ASAR	**Alice Springs**	**46.17**	**192**	P	**P**	**01 11 36.4**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=16,slow=9.9,SNR=8.6						
PSI	**Prapat**	**46.96**	**252**	P	**P**	**01 11 44.3**	**+2.0**
	comp=Z,4.8nm,0.9s,mb4.6,baz=182,slow=6.9,SNR=3.9						
LSA	**Lhasa**	**47.16**	**291**	*e*P	**P**	**01 11 44.0**	**+0.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**47.16**	**291**	*e*P	**P**	**01 11 44.0**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.5						
WMQ	**Urumqi**	**50.45**	**309**	P	**P**	**01 12 10.8**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,189nm,4.6s						
STKA	**Stephens Creek**	**53.48**	**182**	P	**P**	**01 12 30.6**	**-1.1**
	comp=Z,4.4nm,1.1s,mb4.3,baz=344,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**53.48**	**182**	*e*P	**P**	**01 12 31.2**	**-0.5**
ZAL	**Zalesovo**	**54.07**	**322**	P	**P**	**01 12 35.5**	**-0.5**
	comp=Z,3.8nm,1.0s,mb4.4,baz=5.3,slow=8.2,SNR=18						
ZAL	**Zalesovo**	**54.07**	**322**	P	**P**	**01 12 35.5**	**-0.5**
MK31	**Makanchi Array**	**54.56**	**313**	*e*P	**P**	**01 12 39.5**	**-0.1**
MKAR	**Makanchi Array**	**54.56**	**313**	P	**P**	**01 12 40.2**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.1,baz=95,slow=9.0,SNR=14						
NVS	**Novosibirsk**	**55.15**	**322**	*i*P	**P**	**01 12 43.1**	**-0.8**
KURK	**Kurchatov**	**57.33**	**317**	*e*P	**P**	**01 12 59.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**57.33**	**317**	*e*P	**P**	**01 12 59.5**	**0.0**
	comp=Z,7.5nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**60.04**	**307**	*e*P	**P**	**01 13 17.9**	**-0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**60.04**	**307**	*e*P	**P**	**01 13 17.9**	**-0.5**
	comp=Z,4.7nm,1.3s,mb4.4						
MCK	**McKinley**	**60.83**	**28**	*e*P	**P**	**01 13 23.5**	**-0.2**
CHKZ	**Chkalovo**	**62.38**	**320**	*e*P	**P**	**01 13 33.6**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**62.38**	**320**	*e*P	**P**	**01 13 33.6**	**-0.6**
	comp=Z,7.1nm,1.0s,mb4.8						
BRVK	**Borovoye**	**62.59**	**319**	*e*P	**P**	**01 13 35.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
BRVK	**Borovoye**	**62.59**	**319**	*e*P	**P**	**01 13 35.9**	**+0.3**
	comp=Z,16nm,1.1s,mb5.1						
INK	**Inuvik**	**67.40**	**24**	P	**P**	**01 14 06.7**	**-0.2**
	comp=Z,3.7nm,1.0s,mb4.6,baz=269,slow=9.4,SNR=10						
INK	**Inuvik**	**67.40**	**24**	*e*P	**P**	**01 14 06.7**	**-0.2**
INK				*e*PcP	PcP	01 14 34.8	+0.3
ARU	**Arti**	**69.11**	**324**	*e*P	**P**	**01 14 16.1**	**-1.5**
ARU	**Arti**	**69.11**	**324**	*e*P	**P**	**01 14 16.0**	**-1.6**
	comp=Z,16nm,1.3s,mb5.1						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**01 15 00.1**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.4,baz=291,slow=5.7,SNR=30						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**01 15 00.1**	**-0.2**
PPT	**Papeete**	**76.62**	**115**	LR	LR	01 41 33.2	
	comp=Z,75nm,20.6s,MS4.0,baz=24,slow=30						
RES	**Resolute Bay**	**76.89**	**13**	*e*P	**P**	**01 15 03.6**	**-0.2**
OBN	**Obninsk**	**81.32**	**326**	P	**P**	**01 15 26.9**	**-1.1**
KIV	**Kislovodsk**	**82.28**	**314**	*e*P	**P**	**01 15 33.1**	**0.0**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**82.28**	**314**	*e*P	**P**	**01 15 33.1**	**0.0**
	comp=Z,6.8nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**83.01**	**334**	P	**P**	**01 15 35.5**	**-1.4**
	comp=Z,2.4nm,0.9s,mb4.4,baz=51,slow=5.7,SNR=3.3						
NVAR	**Mina Array Bea**	**83.03**	**51**	P	**P**	**01 15 38.5**	**+1.5**
	comp=Z,3.6nm,1.0s,mb4.6,baz=261,slow=3.6,SNR=4.8						
QLMT	**Earthquake Lak**	**85.13**	**44**	*e*P	**P**	**01 15 48.6**	**+0.9**
PDAR	**Pinedale Array**	**87.27**	**45**	P	**P**	**01 15 59.1**	**+0.9**
	comp=Z,1.4nm,1.1s,mb4.1,baz=268,slow=5.3,SNR=5.1						
AKASG	**Malin Array Be**	**87.35**	**324**	P	**P**	**01 15 55.7**	**-2.9**
	comp=Z,0.2nm,0.2s,mb3.9,baz=49,slow=5.2,SNR=4.9						
AKASG	**Malin Array Be**	**87.35**	**324**	P	**P**	**01 15 55.7**	**-2.9**
PV10	**Paradox Valley**	**89.65**	**48**	*e*P	**P**	**01 16 10.5**	**+1.0**
BRTR	**Keskin Array B**	**90.20**	**313**	P	**P**	**01 16 11.2**	**-0.9**
	comp=Z,2.1nm,1.1s,mb4.3,baz=154,slow=15,SNR=4.0						
LPAZ	**La Paz**	**149.93**	**85**	PKPbc	PKPbc	01 23 02.1	+0.1
	comp=Z,3.3nm,1.0s,baz=326,slow=2.8,SNR=9.8						

ATH 14 01:11:46.9, 3901N×2606E, h21km±6km, MD3.2/5
NEIC 14 01:11:46.9, 3901N×2606E, h21km, MD3.2(ATH), After ATH.
CSEM 14 01:11:47.2±0.1, 3902N×2604E, h15km, MD3.2, Error ellipse: s-maj=3.8km s-min=2.6km az=71.0
ISCJB 14 01:11:48.3±0.8, 3904N±003×2604E±006, h19km±6km, Error ellipse: s-maj=8.4km s-min=4.8km az=153.6
ISK 14 01:11:48.9, 3906N×2624E, h9km, MD3.1

ISC 14 01:11:47.9±0.8, 3902N±003×2604E±006, h12km±4km, n15, σ0:79/24, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.29**	**39**	↑*i*PB	**Pg**	**01 11 53.6**	**-0.3**
PRK				*e*SB	**Sg**	**01 11 57.9**	**0.0**
AYVA	**Ayvalik**	**0.58**	**60**	*i*P	**Pg**	**01 11 58.7**	**-0.6**
AYVA				*i*S	**Sg**	**01 12 06.2**	**-0.8**
URLA	**Izmir**	**0.79**	**146**	*i*P	**Pg**	**01 12 08.2**	**-0.4**
URLA				*i*S	**Sg**	**01 12 15.3**	**+1.8**
BOZC	**Bozcaada**	**0.82**	**1**	*i*P	**Pg**	**01 12 03.4**	**-0.4**
BOZC				*i*S	**Sg**	**01 12 16.0**	**+1.4**
BLCB	**Balcova**	**1.01**	**128**	PG	**Pg**	**01 12 07.4**	**0.0**
BLCB				SG	**Sg**	**01 12 19.7**	**-0.8**
LIA	**Limnos Island**	**1.10**	**323**	*e*PN	**Pn**	**01 12 08.4**	**-0.7**
KDAG	**Bornova**	**1.14**	**122**	*i*P	**Pb**	**01 12 09.1**	**-0.4**
KDAG				*i*S	**Sb**	**01 12 25.6**	**+1.3**
CANB	**Canakkale**	**1.27**	**38**	PN	**Pn**	**01 12 11.4**	**-0.1**
CANB				SN	**Sn**	**01 12 27.7**	**-0.8**
CANB	**Canakkale**	**1.27**	**38**	*i*P	**Pn**	**01 12 11.8**	**+0.3**
CANB				*i*S	**Sb**	**01 12 30.1**	**+2.0**
AKS	**Akhisar**	**1.39**	**95**	PN	**Pn**	**01 12 12.5**	**-0.6**
AKS				SN	**Sn**	**01 12 30.8**	**-0.6**
SMG	**Samos**	**1.45**	**154**	*e*PN	**Pn**	**01 12 14.1**	**+0.2**
APE	**Apeiranthos**	**1.99**	**192**	*e*PB	**Pn**	**01 12 21.1**	**-0.2**
DST	**Dursunbey**	**2.09**	**73**	PN	**Pn**	**01 12 22.7**	**0.0**
RDO	**Rodhopi**	**2.16**	**350**	*e*PB	**Pn**	**01 12 23.8**	**+0.1**
IZI	**Iznik**	**2.96**	**62**	*e*PN	**Pn**	**01 12 34.8**	**+0.1**

NEIC 14 01:38:54.0, 1187S×7742W, h65km, mb3.5/1, After LIM., Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.58**	**102**	*e*P	Pn	01 39 08.8	+1.6
NNA				*e*S	Sn	01 39 18.6	+1.8
LPAZ	**La Paz**	**10.02**	**117**	Pn	Pn	01 41 14.1	-1.0
OTAV	**Otavalo**	**12.07**	**355**	*e*Pn	Pn	01 41 43.9	+0.8
PAYG	**Puerto Ayora**	**16.93**	**310**	P	Pn	01 42 46.2	-0.3
SDV	**Santo Domingo**	**21.70**	**18**	*e*P	P	01 43 40.2	+0.7
	0.6nm,0.3s						
RCBR	**Riachuelo**	**41.43**	**85**	P	P	01 46 34.6	+0.5

LDG 14 01:48:58.9±0.1, 4230N×200E, h10km, Md2.5/1, Ml2.3/9, Error ellipse: s-maj=1.0km s-min=0.9km az=4.0
STR 14 01:48:58.9±0.3, 4229N×198E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.2
CSEM 14 01:48:59.1±0.1, 4231N×200E, h5km, ML2.4/11, Error ellipse: s-maj=1.8km s-min=1.2km az=144.0

MDD 14 01:48:59.5±0.2, 4229N×199E, h0km, mbLg1.8/20, Error ellipse: s-maj=2.0km s-min=1.4km az=139.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.12**	**9**	Pg	Pg	01 49 01.7	0.0
VALF				Sg	Sg	01 49 03.8	+0.6
VALF	**Valcebollere**	**0.12**	**9**	P	Pg	01 49 01.8	0.0
VALF				S	Sg	01 49 03.7	+0.5
CBRU	**Bruguera**	**0.14**	**91**	P	Pg	01 49 02.0	-0.2
CBRU				S	Sg	01 49 04.2	+0.2
	71nm,0.1s						
CLLI	**Llivia**	**0.19**	**356**	P	Pg	01 49 03.0	-0.2
CLLI				S	Sg	01 49 05.9	+0.2
	15nm,0.2s						
PAND	**Andorre**	**0.41**	**305**	P	Pg	01 49 06.8	-0.5
PAND				S	Sg	01 49 12.6	+0.1
CARF	**Carcanieres**	**0.44**	**11**	Pg	Pg	01 49

0.8nm,0.1s,SNR=7.9
ERTA Lg 01 49 56.8
3.7nm,0.1s,SNR=7.9
ERTA Horta de San J 1.82 224 Pg Pg 01 49 32.8 -1.6
0.8nm,0.1s,SNR=7.9
ESAC San Caprasio 1.92 254 Pg Pg 01 49 35.2 -1.1
12nm,0.2s,SNR=7.9
ESAC Lg 01 49 60.0
18nm,0.1s,SNR=7.9
ESAC San Caprasio 1.92 254 Pg Pg 01 49 35.2 -1.1
12nm,0.2s,SNR=7.9
ETSF Etsaut 1.98 289 *e*Pg Pg 01 49 35.8 -1.7
ETSF *e*Sg Sg 01 50 02.0 -1.2
9.1nm,0.3s
ETSF Etsaut 1.98 289 *e*Pg Pg 01 49 35.8 -1.7
ETSF *e*Sg Sg 01 50 02.0 -1.2
4.6nm,0.3s
LASF Ste Croix 2.25 37 *e*Pn Pn 01 49 34.6 -3.4
LASF Ste Croix 2.25 37 *e*Pg Pg 01 49 40.3 -2.3
LASF *e*Sg Sg 01 50 09.2 -2.5
2.1nm,0.2s
LASF Ste Croix 2.25 37 Pn Pn 01 49 34.6 -3.4
LASF Pg Pg 01 49 40.3 -2.3
LASF Lg 01 50 09.2
1.1nm,0.2s
LASF Ste Croix 2.25 37 *e*Pg Pg 01 49 40.3 -2.3
LASF *e*Sg Sg 01 50 09.2 -2.5
1.0nm,0.2s
SJPF Ste Jean 2.51 290 *e*Pg Pg 01 49 45.5 -2.2
SJPF *e*Sg Sg 01 50 18.0 -2.2
2.2nm,0.2s
SJPF Ste Jean 2.51 290 *e*Pg Pg 01 49 45.5 -2.2
SJPF *e*Sg Sg 01 50 18.0 -2.2
1.1nm,0.2s
IPRE Itoiz 2.53 283 Lg 01 50 21.8
0.4nm,0.1s,SNR=7.9
CAF Calviac 2.64 1 *e*Pg Pg 01 49 47.7 -2.4
CAF *e*Sn Sn 01 50 08.4 -7.6
CAF *e*Sg Sg 01 50 21.5 -2.8
2.1nm,0.2s
CAF Calviac 2.64 1 *e*Pg Pg 01 49 47.7 -2.4
CAF *e*Sn Sn 01 50 08.4 -7.6
CAF *e*Sg Sg 01 50 21.5 -2.8
1.0nm,0.2s
EMOS Mosqueruela 2.67 225 Sn Sn 01 50 16.0 -0.9
0.5nm,0.2s,SNR=7.9
EMOS Lg 01 50 24.2
1.0nm,0.3s,SNR=7.9
EMOS Mosqueruela 2.67 225 Sn Sn 01 50 16.0 -0.9
0.5nm,0.2s,SNR=7.9
EALK Alkurruntz 2.74 291 Lg 01 50 27.6
2.8nm,0.3s,SNR=7.9
LFF La Frestale 2.80 341 *e*Sg Sg 01 50 27.2 -2.4
2.3nm,0.2s
LFF La Frestale 2.80 341 *e*Sg Sg 01 50 27.2 -2.4
1.1nm,0.2s
RJF Les Rejaudoux 3.04 354 *e*Sg Sg 01 50 33.8 -3.3
1.6nm,0.2s
RJF Les Rejaudoux 3.04 354 *e*Sg Sg 01 50 33.8 -3.3
0.8nm,0.2s
VIVF Saint-Julien-l 3.22 36 *e*Pn Pn 01 49 47.9 -3.4
VIVF Saint-Julien-l 3.22 36 *e*Pg Pg 01 49 58.1 -3.2
VIVF *e*Sg Sg 01 50 39.6 -3.4
0.9nm,0.2s
VIVF Saint-Julien-l 3.22 36 Pn Pn 01 49 47.9 -3.4
VIVF Pg Pg 01 49 58.1 -3.2
VIVF Saint-Julien-l 3.22 36 *e*Pg Pg 01 49 58.1 -3.2
VIVF *e*Sg Sg 01 50 39.6 -3.4
0.4nm,0.2s
ETOR Torete 3.37 246 Sn Sn 01 50 32.9 -1.3
3.8nm,0.2s,SNR=7.9
ETOR Lg 01 50 47.6
SNR=7.9

BJI 14 01:50:39.2, 3590N×11126E, h19km, mb3.5, ML3.4, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**2.67**	**227**	PG	Pg	01 51 27.8	-2.6
XAN				SG	Sg	01 52 02.6	-2.5
XAN				Smax			
	comp=N,205nm,0.7s						
XAN				Smax			
	comp=E,114nm,0.6s						
BTO	**Baotou**	**4.80**	**349**	*e*PG	Pg	01 52 07.8	-3.3
BTO				SG	Sg	01 53 07.3	-5.9
BJI	**Beijing**	**5.67**	**42**	PG	Pn	01 52 18.4	+16
BJI				SG	Sn	01 53 27.3	+20
BJI				Smax			
	comp=N,53nm,0.8s						
BJI				Smax			
	comp=E,51nm,0.8s						
LZH	**Lanzhou**	**6.02**	**274**	*e*P	Pn	01 52 11.0	+3.9
GTA	**Gaotai**	**9.73**	**295**	*e*P	Pn	01 52 57.8	-0.3
GTA				AMB	AMB		
	comp=Z,2.0nm,1.4s						

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*CSEM **14** 01:53:26.4, 67.19N×2067E, h0km, ML3.5, Suspected Mining explosion. After UPP*

UPP 14 01:53:26.4, 6719N×2067E, h0km, ML3.5, 1D, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**213**	⇓P	Pg	01 53 28.1	+0.2
	baz=116						
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	01 53 42.7	-0.3
NIKU	**Nikkaluokta**	**0.93**	**318**	P	Pg	01 53 43.9	-0.4
PAJU	**Pajala**	**0.97**	**98**	P	Pg	01 53 44.7	-0.3
LANU	**Lannavaara**	**1.00**	**29**	P	Pg	01 53 44.7	-0.9
	baz=289						
HARU	**Harads**	**1.03**	**173**	P	Pg	01 53 45.4	-0.8
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	01 53 57.6	0.0
LILU	**Lilltraesk**	**1.94**	**190**	P	Pn	01 54 00.9	+0.3

IDC 14 01:54:38.3±4.2, 4627N×15115E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=109.2km s-min=31.2km az=157.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.42**	**253**	Pn	Pn	01 56 14.0	0.0
	1.5nm,0.3s,baz=58,slow=13,SNR=4.0						
MKAR	**Makanchi Array**	**45.95**	**297**	P	P	02 03 02.7	-0.2
	0.1nm,0.4s,baz=64,slow=8.3,SNR=5.9						
YKA	**Yellowknife Ar**	**52.12**	**36**	P	P	02 03 49.6	-0.6
	0.2nm,0.6s,baz=298,slow=7.2,SNR=3.3						
FINES	**FINESS Array B**	**63.89**	**334**	P	P	02 05 11.9	-0.9
	1.4nm,0.6s,baz=46,slow=8.2,SNR=6.9						
NOA	**NORSAR Array B**	**68.23**	**340**	P	P	02 05 40.7	0.0
	1.3nm,0.8s,baz=35,slow=8.5,SNR=3.5						

IDC 14 02:07:51.2±1.7, 151S×12010E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=195.2km s-min=23.0km az=61.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.01**	**144**	P	P	02 12 57.1	-0.6
	3.3nm,1.3s,baz=319,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**25.77**	**150**	P	P	02 13 25.0	+1.4
	0.3nm,0.7s,baz=312,slow=8.3,SNR=3.5						
SONM	**Songino Array**	**50.58**	**348**	P	P	02 16 52.0	+0.4
	0.5nm,0.7s,baz=155,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**58.43**	**330**	P	P	02 17 48.5	-0.1
	0.6nm,0.8s,baz=117,slow=7.7,SNR=6.1						

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*ISCJB **14** 02:39:30.0±0.3, 43.10N±002×002E±002, h9km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=9.3*
*MDD **14** 02:39:31.6±0.2, 4302N×000W, h6km±3km, mbLg1.5/11, Error ellipse: s-maj=2.2km s-min=1.7km az=7.0, PRXIMO*
*STR **14** 02:39:31.1±0.1, 4301N×001E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **14** 02:39:31.3±0.1, 4302N×001W, h5km, Md2.4/2, Ml1.9/6, Error ellipse: s-maj=1.0km s-min=0.8km az=12.0*

ISC 14 02:39:30.8±0.3, 4305N±002×001E±002, h12km±3km, n42, σ0§53/63, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**98**	Pg	**Pg**	**02 39 33.3**	**+0.2**
LABF				Sg	**Sg**	**02 39 34.4**	**-0.3**
LABF	**Labassere**	**0.05**	**98**	P	**Pg**	**02 39 33.2**	**+0.2**
LABF				S	**Sg**	**02 39 34.4**	**-0.3**
VIEF	**Viey**	**0.17**	**177**	Pg	**Pg**	**02 39 34.2**	**-0.5**
VIEF	**Viey**	**0.17**	**177**	P	**Pg**	**02 39 34.3**	**-0.4**
VIEF				S	**Sg**	**02 39 36.2**	**-1.1**
EPF	**Esparros**	**0.24**	**95**	*e*Pg	**Pg**	**02 39 36.3**	**+0.4**
EPF				*e*Sg	**Sg**	**02 39 40.1**	**+0.8**
	20nm,0.2s						
EPF	**Esparros**	**0.24**	**95**	Pg	**Pg**	**02 39 36.3**	**+0.4**
EPF				Lg		02 39 40.1	
	9.8nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**273**	Pg	**Pg**	**02 39 36.9**	**+0.1**
REYF				Sg	**Sg**	**02 39 41.5**	**+0.6**
REYF	**Montagne du Re**	**0.30**	**273**	P	**Pg**	**02 39 37.0**	**+0.1**
REYF				S	**Sg**	**02 39 41.3**	**+0.3**
RESF	**Ens**	**0.34**	**136**	Pg	**Pg**	**02 39 37.4**	**-0.3**
RESF				Sg	**Sg**	**02 39 42.1**	**-0.3**
RESF	**Ens**	**0.34**	**136**	P	**Pg**	**02 39 37.6**	**-0.1**
RESF				S	**Sg**	**02 39 42.2**	**-0.2**
EBIE	**Bielsa**	**0.38**	**165**	⇑Pg	**Pg**	**02 39 38.0**	**-0.4**
	2.3nm,0.1s,SNR=18						
EBIE				Lg		02 39 42.6	
	7.2nm,0.1s,SNR=6.9						
ETSF	**Etsaut**	**0.45**	**250**	*e*Pg	**Pg**	**02 39 39.6**	**0.0**
ETSF				*e*Sg	**Sg**	**02 39 45.0**	**-0.6**
	10.0nm,0.3s						
ETSF	**Etsaut**	**0.45**	**250**	Pg	**Pg**	**02 39 39.6**	**0.0**
ETSF				Lg		02 39 45.0	
	0.0nm,0.3s						
ATE	**Arette**	**0.52**	**274**	Pg	**Pg**	**02 39 41.4**	**+0.4**
ATE				Sg	**Sg**	**02 39 48.6**	**+0.6**
ATE	**Arette**	**0.52**	**274**	P	**Pg**	**02 39 41.5**	**+0.5**
ATE				S	**Sg**	**02 39 48.6**	**+0.6**
MELF	**Melles**	**0.58**	**108**	P	**Pg**	**02 39 42.1**	**0.0**
MELF				S	**Sg**	**02 39 50.2**	**+0.5**
SJPF	**Ste Jean**	**0.91**	**274**	*e*Pg	**Pg**	**02 39 48.1**	**-0.2**
SJPF				*e*Sg	**Sg**	**02 39 59.7**	**-0.5**
	3.5nm,0.4s						
SJPF	**Ste Jean**	**0.91**	**274**	Pg	**Pg**	**02 39 48.1**	**-0.2**
SJPF				Lg		02 39 59.7	
	1.8nm,0.4s						
SALF	**Salau**	**0.91**	**108**	Pg	**Pg**	**02 39 48.9**	**+0.5**
SALF				Sg	**Sg**	**02 40 00.0**	**-0.4**
SALF	**Salau**	**0.91**	**108**	P	**Pg**	**02 39 48.4**	**-0.1**
SALF				S	**Sg**	**02 40 00.1**	**-0.3**
CSOR	**Sort**	**1.07**	**129**	P	**Pb**	**02 39 51.1**	**-0.1**
CSOR				S	**Sb**	**02 40 05.5**	**+0.3**
	1.8nm,0.3s						
EALK	**Alkurruntz**	**1.12**	**279**	Lg		02 40 07.9	
	0.5nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.15**	**265**	Lg		02 40 08.9	
	0.7nm,0.2s,SNR=4.0						
CORG	**Organya**	**1.27**	**130**	P	**Pn**	**02 39 55.1**	**+0.8**
CORG				S	**Sb**	**02 40 11.2**	**+0.4**
	0.9nm,0.3s						
CAVN	**Les Avellanes**	**1.29**	**155**	P	**Pn**	**02 39 55.2**	**+0.6**
CAVN				S	**Sb**	**02 40 12.4**	**+0.8**
	9.8nm,0.2s						
ESAC	**San Caprasio**	**1.38**	**195**	Pg	**Pg**	**02 39 57.7**	**+0.4**
	2.6nm,0.2s,SNR=7.9						
ESAC				Lg		02 40 16.0	
	7.1nm,0.1s,SNR=17						
CLLI	**Llivia**	**1.56**	**111**	P	**Pn**	**02 39 57.8**	**-0.5**
CLLI				S	**Sn**	**02 40 16.7**	**-1.6**
	0.9nm,0.5s						
EMIR	**Miracle**	**1.60**	**135**	Pg	**Pg**	**02 40 02.0**	**+0.6**
	0.3nm,0.1s,SNR=7.9						
EMIR				Lg		02 40 22.8	
	2.1nm,0.1s,SNR=6.5						
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg	**Pg**	**02 40 02.3**	**+0.1**
MTLF				*e*Sg	**Sg**	**02 40 24.2**	**+0.7**
	1.9nm,0.2s						
MTLF	**Montolieu**	**1.64**	**79**	Pg	**Pg**	**02 40 02.3**	**+0.1**
MTLF				Lg		02 40 24.2	
	0.9nm,0.2s						
EPOB	**Poblet**	**1.88**	**155**	Pg	**Pg**	**02 40 06.2**	**-0.5**
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		02 40 29.6	
	2.1nm,0.2s,SNR=7.4						
LFF	**La Frestale**	**1.96**	**15**	*e*Pg	**Pg**	**02 40 08.3**	**0.0**
LFF				*e*Sg	**Sg**	**02 40 34.1**	**+0.4**
	2.1nm,0.3s						
LFF	**La Frestale**	**1.96**	**15**	Pg	**Pg**	**02 40 08.3**	**0.0**
LFF				Lg		02 40 34.1	
	1.1nm,0.3s						
ERTA	**Horta de San J**	**2.11**	**173**	Lg		02 40 37.2	
	1.5nm,0.2s,SNR=7.0						
EJON	**La Jonquera**	**2.20**	**105**	Lg		02 40 43.2	
	0.9nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.39**	**38**	*e*Pn	**Pn**	**02 40 09.9**	**+0.2**
CAF	**Calviac**	**2.39**	**38**	*e*Pg	**Pg**	**02 40 16.5**	**-0.1**
CAF				*e*Sn	**Sn**	**02 40 38.1**	**-0.8**
CAF				*e*Sg	**Sg**	**02 40 47.6**	**+0.1**
	1.1nm,0.2s						
CAF	**Calviac**	**2.39**	**38**	Pn	**Pn**	**02 40 09.9**	**+0.2**
CAF				Pg	**Pg**	**02 40 16.5**	**-0.1**
CAF				Sn	**Sn**	**02 40 38.1**	**-0.8**
CAF				Lg		02 40 47.6	
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**25**	*e*Pg	**Pg**	**02 40 18.5**	**-0.2**
RJF				*e*Sg	**Sg**	**02 40 50.8**	**-0.2**
	2.4nm,0.3s						
RJF	**Les Rejaudoux**	**2.50**	**25**	Pg	**Pg**	**02 40 18.5**	**-0.2**
RJF				Lg		02 40 50.8	
	1.2nm,0.3s						
LASF	**Ste Croix**	**2.98**	**69**	*e*Sg	**Sg**	**02 41 05.5**	**-0.9**
	0.4nm,0.2s						
LASF	**Ste Croix**	**2.98**	**69**	Lg		02 41 05.5	
	0.2nm,0.2s						

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*NIED **14** 02:53:00, 4630N×15300E, h17km, Mw4.3 Best double couple: M0 3.62000×1015 NP1:φ1=223.00000°, δ88.00000°, λ173.00000°. NP2:φ2=314.00000°, δ83.00000°, λ2.00000°.*
*IDC **14** 02:53:56.3±0.7, 4601N×15277E, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.3/25, mbtmp4.1/19, MS3.9/8, Ms1 3.9/8, ms1mx3.6/27, Error ellipse: s-maj=19.4km s-min=16.7km az=142.0*
*JMA **14** 02:53:57.1±0.6, 4632N×15299E, h30km, M4.6*
*NEIC **14** 02:53:57.9±5.1, 4602N×15276E, h9km±31km, mb4.6/11, Error ellipse: s-maj=12.7km s-min=10.0km az=154.0*
*ISCJB **14** 02:53:58.0±1.3, 4583N±007×15279E±007, h24km±9km, mb4.6/46, MS3.9/12, Error ellipse: s-maj=12.6km s-min=4.9km az=118.8*
*SKHL **14** 02:53:58.9±1.5, 4570N×15310E, h48km±17km, mb4.8/2, ms4.2/2*
*BJI **14** 02:53:58.2, 46.15N×152.49E, h8km, mB4.9, mb4.6, Ms4.4, Msz3.8*
*MOS **14** 02:54:00.4±1.5, 4604N×15269E, h38km, mb4.6/25, Error ellipse: s-maj=9.5km s-min=8.0km az=103.3*
*SZGRF **14** 02:54:02.9, 46.19N×15380E, h33km, mb4.4, Kuril Islands, Russia*

ISC 14 02:54:00.5±1.3, 4595N±007×15275E±007, h26km±9km, h16km±5.0km: pP-P, n135, σ1§32/142, mb4.6/46, MS3.9/12, 5C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.50**	**260**	⇓*i*PN	**Pn**	**02 54 52.4**	**-0.9**
KUR				*e*S	**Sn**	**02 55 33.8**	**-0.1**
KUR				pmax	pmax		
	comp=N,180nm,0.8s						
KUR				pmax	pmax		
	comp=E,220nm,0.8s						
KUR				pmax	pmax		
	comp=Z,430nm,0.8s						
KUR				smax			
	comp=N,640nm,0.9s						
KUR				smax			
	comp=E,430nm,0.9s						
KUR				MLR	MLR		
	comp=E,5μm,10.0s						
KUR				MLR	MLR		
	comp=Z,4μm,10.0s						
KUR	**Kuril'sk**	**3.50**	**260**	*i*P	**Pn**	**02 54 52.4**	**-0.9**
KUR				AMB	AMB	02 55 08.2	
	comp=Z,180nm,0.8s						
KUR				AMB	AMB	02 55 08.2	
	comp=Z,220nm,0.8s						
KUR				AMB	AMB	02 55 08.2	
	comp=Z,430nm,0.8s						
KUR				*e*S	**Sn**	**02 55 33.8**	**-0.1**
KUR				A		02 55 57.0	
	comp=Z,640nm,0.9s						
KUR				A		02 55 57.0	
	comp=Z,430nm,0.9s						
KUR				AMS	AMS	02 55 58.0	
	comp=Z,5μm,10.0s						
KUR				AMS	AMS	02 55 58.0	
	comp=Z,4μm,10.0s						
SKR	**Severo-Kuril's**	**5.24**	**24**	*e*PN	**Pn**	**02 55 18.0**	**+0.8**
SKR				pmax	pmax		
	comp=Z,200nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.25**	**251**	*e*PN	**Pn**	**02 55 17.0**	**-0.3**
YUK				*e*S	**Sn**	**02 56 24.4**	**+7.5**
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
NEM2	**Nemuro 2**	**5.63**	**245**	P	**Pn**	**02 55 21.8**	**-0.7**
NEM2				*e*S	**Sn**	**02 56 23.8**	**-2.5**
JRA	**Rausu**	**5.78**	**252**	P	**Pn**	**02 55 26.9**	**+2.4**
JNK	**Nakash**	**6.19**	**250**	P	**Pn**	**02 55 31.5**	**+1.3**
JAK	**Akkeshi**	**6.47**	**246**	P	**Pn**	**02 55 33.7**	**-0.4**
JAK				*e*S	**Sn**	**02 56 45.5**	**-1.6**
JTKR	**Abashiri--Toko**	**6.58**	**256**	P	**Pn**	**02 55 37.6**	**+2.1**
JAR	**Ashorobuto**	**6.94**	**251**	P	**Pn**	**02 55 41.8**	**+1.4**
YSS	**Yuzh-Sakhalins**	**6.98**	**282**	*e*PN	**Pn**	**02 55 45.8**	**+4.7**
YSS				*e*S	**Sn**	**02 57 05.1**	**+5.5**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				smax			
	comp=N,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,600nm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.98**	**282**	*e*Pn	**Pn**	**02 55 45.0**	**+3.9**
	comp=E,29nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.98**	**282**	*e*P	**Pn**	**02 55 45.8**	**+4.7**
YSS				AMB	AMB	02 55 46.9	
	comp=E,60nm,1.0s						
YSS				AMB	AMB	02 55 46.9	
	comp=E,40nm,1.0s						
YSS				*e*S	**Sn**	**02 57 05.1**	**+5.5**
YSS				A		02 57 10.5	
	comp=E,40nm,1.1s						
YSS				AMS	AMS	02 58 31.0	
	comp=E,600nm,16.0s						
YSS				AMS	AMS	02 58 31.0	
	comp=E,1μm,16.0s						
JOB	**Onbets**	**7.07**	**248**	P	**Pn**	**02 55 42.3**	**0.0**
JKK2	**Kamakawa 2**	**7.40**	**257**	P	**Pn**	**02 55 49.5**	**+2.7**
ASAJ	**Asahikawa**	**7.42**	**259**	Pn	**Pn**	**02 55 50.1**	**+2.9**
	comp=E,1.3nm,0.3s,baz=117,slow=17,SNR=5.7						
ASAJ				LR	LR	02 58 48.1	
	comp=E,398nm,19.4s,baz=102,slow=39						
ASAJ	**Asahikawa**	**7.42**	**259**	PN	**Pn**	**02 55 50.1**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,398nm,19.4s						
JCH	**Churui**	**7.52**	**247**	P	**Pn**	**02 55 48.6**	**+0.2**
JCH				*e*S	**Sn**	**02 57 11.4**	**-1.4**
JEM	**Erimo**	**7.96**	**244**	*e*S	**Sn**	**02 57 22.0**	**-1.6**
JNBK	**Urakawa-nobuka**	**8.07**	**247**	P	**Pn**	**02 55 55.5**	**-0.6**
JNBK				*e*S	**Sn**	**02 57 25.0**	**-1.5**
JBT2	**Biratori 2**	**8.09**	**251**	P	**Pn**	**02 55 56.3**	**0.0**
JKB	**Kayabe**	**9.38**	**249**	*e*S	**Sn**	**02 57 53.2**	**-5.4**
JTM	**Tenmabayashi**	**9.95**	**243**	P	**Pn**	**02 56 20.3**	**-1.4**
JTM				*e*S	**Sn**	**02 58 05.3**	**-7.2**
JTH	**Tanohata**	**9.99**	**237**	*e*S	**Sn**	**02 58 03.7**	**-10**
OFUJ	**Ofunato**	**10.67**	**234**	P	**Pn**	**02 56 29.4**	**-2.3**
OFUJ				*e*S	**Sn**	**02 58 22.3**	**-8.0**
JRG	**Rokugo**	**11.06**	**238**	P	**Pn**	**02 56 35.1**	**-1.9**
JRG				*e*S	**Sn**	**02 58 33.0**	**-6.8**
JIO	**Ouri**	**11.29**	**232**	*e*S	**Sn**	**02 58 34.6**	**-11**
HABR	**Khabarovsk**	**12.30**	**288**	PN	**Pn**	**02 56 54.6**	**+0.7**
MAJO	**Matsushiro**	**14.40**	**234**	*e*P	**Pn**	**02 57 24.0**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**14.40**	**234**	*e*Pn	**Pn**	**02 57 24.0**	**+1.3**
	comp=Z,18nm,0.8s						
MJAR	**Matsushiro Arr**	**14.40**	**234**	Pn	**Pn**	**02 57 20.8**	**-1.9**
	baz=31,slow=13,SNR=6.4						
MJAR	**Matsushiro Arr**	**14.40**	**234**	Pn	**Pn**	**02 57 20.8**	**-1.9**
MDJ	**Mudanjiang**	**16.35**	**274**	P	**Pn**	**02 57 48.6**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,69nm,4.0s						
MDJ	**Mudanjiang**	**16.35**	**274**	*e*P	**Pn**	**02 57 49.1**	**+0.9**
	comp=Z,8.0nm,0.8s						
CN2	**Changchun**	**19.44**	**274**	*e*P	**Pn**	**02 58 24.8**	**-1.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**20.33**	**254**	P	**P**	**02 58 36.0**	**+1.4**
	comp=Z,3.7nm,0.8s,baz=54,slow=10,SNR=8.9						
YAK	**Yakutsk**	**20.87**	**329**	*e*P	**P**	**02 58 37.3**	**-3.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
BILL	**Bilibino**	**23.23**	**13**	*e*P	**P**	**02 59 03.4**	**-2.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
BILL	**Bilibino**	**23.23**	**13**	*e*P	**P**	**02 59 04.3**	**-1.3**
	comp=Z,1μm,3.8s						
BJI	**Beijing**	**27.23**	**271**	P	**P**	**02 59 43.6**	**+1.3**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.6						
BJI				AMB	AMB		
	comp=Z,294nm,4.7s						
BJI				LR	LR		
	comp=N,295nm,18.1s,MS4.0						
BJI				LR	LR		
	comp=E,152nm,18.1s,MS4.0						
BJI				LR	LR		
	comp=Z,154nm,18.6s,MS3.6						
HHC	**Hu-ho-hao-te**	**30.11**	**275**	*e*P	**P**	**03 00 09.3**	**+1.4**
HHC				XP	sP	03 00 15.5	-3.3
HHC				PP	PP	03 01 07.8	-8.2
HHC				PCP	PcP	03 03 11.8	+2.7
HHC				S	**S**	**03 05 06.3**	**+1.3**
HHC				XS	sS	03 05 11.6	-6.1
HHC				SS	SS	03 06 42.6	-31
HHC				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,126nm,4.6s						
HHC				LR	LR		
	comp=N,199nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=E,208nm,14.3s,MS4.0						
HHC				LR	LR		
	comp=Z,308nm,17.3s,MS4.0						
SONM	**Songino Array**	**31.37**	**291**	LR	LR	03 13 03.8	
	comp=Z,77nm,19.5s,MS3.4,baz=7.0,slow=37						
LZH	**Lanzhou**	**37.67**	**273**	*e*P	**P**	**03 01 15.5**	**+2.0**
LZH				AP	pP	03 01 17.5	-3.8
LZH				AMB	AMB		
	comp=Z,51nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,157nm,4.4s						
GTA	**Gaotai**	**38.85**	**280**	*e*P	**P**	**03 01 25.3**	**+1.8**
GTA				AP	pP	03 01 32.8	+1.5
GTA				XP	sP	03 01 36.8	+2.4
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
CD2	**Chengdu**	**40.57**	**266**	*e*P	**P**	**03 01 38.5**	**+0.8**
CD2				XP	sP	03 01 45.6	-3.1
CD2				PP	PP	03 03 15.5	+4.2
CD2				S	**S**	**03 07 46.5**	**+1.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2				LR	LR		
	comp=N,390nm,10.8s						
CD2				LR	LR		
	comp=Z,280nm,12.0s,MS4.3						

INK	**Inuvik**	**42.46**	**32**	P	**P**	**03 01 52.6**	**-0.7**
	comp=Z,1.8nm,0.7s,mb3.8,baz=269,slow=6.2,SNR=16						
INK	**Inuvik**	**42.46**	**32**	P	**P**	**03 01 52.6**	**-0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	**Zalesovo**	**42.90**	**306**	LR	LR	03 21 46.4	
	comp=Z,359nm,18.3s,MS4.3,baz=83,slow=39						
KMI	**Kunming**	**44.85**	**260**	P	**P**	**03 02 13.8**	**+1.3**
KMI				AP	pP	03 02 17.9	-2.5
KMI				XP	sP	03 02 19.8	-3.7
KMI				S	**S**	**03 08 50.9**	**+2.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
KMI				LR	LR		
	comp=Z,38nm,15.8s,MS3.4						
KMI	**Kunming**	**44.85**	**260**	P	**P**	**03 02 13.8**	**+1.3**
KMI				pP	pP	03 02 17.9	-2.5
KMI				sP	sP	03 02 19.8	-3.7
KMI				S	**S**	**03 08 50.9**	**+2.4**
WMQ	**Urumqi**	**44.99**	**292**	*e*P	**P**	**03 02 14.5**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,172nm,6.0s						
WMQ				LR	LR		
	comp=N,75nm,16.0s						
WMQ				LR	LR		
	comp=E,68nm,22.0s						
WMQ				LR	LR		
	comp=Z,80nm,17.0s,MS3.7						
MK31	**Makanchi Array**	**47.09**	**298**	*e*P	**P**	**03 02 27.6**	**-2.6**
MKAR	**Makanchi Array**	**47.09**	**298**	LR	LR	03 23 16.7	
	comp=Z,187nm,19.8s,MS4.0,baz=353,slow=37						
LSA	**Lhasa**	**50.07**	**274**	*e*P	**P**	**03 02 55.8**	**+2.7**
LSA				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
LSA	**Lhasa**	**50.07**	**274**	*e*P	**P**	**03 02 55.8**	**+2.8**
	comp=Z,15nm,1.1s,mb4.9						
CHKZ	**Chkalovo**	**50.76**	**310**	*e*P	**P**	**03 02 56.3**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
CHKZ	**Chkalovo**	**50.76**	**310**	*e*P	**P**	**03 02 56.2**	**-2.0**
	comp=Z,11nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**51.18**	**310**	P	**P**	**03 02 59.9**	**-1.6**
	comp=Z,2.0nm,0.7s,mb4.2,baz=54,slow=7.5,SNR=13						
BVAR	**Borovoye Array**	**51.18**	**310**	P	**P**	**03 02 59.9**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**51.22**	**310**	*e*P	**P**	**03 03 00.2**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
BRVK	**Borovoye**	**51.22**	**310**	*e*P	**P**	**03 03 00.2**	**-1.6**
	comp=Z,12nm,1.2s,mb4.7						
RES	**Resolute Bay**	**51.68**	**18**	*e*P	**P**	**03 03 04.1**	**-1.0**
	comp=Z,105nm,1.0s						
YKA	**Yellowknife Ar**	**51.72**	**36**	P	**P**	**03 03 04.4**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=298,slow=7.2,SNR=14						
AAK	**Ala-Archa**	**53.97**	**297⇑**	*e*P	**P**	**03 03 20.1**	**-2.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**53.97**	**297**	*e*P	**P**	**03 03 21.1**	**-1.0**
	comp=Z,3.4nm,0.8s,mb4.3						
GUN	**Gumba**	**54.82**	**275**	*e*P	**P**	**03 03 29.8**	**+1.5**
	comp=Z,51nm,1.2s,mb5.4						
KKN	**Kakani**	**55.31**	**276**	*e*P	**P**	**03 03 34.0**	**+2.1**
	comp=Z,5.8nm,0.2s,mb5.3						
PKI	**Pulchoki**	**55.36**	**275**	*e*P	**P**	**03 03 34.8**	**+2.6**
	comp=Z,15nm,0.6s,mb5.2						
ARU	**Arti**	**55.44**	**318⇑**	*i*P	**P**	**03 03 30.0**	**-2.7**
ARU				*e*		03 04 34.1	
ARU				*e*		03 05 31.2	
ARU				*e*S	**S**	**03 11 12.8**	**-3.1**
ARU				*e*SS	SS	03 14 53.0	-7.7
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
DMN	**Daman**	**55.55**	**276**	*e*P	**P**	**03 03 35.4**	**+1.9**
	comp=Z,33nm,0.9s,mb5.3						
GKN	**Gorkha**	**55.63**	**276**	*e*P	**P**	**03 03 35.6**	**+1.5**
	comp=Z,32nm,0.9s,mb5.4						
KOLN	**Koldanda**	**56.49**	**277**	*e*P	**P**	**03 03 42.0**	**+1.7**
	comp=Z,27nm,0.9s,mb5.3						
ARCES	**ARCESS Array B**	**58.53**	**341**	P	**P**	**03 03 53.1**	**-1.5**
	comp=Z,3.4nm,0.9s,mb4.4,baz=22,slow=6.9,SNR=5.1						
ARCES	**ARCESS Array B**	**58.53**	**341**	P	**P**	**03 03 53.2**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.08**	**312**	P	**P**	**03 03 57.8**	**-0.6**
AKTO	**Aktyubinsk**	**59.08**	**312**	P	**P**	**03 03 57.8**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=126,slow=2.5,SNR=4.0						
AKTO	**Aktyubinsk**	**59.08**	**312**	P	**P**	**03 03 57.8**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
KBL	**Kabul**	**62.13**	**292**	*e*P	**P**	**03 04 19.4**	**+0.1**
NVAR	**Mina Array Bea**	**63.03**	**62**	P	**P**	**03 04 25.0**	**-0.3**
	comp=Z,1.0nm,0.8s,mb4.0,baz=294,slow=8.0,SNR=5.2						
FINES	**FINESS Array B**	**64.66**	**335**	P	**P**	**03 04 34.5**	**-1.4**
	comp=Z,3.1nm,0.8s,mb4.4,baz=42,slow=6.0,SNR=9.5						
FINES				LR	LR	03 39 16.8	
	comp=Z,155nm,18.1s,MS4.2,baz=339,slow=42						
DUG	**Dugway**	**65.22**	**57**	*e*P	**P**	**03 04 39.6**	**0.0**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
DUG	**Dugway**	**65.22**	**57**	*e*P	**P**	**03 04 39.6**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**65.42**	**53**	P	**P**	**03 04 40.5**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.8,baz=225,slow=1.9,SNR=5.5						
OBN	**Obninsk**	**65.83**	**326⇑**	*e*P	**P**	**03 04 42.1**	**-1.5**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**67.67**	**199**	P	**P**	**03 04 54.9**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=17,slow=6.7,SNR=9.3						
WRA	**Warramunga Arr**	**67.67**	**199**	P	**P**	**03 04 54.9**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**68.91**	**341**	P	**P**	**03 05 01.6**	**-1.5**
	comp=Z,1.8nm,0.7s,mb4.1,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.91**	**341**	P	**P**	**03 05 01.9**	**-1.1**
	comp=Z,4.7nm,0.9s,mb4.4,baz=26,slow=6.3,SNR=6.8						
NOA				LR	LR	03 38 47.3	
	comp=Z,122nm,18.3s,MS4.2,baz=325,slow=39						
NOA	**NORSAR Array B**	**68.91**	**341**	P	**P**	**03 05 02.0**	**-1.1**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,122nm,18.3s						
HFS	**Hagfors**	**69.12**	**339**	P	**P**	**03 05 03.2**	**-1.2**
	comp=Z,10nm,0.8s,mb4.8,baz=47,slow=6.5,SNR=11						
HFS	**Hagfors**	**69.12**	**339**	P	**P**	**03 05 03.2**	**-1.2**
HFS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIV	**Kislovodsk**	**71.18**	**314**	*e*P	**P**	**03 05 17.2**	**+0.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**71.18**	**314**	*e*P	**P**	**03 05 17.2**	**+0.2**
	comp=Z,7.6nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**71.37**	**198**	P	**P**	**03 05 18.8**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=13,slow=4.8,SNR=5.7						
ASAR	**Alice Springs**	**71.37**	**198**	P	**P**	**03 05 18.8**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.08**	**326**	P	**P**	**03 05 21.4**	**-1.0**
	comp=Z,6.9nm,0.7s,mb4.7,baz=34,slow=6.1,SNR=24						
AKASG	**Malin Array Be**	**72.08**	**326**	*i* P	**P**	**03 05 21.3**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKASG	**Malin Array Be**	**72.08**	**326**	P	**P**	**03 05 21.4**	**-1.0**
AKBB	**Malin Array Si**	**72.08**	**326**	*e*P	**P**	**03 05 21.1**	**-1.3**
GNI	**Garni**	**72.86**	**310**	P	**P**	**03 05 29.1**	**+2.0**
	comp=Z,2.4nm,0.4s,mb4.5,baz=12,slow=9.1,SNR=4.0						
GNI				LR	LR	03 41 28.3	
	comp=Z,124nm,19.6s,MS4.2,baz=231,slow=39						
GNI	**Garni**	**72.86**	**310**	P	**P**	**03 05 29.1**	**+2.0**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GNI				MLR	MLR		
	comp=Z,124nm,19.6s						
KWP	**Kalwaria**	**75.38**	**329**	*e*P	**P**	**03 05 42.4**	**+0.6**
KWP				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
KWP	**Kalwaria**	**75.38**	**329**	*e*P	**P**	**03 05 42.4**	**+0.6**
	comp=Z,24nm,1.0s,mb5.1						
BURAR	**Bucovina Array**	**76.12**	**326⇑**	*i*P	**P**	**03 05 46.1**	**+0.1**
NIE	**Niedzica**	**76.41**	**330**	*e*P	**P**	**03 05 48.0**	**+0.4**
MORC	**Moravsky Berou**	**77.03**	**332⇓**	*i*P	**P**	**03 05 51.2**	**0.0**
CLL	**Collm**	**77.09**	**335**	*i* P	**P**	**03 05 50.9**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.6						
VRAC	**Vranov**	**77.75**	**332**	P	**P**	**03 05 55.4**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=19,slow=9.0,SNR=3.6						
VRAC	**Vranov**	**77.75**	**332**	P	**P**	**03 05 55.4**	**+0.2**
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VRAC	**Vranov**	**77.75**	**332⇑**	*i*P	**P**	**03 05 55.4**	**+0.2**
VOIR		**77.98**	**325⇓**	*i*P	**P**	**03 05 59.7**	**+3.2**
TXAR	**Lajitas Array**	**78.11**	**60**	P	**P**	**03 05 57.0**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=308,slow=4.3,SNR=24						
TXAR	**Lajitas Array**	**78.11**	**60**	P	**P**	**03 05 57.0**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BR131	**Keskin Array S**	**78.80**	**317**	*e*P	**P**	**03 06 01.3**	**+0.3**
BRTR	**Keskin Array B**	**78.80**	**317**	P	**P**	**03 06 01.9**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=96,slow=3.4,SNR=9.7						
BRTR	**Keskin Array B**	**78.80**	**317**	P	**P**	**03 06 02.0**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KHC	**Kasperske Hory**	**78.85**	**334**	*e*P	**P**	**03 06 01.5**	**+0.2**
MIB	**Mutribah**	**78.87**	**301**	*e*P	**P**	**03 06 02.1**	**+0.8**
MIB				AMb	AMB	03 06 04.0	
	comp=Z,29nm,0.7s,mb5.3						
GRA1	**Grafenberg Arr**	**79.05**	**336**	*e*P	**P**	**03 06 02.7**	**+0.3**
	comp=Z,4.0nm,1.1s,mb4.3						
GRF	**Grafenberg Arr**	**79.05**	**336**	*e*P	**P**	**03 06 02.7**	**+0.3**
	comp=Z,4.0nm,1.1s,mb4.3						
GRF	**Grafenberg Arr**	**79.05**	**336**	*e*P	**P**	**03 06 02.7**	**+0.3**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
GRF	**Grafenberg Arr**	**79.05**	**336**	*e*P	**P**	**03 06 02.7**	**+0.3**
GRF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
GERES	**GERESS Array B**	**79.07**	**334**	P	**P**	**03 06 02.3**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=39,slow=6.8,SNR=9.7						
GERES	**GERESS Array B**	**79.07**	**334**	P	**P**	**03 06 02.3**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BZS	**Buzias**	**79.16**	**327⇓**	*i*P	**P**	**03 06 03.1**	**+0.2**
NAY	**Al-Naaiem**	**79.33**	**301**	*e*P	**P**	**03 06 04.5**	**+0.6**
NAY				AMb	AMB	03 06 06.5	
	comp=Z,12nm,0.8s,mb4.9						
RDF	**Al-Radifah**	**79.38**	**301**	*e*P	**P**	**03 06 05.2**	**+1.1**
RDF				AMb	AMB	03 06 08.1	
	comp=Z,31nm,1.0s,mb5.2						
VTS	**Vitosha**	**81.08**	**325⇓**	*i*P	**P**	**03 06 13.6**	**+0.3**
PPT	**Papeete**	**81.89**	**125**	LR	LR	03 35 38.5	
	comp=Z,12nm,20.2s,MS3.2,baz=274,slow=30						
PLCA	**Paso Flores**	**148.38**	**96**	PKPbc	PKPbc	03 13 43.5	-1.0
	comp=Z,1.4nm,0.7s,baz=195,slow=1.5,SNR=3.8						
PLCA	**Paso Flores**	**148.38**	**96**	PKP2	PKPbc	03 13 43.5	-1.0
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SNAA	**Sanae**	**151.71**	**196**	*e*PKPdf	PKPdf	03 13 50.3	+4.0
SNAA				*e*		03 13 55.7	
SNAA				*e*		03 14 02.6	
SNAA				*e*		03 14 10.3	
SNAA				*e*		03 14 32.0	
VNA2	**Neumayer--Watz**	**153.16**	**194**	*e*PKPdf	PKPbc	03 13 54.3	-1.6
	baz=140,slow=0.5						
VNA2				*e*		03 13 59.6	
VNA2				*e*		03 14 08.8	
VNA2				*e*		03 14 21.0	
VNA2				*e*		03 14 26.5	
VNA2				*e*		03 14 36.6	
VNA2				*e*		03 14 43.5	
VNA3	**Neumayer Olymp**	**153.26**	**193**	*e*PKPdf	PKPbc	03 13 54.1	-2.0
VNA3				*e*		03 14 00.4	
VNA3				*e*		03 14 08.3	
VNA3				*e*		03 14 19.0	
VNA3				*e*		03 14 27.2	
VNA3				*e*		03 14 36.4	
VNA3				*e*		03 14 43.9	
VNA1	**Neumayer--Stat**	**153.55**	**194**	*e*PKPdf	PKPbc	03 13 54.8	-1.9
VNA1				*e*		03 14 07.2	
VNA1				*e*		03 14 18.0	
VNA1				*e*		03 14 27.8	

*IDC **14** 02:58:21.9±1.0,5278N×10780E,h0km,mb3.8/6, mb1 3.9/9,mb1mx3.7/23,mbtmp3.8/9,ML3.3/3,Error ellipse: s-maj=22.5km s-min=17.5km az=63.0*
*ISCJB **14** 02:58:22.4±0.2,5279N±002×10744E±003,h10km, mb3.8/9,MS3.7/1,Error ellipse: s-maj=3.1km s-min=2.1km az=86.3*
*MOS **14** 02:58:22.4±0.9,5278N×10746E,h8km,mb4.7/6,Error ellipse: s-maj=9.5km s-min=6.7km az=60.7*
*NEIC **14** 02:58:23.8±0.5,5284N×10752E,h10km,mb4.0/2,Error ellipse: s-maj=10.5km s-min=9.0km az=41.0*
*BYKL **14** 02:58:24.1±0.2,5281N×10734E,h7km±20km*

ISC 14 02:58:23.4±0.2,5281N±002×10742E±003,h10km,n75, σ1§45/125,mb3.8/9,MS3.7/1,3C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRTB	**Turuntaevo**	**0.60**	**167⇑**	*i*Pg	**Pg**	**02 58 34.9**	**-0.1**
TRTB				Pmax		02 58 35.7	
	2μm,0.7s						
TRTB				*e*Sg	**Sg**	**02 58 42.7**	**-0.1**
TRTB				Smax		02 58 43.7	
	10μm,1.3s						
TRTB				*e*		02 58 47.5	
TRG	**Tyrgan**	**0.65**	**266**	*e*PG	**Pg**	**02 58 35.8**	**-0.2**
TRG				*e*		02 58 44.7	
TRG				pmax	pmax		
	comp=Z,226nm,0.1s						
TRG				smax			
	comp=E,3μm,0.2s						
TRG	**Tyrgan**	**0.65**	**266**	*e*Pg	**Pg**	**02 58 35.5**	**-0.5**
TRG				Pmax		02 58 37.7	
	comp=E,196nm,0.2s						
TRG				*e*Sg	**Sg**	**02 58 44.7**	**+0.2**
TRG				Smax		02 58 48.2	
	comp=E,3μm,0.2s						
OGRR	**Ongureny**	**0.84**	**7**	*e*PG	**Pg**	**02 58 39.7**	**+0.1**
OGRR				*e*		02 58 51.1	
OGRR				pmax	pmax		
	comp=Z,381nm,0.5s						
OGRR				smax			
	comp=E,3μm,0.5s						
OGRR	**Ongureny**	**0.84**	**7**	*e*Pg	**Pg**	**02 58 39.7**	**+0.1**
OGRR				⇑*i*		02 58 39.8	
OGRR				max		02 58 41.4	
	comp=E,242nm,0.5s						
OGRR				*i* Sg	**Sg**	**02 58 50.8**	**+0.3**
OGRR				Smax		02 58 51.7	
	comp=E,3μm,0.5s						
KAB	**Kabansk**	**0.90**	**212**	*e*PG	**Sg**	**02 58 52.6**	**+0.3**
KAB				pmax	pmax		
	comp=E,8μm,0.7s						
KAB	**Kabansk**	**0.90**	**212**	*e*Pg	**Pg**	**02 58 40.8**	**+0.2**
KAB				Pmax		02 58 42.9	
	comp=E,1μm,0.7s						
KAB				*e*Sg	**Sg**	**02 58 52.4**	**+0.1**
KAB				Smax		02 59 06.9	
	comp=E,12μm,0.8s						
MXMB	**Maximikha**	**0.92**	**60**	*e*Pg	**Pg**	**02 58 41.0**	**-0.1**
MXMB				*e*Pb	**Pb**	**02 58 44.2**	**+2.7**
MXMB				max		02 58 46.3	
	comp=E,678nm,0.6s						
MXMB				*i* Sg	**Sg**	**02 58 54.3**	**+1.2**
MXMB				*e*Sb	**Sb**	**02 58 57.0**	**+3.3**
MXMB				max		02 58 58.1	
	comp=E,12μm,0.7s						
UUDB	**Ulan-Yde**	**0.96**	**171**	*e*Pg	**Pg**	**02 58 41.2**	**-0.7**
UUDB				Pmax		02 58 43.7	
	comp=E,385nm,0.6s						
UUDB				*e*Sg	**Sg**	**02 58 53.7**	**-0.6**
UUDB				*e*Sb	**Sb**	**02 58 59.1**	**+4.3**
UUDB				max		02 58 59.9	
	comp=E,8μm,0.6s						
HRMR	**Khuramsha**	**1.22**	**194**	*e*Pg	**Pg**	**02 58 45.7**	**-1.1**
HRMR				*e*Pb	**Pb**	**02 58 47.6**	**+1.0**
HRMR				max		02 58 48.0	
	comp=E,4μm,0.5s						
HRMR				*e*Sg	**Sg**	**02 59 02.1**	**-0.6**
HRMR				*e*Sb	**Sb**	**02 59 05.5**	**+3.2**
HRMR				max		02 59 06.4	
	comp=E,28μm,0.8s						
BTMB	**Babushkin**	**1.48**	**222**	*e*Pg	**Pg**	**02 58 49.7**	**-2.1**
BTMB				Pmax		02 58 50.9	
	comp=E,507nm,0.6s						
BTMB				*e*Sg	**Sg**	**02 59 09.9**	**-1.1**
BTMB				Smax		02 59 11.8	
	comp=E,6μm,0.8s						
SYVR	**Suvo**	**1.77**	**60**	*e*PN	**Pn**	**02 58 56.2**	**+2.1**
SYVR				*e*		02 59 20.7	
SYVR				pmax	pmax		
	comp=Z,332nm,0.3s						
SYVR				smax			
	comp=E,1μm,0.3s						
SYVR	**Suvo**	**1.77**	**60**	*e*Pn	**Pn**	**02 58 55.4**	**+1.3**
SYVR				⇑*i*Pg	**Pg**	**02 58 56.3**	**-1.0**
SYVR				Pmax		02 58 56.8	
	comp=E,323nm,0.3s						
SYVR				*i* Sg	**Sg**	**02 59 20.7**	**+0.4**
SYVR				Smax		02 59 24.0	
	comp=E,1μm,0.3s						
LSTR	**Listvyanka**	**1.85**	**240**	*e*PN	**Pn**	**02 58 55.5**	**+0.4**
LSTR				*e*		02 59 19.7	
LSTR				pmax	pmax		
	comp=Z,275nm,0.9s						
LSTR				smax			
	comp=N,1μm,0.8s						
LSTR	**Listvyanka**	**1.85**	**240**	*e*Pg	**Pn**	**02 58 55.5**	**+0.4**
LSTR				Pmax		02 58 57.2	
	comp=N,277nm,1.0s						
LSTR				*i* Sg	**Sg**	**02 59 19.5**	**-3.3**
LSTR				*e*		02 59 23.9	
LSTR				max		02 59 24.5	
	comp=N,1μm,0.8s						
IRK	**Irkutsk**	**2.00**	**255**	*e*PN	**Pn**	**02 58 57.4**	**+0.1**
IRK				*e*		02 58 58.5	
IRK				*e*		02 59 24.8	
IRK				pmax	pmax		
	comp=Z,481nm,0.5s						
IRK				smax			
	comp=N,6μm,0.6s						
IRK	**Irkutsk**	**2.00**	**255**	*e*Pn	**Pn**	**02 58 58.2**	**+0.9**
IRK				*e*Pg	**Pg**	**02 59 00.1**	**-1.7**
IRK				Pmax		02 59 00.4	
	comp=N,495nm,0.5s						
IRK				*e*Sg	**Sg**	**02 59 26.0**	**-1.8**
IRK				Smax		02 59 27.7	
	comp=N,8μm,1.0s						
TLY	**Talaya**	**2.58**	**245**	*e*Pn	**Pn**	**02 59 05.5**	**+0.2**
TLY				*e*Sn	**Sn**	**02 59 38.6**	**+1.9**
TLY	**Talaya**	**2.58**	**245**	*e*Pn	**Pn**	**02 59 05.7**	**+0.5**
TLY				*e*Pg	**Pg**	**02 59 09.2**	**-3.7**
TLY				Pmax		02 59 13.2	
	comp=N,62nm,0.8s						
TLY				*e*Sg	**Sg**	**02 59 42.7**	**-3.6**
TLY				Smax		02 59 50.9	
	comp=N,619nm,1.5s						
YLYR	**Ulyunkhan**	**3.03**	**46**	*e*PN	**Pn**	**02 59 12.9**	**+1.5**
YLYR				*e*		02 59 18.4	
YLYR				*e*S	**Sn**	**02 59 48.4**	**+0.6**
YLYR				*e*		02 59 56.8	
YLYR				pmax	pmax		
	comp=Z,78nm,0.6s						
YLYR				smax			
	comp=N,692nm,0.9s						
YLYR	**Ulyunkhan**	**3.03**	**46**	*e*Pn	**Pn**	**02 59 12.7**	**+1.3**
YLYR				*e*Pg	**Pg**	**02 59 17.8**	**-3.7**
YLYR				Pmax		02 59 23.5	
	comp=N,52nm,0.5s						
YLYR				*i* Sg	**Sg**	**02 59 58.8**	**-2.0**
YLYR				Smax		03 00 00.5	
	comp=N,806nm,0.9s						
ARS	**Arshan**	**3.19**	**256**	*e*PN	**Pn**	**02 59 15.0**	**+1.4**
ARS				*e*		02 59 22.1	
ARS				*e*		03 00 00.8	
ARS				pmax	pmax		
	comp=Z,244nm,0.4s						
ARS				smax			
	comp=E,2μm,0.6s						
ARS	**Arshan**	**3.19**	**256**	*e*Pn	**Pn**	**02 59 15.1**	**+1.5**
ARS				*e*Pg	**Pg**	**02 59 20.0**	**-4.5**
ARS				*e*		02 59 22.2	
ARS				max		02 59 22.7	
	comp=E,336nm,0.8s						
ARS				*e*Sg	**Sg**	**03 00 02.3**	**-3.5**
ARS				Smax		03 00 20.5	
	comp=E,2μm,1.0s						
NIZ	**Nizh Angarsk**	**3.22**	**22**	*e*PN	**Pn**	**02 59 15.9**	**+1.9**
NIZ				*e*		02 59 21.7	
NIZ				*e*S	**Sn**	**02 59 53.3**	**+0.9**
NIZ				*e*		03 00 02.7	
NIZ				pmax	pmax		
	comp=Z,75nm,0.3s						
NIZ				smax			
	comp=E,567nm,0.5s						
NIZ	**Nizh Angarsk**	**3.22**	**22**	*e*Pn	**Pn**	**02 59 15.9**	**+1.9**
NIZ				*e*Pg	**Pg**	**02 59 21.7**	**-3.4**
NIZ				Pmax		02 59 27.3	
	comp=E,75nm,0.4s						
NIZ				*e*Sn	**Sn**	**02 59 53.7**	**+1.3**
NIZ				*e*Sg	**Sg**	**03 00 03.3**	**-3.5**
NIZ				Smax		03 00 13.9	
	comp=E,639nm,1.5s						
ZAK	**Zakamensk**	**3.55**	**228**	*e*PN	**Pn**	**02 59 19.8**	**+1.3**
ZAK				*e*		02 59 27.9	
ZAK				*e*		03 00 13.5	
ZAK				pmax	pmax		
	comp=Z,42nm,0.9s						
ZAK				smax			
	comp=N,459nm,1.8s						
ZAK	**Zakamensk**	**3.55**	**228**	*e*Pn	**Pn**	**02 59 20.0**	**+1.5**
ZAK				*e*Pg	**Pg**	**02 59 27.8**	**-3.5**
ZAK				Pmax		02 59 43.7	
	comp=N,43nm,1.0s						
ZAK				*e*Sg	**Sg**	**03 00 13.8**	**-3.5**
ZAK				Smax		03 00 41.3	
	comp=N,389nm,1.5s						
KMO	**Kumora**	**3.79**	**34**	*e*PN	**Pn**	**02 59 22.7**	**+0.8**
KMO				*e*		02 59 31.9	
KMO				*e*S	**Sn**	**03 00 07.1**	**+0.5**
KMO				*e*		03 00 21.1	
KMO				pmax	pmax		
	comp=Z,51nm,0.4s						
KMO				smax			
	comp=N,592nm,0.9s						
KMO	**Kumora**	**3.79**	**34**	*e*Pn	**Pn**	**02 59 22.8**	**+0.9**
KMO				*e*Pg	**Pg**	**02 59 32.3**	**-3.8**
KMO				Pmax		02 59 43.3	
	comp=N,127nm,0.4s						
KMO				*i* Sg	**Sg**	**03 00 22.4**	**-2.9**
KMO				Smax		03 00 40.6	
	comp=N,677nm,1.3s						
CIT	**Chita**	**3.84**	**99**	*e*PN	**Pn**	**02

KPC pmax pmax
comp=Z,119nm,0.9s
KPC smax
comp=N,480nm,0.8s
KPC Khapcheranga 4.40 133 *e*Pn **Pn 02 59 30.3 0.0**
KPC *e*Pg **Pg 02 59 43.5 -4.3**
KPC Pmax 02 59 50.0
comp=N,120nm,1.1s
KPC *e*Sn **Sn 03 00 21.3 -0.3**
KPC *e*Sg **Sg 03 00 41.7 -3.1**
KPC Smax 03 00 47.1
comp=N,484nm,1.0s
ORL Orlik 4.64 270 *e*PN **Pn 02 59 35.0 +1.5**
ORL *e* 02 59 47.6
ORL *e*S **Sn 03 00 26.8 -0.6**
ORL *e* 03 00 47.0
ORL pmax pmax
comp=Z,63nm,0.4s
ORL smax
comp=N,1μm,1.4s
ORL Orlik 4.64 270 *e*Pn **Pn 02 59 35.1 +1.6**
ORL *e*Pg **Pg 02 59 46.2 -6.0**
ORL Pmax 02 59 56.3
comp=N,56nm,0.7s
ORL *i* Sg **Sg 03 00 46.4 -5.9**
ORL Smax 03 01 09.0
comp=N,1μm,2.3s
SVKR Severomuysk 4.88 45 *e*Sg **Sg 03 00 58.1 -1.9**
SVKR Smax 03 01 04.1
comp=N,804nm,1.2s
ULN Ulaanbaatar 4.96 183 *e*Pn **Pn 02 59 39.6 +1.7**
ULN *e*Pg **Pg 02 59 53.7 -4.7**
ULN *e*Sn **Sn 03 00 36.0 +0.7**
ULN *e*Sg **Sg 03 00 57.6 -5.0**
ULN Ulaanbaatar 4.96 183 *e*Pn **Pn 02 59 39.4 +1.5**
ULN *e*Pg **Pg 02 59 53.0 -5.4**
ULN *e*Sg **Sg 03 00 57.7 -4.9**
SONM Songino Array 5.03 188 Pn **Pn 02 59 40.3 +1.5**
comp=N,1.6nm,0.3s,baz=1.0,slow=13,SNR=54
SONM Lg 03 01 00.2
comp=N,31nm,0.3s,baz=358,slow=23,SNR=14
BOD Bodaibo 6.27 34 *e*PN **Pn 02 59 56.5 +0.6**
BOD *e* 03 00 17.9
BOD Bodaibo 6.27 34 *e*Sg **Sg 03 01 38.1 -6.5**
BOD Smax 03 01 57.5
comp=N,183nm,2.0s
TDJR Todzha 6.91 271 *e*Pg **Pb 03 00 25.5 +2.0**
TDJR *e*Sg **Sg 03 01 54.3 -11**
CRS Chara 7.48 53 *e*Sg **Sg 03 02 17.1 -6.4**
CRS Smax 03 02 25.9
comp=N,255nm,2.4s
TUP Tupik 7.63 73 *e*PN **Pn 03 00 16.8 +2.2**
TUP *e* 03 00 41.4
TUP *e*S **Sn 03 01 41.0 -0.1**
TUP *e* 03 02 20.7
TUP pmax pmax
comp=Z,19nm,0.9s
TUP smax
comp=N,391nm,1.1s
TUP Tupik 7.63 73 *e*Pn **Pn 03 00 18.5 +3.9**
TUP *e*Pg **Pg 03 00 40.8 -8.7**
TUP Pmax 03 00 47.3
comp=N,8.0nm,0.6s
TUP *e*Sg **Sg 03 02 21.0 -7.3**
TUP Smax 03 02 27.8
comp=N,391nm,1.1s
HIA Hailar 8.54 110 *e*PN **Pn 03 00 28.1 +1.0**
HIA pmax pmax
comp=Z,5.0nm,0.4s
HIA Hailar 8.54 110 *e*Pn **Pn 03 00 28.1 +1.0**
comp=Z,4.7nm,0.4s
HIA Hailar 8.54 110 *e*Sg Sx 03 02 49.7
ZAL Zalesovo 13.54 284 Pn **Pn 03 01 37.2 +1.7**
comp=Z,0.2nm,0.3s,baz=2.8,slow=10.0,SNR=5.3
ZAL Lg 03 05 24.2
comp=Z,0.3nm,0.3s,baz=103,slow=24,SNR=4.0
MKAR Makanchi Array 17.25 260 P **Pn 03 02 27.8 +3.4**
comp=Z,0.2nm,0.3s,baz=51,slow=9.8,SNR=25
MKAR Lg 03 07 19.3
comp=Z,0.1nm,0.3s,baz=60,slow=23,SNR=3.3
KURK Kurchatov 17.90 275 *e*P **Pn 03 02 31.9 -0.5**
KURK pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 21.14 19 *e*P **P 03 03 09.7 +1.3**
TIXI pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
TIXI MLR MLR
comp=Z,187nm,13.0s,MS3.7
TIXI Tiksi 21.14 19 *e*P **P 03 03 07.4 -1.0**
comp=Z,5.6nm,0.6s,mb4.1
BVAR Borovoye Array 22.17 285 P **P 03 03 21.2 +1.7**
comp=Z,1.8nm,0.5s,mb3.8,baz=84,slow=11,SNR=8.7
BVAR Borovoye Array 22.17 285 P **P 03 03 21.2 +1.7**
BVAR pmax pmax
comp=Z,20nm,0.5s
BRVK Borovoye 22.23 286 P **P 03 03 22.0 +1.9**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
BRVK Borovoye 22.23 286 P **P 03 03 22.0 +1.9**
comp=Z,3.8nm,0.7s,mb3.9
AAK Ala-Archa 24.18 258 *e*P **P 03 03 39.4 -0.4**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
FINES FINESS Array B 42.20 315 P **P 03 06 16.0 -0.4**
comp=Z,2.0nm,0.8s,mb3.8,baz=68,slow=9.2,SNR=2.8
FINES FINESS Array B 42.20 315 P **P 03 06 16.0 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 60.37 21 P **P 03 08 32.5 -0.2**
comp=Z,0.3nm,0.6s,mb3.5,baz=331,slow=6.6,SNR=10.0
YKA Yellowknife Ar 60.37 21 P **P 03 08 32.5 -0.2**
WRA Warramunga Arr 76.13 154 P **P 03 10 10.1 -1.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=347,slow=6.3,SNR=6.4
WRA Warramunga Arr 76.13 154 P **P 03 10 10.1 -1.4**
WRA pmax pmax
comp=Z,10.0nm,0.7s
ASAR Alice Springs 79.58 155 P **P 03 10 30.2 -0.4**
comp=Z,0.2nm,0.3s,mb3.5,baz=353,slow=6.5,SNR=5.4
TORD Torodi Ar. Bea 88.89 290 P **P 03 11 18.1 +0.2**
comp=Z,0.6nm,1.0s,mb3.9,baz=25,slow=4.4,SNR=2.8
SNAA Sanae 145.12 211 *e* PKPbc 03 17 59.3 -1.3
SNAA *e* 03 18 02.3
SNAA Sanae 145.12 211 *e*PKPbc PKPbc 03 17 59.2 -1.4
VNA2 Neumayer--Watz 146.54 213 *e* PKPdf 03 18 04.3 +0.8
baz=48,slow=3.0
VNA2 *e* 03 18 06.9
VNA1 Neumayer--Stat 146.82 213 *e* PKPdf 03 18 05.3 +1.3
VNA3 Neumayer Olymp 147.28 212 *e* PKPdf 03 18 06.4 +1.6
VNA3 *e* 03 18 09.4

*IDC **14** 03:28:31.8±2.1, 628S×12879E, h0km, mb3.7/1, mb1 4.6/3, mb1mx3.9/14, mbtmp4.3/3, ML3.3/1, Error ellipse: s-maj=147.2km s-min=31.0km az=67.0*
*ISCJB **14** 03:28:45.2±1.5, 66S±01×129.1E±02, h150km, mb3.6/1, Error ellipse: s-maj=37.1km s-min=11.2km az=126.0*
ISC 14 03:28:47.2±1.5, 67S±01×1291E±02, h150km, n6, σ0§45/9, mb3.6/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.85**	**152**	*e*P		**Pn**	**03 30 29.6**	**+4.4**
KAKA	16nm,0.2s				*e*S	**Sn**	**03 31 42.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.86**	**196**	*e*P		**Pn**	**03 31 31.8**	**+0.2**
FITZ	9.5nm,0.3s							
WRA	**Warramunga Arr**	**14.14**	**159**	Pn		**Pn**	**03 32 01.0**	**+0.2**
WRA	0.1nm,0.3s,baz=341,slow=13,SNR=4.5				Sn	**Sn**	**03 34 36.8**	**-0.8**
WRA	0.7nm,0.3s,baz=335,slow=21,SNR=4.8							
WB2	**Warramunga Arr**	**14.15**	**159**	*e*P		**Pn**	**03 32 00.9**	**0.0**
WB2				*i*			03 32 05.7	
ASAR	**Alice Springs**	**17.52**	**165**	P		**Pn**	**03 32 42.6**	**+0.4**
ASAR	4.7nm,0.3s,baz=337,slow=9.6,SNR=146				S	**S**	**03 35 50.0**	**-5.5**
MKAR	**Makanchi Array**	**67.46**	**327**	P		**P**	**03 39 26.4**	**-0.3**
	0.1nm,0.3s,baz=347,slow=22,SNR=6.9							
	0.5nm,0.6s,mb3.6,baz=121,slow=7.4,SNR=6.6							

*STR **14** 03:31:45.5±1.2, 4347N×052W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **14** 03:31:46.3±0.2, 4340N×058W, h20km, Md1.8/2, Ml1.8/1, Error ellipse: s-maj=3.8km s-min=2.6km az=173.0*

MDD 14 03:31:46.9±0.7, 4343N×056W, h0km, mbLg1.2/8, Error ellipse: s-maj=5.2km s-min=2.8km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.36**	**197**	Pg		Pg	03 31 52.9	-0.8
ATE				Sg		Sg	03 31 59.2	+0.9
ATE	**Arette**	**0.36**	**197**	P		Pg	03 31 52.9	-0.8
ATE				S		Sg	03 31 59.8	+1.5
ETSF	**Etsaut**	**0.53**	**180**	*e*Pg		Pg	03 31 56.2	-0.8
ETSF				*e*Sg		Sg	03 32 03.1	-0.8
	2.5nm,0.2s							
ETSF	**Etsaut**	**0.53**	**180**	Pg		Pg	03 31 56.2	-0.8
ETSF				Lg			03 32 03.1	
	1.2nm,0.2s							
OSSF	**Osses**	**0.54**	**252**	Pg		Pg	03 31 56.9	-0.4
OSSF				Sg		Sg	03 32 04.4	+0.1
OSSF	**Osses**	**0.54**	**252**	P		Pg	03 31 57.0	-0.3
OSSF				S		Sg	03 32 04.5	+0.2
SJPF	**Ste Jean**	**0.58**	**237**	*e*Pg		Pg	03 31 57.0	-1.0
SJPF				*e*Sg		Sg	03 32 04.6	-0.9
	6.6nm,0.3s							
SJPF	**Ste Jean**	**0.58**	**237**	Pg		Pg	03 31 57.0	-1.0
SJPF				Lg			03 32 04.6	
	3.3nm,0.3s							
EALK	**Alkurruntz**	**0.72**	**254**	Pg		Pg	03 32 00.6	-0.1
	0.2nm,0.1s,SNR=7.9							
EALK				Lg			03 32 10.5	
	12nm,0.3s,SNR=10.0							
ELIZ	**Elizondo**	**0.76**	**250**	Pg		Pg	03 32 00.1	-1.3
	1.8nm,0.3s,SNR=7.9							
ELIZ				Lg			03 32 11.8	
	3.7nm,0.2s,SNR=9.6							
EPF	**Esparros**	**0.77**	**121**	*e*Pg		Pg	03 32 01.1	-0.5
EPF				*e*Sg		Sg	03 32 11.7	+0.2
	8.3nm,0.3s							
EPF	**Esparros**	**0.77**	**121**	Pg		Pg	03 32 01.1	-0.5
EPF				Lg			03 32 11.7	
	4.2nm,0.3s							
IPRE	**Itoiz**	**0.85**	**224**	Lg			03 32 14.6	
	2.3nm,0.4s,SNR=4.0							
IUSE	**Utxeti**	**0.87**	**237**	Lg			03 32 14.8	
	0.7nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**0.90**	**145**	Pg		Pg	03 32 03.3	-0.9
	0.3nm,0.2s,SNR=7.9							
EBIE				Lg			03 32 16.3	
	0.8nm,0.1s,SNR=7.9							
ESAC	**San Caprasio**	**1.71**	**178**	Pg		Pg	03 32 18.6	-1.0
	2.3nm,0.1s,SNR=7.9							
ESAC				Lg			03 32 42.1	
	5.1nm,0.4s,SNR=7.9							
LFF	**La Frestale**	**1.78**	**31**	*e*Sg		Sg	03 32 43.6	-0.4
	2.2nm,0.3s							
LFF	**La Frestale**	**1.78**	**31**	Lg			03 32 43.6	
	1.1nm,0.3s							

*CSEM **14** 04:03:29.8±0.1, 3659N×141E, h5km, mb2.9/7, Error ellipse: s-maj=4.4km s-min=2.3km az=69.0*
*ISCJB **14** 04:03:30.2±1.2, 3663N±006×140E±008, h8km±12km, Error ellipse: s-maj=11.1km s-min=9.7km az=18.7*
*MDD **14** 04:03:31.4±0.7, 3659N×144E, h0km, mb3.0/7, Error ellipse: s-maj=9.8km s-min=5.4km az=75.0, PRXIMO*
*NEIC **14** 04:03:32.3, 3664N×140E, h0km, MG2.9(MDD), After MDD.*
*CRAAG **14** 04:03:33.2, 3642N×141E, Ml2.8*
ISC 14 04:03:31.1±1.2, 3660N±007×145E±008, h12km±12km, n21, σ0§95/26, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.31**	**168**	P		**Pg**	**04 03 37.2**	**-0.2**
ECHF	**Ech Chlef**	**0.45**	**191**	P		**Pg**	**04 03 39.0**	**-0.9**
ECHA	**Ech Chlef**	**0.45**	**188**	P		**Pg**	**04 03 39.0**	**-0.9**
EANR	**'Ain N'Sour**	**0.70**	**204**	P		**Pg**	**04 03 45.0**	**+0.3**
ETRT	**Tiaret**	**1.21**	**186**	P		**Pn**	**04 03 53.5**	**-0.3**
EMHD	**Djebel Mahouad**	**1.28**	**108**	P		**Pn**	**04 03 55.0**	**+0.2**
EBEN	**Beniarda**	**2.49**	**328**	P		**Pn**	**04 04 12.0**	**+0.6**
	0.2nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**04 04 40.8**	**-0.9**
	1.0nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**2.49**	**328**	P		**Pn**	**04 04 12.0**	**+0.6**
	0.2nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**3.14**	**312**	P		**Pn**	**04 04 20.9**	**+0.5**
	0.4nm,0.1s,SNR=6.3							
ETOB				S		**Sn**	**04 04 57.2**	**-0.5**
	1.0nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**3.14**	**312**	P		**Pn**	**04 04 20.9**	**+0.5**
	0.4nm,0.1s,SNR=6.3							
EBER	**Berja**	**3.50**	**276**	P		**Pn**	**04 04 25.7**	**+0.4**
	0.2nm,0.1s,SNR=4.0							
EBER	**Berja**	**3.50**	**276**	P		**Pn**	**04 04 25.7**	**+0.4**
	0.2nm,0.1s,SNR=4.0							
EQES	**Quesada**	**3.80**	**290**	P		**Pn**	**04 04 30.8**	**+1.3**
	0.2nm,0.2s,SNR=7.9							
EQES				S		**Sn**	**04 05 14.6**	**+0.4**
	0.5nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.80**	**290**	P		**Pn**	**04 04 30.8**	**+1.3**
	0.2nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**3.96**	**280**	P		**Pn**	**04 04 31.7**	**-0.1**
	0.1nm,0.1s,SNR=4.0							
EMOS	**Mosqueruela**	**4.05**	**339**	P		**Pn**	**04 04 33.9**	**+1.0**
	0.1nm,0.1s,SNR=7.2							
EMOS				S		**Sn**	**04 05 18.4**	**-1.9**
	1.6nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.05**	**339**	P		**Pn**	**04 04 33.9**	**+0.9**
	0.1nm,0.1s,SNR=7.2							
ERTA	**Horta de San J**	**4.44**	**349**	P		**Pn**	**04 04 39.7**	**+1.4**
	0.2nm,0.1s,SNR=7.9							
ERTA				S		**Sn**	**04 05 27.5**	**-2.4**
	0.7nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**4.44**	**349**	P		**Pn**	**04 04 39.7**	**+1.4**
	0.2nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**4.76**	**357**	P		**Pn**	**04 04 43.8**	**+1.2**
EPOB	**Poblet**	**4.76**	**357**	P		**Pn**	**04 04 43.8**	**+1.1**

*NIED **14** 04:11:00, 33.10N×141.10E, h56km, Mw3.8 Best double couple: M0:6.04000×10^14 NP1:φ=246.00000°, δ=63.00000°, λ=140.00000°. NP2:φ=357.00000°, δ=55.00000°, λ=33.00000°.*
*ISCJB **14** 04:11:55.4±0.8, 3306N±004×141.14E±008, h55km±7km, mb4.0/8, Error ellipse: s-maj=11.0km s-min=6.3km az=165.7*
*IDC **14** 04:11:56.4±2.2, 3298N×141.17E, h41km±19km, mb3.7/6, mb1 4.0/8, mb1mx3.7/20, mbtmp3.8/8, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx1.7/29, Error ellipse: s-maj=19.8km s-min=10.2km az=63.0*
*JMA **14** 04:11:56.4±0.2, 33.13N×141.11E, h48km, M4.0*
*NEIC **14** 04:11:57.5±1.7, 32.94N×140.94E, h51km±14km, mb4.2/2, Error ellipse: s-maj=26.6km s-min=13.4km az=69.0*
ISC 14 04:11:56.0±0.7, 3303N±003×14117E±007, h40km±8km, n30, σ0§85/42, mb4.0/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.14**	**275**	P		**Pn**	**04 12 15.6**	**+0.2**
JHJ	**Hachijo jima 2**	**1.17**	**275**	P		**Pn**	**04 12 15.8**	**0.0**
	231nm,0.3s,baz=55,slow=16,SNR=80							
JHJ				S		**Sn**	**04 12 30.6**	**+0.1**
	baz=65,slow=19							
BSO1	**Boso 1**	**1.63**	**354**	P		**Pn**	**04 12 22.3**	**+0.1**
BSO1				*e*S		**Sn**	**04 12 42.1**	**+0.2**
BSO2	**Boso 2**	**1.75**	**349**	*e*S		**Sn**	**04 12 44.2**	**-0.8**
BSO3	**Boso 3**	**1.85**	**343**	P		**Pn**	**04 12 24.7**	**-0.5**
BSO3				*e*S		**Sn**	**04 12 47.3**	**-0.1**
JKO	**Kozu shima**	**2.05**	**305**	P		**Pn**	**04 12 28.4**	**+0.4**
BSO4	**Boso 4**	**2.08**	**341**	P		**Pn**	**04 12 28.0**	**-0.3**
BSO4				*e*S		**Sn**	**04 12 52.2**	**-0.7**
NJJJ	**Nii jima 2**	**2.09**	**312**	P		**Pn**	**04 12 28.6**	**+0.2**
JIM2	**Oshima 3**	**2.22**	**320**	P		**Pn**	**04 12 29.9**	**-0.4**
JIM2				*e*S		**Sn**	**04 12 54.6**	**-1.9**
JIZS	**Izushimoda**	**2.54**	**312**	P		**Pn**	**04 12 35.4**	**+0.7**
JIZS				*e*S		**Sn**	**04 13 03.8**	**-0.7**
JOD2	**Odawara 2**	**2.82**	**323**	P		**Pn**	**04 12 38.4**	**-0.1**
JOD2				*e*S		**Sn**	**04 13 08.7**	**-2.6**
TK04	**Tokai 4**	**3.06**	**297**	P		**Pn**	**04 12 43.3**	**+1.5**
JYN	**Shimob**	**3.29**	**319**	P		**Pn**	**04 12 45.8**	**+0.9**
JYN				*e*S		**Sn**	**04 13 23.6**	**+0.9**
JRY	**Ryogami san**	**3.52**	**329**	P		**Pn**	**04 12 48.5**	**+0.3**
JRY				*e*S		**Sn**	**04 13 27.7**	**-0.8**
JAG	**Ashikaga**	**3.67**	**338**	P		**Pn**	**04 12 50.2**	**0.0**
JAG				*e*S		**Sn**	**04 13 31.9**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**4.27**	**326**	P		**Pn**	**04 12 59.6**	**+1.1**
	6.7nm,0.3s,baz=149,slow=12,SNR=55							
MJAR				S		**Sn**	**04 13 48.0**	**+1.0**
	2.5nm,0.3s,baz=155,slow=20,SNR=3.9							
MAJO	**Matsushiro**	**4.27**	**326**	*e*Pn		**Pn**	**04 12 59.5**	**+1.1**
MAT	**Matsushiro**	**4.27**	**326**	P		**Pn**	**04 12 59.5**	**+1.0**
MAT				S		**Sn**	**04 13 47.5**	**+0.5**
CBIJ	**Chichi jima**	**5.97**	**171**	P		**Pn**	**04 13 22.1**	**+0.2**
	6.9nm,0.3s,baz=253,slow=20,SNR=10							
CBIJ				S		**Sn**	**04 14 27.0**	**-2.0**
	17nm,0.3s,baz=288,slow=22,SNR=8.2							
ASAJ	**Asahikawa**	**11.13**	**5**	LR		LR	04 19 03.4	
	comp=Z,56nm,18.2s,baz=198,slow=38							
SONM	**Songino Array**	**30.03**	**310**	P		**P**	**04 18 01.7**	**+0.7**
	0.9nm,0.9s,mb3.5,baz=103,slow=9.0,SNR=5.8							
MK31	**Makanchi Array**	**46.17**	**305**	*e*P		**P**	**04 20 16.4**	**-0.3**
MKAR	**Makanchi Array**	**46.17**	**305**	P		**P**	**04 20 16.5**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=84,slow=9.1,SNR=14							
KURK	**Kurchatov**	**48.32**	**311**	*e*P		**P**	**04 20 33.1**	**-0.3**
	1.7nm,0.5s,mb4.3							
CHKZ	**Chkalovo**	**52.96**	**315**	*e*P		**P**	**04 21 07.2**	**-1.1**
	1.3nm,0.7s,mb4.0							
WB2	**Warramunga Arr**	**53.07**	**188**	*e*P		**P**	**04 21 08.5**	**-0.6**
WRA	**Warramunga Arr**	**53.07**	**188**	P		**P**	**04 21 09.2**	**0.0**
	3.2nm,0.4s,mb4.6,baz=5.6,slow=7.6,SNR=94							
ASAR	**Alice Springs**	**56.80**	**188**	P		**P**	**04 21 36.5**	**+0.5**
	0.6nm,0.5s,mb3.9,baz=17,slow=13,SNR=16							
FINES	**FINESS Array B**	**72.27**	**333**	P		**P**	**04 23 16.4**	**-0.7**
	1.8nm,0.9s,mb4.0,baz=53,slow=7.1,SNR=3.0							
TXAR	**Lajitas Array**	**92.73**	**52**	P		**P**	**04 25 06.0**	**+2.2**
	0.2nm,0.7s,mb3.6,baz=310,slow=5.6,SNR=3.5							

*IDC **14** 04:14:35.5±3.2, 602S×10151E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=145.2km s-min=23.5km az=55.0*
*ISCJB **14** 04:14:39.4±2.3, 59S±05×1017E±06, h35km, mb4.0/7, Error ellipse: s-maj=109.3km s-min=17.0km az=105.9*
*NEIC **14** 04:14:40.9±1.9, 590S×10174E, h30km, mb4.2/2, Error ellipse: s-maj=96.2km s-min=12.8km az=53.0*
ISC 14 04:14:41.7±2.3, 59S±05×1017E±06, h35km, n9, σ0§85/8, mb4.0/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.66**	**117**	P		**P**	**04 21 28.2**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=288,slow=11,SNR=6.8							
STKA	**Stephens Creek**	**45.34**	**130**	P		**P**	**04 22 55.9**	**-0.4**
	4.6nm,1.0s,mb4.3,baz=319,slow=9.3,SNR=3.4							
SONM	**Songino Array**	**53.69**	**4**	P		**P**	**04 23 60.0**	**0.0**
	0.7nm,0.6s,mb3.8,baz=186,slow=9.3,SNR=8.5							
SONM				PcP		PcP	04 25 05.6	-0.3
	0.4nm,0.5s,baz=186,slow=2.9,SNR=3.2							
MK31	**Makanchi Array**	**55.24**	**344**	*e*P		**P**	**04 24 11.9**	**+0.7**
MKAR	**Makanchi Array**	**55.24**	**344**	P		**P**	**04 24 12.1**	**+0.9**
	0.7nm,0.7s,mb3.6,baz=153,slow=8.3,SNR=6.4							
KURK	**Kurchatov**	**59.82**	**343**	*e*P		**P**	**04 24 43.2**	**-0.3**
	1.0nm,0.6s,mb4.0							
ZAL	**Zalesovo**	**61.31**	**349**	P		**P**	**04 24 51.4**	**-2.2**
	1.0nm,0.5s,mb4.2,baz=289,slow=6.4,SNR=3.6							
CHKZ	**Chkalovo**	**64.88**	**340**	*e*P		**P**	**04 25 17.7**	**+0.4**
	1.5nm,0.6s,mb4.2							
TXAR	**Lajitas Array**	**146.62**	**43**	PKPbc		PKPbc	04 34 19.3	-0.2
	0.5nm,0.7s,baz=318,slow=1.2,SNR=6.6							

*ISCJB **14** 04:14:41.8±0.9, 316S±02×1792W±07, h134km±46km, mb3.8/2, Error ellipse: s-maj=109.1km s-min=7.3km az=30.1*
*IDC **14** 04:14:44.2±10.0, 3161S×17907W, h150km±101km, mb3.5/2, mb1 3.8/3, mb1mx3.4/14, mbtmp3.6/3, Error ellipse: s-maj=90.4km s-min=48.7km az=178.0*
ISC 14 04:14:42.9±1.0, 315S±02×1791W±06, h131km±36km, n20, σ1§26/25, mb3.8/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.51**	**25**	S		**Sn**	**04 15 53.9**	**-0.4**
	111nm,0.3s,baz=75,slow=20,SNR=4.0							
MXZ	**Matakaoa Point**	**6.37**	**199**	PN		**Pn**	**04 16 15.4**	**+1.1**
MXZ				SN		**Sn**	**04 17 25.5**	**-0.3**
PUZ	**Puketiti**	**6.86**	**198**	PN		**Pn**	**04 16 19.2**	**-1.8**
PUZ				SN		**Sn**	**04 17 37.6**	**0.0**
MWZ	**Matawai**	**7.31**	**201**	PN		**Pn**	**04 16 28.2**	**+1.1**
MWZ				SN		**Sn**	**04 17 46.7**	**-1.9**
URZ	**Urewera**	**7.38**	**204**	P		**Pn**	**04 16 29.5**	**+1.5**
	2.2nm,0.3s,baz=225,slow=10.0,SNR=22							
URZ				S		**Sn**	**04 17 50.1**	**-0.1**
	3.9nm,0.3s,baz=109,slow=21,SNR=14							
URZ	**Urewera**	**7.38**	**204**	PN		**Pn**	**04 16 29.8**	**+1.8**
URZ				SN		**Sn**	**04 17 52.4**	**+2.2**
KNZ	**Kokohu**	**7.91**	**198**	PN		**Pn**	**04 16 37.4**	**+2.3**
KNZ				SN		**Sn**	**04 18 03.1**	**+0.2**
BKZ	**Black Stump Fm**	**8.40**	**204**	PN		**Pn**	**04 16 43.3**	**+1.5**
PXZ	**Pawanui**	**9.07**	**200**	SN		**Sn**	**04 18 27.4**	**-3.8**
TSZ	**Takapari Road**	**9.39**	**204**	PN		**Pn**	**04 16 56.1**	**+1.1**
BFZ	**Birch Farm**	**9.86**	**201**	PN		**Pn**	**04 17 02.1**	**+0.8**
MRZ	**Mangataioka R**	**10.05**	**204**	*e*PN		**Pn**	**04 17 03.3**	**-0.7**
KIW	**Kapiti Island**	**10.47**	**206**	PN		**Pn**	**04 17 06.8**	**-2.6**
MTW	**Mount Morrison**	**10.53**	**203**	PN		**Pn**	**04 17 06.8**	**-3.4**
CAW	**Cannon Point**	**10.63**	**204**	PN		**Pn**	**04 17 10.6**	**-1.0**
TCW	**Tory Channel**	**11.01**	**207**	PN		**Pn**	**04 17 15.6**	**-1.1**
THZ	**Tophouse**	**12.03**	**210**	PN		**Pn**	**04 17 29.7**	**-0.4**
ASAR	**Alice Springs**	**42.09**	**269**	P		**P**	**04 22 22.1**	**+0.3**
	0.5nm,0.5s,mb3.4,baz=104,slow=7.7,SNR=7.0							
WRA	**Warramunga Arr**	**43.19**	**274**	P		**P**	**04 22 30.6**	**-0.1**
	1.8nm,0.3s,mb4.1,baz=113,slow=7.8,SNR=14							
FINES	**FINESS Array B**	**145.87**	**339**	PKPbc		PKPbc	04 34 04.3	-2.6
	1.2nm,0.5s,baz=54,slow=3.5,SNR=14							

*BJI **14** 04:19:47.6, 1740S×17840W, h528km, mB4.7, mb4.6*
*ISCJB **14** 04:19:48.3±1.2, 173S±02×1785W±01, h535km±16km, mb4.3/18, Error ellipse: s-maj=31.4km s-min=11.2km az=120.6*
*IDC **14** 04:19:48.7±2.1, 1754S×17836W, h524km±24km, mb3.6/10, mb1 3.8/12, mb1mx3.6/19, mbtmp3.6/12, Error ellipse: s-maj=39.6km s-min=12.2km az=153.0*
*NEIC **14** 04:19:48.6±0.9, 1743S×17840W, h529km±12km, mb4.2/7, Error ellipse: s-maj=24.3km s-min=8.6km az=151.0*
ISC 14 04:19:49.1±1.1, 171S±02×1786W±02, h525km±16km, n33, σ0§97/30, mb4.3/18, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.28**	**65**	P		**P**	**04 21 38.3**	**-0.5**
	7.4nm,0.3s,baz=150,slow=8.1,SNR=4.0							
DZM	**Mont Dzumac**	**14.96**	**248**	P		**P**	**04 22 58.4**	**0.0**
	0.4nm,0.3s,baz=47,slow=19,SNR=3.6							
ARMA	**Armidale**	**30.22**	**238**

HHC	**Hu-ho-hao-te**	**86.58**	**314**	*e*P	**P**	**04 31 36.0**	**-0.5**
HHC				PP	PP	04 35 16.8	+8.9
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,128nm,5.5s						
PDAR	**Pinedale Array**	**86.87**	**44**	P	**P**	**04 31 38.1**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.5,baz=215,slow=3.2,SNR=6.6						
KMI	**Kunming**	**87.31**	**297**	P	**P**	**04 31 38.6**	**-1.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
CD2	**Chengdu**	**88.48**	**303**	*e*P	**P**	**04 31 43.4**	**-2.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
INK	**Inuvik**	**91.14**	**15**	P	**P**	**04 31 57.2**	**-0.5**
	comp=Z,1.8nm,1.1s,mb3.9,baz=208,slow=4.8,SNR=4.2						
INK	**Inuvik**	**91.14**	**15**	*e*P	**P**	**04 31 57.4**	**-0.3**
	comp=Z,120nm,1.2s,mb5.7						
SNAA	**Sanae**	**91.42**	**179**	*e*P	**P**	**04 31 54.6**	**-4.5**
	comp=Z,0.8nm,0.5s,mb3.9						
YKA	**Yellowknife Ar**	**93.65**	**25**	P	**P**	**04 32 09.2**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.6,baz=240,slow=4.3,SNR=7.4						
YKA	**Yellowknife Ar**	**93.65**	**25**	P	**P**	**04 32 09.2**	**-0.1**
BRTR	**Keskin Array B**	**144.08**	**315**	PKP	PKPdf	04 38 25.3	+0.4
	comp=Z,0.7nm,0.8s,baz=85,slow=1.6,SNR=4.0						
GERES	**GERESS Array B**	**146.77**	**345**	PKPbc	PKPbc	04 38 32.9	+0.7
	comp=Z,0.8nm,0.6s,baz=22,slow=4.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**176.08**	**184**	PKPab	PKPab	04 40 39.7	-2.7
	comp=Z,0.3nm,1.1s,baz=180,slow=4.5,SNR=3.1						

NEIC ***14*** *04:46:08.1, 3448S×7055W, h118km, MG3.6(GUC), After GUC.*

GUC 14 04:46:08.1±0.7, 3448S×7055W, h118km±2km, ML3.6, 16C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.20**	**33**	⇑*i*P	Pn	04 46 24.4	0.0
CICH				*i*S	Sn	04 46 37.1	+0.3
CACH	**El Canelo**	**0.37**	**354**	⇑*i*P	Pn	04 46 25.3	+0.2
CACH				*i*S	Sn	04 46 38.0	+0.1
SFDO	**San Fernando**	**0.40**	**251**	⇑*i*P	Pn	04 46 25.6	+0.4
SFDO				*i*S	Sn	04 46 38.4	+0.2
CHCH	**Chadas Angostu**	**0.56**	**351**	⇓*i*P	Pn	04 46 26.2	0.0
CHCH				*i*S	Sn	04 46 39.5	-0.2
LMEL	**Las Melosas**	**0.70**	**25**	⇑*i*P	Pn	04 46 27.5	+0.3
LMEL				*i*S	Sn	04 46 42.0	+0.4
LMEL				AML	AML	04 46 47.0	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**0.70**	**25**	⇑*i*P	Pn	04 46 27.5	+0.3
LMEL				*i*S	Sn	04 46 42.0	+0.4
NICH	**Los Niches**	**0.76**	**227**	⇓*i*P	Pn	04 46 28.1	+0.4
NICH				*i*S	Sn	04 46 42.8	+0.3
PCH	**Pirque**	**0.86**	**2**	⇓*i*P	Pn	04 46 29.0	+0.4
PCH				*i*S	Sn	04 46 44.3	+0.2
LNV	**Longovilo**	**0.89**	**306**	⇑*i*P	Pn	04 46 29.0	+0.2
LNV				*i*S	Sn	04 46 44.2	-0.4
TACH	**Talagante**	**0.89**	**339**	⇓*i*P	Pn	04 46 29.2	+0.3
TACH				*i*S	Sn	04 46 44.8	+0.2
ANTU	**Antumapu**	**0.92**	**356**	*e*P	Pn	04 46 29.4	+0.2
ANTU				*i*S	Sn	04 46 45.3	+0.3
ANTU				AML	AML	04 46 46.3	
	comp=N,3μm,0.3s						
ANTU	**Antumapu**	**0.92**	**356**	*e*P	Pn	04 46 29.4	+0.2
ANTU				*i*S	Sn	04 46 45.3	+0.3
RCDM	**Rinconada Maip**	**1.01**	**348**	*e*P	Pn	04 46 30.2	+0.1
RCDM				*e*S	Sn	04 46 46.9	+0.1
RCDM				AML	AML	04 46 48.5	
	comp=E,5μm,0.1s						
RCDM	**Rinconada Maip**	**1.01**	**348**	*e*P	Pn	04 46 30.2	+0.1
RCDM				*e*S	Sn	04 46 46.9	+0.1
SAN	**Santiago**	**1.03**	**355**	⇓*i*P	Pn	04 46 30.6	+0.3
SAN				*i*S	Sn	04 46 47.1	0.0
SAN				AML	AML	04 46 48.1	
	comp=N,1μm,0.5s						
SAN	**Santiago**	**1.03**	**355**	⇓*i*P	Pn	04 46 30.6	+0.3
SAN				*i*S	Sn	04 46 47.1	0.0
STL	**Santa Lucia**	**1.05**	**356**	⇑*i*P	Pn	04 46 29.8	-0.6
STL				*i*S	Sn	04 46 46.8	-0.5
STL				AML	AML	04 46 47.2	
	comp=E,860nm,0.3s						
DSCH	**Colegio Aleman**	**1.08**	**359**	⇑*i*P	Pn	04 46 30.6	-0.2
DSCH				*i*S	Sn	04 46 48.1	+0.1
CLCH	**Cerro Calan**	**1.08**	**1**	⇓*i*P	Pn	04 46 31.2	+0.4
CLCH				*i*S	Sn	04 46 48.5	+0.5
CLCH				AML	AML	04 46 49.6	
	comp=E,936nm,0.4s						
TALC	**Talca**	**1.27**	**224**	⇑*i*P	Pn	04 46 32.4	-0.4
TALC				*i*S	Sn	04 46 51.5	0.0
TALC				AML	AML	04 46 52.7	
	comp=N,2μm,0.1s						
TALC	**Talca**	**1.27**	**224**	⇑*i*P	Pn	04 46 32.4	-0.4
TALC				*i*S	Sn	04 46 51.5	0.0
LCCH	**Las Cruces**	**1.31**	**320**	⇓*i*P	Pn	04 46 33.5	+0.3
LCCH				*i*S	Sn	04 46 52.2	-0.2
PEL	**Peldehue**	**1.34**	**355**	⇓*i*P	Pn	04 46 34.0	+0.5
PEL				*i*S	Sn	04 46 53.4	+0.5
PEL				AML	AML	04 46 54.7	
	comp=N,2μm,0.5s						
ROCH	**El Roble**	**1.56**	**346**	⇑*i*P	Pn	04 46 36.6	+0.6
ROCH				*i*S	Sn	04 46 58.5	+1.2
IHA	**Instituto Hidr**	**1.71**	**328**	*e*P	Pn	04 46 38.4	+0.5
IHA				*i*S	Sn	04 47 00.8	+0.2
JACH	**Jahuel**	**1.80**	**359**	⇓*i*P	Pn	04 46 39.4	+0.5
JACH				*i*S	Sn	04 47 03.2	+0.7
PACH	**Papudo**	**2.08**	**339**	⇑*i*P	Pn	04 46 42.7	+0.3
PACH				*i*S	Sn	04 47 07.3	-1.3
PTCH	**Petorca**	**2.24**	**352**	⇑*i*P	Pn	04 46 44.7	+0.3
PTCH				*e*S	Sn	04 47 12.9	+0.7
PTCH				AML	AML	04 47 16.2	
	comp=N,785nm,0.2s						
PTCH	**Petorca**	**2.24**	**352**	⇑*i*P	Pn	04 46 44.7	+0.3
PTCH				*e*S	Sn	04 47 12.9	+0.7
CCHI	**Chillan**	**2.45**	**210**	⇑*i*P	Pn	04 46 47.2	0.0
CCHI				*i*S	Sn	04 47 17.3	+0.2
CCHI				AML	AML	04 47 18.9	
	comp=E,135nm,0.7s						
CCHI	**Chillan**	**2.45**	**210**	⇑*i*P	Pn	04 46 47.2	0.0
CCHI				*i*S	Sn	04 47 17.3	+0.2
COCH	**Cobquecura**	**2.46**	**227**	⇓*i*P	Pn	04 46 47.2	-0.1

ATH ***14*** *05:08:07.7, 3865N×2070E, h28km±7km, MD3.3/4*
ISCJB ***14*** *05:08:08.6±0.9, 3863N±005×2070E±007, h21km±6km, Error ellipse: s-maj=9.9km s-min=8.7km az=101.4*
THE ***14*** *05:08:08.8, 3865N×2065E, h21km*
CSEM ***14*** *05:08:08.7±0.1, 3866N×2070E, h20km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.7km az=78.0*

ISC 14 05:08:08.6±0.9, 3864N±005×2070E±009, h21km±6km, n9, σ0§50/13, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.08**	**334**	*e*Pg	**Pb**	**05 08 12.4**	**-0.2**
LKD				*e*Sg	**Sb**	**05 08 15.5**	**+0.4**
VLS	**Valsamata**	**0.47**	**190**	PB	**Pb**	**05 08 18.3**	**+0.2**
EVR	**Evrytania**	**0.91**	**72**	PB	**Pb**	**05 08 24.8**	**-1.0**
IGT	**Igoumenitsa**	**0.94**	**343**	*e*Pg	**Pb**	**05 08 25.4**	**-0.8**
IGT				*e*Sg	**Sb**	**05 08 38.4**	**+0.2**
JAN	**Janina**	**1.03**	**7**	*e*PN	**Pn**	**05 08 27.8**	**0.0**
MEV	**Metsovon**	**1.22**	**20**	*e*Pg	**Pn**	**05 08 30.1**	**-0.4**
MEV				*e*Sg	**Sb**	**05 08 46.7**	**+0.4**
KEK	**Kerkira**	**1.28**	**327**	PN	**Pn**	**05 08 31.3**	**0.0**
AGG	**Agios Georgios**	**1.33**	**73**	*e*Pg	**Pn**	**05 08 32.7**	**+0.7**
AGG				*e*Sg	**Sn**	**05 08 49.0**	**-0.2**
THL	**Klokotos Trika**	**1.38**	**47**	PN	**Pn**	**05 08 33.5**	**+0.8**

JSN 14 05:37:08.9±0.6, 1760N×7970W, h15km, MD3.9, 2C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.94**	**80**	⇑*e*P	Pn	05 37 39.9	-1.4
MCJ				*e*S	Sn	05 38 03.8	-1.7
CVJ	**Coleyville**	**2.15**	**73**	*e*S	Sn	05 38 08.8	-1.8
STH	**Stony Hill**	**2.79**	**80**	⇑*e*P	Pn	05 37 52.6	-0.4

IDC ***14*** *05:50:13.4±5.6, 47.10N×15363E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=150.2km s-min=42.9km az=14.0*
MOS ***14*** *05:50:21.1±0.6, 4747N×15357E, h61km, mb4.0/2, Error ellipse: s-maj=99.9km s-min=34.0km az=75.8*
ISCJB ***14*** *05:50:23.7±5.0, 476N±03×1538E±04, h72km±34km, mb3.6/4, Error ellipse: s-maj=50.1km s-min=39.7km az=108.6*

ISC 14 05:50:24.8±5.2, 476N±03×1538E±04, h69km±35km, n8, σ0§14/9, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.44**	**26**	*e*PN	**Pn**	**05 51 16.0**	**0.0**
SKR				*e*S	**Sn**	**05 51 55.5**	**0.0**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR				smax			
	comp=E,80nm,0.5s						
YKA	**Yellowknife Ar**	**49.97**	**37**	P	**P**	**05 59 11.9**	**+0.1**
	comp=E,0.4nm,0.7s,mb3.5,baz=298,slow=7.2,SNR=6.9						
YKA	**Yellowknife Ar**	**49.97**	**37**	P	**P**	**05 59 11.9**	**+0.1**
FINES	**FINESS Array B**	**63.45**	**335**	P	**P**	**06 00 47.1**	**-0.3**
	comp=E,1.1nm,0.3s,mb4.2,baz=40,slow=7.3,SNR=18						
FINES	**FINESS Array B**	**63.45**	**335**	P	**P**	**06 00 47.2**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**67.56**	**341**	P	**P**	**06 01 14.1**	**+0.2**
	comp=Z,1.5nm,1.0s,mb3.8,baz=32,slow=6.8,SNR=1.8						
NOA	**NORSAR Array B**	**67.56**	**341**	P	**P**	**06 01 14.1**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TXAR	**Lajitas Array**	**76.68**	**61**	P	**P**	**06 02 08.3**	**-0.1**
	comp=Z,0.1nm,0.4s,mb2.9,baz=310,slow=4.5,SNR=4.1						

IDC 14 05:55:38.1±3.6, 585S×14892E, h0km, mb3.8/2, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, ML3.9/2, Error ellipse: s-maj=97.9km s-min=41.4km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.94**	**206**	Pn	Pn	05 56 40.3	+0.5
	21nm,0.3s,baz=31,slow=4.4,SNR=46						
PMG				Sn	Sn	05 57 24.7	-2.1
	18nm,0.3s,baz=153,slow=19,SNR=5.4						
WB2	**Warramunga Arr**	**19.92**	**224**	*e*P	Pn	06 00 11.5	-1.4
WRA	**Warramunga Arr**	**19.93**	**224**	P	Pn	06 00 11.6	-1.4
	0.7nm,0.3s,baz=49,slow=11,SNR=44						
ASAR	**Alice Springs**	**22.86**	**218**	P	P	06 00 42.8	-0.3
	1.1nm,0.4s,baz=57,slow=9.3,SNR=25						
FITZ	**Fitzroy Crossi**	**25.78**	**240**	*e*P	P	06 01 12.1	+1.4
	6.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**25.78**	**240**	P	P	06 01 11.3	+0.6
	2.8nm,0.7s,baz=50,slow=10.0,SNR=9.8						
TORD	**Torodi Ar. Bea**	**146.91**	**285**	PKPbc	PKPbc	06 15 22.9	+0.5
	0.3nm,0.6s,baz=112,slow=3.7,SNR=6.5						

ISCJB ***14*** *06:15:53.9±1.1, 291S±03×175.1W±02, h35km, mb4.6/4, Error ellipse: s-maj=40.6km s-min=19.2km az=7.1*
NEIC ***14*** *06:15:53.2±8.7, 2907S×17503W, h21km±58km, mb4.2/1, Error ellipse: s-maj=38.4km s-min=26.6km az=200.0*
IDC ***14*** *06:16:15.9±5.3, 3018S×17770W, h50km±40km, mb3.3/2, mb1 3.6/2, mb1mx3.4/13, mbtmp3.3/2, Error ellipse: s-maj=63.7km s-min=45.0km az=122.0*

ISC 14 06:15:55.5±1.1, 291S±03×1751W±02, h35km, n8, σ0§63/8, mb4.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.51**	**267**	P	**Pn**	**06 16 32.9**	**-0.8**
	24nm,0.3s,baz=82,slow=23,SNR=4.3						
RAO				S	**Sn**	**06 16 45.9**	**-17**
	273nm,0.3s,baz=134,slow=22,SNR=9.7						
PMG	**Port Moresby**	**40.46**	**291**	*e*P	**P**	**06 23 31.2**	**+0.6**
	2.0nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**45.76**	**264**	P	**P**	**06 24 13.5**	**0.0**
	0.3nm,0.6s,baz=100,slow=6.5,SNR=3.2						
WRA	**Warramunga Arr**	**46.64**	**269**	P	**P**	**06 24 21.5**	**+1.1**
	0.7nm,0.5s,mb3.9,baz=110,slow=8.1,SNR=19						
PMSA	**Palmer Station**	**72.34**	**155**	*e*P	**P**	**06 27 17.9**	**+0.2**
	14nm,1.0s,mb4.8						
COCO	**West Island**	**82.54**	**260**	*e*P	**P**	**06 28 14.1**	**-0.5**
	28nm,0.6s,mb5.5						
COCO				*e*PcP	PcP	06 28 18.5	-1.2
RRI2	**Red Ridge**	**92.80**	**41**	*e*P	**P**	**06 29 03.8**	**-0.5**
	9.5nm,0.3s						
FINES	**FINESS Array B**	**144.78**	**343**	PKPbc	PKPdf	06 35 45.5	+17
	1.6nm,0.8s,baz=90,slow=3.8,SNR=4.0						

ISCJB ***14*** *06:43:59.4±0.7, 3121S±006×1796E±0.1, h431km±9km, mb3.8/6, Error ellipse: s-maj=17.2km s-min=9.1km az=21.3*
IDC ***14*** *06:44:00.2±1.1, 3116S×17964E, h433km±11km, mb3.4/3, mb1 3.6/6, mb1mx3.3/16, mbtmp3.5/6, Error ellipse: s-maj=21.1km s-min=14.3km az=143.0*
NEIC ***14*** *06:44:00.2±0.7, 3116S×17978E, h434km±14km, mb3.8/4, Error ellipse: s-maj=22.9km s-min=12.3km az=113.0*

ISC 14 06:44:00.4±0.7, 3124S±006×1797E±01, h429km±9km, n43, σ0§94/40, mb3.8/6, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.84**	**46**	P	**P**	**06 45 03.9**	**-0.7**
	152nm,0.3s,baz=118,slow=11,SNR=12						
RAO				S	**S**	**06 45 51.3**	**-5.4**
	41nm,0.3s,baz=274,slow=23,SNR=2.8						
RAO	**Raoul Island**	**2.84**	**46**	P	**P**	**06 45 03.9**	**-0.7**
RAO				S	**S**	**06 45 51.3**	**-5.4**
MXZ	**Matakaoa Point**	**6.42**	**190**	SN	**S**	**06 46 57.0**	**-1.4**
PUZ	**Puketiti**	**6.92**	**190**	PN	**P**	**06 45 44.7**	**+0.9**
PUZ				SN	**S**	**06 47 05.3**	**-3.1**
URZ	**Urewera**	**7.33**	**196**	P	**P**	**06 45 49.3**	**+1.2**
	63nm,0.3s,baz=351,slow=3.1,SNR=121						
URZ				S	**S**	**06 47 14.9**	**-1.5**
	5.6nm,0.3s,baz=48,slow=20,SNR=7.2						
URZ	**Urewera**	**7.33**	**196**	PN	**P**	**06 45 47.3**	**-0.9**
URZ				SN	**S**	**06 47 14.6**	**-1.8**
PATZ	**Paeroa**	**7.67**	**201**	PN	**P**	**06 45 53.4**	**+1.4**
KNZ	**Kokohu**	**7.94**	**192**	PN	**P**	**06 45 56.2**	**+1.3**
KNZ				SN	**S**	**06 47 29.2**	**+0.5**
BKZ	**Black Stump Fm**	**8.34**	**198**	PN	**P**	**06 45 58.8**	**-0.5**
OTVZ	**Oturere**	**8.58**	**202**	PN	**P**	**06 46 03.1**	**+1.3**
TUVZ	**Tukino**	**8.68**	**201**	PN	**P**	**06 46 04.0**	**+1.1**
FWVZ	**Far West T-bar**	**8.70**	**202**	PN	**P**	**06 46 04.6**	**+1.4**
MOVZ	**Moawhango**	**8.77**	**201**	PN	**P**	**06 46 04.5**	**+0.6**
BFZ	**Birch Farm**	**9.83**	**196**	PN	**P**	**06 46 15.5**	**-0.2**
MRZ	**Mangatainoka R**	**9.98**	**199**	PN	**P**	**06 46 15.7**	**-1.6**
MTW	**Mount Morrison**	**10.47**	**198**	PN	**P**	**06 46 22.6**	**0.0**
CAW	**Cannon Point**	**10.54**	**200**	PN	**P**	**06 46 23.6**	**+0.2**
THZ	**Tophouse**	**11.85**	**206**	PN	**P**	**06 46 36.9**	**-0.8**
KHZ	**Kahutara**	**12.20**	**202**	PN	**P**	**06 46 41.7**	**0.0**
RPZ	**Rata Peaks**	**14.22**	**206**	P	**P**	**06 47 03.7**	**+0.2**
	0.6nm,0.3s,baz=26,slow=6.4,SNR=4.6						
DZM	**Mont Dzumac**	**14.97**	**304**	P	**P**	**06 47 11.7**	**+0.1**
	0.5nm,0.3s,baz=189,slow=20,SNR=5.6						
AFI	**Afiamalu**	**18.93**	**26**	P	**P**	**06 47 52.5**	**-0.6**
	4.5nm,0.3s,baz=48,slow=22,SNR=4.5						
CTA	**Charters Tower**	**32.04**	**282**	*e*P	**P**	**06 49 50.4**	**+0.8**
	3.9nm,1.1s,mb3.6						
STKA	**Stephens Creek**	**32.39**	**259**	*e*P	**P**	**06 49 54.3**	**+1.6**
	2.6nm,1.2s,mb3.4						
STKA	**Stephens Creek**	**32.39**	**259**	P	**P**	**06 49 53.4**	**+0.7**
	1.7nm,0.4s,mb3.7,baz=99,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**41.13**	**269**	P	**P**	**06 51 04.5**	**-0.6**
	0.9nm,0.3s,mb3.5,baz=105,slow=7.5,SNR=22						
ASAR				ScP	ScP	06 56 02.3	-0.8
	0.9nm,0.8s,baz=95,slow=3.7,SNR=6.3						
WB2	**Warramunga Arr**	**42.19**	**274**	*e*P	**P**	**06 51 13.1**	**-0.5**
WRA	**Warramunga Arr**	**42.20**	**274**	P	**P**	**06 51 12.7**	**-1.0**
	2.8nm,0.3s,mb4.1,baz=111,slow=8.0,SNR=36						
WRA				ScP	ScP	06 56 06.7	-0.6
	2.0nm,1.0s,baz=112,slow=4.2,SNR=7.8						
WRA				S	**S**	**06 56 58.5**	**-2.9**
	0.4nm,0.6s,baz=112,slow=14,SNR=3.5						
FORT	**Forrest**	**43.95**	**257**	*e*P	**P**	**06 51 27.2**	**-0.3**
	11nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.42**	**272**	*e*P	**P**	**06 52 16.9**	**+0.3**
	3.9nm,0.7s,mb3.9						
SNAA	**Sanae**	**77.36**	**179**	⇑*i*	**P**	**06 55 09.2**	**-0.3**
VNA3	**Neumayer Olymp**	**77.59**	**177**	⇑*i*	**P**	**06 55 10.9**	**+0.1**
VNA3				*e*		06 55 14.0	
VNA2	**Neumayer--Watz**	**78.00**	**178**	⇑*i*	**P**	**06 55 13.4**	**+0.4**
	baz=189,slow=5.6						
VNA2				*e*		06 55 16.5	
MKAR	**Makanchi Array**	**116.82**	**310**	PKP	PKPdf	07 01 53.2	-1.7
	0.2nm,0.6s,baz=50,slow=2.3,SNR=3.2						
ARCES	**ARCESS Array B**	**138.97**	**347**	PKhKP		07 02 27.7	
	1.8nm,0.8s,baz=85,slow=1.1,SNR=3.8						
JOF	**Joensuu**	**142.45**	**337**	*e*pkp	PKPdf	07 02 36.7	-6.4
KAF	**Kangasniemi**	**144.65**	**339**	*e*pkp	PKPdf	07 02 43.8	-3.2
FINES	**FINESS Array B**	**145.23**	**338**	PKPbc	PKPbc	07 02 46.6	-2.1
	5.1nm,0.5s,baz=64,slow=4.4,SNR=44						
NB2	**NORSAR Subarra**	**149.25**	**349**	PKP	PKPdf	07 02 57.5	+2.9
	comp=Z,1.0nm,0.6s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**149.25**	**349**	PKPbc	PKPbc	07 02 57.2	-2.2
	comp=Z,1.3nm,0.6s,baz=15,slow=4.0,SNR=4.2						
AKASG	**Malin Array Be**	**150.74**	**320**	PKPbc	PKPbc	07 03 01.1	-1.9
	comp=Z,1.5nm,0.6s,baz=61,slow=2.8,SNR=10						
BRTR	**Keskin Array B**	**151.25**	**297**	PKPbc	PKPbc	07 03 02.8	-1.3
	comp=Z,1.1nm,0.5s,baz=137,slow=4.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**161.90**	**186**	PKPab	PKPab	07 04 00.1	+0.2
	comp=Z,0.3nm,0.6s,baz=181,slow=3.6,SNR=4.3						

IDC ***14*** *07:22:24.7±0.7, 4528N×9906E, h0km, mb4.4/18, mb1 4.6/21, mb1mx4.5/25, mbtmp4.4/21, ML3.5/2, MS3.9/11, Ms1 4.0/11, ms1mx3.5/35, Error ellipse: s-maj=19.3km s-min=11.5km az=14.0*
ISCJB ***14*** *07:22:24.7±1.7, 4545N±003×9897E±004, h5km±11km, mb4.6/45, MS4.0/17, Error ellipse: s-maj=6.0km s-min=4.5km az=41.6*
MOS ***14*** *07:22:24.9±0.9, 4527N×9899E, h13km, mb4.8/29, MS4.0/12, Error ellipse: s-maj=9.0km s-min=5.4km az=129.7*
BJI ***14*** *07:22:25.9, 4546N×9905E, h28km, mB4.7, mb4.5, ML5.3, Ms4.7, Msz4.3*
LDG ***14*** *07:22:25.1±0.2, 4550N×9888E, h10km, Mb4.9/13, Ms4.0/6, Error ellipse: s-maj=8.5km s-min=4.5km az=157.0*
NEIC ***14*** *07:22:29.6±1.5, 4542N×9908E, h29km±11km, mb4.7/19, MS4.2/2, Error ellipse: s-maj=8.5km s-min=5.3km az=181.0*

ISC 14 07:22:25.4±1.6, 4539N±004×9904E±004, h1km±10km, n171, σ1§02/180, mb4.7/45, MS4.0/17, 7C-3D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**5.63**	**62**	Pn	**Pn**	**07 23 51.0**	**+0.9**
	43nm,0.3s,baz=242,slow=15,SNR=1331						
SONM				Pg	**Pg**	**07 24 09.2**	**-4.0**
	84nm,0.3s,baz=247,slow=18,SNR=25						
SONM				Sn	**Sn**	**07 24 59.6**	**+4.3**
	41nm,0.3s,baz=240,slow=20,SNR=2.6						
SONM				Lg		07 25 23.8	
	231nm,0.3s,baz=241,slow=33,SNR=12						
SONM				LR	LR	07 26 21.1	
	comp=Z,670nm,19.5s,baz=87,slow=42						
GTA	**Gaotai**	**6.00**	**174**	P	**Pn**	**07 23 53.1**	**-2.1**
GTA				S	**Sn**	**07 24 57.0**	**-7.5**
GTA				Smax			
	comp=N,1μm,1.1s						
GTA				Smax			
	comp=E,2μm,1.1s						
ULN	**Ulaanbaatar**	**6.05**	**63**	*e*P	**Pn**	**07 23 55.6**	**-0.3**
ULN				pmax	pmax		
	comp=Z,166nm,0.6s						
ULN	**Ulaanbaatar**	**6.05**	**63**	*e*Pn	**Pn**	**07 23 55.6**	**-0.3**
	comp=Z,166nm,0.6s						
TLY	**Talaya**	**7.00**	**24**	*e*P	**Pn**	**07 24 13.5**	**+4.5**
TLY				pmax	pmax		
	comp=Z,110nm,0.4s						
TLY	**Talaya**	**7.00**	**24**	Pn	**Pn**	**07 24 10.2**	**+1.2**
	comp=Z,148nm,0.5s						
WMQ	**Urumqi**	**8.25**	**263**	*e*P	**Pn**	**07 24 21.9**	**-4.1**
WMQ				S	**Sn**	**07 25 52.3**	**-7.5**
WMQ				Smax			
	comp=N,957nm,0.8s						
WMQ				Smax			
	comp=E,715nm,0.8s						
WMQ				LR	LR		
	comp=Z,955nm,15.0s						
BTO	**Baotou**	**9.35**	**117**	*e*P	**Pn**	**07 24 39.5**	**-1.7**
LZH	**Lanzhou**	**9.97**	**157**	*e*P	**Pn**	**07 24 49.5**	**-0.3**
LZH				*e*S	**Sn**	**07 26 48.0**	**+5.7**
LZH				SS		07 27 00.5	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s						
LZH				AMB	AMB		
	comp=Z,112nm,4.1s						
LZH				LR	LR		
	comp=N,3μm,11.0s						
LZH				LR	LR		
	comp=Z,3μm,11.3s						
LZH	**Lanzhou**	**9.97**	**157**	*e*P	**Pn**	**07 24 49.5**	**-0.3**
LZH				*e*S	**Sn**	**07 26 48.0**	**+5.7**
LZH	**Lanzhou**	**9.97**	**157**	*e*P	**Pn**	**07 24 49.5**	**-0.3**
LZH				pP		07 24 51.0	
LZH				sP		07 24 52.0	
LZH				*e*S	**Sn**	**07 26 48.0**	**+5.7**
LZH				sS		07 26 50.2	
LZH				SS		07 27 00.5	
HHC	**Hu-ho-hao-te**	**10.21**	**112**	*e*P	**P

LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 16.85 204 *e*Pn **Pn 07 26 26.8 +4.4**
comp=Z,8.0nm,0.6s
FRU Bishkek 17.71 270 *e*P **Pn 07 26 31.6 -1.5**
FRU pmax pmax
comp=Z,100nm,2.0s
AAK Ala-Archa 17.85 270 *c i*P **Pn 07 26 35.7 +0.8**
AAK pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 17.85 270 *e*Pn **Pn 07 26 35.6 +0.7**
comp=Z,7.0nm,0.6s
SNY Shenyang 18.10 93 ⇑P **Pn 07 26 39.1 +1.1**
SNY AP pP 07 26 42.5 +3.7
SNY XP sP 07 26 46.4 +7.4
SNY PP 07 26 54.8
SNY AMB AMB
comp=Z,13nm,0.7s
SNY AMB AMB
comp=Z,95nm,4.3s
SNY LR LR
comp=E,1μm,11.2s
SNY LR LR
comp=Z,1μm,10.8s
CN2 Changchun 18.85 85 *e*P **Pn 07 26 46.1 -1.1**
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 LR LR
comp=N,2μm,12.0s
CN2 LR LR
comp=E,1μm,12.0s
CN2 LR LR
comp=Z,2μm,11.0s
CLNS Chul'man 19.73 45 *e*P **Pn 07 26 56.9 -0.9**
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,18nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.7s
GYA Guiyang 19.85 159 P **Pn 07 26 57.4 -1.8**
GYA AMB AMB
comp=Z,10.0nm,1.0s
BVA0 Borovoye Array 20.12 303 *i* P **P 07 27 01.1 +0.5**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 20.12 303 P **P 07 27 01.7 +1.1**
comp=Z,15nm,0.5s,baz=103,slow=9.9,SNR=68
BVAR Lg 07 33 05.2
comp=Z,8.8nm,0.9s,baz=93,slow=22,SNR=3.4
BVAR LR LR 07 35 02.2
comp=Z,571nm,18.9s,MS3.9,baz=139,slow=38
CHKZ Chkalovo 20.12 305 *e*P **P 07 27 00.9 +0.3**
CHKZ pmax pmax
comp=Z,45nm,0.7s
CHKZ Chkalovo 20.12 305 *e*P **P 07 27 00.9 +0.4**
comp=Z,45nm,0.7s
BRVK Borovoye 20.19 303 *e*P **P 07 27 02.1 +0.8**
BRVK pmax pmax
comp=Z,26nm,0.6s
BRVK Borovoye 20.19 303 P **P 07 27 02.4 +1.1**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 20.19 303 *e*P **P 07 27 02.1 +0.8**
comp=Z,26nm,0.6s
GUN Gumba 20.34 215 *e*P **P 07 27 05.5 +2.5**
comp=Z,101nm,0.8s
JIRN Jiri 20.44 214 *e*P **P 07 27 08.2 +4.2**
comp=Z,5.7nm,0.4s
KMI Kunming 20.44 170 P **P 07 27 04.8 +0.8**
KMI AMB AMB
comp=Z,30nm,0.8s
KMI LR LR
comp=Z,245nm,23.6s,MS3.5
KKAR Karatay Array 20.52 274 *i* P **P 07 27 04.8 -0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKN Kakani 20.69 217 *e*P **P 07 27 09.3 +2.5**
comp=Z,93nm,0.7s
GKN Gorkha 20.78 218 *e*P **P 07 27 09.9 +2.1**
comp=Z,131nm,1.0s
PKI Pulchoki 20.83 216 *e*P **P 07 27 11.7 +3.4**
comp=Z,60nm,0.9s
DMN Daman 20.93 217 *e*P **P 07 27 12.2 +2.9**
comp=Z,84nm,0.9s
KOLN Koldanda 21.45 220 *e*P **P 07 27 16.8 +1.9**
comp=Z,30nm,0.8s,mb4.7
KSRS Korea Array 22.97 100 P **P 07 27 29.4 -1.8**
comp=Z,3.7nm,0.8s,mb4.0,baz=292,slow=9.5,SNR=10
KSRS LR LR 07 37 27.4
comp=Z,260nm,18.3s,MS3.7,baz=300,slow=39
HABR Khabarovsk 24.64 70 *e*P **P 07 27 48.7 +1.4**
HABR S **S 07 32 12.9 +3.3**
SVE Sverdlovsk 26.33 310 *e*P **P 07 28 02.0 -0.7**
AB31 Akbulak array 26.58 293 *i* P **P 07 28 05.0 +0.1**
ARU Arti 27.41 308 ⇑*i*P **P 07 28 12.8 +0.4**
ARU *e* 07 28 54.7
ARU *e*S **S 07 32 55.4 +1.9**
ARU *e*SS 07 34 08.1
ARU pmax pmax
comp=Z,13nm,0.7s,mb4.8
ARU Arti 27.41 308 *e*P **P 07 28 12.9 +0.5**
comp=Z,11nm,0.6s,mb4.8
AKTK Aktyubinsk 27.69 295 P **P 07 28 13.9 -1.0**
AKTK LR LR 07 39 43.9
AKTO Aktyubinsk 27.69 295 P **P 07 28 13.9 -1.0**
comp=Z,3.8nm,0.8s,mb4.3,baz=92,slow=9.5,SNR=14
AKTO LR LR 07 39 43.9
comp=Z,441nm,19.4s,MS4.0,baz=286,slow=37
AKTO Aktyubinsk 27.69 295 P **P 07 28 14.0 -0.9**
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
AKTO MLR MLR
comp=Z,441nm,19.4s,MS4.0
QIZ Qiongzhong 27.77 158 P **P 07 28 17.0 +1.4**
QIZ S **S 07 32 58.9 -0.2**
QIZ LR LR
comp=N,2μm,4.2s
QIZ LR LR
comp=Z,1μm,5.3s
JOW Kunigami 29.77 118 LR LR 07 41 04.1
comp=Z,300nm,21.0s,MS3.9,baz=304,slow=38
TIXI Tiksi 29.93 18 *e*P **P 07 28 36.3 +1.4**
TIXI pmax pmax
comp=Z,5.0nm,1.5s,mb4.1
TIXI MLR MLR
comp=Z,111nm,11.0s,MS3.8
MJAR Matsushiro Arr 30.62 93 LR LR 07 41 20.3
comp=Z,294nm,19.3s,MS4.0,baz=330,slow=37
KLMR Klimovskoe 37.47 316 *e*P **P 07 29 41.0 +0.6**
KLMR pmax pmax
comp=Z,59nm,0.7s,mb5.4
VRHR Novokhopersk 37.82 300 *e*P **P 07 29 44.0 +0.7**
VRHR pmax pmax
comp=N,20nm,0.4s
VRHR pmax pmax
comp=E,9.0nm,0.4s
VRHR pmax pmax
comp=Z,50nm,0.4s,mb5.6
ZEI Tsey 39.05 286 *e*P **P 07 29 52.3 -1.3**
ZEI *e**PP 07 29 56.2
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
MOS Moscow 39.12 308 *e*P **P 07 29 53.4 -0.9**
MOS pmax pmax
comp=Z,82nm,1.0s,mb5.3
KIV Kislovodsk 39.40 289 *e*P **P 07 29 57.6 +1.0**
KIV pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
KIV MLR MLR
comp=Z,232nm,14.0s,MS4.2
GNI Garni 39.57 282 P **P 07 29 59.7 +1.7**
comp=Z,5.6nm,0.4s,mb4.6,baz=96,slow=1.1,SNR=9.1
GNI LR LR 07 48 34.9
comp=Z,92nm,20.0s,MS3.6,baz=240,slow=40
GNI Garni 39.57 282 P **P 07 29 59.7 +1.7**
GNI pmax pmax
comp=Z,6.0nm,0.4s
GNI MLR MLR
comp=Z,92nm,20.0s
OBN Obninsk 39.84 307 *d i*P **P 07 30 00.2 -0.1**
OBN *e* 07 31 30.8
OBN *e*S **S 07 36 08.8 +3.2**
OBN pmax pmax
comp=Z,74nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,100nm,14.0s,MS3.8
JOF Joensuu 41.15 320 *e*p **P 07 30 10.9 -0.1**
comp=Z,4.6nm,0.5s,mb4.5
JOF Joensuu 41.15 320 *e*P **P 07 30 10.9 -0.1**
JOF pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
ARCES ARCESS Array B 42.74 330 P **P 07 30 24.4 +0.3**
comp=Z,8.1nm,0.7s,mb4.5,baz=73,slow=8.7,SNR=20
ARCES PcP PcP 07 32 14.0 -1.7
comp=Z,1.4nm,0.6s,baz=90,slow=5.4,SNR=5.1
ARCES LR LR 07 49 11.1
comp=Z,138nm,18.3s,MS3.9,baz=300,slow=38
ARCES ARCESS Array B 42.74 330 P **P 07 30 24.5 +0.4**
ARCES 07 32 14.0
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,138nm,18.3s
ARCES ARCESS Array B 42.74 330 P **P 07 30 24.4 +0.3**
ARCES PcP PcP 07 32 14.0 -1.7
ARCES LR LR 07 49 11.1
UMR Umm Al-Rimmam 42.96 267 *e*P **P 07 30 25.9 0.0**
UMR AMb AMB 07 30 33.5
comp=Z,38nm,1.1s,mb5.0
RDF Al-Radifah 43.44 266 *e*P **P 07 30 29.8 0.0**
RDF AMb AMB 07 30 31.6
comp=Z,34nm,1.1s,mb5.0
NAY Al-Naaiem 43.47 267 *e*P **P 07 30 29.6 -0.4**
NAY AMb AMB 07 30 30.6
comp=Z,14nm,0.7s,mb4.8
KAF Kangasniemi 43.57 319 *e*p **P 07 30 30.9 +0.1**
comp=Z,8.1nm,0.6s,mb4.6
KAF Kangasniemi 43.57 319 *e*P **P 07 30 30.9 +0.1**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
FINES FINESS Array B 43.83 318 P **P 07 30 33.3 +0.4**
comp=Z,7.0nm,0.7s,mb4.5,baz=81,slow=8.2,SNR=16
FINES LR LR 07 52 45.7
comp=Z,146nm,21.0s,MS3.9,baz=345,slow=42
FINES FINESS Array B 43.83 318 P **P 07 30 33.3 +0.4**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES MLR MLR
comp=Z,146nm,21.0s
AKASG Malin Array Be 45.40 303 P **P 07 30 45.0 -0.5**
comp=Z,5.7nm,0.5s,mb4.7,baz=56,slow=8.1,SNR=20
AKASG Malin Array Be 45.40 303 P **P 07 30 45.0 -0.4**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
KIEV Kiev 45.41 303 *e*P **P 07 30 45.2 -0.3**
KIEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KIEV Kiev 45.41 303 *e*P **P 07 30 45.2 -0.4**
comp=Z,6.8nm,0.6s,mb4.8
BR131 Keskin Array S 47.32 287 *e*P **P 07 31 01.1 +0.5**
comp=Z,3.4nm,0.6s,mb4.7
BRTR Keskin Array B 47.32 287 P **P 07 31 00.6 0.0**
comp=Z,6.7nm,0.9s,mb4.8,baz=86,slow=6.4,SNR=30
BRTR Keskin Array B 47.32 287 P **P 07 31 00.6 0.0**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
TIRR Tirgusor 48.50 296 ⇓*i*P **P 07 31 09.2 -0.5**
LVV L'vov 48.81 304 *e*P **P 07 31 12.2 +0.2**
VRI Vrincioaia 48.92 298 ⇑*i*P **P 07 31 14.4 +1.5**
BURAR Bucovina Array 49.06 301 ⇑*i*P **P 07 31 15.0 +1.0**
MLR Muntele Rosu 49.58 298 ⇓*i*P **P 07 31 16.7 -1.2**
KWP Kalwaria 49.66 304 *e*P **P 07 31 19.3 +0.7**
KWP pmax pmax
comp=Z,24nm,0.5s,mb5.4
KWP Kalwaria 49.66 304 *e*P **P 07 31 19.3 +0.7**
comp=Z,24nm,0.5s,mb5.4
KOLS Kolonicke sedl 50.23 303 *e*P **P 07 31 21.4 -1.5**
NB2 NORSAR Subarra 50.74 321 P **P 07 31 26.2 -0.6**
comp=Z,3.8nm,0.6s,mb4.5,baz=66,slow=7.9
NOA NORSAR Array B 50.74 321 P **P 07 31 26.5 -0.3**
comp=Z,5.2nm,0.6s,mb4.6,baz=65,slow=7.4,SNR=14
NOA LR LR 07 54 51.2
comp=Z,303nm,18.4s,MS4.3,baz=85,slow=38
NOA NORSAR Array B 50.74 321 P **P 07 31 26.5 -0.3**
NOA pmax pmax
comp=Z,5.0nm,0.6s
NOA MLR MLR
comp=Z,303nm,18.4s
NOA NORSAR Array B 50.74 321 P **P 07 31 26.5 -0.3**
NOA LR LR 07 54 51.2
OJC Ojcow 51.08 306 *e*P **P 07 31 29.3 0.0**
GZR Gura Zlata 51.59 299 ⇑*i*P **P 07 31 32.9 -0.2**
VYHS Vyhne 52.45 304 *e*P **P 07 31 40.0 +0.5**
VYHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VYHS Vyhne 52.45 304 *e*P **P 07 31 40.0 +0.5**
comp=Z,4.1nm,1.0s,mb4.3
VTS Vitosha 52.72 296 ⇑*i*P **P 07 31 40.8 -0.7**
BRG Berggiesshubel 54.05 309 *e*P **P 07 31 51.5 +0.1**
comp=Z,8.5nm,1.4s,mb4.6
BRG Berggiesshubel 54.05 309 *e*P **P 07 31 51.5 +0.2**
BRG pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
GERES GERESS Array B 55.22 307 P **P 07 31 59.6 -0.2**
comp=Z,0.6nm,0.6s,mb3.8,baz=51,slow=10,SNR=5.4
GERES GERESS Array B 55.22 307 P **P 07 31 59.6 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.6s
CDF Champ du Feu 59.03 309 *e*P **P 07 32 26.6 -0.2**
comp=Z,7.7nm,0.8s,mb4.5
CDF Champ du Feu 59.03 309 *e*P **P 07 32 26.6 -0.2**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CDF Champ du Feu 59.03 309 *e*P **P 07 32 26.6 -0.2**
comp=Z,3.8nm,0.8s,mb4.5
BAIF Baives 59.72 312 *e*P **P 07 32 31.8 +0.2**
comp=Z,14nm,0.8s,mb4.8
BAIF Baives 59.72 312 *e*P **P 07 32 31.8 +0.2**
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BAIF Baives 59.72 312 *e*P **P 07 32 31.8 +0.2**
comp=Z,7.2nm,0.8s,mb4.8
HAU Haudompre 59.77 309 *e*P **P 07 32 31.7 -0.2**
HAU *e*MLR
comp=Z,138nm,19.5s
HAU Haudompre 59.77 309 *e*P **P 07 32 31.7 -0.2**
HAU LR LR
comp=Z,140nm,19.5s,MS4.1
LPG La Plagne 61.02 307 *e*P **P 07 32 41.0 +0.6**
comp=Z,20nm,1.1s,mb4.9
LPG La Plagne 61.02 307 *e*P **P 07 32 41.0 +0.6**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
LPG La Plagne 61.02 307 *e*P **P 07 32 41.0 +0.6**
comp=Z,9.9nm,1.0s,mb4.9
LPL La Plagne 61.02 307 *e*P **P 07 32 40.6 +0.2**
MBDF Montbardon 61.47 306 *e*P **P 07 32 43.5 0.0**
comp=Z,13nm,0.8s,mb4.8
MBDF Montbardon 61.47 306 *e*P **P 07 32 43.5 0.0**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
MBDF Montbardon 61.47 306 *e*P **P 07 32 43.5 0.0**
comp=Z,6.5nm,0.8s,mb4.8
LOR Lormes 61.56 310 *e*P **P 07 32 43.2 -0.9**
LOR *e*MLR
comp=Z,251nm,17.5s
LOR Lormes 61.56 310 *e*P **P 07 32 43.2 -0.9**
LOR LR LR
comp=Z,250nm,17.5s,MS4.4
SBF Sospel 61.60 305 *e*P **P 07 32 43.9 -0.5**
comp=Z,30nm,0.8s,mb5.3
SBF Sospel 61.60 305 *e*P **P 07 32 43.9 -0.5**
SBF pmax pmax
comp=Z,15nm,0.8s,mb5.3
SBF Sospel 61.60 305 *e*P **P 07 32 43.9 -0.5**
comp=Z,15nm,0.8s,mb5.3
ORIF Oris-en-Rattie 61.86 306 *e*P **P 07 32 46.0 -0.1**
comp=Z,21nm,0.9s,mb5.0
ORIF *e*MLR
comp=Z,398nm,19.8s
ORIF Oris-en-Rattie 61.86 306 *e*P **P 07 32 46.0 -0.1**
ORIF pmax pmax
comp=Z,11nm,0.9s,mb5.1
ORIF Oris-en-Rattie 61.86 306 *e*P **P 07 32 46.0 -0.1**
comp=Z,11nm,0.9s,mb5.1
SSF Saint Saulge 61.88 310 *e*P **P 07 32 45.5 -0.8**
comp=Z,6.6nm,0.7s,mb4.7
SSF Saint Saulge 61.88 310 *e*P **P 07 32 45.5 -0.8**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
SSF Saint Saulge 61.88 310 *e*P **P 07 32 45.5 -0.8**
comp=Z,3.3nm,0.7s,mb4.7
SMF Signal de Mont 61.95 309 *e*P **P 07 32 46.0 -0.8**
AVF Avril sur Loir 62.13 309 *e*P **P 07 32 47.2 -0.8**
LDF La Druitiere 62.87 313 *e*P **P 07 32 52.2 -0.7**
comp=Z,31nm,0.8s,mb5.2
LDF La Druitiere 62.87 313 *e*P **P 07 32 52.2 -0.7**
LDF pmax pmax
comp=Z,15nm,0.8s,mb5.2
LDF La Druitiere 62.87 313 *e*P **P 07 32 52.2 -0.7**
comp=Z,15nm,0.8s,mb5.2
FLN La Foliniere 62.95 313 *e*P **P 07 32 52.8 -0.6**
comp=Z,9.4nm,0.4s,mb4.9
FLN *e*MLR
comp=Z,292nm,17.0s
TCF Toulx Ste Croi 63.06 309 *e*P **P 07 32 53.8 -0.4**
GRR Gorron 63.38 313 *e*P **P 07 32 55.6 -0.7**
LASF Ste Croix 63.52 307 *e*P **P 07 32 57.1 -0.1**
comp=Z,20nm,0.9s,mb5.0
RJF Les Rejaudoux 64.05 309 *e*P **P 07 33 00.5 -0.2**
RJF *e*MLR
comp=Z,207nm,18.5s
RJF Les Rejaudoux 64.05 309 *e*P **P 07 33 00.5 -0.2**
RJF LR LR
comp=Z,210nm,18.5s,MS4.3
MFF Saint Martin d 64.13 311 *e*P **P 07 33 01.1 -0.2**
LFF La Frestale 64.71 309 *e*P **P 07 33 05.2 +0.2**
QUIF Quistinic 64.87 313 *e*P **P 07 33 05.6 -0.5**
MTLF Montolieu 64.91 307 *e*P **P 07 33 05.9 -0.4**
KEST Kesra 65.45 297 LR LR 08 04 05.0
comp=Z,54nm,19.4s,MS3.8,baz=292,slow=38
YKA Yellowknife Ar 69.15 16 P **P 07 33 32.7 -0.6**
comp=Z,3.1nm,0.8s,mb4.6,baz=332,slow=6.3,SNR=48
YKA Yellowknife Ar 69.15 16 P **P 07 33 32.7 -0.6**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 69.15 16 P **P 07 33 32.7 -0.6**
ESDC Sonseca Array 70.81 307 P **P 07 33 43.3 -0.2**
comp=Z,0.2nm,0.3s,mb3.7,baz=38,slow=6.2,SNR=4.5
WRA Warramunga Arr 72.51 145 P **P 07 33 54.1 +0.4**
comp=Z,5.5nm,0.9s,mb4.7,baz=344,slow=6.4,SNR=4.9
WRA Warramunga Arr 72.51 145 P **P 07 33 54.1 +0.4**
WRA pmax pmax
comp=Z,6.0nm,0.9s
ASAR Alice Springs 75.70 147 P **P 07 34 10.9 -1.5**
comp=Z,4.6nm,0.8s,mb4.7,baz=335,slow=5.6,SNR=2.3
ASAR Alice Springs 75.70 147 P **P 07 34 10.9 -1.5**
ASAR pmax pmax
comp=Z,5.0nm,0.8s
TORD Torodi Ar. Bea 85.84 284 P **P 07 35 05.3 -1.3**
comp=Z,2.4nm,1.1s,mb4.2,baz=44,slow=6.1,SNR=8.3
TORD Torodi Ar. Bea 85.84 284 P **P 07 35 05.3 -1.3**
STKA Stephens Creek 86.05 145 P **P 07 35 07.3 -0.3**
comp=Z,6.1nm,0.7s,mb4.8,baz=320,slow=6.0,SNR=4.6
STKA Stephens Creek 86.05 145 P **P 07 35 07.3 -0.4**
PDAR Pinedale Array 88.61 21 P **P 07 35 18.9 -1.1**
comp=Z,0.9nm,0.8s,mb4.1,baz=54,slow=2.5,SNR=7.7
NVAR Mina Array Bea 90.05 28 P **P 07 35 27.8 +1.0**
comp=Z,1.1nm,0.7s,mb4.2,baz=319,slow=4.3,SNR=10
NVAR Mina Array Bea 90.05 28 P **P 07 35 27.8 +1.0**
LPAZ La Paz 149.06 335 PKPbc PKPbc 07 42 13.4 -1.8
comp=Z,1.3nm,0.8s,baz=44,slow=5.8,SNR=6.4

NEIC ***14*** *07:25:54.8, 30.94S×71.55W, h19km, ML3.4(GUC), After GUC.*

GUC 14 07:25:54.8±0.8, 30.94S×71.55W, h19km±3km, MD3.7, ML3.4, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.52**	**117**	⇓*i*P	Pb	07 26 05.2	-0.2
CMCH				*i* S	Sg	07 26 12.8	+0.3
CMCH				AML	AML	07 26 13.1	
	comp=N,8μm,0.1s						
CMCH	**Combarbala**	**0.52**	**117**	⇓*i*P	Pb	07 26 05.2	-0.2
CMCH				*i* S	Sg	07 26 12.8	+0.3
TLL	**Tololo Astrono**	**1.00**	**40**	⇑*i*P	Pb	07 26 13.2	-0.3
TLL				*i* S	Sb	07 26 26.9	+0.6
TLL				AML	AML	07 26 28.8	
	comp=E,577nm,0.3s						
TLL	**Tololo Astrono**	**1.00**	**40**	⇑*i*P	Pb	07 26 13.2	-0.3
TLL				*i* S	Sb	07 26 26.9	+0.6
LSCH	**La Serena**	**1.06**	**14**	⇑*i*P	Pb	07 26 13.6	-0.9
LSCH				*i* S	Sb	07 26 27.4	-0.5
PACH	**Papudo**	**1.59**	**177**	*e*P	Pn	07 26 21.6	-0.3
PACH				*i* S	Sn	07 26 43.0	+1.0
JACH	**Jahuel**	**1.92**	**155**	*e*P	Pn	07 26 27.4	+1.0
JACH				*e*S	Sn	07 26 52.0	+2.0
PEL	**Peldehue**	**2.31**	**162**	⇑*i*P	Pn	07 26 33.5	+1.7
PEL				*i* S	Sn	07 27 02.2	+2.5
PEL				AML	AML	07 27 10.3	
	comp=E,482nm,0.3s						
VACH	**Vallenar**	**2.45**	**16**	⇑*i*P	Pn	07 26 34.6	+0.8
VACH				*i* S	Sn	07 27 05.5	+2.3
CLCH	**Cerro Calan**	**2.59**	**161**	⇑*i*P	Pn	07 26 37.7	+2.0
CLCH				*e*S	Sn	07 27 09.5	+2.8
CLCH				AML	AML	07 27 19.7	
	comp=N,218nm,0.5s						
RCDM	**Rinconada Maip**	**2.62**	**166**	*e*P	Pn	07 26 37.1	+1.1
RCDM				*i* S	Sn	07 27 09.0	+1.7
TACH	**Talagante**	**2.75**	**169**	*e*P	Pn	07 26 39.2	+1.3
TACH				*e*S	Sn	07 27 12.6	+1.9
CHCH	**Chadas Angostu**	**3.08**	**166**	*e*P	Pn	07 26 43.4	+1.0

ISCJB ***14*** *07:28:19.7±2.5, 800S±009×119.33E±008, h49km±24km, mb4.2/10, MS3.6/3, Error ellipse: s-maj=18.4km s-min=9.2km az=82.8*

IDC ***14*** *07:28:20.0±6.8, 802S×119.12E, h33km±53km, mb4.1/10, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, ML4.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.0/27, Error ellipse: s-maj=29.2km s-min=16.1km az=65.0*

NEIC ***14*** *07:28:20.7±1.9, 803S×119.15E, h39km±18km, mb4.6/2, Error ellipse: s-maj=17.8km s-min=10.7km az=58.0*

ISC 14 07:28:20.8±2.1, 805S±009×1193E±01, h39km±20km, n21, σ1§18/25, mb4.2/10, MS3.6/3, 1C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.77**	**149**	*e*P	**Pn**	**07 31 06.4**	**+0.4**
	17nm,0.6s						
FITZ				*e*S	**Sn**	**07 33 15.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.77**	**149**	Pn	**Pn**	**07 31 06.2**	**+0.2**
	0.8nm,0.3s,baz=329,slow=11,SNR=15						
FITZ				Sn	**Sn**	**07 33 13.9**	**-2.0**
	2.0nm,0.3s,baz=181,slow=20,SNR=7.9						
FITZ				LR	LR	07 36 17.0	
	comp=Z,201nm,19.6s,baz=327,slow=40						
KAKA	**Kakadu**	**13.77**	**111**	*e*P	**Pn**	**07 31 35.0**	**+1.6**
	29nm,0.6s						
KAKA				*e*S	**Sn**	**07 34 03.0**	**-1.9**
WRA	**Warramunga Arr**	**18.79**	**131**	P	**Pn**	**07 32 37.4**	**-0.1**
	1.2nm,0.3s,baz=303,slow=13,SNR=72						
WRA				S	**S**	**07 36 02.6**	**-5.4**
	0.3nm,0.3s,baz=304,slow=25,SNR=4.7						
WRA				LR	LR	07 41 42.4	
	comp=Z,118nm,18.6s,baz=315,slow=42						
WB2	**Warramunga Arr**	**18.80**	**131**	*e*P	**Pn**	**07 32 37.7**	**0.0**
WB2				*e*S	**S**	**07 36 00.4**	**-7.8**
ASAR	**Alice Springs**	**20.93**	**140**	P	**P**	**07 33 01.9**	**+1.8**
	27nm,0.7s,baz=312,slow=9.1,SNR=66						
ASAR				S	**S**	**07 36 57.4**	**+6.2**
	3.7nm,0.7s,baz=313,slow=24,SNR=6.2						
PSI	**Prapat**	**22.97**	**297**	P	**P**	**07 33 21.2**	**-0.5**
	2.4nm,0.6s,mb3.8,baz=202,slow=12,SNR=2.9						
FORT	**Forrest**	**24.07**	**161**	*e*P	**P**	**07 33 32.9**	**+0.6**
	23nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**24.82**	**184**	P	**P**	**07 33 38.8**	**-0.5**
	18nm,0.9s,mb4.6,baz=359,slow=9.7,SNR=7.5						
NWAO				LR	LR	07 42 32.8	
	comp=Z,146nm,20.1s,MS3.5,baz=120,slow=34						
CTA	**Charters Tower**	**28.74**	**117**	P	**P**	**07 34 17.1**	**+2.6**
	4.1nm,0.6s,mb4.3,baz=296,slow=8.2,SNR=3.3						
CTA				LR	LR	07 48 03.5	
	comp=Z,232nm,18.4s,MS3.8,baz=243,slow=41						
STKA	**Stephens Creek**	**31.53**	**142**	*e*P	**P**	**07 34 40.8**	**+1.7**
	5.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**31.53**	**142**	P	**P**	**07 34 40.5**	**+1.4**
	6.9nm,0.6s,mb4.7,baz=310,slow=9.2,SNR=11						
STKA				LR	LR	07 49 57.2	
	comp=Z,87nm,18.9s,MS3.5,baz=18,slow=41						
MJAR	**Matsushiro Arr**	**47.79**	**21**	P	**P**	**07 36 52.4**	**-1.8**
	1.0nm,0.4s,mb4.2,baz=161,slow=15,SNR=3.3						
SONM	**Songino Array**	**56.79**	**350**	P	**P**	**07 38 02.2**	**+1.2**

1.5nm,0.9s,mb4.0,baz=177,slow=6.6,SNR=3.7
SONM Songino Array 56.79 350 P **P 07 38 02.2 +1.2**
MKAR Makanchi Array 63.73 333 P **P 07 38 47.6 -0.8**
1.3nm,0.8s,mb4.0,baz=161,slow=6.7,SNR=6.9
MAW Mawson 70.21 200 P **P 07 39 29.1 -0.5**
1.2nm,0.7s,mb3.9,baz=66,slow=8.8,SNR=7.4
VNDA Vanda 72.88 171 P **P 07 39 45.3 -0.4**
2.0nm,0.8s,mb4.1,baz=331,slow=6.1,SNR=6.1
SYO Syowa Base 78.83 201⇑ *e*P **P 07 40 19.0 -0.6**
TORD Torodi Ar. Bea 118.54 281 PKP PKPdf 07 47 03.7 -0.6
0.3nm,0.5s,baz=66,slow=1.4,SNR=4.0
LPAZ La Paz 154.74 163 PKPab PKPab 07 48 35.7 +3.0
0.7nm,0.5s,baz=211,slow=7.1,SNR=3.8

NIED ***14*** *07:43:00,4690N×15320E,h50km,Mw4.6 Best double couple: M0:9.23000×10^15 NP1:φs324.00000°,δ79.00000°, λ28.00000°. NP2:φs228.00000°,δ62.00000°,λ167.00000°.*
NEIC ***14*** *07:43:01.8±0.1,4708N×15259E,h10km,mb5.1/95,Error ellipse: s-maj=4.5km s-min=2.9km az=168.0*
BJI ***14*** *07:43:02.8,4700N×15260E,h10km,mB4.9,mb4.8,Ms4.3, Msz4.1*
SKHL ***14*** *07:43:03.6±1.6,4656N×15356E,h52km±16km,Ms4.1/2, msh5.3/1*
IDC ***14*** *07:43:04.8±3.9,4712N×15262E,h31km±27km,mb4.6/22, mb1 4.7/23,mb1mx4.7/25,mbtmp4.6/23,ML4.3/1,MS3.9/10, Ms1 3.9/10,ms1mx3.5/29,Error ellipse: s-maj=14.1km s-min=11.4km az=129.0*
JMA ***14*** *07:43:05.5±0.7,4690N×153.17E,h30km,M5.3*
MOS ***14*** *07:43:05.9±0.8,4710N×15259E,h51km,mb5.2/61, MS4.1/7,Error ellipse: s-maj=7.6km s-min=4.7km az=93.0*
ISCJB ***14*** *07:43:06.7±0.5,4702N±003×15271E±003,h61km±4km, mb5.0/154,Error ellipse: s-maj=5.6km s-min=2.6km az=150.4*
SZGRF ***14*** *07:43:06.1,4740N×15396E,h33km,mb5.1,Kuril Islands, Russia*
ISC 14 07:43:09.2±0.4,4716N±003×15261E±003,h65km±4km, h67km±1.9km:pP-P,n667,σ0:80/677,mb4.8/154,120C-72D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**241**	⇓*i*PN	**Pn**	**07 44 04.2**	**-1.2**
KUR				*i* S	**Sn**	**07 44 51.0**	**+2.0**
KUR	comp=Z,2μm,1.2s			pmax	pmax		
KUR	comp=N,390nm,0.8s			pmax	pmax		
KUR	comp=E,540nm,0.8s			pmax	pmax		
KUR	comp=Z,1μm,0.8s			smax			
KUR	comp=N,4μm,0.8s			smax			
KUR	comp=E,2μm,0.8s			smax			
KUR	comp=N,10μm,1.6s			smax			
KUR	comp=E,5μm,1.6s						
KUR	**Kuril'sk**	**3.81**	**241**	*i* P	**Pn**	**07 44 04.2**	**-1.2**
KUR	comp=E,2μm,1.2s			AMB	AMB	07 44 06.0	
KUR	comp=E,390nm,0.8s			AMB	AMB	07 44 09.7	
KUR	comp=E,540nm,0.8s			AMB	AMB	07 44 09.7	
KUR	comp=E,1μm,0.8s			AMB	AMB	07 44 09.7	
KUR				*i* S	**Sn**	**07 44 51.0**	**+2.0**
KUR	comp=E,4μm,0.8s			A		07 45 04.5	
KUR	comp=E,2μm,0.8s			A		07 45 04.5	
KUR	comp=E,10μm,1.6s			A		07 45 09.0	
KUR	comp=E,5μm,1.6s			A		07 45 09.0	
SKR	**Severo-Kuril's**	**4.22**	**32**	*e*PN	**Pn**	**07 44 11.0**	**0.0**
SKR				*e*S	**Sn**	**07 44 55.7**	**-3.3**
SKR	comp=N,490nm,0.4s			pmax	pmax		
SKR	comp=E,110nm,0.4s			pmax	pmax		
SKR	comp=Z,490nm,0.4s			pmax	pmax		
SKR	comp=N,2μm,0.3s			smax			
SKR	comp=E,640nm,0.6s			smax			
SKR	**Severo-Kuril's**	**4.22**	**32**	*e*P	**Pn**	**07 44 11.0**	**0.0**
SKR	comp=E,110nm,0.4s			AMB	AMB	07 44 14.7	
SKR	comp=E,490nm,0.4s			AMB	AMB	07 44 14.7	
SKR				*e*S	**Sn**	**07 44 55.7**	**-3.3**
SKR	comp=E,2μm,0.3s			A		07 45 08.7	
SKR	comp=E,640nm,0.3s			A		07 45 08.7	
SKR	comp=E,3μm,4.0s			A		07 45 22.0	
SKR	comp=E,2μm,4.0s			A		07 45 22.0	
YUK	**Yuzh-Kuril'sk**	**5.67**	**239⇑**	*i*PN	**Pn**	**07 44 31.9**	**+1.1**
YUK				*i* S	**Sn**	**07 45 37.5**	**+3.0**
YUK	comp=N,380nm,0.5s			pmax	pmax		
YUK	comp=E,260nm,0.5s			pmax	pmax		
YUK	comp=Z,1μm,0.5s			smax			
YUK	comp=N,1μm,0.5s			smax			
YUK	comp=E,1μm,0.5s			smax			
YUK	comp=N,10μm,1.0s			smax			
YUK	comp=E,10μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.67**	**239**	*i* P	**Pn**	**07 44 31.9**	**+1.1**
YUK	comp=E,380nm,0.5s			AMB	AMB	07 44 35.0	
YUK	comp=E,260nm,0.5s			AMB	AMB	07 44 35.0	
YUK	comp=E,1μm,0.5s			AMB	AMB	07 44 35.0	
YUK				*i* S	**Sn**	**07 45 37.5**	**+3.0**
YUK	comp=E,1μm,0.5s			A		07 45 56.0	
YUK	comp=E,10μm,1.0s			A		07 46 06.5	
NEM2	**Nemuro 2**	**6.15**	**234**	P	**Pn**	**07 44 36.2**	**-1.2**
NEM2				*e*S	**Sn**	**07 45 43.0**	**-3.3**
JRA	**Rausu**	**6.16**	**241**	P	**Pn**	**07 44 39.5**	**+2.0**
JNK	**Nakash**	**6.60**	**240**	P	**Pn**	**07 44 44.8**	**+1.2**
JNK				*e*S	**Sn**	**07 45 58.4**	**+1.0**
YSS	**Yuzh-Sakhalins**	**6.74**	**272**	⇓*e*PN	**Pn**	**07 44 49.4**	**+4.0**
YSS				*i* S	**Sn**	**07 46 06.7**	**+6.1**
YSS	comp=Z,140nm,0.6s			pmax	pmax		
YSS	comp=E,140nm,0.7s			pmax	pmax		
YSS	comp=N,80nm,0.9s			smax			
YSS	comp=E,240nm,0.9s			smax			
YSS	comp=Z,900nm,17.0s			MLR	MLR		
YSS	comp=N,400nm,16.0s			MLR	MLR		
YSS	comp=E,900nm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**6.74**	**272**	*e*Pn	**Pn**	**07 44 49.8**	**+4.4**
YSS	comp=E,173nm,0.8s			*e*Sn	**Sn**	**07 46 06.5**	**+5.8**
YSS	**Yuzh-Sakhalins**	**6.74**	**272**	*e*P	**Pn**	**07 44 49.4**	**+4.0**
YSS	comp=E,140nm,0.7s			AMB	AMB	07 44 51.0	
YSS				*i* S	**Sn**	**07 46 06.7**	**+6.1**
YSS	comp=E,80nm,0.9s			A		07 46 07.9	
YSS	comp=E,40nm,0.9s			A		07 46 07.9	
YSS	comp=E,400nm,16.0s			AMS	AMS	07 47 28.0	
YSS	comp=E,900nm,16.0s			AMS	AMS	07 47 28.0	
JTKR	**Abashiri--Toko**	**6.89**	**246**	P	**Pn**	**07 44 49.8**	**+2.4**
JAK	**Akkeshi**	**6.97**	**236**	P	**Pn**	**07 44 47.3**	**-1.3**
JAK				*e*S	**Sn**	**07 46 03.0**	**-3.5**
PET	**Petropavlovsk**	**7.04**	**31**	*e*PN	**Pn**	**07 44 50.3**	**+0.7**
PET	comp=Z,55nm,0.4s			pmax	pmax		
PET	**Petropavlovsk**	**7.04**	**31**	*e*Pn	**Pn**	**07 44 50.3**	**+0.7**
PET	comp=Z,55nm,0.4s			*e*Sn	**Sn**	**07 46 05.9**	**-2.2**
JMP	**Maruseppu**	**7.21**	**247**	P	**Pn**	**07 44 54.8**	**+2.9**
JSE	**Soyaes**	**7.31**	**256**	P	**Pn**	**07 44 58.1**	**+4.8**
UGL	**Uglegorsk**	**7.31**	**289**	⇓*e*PN	**Pn**	**07 44 58.0**	**+4.7**
UGL	comp=Z,1μm,1.0s			pmax	pmax		
UGL	comp=Z,456nm,0.8s			pmax	pmax		
UGL	comp=E,900nm,22.0s			MLR	MLR		
UGL	comp=Z,900nm,22.0s			MLR	MLR		
UGL	comp=N,500nm,15.0s			MLR	MLR		
JAR	**Ashorobuto**	**7.33**	**241**	P	**Pn**	**07 44 54.9**	**+1.3**
JAR				*e*S	**Sn**	**07 46 17.1**	**+1.8**
JOB	**Onbets**	**7.53**	**239**	P	**Pn**	**07 44 56.4**	**+0.2**
JOB				*e*S	**Sn**	**07 46 17.2**	**-2.9**
ASAJ	**Asahikawa**	**7.65**	**250**	Pn	**Pn**	**07 45 01.8**	**+4.0**
ASAJ	comp=N,10.0nm,0.3s,baz=72,slow=16,SNR=28			LR	LR	07 47 56.7	
ASAJ	**Asahikawa**	**7.65**	**250**	P	**Pn**	**07 45 02.3**	**+4.5**
ASAJ	**Asahikawa**	**7.65**	**250**	PN	**Pn**	**07 45 01.8**	**+4.0**
ASAJ	comp=Z,10.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,516nm,18.5s			MLR	MLR		
JWK2	**Keihoku**	**7.65**	**260**	P	**Pn**	**07 45 04.1**	**+6.2**
JKK2	**Kamakawa 2**	**7.66**	**248**	P	**Pn**	**07 45 01.1**	**+3.0**
JCH	**Churui**	**7.98**	**239**	P	**Pn**	**07 45 01.7**	**-0.7**
JCH				*e*S	**Sn**	**07 46 27.6**	**-3.5**
JFR	**Furan**	**8.12**	**244**	P	**Pn**	**07 45 06.2**	**+1.8**
JAB	**Ashibetsu**	**8.18**	**247**	P	**Pn**	**07 45 08.5**	**+3.4**
ERM	**Erimo**	**8.48**	**236**	Pn	**Pn**	**07 45 09.6**	**+0.4**
ERM	**Erimo**	**8.48**	**236**	*e*PN	**Pn**	**07 45 09.5**	**+0.3**
ERM	comp=Z,105nm,0.6s			pmax	pmax		
ERM	**Erimo**	**8.48**	**236**	*e*Pn	**Pn**	**07 45 09.5**	**+0.3**
JEM	**Erimo**	**8.48**	**236**	P	**Pn**	**07 45 09.0**	**-0.2**
JEM				*e*S	**Sn**	**07 46 40.8**	**-2.5**
JBT2	**Biratori 2**	**8.48**	**243**	P	**Pn**	**07 45 09.5**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.54**	**239**	P	**Pn**	**07 45 08.6**	**-1.5**
JNBK				*e*S	**Sn**	**07 46 40.1**	**-4.8**
JEW	**Eniwo**	**9.00**	**245**	P	**Pn**	**07 45 17.6**	**+1.2**
JNB	**Noboribetsu**	**9.46**	**245**	P	**Pn**	**07 45 22.1**	**-0.5**
JNB				*e*S	**Sn**	**07 47 05.0**	**-2.4**
JKB	**Kayabe**	**9.80**	**242**	P	**Pn**	**07 45 25.6**	**-1.6**
JKB				*e*S	**Sn**	**07 47 10.2**	**-5.4**
JSH	**Shimam**	**9.99**	**248**	P	**Pn**	**07 45 31.2**	**+1.4**
JYM2	**Yakumo 2**	**10.07**	**244**	P	**Pn**	**07 45 30.7**	**-0.2**
JSR	**Shiriuchi**	**10.38**	**242**	P	**Pn**	**07 45 33.6**	**-1.6**
JTM	**Tenmabayashi**	**10.47**	**237**	P	**Pn**	**07 45 33.0**	**-3.4**
JTM				*e*S	**Sn**	**07 47 21.7**	**-10**
JTH	**Tanohata**	**10.62**	**231**	P	**Pn**	**07 45 34.5**	**-3.9**
JTH				*e*S	**Sn**	**07 47 23.3**	**-12**
JOSM	**Okushiri--Mats**	**10.64**	**246**	P	**Pn**	**07 45 38.2**	**-0.6**
OFUJ	**Ofunato**	**11.35**	**229**	P	**Pn**	**07 45 43.9**	**-4.5**
OFUJ				*e*S	**Sn**	**07 47 42.5**	**-11**
JRG	**Rokugo**	**11.66**	**233**	P	**Pn**	**07 45 49.3**	**-3.4**
JRG				*e*S	**Sn**	**07 47 50.8**	**-10**
HABR	**Khabarovsk**	**11.88**	**283**	*e*PN	**Pn**	**07 46 03.2**	**+7.5**
HABR	comp=Z,62nm,1.3s			pmax	pmax		
JIO	**Ouri**	**11.99**	**228**	P	**Pn**	**07 45 52.1**	**-5.0**
JIO				*e*S	**Sn**	**07 47 55.6**	**-14**
MA2	**Magadan**	**12.49**	**356**	*d i*PN	**Pn**	**07 46 03.3**	**-0.7**
MA2				*e*S	**Sn**	**07 48 27.8**	**+6.4**
MA2	comp=N,100nm,0.6s			pmax	pmax		
MA2	comp=Z,200nm,0.6s			pmax	pmax		
MA2	comp=Z,100nm,16.3s			MLR	MLR		
MA2	**Magadan**	**12.49**	**356**	*e*Pn	**Pn**	**07 46 06.3**	**+2.3**
JYA	**Atsumi**	**12.74**	**232**	P	**Pn**	**07 46 03.7**	**-3.7**
MAJO	**Matsushiro**	**15.06**	**230**	*e*P	**Pn**	**07 46 35.6**	**-2.5**
MAT	**Matsushiro**	**15.06**	**230**	P	**Pn**	**07 46 34.2**	**-3.9**
MAT				*e*S	**S**	**07 49 30.2**	**-7.5**
MJAR	**Matsushiro Arr**	**15.06**	**230**	Pn	**Pn**	**07 46 35.0**	**-3.1**
MJAR	comp=Z,1.1nm,0.3s,baz=26,slow=13,SNR=19 comp=Z,77nm,18.3s,baz=50,slow=43			LR	LR	07 53 48.9	
MJAR	**Matsushiro Arr**	**15.06**	**230**	P	**Pn**	**07 46 35.0**	**-3.1**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax		
MJAR	comp=Z,77nm,18.3s			MLR	MLR		
VLA	**Vladivostok**	**15.16**	**262**	*e*P	**Pn**	**07 46 41.0**	**+1.7**
VLA	comp=Z,38nm,0.6s			pmax	pmax		
VLA	comp=Z,200nm,13.3s			MLR	MLR		
MDJ	**Mudanjiang**	**16.21**	**269**	P	**Pn**	**07 46 54.3**	**+1.5**
MDJ				S	**S**	**07 49 55.6**	**-5.7**
MDJ	comp=Z,16nm,0.8s			AMB	AMB		
MDJ	comp=Z,230nm,7.8s			AMB	AMB		
MDJ	comp=N,189nm,11.8s			LR	LR		
MDJ	comp=E,193nm,14.2s			LR	LR		
MDJ	comp=Z,288nm,19.8s			LR	LR		
CLNS	**Chul'man**	**19.49**	**310**	*e*P	**Pn**	**07 47 32.7**	**0.0**
CLNS	comp=N,11nm,0.9s			pmax	pmax		
CLNS	comp=Z,27nm,0.9s			pmax	pmax		
CLNS	comp=E,13nm,0.7s			pmax	pmax		
CLNS	comp=Z,400nm,16.0s			MLR	MLR		
CLNS	comp=N,100nm,15.0s			MLR	MLR		
CLNS	comp=E,300nm,12.0s			MLR	MLR		
YAK	**Yakutsk**	**19.79**	**327**	*e*P	**Pn**	**07 47 37.3**	**+1.1**
YAK	comp=Z,38nm,0.6s			pmax	pmax		
YAK	comp=N,20nm,1.2s			pmax	pmax		
YAK	comp=E,23nm,1.0s			pmax	pmax		
YAK	**Yakutsk**	**19.79**	**327**	*e*Pn	**Pn**	**07 47 36.3**	**+0.1**
KSRS	**Korea Array**	**20.59**	**251**	P	**P**	**07 47 43.1**	**+0.3**
KSRS	comp=E,20nm,0.6s,baz=54,slow=11,SNR=34 comp=E,2.8nm,0.8s,baz=12,slow=0.8,SNR=9.9			PcP	PcP	07 51 50.8	-0.5
KS15	**Wonju Array Si**	**20.63**	**251**	*e*P	**P**	**07 47 44.8**	**+1.7**
SNY	**Shenyang**	**21.31**	**266**	⇓P	**P**	**07 47 50.8**	**+0.2**
SNY				PP		07 48 19.3	
SNY				S	**S**	**07 51 39.8**	**-3.8**
SNY	comp=Z,83nm,3.9s			AMB	AMB		
SNY	comp=E,367nm,20.2s			LR	LR		
SNY	comp=Z,285nm,17.8s			LR	LR		
INCN	**Inchon**	**21.41**	**253**	*e*P	**P**	**07 47 53.1**	**+1.5**
JNU	**Nakatsue**	**21.64**	**237**	P	**P**	**07 47 56.1**	**+2.1**
JNU	comp=Z,25nm,0.8s,mb4.6,baz=233,slow=12,SNR=6.8 comp=Z,363nm,21.3s,baz=77,slow=35			LR	LR	07 55 42.4	
HIA	**Hailar**	**21.91**	**288**	P	**P**	**07 47 57.0**	**+0.1**
HIA	comp=Z,10.0nm,0.6s			pmax	pmax		
HIA	**Hailar**	**21.91**	**288**	P	**P**	**07 47 57.0**	**+0.1**
BILL	comp=Z,9.7nm,0.6s,mb4.3 **Bilibino**	**22.08**	**14**	⇓*i*P	**P**	**07 47 58.1**	**-0.6**
BILL	comp=Z,14nm,1.0s,mb4.2			pmax	pmax		
BILL	comp=Z,100nm,16.0s			MLR	MLR		
BILL	**Bilibino**	**22.08**	**14**	*e*P	**P**	**07 47 58.2**	**-0.5**
DL2	comp=Z,11nm,0.4s,mb4.5 **Dalian**	**23.98**	**261**	P	**P**	**07 48 18.6**	**+1.1**
DL2	comp=Z,30nm,0.7s,mb4.7			AMB	AMB		
BOD	**Bodaibo**	**25.46**	**309**	*e*P	**P**	**07 48 30.7**	**-0.3**
BOD				*e*	pP	07 48 46.2	-0.4
BOD	comp=Z,3.0nm,0.8s,mb3.8			pmax	pmax		
CIT	**Chita**	**25.56**	**296**	*e*P	**P**	**07 48 32.4**	**+0.5**
CIT				*e*	pP	07 48 47.0	-0.5
TIXI	**Tiksi**	**26.98**	**344**	*e*P	**P**	**07 48 44.8**	**+0.1**
TIXI				*e*	pP	07 49 03.7	+3.4
TIXI	comp=Z,4.0nm,1.1s,mb3.9			pmax	pmax		
TIXI	comp=Z,147nm,13.0s			MLR	MLR		
TIXI	**Tiksi**	**26.98**	**344**	*e*P	**P**	**07 48 45.8**	**+1.1**
BJI	**Beijing**	**27.14**	**268**	P	**P**	**07 48 44.0**	**-2.2**
BJI	comp=Z,3.0nm,0.8s,mb3.9			AMB	AMB		
BJT	**Baijiatuau**	**27.15**	**268**	*e*P	**P**	**07 48 49.1**	**+2.8**
BJT	comp=Z,13nm,0.6s			pmax	pmax		
BJT	**Baijiatuau**	**27.15**	**268**	*e*P	**P**	**07 48 49.1**	**+2.8**
TNA	comp=Z,14nm,0.6s,mb4.7 **Tin City**	**27.89**	**34**	*e*P	**P**	**07 48 53.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**29.92**	**273**	*e*P	**P**	**07 49 11.3**	**+0.4**
HHC				PP	PP	07 50 08.4	-11
HHC				PCP	PcP	07 52 15.0	+2.8
HHC				S	**S**	**07 54 10.4**	**+6.7**
HHC				SS	SS	07 55 44.0	-29
HHC				SCP	ScP	07 55 54.8	+6.2
HHC				PCS	PcS	07 55 56.8	+1.2
HHC	comp=Z,30nm,0.8s,mb5.0			AMB	AMB		
HHC	comp=Z,169nm,5.9s			AMB	AMB		
HHC	comp=N,324nm,21.4s			LR	LR		
HHC	comp=E,243nm,20.2s			LR	LR		
HHC	comp=Z,248nm,25.0s			LR	LR		
SONM	**Songino Array**	**30.87**	**289**	P	**P**	**07 49 19.7**	**+0.4**
SONM	comp=Z,3.8nm,0.9s,mb4.1,baz=66,slow=8.8,SNR=27			PcP	PcP	07 52 14.3	-0.4
SONM	comp=Z,2.4nm,0.9s,baz=94,slow=2.5,SNR=5.7 **Songino Array**	**30.87**	**289**	P	**P**	**07 49 19.7**	**+0.4**
SONM						07 52 14.3	
SONM	comp=Z,4.0nm,0.9s			pmax	pmax		
TLY	**Talaya**	**31.69**	**297**	*e*P	**P**	**07 49 26.9**	**+0.5**
TLY				*e*		07 50 48.5	
TLY				*e*S	**S**	**07 54 26.4**	**-4.9**
TLY	comp=Z,6.0nm,0.8s,mb4.4			pmax	pmax		
TLY	comp=Z,181nm,15.0s			MLR	MLR		
ZAK	**Zakamensk**	**32.19**	**294**	*e*P	**P**	**07 49 31.0**	**+0.1**
ZAK	comp=Z,4.0nm,1.0s,mb4.1			pmax	pmax		
SVW2	**Sparrevohn**	**32.45**	**45**	*e*P	**P**	**07 49 33.5**	**+0.3**
IMA2	**Indian Mountai**	**33.68**	**36**	*e*P	**P**	**07 49 43.8**	**-0.1**
WHN	**Wuhan**	**33.70**	**254**	P	**P**	**07 49 44.5**	**+0.4**
KDAK	**Kodiak Island**	**34.12**	**51**	P	**P**	**07 49 46.3**	**-1.3**
KDAK	comp=Z,36nm,0.7s,mb5.3,baz=300,slow=6.4,SNR=42 **Kodiak Island**	**34.12**	**51**	*e*P	**P**	**07 49 46.4**	**-1.3**
SLKM	comp=Z,42nm,0.7s,mb5.4 **Skilak Lake**	**35.09**	**46**	*e*P	**P**	**07 49 55.9**	**-0.2**
XAN	**Xi'an**	**35.21**	**264**	P	**P**	**07 49 57.1**	**0.0**
XAN	comp=Z,12nm,0.8s,mb4.8			AMB	AMB		
PMR	**Palmer**	**35.55**	**44**	P	**P**	**07 50 01.8**	**+1.8**
PMR	comp=Z,12nm,0.8s,mb4.9			pmax	pmax		
PMR	**Palmer**	**35.55**	**44**	*e*P	**P**	**07 49 59.8**	**-0.2**
MCK	comp=Z,11nm,0.6s,mb5.0 **McKinley**	**35.57**	**41**	*e*P	**P**	**07 50 00.1**	**-0.1**
MCK	comp=Z,16nm,1.0s,mb4.9			pmax	pmax		
MCK	**McKinley**	**35.57**	**41**	*e*P	**P**	**07 50 00.1**	**-0.1**
SML	comp=Z,16nm,1.0s,mb4.9 **Sawmill**	**35.92**	**44**	*e*P	**P**	**07 50 02.8**	**-0.3**
COLA	**College**	**36.04**	**39**	P	**P**	**07 50 04.0**	**-0.2**
COLA	comp=Z,46nm,0.9s,mb5.4			pmax	pmax		
COLA	**College**	**36.04**	**39**	*e*P	**P**	**07 50 04.2**	**+0.1**
LZH	comp=Z,46nm,0.9s,mb5.4 **Lanzhou**	**37.53**	**271**	*e*P	**P**	**07 50 19.5**	**+2.6**
LZH				PP	PP	07 51 49.1	+5.6
LZH				PCP	PcP	07 52 35.0	+1.2
LZH				*e*S	**S**	**07 56 00.0**	**-1.2**
LZH				AMB	AMB		
LZH	comp=Z,15nm,1.0s,mb4.8			AMB	AMB		
LZH	comp=Z,108nm,4.6s			LR	LR		
LZH	comp=N,1μm,10.2s			LR	LR		
LZH	comp=Z,1μm,17.1s						
LZH	**Lanzhou**	**37.53**	**271**	*e*P	**P**	**07 50 19.5**	**+2.6**
LZH				*PP	pP	07 50 36.0	+3.1
LZH						07 51 49.1	
LZH						07 52 35.0	
LZH				*e*S	**S**	**07 56 00.0**	**-1.2**
LZH				*SS	sS	07 56 27.2	-1.3
LZH				SS	SS	07 58 36.1	-11
LZH	**Lanzhou**	**37.53**	**271**	*e*P	**P**	**07 50 19.5**	**+2.6**
LZH				pP	pP	07 50 36.0	+3.1
LZH				sP	sP	07 50 45.0	+4.6
LZH				PP	PP	07 51 49.1	+5.6
LZH				PcP	PcP	07 52 35.0	+1.2
LZH				*e*S	**S**	**07 56 00.0**	**-1.2**
LZH				sS	sS	07 56 27.2	-1.3
LZH				SS	SS	07 58 36.1	-11
MENT	**Mentasta**	**37.96**	**42**	*e*P	**P**	**07 50 20.7**	**+0.2**
GTA	**Gaotai**	**38.57**	**278**	*e*P	**P**	**07 50 26.9**	**+1.3**
GTA				PP	PP	07 51 59.8	+4.9
GTA				PCP	PcP	07 52 38.0	+1.0
GTA				S	**S**	**07 56 23.6**	**+6.7**
GTA				SS	SS	07 59 06.8	-2.0
GTA	comp=Z,9.0nm,1.2s,mb4.5			AMB	AMB		
GTA	comp=Z,88nm,5.3s			AMB	AMB		
GTA	comp=N,200nm,18.3s			LR	LR		
GTA	comp=E,285nm,22.0s			LR	LR		
GTA	comp=Z,142nm,11.4s			LR	LR		
EGAK	**Eagle**	**38.90**	**39**	*e*P	**P**	**07 50 27.6**	**-0.8**
DAWY	comp=Z,30nm,0.7s,mb5.2 **Dawson**	**39.75**	**40**	*e*P	**P**	**07 50 35.2**	**-0.2**
CD2	**Chengdu**	**40.57**	**264**	P	**P**	**07 50 43.0**	**+0.8**
CD2				PP	PP	07 52 22.0	+5.3
CD2				PCP	PcP	07 52 44.8	+1.4
CD2				S	**S**	**07 56 48.1**	**+1.2**
CD2	comp=Z,60nm,0.8s,mb5.5			AMB	AMB		
CD2	comp=N,400nm,4.1s			LR	LR		
CD2	comp=E,320nm,4.4s			LR	LR		
CD2	comp=Z,330nm,5.3s			LR	LR		
GYA	**Guiyang**	**41.47**	**257⇑**	*i*P	**P**	**07 50 50.8**	**+1.2**
GYA				AP	pP	07 50 54.8	-11
GYA				PP	PP	07 52 30.0	+3.6
GYA				PCP	PcP	07 52 49.1	+2.8
GYA				S	**S**	**07 57 06.1**	**+5.9**
GYA				SS	SS	08 00 04.0	-2.6
GYA				SCS	ScS	08 00 52.8	+5.8
GYA				AMB	AMB		
GYA	comp=Z,30nm,0.8s,mb5.2						

GYA AMB AMB
comp=Z,140nm,5.2s
GYA LR LR
comp=N,540nm,15.8s
GYA LR LR
comp=E,570nm,16.0s
GYA LR LR
comp=Z,580nm,16.2s
INK Inuvik 41.50 33 P **P 07 50 50.2 +0.4**
comp=Z,23nm,0.6s,mb5.2,baz=288,slow=7.1,SNR=250
INK Inuvik 41.50 33 P **P 07 50 50.2 +0.4**
INK pmax pmax
comp=Z,23nm,0.6s
INK Inuvik 41.50 33 *e*P **P 07 50 50.1 +0.2**
comp=Z,975nm,0.8s
ZAL Zalesovo 42.11 305 P **P 07 50 53.9 -1.0**
comp=Z,2.1nm,0.4s,mb4.2,baz=50,slow=7.5,SNR=4.6
ZAL PcP PcP 07 52 47.7 -0.7
comp=Z,11nm,0.6s,baz=49,slow=3.0,SNR=23
ZAL Zalesovo 42.11 305 P **P 07 50 53.9 -0.9**
ZAL 07 52 47.7
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL Zalesovo 42.11 305 P **P 07 50 53.9 -1.0**
ZAL PcP PcP 07 52 47.7 -0.7
SKAG Skagway 42.63 46 *e*P **P 07 51 00.0 +0.9**
comp=Z,13nm,0.6s,mb4.8
WMQ Urumqi 44.46 291 P **P 07 51 15.9 +2.1**
WMQ PP PP 07 53 01.9 +3.4
WMQ S **S 07 57 46.3 +2.3**
WMQ SS SS 08 00 58.0 -7.1
WMQ AMB AMB
comp=Z,17nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,147nm,5.0s
WMQ LR LR
comp=N,163nm,22.0s
WMQ LR LR
comp=E,108nm,21.0s
WMQ LR LR
comp=Z,161nm,21.0s
KMI Kunming 44.98 259 P **P 07 51 19.0 +1.1**
KMI AMB AMB
comp=Z,22nm,1.0s,mb4.8
DLBC Dease Lake 45.56 46 *e*P **P 07 51 23.9 +1.4**
MK31 Makanchi Array 46.45 297 *e*P **P 07 51 28.4 -1.1**
MK31 *e*PcP PcP 07 53 02.9 -0.4
MKAR Makanchi Array 46.45 297 P **P 07 51 28.4 -1.1**
comp=Z,4.5nm,0.6s,mb4.3,baz=66,slow=7.7,SNR=40
MKAR PcP PcP 07 53 02.8 -0.4
comp=Z,6.5nm,0.5s,baz=72,slow=2.2,SNR=22
MKAR ScP ScP 07 56 55.3 +4.3
comp=Z,0.5nm,0.7s,baz=55,slow=3.6,SNR=3.6
MKAR LR LR 08 12 25.4
comp=Z,267nm,18.8s,baz=57,slow=38
KURK Kurchatov 46.85 303 *e*P **P 07 51 32.0 -0.7**
KURK *e*PcP PcP 07 53 04.3 -0.3
ALE Alert 49.37 6 P **P 07 51 51.0 -1.1**
comp=Z,50nm,0.5s,mb5.7,SNR=8.0
CHKZ Chkalovo 49.91 310 *e*P **P 07 51 54.7 -1.4**
CHKZ *e* 07 53 14.7
CHKZ pmax pmax
comp=Z,20nm,0.8s,mb5.1
CHKZ Chkalovo 49.91 310 *e*P **P 07 51 54.7 -1.5**
comp=Z,20nm,0.8s,mb5.1
CHKZ *e*PcP PcP 07 53 14.7 -0.9
LSA Lhasa 49.91 272 P **P 07 51 57.5 +1.3**
LSA Lhasa 49.91 272 *e*P **P 07 51 58.0 +1.8**
LSA pmax pmax
comp=Z,12nm,0.6s,mb5.0
LSA Lhasa 49.91 272 *e*P **P 07 51 58.0 +1.8**
comp=Z,12nm,0.6s,mb5.0
BVA0 Borovoye Array 50.33 309 P **P 07 51 57.9 -1.5**
BRVK Borovoye 50.37 309 P **P 07 51 59.2 -0.5**
comp=Z,65nm,0.4s,mb5.9,SNR=6.4
BRVK Borovoye 50.37 309 *e*P **P 07 51 59.3 -0.4**
comp=Z,6.1nm,0.6s,mb4.7
BRVK *e*PcP PcP 07 53 17.0 -0.4
RES Resolute Bay 50.56 19 *e*P **P 07 52 00.5 -0.6**
comp=Z,442nm,0.8s
NANT Nan 50.73 254 P **P 07 52 01.4 -1.0**
comp=Z,84nm,0.9s,mb5.8
YKW3 Yellowknife Ar 50.77 37 *e*P **P 07 52 02.4 -0.2**
YKA Yellowknife Ar 50.81 37 P **P 07 52 02.6 -0.3**
comp=Z,6.8nm,0.6s,mb4.8,baz=298,slow=7.1,SNR=196
YKA PcP PcP 07 53 17.5 -1.4
comp=Z,2.8nm,0.4s,baz=303,slow=3.5,SNR=15
YKA Yellowknife Ar 50.81 37 P **P 07 52 02.6 -0.3**
YKA 07 53 17.5
YKA pmax pmax
comp=Z,7.0nm,0.6s
CHG Chiang Mai 51.88 256 ⇑P **P 07 52 12.1 +1.1**
comp=Z,22nm,0.9s,mb5.2
CHTO Chiang Mai 51.88 256 P **P 07 52 12.1 +1.1**
CHTO pmax pmax
comp=Z,22nm,1.0s,mb5.1
CHTO Chiang Mai 51.88 256 *e*P **P 07 52 12.0 +1.1**
comp=Z,22nm,1.0s,mb5.2
AAK Ala-Archa 53.35 296 *e*P **P 07 52 20.1 -1.7**
comp=Z,4.1nm,0.7s,mb4.6
A05A Maple Falls 54.07 54 ⇓P **P 07 52 25.8 -1.3**
baz=54
A06A Chilliwack 54.35 54 ⇑P **P 07 52 28.7 -0.4**
baz=54
ARU Arti 54.48 317 ⇓*i*P **P 07 52 29.2 -0.9**
ARU *e* pP 07 52 45.6 -1.3
ARU *e* 07 53 29.3
ARU *e* 07 54 29.4
ARU *e*S **S 08 00 04.7 +0.6**
ARU *e*SS SS 08 03 47.3 +0.1
ARU pmax pmax
comp=Z,11nm,0.7s,mb5.0
ARU Arti 54.48 317 *e*P **P 07 52 30.0 0.0**
comp=Z,12nm,0.6s,mb5.1
JCW Jim Creek 54.60 55 P **P 07 52 30.8 -0.2**
GUN Gumba 54.62 274 *e*P **P 07 52 32.3 +1.2**
comp=Z,25nm,0.4s,mb5.6
A07A Ashnola River, 54.98 53 P **P 07 52 33.7 0.0**
baz=55,SNR=5.1
E04A Onalaska 55.04 57 ⇓P **P 07 52 34.0 -0.1**
baz=55
KKN Kakani 55.11 275 *e*P **P 07 52 36.0 +1.4**
comp=Z,38nm,0.6s,mb5.6
D05A Enumclaw 55.12 56 ⇑P **P 07 52 34.6 -0.1**
baz=55
PKI Pulchoki 55.16 274 *e*P **P 07 52 35.7 +0.7**
comp=Z,35nm,0.8s,mb5.4
DMN Daman 55.34 275 *e*P **P 07 52 37.3 +1.0**
comp=Z,72nm,0.8s,mb5.7
GKN Gorkha 55.41 275 *e*P **P 07 52 37.5 +0.7**
comp=Z,35nm,0.5s,mb5.6
B07A Winthrop 55.45 54 ⇓P **P 07 52 36.4 -0.7**
baz=55
A08A Turner Farm, O 55.64 53 P **P 07 52 38.2 -0.2**
baz=55,SNR=7.5
D06A Cle Elum 55.77 55 ⇓P **P 07 52 39.0 -0.4**
baz=56
TBM Table Mountain 55.92 55 P **P 07 52 40.3 -0.1**
C07A Waterville 55.92 55 ⇓P **P 07 52 39.5 -0.9**
baz=56
B08A Colville Reser 55.94 54 P **P 07 52 40.3 -0.3**
baz=56,SNR=6.3
A09A Danville 56.00 53 P **P 07 52 41.1 +0.1**
baz=56,SNR=11
D07A Quincy 56.25 55 ⇑P **P 07 52 42.2 -0.6**
baz=56
KOLN Koldanda 56.26 276 *e*P **P 07 52 43.8 +0.9**
comp=Z,43nm,0.9s,mb5.5
EDM Edmonton 56.28 46 *e*P **P 07 52 42.6 -0.4**
EDM Edmonton 56.28 46 *e*P **P 07 52 42.5 -0.6**
EPH Ephrata 56.37 55 P **P 07 52 43.0 -0.6**
J02A Umpqua 56.38 61 ⇓P **P 07 52 43.7 0.0**
baz=56
C08A Higginbotham F 56.43 54 ⇓P **P 07 52 43.1 -0.9**
baz=56
H04A Detroit Lake 56.43 59 ⇓P **P 07 52 43.5 -0.6**
baz=56
B09A Rice 56.55 53 ⇑P **P 07 52 44.0 -0.9**
baz=56
F06A Goldendale 56.62 57 ⇓P **P 07 52 45.1 -0.3**
baz=56
E07A Sunnyside 56.69 56 ⇑P **P 07 52 45.8 0.0**
baz=56,SNR=6.4
J03A Ideyld Park 56.74 60 ⇑P **P 07 52 47.1 +0.9**
baz=56
I04A Tendick Farm, 56.82 60 ⇓P **P 07 52 46.8 0.0**
baz=57
APA Apatity 56.83 336 ⇓*i*P **P 07 52 55.0 +8.1**
APA pmax pmax
comp=Z,22nm,1.2s,mb5.1
OD2 Odessa Site #2 56.84 54 P **P 07 52 46.2 -0.7**
C09A Chrisman Ranch 56.85 54 P **P 07 52 46.6 -0.4**
baz=57,SNR=5.1
D08A Wollman Farm, 56.92 55 ⇓P **P 07 52 46.3 -1.2**
baz=57
M01C Crescent City 56.94 62 ⇓P **P 07 52 47.6 0.0**
baz=57
HAWA Hanford 56.96 56 *e*pP pP 07 53 05.4 +0.6
G06A Carlson Farm, 57.01 57 ⇓P **P 07 52 48.2 0.0**
baz=57
H05A Madras 57.01 58 ⇑P **P 07 52 48.2 0.0**
baz=57
F07A Phinny Hill Vi 57.03 56 ⇑P **P 07 52 48.3 0.0**
baz=57
B10A Chitwood Farm, 57.13 53 ⇓P **P 07 52 48.7 -0.3**
baz=57
E08A Dider Farm, El 57.17 55 ⇓P **P 07 52 48.4 -0.9**
baz=57
HUMO Hull Mountain 57.19 61 ⇓P **P 07 52 49.4 0.0**
baz=57
A11A Hall Mountain, 57.21 52 P **P 07 52 50.1 +0.5**
baz=57,SNR=11
D09A Jones Farm, Ri 57.26 54 ⇓P **P 07 52 49.3 -0.6**
baz=57
I05A Bend 57.27 59 ⇓P **P 07 52 49.7 -0.3**
baz=57
BOK Bokaro 57.30 271 *e*P **P 07 52 50.7 +0.5**
BOK AMb AMB 07 52 52.3
comp=Z,14nm,0.8s,mb5.1
J04A Umpqua Nationa 57.32 60 ⇑P **P 07 52 51.2 +0.9**
baz=57
ARCES ARCESS Array B 57.36 341 P **P 07 52 49.3 -1.3**
comp=Z,1.5nm,0.3s,mb4.4,baz=40,slow=7.3,SNR=18
ARCES PcP PcP 07 53 43.3 -0.7
comp=Z,5.9nm,0.7s,baz=31,slow=5.0,SNR=6.3
ARCES ARCESS Array B 57.36 341 P **P 07 52 49.3 -1.3**
ARCES 07 53 43.3
ARCES pmax pmax
comp=Z,2.0nm,0.3s
C10A Spilker Farm, 57.37 53 P **P 07 52 50.5 -0.2**
baz=57,SNR=5.5
VIPM Ingram Point 57.45 58 P **P 07 52 51.8 +0.6**
H06A Lindquist Farm 57.48 58 ⇓P **P 07 52 51.2 -0.3**
baz=57
G07A Ruggs Ranch, H 57.55 57 ⇓P **P 07 52 51.6 -0.3**
baz=57
E09A Wood Farm, Sta 57.67 55 P **P 07 52 52.8 0.0**
baz=58,SNR=5.1
F08A Pendleton 57.74 56 ⇑P **P 07 52 53.3 0.0**
baz=58
D10A Wagner Farm, O 57.83 54 P **P 07 52 53.4 -0.6**
baz=58,SNR=6.9
YBH Yreka Blue Hor 57.86 62 ⇓P **P 07 52 54.4 +0.3**
baz=58
AB31 Akbulak array 57.90 309 *e*P **P 07 52 53.0 -1.4**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
B12A Libby 57.91 52 ⇑P **P 07 52 55.4 +0.9**
baz=58
K04A Chilquin 57.92 60 ⇑P **P 07 52 54.9 +0.3**
baz=58
G08A Pilot Rock 57.94 56 ⇑P **P 07 52 54.7 0.0**
baz=58
M02C Callahan 57.97 62 ⇑P **P 07 52 55.3 +0.3**
baz=58
I06A Prineville 58.02 58 ⇑P **P 07 52 55.3 0.0**
baz=58
L04A Klamath Falls 58.08 61 ⇑P **P 07 52 55.7 0.0**
baz=58
AKTO Aktyubinsk 58.20 311 P **P 07 52 57.9 +1.4**
E10A Myers Farm, Un 58.26 54 ⇑P **P 07 52 56.4 -0.6**
baz=58
F09A S2 Ranch, Elgi 58.28 55 ⇑P **P 07 52 57.1 0.0**
baz=58
I07A Izee 58.34 58 ⇓P **P 07 52 57.2 -0.3**
baz=58
M04C Macdoel 58.35 61 ⇑P **P 07 52 57.3 -0.3**
baz=58
D11A Klaveano Farm, 58.35 53 P **P 07 52 57.1 -0.5**
baz=58,SNR=6.6
WALA Waterton Lakes 58.45 50 *e*P **P 07 52 58.2 -0.1**
J06A Christmas Vall 58.46 59 P **P 07 52 59.1 +0.7**
baz=58,SNR=5.7
M03C McCloud 58.48 62 ⇓P **P 07 52 58.5 0.0**
baz=58
F10A Beach Ranch, E 58.50 55 ⇑P **P 07 52 58.7 0.0**
baz=58
H08A Prairie City 58.56 57 P **P 07 52 59.6 +0.5**
baz=58,SNR=6.3
B13A Whitefish 58.57 51 P **P 07 52 59.5 +0.4**
baz=58,SNR=13
G09A Cove 58.61 56 P **P 07 52 59.7 +0.3**
baz=58,SNR=6.2
WDC Whiskeytown Da 58.65 63 ⇑P **P 07 52 59.7 0.0**
baz=58
K06A Valley Falls 58.68 59 P **P 07 53 00.8 +0.9**
baz=58,SNR=12
BSMT Bassoo Peak 58.71 52 *e*P **P 07 53 00.8 +0.7**
P01C Double 8 Ranch 58.84 64 ⇓P **P 07 53 00.7 -0.2**
baz=59
E11A Bogner Ranch, 58.84 54 P **P 07 53 00.5 -0.5**
baz=59,SNR=6.9
C13A Hot Springs 58.93 52 ⇓P **P 07 53 01.3 -0.3**
baz=59
I08A Drewsey 58.98 57 P **P 07 53 02.7 +0.7**
baz=59,SNR=9.7
M05C Lookout 59.02 61 P **P 07 53 03.0 +0.8**
baz=59,SNR=5.0
H09A Durkee 59.05 56 P **P 07 53 03.1 +0.7**
baz=59,SNR=6.2
GASB Alder Springs 59.11 64 ⇓P **P 07 53 03.8 +1.0**
baz=59
BMO Blue Mountains 59.13 56 *e*P **P 07 53 03.0 0.0**
comp=Z,9.8nm,0.8s,mb4.9
HATC Hat Creek Radi 59.16 62 ⇑P **P 07 53 03.0 -0.2**
baz=59
MOD Modoc 59.19 60 P **P 07 53 03.9 +0.5**
baz=59,SNR=7.8
O03C Acorn Hollow, 59.31 63 ⇓P **P 07 53 03.4 -0.8**
baz=59
K07A Rock Creek Ran 59.33 59 P **P 07 53 05.1 +0.7**
baz=59,SNR=7.6
D13A Huson 59.35 52 P **P 07 53 04.6 +0.1**
baz=59,SNR=5.9
J08A Circle Bar Ran 59.38 58 P **P 07 53 05.3 +0.6**
baz=59,SNR=8.5
G11A Walters Elk Ra 59.39 55 P **P 07 53 04.6 -0.2**
baz=59,SNR=9.5
I09A Lost Marbles R 59.42 57 P **P 07 53 05.4 +0.4**
baz=59,SNR=9.7
M06C Likely Place G 59.51 61 ⇓P **P 07 53 06.3 +0.7**
baz=59
H10A Noah's Angus R 59.61 56 P **P 07 53 06.5 +0.2**
baz=59,SNR=14
L07A Adell 59.69 60 P **P 07 53 07.7 +0.8**
baz=60,SNR=6.9
O04C Chester 59.69 62 ⇓P **P 07 53 07.2 +0.4**
baz=60
MNRC McLaughlin Nat 59.75 64 ⇑P **P 07 53 07.9 +0.7**
baz=60
K08A Mann Creek Ran 59.75 59 P **P 07 53 07.9 +0.6**
baz=60,SNR=13
MSO Missoula 59.79 52 *e*P **P 07 53 07.6 +0.1**
comp=Z,17nm,1.0s,mb5.0
J09A Fry Pan Ranch, 59.80 58 ⇑P **P 07 53 08.2 +0.7**
baz=60
WVOR Wild Horse Val 59.85 59 *e*P **P 07 53 08.2 +0.3**
WVOR pmax pmax
comp=Z,21nm,1.0s,mb5.1
WVOR Wild Horse Val 59.85 59 *e*P **P 07 53 07.9 0.0**
comp=Z,21nm,0.9s,mb5.2
D14A Greenough 59.87 52 P **P 07 53 08.1 0.0**
baz=60,SNR=20
E13A Victor 59.90 53 P **P 07 53 08.1 -0.1**
baz=60,SNR=9.5
ORV Oroville 59.91 63 ⇑P **P 07 53 07.8 -0.5**
baz=60,SNR=6.3
MCCM Marconi Confer 59.93 65 ⇓P **P 07 53 08.9 +0.4**
baz=60
SUTB Sutter Butte 59.94 63 ⇓P **P 07 53 07.4 -1.1**
baz=60
H11A Donnelly 59.96 55 P **P 07 53 08.7 +0.1**
baz=60,SNR=19
NDI New Delhi 59.98 281 *e*P **P 07 53 09.5 +0.6**
NDI AMb AMB 07 53 09.9
comp=Z,18nm,0.9s,mb5.1
O05C Quincy 60.01 62 ⇑P **P 07 53 09.4 +0.4**
baz=60
CHMT Chamberlain Mo 60.11 52 *e*P **P 07 53 09.7 0.0**
Q03C Winters 60.16 64 ⇑P **P 07 53 10.5 +0.4**
baz=60
L08A Fields 60.17 59 P **P 07 53 10.7 +0.6**
baz=60,SNR=5.8
M07A Soldier Meadow 60.17 60 P **P 07 53 11.0 +0.8**
baz=60,SNR=24
N06A Buffalo Meadow 60.18 61 P **P 07 53 10.6 +0.4**
baz=60,SNR=9.0
K09A Rome 60.21 58 P **P 07 53 10.8 +0.4**
baz=60,SNR=5.6
F13A Darby 60.22 54 P **P 07 53 10.3 -0.2**
baz=60,SNR=10
E14A Clinton 60.29 53 P **P 07 53 11.1 +0.2**
baz=60,SNR=11
J10A Berg Farm, Mel 60.31 57 ⇑P **P 07 53 10.9 -0.2**
baz=60
BEKR Beckwourth 60.41 62 P **P 07 53 11.6 -0.1**
baz=60,SNR=6.8
D15A Lincoln 60.42 52 P **P 07 53 11.8 0.0**
baz=60,SNR=6.2
I11A Placerville 60.48 56 ⇓P **P 07 53 11.7 -0.5**
baz=60
O06A Flanigan 60.54 62 ⇑P **P 07 53 12.5 -0.2**
baz=60
M08A Happy Creek Ra 60.61 60 ⇓P **P 07 53 12.6 -0.5**
baz=60
P05C Yuba Gap, Truc 60.61 63 ⇑P **P 07 53 11.7 -1.4**
baz=60
FFC Flin Flon 60.65 40 P **P 07 53 13.6 +0.2**
comp=Z,90nm,0.5s,SNR=7.0
L09A Wilkinson Ranc 60.67 59 P **P 07 53 14.2 +0.7**
baz=60,SNR=5.6
N07B Gerlach 60.67 61 ⇓P **P 07 53 13.7 +0.1**
baz=60
H12A Diamond D Ranc 60.70 55 P **P 07 53 13.8 0.0**
baz=60,SNR=7.7
G13A Cobalt 60.71 54 P **P 07 53 13.7 -0.1**
baz=60,SNR=23
F14A Wisdom 60.73 53 ⇑P **P 07 53 14.3 +0.4**
baz=60
E15A Deer Lodge 60.74 52 P **P 07 53 14.1 +0.1**
baz=60,SNR=14
P06A Stead Airport, 60.80 62 ⇓P **P 07 53 14.6 +0.1**
baz=61
JOF Joensuu 60.82 333 *e*p **P 07 53 13.0 -1.5**
comp=Z,5.5nm,0.3s,mb5.1
JOF Joensuu 60.82 333 *e*P **P 07 53 13.0 -1.5**
JOF pmax pmax
comp=Z,6.0nm,0.3s,mb5.1
MFID Camas Ranch 60.86 57 ⇑P **P 07 53 14.3 -0.5**
baz=61
R04C Big Horse Ranc 61.06 64 ⇑P **P 07 53 15.1 -1.1**
baz=61
O07A Toulon 61.11 61 P **P 07 53 17.1 +0.6**
baz=61,SNR=18
WCN Washoe City 61.12 62 ⇑P **P 07 53 17.1 +0.4**
baz=61
M09A Marrel Ranch, 61.17 59 P **P 07 53 17.7 +0.8**
baz=61,SNR=5.6
N08A GE Springer Mi 61.17 60 P **P 07 53 17.3 +0.4**
baz=61,SNR=10
F15A Butte 61.19 53 P **P 07 53 17.2 +0.1**
baz=61,SNR=22
LRM Limekiln Ridge 61.23 53 *e*P **P 07 53 17.6 +0.3**
EGMT Eagleton 61.26 49 *e*P **P 07 53 17.8 +0.3**
EGMT Eagleton 61.26 49 P **P 07 53 17.6 +0.1**
baz=61,SNR=8.1
S04C Ingram Canyon, 61.29 65 ⇓P **P 07 53 19.1 +1.3**
baz=61
R05C Kirkwood Meado 61.31 63 ⇑P **P 07 53 17.4 -0.5**
baz=61
J12A Stokes Ranch, 61.38 56 ⇓P **P 07 53 18.7 +0.4**
baz=61
N09A Rock Creek Ran 61.48 60 P **P 07 53 19.7 +0.6**
baz=61,SNR=8.2
P07A Fallon 61.50 62 ⇑P **P 07 53 19.0 -0.2**
baz=61
CMB Columbia Colle 61.54 64 P **P 07 53 19.4 0.0**
baz=61,SNR=5.3
HLID Hailey 61.57 56 *e*P **P 07 53 19.9 +0.3**
comp=Z,9.8nm,1.0s,mb4.8
HLID Hailey 61.57 56 P **P 07 53 20.1 +0.4**
baz=61,SNR=8.1
G15A Dillon 61.62 53 P **P 07 53 20.0 0.0**
baz=61,SNR=23
PACP Pacheco Peak 61.63 65 P **P 07 53 20.3 +0.3**
baz=61,SNR=5.2
M10A I.L. Ranch, Tu 61.64 59 P **P 07 53 20.9 +0.8**
baz=61,SNR=14
MCMT McKenzie Canyo 61.64 54 *e*P **P 07 53 20.2 +0.1**
BOZ Bozeman (W) 61.78 52 *e*P **P 07 53 21.7 +0.6**
BOZ Bozeman (W) 61.78 52 P **P 07 53 21.8 +0.7**
baz=62,SNR=18
R06C Coleville 61.80 63 P **P 07 53 21.8 +0.7**
baz=62,SNR=8.1
J13A Cove Ranch, Pi 61.81 56 ⇑P **P 07 53 21.3 +0.1**
baz=62
HAST UC Hastings Re 61.86 66 ⇓P **P 07 53 21.5 -0.1**
baz=62
K12A Draper Farm, C 61.88 57 ⇑P **P 07 53 21.5 -0.2**
baz=62
Q07A Schurz 61.92 62 ⇓P **P 07 53 21.9 -0.1**
baz=62
BMN Battle Mountai 61.93 60 *e*P **P 07 53 22.6 +0.6**
BMN *e*PP pP 07 53 40.4 +1.2
BMN Battle Mountai 61.93 60 *e*P **P 07 53 22.6 +0.6**
comp=Z,11nm,0.6s,mb5.1
S06C San Francisco 61.96 64 P **P 07 53 22.2 0.0**
baz=62,SNR=8.7
S05C Merced 62.01 64 P **P 07 53 22.4 -0.1**
baz=62,SNR=12
T05C Eagle Field, D 62.08 65 ⇑P **P 07 53 23.6 +0.5**
baz=62
O09A Fish Creek Ran 62.11 60 P **P 07 53 24.0 +0.7**
baz=62,SNR=12
M11A Holland Ranch, 62.13 58 P **P 07 53 24.3 +0.9**
baz=62,SNR=11
KAKA Kakadu 62.27 202 *e*P **P 07 53 23.2 -1.1**
comp=Z,6.1nm,0.7s,mb4.7
R07C Lee Vining 62.32 63 P **P 07 53 25.3 +0.7**
baz=62,SNR=11
U04C Hernandez Rese 62.35 65 ⇓P **P 07 53 25.4 +0.5**
baz=62
QLMT Earthquake Lak 62.41 53 *e*P **P 07 53 26.0 +0.7**
O10A Cortez Mining, 62.44 60 P **P 07 53 26.4 +0.9**
baz=62,SNR=6.4
Q08A Gabbs 62.50 62 P **P 07 53 26.3 +0.4**
baz=62,SNR=16
P09A Austin 62.53 61 ⇓P **P 07 53 26.3 +0.2**
baz=62
NVAR Mina Array Bea 62.55 62 P **P 07 53 26.1 -0.1**
comp=Z,10nm,0.8s,mb4.8,baz=297,slow=7.3,SNR=73
N11A Elko Archery C 62.55 59 ⇑P **P 07 53 26.7 +0.5**
baz=62
T06C Millerton Lake 62.60 64 P **P 07 53 26.1 -0.5**
baz=62,SNR=5.1
KCC Kaiser Creek 62.64 64 P **P 07 53 27.1 +0.3**
baz=62,SNR=7.2
M12A Wells 62.65 58 ⇑P **P 07 53 27.3 +0.5**
baz=62,SNR=6.3
R08A Mina 62.72 62 ⇑P **P 07 53 27.8 +0.5**
baz=62
MLAC Mammoth Lakes 62.74 63 ⇓P **P 07 53 28.9 +1.4**
baz=62
PKD Parkfield 62.77 66 ⇑P **P 07 53 27.0 -0.7**
baz=63
P10A Eureka 62.89 60 P **P 07 53 29.2 +0.7**
baz=63,SNR=5.9
KAF Kangasniemi 62.93 335 *e*p **P 07 53 27.0 -1.7**
comp=Z,8.0nm,0.5s,mb4.9
KAF Kangasniemi 62.93 335 *e*P **P 07 53 27.0 -1.7**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
Q09A Carvers 62.97 61 ⇓P **P 07 53 29.5 +0.5**
baz=63
YFT Old Faithful 62.98 53 *e*P **P 07 53 31.2 +2.1**
O11A Cowboy Ranch, 63.04 59 P **P 07 53 30.0 +0.6**
baz=63,SNR=13
M13A Montello 63.11 57 P **P 07 53 30.4 +0.5**
baz=63,SNR=15
PTRM Twissleman Ran 63.16 66 *e*P **P 07 53 30.4 +0.1**
VIS Vishakhapatnam 63.17 267 *e*P **P 07 53 30.6 +0.3**
VIS AMb AMB 07 53 34.3

comp=Z,16nm,0.5s,mb5.3
V05C Boulder Hill, 63.22 65 ⇓P P 07 53 31.2 +0.5
baz=63
S08C White Mtn Res 63.23 63 P P 07 53 31.3 +0.6
baz=63,SNR=5.0
HELL Mitchell Peak, 63.24 64 P P 07 53 30.3 -0.5
baz=63,SNR=19
RCTC Rector, Farmer 63.34 65 ⇓P P 07 53 30.2 -1.2
baz=63
DCID1 Drake Creek 63.35 54 *eP* **P 07 53 32.8 +1.4**
P11A Circle Ranch, 63.35 60 ⇑P P 07 53 31.4 -0.1
baz=63
R09A Tonopah 63.42 62 P P 07 53 32.0 +0.1
baz=63,SNR=25
N13A Wendover, West 63.42 58 P P 07 53 32.5 +0.6
baz=63,SNR=8.3
BHPL Bhopal 63.43 276 *eP* **P 07 53 32.2 +0.2**
BHPL AMb AMB 07 53 33.9
comp=Z,44nm,1.4s,mb5.2
TPH Tonopah 63.43 62 *eP* **P 07 53 32.6 +0.6**
TPH pmax pmax
comp=Z,16nm,0.8s,mb5.0
TPH Tonopah 63.43 62 *eP* **P 07 53 32.6 +0.5**
comp=Z,16nm,0.8s,mb5.0
TIN Tinemaha 63.48 63 ⇑P P 07 53 32.6 +0.2
baz=63
O12A Currie 63.48 59 P P 07 53 32.8 +0.4
baz=63,SNR=26
MOOW Moose Ponds 63.49 54 *eP* **P 07 53 33.3 +0.9**
comp=Z,15nm,1.0s,mb4.9
SMMC Simmler 63.52 66 ⇑P P 07 53 32.9 +0.3
baz=63
FINES FINESS Array B 63.52 334 P P 07 53 31.1 -1.5
comp=Z,10.0nm,0.3s,mb5.1,baz=42,slow=6.8,SNR=118
FINES PcP PcP 07 54 07.0 -1.8
FINES comp=Z,2.0nm,0.3s,baz=54,slow=4.5,SNR=3.7
FINES LR LR 08 22 30.0
comp=Z,146nm,18.6s,baz=0.2,slow=37
FINES FINESS Array B 63.52 334 P P 07 53 31.1 -1.6
FINES 07 54 07.0
FINES pmax pmax
comp=Z,10.0nm,0.3s
FINES MLR MLR
comp=Z,146nm,18.6s
HVU Hansel Valley 63.64 56 *eP* **P 07 53 34.1 +0.7**
S09A Goldfield 63.66 62 P P 07 53 33.6 +0.1
baz=64,SNR=9.9
REDW Red Top Meadow 63.68 54 *eP* **P 07 53 34.6 +1.0**
comp=Z,23nm,0.9s,mb5.0
NGP Nagpur 63.74 273 *eP* **P 07 53 33.2 -0.9**
NGP AMb AMB 07 53 34.0
comp=Z,30nm,1.2s,mb5.0
VES Vestal, Richgr 63.74 65 ⇓P P 07 53 32.6 -1.5
baz=64
Q11A Duckwater 63.87 60 P P 07 53 34.9 0.0
baz=64,SNR=6.8
PKM Peak Mountain 63.90 66 ⇓P P 07 53 34.8 -0.3
baz=64
P12A McGill 63.90 59 P P 07 53 35.5 +0.3
baz=64,SNR=8.1
AHID Auburn Hatcher 63.94 55 *eP* **P 07 53 35.8 +0.4**
comp=Z,11nm,0.9s,mb4.7
PSI Prapat 63.95 244 P P 07 53 36.4 +0.9
comp=Z,6.7nm,0.7s,mb4.6,baz=356,slow=3.9,SNR=7.7
PSI Prapat 63.95 244 P P 07 53 36.4 +1.0
PSI pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LAO LASA Array 63.95 49 *eP* **P 07 53 36.2 +0.7**
comp=Z,18nm,0.7s,mb5.0
CWC Cottonwood Cre 63.97 64 ⇓P P 07 53 35.5 0.0
baz=64
GRAC Grapevine Rang 64.04 63 P P 07 53 36.5 +0.5
baz=64,SNR=12
SPUT South Promonto 64.13 57 *eP* **P 07 53 32.2 -4.4**
Q12A Willow Creek R 64.23 60 P P 07 53 37.7 +0.4
baz=64,SNR=9.6
ISA Isabella 64.23 65 P P 07 53 36.3 -1.0
baz=64,SNR=6.1
ARVC Arvin 64.36 65 ⇑P P 07 53 37.3 -0.9
baz=64
DAC Darwin (Calif) 64.37 64 *eP* **P 07 53 38.1 -0.1**
HWUT Hardware Ranch 64.44 56 *eP* **P 07 53 39.1 +0.5**
comp=Z,14nm,0.6s,mb5.0
MPMC Manual Prospec 64.58 64 P P 07 53 39.7 +0.1
baz=64,SNR=16
DUG Dugway 64.65 58 *eP* **P 07 53 40.4 +0.4**
DUG pmax pmax
comp=Z,22nm,0.9s,mb5.0
DUG Dugway 64.65 58 *eP* **P 07 53 40.4 +0.4**
comp=Z,22nm,0.9s,mb5.0
DUG Dugway 64.65 58 P P 07 53 40.5 +0.5
baz=64,SNR=24
FURC Furnace Creek, 64.69 63 P P 07 53 40.4 +0.1
baz=64,SNR=17
NOQ North Oquirrh 64.75 57 *eP* **P 07 53 40.8 +0.1**
comp=Z,39nm,0.8s,mb5.3
OSI Osito Adit 64.76 66 ⇓P P 07 53 40.5 -0.3
baz=65
OBN Obninsk 64.78 325 *i*⇓*P* **P 07 53 40.4 -0.5**
OBN *i* 07 54 13.3
OBN pmax pmax
comp=Z,17nm,0.9s,mb4.9
OBN MLR MLR
comp=Z,200nm,19.0s
BW06 Boulder Array 64.79 54 *eP* **P 07 53 41.0 0.0**
comp=Z,14nm,0.8s,mb4.8
PDAR Pinedale Array 64.79 54 P P 07 53 40.9 0.0
comp=Z,13nm,0.7s,mb4.8,baz=290,slow=1.6,SNR=107
LRMC Laurel Mountai 64.84 64 P P 07 53 41.0 -0.3
baz=65,SNR=6.8
CTU Camp Tracy 64.93 57 *eP* **P 07 53 42.3 +0.5**
comp=Z,8.0nm,0.7s,mb4.7
EDW2 Edwards Air Fo 65.04 65 P P 07 53 42.4 -0.2
baz=65,SNR=12
U10A Ash Meadows, A 65.05 63 P P 07 53 43.3 +0.6
baz=65,SNR=6.2
JLU Jordanelle 65.16 57 *eP* **P 07 53 43.7 +0.3**
NLU North Lily Min 65.23 57 *eP* **P 07 53 44.2 +0.4**
DECC Green Verdugo 65.25 66 ⇓P P 07 53 44.2 +0.3
baz=65
DAU Daniels Canyon 65.40 57 *eP* **P 07 53 45.5 +0.6**
SHOC Shoshone 65.42 63 ⇑P P 07 53 44.8 -0.3
baz=65
AKL Akola 65.43 274 *eP* **P 07 53 45.9 +0.8**
AKL AMb AMB 07 53 46.8
comp=Z,29nm,1.0s,mb5.1
MPU Maple Canyon 65.45 57 *eP* **P 07 53 45.6 +0.4**
comp=Z,12nm,0.6s,mb4.9
GSC Goldstone 65.50 64 P P 07 53 45.3 -0.2
baz=65,SNR=6.0
BFSC Mount Baldy St 65.67 65 ⇑P P 07 53 45.8 -0.8
baz=66
CIS Catalina Islan 65.76 67 ⇓P P 07 53 46.6 -0.6
baz=66
ARUT Antelope Range 65.88 60 *eP* **P 07 53 48.1 +0.1**
TUQ Turquoise Mtn. 65.95 63 P P 07 53 48.5 +0.1
baz=66,SNR=18
V11A Goodsprings 65.98 63 P P 07 53 48.9 +0.2
baz=66,SNR=5.5
CCUT Cedar City 66.08 60 *eP* **P 07 53 49.4 +0.1**
HEC Hector,Ludlow 66.10 64 P P 07 53 49.3 -0.1
baz=66,SNR=10
BBRC Big Bear Sol-O 66.11 65 P P 07 53 49.5 0.0
baz=66,SNR=6.1
U12A Valley of Fire 66.12 62 ⇓P P 07 53 49.3 -0.3
baz=66
MSU Marysvale 66.14 59 *eP* **P 07 53 50.1 +0.5**
TMUT Trail Mountain 66.17 57 *eP* **P 07 53 50.5 +0.7**
MURC Murrieta 66.38 66 ⇑P P 07 53 50.7 -0.5
baz=66
V12A Nelson 66.41 63 P P 07 53 51.6 +0.2
baz=66,SNR=6.7
GMRC Granite Mounta 66.54 64 P P 07 53 52.2 0.0
baz=66,SNR=8.3
W12A Cal Nev Ari 66.68 63 ⇑P P 07 53 53.4 +0.4
baz=66
SRU San Rafael 66.69 57 P P 07 53 53.1 -0.1
SRU pmax pmax
comp=Z,31nm,0.7s,mb5.2
SRU San Rafael 66.69 57 *eP* **P 07 53 53.3 +0.1**
comp=Z,38nm,0.8s,mb5.3
RWWY Rawlins 66.80 53 *eP* **P 07 53 54.0 +0.1**
RSSD Black Hills 66.83 50 *eP* **P 07 53 53.5 -0.5**
RSSD pmax pmax
comp=Z,25nm,0.9s,mb5.0
RSSD Black Hills 66.83 50 *eP* **P 07 53 53.5 -0.5**
comp=Z,25nm,0.9s,mb5.0

PFO Pinyon Flat Ob 66.84 65 ⇑P P 07 53 53.0 -1.1
baz=67
BELC Belle Mtn. 66.86 65 ⇑P P 07 53 53.1 -1.1
baz=67
109C Camp Elliot, M 66.91 66 ⇓P P 07 53 53.5 -1.1
baz=67
CTA Charters Tower 67.17 186 P P 07 53 55.0 -1.2
comp=Z,3.3nm,0.8s,mb4.2,baz=345,slow=8.0,SNR=4.6
CTA Charters Tower 67.17 186 P P 07 53 55.1 -1.1
CTA pmax pmax
comp=Z,3.0nm,0.8s
IRM Iron Mountain 67.27 64 P P 07 53 56.8 -0.1
baz=67,SNR=10
MONP Monument Peak 67.34 66 ⇓P P 07 53 57.1 -0.2
baz=67
W13A Hualapai Mount 67.41 62 P P 07 53 57.8 +0.1
baz=67,SNR=11
BC3 Big Chuckw Mtn 67.42 65 P P 07 53 57.4 -0.4
baz=67,SNR=5.2
NB2 NORSAR Subarra 67.73 341 P P 07 53 59.0 -0.8
comp=Z,15nm,0.7s,mb4.9,baz=28,slow=6.5
NOA NORSAR Array B 67.73 341 P P 07 53 58.8 -1.0
comp=Z,11nm,0.7s,mb4.8,baz=26,slow=6.2,SNR=36
NOA NORSAR Array B 67.73 341 P P 07 53 58.8 -1.0
NOA pmax pmax
comp=Z,11nm,0.7s
X13A Yucca 67.78 63 P P 07 54 00.0 -0.1
baz=68,SNR=16
PDMCI Parker Dam,Lak 67.79 63 P P 07 53 60.0 -0.2
baz=68,SNR=11
W14A Seligman 67.82 62 P P 07 54 00.8 +0.5
baz=68,SNR=39
AGMN Agassiz Refuge 67.86 42 *eP* **P 07 53 59.3 -1.3**
comp=Z,11nm,1.0s,mb4.7
Y12C Blythe 67.93 64 P P 07 54 00.9 -0.1
baz=68,SNR=6.4
NAO01 NORSAR Array S 67.98 341 *eP* **P 07 54 00.0 -1.3**
comp=Z,2.3nm,0.4s,mb4.4
PV10 Paradox Valley 68.04 57 *eP* **P 07 54 02.2 +0.5**
GLA Glamis 68.22 65 ⇓P P 07 54 02.4 -0.5
baz=68
Y13A Salome 68.31 63 P P 07 54 03.5 0.0
baz=68,SNR=7.0
W15A Williams 68.33 61 P P 07 54 04.4 +0.9
baz=68,SNR=5.4
X14A Yava 68.44 62 P P 07 54 04.7 +0.5
baz=68,SNR=14
PV01 Paradox Valley 68.47 57 *eP* **P 07 54 04.2 -0.2**
MDRS Chennai 68.55 266 *eP* **P 07 54 06.8 +1.9**
MDRS AMb AMB 07 54 11.1
comp=Z,73nm,1.4s,mb5.3
WUAZ Wupatki 68.63 61 *eP* **P 07 54 06.0 +0.6**
comp=Z,12nm,0.9s,mb4.7
WUAZ Wupatki 68.63 61 P P 07 54 06.1 +0.7
baz=68,SNR=11
Y14A Wickenburg 68.73 63 P P 07 54 06.0 0.0
baz=68,SNR=17
WB2 Warramunga Arr 68.78 198 *eP* **P 07 54 05.0 -1.3**
WRA Warramunga Arr 68.78 198 P P 07 54 04.7 -1.7
comp=Z,3.2nm,0.7s,mb4.3,baz=16,slow=6.7,SNR=33
WRA LR LR 08 21 02.7
comp=Z,61nm,19.4s,baz=355,slow=33
X15A Humboldt 68.82 62 P P 07 54 07.2 +0.7
baz=69,SNR=22
ISCO Idaho Springs 68.98 54 *eP* **P 07 54 08.0 +0.4**
ISCO pmax pmax
comp=Z,15nm,0.8s,mb4.9
ISCO Idaho Springs 68.98 54 *eP* **P 07 54 08.0 +0.4**
comp=Z,15nm,0.8s,mb4.9
POO Poona 69.08 275 *ex* x 07 54 04.0
MVCO Mesa Verde 69.15 58 *eP* **P 07 54 08.6 0.0**
comp=Z,19nm,0.8s,mb5.0
MVCO Mesa Verde 69.15 58 P P 07 54 08.7 0.0
baz=69,SNR=18
Z14A Wintersburg 69.16 63 ⇑P P 07 54 08.2 -0.4
baz=69
FITZ Fitzroy Crossi 69.34 207 *eP* **P 07 54 09.7 -0.1**
comp=Z,20nm,0.9s,mb5.0
KAD Karad 69.70 274 *eP* **P 07 54 11.7 -0.3**
KAD AMb AMB 07 54 14.1
comp=Z,38nm,0.9s,mb5.2
115A Sonoran Desert 70.05 63 ⇑P P 07 54 14.4 +0.2
baz=70
KIV Kislovodsk 70.27 314 *eP* **P 07 54 16.3 +0.8**
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,88nm,17.0s
116A Eloy 70.47 63 P P 07 54 16.9 +0.2
baz=70,SNR=8.2
SDCO Great Sand Dun 70.48 55 *eP* **P 07 54 16.7 -0.1**
comp=Z,4.9nm,0.7s,mb4.5
ZEI Tsey 70.53 312 *eP* **P 07 54 17.2 +0.1**
ZEI *i* pP 07 54 33.9 -0.7
AKASG Malin Array Be 71.02 326 P P 07 54 18.5 -1.5
comp=Z,14nm,0.4s,mb5.1,baz=33,slow=6.2,SNR=26
AKASG Malin Array Be 71.02 326 P P 07 54 18.5 -1.5
AKASG pmax pmax
comp=Z,14nm,0.4s
AKASG Malin Array Be 71.02 326 P P 07 54 18.5 -1.5
AKBB Malin Array Si 71.02 326 *eP* **P 07 54 19.4 -0.6**
KIEV Kiev 71.03 326 *eP* **P 07 54 19.3 -0.8**
KIEV pmax pmax
comp=Z,23nm,0.9s,mb5.0
KIEV Kiev 71.03 326 *eP* **P 07 54 19.3 -0.9**
comp=Z,24nm,0.9s,mb5.0
TUC Tucson 71.20 63 P P 07 54 21.2 +0.1
TUC pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
TUC Tucson 71.20 63 *eP* **P 07 54 21.1 0.0**
comp=Z,8.2nm,1.0s,mb4.5
ANMO Albuquerque 71.91 58 *eP* **P 07 54 25.5 +0.1**
comp=Z,8.8nm,0.8s,mb4.6
ANMO *e*PcP PcP 07 54 43.3 -0.5
GNI Garni 72.00 310 LR LR 08 31 07.4
comp=Z,99nm,18.5s,baz=353,slow=40
ANN Anapa 72.15 317 *eP* **P 07 54 30.4 +3.6**
ANN *e**PP pP 07 54 47.7 +3.3
ASAR Alice Springs 72.48 198 P P 07 54 28.9 0.0
comp=Z,7.1nm,0.8s,mb4.5,baz=14,slow=5.6,SNR=68
ASAR Alice Springs 72.48 198 P P 07 54 28.9 +0.1
ASAR pmax pmax
comp=Z,7.0nm,0.8s
SCIA State Center 73.88 45 *eP* **P 07 54 36.3 -0.8**
comp=Z,40nm,0.5s,mb5.4
KSU1 Kansas State U 74.30 49 *eP* **P 07 54 37.6 -1.9**
comp=Z,11nm,0.4s,mb4.9
KWP Kalwaria 74.30 329 *eP* **P 07 54 38.3 -1.2**
OJC Ojcow 74.80 331 *eP* **P 07 54 42.1 -0.3**
MNTX Cooudas Mount 74.86 60 *eP* **P 07 54 42.5 -0.3**
comp=Z,7.5nm,0.9s,mb4.4
STHS Stebnicka Huta 74.99 330 *eP* **P 07 54 43.3 -0.2**
STHS pmax pmax
comp=Z,12nm,0.8s,mb4.7
STHS Stebnicka Huta 74.99 330 *eP* **P 07 54 43.3 -0.2**
comp=Z,12nm,0.8s,mb4.7
KOLS Kolonicke sedl 75.04 329 *eP* **P 07 54 43.7 -0.1**
BURAR Bucovina Array 75.06 326⇑*iP* **P 07 54 43.9 0.0**
NIE Niedzica 75.31 330 *eP* **P 07 54 46.0 +0.7**
CRVS Cervenica-Dubn 75.35 329 *eP* **P 07 54 45.8 +0.2**
KSP Ksiaz 75.38 333 *eP* **P 07 54 45.9 +0.1**
KSP Ksiaz 75.38 333 *eP* **P 07 54 45.2 -0.6**
UPC Upice 75.76 333 *eP* **P 07 54 48.1 +0.1**
UPC *e*pP PcP 07 54 53.4 -7.0
DPC Dobruska-Polom 75.81 333 *eP* **P 07 54 48.5 +0.3**
CLL Collm 75.95 335⇓*iP* **P 07 54 48.4 -0.6**
CLL pmax pmax
comp=Z,21nm,0.6s,mb5.0
CLL Collm 75.95 335⇓*iP* **P 07 54 48.4 -0.6**
comp=Z,14nm,0.6s,mb4.9
KECS Kecovo 76.05 329 *eP* **P 07 54 49.7 +0.1**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
KECS Kecovo 76.05 329 *eP* **P 07 54 49.7 +0.1**
comp=Z,4.7nm,0.9s,mb4.2
WMOK Wichita Mounta 76.40 53 *eP* **P 07 54 50.7 -0.8**
WMOK Wichita Mounta 76.40 53 *eP* **P 07 54 50.6 -0.9**
MLR Muntele Rosu 76.53 325⇓*iP* **P 07 54 52.5 +0.2**
VYHS Vyhne 76.60 330 *eP* **P 07 54 53.0 +0.3**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
VYHS Vyhne 76.60 330 *eP* **P 07 54 53.0 +0.3**
comp=Z,5.9nm,1.1s,mb4.2
VRAC Vranov 76.63 332⇑*iP* **P 07 54 53.1 +0.2**
PRU Pruhonice 76.67 334 *eP* **P 07 54 53.1 0.0**
PSZ Piszkesteto 76.74 329⇑*iP* **P 07 54 54.3 +0.8**

VOIR 76.93 325⇑*iP* **P 07 54 54.8 +0.2**
MOX Moxa 76.94 336 *eP* **P 07 54 54.4 -0.2**
ZST Bratislava 77.44 331 *eP* **P 07 54 58.2 +0.8**
LTX Lajitas 77.59 60 *eP* **P 07 54 58.1 -0.2**
comp=Z,32nm,0.6s,mb5.2
TXAR Lajitas Array 77.59 60 P P 07 54 58.0 -0.2
comp=Z,33nm,0.6s,mb5.3,baz=297,slow=4.7,SNR=581
TXAR Lajitas Array 77.59 60 P P 07 54 58.1 -0.2
TXAR pmax pmax
comp=Z,33nm,0.6s
KHC Kasperske Hory 77.72 334 *eP* **P 07 54 59.1 +0.1**
KHC *ep*P PcP 07 55 03.2 -5.6
GZR Gura Zlata 77.84 326⇓*iP* **P 07 54 59.6 0.0**
BRTR Keskin Array B 77.86 316 P P 07 55 00.1 +0.4
comp=Z,4.8nm,0.8s,mb4.3,baz=71,slow=4.1,SNR=21
BRTR Keskin Array B 77.86 316 P P 07 55 00.1 +0.4
BRTR pmax pmax
comp=Z,5.0nm,0.8s
GRA1 Grafenberg Arr 77.91 336 *eP* **P 07 55 00.0 0.0**
comp=Z,16nm,1.1s,mb4.7
GRF Grafenberg Arr 77.91 336 *eP* **P 07 55 00.0 0.0**
comp=Z,16nm,1.1s,mb4.7
GRF Grafenberg Arr 77.91 336 *eP* **P 07 55 00.0 0.0**
GRF pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
GRF Grafenberg Arr 77.91 336 *eP* **P 07 55 00.0 0.0**
GRF pmax pmax
comp=Z,16nm,1.1s,mb4.7
GERES GERESS Array B 77.94 334 P P 07 54 59.5 -0.7
comp=Z,2.2nm,0.5s,mb4.2,baz=34,slow=5.0,SNR=16
GERES LR LR 08 37 22.1
comp=Z,104nm,18.9s,baz=280,slow=42
BZS Buzias 78.09 327⇓*iP* **P 07 55 00.9 -0.1**
ANTO Ankara 78.14 317⇑*iP* **P 07 55 01.5 +0.2**
HGN Heimansgroeve 78.32 339 *eP* **P 07 55 01.9 -0.4**
comp=Z,26nm,0.8s,mb5.0
MEM Membach 78.44 339 P P 07 55 02.9 -0.1
comp=Z,16nm,1.0s,mb4.7
ARSA Arzberg 78.78 332⇑*iP* **P 07 55 05.1 +0.3**
comp=Z,3.9nm,0.6s,mb4.4
BCLA Clavier 78.79 339 P P 07 55 04.7 -0.2
comp=Z,19nm,1.4s,mb4.7
JCT Junction City 79.00 57 *eP* **P 07 55 05.3 -0.7**
JCT pmax pmax
comp=Z,20nm,0.7s,mb5.1
JCT Junction City 79.00 57 *eP* **P 07 55 05.3 -0.8**
comp=Z,20nm,0.6s,mb5.1
GIVF Givet 79.20 340 *eP* **P 07 55 06.6 -0.5**
STKA Stephens Creek 79.29 190 P P 07 55 06.2 -1.4
comp=Z,2.6nm,0.6s,mb4.2,baz=351,slow=10,SNR=4.7
STKA Stephens Creek 79.29 190 P P 07 55 06.2 -1.4
BAIF Baives 79.39 340⇑*iP* **P 07 55 07.6 -0.5**
comp=Z,15nm,0.5s,mb4.7
BAIF Baives 79.39 340⇑*iP* **P 07 55 07.6 -0.5**
BAIF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
BAIF Baives 79.39 340⇑*iP* **P 07 55 07.6 -0.5**
comp=Z,7.3nm,0.5s,mb4.8
PERS Pernice 79.45 332 *i P* **P 07 55 08.1 -0.4**
USIN University of 79.61 44 *eP* **P 07 55 09.0 -0.4**
comp=Z,23nm,0.8s,mb5.1
KBA Koelnbreinsper 79.62 333⇑*iP* **P 07 55 09.9 +0.5**
comp=Z,22nm,0.5s,mb5.3
KBA Koelnbreinsper 79.62 333⇑*iP* **P 07 55 09.9 +0.5**
KBA pmax pmax
comp=Z,22nm,0.5s,mb5.2
WATA Walderalm 79.93 334⇑*iP* **P 07 55 11.3 +0.3**
comp=Z,13nm,1.1s,mb4.7
WATA Walderalm 79.93 334⇑*iP* **P 07 55 11.3 +0.2**
WATA pmax pmax
comp=Z,13nm,1.1s,mb4.7
WTTA Wattenberg 79.97 334⇑*iP* **P 07 55 11.8 +0.4**
comp=Z,21nm,0.5s,mb5.3
WTTA Wattenberg 79.97 334⇑*iP* **P 07 55 11.8 +0.5**
WTTA pmax pmax
comp=Z,21nm,0.5s,mb5.2
RETA Reutte 80.03 335⇑*iP* **P 07 55 11.7 +0.1**
comp=Z,8.9nm,0.7s,mb4.7
VTS Vitosha 80.04 325⇓*iP* **P 07 55 11.6 -0.1**
WCI Wyandotte Cave 80.05 43 *eP* **P 07 55 10.8 -0.9**
WCI pmax pmax
comp=Z,15nm,0.8s,mb4.9
WCI Wyandotte Cave 80.05 43 *eP* **P 07 55 10.8 -0.9**
comp=Z,15nm,0.8s,mb4.9
MOTA Moosalm 80.06 335⇑*iP* **P 07 55 11.9 +0.1**
comp=Z,14nm,1.0s,mb4.7
MOTA Moosalm 80.06 335⇑*iP* **P 07 55 11.9 +0.1**
MOTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
CDF Champ du Feu 80.15 337⇑*iP* **P 07 55 11.9 -0.4**
comp=Z,35nm,0.9s,mb4.9
CDF Champ du Feu 80.15 337⇑*iP* **P 07 55 11.9 -0.4**
CDF pmax pmax
comp=Z,17nm,0.9s,mb4.9
CDF Champ du Feu 80.15 337⇑*iP* **P 07 55 11.9 -0.4**
comp=Z,18nm,0.9s,mb4.9
VISS Visnje 80.28 332 *i P* **P 07 55 11.9 -1.0**
ROBS Robic 80.31 333 *eP* **P 07 55 11.9 -1.3**
BOJS Bojanci 80.41 331 *i P* **P 07 55 12.9 -0.8**
DAVA Damuels 80.47 335⇑*iP* **P 07 55 14.2 +0.2**
comp=Z,8.7nm,0.7s,mb4.7
MEZF Maizieres J'vi 80.63 339⇑*iP* **P 07 55 14.7 -0.2**
comp=Z,53nm,0.8s,mb5.1
MEZF Maizieres J'vi 80.63 339⇑*iP* **P 07 55 14.7 -0.2**
comp=Z,53nm,0.8s,mb5.4
HAU Haudompre 80.77 338⇑*iP* **P 07 55 15.0 -0.6**
comp=Z,18nm,0.7s,mb4.7
HAU *e*MLR
comp=Z,179nm,20.2s
HAU Haudompre 80.77 338⇑*iP* **P 07 55 15.0 -0.6**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
HAU MLR MLR
comp=Z,180nm,20.3s
HAU Haudompre 80.77 338⇑*iP* **P 07 55 15.0 -0.6**
comp=Z,8.9nm,0.7s,mb4.7
HAU LR LR
comp=Z,180nm,20.3s
HINF Hinteralfeld 80.81 337 *eP* **P 07 55 15.0 -0.8**
NATX Nacogdoches 80.90 53 *eP* **P 07 55 16.4 +0.1**
comp=Z,29nm,0.5s,mb5.4
WVT Waverly 81.00 45 P P 07 55 15.9 -0.9
WVT pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
WVT Waverly 81.00 45 *eP* **P 07 55 15.8 -1.0**
comp=Z,7.7nm,0.8s,mb4.6
TAOE Nuku Hiva Isla 81.42 113 *e*LR LR 08 20 16.6
comp=Z,476nm,28.6s
OXF Oxford 81.50 48 *eP* **P 07 55 18.8 -0.7**
OXF *e**PP pP 07 55 36.6 -0.7
OXF pmax pmax
comp=Z,27nm,0.9s,mb5.1
OXF Oxford 81.50 48 *eP* **P 07 55 18.8 -0.7**
comp=Z,26nm,0.9s,mb5.1
FLN La Foliniere 81.64 342⇑*iP* **P 07 55 19.6 -0.6**
FLN *e*MLR
comp=Z,146nm,17.8s
FLN La Foliniere 81.64 342⇑*iP* **P 07 55 19.6 -0.6**
FLN LR LR
comp=Z,150nm,17.8s
LDF La Druitiere 81.73 342 *eP* **P 07 55 20.3 -0.4**
PLAL Pickwick Lake 81.79 46 *eP* **P 07 55 19.8 -1.2**
comp=Z,10nm,0.8s,mb4.7
LOR Lormes 82.08 339⇑*iP* **P 07 55 22.1 -0.4**
comp=Z,34nm,0.6s,mb5.0
LOR *e*MLR
comp=Z,203nm,19.2s
LOR Lormes 82.08 339⇑*iP* **P 07 55 22.1 -0.4**
LOR pmax pmax
comp=Z,17nm,0.6s,mb5.0
LOR MLR MLR
comp=Z,200nm,19.3s
LOR Lormes 82.08 339⇑*iP* **P 07 55 22.1 -0.4**
comp=Z,17nm,0.6s,mb5.0
LOR LR LR
comp=Z,200nm,19.3s
GRR Gorron 82.08 343⇑*iP* **P 07 55 22.1 -0.4**
comp=Z,110nm,1.5s,mb5.2
GRR Gorron 82.08 343⇑*iP* **P 07 55 22.1 -0.4**
GRR pmax pmax
comp=Z,55nm,1.5s,mb5.2
GRR Gorron 82.08 343⇑*iP* **P 07 55 22.1 -0.4**
comp=Z,55nm,1.5s,mb5.2
CABF La Chapelle 82.12 337 *eP* **P 07 55 22.6 -0.1**
comp=Z,13nm,0.7s,mb4.5
CABF La Chapelle 82.12 337 *eP* **P 07 55 22.6 -0.1**

CABF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
CABF La Chapelle 82.12 337 *e*P **P 07 55 22.6 -0.1**
comp=Z,6.7nm,0.7s,mb4.6
MMAI Mount Meron Ar 82.29 311 LR LR 08 37 43.8
comp=Z,59nm,18.3s,baz=5.0,slow=40
SSF Saint Saulge 82.35 339⇑*i*P **P 07 55 23.5 -0.4**
comp=Z,19nm,0.7s,mb4.7
SSF Saint Saulge 82.35 339⇑*i*P **P 07 55 23.5 -0.4**
SSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SSF Saint Saulge 82.35 339⇑*i*P **P 07 55 23.5 -0.4**
comp=Z,9.6nm,0.7s,mb4.7
SGMF Saint Gilles 82.54 344⇑*i*P **P 07 55 24.6 -0.3**
comp=Z,22nm,0.6s,mb4.9
SGMF Saint Gilles 82.54 344⇑*i*P **P 07 55 24.6 -0.3**
SGMF pmax pmax
comp=Z,11nm,0.6s,mb4.9
SGMF Saint Gilles 82.54 344⇑*i*P **P 07 55 24.6 -0.3**
comp=Z,11nm,0.6s,mb4.9
ROSF Rostrenen 82.60 344⇑*i*P **P 07 55 25.0 -0.2**
comp=Z,32nm,0.8s,mb4.9
ROSF Rostrenen 82.60 344⇑*i*P **P 07 55 25.0 -0.2**
ROSF pmax pmax
comp=Z,16nm,0.8s,mb4.9
ROSF Rostrenen 82.60 344⇑*i*P **P 07 55 25.0 -0.2**
comp=Z,16nm,0.8s,mb4.9
AVF Avril sur Loir 82.64 339⇑*i*P **P 07 55 25.2 -0.3**
comp=Z,29nm,0.7s,mb4.9
AVF Avril sur Loir 82.64 339⇑*i*P **P 07 55 25.2 -0.3**
AVF pmax pmax
comp=Z,15nm,0.7s,mb4.9
AVF Avril sur Loir 82.64 339⇑*i*P **P 07 55 25.2 -0.3**
comp=Z,15nm,0.7s,mb4.9
SMF Signal de Mont 82.66 339⇑*i*P **P 07 55 25.3 -0.2**
comp=Z,38nm,0.9s,mb5.0
SMF Signal de Mont 82.66 339⇑*i*P **P 07 55 25.3 -0.2**
SMF pmax pmax
comp=Z,19nm,0.9s,mb4.9
SMF Signal de Mont 82.66 339⇑*i*P **P 07 55 25.3 -0.2**
comp=Z,19nm,0.9s,mb4.9
PPT Papeete 82.68 126 *e*LR LR 08 20 49.9
comp=Z,201nm,24.2s
LPL La Plagne 82.96 337⇑*i*P **P 07 55 27.6 +0.5**
comp=Z,12nm,0.5s,mb4.7
LPL La Plagne 82.96 337⇑*i*P **P 07 55 27.6 +0.5**
LPL pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
LPL La Plagne 82.96 337⇑*i*P **P 07 55 27.6 +0.5**
comp=Z,6.1nm,0.5s,mb4.7
LPG La Plagne 82.97 337⇑*i*P **P 07 55 27.8 +0.6**
comp=Z,20nm,0.7s,mb4.8
LPG La Plagne 82.97 337⇑*i*P **P 07 55 27.8 +0.6**
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LPG La Plagne 82.97 337⇑*i*P **P 07 55 27.8 +0.6**
comp=Z,10nm,0.7s,mb4.8
BGF Bois d'Agland 82.98 340 *e*P **P 07 55 27.1 -0.1**
TCF Toulx Ste Croi 83.39 340 *e*P **P 07 55 29.3 0.0**
comp=Z,42nm,1.0s,mb4.9
TCF Toulx Ste Croi 83.39 340 *e*P **P 07 55 29.3 0.0**
TCF pmax pmax
comp=Z,21nm,1.0s,mb4.9
TCF Toulx Ste Croi 83.39 340 *e*P **P 07 55 29.3 0.0**
comp=Z,21nm,1.0s,mb4.9
MFF Saint Martin d 83.62 341 *e*P **P 07 55 30.3 -0.2**
comp=Z,7.2nm,0.5s,mb4.5
MFF Saint Martin d 83.62 341 *e*P **P 07 55 30.3 -0.2**
MFF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
MFF Saint Martin d 83.62 341 *e*P **P 07 55 30.3 -0.2**
comp=Z,3.6nm,0.5s,mb4.5
MBDF Montbardon 83.68 336 *e*P **P 07 55 30.6 -0.2**
comp=Z,17nm,0.8s,mb4.6
MBDF Montbardon 83.68 336 *e*P **P 07 55 30.6 -0.2**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
MBDF Montbardon 83.68 336 *e*P **P 07 55 30.6 -0.2**
comp=Z,8.6nm,0.8s,mb4.6
ORIF Oris-en-Rattie 83.75 337⇑*i*P **P 07 55 31.6 +0.5**
comp=Z,29nm,0.7s,mb4.9
ORIF *e*MLR
comp=Z,143nm,18.8s
ORIF Oris-en-Rattie 83.75 337⇑*i*P **P 07 55 31.6 +0.5**
ORIF pmax pmax
comp=Z,14nm,0.7s,mb4.9
ORIF Oris-en-Rattie 83.75 337⇑*i*P **P 07 55 31.6 +0.5**
comp=Z,14nm,0.7s,mb4.9
VIVF Saint-Julien-l 84.12 338⇑*i*P **P 07 55 33.3 +0.3**
comp=Z,28nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.12 338⇑*i*P **P 07 55 33.3 +0.3**
VIVF pmax pmax
comp=Z,14nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.12 338⇑*i*P **P 07 55 33.3 +0.3**
comp=Z,14nm,0.9s,mb4.8
KARP Karpathos 84.25 318 P **P 07 55 33.7 0.0**
SBF Sospel 84.29 335 *e*P **P 07 55 33.3 -0.6**
comp=Z,39nm,0.7s,mb5.0
SBF Sospel 84.29 335 *e*P **P 07 55 33.3 -0.6**
SBF pmax pmax
comp=Z,20nm,0.7s,mb5.1
SBF Sospel 84.29 335 *e*P **P 07 55 33.3 -0.6**
comp=Z,20nm,0.7s,mb5.0
KLBR Kellerberrin 84.44 209 *e*P **P 07 55 34.1 -0.6**
comp=Z,24nm,1.1s,mb4.9
RJF Les Rejaudoux 84.48 340 *e*P **P 07 55 34.8 -0.1**
RJF *e*MLR
comp=Z,169nm,17.8s
RJF Les Rejaudoux 84.48 340 *e*P **P 07 55 34.8 -0.1**
RJF LR LR
comp=Z,170nm,17.8s
SMRF Simiane la Rot 84.70 337 *e*P **P 07 55 36.7 +0.7**
FRF La Foret Royal 84.79 336 *e*P **P 07 55 35.9 -0.5**
VLS Valsamata 84.84 324 P **P 07 55 36.7 0.0**
LMR La Mourre 85.04 336 *e*P **P 07 55 37.4 -0.3**
comp=Z,13nm,0.6s,mb4.8
LMR La Mourre 85.04 336 *e*P **P 07 55 37.4 -0.3**
LMR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LMR La Mourre 85.04 336 *e*P **P 07 55 37.4 -0.3**
comp=Z,6.4nm,0.6s,mb4.7
PGF Pioggiola 85.04 334 *e*P **P 07 55 37.2 -0.5**
ITM Ithomi 85.15 323 P **P 07 55 37.6 -0.6**
EIL Elat 85.17 309 *e*P **P 07 55 38.9 +0.6**
GOGA Godfrey 85.30 44 *e*P **P 07 55 38.2 -0.8**
GOGA pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
GOGA Godfrey 85.30 44 *e*P **P 07 55 38.2 -0.8**
comp=Z,2.7nm,0.5s,mb4.4
IDI Anoyia 85.48 320 P **P 07 55 39.3 -0.6**
BRAL Brewton 85.48 48 *e*P **P 07 55 39.6 -0.3**
comp=Z,19nm,0.6s,mb5.2
VAM Vamos 85.69 320 P **P 07 55 41.4 +0.5**
NWAO Narrogin (SRO) 85.84 209 P **P 07 55 41.4 -0.3**
comp=Z,23nm,0.9s,mb5.1,baz=43,slow=5.7,SNR=9.0
NWAO Narrogin (SRO) 85.84 209 *e*P **P 07 55 41.5 -0.1**
MTLF Montolieu 86.16 339 *e*P **P 07 55 43.8 +0.6**
ETSF Etsaut 87.24 341 *e*P **P 07 55 48.7 +0.2**
comp=Z,6.2nm,0.6s,mb4.4
ETSF Etsaut 87.24 341 *e*P **P 07 55 48.7 +0.2**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ETSF Etsaut 87.24 341 *e*P **P 07 55 48.7 +0.2**
comp=Z,3.1nm,0.6s,mb4.4
TBI Tubuai 87.42 129 *e*LR LR 08 23 01.4
comp=Z,141nm,29.5s
ESDC Sonseca Array 91.06 342 P **P 07 56 05.1 -1.4**
comp=Z,0.5nm,0.4s,mb4.0,baz=28,slow=2.8,SNR=5.4
ESDC LR LR 08 45 01.6
comp=Z,85nm,19.6s,baz=340,slow=41
RKT Rikitea 95.48 118 *e*LR LR 08 26 46.6
comp=Z,132nm,30.0s
TORD Torodi Ar. Bea 114.57 329 PKP PKiKP 08 01 40.7 -1.1
comp=Z,0.9nm,0.3s,baz=17,slow=2.3,SNR=26
TORD Torodi Ar. Bea 114.57 329 PKP PKiKP 08 01 40.7 -1.1
VNDA Vanda 124.53 178 PKP PKPdf 08 01 58.5 -2.5
comp=Z,2.0nm,0.9s,baz=320,slow=7.4,SNR=5.4
VNDA Vanda 124.53 178 PKIKP PKPdf 08 01 58.5 -2.5
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 124.53 178 PKP PKPdf 08 01 58.5 -2.5
MAW Mawson 132.37 211 PKP PKPdf 08 02 13.9 -2.0
comp=Z,1.4nm,0.7s,baz=35,slow=3.8,SNR=11
MAW Mawson 132.37 211 PKIKP PKPdf 08 02 13.9 -2.0
MAW pmax pmax
comp=Z,1.0nm,0.7s

LPAZ La Paz 134.46 61 PKP PKPdf 08 02 20.6 +0.8
comp=Z,1.5nm,0.7s,baz=6.4,slow=3.6,SNR=8.8
LPAZ La Paz 134.46 61 PKIKP PKPdf 08 02 20.7 +0.8
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
SYO Syowa Base 141.07 212⇓*e*PKPdf PKPdf 08 02 32.4 +0.4
PLCA Paso Flores 148.59 94 PKPbc PKPbc 08 02 47.7 -1.0
comp=Z,12nm,0.8s,baz=258,slow=3.5,SNR=29
PLCA Paso Flores 148.59 94 *e*PKPbc PKPbc 08 02 47.8 -0.9
PLCA *e*PKPab PKPab 08 02 51.9 -0.4
NVL N'lazarevskaya 149.86 205⇓*i*PKP2 PKPbc 08 02 49.7 -2.2
NVL pmax pmax
comp=Z,28nm,1.0s
MAIT Maitri 149.88 205 *e*PKPdf PKPdf 08 02 45.7 -1.4
SNAA Sanae 152.84 197 PKPbc PKPbc 08 02 56.1 -2.6
comp=Z,2.4nm,0.7s,baz=163,slow=1.3,SNR=51
SNAA Sanae 152.84 197 *e*PKPdf PKPdf 08 02 55.5 +3.9
SNAA *e* 08 03 01.3
SNAA *e* 08 03 07.4
SNAA *e* 08 03 14.0
SNAA Sanae 152.84 197 PKIKP PKPbc 08 02 56.1 -2.7
SNAA pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 152.84 197 *e*PKPbc PKPbc 08 02 56.1 -2.7
VNA2 Neumayer--Watz 154.31 195 *e*PKPdf PKPbc 08 02 59.2 -2.8
baz=65,slow=0.7
VNA2 *e* 08 03 05.7
VNA2 *e* 08 03 14.2
VNA2 *e* 08 03 18.1
VNA3 Neumayer Olymp 154.41 193 *e*PKPdf PKPbc 08 02 59.2 -3.0
VNA3 *e* 08 03 05.2
VNA3 *e* 08 03 14.2
VNA3 *e* 08 03 18.0
VNA1 Neumayer--Stat 154.69 195 *e*PKPdf PKPbc 08 03 00.5 -2.3
VNA1 *e* 08 03 06.9
VNA1 *e* 08 03 15.9

MAN 14 08:03:59.0, 1120N×12528E, h69km, mb1.9, ML3.7, MS1.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.30**	**263**	*e*P	Pn	08 04 12.1	+2.1
PLP				*e*S	Sn	08 04 21.2	+3.1
BESP	**Borongan**	**0.43**	**21**	*e*P	Pn	08 04 12.9	+1.9
BESP				*e*S	Sn	08 04 23.5	+3.7
CNP	**Catarman**	**1.44**	**335**	*e*P	Pn	08 04 23.8	+0.8
CNP				*e*S	Sn	08 04 42.9	+1.8

CASC 14 08:07:40.2±2.2, 991N×8372W, h1km±5km, MD3.7, ML3.2, 6C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICR	**Volcan Irazu**	**0.13**	**303**⇓	*e*P	Pg	08 07 43.6	+0.9
LCR2	**La Lucha 2**	**0.33**	**240**⇓	*i*P	Pg	08 07 47.8	+1.3
LAJ	**Bijagual**	**0.40**	**264**⇓	*e*P	Pg	08 07 57.4	+10
LAJ				*e*S	Sg	08 08 09.8	+17
PRS1	**Puriscal**	**0.59**	**277**⇑	*e*P	Pg	08 07 52.9	+1.4
CGA2	**Cerro Gallo 2**	**0.74**	**278**⇑	*e*P	Pg	08 07 54.8	+0.3
FORC	**Fortuna**	**1.09**	**301**⇑	*e*P	Pg	08 08 01.0	-0.1
CNI	**Changuinola**	**1.28**	**112**⇑	*i*P	Pg	08 08 04.1	-0.6
CNI				*e*S	Sg	08 08 21.2	-0.1
ACR	**Cerro Adams**	**1.36**	**156**	*e*P	Pg	08 08 05.7	-0.5
JCR	**Jicaral**	**1.38**	**268**	*e*P	Pn	08 08 05.9	-0.6
CTCR	**Cotoan**	**1.38**	**137**	*e*P	Pn	08 08 05.9	-0.7
CTCR				*e*S	Sg	08 08 25.5	+1.0
BRU2	**Volcan**	**1.50**	**137**⇑	*i*P	Pn	08 08 08.2	0.0
BRU2				*e*S	Sb	08 08 28.6	+0.3
BRU	**Baru**	**1.58**	**134**	*e*P	Pn	08 08 10.0	+0.6
BRU				*e*S	Sn	08 08 31.9	+1.4
LIM1	**Limonal**	**1.70**	**298**	*i* P	Pn	08 08 10.7	-0.4
LIM1				*i* S	Sn	08 08 34.3	+0.8
VCR	**Vista de Mar**	**1.90**	**277**	*e*P	Pn	08 08 14.1	+0.4
DVD	**David**	**1.93**	**139**	*e*P	Pn	08 08 13.7	-0.4
DVD				*e*S	Sn	08 08 41.2	+2.3
CONN	**Concepcion**	**2.50**	**311**⇑	*e*P	Pn	08 08 22.1	+0.2
CONN				*e*S	Sn	08 08 55.5	+2.5
BOAB	**BOACO BROADBAN**	**8.17**	**323**	*e*P	Pn	08 08 31.3	+0.2
BOAB				*e*S	Sn	08 09 14.0	+4.4
BOAB				*i*		08 09 20.6	
comp=E,26nm,0.7s

*IDC **14** 08:16:46.7±2.4, 2238S×6586W, h237km±31km, mb3.1/2, mb1 3.2/4, mb1mx3.0/15, mbtmp3.0/4, Error ellipse: s-maj=54.6km s-min=20.8km az=84.0*
*ISCJB **14** 08:16:47.6±1.3, 2248S±006×666W±03, h291km±16km, mb3.5/4, Error ellipse: s-maj=47.9km s-min=9.4km az=176.0*
*NEIC **14** 08:16:51.0±1.1, 2251S×6864W, h245km±16km, mb3.5/1, Error ellipse: s-maj=59.0km s-min=12.7km az=83.0*
ISC 14 08:16:47.5±1.3, 2253S±006×666W±03, h267km±14km, n8, σ1§64/11, mb3.5/4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.38**	**347**	P	**Pn**	**08 18 22.4**	**+1.8**
0.9nm,0.3s,baz=164,slow=8.9,SNR=38
LPAZ S **S** **08 19 34.2** **-1.1**
baz=354,slow=19,SNR=2.3
LPAZ La Paz 6.38 347 P **Pn 08 18 22.4 +1.8**
LPAZ S **S** **08 19 34.2** **-1.1**
ARE Arequipa 7.59 322 *e*P **Pn 08 18 27.0 -8.7**
CFAA Coronel Fontan 9.15 189 P **Pn 08 18 57.8 +2.5**
baz=26,slow=14
CFAA S **S** **08 20 37.5** **-1.3**
0.3nm,0.3s,baz=168,slow=19,SNR=11
OTAV Otavalo 25.40 331 P **P 08 21 48.9 -2.0**
1.8nm,1.1s,mb3.4
TORD Torodi Ar. Bea 75.71 69 P **P 08 28 02.6 -1.2**
0.4nm,0.4s,mb3.4,baz=262,slow=5.4,SNR=9.5
WVOR Wild Horse Val 80.50 324 *e*P **P 08 28 30.4 +0.4**
2.0nm,0.4s,mb4.2
YKA Yellowknife Ar 92.88 340 P **P 08 29 32.5 +2.4**
0.1nm,0.5s,mb3.0,baz=129,slow=4.5,SNR=5.3

*ISCJB **14** 08:21:06.9±0.7, 604N±01×1659E±02, h10km, mb3.8/6, Error ellipse: s-maj=18.8km s-min=11.6km az=101.0*
*IDC **14** 08:21:07.7±3.6, 6052N×16582E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=121.2km s-min=31.1km az=174.0*
*MOS **14** 08:21:07.0±0.9, 6049N×16575E, h10km, mb4.0/2, Error ellipse: s-maj=61.2km s-min=21.8km az=73.2*
*NEIC **14** 08:21:08.6±0.7, 6033N×16601E, h10km, mb3.8/1, Error ellipse: s-maj=29.4km s-min=12.7km az=150.0*
ISC 14 08:21:08.2±0.7, 604N±01×1660E±02, h10km, n14, σ0§91/14, mb3.8/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.72**	**1**	*e*PN	**Pn**	**08 23 00.8**	**+0.1**
BILL pmax pmax
comp=Z,7.0nm,1.6s
BILL pmax pmax
comp=N,30nm,0.9s
YSS Yuzh-Sakhalins 19.07 236 *e*P **Pn 08 25 32.7 +1.2**
YSS pmax pmax
comp=Z,3.0nm,0.5s
YSS Yuzh-Sakhalins 19.07 236 *e*P **Pn 08 25 32.7 +1.2**
comp=Z,2.7nm,0.5s
ERM Erimo 23.05 228 *e*P **P 08 26 12.9 -0.8**
ERM pmax pmax
comp=Z,17nm,1.0s,mb4.4
ERM Erimo 23.05 228 *e*P **P 08 26 12.9 -0.8**
comp=Z,17nm,1.0s,mb4.4
INK Inuvik 26.31 47 P **P 08 26 43.5 -0.5**
comp=Z,0.8nm,0.7s,mb3.3,baz=271,slow=11,SNR=5.5
INK Inuvik 26.31 47 P **P 08 26 43.5 -0.5**
INK pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 35.83 51 P **P 08 28 07.4 -0.5**
comp=Z,0.2nm,0.4s,mb3.4,baz=305,slow=8.1,SNR=6.5
YKA Yellowknife Ar 35.83 51 P **P 08 28 07.4 -0.5**
EDM Edmonton 42.13 62 *e*P **P 08 29 01.9 +1.3**
EGMT Eagleton 47.45 65 *e*P **P 08 29 42.0 -1.0**
comp=Z,4.1nm,0.7s,mb4.5
MKAR Makanchi Array 48.08 293 P **P 08 29 47.4 -0.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=47,slow=9.1,SNR=3.7

POHA Pohakuloa 48.85 129 *e*P **P 08 29 53.3 -0.6**
comp=Z,12nm,0.5s
PDAR Pinedale Array 51.52 69 P **P 08 30 15.7 +1.6**
comp=Z,0.6nm,0.6s,mb3.7,baz=326,slow=2.7,SNR=6.0

*IDC **14** 08:28:30.0±1.3, 3892N×7163E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, ML3.9/2, Error ellipse: s-maj=35.4km s-min=20.1km az=58.0*
*ISCJB **14** 08:28:31.3±1.3, 3898N±006×7104E±006, h21km±12km, mb3.8/5, Error ellipse: s-maj=9.9km s-min=8.3km az=144.8*
*NNC **14** 08:28:31.2±1.6, 3910N×7110E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=12.2km s-min=9.1km az=17.0*
*MOS **14** 08:28:32.8±1.6, 3907N×7109E, h33km, mb4.4/2, Error ellipse: s-maj=28.1km s-min=11.1km az=89.5*
*NEIC **14** 08:28:37.7±0.7, 3938N×7112E, h35km, mb4.3/1, Error ellipse: s-maj=18.0km s-min=9.2km az=107.0*
ISC 14 08:28:32.2±1.4, 3889N±006×7104E±006, h22km±14km, n33, σ0§92/39, mb3.8/5, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.81**	**31**	P	**Pn**	**08 29 30.3**	**+0.7**
SNR=46
KK31 Karatay Array 4.22 355 Pn **Pn 08 29 37.0 +1.7**
8.7nm,0.3s,baz=181,slow=13,SNR=454
KK31 ⇑Sn **Sn** **08 30 28.9** **+4.9**
9.2nm,0.3s
KK31 ⇑Lg 08 30 38.6
14nm,0.4s,baz=168,slow=18,SNR=3.7
KKAR Karatay Array 4.22 355 PN **Pn 08 29 37.0 +1.7**
KKAR *e* 08 30 38.5
KKAR pmax pmax
comp=Z,3.0nm,0.3s
KKAR smax
comp=Z,24nm,0.7s
UCH Uchtor 4.25 37 P **Pn 08 29 35.8 +0.1**
SNR=47
EKS2 Erkin-Say 4.30 28 P **Pn 08 29 36.5 +0.1**
SNR=22
KZA Kyzart 4.52 44 P **Pn 08 29 39.1 -0.2**
SNR=88
AAK Ala-Archa 4.56 34 P **Pn 08 29 40.2 +0.3**
SNR=57
AAK Ala-Archa 4.56 34 *e*Pn **Pn 08 29 39.2 -0.8**
KBL Kabul 4.63 201 *e*Pn **Pb 08 29 52.2 -0.5**
KBK Karagaybulak 4.79 37 P **Pn 08 29 43.9 +0.8**
SNR=11
CHMS Chumysh 4.97 33 P **Pn 08 29 45.7 +0.2**
SNR=11
USP Ospenovka 5.09 30 P **Pn 08 29 47.1 -0.1**
SNR=33
TKM2 Tokmak 2 5.30 39 ⇓Pn **Pn 08 29 49.9 -0.2**
comp=Z,0.6nm,0.5s
TKM2 ⇑Sn **Sn** **08 30 49.8** **-0.7**
comp=Z,2.1nm,0.7s
TKM2 Tokmak 2 5.30 39 PN **Pn 08 29 49.8 -0.3**
TKM2 08 31 04.4
TKM2 pmax pmax
comp=Z,4.0nm,0.5s
TKM2 smax
comp=Z,14nm,0.7s
AB31 Akbulak array 13.06 326 ⇑Pn **Pn 08 31 36.2 -0.2**
comp=Z,1.4nm,0.4s,baz=136,slow=13,SNR=44
AB31 ⇑Sn **Sn** **08 33 60.0** **-1.0**
comp=Z,2.8nm,0.6s
AB31 Akbulak array 13.06 326 *e*P **Pn 08 31 36.2 -0.2**
AB31 08 34 00.6
AB31 pmax pmax
comp=Z,1.0nm,0.4s
AB31 smax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 14.14 358 Pn **Pn 08 31 48.1 -3.1**
comp=Z,0.5nm,0.3s,baz=156,slow=12,SNR=7.1
BVAR Borovoye Array 14.14 358 P **Pn 08 31 48.1 -3.1**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 14.18 358 *e*P **Pn 08 31 48.9 -2.8**
BRVK pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 14.18 358 *e*Pn **Pn 08 31 48.9 -2.8**
comp=Z,1.0nm,0.5s
AKTK Aktyubinsk 14.77 326 Pn **Pn 08 32 00.1 +0.2**
AKTK Sn **Sn** **08 34 43.6** **+0.8**
AKTO Aktyubinsk 14.77 326 ⇑Pn **Pn 08 31 59.2 -0.6**
AKTO ⇑Sn **Sn** **08 34 41.6** **-1.2**
comp=Z,0.2nm,1.3s
AKTO Aktyubinsk 14.77 326 Pn **Pn 08 32 00.1 +0.2**
comp=Z,0.5nm,0.3s,baz=122,slow=14,SNR=8.9
AKTO Sn **Sn** **08 34 43.6** **+0.8**
comp=Z,0.2nm,0.3s,baz=317,slow=19,SNR=3.8
AKTO Aktyubinsk 14.77 326 P **Pn 08 32 00.1 +0.3**
AKTO 08 34 43.6
AKTO pmax pmax
comp=Z,1.0nm,0.3s
TIXI Tiksi 43.55 23 *e*P **P 08 36 33.4 -1.0**
TIXI pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
TIXI Tiksi 43.55 23 *e*P **P 08 36 33.4 -1.0**
comp=Z,3.7nm,0.6s,mb4.3
TORD Torodi Ar. Bea 65.83 268 P **P 08 39 20.0 +4.1**
comp=Z,0.3nm,0.5s,mb3.6,baz=40,slow=7.0,SNR=4.1
TORD Torodi Ar. Bea 65.83 268 P **P 08 39 20.0 +4.1**
INK Inuvik 71.54 9 P **P 08 39 51.8 +0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=338,slow=5.5,SNR=8.4
INK Inuvik 71.54 9 P **P 08 39 51.8 +0.3**
INK pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 78.86 3 P **P 08 40 33.9 +0.3**
comp=Z,0.4nm,0.5s,mb3.6,baz=351,slow=5.6,SNR=14
YKA Yellowknife Ar 78.86 3 P **P 08 40 33.9 +0.3**
WRA Warramunga Arr 83.23 122 P **P 08 40 57.3 +0.4**
comp=Z,0.4nm,0.9s,mb3.5,baz=326,slow=5.0,SNR=4.8

*IDC **14** 08:54:46.3±2.6, 6.11S×14761E, h30km±17km, mb4.2/11, mb1 4.4/14, mb1mx4.3/17, mbtmp4.2/14, ML4.1/3, MS3.6/8, Ms1 3.6/8, ms1mx3.3/25, Error ellipse: s-maj=18.7km s-min=9.6km az=111.0*
*ISCJB **14** 08:54:48.3±2.1, 6.18S±008×1476E±0.1, h63km±19km, mb4.4/13, Error ellipse: s-maj=17.1km s-min=13.5km az=174.0*
*NEIC **14** 08:54:49.1±1.6, 6.15S×14757E, h56km±14km, mb4.6/2, Error ellipse: s-maj=11.1km s-min=10.5km az=62.0*
ISC 14 08:54:49.4±1.5, 616S±007×14756E±009, h56km±15km, n28, σ0§73/27, mb4.4/13, MS3.5/4, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**187**	Pn	**Pn**	**08 55 37.2**	**-0.6**
24nm,0.3s,baz=17,slow=6.0,SNR=44
PMG Sn **Sn** **08 56 15.5** **+0.3**
54nm,0.3s,baz=36,slow=13,SNR=5.8
PMG LR LR 08 57 15.0
comp=Z,1μm,18.6s,baz=14,slow=45
HNR Honiara 12.69 106 LR LR 09 02 10.9
comp=Z,163nm,20.9s,baz=358,slow=35
CTA Charters Tower 13.90 185 Pn **Pn 08 58 04.1 +0.7**
0.4nm,0.3s,baz=1.5,slow=13,SNR=5.9
CTA LR LR 09 03 27.0
comp=Z,278nm,18.6s,baz=8.9,slow=37
KAKA Kakadu 16.27 245 *e*P **Pn 08 58 34.8 +0.7**
30nm,0.5s
WB2 Warramunga Arr 18.77 222⇑*i*P **Pn 08 59 03.9 -1.0**
WRA Warramunga Arr 18.78 222 P **Pn 08 59 03.6 -1.3**
2.7nm,0.3s,baz=52,slow=10,SNR=87
WRA S **S** **09 02 35.1** **+0.4**
0.1nm,0.3s,baz=52,slow=21,SNR=3.2
WRA ScP ScP 09 07 03.3 +3.1
baz=44,slow=2.5,SNR=7.2
GUMO Guam 19.80 352 LR LR 09 04 58.5
comp=Z,112nm,18.2s,baz=167,slow=31
ASAR Alice Springs 21.81 216 P **P 08 59 36.8 +0.1**
22nm,0.5s,mb4.8,baz=53,slow=8.5,SNR=426
ASAR S **S** **09 03 39.2** **+4.6**
6.0nm,0.9s,baz=32,slow=19,SNR=8.2
ASAR ScP ScP 09 07 11.6 +4.2
1.8nm,1.0s,baz=41,slow=3.2,SNR=5.8
DZM Mont Dzumac 24.14 133 P **P 09 00 01.0 +0.9**
4.2nm,0.8s,mb3.9,baz=23,slow=10,SNR=3.0
FITZ Fitzroy Crossi 24.46 239 *e*P **P 09 00 03.3 +0.3**

86nm,0.9s,mb5.2
FITZ Fitzroy Crossi 24.46 239 P **P 09 00 04.1 +1.1**
53nm,0.8s,mb5.0,baz=62,slow=8.8,SNR=162
STKA Stephens Creek 26.18 192⇑*i*P **P 09 00 18.3 -0.3**
10nm,0.7s,mb4.5
STKA Stephens Creek 26.18 192 P **P 09 00 18.4 -0.2**
8.9nm,0.4s,mb4.6,baz=348,slow=8.6,SNR=45
STKA LR LR 09 11 20.4
comp=Z,166nm,20.5s,MS3.6,baz=16,slow=38
FORT Forrest 30.58 214 *e*P **P 09 00 57.4 -0.3**
19nm,0.6s,mb5.1
CBIJ Chichi jima 33.47 351 LR LR 09 11 37.8
comp=Z,52nm,20.0s,MS3.2,baz=132,slow=30
KLBR Kellerberrin 37.64 224 *e*P **P 09 01 58.6 -0.3**
21nm,0.5s,mb5.1
MUN Mundaring 38.94 225 *e*P **P 09 02 11.3 +1.5**
MJAR Matsushiro Arr 43.37 349 P **P 09 02 46.9 +0.7**
7.4nm,1.0s,mb4.4,baz=171,slow=7.8,SNR=16
MAT Matsushiro 43.38 349 P **P 09 02 46.9 +0.7**
KSRS Korea Array 47.10 339 P **P 09 03 16.3 +0.6**
1.0nm,0.6s,mb3.9,baz=156,slow=8.4,SNR=4.4
KSRS LR LR 09 19 26.5
comp=Z,56nm,20.3s,MS3.5,baz=169,slow=31
PPT Papeete 62.31 107 P **P 09 05 05.3 -0.5**
80nm,0.7s,baz=295,slow=9.0,SNR=4.0
SONM Songino Array 64.82 331 P **P 09 05 21.7 -0.6**
1.1nm,0.7s,mb4.0,baz=134,slow=4.9,SNR=7.4
VNDA Vanda 71.72 177 P **P 09 06 05.1 -0.4**
1.0nm,0.5s,mb4.0,baz=20,slow=4.3,SNR=9.7
VNDA LR LR 09 35 01.3
comp=Z,50nm,19.6s,MS3.8,baz=237,slow=34
MKAR Makanchi Array 77.98 320 P **P 09 06 41.4 -0.3**
0.5nm,0.4s,mb3.8,baz=96,slow=8.3,SNR=9.7
ZAL Zalesovo 79.45 328 P **P 09 06 49.7 -0.1**
1.0nm,0.3s,mb4.2,baz=57,slow=20,SNR=3.2
ZAL Zalesovo 79.45 328 P **P 09 06 49.7 -0.1**
BVAR Borovoye Array 87.23 324 P **P 09 07 28.2 -1.5**
0.5nm,0.5s,mb4.0,baz=105,slow=5.9,SNR=3.5
TORD Torodi Ar. Bea 145.67 284 PKPbc PKPbc 09 14 21.9 +0.1
1.8nm,0.6s,baz=62,slow=3.0,SNR=13

*NEIC **14** 09:00:03.8, 3147S×7170W, h19km, ML3.1(GUC), After GUC.*
GUC 14 09:00:03.8±0.5, 3147S×7170W, h19km±3km, MD3.9, ML3.1, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.66**	**64**	⇑*i*P		Pb	09 00 16.4	-0.4
CMCH				*i*S		Sb	09 00 25.9	+0.3
CMCH				AML		AML	09 00 28.1	
	comp=N,2μm,0.4s							
CMCH	**Combarbala**	**0.66**	**64**	⇑*i*P		Pb	09 00 16.4	-0.4
CMCH				*i*S		Sb	09 00 25.9	+0.3
PACH	**Papudo**	**1.09**	**168**	⇑*i*P		Pb	09 00 23.0	-1.0
PACH				*i*S		Sb	09 00 37.6	-0.2
TLL	**Tololo Astrono**	**1.51**	**31**	⇑*i*P		Pn	09 00 30.2	+0.4
TLL				*i*S		Sn	09 00 49.8	+0.9
TLL				AML		AML	09 00 53.5	
	comp=N,262nm,0.4s							
TLL	**Tololo Astrono**	**1.51**	**31**	⇑*i*P		Pn	09 00 30.2	+0.4
TLL				*i*S		Sn	09 00 49.8	+0.9
ROCH	**El Roble**	**1.61**	**159**	*e*P		Pn	09 00 31.7	+0.5
ROCH				*i*S		Sn	09 00 52.9	+1.5
PEL	**Peldehue**	**1.88**	**153**	*e*P		Pn	09 00 35.1	+0.2
PEL				*i*S		Sn	09 00 59.5	+1.5
PEL				AML		AML	09 01 06.0	
	comp=E,304nm,0.4s							
RCDM	**Rinconada Maip**	**2.15**	**160**	*e*P		Pn	09 00 38.7	+0.1
RCDM				*i*S		Sn	09 01 07.2	+2.4
RCDM				AML		AML	09 01 16.4	
	comp=E,128nm,0.6s							
RCDM	**Rinconada Maip**	**2.15**	**160**	P		Pn	09 00 38.7	+0.1
RCDM				*i*S		Sn	09 01 07.2	+2.4
CLCH	**Cerro Calan**	**2.16**	**153**	⇑*i*P		Pn	09 00 40.1	+1.4
CLCH				*i*S		Sn	09 01 07.4	+2.5
CLCH				AML		AML	09 01 17.3	
	comp=E,229nm,0.4s							
TACH	**Talagante**	**2.27**	**164**	*e*P		Pn	09 00 41.3	+1.0
CHCH	**Chadas Angostu**	**2.61**	**161**	*e*P		Pn	09 00 46.3	+1.3
CICH	**Cipreses**	**3.04**	**160**	*e*P		Pn	09 00 52.2	+1.4

MAN 14 09:37:10.6, 899N×12603E, h84km, mb3.4, ML4.6, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.95**	**326**	⇑*e*P		Pn	09 37 29.8	+0.5
SCPH				*e*S		Sn	09 37 44.6	+1.4
BUKP	**Musuan**	**1.46**	**221**	*e*P		Pn	09 37 37.0	+1.4
BUKP				*e*S		Sn	09 37 58.2	+3.7
MSLP	**Maasin**	**1.62**	**315**	*e*P		Pn	09 37 38.5	+1.0
MSLP				*e*S		Sn	09 38 01.1	+3.2

*ISCJB **14** 09:40:01.4±0.8, 474N±0.1×1560E±02, h10km, mb3.6/8, Error ellipse: s-maj=17.2km s-min=12.9km az=76.0*
*IDC **14** 09:40:01.6±0.9, 4729N×15625E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, Error ellipse: s-maj=31.9km s-min=22.5km az=127.0*
*NEIC **14** 09:40:03.1±0.6, 4732N×156.16E, h10km, mb4.4/1, Error ellipse: s-maj=18.5km s-min=11.6km az=159.0*
*MOS **14** 09:40:04.2±3.2, 4706N×15589E, h33km, mb4.0/4, Error ellipse: s-maj=26.6km s-min=17.5km az=86.9*
ISC 14 09:40:03.1±0.7, 4742N±010×1561E±02, h10km, n16, σ0§59/16, mb3.6/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.27**	**360**	*e*PN		**Pg**	**09 41 05.0**	**-0.7**
YSS	**Yuzh-Sakhalins**	**9.13**	**272**	*e*PN		**Pn**	**09 42 14.7**	**-0.2**
INK	**Inuvik**	**39.97**	**33**	P		**P**	**09 47 38.0**	**+0.3**
	0.5nm,0.6s,mb3.4,baz=275,slow=5.2,SNR=6.7							
INK	**Inuvik**	**39.97**	**33**	P		**P**	**09 47 38.0**	**+0.3**
INK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NVS	**Novosibirsk**	**44.42**	**308**	*e*P		**P**	**09 48 08.0**	**-6.0**
MKAR	**Makanchi Array**	**48.46**	**298**	P		**P**	**09 48 45.7**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=60,slow=7.3,SNR=5.0							
MKAR	**Makanchi Array**	**48.46**	**298**	P		**P**	**09 48 45.7**	**0.0**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**48.46**	**298**	P		**P**	**09 48 45.7**	**0.0**
YKA	**Yellowknife Ar**	**49.14**	**38**	P		**P**	**09 48 50.6**	**-0.3**
	comp=Z,0.3nm,0.8s,mb3.4,baz=294,slow=7.4,SNR=4.1							
BVAR	**Borovoye Array**	**52.02**	**310**	P		**P**	**09 49 13.9**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=64,slow=8.2,SNR=3.4							
BVAR	**Borovoye Array**	**52.02**	**310**	P		**P**	**09 49 13.9**	**+1.2**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**69.86**	**202**	P		**P**	**09 51 12.9**	**-1.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=21,slow=6.6,SNR=4.6							
ASAR	**Alice Springs**	**73.54**	**201**	P		**P**	**09 51 36.2**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=17,slow=4.9,SNR=7.2							
TXAR	**Lajitas Array**	**75.35**	**63**	P		**P**	**09 51 46.8**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=311,slow=5.3,SNR=4.4							
GOGA	**Godfrey**	**83.40**	**47**	*e*P		**P**	**09 52 31.0**	**+0.5**
GOGA				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
GOGA	**Godfrey**	**83.40**	**47**	*e*P		**P**	**09 52 31.0**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.2							

IDC 14 09:40:49.1±1.9, 4832N×15588E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/22, mbtmp3.8/5, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/32, Error ellipse: s-maj=92.3km s-min=35.8km az=137.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.52**	**234**	P		Pn	09 44 55.0	+0.3
	0.2nm,0.3s,baz=32,slow=12,SNR=4.4							
JNU	**Nakatsue**	**24.13**	**240**	LR		LR	09 54 57.2	
	comp=Z,135nm,20.5s,baz=91,slow=35							
INK	**Inuvik**	**39.32**	**34**	P		P	09 48 19.4	-0.4
	0.9nm,0.5s,baz=302,slow=4.6,SNR=12							
YKA	**Yellowknife Ar**	**48.54**	**38**	P		P	09 49 33.4	-0.5
	1.2nm,0.8s,baz=299,slow=7.4,SNR=14							
NVAR	**Mina Array Bea**	**60.06**	**65**	P		P	09 50 58.9	+1.0
	0.5nm,0.7s,baz=302,slow=7.4,SNR=3.1							
TXAR	**Lajitas Array**	**75.10**	**63**	P		P	09 52 31.9	-1.0
	0.5nm,0.6s,baz=293,slow=4.8,SNR=4.5							

*NEIC **14** 09:41:49.3±0.6, 4833N×15429E, h10km, mb3.9/2, Error ellipse: s-maj=17.7km s-min=9.2km az=142.0*
*ISCJB **14** 09:41:56.0±0.9, 4841N±008×1542E±01, h78km±8km, mb3.9/13, Error ellipse: s-maj=16.9km s-min=5.2km az=95.5*
*MOS **14** 09:41:56.3±0.9, 4838N×15421E, h85km, mb4.0/11, Error ellipse: s-maj=19.7km s-min=10.6km az=59.7*
*IDC **14** 09:41:59.2±3.7, 4826N×154.17E, h96km±34km, mb3.7/11, mb1 3.9/13, mb1mx3.7/24, mbtmp3.7/13, MS3.6/4, Ms1 3.6/4, ms1mx3.2/33, Error ellipse: s-maj=21.2km s-min=14.4km az=135.0*
ISC 14 09:41:57.6±0.8, 4838N±007×1542E±01, h79km±7km, n41, σ1§08/41, mb3.9/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.61**	**28**	PN		**Pn**	**09 42 36.5**	**-1.1**
SKR				*e*S		**Sn**	**09 43 07.0**	**-1.4**
SKR				pmax		pmax		
	comp=Z,180nm,0.5s							
SKR				pmax		pmax		
	comp=E,270nm,1.0s							
SKR				smax				
	comp=N,900nm,0.4s							
SKR				smax				
	comp=E,540nm,0.5s							
KUR	**Kuril'sk**	**5.38**	**237**	PN		**Pn**	**09 43 17.2**	**+2.0**
KUR				S		**Sn**	**09 44 13.7**	**-2.1**
KUR				smax				
	comp=N,190nm,0.7s							
KUR				smax				
	comp=E,150nm,0.7s							
PET	**Petropavlovsk**	**5.43**	**30**	*e*PN		**Pn**	**09 43 16.0**	**0.0**
PET				*e*S		**Sn**	**09 44 18.2**	**+1.1**
PET				pmax		pmax		
	comp=Z,65nm,0.6s							
PET				smax				
	comp=E,241nm,0.7s							
PET				smax				
	comp=N,251nm,0.6s							
PET	**Petropavlovsk**	**5.43**	**30**	*e*Pn		**Pn**	**09 43 10.4**	**-5.6**
YUK	**Yuzh-Kuril'sk**	**7.25**	**236**	PN		**Pn**	**09 43 41.0**	**+0.3**
YUK				*e*S		**Sn**	**09 45 04.0**	**+2.6**
YUK				smax				
	comp=N,200nm,0.5s							
YUK				smax				
	comp=E,200nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.87**	**264**	PN		**Pn**	**09 43 50.3**	**+1.1**
YSS				*e*S		**Sn**	**09 45 16.2**	**-0.5**
YSS				smax				
	comp=E,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.87**	**264**	*e*Pn		**Pn**	**09 43 46.1**	**-3.1**
ASAJ	**Asahikawa**	**9.11**	**246**	P		**Pn**	**09 44 06.8**	**+0.7**
	comp=E,0.9nm,0.3s,baz=117,slow=17,SNR=4.3							
ASAJ	**Asahikawa**	**9.11**	**246**	PN		**Pn**	**09 44 06.9**	**+0.7**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	**10.07**	**235**	*e*PN		**Pn**	**09 44 12.5**	**-6.7**
MJAR	**Matsushiro Arr**	**16.68**	**231**	P		**Pn**	**09 45 45.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=4.6							
JHJ	**Hachijo jima 2**	**18.71**	**221**	LR		LR	09 51 43.2	
	comp=Z,83nm,21.6s,baz=295,slow=31							
YAK	**Yakutsk**	**19.40**	**324**	*e*P		**Pn**	**09 46 21.2**	**+2.1**
YAK				pmax		pmax		
	comp=Z,18nm,0.8s							
KSRS	**Korea Array**	**22.03**	**250**	P		**P**	**09 46 45.5**	**-0.1**
	comp=Z,3.3nm,0.6s,mb3.9,baz=42,slow=10,SNR=10.0							
SONM	**Songino Array**	**31.53**	**287**	LR		LR	10 01 58.1	
	comp=Z,86nm,18.4s,baz=70,slow=38							
INK	**Inuvik**	**39.88**	**34**	P		**P**	**09 49 23.9**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=289,slow=6.5,SNR=13							
INK	**Inuvik**	**39.88**	**34**	P		**P**	**09 49 23.9**	**+0.4**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZAL	**Zalesovo**	**42.30**	**305**	PcP		PcP	09 51 35.4	-0.4
	comp=Z,0.8nm,0.5s,baz=142,slow=8.8,SNR=4.1							
ZAL				LR		LR	10 08 28.1	
	comp=Z,127nm,18.9s,baz=63,slow=38							
MKAR	**Makanchi Array**	**46.87**	**296**	P		**P**	**09 50 19.4**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=70,slow=8.5,SNR=6.1							
YKA	**Yellowknife Ar**	**49.17**	**38**	P		**P**	**09 50 37.6**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=297,slow=7.4,SNR=18							
YKA	**Yellowknife Ar**	**49.17**	**38**	P		**P**	**09 50 37.6**	**+0.1**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CHKZ	**Chkalovo**	**49.96**	**309**	*e*P		**P**	**09 50 42.5**	**-1.0**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
CHKZ	**Chkalovo**	**49.96**	**309**	*e*P		**P**	**09 50 42.5**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.0							
BVAR	**Borovoye Array**	**50.41**	**309**	P		**P**	**09 50 46.9**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=58,slow=7.8,SNR=8.2							
BVAR				PcP		PcP	09 52 03.7	-0.6
	comp=Z,0.9nm,0.6s,baz=66,slow=3.5,SNR=3.1							
BVAR	**Borovoye Array**	**50.41**	**309**	P		**P**	**09 50 46.9**	**0.0**
BVAR							09 52 03.7	
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**50.45**	**309**	*e*P		**P**	**09 50 46.7**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
BRVK	**Borovoye**	**50.45**	**309**	*e*P		**P**	**09 50 46.6**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.8							
NVAR	**Mina Array Bea**	**61.03**	**64**	P		**P**	**09 52 03.6**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=301,slow=7.3,SNR=8.5							
GCMT	**Greycliff**	**61.13**	**53**	*e*P		**P**	**09 52 04.1**	**+0.6**
FINES	**FINESS Array B**	**62.88**	**335**	P		**P**	**09 52 14.8**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.9,baz=46,slow=8.2,SNR=5.5							
FINES	**FINESS Array B**	**62.88**	**335**	P		**P**	**09 52 14.8**	**-0.5**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**70.30**	**200**	P		**P**	**09 53 00.8**	**-1.7**
	comp=Z,1.6nm,0.6s,mb4.0,baz=17,slow=6.7,SNR=15							
WRA	**Warramunga Arr**	**70.30**	**200**	P		**P**	**09 53 00.8**	**-1.7**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
GNI	**Garni**	**72.04**	**311**	LR		LR	10 26 37.6	
	comp=Z,54nm,21.1s,baz=164,slow=37							
ASAR	**Alice Springs**	**73.99**	**199**	P		**P**	**09 53 24.1**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=13,slow=5.4,SNR=13							
ASAR	**Alice Springs**	**73.99**	**199**	P		**P**	**09 53 24.2**	**-0.4**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**76.05**	**62**	P		**P**	**09 53 36.8**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.9,baz=305,slow=5.2,SNR=13							
TXAR	**Lajitas Array**	**76.05**	**62**	P		**P**	**09 53 36.8**	**+0.4**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**77.71**	**317**	P		**P**	**09 53 46.5**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.4,baz=27,slow=6.8,SNR=2.5							
BRTR	**Keskin Array B**	**77.71**	**317**	P		**P**	**09 53 46.5**	**+0.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**114.06**	**331**	PKP		PKiKP	10 00 27.0	-0.6
	comp=Z,0.3nm,0.5s,baz=339,slow=1.1,SNR=5.0							

*TRN **14** 09:43:03.0, 1868N×62.12W, h63km, MD4.2*
*ISCJB **14** 09:43:04.0±0.4, 1866N±003×6220W±003, h35km, mb4.1/17, MS3.4/3, Error ellipse: s-maj=5.0km s-min=2.9km az=68.1*
*NEIC **14** 09:43:05.1±2.6, 1862N×62.13W, h33km±19km, mb4.2/4, MD4.1(TRN), MD4.2(RSPR), MD4.7(FDF), Error ellipse: s-maj=12.4km s-min=4.3km az=221.0*
*IDC **14** 09:43:06.4±1.8, 1853N×6204W, h48km±19km, mb3.9/13, mb1 4.2/16, mb1mx4.0/27, mbtmp4.0/16, ML3.7/3, MS3.4/4, Ms1 3.4/4, ms1mx3.2/28, Error ellipse: s-maj=21.5km s-min=12.9km az=60.0*
*RSPR **14** 09:43:07.4, 1952N×6251W, h25km±25km, MD4.2/13, MD4.2/13*
ISC 14 09:43:05.8±0.4, 1863N±003×6219W±003, h35km, n57, σ1§00/81, mb4.1/17, MS3.4/3, 14C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**1.04**	**161**	*e*P		**Pn**	**09 43 23.0**	**-0.9**
CPB				*e*S		**Sn**	**09 43 36.4**	**-0.7**
STMA	**St. Maarten, A**	**1.05**	**237**	*e*P		**Pn**	**09 43 24.9**	**+1.0**
STMA				*e*S		**Sn**	**09 43 39.6**	**+2.3**
SKI	**Saint Kitts**	**1.39**	**202**	*e*P		**Pn**	**09 43 29.3**	**+0.7**
SKI				*e*S		**Sn**	**09 43 46.8**	**+1.1**
SKTB	**Turtle Beach**	**1.47**	**196**	*e*P		**Pn**	**09 43 30.3**	**+0.5**
SKTB				*e*S		**Sn**	**09 43 49.5**	**+1.7**
NVRH	**Round Hill, Ne**	**1.49**	**195**	*e*P		**Pn**	**09 43 30.7**	**+0.7**
NVRH				*e*S		**Sn**	**09 43 49.7**	**+1.5**
BPA	**Boggy Peak**	**1.60**	**169**	*e*P		**Pn**	**09 43 31.1**	**-0.5**
BPA				*e*S		**Sn**	**09 43 50.2**	**-0.9**
LZG	**Guadaloupe-1**	**2.50**	**171**	*e*P		**Pn**	**09 43 43.9**	**-0.1**
DEG	**La Desirade**	**2.54**	**155**	*e*P		**Pn**	**09 43 42.4**	**-2.1**
DEG				*e*S		**Sn**	**09 44 13.8**	**-0.3**
DEG	**La Desirade**	**2.54**	**155**	*e*P		**Pn**	**09 43 42.4**	**-2.1**
DEG				S		**Sn**	**09 44 13.8**	**-0.3**
SCG	**Saint Claude**	**2.63**	**169**	*e*P		**Pn**	**09 43 45.7**	**0.0**
STVI	**Saint Thomas**	**2.64**	**264**	⇑*e*P		**Pn**	**09 43 45.6**	**-0.2**
STVI				*e*S		**Sn**	**09 44 16.0**	**-0.6**
TBG	**Guadaloupe-3**	**2.81**	**169**	*e*P		**Pn**	**09 43 48.2**	**0.0**
MGG	**Marie-Galante**	**2.82**	**163**	*e*P		**Pn**	**09 43 48.1**	**-0.2**
BBL	**Barber's Block**	**3.16**	**167**	*e*P		**Pn**	**09 43 52.4**	**-0.6**
MTP	**Monte Pirata**	**3.24**	**261**	⇑*e*P		**Pn**	**09 43 54.7**	**+0.6**
MTP				*e*S		**Sn**	**09 44 31.2**	**-0.2**
CBYP	**Canovanas**	**3.50**	**265**	⇑*e*P		**Pn**	**09 43 57.3**	**-0.3**
CBYP				*e*S		**Sn**	**09 44 36.5**	**-1.3**
HUMP	**Col San Antoni**	**3.51**	**263**	⇑*e*P		**Pn**	**09 43 57.7**	**-0.1**
HUMP				*e*S		**Sn**	**09 44 37.9**	**-0.2**
CPD	**Cerro la Pandu**	**3.59**	**261**	⇑*e*P		**Pn**	**09 43 59.5**	**+0.7**
CPD				*e*S		**Sn**	**09 44 39.6**	**-0.4**
SJG	**San Juan**	**3.80**	**263**	⇓*e*P		**Pn**	**09 44 01.6**	**-0.1**
SJG				*e*S		**Sn**	**09 44 45.3**	**+0.1**
FDF	**Fort de France**	**4.00**	**165**	*e*P		**Pn**	**09 44 03.4**	**-1.1**
FDF				*e*S		**Sn**	**09 44 46.4**	**-3.7**
ICM	**Isla Caja Muer**	**4.18**	**261**	⇓*e*P		**Pn**	**09 44 07.7**	**+0.7**
ICM				*e*S		**Sn**	**09 44 54.7**	**+0.1**
CELP	**Cerrillos**	**4.21**	**263**	⇑*e*P		**Pn**	**09 44 07.6**	**+0.2**
CELP				*e*S		**Sn**	**09 44 54.7**	**-0.5**
BIM	**Bigot**	**4.22**	**165**	*e*P		**Pn**	**09 44 06.9**	**-0.7**
MVM	**Montagne Vaucl**	**4.24**	**163**	*e*P		**Pn**	**09 44 06.6**	**-1.2**
OBIP	**Obispado Ponce**	**4.24**	**263**	⇑*e*P		**Pn**	**09 44 08.6**	**+0.8**
OBIP				*e*S		**Sn**	**09 44 55.7**	**-0.3**
AOPR	**Arecibo Observ**	**4.34**	**267**	⇑*e*P		**Pn**	**09 44 08.4**	**-0.8**
AOPR				*e*S		**Sn**	**09 44 55.6**	**-3.0**
LRS	**Lares**	**4.43**	**266**	⇑*e*P		**Pn**	**09 44 09.8**	**-0.6**
LRS				*e*S		**Sn**	**09 44 58.2**	**-2.6**
GBPR	**Guanica, Bosqu**	**4.50**	**262**	⇑*e*P		**Pn**	**09 44 12.0**	**+0.6**
GBPR				*e*S		**Sn**	**09 45 02.3**	**-0.3**
LSP	**Las Mesas**	**4.67**	**265**	⇑*e*P		**Pn**	**09 44 13.3**	**-0.5**
LSP				*e*S		**Sn**	**09 45 04.4**	**-2.4**
LSP	**Las Mesas**	**4.67**	**265**	⇑*e*P		**Pn**	**09 44 13.3**	**-0.5**
LSP				*e*S		**Sn**	**09 45 04.4**	**-2.4**
CRPR	**Cabo Rojo, PR**	**4.71**	**263**	*e*S		**Sn**	**09 45 06.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**4.71**	**263**	⇑*e*P		**Pn**	**09 44 14.4**	**0.0**
CRPR				*e*S		**Sn**	**09 45 02.9**	**-4.9**
CRPR	**Cabo Rojo, PR**	**4.71**	**263**	⇑*e*P		**Pn**	**09 44 14.4**	**0.0**
CRPR				*e*S		**Sn**	**09 45 06.9**	**-0.9**
GRGR	**Grenville**	**6.48**	**175**	*e*Pn		**Pn**	**09 44 40.4**	**+1.8**
PCRV	**Puerto La Cruz**	**8.73**	**196**	P		**Pn**	**09 45 11.2**	**+1.8**
	0.9nm,0.3s,baz=336,slow=10.0,SNR=4.6							
PCRV				LR		LR	09 48 29.1	
	comp=Z,170nm,18.7s,baz=181,slow=37							
SDV	**Santo Domingo**	**12.68**	**221**	P		**Pn**	**09 46 04.7**	**+1.1**
	0.6nm,0.3s,baz=77,slow=9.2,SNR=12							
ROSC	**El Rosal**	**18.11**	**222**	P		**Pn**	**09 47 14.9**	**+0.4**
	3.6nm,0.3s,baz=100,slow=11,SNR=9.9							
OTAV	**Otavalo**	**24.27**	**223**	*e*P		**P**	**09 48 19.3**	**-0.3**
	5.7nm,0.7s,mb4.1							
BLA	**Blacksburg**	**24.46**	**323**	*e*P		**P**	**09 48 19.9**	**-1.5**
	5.8nm,0.7s,mb4.1							
TEIG	**Tepich**	**24.65**	**278**	P		**P**	**09 48 24.1**	**+1.1**
	6.9nm,0.7s,mb4.3,baz=9.5,slow=6.1,SNR=8.9							
TKL	**Tuckaleechee C**	**25.53**	**316**	P		**P**	**09 48 32.1**	**+1.1**
	4.4nm,0.6s,mb4.2,baz=124,slow=14,SNR=12							
TKL				LR		LR	09 58 40.0	
	comp=Z,34nm,20.1s,MS2.9,baz=97,slow=36							
LRAL	**Lakeview Retre**	**26.45**	**308**	*e*P		**P**	**09 48 40.9**	**+1.5**
	1.9nm,0.6s,mb3.8							
OXF	**Oxford**	**28.91**	**309**	*e*P		**P**	**09 49 02.1**	**+0.7**
	3.6nm,0.8s,mb4.2							
ATAH	**Atahualpa**	**30.07**	**214**	P		**P**	**09 49 12.5**	**+0.9**
	15nm,0.7s,mb4.8,baz=25,slow=5.6,SNR=8.4							
ATAH				LR		LR	10 02 43.1	
	comp=Z,95nm,19.8s,MS3.4,baz=115,slow=39							
SIV	**San Ignacio**	**34.42**	**178**	P		**P**	**09 49 49.2**	**-0.5**
	1.5nm,0.5s,mb4.2,baz=5.2,slow=8.5,SNR=12							
LPAZ	**La Paz**	**35.18**	**190**	P		**P**	**09 49 55.6**	**-0.7**
	0.8nm,0.4s,mb4.0,baz=331,slow=9.3,SNR=5.0							
TXAR	**Lajitas Array**	**39.19**	**294**	P		**P**	**09 50 30.9**	**+0.6**
	1.1nm,0.8s,mb3.7,baz=108,slow=8.1,SNR=12							
PDAR	**Pinedale Array**	**46.55**	**312**	P		**P**	**09 51 31.2**	**+1.3**
	1.8nm,0.7s,

TRG	**Tyrgan**	**1.45 248**	*e*Pg	Pg	09 49 42.0	-2.0
TRG			*e*		09 49 47.9	
TRG			*e*Sg	Sg	09 50 01.9	-1.0
TRG			max			
	comp=N,46nm,0.5s					
TRG			Smax			
	comp=N,439nm,0.4s					
UUDB	**Ulan-Yde**	**1.56 201**	*e*Pg	Pg	09 49 44.3	-1.8
UUDB			*e*		09 49 47.6	
UUDB			*e*Sg	Sg	09 50 05.3	-1.2
UUDB			max			
	comp=N,90nm,0.6s					
UUDB			Smax			
	comp=N,362nm,0.8s					
KAB	**Kabansk**	**1.73 223**	*e*Sg	Sg	09 50 10.3	-1.5
KAB			Smax			
	comp=N,742nm,0.7s					
STDB	**Stepnoy Dvoret**	**1.77 230**	*e*Sg	Sg	09 50 11.2	-1.8
STDB			*e*		09 50 28.5	
STDB			max			
	comp=N,1μm,1.8s					
YLYR	**Ulyunkhan**	**2.18 44**	*e*Pn	Pn	09 49 51.9	+0.6
YLYR			*e*Pg	Pg	09 49 54.0	-3.8
YLYR			*i* Sg	Sg	09 50 23.4	-2.7
YLYR			Pmax			
	comp=N,15nm,0.2s					
YLYR			Smax			
	comp=N,141nm,0.5s					
BTMB	**Babushkin**	**2.33 227**	*e*Pn	Pn	09 49 54.6	+1.1
BTMB			*e*Pg	Pg	09 49 58.1	-2.7
BTMB			*e*		09 50 03.2	
BTMB			*i* Sg	Sg	09 50 29.0	-2.1
BTMB			max			
	comp=N,38nm,0.8s					
BTMB			Smax			
	comp=N,206nm,0.6s					
NIZ	**Nizh Angarsk**	**2.52 13**	*e*PN	Pn	09 49 57.4	+1.4
NIZ			*e*		09 50 00.7	
NIZ			*e*		09 50 33.5	
NIZ			pmax	pmax		
	comp=Z,18nm,0.3s					
NIZ			smax			
	comp=N,156nm,0.5s					
NIZ	**Nizh Angarsk**	**2.52 13**	*e*Pn	Pn	09 49 57.3	+1.3
NIZ			*e*Pg	Pg	09 50 00.8	-3.5
NIZ			*e*Sg	Sg	09 50 33.6	-3.3
NIZ			Pmax			
	comp=N,20nm,0.3s					
NIZ			Smax			
	comp=N,167nm,0.5s					
LSTR	**Listvyanka**	**2.70 239**	*e*Pg	Pg	09 50 03.3	-4.6
LSTR			*e*Sn	Sn	09 50 30.7	-0.1
LSTR			*e*Sg	Sg	09 50 39.6	-3.3
LSTR			Pmax			
	comp=N,14nm,1.1s					
LSTR			Smax			
	comp=N,92nm,0.9s					
IRK	**Irkutsk**	**2.82 249**	*e*PN	Pn	09 50 08.0	+7.8
IRK			*e*		09 50 42.3	
IRK			pmax	pmax		
	comp=Z,217nm,0.1s					
IRK			smax			
	comp=N,498nm,0.4s					
IRK	**Irkutsk**	**2.82 249**	*e*Sg	Sg	09 50 42.3	-4.4
IRK			Smax			
	comp=N,498nm,0.5s					
KMO	**Kumora**	**2.99 30**	*e*PN	Pn	09 50 03.2	+0.8
KMO			*e*		09 50 09.2	
KMO			*e*S	Sn	09 50 39.7	+1.9
KMO			*e*		09 50 48.3	
KMO			pmax	pmax		
	comp=Z,20nm,0.4s					
KMO			smax			
	comp=N,123nm,1.2s					
KMO	**Kumora**	**2.99 30**	*e*Pn	Pn	09 50 02.8	+0.4
KMO			⇑*i*Pg	Pg	09 50 09.2	-4.1
KMO			*e*		09 50 13.2	
KMO			*e*Sg	Sg	09 50 48.4	-3.6
KMO			max			
	comp=N,38nm,0.4s					
KMO			Smax			
	comp=N,148nm,1.0s					
CIT	**Chita**	**3.31 111**	*e*PN	Pn	09 50 13.0	+6.1
CIT			*e*S	Sn	09 50 46.0	+0.3
CIT			*e*		09 50 57.3	
CIT			pmax	pmax		
	comp=Z,37nm,0.4s					
CIT			smax			
	comp=N,169nm,1.3s					
CIT	**Chita**	**3.31 111**	*e*	Pn	09 50 08.0	+1.1
CIT			*e*Pg	Pg	09 50 14.7	-4.7
CIT			*e*Sg	Sg	09 50 58.2	-4.1
CIT			*e*SgSg		09 51 04.2	
CIT			Pmax			
	comp=N,37nm,0.5s					
CIT			max			
	comp=N,170nm,1.4s					
TLY	**Talaya**	**3.43 243**	*e*Pg	Pg	09 50 16.9	-4.8
TLY			*e*Sg	Sg	09 51 01.3	-4.8
TLY			Pmax			
	comp=N,7.0nm,0.6s					
TLY			Smax			
	comp=N,60nm,1.0s					
ARS	**Arshan**	**4.00 252**	*e*PN	Pn	09 50 29.1	+13
ARS			*e*		09 51 17.7	
ARS			pmax	pmax		
	comp=Z,10.0nm,0.2s					
ARS			smax			
	comp=E,294nm,0.7s					
ARS	**Arshan**	**4.00 252**	*e*Pg	Pg	09 50 26.2	-6.4
ARS			*e*Sg	Sg	09 51 18.0	-6.4
ARS			Pmax			
	comp=E,16nm,0.7s					
ARS			Smax			
	comp=E,294nm,0.7s					
SVKR	**Severomuysk**	**4.02 44**	*e*Sg	Sg	09 51 21.3	-3.9
SVKR			Smax			
	comp=E,32nm,1.2s					
ZAK	**Zakamensk**	**4.41 230**	*e*Sn	Sn	09 51 09.7	-3.1
ZAK			*e*Sg	Sg	09 51 32.6	-4.9
ZAK			Smax			
	comp=E,41nm,1.8s					
MOY	**Mondy**	**4.91 253**	*e*	Sn	09 51 27.7	+2.4
MOY			*e*Sg	Sg	09 51 47.2	-6.5
MOY			Smax			
	comp=E,99nm,1.0s					
NLYR	**Nelyaty**	**5.20 50**	*e*Sg	Sg	09 51 56.9	-5.9
ORL	**Orlik**	**5.35 265**	*e*PN	Pn	09 50 37.2	+2.2
ORL			*e*S	Sn	09 51 37.1	+1.0
ORL			*e*S	Sg	09 52 00.1	-7.7
ORL			smax			
	comp=N,100nm,1.4s					
ORL	**Orlik**	**5.35 265**	*e*Pn	Pn	09 50 37.1	+2.1
ORL			*e*		09 51 38.8	
ORL			*e*Sg	Sg	09 52 00.2	-7.6
ORL			max			
	comp=N,7.0nm,0.9s					
ORL			Smax			
	comp=N,100nm,1.5s					
BOD	**Bodaibo**	**5.46 32**	*e*Sg	Sg	09 52 06.0	-5.1
BOD			Smax			
	comp=N,13nm,0.8s					
ULN	**Ulaanbaatar**	**5.55 191**	*e*Sg	Sg	09 52 09.4	-4.9
CRS	**Chara**	**6.62 53**	*e*Sg	Sn	09 52 41.5	+34
CRS			Smax			
	comp=N,26nm,0.8s					
TUP	**Tupik**	**6.83 76**	*e*Sg	Sn	09 52 45.8	+33
TUP			Smax			
	comp=N,62nm,1.4s					
TDJR	**Todzha**	**7.60 268**	*e*Sg	Sn	09 53 11.4	+40

ISCJB ***14*** *10:12:59.7±4.3, 63S±03×1512E±03, h76km±33km, mb3.5/5, Error ellipse: s-maj=62.1km s-min=26.5km az=75.4*
IDC ***14*** *10:13:01.1±6.3, 631S×15125E, h75km±48km, mb3.5/5, mb1 3.7/6, mb1mx3.5/15, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=68.8km s-min=32.9km az=120.0*
ISC 14 10:13:00.6±4.1, 64S±03×1513E±03, h73km±32km, n10, σ0§85/10, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.12**	**233**	P	**Pn**	**10 14 14.3**	**-0.4**
	3.1nm,0.3s,baz=20,slow=12,SNR=9.5						
PMG				S	**Sn**	**10 15 13.7**	**+1.2**
	3.6nm,0.3s,baz=155,slow=21,SNR=4.4						
KAKA	**Kakadu**	**19.66**	**250**	*e*P	**Pn**	**10 17 24.5**	**-1.1**
	4.7nm,0.6s						
WB2	**Warramunga Arr**	**21.32**	**229**	*e*P	**P**	**10 17 39.7**	**-1.7**
WRA	**Warramunga Arr**	**21.32**	**229**	P	**P**	**10 17 41.6**	**+0.1**
	0.6nm,0.4s,mb3.3,baz=53,slow=9.9,SNR=13						
ASAR	**Alice Springs**	**24.02**	**222**	P	**P**	**10 18 09.0**	**+0.4**
	1.6nm,0.6s,mb3.5,baz=55,slow=9.8,SNR=23						
FITZ	**Fitzroy Crossi**	**27.64**	**243**	*e*P	**P**	**10 18 42.0**	**+0.7**
	3.1nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.64**	**243**	P	**P**	**10 18 41.5**	**+0.2**
	1.2nm,0.3s,mb3.8,baz=57,slow=11,SNR=12						
SONM	**Songino Array**	**66.87**	**329**	P	**P**	**10 23 45.0**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=145,slow=6.0,SNR=3.0						
YKA	**Yellowknife Ar**	**97.47**	**28**	P	**P**	**10 26 27.1**	**+0.8**
	0.1nm,0.6s,mb3.4,baz=276,slow=4.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.34**	**285**	PKPbc	PKPbc	10 32 40.9	-0.2
	0.5nm,0.4s,baz=90,slow=2.6,SNR=5.7						

NIED ***14*** *10:13:00, 3600N×104.10E, h68km, Mw4.0 Best double couple: M0=1.33000×10^15 NP1:φs=4.00000°, δ67.00000°, λ91.00000°. NP2:φs=183.00000°, δ23.00000°, λ89.00000°.*
MOS ***14*** *10:13:44.8±1.1, 3602N×14021E, h66km, mb4.4/2, Error ellipse: s-maj=26.1km s-min=12.1km az=43.8*
ISCJB ***14*** *10:13:46.2±0.4, 3600N±003×140.14E±006, h75km±3km, mb3.9/22, Error ellipse: s-maj=7.6km s-min=5.6km az=176.4*
NEIC ***14*** *10:13:47.4±1.5, 3598N×140.10E, h72km±11km, mb4.4/3, Error ellipse: s-maj=17.6km s-min=10.9km az=75.0*
BJI ***14*** *10:13:47.3, 3600N×140.10E, h72km, mB4.9, mb4.3*
JMA ***14*** *10:13:47.5±0.1, 3603N×140.09E, h64km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs=199.00000°, δ28.00000°, λ102.00000°. NP2:φs=5.00000°, δ62.00000°, λ83.00000°. Principal axes: T Plg72.0000°, Azm260.0000°; N Plg6.0000°, Azm8.0000°; P Plg17.0000°, Azm100.0000°;*
JMA Felt II J1.
IDC ***14*** *10:13:48.7±1.1, 3597N×140.05E, h82km±10km, mb3.6/18, mb1 3.8/20, mb1mx3.8/25, mbtmp3.6/20, MS2.6/1, Ms1 2.6/1, ms1mx2.0/33 Error ellipse: s-maj=14.8km s-min=7.1km az=59.0*
ISC 14 10:13:47.2±0.4, 3601N±003×14013E±006, h69km±3km, n48, σ0§80/55, mb3.9/22, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.23**	**12**	⇑P	**Pn**	**10 13 57.5**	**-0.3**
JYT				S	**Sn**	**10 14 04.9**	**-0.6**
JAG	**Ashikaga**	**0.69**	**307**	⇓P	**Pn**	**10 14 01.7**	**-0.2**
JAG				S	**Sn**	**10 14 11.9**	**-0.9**
JRY	**Ryogami san**	**1.00**	**271**	⇓P	**Pn**	**10 14 05.5**	**-0.1**
JKT	**Katashina**	**1.04**	**317**	⇓P	**Pn**	**10 14 05.9**	**-0.3**
JOD2	**Odawara 2**	**1.13**	**229**	⇓P	**Pn**	**10 14 07.0**	**-0.3**
JOD2				S	**Sn**	**10 14 20.8**	**-1.5**
BSO3	**Boso 3**	**1.24**	**166**	P	**Pn**	**10 14 08.4**	**-0.3**
JYN	**Shimob**	**1.39**	**249**	⇓P	**Pn**	**10 14 10.9**	**+0.2**
JIM2	**Oshima 3**	**1.41**	**204**	P	**Pn**	**10 14 10.1**	**-0.8**
JFY	**Yanaizu**	**1.44**	**346**	⇓P	**Pn**	**10 14 11.6**	**+0.3**
JFY				*e*S	**Sn**	**10 14 29.7**	**+0.3**
JFK	**Kawauchi**	**1.48**	**23**	P	**Pn**	**10 14 11.9**	**0.0**
JFT	**Otama**	**1.52**	**6**	P	**Pn**	**10 14 12.8**	**+0.5**
JHK	**Hiroka**	**1.53**	**324**	⇓P	**Pn**	**10 14 12.7**	**+0.2**
MJAR	**Matsushiro Arr**	**1.65**	**289**	P	**Pn**	**10 14 13.9**	**-0.1**
	61nm,0.3s,baz=92,slow=10,SNR=787						
MJAR				S	**Sn**	**10 14 35.0**	**+0.7**
	24nm,0.3s,baz=86,slow=22,SNR=11						
MAJO	**Matsushiro**	**1.65**	**290**	*e*P	**Pn**	**10 14 14.5**	**+0.4**
MAT	**Matsushiro**	**1.65**	**290**	P	**Pn**	**10 14 14.6**	**+0.5**
MAT				S	**Sn**	**10 14 35.2**	**+0.8**
JHJ	**Hachijo jima 2**	**2.90**	**186**	P	**Pn**	**10 14 32.2**	**+1.3**
	18nm,0.3s,baz=90,slow=23,SNR=28						
JHJ				S	**Sn**	**10 15 05.8**	**+1.2**
	65nm,0.3s,baz=79,slow=22,SNR=9.9						
KSRS	**Korea Array**	**9.91**	**282**	P	**Pn**	**10 16 09.3**	**+2.5**
	baz=93,slow=14,SNR=6.3						
KSRS				LR	LR	10 19 48.4	
	comp=Z,38nm,21.5s,baz=350,slow=36						
CN2	**Changchun**	**13.69**	**309**	*e*P	**Pn**	**10 17 04.0**	**+5.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**27.53**	**306**	P	**P**	**10 19 26.6**	**-0.7**
	comp=Z,1.8nm,0.6s,mb3.8,baz=99,slow=8.5,SNR=13						
GTA	**Gaotai**	**31.89**	**288**	*e*P	**P**	**10 20 05.4**	**-0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**41.87**	**313**	P	**P**	**10 21 30.4**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.1,baz=27,slow=1.3,SNR=13						
ZAL	**Zalesovo**	**41.87**	**313**	P	**P**	**10 21 30.4**	**-0.1**
MK31	**Makanchi Array**	**43.80**	**303**	*e*P	**P**	**10 21 46.1**	**0.0**
MKAR	**Makanchi Array**	**43.80**	**303**	P	**P**	**10 21 46.1**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.2,baz=92,slow=9.8,SNR=36						
MKAR				S	**S**	**10 28 11.1**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=251,slow=38,SNR=10						
KURK	**Kurchatov**	**45.76**	**309**	*e*P	**P**	**10 22 00.4**	**-1.3**
	comp=Z,8.1nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**50.08**	**299**	*e*P	**P**	**10 22 35.7**	**+0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**50.08**	**299**	*e*P	**P**	**10 22 35.7**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**50.27**	**314**	*e*P	**P**	**10 22 36.2**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**50.27**	**314**	*e*P	**P**	**10 22 36.2**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**50.51**	**313**	P	**P**	**10 22 38.1**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=74,slow=7.9,SNR=7.3						
FITZ	**Fitzroy Crossi**	**55.54**	**197**	P	**P**	**10 23 15.2**	**-0.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=7.7,slow=9.0,SNR=4.4						
INK	**Inuvik**	**55.77**	**27**	P	**P**	**10 23 17.6**	**+0.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=335,slow=3.1,SNR=17						
INK	**Inuvik**	**55.77**	**27**	*e*P	**P**	**10 23 17.3**	**+0.4**
	comp=Z,49nm,0.6s						
WRA	**Warramunga Arr**	**55.91**	**187**	P	**P**	**10 23 17.1**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.1,baz=3.3,slow=7.4,SNR=23						
AKTK	**Aktyubinsk**	**58.60**	**312**	P	**P**	**10 23 38.0**	**+1.1**
AKTO	**Aktyubinsk**	**58.60**	**312**	P	**P**	**10 23 38.0**	**+1.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=70,slow=15,SNR=4.5						
ASAR	**Alice Springs**	**59.64**	**187**	P	**P**	**10 23 43.9**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=20,slow=11,SNR=7.6						
ARCES	**ARCESS Array B**	**64.59**	**339**	P	**P**	**10 24 15.7**	**-1.6**
	comp=Z,5.3nm,0.9s,mb4.3,baz=53,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**65.21**	**30**	P	**P**	**10 24 20.9**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.2,baz=302,slow=6.5,SNR=6.3						
FINES	**FINESS Array B**	**69.24**	**332**	P	**P**	**10 24 45.2**	**-1.5**
	comp=Z,2.0nm,0.8s,mb4.0,baz=46,slow=8.0,SNR=3.4						
AKASG	**Malin Array Be**	**74.47**	**322**	P	**P**	**10 25 17.2**	**-0.9**
	comp=Z,1.1nm,0.6s,mb3.8,baz=47,slow=5.8,SNR=7.6						
NB2	**NORSAR Subarra**	**74.73**	**337**	P	**P**	**10 25 18.9**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.0,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**74.73**	**337**	P	**P**	**10 25 19.1**	**-0.5**
	comp=Z,1.3nm,0.7s,mb3.8,baz=41,slow=5.8,SNR=5.5						
NVAR	**Mina Array Bea**	**76.43**	**52**	P	**P**	**10 25 31.3**	**+2.0**
	comp=Z,0.4nm,0.6s,mb3.3,baz=300,slow=7.1,SNR=3.4						
BRTR	**Keskin Array B**	**78.75**	**311**	P	**P**	**10 25 42.9**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.6,baz=90,slow=3.7,SNR=3.7						
PDAR	**Pinedale Array**	**79.12**	**45**	P	**P**	**10 25 44.1**	**-0.1**
	comp=Z,0.2nm,0.7s,mb3.0,baz=289,slow=5.5,SNR=2.7						
TXAR	**Lajitas Array**	**91.56**	**52**	P	**P**	**10 26 47.3**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.7,baz=284,slow=3.5,SNR=5.0						
PLCA	**Paso Flores**	**155.55**	**110**	PKP	PKPdf	10 33 34.4	+1.6
	comp=Z,3.2nm,1.0s,baz=267,slow=3.0,SNR=4.2						

ISCJB ***14*** *10:13:52.5±2.4, 366N±0.1×708E±02, h167km±43km, Error ellipse: s-maj=28.2km s-min=23.0km az=137.6*
NNC ***14*** *10:13:55.5±6.5, 3678N×7082E, h205km±97km, mb1.9, mpv2.8, Error ellipse: s-maj=62.9km s-min=38.6km az=26.0*
ISC 14 10:13:53.8±2.7, 367N±02×708E±02, h232km±39km, n10, σ0§61/12, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.87**	**22**	P	**Pn**	**10 15 19.3**	**-0.5**
	SNR=19						
UCH	**Uchtor**	**6.23**	**27**	P	**Pn**	**10 15 23.9**	**-0.5**
	SNR=5.5						
EKS2	**Erkin-Say**	**6.38**	**20**	P	**Pn**	**10 15 27.9**	**+1.6**
	SNR=6.4						
KZA	**Kyzart**	**6.39**	**32**	P	**Pn**	**10 15 25.5**	**-0.9**
	SNR=9.6						
KK31	**Karatay Array**	**6.39**	**358**	⇑P	**Pn**	**10 15 26.8**	**+0.4**
	0.8nm,0.2s,baz=176,slow=12,SNR=22						
KK31				⇑S	**S**	**10 16 40.1**	**-0.3**
	4.5nm,0.4s,baz=180,slow=18,SNR=12						
AAK	**Ala-Archa**	**6.58**	**25**	P	**Pn**	**10 15 29.0**	**+0.2**
	SNR=8.7						
USP	**Ospenovka**	**7.15**	**22**	P	**Pn**	**10 15 36.3**	**+0.2**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.23**	**29**	⇑P	**Pn**	**10 15 36.9**	**-0.3**
	0.1nm,0.5s						
TKM2				⇓S	**S**	**10 17 00.2**	**+0.3**
	0.3nm,0.8s						
MK31	**Makanchi Array**	**13.23**	**37**	⇑Pg	Px	10 17 25.9	
	0.8nm,0.7s,baz=188,slow=15,SNR=13						
MK31				⇑Lg		10 18 03.4	
	1.6nm,0.6s,baz=196,slow=27,SNR=6.1						
AB31	**Akbulak array**	**14.81**	**331**	⇑P	**Pn**	**10 17 17.3**	**+4.9**
	0.1nm,0.3s,baz=159,slow=10,SNR=5.4						
AB31				⇑S	**S**	**10 19 56.1**	**-0.1**
	0.7nm,0.6s						

IDC 14 10:21:52.3±2.0, 258N×12866E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/17, mbtmp3.3/4, Error ellipse: s-maj=217.0km s-min=21.8km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**166**	P	P	10 26 59.7	+0.3
	0.6nm,0.5s,baz=349,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.58**	**169**	P	P	10 27 32.3	+0.2
	0.2nm,0.4s,baz=347,slow=7.6,SNR=4.4						
SONM	**Songino Array**	**49.01**	**340**	P	P	10 30 41.3	+0.5
	0.2nm,0.5s,baz=141,slow=9.3,SNR=2.7						
MKAR	**Makanchi Array**	**59.59**	**325**	P	P	10 31 57.7	-0.2
	0.2nm,0.5s,baz=118,slow=8.0,SNR=4.1						

ISCJB ***14*** *10:34:17.0±2.3, 3.1S±02×130.1E±03, h33km, mb4.0/2, MS3.4/1, Error ellipse: s-maj=46.7km s-min=22.1km az=143.3*
IDC ***14*** *10:34:22.1±4.3, 324S×12957E, h53km±39km, mb4.0/3, mb1 4.2/5, mb1mx3.7/18, mbtmp4.0/5, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/27, Error ellipse: s-maj=65.6km s-min=25.8km az=83.0*
ISC 14 10:34:17.7±4.3, 31S±02×1298E±03, h18km±37km, n10, σ1§30/12, mb4.0/2, MS3.4/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.91**	**165**	*e*P	**Pn**	**10 36 38.9**	**-0.3**
	5.0nm,0.3s						
KAKA				*e*S	**Sn**	**10 38 31.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**15.49**	**195**	*e*P	**Pn**	**10 37 57.2**	**+2.1**
	5.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.49**	**195**	P	**Pn**	**10 37 56.0**	**+0.9**
	0.4nm,0.3s,baz=26,slow=13,SNR=13						
FITZ				LR	LR	10 44 24.7	
	comp=Z,38nm,19.1s,baz=175,slow=40						
WRA	**Warramunga Arr**	**17.33**	**166**	P	**Pn**	**10 38 17.4**	**-1.2**
	0.7nm,0.3s,baz=346,slow=12,SNR=40						
WB2	**Warramunga Arr**	**17.33**	**166**	*e*P	**Pn**	**10 38 16.3**	**-2.3**
ASAR	**Alice Springs**	**20.84**	**169**	P	**P**	**10 38 58.3**	**-0.1**
	14nm,0.7s,baz=348,slow=11,SNR=137						
ASAR				S	**S**	**10 42 47.8**	**-2.3**
	0.9nm,0.9s,baz=350,slow=20,SNR=4.0						
ASAR				PcP	PcP	10 43 05.9	-0.7
	0.9nm,0.5s,baz=351,slow=1.5,SNR=8.0						
CTA	**Charters Tower**	**23.29**	**138**	*e*P	**P**	**10 39 26.1**	**+1.6**
	4.1nm,0.8s,mb3.9						
CTA	**Charters Tower**	**23.29**	**138**	P	**P**	**10 39 25.8**	**+1.3**
	3.1nm,0.6s,mb3.9,baz=317,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**30.71**	**160**	*e*P	**P**	**10 40 31.2**	**-0.3**
	2.8nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**30.71**	**160**	P	**P**	**10 40 32.4**	**+0.9**
	1.3nm,0.4s,mb4.1,baz=351,slow=10,SNR=5.6						
STKA				LR	LR	10 54 05.0	
	comp=Z,72nm,18.9s,MS3.4,baz=207,slow=39						

IDC 14 10:36:02.1±10.0, 273S×14668E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/15, mbtmp4.1/5, ML2.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25, Error ellipse: s-maj=158.1km s-min=59.6km az=37.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.65**	**176**	Pn	Pn	10 37 41.8	+0.8
	0.9nm,0.3s,baz=273,slow=18,SNR=3.9						
PMG				LR	LR	10 39 49.3	
	comp=Z,90nm,18.1s,baz=58,slow=34						
WB2	**Warramunga Arr**	**20.92**	**214**	*e*P	P	10 40 46.1	0.0
WRA	**Warramunga Arr**	**20.93**	**214**	P	P	10 40 46.7	+0.5
	7.8nm,0.8s,baz=38,slow=12,SNR=22						
ASAR	**Alice Springs**	**24.21**	**210**	P	P	10 41 21.4	+1.1
	3.1nm,0.9s,baz=42,slow=8.6,SNR=7.5						
FITZ	**Fitzroy Crossi**	**25.66**	**232**	*e*P	P	10 41 34.7	+1.2
	5.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.66**	**232**	P	P	10 41 33.5	0.0
	3.4nm,0.7s,baz=40,slow=8.3,SNR=5.3						
STKA	**Stephens Creek**	**29.39**	**189**	P	P	10 42 06.2	-0.7
	3.5nm,0.9s,baz=38,slow=12,SNR=3.4						

MOS ***14*** *10:40:01.9±1.3, 5412N×8751E, h14km, mb3.5/1, Error ellipse: s-maj=31.6km s-min=25.1km az=145.2*
IDC ***14*** *10:40:02.8±1.6, 5418N×8733E, h0km, mb3.1/1, mb1 3.4/3, mb1mx3.2/22, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=15.2km s-min=15.1km az=62.0*
ISCJB ***14*** *10:40:03.1±1.4, 5412N±006×872E±02, h10km, mb3.4/1, Error ellipse: s-maj=14.3km s-min=9.3km az=176.2*
NNC ***14*** *10:40:09.1±5.8, 5377N×8678E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=48.7km s-min=28.0km az=63.0*
ISC 14 10:40:06.9±1.5, 5419N±007×869E±01, h10km, n12, σ1§52/18, mb3.4/1, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**1.27**	**259**	Pg	**Pg**	**10 40 30.5**	**-0.9**
	8.7nm,0.3s,baz=30,slow=17,SNR=49						
ZAL				Lg		10 40 50.8	
	10nm,0.3s,baz=288,slow=24,SNR=6.5						
NVS	**Novosibirsk**	**2.24**	**288**	*i* PN	**Pn**	**10 40 46.1**	**+2.0**
NVS				*i*		10 41 18.3	
KURK	**Kurchatov**	**6.15**	**239**	⇑Pn	**Pn**	**10 41 38.6**	**+0.9**
	2.0nm,1.1s						
KURK				⇑Sn	**Sn**	**10 42 50.3**

YKA Yellowknife Ar 62.44 11 P P 10 50 26.1 -4.0
comp=N,0.2nm,0.6s,mb3.4,baz=344,slow=7.2,SNR=4.5

NIED ***14*** *10:46:00, 47.20N×153.80E, h32km, Mw4.7 Best double couple: M0=1.9000×10^16 NP1:φs=339.0000°, δ63.0000°, λ36.0000°. NP2:φs=231.0000°, δ58.0000°, λ148.0000°.*
BJI ***14*** *10:46:19.2, 47.49N×153.83E, h26km, mB4.9, mb4.6, Ms4.6, Ms2.4.3*
NEIC ***14*** *10:46:22.4±0.1, 47.39N×153.02E, h10km, mb5.1/105, MS4.6/2, Error ellipse: s-maj=4.7km s-min=3.1km az=161.0*
JMA ***14*** *10:46:24.1±0.9, 47.21N×153.77E, h30km, M5.4*
SKHL ***14*** *10:46:25.2±1.6, 46.80N×153.90E, h55km±24km, mb5.7/5, ms4.6/4, msh5.8/2*
MOS ***14*** *10:46:26.9±0.8, 47.36N×153.01E, h57km, mb5.2/69, MS4.0/18, Error ellipse: s-maj=8.1km s-min=4.6km az=94.7*
ISCJB ***14*** *10:46:27.1±0.1, 47.33N±0.03×153.10E±0.02, h59km, mb5.0/174, MS4.2/31, Error ellipse: s-maj=4.0km s-min=1.8km az=135.4*
IDC ***14*** *10:46:28.8±0.3, 47.39N×153.03E, h59km±3km, mb4.4/25, mb1 4.6/26, mb1mx4.6/28, mbtmp4.4/26, MS4.1/17, Ms1 4.1/17, ms1mx3.8/34, Error ellipse: s-maj=12.6km s-min=8.7km az=122.0*
SZGRF ***14*** *10:46:35.0, 48.98N×152.51E, h33km, mb5.1, Kuril Islands, Russia*
ISC 14 10:46:29.2±0.1,**47.42N**±0.03×**153.01E**±0.02,**h61**km, **h61**km±1.3km:**pP-P,n655,**σ0**985**/668,**mb5.0**/174,**145C-75D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.85**	**31**	*e*PN	**Pn**	**10 47 26.0**	**0.0**
SKR				*e*S	**Sn**	**10 48 07.2**	**-2.8**
SKR	comp=Z,160nm,0.6s			pmax	pmax		
SKR	comp=N,140nm,0.5s			pmax	pmax		
SKR	comp=N,1μm,0.7s			smax			
SKR	comp=E,670nm,0.7s			smax			
SKR	comp=N,2μm,2.0s			smax			
SKR	comp=E,3μm,2.0s			smax			
SKR	comp=N,3μm,8.0s			MLR	MLR		
SKR	comp=Z,3μm,8.0s			MLR	MLR		
SKR	comp=E,5μm,10.0s			MLR	MLR		
KUR	**Kuril'sk**	**4.18**	**240**	⇑*i*PN	**Pn**	**10 47 30.0**	**-0.4**
KUR				*i* S	**Sn**	**10 48 20.0**	**+2.0**
KUR	comp=N,270nm,0.6s			pmax	pmax		
KUR	comp=E,300nm,0.6s			pmax	pmax		
KUR	comp=Z,1μm,0.6s			pmax	pmax		
KUR	comp=Z,4μm,1.0s			pmax	pmax		
KUR	comp=E,9μm,2.0s			smax			
KUR	**Kuril'sk**	**4.18**	**240**	*i* P	**Pn**	**10 47 30.0**	**-0.4**
KUR				AMB	AMB	10 47 31.5	
KUR	comp=E,270nm,0.6s			AMB	AMB	10 47 31.5	
KUR	comp=E,300nm,0.6s			AMB	AMB	10 47 31.5	
KUR	comp=E,1μm,0.6s			AMB	AMB	10 47 31.6	
KUR	comp=E,4μm,1.0s			*i* S	**Sn**	**10 48 20.0**	**+2.0**
KUR				A		10 48 22.0	
KUR	comp=E,9μm,2.0s			A		10 48 37.3	
KUR	comp=E,3μm,0.6s			A		10 48 37.3	
KUR	comp=E,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.04**	**239**	*e*PN	**Pn**	**10 47 47.7**	**-8.2**
YUK				*e*S	**Sn**	**10 49 13.0**	**+9.4**
YUK	comp=Z,2μm,1.0s			pmax	pmax		
YUK	comp=Z,760nm,0.3s			pmax	pmax		
YUK	comp=N,950nm,0.5s			smax			
YUK	comp=E,2μm,0.5s			smax			
YUK	comp=N,5μm,1.0s			smax			
YUK	comp=E,3μm,1.0s			smax			
NEM2	**Nemuro 2**	**6.53**	**234**	P	**Pn**	**10 48 01.6**	**-0.9**
NEM2				*e*S	**Sn**	**10 49 13.1**	**-2.5**
JRA	**Rausu**	**6.53**	**241**	P	**Pn**	**10 48 04.8**	**+2.2**
PET	**Petropavlovsk**	**6.68**	**31**	*e*PN	**Pn**	**10 48 07.8**	**+3.2**
PET	comp=Z,115nm,0.9s			pmax	pmax		
PET	comp=Z,400nm,16.0s			MLR	MLR		
PET	**Petropavlovsk**	**6.68**	**31**	*e*Pn	**Pn**	**10 48 04.8**	**+0.2**
PET				*e*Sn	**Sn**	**10 49 17.5**	**-1.8**
JNK	**Nakash**	**6.97**	**240**	P	**Pn**	**10 48 10.3**	**+1.7**
JNK				*e*S	**Sn**	**10 49 29.1**	**+2.6**
YSS	**Yuzh-Sakhalins**	**7.01**	**270**	⇓*e*PN	**Pn**	**10 48 13.9**	**+4.8**
YSS				*e*S	**Sn**	**10 49 35.0**	**+7.7**
YSS	comp=N,420nm,0.9s			pmax	pmax		
YSS	comp=E,540nm,0.9s			pmax	pmax		
YSS	comp=Z,620nm,0.9s			pmax	pmax		
YSS	comp=N,130nm,0.8s			smax			
YSS	comp=E,150nm,0.7s			smax			
YSS	comp=E,2μm,18.0s			MLR	MLR		
YSS	comp=Z,2μm,18.0s			MLR	MLR		
YSS	comp=N,1μm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.01**	**270**	*e*Pn	**Pn**	**10 48 14.3**	**+5.2**
YSS	**Yuzh-Sakhalins**	**7.01**	**270**	*e*P	**Pn**	**10 48 13.9**	**+4.8**
YSS				AMB	AMB	10 48 15.0	
YSS	comp=N,420nm,0.9s			AMB	AMB	10 48 15.0	
YSS	comp=N,540nm,0.9s			AMB	AMB	10 48 15.0	
YSS	comp=N,620nm,0.9s						
YSS				*e*S	**Sn**	**10 49 35.0**	**+7.7**
YSS				A		10 49 36.7	
YSS	comp=N,130nm,0.8s			A		10 49 36.7	
YSS	comp=N,150nm,0.8s			AMS	AMS	10 50 48.0	
YSS	comp=N,1μm,16.0s			AMS	AMS	10 50 48.0	
YSS	comp=N,2μm,16.0s						
JTKR	**Abashiri--Toko**	**7.25**	**245**	P	**Pn**	**10 48 15.1**	**+2.7**
JAK	**Akkeshi**	**7.35**	**236**	P	**Pn**	**10 48 13.1**	**-0.7**
JAK				*e*S	**Sn**	**10 49 33.4**	**-2.3**
UGL	**Uglegorsk**	**7.50**	**287**	*e*P	**Pn**	**10 48 21.2**	**+5.4**
UGL	comp=N,240nm,0.7s			AMB	AMB	10 48 22.5	
UGL	comp=N,2μm,15.0s			AMS	AMS	10 51 18.0	
UGL	comp=N,2μm,15.0s			AMS	AMS	10 51 18.0	
UGL	comp=N,1μm,15.0s			AMS	AMS	10 51 18.0	
JMP	**Maruseppu**	**7.57**	**247**	P	**Pn**	**10 48 20.4**	**+3.6**
JSE	**Soyaes**	**7.64**	**255**	P	**Pn**	**10 48 23.0**	**+5.2**
JAR	**Ashorobuto**	**7.70**	**241**	P	**Pn**	**10 48 20.5**	**+1.9**
JAR				*e*S	**Sn**	**10 49 46.7**	**+2.3**
JOB	**Onbets**	**7.90**	**239**	P	**Pn**	**10 48 21.8**	**+0.5**
JOB				*e*S	**Sn**	**10 49 48.8**	**-0.4**
JWK2	**Keihoku**	**7.97**	**259**	P	**Pn**	**10 48 28.9**	**+6.6**
ASAJ	**Asahikawa**	**8.00**	**249**	P	**Pn**	**10 48 27.4**	**+4.8**
	comp=N,8.9nm,0.3s,baz=76,slow=14,SNR=26						
ASAJ				LR	LR	10 51 18.4	
	comp=N,1μm,21.0s,baz=60,slow=36						
ASAJ	**Asahikawa**	**8.00**	**249**	P	**Pn**	**10 48 27.3**	**+4.7**
ASAJ	**Asahikawa**	**8.00**	**249**	PN	**Pn**	**10 48 27.4**	**+4.8**
ASAJ	comp=Z,9.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,1μm,21.0s			MLR	MLR		
JKK2	**Kamakawa 2**	**8.02**	**248**	P	**Pn**	**10 48 26.7**	**+3.8**
JCH	**Churui**	**8.35**	**238**	P	**Pn**	**10 48 27.5**	**0.0**
JCH				*e*S	**Sn**	**10 49 58.5**	**-1.8**
JFR	**Furan**	**8.49**	**244**	P	**Pn**	**10 48 32.6**	**+3.3**
JAB	**Ashibetsu**	**8.53**	**247**	P	**Pn**	**10 48 34.1**	**+4.1**
JHR	**Hokuryu**	**8.73**	**249**	P	**Pn**	**10 48 40.1**	**+7.5**
JBT2	**Biratori 2**	**8.84**	**242**	P	**Pn**	**10 48 35.2**	**+1.0**
JEM	**Erimo**	**8.85**	**236**	P	**Pn**	**10 48 34.4**	**+0.1**
JEM				*e*S	**Sn**	**10 50 09.3**	**-3.2**
ERM	**Erimo**	**8.85**	**236**	Pn	**Pn**	**10 48 34.3**	**0.0**
ERM	**Erimo**	**8.85**	**236**	*e*PN	**Pn**	**10 48 34.5**	**+0.2**
ERM	**Erimo**	**8.85**	**236**	*e*Pn	**Pn**	**10 48 32.4**	**-2.0**
ERM	comp=Z,131nm,0.6s			*e*Sn	**Sn**	**10 49 58.2**	**-14**
OKH	**Okha**	**8.88**	**317**	*e*PN	**Pn**	**10 48 34.8**	**0.0**
OKH				*e*S	**Sn**	**10 50 16.8**	**+3.5**
OKH	comp=Z,1μm,10.0s			smax			
JNBK	**Urakawa-nobuka**	**8.91**	**239**	P	**Pn**	**10 48 34.4**	**-0.8**
JNBK				*e*S	**Sn**	**10 50 11.7**	**-2.3**
JEW	**Eniwo**	**9.36**	**245**	P	**Pn**	**10 48 43.6**	**+2.2**
JNB	**Noboribetsu**	**9.82**	**244**	P	**Pn**	**10 48 48.2**	**+0.6**
JNB				*e*S	**Sn**	**10 50 35.6**	**-0.7**
JKB	**Kayabe**	**10.16**	**241**	P	**Pn**	**10 48 51.3**	**-1.0**
JKB				*e*S	**Sn**	**10 50 38.6**	**-6.1**
JSH	**Shimam**	**10.34**	**247**	P	**Pn**	**10 48 56.4**	**+1.7**
JYM2	**Yakumo 2**	**10.43**	**244**	P	**Pn**	**10 48 56.3**	**+0.4**
JSR	**Shiriuchi**	**10.75**	**241**	P	**Pn**	**10 48 58.6**	**-1.7**
JTM	**Tenmabayashi**	**10.84**	**237**	P	**Pn**	**10 48 59.0**	**-2.5**
JTM				*e*S	**Sn**	**10 50 53.6**	**-7.6**
JANG	**Nango**	**10.87**	**234**	P	**Pn**	**10 48 58.3**	**-3.7**
JANG				*e*S	**Sn**	**10 50 52.7**	**-9.3**
JTH	**Tanohata**	**10.99**	**231**	P	**Pn**	**10 48 59.2**	**-4.4**
JTH				*e*S	**Sn**	**10 50 52.3**	**-13**
JOSM	**Okushiri--Mats**	**11.00**	**246**	P	**Pn**	**10 49 04.6**	**+0.9**
OFUJ	**Ofunato**	**11.73**	**229**	P	**Pn**	**10 49 09.4**	**-4.3**
OFUJ				*e*S	**Sn**	**10 51 11.5**	**-11**
JRG	**Rokugo**	**12.04**	**233**	P	**Pn**	**10 49 14.9**	**-3.0**
HABR	**Khabarovsk**	**12.10**	**282**	*e*PN	**Pn**	**10 49 24.7**	**+6.1**
HABR				*e*S	**Sn**	**10 51 38.0**	**+6.2**
MA2	**Magadan**	**12.26**	**355**	*ce*PN	**Pn**	**10 49 23.2**	**+2.4**
MA2				S	**Sn**	**10 51 45.5**	**+10**
MA2	comp=N,50nm,0.6s			pmax	pmax		
MA2	comp=Z,70nm,0.6s			pmax	pmax		
MA2	comp=Z,300nm,17.7s			MLR	MLR		
JIO	**Ouri**	**12.37**	**228**	P	**Pn**	**10 49 17.6**	**-4.8**
JIO				*e*S	**Sn**	**10 51 27.3**	**-11**
JYA	**Atsumi**	**13.12**	**233**	P	**Pn**	**10 49 28.8**	**-3.8**
JFK	**Kawauchi**	**13.45**	**226**	P	**Pn**	**10 49 32.0**	**-5.1**
JFY	**Yanaizu**	**14.01**	**229**	P	**Pn**	**10 49 41.4**	**-3.1**
MAJO	**Matsushiro**	**15.44**	**231**	*e*P	**Pn**	**10 50 00.4**	**-2.8**
MAJO	comp=Z,80nm,0.9s			pmax	pmax		
MAJO	**Matsushiro**	**15.44**	**231**	*e*Pn	**Pn**	**10 50 00.4**	**-2.7**
	comp=Z,80nm,0.9s						
MAT	**Matsushiro**	**15.44**	**231**	P	**Pn**	**10 50 00.9**	**-2.3**
MAT				*e*S	**S**	**10 52 53.8**	**-12**
MJAR	**Matsushiro Arr**	**15.44**	**231**	P	**Pn**	**10 50 00.9**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=28,slow=13,SNR=38						
MJAR	**Matsushiro Arr**	**15.44**	**231**	P	**Pn**	**10 50 00.9**	**-2.3**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax		
VLA	**Vladivostok**	**15.47**	**262**	*e*P	**Pn**	**10 50 06.0**	**+2.5**
VLA	comp=Z,35nm,0.7s			pmax	pmax		
VLA	comp=Z,700nm,18.4s			MLR	MLR		
MDJ	**Mudanjiang**	**16.50**	**269**	P	**Pn**	**10 50 17.0**	**+0.5**
MDJ				AP	pP	10 50 23.1	-8.0
MDJ				XP	sP	10 50 24.6	-14
MDJ				S	**S**	**10 53 17.8**	**-10**
MDJ				XS	sS	10 53 32.8	-16
MDJ				PCP	PcP	10 55 02.4	-2.4
MDJ				SCS	ScS	11 02 15.3	+2.0
MDJ	comp=Z,12nm,1.0s			AMB	AMB		
MDJ	comp=Z,109nm,6.0s			AMB	AMB		
MDJ	comp=N,330nm,16.4s			LR	LR		
MDJ	comp=E,393nm,16.9s			LR	LR		
MDJ	comp=Z,504nm,17.2s			LR	LR		
JHJ	**Hachijo jima 2**	**17.45**	**220**	LR	LR	10 56 46.7	
	comp=Z,103nm,20.1s,baz=110,slow=36						
CLNS	**Chul'man**	**19.54**	**309**	*d*/*i*P	**Pn**	**10 50 56.6**	**+3.1**
CLNS				*e*S	**S**	**10 54 24.9**	**-4.2**
CLNS	comp=Z,55nm,0.8s			pmax	pmax		
CLNS	comp=N,19nm,0.7s			pmax	pmax		
CLNS	comp=E,28nm,1.0s			pmax	pmax		
CLNS	comp=E,11nm,1.1s			smax			
CLNS	comp=Z,7.0nm,1.3s			smax			
CLNS	comp=N,18nm,1.2s			smax			
CLNS	comp=Z,700nm,14.0s			MLR	MLR		
CLNS	comp=N,100nm,12.0s			MLR	MLR		
CLNS	comp=E,800nm,13.0s			MLR	MLR		
CN2	**Changchun**	**19.58**	**270**	⇑P	**Pn**	**10 50 52.3**	**-1.6**
CN2				*e*S	**S**	**10 54 26.9**	**-2.9**
CN2	comp=Z,20nm,0.6s			AMB	AMB		
CN2	comp=Z,200nm,5.0s			AMB	AMB		
CN2	comp=N,300nm,16.0s			LR	LR		
CN2	comp=E,500nm,16.0s			LR	LR		
CN2	comp=Z,600nm,17.0s			LR	LR		
YAK	**Yakutsk**	**19.73**	**326**	*e*P	**Pn**	**10 50 57.5**	**+1.8**
YAK	comp=Z,38nm,0.9s			pmax	pmax		
YAK	comp=N,16nm,1.1s			pmax	pmax		
YAK	comp=E,17nm,1.0s			pmax	pmax		
YAK	comp=Z,326nm,19.0s			MLR	MLR		
YAK	comp=N,319nm,16.0s			MLR	MLR		
YAK	comp=E,276nm,17.0s			MLR	MLR		
YAK	**Yakutsk**	**19.73**	**326**	*e*P	**Pn**	**10 50 56.8**	**+1.1**
	comp=E,110nm,0.9s						
KSRS	**Korea Array**	**20.94**	**251**	P	**P**	**10 51 08.9**	**+2.0**
	comp=E,39nm,1.0s,baz=53,slow=10.0,SNR=33						
KSRS				PcP	PcP	10 55 12.9	+0.5
	comp=E,2.1nm,0.7s,baz=358,slow=1.1,SNR=6.0						
KSRS				pPcP		10 55 29.8	
	comp=E,1.2nm,0.7s,baz=11,slow=2.4,SNR=3.3						
KSRS				LR	LR	10 58 07.2	
	comp=E,260nm,20.1s,baz=30,slow=33						
KS15	**Wonju Array Si**	**20.97**	**251**	*e*P	**P**	**10 51 09.5**	**+2.2**
INCN	**Inchon**	**21.76**	**252**	*e*P	**P**	**10 51 17.4**	**+1.8**
	comp=E,87nm,0.9s,mb5.2						
BILL	**Bilibino**	**21.76**	**13**	*e*P	**P**	**10 51 14.4**	**-1.2**
BILL	comp=Z,11nm,1.1s,mb4.2			pmax	pmax		
BILL	comp=Z,300nm,16.0s			MLR	MLR		
BILL	**Bilibino**	**21.76**	**13**	*e*P	**P**	**10 51 14.4**	**-1.2**
	comp=Z,23nm,1.1s,mb4.5						
JNU	**Nakatsue**	**22.01**	**238**	P	**P**	**10 51 20.9**	**+2.5**
	comp=Z,27nm,0.8s,mb4.7,baz=249,slow=20,SNR=7.0						
JNU				LR	LR	10 59 46.8	
	comp=Z,439nm,19.4s,baz=79,slow=36						
HIA	**Hailar**	**22.10**	**287**	*e*P	**P**	**10 51 19.9**	**+0.7**
HIA	comp=Z,18nm,0.9s			pmax	pmax		
HIA	**Hailar**	**22.10**	**287**	*e*P	**P**	**10 51 19.9**	**+0.6**
	comp=Z,18nm,0.9s,mb4.5						
BOD	**Bodaibo**	**25.52**	**309**	*e*P	**P**	**10 51 47.6**	**-4.3**
BOD				*e*		10 52 07.1	
BOD	comp=Z,4.0nm,0.8s,mb4.0			pmax	pmax		
TIXI	**Tiksi**	**26.81**	**343**	*e*P	**P**	**10 52 00.1**	**-3.5**
TIXI				*e*S	**S**	**10 56 29.9**	**-5.5**
TIXI	comp=Z,6.0nm,0.9s,mb4.1			pmax	pmax		
TIXI	comp=Z,166nm,13.0s			MLR	MLR		
BJI	**Beijing**	**27.42**	**268**	P	**P**	**10 52 13.1**	**+4.0**
BJI	comp=Z,8.0nm,0.9s,mb4.2			AMB	AMB		
BJI	comp=N,415nm,18.0s			LR	LR		
BJI	comp=E,295nm,18.0s			LR	LR		
BJI	comp=Z,428nm,21.7s			LR	LR		
BJT	**Baijiatuau**	**27.44**	**268**	*e*P	**P**	**10 52 12.8**	**+3.6**
BJT	comp=Z,9.0nm,0.9s			pmax	pmax		
BJT	**Baijiatuau**	**27.44**	**268**	*e*P	**P**	**10 52 12.8**	**+3.6**
	comp=Z,9.4nm,0.9s,mb4.3						
TNA	**Tin City**	**27.52**	**35**	*e*P	**P**	**10 52 10.2**	**+0.3**
JOW	**Kunigami**	**28.27**	**232**	P	**P**	**10 52 17.8**	**+1.1**
	comp=Z,40nm,0.8s,mb5.1,baz=98,slow=1.5,SNR=3.6						
SSE	**Sheshan**	**29.28**	**248**	*e*P	**P**	**10 52 25.3**	**-0.3**
SSE				S	**S**	**10 57 17.8**	**+3.5**
SSE	comp=Z,64nm,0.7s,mb5.5			AMB	AMB		
SSE	comp=Z,207nm,5.1s			AMB	AMB		
SSE	comp=N,117nm,22.6s			LR	LR		
SSE	comp=E,200nm,22.8s			LR	LR		
SSE	comp=Z,193nm,28.2s			LR	LR		
SSE	**Sheshan**	**29.28**	**248**	*e*P	**P**	**10 52 25.2**	**-0.4**
SSE				pP	pP	10 52 28.6	-12
SSE				S	**S**	**10 57 17.7**	**+3.4**
HHC	**Hu-ho-hao-te**	**30.18**	**273**	*e*P	**P**	**10 52 33.3**	**-0.3**
HHC				AP	pP	10 52 37.9	-11
HHC				PP	PP	10 53 31.6	-11
HHC				PCP	PcP	10 55 33.8	+0.4
HHC				S	**S**	**10 57 33.0**	**+4.5**
HHC				SCP	ScP	10 59 15.5	+5.1
HHC				PCS	PcS	10 59 17.9	+1.0
HHC	comp=Z,7.0nm,1.2s,mb4.3			AMB	AMB		
HHC	comp=Z,153nm,7.0s			AMB	AMB		
SONM	**Songino Array**	**31.05**	**288**	P	**P**	**10 52 42.1**	**+0.8**
	comp=Z,1.9nm,0.6s,mb4.1,baz=69,slow=7.8,SNR=13						
SONM				PcP	PcP	10 55 35.3	-0.3
	comp=Z,2.1nm,0.7s,baz=103,slow=1.6,SNR=7.2						
SONM				pPcP		10 55 52.3	
	comp=Z,2.6nm,0.8s,baz=98,slow=2.2,SNR=6.7						
SONM				LR	LR	11 06 19.1	
	comp=Z,424nm,18.3s,baz=256,slow=38						
SONM	**Songino Array**	**31.05**	**288**	P	**P**	**10 52 42.0**	**+0.8**
SONM				PcP	PcP	10 55 35.3	-0.3
SONM				pPcP		10 55 52.3	
ZAK	**Zakamensk**	**32.34**	**294**	*e*P	**P**	**10 52 52.4**	**-0.2**
IMA2	**Indian Mountai**	**33.31**	**37**	*e*P	**P**	**10 53 00.7**	**-0.3**
WHN	**Wuhan**	**34.04**	**254**	⇓P	**P**	**10 53 08.0**	**+0.6**
GUMO	**Guam**	**34.40**	**194**	LR	LR	11 06 26.4	
	comp=Z,88nm,18.3s,baz=38,slow=35						
MCK	**McKinley**	**35.19**	**41**	*e*P	**P**	**10 53 16.6**	**-0.7**
	comp=Z,12nm,1.1s,mb4.7						
XAN	**Xi'an**	**35.51**	**264**	P	**P**	**10 53 20.3**	**+0.3**
XAN				AP	pP	10 53 26.1	-9.1
XAN	comp=Z,8.0nm,1.2s,mb4.5			AMB	AMB		
SML	**Sawmill**	**35.54**	**44**	*e*P	**P**	**10 53 20.1**	**-0.2**
COLA	**College**	**35.66**	**39**	*e*P	**P**	**10 53 21.1**	**-0.2**
COLA	comp=Z,20nm,0.8s,mb5.1			pmax	pmax		
COLA	**College**	**35.66**	**39**	*e*P	**P**	**10 53 21.1**	**-0.2**
	comp=Z,20nm,0.8s,mb5.1						
LZH	**Lanzhou**	**37.80**	**271**	*e*P	**P**	**10 53 41.5**	**+1.9**
LZH				PP	PP	10 55 10.3	+3.5
LZH				*e*S	**S**	**10 59 27.3**	**+1.2**
LZH	comp=Z,13nm,1.0s,mb4.6			AMB	AMB		
LZH	comp=Z,91nm,4.3s			AMB	AMB		
LZH	comp=N,466nm,14.6s			LR	LR		
LZH	comp=Z,421nm,16.6s			LR	LR		
LZH	**Lanzhou**	**37.80**	**271**	*e*P	**P**	**10 53 41.5**	**+1.9**
LZH						10 55 10.2	
LZH				*e*S	**S**	**10 59 27.2**	**+1.1**
LZH	**Lanzhou**	**37.80**	**271**	*e*P	**P**	**10 53 41.5**	**+1.9**
LZH				pP	pP	10 53 43.5	-11
LZH				sP	sP	10 53 45.0	-17
LZH				PP	PP	10 55 10.2	+3.4
LZH				PcP	PcP	10 56 04.5	+9.4
LZH				*e*S	**S**	**10 59 27.2**	**+1.1**
LZH				sS	sS	10 59 34.0	-18
EGAK	**Eagle**	**38.52**	**39**	*e*P	**P**	**10 53 44.6**	**-1.0**
	comp=Z,13nm,0.3s,mb5.2						
GTA	**Gaotai**	**38.80**	**278**	*e*P	**P**	**10 53 49.6**	**+1.6**
GTA				AP	pP	10 53 53.8	-9.5
GTA				XP	sP	10 53 56.8	-14
GTA				PP	PP	10 55 25.3	+7.5
GTA				PCP	PcP	10 55 59.3	+1.1
GTA				S	**S**	**10 59 49.1**	**+8.0**
GTA				SS	SS	11 02 33.3	-0.8
GTA	comp=Z,4.0nm,1.0s,mb4.1			AMB	AMB		
GTA	comp=Z,366nm,4.9s			AMB	AMB		
GTA	comp=N,286nm,16.4s			LR	LR		
GTA	comp=E,306nm,15.6s			LR	LR		
GTA	comp=Z,388nm,19.4s			LR	LR		
DAWY	**Dawson**	**39.37**	**40**	*e*P	**P**	**10 53 53.3**	**+0.6**
CD2	**Chengdu**	**40.87**	**264**	P	**P**	**10 54 06.0**	**+0.9**
CD2				AP	pP	10 54 10.5	-10
CD2				XP	sP	10 54 13.1	-14
CD2				PP	PP	10 55 43.9	+3.6
CD2				PCP	PcP	10 56 07.6	+2.8
CD2				S	**S**	**11 00 16.1**	**+4.0**
CD2				SCS	ScS	11 04 08.8	+4.5
CD2	comp=Z,30nm,0.7s,mb5.0			AMB	AMB		
CD2	comp=Z,180nm,4.7s			AMB	AMB		
CD2	comp=N,560nm,10.2s			LR	LR		
CD2	comp=E,810nm,6.9s			LR	LR		
CD2	comp=Z,500nm,10.2s			LR	LR		
INK	**Inuvik**	**41.13**	**33**	P	**P**	**10 54 07.4**	**+0.2**
	comp=Z,21nm,0.7s,mb4.9,baz=287,slow=7.0,SNR=174						
INK				pP	pP	10 54 22.4	-0.3
	comp=Z,9.5nm,0.5s,baz=296,slow=7.9,SNR=8.5						
INK	**Inuvik**	**41.13**	**33**	P	**P**	**10 54 07.4**	**+0.2**
INK				*PP	pP	10 54 22.4	-0.2
INK	comp=Z,21nm,0.7s			pmax	pmax		
INK	**Inuvik**	**41.13**	**33**	*e*P	**P**	**10 54 07.5**	**+0.3**
	comp=Z,853nm,0.8s						
GYA	**Guiyang**	**41.80**	**257**	⇑*i*P	**P**	**10 54 13.4**	**+0.7**
GYA				AP	pP	10 54 17.8	-10
GYA				XP	sP	10 54 20.9	-14
GYA				PP	PP	10 55 53.8	+3.5
GYA				S	**S**	**11 00 31.3**	**+5.5**
GYA				SS	SS	11 03 30.8	-2.8
GYA				SCS	ScS	11 04 15.4	+5.5
GYA	comp=Z,30nm,0.9s,mb4.9			AMB	AMB		

GYA AMB AMB
comp=Z,130nm,5.2s
GYA LR LR
comp=N,540nm,15.8s
GYA LR LR
comp=E,480nm,15.9s
GYA LR LR
comp=Z,460nm,16.2s
ZAL Zalesovo 42.19 305 P P 10 54 15.2 -0.6
comp=Z,2.3nm,0.4s,mb4.1,baz=31,slow=8.8,SNR=8.9
ZAL pP pP 10 54 28.8 -2.5
comp=Z,1.7nm,0.5s,baz=81,slow=8.1,SNR=2.3
ZAL PcP PcP 10 56 08.7 -0.4
comp=Z,3.7nm,0.4s,baz=55,slow=4.4,SNR=10
ZAL pPcP 10 56 25.9
comp=Z,2.7nm,0.7s,baz=28,slow=7.0,SNR=4.7
ZAL LR LR 11 13 45.7
comp=Z,497nm,19.1s,baz=35,slow=39
ZAL Zalesovo 42.19 305 P P 10 54 15.3 -0.6
ZAL *PP pP 10 54 28.8 -2.5
ZAL 10 56 08.7
ZAL 10 56 25.9
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL MLR MLR
comp=Z,497nm,19.1s
ZAL Zalesovo 42.19 305 P P 10 54 15.2 -0.6
ZAL pP pP 10 54 28.8 -2.5
ZAL PcP PcP 10 56 08.7 -0.4
ZAL pPcP 10 56 25.9
WMQ Urumqi 44.62 291 P P 10 54 37.5 +2.0
WMQ PP PP 10 56 22.5 +1.9
WMQ PPP 10 57 01.6
WMQ S **S 11 01 12.3 +5.1**
WMQ SS SS 11 04 23.5 -5.4
WMQ SCS ScS 11 04 33.0 +5.5
WMQ AMB AMB
comp=Z,4.0nm,1.0s,mb4.2
WMQ AMB AMB
comp=Z,34nm,6.0s
WMQ LR LR
comp=N,222nm,24.0s
WMQ LR LR
comp=E,140nm,24.0s
WMQ LR LR
comp=Z,303nm,20.0s
QIZ Qiongzhong 45.05 246 P P 10 54 39.5 +0.6
QIZ PP PP 10 56 26.8 +1.7
QIZ S **S 11 01 21.8 +8.5**
QIZ SS SS 11 04 39.1 +2.2
QIZ LR LR
comp=N,1μm,9.0s
QIZ LR LR
comp=Z,1μm,10.0s
DLBC Dease Lake 45.18 46 eP P 10 54 41.3 +1.4
KMI Kunming 45.30 259 P P 10 54 42.1 +1.2
KMI AMB AMB
comp=Z,26nm,1.3s,mb4.9
KMI LR LR
comp=N,311nm,8.7s
KMI LR LR
comp=E,429nm,12.0s
KMI LR LR
comp=Z,395nm,11.1s
MK31 Makanchi Array 46.58 297 eP P 10 54 50.3 -0.6
MKAR Makanchi Array 46.58 297 P P 10 54 50.8 -0.2
comp=Z,3.4nm,0.7s,mb4.4,baz=64,slow=7.7,SNR=25
MKAR PcP PcP 10 56 23.7 -0.5
comp=Z,4.2nm,0.7s,baz=68,slow=2.9,SNR=7.2
MKAR Makanchi Array 46.58 297 P P 10 54 50.8 -0.1
MKAR 10 56 23.7
MKAR pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 46.94 303 P P 10 54 52.8 -1.0
comp=Z,82nm,0.8s,mb5.7,SNR=11
KURK Kurchatov 46.94 303 eP P 10 54 52.7 -1.1
CHKZ Chkalovo 49.95 310 eP P 10 55 15.5 -1.4
CHKZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CHKZ Chkalovo 49.95 310 eP P 10 55 15.5 -1.4
comp=Z,10nm,0.9s,mb4.9
LSA Lhasa 50.17 273 P P 10 55 21.3 +2.7
LSA Lhasa 50.17 273 eP P 10 55 21.1 +2.5
LSA pmax pmax
comp=Z,16nm,0.6s,mb5.2
LSA Lhasa 50.17 273 eP P 10 55 21.1 +2.5
comp=Z,16nm,0.6s,mb5.2
RES Resolute Bay 50.23 19 eP P 10 55 18.4 -0.6
comp=Z,133nm,0.5s
BVA0 Borovoye Array 50.38 309 *i* P **P 10 55 19.6 -0.6**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
YKW3 Yellowknife Ar 50.40 37 eP P 10 55 20.2 0.0
BRVK Borovoye 50.42 309 eP P 10 55 19.3 -1.2
comp=Z,3.9nm,0.8s,mb4.5
YKA Yellowknife Ar 50.43 37 P P 10 55 20.9 +0.3
comp=Z,25nm,0.8s,mb5.3,baz=298,slow=7.2,SNR=227
YKA pP pP 10 55 35.7 -0.6
comp=Z,7.3nm,0.9s,baz=298,slow=7.2,SNR=5.4
YKA PcP PcP 10 56 37.1 -1.0
comp=Z,3.9nm,0.9s,baz=303,slow=3.7,SNR=6.6
YKA pPcP 10 56 54.1
comp=Z,3.8nm,0.9s,baz=300,slow=4.1,SNR=4.7
YKA LR LR 11 18 43.8
comp=Z,90nm,20.4s,baz=330,slow=38
YKA Yellowknife Ar 50.43 37 P P 10 55 20.9 +0.4
YKA *PP pP 10 55 35.7 -0.7
YKA 10 56 37.1
YKA pmax pmax
comp=Z,25nm,0.8s
YKA MLR MLR
comp=Z,90nm,20.4s
YKA Yellowknife Ar 50.43 37 P P 10 55 20.9 +0.3
YKA pP pP 10 55 35.7 -0.6
YKA PcP PcP 10 56 37.1 -1.0
YKA pPcP 10 56 54.1
NANT Nan 51.06 255 ⇑P P 10 55 24.4 -0.9
comp=Z,209nm,0.8s
CHG Chiang Mai 52.21 256 ⇑P P 10 55 35.4 +1.6
comp=Z,40nm,0.9s,mb5.3
CHTO Chiang Mai 52.21 256 P P 10 55 35.5 +1.7
CHTO *e* pP 10 55 52.0 +2.3
CHTO pmax pmax
comp=Z,32nm,0.9s,mb5.2
CHTO Chiang Mai 52.21 256 eP P 10 55 35.2 +1.4
comp=Z,32nm,0.9s,mb5.2
AAK Ala-Archa 53.48 296 eP P 10 55 41.4 -1.8
AAK *e* 10 56 02.4
AAK Ala-Archa 53.48 296 eP P 10 55 41.4 -1.8
comp=Z,1.9nm,0.6s,mb4.2
D04A Dobbs Creek Ra 54.33 57 ⇑P P 10 55 48.7 -0.7
baz=54
ARU Arti 54.48 317 ⇑*iP* **P 10 55 48.9 -1.6**
ARU *e* 10 56 51.6
ARU *e* 10 57 49.7
ARU *e*S **S 11 03 19.0 -5.8**
ARU *e*SS SS 11 07 05.2 -2.6
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARU Arti 54.48 317 *eP* **P 10 55 49.6 -0.9**
comp=Z,6.9nm,0.4s,mb4.9
A07A Ashnola River, 54.60 54 ⇑P P 10 55 50.9 -0.5
baz=54
GUN Gumba 54.88 274 eP P 10 55 54.5 +1.1
A08A Turner Farm, O 55.26 53 P P 10 55 55.9 -0.3
baz=55,SNR=5.8
KKN Kakani 55.36 275 eP P 10 55 58.5 +1.7
comp=Z,24nm,0.5s,mb5.5
PKI Pulchoki 55.41 274 eP P 10 55 58.3 +1.1
comp=Z,12nm,0.4s,mb5.2
C07A Waterville 55.55 55 ⇓P P 10 55 57.6 -0.6
baz=55
B08A Colville Reser 55.57 54 ⇓P P 10 55 58.0 -0.3
baz=55
DMN Daman 55.59 275 eP P 10 55 59.9 +1.4
comp=Z,86nm,1.1s,mb5.7
A09A Danville 55.62 53 P P 10 55 58.7 -0.1
baz=55,SNR=7.4
GKN Gorkha 55.66 275 eP P 10 56 00.2 +1.2
comp=Z,35nm,0.6s,mb5.6
D07A Quincy 55.88 55 ⇓P P 10 55 60.0 -0.6
baz=56
EDM Edmonton 55.90 46 eP P 10 55 56.0 -4.7
C08A Higginbotham F 56.05 54 ⇓P P 10 56 01.2 -0.6
baz=56
B09A Rice 56.18 53 ⇓P P 10 56 02.8 +0.1
baz=56
E07A Sunnyside 56.31 56 ⇑P P 10 56 02.7 -0.9
baz=56
I04A Tendick Farm, 56.45 60 ⇑P P 10 56 05.0 +0.4
baz=56
C09A Chrisman Ranch 56.47 54 ⇓P P 10 56 05.0 +0.2
baz=56
KOLN Kolganda 56.51 276 *eP* **P 10 56 06.3 +1.2**
comp=Z,25nm,0.8s,mb5.3
D08A Wollman Farm, 56.54 55 ⇑P P 10 56 04.6 -0.7
baz=56
HAWA Hanford 56.59 56 *eP* **P 10 56 04.8 -0.8**
H05A Madras 56.64 58 ⇑P P 10 56 06.1 +0.1
baz=56
F07A Phinny Hill Vi 56.66 57 ⇑P P 10 56 06.1 0.0
baz=56
B10A Chitwood Farm, 56.75 53 ⇓P P 10 56 07.0 +0.2
baz=56
E08A Dider Farm, El 56.80 56 ⇑P P 10 56 06.8 -0.3
baz=57
A11A Hall Mountain, 56.83 52 P P 10 56 07.7 +0.3
baz=57,SNR=7.2
D09A Jones Farm, Ri 56.88 55 ⇑P P 10 56 07.7 0.0
baz=57
HNR Honiara 56.93 172 LR LR 11 15 43.7
comp=Z,134nm,19.7s,baz=1.2,slow=31
C10A Spilker Farm, 56.99 53 ⇑P P 10 56 08.4 0.0
baz=57
H06A Lindquist Farm 57.10 58 ⇓P P 10 56 09.3 +0.1
baz=57
G07A Ruggs Ranch, H 57.17 57 ⇑P P 10 56 09.9 +0.2
baz=57
ARCES ARCESS Array B 57.20 341 P P 10 56 08.2 -1.7
comp=Z,1.3nm,0.4s,mb4.3,baz=37,slow=6.0,SNR=18
ARCES PcP PcP 10 57 03.2 -0.7
comp=Z,2.6nm,0.6s,baz=49,slow=7.3,SNR=4.0
ARCES LR LR 11 23 33.1
comp=Z,239nm,20.7s,baz=39,slow=39
ARCES ARCESS Array B 57.20 341 P P 10 56 08.3 -1.7
ARCES 10 57 03.2
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES MLR MLR
comp=Z,239nm,20.7s
ARCES ARCESS Array B 57.20 341 P P 10 56 08.2 -1.7
ARCES PcP PcP 10 57 03.2 -0.7
E09A Wood Farm, Sta 57.29 55 P P 10 56 10.6 0.0
baz=57,SNR=5.7
F08A Pendleton 57.36 56 ⇓P P 10 56 11.0 -0.1
baz=57
D10A Wagner Farm, O 57.46 54 ⇑P P 10 56 11.6 -0.1
baz=57
YBH Yreka Blue Hor 57.49 62 ⇑P P 10 56 12.3 +0.4
baz=57
G08A Pilot Rock 57.56 57 ⇑P P 10 56 12.5 +0.1
baz=57
BOK Bokaro 57.57 271 *eP* **P 10 56 12.6 +0.1**
BOK AMb AMB 10 56 14.2
comp=Z,16nm,1.5s,mb4.8
I06A Prineville 57.65 59 ⇑P P 10 56 14.3 +1.2
baz=57
L04A Klamath Falls 57.72 61 ⇑P P 10 56 14.7 +1.1
baz=58
E10A Myers Farm, Un 57.89 55 ⇑P P 10 56 15.0 +0.3
baz=58
F09A S2 Ranch, Elgi 57.91 56 ⇑P P 10 56 15.1 +0.2
baz=58
AB31 Akbulak array 57.95 309 *i* **P 10 56 13.7 -1.5**
I07A Izee 57.97 58 ⇑P P 10 56 15.6 +0.3
baz=58
D11A Klaveano Farm, 57.98 54 P P 10 56 15.0 -0.4
baz=58,SNR=6.3
M04C Macdoel 57.98 62 ⇓P P 10 56 15.8 +0.4
baz=58
WALA Waterton Lakes 58.07 51 *eP* **P 10 56 15.8 -0.2**
comp=Z,17nm,0.7s,mb5.2
J06A Christmas Vall 58.09 59 ⇑P P 10 56 16.1 -0.1
baz=58
F10A Beach Ranch, E 58.13 55 ⇓P P 10 56 16.5 0.0
baz=58
H08A Prairie City 58.19 57 ⇓P P 10 56 17.0 +0.1
baz=58
B13A Whitefish 58.19 52 P P 10 56 17.1 +0.2
baz=58,SNR=17
G09A Cove 58.24 56 ⇓P P 10 56 17.0 -0.2
baz=58
K06A Valley Falls 58.31 60 ⇓P P 10 56 18.4 +0.7
baz=58
BSMT Bassoo Peak 58.33 52 *eP* **P 10 56 18.1 +0.2**
E11A Bogner Ranch, 58.46 54 ⇑P P 10 56 18.1 -0.7
baz=58
C13A Hot Springs 58.55 52 ⇑P P 10 56 19.4 0.0
baz=58
I08A Drewsey 58.61 58 P P 10 56 20.6 +0.8
baz=58,SNR=6.0
H09A Durkee 58.67 57 ⇑P P 10 56 20.6 +0.4
baz=58
BMO Blue Mountains 58.76 56 *eP* **P 10 56 20.8 0.0**
comp=Z,11nm,0.8s,mb5.0
F11A Grangeville 58.78 55 ⇑P P 10 56 21.1 +0.2
baz=59
MOD Modoc 58.82 61 ⇑P P 10 56 21.4 +0.1
baz=59
K07A Rock Creek Ran 58.96 59 ⇓P P 10 56 22.6 +0.3
baz=59
D13A Huson 58.97 53 P P 10 56 22.0 -0.3
baz=59,SNR=5.8
J08A Circle Bar Ran 59.00 58 ⇑P P 10 56 23.2 +0.7
baz=59
G11A Walters Elk Ra 59.01 55 P P 10 56 22.7 +0.1
baz=59,SNR=6.5
I09A Lost Marbles R 59.05 57 ⇓P P 10 56 23.1 +0.3
baz=59
H10A Noah's Angus R 59.24 56 P P 10 56 24.2 0.0
baz=59,SNR=13
L07A Adell 59.32 60 ⇓P P 10 56 25.3 +0.6
baz=59
O04C Chester 59.32 62 ⇓P P 10 56 25.6 +0.8
baz=59
F12A Elk City 59.35 54 ⇓P P 10 56 25.8 +0.9
baz=59
K08A Mann Creek Ran 59.38 59 ⇓P P 10 56 26.4 +1.3
baz=59
MSO Missoula 59.41 53 *eP* **P 10 56 25.2 -0.2**
comp=Z,18nm,1.1s,mb5.0
J09A Fry Pan Ranch, 59.42 58 ⇑P P 10 56 25.3 -0.1
baz=59
WVOR Wild Horse Val 59.48 59 *eP* **P 10 56 26.2 +0.4**
WVOR pmax pmax
comp=Z,24nm,1.0s,mb5.2
WVOR Wild Horse Val 59.48 59 *eP* **P 10 56 26.2 +0.4**
comp=Z,24nm,1.0s,mb5.2
D14A Grenough 59.49 52 P P 10 56 25.9 -0.1
baz=59,SNR=26
E13A Victor 59.52 53 P P 10 56 26.4 +0.3
baz=59,SNR=8.9
ORV Oroville 59.55 63 ⇑P P 10 56 26.5 +0.2
baz=59
H11A Donnelly 59.58 56 P P 10 56 26.4 -0.1
baz=59,SNR=13
CVS Carmenet Viney 59.71 65 ⇑P P 10 56 27.9 +0.5
baz=60
CHMT Chamberlain Mo 59.73 52 *eP* **P 10 56 27.1 -0.4**
FARB Farallon Islan 59.78 66 ⇑P P 10 56 28.4 +0.6
baz=60
L08A Fields 59.80 59 ⇑P P 10 56 28.2 +0.2
baz=60
M07A Soldier Meadow 59.81 60 ⇓P P 10 56 28.2 +0.1
baz=60,SNR=10
N06A Buffalo Meadow 59.81 61 ⇓P P 10 56 27.8 -0.3
baz=60
K09A Rome 59.84 58 ⇑P P 10 56 28.5 +0.2
baz=60
F13A Darby 59.84 54 P P 10 56 27.9 -0.4
baz=60,SNR=11
E14A Clinton 59.91 53 P P 10 56 29.1 +0.4
baz=60,SNR=6.5
J10A Berg Farm, Mel 59.94 57 ⇑P P 10 56 28.3 -0.7
baz=60
BEKR Beckwourth 60.04 62 ⇓P P 10 56 30.0 +0.3
baz=60
D15A Lincoln 60.05 52 P P 10 56 30.2 +0.5
baz=60,SNR=6.2
I11A Placerville 60.10 56 ⇑P P 10 56 30.2 +0.1
baz=60
O06A Flanigan 60.17 62 ⇓P P 10 56 30.9 +0.3
baz=60
NDI New Delhi 60.20 281 *eP* **P 10 56 29.4 -1.4**
NDI AMb AMB 10 56 32.4
comp=Z,15nm,1.0s,mb5.0
M08A Happy Creek Ra 60.24 60 ⇓P P 10 56 31.9 +0.9
baz=60
FFC Flin Flon 60.27 40 P P 10 56 31.0 -0.3
comp=Z,126nm,1.2s,mb5.8,SNR=11
L09A Wilkinson Ranc 60.30 59 ⇑P P 10 56 31.8 +0.4
baz=60
H12A Diamond D Ranc 60.32 55 ⇑P P 10 56 31.6 0.0
baz=60
G13A Cobalt 60.33 55 ⇓P P 10 56 31.7 +0.1
baz=60
F14A Wisdom 60.35 53 ⇓P P 10 56 32.2 +0.3
baz=60
E15A Deer Lodge 60.37 53 P P 10 56 32.2 +0.3
baz=60,SNR=14
MFID Camas Ranch 60.48 57 ⇓P P 10 56 32.6 -0.1
baz=60
LAVA Lava Cap Winer 60.51 64 ⇑P P 10 56 33.2 +0.4
baz=60
HRY Holter Researc 60.62 52 *eP* **P 10 56 26.7 -7.0**
JOF Joensuu 60.71 333 *ep* **P 10 56 33.3 -0.9**
comp=Z,4.8nm,0.6s,mb4.8
JOF Joensuu 60.71 333 *eP* **P 10 56 33.3 -0.9**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
O07A Toulon 60.74 61 P P 10 56 35.1 +0.6
baz=60,SNR=5.5
WCN Washoe City 60.76 63 ⇑P P 10 56 34.9 +0.4
baz=61
M09A Marrel Ranch, 60.80 59 ⇓P P 10 56 35.2 +0.4
baz=61
N08A GE Springer Mi 60.80 60 ⇑P P 10 56 35.1 +0.3
baz=61
LRM Limekiln Ridge 60.85 53 *eP* **P 10 56 35.8 +0.6**
EGMT Eagleton 60.88 50 *eP* **P 10 56 35.3 -0.1**
comp=Z,25nm,0.9s,mb5.3
EGMT Eagleton 60.88 50 ⇑P P 10 56 35.2 -0.2
baz=61
J12A Stokes Ranch, 61.00 57 ⇓P P 10 56 36.5 +0.3
baz=61
DLMT Dillon 61.06 53 *eP* **P 10 56 36.7 +0.1**
comp=Z,10nm,0.9s,mb5.0
N09A Rock Creek Ran 61.11 60 ⇑P P 10 56 37.4 +0.4
baz=61
CMB Columbia Colle 61.17 64 ⇑P P 10 56 37.1 -0.3
baz=61
HLID Hailey 61.19 56 *eP* **P 10 56 38.1 +0.6**
comp=Z,11nm,1.0s,mb5.0
HLID Hailey 61.19 56 ⇑P P 10 56 37.5 0.0
baz=61,SNR=8.3
G15A Dillon 61.24 54 P P 10 56 37.7 -0.1
baz=61,SNR=13
MCMT McKenzie Canyo 61.26 54 *eP* **P 10 56 37.9 -0.1**
M10A I.L. Ranch, Tu 61.27 59 P P 10 56 39.0 +1.0
baz=61,SNR=6.7
PACP Pacheco Peak 61.27 66 ⇓P P 10 56 38.8 +0.7
baz=61
BOZ Bozeman (W) 61.40 53 *eP* **P 10 56 34.4 -4.5**
BOZ *e**PP pP 10 56 55.0 -0.2
BOZ pmax pmax
comp=Z,17nm,0.9s,mb5.2
BOZ Bozeman (W) 61.40 53 *eP* **P 10 56 34.4 -4.5**
comp=Z,17nm,0.9s,mb5.2
BOZ Bozeman (W) 61.40 53 ⇑P P 10 56 39.2 +0.2
baz=61
J13A Cove Ranch, Pi 61.43 56 ⇑P P 10 56 39.2 0.0
baz=61
R06C Coleville 61.43 63 ⇓P P 10 56 39.0 -0.1
baz=61
K12A Draper Farm, C 61.50 57 ⇓P P 10 56 39.3 -0.3
baz=61
BMN Battle Mountai 61.56 60 *eP* **P 10 56 40.0 0.0**
S06C San Francisco 61.60 64 ⇑P P 10 56 39.9 -0.4
baz=61
O09A Fish Creek Ran 61.74 60 ⇑P P 10 56 41.4 +0.2
baz=62
M11A Holland Ranch, 61.76 59 ⇑P P 10 56 42.0 +0.7
baz=62,SNR=5.1
R07C Lee Vining 61.95 63 ⇓P P 10 56 43.1 +0.4
baz=62
QLMT Earthquake Lak 62.03 53 *eP* **P 10 56 44.0 +0.9**
O10A Cortez Mining, 62.07 60 ⇑P P 10 56 44.3 +0.9
baz=62
Q08A Gabbs 62.13 62 P P 10 56 44.0 +0.1
baz=62,SNR=5.1
P09A Austin 62.17 61 ⇑P P 10 56 44.4 +0.4
baz=62
N11A Elko Archery C 62.18 59 ⇑P P 10 56 44.5 +0.3
baz=62
NVAR Mina Array Bea 62.19 63 P P 10 56 44.5 +0.3
comp=Z,2.5nm,0.8s,mb4.4,baz=297,slow=7.2,SNR=16
NVAR pP pP 10 57 00.2 -0.3
comp=Z,9.1nm,0.8s,baz=299,slow=7.4,SNR=22
NVAR pPcP 10 57 41.4
comp=Z,4.2nm,0.8s,baz=338,slow=3.2,SNR=5.1
NVAR Mina Array Bea 62.19 63 P P 10 56 44.5 +0.3
NVAR pP pP 10 57 00.2 -0.3
NVAR pPcP 10 57 41.4
T06C Millerton Lake 62.24 65 ⇓P P 10 56 44.8 +0.2
baz=62
M12A Wells 62.27 58 ⇓P P 10 56 45.3 +0.5
baz=62
KCC Kaiser Creek 62.28 64 ⇑P P 10 56 45.3 +0.5
baz=62
R08A Mina 62.36 63 ⇓P P 10 56 45.2 -0.1
baz=62
P10A Eureka 62.52 61 ⇑P P 10 56 47.1 +0.6
baz=62
YFT Old Faithful 62.60 53 *eP* **P 10 56 49.1 +2.2**
KAKA Kakadu 62.62 203 *eP* **P 10 56 46.0 -1.1**
comp=Z,8.5nm,0.7s,mb5.0
O11A Cowboy Ranch, 62.67 60 ⇑P P 10 56 47.6 +0.2
baz=62,SNR=5.5
M13A Montello 62.74 58 ⇓P P 10 56 48.4 +0.5
baz=62
KAF Kangasniemi 62.81 335 *ep* **P 10 56 47.0 -1.4**
comp=Z,7.7nm,0.6s,mb5.0,baz=36,slow=6.2
KAF Kangasniemi 62.81 335 *eP* **P 10 56 47.0 -1.4**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
V05C Boulder Hill, 62.86 66 ⇓P P 10 56 48.1 -0.5
baz=63
S08C White Mtn Res 62.87 63 ⇑P P 10 56 49.6 +0.9
baz=63
HELL Mitchell Peak, 62.87 65 ⇑P P 10 56 48.1 -0.7
baz=63
DCID1 Drake Creek 62.97 54 *eP* **P 10 56 51.0 +1.6**
RCTC Rector, Farmer 62.98 65 ⇓P P 10 56 49.2 -0.3
baz=63
P11A Circle Ranch, 62.98 60 ⇓P P 10 56 49.9 +0.4
baz=63
N13A Wendover, West 63.05 58 ⇓P P 10 56 50.2 +0.3
baz=63
R09A Tonopah 63.05 62 P P 10 56 49.9 -0.1
baz=63,SNR=8.2
MOOW Moose Ponds 63.11 54 *eP* **P 10 56 51.2 +0.9**
comp=Z,23nm,1.2s,mb5.2
O12A Currie 63.11 59 P P 10 56 50.9 +0.6
baz=63,SNR=13
HVU Hansel Valley 63.26 57 *eP* **P 10 56 51.7 +0.3**
HVU *e**PP pP 10 57 08.3 +0.6
HVU Hansel Valley 63.26 57 *eP* **P 10 56 51.7 +0.3**
S09A Goldfield 63.29 63 ⇑P P 10 56 51.7 +0.2
baz=63
REDW Red Top Meadow 63.30 54 *eP* **P 10 56 52.9 +1.2**
AJM Ajmer 63.37 281 *eP* **P 10 56 53.1 +1.0**
AJM AMb AMB 10 56 55.2
comp=Z,13nm,0.6s,mb5.2
VES Vestal, Richgr 63.38 65 ⇑P P 10 56 51.2 -1.0
baz=63
FINES FINESS Array B 63.41 335 P P 10 56 50.6 -1.7
comp=Z,9.6nm,0.5s,mb5.2,baz=38,slow=7.5,SNR=71
FINES LR LR 11 25 57.8
comp=Z,263nm,18.3s,baz=135,slow=37
FINES FINESS Array B 63.41 335 P P 10 56 50.7 -1.6
FINES pmax pmax
comp=Z,10.0nm,0.5s
FINES MLR MLR
comp=Z,263nm,18.3s
VIS Vishakhapatnam 63.46 268 *eP* **P 10 56 53.5 +0.8**
VIS AMb AMB 10 56 55.1
comp=Z,32nm,1.1s,mb5.4
Q11A Duckwater 63.50 61 ⇑P P 10 56 52.5 -0.4
baz=63
P12A McGill 63.53 60 ⇑P P 10 56 53.0 -0.2
baz=63

LAO **LASA Array** 63.57 49 eP P 10 56 54.4 +1.0
CWC **Cottonwood Cre** 63.61 64 ⇓P P 10 56 53.9 +0.3
baz=63
BHPL **Bhopal** 63.67 276 eP P 10 56 54.5 +0.4
BHPL AMb AMB 10 56 55.8
comp=Z,39nm,0.8s,mb5.5
GRAC **Grapevine Rang** 63.67 63 ⇓P P 10 56 54.2 +0.1
baz=64
Q12A **Willow Creek R** 63.86 60 ⇓P P 10 56 55.6 +0.3
baz=64
ISA **Isabella** 63.87 65 ⇑P P 10 56 55.1 -0.2
baz=64
NGP **Nagpur** 64.00 273 eP P 10 56 55.4 -0.8
NGP AMb AMB 10 56 56.3
comp=Z,32nm,1.1s,mb5.3
ARVC **Arvin** 64.00 66 ⇑P P 10 56 55.6 -0.6
baz=64
HWUT **Hardware Ranch** 64.06 56 eP P 10 56 57.3 +0.7
comp=Z,27nm,1.1s,mb5.2
MPMC **Manual Prospec** 64.22 64 ⇓P P 10 56 57.2 -0.4
baz=64
DUG **Dugway** 64.28 58 eP P 10 56 58.2 +0.1
DUG pmax pmax
comp=Z,22nm,0.9s,mb5.2
DUG **Dugway** 64.28 58 ⇓P P 10 56 57.7 -0.3
baz=64
PSI **Prapat** 64.31 244 P P 10 56 59.1 +0.8
comp=Z,12nm,0.8s,mb5.0,baz=322,slow=3.8,SNR=7.7
PSI **Prapat** 64.31 244 P P 10 56 59.1 +0.8
PSI pmax pmax
comp=Z,12nm,0.8s,mb5.0
FURC **Furnace Creek,** 64.33 63 ⇑P P 10 56 58.1 -0.3
baz=64
NOQ **North Oquirrh** 64.38 57 eP P 10 56 59.4 +0.7
comp=Z,12nm,0.5s,mb5.2
BW06 **Boulder Array** 64.41 54 eP P 10 56 58.4 -0.5
comp=Z,27nm,1.0s,mb5.2
PDAR **Pinedale Array** 64.41 54 P P 10 56 58.8 -0.1
comp=Z,9.5nm,0.9s,mb4.8,baz=292,slow=1.7,SNR=61
PDAR pP pP 10 57 14.9 -0.4
comp=Z,19nm,0.9s,baz=298,slow=1.9,SNR=27
LRMC **Laurel Mountai** 64.48 65 ⇓P P 10 56 58.6 -0.8
baz=64
SFJD **Kangerlussuaq** 64.51 10 i P P 10 56 58.5 -1.0
comp=Z,13nm,0.7s,mb5.1
SFJD **Kangerlussuaq** 64.51 10 i P P 10 56 58.5 -1.0
SFJD pmax pmax
comp=Z,13nm,0.7s,mb5.1
CTU **Camp Tracy** 64.56 57 eP P 10 57 00.4 +0.6
EDW2 **Edwards Air Fo** 64.68 65 ⇑P P 10 57 00.5 -0.2
baz=64,SNR=6.1
U10A **Ash Meadows, A** 64.69 63 ⇓P P 10 57 00.8 +0.1
baz=64
OBN **Obninsk** 64.72 325 eP P 10 56 59.7 -1.2
OBN e 10 57 30.7
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,300nm,23.0s
JLU **Jordanelle** 64.79 57 eP P 10 57 02.2 +0.8
NLU **North Lily Min** 64.86 58 eP P 10 57 02.9 +1.0
DAU **Daniels Canyon** 65.03 57 eP P 10 57 03.5 +0.6
SHOC **Shoshone** 65.06 64 ⇓P P 10 57 02.9 -0.2
baz=65
MPU **Maple Canyon** 65.08 57 eP P 10 57 03.9 +0.6
comp=Z,22nm,0.8s,mb5.2
GSC **Goldstone** 65.13 64 ⇑P P 10 57 03.3 -0.4
baz=65
U11A **Corn Creek** 65.25 63 ⇓P P 10 57 04.4 0.0
baz=65
BFSC **Mount Baldy St** 65.31 66 ⇑P P 10 57 03.7 -1.1
baz=65
CIS **Catalina Islan** 65.40 67 ⇑P P 10 57 04.4 -0.9
baz=65
TUQ **Turquoise Mtn.** 65.58 64 ⇓P P 10 57 06.4 -0.1
baz=65,SNR=5.2
V11A **Goodsprings** 65.61 63 ⇓P P 10 57 06.3 -0.4
baz=65,SNR=5.2
AKL **Akola** 65.68 275 eP P 10 57 08.4 +1.2
AKL AMb AMB 10 57 09.2
comp=Z,41nm,0.9s,mb5.5
CCUT **Cedar City** 65.71 60 eP P 10 57 07.9 +0.5
HEC **Hector,Ludlow** 65.74 64 ⇓P P 10 57 07.6 +0.1
baz=66,SNR=6.7
BBRC **Big Bear Sol-O** 65.75 65 ⇑P P 10 57 07.3 -0.3
baz=66
U12A **Valley of Fire** 65.76 62 ⇑P P 10 57 07.5 -0.1
baz=66
MSU **Marysvale** 65.77 59 eP P 10 57 08.5 +0.8
MSU e*PP pP 10 57 24.8 +0.7
MSU **Marysvale** 65.77 59 eP P 10 57 08.5 +0.8
TMUT **Trail Mountain** 65.80 58 eP P 10 57 08.6 +0.6
MURC **Murrieta** 66.02 66 ⇑P P 10 57 08.8 -0.5
baz=66
V12A **Nelson** 66.04 63 ⇑P P 10 57 09.5 0.0
baz=66
GMRC **Granite Mounta** 66.18 64 ⇑P P 10 57 10.0 -0.3
baz=66
W12A **Cal Nev Ari** 66.31 63 ⇑P P 10 57 11.1 -0.1
baz=66
SRU **San Rafael** 66.32 58 eP P 10 57 11.2 0.0
comp=Z,45nm,0.8s,mb5.5
BELC **Belle Mtn.** 66.50 65 ⇑P P 10 57 11.8 -0.6
baz=66
IRM **Iron Mountain** 66.91 64 ⇓P P 10 57 14.6 -0.4
baz=67,SNR=6.5
HYB **Hyderabad** 66.92 271 i P P 10 57 15.0 -0.1
HYB **Hyderabad** 66.92 271 eP P 10 57 15.0 -0.1
W13A **Hualapai Mount** 67.05 63 ⇓P P 10 57 15.3 -0.6
baz=67,SNR=5.2
BC3 **Big Chuckw Mtn** 67.06 65 ⇓P P 10 57 15.6 -0.4
baz=67
X13A **Yucca** 67.42 63 ⇓P P 10 57 18.0 -0.2
baz=67,SNR=5.3
PDMCI **Parker Dam,Lak** 67.43 64 ⇑P P 10 57 18.0 -0.3
baz=67,SNR=5.6
W14A **Seligman** 67.45 62 ⇑P P 10 57 18.2 -0.2
baz=67,SNR=6.3
CTA **Charters Tower** 67.46 187 P P 10 57 17.9 -0.6
comp=Z,2.3nm,0.5s,mb4.5,baz=329,slow=6.0,SNR=3.7
CTA pP pP 10 57 34.1 -0.9
comp=Z,7.6nm,1.0s,baz=19,slow=7.6,SNR=2.7
CTA **Charters Tower** 67.46 187 P P 10 57 17.9 -0.6
CTA *PP pP 10 57 34.1 -0.9
CTA pmax pmax
comp=Z,2.0nm,0.5s
AGMN **Agassiz Refuge** 67.48 42 eP P 10 57 17.2 -1.4
comp=Z,10nm,0.8s,mb4.9
Y12C **Blythe** 67.57 64 ⇑P P 10 57 18.7 -0.5
baz=67
NB2 **NORSAR Subarra** 67.58 341 P P 10 57 18.8 -0.4
comp=Z,48nm,1.2s,mb5.4,baz=26,slow=6.5
NOA **NORSAR Array B** 67.58 341 P P 10 57 18.9 -0.3
comp=Z,4.9nm,0.4s,mb4.9,baz=27,slow=6.0,SNR=23
NOA LR LR 11 32 39.8
comp=Z,144nm,18.4s,baz=20,slow=41
NOA **NORSAR Array B** 67.58 341 P P 10 57 18.9 -0.3
NOA pmax pmax
comp=Z,5.0nm,0.4s
NOA MLR MLR
comp=Z,144nm,18.4s
NOA **NORSAR Array B** 67.58 341 P P 10 57 18.9 -0.3
PV10 **Paradox Valley** 67.67 57 eP P 10 57 20.3 +0.5
GLA **Glamis** 67.86 65 ⇓P P 10 57 21.4 +0.4
baz=68
Y13A **Salome** 67.95 64 ⇑P P 10 57 22.5 +0.9
baz=68
W15A **Williams** 67.96 62 ⇑P P 10 57 22.3 +0.6
baz=68
X14A **Yava** 68.07 63 ⇑P P 10 57 23.2 +0.9
baz=68,SNR=5.1
PV01 **Paradox Valley** 68.10 57 eP P 10 57 22.6 +0.1
WUAZ **Wupatki** 68.27 61 eP P 10 57 24.1 +0.6
comp=Z,16nm,1.0s,mb5.0
WUAZ **Wupatki** 68.27 61 ⇑P P 10 57 24.4 +0.8
baz=68
Y14A **Wickenburg** 68.37 63 ⇓P P 10 57 24.7 +0.6
baz=68,SNR=5.6
X15A **Humboldt** 68.45 62 ⇓P P 10 57 25.2 +0.4
baz=68,SNR=5.5
ISCO **Idaho Springs** 68.61 54 eP P 10 57 26.5 +0.8
ISCO e*PP pP 10 57 39.1 -3.1
ISCO **Idaho Springs** 68.61 54 eP P 10 57 26.5 +0.9
comp=Z,17nm,0.8s,mb5.0
MVCO **Mesa Verde** 68.78 58 eP P 10 57 26.9 +0.1
comp=Z,21nm,0.8s,mb5.1
MVCO **Mesa Verde** 68.78 58 ⇓P P 10 57 27.2 +0.4
baz=69
Z14A **Wintersburg** 68.80 64 ⇓P P 10 57 27.0 +0.1
baz=69
WB2 **Warramunga Arr** 69.12 199 eP P 10 57 27.9 -1.0
WRA **Warramunga Arr** 69.12 199 P P 10 57 27.8 -1.1
comp=Z,4.6nm,0.7s,mb4.5,baz=18,slow=6.8,SNR=36
WRA pP pP 10 57 44.0 -1.4
comp=Z,4.5nm,0.8s,baz=17,slow=6.8,SNR=8.1
WRA **Warramunga Arr** 69.12 199 P P 10 57 27.8 -1.1
WRA *PP pP 10 57 44.0 -1.4
WRA pmax pmax
comp=Z,5.0nm,0.7s
POO **Poona** 69.33 275 eP P 10 57 31.2 +1.0
POO AMb AMB 10 57 33.5
comp=Z,39nm,1.3s,mb5.2
115A **Sonoran Desert** 69.69 64 ⇑P P 10 57 32.8 +0.5
baz=70
FITZ **Fitzroy Crossi** 69.70 208 eP P 10 57 32.3 -0.1
comp=Z,12nm,0.7s,mb4.9
FITZ **Fitzroy Crossi** 69.70 208 P P 10 57 32.8 +0.3
comp=Z,7.0nm,0.7s,mb4.7,baz=35,slow=4.5,SNR=14
FITZ pP pP 10 57 48.2 -0.8
comp=Z,7.5nm,0.8s,baz=241,slow=4.0,SNR=4.7
EYMN **Ely** 69.71 40 eP P 10 57 31.0 -1.5
comp=Z,18nm,0.9s,mb5.0
KAD **Karad** 69.96 274 eP P 10 57 33.9 -0.1
KAD i P 10 57 34.7
KAD AMb AMB 10 57 35.7
comp=Z,39nm,1.0s,mb5.3
116A **Eloy** 70.10 63 ⇑P P 10 57 35.0 +0.1
baz=70
SDCO **Great Sand Dun** 70.11 56 eP P 10 57 35.1 +0.2
comp=Z,7.2nm,0.7s,mb4.7
KIV **Kislovodsk** 70.29 314 eP P 10 57 32.6 -3.4
KIV pmax pmax
comp=Z,20nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,188nm,17.0s
TUC **Tucson** 70.83 63 P P 10 57 39.1 -0.3
TUC e pP 10 57 54.6 -1.4
TUC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TUC **Tucson** 70.83 63 eP P 10 57 39.3 -0.1
comp=Z,12nm,1.9s,mb4.5
AKASG **Malin Array Be** 70.96 326 P P 10 57 39.4 -0.7
comp=Z,4.1nm,0.3s,mb4.8,baz=34,slow=6.1,SNR=28
AKASG **Malin Array Be** 70.96 326 P P 10 57 39.4 -0.7
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG **Malin Array Be** 70.96 326 P P 10 57 39.4 -0.7
AKBB **Malin Array Si** 70.96 326 P P 10 57 39.7 -0.4
AKBB **Malin Array Si** 70.96 326 eP P 10 57 39.0 -1.1
KIEV **Kiev** 70.97 326 eP P 10 57 39.1 -1.1
KIEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIEV **Kiev** 70.97 326 eP P 10 57 39.1 -1.1
comp=Z,7.7nm,0.6s,mb4.8
ANMO **Albuquerque** 71.54 58 eP P 10 57 43.8 +0.2
ANMO e*PP pP 10 58 00.1 -0.2
ANMO **Albuquerque** 71.54 58 eP P 10 57 43.8 +0.2
comp=Z,9.5nm,0.7s,mb4.8
GNI **Garni** 72.05 310 P P 10 57 47.9 +1.2
comp=Z,2.2nm,0.3s,mb4.5,baz=128,slow=23,SNR=3.2
GNI **Garni** 72.05 310 P P 10 57 47.9 +1.2
GNI pmax pmax
comp=Z,2.0nm,0.3s
ASAR **Alice Springs** 72.82 198 P P 10 57 51.5 +0.2
comp=Z,11nm,0.8s,mb4.9,baz=11,slow=5.1,SNR=75
ASAR pP pP 10 58 07.8 -0.1
comp=Z,9.2nm,0.8s,baz=13,slow=5.6,SNR=12
ASAR **Alice Springs** 72.82 198 P P 10 57 51.5 +0.2
ASAR *PP pP 10 58 07.9 -0.1
ASAR pmax pmax
comp=Z,11nm,0.8s
SCIA **State Center** 73.50 45 eP P 10 57 54.7 -0.6
comp=Z,74nm,0.8s,mb5.7
KSU1 **Kansas State U** 73.92 49 eP P 10 57 55.9 -1.8
comp=Z,5.5nm,0.6s,mb4.7
AMTX **Amarillo** 74.31 55 eP P 10 57 59.7 -0.3
comp=Z,41nm,0.9s,mb5.3
MNTX **Cornudas Mount** 74.49 60 eP P 10 58 00.7 -0.4
comp=Z,5.7nm,0.7s,mb4.6
RUE **Ruedersdorf** 74.57 336 eP P 10 58 01.1 -0.4
comp=Z,25nm,0.8s,mb5.2
OJC **Ojcow** 74.70 331 eP P 10 58 02.3 0.0
STHS **Stebnicka Huta** 74.91 330 eP P 10 58 04.3 +0.8
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS **Stebnicka Huta** 74.91 330 eP P 10 58 04.3 +0.8
comp=Z,6.7nm,0.8s,mb4.6
KOLS **Kolonicke sedl** 74.96 329 eP P 10 58 03.8 0.0
BURAR **Bucovina Array** 75.00 326 ⇑iP P 10 58 04.1 +0.1
NIE **Niedzica** 75.22 330 eP P 10 58 05.9 +0.6
CRVS **Cervenica-Dubn** 75.27 329 eP P 10 58 05.7 +0.1
KSP **Ksiaz** 75.28 333 eP P 10 58 05.4 -0.2
OKC **Ostrava-Krasne** 75.57 332 eP P 10 58 07.1 -0.2
UPC **Upice** 75.66 333 eP P 10 58 07.9 +0.1
DPC **Dobruska-Polom** 75.70 333 eP P 10 58 07.9 -0.1
MORC **Moravsky Berou** 75.82 332 eP P 10 58 08.9 +0.2
comp=Z,10nm,0.8s,mb4.8
MORC **Moravsky Berou** 75.82 332 ⇑iP P 10 58 08.8 +0.1
CLL **Collm** 75.83 335 eP P 10 58 08.2 -0.6
comp=Z,25nm,0.6s,mb5.3
CLL **Collm** 75.83 335 ⇑iP P 10 58 08.1 -0.7
CLL pmax pmax
comp=Z,14nm,1.3s,mb4.7
CLL **Collm** 75.83 335 ⇑iP P 10 58 08.1 -0.7
comp=Z,51nm,1.3s,mb5.3
BRG **Berggiesshubel** 75.95 335 eP P 10 58 08.8 -0.7
comp=Z,9.0nm,1.1s,mb4.6
BRG **Berggiesshubel** 75.95 335 eP P 10 58 08.7 -0.8
comp=Z,5.2nm,1.1s,mb4.4
BRG **Berggiesshubel** 75.95 335 eP P 10 58 08.7 -0.8
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KECS **Kecovo** 75.96 330 eP P 10 58 08.6 -0.9
KECS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KECS **Kecovo** 75.96 330 eP P 10 58 08.6 -0.9
comp=Z,6.3nm,1.2s,mb4.4
WMOK **Wichita Mounta** 76.02 54 eP P 10 58 09.1 -0.8
WMOK pmax pmax
comp=Z,16nm,0.9s,mb5.0
WMOK **Wichita Mounta** 76.02 54 eP P 10 58 09.1 -0.8
comp=Z,16nm,0.9s,mb5.0
CLZ **Clausthal** 76.07 337 eP P 10 58 10.4 +0.3
comp=Z,23nm,0.9s,mb5.1
CLZ **Clausthal** 76.07 337 eP P 10 58 10.4 +0.3
CLZ pmax pmax
comp=Z,35nm,0.9s,mb5.3
FBE **Freiberg** 76.08 335 eP P 10 58 09.9 -0.3
comp=Z,26nm,1.2s,mb5.0
TIRR **Tirgusor** 76.34 323 ⇓iP P 10 58 11.1 -0.6
MLR **Muntele Rosu** 76.48 325 ⇓iP P 10 58 12.7 +0.2
VYHS **Vyhne** 76.51 331 eP P 10 58 12.5 -0.1
VYHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VYHS **Vyhne** 76.51 331 eP P 10 58 12.5 -0.1
comp=Z,4.6nm,0.7s,mb4.5
VRAC **Vranov** 76.53 332 ⇓iP P 10 58 13.0 +0.3
PRU **Pruhonice** 76.56 334 eP P 10 58 12.7 -0.2
TANN **Tannenbergstha** 76.78 335 eP P 10 58 13.8 -0.4
comp=Z,9.0nm,1.0s,mb4.7
WERD **Werda** 76.80 335 eP P 10 58 14.1 -0.2
comp=Z,24nm,1.4s,mb4.9
MOX **Moxa** 76.81 336 eP P 10 58 14.1 -0.3
comp=Z,26nm,1.3s,mb5.0
MOX **Moxa** 76.81 336 eP P 10 58 14.3 -0.1
comp=Z,41nm,1.5s,mb5.1
MOX **Moxa** 76.81 336 eP P 10 58 14.3 -0.1
MOX pmax pmax
comp=Z,16nm,1.5s,mb4.7
GUNZ **Gunzen** 76.87 335 eP P 10 58 14.7 +0.1
comp=Z,11nm,0.8s,mb4.8
VOIR **76.88 325** ⇑iP P 10 58 15.4 +0.7
WERN **Wernitzgruen** 76.92 335 eP P 10 58 15.1 +0.1
comp=Z,21nm,1.2s,mb4.9
LPIG **La Paz** 76.95 69 LR LR 11 26 37.5
comp=Z,136nm,19.9s,baz=306,slow=31
NKC **Novy Kostel** 76.95 335 eP P 10 58 15.2 +0.1
BUG **Bochum--Univer** 77.22 339 eP P 10 58 16.2 -0.5
comp=Z,26nm,1.0s,mb5.1
LTX **Lajitas** 77.22 61 eP P 10 58 16.5 -0.2
comp=Z,29nm,0.6s,mb5.4
TXAR **Lajitas Array** 77.22 61 P P 10 58 16.4 -0.3
comp=Z,5.0nm,0.5s,mb4.7,baz=299,slow=4.7,SNR=88
TXAR pP pP 10 58 33.0 -0.5
comp=Z,31nm,0.7s,baz=298,slow=4.2,SNR=43
TXAR **Lajitas Array** 77.22 61 P P 10 58 16.4 -0.3
TXAR *PP pP 10 58 33.0 -0.5
TXAR pmax pmax
comp=Z,5.0nm,0.5s
ZST **Bratislava** 77.34 332 eP P 10 58 18.4 +1.1
ZST pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ZST **Bratislava** 77.34 332 eP P 10 58 18.4 +1.1
comp=Z,9.6nm,0.8s,mb4.8
ROTZ **Rotzenmuhle** 77.44 335 eP P 10 58 18.1 +0.2
comp=Z,14nm,0.9s,mb4.9
ARMA **Armidale** 77.48 181 eP P 10 58 18.4 +0.3
AAM **Ann Arbor** 77.56 39 eP P 10 58 10.1 -8.5
KHC **Kasperske Hory** 77.61 334 eP P 10 58 18.9 +0.1
KHC ex x 10 58 36.0
GZR **Gura Zlata** 77.78 327 ⇓iP P 10 58 19.4 -0.3
GRA1 **Grafenberg Arr** 77.78 336 eP P 10 58 20.0 +0.2
comp=Z,32nm,0.7s,mb5.4
GRF **Grafenberg Arr** 77.78 336 eP P 10 58 20.0 +0.2
comp=Z,32nm,0.7s,mb5.4
GRF **Grafenberg Arr** 77.78 336 eP P 10 58 20.0 +0.2
GRF pmax pmax
comp=Z,16nm,0.7s,mb5.1
GRF **Grafenberg Arr** 77.78 336 eP P 10 58 20.0 +0.2
GRF pmax pmax
comp=Z,32nm,0.7s,mb5.4
WET **Wettzell** 77.80 334 eP P 10 58 20.2 +0.3
comp=Z,16nm,1.0s,mb4.9
WET **Wettzell** 77.80 334 eP P 10 58 20.2 +0.3
WET pmax pmax
comp=Z,23nm,1.0s,mb5.1
GEC2 **GERESS Array S** 77.83 334 eP P 10 58 19.8 -0.2
comp=Z,5.0nm,0.6s,mb4.6
GEC2 **GERESS Array S** 77.83 334 P P 10 58 19.9 -0.1
GERES **GERESS Array B** 77.83 334 P P 10 58 19.8 -0.2
comp=Z,4.0nm,0.5s,mb4.6,baz=40,slow=5.7,SNR=18
GERES LR LR 11 36 17.7
comp=Z,164nm,19.1s,baz=86,slow=38
GERES **GERESS Array B** 77.83 334 P P 10 58 19.8 -0.2
GERES pmax pmax
comp=Z,4.0nm,0.5s
GERES MLR MLR
comp=Z,164nm,19.1s
BRTR **Keskin Array B** 77.86 317 P P 10 58 21.1 +0.9
comp=Z,5.4nm,0.9s,mb4.5,baz=86,slow=4.1,SNR=14
BRTR **Keskin Array B** 77.86 317 P P 10 58 21.1 +0.9
BRTR pmax pmax
comp=Z,5.0nm,0.9s
FVM **French Village** 77.89 46 eP P 10 58 19.3 -1.0
FVM e*PP pP 10 58 36.0 -1.2
FVM pmax pmax
comp=Z,12nm,0.7s,mb4.9
FVM **French Village** 77.89 46 eP P 10 58 19.3 -1.1
comp=Z,11nm,0.6s,mb5.0
BZS **Buzias** 78.02 327 ⇓iP P 10 58 20.2 -0.9
TNS **Taunus Mts** 78.05 338 eP P 10 58 21.2 0.0
comp=Z,15nm,0.7s,mb5.0
TNS **Taunus Mts** 78.05 338 eP P 10 58 21.2 0.0
TNS pmax pmax
comp=Z,13nm,0.7s,mb5.0
ANTO **Ankara** 78.14 317 ⇓iP P 10 58 22.6 +0.9
MIB **Mutribah** 78.26 301 eP P 10 58 23.0 +0.6
MIB AMb AMB 10 58 23.9
comp=Z,92nm,0.9s,mb5.7
MEM **Membach** 78.30 339 P P 10 58 22.8 +0.1
comp=Z,19nm,1.1s,mb4.9
MOA **Molln** 78.54 333 ⇑iP P 10 58 24.1 +0.1
comp=Z,9.7nm,1.0s,mb4.7
JCT **Junction City** 78.63 57 eP P 10 58 23.9 -0.5
JCT e pP 10 58 36.1 -5.2
JCT **Junction City** 78.63 57 eP P 10 58 23.9 -0.6
comp=Z,18nm,0.9s,mb5.0
BCLA **Clavier** 78.64 340 P P 10 58 24.3 -0.3
ARSA **Arzberg** 78.68 332 ⇑iP P 10 58 25.2 +0.5
comp=Z,15nm,1.2s,mb4.8
SIUC **Southern Illin** 78.69 46 eP P 10 58 24.4 -0.4
comp=Z,26nm,0.9s,mb5.2
QRN **Al-Qurain** 78.71 300 eP P 10 58 25.6 +0.7
QRN AMb AMB 10 58 26.2
comp=Z,41nm,0.4s,mb5.7
NAY **Al-Naaiem** 78.73 301 eP P 10 58 25.1 +0.1
NAY AMb AMB 10 58 26.5
comp=Z,24nm,0.9s,mb5.1
RDF **Al-Radifah** 78.79 301 eP P 10 58 26.1 +0.8
RDF AMb AMB 10 58 27.2
comp=Z,82nm,0.6s,mb5.8
SNF **Seneffe** 78.80 340 P P 10 58 25.3 -0.1
MIAR **Mount Ida** 78.96 51 eP P 10 58 25.1 -1.1
MIAR pmax pmax
comp=Z,12nm,0.8s,mb4.9
MIAR **Mount Ida** 78.96 51 eP P 10 58 25.1 -1.1
comp=Z,12nm,0.8s,mb4.9
GIVF **Givet** 79.05 340 eP P 10 58 26.0 -0.8
FUR **Furstenfeldbru** 79.15 335 eP P 10 58 27.4 +0.1
comp=Z,24nm,0.7s,mb5.2
FUR **Furstenfeldbru** 79.15 335 eP P 10 58 27.4 +0.1
FUR pmax pmax
comp=Z,31nm,0.7s,mb5.3
STU **Stuttgart** 79.18 337 eP P 10 58 27.4 -0.1
comp=Z,18nm,0.5s,mb5.3
USIN **University of** 79.23 45 eP P 10 58 27.6 -0.2
comp=Z,18nm,0.5s,mb5.2
BAIF **Baives** 79.24 340 ⇑iP P 10 58 27.2 -0.6
PERS **Pernice** 79.36 332 eP P 10 58 28.1 -0.3
KBA **Koelnbreinsper** 79.52 333 ⇑iP P 10 58 30.1 +0.8
comp=Z,29nm,0.8s,mb5.3
KBA **Koelnbreinsper** 79.52 333 ⇑iP P 10 58 30.1 +0.8
KBA pmax pmax
comp=Z,29nm,0.8s,mb5.3
ALLY **Alegheny Colle** 79.59 38 eP P 10 58 29.2 -0.4
STKA **Stephens Creek** 79.59 190 eP P 10 58 28.5 -1.2
comp=Z,5.9nm,1.0s,mb4.5
STKA **Stephens Creek** 79.59 190 P P 10 58 28.4 -1.3
comp=Z,1.7nm,0.7s,mb4.1,baz=124,slow=5.2,SNR=4.5
STKA pP pP 10 58 45.9 -0.7
comp=Z,7.1nm,0.9s,baz=350,slow=10,SNR=5.0
WCI **Wyandotte Cave** 79.67 44 P P 10 58 29.5 -0.6
WCI e pP 10 58 46.5 -0.5
WCI pmax pmax
comp=Z,25nm,0.9s,mb5.1
WCI **Wyandotte Cave** 79.67 44 eP P 10 58 29.4 -0.7
comp=Z,25nm,0.9s,mb5.1
WATA **Walderalm** 79.81 334 ⇑iP P 10 58 31.3 +0.4
comp=Z,16nm,1.0s,mb4.9
WATA **Walderalm** 79.81 334 ⇑iP P 10 58 31.3 +0.4
WATA pmax pmax
comp=Z,16nm,1.0s,mb4.9
BFO **Black Forest** 79.81 337 eP P 10 58 30.8 -0.1
comp=Z,27nm,1.2s,mb5.0
BFO **Black Forest** 79.81 337 eP P 10 58 30.8 -0.1
BFO pmax pmax
comp=Z,32nm,1.2s,mb5.1
GRUS **Gruza** 79.83 327 ⇑iP P 10 58 30.2 -0.8
WTTA **Wattenberg** 79.86 334 ⇑iP P 10 58 31.8 +0.7
comp=Z,20nm,0.7s,mb5.2
WTTA **Wattenberg** 79.86 334 ⇑iP P 10 58 31.8 +0.6
WTTA pmax pmax
comp=Z,20nm,0.7s,mb5.2
RETA **Reutte** 79.91 335 ⇑iP P 10 58 31.6 +0.1
comp=Z,16nm,1.1s,mb4.9
DIVS **Divcibare** 79.91 328 eP P 10 58 30.7 -0.8
MOTA **Moosalm** 79.94 335 ⇑iP P 10 58 32.0 +0.4
comp=Z,27nm,1.1s,mb5.1
MOTA **Moosalm** 79.94 335 ⇑iP P 10 58 32.0 +0.4
MOTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
VTS **Vitosha** 79.99 325 ⇑iP P 10 58 32.0 +0.2
CDF **Champ du Feu** 80.02 338 ⇑iP P 10 58 31.5 -0.5
comp=Z,64nm,1.2s,mb5.1
CDF **Champ du Feu** 80.02 338 ⇑iP P 10 58 31.5 -0.5
CDF pmax pmax
comp=Z,32nm,1.2s,mb5.1
CDF **Champ du Feu** 80.02 338 ⇑iP P 10 58 31.5 -0.5
comp=Z,32nm,1.2s,mb5.1
SQTA **Sankt Quirin** 80.02 335 ⇓iP P 10 58 32.5 +0.5
comp=Z,26nm,1.2s,mb5.0
SQTA **Sankt Quirin** 80.02 335 ⇓iP P 10 58 32.5 +0.5
SQTA pmax pmax
comp=Z,26nm,1.2s,mb5.0
VISS **Visnje** 80.18 332 eP P 10 58 32.1 -0.8
BOJS **Bojanci** 80.31 331 i P P 10 58 32.9 -0.7
FETA **Feichten** 80.34 335 ⇑iP P 10 58 34.3 +0.5
comp=Z,20nm,1.3s,mb4.9
DAVA **Damuels** 80.34 336 ⇑iP P 10 58 34.0 +0.2

comp=Z,15nm,0.9s,mb4.9
MEZF Maizieres J'vi 80.49 339⇑iP P 10 58 34.2 -0.3
NATX Nacogdoches 80.52 53 eP P 10 58 35.0 +0.3
comp=Z,41nm,0.7s,mb5.5
WVT Waverly 80.62 46 P P 10 58 33.7 -1.5
WVT e pP 10 58 51.1 -1.1
WVT pmax pmax
comp=Z,13nm,0.8s,mb4.9
WVT Waverly 80.62 46 eP P 10 58 33.9 -1.4
comp=Z,13nm,0.8s,mb4.9
HAU Haudompre 80.63 338⇑iP P 10 58 34.6 -0.7
comp=Z,39nm,1.1s,mb5.0
HAU eMLR
comp=Z,312nm,21.8s
HAU Haudompre 80.63 338⇑iP P 10 58 34.6 -0.7
HAU pmax pmax
comp=Z,20nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,310nm,21.8s
HAU Haudompre 80.63 338⇑iP P 10 58 34.6 -0.7
comp=Z,20nm,1.0s,mb5.0
HAU LR LR
comp=Z,310nm,21.8s
HINF Hinteralfeld 80.67 338⇑iP P 10 58 34.8 -0.7
comp=Z,25nm,1.0s,mb4.8
HINF Hinteralfeld 80.67 338⇑iP P 10 58 34.8 -0.7
HINF pmax pmax
comp=Z,12nm,1.0s,mb4.8
HINF Hinteralfeld 80.67 338⇑iP P 10 58 34.8 -0.7
comp=Z,12nm,1.0s,mb4.8
FORT Forrest 81.01 202 eP pP 10 58 54.2 -0.1
comp=Z,31nm,0.7s
OXF Oxford 81.12 48 eP P 10 58 37.5 -0.4
OXF e*PP pP 10 58 55.8 +0.9
OXF Oxford 81.12 48 eP P 10 58 37.5 -0.4
MCWV Mont Chateau 81.37 38 eP P 10 58 39.2 0.0
comp=Z,17nm,0.7s,mb5.1
PLAL Pickwick Lake 81.41 47 eP P 10 58 38.5 -1.0
comp=Z,12nm,0.8s,mb4.9
FLN La Foliniere 81.48 343 eP P 10 58 39.1 -0.7
FLN eMLR
comp=Z,208nm,19.5s
FLN La Foliniere 81.48 343 eP P 10 58 39.1 -0.7
FLN LR LR
comp=Z,210nm,19.5s
LDF La Druitiere 81.56 342 eP P 10 58 39.7 -0.6
CSS Prodhromos 81.81 314 eP P 10 58 41.8 +0.3
comp=Z,25nm,0.8s,mb5.2
GRR Gorron 81.91 343 eP P 10 58 41.6 -0.5
LOR Lormes 81.93 339 eP P 10 58 41.6 -0.6
comp=Z,27nm,0.8s,mb5.0
LOR eMLR
comp=Z,317nm,22.5s
LOR Lormes 81.93 339 eP P 10 58 41.6 -0.6
LOR pmax pmax
comp=Z,14nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,320nm,22.5s
LOR Lormes 81.93 339 eP P 10 58 41.6 -0.6
comp=Z,14nm,0.8s,mb4.9
LOR LR LR
comp=Z,320nm,22.5s
CABF La Chapelle 81.99 338 eP P 10 58 42.3 -0.2
comp=Z,12nm,0.7s,mb4.6
CABF La Chapelle 81.99 338 eP P 10 58 42.3 -0.2
CABF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CABF La Chapelle 81.99 338 eP P 10 58 42.3 -0.2
comp=Z,6.2nm,0.7s,mb4.7
SSF Saint Saulge 82.21 340⇑iP P 10 58 42.9 -0.7
comp=Z,19nm,0.9s,mb4.7
SSF Saint Saulge 82.21 340⇑iP P 10 58 42.9 -0.7
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SSF Saint Saulge 82.21 340⇑iP P 10 58 42.9 -0.7
comp=Z,9.4nm,0.9s,mb4.7
TZTN Tazewell 82.31 43 eP P 10 58 43.3 -0.9
comp=Z,8.8nm,0.7s,mb4.8
SGMF Saint Gilles 82.37 344 eP P 10 58 43.9 -0.6
ROSF Rostrenen 82.43 344 eP P 10 58 44.4 -0.4
comp=Z,50nm,1.1s,mb5.1
ROSF Rostrenen 82.43 344 eP P 10 58 44.4 -0.4
ROSF pmax pmax
comp=Z,25nm,1.1s,mb5.1
ROSF Rostrenen 82.43 344 eP P 10 58 44.4 -0.4
comp=Z,25nm,1.1s,mb5.1
AVF Avril sur Loir 82.50 340⇑iP P 10 58 44.8 -0.4
comp=Z,112nm,1.6s,mb5.3
AVF Avril sur Loir 82.50 340⇑iP P 10 58 44.8 -0.4
AVF pmax pmax
comp=Z,56nm,1.6s,mb5.2
AVF Avril sur Loir 82.50 340⇑iP P 10 58 44.8 -0.4
comp=Z,56nm,1.6s,mb5.2
SMF Signal de Mont 82.52 339⇑iP P 10 58 45.0 -0.3
comp=Z,112nm,1.4s,mb5.4
SMF Signal de Mont 82.52 339⇑iP P 10 58 45.0 -0.3
SMF pmax pmax
comp=Z,56nm,1.4s,mb5.4
SMF Signal de Mont 82.52 339⇑iP P 10 58 45.0 -0.3
comp=Z,56nm,1.4s,mb5.4
PPT Papeete 82.60 126 LR LR 11 29 27.1
comp=Z,153nm,20.8s,baz=286,slow=31
LPL La Plagne 82.83 337⇑iP P 10 58 47.4 +0.5
comp=Z,28nm,0.9s,mb5.0
LPL La Plagne 82.83 337⇑iP P 10 58 47.4 +0.5
LPL pmax pmax
comp=Z,14nm,0.9s,mb5.0
LPL La Plagne 82.83 337⇑iP P 10 58 47.4 +0.5
comp=Z,14nm,0.9s,mb5.0
BGF Bois d'Agland 82.84 340 eP P 10 58 46.6 -0.3
comp=Z,59nm,1.2s,mb5.2
BGF Bois d'Agland 82.84 340 eP P 10 58 46.6 -0.3
BGF pmax pmax
comp=Z,30nm,1.2s,mb5.2
BGF Bois d'Agland 82.84 340 eP P 10 58 46.6 -0.3
comp=Z,30nm,1.2s,mb5.2
LPG La Plagne 82.84 337⇑iP P 10 58 47.6 +0.6
comp=Z,37nm,1.0s,mb5.1
LPG La Plagne 82.84 337⇑iP P 10 58 47.6 +0.6
LPG pmax pmax
comp=Z,18nm,1.0s,mb5.1
LPG La Plagne 82.84 337⇑iP P 10 58 47.6 +0.6
comp=Z,18nm,1.0s,mb5.1
BLA Blacksburg 83.17 40 P P 10 58 48.3 -0.3
BLA e pP 10 59 06.1 +0.5
BLA pmax pmax
comp=Z,15nm,0.8s,mb5.1
BLA Blacksburg 83.17 40 eP P 10 58 47.4 -1.2
comp=Z,15nm,0.8s,mb5.1
TCF Toulx Ste Croi 83.24 340 eP P 10 58 48.7 -0.3
comp=Z,35nm,1.1s,mb5.0
TCF Toulx Ste Croi 83.24 340 eP P 10 58 48.7 -0.3
TCF pmax pmax
comp=Z,17nm,1.1s,mb5.0
TCF Toulx Ste Croi 83.24 340 eP P 10 58 48.7 -0.3
comp=Z,17nm,1.1s,mb5.0
MFF Saint Martin d 83.47 342 eP P 10 58 49.5 -0.7
LRAL Lakeview Retre 83.51 47 eP P 10 58 49.5 -0.9
comp=Z,7.3nm,0.6s,mb5.0
MBDF Montbardon 83.55 337⇑iP P 10 58 50.4 -0.2
comp=Z,11nm,0.6s,mb4.9
MBDF Montbardon 83.55 337⇑iP P 10 58 50.4 -0.2
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
MBDF Montbardon 83.55 337⇑iP P 10 58 50.4 -0.2
comp=Z,5.6nm,0.6s,mb4.9
ORIF Oris-en-Rattie 83.61 337⇑iP P 10 58 51.4 +0.5
comp=Z,27nm,0.8s,mb5.1
ORIF eMLR
comp=Z,230nm,18.8s
ORIF Oris-en-Rattie 83.61 337⇑iP P 10 58 51.4 +0.5
ORIF pmax pmax
comp=Z,13nm,0.8s,mb5.1
ORIF Oris-en-Rattie 83.61 337⇑iP P 10 58 51.4 +0.5
comp=Z,13nm,0.8s,mb5.1
VIVF Saint-Julien-l 83.98 338⇑iP P 10 58 53.0 +0.2
comp=Z,39nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.98 338⇑iP P 10 58 53.0 +0.2
VIVF pmax pmax
comp=Z,19nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.98 338⇑iP P 10 58 53.0 +0.2
comp=Z,19nm,1.1s,mb5.1
SBF Sospel 84.17 336 eP P 10 58 53.0 -0.7
CAF Calviac 84.56 340 eP P 10 58 55.5 -0.2
SMRF Simiane la Rot 84.57 337 eP P 10 58 56.3 +0.5
FRF La Foret Royal 84.67 336 eP P 10 58 54.9 -1.4
KLBR Kellerberrin 84.80 210 eP P 10 58 56.3 -0.6
comp=Z,23nm,1.2s,mb5.2
LMR La Mourre 84.91 336 eP P 10 58 57.1 -0.4
comp=Z,164nm,1.6s,mb5.6
LMR La Mourre 84.91 336 eP P 10 58 57.1 -0.4
LMR pmax pmax
comp=Z,82nm,1.6s,mb5.6
LMR La Mourre 84.91 336 eP P 10 58 57.1 -0.4
comp=Z,82nm,1.6s,mb5.6
LASF Ste Croix 84.92 338 eP P 10 58 57.9 +0.4
PGF Pioggiola 84.93 334 eP P 10 58 57.1 -0.5
comp=Z,104nm,1.5s,mb5.4
PGF Pioggiola 84.93 334 eP P 10 58 57.1 -0.5
PGF pmax pmax
comp=Z,52nm,1.5s,mb5.4
PGF Pioggiola 84.93 334 eP P 10 58 57.1 -0.5
comp=Z,52nm,1.5s,mb5.4
EIL Elat 85.21 310 eP P 10 58 59.6 +0.6
comp=Z,347nm,0.6s
MUN Mundaring 85.68 211 eP P 10 59 00.8 -0.5
MTLF Montolieu 86.02 339 eP P 10 59 02.1 -0.9
NWAO Narrogin (SRO) 86.20 210 P P 10 59 03.3 -0.6
comp=Z,19nm,1.0s,mb5.3,baz=301,slow=5.3,SNR=5.2
NWAO pP pP 10 59 20.2 -0.7
comp=Z,9.9nm,0.9s,baz=326,slow=6.0,SNR=2.5
NWAO Narrogin (SRO) 86.20 210 P P 10 59 03.3 -0.6
NWAO *PP pP 10 59 20.3 -0.7
NWAO pmax pmax
comp=Z,19nm,1.0s
NWAO pmax pmax
comp=Z,10.0nm,0.9s
EPF Esparros 86.75 340 eP P 10 59 05.1 -1.5
SJPF Ste Jean 87.02 341 eP P 10 59 06.7 -1.2
TBI Tubuai 87.37 129 eLR LR 11 26 19.0
comp=Z,207nm,24.0s,baz=339
ESDC Sonseca Array 90.90 342 P P 10 59 25.2 -0.9
comp=Z,0.7nm,0.4s,mb4.4,baz=1.1,slow=7.7,SNR=4.6
ESDC LR LR 11 42 40.8
comp=Z,97nm,20.3s,baz=50,slow=37
KEST Kesra 91.05 331 LR LR 11 45 53.5
comp=Z,64nm,18.7s,baz=222,slow=39
RKT Rikitea 95.36 118 eLR LR 11 30 02.6
comp=Z,164nm,31.8s
TORD Torodi Ar. Bea 114.49 329 PKP PKiKP 11 05 01.1 -1.1
comp=Z,0.6nm,0.5s,baz=29,slow=3.4,SNR=5.7
VNDA Vanda 124.78 178 PKP PKPdf 11 05 19.1 -2.9
comp=Z,0.7nm,0.7s,baz=295,slow=4.1,SNR=3.9
VNDA pPKP pPKPdf 11 05 36.2 -3.6
comp=Z,1.9nm,0.9s,baz=285,slow=2.1,SNR=4.1
VNDA Vanda 124.78 178 PKIKP PKPdf 11 05 19.1 -2.9
VNDA 11 05 36.2
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA Vanda 124.78 178 PKP PKPdf 11 05 19.1 -2.9
VNDA pPKP pPKPdf 11 05 36.2 -3.6
MAW Mawson 132.74 211 PKP PKPdf 11 05 35.0 -2.1
comp=Z,2.6nm,0.8s,baz=344,slow=2.6,SNR=5.2
MAW pPKP pPKPdf 11 05 52.4 -2.6
comp=Z,2.2nm,0.8s,baz=353,slow=5.6,SNR=4.2
MAW Mawson 132.74 211 PKIKP PKPdf 11 05 35.0 -2.1
MAW 11 05 52.4
MAW pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 134.09 62 PKP PKPdf 11 05 39.7 0.0
comp=Z,0.7nm,0.7s,baz=63,slow=3.8,SNR=4.6
LPAZ pPKP pPKPdf 11 05 57.4 -0.1
comp=Z,0.7nm,0.5s,baz=209,slow=10,SNR=2.8
LPAZ La Paz 134.09 62 PKIKP PKPdf 11 05 39.7 0.0
LPAZ 11 05 57.4
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 134.09 62 ePKPdf PKPdf 11 05 40.3 +0.7
BOSA Boshof 135.67 276 PKhKP 11 05 35.9
comp=Z,1.6nm,0.4s,baz=30,slow=1.8,SNR=3.2
BOSA PKP PKPdf 11 05 40.5 -2.1
comp=Z,1.6nm,0.4s,baz=359,slow=2.3,SNR=6.0
BOSA Boshof 135.67 276 PKIKP PKPdf 11 05 40.5 -2.1
BOSA pmax pmax
comp=Z,2.0nm,0.4s
BOSA Boshof 135.67 276 PKP PKPdf 11 05 40.5 -2.1
SYO Syowa Base 141.44 212⇓ePKPdf PKPdf 11 05 53.6 +0.4
PLCA Paso Flores 148.33 94 PKPbc PKPbc 11 06 07.7 -0.9
comp=Z,2.5nm,0.8s,baz=250,slow=6.2,SNR=5.0
PLCA pPKPbc pPKPbc 11 06 23.9 -2.3
comp=Z,6.4nm,0.9s,baz=277,slow=2.8,SNR=4.2
MAIT Maitri 150.24 205 ePKPdf PKPdf 11 06 09.0 +0.9
SNAA Sanae 153.17 197 PKPbc PKPbc 11 06 17.3 -2.7
comp=Z,2.0nm,0.7s,baz=186,slow=2.0,SNR=29
SNAA PKPab PKPab 11 06 30.0 -1.8
comp=Z,1.9nm,0.6s,baz=187,slow=1.8,SNR=11
SNAA Sanae 153.17 197 ePKPdf PKPdf 11 06 17.1 +4.6
SNAA e 11 06 22.8
SNAA e 11 06 33.8
SNAA e 11 06 46.6
SNAA Sanae 153.17 197 ePKPbc PKPbc 11 06 17.0 -3.0
SNAA ePKPab PKPab 11 06 29.8 -2.1
VNA2 Neumayer--Watz 154.63 195 ePKPdf PKPbc 11 06 20.6 -2.5
VNA2 e 11 06 27.0
VNA2 e 11 06 36.2
VNA2 e 11 06 53.6
VNA3 Neumayer Olymp 154.73 193 ePKPdf PKPbc 11 06 20.6 -2.7
VNA3 e 11 06 25.9
VNA3 e 11 06 36.1
VNA3 e 11 06 53.6
VNA1 Neumayer--Stat 155.02 195 ePKPdf PKPab 11 06 38.0 -1.7
VNA1 e 11 06 55.1

NIED ***14*** *11:02:00, 2440N×12190E, h8km, Mw4.2 Best double couple: M0 1.97000×10^15 NP1:φs 246.00000°, δ65.00000°, λ-58.00000°. NP2:φs 11.00000°, δ39.00000°, λ-138.00000°.*

IDC 14 11:03:03.2±6.8, 2489N×12209E, h93km±67km, mb3.7/8, mb1 3.8/9, mb1mx3.6/21, mbtmp3.6/9, ML3.4/1, Error ellipse: s-maj=43.0km s-min=14.1km az=65.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**13.48**	**20**	P	Pn	11 06 10.7	+0.2
	baz=208,slow=13,SNR=3.4						
SONM	**Songino Array**	**26.06**	**335**	P	P	11 08 27.9	+0.1
	6.4nm,0.9s,baz=153,slow=8.4,SNR=38						
MKAR	**Makanchi Array**	**38.42**	**315**	P	P	11 10 15.4	-0.2
	2.6nm,0.8s,baz=100,slow=10,SNR=21						
ZAL	**Zalesovo**	**40.12**	**326**	P	P	11 10 29.1	-0.7
	1.7nm,0.5s,baz=357,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**46.13**	**164**	P	P	11 11 17.8	-0.4
	1.2nm,0.4s,baz=347,slow=8.8,SNR=35						
BVAR	**Borovoye Array**	**47.66**	**320**	P	P	11 11 30.8	+0.7
	0.9nm,0.6s,baz=119,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**49.60**	**166**	P	P	11 11 45.4	+0.4
	0.3nm,0.4s,baz=349,slow=6.9,SNR=11						
STKA	**Stephens Creek**	**59.44**	**161**	P	P	11 12 56.5	+0.3
	1.5nm,0.7s,baz=27,slow=4.5,SNR=2.8						
YKA	**Yellowknife Ar**	**82.00**	**23**	P	P	11 15 12.5	-0.4
	0.4nm,0.8s,baz=309,slow=5.1,SNR=6.2						

ISCJB ***14*** *11:04:06.2±0.4, 2521N×007×12463E×005, h97km±6km, mb3.8/6, Error ellipse: s-maj=13.5km s-min=4.6km az=116.0*

IDC ***14*** *11:04:06.7±4.1, 2524N×12465E, h84km±41km, mb3.5/6, mb1 3.7/7, mb1mx3.5/21, mbtmp3.5/7, Error ellipse: s-maj=31.4km s-min=17.1km az=65.0*

JMA ***14*** *11:04:08.0±0.1, 2513N×12461E, h90km±3km, M3.4*

ISC 14 11:04:07.2±0.4, 2522N±007×12462E±005, h90km±6km, n21, σ0§69/33, mb3.8/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.58**	**172**	P	Pn	11 04 22.7	+0.1
JTJ				eS	Sn	11 04 33.8	-0.3
JMJ	**Miyako jima 2**	**0.74**	**123**	P	Pn	11 04 24.5	+0.5
JMJ				eS	Sn	11 04 37.0	+0.4
JOGS	**Gusukube**	**0.85**	**123**	P	Pn	11 04 25.9	+0.7
JOGS				S	Sn	11 04 39.3	+0.6
JIJ	**Ishigaki jima**	**0.96**	**207**	P	Pn	11 04 26.0	-0.4
JIJ				eS	Sn	11 04 39.3	-1.5
JKRS	**Kuro-shima**	**1.12**	**209**	P	Pn	11 04 28.4	+0.1
JKRS				eS	Sn	11 04 44.0	-0.2
IRIF	**Iriomote-Funau**	**1.20**	**222**	P	Pn	11 04 29.3	+0.1
IRIF				eS	Sn	11 04 45.5	-0.2
HATJ	**Hateruma jima**	**1.38**	**213**	P	Pn	11 04 31.5	+0.1
HATJ				eS	Sn	11 04 49.4	-0.2
YOJ	**Yonaguni jima**	**1.64**	**243**	P	Pn	11 04 35.9	+1.2
YOJ				eS	Sn	11 04 55.7	+0.1
JKE	**Kume jima 2**	**2.24**	**60**	P	Pn	11 04 43.5	+0.9
JAGN	**Aguni-jima**	**2.73**	**60**	P	Pn	11 04 49.8	+0.8
JAGN				eS	Sn	11 05 22.0	+0.8
JIH	**Iheya**	**3.51**	**58**	P	Pn	11 05 00.0	+0.4
JIH				eS	Sn	11 05 38.7	-1.4
JOW	**Kunigami**	**3.66**	**63**	P	Pn	11 05 01.7	+0.1
	3.9nm,0.3s,baz=329,slow=19,SNR=18						
JOW				S	Sn	11 05 42.8	-1.0
	6.9nm,0.3s,baz=135,slow=26,SNR=3.9						
JOW	**Kunigami**	**3.66**	**63**	P	Pn	11 05 01.8	+0.2
JTK	**Tokunoshima**	**4.65**	**56**	P	Pn	11 05 14.3	-0.7
JMZ	**Minamidaito 2**	**6.00**	**83**	P	Pn	11 05 30.3	-3.0
JMZ				eS	Sn	11 06 32.4	-8.2
SONM	**Songino Array**	**26.77**	**332**	P	P	11 09 38.5	0.0
	0.3nm,0.5s,mb3.0,baz=147,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**39.82**	**314**	P	P	11 11 31.6	-0.1
	1.5nm,0.5s,mb4.1,baz=101,slow=10,SNR=32						
WRA	**Warramunga Arr**	**45.88**	**167**	P	P	11 12 20.2	-0.3
	1.7nm,0.7s,mb3.9,baz=350,slow=8.6,SNR=6.7						
BVAR	**Borovoye Array**	**48.88**	**319**	P	P	11 12 43.4	-0.4
	0.8nm,0.3s,mb4.1,baz=108,slow=9.4,SNR=9.4						
ASAR	**Alice Springs**	**49.42**	**169**	P	P	11 12 48.5	+0.6
	1.0nm,0.4s,mb4.1,baz=353,slow=8.3,SNR=27						
YKA	**Yellowknife Ar**	**80.79**	**24**	P	P	11 16 11.0	+0.2
	0.3nm,0.7s,mb3.3,baz=303,slow=5.6,SNR=7.6						

NIED ***14*** *11:10:00, 2500N×12190E, h5km, Mw4.8 Best double couple: M0 1.54000×10^16 NP1:φs 259.00000°, δ54.00000°, λ-62.00000°. NP2:φs 37.00000°, δ44.00000°, λ-123.00000°.*

ISCJB ***14*** *11:10:35.0±0.3, 2477N±003×122.16E±004, h10km, mb4.4/34, MS4.1/29, Error ellipse: s-maj=5.7km s-min=4.3km az=57.3*

BJI ***14*** *11:10:37.1, 2492N×12209E, h13km, mB4.9, mb4.5, ML4.6, Ms4.7, Msz4.5*

NEIC ***14*** *11:10:37.9±1.4, 2482N×12202E, h14km±8km, mb4.7/12, Error ellipse: s-maj=9.2km s-min=8.1km az=97.0*

NEIC Recorded [3 TAP] in I-lan and [2 TAP] in Hua-lien and T'ai-pei Counties.

MOS ***14*** *11:10:38.3±0.9, 2483N×122.12E, h33km, mb4.9/15, MS4.1/4, Error ellipse: s-maj=13.6km s-min=6.9km az=113.2*

IDC ***14*** *11:10:42.4±3.6, 2486N×12206E, h53km±34km, mb4.1/13, mb1 4.1/16, mb1mx4.1/23, mbtmp4.0/16, ML3.5/3, MS4.1/28, Ms1 4.1/28, ms1mx3.8/49, Error ellipse: s-maj=24.6km s-min=13.4km az=67.0*

ISC 14 11:10:36.9±0.3, 2478N±003×12214E±004, h10km, n104, σ1§15/99, mb4.4/34, MS4.1/29, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.63**	**288**	ePn	Pg	11 10 47.5	-1.6
YHNB	**Yeheng**	**0.71**	**261**	ePn	Pn	11 10 49.4	-3.5
NACB	**Ninganchiao**	**0.78**	**220**	ePn	Pn	11 10 52.6	-1.4
NACB				eSn	Sn	11 11 03.6	-2.2
QZH	**Quanzhou**	**3.23**	**274**	P	Pn	11 11 26.1	-1.6
QZH				S	Sn	11 12 08.8	+2.6
QZH				Smax			
	comp=N,2μm,0.8s						
QZH				Smax			
	comp=E,2μm,1.1s						
QZH				LR	LR		
	comp=N,10μm,7.4s						
QZH				LR	LR		
	comp=E,10μm,8.2s						
QZH				LR	LR		
	comp=Z,14μm,8.0s						
JOW	**Kunigami**	**5.89**	**68**	P	Pn	11 12 08.7	+4.4
	comp=Z,2.6nm,0.3s,baz=216,slow=10,SNR=5.5						
SSE	**Sheshan**	**6.35**	**353**	eP	Pn	11 12 11.3	+0.8
SSE				S	Sn	11 13 24.0	+0.9
SSE				AMB	AMB		
	comp=Z,47nm,0.7s						
SSE				AMB	AMB		
	comp=Z,114nm,3.8s						
SSE				Smax			
	comp=N,236nm,1.2s						
SSE				Smax			
	comp=E,225nm,1.1s						
SSE				LR	LR		
	comp=N,744nm,17.7s						
SSE				LR	LR		
	comp=E,4μm,17.7s						
SSE				LR	LR		
	comp=Z,2μm,11.1s						
WHN	**Wuhan**	**8.98**	**311**	P	Pn	11 12 48.5	+1.8
WHN				LR	LR		
	comp=Z,7μm,8.7s						
JNU	**Nakatsue**	**11.29**	**41**	LR	LR	11 17 59.2	
	comp=Z,939nm,19.0s,baz=326,slow=39						
QIZ	**Qiongzhong**	**12.77**	**246**	P	Pn	11 13 37.9	-0.6
QIZ				S	Sn	11 16 03.6	+2.9
QIZ				LR	LR		
	comp=N,1μm,8.9s						
QIZ				LR	LR		
	comp=Z,1μm,10.7s						
KSRS	**Korea Array**	**13.56**	**20**	P	Pn	11 13 50.0	+0.6
	baz=202,slow=13,SNR=3.8						
KSRS				LR	LR	11 19 20.3	
	comp=Z,506nm,18.8s,baz=202,slow=38						
GYA	**Guiyang**	**14.07**	**280**	P	Pn	11 14 02.8	+6.6
GYA				PP		11 14 08.5	
GYA				SS		11 16 50.6	
GYA				PCP	PcP	11 19 19.0	+2.7
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,110nm,4.5s						
GYA				LR	LR		
	comp=N,1μm,6.3s						
GYA				LR	LR		
	comp=E,2μm,7.1s						
GYA				LR	LR		
	comp=Z,2μm,9.2s						
BJI	**Beijing**	**16.02**	**343**	P	Pn	11 14 22.9	+0.6
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s						
BJI				LR	LR		
	comp=N,371nm,10.8s						
BJI				LR	LR		
	comp=E,1μm,10.8s						
BJI				LR	LR		
	comp=Z,394nm,23.2s						
SNY	**Shenyang**	**17.05**	**4**	⇓P	Pn	11 14 36.3	+1.0
SNY				AP	pP	11 14 45.9	+6.0
SNY				S	Sn	11 17 51.5	+6.7
SNY				AMB	AMB		
	comp=Z,7.0nm,1.4s						
SNY				AMB	AMB		
	comp=Z,83nm,3.9s						
SNY				LR	LR		
	comp=N,1μm,9.6s						
SNY				LR	LR		
	comp=E,634nm,9.1s						
SNY				LR	LR		
	comp=Z,1μm,11.4s						
CD2	**Chengdu**	**17.36**	**295**	P	Pn	11 14 43.0	+3.7
CD2				AP	pP	11 14 44.9	+1.5
CD2				XP	sP	11 14 48.5	+3.8
CD2				PP		11 14 56.0	
CD2				S	Sn	11 17 51.5	-1.0
CD2				XS	sS	11 17 55.0	-11
CD2				SS		11 18 13.5	
CD2				AMB	AMB		
	comp=Z,70nm,0.9s						
CD2				AMB	AMB		
	comp=Z,270nm,4.1s						
CD2				LR	LR		
	comp=N,3μm,14.2s						
CD2				LR	LR		
	comp=E,1μm,11.8s						
CD2				LR	LR		
	comp=Z,1μm,10.8s						
KMI	**Kunming**	**17.60**	**275**	P	Pn	11 14 46.6	+4.3
KMI				S	Sn	11 18 02.8	+4.5
KMI				AMB	AMB		
	comp=Z,13nm,1.2s						
KMI				LR	LR		
	comp=N,712nm,6.5s						
KMI				LR	LR		

comp=E,1μm,8.4s
KMI LR LR
comp=Z,1μm,10.8s
MJAR Matsushiro Arr 18.09 46 P **Pn 11 14 50.1 +1.8**
comp=Z,0.2nm,0.3s,baz=246,slow=11,SNR=6.4
MJAR LR LR 11 22 05.8
comp=Z,396nm,21.8s,baz=260,slow=38
CBIJ Chichi jima 18.17 78 LR LR 11 21 39.2
comp=Z,173nm,18.7s,baz=172,slow=36
HHC Hu-ho-hao-te 18.30 334 *e*P **Pn 11 14 51.1 +0.2**
HHC AP pP 11 14 54.8 +1.0
HHC XP sP 11 14 58.1 +3.0
HHC PP 11 15 06.1
HHC S **Sn 11 18 14.5 -0.8**
HHC SS 11 18 36.3
HHC PCP PcP 11 19 23.9 +1.3
HHC SCS ScS 11 26 36.8 -2.1
HHC AMB AMB
comp=Z,12nm,0.9s
HHC AMB AMB
comp=Z,679nm,6.6s
HHC LR LR
comp=N,1μm,10.1s
HHC LR LR
comp=E,485nm,10.3s
HHC LR LR
comp=Z,2μm,10.3s
CN2 Changchun 19.17 7 *e*P **Pn 11 15 02.3 +0.9**
CN2 *e*S **Sn 11 18 35.9 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,12.0s
CN2 LR LR
comp=E,2μm,12.0s
CN2 LR LR
comp=Z,1μm,11.0s
LZH Lanzhou 19.36 310 *e*P **Pn 11 15 04.5 +0.8**
LZH AP pP 11 15 06.5 +1.1
LZH PP 11 15 20.0
LZH *e*S **Sn 11 18 43.1 +2.4**
LZH XS sS 11 18 49.0 +3.2
LZH SS 11 19 03.0
LZH AMB AMB
comp=Z,42nm,1.5s
LZH AMB AMB
comp=Z,361nm,4.9s
LZH LR LR
comp=E,1μm,10.7s
LZH LR LR
comp=Z,1μm,17.8s
LZH Lanzhou 19.36 310 *e*P **Pn 11 15 04.5 +0.8**
LZH *e*S **Sn 11 18 43.1 +2.4**
LZH Lanzhou 19.36 310 *e*P **Pn 11 15 04.5 +0.8**
LZH pP pP 11 15 06.5 +1.1
LZH sP sP 11 15 07.5 +0.8
LZH PP 11 15 20.0
LZH *e*S **Sn 11 18 43.1 +2.4**
LZH sS sS 11 18 49.0 +3.2
LZH SS 11 19 03.0
VLA Vladivostok 19.98 21 *e*P **Pn 11 15 11.1 +0.1**
VLA pmax pmax
comp=Z,66nm,1.4s
VLA MLR MLR
comp=Z,400nm,13.0s
MDJ Mudanjiang 20.70 15 P **P 11 15 17.3 +0.1**
MDJ AP 11 15 20.1
MDJ S **S 11 19 09.5 +1.2**
MDJ XS sS 11 19 14.1 +1.2
MDJ PCP PcP 11 19 26.5 -0.4
MDJ SCS ScS 11 26 46.8 0.0
MDJ AMB AMB
comp=Z,19nm,1.3s
MDJ AMB AMB
comp=Z,115nm,4.5s
MDJ LR LR
comp=N,666nm,14.5s,MS4.5
MDJ LR LR
comp=E,2μm,16.1s,MS4.5
MDJ LR LR
comp=Z,690nm,13.8s,MS4.2
NANT Nan 20.77 258 ⇑P **P 11 15 18.8 +0.8**
comp=Z,126nm,1.1s
CHG Chiang Mai 22.33 259 ⇓P **P 11 15 37.7 +3.0**
comp=Z,16nm,1.3s,mb4.3
CHTO Chiang Mai 22.33 259 *e*P **P 11 15 36.7 +2.0**
CHTO pmax pmax
comp=Z,21nm,1.2s,mb4.4
CHTO Chiang Mai 22.33 259 *e*P **P 11 15 36.7 +2.0**
comp=Z,21nm,1.2s,mb4.5
CM31 Chiang Mai Arr 22.45 258 *e*P **P 11 15 37.5 +1.5**
comp=Z,6.5nm,0.9s,mb4.1
GTA Gaotai 23.80 313 *e*P **P 11 15 49.0 -0.9**
GTA AP 11 15 56.3
GTA XP sP 11 16 00.0 +5.8
GTA AMB AMB
comp=Z,19nm,1.2s,mb4.4
GUMO Guam 24.14 113 LR LR 11 23 24.1
comp=Z,180nm,21.7s,MS3.5,baz=38,slow=31
ASAJ Asahikawa 25.50 36 LR LR 11 25 36.0
comp=Z,241nm,20.3s,MS3.7,baz=166,slow=35
ULN Ulaanbaatar 25.96 336 *e*P **P 11 16 09.7 +0.2**
ULN pmax pmax
comp=Z,25nm,1.3s,mb4.6
ULN Ulaanbaatar 25.96 336 *e*P **P 11 16 09.7 +0.2**
comp=Z,25nm,1.3s,mb4.6
SONM Songino Array 26.18 336 P **P 11 16 11.3 -0.2**
comp=Z,34nm,1.1s,mb4.8,baz=153,slow=6.2,SNR=102
SONM LR LR 11 27 22.4
comp=Z,620nm,20.0s,MS4.2,baz=300,slow=38
SHL Shillong 27.37 278 *e*P **P 11 16 23.0 +0.7**
YSS Yuzh-Sakhalins 27.57 31 *e*P **P 11 16 27.3 +3.3**
YSS *e* 11 16 36.0
YSS 11 27 11.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.0
YSS Yuzh-Sakhalins 27.57 31 *e*P **P 11 16 24.5 +0.5**
comp=Z,36nm,1.0s,mb5.0
CIT Chita 27.98 349 *e*P **P 11 16 27.4 -0.3**
ZAK Zakamensk 29.44 335 *e*P **P 11 16 40.2 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
TLY Talaya 30.36 337 *e*P **P 11 16 48.7 -0.2**
TLY *e* 11 17 47.2
TLY *e*S **S 11 21 49.6 +0.4**
TLY pmax pmax
comp=Z,12nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,340nm,11.0s,MS4.2
TLY Talaya 30.36 337 *e*P **P 11 16 48.8 -0.1**
TLY pmax pmax
comp=Z,19nm,1.3s,mb4.7
TLY Talaya 30.36 337 *e*P **P 11 16 48.8 -0.1**
comp=Z,19nm,1.3s,mb4.7
PSI Prapat 31.28 229 P **P 11 16 58.4 +1.4**
comp=Z,1.9nm,0.4s,mb4.3,baz=86,slow=15,SNR=3.4
PSI LR LR 11 29 19.4
comp=Z,117nm,19.9s,MS3.5,baz=50,slow=36
PSI Prapat 31.28 229 P **P 11 16 58.4 +1.4**
PSI LR LR 11 29 19.4
WMQ Urumqi 33.89 313 *e*P **P 11 17 20.6 +0.8**
WMQ XP sP 11 17 27.8 +3.7
WMQ PP PP 11 18 33.9 -2.6
WMQ PPP 11 18 51.4
WMQ S **S 11 22 43.1 -1.1**
WMQ XS sS 11 22 50.3 +1.1
WMQ SS SS 11 24 48.9 -22
WMQ SCS ScS 11 27 42.9 -2.0
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,187nm,4.5s
WMQ LR LR
comp=N,599nm,7.5s
WMQ LR LR
comp=E,850nm,9.5s
WMQ LR LR
comp=Z,158nm,13.0s,MS3.9
MK31 Makanchi Array 38.53 315 *e*P **P 11 17 58.9 -0.6**
MKAR Makanchi Array 38.53 315 P **P 11 17 58.9 -0.7**
comp=Z,5.2nm,0.8s,mb4.3,baz=102,slow=10,SNR=38
MKAR LR LR 11 35 06.0
comp=Z,252nm,19.3s,MS4.0,baz=115,slow=38

KAKA Kakadu 38.59 164 *e*P **P 11 17 59.8 -0.2**
comp=Z,6.5nm,0.9s,mb4.4
ZAL Zalesovo 40.23 326 P **P 11 18 12.2 -1.5**
comp=Z,6.8nm,1.0s,mb4.3,baz=359,slow=8.8,SNR=39
ZAL LR LR 11 36 44.9
comp=Z,589nm,19.1s,MS4.5,baz=347,slow=39
ZAL Zalesovo 40.23 326 P **P 11 18 12.2 -1.5**
ZAL LR LR 11 36 44.9
NVS Novosibirsk 41.48 327 *e*P **P 11 18 23.4 -0.7**
PMG Port Moresby 41.83 141 LR LR 11 35 06.9
comp=Z,150nm,19.4s,MS3.9,baz=113,slow=35
KURK Kurchatov 42.21 319 *e*P **P 11 18 29.3 -0.7**
KURK pmax pmax
comp=Z,27nm,1.4s,mb4.7
KURK Kurchatov 42.21 319 *e*P **P 11 18 29.2 -0.7**
comp=Z,27nm,1.4s,mb4.7
AAK Ala-Archa 42.85 307⇑*e*P **P 11 18 34.7 -0.5**
AAK pmax pmax
comp=Z,5.0nm,1.9s,mb3.9
AAK Ala-Archa 42.85 307 *e*P **P 11 18 34.9 -0.2**
comp=Z,1.8nm,0.8s,mb3.9
WRA Warramunga Arr 46.01 164 P **P 11 19 00.9 +0.5**
comp=Z,11nm,0.8s,mb4.8,baz=347,slow=8.9,SNR=86
WB2 Warramunga Arr 46.01 164 *e*P **P 11 19 01.5 +1.0**
TIXI Tiksi 47.06 3 *e*P **P 11 19 06.8 -1.9**
TIXI pmax pmax
comp=Z,30nm,1.0s,mb5.2
TIXI Tiksi 47.06 3 *e*P **P 11 19 06.8 -1.9**
comp=Z,30nm,1.0s,mb5.2
BVA0 Borovoye Array 47.77 320 *i*P **P 11 19 14.0 -0.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
BVAR Borovoye Array 47.77 320 P **P 11 19 13.9 -0.3**
comp=Z,1.6nm,0.8s,mb4.1,baz=115,slow=10.0,SNR=11
CHKZ Chkalovo 47.82 321 *e*P **P 11 19 13.3 -1.3**
CHKZ pmax pmax
comp=Z,19nm,1.3s,mb5.0
CHKZ Chkalovo 47.82 321 *e*P **P 11 19 13.3 -1.3**
comp=Z,19nm,1.3s,mb5.0
BRVK Borovoye 47.84 320 P **P 11 19 14.1 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BRVK Borovoye 47.84 320 *e*P **P 11 19 14.5 -0.3**
comp=Z,11nm,1.2s,mb4.8
ASAR Alice Springs 49.49 166 P **P 11 19 28.7 +1.3**
comp=Z,2.0nm,0.7s,mb4.3,baz=340,slow=7.0,SNR=37
CTA Charters Tower 50.39 150 LR LR 11 39 15.2
comp=Z,133nm,19.1s,MS4.0,baz=35,slow=34
BILL Bilibino 50.83 20 *e*P **P 11 19 36.6 -1.0**
BILL *e*S **S 11 27 09.2 +16**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.0
AB31 Akbulak array 53.66 314 *i*P **P 11 19 58.5 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
AKTO Aktyubinsk 54.97 315 P **P 11 20 09.9 +1.7**
ARU Arti 55.16 323⇓*i*P **P 11 20 09.0 -0.6**
ARU *e* 11 22 11.5
ARU *e*S **S 11 27 51.8 -0.9**
ARU *e*SS SS 11 31 35.9 -0.7
ARU pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
STKA Stephens Creek 59.32 161 *e*P **P 11 20 39.6 +0.6**
comp=Z,3.8nm,0.8s,mb4.5
STKA Stephens Creek 59.32 161 P **P 11 20 39.4 +0.4**
comp=Z,2.9nm,0.7s,mb4.4,baz=350,slow=11,SNR=5.4
STKA LR LR 11 47 42.1
comp=Z,106nm,18.9s,MS4.0,baz=25,slow=37
GNI Garni 65.19 304 LR LR 11 53 16.3
comp=Z,98nm,18.2s,MS4.0,baz=94,slow=39
ZEI Tsey 65.27 307 *e*P **P 11 21 18.0 -0.8**
ZEI *i* 11 21 26.7
ZEI pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KIV Kislovodsk 65.90 309 *e*P **P 11 21 22.0 -0.9**
KIV pmax pmax
comp=Z,18nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,181nm,19.0s,MS4.3
ARCES ARCESS Array B 69.32 338 LR LR 11 55 53.7
comp=Z,138nm,19.1s,MS4.2,baz=290,slow=39
ANN Anapa 69.37 311 *e*P **P 11 21 39.0 -5.8**
FINES FINESS Array B 71.38 330 LR LR 11 56 15.3
comp=Z,246nm,18.2s,MS4.5,baz=157,slow=38
INK Inuvik 72.35 22 *e*P **P 11 22 00.3 -2.7**
comp=Z,219nm,1.3s
AKASG Malin Array Be 73.01 318 P **P 11 22 05.5 -1.4**
comp=Z,0.3nm,0.3s,mb3.7,baz=59,slow=5.5,SNR=6.4
AKASG LR LR 11 55 35.0
comp=Z,92nm,18.7s,MS4.1,baz=330,slow=37
ASF Jabal al Asfar 73.46 298 LR LR 11 56 36.6
comp=Z,64nm,20.9s,MS3.9,baz=80,slow=38
BRTR Keskin Array B 73.53 306 P **P 11 22 09.6 -0.3**
comp=Z,3.0nm,1.0s,mb4.2,baz=94,slow=5.1,SNR=8.5
MMAI Mount Meron Ar 74.37 299 LR LR 11 58 26.9
comp=Z,61nm,19.0s,MS3.9,baz=145,slow=39
HFS Hagfors 77.48 331 LR LR 12 00 04.0
comp=Z,442nm,18.8s,MS4.8,baz=221,slow=38
RES Resolute Bay 77.94 9 *e*P **P 11 22 34.5 -0.7**
comp=Z,180nm,1.3s
NB2 NORSAR Subarra 78.11 332 P **P 11 22 35.2 -0.9**
comp=Z,1.0nm,0.7s,mb3.9,baz=61,slow=5.6
NOA NORSAR Array B 78.11 332 P **P 11 22 34.6 -1.5**
comp=Z,1.9nm,0.8s,mb4.1,baz=61,slow=5.4,SNR=3.9
NOA LR LR 12 00 57.3
comp=Z,182nm,18.1s,MS4.4,baz=15,slow=39
JMIC Jan Mayen 78.48 345 LR LR 12 01 06.9
comp=Z,185nm,20.1s,MS4.4,baz=274,slow=39
RPZ Rata Peaks 81.59 146 LR LR 11 56 57.7
comp=Z,126nm,18.7s,MS4.3,baz=345,slow=34
YKA Yellowknife Ar 82.08 23 P **P 11 22 56.5 -1.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=314,slow=4.9,SNR=18
YKA LR LR 12 06 37.6
comp=Z,112nm,18.5s,MS4.3,baz=310,slow=41
YKA Yellowknife Ar 82.08 23 P **P 11 22 56.5 -1.1**
YKA LR LR 12 06 37.6
GERES GERESS Array B 82.94 321 LR LR 12 04 14.2
comp=Z,146nm,18.2s,MS4.4,baz=92,slow=39
KMBO Kilima Mbogo 85.83 267 P **P 11 23 19.5 +2.8**
comp=Z,0.4nm,0.3s,mb4.2,baz=43,slow=8.8,SNR=3.9
BORG Borgarnes 86.38 345 LR LR 12 04 28.5
comp=Z,198nm,19.4s,MS4.5,baz=125,slow=37
KEST Kesra 92.54 311 LR LR 12 14 19.0
comp=Z,34nm,18.2s,MS3.8,baz=247,slow=41
NVAR Mina Array Bea 95.40 43 P **P 11 24 02.5 +0.9**
comp=Z,0.6nm,0.9s,mb4.0,baz=277,slow=6.0,SNR=3.5
PPT Papeete 95.68 107 *e*LR LR 11 24 07.0
comp=Z,224nm,24.2s,baz=346
PPT Papeete 95.68 107 LR LR 12 04 08.7
comp=Z,150nm,20.1s,MS4.5,baz=208,slow=34
TAOE Nuku Hiva Isla 100.61 95 *e*LR LR 11 23 33.3
comp=Z,686nm,29.9s
VNA2 Neumayer--Watz 125.72 198 *e*PKPdf PKPdf 11 29 39.0 +0.3
VNA2 *e* 11 29 42.2
VNA3 Neumayer Olymp 126.19 197 *e*PKPdf PKPdf 11 29 41.9 +2.3
VNA3 *e* 11 29 45.2

*NEIC **14** 11:13:08.0,3676S×17747E,h219km,MG3.7(WEL),After WEL.*
WEL 14 11:13:08.2±0.3,3667S×17739E,h205km±3km,ML3.7/18,
Error ellipse: s-maj=4.3km s-min=3.7km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.15**	**141**	PN	Pn	11 13 39.8	+0.3
MXZ				SN	Sn	11 14 03.2	-0.6
PUZ	**Puketiti**	**1.56**	**154**	P	Pn	11 13 42.9	+0.1
PUZ				S	Sn	11 14 09.5	-0.3
PUZ	**Puketiti**	**1.56**	**154**	PN	Pn	11 13 42.9	+0.1
PUZ				SN	Sn	11 14 09.5	-0.3
URZ	**Urewera**	**1.60**	**188**	P	Pn	11 13 43.4	+0.3
URZ	**Urewera**	**1.60**	**188**	PN	Pn	11 13 43.4	+0.3
URZ				SN	Sn	11 14 10.8	+0.5
MWZ	**Matawai**	**1.66**	**176**	P	Pn	11 13 44.0	+0.3
MWZ				S	Sn	11 14 12.1	+0.7
MWZ	**Matawai**	**1.66**	**176**	PN	Pn	11 13 44.0	+0.3
MWZ				SN	Sn	11 14 12.1	+0.7
KNZ	**Kokohu**	**2.35**	**175**	P	Pn	11 13 50.7	0.0
KNZ	**Kokohu**	**2.35**	**175**	PN	Pn	11 13 50.7	0.0
BKZ	**Black Stump Fm**	**2.59**	**196**	*e*PN	Pn	11 13 53.2	-0.1
BKZ				SN	Sn	11 14 28.4	-0.2
TUVZ	**Tukino**	**2.93**	**207**	P	Pn	11 13 57.9	+0.7
TUVZ	**Tukino**	**2.93**	**207**	PN	Pn	11 13 57.9	+0.7
WNVZ	**Wahianoa**	**3.00**	**208**	P	Pn	11 13 58.3	+0.2
WNVZ	**Wahianoa**	**3.00**	**208**	PN	Pn	11 13 58.3	+0.3
MOVZ	**Moawhango**	**3.02**	**205**	PN	Pn	11 13 57.9	-0.4
MTVZ	**Mangateitei**	**3.10**	**209**	PN	Pn	11 13 59.7	+0.5
PXZ	**Pawanui**	**3.38**	**187**	PN	Pn	11 14 01.5	-1.0
TSZ	**Takapari Road**	**3.56**	**198**	P	Pn	11 14 03.6	-1.1
TSZ	**Takapari Road**	**3.56**	**198**	PN	Pn	11 14 03.6	-1.1
WAZ	**Wanganui**	**3.61**	**211**	PN	Pn	11 14 05.3	0.0
BFZ	**Birch Farm**	**4.10**	**192**	*e*P	Pn	11 14 09.7	-1.6
BFZ	**Birch Farm**	**4.10**	**192**	*e*PN	Pn	11 14 09.7	-1.6
MRZ	**Mangatainoka R**	**4.23**	**199**	*e*P	Pn	11 14 11.0	-1.9
MRZ	**Mangatainoka R**	**4.23**	**199**	*e*PN	Pn	11 14 11.0	-1.9
TIWZ	**Tintock**	**4.26**	**196**	PN	Pn	11 14 12.0	-1.4
KIW	**Kapiti Island**	**4.61**	**204**	PN	Pn	11 14 15.5	-2.2
CAW	**Cannon Point**	**4.78**	**202**	PN	Pn	11 14 17.4	-2.4

IDC 14 11:27:04.3±11.0,625S×12836E,h230km±123km,mb2.9/1,
mb1 3.2/4,mb1mx3.0/15,mbtmp3.0/4,Error ellipse:
s-maj=79.2km s-min=42.6km az=49.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**192**	P	Pn	11 29 49.7	+0.5
	0.2nm,0.3s,baz=359,slow=12,SNR=6.6						
FITZ				S	S	11 32 01.8	-2.0
	0.0nm,0.3s,baz=107,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**14.80**	**157**	P	Pn	11 30 23.0	+0.3
	0.3nm,0.3s,baz=329,slow=12,SNR=23						
WRA				S	S	11 33 10.0	+3.5
	0.0nm,0.3s,baz=344,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**18.12**	**163**	P	P	11 30 59.4	+0.1
	0.4nm,0.3s,baz=345,slow=12,SNR=51						
MKAR	**Makanchi Array**	**66.71**	**327**	P	P	11 37 30.7	+0.1
	0.1nm,0.4s,baz=112,slow=9.5,SNR=3.1						

*TIR **14** 11:31:06.8,4107N×2091E,h24km,Ml3.5*
*PDG **14** 11:31:06.3±0.3,4080N×2072E,h11km±1km*
*SKO **14** 11:31:07.3,4103N×2074E,h15km,M2.6,ML3.3*
*ISCJB **14** 11:31:08.2±0.3,4108N±002×2073E±002,h10km±2km,*
Error ellipse: s-maj=3.1km s-min=2.1km az=104.7
*ATH **14** 11:31:09.2,4107N×2084E,h20km±4km,MD3.8/7*
*CSEM **14** 11:31:09.0±0.1,41.11N×2081E,h10km,ML3.3,Error ellipse: s-maj=2.3km s-min=1.6km az=26.0*
*NEIC **14** 11:31:09.2,4107N×2084E,h20km,MD3.8(ATH),ML3.6(PDG),After ATH.*
*THE **14** 11:31:10.2,41.14N×2062E,h21km,ML3.5*
ISC 14 11:31:09.3±0.3,4107N±001×2077E±002,h11km±2km,
n101,σ1$21/150,20C-20D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.05**	**30**	*i* Pg	**Pg**	**11 31 10.1**	**-1.3**
OHR				*i* Sg	**Sg**	**11 31 12.2**	**-0.8**
OHR				*e*Lg		11 31 12.3	
	comp=N,14μm,0.4s						
OHR				*e*Lg		11 31 12.3	
	comp=E,23μm,0.4s						
OHR	**Ohrid**	**0.05**	**30**	*i* Pg	**Pg**	**11 31 10.1**	**-1.3**
OHR				*i* Sg	**Sg**	**11 31 12.2**	**-0.8**
OHR				*e*Lg		11 31 12.3	
	comp=N,14μm,0.4s						
OHR				*e*Lg		11 31 12.3	
	comp=E,23μm,0.4s						
OHR	**Ohrid**	**0.05**	**30**	*i* Pg	**Pg**	**11 31 10.0**	**-1.4**
OHR				*i* Sg	**Sg**	**11 31 12.1**	**-0.8**
OHR				*e*Lg		11 31 12.3	
	comp=E,23μm,0.4s						
BIA	**Bitola**	**0.43**	**96**	*i* Pg	**Pg**	**11 31 16.3**	**-1.4**
BIA				*i* Sg	**Sg**	**11 31 23.3**	**0.0**
BIA	**Bitola**	**0.43**	**96**	*i* Pg	**Pg**	**11 31 16.3**	**-1.4**
BIA				*i* Sg	**Sg**	**11 31 23.3**	**0.0**
BIA	**Bitola**	**0.43**	**96**	*i* Pg	**Pg**	**11 31 16.2**	**-1.4**
BIA				*i* Sg	**Sg**	**11 31 23.2**	**-0.1**
KBN	**Korca**	**0.44**	**178**	*i* Pg	**Pg**	**11 31 16.9**	**-1.1**
KBN				*i* Sg	**Sg**	**11 31 23.8**	**-0.1**
KRUS	**Krusevo**	**0.47**	**50**	*i* Pg	**Pg**	**11 31 18.1**	**-0.4**
KRUS				*i* Sg	**Sg**	**11 31 26.1**	**+1.2**
KRUS	**Krusevo**	**0.47**	**50**	*i* Pg	**Pg**	**11 31 18.1**	**-0.4**
KRUS				*i* Sg	**Sg**	**11 31 26.1**	**+1.2**
KRUS	**Krusevo**	**0.47**	**50**	*i* Pg	**Pg**	**11 31 18.1**	**-0.4**
KRUS				*i* Sg	**Sg**	**11 31 26.0**	**+1.2**
LSK	**Leskovik**	**0.92**	**188**	*i* Pg	**Pg**	**11 31 26.1**	**-1.0**
LSK				*i* Sg	**Sg**	**11 31 41.1**	**+2.0**
SKO	**Skopje**	**1.04**	**29**	*i* Pg	**Pg**	**11 31 28.7**	**-0.6**
SKO				*i* Sg	**Sg**	**11 31 43.0**	**+0.3**
SKO	**Skopje**	**1.04**	**29**	*i* Pg	**Pg**	**11 31 28.7**	**-0.6**
SKO				*i* Sg	**Sg**	**11 31 43.0**	**+0.3**
SKO	**Skopje**	**1.04**	**29**	*i* Pg	**Pg**	**11 31 28.6**	**-0.6**
SKO				*i* Sg	**Sg**	**11 31 42.9**	**+0.2**
KZN	**Kozani**	**1.08**	**134**	PB	**Pb**	**11 31 28.4**	**-1.5**
KZN				SN	**Sn**	**11 31 44.2**	**-1.1**
PUK	**Puka**	**1.17**	**326**	*i* Pn	**Pn**	**11 31 30.4**	**-1.2**
PUK				*i* Sn	**Sn**	**11 31 48.7**	**+1.1**
STIP	**Stip**	**1.24**	**59**	*i* Pg	**Pg**	**11 31 32.0**	**-1.1**
STIP	**Stip**	**1.24**	**59**	*i* Pg	**Pg**	**11 31 32.0**	**-1.1**
STIP	**Stip**	**1.24**	**59**	*i* Pg	**Pg**	**11 31 31.9**	**-1.2**
GRG	**Griva**	**1.24**	**95**	*e*Pg	**Pg**	**11 31 31.5**	**-1.7**
GRG				*e*Sg	**Sg**	**11 31 50.1**	**+0.8**
SRN	**Sarande**	**1.32**	**206**	*i* pn?	**Pg**	**11 31 36.7**	**+2.1**
SRN				*i* Sn	**Sg**	**11 31 55.6**	**+3.8**
MEV	**Metsovon**	**1.33**	**164**	*e*Pg	**Pg**	**11 31 32.8**	**-2.0**
MEV				*e*Sg	**Sg**	**11 31 50.9**	**-1.1**
SDA	**Shkodra**	**1.37**	**316**	*i* Sg	**Sg**	**11 31 57.2**	**+3.9**
JAN	**Janina**	**1.41**	**177**	PN	**Pn**	**11 31 36.1**	**+1.2**
ULC	**Ulcinj**	**1.45**	**309**⇓	*i*Pn	**Pn**	**11 31 34.5**	**-0.9**
ULC				*e*Sn	**Sg**	**11 31 58.9**	**+3.1**
ULC	**Ulcinj**	**1.45**	**309**⇓	*i*Pn	**Pn**	**11 31 34.5**	**-0.9**
ULC				*e*Sn	**Sg**	**11 31 58.9**	**+3.0**
KEK	**Kerkira**	**1.54**	**209**	PN	**Pn**	**11 31 37.6**	**+0.9**
KEK				SN	**Sg**	**11 31 59.9**	**+1.1**
KNT	**Kendrikon**	**1.61**	**86**	*e*Pb	**Pb**	**11 31 37.8**	**-1.3**
LIT	**Litokhoron**	**1.63**	**126**	*e*Pb	**Pb**	**11 31 38.0**	**-1.4**
LIT				*e*Sb	**Sb**	**11 31 59.9**	**0.0**
PVY	**Plav**	**1.64**	**339**⇓	*i*Pn	**Pn**	**11 31 39.1**	**+1.1**
PVY				*e*Sn	**Sg**	**11 32 05.8**	**+3.9**
THE	**Thessaloniki**	**1.73**	**104**	*e*Pb	**Pb**	**11 31 38.9**	**-2.1**
THE				*e*Sb	**Sb**	**11 32 02.4**	**-0.3**
TTG	**Podgorica**	**1.77**	**321**⇑	*i*Pn	**Pn**	**11 31 40.5**	**+0.7**
TTG				*e*Sn	**Sg**	**11 32 07.4**	**+1.3**
THL	**Klokotos Trika**	**1.78**	**147**	PN	**Pn**	**11 31 40.2**	**+0.3**
THL				SN	**Sn**	**11 32 02.8**	**+0.2**
HORT	**Hortiatis**	**1.83**	**104**	*e*Pb	**Pn**	**11 31 40.8**	**+0.1**
BUM	**Brajici-Budva**	**1.86**	**312**⇓	*i*Pn	**Pn**	**11 31 41.8**	**+0.7**
BUM				*e*Sn	**Sg**	**11 32 09.4**	**+0.2**
IVA	**Berane**	**1.92**	**341**⇓	*i*Pn	**Pn**	**11 31 43.3**	**+1.5**
IVA				*e*Sn	**Sg**	**11 32 12.4**	**+1.5**
BARS	**Barje**	**1.92**	**24**⇑	*i*Pn	**Pn**	**11 31 43.6**	**+1.7**
SOH	**Sokhos**	**1.98**	**96**	*e*Pn	**Pn**	**11 31 43.0**	**+0.3**
PLG	**Polygyros**	**2.15**	**108**	PB	**Pn**	**11 31 45.9**	**+0.8**
HCY	**Herceg Novi**	**2.19**	**310**⇑	*i*Pn	**Pn**	**11 31 45.8**	**+0.3**
HCY				*e*Sn	**Sb**	**11 32 16.5**	**+0.6**
NKY	**Niksic**	**2.19**	**324**⇑	*i*Pn	**Pn**	**11 31 47.3**	**+1.8**
NKY				*e*Sn	**Sg**	**11 32 17.9**	**-1.7**
EVR	**Evrytania**	**2.29**	**159**	PN	**Pn**	**11 31 49.6**	**+2.6**
LKD	**Levkas**	**2.36**	**182**	*e*Pn	**Pn**	**11 31 48.6**	**+0.7**
AGG	**Agios Georgios**	**2.37**	**149**	*e*Pn	**Pn**	**11 31 48.9**	**+0.8**
AGG				*e*Sn	**Sn**	**11 32 18.1**	**+1.0**
VTS	**Vitosha**	**2.38**	**49**⇓	*i*P	**Pn**	**11 31 49.1**	**+0.9**
TREB	**Trebinje**	**2.44**	**313**	P	**Pn**	**11 31 49.8**	**+0.7**
BRY	**Bratogost**	**2.47**	**319**⇓	*i*Pn	**Pn**	**11 31 50.6**	**+1.1**
BRY				*e*Sn	**Sb**	**11 32 24.5**	**+0.4**
PLE	**Pljevlja**	**2.48**	**336**⇑	*i*Pn	**Pn**	**11 31 51.5**	**+1.9**
PLE				*e*Sn	**Sb**	**11 32 25.5**	**+1.1**
PAIG	**Paliouri**	**2.50**	**116**	*e*Pn	**Pn**	**11 31 49.6**	**-0.2**
UPM	**Unac-Piva**	**2.54**	**328**⇓	*i*Pn	**Pn**	**11 31 52.6**	**+2.1**
UPM				*e*Sn	**Sb**	**11 32 26.5**	**+0.3**
GRUS	**Gruza**	**2.82**	**359**⇓	*i*Pn	**Pn**	**11 31 54.6**	**+0.3**
VLS	**Valsamata**	**2.89**	**183**	PN	**Pn**	**11 31 55.4**	**+0.2**
STON	**Ston**	**2.91**	**309**	*i* Pn	**Pn**	**11 31 55.0**	**-0.5**
STON				*i* Sn	**Sn**	**11 32 31.1**	**+0.6**
STON	**Ston**	**2.91**	**309**	*i* Pn	**Pn**	**11 31 55.0**	**-0.5**
STON				*i* Sn	**Sn**	**11 32 31.0**	**+0.5**
DIVS	**Divcibare**	**3.08**	**350**⇑	*i*Pn	**Pn**	**11 31 58.2**	**+0.3**
FGMS	**Monte Sant'Ang**	**3.68**	**282**	Pn	**Pn**	**11 32 05.5**	**-0.5**
RGNG	**Rignano Grg**	**3.94**	**281**	Pn	**Pn**	**11 32 09.0**	**-0.7**
FG5	**Orsara di Pugl**	**4.16**	**275**	Pn	**Pn**	**11 32 13.2**	**+0.6**

GZR	Gura Zlata	4.57	18	⇓iP		Pn		11 32 19.0	+0.7
BZS	Buzias	4.59	7	⇑iP		Pn		11 32 18.8	+0.2
SGG	Gregorio Mates	4.83	276	Pn		Pn		11 32 22.1	+0.2
MIDA	Miranda	4.93	279	Pn		Pn		11 32 23.6	+0.3
RFI	Roccamonfina	5.12	275	Pn		Pn		11 32 26.6	+0.7
	comp=E,3.9nm,0.4s								
SDI	San Donato	5.27	279	Pn		Pn		11 32 28.6	+0.6
	comp=E,26nm,0.5s								
VVLD	Villa Vallelon	5.43	281	Pn		Pn		11 32 30.9	+0.8
	comp=E,72nm,0.9s								
NVLJ	Novalja	5.57	311	*i* Pn		Pn		11 32 32.0	0.0
NVLJ				*i* Sn		Sn		11 33 34.4	-1.6
NVLJ	Novalja	5.57	311	*i* Pn		Pn		11 32 32.0	0.0
NVLJ				*i* Sn		Sn		11 33 34.3	-1.7
TERO	Teramo	5.57	289	Pn		Pn		11 32 31.8	-0.3
	comp=E,25nm,0.4s								
MLR	Muntele Rosu	5.82	39	⇑*i*P		Pn		11 32 44.0	+8.5
CING	Cingoli	6.08	295	Pn		Pn		11 32 38.5	-0.5
VRI	Vrincioaia	6.47	40	⇑*i*P		Pn		11 32 46.5	+2.1
FSSB	Fossombrone	6.47	297	Pn		Pn		11 32 43.8	-0.6
VOY	Vojsko	7.04	317	*e*Pn		Pn		11 32 52.5	+0.3
VOY				*e*				11 34 11.5	
VOY				*e*				11 34 13.3	
VOY				*e*				11 34 22.5	
OBKA	Obir	7.06	323	⇓*i*Pn		Pn		11 32 53.3	+0.8
OBKA				⇑*i*Sn		Sn		11 34 11.4	-1.3
ARSA	Arzberg	7.24	330	⇑*i*Pn		Pn		11 32 56.8	+1.8
ARSA				⇑*i*Sn		Sn		11 34 16.5	-0.7
BURAR	Bucovina Array	7.28	24	⇓*i*P		Pn		11 33 01.0	+5.4
KECS	Kecovo	7.42	359	*e*PN		Pn		11 32 58.8	+1.3
KBA	Koelnbreinsper	8.04	321	⇓*i*Pn		Pn		11 33 06.6	+0.6
KBA				⇑*i*Sn		Sn		11 34 34.8	-2.1
MOA	Molln	8.22	328	⇑*i*Pn		Pn		11 33 09.5	+1.1
	comp=E,2.1nm,0.3s,SNR=6.0								
MOA				⇑*i*Sn		Sn		11 34 39.6	-1.7
ABTA	Abfaltersbach	8.23	316	⇓*i*Pn		Pn		11 33 08.3	-0.2
ABTA				⇑*i*Sn		Sn		11 34 39.1	-2.4
APPI	Appiano	8.76	311	Pg		Pn		11 33 15.3	-0.6
PGF	Pioggiola	8.91	283	*e*P		Pn		11 33 15.6	-2.3
WTTA	Wattenberg	9.02	316	⇓*i*Pn		Pn		11 33 19.6	+0.2
WTTA				⇓*i*Sn		Sn		11 34 58.9	-2.1
SQTA	Sankt Quirin	9.22	315	⇓*i*Pn		Pn		11 33 22.1	0.0
	comp=E,14nm,0.4s,SNR=12								
SQTA				⇓*i*Sn		Sn		11 35 04.6	-1.2
MOTA	Moosalm	9.35	315	⇑*i*Pn		Pn		11 33 23.9	0.0
MOTA				⇑*i*Sn		Sn		11 35 06.8	-2.3
FETA	Feichten	9.36	313	⇑*i*Pn		Pn		11 33 23.9	-0.1
FETA				⇑*i*Sn		Sn		11 35 06.2	-3.0
KHC	Kasperske Hory	9.53	330	*e*PN		Pn		11 33 27.5	+1.1
DAVA	Damuels	9.98	312	⇓*i*Pn		Pn		11 33 32.5	-0.1
DAVA				⇓*i*Sn		Sn		11 35 21.5	-3.2
FRF	La Foret Royal	10.75	288	*e*P		Pn		11 33 39.7	-3.4
	comp=E,12nm,0.6s								
MBDF	Montbardon	10.90	294	*e*P		Pn		11 33 42.1	-3.0
	comp=E,3.5nm,0.4s								
MBDF	Montbardon	10.90	294	*e*P		Pn		11 33 42.1	-3.0
	comp=E,1.8nm,0.4s								
LPG	La Plagne	11.13	298	*e*P		Pn		11 33 46.5	-1.8
	comp=E,6.7nm,0.5s								
LPG	La Plagne	11.13	298	*e*P		Pn		11 33 46.5	-1.8
	comp=E,3.3nm,0.5s								
LPL	La Plagne	11.15	298	*e*P		Pn		11 33 45.8	-2.8
	comp=E,4.8nm,0.4s								
LPL	La Plagne	11.15	298	*e*P		Pn		11 33 45.8	-2.8
	comp=E,2.4nm,0.4s								
ORIF	Oris-en-Rattie	11.56	294	*e*P		Pn		11 33 50.4	-3.8
HINF	Hinteralfeld	12.01	309	*e*P		Pn		11 33 56.4	-3.9
	comp=E,6.4nm,0.6s								
CDF	Champ du Feu	12.07	312	*e*P		Pn		11 33 56.1	-5.1
	comp=E,4.5nm,0.5s								
HAU	Haudompre	12.40	309	*e*P		Pn		11 34 01.7	-3.9
LOR	Lormes	13.62	303	*e*P		Pn		11 34 18.3	-4.0
	comp=E,2.4nm,0.4s								
LOR	Lormes	13.62	303	*e*P		Pn		11 34 18.3	-4.0
	comp=E,1.2nm,0.4s								

PRU ***14*** *11:48:00.0,5027N×1901E,h0km*
WAR 14 11:48:00.3,5020N×1913E,ML2.6,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.43	87	*e*Pg	Pg	11 48 08.0	-0.5
OJC				*e*Sg	Sg	11 48 14.4	+0.3
OKC	Ostrava-Krasne	0.73	241	*e*PG	Pg	11 48 13.3	-1.0
OKC				*e*SG	Sg	11 48 22.1	-1.7
	34nm,0.9s						
NIE	Niedzica	1.09	135	*e*Pg	Pg	11 48 21.5	+0.2
NIE				*e*Sg	Sg	11 48 36.7	+1.3
STHS	Stebnicka Huta	1.58	119	*e*SN	Sn	11 48 53.6	+3.0
VYHS	Vyhne	1.72	187	*i* PN	Pn	11 48 29.7	-1.7
VYHS				*e*SN	Sn	11 48 52.2	-1.9
DPC	Dobruska-Polom	1.81	276	*e*PG	Pg	11 48 30.7	-4.3
DPC				*e*SG	Sg	11 48 55.8	-2.7
	14nm,0.4s						
KSP	Ksiaz	1.92	291	*e*Pg	Pn	11 48 36.0	+1.7
KSP				*e*Sg	Sn	11 49 00.1	+0.9
KECS	Kecovo	1.93	152	*e*PN	Pn	11 48 35.6	+1.2
KECS				*e*SN	Sn	11 49 00.9	+1.5
CRVS	Cervenica-Dubn	2.00	130	*e*PN	Pn	11 48 36.5	+1.2
CRVS				*e*SN	Sn	11 49 04.7	+3.7
UPC	Upice	2.02	280	*e*SG	Sg	11 49 02.4	-2.9
PRU	Pruhonice	2.96	268	*e*SG	Sg	11 49 31.0	-4.6
KHC	Kasperske Hory	3.76	256	*e*PN	Pn	11 48 57.0	-2.6
KHC				*e*x	x	11 49 04.0	
KHC				*e*SG	Sg	11 49 57.7	-3.5

IDC 14 11:48:43.0±2.0,1572S×17520W,h0km,mb4.2/3, mb1 4.4/4,mb1mx3.9/15,mbtmp4.3/4,ML2.9/1,Error ellipse: s-maj=173.0km s-min=29.6km az=155.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.77	62	Pn	Pn	11 49 42.6	+0.3
	59nm,0.3s,baz=225,slow=4.3,SNR=39						
AFI				Sn	Sn	11 50 17.4	-10
	34nm,0.3s,baz=52,slow=22,SNR=7.0						
STKA	Stephens Creek	42.38	240	P	P	11 56 38.5	-0.5
	3.8nm,0.8s,baz=53,slow=6.4,SNR=6.2						
WRA	Warramunga Arr	48.09	257	P	P	11 57 24.8	+0.4
	0.6nm,0.4s,baz=91,slow=6.6,SNR=30						
ASAR	Alice Springs	48.37	252	P	P	11 57 27.4	+0.9
	3.0nm,0.5s,baz=89,slow=7.7,SNR=81						

ISCJB ***14*** *12:07:10.9±0.9,685N±0.10×7289W±009,h174km±8km, mb3.1/1,Error ellipse: s-maj=19.8km s-min=10.1km az=98.4*
FUNV ***14*** *12:07:10.2,670N×73.15W,h164km,MW3.4*
IDC ***14*** *12:07:16.0±5.0,669N×7420W,h182km±26km,mb2.7/1, mb1 3.1/1,mb1mx2.7/18,mbtmp2.7/1,Error ellipse: s-maj=405.7km s-min=34.4km az=91.0*
ISC 14 12:07:11.3±0.8,678N±009×7290W±009,h165km±8km,n14, σ0§97/19,mb3.1/1,2C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	28	⇑*i*P	Pn	12 07 39.8	+0.4
CAPV				*e*S	Sn	12 08 01.0	0.0
ROSC	El Rosal	2.38	217	P	Pn	12 07 52.3	+0.5
	4.2nm,0.3s,baz=269,slow=20,SNR=10.0						
ROSC				S	Sn	12 08 20.0	-3.1
	9.1nm,0.3s,baz=71,slow=23,SNR=9.1						
SOCV	Socops	2.52	53	⇑*i*P	Pn	12 07 54.8	+1.4
SOCV				*e*S	Sn	12 08 26.7	+0.8
VIGV	El Vigia	2.55	36	*e*P	Pn	12 07 54.3	+0.5
VIGV				*i* S	Sn	12 08 27.3	+0.7
VIRV	Villa del Rosa	3.73	7	*e*P	Pn	12 08 06.9	-1.6
QARV	Quebrada Arrib	4.14	34	⇓*i*P	Pn	12 08 14.5	+0.8
QARV				*e*S	Sn	12 09 01.2	-1.1
SANV	Sanarito	4.29	51	*e*P	Pn	12 08 16.5	+0.8
CURV	Curarigua	4.33	42	*e*P	Pn	12 08 16.8	+0.6
CURV				*e*S	Sn	12 09 05.4	-1.4
SIQV	Siquisique	4.91	38	⇓*i*P	Pn	12 08 24.0	+0.2
BAUV	El Baul	5.27	66	*e*P	Pn	12 08 28.3	-0.1
BAUV				*e*S	Sn	12 09 27.4	-1.5
CUPV	Cœpira	7.75	65	*e*P	Pn	12 09 01.0	-0.3
YKA	Yellowknife Ar	63.38	340	P	P	12 17 23.2	+0.1
	0.2nm,0.6s,mb3.1,baz=133,slow=6.7,SNR=6.9						
ASAR	Alice Springs	149.27	234	PKPbc	PKPbc	12 26 40.2	-0.2
	0.2nm,0.5s,baz=116,slow=3.6,SNR=4.7						
WRA	Warramunga Arr	150.51	241	PKPbc	PKPbc	12 26 44.0	+0.6
	0.2nm,0.4s,baz=112,slow=2.2,SNR=9.5						

IDC 14 12:18:35.9±5.2,4686N×15259E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.4/22,mbtmp3.6/3,Error ellipse: s-maj=140.4km s-min=53.0km az=17.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	51.05	37	P	P	12 27 39.2	-0.6
	0.1nm,0.5s,baz=298,slow=7.1,SNR=3.3						
FINES	FINESS Array B	63.79	335	P	P	12 29 09.2	-0.6
	1.5nm,0.9s,baz=76,slow=5.9,SNR=3.4						
TXAR	Lajitas Array	77.75	60	P	P	12 30 35.0	+0.3
	0.6nm,0.6s,baz=300,slow=5.1,SNR=10						

PRU ***14*** *12:21:25.1,5141N×1601E,h0km*
WAR 14 12:21:24.2,5150N×1603E,ML2.6,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	166	*e*Pg	Pg	12 21 36.6	-0.6
KSP				*e*Sg	Sg	12 21 45.6	-0.4
UPC	Upice	0.99	181	*e*PG	Pg	12 21 42.5	-0.8
DPC	Dobruska-Polom	1.17	171	*e*PG	Pg	12 21 45.6	-1.0
DPC				*e*SG	Sg	12 21 59.9	-1.8
	45nm,0.6s						
BRG	Berggiesshubel	1.46	245	PN	Pn	12 21 50.7	-1.1
BRG				PG	Pg	12 21 51.3	-0.9
BRG				SG	Sg	12 22 11.1	0.0
	28nm,0.4s						
PRU	Pruhonice	1.79	213	*e*PG	Pg	12 21 55.9	-2.5
PRU				*e*SG	Sg	12 22 19.8	-1.8
	20nm,0.6s						
CLL	Collm	1.91	265	*e*Pn	Pn	12 21 56.0	-2.0
CLL				*e*Pg	Pg	12 21 59.0	-1.8
CLL				*e*Sg	Sg	12 22 25.0	-0.5
	comp=Z,18nm,0.7s						
OKC	Ostrava-Krasne	2.14	140	*e*SG	Sg	12 22 30.8	-2.2
NKC	Novy Kostel	2.60	242	*e*SG	Sg	12 22 46.9	-0.9
	comp=Z,26nm,0.4s						
KHC	Kasperske Hory	2.85	214	*e*PN	Pn	12 22 09.5	-1.4
KHC				*e*PG	Pg	12 22 15.2	-3.6
KHC				*e*SN	Sn	12 22 43.0	-2.8
KHC				*e*SG	Sg	12 22 51.9	-3.8
	comp=Z,12nm,0.4s						
MOX	Moxa	2.92	255	*e*PG	Pg	12 22 18.8	-1.3
MOX				*e*SG	Sg	12 22 58.6	+0.7
STHS	Stebnicka Huta	3.93	120	*e*PN	Pn	12 22 31.2	+5.4
STHS				*e*SG	Sg	12 23 32.8	+2.3

IDC 14 12:27:32.3±5.5,2137S×17031E,h158km±34km,mb3.4/3, mb1 3.5/4,mb1mx3.3/14,mbtmp3.4/4,MS3.2/2,Ms1 3.2/2, ms1mx2.5/14,Error ellipse: s-maj=83.6km s-min=43.8km az=153.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.66	258	*e*P	Pn	12 28 28.2	-0.2
DZM				*e*S	Sn	12 29 08.2	-3.8
DZM	Mont Dzumac	3.66	258	P	Pn	12 28 28.3	-0.1
	2.7nm,0.3s,baz=65,slow=20,SNR=42						
DZM				S	Sn	12 29 12.6	+0.6
	6.6nm,0.3s,baz=224,slow=23,SNR=7.3						
URZ	Urewera	17.82	162	LR	LR	12 37 34.4	
	comp=Z,48nm,19.6s,baz=222,slow=34						
WRA	Warramunga Arr	33.65	266	P	P	12 33 58.0	+0.2
	0.5nm,0.3s,baz=99,slow=8.4,SNR=26						
WRA				PcP	PcP	12 36 34.0	-0.1
	0.6nm,1.1s,baz=93,slow=3.4,SNR=5.2						
ASAR	Alice Springs	33.65	259	P	P	12 33 58.1	+0.2
	0.6nm,0.4s,baz=96,slow=8.5,SNR=24						
MJAR	Matsushiro Arr	65.10	332	LR	LR	13 03 44.2	
	comp=Z,33nm,20.4s,baz=320,slow=33						
SONM	Songino Array	89.52	323	P	P	12 40 13.1	+1.6
	0.1nm,0.4s,baz=133,slow=5.3,SNR=3.9						
ARCES	ARCESS Array B	127.38	345	PKP	PKPdf	12 46 16.3	-1.8
	2.5nm,0.9s,baz=42,slow=5.6,SNR=3.5						

IDC 14 12:48:20.2±8.2,872S×11853E,h102km±93km,mb3.3/3, mb1 3.4/5,mb1mx3.3/18,mbtmp3.2/5,ML3.3/2,MS2.9/1, Ms1 2.9/1,ms1mx2.3/13,Error ellipse: s-maj=138.5km s-min=36.4km az=51.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.60	144	P	Pn	12 51 03.5	+1.0
	0.1nm,0.3s,baz=330,slow=12,SNR=3.3						
FITZ				S	Sn	12 53 07.6	-2.4
	0.1nm,0.3s,baz=20,slow=12,SNR=2.6						
FITZ				LR	LR	12 56 46.1	
	comp=Z,54nm,18.8s,baz=56,slow=44						
WRA	Warramunga Arr	18.93	128	P	P	12 52 32.3	-0.8
	0.1nm,0.3s,baz=303,slow=13,SNR=20						
ASAR	Alice Springs	20.91	137	P	P	12 52 56.0	+1.6
	4.8nm,0.7s,baz=310,slow=8.9,SNR=60						
SONM	Songino Array	57.33	350	P	P	12 57 57.9	+0.3
	0.4nm,0.8s,baz=175,slow=7.2,SNR=3.8						
MKAR	Makanchi Array	64.00	333	P	P	12 58 42.5	-0.3
	0.2nm,0.5s,baz=145,slow=7.3,SNR=3.0						

IDC ***14*** *12:53:05.6±2.8,2173S×17954W,h629km±33km,mb3.3/7, mb1 3.5/8,mb1mx3.2/17,mbtmp3.3/8,Error ellipse: s-maj=79.3km s-min=16.2km az=159.0*
ISCJB ***14*** *12:53:06.6±3.1,220S±07×1796W±03,h661km±35km, mb3.8/7,Error ellipse: s-maj=111.9km s-min=22.4km az=138.0*
ISC 14 12:53:05.7±2.8,219S±07×1795W±03,h627km±28km,n12, σ0§50/11,mb3.9/7,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.06	267	P	P	12 55 55.6	+0.8
	0.4nm,0.3s,baz=78,slow=21,SNR=5.0						
CTA	Charters Tower	32.00	267	P	P	12 58 42.9	0.0
	5.6nm,0.5s,mb4.5,baz=101,slow=11,SNR=12						
STKA	Stephens Creek	35.95	246	P	P	12 59 15.7	0.0
	3.4nm,0.5s,mb4.1,baz=81,slow=10.0,SNR=8.1						
ASAR	Alice Springs	42.87	258	P	P	13 00 10.8	-0.1
	7.6nm,0.8s,mb4.3,baz=100,slow=7.9,SNR=101						
ASAR				PcP	PcP	13 01 47.1	+0.3
	0.4nm,0.6s,baz=111,slow=4.1,SNR=4.9						
ASAR				S	S	13 05 52.6	+1.0
	0.9nm,1.0s,baz=91,slow=18,SNR=5.2						
WB2	Warramunga Arr	43.05	264	⇓*i*P	P	13 00 11.5	-0.7
WRA	Warramunga Arr	43.06	264	P	P	13 00 11.6	-0.7
	5.6nm,0.8s,mb4.2,baz=97,slow=7.6,SNR=106						
FITZ	Fitzroy Crossi	51.49	264	*e*P	P	13 01 15.2	+0.1
	5.3nm,1.2s,mb3.9						
FITZ	Fitzroy Crossi	51.49	264	P	P	13 01 15.1	0.0
	1.2nm,0.4s,mb3.7,baz=6.0,slow=4.1,SNR=9.3						
NVAR	Mina Array Bea	82.98	44	P	P	13 04 26.3	-0.3
	1.0nm,1.1s,mb3.3,baz=236,slow=6.4,SNR=3.4						
TXAR	Lajitas Array	88.97	58	P	P	13 04 55.7	+0.6
	0.4nm,0.8s,mb3.3,baz=224,slow=3.5,SNR=6.0						
AKASG	Malin Array Be	143.53	329	PKP	PKPdf	13 11 27.6	-2.6
	0.7nm,0.3s,baz=42,slow=4.4,SNR=11						
BRTR	Keskin Array B	146.71	310	PKPbc	PKPbc	13 11 38.0	-0.6
	1.1nm,0.7s,baz=133,slow=5.4,SNR=4.3						

NIED ***14*** *12:55:00,35.10N×13720E,h47km,Mw3.6 Best double couple: M0:2.48000×10^14 NP1:φs129.00000°,δ89.00000°, λ-177.00000°. NP2:φs39.00000°,δ87.00000°,λ-1.00000°.*
JMA 14 12:55:45.1,3508N×13720E,h41km,M3.8,2C-3D Broadband fault plane solution: P waves. NP1: φs130.00000°,δ74.00000°,λ-173.00000°. NP2: φs38.00000°,δ84.00000°,λ-16.00000°. Principal axes: T Plg7.0000°, Azm85.0000°; N Plg72.0000°, Azm198.0000°; P Plg16.0000°, Azm353.0000°; Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	Obara	0.19	14	⇓P	Pn	12 55 52.4	0.0
JAO				S	Sn	12 55 57.9	+0.4
JGM	Miyama	0.73	328	⇓P	Pn	12 55 59.2	+0.2
JGM				S	Sn	12 56 09.6	+0.6
TSUJ	Tsu 2	0.74	240	⇑P	Pn	12 55 58.9	-0.2
TSUJ				S	Sn	12 56 09.8	+0.6
JIE	Ise	0.80	211	⇓P	Pn	12 55 59.9	0.0
JIE				S	Sn	12 56 11.4	+0.8
SHZ3	Shizuoka 3	0.83	91	⇑P	Pn	12 56 00.2	-0.1
SHZ3				S	Sn	12 56 13.1	+1.8
TK04	Tokai 4	0.89	141	P	Pn	12 56 01.3	+0.2
JKN2	Miekihoku	1.13	223	P	Pn	12 56 04.2	-0.3
JYN	Shimob	1.18	69	P	Pn	12 56 05.6	+0.5
MAT	Matsushiro	1.67	29	P	Pn	12 56 12.7	+0.8
MAT				S	Sn	12 56 34.6	+2.5

SSNC 14 13:05:43.9,1808N×7929W,h25km,MD3.8,ML2.9,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	2.93	47	*e*PG	Pn	13 06 27.8	-1.0
LMGC				*e*SG	Sn	13 07 01.7	-1.4
	comp=N,102nm,0.1s						
LMGC				*e*			
	comp=E,75nm,0.1s						
CCCC	Cccc	3.42	24	*e*P	Pn	13 06 38.6	+3.0
MGV	Manicaragua	4.07	351	*e*P	Pn	13 06 43.0	-1.5
MGV				*e*S	Sn	13 07 24.6	-6.7
	comp=N,18nm,0.3s						
MGV				*e*			
	comp=E,24nm,0.4s						
SOR	Soroa	5.85	324	*e*P	Pn	13 07 05.3	-3.7
SOR				*e*S	Sn	13 08 13.2	-2.0
	comp=N,0.2nm,0.5s						
SOR				*e*			
	comp=E,0.2nm,0.5s						

GRAL ***14*** *13:20:55.2±1.3,3445N×3677E,h0km±242km,MD3.1*
GII 14 13:20:53.9±0.5,3474N×3673E,h6km±30km,ML2.4/1, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	Fakeheh	0.57	209	*e*Pg	Pg	13 21 01.0	-3.8
FKH				*e*Sg	Sg	13 21 06.1	-6.1
HWQ	Hawqa	0.79	235	*e*Pg	Pg	13 21 08.3	-0.8
HWQ				*e*Sg	Sg	13 21 17.1	-2.3
BHL	Bhannes	1.22	227	*e*Pg	Pg	13 21 14.5	-2.7
BHL				*e*Sg	Sg	13 21 29.3	-3.7
RCY	Rachaya	1.46	211	*e*Pg	Pg	13 21 17.6	-4.3
RCY				*e*Sg	Sg	13 21 34.5	-6.3
KSDI	Kefar Szold	1.78	210	Pn	Pn	13 21 23.7	-1.5
KSDI				Sn	Sn	13 21 47.3	-0.8
KSHT	Keshet	1.91	204	Pn	Pn	13 21 25.6	-1.4
MMA1	Mount Meron ar	2.04	213	Pn	Pn	13 21 27.8	-0.9
MMA0	Mount Meron ar	2.04	213	Pn	Pn	13 21 27.9	-0.8
MMA0				Sn	Sn	13 21 55.1	+0.5
MMC5	Mount Meron ar	2.04	213	Pn	Pn	13 21 28.3	-0.5
GLH	Golan-Tel Qazi	2.21	204	Pn	Pn	13 21 30.6	-0.5
GLH				Sn	Sn	13 21 58.0	-0.6
MMLI	Mount Malkishu	2.54	206	Pn	Pn	13 21 35.7	+0.1
MMLI				Sn	Sn	13 22 06.9	+0.1
HMDT	Nahal Hemdat	2.67	202	Pn	Pn	13 21 37.2	-0.2
HMDT				Sn	Sn	13 22 10.0	-0.1
SLTI	Sal'it	2.86	210	Sn	Sn	13 22 14.4	-0.4

IDC 14 13:21:32.9±1.0,962N×5718E,h0km,mb3.8/8,mb1 4.0/8, mb1mx3.7/20,mbtmp3.8/8,MS3.3/2,Ms1 3.2/2, ms1mx2.9/33,Error ellipse: s-maj=29.1km s-min=24.5km az=176.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	22.53	243	P	P	13 26 35.0	+0.8
	0.6nm,0.4s,baz=52,slow=12,SNR=2.3						
KMBO				LR	LR	13 34 01.2	
	comp=Z,44nm,21.2s,baz=101,slow=33						
MKAR	Makanchi Array	42.76	25	P	P	13 29 32.7	+0.7
	0.9nm,0.8s,baz=230,slow=7.5,SNR=7.1						
BOSA	Boshof	48.95	218	LR	LR	13 47 39.8	
	comp=Z,52nm,21.2s,baz=3.2,slow=32						
ZAL	Zalesovo	49.42	21	P	P	13 30 24.2	-0.2
	0.8nm,0.4s,baz=237,slow=3.1,SNR=4.1						
TORD	Torodi Ar. Bea	54.42	279	P	P	13 31 03.2	+1.5
	0.2nm,0.4s,baz=58,slow=3.6,SNR=3.9						
ESDC	Sonseca Array	61.77	310	P	P	13 31 52.8	-0.4
	1.4nm,0.7s,baz=99,slow=6.0,SNR=5.3						
ARCES	ARCESS Array B	63.21	348	P	P	13 32 02.2	-0.7
	4.7nm,1.1s,baz=154,slow=6.5,SNR=3.4						
WRA	Warramunga Arr	81.38	112	P	P	13 33 52.6	+1.1
	0.4nm,0.6s,baz=296,slow=4.4,SNR=7.2						
ASAR	Alice Springs	81.88	116	P	P	13 33 54.2	+0.2
	0.5nm,0.8s,baz=295,slow=5.3,SNR=6.6						

NEIC ***14*** *13:28:13.4,1678N×9489W,h105km,MD3.8(MEX),After MEX.*
MEX 14 13:28:13.4±1.0,1678N×9490W,h105km±10km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.31	3	*i* P	Pn	13 28 27.4	-1.2
CMIG				*i* S	Sn	13 28 38.0	-2.0
HUIG	Huatulco	1.54	229	*e*P	Pn	13 28 38.4	-2.0
HUIG				*i* S	Sn	13 28 59.7	-1.1
OXX	Oaxaca	1.77	280	*i* P	Pn	13 28 44.0	+0.8
OXX				*i* S	Sn	13 29 05.0	-1.0
VHO	Vista Hermosa	1.78	280	*i* P	Pn	13 28 42.9	-0.4
VHO				*i* S	Sn	13 29 05.0	-1.1
CCIG	Comitan	2.70	100	*i* P	Pn	13 28 55.9	+0.7
CCIG				*i* S	Sn	13 29 26.5	-0.9
TPIG	Tehuac#an	2.86	305	*i* S	Sn	13 29 29.4	-1.8
UTMO	Huajuapan	2.96	291	*i* P	Pn	13 28 58.5	-0.2
UTMO				*i* S	Sn	13 29 30.4	-3.3

KARS				SG	Sg	13 49 48.8	+1.8
TVAN	**Van**	**1.15 158**	*i*	P	**Pb**	**13 49 34.0**	**-1.6**
TVAN			*i*	S	**Sg**	**13 49 51.1**	**+0.7**
ERZM	**Erzurum**	**1.19 286**	*i*	P	**Pb**	**13 49 34.0**	**-2.3**
ERZM			*i*	S	**Sb**	**13 49 52.9**	**+1.1**
EZM	**Erzurum**	**1.19 286**		PN	**Pn**	**13 49 34.2**	**-2.2**
EZM	**Erzurum**	**1.19 286**		Pn	**Pn**	**13 49 34.2**	**-2.2**
VANT	**Van**	**1.22 160**		PN	**Pn**	**13 49 35.9**	**-0.9**
HARI	**Harich**	**1.35 41**	⇓	P	**Pn**	**13 49 38.9**	**+0.3**
HARI				S	**Sb**	**13 49 59.1**	**+2.7**
ERE	**Yerevan**	**1.38 65**	⇓	P	**Pn**	**13 49 34.0**	**-5.0**
ERE				S	**Sb**	**13 49 57.0**	**-0.2**
BNGL	**BINGOL**	**1.46 245**	*i*	P	**Pn**	**13 49 39.0**	**-1.2**
BNGL			*i*	S	**Sn**	**13 50 00.2**	**+0.6**
KAMZ	**Kamo**	**1.50 34**	⇓	P	**Pn**	**13 49 39.4**	**-1.3**
KAMZ				S	**Sg**	**13 50 02.6**	**+1.0**
GNI	**Garni**	**1.56 68**		PN	**Pn**	**13 49 41.5**	**-0.1**
GNI	**Garni**	**1.56 68**	*e*	Pn	**Pn**	**13 49 40.8**	**-0.7**
GNI			*e*	Sn	**Sg**	**13 50 06.4**	**+2.6**
ARTV	**Artvin**	**1.74 337**	*i*	P	**Pn**	**13 49 43.8**	**-0.3**
ARTV			*i*	S	**Sg**	**13 50 10.1**	**+0.6**
BTMT	**Batman**	**1.75 218**		PN	**Pn**	**13 49 45.2**	**+1.0**
STE	**Stepanavan**	**1.83 39**		P	**Pn**	**13 49 45.0**	**-0.2**
STE				S	**Sg**	**13 50 14.0**	**+1.7**
BCA	**Borcka**	**2.08 334**		PN	**Pn**	**13 49 48.3**	**-0.3**
BCA	**Borcka**	**2.08 334**		Pn	**Pn**	**13 49 48.3**	**-0.3**
SIRT	**Sirnak**	**2.11 189**		PN	**Pn**	**13 49 50.0**	**+0.9**
HKR	**Hakkari**	**2.13 161**		PN	**Pn**	**13 49 49.8**	**+0.5**
HKR	**Hakkari**	**2.13 161**		Pn	**Pn**	**13 49 49.8**	**+0.5**
HAKT	**HAKKARI**	**2.14 161**	*i*	P	**Pn**	**13 49 51.5**	**+2.0**
HAKT			*i*	S	**Sn**	**13 50 20.4**	**+4.2**
EZC	**Erzincan**	**2.34 275**		PN	**Pg**	**13 49 57.6**	**-0.9**
EZC	**Erzincan**	**2.34 275**		Pn	**Pg**	**13 49 57.6**	**-0.9**
CUKT	**Cukurca**	**2.41 165**		PN	**Pn**	**13 49 54.2**	**+0.9**
DIY	**Diyarbakir**	**2.66 231**	*e*	PN	**Pn**	**13 49 57.4**	**+0.8**
GUMT	**Gumushane**	**2.73 290**		PN	**Pn**	**13 49 58.0**	**+0.4**
KTUT	**Trabzon**	**2.74 302**	*e*	PN	**Pn**	**13 49 58.2**	**+0.4**
PTK	**Pertek**	**2.77 257**	*e*	PN	**Pn**	**13 49 57.6**	**-0.6**
PTK	**Pertek**	**2.77 257**		Pn	**Pn**	**13 49 59.5**	**+1.3**
MARD	**Mardin**	**2.79 216**	*i*	P	**Pn**	**13 49 57.6**	**-0.9**
MARD			*i*	S	**Sn**	**13 50 33.7**	**+1.3**
ZEI	**Tsey**	**3.27 14**	*e*	PN	**Pn**	**13 50 07.3**	**+2.2**
ZEI			*e*			13 50 15.4	
MSL	**Mosul**	**3.30 177**	*e*	x	x	13 50 09.0	
MSL			*i*	x	x	13 50 15.5	
MSL			*e*	x	x	13 50 25.0	
MSL			*e*	x	x	13 50 55.0	
MYA	**Malataya**	**3.67 251**	*e*	PN	**Pn**	**13 50 10.7**	**+0.1**
MYA	**Malataya**	**3.67 251**		Pn	**Pn**	**13 50 12.3**	**+1.7**
URFA	**Urfa**	**3.82 237**	*e*	PN	**Pn**	**13 50 13.1**	**+0.5**
URFA	**Urfa**	**3.82 237**		Pn	**Pn**	**13 50 14.2**	**+1.6**
KIV	**Kislovodsk**	**4.36 358**	*e*	PN	**Pn**	**13 50 15.8**	**-4.3**
KIV			*e*	S	**Sn**	**13 51 06.7**	**-4.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KIV				MLR	MLR		
	comp=Z,161nm,10.0s						
SVSK	**Karacayir**	**4.52 276**	*e*	PN	**Pn**	**13 50 23.1**	**+0.8**
SVSK	**Karacayir**	**4.52 276**		Pn	**Pn**	**13 50 24.7**	**+2.4**
SOC	**Sochi**	**4.63 331**	*e*	PN	**Pn**	**13 50 20.1**	**-3.7**
SOC			*e*			13 51 14.1	
SOC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SOC				MLR	MLR		
	comp=Z,117nm,7.0s						
BHD	**Baghdad**	**6.43 168**	*e*	x	x	13 51 10.0	
BHD			*e*	x	x	13 52 30.0	
AKASG	**Malin Array Be**	**14.66 324**	*i*	P	**Pn**	**13 52 40.4**	**-0.8**
OBN	**Obninsk**	**16.09 347**	*e*	P	**Pn**	**13 52 58.7**	**-1.4**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARU	**Arti**	**19.78 26**	⇓	*i* P	**Pn**	**13 53 40.2**	**-5.4**
ARU			*e*	S	**Sn**	**13 57 22.1**	**-5.8**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**23.07 45**	*e*	P	**P**	**13 54 16.5**	**-3.0**
AAK	**Ala-Archa**	**23.96 72**	⇑	*e* P	**P**	**13 54 25.0**	**-3.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.5						
FINES	**FINESS Array B**	**24.19 340**	*e*	P	**P**	**13 54 29.3**	**-1.1**
KURK	**Kurchatov**	**27.31 54**	*e*	P	**P**	**13 54 58.5**	**-0.1**

NIED ***14*** *13:59:00, 46.60N×15330E, h29km, Mw4.5 Best double couple: M0 7.03000×10^15 NP1:φ=289.00000°, δ=84.00000°, λ=-57.00000°. NP2:φ=28.00000°, δ=33.00000°, λ=-169.00000°.*

IDC ***14*** *13:59:37.8±0.6, 46.74N×152.82E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.5/24, mbtmp4.4/19, ML3.6/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/26, Error ellipse: s-maj=18.0km s-min=15.0km az=164.0*

SZGRF ***14*** *13:59:37.3, 45.82N×154.95E, h33km, mb4.8, East of Kuril Islands, Russia*

BJI ***14*** *13:59:38.6, 46.99N×152.94E, h9km, mB4.9, mb4.5, Ms3.9, Msz3.6*

NEIC ***14*** *13:59:39.8±0.3, 46.73N×152.87E, h10km, mb4.6/20, Error ellipse: s-maj=9.7km s-min=5.8km az=158.0*

SKHL ***14*** *13:59:40.9±0.6, 46.60N×153.30E, h51km±19km, mb5.4/2, ms3.9/1*

ISCJB ***14*** *13:59:41.9±0.8, 46.60N±0.06×152.94E±0.06, h39km±7km, mb4.5/51, MS4.0/18, Error ellipse: s-maj=10.5km s-min=5.0km az=130.7*

JMA ***14*** *13:59:41.3±0.9, 46.61N×153.26E, h30km, M5.2*

MOS ***14*** *13:59:42.4±1.1, 46.70N×152.85E, h41km, mb4.7/28, Error ellipse: s-maj=10.3km s-min=7.4km az=90.3*

ISC 14 13:59:44.5±0.7, 46.71N±0.06×152.90E±0.06, h45km±6km, h11km±14.1km: pP-P, n169, σ1.92 6/189, mb4.5/51, MS4.0/18, 8C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**249**	*e*	P	**Pn**	**14 00 38.4**	**-2.2**
KUR				*i*	S	**Sn**	**14 01 22.0**	**-2.1**
KUR					pmax	pmax		
	comp=N,150nm,0.7s							
KUR					pmax	pmax		
	comp=E,130nm,0.7s							
KUR					pmax	pmax		
	comp=Z,320nm,0.7s							
KUR					smax			
	comp=N,5μm,1.6s							
KUR					smax			
	comp=N,2μm,0.7s							
KUR					smax			
	comp=E,2μm,0.7s							
KUR	**Kuril'sk**	**3.81**	**249**	*e*	P	**Pn**	**14 00 38.4**	**-2.2**
KUR					AMB	AMB	14 00 41.0	
	comp=E,150nm,0.7s							
KUR					AMB	AMB	14 00 41.0	
	comp=E,130nm,0.7s							
KUR					AMB	AMB	14 00 41.0	
	comp=E,320nm,0.7s							
KUR				*i*	S	**Sn**	**14 01 22.0**	**-2.1**
KUR					A		14 01 32.0	
	comp=E,5μm,1.6s							
KUR					A		14 01 37.7	
	comp=E,2μm,0.7s							
KUR					A		14 01 37.7	
	comp=E,2μm,0.7s							
SKR	**Severo-Kuril's**	**4.51**	**27**	*e*	PN	**Pn**	**14 00 50.4**	**+0.1**
SKR					pmax	pmax		
	comp=N,80nm,0.5s							
SKR					pmax	pmax		
	comp=E,80nm,0.5s							
SKR					pmax	pmax		
	comp=Z,190nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.63**	**244**	*e*	PN	**Pn**	**14 01 06.9**	**+1.2**
YUK				*e*	S	**Sn**	**14 02 11.0**	**+1.9**
YUK					pmax	pmax		
	comp=Z,200nm,0.3s							
YUK					smax			
	comp=N,5μm,1.0s							
YUK					smax			
	comp=E,2μm,1.0s							
YUK					smax			
	comp=N,600nm,0.5s							
YUK					smax			
	comp=E,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.63**	**244**	*e*	P	**Pn**	**14 01 06.9**	**+1.2**
YUK					AMB	AMB	14 01 09.5	
YUK				*e*	S	**Sn**	**14 02 11.0**	**+1.9**
YUK					A		14 02 29.0	
	comp=E,5μm,1.0s							
YUK					A		14 02 29.0	
	comp=E,2μm,1.0s							
YUK					A		14 02 35.0	
	comp=E,600nm,0.5s							
YUK					A		14 02 35.0	
	comp=E,1μm,0.5s							
NEM2	**Nemuro 2**	**6.07**	**239**		P	**Pn**	**14 01 10.4**	**-1.3**
NEM2				*e*	S	**Sn**	**14 02 16.6**	**-3.3**
JRA	**Rausu**	**6.14**	**246**		P	**Pn**	**14 01 14.2**	**+1.5**
JNK	**Nakash**	**6.58**	**245**		P	**Pn**	**14 01 19.5**	**+0.9**
JNK				*e*	S	**Sn**	**14 02 31.6**	**-0.6**
JTKR	**Abashiri--Toko**	**6.90**	**250**		P	**Pn**	**14 01 25.1**	**+2.0**
JAK	**Akkeshi**	**6.91**	**240**		P	**Pn**	**14 01 22.1**	**-1.1**
JAK				*e*	S	**Sn**	**14 02 36.8**	**-3.7**
YSS	**Yuzh-Sakhalins**	**6.97**	**276**	*e*	PN	**Pn**	**14 01 31.9**	**+7.9**
YSS				*e*	S	**Sn**	**14 02 44.0**	**+2.1**
YSS					smax			
	comp=E,100nm,0.8s							
YSS					MLR	MLR		
	comp=N,400nm,15.0s							
YSS					MLR	MLR		
	comp=Z,500nm,15.0s							
YSS					MLR	MLR		
	comp=E,400nm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.97**	**276**	*e*	Pn	**Pn**	**14 01 26.3**	**+2.3**
YSS				*e*	Sn	**Sn**	**14 02 44.1**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.97**	**276**	*e*	rx	rx	14 01 31.9	
YSS				*e*	S	**Sn**	**14 02 44.0**	**+2.1**
YSS					A		14 02 46.4	
	comp=E,100nm,0.8s							
YSS					AMS	AMS	14 04 04.0	
	comp=E,400nm,15.0s							
YSS					AMS	AMS	14 04 04.0	
	comp=E,500nm,15.0s							
JMP	**Maruseppu**	**7.25**	**252**		P	**Pn**	**14 01 30.7**	**+2.9**
JAR	**Ashorobuto**	**7.32**	**246**		P	**Pn**	**14 01 29.7**	**+0.9**
JAR				*e*	S	**Sn**	**14 02 51.2**	**+0.8**
JOB	**Onbets**	**7.49**	**243**		P	**Pn**	**14 01 30.9**	**-0.2**
JOB				*e*	S	**Sn**	**14 02 51.0**	**-3.6**
ASAJ	**Asahikawa**	**7.70**	**254**		Pn	**Pn**	**14 01 36.2**	**+2.2**
	comp=E,1.6nm,0.3s,baz=82,slow=11,SNR=18							
ASAJ					Sn	**Sn**	**14 03 16.8**	**+17**
	comp=E,0.6nm,0.3s,baz=235,slow=16,SNR=3.2							
ASAJ	**Asahikawa**	**7.70**	**254**		P	**Pn**	**14 01 37.6**	**+3.6**
JKK2	**Kamakawa 2**	**7.70**	**252**		P	**Pn**	**14 01 36.6**	**+2.6**
JCH	**Churui**	**7.94**	**242**		P	**Pn**	**14 01 36.7**	**-0.5**
JCH				*e*	S	**Sn**	**14 03 00.9**	**-4.8**
JFR	**Furan**	**8.13**	**248**		P	**Pn**	**14 01 41.7**	**+1.8**
JFR				*e*	S	**Sn**	**14 03 11.9**	**+1.5**
JAB	**Ashibetsu**	**8.21**	**251**		P	**Pn**	**14 01 43.6**	**+2.7**
ERM	**Erimo**	**8.41**	**240**	*e*	PN	**Pn**	**14 01 43.8**	**+0.1**
ERM					pmax	pmax		
	comp=Z,43nm,0.6s							
ERM	**Erimo**	**8.41**	**240**	*e*	Pn	**Pn**	**14 01 43.8**	**+0.1**
	comp=Z,43nm,0.6s							
JEM	**Erimo**	**8.41**	**240**		P	**Pn**	**14 01 43.3**	**-0.4**
JEM				*e*	S	**Sn**	**14 03 14.7**	**-2.6**
JBT2	**Biratori 2**	**8.47**	**246**		P	**Pn**	**14 01 44.8**	**+0.3**
JBT2				*e*	S	**Sn**	**14 03 18.6**	**-0.1**
JNBK	**Urakawa-nobuka**	**8.50**	**242**		P	**Pn**	**14 01 44.5**	**-0.4**
JNBK				*e*	S	**Sn**	**14 03 17.7**	**-1.8**
JEW	**Eniwo**	**9.02**	**249**		P	**Pn**	**14 01 53.7**	**+1.7**
JEW				*e*	S	**Sn**	**14 03 34.5**	**+2.3**
JNB	**Noboribetsu**	**9.46**	**248**		P	**Pn**	**14 01 58.4**	**+0.2**
JNB				*e*	S	**Sn**	**14 03 40.1**	**-3.1**
JKB	**Kayabe**	**9.78**	**245**		P	**Pn**	**14 02 01.1**	**-1.4**
JKB				*e*	S	**Sn**	**14 03 44.6**	**-6.2**
JYM2	**Yakumo 2**	**10.07**	**247**		P	**Pn**	**14 02 06.2**	**-0.3**
JSR	**Shiriuchi**	**10.36**	**245**		P	**Pn**	**14 02 09.9**	**-0.5**
JTM	**Tenmabayashi**	**10.40**	**240**		P	**Pn**	**14 02 07.6**	**-3.4**
JTM				*e*	S	**Sn**	**14 03 54.9**	**-11**
JANG	**Nango**	**10.41**	**237**		P	**Pn**	**14 02 07.6**	**-3.5**
JANG				*e*	S	**Sn**	**14 03 55.8**	**-10**
JTH	**Tanohata**	**10.50**	**234**		P	**Pn**	**14 02 08.2**	**-4.2**
JTH				*e*	S	**Sn**	**14 03 56.5**	**-12**
JOSM	**Okushiri--Mats**	**10.66**	**249**		P	**Pn**	**14 02 14.3**	**-0.2**
OFUJ	**Ofunato**	**11.22**	**231**		P	**Pn**	**14 02 17.3**	**-4.9**
JRG	**Rokugo**	**11.56**	**235**		P	**Pn**	**14 02 23.3**	**-3.6**
JRG				*e*	S	**Sn**	**14 04 27.4**	**-7.2**
JIO	**Ouri**	**11.85**	**230**		P	**Pn**	**14 02 24.6**	**-6.1**
JIO				*e*	S	**Sn**	**14 04 25.2**	**-16**
MAJO	**Matsushiro**	**14.94**	**232**	*e*	P	**Pn**	**14 03 17.0**	**+4.3**
MAJO					pmax	pmax		
	comp=Z,12nm,0.5s							
MAJO	**Matsushiro**	**14.94**	**232**	*e*	P	**Pn**	**14 03 17.0**	**+4.3**
	comp=Z,12nm,0.5s							
MAT	**Matsushiro**	**14.94**	**232**		P	**Pn**	**14 03 08.8**	**-3.9**
MAT				*e*	S	**Sn**	**14 06 06.8**	**+10**
MJAR	**Matsushiro Arr**	**14.94**	**232**		Pn	**Pn**	**14 03 09.3**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=7.2							
MDJ	**Mudanjiang**	**16.42**	**271**		P	**Pn**	**14 03 31.1**	**-0.6**
MDJ					AP	pP	14 03 36.6	-7.9
MDJ					XP	sP	14 03 38.3	-12
MDJ					S	**S**	**14 06 35.0**	**-8.3**
MDJ					PCP	PcP	14 08 21.4	-0.6
MDJ					SCP	ScP	14 11 55.5	+2.7
MDJ					SCS	ScS	14 15 35.1	+3.1
MDJ					AMB	AMB		
	comp=Z,5.0nm,1.0s							
MDJ					AMB	AMB		
	comp=Z,98nm,5.5s							
MDJ					LR	LR		
	comp=N,138nm,15.4s							
MDJ					LR	LR		
	comp=E,143nm,14.2s							
MDJ					LR	LR		
	comp=Z,173nm,18.8s							
CN2	**Changchun**	**19.51**	**271**	*e*	P	**Pn**	**14 04 09.3**	**-0.2**
YAK	**Yakutsk**	**20.28**	**328**	*e*	P	**P**	**14 04 16.1**	**-0.2**
YAK				*i*	*PP		14 04 35.3	
YAK				*e*	S	**S**	**14 07 59.5**	**-1.7**
YAK				*e*			14 08 24.2	
YAK				*e*	*SS	sS	14 08 27.2	+8.7
YAK				*e*			14 15 35.3	
YAK					pmax	pmax		
	comp=Z,21nm,0.9s							
YAK					pmax	pmax		
	comp=N,7.0nm,1.5s							
YAK					pmax	pmax		
	comp=E,2.0nm,0.6s							
YAK					smax			
	comp=E,31nm,1.9s							
YAK					smax			
	comp=N,165nm,3.7s							
YAK	**Yakutsk**	**20.28**	**328**	*e*	P	**P**	**14 04 16.0**	**-0.3**
	comp=N,28nm,0.8s							
KSRS	**Korea Array**	**20.65**	**252**		P	**P**	**14 04 22.5**	**+2.2**
	comp=N,4.5nm,0.9s,baz=60,slow=9.6,SNR=8.9							
CBIJ	**Chichi jima**	**21.33**	**207**		LR	LR	14 11 06.4	
	comp=N,119nm,19.5s,MS3.3,baz=0.0,slow=32							
JNU	**Nakatsue**	**21.57**	**239**		LR	LR	14 14 23.7	
	comp=N,175nm,18.4s,MS3.5,baz=316,slow=41							
BILL	**Bilibino**	**22.47**	**13**	*e*	P	**P**	**14 04 38.3**	**-1.4**
BILL					pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1							
BILL					MLR	MLR		
	comp=Z,300nm,18.0s,MS3.8							
BILL	**Bilibino**	**22.47**	**13**	*e*	P	**P**	**14 04 38.6**	**-1.2**
HHC	**Hu-ho-hao-te**	**30.15**	**274**	*e*	P	**P**	**14 05 52.3**	**+2.1**
HHC					AP	pP	14 05 56.6	-5.5
HHC					XP	sP	14 05 59.3	-8.1
HHC					PP	PP	14 06 50.3	-8.4
HHC					PCP	PcP	14 08 55.0	+4.4
HHC					S	**S**	**14 10 52.8**	**+6.8**
HHC					SCP	ScP	14 12 34.3	+5.2
HHC					PCS	PcS	14 12 36.9	+2.8
HHC					AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5							
HHC					AMB	AMB		
	comp=Z,162nm,6.7s							
HHC					LR	LR		
	comp=N,199nm,16.6s,MS4.2							
HHC					LR	LR		
	comp=E,469nm,19.0s,MS4.2							
HHC					LR	LR		
	comp=Z,162nm,17.8s,MS3.7							
ULN	**Ulaanbaatar**	**30.78**	**289**	*e*	P	**P**	**14 05 58.0**	**+2.3**
ULN					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**30.78**	**289**	*e*	P	**P**	**14 05 58.0**	**+2.3**
	comp=Z,4.1nm,0.9s,mb4.3							
SONM	**Songino Array**	**31.21**	**289**		P	**P**	**14 05 58.8**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.5,baz=51,slow=9.7,SNR=3.7							
SONM					LR	LR	14 19 02.4	
	comp=Z,132nm,19.4s,MS3.6,baz=163,slow=37							
SONM	**Songino Array**	**31.21**	**289**		P	**P**	**14 05 58.8**	**-0.8**
SONM					LR	LR	14 19 02.4	
IMA2	**Indian Mountai**	**33.92**	**36**	*e*	P	**P**	**14 06 23.3**	**+0.1**
MCK	**McKinley**	**35.78**	**40**	*e*	P	**P**	**14 06 39.3**	**+0.1**
MCK					pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5							
MCK	**McKinley**	**35.78**	**40**	*e*	P	**P**	**14 06 39.3**	**+0.1**
	comp=Z,7.5nm,1.1s,mb4.5							
COLA	**College**	**36.26**	**38**	*e*	P	**P**	**14 06 43.1**	**-0.3**
COLA					pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8							
COLA	**College**	**36.26**	**38**	*e*	P	**P**	**14 06 43.1**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8							
LZH	**Lanzhou**	**37.74**	**272**	*e*	P	**P**	**14 06 57.0**	**+1.0**
LZH					AP	pP	14 06 58.5	-10
LZH					AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6							
CD2	**Chengdu**	**40.73**	**265**	*e*	P	**P**	**14 07 21.9**	**+1.0**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
CD2					AMB	AMB		
	comp=Z,30nm,5.4s							
GYA	**Guiyang**	**41.56**	**257**		P	**P**	**14 07 29.8**	**+2.1**
GYA					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
INK	**Inuvik**	**41.77**	**32**		P	**P**	**14 07 29.4**	**0.0**
	comp=Z,11nm,0.9s,mb4.5,baz=278,slow=6.8,SNR=52							
INK	**Inuvik**	**41.77**	**32**		P	**P**	**14 07 29.4**	**0.0**
INK					pmax	pmax		
	comp=Z,11nm,0.9s							
INK	**Inuvik**	**41.77**	**32**	*e*	P	**P**	**14 07 29.4**	**+0.1**
	comp=Z,348nm,0.9s							
ZAL	**Zalesovo**	**42.53**	**306**		PcP	PcP	14 09 26.9	-0.6
	comp=Z,1.5nm,0.8s,baz=29,slow=3.5,SNR=8.4							
ZAL					LR	LR	14 27 15.6	
	comp=Z,372nm,18.0s,MS4.3,baz=46,slow=39							
KMI	**Kunming**	**45.09**	**259**		P	**P**	**14 07 59.5**	**+3.3**
KMI					AP	pP	14 08 03.5	-5.0
KMI					XP	sP	14 08 05.5	-8.3
KMI					PP	PP	14 09 44.9	+2.8
KMI					S	**S**	**14 14 38.8**	**+6.7**
KMI					XS	sS	14 14 52.3	-0.4
KMI					SS	SS	14 17 51.0	-4.4
KMI					AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7							
KMI					AMB	AMB		
	comp=Z,190nm,3.7s							
KMI					LR	LR		
	comp=N,145nm,15.2s,MS4.2							
KMI					LR	LR		
	comp=E,158nm,16.3s,MS4.2							
KMI					LR	LR		
	comp=Z,134nm,13.1s,MS4.1							
KMI	**Kunming**	**45.09**	**259**		P	**P**	**14 07 59.5**	**+3.3**
KMI					pP	pP	14 08 03.5	-5.0
KMI					sP	sP	14 08 05.5	-8.3
KMI					PP	PP	14 09 44.9	+2.8
KMI					S	**S**	**14 14 38.7**	**+6.6**
KMI					sS	sS	14 14 52.2	-0.5
KMI					SS	SS	14 17 51.0	-4.4
MK31	**Makanchi Array**	**46.83**	**297**	*e*	P	**P**	**14 08 09.0**	**-0.9**
MKAR	**Makanchi Array**	**46.83**	**297**		P	**P**	**14 08 08.5**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=66,slow=7.7,SNR=12							
MKAR					PcP	PcP	14 09 41.9	-0.4
	comp=Z,1.7nm,0.8s,baz=46,slow=5.2,SNR=6.0							
MKAR					LR	LR	14 28 58.3	
	comp=Z,203nm,18.4s,MS4.1,baz=11,slow=38							
MKAR	**Makanchi Array**	**46.83**	**297**		P	**P**	**14 08 08.5**	**-1.4**
MKAR							14 09 41.9	
MKAR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
MKAR					MLR	MLR		
	comp=Z,203nm,18.4s							
MKAR	**Makanchi Array**	**46.83**	**297**		P	**P**	**14 08 08.5**	**-1.3**
MKAR					PcP	PcP	14 09 41.9	-0.4
MKAR					LR	LR	14 28 58.3	
KURK	**Kurchatov**	**47.27**	**304**	*e*	P	**P**	**14 08 11.3**	**-2.0**
KURK					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
KURK	**Kurchatov**	**47.27**	**304**	*e*	P	**P**	**14 08 11.3**	**-2.0**
	comp=Z,3.5nm,0.8s,mb4.3							
LSA	**Lhasa**	**50.13**	**273**		P	**P**	**14 08 37.3**	**+2.0**
LSA	**Lhasa**	**50.13**	**273**	*e*	P	**P**	**14 08 37.4**	**+2.1**
LSA					pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0							
LSA	**Lhasa**	**50.13**	**273**	*e*	P	**P**	**14 08 37.4**	**+2.1**
	comp=Z,10nm,0.6s,mb5.0							
CHKZ	**Chkalovo**	**50.35**	**310**	*e*	P	**P**	**14 08 35.2**	**-1.7**
CHKZ					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
CHKZ	**Chkalovo**	**50.35**	**310**	*e*	P	**P**	**14 08 35.2**	**-1.7**
	comp=Z,3.7nm,0.8s,mb4.5							
BVAR	**Borovoye Array**	**50.77**	**309**		P	**P**	**14 08 38.8**	**-1.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=61,slow=7.3,SNR=6.5							
BVAR					PcP	PcP	14 09 55.7	-0.9
	comp=Z,1.8nm,0.7s,baz=82,slow=3.1,SNR=7.7							
BVAR	**Borovoye Array**	**50.77**	**309**		P	**P**	**14 08 38.8**	**-1.3**
BVAR							14 09 55.7	
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**51.05**	**37**		P	**P**	**14 08 41.8**	**-0.3**
	comp=Z,5.2nm,0.8s,mb4.5,baz=297,slow=7.2,SNR=57							
YKA					PcP	PcP	14 09 56.6	-1.0
	comp=Z,1.0nm,0.8s,baz=301,slow=4.2,SNR=5.2							
AAK	**Ala-Archa**	**53.73**	**296**	⇓	*e* P	**P**	**14 09 01.0**	**-1.0**
AAK					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
AAK	**Ala-Archa**	**53.73**	**296**	*e*	P	**P**	**14 09 00.8**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.0							
GUN	**

NOA NORSAR Array B 68.22 341 P P 14 10 39.3 -1.1
NOA pmax pmax
comp=Z,13nm,0.8s
NOA MLR MLR
comp=Z,114nm,20.7s
WRA Warramunga Arr 68.42 199 P **P 14 10 40.8 -0.9**
comp=Z,0.5nm,0.7s,mb3.6,baz=18,slow=6.6,SNR=3.8
WRA LR LR 14 36 58.6
comp=Z,74nm,20.2s,MS3.9,baz=90,slow=33
HFS Hagfors 68.45 339 P **P 14 10 40.3 -1.4**
comp=Z,18nm,0.7s,mb5.2,baz=66,slow=5.2,SNR=20
HFS Hagfors 68.45 339 P **P 14 10 40.3 -1.5**
HFS pmax pmax
comp=Z,18nm,0.7s
PV01 Paradox Valley 68.55 57 *e*P **P 14 10 44.0 +1.6**
KIV Kislovodsk 70.73 314 *e*P **P 14 10 53.9 -1.9**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
AKASG Malin Array Be 71.50 326 P **P 14 10 59.6 -1.0**
comp=Z,4.5nm,0.6s,mb4.6,baz=33,slow=6.1,SNR=16
AKASG Malin Array Be 71.50 326 *i* P **P 14 10 59.5 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
ASAR Alice Springs 72.12 198 P **P 14 11 04.7 +0.4**
comp=Z,0.5nm,0.7s,mb3.6,baz=12,slow=5.1,SNR=13
SCHQ Schefferville 73.41 23 P **P 14 11 09.4 -2.5**
comp=Z,4.4nm,0.9s,mb4.4,baz=48,slow=6.3,SNR=4.3
SCHQ LR LR 14 47 24.2
comp=Z,98nm,19.2s,MS4.1,baz=216,slow=39
KOLS Kolonicke sedl 75.53 329 *e*P **P 14 11 23.9 -0.3**
BURAR Bucovina Array 75.55 326 ⇓*i*P **P 14 11 24.1 -0.2**
CRVS Cervenica-Dubn 75.84 329 *e*P **P 14 11 26.0 0.0**
UPC Upice 76.26 333 *e*P **P 14 11 28.1 -0.2**
DPC Dobruska-Polom 76.30 333 *e*P **P 14 11 28.3 -0.3**
MORC Moravsky Berou 76.41 332 *e*P **P 14 11 29.1 -0.1**
MORC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MORC Moravsky Berou 76.41 332 *e*P **P 14 11 29.1 -0.2**
comp=Z,9.5nm,0.8s,mb4.8
MORC Moravsky Berou 76.41 332 ⇓*i*P **P 14 11 29.3 +0.1**
CLL Collm 76.44 335 ⇑*i*P **P 14 11 28.7 -0.7**
comp=Z,16nm,0.8s,mb5.0
CLL Collm 76.44 335 ⇑*i*P **P 14 11 28.7 -0.7**
comp=Z,16nm,0.8s,mb5.0
KECS Kecovo 76.54 330 *e*P **P 14 11 29.9 0.0**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 76.54 330 *e*P **P 14 11 29.9 0.0**
comp=Z,4.3nm,0.9s,mb4.4
BRG Berggiesshubel 76.56 335 *e*(P) **P 14 11 30.0 0.0**
BRG *e* pP 14 11 42.0 -1.3
comp=Z,5.6nm,1.3s,mb4.3
BRG *e* pP 14 11 42.0 -1.2
comp=Z,4.7nm,1.2s
BRG Berggiesshubel 76.56 335 *e*P **P 14 11 30.0 -0.1**
BRG *e* pP 14 11 42.0 -1.2
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
MLR Muntele Rosu 77.02 325 ⇑*i*P **P 14 11 33.5 +0.9**
VYHS Vyhne 77.09 331 *e*P **P 14 11 33.3 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VYHS Vyhne 77.09 331 *e*P **P 14 11 33.2 +0.1**
VYHS Vyhne 77.09 331 *e*P **P 14 11 33.3 +0.2**
comp=Z,4.2nm,0.8s,mb4.4
VRAC Vranov 77.12 332 P **P 14 11 32.4 -0.9**
comp=Z,10nm,0.9s,mb4.8,baz=0.6,slow=5.5,SNR=5.5
VRAC Vranov 77.12 332 P **P 14 11 32.4 -0.8**
VRAC pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 77.12 332 ⇑P **P 14 11 33.5 +0.2**
VRAC Vranov 77.12 332 ⇑*i*P **P 14 11 33.5 +0.3**
PRU Pruhonice 77.16 334 *e*P **P 14 11 33.3 -0.2**
LTX Lajitas 77.64 60 *e*P **P 14 11 36.0 -0.1**
LTX pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
LTX Lajitas 77.64 60 *e*P **P 14 11 36.0 -0.1**
comp=Z,1.7nm,0.8s,mb4.0
TXAR Lajitas Array 77.64 60 P **P 14 11 36.4 +0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=300,slow=3.6,SNR=23
TXAR Lajitas Array 77.64 60 P **P 14 11 36.4 +0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
ZST Bratislava 77.93 332 *e*P **P 14 11 37.9 +0.2**
ZST pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZST Bratislava 77.93 332 *e*P **P 14 11 37.9 +0.2**
ZST Bratislava 77.93 332 *e*P **P 14 11 37.9 +0.2**
comp=Z,8.5nm,1.0s,mb4.6
KHC Kasperske Hory 78.22 334 *e*P **P 14 11 39.4 +0.1**
BRTR Keskin Array B 78.32 317 P **P 14 11 40.5 +0.6**
comp=Z,4.5nm,0.9s,mb4.4,baz=73,slow=4.8,SNR=15
BRTR Keskin Array B 78.32 317 P **P 14 11 40.5 +0.6**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
GZR Gura Zlata 78.33 327 ⇑*i*P **P 14 11 40.0 +0.1**
GRA1 Grafenberg Arr 78.40 336 *e*P **P 14 11 40.6 +0.3**
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 78.40 336 *e*P **P 14 11 40.6 +0.3**
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 78.40 336 *e*P **P 14 11 40.6 +0.3**
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.2
GRF Grafenberg Arr 78.40 336 *e*P **P 14 11 40.6 +0.3**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GERES GERESS Array B 78.43 334 P **P 14 11 40.1 -0.4**
comp=Z,2.8nm,0.8s,mb4.3,baz=35,slow=4.9,SNR=14
GERES LR LR 14 48 59.2
comp=Z,191nm,18.1s,MS4.5,baz=328,slow=38
GERES GERESS Array B 78.43 334 P **P 14 11 40.1 -0.4**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,191nm,18.1s
BZS Buzias 78.57 327 ⇑*i*P **P 14 11 41.2 -0.1**
STKA Stephens Creek 78.88 190 LR LR 14 41 28.2
comp=Z,109nm,21.4s,MS4.2,baz=25,slow=32
MEM Membach 78.94 339 P **P 14 11 43.5 +0.2**
VTS Vitosha 80.52 325 ⇑*i*P **P 14 11 52.5 +0.6**
PPT Papeete 82.25 126 LR LR 14 45 03.5
comp=Z,329nm,20.1s,MS4.7,baz=317,slow=33
KEST Kesra 91.64 331 LR LR 14 57 07.0
comp=Z,28nm,19.9s,MS3.7,baz=313,slow=38
ATD Arta Tunnel 95.00 292 LR LR 15 01 02.9
comp=Z,60nm,18.7s,MS4.1,baz=42,slow=39
CFAA Coronel Fontan 145.14 79 PKPbc PKPbc 14 19 15.8 -0.8
comp=Z,1.0nm,0.8s,baz=297,slow=3.3,SNR=13
PLCA Paso Flores 148.35 95 PKPbc PKPbc 14 19 25.1 -0.7
comp=Z,4.2nm,0.8s,baz=270,slow=24,SNR=7.9
VNA2 Neumayer--Watz 153.93 195 *e*PKPdf PKPdf 14 19 36.5 +5.6
baz=64,slow=2.0
VNA2 *e* 14 19 39.3
VNA2 *e* 14 19 44.1
VNA2 *e* 14 19 53.6
VNA3 Neumayer Olymp 154.02 193 *e*PKPdf PKPdf 14 19 27.5 -3.5
VNA3 *e* 14 19 30.0
VNA3 *e* 14 19 35.1
VNA3 *e* 14 19 46.7

*ISCJB **14** 14:25:29.5±5.3, 392N±04×749E±02, h82km±55km, Error ellipse: s-maj=73.7km s-min=21.2km az=39.8*
*NNC **14** 14:25:31.0±2.7, 3991N×7499E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=21.7km s-min=14.6km az=166.0*
ISC 14 14:25:26.4±3.4, 389N±02×748E±01, h32km±21km, n14, σ0°79/16, 2C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.20**	**7**	P	**Pn**	14 26 13.3	**-1.1**
	SNR=116						
AML	**Almayashu**	**3.33**	**346**	P	**Pn**	14 26 16.3	**+0.1**
	SNR=98						
UCH	**Uchtor**	**3.33**	**357**	P	**Pn**	14 26 15.8	**-0.4**
	SNR=89						
ULHL	**Ulahol**	**3.53**	**18**	P	**Pn**	14 26 20.2	**+1.2**
	SNR=29						
AAK	**Ala-Archa**	**3.73**	**357**	P	**Pn**	14 26 22.2	**+0.4**
	SNR=34						
KBK	**Karagaybulak**	**3.75**	**2**	P	**Pn**	14 26 22.2	**+0.1**
	SNR=76						
EKS2	**Erkin-Say**	**3.83**	**349**	P	**Pn**	14 26 24.0	**+0.9**
	SNR=21						
TKM2	**Tokmak 2**	**4.07**	**9**	P	**Pn**	14 26 26.0	**-0.4**
	SNR=18						
TKM2	**Tokmak 2**	**4.07**	**9**	⇓Pg	**Pn**	14 26 25.9	**-0.5**
	2.6nm,0.3s						
TKM2				⇓Lg		14 27 09.3	
	3.3nm,0.6s						
CHMS	**Chumysh**	**4.09**	**360**	P	**Pn**	14 26 26.4	**-0.4**
	SNR=12						
USP	**Ospenovka**	**4.37**	**358**	P	**Pn**	14 26 30.1	**-0.4**
	SNR=13						
KK31	**Karatay Array**	**5.29**	**324**	⇓Pn	**Pn**	14 26 45.2	**+2.1**
	1.2nm,0.3s,baz=136,slow=14,SNR=20						
KK31				⇑Pg	**Pb**	14 26 57.9	**-0.1**
	1.8nm,0.4s,baz=134,slow=17,SNR=3.5						
KK31				⇓Sn	**Sn**	14 27 42.9	**0.0**
	3.2nm,0.4s						
KK31				⇑Lg		14 27 58.5	
	4.1nm,0.5s,baz=143,slow=29,SNR=4.0						
AB31	**Akbulak array**	**14.82**	**319**	P	**Pn**	14 28 52.7	**-1.0**
	1.5nm,0.7s,baz=130,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**16.53**	**320**	⇓P	**Pn**	14 29 15.3	**-0.5**
	1.4nm,2.7s						

*IDC **14** 14:48:59.4±0.9, 304N×9367E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.1/23, mbtmp4.3/12, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=41.7km s-min=14.5km az=50.0*
*BJI **14** 14:49:02.8, 320N×9390E, h30km, mb4.7*
*MOS **14** 14:49:03.0±0.9, 323N×9381E, h33km, mb4.9/9, Error ellipse: s-maj=15.7km s-min=9.2km az=103.6*
*NEIC **14** 14:49:04.9±0.5, 325N×9392E, h30km, mb4.6/12, Error ellipse: s-maj=14.2km s-min=7.5km az=213.0*
*ISCJB **14** 14:49:05.8±1.7, 3.16N±009×9389E±007, h60km±14km, mb4.5/26, Error ellipse: s-maj=16.5km s-min=8.2km az=71.6*
ISC 14 14:49:07.3±1.3, 318N±008×9389E±007, h53km±11km, n63, σ1°05/67, mb4.5/26, 3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.04**	**94**	Pn	**Pn**	14 50 19.7	**-0.6**
	3.9nm,0.3s,baz=306,slow=9.2,SNR=22						
PSI				Sn	**Sn**	14 51 19.0	**+1.8**
	1.1nm,0.3s,baz=245,slow=11,SNR=3.6						
PSI	**Prapat**	**5.04**	**94**	Pn	**Pn**	14 50 19.7	**-0.6**
PSI				*e*Sn	**Sn**	14 51 19.0	**+1.8**
KULM	**Kulim**	**7.06**	**73**	*e*Pn	**Pn**	14 50 46.1	**-1.8**
KULM				*e*		14 50 53.5	
SNG	**Songkhla**	**7.79**	**59**	P	**Pn**	14 51 02.0	**+4.1**
	142nm,0.8s						
PALK	**Pallekele**	**13.75**	**288**	Pn	**Pn**	14 52 20.1	**+0.7**
PALK				*e*Sn	**Sn**	14 54 33.0	**-17**
CHG	**Chiang Mai**	**16.30**	**17**	⇓P	**Pn**	14 52 54.1	**+1.5**
	14nm,0.9s						
CHTO	**Chiang Mai**	**16.30**	**17**	*e*P	**Pn**	14 52 49.4	**-3.2**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**16.30**	**17**	*e*P	**Pn**	14 52 49.4	**-3.2**
	comp=Z,12nm,0.9s						
CHTO				*e*		14 52 54.0	
KSM	**Kuching**	**16.49**	**96**	P	**Pn**	14 52 55.3	**+0.3**
KSM				*e*		14 53 05.6	
NANT	**Nan**	**16.89**	**23**	⇓P	**Pn**	14 53 05.5	**+5.5**
	comp=Z,88nm,1.2s						
QIZ	**Qiongzhong**	**22.17**	**44**	P	**P**	14 53 57.8	**-1.0**
QIZ				S	**S**	14 58 04.6	**+4.6**
KKM	**Kota Kinabalu**	**22.43**	**82**	*e*Pn	**P**	14 54 00.5	**-1.1**
PKI	**Pulchoki**	**25.57**	**342**	*e*P	**P**	14 54 31.1	**-0.2**
DMN	**Daman**	**25.70**	**342**	*e*P	**P**	14 54 32.8	**+0.3**
GUN	**Gumba**	**25.75**	**344**	*e*P	**P**	14 54 33.7	**+0.8**
	comp=Z,32nm,1.0s,mb4.8						
KKN	**Kakani**	**25.82**	**342**	*e*P	**P**	14 54 33.8	**+0.3**
GKN	**Gorkha**	**26.21**	**341**	*e*P	**P**	14 54 37.7	**+0.6**
KOLN	**Koldanda**	**26.35**	**339**	*e*P	**P**	14 54 39.2	**+0.9**
	comp=Z,23nm,1.1s,mb4.6						
LSA	**Lhasa**	**26.50**	**355**	P	**P**	14 54 42.3	**+2.6**
LSA	**Lhasa**	**26.50**	**355**	*e*P	**P**	14 54 41.9	**+2.2**
LSA				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.8						
LSA	**Lhasa**	**26.50**	**355**	*e*P	**P**	14 54 41.9	**+2.2**
	comp=Z,24nm,0.8s,mb4.8						
GTA	**Gaotai**	**36.46**	**8**	*e*P	**P**	14 56 06.8	**-0.3**
GTA				AP	pP	14 56 14.9	-5.8
GTA				XP	sP	14 56 19.3	-7.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**37.76**	**125**	*e*P	**P**	14 56 17.8	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**37.76**	**125**	P	**P**	14 56 16.5	**-1.6**
	comp=Z,1.6nm,0.8s,mb3.8,baz=189,slow=7.7,SNR=5.1						
BJT	**Baijiatuau**	**41.85**	**26**	P	**P**	14 56 51.5	**-0.6**
BJT				pmax	pmax		
	comp=Z,16nm,1.1s						
BJT	**Baijiatuau**	**41.85**	**26**	P	**P**	14 56 51.5	**-0.6**
	comp=Z,16nm,1.1s,mb4.6						
BJI	**Beijing**	**41.87**	**26**	P	**P**	14 56 54.0	**+1.7**
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**42.93**	**339**	⇓*e*P	**P**	14 57 00.8	**0.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.5s,mb4.0						
AAK	**Ala-Archa**	**42.93**	**339**	*e*P	**P**	14 57 01.9	**+1.1**
	comp=Z,7.1nm,1.3s,mb4.2						
MKAR	**Makanchi Array**	**44.60**	**349**	P	**P**	14 57 14.6	**+0.3**
	comp=Z,8.9nm,0.7s,mb4.7,baz=166,slow=8.3,SNR=60						
SONM	**Songino Array**	**45.77**	**12**	P	**P**	14 57 24.1	**+0.5**
	comp=Z,3.9nm,0.7s,mb4.4,baz=191,slow=8.6,SNR=29						
WRA	**Warramunga Arr**	**45.88**	**122**	P	**P**	14 57 25.1	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.6,baz=299,slow=8.9,SNR=32						
WB2	**Warramunga Arr**	**45.89**	**122**	*e*P	**P**	14 57 25.2	**+0.7**
ASAR	**Alice Springs**	**47.22**	**127**	P	**P**	14 57 35.6	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=297,slow=8.0,SNR=46						
ASAR				PcP	PcP	14 59 07.2	+1.6
	comp=Z,0.7nm,0.7s,baz=304,slow=3.5,SNR=4.6						
KURK	**Kurchatov**	**49.09**	**347**	*e*P	**P**	14 57 50.0	**+0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**49.09**	**347**	*e*P	**P**	14 57 50.0	**+0.7**
	comp=Z,4.9nm,0.8s,mb4.6						
HIA	**Hailar**	**50.93**	**22**	*e*P	**P**	14 58 02.8	**-0.5**
HIA				*e*		14 58 10.9	
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HIA	**Hailar**	**50.93**	**22**	*e*P	**P**	14 58 02.8	**-0.5**
	comp=Z,4.8nm,0.7s,mb4.5						
HIA				*e*		14 58 10.9	
ZAL	**Zalesovo**	**51.14**	**353**	P	**P**	14 58 05.3	**+0.5**
	comp=Z,3.6nm,0.6s,mb4.5,baz=313,slow=6.1,SNR=13						
NVS	**Novosibirsk**	**52.22**	**352**	*e*P	**P**	14 58 12.6	**-0.3**
BVA0	**Borovoye Array**	**53.34**	**343**	P	**P**	14 58 20.7	**-0.5**
BRVK	**Borovoye**	**53.40**	**342**	*e*P	**P**	14 58 20.9	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**53.40**	**342**	*e*P	**P**	14 58 20.9	**-0.7**
	comp=Z,2.8nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**53.84**	**343**	*e*P	**P**	14 58 24.7	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**53.84**	**343**	*e*P	**P**	14 58 24.7	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.4						
AB31	**Akbulak array**	**54.24**	**333**	P	**P**	14 58 27.8	**0.0**
STKA	**Stephens Creek**	**57.13**	**131**	P	**P**	14 58 48.6	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=289,slow=12,SNR=6.0						
STKA	**Stephens Creek**	**57.13**	**131**	*e*P	**P**	14 58 49.3	**+0.8**
ARU	**Arti**	**60.11**	**338**	*e*P	**P**	14 59 07.5	**-1.6**
ARU				*e*		15 01 16.9	
ARU				*e*S	**S**	15 07 21.8	**+3.4**
ARU				*e*SS	SS	15 11 20.9	+5.0
ARU	**Arti**	**60.11**	**338**	P	**P**	14 59 07.7	**-1.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ARU	**Arti**	**60.11**	**338**	P	**P**	14 59 07.7	**-1.4**
	comp=Z,6.8nm,1.0s,mb4.6						
YSS	**Yuzh-Sakhalins**	**60.65**	**36**	P	**P**	14 59 07.0	**-5.9**
YSS				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.3						
YSS	**Yuzh-Sakhalins**	**60.65**	**36**	P	**P**	14 59 07.0	**-5.8**
	comp=Z,22nm,0.9s,mb5.3						
BRTR	**Keskin Array B**	**65.34**	**313**	P	**P**	14 59 44.0	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=134,slow=7.1,SNR=5.5						
OBN	**Obninsk**	**69.22**	**329**	*e*P	**P**	15 00 07.7	**-0.8**
OBN				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.0						
AKASG	**Malin Array Be**	**71.69**	**323**	*i* P	**P**	15 00 27.2	**+3.6**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.4s						
TIXI	**Tiksi**	**71.85**	**11**	*e*P	**P**	15 00 22.5	**-2.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.2s,mb5.3						
TIXI	**Tiksi**	**71.85**	**11**	*e*P	**P**	15 00 22.4	**-2.1**
	comp=Z,8.6nm,0.2s,mb5.3						
FINES	**FINESS Array B**	**76.73**	**333**	P	**P**	15 00 51.0	**-1.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=197,slow=3.2,SNR=3.3						
ARCES	**ARCESS Array B**	**79.57**	**341**	P	**P**	15 01 07.1	**-1.5**
	comp=Z,2.3nm,0.9s,mb4.1,baz=78,slow=6.7,SNR=4.4						
GERES	**GERESS Array B**	**81.16**	**319**	P	**P**	15 01 17.3	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=98,slow=5.5,SNR=11						
CLL	**Collm**	**81.83**	**321**	*e*pP	**P**	15 01 29.0	**+8.3**
TXAR	**Lajitas Array**	**143.55**	**26**	PKP	PKPdf	15 08 36.2	+0.1
	comp=Z,0.2nm,0.5s,baz=90,slow=0.4,SNR=3.1						

*IDC **14** 15:16:59.5±3.1, 14.16N×91.18W, h28km±20km, mb3.8/10, mb1 4.1/12, mb1mx3.9/22, mbtmp3.9/12, ML4.5/2, MS3.7/5, Ms1 3.7/5, ms1mx3.0/31, Error ellipse: s-maj=32.4km s-min=15.0km az=59.0*
*ISCJB **14** 15:17:00.4±0.9, 1394N±006×9156W±005, h59km±8km, mb4.0/17, MS3.7/5, Error ellipse: s-maj=9.8km s-min=7.4km az=58.6*
*NEIC **14** 15:17:02.1±0.8, 1395N×9149W, h60km±8km, mb4.1/14, MD4.6(MEX), Error ellipse: s-maj=12.0km s-min=7.2km az=213.0*
*MEX **14** 15:17:05.4±0.6, 1402N×9185W, h102km±77km, MD4.6*
*CASC **14** 15:17:29.8±1.5, 14.10N×9134W, h0km±11km, MD4.0, ML4.6*
ISC 14 15:17:02.7±0.7, 1397N±005×9155W±005, h60km±7km, n72, σ1°34/65, mb4.0/17, MS3.7/5, 3C-10D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**1.81**	**85**	⇓*e*P	x	15 17 59.7	
RTR	**El Retiro**	**1.85**	**92**	⇓*e*P	x	15 18 00.2	
SBLS	**San Blas**	**1.88**	**94**	⇓*e*P	x	15 18 00.1	
SNJE	**San Jose**	**1.89**	**93**	⇓*e*P	x	15 18 00.5	
SNJE				*e*S	x	15 18 24.9	
MTO2	**Montecristo 2**	**2.17**	**78**	⇑*e*P	x	15 18 04.2	
BOQS	**Boqueron**	**2.22**	**96**	⇓*e*P	x	15 18 05.1	
BOQS				*e*S	x	15 18 32.8	
SNET	**Serv Nac Est T**	**2.27**	**97**	*e*P	x	15 17 38.7	
SNET				*e*S	x	15 18 06.1	
SNET				*i*		15 18 11.1	
	comp=Z,7μm,0.9s						
CCIG	**Comitan**	**2.36**	**346**	*i* P	**Pn**	15 17 40.8	**+1.7**
CCIG				*i* S	**Sn**	15 18 07.8	**+0.9**
LFU	**La Fuente**	**2.38**	**95**	*e*P	x	15 18 07.7	
LFRS	**El Faro**	**2.44**	**98**	⇓*e*P	x	15 18 08.4	
LFRS				*e*S	x	15 18 38.2	
LBRS	**Las Brisas**	**2.45**	**95**	⇓*e*P	x	15 18 08.3	
LCBS	**La Ceiba**	**2.52**	**97**	⇓*e*P	x	15 18 09.7	
LCBS				*e*S	x	15 18 39.9	
SNVI	**San Vicente**	**2.66**	**97**	⇓*e*P	x	15 18 11.5	
SNVI				*e*S	x	15 18 44.2	
VSM	**San Miguel**	**3.23**	**99**	⇓*e*P	x	15 18 19.7	
VSM				*e*S	x	15 19 00.8	
BLLM	**Bellamira**	**3.26**	**99**	⇑*e*P	x	15 18 20.2	
CNCH	**Conchagua**	**3.68**	**100**	⇓*e*P	x	15 18 25.2	
CNCH				*e*S	x	15 19 08.4	
TGUH	**Tegucigalpa,Un**	**4.15**	**88**	*e*Pn	**Pn**	15 18 03.7	**+0.2**
CMIG	**Matias Romero**	**4.46**	**314**	Pn	**Pn**	15 18 07.8	**0.0**
	comp=Z,27nm,0.3s,baz=131,slow=12,SNR=162						
CMIG				Sn	**Sn**	15 18 57.0	**-1.4**
	comp=Z,27nm,0.3s,baz=46,slow=20,SNR=9.5						
CMIG				Lg		15 19 17.1	
	comp=Z,68nm,0.3s,baz=13,slow=11,SNR=9.2						
CMIG	**Matias Romero**	**4.46**	**314**	*i* P	**Pn**	15 18 06.3	**-1.5**
CMIG				*i* S	**Sn**	15 18 55.3	**-3.1**
CMIG	**Matias Romero**	**4.46**	**314**	Pn	**Pn**	15 18 07.8	**0.0**
CMIG				*i* S	**Sn**	15 18 52.2	**-6.2**
CMIG				Sn	**Sn**	15 18 57.0	**-1.4**
CMIG				Lg		15 19 17.1	
HUIG	**Huatulco**	**4.75**	**293**	*i* P	**Pn**	15 18 09.3	**-2.5**
HUIG				*i* S	**Sn**	15 18 59.9	**-5.6**
HUIG	**Huatulco**	**4.75**	**293**	*i* P	**Pn**	15 18 09.3	**-2.5**
HUIG				*i* S	**Sn**	15 18 56.8	**-8.7**
OXX	**Oaxaca**	**5.87**	**302**	*e*P	**Pn**	15 18 28.8	**+1.5**
VHO	**Vista Hermosa**	**5.87**	**302**	*i* P	**Pn**	15 18 27.7	**+0.6**
VHO				*i* S	**Sn**	15 19 26.4	**-6.6**
VHO	**Vista Hermosa**	**5.87**	**302**	*i* P	**Pn**	15 18 27.7	**+0.6**
VHO				*i* S	**Sn**	15 19 25.4	**-7.6**
TEIG	**Tepich**	**6.96**	**26**	Pn	**Pn**	15 18 42.2	**+0.2**
	comp=Z,131nm,0.3s,baz=222,slow=1.3,SNR=435						
TEIG				Sn	**Sn**	15 19 58.7	**-1.0**
	baz=300,slow=23,SNR=2.2						
TEIG	**Tepich**	**6.96**	**26**	*i* P	**Pn**	15 18 42.6	**+0.6**
TEIG				*i* S	**Sn**	15 20 02.1	**+2.4**
TEIG	**Tepich**	**6.96**	**26**	*e*Pn	**Pn**	15 18 42.8	**+0.8**
TEIG				*e*		15 18 51.3	
TEIG				*e*Sn	**Sn**	15 19 57.8	**-2.0**
UTMO	**Huajuapan**	**7.13**	**303**	*e*P	**Pn**	15 18 41.7	**-2.7**
UTMO				*i* S	**Sn**	15 19 57.3	**-6.7**
JTS	**JuntasAbangare**	**7.42**	**119**	Lg		15 20 36.9	
	comp=Z,1.7nm,0.3s,baz=287,slow=19,SNR=5.0						
JTS	**JuntasAbangare**	**7.42**	**119**	*e*Pn	**Pn**	15 18 45.9	**-2.4**
JTS				*e*Sn	**Sn**	15 20 21.1	**+10**
ACX	**Acapulco**	**8.56**	**291**	*e*P	**Pn**	15 19 03.0	**-0.9**
MEIG	**Mezcala**	**8.70**	**298**	*i* P	**Pn**	15 19 06.6	**+0.8**
MEIG				*i* S	**Sn**	15 20 35.4	**-7.0**
PLIG	**Platanillo**	**8.81**	**301**	*i* P	**Pn**	15 19 08.8	**+1.5**
CAIG	**El Cayaco**	**8.94**	**291**	*e*P	**Pn**	15 19 08.1	**-1.0**
CAIG	**El Cayaco**	**8.94**	**291**	*e*P	**Pn**	15 19 08.8	**-0.3**
LTX	**Lajitas**	**18.96**	**326**	*e*P	**Pn**	15 21 21.0	**+0.8**
	comp=Z,6.6nm,0.9s						
TXAR	**Lajitas Array**	**18.96**	**326**	P	**Pn**	15 21 20.3	**+0.1**
	comp=Z,0.4nm,0.3s,baz=154,slow=12,SNR=55						
TXAR				ScP	ScP	15 29 18.9	+5.9
	comp=Z,0.0nm,0.3s,baz=134,slow=5.4,SNR=8.3						
ROSC	**El Rosal**	**19.24**	**116**	P	**Pn**	15 21 25.9	**+2.5**
LRAL	**Lakeview Retre**	**19.42**	**12**	*e*P	**Pn**	15 21 26.4	**+0.7**
	comp=Z,4.8nm,0.4s						
MIAR	**Mount Ida**	**20.56**	**355**	P	**P**	15 21 35.5	**-0.9**
	comp=Z,13nm,1.2s

SCHQ Schefferville 45.10 20 *eP* **P 15 25 10.0 -2.9**
comp=Z,12nm,1.2s,mb4.6
CFAA Coronel Fontan 50.54 154 P **P 15 25 55.4 +0.5**
comp=Z,0.2nm,0.4s,mb3.4,baz=276,slow=8.3,SNR=4.4
YKA Yellowknife Ar 51.15 346 P **P 15 25 58.5 -1.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=150,slow=7.0,SNR=14
YKA PcP PcP 15 27 13.6 -0.7
comp=Z,0.3nm,0.4s,baz=146,slow=3.6,SNR=6.8
YKA Yellowknife Ar 51.15 346 P **P 15 25 58.5 -1.1**
YKA PcP PcP 15 27 13.7 -0.7
DLBC Dease Lake 52.86 336 P **P 15 26 13.8 +1.6**
PLCA Paso Flores 57.81 161 P **P 15 26 49.1 +1.3**
comp=Z,4.6nm,1.2s,mb4.4,baz=352,slow=7.1,SNR=3.2
INK Inuvik 60.59 343 *eP* **P 15 27 05.2 -1.8**
ARCES ARCESS Array B 86.03 18 P **P 15 29 36.3 -0.3**
comp=Z,2.0nm,0.8s,mb4.4,baz=290,slow=10,SNR=3.7
TORD Torodi Ar. Bea 89.96 77 LR LR 16 06 03.0
comp=Z,49nm,20.5s,MS3.9,baz=310,slow=33
WRA Warramunga Arr 135.81 256 PKP PKPdf 15 36 17.2 +0.7
comp=Z,0.7nm,0.9s,baz=88,slow=1.5,SNR=5.7
ASAR Alice Springs 136.07 250 PKP PKPdf 15 36 16.9 0.0
comp=Z,0.7nm,1.1s,baz=64,slow=2.9,SNR=4.2

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*ISCJB **14** 15:24:56.4±1.1, 137S±0.1×1115W±02, h10km, mb3.8/8, MS3.8/9, Error ellipse: s-maj=32.9km s-min=17.2km az=143.5*
*NEIC **14** 15:24:58.4±1.3, 1368S×11142W, h10km, mb4.5/2, Error ellipse: s-maj=40.4km s-min=19.9km az=74.0*
*IDC **14** 15:24:59.9±2.0, 1359S×11098W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.6/6, MS3.8/9, Ms1 3.8/9, ms1mx3.5/22, Error ellipse: s-maj=69.4km s-min=24.8km az=56.0*

ISC 14 15:24:58.0±1.1, 137S±01×1116W±02, h10km, n21, σ1§40/12, mb3.8/8, MS3.8/9, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**34.80**	**29**	LR	LR	15 43 05.1	
	comp=Z,44nm,18.5s,MS3.2,baz=203,slow=32						
JTS	**JuntasAbangare**	**35.62**	**49**	LR	LR	15 42 10.0	
	comp=Z,92nm,21.6s,MS3.5,baz=102,slow=29						
LPAZ	**La Paz**	**41.99**	**99**	P	**P**	**15 32 49.4**	**+0.2**
	2.1nm,0.8s,mb3.8,baz=251,slow=9.2,SNR=9.2						
LPAZ				LR	LR	15 46 08.6	
	comp=Z,112nm,20.0s,MS3.7,baz=318,slow=31						
LPAZ	**La Paz**	**41.99**	**99**	P	**P**	**15 32 49.4**	**+0.2**
LPAZ				LR	LR	15 46 08.6	
CFAA	**Coronel Fontan**	**43.45**	**122**	P	**P**	**15 33 00.8**	**-0.3**
	0.2nm,0.4s,mb3.2,baz=296,slow=3.6,SNR=3.6						
CFAA	**Coronel Fontan**	**43.45**	**122**	P	**P**	**15 33 00.8**	**-0.3**
TXAR	**Lajitas Array**	**43.50**	**10**	P	**P**	**15 33 02.9**	**+1.4**
	0.2nm,0.7s,mb3.0,baz=198,slow=15,SNR=3.0						
TXAR				LR	LR	15 47 09.8	
	comp=Z,86nm,21.9s,MS3.6,baz=0.0,slow=31						
PLCA	**Paso Flores**	**44.73**	**135**	P	**P**	**15 33 12.4**	**+1.1**
	2.2nm,0.9s,mb4.0,baz=291,slow=10,SNR=3.7						
ANMO	**Albuquerque**	**48.67**	**6**	LR	LR	15 51 14.8	
	comp=Z,96nm,21.0s,MS3.8,baz=194,slow=32						
SIV	**San Ignacio**	**48.78**	**99**	P	**P**	**15 33 43.2**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=290,slow=11,SNR=5.4						
MIAR	**Mount Ida**	**50.98**	**19**	P	**P**	**15 33 57.6**	**-2.2**
	4.1nm,0.8s,mb4.4						
PCRV	**Puerto La Cruz**	**52.30**	**65**	LR	LR	15 52 16.4	
	comp=Z,94nm,20.6s,MS3.8,baz=111,slow=32						
PLAL	**Pickwick Lake**	**53.35**	**24**	*eP*	**P**	**15 34 15.0**	**-2.4**
	5.0nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**56.26**	**2**	P	**P**	**15 34 41.0**	**+2.5**
	0.3nm,0.7s,mb3.4,baz=142,slow=7.4,SNR=3.3						
PDAR				LR	LR	15 53 20.0	
	comp=Z,171nm,18.2s,MS4.2,baz=305,slow=30						
PDAR	**Pinedale Array**	**56.26**	**2**	P	**P**	**15 34 41.0**	**+2.5**
PDAR				LR	LR	15 53 20.0	
RPZ	**Rata Peaks**	**71.53**	**228**	LR	LR	15 59 55.0	
	comp=Z,157nm,19.1s,MS4.3,baz=175,slow=29						
SBA	**Scott Base**	**74.90**	**193**	P	**P**	**15 36 38.1**	**-0.8**
YKA	**Yellowknife Ar**	**76.03**	**359**	LR	LR	16 07 42.4	
	comp=Z,140nm,18.5s,MS4.3,baz=150,slow=34						
MKAR	**Makanchi Array**	**145.05**	**343**	PKPbc	PKPbc	15 44 38.5	+3.5
	0.8nm,0.7s,baz=35,slow=3.0,SNR=5.6						
KMBO	**Kilima Mbogo**	**145.77**	**113**	PKPbc	PKPbc	15 44 40.0	+2.8
	0.7nm,0.2s,baz=180,slow=1.0,SNR=3.9						
KMBO	**Kilima Mbogo**	**145.77**	**113**	PKPbc	PKPbc	15 44 40.0	+2.8

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*IDC **14** 15:33:28.7±9.7, 1387N×9148W, h66km±47km, mb3.3/3, mb1 3.8/5, mb1mx3.5/18, mbtmp3.4/5, ML4.4/2, Error ellipse: s-maj=112.2km s-min=42.0km az=175.0*
*ISCJB **14** 15:33:31.3±0.7, 1429N±006×9159W±006, h68km±7km, mb4.0/4, Error ellipse: s-maj=11.7km s-min=8.5km az=68.2*
*NEIC **14** 15:33:33.5±1.2, 1430N×9162W, h74km±17km, mb4.3/2, Error ellipse: s-maj=18.7km s-min=12.3km az=53.0*

ISC 14 15:33:32.2±0.7, 1422N±007×9158W±006, h59km±8km, n29, σ0§98/23, mb4.0/4, 5C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.12**	**329**	⇓*eP*	**Pn**	**15 33 40.9**	**-0.4**
FUG	**Fuego 3**	**0.75**	**72**	⇑*iP*	**Pn**	**15 33 46.8**	**-0.3**
TER	**Terranova**	**0.87**	**84**	⇑*eP*	**Pn**	**15 33 47.3**	**-1.3**
PCG	**Pacaya**	**0.95**	**79**	*eP*	**Pn**	**15 33 49.4**	**-0.3**
RBDL	**Robledal**	**1.83**	**93**	⇑*eP*	x	15 34 26.3	
RBDL				*eS*	x	15 34 51.3	
RTR	**El Retiro**	**1.90**	**99**	⇓*eP*	x	15 34 26.7	
RTR				*eS*	x	15 34 52.0	
SBLS	**San Blas**	**1.93**	**101**	⇓*eP*	x	15 34 26.8	
SBLS				*eS*	x	15 34 50.2	
SNJE	**San Jose**	**1.94**	**100**	⇓*eP*	x	15 34 27.2	
SNJE				*eS*	x	15 34 52.3	
MTO2	**Montecristo 2**	**2.15**	**85**	*eP*	x	15 34 30.8	
MTO2				*eS*	x	15 34 58.9	
BOQS	**Boqueron**	**2.28**	**102**	⇑*eP*	x	15 34 31.8	
BOQS				*eS*	x	15 35 00.3	
SNET	**Serv Nac Est T**	**2.33**	**103**	*eP*	x	15 34 07.6	
SNET				*eS*	x	15 34 33.2	
LFRS	**El Faro**	**2.51**	**103**	⇓*eP*	x	15 34 35.0	
LFRS				*eS*	x	15 35 06.6	
LCBS	**La Ceiba**	**2.58**	**102**	⇑*eP*	x	15 34 36.2	
LCBS				*eS*	x	15 35 07.5	
SNVI	**San Vicente**	**2.72**	**102**	⇓*eP*	x	15 34 38.5	
SNVI				*eS*	x	15 35 12.3	
TGUH	**Tegucigalpa,Un**	**4.18**	**92**	*ePn*	**Pn**	**15 34 33.7**	**+0.3**
CMIG	**Matias Romero**	**4.28**	**312**	P	**Pn**	**15 34 34.2**	**-0.6**
	4.0nm,0.3s,baz=126,slow=10,SNR=21						
CMIG				S	**Sn**	**15 35 24.0**	**+0.5**
	6.4nm,0.3s,baz=265,slow=19,SNR=5.0						
CMIG	**Matias Romero**	**4.28**	**312**	P	**Pn**	**15 34 34.2**	**-0.6**
CMIG				S	**Sn**	**15 35 24.0**	**+0.5**
TEIG	**Tepich**	**6.75**	**27**	P	**Pn**	**15 35 09.9**	**+1.2**
	30nm,0.3s,baz=240,slow=1.5,SNR=119						
TEIG				S	**Sn**	**15 36 24.4**	**+0.2**
	baz=0.8,slow=20,SNR=2.2						
TEIG	**Tepich**	**6.75**	**27**	*ePn*	**Pn**	**15 35 09.8**	**+1.1**
TEIG				*eSn*	**Sn**	**15 36 26.3**	**+2.0**
JTS	**JuntasAbangare**	**7.56**	**120**	*ePn*	**Pn**	**15 35 24.0**	**+4.3**
	28nm,1.0s						
PAYG	**Puerto Ayora**	**14.85**	**175**	Pn	**Pn**	**15 37 00.3**	**+1.6**
	34nm,0.8s						
LTX	**Lajitas**	**18.75**	**325**	Pn	**Pn**	**15 37 50.9**	**+3.7**
	2.4nm,0.8s						
TXAR	**Lajitas Array**	**18.75**	**325**	P	**Pn**	**15 37 47.2**	**0.0**
	0.1nm,0.3s,baz=154,slow=13,SNR=17						
SSPA	**Standing Stone**	**28.91**	**22**	*eP*	**P**	**15 39 24.9**	**-0.6**
	50nm,1.0s,mb5.2						
PDAR	**Pinedale Array**	**32.40**	**335**	P	**P**	**15 39 55.9**	**-0.4**
	0.3nm,0.6s,mb3.3,baz=145,slow=11,SNR=2.3						
NVAR	**Mina Array Bea**	**33.76**	**321**	P	**P**	**15 40 08.1**	**-0.1**
	0.8nm,0.5s,mb3.9,baz=126,slow=9.3,SNR=6.5						
NVAR	**Mina Array Bea**	**33.76**	**321**	P	**P**	**15 40 08.1**	**-0.1**
YKA	**Yellowknife Ar**	**50.91**	**346**	P	**P**	**15 42 24.3**	**-3.1**
	0.6nm,0.7s,mb3.6,baz=149,slow=7.4,SNR=13						
YKA				PcP	PcP	15 43 40.0	-3.1
	0.2nm,0.6s,baz=154,slow=3.8,SNR=5.2						
YKA	**Yellowknife Ar**	**50.91**	**346**	P	**P**	**15 42 24.3**	**-3.1**
YKA				PcP	PcP	15 43 40.0	-3.1

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*IDC **14** 15:40:34.2±1.0, 963S×11956E, h0km, mb4.1/4, mb1 4.1/7, mb1mx3.8/17, mbtmp4.0/7, ML3.5/3, MS3.3/3, Ms1 3.2/3, ms1mx2.8/29, Error ellipse: s-maj=55.4km s-min=18.2km az=66.0*

*NEIC **14** 15:40:37.7±0.6, 1004S×119.16E, h35km, mb4.4/4, Error ellipse: s-maj=27.2km s-min=10.1km az=55.0*
*ISCJB **14** 15:40:38.9±2.9, 1023S±0.10×119.1E±02, h76km±30km, mb4.4/10, Error ellipse: s-maj=32.1km s-min=12.1km az=138.8*

ISC 14 15:40:41.4±1.6, 103S±01×1191E±01, h79km±17km, n24, σ0§89/28, mb4.4/10, 1D, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.03**	**141**	⇓*iP*	**Pn**	**15 43 01.7**	**-0.8**
	5.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.03**	**141**	Pn	**Pn**	**15 43 01.6**	**-0.9**
	0.9nm,0.3s,baz=320,slow=11,SNR=24						
FITZ				Sn	**Sn**	**15 44 48.7**	**-4.5**
	1.0nm,0.3s,baz=158,slow=21,SNR=6.3						
FITZ				LR	LR	15 47 05.9	
	comp=Z,94nm,19.4s,baz=346,slow=38						
KAKA	**Kakadu**	**13.30**	**102**	*eP*	**Pn**	**15 43 53.6**	**+6.7**
	4.5nm,0.4s						
KSM	**Kuching**	**14.60**	**323**	Pn	**Pn**	**15 43 54.3**	**-9.5**
KKM	**Kota Kinabalu**	**16.48**	**350**	*ePn*	**Pn**	**15 44 29.9**	**+2.2**
WRA	**Warramunga Arr**	**17.56**	**125**	P	**Pn**	**15 44 40.3**	**-0.6**
	0.1nm,0.3s,baz=297,slow=14,SNR=7.2						
WRA				S	**S**	**15 47 45.3**	**-14**
	0.1nm,0.3s,baz=237,slow=35,SNR=2.9						
WRA				LR	LR	15 52 09.1	
	comp=Z,93nm,19.3s,baz=75,slow=40						
WB2	**Warramunga Arr**	**17.57**	**125**	*ePn*	**Pn**	**15 44 39.9**	**-1.1**
WB2				*eSn*	**Sn**	**15 47 45.2**	**-11**
MORW	**Morawa**	**18.89**	**188**	*eP*	**Pn**	**15 44 57.8**	**+0.9**
	18nm,1.2s						
MORW				*eS*	S	15 48 05.3	-21
ASAR	**Alice Springs**	**19.41**	**135**	P	**Pn**	**15 45 04.7**	**+1.7**
	0.3nm,0.3s,baz=324,slow=13,SNR=34						
ASAR				S	**S**	**15 48 36.8**	**+0.6**
	0.1nm,0.3s,baz=318,slow=26,SNR=4.6						
NWAO	**Narrogin (SRO)**	**22.59**	**184**	P	**P**	**15 45 44.1**	**+8.9**
	5.3nm,0.7s,mb4.0,baz=8.2,slow=13,SNR=3.5						
NWAO				S	**S**	**15 49 32.2**	**-4.7**
	4.1nm,0.5s,baz=102,slow=10,SNR=8.4						
NWAO	**Narrogin (SRO)**	**22.59**	**184**	P	**P**	**15 45 43.0**	**+7.8**
	36nm,1.4s,mb4.5						
NWAO				P		15 45 44.1	
NWAO				S	**S**	**15 49 32.2**	**-4.7**
STKA	**Stephens Creek**	**29.91**	**139**	LR	LR	15 58 51.7	
	comp=Z,78nm,22.0s,baz=22,slow=36						
GUN	**Gumba**	**49.76**	**321**	*eP*	**P**	**15 49 26.2**	**+0.4**
	8.2nm,0.6s,mb4.8						
PKI	**Pulchoki**	**49.82**	**320**	*eP*	**P**	**15 49 25.2**	**-1.0**
	5.3nm,0.4s,mb4.8						
DMN	**Daman**	**50.04**	**320**	*eP*	**P**	**15 49 27.4**	**-0.5**
GKN	**Gorkha**	**50.61**	**320**	*eP*	**P**	**15 49 31.8**	**-0.4**
	2.6nm,0.3s,mb4.7						
KOLN	**Koldanda**	**51.12**	**319**	*eP*	**P**	**15 49 35.6**	**-0.4**
	4.6nm,0.6s,mb4.7						
SONM	**Songino Array**	**58.96**	**350**	P	**P**	**15 50 32.5**	**+0.1**
	1.3nm,0.8s,mb4.0,baz=168,slow=7.1,SNR=9.6						
MKAR	**Makanchi Array**	**65.64**	**333**	P	**P**	**15 51 17.6**	**+0.4**
	1.7nm,0.7s,mb4.0,baz=144,slow=7.9,SNR=13						
AAK	**Ala-Archa**	**66.59**	**326**	*eP*	**P**	**15 51 22.9**	**-0.3**
	1.8nm,0.7s,mb4.0						
MAW	**Mawson**	**68.06**	**200**	P	**P**	**15 51 41.1**	**+8.7**
	5.0nm,1.3s,mb4.2						
ZAL	**Zalesovo**	**70.27**	**339**	P	**P**	**15 51 45.7**	**-0.4**
	1.7nm,0.6s,mb4.1,baz=331,slow=5.5,SNR=9.2						
ZAL	**Zalesovo**	**70.27**	**339**	P	**P**	**15 51 45.7**	**-0.4**
BRNJ	**Basking Ridge**	**147.41**	**19**	*ePKPdf*	PKPdf	16 00 15.2	+1.7

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*MOS **14** 16:00:13.5±2.0, 5275N×10731E, h7km, mb4.4/1, Error ellipse: s-maj=15.2km s-min=9.2km az=57.0*

BYKL 14 16:00:13.1±0.2, 5280N×10736E, h15km±3km, 8C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.28**	**207**	⇑*iPg*	Pg	16 00 19.0	0.0
ZRHB				*i* Sg	Sg	16 00 23.7	+0.7
ZRHB				Pmax			
	520nm,0.7s						
ZRHB				Smax			
	9μm,0.5s						
TRTB	**Turuntaevo**	**0.59**	**164**	⇑*iPg*	Pg	16 00 24.2	-0.6
TRTB				*i* Sg	Sg	16 00 32.1	-0.6
TRTB				Pmax			
	494nm,0.3s						
TRTB				Smax			
	3μm,0.3s						
TRG	**Tyrgan**	**0.62**	**267**	*ePg*	Pg	16 00 24.6	-0.6
TRG				*eSg*	Sg	16 00 33.8	+0.4
TRG				Pmax			
	91nm,0.1s						
TRG				Smax			
	1μm,0.2s						
OGRR	**Ongureny**	**0.86**	**9**	*ePG*	Pg	16 00 28.7	-1.0
OGRR				*e*		16 00 40.0	
OGRR				pmax	pmax		
	comp=Z,70nm,0.2s						
OGRR				smax			
	comp=E,530nm,0.5s						
OGRR	**Ongureny**	**0.86**	**9**	⇑*iPg*	Pg	16 00 28.7	-1.0
OGRR				*ePb*	Pb	16 00 31.7	+2.0
OGRR				*eSg*	Sg	16 00 39.9	-1.1
OGRR				max			
	comp=E,80nm,0.3s						
OGRR				Smax			
	comp=E,548nm,0.4s						
KAB	**Kabansk**	**0.87**	**210**	*ePG*	Pg	16 00 41.3	+11
KAB				pmax	pmax		
	comp=E,4μm,0.5s						
KAB	**Kabansk**	**0.87**	**210**	*ePg*	Pg	16 00 29.6	-0.3
KAB				*ePb*	Pb	16 00 31.3	+1.5
KAB				*eSg*	Sg	16 00 41.3	0.0
KAB				*eSb*	Sb	16 00 45.0	+3.8
KAB				max			
	comp=E,481nm,0.4s						
KAB				max			
	comp=E,4μm,0.5s						
UUDB	**Ulan-Yde**	**0.95**	**169**	⇑*iPg*	Pg	16 00 30.4	-1.1
UUDB				*i* Sg	Sg	16 00 42.7	-1.3
UUDB				*e*		16 00 48.0	
UUDB				Pmax			
	comp=E,235nm,0.5s						
UUDB				max			
	comp=E,3μm,0.4s						
MXMB	**Maximikha**	**0.96**	**60**	⇑*iPg*	Pg	16 00 30.1	-1.5
MXMB				*i* Sg	Sg	16 00 43.2	-0.9
MXMB				Pmax			
	comp=E,74nm,0.1s						
MXMB				Smax			
	comp=E,2μm,0.5s						
HRMR	**Khuramsha**	**1.20**	**192**	⇑*iPg*	Pg	16 00 34.9	-1.3
HRMR				⇑*iPb*	Pb	16 00 36.8	+1.3
HRMR				*i* Sg	Sg	16 00 51.4	-0.5
HRMR				*eSb*	Sb	16 00 54.4	+3.6
BTMB	**Babushkin**	**1.45**	**221**	*ePn*	Pn	16 00 38.5	-0.2
BTMB				⇑*iPg*	Pg	16 00 39.6	-1.4
BTMB				*eSg*	Sg	16 00 58.6	-1.2
BTMB				Pmax			
	comp=E,309nm,0.4s						
BTMB				Smax			
	comp=E,2μm,0.7s						
SYVR	**Suvo**	**1.80**	**60**	*ePg*	Pg	16 00 45.2	-2.5
SYVR				*eSg*	Sg	16 01 09.4	-1.8
SYVR				Pmax			
	comp=E,68nm,0.8s						
SYVR				Smax			
	comp=E,215nm,0.3s						
LSTR	**Listvyanka**	**1.81**	**240**	*ePN*	Pn	16 00 44.5	+0.8
LSTR				*e*		16 01 08.4	
LSTR				pmax	pmax		
	comp=Z,71nm,0.3s						
LSTR				smax			
	comp=N,396nm,0.2s						
LSTR	**Listvyanka**	**1.81**	**240**	*ePn*	Pn	16 00 43.2	-0.5
LSTR				⇓*iPg*	Pg	16 00 44.6	-3.3
LSTR				*eSg*	Sg	16 01 08.9	-2.5
LSTR				Pmax			
	comp=N,75nm,0.4s						
LSTR				Smax			
	comp=N,346nm,0.4s						
IRK	**Irkutsk**	**1.97**	**255**	*ePN*	Pn	16 00 49.3	+3.4
IRK				*e*		16 01 12.9	
IRK				pmax	pmax		
	comp=Z,144nm,0.3s						
IRK				smax			
	comp=N,2μm,0.5s						
IRK	**Irkutsk**	**1.97**	**255**	*ePn*	Pn	16 00 47.0	+1.1
IRK				*ePg*	Pg	16 00 48.7	-2.2
IRK				*e*		16 00 54.4	
IRK				*eSg*	Sg	16 01 15.4	-1.0
IRK				max			
	comp=N,138nm,0.5s						
IRK				Smax			
	comp=N,2μm,0.4s						
TLY	**Talaya**	**2.54**	**245**	*ePN*	Pn	16 00 53.9	+0.1
TLY				*e*		16 00 58.0	
TLY				*e*		16 01 31.5	
TLY				pmax	pmax		
	comp=Z,30nm,0.4s						
TLY				smax			
	comp=E,185nm,0.3s						
TLY	**Talaya**	**2.54**	**245**	*ePn*	Pn	16 00 54.6	+0.8
TLY				*ePg*	Pg	16 00 58.1	-3.8
TLY				*eSg*	Sg	16 01 31.5	-3.4
TLY				Pmax			
	comp=E,29nm,0.4s						
TLY				Smax			
	comp=E,201nm,0.4s						
YLYR	**Ulyunkhan**	**3.07**	**46**	*ePg*	Pg	16 01 07.6	-4.3
YLYR				*eSg*	Sg	16 01 47.4	-4.2
YLYR				Pmax			
	comp=E,14nm,0.5s						
YLYR				Smax			
	comp=E,124nm,1.0s						
ARS	**Arshan**	**3.15**	**256**	*ePN*	Pn	16 01 04.0	+1.8
ARS				*e*		16 01 08.0	
ARS				*e*		16 01 50.1	
ARS				pmax	pmax		
	comp=Z,59nm,0.3s						
ARS				smax			
	comp=E,803nm,0.4s						
ARS	**Arshan**	**3.15**	**256**	*ePn*	Pn	16 01 03.7	+1.5
ARS				*ePg*	Pg	16 01 09.1	-4.4
ARS				*eSg*	Sg	16 01 49.5	-4.9
ARS				Pmax			
	comp=E,81nm,0.7s						
ARS				Smax			
	comp=E,792nm,0.6s						
NIZ	**Nizh Angarsk**	**3.24**	**22**	*ePN*	Pn	16 01 04.8	+1.4
NIZ				*e*		16 01 13.3	
NIZ				*eS*	Sn	16 01 41.1	-0.7
NIZ				*e*		16 01 52.1	
NIZ				pmax	pmax		
	comp=Z,23nm,0.5s						
NIZ				smax			
	comp=E,114nm,0.5s						
NIZ	**Nizh Angarsk**	**3.24**	**22**	*ePn*	Pn	16 01 04.5	+1.1
NIZ				*ePg*	Pg	16 01 11.3	-4.0
NIZ				*eSn*	Sn	16 01 41.1	-0.7
NIZ				*eSg*	Sg	16 01 53.5	-3.8
NIZ				Pmax			
	comp=E,22nm,0.5s						
NIZ				Smax			
	comp=E,118nm,0.7s						
ZAK	**Zakamensk**	**3.51**	**228**	*ePn*	Pn	16 01 08.8	+1.7
ZAK				*ePg*	Pg	16 01 16.0	-4.4
ZAK				*eSg*	Sg	16 02 02.7	-3.2
ZAK				Pmax			
	comp=E,10.0nm,0.3s						
ZAK				Smax			
	comp=E,85nm,0.4s						
KMO	**Kumora**	**3.82**	**34**	*ePN*	Pn	16 01 12.9	+1.5
KMO				*e*		16 01 22.0	
KMO				*eS*	Sn	16 01 56.9	+0.8
KMO				*e*		16 02 10.4	
KMO				pmax	pmax		
	comp=Z,12nm,0.3s						
KMO				smax			
	comp=N,127nm,1.1s						
KMO	**Kumora**	**3.82**	**34**	*ePn*	Pn	16 01 12.3	+0.9
KMO				*ePg*	Pg	16 01 21.9	-4.4
KMO				*eSg*	Sg	16 02 10.6	-5.3
KMO				Pmax			
	comp=N,13nm,0.4s						
KMO				Smax			
	comp=N,127nm,1.1s						
CIT	**Chita**	**3.87**	**99**	*ePN*	Pn	16 01 12.0	-0.1
CIT				*e*		16 01 21.4	
CIT				*eS*	Sn	16 01 57.2	-0.1
CIT				*e*		16 02 11.8	
CIT				pmax	pmax		
	comp=Z,36nm,1.0s						
CIT				smax			
	comp=N,177nm,1.0s						
CIT	**Chita**	**3.87**	**99**	*ePn*	Pn	16 01 12.5	+0.4
CIT				*ePg*	Pg	16 01 21.5	-5.8
CIT				*eSg*	Sg	16 02 12.7	-4.7
CIT				Pmax			
	comp=N,39nm,0.9s						
CIT				Smax			
	comp=N,148nm,1.0s						
MOY	**Mondy**	**4.08**	**256**	*ePN*	Pn	16 01 17.8	+2.9
MOY				*e*		16 01 25.9	
MOY				*e*		16 02 17.2	
MOY				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MOY				smax			
	comp=N,221nm,0.6s						
MOY	**Mondy**	**4.08**	**256**	*ePn*	Pn	16 01 17.7	+2.8
MOY				*ePg*	Pg	16 01 25.3	-5.9
MOY				*eSn*	Sn	16 02 06.8	+4.5
MOY				*eSg*	Sg	16 02 18.2	-5.8
MOY				Pmax			
	comp=N,35nm,0.5s						
MOY				Smax			
	comp=N,219nm,0.8s						
YOA	**Uoyan**	**4.20**	**36**	*ePN*	Pn	16 01 28.6	+12
YOA				*i*		16 02 25.3	
YOA				pmax	pmax		
	comp=Z,47nm,0.5s						
YOA				smax			
	comp=E,299nm,1.3s						
KPC	**Khapcheranga**	**4.42**	**133**	*ePN*	Pn	16 01 19.6	0.0
KPC				*e*		16 01 32.0	
KPC				*e*		16 02 30.8	
KPC				pmax	pmax		
	comp=Z,31nm,0.5s						
KPC				smax			
	comp=N,131nm,0.8s						
KPC	**Khapcheranga**	**4.42**	**133**	*ePn*	Pn	16 01 19.4	-0.2
KPC				*ePg*	Pg	16 01 31.6	-6.2
KPC				*eSn*	Sn	16 02 11.2	+0.4
KPC				*eSg*	Sg	16 02 29.1	-5.9
KPC				Pmax			
	comp=N,31nm,0.5s						
KPC				Smax			
	comp=N,132nm,1.1s						
ORL	**Orlik**	**4.60**	**270**	*ePN*	Pn	16 01 24.0	+1.9
ORL				*e*		16 01 36.5	
ORL				*eS*	Sn	16 02 16.6	+1.3
ORL				*e*		16 02 35.5	
ORL				pmax	pmax		
	comp=Z,17nm,0.5s						
ORL				smax			
	comp=N,214nm,0.6s						
ORL	**Orlik**	**4.60**	**270**	*e*	Pn	16 01 20.5	-1.6
ORL				*ePn*	Pn	16 01 24.0	+1.9
ORL				*ePg*	Pg	16 01 34.9	-6.4
ORL				*eSg*	Sg	16 02 35.5	-5.4
ORL				Pmax			
	comp=N,10.0nm,0.5s						
ORL				Smax			
	comp=N,212nm,0.6s						
ULN	**Ulaanbaatar**	**4.95**	**182**	*ePg*	Pg	16

TUP	**Tupik**	**7.67**	**73**	*e*Sg	Sn	16 04 10.5 +40
TUP				Smax		
	comp=N,87nm,1.0s					

WEL 14 16:22:56.2±0.1,3923S×17508E,h130km±1km,ML3.6/16, Error ellipse: s-maj=1.2km s-min=1.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.21**	**106**	PN	Pn	16 23 13.9	-0.2
PKVZ				SN	Sn	16 23 27.3	-0.3
VRZ	**Vera Road**	**0.27**	**293**	PN	Pn	16 23 13.9	-0.4
VRZ				SN	Sn	16 23 27.8	-0.1
TWVZ	**Taurewa**	**0.32**	**60**	PN	Pn	16 23 14.2	-0.2
TWVZ				SN	Sn	16 23 27.8	-0.4
MTVZ	**Mangateitei**	**0.34**	**117**	PN	Pn	16 23 14.3	-0.2
MTVZ				SN	Sn	16 23 27.9	-0.5
WPVZ	**Whakapapa**	**0.36**	**86**	PN	Pn	16 23 14.5	-0.1
WPVZ				SN	Sn	16 23 28.1	-0.4
FWVZ	**Far West T-bar**	**0.36**	**94**	PN	Pn	16 23 14.6	0.0
FWVZ				SN	Sn	16 23 28.5	0.0
TRVZ	**Turoa**	**0.37**	**101**	PN	Pn	16 23 14.6	0.0
TRVZ				SN	Sn	16 23 28.3	-0.2
DRZ	**Dome Shelter**	**0.38**	**97**	PN	Pn	16 23 14.6	0.0
NGZ	**Ngauruhoe**	**0.41**	**82**	PN	Pn	16 23 14.7	-0.1
WNVZ	**Wahianoa**	**0.41**	**103**	PN	Pn	16 23 14.8	0.0
WNVZ				SN	Sn	16 23 29.0	+0.1
WTVZ	**West Tongariro**	**0.41**	**74**	PN	Pn	16 23 14.7	-0.1
WTVZ				SN	Sn	16 23 28.5	-0.4
TUVZ	**Tukino**	**0.45**	**95**	PN	Pn	16 23 15.1	+0.1
TUVZ				SN	Sn	16 23 29.0	-0.2
KRVZ	**Karewarewa**	**0.46**	**73**	PN	Pn	16 23 15.0	-0.1
KRVZ				SN	Sn	16 23 29.4	+0.1
OTVZ	**Oturere**	**0.46**	**82**	PN	Pn	16 23 15.2	+0.2
WAZ	**Wanganui**	**0.53**	**188**	PN	Pn	16 23 15.4	0.0
RAEZ	**Rainy Point**	**0.54**	**264**	PN	Pn	16 23 15.4	-0.1
KATZ	**Kakaramea**	**0.54**	**62**	PN	Pn	16 23 15.4	-0.2
MOVZ	**Moawhango**	**0.55**	**109**	PN	Pn	16 23 15.1	-0.4
RATZ	**Rangitukua**	**0.65**	**56**	PN	Pn	16 23 16.0	-0.2
WATZ	**Wairara**	**0.73**	**44**	PN	Pn	16 23 16.9	+0.1
NEZ	**North Egmont**	**0.77**	**267**	PN	Pn	16 23 17.1	0.0
TSZ	**Takapari Road**	**1.07**	**141**	PN	Pn	16 23 19.6	-0.1

*IDC **14** 16:30:10.1±0.6,4748N×15524E,h0km,mb4.3/23, mb1 4.5/24,mb1mx4.4/29,mbtmp4.3/24,ML4.0/1,MS3.2/2, Ms1 3.2/2,ms1mx2.8/30,Error ellipse: s-maj=16.8km s-min=13.6km az=147.0*

*BJI **14** 16:30:10.2,4771N×15531E,h14km,mB4.6,mb4.6,Ms4.3, Msz4.0*

*ISCJB **14** 16:30:11.1±0.4,4749N±006×15527E±007,h19km, mb4.5/59,MS3.8/6,Error ellipse: s-maj=10.0km s-min=5.2km az=125.7*

*NEIC **14** 16:30:11.7±0.4,4756N×15522E,h10km,mb4.7/18,Error ellipse: s-maj=11.0km s-min=7.6km az=158.0*

*MOS **14** 16:30:15.1±1.6,4746N×15504E,h52km,mb4.7/32,Error ellipse: s-maj=9.9km s-min=7.8km az=96.5*

ISC 14 16:30:13.4±0.4,4754N±006×15527E±007,h20km, h20km±3.1km:pP-P,n121,σ1§28/127,mb4.5/59,MS3.8/6, 2C-1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.20**	**10**	*e*PN	**Pn**	**16 31 03.7**	**+1.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.62**	**249**	⇑*i*PN	**Pn**	**16 31 33.0**	**-2.7**
KUR				*e*S	**Sn**	**16 32 36.6**	**-3.0**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,170nm,0.7s						
PET	**Petropavlovsk**	**5.91**	**20**	*e*PN	**Pn**	**16 31 37.4**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**7.45**	**245**	*e*PN	**Pn**	**16 32 00.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.54**	**271**	*e*PN	**Pn**	**16 32 19.7**	**+3.9**
YSS				S	**Sn**	**16 33 54.9**	**+3.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.54**	**271**	*e*Pn	**Pn**	**16 32 17.4**	**+1.6**
	comp=E,18nm,0.6s						
ASAJ	**Asahikawa**	**9.49**	**254**	Pn	**Pn**	**16 32 29.2**	**+0.5**
	comp=E,1.7nm,0.3s,baz=82,slow=16,SNR=19						
ASAJ				LR	LR	16 36 22.8	
	comp=E,91nm,19.1s,baz=199,slow=40						
MAJO	**Matsushiro**	**16.73**	**235**	*e*P	**Pn**	**16 34 02.5**	**-4.0**
MAJO				pmax	pmax		
	comp=Z,33nm,1.3s						
MAJO	**Matsushiro**	**16.73**	**235**	*e*P	**Pn**	**16 34 02.5**	**-4.0**
	comp=Z,33nm,1.3s						
MJAR	**Matsushiro Arr**	**16.73**	**235**	Pn	**Pn**	**16 34 02.7**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=32,slow=14,SNR=7.3						
MJAR	**Matsushiro Arr**	**16.73**	**235**	P	**Pn**	**16 34 02.7**	**-3.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**20.50**	**324**	*e*P	**P**	**16 34 48.2**	**-1.8**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
YAK	**Yakutsk**	**20.50**	**324**	*e*P	**P**	**16 34 48.2**	**-1.8**
	comp=Z,16nm,0.7s						
KSRS	**Korea Array**	**22.44**	**253**	P	**P**	**16 35 11.3**	**+0.5**
	comp=Z,8.5nm,1.0s,mb4.1,baz=54,slow=9.9,SNR=13						
INCN	**Inchon**	**23.26**	**255**	P	**P**	**16 35 20.0**	**+0.5**
	comp=Z,27nm,1.1s,mb4.6						
BOD	**Bodaibo**	**26.64**	**308**	*e*P	**P**	**16 35 47.2**	**-3.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb3.6						
TIXI	**Tiksi**	**27.15**	**342**	*e*P	**P**	**16 35 54.5**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,83nm,13.0s,MS3.5						
HHC	**Hu-ho-hao-te**	**31.71**	**274**	*e*P	**P**	**16 36 35.5**	**-0.1**
HHC				AP	pP	16 36 39.9	-1.9
HHC				XP	sP	16 36 42.5	-1.8
HHC				PP	PP	16 37 38.4	-8.9
HHC				PCP	PcP	16 39 30.5	+3.5
HHC				S	**S**	**16 41 45.4**	**+1.3**
HHC				SCP	ScP	16 43 11.8	+2.7
HHC				PCS	PcS	16 43 13.0	+1.5
HHC				SCS	ScS	16 47 07.3	+0.1
HHC				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,151nm,5.9s						
HHC				LR	LR		
	comp=N,238nm,16.7s,MS4.2						
HHC				LR	LR		
	comp=E,326nm,17.8s,MS4.2						
HHC				LR	LR		
	comp=Z,247nm,19.0s,MS3.9						
ULN	**Ulaanbaatar**	**32.04**	**289**	P	**P**	**16 36 37.3**	**-1.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**32.04**	**289**	P	**P**	**16 36 37.3**	**-1.1**
	comp=Z,2.7nm,0.9s,mb4.1						
SONM	**Songino Array**	**32.47**	**289**	P	**P**	**16 36 41.2**	**-1.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=77,slow=9.0,SNR=9.0						
SONM				PcP	PcP	16 39 28.5	-0.6
	comp=Z,0.7nm,0.9s,baz=3.5,slow=4.9,SNR=3.7						
SONM				LR	LR	16 51 02.0	
	comp=Z,47nm,18.1s,MS3.2,baz=68,slow=39						
SONM	**Songino Array**	**32.47**	**289**	P	**P**	**16 36 41.2**	**-1.1**
SONM						16 39 28.5	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,47nm,18.1s						
TLY	**Talaya**	**33.14**	**297**	*e*P	**P**	**16 36 47.9**	**-0.2**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
TLY	**Talaya**	**33.14**	**297**	*e*P	**P**	**16 36 47.9**	**-0.3**
	comp=Z,9.8nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**33.69**	**295**	*e*P	**P**	**16 36 49.7**	**-3.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s,mb3.9						
SML	**Sawmill**	**34.38**	**44**	*e*P	**P**	**16 36 58.4**	**-0.5**
COLA	**College**	**34.60**	**39**	*e*P	**P**	**16 37 00.1**	**-0.7**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
COLA	**College**	**34.60**	**39**	*e*P	**P**	**16 37 00.1**	**-0.7**
	comp=Z,6.7nm,0.9s,mb4.6						
INK	**Inuvik**	**40.19**	**33**	P	**P**	**16 37 49.0**	**+0.8**
	comp=Z,1.7nm,0.5s,mb4.0,baz=289,slow=7.3,SNR=12						
INK	**Inuvik**	**40.19**	**33**	P	**P**	**16 37 49.0**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**40.19**	**33**	*e*P	**P**	**16 37 48.9**	**+0.7**
	comp=Z,64nm,0.6s,mb5.5						
CD2	**Chengdu**	**42.41**	**266**	*e*P	**P**	**16 38 05.4**	**-1.0**
CD2				AP	pP	16 38 09.8	-3.0
CD2				XP	sP	16 38 12.5	-2.8
CD2				PP	PP	16 39 46.9	+2.1
CD2				S	**S**	**16 44 25.3**	**-1.6**
CD2				SS	SS	16 47 27.3	-8.8
CD2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=E,140nm,9.6s						
CD2				LR	LR		
	comp=Z,140nm,10.8s,MS4.1						
GYA	**Guiyang**	**43.32**	**259**	P	**P**	**16 38 14.9**	**+1.1**
GYA				AP	pP	16 38 18.9	-1.3
GYA				XP	sP	16 38 21.8	-0.9
GYA				PP	PP	16 39 57.8	+3.2
GYA				PCP	PcP	16 40 04.8	+2.4
GYA				SCP	ScP	16 43 54.8	+2.2
GYA				S	**S**	**16 44 41.6**	**+1.4**
GYA				SCS	ScS	16 48 13.1	+0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,350nm,15.7s,MS4.5						
GYA				LR	LR		
	comp=E,340nm,15.8s,MS4.5						
GYA				LR	LR		
	comp=Z,380nm,16.0s,MS4.4						
ZAL	**Zalesovo**	**43.36**	**306**	P	**P**	**16 38 12.8**	**-1.4**
	comp=Z,1.5nm,0.4s,mb4.1,baz=28,slow=4.8,SNR=6.4						
ZAL	**Zalesovo**	**43.36**	**306**	P	**P**	**16 38 12.8**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WMQ	**Urumqi**	**46.01**	**292**	*e*P	**P**	**16 38 36.3**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,118nm,4.0s						
WMQ				LR	LR		
	comp=N,38nm,17.0s,MS3.5						
WMQ				LR	LR		
	comp=E,36nm,18.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,39nm,17.0s,MS3.4						
KMI	**Kunming**	**46.83**	**261**	P	**P**	**16 38 41.9**	**+0.2**
KMI				AP	pP	16 38 48.4	+0.3
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**47.89**	**298**	P	**P**	**16 38 49.1**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.2,baz=70,slow=7.7,SNR=19						
MKAR	**Makanchi Array**	**47.89**	**298**	P	**P**	**16 38 49.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**48.15**	**304**	*e*P	**P**	**16 38 51.0**	**-1.0**
KURK				*e*		16 39 03.6	
KURK				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
KURK	**Kurchatov**	**48.15**	**304**	*e*P	**P**	**16 38 51.0**	**-1.0**
	comp=Z,11nm,0.7s,mb5.0						
KURK				*e*		16 39 03.5	
YKA	**Yellowknife Ar**	**49.41**	**38**	P	**P**	**16 39 02.0**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=296,slow=7.4,SNR=16						
YKA	**Yellowknife Ar**	**49.41**	**38**	P	**P**	**16 39 02.0**	**+0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RES	**Resolute Bay**	**49.62**	**19**	*e*P	**P**	**16 39 03.2**	**0.0**
RES				pmax	pmax		
	comp=Z,98nm,1.0s						
RES	**Resolute Bay**	**49.62**	**19**	*e*P	**P**	**16 39 03.2**	**-0.1**
	comp=Z,98nm,1.0s						
CHKZ	**Chkalovo**	**51.05**	**310**	*e*P	**P**	**16 39 12.7**	**-1.4**
CHKZ				*e*		16 39 25.4	
CHKZ				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.2						
CHKZ	**Chkalovo**	**51.05**	**310**	*e*P	**P**	**16 39 12.7**	**-1.4**
	comp=Z,16nm,0.5s,mb5.2						
CHKZ				*e*		16 39 25.4	
BVA0	**Borovoye Array**	**51.49**	**310**	*i*P	**P**	**16 39 16.8**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**51.49**	**310**	P	**P**	**16 39 17.1**	**-0.3**
	comp=Z,5.3nm,0.4s,mb4.8,baz=56,slow=7.2,SNR=29						
BVAR	**Borovoye Array**	**51.49**	**310**	P	**P**	**16 39 17.1**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**16 39 15.4**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
BRVK	**Borovoye**	**51.53**	**310**	*e*P	**P**	**16 39 15.4**	**-2.3**
	comp=Z,9.1nm,0.6s,mb4.9						
LSA	**Lhasa**	**51.70**	**274**	P	**P**	**16 39 21.4**	**+2.5**
LSA	**Lhasa**	**51.70**	**274**	*e*P	**P**	**16 39 20.9**	**+2.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**51.70**	**274**	*e*P	**P**	**16 39 20.9**	**+2.0**
	comp=Z,5.9nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**54.80**	**297**	⇓*e*P	**P**	**16 39 41.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**54.80**	**297**	*e*P	**P**	**16 39 39.9**	**-1.8**
	comp=Z,2.7nm,0.6s,mb4.5						
ARU	**Arti**	**55.42**	**318**	⇑*i*P	**P**	**16 39 47.5**	**+1.3**
ARU				*e*		16 41 49.6	
ARU				*e*S	**S**	**16 47 32.3**	**+2.4**
ARU				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
JIRN	**Jiri**	**56.35**	**276**	*e*P	**P**	**16 39 54.5**	**+1.6**
	comp=Z,2.2nm,0.2s,mb4.8						
GUN	**Gumba**	**56.39**	**276**	*e*P	**P**	**16 39 54.8**	**+1.6**
	comp=Z,14nm,0.6s,mb5.2						
KKN	**Kakani**	**56.88**	**276**	*e*P	**P**	**16 39 57.9**	**+1.3**
	comp=Z,13nm,0.6s,mb5.1						
PKI	**Pulchoki**	**56.93**	**276**	*e*P	**P**	**16 39 57.9**	**+0.9**
	comp=Z,12nm,0.6s,mb5.1						
DMN	**Daman**	**57.11**	**276**	*e*P	**P**	**16 39 59.2**	**+0.9**
	comp=Z,32nm,0.8s,mb5.4						
GKN	**Gorkha**	**57.17**	**277**	*e*P	**P**	**16 39 59.7**	**+1.0**
	comp=Z,20nm,0.6s,mb5.3						
ARCES	**ARCESS Array B**	**57.59**	**341**	P	**P**	**16 40 00.8**	**-0.8**
	comp=Z,2.5nm,0.8s,mb4.3,baz=30,slow=7.4,SNR=3.4						
ARCES	**ARCESS Array B**	**57.59**	**341**	P	**P**	**16 40 00.8**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**57.59**	**341**	P	**P**	**16 40 00.8**	**-0.8**
KOLN	**Koldanda**	**58.02**	**277**	*e*P	**P**	**16 40 05.7**	**+1.0**
	comp=Z,17nm,0.8s,mb5.1						
AB31	**Akbulak array**	**59.05**	**310**	*i*P	**P**	**16 40 11.6**	**-0.2**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AKTK	**Aktyubinsk**	**59.29**	**312**	P	**P**	**16 40 13.6**	**+0.1**
AKTO	**Aktyubinsk**	**59.29**	**312**	P	**P**	**16 40 13.6**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=34,slow=9.9,SNR=7.3						
AKTO	**Aktyubinsk**	**59.29**	**312**	P	**P**	**16 40 13.6**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**60.76**	**64**	P	**P**	**16 40 24.1**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.2,baz=300,slow=8.7,SNR=7.5						
JOF	**Joensuu**	**61.27**	**334**	*e*p	**P**	**16 40 26.0**	**-1.1**
	comp=Z,4.3nm,0.6s,mb4.8						
JOF	**Joensuu**	**61.27**	**334**	*e*P	**P**	**16 40 26.0**	**-1.1**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**63.09**	**55**	P	**P**	**16 40 38.9**	**-0.4**
	comp=Z,0.8nm,0.6s,mb4.0,baz=318,slow=3.9,SNR=4.5						
KAF	**Kangasniemi**	**63.34**	**336**	*e*p	**P**	**16 40 39.9**	**-1.0**
	comp=Z,9.5nm,0.8s,mb5.0,baz=35,slow=6.2						
KAF	**Kangasniemi**	**63.34**	**336**	*e*P	**P**	**16 40 39.9**	**-1.0**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
FINES	**FINESS Array B**	**63.95**	**336**	P	**P**	**16 40 45.1**	**+0.1**
	comp=Z,5.9nm,0.5s,mb4.9,baz=40,slow=7.5,SNR=51						
FINES	**FINESS Array B**	**63.95**	**336**	P	**P**	**16 40 45.1**	**+0.1**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ULM	**Lac du Bonnet**	**64.96**	**42**	P	**P**	**16 40 51.2**	**-0.3**
	comp=Z,1.0nm,0.3s,mb4.4,baz=301,slow=5.7,SNR=4.6						
ULM	**Lac du Bonnet**	**64.96**	**42**	P	**P**	**16 40 51.2**	**-0.3**
PV10	**Paradox Valley**	**66.30**	**59**	*e*P	**P**	**16 41 01.2**	**+0.9**
NB2	**NORSAR Subarra**	**67.95**	**342**	P	**P**	**16 41 08.7**	**-2.0**
	comp=Z,1.8nm,0.6s,mb4.3,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.95**	**342**	P	**P**	**16 41 10.0**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.3,baz=26,slow=6.4,SNR=6.7						
NOA	**NORSAR Array B**	**67.95**	**342**	P	**P**	**16 41 10.0**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**68.22**	**340**	P	**P**	**16 41 10.9**	**-1.5**
	comp=Z,3.4nm,0.6s,mb4.6,baz=98,slow=7.8,SNR=14						
HFS	**Hagfors**	**68.22**	**340**	P	**P**	**16 41 10.9**	**-1.5**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**69.75**	**201**	P	**P**	**16 41 20.8**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.1,baz=18,slow=6.5,SNR=12						
WRA	**Warramunga Arr**	**69.75**	**201**	P	**P**	**16 41 20.8**	**-1.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**70.55**	**210**	P	**P**	**16 41 26.6**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=101,slow=7.5,SNR=5.5						
KIV	**Kislovodsk**	**71.29**	**315**	*e*P	**P**	**16 41 31.7**	**+0.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
AKASG	**Malin Array Be**	**71.70**	**327**	P	**P**	**16 41 32.6**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.3,baz=33,slow=7.1,SNR=5.0						
AKASG	**Malin Array Be**	**71.70**	**327**	*i*P	**P**	**16 41 32.0**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AMTX	**Amarillo**	**72.97**	**57**	*e*P	**P**	**16 41 40.6**	**-0.8**
	comp=Z,11nm,1.1s,mb4.7						
ASAR	**Alice Springs**	**73.44**	**200**	P	**P**	**16 41 44.0**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=16,slow=5.4,SNR=35						
ASAR	**Alice Springs**	**73.44**	**200**	P	**P**	**16 41 44.0**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.82**	**62**	P	**P**	**16 41 58.7**	**+0.8**
	comp=Z,5.9nm,0.7s,mb4.6,baz=300,slow=4.3,SNR=57						
TXAR	**Lajitas Array**	**75.82**	**62**	P	**P**	**16 41 58.7**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DPC	**Dobruska-Polom**	**76.27**	**334**	*e*P	**P**	**16 42 05.8**	**+5.3**
DPC				*e*pP	pP	16 42 14.3	+7.1
CLL	**Collm**	**76.34**	**337**	*e*(P)	**P**	**16 42 04.0**	**+3.1**
	comp=Z,5.0nm,0.6s,mb4.6						
MORC	**Moravsky Berou**	**76.42**	**333**	P	**P**	**16 42 02.4**	**+1.1**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**76.42**	**333**	P	**P**	**16 42 02.4**	**+1.1**
	comp=Z,3.9nm,0.9s,mb4.3						
MLR	**Muntele Rosu**	**77.25**	**326**	P	**P**	**16 42 07.5**	**+1.4**
	comp=Z,5.8nm,0.6s,mb4.7,baz=171,slow=2.4,SNR=6.4						
MLR	**Muntele Rosu**	**77.25**	**326**	P	**P**	**16 42 07.5**	**+1.4**
MLR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KHC	**Kasperske Hory**	**78.16**	**335**	*e*P	**P**	**16 42 14.8**	**+3.7**
KHC				*e*pP	pP	16 42 26.3	+8.5
GERES	**GERESS Array B**	**78.38**	**335**	P	**P**	**16 42 14.0**	**+1.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=31,slow=5.1,SNR=8.8						
GERES	**GERESS Array B**	**78.38**	**335**	P	**P**	**16 42 14.0**	**+1.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.81**	**318**	P	**P**	**16 42 16.6**	**+1.9**
	comp=Z,2.5nm,0.8s,mb4.2,baz=48,slow=4.4,SNR=9.2						
BRTR	**Keskin Array B**	**78.81**	**318**	P	**P**	**16 42 16.6**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CDF	**Champ du Feu**	**80.47**	**339**	*e*P	**P**	**16 42 27.0**	**+3.3**
	comp=Z,4.1nm,0.6s,mb4.3						
CDF	**Champ du Feu**	**80.47**	**339**	*e*P	**P**	**16 42 27.0**	**+3.3**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CDF	**Champ du Feu**	**80.47**	**339**	*e*P	**P**	**16 42 27.0**	**+3.3**
	comp=Z,2.0nm,0.6s,mb4.2						
GRR	**Gorron**	**82.23**	**344**	*e*P	**P**	**16 42 36.7**	**+3.6**
SMF	**Signal de Mont**	**82.93**	**341**	*e*P	**P**	**16 42 39.9**	**+3.2**
LPG	**La Plagne**	**83.32**	**338**	*e*P	**P**	**16 42 42.9**	**+4.2**
	comp=Z,4.2nm,0.6s,mb4.4						
LPG	**La Plagne**	**83.32**	**338**	*e*P	**P**	**16 42 42.9**	**+4.2**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LPG	**La Plagne**	**83.32**	**338**	*e*P	**P**	**16 42 42.9**	**+4.2**
	comp=Z,2.1nm,0.6s,mb4.3						
CAF	**Calviac**	**84.96**	**341**	*e*P	**P**	**16 42 50.3**	**+3.3**
NWAO	**Narrogin (SRO)**	**87.08**	**211**	P	**P**	**16 42 56.0**	**-1.5**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**87.08**	**211**	P	**P**	**16 42 56.0**	**-1.5**

*ISCJB **14** 17:11:14.3±0.5,3934N±003×2363E±003,h11km±6km, Error ellipse: s-maj=5.6km s-min=4.5km az=169.1*

*CSEM **14** 17:11:14.9±0.1,3932N×2362E,h8km,ML3.0,Error ellipse: s-maj=3.4km s-min=2.9km az=169.0*

*THE **14** 17:11:14.8,3933N×2362E,h6km,ML3.0*

*NEIC **14** 17:11:15.1,3933N×2354E,h7km,MD3.1(ATH),After ATH.*

*ATH **14** 17:11:15.1,3933N×2354E,h7km,MD3.1/5*

ISC 14 17:11:14.7±0.5,3931N±003×2363E±004,h16km±5km,n14, σ0§70/21,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.24**	**126

DAU	**Daniels Canyon**	**5.67 234**	*e*Pn	**Pn**	**17 17 35.3**	**+4.3**
SPUT	**South Promonto**	**5.92 247**	*e*Pn	**Pn**	**17 17 32.7**	**-1.8**
SPUT			*e*Pg	**Pg**	**17 17 51.0**	**-8.1**
HVU	**Hansel Valley**	**5.94 252**	*e*Pg	**Pg**	**17 17 57.2**	**-2.2**
	6.6nm,0.8s					
PV10	**Paradox Valley**	**6.21 209**	Pn	**Pn**	**17 17 38.0**	**-0.5**
SRU	**San Rafael**	**6.21 222**	*e*Pn	**Pn**	**17 17 36.5**	**-2.0**
	7.3nm,0.7s					
SRU			*e*Pg	**Pg**	**17 18 04.1**	**-0.4**
DUG	**Dugway**	**6.75 240**	*e*Pn	**Pn**	**17 17 45.8**	**0.0**
	4.8nm,0.4s					
ULM	**Lac du Bonnet**	**9.01 42**	Pn	**Pn**	**17 18 17.4**	**+0.6**
	0.4nm,0.3s,baz=228,slow=10,SNR=5.0					
ULM			Lg		17 20 44.2	
	0.2nm,0.3s,baz=144,slow=23,SNR=3.2					
ULM	**Lac du Bonnet**	**9.01 42**	Pn	**Pn**	**17 18 17.4**	**+0.6**
ULM			Lg		17 20 44.2	
TXAR	**Lajitas Array**	**14.57 175**	Pn	**Pn**	**17 19 45.8**	**+13**
	0.0nm,0.3s,baz=14,slow=11,SNR=3.5					

ISCJB ***14*** *17:23:03.8±0.3, 4277S±004×14353E±006, h10km, mb4.9/23, MS3.9/14, Error ellipse: s-maj=5.9km s-min=5.5km az=12.3*
IDC ***14*** *17:23:04.0±0.6, 4277S×14347E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.5/15, mbtmp4.4/13, ML5.1/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/23, Error ellipse: s-maj=24.5km s-min=16.0km az=76.0*
BJI ***14*** *17:23:04.5, 4287S×14356E, h18km, mB5.1, mb5.1, Ms5.0, Msz4.6*
NEIC ***14*** *17:23:05.6±0.2, 4279S×14344E, h10km, mb4.8/5, ML4.4(AUST), Error ellipse: s-maj=5.7km s-min=4.7km az=98.0*
AUST ***14*** *17:23:05.7, 4279S×14356E, h27km, ML4.4*
SZGRF ***14*** *17:23:11.3, 39.12S×145.10E, h33km, Bass Strait, Australia*
ISC 14 17:23:05.3±0.3, 4283S±004×14348E±006, h10km, (h16km±4.3km:pP-P), n171, σ0.91/98, mb4.9/23, MS3.9/14, 42C-6D, Tasmania region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**2.83**	**93**	*e*Pn	**Pn**	**17 23 49.1**	**-1.4**
TAU				*e*Sn	**Sn**	**17 24 10.0**	**-15**
TOO	**Toolangi**	**5.47**	**17**	*e*P	**Pn**	**17 24 26.9**	**0.0**
TOO				*e*S	**Sn**	**17 25 24.1**	**-5.8**
	208nm,0.4s						
TOO	**Toolangi**	**5.47**	**17**	*e*P	**Pn**	**17 24 26.9**	**0.0**
	208nm,0.4s						
TOO				*e*S	**Sn**	**17 25 24.1**	**-5.8**
ARPS	**Mount Arapiles**	**6.18**	**348**	*e*P	**Pn**	**17 24 35.0**	**-1.6**
ARPS				*e*S	**Sn**	**17 25 40.7**	**-6.7**
	8.2nm,0.3s						
ARPS	**Mount Arapiles**	**6.18**	**348**	*e*P	**Pn**	**17 24 35.0**	**-1.6**
	8.2nm,0.3s						
ARPS				*e*S	**Sn**	**17 25 40.7**	**-6.7**
MILA	**Mila**	**7.23**	**39**	*e*P	**Pn**	**17 24 51.3**	**+0.3**
MILA				*e*S	**Sn**	**17 26 06.7**	**-6.5**
	265nm,0.4s						
MILA	**Mila**	**7.23**	**39**	*e*P	**Pn**	**17 24 51.3**	**+0.3**
	265nm,0.4s						
MILA				*e*S	**Sn**	**17 26 06.7**	**-6.5**
CNB	**Canberra Magne**	**8.79**	**33**	*e*P	**Pn**	**17 25 13.2**	**+0.8**
CNB				*e*S	**Sn**	**17 26 51.9**	**+0.4**
	17nm,0.7s						
CNB	**Canberra Magne**	**8.79**	**33**	*e*P	**Pn**	**17 25 13.2**	**+0.8**
	17nm,0.7s						
CNB				*e*S	**Sn**	**17 26 51.9**	**+0.4**
YNG	**Young**	**9.35**	**26**	*e*P	**Pn**	**17 25 20.0**	**-0.1**
YNG				*e*S	**Sn**	**17 26 59.2**	**-6.0**
	16nm,0.8s						
YNG	**Young**	**9.35**	**26**	*e*P	**Pn**	**17 25 20.0**	**-0.1**
	16nm,0.8s						
YNG				*e*S	**Sn**	**17 26 59.2**	**-6.0**
STKA	**Stephens Creek**	**11.04**	**352**	*e*P	**Pn**	**17 25 41.8**	**-1.4**
STKA				*e*S	**Sn**	**17 27 39.1**	**-7.6**
	25nm,0.6s						
STKA	**Stephens Creek**	**11.04**	**352**	Pn	**Pn**	**17 25 41.8**	**-1.4**
	7.7nm,0.3s,baz=160,slow=13,SNR=91						
STKA				Sn	**Sn**	**17 27 41.6**	**-5.0**
	4.5nm,0.3s,baz=26,slow=18,SNR=4.4						
STKA				LR	LR	17 30 08.6	
	comp=Z,1μm,18.2s,baz=176,slow=39						
STKA	**Stephens Creek**	**11.04**	**352**	*e*P	**Pn**	**17 25 41.8**	**-1.4**
	25nm,0.6s						
STKA				*e*S	**Sn**	**17 27 39.1**	**-7.6**
CMSA	**Cobar Meteorol**	**11.41**	**10**	*e*P	**Pn**	**17 25 48.6**	**+0.3**
CMSA				*e*S	**Sn**	**17 27 45.4**	**-10**
	63nm,1.4s						
CMSA	**Cobar Meteorol**	**11.41**	**10**	*e*P	**Pn**	**17 25 48.6**	**+0.3**
	63nm,1.4s						
CMSA				*e*S	**Sn**	**17 27 45.4**	**-10**
BBOO	**Buckleboo**	**11.59**	**327**	*e*P	**Pn**	**17 25 49.5**	**-1.3**
BBOO				*e*S	**Sn**	**17 27 54.4**	**-5.8**
	83nm,0.4s						
BBOO	**Buckleboo**	**11.59**	**327**	*e*P	**Pn**	**17 25 49.5**	**-1.3**
	83nm,0.4s						
BBOO				*e*S	**Sn**	**17 27 54.4**	**-5.8**
QLP	**Quilpie**	**16.22**	**2**	*e*P	**Pn**	**17 26 52.7**	**-0.6**
DCZ	**Deep Cove**	**17.18**	**107**	PN	**Pn**	**17 27 04.3**	**-1.2**
FORT	**Forrest**	**17.20**	**309**	*e*P	**Pn**	**17 27 05.0**	**-0.7**
FORT				*e*S	**Sn**	**17 30 05.7**	**-11**
	20nm,0.4s						
FORT	**Forrest**	**17.20**	**309**	*e*P	**Pn**	**17 27 05.0**	**-0.7**
	20nm,0.4s						
FORT				*e*S	**Sn**	**17 30 05.7**	**-11**
WHZ	**Wether Hill Ro**	**17.75**	**108**	PN	**Pn**	**17 27 12.5**	**+0.1**
JCZ	**Jackson Bay**	**18.38**	**103**	P*	**Pn**	**17 27 20.9**	**+0.6**
FOZ	**Fox Glacier**	**19.10**	**101**	P*	**Pn**	**17 27 33.4**	**+4.4**
ODZ	**Otahua Downs**	**19.66**	**106**	P*	**Pn**	**17 27 39.0**	**+3.3**
RPZ	**Rata Peaks**	**20.07**	**102**	P	**P**	**17 27 39.6**	**+0.9**
	48nm,0.9s,baz=231,slow=8.8,SNR=16						
RPZ				LR	LR	17 33 44.8	
	comp=Z,430nm,20.6s,MS3.8,baz=131,slow=32						
ASAR	**Alice Springs**	**20.69**	**334**	P	**P**	**17 27 45.8**	**+0.3**
	19nm,0.9s,baz=168,slow=9.7,SNR=143						
ASAR				S	**S**	**17 31 28.6**	**-8.0**
	13nm,0.8s,baz=160,slow=22,SNR=8.1						
RKGY	**Rocky Gully**	**22.18**	**283**	*e*P	**P**	**17 28 04.1**	**+2.6**
QIS	**Mount Isa**	**22.44**	**350**	*e*P	**P**	**17 28 03.2**	**-1.1**
CTA	**Charters Tower**	**22.79**	**7**	P	**P**	**17 28 08.7**	**+0.7**
	1.2nm,0.4s,baz=45,slow=8.6,SNR=2.4						
CTA				LR	LR	17 37 16.0	
	comp=Z,458nm,18.2s,MS4.0,baz=185,slow=38						
CTAO	**Charters Tower**	**22.79**	**7**	*e*P	**P**	**17 28 05.6**	**-2.5**
	25nm,1.2s,mb4.5						
NWAO	**Narrogin (SRO)**	**22.87**	**287**	P	**P**	**17 28 09.8**	**+1.0**
	9.4nm,0.7s,mb4.3,baz=129,slow=10,SNR=3.8						
NWAO				LR	LR	17 34 42.7	
	comp=Z,342nm,20.9s,MS3.8,baz=244,slow=31						
NWAO	**Narrogin (SRO)**	**22.87**	**287**	*e*P	**P**	**17 28 07.9**	**-0.9**
	59nm,1.4s,mb4.8						
KLBR	**Kellerberrin**	**23.27**	**290**	*e*P	**P**	**17 28 12.9**	**-0.1**
WB2	**Warramunga Arr**	**24.08**	**339**	⇑*i*P	**P**	**17 28 20.4**	**-0.4**
WRA	**Warramunga Arr**	**24.08**	**339**	P	**P**	**17 28 20.5**	**-0.3**
	5.0nm,0.5s,mb4.2,baz=164,slow=7.4,SNR=201						
WRA				PcP	PcP	17 32 01.5	-0.6
	3.5nm,0.7s,baz=175,slow=1.5,SNR=5.8						
WRA				LR	LR	17 38 04.1	
	comp=Z,636nm,18.5s,MS4.1,baz=165,slow=38						
MUN	**Mundaring**	**24.12**	**288**	*e*P	**P**	**17 28 21.2**	**0.0**
URZ	**Urewera**	**25.86**	**91**	LR	LR	17 37 54.4	
	comp=Z,320nm,20.3s,MS3.8,baz=225,slow=34						
MEEK	**Meekatharra**	**25.91**	**301**	*e*P	**P**	**17 28 37.5**	**0.0**
MORW	**Morawa**	**25.98**	**293**	⇑*i*P	**P**	**17 28 38.0**	**-0.1**
MORW				*i* pP	pP	17 28 49.8	+8.7
DZM	**Mont Dzumac**	**28.20**	**50**	LR	LR	17 39 05.1	
	comp=Z,248nm,18.2s,MS3.8,baz=286,slow=34						
FITZ	**Fitzroy Crossi**	**28.93**	**323**	*e*P	**P**	**17 29 04.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.93**	**323**	P	**P**	**17 29 04.2**	**-0.4**
	2.4nm,0.8s,mb4.0,baz=133,slow=11,SNR=6.7						
FITZ				LR	LR	17 41 09.1	
	comp=Z,277nm,18.3s,MS3.9,baz=133,slow=38						
CASY	**Casey**	**29.63**	**206**	*e*P	**P**	**17 29 10.2**	**-0.6**
	13nm,0.8s,mb4.7						
KAKA	**Kakadu**	**31.50**	**339**	*e*P	**P**	**17 29 26.6**	**-0.7**
KAKA				*e*pP	pP	17 29 39.5	+9.2
VNDA	**Vanda**	**35.61**	**173**	P	**P**	**17 30 03.4**	**+0.3**
	2.9nm,0.8s,mb4.3,baz=334,slow=8.7,SNR=9.4						
VNDA				LR	LR	17 42 13.2	
	comp=Z,84nm,19.4s,MS3.5,baz=343,slow=32						
VNDA	**Vanda**	**35.61**	**173**	P	**P**	**17 30 03.4**	**+0.3**
VNDA				LR	LR	17 42 13.2	
HNR	**Honiara**	**36.26**	**28**	LR	LR	17 42 59.0	
	comp=Z,80nm,19.7s,MS3.5,baz=359,slow=33						
MAW	**Mawson**	**47.80**	**211**	*e*P	**P**	**17 31 41.7**	**-1.2**
MAW	**Mawson**	**47.80**	**211**	P	**P**	**17 31 42.9**	**+0.1**
	4.8nm,1.0s,mb4.5,baz=108,slow=10,SNR=9.7						
MAW				LR	LR	17 49 14.3	
	comp=Z,140nm,18.6s,MS4.0,baz=68,slow=33						
SYO	**Syowa Base**	**55.37**	**205**	⇓*e*P	**P**	**17 32 38.0**	**-1.5**
SYO	**Syowa Base**	**55.37**	**205**	⇓*e*sP	sP	17 32 49.0	+5.1
SYO	**Syowa Base**	**55.37**	**205**	⇓*e*PcP	PcP	17 33 33.2	-6.7
PSI	**Prapat**	**60.61**	**306**	LR	LR	17 58 05.8	
	comp=Z,86nm,19.0s,MS3.9,baz=120,slow=35						
PPT	**Papeete**	**61.45**	**88**	*e*LR	LR	17 51 11.7	
	190nm,21.2s						
KULM	**Kulim**	**61.63**	**310**	*e*P	**P**	**17 33 22.9**	**-0.3**
SNAA	**Sanae**	**63.33**	**191**	⇑*i*	**P**	**17 33 33.4**	**-1.1**
SNAA				*e*	pP	17 33 34.7	-3.0
SNAA				*e*		17 33 38.9	
SNAA				*e*		17 33 45.5	
SNAA				*e*		17 33 51.1	
SNAA	**Sanae**	**63.33**	**191**	*e*P	**P**	**17 33 33.2**	**-1.3**
	17nm,1.3s,mb5.0						
SNAA				*e*		17 33 44.9	
VNA3	**Neumayer Olymp**	**64.62**	**189**	⇑*i*	**P**	**17 33 41.9**	**-1.1**
VNA3				*e*	pP	17 33 44.0	-2.2
VNA3				*e*		17 33 55.2	
VNA3				*e*		17 34 01.2	
VNA3				*e*		17 34 19.3	
VNA2	**Neumayer--Watz**	**64.63**	**190**	⇑*i*	**P**	**17 33 42.1**	**-1.0**
	baz=167,slow=5.9						
VNA2				*e*	pP	17 33 43.8	-2.5
VNA2				*e*		17 33 48.1	
VNA2				*e*		17 33 56.5	
VNA2				*e*		17 34 02.5	
VNA2				*e*		17 34 19.7	
VNA1	**Neumayer--Stat**	**65.00**	**190**	⇑*i*	**P**	**17 33 45.1**	**-0.4**
VNA1				*e*	pP	17 33 46.8	-1.9
VNA1				*e*		17 33 51.3	
VNA1				*e*		17 33 58.2	
VNA1				*e*		17 34 04.1	
NANT	**Nan**	**72.87**	**318**	⇓P	**P**	**17 34 34.0**	**-0.4**
	75nm,1.0s,mb5.6						
CHG	**Chiang Mai**	**73.76**	**316**	P	**P**	**17 34 40.9**	**+1.2**
TAOE	**Nuku Hiva Isla**	**74.05**	**87**	*e*LR	LR	17 57 04.6	
	561nm,23.6s						
JHJ	**Hachijo jima 2**	**75.66**	**357**	LR	LR	18 09 35.5	
	comp=Z,48nm,21.0s,MS3.8,baz=111,slow=37						
GYA	**Guiyang**	**76.83**	**327**	⇑*i*P	**P**	**17 34 56.9**	**-0.5**
GYA				AP	pP	17 35 06.9	+6.3
GYA				PCP	PcP	17 35 09.6	+1.1
GYA				PP	PP	17 37 53.3	+3.2
GYA				S	S	17 44 43.9	-1.0
GYA				SKS		17 45 03.4	
GYA				SCS	ScS	17 45 10.3	-3.7
GYA				SS	SS	17 49 44.0	+3.0
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,430nm,19.8s,MS4.9						
GYA				LR	LR		
	comp=E,410nm,18.7s,MS4.9						
GYA				LR	LR		
	comp=Z,480nm,19.0s,MS4.8						
KMI	**Kunming**	**77.33**	**323**	P	**P**	**17 35 02.3**	**+2.1**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**79.14**	**356**	P	**P**	**17 35 10.1**	**-0.1**
	comp=Z,3.3nm,0.9s,mb4.3,baz=177,slow=6.7,SNR=6.5						
KSRS	**Korea Array**	**81.15**	**348**	P	**P**	**17 35 21.1**	**+0.1**
	comp=Z,3.6nm,1.0s,mb4.3,baz=156,slow=5.4,SNR=8.9						
XAN	**Xi'an**	**82.78**	**332**	P	**P**	**17 35 29.8**	**+0.2**
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.1						
HYB	**Hyderabad**	**84.48**	**300**	*i* P	**P**	**17 35 39.0**	**+0.7**
HYB	**Hyderabad**	**84.48**	**300**	*e*P	**P**	**17 35 39.0**	**+0.7**
LZH	**Lanzhou**	**86.46**	**329**	*e*P	**P**	**17 35 49.5**	**+1.3**
LZH				AP	pP	17 35 57.0	+5.5
LZH				XP	sP	17 36 00.0	+7.3
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.1						
LSA	**Lhasa**	**86.72**	**316**	P	**P**	**17 35 51.1**	**+1.7**
CN2	**Changchun**	**87.75**	**347**	*e*P	**P**	**17 35 54.5**	**+0.1**
PKI	**Pulchoki**	**88.08**	**311**	⇑*i*P	**P**	**17 35 56.6**	**+0.6**
	comp=Z,44nm,0.6s,mb5.8						
GUN	**Gumba**	**88.08**	**312**	⇑*i*P	**P**	**17 35 56.9**	**+0.9**
	comp=Z,59nm,0.7s,mb5.9						
HHC	**Hu-ho-hao-te**	**88.14**	**336**	*e*P	**P**	**17 35 57.3**	**+1.0**
HHC				AP	pP	17 36 05.3	+5.6
HHC				XP	sP	17 36 08.3	+7.4
HHC				PP	PP	17 39 27.8	+4.7
HHC				SKS		17 46 22.5	
HHC				S	S	17 46 42.8	+2.2
HHC				XS	sS	17 46 54.1	+8.0
HHC				PS		17 47 47.8	
HHC				SS	SS	17 52 34.3	+5.3
HHC				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.7						
HHC				AMB	AMB		
	comp=Z,107nm,6.2s						
HHC				LR	LR		
	comp=N,179nm,23.8s,MS4.6						
HHC				LR	LR		
	comp=E,175nm,20.2s,MS4.6						
HHC				LR	LR		
	comp=Z,87nm,20.2s,MS4.2						
DMN	**Daman**	**88.28**	**311**	⇑*i*P	**P**	**17 35 57.8**	**+0.9**
	comp=Z,68nm,0.7s,mb6.0						
KKN	**Kakani**	**88.32**	**311**	⇑*i*P	**P**	**17 35 57.9**	**+0.7**
	comp=Z,80nm,0.8s,mb6.0						
GKN	**Gorkha**	**88.84**	**311**	⇑*i*P	**P**	**17 35 59.9**	**+0.3**
	comp=Z,76nm,0.7s						
BOSA	**Boshof**	**89.03**	**231**	P	**P**	**17 36 01.4**	**+0.8**
	comp=Z,3.2nm,0.8s,mb4.7,baz=190,slow=6.1,SNR=3.2						
KOLN	**Koldanda**	**89.24**	**310**	⇑*i*P	**P**	**17 36 01.7**	**+0.2**
	comp=Z,95nm,0.8s						
GTA	**Gaotai**	**90.92**	**328**	*e*P	**P**	**17 36 10.3**	**+1.0**
GTA				AP	pP	17 36 14.6	+1.9
GTA				XP	sP	17 36 17.6	+3.7
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.2						
SONM	**Songino Array**	**96.03**	**336**	P	**P**	**17 36 32.4**	**-0.4**
	comp=Z,0.8nm,0.8s,mb4.2,baz=163,slow=5.6,SNR=4.2						
WMQ	**Urumqi**	**99.67**	**323**	*e*P	Pdif	17 36 47.5	-1.7
MKAR	**Makanchi Array**	**104.39**	**322**	Pdiff	Pdif	17 37 08.8	-1.5
	comp=Z,0.3nm,0.6s,baz=142,slow=4.9,SNR=3.3						
BVAR	**Borovoye Array**	**114.24**	**321**	PKP	PKiKP	17 41 43.7	-1.3
	comp=Z,0.6nm,0.5s,baz=132,slow=2.1,SNR=6.7						
NVAR	**Mina Array Bea**	**120.12**	**64**	PKP	PKPdf	17 41 56.9	+0.6
	comp=Z,0.8nm,0.9s,baz=188,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**120.12**	**64**	PKP	PKPdf	17 41 56.9	+0.5
TXAR	**Lajitas Array**	**125.42**	**81**	PKP	PKPdf	17 42 06.9	+0.4
	comp=Z,1.2nm,0.8s,baz=211,slow=4.4,SNR=11						
INK	**Inuvik**	**126.55**	**27**	PKP	PKPdf	17 42 07.0	-1.7
	comp=Z,1.7nm,0.6s,baz=247,slow=2.5,SNR=9.1						
INK	**Inuvik**	**126.55**	**27**	PKP	PKPdf	17 42 07.0	-1.7
PDAR	**Pinedale Array**	**128.05**	**63**	PKP	PKPdf	17 42 11.6	+0.1
	comp=Z,0.3nm,0.6s,baz=158,slow=1.0,SNR=2.7						
BRTR	**Keskin Array B**	**128.59**	**292**	PKP	PKPdf	17 42 12.1	-0.5
	comp=Z,1.1nm,0.8s,baz=169,slow=4.9,SNR=5.2						
YKA	**Yellowknife Ar**	**132.10**	**38**	PKP	PKPdf	17 42 17.7	-1.6
	comp=Z,1.6nm,0.8s,baz=261,slow=1.7,SNR=21						
YKA	**Yellowknife Ar**	**132.10**	**38**	PKP	PKPdf	17 42 17.7	-1.6
AKASG	**Malin Array Be**	**135.64**	**304**	PKP	PKPdf	17 42 25.7	-0.2
	comp=Z,0.5nm,0.3s,baz=77,slow=2.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**135.73**	**240**	PKP	PKPdf	17 42 26.3	+0.2
	comp=Z,2.2nm,0.6s,baz=119,slow=0.8,SNR=11						
TORD	**Torodi Ar. Bea**	**135.73**	**240**	PKP	PKPdf	17 42 26.3	+0.2
ARCES	**ARCESS Array B**	**139.06**	**332**	PKhKP		17 42 19.6	
	comp=Z,2.0nm,0.8s,baz=108,slow=1.4,SNR=4.8						
ARCES				PKP	PKPdf	17 42 29.7	-2.5
	comp=Z,2.5nm,0.7s,baz=97,slow=3.7,SNR=6.5						
FINES	**FINESS Array B**	**139.18**	**319**	PKhKP		17 42 22.9	
	comp=Z,3.6nm,1.0s,baz=124,slow=6.9,SNR=2.9						
FINES				PKP	PKPdf	17 42 30.3	-2.1
	comp=Z,4.1nm,0.7s,baz=105,slow=3.2,SNR=11						
VYHS	**Vyhne**	**141.62**	**298**	*e*PKP	PKPdf	17 42 31.8	-5.0
DPC	**Dobruska-Polom**	**143.59**	**301**	*e*PKP	PKPdf	17 42 38.0	-2.3
KEST	**Kesra**	**144.15**	**274**	PKP	PKPdf	17 42 40.5	-0.8
	comp=Z,6.7nm,0.8s,baz=217,slow=0.6,SNR=16						
MOA	**Molln**	**144.48**	**296**	⇑*i*P	PKPdf	17 42 39.9	-2.0
	comp=Z,7.3nm,0.9s						
PRU	**Pruhonice**	**144.66**	**300**	⇑*i*PKP	PKPdf	17 42 40.5	-1.7
KBA	**Koelnbreinsper**	**144.94**	**295**	⇓*i*P	PKPdf	17 42 40.6	-2.1
	comp=Z,11nm,0.8s						
GEC2	**GERESS Array S**	**145.03**	**298**	*e*PKPbc	PKPbc	17 42 41.5	-0.7
GERES	**GERESS Array B**	**145.03**	**298**	PKPbc	PKPbc	17 42 41.6	-0.6
	comp=Z,31nm,0.7s,baz=114,slow=3.1,SNR=196						
DAG	**Danmarks Havn**	**145.12**	**353**	⇓*i*P	PKPbc	17 42 40.5	-2.0
	comp=Z,20nm,0.7s						
KHC	**Kasperske Hory**	**145.15**	**298**	⇑*i*PKP	PKPdf	17 42 41.0	-2.1
BRG	**Berggiesshubel**	**145.16**	**301**	*e*PKPbc	PKPbc	17 42 42.1	-0.5
BRG	**Berggiesshubel**	**145.16**	**301**	*i* P	PKPbc	17 42 42.2	-0.5
	comp=Z,36nm,1.6s						
ABTA	**Abfaltersbach**	**145.43**	**294**	⇑*i*PKPbc	PKPbc	17 42 42.5	-1.0
	comp=Z,15nm,0.9s						
WET	**Wettzell**	**145.61**	**298**	*e*PKPbc	PKPbc	17 42 43.4	-0.7
CLL	**Collm**	**145.79**	**302**	*e*PKPbc	PKPbc	17 42 43.8	-0.8
CLL	**Collm**	**145.79**	**302**	*i* PKPbc	PKPbc	17 42 43.3	-1.3
	comp=Z,32nm,1.3s						
CLL				*e*pPKPbc	pPKPbc	17 42 50.0	+2.0
NKC	**Novy Kostel**	**146.03**	**300**	⇑*e*PKP	PKPdf	17 42 42.9	-1.7
WTTA	**Wattenberg**	**146.12**	**294**	⇑*i*P	PKPdf	17 42 45.0	+0.3
	comp=Z,54nm,1.3s						
ROTZ	**Rotzenmuhle**	**146.13**	**299**	*e*PKPbc	PKPbc	17 42 45.4	-0.3
WATA	**Walderalm**	**146.17**	**295**	⇑*i*P	PKPdf	17 42 45.0	+0.2
	comp=Z,19nm,1.0s						
NB2	**NORSAR Subarra**	**146.36**	**319**	PKPdf	PKPdf	17 42 44.5	-0.6
	comp=Z,3.4nm,0.8s,baz=54,slow=1.2						
NOA	**NORSAR Array B**	**146.36**	**319**	PKPbc	PKPbc	17 42 44.5	-1.8
	comp=Z,4.3nm,0.8s,baz=253,slow=2.9,SNR=9.3						
SQTA	**Sankt Quirin**	**146.40**	**294**	⇑*i*P	PKPdf	17 42 45.9	+0.8
	comp=Z,13nm,0.7s						
MOTA	**Moosalm**	**146.49**	**294**	⇑*i*P	PKPdf	17 42 46.0	+0.7
	comp=Z,19nm,0.9s						
MOX	**Moxa**	**146.60**	**301**	*e*PKPbc	PKPbc	17 42 46.4	-0.7
FETA	**Feichten**	**146.68**	**294**	⇑*i*PKPbc	PKPbc	17 42 47.0	-0.3
	comp=Z,27nm,1.0s						
RETA	**Reutte**	**146.74**	**295**	⇑*i*PKPbc	PKPbc	17 42 46.8	-0.7
	comp=Z,20nm,0.8s						
GRA1	**Grafenberg Arr**	**146.76**	**299**	*e*PKPbc	PKPbc	17 42 47.2	-0.3
GRF	**Grafenberg Arr**	**146.76**	**299**	*e*PKPbc	PKPbc	17 42 47.2	-0.3
GRFO	**Grafenberg**	**146.76**	**299**	*e*PKPbc	PKPbc	17 42 46.8	-0.7
PGF	**Pioggiola**	**146.85**	**285**	⇑*i*PKP1	PKPbc	17 42 47.1	-0.7
	comp=Z,38nm,0.8s						
DAVA	**Damuels**	**147.30**	**294**	⇑*i*P	PKPbc	17 42 48.6	-0.4
	comp=Z,29nm,0.9s						
CLZ	**Clausthal**	**147.47**	**303**	*e*PKPbc	PKPbc	17 42 49.1	-0.4
BSEG	**Bad Segeberg**	**147.54**	**307**	*e*PKPbc	PKPbc	17 42 49.2	-0.5
SBF	**Sospel**	**148.29**	**287**	⇑*i*PKP1	PKPbc	17 42 51.0	-0.7
	comp=Z,105nm,0.9s						
BFO	**Black Forest**	**148.49**	**296**	*e*PKPbc	PKPab	17 42 54.6	-1.0
FRF	**La Foret Royal**	**148.78**	**286**	⇑*i*PKP1	PKPbc	17 42 52.5	-0.5
MBDF	**Montbardon**	**148.95**	**289**	*e*PKP1	PKPbc	17 42 53.4	0.0
	comp=Z,21nm,0.9s						
LPG	**La Plagne**	**149.12**	**290**	⇑*i*PKP1	PKPbc	17 42 53.4	-0.4
	comp=Z,43nm,0.9s						
LPL	**La Plagne**	**149.13**	**290**	⇑*i*PKP1	PKPbc	17 42 53.3	-0.6
	comp=Z,47nm,0.8s						
HINF	**Hinteralfeld**	**149.41**	**295**	*e*PKP1	PKPbc	17 42 53.7	-0.9
ORIF	**Oris-en-Rattie**	**149.61**	**289**	⇑*i*PKP1	PKPbc	17 42 54.4	-0.7
	comp=Z,55nm,1.0s						
SMRF	**Simiane la Rot**	**149.63**	**287**	⇑*i*PKP1	PKPbc	17 42 55.0	-0.1
CABF	**La Chapelle**	**149.76**	**292**	*e*PKP1	PKPbc	17 42 54.8	-0.6
HAU	**Haudompre**	**149.76**	**295**	*e*PKP1	PKPbc	17 42 54.2	-1.2
MEM	**Membach**	**150.17**	**300**	PKPbc	PKPbc	17 42 56.4	0.0
MVL	**Millersville**	**150.19**	**82**	*e*PKPbc	PKPdf	17 42 51.7	+0.3
VIVF	**Saint-Julien-l**	**150

FINES FINESS Array B 90.85 335 P P 17 51 30.0 +0.4
1.9nm,0.9s,baz=132,slow=8.2,SNR=3.4

*ISCJB **14** 17:50:33.4±1.8,46.26N±0.08×154.49E±0.07,h6km±11km, mb4.4/48,MS3.5/7,Error ellipse: s-maj=14.3km s-min=6.0km az=132.1*
*NEIC **14** 17:50:35.3±0.4,46.22N×154.40E,h10km,mb4.6/16,Error ellipse: s-maj=10.2km s-min=6.1km az=159.0*
*BJI **14** 17:50:37.5,46.34N×154.05E,h7km,mB4.7,mb4.3,Ms4.3, Ms3.8*
*IDC **14** 17:50:38.8±6.2,46.16N×154.44E,h33km±47km,mb3.9/19, mb1 4.1/21,mb1mx4.1/26,mbtmp3.9/21,ML3.8/2,MS3.2/5, Ms1 3.3/5,ms1mx3.0/35,Error ellipse: s-maj=18.7km s-min=13.7km az=149.0*
*MOS **14** 17:50:38.8±1.1,46.22N×154.27E,h49km,mb4.5/22,Error ellipse: s-maj=10.6km s-min=8.6km az=94.6*
ISC 14 17:50:37.7±1.8,4631N±008×15447E±007,h22km±12km, h12km±2.5km:pP-P,n107,σ1§11/107,mb4.4/48,MS3.5/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.51**	**13**	*e*PN	**Pn**	**17 51 47.0**	**+2.4**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR	**Kuril'sk**	**4.75**	**259**	*e*PN	**Pn**	**17 51 44.0**	**-3.9**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.50**	**253**	*e*PN	**Pn**	**17 52 11.5**	**-0.5**
PET	**Petropavlovsk**	**7.25**	**20**	*e*PN	**Pn**	**17 52 22.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**8.09**	**279**	*e*PN	**Pn**	**17 52 35.4**	**+1.5**
YSS				pmax	pmax		
	comp=Z,37nm,1.1s						
YSS	**Yuzh-Sakhalins**	**8.09**	**279**	*e*P	**Pn**	**17 52 35.4**	**+1.6**
	comp=Z,37nm,1.1s						
ASAJ	**Asahikawa**	**8.67**	**260**	Pn	**Pn**	**17 52 41.1**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=101,slow=12,SNR=14						
ASAJ				LR	LR	17 56 56.4	
	comp=Z,54nm,18.1s,baz=112,slow=44						
MJAR	**Matsushiro Arr**	**15.60**	**237**	Pn	**Pn**	**17 54 14.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=27,slow=11,SNR=5.8						
MAJO	**Matsushiro**	**15.60**	**237**	*e*P	**Pn**	**17 54 20.3**	**+4.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**15.60**	**237**	*e*P	**Pn**	**17 54 20.2**	**+4.2**
	comp=Z,10nm,0.9s						
MDJ	**Mudanjiang**	**17.52**	**273**	P	**Pn**	**17 54 39.9**	**-0.6**
MDJ				AP	pP	17 54 44.1	-3.5
MDJ				XP	sP	17 54 45.5	-5.0
MDJ				S	**Sn**	**17 57 53.9**	**-1.0**
MDJ				SCP	ScP	18 02 55.8	+2.0
MDJ				SCS	ScS	18 06 34.4	+0.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,68nm,4.9s						
MDJ				LR	LR		
	comp=N,85nm,12.6s						
MDJ				LR	LR		
	comp=E,49nm,10.3s						
MDJ				LR	LR		
	comp=Z,145nm,5.6s						
CN2	**Changchun**	**20.61**	**274**	*e*P	**P**	**17 55 12.3**	**-3.0**
CLNS	**Chul'man**	**21.02**	**311**	*e*P	**P**	**17 55 23.7**	**+4.0**
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.2						
CLNS				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.6						
YAK	**Yakutsk**	**21.20**	**327**	P	**P**	**17 55 19.9**	**-1.8**
KSRS	**Korea Array**	**21.58**	**255**	P	**P**	**17 55 26.0**	**+0.2**
	comp=Z,2.1nm,0.6s,mb3.7,baz=63,slow=9.8,SNR=12						
KSRS				LR	LR	18 03 29.4	
	comp=Z,37nm,19.4s,MS2.8,baz=75,slow=36						
BOD	**Bodaibo**	**26.99**	**310**	*e*P	**P**	**17 56 16.0**	**-1.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,2.2s,mb3.7						
HHC	**Hu-ho-hao-te**	**31.27**	**276**	*e*P	**P**	**17 56 58.0**	**+2.2**
HHC				AP	pP	17 57 02.3	-0.2
HHC				XP	sP	17 57 05.0	-0.2
HHC				PCP	PcP	17 59 54.1	+4.2
HHC				S	**S**	**18 02 05.9**	**+4.7**
HHC				XS	sS	18 02 08.3	-3.9
HHC				SCP	ScP	18 03 35.1	+3.6
HHC				PCS	PcS	18 03 37.5	+3.4
HHC				SS	SS	18 03 45.3	-30
HHC				SCS	ScS	18 07 32.8	+3.9
HHC				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,137nm,6.4s						
HHC				LR	LR		
	comp=N,283nm,16.6s,MS4.2						
HHC				LR	LR		
	comp=E,247nm,14.3s,MS4.2						
HHC				LR	LR		
	comp=Z,229nm,15.5s,MS4.0						
ULN	**Ulaanbaatar**	**31.93**	**290**	*e*P	**P**	**17 57 05.8**	**+4.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**31.93**	**290**	*e*P	**P**	**17 57 05.8**	**+4.2**
	comp=Z,5.6nm,1.1s,mb4.3						
SONM	**Songino Array**	**32.37**	**291**	P	**P**	**17 57 04.9**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.5,baz=77,slow=7.7,SNR=4.5						
SONM				LR	LR	18 10 35.0	
	comp=Z,50nm,20.8s,MS3.2,baz=358,slow=37						
IMA2	**Indian Mountai**	**33.61**	**35**	*e*P	**P**	**17 57 16.6**	**+0.2**
KDAK	**Kodiak Island**	**33.66**	**50**	P	**P**	**17 57 16.1**	**-0.7**
	comp=Z,8.4nm,0.7s,mb4.8,baz=249,slow=8.6,SNR=4.5						
MCK	**McKinley**	**35.38**	**40**	*e*P	**P**	**17 57 31.4**	**-0.3**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
MCK	**McKinley**	**35.38**	**40**	*e*P	**P**	**17 57 31.4**	**-0.3**
	comp=Z,7.8nm,1.1s,mb4.5						
SML	**Sawmill**	**35.64**	**43**	*e*P	**P**	**17 57 33.7**	**-0.2**
COLA	**College**	**35.90**	**38**	*e*P	**P**	**17 57 36.9**	**+0.8**
COLA				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
COLA	**College**	**35.90**	**38**	*e*P	**P**	**17 57 36.9**	**+0.7**
	comp=Z,16nm,0.8s,mb5.0						
EGAK	**Eagle**	**38.76**	**38**	*e*P	**P**	**17 58 00.2**	**-0.2**
	comp=Z,19nm,0.8s,mb4.9						
LZH	**Lanzhou**	**38.85**	**273**	*e*P	**P**	**17 58 02.5**	**+1.4**
LZH				AP	pP	17 58 03.5	-4.4
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
DAWY	**Dawson**	**39.59**	**39**	*e*P	**P**	**17 58 07.6**	**+0.3**
GTA	**Gaotai**	**39.97**	**280**	*e*P	**P**	**17 58 12.3**	**+1.8**
GTA				AP	pP	17 58 16.4	-0.8
GTA				XP	sP	17 58 19.5	-0.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb3.8						
INK	**Inuvik**	**41.52**	**32**	P	**P**	**17 58 24.3**	**+1.0**
	comp=Z,8.8nm,0.6s,mb4.6,baz=297,slow=6.6,SNR=95						
INK	**Inuvik**	**41.52**	**32**	*e*P	**P**	**17 58 24.0**	**+0.7**
	comp=Z,340nm,0.6s						
CD2	**Chengdu**	**41.79**	**267**	*e*P	**P**	**17 58 26.6**	**+1.2**
CD2				XP	sP	17 58 33.6	-1.3
CD2				PP	PP	18 00 06.3	+4.1
CD2				S	**S**	**18 04 42.3**	**+0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
CD2				LR	LR		
	comp=E,280nm,12.0s						
CD2				LR	LR		
	comp=Z,230nm,9.6s						
ZAL	**Zalesovo**	**43.65**	**307**	LR	LR	18 18 24.0	
	comp=Z,60nm,19.0s,MS3.5,baz=169,slow=38						
WMQ	**Urumqi**	**45.96**	**292**	*e*P	**P**	**17 59 01.3**	**+2.3**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,224nm,5.0s						
WMQ				LR	LR		
	comp=N,54nm,15.0s,MS3.8						
WMQ				LR	LR		
	comp=E,51nm,15.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,45nm,16.0s,MS3.5						
KMI	**Kunming**	**46.09**	**261**	P	**P**	**17 59 01.0**	**+1.0**
KMI				AP	pP	17 59 04.8	-2.1
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**17 59 14.7**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.3,baz=66,slow=7.1,SNR=21						
MKAR				PcP	PcP	18 00 42.4	-0.3
	comp=Z,1.1nm,0.6s,baz=61,slow=3.5,SNR=5.5						
MKAR	**Makanchi Array**	**47.98**	**298**	P	**P**	**17 59 14.7**	**0.0**
MKAR						18 00 42.4	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**48.39**	**304**	*e*P	**P**	**17 59 16.7**	**-1.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**48.39**	**304**	*e*P	**P**	**17 59 16.7**	**-1.2**
	comp=Z,4.5nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**50.71**	**37**	P	**P**	**17 59 35.9**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.3,baz=295,slow=7.2,SNR=28						
YKA				PcP	PcP	18 00 52.2	-0.5
	baz=291,slow=3.7,SNR=3.9						
YKA	**Yellowknife Ar**	**50.71**	**37**	P	**P**	**17 59 35.9**	**+0.3**
YKA						18 00 52.2	
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.71**	**37**	P	**P**	**17 59 35.9**	**+0.3**
YKA				PcP	PcP	18 00 52.2	-0.5
RES	**Resolute Bay**	**50.95**	**19**	*e*P	**P**	**17 59 37.4**	**-0.1**
	comp=Z,304nm,1.3s						
LSA	**Lhasa**	**51.24**	**274**	P	**P**	**17 59 41.3**	**+1.7**
LSA	**Lhasa**	**51.24**	**274**	*e*P	**P**	**17 59 40.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**51.24**	**274**	*e*P	**P**	**17 59 40.4**	**+0.8**
	comp=Z,3.8nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**51.43**	**311**	*e*P	**P**	**17 59 39.4**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**51.43**	**311**	*e*P	**P**	**17 59 39.4**	**-1.7**
	comp=Z,5.6nm,0.8s,mb4.5						
BVA0	**Borovoye Array**	**51.86**	**310**	*i* P	**P**	**17 59 43.9**	**-0.3**
BVAR	**Borovoye Array**	**51.86**	**310**	P	**P**	**17 59 44.4**	**+0.2**
	comp=Z,1.1nm,0.4s,mb4.1,baz=52,slow=7.8,SNR=7.0						
BVAR				PcP	PcP	18 00 56.4	-0.6
	comp=Z,1.0nm,0.6s,baz=72,slow=4.8,SNR=4.5						
BVAR	**Borovoye Array**	**51.86**	**310**	P	**P**	**17 59 44.4**	**+0.2**
BVAR						18 00 56.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.90**	**310**	*e*P	**P**	**17 59 43.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**51.90**	**310**	*e*P	**P**	**17 59 43.7**	**-0.9**
	comp=Z,2.9nm,0.5s,mb4.5						
AAK	**Ala-Archa**	**54.87**	**297**	*e*P	**P**	**18 00 05.5**	**-0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**54.87**	**297**	*e*P	**P**	**18 00 05.5**	**-0.8**
	comp=Z,3.6nm,0.9s,mb4.4						
HNR	**Honiara**	**55.70**	**173**	LR	LR	18 22 30.5	
	comp=Z,62nm,19.0s,MS3.7,baz=179,slow=34						
ARU	**Arti**	**55.97**	**318**	*e*P	**P**	**18 00 13.9**	**-0.4**
ARU				*e*		18 02 23.1	
ARU				*e*S	**S**	**18 08 00.9**	**-0.2**
ARU	**Arti**	**55.97**	**318**	*e*P	**P**	**18 00 13.8**	**-0.4**
	comp=Z,11nm,0.6s,mb5.1						
GUN	**Gumba**	**55.98**	**276**	*e*P	**P**	**18 00 15.5**	**+1.2**
	comp=Z,26nm,1.1s,mb5.2						
KKN	**Kakani**	**56.47**	**277**	*e*P	**P**	**18 00 19.2**	**+1.4**
	comp=Z,15nm,0.7s,mb5.2						
PKI	**Pulchoki**	**56.52**	**276**	*e*P	**P**	**18 00 19.1**	**+0.9**
DMN	**Daman**	**56.70**	**276**	*e*P	**P**	**18 00 21.0**	**+1.5**
	comp=Z,25nm,0.9s,mb5.2						
GKN	**Gorkha**	**56.78**	**277**	*e*P	**P**	**18 00 21.1**	**+1.1**
	comp=Z,16nm,0.6s,mb5.2						
KOLN	**Koldanda**	**57.64**	**278**	*e*P	**P**	**18 00 27.5**	**+1.4**
	comp=Z,18nm,0.8s,mb5.2						
ARCES	**ARCESS Array B**	**58.58**	**341**	P	**P**	**18 00 32.4**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.3,baz=18,slow=6.6,SNR=5.9						
ARCES	**ARCESS Array B**	**58.58**	**341**	P	**P**	**18 00 32.4**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AB31	**Akbulak array**	**59.43**	**311**	*i* P	**P**	**18 00 38.8**	**+0.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**61.80**	**63**	P	**P**	**18 00 55.6**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.7,baz=286,slow=7.8,SNR=5.6						
PDAR	**Pinedale Array**	**64.24**	**54**	P	**P**	**18 01 11.4**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.2,baz=290,slow=2.7,SNR=14						
FINES	**FINESS Array B**	**64.84**	**335**	P	**P**	**18 01 13.8**	**-1.1**
	comp=Z,3.4nm,0.8s,mb4.4,baz=47,slow=8.4,SNR=4.3						
FINES	**FINESS Array B**	**64.84**	**335**	P	**P**	**18 01 13.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**64.84**	**335**	P	**P**	**18 01 13.8**	**-1.1**
ULM	**Lac du Bonnet**	**66.24**	**41**	P	**P**	**18 01 23.4**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=284,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**68.41**	**200**	P	**P**	**18 01 35.5**	**-2.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=20,slow=6.8,SNR=10						
WRA	**Warramunga Arr**	**68.41**	**200**	P	**P**	**18 01 35.5**	**-2.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**68.94**	**342**	P	**P**	**18 01 42.0**	**+1.0**
	comp=Z,4.6nm,0.9s,mb4.4,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.94**	**342**	P	**P**	**18 01 42.4**	**+1.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=28,slow=6.5,SNR=4.0						
NOA	**NORSAR Array B**	**68.94**	**342**	P	**P**	**18 01 42.4**	**+1.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIV	**Kislovodsk**	**71.78**	**315**	*e*P	**P**	**18 01 59.8**	**+1.5**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
KIV	**Kislovodsk**	**71.78**	**315**	*e*P	**P**	**18 01 59.8**	**+1.5**
	comp=Z,6.4nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**72.10**	**200**	P	**P**	**18 01 59.1**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=18,slow=6.5,SNR=15						
ASAR	**Alice Springs**	**72.10**	**200**	P	**P**	**18 01 59.2**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.43**	**327**	P	**P**	**18 02 01.3**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=34,slow=6.2,SNR=7.2						
AKASG	**Malin Array Be**	**72.43**	**327**	P	**P**	**18 02 01.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**76.89**	**61**	P	**P**	**18 02 28.0**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.2,baz=297,slow=4.4,SNR=28						
TXAR	**Lajitas Array**	**76.89**	**61**	P	**P**	**18 02 28.0**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KHC	**Kasperske Hory**	**79.04**	**335**	*e*P	**P**	**18 02 40.5**	**+0.5**
GERES	**GERESS Array B**	**79.26**	**335**	P	**P**	**18 02 40.8**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=33,slow=3.2,SNR=5.9						
GERES	**GERESS Array B**	**79.26**	**335**	P	**P**	**18 02 40.8**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**79.35**	**318**	P	**P**	**18 02 41.4**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=7.6,slow=4.4,SNR=3.5						
BRTR	**Keskin Array B**	**79.35**	**318**	P	**P**	**18 02 41.4**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CDF	**Champ du Feu**	**81.42**	**339**	*e*P	**P**	**18 02 51.2**	**-1.6**
	comp=Z,9.4nm,1.1s,mb4.3						
CDF	**Champ du Feu**	**81.42**	**339**	*e*P	**P**	**18 02 51.2**	**-1.6**
CDF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CDF	**Champ du Feu**	**81.42**	**339**	*e*P	**P**	**18 02 51.2**	**-1.6**
	comp=Z,4.7nm,1.1s,mb4.3						
GRR	**Gorron**	**83.26**	**344**	*e*P	**P**	**18 03 01.2**	**-1.3**
	comp=Z,77nm,1.4s,mb5.2						
GRR	**Gorron**	**83.26**	**344**	*e*P	**P**	**18 03 01.2**	**-1.3**
	comp=Z,38nm,1.4s,mb5.2						
SMF	**Signal de Mont**	**83.90**	**340**	*e*P	**P**	**18 03 04.5**	**-1.3**
	comp=Z,23nm,1.1s,mb4.9						
SMF	**Signal de Mont**	**83.90**	**340**	*e*P	**P**	**18 03 04.5**	**-1.3**
SMF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
SMF	**Signal de Mont**	**83.90**	**340**	*e*P	**P**	**18 03 04.5**	**-1.3**
	comp=Z,12nm,1.1s,mb4.9						
LPG	**La Plagne**	**84.25**	**338**	*e*P	**P**	**18 03 07.0**	**-0.6**
	comp=Z,11nm,0.9s,mb4.7						
LPG	**La Plagne**	**84.25**	**338**	*e*P	**P**	**18 03 07.0**	**-0.6**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
LPG	**La Plagne**	**84.25**	**338**	*e*P	**P**	**18 03 07.0**	**-0.6**
	comp=Z,5.7nm,0.9s,mb4.7						
CAF	**Calviac**	**85.94**	**341**	*e*P	**P**	**18 03 15.2**	**-0.8**
PLCA	**Paso Flores**	**147.23**	**97**	PKPbc	PKPbc	18 10 18.1	-1.1
	comp=Z,2.9nm,0.9s,baz=324,slow=6.0,SNR=4.2						
PLCA	**Paso Flores**	**147.23**	**97**	PKP2	PKPab	18 10 18.1	-2.8
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						

*ISCJB **14** 18:12:18.1±2.7,20.4S±0.1×178.0W±0.1,h543km±33km, mb3.8/13,Error ellipse: s-maj=21.8km s-min=16.2km az=152.4*
*IDC **14** 18:12:20.4±2.5,20.49S×177.94W,h561km±28km,mb3.2/11, mb1 3.4/13,mb1mx3.4/18,mbtmp3.2/13,Error ellipse: s-maj=23.0km s-min=13.8km az=155.0*
*NEIC **14** 18:12:21.8±1.8,20.55S×177.99W,h580km±20km,mb4.2/5, Error ellipse: s-maj=16.6km s-min=13.5km az=158.0*
ISC 14 18:12:20.9±2.1,206S±01×1779W±01,h565km±24km,n31, σ0§58/26,mb3.8/13,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.64**	**261**	P	**P**	**18 15 27.5**	**+1.1**
	0.4nm,0.3s,baz=86,slow=19,SNR=5.6						
URZ	**Urewera**	**18.15**	**193**	P	**P**	**18 15 58.4**	**-0.9**
	0.7nm,0.3s,baz=20,slow=14,SNR=3.5						
CTA	**Charters Tower**	**33.55**	**264**	‖ *i*P	**P**	**18 18 14.6**	**+0.1**
	2.6nm,0.4s,mb4.1						
CTA	**Charters Tower**	**33.55**	**264**	P	**P**	**18 18 14.7**	**+0.1**
	3.4nm,0.4s,mb4.2,baz=84,slow=12,SNR=8.9						
STKA	**Stephens Creek**	**37.82**	**244**	*e*P	**P**	**18 18 50.4**	**+0.6**
	1.6nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**37.82**	**244**	P	**P**	**18 18 49.8**	**0.0**
	2.2nm,0.5s,mb3.9,baz=87,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**18 19 43.4**	**+0.2**
	5.6nm,0.5s,mb4.3,baz=96,slow=7.5,SNR=144						
ASAR				PcP	PcP	18 21 14.7	+0.9
	0.7nm,0.6s,baz=106,slow=4.0,SNR=5.4						
ASAR				S	**S**	**18 25 39.2**	**+1.1**
	1.0nm,1.1s,baz=91,slow=14,SNR=5.8						
WB2	**Warramunga Arr**	**44.65**	**262**	‖ *i*P	**P**	**18 19 43.2**	**-0.5**
WB2	**Warramunga Arr**	**44.65**	**262**	*e*P	**P**	**18 19 43.2**	**-0.5**
WRA	**Warramunga Arr**	**44.66**	**262**	P	**P**	**18 19 43.3**	**-0.5**
	2.2nm,0.5s,mb3.9,baz=96,slow=7.6,SNR=114						
KAKA	**Kakadu**	**48.04**	**271**	*e*P	**P**	**18 20 09.0**	**-0.4**
	2.9nm,0.3s,mb4.3						
FORT	**Forrest**	**49.33**	**247**	*e*P	**P**	**18 20 18.5**	**-0.4**
	15nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.09**	**262**	*e*P	**P**	**18 20 46.4**	**+0.4**
	3.0nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P	**P**	**18 20 46.6**	**+0.6**
	1.3nm,0.4s,mb3.6,baz=90,slow=4.2,SNR=14						
KLBR	**Kellerberrin**	**58.09**	**245**	*e*P	**P**	**18 21 20.4**	**-0.3**
MJAR	**Matsushiro Arr**	**70.30**	**324**	P	**P**	**18 22 36.9**	**-1.0**
	1.7nm,0.5s,mb3.9,baz=159,slow=6.2,SNR=6.8						
KSRS	**Korea Array**	**76.98**	**319**	P	**P**	**18 23 15.4**	**-0.4**
	1.0nm,0.6s,mb3.4,baz=130,slow=6.6,SNR=4.8						
NVAR	**Mina Array Bea**	**81.02**	**43**	P	**P**	**18 23 37.6**	**+0.4**
	0.7nm,0.7s,mb3.2,baz=220,slow=6.8,SNR=6.6						
MAW	**Mawson**	**81.53**	**200**	P	**P**	**18 23 40.1**	**+0.3**
	0.5nm,0.6s,mb3.1,baz=180,slow=7.1,SNR=3.5						
TXAR	**Lajitas Array**	**87.03**	**57**	P	**P**	**18 24 07.8**	**+1.0**
	0.5nm,0.8s,mb3.2,baz=205,slow=5.3,SNR=5.3						
VNA3	**Neumayer Olymp**	**88.08**	**176**	*e*	**P**	**18 24 11.6**	**0.0**
VNA3	**Neumayer Olymp**	**88.08**	**176**	*e*P	**P**	**18 24 11.6**	**0.0**
VNA3				*e*		18 24 12.3	
VNA3				*e*		18 24 18.3	
VNA2	**Neumayer--Watz**	**88.52**	**177**	*e*	**P**	**18 24 14.0**	**+0.3**
	baz=170,slow=7.2						
VNA2	**Neumayer--Watz**	**88.52**	**177**	*e*P	**P**	**18 24 14.0**	**+0.3**
	baz=314,slow=14						
VNA2				*e*		18 24 14.8	
VNA2				*e*		18 24 19.2	
PDAR	**Pinedale Array**	**88.96**	**43**	P	**P**	**18 24 15.5**	**-0.2**
	0.7nm,0.7s,mb3.6,baz=200,slow=2.7,SNR=6.2						
MKAR	**Makanchi Array**	**111.29**	**313**	PKiKP	PKiKP	18 29 49.8	-1.2
	0.3nm,0.7s,baz=310,slow=1.2,SNR=5.2						
ARCES	**ARCESS Array B**	**129.00**	**350**	PKP	PKPdf	18 30 23.6	-1.2
	3.5nm,1.0s,baz=72,slow=2.9,SNR=3.9						
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	18 30 47.5	-3.3
	2.8nm,0.5s,baz=43,slow=4.1,SNR=22						
BRTR	**Keskin Array B**	**146.93**	**312**	PKPbc	PKPbc	18 31 00.5	+0.1
	1.0nm,0.6s,baz=152,slow=5.6,SNR=5.4						
CLL	**Collm**	**148.14**	**347**	*i* PKPbc	PKPbc	18 31 03.3	-0.1
	comp=Z,5.0nm,0.6s						
GERES	**GERESS Array B**	**150.28**	**344**	PKPbc	PKPbc	18 31 08.4	-0.2
	comp=Z,1.2nm,0.9s,baz=48,slow=2.0,SNR=6.2						

*IDC **14** 18:38:38.6±1.1,46.2S×102.24E,h0km,mb4.4/10, mb1 4.5/10,mb1mx4.2/20,mbtmp4.4/10,Error ellipse: s-maj=44.9km s-min=15.3km az=52.0*
*ISCJB **14** 18:38:41.8±0.5,46.8S±008×102.26E±0.10,h35km, mb4.4/18,Error ellipse: s-maj=15.6km s-min=8.5km az=109.3*
*NEIC **14** 18:38:42.1±5.0,46.0S×102.27E

s-min=14.4km az=59.0
*NEIC **14** 18:46:38.9±0.4, 821S×12167E, h10km, mb4.6/11, Error ellipse: s-maj=15.5km s-min=7.7km az=58.0*
*BJI **14** 18:46:38.8, 820S×12170E, h10km, mB5.1, mb4.6*
*MOS **14** 18:46:40.6±1.9, 828S×12182E, h33km, mb4.6/10, Error ellipse: s-maj=19.4km s-min=8.8km az=118.9*

ISC 14 18:46:39.0±0.3, 831S±005×12181E±006, h10km, (h18km±3.1km: pP-P), n72, σ1§44/73, mb4.7/31, MS3.9/12, 2C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.01**	**228**	P	**Pn**	**18 47 12.5**	**-0.6**
	5μm,0.6s						
PCI	**Palu**	**7.61**	**345**	P	**Pn**	**18 48 36.2**	**+6.2**
	35nm,1.2s						
KMMI	**Kalianget**	**7.87**	**279**	P	**Pn**	**18 48 33.2**	**-0.3**
	59nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.43**	**159**	*e*P	**Pn**	**18 49 09.0**	**+0.4**
	52nm,0.8s						
FITZ				*e*S	**Sn**	**18 51 03.2**	**-2.2**
FITZ	**Fitzroy Crossi**	**10.43**	**159**	Pn	**Pn**	**18 49 10.1**	**+1.5**
	2.3nm,0.3s,baz=359,slow=9.7,SNR=50						
FITZ				Sn	**Sn**	**18 51 04.0**	**-1.4**
	1.3nm,0.3s,baz=269,slow=22,SNR=4.7						
FITZ				LR	LR	18 53 44.2	
	comp=Z,357nm,19.5s,baz=339,slow=40						
KAKA	**Kakadu**	**11.33**	**114**	*e*P	**Pn**	**18 49 22.6**	**+1.6**
	37nm,0.6s						
KAKA				*e*S	**Sn**	**18 51 24.5**	**-3.2**
BJII	**Banjamegara**	**12.03**	**274**	P	**Pn**	**18 49 33.1**	**+2.7**
	24nm,1.5s						
WRA	**Warramunga Arr**	**16.76**	**135**	Pn	**Pn**	**18 50 31.5**	**-2.4**
	0.6nm,0.3s,baz=303,slow=14,SNR=36						
WRA				Sn	**Sn**	**18 53 30.3**	**-10**
	0.7nm,0.3s,baz=305,slow=20,SNR=9.8						
WRA				LR	LR	18 58 22.9	
	comp=Z,1μm,18.1s,baz=310,slow=42						
WRA	**Warramunga Arr**	**16.76**	**135**	P	**Pn**	**18 50 31.5**	**-2.4**
WRA						18 53 30.3	
WB2	**Warramunga Arr**	**16.77**	**135**	*e*P	**Pn**	**18 50 32.2**	**-1.8**
WB2				*e*S	**Sn**	**18 53 26.4**	**-14**
ASAR	**Alice Springs**	**19.17**	**144**	P	**Pn**	**18 51 04.4**	**+0.8**
	2.3nm,0.3s,baz=320,slow=11,SNR=142						
ASAR				S	**Sn**	**18 54 30.2**	**-8.2**
	0.2nm,0.3s,baz=311,slow=21,SNR=5.7						
FORT	**Forrest**	**23.11**	**166**	*e*P	**P**	**18 51 47.3**	**+2.2**
	51nm,0.9s,mb5.0						
KLBR	**Kellerberrin**	**23.47**	**189**	*e*P	**P**	**18 51 49.5**	**+0.6**
	111nm,1.8s,mb5.0						
MUN	**Mundaring**	**24.12**	**192**	*e*P	**P**	**18 51 55.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**24.86**	**189**	P	**P**	**18 52 03.1**	**+1.4**
	6.8nm,0.8s,mb4.2,baz=12,slow=10,SNR=4.0						
NWAO				LR	LR	19 02 20.1	
	comp=Z,211nm,19.5s,MS3.6,baz=184,slow=38						
KULM	**Kulim**	**25.05**	**302**	*e*P	**P**	**18 52 01.7**	**-1.7**
PMG	**Port Moresby**	**25.07**	**94**	P	**P**	**18 52 05.9**	**+2.3**
	12nm,0.9s,mb4.4,baz=248,slow=5.4,SNR=3.2						
PMG				LR	LR	19 04 21.5	
	comp=Z,378nm,18.2s,MS3.9,baz=62,slow=42						
PSI	**Prapat**	**25.35**	**295**	P	**P**	**18 52 06.7**	**+0.5**
	20nm,0.4s,mb5.0,baz=110,slow=8.8,SNR=13						
PSI				LR	LR	19 02 46.5	
	comp=Z,950nm,20.0s,MS4.3,baz=139,slow=38						
CTA	**Charters Tower**	**26.39**	**119**	*e*P	**P**	**18 52 18.4**	**+2.8**
	6.0nm,0.9s,mb4.1						
CTA	**Charters Tower**	**26.39**	**119**	P	**P**	**18 52 18.8**	**+3.2**
	7.2nm,0.9s,mb4.2,baz=292,slow=10,SNR=4.6						
CTA				LR	LR	19 03 39.0	
	comp=Z,355nm,19.1s,MS3.9,baz=290,slow=38						
CTA	**Charters Tower**	**26.39**	**119**	*e*P	**P**	**18 52 18.4**	**+2.8**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**29.81**	**145**	*e*P	**P**	**18 52 47.5**	**+1.4**
	comp=Z,5.0nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**29.81**	**145**	P	**P**	**18 52 47.0**	**+0.8**
	comp=Z,3.1nm,0.4s,mb4.4,baz=304,slow=8.5,SNR=16						
STKA				LR	LR	19 06 07.9	
	comp=Z,368nm,18.6s,MS4.0,baz=250,slow=39						
GUMO	**Guam**	**31.58**	**47**	LR	LR	19 03 59.2	
	comp=Z,96nm,21.5s,MS3.4,baz=208,slow=33						
CHTO	**Chiang Mai**	**35.14**	**320**	*e*P	**P**	**18 53 33.5**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**35.14**	**320**	*e*P	**P**	**18 53 33.5**	**+0.8**
	comp=Z,5.4nm,0.8s,mb4.5						
KMI	**Kunming**	**38.07**	**331**	P	**P**	**18 54 00.0**	**+2.3**
KMI				AP	pP	18 54 04.3	+3.5
KMI				S	**S**	**18 59 41.0**	**-9.3**
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
KMI	**Kunming**	**38.07**	**331**	P	**P**	**18 54 00.0**	**+2.3**
KMI				pP	pP	18 54 04.3	+3.5
KMI				S	**S**	**18 59 41.0**	**-9.3**
WHN	**Wuhan**	**39.28**	**350**	*e*P	**P**	**18 54 09.5**	**+1.5**
CD2	**Chengdu**	**42.66**	**337**	P	**P**	**18 54 35.5**	**-0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
XAN	**Xi'an**	**43.85**	**344**	P	**P**	**18 54 45.1**	**-0.3**
XAN				AP	pP	18 54 53.1	+4.6
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
KSRS	**Korea Array**	**45.88**	**7**	LR	LR	19 16 23.1	
	comp=Z,42nm,19.2s,MS3.4,baz=3.4,slow=39						
MJAR	**Matsushiro Arr**	**47.20**	**18**	LR	LR	19 13 33.8	
	comp=Z,152nm,21.3s,MS3.9,baz=225,slow=34						
LZH	**Lanzhou**	**47.28**	**340**	*e*P	**P**	**18 55 15.0**	**+2.4**
LZH				AP	pP	18 55 19.5	+3.8
LZH				XP	sP	18 55 21.0	+4.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH	**Lanzhou**	**47.28**	**340**	*e*P	**P**	**18 55 15.0**	**+2.4**
LZH				pP	pP	18 55 19.5	+3.8
LZH				sP	sP	18 55 21.0	+4.1
LSA	**Lhasa**	**47.94**	**323**	P	**P**	**18 55 19.4**	**+1.8**
LSA	**Lhasa**	**47.94**	**323**	*e*P	**P**	**18 55 17.8**	**+0.2**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
LSA	**Lhasa**	**47.94**	**323**	*e*P	**P**	**18 55 17.8**	**+0.1**
	comp=Z,14nm,0.8s,mb5.0						
BJI	**Beijing**	**48.38**	**354**	P	**P**	**18 55 22.4**	**+1.3**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
GUN	**Gumba**	**50.03**	**317**	*e*P	**P**	**18 55 33.8**	**+0.1**
	comp=Z,43nm,0.8s,mb5.5						
PKI	**Pulchoki**	**50.13**	**317**	*e*P	**P**	**18 55 34.3**	**-0.1**
KKN	**Kakani**	**50.36**	**317**	*e*P	**P**	**18 55 36.3**	**+0.1**
	comp=Z,25nm,0.9s,mb5.3						
DMN	**Daman**	**50.36**	**316**	*e*P	**P**	**18 55 35.8**	**-0.4**
	comp=Z,39nm,1.0s,mb5.4						
GKN	**Gorkha**	**50.93**	**317**	*e*P	**P**	**18 55 39.3**	**-1.2**
	comp=Z,31nm,0.8s,mb5.3						
KOLN	**Koldanda**	**51.50**	**316**	*e*P	**P**	**18 55 43.0**	**-1.7**
	comp=Z,21nm,0.9s,mb5.1						
GTA	**Gaotai**	**51.67**	**338**	*e*P	**P**	**18 55 46.3**	**+0.2**
GTA				AP	pP	18 55 50.4	+1.2
GTA				XP	sP	18 55 53.6	+3.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.1						
ASAJ	**Asahikawa**	**55.47**	**18**	LR	LR	19 19 22.9	
	comp=Z,48nm,20.0s,MS3.6,baz=174,slow=35						
ULN	**Ulaanbaatar**	**57.43**	**348**	*e*P	**P**	**18 56 26.5**	**-1.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**57.43**	**348**	*e*P	**P**	**18 56 26.5**	**-1.4**
	comp=Z,5.4nm,1.0s,mb4.5						
SONM	**Songino Array**	**57.54**	**348**	P	**P**	**18 56 28.7**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.4,baz=165,slow=6.6,SNR=14						
WMQ	**Urumqi**	**60.39**	**332**	*e*P	**P**	**18 56 48.8**	**+0.3**
MKAR	**Makanchi Array**	**65.15**	**331**	P	**P**	**18 57 18.9**	**-1.3**
	comp=Z,4.7nm,0.7s,mb4.6,baz=140,slow=5.6,SNR=40						
KBL	**Kabul**	**65.58**	**314**	P	**P**	**18 57 20.2**	**-2.7**
AAK	**Ala-Archa**	**66.53**	**324⇑**	*e*P	**P**	**18 57 30.1**	**+1.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**69.42**	**338**	P	**P**	**18 57 46.6**	**-0.6**
	comp=Z,4.1nm,0.8s,mb4.4,baz=330,slow=3.4,SNR=2.9						
KURK	**Kurchatov**	**69.64**	**332**	*e*P	**P**	**18 57 46.0**	**-2.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**69.64**	**332**	*e*P	**P**	**18 57 46.0**	**-2.6**
	comp=Z,10nm,1.0s,mb4.7						
NVS	**Novosibirsk**	**70.70**	**338**	*e*P	**P**	**18 57 58.5**	**+3.4**
MAW	**Mawson**	**70.84**	**200**	*e*P	**P**	**18 57 54.7**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.0						
MAW	**Mawson**	**70.84**	**200**	P	**P**	**18 57 56.2**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=67,slow=6.9,SNR=7.0						
MAW				LR	LR	19 26 19.1	
	comp=Z,106nm,18.1s,MS4.1,baz=246,slow=34						
MAW	**Mawson**	**70.84**	**200**	*e*P	**P**	**18 57 54.7**	**-1.2**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**72.25**	**172**	P	**P**	**18 58 04.3**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=252,slow=6.4,SNR=14						
VNDA	**Vanda**	**72.25**	**172**	P	**P**	**18 58 04.3**	**-0.1**
CHKZ	**Chkalovo**	**75.31**	**331**	*e*P	**P**	**18 58 20.1**	**-2.3**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
CHKZ	**Chkalovo**	**75.31**	**331**	*e*P	**P**	**18 58 20.1**	**-2.3**
	comp=Z,5.6nm,1.2s,mb4.4						
RAR	**Rarotonga**	**76.29**	**110**	LR	LR	19 29 03.9	
	comp=Z,499nm,18.2s,MS4.9,baz=302,slow=33						
TIXI	**Tiksi**	**79.92**	**2**	*e*P	**P**	**18 58 44.0**	**-4.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI	**Tiksi**	**79.92**	**2**	*e*P	**P**	**18 58 45.2**	**-2.9**
	comp=Z,8.2nm,1.1s,mb4.6						
KMBO	**Kilima Mbogo**	**84.45**	**270**	LR	LR	19 37 57.5	
	comp=Z,66nm,18.3s,MS4.1,baz=86,slow=36						
OBN	**Obninsk**	**94.03**	**325⇑**	*e*P	**P**	**18 59 55.6**	**-1.8**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.3						
AKASG	**Malin Array Be**	**98.00**	**320**	*i* P	**P**	**19 00 17.1**	**+1.6**
LPAZ	**La Paz**	**153.66**	**158**	PKPab	PKPab	19 06 55.0	+4.3
	comp=Z,1.6nm,0.6s,baz=213,slow=3.1,SNR=6.7						

IDC 14 19:03:28.8±1.3, 1679N×14699E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, ML4.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.4/25, Error ellipse: s-maj=58.2km s-min=22.5km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.79**	**213**	Pn	Pn	19 04 28.4	0.0
	22nm,0.3s,baz=8.5,slow=7.7,SNR=11						
GUMO				Sn	Sn	19 05 08.8	-4.8
	8.0nm,0.3s,baz=350,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**38.56**	**199**	P	P	19 10 53.4	+0.2
	0.4nm,0.4s,baz=26,slow=8.6,SNR=22						
ASAR	**Alice Springs**	**42.19**	**198**	P	P	19 11 23.5	+0.2
	0.2nm,0.6s,baz=17,slow=8.5,SNR=9.5						
DZM	**Mont Dzumac**	**43.06**	**153**	LR	LR	19 27 40.0	
	comp=Z,89nm,19.3s,baz=332,slow=34						
SONM	**Songino Array**	**45.40**	**322**	P	P	19 11 48.3	-0.8
	0.4nm,0.6s,baz=133,slow=7.2,SNR=3.6						
YKA	**Yellowknife Ar**	**79.09**	**28**	P	P	19 15 35.4	+0.4
	0.3nm,0.6s,baz=286,slow=5.6,SNR=7.0						

MAN 14 19:33:10.3, 1418N×11961E, h5km, mb2.7, ML4.1, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.77**	**126**	*e*P	Pg	19 33 25.1	+0.2
LUBP				*e*S	Sg	19 33 37.3	+2.4
PCPH	**Palayan**	**1.99**	**46**	*e*P	Pn	19 33 43.2	-1.3
PCPH				*e*S	Sn	19 34 06.4	-3.4
BUSP	**Coron**	**2.24**	**165**	*e*P	Pn	19 33 48.6	+0.5
POLP	**Polilio Island**	**2.32**	**76**	*e*P	Pn	19 33 49.5	+0.4
POLP				*e*S	Sn	19 34 19.3	+1.2
BALP	**Baler**	**2.45**	**51**	*e*P	Pn	19 33 50.8	-0.2
BALP				*e*S	Sn	19 34 22.7	+1.4
ABRA	**Dolores**	**3.61**	**17**	*e*P	Pn	19 34 08.8	+2.0

IDC 14 19:37:53.6±2.5, 758S×10870E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=125.4km s-min=20.0km az=55.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.72**	**119**	P	P	19 43 43.8	+0.2
	0.5nm,0.6s,baz=297,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**28.99**	**126**	P	P	19 43 56.2	+1.3
	0.2nm,0.5s,baz=307,slow=9.2,SNR=3.8						
STKA	**Stephens Creek**	**39.01**	**133**	P	P	19 45 21.1	-0.6
	2.1nm,0.6s,baz=306,slow=9.7,SNR=7.9						
SONM	**Songino Array**	**55.21**	**358**	P	P	19 47 30.1	+1.9
	0.2nm,0.4s,baz=183,slow=8.9,SNR=3.8						
SONM				PcP	PcP	19 48 28.6	-0.6
	0.3nm,0.5s,baz=176,slow=5.2,SNR=4.4						
MKAR	**Makanchi Array**	**59.01**	**339**	P	P	19 47 54.0	-1.1
	0.6nm,0.5s,baz=148,slow=8.3,SNR=9.7						

MAN 14 19:41:12.3, 1729N×12007E, h33km, mb3.6, ML4.7, MS0.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.71**	**60**	*e*P	Pn	19 41 26.6	+0.5
ABRA				*e*S	Sn	19 41 37.0	+1.1
BOLP	**Bolinao**	**0.92**	**189**	*e*P	Pn	19 41 29.1	+0.2
BOLP				*e*S	Sn	19 41 41.4	+0.4
BCPH	**Baguio City Da**	**1.03**	**151⇑**	*i* P	Pn	19 41 28.0	-2.5
BCPH				*i* S	Sn	19 41 37.8	-6.0
APYP	**Conner**	**1.26**	**63**	*e*P	Pn	19 41 33.9	+0.3
APYP				*e*S	Sn	19 41 49.4	+0.1
CAUP	**Cauayan**	**1.72**	**101**	*e*P	Pn	19 41 40.8	+1.0
BALP	**Baler**	**2.12**	**137**	*e*P	Pn	19 41 46.0	+0.7
BALP				*e*S	Sn	19 42 07.6	-2.9

*NEIC **14** 19:45:54.0, 3734S×17640E, h220km, MG3.8(WEL), After WEL.*

WEL 14 19:45:54.0±0.4, 3734S×17640E, h222km±5km, ML3.8/19, Error ellipse: s-maj=9.1km s-min=7.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.08**	**149**	PN	Pn	19 46 26.4	-0.2
URZ				SN	S	19 46 51.4	-0.6
MWZ	**Matawai**	**1.33**	**138**	PN	Pn	19 46 28.9	+0.5
MWZ				SN	S	19 46 55.1	-0.2
MXZ	**Matakaoa Point**	**1.54**	**99**	*e*P	Pn	19 46 29.9	-0.1
MXZ				S	S	19 46 58.3	+0.2
MXZ	**Matakaoa Point**	**1.54**	**99**	*e*PN	Pn	19 46 29.9	-0.1
MXZ				SN	S	19 46 58.1	-0.1
MXZ				SN	S	19 46 58.3	+0.1
PUZ	**Puketiti**	**1.65**	**117**	*e*P	Pn	19 46 31.1	+0.2
PUZ				S	S	19 46 58.4	-1.4
PUZ	**Puketiti**	**1.65**	**117**	*e*PN	Pn	19 46 31.1	+0.1
PUZ				SN	S	19 46 58.4	-1.4
BKZ	**Black Stump Fm**	**1.82**	**178**	P	Pn	19 46 32.5	0.0
BKZ	**Black Stump Fm**	**1.82**	**178**	PN	Pn	19 46 32.5	0.0
BKZ				SN	S	19 47 02.2	-0.5
KNZ	**Kokohu**	**1.95**	**149**	*e*P	Pn	19 46 33.6	-0.2
KNZ	**Kokohu**	**1.95**	**149**	PN	Pn	19 46 33.6	-0.1
TUVZ	**Tukino**	**2.01**	**197**	P	Pn	19 46 34.7	+0.4
TUVZ	**Tukino**	**2.01**	**197**	PN	Pn	19 46 34.7	+0.4
FWVZ	**Far West T-bar**	**2.02**	**199**	*e*P	Pn	19 46 35.0	+0.6
FWVZ	**Far West T-bar**	**2.02**	**199**	PN	Pn	19 46 35.0	+0.6
WNVZ	**Wahianoa**	**2.08**	**197**	P	Pn	19 46 35.2	+0.2
WNVZ	**Wahianoa**	**2.08**	**197**	PN	Pn	19 46 35.2	+0.2
MOVZ	**Moawhango**	**2.12**	**194**	P	Pn	19 46 35.2	-0.2
MOVZ	**Moawhango**	**2.12**	**194**	PN	Pn	19 46 35.2	-0.3
PXZ	**Pawanui**	**2.71**	**172**	PN	Pn	19 46 40.6	-1.0
TSZ	**Takapari Road**	**2.73**	**187**	P	Pn	19 46 40.7	-1.2
TSZ	**Takapari Road**	**2.73**	**187**	PN	Pn	19 46 40.7	-1.2
BFZ	**Birch Farm**	**3.34**	**182**	*e*P	Pn	19 46 46.9	-1.8
BFZ	**Birch Farm**	**3.34**	**182**	PN	Pn	19 46 46.9	-1.8
MRZ	**Mangatainoka R**	**3.38**	**191**	P	Pn	19 46 47.0	-2.2
MRZ	**Mangatainoka R**	**3.38**	**191**	PN	Pn	19 46 47.0	-2.2
KIW	**Kapiti Island**	**3.70**	**198**	PN	Pn	19 46 50.6	-2.4
MTW	**Mount Morrison**	**3.87**	**190**	P	Pn	19 46 52.1	-3.0
MTW	**Mount Morrison**	**3.87**	**190**	PN	Pn	19 46 52.1	-3.0
CAW	**Cannon Point**	**3.90**	**195**	P	Pn	19 46 52.8	-2.6
CAW	**Cannon Point**	**3.90**	**195**	PN	Pn	19 46 52.8	-2.6
DUWZ	**D'Urville Isla**	**3.96**	**208**	PN	Pn	19 46 53.4	-2.7
TRWZ	**Traveller**	**4.09**	**188**	PN	Pn	19 46 54.9	-2.8
MRW	**Makara Radio**	**4.10**	**198**	P	Pn	19 46 55.1	-2.7
MRW	**Makara Radio**	**4.10**	**198**	PN	Pn	19 46 55.1	-2.7
MSWZ	**Moikau Station**	**4.16**	**192**	P	Pn	19 46 55.4	-3.2
MSWZ	**Moikau Station**	**4.16**	**192**	PN	Pn	19 46 55.4	-3.2
SNZO	**South Karori**	**4.17**	**198**	P	Pn	19 46 55.7	-3.0
SNZO	**South Karori**	**4.17**	**198**	PN	Pn	19 46 55.7	-3.0
TCW	**Tory Channel**	**4.20**	**202**	P	Pn	19 46 56.2	-2.9
TCW	**Tory Channel**	**4.20**	**202**	PN	Pn	19 46 56.2	-2.8
TUWZ	**Tuamarina**	**4.50**	**204**	PN	Pn	19 46 59.8	-2.9
THZ	**Tophouse**	**5.17**	**210**	*e*P	Pn	19 47 07.6	-3.5
THZ	**Tophouse**	**5.17**	**210**	PN	Pn	19 47 07.6	-3.5
KHZ	**Kahutara**	**5.53**	**203**	P	Pn	19 47 12.2	-3.4
KHZ	**Kahutara**	**5.53**	**203**	PN	Pn	19 47 12.2	-3.3
LTZ	**Lake Taylor**	**6.29**	**209**	*e*P	Pn	19 47 21.3	-4.0
LTZ	**Lake Taylor**	**6.29**	**209**	PN	Pn	19 47 21.3	-4.0

*STR **14** 19:50:33.5±1.1, 4459N×721E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 14 19:50:29.7±0.2, 4481N×753E, h2km, Md1.9/1, Ml2.0/8, Error ellipse: s-maj=4.1km s-min=2.0km az=66.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG22	**Abries**	**0.42**	**272**	Pg	Pg	19 50 38.3	+0.6
OG22				Sg	Sg	19 50 43.9	+0.7
MBDF	**Montbardon**	**0.55**	**262**	*e*Pg	Pg	19 50 40.5	+0.3
MBDF				*e*Sg	Sg	19 50 47.7	+0.3
	6.1nm,0.2s						
TOUF	**Mont Tournerai**	**0.82**	**194**	Pg	Pg	19 50 45.7	+0.2
TOUF				Sg	Sg	19 50 52.1	-4.0
SAOF	**Saorge**	**0.82**	**179**	Pg	Pg	19 50 47.1	+1.6
SAOF				Sg	Sg	19 50 53.6	-2.6
LPG	**La Plagne**	**0.88**	**321**	*e*Pg	Pg	19 50 46.6	0.0
LPG				*e*Sg	Sg	19 50 58.2	+0.1
	2.9nm,0.3s						
LPL	**La Plagne**	**0.91**	**322**	*e*Pg	Pg	19 50 46.7	-0.4
LPL				*e*Sg	Sg	19 50 59.0	+0.2
	3.0nm,0.3s						
SBF	**Sospel**	**0.95**	**184**	*e*Pg	Pg	19 50 47.6	-0.3
SBF				*e*Sg	Sg	19 51 00.0	-0.2
	6.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.18**	**276**	*e*Pg	Pg	19 50 52.1	-0.2
ORIF				*e*Sg	Sg	19 51 07.5	-0.1
	2.6nm,0.3s						
FRF	**La Foret Royal**	**1.40**	**207**	*e*Pg	Pg	19 50 53.8	-2.8
FRF				*e*Sn	Sn	19 51 10.4	-4.9
	4.6nm,0.2s						
SMRF	**Simiane la Rot**	**1.63**	**240**	*e*Sg	Sg	19 51 21.4	-0.8
	2.0nm,0.3s						
LMR	**La Mourre**	**1.65**	**207**	*e*Pg	Pg	19 50 59.8	-1.5
LMR				*e*Sn	Sn	19 51 17.6	-3.8
	2.1nm,0.2s						
VIVF	**Saint-Julien-l**	**2.04**	**272**	*e*Sn	Sn	19 51 26.4	-4.6
	0.9nm,0.2s						

IDC 14 19:55:20.6±9.1, 1972S×17773W, h442km±95km, mb3.2/4, mb1 3.4/5, mb1mx3.1/17, mbtmp3.2/5, Error ellipse: s-maj=213.6km s-min=38.4km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.97**	**258**	P	P	19 58 30.7	-0.8
	0.5nm,0.3s,baz=85,slow=18,SNR=6.3						
CTA	**Charters Tower**	**33.83**	**263**	P	P	20 01 25.7	+1.5
	6.0nm,0.7s,baz=96,slow=9.9,SNR=9.1						
ASAR	**Alice Springs**	**44.95**	**256**	P	P	20 02 54.2	-0.2
	2.0nm,0.8s,baz=93,slow=8.4,SNR=22						
WRA	**Warramunga Arr**	**44.97**	**261**	P	P	20 02 54.5	-0.1
	1.4nm,1.0s,baz=94,slow=7.3,SNR=27						
TXAR	**Lajitas Array**	**86.42**	**57**	P	P	20 07 15.4	+0.5
	0.4nm,0.8s,baz=214,slow=8.7,SNR=4.7						

*IDC **14** 20:01:56.9±1.1, 1810S×17388W, h0km, mb4.5/6, mb1 4.6/7, mb1mx4.2/19, mbtmp4.5/7, ML2.2/1, Error ellipse: s-maj=40.9km s-min=20.8km az=128.0*
*ISCJB **14** 20:02:01.8±3.0, 178S±02×1739W±02, h57km±31km, mb4.4/9, Error ellipse: s-maj=40.9km s-min=21.3km az=106.0*
*NEIC **14** 20:02:02.1±0.9, 1820S×17387W, h35km, mb4.5/5, Error ellipse: s-maj=25.8km s-min=19.1km az=137.0*

ISC 14 20:02:02.6±2.5, 180S±02×1738W±02, h46km±27km, n17, σ1§01/15, mb4.4/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.47**	**25**	Pn	**Pn**	**20 03 07.4**	**-0.4**
	6.4nm,0.3s,baz=33,slow=9.9,SNR=6.4						
AFI				Sn	**Sn**	**20 03 53.7**	**-4.8**
	47nm,0.3s,baz=114,slow=18,SNR=8.9						
DZM	**Mont Dzumac**	**19.04**	**254**	P	**Pn**	**20 06 24.5**	**+2.5**
	0.5nm,0.3s,baz=73,slow=20,SNR=7.7						
URZ	**Urewera**	**21.73**	**200**	P	**P**	**20 06 46.2**	**-3.7**
	26nm,0.4s,mb5.0,baz=338,slow=3.6,SNR=41						
RPZ	**Rata Peaks**	**28.69**	**203**	P	**P**	**20 07

*MOS **14** 20:10:20.4±0.8, 4346N×4443E, h12km, mb4.1/12, Error ellipse: s-maj=12.2km s-min=8.4km az=109.0*
*TIF **14** 20:10:20.9, 4345N×4433E, h8km±2km*
*ISCJB **14** 20:10:21.5±0.7, 4346N±003×4443E±005, h12km, Error ellipse: s-maj=6.2km s-min=2.8km az=117.7*
ISC 14 20:10:21.9±0.6, 4347N±003×4436E±005, h0km±11km, n18, σ1§10/31, 3C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**0.28**	**193**	⇓*i*PG	**Pg**	**20 10 26.9**	**-0.5**
ARNR				*e*S	**Sg**	**20 10 31.2**	**+0.2**
PRTR	**Priterechnaya**	**0.29**	**348**	⇑*i*PG	**Pg**	**20 10 27.6**	**0.0**
PRTR				*e*S	**Sg**	**20 10 32.3**	**+1.0**
VLKR	**Vladikavkaz**	**0.48**	**151**	*i* PG	**Pg**	**20 10 31.9**	**+0.8**
VLKR				*e*S	**Sg**	**20 10 38.5**	**+1.2**
SNJR	**Sundja**	**0.51**	**140**	*e*PG	**Pg**	**20 10 30.9**	**-0.9**
SNJR				*e*S	**Sg**	**20 10 37.9**	**-0.5**
LACR	**Lac**	**0.64**	**185**	⇑*i*PG	**Pg**	**20 10 33.5**	**-0.7**
LACR				*e*S	**Sg**	**20 10 42.5**	**0.0**
KUBR	**Kubataba**	**0.77**	**296**	⇓*i*PG	**Pg**	**20 10 37.0**	**+0.3**
KUBR				*e*S	**Sg**	**20 10 50.6**	**+3.9**
ZEI	**Tsey**	**0.77**	**206**	*e*PG	**Pg**	**20 10 35.6**	**-1.2**
ZEI				*i*		20 10 50.2	
DIGR	**Digorskoe uzhe**	**0.81**	**226**	⇓*i*PG	**Pg**	**20 10 36.8**	**-0.6**
DIGR				*e*S	**Sg**	**20 10 48.3**	**+0.5**
PYA	**Pyatigorsk**	**1.10**	**301**	⇓*e*PG	**Pg**	**20 10 41.8**	**-1.3**
PYA				*e*S	**Sg**	**20 10 58.9**	**+1.5**
ONI	**Oni**	**1.11**	**217**	P	**Pg**	**20 10 41.8**	**-1.4**
ONI				S	**Sg**	**20 10 56.5**	**-1.1**
ONI	**Oni**	**1.11**	**217**	P	**Pg**	**20 10 42.1**	**-1.1**
ONI				S	**Sg**	**20 10 58.0**	**+0.4**
BEYR	**Belyy Ugol+**	**1.25**	**297**	⇓*i*PG	**Pg**	**20 10 44.2**	**-1.7**
BEYR				*i* S	**Sg**	**20 11 02.5**	**+0.5**
SHAR	**Shatzhatmas**	**1.26**	**283**	⇓*e*PG	**Pg**	**20 10 44.4**	**-1.8**
SHAR				*e*S	**Sg**	**20 11 03.8**	**+1.3**
KIV	**Kislovodsk**	**1.31**	**293**	⇑*i*PG	**Pg**	**20 10 45.4**	**-1.7**
KIV				*i* S	**Sg**	**20 11 05.2**	**+1.1**
DUS	**Dusheti**	**1.40**	**170**	S	**Sg**	**20 11 08.8**	**+2.0**
GOR	**Gori**	**1.49**	**187**	S	**Pg**	**20 10 52.6**	**+2.1**
MTA	**Mtatsminda**	**1.80**	**170**	S	**Sn**	**20 11 17.6**	**-0.1**
MTA	**Mtatsminda**	**1.80**	**170**	S	**Sn**	**20 11 17.7**	**0.0**

*TIR **14** 20:25:39.3, 4249N×1976E, h39km, Ml2.4*
*ISCJB **14** 20:25:42.6±0.4, 4243N±002×1979E±003, h3km±8km, Error ellipse: s-maj=3.8km s-min=3.2km az=156.7*
*NEIC **14** 20:25:42.6, 4242N×1978E, h8km, ML2.5(PDG), After PDG.*
*PDG **14** 20:25:42.6±0.2, 4242N×1978E, h8km±3km*
ISC 14 20:25:43.3±0.4, 4243N±002×1978E±003, h5km±8km, n19, σ1§15/35, 9C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.22**	**40**	⇑*i*PG	**Pg**	**20 25 46.8**	**-0.7**
PVY				*e*Sg	**Sg**	**20 25 51.0**	**+0.5**
TTG	**Podgorica**	**0.39**	**271**	⇑*i*PG	**Pg**	**20 25 49.1**	**-1.7**
TTG				*e*Sg	**Sg**	**20 25 55.3**	**-0.5**
PUK	**Puka**	**0.39**	**168**	*i* Pg	**Pg**	**20 25 50.3**	**-0.6**
PUK				*i* Sg	**Sg**	**20 25 56.2**	**+0.2**
SDA	**Shkodra**	**0.43**	**210**	*i* Pg	**Pg**	**20 25 50.5**	**-1.1**
SDA				*i* Sg	**Sg**	**20 25 58.3**	**+1.1**
IVA	**Berane**	**0.45**	**11**	⇑*i*Pg	**Pg**	**20 25 51.6**	**-0.4**
IVA				*i* Sg	**Sg**	**20 25 58.7**	**+0.8**
ULC	**Ulcinj**	**0.61**	**221**	⇑*i*Pg	**Pg**	**20 25 54.0**	**-1.1**
ULC				*i* Sg	**Sg**	**20 26 03.4**	**+0.4**
BUM	**Brajici-Budva**	**0.67**	**259**	⇑*i*Pg	**Pg**	**20 25 54.9**	**-1.2**
BUM				*e*Sg	**Sg**	**20 26 05.2**	**+0.4**
NKY	**Niksic**	**0.70**	**304**	⇑*i*Pg	**Pg**	**20 25 55.2**	**-1.5**
NKY				*i* Sg	**Sg**	**20 26 06.5**	**+0.8**
PLE	**Pljevlja**	**0.95**	**343**	⇓*i*Pg	**Pg**	**20 26 00.1**	**-1.4**
PLE				*e*Sg	**Sg**	**20 26 15.2**	**+1.5**
HCY	**Herceg Novi**	**0.95**	**272**	⇓*i*Pg	**Pg**	**20 26 00.1**	**-1.4**
HCY				*e*Sg	**Sg**	**20 26 14.9**	**+1.0**
UPM	**Unac-Piva**	**1.01**	**321**	⇓*i*Pg	**Pg**	**20 26 01.8**	**-0.8**
UPM				*e*Sg	**Sg**	**20 26 17.4**	**+1.7**
BRY	**Bratogost**	**1.03**	**298**	⇑*i*Pg	**Pg**	**20 26 01.8**	**-1.2**
BRY				*i* Sg	**Sg**	**20 26 18.1**	**+1.7**
TIR	**Tirane**	**1.08**	**177**	*i* pg?	**Pg**	**20 26 03.6**	**-0.4**
TIR				*i* Sg	**Sg**	**20 26 19.7**	**+1.7**
KRUS	**Krusevo**	**1.52**	**134**	*i* Pn	**Pn**	**20 26 12.5**	**+1.3**
KRUS				*i* Sn	**Sg**	**20 26 33.5**	**+1.3**
KRUS	**Krusevo**	**1.52**	**134**	*i* Pn	**Pn**	**20 26 12.5**	**+1.3**
KRUS				*i* Sn	**Sg**	**20 26 33.5**	**+1.3**
BARS	**Barje**	**1.56**	**75**	*e*Pn	**Pn**	**20 26 08.5**	**-3.1**
STON	**Ston**	**1.60**	**287**	*i* Pn	**Pn**	**20 26 11.9**	**-0.4**
STON				*i* Sn	**Sg**	**20 26 37.9**	**+3.2**
GRUS	**Gruza**	**1.61**	**25**	⇑*i*Pn	**Pg**	**20 26 13.9**	**-0.3**
DIVS	**Divcibare**	**1.68**	**5**	⇑*i*Pn	**Pn**	**20 26 13.8**	**+0.5**

*NEIC **14** 21:09:04.4, 2731S×7034W, h83km, MG4.2(GUC), After GUC.*
GUC 14 21:09:04.4±0.9, 2731S×7034W, h83km±4km, ML4.2, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.06**	**197**	⇑*i*P	Pn	21 09 16.4	+0.3
CPCH				*i* S	Sn	21 09 25.2	+0.4
CPCH				AML	AML	21 09 26.4	
	comp=E,27μm,0.1s						
CPCH	**Copiapo**	**0.06**	**197**	⇑*i*P	Pn	21 09 16.4	+0.3
CPCH				*i* S	Sn	21 09 25.2	+0.4
CDCH	**Caldera**	**0.50**	**298**	⇓*i*P	Pn	21 09 19.1	+0.7
CDCH				*i* S	Sn	21 09 28.9	+0.2
VACH	**Vallenar**	**1.32**	**196**	⇑*i*P	Pn	21 09 28.1	+0.6
VACH				*i* S	Sn	21 09 45.1	+0.2
VACH				AML	AML	21 09 47.2	
	comp=E,4μm,0.1s						
VACH	**Vallenar**	**1.32**	**196**	⇑*i*P	Pn	21 09 28.1	+0.6
VACH				*i* S	Sn	21 09 45.1	+0.2
CPN1	**Cerro Paranal**	**2.67**	**359**	*e*P	Pn	21 09 46.5	+1.2
CPN1				*i* S	Sn	21 10 18.1	+1.4
TLL	**Tololo Astrono**	**2.88**	**188**	*e*P	Pn	21 09 49.5	+1.3
TLL				*i* S	Sn	21 10 23.4	+1.5

*NEIC **14** 21:10:19.3±0.6, 47.12N×152.95E, h10km, mb4.0/2, Error ellipse: s-maj=16.8km s-min=10.4km az=149.0*
*ISCJB **14** 21:10:23.7±1.2, 47.1N±0.1×152.9E±0.1, h61km±10km, mb4.0/17, Error ellipse: s-maj=20.9km s-min=8.0km az=100.9*
*MOS **14** 21:10:24.5±1.2, 46.99N×152.95E, h73km, mb4.1/12, Error ellipse: s-maj=17.5km s-min=12.7km az=59.0*
*IDC **14** 21:10:26.0±3.9, 47.00N×152.84E, h68km±36km, mb3.5/14, mb1 3.8/16, mb1mx3.6/26, mbtmp3.5/16, ML3.6/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/38, Error ellipse: s-maj=25.2km s-min=17.2km az=163.0*
ISC 14 21:10:25.4±1.1, 47.1N±01×152.9E±01, h61km±9km, n43, σ0§93/43, mb4.0/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.18**	**29**	*e*PN	**Pn**	**21 11 28.0**	**+1.4**
SKR				*e*S	**Sn**	**21 12 12.9**	**-1.2**
SKR				smax			
	comp=N,120nm,0.8s						
SKR				smax			
	comp=E,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.83**	**241**	*e*PN	**Pn**	**21 11 49.0**	**-0.2**
YUK				pmax	pmax		
	comp=Z,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.97**	**273**	PN	**Pn**	**21 12 08.0**	**+3.2**
ASAJ	**Asahikawa**	**7.83**	**252**	P	**Pn**	**21 12 16.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=66,slow=11,SNR=6.4						
ASAJ				LR	LR	21 15 07.1	
	comp=Z,66nm,20.9s,baz=177,slow=36						
MJAR	**Matsushiro Arr**	**15.19**	**231**	P	**Pn**	**21 13 55.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=195,slow=23,SNR=3.7						
KSRS	**Korea Array**	**20.78**	**252**	P	**P**	**21 14 59.8**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=66,slow=10,SNR=5.9						
INK	**Inuvik**	**41.44**	**33**	P	**P**	**21 18 05.7**	**-0.4**
	comp=Z,2.0nm,1.0s,mb3.7,baz=258,slow=8.7,SNR=5.3						
INK	**Inuvik**	**41.44**	**33**	P	**P**	**21 18 05.7**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAL	**Zalesovo**	**42.34**	**305**	PcP	PcP	21 20 05.5	-0.5
	comp=Z,0.6nm,0.7s,baz=23,slow=10,SNR=4.0						
ZAL				LR	LR	21 39 22.6	
	comp=Z,54nm,18.1s,baz=246,slow=41						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**21 18 47.2**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=63,slow=7.6,SNR=6.3						
MKAR				PcP	PcP	21 20 20.8	-0.1
	comp=Z,0.7nm,0.9s,baz=64,slow=4.8,SNR=3.4						
MKAR				LR	LR	21 38 05.6	
	comp=Z,51nm,19.6s,baz=353,slow=36						
CHKZ	**Chkalovo**	**50.13**	**310**	P	**P**	**21 19 14.3**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**50.13**	**310**	P	**P**	**21 19 14.3**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.0						
LSA	**Lhasa**	**50.14**	**273**	*e*P	**P**	**21 19 16.9**	**+2.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.14**	**273**	*e*P	**P**	**21 19 16.9**	**+2.3**
	comp=Z,1.6nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**50.56**	**309**	P	**P**	**21 19 17.9**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=38,slow=7.3,SNR=3.4						
BVAR				PcP	PcP	21 20 34.0	-0.9
	comp=Z,0.4nm,0.5s,baz=70,slow=1.7,SNR=3.4						
YKA	**Yellowknife Ar**	**50.74**	**37**	P	**P**	**21 19 18.9**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=294,slow=7.0,SNR=12						
YKA				PcP	PcP	21 20 33.7	-1.8
	comp=Z,0.1nm,0.4s,baz=291,slow=6.5,SNR=2.9						
YKA	**Yellowknife Ar**	**50.74**	**37**	P	**P**	**21 19 18.9**	**-0.2**
YKA						21 20 33.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.74**	**37**	P	**P**	**21 19 18.9**	**-0.2**
YKA				PcP	PcP	21 20 33.6	-1.8
GUN	**Gumba**	**54.85**	**275**	*e*P	**P**	**21 19 50.2**	**+0.7**
KKN	**Kakani**	**55.34**	**275**	*e*P	**P**	**21 19 53.9**	**+0.9**
	comp=Z,6.9nm,0.6s,mb4.9						
PKI	**Pulchoki**	**55.39**	**275**	*e*P	**P**	**21 19 53.3**	**-0.1**
DMN	**Daman**	**55.57**	**275**	*e*P	**P**	**21 19 55.6**	**+0.9**
GKN	**Gorkha**	**55.64**	**276**	*e*P	**P**	**21 19 55.0**	**-0.2**
	comp=Z,18nm,1.1s,mb5.0						
KOLN	**Koldanda**	**56.50**	**276**	*e*P	**P**	**21 20 01.6**	**+0.3**
NVAR	**Mina Array Bea**	**62.39**	**62**	P	**P**	**21 20 42.9**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.8,baz=299,slow=9.2,SNR=3.7						
NVAR	**Mina Array Bea**	**62.39**	**62**	P	**P**	**21 20 42.9**	**+1.1**
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**	**21 20 49.4**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=349,slow=5.8,SNR=5.0						
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**	**21 20 49.4**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PDAR	**Pinedale Array**	**64.65**	**54**	P	**P**	**21 20 57.5**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=298,slow=3.2,SNR=5.8						
NB2	**NORSAR Subarra**	**67.89**	**341**	P	**P**	**21 21 17.2**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.4,baz=32,slow=6.2						
NOA	**NORSAR Array B**	**67.89**	**341**	P	**P**	**21 21 16.9**	**-0.6**
	comp=Z,2.3nm,0.8s,mb4.3,baz=27,slow=6.2,SNR=4.1						
NOA	**NORSAR Array B**	**67.89**	**341**	P	**P**	**21 21 16.9**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**71.21**	**326**	P	**P**	**21 21 37.3**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.2,baz=33,slow=6.2,SNR=9.0						
AKASG	**Malin Array Be**	**71.21**	**326**	P	**P**	**21 21 37.3**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**72.48**	**198**	P	**P**	**21 21 44.5**	**-1.1**
	comp=Z,0.8nm,1.1s,mb3.6,baz=17,slow=5.5,SNR=5.5						
ASAR	**Alice Springs**	**72.48**	**198**	P	**P**	**21 21 44.5**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TXAR	**Lajitas Array**	**77.44**	**60**	P	**P**	**21 22 14.5**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=299,slow=5.0,SNR=12						
TXAR	**Lajitas Array**	**77.44**	**60**	P	**P**	**21 22 14.5**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.44**	**60**	P	**P**	**21 22 14.5**	**+0.4**
BRTR	**Keskin Array B**	**78.07**	**317**	P	**P**	**21 22 18.1**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=126,slow=6.3,SNR=3.8						
BRTR	**Keskin Array B**	**78.07**	**317**	P	**P**	**21 22 18.1**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.11**	**334**	P	**P**	**21 22 17.5**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=27,slow=6.1,SNR=3.7						
GERES	**GERESS Array B**	**78.11**	**334**	P	**P**	**21 22 17.5**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **14** 21:25:25.3, 1948N×9855W, h20km, MD3.8(MEX), After MEX.*
MEX 14 21:25:26.2±0.9, 1940N×9880W, h8km±10km, MD3.8, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IIO	**Organos**	**0.20**	**20**	*e*P	Pg	21 25 29.3	-1.1
IIO				*i* S	Sg	21 25 34.5	+1.4
PBVM	**Pinon**	**0.27**	**278**	*i* P	Pg	21 25 40.0	+8.3
PBVM				*i* S	Sg	21 25 49.3	+14
PTVM	**Pico Tres Padr**	**0.35**	**303**	*e*P	Pg	21 25 32.2	-0.9
PTVM				*i* S	Sg	21 25 38.2	+0.4
PPM	**Popocatepetl**	**0.37**	**154**	*e*P	Pg	21 25 33.3	-0.1
PPM				*i* S	Sg	21 25 38.8	+0.5
SZVM	**Salazar**	**0.56**	**262**	*i* P	Pg	21 25 36.6	-0.4
SZVM				*i* S	Sg	21 25 45.5	+1.2
SZVM	**Salazar**	**0.56**	**262**	*i* P	Pg	21 25 26.1	-11
SZVM				*i* S	Sg	21 25 45.8	+1.6
YAIG	**Yautepec**	**0.59**	**206**	*e*P	Pg	21 25 36.8	-0.9
YAIG				*i* S	Sg	21 25 44.8	-0.6
YAIG	**Yautepec**	**0.59**	**206**	*i* P	Pg	21 25 32.3	-5.4
YAIG				*i* S	Sg	21 25 42.5	-3.0

*MOS **14** 21:33:03.4±1.0, 52.40N×161.00E, h17km, mb4.2/1, Error ellipse: s-maj=33.3km s-min=19.6km az=120.6*
KRSC 14 21:33:09.0±0.6, 52.67N×160.51E, h17km±16km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.52**	**326**	*e*P	Pg	21 33 20.2	+0.8
SPN				*e*S	Sg	21 33 27.7	+1.3
NLC	**Nalytchevo**	**0.87**	**306**	*i* P	Pb	21 33 25.8	+0.2
NLC				*e*S	Sb	21 33 38.6	+1.7
PET	**Petropavlovsk**	**1.18**	**288**	*e*PN	Pn	21 33 31.2	+0.5
PET				*e*S	Sb	21 33 50.4	+4.5
PET				pmax	pmax		
	comp=Z,465nm,0.5s						
PET				smax			
	comp=N,775nm,0.6s						
PET				smax			
	comp=E,967nm,0.5s						
PET	**Petropavlovsk**	**1.18**	**288**	*e*P	Pn	21 33 31.0	+0.3
PET				*e*S	Sb	21 33 47.3	+1.4
AVH	**Avacha**	**1.23**	**300**	*e*P	Pn	21 33 32.3	+1.0
AVH				*e*S	Sb	21 33 49.4	+2.2
RUS	**Russkaya**	**1.24**	**260**	*e*P	Pn	21 33 31.2	-0.4
RUS				*e*S	Sb	21 33 47.9	+0.2
GRL	**Gorelyy**	**1.49**	**266**	*e*P	Pn	21 33 36.0	+1.0
GRL				*e*S	Sn	21 33 56.1	+2.1
GNL	**Ganaly**	**1.85**	**305**	*e*P	Pn	21 33 41.9	+1.9
GNL				S	Sn	21 34 05.9	+2.9
KMNR	**Kamenistaya**	**3.10**	**357**	*e*P	Pn	21 33 59.5	+2.4
BZMR	**Bezymyannaya**	**3.27**	**360**	P	Pn	21 34 02.0	+2.5
BZMR				S	Sn	21 34 40.6	+2.6
ZLN	**Zelenaya**	**3.36**	**3**	P	Pn	21 34 02.2	+1.5
ZLN				S	Sn	21 34 41.4	+1.3
SKR	**Severo-Kuril's**	**3.38**	**236**	*e*PN	Pn	21 33 58.5	-2.5
KOZ	**Kozyrevsk**	**3.42**	**354**	P	Pn	21 34 02.5	+1.0
KOZR	**Kozyr**	**3.42**	**354**	PN	Pn	21 34 02.5	+1.0
KRSR	**Krestovskiy**	**3.56**	**0**	P	Pn	21 34 05.1	+1.7
KRSR				S	Sn	21 34 45.7	+0.7
KLY	**Klyuchi**	**3.65**	**1**	S	Sn	21 34 49.1	+1.7
SRDR	**Sredinnyy**	**3.68**	**353**	P	Pn	21 34 06.5	+1.4
SRKR	**Sorokina**	**4.01**	**5**	P	Pn	21 34 11.6	+2.0
SRKR				S	Sn	21 34 56.6	+0.4

*IDC **14** 21:49:46.1±1.1, 16.21N×119.81E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, MS2.7/1, Ms1 2.7/1, ms1mx2.5/38, Error ellipse: s-maj=60.1km s-min=20.3km az=72.0*
*MAN **14** 21:49:50.3, 16.40N×119.35E, h25km, mb3.7, ML4.8, MS2.3*
*ISCJB **14** 21:49:52.5±0.8, 16.34N±005×119.52E±007, h44km±10km, mb3.9/9, Error ellipse: s-maj=11.1km s-min=8.3km az=40.4*
ISC 14 21:49:53.7±0.9, 16.36N±005×119.55E±004, h34km±6km, n23, σ1§20/30, mb3.9/9, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.35**	**87**	*e*P	**Pb**	**21 50 01.7**	**-0.5**
BOLP				*e*S	**Sb**	**21 50 08.2**	**+0.3**
BCPH	**Baguio City Da**	**0.99**	**89**	⇑*e*P	**Pn**	**21 50 09.5**	**-1.6**
BCPH				*i* S	**Sn**	**21 50 21.7**	**-2.2**
ABRA	**Dolores**	**1.70**	**41**	*e*P	**Pn**	**21 50 20.7**	**-0.2**
ABRA				*e*S	**Sn**	**21 50 42.5**	**+1.1**
BALP	**Baler**	**2.04**	**107**	*e*P	**Pn**	**21 50 25.8**	**+0.1**
BALP				*e*S	**Sn**	**21 50 50.3**	**+0.3**
CAUP	**Cauayan**	**2.25**	**75**	*e*P	**Pn**	**21 50 29.9**	**+1.4**
CAUP				*e*S	**Sn**	**21 50 59.1**	**+3.9**
CVP	**Callao Caves**	**2.55**	**58**	⇑*e*P	**Pn**	**21 50 33.0**	**+0.4**
LUBP	**Lubang**	**2.70**	**165**	*e*P	**Pn**	**21 50 34.8**	**+0.2**
POLP	**Polillo Island**	**2.82**	**125**	*e*P	**Pn**	**21 50 38.0**	**+1.7**
POLP				*e*S	**Sn**	**21 51 12.8**	**+3.7**
PALP	**Palanan**	**2.84**	**75**	*e*P	**Pn**	**21 50 36.8**	**+0.2**
BUSP	**Coron**	**4.38**	**172**	*e*P	**Pn**	**21 50 57.4**	**-0.3**
ENPP	**El Nido**	**5.12**	**181**	*e*P	**Pn**	**21 51 07.6**	**-0.5**
ENPP				*e*S	**Sn**	**21 52 01.2**	**-4.8**
KSRS	**Korea Array**	**22.28**	**18**	P	**P**	**21 54 45.6**	**-2.2**
	0.5nm,0.4s,mb3.3,baz=198,slow=11,SNR=3.6						
KSRS				LR	LR	22 05 01.1	
	comp=Z,17nm,18.1s,baz=20,slow=41						
GUN	**Gumba**	**33.13**	**296**	*e*P	**P**	**21 56 28.7**	**+2.1**
	16nm,0.7s,mb5.0						
SONM	**Songino Array**	**33.21**	**344**	P	**P**	**21 56 26.3**	**-0.9**
	0.2nm,0.6s,mb3.3,baz=154,slow=11,SNR=3.0						
PKI	**Pulchoki**	**33.47**	**295**	*e*P	**P**	**21 56 30.4**	**+0.9**
KKN	**Kakani**	**33.62**	**296**	*e*P	**P**	**21 56 31.9**	**+1.0**
	6.5nm,0.7s,mb4.7						
DMN	**Daman**	**33.74**	**295**	*e*P	**P**	**21 56 32.6**	**+0.7**
GKN	**Gorkha**	**34.23**	**296**	*e*P	**P**	**21 56 35.9**	**-0.2**
	14nm,0.9s,mb4.9						
KOLN	**Koldanda**	**35.08**	**295**	*e*P	**P**	**21 56 40.3**	**-3.2**
WRA	**Warramunga Arr**	**38.89**	**158**	P	**P**	**21 57 11.3**	**-4.5**
	0.5nm,0.8s,mb3.3,baz=340,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**42.18**	**160**	P	**P**	**21 57 39.2**	**-3.8**
	0.2nm,0.4s,mb3.1,baz=337,slow=6.9,SNR=4.5						
MKAR	**Makanchi Array**	**43.25**	**323**	P	**P**	**21 57 51.8**	**+0.1**
	0.8nm,0.8s,mb3.5,baz=127,slow=8.1,SNR=6.4						
FINES	**FINESS Array B**	**77.44**	**331**	P	**P**	**22 01 44.1**	**-1.3**
	4.2nm,1.0s,mb4.3,baz=12,slow=7.1,SNR=3.6						

NEIC 14 21:56:56.0, 64.65N×149.37W, h20km, ML3.1(AEIC), ML3.9(PMR), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLA	**College**	**0.69**	**70**	P	Pb	21 57 09.6	+0.3
COLA				S	Sb	21 57 19.2	+0.9
MCK	**McKinley**	**0.94**	**168**	P	Pb	21 57 13.7	0.0
MCK				S	Sb	21 57 26.2	+0.5
IL1	**Eielson Array**	**1.07**	**83**	P	Pb	21 57 16.0	+0.1
TRF	**Thorofare Moun**	**1.27**	**199**	P	Pn	21 57 18.5	-0.2
KTH	**Kantishna Hill**	**1.30**	**212**	P	Pn	21 57 18.2	-0.9
IM3	**Indian Mountai**	**2.27**	**308**	P	Pn	21 57 32.4	-0.1
IMA2	**Indian Mountai**	**2.30**	**310**	*e*P	Pn	21 57 33.5	+0.7
DOT	**Dot Lake**	**2.53**	**111**	P	Pn	21 57 36.8	+0.8
COLD	**Coldfoot**	**2.61**	**353**	P	Pn	21 57 37.2	+0.2
SML	**Sawmill**	**2.89**	**170**	P	Pn	21 57 41.4	+0.4
GHO	**Glory Hole Cre**	**2.90**	**176**	P	Pn	21 57 41.8	+0.8
PMR	**Palmer**	**3.08**	**178**	*e*Pn	Pn	21 57 39.7	-3.7
KNK	**Knik Glacier**	**3.28**	**172**	P	Pn	21 57 47.3	+1.0
EGAK	**Eagle**	**3.52**	**84**	*e*Pn	Pn	21 57 48.4	-1.2
EGAK				*e*Sg	Sn	21 58 42.6	+12
RC01	**Rabbit Creek A**	**3.58**	**183**	P	Pn	21 57 50.3	-0.1
DAWY	**Dawson**	**4.38**	**93**	*e*Pn	Pn	21 58 01.6	+0.3
DAWY				*e*Sg	Sn	21 59 11.8	+20
SVW2	**Sparrevohn**	**4.56**	**221**	*e*Pn	Pn	21 58 11.2	+7.3
SVW2				*e*Sg	Sn	21 59 18.2	+22

*MOS **14** 22:00:41.3±1.6, 55.65N×110.21E, h9km, mb4.3/1, Error ellipse: s-maj=27.8km s-min=15.3km az=64.3*
BYKL 14 22:00:40.2±0.3, 55.71N×110.17E, h6km±5km, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**281**	⇑*i*Pg	Pg	22

BOD				*e*Pg	Pg	22 01 33.6	-3.8
BOD				*e*Sn	Sn	22 02 05.1	+0.9
BOD				*e*Sg	Sg	22 02 12.8	-3.4
BOD				Pmax			
	comp=E,8.0nm,0.4s						
BOD				Smax			
	comp=E,45nm,0.9s						
NLYR	**Nelyaty**	**3.20**	**74**	*e*Pg	Pg	22 01 37.1	-4.4
NLYR				*e*Sg	Sg	22 02 19.9	-3.0
TRG	**Tyrgan**	**3.71**	**219**	*e*Pn	Pn	22 01 38.9	+0.9
TRG				*e*Sn	Sn	22 02 22.9	+0.9
TRG				*e*Sg	Sg	22 02 34.4	-5.0
TRG				max			
	comp=E,8.0nm,0.4s						
TRG				Smax			
	comp=E,50nm,0.5s						
TRTB	**Turuntaevo**	**3.80**	**204**	*e*Pn	Pn	22 01 40.8	+1.6
TRTB				*e*Sn	Sn	22 02 23.9	-0.3
TRTB				*e*Sg	Sg	22 02 35.7	-6.4
TRTB				max			
	comp=E,5.0nm,0.3s						
TRTB				Smax			
	comp=E,23nm,0.5s						
UUDB	**Ulan-Yde**	**4.13**	**202**	*e*Sg	Sg	22 02 47.7	-5.1
UUDB				Smax			
	comp=E,27nm,0.5s						
CIT	**Chita**	**4.20**	**150**	*e*Pg	Pg	22 01 54.6	-6.1
CIT				*e*Sg	Sg	22 02 49.3	-5.9
CIT				Pmax			
	comp=E,13nm,0.9s						
CIT				Smax			
	comp=E,31nm,0.7s						
HRMR	**Khuramsha**	**4.51**	**206**	*e*Sg	Sg	22 03 00.3	-4.9
HRMR				Smax			
	comp=E,109nm,0.8s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pn	22 02 05.2	+14
CRS				*e*		22 03 04.7	
CRS				pmax	pmax		
	comp=Z,29nm,2.7s						
CRS				smax			
	comp=E,59nm,2.8s						
CRS	**Chara**	**4.67**	**72**	*e*Pg	Pg	22 02 04.3	-5.3
CRS				*e*Sg	Sg	22 03 04.8	-5.2
CRS				Pmax			
	comp=E,7.0nm,1.0s						
CRS				Smax			
	comp=E,49nm,1.9s						
LSTR	**Listvyanka**	**4.98**	**222**	*e*Sg	Sg	22 03 14.1	-6.1
LSTR				Smax			
	comp=E,12nm,0.4s						
TLY	**Talaya**	**5.60**	**227**	*e*Sg	Sg	22 03 32.1	-7.8
TLY				Smax			
	comp=E,16nm,0.6s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	22 02 05.9	-0.4
TUP				*e*		22 02 21.7	
TUP				*e*Sg	Sg	22 03 40.2	-5.2
TUP				max			
	comp=E,1.0nm,0.4s						
TUP				Smax			
	comp=E,29nm,1.0s						
ARS	**Arshan**	**5.95**	**234**	*e*PN	Pn	22 02 08.8	-0.1
ARS				*e*S	Sn	22 03 14.5	-2.9
ARS				*e*S	Sn	22 03 44.4	+27
ARS				smax			
	comp=E,52nm,0.6s						
ARS	**Arshan**	**5.95**	**234**	*e*Pn	Pn	22 02 08.7	-0.2
ARS				*e*Sn	Sn	22 03 15.0	-2.4
ARS				*e*Sg	Sg	22 03 44.8	-6.6
ARS				max			
	comp=E,9.0nm,0.4s						
ARS				Smax			
	comp=E,73nm,1.0s						
ZAK	**Zakamensk**	**6.76**	**221**	*e*PN	Pn	22 02 23.5	+3.6
ZAK				*e*		22 02 42.9	
ZAK				*e*S	Sn	22 03 38.4	+1.2
ZAK				*e*		22 04 10.7	
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAK				smax			
	comp=N,46nm,2.0s						
ZAK	**Zakamensk**	**6.76**	**221**	*e*Sg	Sg	22 04 09.7	-7.5
ZAK				Smax			
	comp=N,7.0nm,0.6s						
ORL	**Orlik**	**6.87**	**247**	*e*PN	Pn	22 02 22.8	+1.4
ORL				*e*S	Sn	22 04 12.0	+32
ORL				smax			
	comp=N,21nm,1.0s						
ORL	**Orlik**	**6.87**	**247**	*e*Pn	Pn	22 02 22.5	+1.1
ORL				*e*Sn	Sn	22 03 38.3	-1.6
ORL				*e*Sg	Sg	22 04 12.2	-8.5
ORL				max			
	comp=N,3.0nm,0.7s						
ORL				Smax			
	comp=N,26nm,1.0s						

*IDC **14** 22:05:20.0±1.5, 482S×1305.4E, h0^km, mb3.9/3, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, ML4.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/25, Error ellipse: s-maj=86.1km s-min=24.7km az=70.0*
*ISCJB **14** 22:05:22.3±3.7, 490S±006×1306E±0.1, h33^km±28^km, mb4.1/8, Error ellipse: s-maj=17.3km s-min=8.8km az=151.2*
*NEIC **14** 22:05:24.6±0.7, 468S×1306.7E, h35^km, mb3.9/3, Error ellipse: s-maj=18.6km s-min=11.3km az=58.0*

ISC 14 22:05:20.1±4.4, 486S±006×13062E±010, h2^km±29^km, n20, σ0^s96/26, mb4.1/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.00**	**167**	*e*P	**Pn**	**22 07 21.5**	**+4.2**
	8.2nm,0.2s						
KAKA				*e*S	**Sn**	**22 08 48.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**14.03**	**200**	*e*P	**Pn**	**22 08 43.6**	**+3.8**
	3.5nm,0.2s						
FITZ				*e*S	**Sn**	**22 11 15.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**14.03**	**200**	Pn	**Pn**	**22 08 41.4**	**+1.5**
	1.1nm,0.3s,baz=30,slow=11,SNR=23						
FITZ				Sn	**Sn**	**22 11 14.6**	**-1.5**
	0.2nm,0.3s,baz=113,slow=17,SNR=2.7						
WRA	**Warramunga Arr**	**15.42**	**167**	Pn	**Pn**	**22 08 57.7**	**-0.9**
	0.5nm,0.3s,baz=348,slow=13,SNR=32						
WRA				Sn	**Sn**	**22 11 43.0**	**-7.0**
	0.9nm,0.3s,baz=336,slow=25,SNR=6.8						
WB2	**Warramunga Arr**	**15.42**	**167**	*e*P	**Pn**	**22 08 57.5**	**-1.1**
WB2				*e*S	**Sn**	**22 11 40.6**	**-9.4**
PMG	**Port Moresby**	**17.01**	**106**	Pn	**Pn**	**22 09 18.3**	**-0.8**
ASAR	**Alice Springs**	**18.96**	**171**	P	**Pn**	**22 09 46.8**	**+3.7**
	2.8nm,0.3s,baz=352,slow=10,SNR=145						
ASAR				S	**Sn**	**22 13 06.3**	**-9.5**
	0.1nm,0.3s,baz=354,slow=26,SNR=3.6						
KSM	**Kuching**	**21.25**	**287**	P	**P**	**22 10 06.7**	**-0.7**
FORT	**Forrest**	**25.89**	**185**	*e*P	**P**	**22 10 58.2**	**+4.9**
	7.7nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**28.77**	**160**	*e*P	**P**	**22 11 19.8**	**+0.7**
	3.8nm,1.5s,mb3.9						
STKA	**Stephens Creek**	**28.77**	**160**	P	**P**	**22 11 20.0**	**+0.9**
	1.0nm,0.5s,mb3.8,baz=345,slow=11,SNR=5.3						
KLBR	**Kellerberrin**	**29.20**	**203**	*e*P	**P**	**22 11 26.4**	**+3.4**
	60nm,1.7s,mb5.0						
COCO	**West Island**	**34.17**	**256**	P	**P**	**22 12 06.8**	**+0.2**
ENH	**Enshi**	**40.38**	**331**	*e*P	**P**	**22 12 59.1**	**-0.1**
	0.3nm,0.4s,mb3.4						
TAU	**Tasmania Unive**	**40.68**	**161**	*e*P	**P**	**22 13 02.6**	**+0.8**
	9.5nm,0.7s,mb4.5						
LSA	**Lhasa**	**51.12**	**315**	P	**P**	**22 14 24.0**	**-0.2**
MKAR	**Makanchi Array**	**66.80**	**326**	P	**P**	**22 16 12.9**	**-0.2**
	0.6nm,0.5s,mb3.9,baz=116,slow=8.0,SNR=11						
VNDA	**Vanda**	**74.48**	**173**	P	**P**	**22 17 00.6**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=344,slow=7.4,SNR=6.1						
VNDA	**Vanda**	**74.48**	**173**	P	**P**	**22 17 00.6**	**+0.7**
MAW	**Mawson**	**77.15**	**201**	P	**P**	**22 17 15.1**	**-0.1**
	0.7nm,0.5s,mb3.9						

*ISCJB **14** 22:27:53.3±0.8, 5135N±004×16.10E±003, h0^km, Error ellipse: s-maj=6.0km s-min=2.7km az=26.5*
*CSEM **14** 22:27:53.9±0.4, 5144N×16.17E, h2^km, ML3.2/3, Error ellipse: s-maj=5.6km s-min=2.3km az=26.0, Suspected Mining induced.*
*NEIC **14** 22:27:54.5, 5139N×16.18E, h4^km, ML2.5(PRU), ML2.5(CSEM), After CSEM.*

*VIE **14** 22:27:55.6±0.5, 5127N×1620E, h0^km, mb1.9/1, ML2.5/3, Error ellipse: s-maj=3.3km s-min=2.7km az=178.0 60 km WNW of Breslau Suspected Mining induced.*
*PRU **14** 22:27:56.8, 5130N×1609E, h0^km*

ISC 14 22:27:54.3±0.8, 5139N±004×1615E±004, h0^km, n22, σ0^s98/41, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.55**	**170**	*e*Pg	**Pg**	**22 28 05.6**	**+0.7**
KSP				*e*Sg	**Sg**	**22 28 13.8**	**+1.8**
UPC	**Upice**	**0.88**	**186**	*e*PG	**Pg**	**22 28 12.0**	**+0.8**
DPC	**Dobruska-Polom**	**1.04**	**174**	*e*PG	**Pg**	**22 28 14.5**	**+0.2**
DPC				*e*SG	**Sg**	**22 28 27.8**	**0.0**
	35nm,0.6s						
BRG	**Berggiesshubel**	**1.48**	**251**	PG	**Pg**	**22 28 22.4**	**-0.3**
BRG				SG	**Sg**	**22 28 42.8**	**+0.9**
	22nm,0.6s						
BRG	**Berggiesshubel**	**1.48**	**251**	Pg	**Pg**	**22 28 22.4**	**-0.3**
BRG				Sg	**Sg**	**22 28 42.8**	**+0.9**
BRG	**Berggiesshubel**	**1.48**	**251**	Pg	**Pg**	**22 28 22.4**	**-0.3**
BRG				Sg	**Sg**	**22 28 42.8**	**+0.9**
PRU	**Pruhonice**	**1.73**	**217**	*e*PG	**Pg**	**22 28 26.9**	**-0.6**
PRU				*e*SG	**Sg**	**22 28 49.8**	**-0.2**
	28nm,0.3s						
MORC	**Moravsky Berou**	**1.84**	**151**	*e*Pn	**Pn**	**22 28 26.6**	**-0.6**
MORC				*e*Sn	**Sn**	**22 28 50.9**	**-0.2**
MORC	**Moravsky Berou**	**1.84**	**151**	*e*Pn	**Pn**	**22 28 26.8**	**-0.3**
MORC				*e*Sg	**Sg**	**22 28 52.0**	**-1.4**
CLL	**Collm**	**1.97**	**269**	*e*Pg	**Pg**	**22 28 31.0**	**-1.1**
CLL				*i* Sg	**Sg**	**22 28 58.0**	**+0.3**
	comp=Z,17nm,0.7s						
OKC	**Ostrava-Krasne**	**2.01**	**140**	*e*PG	**Pg**	**22 28 33.0**	**+0.2**
OKC				*e*SG	**Sg**	**22 28 57.4**	**-1.4**
	comp=Z,29nm,0.6s						
VRAC	**Vranov**	**2.10**	**172**	*e*Pn	**Pn**	**22 28 31.7**	**+1.0**
VRAC				*e*Sg	**Sg**	**22 29 00.9**	**-0.9**
TANN	**Tannenbergstha**	**2.53**	**249**	Sg	**Sg**	**22 29 14.8**	**-0.7**
OJC	**Ojcow**	**2.59**	**115**	Sg	**Sg**	**22 29 17.8**	**+0.1**
NKC	**Novy Kostel**	**2.61**	**245**	*e*PN	**Pn**	**22 28 37.6**	**-0.2**
NKC				*e*PG	**Pg**	**22 28 42.8**	**-1.6**
NKC				*e*SG	**Sg**	**22 29 18.3**	**0.0**
	comp=Z,23nm,0.3s						
KHC	**Kasperske Hory**	**2.79**	**217**	*e*PN	**Pn**	**22 28 41.3**	**+1.0**
KHC				*e*PG	**Pg**	**22 28 46.4**	**-1.5**
KHC				*e*SN	**Sn**	**22 29 13.5**	**-1.2**
KHC				*e*SG	**Sg**	**22 29 22.9**	**-1.2**
	comp=Z,7.5nm,0.3s						
MOX	**Moxa**	**2.96**	**257**	*e*Sg	**Sg**	**22 29 30.8**	**+1.5**
MOX	**Moxa**	**2.96**	**257**	*e*PG	**Pg**	**22 28 50.7**	**-0.3**
MOX				*e*SG	**Sg**	**22 29 30.8**	**+1.5**
MOX	**Moxa**	**2.96**	**257**	Sg	**Sg**	**22 29 29.2**	**-0.1**
GRA1	**Grafenberg Arr**	**3.57**	**244**	Sg	**Sg**	**22 29 50.5**	**+1.5**
MOA	**Molln**	**3.74**	**200**	⇓*i*Pn	**Pn**	**22 28 53.7**	**+0.4**
MOA				⇑*i*Sg	**Sg**	**22 29 56.6**	**+1.9**
	comp=Z,5.9nm,0.4s						
STHS	**Stebnicka Huta**	**3.81**	**119**	*e*PG	**Pg**	**22 29 08.9**	**+1.6**
STHS				*e*SG	**Sg**	**22 30 01.5**	**+4.8**

*ISCJB **14** 22:28:55.6±0.4, 5139N±002×650E±004, h0^km, Error ellipse: s-maj=3.6km s-min=2.5km az=80.2*
*BUG **14** 22:28:56.7, 5142N×658E, h1^km, ML2.2*
*LDG **14** 22:28:57.9±0.2, 5148N×659E, h1^km, Ml3.3/18, Error ellipse: s-maj=2.8km s-min=2.2km az=7.0, Suspected Mining induced.*
*NEIC **14** 22:28:57.9, 5148N×659E, h1^km, ML3.3(LDG), After LDG.*
*BGR **14** 22:28:57.4±0.6, 5145N×658E, h1^km, ML2.7/3, Error ellipse: s-maj=6.7km s-min=3.3km az=115.0*
*BNS **14** 22:28:58.3±0.9, 5147N×661E, h2^km±10^km, ML2.5*
*CSEM **14** 22:28:58.2±0.1, 5146N×658E, h1^km, ML3.3/15, Error ellipse: s-maj=2.2km s-min=1.7km az=75.0, Suspected Mining induced.*

ISC 14 22:28:56.5±0.4, 5145N±002×651E±003, h0^km, n65, σ1^s26/124, 1C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.29**	**109**	⇓*i*Pg	**Pg**	**22 29 02.7**	**+0.6**
LAUG				*e*Sg	**Sg**	**22 29 06.6**	**+0.7**
	282nm,0.2s						
BUG	**Bochum--Univer**	**0.48**	**91**	⇓*i*Pg	**Pg**	**22 29 05.8**	**+0.1**
BUG				Sg	**Sg**	**22 29 12.4**	**+0.5**
WTSB	**Winterswijk**	**0.55**	**19**	*e*Pg	**Pg**	**22 29 06.8**	**-0.3**
	18nm,0.3s						
WTSB				*e*Sg	**Sg**	**22 29 13.6**	**-0.6**
BNS	**Bensberg**	**0.64**	**139**	⇓*i*Pg	**Pg**	**22 29 10.3**	**+1.5**
BNS				*e*Sg	**Sg**	**22 29 19.1**	**+1.9**
	151nm,0.5s						
HOBG	**Hohbusch**	**0.70**	**131**	*e*Pg	**Pg**	**22 29 11.1**	**+1.2**
HGN	**Heimansgroeve**	**0.78**	**208**	*e*Pg	**Pg**	**22 29 13.3**	**+1.9**
	5.2nm,0.2s						
HGN				*ex*	x	22 29 14.5	
HGN				*e*Sg	**Sg**	**22 29 24.2**	**+2.7**
DREG	**Dreilaegerbach**	**0.81**	**192**	*e*Pg	**Pg**	**22 29 14.6**	**+2.6**
DREG				*e*Sg	**Sg**	**22 29 25.9**	**+3.5**
	220nm,0.3s						
KLL	**Kalltalsperre**	**0.81**	**189**	⇑*e*Pg	**Pg**	**22 29 14.6**	**+2.4**
KLL				*e*Sg	**Sg**	**22 29 25.6**	**+3.0**
	282nm,0.2s						
BEBN	**Eben Emael**	**0.84**	**219**	P	**Pg**	**22 29 14.8**	**+2.2**
STB	**Steinbach**	**0.88**	**166**	⇓*e*Pg	**Pg**	**22 29 15.6**	**+2.1**
STB				*e*Sg	**Sg**	**22 29 27.1**	**+2.3**
	281nm,0.4s						
IBBN	**Ibbenburen**	**1.16**	**42**	*e*Pg	**Pg**	**22 29 18.2**	**-0.6**
	SNR=3.7						
IBBN				*e*Sg	**Sg**	**22 29 33.2**	**-0.6**
	SNR=4.8						
HILG	**Hillesheim**	**1.16**	**175**	*e*Pg	**Pg**	**22 29 20.4**	**+1.6**
HILG				*e*Sg	**Sg**	**22 29 36.6**	**+2.6**
	195nm,0.3s						
BCLA	**Clavier**	**1.28**	**217**	P	**Pg**	**22 29 21.0**	**-0.1**
BGG	**Burgeitz**	**1.35**	**157**	*e*Pg	**Pg**	**22 29 22.5**	**0.0**
WIT	**Witteveen**	**1.37**	**4**	*e*Sg	**Pg**	**22 29 26.5**	**+3.7**
UCC	**Uccle**	**1.50**	**245**	P	**Pn**	**22 29 26.4**	**+1.8**
UCC	**Uccle**	**1.50**	**245**	P	**Pn**	**22 29 26.4**	**+1.7**
SNF	**Seneffe**	**1.69**	**237**	P	**Pn**	**22 29 27.6**	**+0.3**
GIVF	**Givet**	**1.72**	**219**	*e*P	**Pn**	**22 29 30.1**	**+2.4**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**22 29 49.9**	**-0.5**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**22 29 53.8**	**+2.0**
	98nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.72**	**219**	*e*Pn	**Pn**	**22 29 28.1**	**+0.4**
GIVF				*e*P		22 29 30.1	
GIVF				*e*Sn	**Sn**	**22 29 49.9**	**-0.5**
GIVF				*e*Sg	**Sg**	**22 29 53.8**	**+2.0**
GIVF	**Givet**	**1.72**	**219**	*e*P	**Pn**	**22 29 30.1**	**+2.4**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**22 29 49.9**	**-0.5**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**22 29 53.8**	**+2.0**
	49nm,0.3s,SNR=1.0						
TNS	**Taunus Mts**	**1.74**	**134**	*e*Pn	**Pn**	**22 29 27.8**	**-0.2**
	SNR=7.1						
TNS				*e*Pg	**Pg**	**22 29 30.1**	**+0.2**
	SNR=22						
TNS				*e*Sg	**Sg**	**22 29 51.4**	**-1.0**
	SNR=3.5						
WLF	**Walferdange**	**1.80**	**187**	*e*Pg	**Pg**	**22 29 31.4**	**+0.3**
	SNR=6.5						
WLF				*e*Sg	**Sg**	**22 29 54.6**	**+0.2**
	SNR=9.0						
WLF	**Walferdange**	**1.80**	**187**	P	**Pn**	**22 29 31.2**	**+2.3**
WLF	**Walferdange**	**1.80**	**187**	P	**Pn**	**22 29 31.1**	**+2.3**
DOU	**Dourbes**	**1.82**	**223**	P	**Pn**	**22 29 29.7**	**+0.7**
BAIF	**Baives**	**2.02**	**227**	*e*Pn	**Pn**	**22 29 31.9**	**+0.1**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**22 29 57.1**	**-0.6**
	18nm,0.2s,SNR=1.0						
BAIF	**Baives**	**2.02**	**227**	*e*Pn	**Pn**	**22 29 31.9**	**+0.1**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**22 29 57.1**	**-0.6**
	9.2nm,0.2s,SNR=1.0						
UBBA	**Unterbreizbach**	**2.29**	**105**	*e*Pg	**Pg**	**22 29 38.9**	**-1.5**
	SNR=2.1						
UBBA				*e*Sg	**Sg**	**22 30 08.3**	**-1.8**
	SNR=2.5						
CLZ	**Clausthal**	**2.44**	**79**	*e*Pg	**Pg**	**22 29 41.6**	**-1.7**
	SNR=4.4						
RFYF	**Reffroy**	**2.90**	**194**	*e*Sg	**Sg**	**22 30 29.8**	**+0.1**
	44nm,0.3s						
RFYF	**Reffroy**	**2.90**	**194**	*e*Sg	**Sg**	**22 30 29.8**	**+0.1**
	22nm,0.3s						
CDF	**Champ du Feu**	**3.08**	**170**	*e*Pn	**Pn**	**22 29 46.4**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**22 30 22.5**	**-1.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 30 34.8**	**-0.7**
	23nm,0.6s,SNR=1.0						
CDF	**Champ du Feu**	**3.08**	**170**	*e*Pn	**Pn**	**22 29 46.4**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**22 30 22.5**	**-1.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 30 34.8**	**-0.7**
	12nm,0.6s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.10**	**198**	*e*Pn	**Pn**	**22 29 46.2**	**-0.4**
	baz=23						
MEZF				*e*Sg	**Sg**	**22 30 34.0**	**-2.0**
	26nm,0.4s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.10**	**198**	*e*Pn	**Pn**	**22 29 46.2**	**-0.4**
MEZF				*e*Sg	**Sg**	**22 30 34.0**	**-2.0**
	13nm,0.4s,SNR=1.0						
BFO	**Black Forest**	**3.34**	**159**	*e*Pn	**Pn**	**22 29 50.0**	**0.0**
	SNR=2.2						
BFO				*e*Sg	**Sg**	**22 30 42.0**	**-1.8**
	SNR=3.0						
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pg	**Pg**	**22 30 01.2**	**-0.2**
SFTF				*e*Sg	**Sg**	**22 30 45.2**	**0.0**
	20nm,0.3s						
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pn	**Pn**	**22 29 50.4**	**-0.2**
SFTF				*e*Pg	**Pg**	**22 30 01.2**	**-0.2**
SFTF				*e*Sg	**Sg**	**22 30 45.2**	**0.0**
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pg	**Pg**	**22 30 01.2**	**-0.2**
SFTF				*e*Sg	**Sg**	**22 30 45.2**	**0.0**
	10nm,0.3s						
HAU	**Haudompre**	**3.45**	**182**	*e*Pg	**Pg**	**22 30 02.0**	**-0.6**
HAU				*e*Sg	**Sg**	**22 30 46.7**	**-0.6**
	14nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.45**	**182**	*e*Pg	**Pg**	**22 30 02.0**	**-0.6**
HAU				*e*Sg	**Sg**	**22 30 46.7**	**-0.6**
	6.9nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.64**	**176**	*e*Pn	**Pn**	**22 29 53.9**	**-0.3**
HINF				*e*Sg	**Sg**	**22 30 52.5**	**-1.1**
	6.0nm,0.2s						
HINF	**Hinteralfeld**	**3.64**	**176**	*e*Pn	**Pn**	**22 29 53.9**	**-0.3**
HINF				*e*Sg	**Sg**	**22 30 52.5**	**-1.1**
	3.0nm,0.2s						
LOR	**Lormes**	**4.53**	**203**	*e*Pn	**Pn**	**22 30 06.2**	**-0.1**
	baz=32,SNR=1.0						
LOR				*e*Sn	**Sn**	**22 30 56.6**	**-3.0**
LOR				*e*Sg	**Sg**	**22 31 21.1**	**-0.9**
	12nm,0.4s,SNR=1.0						
LOR	**Lormes**	**4.53**	**203**	*e*Pn	**Pn**	**22 30 06.2**	**-0.1**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**22 30 56.6**	**-3.0**
LOR				*e*Sg	**Sg**	**22 31 21.1**	**-0.9**
	6.2nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**4.81**	**205**	*e*Pn	**Pn**	**22 30 09.9**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 31 03.1**	**-3.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 31 30.1**	**-1.0**
	16nm,0.4s						
SSF	**Saint Saulge**	**4.81**	**205**	*e*Pn	**Pn**	**22 30 09.9**	**-0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 31 03.1**	**-3.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 31 30.1**	**-1.0**
	7.8nm,0.4s						
CABF	**La Chapelle**	**4.85**	**183**	*e*Pn	**Pn**	**22 30 10.5**	**-0.2**
CABF				*e*Sg	**Sg**	**22 31 31.3**	**-1.0**
	11nm,0.6s						
CABF	**La Chapelle**	**4.85**	**183**	*e*Pn	**Pn**	**22 30 10.5**	**-0.2**
CABF				*e*Sg	**Sg**	**22 31 31.3**	**-1.0**
	5.3nm,0.6s						
HYF	**Humbligny**	**4.89**	**213**	*e*Sg	**Sg**	**22 31 32.1**	**-1.4**
KHC	**Kasperske Hory**	**5.09**	**114**	*e*SG	**Sg**	**22 31 48.5**	**+8.3**
AVF	**Avril sur Loir**	**5.10**	**205**	*e*Pn	**Pn**	**22 30 13.9**	**-0.3**
	SNR=1.0						
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pn	**Pn**	**22 30 13.9**	**-0.5**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 31 10.7**	**-3.5**
SMF				*e*Sg	**Sg**	**22 31 39.9**	**-1.0**
	6.0nm,0.3s						
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pn	**Pn**	**22 30 13.9**	**-0.5**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 31 10.7**	**-3.5**
SMF				*e*Sg	**Sg**	**22 31 39.9**	**-1.0**
	3.0nm,0.3s						
LDF	**La Druitiere**	**5.14**	**239**	*e*Pn	**Pn**	**22 30 14.8**	**+0.1**
LDF				*e*Sn	**Sn**	**22 31 11.7**	**-3.0**
	2.4nm,0.2s						
LDF	**La Druitiere**	**5.14**	**239**	*e*Pn	**Pn**	**22 30 14.8**	**+0.1**
LDF				*e*Sn	**Sn**	**22 31 11.7**	**-3.0**
	1.2nm,0.2s						
FLN	**La Foliniere**	**5.24**	**242**	*e*Pn	**Pn**	**22 30 16.1**	**0.0**
	baz=61						
BGF	**Bois d'Agland**	**5.45**	**208**	*e*Pn	**Pn**	**22 30 18.9**	**-0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**22 31 17.7**	**-4.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 31 49.1**	**-2.7**
	17nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**5.45**	**208**	*e*Pn	**Pn**	**22 30 18.9**	**-0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**22 31 17.7**	**-4.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 31 49.1**	**-2.7**
	8.7nm,0.4s,SNR=1.0						
GRR	**Gorron**	**5.66**	**240**	*e*Pn	**Pn**	**22 30 22.0**	**+0.2**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**22 31 22.2**	**-5.3**
	6.4nm,0.2s,SNR=1.0						
GRR	**Gorron**	**5.66**	**240**	*e*Pn	**Pn**	**22 30 22.0**	**+0.2**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**22 31 22.2**	**-5.3**
	3.2nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**5.89**	**210**	*e*Pn	**Pn**	**22 30 24.9**	**-0.1**
CAF	**Calviac**	**7.17**	**206**	*e*Sn	**Sn**	**22 31 56.9**	**-7.8**
	5.3nm,0.9s,SNR=1.0						
CAF	**Calviac**	**7.17**	**206**	*e*Sn	**Sn**	**22 31 56.9**	**-7.8**
	2.7nm,0.9s,SN

ULN Ulaanbaatar 41.76 292 *eP* **P 22 45 04.8 -0.8**
NVAR Mina Array Bea 48.48 77 P **P 22 45 60.0 +1.0**
comp=Z,0.4nm,0.6s,mb3.6,baz=295,slow=8.5,SNR=3.4
PDAR Pinedale Array 51.03 67 P **P 22 46 18.7 +0.3**
comp=Z,1.2nm,0.8s,mb3.9,baz=294,slow=4.7,SNR=3.8
MKAR Makanchi Array 56.08 304 P **P 22 46 55.5 +0.1**
comp=Z,0.5nm,0.5s,mb3.8,baz=58,slow=6.0,SNR=8.4
MKAR Makanchi Array 56.08 304 P **P 22 46 55.5 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 56.08 304 P **P 22 46 55.5 +0.1**
CHKZ Chkalovo 57.07 316 *eP* **P 22 47 02.6 +0.1**
CHKZ pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
CHKZ Chkalovo 57.07 316 *eP* **P 22 47 02.6 +0.1**
comp=Z,0.7nm,0.6s,mb3.9
BVAR Borovoye Array 57.62 316 P **P 22 47 06.5 +0.2**
comp=Z,1.7nm,0.6s,mb4.3,baz=59,slow=7.1,SNR=14
BVAR Borovoye Array 57.62 316 P **P 22 47 06.5 +0.2**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 57.64 316 *eP* **P 22 47 07.2 +0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
BRVK Borovoye 57.64 316 *eP* **P 22 47 07.2 +0.7**
comp=Z,2.0nm,0.4s,mb4.5
TXAR Lajitas Array 63.56 75 P **P 22 47 46.6 -0.2**
comp=Z,1.3nm,0.9s,mb4.0,baz=297,slow=4.8,SNR=10
TXAR Lajitas Array 63.56 75 P **P 22 47 46.7 -0.2**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
FINES FINESS Array B 64.62 343 P **P 22 47 53.6 -0.3**
comp=Z,3.3nm,0.8s,mb4.4,baz=316,slow=5.3,SNR=4.9
FINES FINESS Array B 64.62 343 P **P 22 47 53.6 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.9s
AKTK Aktyubinsk 64.73 320 P **P 22 47 54.6 0.0**
AKTO Aktyubinsk 64.73 320 P **P 22 47 54.6 0.0**
comp=Z,1.2nm,0.6s,mb4.1,baz=62,slow=8.3,SNR=6.5
AKTO Aktyubinsk 64.73 320 P **P 22 47 54.6 0.0**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
KHC Kasperske Hory 78.48 347 *eP* **P 22 49 18.5 +1.1**
GERES GERESS Array B 78.74 346 P **P 22 49 19.8 +0.9**
comp=Z,0.5nm,0.6s,mb3.7,baz=28,slow=6.0,SNR=6.2
GERES GERESS Array B 78.74 346 P **P 22 49 19.8 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.6s
FITZ Fitzroy Crossi 80.65 225 P **P 22 49 27.1 -2.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=42,slow=12,SNR=1.7
BRTR Keskin Array B 82.75 330 P **P 22 49 41.0 +0.7**
comp=Z,0.5nm,0.6s,mb3.8,baz=102,slow=3.2,SNR=3.3
BRTR Keskin Array B 82.75 330 P **P 22 49 41.0 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.6s

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*ISCJB **14** 22:39:24.4±0.2,4755N±001×752E±001,h0km,Error ellipse: s-maj=1.8km s-min=1.3km az=135.0*
*STR **14** 22:39:26.9±0.1,4759N×760E,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **14** 22:39:26.8±0.1,4758N×760E,h6km,Md3.0/2,Ml2.8/23, Error ellipse: s-maj=1.4km s-min=1.3km az=140.0*
*NEIC **14** 22:39:27.0,4758N×760E,h4km,ML2.3(SZGRF), ML2.8(LDG),ML2.5(ZUR),ML2.5(LEDBW),After ZUR.*
*CSEM **14** 22:39:27.1±0.0,4760N×760E,h1km,ML2.9/18,Error ellipse: s-maj=0.8km s-min=0.6km az=167.0*
*BGR **14** 22:39:27.0±0.3,4761N×761E,h5km,ML2.5/3,Error ellipse: s-maj=3.3km s-min=2.2km az=120.0*
*ZUR **14** 22:39:27.0,4758N×760E,h4km±1km,ML2.5*
*LEDBW **14** 22:39:27.1±0.1,47593N±0003×7605E±0003,h5km,ML2.5, Error ellipse: s-maj=1.0km s-min=0.8km az=122.0*
*PRU **14** 22:39:28.7,4769N×766E,h0km*
ISC 14 22:39:25.6±0.2,4758N±001×755E±001,h0km,n157,
σ1§31/303,24C-16D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.04**	**66**	⇑*i*Pg	**Pg**	**22 39 28.1**	**+1.9**
WEIL				*i* Sg	**Sg**	**22 39 29.2**	**+2.4**
WYH	**Wyhlen**	**0.10**	**105**	⇓*i*Pg	**Pg**	**22 39 28.8**	**+1.2**
WYH				*i* Sg	**Sg**	**22 39 30.2**	**+1.2**
BBS	**Basel-Blauen**	**0.12**	**194**	⇑*i*P*	**Pg**	**22 39 30.1**	**+2.3**
BBS	**Basel-Blauen**	**0.12**	**194**	⇑*i*Pg	**Pg**	**22 39 30.1**	**+2.3**
BBS	**Basel-Blauen**	**0.12**	**194**	Pg	**Pg**	**22 39 30.0**	**+2.2**
BBS				Sg	**Sg**	**22 39 32.3**	**+2.9**
ENDD	**Endenburg**	**0.19**	**42**	⇑*i*Pg	**Pg**	**22 39 30.2**	**+1.1**
ENDD				*i* Sg	**Sg**	**22 39 32.6**	**+1.1**
BALST	**Balsthal**	**0.26**	**158**	*e*Pg	**Pg**	**22 39 32.3**	**+1.8**
	SNR=37						
BALST				*e*Sg	**Sg**	**22 39 35.9**	**+2.0**
	SNR=8.7						
BALST	**Balsthal**	**0.26**	**158**	⇓*i*Pg	**Pg**	**22 39 32.3**	**+1.7**
	2μm,0.3s						
BALST				*i* Sg	**Sg**	**22 39 36.2**	**+2.2**
	2μm,0.3s						
BALST	**Balsthal**	**0.26**	**158**	⇓*i*Pg	**Pg**	**22 39 32.4**	**+1.8**
BALST				Sg	**Sg**	**22 39 36.1**	**+2.1**
BALST	**Balsthal**	**0.26**	**158**	⇓*i*Pg	**Pg**	**22 39 32.3**	**+1.7**
	2μm,0.3s						
BALST				Sg	**Sg**	**22 39 35.9**	**+1.9**
	SNR=8.7						
BOURR	**Bourrignon**	**0.29**	**230**	*e*Pg	**Pg**	**22 39 33.5**	**+2.4**
	SNR=31						
BOURR				*e*Sg	**Sg**	**22 39 38.1**	**+3.3**
	SNR=3.4						
BOURR	**Bourrignon**	**0.29**	**230**	⇑*i*Pg	**Pg**	**22 39 33.5**	**+2.4**
BOURR	**Bourrignon**	**0.29**	**230**	⇑*i*Pg	**Pg**	**22 39 33.5**	**+2.4**
	393nm,0.3s						
BOURR				Sg	**Sg**	**22 39 38.1**	**+3.3**
	SNR=3.4						
BREM	**Bremgarten**	**0.34**	**9**	⇓Pg	**Pg**	**22 39 33.9**	**+1.8**
BREM				Sg	**Sg**	**22 39 39.1**	**+2.7**
SULZ	**Sulz-Cheisache**	**0.39**	**97**	⇓*i*Pg	**Pg**	**22 39 34.0**	**+1.0**
	495nm,0.5s						
SULZ				*i* Sg	**Sg**	**22 39 38.9**	**+0.9**
	495nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.39**	**97**	⇓*i*Pg	**Pg**	**22 39 34.0**	**+1.0**
SULZ				Sg	**Sg**	**22 39 38.9**	**+0.9**
MOF	**Molkenrain**	**0.39**	**314**	Pg	**Pg**	**22 39 35.1**	**+2.0**
MOF				Sg	**Sg**	**22 39 40.8**	**+2.6**
MOF	**Molkenrain**	**0.39**	**314**	⇓*i*Pg	**Pg**	**22 39 35.2**	**+2.0**
MOF				Sg	**Sg**	**22 39 40.9**	**+2.7**
MOF				SmS		22 39 46.0	
FELD	**Feldberg im Sc**	**0.43**	**45**	⇑*i*P*	**Pg**	**22 39 34.7**	**+0.9**
FELD	**Feldberg im Sc**	**0.43**	**45**	⇑*i*P	**Pg**	**22 39 34.7**	**+0.9**
FELD	**Feldberg im Sc**	**0.43**	**45**	⇑*i*Pg	**Pg**	**22 39 34.7**	**+0.9**
FELD	**Feldberg im Sc**	**0.43**	**45**	Pg	**Pg**	**22 39 34.6**	**+0.8**
FELD				Sg	**Sg**	**22 39 40.5**	**+1.2**
KIZ	**Kirchzarten**	**0.45**	**33**	⇑*i*P*	**Pg**	**22 39 35.2**	**+0.9**
KIZ				*i* S*	**Sg**	**22 39 40.9**	**+0.8**
KIZ	**Kirchzarten**	**0.45**	**33**	⇑*i*P	**Pg**	**22 39 35.2**	**+1.0**
KIZ				*i* S	**Sg**	**22 39 40.9**	**+0.8**
KIZ	**Kirchzarten**	**0.45**	**33**	⇑*i*Pg	**Pg**	**22 39 35.2**	**+0.9**
KIZ				*i* Sg	**Sg**	**22 39 40.9**	**+0.8**
FBB	**Freiburg im Br**	**0.47**	**25**	P*	**Pg**	**22 39 35.7**	**+1.1**
FBB	**Freiburg im Br**	**0.47**	**25**	P	**Pg**	**22 39 35.7**	**+1.1**
HINF	**Hinteralfeld**	**0.53**	**297**	*e*Pn	**Pg**	**22 39 38.6**	**+2.9**
HINF				*e*Sg	**Sg**	**22 39 44.3**	**+1.7**
	SNR=1.0						
HINF				*e*Sn	**Sg**	**22 39 48.1**	**+5.5**
	63nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.53**	**297**	*e*Pg	**Pg**	**22 39 37.3**	**+1.6**
HINF				*e*Pn	**Pg**	**22 39 38.6**	**+2.9**
HINF				*e*Sn	**Sg**	**22 39 48.1**	**+5.5**
HINF	**Hinteralfeld**	**0.53**	**297**	*e*Pn	**Pg**	**22 39 38.6**	**+2.9**
HINF				*e*Sg	**Sg**	**22 39 44.3**	**+1.7**
	SNR=1.0						
HINF				*e*Sn	**Sg**	**22 39 48.1**	**+5.5**
	32nm,0.2s,SNR=1.0						
LOMF	**Lomont**	**0.54**	**245**	Pg	**Pg**	**22 39 38.1**	**+2.1**
LOMF				Sg	**Sg**	**22 39 46.3**	**+3.3**
LOMF	**Lomont**	**0.54**	**245**	P*	**Pg**	**22 39 38.2**	**+2.3**
LOMF				S*	**Sg**	**22 39 46.5**	**+3.5**
SLE	**Schleitheim**	**0.66**	**73**	⇑*i*P*	**Pg**	**22 39 38.9**	**+0.6**
SLE				⇑*i*PmP		22 39 40.7	
SLE				S*	**Sg**	**22 39 47.6**	**+0.7**
SLE				*i* SmS		22 39 50.4	
SLE	**Schleitheim**	**0.66**	**73**	⇑*i*Pg	**Pg**	**22 39 38.9**	**+0.6**
	937nm,0.4s						
SLE				*e*Sg	**Sg**	**22 39 40.7**	**-6.2**
	937nm,0.4s						
SLE	**Schleitheim**	**0.66**	**73**	⇑*i*Pg	**Pg**	**22 39 38.9**	**+0.6**
SLE				Sg	**Sg**	**22 39 47.6**	**+0.7**
SLE	**Schleitheim**	**0.66**	**73**	⇑*i*PmP		22 39 40.7	
SLE				*i* SmS		22 39 50.4	
ECH	**Echery**	**0.69**	**338**	P*	**Pg**	**22 39 40.3**	**+1.5**
ECH				PmP		22 39 41.2	
ECH				*i S**	**Sg**	**22 39 49.5**	**+1.8**
ECH	**Echery**	**0.69**	**338**	Pg	**Pg**	**22 39 40.3**	**+1.5**
ECH				Sg	**Sg**	**22 39 49.4**	**+1.6**
ZUR	**Zurich**	**0.73**	**106**	*e*Pg	**Pg**	**22 39 40.7**	**+1.1**
	SNR=2.2						
TRULL	**Truellikon**	**0.77**	**84**	⇑*i*P	**Sg**	**22 39 50.4**	**+0.2**
	448nm,0.2s						
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	**Pn**	**22 39 43.8**	**-1.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 39 53.7**	**+0.6**
	91nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**22 39 55.7**	**+2.6**
	SNR=1.0						
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pg	**Pg**	**22 39 43.3**	**+1.3**
CDF				*e*Pn	**Pn**	**22 39 43.8**	**-1.1**
CDF				*e*Sg	**Sg**	**22 39 53.7**	**+0.6**
CDF				*e*Sn	**Sg**	**22 39 55.7**	**+2.6**
CDF	**Champ du Feu**	**0.85**	**348**	*e*Pn	**Pn**	**22 39 43.8**	**-1.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 39 53.7**	**+0.6**
	46nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**22 39 55.7**	**+2.6**
	SNR=1.0						
TORNY	**Torny**	**0.90**	**207**	⇑*i*Pn	**Pn**	**22 39 44.6**	**-0.9**
	482nm,0.3s						
BFO	**Black Forest**	**0.92**	**34**	⇑P*	**Pb**	**22 39 43.8**	**-0.6**
BFO				PmP		22 39 44.3	
BFO				S*	**Sb**	**22 39 56.2**	**-0.8**
BFO				SmS		22 39 57.1	
BFO	**Black Forest**	**0.92**	**34**	⇑Pg	**Pb**	**22 39 43.8**	**-0.6**
BFO				Sg	**Sb**	**22 39 56.2**	**-0.8**
BFO				SmS		22 39 57.1	
BFO	**Black Forest**	**0.92**	**34**	PmP		22 39 44.3	
BFO	**Black Forest**	**0.92**	**34**	*e*Pg	**Pg**	**22 39 43.9**	**+0.8**
BFO				*e*Sg	**Sg**	**22 39 56.5**	**+1.5**
HASLI	**Hasliberg**	**0.92**	**153**	*e*P	**Pg**	**22 39 44.5**	**+1.3**
	205nm,0.4s						
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	**Pg**	**22 39 44.5**	**+1.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**22 39 57.1**	**+2.0**
	99nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**0.92**	**298**	*e*Pg	**Pg**	**22 39 44.5**	**+1.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**22 39 57.1**	**+2.0**
	50nm,0.2s,SNR=1.0						
BNALP	**Bannalp**	**0.93**	**140**	*e*P	**Pg**	**22 39 41.4**	**-1.9**
	134nm,0.8s						
WILA	**Wila**	**0.93**	**100**	*e*Pg	**Pg**	**22 39 44.5**	**+1.1**
	SNR=17						
WILA				*e*Sg	**Sg**	**22 39 56.5**	**+1.0**
	SNR=12						
WILA	**Wila**	**0.93**	**100**	*e*P	**Pg**	**22 39 39.8**	**-3.7**
	718nm,0.2s						
SISB	**Singen-Schiene**	**0.96**	**83**	⇑P*	**Pb**	**22 39 44.8**	**-0.3**
SISB				PmP		22 39 45.5	
SISB				S*	**Sb**	**22 39 57.6**	**-0.8**
SISB				SmS		22 39 59.1	
SISB	**Singen-Schiene**	**0.96**	**83**	⇑Pn	**Pb**	**22 39 44.8**	**-0.3**
SISB				Sn	**Sb**	**22 39 57.6**	**-0.8**
SISB	**Singen-Schiene**	**0.96**	**83**	PmP		22 39 45.5	
SISB				Sx	Sx	22 39 59.1	
WEIN	**Weingarten**	**0.97**	**92**	⇑*i*Pn	**Pn**	**22 39 44.7**	**-1.8**
	383nm,0.2s						
BRANT	**Les Verrieres**	**0.97**	**229**	⇑*i*Pn	**Pn**	**22 39 44.8**	**-1.7**
	196nm,0.7s						
SPAK	**Spaichingen-Ko**	**0.98**	**57**	P*	**Pb**	**22 39 45.0**	**-0.4**
GUT	**Gutenstein**	**1.16**	**64**	*i* P	**Pg**	**22 39 47.4**	**-0.5**
GUT				⇑*i*PmP		22 39 48.5	
GUT				Pg	**Pg**	**22 39 49.8**	**+1.9**
GUT				S	**Sg**	**22 40 02.7**	**-0.3**
GUT	**Gutenstein**	**1.16**	**64**	*i* P	**Pg**	**22 39 47.4**	**-0.5**
GUT				S	**Sg**	**22 40 02.7**	**-0.3**
GUT	**Gutenstein**	**1.16**	**64**	Px	Px	22 39 49.8	
THEF	**They Montfort**	**1.24**	**302**	P	**Pg**	**22 39 50.4**	**+1.1**
THEF				PmP		22 39 50.7	
THEF	**They Montfort**	**1.24**	**302**	Px	Px	22 39 50.7	
THEF	**They Montfort**	**1.24**	**302**	Pg	**Pg**	**22 39 50.3**	**+1.0**
LIENZ	**Alp Oberkamor**	**1.35**	**101**	*e*Pg	**Pg**	**22 39 51.6**	**+0.2**
	SNR=6.3						
LIENZ	**Alp Oberkamor**	**1.35**	**101**	*e*Pn	**Pn**	**22 39 45.1**	**-6.5**
	140nm,0.2s						
LBG	**Lerchenberg**	**1.37**	**37**	⇑P	**Pg**	**22 39 49.9**	**-2.0**
LBG				Pg	**Pg**	**22 39 52.5**	**+0.7**
LBG				Sg	**Sg**	**22 40 10.0**	**+0.4**
LBG	**Lerchenberg**	**1.37**	**37**	⇑P	**Pg**	**22 39 49.9**	**-1.9**
LBG				Pg	**Pg**	**22 39 52.5**	**+0.7**
LBG				Sg	**Sg**	**22 40 10.0**	**+0.4**
LBG	**Lerchenberg**	**1.37**	**37**	⇑Pn	**Pg**	**22 39 49.9**	**-2.0**
LBG				S	**Sg**	**22 40 10.0**	**+0.4**
LBG	**Lerchenberg**	**1.37**	**37**	P	**Pg**	**22 39 52.5**	**+0.7**
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg	**Pg**	**22 39 54.0**	**+1.7**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 40 11.0**	**+0.7**
	21nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.39**	**227**	*e*Pn	**Pn**	**22 39 52.0**	**-0.2**
CABF				*e*Pg	**Pg**	**22 39 54.0**	**+1.7**
CABF				*e*Sg	**Sg**	**22 40 11.0**	**+0.7**
CABF	**La Chapelle**	**1.39**	**227**	*e*Pg	**Pg**	**22 39 54.0**	**+1.7**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 40 11.0**	**+0.7**
	10nm,0.2s,SNR=1.0						
TUBL	**Tuebingen-Lenn**	**1.40**	**47**	P	**Pn**	**22 39 51.7**	**-0.6**
TUBL				Pg	**Pg**	**22 39 54.7**	**+2.4**
TUBL				Sg	**Sg**	**22 40 12.4**	**+1.9**
TUBL	**Tuebingen-Lenn**	**1.40**	**47**	P	**Pg**	**22 39 54.7**	**+2.4**
LANF	**Langenberg**	**1.41**	**7**	Sg	**Sg**	**22 40 11.6**	**+0.6**
BUCH	**Bad Urach**	**1.49**	**54**	⇓*i*P	**Pn**	**22 39 51.9**	**-1.7**
BUCH				Pg	**Pg**	**22 39 54.8**	**+0.6**
BUCH				Sg	**Sg**	**22 40 13.8**	**+0.3**
BUCH	**Bad Urach**	**1.49**	**54**	*i* P	**Pn**	**22 39 51.9**	**-1.7**
BUCH				Pg	**Pg**	**22 39 54.8**	**+0.6**
BUCH				Sg	**Sg**	**22 40 13.8**	**+0.3**
BUCH	**Bad Urach**	**1.49**	**54**	⇓*i*Pn	**Pn**	**22 39 51.9**	**-1.7**
BUCH				S	**Sg**	**22 40 13.8**	**+0.3**
BUCH	**Bad Urach**	**1.49**	**54**	P	**Pg**	**22 39 54.8**	**+0.6**
DAVA	**Damuels**	**1.61**	**100**	⇑*i*Pn	**Pn**	**22 39 55.3**	**+0.1**
DAVA				⇓*i*Sn	**Sn**	**22 40 16.9**	**+0.2**
	39nm,0.3s						
DAVA	**Damuels**	**1.61**	**100**	⇑*i*Pg	**Pg**	**22 39 55.3**	**-1.1**
DAVA				*i* Sg	**Sn**	**22 40 16.9**	**+0.2**
DAVA	**Damuels**	**1.61**	**100**	Pg	**Pg**	**22 39 55.3**	**-1.1**
DAVA				*i* Sg	**Sn**	**22 40 16.9**	**+0.3**
DAVA				Sn	**Sn**	**22 40 16.9**	**+0.3**
	39nm,0.3s						
STU	**Stuttgart**	**1.62**	**42**	*e*Pg	**Pg**	**22 39 57.1**	**+0.4**
	SNR=2.0						
STU				*e*Sg	**Sg**	**22 40 17.5**	**-0.2**
	SNR=3.5						
STU	**Stuttgart**	**1.62**	**42**	*e*Pg	**Pg**	**22 39 56.8**	**+0.1**
STU				*e*Sg	**Sg**	**22 40 17.9**	**+0.1**
UBR	**Ueberruh**	**1.73**	**86**	Pg	**Pg**	**22 39 59.1**	**+0.3**
UBR				S	**Sn**	**22 40 16.9**	**-2.9**
UBR				Sg	**Sg**	**22 40 22.0**	**+0.7**
UBR	**Ueberruh**	**1.73**	**86**	Pg	**Pg**	**22 39 59.1**	**+0.3**
UBR				S	**Sn**	**22 40 16.9**	**-2.8**
UBR				Sg	**Sg**	**22 40 22.0**	**+0.8**
RFYF	**Reffroy**	**1.75**	**308**	*e*Pg	**Pg**	**22 39 59.9**	**+0.9**
RFYF				*e*Sg	**Sg**	**22 40 22.2**	**+0.5**
	16nm,0.2s						
RFYF	**Reffroy**	**1.75**	**308**	*e*Pg	**Pg**	**22 39 59.9**	**+0.9**
RFYF				*e*Sg	**Sg**	**22 40 22.2**	**+0.5**
	8.1nm,0.2s						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pn	**Pn**	**22 39 57.5**	**-0.4**
	baz=115						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pg	**Pg**	**22 40 01.1**	**+0.9**
	baz=120						
SFTF				*e*Sn	**Sn**	**22 40 19.2**	**-2.3**
SFTF				*e*Sg	**Sg**	**22 40 24.4**	**+0.8**
	13nm,0.2s						
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pn	**Pn**	**22 39 57.5**	**-0.4**
SFTF				*e*Pg	**Pg**	**22 40 01.1**	**+0.9**
SFTF				*e*Sn	**Sn**	**22 40 19.2**	**-2.3**
SFTF				*e*Sg	**Sg**	**22 40 24.4**	**+0.8**
SFTF	**Sexfontaines**	**1.80**	**291**	*e*Pg	**Pg**	**22 40 01.1**	**+0.9**
SFTF				*e*Sn	**Sn**	**22 40 19.2**	**-2.3**
SFTF				*e*Sg	**Sg**	**22 40 24.4**	**+0.8**
	6.4nm,0.2s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pn	**Pn**	**22 39 59.4**	**0.0**
MEZF				*e*Sn	**Sn**	**22 40 21.4**	**-2.8**
MEZF				*e*Sg	**Sg**	**22 40 27.9**	**+0.8**
	9.7nm,0.3s						
MEZF	**Maizieres J'vi**	**1.92**	**300**	*e*Pn	**Pn**	**22 39 59.4**	**0.0**
MEZF				*e*Sn	**Sn**	**22 40 21.4**	**-2.8**
MEZF				*e*Sg	**Sg**	**22 40 27.9**	**+0.8**
	4.8nm,0.3s						
HDH	**Heidenheim-Cha**	**2.04**	**60**	Pg	**Pg**	**22 40 04.6**	**-0.2**
HDH				Sg	**Sg**	**22 40 30.3**	**-1.0**
SWS	**Schriesheim-Wi**	**2.06**	**21**	Sg	**Sg**	**22 40 32.5**	**+0.9**
LPL	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**22 40 07.4**	**+0.8**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 40 35.1**	**+0.8**
	4.1nm,0.3s						
LPL	**La Plagne**	**2.14**	**196**	*e*Pg	**Pg**	**22 40 07.4**	**+0.8**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 40 35.1**	**+0.8**
	2.0nm,0.3s						
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**22 40 07.6**	**+0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 40 35.3**	**+0.5**
	11nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.15**	**195**	*e*Pn	**Pn**	**22 40 03.3**	**+0.6**
LPG				*e*Pg	**Pg**	**22 40 07.6**	**+0.7**
LPG				*e*Sg	**Sg**	**22 40 35.3**	**+0.5**
LPG	**La Plagne**	**2.15**	**195**	*e*Pg	**Pg**	**22 40 07.6**	**+0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 40 35.3**	**+0.5**
	5.7nm,0.4s,SNR=1.0						
SIND	**Sindeldorf**	**2.24**	**37**	P	**Pn**	**22 40 01.3**	**-2.5**
SIND				Pg	**Pg**	**22 40 08.3**	**-0.2**
SIND				Sg	**Sg**	**22 40 37.3**	**-0.2**
SIND	**Sindeldorf**	**2.24**	**37**	P	**Pg**	**22 40 08.3**	**-0.2**
SIND				Sx	Sx	22 40 37.3	
SIND	**Sindeldorf**	**2.24**	**37**	Px	Px	22 40 01.3	
WLF	**Walferdange**	**2.29**	**337**	*e*Sg	**Sg**	**22 40 38.4**	**-0.6**
MOTA	**Moosalm**	**2.42**	**94**	⇓*i*Pg	**Pg**	**22 40 11.8**	**-0.2**
MOTA				⇓*i*Sg	**Sg**	**22 40 43.8**	**+0.4**
	3.6nm,0.1s						
SQTA	**Sankt Quirin**	**2.51**	**97**	⇓*i*Pn	**Pn**	**22 40 06.9**	**-0.7**
SQTA				⇑*i*Pg	**Pg**	**22 40 13.9**	**+0.2**
SQTA				⇓*i*Sg	**Sg**	**22 40 46.9**	**+0.7**
	9.2nm,0.2s						
SQTA	**Sankt Quirin**	**2.51**	**97**	⇓*i*Pn	**Pn**	**22 40 06.9**	**-0.7**
SQTA				⇑*i*Pg	**Pg**	**22 40 13.3**	**-0.4**
SQTA				*i* Sg	**Sg**	**22 40 46.9**	**+0.7**
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**22 40 13.0**	**-1.0**
	baz=85,SNR=1.0						
LOR				*e*Sn	**Sn**	**22 40 34.6**	**-4.7**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**22 40 46.2**	**-0.6**
	25nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.53**	**264**	*e*Pn	**Pn**	**22 40 06.5**	**-1.4**
LOR				*e*Pg	**Pg**	**22 40 13.0**	**-1.0**
LOR				Pg	**Pg**	**22 40 14.0**	**0.0**
LOR				Sn	**Sn**	**22 40 34.6**	**-4.7**
LOR				Sg	**Sg**	**22 40 45.2**	**-1.6**
LOR				*e*Sg	**Sg**	**22 40 46.2**	**-0.6**
LOR	**Lormes**	**2.53**	**264**	*e*Pg	**Pg**	**22 40 13.0**	**-1.0**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**22 40 34.6**	**-4.7**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**22 40 46.2**	**-0.6**
	13nm,0.3s,SNR=1.0						
FUR	**Furstenfeldbru**	**2.58**	**75**	*e*Sg	**Sg**	**22 40 47.1**	**-1.2**
	SNR=3.4						
SMF	**Signal de Mont**	**2.70**	**251**	*e*Pg	**Pg**	**22 40 16.0**	**-1.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 40 51.2**	**-1.2**
	12nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.70**	**251**	*e*Pn	**Pn**	**22 40 08.9**	**-1.3**
SMF				*e*Pg	**Pg**	**22 40 16.0**	**-1.4**
SMF				Pg	**Pg**	**22 40 17.0**	**-0.4**
SMF				Sg	**Sg**	**22 40 51.2**	**-1.2**
SMF	**Signal de Mont**	**2.70**	**251**	*e*Pg	**Pg**	**22 40 16.0**	**-1.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 40 51.2**	**-1.2**
	5.9nm,0.2s,SNR=1.0						
TNS	**Taunus Mts**	**2.71**	**12**	*e*Sg	**Sg**	**22 40 51.7**	**-1.1**
	SNR=3.6						
SSF	**Saint Saulge**	**2.80**	**261**	*e*Pg	**Pg**	**22 40 19.6**	**+0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 40 40.1**	**-6.0**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 40 55.4**	**-0.2**
	15nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.80**	**261**	*e*Pn	**Pn**	**22 40 11.5**	**-0.1**
SSF				Pg	**Pg**	**22 40 18.5**	**-0.8**
SSF				*e*Pg	**Pg**	**22 40 19.6**	**+0.

MOX					*e*Sg		**Sg**	**22 41 35.0 -1.3**
	SNR=1.3							
NKC	**Novy Kostel**	**4.18**	**49**		*e*PG		**Pg**	**22 40 42.1 -3.6**
NKC					*e*SG		**Sg**	**22 41 37.4 -2.5**
GUNZ	**Gunzen**	**4.21**	**47**		*e*Pg		**Pg**	**22 40 44.9 -1.3**
	SNR=2.0							
GUNZ					*e*Sg		**Sg**	**22 41 39.3 -1.4**
	SNR=2.4							
WERD	**Werda**	**4.25**	**46**		*e*Sg		**Sg**	**22 41 39.8 -2.2**
	SNR=2.9							
TANN	**Tannenbergstha**	**4.30**	**47**		*e*Pg		**Pg**	**22 40 46.0 -2.0**
	SNR=2.5							
TANN					*e*Sg		**Sg**	**22 41 41.0 -2.8**
	SNR=2.3							
GEC2	**GERESS Array S**	**4.30**	**71**		*e*Sg		**Sg**	**22 41 41.4 -2.4**
	SNR=3.9							
KHC	**Kasperske Hory**	**4.31**	**67**		*e*PG		**Pg**	**22 40 51.0 +2.8**
KHC					*e*SN		**Sn**	**22 41 19.1 -4.2**
KHC					*e*SG		**Sg**	**22 41 41.5 -2.5**
LASF	**Ste Croix**	**4.35**	**218**		*e*Pg		**Pg**	**22 40 48.3 -0.7**
LASF					*e*Sg		**Sg**	**22 41 43.2 -2.2**
	1.4nm,0.3s							
LASF	**Ste Croix**	**4.35**	**218**		*e*Pg		**Pg**	**22 40 48.3 -0.7**
LASF					*e*Sg		**Sg**	**22 41 43.2 -2.2**
	0.7nm,0.3s							
RJF	**Les Rejaudoux**	**4.75**	**244**		*e*Pn		**Pn**	**22 40 37.3 -1.1**
PRU	**Pruhonice**	**5.21**	**60**		*e*SG		**Sg**	**22 42 10.7 -2.3**
MTLF	**Montolieu**	**5.66**	**223**		*e*Pn		**Pn**	**22 40 49.4 -1.5**
GRR	**Gorron**	**5.71**	**281**		*e*Pn		**Pn**	**22 40 51.1 -0.4**

ISCJB ***14*** *22:41:09.7±0.5, 4122S±007×88.1W±0.1, h10km, mb4.4/12, MS4.1/8, Error ellipse: s-maj=14.5km s-min=9.4km az=136.2*

IDC ***14*** *22:41:10.8±1.1, 4108S×8809W, h0km, mb4.3/5, mb1 4.5/8, mb1mx4.3/17, mbtmp4.2/8, ML3.5/3, MS3.9/11, Ms1 3.9/11, ms1mx3.7/19, Error ellipse: s-maj=34.7km s-min=21.7km az=65.0*

NEIC ***14*** *22:41:12.2±0.5, 4110S×8809W, h10km, mb4.5/9, Error ellipse: s-maj=12.5km s-min=8.9km az=53.0*

ISC 14 22:41:11.2±0.5, 4126S±007×881W±01, h10km, (h9km±.3km:pP-P), n34, σ1§21/27, mb4.4/12, MS4.1/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**13.30**	**94**	Pn	**Pn**	**22 44 22.3**	**+2.3**
	0.1nm,0.3s,baz=260,slow=10,SNR=6.1						
PLCA				LR	LR	22 47 57.0	
	comp=Z,295nm,18.3s,baz=261,slow=31						
CFAA	**Coronel Fontan**	**18.65**	**65**	P	**Pn**	**22 45 27.9**	**-1.5**
	0.1nm,0.3s,baz=239,slow=9.0,SNR=23						
CFAA				LR	LR	22 51 09.6	
	comp=Z,57nm,21.7s,baz=228,slow=32						
CFAA	**Coronel Fontan**	**18.65**	**65**	P	**Pn**	**22 45 27.9**	**-1.5**
CFAA				LR	LR	22 51 09.6	
USHA	**Ushuaia**	**18.83**	**143**	P	**Pn**	**22 45 33.1**	**+1.6**
	0.1nm,0.3s,baz=285,slow=11,SNR=4.8						
USHA				LR	LR	22 51 21.3	
	comp=Z,699nm,19.1s,baz=181,slow=32						
TRQA	**Tornquist**	**20.36**	**90**	*e*P	**P**	**22 45 47.9**	**0.0**
	36nm,1.1s						
PMSA	**Palmer Station**	**27.31**	**158**	P	**P**	**22 46 57.9**	**+1.9**
	12nm,0.3s,mb4.9,baz=91,slow=5.8,SNR=21						
PMSA				LR	LR	22 54 42.6	
	comp=Z,166nm,21.8s,MS3.6,baz=179,slow=30						
LPAZ	**La Paz**	**30.29**	**41**	P	**P**	**22 47 23.2**	**+0.7**
	3.4nm,0.7s,mb4.2,baz=169,slow=7.0,SNR=9.2						
LPAZ	**La Paz**	**30.29**	**41**	*e*P	**P**	**22 47 23.2**	**+0.7**
	3.1nm,0.6s,mb4.2						
NNA	**Nana**	**30.80**	**22**	*e*P	**P**	**22 47 26.3**	**-0.6**
	5.6nm,0.6s,mb4.6						
ROSC	**El Rosal**	**47.60**	**19**	LR	LR	23 07 21.0	
	comp=Z,121nm,20.9s,MS3.9,baz=195,slow=33						
VNA3	**Neumayer Olymp**	**47.90**	**155**	*e*	**P**	**22 49 46.6**	**-2.9**
VNA3				*e*	pP	22 49 49.4	-3.3
VNA3				*e*		22 49 57.8	
VNA1	**Neumayer--Stat**	**48.43**	**154**	*e*	**P**	**22 49 52.4**	**-1.2**
VNA1				*e*	pP	22 49 55.1	-1.7
VNA2	**Neumayer--Watz**	**48.68**	**154**	*e*	**P**	**22 49 52.8**	**-2.7**
	baz=256,slow=3.2						
VNA2				*e*	pP	22 49 55.3	-3.4
VNA2				*e*		22 50 02.7	
VNA2				*e*		22 50 09.7	
SNAA	**Sanae**	**50.00**	**156**	*e*	**P**	**22 50 05.1**	**-0.6**
SNAA	**Sanae**	**50.00**	**156**	*e*P	**P**	**22 50 03.3**	**-2.4**
	6.2nm,1.2s,mb4.5						
JTS	**JuntasAbangare**	**51.37**	**4**	P	**P**	**22 50 15.1**	**-0.9**
VNDA	**Vanda**	**54.19**	**195**	LR	LR	23 08 58.0	
	comp=Z,82nm,20.8s,MS3.8,baz=120,slow=31						
VNDA	**Vanda**	**54.19**	**195**	*e*P	**P**	**22 50 37.5**	**+0.7**
	2.3nm,1.1s,mb4.0						
URZ	**Urewera**	**69.15**	**237**	LR	LR	23 14 43.5	
	comp=Z,122nm,18.8s,MS4.2,baz=205,slow=29						
MAW	**Mawson**	**69.26**	**169**	LR	LR	23 21 07.1	
	comp=Z,76nm,18.7s,MS4.0,baz=350,slow=34						
RPZ	**Rata Peaks**	**69.52**	**229**	LR	LR	23 15 12.7	
	comp=Z,204nm,18.9s,MS4.4,baz=200,slow=29						
LTX	**Lajitas**	**71.69**	**346**	*e*P	**P**	**22 52 33.2**	**-0.1**
	4.7nm,1.0s,mb4.4						
TXAR	**Lajitas Array**	**71.69**	**346**	P	**P**	**22 52 32.8**	**-0.5**
	1.8nm,0.8s,mb4.0,baz=167,slow=7.1,SNR=17						
MIAR	**Mount Ida**	**75.60**	**355**	P	**P**	**22 52 55.6**	**-0.6**
WMOK	**Wichita Mounta**	**76.25**	**351**	P	**P**	**22 53 00.3**	**+0.3**
BBSR	**BB Station**	**76.39**	**20**	*e*P	**P**	**22 53 00.6**	**-0.1**
	31nm,0.9s,mb5.2						
AMTX	**Amarillo**	**76.79**	**349**	*e*P	**P**	**22 53 03.1**	**+0.1**
	10nm,1.0s,mb4.7						
WVT	**Waverly**	**77.01**	**0**	P	**P**	**22 53 04.1**	**-0.1**
ANMO	**Albuquerque**	**77.69**	**345**	*e*P	**P**	**22 53 09.8**	**+1.8**
	3.7nm,0.9s,mb4.3						
PV01	**Paradox Valley**	**81.19**	**344**	P	**P**	**22 53 26.9**	**-0.2**
NVAR	**Mina Array Bea**	**83.95**	**337**	P	**P**	**22 53 43.4**	**+1.8**
	0.8nm,0.8s,mb3.9,baz=156,slow=5.8,SNR=4.1						
PDAR	**Pinedale Array**	**85.85**	**344**	P	**P**	**22 53 51.2**	**+0.2**
	0.5nm,0.6s,mb3.9,baz=174,slow=4.0,SNR=4.9						
STKA	**Stephens Creek**	**93.58**	**229**	LR	LR	23 29 40.5	
	comp=Z,179nm,18.5s,MS4.6,baz=338,slow=31						
SCHQ	**Schefferville**	**97.44**	**12**	LR	LR	23 35 57.2	
	comp=Z,80nm,18.4s,MS4.2,baz=192,slow=34						

IDC 14 22:53:52.1±27.0, 1901S×17868W, h590km±332km, mb3.1/4, mb1 3.4/4, mb1mx3.0/16, mbtmp3.1/4, Error ellipse: s-maj=298.6km s-min=78.4km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.03**	**262**	P	P	22 59 40.4	+0.4
	2.5nm,0.5s,baz=80,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**44.19**	**261**	P	P	23 01 10.0	+0.2
	1.0nm,0.3s,baz=96,slow=7.4,SNR=5.3						
ASAR	**Alice Springs**	**44.26**	**255**	P	P	23 01 10.4	+0.2
	3.4nm,0.7s,baz=89,slow=8.3,SNR=13						
TXAR	**Lajitas Array**	**86.80**	**58**	P	P	23 05 35.1	+0.5
	0.3nm,0.6s,baz=227,slow=7.3,SNR=3.5						
VNA3	**Neumayer Olymp**	**89.66**	**176**	*e*	P	23 05 41.6	-6.4
VNA2	**Neumayer--Watz**	**90.10**	**177**	*e*	P	23 05 44.4	-5.6
	baz=206,slow=5.1						

IDC ***14*** *22:55:40.0±0.9, 9645×11965E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/15, mbtmp4.1/6, ML4.2/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/25, Error ellipse: s-maj=57.9km s-min=18.7km az=68.0*

ISCJB ***14*** *22:55:43.3±2.1, 9625S×007×11999E±008, h39km±20km, mb4.4/15, MS3.1/4, Error ellipse: s-maj=16.5km s-min=7.1km az=104.6*

NEIC ***14*** *22:55:44.8±0.3, 9645×11969E, h35km, mb4.4/7, Error ellipse: s-maj=12.2km s-min=6.2km az=58.0*

BJI ***14*** *22:55:44.7, 9605×11970E, h35km, mb4.2*

ISC 14 22:55:49.4±1.9, 973S±007×12009E±009, h84km±19km, n39, σ1§34/41, mb4.3/15, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.92**	**148**	*e*P	**Pn**	**22 58 06.2**	**-2.8**
	5.5nm,0.3s						
FITZ				*e*S	**Sn**	**22 59 50.2**	**-8.3**
FITZ	**Fitzroy Crossi**	**9.92**	**148**	Pn	**Pn**	**22 58 05.4**	**-3.6**
	0.9nm,0.3s,baz=316,slow=7.3,SNR=22						
FITZ				Sn	**Sn**	**22 59 51.5**	**-7.0**
	3.0nm,0.3s,baz=188,slow=21,SNR=13						
FITZ				LR	LR	23 02 44.2	
	comp=Z,159nm,19.0s,baz=325,slow=42						
KAKA	**Kakadu**	**12.47**	**105**	*e*P	**Pn**	**22 58 44.5**	**+0.7**
	14nm,0.4s						
KAKA				*e*S	**Sn**	**23 00 59.9**	**-0.9**
KKM	**Kota Kinabalu**	**16.13**	**346**	Pn	**Pn**	**22 59 25.2**	**-5.8**
WRA	**Warramunga Arr**	**17.10**	**128**	P	**Pn**	**22 59 42.2**	**-0.8**
	0.7nm,0.3s,baz=306,slow=14,SNR=44						
WRA				S	**S**	**23 02 47.9**	**-9.3**
	0.6nm,0.3s,baz=300,slow=23,SNR=6.5						
WRA				LR	LR	23 06 34.9	
	comp=Z,48nm,19.9s,baz=335,slow=37						
WB2	**Warramunga Arr**	**17.11**	**128**	*e*P	**Pn**	**22 59 44.0**	**+0.9**
WB2				*e*S	**S**	**23 02 42.4**	**-15**
ASAR	**Alice Springs**	**19.14**	**138**	P	**Pn**	**23 00 09.1**	**+1.5**
	0.7nm,0.3s,baz=327,slow=14,SNR=40						
ASAR				S	**S**	**23 03 36.2**	**-2.1**
	0.4nm,0.3s,baz=311,slow=23,SNR=11						
KLBR	**Kellerberrin**	**21.86**	**185**	*e*P	**P**	**23 00 35.3**	**+0.1**
	31nm,1.2s,mb4.5						
KLBR				*e*S	**S**	**23 04 24.2**	**-7.7**
FORT	**Forrest**	**22.23**	**162**	*e*P	**P**	**23 00 40.9**	**+1.9**
	13nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**23.24**	**186**	P	**P**	**23 00 48.4**	**-0.9**
	7.3nm,0.8s,mb4.1,baz=5.8,slow=13,SNR=4.3						
NWAO				LR	LR	23 09 24.6	
	comp=Z,106nm,20.0s,baz=102,slow=35						
NWAO	**Narrogin (SRO)**	**23.24**	**186**	*e*P	**P**	**23 00 48.8**	**-0.5**
	7.0nm,0.5s,mb4.2						
NWAO				LR	LR	23 09 24.6	
KULM	**Kulim**	**24.45**	**307**	*e*P	**P**	**23 00 56.8**	**-3.4**
PMG	**Port Moresby**	**26.70**	**92**	*e*P	**P**	**23 01 25.1**	**+4.5**
CTA	**Charters Tower**	**27.26**	**115**	LR	LR	23 13 54.4	
	comp=Z,58nm,20.1s,baz=235,slow=40						
CTAO	**Charters Tower**	**27.26**	**115**	P	**P**	**23 01 30.1**	**+4.4**
STKA	**Stephens Creek**	**29.71**	**141**	*e*P	**P**	**23 01 50.6**	**+3.1**
	4.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**29.71**	**141**	P	**P**	**23 01 50.4**	**+2.9**
	5.7nm,0.6s,mb4.4,baz=314,slow=8.3,SNR=12						
YHNB	**Yeheng**	**34.21**	**2**	*e*P	**P**	**23 02 27.4**	**+0.6**
HNR	**Honiara**	**39.29**	**93**	LR	LR	23 17 37.9	
	comp=Z,21nm,20.9s,baz=180,slow=33						
TAU	**Tasmania Unive**	**40.73**	**149**	*e*P	**P**	**23 03 24.4**	**+2.6**
KSRS	**Korea Array**	**47.50**	**8**	LR	LR	23 27 58.0	
	comp=Z,14nm,18.1s,baz=0.0,slow=41						
LSA	**Lhasa**	**48.09**	**326**	*e*P	**P**	**23 04 20.8**	**+0.3**
	2.1nm,0.6s,mb4.1						
GUN	**Gumba**	**49.96**	**319**	*e*P	**P**	**23 04 34.7**	**-0.1**
	19nm,0.7s,mb5.1						
PKI	**Pulchoki**	**50.03**	**319**	*e*P	**P**	**23 04 37.9**	**+2.6**
KKN	**Kakani**	**50.26**	**319**	*e*P	**P**	**23 04 37.3**	**+0.2**
GKN	**Gorkha**	**50.82**	**319**	*e*P	**P**	**23 04 40.0**	**-1.3**
	12nm,0.9s,mb4.9						
KOLN	**Koldanda**	**51.35**	**318**	*e*P	**P**	**23 04 45.1**	**-0.1**
	12nm,0.6s,mb5.1						
GTA	**Gaotai**	**52.39**	**340**	*e*P	**P**	**23 04 55.1**	**+2.2**
GTA				AP	pP	23 05 01.3	-12
GTA				XP	sP	23 05 04.9	-18
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.1						
CASY	**Casey**	**56.85**	**185**	P	**P**	**23 05 24.6**	**-0.6**
SONM	**Songino Array**	**58.58**	**349**	P	**P**	**23 05 37.5**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=164,slow=7.6,SNR=7.7						
MKAR	**Makanchi Array**	**65.59**	**332**	P	**P**	**23 06 23.8**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=157,slow=6.1,SNR=10						
AAK	**Ala-Archa**	**66.68**	**325**	*e*P	**P**	**23 06 29.4**	**-1.8**
	comp=Z,2.2nm,0.8s,mb4.0						
VNDA	**Vanda**	**71.11**	**171**	P	**P**	**23 07 01.6**	**+3.0**
	comp=Z,1.1nm,0.9s,mb3.7,baz=336,slow=6.6,SNR=3.5						
CHKZ	**Chkalovo**	**75.75**	**332**	*e*P	**P**	**23 07 24.7**	**-1.1**
	comp=Z,1.1nm,0.4s,mb3.9						
GNI	**Garni**	**85.22**	**312**	*e*P	**P**	**23 08 16.9**	**+0.4**
KIV	**Kislovodsk**	**87.75**	**315**	P	**P**	**23 08 28.1**	**-0.8**
OBN	**Obninsk**	**94.21**	**325**	*e*P	**P**	**23 08 58.7**	**-0.2**
	comp=Z,5.9nm,0.4s,mb5.3						
TORD	**Torodi Ar. Bea**	**119.64**	**280**	PKP	PKPdf	23 14 32.0	+2.5
	comp=Z,0.4nm,0.7s,baz=60,slow=2.0,SNR=4.1						
LPAZ	**La Paz**	**152.91**	**162**	PKPab	PKPab	23 15 52.9	+4.7
	comp=Z,1.6nm,0.7s,baz=175,slow=5.3,SNR=6.0						

IGQ 14 23:31:21.9, 098S×7916W, h123km±3km, Mb4.1, Ms3.9, 5C-17D, Error ellipse: s-maj=1.7km s-min=1.6km az=156.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMI	**Rancho Maria**	**0.72**	**65**	⇓P	Pn	23 31 42.7	+1.1
CAMI				S	Sn	23 31 58.7	+2.1
IGUA	**Igualata**	**0.73**	**134**	⇓P	Pn	23 31 42.9	+1.2
IGUA				S	Sn	23 31 56.1	-0.6
NAS1	**Nasa**	**0.76**	**63**	⇑P	Pn	23 31 43.1	+1.1
PISA	**Pisayambo**	**0.78**	**96**	⇓P	Pn	23 31 43.1	+1.0
PISA				S	Sn	23 31 58.8	+1.3
BILB	**Tungurahua vol**	**0.80**	**125**	P	Pn	23 31 43.1	+0.8
BILB				S	Sn	23 31 57.9	+0.1
JUIV	**Juive**	**0.82**	**122**	⇓P	Pn	23 31 43.2	+0.7
JUIV				S	Sn	23 31 57.7	-0.4
VC1	**Cotopaxi 1**	**0.83**	**66**	⇓P	Pn	23 31 43.6	+1.1
TAMB	**Tambo**	**0.84**	**70**	⇓P	Pn	23 31 43.8	+1.1
RUN5	**Runtun**	**0.85**	**120**	⇓P	Pn	23 31 43.6	+0.9
RUN5				S	Sn	23 31 59.1	+0.5
RETU	**Refugio**	**0.85**	**123**	⇑P	Pn	23 31 43.9	+1.1
ARRY	**Arrayan**	**0.88**	**127**	⇓P	Pn	23 31 43.8	+0.8
ARRY				S	Sn	23 31 59.4	+0.5
ULBA	**Ulba**	**0.89**	**122**	⇓P	Pn	23 31 43.9	+0.8
ULBA				S	Sn	23 31 58.4	-0.7
JUA2	**San Juan 2**	**0.94**	**36**	⇓P	Pn	23 31 44.4	+0.8
JUA2				S	Sn	23 32 00.6	+0.5
TERV	**Terraza Guagua**	**0.97**	**35**	⇓P	Pn	23 31 44.7	+0.8
GGP	**Refugio Guagua**	**0.98**	**35**	⇓P	Pn	23 31 44.6	+0.7
PINO	**Pino**	**0.99**	**34**	⇓P	Pn	23 31 44.7	+0.7
PINO				S	Sn	23 32 01.8	+1.0
YANA	**Yana**	**1.04**	**35**	⇑P	Pn	23 31 45.0	+0.5
MAG1	**Magdalena**	**1.09**	**326**	P	Pn	23 31 44.4	-0.6
MAG1				S	Sn	23 32 00.3	-2.3
ANTI	**Antisana**	**1.13**	**62**	P	Pn	23 31 46.5	+1.1
CAYR	**Refugio Cayamb**	**1.52**	**49**	⇑P	Pn	23 31 51.4	+1.8
CAYR				S	Sn	23 32 17.7	+6.8
COTA	**Cotacachi**	**1.54**	**32**	⇑P	Pn	23 31 51.1	+1.2
COTA				S	Sn	23 32 14.5	+3.1
CHIS	**Cerro-Chispas-**	**1.57**	**267**	⇓P	Pn	23 31 49.9	-0.3
CHIS				S	Sn	23 32 12.6	+0.7
CAYA	**Cayambe**	**1.57**	**48**	⇓P	Pn	23 31 51.6	+1.4
CAYA				S	Sn	23 32 16.8	+4.9
LAV3	**Lava3-Reventad**	**1.76**	**60**	⇓P	Pn	23 31 53.3	+0.7
LAV3				S	Sn	23 32 20.4	+4.5
CONE	**Cono NE Rev Vo**	**1.77**	**59**	⇓P	Pn	23 31 54.1	+1.5
CONE				S	Sn	23 32 21.5	+5.4

NEIC 14 23:33:27.6, 6180N×14998W, h43km, ML3.2(AEIC), **ML3.5**(PMR), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.45**	**117**	P	Pn	23 33 36.8	-1.1
PMR				S	Sn	23 33 45.1	0.0
GHO	**Glory Hole Cre**	**0.50**	**93**	P	Pn	23 33 37.9	-0.6
GHO				S	Sn	23 33 46.2	+0.1
FIB	**Fire Island**	**0.64**	**189**	P	Pn	23 33 40.1	-0.3
FIB				S	Sn	23 33 50.7	+1.2
RC01	**Rabbit Creek A**	**0.72**	**171**	P	Pn	23 33 40.2	-1.2
SML	**Sawmill**	**0.78**	**89**	P	Pn	23 33 41.2	-1.0
SML				S	Sn	23 33 52.1	-0.6
KNK	**Knik Glacier**	**0.82**	**118**	P	Pn	23 33 42.0	-0.8
SLKM	**Skilak Lake**	**1.30**	**185**	P	Pn	23 33 48.3	-1.0
TRF	**Thorofare Moun**	**1.66**	**355**	P	Pn	23 33 53.8	-0.4
SEW	**Seward**	**1.72**	**171**	P	Pn	23 33 55.4	+0.4
KTH	**Kantishna Hill**	**1.81**	**346**	P	Pn	23 33 56.0	-0.3
MCK	**McKinley**	**2.00**	**13**	P	Pn	23 33 59.0	+0.1
EYAK	**Cordova Ski Ar**	**2.40**	**120**	P	Pn	23 34 03.1	-1.3
SVW2	**Sparrevohn**	**2.78**	**258**	*e*P	Pn	23 34 08.5	-1.2
RAGM	**Ragged Mountai**	**2.94**	**117**	P	Pn	23 34 11.8	0.0
COLA	**College**	**3.23**	**16**	P	Pn	23 34 15.3	-0.5
IMA2	**Indian Mountai**	**4.59**	**341**	P	Pn	23 34 33.7	-0.8
EGAK	**Eagle**	**4.97**	**49**	*e*Pn	Pn	23 34 39.8	+0.1
EGAK				*e*Sn	Sn	23 35 38.7	+2.8
DAWY	**Dawson**	**5.34**	**60**	*e*Pn	Pn	23 34 45.5	+0.8
DAWY				*e*Sn	Sn	23 35 47.6	+2.6
COLD	**Coldfoot**	**5.45**	**359**	P	Pn	23 34 44.6	-1.7
TNA	**Tin City**	**8.81**	**303**	P	Pn	23 35 30.2	-2.1

MOS ***14*** *23:36:13.2±2.4, 5564N×110.17E, h9km, mb4.3/1, Error ellipse: s-maj=31.6km s-min=17.3km az=70.5*

BYKL 14 23:36:12.2±0.3, 5570N×11014E, h1km±6km, 3C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**283**	⇑*i*Pg	Pg	23 36 18.8	-0.1
NIZ				*i*Sg	Sg	23 36 23.8	+0.4
NIZ				Pmax			
	119nm,0.2s						
NIZ				Smax			
	670nm,0.2s						
KMO	**Kumora**	**0.63**	**72**	⇑*i*Pg	Pg	23 36 22.9	-1.3
KMO				*i*Sg	Sg	23 36 31.3	-1.1
KMO				Pmax			
	186nm,0.3s						
KMO				Smax			
	485nm,0.7s						
YOA	**Uoyan**	**0.99**	**63**	*e*PG	Pg	23 36 31.0	-0.2
YOA				*e*		23 36 44.0	
YOA				pmax	pmax		
	comp=Z,126nm,0.2s						
YOA				smax			
	comp=N,831nm,0.3s						
YOA	**Uoyan**	**0.99**	**63**	*e*Pg	Pg	23 36 29.5	-1.7
YOA				*e*Sg	Sg	23 36 44.1	0.0
YOA				Pmax			
	comp=N,180nm,0.2s						
YOA				Smax			
	comp=N,827nm,0.4s						
YLYR	**Ulyunkhan**	**1.01**	**144**	*e*PG	Pg	23 36 30.1	-1.5
YLYR				*e*		23 36 43.1	
YLYR				pmax	pmax		
	comp=Z,54nm,0.1s						
YLYR				smax			
	comp=E,410nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**144**	*i* Pg	Pg	23 36 30.0	-1.6
YLYR				*i* Sg	Sg	23 36 43.7	-1.0
YLYR				Pmax			
	comp=E,53nm,0.1s						
YLYR				Smax			
	comp=E,406nm,0.3s						
SVKR	**Severomuysk**	**1.97**	**76**	*e*PN	Pn	23 36 46.9	+0.2
SVKR				*e*		23 37 14.6	
SVKR				pmax	pmax		
	comp=Z,165nm,0.4s						
SVKR				smax			
	comp=N,773nm,0.7s						
SVKR	**Severomuysk**	**1.97**	**76**	*e*Pg	Pg	23 36 47.9	-2.1
SVKR				*e*Sg	Sg	23 37 14.8	-0.7
SVKR				Pmax			
	comp=N,175nm,0.3s						
SVKR				Smax			
	comp=N,776nm,0.5s						
SYVR	**Suvo**	**2.05**	**182**	*e*PN	Pn	23 36 48.7	+0.9
SYVR				*e*		23 37 16.9	
SYVR				pmax	pmax		
	comp=Z,27nm,0.4s						
SYVR				smax			
	comp=E,412nm,0.7s						
SYVR	**Suvo**	**2.05**	**182**	⇑*i*Pg	Pg	23 36 48.7	-2.8
SYVR				*i* Sg	Sg	23 37 16.9	-1.1
SYVR				*e*		23 37 18.3	
SYVR				Pmax			
	comp=E,31nm,0.4s						
SYVR				max			
	comp=E,489nm,0.7s						
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn	Pn	23 36 55.0	+0.5
OGRR				*e*Pg	Pg	23 36 57.1	-3.7
OGRR				*e*Sn	Sn	23 37 27.3	+1.3
OGRR				*e*Sg	Sg	23 37 30.8	-2.9
OGRR				Pmax			
	comp=E,18nm,0.4s						
OGRR				Smax			
	comp=E,85nm,0.3s						
MXMB	**Maximikha**	**2.57**	**199**	*e*Sg	Sg	23 37 31.9	-3.0
MXMB				Smax			
	comp=E,289nm,1.1s						
BOD	**Bodaibo**	**3.01**	**43**	*e*Pn	Pn	23 37 01.2	+0.3
BOD				*e*Pg	Pg	23 37 04.7	-5.1
BOD				*e*Sn	Sn	23 37 37.6	0.0
BOD				*e*Sg	Sg	23 37 44.7	-4.1
BOD				Pmax			
	comp=E,13nm,0.3s						
BOD				Smax			
	comp=E,74nm,0.5s						
NLYR	**Nelyaty**	**3.22**	**73**	*e*Pn	Pn	23 37 05.4	+1.6
NLYR				*e*		23 37 12.1	
NLYR				*e*Sg	Sg	23 37 53.0	-2.5
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	Pn	23 37 11.0	+0.6
TRG				*e*Sn	Sn	23 37 55.8	+1.3
TRG				*e*Sg	Sg	23 38 07.0	-3.8
TRG				max			
	comp=E,22nm,0.6s						
TRG				Smax			
	comp=E,44nm,0.3s						
TRTB	**Turuntaevo**	**3.78**	**204**	*e*Pn	Pn	23 37 11.8	+0.2
TRTB				*e*		23 37 21.6	
TRTB				*e*Sn	Sn	23 37 55.9	-0.8
TRTB				*e*Sg	Sg	23 38 08.9	-4.7
TRTB				max			
	comp=E,5.0nm,0.3s						
TRTB				Smax			
	comp=E,30nm,0.6s						
UUDB	**Ulan-Yde**	**4.11**	**202**	*e*

ZAK smax
comp=N,32nm,1.3s
MOY Mondy 6.77 237 *e*Pn Pn 23 37 53.5 +0.8
MOY *e*Sn Sn 23 39 07.7 -2.7
MOY *e*Sg Sg 23 39 40.4 -9.2
MOY max
comp=N,9.0nm,0.6s
MOY Smax
comp=N,65nm,2.1s
ORL Orlik 6.85 247 *e*Pn Pn 23 37 54.2 +0.5
ORL *e*Sn Sn 23 39 09.8 -2.5
ORL *e*Sg Sg 23 39 43.9 -8.2
ORL max
comp=N,6.0nm,0.9s
ORL Smax
comp=N,45nm,1.1s
TDJR Todzha 8.89 254 *e*Sg Sg 23 40 46.8 -11

*IDC **14** 23:45:54.2±4.5,277S×14707E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=149.2km s-min=65.1km az=114.0*
*ISCJB **14** 23:45:56.4±1.9,28S±01×1472E±03, h35km, mb4.2/5, Error ellipse: s-maj=41.8km s-min=18.1km az=153.0*
*NEIC **14** 23:45:58.1±1.1,278S×14723E, h35km, mb4.1/2, Error ellipse: s-maj=27.8km s-min=13.5km az=83.0*
ISC 14 23:45:58.0±1.9,28S±01×1473E±03, h35km, n11, σ0°56/10, mb4.2/5, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.58**	**181**	Pn	**Pn**	**23 47 31.7**	**-0.5**
WB2	**Warramunga Arr**	**21.23**	**216**	*e*P	**P**	**23 50 41.4**	**+0.6**
WRA	**Warramunga Arr**	**21.24**	**216**	P	**P**	**23 50 40.3**	**-0.6**
	12nm,1.1s,mb4.1,baz=38,slow=12,SNR=27						
ASAR	**Alice Springs**	**24.48**	**211**	P	**P**	**23 51 14.7**	**+1.0**
	3.6nm,1.1s,mb3.7,baz=44,slow=8.0,SNR=14						
FITZ	**Fitzroy Crossi**	**26.13**	**233**	*e*P	**P**	**23 51 29.1**	**+0.4**
	8.2nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**26.13**	**233**	P	**P**	**23 51 28.9**	**+0.2**
	4.3nm,1.1s,mb3.9,baz=40,slow=7.9,SNR=4.0						
KULM	**Kulim**	**47.29**	**280**	P	**P**	**23 54 27.2**	**-0.7**
COCO	**West Island**	**50.83**	**257**	*e*P	**P**	**23 54 54.7**	**-0.3**
CASY	**Casey**	**68.42**	**195**	*e*P	**P**	**23 56 56.1**	**-0.1**
	12nm,0.8s,mb5.0						
BRVK	**Borovoye**	**84.44**	**324**	*e*P	**P**	**23 58 27.2**	**+0.3**
	0.6nm,0.5s,mb4.0						
TORD	**Torodi Ar. Bea**	**144.47**	**289**	PKP	PKPdf	00 05 32.0	+1.5
	2.0nm,1.2s,baz=75,slow=2.2,SNR=5.3						

*MOS **14** 23:47:32.9±1.1,5574N×110.11E, h11km, mb4.4/1, Error ellipse: s-maj=19.4km s-min=11.4km az=58.1*
BYKL 14 23:47:33.9±0.2,5570N×11015E, h4km±4km, 1C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**283**	*e*PG	Pg	23 47 40.5	-0.2
NIZ				*e*		23 47 46.0	
NIZ				pmax	pmax		
	comp=Z,289nm,0.5s						
NIZ				smax			
	comp=N,1μm,0.3s						
NIZ	**Nizh Angarsk**	**0.35**	**283**	*e*Pg	Pg	23 47 40.9	+0.2
NIZ				*e*Sg	Sg	23 47 45.5	+0.2
NIZ				Pmax			
	comp=N,135nm,0.2s						
NIZ				Smax			
	comp=N,1μm,0.3s						
KMO	**Kumora**	**0.62**	**72**	*e*PG	Pg	23 47 44.7	-1.1
KMO				*e*		23 47 52.8	
KMO				pmax	pmax		
	comp=Z,291nm,0.3s						
KMO				smax			
	comp=N,496nm,0.7s						
KMO	**Kumora**	**0.62**	**72⇑**	*i*Pg	Pg	23 47 44.7	-1.1
KMO				*i* Sg	Sg	23 47 53.0	-0.9
KMO				Pmax			
	comp=N,287nm,0.3s						
KMO				Smax			
	comp=N,561nm,1.0s						
YOA	**Uoyan**	**0.99**	**63⇓**	*i*PG	Pg	23 47 52.3	-0.5
YOA				*e*		23 48 05.7	
YOA				pmax	pmax		
	comp=Z,214nm,0.2s						
YOA				smax			
	comp=E,853nm,0.3s						
YOA	**Uoyan**	**0.99**	**63**	*e*Pg	Pg	23 47 52.3	-0.5
YOA				*e*Sg	Sg	23 48 05.8	+0.2
YOA				Pmax			
	comp=E,195nm,0.2s						
YOA				Smax			
	comp=E,857nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**145**	*e*PG	Pg	23 47 51.8	-1.4
YLYR				*e*		23 48 04.8	
YLYR				pmax	pmax		
	comp=Z,110nm,0.1s						
YLYR				smax			
	comp=E,484nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**145**	*e*Pg	Pg	23 47 52.0	-1.2
YLYR				*e*Sg	Sg	23 48 05.4	-0.9
YLYR				*e*Sb	Sb	23 48 10.4	+2.9
YLYR				Pmax			
	comp=E,110nm,0.1s						
YLYR				max			
	comp=E,480nm,0.2s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*PN	Pn	23 48 09.0	+1.0
SVKR				*e*		23 48 35.0	
SVKR				pmax	pmax		
	comp=Z,248nm,0.3s						
SVKR				smax			
	comp=N,962nm,0.7s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pg	Pg	23 48 09.5	-2.1
SVKR				*e*Sg	Sg	23 48 36.4	-0.6
SVKR				Pmax			
	comp=N,278nm,0.3s						
SVKR				Smax			
	comp=N,982nm,0.7s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	23 48 10.3	+1.2
SYVR				*e*		23 48 38.5	
SYVR				pmax	pmax		
	comp=Z,69nm,0.4s						
SYVR				smax			
	comp=E,569nm,0.7s						
SYVR	**Suvo**	**2.05**	**183**	*e*Pg	Pg	23 48 10.4	-2.8
SYVR				*e*Sg	Sg	23 48 38.8	-0.9
SYVR				Pmax			
	comp=E,73nm,0.4s						
SYVR				Smax			
	comp=E,641nm,0.7s						
OGRR	**Ongureny**	**2.54**	**217**	*e*PN	Pn	23 48 16.8	+0.9
OGRR				*e*		23 48 20.0	
OGRR				*e*		23 48 52.2	
OGRR				pmax	pmax		
	comp=Z,19nm,0.2s						
OGRR				smax			
	comp=E,143nm,0.3s						
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn	Pn	23 48 16.4	+0.5
OGRR				*e*Pg	Pg	23 48 19.4	-3.2
OGRR				*e*		23 48 48.2	
OGRR				*e*Sg	Sg	23 48 52.2	-3.3
OGRR				Pmax			
	comp=E,20nm,0.4s						
OGRR				Smax			
	comp=E,148nm,0.3s						
MXMB	**Maximikha**	**2.58**	**199**	*e*Pg	Pg	23 48 20.0	-3.3
MXMB				*e*Sg	Sg	23 48 54.7	-2.0
MXMB				Pmax			
	comp=E,20nm,0.2s						
MXMB				Smax			
	comp=E,317nm,1.1s						
BOD	**Bodaibo**	**3.00**	**43**	*e*Pn	Pn	23 48 23.0	+0.8
BOD				*e*Sn	Sn	23 48 59.8	+1.2
BOD				*e*Sg	Sg	23 49 06.2	-4.2
BOD				max			
BOD				Smax			
	comp=E,74nm,0.5s						
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	Pn	23 48 32.2	+0.4
TRG				*e*Sn	Sn	23 49 16.0	+0.3
TRG				*e*Sg	Sg	23 49 27.7	-4.9
TRG				max			
	comp=E,17nm,0.4s						
TRG				Smax			
	comp=E,67nm,0.4s						
TRTB	**Turuntaevo**	**3.78**	**204**	*e*Pn	Pn	23 48 33.5	+0.6
TRTB				*e*Sg	Sg	23 49 30.6	-4.8
TRTB				max			
	comp=E,15nm,1.4s						
TRTB				Smax			
	comp=E,64nm,1.6s						
UUDB	**Ulan-Yde**	**4.11**	**202**	*e*Sg	Sg	23 49 41.6	-4.4
UUDB				Smax			
	comp=E,90nm,1.4s						
CIT	**Chita**	**4.20**	**150**	*e*Sg	Sg	23 49 43.8	-5.0
CIT				Smax			
	comp=E,39nm,1.1s						
CRS	**Chara**	**4.68**	**72**	*e*PN	Pn	23 48 58.7	+13
CRS				*e*		23 50 01.6	
CRS				pmax	pmax		
	comp=Z,47nm,1.0s						
CRS				smax			
	comp=E,56nm,2.0s						
CRS	**Chara**	**4.68**	**72**	*e*Pg	Pg	23 48 58.3	-5.3
CRS				*e*Sg	Sg	23 49 58.8	-5.4
CRS				Pmax			
	comp=E,26nm,0.9s						
CRS				Smax			
	comp=E,44nm,1.5s						
IRK	**Irkutsk**	**4.90**	**227**	*e*Sg	Sg	23 50 04.8	-6.5
LSTR	**Listvyanka**	**4.97**	**222**	*e*	Sn	23 49 47.7	+0.6
LSTR				*e*Sg	Sg	23 50 06.9	-6.5
LSTR				Smax			
	comp=E,33nm,0.6s						
TLY	**Talaya**	**5.58**	**227**	*e*PN	Pn	23 48 56.3	-1.4
TLY				*e*		23 49 13.4	
TLY				*e*S	Sn	23 50 00.1	-2.1
TLY				*e*		23 50 25.9	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TLY				smax			
	comp=E,34nm,1.2s						
TLY	**Talaya**	**5.58**	**227**	*e*Sn	Sn	23 50 00.4	-1.8
TLY				*e*Sg	Sg	23 50 25.7	-7.4
TLY				Smax			
	comp=E,22nm,0.6s						
TUP	**Tupik**	**5.78**	**99**	*e*Pn	Pn	23 48 59.9	-0.5
TUP				*e*		23 49 15.6	
TUP				*e*		23 50 06.4	
TUP				*e*Sg	Sg	23 50 31.7	-7.7
TUP				max			
	comp=E,5.0nm,0.8s						
TUP				Smax			
	comp=E,58nm,2.6s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	Pn	23 49 02.5	-0.1
ARS				*e*S	Sn	23 50 07.8	-3.3
ARS				*e*S	Sn	23 50 36.8	+26
ARS				smax			
	comp=N,141nm,0.5s						
ARS	**Arshan**	**5.94**	**234**	*e*Pn	Pn	23 49 02.5	-0.1
ARS				*e*Sn	Sn	23 50 08.5	-2.6
ARS				*e*Sg	Sg	23 50 36.8	-7.8
ARS				Smax			
	comp=N,166nm,0.8s						
KPC	**Khapcheranga**	**6.16**	**166**	*e*Sg	Sg	23 50 44.4	-7.2
KPC				Smax			
	comp=N,35nm,1.4s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*PN	Pn	23 49 09.2	-4.5
ZAK				*e*		23 49 32.2	
ZAK				*e*S	Sn	23 50 26.5	-4.4
ZAK				*e*		23 50 59.6	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAK				smax			
	comp=N,46nm,1.1s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*Sg	Sg	23 51 01.5	-9.0
ZAK				Smax			
	comp=N,14nm,0.6s						
MOY	**Mondy**	**6.77**	**237**	*e*PN	Pn	23 49 15.4	+1.3
MOY				*e*		23 49 34.4	
MOY	**Mondy**	**6.77**	**237**	*e*Pn	Pn	23 49 15.6	+1.5
MOY				*e*Sn	Sn	23 50 32.4	+0.8
MOY				*e*Sg	Sg	23 51 02.1	-9.3
MOY				max			
	comp=N,13nm,0.5s						
MOY				Smax			
	comp=N,53nm,1.7s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	Pn	23 49 16.4	+1.3
ORL				*e*S	Sn	23 50 29.4	-4.2
ORL				*e*S	Sg	23 51 07.0	-6.9
ORL				smax			
	comp=N,53nm,1.0s						
ORL	**Orlik**	**6.85**	**247**	*e*Pn	Pn	23 49 16.3	+1.2
ORL				*e*Sn	Sn	23 50 32.4	-1.2
ORL				*e*Sg	Sg	23 51 06.9	-7.0
ORL				Smax			
	comp=N,65nm,0.2s						

*IDC **14** 23:48:54.9±4.8,261S×14690E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=144.5km s-min=70.2km az=113.0*
*ISCJB **14** 23:48:57.7±3.4,27S±03×1469E±04, h35km, mb3.6/3, Error ellipse: s-maj=61.8km s-min=19.5km az=113.6*
*NEIC **14** 23:48:59.4±1.4,265S×14696E, h35km, mb3.4/1, Error ellipse: s-maj=28.8km s-min=13.8km az=67.0*
ISC 14 23:48:60.0±3.2,27S±02×1470E±03, h35km, n9, σ0°52/8, mb3.6/3, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.69**	**178**	*e*Pn	**Pn**	**23 50 34.7**	**-0.9**
CTAO	**Charters Tower**	**17.32**	**182**	Pn	**Pn**	**23 52 58.9**	**0.0**
	3.1nm,1.0s						
WB2	**Warramunga Arr**	**21.12**	**215**	*e*P	**P**	**23 53 41.4**	**-0.2**
WRA	**Warramunga Arr**	**21.13**	**215**	P	**P**	**23 53 41.8**	**+0.1**
	5.1nm,1.1s,mb3.8,baz=38,slow=11,SNR=13						
ASAR	**Alice Springs**	**24.39**	**210**	P	**P**	**23 54 15.6**	**+0.7**
	1.6nm,0.9s,mb3.5,baz=42,slow=7.6,SNR=14						
FITZ	**Fitzroy Crossi**	**25.92**	**232**	P	**P**	**23 54 29.1**	**+0.3**
	2.4nm,1.0s,mb3.7,baz=35,slow=9.4,SNR=5.6						
KKM	**Kota Kinabalu**	**31.91**	**286**	*e*P	**P**	**23 55 21.5**	**-0.6**
TAU	**Tasmania Unive**	**40.06**	**180**	P	**P**	**23 56 32.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**144.12**	**289**	PKP	PKPdf	00 08 32.8	+0.9
	0.8nm,1.1s,baz=84,slow=2.4,SNR=2.9						

*IDC **14** 23:58:13.2±8.1,3620N×7018E, h170km±64km, mb3.2/5, mb1 3.4/8, mb1mx3.1/25, mbtmp3.2/8, Error ellipse: s-maj=66.0km s-min=26.6km az=58.0*
*ISCJB **14** 23:58:18.4±0.7,3647N±004×703E±01, h227km±8km, mb3.1/4, Error ellipse: s-maj=17.9km s-min=6.3km az=176.3*
ISC 14 23:58:19.5±0.7,3646N±004×704E±01, h223km±8km, n24, σ0°75/27, mb3.1/4, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**154**	⇓P	**Pn**	**23 59 10.4**	**+1.0**
CEP				S	**S**	**23 59 49.0**	**+0.4**
CHCP	**Chirah Chowk**	**3.67**	**139**	P	**Pn**	**23 59 19.7**	**+1.6**
THW	**Thamme Wali**	**3.83**	**162**	⇓P	**Pn**	**23 59 20.3**	**+0.3**
SBDP	**Sheikh Budin**	**4.17**	**175**	⇑P	**Pn**	**23 59 23.1**	**-1.0**
DRP	**Derazinda**	**4.71**	**182**	P	**Pn**	**23 59 30.6**	**-0.2**
SARP	**Sargodha**	**4.91**	**157**	P	**Pn**	**23 59 33.4**	**+0.1**
SARP				S	**S**	**00 00 31.0**	**-0.9**
THN	**Thein Dam**	**5.97**	**131**	*e*P	**Pn**	**23 59 47.7**	**+1.1**
	2.7nm,0.2s						
THN				*e*S	**S**	**00 00 53.9**	**-2.1**
AML	**Almayashu**	**6.22**	**23**	P	**Pn**	**23 59 49.4**	**-0.4**
	SNR=36						
UCH	**Uchtor**	**6.59**	**28**	P	**Pn**	**23 59 54.6**	**0.0**
	SNR=22						
EKS2	**Erkin-Say**	**6.73**	**22**	P	**Pn**	**23 59 56.0**	**-0.3**
	SNR=11						
KZA	**Kyzart**	**6.76**	**32**	P	**Pn**	**23 59 56.8**	**0.0**
	SNR=60						
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**23 59 59.0**	**0.0**
	SNR=19						
KBK	**Karagaybulak**	**7.12**	**28**	P	**Pn**	**00 00 02.0**	**+0.6**
	SNR=7.6						
CHMS	**Chumysh**	**7.35**	**26**	P	**Pn**	**00 00 04.0**	**-0.3**
	SNR=5.3						
ULHL	**Ulahol**	**7.35**	**36**	P	**Pn**	**00 00 04.6**	**+0.3**
	SNR=12						
USP	**Ospenovka**	**7.50**	**24**	P	**Pn**	**00 00 05.7**	**-0.6**
	SNR=13						
MKAR	**Makanchi Array**	**13.62**	**37**	P	**Pn**	**00 01 23.8**	**0.0**
	0.4nm,0.3s,baz=221,slow=15,SNR=15						
BVAR	**Borovoye Array**	**16.56**	**0**	P	**P**	**00 01 58.0**	**+0.1**
	1.0nm,0.3s,baz=149,slow=11,SNR=20						
AKTO	**Aktyubinsk**	**16.57**	**331**	P	**P**	**00 01 56.9**	**-1.2**
	0.6nm,0.3s,baz=144,slow=8.0,SNR=13						
ZAL	**Zalesovo**	**20.15**	**25**	P	**P**	**00 02 36.8**	**0.0**
	1.9nm,0.3s,baz=236,slow=4.2,SNR=9.4						
INK	**Inuvik**	**74.02**	**9**	P	**P**	**00 09 32.2**	**+1.5**
	0.4nm,0.5s,mb3.3,baz=332,slow=6.5,SNR=8.2						
YKA	**Yellowknife Ar**	**81.31**	**2**	P	**P**	**00 10 10.6**	**-0.3**
	0.1nm,0.5s,mb2.7,baz=351,slow=5.3,SNR=3.8						
YKA				pP	pP	00 11 03.6	-0.8
	0.1nm,0.6s,baz=352,slow=5.0,SNR=3.3						
WRA	**Warramunga Arr**	**82.40**	**121**	P	**P**	**00 10 16.1**	**-0.5**
	0.3nm,0.7s,mb3.0,baz=324,slow=5.1,SNR=8.6						
ASAR	**Alice Springs**	**84.65**	**124**	P	**P**	**00 10 28.2**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=310,slow=4.8,SNR=6.0						

*IDC **15** 00:16:32.3±0.6,2321N×14338E, h0km, mb4.0/10, mb1 4.2/13, mb1mx4.1/23, mbtmp4.0/13, ML3.5/3, MS3.7/6, Ms1 3.7/6, ms1mx3.4/34, Error ellipse: s-maj=24.8km s-min=16.5km az=80.0*
*ISCJB **15** 00:16:37.2±0.4,2336N±005×14325E±009, h35km, mb4.4/22, MS3.9/4, Error ellipse: s-maj=11.8km s-min=7.2km az=148.8*
*NEIC **15** 00:16:38.2±0.4,2323N×14324E, h35km, mb4.6/12, Error ellipse: s-maj=12.0km s-min=8.2km az=70.0*
ISC 15 00:16:39.0±0.4,2338N±005×14334E±009, h35km, n45, σ1°21/42, mb4.4/22, MS3.9/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.84**	**344**	Pn	**Pn**	**00 17 35.0**	**-0.7**
	4.7nm,0.3s,baz=270,slow=20,SNR=4.4						
CBIJ				Sn	**Sn**	**00 18 19.2**	**-0.4**
	85nm,0.3s,baz=280,slow=23,SNR=22						
GUMO	**Guam**	**9.85**	**171**	*e*Pn	**Pn**	**00 18 56.0**	**-2.1**
MJAR	**Matsushiro Arr**	**13.85**	**342**	Pn	**Pn**	**00 19 49.9**	**-2.8**
	0.3nm,0.3s,baz=159,slow=11,SNR=5.0						
JNU	**Nakatsue**	**14.64**	**314**	LR	LR	00 24 32.7	
	comp=Z,178nm,20.2s,baz=315,slow=32						
KSRS	**Korea Array**	**19.29**	**320**	P	**Pn**	**00 21 01.8**	**-0.2**
	baz=131,slow=12,SNR=9.9						
KSRS				LR	LR	00 28 20.4	
	comp=Z,160nm,18.1s,baz=169,slow=36						
TATO	**Taipei**	**20.00**	**279**	*e*P	**P**	**00 21 06.4**	**-2.1**
	6.9nm,0.4s						
INCN	**Inchon**	**20.08**	**318**	*e*P	**P**	**00 21 09.7**	**+0.3**
	15nm,0.3s						
YHNB	**Yeheng**	**20.10**	**278**	*e*P	**P**	**00 21 08.2**	**-1.5**
PMG	**Port Moresby**	**32.80**	**173**	P	**P**	**00 23 10.2**	**+1.3**
	3.0nm,0.3s,mb4.7						
ULN	**Ulaanbaatar**	**37.77**	**319**	*e*P	**P**	**00 23 51.2**	**-0.4**
	6.0nm,1.3s,mb4.2						
SONM	**Songino Array**	**38.15**	**319**	P	**P**	**00 23 54.1**	**-0.8**
	1.3nm,0.9s,mb3.7,baz=119,slow=7.1,SNR=6.7						
SONM				PcP	PcP	00 26 09.2	0.0
	0.7nm,0.9s,baz=81,slow=3.6,SNR=3.0						
SONM				LR	LR	00 40 12.5	
	comp=Z,114nm,18.1s,MS3.7,baz=190,slow=37						
CTAO	**Charters Tower**	**43.30**	**176**	P	**P**	**00 24 37.9**	**+0.6**
WB2	**Warramunga Arr**	**43.94**	**192**	*e*P	**P**	**00 24 38.5**	**-4.0**
WRA	**Warramunga Arr**	**43.95**	**192**	P	**P**	**00 24 38.7**	**-3.8**
	1.6nm,0.6s,mb3.9,baz=7.4,slow=7.7,SNR=31						
WRA				PcP	PcP	00 26 27.8	-0.2
	1.5nm,0.9s,baz=2.6,slow=3.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**44.71**	**204**	*e*P	**P**	**00 24 48.0**	**-0.6**
	7.3nm,0.6s,mb4.7						
LSA	**Lhasa**	**46.79**	**289**	*e*P	**P**	**00 25 04.6**	**-0.5**
	16nm,1.3s,mb4.8						
ASAR	**Alice Springs**	**47.66**	**192**	P	**P**	**00 25 09.0**	**-2.8**
	0.6nm,0.7s,mb3.8,baz=7.8,slow=8.3,SNR=7.9						
GUN	**Gumba**	**51.60**	**288**	*e*P	**P**	**00 25 44.1**	**+2.3**
	14nm,0.7s,mb5.0						
PKI	**Pulchoki**	**52.07**	**287**	*e*P	**P**	**00 25 47.0**	**+1.7**
KKN	**Kakani**	**52.14**	**288**	*e*P	**P**	**00 25 47.6**	**+1.7**
	9.7nm,0.6s,mb4.9						
DMN	**Daman**	**52.33**	**288**	*e*P	**P**	**00 25 48.3**	**+1.1**
	7.4nm,0.3s,mb5.2						
GKN	**Gorkha**	**52.67**	**288**	*e*P	**P**	**00 25 51.4**	**+1.6**
ZAL	**Zalesovo**	**53.00**	**321**	P	**P**	**00 25 51.2**	**-1.0**
	2.1nm,0.6s,mb4.3,baz=356,slow=7.0,SNR=13						
ZAL				LR	LR	00 47 59.9	
	comp=Z,82nm,19.0s,MS3.8,baz=11,slow=36						
KOLN	**Koldanda**	**53.62**	**288**	*e*P	**P**	**00 25 58.4**	**+1.6**
MK31	**Makanchi Array**	**53.68**	**312**	*e*P	**P**	**00 25 57.5**	**+0.3**
MKAR	**Makanchi Array**	**53.68**	**312**	P	**P**	**00 25 58.0**	**+0.8**
	5.9nm,0.7s,mb4.6,baz=86,slow=9.0,SNR=47						
MKAR				LR	LR	00 50 23.0	
	comp=Z,56nm,19.1s,MS3.6,baz=354,slow=38						
STKA	**Stephens Creek**	**54.97**	**182**	P	**P**	**00 26 06.0**	**-0.6**
AAK	**Ala-Archa**	**59.27**	**307**	*e*P	**P**	**00 26 37.4**	**+0.4**
	1.2nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**61.35**	**320**	*e*P	**P**	**00 26 50.7**	**-0.5**
	5.2nm,0.8s,mb4.7						
BRVK	**Borovoye**	**61.56**	**319**	*e*P	**P**	**00 26 52.4**	**-0.2**
	8.9nm,0.6s,mb5.0						
INK	**Inuvik**	**65.98**	**24**	P	**P**	**00 27 20.8**	**-0.9**
	1.0nm,0.7s,mb4.0,baz=288,slow=4.3,SNR=8.6						
INK	**Inuvik**	**65.98**	**24**	P	**P**	**00 27 20.9**	**-0.9**
	44nm,0.8s						
ARU	**Arti**	**68.00**	**323**	*e*P	**P**	**00 27 34.6**	**0.0**
	4.6nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**74.91**	**28**	P	**P**	**00 28 15.2**	**-1.0**
	1.2nm,0.7s,mb3.9,baz=292,slow=5.8,SNR=19						
YKA	**Yellowknife Ar**	**74.91**	**28**	P	**P**	**00 28 15.2**	**-1.0**
KIV	**Kislovodsk**	**81.36**	**314**	P	**P**	**00 28 52.7**	**+0.8**
FINES	**FINESS Array B**	**81.73**	**334**	P	**P**	**00 28 52.8**	**-1.1**
	3.9nm,0.9s,mb4.3,baz=69,slow=6.3,SNR=7.3						
NVAR	**Mina Array Bea**	**81.99**	**52**	P	**P**	**00 28 56.0**	**+0.7**
	0.6nm,0.7s,mb3.6,baz=260,slow=4.3,SNR=4.2						
DUG	**Dugway**	**85.11**	**48**	*e*P	**P**	**00 29 11.7**	**+0.3**
	1.5nm,0.8s,mb4.2						
BW06	**Boulder Array**	**86.10**	**45**	P	**P**	**00 29 18.2**	**+1.9**
PDAR	**Pinedale Array**	**86.10**	**45**	P	**P**	**00 29 15.6**	**-0.6**
	0.5nm,0.9s,mb3.7,baz=302,slow=7.4,SNR=3.2						
PDAR				LR	LR	01 04 17.3	
	comp=Z,104nm,19.4s,MS4.2,baz=167,slow=33						
RSSD	**Black Hills**	**88.90**	**42**	P	**P**	**00 29 31.6**	**+1.9**
TORD	**Torodi Ar. Bea**	**127.79**	**310**	PKP	PKPdf	00 35 40.6	-0.1
	0.3nm,0.6s,baz=41,slow=1.8,SNR=5.2						
PLCA	**Paso Flores**	**146.73**	**129**	PKPbc	PKPbc	00 36 17.2	+0.1
	4.8nm,1.0s,baz=224,slow=7.4,SNR=5.3						
LPAZ	**La Paz**	**149.61**	**82**	PKPbc	PKPbc	00 36 24.1	-0.7
	1.1nm,0.8s,baz=34,slow=7.3,SNR=3.5						

*ISCJB **15** 00:20:05.2±1.4,4300N±006×003W±006, h6km±19km, Error ellipse: s-maj=9.8km s-min=6.4km az=133.1*
*MDD **15** 00:20:05.8±0.4,4300N×002W, h0km, mbLg0.5/2, Error ellipse: s-maj=3.1km s-min=2.3km az=148.0, PRXIMO*
*CSEM **15** 00:20:05.6±0.1,4300N×002W, h2km, ML1.9, Error ellipse: s-maj=3.1km s-min=1.8km az=155.0*
*STR **15** 00:20:05.8±0.1,4299N×003E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **15** 00:20:05.4±0.1,4300N×001W, h2km, Md1.3/2, Error ellipse: s-maj=2.8km s-min=1.7km az=154.0*
ISC 15 00:20:05.5±1.4,4300N±005×003W±006, h4km±26km, n9, σ0°18/17, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.09**	**59**	Pg	**Pg**	**00 20 07.3**	**0.0**
LABF				Sg	**Sg**	**00 20 08.5**	**0.0**
LABF	**Labassere**	**0.09**	**59**	P	**Pg**	**00 20 07.3**	**0.0**
LABF				S	**Sg**	**00 20 08.5**	**0.0**

1.8nm,0.3s
ETSF Etsaut 0.40 255 *e*Pg **Pg 00 20 13.7 +0.4**
ETSF *e*Sg **Sg 00 20 18.3 -0.3**
0.9nm,0.3s

CSEM ***15*** *00:26:51.1,6785N×2020E,h0km,ML3.0,Mining explosion. After UPP*
UPP ***15*** *00:26:51.1,6785N×2020E,h0km,ML3.0,Mining explosion.*
HEL 15 00:26:51.8±0.1,6785N×2019E,h0km,ML3.0(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**28**	*i* P	Pg	00 26 53.6	-0.4
KUA				*i* S	Sg	00 26 55.2	-0.3
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P	Pg	00 26 59.6	-0.6
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	00 27 04.4	-0.9
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00 27 04.4	-0.9
	baz=303						
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	00 27 05.0	-1.2
DUNU	**Dundret**	**0.75**	**169**	P	Pg	00 27 05.0	-1.2
	baz=74						
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 27 06.0	-1.0
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	00 27 06.2	-1.0
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	00 27 13.9	-0.5
KIF				*e*S	Sg	00 27 29.7	+0.1
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 27 16.6	-2.0
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	00 27 22.4	-0.7
HARU	**Harads**	**1.73**	**169**	P	Pn	00 27 22.4	-0.7
	baz=334						
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	00 27 33.0	+0.4
SGF	**Sodankyl**	**2.46**	**97**	*e*P	Pn	00 27 34.1	+1.0
SGF				*e*S	Sn	00 28 03.5	-0.3
LILU	**Lilltraesk**	**2.58**	**183**	*e*P	Pn	00 27 36.1	+1.3
BURU	**Burvik**	**3.32**	**171**	*e*P	Pn	00 27 45.7	+0.7

NIED ***15*** *00:32:00,4420N×14950E,h11km,Mw3.6 Best double couple: M0=2.90000×10^14 NP1:φ=45.00000°,δ=50.00000°, λ=106.00000°. NP2:φ=201.00000°,δ=42.00000°,λ=72.00000°.*
IDC 15 00:32:45.2±9.6,4391N×14951E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.6/21,mbtmp3.8/5,Error ellipse: s-maj=245.0km s-min=37.0km az=167.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.99**	**293**	P	P	00 38 55.4	+0.1
	0.7nm,0.6s,baz=78,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**46.02**	**298**	P	P	00 41 10.4	0.0
	1.3nm,0.7s,baz=76,slow=8.3,SNR=9.7						
YKA	**Yellowknife Ar**	**54.72**	**34**	P	P	00 42 16.1	-0.1
	0.2nm,0.7s,baz=294,slow=6.9,SNR=3.6						
FINES	**FINESS Array B**	**65.50**	**334**	P	P	00 43 29.0	-1.2
	2.5nm,1.1s,baz=35,slow=7.5,SNR=2.9						
NB2	**NORSAR Subarra**	**70.06**	**340**	P	P	00 43 58.7	-0.3
	comp=Z,0.3nm,0.5s,baz=29,slow=7.4						
NB2	**NORSAR Subarra**	**70.06**	**340**	P	P	00 43 58.5	-0.5
	comp=Z,1.2nm,0.6s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.06**	**340**	P	P	00 43 58.8	-0.2
	comp=Z,0.7nm,0.5s,baz=29,slow=6.6,SNR=2.9						

IDC ***15*** *00:38:06.1±6.2,5425S×14740E,h192km±59km,mb3.0/2, mb1 3.1/4,mb1mx2.9/15,mbtmp2.9/4,Error ellipse: s-maj=98.4km s-min=52.2km az=133.0*
NEIC ***15*** *00:38:06.9±9.1,5485S×14733E,h190km±29km,Error ellipse: s-maj=130.8km s-min=47.0km az=221.0*
ISCJB ***15*** *00:38:10.8±5.7,5885S±04×14688E±06,h182km±45km, mb3.4/2,Error ellipse: s-maj=99.2km s-min=60.6km az=153.6*
ISC 15 00:38:11.1±5.6,5885S±04×1471E±05,h188km±40km,n7, σ0°62/7,mb3.4/2,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.57**	**179**	P	**Pn**	**00 39 07.3**	**+0.2**
	7.6nm,0.3s,baz=349,slow=5.1,SNR=3.4						
PMG				S	**Sn**	**00 39 50.5**	**-0.3**
	3.6nm,0.3s,baz=342,slow=20,SNR=6.2						
CTAO	**Charters Tower**	**14.21**	**183**	*e*P	**Pn**	**00 41 24.0**	**-0.1**
WB2	**Warramunga Arr**	**18.72**	**220**	*e*P	**P**	**00 42 16.0**	**+0.6**
WRA	**Warramunga Arr**	**18.72**	**220**	P	**P**	**00 42 15.7**	**+0.2**
	0.2nm,0.3s,baz=46,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.81**	**214**	P	**P**	**00 42 48.7**	**+0.2**
	0.8nm,0.8s,mb3.2,baz=50,slow=9.0,SNR=7.1						
FITZ	**Fitzroy Crossi**	**24.23**	**238**	P	**P**	**00 43 09.7**	**-0.9**
	0.9nm,0.5s,mb3.6,baz=48,slow=11,SNR=6.2						
TORD	**Torodi Ar. Bea**	**145.12**	**285**	PKPbc	PKPbc	00 57 21.3	-4.7
	0.2nm,0.4s,baz=66,slow=3.4,SNR=4.7						

NIED ***15*** *00:46:00,4550N×14240E,h320km,Mw4.3 Best double couple: M0=3.37000×10^15 NP1:φ=158.00000°,δ=78.00000°, λ=53.00000°. NP2:φ=53.00000°,δ=39.00000°,λ=161.00000°.*
SKHL ***15*** *00:46:31.6±1.9,4554N×14196E,h320km±10km,mb6.2/1, msh5.4/3*
NEIC ***15*** *00:46:32.6±0.4,4559N×14222E,h300km±4km,mb4.3/16, Error ellipse: s-maj=5.7km s-min=4.5km az=138.0*
ISCJB ***15*** *00:46:32.2±0.2,4555N±003×14225E±004,h310km±2km, mb4.1/42,Error ellipse: s-maj=4.8km s-min=4.6km az=53.1*
MOS ***15*** *00:46:32.0±0.9,4554N×14220E,h310km,mb4.0/19,Error ellipse: s-maj=10.9km s-min=6.5km az=93.0*
BJI ***15*** *00:46:32.8,4595N×14235E,h318km,mB4.3,mb4.6*
IDC ***15*** *00:46:33.0±0.5,4562N×14226E,h305km±5km,mb3.7/21, mb1 3.9/22,mb1mx3.8/27,mbtmp3.7/22,Error ellipse: s-maj=11.7km s-min=9.9km az=133.0*
JMA ***15*** *00:46:33.0±0.2,4551N×14235E,h310km±2km,M4.3*
ISC 15 00:46:32.9±0.2,4558N±003×14228E±004,h305km±2km, n164,σ1°03/193,mb4.1/42,18C-8D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.38**	**226**	⇑P	**Pn**	**00 47 12.7**	**+0.9**
JWK2				S	**S**	**00 47 43.1**	**+0.4**
JSE	**Soyaes**	**0.66**	**161**	⇑P	**Pn**	**00 47 12.8**	**+0.3**
JSE				*e*S	**S**	**00 47 43.5**	**-0.4**
JRR	**Rishiri**	**0.81**	**238**	⇑P	**Pn**	**00 47 14.0**	**+1.0**
JRR				S	**S**	**00 47 46.2**	**+1.3**
JSS	**Shosan**	**1.22**	**195**	⇑P	**Pn**	**00 47 15.6**	**+0.8**
JSS				*e*S	**S**	**00 47 48.2**	**0.0**
JYG	**Yagishiri**	**1.30**	**208**	⇑P	**Pn**	**00 47 16.0**	**+0.7**
JYG				*e*S	**S**	**00 47 49.8**	**+0.7**
YSS	**Yuzh-Sakhalins**	**1.42**	**13**	⇓*i*PN	**Pn**	**00 47 16.7**	**+0.7**
YSS				*e*S	**S**	**00 47 50.0**	**-0.3**
YSS				pmax	pmax		
	comp=N,150nm,0.5s						
YSS				pmax	pmax		
	comp=Z,250nm,0.5s						
YSS				smax			
	comp=E,160nm,0.6s						
YSS	**Yuzh-Sakhalins**	**1.42**	**13**	*e*P	**Pn**	**00 47 16.7**	**+0.7**
YSS				*e*S	**S**	**00 47 48.9**	**-1.4**
YSS	**Yuzh-Sakhalins**	**1.42**	**13**	⇓*i*P	**Pn**	**00 47 16.5**	**+0.5**
YSS				AMB	AMB	00 47 17.0	
	comp=E,150nm,0.5s						
YSS				AMB	AMB	00 47 17.0	
	comp=E,250nm,0.5s						
YSS				*i* S	**S**	**00 47 50.0**	**-0.3**
YSS				A		00 47 51.3	
	comp=E,160nm,0.6s						
ASAJ	**Asahikawa**	**1.48**	**171**	P	**Pn**	**00 47 16.9**	**+0.6**
	comp=E,114nm,0.3s,baz=313,slow=5.7,SNR=333						
ASAJ				S	**S**	**00 47 52.0**	**+1.0**
	baz=103,slow=29,SNR=20						
ASAJ	**Asahikawa**	**1.48**	**171**	⇑P	**Pn**	**00 47 16.9**	**+0.5**
ASAJ				*e*S	**S**	**00 47 51.9**	**+0.9**
ASAJ	**Asahikawa**	**1.48**	**171**	PN	**Pn**	**00 47 17.0**	**+0.6**
ASAJ				S	**S**	**00 47 52.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,114nm,0.3s						
JKK2	**Kamakawa 2**	**1.74**	**169**	⇑P	**Pn**	**00 47 18.6**	**+0.5**
JKK2				*e*S	**S**	**00 47 54.4**	**+0.3**
JMP	**Maruseppu**	**1.75**	**154**	⇑P	**Pn**	**00 47 18.3**	**+0.1**
JMP				*e*S	**S**	**00 47 54.2**	**-0.1**
JHR	**Hokuryu**	**1.88**	**192**	⇑P	**Pn**	**00 47 19.7**	**+0.6**
JHR				*e*S	**S**	**00 47 56.5**	**+0.5**
JTKR	**Abashiri--Toko**	**1.98**	**144**	⇑P	**Pn**	**00 47 20.1**	**+0.2**
JTKR				*e*S	**S**	**00 47 56.6**	**-0.8**
JAB	**Ashibetsu**	**2.07**	**181**	⇑P	**Pn**	**00 47 20.9**	**+0.2**
JFR	**Furan**	**2.42**	**175**	⇑P	**Pn**	**00 47 23.5**	**-0.1**
JFR				*e*S	**S**	**00 48 03.1**	**-0.9**
JAR	**Ashorobuto**	**2.52**	**154**	⇑P	**Pn**	**00 47 24.5**	**+0.1**
JAR				*e*S	**S**	**00 48 04.8**	**-0.7**
JSK	**Shakotan**	**2.57**	**211**	P	**Pn**	**00 47 24.1**	**-0.8**
JRA	**Rausu**	**2.60**	**128**	⇓P	**Pn**	**00 47 25.6**	**+0.4**
JEW	**Eniwo**	**2.80**	**193**	⇑P	**Pn**	**00 47 27.6**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**2.98**	**120**	*e*PN	**Pn**	**00 47 28.5**	**-0.2**
YUK				*i* S	**S**	**00 48 13.5**	**+0.1**
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=N,780nm,0.8s						
YUK				smax			
	comp=E,370nm,0.6s						
YUK				smax			
	comp=N,5μm,3.0s						
YUK				smax			
	comp=E,4μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**2.98**	**120**	*e*P	**Pn**	**00 47 28.6**	**-0.1**
YUK				AMB	AMB	00 47 29.8	
	comp=E,2μm,1.0s						
YUK				*i* S	**S**	**00 48 14.5**	**+1.1**
YUK				A		00 48 15.5	
	comp=E,780nm,0.8s						
YUK				A		00 48 15.5	
	comp=E,370nm,0.6s						
YUK				A		00 48 16.0	
	comp=E,5μm,3.0s						
YUK				A		00 48 16.0	
	comp=E,4μm,2.0s						
JCH	**Churui**	**3.06**	**165**	P	**Pn**	**00 47 27.8**	**-1.8**
JCH				*e*S	**S**	**00 48 09.3**	**-5.6**
JAK	**Akkeshi**	**3.11**	**145**	P	**Pn**	**00 47 28.9**	**-1.1**
JAK				*e*S	**S**	**00 48 11.0**	**-4.7**
JNBK	**Urakawa-nobuka**	**3.31**	**174**	P	**Pn**	**00 47 30.6**	**-1.5**
JNBK				*e*S	**S**	**00 48 16.2**	**-3.2**
NEM2	**Nemuro 2**	**3.32**	**131**	P	**Pn**	**00 47 29.6**	**-2.6**
NEM2				*e*S	**S**	**00 48 14.5**	**-5.1**
UGL	**Uglegorsk**	**3.50**	**358**	PN	**Pn**	**00 47 35.0**	**+0.9**
UGL				*i* S	**S**	**00 48 24.5**	**+1.5**
UGL				pmax	pmax		
	comp=Z,55nm,0.6s						
UGL				smax			
	comp=N,1μm,2.5s						
UGL				smax			
	comp=E,2μm,2.5s						
UGL				smax			
	comp=N,96nm,0.8s						
UGL				smax			
	comp=E,180nm,1.0s						
UGL	**Uglegorsk**	**3.50**	**358**	*e*P	**Pn**	**00 47 35.0**	**+0.9**
UGL				AMB	AMB	00 47 36.0	
	comp=E,55nm,0.6s						
UGL				*i* S	**S**	**00 48 24.5**	**+1.5**
UGL				*e*S	**S**	**00 48 24.5**	**+1.5**
UGL				A		00 48 26.0	
	comp=E,96nm,0.8s						
UGL				A		00 48 26.0	
	comp=E,180nm,1.0s						
UGL				A		00 48 26.0	
	comp=E,1μm,2.5s						
UGL				A		00 48 26.0	
	comp=E,2μm,2.5s						
ERM	**Erimo**	**3.62**	**170**	*e*PN	**Pn**	**00 47 34.3**	**-0.9**
ERM				*e*S	**S**	**00 48 25.3**	**+0.1**
JKB	**Kayabe**	**3.80**	**194**	⇑P	**Pn**	**00 47 35.9**	**-1.3**
JKB				*e*S	**S**	**00 48 23.5**	**-5.1**
KUR	**Kuril'sk**	**3.95**	**93**	*e*P	**Pn**	**00 47 35.5**	**-3.3**
KUR				AMB	AMB	00 47 36.5	
	comp=E,140nm,0.9s						
KUR				AMB	AMB	00 47 36.5	
	comp=E,160nm,0.9s						
KUR				AMB	AMB	00 47 36.5	
	comp=E,540nm,0.9s						
TEY	**Ternei**	**4.04**	**264**	*e*P	**Pn**	**00 47 37.0**	**-2.8**
TEY				*e*S	**S**	**00 48 30.0**	**-3.5**
TEY				A		00 48 31.0	
	comp=E,700nm,2.0s						
TEY				A		00 48 31.0	
	comp=E,900nm,4.0s						
TEY				A		00 48 32.0	
	comp=E,120nm,1.0s						
TEY				A		00 48 32.0	
	comp=E,50nm,0.8s						
HABR	**Khabarovsk**	**5.73**	**303**	⇓*i*PN	**Pn**	**00 48 00.1**	**+1.0**
HABR				pmax	pmax		
	comp=Z,144nm,1.2s						
GRNR	**Gornyy**	**6.50**	**325**	*e*P	**Pn**	**00 48 03.8**	**-4.6**
MDJ	**Mudanjiang**	**9.03**	**268**	P	**Pn**	**00 48 40.4**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,42nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,67nm,4.5s						
MAJO	**Matsushiro**	**9.54**	**200**	*e*PN	**Pn**	**00 48 44.0**	**-1.3**
MJAR	**Matsushiro Arr**	**9.54**	**200**	P	**Pn**	**00 48 43.7**	**-1.6**
	comp=Z,4.8nm,0.3s,baz=12,slow=13,SNR=19						
MJAR	**Matsushiro Arr**	**9.54**	**200**	PN	**Pn**	**00 48 43.7**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
EKMR	**Ekimchan**	**9.65**	**324**	*e*P	**Pn**	**00 48 43.7**	**-3.0**
EKMR				AMB	AMB	00 48 45.2	
	comp=Z,36nm,0.6s						
SKR	**Severo-Kuril's**	**10.56**	**56**	*e*PN	**Pn**	**00 48 59.0**	**+1.2**
SKR				pmax	pmax		
	comp=Z,110nm,0.6s						
YASR	**Yasnyy**	**12.08**	**315**	*e*P	**Pn**	**00 49 13.2**	**-3.0**
YASR				AMB	AMB	00 49 19.8	
	comp=Z,3.0nm,0.6s						
YASR				AMB	AMB	00 49 19.8	
	comp=Z,6.0nm,0.6s						
YASR				AMB	AMB	00 49 19.8	
	comp=Z,10.0nm,0.6s						
CN2	**Changchun**	**12.12**	**268**	⇓P	**Pn**	**00 49 17.3**	**+0.6**
CN2				AMB	AMB		
	comp=Z,40nm,0.8s						
BMKR	**Bomnak**	**12.54**	**322**	*e*P	**Pn**	**00 49 19.2**	**-2.7**
BMKR				AMB	AMB	00 49 21.5	
	comp=Z,14nm,0.9s						
ZEA	**Zeya**	**12.69**	**315**	*e*P	**Pn**	**00 49 20.8**	**-2.8**
ZEA				AMB	AMB	00 49 23.0	
	comp=Z,42nm,0.8s						
ZEA				AMB	AMB	00 49 23.0	
	comp=Z,51nm,0.8s						
PET	**Petropavlovsk**	**13.01**	**49**	*e*PN	**Pn**	**00 49 28.7**	**+1.3**
KSRS	**Korea Array**	**13.46**	**238**	P	**Pn**	**00 49 34.3**	**+1.4**
	baz=37,slow=11,SNR=4.8						
INCN	**Inchon**	**14.22**	**241**	P	**P**	**00 49 41.6**	**+0.4**
MA2	**Magadan**	**14.92**	**17**	*e*P	**P**	**00 49 49.6**	**+0.8**
MA2				pmax	pmax		
	comp=Z,30nm,0.7s						
JNU	**Nakatsue**	**15.23**	**219**	P	**P**	**00 49 53.9**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=247,slow=20,SNR=4.6						
HIA	**Hailar**	**15.68**	**292**	*e*P	**P**	**00 49 56.7**	**-0.4**
YAK	**Yakutsk**	**18.03**	**341**	*e*P	**P**	**00 50 21.2**	**-1.3**
YAK				*e*S	**S**	**00 53 30.3**	**-2.8**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				smax			
	comp=N,124nm,1.2s						
YAK				smax			
	comp=Z,57nm,1.2s						
YAK				smax			
	comp=E,86nm,1.0s						
YAK				MLR	MLR		
	comp=Z,30nm,5.0s						
YAK	**Yakutsk**	**18.03**	**341**	*e*P	**P**	**00 50 21.6**	**-0.9**
	comp=Z,20nm,0.5s						
SEY	**Seymchan**	**18.32**	**15**	⇑*e*P	**P**	**00 50 25.2**	**-0.5**
BJT	**Baijiatuau**	**19.91**	**263**	*e*P	**P**	**00 50 42.0**	**-0.5**
ULN	**Ulaanbaatar**	**24.14**	**288**	*d i*P	**P**	**00 51 21.7**	**-0.1**
ULN	**Ulaanbaatar**	**24.14**	**288**	*e*P	**P**	**00 51 22.3**	**+0.5**
	comp=Z,8.5nm,0.5s,mb4.3						
SONM	**Songino Array**	**24.58**	**288**	P	**P**	**00 51 26.4**	**+0.6**
	comp=Z,12nm,0.4s,mb4.7,baz=85,slow=8.5,SNR=98						
SONM				ScP	ScP	00 58 03.2	-0.6
	comp=Z,0.8nm,0.8s,baz=134,slow=4.3,SNR=4.6						
TLY	**Talaya**	**26.02**	**298**	P	**P**	**00 51 38.5**	**-0.3**
ZAK	**Zakamensk**	**26.33**	**295**	*e*P	**P**	**00 51 41.5**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
ENH	**Enshi**	**29.80**	**251**	*e*P	**P**	**00 52 10.8**	**-1.3**
	comp=Z,0.3nm,0.4s,mb3.2						
GTA	**Gaotai**	**31.63**	**274**	P	**P**	**00 52 29.8**	**+1.7**
GTA				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.6						
GUMO	**Guam**	**31.96**	**175**	P	**P**	**00 52 31.3**	**+0.3**
TNA	**Tin City**	**33.29**	**35**	*e*P	**P**	**00 52 41.5**	**-1.0**
	comp=Z,7.0nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**37.13**	**304**	P	**P**	**00 53 14.2**	**-0.8**
	comp=Z,1.3nm,0.7s,mb3.5,baz=51,slow=7.7,SNR=6.4						
IMA2	**Indian Mountai**	**39.16**	**36**	*e*P	**P**	**00 53 31.4**	**-0.4**
KDAK	**Kodiak Island**	**40.60**	**48**	P	**P**	**00 53 42.9**	**-0.7**
	comp=Z,16nm,0.8s,mb4.3,baz=247,slow=9.4,SNR=12						
MK31	**Makanchi Array**	**40.66**	**294**	*e*P	**P**	**00 53 44.4**	**+0.3**
MKAR	**Makanchi Array**	**40.66**	**294**	P	**P**	**00 53 44.3**	**+0.2**
	comp=Z,2.6nm,0.6s,mb3.6,baz=79,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**40.66**	**294**	P	**P**	**00 53 44.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SLKM	**Skilak Lake**	**41.27**	**44**	*e*P	**P**	**00 53 47.9**	**-1.1**
MCK	**McKinley**	**41.36**	**39**	*e*P	**P**	**00 53 48.8**	**-0.9**
COLA	**College**	**41.68**	**37**	*e*P	**P**	**00 53 51.4**	**-0.9**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.2						
COLA	**College**	**41.68**	**37**	*e*P	**P**	**00 53 51.4**	**-0.9**
	comp=Z,8.9nm,0.6s,mb4.2						
SML	**Sawmill**	**41.94**	**42**	P	**P**	**00 53 53.7**	**-0.7**
EGAK	**Eagle**	**44.51**	**36**	P	**P**	**00 54 13.5**	**-1.3**
	comp=Z,17nm,0.6s,mb4.5						
CM31	**Chiang Mai Arr**	**44.86**	**247**	*e*pP	pP	00 55 14.3	-5.7
CHKZ	**Chkalovo**	**45.28**	**307**	*e*P	**P**	**00 54 19.7**	**-1.2**
BRVK	**Borovoye**	**45.69**	**307**	*e*P	**P**	**00 54 23.2**	**-0.8**
INK	**Inuvik**	**46.59**	**31**	P	**P**	**00 54 29.7**	**-1.3**
	comp=Z,12nm,0.5s,mb4.5,baz=293,slow=5.9,SNR=117						
INK	**Inuvik**	**46.59**	**31**	P	**P**	**00 54 29.7**	**-1.3**
INK				pmax	pmax		
	comp=Z,12nm,0.5s						
INK	**Inuvik**	**46.59**	**31**	*e*P	**P**	**00 54 29.6**	**-1.4**
	comp=Z,340nm,0.4s						
AAK	**Ala-Archa**	**47.44**	**292**	⇑*e*P	**P**	**00 54 36.5**	**-1.0**
GUN	**Gumba**	**47.52**	**268**	*e*P	**P**	**00 54 39.3**	**+1.2**
	comp=Z,13nm,0.3s,mb4.7						
KKN	**Kakani**	**48.01**	**269**	*e*P	**P**	**00 54 42.5**	**+0.7**
PKI	**Pulchoki**	**48.05**	**268**	*e*P	**P**	**00 54 42.8**	**+0.6**
DMN	**Daman**	**48.24**	**269**	*e*P	**P**	**00 54 45.0**	**+1.4**
GKN	**Gorkha**	**48.33**	**269**	*e*P	**P**	**00 54 45.1**	**+0.8**
	comp=Z,8.0nm,0.3s,mb4.6						
KOLN	**Koldanda**	**49.20**	**270**	*e*P	**P**	**00 54 52.1**	**+1.2**
	comp=Z,4.1nm,0.2s,mb4.3						
DLBC	**Dease Lake**	**51.66**	**42**	*e*P	**P**	**00 55 10.8**	**+1.7**
KBS	**Kingsbay**	**52.37**	**349**	⇑*e*P	**P**	**00 55 14.8**	**+0.4**
RES	**Resolute Bay**	**54.19**	**16**	*e*P	**P**	**00 55 25.9**	**-1.6**
PMG	**Port Moresby**	**54.91**	**174**	P	**P**	**00 55 31.9**	**-0.6**
	comp=Z,7.6nm,0.6s,mb4.3,baz=321,slow=7.9,SNR=3.7						
YKW3	**Yellowknife Ar**	**56.15**	**33**	*e*P	**P**	**00 55 39.8**	**-1.6**
YKA	**Yellowknife Ar**	**56.19**	**33**	P	**P**	**00 55 41.1**	**-0.6**
	comp=Z,5.1nm,0.5s,mb4.2,baz=306,slow=6.9,SNR=128						
YKA				PcP	PcP	00 56 35.3	-0.1
	comp=Z,1.4nm,0.7s,baz=310,slow=3.6,SNR=7.5						
YKA	**Yellowknife Ar**	**56.19**	**33**	P	**P**	**00 55 41.1**	**-0.6**
YKA						00 56 35.3	
YKA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARCES	**ARCESS Array B**	**56.28**	**338**	P	**P**	**00 55 41.3**	**-1.0**
	comp=Z,2.0nm,0.8s,mb3.6,baz=51,slow=7.1,SNR=2.8						
ARCES	**ARCESS Array B**	**56.28**	**338**	P	**P**	**00 55 41.3**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**61.62**	**331**	P	**P**	**00 56 17.1**	**-1.6**
	comp=Z,5.3nm,1.1s,mb4.1,baz=60,slow=8.2,SNR=13						
FINES				PcP	PcP	00 56 56.4	-0.7
	comp=Z,3.5nm,1.0s,baz=39,slow=2.7,SNR=4.0						
FINES	**FINESS Array B**	**61.62**	**331**	P	**P**	**00 56 17.2**	**-1.6**
FINES						00 56 56.4	
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**61.62**	**331**	P	**P**	**00 56 17.1**	**-1.6**
FINES				PcP	PcP	00 56 56.4	-0.7
YBH	**Yreka Blue Hor**	**64.78**	**56**	P	**P**	**00 56 40.3**	**+1.0**
	comp=Z,1.7nm,0.6s,mb3.9,baz=54,slow=8.7,SNR=4.4						
YBH	**Yreka Blue Hor**	**64.78**	**56**	P	**P**	**00 56 40.3**	**+1.0**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**65.15**	**197**	P	**P**	**00 56 41.2**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.6,baz=12,slow=11,SNR=3.9						
CTAO	**Charters Tower**	**65.45**	**176**	P	**P**	**00 56 44.0**	**+0.4**
WB2	**Warramunga Arr**	**65.60**	**188**	P	**P**	**00 56 45.4**	**+0.7**
WRA	**Warramunga Arr**	**65.60**	**188**	P	**P**	**00 56 44.2**	**-0.5**
	comp=Z,1.1nm,0.9s,mb3.6,baz=7.0,slow=6.7,SNR=9.4						
WRA	**Warramunga Arr**	**65.60**	**188**	*e*P	**P**	**00 56 43.3**	**-1.3**
NB2	**NORSAR Subarra**	**66.59**	**336**	P	**P**	**00 56 49.5**	**-1.4**
	comp=Z,1.7nm,0.6s,mb4.0,baz=36,slow=6.5						
NB2	**NORSAR Subarra**	**66.59**	**336**	P	**P**	**00 56 49.6**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.1,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**66.59**	**336**	P	**P**	**00 56 49.5**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.1,baz=35,slow=6.2,SNR=6.6						
NOA	**NORSAR Array B**	**66.59**	**336**	P	**P**	**00 56 49.6**	**-1.3**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HRY	**Holter Researc**	**67.41**	**46**	*e*P	**P**	**00 57 03.7**	**+7.7**
HRY				*e*pP	pP	00 57 47.0	-17
EGMT	**Eagleton**	**67.53**	**44**	*e*P	**P**	**00 56 55.8**	**-1.0**
	comp=Z,9.5nm,1.1s,mb4.4						
DLMT	**Dillon**	**67.94**	**47**	*e*P	**P**	**00 57 00.4**	**+1.1**
	comp=Z,7.7nm,0.8s,mb4.5						
CMB	**Columbia Colle**	**68.53**	**57**	*e*P	**P**	**00 57 04.0**	**+1.1**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
CMB	**Columbia

LPG	La Plagne	81.17	330	eP	P	00 58 15.5	+0.6
	comp=Z,4.8nm,0.6s,mb4.1						
LPG	La Plagne	81.17	330	eP	P	00 58 15.5	+0.6
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LPG	La Plagne	81.17	330	eP	P	00 58 15.5	+0.6
	comp=Z,2.4nm,0.6s,mb4.1						
AVF	Avril sur Loir	81.18	333	eP	P	00 58 14.8	-0.1
	comp=Z,5.5nm,0.7s,mb4.1						
AVF	Avril sur Loir	81.18	333	eP	P	00 58 14.8	-0.1
AVF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
AVF	Avril sur Loir	81.18	333	eP	P	00 58 14.8	-0.1
	comp=Z,2.8nm,0.7s,mb4.1						
TCF	Toulx Ste Croi	81.99	333	eP	P	00 58 19.1	0.0
VIVF	Saint-Julien-l	82.45	331	eP	P	00 58 21.7	+0.2
LTX	Lajitas	84.43	53	eP	P	00 58 32.7	+1.2
LTX				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
LTX	Lajitas	84.43	53	eP	P	00 58 32.7	+1.1
	comp=Z,5.3nm,0.9s,mb4.4						
TXAR	Lajitas Array	84.43	53	P	P	00 58 32.5	+1.0
	comp=Z,3.2nm,0.8s,mb4.2,baz=291,slow=4.0,SNR=43						
TXAR	Lajitas Array	84.43	53	P	P	00 58 32.5	+1.0
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SIUC	Southern Illin	85.02	39	eP	P	00 58 34.8	+0.4
ESDC	Sonseca Array	89.89	335	P	P	00 58 57.8	+0.2
	comp=Z,1.1nm,0.8s,mb3.8,baz=22,slow=4.2,SNR=4.6						

*IDC **15** 00:46:48.1±1.8, 2.09N×126.26E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=114.6km s-min=22.1km az=68.0*
*ISCJB **15** 00:46:51.7±0.8, 20.N±0.1×126.0E±0.2, h35km, mb4.0/6, Error ellipse: s-maj=27.3km s-min=10.1km az=98.0*
*NEIC **15** 00:46:53.4±0.6, 2.00N×126.14E, h35km, mb4.1/2, Error ellipse: s-maj=21.4km s-min=7.8km az=50.0*
ISC 15 00:46:53.8±0.8, 19N±01×1261E±0.2, h35km, n13, σ0°83/13, mb3.9/6, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	10.67	293	Pn	Pn	00 49 23.8	-0.2
FITZ	Fitzroy Crossi	19.91	181	P	Pn	00 51 23.0	-1.2
	0.3nm,0.4s,baz=6.0,slow=6.8,SNR=3.9						
WRA	Warramunga Arr	23.20	160	P	P	00 51 57.6	+0.1
	1.6nm,0.5s,mb3.7,baz=340,slow=11,SNR=31						
WB2	Warramunga Arr	23.20	160	eP	P	00 51 58.0	+0.5
PMG	Port Moresby	23.82	119	eP	P	00 52 02.1	-1.4
	13nm,0.9s,mb4.4						
KULM	Kulim	25.61	278	P	P	00 52 19.0	-0.7
ASAR	Alice Springs	26.56	164	P	P	00 52 29.3	+1.0
	0.4nm,0.3s,mb3.4,baz=342,slow=11,SNR=5.4						
STKA	Stephens Creek	36.70	158	eP	P	00 53 57.8	+0.5
LSA	Lhasa	43.17	313	eP	P	00 54 52.7	+1.6
	2.9nm,0.4s,mb4.4						
TAU	Tasmania Unive	48.57	159	P	P	00 55 34.1	+0.5
MKAR	Makanchi Array	58.67	326	P	P	00 56 47.0	-0.6
	0.6nm,0.4s,mb4.0,baz=118,slow=8.0,SNR=15						
MKAR	Makanchi Array	58.67	326	P	P	00 56 47.0	-0.6
BRVK	Borovoye	68.55	328	eP	P	00 57 52.7	-0.1
	0.4nm,0.3s,mb3.8						

*ISCJB **15** 02:15:08.6±0.3, 6164N±0.03×151.04W±0.07, h76km±3km, mb4.2/45, Error ellipse: s-maj=6.4km s-min=4.9km az=95.6*
*IDC **15** 02:15:09.2±2.1, 6173N×151.15W, h63km±19km, mb3.8/20, mb1 4.0/23, mb1mx4.0/27, mbtmp3.8/23, Error ellipse: s-maj=19.7km s-min=11.8km az=39.0*
*NEIC **15** 02:15:10.9, 6159N×150.93W, h71km, mb4.3/23, After AEIC.*
NEIC Felt [IV] at Elmendorf AFB; [III] at Anchorage, Hatcher Pass, Palmer and Wasilla; [II] at Eagle River. Also felt at Chugiak, Fort Richardson and Willow.
ISC 15 02:15:09.7±0.3, 6164N±0.03×151.03W±0.07, h73km±3km, n107, σ0°92/108, mb4.2/45, 2C, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	Fire Island	0.62	139	P	Pn	02 15 24.9	+0.9
FIB				S	Sn	02 15 35.8	+1.3
RC01	Rabbit Creek A	0.83	131	P	Pn	02 15 25.8	-0.5
RC01				S	Sn	02 15 38.4	-0.2
PMR	Palmer	0.91	92	P	Pn	02 15 26.7	-0.5
PMR				S	Sn	02 15 39.6	-0.6
GHO	Glory Hole Cre	1.01	81	P	Pn	02 15 28.6	+0.2
SLKM	Skilak Lake	1.20	161	P	Pn	02 15 30.1	-0.7
SML	Sawmill	1.29	81	P	Pn	02 15 31.9	-0.2
SEW	Seward	1.72	153	P	Pn	02 15 37.1	-0.6
TRF	Thorofare Moun	1.85	10	P	Pn	02 15 40.5	+1.1
KTH	Kantishna Hill	1.93	1	P	Pn	02 15 41.8	+1.4
SVW2	Sparrevohn	2.26	258	P	Pn	02 15 45.6	+0.7
MCK	McKinley	2.31	24	P	Pn	02 15 47.0	+1.4
EYAK	Cordova Ski Ar	2.79	111	P	Pn	02 15 50.1	-2.0
MID	Middleton Isla	3.21	132	eP	Pn	02 15 56.5	-1.2
RAGM	Ragged Mountai	3.34	109	P	Pn	02 15 57.6	-1.9
COLA	College	3.55	22	P	Pn	02 16 03.0	+0.6
MENT	Mentasta	3.65	66	eP	Pn	02 16 03.8	0.0
DOT	Dot Lake	3.80	55	P	Pn	02 16 06.4	+0.6
KDAK	Kodiak Island	3.95	192	P	Pn	02 16 06.4	-1.4
	3.2nm,0.3s,baz=37,slow=6.6,SNR=75						
KDAK				S	Sn	02 16 48.9	-4.0
	12nm,0.3s,baz=7.1,slow=16,SNR=6.7						
KDAK	Kodiak Island	3.95	192	P	Pn	02 16 06.5	-1.3
GCSA	Galena City Sc	4.09	322	P	Pn	02 16 10.4	+0.5
IMA2	Indian Mountai	4.60	346	P	Pn	02 16 17.3	+0.5
EGAK	Eagle	5.46	50	P	Pn	02 16 28.8	+0.2
COLD	Coldfoot	5.63	3	P	Pn	02 16 32.5	+1.8
DAWY	Dawson	5.86	60	P	Pn	02 16 33.5	-0.4
PNL	Peninsula	6.05	104	P	Pn	02 16 35.7	-0.9
CHGN	Chignik	6.57	219	eP	Pn	02 16 43.7	0.0
WHY	Whitehorse	7.87	90	P	Pn	02 17 00.1	-1.3
SKAG	Skagway	8.04	99	P	Pn	02 17 01.8	-1.9
TNA	Tin City	8.48	305	P	Pn	02 17 10.5	+0.7
SIT	Sitka	9.23	113	eP	Pn	02 17 18.9	-1.1
	16nm,0.4s						
INK	Inuvik	9.95	40	P	Pn	02 17 29.6	-0.2
	0.7nm,0.3s,baz=230,slow=16,SNR=41						
YKA	Yellowknife Ar	16.95	71	P	Pn	02 19 01.2	-0.8
	0.5nm,0.3s,baz=280,slow=9.3,SNR=44						
YKA				ScP	ScP	02 27 11.7	-1.2
	0.1nm,0.3s,baz=291,slow=2.2,SNR=9.8						
YKA	Yellowknife Ar	16.95	71	P	Pn	02 19 01.2	-0.8
YKA				ScP	ScP	02 27 11.7	-1.2
EDM	Edmonton	21.67	96	eP	P	02 19 54.7	+0.3
NEW	Newport	23.29	109	P	P	02 20 11.7	+0.6
	1.7nm,0.5s,mb3.6,baz=304,slow=8.7,SNR=4.4						
RES	Resolute Bay	23.40	34	eP	P	02 20 13.6	+1.5
	47nm,0.8s,mb4.9						
YBH	Yreka Blue Hor	26.19	126	P	P	02 20 38.7	+1.2
	3.8nm,0.8s,mb3.9,baz=323,slow=5.1,SNR=2.5						
EGMT	Eagleton	26.86	101	eP	P	02 20 43.7	+0.2
	5.6nm,0.6s,mb4.3						
PET	Petropavlovsk	27.83	275	eP	P	02 20 54.4	+2.3
	50nm,1.0s,mb5.0						
HLID	Hailey	28.12	113	eP	P	02 20 55.5	+0.8
	0.9nm,0.5s,mb3.6						
MOOW	Moose Ponds	29.61	108	eP	P	02 21 08.1	+0.2
	1.4nm,0.7s,mb3.7						
NVAR	Mina Array Bea	30.75	124	P	P	02 21 19.8	+1.8
	2.1nm,0.6s,mb4.1,baz=318,slow=9.8,SNR=17						
NVAR	Mina Array Bea	30.75	124	P	P	02 21 19.8	+1.8
BW06	Boulder Array	30.91	108	eP	P	02 21 20.5	+1.0
	1.4nm,0.4s,mb4.0						
PDAR	Pinedale Array	30.91	108	P	P	02 21 20.9	+1.4
	1.2nm,0.4s,mb4.0,baz=327,slow=4.5,SNR=18						
HWUT	Hardware Ranch	30.94	112	eP	P	02 21 21.0	+1.3
	1.2nm,0.6s,mb3.8						
DUG	Dugway	31.55	115	eP	P	02 21 26.0	+1.0
	1.6nm,0.7s,mb3.9						
ULM	Lac du Bonnet	31.92	85	P	P	02 21 28.9	+0.6
	1.4nm,0.5s,mb3.9,baz=307,slow=10,SNR=4.6						
PV01	Paradox Valley	35.10	112	eP	P	02 21 56.1	+0.2
WUAZ	Wupatki	36.09	118	eP	P	02 22 06.1	+1.7
	4.6nm,1.0s,mb4.4						
SDCO	Great Sand Dun	36.79	109	eP	P	02 22 12.2	+1.8
	1.8nm,0.9s,mb4.0						
CBKS	Cedar Bluff	38.58	102	eP	P	02 22 26.4	+0.9
	5.9nm,0.4s,mb4.8						
SCHQ	Schefferville	41.88	60	P	P	02 22 52.8	+0.1
	2.1nm,1.0s,mb3.8,baz=234,slow=17,SNR=2.6						
MNTX	Cornudas Mount	41.93	114	eP	P	02 22 54.2	+1.1
	1.3nm,0.7s,mb3.8						
WMOK	Wichita Mounta	42.34	105	eP	P	02 22 56.8	+0.3
	3.5nm,0.8s,mb4.1						
TXAR	Lajitas Array	44.71	114	P	P	02 23 16.8	+1.3
	1.3nm,0.7s,mb3.8,baz=304,slow=6.7,SNR=19						
JCT	Junction City	45.44	109	eP	P	02 23 22.0	+0.7
	3.5nm,0.5s,mb4.3						
ARCES	ARCESS Array B	49.09	2	P	P	02 23 48.2	-1.5
	2.4nm,0.7s,mb4.2,baz=1.8,slow=7.1,SNR=9.9						
ARCES				PcP	PcP	02 25 10.7	-1.6
	3.3nm,1.0s,baz=15,slow=5.3,SNR=4.6						
KSRS	Korea Array	53.76	283	P	P	02 24 24.9	+0.3
	1.3nm,0.7s,mb4.1,baz=32,slow=4.5,SNR=3.5						
ULN	Ulaanbaatar	54.33	306	eP	P	02 24 28.8	+0.2
	8.9nm,0.9s,mb4.8						
SONM	Songino Array	54.61	306	P	P	02 24 31.8	+1.1
	10nm,0.8s,mb4.9,baz=42,slow=7.2,SNR=36						
ZAL	Zalesovo	56.64	324	P	P	02 24 44.1	-1.2
	1.3nm,0.6s,mb4.1,baz=81,slow=6.6,SNR=6.6						
NOA	NORSAR Array B	56.90	10	P	P	02 24 46.4	-0.7
	1.0nm,0.6s,mb4.0,baz=349,slow=7.5,SNR=2.7						
FINES	FINESS Array B	57.22	2	P	P	02 24 48.4	-1.1
	1.5nm,0.6s,mb4.2,baz=7.8,slow=8.0,SNR=10						
CHKZ	Chkalovo	60.41	333	eP	P	02 25 09.9	-1.5
	1.4nm,0.4s,mb4.3						
BVAR	Borovoye Array	61.06	333	P	P	02 25 14.9	-1.0
	1.1nm,0.6s,mb4.1,baz=44,slow=6.7,SNR=7.0						
BVAR				PcP	PcP	02 25 57.9	-0.5
	0.8nm,0.4s,baz=16,slow=4.1,SNR=4.7						
KURK	Kurchatov	61.21	326	eP	P	02 25 16.6	-0.3
	0.9nm,0.5s,mb4.1						
MKAR	Makanchi Array	63.74	322	P	P	02 25 32.3	-1.5
	0.8nm,0.7s,mb3.7,baz=30,slow=5.2,SNR=7.3						
AKTK	Aktyubinsk	65.89	340	P	P	02 25 46.8	-1.0
AKTO	Aktyubinsk	65.89	340	P	P	02 25 46.8	-1.0
	3.2nm,0.6s,mb4.3,baz=26,slow=6.2,SNR=10						
BAIF	Baives	66.90	17	eP	P	02 25 54.1	-0.1
GIVF	Givet	66.95	17	eP	P	02 25 53.6	-0.9
ROSF	Rostrenen	67.36	23	eP	P	02 25 57.0	-0.1
FLN	La Foliniere	67.44	21	eP	P	02 25 57.1	-0.5
LDF	La Druitiere	67.67	20	eP	P	02 25 58.5	-0.5
	12nm,0.7s,mb4.5						
LDF	La Druitiere	67.67	20	eP	P	02 25 58.5	-0.5
	6.1nm,0.7s,mb4.5						
GRR	Gorron	67.74	21	eP	P	02 25 59.3	-0.2
	12nm,0.6s,mb4.6						
GRR	Gorron	67.74	21	eP	P	02 25 59.3	-0.2
	6.1nm,0.6s,mb4.6						
AKASG	Malin Array Be	68.01	360	P	P	02 26 00.2	-1.0
	3.1nm,0.5s,mb4.4,baz=2.2,slow=6.2,SNR=21						
AKBB	Malin Array Si	68.01	360	eP	P	02 26 00.0	-1.2
CDF	Champ du Feu	68.93	15	eP	P	02 26 06.6	-0.3
GERES	GERESS Array B	69.19	11	P	P	02 26 08.7	+0.2
	0.5nm,0.7s,mb3.5,baz=0.0,slow=2.8,SNR=6.7						
HAU	Haudompre	69.21	16	eP	P	02 26 08.5	-0.1
HINF	Hinteralfeld	69.46	16	eP	P	02 26 09.8	-0.4
LOR	Lormes	69.58	18	eP	P	02 26 10.7	-0.3
	3.7nm,0.5s,mb4.2						
LOR	Lormes	69.58	18	eP	P	02 26 10.7	-0.3
	1.9nm,0.4s,mb4.3						
MFF	Saint Martin d	69.59	21	eP	P	02 26 11.0	0.0
SSF	Saint Saulge	69.73	18	↑iP	P	02 26 11.7	-0.2
	9.3nm,0.8s,mb4.3						
SSF	Saint Saulge	69.73	18	↑iP	P	02 26 11.7	-0.2
	4.7nm,0.8s,mb4.4						
AAK	Ala-Archa	69.76	326	eP	P	02 26 10.9	-1.2
	1.2nm,0.5s,mb4.0						
AVF	Avril sur Loir	69.97	18	eP	P	02 26 12.9	-0.5
SMF	Signal de Mont	70.19	18	eP	P	02 26 14.1	-0.6
	19nm,0.9s,mb4.6						
SMF	Signal de Mont	70.19	18	eP	P	02 26 14.1	-0.6
	9.4nm,0.9s,mb4.6						
CABF	La Chapelle	70.54	17	eP	P	02 26 17.0	+0.2
LFF	La Frestale	71.36	21	eP	P	02 26 21.7	-0.1
	4.4nm,0.5s,mb4.3						
CAF	Calviac	71.59	20	eP	P	02 26 22.9	-0.3
LPL	La Plagne	71.70	16	eP	P	02 26 24.7	+0.9
LPG	La Plagne	71.72	16	eP	P	02 26 24.4	+0.4
VIVF	Saint-Julien-l	72.06	18	eP	P	02 26 25.8	-0.2
	24nm,1.1s,mb4.7						
MTLF	Montolieu	73.16	20	eP	P	02 26 32.4	-0.1
ESDC	Sonseca Array	75.56	26	P	P	02 26 46.8	+0.4
	2.0nm,0.7s,mb4.0,baz=341,slow=5.3,SNR=11						
BRTR	Keskin Array B	78.92	356	P	P	02 27 04.3	-1.0
	0.4nm,0.5s,mb3.5,baz=1.8,slow=5.7,SNR=5.4						
BRTR	Keskin Array B	78.92	356	P	P	02 27 04.3	-1.0
ARG	Arkhangelos	82.49	1	P	P	02 27 23.9	-0.4
LBTB	Lobatse	143.32	5	PKhKP		02 34 32.3	
	1.1nm,0.5s,baz=152,slow=3.4,SNR=4.4						
BOSA	Boshof	146.88	6	PKPbc	PKPbc	02 34 42.9	-0.8
	4.9nm,0.9s,baz=24,slow=2.8,SNR=9.7						
QSPA	South Pole Qui	151.44	180	ePKPbc	PKPbc	02 34 53.5	-1.7

*LDG **15** 02:16:00.1±0.0, 46.21N×285E, h13km, Md1.5/3, Ml1.6/4, Error ellipse: s-maj=0.7km s-min=0.3km az=130.0*
STR 15 02:16:00.4±0.3, 46.20N×286E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	Saint Agoulin	0.24	128	Pg	Pg	02 16 05.5	+0.4
AGO				Sg	Sg	02 16 09.1	+0.9
BGF	Bois d'Agland	0.36	358	ePg	Pg	02 16 07.3	0.0
BGF				eSg	Sg	02 16 12.3	+0.3
	1.0nm,0.2s						
TCF	Toulx Ste Croi	0.46	281	ePg	Pg	02 16 09.2	-0.1
TCF				eSg	Sg	02 16 15.4	+0.2
	2.7nm,0.2s						
PLDF	La Plantade	0.58	113	Pg	Pg	02 16 11.2	-0.3
PLDF				Sg	Sg	02 16 19.6	+0.6
AVF	Avril sur Loir	0.68	30	ePg	Pg	02 16 13.2	-0.3
AVF				eSg	Sg	02 16 22.0	-0.3
	1.6nm,0.2s						
SMF	Signal de Mont	0.81	56	ePg	Pg	02 16 15.7	-0.3
SMF				eSg	Sg	02 16 26.4	-0.1
	1.5nm,0.2s						
SSF	Saint Saulge	0.97	27	ePg	Pg	02 16 18.4	-0.6
SSF				eSg	Sg	02 16 30.9	-0.7
	1.2nm,0.2s						
HYF	Humbligny	1.08	352	eSg	Sg	02 16 34.3	-0.8
LOR	Lormes	1.27	32	ePg	Pg	02 16 23.8	-1.0
LOR				eSg	Sg	02 16 40.4	-0.8
	0.5nm,0.2s						
RJF	Les Rejaudoux	1.30	227	eSg	Sg	02 16 41.2	-1.0
	2.4nm,0.2s						
CAF	Calviac	1.39	204	eSg	Sg	02 16 44.3	-0.8
	0.8nm,0.2s						

BUC 15 02:25:04.9±1.8, 45.18N×24.47E, h10km, MD3.1/4, 5C-3D, Error ellipse: s-maj=30.6km s-min=9.3km az=358.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	Matau	0.42	84	↑iP	Pg	02 25 10.9	-2.3
MTUR				iS	Sg	02 25 15.4	-3.4
VOIR		0.48	58	↓iP	Pg	02 25 10.6	-3.7
VOIR				iS	Sg	02 25 15.6	-5.1
SNX	Sinaia	0.76	76	↓iP	Pg	02 25 15.8	-3.8
SNX				iS	Sg	02 25 19.1	-10
MLR	Muntele Rosu	1.09	73	↑iP	Pb	02 25 26.2	+0.4
MLR				iS	Sg	02 25 40.1	+0.2
GZR	Gura Zlata	1.21	281	↓iP	Pn	02 25 27.6	-0.3
GZR				iS	Sb	02 25 44.0	+0.4
DRGR		2.02	323	↑iP	Pn	02 25 39.6	+0.5
DRGR				iS	Sn	02 26 04.8	+0.4
BZS	Buzias	2.06	283	S	Sn	02 26 08.2	+3.0
BZS	Buzias	2.06	283	↑iP	Pn	02 25 41.5	+2.0
BZS				iS	Sn	02 26 08.2	+3.0
BURAR	Bucovina Array	2.49	12	↑iP	Pn	02 25 47.3	+1.8
BURAR				iS	Sn	02 26 19.3	+3.4

IDC 15 03:21:55.0±1.2, 4715N×15408E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=48.6km s-min=32.1km az=113.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	50.21	37	P	P	03 30 52.2	-0.3
	0.2nm,0.6s,baz=295,slow=7.1,SNR=5.7						
FINES	FINESS Array B	63.96	335	P	P	03 32 29.3	-0.7
	1.7nm,0.9s,baz=59,slow=8.3,SNR=2.6						
ASAR	Alice Springs	72.80	199	P	P	03 33 25.4	0.0
	0.5nm,0.8s,baz=15,slow=5.1,SNR=5.4						
TXAR	Lajitas Array	76.72	61	P	P	03 33 48.1	+0.1
	0.2nm,0.8s,baz=274,slow=2.2,SNR=4.9						

*ISCJB **15** 03:39:19.3±3.0, 5.02S±0.10×153.2E±0.1, h56km±26km, mb4.4/23, MS3.6/6, Error ellipse: s-maj=18.5km s-min=16.0km az=0.9*
*IDC **15** 03:39:21.4±3.1, 4.97S×152.85E, h48km±24km, mb4.0/12, mb1 4.1/12, mb1mx4.0/17, mbtmp4.0/12, MS3.5/7, Ms1 3.5/7, ms1mx3.3/22, Error ellipse: s-maj=36.3km s-min=16.6km az=103.0*
*BJI **15** 03:39:22.3, 5.15S×153.68E, h114km, mB4.7, mb4.6*
*NEIC **15** 03:39:24.1±2.6, 5.10S×153.02E, h83km±23km, mb4.5/8, Error ellipse: s-maj=18.5km s-min=15.3km az=80.0*
ISC 15 03:39:22.8±2.3, 508S±010×1532E±01, h70km±21km, n38, σ1°14/34, mb4.3/23, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.35	234	P	Pn	03 41 07.9	+0.5
	3.3nm,0.3s,baz=40,slow=7.1,SNR=15						
PMG				S	Sn	03 42 31.5	+2.2
	6.1nm,0.3s,baz=346,slow=21,SNR=3.7						
PMG				LR	LR	03 43 46.3	
	comp=Z,214nm,20.9s,baz=208,slow=37						
PMG	Port Moresby	7.35	234	ePn	Pn	03 41 07.2	-0.2
	39nm,0.7s						
PMG				eSn	Sn	03 42 29.2	-0.1
CTA	Charters Tower	16.37	204	LR	LR	03 47 35.2	
	comp=Z,76nm,19.6s,baz=47,slow=30						
GUMO	Guam	20.29	336	LR	LR	03 50 02.3	
	comp=Z,62nm,20.4s,baz=118,slow=32						
DZM	Mont Dzumac	21.23	144	P	P	03 44 02.2	-0.6
	5.4nm,0.5s,mb4.1,baz=185,slow=18,SNR=12						
DZM				LR	LR	03 50 48.3	
	comp=Z,125nm,19.2s,baz=18,slow=32						
KAKA	Kakadu	21.83	248	eP	P	03 44 08.2	-1.0
	23nm,0.4s,mb4.9						
WB2	Warramunga Arr	23.53	229	eP	P	03 44 26.6	0.0
WRA	Warramunga Arr	23.54	229	P	P	03 44 26.5	-0.1
	3.1nm,0.5s,mb3.9,baz=52,slow=9.7,SNR=26						
WRA				ScP	ScP	03 51 46.2	+4.2
	0.5nm,0.9s,baz=57,slow=3.3,SNR=4.5						
WRA				LR	LR	03 53 28.5	
	comp=Z,95nm,21.1s,baz=50,slow=36						
ASAR	Alice Springs	26.20	223	P	P	03 44 50.5	-0.3
	1.5nm,0.6s,mb3.6,baz=60,slow=8.7,SNR=15						
ASAR				ScP	ScP	03 51 54.0	+4.5
	0.3nm,0.6s,baz=36,slow=3.7,SNR=5.0						
STKA	Stephens Creek	28.78	201	LR	LR	03 56 50.6	
	comp=Z,180nm,19.7s,baz=205,slow=36						
FITZ	Fitzroy Crossi	29.85	242	↓iP	P	03 45 23.0	-0.4
	9.4nm,0.5s,mb4.7						
FITZ	Fitzroy Crossi	29.85	242	P	P	03 45 23.2	-0.2
	5.3nm,0.5s,mb4.4,baz=72,slow=7.3,SNR=27						
MJAR	Matsushiro Arr	43.70	342	P	P	03 47 21.4	+0.6
	1.4nm,0.7s,mb3.8,baz=160,slow=7.8,SNR=3.9						
KSRS	Korea Array	48.41	333	P	P	03 47 56.6	-1.2
	1.8nm,0.7s,mb4.0,baz=160,slow=9.5,SNR=4.1						
GYA	Guiyang	54.85	307	P	P	03 48 46.8	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI	Kunming	57.44	304	P	P	03 49 06.3	+2.0
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CD2	Chengdu	59.20	311	eP	P	03 49 15.8	-0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
HHC	Hu-ho-hao-te	59.48	324	eP	P	03 49 19.3	+0.9
HHC				PCP	PcP	03 50 07.4	+2.0
HHC				PP	PP	03 51 32.5	+2.1
HHC				PCS	PcS	03 54 06.6	-0.9
HHC				S	S	03 57 24.8	+2.3
HHC				SS	SS	04 01 18.0	-0.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,86nm,7.9s						
HHC				LR	LR		
	comp=N,171nm,20.2s						
HHC				LR	LR		
	comp=E,152nm,20.2s						
HHC				LR	LR		
	comp=Z,135nm,19.0s						
ULN	Ulaanbaatar	66.42	328	eP	P	03 50 04.1	-0.4
	comp=Z,3.9nm,0.9s,mb4.2						
SONM	Songino Array	66.75	328	P	P	03 50 07.4	+0.9
	comp=Z,2.2nm,0.6s,mb4.2,baz=123,slow=5.3,SNR=2.9						
VNDA	Vanda	72.54	178	P	P	03 50 43.5	+1.4
	comp=Z,1.1nm,0.8s,mb3.8,baz=7.1,slow=8.6,SNR=2.9						
VNDA	Vanda	72.54	178	eP	P	03 50 43.4	+1.3
	comp=Z,1.3nm,0.7s,mb3.9						
WMQ	Urumqi	76.19	317	eP	P	03 51 03.8	+0.4
MK31	Makanchi Array	80.77	319	eP	P	03 51 28.6	0.0
MKAR	Makanchi Array	80.77	319	P	P	03 51 28.3	-0.3
	comp=Z,1.4nm,0.6s,mb4.0,baz=99,slow=7.9,SNR=11						
MKAR	Makanchi Array	80.

HORT	Hortiatis	1.70	356	*e*Pb	Pn	03 44 34.3	0.0
LIA	Limnos Island	1.79	55	PN	Pn	03 44 35.5	0.0
KZN	Kozani	1.82	321	PN	Pn	03 44 37.1	+1.2
SOH	Sokhos	1.92	2	*e*Pb	Pn	03 44 37.7	+0.4
GRG	Griva	2.16	342	*e*Pn	Pn	03 44 40.4	-0.2
SRS	Serrai	2.23	6	*e*Pn	Pn	03 44 41.5	0.0
SRS	Serrai	2.23	6	*e*Pn	Pn	03 44 41.5	0.0
KNT	Kendrikon	2.28	353	*e*Pn	Pn	03 44 43.0	+0.7

IDC ***15*** *04:05:40.3±3.5, 442S×102.42E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/19, mbtmp4.1/5, Error ellipse: s-maj=182.9km s-min=21.4km az=50.0*
NEIC ***15*** *04:05:44.4±1.0, 441S×102.40E, h30km, mb4.4/3, Error ellipse: s-maj=46.3km s-min=9.3km az=55.0*
ISCJB ***15*** *04:05:47.6±6.0, 39S±05×103.1E±05, h54km±44km, mb4.2/9, Error ellipse: s-maj=115.6km s-min=13.9km az=99.1*

ISC 15 04:05:50.4±4.9,**40S**±04×**1030E**±05,**h61**km±34km,**n20**, σ0**95**/19,**mb4.2**/9,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.48**	**345**	*e*Pn	**Pn**	**04 08 03.4**	**-0.7**
CHTO	**Chiang Mai**	**22.97**	**350**	*e*P	**P**	**04 10 50.5**	**+0.8**
	2.3nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**34.41**	**120**	P	**P**	**04 12 31.8**	**0.0**
	0.8nm,0.4s,mb4.0,baz=300,slow=9.3,SNR=8.9						
WB2	**Warramunga Arr**	**34.42**	**120**	*e*P	**P**	**04 12 32.2**	**+0.3**
PKI	**Pulchoki**	**35.65**	**333**	*e*P	**P**	**04 12 46.9**	**+4.5**
ASAR	**Alice Springs**	**35.67**	**126**	P	**P**	**04 12 42.7**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=291,slow=8.1,SNR=3.6						
GUN	**Gumba**	**35.73**	**333**	*e*P	**P**	**04 12 44.1**	**+1.0**
DMN	**Daman**	**35.82**	**332**	*e*P	**P**	**04 12 47.8**	**+3.9**
KKN	**Kakani**	**35.89**	**333**	*e*P	**P**	**04 12 46.1**	**+1.6**
GKN	**Gorkha**	**36.37**	**332**	*e*P	**P**	**04 12 48.3**	**-0.3**
KOLN	**Koldanda**	**36.68**	**330**	*e*P	**P**	**04 12 52.1**	**+0.9**
	13nm,0.8s,mb4.8						
MK31	**Makanchi Array**	**53.74**	**342**	*e*P	**P**	**04 15 06.0**	**-0.4**
MKAR	**Makanchi Array**	**53.74**	**342**	P	**P**	**04 15 06.4**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=153,slow=8.7,SNR=16						
ZAL	**Zalesovo**	**59.66**	**348**	P	**P**	**04 15 48.2**	**-0.1**
	2.7nm,0.4s,mb4.6,baz=313,slow=6.8,SNR=9.0						
ZAL	**Zalesovo**	**59.66**	**348**	P	**P**	**04 15 48.2**	**-0.1**
BRVK	**Borovoye**	**63.13**	**339**	*e*P	**P**	**04 16 08.8**	**-2.9**
	2.4nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**63.50**	**339**	*e*P	**P**	**04 16 13.2**	**-1.0**
	3.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**87.23**	**332**	P	**P**	**04 18 28.9**	**-1.2**
	2.1nm,0.8s,mb4.4,baz=120,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**87.23**	**332**	P	**P**	**04 18 28.9**	**-1.2**
TXAR	**Lajitas Array**	**144.25**	**42**	PKPbc	PKPdf	04 25 19.0	-0.4
	1.0nm,0.6s,baz=247,slow=1.0,SNR=14						

NEIC ***15*** *04:24:21.3, 3750S×17633E, h192km, MG3.8(WEL), After WEL.*

WEL 15 04:24:21.4±0.5,**3751S**×**17640E**,**h194**km±5km,**ML3.7**/16, **1C**,**Error ellipse: s-maj=6.9km s-min=6.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.94**	**143**	P	Pn	04 24 49.9	-0.1
URZ	**Urewera**	**0.94**	**143**	PN	Pn	04 24 49.9	-0.1
URZ				SN	Sn	04 25 11.9	-0.2
MWZ	**Matawai**	**1.22**	**133**	*e*P	Pn	04 24 52.5	+0.5
MWZ				S	Sn	04 25 16.6	+0.8
MWZ	**Matawai**	**1.22**	**133**	*e*PN	Pn	04 24 52.5	+0.5
MWZ				SN	Sn	04 25 16.6	+0.8
MXZ	**Matakaoa Point**	**1.52**	**93**	*e*P	Pn	04 24 54.5	-0.1
MXZ	**Matakaoa Point**	**1.52**	**93**	*e*PN	Pn	04 24 54.5	-0.1
MXZ				SN	Sn	04 25 19.6	-0.8
PUZ	**Puketiti**	**1.58**	**111**	SN	Sn	04 25 21.0	-0.4
BKZ	**Black Stump Fm**	**1.66**	**177**	P	Pn	04 24 55.7	-0.2
BKZ	**Black Stump Fm**	**1.66**	**177**	PN	Pn	04 24 55.7	-0.2
KNZ	**Kokohu**	**1.81**	**147**	P	Pn	04 24 57.4	0.0
KNZ	**Kokohu**	**1.81**	**147**	⇑PN	Pn	04 24 57.4	0.0
WPVZ	**Whakapapa**	**1.82**	**201**	*e*PN	Pn	04 24 58.2	+0.6
TUVZ	**Tukino**	**1.85**	**198**	PN	Pn	04 24 58.2	+0.4
FWVZ	**Far West T-bar**	**1.86**	**201**	PN	Pn	04 24 58.7	+0.7
WNVZ	**Wahianoa**	**1.92**	**199**	P	Pn	04 24 58.9	+0.4
WNVZ	**Wahianoa**	**1.92**	**199**	PN	Pn	04 24 58.9	+0.3
PKVZ	**Pokaka**	**1.96**	**205**	PN	Pn	04 24 59.5	+0.6
MOVZ	**Moawhango**	**1.96**	**195**	P	Pn	04 24 59.0	0.0
MOVZ	**Moawhango**	**1.96**	**195**	PN	Pn	04 24 59.0	0.0
MTVZ	**Mangateitei**	**2.01**	**201**	PN	Pn	04 24 59.6	+0.2
WAZ	**Wanganui**	**2.50**	**206**	P	Pn	04 25 04.7	-0.1
PXZ	**Pawanui**	**2.54**	**172**	PN	Pn	04 25 04.0	-1.3
PXZ				SN	Sn	04 25 37.6	-1.9
TSZ	**Takapari Road**	**2.57**	**188**	P	Pn	04 25 04.7	-0.9
TSZ	**Takapari Road**	**2.57**	**188**	PN	Pn	04 25 04.6	-1.0
BFZ	**Birch Farm**	**3.17**	**182**	*e*P	Pn	04 25 10.8	-1.9
BFZ	**Birch Farm**	**3.17**	**182**	PN	Pn	04 25 10.8	-1.8
MRZ	**Mangatainoka R**	**3.21**	**191**	P	Pn	04 25 10.7	-2.5
MRZ	**Mangatainoka R**	**3.21**	**191**	PN	Pn	04 25 10.7	-2.4
KIW	**Kapiti Island**	**3.54**	**199**	P	Pn	04 25 14.7	-2.5
KIW	**Kapiti Island**	**3.54**	**199**	PN	Pn	04 25 14.7	-2.4
MTW	**Mount Morrison**	**3.71**	**191**	P	Pn	04 25 16.5	-2.8
MTW	**Mount Morrison**	**3.71**	**191**	PN	Pn	04 25 16.5	-2.8
CAW	**Cannon Point**	**3.74**	**196**	P	Pn	04 25 17.1	-2.5
CAW	**Cannon Point**	**3.74**	**196**	PN	Pn	04 25 17.1	-2.6
DUWZ	**D'Urville Isla**	**3.81**	**210**	PN	Pn	04 25 18.4	-2.1
TRWZ	**Traveller**	**3.92**	**188**	PN	Pn	04 25 19.2	-2.7
PAWZ	**Paruwai Farm**	**3.94**	**191**	PN	Pn	04 25 19.4	-2.7
MRW	**Makara Radio**	**3.94**	**199**	P	Pn	04 25 19.3	-2.8
MRW				S	Sn	04 26 05.9	-3.9
MRW	**Makara Radio**	**3.94**	**199**	PN	Pn	04 25 19.3	-2.9
MRW				SN	Sn	04 26 05.9	-3.8
MSWZ	**Moikau Station**	**4.00**	**192**	P	Pn	04 25 19.7	-3.2
MSWZ	**Moikau Station**	**4.00**	**192**	PN	Pn	04 25 19.7	-3.2
TCW	**Tory Channel**	**4.05**	**203**	P	Pn	04 25 20.6	-2.9
TCW	**Tory Channel**	**4.05**	**203**	PN	Pn	04 25 20.6	-2.9
TUWZ	**Tuamarina**	**4.35**	**205**	PN	Pn	04 25 24.3	-3.0
NNZ	**Nelson**	**4.38**	**211**	*e*P	Pn	04 25 24.9	-2.8
NNZ	**Nelson**	**4.38**	**211**	PN	Pn	04 25 24.7	-2.9
NNZ				SN	Sn	04 26 16.6	-3.1
QRZ	**Quartz Range**	**4.47**	**221**	*e*P	Pn	04 25 26.5	-2.3
THZ	**Tophouse**	**5.03**	**211**	*e*P	Pn	04 25 33.8	-2.2
KHZ	**Kahutara**	**5.37**	**203**	P	Pn	04 25 37.0	-3.3
KHZ	**Kahutara**	**5.37**	**203**	PN	Pn	04 25 36.8	-3.5
DSZ	**Dennistoon Nort**	**5.52**	**219**	*e*P	Pn	04 25 38.3	-4.0
LTZ	**Lake Taylor**	**6.14**	**210**	*e*P	Pn	04 25 46.7	-3.6
LTZ	**Lake Taylor**	**6.14**	**210**	PN	Pn	04 25 46.7	-3.7
MQZ	**McQueen's Vall**	**6.81**	**204**	SN	Sn	04 27 07.6	-8.8

IDC 15 04:30:19.8±7.0,**1748S**×**7265W**,**h66**km±49km,**mb3.2**/2, **mb1 3.5**/4,**mb1mx3.2**/17,**mbtmp3.3**/4,**ML3.7**/2,**Error ellipse: s-maj=98.9km s-min=43.2km az=3.0**,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.48**	**75**	P	Pn	04 31 27.2	+2.0
	2.5nm,0.3s,baz=260,slow=11,SNR=76						
LPAZ				S	Sn	04 32 17.6	+1.6
	baz=36,slow=6.0,SNR=0.9						
SIV	**San Ignacio**	**11.19**	**84**	P	Pn	04 32 55.3	-1.5
	0.3nm,0.3s,baz=262,slow=6.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**79.43**	**73**	P	P	04 42 19.8	+0.8
	0.3nm,0.4s,baz=263,slow=5.1,SNR=13						
YKA	**Yellowknife Ar**	**86.26**	**342**	P	P	04 42 53.7	-0.6
	0.1nm,0.6s,baz=135,slow=4.9,SNR=6.0						

IDC ***15*** *04:38:44.3±1.2, 121N×96.96E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/24, mbtmp4.1/11, ML3.1/1, Error ellipse: s-maj=38.2km s-min=16.0km az=57.0*
BJI ***15*** *04:38:44.8, 079N×97.12E, h40km, mB5.0, mb4.6, Ms4.3, Msz4.0*
ISCJB ***15*** *04:38:47.8±1.5, 126N±008×9706E±009, h34km±12km, mb4.3/28, MS4.0/4, Error ellipse: s-maj=16.6km s-min=11.0km az=119.0*
MOS ***15*** *04:38:47.4±0.8, 123N×96.94E, h33km, mb4.7/8, Error ellipse: s-maj=18.8km s-min=9.3km az=88.2*
NEIC ***15*** *04:38:49.0±0.6, 127N×97.04E, h30km, mb4.4/7, Error ellipse: s-maj=13.9km s-min=8.6km az=59.0*

ISC 15 04:38:49.9±2.5,**128N**±008×**9710E**±009,**h32**km±17km,
h32km±2.7km:**pP-P**,**n52**, σ0**90**/55,**mb4.3**/28,**MS4.0**/4,
2C-4D,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.37**	**50**	Pn	**Pn**	**04 39 26.4**	**-0.1**
	3.9nm,0.3s,baz=244,slow=4.3,SNR=40						
KULM	**Kulim**	**5.33**	**42**	*e*Pn	**Pn**	**04 40 06.8**	**-0.5**
CHTO	**Chiang Mai**	**17.52**	**6**	*e*P	**Pn**	**04 42 49.4**	**-2.2**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**17.52**	**6**	*e*P	**Pn**	**04 42 49.4**	**-2.2**
	comp=Z,2.8nm,0.6s						
KMI	**Kunming**	**24.32**	**12**	P	**P**	**04 44 05.8**	**+1.3**
KMI				AP		04 44 12.9	
KMI				XP	sP	04 44 16.8	-0.9
KMI				PP		04 44 41.3	
KMI				S	**S**	**04 48 15.8**	**-5.8**
KMI				SS		04 49 15.0	
KMI				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.1						
KMI				LR	LR		
	comp=N,253nm,12.8s,MS4.0						
KMI				LR	LR		
	comp=E,198nm,13.6s,MS4.0						
KMI				LR	LR		
	comp=Z,268nm,13.2s,MS3.9						
KMI	**Kunming**	**24.32**	**12**	P	**P**	**04 44 05.7**	**+1.2**
KMI				pP		04 44 12.9	
KMI				sP	sP	04 44 16.8	-0.9
KMI				PP		04 44 41.2	
KMI				S	**S**	**04 48 15.7**	**-5.9**
KMI				sS	sS	04 48 28.5	-8.4
KMI				SS		04 49 15.0	
GYA	**Guiyang**	**26.67**	**19**	*e*P	**P**	**04 44 27.9**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
PKI	**Pulchoki**	**28.44**	**338**	*e*P	**P**	**04 44 43.0**	**+1.3**
GUN	**Gumba**	**28.57**	**339**	*e*P	**P**	**04 44 43.7**	**+0.8**
DMN	**Daman**	**28.59**	**337**	*e*P	**P**	**04 44 44.3**	**+1.3**
KKN	**Kakani**	**28.68**	**338**	*e*P	**P**	**04 44 43.8**	**-0.1**
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**04 44 46.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**04 44 46.1**	**+1.0**
	comp=Z,4.0nm,0.4s,mb4.5						
GKN	**Gorkha**	**29.12**	**337**	*e*P	**P**	**04 44 47.0**	**-0.8**
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**04 44 50.6**	**+0.9**
	comp=Z,14nm,0.8s,mb4.8						
CD2	**Chengdu**	**30.14**	**11**	*e*P	**P**	**04 44 57.8**	**+1.1**
CD2				AP	pP	04 45 07.4	+1.3
CD2				XP	sP	04 45 11.4	+1.4
CD2				PP	PP	04 45 56.1	-8.9
CD2				S	**S**	**04 49 52.3**	**-1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				LR	LR		
	comp=N,220nm,14.4s,MS4.1						
CD2				LR	LR		
	comp=E,230nm,13.2s,MS4.1						
FITZ	**Fitzroy Crossi**	**34.06**	**126**	P	**P**	**04 45 30.9**	**-0.3**
	comp=E,1.0nm,0.6s,mb3.9,baz=300,slow=5.9,SNR=4.2						
XAN	**Xi'an**	**34.41**	**18**	P	**P**	**04 45 32.6**	**-1.6**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
GTA	**Gaotai**	**38.03**	**3**	*e*P	**P**	**04 46 05.0**	**-0.1**
GTA				AP	pP	04 46 12.1	-2.5
GTA				XP	sP	04 46 16.8	-1.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
HHC	**Hu-ho-hao-te**	**41.51**	**17**	*e*P	**P**	**04 46 36.1**	**+2.1**
HHC				AP	pP	04 46 45.9	+2.3
HHC				XP	sP	04 46 49.9	+2.5
HHC				PP	PP	04 48 14.5	+4.3
HHC				S	**S**	**04 52 48.5**	**+1.0**
HHC				XS	sS	04 53 04.3	+1.1
HHC				SS	SS	04 55 48.8	-3.9
HHC				SCS	ScS	04 56 35.6	+0.4
HHC				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
HHC				AMB	AMB		
	comp=Z,126nm,5.5s						
HHC				LR	LR		
	comp=N,219nm,19.0s,MS4.2						
HHC				LR	LR		
	comp=E,192nm,17.8s,MS4.2						
HHC				LR	LR		
	comp=Z,227nm,20.2s,MS4.0						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**04 46 39.3**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=301,slow=9.2,SNR=18						
WRA	**Warramunga Arr**	**42.16**	**122**	*i* P	**P**	**04 46 39.2**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BJT	**Baijiatuau**	**42.28**	**22**	*e*P	**P**	**04 46 41.2**	**+0.9**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJT	**Baijiatuau**	**42.28**	**22**	*e*P	**P**	**04 46 41.2**	**+0.9**
	comp=Z,6.5nm,0.7s,mb4.4						
WMQ	**Urumqi**	**43.17**	**350**	*e*P	**P**	**04 46 48.3**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,257nm,5.0s						
WMQ				LR	LR		
	comp=N,61nm,15.0s,MS4.2						
WMQ				LR	LR		
	comp=E,230nm,19.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,67nm,14.0s,MS3.7						
ASAR	**Alice Springs**	**43.53**	**127**	P	**P**	**04 46 50.9**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.5,baz=305,slow=7.8,SNR=7.8						
KSRS	**Korea Array**	**45.84**	**35**	P	**P**	**04 47 08.5**	**-0.4**
	comp=Z,4.3nm,0.9s,mb4.4,baz=226,slow=9.4,SNR=10						
AAK	**Ala-Archa**	**45.88**	**337**	⇓*e*P	**P**	**04 47 09.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
SONM	**Songino Array**	**47.06**	**9**	P	**P**	**04 47 18.2**	**-0.3**
	comp=Z,3.9nm,0.9s,mb4.3,baz=192,slow=9.4,SNR=6.2						
MK31	**Makanchi Array**	**47.14**	**346**	*e*P	**P**	**04 47 18.8**	**-0.3**
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**04 47 19.1**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.3,baz=159,slow=8.9,SNR=43						
ULN	**Ulaanbaatar**	**47.20**	**9**	⇓*i*P	**P**	**04 47 19.6**	**+0.1**
ULN	**Ulaanbaatar**	**47.20**	**9**	*e*P	**P**	**04 47 19.5**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.1						
TLY	**Talaya**	**50.52**	**5**	⇓*e*P	**P**	**04 47 44.2**	**-0.8**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
HIA	**Hailar**	**51.59**	**19**	⇓*e*P	**P**	**04 47 53.1**	**0.0**
KURK	**Kurchatov**	**51.69**	**345**	*e*P	**P**	**04 47 53.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**51.69**	**345**	*e*P	**P**	**04 47 53.3**	**-0.5**
	comp=Z,3.1nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**53.45**	**351**	P	**P**	**04 48 06.5**	**-0.4**
	comp=Z,3.9nm,0.5s,mb4.6,baz=307,slow=4.7,SNR=15						
ZAL	**Zalesovo**	**53.45**	**351**	P	**P**	**04 48 06.5**	**-0.4**
STKA	**Stephens Creek**	**53.49**	**132**	P	**P**	**04 48 07.5**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=328,slow=9.5,SNR=3.3						
NVS	**Novosibirsk**	**54.58**	**350**	*e*P	**P**	**04 48 24.4**	**+9.3**
BRVK	**Borovoye**	**56.20**	**341**	*e*P	**P**	**04 48 25.8**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**56.20**	**341**	*e*P	**P**	**04 48 25.8**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**56.62**	**341**	*e*P	**P**	**04 48 28.8**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**56.62**	**341**	*e*P	**P**	**04 48 28.8**	**-0.9**
	comp=Z,3.4nm,0.6s,mb4.5						
AKTK	**Aktyubinsk**	**59.11**	**332**	P	**P**	**04 48 46.3**	**-0.9**
AKTO	**Aktyubinsk**	**59.11**	**332**	P	**P**	**04 48 46.3**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.9,baz=156,slow=8.7,SNR=3.9						
YAK	**Yakutsk**	**65.37**	**16**	⇑*e*P	**P**	**04 49 28.7**	**-0.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
TIXI	**Tiksi**	**73.12**	**10**	⇑*e*P	**P**	**04 50 15.9**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**82.42**	**340**	P	**P**	**04 51 08.3**	**-0.6**
	comp=Z,3.7nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=5.7						
ARCES	**ARCESS Array B**	**82.42**	**340**	P	**P**	**04 51 08.3**	**-0.6**
TXAR	**Lajitas Array**	**143.65**	**31**	PKP	PKPdf	04 58 20.0	-1.5
	comp=Z,0.2nm,0.7s,baz=174,slow=1.8,SNR=2.7						

IDC ***15*** *04:40:07.6±1.0, 3516N×2315E, h0km, mb4.0/9, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, ML3.9/3, Error ellipse: s-maj=22.1km s-min=16.2km az=8.0*
CSEM ***15*** *04:40:10.5±0.1, 3484N×2325E, h73km±1km, mb4.0/9, Error ellipse: s-maj=4.1km s-min=1.5km az=54.0*
NAO ***15*** *04:40:11.5, 3460N×2310E, h33km, mb3.8*
ISCJB ***15*** *04:40:11.1±0.5, 3491N±003×2323E±005, h69km±6km, mb3.9/12, Error ellipse: s-maj=7.7km s-min=3.6km az=107.7*
ATH ***15*** *04:40:12.5, 3501N×2337E, h80km±3km, ML3.4*
NEIC ***15*** *04:40:12.5, 3501N×2337E, h80km, mb4.1/3, After ATH.*
MOS ***15*** *04:40:14.8±0.9, 3525N×2340E, h68km, mb4.3/9, Error ellipse: s-maj=11.1km s-min=5.6km az=87.4*
HLW ***15*** *04:40:18.0, 3476N×2391E, h33km, Mb4.4*

ISC 15 04:40:13.0±0.4,**3495N**±003×**2328E**±005,**h55**km±5km, **n111**, σ1**9**12/127,**mb3.9**/12,**9C-6D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.68**	**99**	*e*P	**Pn**	**04 40 27.5**	**+0.8**
VAM	**Vamos**	**0.88**	**59**	⇑*i*P	**Pn**	**04 40 29.9**	**+0.6**
VAM				*e*S	**Sn**	**04 40 42.6**	**+1.3**
KYTH	**Kithira**	**1.34**	**352**	*e*P	**Pn**	**04 40 36.6**	**+1.2**
IDI	**Anoyia**	**1.37**	**75**	Pn	**Pn**	**04 40 36.9**	**+1.2**
	70nm,0.3s,baz=265,slow=13,SNR=559						
IDI				Sn	**Sn**	**04 40 57.0**	**+4.2**
	59nm,0.3s,baz=316,slow=16,SNR=9.5						
VLI	**Veliai**	**1.79**	**351**	*e*P	**Pn**	**04 40 42.9**	**+1.5**
NPS	**Neapolis**	**1.94**	**80**	*e*P	**Pn**	**04 40 45.3**	**+1.7**
THR6	**Thira Island,**	**2.23**	**50**	*e*P	**Pn**	**04 40 48.0**	**+0.5**
THR5	**Thira Island,**	**2.23**	**48**	*e*P	**Pn**	**04 40 47.6**	**+0.1**
THR5				*e*S	**Sn**	**04 41 13.2**	**-0.8**
THR3	**Thira Island,**	**2.26**	**49**	*e*P	**Pn**	**04 40 48.4**	**+0.5**
SANT	**Santorini**	**2.27**	**51**	*e*Pn	**Pn**	**04 40 48.2**	**+0.1**
SANT	**Santorini**	**2.27**	**51**	*e*Pn	**Pn**	**04 40 48.2**	**+0.1**
THR4	**Thira Island,**	**2.29**	**48**	*e*P	**Pn**	**04 40 48.0**	**-0.4**
ITM	**Ithomi**	**2.48**	**334**	*e*P	**Pn**	**04 40 52.2**	**+1.3**
APE	**Apeiranthos**	**2.80**	**40**	*e*P	**Pn**	**04 40 55.0**	**-0.2**
NAIG	**Nisos Aigina**	**2.81**	**3**	*e*P	**Pn**	**04 40 56.4**	**+1.0**
KVR	**Kavouri**	**2.90**	**8**	*e*P	**Pn**	**04 40 56.9**	**+0.2**
ATH	**Athens Observa**	**3.04**	**7**	*e*P	**Pn**	**04 40 58.9**	**+0.3**
PTL	**Penteli**	**3.13**	**9**	*e*P	**Pn**	**04 41 00.1**	**+0.3**
KARP	**Karpathos**	**3.24**	**78**	*e*P	**Pn**	**04 41 01.8**	**+0.5**
RLS	**Riolos of Patr**	**3.43**	**335**	*e*P	**Pn**	**04 41 05.6**	**+1.7**
RLS	**Riolos of Patr**	**3.43**	**335**	*e*P	**Pn**	**04 41 05.4**	**+1.5**
RLS	**Riolos of Patr**	**3.43**	**335**	*e*P	**Pn**	**04 41 05.4**	**+1.5**
LKR	**Lokris**	**3.70**	**357**	*e*P	**Pn**	**04 41 08.2**	**+0.6**
LKR	**Lokris**	**3.70**	**357**	*e*P	**Pn**	**04 41 08.3**	**+0.7**
VLS	**Valsamata**	**3.88**	**327**	⇓*i*P	**Pn**	**04 41 10.2**	**+0.1**
SMG	**Samos**	**3.98**	**45**	*e*P	**Pn**	**04 41 11.4**	**-0.1**
EVR	**Evrytania**	**4.13**	**344**	*e*P	**Pn**	**04 41 15.8**	**+2.3**
AGG	**Agios Georgios**	**4.13**	**350**	*e*P	**Pn**	**04 41 14.7**	**+1.1**
AGG				*e*S	**Sn**	**04 41 58.0**	**-2.7**
ARG	**Arkhangelos**	**4.15**	**71**	*e*P	**Pn**	**04 41 14.2**	**+0.4**
LKD	**Levkas**	**4.30**	**331**	*e*P	**Pn**	**04 41 17.1**	**+1.3**
LKD				*e*S	**Sn**	**04 42 02.7**	**-2.0**
XOR	**Xorichti**	**4.41**	**359**	*e*P	**Pn**	**04 41 18.0**	**+0.7**
THL	**Klokotos Trika**	**4.71**	**348**	*e*P	**Pn**	**04 41 22.0**	**+0.5**
PRK	**Paraskevi**	**4.91**	**28**	P	**Pn**	**04 41 24.8**	**+0.6**
PAIG	**Paliouri**	**4.98**	**4**	*e*P	**Pn**	**04 41 25.1**	**-0.1**
HMAT	**Matruh**	**5.01**	**139**	⇑*e*P	**Pn**	**04 41 24.5**	**-1.1**
JAN	**Janina**	**5.08**	**338**	*e*P	**Pn**	**04 41 27.3**	**+0.8**
LIT	**Litokhoron**	**5.18**	**353**	*e*P	**Pn**	**04 41 27.9**	**-0.1**
LIT				*e*S	**Sn**	**04 42 25.4**	**-0.9**
OUR	**Ouranopolis**	**5.41**	**6**	*e*P	**Pn**	**04 41 30.6**	**-0.4**
KZN	**Kozani**	**5.48**	**348**	*e*P	**Pn**	**04 41 32.4**	**+0.4**
KEK	**Kerkira**	**5.50**	**331**	*e*P	**Pn**	**04 41 32.4**	**+0.1**
SWA1		**6.03**	**159**	P	**Pn**	**04 41 40.6**	**+1.0**
SWA1				S	**Sn**	**04 42 40.7**	**-6.6**
GRG	**Griva**	**6.04**	**354**	*e*P	**Pn**	**04 41 39.0**	**-0.7**
KNT	**Kendrikon**	**6.21**	**357**	*e*P	**Pn**	**04 41 42.1**	**+0.1**
KNT				*e*S	**Sn**	**

AAK	**Ala-Archa**	**40.13**	**63**	*e*P		**P**		**04 47 43.9**	**+0.5**
	comp=Z,1.7nm,0.7s,mb3.9								
AAK	**Ala-Archa**	**40.13**	**63**	*e*P		**P**		**04 47 43.9**	**+0.5**
	comp=Z,1.7nm,0.7s,mb3.9								
MK31	**Makanchi Array**	**45.18**	**56**	*e*P		**P**		**04 48 24.5**	**+0.2**
MKAR	**Makanchi Array**	**45.18**	**56**	P		**P**		**04 48 24.7**	**+0.4**
	comp=Z,1.1nm,0.3s,mb4.1,baz=269,slow=8.3,SNR=17								
MKAR	**Makanchi Array**	**45.18**	**56**	P		**P**		**04 48 24.7**	**+0.4**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ULN	**Ulaanbaatar**	**61.21**	**50**	*e*P		**P**		**04 50 21.8**	**-0.3**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb4.3								
ULN	**Ulaanbaatar**	**61.21**	**50**	*e*P		**P**		**04 50 21.8**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.4								
ULN	**Ulaanbaatar**	**61.21**	**50**	*e*P		**P**		**04 50 21.8**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.4								
SCHQ	**Schefferville**	**62.34**	**319**	P		**P**		**04 50 31.1**	**+1.5**
	comp=Z,0.8nm,0.3s,mb4.3,baz=72,slow=13,SNR=5.5								
YKA	**Yellowknife Ar**	**77.17**	**341**	P		**P**		**04 52 02.2**	**+1.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=30,slow=5.4,SNR=9.2								
YKA	**Yellowknife Ar**	**77.17**	**341**	P		**P**		**04 52 02.2**	**+1.4**
KSRS	**Korea Array**	**79.63**	**52**	P		**P**		**04 52 16.2**	**+1.9**
	comp=Z,1.4nm,0.5s,mb4.2,baz=304,slow=4.6,SNR=3.5								
ASAR	**Alice Springs**	**119.54**	**100**	PKP		PKPdf		04 58 58.7	+2.2
	comp=Z,0.2nm,0.5s,baz=298,slow=1.5,SNR=2.9								

ISCJB ***15*** *04:43:23.3±0.7, 79S±0.1×68.11E±007, h10km, mb4.0/9, MS3.8/8, Error ellipse: s-maj=18.5km s-min=9.9km az=2.7*
IDC ***15*** *04:43:24.0±1.0, 792S×6800E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, MS3.8/8, Ms1 3.7/8, ms1mx3.5/28, Error ellipse: s-maj=35.5km s-min=26.9km az=25.0*
NEIC ***15*** *04:43:25.3±0.5, 792S×6801E, h10km, mb4.3/5, Error ellipse: s-maj=14.1km s-min=10.6km az=178.0*

ISC 15 04:43:25.6±0.7, 79S±01×6812E±007, h10km, n20, σ0°84/13, mb4.0/9, MS3.8/8, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.32**	**84**	*e*Pn	**Pn**	**04 44 31.9**	**+0.6**
DGAR				*e*Sn	**Sn**	**04 45 19.9**	**-1.8**
KMBO	**Kilima Mbogo**	**31.47**	**281**	LR	LR	04 59 46.6	
	comp=Z,94nm,19.8s,MS3.5,baz=90,slow=31						
LSZ	**Lusaka**	**39.76**	**256**	P	**P**	**04 50 57.6**	**-0.9**
	2.4nm,0.8s,mb4.0,baz=84,slow=7.3,SNR=6.4						
LSZ	**Lusaka**	**39.76**	**256**	*e*P	**P**	**04 50 57.3**	**-1.2**
	2.4nm,0.8s,mb4.0						
BOSA	**Boshof**	**45.32**	**237**	LR	LR	05 10 17.0	
	comp=Z,67nm,19.2s,MS3.6,baz=260,slow=36						
BOSA	**Boshof**	**45.32**	**237**	*e*P	**P**	**04 51 42.9**	**-0.8**
	3.9nm,1.0s,mb4.2						
GNI	**Garni**	**52.42**	**337**	*e*P	**P**	**04 52 37.6**	**-0.6**
	22nm,1.3s,mb4.9						
MKAR	**Makanchi Array**	**55.85**	**12**	P	**P**	**04 53 03.2**	**0.0**
	0.2nm,0.6s,mb3.4,baz=209,slow=8.5,SNR=4.1						
MKAR				LR	LR	05 17 07.6	
	comp=Z,82nm,21.4s,MS3.8,baz=173,slow=36						
AKTK	**Aktyubinsk**	**58.71**	**352**	P	**P**	**04 53 23.6**	**+0.2**
AKTO	**Aktyubinsk**	**58.71**	**352**	P	**P**	**04 53 23.6**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=135,slow=4.4,SNR=3.7						
KURK	**Kurchatov**	**59.04**	**8**	*e*P	**P**	**04 53 26.2**	**+0.5**
	1.7nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**61.33**	**2**	*e*P	**P**	**04 53 41.5**	**+0.1**
	1.1nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**64.73**	**112**	P	**P**	**04 54 05.0**	**+0.9**
	0.7nm,0.8s,mb3.7,baz=278,slow=6.3,SNR=6.4						
WRA	**Warramunga Arr**	**65.05**	**108**	P	**P**	**04 54 07.5**	**+1.4**
	1.5nm,1.0s,mb4.0,baz=282,slow=6.1,SNR=6.9						
WRA				LR	LR	05 19 19.4	
	comp=Z,52nm,19.4s,MS3.7,baz=120,slow=33						
KSRS	**Korea Array**	**71.68**	**46**	LR	LR	05 26 24.7	
	comp=Z,53nm,18.1s,MS3.8,baz=312,slow=36						
CTA	**Charters Tower**	**76.24**	**109**	LR	LR	05 25 20.8	
	comp=Z,91nm,19.0s,MS4.1,baz=51,slow=33						
PMG	**Port Moresby**	**78.00**	**98**	LR	LR	05 25 46.0	
	comp=Z,59nm,19.1s,MS3.9,baz=201,slow=32						
MJAR	**Matsushiro Arr**	**78.97**	**50**	LR	LR	05 32 18.2	
	comp=Z,56nm,18.8s,MS3.9,baz=55,slow=37						
PDAR	**Pinedale Array**	**145.17**	**357**	PKPbc	PKPbc	05 03 04.5	+1.5
	0.6nm,0.6s,baz=108,slow=2.4,SNR=5.2						
NVAR	**Mina Array Bea**	**149.01**	**10**	PKPbc	PKPbc	05 03 14.5	+0.6
	0.5nm,0.8s,baz=350,slow=3.7,SNR=3.5						

GUC 15 04:47:16.5±0.7, 3086S×7168W, h22km±5km, MD3.7, ML3.1, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.66**	**118**	*i* P	Pb	04 47 28.6	-0.7
CMCH				*i* S	Sb	04 47 38.4	+0.4
CMCH				AML	AML	04 47 39.6	
	comp=E,1μm,0.5s						
TLL	**Tololo Astrono**	**1.02**	**48**	*i* P	Pb	04 47 34.8	-0.7
TLL				*i* S	Sb	04 47 49.4	+0.9
PTCH	**Petorca**	**1.54**	**156**	⇑*i*P	Pn	04 47 42.7	+0.1
PTCH				*i* S	Sn	04 48 02.4	+0.5
PTCH				AML	AML	04 48 06.0	
	comp=E,556nm,0.5s						
PEL	**Peldehue**	**2.42**	**160**	*e*P	Pn	04 47 56.2	+1.3
PEL				*e*S	Sn	04 48 26.1	+2.2
PEL				AML	AML	04 48 31.6	
	comp=E,167nm,0.3s						
CLCH	**Cerro Calan**	**2.71**	**159**	*e*P	Pn	04 48 00.2	+1.6
CLCH				*i* S	Sn	04 48 33.4	+2.7
CLCH				AML	AML	04 48 46.5	
	comp=E,70nm,0.6s						
RCDM	**Rinconada Maip**	**2.72**	**164**	*i* S	Sn	04 48 33.0	+1.9
RCDM				AML	AML	04 48 42.1	
	comp=E,56nm,0.2s						
ANTU	**Antumapu**	**2.84**	**162**	AML	AML	04 48 51.4	
	comp=N,57nm,0.4s						

IDC ***15*** *05:26:24.7±1.1, 128N×9703E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/25, mbtmp4.1/12, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=37.0km s-min=15.4km az=55.0*
BJI ***15*** *05:26:27.4, 097N×97.17E, h48km, mB4.7, mb4.6, Ms4.3, Msz4.0*
ISCJB ***15*** *05:26:28.1±1.4, 127N±007×97.13E±009, h35km±11km, mb4.4/26, MS3.8/6, Error ellipse: s-maj=15.6km s-min=11.3km az=121.3*
NEIC ***15*** *05:26:29.3±0.4, 130N×9708E, h30km, mb4.5/7, Error ellipse: s-maj=11.2km s-min=7.1km az=54.0*

ISC 15 05:26:31.9±1.4, 136N±008×9724E±009, h45km±11km, h33km±1.7km: pP-P, n36, σ0°91/40, mb4.4/26, MS3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.21**	**50**	Pn	**Pn**	**05 27 05.3**	**-0.8**
	7.6nm,0.3s,baz=209,slow=7.8,SNR=62						
KULM	**Kulim**	**5.18**	**41**	*e*Pn	**Pn**	**05 27 46.7**	**-0.1**
KMI	**Kunming**	**24.22**	**12**	P	**P**	**05 31 45.3**	**+1.0**
KMI				AP		05 31 56.3	
KMI				XP	sP	05 31 59.8	-1.6
KMI				PP		05 32 20.4	
KMI				S	**S**	**05 35 58.6**	**-1.1**
KMI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,129nm,4.9s						
KMI				LR	LR		
	comp=N,256nm,14.8s,MS4.0						
KMI				LR	LR		
	comp=E,218nm,14.2s,MS4.0						
KMI				LR	LR		
	comp=Z,312nm,13.5s,MS4.0						
GYA	**Guiyang**	**26.55**	**19**	P	**P**	**05 32 06.3**	**+0.8**
GYA				AP	pP	05 32 14.6	-2.7
GYA				S	**S**	**05 36 38.0**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,60nm,4.2s						
GYA				LR	LR		
	comp=N,340nm,14.9s,MS4.2						
GYA				LR	LR		
	comp=E,290nm,14.6s,MS4.2						
GYA				LR	LR		
	comp=Z,250nm,13.9s,MS3.9						
JIRN	**Jiri**	**28.21**	**339**	*e*P	**P**	**05 32 21.3**	**+0.9**
PKI	**Pulchoki**	**28.42**	**338**	*e*P	**P**	**05 32 23.8**	**+1.6**
GUN	**Gumba**	**28.55**	**339**	*e*P	**P**	**05 32 23.9**	**+0.5**
	comp=Z,16nm,0.7s,mb4.9						
DMN	**Daman**	**28.57**	**337**	*e*P	**P**	**05 32 24.9**	**+1.3**
KKN	**Kakani**	**28.67**	**338**	*e*P	**P**	**05 32 25.8**	**+1.4**
GKN	**Gorkha**	**29.11**	**337**	*e*P	**P**	**05 32 28.5**	**+0.2**
KOLN	**Koldanda**	**29.33**	**335**	*e*P	**P**	**05 32 30.7**	**+0.4**
	comp=Z,13nm,0.7s,mb4.8						
CD2	**Chengdu**	**30.03**	**11**	*e*P	**P**	**05 32 36.3**	**-0.2**
CD2				AP	pP	05 32 45.8	-2.6
CD2				PP	PP	05 33 33.5	-1.1
CD2				S	**S**	**05 37 29.3**	**-2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,250nm,13.2s,MS4.2						
CD2				LR	LR		
	comp=E,290nm,15.6s,MS4.2						
CD2				LR	LR		
	comp=Z,300nm,10.3s						
FITZ	**Fitzroy Crossi**	**33.99**	**126**	P	**P**	**05 33 10.9**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=304,slow=6.7,SNR=4.1						
XAN	**Xi'an**	**34.30**	**17**	P	**P**	**05 33 13.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
HHC	**Hu-ho-hao-te**	**41.40**	**16**	*e*P	**P**	**05 34 15.1**	**+1.4**
HHC				AP	pP	05 34 24.9	-1.0
HHC				XP	sP	05 34 28.9	-2.3
HHC				PP	PP	05 35 53.9	+4.0
HHC				PCS	PcS	05 40 04.4	+1.9
HHC				S	**S**	**05 40 27.8**	**+2.3**
HHC				SS	SS	05 43 25.3	-5.3
HHC				SCS	ScS	05 44 14.9	+1.2
HHC				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
HHC				AMB	AMB		
	comp=Z,174nm,4.5s						
HHC				LR	LR		
	comp=N,147nm,21.4s,MS4.0						
HHC				LR	LR		
	comp=E,120nm,17.8s,MS4.0						
HHC				LR	LR		
	comp=Z,131nm,17.8s,MS3.9						
WRA	**Warramunga Arr**	**42.09**	**122**	P	**P**	**05 34 19.4**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.7,baz=302,slow=9.1,SNR=18						
BJT	**Baijiatuau**	**42.16**	**22**	*e*P	**P**	**05 34 20.4**	**+0.4**
	comp=Z,10nm,0.7s,mb4.6						
WMQ	**Urumqi**	**43.13**	**350**	*e*P	**P**	**05 34 28.3**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,240nm,5.0s						
WMQ				LR	LR		
	comp=N,54nm,20.0s,MS3.6						
WMQ				LR	LR		
	comp=E,60nm,17.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,50nm,17.0s,MS3.5						
ASAR	**Alice Springs**	**43.46**	**127**	P	**P**	**05 34 31.2**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.6,baz=301,slow=7.4,SNR=7.2						
KSRS	**Korea Array**	**45.70**	**35**	P	**P**	**05 34 48.0**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.4,baz=219,slow=8.9,SNR=12						
KSRS				LR	LR	05 54 09.1	
	comp=Z,27nm,18.2s,MS3.2,baz=265,slow=36						
SONM	**Songino Array**	**46.97**	**8**	P	**P**	**05 34 58.5**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=195,slow=8.8,SNR=7.4						
MK31	**Makanchi Array**	**47.10**	**346**	*e*P	**P**	**05 34 59.4**	**+0.1**
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**05 34 59.2**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.3,baz=159,slow=8.8,SNR=43						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**05 34 59.2**	**-0.1**
ULN	**Ulaanbaatar**	**47.10**	**9**	*e*P	**P**	**05 34 58.7**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.1						
KURK	**Kurchatov**	**51.65**	**345**	*e*P	**P**	**05 35 33.5**	**-0.6**
	comp=Z,3.4nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**53.40**	**351**	P	**P**	**05 35 46.7**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.6,baz=315,slow=6.7,SNR=15						
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**05 35 47.9**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=327,slow=18,SNR=3.3						
STKA				PP	PP	05 37 44.5	-3.4
	comp=Z,0.6nm,0.4s,baz=334,slow=5.0,SNR=2.8						
BVAR	**Borovoye Array**	**56.11**	**341**	P	**P**	**05 36 05.2**	**-1.4**
	comp=Z,2.3nm,0.7s,mb4.3,baz=143,slow=8.4,SNR=13						
BRVK	**Borovoye**	**56.18**	**341**	*e*P	**P**	**05 36 05.5**	**-1.6**
	comp=Z,2.1nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**56.59**	**341**	*e*P	**P**	**05 36 08.8**	**-1.3**
	comp=Z,3.2nm,0.6s,mb4.5						
AKTK	**Aktyubinsk**	**59.11**	**332**	P	**P**	**05 36 26.7**	**-1.0**
AKTO	**Aktyubinsk**	**59.11**	**332**	P	**P**	**05 36 26.7**	**-1.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=89,slow=4.9,SNR=5.9						
YAK	**Yakutsk**	**65.26**	**16**	*e*P	**P**	**05 37 08.5**	**-0.4**
	comp=Z,20nm,0.6s,mb5.3						
CASY	**Casey**	**68.16**	**174**	*e*P	**P**	**05 37 32.3**	**+4.9**
	comp=Z,20nm,1.1s,mb5.1						
ARCES	**ARCESS Array B**	**82.40**	**340**	P	**P**	**05 38 48.1**	**-1.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=97,slow=4.9,SNR=5.6						

ISCJB ***15*** *05:52:21.4±0.5, 37.13N±004×558W±003, h1km±5km, Error ellipse: s-maj=6.1km s-min=4.4km az=30.3*
MDD ***15*** *05:52:23.8±0.2, 37.10N×554W, h7km±4km, mbLg2.0/15, Error ellipse: s-maj=3.0km s-min=1.7km az=167.0, PRXIMO*
CSEM ***15*** *05:52:23.5±0.1, 3706N×559W, h2km, ML2.7/3, Error ellipse: s-maj=2.3km s-min=1.1km az=13.0*
INMG ***15*** *05:52:23.8±0.9, 3709N×557W, h6km±2km, ML2.1, Error ellipse: s-maj=2.1km s-min=1.1km az=13.0*
SFS ***15*** *05:54:23.0, 37.12N×554W, h0km, ML2.0*

ISC 15 05:52:22.4±0.4, 3710N±004×558W±003, h5km±5km, n43, σ0°70/60, 1C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.24**	**145**	⇑P	**Pg**	**05 52 26.4**	**-0.7**
LIJA				S	**Sg**	**05 52 29.7**	**-0.6**
LIJA	**Lijar**	**0.24**	**145**	*i* P	**Pg**	**05 52 26.4**	**-0.7**
ESPR	**Espera**	**0.32**	**224**	Pg	**Pg**	**05 52 30.1**	**+1.4**
	9.8nm,0.3s,SNR=33						
ESPR				Lg		05 52 35.1	
	76nm,0.4s,SNR=16						
ESPR	**Espera**	**0.32**	**224**	Pg	**Pg**	**05 52 30.1**	**+1.4**
	9.8nm,0.3s,SNR=33						
GIBL	**Gibalbin**	**0.41**	**229**	P	**Pg**	**05 52 34.1**	**+3.7**
GIBL	**Gibalbin**	**0.41**	**229**	*e*P	**Pg**	**05 52 34.1**	**+3.7**
EJIF	**Jimena Fronter**	**0.66**	**172**	Pg	**Pg**	**05 52 34.5**	**-0.5**
	1.1nm,0.2s,SNR=7.9						
EJIF				Lg		05 52 45.1	
	9.4nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.69**	**154**	P	**Pg**	**05 52 37.8**	**+2.2**
REAL	**Reales**	**0.69**	**154**	*i* P	**Pg**	**05 52 37.8**	**+2.2**
EMIJ	**Mijas**	**0.84**	**130**	Pg	**Pg**	**05 52 38.5**	**0.0**
	3.6nm,0.2s,SNR=27						
EMIJ				Lg		05 52 49.9	
	28nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.09**	**308**	⇓Pg	**Pg**	**05 52 44.0**	**+0.5**
	29nm,0.4s,SNR=18						
EMIN				Lg		05 52 60.0	
	31nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.09**	**308**	Pg	**Pg**	**05 52 44.0**	**+0.6**
	29nm,0.4s,SNR=18						
ELOJ	**Sierra Loja**	**1.14**	**87**	Pg	**Pg**	**05 52 44.8**	**+0.6**
	3.5nm,0.3s,SNR=7.9						
ELOJ				Lg		05 53 00.2	
	10nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**1.14**	**66**	Pg	**Pg**	**05 52 45.1**	**+0.8**
	5.7nm,0.2s,SNR=7.9						
ELUQ				Lg		05 52 59.3	
	8.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.33**	**36**	Pg	**Pg**	**05 52 47.8**	**0.0**
	4.6nm,0.2s,SNR=33						
EADA				Lg		05 53 06.1	
	12nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.33**	**36**	Pg	**Pg**	**05 52 47.8**	**0.0**
	4.6nm,0.2s,SNR=33						
ERIP	**Rio Piedras**	**1.37**	**282**	Pn	**Pn**	**05 52 47.8**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
ERIP				Pg	**Pg**	**05 52 48.5**	**0.0**
	11nm,0.1s,SNR=7.9						
ERIP				Lg		05 53 07.7	
	24nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.58**	**286**	Pn	**Pn**	**05 52 50.7**	**-0.2**
	0.3nm,0.1s,SNR=40						
EGRO				Pg	**Pg**	**05 52 52.4**	**-0.3**
	3.6nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**05 53 11.0**	**-0.8**
	3.5nm,0.1s,SNR=10						
EGRO				Lg		05 53 14.4	
	18nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.58**	**286**	Pn	**Pn**	**05 52 50.7**	**-0.3**
	0.3nm,0.1s,SNR=40						
EGRO	**El Granado**	**1.58**	**286**	Pg	**Pg**	**05 52 52.4**	**-0.3**
	3.6nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**05 53 11.0**	**-0.8**
	3.5nm,0.1s,SNR=10						
ECOG	**Cogollos-Vega**	**1.61**	**83**	Pg	**Pg**	**05 52 53.7**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
ECOG				Lg		05 53 14.6	
	5.6nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.63**	**99**	Pg	**Pg**	**05 52 52.5**	**-1.2**
	2.0nm,0.2s,SNR=7.9						
EGUA				Lg		05 53 15.4	
	2.8nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.71**	**86**	Pn	**Pn**	**05 52 52.8**	**+0.1**
	0.2nm,0.1s,SNR=19						
EQUE				Pg	**Pg**	**05 52 55.0**	**-0.2**
	5.2nm,0.3s,SNR=7.9						
EQUE				Lg		05 53 18.3	
	8.6nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.71**	**86**	Pg	**Pg**	**05 52 55.0**	**-0.2**
	5.2nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**1.77**	**53**	Pn	**Pn**	**05 52 53.6**	**0.0**
	1.5nm,0.2s,SNR=7.9						
EBAN				Pg	**Pg**	**05 52 56.0**	**-0.4**
	3.0nm,0.2s,SNR=6.3						
EBAN				Lg		05 53 19.7	
	12nm,0.2s,SNR=13						
EBAD	**Badajoz**	**2.00**	**326**	Pn	**Pn**	**05 52 56.5**	**-0.3**
	SNR=7.9						
EBAD				Pg	**Pg**	**05 53 00.3**	**-0.5**
	1.9nm,0.3s,SNR=9.2						
EBAD				Sn	**Sn**	**05 53 22.5**	**+0.3**
	1.1nm,0.3s,SNR=4.9						
EBAD				Lg		05 53 28.4	
	3.5nm,0.3s,SNR=6.7						
EBAD	**Badajoz**	**2.00**	**326**	Pn	**Pn**	**05 52 56.5**	**-0.3**
	SNR=7.9						
EBAD	**Badajoz**	**2.00**	**326**	Pg	**Pg**	**05 53 00.3**	**-0.5**
	1.9nm,0.3s,SNR=9.2						
EBAD				Sn	**Sn**	**05 53 22.5**	**+0.3**
	1.1nm,0.3s,SNR=4.9						
PBEJ	**Beja**	**2.04**	**298**	*e*Pn	**Pn**	**05 52 57.2**	**-0.1**
PBEJ				A		05 53 33.6	
	7.8nm,0.1s						
PBEJ	**Beja**	**2.04**	**298**	*e*Pn	**Pn**	**05 52 57.2**	**-0.1**
	7.8nm,0.1s						
EQES	**Quesada**	**2.11**	**70**	Pn	**Pn**	**05 52 58.7**	**+0.4**
	0.5nm,0.1s,SNR=7.9						
EQES				Pg	**Pg**	**05 53 02.7**	**-0.2**
	2.6nm,0.5s,SNR=12						
EQES				Lg		05 53 31.4	
	12nm,0.3s,SNR=10						
EQES	**Quesada**	**2.11**	**70**	Pn	**Pn**	**05 52 58.7**	**+0.4**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.11**	**70**	Pg	**Pg**	**05 53 02.7**	**-0.2**
	2.6nm,0.5s,SNR=12						
EBER	**Berja**	**2.16**	**95**	Pg	**Pg**	**05 53 03.4**	**-0.5**
	1.8nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.16**	**95**	Pg	**Pg**	**05 53 03.4**	**-0.4**
	1.8nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**2.37**	**319**	*e*Pn	**Pn**	**05 53 02.0**	**+0.1**
PESTR				*e*Sn	**Sn**	**05 53 33.3**	**+2.0**
PESTR				A		05 53 45.1	
	6.7nm,0.1s						
PESTR	**Estremoz**	**2.37**	**319**	*e*Pn	**Pn**	**05 53 02.0**	**+0.1**
PESTR				*e*Sn	**Sn**	**05 53 33.3**	**+2.0**
	6.7nm,0.1s						
PTEO	**Sao Teotonio**	**2.55**	**281**	*e*Pn	**Pn**	**05 53 04.1**	**-0.2**
PTEO				*e*Sn	**Sn**	**05 53 35.0**	**-0.6**
PTEO				A		05 53 48.7	
	6.6nm,0.3s						
PTEO	**Sao Teotonio**	**2.55**	**281**	*e*Pn	**Pn**	**05 53 04.1**	**-0.2**
PTEO				*e*Sn	**Sn**	**05 53 35.0**	**-0.6**
	6.6nm,0.3s						
MOE	**Montemor**	**2.61**	**304**	*e*Pg	**Pg**	**05 53 11.7**	**-0.8**
MOE				*e*Sn	**Sn**	**05 53 37.4**	**+0.1**
PCBR	**Castelo Branco**	**3.11**	**332**	*e*Pn	**Pn**	**05 53 12.5**	**+0.4**
PCBR				A		05 54 08.6	
	2.7nm,0.1s						
PCBR	**Castelo Branco**	**3.11**	**332**	*e*Pn	**Pn**	**05 53 12.5**	**+0.4**
	2.7nm,0.1s						
PMAFR	**Mafra**	**3.46**	**303**	*e*Pn	**Pn**	**05 53 17.1**	**+0.2**
PMAFR				*e*Sn	**Sn**	**05 53 57.5**	**-0.7**

IDC 15 06:00:40.2±3.5, 2330S×17952E, h486km±34km, mb3.4/4, mb1 3.6/4, mb1mx3.3/13, mbtmp3.4/4, Error ellipse: s-maj=102.6km s-min=26.6km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.54**	**247**	P	P	06 06 46.1	-0.9
	2.2nm,0.5s,baz=94,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**41.70**	**260**	P	P	06 07 46.0	+0.5
	1.3nm,0.4s,baz=94,slow=7.1,SNR=31						
WRA	**Warramunga Arr**	**42.01**	**266**	P	P	06 07 48.8	+0.9
	4.1nm,0.4s,baz=98,slow=8.3,SNR=132						
WRA				ScP	ScP	06 12 35.5	-0.2
	1.7nm,1.0s,baz=98,slow=3.6,SNR=9.1						
TXAR	**Lajitas Array**	**90.49**	**58**	P	P	06 12 49.8	+0.4
	0.6nm,0.7s,baz=215,slow=6.4,SNR=7.7						

NIED ***15*** *06:16:00, 4220N×14480E, h26

ASAJ smax
comp=N,17nm,0.3s
MJAR Matsushiro Arr 7.70 225 P **Pn 06 18 32.5 -0.3**
comp=N,1.5nm,0.3s,baz=30,slow=14,SNR=16
MJAR Matsushiro Arr 7.70 225 PN **Pn 06 18 32.5 -0.3**
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MAJO Matsushiro 7.70 225 *e*PN **Pn 06 18 32.5 -0.3**
MAT Matsushiro 7.70 225 P **Pn 06 18 32.0 -0.8**
KSRS Korea Array 13.91 256 P **Pn 06 19 58.9 +1.0**
baz=66,slow=16,SNR=4.1
KSRS LR LR 06 25 22.0
comp=Z,47nm,18.3s,baz=45,slow=37
SONM Songino Array 27.61 295 P **P 06 22 28.2 +0.8**
comp=Z,1.4nm,0.7s,mb3.7,baz=64,slow=10,SNR=3.6
SONM Songino Array 27.61 295 P **P 06 22 28.2 +0.7**
SONM pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 43.87 298 P **P 06 24 45.7 -0.7**
comp=Z,0.5nm,0.7s,mb3.4,baz=86,slow=12,SNR=3.8
YKA Yellowknife Ar 57.97 33 P **P 06 26 32.6 +0.1**
comp=Z,0.2nm,0.7s,mb3.2,baz=304,slow=6.1,SNR=3.3
WRA Warramunga Arr 62.62 191 P **P 06 27 03.4 -0.9**
comp=Z,0.3nm,0.7s,mb3.5,baz=8.3,slow=6.6,SNR=4.0
FINES FINESS Array B 65.49 332 P **P 06 27 22.2 -0.9**
comp=Z,1.4nm,0.7s,mb4.1,baz=50,slow=6.0,SNR=4.0
PDAR Pinedale Array 72.14 48 P **P 06 28 06.1 +1.6**
comp=Z,0.4nm,0.6s,mb3.5,baz=276,slow=3.5,SNR=3.3
TXAR Lajitas Array 84.85 55 P **P 06 29 16.0 +1.4**
comp=Z,0.5nm,0.8s,mb3.7,baz=286,slow=4.6,SNR=6.3

IDC 15 06:27:56.0±3.7, 917S×11969E, h81km±38km, mb3.5/2, mb1 3.6/5, mb1mx3.4/18, mbtmp3.4/5, Error ellipse: s-maj=173.0km s-min=17.5km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.59**	**148**	P	Pn	06 30 23.4	-1.3
	0.5nm,0.3s,baz=332,slow=10,SNR=26						
FITZ				S	Sn	06 32 11.1	-10
	1.0nm,0.3s,baz=186,slow=22,SNR=11						
WRA	**Warramunga Arr**	**17.75**	**129**	P	Pn	06 31 58.5	+0.8
	0.2nm,0.3s,baz=301,slow=13,SNR=10						
WRA				S	S	06 35 04.5	-12
	0.1nm,0.3s,baz=293,slow=25,SNR=2.8						
ASAR	**Alice Springs**	**19.81**	**138**	P	Pn	06 32 21.8	-0.5
	0.3nm,0.3s,baz=312,slow=8.8,SNR=19						
ASAR				S	S	06 35 58.7	0.0
	0.1nm,0.3s,baz=317,slow=26,SNR=4.6						
STKA	**Stephens Creek**	**30.39**	**141**	P	P	06 34 01.8	+1.5
	1.0nm,0.8s,baz=340,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**64.92**	**333**	P	P	06 38 26.3	-0.5
	0.7nm,1.0s,baz=140,slow=7.6,SNR=4.0						

*CSEM **15** 06:47:12.6±1.5, 3850N×2853W, h14km±7km, ML2.1, Error ellipse: s-maj=7.1km s-min=3.3km az=25.0, After PDA*
*PDA **15** 06:47:12.6±1.5, 3850N×2853W, h14km±7km, MD2.8, ML2.1, Error ellipse: s-maj=7.1km s-min=3.3km az=25.0*
SVSA 15 06:47:12.6±1.5, 3850N×2853W, h14km±7km, MD2.8, ML2.1, Error ellipse: s-maj=7.1km s-min=3.3km az=25.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCND	**Candelaria**	**0.06**	**122**	*e*P	Pg	06 47 15.1	-0.3
PCND				*i* S	Sg	06 47 17.2	-0.2
PCND							
	128nm,0.1s						
HOR	**Horta**	**0.08**	**287**	*i* P	Pg	06 47 14.9	-0.7
HOR				*i* S	Sg	06 47 17.3	-0.4
HOR	**Horta**	**0.08**	**287**	*i* S	Sg	06 47 17.3	-0.4
PICO	**Pico**	**0.08**	**91**	*i* P	Pg	06 47 14.8	-0.8
PICO				*i* S	Sg	06 47 16.9	-0.9
PICO	**Pico**	**0.08**	**91**	*i* S	Sg	06 47 16.9	-0.9
PTEI	**Pico do Teixo**	**0.14**	**93**	*e*P	Pg	06 47 16.0	-0.3
PTEI				*e*S	Sg	06 47 18.7	-0.2
PTEI							
	34nm,0.1s						
CALA	**Caldeira**	**0.15**	**300**	*e*P	Pg	06 47 16.1	-0.4
CALA				*e*S	Sg	06 47 19.3	+0.1
PCED	**Cedros**	**0.18**	**313**	*e*P	Pg	06 47 16.0	-0.9
PCED				*e*S	Sg	06 47 19.2	-0.7
PCED							
	138nm,0.3s						
PCED	**Cedros**	**0.18**	**313**	*e*P	Pg	06 47 16.0	-0.9
PCED				*e*S	Sg	06 47 19.2	-0.7
ROSA	**Rosais**	**0.31**	**46**	*i* P	Pg	06 47 17.7	-1.4
ROSA				*i* S	Sg	06 47 21.9	-1.6
ROSA	**Rosais**	**0.31**	**46**	*i* S	Sg	06 47 21.9	-1.6
PAMA	**Santo Amaro**	**0.33**	**57**	*e*P	Pg	06 47 18.7	-0.7
PAMA				*e*S	Sg	06 47 23.0	-0.9
PAMA							
	66nm,0.1s						
PAMA	**Santo Amaro**	**0.33**	**57**	*e*P	Pg	06 47 18.7	-0.7
PAMA				*e*S	Sg	06 47 23.0	-0.9
PID	**Ribeirinha**	**0.33**	**100**	*e*P	Pg	06 47 18.3	-1.1
PID				*e*S	Sg	06 47 22.8	-1.2
PMAN	**Manadas**	**0.37**	**69**	*e*P	Pg	06 47 18.9	-1.2
PMAN				*e*S	Sg	06 47 23.5	-1.7
PMAN							
	137nm,0.1s						
PMAN	**Manadas**	**0.37**	**69**	*e*P	Pg	06 47 18.9	-1.2
PMAN				*e*S	Sg	06 47 23.5	-1.7
SRBC	**Serra Branca**	**0.66**	**36**	*e*P	Pg	06 47 28.3	+2.9
PGRA	**Graciosa**	**0.68**	**39**	*e*P	Pg	06 47 23.9	-2.0
PSBA	**Serra de Santa**	**0.98**	**74**	*e*S	Sb	06 47 39.3	-4.8
PSBA							
	112nm,0.3s						

*CSEM **15** 06:53:43.5±0.1, 4294N×024E, h2km, ML2.4/8, Error ellipse: s-maj=1.2km s-min=1.0km az=132.0*
*LDG **15** 06:53:43.3±0.1, 4293N×024E, h5km, Md2.3/2, Ml2.4/9, Error ellipse: s-maj=1.1km s-min=1.0km az=25.0*
*STR **15** 06:53:43.0±0.2, 4293N×026E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 15 06:53:43.6±0.2, 4293N×024E, h4km±5km, mbLg1.7/19, Error ellipse: s-maj=1.8km s-min=1.7km az=146.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.12**	**36**	*e*Pg	Pg	06 53 45.9	-0.2
EPF				*e*Sg	Sg	06 53 47.9	+0.2
EPF							
	339nm,0.2s						
EPF	**Esparros**	**0.12**	**36**	*e*Pg	Pg	06 53 45.9	-0.2
EPF				*e*Sg	Sg	06 53 47.9	+0.2
EPF							
	169nm,0.2s						
RESF	**Ens**	**0.14**	**150**	Pg	Pg	06 53 46.3	-0.2
RESF				Sg	Sg	06 53 48.6	+0.2
RESF	**Ens**	**0.14**	**150**	P	Pg	06 53 46.3	-0.2
RESF				S	Sg	06 53 48.7	+0.4
VIEF	**Viey**	**0.17**	**253**	Pg	Pg	06 53 46.8	-0.1
VIEF				Sg	Sg	06 53 49.3	+0.1
VIEF	**Viey**	**0.17**	**253**	P	Pg	06 53 46.9	-0.1
VIEF				S	Sg	06 53 49.3	+0.2
LABF	**Labassere**	**0.17**	**313**	Pg	Pg	06 53 46.9	-0.1
LABF				Sg	Sg	06 53 49.6	+0.4
LABF	**Labassere**	**0.17**	**313**	P	Pg	06 53 46.9	0.0
LABF				S	Sg	06 53 49.7	+0.5
EBIE	**Bielsa**	**0.26**	**197**	Pg	Pg	06 53 48.5	-0.1
	16nm,0.1s,SNR=124						
EBIE				Lg		06 53 51.4	
	101nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**0.26**	**197**	Pg	Pg	06 53 48.5	-0.1
	16nm,0.1s,SNR=124						
EBIE				Lg		06 53 51.4	
	101nm,0.3s,SNR=7.9						
MELF	**Melles**	**0.39**	**99**	P	Pg	06 53 50.2	-0.8
MELF				S	Sg	06 53 55.3	-0.8
ETSF	**Etsaut**	**0.59**	**267**	*e*Pg	Pg	06 53 54.4	-0.6
ETSF				*e*Sg	Sg	06 54 02.4	-0.2
ETSF							
	15nm,0.2s						
ETSF	**Etsaut**	**0.59**	**267**	*e*Pg	Pg	06 53 54.4	-0.6
ETSF				*e*Sg	Sg	06 54 02.4	-0.2
ETSF							
	7.7nm,0.2s						
ATE	**Arette**	**0.71**	**283**	Pg	Pg	06 53 57.1	-0.1
ATE				Sg	Sg	06 54 07.8	+1.4
ATE	**Arette**	**0.71**	**283**	S	Sg	06 54 07.3	+0.9
SALF	**Salau**	**0.72**	**104**	Pg	Pg	06 53 56.4	-1.0
SALF				Sg	Sg	06 54 06.1	-0.6
SALF	**Salau**	**0.72**	**104**	P	Pg	06 53 56.6	-0.9
SALF				S	Sg	06 54 06.1	-0.7
CSOR	**Sort**	**0.86**	**130**	P	Pg	06 53 59.3	-0.9
CSOR				S	Sg	06 54 10.8	-0.5
CSOR							
	2.2nm,0.3s						
CORG	**Organya**	**1.06**	**131**	P	Pg	06 54 03.8	-0.2
CORG				S	Sg	06 54 17.8	+0.1
CORG							
	0.9nm,0.2s						
SJPF	**Ste Jean**	**1.09**	**280**	*e*Pg	Pg	06 54 04.0	-0.6
SJPF				*e*Sg	Sg	06 54 17.5	-1.2
SJPF							
	2.2nm,0.2s						
SJPF	**Ste Jean**	**1.09**	**280**	*e*Pg	Pg	06 54 04.0	-0.6
SJPF				*e*Sg	Sg	06 54 17.5	-1.2
SJPF							
	1.1nm,0.2s						
CAVN	**Les Avellanes**	**1.11**	**160**	P	Pg	06 54 04.1	-0.9
CAVN				S	Sg	06 54 19.6	+0.1
CAVN							
	7.2nm,0.1s						
EALK	**Alkurruntz**	**1.31**	**283**	Lg		06 54 24.6	
	5.6nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**1.31**	**271**	Lg		06 54 25.5	
	3.2nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**1.32**	**281**	Pg	Pg	06 54 06.9	-2.0
	0.8nm,0.1s,SNR=7.9						
ELIZ				Lg		06 54 24.6	
	8.0nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.32**	**204**	Pg	Pg	06 54 08.7	-0.2
	3.6nm,0.2s,SNR=6.3						
ESAC				Lg		06 54 25.2	
	35nm,0.2s,SNR=12						
ESAC	**San Caprasio**	**1.32**	**204**	Pg	Pg	06 54 08.7	-0.2
	3.6nm,0.2s,SNR=6.3						
CLLI	**Llivia**	**1.35**	**109**	P	Pn	06 54 08.6	-0.7
EMIR	**Miracle**	**1.39**	**136**	Pg	Pg	06 54 09.8	-0.5
	1.8nm,0.1s,SNR=7.9						
EMIR				Lg		06 54 29.6	
	8.9nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**1.39**	**136**	Pg	Pg	06 54 09.8	-0.5
	1.8nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.50**	**74**	*e*Pg	Pg	06 54 11.6	-0.9
MTLF				*e*Sg	Sg	06 54 30.4	-1.5
MTLF							
	1.9nm,0.2s						
MTLF	**Montolieu**	**1.50**	**74**	*e*Pg	Pg	06 54 11.6	-0.9
MTLF				*e*Sg	Sg	06 54 30.4	-1.5
MTLF							
	0.9nm,0.2s						
EPOB	**Poblet**	**1.70**	**158**	Pg	Pg	06 54 14.7	-1.4
	0.4nm,0.1s,SNR=8.7						
EPOB				Lg		06 54 37.7	
	8.9nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**1.70**	**158**	Pg	Pg	06 54 14.7	-1.5
	0.4nm,0.1s,SNR=8.7						
ERTA	**Horta de San J**	**1.98**	**178**	Pg	Pg	06 54 20.2	-1.3
	1.6nm,0.2s,SNR=7.9						
ERTA				Lg		06 54 47.2	
	9.5nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**1.98**	**178**	Pg	Pg	06 54 20.2	-1.3
	1.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.01**	**103**	Pg	Pg	06 54 22.5	+0.4
	1.2nm,0.2s,SNR=7.9						
EJON				Lg		06 54 49.4	
	3.2nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.01**	**103**	Pg	Pg	06 54 22.5	+0.3
	1.2nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.04**	**10**	*e*Pg	Pg	06 54 21.1	-1.6
LFF				*e*Sg	Sg	06 54 46.7	-2.5
LFF							
	12nm,0.3s						
LFF	**La Frestale**	**2.04**	**10**	*e*Pg	Pg	06 54 21.1	-1.6
LFF				*e*Sg	Sg	06 54 46.7	-2.5
LFF							
	6.2nm,0.3s						
ECRI	**Cripan**	**2.05**	**262**	Pg	Pg	06 54 20.9	-2.0
	1.3nm,0.2s,SNR=7.9						
ECRI				Lg		06 54 48.8	
	2.4nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.39**	**33**	*e*Pn	Pn	06 54 21.6	-1.9
CAF				*e*Sg	Sg	06 54 57.9	-2.5
CAF							
	3.7nm,0.3s						
CAF	**Calviac**	**2.39**	**33**	*e*Pn	Pn	06 54 21.6	-1.9
CAF				*e*Sg	Sg	06 54 57.9	-2.5
CAF							
	1.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.54**	**21**	*e*Pn	Pn	06 54 24.0	-1.6
RJF				*e*Sg	Sg	06 55 03.0	-2.4
RJF							
	4.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**21**	*e*Pn	Pn	06 54 24.0	-1.6
RJF				*e*Sg	Sg	06 55 03.0	-2.4
RJF							
	2.2nm,0.2s						
EMOS	**Mosqueruela**	**2.62**	**192**	Pg	Pg	06 54 31.7	-2.1
	0.2nm,0.2s,SNR=7.9						
EMOS				Lg		06 55 07.5	
	6.1nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**192**	Pg	Pg	06 54 31.7	-2.2
	0.2nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.87**	**65**	*e*Pn	Pn	06 54 28.4	-1.7
TCF	**Toulx Ste Croi**	**3.64**	**22**	*e*Sg	Sg	06 55 37.2	-3.3
	1.1nm,0.2s						
TCF	**Toulx Ste Croi**	**3.64**	**22**	*e*Sg	Sg	06 55 37.2	-3.3
	0.6nm,0.2s						
MFF	**Saint Martin d**	**3.68**	**356**	*e*Sg	Sg	06 55 38.1	-3.8
	2.2nm,0.3s						
MFF	**Saint Martin d**	**3.68**	**356**	*e*Sg	Sg	06 55 38.1	-3.8
	1.1nm,0.3s						
BGF	**Bois d'Agland**	**4.07**	**26**	*e*Sg	Sg	06 55 51.0	-3.5
	5.4nm,0.4s						
BGF	**Bois d'Agland**	**4.07**	**26**	*e*Sg	Sg	06 55 51.0	-3.5
	2.7nm,0.4s						

*IDC **15** 06:54:12.3±1.7, 250N×9608E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=58.4km s-min=20.1km az=50.0*
*NEIC **15** 06:54:16.7±0.9, 250N×96.10E, h30km, Error ellipse: s-maj=20.8km s-min=12.8km az=216.0*
*ISCJB **15** 06:54:18.9±3.9, 26N±02×963E±02, h59km±32km, mb4.2/8, Error ellipse: s-maj=42.8km s-min=14.7km az=90.6*
ISC 15 06:54:21.1±4.1, 26N±02×963E±02, h60km±33km, n16, σ0°64/18, mb4.2/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.60**	**86**	Pn	**Pn**	**06 55 00.2**	**-0.5**
	8.8nm,0.3s,baz=276,slow=7.2,SNR=23						
PSI				Sn	**Sn**	**06 55 31.7**	**+0.5**
	5.0nm,0.3s,baz=280,slow=8.8,SNR=4.4						
PSI	**Prapat**	**2.60**	**86**	Pn	**Pn**	**06 55 00.2**	**-0.5**
PSI				Sn	**Sn**	**06 55 31.7**	**+0.5**
KULM	**Kulim**	**5.07**	**58**	*e*Pn	**Pn**	**06 55 34.3**	**-0.1**
JIRN	**Jiri**	**26.72**	**340**	*e*P	**P**	**06 59 56.2**	**+1.5**
PKI	**Pulchoki**	**26.92**	**338**	*e*P	**P**	**06 59 57.7**	**+1.2**
GUN	**Gumba**	**27.05**	**339**	*e*P	**P**	**06 59 57.7**	**-0.1**
	13nm,0.7s,mb4.6						
KKN	**Kakani**	**27.16**	**338**	*e*P	**P**	**06 59 58.7**	**0.0**
GKN	**Gorkha**	**27.60**	**337**	*e*P	**P**	**07 00 02.2**	**-0.4**
KOLN	**Koldanda**	**27.81**	**335**	*e*P	**P**	**07 00 04.3**	**-0.2**
	14nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**43.53**	**123**	P	**P**	**07 02 19.1**	**+0.3**
	0.5nm,0.4s,mb3.6,baz=301,slow=9.2,SNR=8.9						
ASAR	**Alice Springs**	**44.95**	**128**	P	**P**	**07 02 29.9**	**-0.2**
	0.2nm,0.8s,mb3.0,baz=294,slow=7.9,SNR=5.3						
MKAR	**Makanchi Array**	**45.66**	**347**	P	**P**	**07 02 35.0**	**-0.7**
	2.6nm,0.4s,mb4.5,baz=157,slow=9.0,SNR=102						
SONM	**Songino Array**	**45.87**	**9**	P	**P**	**07 02 36.9**	**-0.5**
	1.8nm,0.6s,mb4.2,baz=185,slow=8.5,SNR=4.2						
ZAL	**Zalesovo**	**52.02**	**351**	P	**P**	**07 03 23.5**	**-0.9**
	2.8nm,0.5s,mb4.5,baz=303,slow=3.9,SNR=8.4						
ZAL	**Zalesovo**	**52.02**	**351**	P	**P**	**07 03 23.5**	**-0.9**
ARCES	**ARCESS Array B**	**80.91**	**340**	P	**P**	**07 06 29.3**	**+0.4**
	2.4nm,0.9s,mb4.1,baz=82,slow=7.4,SNR=3.4						

*IDC **15** 08:05:26.3±4.5, 3679S×17962E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=95.5km s-min=51.6km az=126.0*
*ISCJB **15** 08:05:27.8±1.7, 372S±0.1×1799E±0.1, h42km±14km, mb3.6/3, Error ellipse: s-maj=22.0km s-min=14.3km az=81.1*
*WEL **15** 08:05:28.9±0.8, 3718S×17995E, h33km, ML3.8/5, Error ellipse: s-maj=6.7km s-min=6.5km az=90.0*
*NEIC **15** 08:05:29.0, 3722S×17996E, h33km, ML3.8(WEL), After WEL.*
ISC 15 08:05:28.3±2.4, 373S±01×1799E±01, h28km±23km, n25, σ0°76/32, mb3.6/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.33**	**257**	P	**Pn**	**08 05 50.7**	**-0.3**
MXZ				S	**Sn**	**08 06 06.9**	**-0.9**
MXZ	**Matakaoa Point**	**1.33**	**257**	PN	**Pn**	**08 05 50.7**	**-0.3**
MXZ				SN	**Sn**	**08 06 06.9**	**-0.9**
PUZ	**Puketiti**	**1.56**	**239**	P	**Pn**	**08 05 54.8**	**+0.7**
PUZ				S	**Sn**	**08 06 14.1**	**+0.7**
PUZ	**Puketiti**	**1.56**	**239**	PN	**Pn**	**08 05 54.8**	**+0.7**
PUZ				SN	**Sn**	**08 06 14.1**	**+0.8**
MWZ	**Matawai**	**2.19**	**240**	P	**Pn**	**08 06 03.2**	**+0.5**
MWZ	**Matawai**	**2.19**	**240**	PN	**Pn**	**08 06 03.2**	**+0.4**
MWZ				SN	**Sn**	**08 06 28.9**	**0.0**
URZ	**Urewera**	**2.45**	**245**	Pn	**Pn**	**08 06 07.2**	**+0.8**
	5.1nm,0.3s,baz=88,slow=4.5,SNR=46						
URZ				Sn	**Sn**	**08 06 35.9**	**+0.5**
	14nm,0.3s,baz=194,slow=23,SNR=38						
URZ	**Urewera**	**2.45**	**245**	*e*PN	**Pn**	**08 06 07.0**	**+0.6**
URZ				SN	**Sn**	**08 06 35.4**	**0.0**
KNZ	**Kokohu**	**2.50**	**225**	*e*P	**Pn**	**08 06 07.2**	**+0.2**
KNZ	**Kokohu**	**2.50**	**225**	PN	**Pn**	**08 06 07.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.31**	**234**	*e*P	**Pn**	**08 06 18.5**	**+0.3**
BKZ	**Black Stump Fm**	**3.31**	**234**	PN	**Pn**	**08 06 18.3**	**+0.1**
BKZ				SN	**Sn**	**08 06 56.4**	**-0.2**
KUZ	**Kuaotunu**	**3.42**	**278**	*e*P	**Pn**	**08 06 19.2**	**-0.5**
KUZ	**Kuaotunu**	**3.42**	**278**	*e*PN	**Pn**	**08 06 19.2**	**-0.5**
WNVZ	**Wahianoa**	**3.99**	**238**	P	**Pn**	**08 06 28.5**	**+1.0**
TSZ	**Takapari Road**	**4.18**	**227**	*e*P	**Pn**	**08 06 29.2**	**-0.9**
TSZ	**Takapari Road**	**4.18**	**227**	*e*PN	**Pn**	**08 06 28.9**	**-1.2**
WCZ	**Waipu Caves**	**4.70**	**285**	*e*P	**Pn**	**08 06 37.9**	**+0.7**
WCZ	**Waipu Caves**	**4.70**	**285**	*e*PN	**Pn**	**08 06 37.4**	**+0.2**
TCW	**Tory Channel**	**5.90**	**226**	SN	**Sn**	**08 07 54.6**	**-5.9**
NNZ	**Nelson**	**6.44**	**230**	*e*PN	**Pn**	**08 06 58.8**	**-2.3**
ASAR	**Alice Springs**	**41.55**	**276**	P	**P**	**08 13 13.2**	**-0.1**
	0.4nm,0.4s,mb3.4,baz=117,slow=8.0,SNR=11						
WRA	**Warramunga Arr**	**43.16**	**281**	P	**P**	**08 13 25.6**	**-0.7**
	0.5nm,0.5s,mb3.5,baz=120,slow=7.7,SNR=6.3						
FITZ	**Fitzroy Crossi**	**51.03**	**277**	P	**P**	**08 14 28.6**	**+0.8**
	1.1nm,0.8s,mb3.8,baz=114,slow=6.4,SNR=2.8						
ARCES	**ARCESS Array B**	**144.84**	**345**	PKP	PKPdf	08 25 02.2	-0.3
	4.1nm,1.1s,baz=28,slow=2.9,SNR=4.0						

IDC 15 08:12:36.0±4.5, 4894N×15467E, h96km±41km, mb3.4/11, mb1 3.7/12, mb1mx3.5/24, mbtmp3.5/12, MS2.6/1, Ms1 2.6/1, ms1mx2.3/24, Error ellipse: s-maj=24.5km s-min=17.0km az=126.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.61**	**244**	P	Pn	08 14 50.6	-0.7
	2.1nm,0.3s,baz=79,slow=18,SNR=16						
KSRS	**Korea Array**	**22.50**	**249**	P	P	08 17 28.8	+1.3
	0.9nm,0.4s,baz=54,slow=8.7,SNR=3.8						
KSRS				LR	LR	08 25 29.8	
	comp=Z,14nm,18.7s,baz=5.0,slow=34						
MKAR	**Makanchi Array**	**46.89**	**296**	P	P	08 20 57.7	+1.0
	0.2nm,0.5s,baz=82,slow=5.1,SNR=3.1						
YKA	**Yellowknife Ar**	**48.55**	**38**	P	P	08 21 09.0	-0.4
	0.5nm,0.7s,baz=296,slow=7.7,SNR=8.2						
BVAR	**Borovoye Array**	**50.29**	**309**	P	P	08 21 21.8	-1.0
	0.4nm,0.4s,baz=50,slow=7.1,SNR=2.8						
FINES	**FINESS Array B**	**62.51**	**335**	P	P	08 22 47.9	-1.5
	3.4nm,1.0s,baz=55,slow=10.0,SNR=4.3						
PDAR	**Pinedale Array**	**62.63**	**56**	P	P	08 22 50.6	+0.4
	0.6nm,0.9s,baz=289,slow=5.6,SNR=4.3						
AKASG	**Malin Array Be**	**70.30**	**327**	P	P	08 23 38.2	-0.9
	0.6nm,0.4s,baz=33,slow=6.6,SNR=4.6						
SCHQ	**Schefferville**	**70.89**	**24**	P	P	08 23 42.6	0.0
	1.8nm,0.7s,baz=319,slow=6.6,SNR=4.9						
WRA	**Warramunga Arr**	**70.92**	**200**	P	P	08 23 42.1	-0.8
	0.5nm,0.5s,baz=18,slow=6.5,SNR=8.7						
ASAR	**Alice Springs**	**74.62**	**200**	P	P	08 24 04.9	+0.2
	0.5nm,0.6s,baz=11,slow=5.5,SNR=10						
TXAR	**Lajitas Array**	**75.52**	**62**	P	P	08 24 10.1	+0.2
	0.4nm,0.6s,baz=300,slow=5.2,SNR=8.5						

*ISCJB **15** 08:28:27.4±1.0, 1843S±0.10×69.10W±007, h136km±11km, mb3.8/2, Error ellipse: s-maj=16.1km s-min=10.9km az=1.6*
*IDC **15** 08:28:28.9±2.7, 1843S×6900W, h128km±19km, mb3.8/2, mb1 3.9/4, mb1mx3.4/18, mbtmp3.7/4, Error ellipse: s-maj=29.4km s-min=23.5km az=63.0*
*NEIC **15** 08:28:28.5±1.0, 1847S×69.13W, h136km±9km, Error ellipse: s-maj=15.6km s-min=14.3km az=47.0*
ISC 15 08:28:28.3±1.0, 1845S±010×6912W±007, h129km±10km, n12, σ1°27/14, mb3.8/2, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.35**	**24**	P	**Pn**	**08 29 08.2**	**+1.7**
	28nm,0.3s,baz=214,slow=8.9,SNR=900						
LPAZ				S	**Sn**	**08 29 36.3**	**+0.5**
	baz=6.0,slow=19,SNR=2.2						
ARE	**Arequipa**	**3.01**	**311**	*e*P	**Pn**	**08 29 16.0**	**+1.1**
ARE				*e*S	**Sn**	**08 29 49.0**	**-1.9**
SIV	**San Ignacio**	**8.06**	**74**	P	**Pn**	**08 30 22.7**	**+0.1**
	1.3nm,0.3s,baz=268,slow=13,SNR=23						
SIV				S	**Sn**	**08 31 49.9**	**-2.2**
	0.4nm,0.3s,baz=1.1,slow=23,SNR=4.5						
CFAA	**Coronel Fontan**	**13.12**	**177**	P	**Pn**	**08 31 29.5**	**-0.2**
	0.0nm,0.3s,baz=330,slow=3.3,SNR=3.6						
CFAA	**Coronel Fontan**	**13.12**	**177**	P	**Pn**	**08 31 29.5**	**-0.2**
MCMT	**McKenzie Canyo**

JTK eS Sn 08 38 00.6 -1.0
JAM Amami Oshima 4.92 45 P Pn 08 37 26.1 -0.8
JMZ Minamidaito 2 5.09 79 P Pn 08 37 26.7 -2.6
JMZ S Sn 08 38 20.1 -6.7
KSRS Korea Array 12.60 8 LR LR 08 43 40.5
comp=Z,32nm,21.2s,baz=335,slow=36
SONM Songino Array 27.44 331 P P 08 41 56.0 -0.4
0.5nm,0.6s,mb3.2,baz=142,slow=7.3,SNR=2.8
MKAR Makanchi Array 40.69 314 P P 08 43 50.3 -0.4
0.4nm,0.4s,mb3.4,baz=101,slow=10,SNR=9.4
ZAL Zalesovo 41.89 325 P P 08 43 59.1 -1.6
1.4nm,0.5s,mb3.9,baz=42,slow=10.0,SNR=3.5
WRA Warramunga Arr 45.43 169 P P 08 44 29.4 +0.3
0.4nm,0.5s,mb3.5,baz=351,slow=8.7,SNR=3.1
WRA Warramunga Arr 45.43 169 P P 08 44 29.4 +0.3
ASAR Alice Springs 49.00 170 P P 08 44 56.4 -0.5
0.2nm,0.5s,mb3.4,baz=354,slow=12,SNR=2.6
ARCES ARCESS Array B 70.33 338 P P 08 47 23.1 -0.4
3.1nm,1.0s,mb4.2,baz=82,slow=6.6,SNR=5.2
FINES FINESS Array B 72.81 330 P P 08 47 38.1 -0.4
3.4nm,1.0s,mb4.2,baz=57,slow=5.1,SNR=5.4
AKASG Malin Array Be 74.98 319 P P 08 47 50.8 -0.3
0.5nm,0.3s,mb3.9,baz=64,slow=6.3,SNR=2.7
BRTR Keskin Array B 75.97 307 P P 08 47 58.0 +1.2
1.3nm,0.7s,mb4.0,baz=87,slow=8.8,SNR=5.3
YKA Yellowknife Ar 80.63 24 P P 08 48 23.1 +0.5
0.3nm,0.9s,mb3.2,baz=321,slow=5.5,SNR=4.7
GERES GERESS Array B 84.78 322 P P 08 48 45.0 +0.8
0.4nm,0.2s,mb4.2,baz=60,slow=6.3,SNR=3.7

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*STR **15** 08:38:56.5±0.0, 4298N×039W, h5^{km}±1^{km}, MI1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **15** 08:38:57.4±0.1, 4307N×040W, h10^{km}, ML1.6, Error ellipse: s-maj=3.3km s-min=1.4km az=176.0*
*LDG **15** 08:38:57.2±0.1, 4307N×040W, h10^{km}, Md1.7/2, Error ellipse: s-maj=3.3km s-min=1.4km az=176.0*

MDD 15 08:38:57.6±0.6, 4313N×039W, h0^{km}, mbLg0.5/2, Error ellipse: s-maj=4.5km s-min=2.5km az=2.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.06**	**181**	Pg	Pg	08 38 59.0	+0.3
REYF				Sg	Sg	08 39 00.7	+1.3
REYF	**Montagne du Re**	**0.06**	**181**	P	Pg	08 38 59.2	+0.5
REYF				S	Sg	08 39 00.9	+1.5
ATE	**Arette**	**0.23**	**260**	Pg	Pg	08 39 01.8	-0.2
ATE				Sg	Sg	08 39 05.7	+0.7
ATE	**Arette**	**0.23**	**260**	P	Pg	08 39 01.9	-0.1
ATE				S	Sg	08 39 05.5	+0.5
ETSF	**Etsaut**	**0.26**	**208**	*e*Pg	Pg	08 39 01.7	-0.9
ETSF				*e*Sg	Sg	08 39 05.0	-0.9
	6.1nm,0.3s						
ETSF	**Etsaut**	**0.26**	**208**	*e*Pg	Pg	08 39 01.7	-0.9
ETSF				*e*Sg	Sg	08 39 05.0	-0.9
	3.0nm,0.3s						
EPF	**Esparros**	**0.54**	**100**	*e*Pg	Pg	08 39 07.7	-0.3
EPF				*e*Sg	Sg	08 39 15.1	0.0
	2.3nm,0.3s						
EPF	**Esparros**	**0.54**	**100**	*e*Pg	Pg	08 39 07.7	-0.3
EPF				*e*Sg	Sg	08 39 15.1	0.0
	1.1nm,0.3s						
EBIE	**Bielsa**	**0.59**	**138**	P	Pg	08 39 07.7	-1.2
	0.1nm,0.1s,SNR=7.9						
EBIE				S	Sg	08 39 15.2	-1.3
	0.7nm,0.0s,SNR=9.0						
SJPF	**Ste Jean**	**0.61**	**269**	*e*Sg	Sg	08 39 17.0	-0.2
	0.3nm,0.2s						
SJPF	**Ste Jean**	**0.61**	**269**	*e*Sg	Sg	08 39 17.0	-0.2
	0.2nm,0.2s						

IDC 15 08:59:46.7±2.6, 1768S×17504W, h0^{km}, mb3.9/5, mb1 4.2/5, mb1mx4.0/15, mbtmp3.9/5, Error ellipse: s-maj=191.3km s-min=23.2km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.83**	**259**	P	P	09 08 25.9	-0.1
	0.5nm,0.9s,baz=94,slow=8.6,SNR=4.3						
WRA				PcP	PcP	09 09 55.7	+0.8
	0.6nm,0.9s,baz=85,slow=4.2,SNR=4.6						
ASAR	**Alice Springs**	**47.94**	**254**	P	P	09 08 27.4	+0.6
	3.2nm,0.8s,baz=86,slow=8.3,SNR=31						
ASAR				PcP	PcP	09 09 55.5	+0.2
	0.8nm,1.0s,baz=101,slow=4.8,SNR=4.8						
NVAR	**Mina Array Bea**	**77.07**	**42**	P	P	09 11 42.6	+1.0
	1.6nm,0.8s,baz=237,slow=7.0,SNR=8.2						
PDAR	**Pinedale Array**	**85.00**	**42**	P	P	09 12 23.7	-0.3
	1.1nm,0.9s,baz=207,slow=2.7,SNR=8.3						
YKA	**Yellowknife Ar**	**92.81**	**24**	P	P	09 13 00.5	-0.5
	0.3nm,0.8s,baz=238,slow=4.6,SNR=3.7						
BRTR	**Keskin Array B**	**146.84**	**317**	PKPbc	PKPbc	09 19 31.1	+0.2
	1.8nm,1.0s,baz=70,slow=1.7,SNR=4.0						

IDC 15 09:00:05.6±1.1, 5228N×3554E, h0^{km}, mb3.3/3, mb1 3.6/9, mb1mx3.5/24, mbtmp3.5/9, ML3.2/6, 1D, Error ellipse: s-maj=17.5km s-min=11.2km az=148.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.25**	**251**	Pn	Pn	09 01 10.4	-1.1
	2.4nm,0.3s,baz=55,slow=11,SNR=5.6						
AKASG				Pg	Pb	09 01 20.6	-0.6
	3.5nm,0.3s,baz=60,slow=17,SNR=12						
AKASG				Sn	Sn	09 01 58.9	-3.0
	2.3nm,0.3s,baz=62,slow=24,SNR=4.0						
AKASG				Lg		09 02 14.6	
	2.9nm,0.3s,baz=69,slow=29,SNR=3.9						
BURAR	**Bucovina Array**	**8.13**	**239**	‖*i*P	Pn	09 02 03.8	-1.0
FINES	**FINESS Array B**	**10.54**	**334**	Pn	Pn	09 02 32.4	-5.5
	0.3nm,0.3s,baz=150,slow=14,SNR=9.9						
FINES				Sn	Sn	09 04 22.1	-14
	0.2nm,0.3s,baz=136,slow=28,SNR=3.7						
AKTO	**Aktyubinsk**	**14.15**	**89**	Pn	Pn	09 03 23.7	-3.6
	0.1nm,0.3s,baz=282,slow=14,SNR=2.5						
HFS	**Hagfors**	**14.42**	**312**	Pn	Pn	09 03 23.6	-7.4
	0.2nm,0.3s,baz=129,slow=14,SNR=4.4						
NOA	**NORSAR Array B**	**15.91**	**313**	Pn	Pn	09 03 42.8	-8.0
	0.2nm,0.3s,baz=115,slow=13,SNR=2.6						
ARCES	**ARCESS Array B**	**17.94**	**349**	Pn	Pn	09 04 10.6	-5.9
	0.1nm,0.3s,baz=150,slow=13,SNR=3.6						
BVAR	**Borovoye Array**	**21.04**	**74**	P	P	09 04 50.8	-0.1
	0.4nm,0.5s,baz=290,slow=14,SNR=2.5						
TORD	**Torodi Ar. Bea**	**47.51**	**227**	P	P	09 08 41.0	-1.5
	0.3nm,0.7s,baz=15,slow=7.8,SNR=2.9						
YKA	**Yellowknife Ar**	**63.17**	**345**	P	P	09 10 33.1	-2.2
	0.4nm,0.6s,baz=14,slow=6.6,SNR=7.9						

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*NIED **15** 09:05:00, 4640N×15320E, h23^{km}, Mw4.2 Best double couple: M=2.01000×10^{15} NP1:φ$_s$=232.00000°, δ=88.00000°, λ=-153.00000°. NP2:φ$_s$=141.00000°, δ=63.00000°, λ=-2.00000°.*
*SKHL **15** 09:05:10.3±2.4, 4618N×15369E, h55^{km}±24^{km}*
*NEIC **15** 09:05:11.2±0.5, 4641N×15297E, h10^{km}, mb3.8/1, Error ellipse: s-maj=13.1km s-min=7.8km az=144.0*
*BJI **15** 09:05:11.2, 4640N×15300E, h10^{km}, mB4.7, mb4.2*
*JMA **15** 09:05:13.6±0.8, 4636N×15323E, h30^{km}, M4.6*
*MOS **15** 09:05:14.2±1.3, 4635N×15301E, h51^{km}, mb4.3/13, Error ellipse: s-maj=13.7km s-min=10.7km az=56.5*
*ISCJB **15** 09:05:17.1±1.1, 4606N±008×15289E±008, h78^{km}±10^{km}, mb4.1/23, Error ellipse: s-maj=14.0km s-min=8.7km az=133.6*
*IDC **15** 09:05:19.3±4.0, 4637N×15292E, h76^{km}±36^{km}, mb3.7/19, mb1 3.9/20, mb1mx3.8/28, mbtmp3.7/20, ML3.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/30, Error ellipse: s-maj=18.6km s-min=16.2km az=140.0*

ISC 15 09:05:17.8±1.0, 4616N±008×15297E±009, h69^{km}±10^{km}, n90, σ1§39/109, mb4.1/23, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.69**	**257**	⇑*i*PN	Pn	09 06 09.0	-3.4
KUR				*i* S	Sn	09 06 54.8	+0.1
KUR				pmax	pmax		
	comp=E,230nm,0.6s						
KUR				smax			
	comp=N,860nm,0.7s						
KUR				smax			
	comp=E,150nm,0.7s						
KUR	**Kuril'sk**	**3.69**	**257**	*i* P	Pn	09 06 09.0	-3.4
KUR				AMB	AMB	09 06 11.0	
	comp=E,230nm,0.6s						
KUR				*i* S	Sn	09 06 54.8	+0.1
KUR				A		09 07 05.5	
	comp=E,860nm,0.7s						
KUR				A		09 07 05.5	
	comp=E,150nm,0.7s						
SKR	**Severo-Kuril's**	**4.99**	**24**	*e*PN	Pn	09 06 24.5	-5.7
SKR				*e*S	Sn	09 07 18.0	-8.6
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.6s						
SKR				smax			
	comp=E,60nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**250**	*e*PN	Pn	09 06 38.0	+1.4
YUK				*e*S	Sn	09 07 42.0	+4.0
YUK				pmax	pmax		
	comp=Z,170nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,360nm,0.5s						
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**250**	*e*P	Pn	09 06 38.0	+1.4
YUK				AMB	AMB	09 06 38.1	
	comp=E,170nm,0.4s						
YUK				*e*S	Sn	09 07 42.0	+4.0
YUK				A		09 07 47.7	
	comp=E,380nm,0.5s						
YUK				A		09 07 47.7	
	comp=E,360nm,0.5s						
YUK				A		09 07 47.9	
	comp=E,3μm,1.0s						
YUK				A		09 07 47.9	
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**5.85**	**244**	P	Pn	09 06 40.6	-1.4
NEM2				*e*S	Sn	09 07 44.8	-2.8
JRA	**Rausu**	**5.99**	**251**	P	Pn	09 06 45.9	+2.1
JRA				*e*S	Sn	09 07 56.4	+5.5
JNK	**Nakash**	**6.40**	**249**	P	Pn	09 06 49.7	+0.2
JNK				*e*S	Sn	09 08 02.0	+0.9
JAK	**Akkeshi**	**6.70**	**245**	P	Pn	09 06 52.0	-1.5
JAK				*e*S	Sn	09 08 07.3	-1.1
JTKR	**Abashiri--Toko**	**6.78**	**254**	P	Pn	09 06 55.4	+0.8
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	Pn	Pn	09 06 55.1	-3.7
	comp=E,16nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	*e*P	Pn	09 07 00.0	+1.1
YSS				*e*S	Sn	09 08 19.9	+2.0
YSS				A		09 08 26.1	
	comp=E,20nm,0.8s						
JMP	**Maruseppu**	**7.13**	**256**	P	Pn	09 07 01.4	+1.9
JAR	**Ashorobuto**	**7.15**	**250**	P	Pn	09 06 59.8	+0.1
JAR				*e*S	Sn	09 08 21.3	+1.9
JOB	**Onbets**	**7.29**	**247**	P	Pn	09 07 01.7	+0.1
JOB				*e*S	Sn	09 08 22.2	-0.7
JKK2	**Kamakawa 2**	**7.59**	**256**	P	Pn	09 07 07.2	+1.4
ASAJ	**Asahikawa**	**7.61**	**258**	P	Pn	09 07 08.5	+2.5
	comp=E,1.4nm,0.3s,baz=88,slow=17,SNR=12						
ASAJ				LR	LR	09 09 54.1	
	comp=E,165nm,20.5s,baz=294,slow=36						
ASAJ	**Asahikawa**	**7.61**	**258**	P	Pn	09 07 09.0	+3.0
JCH	**Churui**	**7.74**	**246**	P	Pn	09 07 07.4	-0.3
JCH				*e*S	Sn	09 08 32.0	-1.8
JWK2	**Keihoku**	**7.79**	**268**	P	Pn	09 07 12.2	+3.7
JFR	**Furan**	**7.98**	**252**	P	Pn	09 07 12.7	+1.7
JAB	**Ashibetsu**	**8.09**	**255**	P	Pn	09 07 14.5	+2.0
ERM	**Erimo**	**8.18**	**243**	PN	Pn	09 07 12.3	-1.5
JEM	**Erimo**	**8.18**	**243**	P	Pn	09 07 14.5	+0.7
JNBK	**Urakawa-nobuka**	**8.30**	**246**	P	Pn	09 07 14.9	-0.5
JNBK				*e*S	Sn	09 08 44.5	-3.0
JBT2	**Biratori 2**	**8.30**	**250**	P	Pn	09 07 15.6	+0.2
JNB	**Noboribetsu**	**9.31**	**251**	P	Pn	09 07 30.0	+0.8
JNB				*e*S	Sn	09 09 11.3	-1.0
JKB	**Kayabe**	**9.60**	**248**	P	Pn	09 07 32.6	-0.5
JKB				*e*S	Sn	09 09 16.1	-3.2
JSH	**Shimam**	**9.89**	**254**	P	Pn	09 07 38.6	+1.4
JANG	**Nango**	**10.15**	**239**	P	Pn	09 07 37.4	-3.3
JANG				*e*S	Sn	09 09 24.8	-8.1
JTM	**Tenmabayashi**	**10.18**	**242**	P	Pn	09 07 38.5	-2.5
JTM				*e*S	Sn	09 09 26.6	-6.8
JTH	**Tanohata**	**10.22**	**237**	*e*S	Sn	09 09 27.3	-7.4
JOSM	**Okushiri--Mats**	**10.52**	**252**	P	Pn	09 07 45.7	0.0
OFUJ	**Ofunato**	**10.92**	**234**	*e*S	Sn	09 09 43.6	-7.9
JRG	**Rokugo**	**11.30**	**238**	P	Pn	09 07 54.6	-1.7
JRG				*e*S	Sn	09 09 56.2	-4.6
JIO	**Ouri**	**11.53**	**232**	*e*S	Sn	09 09 58.3	-8.3
MJAR	**Matsushiro Arr**	**14.64**	**234**	P	Pn	09 08 48.7	+7.5
	comp=E,0.2nm,0.3s,baz=195,slow=11,SNR=4.3						
MAJO	**Matsushiro**	**14.65**	**234**	P	Pn	09 08 41.7	+0.5
KSRS	**Korea Array**	**20.53**	**254**	P	P	09 09 54.0	+3.6
	comp=E,1.8nm,0.6s,baz=50,slow=12,SNR=5.1						
ULN	**Ulaanbaatar**	**31.00**	**290**	P	P	09 11 28.3	-0.4
	comp=E,0.5nm,0.3s,mb3.7						
IMA2	**Indian Mountai**	**34.35**	**35**	*e*P	P	09 11 56.8	-1.0
LZH	**Lanzhou**	**37.81**	**272**	*e*P	P	09 12 35.1	+7.7
LZH				AP	pP	09 12 40.3	-4.1
LZH				XP	sP	09 12 43.3	-9.1
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.7						
GTA	**Gaotai**	**38.97**	**280**	*e*P	P	09 12 39.3	+2.1
GTA				AP	pP	09 12 43.3	-11
GTA				XP	sP	09 12 46.3	-16
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
INK	**Inuvik**	**42.21**	**32**	P	P	09 13 02.7	-1.1
	comp=Z,1.8nm,0.6s,mb4.0,baz=272,slow=7.7,SNR=22						
INK	**Inuvik**	**42.21**	**32**	P	P	09 13 02.7	-1.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**42.21**	**32**	*e*P	P	09 13 03.1	-0.8
	comp=Z,31nm,0.6s,mb5.2						
ZAL	**Zalesovo**	**42.90**	**306**	P	P	09 13 07.2	-2.2
	comp=Z,0.9nm,0.6s,mb3.7,baz=45,slow=8.2,SNR=3.0						
ZAL				LR	LR	09 32 38.1	
	comp=Z,202nm,18.5s,baz=15,slow=38						
ZAL	**Zalesovo**	**42.90**	**306**	P	P	09 13 07.2	-2.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,203nm,18.5s						
ZAL	**Zalesovo**	**42.90**	**306**	P	P	09 13 07.2	-2.2
ZAL				LR	LR	09 32 38.1	
MKAR	**Makanchi Array**	**47.13**	**298**	P	P	09 13 42.1	-0.9
	comp=Z,2.3nm,0.8s,mb3.9,baz=67,slow=7.1,SNR=15						
MKAR				LR	LR	09 34 29.1	
	comp=Z,119nm,19.5s,baz=354,slow=37						
MKAR	**Makanchi Array**	**47.13**	**298**	P	P	09 13 42.1	-0.9
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,119nm,19.5s						
BVAR	**Borovoye Array**	**51.16**	**310**	P	P	09 14 12.8	-1.0
	comp=Z,1.0nm,0.4s,mb4.2,baz=60,slow=8.8,SNR=9.1						
BVAR	**Borovoye Array**	**51.16**	**310**	P	P	09 14 12.8	-1.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	P	09 14 15.2	-0.8
	comp=Z,1.2nm,0.8s,mb4.0,baz=298,slow=7.4,SNR=13						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	P	09 14 15.2	-0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	P	09 14 15.2	-0.9
ARCES	**ARCESS Array B**	**58.38**	**341**	P	P	09 15 04.0	-2.0
	comp=Z,2.1nm,0.9s,mb4.2,baz=27,slow=8.2,SNR=5.4						
ARCES	**ARCESS Array B**	**58.38**	**341**	P	P	09 15 04.0	-2.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKTK	**Aktyubinsk**	**59.05**	**312**	P	P	09 15 09.2	-1.5
AKTO	**Aktyubinsk**	**59.05**	**312**	P	P	09 15 09.2	-1.5
	comp=Z,0.6nm,0.5s,mb3.9,baz=50,slow=14,SNR=2.9						
AKTO	**Aktyubinsk**	**59.05**	**312**	P	P	09 15 09.2	-1.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.54**	**335**	P	P	09 15 45.5	-1.9
	comp=Z,2.5nm,0.7s,mb4.1,baz=40,slow=6.2,SNR=11						
FINES	**FINESS Array B**	**64.54**	**335**	P	P	09 15 45.6	-1.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**65.18**	**54**	P	P	09 15 52.2	+0.6
	comp=Z,0.5nm,0.7s,mb3.5,baz=315,slow=0.8,SNR=4.8						
WRA	**Warramunga Arr**	**67.92**	**199**	P	P	09 16 11.0	+1.9
	comp=Z,0.4nm,0.8s,mb3.3,baz=20,slow=7.2,SNR=3.4						
NB2	**NORSAR Subarra**	**68.76**	**341**	P	P	09 16 13.0	-1.4
	comp=Z,3.1nm,0.7s,mb4.2,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.76**	**341**	P	P	09 16 13.5	-0.8
	comp=Z,4.9nm,0.7s,mb4.5,baz=28,slow=6.3,SNR=12						
NOA	**NORSAR Array B**	**68.76**	**341**	P	P	09 16 13.5	-0.9
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA	**NORSAR Array B**	**68.76**	**341**	P	P	09 16 13.5	-0.8
HFS	**Hagfors**	**68.98**	**340**	P	P	09 16 14.5	-1.2
	comp=Z,7.0nm,0.7s,mb4.6,baz=42,slow=4.8,SNR=12						
HFS	**Hagfors**	**68.98**	**340**	P	P	09 16 14.5	-1.2
HFS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAR	**Alice Springs**	**71.61**	**198**	P	P	09 16 32.2	+0.4
	comp=Z,0.5nm,0.8s,mb3.4,baz=4.0,slow=4.9,SNR=5.6						
AKASG	**Malin Array Be**	**71.99**	**326**	P	P	09 16 33.1	-0.9
	comp=Z,1.6nm,0.4s,mb4.2,baz=32,slow=6.2,SNR=8.3						
AKASG	**Malin Array Be**	**71.99**	**326**	P	P	09 16 33.1	-0.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BURAR	**Bucovina Array**	**76.03**	**327**	⇑*i*P	P	09 16 57.5	-0.1
CLL	**Collm**	**76.97**	**336**	*i* P	P	09 17 03.0	+0.1
MLR	**Muntele Rosu**	**77.50**	**325**	‖*i*P	P	09 17 07.8	+1.9
TXAR	**Lajitas Array**	**77.87**	**60**	P	P	09 17 08.7	+0.7
	comp=Z,0.6nm,0.8s,mb3.4,baz=295,slow=4.3,SNR=6.6						
TXAR	**Lajitas Array**	**77.87**	**60**	P	P	09 17 08.7	+0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VOIR		**77.89**	**325**	‖*i*P	P	09 17 09.1	+1.0
BRTR	**Keskin Array B**	**78.75**	**317**	P	P	09 17 14.3	+1.5
	comp=Z,2.9nm,0.9s,mb4.1,baz=72,slow=3.5,SNR=10						
BRTR	**Keskin Array B**	**78.75**	**317**	P	P	09 17 14.3	+1.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**78.95**	**334**	P	P	09 17 13.6	-0.3
	comp=Z,0.7nm,0.3s,mb3.9,baz=32,slow=5.2,SNR=7.8						
GERES	**GERESS Array B**	**78.95**	**334**	P	P	09 17 13.6	-0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CDF	**Champ du Feu**	**81.17**	**338**	*e*P	P	09 17 26.5	+0.6
	comp=Z,19nm,1.1s,mb4.5						
GRR	**Gorron**	**83.11**	**343**	*e*P	P	09 17 36.9	+0.9
MMAI	**Mount Meron Ar**	**83.13**	**311**	P	P	09 17 38.0	+1.9
	comp=Z,2.6nm,0.6s,mb4.2,baz=34,slow=6.1,SNR=5.0						
SMF	**Signal de Mont**	**83.69**	**339**	*e*P	P	09 17 39.1	+0.1
LPG	**La Plagne**	**83.99**	**337**	*e*P	P	09 17 42.2	+1.7
	comp=Z,15nm,1.0s,mb4.5						
CAF	**Calviac**	**85.73**	**340**	*e*P	P	09 17 50.1	+0.8

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*NEIC **15** 09:08:50.6±0.6, 4740N×15207E, h10^{km}, Error ellipse: s-maj=18.0km s-min=13.9km az=138.0*
*MOS **15** 09:08:53.2±1.4, 4758N×15190E, h35^{km}, mb4.3/6, Error ellipse: s-maj=33.3km s-min=16.2km az=82.5*
*ISCJB **15** 09:09:00.7±0.5, 4753N±009×152.1E±0.1, h100^{km}, mb3.7/13, Error ellipse: s-maj=17.4km s-min=4.9km az=94.4*
*IDC **15** 09:09:09.4±3.6, 4755N×15207E, h170^{km}±35^{km}, mb3.3/14, mb1 3.5/15, mb1mx3.4/25, mbtmp3.3/15, Error ellipse: s-maj=20.9km s-min=15.6km az=137.0*

ISC 15 09:09:04.3±0.9, 475N±01×1520E±01, h127^{km}±10^{km}, n53, σ1§29/60, mb3.7/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.21**	**38**	*e*PN	Pn	09 10 05.5	-1.3
JRA	**Rausu**	**5.96**	**236**	P	Pn	09 10 33.4	+3.2
NEM2	**Nemuro 2**	**6.01**	**229**	P	Pn	09 10 31.3	+0.5
NEM2				*e*S	Sn	09 11 35.7	-2.7
JNK	**Nakash**	**6.41**	**236**	P	Pn	09 10 38.8	+2.5
JTKR	**Abashiri--Toko**	**6.65**	**241**	P	Pn	09 10 44.7	+5.2
JAK	**Akkeshi**	**6.82**	**232**	P	Pn	09 10 42.3	+0.6
JAK				*e*S	Sn	09 11 55.5	-2.4
PET	**Petropavlovsk**	**7.02**	**35**	*e*PN	Pn	09 10 34.8	-10
JAR	**Ashorobuto**	**7.13**	**237**	P	Pn	09 10 50.3	+4.3
JAR				*e*S	Sn	09 12 09.7	+4.2
JOB	**Onbets**	**7.35**	**235**	P	Pn	09 10 50.5	+1.6
JOB				*e*S	Sn	09 12 09.9	-0.8
ASAJ	**Asahikawa**	**7.37**	**247**	P	Pn	09 10 55.0	+5.8
	0.9nm,0.3s,baz=77,slow=19,SNR=3.5						
ASAJ	**Asahikawa**	**7.37**	**247**	PN	Pn	09 10 55.0	+5.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.41**	**244**	P	Pn	09 10 53.9	+4.2
JCH	**Churui**	**7.80**	**235**	P	Pn	09 10 55.3	+0.3
JCH				*e*S	Sn	09 12 18.0	-3.6
JEM	**Erimo**	**8.32**	**232**	P	Pn	09 11 02.6	+0.6
JNBK	**Urakawa-nobuka**	**8.36**	**235**	P	Pn	09 11 03.0	+0.5
JNBK				*e*S	Sn	09 12 30.3	-4.9
JNB	**Noboribetsu**	**9.23**	**241**	P	Pn	09 11 16.9	+2.6
JNB				*e*S	Sn	09 12 56.2	-0.1
JKB	**Kayabe**	**9.59**	**239**	P	Pn	09 11 19.9	+0.8
JKB				*e*S	Sn	09 12 59.9	-5.1
JYM2	**Yakumo 2**	**9.84**	**241**	P	Pn	09 11 23.5	+1.1
JSR	**Shiriuchi**	**10.17**	**239**	P	Pn	09 11 27.9	+1.0
JTM	**Tenmabayashi**	**10.30**	**234**	*e*S	Sn	09 13 16.0	-6.2
JANG	**Nango**	**10.35**	**231**	P	Pn	09 11 26.9	-2.4
JANG				*e*S	Sn	09 13 14.8	-8.7
JOSM	**Okushiri--Mats**	**10.40**	**243**

PLCA	**Paso Flores**	**149.01**	**93**	PKIKP	PKPdf	09 28 36.0	+2.9
PLCA				pmax	pmax		
comp=Z,2.0nm,0.9s							

GII ***15*** *09:31:15.9±0.2, 3086N×3501E, h0km±1km, ML2.4/6*
ISCJB ***15*** *09:31:16.7±0.4, 3085N±002×3500E±006, h10km±5km, Error ellipse: s-maj=8.4km s-min=3.8km az=14.5*
HLW ***15*** *09:31:19.5, 3085N×3486E, h13km, Mb3.3*
ISC 15 09:31:16.9±0.4, 3086N±002×3498E±005, h0km, n21, σ0°84/25, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.22**	**310**	Pg	**Pg**	**09 31 21.6**	**+0.5**
RMNI	**Mount Ramon**	**0.32**	**217**	Pg	**Pg**	**09 31 23.6**	**+0.6**
RTMI	**Retamim**	**0.32**	**309**	Pg	**Pg**	**09 31 23.6**	**+0.6**
SVTA	**Shivta**	**0.32**	**284**	Pg	**Pg**	**09 31 23.6**	**+0.6**
ZFRI	**Zfri**	**0.34**	**151**	Pg	**Pg**	**09 31 23.6**	**+0.2**
PRNI	**Paran**	**0.50**	**178**	Pg	**Pg**	**09 31 26.8**	**+0.3**
PRNI				Sg	**Sg**	**09 31 35.0**	**+2.0**
YTIR	**Yattir**	**0.52**	**13**	Pg	**Pg**	**09 31 26.9**	**+0.1**
MZDA	**Masada**	**0.56**	**36**	Pg	**Pg**	**09 31 27.3**	**-0.3**
MZDA				Sg	**Sg**	**09 31 35.5**	**+0.7**
AMAZ	**Amatzia**	**0.68**	**355**	Pg	**Pg**	**09 31 29.7**	**-0.1**
AMAZ				Sg	**Sg**	**09 31 39.6**	**+1.0**
DSI	**Dead Sea**	**0.79**	**25**	Pg	**Pg**	**09 31 33.0**	**+0.9**
DRGI	**Dragot**	**0.81**	**25**	Pg	**Pg**	**09 31 33.0**	**+0.5**
HRFI	**Mount Harif**	**0.82**	**177**	Pg	**Pg**	**09 31 32.5**	**0.0**
AQBJ	**Aqaba**	**1.12**	**177**	Pg	**Pg**	**09 31 38.9**	**+0.5**
EIL	**Elat**	**1.18**	**181**	Pg	**Pg**	**09 31 38.9**	**-0.6**
SLTI	**Sal'it**	**1.38**	**2**	Pn	**Pn**	**09 31 42.0**	**-1.4**
HMDT	**Nahal Hemdat**	**1.47**	**18**	Pn	**Pn**	**09 31 43.1**	**-1.5**
AMAG	**Maghara**	**1.54**	**263**	P	**Pn**	**09 31 44.7**	**-0.9**
MMLI	**Mount Makishu**	**1.62**	**13**	Pn	**Pn**	**09 31 45.8**	**-0.9**
OFRI	**'Ofer**	**1.76**	**0**	Pn	**Pn**	**09 31 47.9**	**-0.7**
HDHB	**Dhahab**	**2.15**	**189**	P	**Pn**	**09 31 54.1**	**+0.2**
HDHB				S	**Sn**	**09 32 19.4**	**-1.9**
HKAT	**Jabal Katrina**	**2.48**	**201**	P	**Pn**	**09 31 58.1**	**-0.4**

GII ***15*** *09:49:19.9±0.2, 3085N×3500E, h0km, ML2.5/7*
HLW ***15*** *09:49:19.3, 3100N×3523E, h18km, Mb2.9*
ISCJB ***15*** *09:49:20.9±0.4, 3085N±002×3502E±004, h5km±4km, Error ellipse: s-maj=5.9km s-min=3.2km az=19.5*
ISC 15 09:49:21.2±0.4, 3086N±002×3501E±004, h0km, n22, σ0°91/31, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.23**	**306**	Pg	**Pg**	**09 49 25.7**	**+0.1**
RTMI	**Retamim**	**0.33**	**306**	Pg	**Pg**	**09 49 27.6**	**0.0**
SVTA	**Shivta**	**0.34**	**282**	Pg	**Pg**	**09 49 27.5**	**-0.2**
ZFRI	**Zfri**	**0.34**	**154**	Pg	**Pg**	**09 49 27.6**	**-0.2**
PRNI	**Paran**	**0.51**	**180**	Pg	**Pg**	**09 49 30.8**	**-0.2**
PRNI				Sg	**Sg**	**09 49 38.9**	**+1.4**
YTIR	**Yattir**	**0.51**	**11**	Pg	**Pg**	**09 49 31.0**	**0.0**
KZIT	**Kziot**	**0.53**	**275**	Pg	**Pg**	**09 49 30.9**	**-0.3**
KZIT				Sg	**Sg**	**09 49 40.1**	**+2.0**
MZDA	**Masada**	**0.54**	**34**	Pg	**Pg**	**09 49 31.4**	**-0.2**
MZDA				Sg	**Sg**	**09 49 40.1**	**+1.5**
AMAZ	**Amatzia**	**0.67**	**353**	Pg	**Pg**	**09 49 34.3**	**+0.1**
AMAZ				Sg	**Sg**	**09 49 44.3**	**+1.4**
DSI	**Dead Sea**	**0.78**	**24**	Pg	**Pg**	**09 49 37.0**	**+0.8**
DRGI	**Dragot**	**0.80**	**24**	Pg	**Pg**	**09 49 36.9**	**+0.3**
HRFI	**Mount Harif**	**0.82**	**178**	Pg	**Pg**	**09 49 36.0**	**-0.9**
HRFI				Sg	**Sg**	**09 49 48.9**	**+1.3**
AQBJ	**Aqaba**	**1.13**	**178**	Pg	**Pg**	**09 49 42.3**	**-0.6**
EIL	**Elat**	**1.19**	**182**	Pg	**Pg**	**09 49 43.0**	**-1.0**
EIL				Sg	**Sg**	**09 50 01.1**	**+1.7**
HNKL	**Nakhl**	**1.28**	**224**	P	**Pg**	**09 49 45.8**	**0.0**
SLTI	**Sal'it**	**1.38**	**1**	Pn	**Pn**	**09 49 47.3**	**-0.3**
SLTI				Sn	**Sn**	**09 50 06.0**	**-0.6**
HMDT	**Nahal Hemdat**	**1.46**	**18**	Pn	**Pn**	**09 49 47.5**	**-1.3**
AMAG	**Maghara**	**1.56**	**262**	P	**Pn**	**09 49 49.0**	**-1.2**
AMAG	**Maghara**	**1.56**	**262**	P	**Pn**	**09 49 49.0**	**-1.2**
MMLI	**Mount Makishu**	**1.61**	**13**	Pn	**Pn**	**09 49 49.6**	**-1.3**
MMLI				Sn	**Sn**	**09 50 12.7**	**+0.3**
SUZ		**2.14**	**242**	P	**Pn**	**09 49 57.5**	**-0.7**
SUZ				S	**Sn**	**09 50 25.4**	**+0.1**
HKAT	**Jabal Katrina**	**2.49**	**201**	P	**Pn**	**09 50 01.6**	**-1.4**

IDC 15 09:51:42.1±8.1, 541S×15058E, h102km±56km, mb3.1/2, mb1 3.3/3, mb1mx3.2/14, mbtmp3.2/3, Error ellipse: s-maj=125.2km s-min=54.0km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**220**	P	Pn	09 52 58.4	+0.6
2.9nm,0.3s,baz=45,slow=6.3,SNR=9.2							
PMG				S	Sn	09 53 57.2	+0.4
13nm,0.3s,baz=115,slow=17,SNR=15							
WRA	**Warramunga Arr**	**21.41**	**226**	P	P	09 56 22.0	+0.4
0.6nm,0.5s,baz=52,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.24**	**220**	P	P	09 56 49.9	+0.5
1.3nm,0.7s,baz=52,slow=9.0,SNR=17							
TORD	**Torodi Ar. Bea**	**148.37**	**286**	PKPbc	PKPbc	10 11 16.8	+0.3
0.3nm,0.3s,baz=75,slow=2.2,SNR=3.4							

ISCJB ***15*** *10:00:11.5±0.7, 6476N±002×307E±0.1, h0km, Error ellipse: s-maj=7.7km s-min=3.1km az=16.3*
IDC ***15*** *10:00:11.8±2.2, 6460N×3127E, h0km, mb1 3.3/4, mb1mx3.2/22, mbtmp3.3/4, ML2.3/4, Error ellipse: s-maj=26.9km s-min=9.2km az=109.0*
BER ***15*** *10:00:13.0±2.5, 6467N×3090E, h0km, ML2.1(NAO), Suspected explosion*
HEL ***15*** *10:00:13.9±0.1, 6475N×3067E, h0km, ML1.9, ML2.1(NAO), Explosion*
NAO ***15*** *10:00:14.0±2.7, 6467N×3036E, ML2.1*
ISC 15 10:00:12.6±0.7, 6477N±002×306E±01, h0km, n18, σ0°97/37, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.30**	**347**	*e*P	**Pg**	**10 00 37.5**	**-0.1**
KU6				*e*S	**Sg**	**10 00 54.9**	**+0.4**
MSF	**Maaselka**	**1.33**	**331**	*e*P	**Pg**	**10 00 37.9**	**-0.2**
MSF				*e*S	**Sg**	**10 00 55.5**	**+0.2**
KJN	**Kajaani**	**1.44**	**243**	*e*P	**Pn**	**10 00 38.2**	**-1.7**
KJN				*e*S	**Sg**	**10 00 58.2**	**-0.5**
KU4	**Liikasenvaara**	**1.66**	**345**	*e*P	**Pn**	**10 00 43.7**	**+0.6**
KU4				*e*S	**Sn**	**10 01 05.4**	**+0.3**
JOF	**Joensuu**	**1.88**	**170**	*e*P	**Pn**	**10 00 44.5**	**-1.5**
JOF				*e*S	**Sn**	**10 01 10.7**	**+0.3**
OUL	**Oulu**	**2.04**	**281**	*e*P	**Pn**	**10 00 48.5**	**+0.3**
OUL				*e*S	**Sn**	**10 01 16.0**	**+1.7**
SUF	**Sumiainen**	**2.86**	**226**	*e*P	**Pn**	**10 01 00.4**	**+0.9**
SUF				*e*S	**Sn**	**10 01 35.4**	**+0.8**
SUF				*e*SB	**Sb**	**10 01 40.2**	**+0.2**
SUF				MSG		10 01 44.7	
comp=Z,3.3nm,0.1s							
KAF	**Kangasniemi**	**3.29**	**218**	*e*P	**Pn**	**10 01 07.2**	**+1.7**
KAF				*e*S	**Sn**	**10 01 45.1**	**-0.2**
KEF	**Keuruu**	**3.67**	**227**	*e*P	**Pn**	**10 01 11.7**	**+1.1**
KEF				*e*S	**Sn**	**10 01 54.9**	**+0.3**
KEF				*e*SB	**Sb**	**10 02 02.9**	**-0.4**
KEF				MSG		10 02 09.3	
comp=Z,2.3nm,0.1s							
FIA0	**FINESS Array S**	**3.92**	**214**	Pn	**Pn**	**10 01 12.9**	**-1.1**
FIA0				Lg		10 02 13.5	
baz=41,slow=37							
FIA0	**FINESS Array S**	**3.92**	**214**	*e*P	**Pn**	**10 01 15.8**	**+1.7**
FIA0				*e*S	**Sn**	**10 01 59.9**	**-0.8**
FINES	**FINESS Array B**	**3.92**	**214**	Pn	**Pn**	**10 01 13.0**	**-1.1**
comp=Z,0.1nm,0.3s,baz=33,slow=12,SNR=3.1							
FINES				Sn	**Sn**	**10 02 01.8**	**+1.0**
comp=Z,0.3nm,0.3s,baz=36,slow=22,SNR=3.2							
FINES				Lg		10 02 13.9	
comp=Z,0.6nm,0.3s,baz=37,slow=30,SNR=6.9							
ARA0	**ARCESS Array S**	**5.19**	**340**	Pn	**Pn**	**10 01 31.6**	**+0.1**
baz=154,slow=14							
ARA0				Sn	**Sn**	**10 02 31.8**	**-0.3**
baz=158,slow=22							
ARA0				Lg		10 02 55.7	
baz=145,slow=37							
ARA0	**ARCESS Array S**	**5.19**	**340**	*e*P	**Pn**	**10 01 31.6**	**+0.1**
ARA0				*e*S	**Sn**	**10 02 31.8**	**-0.3**
ARA0				*e*SG	**Sg**	**10 02 55.7**	**-3.6**
ARCES	**ARCESS Array B**	**5.19**	**340**	Pn	**Pn**	**10 01 31.6**	**+0.1**
comp=Z,0.2nm,0.3s,baz=152,slow=13,SNR=16							
ARCES				Sn	**Sn**	**10 02 31.5**	**-0.5**
comp=Z,0.2nm,0.3s,baz=162,slow=21,SNR=3.0							
ARCES				Lg		10 02 56.0	
comp=Z,0.7nm,0.3s,baz=144,slow=32,SNR=6.8							
HFS	**Hagfors**	**9.10**	**247**	Pn	**Pn**	**10 02 24.1**	**-1.1**
comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=3.5							
HFS				Sn	**Sn**	**10 04 01.8**	**-6.5**
comp=Z,0.1nm,0.3s,baz=211,slow=46,SNR=2.2							
NB2	**NORSAR Subarra**	**9.59**	**256**	*e*P	**Pn**	**10 02 31.7**	**-0.3**
NOA	**NORSAR Array B**	**9.59**	**256**	Pn	**Pn**	**10 02 28.9**	**-3.0**
comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=2.3							
NOA				Sn	**Sn**	**10 04 17.3**	**-3.2**
comp=Z,0.1nm,0.3s,baz=233,slow=6.1,SNR=2.8							

BJI ***15*** *10:00:52.9, 490S×14470E, h72km, mb4.7*
ISCJB ***15*** *10:00:53.1±1.9, 488S±007×14475E±008, h70km±18km, mb4.5/25, Error ellipse: s-maj=14.2km s-min=11.0km az=142.6*
IDC ***15*** *10:00:53.8±1.9, 487S×14471E, h60km±16km, mb4.2/16, mb1 4.3/19, mb1mx4.3/21, mbtmp4.2/19, MS3.5/5, Ms1 3.5/5, ms1mx3.2/15, Error ellipse: s-maj=20.7km s-min=11.3km az=75.0*
NEIC ***15*** *10:00:55.0±1.3, 486S×14469E, h73km±12km, mb4.9/8, Error ellipse: s-maj=10.0km s-min=8.1km az=78.0*
ISC 15 10:00:55.5±1.6, 490S±007×14476E±008, h74km±16km, n43, σ0°74/40, mb4.5/25, 1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**152**	P	**Pn**	**10 02 09.7**	**+0.9**
19nm,0.3s,baz=337,slow=7.2,SNR=32							
PMG				S	**Sn**	**10 03 05.3**	**-0.7**
54nm,0.3s,baz=155,slow=21,SNR=12							
PMG				LR	LR	10 04 34.6	
comp=Z,537nm,19.2s,baz=335,slow=43							
KAKA	**Kakadu**	**14.43**	**237**	*e*P	**Pn**	**10 04 15.7**	**-0.1**
34nm,0.5s							
CTA	**Charters Tower**	**15.16**	**175**	⇓*i*P	**Pn**	**10 04 31.4**	**+6.1**
6.2nm,0.5s							
CTA	**Charters Tower**	**15.16**	**175**	P	**Pn**	**10 04 25.4**	**+0.1**
0.0nm,0.3s,baz=334,slow=10,SNR=4.7							
CTAO	**Charters Tower**	**15.16**	**175**	*e*P	**Pn**	**10 04 31.3**	**+6.0**
31nm,1.2s							
HNR	**Honiara**	**15.72**	**107**	LR	LR	10 09 53.8	
comp=Z,88nm,20.8s,baz=359,slow=34							
WB2	**Warramunga Arr**	**18.06**	**213**	*e*P	**Pn**	**10 05 01.0**	**-0.3**
WRA	**Warramunga Arr**	**18.07**	**213**	P	**Pn**	**10 05 01.1**	**-0.3**
4.4nm,0.3s,baz=32,slow=13,SNR=233							
WRA				ScP	ScP	10 13 02.0	+1.4
baz=20,slow=1.8,SNR=4.9							
ASAR	**Alice Springs**	**21.39**	**208**	P	**P**	**10 05 37.3**	**+0.4**
16nm,0.5s,mb4.6,baz=34,slow=12,SNR=159							
ASAR				ScP	ScP	10 13 10.8	+2.5
3.7nm,1.0s,baz=25,slow=2.9,SNR=8.6							
FITZ	**Fitzroy Crossi**	**22.84**	**233**	*e*P	**P**	**10 05 49.9**	**-2.3**
29nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**22.84**	**233**	P	**P**	**10 05 50.8**	**-1.4**
19nm,0.7s,mb4.5,baz=53,slow=13,SNR=26							
ARMA	**Armidale**	**26.19**	**166**	*e*P	**P**	**10 06 24.5**	**+1.5**
STKA	**Stephens Creek**	**27.00**	**186**	*e*P	**P**	**10 06 29.5**	**-0.8**
6.1nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**27.00**	**186**	P	**P**	**10 06 30.1**	**-0.1**
7.3nm,0.7s,mb4.3,baz=355,slow=8.4,SNR=16							
STKA				LR	LR	10 16 38.9	
comp=Z,164nm,19.6s,baz=24,slow=35							
FORT	**Forrest**	**30.16**	**209**	*e*P	**P**	**10 06 59.1**	**+0.7**
7.8nm,0.5s,mb4.6							
KLBR	**Kellerberrin**	**36.69**	**220**	*e*P	**P**	**10 07 54.8**	**-0.3**
80nm,1.9s,mb5.3							
NWAO	**Narrogin (SRO)**	**37.90**	**219**	P	**P**	**10 08 06.0**	**+0.7**
4.4nm,0.6s,mb4.5,baz=35,slow=12,SNR=3.8							
MJAR	**Matsushiro Arr**	**41.68**	**352**	P	**P**	**10 08 35.9**	**-0.8**
0.6nm,0.5s,mb3.6,baz=167,slow=6.1,SNR=4.5							
MJAR				LR	LR	10 25 03.4	
comp=Z,62nm,19.2s,baz=0.0,slow=35							
URZ	**Urewera**	**44.36**	**143**	P	**P**	**10 08 59.0**	**+0.7**
6.5nm,0.9s,mb4.3,baz=44,slow=6.0,SNR=4.6							
KSRS	**Korea Array**	**44.97**	**341**	P	**P**	**10 09 02.9**	**-0.2**
4.0nm,0.9s,mb4.2,baz=164,slow=10,SNR=12							
PSI	**Prapat**	**46.43**	**279**	P	**P**	**10 09 14.9**	**+0.3**
12nm,0.4s,mb5.0,baz=168,slow=6.1,SNR=16							
ASAJ	**Asahikawa**	**48.83**	**358**	P	**P**	**10 09 33.7**	**+0.4**
4.5nm,0.8s,mb4.5,baz=225,slow=14,SNR=3.6							
GTA	**Gaotai**	**60.48**	**321**	*e*P	**P**	**10 10 58.6**	**+1.1**
GTA				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.5							
SONM	**Songino Array**	**62.38**	**332**	P	**P**	**10 11 09.9**	**-0.4**
comp=Z,2.2nm,0.8s,mb4.2,baz=157,slow=7.8,SNR=4.6							
GUN	**Gumba**	**65.41**	**304**	*e*P	**P**	**10 11 30.7**	**+0.5**
comp=Z,23nm,0.7s,mb5.1							
PKI	**Pulchoki**	**65.68**	**303**	*e*P	**P**	**10 11 32.3**	**+0.4**
KKN	**Kakani**	**65.86**	**303**	*e*P	**P**	**10 11 33.8**	**+0.7**
DMN	**Daman**	**65.95**	**303**	*e*P	**P**	**10 11 34.4**	**+0.7**
comp=Z,16nm,0.6s,mb5.0							
GKN	**Gorkha**	**66.47**	**303**	*e*P	**P**	**10 11 37.4**	**+0.4**
comp=Z,18nm,0.7s,mb5.0							
KOLN	**Koldanda**	**67.26**	**303**	*e*P	**P**	**10 11 42.5**	**+0.5**
comp=Z,16nm,0.9s,mb4.8							
VNDA	**Vanda**	**73.14**	**176**	P	**P**	**10 12 18.0**	**+0.1**
comp=Z,4.4nm,0.6s,mb4.4,baz=323,slow=6.1,SNR=31							
VNDA	**Vanda**	**73.14**	**176**	*e*P	**P**	**10 12 17.7**	**-0.3**
comp=Z,47nm,2.2s,mb4.9							
MK31	**Makanchi Array**	**75.24**	**321**	P	**P**	**10 12 30.2**	**0.0**
MKAR	**Makanchi Array**	**75.24**	**321**	P	**P**	**10 12 29.7**	**-0.5**
comp=Z,0.5nm,0.4s,mb3.6,baz=97,slow=8.3,SNR=11							
ZAL	**Zalesovo**	**76.91**	**328**	P	**P**	**10 12 37.9**	**-1.8**
comp=Z,1.1nm,0.6s,mb3.8,baz=344,slow=5.1,SNR=4.9							
KURK	**Kurchatov**	**79.01**	**324**	*e*P	**P**	**10 12 51.4**	**+0.2**
comp=Z,7.3nm,0.5s,mb4.8							
MAW	**Mawson**	**82.40**	**203**	P	**P**	**10 13 08.3**	**-1.0**
comp=Z,1.7nm,0.6s,mb4.1,baz=51,slow=6.3,SNR=3.7							
MAW				LR	LR	10 45 20.0	
comp=Z,38nm,21.7s,baz=240,slow=32							
BVAR	**Borovoye Array**	**84.58**	**324**	P	**P**	**10 13 20.5**	**0.0**
comp=Z,3.0nm,0.7s,mb4.3,baz=100,slow=7.5,SNR=6.9							
QSPA	**South Pole Qui**	**85.06**	**180**	*e*P	**P**	**10 13 22.6**	**-0.3**
comp=Z,23nm,1.0s,mb5.1							
YKA	**Yellowknife Ar**	**99.24**	**28**	P	**P**	**10 14 27.6**	**-1.3**
comp=Z,0.4nm,1.0s,mb3.9,baz=279,slow=4.8,SNR=4.2							
GERES	**GERESS Array B**	**119.74**	**325**	PKP	PKPdf	10 19 36.3	-0.6
comp=Z,0.5nm,0.4s,baz=48,slow=2.0,SNR=3.7							
PLCA	**Paso Flores**	**124.24**	**148**	PKP	PKPdf	10 19 46.6	+1.1
comp=Z,1.4nm,0.6s,baz=276,slow=1.3,SNR=7.2							
TORD	**Torodi Ar. Bea**	**142.66**	**285**	PKhKP		10 20 16.1	
comp=Z,1.6nm,0.6s,baz=62,slow=3.2,SNR=11							
TORD				PKP	PKPdf	10 20 21.9	+1.9
comp=Z,2.5nm,0.7s,baz=57,slow=2.7,SNR=11							

NEIC ***15*** *10:22:02.9, 3241S×7160W, h19km, ML3.2(GUC), After GUC.*
GUC 15 10:22:02.9±0.7, 3241S×7160W, h19km±2km, MD3.6, ML3.2, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.19**	**131**	*e*P	Pg	10 22 08.4	+0.6
PACH				*i*S	Sg	10 22 12.3	+1.2
PTCH	**Petorca**	**0.59**	**76**	⇓*i*P	Pb	10 22 14.3	-0.2
PTCH				*i*S	Sb	10 22 22.5	0.0
PTCH				AML	AML	10 22 22.8	
comp=N,8μm,0.2s							
IHA	**Instituto Hidr**	**0.61**	**183**	⇓*i*P	Pb	10 22 14.2	-0.7
IHA				*i*S	Sb	10 22 23.1	-0.1
JACH	**Jahuel**	**0.89**	**108**	*i*P	Pb	10 22 19.1	-0.7
JACH				*i*S	Sb	10 22 31.2	-0.1
LCCH	**Las Cruces**	**1.06**	**178**	*i*P	Pb	10 22 21.4	-1.2
LCCH				*i*S	Sb	10 22 35.6	-0.5
PEL	**Peldehue**	**1.06**	**134**	⇓*i*P	Pb	10 22 21.8	-0.8
PEL				*i*S	Sb	10 22 36.0	-0.1
PEL				AML	AML	10 22 38.3	
comp=N,711nm,0.2s							
RCDM	**Rinconada Maip**	**1.27**	**148**	⇑*i*P	Pn	10 22 25.0	-0.5
RCDM				*i*S	Sn	10 22 41.1	-0.9
RCDM				AML	AML	10 22 41.9	
comp=E,641nm,0.1s							
CMCH	**Combarbala**	**1.34**	**23**	⇑*i*P	Pn	10 22 25.3	-1.2
CMCH				*i*S	Sn	10 22 42.8	-1.0
CMCH				AML	AML	10 22 46.6	
comp=N,1μm,0.4s							
CMCH	**Combarbala**	**1.34**	**23**	⇑*i*P	Pn	10 22 25.3	-1.2
CMCH				*i*S	Sn	10 22 42.8	-1.0
TACH	**Talagante**	**1.36**	**156**	*i*P	Pn	10 22 26.3	-0.4
TACH				*i*S	Sn	10 22 44.1	-0.2
ANTU	**Antumapu**	**1.41**	**145**	AML	AML	10 22 51.1	
comp=E,354nm,0.5s							
FCH	**Farellones**	**1.43**	**130**	*i*P	Pn	10 22 28.0	+0.2
FCH				*i*S	Sn	10 22 47.4	+1.3
PCH	**Pirque**	**1.51**	**143**	*e*P	Pn	10 22 29.4	+0.5
PCH				*i*S	Sn	10 22 49.0	+0.9
LNV	**Longovilo**	**1.55**	**174**	*e*P	Pn	10 22 29.1	-0.2
LNV				*i*S	Sn	10 22 49.1	+0.2
CHCH	**Chadas Angostu**	**1.71**	**153**	*i*P	Pn	10 22 32.0	+0.3
CHCH				*i*S	Sn	10 22 54.5	+1.5
LMEL	**Las Melosas**	**1.85**	**141**	⇑*i*P	Pn	10 22 34.5	+0.9
LMEL				*i*S	Sn	10 22 58.3	+1.9
LMEL				AML	AML	10 23 04.3	
comp=N,256nm,0.2s							
LMEL	**Las Melosas**	**1.85**	**141**	⇑*i*P	Pn	10 22 34.5	+0.9
LMEL				*i*S	Sn	10 22 58.3	+1.9
CACH	**El Canelo**	**1.90**	**154**	*i*P	Pn	10 22 36.1	+1.9
CACH				*i*S	Sn	10 23 00.7	+3.2
CICH	**Cipreses**	**2.14**	**153**	*i*P	Pn	10 22 38.8	+1.2
CICH				*i*S	Sn	10 23 07.0	+3.4
SFDO	**San Fernando**	**2.25**	**168**	*i*P	Pn	10 22 40.2	+1.2
SFDO				*i*S	Sn	10 23 08.8	+2.6
TLL	**Tololo Astrono**	**2.34**	**17**	⇑*i*P	Pn	10 22 41.8	+1.5
TLL				*i*S	Sn	10 23 12.1	+3.6
TLL				AML	AML	10 23 16.8	
comp=N,118nm,0.5s							
TLL	**Tololo Astrono**	**2.34**	**17**	⇑*i*P	Pn	10 22 41.8	+1.5
TLL				*i*S	Sn	10 23 12.1	+3.6

CSEM ***15*** *10:23:32.1, 3609N×2225E, h45km, MD3.7/8, After ATH*
NEIC ***15*** *10:23:32.1, 3609N×2225E, h45km, MD3.7(ATH), After ATH.*
ATH 15 10:23:32.1, 3609N×2225E, h45km, MD3.7/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.66**	**73**	*e*P	Pn	10 23 46.0	+0.8
VLI	**Veliai**	**0.84**	**41**	*e*P	Pn	10 23 48.4	+0.9
VLI				*e*S	Sn	10 24 00.4	+1.7
ITM	**Ithomi**	**1.12**	**347**	*e*P	Pn	10 23 51.7	+0.4
RLS	**Riolos of Patr**	**2.06**	**343**	*e*P	Pn	10 24 07.3	+3.1
VLS	**Valsamata**	**2.47**	**328**	*e*P	Pn	10 24 11.1	+1.3
LKR	**Lokris**	**2.62**	**13**	*e*P	Pn	10 24 13.9	+1.9
THL	**Klokotos Trika**	**3.47**	**357**	*e*P	Pn	10 24 27.2	+3.6
KEK	**Kerkira**	**4.10**	**333**	*e*P	Pn	10 24 33.5	+1.2

WEL 15 10:24:11.7±0.3, 4141S×17295E, h115km±3km, ML3.6/12, 3C, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.36**	**186**	⇑PN	Pn	10 24 28.7	+0.4
THZ				SN	Sn	10 24 40.9	+0.1
NNZ	**Nelson**	**0.37**	**60**	⇑PN	Pn	10 24 28.4	0.0
QRZ	**Quartz Range**	**0.66**	**331**	PN	Pn	10 24 30.2	0.0
QRZ				SN	Sn	10 24 43.0	-1.2
TUWZ	**Tuamarina**	**0.75**	**92**	PN	Pn	10 24 31.1	+0.2
BSWZ	**Blackbirch Sta**	**0.76**	**114**	PN	Pn	10 24 31.2	+0.2
DSZ	**Denniston Nort**	**0.93**	**248**	PN	Pn	10 24 32.4	-0.2
DSZ				SN	Sn	10 24 46.6	-1.7
DUWZ	**D'Urville Isla**	**0.95**	**51**	PN	Pn	10 24 33.4	+0.6
TCW	**Tory Channel**	**1.02**	**79**	PN	Pn	10 24 33.7	+0.2
TCW				SN	Sn	10 24 49.5	-0.5
KHZ	**Kahutara**	**1.10**	**157**	⇑PN	Pn	10 24 34.5	+0.2
KHZ				SN	Sn	10 24 50.0	-1.4
KHZ				SN	Sn	10 24 50.3	-1.1
SNZO	**South Karori**	**1.32**	**86**	PN	Pn	10 24 36.2	-0.6
MRW	**Makara Radio**	**1.33**	**83**	PN	Pn	10 24 36.4	-0.4
MRW				SN	Sn	10 24 54.9	-1.0
WEL	**Wellington**	**1.37**	**85**	PN	Pn	10 24 36.9	-0.4
BHW	**Baring Head**	**1.44**	**91**	PN	Pn	10 24 37.4	-0.7
LTZ	**Lake Taylor**	**1.46**	**200**	*e*PN	Pn	10 24 38.4	0.0
KIW	**Kapiti Island**	**1.58**	**70**	PN	Pn	10 24 39.3	-0.4
CAW	**Cannon Point**	**1.62**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**1.70**	**99**	*e*Pg	Pg	11 44 29.6	+1.9
KIV				*e*Sg	Sg	11 44 49.8	+0.1
KIV0	**Kislovodsk Arr**	**1.71**	**99**	*e*Pn	Pn	11 44 27.2	+2.1
KIV0				*e*Sg	Sg	11 44 50.0	+0.1
SHAR	**Shatzhatmas**	**1.74**	**106**	⇑*e*PN	Pn	11 44 28.3	+2.7
SHAR				*e*S	Sn	11 44 51.6	+3.7
BEYR	**Belyy Ugol+**	**1.78**	**96**	*e*Pn	Pn	11 44 29.5	+3.3
BEYR				*e*Sg	Sg	11 44 53.2	+0.8

PRU ***15*** *11:46:33.7, 5030N×1894E, h0km*
WAR 15 11:46:33.3, 5023N×1908E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**91**	*e*Pg	Pg	11 46 42.3	+0.1
OJC				*e*Sg	Sg	11 46 49.3	+1.1
OKC	**Ostrava-Krasne**	**0.72**	**237**	*e*PG	Pg	11 46 46.5	-0.5
NIE	**Niedzica**	**1.14**	**135**	*e*Pg	Pg	11 46 55.4	+0.2
NIE				*e*Sg	Sg	11 47 12.1	+2.1
STHS	**Stebnicka Huta**	**1.62**	**119**	*i* PN	Pn	11 47 04.5	+1.3
STHS				*e*SN	Sn	11 47 27.9	+3.1
VYHS	**Vyhne**	**1.75**	**185**	*i* PN	Pn	11 47 03.6	-1.2
VYHS				*e*SN	Sn	11 47 26.3	-1.5
DPC	**Dobruska-Polom**	**1.77**	**275**	*e*PG	Pg	11 47 03.7	-3.5
DPC				*e*SG	Sg	11 47 27.1	-3.1
	14nm,0.6s						
KSP	**Ksiaz**	**1.88**	**290**	*e*Pn	Pn	11 47 05.5	-1.1
KSP				*e*Pg	Pg	11 47 07.6	-1.7
KSP				*e*Sg	Sg	11 47 32.5	-1.1
KECS	**Kecovo**	**1.98**	**152**	*e*PN	Pn	11 47 09.2	+1.2
KECS				*e*SN	Sn	11 47 37.1	+3.6
UPC	**Upice**	**1.98**	**279**	*e*PG	Pg	11 47 06.5	-4.8
UPC				*e*SG	Sg	11 47 33.7	-3.2
PRU	**Pruhonice**	**2.93**	**267**	*e*SG	Sg	11 48 03.6	-3.8
KHC	**Kasperske Hory**	**3.74**	**255**	*e*PN	Pn	11 47 30.0	-2.2
KHC				*e*PG	Pg	11 47 43.5	-1.4
KHC				*e*SG	Sg	11 48 30.0	-3.3
	6.8nm,0.4s						

ISCJB ***15*** *11:53:47.0±1.0, 469N±02×1528E±02, h35km, mb3.7/6, Error ellipse: s-maj=34.7km s-min=7.3km az=103.3*
IDC ***15*** *11:53:54.9±4.8, 4684N×1527ZE, h94km±55km, mb3.3/6, mb1 3.5/7, mb1mx3.2/25, mbtmp3.4/7, ML3.3/1, Error ellipse: s-maj=69.9km s-min=27.2km az=178.0*
ISC 15 11:53:49.1±1.0, 470N±02×1528E±02, h35km, n17, σ1°08/22, mb3.7/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**6.17**	**237**	P	**Pn**	**11 55 15.9**	**-1.8**
NEM2				*e*S	**Sn**	**11 56 21.7**	**-5.4**
JRA	**Rausu**	**6.21**	**243**	P	**Pn**	**11 55 20.1**	**+1.9**
JNK	**Nakash**	**6.65**	**242**	P	**Pn**	**11 55 25.0**	**+0.8**
JAK	**Akkeshi**	**7.00**	**238**	P	**Pn**	**11 55 27.8**	**-1.3**
JAK				*e*S	**Sn**	**11 56 42.5**	**-5.0**
JAR	**Ashorobuto**	**7.38**	**243**	P	**Pn**	**11 55 35.5**	**+1.2**
JAR				*e*S	**Sn**	**11 56 57.8**	**+0.9**
JOB	**Onbets**	**7.57**	**241**	P	**Pn**	**11 55 37.0**	**+0.1**
JOB				*e*S	**Sn**	**11 56 57.3**	**-4.1**
ASAJ	**Asahikawa**	**7.73**	**252**	P	**Pn**	**11 55 43.1**	**+4.0**
	0.5nm,0.3s,baz=69,slow=17,SNR=6.1						
JCH	**Churui**	**8.02**	**240**	P	**Pn**	**11 55 42.1**	**-0.9**
JCH				*e*S	**Sn**	**11 57 05.7**	**-6.8**
JEM	**Erimo**	**8.50**	**238**	P	**Pn**	**11 55 49.5**	**-0.2**
JBT2	**Biratori 2**	**8.53**	**244**	P	**Pn**	**11 55 50.8**	**+0.7**
JNB	**Noboribetsu**	**9.52**	**246**	P	**Pn**	**11 56 04.3**	**+0.6**
INK	**Inuvik**	**41.56**	**33**	P	**P**	**12 01 34.0**	**+0.7**
	0.8nm,0.8s,mb3.4,baz=327,slow=7.1,SNR=4.5						
MKAR	**Makanchi Array**	**46.66**	**297**	P	**P**	**12 02 13.5**	**-0.6**
	0.6nm,0.9s,mb3.5,baz=59,slow=9.7,SNR=2.7						
YKA	**Yellowknife Ar**	**50.86**	**37**	P	**P**	**12 02 46.3**	**0.0**
	0.3nm,0.8s,mb3.3,baz=294,slow=7.2,SNR=4.0						
FINES	**FINESS Array B**	**63.75**	**335**	P	**P**	**12 04 17.0**	**-0.3**
	1.5nm,0.8s,mb4.1,baz=43,slow=6.5,SNR=3.8						
HFS	**Hagfors**	**68.17**	**339**	P	**P**	**12 04 45.1**	**-0.7**
	7.8nm,1.2s,mb4.6,baz=60,slow=6.8,SNR=5.5						
TXAR	**Lajitas Array**	**77.55**	**60**	P	**P**	**12 05 41.5**	**+0.2**
	0.2nm,0.6s,mb3.2,baz=307,slow=3.3,SNR=3.2						

NEIC ***15*** *12:00:47.2, 1679N×9864W, h34km, MD3.9(MEX), After MEX.*
MEX 15 12:00:49.5±0.9, 1601N×9855W, h16km±56km, MD3.9, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.56**	**47**	⇑*i*P	Pg	12 00 58.2	-2.4
PNIG				*i* S	Sg	12 01 05.8	-2.2
PNIG	**Pinotepa**	**0.56**	**47**	*i* P	Pg	12 00 58.2	-2.3
PNIG				*i* S	Sg	12 01 05.8	-2.2
ACX	**Acapulco**	**1.56**	**303**	*e*P	Pn	12 01 13.0	-3.6
UTMO	**Huajuapan**	**1.95**	**21**	*i* P	Pn	12 01 18.9	-3.0
UTMO				*i* S	Sn	12 01 41.9	-4.1
VHO	**Vista Hermosa**	**2.04**	**58**	*i* P	Pn	12 01 21.1	-2.0
VHO				*i* S	Sn	12 01 44.9	-3.3
VHO	**Vista Hermosa**	**2.04**	**58**	*i* P	Pn	12 01 21.4	-1.7
VHO				*i* S	Sn	12 01 36.7	-12
VHO				*i* S	Sn	12 01 48.8	+0.6
OXX	**Oaxaca**	**2.05**	**58**	*e*P	Pn	12 01 20.0	-3.3
OXX				*i* S	Sn	12 01 51.0	+2.5
MEIG	**Mezcala**	**2.16**	**332**	*e*P	Pn	12 01 22.3	-2.6
MEIG				*i* S	Sn	12 01 46.3	-5.0
HUIG	**Huatulco**	**2.36**	**95**	*i* P	Pn	12 01 24.6	-2.9
HUIG				*i* S	Sn	12 01 51.9	-4.3
HUIG	**Huatulco**	**2.36**	**95**	*i* P	Pn	12 01 23.8	-3.8
HUIG				*i* S	Sn	12 01 55.3	-0.9
TPIG	**Tehuac#an**	**2.65**	**25**	*e*P	Pn	12 01 34.6	+3.0
TPIG				*i* S	Sn	12 01 59.5	-3.9
IIO	**Organos**	**3.57**	**357**	*i* S	Sn	12 02 28.3	+2.4
CMIG	**Matias Romero**	**3.68**	**72**	*e*P	Pn	12 01 43.3	-2.3
CMIG				*i* S	Sn	12 02 22.2	-6.4
CMIG	**Matias Romero**	**3.68**	**72**	*e*P	Pn	12 01 37.3	-8.3
CMIG				*i* S	Sn	12 02 21.9	-6.8

IDC 15 12:16:42.9±4.3, 316S×14774E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=126.6km s-min=52.2km az=106.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.19**	**217**	P	P	12 21 30.1	+0.1
	1.3nm,0.8s,baz=42,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.38**	**212**	P	P	12 22 03.5	+0.8
	0.9nm,0.7s,baz=47,slow=8.4,SNR=15						
FITZ	**Fitzroy Crossi**	**26.25**	**234**	P	P	12 22 19.6	-0.1
	1.8nm,0.7s,baz=52,slow=14,SNR=4.1						
FITZ				LR	LR	12 32 14.7	
	comp=Z,36nm,20.1s,baz=83,slow=36						
TORD	**Torodi Ar. Bea**	**145.00**	**288**	PKPbc	PKPbc	12 36 21.8	+0.4
	0.5nm,0.8s,baz=93,slow=3.3,SNR=2.9						

SKHL 15 12:34:44.4±0.1, 5270N×14270E, h10km, mb4.1/4, 1C-1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.86**	**9**	⇓*i*Pg	Pg	12 35 02.4	+1.4
OKH				AMB	AMB	12 35 02.9	
	600nm,0.2s						
OKH				*e*Sg	Sg	12 35 14.9	+2.6
OKH				⇑*i*Sg	Sg	12 35 14.9	+2.6
OKH				A		12 35 16.1	
	3μm,0.5s						
NKL	**Nikolayevsk**	**1.30**	**291**	*e*Pg	Pg	12 35 10.6	+1.2
NKL				AMB	AMB	12 35 11.0	
	61nm,0.5s						
NKL				*e*Sg	Sg	12 35 29.0	+2.6
NKL				A		12 35 31.0	
	130nm,0.5s						
NKL				A		12 35 31.0	
	230nm,0.5s						
TYV	**Tymovskoe**	**1.84**	**181**	*e*Pg	Pg	12 35 22.2	+2.5
TYV				AMB	AMB	12 35 24.0	
	4.0nm,0.5s						
GRNR	**Gornyy**	**4.36**	**246**	*e*Sg	Sg	12 37 10.0	+5.8
GRNR				A		12 37 11.5	
	10.0nm,0.5s						
EKMR	**Ekimchan**	**5.92**	**277**	*e*Pg	Pg	12 36 40.0	+2.3
EKMR				AMB	AMB	12 36 46.0	
	22nm,0.2s						
EKMR				*e*Sg	Sg	12 38 02.5	+8.2
EKMR				A		12 38 10.4	
	5.0nm,0.5s						
EKMR				A		12 38 10.4	
	4.0nm,0.5s						
EKMR				A		12 38 10.4	
	3.0nm,0.5s						

BJI ***15*** *12:58:55.4, 1590N×6070W, h24km, mB5.5, Ms5.6, Msz5.2*
TRN ***15*** *12:58:56.5, 1590N×6076W, h10km, MD4.5, M4.6(FDF)*
TRN Felt (II) and (III)in Guadeloupe, (III) in Martinique.
IDC ***15*** *12:58:59.0±0.4, 1601N×6084W, h40km±3km, mb4.3/25, mb1 4.5/27, mb1mx4.4/31, mbtmp4.4/27, ML4.9/2, MS3.8/11, Ms1 3.8/11, ms1mx3.5/36, Error ellipse: s-maj=9.5km s-min=4.8km az=81.0*
ISCJB ***15*** *12:58:59.5±0.4, 1598N±002×6078W±004, h60km±3km, mb4.7/56, Error ellipse: s-maj=6.2km s-min=3.4km az=138.4*
NEIC ***15*** *12:58:59.5, 1594N×6069W, h25km, mb4.9/32, MD4.5(TRN), MD4.6(FDF), After FDF.*
NEIC Felt [III] on Guadeloupe and [II] on Martinique.
ISC 15 12:59:00.3±0.5, 1600N±003×6075W±004, h46km±4km, h50km±2.6km: pP-P, n351, σ0°67/357, mb4.7/56, MS4.4/11, 62C-65D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFG	**Saint Francois**	**0.50**	**301**	⇑*i*P	**Pn**	**12 59 10.5**	**-0.8**
MGG	**Marie-Galante**	**0.55**	**262**	⇓*i*P	**Pn**	**12 59 11.2**	**-0.8**
MGG				*e*S	**Sn**	**12 59 19.5**	**-0.8**
BBL	**Barber's Block**	**0.84**	**236**	⇓*i*P	**Pn**	**12 59 14.2**	**-1.5**
PHG	**Guadaloupe-2**	**0.86**	**271**	*e*P	**Pn**	**12 59 15.7**	**-0.4**
TBG	**Guadaloupe-3**	**0.87**	**261**	⇓*i*P	**Pn**	**12 59 15.7**	**-0.6**
SCG	**Saint Claude**	**0.90**	**272**	⇓*i*P	**Pn**	**12 59 16.4**	**-0.2**
MDN	**Morne-Daniel**	**0.92**	**223**	⇓*i*P	**Pn**	**12 59 16.5**	**-0.3**
MDN				*e*S	**Sn**	**12 59 28.1**	**-0.8**
DBCT	**Belle View Cho**	**0.92**	**219**	*e*P	**Pn**	**12 59 16.7**	**-0.2**
DSHT	**Scott's Head**	**0.98**	**218**	*e*P	**Pn**	**12 59 17.4**	**-0.4**
DSHT				*e*S	**Sn**	**12 59 31.2**	**+0.7**
LZG	**Guadaloupe-1**	**1.00**	**278**	⇓*i*P	**Pn**	**12 59 17.8**	**-0.1**
FDF	**Fort de France**	**1.31**	**197**	⇓*i*P	**Pn**	**12 59 20.6**	**-1.6**
MVM	**Montagne Vaucl**	**1.44**	**186**	⇓*e*P	**Pn**	**12 59 22.7**	**-1.3**
BIM	**Bigot**	**1.50**	**192**	⇓*i*P	**Pn**	**12 59 23.6**	**-1.3**
SLW	**Petit Monier**	**1.97**	**185**	*e*P	**Pn**	**12 59 30.3**	**-0.9**
SLW	**Petit Monier**	**1.97**	**185**	*e*P	**Pn**	**12 59 31.5**	**+0.2**
SLW				*e*S	**Sn**	**12 59 55.3**	**+0.6**
SKTB	**Turtle Beach**	**2.16**	**304**	*e*P	**Pn**	**12 59 34.4**	**+0.6**
SKTB				*e*S	**Sn**	**13 00 04.5**	**+5.1**
SLB	**Belfond**	**2.17**	**187**	*e*P	**Pn**	**12 59 34.6**	**+0.6**
SLB				*e*S	**Sn**	**13 00 00.5**	**+0.7**
SLDE	**Delcer**	**2.20**	**188**	*e*P	**Pn**	**12 59 35.4**	**+1.0**
SLDE				*e*S	**Sn**	**13 00 02.2**	**+1.9**
MCLT	**Moule a Chique**	**2.28**	**185**	*e*P	**Pn**	**12 59 35.5**	**+0.1**
MCLT				*e*S	**Sn**	**13 00 02.6**	**+0.3**
MCLT	**Moule a Chique**	**2.28**	**185**	*e*P	**Pn**	**12 59 36.0**	**+0.6**
MCLT				*e*S	**Sn**	**13 00 02.6**	**+0.3**
SKI	**Saint Kitts**	**2.32**	**305**	*e*P	**Pn**	**12 59 36.8**	**+0.7**
SKI				*e*S	**Sn**	**13 00 08.8**	**+5.4**
BSK	**Brimstone Hill**	**2.41**	**304**	*e*P	**Pn**	**12 59 38.6**	**+1.3**
BSK				*e*S	**Sn**	**13 00 10.6**	**+5.0**
BSK	**Brimstone Hill**	**2.41**	**304**	*e*P	**Pn**	**12 59 38.6**	**+1.3**
BSK				*e*S	**Sn**	**13 00 10.6**	**+5.0**
BSK				*e*S	**Sn**	**13 00 17.0**	**+11**
GRSS	**Sisters**	**3.77**	**193**	*e*P	**Pn**	**12 59 55.0**	**-0.9**
GRIC	**Isle de Caille**	**3.78**	**192**	*e*P	**Pn**	**12 59 56.2**	**+0.1**
GRIC				*e*S	**Sn**	**13 00 42.8**	**+3.6**
GRW	**Mount Saint Ca**	**3.92**	**193**	*e*P	**Pn**	**12 59 57.7**	**-0.2**
GRW				*e*S	**Sn**	**13 00 45.7**	**+3.2**
GRGR	**Grenville**	**3.94**	**193**	*e*Pn	**Pn**	**12 59 58.0**	**-0.2**
TPR	**Prospect**	**4.78**	**180**	*e*P	**Pn**	**13 00 09.9**	**+0.1**
TPR				*e*S	**Sn**	**13 01 03.4**	**-0.6**
MTP	**Monte Pirata**	**5.05**	**295**	*e*Pn	**Pn**	**13 00 14.2**	**+0.8**
HUMP	**Col San Antoni**	**5.32**	**294**	*e*Pb	**Pn**	**13 00 18.3**	**+1.1**
CPD	**Cerro la Pandu**	**5.34**	**293**	*e*Pn	**Pn**	**13 00 18.6**	**+1.2**
TRN	**Trinidad (W)**	**5.35**	**187**	*e*P	**Pn**	**13 00 18.2**	**+0.5**
TRN				*e*S	**Sn**	**13 01 17.5**	**-0.5**
TCE	**Chacachacare**	**5.36**	**191**	*e*P	**Pn**	**13 00 19.4**	**+1.6**
TCE				*e*S	**Sn**	**13 01 21.4**	**+3.3**
CBYP	**Canovanas**	**5.38**	**296**	*e*Pb	**Pn**	**13 00 19.8**	**+1.7**
TBH	**Brigand Hill**	**5.49**	**183**	*e*P	**Pn**	**13 00 21.5**	**+2.0**
TPP	**Pointe-a-Pierr**	**5.69**	**187**	*e*P	**Pn**	**13 00 29.5**	**+7.3**
MPR	**Mayaguez**	**6.50**	**291**	*e*Pb	**Pn**	**13 00 33.9**	**+0.6**
PCRV	**Puerto La Cruz**	**6.91**	**214**	P	**Pn**	**13 00 38.9**	**-0.2**
	16nm,0.3s,baz=48,slow=5.1,SNR=38						
PCRV				S	**Sn**	**13 01 55.1**	**-1.2**
	7.8nm,0.3s,baz=24,slow=15,SNR=1.8						
PCRV				LR	LR	13 03 41.6	
	comp=Z,599nm,20.0s,baz=28,slow=41						
SDV	**Santo Domingo**	**11.96**	**235**	P	**Pn**	**13 01 47.0**	**-1.1**
	10nm,0.3s,baz=82,slow=7.9,SNR=46						
SDV				S	**Sn**	**13 03 59.3**	**-0.8**
	0.8nm,0.3s,baz=349,slow=15,SNR=2.5						
SDV				LR	LR	13 06 37.1	
	comp=Z,639nm,21.0s,baz=173,slow=38						
SDV	**Santo Domingo**	**11.96**	**235**	*e*Pn	**Pn**	**13 01 46.7**	**-1.4**
BBSR	**BB Station**	**16.69**	**348**	Pn	**Pn**	**13 02 46.4**	**-4.4**
	17nm,0.4s						
ROSC	**El Rosal**	**17.33**	**232**	P	**Pn**	**13 03 00.8**	**+2.0**
	6.2nm,0.3s,baz=81,slow=11,SNR=12						
ROSC				LR	LR	13 10 09.1	
	comp=Z,327nm,21.9s,baz=27,slow=39						
ROSC	**El Rosal**	**17.33**	**232**	*e*Pn	**Pn**	**13 03 00.5**	**+1.7**
BCIP	**Isla Barro Col**	**19.82**	**252**	*e*P	**Pn**	**13 03 26.4**	**-2.4**
SOR	**Soroa**	**22.04**	**291**	*e*P	**P**	**13 03 49.2**	**-1.7**
OTAV	**Otavalo**	**23.46**	**230**	*e*P	**P**	**13 04 04.5**	**-1.1**
	15nm,0.7s,mb4.5						
JTS	**JuntasAbangare**	**24.23**	**259**	P	**P**	**13 04 10.1**	**-2.6**
	7.3nm,0.5s,mb4.4,baz=37,slow=3.8,SNR=6.5						
JTS				LR	LR	13 12 21.6	
	comp=Z,103nm,20.4s,baz=62,slow=33						
JTS	**JuntasAbangare**	**24.23**	**259**	P	**P**	**13 04 10.1**	**-2.6**
JTS				LR	LR	13 12 21.6	
TGUH	**Tegucigalpa,Un**	**25.68**	**269**	P	**P**	**13 04 25.5**	**-0.4**
	31nm,0.8s,mb4.9						
LHS	**Liberty Hill**	**25.75**	**319**	*e*P	**P**	**13 04 26.3**	**-0.3**
JSC	**Jenkinsville**	**25.91**	**318**	*e*P	**P**	**13 04 27.3**	**-0.7**
TEIG	**Tepich**	**26.48**	**283**	*e*P	**P**	**13 04 32.3**	**-0.8**
	20nm,0.6s,mb4.8,baz=87,slow=5.7,SNR=20						
TEIG				PcP	PcP	13 07 57.3	+0.2
	4.1nm,0.7s,baz=18,slow=1.9,SNR=3.6						
TEIG	**Tepich**	**26.48**	**283**	*e*P	**P**	**13 04 32.7**	**-0.4**
GOGA	**Godfrey**	**26.86**	**314**	*e*P	**P**	**13 04 35.9**	**-0.6**
BLA	**Blacksburg**	**27.38**	**324**	*e*P	**P**	**13 04 40.8**	**-0.4**
	15nm,0.6s,mb4.7						
ELN	**Prospectdale**	**27.58**	**324**	*e*P	**P**	**13 04 42.9**	**-0.1**
TKL	**Tuckaleechee C**	**28.38**	**318**	P	**P**	**13 04 49.5**	**-0.6**
	4.9nm,0.7s,mb4.2,baz=144,slow=10,SNR=7.6						
TKL				LR	LR	13 14 45.9	
	comp=Z,174nm,20.9s,MS3.6,baz=296,slow=33						
ATAH	**Atahualpa**	**28.76**	**219**	P	**P**	**13 04 54.4**	**+0.8**
	12nm,0.5s,mb4.9,baz=42,slow=4.5,SNR=8.5						
ATAH				LR	LR	13 17 18.0	
	comp=Z,228nm,19.0s,MS3.8,baz=7.4,slow=38						
ALLY	**Alegheny Colle**	**30.55**	**331**	*e*P	**P**	**13 05 08.6**	**-0.7**
WVT	**Waverly**	**31.35**	**315**	*e*P	**P**	**13 05 15.8**	**-0.6**
	17nm,0.6s,mb5.0						
OXF	**Oxford**	**31.64**	**311**	*e*P	**P**	**13 05 18.9**	**-0.1**
SIV	**San Ignacio**	**31.79**	**181**	P	**P**	**13 05 20.1**	**-0.1**
	6.9nm,0.5s,mb4.8,baz=11,slow=9.6,SNR=42						
SIV	**San Ignacio**	**31.79**	**181**	P	**P**	**13 05 20.1**	**-0.1**
LPAZ	**La Paz**	**32.90**	**193**	P	**P**	**13 05 29.4**	**-0.6**
	4.2nm,0.7s,mb4.5,baz=23,slow=7.9,SNR=19						
LPAZ				LR	LR	13 19 41.9	
	comp=Z,201nm,20.0s,MS3.8,baz=60,slow=38						
SIUC	**Southern Illin**	**33.14**	**316**	*e*P	**P**	**13 05 32.2**	**+0.1**
FVM	**French Village**	**34.09**	**316**	*e*P	**P**	**13 05 40.1**	**-0.2**
	28nm,0.6s,mb5.4						
NATX	**Nacogdoches**	**34.58**	**303**	*e*P	**P**	**13 05 43.4**	**-1.2**
MIAR	**Mount Ida**	**34.74**	**308**	*e*P	**P**	**13 05 45.3**	**-0.6**
	11nm,0.9s,mb4.8						
JCT	**Junction City**	**38.46**	**299**	*e*P	**P**	**13 06 16.4**	**-1.2**
	45nm,0.9s,mb5.2						
WMOK	**Wichita Mounta**	**38.81**	**306**	*e*P	**P**	**13 06 19.2**	**-1.3**
	15nm,0.7s,mb4.8						
KSU1	**Kansas State U**	**38.87**	**313**	*e*P	**P**	**13 06 20.0**	**-1.1**
SCHQ	**Schefferville**	**39.04**	**354**	P	**P**	**13 06 22.2**	**-0.3**
	4.8nm,0.6s,mb4.4,baz=168,slow=8.4,SNR=8.7						
SCHQ				LR	LR	13 20 07.5	
	comp=Z,75nm,19.9s,MS3.5,baz=219,slow=32						
LTX	**Lajitas**	**41.54**	**296**	*e*P	**P**	**13 06 42.5**	**-0.7**
	32nm,0.6s,mb5.1						
TXAR	**Lajitas Array**	**41.54**	**296**	P	**P**	**13 06 42.1**	**-1.1**
	3.7nm,0.6s,mb4.2,baz=116,slow=8.2,SNR=70						
TXAR				PcP	PcP	13 08 40.3	+0.4
	2.6nm,0.7s,baz=128,slow=5.8,SNR=10						
ULM	**Lac du Bonnet**	**44.36**	**328**	P	**P**	**13 07 04.6**	**-1.4**
	11nm,0.7s,mb4.7,baz=135,slow=8.6,SNR=30						
ULM				LR	LR	13 22 27.1	
	comp=Z,105nm,19.8s,MS3.8,baz=132,slow=32						
ULM	**Lac du Bonnet**	**44.36**	**328**	*e*P	**P**	**13 07 04.6**	**-1.4**
	11nm,0.7s,mb4.7						
ANMO	**Albuquerque**	**44.94**	**304**	*e*P	**P**	**13 07 10.6**	**0.0**
Y22C	**IRIS PASSCAL I**	**45.12**	**302**	⇓P	**P**	**13 07 12.8**	**+0.7**
	baz=45						
ISCO	**Idaho Springs**	**45.59**	**310**	*e*P	**P**	**13 07 16.0**	**+0.2**
	9.2nm,0.7s,mb4.8						
PHWY	**Pilot Hill**	**45.97**	**313**	*e*P	**P**	**13 07 18.9**	**+0.2**
RSSD	**Black Hills**	**46.03**	**317**	*e*P	**P**	**13 07 19.0**	**-0.3**
	8.0nm,0.6s,mb4.8						
MVCO	**Mesa Verde**	**47.06**	**306**	⇑P	**P**	**13 07 28.3**	**+1.0**
	baz=47						
PV01	**Paradox Valley**	**47.34**	**307**	*e*P	**P**	**13 07 29.8**	**+0.3**
PV10	**Paradox Valley**	**47.76**	**308**	*e*P	**P**	**13 07 32.4**	**-0.3**
PV10				*e*pP	pP	13 07 47.3	+1.8
PV10				*e*sP	sP	13 07 51.9	+1.0
CFAA	**Coronel Fontan**	**47.87**	**189**	P	**P**	**13 07 32.1**	**-1.4**
	0.9nm,0.7s,mb3.9,baz=348,slow=8.1,SNR=21						
TUC	**Tucson**	**48.02**	**299**	*e*P	**P**	**13 07 34.8**	**0.0**
	13nm,0.8s,mb5.0						
LAO	**LASA Array**	**48.48**	**319**	*e*P	**P**	**13 07 37.4**	**-0.9**
	16nm,0.8s,mb5.1						
116A	**Eloy**	**48.83**	**299**	⇓P	**P**	**13 07 41.0**	**0.0**
	baz=49,SNR=5.5						
WUAZ	**Wupatki**	**48.99**	**303**	*e*P	**P**	**13 07 42.8**	**+0.5**
	37nm,0.7s,mb5.5						
WUAZ				*e*PcP	PcP	13 09 05.4	-0.3
WUAZ	**Wupatki**	**48.99**	**303**	P	**P**	**13 07 42.9**	**+0.6**
	baz=49,SNR=37						
SRU	**San Rafael**	**49.06**	**308**	*e*P	**P**	**13 07 42.8**	**+0.1**
	7.5nm,0.6s,mb4.9						
SRU				*e*PcP	PcP	13 09 03.6	-2.4
115A	**Sonoran Desert**	**49.28**	**300**	P	**P**	**13 07 45.0**	**+0.5**
	baz=49,SNR=9.9						
BW06	**Boulder Array**	**49.33**	**313**	*e*P	**P**	**13 07 44.4**	**-0.4**
PDAR	**Pinedale Array**	**49.33**	**313**	P	**P**	**13 07 44.6**	**-0.2**
	29nm,0.6s,mb5.5,baz=118,slow=9.6,SNR=286						
PDAR				LR	LR	13 26 47.2	
	comp=Z,168nm,21.2s,MS4.0,baz=93,slow=34						
X15A	**Humboldt**	**49.53**	**302**	P	**P**	**13 07 47.1**	**+0.8**
	baz=50,SNR=10						
TMUT	**Trail Mountain**	**49.62**	**308**	*e*P	**P**	**13 07 46.9**	**-0.1**
W15A	**Williams**	**49.66**	**303**	P	**P**	**13 07 48.5**	**+1.2**
	baz=50,SNR=5.6						
DAU	**Daniels Canyon**	**49.92**	**310**	*e*P	**P**	**13 07 48.7**	**-0.6**
Z14A	**Wintersburg**	**49.96**	**300**	⇑P	**P**	**13 07 50.2**	**+0.5**
	baz=50						
X14A	**Yava**	**50.06**	**302**	P	**P**	**13 07 51.1**	**+0.7**
	baz=50,SNR=12						
Y14A	**Wickenburg**	**50.08**	**301**	P	**P**	**13 07 50.9**	**+0.4**
	baz=50,SNR=17						
MPU	**Maple Canyon**	**50.10**	**309**	*e*P	**P**	**13 07 50.8**	**+0.1**
JLU	**Jordanelle**	**50.11**	**310**	*e*P	**P**	**13 07 51.2**	**+0.5**
MSU	**Marysvale**	**50.19**	**307**	*e*P	**P**	**13 07 51.7**	**+0.4**
W14A	**Seligman**	**50.32**	**303**	P	**P**	**13 07 53.3**	**+0.9**
	baz=50,SNR=7.1						
CTU	**Camp Tracy**	**50.35**	**310**	*e*P	**P**	**13 07 53.1**	**+0.5**
REDW	**Red Top Meadow**	**50.41**	**313**	*e*P	**P**	**13 07 53.0**	**0.0**
	14nm,0.6s,mb5.2						
NLU	**North Lily Min**	**50.42**	**309**	*e*P	**P**	**13 07 53.6**	**+0.5**

	baz=53						
K12A	Draper Farm, C	53.10	312	⇑P	P	13 08 13.3	+0.3
	baz=53						
O11A	Cowboy Ranch,	53.15	308	P	P	13 08 14.0	+0.6
	baz=53,SNR=34						
D14A	Greenough	53.29	317	P	P	13 08 14.6	+0.1
	baz=53,SNR=5.4						
N11A	Elko Archery C	53.33	309	⇓P	P	13 08 15.0	+0.2
	baz=53						
BBRC	Big Bear Sol-O	53.35	301	P	P	13 08 15.8	+0.9
	baz=53,SNR=6.2						
GSC	Goldstone	53.36	302	⇑P	P	13 08 15.2	+0.3
	baz=53						
J12A	Stokes Ranch,	53.38	312	⇑P	P	13 08 15.1	0.0
	baz=54						
109C	Camp Elliot, M	53.39	299	⇓P	P	13 08 15.2	0.0
	baz=53						
F13A	Darby	53.48	316	P	P	13 08 15.8	-0.1
	baz=54,SNR=5.1						
M11A	Holland Ranch,	53.49	310	P	P	13 08 16.4	+0.5
	baz=54,SNR=10						
H12A	Diamond D Ranc	53.51	314	⇓P	P	13 08 15.9	-0.2
	baz=54						
MURC	Murrieta	53.52	300	⇑P	P	13 08 16.5	+0.3
	baz=54						
FURC	Furnace Creek,	53.53	304	⇓P	P	13 08 16.5	+0.3
	baz=54						
E13A	Victor	53.56	316	P	P	13 08 16.9	+0.4
	baz=54,SNR=12						
C14A	Swan Lake	53.65	318	⇓P	P	13 08 17.6	+0.5
	baz=54						
P10A	Eureka	53.67	308	⇑P	P	13 08 17.9	+0.6
	baz=54						
O10A	Cortez Mining,	53.81	308	⇓P	P	13 08 18.3	0.0
	baz=54						
D13A	Huson	53.92	317	P	P	13 08 19.1	0.0
	baz=54,SNR=8.0						
R09A	Tonopah	53.93	306	P	P	13 08 19.5	+0.3
	baz=54,SNR=6.7						
MFID	Camas Ranch	53.93	312	⇓P	P	13 08 19.2	0.0
	baz=54						
BFSC	Mount Baldy St	53.96	301	⇓P	P	13 08 19.3	0.0
	baz=54						
S09A	Goldfield	53.98	305	P	P	13 08 19.7	+0.2
	baz=54,SNR=18						
MPMC	Manual Prospec	53.99	303	P	P	13 08 19.9	+0.3
	baz=54,SNR=5.7						
GRAC	Grapevine Rang	54.00	304	P	P	13 08 20.4	+0.7
	baz=54,SNR=6.7						
F12A	Elk City	54.09	315	⇑P	P	13 08 19.9	-0.4
	baz=54						
LRMC	Laurel Mountai	54.09	302	⇓P	P	13 08 20.4	+0.1
	baz=54						
DAC	Darwin (Calif)	54.10	303	*e*P	P	13 08 20.9	+0.5
	12nm,0.8s,mb4.9						
I11A	Placerville	54.13	313	P	P	13 08 20.4	-0.2
	baz=54,SNR=11						
C13A	Hot Springs	54.16	318	P	P	13 08 21.1	+0.3
	baz=54,SNR=5.6						
P09A	Austin	54.17	307	P	P	13 08 21.6	+0.6
	baz=54,SNR=5.5						
EDW2	Edwards Air Fo	54.28	302	⇑P	P	13 08 22.1	+0.4
	baz=54						
O09A	Fish Creek Ran	54.31	308	P	P	13 08 22.4	+0.5
	baz=54,SNR=18						
BSMT	Bassoo Peak	54.35	318	*e*P	P	13 08 22.5	+0.3
H11A	Donnelly	54.35	314	P	P	13 08 21.9	-0.4
	baz=54,SNR=5.8						
BMN	Battle Mountai	54.38	308	*e*P	P	13 08 22.6	+0.1
	18nm,0.9s,mb5.0						
A13A	Flathead Natio	54.43	319	⇓P	P	13 08 22.8	0.0
	baz=54						
FMP	Fort Macarthur	54.44	300	⇑P	P	13 08 23.0	+0.1
	baz=54						
CWC	Cottonwood Cre	54.51	304	⇑P	P	13 08 23.7	+0.4
	baz=55						
DECC	Green Verdugo	54.51	301	⇑P	P	13 08 23.4	0.0
	baz=55						
J10A	Berg Farm, Mel	54.60	312	P	P	13 08 24.1	+0.1
	baz=55,SNR=5.5						
N09A	Rock Creek Ran	54.67	309	P	P	13 08 24.8	+0.3
	baz=55,SNR=6.0						
Q08A	Gabbs	54.68	306	P	P	13 08 24.6	0.0
	baz=55,SNR=8.6						
G11A	Walters Elk Ra	54.69	315	⇑P	P	13 08 24.2	-0.5
	baz=55						
TIN	Tinemaha	54.69	304	⇑P	P	13 08 25.0	+0.3
	baz=55						
S08C	White Mtn Res	54.70	305	P	P	13 08 25.8	+1.1
	baz=55,SNR=19						
M09A	Marrel Ranch,	54.72	310	P	P	13 08 25.3	+0.4
	baz=55,SNR=7.0						
F11A	Grangeville	54.73	315	P	P	13 08 24.6	-0.4
	baz=55,SNR=11						
ISA	Isabella	54.75	303	⇑P	P	13 08 25.5	+0.4
	baz=55						
R08A	Mina	54.75	306	⇑P	P	13 08 25.5	+0.4
	baz=55						
H10A	Noah's Angus R	54.84	314	P	P	13 08 24.9	-0.8
	baz=55,SNR=13						
E11A	Bogner Ranch,	54.88	316	P	P	13 08 25.9	-0.2
	baz=55,SNR=16						
NVAR	Mina Array Bea	54.91	306	P	P	13 08 26.1	-0.2
	10nm,0.7s,mb5.0,baz=92,slow=6.2,SNR=61						
NVAR				PcP	PcP	13 09 27.7	-0.1
	1.9nm,0.7s,baz=111,slow=3.5,SNR=3.5						
L09A	Wilkinson Ranc	54.98	310	P	P	13 08 27.1	+0.3
	baz=55,SNR=16						
ARVC	Arvin	54.99	302	⇑P	P	13 08 27.5	+0.6
	baz=55						
B12A	Libby	55.04	318	⇓P	P	13 08 27.2	0.0
	baz=55						
N08A	GE Springer Mi	55.12	309	P	P	13 08 27.9	+0.1
	baz=55,SNR=8.8						
K09A	Rome	55.15	311	⇓P	P	13 08 27.8	-0.1
	baz=55						
EDM	Edmonton	55.24	324	*e*P	P	13 08 27.6	-1.1
VES	Vestal, Richgr	55.26	303	⇓P	P	13 08 28.9	+0.1
	baz=55						
BMO	Blue Mountains	55.28	314	*e*P	P	13 08 28.4	-0.6
	9.6nm,1.0s,mb4.8						
HELL	Mitchell Peak,	55.29	304	P	P	13 08 29.2	+0.2
	baz=55,SNR=14						
J09A	Fry Pan Ranch,	55.29	312	⇓P	P	13 08 29.4	+0.4
	baz=55						
Q07A	Schurz	55.37	306	⇓P	P	13 08 29.3	-0.3
	baz=55						
LIC	Lamto	55.39	93	*e*P	P	13 08 29.4	-0.3
	14nm,0.8s,mb4.8						
LIC	Lamto	55.39	93	*e*P	P	13 08 29.4	-0.3
	7.2nm,0.8s,mb4.8						
I09A	Lost Marbles R	55.41	313	⇓P	P	13 08 29.5	-0.4
	baz=56						
M08A	Happy Creek Ra	55.41	310	P	P	13 08 30.2	+0.3
	baz=56,SNR=6.8						
RCTC	Rector, Farmer	55.43	303	⇓P	P	13 08 30.1	+0.1
	baz=56						
H09A	Durkee	55.49	313	P	P	13 08 30.1	-0.4
	baz=56,SNR=11						
L08A	Fields	55.51	310	⇓P	P	13 08 30.9	+0.3
	baz=56,SNR=8.2						
KCC	Kaiser Creek	55.59	304	P	P	13 08 31.1	0.0
	baz=56,SNR=7.0						
O07A	Toulon	55.59	308	P	P	13 08 31.2	0.0
	baz=56,SNR=6.1						
A11A	Hall Mountain,	55.67	319	⇑P	P	13 08 32.3	+0.6
	baz=56						
G09A	Cove	55.70	314	P	P	13 08 31.8	-0.2
	baz=56,SNR=7.2						
N07B	Gerlach	55.75	309	⇑P	P	13 08 32.2	-0.1
	baz=56						
J08A	Circle Bar Ran	55.81	312	P	P	13 08 32.6	-0.2
	baz=56,SNR=7.0						
R06C	Coleville	55.82	306	P	P	13 08 33.9	+1.1
	baz=56,SNR=6.8						
T06C	Millerton Lake	55.87	304	⇑P	P	13 08 32.1	-1.0
	baz=56						
F09A	S2 Ranch, Elgi	55.88	315	⇓P	P	13 08 33.7	+0.4
	baz=56						
SMMC	Simmler	55.96	302	⇑P	P	13 08 34.4	+0.6
	baz=56						
C10A	Spilker Farm,	55.98	317	⇓P	P	13 08 33.6	-0.3
	baz=56						
I08A	Drewsey	55.98	312	⇓P	P	13 08 33.8	-0.1
	baz=56						
S06C	San Francisco	56.06	305	P	P	13 08 35.0	+0.4
	baz=56,SNR=7.2						
U05C	Westside ANR,	56.14	303	⇑P	P	13 08 34.5	-0.5
	baz=56						
H08A	Prairie City	56.17	313	P	P	13 08 35.3	0.0
	baz=56,SNR=14						
L07A	Adell	56.21	310	⇓P	P	13 08 35.8	+0.2
	baz=56						
O06A	Flanigan	56.31	308	⇓P	P	13 08 35.9	-0.5
	baz=56						
R05C	Kirkwood Meado	56.33	306	P	P	13 08 37.2	+0.8
	baz=56,SNR=11						
N06A	Buffalo Meadow	56.39	308	P	P	13 08 36.8	-0.1
	baz=56,SNR=7.5						
CMB	Columbia Colle	56.50	305	⇑P	P	13 08 37.3	-0.4
	baz=57						
G08A	Pilot Rock	56.52	314	⇑P	P	13 08 37.2	-0.6
	baz=57						
C09A	Chrisman Ranch	56.60	317	⇑P	P	13 08 38.1	-0.3
	baz=57						
B09A	Rice	56.67	318	⇓P	P	13 08 38.3	-0.6
	baz=57						
I07A	Izee	56.67	312	P	P	13 08 39.1	+0.2
	baz=57,SNR=5.2						
BEKR	Beckwourth	56.68	307	⇑P	P	13 08 38.7	-0.2
	baz=57						
V04C	Ramage Ranch,	56.69	302	⇓P	P	13 08 38.7	-0.3
	baz=57						
P05C	Yuba Gap, Truc	56.80	307	⇓P	P	13 08 39.1	-0.7
	baz=57						
H07A	Lands Inn, Kim	56.81	313	⇓P	P	13 08 39.7	-0.2
	baz=57						
LAVA	Lava Cap Winer	56.85	306	P	P	13 08 40.2	+0.1
	baz=57,SNR=8.5						
D08A	Wollman Farm,	56.86	316	⇓P	P	13 08 40.1	-0.1
	baz=57						
MOD	Modoc	56.90	310	⇓P	P	13 08 40.7	+0.2
	baz=57						
M06C	Likely Place G	56.94	309	⇑P	P	13 08 40.4	-0.3
	baz=57						
R04C	Big Horse Ranc	56.95	305	P	P	13 08 41.9	+1.0
	baz=57,SNR=9.2						
J06A	Christmas Vall	57.00	311	⇓P	P	13 08 40.5	-0.7
	baz=57						
K06A	Valley Falls	57.00	311	⇑P	P	13 08 41.0	-0.2
	baz=57						
G07A	Ruggs Ranch, H	57.01	314	⇑P	P	13 08 40.6	-0.6
	baz=57						
SJPF	Ste Jean	57.06	49	*e*P	P	13 08 42.9	+1.2
	19nm,0.9s,mb4.8						
SJPF	Ste Jean	57.06	49	*e*P	P	13 08 42.9	+1.2
	9.4nm,0.9s,mb4.8						
A09A	Danville	57.09	318	P	P	13 08 41.6	-0.3
	baz=57,SNR=6.2						
C08A	Higginbotham F	57.11	317	⇑P	P	13 08 41.4	-0.6
	baz=57						
O05C	Quincy	57.12	307	⇑P	P	13 08 41.5	-0.5
	baz=57						
PACP	Pacheco Peak	57.12	304	⇑P	P	13 08 41.8	-0.3
	baz=57						
I06A	Prineville	57.15	312	⇓P	P	13 08 41.7	-0.6
	baz=57						
PLCA	Paso Flores	57.17	189	P	P	13 08 41.2	-1.2
	8.9nm,0.8s,mb4.8,baz=6.5,slow=5.8,SNR=14						
PLCA	Paso Flores	57.17	189	P	P	13 08 41.2	-1.2
S04C	Ingram Canyon,	57.20	304	⇓P	P	13 08 42.3	-0.3
	baz=57						
HAST	UC Hastings Re	57.29	303	⇓P	P	13 08 42.6	-0.7
	baz=57						
F07A	Phinny Hill Vi	57.30	315	⇑P	P	13 08 43.1	-0.3
	baz=57						
H06A	Lindquist Farm	57.38	313	⇑P	P	13 08 43.2	-0.7
	baz=57						
E07A	Sunnyside	57.38	315	⇓P	P	13 08 43.7	-0.3
	baz=58						
B08A	Colville Reser	57.42	318	⇓P	P	13 08 44.1	-0.1
	baz=58						
K05A	Summer Lake	57.45	311	⇑P	P	13 08 44.9	+0.4
	baz=58						
M05C	Lookout	57.46	309	⇓P	P	13 08 44.2	-0.2
	baz=58						
ORV	Oroville	57.52	307	P	P	13 08 45.1	+0.2
	baz=58,SNR=8.0						
A08A	Turner Farm, O	57.52	318	⇑P	P	13 08 44.3	-0.6
	baz=58						
WENL	Wente Brothers	57.55	305	⇓P	P	13 08 45.7	+0.6
	baz=58						
D07A	Quincy	57.59	316	⇓P	P	13 08 45.3	-0.1
	baz=58						
HATC	Hat Creek Radi	57.63	308	⇓P	P	13 08 45.8	+0.1
	baz=58						
G06A	Carlson Farm,	57.67	314	⇑P	P	13 08 46.5	+0.6
	baz=58						
J05A	Fort Rock	57.78	311	⇑P	P	13 08 47.3	+0.6
	baz=58						
Q03C	Winters	57.83	306	⇑P	P	13 08 47.7	+0.6
	baz=58						
O03C	Acorn Hollow,	57.97	307	⇑P	P	13 08 47.5	-0.5
	baz=58						
H05A	Madras	57.99	313	⇓P	P	13 08 48.9	+0.7
	baz=58						
M04C	Macdoel	58.02	309	⇓P	P	13 08 49.0	+0.5
	baz=58						
K04A	Chilquin	58.05	310	⇓P	P	13 08 48.8	+0.2
	baz=58						
L04A	Klamath Falls	58.11	310	⇑P	P	13 08 49.3	+0.3
	baz=58						
E06A	Yakima	58.14	315	⇓P	P	13 08 50.6	+1.4
	baz=58						
CVS	Carmenet Viney	58.15	305	⇓P	P	13 08 49.5	+0.2
	baz=58						
MNRC	McLaughlin Nat	58.19	306	⇓P	P	13 08 49.5	0.0
	baz=58						
A07A	Ashnola River,	58.26	318	⇑P	P	13 08 50.3	+0.3
	baz=58						
MFF	Saint Martin d	58.41	45	*e*P	P	13 08 51.1	0.0
J04A	Umpqua Nationa	58.41	311	⇓P	P	13 08 51.4	+0.3
	baz=58						
YBH	Yreka Blue Hor	58.67	309	*e*P	P	13 08 51.6	-1.3
	4.7nm,0.6s,mb4.7						
YBH	Yreka Blue Hor	58.67	309	⇓P	P	13 08 51.5	-1.4
	baz=59						
H04A	Detroit Lake	58.67	313	⇑P	P	13 08 53.0	+0.1
	baz=59						
M02C	Callahan	58.74	309	⇓P	P	13 08 52.1	-1.3
	baz=59						
B05A	Bryant	59.21	317	⇓P	P	13 08 54.9	-1.8
	baz=59						
O01C	Eel River Cons	59.35	307	⇓P	P	13 08 56.6	-1.0
	baz=59						
YKA	Yellowknife Ar	59.61	334	P	P	13 08 58.0	-1.4
	20nm,0.6s,mb5.3,baz=107,slow=7.5,SNR=352						
YKA				LR	LR	13 32 08.4	
	comp=Z,120nm,18.4s,MS4.1,baz=5.0,slow=33						
YKA	Yellowknife Ar	59.61	334	P	P	13 08 58.0	-1.4
YKA				LR	LR	13 32 08.4	
YKW3	Yellowknife Ar	59.64	334	*e*P	P	13 08 58.2	-1.4
B04A	Port Angeles	60.10	317	⇑P	P	13 09 02.5	-0.3
	baz=60						
TORD	Torodi Ar. Bea	60.31	84	P	P	13 09 03.7	-0.5
	1.3nm,0.7s,mb4.0,baz=276,slow=5.6,SNR=7.1						
TORD				pP	pP	13 09 16.9	-0.5
	1.5nm,0.8s,baz=278,slow=6.7,SNR=4.9						
AVF	Avril sur Loir	60.82	45	*e*P	P	13 09 07.6	-0.1
	19nm,1.1s,mb4.8						
AVF	Avril sur Loir	60.82	45	*e*P	P	13 09 07.6	-0.1
	9.4nm,1.1s,mb4.8						
SSF	Saint Saulge	60.96	45	*e*P	P	13 09 08.5	-0.1
LOR	Lormes	61.22	45	*e*P	P	13 09 10.0	-0.4
	12nm,0.9s,mb4.7						
LOR	Lormes	61.22	45	*e*P	P	13 09 10.0	-0.4
	5.8nm,0.9s,mb4.7						
KEST	Kesra	64.81	58	P	P	13 09 34.6	+0.4
	2.7nm,0.7s,mb4.4,baz=355,slow=4.4,SNR=5.1						
NB2	NORSAR Subarra	67.41	30	P	P	13 09 42.4	-8.5
	comp=Z,6.4nm,0.9s,mb4.7,baz=260,slow=6.5						
NOA	NORSAR Array B	67.41	30	P	P	13 09 50.7	-0.2
	comp=Z,2.9nm,0.8s,mb4.3,baz=261,slow=6.0,SNR=5.4						
NOA	NORSAR Array B	67.41	30	P	P	13 09 50.7	-0.2
GERES	GERESS Array B	67.92	43	P	P	13 09 53.2	-0.9
	comp=Z,0.9nm,0.6s,mb4.0,baz=289,slow=4.1,SNR=7.9						
GERES				pP	pP	13 10 07.1	-0.4
	comp=Z,0.7nm,0.6s,baz=266,slow=8.8,SNR=2.6						
HFS	Hagfors	68.52	31	P	P	13 09 57.4	-0.5
	comp=Z,5.1nm,0.9s,mb4.4,baz=251,slow=4.5,SNR=6.1						
INK	Inuvik	68.89	338	*e*P	P	13 09 58.9	-1.3
	comp=Z,422nm,0.6s						
DAWY	Dawson	70.78	333	*e*P	P	13 10 11.5	-0.3
EGAK	Eagle	71.57	334	*e*P	P	13 10 15.9	-0.7
	comp=Z,5.6nm,0.6s,mb4.7						
ARCES	ARCESS Array B	73.83	21	P	P	13 10 29.5	-0.5
	comp=Z,6.1nm,0.8s,mb4.6,baz=270,slow=5.4,SNR=9.6						
ARCES				pP	pP	13 10 42.2	-1.3
	comp=Z,5.6nm,1.0s,baz=274,slow=3.5,SNR=2.4						
FINES	FINESS Array B	74.59	30	P	P	13 10 33.8	-0.6
	comp=Z,2.3nm,0.4s,mb4.4,baz=279,slow=5.1,SNR=15						
BURAR	Bucovina Array	75.67	44	⇓*i*P	P	13 10 41.5	+0.8
MLR	Muntele Rosu	76.49	46	P	P	13 10 45.7	+0.4
	comp=Z,5.3nm,1.0s,mb4.4,baz=200,slow=12,SNR=5.2						
MLR	Muntele Rosu	76.49	46	⇑*i*P	P	13 10 46.3	+1.0
AKASG	Malin Array Be	77.78	41	P	P	13 10 52.5	-0.1
	comp=Z,0.3nm,0.3s,mb3.8,baz=262,slow=6.2,SNR=4.1						
BRTR	Keskin Array B	83.25	51	P	P	13 11 21.7	-0.2
	comp=Z,2.5nm,0.8s,mb4.3,baz=265,slow=3.9,SNR=12						
TSUM	Tsumeb	84.59	112	P	P	13 11 29.0	+0.3
	comp=Z,3.4nm,0.8s,mb4.5,baz=272,slow=7.6,SNR=5.8						
AKTK	Aktyubinsk	94.90	34	P	P	13 12 17.2	-0.3
AKTO	Aktyubinsk	94.90	34	P	P	13 12 17.2	-0.3
	comp=Z,1.4nm,0.7s,mb4.5,baz=318,slow=2.7,SNR=6.8						
WMQ	Urumqi	113.84	24	*e*PDIF	Pdif	13 13 41.8	-0.2
WMQ				*e*PKP	PKiKP	13 17 32.6	-1.3
WMQ				PKS		13 21 07.0	
WMQ				SKKS	SKKSac	13 25 20.3	-5.2
WMQ				S	Sdif	13 26 07.8	+0.9
WMQ				PP	PP		
	comp=Z,266nm,5.0s						
WMQ				LR	LR		
	comp=N,766nm,26.0s,MS5.2						
WMQ				LR	LR		
	comp=E,268nm,23.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,659nm,23.0s,MS5.2						
HHC	Hu-ho-hao-te	123.00	7	*e*PKP	PKPdf	13 17 47.6	-3.9
HHC				PP	PP		
	comp=Z,174nm,8.9s						
HHC				LR	LR		
	comp=N,654nm,22.6s,MS5.5						
HHC				LR	LR		
	comp=E,969nm,21.4s,MS5.5						
HHC				LR	LR		
	comp=Z,578nm,27.9s						
BJI	Beijing	124.18	3	PKP	PKPdf	13 17 54.1	+0.3
BJI				PP	PP	13 19 44.3	+5.5
BJI				LR	LR		
	comp=N,503nm,17.3s,MS5.3						
BJI				LR	LR		
	comp=E,265nm,19.7s,MS5.3						
BJI				LR	LR		
	comp=Z,643nm,32.4s						
MJAR	Matsushiro Arr	124.76	341	PKP	PKPdf	13 17 54.0	-0.8
	comp=Z,2.0nm,0.6s,baz=76,slow=1.7,SNR=8.0						
LZH	Lanzhou	126.19	15	*e*PKP	PKPdf	13 17 55.0	-2.6
LZH				PP	PP		
	comp=Z,105nm,4.4s						
LZH				LR	LR		
	comp=E,537nm,16.9s						
LZH				LR	LR		
	comp=Z,746nm,18.9s,MS5.4						
KSRS	Korea Array	126.21	351	PKP	PKPdf	13 17 57.2	-0.5
	comp=Z,1.0nm,0.7s,baz=328,slow=2.5,SNR=3.9						
CD2	Chengdu	131.04	18	*e*PKP	PKPdf	13 18 03.5	-3.3
CD2				PP	PP		
	comp=Z,180nm,10.8s						
KMI	Kunming	136.08	22	PKP	PKPdf	13 18 15.1	-1.2
CNB	Canberra Magne	146.93	229	*e*PKP	PKPdf	13 18 38.0	+2.3
	comp=Z,54nm,1.4s						
ARMA	Armidale	147.10	238	*e*PKP	PKPdf	13 18 39.1	+3.2
STKA	Stephens Creek	154.25	228	*e*PKP	PKPbc	13 18 55.0	-0.2
	comp=Z,5.2nm,1.1s						
STKA	Stephens Creek	154.25	228	PKPbc	PKPbc	13 18 54.9	-0.4
	comp=Z,4.0nm,0.7s,baz=125,slow=2.2,SNR=8.9						
STKA				PKPab	PKPab	13 19 08.1	-1.2
	comp=Z,2.7nm,0.8s,baz=82,slow=5.0,SNR=4.7						
ASAR	Alice Springs	164.25	239	PKP	PKPdf	13 18 57.4	-1.2
	comp=Z,0.7nm,0.9s,baz=103,slow=1.7,SNR=6.4						
ASAR				PKPab	PKPab	13 19 52.0	-0.7
	comp=Z,0.9nm,0.6s,baz=114,slow=3.9,SNR=10						
WRA	Warramunga Arr	165.12	252	PKP	PKPdf	13 18 58.6	-0.7
	comp=Z,1.8nm,1.0s,baz=83,slow=0.7,SNR=13						
WRA				PKPab	PKPab	13 19 56.2	-0.3
	comp=Z,1.8nm,0.9s,baz=100,slow=4.3,SNR=8.6						

ISCJB ***15*** *13:19:04.8±0.3, 1378N±004×5158E±002, h10km, mb4.7/94, MS4.7/38, Error ellipse: s-maj=5.5km s-min=2.9km az=161.3*

CSEM ***15*** *13:19:04.3±0.1, 1363N×5151E, h10km, mb4.9/15, Mw5.4, Error ellipse: s-maj=4.1km s-min=1.7km az=167.0*

MOS ***15*** *13:19:04.7±0.9, 1378N×5162E, h10km, mb5.0/36, MS4.7/10, Error ellipse: s-maj=9.1km s-min=4.6km az=103.9*

IDC ***15*** *13:19:05.1±0.5, 1380N×5174E, h0km, mb4.4/31, mb1 4.5/31, mb1mx4.5/34, mbtmp4.4/31, MS4.6/28, Ms1 4.6/28, ms1mx4.5/32, Error ellipse: s-maj=14.1km s-min=10.3km az=98.0*

GCMT ***15*** *13:19:06.6±0.2, 1394N×5153E, h24km, MW5.4/85, Moment Tensor Solution. s74,c117; s85,c168; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.03; $M_{\theta\theta}$1.28±.03; $M_{\phi\phi}$-1.18±.03; $M_{r\theta}$-0.28±.04; $M_{\theta\phi}$1.24±.03; $M_{\phi r}$0.36±.05; Best double couple: $M_0$1.80800×10^{17} NP1:ϕ_s203.00000°,δ77.00000°, λ-172.00000°. NP2:ϕ_s112.00000°,δ82.00000°, λ-13.00000°. Principal axes: T 1.8050, Plg4.0000°, Azm158.0000°; N 0.0030, Plg75.0000°, Azm262.0000°; P -1.8120, Plg15.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *13:19:06.6±0.2, 1382N×5166E, h10km, mb4.8/31 Error ellipse: s-maj=6.3km s-min=5.3km az=88.0*

BJI ***15*** *13:19:06.6, 1380N×5170E, h10km, mB4.9, mb4.9, Ms4.8, Msz4.5*

DHMR ***15*** *13:19:07.3±2.4, 1366N×5149E, h10km, mb5.6, ML5.4*

ISC 15 13:19:07.0±0.3**, 1384N**±004×**5161E**±002**, h10**km**,**
(h18km±2.5km**:pP-P), n260,** σ**1s06**/251**, mb4.7**/94**, MS4.7**/38**,**
26C-10D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUKL	Al Mukalla	2.58	285	AML	AML	13 20 16.7	
	comp=N,42μm,0.5s						
ABTO	Aybut	3.86	25	⇓P	Pn	13 20 04.4	-2.0
	SNR=107						
RBK	Rabkut	4.42	34	⇑P	Pn	13 20 12.9	-1.2
	SNR=165						
RBK	Rabkut	4.42	34	P	Pn	13 20 12.9	-1.2
	SNR=165						
WHFO	Wadi Hawf	4.56	27	P	Pn	13 20 14.4	-1.7
	SNR=53						
SHAO	Shalim	5.68	42	P	Pn	13 20 30.5	-1.0
	SNR=21						
BDHA	Al Bayda'	5.87	272	⇓*i*P	Pn	13 20 33.6	-0.4
BDHA				*i* S	Sn	13 21 40.0	-1.4
LBOS		6.18	271	⇓*i*P	Pn	13 20 37.8	-0.5
LBOS				*i* S	Sn	13 21 47.2	-1.8
ADEN	Aden	6.54	261	*i* P	Pn	13 20 40.6	-2.6
ADEN				*i* S	Sn	13 21 55.2	-2.6
DHBB	Dhamar BB	7.04	277	*i* P	Pn	13 20 50.0	-0.1
DHBB				*i* S	Sn	13 22 09.9	-0.3
TRBA	At Turbah	7.31	266	*i* P	Pn	13 20 52.8	-1.1
TRBA				AMb	AMB	13 20 53.0	
	comp=Z,69nm,0.3s						
TRBA				*i* S	Sn	13 22 15.4	-1.6
TRBA	At Turbah	7.31	266	*i* P	Pn	13 20 52.8	-1.1
	comp=Z,34nm,0.3s						
TRBA				*i* S	Sn	13 22 15.4	-1.6
UDYN	Al 'Udayn	7.42	272	⇑*i*P	Pn	13 20 54.1	-1.3
UDYN				*i* S	Sn	13 22 18.9	-0.8
HAJJ	Hajjah	7.97	284	*i* P	Pn	13 21 03.0	+0.1
HAJJ				*i* S	Sn	13 22 32.7	-0.4
BSY	Bisya	10.33	30	⇑P	Pn	13 21 33.8	-1.4
	SNR=12						
BSYO	Bisya	10.33	30	P	Pn	13 21 33.8	-1.5
	SNR=12						
JMDO	Jabal Madar	10.49	35	⇑P	Pn	13 21 35.7	-1.7
	SNR=9.3						
SMDO	Samad	11.02	33	P	Pn	13 21 41.8	-2.8
	SNR=22						
HOQ	Hoqain	11.09	28	⇓P	Pn	13 21 44.3	-1.4
WBK	Wadi Bani Khal	11.18	38	⇑P	Pn	13 21 45.5	-1.4
	SNR=6.7						
BIDO	Bidbid	11.44	32	⇓P	Pn	13 21 48.7	-1.7
	SNR=21						
HATD	Hatta, Dubai	11.73	21	⇓P	Pn	13 21 53.4	-1.1

SNR=9.9
BANOM **Banah** 12.80 19 ⇓P Pn 13 22 07.8 -1.3
SNR=47
BHJ **Bhuj** 19.48 59 eP Pn 13 23 33.2 -2.1
BHJ AMb AMB 13 23 40.6
comp=Z,92nm,1.4s
BHD **Baghdad** 20.43 342 ex x 13 23 44.0
BHD ex x 13 27 36.0
BHD ex x 13 28 32.0
BHD ex x 13 30 34.0
KMBO **Kilima Mbogo** 20.58 225 P P 13 23 46.4 +0.3
comp=Z,18nm,0.8s,baz=42,slow=14,SNR=42
KMBO LR LR 13 32 31.6
comp=Z,2μm,18.7s,MS4.5,baz=48,slow=39
KMBO **Kilima Mbogo** 20.58 225 P P 13 23 46.3 +0.3
BOM **Bombay** 20.95 73⇑eP P 13 23 49.8 -0.2
BOM ex x 13 24 00.5
comp=Z,364nm,3.2s
BOM ex x 13 27 47.8
POO **Poona** 21.86 75 eP P 13 24 00.5 +0.8
POO AMb AMB 13 24 13.1
comp=Z,89nm,1.4s,mb5.0
KAD **Karad** 22.01 78 eP P 13 24 02.2 +0.8
KAD AMb AMB 13 24 05.6
comp=Z,80nm,1.9s,mb4.8
EIL **Elat** 22.04 318 eP P 13 24 00.6 -1.1
comp=Z,438nm,1.0s,mb5.8
EIL **Elat** 22.04 318 eP P 13 24 00.6 -1.1
comp=Z,438nm,1.0s,mb5.8
MNGI **Mangalore** 22.60 90 ex x 13 24 53.9
ASF **Jabal al Asfar** 22.68 326 P P 13 24 09.5 +0.9
comp=Z,7.6nm,0.9s,mb4.1,baz=15,slow=4.8,SNR=9.3
ASF LR LR 13 33 15.9
comp=Z,4μm,19.4s,MS4.8,baz=192,slow=37
MSL **Mosul** 23.63 343 ex x 13 24 22.0
MSL i x x 13 24 28.5
MSL ex x 13 28 37.5
MSL ex x 13 29 31.5
MSL ex x 13 32 34.0
MSL ex x 13 34 37.0
MMAI **Mount Meron Ar** 24.14 325 P P 13 24 24.8 +1.7
comp=Z,8.6nm,0.8s,mb4.2,baz=124,slow=10,SNR=9.2
MMAI LR LR 13 34 10.3
comp=Z,2μm,18.1s,MS4.7,baz=125,slow=37
CUKT **Cukurca** 24.38 344 eP P 13 24 25.6 +0.2
HAKT **HAKKARI** 24.65 345 i P P 13 24 28.5 +0.8
BHL **Bhannes** 24.67 327 eP P 13 24 27.1 -0.9
SIRT **Sirnak** 24.95 343 eP P 13 24 32.0 +1.6
AJM **Ajmer** 24.96 56 eP P 13 24 31.9 +1.3
AJM AMb AMB 13 24 40.4
comp=Z,35nm,0.9s,mb4.9
AKL **Akola** 25.18 71 eP P 13 24 32.0 -0.6
AKL AMb AMB 13 24 49.4
comp=Z,29nm,0.8s,mb4.9
MARD **Mardin** 25.30 339 i P P 13 24 35.1 +1.4
TRD **Trivandrum** 25.41 99 i x x 13 29 14.4
VANB **Van** 25.71 345 eP P 13 24 41.2 +3.8
URFA **Urfa** 26.13 336 eP P 13 24 43.2 +2.1
BHPL **Bhopal** 26.16 65 eP P 13 24 42.5 +1.0
BHPL AMb AMB 13 24 51.7
comp=Z,42nm,1.2s,mb4.8
HYB **Hyderabad** 26.18 79 i P P 13 24 42.0 +0.3
HYB eS S 13 29 12.0 -1.5
HYB **Hyderabad** 26.18 79 eP P 13 24 42.0 +0.3
GZT **Gaziantep** 26.56 334 i P P 13 24 45.0 -0.1
AGRB **Hanur-Agry** 26.74 345 eP P 13 24 45.6 -1.1
GNI **Garni** 26.90 348 P P 13 24 49.9 +1.8
comp=Z,20nm,0.8s,mb4.7,baz=356,slow=2.2,SNR=6.7
GNI LR LR 13 36 37.7
comp=Z,3μm,18.9s,MS4.9,baz=174,slow=39
GNI **Garni** 26.90 348c iP P 13 24 48.6 +0.5
GNI pmax pmax
comp=Z,34nm,1.0s
ELZG **Elazig** 26.99 338 i P P 13 24 57.0 +8.0
NGP **Nagpur** 27.13 71 eP P 13 24 51.0 +0.7
NGP AMb AMB 13 25 04.4
comp=Z,24nm,1.4s,mb4.5
PTK **Pertek** 27.19 339 eP P 13 24 53.1 +2.3
ERZM **Erzurum** 27.48 343 i P P 13 24 53.6 +0.1
EZM **Erzurum** 27.49 343 eP P 13 24 55.0 +1.6
MDRS **Chennai** 27.86 88 ex x 13 26 08.7
NDI **New Delhi** 27.98 54 eP P 13 24 57.2 -0.6
NDI AMb AMB 13 25 07.3
comp=Z,26nm,1.2s,mb4.7
DGRG **David-gareji** 28.04 350 P P 13 25 05.1 +6.7
MTA **Mtatsminda** 28.38 349 P P 13 25 01.2 -0.2
JBP **Jabalpur** 28.41 67 eP P 13 25 01.5 -0.2
JBP ex x 13 25 44.6
comp=Z,12nm,2.7s
JBP ex x 13 29 43.2
ONI **Oni** 29.50 348 P P 13 25 12.3 +1.0
ZEI **Tsey** 29.59 348 eP P 13 25 14.1 +1.9
ZEI i 13 25 22.8
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.6
ZEI **Tsey** 29.59 348 eP P 13 25 14.1 +1.9
comp=Z,11nm,0.9s,mb4.6
BRTR **Keskin Array B** 30.25 332 P P 13 25 19.1 +1.2
comp=Z,3.2nm,0.8s,mb4.1,baz=151,slow=11,SNR=11
BRTR LR LR 13 39 52.7
comp=Z,948nm,18.3s,MS4.5,baz=138,slow=41
BRTR **Keskin Array B** 30.25 332 P P 13 25 19.1 +1.1
ANTO **Ankara** 30.75 331 eP P 13 25 23.7 +1.2
ANTO pmax pmax
comp=Z,68nm,1.4s,mb5.3
ANTO **Ankara** 30.75 331 eP P 13 25 23.6 +1.2
comp=Z,68nm,1.4s,mb5.3
ANTO **Ankara** 30.75 331⇑iP P 13 25 24.4 +1.9
ANTO **Ankara** 30.75 331 i P P 13 25 23.8 +1.3
SHAR **Shatzhatmas** 30.77 347 eP P 13 25 24.3 +1.7
PYA **Pyatigorsk** 30.97 348 eP P 13 25 26.0 +1.6
KIV **Kislovodsk** 30.97 347αeP P 13 25 26.0 +1.6
KIV e 13 26 29.9
KIV eS S 13 30 38.0 +9.1
KIV pmax pmax
comp=Z,38nm,1.8s,mb4.9
KIV MLR MLR
comp=Z,2μm,18.0s,MS4.9
KIV **Kislovodsk** 30.97 347 eP P 13 25 27.1 +2.7
comp=Z,28nm,1.1s,mb5.0
SOC **Sochi** 31.35 343 eP P 13 25 27.1 -0.6
SOC eS S 13 30 29.4 -5.5
SOC MLR MLR
comp=Z,2μm,14.0s,MS4.8
ESKT **Eskisehir** 31.44 328 i P P 13 25 30.1 +1.6
SEYT **Eskypehyr** 31.44 328 i P P 13 25 30.1 +1.6
IDI **Anoyia** 32.17 316 LR LR 13 38 55.4
comp=Z,1μm,20.7s,MS4.5,baz=119,slow=37
OPO **Ambohidratompo** 32.49 188 P P 13 25 38.8 +1.0
comp=Z,18nm,1.0s,mb4.8,baz=358,slow=6.3,SNR=14
KOLN **Koldanda** 32.84 60 eP P 13 25 41.8 +1.0
comp=Z,98nm,1.1s,mb5.7
ANN **Anapa** 33.14 341 eP P 13 25 36.2 -7.2
ANN pmax pmax
comp=Z,24nm,1.3s,mb5.0
GKN **Gorkha** 33.79 60 eP P 13 25 49.4 +0.3
comp=Z,58nm,0.9s,mb5.5
BOK **Bokaro** 33.84 68 eP P 13 25 50.6 +1.1
BOK AMb AMB 13 25 59.2
comp=Z,22nm,1.3s,mb4.9
DMN **Daman** 34.07 61 eP P 13 25 52.0 +0.5
comp=Z,68nm,1.1s,mb5.5
KKN **Kakani** 34.27 61 eP P 13 25 53.8 +0.6
comp=Z,54nm,0.6s,mb5.7
PKI **Pulchoki** 34.31 61 eP P 13 25 54.0 +0.4
comp=Z,26nm,0.5s,mb5.4
GUN **Gumba** 34.81 61 eP P 13 25 58.3 +0.4
FRU **Bishkek** 35.05 30 eP P 13 26 02.0 +2.0
CAL **Calcutta** 35.87 71 ex x 13 27 36.5
CAL ex x 13 31 56.2
AB31 **Akbulak array** 35.98 9 iP P 13 26 08.5 +0.5
AB31 pmax pmax
comp=Z,25nm,1.1s,mb5.1
TIRR **Tirgusor** 36.37 332 eP P 13 26 11.3 0.0
TIRR pmax pmax
comp=Z,32nm,1.3s,mb5.1
TIRR **Tirgusor** 36.37 332 eP P 13 26 11.3 0.0
comp=Z,32nm,1.3s,mb5.1
TIRR **Tirgusor** 36.37 332⇑iP P 13 26 11.9 +0.6
TIRR **Tirgusor** 36.37 332 i P P 13 26 10.4 -0.9
AKTK **Aktyubinsk** 36.87 7 P P 13 26 16.1 +0.5
AKTO **Aktyubinsk** 36.87 7 P P 13 26 16.1 +0.5
comp=Z,13nm,0.9s,mb4.8,baz=198,slow=8.9,SNR=42
LSZ **Lusaka** 37.06 220 P P 13 26 18.0 +0.8
comp=Z,5.3nm,0.8s,mb4.4,baz=34,slow=9.5,SNR=14
ORR **Orenburg** 37.77 3 P P 13 26 23.9 +0.7
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.0
KIS **Kishinev** 38.17 335 eP P 13 26 35.0 +8.4
KIS LRM 13 41 12.0
comp=Z,800nm,16.0s
MLR **Muntele Rosu** 38.30 331 P P 13 26 28.6 +0.9
comp=Z,3.4nm,0.5s,mb4.3,baz=98,slow=0.9,SNR=8.0
MLR **Muntele Rosu** 38.30 331⇑iP P 13 26 30.9 +3.2
VOIR **Voir** 38.69 330⇑iP P 13 26 33.0 +2.0
SHL **Shillong** 39.52 67 ex x 13 23 50.4
BURAR **Bucovina Array** 40.21 332⇑iP P 13 26 45.2 +1.6
MATP **Matopo** 40.93 214 P P 13 26 49.5 -0.1
comp=Z,8.8nm,0.8s,mb4.4,baz=28,slow=8.9,SNR=22
AKASG **Malin Array Be** 41.01 338 P P 13 26 50.4 +0.1
comp=Z,11nm,0.8s,mb4.5,baz=146,slow=7.1,SNR=19
AKASG PP PP 13 28 27.4 +2.6
comp=Z,4.7nm,0.9s,baz=140,slow=10,SNR=8.6
AKASG LR LR 13 47 25.3
comp=Z,630nm,19.5s,MS4.5,baz=195,slow=41
AKASG **Malin Array Be** 41.01 338 P P 13 26 50.4 +0.1
AKASG 13 28 27.4
KIEV **Kiev** 41.01 338 eP P 13 26 50.3 0.0
KIEV pmax pmax
comp=Z,48nm,1.4s,mb4.9
KIEV **Kiev** 41.01 338 eP P 13 26 50.3 0.0
comp=Z,48nm,1.4s,mb4.9
KIEV **Kiev** 41.01 338 i P P 13 26 50.0 -0.3
MK31 **Makanchi Array** 41.70 32 i P P 13 26 56.2 +0.3
MK31 pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
MK31 **Makanchi Array** 41.70 32 eP P 13 26 55.8 -0.1
MKAR **Makanchi Array** 41.70 32 P P 13 26 56.1 +0.2
comp=Z,6.9nm,0.5s,mb4.5,baz=217,slow=6.2,SNR=14
MKAR LR LR 13 46 33.7
comp=Z,618nm,19.1s,MS4.5,baz=63,slow=40
MKAR **Makanchi Array** 41.70 32 P P 13 26 56.2 +0.3
MKAR pmax pmax
comp=Z,4.0nm,0.5s
BRVK **Borovoye** 41.85 17 eP P 13 26 57.4 +0.2
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.5
BRVK **Borovoye** 41.85 17 eP P 13 26 57.4 +0.2
comp=Z,11nm,0.9s,mb4.5
BVA0 **Borovoye Array** 41.85 17 i P P 13 26 57.5 +0.3
BVA0 pmax pmax
comp=Z,7.0nm,1.9s,mb4.0
BVAR **Borovoye Array** 41.85 17 P P 13 26 57.2 0.0
comp=Z,2.5nm,0.5s,mb4.1,baz=184,slow=6.7,SNR=17
BVAR LR LR 13 46 02.2
comp=Z,1μm,19.5s,MS4.8,baz=138,slow=39
UZH **Uzhgorod** 42.30 331 eP P 13 26 52.8 -8.0
LVV **L'vov** 42.38 334 eP P 13 27 06.3 +4.8
CHKZ **Chkalovo** 42.49 17 P P 13 27 03.0 +0.6
CHKZ pmax pmax
comp=Z,46nm,2.1s,mb4.7
KOLS **Kolonicke sedl** 42.52 331 eP P 13 27 03.8 +1.2
KURK **Kurchatov** 42.81 25 eP P 13 27 05.3 +0.3
KURK **Kurchatov** 42.81 25 eP P 13 27 04.7 -0.3
comp=Z,13nm,1.1s,mb4.6
OBN **Obninsk** 42.82 347⇑eP P 13 27 05.5 +0.4
OBN pmax pmax
comp=Z,41nm,1.8s,mb4.9
OBN MLR MLR
comp=Z,1μm,19.0s,MS4.7
ARU **Arti** 42.84 6⇑iP P 13 27 05.7 +0.5
ARU e 13 28 43.0
ARU ePPP 13 29 23.6
ARU eS S 13 33 34.8 +5.2
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.5
CRVS **Cervenica-Dubn** 42.88 331 eP P 13 27 06.6 +1.1
WMQ **Urumqi** 42.93 39 eP P 13 27 08.0 +2.0
KECS **Kecovo** 43.06 330 eP P 13 27 06.9 -0.1
KECS pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
KECS **Kecovo** 43.06 330 eP P 13 27 06.9 -0.1
comp=Z,2.4nm,1.1s,mb3.8
MOS **Moscow** 43.19 348 eP P 13 27 08.1 0.0
MOS e 13 28 54.3
MOS pmax pmax
comp=Z,83nm,1.5s,mb5.2
MOS MLR MLR
comp=Z,1μm,16.0s,MS4.9
STHS **Stebnicka Huta** 43.34 331 eP P 13 27 10.5 +1.2
STHS pmax pmax
comp=Z,11nm,1.2s,mb4.5
STHS **Stebnicka Huta** 43.34 331 eP P 13 27 10.5 +1.2
comp=Z,11nm,1.2s,mb4.5
KEST **Kesra** 43.69 308 P P 13 27 13.6 +1.5
comp=Z,1.8nm,0.9s,mb3.8,baz=128,slow=9.1,SNR=2.6
KEST LR LR 13 45 30.9
comp=Z,519nm,19.6s,MS4.5,baz=331,slow=36
VYHS **Vyhne** 43.89 329 eP P 13 27 13.5 -0.2
BOJS **Bojanci** 44.02 323 eP P 13 27 15.4 +0.7
CRES **Cresnjev** 44.08 324 i P P 13 27 16.1 +0.9
VISS **Visnje** 44.43 323 i P P 13 27 18.4 +0.4
VNDS **Vrh nad Dolski** 44.67 324 i P P 13 27 20.9 +0.9
LJU **Ljubljana** 44.74 323 eP P 13 27 21.3 +0.8
ARSA **Arzberg** 44.87 325⇑iP P 13 27 22.5 +1.0
comp=Z,12nm,1.2s,mb4.6
ARSA **Arzberg** 44.87 325⇑iP P 13 27 22.5 +1.0
comp=Z,12nm,1.2s,mb4.6
CONA **Conrad Observa** 45.08 326⇑iP P 13 27 23.8 +0.5
comp=Z,16nm,1.0s,mb4.8
OKC **Ostrava-Krasne** 45.11 330 eP P 13 27 23.4 0.0
OKC epP pP 13 27 28.2 +1.6
MORC **Moravsky Berou** 45.37 329 eP P 13 27 25.2 -0.3
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
MORC **Moravsky Berou** 45.37 329 eP P 13 27 25.2 -0.2
comp=Z,7.0nm,0.8s,mb4.5
MORC **Moravsky Berou** 45.37 329 eP P 13 27 25.6 +0.1
VRAC **Vranov** 45.55 328 P P 13 27 27.1 +0.2
comp=Z,3.0nm,0.6s,mb4.4,baz=182,slow=11,SNR=3.9
VRAC LR LR 13 47 32.2
comp=Z,732nm,18.9s,MS4.6,baz=268,slow=37
VRAC **Vranov** 45.55 328 eP P 13 27 27.1 +0.2
CHTO **Chiang Mai** 45.59 77 eP P 13 27 26.5 -0.8
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO **Chiang Mai** 45.59 77 eP P 13 27 26.5 -0.8
comp=Z,8.9nm,1.0s,mb4.7
SOKR **Solikamsk** 45.81 4⇓iP P 13 27 29.9 +0.9
SOKR S S 13 34 14.5 +1.7
SOKR pmax pmax
comp=Z,130nm,4.2s
SOKR MLR MLR
comp=Z,670nm,17.0s,MS4.7
KBA **Koelnbreinsper** 45.99 324⇑iP P 13 27 30.8 +0.4
comp=Z,15nm,1.6s,mb4.7
KBA **Koelnbreinsper** 45.99 324⇑iP P 13 27 30.9 +0.4
KBA pmax pmax
comp=Z,15nm,1.6s,mb4.7
KBA **Koelnbreinsper** 45.99 324 P P 13 27 30.8 +0.3
comp=Z,15nm,1.6s,mb4.7
LBTB **Lobatse** 46.20 213 P P 13 27 32.2 +0.1
comp=Z,34nm,1.1s,mb5.2,baz=47,slow=9.8,SNR=8.4
LBTB **Lobatse** 46.20 213 eP P 13 27 31.5 -0.6
LBTB pmax pmax
comp=Z,35nm,1.0s,mb5.2
LBTB **Lobatse** 46.20 213 eP P 13 27 31.5 -0.6
comp=Z,35nm,1.0s,mb5.2
DPC **Dobruska-Polom** 46.34 329 eP P 13 27 33.3 +0.1
DPC epP pP 13 27 38.9 +2.6
UPC **Upice** 46.59 329 eP P 13 27 35.4 +0.3
UPC epP pP 13 27 40.4 +2.1
UPC **Upice** 46.59 329 eP P 13 27 35.4 +0.3
UPC e 13 27 40.4
KSP **Ksiaz** 46.66 330 eP P 13 27 33.8 -1.9
GERES **GERESS Array B** 46.79 326 P P 13 27 35.9 -0.8
comp=Z,0.8nm,0.4s,mb4.0,baz=148,slow=7.7,SNR=12
TSUM **Tsumeb** 46.91 226 eP P 13 27 38.2 +0.5
comp=Z,11nm,1.1s,mb4.7
PRU **Pruhonice** 47.02 328 eP P 13 27 38.5 0.0
PRU ex x 13 27 48.3
KHC **Kasperske Hory** 47.02 326 eP P 13 27 37.5 -1.0
KHC epP pP 13 27 42.5 +0.8
SQTA **Sankt Quirin** 47.30 323⇑iP P 13 27 40.7 -0.1
comp=Z,5.7nm,0.9s,mb4.5
SQTA **Sankt Quirin** 47.30 323⇑iP P 13 27 40.7 0.0
SQTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MOTA **Moosalm** 47.43 323⇑iP P 13 27 41.1 -0.6
comp=Z,9.2nm,1.0s,mb4.7
MOTA **Moosalm** 47.43 323⇑iP P 13 27 41.1 -0.6
MOTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZAL **Zalesovo** 47.76 26 P P 13 27 43.5 -0.8
comp=Z,3.6nm,0.5s,mb4.6,baz=236,slow=8.5,SNR=15
ZAL LR LR 13 51 28.0
comp=Z,780nm,18.3s,MS4.7,baz=243,slow=41
NVS **Novosibirsk** 47.76 24 eP P 13 27 43.6 -0.6
NVS eS S 13 34 41.2 +0.6
NVS pmax pmax
comp=N,24nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
NVS pmax pmax
comp=Z,31nm,1.4s,mb5.2
NVS smax
comp=N,32nm,2.6s
NVS smax
comp=E,6.0nm,1.9s
KLMR **Klimovskoe** 47.76 352 eP P 13 27 44.0 -0.3
KLMR pmax pmax
comp=Z,112nm,1.6s,mb5.7
BRG **Berggiesshubel** 47.85 329 eP P 13 27 44.7 -0.3
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG **Berggiesshubel** 47.85 329 eP P 13 27 44.7 -0.3
comp=Z,3.5nm,0.9s,mb4.4
BRG i 13 45 14.0
PSI **Prapat** 47.99 99 LR LR 13 44 50.1
comp=Z,485nm,19.1s,MS4.5,baz=96,slow=32
TOA0 **Torodi Ar. Sit** 48.47 275 eP P 13 27 50.8 +1.0
TORD **Torodi Ar. Bea** 48.47 275 P P 13 27 50.9 +1.1
comp=Z,4.6nm,0.8s,mb4.6,baz=88,slow=7.7,SNR=22
TORD LR LR 13 47 39.6
comp=Z,646nm,18.6s,MS4.6,baz=85,slow=35
GRA1 **Grafenberg Arr** 48.61 326 eP P 13 27 49.5 -1.3
comp=Z,14nm,1.5s,mb4.8
GRA1 LR LR
comp=Z,400nm,18.8s,MS4.4
GRF **Grafenberg Arr** 48.61 326 eP P 13 27 49.5 -1.3
comp=Z,14nm,1.5s,mb4.8
GRF eL 13 55 50.2
comp=Z,450nm,18.8s
GRF **Grafenberg Arr** 48.61 326 eP P 13 27 49.5 -1.3
GRF pmax pmax
comp=Z,14nm,1.5s,mb4.8
GRF MLR MLR
comp=Z,400nm,18.8s,MS4.4
GRF **Grafenberg Arr** 48.61 326 eP P 13 27 49.5 -1.3
GRF pmax pmax
comp=Z,14nm,1.5s,mb4.8
GRF MLR MLR
comp=Z,400nm,18.8s,MS4.4
MBDF **Montbardon** 48.88 318 eP P 13 27 54.0 +1.1
comp=Z,8.1nm,0.7s,mb4.6
MBDF **Montbardon** 48.88 318 eP P 13 27 54.0 +1.1
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MBDF **Montbardon** 48.88 318 eP P 13 27 54.0 +1.1
comp=Z,8.0nm,0.7s,mb4.9
MOX **Moxa** 48.92 327 eP P 13 27 53.3 0.0
MOX
comp=Z,500nm,18.0s
LPG **La Plagne** 49.22 319 eP P 13 27 56.2 +0.7
comp=Z,15nm,0.7s,mb4.8
LPG **La Plagne** 49.22 319 eP P 13 27 56.2 +0.7
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
LPG **La Plagne** 49.22 319 eP P 13 27 56.2 +0.7
comp=Z,15nm,0.7s,mb5.1
LPL **La Plagne** 49.24 319 eP P 13 27 55.9 +0.3
KMI **Kunming** 49.24 69 P P 13 27 54.4 -1.3
KMI AP pP 13 28 03.5 +4.7
KMI XP sP 13 28 07.5 +7.5
KMI AMB AMB
comp=Z,12nm,0.8s,mb5.0
KMI AMB AMB
comp=Z,78nm,4.3s
KMI LR LR
comp=N,587nm,18.1s,MS4.8
KMI LR LR
comp=E,552nm,18.9s,MS4.8
KMI LR LR
comp=Z,949nm,18.9s,MS4.8
BOSA **Boshof** 49.30 211 P P 13 27 57.5 +1.3
comp=Z,16nm,1.0s,mb5.0,baz=33,slow=7.5,SNR=7.4
BOSA **Boshof** 49.30 211 P P 13 27 57.5 +1.3
BFO **Black Forest** 49.54 323 eP P 13 27 57.5 -0.5
BFO pmax pmax
comp=Z,21nm,1.1s,mb5.1
BFO **Black Forest** 49.54 323 eP P 13 27 57.5 -0.4
comp=Z,21nm,1.1s,mb5.1
CABF **La Chapelle** 50.11 320 eP P 13 28 00.8 -1.5
comp=Z,110nm,1.5s,mb5.4
CABF **La Chapelle** 50.11 320 eP P 13 28 00.8 -1.5
CABF pmax pmax
comp=Z,55nm,1.5s,mb5.4
CABF **La Chapelle** 50.11 320 eP P 13 28 00.8 -1.5
comp=Z,110nm,1.5s,mb5.7
CDF **Champ du Feu** 50.20 323 eP P 13 28 01.3 -1.7
comp=Z,58nm,1.3s,mb5.1
CDF **Champ du Feu** 50.20 323 eP P 13 28 01.3 -1.7
CDF pmax pmax
comp=Z,29nm,1.3s,mb5.2
CDF **Champ du Feu** 50.20 323 eP P 13 28 01.3 -1.7
comp=Z,29nm,1.3s,mb5.2
FINES **FINESS Array B** 50.98 345 P P 13 28 08.7 -0.2
comp=Z,9.0nm,0.8s,mb4.8,baz=132,slow=13,SNR=16
FINES LR LR 13 50 14.0
comp=Z,668nm,18.2s,MS4.7,baz=47,slow=37
JOF **Joensuu** 51.08 348 ep P 13 28 09.0 -0.6
comp=Z,2.9nm,0.6s,mb4.4
KAF **Kangasniemi** 51.49 345 ep P 13 28 17.2 +4.5
comp=Z,0.7nm,0.4s,mb3.9,baz=315,slow=2.3
KAF **Kangasniemi** 51.49 345 eP P 13 28 17.2 +4.5
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
LOR **Lormes** 51.77 320 eP P 13 28 09.5 -5.3
SSF **Saint Saulge** 51.91 320 eP P 13 28 11.3 -4.5
SJPF **Ste Jean** 53.73 314 eP P 13 28 28.5 -0.8
comp=Z,57nm,1.4s,mb5.0
SJPF **Ste Jean** 53.73 314 eP P 13 28 28.5 -0.8
SJPF pmax pmax
comp=Z,29nm,1.4s,mb5.0
SJPF **Ste Jean** 53.73 314 eP P 13 28 28.5 -0.8
comp=Z,57nm,1.4s,mb5.3
HFS **Hagfors** 53.89 338 P P 13 28 29.8 -0.7
comp=Z,2.7nm,0.4s,mb4.5,baz=128,slow=9.6,SNR=13
HFS LR LR 13 53 28.8
comp=Z,655nm,20.6s,MS4.7,baz=340,slow=38
ESDC **Sonseca Array** 54.90 309 P P 13 28 38.5 +0.7
comp=Z,3.9nm,0.8s,mb4.5,baz=91,slow=6.5,SNR=13
ESDC LR LR 13 51 59.3
comp=Z,336nm,18.4s,MS4.5,baz=25,slow=36
ESLA **Sonseca Array** 54.90 309 eP P 13 28 38.0 +0.2
comp=Z,12nm,1.1s,mb4.8
ZAK **Zakamensk** 55.37 38 eP P 13 28 49.2 +8.0
XAN **Xi'an** 55.39 58 P P 13 28 40.3 -1.0
XAN AMB AMB
comp=Z,3.0nm,0.7s,mb4.4
NB2 **NORSAR Subarra** 55.41 337 P P 13 28 40.3 -1.2
comp=Z,38nm,1.7s,mb5.2,baz=122,slow=7.9
NOA **NORSAR Array B** 55.41 337 P P 13 28 40.0 -1.5
comp=Z,1.6nm,0.7s,mb4.2,baz=126,slow=7.4,SNR=3.4
NOA LR LR 13 54 51.2
comp=Z,401nm,19.6s,MS4.5,baz=135,slow=39
LIC **Lamto** 56.17 268 eP P 13 28 48.2 +1.2
comp=Z,41nm,0.9s,mb5.2
LIC **Lamto** 56.17 268 eP P 13 28 48.2 +1.2
comp=Z,21nm,0.9s,mb5.2
SONM **Songino Array** 56.43 41 P P 13 28 48.1 -0.7
comp=Z,1.5nm,0.8s,mb4.1,baz=284,slow=8.1,SNR=9.0
SONM LR LR 13 56 27.7
comp=Z,431nm,20.1s,MS4.5,baz=58,slow=40
ULN **Ulaanbaatar** 56.86 41 eP P 13 28 50.5 -1.4
KEV **Kevo** 57.98 350 ep P 13 28 58.6 -1.2
comp=Z,6.1nm,0.6s,mb4.8
KEV **Kevo** 57.98 350 eP P 13 28 58.6 -1.2
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARCES **ARCESS Array B** 58.05 349 P P 13 28 59.8 -0.4
comp=Z,6.9nm,0.7s,mb4.8,baz=140,slow=5.9,SNR=26
ARCES LR LR 13 57 21.1
comp=Z,941nm,19.5s,MS4.9,baz=140,slow=40
WHN **Wuhan** 59.73 63 eP P 13 29 10.8 -1.2
SSE **Sheshan** 65.61 62 P P 13 29 49.3 -1.9

SSE				XP	sP		13 30 02.4	+6.8
SSE				S	S		13 38 33.3	-3.4
SSE				XS	sS		13 38 49.0	+7.0
SSE				SS	SS		13 42 48.8	-1.7
SSE				AMB	AMB			
	comp=Z,17nm,0.8s,mb5.1							
SSE				AMB	AMB			
	comp=Z,48nm,3.8s							
SSE				LR	LR			
	comp=N,238nm,14.1s,MS4.6							
SSE				LR	LR			
	comp=E,183nm,14.1s,MS4.6							
SSE				LR	LR			
	comp=Z,262nm,15.4s,MS4.5							
CN2	**Changchun**	**68.92**	**48**	*e*P	**P**		**13 30 12.3**	**+0.2**
CN2				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
KSRS	**Korea Array**	**70.92**	**55**	P	**P**		**13 30 23.4**	**-1.1**
	comp=Z,1.5nm,0.9s,mb3.9,baz=272,slow=7.0,SNR=5.6							
KSRS				LR	LR		14 04 32.7	
	comp=Z,180nm,19.1s,MS4.3,baz=180,slow=38							
DAG	**Danmarks Havn**	**72.13**	**347**	⇓*i*P	**P**		**13 30 30.8**	**-1.0**
	comp=Z,7.6nm,1.1s,mb4.5							
DAG	**Danmarks Havn**	**72.13**	**347**	⇓*i*P	**P**		**13 30 30.8**	**-1.0**
DAG				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
YAK	**Yakutsk**	**72.29**	**29**	*e*P	**P**		**13 30 32.3**	**-0.4**
YAK				pmax	pmax			
	comp=Z,33nm,1.0s,mb5.2							
YAK				pmax	pmax			
	comp=N,6.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,15nm,1.4s							
YAK	**Yakutsk**	**72.29**	**29**	*e*P	**P**		**13 30 31.2**	**-1.5**
	comp=E,37nm,0.9s,mb5.3							
YAK	**Yakutsk**	**72.29**	**29**	*e*P	**P**		**13 30 31.2**	**-1.5**
	comp=E,37nm,0.9s,mb5.3							
TIXI	**Tiksi**	**72.95**	**19**	*e*P	**P**		**13 30 35.6**	**-1.0**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
MJAR	**Matsushiro Arr**	**79.21**	**55**	P	**P**		**13 31 12.3**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=110,slow=18,SNR=3.8							
MJAR				LR	LR		14 10 59.4	
	comp=Z,265nm,18.9s,MS4.6,baz=280,slow=39							
MJAR	**Matsushiro Arr**	**79.21**	**55**	P	**P**		**13 31 12.3**	**0.0**
MJAR				LR	LR		14 10 59.4	
FITZ	**Fitzroy Crossi**	**79.58**	**112**	P	**P**		**13 31 14.4**	**+0.1**
	comp=Z,4.1nm,1.0s,mb4.3,baz=242,slow=7.1,SNR=4.5							
YSS	**Yuzh-Sakhalins**	**80.80**	**44**	*e*P	**P**		**13 31 20.0**	**-0.9**
ASAJ	**Asahikawa**	**81.21**	**47**	LR	LR		14 12 58.2	
	comp=Z,201nm,18.6s,MS4.5,baz=161,slow=40							
MAW	**Mawson**	**81.63**	**176**	LR	LR		14 02 36.4	
	comp=Z,343nm,19.3s,MS4.7,baz=25,slow=32							
BILL	**Bilibino**	**86.12**	**20**	⇑*e*P	**P**		**13 31 56.2**	**+8.0**
BILL				*e*	pP		13 31 59.5	+7.9
BILL				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.8							
BILL				MLR	MLR			
	comp=Z,500nm,18.0s,MS5.0							
BILL	**Bilibino**	**86.12**	**20**	*e*P	**P**		**13 31 56.2**	**+8.0**
	comp=Z,6.0nm,1.0s,mb4.8							
WRA	**Warramunga Arr**	**87.99**	**111**	P	**P**		**13 31 56.2**	**-1.1**
	comp=Z,0.9nm,0.7s,mb4.1,baz=296,slow=3.8,SNR=8.7							
WRA				PKKPbc	PKKPbc		13 49 47.3	+4.7
	comp=Z,0.2nm,0.8s,baz=123,slow=1.9,SNR=3.1							
WB2	**Warramunga Arr**	**88.00**	**111**	*e*P	**P**		**13 32 00.5**	**+3.1**
ASAR	**Alice Springs**	**88.59**	**115**	P	**P**		**13 31 59.6**	**-0.5**
	comp=Z,0.5nm,0.5s,mb4.1,baz=287,slow=4.7,SNR=16							
NVL	**N'lazarevskaya**	**88.67**	**192**	*e*P	**P**		**13 32 08.3**	**+7.8**
NVL				pmax	pmax			
	comp=Z,36nm,1.4s,mb5.5							
NVL				MLR	MLR			
	comp=Z,521nm,22.0s,MS4.9							
NVL	**N'lazarevskaya**	**88.67**	**192**	*e*P	**P**		**13 32 08.3**	**+7.8**
	comp=Z,521nm,22.0s							
SNAA	**Sanae**	**92.68**	**195**	LR	LR		14 09 46.6	
	comp=Z,123nm,20.3s,MS4.3,baz=29,slow=33							
SCHQ	**Schefferville**	**94.23**	**329**	LR	LR		14 16 27.2	
	comp=Z,134nm,18.9s,MS4.4,baz=244,slow=36							
STKA	**Stephens Creek**	**97.16**	**121**	LR	LR		14 08 49.4	
	comp=Z,361nm,20.8s,MS4.8,baz=120,slow=31							
INK	**Inuvik**	**98.00**	**2**	LR	LR		14 22 21.1	
	comp=Z,450nm,19.8s,MS5.0,baz=175,slow=39							
YKA	**Yellowknife Ar**	**103.15**	**353**	Pdiff	Pdif		13 33 08.3	+1.9
	comp=Z,0.2nm,0.7s,baz=10,slow=4.1,SNR=2.6							
YKA				PP	PP		13 37 06.7	-15
	comp=Z,0.2nm,0.8s,baz=10,slow=6.6,SNR=5.5							
YKA				PKKPbc	PKKPbc		13 49 09.1	+7.2
	comp=Z,0.6nm,1.0s,baz=205,slow=1.6,SNR=5.0							
PDAR	**Pinedale Array**	**121.08**	**344**	PKP	PKPdf		13 37 59.9	-0.1
	comp=Z,0.4nm,0.6s,baz=46,slow=2.6,SNR=2.5							
PLCA	**Paso Flores**	**123.19**	**230**	PKP	PKPdf		13 38 03.9	-0.1
	comp=Z,1.9nm,0.9s,baz=176,slow=1.3,SNR=2.1							
TXAR	**Lajitas Array**	**130.89**	**331**	PKP	PKPdf		13 38 19.2	+0.5
	comp=Z,0.2nm,0.6s,baz=132,slow=1.3,SNR=3.8							
TBI	**Tubuai**	**157.93**	**118**	*e*LR	LR		14 32 21.7	
	comp=Z,279nm,27.5s							
PPT	**Papeete**	**159.27**	**103**	*e*LR	LR		14 32 42.9	
	comp=Z,325nm,28.5s							
RKT	**Rikitea**	**168.86**	**147**	*e*LR	LR		14 37 17.3	
	comp=Z,282nm,29.0s							

ISCJB ***15*** *13:24:52.7±0.7,59N∿02×1258E±02,h151km±17km, mb3.7/4,Error ellipse: s-maj=27.6km s-min=22.7km az=88.6*
MAN ***15*** *13:24:53.2,597N×12588E,h156km,mb3.7,ML4.8,MS3.2*
IDC ***15*** *13:25:07.0±3.5,298N×12751E,h0km,mb3.7/4,mb1 4.0/4, mb1mx3.6/19,mbtmp3.8/4,Error ellipse: s-maj=70.9km s-min=32.8km az=104.0*

ISC 15 13:24:54.1±0.7,59N∿01×1258E±01,h144km±16km,n8, σ0°70/12,mb3.7/4,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.88**	**284**	⇑*e*P	**Pn**	**13 25 17.4**	**+0.2**
MATI	**Mati**	**1.16**	**23**	*e*P	**Pn**	**13 25 19.5**	**-0.2**
MATI				*e*S	**Sn**	**13 25 38.9**	**-0.2**
BUKP	**Musuan**	**2.12**	**340**	*e*P	**Pn**	**13 25 30.2**	**0.0**
BUKP				*e*S	**Sn**	**13 25 58.4**	**+0.3**
KAKA	**Kakadu**	**19.61**	**160**	*e*P	**P**	**13 29 12.1**	**+1.0**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.82**	**180**	P	**P**	**13 29 51.9**	**-1.9**
	1.2nm,0.5s,mb3.7,baz=3.7,slow=6.4,SNR=9.6						
FITZ				S	**S**	**13 33 50.2**	**-8.7**
	1.3nm,0.5s,baz=66,slow=16,SNR=5.8						
WRA	**Warramunga Arr**	**26.99**	**162**	P	**P**	**13 30 22.0**	**-0.3**
	0.3nm,0.3s,mb3.4,baz=334,slow=11,SNR=25						
WRA				S	**S**	**13 34 37.4**	**-12**
	0.8nm,0.6s,baz=342,slow=19,SNR=7.4						
ASAR	**Alice Springs**	**30.41**	**165**	P	**P**	**13 30 53.0**	**+0.4**
	0.9nm,0.4s,mb3.8,baz=338,slow=7.2,SNR=53						
STKA	**Stephens Creek**	**40.45**	**159**	P	**P**	**13 32 18.8**	**+0.6**
	2.1nm,0.6s,mb3.9,baz=351,slow=10,SNR=6.1						

MOS ***15*** *13:26:25.1±3.0,4331N×4718E,h14km,mb4.3/1,Error ellipse: s-maj=10.2km s-min=9.1km az=12.4*
MOS Felt (II-III) at Makhachkala.
CSEM ***15*** *13:26:25.1,4331N×4718E,h14km,mb4.3,After OBN*
ISCJB ***15*** *13:26:27.2±0.8,4321N±005×4727E±005,h10km,Error ellipse: s-maj=8.3km s-min=3.4km az=61.4*

ISC 15 13:26:28.6±0.8,4315N±006×4725E±005,h10km,n32, σ1°42/53,1C-1D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.26**	**134**	⇑*i*PG	**Pg**	**13 26 34.2**	**+0.3**
MAK				*i*		13 26 38.0	
MAK				pmax	pmax		
	comp=Z,379nm,0.1s						
MAK				smax			
	comp=N,7μm,0.3s						
MAK				smax			
	comp=E,6μm,0.2s						
MAK	**Makhachkala**	**0.26**	**134**	*i* Pg	**Pg**	**13 26 34.2**	**+0.3**
	comp=E,379nm,0.1s						
MAK				*i* Sg	**Sg**	**13 26 38.0**	**+0.5**
	comp=E,7μm,0.3s						
DBC	**Dubki**	**0.33**	**248**	*i* PG	**Pg**	**13 26 32.0**	**-3.1**
DLMR	**Dylym**	**0.46**	**261**	*i* PG	**Pg**	**13 26 35.6**	**-1.9**
DLMR				*i* S	**Sg**	**13 26 43.2**	**-0.3**
DLMR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
DLMR	**Dylym**	**0.46**	**261**	*i* Pg	**Pg**	**13 26 35.6**	**-1.9**
	comp=Z,2.0nm,0.4s						
DLMR				*i* Sg	**Sg**	**13 26 43.2**	**-0.3**
MNSR	**Manas**	**0.56**	**142**	⇓*i*PG	**Pg**	**13 26 38.3**	**-1.2**
MNSR				*e*S	**Sg**	**13 26 46.0**	**-0.9**
MNSR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MNSR	**Manas**	**0.56**	**142**	*i* Pg	**Pg**	**13 26 38.3**	**-1.2**
	comp=Z,1.0nm,0.2s						
MNSR				*e*Sg	**Sg**	**13 26 46.0**	**-0.9**
KMKR	**Kumukh**	**1.02**	**186**	*i* PG	**Pg**	**13 26 43.0**	**-5.2**
DRN	**Derbent**	**1.37**	**144**	*e*PG	**Pg**	**13 26 51.3**	**-3.6**
SNJR	**Sundja**	**1.78**	**268**	*e*Pn	**Pg**	**13 27 04.6**	**+1.8**
SNJR				*i* Sg	**Sg**	**13 27 26.5**	**+0.6**
KMSR	**Komsomolskaya**	**2.17**	**277**	*e*Pn	**Pn**	**13 26 55.5**	**-9.2**
ARNR	**Ardon**	**2.17**	**272**	*e*Pn	**Pg**	**13 27 10.0**	**-0.2**
ARNR				*i* Sg	**Sg**	**13 27 36.1**	**-2.2**
LACR	**Lac**	**2.19**	**263**	*i* Pn	**Pb**	**13 27 08.8**	**+0.6**
LACR				*i* Sb	**Sb**	**13 27 34.0**	**-1.4**
DGRG	**David-gareji**	**2.19**	**220**	P	**Pn**	**13 27 06.4**	**+1.4**
DGRG				S	**Sn**	**13 27 32.5**	**+0.3**
DGRG	**David-gareji**	**2.19**	**220**	P	**Pn**	**13 27 06.6**	**+1.5**
DGRG				S	**Sn**	**13 27 34.5**	**+2.3**
PRTR	**Priterechnaya**	**2.24**	**287**	*e*Pn	**Pg**	**13 27 13.1**	**+1.5**
PRTR				*i* Sg	**Sg**	**13 27 41.6**	**+1.0**
MTA	**Mtatsminda**	**2.32**	**232**	P	**Pn**	**13 27 08.1**	**+1.2**
MTA				S	**Sn**	**13 27 37.8**	**+2.3**
MTA	**Mtatsminda**	**2.32**	**232**	P	**Pn**	**13 27 08.1**	**+1.3**
MTA				S	**Sn**	**13 27 37.4**	**+2.0**
ZEI	**Tsey**	**2.48**	**262**	*e*PN	**Pn**	**13 27 08.3**	**-0.8**
ZEI				*e*		13 27 14.2	
ZEI				*e*		13 27 42.3	
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,30nm,0.2s						
ZEI				smax			
	comp=N,180nm,0.3s						
ZEI	**Tsey**	**2.48**	**262**	*e*Pn	**Pn**	**13 27 08.3**	**-0.8**
	comp=N,3.0nm,0.1s						
ZEI	**Tsey**	**2.48**	**262**	*e*Pg	**Pg**	**13 27 14.2**	**-2.0**
	comp=N,30nm,0.2s						
ZEI				*e*Sb	**Sb**	**13 27 42.3**	**-1.7**
	comp=N,180nm,0.3s						
DIGR	**Digorskoe uzhe**	**2.70**	**266**	*i* Pn	**Pb**	**13 27 16.1**	**-0.8**
DIGR				*i* Sn	**Sn**	**13 27 47.1**	**+2.4**
ONI	**Oni**	**2.85**	**260**	P	**Pn**	**13 27 16.1**	**+2.0**
ONI				S	**Sg**	**13 27 55.1**	**-5.0**
KUBR	**Kubataba**	**2.87**	**285**	*i* Pn	**Pn**	**13 27 14.7**	**+0.4**
SHAR	**Shatzhatmas**	**3.39**	**282**	*i* PN	**Pn**	**13 27 21.7**	**+0.2**
KIV	**Kislovodsk**	**3.41**	**285**	Pn	**Pn**	**13 27 22.0**	**+0.2**
KIV				*e*		13 27 25.2	
KIV				*i*		13 27 31.2	
KIV				*i* S	**Sn**	**13 28 01.9**	**-0.4**
KIV				*e*		13 28 04.0	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KIV				pmax	pmax		
	comp=Z,6.0nm,0.2s						
KIV				smax			
	comp=N,17nm,0.4s						
KIV				smax			
	comp=E,34nm,0.4s						
KIV	**Kislovodsk**	**3.41**	**285**	Pn	**Pn**	**13 27 22.0**	**+0.2**
	comp=E,6.0nm,0.4s						
KIV	**Kislovodsk**	**3.41**	**285**	*e*Pb	**Pb**	**13 27 25.2**	**-3.9**
KIV	**Kislovodsk**	**3.41**	**285**	*i* Pg	**Pg**	**13 27 31.2**	**-2.8**
	comp=E,6.0nm,0.2s						
KIV				*i* Sn	**Sn**	**13 28 01.9**	**-0.4**
	comp=E,17nm,0.4s						
KIV				*e*Sb	**Sb**	**13 28 04.0**	**-6.6**
GNI	**Garni**	**3.53**	**213**	*e*Pn	**Pn**	**13 27 27.3**	**+3.8**
ANN	**Anapa**	**7.27**	**287**	*e*P	**Pn**	**13 28 14.8**	**0.0**
ANN				*e*S	**Sn**	**13 29 40.5**	**+3.1**
ANN				pmax	pmax		
	comp=Z,24nm,1.2s						
ANN				MLR	MLR		
	comp=Z,317nm,7.0s						
ANN	**Anapa**	**7.27**	**287**	*e*P	**Pn**	**13 28 14.8**	**0.0**
	comp=Z,24nm,1.2s						
ANN				*e*S	**Sn**	**13 29 40.5**	**+3.1**
	comp=Z,317nm,7.0s						

DHMR 15 13:26:34.7±1.6,1370N×5080E,h5km±183km,ML4.4, 1C-2D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.88**	**295**	⇓*i*P	Pn	13 27 07.4	+0.1
MUKL				*i* S	Sn	13 27 34.7	+3.3
MUKL				AML	AML	13 27 37.4	
	comp=N,5μm,0.3s						
BDHA	**Al Bayda'**	**5.09**	**274**	⇓*i*P	Pn	13 27 54.3	+2.8
BDHA				*i* S	Sn	13 28 54.7	+4.1
LBOS		**5.39**	**272**	⇑*i*P	Pn	13 27 58.5	+2.8
LBOS				*i* S	Sn	13 29 03.4	+5.3
TRBA	**At Turbah**	**6.52**	**267**	*i* P	Pn	13 28 12.7	+1.6

ISCJB ***15*** *13:27:51.8±1.1,3333N±005×1412E±01,h61km±14km, mb3.6/2,Error ellipse: s-maj=15.7km s-min=7.6km az=5.1*
JMA ***15*** *13:27:51.8±0.3,3338N×141.15E,h84km,M2.9*
IDC ***15*** *13:27:53.4±2.6,3328N×14122E,h44km±29km,mb3.2/2, mb1 3.5/4,mb1mx3.2/21,mbtmp3.5/4,ML3.3/2,Error ellipse: s-maj=23.0km s-min=15.0km az=99.0*

ISC 15 13:27:52.7±1.2,3332N±005×14123E±010,h41km±17km, n12,σ0°62/16,mb3.6/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.20**	**261**	P	**Pn**	**13 28 13.2**	**+0.2**
JHJ2				*e*S	**Sn**	**13 28 28.9**	**+0.8**
JHJ	**Hachijo jima 2**	**1.23**	**261**	P	**Pn**	**13 28 13.4**	**0.0**
	79nm,0.3s,baz=84,slow=23,SNR=35						
JHJ				S	**Sn**	**13 28 28.4**	**-0.3**
	45nm,0.3s,baz=71,slow=23,SNR=8.6						
BSO1	**Boso 1**	**1.35**	**351**	P	**Pn**	**13 28 14.9**	**-0.1**
BSO2	**Boso 2**	**1.48**	**345**	*e*S	**Sn**	**13 28 36.0**	**+1.0**
JKO	**Kozu shima**	**1.95**	**297**	P	**Pn**	**13 28 23.3**	**+0.1**
JIM2	**Oshima 3**	**2.05**	**314**	P	**Pn**	**13 28 23.7**	**-0.9**
JOD2	**Odawara 2**	**2.63**	**318**	P	**Pn**	**13 28 32.2**	**-0.4**
JOD2				*e*S	**Sn**	**13 29 01.9**	**-1.4**
JAG	**Ashikaga**	**3.43**	**335**	*e*S	**Sn**	**13 29 22.4**	**-0.5**
MJAR	**Matsushiro Arr**	**4.06**	**323**	P	**Pn**	**13 28 53.4**	**+1.1**
	0.6nm,0.3s,baz=155,slow=13,SNR=5.6						
MJAR				S	**Sn**	**13 29 39.2**	**+0.6**
	0.6nm,0.3s,baz=139,slow=20,SNR=5.0						
CBIJ	**Chichi jima**	**6.26**	**172**	P	**Pn**	**13 29 22.1**	**-0.3**
	3.4nm,0.3s,baz=276,slow=19,SNR=5.7						
WRA	**Warramunga Arr**	**53.37**	**188**	P	**P**	**13 37 08.1**	**+0.1**
	0.5nm,0.3s,mb3.9,baz=5.6,slow=7.6,SNR=6.3						
ASAR	**Alice Springs**	**57.09**	**188**	P	**P**	**13 37 34.9**	**0.0**
	0.2nm,0.7s,mb3.3,baz=359,slow=7.4,SNR=2.7						

TRN ***15*** *13:33:04.8,1593N×6073W,h28km,M3.4(FDF)*
ISCJB ***15*** *13:33:05.3±1.7,1598N±006×607W±02,h57km±10km, mb3.8/3,Error ellipse: s-maj=28.2km s-min=8.9km az=162.2*
IDC ***15*** *13:33:05.9±3.6,1603N×6066W,h40km±26km,mb3.5/3, mb1 4.0/5,mb1mx3.5/21,mbtmp3.7/5,ML3.8/2,MS3.0/1, Ms1 3.0/1,ms1mx2.5/40,Error ellipse: s-maj=54.5km s-min=14.6km az=69.0*
NEIC ***15*** *13:33:06.1,1600N×6063W,h28km,MD3.5(FDF),After FDF.*

ISC 15 13:33:06.0±2.2,1600N±006×607W±02,h41km±16km,n16, σ0°45/18,mb3.8/3,1C-6D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.49**	**309**	⇓*i*P	**Pn**	**13 33 16.5**	**-0.2**
SFG	**Saint Francois**	**0.57**	**296**	⇑*i*P	**Pn**	**13 33 17.8**	**0.0**
MGG	**Marie-Galante**	**0.64**	**263**	⇓*e*P	**Pn**	**13 33 18.5**	**-0.1**
BBL	**Barber's Block**	**0.91**	**239**	⇓*i*P	**Pn**	**13 33 21.6**	**-0.7**
PHG	**Guadaloupe-2**	**0.95**	**271**	*e*P	**Pn**	**13 33 22.9**	**+0.1**
TBG	**Guadaloupe-3**	**0.96**	**261**	⇓*i*P	**Pn**	**13 33 22.9**	**-0.1**
SCG	**Saint Claude**	**0.98**	**272**	⇓*e*P	**Pn**	**13 33 23.7**	**+0.4**
LZG	**Guadaloupe-1**	**1.08**	**278**	*e*P	**Pn**	**13 33 25.0**	**+0.3**
FDF	**Fort de France**	**1.35**	**201**	⇓*e*P	**Pn**	**13 33 28.0**	**-0.3**
FDF				*e*S	**Sn**	**13 33 44.4**	**-0.6**
BIM	**Bigot**	**1.53**	**195**	*e*P	**Pn**	**13 33 31.0**	**+0.2**
BIM				*e*S	**Sn**	**13 33 49.8**	**+0.3**
PCRV	**Puerto La Cruz**	**6.97**	**214**	Pn	**Pn**	**13 34 46.6**	**+1.1**
	1.5nm,0.3s,baz=28,slow=8.9,SNR=4.8						
SDV	**Santo Domingo**	**12.03**	**235**	Pn	**Pn**	**13 35 54.8**	**-0.1**
	0.8nm,0.3s,baz=68,slow=13,SNR=4.3						
SDV				LR	LR	13 40 11.2	
	comp=Z,68nm,19.1s,baz=344,slow=35						
TXAR	**Lajitas Array**	**41.62**	**296**	P	**P**	**13 40 49.9**	**-0.1**
	0.2nm,0.4s,mb3.1,baz=149,slow=7.2,SNR=3.9						
PDAR	**Pinedale Array**	**49.39**	**313**	P	**P**	**13 41 52.0**	**+0.5**
	1.4nm,0.6s,mb4.2,baz=118,slow=9.0,SNR=13						
YKA	**Yellowknife Ar**	**59.64**	**334**	P	**P**	**13 43 05.3**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=106,slow=7.5,SNR=21						
YKA	**Yellowknife Ar**	**59.64**	**334**	P	**P**	**13 43 05.3**	**-0.6**

ISCJB ***15*** *13:33:23.7±0.8,1091N±005×6234W±003,h64km±10km, Error ellipse: s-maj=9.1km s-min=4.7km az=163.4*
TRN ***15*** *13:33:23.6,1090N×6232W,h73km,MD3.0*
FUNV ***15*** *13:33:27.8,1087N×6252W,h7km,MW2.6*

ISC 15 13:33:24.5±0.8,1092N±005×6234W±003,h59km±11km, n11,σ0°68/20,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.29**	**157**	*e*P	**Pn**	**13 33 35.2**	**+0.7**
GUIV				*e*S	**Sn**	**13 33 41.6**	**-0.1**
TCE	**Chacachacare**	**0.61**	**111**	*e*P	**Pn**	**13 33 38.1**	**+0.4**
TCE				*e*S	**Sn**	**13 33 48.4**	**+1.1**
ITEV	**Isla Los Testi**	**0.89**	**299**	*e*P	**Pn**	**13 33 41.5**	**+0.3**
ITEV				*e*S	**Sn**	**13 33 53.3**	**-0.1**
CRUV	**Carupano**	**0.92**	**255**	*e*P	**Pn**	**13 33 41.6**	**+0.1**
CRUV				*e*S	**Sn**	**13 33 51.5**	**-2.4**
TRN	**Trinidad (W)**	**0.96**	**106**	*e*P	**Pn**	**13 33 41.7**	**-0.3**
TRN				*e*S	**Sn**	**13 33 54.0**	**-0.8**
GUNV	**Guanoco**	**0.96**	**218**	*e*P	**Pn**	**13 33 42.6**	**+0.7**
GUNV				*e*S	**Sn**	**13 33 54.5**	**-0.4**
TBH	**Brigand Hill**	**1.32**	**109**	*e*P	**Pn**	**13 33 46.2**	**-0.5**
TBH				*e*S	**Sn**	**13 34 03.6**	**+0.2**
GRW	**Mount Saint Ca**	**1.40**	**28**	*e*P	**Pn**	**13 33 47.6**	**-0.2**
GRW				*e*S	**Sn**	**13 34 05.7**	**+0.4**
TPR	**Prospect**	**1.55**	**80**	*e*P	**Pn**	**13 33 49.5**	**-0.4**
TPR				*e*S	**Sn**	**13 34 08.6**	**-0.4**
PCRV	**Puerto La Cruz**	**2.38**	**252**	*e*S	**Sn**	**13 34 29.9**	**+0.8**
CUPV	**Cœpira**	**3.50**	**256**	*e*S	**Sn**	**13 34 57.0**	**+0.4**

NEIC ***15*** *13:44:41.8±0.4,4771N×1362E,h10km,ML2.7(SZGRF), Error ellipse: s-maj=4.5km s-min=3.6km az=151.0*
ISCJB ***15*** *13:44:41.7±0.2,4775N±001×1355E±002,h10km,Error ellipse: s-maj=2.0km s-min=1.9km az=111.7*
VIE ***15*** *13:44:42.1±0.2,4766N×1361E,h6km±3km,mb2.4/6, ML2.9/9,Error ellipse: s-maj=1.4km s-min=1.0km az=171.0 3 km NNW of Bad Goisern suspected gravitational mass movement in Katergebirge*
CSEM ***15*** *13:44:42.2±0.1,4767N×1366E,h2km,ML3.4/9,Error ellipse: s-maj=1.7km s-min=1.5km az=115.0*
BGR ***15*** *13:44:42.6±0.2,4766N×1367E,h5km,ML2.5/5,Error ellipse: s-maj=3.3km s-min=2.2km az=76.0*
PRU ***15*** *13:44:44.4,4776N×1365E,h13km*

ISC 15 13:44:42.8±0.2,4771N±001×1361E±002,h10km,n64, σ1°17/113,17C-7D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGLD	**Berchtesgaden**	**0.41**	**262**	⇑*i*Pg	**Pg**	**13 44 48.8**	**-1.9**
MOA	**Molln**	**0.47**	**72**	*e*Pg	**Pg**	**13 44 50.8**	**-1.1**
	SNR=19						
MOA	**Molln**	**0.47**	**72**	⇓*e*Pg	**Pg**	**13 44 50.9**	**-1.0**
	21nm,0.3s,SNR=48						
MOA				⇑*i*Sg	**Sg**	**13 44 58.8**	**+0.7**
	64nm,0.2s						
MOA	**Molln**	**0.47**	**72**	Pg	**Pg**	**13 44 50.8**	**-1.1**
	SNR=19						
MOA				Sg	**Sg**	**13 44 58.8**	**+0.7**
	64nm,0.2s						
RMOA	**Moar Alm**	**0.50**	**276**	⇑*i*Pg	**Pg**	**13 44 52.7**	**+0.1**
KBA	**Koelnbreinsper**	**0.66**	**196**	*e*Pg	**Pg**	**13 44 53.8**	**-1.7**
	SNR=25						
KBA				*e*Sg	**Sg**	**13 45 02.2**	**-1.8**
	SNR=4.2						
KBA	**Koelnbreinsper**	**0.66**	**196**	⇑*e*Pg	**Pg**	**13 44 53.8**	**-1.6**
	26nm,0.3s,SNR=18						
KBA				⇑*i*Sg	**Sg**	**13 45 03.0**	**-1.0**
	95nm,0.6s						
GEC2	**GERESS Array S**	**1.14**	**3**	*e*Pg	**Pg**	**13 45 04.1**	**-0.6**
	SNR=61						
GEC2				*e*Sg	**Sg**	**13 45 21.2**	**+1.7**
	SNR=6.7						
GEC2	**GERESS Array S**	**1.14**	**3**	*e*Pg	**Pg**	**13 45 04.1**	**-0.6**
GEC2				*e*Sg	**Sg**	**13 45 23.1**	**+3.6**
ABTA	**Abfaltersbach**	**1.22**	**218**	⇑*i*Pg	**Pg**	**13 45 04.9**	**-1.3**
OBKA	**Obir**	**1.36**	**151**	*e*Pg	**Pn**	**13 45 07.0**	**-0.8**
	SNR=7.3						
OBKA				*e*Sg	**Sb**	**13 45 24.0**	**-1.8**
	SNR=3.2						
OBKA	**Obir**	**1.36**	**151**	⇑*e*Pg	**Pg**	**13 45 07.9**	**-1.0**
	7.1nm,0.2s,SNR=7.8						
OBKA				⇑*i*Sg	**Sg**	**13 45 24.7**	**-1.9**
	97nm,0.8s						
OBKA

SNR=4.8
GRA1 Sg **Sg** **13 46 05.7 +1.4**
SNR=3.7
GRF Grafenberg Arr 2.54 322 *e*Pg **Pg** **13 45 31.8 +0.4**
SNR=4.8
GRF *e*Sg **Sg** **13 46 05.7 +1.4**
SNR=3.7
GRFO Grafenberg 2.54 322 *e*P **Pg** **13 45 31.8 +0.3**
VRAC Vranov 2.55 50 *e*Pn **Pn** **13 45 24.9 +0.7**
VRAC *e*Sn **Sn** **13 45 58.4 +3.1**
DAVA Damuels 2.56 262 *e*Pg **Pg** **13 45 31.2 -0.7**
SNR=5.4
DAVA *e*Sg **Sg** **13 46 04.7 -0.4**
SNR=3.9
NKC Novy Kostel 2.64 344 *e*PG **Pg** **13 45 32.0 -1.4**
NKC *e*SG **Sg** **13 46 06.5 -1.1**
40nm,0.6s
SMOL Smolenice 2.69 71 *e*SG **Sg** **13 46 07.1 -1.9**
GUNZ Gunzen 2.79 343 *e*Pn **Pn** **13 45 28.8 +1.4**
SNR=2.6
GUNZ *e*Sg **Sg** **13 46 11.4 -0.9**
SNR=3.2
TANN Tannenbergstha 2.81 345 *e*Pn **Pn** **13 45 28.7 +0.9**
SNR=3.5
TANN *e*Sg **Sg** **13 46 12.2 -0.9**
SNR=4.6
WERD Werda 2.87 343 *e*Pn **Pn** **13 45 29.9 +1.3**
SNR=4.2
WERD *e*Sg **Sg** **13 46 14.3 -0.8**
SNR=6.4
BRG Berggiesshubel 3.18 4 PG **Pn** **13 45 34.4 +1.6**
BRG *i* **Sn** **13 46 09.6 -1.1**
BRG Berggiesshubel 3.18 4 SG **Sg** **13 46 22.8 -2.0**
6.1nm,0.6s
BRG Berggiesshubel 3.18 4 Pg **Pn** **13 45 34.4 +1.6**
BRG *i* **Sn** **13 46 09.6 -1.1**
BRG Sg **Sg** **13 46 22.8 -2.0**
DPC Dobruska-Polom 3.19 33 *e*PG **Pg** **13 45 41.9 -2.0**
DPC *e*SG **Sg** **13 46 21.6 -3.7**
17nm,0.6s
MOX Moxa 3.22 337 *e*Pn **Pn** **13 45 33.2 -0.2**
SNR=5.4
MOX *e*Pg **Pn** **13 45 34.0 +0.7**
MOX *e*Sn **Sn** **13 46 13.2 +1.5**
MOX *e*Sg **Sg** **13 46 25.0 -1.1**
SNR=8.0
MOX Moxa 3.22 337 *e*PG **Pn** **13 45 34.0 +0.7**
MOX *e*SG **Sg** **13 46 27.3 +1.2**
MOX Moxa 3.22 337 *e*Pg **Pn** **13 45 34.0 +0.7**
MOX *e*Sg **Sg** **13 46 27.3 +1.2**
MOX Moxa 3.22 337 Pn **Pn** **13 45 33.2 -0.1**
SNR=5.4
MOX *e*Sg **Sg** **13 46 27.3 +1.2**
UPC Upice 3.22 29 *e*SG **Sg** **13 46 25.4 -0.7**
MORC Moravsky Berou 3.33 50 *e*P **Pn** **13 45 32.8 -2.1**
MORC Moravsky Berou 3.33 50 *e*P **Pn** **13 45 32.8 -2.1**
MORC Moravsky Berou 3.33 50 *e*Pn **Pn** **13 45 35.7 +0.8**
MORC *e*Sn **Sn** **13 46 17.6 +3.2**
VYHS Vyhne 3.59 75 *e*PN **Pn** **13 45 38.3 -0.2**
VYHS *e*PG **Pb** **13 45 48.1 +1.7**
VYHS *e*SG **Sb** **13 46 34.3 +4.3**
BFO Black Forest 3.60 282 *e*Pn **Pn** **13 45 39.0 +0.4**
SNR=1.6
BFO *e*Sg **Sg** **13 46 37.9 -0.4**
SNR=4.8
CLL Collm 3.62 354 *i* (Sg) **Sg** **13 46 39.4 +0.2**
CLL Collm 3.62 354 *i* Sg **Sg** **13 46 39.4 +0.2**
comp=Z,42nm,0.9s
UBBA Unterbreizbach 3.91 324 *e*Sg **Sg** **13 46 48.8 +0.5**
SNR=3.0
TNS Taunus Mts 4.23 308 *e*Pn **Pn** **13 45 48.5 +1.2**
SNR=7.0
TNS *e*Sg **Sg** **13 46 58.1 -0.5**
SNR=2.2
TNS Taunus Mts 4.23 308 *e*Pn **Pn** **13 45 48.6 +1.3**
CLZ Clausthal 4.64 334 *e*Sg **Sg** **13 47 12.0 +0.3**
SNR=3.3

IDC 15 13:57:42.6±4.6, 2026S×17489W, h185km±75km, mb3.6/4, mb1 3.7/6, mb1mx3.4/19, mbtmp3.7/6, Error ellipse: s-maj=56.5km s-min=34.3km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.98**	**26**	P	Pn	13 59 24.5	+2.0
	1.9nm,0.3s,baz=180,slow=20,SNR=5.5						
AFI				S	Sn	14 00 40.3	-1.1
	0.9nm,0.3s,baz=229,slow=20,SNR=2.1						
DZM	**Mont Dzumac**	**17.50**	**261**	P	Pn	14 01 34.3	-1.3
	0.7nm,0.3s,baz=83,slow=17,SNR=9.6						
RPZ	**Rata Peaks**	**26.18**	**204**	P	P	14 02 59.7	-0.2
	5.2nm,0.6s,baz=49,slow=9.3,SNR=3.3						
STKA	**Stephens Creek**	**40.52**	**244**	P	P	14 05 03.3	-0.2
	2.0nm,0.5s,baz=107,slow=11,SNR=11						
ASAR	**Alice Springs**	**47.41**	**256**	P	P	14 05 58.7	+0.4
	1.2nm,0.7s,baz=99,slow=8.0,SNR=29						
WRA	**Warramunga Arr**	**47.52**	**261**	P	P	14 05 59.8	+0.6
	0.7nm,0.6s,baz=96,slow=7.7,SNR=17						

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*NEIC **15** 14:04:43.1, 3570S×17967E, h267km, MG4.2(WEL), After WEL.*

WEL 15 14:04:42.8±0.9, 3543S×17932E, h248km±11km, ML4.1/12, Error ellipse: s-maj=26.4km s-min=11.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.77**	**198**	P	Pn	14 05 32.9	+0.2
PUZ				S	S	14 06 11.3	-0.8
PUZ	**Puketiti**	**2.77**	**198**	PN	Pn	14 05 32.9	+0.3
PUZ				SN	S	14 06 11.3	-0.8
MWZ	**Matawai**	**3.23**	**206**	P	Pn	14 05 38.5	+0.8
MWZ				S	S	14 06 21.7	+0.5
MWZ	**Matawai**	**3.23**	**206**	PN	Pn	14 05 38.5	+0.8
MWZ				SN	S	14 06 21.7	+0.6
URZ	**Urewera**	**3.33**	**211**	P	Pn	14 05 38.4	-0.4
URZ	**Urewera**	**3.33**	**211**	PN	Pn	14 05 38.4	-0.4
KNZ	**Kokohu**	**3.81**	**200**	*e*P	Pn	14 05 44.8	+0.5
KNZ	**Kokohu**	**3.81**	**200**	*e*PN	Pn	14 05 44.8	+0.5
BKZ	**Black Stump Fm**	**4.36**	**210**	P	Pn	14 05 51.1	+0.4
BKZ	**Black Stump Fm**	**4.36**	**210**	PN	Pn	14 05 51.1	+0.4
FWVZ	**Far West T-bar**	**4.85**	**217**	PN	Pn	14 05 57.8	+1.1
WNVZ	**Wahianoa**	**4.89**	**216**	*e*PN	Pn	14 05 58.2	+1.1
PXZ	**Pawanui**	**4.99**	**202**	*e*PN	Pn	14 05 58.3	0.0
TSZ	**Takapari Road**	**5.33**	**209**	*e*PN	Pn	14 06 01.9	-0.7
BFZ	**Birch Farm**	**5.77**	**204**	PN	Pn	14 06 07.9	-0.1
MRZ	**Mangatainoka R**	**6.00**	**208**	*e*PN	Pn	14 06 09.5	-1.3
KIW	**Kapiti Island**	**6.44**	**211**	*e*PN	Pn	14 06 16.1	-0.2
MTW	**Mount Morrison**	**6.46**	**207**	*e*PN	Pn	14 06 14.9	-1.7
CAW	**Cannon Point**	**6.58**	**209**	*e*PN	Pn	14 06 17.1	-1.0
TCW	**Tory Channel**	**7.00**	**213**	P	Pn	14 06 22.9	-0.5
TCW	**Tory Channel**	**7.00**	**213**	*e*PN	Pn	14 06 21.2	-2.2
NNZ	**Nelson**	**7.42**	**217**	*e*PN	Pn	14 06 28.1	-0.7
QRZ	**Quartz Range**	**7.59**	**223**	*e*PN	Pn	14 06 29.1	-1.8
THZ	**Tophouse**	**8.07**	**217**	*e*P	Pn	14 06 36.5	-0.5
THZ	**Tophouse**	**8.07**	**217**	*e*PN	Pn	14 06 36.4	-0.6
KHZ	**Kahutara**	**8.30**	**211**	*e*P	Pn	14 06 40.1	+0.2
KHZ	**Kahutara**	**8.30**	**211**	*e*PN	Pn	14 06 39.5	-0.4
DSZ	**Denniston Nort**	**8.62**	**221**	SN	S	14 08 19.4	-2.3
LTZ	**Lake Taylor**	**9.15**	**215**	*e*P	Pn	14 06 49.8	-0.9
LTZ	**Lake Taylor**	**9.15**	**215**	*e*PN	Pn	14 06 49.6	-1.0
MQZ	**McQueen's Vall**	**9.73**	**210**	*e*PN	Pn	14 06 57.4	-0.5
MQZ				SN	S	14 08 43.1	-4.4
ODZ	**Otahua Downs**	**11.66**	**212**	*e*P	Pn	14 07 23.2	+1.1
ODZ	**Otahua Downs**	**11.66**	**212**	*e*PN	Pn	14 07 23.1	+1.0
VNA3	**Neumayer Olymp**	**73.43**	**177**	*e*	P	14 15 56.2	+8.2
VNA3				*e*		14 15 57.1	
VNA3				*e*		14 15 57.5	
VNA3				*e*		14 15 59.2	
VNA3				*e*		14 16 01.2	
VNA2	**Neumayer--Watz**	**73.83**	**178**	*e*	P	14 15 59.6	+9.3
VNA2				*e*		14 16 00.4	
VNA2				*e*		14 16 00.6	
VNA1	**Neumayer--Stat**	**74.08**	**177**	*e*	P	14 15 54.8	+3.1
VNA1				*e*		14 15 55.5	
VNA1				*e*		14 15 55.9	
VNA1				*e*		14 15 58.2	
VNA1				*e*		14 16 00.0	

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*ISCJB **15** 14:38:47.1±2.4, 7.1S±02×1257E±02, h479km±27km, mb3.8/1, Error ellipse: s-maj=39.9km s-min=25.3km az=40.1*

*IDC **15** 14:38:51.1±3.0, 7.25S×12580E, h509km±22km, mb3.4/1, mb1 3.5/4, mb1mx3.0/16, mbtmp3.3/4, Error ellipse: s-maj=66.4km s-min=27.1km az=66.0*

ISC 15 14:38:51.7±2.4, 73S±02×1259E±02, h487km±20km, n8, σ0§44/11, mb3.8/1, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.38**	**130**	*e*P	**P**	**14 40 52.3**	**+0.6**
	7.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.70**	**181**	⇑*i*P	**P**	**14 41 16.7**	**+0.4**
	23nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.70**	**181**	P	**P**	**14 41 16.7**	**+0.5**
	3.3nm,0.3s,baz=13,slow=9.4,SNR=102						
FITZ				S	**S**	**14 43 15.2**	**-0.2**
	0.3nm,0.3s,baz=192,slow=19,SNR=7.7						
WRA	**Warramunga Arr**	**14.97**	**148**	P	**P**	**14 42 01.3**	**-0.5**
	1.0nm,0.3s,baz=331,slow=9.6,SNR=60						
WRA				S	**S**	**14 44 38.3**	**-0.3**
	0.1nm,0.3s,baz=325,slow=21,SNR=5.6						
WB2	**Warramunga Arr**	**14.98**	**148**	*e*P	**P**	**14 42 01.5**	**-0.3**
ASAR	**Alice Springs**	**17.97**	**155**	P	**P**	**14 42 32.3**	**0.0**
	1.0nm,0.3s,baz=330,slow=7.3,SNR=118						
ASAR				S	**S**	**14 45 33.1**	**+0.6**
	0.1nm,0.3s,baz=337,slow=21,SNR=12						
ASAR				PcP	PcP	14 46 37.6	-2.9
	0.0nm,0.3s,baz=333,slow=0.3,SNR=4.2						
ASAR				ScP	ScP	14 49 24.9	-4.5
	0.0nm,0.3s,baz=338,slow=2.0,SNR=8.6						
STKA	**Stephens Creek**	**28.47**	**151**	*e*P	**P**	**14 44 06.4**	**0.0**
	3.2nm,0.9s,mb3.8						
STKA	**Stephens Creek**	**28.47**	**151**	P	**P**	**14 44 05.5**	**-0.9**
	3.8nm,0.7s,mb3.9,baz=340,slow=7.3,SNR=11						

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*IDC **15** 15:15:41.8±1.1, 2812N×5686E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, MS3.7/2, Ms1 3.7/2, ms1mx2.9/37, Error ellipse: s-maj=26.1km s-min=23.9km az=178.0*

*ISCJB **15** 15:15:41.9±1.1, 2822N±003×5706E±009, h6km±8km, mb3.7/11, MS4.5/1, Error ellipse: s-maj=12.7km s-min=5.0km az=11.8*

*CSEM **15** 15:15:42.3±0.1, 2822N×5702E, h5km, mb3.7/6, Error ellipse: s-maj=4.2km s-min=2.3km az=101.0*

*MOS **15** 15:15:44.0±1.0, 2824N×5692E, h18km, mb3.9/4, Error ellipse: s-maj=28.5km s-min=16.4km az=100.0*

*THR **15** 15:15:46.0±0.6, 2826N×5683E, h14km±5km, ML3.5*

*NEIC **15** 15:15:46.1, 2826N×5682E, h15km, mb3.9/2, ML3.5(THR), After THR.*

ISC 15 15:15:44.1±1.1, 2822N±003×5697E±008, h11km±7km, n47, σ0§89/51, mb3.7/11, MS4.5/1, 3C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.08**	**221**	*e*Pg	**Pg**	**15 16 05.3**	**+0.3**
BNDS				*e*Sg	**Sg**	**15 16 19.9**	**+0.8**
BNDS				AML	AML	15 16 21.9	
	comp=E,2μm,0.4s						
BNDS				AML	AML	15 16 24.9	
	comp=N,1μm,0.5s						
BNDS	**Bandar-Abbas**	**1.08**	**221**	Pg	**Pg**	**15 16 05.0**	**0.0**
BNDS				Sg	**Sg**	**15 16 19.0**	**-0.1**
BNDS	**Bandar-Abbas**	**1.08**	**221**	Pg	**Pg**	**15 16 05.0**	**0.0**
BNDS				*e*Sg	**Sg**	**15 16 19.9**	**+0.8**
	SNR=90						
KRBR	**Kerman**	**1.76**	**354**	*e*Pg	**Pg**	**15 16 17.4**	**-0.5**
KRBR				*e*Sg	**Sg**	**15 16 40.9**	**+0.1**
KRBR				AML	AML	15 16 47.1	
	comp=N,307nm,0.3s						
KRBR	**Kerman**	**1.76**	**354**	Pg	**Pg**	**15 16 17.0**	**-0.9**
KRBR				Sg	**Sg**	**15 16 40.0**	**-0.8**
KRBR	**Kerman**	**1.76**	**354**	*e*Pg	**Pg**	**15 16 17.4**	**-0.6**
	SNR=90						
KRBR				*e*Sg	**Sg**	**15 16 40.9**	**+0.1**
	SNR=90						
BANOM	**Banah**	**2.37**	**195**	⇑P	**Pn**	**15 16 22.7**	**-0.1**
	SNR=61						
BANOM	**Banah**	**2.37**	**195**	P	**Pn**	**15 16 22.7**	**-0.1**
	SNR=61						
HATD	**Hatta, Dubai**	**3.47**	**193**	⇓P	**Pn**	**15 16 37.8**	**-0.2**
GHIR	**Ghir-Karzin**	**3.51**	**272**	*e*Pn	**Pn**	**15 16 40.5**	**+2.0**
GHIR	**Ghir-Karzin**	**3.51**	**272**	Pn	**Pn**	**15 16 40.0**	**+1.4**
GHIR	**Ghir-Karzin**	**3.51**	**272**	*e*Pn	**Pn**	**15 16 40.5**	**+1.9**
	SNR=52						
ZHSF	**Zahedan**	**3.61**	**67**	*e*Pn	**Pn**	**15 16 45.2**	**+5.3**
ZHSF	**Zahedan**	**3.61**	**67**	Pn	**Pn**	**15 16 45.0**	**+5.0**
ASHO	**Ashiyiah**	**3.62**	**193**	P	**Pn**	**15 16 40.4**	**+0.3**
	SNR=22						
HOQ	**Hoqain**	**4.63**	**176**	⇑P	**Pn**	**15 16 53.8**	**-0.2**
	SNR=8.3						
BIDO	**Bidbid**	**4.80**	**167**	⇑P	**Pn**	**15 16 55.2**	**-1.1**
	SNR=14						
ARQ	**Araqi**	**4.88**	**185**	⇓P	**Pn**	**15 16 57.9**	**+0.5**
SMDO	**Samad**	**5.23**	**169**	⇓P	**Pn**	**15 17 01.8**	**-0.5**
WBK	**Wadi Bani Khal**	**5.88**	**162**	⇓P	**Pn**	**15 17 11.2**	**+0.1**
GNI	**Garni**	**15.60**	**323**	LR	LR	15 25 49.8	
	comp=N,57nm,19.0s,baz=39,slow=39						
GNI	**Garni**	**15.60**	**323**	P	**Pn**	**15 19 22.9**	**-0.9**
GNI				pmax	pmax		
	comp=Z,24nm,1.3s						
GNI	**Garni**	**15.60**	**323**	P	**Pn**	**15 19 22.9**	**-0.9**
	comp=Z,24nm,1.3s						
GNI	**Garni**	**15.60**	**323**	P	**Pn**	**15 19 22.9**	**-0.9**
	comp=Z,24nm,1.3s						
AKTK	**Aktyubinsk**	**22.20**	**2**	P	**P**	**15 20 41.4**	**+1.1**
AKTK	**Aktyubinsk**	**22.20**	**2**	P	**P**	**15 20 41.4**	**+1.1**
	comp=Z,1.0nm,0.3s,mb3.7						
AKTO	**Aktyubinsk**	**22.20**	**2**	P	**P**	**15 20 41.4**	**+1.1**
	comp=Z,0.5nm,0.3s,mb3.4,baz=202,slow=10,SNR=3.8						
AKTO	**Aktyubinsk**	**22.20**	**2**	P	**P**	**15 20 41.4**	**+1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
BR131	**Keskin Array S**	**22.43**	**307**	P	**P**	**15 20 43.8**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.4						
BR131	**Keskin Array S**	**22.43**	**307**	P	**P**	**15 20 43.8**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.4						
BRTR	**Keskin Array B**	**22.43**	**307**	P	**P**	**15 20 43.5**	**+0.8**
	comp=Z,1.5nm,0.8s,mb3.5,baz=127,slow=12,SNR=6.5						
BRTR	**Keskin Array B**	**22.43**	**307**	P	**P**	**15 20 43.5**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**26.70**	**18**	P	**P**	**15 21 24.3**	**+1.1**
	comp=Z,1.3nm,0.6s,mb3.6,baz=215,slow=7.2,SNR=8.9						
BVAR	**Borovoye Array**	**26.70**	**18**	P	**P**	**15 21 24.3**	**+1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**27.14**	**40**	P	**P**	**15 21 27.8**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.1,baz=198,slow=9.6,SNR=5.1						
ZAL	**Zalesovo**	**32.77**	**31**	P	**P**	**15 22 16.3**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=229,slow=3.2,SNR=5.2						
ZAL	**Zalesovo**	**32.77**	**31**	P	**P**	**15 22 16.3**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**39.06**	**337**	P	**P**	**15 23 10.2**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.2,baz=139,slow=10.0,SNR=16						
FINES	**FINESS Array B**	**39.06**	**337**	P	**P**	**15 23 10.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TOA0	**Torodi Ar. Sit**	**53.42**	**266**	*e*P	**P**	**15 25 01.5**	**-2.3**
TORD	**Torodi Ar. Bea**	**53.42**	**266**	P	**P**	**15 25 02.2**	**-1.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=63,slow=6.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**53.42**	**266**	P	**P**	**15 25 02.2**	**-1.7**
JHJ	**Hachijo jima 2**	**69.61**	**63**	LR	LR	16 00 22.7	
	comp=Z,290nm,21.8s,MS4.5,baz=29,slow=38						
WRA	**Warramunga Arr**	**88.74**	**113**	P	**P**	**15 28 38.3**	**+0.6**
	comp=Z,0.4nm,1.0s,mb3.7,baz=311,slow=3.5,SNR=3.2						
YKA	**Yellowknife Ar**	**89.35**	**356**	P	**P**	**15 28 40.2**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.8,baz=360,slow=5.0,SNR=6.1						
YKA	**Yellowknife Ar**	**89.35**	**356**	P	**P**	**15 28 40.2**	**-0.4**
ASAR	**Alice Springs**	**90.28**	**117**	P	**P**	**15 28 45.6**	**+0.7**
	comp=Z,0.2nm,0.9s,mb3.4,baz=296,slow=5.5,SNR=4.4						

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*NEIC **15** 15:37:24.8, 1738N×10096W, h48km, MD4.0(MEX), After MEX.*

MEX 15 15:37:24.8±0.9, 1738N×10096W, h47km±13km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.53**	**296**	*i* P	Pn	15 37 34.3	-1.9
ZIIG				*i* S	Sn	15 37 42.8	-1.6
ZIIG	**Zihuatanejo**	**0.53**	**296**	*i* P	Pn	15 37 34.5	-1.7
ZIIG				*i* S	Sn	15 37 42.8	-1.6
CAIG	**El Cayaco**	**0.74**	**116**	*i* P	Pn	15 37 37.2	-1.8
CAIG				*i* S	Sn	15 37 47.9	-1.3
ACX	**Acapulco**	**1.12**	**117**	*i* P	Pn	15 37 43.0	-1.1
ACX				*i* S	Sn	15 37 55.0	-3.4
MEIG	**Mezcala**	**1.39**	**67**	*i* P	Pn	15 37 46.4	-1.4
MEIG				*i* S	Sn	15 38 03.2	-1.8
PLIG	**Platanillo**	**1.72**	**54**	*i* P	Pn	15 37 50.6	-1.7
PLIG				*i* S	Sn	15 38 11.0	-2.0
MOIG	**Morelia**	**2.30**	**355**	*i* P	Pn	15 37 59.9	-0.3
MOIG				*i* S	Sn	15 38 26.5	-0.8
MOIG	**Morelia**	**2.30**	**355**	*i* P	Pn	15 37 59.9	-0.3
MOIG				*i* S	Sn	15 38 24.8	-2.4
YAIG	**Yautepec**	**2.33**	**50**	*i* P	Pn	15 37 58.8	-1.9
YAIG				*i* S	Sn	15 38 27.2	-0.9
MMIG	**Aquila**	**2.44**	**292**	*i* P	Pn	15 38 00.9	-1.2
MMIG				*i* S	Sn	15 38 30.4	-0.4
SZVM	**Salazar**	**2.45**	**38**	*e*P	Pn	15 37 59.8	-2.5
SZVM				*i* S	Sn	15 38 30.1	-0.9
PTVM	**Pico Tres Padr**	**2.82**	**38**	*i* P	Pn	15 38 06.0	-1.3
PTVM				*i* S	Sn	15 38 39.8	-0.3
UTMO	**Huajuapan**	**3.05**	**81**	*e*P	Pn	15 38 09.5	-1.0
UTMO				*i* S	Sn	15 38 44.5	-1.2
IIO	**Organos**	**3.06**	**44**	*i* P	Pn	15 38 09.9	-0.8
IIO				*i* S	Sn	15 38 46.0	-0.1
TPIG	**Tehuac#an**	**3.58**	**73**	*i* S	Sn	15 38 57.4	-1.5
SFJM	**Santa Fe**	**3.67**	**328**	*e*P	Pn	15 38 18.0	-0.9
VHO	**Vista Hermosa**	**4.05**	**94**	*e*P	Pn	15 38 31.3	+7.0
VHO				*i* S	Sn	15 39 12.5	+2.1
OXX	**Oaxaca**	**4.06**	**94**	*e*P	Pn	15 38 31.0	+6.6
OXX				*i* S	Sn	15 39 12.0	+1.3
HUIG	**Huatulco**	**4.92**	**108**	*i* S	Sn	15 39 35.8	+3.9

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*ISCJB **15** 15:57:56.2±1.4, 3528N±006×2537E±004, h12km±11km, mb4.0/2, Error ellipse: s-maj=10.8km s-min=5.6km az=11.3*

*IDC **15** 15:57:56.2±1.3, 3515N×2538E, h0km, mb4.1/2, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, ML3.8/3, Error ellipse: s-maj=26.0km s-min=9.1km az=10.0*

*CSEM **15** 15:57:56.1±0.1, 3538N×2531E, h8km, MD3.6, Error ellipse: s-maj=4.2km s-min=2.2km az=33.0*

*ATH **15** 15:57:56.0, 3539N×2536E, h19km±5km, MD3.6/9*

*NEIC **15** 15:57:56.0, 3539N×2536E, h19km, MD3.6(ATH), After ATH.*

ISC 15 15:57:56.8±0.7, 3535N±005×2536E±004, h5km±6km, n22, σ0§99/24, mb4.0/2, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.23**	**113**	*e*PB	**Pg**	**15 58 01.4**	**+0.1**
NPS				*e*SB	**Sg**	**15 58 04.9**	**+0.6**
IDI	**Anoyia**	**0.39**	**261**	Pg	**Pg**	**15 58 04.6**	**+0.3**
	128nm,0.3s,baz=12,slow=6.1,SNR=421						
IDI				Lg		15 58 10.2	
	1μm,0.3s,baz=350,slow=15,SNR=164						
VAM	**Vamos**	**0.95**	**274**	*e*PN	**Pg**	**15 58 14.9**	**-0.1**
VAM				*e*SN	**Sg**	**15 58 27.4**	**+0.2**
THR6	**Thira Island,**	**1.00**	**2**	*e*P	**Pg**	**15 58 15.8**	**-0.3**
THR1	**Thera Island**	**1.02**	**5**	*e*P	**Pg**	**15 58 16.1**	**-0.3**
THR1	**Thera Island**	**1.02**	**5**	*e*P	**Pg**	**15 58 16.1**	**-0.3**
THR3	**Thira Island,**	**1.06**	**2**	*e*P	**Pg**	**15 58 16.5**	**-0.6**
KARP	**Karpathos**	**1.49**	**82**	*e*PN	**Pn**	**15 58 23.9**	**-0.3**
APE	**Apeiranthos**	**1.72**	**5**	*e*PB	**Pn**	**15 58 25.9**	**-1.5**
KYTH	**Kithira**	**2.10**	**297**	*e*PB	**Pn**	**15 58 31.0**	**-1.6**
VLI	**Veliai**	**2.39**	**306**	*e*PN	**Pn**	**15 58 35.2**	**-1.4**
ARG	**Arkhangelos**	**2.41**	**68**	*e*PB	**Pn**	**15 58 37.0**	**+0.1**
SMG	**Samos**	**2.64**	**26**	*e*PN	**Pn**	**15 58 39.6**	**-0.4**
ITM	**Ithomi**	**3.32**	**304**	*e*PB	**Pn**	**15 58 50.8**	**+1.4**
LKR	**Lokris**	**3.79**	**331**	*e*PN	**Pn**	**15 58 57.3**	**+1.4**
BRTR	**Keskin Array B**	**7.90**	**54**	Pn	**Pn**	**15 59 55.9**	**+3.6**
	0.1nm,0.3s,baz=223,slow=13,SNR=3.4						
BRTR	**Keskin Array B**	**7.90**	**54**	Pn	**Pn**	**15 59 55.8**	**+3.5**
MMAI	**Mount Meron Ar**	**8.64**	**103**	Pn	**Pn**	**16 00 01.5**	**-1.1**
	0.7nm,0.3s,baz=289,slow=11,SNR=6.4						
AKASG	**Malin Array Be**	**15.60**	**9**	Pn	**Pn**	**16 01 38.9**	**+1.5**
	1.2nm,0.3s,baz=200,slow=11,SNR=5.7						
GERES	**GERESS Array B**	**15.99**	**331**	Pn	**Pn**	**16 01 44.4**	**+2.0**
	0.1nm,0.3s,baz=153,slow=15,SNR=2.7						
TORD	**Torodi Ar. Bea**	**30.73**	**230**	P	**P**	**16 04 12.2**	**-0.6**
	1.2nm,0.5s,mb4.0,baz=30,slow=8.7,SNR=12						
MKAR	**Makanchi Array**	**43.54**	**57**	P	**P**	**16 06 01.8**	**+0.3**
	1.0nm,0.3s,mb4.0,baz=265,slow=8.9,SNR=6.7						

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*IDC **15** 16:19:55.5±1.9, 2970N×13869E, h367km±44km, mb3.1/2, mb1 3.2/5, mb1mx2.9/23, mbtmp3.2/5, Error ellipse: s-maj=104.2km s-min=13.2km az=70.0*

*ISCJB **15** 16:19:56.0±0.6, 3002N±005×1396E±02, h422km±9km, mb3.2/2, Error ellipse: s-maj=26.5km s-min=6.1km az=155.4*

*JMA **15** 16:19:56.4±0.3, 3005N×13969E, h430km±4km, M3.7*

ISC 15 16:19:57.2±0.6, 3007N±005×1398E±02, h415km±9km, n21, σ1§26/33, mb3.2/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.03**	**1**	P	**P**	**16 21 03.5**	**+1.7**
JHJ2				*e*S	**S**	**16 21 54.0**	**-0.1**
JHJ	**Hachijo jima 2**	**3.04**	**0**	P	**P**	**16 21 02.9**	**+1.0**
	27nm,0.3s,baz=74,slow=20,SNR=7.8						
JHJ				S	**S**	**16 21 53.2**	**-1.0**
	34nm,0.3s,baz=71,slow=23,SNR=6.2						
CBIJ	**Chichi jima**	**3.65**	**144**	P	**P**	**16 21 07.7**	**+0.6**
	5.2nm,0.3s,baz=278,slow=20,SNR=

mb1 4.1/24,mb1mx4.0/30,mbtmp3.9/24,MS3.1/4, Ms1 3.1/4,ms1mx2.8/43,Error ellipse: s-maj=14.6km s-min=12.4km az=131.0

ISC 15 16:37:00.6±0.5,4698N±005×15278E±007,h62km±4km, h13km±7.6km:pP-P,n144,σ1§42/161,mb4.4/44,1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**245**	⇑*i*PN	**Pn**	**16 37 56.8**	**-0.4**
KUR				*i* S	**Sn**	**16 38 43.0**	**+2.0**
KUR				pmax	pmax		
	comp=N,110nm,0.7s						
KUR				pmax	pmax		
	comp=E,100nm,0.7s						
KUR				pmax	pmax		
	comp=Z,310nm,0.7s						
KUR				smax			
	comp=N,880nm,0.6s						
KUR				smax			
	comp=E,380nm,0.6s						
KUR	**Kuril'sk**	**3.84**	**245**	*e*P	**Pn**	**16 37 56.8**	**-0.4**
KUR				AMB	AMB	16 37 58.5	
	comp=E,110nm,0.7s						
KUR				AMB	AMB	16 37 58.5	
	comp=E,100nm,0.7s						
KUR				AMB	AMB	16 37 58.5	
	comp=E,310nm,0.7s						
KUR				*i* S	**Sn**	**16 38 43.0**	**+2.0**
KUR				A		16 38 53.2	
	comp=E,880nm,0.6s						
KUR				A		16 38 53.2	
	comp=E,380nm,0.6s						
SKR	**Severo-Kuril's**	**4.31**	**30**	*e*PN	**Pn**	**16 38 03.6**	**0.0**
SKR				*e*S	**Sn**	**16 38 50.6**	**-1.9**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.69**	**241**	*e*PN	**Pn**	**16 38 24.2**	**+1.8**
YUK				*e*S	**Sn**	**16 39 30.1**	**+3.7**
YUK				pmax	pmax		
	comp=Z,140nm,0.4s						
YUK				smax			
	comp=E,370nm,0.5s						
YUK				smax			
	comp=N,210nm,0.6s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.69**	**241**	*e*P	**Pn**	**16 38 24.2**	**+1.8**
YUK				AMB	AMB	16 38 24.8	
	comp=E,140nm,0.4s						
YUK				*e*S	**Sn**	**16 39 30.1**	**+3.7**
YUK				A		16 39 32.7	
	comp=E,210nm,0.5s						
YUK				A		16 39 32.7	
	comp=E,370nm,0.5s						
YUK				A		16 39 45.0	
	comp=E,2μm,0.6s						
YUK				A		16 39 45.0	
	comp=E,2μm,0.6s						
NEM2	**Nemuro 2**	**6.15**	**237**	P	**Pn**	**16 38 28.4**	**-0.4**
NEM2				*e*S	**Sn**	**16 39 35.0**	**-2.7**
JRA	**Rausu**	**6.19**	**243**	P	**Pn**	**16 38 32.0**	**+2.7**
JNK	**Nakash**	**6.62**	**242**	P	**Pn**	**16 38 37.0**	**+1.7**
JNK				*e*S	**Sn**	**16 39 50.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**6.86**	**273**	⇓*e*PN	**Pn**	**16 38 42.2**	**+3.7**
YSS				*e*S	**Sn**	**16 39 58.5**	**+3.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax			
	comp=E,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.86**	**273**	*e*Pn	**Pn**	**16 38 42.1**	**+3.5**
	comp=E,22nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.86**	**273**	*e*P	**Pn**	**16 38 42.2**	**+3.7**
YSS				AMB	AMB	16 38 43.0	
	comp=E,30nm,0.5s						
YSS				*e*S	**Sn**	**16 39 58.5**	**+3.3**
YSS				A		16 40 01.9	
	comp=E,50nm,0.7s						
JTKR	**Abashiri--Toko**	**6.93**	**247**	P	**Pn**	**16 38 42.2**	**+2.8**
JTKR				*e*S	**Sn**	**16 40 01.9**	**+5.1**
JAK	**Akkeshi**	**6.98**	**238**	P	**Pn**	**16 38 39.7**	**-0.5**
JAK				*e*S	**Sn**	**16 39 55.2**	**-2.9**
PET	**Petropavlovsk**	**7.13**	**30**	*e*PN	**Pn**	**16 38 44.8**	**+2.6**
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	**7.13**	**30**	Pn	**Pn**	**16 38 39.1**	**-3.1**
PET				*e*Sn	**Sn**	**16 40 01.8**	**+0.1**
JMP	**Maruseppu**	**7.26**	**249**	P	**Pn**	**16 38 47.4**	**+3.4**
JAR	**Ashorobuto**	**7.36**	**243**	P	**Pn**	**16 38 47.2**	**+1.8**
JAR				*e*S	**Sn**	**16 40 07.8**	**+0.4**
JOB	**Onbets**	**7.54**	**241**	P	**Pn**	**16 38 48.8**	**+0.9**
JOB				*e*S	**Sn**	**16 40 09.9**	**-2.0**
ASAJ	**Asahikawa**	**7.70**	**252**	P	**Pn**	**16 38 53.4**	**+3.3**
	comp=Z,1.8nm,0.3s,baz=97,slow=15,SNR=21						
ASAJ				LR	LR	16 41 40.5	
	comp=Z,141nm,20.6s,baz=352,slow=36						
ASAJ	**Asahikawa**	**7.70**	**252**	P	**Pn**	**16 38 54.0**	**+4.0**
JKK2	**Kamakawa 2**	**7.71**	**250**	P	**Pn**	**16 38 53.5**	**+3.3**
JWK2	**Keihoku**	**7.74**	**262**	P	**Pn**	**16 38 56.8**	**+6.2**
JCH	**Churui**	**8.00**	**240**	P	**Pn**	**16 38 53.8**	**-0.2**
JCH				*e*S	**Sn**	**16 40 18.8**	**-4.2**
JFR	**Furan**	**8.16**	**246**	P	**Pn**	**16 38 59.1**	**+2.8**
JAB	**Ashibetsu**	**8.22**	**249**	P	**Pn**	**16 39 00.5**	**+3.4**
ERM	**Erimo**	**8.48**	**238**	*e*PN	**Pn**	**16 39 01.1**	**+0.4**
ERM				pmax	pmax		
	comp=Z,34nm,0.6s						
ERM	**Erimo**	**8.48**	**238**	*e*Pn	**Pn**	**16 39 01.1**	**+0.4**
	comp=Z,34nm,0.6s						
JEM	**Erimo**	**8.48**	**238**	P	**Pn**	**16 39 00.9**	**+0.2**
JEM				*e*S	**Sn**	**16 40 31.1**	**-3.8**
JBT2	**Biratori 2**	**8.51**	**244**	P	**Pn**	**16 39 01.7**	**+0.7**
JNBK	**Urakawa-nobuka**	**8.56**	**240**	P	**Pn**	**16 39 00.8**	**-0.9**
JEW	**Eniwo**	**9.04**	**247**	P	**Pn**	**16 39 10.8**	**+2.4**
JNB	**Noboribetsu**	**9.50**	**246**	P	**Pn**	**16 39 14.7**	**+0.1**
JNB				*e*S	**Sn**	**16 40 57.8**	**-2.0**
JKB	**Kayabe**	**9.82**	**243**	P	**Pn**	**16 39 17.9**	**-1.1**
JKB				*e*S	**Sn**	**16 41 01.0**	**-6.7**
JSH	**Shimam**	**10.04**	**249**	P	**Pn**	**16 39 23.3**	**+1.4**
JYM2	**Yakumo 2**	**10.10**	**246**	P	**Pn**	**16 39 22.8**	**-0.1**
JYM2				*e*S	**Sn**	**16 41 10.4**	**-4.2**
JSR	**Shiriuchi**	**10.41**	**243**	P	**Pn**	**16 39 25.5**	**-1.5**
JTM	**Tenmabayashi**	**10.47**	**238**	P	**Pn**	**16 39 25.5**	**-2.4**
JTM				*e*S	**Sn**	**16 41 14.4**	**-9.3**
JANG	**Nango**	**10.49**	**235**	P	**Pn**	**16 39 25.1**	**-3.1**
JANG				*e*S	**Sn**	**16 41 14.7**	**-9.4**
JTH	**Tanohata**	**10.60**	**232**	P	**Pn**	**16 39 25.9**	**-3.8**
JTH				*e*S	**Sn**	**16 41 15.4**	**-11**
JOSM	**Okushiri--Mats**	**10.69**	**248**	P	**Pn**	**16 39 30.1**	**-0.7**
OFUJ	**Ofunato**	**11.33**	**230**	P	**Pn**	**16 39 36.4**	**-3.2**
JRG	**Rokugo**	**11.66**	**234**	P	**Pn**	**16 39 41.8**	**-2.3**
JIO	**Ouri**	**11.96**	**229**	P	**Pn**	**16 39 45.3**	**-2.9**
JIO				*e*S	**Sn**	**16 41 48.0**	**-12**
MA2	**Magadan**	**12.67**	**355**	*e*PN	**Pn**	**16 39 59.5**	**+1.6**
MA2				pmax	pmax		
	comp=N,20nm,0.5s						
MA2				pmax	pmax		
	comp=Z,30nm,0.5s						
JYA	**Atsumi**	**12.73**	**234**	P	**Pn**	**16 39 56.9**	**-1.8**
JFY	**Yanaizu**	**13.60**	**230**	P	**Pn**	**16 40 08.9**	**-1.7**
MAJO	**Matsushiro**	**15.04**	**231**	*e*P	**Pn**	**16 40 30.1**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MAJO	**Matsushiro**	**15.04**	**231**	*e*Pn	**Pn**	**16 40 30.1**	**+0.6**
	comp=Z,10.0nm,0.4s						
MAT	**Matsushiro**	**15.04**	**231**	P	**Pn**	**16 40 30.1**	**+0.7**
MJAR	**Matsushiro Arr**	**15.04**	**231**	P	**Pn**	**16 40 33.9**	**+4.4**
	comp=Z,1.4nm,0.3s,baz=36,slow=9.0,SNR=12						
MJAR	**Matsushiro Arr**	**15.04**	**231**	P	**Pn**	**16 40 33.9**	**+4.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**16.34**	**270**	P	**Pn**	**16 40 46.9**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,126nm,5.7s						
JHJ	**Hachijo jima 2**	**17.02**	**220**	LR	LR	16 46 53.1	
	comp=Z,29nm,18.6s,baz=266,slow=34						
CN2	**Changchun**	**19.42**	**271**	*e*P	**Pn**	**16 41 21.1**	**-2.3**
YAK	**Yakutsk**	**20.00**	**327**	*e*P	**P**	**16 41 29.2**	**+1.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.4s						
YAK	**Yakutsk**	**20.00**	**327**	*e*P	**P**	**16 41 29.2**	**+1.2**
	comp=Z,16nm,0.4s						
KSRS	**Korea Array**	**20.65**	**252**	P	**P**	**16 41 36.4**	**+1.2**
	comp=Z,4.8nm,0.5s,baz=55,slow=11,SNR=16						
KSRS				LR	LR	16 48 19.1	
	comp=Z,53nm,20.3s,baz=156,slow=33						
INCN	**Inchon**	**21.48**	**253**	P	**P**	**16 41 43.7**	**-0.3**
	comp=Z,22nm,0.7s,mb4.6						
HIA	**Hailar**	**22.08**	**288**	P	**P**	**16 41 48.9**	**-1.5**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HIA	**Hailar**	**22.08**	**288**	P	**P**	**16 41 48.9**	**-1.4**
	comp=Z,2.7nm,0.5s,mb3.9						
BJT	**Baijiatuau**	**27.27**	**269**	P	**P**	**16 42 42.3**	**+3.3**
BJT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BJT	**Baijiatuau**	**27.27**	**269**	P	**P**	**16 42 42.3**	**+3.3**
	comp=Z,8.4nm,1.0s,mb4.2						
HHC	**Hu-ho-hao-te**	**30.05**	**273**	*e*P	**P**	**16 43 04.3**	**+0.6**
HHC				AP	pP	16 43 08.6	-10
HHC				XP	sP	16 43 11.3	-15
HHC				PP	PP	16 44 01.3	-11
HHC				PCP	PcP	16 46 08.5	+4.2
HHC				S	**S**	**16 48 05.3**	**+7.7**
HHC				SS	SS	16 49 34.3	-33
HHC				SCP	ScP	16 49 48.1	+7.0
HHC				PCS	PcS	16 49 49.3	+1.5
HHC				SCS	ScS	16 53 41.9	+5.2
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,88nm,5.5s						
HHC				LR	LR		
	comp=N,191nm,15.5s						
HHC				LR	LR		
	comp=E,197nm,14.3s						
HHC				LR	LR		
	comp=Z,84nm,16.6s						
ULN	**Ulaanbaatar**	**30.61**	**289**	P	**P**	**16 43 08.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**30.61**	**289**	P	**P**	**16 43 08.7**	**+0.1**
	comp=Z,3.4nm,1.0s,mb4.1						
SONM	**Songino Array**	**31.04**	**289**	P	**P**	**16 43 12.4**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.4,baz=76,slow=8.6,SNR=4.5						
SONM				LR	LR	16 56 33.6	
	comp=Z,70nm,18.5s,baz=73,slow=38						
MCK	**McKinley**	**35.62**	**41**	*e*P	**P**	**16 43 52.2**	**-0.1**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
MCK	**McKinley**	**35.62**	**41**	*e*P	**P**	**16 43 52.2**	**-0.1**
	comp=Z,4.9nm,1.2s,mb4.3						
SML	**Sawmill**	**35.96**	**44**	*e*P	**P**	**16 43 55.0**	**-0.2**
COLA	**College**	**36.10**	**39**	*e*P	**P**	**16 43 56.9**	**+0.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
COLA	**College**	**36.10**	**39**	*e*P	**P**	**16 43 56.9**	**+0.5**
	comp=Z,5.3nm,0.8s,mb4.5						
LZH	**Lanzhou**	**37.66**	**271**	*e*P	**P**	**16 44 08.5**	**-1.1**
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**37.66**	**271**	*e*P	**P**	**16 44 08.5**	**-1.1**
LZH				pP	pP	16 44 12.5	-13
LZH				sP	sP	16 44 15.0	-17
CD2	**Chengdu**	**40.67**	**265**	*e*P	**P**	**16 44 35.9**	**+1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
GYA	**Guiyang**	**41.55**	**257**	P	**P**	**16 44 44.6**	**+2.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
INK	**Inuvik**	**41.58**	**33**	P	**P**	**16 44 42.5**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.2,baz=296,slow=6.0,SNR=17						
INK	**Inuvik**	**41.58**	**33**	*e*P	**P**	**16 44 42.9**	**+0.7**
	comp=Z,146nm,0.7s						
ZAL	**Zalesovo**	**42.31**	**305**	PcP	PcP	16 46 40.3	-0.5
	comp=Z,2.0nm,0.8s,baz=86,slow=3.1,SNR=11						
WMQ	**Urumqi**	**44.63**	**291**	*e*P	**P**	**16 45 08.6**	**+1.7**
KMI	**Kunming**	**45.06**	**259**	P	**P**	**16 45 10.9**	**+0.6**
KMI				AP	pP	16 45 19.0	-7.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.4						
MKAR	**Makanchi Array**	**46.63**	**297**	P	**P**	**16 45 20.9**	**-1.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=69,slow=7.6,SNR=9.1						
MKAR				PcP	PcP	16 46 54.9	-0.7
	comp=Z,1.5nm,0.5s,baz=67,slow=2.8,SNR=14						
MKAR	**Makanchi Array**	**46.63**	**297**	P	**P**	**16 45 20.9**	**-1.8**
MKAR						16 46 54.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**46.63**	**297**	P	**P**	**16 45 20.9**	**-1.8**
MKAR				PcP	PcP	16 46 54.9	-0.7
KURK	**Kurchatov**	**47.05**	**303**	P	**P**	**16 45 24.7**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**47.05**	**303**	P	**P**	**16 45 24.7**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.1						
LSA	**Lhasa**	**50.04**	**273**	*e*P	**P**	**16 45 51.0**	**+2.2**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**50.04**	**273**	*e*P	**P**	**16 45 51.0**	**+2.2**
	comp=Z,3.8nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**50.11**	**310**	*e*P	**P**	**16 45 46.9**	**-2.5**
CHKZ				*e*		16 47 06.6	
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
CHKZ	**Chkalovo**	**50.11**	**310**	*e*P	**P**	**16 45 46.9**	**-2.5**
	comp=Z,2.2nm,0.4s,mb4.5						
CHKZ				*e*PcP	PcP	16 47 06.6	-1.6
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**16 45 51.2**	**-1.4**
	comp=Z,0.7nm,0.3s,mb4.0,baz=54,slow=7.5,SNR=9.7						
BVAR				PcP	PcP	16 47 09.4	-0.3
	comp=Z,2.2nm,0.4s,baz=86,slow=3.4,SNR=20						
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**	**16 45 51.2**	**-1.4**
BVAR						16 47 09.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**50.58**	**309**	*e*P	**P**	**16 45 52.1**	**-0.8**
BRVK				*e*		16 47 09.4	
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**50.58**	**309**	*e*P	**P**	**16 45 52.1**	**-0.8**
	comp=Z,2.1nm,0.8s,mb4.1						
BRVK				*e*PcP	PcP	16 47 09.4	-0.5
RES	**Resolute Bay**	**50.69**	**19**	*e*P	**P**	**16 45 52.8**	**-0.9**
	comp=Z,91nm,0.8s						
YKA	**Yellowknife Ar**	**50.87**	**37**	P	**P**	**16 45 55.5**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=298,slow=7.1,SNR=11						
YKA				PcP	PcP	16 47 10.6	-0.3
	comp=Z,1.2nm,0.7s,baz=302,slow=3.7,SNR=7.2						
YKA	**Yellowknife Ar**	**50.87**	**37**	P	**P**	**16 45 55.5**	**+0.3**
YKA						16 47 10.6	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**50.87**	**37**	P	**P**	**16 45 55.5**	**+0.3**
YKA				PcP	PcP	16 47 10.7	-0.3
GUN	**Gumba**	**54.76**	**275**	*e*P	**P**	**16 46 25.1**	**+1.3**
KKN	**Kakani**	**55.24**	**275**	*e*P	**P**	**16 46 28.4**	**+1.1**
	comp=Z,7.3nm,0.5s,mb5.0						
PKI	**Pulchoki**	**55.29**	**275**	*e*P	**P**	**16 46 28.3**	**+0.6**
DMN	**Daman**	**55.48**	**275**	*e*P	**P**	**16 46 30.3**	**+1.3**
	comp=Z,11nm,0.6s,mb5.0						
GKN	**Gorkha**	**55.54**	**276**	*e*P	**P**	**16 46 30.4**	**+0.9**
	comp=Z,7.6nm,0.4s,mb5.1						
PMG	**Port Moresby**	**56.36**	**187**	*e*P	**P**	**16 46 33.5**	**-1.8**
PMG				pmax	pmax		
	comp=Z,17nm,1.0s						
PMG	**Port Moresby**	**56.36**	**187**	*e*P	**P**	**16 46 33.5**	**-1.7**
	comp=Z,17nm,1.0s,mb5.0						
KOLN	**Koldanda**	**56.40**	**276**	*e*P	**P**	**16 46 35.3**	**-0.3**
	comp=Z,9.4nm,0.6s,mb5.0						
ARCES	**ARCESS Array B**	**57.56**	**341**	P	**P**	**16 46 42.1**	**-1.7**
	comp=Z,2.6nm,0.8s,mb4.3,baz=32,slow=7.6,SNR=10						
ARCES	**ARCESS Array B**	**57.56**	**341**	P	**P**	**16 46 42.1**	**-1.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**62.53**	**62**	P	**P**	**16 47 18.9**	**+1.1**
	comp=Z,1.2nm,0.7s,mb4.2,baz=322,slow=6.9,SNR=5.1						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**16 47 23.9**	**-1.8**
	comp=Z,1.5nm,0.3s,mb4.4,baz=42,slow=6.6,SNR=21						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**16 47 23.9**	**-1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**16 47 23.9**	**-1.8**
PDAR	**Pinedale Array**	**64.79**	**54**	P	**P**	**16 47 33.8**	**+1.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=291,slow=1.3,SNR=17						
NB2	**NORSAR Subarra**	**67.94**	**341**	P	**P**	**16 47 51.8**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**67.94**	**341**	P	**P**	**16 47 52.1**	**-0.7**
	comp=Z,2.0nm,0.5s,mb4.4,baz=28,slow=6.3,SNR=7.3						
NOA	**NORSAR Array B**	**67.94**	**341**	P	**P**	**16 47 52.1**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**68.16**	**339**	P	**P**	**16 47 52.7**	**-1.5**
	comp=Z,4.9nm,0.6s,mb4.7,baz=52,slow=6.1,SNR=23						
HFS	**Hagfors**	**68.16**	**339**	P	**P**	**16 47 52.7**	**-1.5**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**68.66**	**199**	P	**P**	**16 47 57.3**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=15,slow=6.7,SNR=7.6						
FITZ	**Fitzroy Crossi**	**69.24**	**208**	*e*P	**P**	**16 48 02.3**	**+1.4**
	comp=Z,5.3nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**69.24**	**208**	P	**P**	**16 48 01.9**	**+1.0**
	comp=Z,2.7nm,0.8s,mb4.2,baz=358,slow=4.1,SNR=4.0						
KIV	**Kislovodsk**	**70.48**	**314**	*e*P	**P**	**16 48 08.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
KIV	**Kislovodsk**	**70.48**	**314**	*e*P	**P**	**16 48 08.4**	**-0.1**
	comp=Z,6.1nm,0.6s,mb4.7						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**16 48 11.1**	**-2.0**
	comp=Z,1.7nm,0.3s,mb4.5,baz=35,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**16 48 11.1**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**72.36**	**198**	P	**P**	**16 48 21.4**	**+1.6**
	comp=Z,1.8nm,0.8s,mb4.0,baz=14,slow=6.1,SNR=17						
ASAR	**Alice Springs**	**72.36**	**198**	P	**P**	**16 48 21.4**	**+1.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SCHQ	**Schefferville**	**73.18**	**23**	P	**P**	**16 48 24.8**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=315,slow=18,SNR=5.2						
STHS	**Stebnicka Huta**	**75.20**	**330**	*e*PG	**P**	**16 48 32.6**	**-3.9**
MLR	**Muntele Rosu**	**76.75**	**325**	P	**P**	**16 48 44.4**	**-0.9**
	comp=Z,4.2nm,0.5s,mb4.6,baz=219,slow=3.0,SNR=6.9						
MLR	**Muntele Rosu**	**76.75**	**325**	P	**P**	**16 48 44.4**	**-0.9**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	**16 48 50.6**	**+0.7**
	comp=Z,5.0nm,0.6s,mb4.7,baz=298,slow=4.3,SNR=74						
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	**16 48 50.6**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRTR	**Keskin Array B**	**78.07**	**316**	P	**P**	**16 48 52.5**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=56,slow=4.4,SNR=7.5						
BRTR	**Keskin Array B**	**78.07**	**316**	P	**P**	**16 48 52.6**	**0.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MIB	**Mutribah**	**78.35**	**301**	*e*P	**P**	**16 48 54.7**	**+0.5**
MIB				AMb	AMB	16 48 55.3	
	comp=Z,16nm,0.7s,mb5.1						
NAY	**Al-Naaiem**	**78.81**	**301**	*e*P	**P**	**16 48 57.1**	**+0.3**
RDF	**Al-Radifah**	**78.87**	**300**	*e*P	**P**	**16 48 57.7**	**+0.7**
RDF				AMb	AMB	16 49 03.2	
	comp=Z,34nm,1.3s,mb5.1						
MMAI	**Mount Meron Ar**	**82.49**	**311**	P	**P**	**16 49 17.1**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=49,slow=6.7,SNR=5.2						
IDI	**Anoyia**	**85.69**	**320**	P	**P**	**16 49 30.7**	**-2.0**
	comp=Z,6.0nm,0.6s,mb5.0,baz=329,slow=8.0,SNR=6.1						
CFAA	**Coronel Fontan**	**145.17**	**79**	PKPbc	PKPbc	16 56 30.1	-0.6
	comp=Z,0.4nm,0.5s,baz=297,slow=2.2,SNR=7.3						
PLCA	**Paso Flores**	**148.45**	**95**	PKPbc	PKPbc	16 56 38.6	-1.5
	comp=Z,2.8nm,0.8s,baz=338,slow=6.3,SNR=4.8						
PLCA	**Paso Flores**	**148.45**	**95**	PKP2	PKPbc	16 56 38.6	-1.5
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNA2	**Neumayer--Watz**	**154.17**	**195**	*e*	PKPbc	16 56 52.9	-0.5
	baz=109,slow=1.2						
VNA2				*e*		16 56 58.5	
VNA2				*e*		16 57 07.4	
VNA3	**Neumayer Olymp**	**154.27**	**193**	*e*	PKPbc	16 56 52.6	-1.0
VNA3				*e*		16 56 59.1	
VNA3				*e*		16 57 07.4	

IDC 15 16:43:30.3±3.4,4693N×15584E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/24,mbtmp3.7/5,Error ellipse: s-maj=100.3km s-min=28.4km az=176.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**40.49**	**33**	P	P	16 51 10.2	-0.6
	1.0nm,0.6s,baz=254,slow=4.9,SNR=5.6						
MKAR	**Makanchi Array**	**48.51**	**298**	P	P	16 52 14.7	-0.2
	0.5nm,0.8s,baz=56,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**49.65**	**38**	P	P	16 52 22.7	-0.9
	0.5nm,0.6s,baz=293,slow=7.1,SNR=4.5						
BVAR	**Borovoye Array**	**52.18**	**310**	P	P	16 52 42.1	-0.6
	0.6nm,0.6s,baz=64,slow=8.4,SNR=5.8						
TXAR	**Lajitas Array**	**75.76**	**62**	P	P	16 55 18.4	+0.5
	0.4nm,0.8s,baz=295,slow=3.8,SNR=

KSP	Ksiaz	0.74 168	ePg	Pg	16 48 13.2	+0.6
KSP	Ksiaz	0.74 168	⇓iP	Pg	16 48 13.2	+0.6
KSP			e		16 48 22.7	
KSP	Ksiaz	0.74 168	Pg	Pg	16 48 13.2	+0.6
KSP			eSg	Sg	16 48 22.7	+0.5
UPC	Upice	1.06 182	ePG	Pg	16 48 19.2	+0.4
DPC	Dobruska-Polom	1.23 172	ePg	Pg	16 48 21.9	-0.1
DPC			eSg	Sg	16 48 37.2	-0.8
DPC	Dobruska-Polom	1.23 172	ePG	Pg	16 48 22.0	0.0
DPC			eSG	Sg	16 48 37.2	-0.8
	432nm,0.8s					
DPC	Dobruska-Polom	1.23 172	eP	Pg	16 48 22.0	0.0
DPC			e		16 48 37.2	
DPC			smax			
	comp=N,432nm,0.8s					
PVCC	Panska Ves	1.40 223	ePG	Pg	16 48 25.4	+0.1
BRG	Berggiesshubel	1.50 243	ePn	Pn	16 48 26.3	-0.3
BRG			eSg	Sg	16 48 47.7	+1.1
BRG	Berggiesshubel	1.50 243	PN	Pn	16 48 26.6	0.0
BRG			PG	Pg	16 48 28.1	+0.9
BRG			SG	Sg	16 48 47.6	+1.0
	comp=N,382nm,0.6s					
BRG	Berggiesshubel	1.50 243	P	Pn	16 48 26.6	+0.1
BRG					16 48 47.6	
BRG			smax			
	comp=N,382nm,0.6s					
RUE	Ruedersdorf	1.68 304	ePn	Pn	16 48 28.8	-0.2
RUE			eSn	Sn	16 48 53.4	+2.2
RUE	Ruedersdorf	1.68 304	ePn	Pn	16 48 28.8	-0.2
RUE			eSn	Sn	16 48 53.4	+2.2
FBE	Freiberg	1.82 250	eSg	Sg	16 48 56.5	-0.4
PRA	Prague	1.82 215	PN	Pn	16 48 31.0	+0.1
PRA			PG	Pg	16 48 34.0	+0.7
PRA			SG	Sg	16 48 55.0	-1.9
GKP	Gorka Klasztor	1.85 22	ePn	Pn	16 48 39.3	+8.0
GKP			eSn	Sn	16 49 01.6	+6.2
GKP			eSg	Sg	16 49 05.8	+8.0
GKP	Gorka Klasztor	1.85 22	ePn	Pn	16 48 39.3	+8.0
GKP			eSn	Sn	16 49 01.6	+6.2
PRU	Pruhonice	1.85 212	ePG	Pn	16 48 33.1	+1.7
PRU			eSG	Sn	16 48 56.2	+0.7
	comp=N,283nm,0.8s					
PRU	Pruhonice	1.85 212	ePg	Pn	16 48 33.1	+1.7
PRU			eSg	Sn	16 48 56.2	+0.7
PRU	Pruhonice	1.85 212	ePg	Pn	16 48 33.1	+1.7
PRU			eSg	Sn	16 48 56.2	+0.7
	comp=N,283nm,0.8s					
CLL	Collm	1.93 263	ePn	Pn	16 48 32.2	-0.3
CLL			eSg	Sg	16 49 00.9	+0.5
CLL	Collm	1.93 263	i Pn	Pn	16 48 32.3	-0.1
CLL			i Pg	Pg	16 48 35.5	+0.1
CLL			i Sg	Sg	16 49 01.8	+1.4
CLL	Collm	1.93 263	i Pn	Pn	16 48 32.3	-0.1
CLL			i Pg	Pg	16 48 35.5	+0.1
CLL			i x	x	16 48 39.4	
CLL			i Sg	Sg	16 49 01.8	+1.4
	comp=Z,343nm,0.7s					
CLL	Collm	1.93 263	Pn	Pn	16 48 32.2	-0.2
CLL	Collm	1.93 263	i Pg	Pg	16 48 35.5	+0.1
CLL			Sg	Sg	16 49 00.9	+0.5
RAC	Raciborz	2.01 137	ePg	Pg	16 48 37.2	+0.3
RAC			eSg	Sg	16 49 02.1	-0.9
RAC	Raciborz	2.01 137	ePg	Pg	16 48 37.2	+0.3
RAC			eSg	Sg	16 49 02.1	-0.9
RAC	Raciborz	2.01 137	ePg	Pg	16 48 37.2	+0.3
RAC			eSg	Sg	16 49 02.1	-0.9
MORC	Moravsky Berou	2.03 152	ePn	Pn	16 48 33.5	-0.3
MORC	Moravsky Berou	2.03 152	ePn	Pn	16 48 33.5	-0.2
MORC			eSn	Sn	16 49 00.9	+1.1
MORC	Moravsky Berou	2.03 152	Pn	Pn	16 48 33.5	-0.3
MORC			eSn	Sn	16 49 00.9	+1.1
OKC	Ostrava-Krasne	2.18 142	eSG	Sg	16 49 06.9	-1.6
	comp=Z,444nm,0.7s					
VRAC	Vranov	2.29 171	Pn	Pn	16 48 37.4	0.0
	comp=Z,6.0nm,0.3s,baz=349,slow=15,SNR=9.8					
VRAC			Sn	Sn	16 49 04.4	-1.8
	comp=Z,7.1nm,0.3s,baz=267,slow=23,SNR=3.9					
VRAC			Lg		16 49 09.8	
	comp=Z,16nm,0.3s,baz=59,slow=21,SNR=13					
VRAC	Vranov	2.29 171	Pn	Pn	16 48 37.4	0.0
VRAC			Sn	Sn	16 49 04.4	-1.8
VRAC			Lg		16 49 09.8	
VRAC	Vranov	2.29 171	Pn	Pn	16 48 37.3	-0.1
VRAC			Sn	Sn	16 49 04.4	-1.9
NKC	Novy Kostel	2.65 241	ePN	Pn	16 48 42.6	+0.3
NKC			ePG	Pg	16 48 49.2	+0.1
NKC			eSG	Sg	16 49 23.7	+0.2
	comp=Z,620nm,0.8s					
NKC	Novy Kostel	2.65 241	ePn	Pn	16 48 42.6	+0.3
NKC			ePg	Pg	16 48 49.2	+0.1
NKC			eSg	Sg	16 49 23.7	+0.2
NKC	Novy Kostel	2.65 241	ePn	Pn	16 48 42.6	+0.3
NKC	Novy Kostel	2.65 241	ePg	Pg	16 48 49.2	+0.1
NKC			eSg	Sg	16 49 23.7	+0.2
	comp=Z,620nm,0.8s					
OJC	Ojcow	2.73 118	ePn	Pn	16 48 43.1	-0.3
OJC			ePg	Pg	16 48 50.9	+0.3
OJC			eSn	Sn	16 49 12.8	-4.2
OJC			eSg	Sg	16 49 25.9	-0.1
OJC	Ojcow	2.73 118	ePn	Pn	16 48 43.1	-0.3
OJC			ePg	Pg	16 48 50.9	+0.3
OJC			eSn	Sn	16 49 12.8	-4.2
OJC			eSg	Sg	16 49 25.9	-0.1
OJC	Ojcow	2.73 118	ePn	Pn	16 48 43.1	-0.3
OJC	Ojcow	2.73 118	ePg	Pg	16 48 50.9	+0.3
OJC			eSn	Sn	16 49 12.8	-4.2
OJC			Sg	Sg	16 49 26.4	+0.4
KHC	Kasperske Hory	2.91 214	ePN	Pn	16 48 46.1	+0.2
KHC			ePG	Pg	16 48 51.8	-2.4
KHC			eSN	Sn	16 49 20.5	-1.1
KHC			eSG	Sg	16 49 31.5	-0.5
	comp=Z,161nm,0.7s					
KHC	Kasperske Hory	2.91 214	ePn	Pn	16 48 46.1	+0.2
KHC			ePg	Pg	16 48 51.8	-2.4
KHC			eSn	Sn	16 49 20.5	-1.1
KHC			eSg	Sg	16 49 31.5	-0.5
KHC	Kasperske Hory	2.91 214	ePn	Pn	16 48 46.1	+0.2
KHC	Kasperske Hory	2.91 214	ePg	Pg	16 48 51.8	-2.4
KHC			eSn	Sn	16 49 20.5	-1.1
KHC			eSg	Sg	16 49 31.5	-0.5
	comp=Z,161nm,0.7s					
MOX	Moxa	2.95 253	eSg	Sg	16 49 33.7	+0.6
MANZ	Manzenberg	2.97 239	ePn	Pn	16 48 47.5	+0.8
ROTZ	Rotzenmuhle	3.04 235	ePn	Pn	16 48 48.2	+0.4
GEC2	GERESS Array S	3.12 210	ePn	Pn	16 48 48.9	+0.1
GEC2			ePg	Pg	16 48 57.4	-0.7
GEC2			eSn	Sn	16 49 17.8	-9.0
GEC2			eSg	Sg	16 49 38.9	+0.3
GEC2	GERESS Array S	3.12 210	ePn	Pn	16 48 48.9	+0.1
GEC2	GERESS Array S	3.12 210	ePg	Pg	16 48 57.4	-0.8
GERES	GERESS Array B	3.12 210	Pn	Pn	16 48 49.5	+0.8
	comp=Z,7.2nm,0.3s,baz=31,slow=13,SNR=41					
GERES			Pg	Pg	16 48 55.2	-3.0
	comp=Z,10nm,0.3s,baz=35,slow=15,SNR=36					
GERES			Sn	Sn	16 49 24.5	-2.2
	comp=Z,7.2nm,0.3s,baz=30,slow=17,SNR=5.5					
GERES			Lg		16 49 37.3	
	comp=Z,25nm,0.3s,baz=29,slow=28,SNR=15					
GERES	GERESS Array B	3.12 210	Pn	Pn	16 48 49.5	+0.8
GERES			Pg	Pg	16 48 55.2	-3.0
GERES			Sn	Sn	16 49 24.5	-2.2
GERES			Lg		16 49 37.3	
GERES	GERESS Array B	3.12 210	Pn	Pn	16 48 49.5	+0.7
GERES	GERESS Array B	3.12 210	Pg	Pg	16 48 55.2	-3.0
SMOL	Smolenice	3.18 163	ePG	Pg	16 48 58.8	-0.6
SMOL			eSG	Sg	16 49 41.1	+0.4
SMOL	Smolenice	3.18 163	ePg	Pg	16 48 58.8	-0.6
SMOL			eSg	Sg	16 49 41.1	+0.4
SMOL	Smolenice	3.18 163	ePg	Pg	16 48 58.8	-0.6
SMOL			eSg	Sg	16 49 41.1	+0.4
LIKS	Likavka	3.19 141	eSG	Sg	16 49 43.4	+2.5
RGN	Rugen	3.41 332	ePn	Pn	16 48 53.2	+0.4
RGN	Rugen	3.41 332	ePn	Pn	16 48 53.2	+0.4
ZST	Bratislava	3.44 168	ePN	Pn	16 48 54.7	+1.5
ZST			ePG	Pg	16 49 03.9	-0.5
ZST			eSG	Sg	16 49 47.9	-1.1
ZST	Bratislava	3.44 168	ePn	Pn	16 48 54.7	+1.5
ZST			ePg	Pg	16 49 03.9	-0.5
ZST			eSg	Sg	16 49 47.9	-1.1
ZST	Bratislava	3.44 168	ePn	Pn	16 48 54.7	+1.5
ZST	Bratislava	3.44 168	ePg	Pg	16 49 03.9	-0.5
ZST			eSg	Sg	16 49 47.9	-1.1
NIE	Niedzica	3.47 127	eP	Pg	16 49 04.4	-0.4
NIE			eS	Sg	16 49 50.4	+0.7
VYHS	Vyhne	3.56 149	ePN	Pn	16 48 54.4	-0.5
VYHS			ePG	Pg	16 49 05.9	-0.7
VYHS			eSG	Sg	16 49 54.5	+1.7
VYHS	Vyhne	3.56 149	ePn	Pn	16 48 54.4	-0.5
VYHS			ePg	Pg	16 49 05.9	-0.7
VYHS			eSg	Sg	16 49 54.5	+1.7
VYHS	Vyhne	3.56 149	ePn	Pn	16 48 54.4	-0.5
VYHS	Vyhne	3.56 149	ePg	Pg	16 49 05.9	-0.7
VYHS			eSg	Sg	16 49 54.5	+1.7
GRA1	Grafenberg Arr	3.61 240	ePn	Pn	16 48 56.0	+0.5
GRA1	Grafenberg Arr	3.61 240	Pn	Pn	16 48 56.0	+0.5
GRF	Grafenberg Arr	3.61 240	ePn	Pn	16 48 56.0	+0.5
GRF	Grafenberg Arr	3.61 240	ePn	Pn	16 48 56.0	+0.5
GRF	Grafenberg Arr	3.61 240	ePn	Pn	16 48 56.0	+0.5
GRFO	Grafenberg	3.61 240	ePn	Pn	16 48 56.0	+0.5
GRFO			ePg	Pg	16 49 09.2	+1.6
GRFO			eSg	Sg	16 49 54.9	+0.6
GRFO	Grafenberg	3.61 240	ePn	Pn	16 48 56.0	+0.5
GRFO	Grafenberg	3.61 240	ePg	Pg	16 49 09.2	+1.6
BSD	Bornholm Skovb	3.62 350	i P	Pn	16 48 54.2	-1.4
BSD			i S	Sn	16 49 37.2	-1.8
BSD			i LG		16 49 54.8	
BSD	Bornholm Skovb	3.62 350	i P	Pn	16 48 54.2	-1.4
BSD			i S	Sn	16 49 37.2	-1.8
CONA	Conrad Observa	3.65 182	⇓iPn	Pn	16 48 56.6	+0.6
CONA			⇑eSg	Sg	16 49 54.0	-1.5
	comp=Z,116nm,0.5s,SNR=5.2					
HROE	Hohe Rhon--Fla	3.87 257	⇓iPn	Pn	16 48 59.5	+0.5
MOA	Molln	3.90 198	⇑iPn	Pn	16 49 00.3	+0.7
	SNR=20					
MOA			⇑iSg	Sg	16 50 03.1	-0.6
	comp=Z,102nm,0.6s					
SOP	Sopron	3.90 175	⇑ePn	Pn	16 49 00.2	+0.6
SOP			eSB	Sb	16 50 01.5	+5.7
STHS	Stebnicka Huta	3.95 121	ePG	Pg	16 49 14.3	+0.2
STHS			eSG	Sg	16 50 09.5	+4.2
KECS	Kecovo	4.21 136	ePN	Pn	16 49 03.6	-0.1
KECS			ePG	Pg	16 49 19.6	+0.6
KECS			eSG	Sg	16 50 13.0	-0.5
PENC	Penc	4.32 150	⇑eP	Pn	16 49 05.9	+0.6
ARSA	Arzberg	4.34 185	i Pn	Pn	16 49 06.9	+1.3
	SNR=10					
ARSA			⇑iSg	Sg	16 50 17.0	-0.7
	comp=Z,78nm,0.7s					
ARSA	Arzberg	4.34 185	i Pn	Pn	16 49 06.8	+1.3
ARSA			Sg	Sg	16 50 17.0	-0.7
	comp=Z,78nm,0.7s					
CRVS	Cervenica-Dubn	4.38 125	ePN	Pn	16 49 07.6	+1.5
CRVS			ePG	Pg	16 49 22.6	+0.4
CRVS			eSG	Sg	16 50 19.0	0.0
PSZ	Piszkesteto	4.42 144	⇑ePn	Pn	16 49 07.3	+0.6
PSZ	Piszkesteto	4.42 144	ePn	Pn	16 49 07.0	+0.3
KWP	Kalwaria	4.66 112	ePn	Pg	16 49 24.9	-2.7
KWP	Kalwaria	4.66 112	ePn	Pn	16 49 08.4	-1.6
KWP			ePg	Pg	16 49 24.2	-3.4
KWP	Kalwaria	4.66 112	ePn	Pn	16 49 08.4	-1.5
KWP	Kalwaria	4.66 112	ePg	Pg	16 49 24.2	-3.4
KOLS	Kolonicke sedl	4.78 121	ePN	Pn	16 49 11.8	+0.2
KOLS	Kolonicke sedl	4.78 121	ePn	Pn	16 49 11.9	+0.3
KBA	Koelnbreinsper	4.83 203	⇓iPn	Pn	16 49 13.4	+1.1
KBA			⇑iSg	Sg	16 50 33.3	-0.3
	comp=Z,59nm,0.6s					
KBA	Koelnbreinsper	4.83 203	Pn	Pn	16 49 13.4	+1.1
KBA			Sg	Sg	16 50 33.3	-0.3
	comp=Z,59nm,0.6s					
SUW	Suwalki	4.97 58	ePg	Pg	16 49 38.5	+4.9
SUW	Suwalki	4.97 58	ePg	Pg	16 49 38.5	+5.0
UZH	Uzhgorod	4.97 124	eP	Pn	16 49 10.8	-3.5
UZH			eS	Sn	16 50 04.6	-7.9
UZH			MLR	MLR		
	comp=N,48nm,1.0s					
UZH			MLR	MLR		
	comp=E,34nm,1.0s					
UZH			MLR	MLR		
	comp=Z,42nm,1.0s					
PERS	Pernice	4.98 188	ePn	Pn	16 49 16.2	+1.9
PERS			i		16 49 33.8	
PERS			e		16 50 20.4	
TOD	Tromm	5.02 250	P	Pn	16 49 13.7	-1.2
GROS	Grobnik	5.13 184	ePn	Pn	16 49 17.4	+1.1
KOGS	Kog	5.13 179	i Pn	Pn	16 49 17.2	+0.8
KOGS			e		16 50 28.1	
WATA	Walderalm	5.15 216	⇑iPn	Pn	16 49 18.0	+1.3
WATA			⇓iSg	Sg	16 50 43.0	-0.7
	comp=Z,30nm,0.6s					
ZAVS	Zavodnje	5.18 188	ePn	Pn	16 49 17.5	+0.3
WTTA	Wattenberg	5.19 216	⇑iPn	Pn	16 49 18.2	+1.0
WTTA			⇑iSg	Sg	16 50 45.1	+0.1
	comp=Z,68nm,0.8s					
STU	Stuttgart	5.22 240	ePn	Pn	16 49 15.6	-2.2
STU			ePg	Pg	16 49 41.1	+2.6
STU			eSg	Sg	16 50 44.2	-2.0
STU	Stuttgart	5.22 240	ePn	Pn	16 49 15.6	-2.1
STU	Stuttgart	5.22 240	ePg	Pg	16 49 41.1	+2.6
MOTA	Moosalm	5.32 219	⇓iPn	Pn	16 49 20.0	+1.0
MOTA			⇓iSg	Sg	16 50 49.4	+0.1
	comp=Z,90nm,0.8s					
LVV	L'vov	5.36 106	eP	Pn	16 49 26.0	+6.4
LVV			eS	Sn	16 50 21.0	-1.0
SQTA	Sankt Quirin	5.38 218	⇓iPn	Pn	16 49 21.1	+1.2
	SNR=6.9					
SQTA			⇓iSg	Sg	16 50 50.2	-1.1
	comp=Z,25nm,0.5s					
SQTA	Sankt Quirin	5.38 218	⇓iPn	Pn	16 49 21.1	+1.2
SQTA			i Sg	Sg	16 50 50.2	-1.1
SQTA	Sankt Quirin	5.38 218	Pn	Pn	16 49 21.1	+1.2
	comp=Z,6.0nm,9.0s					
SQTA			Sg	Sg	16 50 50.2	-1.1
	comp=Z,25nm,0.5s					
MOZS	Mozjanca	5.39 192	i Pn	Pn	16 49 21.2	+1.3
CADS	Cadrg	5.56 197	i Pn	Pn	16 49 23.0	+0.6
PKSM	Moragy	5.63 161	⇓ePn	Pn	16 49 24.5	+1.3
ABH	Alteburg	5.66 256	P	Pn	16 49 23.5	-0.3
VOY	Vojsko	5.72 195	ePn	Pn	16 49 24.7	+0.1
VOY			e		16 49 50.4	
VOY			e		16 51 03.5	
VOY			e		16 51 11.2	
VOY			e		16 51 35.1	
RHK3	Tenkes	5.87 165	⇓eP	Pn	16 49 27.6	+1.0
LANF	Langenberg	5.89 247	P	Pn	16 49 26.9	0.0
BFO	Black Forest	5.95 240	ePn	Pn	16 49 26.3	-1.4
BFO			ePg	Pg	16 49 52.7	+0.3
BFO			eSg	Sg	16 51 08.9	-0.5
BFO	Black Forest	5.95 240	ePn	Pn	16 49 26.3	-1.4
BFO	Black Forest	5.95 240	ePg	Pg	16 49 52.7	+0.3
BOJS	Bojanci	6.09 185	ePn	Pn	16 49 30.4	+0.8
MEM	Membach	6.41 265	P	Pn	16 49 34.5	+0.5
CDF	Champ du Feu	6.49 244	ePn	Pn	16 49 33.0	-2.0
CDF			eSg	Sg	16 51 20.1	-6.6
	comp=Z,191nm,1.1s					
CDF	Champ du Feu	6.49 244	ePn	Pn	16 49 33.0	-2.0
CDF			eSg	Sg	16 51 20.1	-6.6
	comp=Z,96nm,1.1s					
ECH	Echery	6.66 243	P	Pn	16 49 38.9	+1.5
BCLA	Clavier	6.89 265	P	Pn	16 49 41.5	+0.9
BCLA	Clavier	6.89 265	P	Pn	16 49 41.4	+0.8
HINF	Hinteralfeld	7.05 241	ePn	Pn	16 49 40.6	-2.2
HINF			eSg	Sg	16 51 37.4	-7.5
	comp=Z,82nm,1.0s					
HINF	Hinteralfeld	7.05 241	ePn	Pn	16 49 40.6	-2.2
HINF			eSg	Sg	16 51 37.4	-7.5
	comp=Z,41nm,1.0s					
HAU	Haudompre	7.23 244	ePn	Pn	16 49 43.0	-2.2
HAU			eSg	Sg	16 51 43.2	-7.3
	comp=Z,78nm,0.8s					
HAU	Haudompre	7.23 244	ePn	Pn	16 49 43.0	-2.2
HAU			eSg	Sg	16 51 43.2	-7.3
	comp=Z,39nm,0.8s					
DOU	Dourbes	7.41 263	P	Pn	16 49 49.9	+2.1
DOU	Dourbes	7.41 263	P	Pn	16 49 49.8	+2.1
MEZF	Maizieres J'vi	7.72 251	ePn	Pn	16 49 49.6	-2.5
MEZF			eSg	Sg	16 51 58.9	-7.5
	comp=Z,103nm,1.2s					
MEZF	Maizieres J'vi	7.72 251	ePn	Pn	16 49 49.6	-2.5
MEZF			eSg	Sg	16 51 58.9	-7.5
	comp=Z,51nm,1.2s					
CABF	La Chapelle	8.21 237	eSg	Sg	16 52 13.9	-8.1
	comp=Z,184nm,1.2s					
CABF	La Chapelle	8.21 237	eSg	Sg	16 52 13.9	-8.1
	comp=Z,92nm,1.2s					
KIEV	Kiev	8.32 91	ePn	Pn	16 49 58.6	-1.6
KIEV			ePg	Pg	16 50 34.1	-3.6
KIEV			eSn	Sn	16 51 30.8	-4.1
KIEV	Kiev	8.32 91	ePn	Pn	16 49 58.6	-1.6
KIEV	Kiev	8.32 91	ePg	Pg	16 50 34.1	-3.6
AKASG	Malin Array Be	8.33 91	Pn	Pn	16 49 58.6	-1.8
	comp=Z,3.1nm,0.3s,baz=279,slow=12,SNR=14					
AKASG			Sn	Sn	16 51 29.8	-5.3
	comp=Z,1.3nm,0.3s,baz=271,slow=23,SNR=4.7					
AKASG			Lg		16 52 33.3	
	comp=Z,0.2nm,0.3s,baz=266,slow=27,SNR=4.6					
AKASG	Malin Array Be	8.33 91	P	Pn	16 49 58.6	-1.7
AKASG					16 51 29.8	
LPL	La Plagne	8.65 229	ePn	Pn	16 50 02.1	-2.7
LPG	La Plagne	8.66 229	eSg	Sg	16 52 28.0	-8.4
	comp=Z,112nm,1.5s					
HFS	Hagfors	8.69 352	Pn	Pn	16 50 04.5	-0.8
	comp=Z,0.3nm,0.3s,baz=172,slow=15,SNR=5.3					
HFS			Sn	Sn	16 51 39.2	-4.7
	comp=Z,0.3nm,0.3s,baz=175,slow=23,SNR=4.0					
HFS			Lg		16 52 35.6	
	comp=Z,0.4nm,0.3s,baz=180,slow=26,SNR=2.2					
HFS	Hagfors	8.69 352	Pn	Pn	16 50 04.5	-0.8
HFS			Sn	Sn	16 51 39.2	-4.7
BNI	Bardonecchia	9.03 227	P	Pn	16 50 06.2	-3.7
LOR	Lormes	9.04 246	ePn	Pn	16 50 08.7	-1.4
	baz=66					
SSF	Saint Saulge	9.36 246	ePn	Pn	16 50 12.5	-1.9
SBF	Sospel	9.65 220	ePn	Pn	16 50 14.7	-3.8
FINES	FINESS Array B	11.32 25	Pn	Pn	16 50 39.8	-1.6
	comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=10					
FINES			Sn	Sn	16 52 42.1	-6.5
	comp=Z,0.3nm,0.3s,baz=212,slow=20,SNR=5.0					
KAF	Kangasniemi	11.95 24	ep	Pn	16 50 47.4	-2.5
	comp=Z,0.4nm,0.4s					
ESK	Eskdalemuir	12.07 296	ePn	Pn	16 50 52.1	+0.4
JOF	Joensuu	14.01 30	ep	Pn	16 51 09.4	-8.6
ARCES	ARCESS Array B	18.57 10	Pn	Pn	16 52 13.3	-3.6
	comp=Z,0.3nm,0.3s,baz=196,slow=12,SNR=9.0					
ARCES	ARCESS Array B	18.57 10	Pn	Pn	16 52 13.3	-3.6
AKTK	Aktyubinsk	26.17 76	P	P	16 53 33.9	-0.6
AKTO	Aktyubinsk	26.17 76	P	P	16 53 33.9	-0.6
	comp=Z,1.3nm,0.6s,mb3.8,baz=69,slow=19,SNR=5.4					
BRVK	Borovoye	32.52 66	eP	P	16 54 32.0	+1.1
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2					
BRVK	Borovoye	32.52 66	eP	P	16 54 32.0	+1.1
	comp=Z,2.0nm,0.7s,mb4.2					
BVAR	Borovoye Array	32.59 66	P	P	16 54 32.2	+0.7
	comp=Z,1.1nm,0.8s,mb3.9,baz=291,slow=6.2,SNR=7.3					
KURK	Kurchatov	38.19 66	eP	P	16 55 19.7	+0.1
KURK			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0					
KURK	Kurchatov	38.19 66	eP	P	16 55 19.7	+0.1
	comp=Z,1.8nm,0.7s,mb3.9					
KURK	Kurchatov	38.19 66	eP	P	16 55 19.7	+0.1
	comp=Z,2.0nm,0.7s,mb4.0					
TORD	Torodi Ar. Bea	40.04 202	P	P	16 55 33.5	-1.6
	comp=Z,1.0nm,0.8s,mb3.5,baz=13,slow=5.9,SNR=6.6					
MKAR	Makanchi Array	42.22 69	P	P	16 55 53.9	+0.9
	comp=Z,1.1nm,0.9s,mb3.6,baz=299,slow=6.3,SNR=4.0					
WMQ	Urumqi	47.05 70	eP	P	16 56 33.8	+2.2
SONM	Songino Array	54.91 55	P	P	16 57 32.0	+1.2
	comp=Z,0.9nm,0.9s,mb3.8,baz=294,slow=7.7,SNR=6.0					
YKA	Yellowknife Ar	59.79 336	P	P	16 58 05.5	+0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=30,slow=6.7,SNR=16					
HHC	Hu-ho-hao-te	62.38 58	eP	P	16 58 24.3	+1.5
HHC			PP	PP	17 00 44.3	+4.4
HHC			PCS	PcS	17 03 05.8	+0.1
HHC			AMB	AMB		
	comp=Z,121nm,4.9s					
HHC			LR	LR		
	comp=Z,342nm,10.7s,MS4.8					
KMI	Kunming	68.74 76	P	P	16 59 08.9	+5.0
KMI			AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.7					
PDAR	Pinedale Array	74.88 322	P	P	16 59 41.4	+0.6
	comp=Z,0.4nm,0.8s,mb3.5,baz=85,slow=3.1,SNR=3.2					
TXAR	Lajitas Array	83.65 310	P	P	17 00 28.1	-0.7
	comp=Z,0.3nm,0.7s,mb3.6,baz=72,slow=4.1,SNR=4.3					

*ISCJB **15** 16:52:06.5±1.0, 1093N±005×6238W±003, h102km±8km, Error ellipse: s-maj=8.7km s-min=5.3km az=165.7*
*NEIC **15** 16:52:09.1, 1105N×6206W, h109km, MD3.1(TRN), After TRN.*
*TRN **15** 16:52:09.1, 1105N×6206W, h109km, MD3.1*
*FUNV **15** 16:52:10.1, 1089N×6244W, h90km, MW2.8*
ISC 15 16:52:06.9±1.0, 1093N±005×6238W±003, h102km±9km, n13, σ1°21/24, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.32	151	eP	Pn	16 52 23.5	+1.7
GUIV				eS	Sn	16 52 33.6	+0.6
TCE	Chacachacare	0.66	111	eP	Pn	16 52 25.0	+0.9
TCE				eS	Sn	16 52 37.7	+0.6
ITEV	Isla Los Testi	0.85	300	eP	Pn	16 52 26.4	+0.4
ITEV				eS	Sn	16 52 40.6	+0.3
CRUV	Carupano	0.88	253	eP	Pn	16 52 27.9	+1.7
CRUV				eS	Sn	16 52 40.1	-0.7
GUNV	Guanoco	0.94	216	eS	Sn	16 52 41.8	-0.1
TRN	Trinidad (W)	1.00	106	⇑iP	Pn	16 52 28.1	+0.7
TRN				eS	Sn	16 52 42.0	-0.9
TPP	Pointe-a-Pierr	1.10	124	eP	Pn	16 52 30.0	+1.5
TPP				eS	Sn	16 52 44.4	-0.4
TBH	Brigand Hill	1.36	109	⇑iP	Pn	16 52 32.3	+0.7
TBH				eS

*MOS **15** 16:59:06.2±1.2, 46.43N×152.95E, h49km, mb5.8/109, MS5.3/52, Error ellipse: s-maj=6.1km s-min=3.5km az=107.2*
*SZGRF **15** 16:59:07.9, 46.72N×152.52E, h33km, mb5.9, MS5.5, Kuril Islands, Russia*
ISC 15 16:59:03.2±0.9, 4652N±002×15295E±002, h10km**±5**km**, h10**km**±2.0**km**:pP-P, n1456, σ0:94/1421, mb5.6/326, MS5.2/120, 165C-100D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**252**		PN		**Pn**	**17 00 00.5**	**-0.9**
KUR				*i* S			**Sn**	**17 00 44.0**	**-1.9**
KUR				pmax			pmax		
	comp=N,2μm,0.9s								
KUR				pmax			pmax		
	comp=E,2μm,0.9s								
KUR				pmax			pmax		
	comp=Z,13μm,0.9s								
KUR				pmax			pmax		
	comp=N,3μm,1.0s								
KUR				pmax			pmax		
	comp=E,8μm,1.0s								
KUR				pmax			pmax		
	comp=Z,22μm,1.0s								
KUR				smax					
	comp=N,90μm,5.0s								
KUR				smax					
	comp=E,48μm,5.0s								
KUR				MLR			MLR		
	comp=N,62μm,14.0s								
KUR				MLR			MLR		
	comp=E,95μm,14.0s								
KUR				MLR			MLR		
	comp=Z,60μm,14.0s								
KUR	**Kuril'sk**	**3.78**	**252**	*e*P			**Pn**	**17 00 00.5**	**-0.9**
KUR				AMB			AMB	17 00 02.4	
	comp=Z,3μm,1.0s								
KUR				AMB			AMB	17 00 02.4	
	comp=Z,8μm,1.0s								
KUR				AMB			AMB	17 00 02.4	
	comp=Z,22μm,1.0s								
KUR				AMB			AMB	17 00 02.4	
	comp=Z,2μm,0.9s								
KUR				AMB			AMB	17 00 02.4	
	comp=Z,2μm,0.9s								
KUR				AMB			AMB	17 00 02.4	
	comp=Z,13μm,0.9s								
KUR				*i* S			**Sn**	**17 00 44.0**	**-1.9**
KUR				A				17 00 52.0	
	comp=Z,90μm,5.0s								
KUR				A				17 00 52.0	
	comp=Z,48μm,5.0s								
KUR				AMS			AMS	17 01 30.0	
	comp=Z,62μm,14.0s								
KUR				AMS			AMS	17 01 30.0	
	comp=Z,95μm,14.0s								
KUR				AMS			AMS	17 01 30.0	
	comp=Z,60μm,14.0s								
SKR	**Severo-Kuril's**	**4.67**	**26**	*e*PN			**Pn**	**17 00 14.1**	**+0.5**
SKR				pmax			pmax		
	comp=E,1μm,1.0s								
SKR				pmax			pmax		
	comp=Z,3μm,1.0s								
SKR				pmax			pmax		
	comp=N,190nm,0.4s								
SKR				pmax			pmax		
	comp=N,3μm,5.0s								
SKR				pmax			pmax		
	comp=E,3μm,5.0s								
SKR				pmax			pmax		
	comp=Z,5μm,5.0s								
SKR				MLR			MLR		
	comp=N,16μm,14.0s								
SKR				MLR			MLR		
	comp=Z,19μm,14.0s								
SKR				MLR			MLR		
	comp=E,33μm,12.0s								
SKR	**Severo-Kuril's**	**4.67**	**26**	*e*P			**Pn**	**17 00 14.1**	**+0.5**
SKR				AMB			AMB	17 00 18.0	
	comp=E,190nm,1.0s								
SKR				AMB			AMB	17 00 18.0	
	comp=E,1μm,1.0s								
SKR				AMB			AMB	17 00 18.0	
	comp=E,3μm,1.0s								
SKR				AMB			AMB	17 00 19.0	
	comp=E,3μm,5.0s								
SKR				AMB			AMB	17 00 19.0	
	comp=E,5μm,5.0s								
SKR				*e*S			**Sn**	**17 01 06.5**	**-1.3**
SKR				A				17 01 18.0	
	comp=E,8μm,4.0s								
SKR				A				17 01 18.0	
	comp=E,34μm,4.0s								
SKR				AMS			AMS	17 02 06.0	
	comp=E,16μm,14.0s								
SKR				AMS			AMS	17 02 06.0	
	comp=E,33μm,14.0s								
SKR				AMS			AMS	17 02 06.0	
	comp=E,19μm,14.0s								
YUK	**Yuzh-Kuril'sk**	**5.59**	**246**	⇑*i*PN			**Pn**	**17 00 27.0**	**+0.7**
YUK				*i* S			**Sn**	**17 01 32.2**	**+1.7**
YUK				pmax			pmax		
	comp=N,1μm,0.3s								
YUK				pmax			pmax		
	comp=E,1μm,0.3s								
YUK				pmax			pmax		
	comp=Z,2μm,0.3s								
YUK				pmax			pmax		
	comp=N,2μm,1.0s								
YUK				pmax			pmax		
	comp=E,5μm,1.0s								
YUK				pmax			pmax		
	comp=Z,10μm,1.0s								
YUK				smax					
	comp=N,50μm,1.0s								
YUK				smax					
	comp=E,55μm,1.0s								
YUK				smax					
	comp=N,34μm,0.9s								
YUK				smax					
	comp=E,39μm,1.0s								
YUK				MLR			MLR		
	comp=Z,41μm,15.0s								
YUK				MLR			MLR		
	comp=N,56μm,16.0s								
YUK				MLR			MLR		
	comp=E,48μm,16.0s								
YUK	**Yuzh-Kuril'sk**	**5.59**	**246**	*i* P			**Pn**	**17 00 27.5**	**+1.2**
YUK				AMB			AMB	17 00 30.9	
	comp=E,1μm,0.3s								
YUK				AMB			AMB	17 00 30.9	
	comp=E,2μm,0.3s								
YUK				AMB			AMB	17 01 31.0	
	comp=E,2μm,1.0s								
YUK				AMB			AMB	17 01 31.0	
	comp=E,5μm,1.0s								
YUK				AMB			AMB	17 01 31.0	
	comp=E,10μm,1.0s								
YUK				*i* S			**Sn**	**17 01 32.2**	**+1.7**
YUK				A				17 01 57.1	
	comp=E,50μm,1.0s								
YUK				A				17 01 57.1	
	comp=E,55μm,1.0s								
YUK				A				17 01 57.9	
	comp=E,34μm,0.9s								
YUK				A				17 01 57.9	
	comp=E,39μm,0.9s								
YUK				AMS			AMS	17 02 48.0	
	comp=E,56μm,15.0s								
YUK				AMS			AMS	17 02 48.0	
	comp=E,48μm,15.0s								
YUK				AMS			AMS	17 02 48.0	
	comp=E,41μm,15.0s								
NEM2	**Nemuro 2**	**6.01**	**241**	⇑P			**Pn**	**17 00 30.7**	**-1.4**
NEM2				*e*S			**Sn**	**17 01 35.3**	**-5.6**
JRA	**Rausu**	**6.10**	**248**	⇑P			**Pn**	**17 00 35.1**	**+1.8**
JRA				*e*S			**Sn**	**17 01 43.3**	**+0.1**
JNK	**Nakash**	**6.53**	**246**	P			**Pn**	**17 00 39.8**	**+0.6**
JNK				*e*S			**Sn**	**17 01 52.8**	**-0.9**
JAK	**Akkeshi**	**6.85**	**242**	P			**Pn**	**17 00 42.3**	**-1.3**
JAK				*e*S			**Sn**	**17 01 55.8**	**-5.8**
JTKR	**Abashiri--Toko**	**6.87**	**251**	⇑P			**Pn**	**17 00 46.1**	**+2.2**
YSS	**Yuzh-Sakhalins**	**7.02**	**277**	*αe*PN			**Pn**	**17 00 50.3**	**+4.3**
YSS				pmax			pmax		
	comp=E,810nm,1.0s								
YSS				pmax			pmax		
	comp=Z,780nm,1.0s								
YSS				pmax			pmax		
	comp=Z,2μm,8.0s								
YSS				pmax			pmax		
	comp=E,3μm,6.0s								
YSS				MLR			MLR		
	comp=E,25μm,16.0s								
YSS				MLR			MLR		
	comp=Z,30μm,16.0s								
YSS				MLR			MLR		
	comp=N,9μm,14.0s								
YSS	**Yuzh-Sakhalins**	**7.02**	**277**	⇑*e*Pn			**Pn**	**17 00 50.4**	**+4.4**
	comp=N,457nm,0.7s								
YSS	**Yuzh-Sakhalins**	**7.02**	**277**	*e*P			**Pn**	**17 00 50.3**	**+4.3**
YSS				AMB			AMB	17 00 55.0	
	comp=N,810nm,1.0s								
YSS				AMB			AMB	17 00 55.0	
	comp=N,780nm,1.0s								
YSS				AMB			AMB	17 00 58.8	
	comp=N,3μm,7.0s								
YSS				AMB			AMB	17 00 58.8	
	comp=N,2μm,7.0s								
YSS				*e*S			**Sn**	**17 02 07.5**	**+1.7**
YSS				AMS			AMS	17 03 27.0	
	comp=N,9μm,15.0s								
YSS				AMS			AMS	17 03 27.0	
	comp=N,25μm,15.0s								
YSS				AMS			AMS	17 03 27.0	
	comp=N,30μm,15.0s								
JMP	**Maruseppu**	**7.22**	**253**	⇑P			**Pn**	**17 00 51.2**	**+2.5**
JAR	**Ashorobuto**	**7.27**	**247**	P			**Pn**	**17 00 50.6**	**+1.2**
JSE	**Soyaes**	**7.42**	**262**	P			**Pn**	**17 00 55.9**	**+4.5**
JOB	**Onbets**	**7.43**	**244**	P			**Pn**	**17 00 51.4**	**-0.2**
JOB				*e*S			**Sn**	**17 02 11.7**	**-4.2**
PET	**Petropavlovsk**	**7.48**	**27**	*e*PN			**Pn**	**17 00 52.7**	**+0.4**
PET				pmax			pmax		
	comp=Z,337nm,0.8s								
PET				MLR			MLR		
	comp=Z,12μm,15.0s								
PET				MLR			MLR		
	comp=Z,12μm,15.0s								
PET	**Petropavlovsk**	**7.48**	**27**	⇑*e*Pn			**Pn**	**17 00 50.5**	**-1.8**
	comp=Z,549nm,1.2s								
JKK2	**Kamakawa 2**	**7.68**	**254**	P			**Pn**	**17 00 57.8**	**+2.8**
ASAJ	**Asahikawa**	**7.68**	**255**	Pn			**Pn**	**17 00 56.4**	**+1.3**
	comp=Z,23nm,0.3s,baz=87,slow=12,SNR=169								
ASAJ				Sn			**Sn**	**17 02 36.5**	**+14**
	comp=Z,3.1nm,0.3s,baz=54,slow=17,SNR=1.8								
ASAJ				LR			LR	17 03 48.0	
	comp=Z,19μm,19.2s,baz=67,slow=37								
ASAJ	**Asahikawa**	**7.68**	**255**	⇑P			**Pn**	**17 00 58.4**	**+3.3**
ASAJ	**Asahikawa**	**7.68**	**255**	PN			**Pn**	**17 00 56.4**	**+1.3**
ASAJ								17 02 36.5	
ASAJ				pmax			pmax		
	comp=Z,23nm,0.3s								
ASAJ				smax					
	comp=N,3.0nm,0.3s								
ASAJ				MLR			MLR		
	comp=Z,19μm,19.2s								
UGL	**Uglegorsk**	**7.76**	**293**	*d i*PN			**Pn**	**17 01 02.0**	**+5.8**
UGL				S			**Sn**	**17 02 32.2**	**+8.1**
UGL				pmax			pmax		
	comp=Z,570nm,0.6s								
UGL				pmax			pmax		
	comp=N,2μm,4.0s								
UGL				pmax			pmax		
	comp=E,4μm,4.0s								
UGL				pmax			pmax		
	comp=Z,6μm,4.0s								
UGL				smax					
	comp=N,540nm,0.8s								
UGL				smax					
	comp=E,570nm,0.8s								
UGL				smax					
	comp=Z,280nm,0.7s								
UGL				MLR			MLR		
	comp=E,31μm,15.0s								
UGL				MLR			MLR		
	comp=Z,25μm,15.0s								
UGL				MLR			MLR		
	comp=N,10μm,12.0s								
UGL	**Uglegorsk**	**7.76**	**293**	*i* P			**Pn**	**17 01 02.0**	**+5.8**
UGL				AMB			AMB	17 01 05.0	
	comp=N,570nm,0.6s								
UGL				AMB			AMB	17 01 10.0	
	comp=N,2μm,4.0s								
UGL				AMB			AMB	17 01 10.0	
	comp=N,4μm,4.0s								
UGL				AMB			AMB	17 01 10.0	
	comp=N,6μm,4.0s								
UGL				*e*S			**Sn**	**17 02 32.2**	**+8.1**
UGL				A				17 02 40.5	
	comp=N,540nm,0.8s								
UGL				A				17 02 40.5	
	comp=N,570nm,0.8s								
UGL				A				17 02 40.5	
	comp=N,280nm,0.8s								
UGL				AMS			AMS	17 04 13.0	
	comp=N,10μm,15.0s								
UGL				AMS			AMS	17 04 13.0	
	comp=N,31μm,15.0s								
UGL				AMS			AMS	17 04 13.0	
	comp=N,25μm,15.0s								
JWK2	**Keihoku**	**7.80**	**265**	P			**Pn**	**17 01 02.9**	**+6.2**
JCH	**Churui**	**7.88**	**244**	P			**Pn**	**17 00 57.0**	**-0.8**
JCH				*e*S			**Sn**	**17 02 22.6**	**-4.4**
JSS	**Shosan**	**8.09**	**259**	P			**Pn**	**17 01 06.0**	**+5.4**
JFR	**Furan**	**8.09**	**249**	P			**Pn**	**17 01 02.0**	**+1.4**
JAB	**Ashibetsu**	**8.18**	**252**	P			**Pn**	**17 01 04.9**	**+3.1**
JEM	**Erimo**	**8.34**	**241**	P			**Pn**	**17 01 03.5**	**-0.6**
ERM	**Erimo**	**8.35**	**241**	Pn			**Pn**	**17 01 04.6**	**+0.5**
	comp=N,5μm,0.7s								
ERM	**Erimo**	**8.35**	**241**	Pn			**Sn**	**17 02 51.8**	**+13**
	comp=N,9μm,1.4s,SNR=6.2								
ERM	**Erimo**	**8.35**	**241**	*e*PN			**Pn**	**17 01 04.2**	**+0.1**
ERM	**Erimo**	**8.35**	**241**	*e*Pn			**Pn**	**17 01 03.3**	**-0.8**
	comp=N,667nm,0.6s								
JHR	**Hokuryu**	**8.41**	**255**	P			**Pn**	**17 01 09.1**	**+4.1**
JBT2	**Biratori 2**	**8.42**	**247**	P			**Pn**	**17 01 05.0**	**-0.2**
JNBK	**Urakawa-nobuka**	**8.44**	**244**	P			**Pn**	**17 01 04.3**	**-1.2**
JNBK				*e*S			**Sn**	**17 02 35.9**	**-4.9**
JEW	**Eniwo**	**8.98**	**250**	P			**Pn**	**17 01 14.1**	**+1.2**
JSK	**Shakotan**	**9.40**	**255**	P			**Pn**	**17 01 20.9**	**+2.3**
JNB	**Noboribetsu**	**9.43**	**249**	P			**Pn**	**17 01 19.3**	**+0.3**
JNB				*e*S			**Sn**	**17 02 59.9**	**-5.1**
OKH	**Okha**	**9.53**	**321**	*i* PN			**Pn**	**17 01 24.0**	**+3.6**
OKH				*e*S			**Sn**	**17 03 16.0**	**+8.4**
OKH				pmax			pmax		
	comp=Z,8μm,4.0s								
JKB	**Kayabe**	**9.73**	**246**	P			**Pn**	**17 01 22.1**	**-1.0**
JKB				*e*S			**Sn**	**17 03 05.7**	**-6.7**
JSH	**Shimam**	**9.99**	**252**	P			**Pn**	**17 01 28.0**	**+1.3**
JYM2	**Yakumo 2**	**10.03**	**248**	P			**Pn**	**17 01 27.1**	**-0.1**
JSR	**Shiriuchi**	**10.31**	**246**	P			**Pn**	**17 01 29.3**	**-1.8**
JANG	**Nango**	**10.33**	**238**	P			**Pn**	**17 01 27.8**	**-3.6**
JANG				*e*S			**Sn**	**17 03 14.7**	**-13**
JTM	**Tenmabayashi**	**10.34**	**241**	P			**Pn**	**17 01 28.9**	**-2.6**
JTH	**Tanohata**	**10.42**	**235**	P			**Pn**	**17 01 28.2**	**-4.4**
JTH				*e*S			**Sn**	**17 03 16.9**	**-12**
JOSM	**Okushiri--Mats**	**10.63**	**250**	P			**Pn**	**17 01 34.6**	**-0.8**
OFUJ	**Ofunato**	**11.13**	**232**	P			**Pn**	**17 01 38.0**	**-4.3**
OFUJ				*e*S			**Sn**	**17 03 33.0**	**-14**
JRG	**Rokugo**	**11.49**	**236**	P			**Pn**	**17 01 43.5**	**-3.7**
JOG2	**Oga 2**	**11.64**	**240**	P			**Pn**	**17 01 47.4**	**-1.9**
JIO	**Ouri**	**11.75**	**231**	P			**Pn**	**17 01 46.4**	**-4.4**
JIO				*e*S			**Sn**	**17 03 47.8**	**-14**
HABR	**Khabarovsk**	**12.26**	**286**	⇑*i*PN			**Pn**	**17 02 03.9**	**+6.1**
HABR				*e*				17 04 25.7	
HABR				pmax			pmax		
	comp=Z,394nm,1.2s								
JYA	**Atsumi**	**12.56**	**236**	P			**Pn**	**17 01 59.1**	**-2.7**
JYA				*e*S			**Sn**	**17 04 07.0**	**-15**
JFK	**Kawauchi**	**12.81**	**229**	P			**Pn**	**17 02 01.2**	**-4.1**
JFK				*e*S			**Sn**	**17 04 14.7**	**-13**
MA2	**Magadan**	**13.14**	**355**	*e*PN			**Pn**	**17 02 12.8**	**+3.0**
MA2				*e*S			**Sn**	**17 04 45.1**	**+9.1**
MA2				pmax			pmax		
	comp=N,40nm,0.5s								
MA2				pmax			pmax		
	comp=Z,70nm,0.5s								
MA2				MLR			MLR		
	comp=Z,10μm,16.0s								
JFY	**Yanaizu**	**13.40**	**232**	P			**Pn**	**17 02 10.8**	**-2.6**
MAJO	**Matsushiro**	**14.85**	**233**	*e*P			**Pn**	**17 02 28.9**	**-4.2**
MAJO				pmax			pmax		
	comp=Z,240nm,1.0s								
MAJO	**Matsushiro**	**14.85**	**233**	*e*Pn			**Pn**	**17 02 28.9**	**-4.2**
	comp=Z,239nm,1.0s								
MAT	**Matsushiro**	**14.85**	**233**	P			**Pn**	**17 02 29.8**	**-3.3**
MAT				S			**Sn**	**17 05 17.0**	**-0.7**
MAT	**Matsushiro**	**14.85**	**233**	P			**Pn**	**17 02 29.9**	**-3.2**
MJAR	**Matsushiro Arr**	**14.85**	**233**	Pn			**Pn**	**17 02 29.9**	**-3.2**
	comp=Z,2.2nm,0.3s,baz=28,slow=12,SNR=45								
MJAR				LR			LR	17 09 11.2	
	comp=Z,4μm,18.3s,baz=60,slow=41								
MJAR	**Matsushiro Arr**	**14.85**	**233**	P			**Pn**	**17 02 29.9**	**-3.2**
MJAR				pmax			pmax		
	comp=Z,2.0nm,0.3s								
MJAR				MLR			MLR		
	comp=Z,4μm,18.3s								
VLA	**Vladivostok**	**15.32**	**265**	*e*P			**Pn**	**17 02 39.2**	**-0.1**
VLA				*e*				17 05 32.0	
VLA				pmax			pmax		
	comp=Z,211nm,1.4s								
VLA				MLR			MLR		
	comp=Z,11μm,17.5s								
VLA	**Vladivostok**	**15.32**	**265**	*i* P			**Pn**	**17 02 39.9**	**+0.6**
JGN	**Niukaw**	**15.58**	**234**	P			**Pn**	**17 02 40.1**	**-2.7**
JAO	**Obara**	**16.31**	**232**	P			**Pn**	**17 02 49.9**	**-2.3**
SEY	**Seymchan**	**16.45**	**359**	⇑*e*P			**Pn**	**17 02 54.1**	**+0.1**
SEY	**Seymchan**	**16.45**	**359**	⇑*e*P			**Pn**	**17 02 54.2**	**+0.2**
MDJ	**Mudanjiang**	**16.46**	**272**	P			**Pn**	**17 02 54.0**	**-0.1**
MDJ				AMB			AMB		
	comp=Z,308nm,0.9s								
MDJ				AMB			AMB		
	comp=Z,1μm,6.9s								
MDJ				LR			LR		
	comp=N,3μm,14.8s								
MDJ				LR			LR		
	comp=E,7μm,16.9s								
MDJ				LR			LR		
	comp=Z,11μm,15.4s								
JHJ	**Hachijo jima 2**	**16.74**	**222**	Pn			**Pn**	**17 02 57.1**	**-0.6**
	comp=Z,8.7nm,0.3s,baz=70,slow=23,SNR=4.5								
JHJ				Sn			**Sn**	**17 05 49.9**	**-14**
	comp=Z,14nm,0.3s,baz=264,slow=19,SNR=2.4								
JKY	**Yasaka**	**17.26**	**237**	P			**Pn**	**17 03 02.6**	**-1.7**
JWT	**Wachi**	**17.34**	**236**	P			**Pn**	**17 03 03.7**	**-1.5**
CN2	**Changchun**	**19.55**	**272**	⇓P			**Pn**	**17 03 28.8**	**-3.3**
CN2				AMB			AMB		
	comp=Z,50nm,0.9s								
CN2				AMB			AMB		
	comp=Z,200nm,5.0s								
CN2				LR			LR		
	comp=N,7μm,17.0s								
CN2				LR			LR		
	comp=E,8μm,17.0s								
CN2				LR			LR		
	comp=Z,10μm,18.0s								
JET	**Tanbara**	**19.77**	**237**	P			**Pn**	**17 03 34.7**	**-0.1**
JHM	**Kurahashi**	**19.81**	**239**	P			**Pn**	**17 03 34.8**	**-0.5**
CLNS	**Chul'man**	**20.08**	**311**	*e*P			**P**	**17 03 39.3**	**+2.6**
CLNS				*e*				17 03 59.8	
CLNS				pmax			pmax		
	comp=N,183nm,1.0s								
CLNS				pmax			pmax		
	comp=E,106nm,1.0s								
CLNS				pmax			pmax		
	comp=Z,214nm,1.0s								
CLNS				pmax			pmax		
	comp=Z,118nm,1.0s								
CLNS				pmax			pmax		
	comp=N,105nm,1.2s								
CLNS				pmax			pmax		
	comp=E,67nm,0.9s								
CLNS				MLR			MLR		
	comp=Z,22μm,16.0s,MS5.6								
CLNS				MLR			MLR		
	comp=N,6μm,15.0s,MS5.5								
CLNS				MLR			MLR		
	comp=E,16μm,15.0s,MS5.5								
JKU	**Kubokawa**	**20.10**	**236**	P			**P**	**17 03 38.0**	**+1.1**
NRGR	**Nerungri**	**20.12**	**311**	*e*P			**P**	**17 03 38.7**	**+1.6**
NRGR				S			**S**	**17 07 12.4**	**-11**
NRGR				smax					
	comp=N,113nm,1.1s								
UWA2	**Uwa jima 2**	**20.42**	**237**	P			**P**	**17 03 41.8**	**+1.4**
YAK	**Yakutsk**	**20.45**	**328**	*e*P			**P**	**17 03 42.4**	**+1.7**
YAK				*e*				17 04 03.3	
YAK				*e*S			**S**	**17 07 31.3**	**+1.6**
YAK				*e*SS				17 07 48.4	
YAK				pmax			pmax		
	comp=Z,226nm,0.9s								
YAK				pmax			pmax		
	comp=N,87nm,1.1s								
YAK				pmax			pmax		
	comp=E,86nm,1.0s								
YAK				pmax			pmax		
	comp=N,488nm,2.1s								
YAK				pmax			pmax		
	comp=Z,583nm,2.1s								
YAK				pmax			pmax		
	comp=E,453nm,1.6s								
YAK				smax					
	comp=N,466nm,2.0s								
YAK				smax					
	comp=Z,403nm,2.5s								
YAK				smax					
	comp=E,880nm,3.2s								
YAK				MLR			MLR		
	comp=Z,12μm,17.0s,MS5.3								
YAK				MLR			MLR		
	comp=N,7μm,15.0s,MS5.3								
YAK				MLR			MLR		
	comp=E,10μm,19.0s,MS5.3								
YAK	**Yakutsk**	**20.45**	**328**	*e*Pn			**P**	**17 03 40.7**	**-0.1**
	comp=E,348nm,0.9s								
YAK				LR			LR		
	comp=Z,7μm,20.0s,MS5.0								
KSRS	**Korea Array**	**20.62**	**253**	P			**P**	**17 03 43.5**	**+0.9**
	comp=Z,114nm,0.9s,baz=61,slow=9.1,SNR=152								
KSRS				S			**S**	**17 07 37.7**	**+4.7**
	comp=Z,6.7nm,1.0s,baz=51,slow=8.6,SNR=1.8								
KSRS				LR			LR	17 11 53.1	
	comp=Z,5μm,18.0s,MS4.9,baz=64,slow=37								
CBIJ	**Chichi jima**	**21.18**	**207**	P			**P**	**17 03 47.3**	**-1.3**
	comp=Z,138nm,1.0s,mb5.2,baz=72,slow=9.6,SNR=3.5								
CBIJ				S			**S**	**17 07 30.9**	**-13**
	comp=Z,49nm,0.8s,baz=120,slow=20,SNR=2.9								
INCN	**Inchon**	**21.46**	**255**	⇑*e*P			**P**	**17 03 52.0**	**+0.4**
	comp=Z,198nm,0.8s,mb5.5								
INCN				LR			LR		
	comp=Z,4μm,20.0s,MS4.8								
JNU	**Nakatsue**	**21.51**	**239**	P			**P**	**17 03 52.1**	**0.0**
	comp=Z,132nm,1.0s,mb5.3,baz=239,slow=19,SNR=9.0								
SNY	**Shenyang**	**21.52**	**268**	⇑P			**P**	**17 03 51.8**	**-0.4**
SNY				AP				17 03 56.3	
SNY				XP			sP	17 04 00.1	+3.6
SNY				PP				17 04 11.5	
SNY				AMB			AMB		
	comp=Z,123nm,0.9s,mb5.3								
SNY				AMB			AMB		
	comp=Z,2μm,7.8s								
SNY				LR			LR		
	comp=N,4μm,15.0s,MS5.3								
SNY				LR			LR		
	comp=E,7μm,15.6s,MS5.3								
SNY				LR			LR		
	comp=Z,9μm,18.9s,MS5.2								
HIA	**Hailar**	**22.34**	**289**	*e*P			**P**	**17 03 58.5**	**-2.5**
HIA				pmax			pmax		
	comp=Z,67nm,0.8s								
HIA				MLR			MLR		
	comp=Z,10μm,19.0s								
HIA	**Hailar**	**22.34**	**289**	*e*P			**P**	**17 03 58.5**	**-2.4**
	comp=Z,67nm,0.8s,mb5.1								
HIA				LR			LR		
	comp=Z,10μm,19.0s,MS5.2								
BILL	**Bilibino**	**22.64**	**13**	⇓*e*P			**P**	**17 04 02.5**	**-1.7**
BILL				*i*				17 04 12.2	
BILL				*i*				17 04 51.9	
BILL				*i* S			**S**	**17 08 14.7**	**+2.2**
BILL				pmax			pmax		
	comp=Z,99nm,1.9s,mb4.9								
BILL				MLR			MLR		
	comp=Z,5μm,18.0s,MS5.0								
BILL	**Bilibino**	**22.64**	**13**	*e*P			**P**	**17 04 02.6**	**-1.6**
	comp=Z,61

DL2				XP	sP	17 04 24.4	+0.9
DL2				PP		17 04 56.1	
DL2				AMB	AMB		
	comp=Z,170nm,1.1s,mb5.4						
DL2				AMB	AMB		
	comp=Z,1μm,6.4s						
DL2				LR	LR		
	comp=N,2μm,15.8s,MS4.7						
DL2				LR	LR		
	comp=E,1μm,16.8s,MS4.7						
DL2				LR	LR		
	comp=Z,2μm,15.7s,MS4.7						
BOD	**Bodaibo**	**26.05**	**310⇑**	*i*P	**P**	**17 04 34.8**	**-1.8**
BOD				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.0						
CIT	**Chita**	**26.05**	**297**	*e*P	**P**	**17 04 36.0**	**-0.6**
CIT				*e*		17 04 50.8	
CIT				*e*		17 08 03.3	
CIT				*e*		17 08 54.8	
CIT				*e*		17 10 06.3	
CIT				pmax	pmax		
	comp=Z,155nm,1.0s,mb5.5						
UNV	**Unalaska Valle**	**26.68**	**59**	PFAKE		17 04 50.0	+7.8
UNV				LR	LR		
	comp=Z,8μm,22.0s,MS5.2						
BJI	**Beijing**	**27.36**	**270**	P	**P**	**17 04 48.8**	**+0.4**
BJI				AMB	AMB		
	comp=Z,182nm,0.8s,mb5.7						
BJI				AMB	AMB		
	comp=Z,2μm,9.0s						
BJI				LR	LR		
	comp=N,4μm,15.6s,MS5.5						
BJI				LR	LR		
	comp=E,10μm,16.5s,MS5.5						
BJI				LR	LR		
	comp=Z,8μm,18.0s,MS5.3						
BJI	**Beijing**	**27.36**	**270**	P	**P**	**17 04 48.7**	**+0.3**
BJI				S	**S**	**17 09 31.8**	**+3.6**
BJT	**Baijiatuau**	**27.38**	**270**	*e*P	**P**	**17 04 48.5**	**0.0**
BJT				pmax	pmax		
	comp=Z,153nm,0.8s						
BJT				MLR	MLR		
	comp=Z,11μm,19.0s						
BJT	**Baijiatuau**	**27.38**	**270**	*e*P	**P**	**17 04 48.5**	**0.0**
	comp=Z,153nm,0.8s,mb5.6						
BJT				LR	LR		
	comp=Z,11μm,19.0s,MS5.4						
TIXI	**Tiksi**	**27.66**	**344**	*e*P	**P**	**17 04 48.6**	**-2.4**
TIXI				*e*S	**S**	**17 09 26.1**	**-6.8**
TIXI				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,7μm,13.0s,MS5.4						
TIXI	**Tiksi**	**27.66**	**344⇑**	*e*P	**P**	**17 04 48.1**	**-2.9**
	comp=Z,24nm,0.9s,mb4.8						
JOW	**Kunigami**	**27.70**	**233**	P	**P**	**17 04 51.1**	**-0.3**
	comp=Z,106nm,1.1s,mb5.4,baz=28,slow=9.6,SNR=4.6						
TNA	**Tin City**	**28.29**	**34**	*e*P	**P**	**17 04 56.8**	**+0.1**
	comp=Z,68nm,1.0s,mb5.2						
TIA	**Tai'an**	**28.57**	**262**	⇑P	**P**	**17 04 59.3**	**+0.1**
TIA				S	**S**	**17 09 46.9**	**-0.4**
TIA				AMB	AMB		
	comp=Z,226nm,1.7s,mb5.6						
TIA				AMB	AMB		
	comp=Z,917nm,8.0s						
TIA				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
TIA				LR	LR		
	comp=E,3μm,17.0s,MS5.0						
SSE	**Sheshan**	**28.91**	**249**	P	**P**	**17 05 02.9**	**+0.7**
SSE				XP	sP	17 05 07.3	+0.6
SSE				S	**S**	**17 09 53.3**	**+0.7**
SSE				XS	sS	17 09 58.8	+1.0
SSE				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.1						
SSE				AMB	AMB		
	comp=Z,829nm,10.1s						
SSE				LR	LR		
	comp=N,2μm,18.1s,MS5.0						
SSE				LR	LR		
	comp=E,2μm,18.1s,MS5.0						
SSE				LR	LR		
	comp=Z,4μm,13.5s,MS5.2						
HHC	**Hu-ho-hao-te**	**30.20**	**274**	*e*P	**P**	**17 05 14.5**	**+0.9**
HHC				PP	PP	17 06 12.3	-9.4
HHC				AMB	AMB		
	comp=Z,169nm,0.9s,mb5.8						
HHC				AMB	AMB		
	comp=Z,1μm,3.8s						
HHC				LR	LR		
	comp=N,6μm,15.5s,MS5.5						
HHC				LR	LR		
	comp=E,6μm,15.5s,MS5.5						
HHC				LR	LR		
	comp=Z,9μm,16.7s,MS5.5						
ULN	**Ulaanbaatar**	**30.87**	**290**	P	**P**	**17 05 19.8**	**+0.2**
	SNR=21						
ULN	**Ulaanbaatar**	**30.87**	**290⇑**	*e*P	**P**	**17 05 18.1**	**-1.4**
	comp=Z,49nm,0.9s,mb5.3						
ULN				*e*ScP	ScP	17 11 56.9	-2.1
ULN				LR	LR		
	comp=Z,7μm,19.0s,MS5.3						
SONM	**Songino Array**	**31.30**	**290**	P	**P**	**17 05 23.1**	**-0.3**
	comp=Z,24nm,1.0s,mb5.0,baz=72,slow=8.2,SNR=96						
SONM				PcP	PcP	17 08 16.9	-0.6
	comp=Z,11nm,0.9s,baz=90,slow=4.0,SNR=4.4						
SONM				ScP	ScP	17 11 58.8	-1.7
	comp=Z,2.3nm,1.0s,baz=77,slow=2.0,SNR=3.8						
SONM				LR	LR	17 19 05.0	
	comp=Z,9μm,18.3s,MS5.5,baz=76,slow=38						
BTO	**Baotou**	**31.36**	**275**	*e*P	**P**	**17 05 24.4**	**+0.5**
BTO				S	**S**	**17 10 31.0**	**-0.1**
BTO				LR	LR		
	comp=N,1μm,13.7s,MS4.9						
BTO				LR	LR		
	comp=E,897nm,12.8s,MS4.9						
IRK	**Irkutsk**	**31.70**	**299**	*e*P	**P**	**17 05 25.6**	**-1.3**
IRK				*e*		17 06 40.2	
IRK				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.4						
TLY	**Talaya**	**32.19**	**298**	P	**P**	**17 05 31.3**	**+0.2**
	SNR=20						
TLY	**Talaya**	**32.19**	**298**	*e*P	**P**	**17 05 29.9**	**-1.2**
TLY				*e*		17 06 41.8	
TLY				*e*PPP		17 06 50.7	
TLY				pmax	pmax		
	comp=Z,87nm,1.1s,mb5.5						
TLY				MLR	MLR		
	comp=Z,12μm,15.0s,MS5.7						
TLY	**Talaya**	**32.19**	**298⇑**	*i*P	**P**	**17 05 29.9**	**-1.2**
	comp=Z,86nm,1.0s,mb5.5						
TLY				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
ZAK	**Zakamensk**	**32.67**	**295⇑**	*i*P	**P**	**17 05 34.8**	**-0.6**
ZAK				*e*		17 08 21.1	
ZAK				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.3						
SVW2	**Sparrevohn**	**32.73**	**45**	*e*P	**P**	**17 05 35.6**	**-0.3**
TATO	**Taipei**	**33.04**	**240**	PFAKE		17 05 50.0	+11
TATO				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
YHNB	**Yeheng**	**33.34**	**240**	P	**P**	**17 05 43.1**	**+1.9**
GUMO	**Guam**	**33.52**	**194**	PFAKE		17 05 50.0	+7.1
GUMO				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
WHN	**Wuhan**	**33.76**	**256**	⇑P	**P**	**17 05 44.8**	**-0.1**
WHN				AMB	AMB		
	comp=Z,2μm,10.6s						
WHN				LR	LR		
	comp=Z,7μm,18.5s,MS5.4						
IMA2	**Indian Mountai**	**34.06**	**36**	*e*P	**P**	**17 05 47.6**	**+0.1**
KDAK	**Kodiak Island**	**34.34**	**51**	P	**P**	**17 05 49.1**	**-0.8**
	comp=Z,37nm,0.7s,mb5.4,baz=311,slow=2.7,SNR=17						
KDAK	**Kodiak Island**	**34.34**	**51**	*e*P	**P**	**17 05 48.4**	**-1.5**
	comp=Z,36nm,0.8s,mb5.3						
QZH	**Quanzhou**	**34.83**	**244⇓**	*i*P	**P**	**17 05 55.1**	**+0.9**
QZH				S	**S**	**17 11 26.3**	**+1.4**
QZH				AMB	AMB		
	comp=Z,200nm,1.2s,mb5.9						
QZH				AMB	AMB		
	comp=Z,2μm,8.3s						
QZH				LR	LR		
	comp=N,1μm,10.4s,MS5.4						
QZH				LR	LR		
	comp=E,4μm,14.1s,MS5.4						
QZH				LR	LR		
	comp=Z,4μm,16.8s,MS5.3						
SLKM	**Skilak Lake**	**35.36**	**46**	P	**P**	**17 05 58.3**	**-0.5**
SLKM	**Skilak Lake**	**35.36**	**46**	*e*P	**P**	**17 05 57.8**	**-1.0**
XAN	**Xi'an**	**35.38**	**265**	P	**P**	**17 05 59.3**	**+0.3**
XAN				AP	pP	17 06 09.8	+7.7
XAN				PP	PP	17 07 21.5	+2.3
XAN				S	**S**	**17 11 31.4**	**-2.0**
XAN				AMB	AMB		
	comp=Z,73nm,1.4s,mb5.4						
XAN				AMB	AMB		
	comp=Z,790nm,7.8s						
XAN				LR	LR		
	comp=N,2μm,15.0s,MS5.2						
XAN				LR	LR		
	comp=E,3μm,17.0s,MS5.2						
XAN				LR	LR		
	comp=Z,5μm,18.0s,MS5.3						
PMR	**Palmer**	**35.84**	**44**	*e*P	**P**	**17 06 02.7**	**-0.2**
PMR				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4						
PMR	**Palmer**	**35.84**	**44**	*e*P	**P**	**17 06 02.7**	**-0.2**
	comp=Z,48nm,1.0s,mb5.4						
MCK	**McKinley**	**35.90**	**40**	*e*P	**P**	**17 06 02.9**	**-0.5**
MCK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
MCK				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.7						
MCK	**McKinley**	**35.90**	**40**	*e*P	**P**	**17 06 02.9**	**-0.5**
	comp=Z,29nm,1.0s,mb5.2						
MCK				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
SML	**Sawmill**	**36.21**	**43**	*e*P	**P**	**17 06 04.8**	**-1.3**
COLA	**College**	**36.39**	**38**	*e*P	**P**	**17 06 07.4**	**-0.1**
COLA				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.5						
COLA				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.9						
COLA	**College**	**36.39**	**38**	*e*P	**P**	**17 06 07.4**	**-0.2**
	comp=Z,64nm,0.9s,mb5.5						
COLA				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
KRAR	**Krasnoyarsk**	**37.63**	**307⇓**	*i*P	**P**	**17 06 17.0**	**-1.2**
KRAR				pmax	pmax		
	comp=Z,88nm,1.0s,mb5.4						
LZH	**Lanzhou**	**37.78**	**272**	*e*P	**P**	**17 06 21.0**	**+1.6**
LZH				AP	pP	17 06 21.9	-0.7
LZH				PP	PP	17 07 51.0	+5.3
LZH				AMB	AMB		
	comp=Z,92nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,401nm,4.0s						
LZH				LR	LR		
	comp=N,5μm,16.5s						
LZH				LR	LR		
	comp=Z,6μm,17.5s,MS5.5						
LZH	**Lanzhou**	**37.78**	**272**	*e*P	**P**	**17 06 21.0**	**+1.6**
LZH						17 07 51.0	
LZH						17 08 35.1	
LZH				*e*S	**S**	**17 12 09.0**	**-1.1**
LZH				SS	SS	17 14 43.1	-13
LZH	**Lanzhou**	**37.78**	**272**	*e*P	**P**	**17 06 21.0**	**+1.6**
LZH				pP	pP	17 06 21.9	-0.7
LZH				sP	sP	17 06 22.3	-1.6
LZH				PP	PP	17 07 51.0	+5.3
LZH				PcP	PcP	17 08 35.1	-1.0
LZH				*e*S	**S**	**17 12 09.0**	**-1.1**
LZH				sS	sS	17 12 13.4	-1.9
LZH				SS	SS	17 14 43.1	-13
GTA	**Gaotai**	**38.90**	**279⇑**	*i*P	**P**	**17 06 29.9**	**+1.1**
GTA				AP	pP	17 06 34.1	+2.1
GTA				XP	sP	17 06 36.3	+3.0
GTA				PP	PP	17 08 03.5	+5.7
GTA				AMB	AMB		
	comp=Z,220nm,1.0s,mb5.8						
GTA				AMB	AMB		
	comp=Z,979nm,5.7s						
GTA				LR	LR		
	comp=N,3μm,17.5s,MS5.3						
GTA				LR	LR		
	comp=E,3μm,16.3s,MS5.3						
GTA				LR	LR		
	comp=Z,4μm,16.0s,MS5.4						
EGAK	**Eagle**	**39.25**	**38**	*e*P	**P**	**17 06 30.4**	**-1.4**
	comp=Z,65nm,0.9s,mb5.4						
GZH	**Guangzhou**	**39.47**	**247**	P	**P**	**17 06 28.6**	**-5.0**
GZH				S	**S**	**17 12 26.1**	**-9.5**
GZH				LR	LR		
	comp=N,2μm,19.0s,MS5.2						
GZH				LR	LR		
	comp=E,2μm,17.7s,MS5.2						
GZH				LR	LR		
	comp=Z,3μm,19.3s,MS5.2						
DAWY	**Dawson**	**40.09**	**39**	*e*P	**P**	**17 06 38.5**	**-0.2**
CD2	**Chengdu**	**40.75**	**265**	P	**P**	**17 06 44.6**	**+0.4**
CD2				AP	pP	17 06 49.0	+1.6
CD2				XP	sP	17 06 51.5	+2.8
CD2				PP	PP	17 08 22.0	+4.0
CD2				AMB	AMB		
	comp=Z,280nm,0.9s,mb5.9						
CD2				AMB	AMB		
	comp=Z,2μm,6.9s						
CD2				LR	LR		
	comp=N,4μm,16.8s,MS5.4						
CD2				LR	LR		
	comp=E,3μm,15.6s,MS5.4						
CD2				LR	LR		
	comp=Z,4μm,14.4s,MS5.4						
GYA	**Guiyang**	**41.55**	**258⇑**	*i*P	**P**	**17 06 51.1**	**+0.3**
GYA				PP	PP	17 08 30.9	+4.1
GYA				PCP	PcP	17 08 50.1	+2.0
GYA				AMB	AMB		
	comp=Z,230nm,1.0s,mb5.8						
GYA				AMB	AMB		
	comp=Z,960nm,8.1s						
GYA				LR	LR		
	comp=N,2μm,16.9s,MS5.3						
GYA				LR	LR		
	comp=E,2μm,15.5s,MS5.3						
GYA				LR	LR		
	comp=Z,2μm,17.5s,MS5.0						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**17 06 53.4**	**-0.3**
	comp=Z,54nm,0.9s,mb5.2,baz=288,slow=6.8,SNR=116						
INK	**Inuvik**	**41.91**	**32⇑**	*e*P	**P**	**17 06 52.8**	**-0.9**
	comp=Z,2μm,0.9s,mb6.7						
INK				*e*PP	PP	17 08 30.3	-0.3
TGY	**Tagaytay City**	**41.99**	**230**	P	**P**	**17 06 54.7**	**+0.2**
	comp=Z,80nm,0.3s,baz=243,slow=11,SNR=8.1						
TGY	**Tagaytay City**	**41.99**	**230**	P	**P**	**17 06 54.7**	**+0.3**
TGY				pmax	pmax		
	comp=Z,80nm,0.3s						
ZAL	**Zalesovo**	**42.67**	**306**	P	**P**	**17 06 59.0**	**-0.9**
	comp=Z,22nm,0.6s,mb5.1,baz=47,slow=7.8,SNR=108						
ZAL				PcP	PcP	17 08 51.1	-0.7
	comp=Z,16nm,0.9s,baz=37,slow=4.1,SNR=8.2						
ZAL	**Zalesovo**	**42.67**	**306**	P	**P**	**17 06 59.0**	**-0.9**
ZAL						17 08 51.1	
ZAL				pmax	pmax		
	comp=Z,22nm,0.6s						
NVS	**Novosibirsk**	**43.24**	**308**	*e*P	**P**	**17 07 02.5**	**-2.0**
NVS				*e*PPP		17 08 48.8	
NVS				pmax	pmax		
	comp=N,39nm,1.6s						
NVS				pmax	pmax		
	comp=E,77nm,1.6s						
NVS				pmax	pmax		
	comp=Z,99nm,1.6s,mb5.3						
SIT	**Sitka**	**43.60**	**49**	*e*P	**P**	**17 07 07.5**	**0.0**
SIT				pmax	pmax		
	comp=Z,140nm,1.4s,mb5.5						
SIT				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
SIT	**Sitka**	**43.60**	**49**	*e*P	**P**	**17 07 07.5**	**0.0**
	comp=Z,140nm,1.4s,mb5.5						
SIT				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
QIZ	**Qiongzhong**	**44.66**	**247**	P	**P**	**17 07 16.3**	**+0.4**
QIZ				XP	sP	17 07 21.6	+1.2
QIZ				PP	PP	17 09 00.3	+0.2
QIZ				S	**S**	**17 13 55.4**	**+3.3**
QIZ				XS	sS	17 13 59.6	+2.2
QIZ				AMB	AMB		
	comp=Z,715nm,10.2s						
QIZ				LR	LR		
	comp=N,2μm,20.3s,MS5.1						
QIZ				LR	LR		
	comp=E,1μm,18.1s,MS5.1						
QIZ				LR	LR		
	comp=Z,2μm,19.1s,MS5.0						
QIZ	**Qiongzhong**	**44.66**	**247**	PFAKE		17 07 30.0	+14
QIZ				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
WMQ	**Urumqi**	**44.90**	**291**	P	**P**	**17 07 18.3**	**+0.4**
WMQ				PCP	PcP	17 08 59.3	0.0
WMQ				PP	PP	17 09 04.1	+1.3
WMQ				AMB	AMB		
	comp=Z,59nm,1.1s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,511nm,5.0s						
WMQ				LR	LR		
	comp=N,6μm,15.0s,MS5.8						
WMQ				LR	LR		
	comp=E,7μm,14.0s,MS5.8						
WMQ				LR	LR		
	comp=Z,5μm,17.0s,MS5.5						
KMI	**Kunming**	**45.09**	**260**	P	**P**	**17 07 20.1**	**+0.7**
KMI				AP	pP	17 07 23.6	+1.0
KMI				AMB	AMB		
	comp=Z,165nm,1.1s,mb5.8						
KMI				AMB	AMB		
	comp=Z,975nm,7.7s						
KMI				LR	LR		
	comp=N,2μm,16.1s,MS5.3						
KMI				LR	LR		
	comp=E,2μm,18.1s,MS5.3						
KMI				LR	LR		
	comp=Z,2μm,19.1s,MS5.0						
KMI	**Kunming**	**45.09**	**260**	P	**P**	**17 07 20.2**	**+0.8**
DAV	**Davao City (W)**	**45.81**	**220**	PFAKE		17 07 40.0	+15
DAV				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
DLBC	**Dease Lake**	**45.84**	**46**	*e*P	**P**	**17 07 26.6**	**+1.3**
MK31	**Makanchi Array**	**46.95**	**297⇑**	*e*P	**P**	**17 07 33.0**	**-1.0**
MKAR	**Makanchi Array**	**46.95**	**297**	P	**P**	**17 07 33.2**	**-0.8**
	comp=Z,134nm,1.0s,mb5.8,baz=68,slow=6.7,SNR=264						
MKAR	**Makanchi Array**	**46.95**	**297**	P	**P**	**17 07 33.2**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,134nm,1.0s						
MKAR	**Makanchi Array**	**46.95**	**297**	P	**P**	**17 07 33.2**	**-0.8**
KURK	**Kurchatov**	**47.40**	**304**	P	**P**	**17 07 36.6**	**-0.9**
	comp=Z,1μm,1.0s						
KURK	**Kurchatov**	**47.40**	**304⇑**	*i*P	**P**	**17 07 36.0**	**-1.5**
KURK				pmax	pmax		
	comp=Z,200nm,0.9s,mb6.0						
KURK				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.1						
KURK	**Kurchatov**	**47.40**	**304⇑**	*i*P	**P**	**17 07 36.0**	**-1.6**
	comp=Z,200nm,0.9s,mb6.0						
KURK				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
ALE	**Alert**	**49.98**	**6**	P	**P**	**17 07 56.5**	**-0.9**
	comp=Z,559nm,0.9s,mb6.6,SNR=36						
LSA	**Lhasa**	**50.17**	**273**	P	**P**	**17 07 59.8**	**+0.9**
LSA				PP	PP	17 09 58.9	+4.9
LSA				AMB	AMB		
	comp=Z,990nm,9.3s						
LSA				LR	LR		
	comp=E,2μm,17.1s						
LSA				LR	LR		
	comp=Z,3μm,17.9s,MS5.4						
LSA	**Lhasa**	**50.17**	**273**	*e*P	**P**	**17 08 01.0**	**+2.1**
LSA				pmax	pmax		
	comp=Z,111nm,0.6s,mb6.1						
LSA				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.4						
LSA	**Lhasa**	**50.17**	**273**	*e*P	**P**	**17 08 01.0**	**+2.1**
	comp=Z,111nm,0.6s,mb6.1						
LSA				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
CHKZ	**Chkalovo**	**50.49**	**310⇑**	*i*P	**P**	**17 07 59.2**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,253nm,1.0s,mb6.2						
CHKZ	**Chkalovo**	**50.49**	**310⇑**	*i*P	**P**	**17 07 59.2**	**-2.0**
	comp=Z,253nm,1.0s,mb6.2						
NANT	**Nan**	**50.79**	**255**	⇑P	**P**	**17 08 02.0**	**-1.5**
	comp=Z,1μm,1.0s,mb6.7						
BVA0	**Borovoye Array**	**50.92**	**309**	*i* P	**P**	**17 08 03.1**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
BVAR	**Borovoye Array**	**50.92**	**309**	P	**P**	**17 08 03.3**	**-1.2**
	comp=Z,52nm,0.8s,mb5.5,baz=60,slow=7.5,SNR=199						
BVAR				PcP	PcP	17 09 20.7	-0.2
	comp=Z,16nm,0.7s,baz=64,slow=3.4,SNR=5.6						
BVAR	**Borovoye Array**	**50.92**	**309**	P	**P**	**17 08 03.3**	**-1.2**
BVAR						17 09 20.7	
BVAR				pmax	pmax		
	comp=Z,52nm,0.8s						
BRVK	**Borovoye**	**50.96**	**310**	P	**P**	**17 08 03.7**	**-1.1**
	comp=Z,738nm,1.3s,mb6.5,SNR=46						
BRVK	**Borovoye**	**50.96**	**310⇓**	P	**P**	**17 08 04.8**	**0.0**
	SNR=25						
BRVK	**Borovoye**	**50.96**	**310⇑**	*i*P	**P**	**17 08 03.4**	**-1.4**
BRVK				*e*		17 09 19.9	
BRVK				pmax	pmax		
	comp=Z,135nm,1.0s,mb5.8						
BRVK				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
BRVK	**Borovoye**	**50.96**	**310⇑**	*i*P	**P**	**17 08 03.4**	**-1.4**
	comp=Z,135nm,1.0s,mb5.8						
BRVK				*e*PcP	PcP	17 09 19.9	-1.1
BRVK				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
RES	**Resolute Bay**	**51.09**	**18⇑**	*i*P	**P**	**17 08 05.1**	**-0.7**
	comp=Z,2μm,1.0s						
KKTK	**Khon Kaen**	**51.15**	**251**	⇑P	**P**	**17 08 07.0**	**+0.7**
	comp=Z,864nm,0.7s						
YKA	**Yellowknife Ar**	**51.18**	**37**	P	**P**	**17 08 05.5**	**-0.9**
	comp=Z,43nm,0.9s,mb5.4,baz=298,slow=7.4,SNR=177						
YKA				PcP	PcP	17 09 20.7	-1.1
	comp=Z,6.2nm,0.9s,baz=303,slow=3.3,SNR=4.6						
YKA	**Yellowknife Ar**	**51.18**	**37**	P	**P**	**17 08 05.5**	**-0.9**
YKA						17 09 20.7	
YKA				pmax	pmax		
	comp=Z,43nm,0.9s						
KKM	**Kota Kinabalu**	**51.24**	**230**	P	**P**	**17 08 07.6**	**+0.7**
KKM	**Kota Kinabalu**	**51.24**	**230**	*e*P	**P**	**17 08 06.2**	**-0.7**
TSM	**Tawau**	**51.88**	**227**	P	**P**	**17 08 12.7**	**+1.1**
CHG	**Chiang Mai**	**51.96**	**257**	⇑P	**P**	**17 08 13.3**	**+1.0**
	comp=Z,150nm,1.0s,mb5.9						
CHTO	**Chiang Mai**	**51.96**	**257**	P	**P**	**17 08 13.6**	**+1.3**
	SNR=71						
CHTO	**Chiang Mai**	**51.96**	**257⇑**	*i*P	**P**	**17 08 12.9**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,236nm,1.0s,mb6.1						
CHTO	**Chiang Mai**	**51.96**	**257⇑**	*i*P	**P**	**17 08 12.9**	**+0.7**
	comp=Z,236nm,1.0s,mb6.1						
AAA	**Alma-Ata**	**51.97**	**296***c*	*i*P	**P**	**17 08 13.4**	**+1.0**
AAA				pmax	pmax		
	comp=Z,1μm,4.8s						
AAA				MLR	MLR		
	comp=Z,9μm,15.9s,MS5.9						
CM31	**Chiang Mai Arr**	**52.21**	**256⇑**	*e*P	**P**	**17 08 14.7**	**+0.6**
CM31				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
SHL	**Shillong**	**52.25**	**269⇑**	*i*P	**P**	**17 08 16.0**	**+1.5**
SHL				*ex*	x	17 15 51.0	
KBS	**Kingsbay**	**52.71**	**351**	*e*P	**P**	**17 08 17.2**	**-0.6**
	comp=Z,84nm,0.9s,mb5.7						
ULHL	**Ulahol**	**52.96**	**295**	P	**P**	**17 08 20.6**	**+0.9**
	SNR=14						
TKM2	**Tokmak 2**	**53.00**	**296**	P	**P**	**17 08 20.2**	**+0.2**
	SNR=77						
NST	**Nakhon Sawan**	**53.40**	**253**	⇓P	**P**	**17 08 24.1**	**+1.1**
	comp=Z,68nm,1.0s,mb5.5						
CHMS	**Chumysh**	**53.48**	**297**	P	**P**	**17 08 24.0**	**+0.5**
	SNR=61						
USP	**Ospenovka**	**53.49**	**297**	P	**P**	**17 08 23.7**	**+0.1**
	SNR=288						
KBK	**Karagaybulak**	**53.54**	**296**	P	**P**	**17 08 24.4**	**+0.4**
	SNR=112						
FRU	**Bishkek**	**53.65**	**297⇑**	*i*P	**P**	**17 08 24.0**	**-0.8**
FRU				pmax	pmax		
	comp=Z,250nm,1.2s,mb6.0						
FRU				MLR	MLR		
	comp=N,10μm,16.0s						
KZA	**Kyzart**	**53.67**	**295**	P	**P**	**17 08 26.0**	**+1.1**
	SNR=186						
AAK	**Ala-Archa**	**53.84**	**296**	P	**P**	**17 08 26.2**	**+0.1**
	SNR=171						
AAK	**Ala-Archa**	**53.84**	**296**	P	**P**	**17 08 25.9**	**-0.2**
	comp=N,875nm,0.8s,mb6.

AAK pmax pmax
comp=Z,128nm,0.9s,mb5.8
AAK Ala-Archa 53.84 296⇑*i*P P 17 08 24.9 -1.2
comp=Z,128nm,0.9s,mb5.8
SVE Sverdlovsk 53.92 317⇓*e*P P 17 08 26.0 -0.8
SVE pmax pmax
comp=Z,180nm,1.3s,mb5.8
SVE MLR MLR
comp=N,4μm,16.0s,MS5.8
SVE MLR MLR
comp=E,5μm,16.0s,MS5.8
SVE MLR MLR
comp=Z,8μm,16.0s,MS5.9
UCH Uchtor 54.05 296 P P 17 08 29.0 +1.3
SNR=27
SOKR Solikamsk 54.21 321 *e*P P 17 08 27.7 -1.1
SOKR pmax pmax
comp=Z,110nm,1.8s,mb5.5
SOKR MLR MLR
comp=Z,4μm,18.0s,MS5.5
EKS2 Erkin-Say 54.26 297 P P 17 08 30.2 +0.9
SNR=7.9
AAI Ambon 54.58 211 P P 17 08 30.1 -1.5
AML Almayashu 54.61 296 P P 17 08 32.5 +0.7
SNR=92
KSH Kashi 54.64 292 *i*P P 17 08 33.9 +1.9
KSH PCP PcP 17 09 36.8 +1.9
KSH PP PP 17 10 38.4 +4.0
KSH AMB AMB
comp=Z,217nm,0.9s,mb6.2
KSH AMB AMB
comp=Z,1μm,4.8s
KSH LR LR
comp=Z,19μm,19.2s,MS6.2
GUN Gumba 54.91 275 *e*P P 17 08 35.1 +1.1
comp=Z,211nm,0.6s,mb6.4
TLE Tual 54.95 205 P P 17 08 36.6 +2.4
ARU Arti 55.10 318 P P 17 08 34.2 -1.2
comp=Z,667nm,1.1s,mb6.6,SNR=16
ARU Arti 55.10 318⇑*i*P P 17 08 33.7 -1.7
ARU *e* 17 09 34.9
ARU *e*S S 17 16 17.5 -0.5
ARU pmax pmax
comp=Z,91nm,0.8s,mb5.9
ARU MLR MLR
comp=N,2μm,18.0s,MS5.5
ARU MLR MLR
comp=E,3μm,18.0s,MS5.5
ARU MLR MLR
comp=Z,4μm,18.0s,MS5.5
ARU Arti 55.10 318⇑*e*P P 17 08 33.6 -1.8
comp=Z,110nm,0.9s,mb5.9
ARU *e*PcP PcP 17 09 39.5 +2.8
ARU LR LR
comp=Z,1μm,20.0s,MS4.9
KKN Kakani 55.40 275 *e*P P 17 08 38.6 +1.1
comp=Z,804nm,1.1s,mb6.7
PKI Pulchoki 55.45 275 *e*P P 17 08 39.0 +1.2
comp=Z,542nm,1.2s,mb6.4
PCI Palu 55.46 222 P P 17 08 35.5 -2.4
DMN Daman 55.63 275 *e*P P 17 08 40.7 +1.5
comp=Z,811nm,1.2s,mb6.6
GKN Gorkha 55.70 276 *e*P P 17 08 41.0 +1.3
comp=Z,976nm,1.0s
A08A Turner Farm, O 55.84 53 P P 17 08 40.6 -0.1
baz=56,SNR=14
PMG Port Moresby 55.91 187 LR LR 17 29 56.8
comp=Z,1μm,20.0s,MS5.0,baz=169,slow=33
PMG Port Moresby 55.91 187 PFAKE 17 08 50.0 +8.8
PMG LR LR
comp=Z,1μm,20.0s,MS4.9
NNT Nongplab 55.92 251 P P 17 08 43.5 +2.3
KK31 Karatay Array 56.01 299 *i*P P 17 08 41.2 -0.7
KK31 pmax pmax
comp=Z,56nm,0.7s,mb5.7
KK31 Karatay Array 56.01 299 *i*P P 17 08 41.3 -0.6
KKAR Karatay Array 56.01 299 P P 17 08 41.2 -0.7
KKAR pmax pmax
comp=Z,42nm,0.8s,mb5.5
HNR Honiara 56.05 172 LR LR 17 28 02.0
comp=Z,913nm,21.7s,MS4.8,baz=0,8,slow=31
C07A Waterville 56.10 54 ⇑P P 17 08 41.6 -0.9
baz=56
B08A Colville Reser 56.13 53 P P 17 08 43.0 +0.2
baz=56,SNR=12
A09A Danville 56.20 52 P P 17 08 43.5 +0.2
baz=56,SNR=19
E06A Yakima 56.22 56 ⇑P P 17 08 43.4 0.0
baz=56
J02A Umpqua 56.49 60 ⇑P P 17 08 45.1 -0.1
baz=56
EDM Edmonton 56.55 46⇑*i*P P 17 08 44.3 -1.5
KOLN Koldanda 56.56 276 *e*P P 17 08 47.2 +1.4
comp=Z,414nm,0.9s,mb6.5
H04A Detroit Lake 56.57 58 P P 17 08 46.9 +1.0
baz=56,SNR=5.2
C08A Higginbotham F 56.61 54 ⇓P P 17 08 45.3 -0.9
baz=56
CAL Calcutta 56.68 268 *e*P P 17 08 49.3 +2.7
CAL *ex* x 17 16 47.8
B09A Rice 56.75 53 ⇓P P 17 08 46.8 -0.3
baz=56
G05A Wamic 56.76 57 ⇓P P 17 08 47.3 +0.1
baz=57
F06A Goldendale 56.77 57 ⇓P P 17 08 46.1 -1.2
baz=57
J03A Ideyld Park 56.85 60 ⇓P P 17 08 46.5 -1.4
baz=57
E07A Sunnyside 56.85 55 ⇓P P 17 08 48.2 +0.3
baz=57
DAG Danmarks Havn 56.87 358⇓*i*P P 17 08 46.1 -1.9
comp=Z,97nm,1.1s,mb5.8
DAG *i* 17 10 56.1
DAG Danmarks Havn 56.87 358⇓*i*P P 17 08 46.1 -1.9
DAG *i* 17 10 56.1
DAG pmax pmax
comp=Z,97nm,1.1s,mb5.8
K02A Glendale 56.88 61 ⇓P P 17 08 49.2 +1.1
baz=57
I04A Tendick Farm, 56.94 59 ⇑P P 17 08 48.0 -0.5
baz=57
C09A Chrisman Ranch 57.03 53 P P 17 08 49.9 +0.7
baz=57,SNR=6.1
D08A Wollman Farm, 57.10 54 ⇑P P 17 08 49.0 -0.6
baz=57
H05A Madras 57.15 58 ⇓P P 17 08 50.1 +0.1
baz=57,SNR=5.7
G06A Carlson Farm, 57.16 57 ⇑P P 17 08 50.1 +0.1
baz=57
L02A Cave Junction 57.16 62 ⇓P P 17 08 49.4 -0.7
baz=57
F07A Phinny Hill Vi 57.19 56 ⇓P P 17 08 50.3 0.0
baz=57
HUMO Hull Mountain 57.29 61 ⇑P P 17 08 51.2 +0.2
baz=57
E08A Dider Farm, El 57.34 55 ⇑P P 17 08 50.4 -0.9
baz=57
NEW Newport 57.40 52 P P 17 08 51.4 -0.4
comp=Z,20nm,1.0s,mb5.1,baz=320,slow=7.1,SNR=10.0
NEW Newport 57.40 52 P P 17 08 51.4 -0.4
NEW pmax pmax
comp=Z,21nm,1.0s
NEW Newport 57.40 52 P P 17 08 51.4 -0.4
A11A Hall Mountain, 57.42 51 ⇑P P 17 08 51.2 -0.7
baz=57
D09A Jones Farm, Ri 57.44 54 ⇓P P 17 08 52.0 0.0
baz=57
J04A Umpqua Nationa 57.44 60 ⇑P P 17 08 52.2 +0.1
baz=57
APA Apatity 57.50 337⇑*i*P P 17 08 51.4 -1.1
APA *i* 17 10 58.8
APA pmax pmax
comp=Z,36nm,0.8s,mb5.5
KEV Kevo 57.52 340 *e*P P 17 08 51.0 -1.6
KEV pmax pmax
comp=Z,16nm,0.6s,mb5.2
KEV Kevo 57.52 340 *e*P P 17 08 51.0 -1.6
comp=Z,16nm,0.6s,mb5.2
BOK Bokaro 57.54 271 *e*P P 17 08 53.3 +0.5
BOK AMb AMB 17 08 55.9
comp=Z,148nm,1.1s,mb5.9
C10A Spilker Farm, 57.56 53 ⇑P P 17 08 51.9 -1.0
baz=57
H06A Lindquist Farm 57.62 57 ⇓P P 17 08 53.4 +0.1
baz=57
G07A Ruggs Ranch, H 57.70 57 ⇑P P 17 08 54.2 +0.4
baz=58
PTH Pithoragarh 57.76 280 *e*P P 17 08 56.0 +1.7
PTH *ex* x 17 11 03.0
LGTI Lohaghat 57.80 280 *i*P P 17 08 55.5 +0.9
E09A Wood Farm, Sta 57.84 55 P P 17 08 55.3 +0.4
baz=58,SNR=6.7
F08A Pendleton 57.90 56 P P 17 08 54.4 -0.9
baz=58
J05A Fort Rock 57.93 59 ⇓P P 17 08 55.9 +0.4
baz=58
YBH Yreka Blue Hor 57.95 61 ⇑P P 17 08 56.5 +0.8
baz=58
ARCES ARCESS Array B 58.03 341 P P 17 08 55.5 -0.8
comp=Z,16nm,0.6s,mb5.3,baz=35,slow=6.8,SNR=125
ARCES ARCESS Array B 58.03 341 P P 17 08 55.5 -0.7
ARCES pmax pmax
comp=Z,16nm,0.6s
ARE0 ARCESS Array S 58.03 341 *e*P P 17 08 55.2 -1.0
G08A Pilot Rock 58.09 56 P P 17 08 56.9 +0.3
baz=58,SNR=6.7
H07A Lands Inn, Kim 58.15 57 ⇑P P 17 08 56.5 -0.5
baz=58
I06A Prineville 58.15 58 ⇓P P 17 08 57.1 +0.1
baz=58,SNR=6.9
L04A Klamath Falls 58.19 61 ⇓P P 17 08 57.2 -0.1
baz=58
KSM Kuching 58.25 233⇑*e*P P 17 08 57.0 -0.7
E10A Myers Farm, Un 58.44 54 ⇑P P 17 08 58.8 -0.3
baz=58
F09A S2 Ranch, Elgi 58.45 55 P P 17 09 00.1 +1.0
baz=58,SNR=5.5
M04C Macdoel 58.45 61 ⇑P P 17 08 59.9 +0.8
baz=58
K05A Summer Lake 58.46 60 ⇑P P 17 08 60.0 +0.8
baz=58
A13A Flathead Natio 58.48 51 ⇓P P 17 08 59.3 -0.1
baz=58
I07A Izee 58.48 58 P P 17 09 00.5 +1.1
baz=58,SNR=6.2
AB31 Akbulak array 58.49 310 *i*P P 17 08 58.4 -1.0
AB31 pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
M03C McCloud 58.58 62 ⇓P P 17 09 00.2 +0.2
baz=58
J06A Christmas Vall 58.59 59 P P 17 09 01.4 +1.2
baz=58,SNR=9.0
F10A Beach Ranch, E 58.68 55 ⇑P P 17 09 00.4 -0.3
baz=58
H08A Prairie City 58.71 57 P P 17 09 01.9 +1.0
baz=58,SNR=8.8
WDC Whiskeytown Da 58.73 62 ⇑P P 17 09 02.3 +1.2
baz=58
SDNR Sundarnagar 58.74 284 *e*P P 17 09 02.0 +0.9
SDNR *ex* x 17 11 19.0
DDI Dehra Dun 58.74 282 *e*P P 17 09 02.0 +0.9
DLH Dalhousie 58.76 286 *e*P P 17 09 02.0 +0.7
DLH *ex* x 17 09 09.0
G09A Cove 58.77 56 P P 17 09 02.2 +0.8
baz=59,SNR=9.2
AKTK Aktyubinsk 58.80 312 P P 17 09 01.0 -0.6
AKTO Aktyubinsk 58.80 312 P P 17 09 01.0 -0.6
comp=Z,17nm,0.5s,mb5.4,baz=60,slow=6.7,SNR=42
AKTO Aktyubinsk 58.80 312 P P 17 09 00.6 -0.9
K06A Valley Falls 58.80 59 P P 17 09 03.0 +1.4
baz=59,SNR=12
O02C Red Bluff 58.82 63 ⇑P P 17 09 02.6 +0.9
baz=59
L05A Lakeview 58.90 60 ⇑P P 17 09 03.3 +1.1
baz=59
P01C Double 8 Ranch 58.91 64 ⇑P P 17 09 03.2 +0.9
baz=59
KTK1 Kautokeino 58.95 341 *e*P P 17 09 02.9 +0.2
KTK1 AMb AMB 17 09 04.8
comp=Z,85nm,0.9s,mb5.8
KTK1 *ep*P pP 17 09 05.8 -0.1
KTK1 *e*PP PP 17 11 09.6 -3.2
KTK1 Kautokeino 58.95 341 *e*P P 17 09 02.9 +0.2
comp=Z,85nm,0.9s,mb5.8
THN Thein Dam 59.00 286 *ex* x 17 11 11.5
E11A Bogner Ranch, 59.02 54 P P 17 09 02.8 -0.4
baz=59,SNR=11
M05C Lookout 59.12 61 ⇓P P 17 09 04.3 +0.5
baz=59
I08A Drewsey 59.13 57 P P 17 09 04.9 +1.1
baz=59,SNR=6.3
C13A Hot Springs 59.14 52 P P 17 09 04.7 +0.8
baz=59,SNR=5.7
PONG Pong 59.14 285 *e*P P 17 09 05.4 +1.5
KAPI Kappang 59.15 219 P P 17 09 02.5 -1.5
comp=Z,130nm,1.2s,mb5.8,SNR=8.2
GASB Alder Springs 59.18 63 ⇓P P 17 09 04.8 +0.6
baz=59
H09A Durkee 59.20 56 P P 17 09 05.2 +0.8
baz=59,SNR=16
HATC Hat Creek Radi 59.25 62 ⇓P P 17 09 05.2 +0.5
baz=59
BMO Blue Mountains 59.30 56 *e*P P 17 09 04.9 -0.1
comp=Z,53nm,1.4s,mb5.4
MOD Modoc 59.30 60 P P 17 09 06.1 +1.1
baz=59,SNR=9.5
F11A Grangeville 59.33 54 P P 17 09 05.7 +0.5
baz=59,SNR=23
ALBI Allahabad 59.37 275 *ex* x 17 09 35.0
ALBI *ex* x 17 11 25.0
TRO Tromso 59.37 343 *e*P P 17 08 58.1 -7.4
O03C Acorn Hollow, 59.39 63 ⇓P P 17 09 05.6 0.0
baz=59
SGF Sodankyl 59.40 339 P P 17 09 03.7 -2.0
K07A Rock Creek Ran 59.46 59 P P 17 09 07.3 +1.2
baz=59,SNR=8.7
J08A Circle Bar Ran 59.51 58 P P 17 09 07.6 +1.1
baz=59,SNR=9.2
C14A Swan Lake 59.53 51 ⇑P P 17 09 06.9 +0.3
baz=59
D13A Huson 59.55 52 P P 17 09 06.8 +0.1
baz=59,SNR=15
G11A Walters Elk Ra 59.56 55 ⇑P P 17 09 06.5 -0.3
baz=59
I09A Lost Marbles R 59.57 57 P P 17 09 07.5 +0.6
baz=59,SNR=8.8
M06C Likely Place G 59.62 61 ⇓P P 17 09 08.0 +0.8
baz=59
ORR Orenburg 59.73 314 *i*P P 17 09 07.2 -0.8
ORR pmax pmax
comp=Z,80nm,0.8s,mb5.8
ORR MLR MLR
comp=Z,13μm,19.0s,MS6.1
H10A Noah's Angus R 59.77 56 P P 17 09 09.0 +0.7
baz=60,SNR=26
O04C Chester 59.78 62 P P 17 09 09.5 +1.2
baz=60,SNR=5.2
L07A Adell 59.81 59 P P 17 09 09.9 +1.4
baz=60,SNR=9.7
MNRC McLaughlin Nat 59.81 64 ⇑P P 17 09 09.2 +0.6
baz=60
ELFS Eagle Lake Fie 59.82 61 ⇑P P 17 09 09.8 +1.2
baz=60
K08A Mann Creek Ran 59.88 58 ⇓P P 17 09 09.2 +0.1
baz=60
F12A Elk City 59.91 54 ⇑P P 17 09 09.9 +0.6
baz=60
J09A Fry Pan Ranch, 59.94 57 P P 17 09 10.6 +1.1
baz=60,SNR=18
ORV Oroville 59.99 63 P P 17 09 09.8 0.0
baz=60,SNR=11
MSO Missoula 59.99 52⇓*e*P P 17 09 09.7 -0.1
comp=Z,49nm,1.2s,mb5.4
SUTB Sutter Butte 60.01 63 ⇑P P 17 09 09.9 0.0
baz=60
D14A Greenough 60.08 52 P P 17 09 09.9 -0.4
baz=60,SNR=24
E13A Victor 60.09 53 P P 17 09 11.0 +0.5
baz=60,SNR=12
O05C Quincy 60.10 62 ⇑P P 17 09 10.5 -0.1
baz=60
H11A Donnelly 60.12 55 P P 17 09 10.8 +0.1
baz=60,SNR=17
OHCM Honcut 60.13 63 *e*P P 17 09 10.4 -0.4
Q03C Winters 60.23 64 ⇓P P 17 09 12.1 +0.6
baz=60
KLMR Klimovskoe 60.24 329*d*iP P 17 09 10.8 -0.7
KLMR *e*SS SS 17 21 25.7 +3.0
KLMR pmax pmax
comp=Z,116nm,1.1s,mb5.8
N06A Buffalo Meadow 60.28 61 P P 17 09 12.7 +0.9
baz=60,SNR=16
L08A Fields 60.29 59 P P 17 09 12.5 +0.7
baz=60,SNR=14
CHMT Chamberlain Mo 60.31 52 *e*P P 17 09 11.2 -0.8
K09A Rome 60.35 58 ⇑P P 17 09 13.9 +1.7
baz=60
F13A Darby 60.41 53 P P 17 09 12.6 -0.1
baz=60,SNR=28
J10A Berg Farm, Mel 60.46 57 ⇑P P 17 09 13.1 +0.1
baz=60
E14A Clinton 60.49 53 P P 17 09 13.3 +0.1
baz=60,SNR=12
BEKR Beckwourth 60.50 62 P P 17 09 13.9 +0.7
baz=60,SNR=9.4
Q04C Lincoln 60.50 63 ⇑P P 17 09 12.7 -0.6
baz=60
D15A Lincoln 60.63 51 P P 17 09 14.8 +0.6
baz=60,SNR=10
I11A Placerville 60.63 56 ⇑P P 17 09 14.0 -0.2
baz=60
O06A Flanigan 60.64 61 P P 17 09 15.2 +1.0
baz=60,SNR=6.5
P05C Yuba Gap, Truc 60.69 63 ⇓P P 17 09 13.9 -0.6
baz=60
M08A Happy Creek Ra 60.72 59 P P 17 09 16.0 +1.2
baz=60,SNR=17
BDM Black Diamond 60.74 65 ⇑P P 17 09 13.4 -1.5
baz=60
N07B Gerlach 60.78 60 P P 17 09 15.7 +0.5
baz=61,SNR=13
L09A Wilkinson Ranc 60.80 59 ⇑P P 17 09 15.2 -0.1
baz=61
JRSC Jasper Ridge 60.84 65 ⇑P P 17 09 15.7 +0.1
baz=61
H12A Diamond D Ranc 60.87 55 P P 17 09 16.1 +0.3
baz=61,SNR=12
KULM Kulim 60.87 244 *e*P P 17 09 16.7 +0.8
KULM *e*ScP ScP 17 14 02.0 +1.2
G13A Cobalt 60.89 54 P P 17 09 15.9 0.0
baz=61,SNR=43
P06A Stead Airport, 60.89 62 ⇑P P 17 09 15.9 -0.1
baz=61
F14A Wisdom 60.92 53 ⇑P P 17 09 15.9 -0.3
baz=61
LAVA Lava Cap Winer 60.94 63 ⇓P P 17 09 16.6 +0.3
baz=61
E15A Deer Lodge 60.95 52 P P 17 09 16.5 +0.2
baz=61,SNR=26
FFC Flin Flon 60.99 40 P P 17 09 15.5 -1.1
comp=Z,312nm,1.1s,mb6.3,SNR=19
WENL Wente Brothers 61.01 65 ⇓P P 17 09 17.4 +0.7
baz=61
MFID Camas Ranch 61.01 56 ⇓P P 17 09 17.2 +0.4
baz=61
R04C Big Horse Ranc 61.13 64 ⇑P P 17 09 17.6 0.0
baz=61
WCN Washoe City 61.21 62 P P 17 09 19.2 +1.1
baz=61,SNR=9.0
O07A Toulon 61.22 61 P P 17 09 19.1 +1.0
baz=61,SNR=18
IPM Ipoh 61.27 244 P P 17 09 19.6 +1.1
N08A GE Springer Mi 61.28 60 P P 17 09 19.4 +0.9
baz=61,SNR=11
M09A Marrel Ranch, 61.29 59 P P 17 09 20.0 +1.3
baz=61,SNR=7.8
S04C Ingram Canyon, 61.35 65 ⇑P P 17 09 19.7 +0.7
baz=61
OUL Oulu 61.38 337 P P 17 09 18.1 -1.2
R05C Kirkwood Meado 61.38 63 P P 17 09 20.0 +0.7
baz=61,SNR=9.1
EGMT Eagleton 61.49 49 *e*P P 17 09 20.1 +0.1
comp=Z,75nm,1.1s,mb5.7
EGMT Eagleton 61.49 49 ⇓P P 17 09 20.6 +0.5
baz=61
J12A Stokes Ranch, 61.53 56 ⇑P P 17 09 20.7 +0.4
baz=61
PECR Pechory 61.56 323 *e*P P 17 09 18.0 -2.5
PECR pmax pmax
comp=Z,1μm,1.2s
PECR MLR MLR
comp=Z,10μm,17.0s,MS6.0
PECR MLR MLR
comp=N,2μm,16.0s,MS5.6
PECR MLR MLR
comp=E,3μm,16.0s,MS5.6
N09A Rock Creek Ran 61.60 60 ⇑P P 17 09 20.6 -0.1
baz=61
CMB Columbia Colle 61.61 64 *e*P P 17 09 21.0 +0.2
CMB pmax pmax
comp=Z,50nm,1.2s,mb5.5
CMB MLR MLR
comp=Z,1μm,21.0s,MS5.0
CMB Columbia Colle 61.61 64 *e*P P 17 09 21.0 +0.2
comp=Z,50nm,1.2s,mb5.5
CMB LR LR
comp=Z,1μm,21.0s,MS5.0
CMB Columbia Colle 61.61 64 P P 17 09 21.4 +0.7
baz=61,SNR=17
PACP Pacheco Peak 61.68 65 P P 17 09 21.7 +0.4
baz=62,SNR=6.6
LOF Lofoten 61.69 344 *e*P P 17 09 22.4 +1.0
LOF AMb AMB 17 09 24.2
comp=Z,312nm,1.1s,mb6.4
LOF Lofoten 61.69 344 *e*P P 17 09 22.4 +1.0
comp=Z,312nm,1.0s,mb6.4
HLID Hailey 61.73 56 *e*P P 17 09 21.6 0.0
comp=Z,34nm,1.2s,mb5.3
HLID LR LR
comp=Z,902nm,22.0s,MS4.9
HLID Hailey 61.73 56 P P 17 09 22.2 +0.5
baz=62,SNR=29
KAKA Kakadu 61.77 203 *e*P P 17 09 20.2 -1.7
comp=Z,17nm,1.0s,mb5.1
G15A Dillon 61.81 53 P P 17 09 22.1 0.0
baz=62,SNR=21
KGM Kluang 61.82 240 P P 17 09 24.3 +2.0
MCMT McKenzie Canyo 61.82 54 *e*P P 17 09 22.1 -0.1
R06C Coleville 61.88 63 P P 17 09 23.8 +1.2
baz=62,SNR=14
HAST UC Hastings Re 61.90 66 ⇓P P 17 09 22.6 -0.2
baz=62
J13A Cove Ranch, Pi 61.97 56 ⇑P P 17 09 23.3 +0.1
baz=62
BOZ Bozeman (W) 61.98 52 *e*P P 17 09 22.9 -0.4
BOZ pmax pmax
comp=Z,68nm,1.3s,mb5.6
BOZ MLR MLR
comp=Z,905nm,19.0s,MS5.0
BOZ Bozeman (W) 61.98 52 *e*P P 17 09 22.9 -0.5
comp=Z,68nm,1.3s,mb5.6
BOZ LR LR
comp=Z,905nm,19.0s,MS5.0
BOZ Bozeman (W) 61.98 52 P P 17 09 23.1 -0.2
baz=62,SNR=45
JBP Jabalpur 62.02 275⇑*e*P P 17 09 24.4 +0.7
JBP *ex* x 17 09 26.2
comp=Z,191nm,1.0s
JBP *e*S S 17 17 47.5 -0.7
K12A Draper Farm, C 62.03 57 ⇑P P 17 09 23.4 -0.2
baz=62
S06C San Francisco 62.03 63 P P 17 09 23.5 -0.2
baz=62,SNR=18
BMN Battle Mountai 62.04 60 *e*P P 17 09 23.6 -0.1
BMN pmax pmax
comp=Z,27nm,0.8s,mb5.4
BMN Battle Mountai 62.04 60 *e*P P 17 09 23.6 -0.1
comp=Z,27nm,0.8s,mb5.4
JMIC Jan Mayen 62.04 353 P P 17 09 24.3 +0.6
comp=Z,111nm,0.7s,mb6.1,baz=180,slow=4.8,SNR=3.4
JMIC LR LR 17 32 21.4
comp=Z,241nm,21.9s,MS4.3,baz=53,slow=32
S05C Merced 62.07 64 P P 17 09 24.2 +0.3
baz=62,SNR=9.2
T05C Eagle Field, D 62.14 65 ⇓P P 17 09 25.0 +0.7
baz=62
O09A Fish Creek Ran 62.22 60 P P 17 09 25.5 +0.6
baz=62,SNR=18
M11A Holland Ranch, 62.26 58 P P 17 09 26.7 +1.5
baz=62,SNR=20
V03C Hunter Liggett 62.33 66 ⇓P P 17 09 26.4 +0.7
baz=62
R07C Lee Vining 62.40 63 ⇓P P 17 09 27.4 +1.2
baz=62
K13A Stover Farm, H 62.49 56 ⇑P P 17 09 27.5 +0.7
baz=62
O10A Cortez Mining, 62.56 60 P P 17 09 28.6 +1.4
baz=62,SNR=6.3
Q08A Gabbs 62.60 62 P P 17 09 27.6 +0.2
baz=62,SNR=21
QLMT Earthquake Lak 62.61 53 *e*P P 17 09 28.1 +0.6
NVAR Mina Array Bea 62.64 62 P P 17 09 27.5 -0.2

comp=Z,24nm,0.8s,mb5.4,baz=296,slow=7.0,SNR=75
P09A Austin 62.64 61 ⇑P P 17 09 28.6 +0.9
baz=62
T06C Millerton Lake 62.67 64 P P 17 09 27.8 -0.2
baz=62,SNR=7.3
N11A Elko Archery C 62.68 59 ⇓P P 17 09 28.5 +0.5
baz=62
KCC Kaiser Creek 62.71 64 P P 17 09 28.3 +0.1
baz=62,SNR=19
M12A Wells 62.79 58 P P 17 09 30.1 +1.4
baz=63,SNR=30
V04C Ramage Ranch, 62.80 66 ⇑P P 17 09 29.3 +0.4
baz=63
R08A Mina 62.81 62 ⇓P P 17 09 30.1 +1.2
baz=63
PKD Parkfield 62.82 66 ⇑P P 17 09 28.7 -0.2
baz=63
L13A Double Diamond 62.92 57 ⇑P P 17 09 30.4 +0.7
baz=63
GCMT Greycliff 62.96 51 *e*P **P 17 09 29.4 -0.4**
P10A Eureka 63.00 60 ⇑P P 17 09 30.4 +0.2
baz=63
ELK Elko 63.02 58 PFAKE 17 09 40.0 +10
ELK LR LR
comp=Z,1μm,20.0s,MS5.1
Q09A Carvers 63.07 61 ⇑P P 17 09 30.5 0.0
baz=63
N12A Clover Valley, 63.07 58 P P 17 09 31.7 +1.1
baz=63,SNR=9.4
MTUM Tungsten Hills 63.16 63 *e*P **P 17 09 31.7 +0.5**
O11A Cowboy Ranch, 63.16 59 P P 17 09 31.8 +0.6
baz=63,SNR=17
YFT Old Faithful 63.18 53 *e*P **P 17 09 33.0 +1.7**
MOR8 Moi Rana 63.21 342 *e*P **P 17 09 29.2 -2.3**
MOR8 AMb AMB 17 09 31.4
comp=Z,334nm,0.9s,mb6.5
MOR8 Moi Rana 63.21 342 *e*P **P 17 09 29.2 -2.3**
comp=Z,334nm,0.9s,mb6.5
PTRM Twissleman Ran 63.21 66 *e*P **P 17 09 31.5 0.0**
M13A Montello 63.26 57 ⇓P P 17 09 32.3 +0.5
baz=63
HELL Mitchell Peak, 63.30 64 P P 17 09 32.3 +0.2
baz=63,SNR=32
S08C White Mtn Res 63.31 63 P P 17 09 33.4 +1.2
baz=63,SNR=14
VIS Vishakhapatnam 63.38 268 *e*P **P 17 09 33.1 +0.5**
VIS AMb AMB 17 09 35.8
comp=Z,222nm,1.1s,mb6.2
VIS *i* x x 17 18 10.6
RCTC Rector, Farmer 63.40 65 ⇑P P 17 09 33.2 +0.4
baz=63
P11A Circle Ranch, 63.47 60 ⇓P P 17 09 34.1 +0.9
baz=63
AJM Ajmer 63.50 281 *e*P **P 17 09 34.2 +0.8**
AJM AMb AMB 17 09 36.4
comp=Z,248nm,1.0s,mb6.3
R09A Tonopah 63.51 62 P P 17 09 33.8 +0.3
baz=63,SNR=67
TPH Tonopah 63.52 62 *e*P **P 17 09 33.4 -0.2**
TPH pmax pmax
comp=Z,56nm,1.0s,mb5.5
TPH MLR MLR
comp=Z,1μm,19.0s,MS5.0
TPH Tonopah 63.52 62 *e*P **P 17 09 33.4 -0.2**
comp=Z,56nm,1.0s,mb5.5
TPH LR LR
comp=Z,1μm,19.0s,MS5.0
DCID1 Drake Creek 63.53 54 *e*P **P 17 09 32.8 -0.8**
TIN Tinemaha 63.55 63 ⇓P P 17 09 34.8 +1.0
baz=63
N13A Wendover, West 63.56 58 P P 17 09 34.9 +1.1
baz=63,SNR=13
SMMC Simmler 63.56 66 ⇑P P 17 09 34.6 +0.7
baz=63
RLMT Red Lodge 63.60 52 *e*P **P 17 09 33.5 -0.6**
comp=Z,92nm,1.3s,mb5.7
O12A Currie 63.61 59 P P 17 09 34.0 -0.2
baz=63,SNR=44
BHPL Bhopal 63.73 277 *e*P **P 17 09 36.0 +1.0**
S09A Goldfield 63.74 62 P P 17 09 35.7 +0.6
baz=64,SNR=18
VES Vestal, Richgr 63.80 65 ⇓P P 17 09 35.5 +0.1
baz=64
REDW Red Top Meadow 63.87 54 *e*P **P 17 09 36.2 +0.3**
comp=Z,183nm,1.3s,mb6.0
PKM Peak Mountain 63.94 66 ⇓P P 17 09 36.2 -0.1
baz=64
Q11A Duckwater 63.98 60 P P 17 09 37.1 +0.5
baz=64,SNR=16
NGP Nagpur 64.01 274⇑ *e*P **P 17 09 35.7 -1.1**
NGP *ex* x 17 09 37.5
comp=Z,259nm,1.1s
NGP *ex* x 17 11 43.2
P12A McGill 64.03 59 P P 17 09 37.3 +0.4
baz=64,SNR=13
CWC Cottonwood Cre 64.04 64 ⇑P P 17 09 37.4 +0.4
baz=64
AHID Auburn Hatcher 64.11 55 *e*P **P 17 09 37.2 -0.2**
comp=Z,45nm,1.2s,mb5.4
GRAC Grapevine Rang 64.12 63 ⇑P P 17 09 37.9 +0.4
baz=64,SNR=5.2
LAO LASA Array 64.19 49 *e*P **P 17 09 38.1 +0.1**
comp=Z,68nm,1.2s,mb5.6
FIA1 FINESS Array S 64.20 335 *e*P **P 17 09 36.7 -1.4**
FINES FINESS Array B 64.20 335 P P 17 09 36.9 -1.2
comp=Z,34nm,0.6s,mb5.6,baz=36,slow=7.6,SNR=175
FINES FINESS Array B 64.20 335 P P 17 09 36.9 -1.2
FINES pmax pmax
comp=Z,34nm,0.6s
ISA Isabella 64.29 65 P P 17 09 38.3 -0.3
baz=64,SNR=15
Q12A Willow Creek R 64.35 60 P P 17 09 39.5 +0.5
baz=64,SNR=12
ARVC Arvin 64.41 65 ⇓P P 17 09 39.3 -0.2
baz=64
DAC Darwin (Calif) 64.44 64 *e*P **P 17 09 39.2 -0.5**
DAC pmax pmax
comp=Z,14nm,0.8s,mb5.0
DAC Darwin (Calif) 64.44 64 *e*P **P 17 09 39.2 -0.4**
comp=Z,14nm,0.8s,mb5.0
MOS Moscow 64.57 326 *e*P **P 17 09 37.9 -2.6**
MOS *e* 17 09 59.3
MOS pmax pmax
comp=Z,82nm,1.1s,mb5.7
MOS MLR MLR
comp=Z,4μm,18.0s,MS5.7
HWUT Hardware Ranch 64.60 56 *e*P **P 17 09 40.4 -0.2**
comp=Z,54nm,1.3s,mb5.4
HWUT LR LR
comp=Z,1μm,22.0s,MS5.0
MPMC Manual Prospec 64.65 64 P P 17 09 40.9 -0.1
baz=64,SNR=29
FURC Furnace Creek, 64.77 63 P P 17 09 41.4 -0.4
baz=65,SNR=44
DUG Dugway 64.79 58 *e*P **P 17 09 41.8 -0.1**
comp=Z,76nm,1.1s,mb5.6
DUG LR LR
comp=Z,1μm,19.0s,MS5.1
DUG Dugway 64.79 58 P P 17 09 42.5 +0.6
baz=65,SNR=49
OSI Osito Adit 64.81 66 ⇓P P 17 09 42.5 +0.5
baz=65
NOQ North Oquirrh 64.90 57 *e*P **P 17 09 42.6 0.0**
comp=Z,118nm,1.3s,mb5.8
LRMC Laurel Mountai 64.90 64 P P 17 09 42.5 -0.1
baz=65,SNR=9.4
BLG Laguna Peak 64.92 66 ⇑P P 17 09 42.6 -0.1
baz=65
BW06 Boulder Array 64.97 54 PFAKE 17 09 50.0 +6.9
BW06 LR LR
comp=Z,1μm,22.0s,MS5.0
PDAR Pinedale Array 64.97 54 P P 17 09 42.2 -0.9
comp=Z,20nm,1.0s,mb5.1,baz=282,slow=1.6,SNR=71
PDAR LR LR 17 36 00.5
comp=Z,671nm,20.7s,MS4.8,baz=335,slow=34
CTU Camp Tracy 65.09 57 *e*P **P 17 09 43.9 +0.1**
comp=Z,39nm,1.2s,mb5.3
EDW2 Edwards Air Fo 65.10 65 P P 17 09 44.1 +0.2
baz=65,SNR=32
DECC Green Verdugo 65.29 66 ⇑P P 17 09 44.7 -0.5
baz=65
JLU Jordanelle 65.32 57 *e*P **P 17 09 45.8 +0.4**
NLU North Lily Min 65.38 57 *e*P **P 17 09 45.8 0.0**
SFJD Kangerlussuaq 65.40 10 P P 17 09 45.0 -0.8
comp=Z,33nm,0.9s,mb5.3,baz=300,slow=8.0,SNR=10
SFJD Kangerlussuaq 65.40 10 *i* P **P 17 09 45.0 -0.8**
comp=Z,38nm,0.9s,mb5.4
SFJD Kangerlussuaq 65.40 10 *e*P **P 17 09 44.4 -1.4**
SFJD pmax pmax
comp=Z,70nm,1.4s,mb5.5
SFJD Kangerlussuaq 65.40 10 *e*P **P 17 09 44.4 -1.5**
comp=Z,70nm,1.4s,mb5.5
SFJD Kangerlussuaq 65.40 10 *i* S S 17 18 28.8 -1.3
OBN Obninsk 65.44 326 P P 17 09 45.0 -1.1
comp=Z,706nm,0.5s,SNR=7.3
OBN Obninsk 65.44 326k *i*P **P 17 09 45.5 -0.6**
OBN 17 10 19.0
OBN *e*S S 17 18 25.0 -5.6
OBN *e* 17 18 53.0
OBN pmax pmax
comp=Z,70nm,0.8s,mb5.7
OBN MLR MLR
comp=Z,4μm,18.0s,MS5.6
OBN Obninsk 65.44 326 *e*P **P 17 09 44.5 -1.6**
comp=Z,61nm,0.6s,mb5.8
OBN LR LR
comp=Z,928nm,20.0s,MS5.0
SHOC Shoshone 65.50 63 ⇓P P 17 09 46.9 +0.4
baz=65
DAU Daniels Canyon 65.55 57 *e*P **P 17 09 47.3 +0.4**
GSC Goldstone 65.56 64 P P 17 09 47.3 +0.4
baz=65,SNR=11
MPU Maple Canyon 65.59 57 *e*P **P 17 09 47.2 +0.1**
comp=Z,59nm,1.1s,mb5.5
MEF Metsahovi 65.68 335 P P 17 09 47.1 -0.6
U11A Corn Creek 65.71 62 ⇑P P 17 09 48.5 +0.7
baz=66
AKL Akola 65.71 275 ⇓*i*P **P 17 09 48.8 +0.9**
AKL *i* x x 17 11 56.7
BFSC Mount Baldy St 65.72 65 P P 17 09 48.3 +0.4
baz=66,SNR=11
GSI Gunungsitoli 65.88 244 P P 17 09 48.9 -0.1
TUQ Turquoise Mtn. 66.02 63 P P 17 09 50.1 +0.2
baz=66,SNR=8.5
V11A Goodsprings 66.06 63 P P 17 09 50.8 +0.7
baz=66,SNR=6.2
HEC Hector,Ludlow 66.17 64 P P 17 09 50.9 +0.1
baz=66,SNR=23
BBRC Big Bear Sol-O 66.17 65 ⇑P P 17 09 51.6 +0.8
baz=66
CCUT Cedar City 66.19 60 *e*P **P 17 09 50.2 -0.7**
U12A Valley of Fire 66.22 62 ⇑P P 17 09 51.8 +0.7
baz=66
VRHR Novokhopersk 66.23 320 *e*P **P 17 09 50.0 -1.2**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=N,9.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=Z,1μm,13.0s,MS5.3
VRHR MLR MLR
comp=N,2μm,14.0s
VRHR MLR MLR
comp=E,3μm,23.0s
TMUT Trail Mountain 66.31 57 *e*P **P 17 09 51.6 -0.1**
VSU Vasula 66.37 332 P P 17 09 51.1 -1.0
MURC Murrieta 66.43 66 ⇓P P 17 09 52.7 +0.2
baz=66
V12A Nelson 66.49 62 P P 17 09 53.6 +0.8
baz=66,SNR=8.2
CTA Charters Tower 66.57 187 *e*P **P 17 09 51.3 -2.1**
comp=E,4.4nm,1.0s
CTA *e* 17 10 05.6
CTA *e*S S 17 18 41.3 -3.1
CTA Charters Tower 66.57 187 P P 17 09 51.2 -2.1
comp=E,3.0nm,0.6s,baz=4.1,slow=9.0,SNR=3.9
CTA Charters Tower 66.57 187 P P 17 09 51.3 -2.1
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTAO Charters Tower 66.57 187 *e*P **P 17 09 50.6 -2.8**
CTAO *e* 17 10 04.8
CTAO pmax pmax
comp=Z,15nm,1.2s,mb4.9
CTAO MLR MLR
comp=Z,822nm,20.0s,MS4.9
CTAO Charters Tower 66.57 187 *e*P **P 17 09 50.6 -2.8**
comp=Z,15nm,1.2s,mb4.9
CTAO *e* 17 10 04.8
CTAO LR LR
comp=Z,822nm,20.0s,MS4.9
GMRC Granite Mounta 66.61 64 P P 17 09 53.5 -0.2
baz=66,SNR=18
ABKT Ailbek 66.62 301 P P 17 09 54.5 +0.8
comp=Z,711nm,0.6s,SNR=40
W12A Cal Nev Ari 66.76 63 ⇓P P 17 09 54.7 +0.1
baz=67
ULM Lac du Bonnet 66.77 41 P P 17 09 52.5 -2.2
comp=Z,8.4nm,0.8s,mb4.8,baz=313,slow=8.2,SNR=15
ULM Lac du Bonnet 66.77 41 *e*P **P 17 09 52.7 -2.0**
comp=Z,15nm,0.9s,mb5.0
VOR Voronezh 66.83 322 P P 17 09 53.0 -2.1
VOR pmax pmax
comp=Z,190nm,1.6s,mb5.9
VOR pmax pmax
comp=N,140nm,1.3s
SRU San Rafael 66.84 57 *e*P **P 17 09 54.2 -0.9**
SRU pmax pmax
comp=Z,74nm,1.0s,mb5.7
SRU San Rafael 66.84 57 *e*P **P 17 09 54.2 -0.9**
comp=Z,74nm,1.0s,mb5.7
PFO Pinyon Flat Ob 66.89 65 *e*P **P 17 09 54.8 -0.6**
PFO pmax pmax
comp=Z,40nm,1.5s,mb5.2
PFO Pinyon Flat Ob 66.89 65 *e*P **P 17 09 54.8 -0.7**
comp=Z,40nm,1.5s,mb5.2
PFO Pinyon Flat Ob 66.89 65 ⇑P P 17 09 55.0 -0.5
baz=67
HYB Hyderabad 66.89 271⇑ *i*P **P 17 09 55.0 -0.4**
comp=Z,105nm,1.0s,mb5.8
HYB *e*PP PP 17 12 24.0 +1.3
HYB *e*S S 17 18 48.0 -0.3
HYB Hyderabad 66.89 271⇑ *e*P **P 17 09 55.0 -0.4**
HYB *e*S S 17 18 48.0 -0.3
HYB pmax pmax
comp=Z,105nm,1.0s,mb5.8
HYB Hyderabad 66.89 271⇑ *e*P **P 17 09 55.0 -0.4**
comp=Z,105nm,1.0s,mb5.8
HYB *e* 17 12 02.5
HYB *e*S S 17 18 48.0 -0.3
BELC Belle Mtn. 66.92 65 P P 17 09 55.4 -0.2
baz=67,SNR=8.3
109C Camp Elliot, M 66.95 66 ⇓P P 17 09 56.1 +0.2
baz=67
RSSD Black Hills 67.06 50 *e*P **P 17 09 55.2 -1.3**
RSSD pmax pmax
comp=Z,51nm,1.2s,mb5.4
RSSD MLR MLR
comp=Z,2μm,19.0s,MS5.3
RSSD Black Hills 67.06 50 *e*P **P 17 09 55.2 -1.3**
comp=Z,51nm,1.2s,mb5.4
RSSD LR LR
comp=Z,2μm,19.0s,MS5.3
IRM Iron Mountain 67.34 64 P P 17 09 58.7 +0.4
baz=67,SNR=36
VORD Divnogorie 67.35 321 *e*P **P 17 09 55.5 -2.9**
VORD pmax pmax
comp=Z,40nm,0.7s,mb5.6
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
MONP Monument Peak 67.39 66 ⇑P P 17 09 57.9 -0.7
baz=67
BC3 Big Chuckw Mtn 67.48 64 P P 17 09 58.9 -0.3
baz=67,SNR=16
W13A Hualapai Mount 67.50 62 P P 17 09 59.9 +0.6
baz=67,SNR=11
LATR Latur 67.58 273 *ex* x 17 09 50.3
X13A Yucca 67.87 63 P P 17 10 01.6 0.0
baz=68,SNR=34
PDMCI Parker Dam,Lak 67.87 63 P P 17 10 01.9 +0.3
baz=68,SNR=32
W14A Seligman 67.91 62 P P 17 10 01.9 0.0
baz=68,SNR=37
DOMB Dombas 67.97 343 *e*P **P 17 10 01.9 -0.4**
DOMB AMb AMB 17 10 03.9
comp=Z,209nm,1.0s,mb6.1
DOMB Dombas 67.97 343 *e*P **P 17 10 01.9 -0.4**
comp=Z,209nm,1.0s,mb6.1
AFI Afiamalu 68.00 143 LR LR 17 34 44.6
comp=Z,1μm,18.9s,MS5.2,baz=334,slow=32
Y12C Blythe 68.00 64 P **P 17 10 02.9 +0.4**
baz=68,SNR=7.3
PV10 Paradox Valley 68.19 57 *e*P **P 17 10 04.4 +0.8**
WB2 Warramunga Arr 68.26 199 *e*P **P 17 10 01.6 -2.5**
WB2 *e* 17 10 14.1
WRA Warramunga Arr 68.26 199 P **P 17 10 01.3 -2.8**
comp=Z,18nm,1.0s,mb5.1,baz=15,slow=6.6,SNR=77
WRA PKPPKP 17 38 19.0
comp=Z,2.3nm,1.1s,baz=196,slow=2.7,SNR=6.2
GLA Glamis 68.28 65 P **P 17 10 04.3 +0.1**
baz=68,SNR=14
Y13A Salome 68.39 63 P **P 17 10 05.4 +0.5**
baz=68,SNR=7.0
NB2 NORSAR Subarra 68.41 341 P **P 17 10 04.6 -0.4**
comp=Z,333nm,1.2s,mb6.2,baz=28,slow=6.5
NOA NORSAR Array B 68.41 341 P **P 17 10 04.2 -0.8**
comp=Z,82nm,0.6s,mb6.0,baz=28,slow=6.4,SNR=167
NOA LR LR 17 44 35.0
comp=Z,2μm,18.2s,MS5.4,baz=40,slow=40
NOA NORSAR Array B 68.41 341 P **P 17 10 04.2 -0.8**
NOA pmax pmax
comp=Z,82nm,0.6s
NOA MLR MLR
comp=Z,2μm,18.2s
W15A Williams 68.43 61 P **P 17 10 06.6 +1.4**
baz=68,SNR=12
X14A Yava 68.52 62 P **P 17 10 06.8 +1.0**
baz=68,SNR=31
PV01 Paradox Valley 68.62 57 *e*P **P 17 10 06.6 +0.2**
HFA0 Hagfors New Ar 68.63 339 P **P 17 10 04.8 -1.6**
HFS Hagfors 68.63 339 P **P 17 10 05.6 -0.8**
comp=Z,207nm,0.8s,mb6.1,baz=48,slow=4.4,SNR=218
HFS Hagfors 68.63 339 P **P 17 10 05.6 -0.8**
HFS pmax pmax
comp=Z,207nm,0.8s
NAO01 NORSAR Array S 68.66 341 *e*P **P 17 10 05.6 -1.0**
comp=Z,122nm,1.0s,mb5.8
IZAR Zarasai 68.70 331 *e*P **P 17 10 06.6 -0.3**
IZAR AMb AMB 17 10 07.1
comp=Z,2μm,0.5s
WUAZ Wupatki 68.74 61 *e*P **P 17 10 07.2 +0.1**
comp=Z,45nm,1.1s,mb5.3
WUAZ Wupatki 68.74 61 P **P 17 10 08.0 +0.9**
baz=68,SNR=18
MDRS Chennai 68.74 267 *ex* x 17 09 12.5
MDRS AMb AMB 17 09 14.3
comp=Z,28nm,0.4s,mb5.6
Y14A Wickenburg 68.81 63 P **P 17 10 07.5 -0.1**
baz=69,SNR=22
IDID Didziasalis 68.88 330 *e*P **P 17 10 07.8 -0.2**
IDID AMb AMB 17 10 09.0
comp=Z,2μm,1.0s
FITZ Fitzroy Crossi 68.89 208 *e*P **P 17 10 06.6 -1.4**
comp=Z,36nm,1.0s,mb5.3
FITZ *e* 17 10 18.6
FITZ *e* 17 10 25.9
FITZ *e*S S 17 19 10.0 -2.2
FITZ Fitzroy Crossi 68.89 208 P **P 17 10 06.7 -1.3**
baz=30,slow=5.0
X15A Humboldt 68.91 62 P **P 17 10 08.9 +0.7**
baz=69,SNR=39
BORG Borgarnes 68.98 357 P **P 17 10 09.7 +1.1**
comp=Z,95nm,0.9s,mb5.7,baz=33,slow=5.4,SNR=16
IIGN Ignalina 69.03 331 *e*P **P 17 10 08.8 -0.1**
IIGN AMb AMB 17 10 09.3
comp=Z,4μm,0.4s
MAK Makhachkala 69.14 311 *e*P **P 17 10 07.2 -2.4**
MAK *e* 17 10 31.3
MAK pmax pmax
comp=Z,189nm,1.2s,mb5.9
MAK pmax pmax
comp=Z,1μm,3.6s
MAK MLR MLR
comp=Z,10μm,18.0s,MS6.1
MAK MLR MLR
comp=N,7μm,15.0s,MS6.2
MAK MLR MLR
comp=E,7μm,15.0s,MS6.2
MNK Minsk 69.16 329 *e*P **P 17 10 07.0 -2.7**
ISCO Idaho Springs 69.17 54 *e*P **P 17 10 09.6 -0.2**
ISCO pmax pmax
comp=Z,55nm,1.4s,mb5.3
ISCO MLR MLR
comp=Z,1μm,22.0s,MS5.0
ISCO Idaho Springs 69.17 54 *e*P **P 17 10 09.6 -0.2**
comp=Z,55nm,1.4s,mb5.3
ISCO LR LR
comp=Z,1μm,22.0s,MS5.0
Z14A Wintersburg 69.23 63 ⇓P P 17 10 10.3 +0.2
baz=69
MVCO Mesa Verde 69.30 58 *e*P **P 17 10 09.8 -0.7**
comp=Z,55nm,1.0s,mb5.4
MVCO Mesa Verde 69.30 58 P **P 17 10 10.2 -0.3**
baz=69,SNR=28
DZM Mont Dzumac 69.35 167 LR LR 17 35 47.3
comp=Z,2μm,20.2s,MS5.3,baz=199,slow=32
POO Poona 69.37 275 *e*P **P 17 10 11.6 +0.6**
KAD Karad 69.98 274 *e*P **P 17 10 15.4 +0.7**
KONO Kongsberg 70.02 341⇑ *e*P **P 17 10 13.9 -1.1**
KONO Kongsberg 70.02 341 *e*P **P 17 10 14.2 -0.8**
comp=Z,131nm,1.0s,mb5.8
115A Sonoran Desert 70.13 63 P **P 17 10 16.5 +0.8**
baz=70,SNR=12
RUND Rundenannen 70.20 344 *e*P **P 17 10 18.9 +2.7**
EYMN Ely 70.42 40 *e*P **P 17 10 16.1 -1.3**
comp=Z,26nm,1.0s,mb5.1
EYMN *e* 17 10 27.3
116A Eloy 70.54 63 P **P 17 10 18.8 +0.6**
baz=70,SNR=5.4
SDCO Great Sand Dun 70.65 55 *e*P **P 17 10 17.9 -1.0**
comp=Z,39nm,1.4s,mb5.2
SDCO LR LR
comp=Z,1μm,22.0s,MS5.0
KIV Kislovodsk 70.88 314 P **P 17 10 21.4 +1.1**
comp=Z,536nm,0.7s,mb6.6,SNR=14
KIV Kislovodsk 70.88 314 P **P 17 10 21.5 +1.2**
SNR=25
KIV Kislovodsk 70.88 314⇑ *e*P **P 17 10 20.9 +0.6**
KIV pmax pmax
comp=Z,162nm,1.2s,mb5.8
KIV MLR MLR
comp=Z,4μm,17.0s,MS5.8
KIV Kislovodsk 70.88 314 *e*P **P 17 10 20.9 +0.7**
comp=Z,116nm,0.9s,mb5.8
KIV LR LR
comp=Z,999nm,19.0s,MS5.1
BLS5 Blasjo 70.90 343 *e*P **P 17 10 20.5 +0.2**
BLS5 AMb AMB 17 10 23.4
comp=Z,144nm,1.0s,mb5.9
BLS5 *e*pP pP 17 10 23.7 -0.1
BLS5 Blasjo 70.90 343 *e*P **P 17 10 21.4 +1.0**
comp=Z,144nm,1.0s,mb5.9
ZEI Tsey 71.13 313 *e*P **P 17 10 21.9 +0.1**
ZEI *i* 17 10 37.0
ZEI pmax pmax
comp=Z,95nm,1.1s,mb5.6
SUW Suwalki 71.14 331 *e*P **P 17 10 21.0 -0.9**
TUC Tucson 71.28 63 *e*P **P 17 10 22.4 -0.3**
TUC pmax pmax
comp=Z,22nm,1.1s,mb5.0
TUC Tucson 71.28 63 *e*P **P 17 10 22.4 -0.3**
comp=Z,22nm,1.1s,mb5.0
DGRG David-gareji 71.32 311 P **P 17 10 23.8 +0.8**
MTA Mtatsminda 71.45 311 P **P 17 10 24.2 +0.4**
ONI Oni 71.50 313 P **P 17 10 24.8 +0.8**
GOR Gori 71.59 312 P **P 17 10 25.8 +1.2**
LRW Lerwick 71.62 347 *e*P **P 17 10 24.7 -0.1**
LRW AMb AMB 17 10 25.1
comp=Z,87nm,1.6s,mb5.4
AKASG Malin Array Be 71.67 326 P **P 17 10 24.0 -1.1**
comp=Z,70nm,0.4s,mb5.9,baz=33,slow=6.3,SNR=273
AKASG Malin Array Be 71.67 326 P **P 17 10 24.0 -1.1**
AKASG pmax pmax
comp=Z,70nm,0.4s
AKASG Malin Array Be 71.67 326 P **P 17 10 24.0 -1.1**
KIEV Kiev 71.69 326 P **P 17 10 23.7 -1.5**
KIEV pmax pmax
comp=Z,130nm,0.7s,mb6.0
KIEV Kiev 71.69 326 *e*P **P 17 10 23.8 -1.4**
comp=Z,126nm,0.6s,mb6.0
SNART Snartemo 71.73 342 *e*P **P 17 10 25.6 +0.2**
SNART AMb AMB 17 10 29.0
comp=Z,186nm,1.4s,mb5.8
ASAR Alice Springs 71.95 198 P **P 17 10 25.1 -1.6**
comp=Z,13nm,0.9s,mb4.9,baz=12,slow=5.2,SNR=97
ASAR Alice Springs 71.95 198 P **P 17 10 25.2 -1.6**

ASAR pmax pmax
comp=Z,13nm,0.9s
ANMO Albuquerque 72.05 58 P P 17 10 27.7 +0.4
comp=Z,25nm,1.1s,mb5.1,baz=310,slow=8.0,SNR=13
ANMO Albuquerque 72.05 58 P P 17 10 27.6 +0.3
ANMO pmax pmax
comp=Z,31nm,1.0s
ANMO Albuquerque 72.05 58 *eP* **P 17 10 27.3 -0.1**
comp=Z,31nm,1.0s,mb5.2
ANMO LR LR
comp=Z,789nm,20.0s,MS5.0
PALK Pallekele 72.55 262 P **P 17 10 31.3 +1.0**
comp=Z,527nm,1.0s,mb6.4,SNR=7.2
PALK Pallekele 72.55 262 *eP* **P 17 10 31.1 +0.7**
comp=Z,80nm,1.0s,mb5.6
PALK LR LR
comp=Z,275nm,22.0s,MS4.5
GNI Garni 72.59 310 P **P 17 10 32.0 +1.4**
comp=Z,20nm,0.5s,mb5.3,baz=259,slow=0.5,SNR=29
GNI Garni 72.59 310 ⇓P **P 17 10 32.7 +2.1**
SNR=16
GNI Garni 72.59 310 *eP* **P 17 10 32.1 +1.5**
GNI pmax pmax
comp=Z,152nm,1.0s
GNI Garni 72.59 310 *eP* **P 17 10 32.1 +1.6**
comp=Z,152nm,1.0s,mb5.9
SOC Sochi 72.61 316*c i*P **P 17 10 30.8 +0.1**
SOC *e*S S 17 19 48.6 -6.8
SOC *e* 17 20 35.7
SOC *e*SS SS 17 24 28.7 -5.8
SOC pmax pmax
comp=Z,76nm,0.8s,mb5.7
SOC pmax pmax
comp=Z,222nm,1.4s,mb5.9
BSD Bornholm Skovb 72.72 336 *i* P **P 17 10 31.8 +0.5**
comp=Z,190nm,1.0s,mb6.0
BSD Bornholm Skovb 72.72 336 *i* P **P 17 10 31.8 +0.5**
BSD pmax pmax
comp=Z,190nm,1.0s,mb6.0
ANN Anapa 72.77 318 *eP* **P 17 10 29.6 -2.1**
ANN *e*S S 17 19 56.9 -0.5
ANN pmax pmax
comp=Z,122nm,1.3s,mb5.7
MUD Monsted U'grnd 73.00 340 *i* P **P 17 10 33.0 0.0**
comp=Z,71nm,1.0s,mb5.5
MUD Monsted U'grnd 73.00 340 *i* P **P 17 10 33.0 0.0**
MUD pmax pmax
comp=Z,71nm,1.0s,mb5.5
CBKS Cedar Bluff 73.08 51 *eP* **P 17 10 31.7 -1.8**
CBKS pmax pmax
comp=Z,64nm,1.2s,mb5.4
CBKS Cedar Bluff 73.08 51 *eP* **P 17 10 31.7 -1.8**
comp=Z,64nm,1.2s,mb5.4
DIGO Kars 73.11 311 *i* P **P 17 10 35.0 +1.4**
KARS Kars 73.12 312 *eP* **P 17 10 35.2 +1.5**
BCA Borcka 73.25 313 *eP* **P 17 10 34.6 +0.1**
BCA Borcka 73.25 313 P **P 17 10 34.0 -0.5**
ARTV Artvin 73.29 313 *i* P **P 17 10 35.8 +1.0**
WAR Warsaw 73.34 331 *eP* **P 17 10 36.1 +1.1**
WAR L 17 44 52.4
comp=Z,1.8nm,23.3s
ORE Reay 73.54 348 *eP* **P 17 10 35.8 -0.4**
SCHQ Schefferville 73.56 23 P **P 17 10 35.8 -0.6**
comp=Z,11nm,0.9s,mb4.8,baz=344,slow=7.4,SNR=13
SCHQ PP PP 17 13 19.2 -1.1
comp=Z,4.4nm,0.5s,baz=309,slow=4.5,SNR=6.5
SCHQ Schefferville 73.56 23 P **P 17 10 35.8 -0.6**
SCHQ PP PP 17 13 19.2 -1.1
GKP Gorka Klasztor 73.66 334 *eP* **P 17 10 36.6 -0.3**
MLA1 Latheron 73.71 347 *eP* **P 17 10 37.1 -0.1**
CLDR Caldiran 73.76 310 *eP* **P 17 10 39.3 +1.8**
CLDR Caldiran 73.76 310 P **P 17 10 39.3 +1.8**
AGRB Hanur-Agry 73.93 311 *eP* **P 17 10 40.1 +1.7**
SCIA State Center 74.16 45 *eP* **P 17 10 38.7 -1.1**
comp=Z,93nm,1.1s,mb5.6
SIM Simferopol' 74.17 320*c i*P **P 17 10 40.9 +1.0**
SIM S S 17 20 17.0 +3.8
SIM pmax pmax
comp=Z,124nm,1.0s,mb5.8
SIM MLR MLR
comp=Z,3μm,17.0s,MS5.7
MVH1 Achvaich 74.20 348 *eP* **P 17 10 39.4 -0.7**
TRD Trivandrum 74.24 266 *eP* **P 17 10 39.9 -0.4**
TRD AMb AMB 17 10 42.8
comp=Z,206nm,1.1s,mb6.0
LVV L'vov 74.33 328 *eP* **P 17 10 40.7 -0.1**
LVV *e*S S 17 20 15.0 0.0
LVV MLR MLR
comp=Z,900nm,19.0s,MS5.1
MCD Coleburn Disti 74.39 347 *eP* **P 17 10 41.1 0.0**
VANB Van 74.44 310 *eP* **P 17 10 46.7 +5.2**
KMPD K-Podol'skiy 74.46 326 P **P 17 10 40.0 -1.6**
TVAN Van 74.48 310 *i* P **P 17 10 43.5 +1.8**
ERZM Erzurum 74.53 312 *i* P **P 17 10 43.7 +1.7**
EZM Erzurum 74.53 312 *eP* **P 17 10 43.9 +1.9**
EZM Erzurum 74.53 312 P **P 17 10 43.8 +1.8**
MME1 Meikle Cairn 74.60 347 *eP* **P 17 10 42.0 -0.4**
MDO Dochfour 74.70 348⇑*eP* **P 17 10 42.4 -0.6**
KAC Achnashellach 74.78 348 *eP* **P 17 10 43.0 -0.4**
KIS Kishinev 74.81 324κ *i*P **P 17 10 42.0 -1.6**
KIS pmax pmax
comp=Z,900nm,1.0s,mb6.7
KIS MLR MLR
comp=Z,6μm,16.0s,MS6.0
KIS MLR MLR
comp=N,4μm,17.0s,MS5.9
KIS MLR MLR
comp=E,2μm,15.0s,MS5.9
KIS MLR MLR
comp=Z,5μm,16.0s
KIS Kishinev 74.81 324⇓*i*P **P 17 10 42.0 -1.6**
KIS LRM 17 46 38.5
comp=Z,5μm,16.0s
KWP Kalwaria 74.96 329 *eP* **P 17 10 45.0 +0.5**
KWP *e*PcP PcP 17 10 51.5 -6.8
KWP Kalwaria 74.96 329 P **P 17 10 44.7 +0.2**
KWP pmax pmax
comp=Z,580nm,1.1s,mb6.4
KWP Kalwaria 74.96 329 *e*S S 17 20 29.9 +7.9
KWP Kalwaria 74.96 329 *e*S S 17 20 29.9 +7.9
MNTX Cornudas Mount 74.98 60 *eP* **P 17 10 43.6 -0.9**
comp=Z,48nm,1.3s,mb5.3
KPL Plockton 74.98 348 P **P 17 10 44.2 -0.4**
KPL AMb AMB 17 10 45.9
comp=Z,115nm,1.3s,mb5.7
KPL Plockton 74.98 348 *eP* **P 17 10 44.2 -0.4**
KPL AMb AMB 17 10 45.9
comp=Z,115nm,1.3s,mb5.7
KPL AMS AMS 17 51 30.9
comp=Z,758nm,17.9s,MS5.0
BSEG Bad Segeberg 75.00 338 *eP* **P 17 10 44.6 -0.1**
comp=Z,72nm,0.9s,mb5.6
BSEG Bad Segeberg 75.00 338 *eP* **P 17 10 44.6 -0.1**
BSEG pmax pmax
comp=Z,34nm,0.9s,mb5.3
HKR Hakkari 75.00 309 *eP* **P 17 10 46.2 +1.5**
HKR Hakkari 75.00 309 P **P 17 10 46.4 +1.7**
HAKT HAKKARI 75.04 309 *i* P **P 17 10 46.0 +1.1**
GUMT Gumushane 75.07 314 *eP* **P 17 10 46.0 +0.9**
GUMT Gumushane 75.07 314 P **P 17 10 45.5 +0.4**
KSB Sheil Bridge 75.08 348 *eP* **P 17 10 44.7 -0.4**
IAS Iasi 75.15 325 P **P 17 10 46.2 +0.6**
GRSN GIRESUNGRSN 75.32 315 *i* P **P 17 10 46.2 -0.3**
CUKT Cukurca 75.32 309 *eP* **P 17 10 47.6 +1.0**
BNGL BINGOL 75.35 312 *i* P **P 17 10 48.3 +1.6**
RUE Ruedersdorf 75.36 336 *eP* **P 17 10 46.3 -0.5**
comp=Z,178nm,1.2s,mb5.9
RUE Ruedersdorf 75.36 336 *eP* **P 17 10 46.3 -0.5**
comp=Z,154nm,1.1s,mb5.8
KELT Kelkit 75.41 314 *i* P **P 17 10 48.2 +1.1**
KAR1 Arisaig 75.42 348 *eP* **P 17 10 46.8 -0.3**
EZC Erzincan 75.43 313 *eP* **P 17 10 49.8 +2.6**
EZC Erzincan 75.43 313 P **P 17 10 49.7 +2.5**
OJC Ojcow 75.47 331 *eP* **P 17 10 47.2 -0.2**
STHS Stebnicka Huta 75.66 330 *eP* **P 17 10 49.1 +0.6**
STHS pmax pmax
comp=Z,91nm,1.0s,mb5.7
STHS Stebnicka Huta 75.66 330 *eP* **P 17 10 49.0 +0.5**
STHS Stebnicka Huta 75.66 330 *eP* **P 17 10 49.1 +0.6**
comp=Z,91nm,1.0s,mb5.7
KOLS Kolonicke sedl 75.70 329 *eP* **P 17 10 48.8 +0.1**
BURAR Bucovina Array 75.72 326⇑*i*P **P 17 10 48.8 0.0**
BTMT Batman 75.74 311 *eP* **P 17 10 50.8 +1.8**
BINT Bingol 75.75 312 *eP* **P 17 10 50.6 +1.6**
BINT Bingol 75.75 312 P **P 17 10 50.5 +1.5**
SIRT Sirnak 75.76 310 *eP* **P 17 10 51.8 +2.8**
ESY Stoneypath 75.89 346 *eP* **P 17 10 49.5 -0.2**
EAB Aberfoyle 75.90 347 *eP* **P 17 10 49.1 -0.7**
UZH Uzhgorod 75.95 329 *eP* **P 17 10 47.0 -3.2**
UZH *e* 17 11 00.0
UZH *i* 17 11 07.0
UZH *e*S S 17 20 27.0 -6.0
UZH *i* SS SS 17 25 24.0 -1.4
UZH MLR MLR
comp=Z,2μm,18.0s,MS5.5
BANOM Banah 75.97 293 P **P 17 10 51.1 +0.9**
SNR=37
EDI Edinburgh 75.97 346 P **P 17 10 50.2 -0.1**
EDI AMb AMB 17 10 51.6
comp=Z,86nm,1.8s,mb5.4
EDI Edinburgh 75.97 346 *eP* **P 17 10 50.2 -0.1**
EDI AMb AMB 17 10 51.6
comp=Z,86nm,1.8s,mb5.4
EDI AMS AMS 17 51 49.0
comp=Z,1μm,17.0s,MS5.2
NIE Niedzica 75.98 330 *eP* **P 17 10 51.1 +0.8**
CRVS Cervenica-Dubn 76.02 329 *eP* **P 17 10 51.1 +0.6**
KSP Ksiaz 76.06 333 *eP* **P 17 10 51.0 +0.2**
KSP *e*PcP PcP 17 10 57.4 -5.6
KSP Ksiaz 76.06 333⇑*eP* **P 17 10 50.8 0.0**
KSP LR LR
comp=Z,9μm,19.4s,MS6.1
EAU Auchinoon 76.09 347 *eP* **P 17 10 50.6 -0.3**
EBL Broad Law 76.09 346 *eP* **P 17 10 51.3 +0.3**
DIKM Dikmen 76.21 317 *eP* **P 17 10 50.3 -1.3**
XSO Sourhope Farm 76.23 346 *eP* **P 17 10 51.2 -0.5**
KVT Kavak 76.27 316 *eP* **P 17 10 52.7 +0.7**
KVT Kavak 76.27 316 P **P 17 10 52.7 +0.7**
PGBU Glenifferbraes 76.29 347 *eP* **P 17 10 51.9 -0.2**
PGBU AMb AMB 17 10 54.2
comp=Z,90nm,1.4s,mb5.5
PTK Pertek 76.30 313 *eP* **P 17 10 54.0 +1.9**
PTK Pertek 76.30 313 P **P 17 10 53.0 +0.9**
MSL Mosul 76.31 309 *ex* x 17 10 55.5
MSL *ex* x 17 20 54.0
OKC Ostrava-Krasne 76.34 332 *eP* **P 17 10 52.1 -0.3**
OKC AMS AMS 17 49 10.0
comp=Z,3μm,18.0s
NRDL Niedersach Rie 76.36 338 *eP* **P 17 10 52.1 -0.4**
comp=Z,75nm,0.9s,mb5.6
UPC Upice 76.44 333 *eP* **P 17 10 52.4 -0.5**
DPC Dobruska-Polom 76.48 333 *eP* **P 17 10 53.3 +0.1**
DPC AMS AMS 17 49 40.0
comp=Z,4μm,17.1s
BIDO Bidbid 76.48 290 P **P 17 10 55.3 +2.1**
SNR=16
BZK Bozkurt 76.55 318 *eP* **P 17 10 53.0 -0.5**
BZK Bozkurt 76.55 318 P **P 17 10 53.0 -0.6**
BOYT Boyabat 76.55 317 *i* P **P 17 10 54.9 +1.3**
CFR Carcaliu 76.56 323 P **P 17 10 54.4 +0.8**
ESK Eskdalemuir 76.56 346 P **P 17 10 52.9 -0.7**
ESK AMb AMB 17 10 53.3
comp=Z,133nm,1.4s,mb5.7
ESK Eskdalemuir 76.56 346 *eP* **P 17 10 52.9 -0.7**
ESK AMb AMB 17 10 53.3
comp=Z,133nm,1.4s,mb5.7
ESK AMS AMS 17 50 51.9
comp=Z,1μm,19.0s,MS5.2
ESK Eskdalemuir 76.56 346 *eP* **P 17 10 52.8 -0.8**
ESK pmax pmax
comp=Z,110nm,1.4s,mb5.6
ESK MLR MLR
comp=Z,257nm,19.0s,MS4.6
ESK Eskdalemuir 76.56 346 *eP* **P 17 10 52.8 -0.8**
comp=Z,110nm,1.4s,mb5.6
ESK LR LR
comp=Z,257nm,19.0s,MS4.6
VRI Vrincioaia 76.57 325 P **P 17 10 53.9 +0.2**
VRI Vrincioaia 76.57 325 ⇓P **P 17 10 54.0 +0.4**
VRI Vrincioaia 76.57 325⇓*i*P **P 17 10 54.0 +0.3**
WBK Wadi Bani Khal 76.57 289 P **P 17 10 55.9 +2.2**
SNR=21
BYBT Boyabat 76.58 317 *eP* **P 17 10 54.4 +0.7**
BYBT Boyabat 76.58 317 P **P 17 10 55.1 +1.4**
WMOK Wichita Mounta 76.58 54 *eP* **P 17 10 52.6 -1.2**
WMOK pmax pmax
comp=Z,26nm,1.0s,mb5.1
WMOK MLR MLR
comp=Z,653nm,21.0s,MS4.9
WMOK Wichita Mounta 76.58 54 *eP* **P 17 10 52.6 -1.1**
comp=Z,26nm,1.0s,mb5.1
WMOK LR LR
comp=Z,653nm,21.0s,MS4.9
ARMA Armidale 76.59 181 *eP* **P 17 10 52.2 -1.6**
MORC Moravsky Berou 76.59 332 P **P 17 10 53.2 -0.6**
MORC pmax pmax
comp=Z,150nm,1.1s,mb5.8
MORC Moravsky Berou 76.59 332 *eP* **P 17 10 53.4 -0.4**
comp=Z,146nm,1.1s,mb5.8
MORC Moravsky Berou 76.59 332⇑*i*P **P 17 10 52.8 -1.0**
DIY Diyarbakir 76.62 311 *eP* **P 17 10 55.5 +1.5**
DIY Diyarbakir 76.62 311 P **P 17 10 55.4 +1.4**
TOKT Tokat 76.62 315 *eP* **P 17 10 54.8 +0.8**
TOKT Tokat 76.62 315 P **P 17 10 55.2 +1.2**
CLL Collm 76.63 335 *eP* **P 17 10 53.1 -0.9**
comp=Z,245nm,1.2s,mb6.0
CLL Collm 76.63 335 *i* P **P 17 10 53.3 -0.7**
comp=Z,68nm,0.7s,mb5.7
CLL *i* Pmax pP 17 10 54.9 -2.5
comp=Z,242nm,1.3s
CLL Lm 17 48 00.0
comp=Z,3μm,19.3s
LIKS Likavka 76.70 331 *eP* **P 17 10 55.4 +1.0**
LIKS pmax pmax
comp=Z,74nm,0.9s,mb5.6
LIKS Likavka 76.70 331 *eP* **P 17 10 55.4 +1.0**
comp=Z,74nm,0.9s,mb5.6
SVSK Karacayir 76.71 315 *eP* **P 17 10 55.5 +1.1**
SVSK Karacayir 76.71 315 P **P 17 10 55.4 +0.9**
KECS Kecovo 76.72 330 *eP* **P 17 10 54.7 +0.2**
KECS pmax pmax
comp=Z,33nm,1.0s,mb5.2
KECS Kecovo 76.72 330 *eP* **P 17 10 54.7 +0.2**
comp=Z,33nm,1.0s,mb5.2
BRG Berggiesshubel 76.74 335 *eP* **P 17 10 54.0 -0.6**
comp=Z,58nm,1.2s,mb5.4
BRG Berggiesshubel 76.74 335 *i* P **P 17 10 54.5 -0.1**
comp=Z,34nm,1.2s,mb5.2
BRG *e* 17 26 32.0
BRG
comp=N,1μm,20.9s
BRG
comp=E,1μm,18.2s
BRG
comp=Z,2μm,18.7s
BRG Berggiesshubel 76.74 335 *i* P **P 17 10 54.5 -0.1**
BRG pmax pmax
comp=Z,35nm,1.2s,mb5.2
BRG MLR MLR
comp=N,1μm,20.9s,MS5.3
BRG MLR MLR
comp=E,1μm,18.2s,MS5.3
BRG MLR MLR
comp=Z,2μm,18.7s,MS5.5
BRG Berggiesshubel 76.74 335 *i* P **P 17 10 54.5 -0.1**
comp=Z,34nm,1.2s,mb5.2
BRG *e* 17 26 32.0
BRG LR LR
comp=Z,2μm,18.7s,MS5.5
MARD Mardin 76.77 311 *i* P **P 17 10 56.0 +1.2**
ELZG Elazig 76.80 313 *i* P **P 17 10 56.6 +1.6**
XAL Allendale 76.83 346 *eP* **P 17 10 54.5 -0.6**
HATD Hatta, Dubai 76.85 292 P **P 17 10 56.0 +0.8**
SNR=56
SMDO Samad 76.86 290 P **P 17 10 56.8 +1.5**
SNR=24
PVCC Panska Ves 76.86 334 AMS AMS 17 48 00.0
comp=Z,4μm,19.4s
PVCC Panska Ves 76.86 334 P **P 17 10 55.8 +0.5**
FBE Freiberg 76.87 335 *eP* **P 17 10 54.9 -0.5**
comp=Z,138nm,1.3s,mb5.7
CLZ Clausthal 76.88 337 *eP* **P 17 10 55.4 0.0**
comp=Z,180nm,1.1s,mb5.9
CLZ Clausthal 76.88 337 *eP* **P 17 10 55.4 0.0**
CLZ pmax pmax
comp=Z,62nm,1.1s,mb5.5
WIT Witteveen 76.93 340 *eP* **P 17 10 57.1 +1.4**
comp=Z,557nm,1.3s,mb6.3
HOQ Hoqain 76.97 290 P **P 17 10 57.1 +1.1**
SNR=64
ASHO Ashiyiah 77.00 292 P **P 17 10 57.1 +1.0**
SNR=72
TIRR Tirgusor 77.03 323⇑*i*P **P 17 10 55.7 -0.5**
TIRR pmax pmax
comp=Z,166nm,1.1s,mb5.9
TIRR Tirgusor 77.03 323⇑*i*P **P 17 10 55.7 -0.6**
comp=Z,166nm,1.1s,mb5.9
TIRR Tirgusor 77.03 323⇑*i*P **P 17 10 56.1 -0.1**
HARR Harsova 77.04 323 P **P 17 10 56.5 +0.2**
IBBN Ibbenburen 77.13 339 *eP* **P 17 10 56.6 -0.2**
comp=Z,111nm,0.9s,mb5.8
BALT Daday 77.17 318 *i* P **P 17 10 58.2 +1.2**
MLR Muntele Rosu 77.19 325 P **P 17 10 57.6 +0.4**
comp=Z,62nm,0.5s,mb5.8,baz=350,slow=3.1,SNR=66
MLR Muntele Rosu 77.19 325 P **P 17 10 57.6 +0.4**
MLR pmax pmax
comp=Z,62nm,0.5s
MLR Muntele Rosu 77.19 325 ⇓P **P 17 10 57.1 0.0**
MLR Muntele Rosu 77.19 325⇓*i*P **P 17 10 57.1 -0.1**
MYA Malataya 77.22 313 *eP* **P 17 10 59.2 +1.9**
MYA Malataya 77.22 313 P **P 17 10 58.0 +0.7**
CTKT Corum 77.23 317 *i* P **P 17 10 58.5 +1.1**
GAL1 Galloway 77.23 347 P **P 17 10 56.5 -0.9**
GAL1 AMb AMB 17 10 60.0
comp=Z,138nm,1.3s,mb5.7
GAL1 Galloway 77.23 347 *eP* **P 17 10 56.5 -0.9**
GAL1 AMb AMB 17 10 60.0
comp=Z,138nm,1.3s,mb5.7
GAL1 AMS AMS 17 49 55.4
comp=Z,896nm,17.9s,MS5.1
CKE Keswick 77.24 346⇑*eP* **P 17 10 57.8 +0.4**
TOS Tosya 77.27 317 *eP* **P 17 10 59.6 +2.0**
TOS Tosya 77.27 317 P **P 17 10 59.8 +2.2**
VYHS Vyhne 77.27 331 *eP* **P 17 10 57.7 +0.1**
VYHS pmax pmax
comp=Z,41nm,0.8s,mb5.4
VYHS Vyhne 77.27 331 *eP* **P 17 10 57.7 +0.1**
comp=Z,41nm,0.8s,mb5.4
VRAC Vranov 77.30 332 P **P 17 10 58.5 +0.7**
comp=Z,77nm,0.9s,mb5.7,baz=33,slow=5.1,SNR=48
VRAC Vranov 77.30 332 ⇑P **P 17 10 56.8 -1.0**
VRAC Vranov 77.30 332⇑*i*P **P 17 10 56.8 -1.0**
PRA Prague 77.31 334 P **P 17 10 59.0 +1.2**
JMDO Jabal Madar 77.31 289 P **P 17 10 58.9 +1.1**
SNR=60
PRU Pruhonice 77.34 334 *eP* **P 17 10 57.8 -0.2**
PRU AMS AMS 17 48 30.0
comp=Z,4μm,18.7s
DRGR 77.35 327⇓*i*P **P 17 10 58.0 -0.1**
XDE Dent Fell 77.39 346 *eP* **P 17 10 58.4 +0.1**
PSZ Piszkesteto 77.40 330 *eP* **P 17 10 59.2 +0.8**
PSZ pmax pmax
comp=Z,132nm,1.2s,mb5.7
PSZ Piszkesteto 77.40 330 *eP* **P 17 10 59.1 +0.8**
comp=Z,132nm,1.2s,mb5.7
PSZ Piszkesteto 77.40 330⇓*i*P **P 17 10 57.9 -0.5**
PSZ Piszkesteto 77.40 330⇑*eP* **P 17 10 58.7 +0.3**
TANN Tannenbergstha 77.58 335 *eP* **P 17 10 59.2 -0.2**
comp=Z,54nm,1.3s,mb5.3
KRUC Moravsky 77.58 332 P **P 17 10 59.7 +0.3**
VOIR 77.59 325⇑*i*P **P 17 10 59.8 +0.4**
WERD Werda 77.59 335 *eP* **P 17 10 59.2 -0.2**
comp=Z,58nm,1.0s,mb5.5
MOX Moxa 77.61 336 *eP* **P 17 10 59.3 -0.2**
comp=Z,82nm,0.9s,mb5.7
MOX Moxa 77.61 336 *eP* **P 17 10 59.1 -0.4**
comp=Z,153nm,1.2s,mb5.8
MOX
comp=Z,2μm,21.0s
BSY Bisya 77.63 290 P **P 17 11 00.7 +1.1**
SNR=89
ARQ Araqi 77.65 291 P **P 17 11 00.7 +0.9**
SNR=87
CORM Corum 77.65 316 *eP* **P 17 10 59.7 0.0**
GUNZ Gunzen 77.66 335 *eP* **P 17 10 59.7 -0.1**
comp=Z,67nm,0.9s,mb5.6
WTSB Winterswijk 77.68 339 *eP* **P 17 10 59.9 0.0**
comp=Z,188nm,1.1s,mb6.0
WTSB *eP* 17 13 07.0
comp=Z,68nm,1.0s
URFA Urfa 77.69 312 *eP* **P 17 11 01.5 +1.6**
URFA Urfa 77.69 312 P **P 17 11 01.5 +1.5**
LTX Lajitas 77.70 60 *eP* **P 17 10 58.5 -1.5**
LTX pmax pmax
comp=Z,68nm,1.0s,mb5.5
LTX MLR MLR
comp=Z,704nm,20.0s,MS5.0
LTX Lajitas 77.70 60 *eP* **P 17 10 58.5 -1.6**
comp=Z,68nm,1.0s,mb5.5
LTX LR LR
comp=Z,704nm,20.0s,MS5.0
TXAR Lajitas Array 77.70 60 P **P 17 10 59.1 -0.9**
comp=Z,22nm,0.9s,mb5.1,baz=297,slow=3.7,SNR=94
TXAR LR LR 17 39 34.8
comp=Z,422nm,21.2s,MS4.7,baz=210,slow=31
TXAR Lajitas Array 77.70 60 P **P 17 10 59.1 -0.9**
TXAR pmax pmax
comp=Z,22nm,0.9s
TXAR MLR MLR
comp=Z,423nm,21.3s
WERN Wernitzgruen 77.72 335 *eP* **P 17 11 00.1 0.0**
comp=Z,76nm,0.8s,mb5.7
SMOL Smolenice 77.72 332 *eP* **P 17 11 01.0 +0.8**
SMOL Smolenice 77.72 332 *eP* **P 17 11 01.1 +0.9**
SAFT Safranbolu 77.73 318 *eP* **P 17 11 00.9 +0.7**
SAFT Safranbolu 77.73 318 P **P 17 11 01.2 +1.0**
NKC Novy Kostel 77.75 335 *eP* **P 17 11 00.3 0.0**
NKC AMS AMS 17 49 50.0
comp=Z,3μm,18.9s
PSN Preselentsi 77.75 322 P **P 17 11 01.6 +1.3**
CANT Cankiri 77.80 317 *eP* **P 17 11 00.3 -0.2**
CANT Cankiri 77.80 317 P **P 17 11 01.3 +0.7**
BHD Baghdad 77.84 306 *i* x x 17 10 59.0
BHD *ex* x 17 20 49.0
UBBA Unterbreizbach 77.90 337 *eP* **P 17 11 01.0 -0.1**
comp=Z,46nm,0.9s,mb5.4
WIM Isle of Man 77.92 347 *eP* **P 17 11 00.6 -0.6**
ATAB Bozova 77.94 312 *i* P **P 17 11 02.9 +1.5**
ELDT Eldivan 77.98 317 *i* P **P 17 11 03.3 +1.7**
LHO Holmfirth 78.02 345 *eP* **P 17 11 01.6 -0.2**
BUG Bochum--Univer 78.04 339 *eP* **P 17 11 01.7 -0.2**
comp=Z,120nm,0.9s,mb5.8
MANZ Manzenberg 78.06 335 *eP* **P 17 11 02.0 -0.1**
comp=Z,57nm,0.9s,mb5.5
BUD Budapest 78.08 330⇑*eP* **P 17 11 02.8 +0.7**
BNN Bunyan 78.10 315 *eP* **P 17 11 03.5 +1.3**
BNN Bunyan 78.10 315 P **P 17 11 03.5 +1.3**
BUC1 Bucharest 78.10 324 P **P 17 11 02.7 +0.5**
ZST Bratislava 78.11 332 *eP* **P 17 11 03.4 +1.1**
comp=Z,84nm,1.0s,mb5.6
ZST LR LR
comp=Z,4μm,19.3s,MS5.7
SLM Saint Louis 78.12 46 P **P 17 11 00.6 -1.8**
SLM pmax pmax
comp=Z,58nm,1.0s,mb5.5
SLM Saint Louis 78.12 46 P **P 17 11 00.6 -1.8**
comp=Z,58nm,1.0s,mb5.5
CDAG Cicekdag 78.21 316 *i* P **P 17 11 03.4 +0.5**
ROTZ Rotzenmuhle 78.23 335 *eP* **P 17 11 03.3 +0.3**
comp=Z,91nm,1.0s,mb5.7
KDZE Karadeniz Ereo 78.24 319 *eP* **P 17 11 02.4 -0.7**
KBI1 Birley Grange 78.24 345 *eP* **P 17 11 02.9 -0.2**
KHC Kasperske Hory 78.40 334 *eP* **P 17 11 03.8 -0.1**
KHC pP pP 17 11 08.5 +1.2
KHC AMS AMS 17 49 40.0
comp=Z,4μm,18.6s
KHC Kasperske Hory 78.40 334 *eP* **P 17 11 03.8 -0.1**
KHC *e* pP 17 11 08.5 +1.2
KHC LR LR
comp=Z,4μm,18.6s,MS5.7
GZT Gaziantep 78.40 313 *i* P **P 17 11 04.8 +0.9**
BR131 Keskin Array S 78.48 317 *eP* **P 17 11 05.3 +1.0**
comp=Z,89nm,0.9s,mb5.7
BRTR Keskin Array B 78.48 317 P **P 17 11 04.8 +0.4**
comp=Z,77nm,0.9s,mb5.6,baz=65,slow=2.7,SNR=203
BRTR Keskin Array B 78.48 317 P **P 17 11 04.8 +0.5**
BRTR pmax pmax
comp=Z,77nm,1.0s
GZR Gura Zlata 78.50 327 ⇓P **P 17 11 04.8 +0.3**
GZR Gura Zlata 78.50 327⇓*i*P **P 17 11 04.8 +0.3**
KWE Weaver Farm 78.53 345 *eP* **P 17 11 05.0 +0.4**
FVM French Village 78.53 46 *eP* **P 17 11 02.9 -1.8**
FVM pmax pmax
comp=Z,21nm,1.1s,mb5.0

FVM French Village 78.53 46 *eP* **P 17 11 02.9 -1.7**
comp=Z,21nm,1.1s,mb5.0
SGKT Sivrigoynuk 78.55 318 *i* P **P 17 11 05.4 +0.7**
GRA1 Grafenberg Arr 78.58 336 *eP* **P 17 11 05.1 +0.2**
comp=Z,196nm,1.0s,mb6.0
GRA1 LR LR
comp=Z,2µm,19.3s,MS5.5
GRF Grafenberg Arr 78.58 336 *eP* **P 17 11 05.1 +0.2**
comp=Z,196nm,1.0s,mb6.0
GRF *eL* 17 48 58.7
comp=Z,2µm,19.3s
GRF Grafenberg Arr 78.58 336 *eP* **P 17 11 05.1 +0.2**
GRF pmax pmax
comp=Z,196nm,1.0s,mb6.0
GRF MLR MLR
comp=Z,2µm,19.3s,MS5.5
GRFO Grafenberg 78.58 336⇑ *iP* **P 17 11 04.8 -0.1**
GRFO pmax pmax
comp=Z,162nm,0.9s,mb6.0
GRFO Grafenberg 78.58 336⇑ *iP* **P 17 11 04.8 -0.2**
comp=Z,162nm,0.9s,mb6.0
GEC2 GERESS Array S 78.61 334 *eP* **P 17 11 04.9 -0.2**
comp=Z,41nm,0.9s,mb5.4
GEC2 GERESS Array S 78.61 334 P **P 17 11 04.5 -0.6**
GERES GERESS Array B 78.61 334 P **P 17 11 04.9 -0.2**
comp=Z,36nm,0.9s,MS5.3,baz=34,slow=5.1,SNR=107
GERES GERESS Array B 78.61 334 P **P 17 11 04.9 -0.2**
GERES pmax pmax
comp=Z,36nm,0.9s
KMRS Kahramanmaras 78.62 313 *eP* **P 17 11 06.1 +1.0**
AVNT Avonos 78.64 315 *i* P **P 17 11 05.7 +0.5**
UMR Umm Al-Rimmam 78.65 301 *eP* **P 17 11 06.0 +0.8**
UMR AMb AMB 17 11 08.7
comp=Z,505nm,0.8s,mb6.5
MIB Mutribah 78.69 301 *eP* **P 17 11 06.3 +0.8**
MIB AMb AMB 17 11 08.9
comp=Z,652nm,0.9s,mb6.6
STKA Stephens Creek 78.70 190 *eP* **P 17 11 03.5 -2.1**
comp=Z,9.4nm,1.0s,mb4.7
STKA *eS* S 17 20 59.2 -3.7
STKA Stephens Creek 78.70 190 P **P 17 11 03.6 -1.9**
comp=Z,11nm,0.9s,mb4.8,baz=344,slow=8.3,SNR=13
GAZ Gaziantep 78.72 313 *eP* **P 17 11 07.3 +1.6**
KAMT Kaman 78.72 316 *eP* **P 17 11 05.9 +0.2**
KAMT Kaman 78.72 316 P **P 17 11 05.9 +0.2**
SOP Sopron 78.73 332⇑ *eP* **P 17 11 06.7 +0.9**
CONA Conrad Observa 78.75 332⇑ *iP* **P 17 11 06.3 +0.4**
comp=Z,62nm,0.9s,mb5.5,SNR=60
BZS Buzias 78.75 327⇑ *iP* **P 17 11 05.3 -0.5**
ANTO Ankara 78.76 317 *eP* **P 17 11 06.4 +0.5**
ANTO Ankara 78.76 317 P **P 17 11 07.0 +1.1**
SNR=27
ANTO Ankara 78.76 317 *eP* **P 17 11 06.7 +0.7**
comp=Z,194nm,1.2s,mb5.9
ANTO Ankara 78.76 317⇑ *iP* **P 17 11 06.7 +0.8**
TNS Taunus Mts 78.86 338 *eP* **P 17 11 06.4 0.0**
comp=Z,113nm,0.7s,mb5.9
HENT Hendek 78.88 319 *i* P **P 17 11 07.0 +0.5**
SBD1 Bryn Du 78.88 346⇑ *eP* **P 17 11 06.3 -0.3**
KBD Kabd 78.94 301 *eP* **P 17 11 07.1 +0.2**
KBD AMb AMB 17 11 10.4
comp=Z,1µm,0.7s
ZIMR 78.94 324 P **P 17 11 07.2 +0.3**
ZIMR 78.94 324 P **P 17 11 07.1 +0.2**
HGN Heimansgroeve 79.00 339 *eP* **P 17 11 07.2 +0.1**
comp=Z,179nm,1.2s,mb5.9
HGN *eP* 17 13 14.1
comp=Z,6.7nm,0.2s
CRAR CRAIOVA 79.00 325 P **P 17 11 08.1 +0.9**
YRE Yr Eifl 79.01 346 *eP* **P 17 11 06.8 -0.5**
MDU Mudurnu 79.02 319 *eP* **P 17 11 08.0 +0.7**
MDU Mudurnu 79.02 319 P **P 17 11 07.9 +0.6**
BEBN Eben Emael 79.03 340 P **P 17 11 07.1 -0.2**
comp=Z,68nm,1.1s,mb5.5
DLF Lyons Farm 79.03 348 *eP* **P 17 11 07.0 -0.4**
SZH Strazhica 79.03 324 P **P 17 11 07.1 -0.3**
DSB Dublin 79.06 348 *eP* **P 17 11 07.3 -0.2**
comp=Z,32nm,1.0s,mb5.2
QRN Al-Qurain 79.12 300 *eP* **P 17 11 08.8 +1.0**
MEM Membach 79.12 339 P **P 17 11 08.2 +0.3**
comp=Z,138nm,1.1s,mb5.8
JCT Junction City 79.15 57 *eP* **P 17 11 06.6 -1.4**
JCT pmax pmax
comp=Z,67nm,1.3s,mb5.4
JCT Junction City 79.15 57 *eP* **P 17 11 06.6 -1.4**
comp=Z,67nm,1.3s,mb5.4
NAY Al-Naaiem 79.15 301 *eP* **P 17 11 07.9 -0.1**
NAY AMb AMB 17 11 11.5
comp=Z,266nm,0.9s,mb6.2
KOZT Kozan 79.17 314 *eP* **P 17 11 08.8 +0.7**
HLM1 Long Mynd 79.19 345 *eP* **P 17 11 08.6 +0.4**
RDF Al-Radifah 79.20 301 *eP* **P 17 11 09.2 +0.9**
RDF AMb AMB 17 11 12.3
comp=Z,581nm,0.7s,mb6.6
PVL Pavlikeni 79.32 324 P **P 17 11 10.0 +1.1**
MOA Molln 79.32 333⇑ *iP* **P 17 11 09.4 +0.4**
comp=Z,67nm,0.8s,mb5.7,SNR=57
TOD Tromm 79.33 337 *eP* **P 17 11 08.6 -0.4**
UCC Uccle 79.34 340 P **P 17 11 10.0 +1.0**
SIND Sindeldorf 79.34 337 P **P 17 11 09.4 +0.3**
SIUC Southern Illin 79.34 46 *eP* **P 17 11 07.9 -1.2**
comp=Z,66nm,1.2s,mb5.4
KLYT Kilyos 79.36 320 *eP* **P 17 11 08.7 -0.5**
KLYT Kilyos 79.36 320 P **P 17 11 08.6 -0.6**
ABH Alteburg 79.41 338 *eP* **P 17 11 09.0 -0.4**
HRT Hereke 79.43 320 *eP* **P 17 11 09.0 -0.5**
HRT Hereke 79.43 320 P **P 17 11 09.8 +0.2**
ARSA Arzberg 79.45 332 *iP* **P 17 11 10.4 +0.7**
comp=Z,37nm,0.7s,mb5.5,SNR=31
SWS Schriesheim-Wi 79.47 337 P **P 17 11 10.2 +0.4**
BCLA Clavier 79.47 340 P **P 17 11 09.8 +0.1**
comp=Z,90nm,1.0s,mb5.7
ISK Istanbul-Kandi 79.50 320 *eP* **P 17 11 09.1 -0.9**
ISK Istanbul-Kandi 79.50 320 P **P 17 11 08.9 -1.1**
SSW Stow on the Wo 79.53 344 *eP* **P 17 11 10.2 +0.1**
MIAR Mount Ida 79.56 50 *eP* **P 17 11 09.2 -1.1**
MIAR pmax pmax
comp=Z,41nm,1.2s,mb5.2
MIAR Mount Ida 79.56 50 *eP* **P 17 11 09.2 -1.1**
comp=Z,41nm,1.2s,mb5.2
CEYT Ceyhan 79.58 314 *eP* **P 17 11 11.6 +1.2**
CEYT Ceyhan 79.58 314 P **P 17 11 11.5 +1.1**
SNF Seneffe 79.63 340 P **P 17 11 10.9 +0.3**
comp=Z,51nm,1.2s,mb5.3
HTR Trewern Hill 79.68 345⇑ *eP* **P 17 11 10.6 -0.3**
RUP Ruppelstein 79.70 338 *eP* **P 17 11 11.1 +0.1**
COBT Iskenderun 79.71 313 *iP* **P 17 11 12.9 +1.8**
MCH1 Michaelchurch 79.71 345 P **P 17 11 10.9 -0.2**
MCH1 AMb AMB 17 11 14.1
comp=Z,91nm,1.2s,mb5.6
MCH1 Michaelchurch 79.71 345 *eP* **P 17 11 10.9 -0.2**
MCH1 ⇑*eP* 17 11 10.9
MCH1 AMb AMB 17 11 14.1
comp=Z,91nm,1.2s,mb5.6
MCH1 AMS AMS 17 53 19.1
comp=Z,539nm,18.4s,MS4.9
ELBA Catalca 79.71 321 *iP* **P 17 11 11.1 0.0**
ADVT Abdulvahap 79.71 320 *eP* **P 17 11 11.2 +0.1**
ADVT Abdulvahap 79.71 320 P **P 17 11 11.2 +0.1**
CTT Catalca 79.71 321 *eP* **P 17 11 11.4 +0.3**
CTT Catalca 79.71 321 P **P 17 11 11.4 +0.3**
KARA Karaisali 79.73 314 *eP* **P 17 11 11.7 +0.5**
YLV Yalova 79.77 320 *eP* **P 17 11 11.2 -0.3**
YLV Yalova 79.77 320 P **P 17 11 11.1 -0.3**
KTD Kalmit 79.78 338 *eP* **P 17 11 12.5 +1.0**
BORA Eskisehir 79.84 319 *iP* **P 17 11 11.8 0.0**
EDRB Edirne 79.86 322 *eP* **P 17 11 10.4 -1.5**
EDRB Edirne 79.86 322 P **P 17 11 10.4 -1.5**
HDH Heidenheim-Cha 79.87 336 P **P 17 11 12.5 +0.5**
GIVF Givet 79.88 340 *eP* **P 17 11 11.2 -0.8**
comp=Z,176nm,1.1s,mb5.6
GIVF Givet 79.88 340 *eP* **P 17 11 11.2 -0.8**
GIVF pmax pmax
comp=Z,88nm,1.1s,mb5.6
GIVF Givet 79.88 340 *eP* **P 17 11 11.2 -0.8**
comp=Z,88nm,1.1s,mb5.6
USIN University of 79.90 44 *eP* **P 17 11 11.4 -0.7**
comp=Z,37nm,0.8s,mb5.4
IZI Iznik 79.91 320 *eP* **P 17 11 12.7 +0.5**
IZI Iznik 79.91 320 P **P 17 11 12.6 +0.4**
KOGS Kog 79.92 331 *eP* **P 17 11 11.6 -0.6**
DOU Dourbes 79.94 340 P **P 17 11 12.4 +0.1**
comp=Z,39nm,1.3s,mb5.2
FUR Furstenfeldbru 79.94 335 *eP* **P 17 11 12.2 -0.1**
comp=Z,164nm,1.0s,mb5.9
FUR Furstenfeldbru 79.94 335 *eP* **P 17 11 12.2 -0.1**
FUR pmax pmax
comp=Z,92nm,1.0s,mb5.7
ESKT Eskisehir 79.94 318 *eP* **P 17 11 12.5 +0.2**
ESKT Eskisehir 79.94 318 *iP* **P 17 11 13.1 +0.7**
ESKT Eskisehir 79.94 318 P **P 17 11 12.4 0.0**
SWN1 Swindon 79.96 344 *eP* **P 17 11 12.7 +0.3**
GEMT Gemlik 79.96 320 *eP* **P 17 11 12.5 +0.1**
GEMT Gemlik 79.96 320 P **P 17 11 12.4 0.0**
WLF Walferdange 79.96 339 P **P 17 11 13.0 +0.6**
comp=Z,39nm,1.4s,mb5.2
WLF Walferdange 79.96 339 *eP* **P 17 11 11.8 -0.6**
comp=Z,52nm,1.0s,mb5.4
KIZT Kizilcal 79.98 317 *eP* **P 17 11 12.6 0.0**
KIZT Kizilcal 79.98 317 P **P 17 11 12.5 0.0**
STU Stuttgart 79.98 337 *eP* **P 17 11 12.2 -0.4**
comp=Z,143nm,1.1s,mb5.8
STU Stuttgart 79.98 337 *eP* **P 17 11 12.2 -0.4**
STU pmax pmax
comp=Z,112nm,0.9s,mb5.8
HGH Gray Hill 80.02 345⇑ *eP* **P 17 11 13.0 +0.2**
MENF Mencas 80.06 342 *eP* **P 17 11 11.9 -1.1**
BAIF Baives 80.06 340 *eP* **P 17 11 12.4 -0.6**
comp=Z,162nm,1.2s,mb5.5
BAIF Baives 80.06 340 *eP* **P 17 11 12.4 -0.6**
BAIF pmax pmax
comp=Z,81nm,1.2s,mb5.5
BAIF Baives 80.06 340 *eP* **P 17 11 12.4 -0.6**
comp=Z,81nm,1.2s,mb5.5
HTY Hatay 80.08 313 *eP* **P 17 11 14.5 +1.4**
HTY Hatay 80.08 313 P **P 17 11 14.4 +1.3**
GROS Grobnik 80.15 332 *eP* **P 17 11 12.9 -0.6**
FORT Forrest 80.17 202 *eP* **P 17 11 11.8 -1.8**
comp=Z,39nm,0.8s,mb5.4
LANF Langenberg 80.17 338 *eP* **P 17 11 13.2 -0.3**
LBG Lerchenberg 80.19 337 P **P 17 11 14.3 +0.6**
DIM Dimitrovgrad 80.20 323 P **P 17 11 14.7 +0.9**
ULDT Uludag 80.22 320 *iP* **P 17 11 14.6 +0.8**
BUCH Bad Urach 80.23 336 P **P 17 11 14.2 +0.3**
KBA Koelnbreinsper 80.30 333 *iP* **P 17 11 14.9 +0.7**
comp=Z,292nm,0.9s,mb6.2,SNR=104
KBA Koelnbreinsper 80.30 333 *iP* **P 17 11 14.9 +0.7**
KBA pmax pmax
comp=Z,293nm,0.9s,mb6.2
KBA Koelnbreinsper 80.30 333 *iP* **P 17 11 14.9 +0.7**
comp=Z,292nm,0.9s,mb6.2
MERS Mersin 80.30 314 *eP* **P 17 11 13.6 -0.7**
ALLY Alegheny Colle 80.32 37 *eP* **P 17 11 13.8 -0.6**
PGB Panagyurishte 80.34 324 *eP* **P 17 11 14.7 +0.2**
WCI Wyandotte Cave 80.35 43 *eP* **P 17 11 13.3 -1.2**
comp=Z,98nm,1.5s,mb5.5
OBKA Obir 80.42 332⇑ *iP* **P 17 11 15.2 +0.3**
comp=Z,42nm,0.6s,mb5.5,SNR=21
KONT Konya--Tatoy 80.50 316 *eP* **P 17 11 14.9 -0.5**
KONT Konya--Tatoy 80.50 316 P **P 17 11 14.8 -0.5**
MRMT Marmara Adasi 80.52 321 *eP* **P 17 11 14.5 -0.9**
MRMT Marmara Adasi 80.52 321 P **P 17 11 14.5 -1.0**
STR Strasbourg 80.54 337 *eP* **P 17 11 16.7 +1.1**
GRUS Gruza 80.56 327⇑ *iP* **P 17 11 15.0 -0.7**
BNT Bandirma 80.58 321 *eP* **P 17 11 16.4 +0.6**
BNT Bandirma 80.58 321 P **P 17 11 16.4 +0.6**
WATA Walderalm 80.60 335 *iP* **P 17 11 16.6 +0.7**
comp=Z,138nm,1.0s,mb5.9,SNR=42
WATA Walderalm 80.60 335 *iP* **P 17 11 16.6 +0.7**
WATA pmax pmax
comp=Z,138nm,1.0s,mb5.8
BFO Black Forest 80.62 337 P **P 17 11 15.5 -0.5**
comp=Z,772nm,1.0s,mb6.6,SNR=44
BFO Black Forest 80.62 337 *eP* **P 17 11 15.2 -0.8**
comp=Z,140nm,1.0s,mb5.8
SART Tekirdag 80.63 321 *iP* **P 17 11 15.4 -0.7**
RKY Sarkoy-Tekirda 80.63 321 *eP* **P 17 11 15.7 -0.4**
RKY Sarkoy-Tekirda 80.63 321 P **P 17 11 15.6 -0.5**
GUT Gutenstein 80.64 336 P **P 17 11 16.7 +0.6**
DIVS Divcibare 80.64 328⇑ *iP* **P 17 11 15.8 -0.4**
WTTA Wattenberg 80.65 334⇑ *iP* **P 17 11 16.7 +0.5**
comp=Z,163nm,0.6s,mb6.2,SNR=149
WTTA Wattenberg 80.65 334⇑ *iP* **P 17 11 16.7 +0.6**
WTTA pmax pmax
comp=Z,163nm,0.6s,mb6.1
ALT Altintas 80.66 318 *eP* **P 17 11 17.1 +0.9**
ALT Altintas 80.66 318 P **P 17 11 17.0 +0.8**
LEGS Legarje 80.67 332 *eP* **P 17 11 15.1 -1.2**
VTS Vitosha 80.69 325 *iP* **P 17 11 16.5 +0.1**
VTS Vitosha 80.69 325⇑ *iP* **P 17 11 16.2 -0.2**
RETA Reutte 80.70 335⇑ *iP* **P 17 11 17.2 +0.7**
comp=Z,120nm,0.9s,mb5.8
SPAK Spaichingen-Ko 80.70 337 P **P 17 11 17.5 +1.1**
CRES Cresnjev 80.73 331 *eP* **P 17 11 15.9 -0.7**
CRES Cresnjev 80.73 331 *eP* **P 17 11 15.9 -0.7**
MOTA Moosalm 80.73 335 *iP* **P 17 11 17.0 +0.4**
comp=Z,176nm,1.0s,mb6.0,SNR=111
MOTA Moosalm 80.73 335 *iP* **P 17 11 17.0 +0.4**
MOTA pmax pmax
comp=Z,176nm,1.0s,mb6.0
MOTA Moosalm 80.73 335 *iP* **P 17 11 17.0 +0.4**
comp=Z,176nm,1.0s,mb6.0
SISC Sisak 80.73 331 P **P 17 11 18.1 +1.5**
HEX Exmoor 80.75 345 *eP* **P 17 11 15.9 -0.8**
LSR Lussari 80.78 333⇓ *eP* **P 17 11 16.0 -0.8**
SQTA Sankt Quirin 80.81 335⇓ *iP* **P 17 11 17.7 +0.6**
comp=Z,138nm,1.0s,mb5.8,SNR=69
SQTA Sankt Quirin 80.81 335⇓ *iP* **P 17 11 17.7 +0.7**
SQTA pmax pmax
comp=Z,138nm,1.0s,mb5.8
CDF Champ du Feu 80.83 338 *eP* **P 17 11 16.6 -0.5**
comp=Z,297nm,1.0s,mb5.8
CDF Champ du Feu 80.83 338 *eP* **P 17 11 16.6 -0.5**
CDF pmax pmax
comp=Z,148nm,1.0s,mb5.9
CDF Champ du Feu 80.83 338 *eP* **P 17 11 16.6 -0.5**
comp=Z,148nm,1.0s,mb5.9
LJU Ljubljana 80.84 332 *eP* **P 17 11 16.5 -0.7**
LJU *e* pP 17 11 17.8 -2.8
RZN Rozhen 80.84 323 *eP* P 17 11 09.7 -7.5
ABTA Abfaltersbach 80.85 334⇓ *iP* **P 17 11 17.1 -0.1**
comp=Z,83nm,1.1s,mb5.6
SHUT Suhut-Afyon 80.86 318 *eP* **P 17 11 17.8 +0.5**
PTCC Patocco-Chiusa 80.89 333 P **P 17 11 16.9 -0.6**
comp=Z,26nm,0.7s,mb5.3
FVI Forni Avoltri 80.90 333 P **P 17 11 17.9 +0.4**
FVI pmax pmax
comp=Z,26nm,1.0s,mb5.1
FVI Forni Avoltri 80.90 333 P **P 17 11 17.9 +0.4**
comp=Z,26nm,1.0s,mb5.1
GDZ Gediz 80.92 319 *iP* **P 17 11 14.6 -3.0**
CADS Cadrg 80.93 333 *eP* **P 17 11 17.2 -0.5**
HTL Hartland 80.93 346 P **P 17 11 16.6 -1.0**
HTL AMb AMB 17 11 18.1
comp=Z,83nm,2.4s,mb5.2
HTL Hartland 80.93 346 *eP* **P 17 11 16.6 -1.0**
HTL AMb AMB 17 11 18.1
comp=Z,83nm,2.4s,mb5.2
HTL AMS AMS 17 54 08.2
comp=Z,467nm,19.5s,MS4.8
ALN Alexandroupoli 80.94 322 *eP* **P 17 11 17.6 -0.1**
VISS Visnje 80.95 332 *eP* **P 17 11 17.1 -0.7**
RDO Rodhopi 80.95 323 *eP* **P 17 11 18.2 +0.4**
TAOE Nuku Hiva Isla 80.96 113 *eLR* LR 17 36 07.3
comp=Z,10µm,32.9s,baz=325
BTOK Tokmak 81.02 320 *iP* **P 17 11 18.9 +0.8**
ENEZ Enez 81.03 322 *eP* **P 17 11 18.2 0.0**
SISB Singen-Schiene 81.03 336 P **P 17 11 18.9 +0.7**
ECH Echery 81.04 338 *eP* **P 17 11 18.0 -0.2**
BARS Barje 81.04 326⇑ *iP* **P 17 11 16.5 -1.7**
BOO Bordano 81.05 333⇑ *eP* **P 17 11 17.0 -1.3**
VOY Vojsko 81.05 332 *eP* **P 17 11 17.5 -0.8**
VOY *e* 17 11 33.7
VOY *e* 17 12 08.0
BBLS Bajina Basta - 81.06 328⇑ *iP* **P 17 11 19.2 +0.9**
LPK Lapseki 81.07 321 *eP* **P 17 11 18.8 +0.4**
LPK Lapseki 81.07 321 P **P 17 11 18.1 -0.3**
KIZ Kirchzarten 81.07 337 P **P 17 11 18.4 0.0**
BOJS Bojanci 81.08 331 *eP* **P 17 11 17.8 -0.7**
SLE Schleitheim 81.09 337 ⇑P **P 17 11 17.9 -0.6**
NATX Nacogdoches 81.09 53 *eP* **P 17 11 18.5 0.0**
comp=Z,116nm,1.1s,mb5.7
FELD Feldberg im Sc 81.12 337 *eP* **P 17 11 18.1 -0.6**
FETA Feichten 81.14 335⇓ *iP* **P 17 11 19.6 +0.8**
comp=Z,82nm,0.8s,mb5.7
DAVA Damuels 81.14 336 *iP* **P 17 11 19.4 +0.6**
comp=Z,128nm,0.9s,mb5.8,SNR=55
MPRI Monte Prat 81.15 333⇑ *eP* **P 17 11 18.0 -0.8**
IKL Isikli 81.21 314 *eP* **P 17 11 18.3 -0.9**
IKL Isikli 81.21 314 P **P 17 11 18.2 -0.9**
HDMB Hadim 81.22 316 *eP* **P 17 11 18.6 -0.6**
HDMB Hadim 81.22 316 P **P 17 11 18.6 -0.6**
WVT Waverly 81.28 46 *eP* **P 17 11 18.0 -1.5**
WVT pmax pmax
comp=Z,12nm,0.9s,mb4.8
WVT Waverly 81.28 46 *eP* **P 17 11 17.9 -1.5**
comp=Z,12nm,0.9s,mb4.8
WILA Wila 81.30 336 ⇑P **P 17 11 19.6 0.0**
MEZF Maizieres J'vi 81.31 339 *eP* **P 17 11 19.4 -0.3**
comp=Z,437nm,1.1s,mb6.0
MEZF Maizieres J'vi 81.31 339 *eP* **P 17 11 19.4 -0.3**
comp=Z,437nm,1.1s,mb6.3
MMB Musomiste 81.33 324 P **P 17 11 20.5 +0.7**
CSO Casso 81.33 334⇑ *eP* **P 17 11 19.0 -0.8**
THEF They Montfort 81.33 338 *eP* **P 17 11 18.9 -0.9**
MLNI Malnisio 81.35 333⇑ *eP* **P 17 11 19.0 -0.9**
DYA Yadsworthy 81.38 345 *eP* **P 17 11 20.0 -0.1**
MOF Molkenrain 81.38 337 *eP* **P 17 11 19.6 -0.4**
TKTP Tekketepe 81.38 318 *iP* **P 17 11 20.0 -0.1**
SULZ Sulz-Cheisache 81.41 337 ⇓P **P 17 11 20.6 +0.4**
ACCN Adirondack Com 81.42 32 *eP* **P 17 11 18.5 -1.7**
ZUR Zurich 81.43 336 ⇓P **P 17 11 20.9 +0.6**
HAU Haudompre 81.44 338 *eP* **P 17 11 19.7 -0.7**
comp=Z,196nm,1.1s,mb5.7
HAU *e*MLR
comp=Z,3µm,20.0s
HAU Haudompre 81.44 338 *eP* **P 17 11 19.7 -0.7**
HAU pmax pmax
comp=Z,98nm,1.1s,mb5.7
HAU MLR MLR
comp=Z,3µm,20.0s,MS5.6
HAU Haudompre 81.44 338 *eP* **P 17 11 19.7 -0.7**
comp=Z,98nm,1.1s,mb5.7
HAU LR LR
comp=Z,3µm,20.0s,MS5.6
ISP Isparta 81.45 317 *eP* **P 17 11 20.3 -0.1**
ISP pmax pmax
comp=Z,34nm,0.8s,mb5.3
ISP Isparta 81.45 317 *eP* **P 17 11 20.3 -0.1**
comp=Z,34nm,0.8s,mb5.3
FAU Forcella Aurin 81.47 334⇓ *iP* **P 17 11 20.0 -0.5**
NVR Nevrokopi 81.47 324 *eP* **P 17 11 24.3 +3.8**
HINF Hinteralfeld 81.48 338 *eP* **P 17 11 19.7 -0.9**
comp=Z,126nm,1.0s,mb5.5
HINF Hinteralfeld 81.48 338 *eP* **P 17 11 19.7 -0.9**
HINF pmax pmax
comp=Z,63nm,1.0s,mb5.5
HINF Hinteralfeld 81.48 338 *eP* **P 17 11 19.7 -0.9**
comp=Z,63nm,1.0s,mb5.5
KHL Karahalli 81.52 318 *eP* **P 17 11 21.5 +0.7**
KHL Karahalli 81.52 318 P **P 17 11 21.4 +0.6**
PLE Pljevlja 81.53 328⇓ *iP* **P 17 11 21.7 +0.8**
CAE Caneva 81.53 333⇑ *eP* **P 17 11 20.0 -0.9**
BBS Basel-Blauen 81.64 337 *eP* **P 17 11 21.7 +0.3**
EZN Ezine 81.71 321 *eP* **P 17 11 20.9 -0.9**
EZN Ezine 81.71 321 P **P 17 11 20.8 -1.0**
BRMO Bormio 81.73 335 P **P 17 11 23.0 +1.1**
comp=Z,41nm,0.9s,mb5.4
IVA Berane 81.73 327⇓ *iP* **P 17 11 22.2 +0.3**
OXF Oxford 81.76 48 *eP* **P 17 11 21.0 -1.0**
OXF pmax pmax
comp=Z,65nm,1.1s,mb5.5
OXF Oxford 81.76 48 *eP* **P 17 11 20.9 -1.1**
comp=Z,65nm,1.1s,mb5.5
SRS Serrai 81.78 324 *eP* **P 17 11 22.2 0.0**
MUO Muotathal 81.78 336 ⇓P **P 17 11 22.8 +0.6**
LLS Linth-Limmern 81.79 336 ⇑P **P 17 11 22.7 +0.5**
UPM Unac-Piva 81.81 328 ⇓*iP* **P 17 11 21.6 -0.8**
AKS Akhisar 81.84 320 *eP* **P 17 11 22.7 +0.2**
STIP Stip 81.86 325 *iP* **P 17 11 22.4 -0.2**
STIP Stip 81.86 325 *iP* **P 17 11 22.4 -0.2**
SKO Skopje 81.92 326 *iP* **P 17 11 23.3 +0.4**
SKO Skopje 81.92 326 *iP* **P 17 11 23.3 +0.4**
LOMF Lomont 81.92 337 *eP* **P 17 11 22.4 -0.5**
PVY Plav 81.94 327 ⇓*iP* **P 17 11 22.8 -0.3**
VDL Val di Lei 81.98 335 ⇓P **P 17 11 24.2 +1.0**
VAY Valandovo 82.02 325 *iP* **P 17 11 22.9 -0.5**
VAY Valandovo 82.02 325 *iP* **P 17 11 22.9 -0.5**
KNT Kendrikon 82.02 324 *eP* **P 17 11 23.7 +0.3**
TUE Stuetta 82.03 336 P **P 17 11 23.9 +0.4**
NVLJ Novalja 82.04 331 *iP* **P 17 11 21.8 -1.7**
BHL Bhannes 82.06 312 *eP* **P 17 11 23.7 +0.1**
MCWV Mont Chateau 82.10 38 *eP* **P 17 11 23.1 -0.7**
comp=Z,25nm,1.0s,mb5.1
SSPA Standing Stone 82.11 37 *eP* **P 17 11 23.2 -0.6**
comp=Z,30nm,1.1s,mb5.1
PPT Papeete 82.11 126 *eS* S 17 21 23.6 -15
comp=Z,264nm,24.5s
PPT *eLR* LR 17 36 06.5
comp=Z,3µm,24.5s,baz=327
PPT Papeete 82.11 126 LR LR 17 41 09.1
comp=Z,2µm,21.0s,MS5.4,baz=281,slow=31
NKY Niksic 82.12 328 ⇓*iP* **P 17 11 23.4 -0.5**
LIA Limnos Island 82.14 322 *eP* **P 17 11 24.6 +0.5**
LOS Limnos 82.15 322 *eP* **P 17 11 24.4 +0.3**
DENT Denizli 82.21 318 *eP* **P 17 11 25.9 +1.5**
DENT Denizli 82.21 318 P **P 17 11 25.9 +1.5**
BRY Bratogost 82.21 328 ⇓*iP* **P 17 11 23.8 -0.7**
PRK Paraskevi 82.21 321 *eP* **P 17 11 22.4 -2.0**
DNZL Cakiroluk 82.25 318 *iP* **P 17 11 31.4 +6.7**
OUR Ouranopolis 82.28 323 *eP* **P 17 11 24.4 -0.4**
FLN La Foliniere 82.32 343 *eP* **P 17 11 24.2 -0.8**
comp=Z,169nm,1.1s,mb5.6
FLN *e*MLR
comp=Z,3µm,20.5s
FLN La Foliniere 82.32 343 *eP* **P 17 11 24.2 -0.8**
comp=Z,84nm,1.1s,mb5.6
FLN LR LR
comp=Z,2µm,20.5s,MS5.6
TTG Podgorica 82.35 327 ⇓*iP* **P 17 11 23.8 -1.4**
GOLH Golhisar 82.38 318 *iP* **P 17 11 25.2 -0.1**
GRG Griva 82.40 325 *eP* **P 17 11 25.4 0.0**
CSS Prodhromos 82.40 314 *eP* **P 17 11 25.8 +0.4**
comp=Z,92nm,0.9s,mb5.7
LDF La Druitiere 82.41 342 *eP* **P 17 11 24.6 -0.8**
comp=Z,101nm,1.1s,mb5.3
LDF La Druitiere 82.41 342 *eP* **P 17 11 24.6 -0.8**
comp=Z,51nm,1.1s,mb5.4
HORT Hortiatis 82.42 324 *eP* **P 17 11 24.4 -1.1**
SALA Sala 82.42 310 ⇓P **P 17 11 29.3 +3.8**
PLG Polygyros 82.47 324 *eP* **P 17 11 25.7 -0.1**
IZM Izmir 82.48 320 *eP* **P 17 11 26.0 +0.2**
IZM Izmir 82.48 320 P **P 17 11 25.9 +0.1**
KRUS Krusevo 82.50 325 *iP* **P 17 11 26.7 +0.8**
KRUS Krusevo 82.50 325 *iP* **P 17 11 26.7 +0.8**
STON Ston 82.54 329 *iP* **P 17 11 24.1 -2.1**
BLCB Balcova 82.59 320 *eP* **P 17 11 25.9 -0.4**
BLCB Balcova 82.59 320 P **P 17 11 25.9 -0.5**
LKBD Leukerbad 82.59 337 ⇓P **P 17 11 27.1 +0.7**
BUM Brajici-Budva 82.60 327 ⇓*iP* **P 17 11 26.2 -0.2**
ELL Elmali 82.62 317 *eP* **P 17 11 26.4 -0.2**
ELL Elmali 82.62 317 P **P 17 11 26.3 -0.3**
HCY Herceg Novi 82.62 328 ⇓*iP* **P 17 11 25.8 -0.8**
PAIG Paliouri 82.75 323 *eP* **P 17 11 26.9 -0.4**
LOR Lormes 82.75 339 *eP* **P 17 11 26.7 -0.6**
comp=Z,281nm,1.1s,mb5.9
LOR *e*MLR
comp=Z,3µm,23.0s
LOR Lormes 82.75 339 *eP* **P 17 11 26.7 -0.6**
LOR pmax pmax
comp=Z,141nm,1.1s,mb5.9
LOR MLR MLR
comp=Z,3µm,23.0s,MS5.6
LOR Lormes 82.75 339 *eP* **P 17 11 26.7 -0.6**
comp=Z,141nm,1.1s,mb5.9
LOR LR LR
comp=Z,3µm,23.0s,MS5.6
GRR Gorron 82.75 343 *eP* **P 17 11 26.7 -0.6**
comp=Z,246nm,1.1s,mb5.9
GRR Gorron 82.75 343 *eP* **P 17 11 26.7 -0.6**
GRR pmax pmax
comp=Z,123nm,1.1s,mb5.8
GRR Gorron 82.75 343 *eP* **P 17 11 26.7 -0.6**
comp=Z,123nm,1.1s,mb5.8
ASF Jabal al Asfar 82.76 310 P **P 17 11 28.6 +1.3**
comp=Z,40nm,0.9s,mb5.5,baz=335,slow=1.1,SNR=40
ULC Ulcinj 82.76 327 ⇓*iP* **P 17 11 26.9 -0.4**
BIA Bitola 82.77 325 *iP* **P 17 11 26.6 -0.7**
BIA Bitola 82.77 325 *iP* **P 17 11 26.6 -0.7**
CABF La Chapelle 82.80 338 *eP* **P 17 11 27.3 -0.2**
comp=Z,100nm,1.1s,mb5.5
CABF La Chapelle 82.80 338 *eP* **P 17 11 27.3 -0.2**

comp=Z,50nm,1.1s,mb5.5
URLA Izmir 82.81 320 *i* P **P 17 11 26.6 -1.0**
MMK Mattmark 82.81 336 ⇑P **P 17 11 28.1 +0.6**
MMAI Mount Meron Ar 82.88 311 P **P 17 11 29.4 +1.5**
comp=Z,88nm,0.8s,mb5.8,baz=36,slow=7.5,SNR=60
OHR Ohrid 82.90 326 *i* P **P 17 11 27.6 -0.4**
OHR Ohrid 82.90 326 *i* P **P 17 11 27.6 -0.4**
DIX Grande Dixence 82.93 337 ⇑P **P 17 11 28.7 +0.5**
TZTN Tazewell 83.00 43 P **P 17 11 24.6 -3.9**
comp=Z,57nm,1.2s,mb5.5
SSF Saint Saulge 83.03 340 *e*P **P 17 11 28.1 -0.6**
comp=Z,95nm,0.9s,mb5.5
SSF Saint Saulge 83.03 340 *e*P **P 17 11 28.1 -0.6**
comp=Z,47nm,0.9s,mb5.5
HYF Humbligny 83.04 340 *e*P **P 17 11 28.6 -0.2**
YER Yerkesik 83.06 319 *e*P **P 17 11 29.0 +0.1**
YER Yerkesik 83.06 319 P **P 17 11 28.9 +0.1**
LIT Litokhoron 83.09 324 *e*P **P 17 11 27.6 -1.4**
EMV Vieux Emosson 83.09 337 ⇑P **P 17 11 29.2 +0.2**
MLSB Milas 83.16 319 *e*P **P 17 11 29.0 -0.4**
MLSB Milas 83.16 319 P **P 17 11 28.9 -0.4**
AKAS Kas 83.18 317 *i* P **P 17 11 28.6 -0.8**
DALT Dalyan (Mudla) 83.19 318 *e*P **P 17 11 27.7 -1.8**
DALT Dalyan (Mudla) 83.19 318 P **P 17 11 27.7 -1.8**
KZN Kozani 83.20 325 *e*P **P 17 11 29.0 -0.6**
SGMF Saint Gilles 83.22 344 *e*P **P 17 11 29.1 -0.6**
comp=Z,202nm,1.1s,mb5.8
SGMF Saint Gilles 83.22 344 *e*P **P 17 11 29.1 -0.6**
comp=Z,101nm,1.1s,mb5.8
SMG Samos 83.24 320 *e*P **P 17 11 21.7 -8.1**
MVL Millersville 83.27 36 *e*P **P 17 11 28.8 -1.1**
ROSF Rostrenen 83.28 344 *e*P **P 17 11 29.4 -0.6**
comp=Z,248nm,1.1s,mb5.9
ROSF Rostrenen 83.28 344 *e*P **P 17 11 29.4 -0.6**
comp=Z,124nm,1.1s,mb5.8
WHFO Wadi Hawf 83.32 289 P **P 17 11 30.4 +0.2**
SNR=34
AVF Avril sur Loir 83.32 340 *e*P **P 17 11 29.8 -0.4**
comp=Z,270nm,1.1s,mb5.9
AVF Avril sur Loir 83.32 340 *e*P **P 17 11 29.8 -0.4**
comp=Z,135nm,1.1s,mb5.9
RBK Rabkut 83.34 288 P **P 17 11 30.9 +0.7**
SNR=8.2
SMF Signal de Mont 83.34 339 *e*P **P 17 11 29.9 -0.4**
comp=Z,622nm,1.1s,mb6.2
SMF Signal de Mont 83.34 339 *e*P **P 17 11 29.9 -0.4**
comp=Z,311nm,1.1s,mb6.2
RSM Repubblica di 83.39 332 P **P 17 11 31.6 +1.0**
comp=Z,148nm,1.0s,mb6.0
BDRM Kayabasi 83.50 319 *i* P **P 17 11 31.3 +0.2**
GSCL Gusciola 83.59 334 P **P 17 11 32.8 +1.2**
comp=Z,69nm,0.8s,mb5.8
SFI Santa Sofia 83.61 333 P **P 17 11 33.0 +1.3**
comp=Z,76nm,0.9s,mb5.8
TKL Tuckaleechee C 83.61 43 P **P 17 11 30.2 -1.5**
comp=Z,13nm,0.9s,mb5.0,baz=36,slow=5.1,SNR=5.8
TKL Tuckaleechee C 83.61 43 P **P 17 11 30.2 -1.5**
TKL pmax pmax
comp=Z,13nm,0.9s,mb5.1
LPL La Plagne 83.64 337 *e*P **P 17 11 32.2 +0.4**
comp=Z,237nm,1.2s,mb5.9
LPL La Plagne 83.64 337 *e*P **P 17 11 32.2 +0.4**
LPL pmax pmax
comp=Z,119nm,1.2s,mb5.9
LPL La Plagne 83.64 337 *e*P **P 17 11 32.2 +0.4**
comp=Z,119nm,1.2s,mb5.9
LPG La Plagne 83.65 337 *e*P **P 17 11 32.5 +0.6**
comp=Z,226nm,1.1s,mb5.9
LPG La Plagne 83.65 337 *e*P **P 17 11 32.5 +0.6**
LPG pmax pmax
comp=Z,113nm,1.1s,mb5.9
LPG La Plagne 83.65 337 *e*P **P 17 11 32.5 +0.6**
comp=Z,113nm,1.1s,mb5.9
QUIF Quistinic 83.66 344 *e*P **P 17 11 31.0 -0.9**
comp=Z,113nm,1.1s,mb5.6
QUIF Quistinic 83.66 344 *e*P **P 17 11 31.0 -0.9**
comp=Z,57nm,1.1s,mb5.6
BGF Bois d'Agland 83.66 340 *e*P **P 17 11 31.5 -0.5**
comp=Z,172nm,1.2s,mb5.7
BGF Bois d'Agland 83.66 340 *e*P **P 17 11 31.5 -0.5**
comp=Z,86nm,1.2s,mb5.8
DAT Datca 83.71 319 *e*P **P 17 11 31.6 -0.6**
ELN Prospectdale 83.72 40 *e*P **P 17 11 31.1 -1.2**
THL Klokotos Trika 83.73 324 *e*P **P 17 11 30.5 -1.8**
VLC Villacollemand 83.83 334 *e*P **P 17 11 32.9 0.0**
comp=Z,104nm,1.0s,mb5.9
SNTG Esanatoglia 83.84 332 P **P 17 11 33.4 +0.5**
comp=Z,53nm,0.9s,mb5.7
BDI Bagni Di Lucca 83.85 334 P **P 17 11 33.9 +1.0**
BLA Blacksburg 83.88 40 *e*P **P 17 11 32.8 -0.3**
BLA pmax pmax
comp=Z,38nm,1.0s,mb5.5
BLA Blacksburg 83.88 40 *e*P **P 17 11 32.8 -0.3**
comp=Z,38nm,1.0s,mb5.5
ARG Arkhangelos 83.88 318 *e*P **P 17 11 32.9 -0.2**
KLBR Kellerberrin 84.00 210 *e*P **P 17 11 32.2 -1.5**
comp=Z,51nm,1.1s,mb5.6
PLDF La Plantade 84.02 339 *e*P **P 17 11 33.7 -0.1**
ABTO Aybut 84.04 289 P **P 17 11 34.7 +0.8**
SNR=7.8
TCF Toulx Ste Croi 84.07 340 *e*P **P 17 11 33.7 -0.3**
comp=Z,123nm,1.1s,mb5.7
TCF Toulx Ste Croi 84.07 340 *e*P **P 17 11 33.7 -0.3**
comp=Z,61nm,1.1s,mb5.7
AGG Agios Georgios 84.07 324 *e*P **P 17 11 33.2 -0.8**
AGO Saint Agoulin 84.07 339 *e*P **P 17 11 34.2 +0.2**
BNI Bardonecchia 84.08 337 *e*P **P 17 11 34.5 +0.4**
BNI pmax pmax
comp=Z,60nm,1.1s,mb5.6
BNI Bardonecchia 84.08 337 *e*P **P 17 11 34.5 +0.4**
comp=Z,60nm,1.1s,mb5.6
GDM Grand'Maison 84.09 337 *e*P **P 17 11 34.8 +0.6**
ASS Assisi 84.10 332 P **P 17 11 35.7 +1.5**
comp=Z,4.2nm,1.1s
LKR Lokris 84.11 323 *e*P **P 17 11 32.8 -1.4**
JAN Janina 84.12 325 *e*P **P 17 11 34.5 +0.2**
GRN Grenoble 84.16 337 *e*P **P 17 11 34.9 +0.4**
NRCA Norcia 84.16 332 P **P 17 11 35.3 +0.8**
comp=Z,100nm,1.0s,mb5.9
PTL Penteli 84.25 322 *e*P **P 17 11 34.0 -0.9**
MFF Saint Martin d 84.30 342 *e*P **P 17 11 34.8 -0.4**
comp=Z,96nm,1.1s,mb5.5
MFF Saint Martin d 84.30 342 *e*P **P 17 11 34.8 -0.4**
comp=Z,48nm,1.1s,mb5.5
MBDF Montbardon 84.36 337 *e*P **P 17 11 35.2 -0.3**
comp=Z,56nm,0.7s,mb5.5
MBDF Montbardon 84.36 337 *e*P **P 17 11 35.2 -0.3**
comp=Z,28nm,0.7s,mb5.5
EVR Evrytania 84.37 324 *e*P **P 17 11 35.2 -0.4**
ATH Athens Observa 84.38 322 *e*P **P 17 11 34.0 -1.6**
PYM Petit Puy Mans 84.38 339 *e*P **P 17 11 36.3 +0.7**
ORIF Oris-en-Rattie 84.42 337 *e*P **P 17 11 36.1 +0.3**
comp=Z,147nm,1.0s,mb5.8
ORIF *e*MLR
comp=Z,2µm,22.0s
ORIF Oris-en-Rattie 84.42 337 *e*P **P 17 11 36.1 +0.3**
ORIF pmax pmax
comp=Z,73nm,1.0s,mb5.8
ORIF Oris-en-Rattie 84.42 337 *e*P **P 17 11 36.1 +0.3**
comp=Z,73nm,1.0s,mb5.8
COLF Collangettes 84.43 339 *e*P **P 17 11 36.3 +0.4**
IGT Igoumenitsa 84.44 325 *e*P **P 17 11 35.4 -0.5**
KEK Kerkira 84.49 326 *e*P **P 17 11 35.8 -0.4**
AQU L'Aquila 84.49 331 P **P 17 11 37.6 +1.4**
AQU pmax pmax
comp=Z,38nm,0.6s,mb5.7
AQU L'Aquila 84.49 331 P **P 17 11 37.6 +1.4**
comp=Z,38nm,0.6s,mb5.7
SURF Saint Ours 84.57 336 *e*P **P 17 11 37.0 +0.4**
NAIG Nisos Aigina 84.65 322 *e*P **P 17 11 30.0 -7.0**
VIVF Saint-Julien-l 84.80 338 *e*P **P 17 11 37.8 +0.1**
comp=Z,199nm,1.1s,mb5.8
VIVF Saint-Julien-l 84.80 338 *e*P **P 17 11 37.8 +0.1**
comp=Z,99nm,1.1s,mb5.9
LBL Lubilhac 84.81 339 *e*P **P 17 11 37.7 -0.1**
SAOF Saorge 84.82 336 *e*P **P 17 11 37.0 -0.8**
FRNF Fournols 84.83 340 *e*P **P 17 11 38.8 +0.9**
FRNF Fournols 84.83 340 *e*P **P 17 11 38.5 +0.6**
FRNF Fournols 84.83 340 *e*P **P 17 11 38.5 +0.6**
AUTN L'Aution 84.85 336 *e*P **P 17 11 38.0 0.0**
TOUF Mont Tournerai 84.88 336 *e*P **P 17 11 38.4 +0.3**
MUN Mundaring 84.89 211 *e*P **P 17 11 37.3 -0.9**
OCF Saint Nazaire 84.89 337 *e*P **P 17 11 38.3 +0.1**
OG26 St.-Nazaire-De 84.89 337 *e*P **P 17 11 38.3 +0.1**
SBF Sospel 84.97 336 *e*P **P 17 11 37.8 -0.8**
comp=Z,229nm,1.0s,mb6.0
SBF Sospel 84.97 336 *e*P **P 17 11 37.8 -0.8**
comp=Z,115nm,1.0s,mb6.0
MVIF Mont Vial 85.02 336 *e*P **P 17 11 38.6 -0.2**
LKD Levkas 85.02 324 *e*P **P 17 11 37.7 -1.1**
REVF Revere 85.10 336 *e*P **P 17 11 38.6 -0.6**
REVF Revere 85.10 336 *e*P **P 17 11 39.8 +0.6**
RJF Les Rejaudoux 85.16 340 *e*P **P 17 11 39.4 -0.1**
comp=Z,151nm,1.1s,mb5.7
RJF *e*MLR
comp=Z,2µm,22.0s
RJF Les Rejaudoux 85.16 340 *e*P **P 17 11 39.4 -0.1**
comp=Z,75nm,1.1s,mb5.7
RJF LR LR
comp=Z,2µm,22.0s,MS5.5
RLS Riolos of Patr 85.24 324 *e*P **P 17 11 39.5 -0.5**
SMRF Simiane la Rot 85.38 337 *e*P **P 17 11 40.8 +0.2**
comp=Z,176nm,1.2s,mb5.8
SMRF Simiane la Rot 85.38 337 *e*P **P 17 11 40.8 +0.2**
comp=Z,176nm,1.2s,mb6.1
CAF Calviac 85.38 340 *e*P **P 17 11 40.2 -0.5**
comp=Z,148nm,1.0s,mb5.8
CAF Calviac 85.38 340 *e*P **P 17 11 40.2 -0.5**
CAF pmax pmax
comp=Z,74nm,1.0s,mb5.8
CAF Calviac 85.38 340 *e*P **P 17 11 40.2 -0.5**
comp=Z,74nm,1.0s,mb5.8
NWAO Narrogin (SRO) 85.40 210 P **P 17 11 39.8 -1.0**
comp=Z,45nm,1.0s,mb5.6,baz=14,slow=5.9,SNR=13
NWAO Narrogin (SRO) 85.40 210 *e*P **P 17 11 39.5 -1.2**
NWAO pmax pmax
comp=Z,70nm,1.2s
NWAO MLR MLR
comp=Z,442nm,20.0s
NWAO Narrogin (SRO) 85.40 210 *e*P **P 17 11 39.5 -1.2**
comp=Z,70nm,1.2s,mb5.7
NWAO LR LR
comp=Z,442nm,20.0s,MS4.8
FRF La Foret Royal 85.47 336 *e*P **P 17 11 40.6 -0.5**
comp=Z,140nm,1.1s,mb5.7
FRF La Foret Royal 85.47 336 *e*P **P 17 11 40.6 -0.5**
FRF pmax pmax
comp=Z,70nm,1.1s,mb5.7
FRF La Foret Royal 85.47 336 *e*P **P 17 11 40.6 -0.5**
comp=Z,70nm,1.1s,mb5.7
VLS Valsamata 85.50 324 *e*P **P 17 11 41.2 0.0**
TAVF Tavernes 85.58 337 *e*P **P 17 11 40.1 -1.5**
GOGA Godfrey 85.59 44 *e*P **P 17 11 39.6 -2.1**
GOGA pmax pmax
comp=Z,14nm,1.1s,mb5.1
GOGA Godfrey 85.59 44 *e*P **P 17 11 39.6 -2.1**
comp=Z,14nm,1.1s,mb5.1
PRAF Pradon 85.64 337 *e*P **P 17 11 42.2 +0.2**
LFF La Frestale 85.68 341 *e*P **P 17 11 41.2 -0.9**
comp=Z,175nm,1.1s,mb5.9
LFF La Frestale 85.68 341 *e*P **P 17 11 41.2 -0.9**
LFF pmax pmax
comp=Z,87nm,1.1s,mb5.9
LFF La Frestale 85.68 341 *e*P **P 17 11 41.2 -0.9**
comp=Z,87nm,1.1s,mb5.9
PGF Pioggiola 85.71 334 *e*P **P 17 11 41.6 -0.7**
comp=Z,129nm,1.0s,mb5.8
PGF Pioggiola 85.71 334 *e*P **P 17 11 41.6 -0.7**
PGF pmax pmax
comp=Z,64nm,1.0s,mb5.8
PGF Pioggiola 85.71 334 *e*P **P 17 11 41.6 -0.7**
comp=Z,64nm,1.0s,mb5.8
LMR La Mourre 85.72 336 *e*P **P 17 11 42.0 -0.3**
comp=Z,257nm,1.1s,mb6.1
LMR La Mourre 85.72 336 *e*P **P 17 11 42.0 -0.3**
comp=Z,129nm,1.1s,mb6.1
LASF Ste Croix 85.73 338 *e*P **P 17 11 41.8 -0.6**
comp=Z,92nm,1.1s,mb5.6
EIL Elat 85.75 310 *e*P **P 17 11 41.2 -1.3**
comp=Z,3µm,0.9s
VLI Veliai 85.77 322 *e*P **P 17 11 35.5 -7.1**
ITM Ithomi 85.80 323 *e*P **P 17 11 41.9 -0.8**
NPS Neapolis 85.81 319 *e*P **P 17 11 42.8 0.0**
JSC Jenkinsville 85.92 42 P **P 17 11 48.9 +5.6**
GELF Grande-Etoile 85.97 337 *e*P **P 17 11 43.2 -0.4**
KYTH Kithira 86.09 322 *e*P **P 17 11 40.0 -4.2**
TIP Timpagrande 86.11 327 *e*P **P 17 11 43.1 -1.1**
IDI Amoyia 86.12 320 P **P 17 11 44.1 -0.2**
comp=Z,63nm,0.6s,mb6.0,baz=24,slow=9.3,SNR=42
MTLF Montolieu 86.84 339 *e*P **P 17 11 47.0 -0.8**
comp=Z,69nm,1.0s,mb5.5
MTLF Montolieu 86.84 339 *e*P **P 17 11 47.0 -0.8**
comp=Z,34nm,1.0s,mb5.5
TBI Tubuai 86.84 129 *e*SKSac SKSac 17 22 03.3 -12
comp=Z,595nm,27.2s
TBI *e*LR LR 17 38 21.8
comp=Z,2µm,32.8s,baz=318
GVD Gavdhos 86.85 320 *e*P **P 17 11 46.6 -1.3**
comp=Z,129nm,0.9s,mb6.2
MLS Moulis 87.47 340 *e*P **P 17 11 49.5 -1.4**
EJON La Jonquera 87.51 338 P **P 17 11 53.8 +2.7**
comp=Z,4.0nm,0.7s,mb4.8
EPF Esparros 87.58 340 *e*P **P 17 11 49.3 -2.1**
comp=Z,35nm,1.0s,mb5.2
EPF Esparros 87.58 340 *e*P **P 17 11 49.3 -2.1**
EPF pmax pmax
comp=Z,18nm,1.0s,mb5.3
EPF Esparros 87.58 340 *e*P **P 17 11 49.3 -2.1**
comp=Z,18nm,1.0s,mb5.2
RESF Ens 87.79 340 *e*P **P 17 11 52.1 -0.4**
EALK Alkurruntz 87.82 342 P **P 17 11 51.6 -1.0**
comp=Z,1.9nm,0.5s,mb4.6
SJPF Ste Jean 87.86 341 *e*P **P 17 11 51.9 -0.9**
comp=Z,11nm,0.7s,mb4.9
SJPF Ste Jean 87.86 341 *e*P **P 17 11 51.9 -0.9**
SJPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
SJPF Ste Jean 87.86 341 *e*P **P 17 11 51.9 -0.9**
comp=Z,5.3nm,0.7s,mb4.9
ELIZ Elizondo 87.88 342 P **P 17 11 50.9 -2.0**
ELIZ pmax pmax
comp=Z,1.0nm,0.3s
ELIZ Elizondo 87.88 342 P **P 17 11 50.9 -2.0**
comp=Z,0.8nm,0.3s
ETSF Etsaut 87.91 341 *e*P **P 17 11 52.0 -1.0**
comp=Z,40nm,0.8s,mb5.4
ETSF Etsaut 87.91 341 *e*P **P 17 11 52.0 -1.0**
ETSF pmax pmax
comp=Z,20nm,0.8s,mb5.4
ETSF Etsaut 87.91 341 *e*P **P 17 11 52.0 -1.0**
comp=Z,20nm,0.8s,mb5.4
EBIE Bielsa 87.95 340 P **P 17 11 53.5 +0.3**
comp=Z,1.2nm,0.5s
ELAN Lanestosa 88.21 343 P **P 17 11 53.6 -0.9**
comp=Z,0.7nm,0.4s
EGRA Graus 88.38 340 P **P 17 11 55.1 -0.1**
comp=Z,0.4nm,0.3s
EARI Arriondas 88.49 344 P **P 17 11 56.1 +0.3**
comp=Z,0.8nm,0.6s
ECRI Cripan 88.62 342 P **P 17 11 56.3 0.0**
comp=Z,3.0nm,0.4s,mb5.0
EPON Pontenova 88.81 346 P **P 17 11 55.6 -1.7**
comp=Z,2.9nm,0.8s,mb4.7
EPOB Poblet 88.99 339 P **P 17 11 57.9 -0.3**
comp=Z,0.9nm,0.4s
TAU Tasmania Unive 89.19 184 PFAKE 17 12 10.0 +11
TAU LR LR
comp=Z,385nm,20.0s,MS4.8
ERUA La Rua 89.72 345 P **P 17 12 00.2 -1.3**
comp=Z,7.9nm,0.1s,mb6.0
ETOS Mallorca 90.04 337 P **P 17 12 05.0 +1.9**
comp=Z,2.8nm,0.5s,mb4.8
PBRG Braganca 90.22 345 *e*P **P 17 12 02.9 -1.0**
comp=Z,25nm,1.2s,mb5.4
ETOR Torete 90.23 341 P **P 17 12 02.9 -1.1**
comp=Z,2.2nm,0.4s,mb4.8
EMOS Mosqueruela 90.30 340 P **P 17 12 03.6 -0.7**
comp=Z,1.2nm,0.5s
ELOB Lobios 90.39 346 P **P 17 12 03.7 -1.0**
comp=Z,0.6nm,0.3s
PCAB Cabril 90.53 346 *e*P **P 17 12 04.8 -0.5**
comp=Z,43nm,1.1s,mb5.7
GUD Guadarrama 90.85 343 P **P 17 12 04.3 -2.5**
comp=Z,0.6nm,0.4s
PVRL Vila Real 90.91 346 *e*P **P 17 12 06.4 -0.7**
comp=Z,62nm,1.1s,mb5.8
DWPF Disney 90.93 46 PFAKE 17 12 20.0 +13
DWPF LR LR
comp=Z,882nm,19.0s,MS5.2
PVIS Viseu 91.48 346 *e*P **P 17 12 09.1 -0.6**
comp=Z,38nm,1.2s,mb5.6
CMAH Djebel Manchou 91.62 333 P **P 17 12 09.8 -0.6**
CAEH 'Ain El Ouahch 91.66 333 P **P 17 12 12.0 +1.4**
MTE Manteigas 91.73 345 *e*P **P 17 12 10.2 -0.7**
comp=Z,51nm,1.4s,mb5.7
MTE Manteigas 91.73 345 *e*S S 17 22 57.7 -14
ESDC Sonseca Array 91.74 342 P **P 17 12 09.4 -1.5**
comp=Z,14nm,1.1s,mb5.2,baz=9.6,slow=4.3,SNR=22
ESDC Sonseca Array 91.74 342 P **P 17 12 09.2 -1.7**
comp=Z,12nm,1.0s,mb5.2
ESLA Sonseca Array 91.74 342 *e*P **P 17 12 09.9 -1.0**
comp=Z,4.7nm,1.1s,mb4.7
ESLA LR LR
comp=Z,7µm,20.0s,MS6.1
KEST Kesra 91.82 331 P **P 17 12 11.9 +0.6**
comp=Z,19nm,0.9s,mb5.4,baz=358,slow=1.0,SNR=18
ABSA Djebel Ababsia 91.93 333 P **P 17 12 11.0 -0.8**
CKFL Kef-Lekhel 92.05 333 P **P 17 12 13.0 +0.6**
DFRA Djebel Bou Aff 92.17 334 P **P 17 12 13.0 +0.1**
ETOB Tobarra 92.19 340 P **P 17 12 11.0 -2.0**
comp=Z,1.1nm,0.4s
CASM Ain Smara 92.25 333 P **P 17 12 13.5 +0.2**
PCBR Castelo Branco 92.26 345 *e*P **P 17 12 12.2 -1.1**
comp=Z,27nm,1.5s,mb5.4
EVIA Vianos 92.41 341 P **P 17 12 12.1 -2.0**
comp=Z,0.4nm,0.2s
SET Setif 92.64 334 P **P 17 12 16.0 +0.9**
EBAN Banos Encina 93.15 342 P **P 17 12 16.6 -0.9**
EHUE Huescar 93.22 341 P **P 17 12 17.6 -0.2**
comp=Z,0.4nm,0.1s,mb4.8
PESTR Estremoz 93.22 345 *e*P **P 17 12 16.3 -1.5**
comp=Z,26nm,1.4s,mb5.5
PESTR Estremoz 93.22 345 *e*SKSac SKSac 17 22 52.3 +0.3
EBAD Badajoz 93.23 344 P **P 17 12 17.9 +0.1**
comp=Z,0.8nm,0.4s
EADA Adamuz 93.32 342 P **P 17 12 16.5 -1.7**
comp=Z,0.3nm,0.3s
EQES Quesada 93.34 341 P **P 17 12 19.0 +0.6**
comp=Z,0.7nm,0.2s,mb4.7
PBEJ Beja 94.09 345 *e*P **P 17 12 21.6 -0.2**
comp=Z,23nm,1.3s,mb5.5
EMIN Mina Concepcio 94.12 344 P **P 17 12 20.9 -1.0**
comp=Z,0.2nm,0.2s
BBSR BB Station 94.43 31 PFAKE 17 12 30.0 +6.7
BBSR LR LR
comp=Z,614nm,20.0s,MS5.1
EGRO El Granado 94.50 345 P **P 17 12 22.5 -1.1**
comp=Z,0.3nm,0.2s
RKT Rikitea 94.98 118 *e*PS PS 17 24 49.8 -8.0
comp=Z,567nm,28.0s
RKT Rikitea 94.98 118 *e*SKSac SKSac 17 22 51.0 -11
comp=Z,332nm,28.5s
RKT *e*SS SS 17 29 59.9 -5.3
comp=Z,392nm,26.5s
RKT *e*LR LR 17 42 05.5
comp=Z,2µm,33.5s,baz=319
MDT Midelt 98.47 341 P **P 17 12 40.4 -1.3**
comp=Z,2.0nm,0.8s,mb4.7,baz=17,slow=6.3,SNR=5.6
TGUH Tegucigalpa,Un 99.10 59 PFAKE 17 13 00.0 +15
TGUH LR LR
comp=Z,553nm,21.0s,MS5.0
JTS JuntasAbangare 103.46 59 PFAKE 17 13 10.0 +6.1
JTS LR LR
comp=Z,227nm,21.0s,MS4.7
KMBO Kilima Mbogo 108.27 288 PP PP 17 17 54.7 -0.4
comp=Z,3.6nm,1.0s,baz=50,slow=12,SNR=6.4
KMBO Kilima Mbogo 108.27 288 *e*PP PP 17 17 51.3 -3.8
KMBO LR LR
comp=Z,1µm,19.0s,MS5.5
DRV Dumont d'Urvil 113.29 186 PP PP 17 18 22.0 -9.3
BBGH Gun Hill 113.82 35 PFAKE 17 17 50.0 +7.9
BBGH LR LR
comp=Z,1µm,22.0s,MS5.5
TOA0 Torodi Ar. Sit 115.23 329 *e*P PKiKP 17 17 43.2 -1.5
TORD Torodi Ar. Bea 115.23 329 PKP PKiKP 17 17 43.5 -1.3
comp=Z,5.8nm,1.0s,baz=13,slow=1.9,SNR=17
TORD PP PP 17 18 37.5 -7.5
comp=Z,8.8nm,1.0s,baz=11,slow=6.0,SNR=4.9
TORD PKKPbc PKKPbc 17 28 15.4 -4.0
comp=Z,0.3nm,0.4s,baz=224,slow=2.2,SNR=4.1
TORD Torodi Ar. Bea 115.23 329 PKP PKiKP 17 17 43.5 -1.3
TORD PP PP 17 18 37.5 -7.5
TORD PKKPbc PKKPbc 17 28 15.4 -4.0
CASY Casey 117.08 198 PFAKE 17 18 00.0 +12
CASY LR LR
comp=Z,448nm,22.0s,MS5.0
VNDA Vanda 123.89 178 PKP PKPdf 17 17 57.9 -3.5
comp=Z,1.9nm,1.0s,baz=156,slow=3.8,SNR=5.6
VNDA Vanda 123.89 178 PKP PKPdf 17 17 57.9 -3.5
VNDA LR LR
comp=Z,348nm,20.0s,MS5.0
LIC Lamto 123.95 333 *e*PKIKP PKPdf 17 18 00.5 -1.0
comp=Z,85nm,1.1s
LIC *e*MLR
comp=Z,1µm,20.5s
LIC Lamto 123.95 333 *e*PKPdf PKPdf 17 18 00.5 -1.0
LIC LR LR
comp=Z,510nm,20.5s,MS5.2
SBA Scott Base 124.39 176 PFAKE 17 18 10.0 +7.6
SBA LR LR
comp=Z,643nm,22.0s,MS5.2
LSZ Lusaka 124.70 285 ⇓P PKPdf 17 18 03.4 +0.4
SNR=12
LSZ Lusaka 124.70 285 *e*PKPdf PKPdf 17 18 02.1 -0.9
LSZ *e*PP PP 17 19 48.1 -2.0
LSZ LR LR
comp=Z,1µm,19.0s,MS5.6
NNA Nana 125.83 67 PFAKE 17 18 20.0 +15
NNA LR LR
comp=Z,128nm,19.0s,MS4.6
MAW Mawson 131.95 211 PKP PKPdf 17 18 14.6 -2.2
comp=Z,2.3nm,0.7s,baz=288,slow=4.8,SNR=4.7
MAW Mawson 131.95 211 PKIKP PKPdf 17 18 14.6 -2.2
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 131.95 211 *e*PKPdf PKPdf 17 18 14.4 -2.4
MAW LR LR
comp=Z,228nm,22.0s,MS4.8
LBTB Lobatse 133.18 278 *e*PKPdf PKPdf 17 18 18.7 -0.3
LBTB *e*SKP 17 21 44.4
LBTB LR LR
comp=Z,873nm,20.0s,MS5.5
TSUM Tsumeb 134.50 291 PFAKE 17 18 30.0 +8.4
TSUM LR LR
comp=Z,828nm,19.0s,MS5.5
LPAZ La Paz 134.55 62 PKP PKPdf 17 18 22.1 +0.5
comp=Z,3.1nm,1.0s,baz=13,slow=5.8,SNR=9.2
LPAZ La Paz 134.55 62 PKIKP PKPdf 17 18 22.2 +0.6
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ La Paz 134.55 62 *e*PKPdf PKPdf 17 18 21.8 +0.1
LPAZ *e*SKP 17 21 50.9
LPAZ LR LR
comp=Z,499nm,19.0s,MS5.2
BOSA Boshof 135.71 275 PKP PKPdf 17 18 21.8 -2.0
comp=Z,5.6nm,0.9s,baz=59,slow=1.2,SNR=5.9
BOSA Boshof 135.71 275 PKIKP PKPdf 17 18 21.8 -2.0
BOSA pmax pmax
comp=Z,6.0nm,0.9s
BOSA Boshof 135.71 275 *e*PKPpre 17 18 18.7
BOSA *e*PKPdf PKPdf 17 18 21.7 -2.2
BOSA PKP PKPdf 17 18 21.8 -2.0
BOSA LR LR
comp=Z,671nm,19.0s,MS5.4
QSPA South Pole Qui 136.26 180 PFAKE 17 18 30.0 +5.2
QSPA LR LR
comp=Z,387nm,21.0s,MS5.1
SYO Syowa Base 140.66 211 ⇑*e*P PKPdf 17 18 29.6 -3.3
SUR Sutherland 141.03 274 PFAKE 17 18 40.0 +6.4
SUR LR LR
comp=Z,306nm,20.0s,MS5.0
LCO Las Campanas 141.87 78 *e*PKPdf PKPdf 17 18 35.1 +0.1
PLCA Paso Flores 148.30 95 PKPbc PKPbc 17 18 47.2 -2.3
comp=Z,30nm,1.0s,baz=271,slow=2.9,SNR=23
PLCA Paso Flores 148.30 95 PKP2 PKPbc 17 18 47.2 -2.3
PLCA pmax pmax
comp=Z,30nm,1.0s
PLCA Paso Flores 148.30 95 *e*PKPbc PKPbc 17 18 47.3 -2.2
NVL N'lazarevskaya 149.38 204 ⇓*i*PKP2 PKPbc 17 18 49.4 -2.9
NVL *e* 17 35 01.6
NVL *e*SS SS 17 41 37.4 -0.2
NVL pmax pmax
comp=Z,42nm,1.2s
CAM3 Guarapari 152.02 28 ⇓*i*P PKPbc 17 18 57.7 -0.9
CAM3 *i* 17 19 00.3
CAM3 *i* 17 19 05.8
CAM3 *i* 17 19 23.2

SNAA Sanae 152.30 196 PKP PKPdf 17 18 48.7 -3.7
comp=Z,0.8nm,0.9s,baz=340,slow=3.3,SNR=3.9
SNAA PKPbc PKPbc 17 18 55.1 -4.0
comp=Z,4.7nm,0.9s,baz=133,slow=1.6,SNR=20
SNAA Sanae 152.30 196 *e*PKPdf PKPdf 17 18 47.9 -4.5
SNAA *e* 17 18 55.0
SNAA *e* 17 19 02.1
SNAA *e* 17 19 07.3
SNAA *e* 17 19 17.1
SNAA *e* 17 19 41.2
SNAA *e* 17 20 03.2
SNAA Sanae 152.30 196 *e*PKPdf PKPdf 17 18 49.4 -3.0
SNAA *e*PKPbc PKPbc 17 18 55.9 -3.3
CAM4 Nova Friburgo 152.81 33⇓*i*P PKPbc 17 18 59.9 -0.4
CAM4 *i* 17 19 04.0
PMSA Palmer Station 152.86 146 PFAKE 17 19 00.0 +6.8
PMSA LR LR
comp=Z,1μm,22.0s,MS5.6
TRQA Tornquist 152.99 84 *e*PKPbc PKPbc 17 18 57.7 -3.0
VNA2 Neumayer--Watz 153.75 194 *e*PKPdf PKPdf 17 18 52.4 -2.1
VNA2 *e* 17 19 00.6
VNA2 *e* 17 19 13.7
VNA2 *e* 17 19 18.7
VNA2 *e* 17 19 23.9
VNA2 *e* 17 19 43.5
VNA2 *e* 17 19 52.7
VNA2 *e* 17 20 10.3
VNA3 Neumayer Olymp 153.84 193 *e*PKPdf PKPdf 17 18 52.0 -2.6
VNA3 *e* 17 19 00.7
VNA3 *e* 17 19 13.8
VNA3 *e* 17 19 18.9
VNA3 *e* 17 19 25.5
VNA3 *e* 17 19 36.0
VNA3 *e* 17 19 52.8
VNA3 *e* 17 20 10.8
VNA1 Neumayer--Stat 154.14 194 *e*PKPdf PKPdf 17 18 53.3 -1.8
VNA1 *e* 17 19 01.2
VNA1 *e* 17 19 15.4
VNA1 *e* 17 19 20.2
VNA1 *e* 17 19 28.8
VNA1 *e* 17 19 36.6
VNA1 *e* 17 19 52.9
VNA1 *e* 17 20 12.8
EFI East Falkland 159.15 116 PFAKE 17 19 10.0 +8.5
EFI LR LR
comp=Z,279nm,22.0s,MS5.1

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*BJI **15** 17:01:07.7, 4658N×15309E, h8^{km}, mB5.3, mb5.4, Ms5.5, Msz5.2*
*ISCJB **15** 17:01:08.9±1.1, 4637N±003×15304E±002, h14^{km}±6^{km}, mb5.4/216, MS5.4/13, Error ellipse: s-maj=5.4km s-min=2.3km az=154.7*
*IDC **15** 17:01:08.2±0.4, 4637N×15304E, h0^{km}, mb5.2/39, mb1 5.3/40, mb1mx5.3/41, mbtmp5.2/40, Error ellipse: s-maj=13.7km s-min=11.5km az=136.0*
*NEIC **15** 17:01:09.6±0.1, 4639N×15306E, h10^{km}, mb5.5/148, Error ellipse: s-maj=4.3km s-min=2.9km az=165.0*
*GCMT **15** 17:01:09.6±0.4, 4640N×15330E, h21^{km}±1^{km}, MW5.3/55, Moment Tensor Solution. s17,c19; s55,c96; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.74±.09; $M_{\theta\theta}$-0.39±.05; $M_{\phi\phi}$-0.35±.05; $M_{r\theta}$0.35±.07; $M_{\theta\phi}$-0.60±.03; $M_{\phi r}$0.68±.09; Best double couple: $M_0$1.15800×10^{17} NP1:ϕ_s244.00000°, δ27.00000°, λ120.00000°. NP2: ϕ_s31.00000°, δ67.00000°, λ76.00000°. Principal axes: T 1.0720, Plg65.0000°, Azm276.0000°; N 0.1730, Plg13.0000°, Azm37.0000°; P -1.2450, Plg20.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*JMA **15** 17:01:10.7±0.7, 46.13N×15349E, h30^{km}, M5.6*
*SKHL **15** 17:01:10.8±0.3, 4600N×15350E, h40^{km}±9^{km}, mb6.0/4, ms5.5/3, msh6.3/1*
*MOS **15** 17:01:13.8±0.9, 4645N×15307E, h50^{km}, mb5.7/102, MS5.4/6, Error ellipse: s-maj=7.7km s-min=4.0km az=104.2*
*SZGRF **15** 17:01:14.7, 4637N×153.15E, h33^{km}, mb5.7, Kuril Islands, Russia*
ISC 15 17:01:12.6±1.1**, 4650N**±003×**15295E**±002**, h25**^{km}±7^{km}**, h16**^{km}±.5^{km}**:pP-P, n928, σ0.89**/925**, mb5.4**/216**, MS5.4**/13**, 137C-98D, Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 3.77 252 PN **Pn** **17 02 08.5 -0.6**
KUR pmax pmax
comp=N,2μm,0.6s
KUR pmax pmax
comp=E,910nm,0.6s
KUR pmax pmax
comp=Z,5μm,0.6s
KUR MLR MLR
comp=N,24μm,12.0s
KUR MLR MLR
comp=E,50μm,12.0s
KUR MLR MLR
comp=Z,40μm,12.0s
KUR Kuril'sk 3.77 252 *e*P **Pn** **17 02 08.5 -0.6**
KUR AMB AMB 17 02 09.5
comp=Z,2μm,0.6s
KUR AMB AMB 17 02 09.5
comp=Z,910nm,0.6s
KUR AMB AMB 17 02 09.5
comp=Z,5μm,0.6s
KUR *i* S **Sn** **17 02 52.0 -0.7**
KUR A 17 02 59.8
comp=Z,42μm,4.0s
KUR A 17 02 59.8
comp=Z,50μm,4.0s
KUR AMS AMS 17 03 43.0
comp=Z,24μm,12.0s
KUR AMS AMS 17 03 43.0
comp=Z,50μm,12.0s
KUR AMS AMS 17 03 43.0
comp=Z,40μm,12.0s
YUK Yuzh-Kuril'sk 5.58 246 *e*P **Pn** **17 02 36.0 +2.1**
YUK AMB AMB 17 02 36.7
comp=Z,4μm,0.4s
YUK AMB AMB 17 02 36.7
comp=Z,3μm,0.4s
YUK AMB AMB 17 02 36.7
comp=Z,2μm,0.4s
YUK *i* S **Sn** **17 03 37.0 -0.2**
YUK A 17 03 56.5
comp=Z,9μm,0.6s
YUK A 17 03 56.5
comp=Z,8μm,0.6s
YUK A 17 03 58.2
comp=Z,20μm,1.0s
YUK A 17 03 58.2
comp=Z,18μm,1.0s
NEM2 Nemuro 2 6.00 241 P **Pn** **17 02 39.0 -0.7**
NEM2 *e*S **Sn** **17 03 44.0 -3.6**
JNK Nakash 6.52 246 P **Pn** **17 02 47.8 +0.9**
JNK *e*S **Sn** **17 03 59.2 -1.2**
JAK Akkeshi 6.84 242 *e*S **Sn** **17 04 03.7 -4.6**
YSS Yuzh-Sakhalins 7.02 277⇑*i*PN **Pn** **17 02 59.3 +5.5**
YSS pmax pmax
comp=E,410nm,0.9s
YSS pmax pmax
comp=Z,300nm,0.9s
YSS MLR MLR
comp=Z,12μm,16.0s
YSS MLR MLR
comp=N,7μm,12.0s
YSS MLR MLR
comp=E,11μm,18.0s
YSS Yuzh-Sakhalins 7.02 277 *e*Pn **Pn** **17 02 54.3 +0.5**
YSS Yuzh-Sakhalins 7.02 277 *i* P **Pn** **17 02 59.3 +5.5**
YSS AMB AMB 17 03 01.4
comp=E,410nm,0.9s
YSS AMB AMB 17 03 01.4
comp=E,300nm,0.9s
YSS *e*S **Sn** **17 04 17.9 +5.1**
YSS AMS AMS 17 05 33.0
comp=E,7μm,15.0s
YSS AMS AMS 17 05 33.0
comp=E,11μm,15.0s
YSS AMS AMS 17 05 33.0
comp=E,12μm,15.0s
JOB Onbets 7.42 244 *e*S **Sn** **17 04 20.9 -1.7**

PET Petropavlovsk 7.50 27 Pn **Pn** **17 02 53.8 -6.6**
PET *e*Sn **Sn** **17 04 22.8 -1.8**
ASAJ Asahikawa 7.68 256 Pn **Pn** **17 03 05.0 +2.2**
comp=E,20nm,0.3s,baz=343,slow=20,SNR=4.0
ASAJ Asahikawa 7.68 256 PN **Pn** **17 03 05.0 +2.2**
ASAJ pmax pmax
comp=Z,20nm,0.3s
UGL Uglegorsk 7.77 293 PN **Pn** **17 03 10.0 +5.9**
UGL *e*S **Sn** **17 04 39.8 +8.5**
UGL pmax pmax
comp=Z,350μm,0.7s
UGL smax
comp=N,230nm,0.6s
UGL smax
comp=E,160nm,0.6s
UGL MLR MLR
comp=E,17μm,12.0s
UGL MLR MLR
comp=Z,15μm,12.0s
UGL MLR MLR
comp=N,9μm,11.0s
UGL Uglegorsk 7.77 293 *e*P **Pn** **17 03 10.0 +5.9**
UGL AMB AMB 17 03 13.0
comp=N,350nm,0.7s
UGL *e*S **Sn** **17 04 39.8 +8.5**
UGL A 17 04 41.0
comp=N,230nm,0.6s
UGL A 17 04 41.0
comp=N,160nm,0.6s
UGL AMS AMS 17 06 11.0
comp=N,9μm,12.0s
UGL AMS AMS 17 06 11.0
comp=N,17μm,12.0s
UGL AMS AMS 17 06 11.0
comp=N,15μm,12.0s
JWK2 Keihoku 7.80 265 P **Pn** **17 03 10.3 +5.8**
JCH Churui 7.87 244 *e*S **Sn** **17 04 29.3 -4.4**
ERM Erimo 8.33 241 *e*PN **Pn** **17 03 11.3 -0.5**
JEM Erimo 8.33 241 *e*S **Sn** **17 04 44.9 -0.2**
JBT2 Biratori 2 8.41 248 *e*S **Sn** **17 04 47.3 +0.3**
JNBK Urakawa-nobuka 8.43 244 *e*S **Sn** **17 04 45.9 -1.6**
JNB Noboribetsu 9.42 249 P **Pn** **17 03 27.2 +0.6**
JNB *e*S **Sn** **17 05 09.6 -2.1**
JKB Kayabe 9.72 246 *e*S **Sn** **17 05 12.2 -6.9**
JANG Nango 10.32 238 *e*S **Sn** **17 05 22.4 -11**
JTM Tenmabayashi 10.33 241 *e*S **Sn** **17 05 25.2 -8.8**
JTH Tanohata 10.41 235 *e*S **Sn** **17 05 23.8 -12**
OFUJ Ofunato 11.11 232 *e*S **Sn** **17 05 40.5 -13**
JIO Ouri 11.73 231 *e*S **Sn** **17 05 54.8 -14**
HABR Khabarovsk 12.27 286 *e*PN **Pn** **17 04 12.0 +6.3**
JFK Kawauchi 12.79 229 *e*S **Sn** **17 06 20.2 -14**
MA2 Magadan 13.17 355 *e*PN **Pn** **17 04 20.3 +2.4**
MA2 pmax pmax
comp=Z,90nm,1.0s
MAJO Matsushiro 14.84 233 *e*Pn **Pn** **17 04 47.0 +6.3**
comp=Z,147nm,0.6s
MAT Matsushiro 14.84 233 P **Pn** **17 04 37.5 -3.2**
MJAR Matsushiro Arr 14.84 233 Pn **Pn** **17 04 37.0 -3.7**
comp=Z,2.1nm,0.3s,baz=27,slow=13,SNR=6.0
MJAR Sn **Sn** **17 07 13.3 -11**
comp=Z,0.4nm,0.3s,baz=338,slow=12,SNR=2.6
VLA Vladivostok 15.31 265 *i* P **Pn** **17 04 46.4 -0.6**
VLA pmax pmax
comp=Z,129nm,0.9s
MDJ Mudanjiang 16.46 272 P **Pn** **17 05 01.9 +0.1**
MDJ AMB AMB
comp=Z,162nm,1.1s
MDJ AMB AMB
comp=Z,431nm,6.3s
SEY Seymchan 16.47 359 *i* P **Pn** **17 05 02.7 +0.7**
JHJ Hachijo jima 2 16.73 222 Pn **Pn** **17 05 05.7 +0.5**
comp=Z,10nm,0.3s,baz=167,slow=5.4,SNR=4.9
JHJ Sn **Sn** **17 07 56.0 -14**
comp=Z,13nm,0.3s,baz=46,slow=20,SNR=2.7
CN2 Changchun 19.55 272 *e*P **Pn** **17 05 35.9 -3.8**
CN2 *e*S **Sn** **17 09 10.1 -8.3**
CN2 AMB AMB
comp=Z,30nm,1.1s
CN2 LR LR
comp=N,4μm,14.0s
CN2 LR LR
comp=E,7μm,14.0s
CN2 LR LR
comp=Z,8μm,15.0s
YAK Yakutsk 20.47 328 *e*P **P** **17 05 49.6 +1.2**
YAK pmax pmax
comp=Z,220nm,0.9s
YAK Yakutsk 20.47 328 *e*P **P** **17 05 49.6 +1.1**
comp=Z,224nm,0.9s
KSRS Korea Array 20.61 253 P **P** **17 05 51.0 +1.0**
comp=Z,49nm,0.7s,baz=61,slow=10,SNR=10
KSRS PcP PcP 17 10 00.3 +0.4
comp=Z,6.8nm,0.9s,baz=335,slow=0.8,SNR=5.7
CBIJ Chichi jima 21.16 207 P **P** **17 05 55.0 -0.8**
comp=Z,90nm,0.7s,mb5.2,baz=130,slow=22,SNR=4.5
INCN Inchon 21.45 255 P **P** **17 06 00.2 +1.2**
SNR=9.8
INCN Inchon 21.45 255 P **P** **17 06 00.2 +1.2**
SNR=9.8
INCN Inchon 21.45 255 P **P** **17 06 00.2 +1.2**
SNR=9.8
INCN Inchon 21.45 255 *e*P **P** **17 05 59.5 +0.5**
comp=Z,171nm,1.0s,mb5.3
JNU Nakatsue 21.49 239 P **P** **17 05 59.3 -0.1**
comp=Z,64nm,1.1s,mb4.9,baz=249,slow=12,SNR=2.4
SNY Shenyang 21.52 268 ⇑P **P** **17 06 00.9 +1.2**
SNY AMB AMB
comp=Z,125nm,1.1s,mb5.3
HIA Hailar 22.34 289 *e*P **P** **17 06 06.5 -2.0**
HIA pmax pmax
comp=Z,35nm,0.8s
HIA Hailar 22.34 289 *e*P **P** **17 06 06.5 -2.0**
comp=Z,35nm,0.8s,mb4.8
BILL Bilibino 22.66 13⇓*i*P **P** **17 06 11.8 -0.1**
BILL *i* 17 06 19.0
BILL *e* 17 06 29.7
BILL *i* 17 06 40.8
BILL pmax pmax
comp=Z,61nm,0.9s,mb5.0
BILL Bilibino 22.66 13 *e*P **P** **17 06 10.9 -1.0**
comp=Z,81nm,1.0s,mb5.1
DL2 Dalian 24.12 263⇑*i*P **P** **17 06 26.5 +0.2**
DL2 XP sP 17 06 31.8 -4.9
DL2 PPP 17 07 12.3
DL2 S **S** **17 10 45.3 +2.6**
DL2 AMB AMB
comp=Z,100nm,1.1s,mb5.2
DL2 AMB AMB
comp=Z,220nm,3.6s
DL2 LR LR
comp=N,1μm,13.0s,MS4.8
DL2 LR LR
comp=E,1μm,13.2s,MS4.8
DL2 LR LR
comp=Z,1μm,14.5s,MS4.6
BJI Beijing 27.36 270 P **P** **17 06 58.4 +2.7**
BJI AMB AMB
comp=Z,83nm,0.9s,mb5.3
BJI AMB AMB
comp=Z,846nm,10.1s
BJI LR LR
comp=N,1μm,13.2s,MS5.1
BJI LR LR
comp=E,3μm,12.5s,MS5.1
BJI LR LR
comp=Z,2μm,17.8s
BJT Baijiatuau 27.38 270 *e*P **P** **17 06 55.4 -0.4**
BJT pmax pmax
comp=Z,136nm,1.1s
BJT Baijiatuau 27.38 270 *e*P **P** **17 06 55.4 -0.5**
comp=Z,136nm,1.1s,mb5.4
TIXI Tiksi 27.68 344 *e*P **P** **17 06 59.0 +0.4**
TIXI pmax pmax
comp=Z,18nm,0.8s,mb4.8
TIXI Tiksi 27.68 344 *e*P **P** **17 06 58.0 -0.6**
comp=Z,25nm,0.8s,mb4.9
TNA Tin City 28.30 34 *e*P **P** **17 07 04.7 +0.5**
comp=Z,42nm,1.1s,mb5.0
HHC Hu-ho-hao-te 30.20 274 *e*P **P** **17 07 22.8 +1.9**
HHC XP sP 17 07 28.8 -2.5
HHC PP PP 17 08 21.8 -7.5
HHC PCP PcP 17 10 23.6 +2.0
HHC S **S** **17 12 18.4 -0.4**
HHC SS SS 17 13 59.5 -28
HHC AMB AMB
comp=Z,106nm,1.0s,mb5.5

HHC AMB AMB
comp=Z,356nm,6.3s
HHC LR LR
comp=N,6μm,16.6s,MS5.5
HHC LR LR
comp=E,6μm,16.1s,MS5.5
HHC LR LR
comp=Z,9μm,16.7s,MS5.5
ULN Ulaanbaatar 30.88 290 *e*P **P** **17 07 26.9 0.0**
ULN pmax pmax
comp=Z,29nm,1.0s,mb5.1
ULN Ulaanbaatar 30.88 290 *e*P **P** **17 07 26.9 -0.1**
comp=Z,29nm,0.9s,mb5.1
SONM Songino Array 31.31 290 P **P** **17 07 30.5 -0.3**
comp=Z,13nm,0.9s,mb4.8,baz=73,slow=7.5,SNR=6.0
SONM PcP PcP 17 10 24.2 -0.3
comp=Z,4.7nm,0.8s,baz=81,slow=1.7,SNR=4.0
SONM Songino Array 31.31 290 P **P** **17 07 30.5 -0.3**
SONM 17 10 24.2
SONM pmax pmax
comp=Z,13nm,0.9s
TLY Talaya 32.20 298 P **P** **17 07 38.6 +0.1**
SNR=6.0
TLY Talaya 32.20 298 P **P** **17 07 38.6 +0.1**
SNR=6.0
TLY Talaya 32.20 298 P **P** **17 07 38.6 +0.1**
SNR=6.0
TLY Talaya 32.20 298⇑*e*P **P** **17 07 37.6 -0.9**
TLY pmax pmax
comp=Z,28nm,0.8s,mb5.1
TLY Talaya 32.20 298⇑*e*P **P** **17 07 37.6 -0.9**
comp=Z,28nm,0.8s,mb5.1
SVW2 Sparrevohn 32.75 45 *e*P **P** **17 07 43.2 -0.2**
WHN Wuhan 33.76 256 ⇑P **P** **17 07 52.6 +0.4**
IMA2 Indian Mountai 34.08 36 *e*P **P** **17 07 54.4 -0.5**
KDAK Kodiak Island 34.35 51 P **P** **17 07 55.3 -2.0**
comp=Z,47nm,0.8s,mb5.5,baz=293,slow=3.7,SNR=6.4
SLKM Skilak Lake 35.38 46 *e*P **P** **17 08 04.8 -1.4**
PMR Palmer 35.86 44 *e*P **P** **17 08 09.6 -0.7**
PMR pmax pmax
comp=Z,20nm,0.8s,mb5.1
PMR Palmer 35.86 44 *e*P **P** **17 08 09.6 -0.7**
comp=Z,20nm,0.8s,mb5.1
MCK McKinley 35.92 40 *e*P **P** **17 08 09.7 -1.1**
MCK pmax pmax
comp=Z,22nm,1.0s,mb5.0
MCK McKinley 35.92 40 *e*P **P** **17 08 09.7 -1.1**
comp=Z,22nm,1.0s,mb5.0
SML Sawmill 36.23 43⇑*e*P **P** **17 08 12.5 -1.0**
COLA College 36.41 38 *i* P **P** **17 08 14.4 -0.6**
COLA College 36.41 38 *e*P **P** **17 08 14.5 -0.5**
comp=Z,42nm,0.9s,mb5.4
LZH Lanzhou 37.78 272 *e*P **P** **17 08 28.3 +1.6**
LZH AP pP 17 08 33.6 -0.6
LZH XP sP 17 08 36.8 -0.4
LZH PP PP 17 09 56.1 +3.0
LZH PCP PcP 17 10 42.0 -1.1
LZH *e*S **S** **17 14 20.3 +4.3**
LZH XS sS 17 14 24.0 -4.2
LZH SS SS 17 16 50.0 -12
LZH AMB AMB
comp=Z,84nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,701nm,4.0s
LZH LR LR
comp=N,5μm,16.5s
LZH LR LR
comp=Z,6μm,17.5s,MS5.5
LZH Lanzhou 37.78 272 *e*P **P** **17 08 28.3 +1.6**
LZH *SP sP 17 08 36.8 -0.4
LZH 17 09 56.1
LZH 17 10 42.0
LZH *e*S **S** **17 14 20.3 +4.3**
LZH SS SS 17 16 50.0 -12
LZH Lanzhou 37.78 272 *e*P **P** **17 08 28.3 +1.6**
LZH pP pP 17 08 33.6 -0.6
LZH sP sP 17 08 36.8 -0.4
LZH PP PP 17 09 56.1 +3.0
LZH PcP PcP 17 10 42.0 -1.1
LZH *e*S **S** **17 14 20.3 +4.3**
LZH sS sS 17 14 24.0 -4.2
LZH SS SS 17 16 50.0 -12
GTA Gaotai 38.90 279⇓*i*P **P** **17 08 38.1 +2.0**
GTA AP pP 17 08 41.8 -1.7
GTA XP sP 17 08 44.3 -2.3
GTA PP PP 17 10 12.5 +7.1
GTA PPP 17 10 34.8
GTA PCP PcP 17 10 47.8 +1.2
GTA SCP ScP 17 14 34.3 +1.1
GTA PCS PcS 17 14 37.3 +1.2
GTA XS sS 17 14 43.8 -1.3
GTA SS SS 17 17 20.8 -3.9
GTA AMB AMB
comp=Z,111nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,407nm,6.1s
GTA LR LR
comp=N,3μm,15.2s,MS5.4
GTA LR LR
comp=E,3μm,14.4s,MS5.4
GTA LR LR
comp=Z,4μm,15.2s,MS5.4
EGAK Eagle 39.27 38 *e*P **P** **17 08 38.0 -1.2**
comp=Z,43nm,0.9s,mb5.2
CD2 Chengdu 40.74 265 P **P** **17 08 52.4 +1.0**
CD2 AP pP 17 08 57.0 -1.9
CD2 XP sP 17 08 59.5 -2.4
CD2 PP PP 17 10 30.0 +4.5
CD2 S **S** **17 15 02.0 +1.5**
CD2 XS sS 17 15 10.3 -2.5
CD2 SS SS 17 17 59.0 -2.6
CD2 AMB AMB
comp=Z,200nm,0.9s,mb5.8
CD2 AMB AMB
comp=Z,530nm,3.4s
CD2 LR LR
comp=N,3μm,17.7s,MS5.3
CD2 LR LR
comp=E,3μm,18.1s,MS5.3
CD2 LR LR
comp=Z,2μm,20.4s,MS5.0
GYA Guiyang 41.55 258 P **P** **17 08 59.4 +1.3**
GYA AP pP 17 09 03.8 -1.8
GYA XP sP 17 09 06.8 -1.8
GYA PP PP 17 10 38.5 +4.3
GYA PCP PcP 17 10 57.3 +2.2
GYA SCP ScP 17 14 46.0 +2.4
GYA S **S** **17 15 14.8 +2.4**
GYA SS SS 17 18 13.0 -4.6
GYA AMB AMB
comp=Z,190nm,0.8s,mb5.8
GYA AMB AMB
comp=Z,640nm,6.9s
GYA LR LR
comp=N,1μm,16.4s,MS5.1
GYA LR LR
comp=E,2μm,15.8s,MS5.1
GYA LR LR
comp=Z,2μm,16.0s,MS5.0
INK Inuvik 41.93 32 P **P** **17 09 00.8 -0.3**
comp=Z,41nm,0.9s,mb5.1,baz=298,slow=7.1,SNR=7.5
INK Inuvik 41.93 32 *e*P **P** **17 09 00.7 -0.4**
comp=Z,2μm,0.9s
ZAL Zalesovo 42.68 306 P **P** **17 09 06.3 -1.0**
comp=Z,15nm,0.9s,mb4.7,baz=44,slow=8.7,SNR=6.0
ZAL PcP PcP 17 10 58.0 -0.9
comp=Z,11nm,0.9s,baz=65,slow=0.5,SNR=5.5
ZAL Zalesovo 42.68 306 P **P** **17 09 06.3 -1.0**
ZAL 17 10 58.0
ZAL pmax pmax
comp=Z,15nm,0.9s
WMQ Urumqi 44.91 291 P **P** **17 09 26.1 +0.9**
WMQ PCP PcP 17 11 07.1 +0.7
WMQ PP PP 17 11 13.0 +2.7
WMQ PPP 17 11 52.5
WMQ S **S** **17 16 04.0 +2.3**
WMQ XS sS 17 16 10.6 -3.5
WMQ SCS ScS 17 19 16.6 -4.4
WMQ SS SS 17 19 20.8 -2.6
WMQ AMB AMB
comp=Z,36nm,1.4s,mb5.0
WMQ AMB AMB
comp=Z,237nm,5.0s
WMQ LR LR

comp=N,2µm,17.0s,MS5.6
WMQ LR LR
comp=E,4µm,14.0s,MS5.6
WMQ LR LR
comp=Z,3µm,16.0s,MS5.3
KMI Kunming 45.08 260 P P 17 09 27.6 +1.0
KMI AP pP 17 09 31.3 -2.8
KMI S **S 17 16 04.4 +0.2**
KMI SS SS 17 19 23.9 -2.8
KMI SSS 17 20 07.5
KMI AMB AMB
comp=Z,100nm,1.0s,mb5.6
KMI LR LR
comp=N,884nm,16.7s,MS5.1
KMI LR LR
comp=E,2µm,16.7s,MS5.1
KMI LR LR
comp=Z,2µm,16.7s,MS5.1
DLBC Dease Lake 45.85 46 eP P 17 09 33.6 +0.9
MK31 Makanchi Array 46.96 297⇑iP P 17 09 40.6 -0.7
MKAR Makanchi Array 46.96 297 P P 17 09 41.0 -0.3
comp=Z,59nm,0.9s,mb5.5,baz=64,slow=8.5,SNR=13
MKAR PcP PcP 17 11 12.7 -0.9
comp=Z,5.1nm,0.7s,baz=75,slow=6.5,SNR=2.6
MKAR Makanchi Array 46.96 297 P P 17 09 41.0 -0.3
MKAR 17 11 12.7
MKAR pmax pmax
comp=Z,59nm,0.9s
KURK Kurchatov 47.41 304 P P 17 09 43.9 -1.0
comp=Z,715nm,1.0s,mb6.5,SNR=8.9
KURK Kurchatov 47.41 304 P P 17 09 44.1 -0.8
SNR=13
KURK Kurchatov 47.41 304 P P 17 09 44.6 -0.2
SNR=5.9
KURK Kurchatov 47.41 304⇑iP P 17 09 43.6 -1.3
KURK pmax pmax
comp=Z,116nm,0.9s,mb5.8
KURK Kurchatov 47.41 304⇑iP P 17 09 43.6 -1.3
comp=Z,116nm,0.9s,mb5.8
ALE Alert 50.01 6 P P 17 10 04.6 -0.2
comp=Z,324nm,0.9s,mb6.4,SNR=8.1
LSA Lhasa 50.17 273 P P 17 10 09.0 +2.9
LSA Lhasa 50.17 273 eP P 17 10 08.8 +2.7
LSA pmax pmax
comp=Z,78nm,0.6s,mb5.9
LSA Lhasa 50.17 273 eP P 17 10 08.8 +2.7
comp=Z,78nm,0.6s,mb5.9
CHKZ Chkalovo 50.51 310⇑iP P 17 10 07.1 -1.5
CHKZ pmax pmax
comp=Z,162nm,1.0s,mb5.9
CHKZ Chkalovo 50.51 310⇑iP P 17 10 07.1 -1.5
comp=Z,162nm,1.0s,mb5.9
NANT Nan 50.78 255 ⇑P P 17 10 09.5 -1.2
comp=Z,638nm,1.0s,mb6.5
BVAR Borovoye Array 50.93 310 P P 17 10 11.6 -0.3
comp=Z,9.4nm,0.5s,mb5.0,baz=53,slow=8.5,SNR=7.6
BVAR PcP PcP 17 11 27.9 -0.1
comp=Z,11nm,0.7s,baz=68,slow=4.3,SNR=4.1
BVAR Borovoye Array 50.93 310 P P 17 10 11.6 -0.2
BVAR 17 11 27.9
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BRVK Borovoye 50.97 310 P P 17 10 11.4 -0.7
comp=Z,390nm,1.1s,mb6.2,SNR=5.3
BRVK Borovoye 50.97 310 P P 17 10 11.5 -0.6
SNR=7.7
BRVK Borovoye 50.97 310 P P 17 10 11.5 -0.6
SNR=7.7
BRVK Borovoye 50.97 310 P P 17 10 11.5 -0.6
SNR=7.7
BRVK Borovoye 50.97 310 P P 17 10 11.5 -0.6
SNR=7.7
BRVK Borovoye 50.97 310⇑iP P 17 10 11.2 -0.9
BRVK pmax pmax
comp=Z,75nm,0.9s,mb5.6
BRVK Borovoye 50.97 310⇑iP P 17 10 11.2 -0.9
comp=Z,75nm,0.9s,mb5.6
RES Resolute Bay 51.11 18⇑eP P 17 10 12.6 -0.6
RES pmax pmax
comp=Z,1µm,0.9s
RES Resolute Bay 51.11 18⇑eP P 17 10 12.6 -0.6
comp=Z,1µm,0.9s
KKTK Khon Kaen 51.15 251 ⇑P P 17 10 15.0 +1.6
comp=Z,648nm,0.5s
YKA Yellowknife Ar 51.20 37 P P 17 10 13.6 -0.2
comp=Z,34nm,1.0s,mb5.2,baz=297,slow=7.4,SNR=11
YKA Yellowknife Ar 51.20 37 P P 17 10 13.6 -0.2
YKA pmax pmax
comp=Z,34nm,1.0s
KKM Kota Kinabalu 51.23 230 P P 17 10 14.0 0.0
CHTO Chiang Mai 51.95 257 P P 17 10 21.1 +1.7
SNR=10
CHTO Chiang Mai 51.95 257 P P 17 10 21.1 +1.7
SNR=10
CHTO Chiang Mai 51.95 257 P P 17 10 21.1 +1.7
SNR=10
CHTO Chiang Mai 51.95 257 P P 17 10 21.1 +1.7
SNR=10
CHTO Chiang Mai 51.95 257 P P 17 10 21.1 +1.7
SNR=10
CHTO Chiang Mai 51.95 257 P P 17 10 21.1 +1.7
SNR=10
CHTO Chiang Mai 51.95 257⇑iP P 17 10 20.4 +1.0
CHTO pmax pmax
comp=Z,120nm,0.9s,mb5.8
CHTO Chiang Mai 51.95 257⇑iP P 17 10 20.4 +0.9
comp=Z,120nm,0.9s,mb5.8
CM31 Chiang Mai Arr 52.20 256 eP P 17 10 22.5 +1.2
comp=Z,37nm,0.7s,mb5.4
KBS Kingsbay 52.73 351 P P 17 10 24.9 -0.3
KBS pmax pmax
comp=Z,67nm,1.2s,mb5.5
KBS Kingsbay 52.73 351 eP P 17 10 22.4 -2.8
comp=Z,67nm,1.2s,mb5.5
CHMS Chumysh 53.49 297 P P 17 10 31.3 +0.5
SNR=8.9
USP Ospenovka 53.50 297 P P 17 10 31.0 +0.1
SNR=22
KBK Karagaybulak 53.55 296 P P 17 10 32.3 +1.0
SNR=12
KZA Kyzart 53.68 295 P P 17 10 34.2 +2.0
SNR=6.8
AAK Ala-Archa 53.85 296 P P 17 10 33.9 +0.4
SNR=19
AAK Ala-Archa 53.85 296 P P 17 10 32.5 -0.9
comp=Z,478nm,0.9s,mb6.4,SNR=11
AAK Ala-Archa 53.85 296⇑iP P 17 10 32.6 -0.8
AAK pmax pmax
comp=Z,73nm,0.8s,mb5.7
AAK Ala-Archa 53.85 296⇑iP P 17 10 32.6 -0.8
comp=Z,73nm,0.8s,mb5.7
EKS2 Erkin-Say 54.27 297 P P 17 10 36.9 +0.4
SNR=13
AML Almayashu 54.62 296 P P 17 10 40.7 +1.6
SNR=6.2
KSH Kashi 54.64 292 P P 17 10 40.8 +1.5
KSH AP pP 17 10 45.8 -1.1
KSH XP sP 17 10 47.6 -2.3
KSH PCP PcP 17 11 43.3 +1.3
KSH PP PP 17 12 44.0 +2.2
KSH PPP 17 13 56.0
KSH SCP ScP 17 15 40.3 +1.5
KSH PCS PcS 17 15 41.6 0.0
KSH S **S 17 18 18.3 +0.6**
KSH XS sS 17 18 25.9 -4.4
KSH SCS ScS 17 20 26.3 -0.6
KSH SS SS 17 22 00.8 +0.2
KSH AMB AMB
comp=Z,146nm,0.8s,mb6.1
KSH AMB AMB
comp=Z,1µm,4.5s
KSH LR LR
comp=N,6µm,11.0s,MS6.2
KSH LR LR
comp=E,10µm,12.4s,MS6.2
KSH LR LR
comp=Z,7µm,14.9s,MS5.9
B05A Bryant 54.66 55 ⇓P P 17 10 38.7 -0.6
baz=54
E03A Lebam 54.74 57 ⇓P P 17 10 40.9 +1.0
baz=54
B06A Marblemount 54.86 54 ⇑P P 17 10 40.2 -0.6
baz=55
ARU Arti 55.12 318 P P 17 10 41.9 -0.8
comp=Z,432nm,0.7s,SNR=5.5
ARU Arti 55.12 318⇓iP P 17 10 41.0 -1.7
ARU e 17 11 43.1
ARU e 17 12 43.9
ARU eS **S 17 18 25.2 +1.1**
ARU eSS SS 17 22 08.1 0.0
ARU pmax pmax
comp=Z,58nm,0.8s,mb5.7
ARU Arti 55.12 318⇑iP P 17 10 41.2 -1.5
comp=Z,75nm,0.9s,mb5.7
A07A Ashnola River, 55.19 53 ⇓P P 17 10 42.3 -0.9
baz=55
E04A Onalaska 55.20 57 ⇑P P 17 10 43.0 -0.3
baz=55
A08A Turner Farm, O 55.85 53 ⇑P P 17 10 46.7 -1.2
baz=56
C07A Waterville 56.11 54 ⇓P P 17 10 48.6 -1.2
baz=56
B08A Colville Reser 56.15 53 P P 17 10 50.0 0.0
baz=56,SNR=5.0
A09A Danville 56.22 52 P P 17 10 50.8 +0.3
baz=56,SNR=6.4
J02A Umpqua 56.50 60 ⇓P P 17 10 53.6 +1.0
baz=56
EDM Edmonton 56.57 46 eP P 17 10 52.0 -1.1
H04A Detroit Lake 56.58 58 ⇓P P 17 10 52.9 -0.2
baz=56
C08A Higginbotham F 56.63 54 ⇓P P 17 10 52.9 -0.6
baz=56
B09A Rice 56.77 53 ⇑P P 17 10 54.2 -0.3
baz=56
G05A Wamic 56.77 57 ⇓P P 17 10 55.2 +0.7
baz=56
F06A Goldendale 56.78 57 ⇑P P 17 10 54.0 -0.6
baz=56
E07A Sunnyside 56.87 55 ⇓P P 17 10 55.2 0.0
baz=57
K02A Glendale 56.89 61 ⇑P P 17 10 55.5 +0.1
baz=57
I04A Tendick Farm, 56.95 59 ⇑P P 17 10 56.2 +0.4
baz=57
LVZ Lovozero 56.95 337⇑eP P 17 10 56.0 +0.2
LVZ Lovozero 56.95 337⇑eP P 17 10 56.1 +0.3
C09A Chrisman Ranch 57.05 53 ⇓P P 17 10 55.6 -0.9
baz=57
D08A Wollman Farm, 57.11 54 ⇑P P 17 10 56.0 -0.9
baz=57
H05A Madras 57.16 58 ⇓P P 17 10 56.7 -0.5
baz=57
G06A Carlson Farm, 57.17 57 ⇓P P 17 10 57.1 -0.2
baz=57
L02A Cave Junction 57.18 62 ⇑P P 17 10 57.8 +0.4
baz=57
F07A Phinny Hill Vi 57.20 56 ⇓P P 17 10 57.3 -0.3
baz=57
E08A Dider Farm, El 57.36 55 ⇑P P 17 10 58.7 0.0
baz=57
A11A Hall Mountain, 57.44 51 ⇑P P 17 10 59.8 +0.6
baz=57
J04A Umpqua Nationa 57.45 60 ⇓P P 17 10 59.4 +0.1
baz=57
D09A Jones Farm, Ri 57.45 54 ⇓P P 17 10 58.7 -0.6
baz=57
KEV Kevo 57.54 340 eP P 17 11 03.6 +3.6
KEV pmax pmax
comp=Z,84nm,1.5s,mb5.5
KEV Kevo 57.54 340 eP P 17 11 03.5 +3.6
comp=Z,84nm,1.5s,mb5.5
C10A Spilker Farm, 57.57 53 ⇑P P 17 11 00.5 +0.3
baz=57
H06A Lindquist Farm 57.63 57 ⇓P P 17 11 00.1 -0.5
baz=57
G07A Ruggs Ranch, H 57.71 57 ⇓P P 17 11 00.9 -0.2
baz=58
E09A Wood Farm, Sta 57.86 55 ⇑P P 17 11 02.5 +0.4
baz=58
F08A Pendleton 57.92 56 ⇑P P 17 11 03.9 +1.3
baz=58
J05A Fort Rock 57.94 59 ⇓P P 17 11 03.5 +0.7
baz=58
YBH Yreka Blue Hor 57.96 61 ⇓P P 17 11 03.4 +0.4
baz=58
ARCES ARCESS Array B 58.05 341 P P 17 11 03.0 -0.5
comp=Z,13nm,0.7s,mb5.1,baz=26,slow=6.2,SNR=6.7
ARCES ARCESS Array B 58.05 341 P P 17 11 03.1 -0.5
ARCES pmax pmax
comp=Z,13nm,0.7s
ARE0 ARCESS Array S 58.05 341 eP P 17 11 02.7 -0.8
G08A Pilot Rock 58.11 56 ⇓P P 17 11 04.3 +0.4
baz=58
H07A Lands Inn, Kim 58.16 57 ⇑P P 17 11 04.1 -0.2
baz=58
I06A Prineville 58.16 58 ⇑P P 17 11 04.4 +0.1
baz=58
L04A Klamath Falls 58.20 61 ⇑P P 17 11 05.0 +0.4
baz=58
KSM Kuching 58.23 233⇑iP P 17 11 05.2 +0.4
E10A Myers Farm, Un 58.46 54 ⇓P P 17 11 07.0 +0.7
baz=58
F09A S2 Ranch, Elgi 58.46 55 ⇓P P 17 11 06.5 +0.1
baz=58
M04C Macdoel 58.46 61 ⇑P P 17 11 06.9 +0.4
baz=58
K05A Summer Lake 58.47 60 ⇑P P 17 11 06.6 +0.1
baz=58
A13A Flathead Natio 58.50 51 ⇓P P 17 11 07.0 +0.3
baz=58
I07A Izee 58.50 58 ⇓P P 17 11 07.1 +0.4
baz=58
M03C McCloud 58.59 62 ⇑P P 17 11 08.1 +0.8
baz=58
J06A Christmas Vall 58.60 59 ⇓P P 17 11 08.4 +1.0
baz=58
F10A Beach Ranch, E 58.69 55 ⇑P P 17 11 08.4 +0.4
baz=58
H08A Prairie City 58.72 57 ⇓P P 17 11 09.2 +1.0
baz=58
WDC Whiskeytown Da 58.75 62 ⇑P P 17 11 09.2 +0.8
baz=58
G09A Cove 58.79 56 ⇑P P 17 11 09.7 +1.0
baz=58
AKTK Aktyubinsk 58.81 312 P P 17 11 08.2 -0.6
AKTO Aktyubinsk 58.81 312 P P 17 11 08.2 -0.6
comp=Z,16nm,0.8s,mb5.1,baz=64,slow=5.5,SNR=6.1
AKTO Aktyubinsk 58.81 312 P P 17 11 08.2 -0.6
AKTO pmax pmax
comp=Z,16nm,0.9s,mb5.0
K06A Valley Falls 58.81 59 P P 17 11 10.0 +1.1
baz=59,SNR=6.0
O02C Red Bluff 58.83 63 ⇑P P 17 11 08.9 -0.1
baz=59
L05A Lakeview 58.91 60 ⇓P P 17 11 10.6 +1.1
baz=59
P01C Double 8 Ranch 58.92 64 ⇓P P 17 11 09.5 -0.1
baz=59
KTK1 Kautokeino 58.97 341 eP P 17 11 10.0 +0.1
E11A Bogner Ranch, 59.04 54 ⇓P P 17 11 09.8 -0.6
baz=59
M05C Lookout 59.13 61 ⇓P P 17 11 12.1 +1.1
baz=59
I08A Drewsey 59.14 57 ⇓P P 17 11 12.2 +1.0
baz=59
C13A Hot Springs 59.15 52 ⇓P P 17 11 11.2 0.0
baz=59
GASB Alder Springs 59.19 63 ⇑P P 17 11 12.0 +0.5
baz=59
H09A Durkee 59.22 56 P P 17 11 12.6 +1.0
baz=59,SNR=5.5
HATC Hat Creek Radi 59.27 62 ⇓P P 17 11 12.1 +0.2
baz=59
BMO Blue Mountains 59.31 56 eP P 17 11 11.9 -0.4
comp=Z,30nm,1.3s,mb5.2
MOD Modoc 59.31 60 P P 17 11 13.0 +0.7
baz=59,SNR=5.7
F11A Grangeville 59.34 54 ⇓P P 17 11 11.7 -0.9
baz=59
TRO Tromso 59.39 343 eP P 17 11 11.4 -1.5
TRO AMb AMB 17 11 13.0
comp=Z,79nm,1.6s,mb5.5
TRO epP pP 17 11 15.8 -4.8
TRO Tromso 59.39 343 eP P 17 11 11.4 -1.5
TRO pmax pmax
comp=Z,79nm,1.6s,mb5.5
TRO Tromso 59.39 343 eP P 17 11 11.4 -1.5
comp=Z,79nm,1.6s,mb5.5
K07A Rock Creek Ran 59.47 59 P P 17 11 14.3 +0.9
baz=59,SNR=5.6
J08A Circle Bar Ran 59.53 58 ⇓P P 17 11 14.5 +0.7
baz=59
C14A Swan Lake 59.55 51 ⇑P P 17 11 14.6 +0.7
baz=59
D13A Huson 59.56 52 ⇓P P 17 11 14.1 0.0
baz=59
G11A Walters Elk Ra 59.57 55 ⇓P P 17 11 15.1 +1.0
baz=59
I09A Lost Marbles R 59.59 57 ⇑P P 17 11 14.6 +0.4
baz=59
H10A Noah's Angus R 59.79 56 P P 17 11 15.6 0.0
baz=60,SNR=8.3
O04C Chester 59.79 62 ⇑P P 17 11 16.4 +0.8
baz=60
L07A Adell 59.82 59 P P 17 11 16.9 +1.1
baz=60,SNR=5.8
MNRC McLaughlin Nat 59.83 64 ⇑P P 17 11 16.7 +0.8
baz=60
K08A Mann Creek Ran 59.90 58 ⇓P P 17 11 16.5 +0.1
baz=60
F12A Elk City 59.93 54 ⇓P P 17 11 16.9 +0.4
baz=60
J09A Fry Pan Ranch, 59.95 57 ⇓P P 17 11 17.2 +0.4
baz=60
ORV Oroville 60.00 63 P P 17 11 16.8 -0.3
baz=60,SNR=5.9
MSO Missoula 60.01 52⇑eP P 17 11 16.5 -0.6
comp=Z,32nm,1.1s,mb5.3
SUTB Sutter Butte 60.02 63 ⇓P P 17 11 17.1 -0.1
baz=60
D14A Greenough 60.09 52 P P 17 11 17.9 +0.2
baz=60,SNR=10
E13A Victor 60.10 53 ⇑P P 17 11 17.8 +0.1
baz=60
O05C Quincy 60.11 62 ⇓P P 17 11 18.9 +1.1
baz=60
H11A Donnelly 60.14 55 P P 17 11 18.0 0.0
baz=60,SNR=8.2
OHCM Honcut 60.14 63 eP P 17 11 17.1 -0.9
Q03C Winters 60.24 64 ⇑P P 17 11 19.8 +1.1
baz=60
KLMR Klimovskoe 60.27 329 eP P 17 11 17.9 -1.0
KLMR pmax pmax
comp=Z,56nm,0.9s,mb5.6
N06A Buffalo Meadow 60.29 61 P P 17 11 19.7 +0.7
baz=60,SNR=7.3
L08A Fields 60.31 59 P P 17 11 19.9 +0.7
baz=60,SNR=8.3
CHMT Chamberlain Mo 60.33 52 eP P 17 11 18.1 -1.2
K09A Rome 60.36 58 ⇑P P 17 11 19.4 -0.2
baz=60
F13A Darby 60.42 53 P P 17 11 19.6 -0.3
baz=60,SNR=7.7
J10A Berg Farm, Mel 60.48 57 ⇑P P 17 11 20.1 -0.2
baz=60
E14A Clinton 60.50 52 P P 17 11 20.8 +0.3
baz=60,SNR=5.4
BEKR Beckwourth 60.51 62 ⇑P P 17 11 19.8 -0.7
baz=60
D15A Lincoln 60.65 51 ⇑P P 17 11 21.9 +0.4
baz=60
I11A Placerville 60.65 56 ⇓P P 17 11 21.0 -0.5
baz=60
O06A Flanigan 60.65 61 ⇑P P 17 11 22.0 +0.5
baz=60
P05C Yuba Gap, Truc 60.70 63 ⇓P P 17 11 22.7 +0.8
baz=60
M08A Happy Creek Ra 60.74 59 ⇑P P 17 11 22.2 +0.2
baz=60
N07B Gerlach 60.79 60 ⇑P P 17 11 22.9 +0.5
baz=60
L09A Wilkinson Ranc 60.81 59 ⇑P P 17 11 22.7 +0.1
baz=61
KULM Kulim 60.86 244 eP P 17 11 23.7 +0.7
H12A Diamond D Ranc 60.89 55 ⇓P P 17 11 22.9 -0.2
baz=61
G13A Cobalt 60.90 54 P P 17 11 23.4 +0.1
baz=61,SNR=9.8
F14A Wisdom 60.94 53 ⇓P P 17 11 23.2 -0.2
baz=61
LAVA Lava Cap Winer 60.95 63 ⇓P P 17 11 23.2 -0.4
baz=61
E15A Deer Lodge 60.96 52 P P 17 11 23.4 -0.2
baz=61,SNR=7.3
FFC Flin Flon 61.01 40 P P 17 11 23.6 -0.3
comp=Z,288nm,0.8s,mb6.5,SNR=7.5
MFID Camas Ranch 61.03 56 ⇓P P 17 11 24.2 +0.1
baz=61
BNLO Ben Lomond (Sa 61.06 65 ⇑P P 17 11 24.9 +0.6
baz=61
R04C Big Horse Ranc 61.14 64 ⇑P P 17 11 25.1 +0.2
baz=61
WCN Washoe City 61.22 62 P P 17 11 26.0 +0.6
baz=61,SNR=5.3
O07A Toulon 61.23 61 P P 17 11 25.7 +0.3
baz=61,SNR=10
N08A GE Springer Mi 61.29 60 P P 17 11 26.4 +0.6
baz=61,SNR=5.9
M09A Marrel Ranch, 61.30 59 ⇓P P 17 11 26.1 +0.2
baz=61
S04C Ingram Canyon, 61.36 65 ⇓P P 17 11 26.6 +0.3
baz=61
R05C Kirkwood Meado 61.40 63 ⇓P P 17 11 27.4 +0.8
baz=61
JOF Joensuu 61.51 334 ep P 17 11 26.0 -1.3
comp=Z,5.8nm,0.3s,mb5.2
JOF Joensuu 61.51 334 eP P 17 11 26.0 -1.3
JOF pmax pmax
comp=Z,6.0nm,0.3s,mb5.2
J12A Stokes Ranch, 61.55 56 ⇑P P 17 11 28.3 +0.7
baz=61
N09A Rock Creek Ran 61.61 60 ⇑P P 17 11 28.2 +0.2
baz=61
CMB Columbia Colle 61.62 64 eP P 17 11 27.5 -0.6
CMB pmax pmax
comp=Z,19nm,0.8s,mb5.3
CMB Columbia Colle 61.62 64 eP P 17 11 27.5 -0.5
comp=Z,20nm,0.8s,mb5.3
CMB Columbia Colle 61.62 64 P P 17 11 28.4 +0.4
baz=61,SNR=6.7
PACP Pacheco Peak 61.70 65 P P 17 11 29.1 +0.5
baz=62,SNR=6.6
HLID Hailey 61.75 56 eP P 17 11 27.9 -1.0
comp=Z,15nm,1.0s,mb5.1
HLID Hailey 61.75 56 ⇑P P 17 11 29.4 +0.4
baz=62
KAKA Kakadu 61.75 203 eP P 17 11 27.1 -1.9
comp=Z,17nm,0.9s,mb5.2
G15A Dillon 61.83 53 P P 17 11 30.5 +1.0
baz=62,SNR=7.4
MCMT McKenzie Canyo 61.84 54 eP P 17 11 29.1 -0.4
R06C Coleville 61.89 63 P P 17 11 30.8 +0.9
baz=62,SNR=11
HAST UC Hastings Re 61.91 66 ⇓P P 17 11 29.7 -0.3
baz=62
J13A Cove Ranch, Pi 61.98 56 ⇑P P 17 11 31.0 +0.4
baz=62
BOZ Bozeman (W) 62.00 52 eP P 17 11 30.3 -0.3
BOZ Bozeman (W) 62.00 52 P P 17 11 31.5 +0.9
baz=62,SNR=8.3
K12A Draper Farm, C 62.04 57 ⇓P P 17 11 31.4 +0.5
baz=62
S06C San Francisco 62.05 63 P P 17 11 31.1 +0.2
baz=62,SNR=9.4
BMN Battle Mountai 62.05 60 eP P 17 11 31.0 0.0
BMN pmax pmax
comp=Z,24nm,1.1s,mb5.2
BMN Battle Mountai 62.05 60 eP P 17 11 31.0 0.0
comp=Z,24nm,1.1s,mb5.2
S05C Merced 62.08 64 P P 17 11 31.1 -0.1
baz=62,SNR=8.1
O09A Fish Creek Ran 62.24 60 P P 17 11 33.2 +1.0
baz=62,SNR=5.3
M11A Holland Ranch, 62.28 58 ⇓P P 17 11 33.3 +0.8
baz=62
V03C Hunter Liggett 62.34 66 ⇑P P 17 11 33.5 +0.6
baz=62
K13A Stover Farm, H 62.51 56 ⇓P P 17 11 34.8 +0.8
baz=62
O10A Cortez Mining, 62.57 60 ⇓P P 17 11 35.3 +0.8
baz=62
Q08A Gabbs 62.61 62 P P 17 11 35.0 +0.3
baz=62,SNR=9.6
QLMT Earthquake Lak 62.62 53 eP P 17 11 34.4 -0.4
NVAR Mina Array Bea 62.65 62 P P 17 11 35.1 +0.1
comp=Z,24nm,0.8s,mb5.4,baz=292,slow=7.5,SNR=14
P09A Austin 62.65 61 ⇑P P 17 11 35.2 +0.2
baz=62
T06C Millerton Lake 62.68 64 ⇑P P 17 11 34.2 -0.9
baz=62

N11A Elko Archery C 62.70 59 ⇓P P 17 11 36.1 +0.8
baz=62
KCC Kaiser Creek 62.72 64 P P 17 11 35.4 -0.1
baz=62,SNR=9.4
M12A Wells 62.80 58 P P 17 11 37.2 +1.2
baz=62,SNR=7.3
V04C Ramage Ranch, 62.82 66 ⇓P P 17 11 36.4 +0.3
baz=63
R08A Mina 62.82 62 P P 17 11 36.8 +0.7
baz=63,SNR=7.2
PKD Parkfield 62.83 66 ⇑P P 17 11 36.2 0.0
baz=63
U05C Westside ANR, 62.85 65 ⇓P P 17 11 36.9 +0.6
baz=63
L13A Double Diamond 62.94 57 ⇓P P 17 11 37.7 +0.8
baz=63
GCMT Greycliff 62.97 51 eP P 17 11 32.1 -5.0
Q09A Carvers 63.08 61 ⇑P P 17 11 38.1 +0.2
baz=63
N12A Clover Valley, 63.08 58 ⇑P P 17 11 39.0 +1.1
baz=63
MTUM Tungsten Hills 63.17 63 eP P 17 11 39.0 +0.5
O11A Cowboy Ranch, 63.17 59 P P 17 11 39.2 +0.8
baz=63,SNR=5.3
YFT Old Faithful 63.19 53 eP P 17 11 38.6 0.0
PTRM Twissleman Ran 63.22 66 eP P 17 11 38.6 -0.1
MOR8 Moi Rana 63.23 342 eP P 17 11 36.9 -1.9
MOR8 AMb AMB 17 11 38.7
comp=Z,153nm,0.9s,mb6.1
MOR8 epP pP 17 11 40.8 -5.9
MOR8 Moi Rana 63.23 342 eP P 17 11 36.9 -1.9
comp=Z,153nm,0.9s,mb6.1
M13A Montello 63.27 57 ⇑P P 17 11 39.3 +0.2
baz=63
V05C Boulder Hill, 63.28 65 ⇑P P 17 11 39.8 +0.6
baz=63
HELL Mitchell Peak, 63.31 64 P P 17 11 39.2 -0.1
baz=63,SNR=21
S08C White Mtn Res 63.32 63 P P 17 11 40.4 +0.9
baz=63,SNR=5.4
RCTC Rector, Farmer 63.41 64 ⇓P P 17 11 40.4 +0.3
baz=63
P11A Circle Ranch, 63.48 60 ⇓P P 17 11 40.7 +0.2
baz=63
R09A Tonopah 63.52 62 P P 17 11 41.2 +0.4
baz=63,SNR=12
TPH Tonopah 63.54 62 eP P 17 11 40.4 -0.5
TPH pmax pmax
comp=Z,29nm,1.0s,mb5.3
TPH Tonopah 63.54 62 eP P 17 11 40.4 -0.4
comp=Z,29nm,1.0s,mb5.3
DCID1 Drake Creek 63.55 54 eP P 17 11 41.8 +0.8
TIN Tinemaha 63.57 63 ⇓P P 17 11 41.0 0.0
baz=63
N13A Wendover, West 63.57 58 P P 17 11 42.0 +0.9
baz=63,SNR=5.6
SMMC Simmler 63.57 66 ⇑P P 17 11 41.7 +0.6
baz=63
RLMT Red Lodge 63.62 52 eP P 17 11 39.9 -1.5
comp=Z,27nm,1.0s,mb5.2
KAF Kangasniemi 63.62 335 ep P 17 11 39.9 -1.5
comp=Z,10nm,0.7s,mb5.0,baz=36,slow=6.3
KAF Kangasniemi 63.62 335 eP P 17 11 39.9 -1.5
KAF pmax pmax
comp=Z,11nm,0.7s,mb5.0
O12A Currie 63.63 59 P P 17 11 42.1 +0.7
baz=63,SNR=8.0
S09A Goldfield 63.76 62 P P 17 11 42.8 +0.5
baz=64,SNR=5.1
VES Vestal, Richgr 63.81 65 ⇓P P 17 11 42.4 -0.3
baz=64
REDW Red Top Meadow 63.88 54 eP P 17 11 43.4 +0.2
comp=Z,67nm,1.2s,mb5.5
PKM Peak Mountain 63.95 66 ⇑P P 17 11 44.0 +0.4
baz=64
Q11A Duckwater 63.99 60 ⇓P P 17 11 43.5 -0.4
baz=64
P12A McGill 64.04 59 P P 17 11 44.8 +0.6
baz=64,SNR=6.4
AHID Auburn Hatcher 64.13 54 eP P 17 11 43.3 -1.4
comp=Z,16nm,0.9s,mb5.0
GRAC Grapevine Rang 64.13 63 P P 17 11 45.5 +0.7
baz=64,SNR=11
LAO LASA Array 64.21 49 eP P 17 11 43.8 -1.5
FIA1 FINESS Array S 64.22 335 eP P 17 11 43.7 -1.7
FINES FINESS Array B 64.22 335 P P 17 11 44.5 -0.9
comp=Z,24nm,0.7s,mb5.3,baz=46,slow=8.2,SNR=8.3
FINES FINESS Array B 64.22 335 P P 17 11 44.5 -0.9
FINES pmax pmax
comp=Z,24nm,0.7s
FINES FINESS Array B 64.22 335 P P 17 11 44.5 -0.9
ISA Isabella 64.30 65 P P 17 11 45.3 -0.6
baz=64,SNR=7.5
Q12A Willow Creek R 64.36 60 ⇓P P 17 11 46.8 +0.6
baz=64
ARVC Arvin 64.42 65 ⇓P P 17 11 47.0 +0.3
baz=64
DAC Darwin (Calif) 64.46 64 eP P 17 11 46.5 -0.4
DAC pmax pmax
comp=Z,13nm,0.9s,mb5.0
DAC Darwin (Calif) 64.46 64 eP P 17 11 46.5 -0.4
comp=Z,13nm,0.9s,mb5.0
HWUT Hardware Ranch 64.61 56 eP P 17 11 47.0 -0.9
comp=Z,27nm,1.1s,mb5.2
MPMC Manual Prospec 64.66 64 P P 17 11 48.6 +0.4
baz=64,SNR=12
FURC Furnace Creek, 64.78 63 P P 17 11 49.5 +0.4
baz=64,SNR=14
DUG Dugway 64.81 58 eP P 17 11 48.9 -0.3
DUG pmax pmax
comp=Z,41nm,1.0s,mb5.4
DUG Dugway 64.81 58 eP P 17 11 48.9 -0.3
comp=Z,42nm,1.0s,mb5.4
DUG Dugway 64.81 58 P P 17 11 49.5 +0.3
baz=64,SNR=13
OSI Osito Adit 64.82 66 ⇑P P 17 11 49.0 -0.2
baz=65
LRMC Laurel Mountai 64.91 64 P P 17 11 49.9 +0.1
baz=65,SNR=6.3
NOQ North Oquirrh 64.91 57 eP P 17 11 49.8 -0.1
comp=Z,41nm,0.9s,mb5.5
PDAR Pinedale Array 64.99 54 P P 17 11 50.2 -0.1
comp=Z,15nm,0.9s,mb5.0,baz=291,slow=2.0,SNR=8.9
CTU Camp Tracy 65.10 57 eP P 17 11 50.3 -0.8
EDW2 Edwards Air Fo 65.11 65 P P 17 11 51.4 +0.2
baz=65,SNR=18
DECC Green Verdugo 65.30 66 ⇓P P 17 11 52.8 +0.4
baz=65
JLU Jordanelle 65.33 56 eP P 17 11 52.0 -0.7
NLU North Lily Min 65.39 57 eP P 17 11 53.0 0.0
SFJD Kangerlussuaq 65.42 10 P P 17 11 52.5 -0.7
comp=Z,11nm,0.9s,mb4.9,baz=324,slow=8.4,SNR=3.7
SFJD Kangerlussuaq 65.42 10 i P P 17 11 53.1 -0.1
comp=Z,25nm,1.1s,mb5.2
SFJD
comp=Z,1µm,18.0s
SFJD Kangerlussuaq 65.42 10 i P P 17 11 53.1 -0.1
SFJD pmax pmax
comp=Z,25nm,1.1s,mb5.2
SFJD MLR MLR
comp=Z,1µm,18.0s,MS5.1
SFJD Kangerlussuaq 65.42 10 eP P 17 11 50.3 -2.9
comp=Z,51nm,1.4s,mb5.4
OBN Obninsk 65.45 326⇑eP P 17 11 52.2 -1.2
OBN pmax pmax
comp=Z,47nm,0.9s,mb5.5
OBN Obninsk 65.45 326 eP P 17 11 51.8 -1.6
comp=Z,36nm,0.8s,mb5.5
SHOC Shoshone 65.51 63 ⇑P P 17 11 53.8 +0.1
baz=65
DAU Daniels Canyon 65.57 57 P P 17 11 53.7 -0.4
GSC Goldstone 65.57 64 P P 17 11 54.3 +0.1
baz=65,SNR=8.8
MPU Maple Canyon 65.61 57 eP P 17 11 54.7 +0.3
comp=Z,25nm,1.1s,mb5.2
U11A Corn Creek 65.72 62 ⇑P P 17 11 56.1 +0.9
baz=66
BFSC Mount Baldy St 65.73 65 ⇓P P 17 11 54.4 -0.8
baz=66
CIS Catalina Islan 65.81 66 ⇓P P 17 11 55.4 -0.2
baz=66
TUQ Turquoise Mtn. 66.03 63 ⇑P P 17 11 57.8 +0.7
baz=66
V11A Goodsprings 66.07 63 ⇓P P 17 11 57.1 -0.3
baz=66
HEC Hector,Ludlow 66.18 64 P P 17 11 58.1 0.0
baz=66,SNR=7.7

BBRC Big Bear Sol-O 66.18 65 ⇑P P 17 11 57.9 -0.2
baz=66
CCUT Cedar City 66.21 60 eP P 17 11 57.6 -0.6
U12A Valley of Fire 66.23 62 ⇓P P 17 11 57.5 -0.9
baz=66
TMUT Trail Mountain 66.33 57 eP P 17 11 58.9 -0.1
MURC Murrieta 66.44 66 ⇓P P 17 11 58.6 -1.1
baz=66
V12A Nelson 66.50 62 ⇑P P 17 11 59.9 -0.3
baz=66
GMRC Granite Mounta 66.62 64 P P 17 12 01.1 +0.2
baz=66,SNR=8.1
ABKT Alibek 66.64 301 P P 17 12 02.4 +1.4
comp=Z,392nm,1.0s,mb6.4,SNR=5.3
W12A Cal Nev Ari 66.77 63 ⇓P P 17 12 02.5 +0.7
baz=66
ULM Lac du Bonnet 66.79 41 P P 17 12 01.2 -0.7
comp=Z,8.0nm,0.8s,mb4.8,baz=313,slow=7.6,SNR=6.6
ULM Lac du Bonnet 66.79 41 eP P 17 12 00.2 -1.8
comp=Z,12nm,0.9s,mb4.9
SRU San Rafael 66.85 57 eP P 17 12 02.0 -0.4
SRU pmax pmax
comp=Z,49nm,0.9s,mb5.5
SRU San Rafael 66.85 57 eP P 17 12 02.0 -0.4
comp=Z,49nm,0.9s,mb5.5
PFO Pinyon Flat Ob 66.90 65 eP P 17 12 01.6 -1.1
PFO pmax pmax
comp=Z,12nm,1.1s,mb4.8
PFO Pinyon Flat Ob 66.90 65 eP P 17 12 01.6 -1.0
comp=Z,12nm,1.1s,mb4.8
PFO Pinyon Flat Ob 66.90 65 ⇑P P 17 12 02.5 -0.2
baz=67
BELC Belle Mtn. 66.93 65 ⇓P P 17 12 02.0 -0.8
baz=67
109C Camp Elliot, M 66.97 66 ⇑P P 17 12 03.2 +0.1
baz=67
RSSD Black Hills 67.07 50 eP P 17 12 02.2 -1.6
RSSD pmax pmax
comp=Z,26nm,0.9s,mb5.3
RSSD Black Hills 67.07 50 eP P 17 12 02.2 -1.6
comp=Z,26nm,0.9s,mb5.2
IRM Iron Mountain 67.35 64 P P 17 12 05.2 -0.3
baz=67,SNR=12
VORD Divnogorie 67.37 321 eP P 17 12 04.0 -1.6
VORD pmax pmax
comp=Z,50nm,0.8s,mb5.6
VORD pmax pmax
comp=N,90nm,0.9s
VORD pmax pmax
comp=E,30nm,0.6s
MONP Monument Peak 67.40 66 ⇑P P 17 12 05.3 -0.5
baz=67
BC3 Big Chuckw Mtn 67.50 64 P P 17 12 06.3 -0.2
baz=67,SNR=8.0
W13A Hualapai Mount 67.51 62 P P 17 12 06.8 +0.3
baz=67,SNR=6.1
X13A Yucca 67.88 63 P P 17 12 09.1 +0.2
baz=68,SNR=11
PDMCI Parker Dam,Lak 67.88 63 P P 17 12 08.9 0.0
baz=68,SNR=10
W14A Seligman 67.92 62 P P 17 12 09.9 +0.8
baz=68,SNR=9.9
Y12C Blythe 68.01 64 P P 17 12 09.8 +0.1
baz=68,SNR=7.2
PV10 Paradox Valley 68.20 57 eP P 17 12 11.0 +0.1
WB2 Warramunga Arr 68.23 199 eP P 17 12 09.1 -2.0
WRA Warramunga Arr 68.24 199 P P 17 12 09.1 -2.0
comp=E,14nm,0.8s,mb5.0,baz=17,slow=6.7,SNR=8.3
WRA Warramunga Arr 68.24 199 P P 17 12 09.1 -2.0
WRA pmax pmax
comp=Z,14nm,0.8s
GLA Glamis 68.29 65 P P 17 12 11.7 +0.2
baz=68,SNR=8.9
Y13A Salome 68.40 63 ⇑P P 17 12 11.9 -0.2
baz=68
NB2 NORSAR Subarra 68.43 341 P P 17 12 11.9 -0.4
comp=Z,92nm,0.8s,mb5.9,baz=28,slow=6.5
NOA NORSAR Array B 68.43 341 P P 17 12 11.9 -0.4
comp=Z,93nm,0.9s,mb5.8,baz=27,slow=6.2,SNR=19
NOA NORSAR Array B 68.43 341 P P 17 12 11.9 -0.4
NOA pmax pmax
comp=Z,93nm,0.9s
W15A Williams 68.44 61 ⇑P P 17 12 13.4 +1.0
baz=68
X14A Yava 68.54 62 P P 17 12 13.8 +0.8
baz=68,SNR=12
PV01 Paradox Valley 68.64 57 eP P 17 12 13.7 0.0
HFS Hagfors 68.65 339 P P 17 12 13.4 -0.3
comp=Z,126nm,0.8s,mb5.9,baz=48,slow=6.6,SNR=19
HFS Hagfors 68.65 339 P P 17 12 13.4 -0.3
HFS pmax pmax
comp=Z,126nm,0.8s
NAO01 NORSAR Array S 68.68 341 eP P 17 12 13.0 -0.9
comp=Z,96nm,1.0s,mb5.7
WUAZ Wupatki 68.75 61 eP P 17 12 14.0 -0.3
comp=Z,22nm,1.0s,mb5.0
WUAZ Wupatki 68.75 61 ⇑P P 17 12 15.0 +0.7
baz=68
Y14A Wickenburg 68.82 63 P P 17 12 15.0 +0.2
baz=69,SNR=11
FITZ Fitzroy Crossi 68.87 208 eP P 17 12 14.4 -0.7
comp=Z,28nm,0.8s,mb5.2
X15A Humboldt 68.92 62 P P 17 12 16.3 +0.9
baz=69,SNR=9.6
BORG Borgarnes 69.01 357 P P 17 12 16.8 +0.9
comp=Z,45nm,0.8s,mb5.5,baz=24,slow=4.0,SNR=6.9
ISCO Idaho Springs 69.18 54 eP P 17 12 17.1 +0.1
ISCO pmax pmax
comp=Z,16nm,0.9s,mb5.0
ISCO Idaho Springs 69.18 54 eP P 17 12 17.1 +0.1
comp=Z,16nm,0.9s,mb5.0
Z14A Wintersburg 69.25 63 ⇑P P 17 12 16.9 -0.5
baz=69
MVCO Mesa Verde 69.31 58 eP P 17 12 17.5 -0.3
comp=Z,25nm,0.9s,mb5.2
MVCO Mesa Verde 69.31 58 ⇑P P 17 12 18.7 +0.9
baz=69
KONO Kongsberg 70.04 341 eP P 17 12 22.0 -0.3
KONO pmax pmax
comp=Z,70nm,1.1s,mb5.5
KONO Kongsberg 70.04 341 eP P 17 12 22.0 -0.3
comp=Z,70nm,1.1s,mb5.5
115A Sonoran Desert 70.14 63 P P 17 12 23.5 +0.6
baz=70,SNR=5.2
RUND Rundenannen 70.23 344 eP P 17 12 25.9 +2.4
RUND Rundenannen 70.23 344 ePP P 17 12 26.0 +2.5
EYMN Ely 70.44 40 eP P 17 12 22.3 -2.5
comp=Z,27nm,1.0s,mb5.1
116A Eloy 70.56 63 ⇑P P 17 12 26.2 +0.8
baz=70
SDCO Great Sand Dun 70.67 55 eP P 17 12 26.1 0.0
comp=Z,14nm,1.2s,mb4.8
KIV Kislovodsk 70.89 314 P P 17 12 29.6 +2.1
comp=Z,653nm,0.8s,SNR=5.4
KIV Kislovodsk 70.89 314 P P 17 12 29.4 +1.9
SNR=7.6
KIV Kislovodsk 70.89 314 P P 17 12 29.4 +1.9
SNR=7.6
KIV Kislovodsk 70.89 314 P P 17 12 29.4 +1.9
SNR=7.6
KIV Kislovodsk 70.89 314 P P 17 12 29.4 +1.9
SNR=7.6
KIV Kislovodsk 70.89 314 P P 17 12 29.4 +1.9
SNR=7.6
KIV Kislovodsk 70.89 314 P P 17 12 29.4 +1.9
SNR=7.6
KIV Kislovodsk 70.89 314⇓eP P 17 12 27.8 +0.3
KIV pmax pmax
comp=Z,89nm,0.7s,mb5.8
KIV Kislovodsk 70.89 314 eP P 17 12 28.0 +0.5
comp=Z,87nm,0.8s,mb5.7
BLS5 Blasjo 70.92 343 eP P 17 12 28.4 +0.8
ZEI Tsey 71.15 313 eP P 17 12 29.6 +0.6
ZEI e 17 12 39.0
SUW Suwalki 71.16 331 eP P 17 12 28.3 -0.9
SUW eSKS 17 20 15.1
SUW L 17 45 06.5
comp=Z,2.1nm,19.6s
SUW Suwalki 71.16 331 eP P 17 12 28.3 -0.9
SUW eSKS 17 20 15.1
TUC Tucson 71.29 63 P P 17 12 29.8 -0.1
TUC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TUC Tucson 71.29 63 eP P 17 12 29.2 -0.7
comp=Z,9.8nm,1.0s,mb4.7
MTA Mtatsminda 71.46 311 S P 17 12 32.6 +1.6
ONI Oni 71.51 313 S P 17 12 32.9 +1.7

AKASG Malin Array Be 71.69 326 P P 17 12 31.7 -0.6
comp=Z,78nm,0.7s,mb5.7,baz=33,slow=6.3,SNR=28
AKASG Malin Array Be 71.69 326 P P 17 12 31.7 -0.7
AKASG pmax pmax
comp=Z,79nm,0.7s
KIEV Kiev 71.70 326 eP P 17 12 31.3 -1.1
KIEV pmax pmax
comp=Z,103nm,0.8s,mb5.8
KIEV Kiev 71.70 326 eP P 17 12 31.3 -1.1
comp=Z,102nm,0.8s,mb5.8
ASAR Alice Springs 71.93 198 P P 17 12 32.9 -0.9
comp=Z,9.6nm,0.7s,mb4.8,baz=12,slow=5.2,SNR=8.5
ASAR Alice Springs 71.93 198 P P 17 12 32.9 -0.9
ASAR pmax pmax
comp=Z,10.0nm,0.7s
ANMO Albuquerque 72.06 58 P P 17 12 34.2 -0.3
comp=Z,9.2nm,1.0s,mb4.7,baz=310,slow=6.9,SNR=5.3
ANMO Albuquerque 72.06 58 eP P 17 12 34.0 -0.6
ANMO pmax pmax
comp=Z,17nm,1.2s
ANMO Albuquerque 72.06 58 eP P 17 12 34.0 -0.5
comp=Z,17nm,1.2s,mb4.8
PALK Pallekele 72.55 262 P P 17 12 38.4 +0.9
comp=Z,352nm,1.0s,mb6.2,SNR=5.3
PALK Pallekele 72.55 262 P P 17 12 38.6 +1.2
SNR=7.6
PALK Pallekele 72.55 262 P P 17 12 38.6 +1.2
SNR=7.6
PALK Pallekele 72.55 262 eP P 17 12 38.0 +0.6
comp=Z,74nm,1.0s,mb5.6
GNI Garni 72.61 310 P P 17 12 39.8 +1.9
comp=Z,18nm,0.7s,mb5.1,baz=276,slow=2.1,SNR=3.9
GNI Garni 72.61 310⇓eP P 17 12 39.6 +1.8
GNI pmax pmax
comp=Z,105nm,1.2s
GNI Garni 72.61 310 eP P 17 12 39.7 +1.9
comp=Z,79nm,0.9s,mb5.6
SOC Sochi 72.62 316c iP P 17 12 36.2 -1.7
SOC e 17 12 52.8
SOC e 17 15 23.1
SOC eS S 17 22 03.2 +1.9
SOC e 17 22 47.6
SOC pmax pmax
comp=Z,76nm,1.2s,mb5.5
SOC MLR MLR
comp=Z,6µm,15.0s,MS6.0
BSD Bornholm Skovb 72.74 336 iP P 17 12 39.1 +0.5
comp=Z,78nm,0.9s,mb5.6
BSD Bornholm Skovb 72.74 336 iP P 17 12 39.1 +0.5
BSD pmax pmax
comp=Z,78nm,0.9s,mb5.6
ANN Anapa 72.79 318 eP P 17 12 37.3 -1.6
ANN pmax pmax
comp=Z,112nm,1.7s,mb5.5
MUD Monsted U'grnd 73.02 340 iP P 17 12 40.9 +0.6
comp=Z,30nm,0.7s,mb5.3
MUD Monsted U'grnd 73.02 340 iP P 17 12 40.9 +0.6
MUD pmax pmax
comp=Z,30nm,0.7s,mb5.3
CBKS Cedar Bluff 73.10 51 eP P 17 12 38.4 -2.3
CBKS pmax pmax
comp=Z,21nm,0.8s,mb5.1
CBKS Cedar Bluff 73.10 51 eP P 17 12 38.4 -2.3
comp=Z,21nm,0.8s,mb5.1
SCHQ Schefferville 73.59 23 P P 17 12 45.0 +1.4
comp=Z,4.3nm,0.8s,mb4.5,baz=2.4,slow=10.0,SNR=3.0
GKP Gorka Klasztor 73.68 334 eP P 17 12 43.5 -0.6
GKP L 17 47 43.8
comp=Z,4.0nm,19.8s
SCIA State Center 74.17 45 eP P 17 12 45.8 -1.3
comp=Z,46nm,1.0s,mb5.4
SIM Simferopol' 74.19 320 eP P 17 12 48.5 +1.4
SIM pmax pmax
comp=Z,67nm,0.9s,mb5.6
LVV L'vov 74.35 328 eP P 17 12 47.5 -0.6
KIS Kishinev 74.82 324κ iP P 17 12 48.0 -2.8
KIS pmax pmax
comp=Z,600nm,1.0s,mb6.5
KIS MLR MLR
comp=Z,3µm,16.0s,MS5.7
KIS MLR MLR
comp=E,2µm,15.0s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS Kishinev 74.82 324⇓iP P 17 12 48.0 -2.8
comp=Z,600nm,1.0s,mb6.5
KIS LRM 17 48 58.0
comp=Z,2µm,16.0s
KWP Kalwaria 74.98 329 eP P 17 12 52.3 +0.6
KWP L 17 46 52.6
comp=Z,3.4nm,19.6s
KWP Kalwaria 74.98 329 eP P 17 12 52.3 +0.6
MNTX Cornudas Mount 74.99 60 eP P 17 12 51.2 -0.6
comp=Z,23nm,1.2s,mb5.0
RUE Ruedersdorf 75.39 336 eP P 17 12 54.0 -0.1
comp=Z,157nm,1.3s,mb5.8
OJC Ojcow 75.49 331 eP P 17 12 54.8 +0.2
STHS Stebnicka Huta 75.68 330 eP P 17 12 56.3 +0.6
STHS pmax pmax
comp=Z,58nm,1.1s,mb5.4
STHS Stebnicka Huta 75.68 330 eP P 17 12 56.3 +0.6
comp=Z,58nm,1.1s,mb5.4
KOLS Kolonicke sedl 75.72 329 eP P 17 12 56.2 +0.2
BURAR Bucovina Array 75.74 326⇑iP P 17 12 56.3 +0.2
UZH Uzhgorod 75.97 329 eP P 17 12 53.8 -3.6
UZH i 17 13 16.2
BANOM Banah 75.98 293 P P 17 12 58.6 +1.2
SNR=9.8
BANOM Banah 75.98 293 P P 17 12 58.6 +1.2
SNR=9.8
BANOM Banah 75.98 293 P P 17 12 58.6 +1.2
SNR=9.8
BANOM Banah 75.98 293 P P 17 12 58.6 +1.2
SNR=9.8
BANOM Banah 75.98 293 P P 17 12 58.6 +1.2
SNR=9.8
BANOM Banah 75.98 293 P P 17 12 58.6 +1.2
SNR=9.8
NIE Niedzica 76.00 330 iP P 17 12 58.2 +0.6
CRVS Cervenica-Dubn 76.04 329 eP P 17 12 58.3 +0.5
KSP Ksiaz 76.08 333 eP P 17 12 58.1 +0.1
KSP L 17 49 29.3
comp=Z,7.9nm,19.4s
KSP Ksiaz 76.08 333⇑eP P 17 12 58.0 0.0
KSP ePP pP 17 13 02.5 -3.5
MSL Mosul 76.32 309 ix x 17 13 03.5
OKC Ostrava-Krasne 76.36 332 eP P 17 12 59.8 +0.2
OKC epP pP 17 13 05.0 -2.6
UPC Upice 76.46 333 eP P 17 13 00.4 +0.2
UPC epP pP 17 13 05.3 -2.8
BIDO Bidbid 76.49 290 P P 17 13 02.7 +2.4
SNR=7.1
BIDO Bidbid 76.49 290 P P 17 13 02.7 +2.4
SNR=7.1
BIDO Bidbid 76.49 290 P P 17 13 02.7 +2.4
SNR=7.1
BIDO Bidbid 76.49 290 P P 17 13 02.7 +2.4
SNR=7.1
DPC Dobruska-Polom 76.50 333 eP P 17 13 00.8 +0.4
DPC epP pP 17 13 05.4 -3.0
ARMA Armidale 76.56 181 eP P 17 12 56.5 -4.3
WBK Wadi Bani Khal 76.58 289 P P 17 13 03.3 +2.5
SNR=6.7
WBK Wadi Bani Khal 76.58 289 P P 17 13 03.3 +2.5
SNR=6.7
WBK Wadi Bani Khal 76.58 289 P P 17 13 03.3 +2.5
SNR=6.7
WBK Wadi Bani Khal 76.58 289 P P 17 13 03.3 +2.5
SNR=6.7
ESK Eskdalemuir 76.58 346 eP P 17 12 59.3 -1.6
ESK pmax pmax
comp=Z,64nm,1.4s,mb5.4
ESK Eskdalemuir 76.58 346 eP P 17 12 59.3 -1.6
comp=Z,64nm,1.4s,mb5.4
VRI Vrincioaia 76.58 325⇑iP P 17 13 01.3 +0.4
WMOK Wichita Mounta 76.60 54 eP P 17 13 00.3 -0.7
WMOK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WMOK Wichita Mounta 76.60 54 eP P 17 13 00.3 -0.7
comp=Z,9.7nm,0.8s,mb4.8
MORC Moravsky Berou 76.61 332 eP P 17 13 01.0 0.0
comp=Z,73nm,1.0s,mb5.6
MORC Moravsky Berou 76.61 332⇑iP P 17 13 00.5 -0.5
CLL Collm 76.65 335⇑iP P 17 13 00.9 -0.4
CLL i 17 13 06.2
CLL pmax pmax

comp=Z,68nm,0.8s,mb5.6
CLL Collm 76.65 335⇑iP P 17 13 00.9 -0.4
comp=Z,41nm,0.8s,mb5.4
CLL i 17 13 02.0
CLL i 17 13 06.2
CLL Collm 76.65 335⇑iP P 17 13 00.9 -0.4
comp=Z,41nm,0.8s,mb5.4
CLL i Pmax 17 13 02.0
comp=Z,108nm,1.0s
CLL iSP sP 17 13 06.2 -5.9
CLL iPPcP 17 13 14.7
CLL ix x 17 13 22.0
KECS Kecovo 76.73 330 eP P 17 13 01.9 +0.2
KECS pmax pmax
comp=Z,26nm,1.1s,mb5.1
KECS Kecovo 76.73 330 eP P 17 13 01.9 +0.2
comp=Z,26nm,1.1s,mb5.1
BRG Berggiesshubel 76.76 335 iP P 17 13 01.4 -0.5
comp=Z,20nm,1.0s,mb5.0
BRG Berggiesshubel 76.76 335 iP P 17 13 01.4 -0.5
BRG pmax pmax
comp=Z,20nm,1.0s,mb5.0
HATD Hatta, Dubai 76.86 292 P P 17 13 03.7 +1.3
SNR=11
HATD Hatta, Dubai 76.86 292 P P 17 13 03.7 +1.3
SNR=11
HATD Hatta, Dubai 76.86 292 P P 17 13 03.7 +1.3
SNR=11
HATD Hatta, Dubai 76.86 292 P P 17 13 03.7 +1.3
SNR=11
HATD Hatta, Dubai 76.86 292 P P 17 13 03.7 +1.3
SNR=11
HATD Hatta, Dubai 76.86 292 P P 17 13 03.7 +1.3
SNR=11
PVCC Panska Ves 76.88 334 eP P 17 13 02.6 0.0
HOQ Hoqain 76.98 290 P P 17 13 04.3 +1.2
SNR=15
HOQ Hoqain 76.98 290 P P 17 13 04.3 +1.2
SNR=15
HOQ Hoqain 76.98 290 P P 17 13 04.8 +1.7
SNR=8.1
HOQ Hoqain 76.98 290 P P 17 13 04.8 +1.7
SNR=8.1
HOQ Hoqain 76.98 290 P P 17 13 04.8 +1.7
SNR=8.1
HOQ Hoqain 76.98 290 P P 17 13 04.8 +1.7
SNR=8.1
ASHO Ashiyiah 77.00 292 P P 17 13 04.6 +1.3
SNR=9.0
ASHO Ashiyiah 77.00 292 P P 17 13 04.6 +1.3
SNR=9.0
ASHO Ashiyiah 77.00 292 P P 17 13 04.9 +1.6
SNR=8.1
ASHO Ashiyiah 77.00 292 P P 17 13 04.9 +1.6
SNR=8.1
ASHO Ashiyiah 77.00 292 P P 17 13 04.9 +1.6
SNR=8.1
ASHO Ashiyiah 77.00 292 P P 17 13 04.9 +1.6
SNR=8.1
TIRR Tirgusor 77.04 323⇑iP P 17 13 03.6 +0.1
comp=Z,82nm,0.9s,mb5.7
TIRR Tirgusor 77.04 323⇑iP P 17 13 03.8 +0.3
MLR Muntele Rosu 77.21 325 P P 17 13 05.6 +1.2
comp=Z,45nm,0.8s,mb5.4,baz=4.2,slow=3.7,SNR=8.2
MLR Muntele Rosu 77.21 325⇑iP P 17 13 04.3 -0.1
MLR Muntele Rosu 77.21 325⇑iP P 17 13 04.3 -0.1
VYHS Vyhne 77.29 331 eP P 17 13 05.4 +0.5
VYHS pmax pmax
comp=Z,36nm,1.2s,mb5.2
VYHS Vyhne 77.29 331 eP P 17 13 05.4 +0.5
comp=Z,36nm,1.2s,mb5.2
JMDO Jabal Madar 77.31 289 P P 17 13 06.5 +1.5
SNR=12
JMDO Jabal Madar 77.31 289 P P 17 13 06.5 +1.5
SNR=12
JMDO Jabal Madar 77.31 289 P P 17 13 06.9 +1.9
SNR=7.5
JMDO Jabal Madar 77.31 289 P P 17 13 06.9 +1.9
SNR=7.5
JMDO Jabal Madar 77.31 289 P P 17 13 06.9 +1.9
SNR=7.5
VRAC Vranov 77.32 332 P P 17 13 05.1 +0.1
comp=Z,56nm,0.9s,mb5.5,baz=38,slow=5.7,SNR=12
VRAC Vranov 77.32 332 P P 17 13 05.1 +0.1
VRAC pmax pmax
comp=Z,56nm,0.9s
VRAC Vranov 77.32 332⇑iP P 17 13 05.5 +0.5
VRAC Vranov 77.32 332⇑iP P 17 13 05.5 +0.5
PRU Pruhonice 77.36 334 eP P 17 13 05.3 0.0
DRGR 77.37 327⇑iP P 17 13 05.6 +0.3
PSZ Piszkesteto 77.42 330 eP P 17 13 05.9 +0.3
PSZ pmax pmax
comp=Z,53nm,1.0s,mb5.4
PSZ Piszkesteto 77.42 330 eP P 17 13 05.8 +0.2
comp=Z,53nm,1.0s,mb5.4
PSZ Piszkesteto 77.42 330⇑iP P 17 13 06.2 +0.6
VOIR 77.61 325⇑iP P 17 13 07.4 +0.8
MOX Moxa 77.64 336 eP P 17 13 06.6 -0.2
comp=Z,75nm,1.3s,mb5.5
BSY Bisya 77.64 290 P P 17 13 08.5 +1.6
SNR=12
BSY Bisya 77.64 290 P P 17 13 09.1 +2.2
SNR=7.0
BSY Bisya 77.64 290 P P 17 13 09.1 +2.2
SNR=7.0
BSY Bisya 77.64 290 P P 17 13 09.1 +2.2
SNR=7.0
BSY Bisya 77.64 290 P P 17 13 09.1 +2.2
SNR=7.0
ARQ Araqi 77.66 291 P P 17 13 09.8 +2.9
SNR=8.8
ARQ Araqi 77.66 291 P P 17 13 09.0 +2.1
SNR=5.0
ARQ Araqi 77.66 291 P P 17 13 09.0 +2.1
SNR=5.0
ARQ Araqi 77.66 291 P P 17 13 09.0 +2.1
SNR=5.0
LTX Lajitas 77.72 60 eP P 17 13 06.7 -0.5
LTX pmax pmax
comp=Z,19nm,0.8s,mb5.1
LTX Lajitas 77.72 60 eP P 17 13 06.7 -0.5
comp=Z,19nm,0.8s,mb5.1
TXAR Lajitas Array 77.72 60 P P 17 13 07.2 0.0
comp=Z,14nm,0.7s,mb5.0,baz=299,slow=4.2,SNR=7.6
SMOL Smolenice 77.74 332 eP P 17 13 08.4 +1.0
NKC Novy Kostel 77.77 335 eP P 17 13 07.3 -0.2
NKC epP pP 17 13 12.3 -3.2
BHD Baghdad 77.85 306 ix x 17 13 08.0
ZST Bratislava 78.13 332 eP P 17 13 10.6 +1.1
ZST pmax pmax
comp=Z,61nm,1.1s,mb5.4
ZST Bratislava 78.13 332 eP P 17 13 10.6 +1.1
comp=Z,61nm,1.1s,mb5.4
KHC Kasperske Hory 78.42 334 eP P 17 13 11.6 +0.5
KHC epP pP 17 13 16.1 -3.0
BR131 Keskin Array S 78.50 317 eP P 17 13 11.6 +0.1
comp=Z,49nm,0.9s,mb5.4
BRTR Keskin Array B 78.50 317 P P 17 13 12.5 +0.9
comp=Z,43nm,0.9s,mb5.4,baz=68,slow=3.8,SNR=19
GZR Gura Zlata 78.52 327⇓iP P 17 13 12.0 +0.3
FVM French Village 78.55 46 eP P 17 13 10.3 -1.6
FVM pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
FVM French Village 78.55 46 eP P 17 13 10.2 -1.6
comp=Z,4.6nm,0.6s,mb4.6
GRA1 Grafenberg Arr 78.60 336 eP P 17 13 12.6 +0.4
comp=Z,69nm,0.9s,mb5.6
GRF Grafenberg Arr 78.60 336 eP P 17 13 12.6 +0.4
comp=Z,69nm,0.9s,mb5.6
GRF Grafenberg Arr 78.60 336 eP P 17 13 12.6 +0.4
GRF pmax pmax
comp=Z,69nm,0.9s,mb5.6
GRFO Grafenberg 78.61 336⇑iP P 17 13 12.6 +0.4
GRFO pmax pmax
comp=Z,100nm,0.8s,mb5.8
GRFO Grafenberg 78.61 336⇑iP P 17 13 12.6 +0.4
comp=Z,100nm,0.8s,mb5.8
GEC2 GERESS Array S 78.63 334 eP P 17 13 11.7 -0.6
GERES GERESS Array B 78.63 334 P P 17 13 12.3 -0.1
comp=Z,20nm,0.7s,mb5.1,baz=32,slow=5.2,SNR=19
UMR Umm Al-Rimmam 78.66 301 eP P 17 13 13.1 +0.7
UMR AMb AMB 17 13 15.0
comp=Z,338nm,0.7s,mb6.4
STKA Stephens Creek 78.68 190 eP P 17 13 11.2 -1.4
comp=Z,6.8nm,0.9s,mb4.6
STKA Stephens Creek 78.68 190 P P 17 13 11.5 -1.1
comp=Z,12nm,1.1s,mb4.8,baz=359,slow=6.9,SNR=4.8
MIB Mutribah 78.70 301 eP P 17 13 13.6 +0.9
MIB AMb AMB 17 13 16.0
comp=Z,406nm,0.7s,mb6.5
BZS Buzias 78.77 327⇓iP P 17 13 14.0 +0.9
CONA Conrad Observa 78.77 332 iP P 17 13 14.1 +1.1
comp=Z,35nm,0.8s,mb5.3,SNR=18
ANTO Ankara 78.78 317 P P 17 13 14.8 +1.6
SNR=7.8
ANTO Ankara 78.78 317 P P 17 13 14.8 +1.6
SNR=7.8
ANTO Ankara 78.78 317 eP P 17 13 14.2 +1.1
ANTO pmax pmax
comp=Z,112nm,1.2s,mb5.7
ANTO Ankara 78.78 317 eP P 17 13 14.2 +1.1
comp=Z,112nm,1.2s,mb5.7
ANTO Ankara 78.78 317⇑iP P 17 13 14.4 +1.3
KBD Kabd 78.95 301 eP P 17 13 14.7 +0.6
KBD AMb AMB 17 13 16.8
comp=Z,712nm,0.7s
BEBN Eben Emael 79.05 340 P P 17 13 13.7 -0.9
comp=Z,32nm,1.1s,mb5.2
DLF Lyons Farm 79.05 348 eP P 17 13 13.0 -1.6
DSB Dublin 79.08 348 eP P 17 13 14.1 -0.7
comp=Z,20nm,0.8s,mb5.1
QRN Al-Qurain 79.13 300 eP P 17 13 15.9 +0.8
QRN AMb AMB 17 13 17.7
comp=Z,296nm,0.7s,mb6.3
MEM Membach 79.14 339 P P 17 13 14.8 -0.3
comp=Z,72nm,1.0s,mb5.6
NAY Al-Naaiem 79.16 301 eP P 17 13 15.3 +0.1
NAY AMb AMB 17 13 18.7
comp=Z,148nm,0.9s,mb5.9
RDF Al-Radifah 79.22 301 eP P 17 13 16.4 +0.9
RDF AMb AMB 17 13 19.4
comp=Z,378nm,0.9s,mb6.3
MOA Molln 79.34 333 iP P 17 13 16.7 +0.5
SNR=8.5
TOD Tromm 79.35 337 eP P 17 13 15.6 -0.6
SIUC Southern Illin 79.36 46 eP P 17 13 14.9 -1.4
UCC Uccle 79.36 340 P P 17 13 16.4 +0.1
ABH Alteburg 79.43 338 eP P 17 13 15.3 -1.4
ARSA Arzberg 79.47 332⇓iP P 17 13 17.6 +0.7
comp=Z,33nm,1.1s,mb5.2
BCLA Clavier 79.49 340 P P 17 13 16.9 -0.1
comp=Z,58nm,1.2s,mb5.4
MIAR Mount Ida 79.58 50 eP P 17 13 15.7 -1.8
MIAR pmax pmax
comp=Z,18nm,1.0s,mb5.0
MIAR Mount Ida 79.58 50 eP P 17 13 15.7 -1.8
comp=Z,18nm,1.0s,mb4.9
SNF Seneffe 79.65 340 P P 17 13 18.1 +0.2
comp=Z,30nm,1.1s,mb5.1
RUP Ruppelstein 79.72 338 eP P 17 13 18.9 +0.6
GIVF Givet 79.90 340 eP P 17 13 18.4 -0.8
comp=Z,106nm,1.1s,mb5.4
GIVF Givet 79.90 340 eP P 17 13 18.4 -0.8
GIVF pmax pmax
comp=Z,53nm,1.1s,mb5.4
GIVF Givet 79.90 340 eP P 17 13 18.4 -0.8
comp=Z,53nm,1.1s,mb5.4
USIN University of 79.92 44 eP P 17 13 18.5 -0.9
comp=Z,46nm,1.0s,mb5.4
KOGS Kog 79.94 331 eP P 17 13 19.3 -0.2
DOU Dourbes 79.96 340 P P 17 13 18.7 -0.9
WLF Walferdange 79.98 339 P P 17 13 20.1 +0.4
WLF Walferdange 79.98 339 eP P 17 13 19.8 +0.1
WLF pmax pmax
comp=Z,37nm,1.0s,mb5.3
WLF Walferdange 79.98 339 eP P 17 13 19.8 +0.1
comp=Z,37nm,1.0s,mb5.3
STU Stuttgart 80.00 337 eP P 17 13 19.8 0.0
STU pmax pmax
comp=Z,61nm,0.9s,mb5.5
STU Stuttgart 80.00 337 eP P 17 13 19.8 -0.1
comp=Z,61nm,0.9s,mb5.5
BAIF Baives 80.08 340 eP P 17 13 19.5 -0.7
comp=Z,100nm,1.2s,mb5.3
BAIF Baives 80.08 340 eP P 17 13 19.5 -0.7
BAIF pmax pmax
comp=Z,50nm,1.2s,mb5.3
BAIF Baives 80.08 340 eP P 17 13 19.5 -0.7
comp=Z,50nm,1.2s,mb5.3
FORT Forrest 80.14 202 eP P 17 13 19.7 -0.9
comp=Z,43nm,0.7s,mb5.5
PERS Pernice 80.15 332 eP P 17 13 20.6 0.0
LANF Langenberg 80.19 338 eP P 17 13 21.0 +0.2
KBA Koelnbreinsper 80.31 333 iP P 17 13 22.4 +0.9
comp=Z,185nm,0.8s,mb6.0,SNR=36
KBA Koelnbreinsper 80.31 333 iP P 17 13 22.4 +0.9
KBA pmax pmax
comp=Z,185nm,0.8s,mb6.1
ALLY Alegheny Colle 80.34 37 eP P 17 13 18.8 -2.9
WCI Wyandotte Cave 80.37 43 eP P 17 13 20.9 -0.9
WCI pmax pmax
comp=Z,20nm,0.9s,mb5.0
WCI Wyandotte Cave 80.37 43 eP P 17 13 20.9 -0.9
comp=Z,20nm,0.9s,mb5.0
OBKA Obir 80.44 332⇑iP P 17 13 22.4 +0.3
comp=Z,27nm,0.7s,mb5.3
OBKA Obir 80.44 332⇑iP P 17 13 22.4 +0.2
comp=Z,27nm,0.7s,mb5.3
GOLS Golise 80.53 331 eP P 17 13 21.3 -1.3
GRUS Gruza 80.58 327⇑iP P 17 13 22.2 -0.6
WATA Walderalm 80.62 335 iP P 17 13 23.9 +0.7
comp=Z,65nm,1.0s,mb5.5,SNR=15
WATA Walderalm 80.62 335 iP P 17 13 23.9 +0.8
WATA pmax pmax
comp=Z,65nm,1.0s,mb5.5
BFO Black Forest 80.64 337 P P 17 13 23.5 +0.3
comp=Z,440nm,1.0s,mb6.3,SNR=8.0
BFO Black Forest 80.64 337⇑eP P 17 13 22.6 -0.6
BFO pmax pmax
comp=Z,81nm,0.9s,mb5.7
BFO Black Forest 80.64 337⇑eP P 17 13 22.6 -0.6
comp=Z,81nm,0.9s,mb5.7
DIVS Divcibare 80.66 328⇑iP P 17 13 22.6 -0.7
WTTA Wattenberg 80.67 334⇑iP P 17 13 23.5 +0.2
comp=Z,109nm,0.7s,mb5.9,SNR=18
WTTA Wattenberg 80.67 334⇑iP P 17 13 23.5 +0.1
WTTA pmax pmax
comp=Z,109nm,0.7s,mb5.9
PDKS Podkum 80.69 332 eP P 17 13 22.8 -0.7
VTS Vitosha 80.71 325⇑iP P 17 13 24.1 +0.5
RETA Reutte 80.72 335⇑iP P 17 13 23.9 +0.2
comp=Z,80nm,1.1s,mb5.6
CRES Cresnjev 80.75 331 eP P 17 13 23.5 -0.3
MOTA Moosalm 80.75 335⇑iP P 17 13 24.4 +0.6
comp=Z,95nm,1.0s,mb5.7,SNR=25
MOTA Moosalm 80.75 335⇑iP P 17 13 24.4 +0.6
MOTA pmax pmax
comp=Z,95nm,1.0s,mb5.7
SQTA Sankt Quirin 80.83 335⇑iP P 17 13 25.0 +0.7
comp=Z,72nm,1.0s,mb5.6,SNR=20
SQTA Sankt Quirin 80.83 335⇑iP P 17 13 25.0 +0.7
SQTA pmax pmax
comp=Z,72nm,1.0s,mb5.6
CDF Champ du Feu 80.85 338 eP P 17 13 23.7 -0.6
comp=Z,127nm,0.9s,mb5.5
CDF Champ du Feu 80.85 338 eP P 17 13 23.7 -0.6
CDF pmax pmax
comp=Z,64nm,0.9s,mb5.5
CDF Champ du Feu 80.85 338 eP P 17 13 23.7 -0.6
comp=Z,64nm,0.9s,mb5.5
LJU Ljubljana 80.86 332 eP P 17 13 23.7 -0.7
ABTA Abfaltersbach 80.87 334⇓iP P 17 13 24.5 0.0
comp=Z,41nm,1.1s,mb5.3
RDO Rodhopi 80.97 323 eP P 17 13 25.0 0.0
ECH Echery 81.06 338 eP P 17 13 25.3 -0.2
BARS Barje 81.06 326⇑iP P 17 13 25.3 -0.2
VOY Vojsko 81.07 332 eP P 17 13 24.8 -0.7
BBLS Bajina Basta - 81.08 328⇑iP P 17 13 26.0 +0.5
BOJS Bojanci 81.10 331 eP P 17 13 25.4 -0.3
FELD Feldberg im Sc 81.14 337 eP P 17 13 25.7 -0.2
FETA Feichten 81.16 335⇓iP P 17 13 27.0 +1.0
comp=Z,57nm,1.0s,mb5.5
DAVA Damuels 81.16 336 iP P 17 13 26.8 +0.8
comp=Z,75nm,0.8s,mb5.6,SNR=9.0
DAVA Damuels 81.16 336 iP P 17 13 26.8 +0.8
comp=Z,75nm,0.8s,mb5.7
MEZF Maizieres J'vi 81.33 339 eP P 17 13 26.5 -0.4
comp=Z,229nm,1.1s,mb5.7
MEZF Maizieres J'vi 81.33 339 eP P 17 13 26.5 -0.4
comp=Z,229nm,1.1s,mb6.0
THEF They Montfort 81.35 338 eP P 17 13 27.1 +0.1
MOF Molkenrain 81.40 337 eP P 17 13 26.7 -0.6
ACCN Adirondack Com 81.44 32 eP P 17 13 25.9 -1.6
HAU Haudompre 81.46 338 eP P 17 13 26.8 -0.8
comp=Z,88nm,1.0s,mb5.3
HAU Haudompre 81.46 338 eP P 17 13 26.8 -0.8
HAU pmax pmax
comp=Z,44nm,1.0s,mb5.3
HAU Haudompre 81.46 338 eP P 17 13 26.8 -0.8
comp=Z,44nm,1.0s,mb5.3
HINF Hinteralfeld 81.51 338 eP P 17 13 26.8 -1.0
comp=Z,62nm,1.0s,mb5.2
HINF Hinteralfeld 81.51 338 eP P 17 13 26.8 -1.0
HINF pmax pmax
comp=Z,31nm,1.0s,mb5.2
HINF Hinteralfeld 81.51 338 eP P 17 13 26.8 -1.0
comp=Z,31nm,1.0s,mb5.2
PLE Pljevlja 81.55 328⇓iP P 17 13 28.8 +0.8
BBS Basel-Blauen 81.66 337 eP P 17 13 27.8 -0.8
IVA Berane 81.75 327⇓iP P 17 13 29.1 0.0
BRMO Bormio 81.75 335 P P 17 13 30.1 +1.0
comp=Z,89nm,1.0s,mb5.7
OXF Oxford 81.77 48 eP P 17 13 27.8 -1.4
OXF pmax pmax
comp=Z,54nm,1.2s,mb5.3
OXF Oxford 81.77 48 eP P 17 13 27.8 -1.4
comp=Z,54nm,1.2s,mb5.3
UPM Unac-Piva 81.83 328⇓iP P 17 13 28.8 -0.8
STIP Stip 81.88 325 iP P 17 13 29.5 -0.3
STIP Stip 81.88 325 iP P 17 13 29.5 -0.3
SKO Skopje 81.93 326 iP P 17 13 31.0 +0.9
SKO Skopje 81.93 326 iP P 17 13 31.0 +0.9
LOMF Lomont 81.94 337 eP P 17 13 30.2 +0.1
PVY Plav 81.96 327⇓iP P 17 13 29.8 -0.4
VAY Valandovo 82.04 325 iP P 17 13 30.4 -0.2
VAY Valandovo 82.04 325 iP P 17 13 30.4 -0.2
NKY Niksic 82.14 328⇓iP P 17 13 30.5 -0.7
BRY Bratogost 82.23 328 eP P 17 13 30.6 -1.0
PRK Paraskevi 82.23 321 eP P 17 13 32.0 +0.3
FLN La Foliniere 82.34 343 eP P 17 13 31.3 -0.9
comp=Z,91nm,1.0s,mb5.3
FLN La Foliniere 82.34 343 eP P 17 13 31.3 -0.9
FLN pmax pmax
comp=Z,45nm,1.0s,mb5.3
FLN La Foliniere 82.34 343 eP P 17 13 31.3 -0.9
comp=Z,46nm,1.0s,mb5.4
TTG Podgorica 82.37 327⇓iP P 17 13 31.6 -0.7
CSS Prodhromos 82.41 314 eP P 17 13 32.2 -0.4
comp=Z,56nm,0.8s,mb5.5
LDF La Druitiere 82.43 342 eP P 17 13 31.7 -1.0
comp=Z,71nm,1.1s,mb5.2
LDF La Druitiere 82.43 342 eP P 17 13 31.7 -1.0
LDF pmax pmax
comp=Z,36nm,1.1s,mb5.2
LDF La Druitiere 82.43 342 eP P 17 13 31.7 -1.0
comp=Z,36nm,1.1s,mb5.2
PLG Polygyros 82.48 324 eP P 17 13 33.0 0.0
KRUS Krusevo 82.52 325 iP P 17 13 33.9 +0.7
KRUS Krusevo 82.52 325 iP P 17 13 33.9 +0.7
BUM Brajici-Budva 82.62 327⇓iP P 17 13 33.3 -0.4
HCY Herceg Novi 82.64 328⇓iP P 17 13 33.0 -0.8
ASF Jabal al Asfar 82.77 310 P P 17 13 35.5 +1.0
comp=Z,21nm,0.8s,mb5.2,baz=323,slow=2.4,SNR=10
LOR Lormes 82.77 339 eP P 17 13 33.8 -0.7
comp=Z,123nm,1.0s,mb5.6
LOR Lormes 82.77 339 eP P 17 13 33.8 -0.7
LOR pmax pmax
comp=Z,61nm,1.0s,mb5.6
LOR Lormes 82.77 339 eP P 17 13 33.8 -0.7
comp=Z,61nm,1.0s,mb5.6
GRR Gorron 82.78 343 eP P 17 13 33.8 -0.7
comp=Z,147nm,1.0s,mb5.7
GRR Gorron 82.78 343 eP P 17 13 33.8 -0.7
GRR pmax pmax
comp=Z,74nm,1.0s,mb5.7
GRR Gorron 82.78 343 eP P 17 13 33.8 -0.7
comp=Z,74nm,1.0s,mb5.7
ULC Ulcinj 82.78 327⇓iP P 17 13 34.2 -0.3
BIA Bitola 82.79 325 iP P 17 13 34.2 -0.4
BIA Bitola 82.79 325 iP P 17 13 34.2 -0.4
CABF La Chapelle 82.82 338 eP P 17 13 34.4 -0.3
comp=Z,68nm,1.1s,mb5.3
CABF La Chapelle 82.82 338 eP P 17 13 34.4 -0.3
CABF pmax pmax
comp=Z,34nm,1.1s,mb5.3
CABF La Chapelle 82.82 338 eP P 17 13 34.4 -0.3
comp=Z,34nm,1.1s,mb5.3
MMAI Mount Meron Ar 82.90 311 P P 17 13 36.4 +1.2
comp=Z,40nm,0.7s,mb5.5,baz=36,slow=7.2,SNR=14
OHR Ohrid 82.92 326 iP P 17 13 34.7 -0.6
OHR Ohrid 82.92 326 iP P 17 13 34.7 -0.6
SSF Saint Saulge 83.05 340 eP P 17 13 35.3 -0.6
comp=Z,60nm,0.8s,mb5.4
SSF Saint Saulge 83.05 340 eP P 17 13 35.3 -0.6
SSF pmax pmax
comp=Z,30nm,0.8s,mb5.4
SSF Saint Saulge 83.05 340 eP P 17 13 35.3 -0.6
comp=Z,30nm,0.8s,mb5.4
HYF Humbligny 83.06 340 eP P 17 13 35.8 -0.2
SGMF Saint Gilles 83.24 344 eP P 17 13 36.2 -0.7
comp=Z,147nm,1.1s,mb5.6
SGMF Saint Gilles 83.24 344 eP P 17 13 36.2 -0.7
SGMF pmax pmax
comp=Z,74nm,1.1s,mb5.6
SGMF Saint Gilles 83.24 344 eP P 17 13 36.2 -0.7
comp=Z,74nm,1.1s,mb5.6
ROSF Rostrenen 83.30 344 eP P 17 13 36.5 -0.7
comp=Z,187nm,1.1s,mb5.7
ROSF Rostrenen 83.30 344 eP P 17 13 36.5 -0.7
ROSF pmax pmax
comp=Z,94nm,1.1s,mb5.7
ROSF Rostrenen 83.30 344 eP P 17 13 36.5 -0.7
comp=Z,94nm,1.1s,mb5.7
WHFO Wadi Hawf 83.33 289 P P 17 13 38.1 +0.8
SNR=9.7
WHFO Wadi Hawf 83.33 289 P P 17 13 38.1 +0.8
SNR=9.7
AVF Avril sur Loir 83.34 340 eP P 17 13 36.9 -0.5
comp=Z,135nm,1.0s,mb5.6
AVF Avril sur Loir 83.34 340 eP P 17 13 36.9 -0.5
AVF pmax pmax
comp=Z,68nm,1.0s,mb5.6
AVF Avril sur Loir 83.34 340 eP P 17 13 36.9 -0.5
comp=Z,68nm,1.0s,mb5.6
SMF Signal de Mont 83.36 339 eP P 17 13 37.0 -0.5
comp=Z,294nm,1.1s,mb5.9
SMF Signal de Mont 83.36 339 eP P 17 13 37.0 -0.5
SMF pmax pmax
comp=Z,147nm,1.1s,mb5.9
SMF Signal de Mont 83.36 339 eP P 17 13 37.0 -0.5
comp=Z,147nm,1.1s,mb5.9
GSCL Gusciola 83.61 334 P P 17 13 40.2 +1.4
comp=Z,160nm,1.0s,mb6.1
LPL La Plagne 83.66 337 eP P 17 13 39.4 +0.3
comp=Z,91nm,1.0s,mb5.6
LPL La Plagne 83.66 337 eP P 17 13 39.4 +0.3
LPL pmax pmax
comp=Z,45nm,1.0s,mb5.5
LPL La Plagne 83.66 337 eP P 17 13 39.4 +0.3
comp=Z,45nm,1.0s,mb5.6
LPG La Plagne 83.67 337 eP P 17 13 39.5 +0.4
comp=Z,101nm,1.0s,mb5.6
LPG La Plagne 83.67 337 eP P 17 13 39.5 +0.4
LPG pmax pmax
comp=Z,50nm,1.0s,mb5.6
LPG La Plagne 83.67 337 eP P 17 13 39.5 +0.4
comp=Z,50nm,1.0s,mb5.6
QUIF Quistinic 83.68 344 eP P 17 13 38.0 -1.2
comp=Z,145nm,1.3s,mb5.6
QUIF Quistinic 83.68 344 eP P 17 13 38.0 -1.2
QUIF pmax pmax
comp=Z,72nm,1.3s,mb5.6
QUIF Quistinic 83.68 344 eP P 17 13 38.0 -1.2
comp=Z,72nm,1.3s,mb5.7
BGF Bois d'Agland 83.68 340 eP P 17 13 38.6 -0.6
comp=Z,87nm,1.2s,mb5.4
BGF Bois d'Agland 83.68 340 eP P 17 13 38.6 -0.6
BGF pmax pmax
comp=Z,44nm,1.3s,mb5.4
BGF Bois d'Agland 83.68 340 eP P 17 13 38.6 -0.6
comp=Z,44nm,1.3s,mb5.4
ELN Prospectdale 83.74 40 eP P 17 13 38.0 -1.5
VLC Villacollemand 83.85 334 eP P 17 13 39.4 -0.6
comp=Z,44nm,0.9s,mb5.6
BDI Bagni Di Lucca 83.87 334 P P 17 13 41.3 +1.2
ARG Arkhangelos 83.90 318 eP P 17 13 37.0 -3.3
KLBR Kellerberrin 83.98 210 eP P 17 13 39.5 -1.2
comp=Z,56nm,1.3s,mb5.5
MURB Monte Urbino 83.99 332 P P 17 13 42.5 +1.8

PLDF La Plantade 84.05 339 *eP* **P 17 13 41.7 +0.7**
TCF Toulx Ste Croi 84.09 340 *eP* **P 17 13 40.8 -0.4**
comp=Z,82nm,1.1s,mb5.5
TCF Toulx Ste Croi 84.09 340 *eP* **P 17 13 40.8 -0.4**
TCF pmax pmax
comp=Z,41nm,1.1s,mb5.5
TCF Toulx Ste Croi 84.09 340 *eP* **P 17 13 40.8 -0.4**
comp=Z,41nm,1.1s,mb5.5
AGO Saint Agoulin 84.09 339 *eP* **P 17 13 42.2 +1.0**
BNI Bardonecchia 84.10 337 *eP* **P 17 13 41.5 +0.2**
BNI pmax pmax
comp=Z,28nm,1.0s,mb5.3
BNI Bardonecchia 84.10 337 *eP* **P 17 13 41.5 +0.2**
comp=Z,28nm,1.0s,mb5.3
JAN Janina 84.14 325 *eP* **P 17 13 42.2 +0.7**
PTL Penteli 84.27 322 *eP* **P 17 13 41.0 -1.1**
MFF Saint Martin d 84.32 342 *eP* **P 17 13 42.0 -0.4**
comp=Z,107nm,1.2s,mb5.5
MFF Saint Martin d 84.32 342 *eP* **P 17 13 42.0 -0.4**
MFF pmax pmax
comp=Z,53nm,1.2s,mb5.5
MFF Saint Martin d 84.32 342 *eP* **P 17 13 42.0 -0.4**
comp=Z,53nm,1.2s,mb5.5
MBDF Montbardon 84.38 337 *eP* **P 17 13 42.4 -0.3**
comp=Z,31nm,0.7s,mb5.2
MBDF Montbardon 84.38 337 *eP* **P 17 13 42.4 -0.3**
MBDF pmax pmax
comp=Z,16nm,0.7s,mb5.3
MBDF Montbardon 84.38 337 *eP* **P 17 13 42.4 -0.3**
comp=Z,16nm,0.7s,mb5.2
EVR Evrytania 84.39 324 *eP* **P 17 13 40.0 -2.8**
PYM Petit Puy Mans 84.40 339 *eP* **P 17 13 43.3 +0.5**
ORIF Oris-en-Rattie 84.44 337 *eP* **P 17 13 43.2 +0.2**
comp=Z,72nm,0.8s,mb5.6
ORIF Oris-en-Rattie 84.44 337 *eP* **P 17 13 43.2 +0.2**
ORIF pmax pmax
comp=Z,36nm,0.8s,mb5.5
ORIF Oris-en-Rattie 84.44 337 *eP* **P 17 13 43.2 +0.2**
comp=Z,36nm,0.8s,mb5.5
AQU L'Aquila 84.51 331 P **P 17 13 44.7 +1.3**
AQU pmax pmax
comp=Z,208nm,1.1s,mb6.2
AQU L'Aquila 84.51 331 P **P 17 13 44.7 +1.3**
comp=Z,208nm,1.1s,mb6.2
NAIG Nisos Aigina 84.67 322 *eP* **P 17 13 41.0 -3.2**
VIVF Saint-Julien-l 84.82 338 *eP* **P 17 13 44.9 0.0**
comp=Z,104nm,1.0s,mb5.6
VIVF Saint-Julien-l 84.82 338 *eP* **P 17 13 44.9 0.0**
VIVF pmax pmax
comp=Z,52nm,1.0s,mb5.6
VIVF Saint-Julien-l 84.82 338 *eP* **P 17 13 44.9 0.0**
comp=Z,52nm,1.0s,mb5.6
LBL Lubilhac 84.83 339 *eP* **P 17 13 45.0 0.0**
MUN Mundaring 84.87 211 *eP* **P 17 13 43.8 -1.4**
KARP Karpathos 84.89 318 *eP* **P 17 13 43.0 -2.3**
TOUF Mont Tournerai 84.90 336 *eP* **P 17 13 46.4 +1.0**
SBF Sospel 84.99 336 *eP* **P 17 13 44.9 -0.9**
comp=Z,100nm,0.9s,mb5.6
SBF Sospel 84.99 336 *eP* **P 17 13 44.9 -0.9**
SBF pmax pmax
comp=Z,50nm,0.9s,mb5.6
SBF Sospel 84.99 336 *eP* **P 17 13 44.9 -0.9**
comp=Z,50nm,0.9s,mb5.6
REVF Revere 85.12 336 *eP* **P 17 13 48.9 +2.4**
REVF Revere 85.12 336 *eP* **P 17 13 46.5 0.0**
REVF *eP* 17 13 48.9
RJF Les Rejaudoux 85.18 340 *eP* **P 17 13 46.4 -0.3**
comp=Z,96nm,1.1s,mb5.5
RJF Les Rejaudoux 85.18 340 *eP* **P 17 13 46.4 -0.3**
RJF pmax pmax
comp=Z,48nm,1.1s,mb5.5
RJF Les Rejaudoux 85.18 340 *eP* **P 17 13 46.4 -0.3**
comp=Z,48nm,1.1s,mb5.5
RFI Roccamonfina 85.25 330 P **P 17 13 49.1 +2.0**
comp=Z,29nm,1.2s,mb5.3
STOF St-Etienne Org 85.29 337 *eP* **P 17 13 48.6 +1.3**
NWAO Narrogin (SRO) 85.38 210 P **P 17 13 46.1 -1.6**
comp=Z,37nm,1.0s,mb5.5,baz=24,slow=4.4,SNR=7.6
NWAO Narrogin (SRO) 85.38 210 P **P 17 13 46.1 -1.6**
NWAO pmax pmax
comp=Z,37nm,1.0s
NWAO Narrogin (SRO) 85.38 210 *eP* **P 17 13 46.5 -1.3**
comp=Z,47nm,1.1s,mb5.5
SMRF Simiane la Rot 85.40 337 *eP* **P 17 13 47.9 +0.1**
comp=Z,85nm,1.1s,mb5.5
SMRF Simiane la Rot 85.40 337 *eP* **P 17 13 47.9 +0.1**
comp=Z,85nm,1.1s,mb5.8
CAF Calviac 85.41 340 *eP* **P 17 13 47.3 -0.6**
comp=Z,94nm,1.0s,mb5.6
CAF Calviac 85.41 340 *eP* **P 17 13 47.3 -0.6**
CAF pmax pmax
comp=Z,47nm,1.0s,mb5.6
CAF Calviac 85.41 340 *eP* **P 17 13 47.3 -0.6**
comp=Z,47nm,1.0s,mb5.6
FRF La Foret Royal 85.49 336 *eP* **P 17 13 47.6 -0.7**
comp=Z,129nm,1.4s,mb5.6
FRF La Foret Royal 85.49 336 *eP* **P 17 13 47.6 -0.7**
FRF pmax pmax
comp=Z,65nm,1.4s,mb5.6
FRF La Foret Royal 85.49 336 *eP* **P 17 13 47.6 -0.7**
comp=Z,65nm,1.4s,mb5.6
VLS Valsamata 85.52 324 *eP* **P 17 13 48.0 -0.4**
TAVF Tavernes 85.60 337 *eP* **P 17 13 49.3 +0.5**
PRAF Pradon 85.67 337 *eP* **P 17 13 50.4 +1.2**
LFF La Frestale 85.70 341 *eP* **P 17 13 48.3 -1.1**
comp=Z,136nm,1.2s,mb5.8
LFF La Frestale 85.70 341 *eP* **P 17 13 48.3 -1.1**
LFF pmax pmax
comp=Z,68nm,1.2s,mb5.8
LFF La Frestale 85.70 341 *eP* **P 17 13 48.3 -1.1**
comp=Z,68nm,1.2s,mb5.8
PGF Pioggiola 85.73 334 *eP* **P 17 13 48.8 -0.7**
comp=Z,92nm,1.0s,mb5.7
PGF Pioggiola 85.73 334 *eP* **P 17 13 48.8 -0.7**
PGF pmax pmax
comp=Z,46nm,1.0s,mb5.7
PGF Pioggiola 85.73 334 *eP* **P 17 13 48.8 -0.7**
comp=Z,46nm,1.0s,mb5.7
LMR La Mourre 85.74 336 *eP* **P 17 13 49.1 -0.4**
comp=Z,139nm,1.1s,mb5.8
LMR La Mourre 85.74 336 *eP* **P 17 13 49.1 -0.4**
LMR pmax pmax
comp=Z,70nm,1.1s,mb5.8
LMR La Mourre 85.74 336 *eP* **P 17 13 49.1 -0.4**
comp=Z,70nm,1.1s,mb5.8
LASF Ste Croix 85.76 338 *eP* **P 17 13 48.5 -1.1**
comp=Z,57nm,1.0s,mb5.5
EIL Elat 85.77 310 *eP* **P 17 13 50.2 +0.5**
comp=Z,2μm,0.9s
VLI Veliai 85.78 322 *eP* **P 17 13 48.0 -1.8**
ITM Ithomi 85.82 323 *eP* **P 17 13 49.0 -0.9**
NPS Neapolis 85.83 319 *eP* **P 17 13 42.8 -7.2**
GELF Grande-Etoile 85.99 337 *eP* **P 17 13 51.9 +1.1**
TIP Timpagrande 86.13 327 *eP* **P 17 13 50.9 -0.6**
IDI Anoyia 86.14 320 P **P 17 13 51.5 0.0**
comp=Z,42nm,0.6s,mb5.8,baz=33,slow=8.9,SNR=11
MTLF Montolieu 86.86 339 *eP* **P 17 13 54.1 -1.0**
comp=Z,29nm,0.8s,mb5.2
MTLF Montolieu 86.86 339 *eP* **P 17 13 54.1 -1.0**
MTLF pmax pmax
comp=Z,15nm,0.8s,mb5.3
MTLF Montolieu 86.86 339 *eP* **P 17 13 54.1 -1.0**
comp=Z,15nm,0.8s,mb5.3
GVD Gavdhos 86.87 320 *eP* **P 17 13 55.9 +0.8**
comp=Z,69nm,0.9s,mb5.9
EPF Esparros 87.60 340 *eP* **P 17 13 56.8 -1.9**
comp=Z,55nm,1.4s,mb5.5
EPF Esparros 87.60 340 *eP* **P 17 13 56.8 -1.9**
EPF pmax pmax
comp=Z,28nm,1.4s,mb5.3
EPF Esparros 87.60 340 *eP* **P 17 13 56.8 -1.9**
comp=Z,28nm,1.4s,mb5.3
SJPF Ste Jean 87.88 341 *eP* **P 17 13 58.8 -1.2**
ETSF Etsaut 87.94 341 *eP* **P 17 13 59.1 -1.1**
comp=Z,31nm,1.0s,mb5.2
ETSF Etsaut 87.94 341 *eP* **P 17 13 59.1 -1.1**
ETSF pmax pmax
comp=Z,16nm,1.0s,mb5.2
ETSF Etsaut 87.94 341 *eP* **P 17 13 59.1 -1.1**
comp=Z,16nm,1.0s,mb5.2
PBRG Braganca 90.24 345 *eP* **P 17 14 06.6 -4.5**
PVRL Vila Real 90.93 346 *eP* **P 17 14 13.7 -0.6**
MTE Manteigas 91.75 345 *eP* **P 17 14 17.1 -1.0**
ESDC Sonseca Array 91.76 342 P **P 17 14 16.3 -1.8**
comp=Z,2.1nm,0.6s,mb4.7,baz=12,slow=3.9,SNR=7.2
ESLA Sonseca Array 91.76 342 *eP* **P 17 14 16.9 -1.2**
comp=Z,2.1nm,1.0s,mb4.4
KEST Kesra 91.84 331 P **P 17 14 19.4 +1.0**
comp=Z,8.7nm,0.8s,mb5.2,baz=25,slow=1.6,SNR=9.1
PCBR Castelo Branco 92.28 345 *eP* **P 17 14 23.6 +3.1**
MDT Midelt 98.49 341 P **P 17 14 49.5 +0.6**
comp=Z,1.8nm,0.8s,mb4.7,baz=22,slow=19,SNR=3.7
TORD Torodi Ar. Bea 115.25 329 PKP PKiKP 17 19 51.0 -0.9
comp=Z,3.4nm,0.9s,baz=22,slow=1.7,SNR=3.7
TORD PP PP 17 20 44.9 -7.5
comp=Z,4.6nm,1.0s,baz=7.2,slow=7.2,SNR=3.6
TORD PKKPbc PKKPbc 17 30 23.7 -2.6
comp=Z,0.3nm,0.4s,baz=214,slow=2.1,SNR=3.5
VNDA Vanda 123.86 178 PKP PKPdf 17 20 05.0 -3.3
comp=Z,1.1nm,0.8s,baz=307,slow=6.1,SNR=3.2
LIC Lamto 123.97 333 *e*PKIKP PKPdf 17 20 07.4 -1.2
comp=Z,43nm,1.0s
LSZ Lusaka 124.71 285 *e*PKIKP PKPdf 17 20 10.0 0.0
MAW Mawson 131.93 211 PKP PKPdf 17 20 21.7 -2.0
comp=Z,2.1nm,0.7s,baz=21,slow=5.5,SNR=3.9
MAW Mawson 131.93 211 *e*PKPdf PKPdf 17 20 20.5 -3.3
LBTB Lobatse 133.18 278 *e*PKIKP PKPdf 17 20 25.7 -0.4
LPAZ La Paz 134.56 62 PKP PKPdf 17 20 29.6 +0.9
comp=Z,2.5nm,0.8s,baz=346,slow=4.0,SNR=5.2
LPAZ La Paz 134.56 62 *e*PKPdf PKPdf 17 20 29.2 +0.5
BOSA Boshof 135.71 275 PKP PKPdf 17 20 31.1 +0.3
comp=Z,5.8nm,0.8s,baz=75,slow=4.1,SNR=5.5
BOSA Boshof 135.71 275 PKIKP PKPdf 17 20 31.1 +0.2
BOSA pmax pmax
comp=Z,6.0nm,0.8s
BOSA Boshof 135.71 275 *e*PKPdf PKPdf 17 20 31.4 +0.6
PLCA Paso Flores 148.30 96 PKPbc PKPbc 17 20 55.0 -1.6
comp=Z,27nm,0.9s,baz=264,slow=3.0,SNR=9.8
PLCA Paso Flores 148.30 96 PKP2 PKPab 17 20 55.9 -3.8
PLCA Paso Flores 148.30 96 *e*PKPbc PKPbc 17 20 55.5 -1.1
NVL N'lazarevskaya 149.36 204 ↓*i*PKP2 PKPbc 17 20 56.6 -2.7
NVL pmax pmax
comp=Z,38nm,1.6s
SNAA Sanae 152.28 196 PKPbc PKPbc 17 21 02.3 -3.9
comp=Z,3.3nm,0.8s,baz=202,slow=3.3,SNR=3.8
SNAA Sanae 152.28 196 ↑*i*PKPdf PKPdf 17 21 03.0 +3.6
SNAA *e* 17 21 05.6
SNAA *e* 17 21 13.4
SNAA *e* 17 21 18.6
SNAA *e* 17 21 29.7
SNAA *e* 17 21 32.5
SNAA *e* 17 21 46.4
SNAA Sanae 152.28 196 PKIKP PKPdf 17 21 02.3 +2.9
SNAA pmax pmax
comp=Z,3.0nm,0.8s
SNAA Sanae 152.28 196 *e*PKPbc PKPbc 17 21 02.9 -3.2
TRQA Tornquist 152.99 84 PKPbc PKPdf 17 20 57.3 -3.1
VNA2 Neumayer--Watz 153.73 194 ↑*i*PKPdf PKPbc 17 21 06.6 -2.8
VNA2 *e* 17 21 09.9
VNA2 *e* 17 21 19.7
VNA2 *e* 17 21 24.9
VNA2 *e* 17 21 34.4
VNA2 *e* 17 21 37.5
VNA2 *e* 17 21 40.6
VNA2 *e* 17 21 57.7
VNA2 *e* 17 22 06.4
VNA2 *e* 17 24 55.4
VNA2 *e* 17 25 16.4
VNA3 Neumayer Olymp 153.82 193 ↑*i*PKPdf PKPbc 17 21 06.5 -3.1
VNA3 *e* 17 21 10.4
VNA3 *e* 17 21 19.7
VNA3 *e* 17 21 25.0
VNA3 *e* 17 21 34.4
VNA3 *e* 17 21 37.3
VNA3 *e* 17 21 50.9
VNA3 *e* 17 21 57.6
VNA3 *e* 17 24 55.4
VNA3 *e* 17 25 16.1
VNA1 Neumayer--Stat 154.12 194 ↑*i*PKPdf PKPbc 17 21 07.8 -2.4
VNA1 *e* 17 21 21.6

IDC 15 17:13:00.8±2.2,667S×12868E,h0km,mb3.8/1,mb1 3.7/3, mb1mx3.4/14,mbtmp3.5/3,ML3.5/1,MS4.7/1,Ms1 4.7/1, ms1mx3.3/22,Error ellipse: s-maj=113.9km s-min=32.7km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.29**	**158**	Pn	Pn	17 16 23.7	-0.6
	0.2nm,0.3s,baz=336,slow=13,SNR=19						
WRA				Sn	Sn	17 18 50.2	-13
	0.5nm,0.3s,baz=337,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**17.63**	**164**	P	Pn	17 17 08.6	+0.9
	0.1nm,0.3s,baz=346,slow=12,SNR=5.2						
ASAR				S	Sn	17 20 13.7	-11
	0.1nm,0.3s,baz=358,slow=27,SNR=5.8						
GUMO	**Guam**	**25.76**	**39**	LR	LR	17 26 54.2	
	comp=Z,2μm,21.5s,baz=156,slow=32						
MKAR	**Makanchi Array**	**67.24**	**327**	P	P	17 23 57.1	+0.2
	0.4nm,0.4s,baz=116,slow=8.5,SNR=3.7						

*ISCJB **15** 17:20:05.5±0.7, 1296N×004×14326E±008,h192km±8km, mb4.3/43,Error ellipse: s-maj=12.8km s-min=7.0km az=167.6*
*BJI **15** 17:20:05.9, 1300N×14330E,h191km,mB4.8,mb4.5*
*IDC **15** 17:20:06.7±1.0, 1298N×14327E,h186km±10km,mb4.0/18, mb1 4.1/19,mb1mx4.0/25,mbtmp4.0/19,Error ellipse: s-maj=19.0km s-min=8.8km az=78.0*
*NEIC **15** 17:20:07.0±0.8, 1298N×14327E,h191km±8km,mb4.5/21, Error ellipse: s-maj=9.5km s-min=5.4km az=86.0*
ISC 15 17:20:07.3±0.7,1299N±004×14337E±008,h194km±7km, n73,σ0§90/68,mb4.3/43,1D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.57**	**68**	P	**Pn**	**17 20 41.8**	**+0.7**
	148nm,0.3s,baz=196,slow=18,SNR=204						
GUMO				S	**Sn**	**17 21 07.1**	**-0.2**
	323nm,0.3s,baz=186,slow=23,SNR=17						
GUMO	**Guam**	**1.57**	**68**	P	**Pn**	**17 20 41.8**	**+0.7**
GUMO				S	**Sn**	**17 21 07.1**	**-0.2**
CBIJ	**Chichi jima**	**14.07**	**356**	P	**Pn**	**17 23 17.8**	**-0.5**
	5.4nm,0.3s,baz=333,slow=18,SNR=4.1						
PMG	**Port Moresby**	**22.57**	**170**	P	**P**	**17 24 50.5**	**-0.6**
	13nm,0.8s,mb4.5,baz=283,slow=14,SNR=3.6						
PMG	**Port Moresby**	**22.57**	**170**	*eP*	**P**	**17 24 50.3**	**-0.8**
	30nm,1.0s,mb4.8						
NACB	**Ninganchiao**	**23.41**	**301**	*eP*	**P**	**17 24 56.1**	**-2.7**
MJAR	**Matsushiro Arr**	**23.90**	**350**	P	**P**	**17 25 02.4**	**-0.9**
	5.9nm,0.8s,mb4.2,baz=176,slow=9.8,SNR=13						
MAJO	**Matsushiro**	**23.90**	**350**	*eP*	**P**	**17 25 02.0**	**-1.3**
	14nm,0.9s,mb4.6						
MAT	**Matsushiro**	**23.90**	**350**	P	**P**	**17 25 02.4**	**-0.8**
KAKA	**Kakadu**	**27.74**	**203**	*eP*	**P**	**17 25 36.7**	**-1.0**
	3.7nm,0.6s,mb4.2						
KAKA				*e*PCP	PcP	17 28 49.9	+0.7
KSRS	**Korea Array**	**28.00**	**333**	P	**P**	**17 25 39.8**	**-0.1**
	0.8nm,0.6s,mb3.5,baz=141,slow=9.7,SNR=3.9						
CTA	**Charters Tower**	**32.99**	**175**	*eP*	**P**	**17 26 24.8**	**+0.9**
	8.1nm,0.9s,mb4.2						
CTA				*e*PCP	PcP	17 29 04.8	+1.8
CTAO	**Charters Tower**	**32.99**	**175**	*eP*	**P**	**17 26 24.4**	**+0.6**
	18nm,1.3s,mb4.4						
WB2	**Warramunga Arr**	**33.91**	**195**	*eP*	**P**	**17 26 31.6**	**-0.2**
WB2				*e*PCP	PcP	17 29 06.2	+0.6
WRA	**Warramunga Arr**	**33.91**	**195**	P	**P**	**17 26 31.6**	**-0.2**
	23nm,0.7s,mb4.8,baz=15,slow=9.2,SNR=129						
WRA				PcP	PcP	17 29 06.0	+0.4
	2.1nm,0.6s,baz=11,slow=3.4,SNR=8.2						
KSM	**Kuching**	**34.68**	**253**	*eP*	**P**	**17 26 37.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**35.51**	**210**	*eP*	**P**	**17 26 45.2**	**-0.2**
	8.7nm,0.9s,mb4.3						
FITZ				*e*PCP	PcP	17 29 11.5	+1.3
ASAR	**Alice Springs**	**37.59**	**194**	P	**P**	**17 27 03.0**	**-0.1**
	12nm,0.5s,mb4.7,baz=18,slow=14,SNR=249						
ASAR				PcP	PcP	17 29 17.6	+1.1
	2.2nm,0.8s,baz=25,slow=3.0,SNR=6.1						
DZM	**Mont Dzumac**	**41.55**	**147**	P	**P**	**17 27 37.1**	**+1.4**
	16nm,0.6s,mb4.6,baz=306,slow=4.2,SNR=11						
KULM	**Kulim**	**42.81**	**264**	*eP*	**P**	**17 27 47.0**	**+1.1**
CM31	**Chiang Mai Arr**	**43.03**	**283**	*eP*	**P**	**17 27 48.9**	**+1.3**
	6.3nm,0.6s,mb4.2						
ARMA	**Armidale**	**43.88**	**170**	*eP*	**P**	**17 27 55.1**	**+0.6**
STKA	**Stephens Creek**	**44.65**	**182**	*eP*	**P**	**17 27 59.9**	**-0.6**
	9.7nm,0.5s,mb4.4						
STKA				*e*PCP	pP	17 28 54.1	+12
STKA	**Stephens Creek**	**44.65**	**182**	P	**P**	**17 27 60.0**	**-0.5**
	17nm,0.7s,mb4.5,baz=358,slow=8.1,SNR=45						
STKA	**Stephens Creek**	**44.65**	**182**	*eP*	**P**	**17 27 59.6**	**-0.9**
PSI	**Prapat**	**45.10**	**261**	PcP	PcP	17 29 41.3	+0.1
FORT	**Forrest**	**45.94**	**198**	*eP*	**P**	**17 28 11.0**	**+0.3**
	46nm,0.5s,mb5.1						
ULN	**Ulaanbaatar**	**46.05**	**326**	*eP*	**P**	**17 28 12.8**	**+1.2**
	2.0nm,0.8s,mb3.5						
SONM	**Songino Array**	**46.39**	**326**	P	**P**	**17 28 15.0**	**+0.9**
	1.2nm,0.6s,mb3.4,baz=146,slow=7.8,SNR=9.4						
SONM				PcP	PcP	17 29 46.2	+0.5
	0.8nm,0.7s,baz=133,slow=4.0,SNR=3.4						
SONM				ScP	ScP	17 33 20.1	-0.4
	0.7nm,0.7s,baz=153,slow=4.9,SNR=4.4						
GTA	**Gaotai**	**46.49**	**313**	*eP*	**P**	**17 28 16.5**	**+1.6**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.0						
YAK	**Yakutsk**	**49.95**	**352**	P	**P**	**17 28 40.1**	**-1.3**
	comp=Z,11nm,0.9s,mb4.2						
KLBR	**Kellerberrin**	**50.68**	**208**	↓*iP*	**P**	**17 28 46.1**	**-0.8**
	comp=Z,9.3nm,0.5s,mb4.5						
LSA	**Lhasa**	**50.97**	**298**	*eP*	**P**	**17 28 50.9**	**+1.9**
	comp=Z,5.7nm,0.7s,mb4.1						
MUN	**Mundaring**	**51.74**	**210**	*eP*	**P**	**17 28 52.5**	**-2.2**
NWAO	**Narrogin (SRO)**	**52.04**	**208**	*eP*	**P**	**17 28 56.6**	**-0.4**
	comp=Z,17nm,1.1s,mb4.4						
GUN	**Gumba**	**55.41**	**295**	*eP*	**P**	**17 29 22.3**	**+0.9**
	comp=Z,26nm,0.5s,mb5.0						
TAU	**Tasmania Unive**	**55.74**	**176**	*eP*	**P**	**17 29 24.1**	**+0.3**
	comp=Z,9.6nm,0.6s,mb4.5						
PKI	**Pulchoki**	**55.81**	**295**	*eP*	**P**	**17 29 24.3**	**0.0**
KKN	**Kakani**	**55.94**	**295**	*eP*	**P**	**17 29 25.4**	**+0.3**
	comp=Z,14nm,0.9s,mb4.5						
DMN	**Daman**	**56.09**	**295**	*eP*	**P**	**17 29 26.3**	**+0.1**
	comp=Z,25nm,1.0s,mb4.7						
GKN	**Gorkha**	**56.52**	**295**	*eP*	**P**	**17 29 29.5**	**+0.3**
	comp=Z,13nm,0.5s,mb4.8						
BILL	**Bilibino**	**56.99**	**10**	*eP*	**P**	**17 29 32.5**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.2						
KOLN	**Koldanda**	**57.42**	**295**	*eP*	**P**	**17 29 36.0**	**+0.4**
	comp=Z,18nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**60.91**	**317**	P	**P**	**17 30 00.4**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.1,baz=92,slow=8.7,SNR=20						
ZAL	**Zalesovo**	**61.27**	**325**	P	**P**	**17 30 01.9**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.6,baz=1.0,slow=5.6,SNR=5.2						
ZAL				PcP	PcP	17 30 41.5	-1.0
	comp=Z,1.7nm,0.5s,baz=3.0,slow=5.1,SNR=5.7						
ZAL	**Zalesovo**	**61.27**	**325**	P	**P**	**17 30 01.9**	**0.0**
ZAL				PcP	PcP	17 30 41.5	-1.0
HYB	**Hyderabad**	**62.45**	**283**	*i P*	**P**	**17 30 10.5**	**+0.7**
HYB	**Hyderabad**	**62.45**	**283**	*eP*	**P**	**17 30 10.5**	**+0.7**
KURK	**Kurchatov**	**64.10**	**320**	*eP*	**P**	**17 30 20.6**	**0.0**
	comp=Z,12nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**65.80**	**311**	P	**P**	**17 30 31.1**	**-0.4**
	comp=Z,1.7nm,1.0s,mb3.6						
SML	**Sawmill**	**68.42**	**28**	*eP*	**P**	**17 30 47.8**	**-0.3**
CHKZ	**Chkalovo**	**69.42**	**323**	*eP*	**P**	**17 30 53.8**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.2						
CHKZ				*e*PcP	PcP	17 31 14.8	-1.5
BVAR	**Borovoye Array**	**69.49**	**322**	P	**P**	**17 30 55.1**	**+0.4**
	comp=Z,10nm,0.4s,mb4.8,baz=104,slow=7.8,SNR=73						
BRVK	**Borovoye**	**69.56**	**322**	*eP*	**P**	**17 30 55.3**	**+0.2**
	comp=Z,10.0nm,0.6s,mb4.6						
KBL	**Kabul**	**69.91**	**302**	*eP*	**P**	**17 30 57.3**	**0.0**
INK	**Inuvik**	**75.47**	**22**	*eP*	**P**	**17 31 28.5**	**-1.5**
ARU	**Arti**	**76.42**	**325**	P	**P**	**17 31 29.2**	**-6.1**
	comp=Z,7.8nm,0.6s,mb4.5						
AKTK	**Aktyubinsk**	**77.16**	**319**	P	**P**	**17 31 39.2**	**-0.3**
AKTO	**Aktyubinsk**	**77.16**	**319**	P	**P**	**17 31 39.2**	**-0.3**
	comp=Z,1.9nm,0.6s,mb3.9,baz=106,slow=6.7,SNR=7.2						
YKA	**Yellowknife Ar**	**84.06**	**27**	P	**P**	**17 32 16.1**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=288,slow=5.2,SNR=18						
RES	**Resolute Bay**	**85.46**	**13**	*eP*	**P**	**17 32 23.4**	**+0.4**
ARCES	**ARCESS Array B**	**87.20**	**342**	P	**P**	**17 32 30.9**	**-0.6**
	comp=Z,1.8nm,0.8s,mb3.9,baz=74,slow=7.2,SNR=10						
NVAR	**Mina Array Bea**	**88.43**	**51**	P	**P**	**17 32 39.4**	**+2.0**
	comp=Z,0.4nm,0.3s,mb3.7,baz=270,slow=8.1,SNR=3.3						
VNDA	**Vanda**	**90.97**	**176**	P	**P**	**17 32 49.0**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=293,slow=10.0,SNR=5.2						
FINES	**FINESS Array B**	**91.08**	**335**	P	**P**	**17 32 48.3**	**-1.4**
	comp=Z,2.2nm,0.4s,mb4.5,baz=72,slow=5.1,SNR=30						
EGMT	**Eagleton**	**91.40**	**40**	*eP*	**P**	**17 32 53.2**	**+2.0**
	comp=Z,21nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**96.41**	**313**	P	**P**	**17 33 12.7**	**-1.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=64,slow=3.4,SNR=3.2						
VNA2	**Neumayer--Watz**	**119.38**	**191**	*e*	PKPdf	17 38 33.0	-0.5
	baz=316,slow=1.2						
VNA2				*e*		17 38 34.9	
VNA3	**Neumayer Olymp**	**119.50**	**190**	*e*	PKPdf	17 38 32.9	-0.8
VNA3				*e*		17 38 35.3	
VNA1	**Neumayer--Stat**	**119.77**	**191**	*e*	PKPdf	17 38 33.8	-0.4
VNA1				*e*		17 38 36.5	
TORD	**Torodi Ar. Bea**	**133.98**	**303**	PKP	PKPdf	17 39 02.7	+1.4
	comp=Z,0.2nm,0.4s,baz=61,slow=3.5,SNR=2.4						
LCO	**Las Campanas**	**144.59**	**122**	*e*PKPdf	PKPdf	17 39 22.0	+1.5
LPAZ	**La Paz**	**149.36**	**100**	PKPbc	PKPbc	17 39 35.8	+2.6
	comp=Z,2.8nm,0.8s,baz=16,slow=1.1,SNR=12						

*ISCJB **15** 18:00:42.1±0.5, 1788N±006×7964W±003,h10km,mb3.8/8, MS4.2/1,Error ellipse: s-maj=9.1km s-min=4.5km az=0.2*
*IDC **15** 18:00:42.1±0.8, 1785N×7969W,h0km,mb3.9/7, mb1 4.1/11,mb1mx4.0/22,mbtmp3.9/11,ML3.3/3,MS3.9/2, Ms1 3.9/2,ms1mx3.3/35,Error ellipse: s-maj=23.1km s-min=20.6km az=3.0*
*JSN **15** 18:00:43.4±1.1, 1841N×7963W,h0km±511km,MD4.7*
*NEIC **15** 18:00:46.4±3.1, 1783N×7968W,h26km±24km,mb4.3/2, Error ellipse: s-maj=14.1km s-min=7.9km az=220.0*
*SSNC **15** 18:00:50.5, 1827N×7949W,h25km,MD3.9,ML4.1*
ISC 15 18:00:42.9±2.3,1796N±006×7957W±004,h1km±16km,n28, σ1§03/36,mb3.9/8,MS4.2/1,4C,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**1.68**	**74**	*eS*	**Sn**	**18 01 34.4**	**-1.1**
MCJ	**Malvern**	**1.79**	**91** ↑	*eP*	**Pn**	**18 01 15.1**	**+0.2**
MCJ				*eS*	**Sn**	**18 01 40.7**	**+2.5**
CVJ	**Coleyville**	**1.95**	**82** ↑	*eP*	**Pn**	**18 01 17.2**	**+0.1**
CVJ				*eS*	**Sn**	**18 01 42.2**	**-0.1**
BBJ	**Bamboo Saint A**	**2.23**	**79** ↑	*eP*	**Pn**	**18 01 21.2**	**+0.3**
BBJ				*eS*	**Sn**	**18 01 48.3**	**-0.7**
STH	**Stony Hill**	**2.62**	**87** ↑	*eP*	**Pn**	**18 01 26.9**	**+0.5**
STH				*eS*	**Sn**	**18 01 58.9**	**0.0**
LMGC	**Las Mercedes**	**3.20**	**49**	*e*PG	**Pn**	**18 01 33.9**	**-0.5**
LMGC				*e*SG	**Sn**	**18 02 06.9**	**-6.3**
	comp=N,386nm,0.1s						
LMGC				*e*			
	comp=E,257nm,0.1s						
CCCC	**Cccc**	**3.64**	**27**	*eP*	**Pn**	**18 01 42.9**	**+2.4**
MGV	**Manicaragua**	**4.15

YKA Yellowknife Ar 50.71 340 P P 18 09 43.4 -0.7
comp=E,0.5nm,0.7s,mb3.5,baz=135,slow=8.6,SNR=10
PLCA Paso Flores 58.99 172 P P 18 10 43.2 -0.9
comp=E,1.3nm,0.6s,mb4.1,baz=260,slow=18,SNR=4.5
ESDC Sonseca Array 67.82 54 P P 18 11 44.5 +1.9
comp=E,0.5nm,0.6s,mb4.0,baz=290,slow=7.1,SNR=5.4
TORD Torodi Ar. Bea 77.87 80 P P 18 12 43.0 +0.8
comp=E,0.5nm,0.9s,mb3.6,baz=320,slow=3.8,SNR=2.7
GERES GERESS Array B 78.80 42 P P 18 12 47.7 +0.3
comp=E,0.4nm,0.4s,mb3.8,baz=228,slow=5.2,SNR=4.5
GERES LR LR 18 48 09.4
comp=E,106nm,18.0s,MS4.2,baz=96,slow=36
FINES FINESS Array B 81.64 28 P P 18 13 03.0 +0.3
comp=E,3.8nm,0.9s,mb4.5,baz=277,slow=2.4,SNR=9.6
FINES FINESS Array B 81.64 28 P P 18 13 03.0 +0.3
WRA Warramunga Arr 147.90 261 PKPbc PKPbc 18 20 26.7 -3.2
comp=E,2.0nm,0.9s,baz=90,slow=2.5,SNR=14
ASAR Alice Springs 148.25 254 PKPbc PKPbc 18 20 29.9 -0.9
comp=E,2.1nm,0.8s,baz=104,slow=2.7,SNR=18

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*ISCJB **15** 18:18:53.2±0.9, 2059S×007×17837W±008, h529km±12km, mb4.2/23, Error ellipse: s-maj=12.8km s-min=7.7km az=81.2*
*NEIC **15** 18:18:54.1±0.9, 2055S×17832W, h531km±10km, mb4.5/8, Error ellipse: s-maj=14.2km s-min=7.9km az=148.0*
*MOS **15** 18:18:56.9±1.8, 1925S×17905W, h498km, mb4.5/5, Error ellipse: s-maj=16.6km s-min=14.7km az=175.3*
*IDC **15** 18:18:58.5±1.8, 2072S×17847W, h582km±20km, mb3.6/14, mb1 3.8/16, mb1mx3.7/20, mbtmp3.6/16, Error ellipse: s-maj=14.0km s-min=9.8km az=149.0*
*SZGRF **15** 18:18:59.7, 2146S×17895W, h33km, Fiji Islands region*
ISC 15 18:18:53.9±0.9, 2055S±008×**17830W**±008, **h526**km±10km, **n137**, σ1$00/48, **mb4.2**/23, **29C-8D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.08**	**44**	P	**P**	**18 21 01.4**	**-0.5**
	6.7nm,0.3s,baz=36,slow=6.3,SNR=10						
AFI				S	**S**	**18 22 46.7**	**-0.3**
	2.8nm,0.3s,baz=35,slow=22,SNR=2.9						
DZM	**Mont Dzumac**	**14.30**	**261**	*e*P	**P**	**18 21 57.5**	**+1.2**
DZM	**Mont Dzumac**	**14.30**	**261**	P	**P**	**18 21 57.6**	**+1.3**
	1.4nm,0.3s,baz=70,slow=18,SNR=17						
URZ	**Urewera**	**18.09**	**192**	P	**P**	**18 22 32.5**	**-1.1**
	1.1nm,0.3s,baz=23,slow=5.3,SNR=8.2						
URZ				S	**S**	**18 25 28.0**	**-4.6**
	0.3nm,0.3s,baz=273,slow=22,SNR=2.8						
RPZ	**Rata Peaks**	**24.75**	**199**	P	**P**	**18 23 32.4**	**-1.2**
	6.5nm,0.9s,mb4.3,baz=7.1,slow=16,SNR=3.1						
ARMA	**Armidale**	**28.80**	**244**	*e*P	**P**	**18 24 10.5**	**+1.4**
CTA	**Charters Tower**	**33.21**	**264**	⇑*i*P	**P**	**18 24 47.6**	**+0.6**
	9.7nm,0.5s,mb4.6						
CTA	**Charters Tower**	**33.21**	**264**	⇑*i*P	**P**	**18 24 47.6**	**+0.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CTAO	**Charters Tower**	**33.21**	**264**	*e*P	**P**	**18 24 47.4**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
CTAO	**Charters Tower**	**33.21**	**264**	*e*P	**P**	**18 24 47.4**	**+0.5**
	comp=Z,14nm,0.8s,mb4.5						
PMG	**Port Moresby**	**35.09**	**283**	P	**P**	**18 25 02.8**	**+0.1**
	comp=Z,11nm,0.9s,mb4.4,baz=335,slow=16,SNR=8.5						
STKA	**Stephens Creek**	**37.52**	**244**	*e*P	**P**	**18 25 23.5**	**+0.7**
	comp=Z,3.4nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**37.52**	**244**	P	**P**	**18 25 22.8**	**0.0**
	comp=Z,5.0nm,0.6s,mb4.2,baz=93,slow=12,SNR=20						
ASAR	**Alice Springs**	**44.24**	**257**	P	**P**	**18 26 16.6**	**+0.3**
	comp=Z,13nm,0.5s,mb4.7,baz=96,slow=7.6,SNR=311						
ASAR				PcP	PcP	18 27 49.2	-0.1
	comp=Z,2.3nm,0.6s,baz=101,slow=4.0,SNR=9.7						
ASAR				S	**S**	**18 32 07.5**	**-3.9**
	comp=Z,3.0nm,1.0s,baz=94,slow=15,SNR=17						
WB2	**Warramunga Arr**	**44.31**	**262**	⇓*i*P	**P**	**18 26 16.5**	**-0.3**
WRA	**Warramunga Arr**	**44.32**	**262**	P	**P**	**18 26 16.7**	**-0.2**
	comp=Z,4.1nm,0.4s,mb4.4,baz=97,slow=7.5,SNR=184						
WRA				PcP	PcP	18 27 49.2	-0.4
	comp=Z,1.5nm,0.8s,baz=94,slow=3.3,SNR=5.7						
WRA				S	**S**	**18 32 08.0**	**-4.5**
	comp=Z,1.9nm,0.9s,baz=96,slow=13,SNR=8.3						
KAKA	**Kakadu**	**47.70**	**271**	⇓*i*P	**P**	**18 26 42.5**	**-0.1**
	comp=Z,5.7nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.75**	**262**	*e*P	**P**	**18 27 19.7**	**+0.2**
	comp=Z,2.3nm,0.5s,mb3.8						
VNDA	**Vanda**	**57.83**	**185**	P	**P**	**18 27 55.3**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.2,baz=48,slow=8.3,SNR=6.6						
MJAR	**Matsushiro Arr**	**70.09**	**324**	P	**P**	**18 29 12.3**	**-0.6**
	comp=Z,2.3nm,0.9s,mb3.7,baz=150,slow=3.6,SNR=6.5						
YSS	**Yuzh-Sakhalins**	**75.82**	**334**	⇑*e*P	**P**	**18 29 45.2**	**-0.7**
YSS				pmax	pmax		
	comp=Z,51nm,1.4s,mb4.8						
HABR	**Khabarovsk**	**80.36**	**331**	*e*P	**P**	**18 30 10.4**	**+0.2**
NVAR	**Mina Array Bea**	**81.25**	**43**	P	**P**	**18 30 16.6**	**+1.7**
	comp=Z,3.6nm,0.6s,mb4.0,baz=232,slow=8.9,SNR=7.1						
SEY	**Seymchan**	**86.36**	**347**	⇑*e*P	**P**	**18 30 39.0**	**-1.2**
TXAR	**Lajitas Array**	**87.32**	**57**	P	**P**	**18 30 46.5**	**+1.8**
	comp=Z,4.6nm,0.9s,mb4.1,baz=219,slow=6.5,SNR=35						
TXAR	**Lajitas Array**	**87.32**	**57**	P	**P**	**18 30 46.5**	**+1.8**
ANMO	**Albuquerque**	**87.65**	**51**	P	**P**	**18 30 47.0**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.0,baz=225,slow=6.3,SNR=4.4						
ANMO	**Albuquerque**	**87.65**	**51**	*i*P	**P**	**18 30 47.6**	**+1.4**
VNA3	**Neumayer Olymp**	**88.11**	**176**	*e*P	**P**	**18 30 47.5**	**-0.8**
VNA3				*e*		18 30 48.1	
VNA3				*e*		18 30 58.3	
COLA	**College**	**88.32**	**12**	⇑*e*P	**P**	**18 30 47.2**	**-2.1**
COLA	**College**	**88.32**	**12**	*e*P	**P**	**18 30 47.7**	**-1.7**
	comp=Z,21nm,0.8s,mb4.9						
VNA2	**Neumayer--Watz**	**88.55**	**177**	*e*P	**P**	**18 30 49.9**	**-0.5**
VNA2				*e*		18 30 50.6	
VNA2				*e*		18 31 00.2	
VNA1	**Neumayer--Stat**	**88.77**	**177**	*e*P	**P**	**18 30 51.2**	**-0.2**
QLMT	**Earthquake Lak**	**89.04**	**41**	*e*P	**P**	**18 30 54.6**	**+1.9**
BILL	**Bilibino**	**89.06**	**354**	*e*P	**P**	**18 30 51.1**	**-1.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**89.19**	**43**	P	**P**	**18 30 53.9**	**+0.5**
	comp=Z,4.5nm,0.6s,mb4.5,baz=254,slow=3.5,SNR=34						
BOZ	**Bozeman (W)**	**89.33**	**40**	*e*P	**P**	**18 30 55.0**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
BOZ	**Bozeman (W)**	**89.33**	**40**	*e*P	**P**	**18 30 55.0**	**+1.0**
	comp=Z,4.1nm,1.3s,mb4.1						
EGAK	**Eagle**	**89.73**	**15**	*e*P	**P**	**18 30 55.2**	**-0.7**
	comp=Z,17nm,1.1s,mb4.8						
CMIG	**Matias Romero**	**89.95**	**72**	P	**P**	**18 30 58.0**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=270,slow=8.4,SNR=3.9						
YAK	**Yakutsk**	**92.06**	**338**	⇑*e*P	**P**	**18 31 05.0**	**-1.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
SONM	**Songino Array**	**95.61**	**319**	P	**P**	**18 31 23.9**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.7,baz=106,slow=4.7,SNR=2.4						
YKA	**Yellowknife Ar**	**96.68**	**25**	P	**P**	**18 31 26.6**	**-1.0**
	comp=Z,0.4nm,0.7s,mb3.8,baz=243,slow=4.5,SNR=7.9						
YKA	**Yellowknife Ar**	**96.68**	**25**	P	**P**	**18 31 26.6**	**-1.0**
MKAR	**Makanchi Array**	**111.03**	**313**	PKiKP	PKiKP	18 36 25.6	-1.7
	comp=Z,1.3nm,0.6s,baz=50,slow=2.7,SNR=7.1						
KURK	**Kurchatov**	**113.85**	**317**	⇑*i*PKiKP	PKiKP	18 36 30.6	-2.1
BVAR	**Borovoye Array**	**118.94**	**320**	PKP	PKPdf	18 36 40.3	-2.2
	comp=Z,3.2nm,0.4s,baz=114,slow=1.4,SNR=33						
AKTK	**Aktyubinsk**	**126.92**	**318**	PKP	PKPdf	18 36 57.3	-0.5
AKTO	**Aktyubinsk**	**126.92**	**318**	PKP	PKPdf	18 36 57.3	-0.5
	comp=Z,2.9nm,0.7s,baz=81,slow=4.6,SNR=15						
ARCES	**ARCESS Array B**	**128.92**	**349**	PKP	PKPdf	18 36 59.5	-2.1
	comp=Z,3.5nm,0.7s,baz=73,slow=1.7,SNR=20						
ARCES	**ARCESS Array B**	**128.92**	**349**	PKP	PKPdf	18 36 59.5	-2.2
FINES	**FINESS Array B**	**135.75**	**343**	PKhKP		18 37 01.6	
	comp=Z,3.1nm,1.0s,baz=97,slow=4.8,SNR=4.0						
FINES				PKP	PKPdf	18 37 12.8	-1.6
	comp=Z,1.3nm,0.5s,baz=108,slow=4.2,SNR=7.2						
FINES	**FINESS Array B**	**135.75**	**343**	PKP		18 37 01.6	
FINES				PKP	PKPdf	18 37 12.8	-1.6
NB2	**NORSAR Subarra**	**139.00**	**353**	PKP		18 37 10.3	
	comp=Z,5.9nm,1.1s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**139.00**	**353**	PKhKP		18 37 12.9	
	comp=Z,1.4nm,0.7s,baz=15,slow=2.3,SNR=4.5						
SUW	**Suwalki**	**142.79**	**339**	*e*PKP	PKPdf	18 37 24.0	-3.2
AKASG	**Malin Array Be**	**142.93**	**331**	PKP	PKPdf	18 37 23.4	-4.0
	comp=Z,16nm,0.6s,baz=42,slow=4.3,SNR=93						
AKASG	**Malin Array Be**	**142.93**	**331**	PKP	PKPdf	18 37 23.4	-4.0
KIEV	**Kiev**	**142.94**	**331**	*e*PKHKP		18 37 23.3	
MUD	**Monsted U'grnd**	**143.72**	**353**	*i*P	PKPdf	18 37 26.9	-2.0
	comp=Z,28nm,0.7s						
MUD	**Monsted U'grnd**	**143.72**	**353**	*i*PKHKP		18 37 26.9	
MUD				pmax	pmax		
	comp=Z,28nm,0.7s						
BSD	**Bornholm Skovb**	**144.08**	**347**	*i*P	PKPdf	18 37 27.9	-1.6
	comp=Z,138nm,1.4s						
BSD	**Bornholm Skovb**	**144.08**	**347**	*i*PKHKP		18 37 27.9	
BSD				pmax	pmax		
	comp=Z,140nm,1.4s						
GKP	**Gorka Klasztor**	**145.22**	**344**	*e*PKP	PKPdf	18 37 31.6	+0.2
LVV	**L'vov**	**145.83**	**344**	*e*PKHKP	PKPbc	18 37 33.3	-0.9
BSEG	**Bad Segeberg**	**146.03**	**351**	*e*PKPbc	PKPbc	18 37 34.2	-0.5
KWP	**Kalwaria**	**146.51**	**335**	*e*PKP	PKPbc	18 37 35.9	-0.2
BRTR	**Keskin Array B**	**146.67**	**312**	PKPbc	PKPbc	18 37 35.1	-1.3
	comp=Z,5.1nm,0.7s,baz=133,slow=4.9,SNR=22						
BURAR	**Bucovina Array**	**146.97**	**330**	⇓*i*P	PKPbc	18 37 37.3	0.0
OJC	**Ojcow**	**147.11**	**338**	*e*PKP	PKPbc	18 37 37.0	-0.7
ANTO	**Ankara**	**147.19**	**313**	⇑*i*P	PKPbc	18 37 36.7	-1.2
KOLS	**Kolonicke sedl**	**147.24**	**335**	*e*PKP	PKPbc	18 37 37.8	-0.2
STHS	**Stebnicka Huta**	**147.25**	**336**	*e*PKP	PKPbc	18 37 38.0	0.0
STHS				*e*		18 37 42.6	
TIRR	**Tirgusor**	**147.47**	**323**	⇑*i*P	PKPbc	18 37 38.0	-0.6
UZH	**Uzhgorod**	**147.47**	**334**	*d i*PKIKP	PKPbc	18 37 38.4	-0.2
PLOR	**Plostina**	**147.51**	**327**	⇑*i*P	PKPbc	18 37 38.0	-0.7
CRVS	**Cervenica-Dubn**	**147.59**	**335**	*e*PKP	PKPbc	18 37 38.9	0.0
NIE	**Niedzica**	**147.60**	**337**	*e*PKP	PKPbc	18 37 39.0	+0.1
KSP	**Ksiaz**	**147.66**	**343**	*e*PKP	PKPbc	18 37 39.0	-0.1
OKC	**Ostrava-Krasne**	**147.99**	**340**	⇑*e*PKP	PKPbc	18 37 39.3	-0.6
OKC				*e*PKPAB	PKPab	18 37 44.3	-0.3
UPC	**Upice**	**148.04**	**343**	⇑*e*PKP	PKPbc	18 37 39.3	-0.8
UPC				*e*PKPAB	PKPab	18 37 44.8	0.0
CLZ	**Clausthal**	**148.05**	**350**	*e*PKPbc	PKPbc	18 37 39.8	-0.3
CLL	**Collm**	**148.05**	**347**	*e*PKPbc	PKPbc	18 37 39.6	-0.5
CLL	**Collm**	**148.05**	**347**	⇓*i*PKPbc	PKPbc	18 37 39.5	-0.6
	comp=Z,35nm,0.8s						
CLL				⇑*i*PKPab	PKPab	18 37 44.1	-0.7
	comp=Z,15nm,0.7s						
DPC	**Dobruska-Polom**	**148.09**	**342**	⇑*e*PKP	PKPbc	18 37 40.1	-0.1
DPC				*e*PKPAB	PKPab	18 37 44.8	-0.2
MLR	**Muntele Rosu**	**148.12**	**327**	PKPbc	PKPbc	18 37 39.2	-1.0
	comp=Z,7.2nm,0.7s,baz=348,slow=4.0,SNR=13						
MLR	**Muntele Rosu**	**148.12**	**327**	⇑P	PKPbc	18 37 39.2	-1.0
MLR	**Muntele Rosu**	**148.12**	**327**	⇑*i*P	PKPbc	18 37 39.3	-1.0
MORC	**Moravsky Berou**	**148.23**	**340**	⇑*i*P	PKPbc	18 37 39.9	-0.7
BRG	**Berggiesshubel**	**148.24**	**345**	*e*PKPbc	PKPbc	18 37 40.1	-0.5
BRG	**Berggiesshubel**	**148.24**	**345**	*i*PKP	PKPbc	18 37 40.1	-0.5
	comp=Z,9.8nm,0.9s						
BRG				*i*		18 37 45.0	
	comp=Z,7.6nm,0.8s						
KECS	**Kecovo**	**148.31**	**336**	*e*PKP	PKPbc	18 37 40.7	0.0
KECS				*e*		18 37 45.7	
FBE	**Freiberg**	**148.34**	**346**	*e*PKPbc	PKPbc	18 37 40.5	-0.3
PVCC	**Panska Ves**	**148.41**	**344**	⇑*e*PKP	PKPbc	18 37 40.7	-0.3
VOIR		**148.61**	**328**	⇓*i*P	PKPbc	18 37 41.4	-0.1
DRGR		**148.72**	**332**	⇑*i*P	PKPbc	18 37 41.5	-0.3
VYHS	**Vyhne**	**148.91**	**338**	*e*PKP	PKPbc	18 37 41.9	-0.3
VYHS				*e*		18 37 48.4	
PRU	**Pruhonice**	**148.91**	**344**	⇑*e*PKP	PKPbc	18 37 41.6	-0.6
PRU				*e*PKPAB	PKPab	18 37 47.8	-0.6
VRAC	**Vranov**	**148.94**	**341**	PKPbc	PKPbc	18 37 41.1	-1.2
	comp=Z,2.0nm,0.5s,baz=80,slow=14,SNR=4.2						
VRAC	**Vranov**	**148.94**	**341**	⇑P	PKPbc	18 37 42.0	-0.3
VRAC	**Vranov**	**148.94**	**341**	⇑*i*P	PKPbc	18 37 42.0	-0.3
MOX	**Moxa**	**148.97**	**348**	*e*PKPbc	PKPbc	18 37 41.7	-0.7
MOX	**Moxa**	**148.97**	**348**	*e*P	PKPbc	18 37 42.0	-0.4
	comp=Z,30nm,1.5s						
PSZ	**Piszkesteto**	**149.00**	**336**	⇑*i*P	PKPbc	18 37 42.2	-0.2
TANN	**Tannenbergstha**	**149.01**	**347**	*e*PKPbc	PKPbc	18 37 42.1	-0.4
WERD	**Werda**	**149.01**	**347**	*e*PKPbc	PKPbc	18 37 42.0	-0.5
GUNZ	**Gunzen**	**149.09**	**347**	*e*PKPbc	PKPbc	18 37 42.5	-0.1
WERN	**Wernitzgruen**	**149.15**	**347**	*e*PKPbc	PKPbc	18 37 42.5	-0.3
NKC	**Novy Kostel**	**149.18**	**346**	⇑*e*PKP	PKPbc	18 37 42.0	-0.9
NKC				*e*PKPAB	PKPab	18 37 48.7	-0.8
MANZ	**Manzenberg**	**149.49**	**347**	*e*PKPbc	PKPbc	18 37 43.5	-0.1
ROTZ	**Rotzenmuhle**	**149.68**	**346**	*e*PKPbc	PKPbc	18 37 43.7	-0.4
GZR	**Gura Zlata**	**149.75**	**330**	⇓*i*P	PKPbc	18 37 43.5	-0.7
TNS	**Taunus Mts**	**149.91**	**351**	*e*PKPbc	PKPbc	18 37 44.0	-0.6
KHC	**Kasperske Hory**	**149.94**	**344**	⇑*e*PKP	PKPbc	18 37 44.3	-0.4
KHC				*e*PKPAB	PKPab	18 37 52.6	-0.1
GRA1	**Grafenberg Arr**	**149.95**	**348**	*e*PKPbc	PKPbc	18 37 44.7	0.0
GRF	**Grafenberg Arr**	**149.95**	**348**	*e*PKPbc	PKPbc	18 37 44.7	0.0
BZS	**Buzias**	**150.11**	**331**	⇑*i*P	PKPbc	18 37 44.5	-0.6
GEC2	**GERESS Array S**	**150.18**	**344**	*e*PKPbc	PKPbc	18 37 44.6	-0.6
GERES	**GERESS Array B**	**150.18**	**344**	PKP	PKPdf	18 37 39.6	+0.1
	comp=Z,0.4nm,0.6s,baz=112,slow=1.1,SNR=3.6						
GERES				PKPbc	PKPbc	18 37 44.3	-0.9
	comp=Z,5.3nm,0.7s,baz=29,slow=2.0,SNR=36						
CONA	**Conrad Observa**	**150.39**	**341**	⇓*i*PKPbc	PKPbc	18 37 45.5	-0.2
	comp=Z,7.9nm,0.8s						
GIVF	**Givet**	**150.41**	**356**	*e*PKP1	PKPbc	18 37 44.3	-1.5
	comp=Z,42nm,1.0s						
BAIF	**Baives**	**150.49**	**357**	*e*PKP1	PKPbc	18 37 44.7	-1.3
	comp=Z,23nm,1.0s						
WLF	**Walferdange**	**150.74**	**354**	*e*PKPbc	PKPbc	18 37 47.0	+0.5
VTS	**Vitosha**	**151.55**	**325**	⇑*i*P	PKPbc	18 37 47.7	-0.7
BFO	**Black Forest**	**151.78**	**351**	*e*PKPbc	PKPbc	18 37 48.1	-0.8
FLN	**La Foliniere**	**151.80**	**3**	*e*PKP1	PKPbc	18 37 46.0	-2.9
CDF	**Champ du Feu**	**151.85**	**352**	*e*PKP1	PKPbc	18 37 47.5	-1.5
KBA	**Koelnbreinsper**	**151.90**	**343**	⇑*i*P	PKPbc	18 37 48.0	-1.1
	comp=Z,7.8nm,1.1s						
LDF	**La Druitiere**	**151.99**	**3**	*e*PKP1	PKPbc	18 37 46.0	-3.3
GRR	**Gorron**	**152.15**	**4**	*e*PKP1	PKPbc	18 37 47.1	-2.6
WTTA	**Wattenberg**	**152.16**	**345**	⇑*i*P	PKPbc	18 37 49.3	-0.4
	comp=Z,6.4nm,0.5s						
CRES	**Cresnjev**	**152.38**	**339**	*i*PKPbc	PKPbc	18 37 49.4	-0.8
LJU	**Ljubljana**	**152.48**	**340**	*i*PKPbc	PKPbc	18 37 49.6	-0.9
BOJS	**Bojanci**	**152.73**	**339**	*i*PKPbc	PKPbc	18 37 50.5	-0.5
LOR	**Lormes**	**153.29**	**357**	*e*PKP1	PKPbc	18 37 50.6	-1.6
	comp=Z,12nm,0.9s						
ESDC	**Sonseca Array**	**160.33**	**13**	PKPab	PKPab	18 38 36.6	-0.7
	comp=Z,0.9nm,0.7s,baz=337,slow=4.5,SNR=7.3						
TORD	**Torodi Ar. Bea**	**172.63**	**180**	PKP	PKPdf	18 38 00.1	-2.2
	comp=Z,1.2nm,0.8s,baz=11,slow=0.8,SNR=6.9						

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*HLW **15** 18:32:10.8, 3169N×3564E, h18km, Mb2.6*
*ISCJB **15** 18:32:11.7±0.7, 3143N±002×3554E±006, h13km±4km, Error ellipse: s-maj=8.8km s-min=3.5km az=29.7*
*GII **15** 18:32:12.3±0.1, 3144N×3554E, h10km, ML2.2/8*
ISC 15 18:32:12.3±0.8, 3143N±002×**3555E**±006, **h13**km±4km, **n20**, σ0$60/31, **Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSI	**Dead Sea**	**0.20**	**313**	Pg	**Pg**	**18 32 17.0**	**+0.2**
MZDA	**Masada**	**0.20**	**233**	Pg	**Pg**	**18 32 16.9**	**+0.1**
MZDA				Sg	**Sg**	**18 32 21.2**	**+1.4**
DRGI	**Dragot**	**0.21**	**320**	Pg	**Pg**	**18 32 16.9**	**-0.1**
YTIR	**Yattir**	**0.38**	**260**	Pg	**Pg**	**18 32 20.1**	**+0.2**
AMAZ	**Amatzia**	**0.55**	**281**	Pg	**Pg**	**18 32 22.9**	**-0.2**
AMAZ				Sg	**Sg**	**18 32 31.2**	**+0.7**
MASH	**Mash'abbe Sade**	**0.79**	**237**	Pg	**Pg**	**18 32 27.2**	**-0.4**
HMDT	**Nahal Hemdat**	**0.82**	**358**	Pg	**Pg**	**18 32 28.2**	**+0.1**
HMDT				Sg	**Sg**	**18 32 39.2**	**+0.4**
RTMI	**Retamim**	**0.83**	**243**	Pg	**Pg**	**18 32 27.9**	**-0.4**
SLTI	**Sal'it**	**0.92**	**332**	Pg	**Pg**	**18 32 29.7**	**-0.3**
SLTI				Sg	**Sg**	**18 32 42.3**	**+0.4**
ZFRI	**Zfri**	**0.93**	**200**	Pg	**Pg**	**18 32 29.9**	**-0.5**
SVTA	**Shivta**	**0.94**	**238**	Pg	**Pg**	**18 32 29.9**	**-0.6**
MMLI	**Mount Malkishu**	**1.01**	**354**	Pg	**Pg**	**18 32 31.3**	**-0.5**
MMLI				Sg	**Sg**	**18 32 44.9**	**0.0**
KZIT	**Kziot**	**1.12**	**242**	Pg	**Pg**	**18 32 33.4**	**-0.5**
KZIT				Sg	**Sg**	**18 32 48.7**	**+0.3**
PRNI	**Paran**	**1.18**	**204**	Pg	**Pg**	**18 32 34.3**	**-0.7**
PRNI				Sg	**Sg**	**18 32 50.7**	**+0.5**
OFRI	**'Ofer**	**1.28**	**338**	Pg	**Pg**	**18 32 35.8**	**-1.1**
HRFI	**Mount Harif**	**1.46**	**198**	Pn	**Pn**	**18 32 38.7**	**+0.3**
HRFI				Sn	**Sn**	**18 32 58.9**	**+1.5**
MMA4	**Mount Meron ar**	**1.58**	**355**	Pn	**Pn**	**18 32 40.3**	**+0.2**
MMA4				Sn	**Sn**	**18 33 01.6**	**+1.1**
HNKL	**Nakhl**	**2.02**	**223**	P	**Pn**	**18 32 46.1**	**0.0**
AMAG	**Maghara**	**2.16**	**249**	P	**Pn**	**18 32 47.6**	**-0.5**
AMAG				S	**Sn**	**18 33 13.6**	**-1.1**
SUZ		**2.83**	**237**	P	**Pn**	**18 32 57.0**	**-0.2**
SUZ				S	**Sn**	**18 33 31.2**	**0.0**

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*ISCJB **15** 18:32:59.5±0.4, 3299N±005×137.15E±007, h393km±3km, mb3.4/13, Error ellipse: s-maj=9.1km s-min=8.2km az=89.1*
*IDC **15** 18:32:59.9±1.2, 3303N×137.11E, h381km±13km, mb3.1/11, mb1 3.3/14, mb1mx3.2/25, mbtmp3.1/14, Error ellipse: s-maj=20.2km s-min=10.8km az=66.0*
*NEIC **15** 18:33:00.9±0.8, 3306N×13697E, h388km±7km, mb3.8/2, Error ellipse: s-maj=15.3km s-min=11.5km az=82.0*
*JMA **15** 18:33:00.2±0.3, 3310N×13706E, h399km±4km, M3.4*
ISC 15 18:33:00.8±0.5, 3309N±007×**13712E**±007, **h389**km±3km, **n30**, σ0$94/40, **mb3.4**/13, **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.01**	**31**	*e*S	**S**	**18 34 33.5**	**+2.5**
JWZ	**Kozaga**	**1.26**	**291**	P	**Pn**	**18 33 51.8**	**+0.1**
JWZ				*e*S	**S**	**18 34 32.0**	**-0.8**
JIE	**Ise**	**1.35**	**345**	P	**Pn**	**18 33 52.9**	**+0.8**
JIE				*e*S	**S**	**18 34 33.4**	**-0.1**
JWY	**Kouya**	**1.71**	**312**	P	**Pn**	**18 33 54.4**	**+0.5**
JWY				*e*S	**S**	**18 34 36.4**	**-0.4**
JAI	**Aioi**	**2.34**	**288**	P	**Pn**	**18 33 58.3**	**+0.3**
JWT	**Wachi**	**2.62**	**327**	P	**Pn**	**18 34 00.2**	**+0.2**
JWT				*e*S	**S**	**18 34 46.5**	**-1.4**
JGM	**Miyama**	**2.63**	**353**	P	**Pn**	**18 34 00.9**	**+0.8**
JGM				*e*S	**S**	**18 34 48.1**	**0.0**
JOD2	**Odawara 2**	**2.71**	**36**	P	**Pn**	**18 34 01.8**	**+1.0**
JOD2				*e*S	**S**	**18 34 51.1**	**+1.8**
JMN	**Monobe**	**2.79**	**284**	P	**Pn**	**18 34 01.9**	**+0.5**
JRY	**Ryogami san**	**3.27**	**26**	P	**Pn**	**18 34 06.4**	**+1.0**
JRY				*e*S	**S**	**18 34 56.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.56**	**14**	P	**Pn**	**18 34 08.7**	**+0.7**
	3.0nm,0.3s,baz=182,slow=9.5,SNR=38						
MAJO	**Matsushiro**	**3.56**	**14**	*e*P	**Pn**	**18 34 08.2**	**+0.2**
MAT	**Matsushiro**	**3.56**	**14**	P	**Pn**	**18 34 08.3**	**+0.3**
MAT				*e*S	**S**	**18 35 01.1**	**-1.3**
BSO1	**Boso 1**	**3.57**	**63**	P	**Pn**	**18 34 06.9**	**-1.2**
BSO1				*e*S	**S**	**18 35 00.2**	**-2.3**
JTO	**Tosashimizu**	**3.64**	**268**	P	**Pn**	**18 34 08.8**	**0.0**
CBIJ	**Chichi jima**	**7.41**	**142**	P	**Pn**	**18 34 47.0**	**-1.7**
	4.5nm,0.3s,baz=295,slow=17,SNR=6.7						
CBIJ				S	**S**	**18 36 10.8**	**-6.2**
	10nm,0.3s,baz=295

IUSE	**Utxeti**	**0.97 258**	Pg	**Pg**	**18 34 52.5**	**+0.5**
	4.0nm,0.1s,SNR=8.5					
EARA	**Aranguren**	**1.05 249**	Pg	**Pg**	**18 34 54.3**	**+0.9**
	3.0nm,0.1s,SNR=6.1					
EARA			Lg		18 35 08.0	
	25nm,0.2s,SNR=9.5					
SALF	**Salau**	**1.13 110**	Pg	**Pg**	**18 34 55.0**	**+0.1**
SALF			Sg	**Sg**	**18 35 11.4**	**+1.9**
SALF	**Salau**	**1.13 110**	P	**Pb**	**18 34 55.0**	**+0.2**
SALF			S	**Sb**	**18 35 09.7**	**+0.2**
CSOR	**Sort**	**1.28 127**	P	**Pn**	**18 34 57.6**	**+0.5**
CSOR			S	**Sb**	**18 35 14.5**	**+0.6**
	31nm,0.2s					
GRBF	**Gourbit**	**1.35 103**	P	**Pn**	**18 35 00.1**	**+2.0**
ESAC	**San Caprasio**	**1.44 187**	Pg	**Pg**	**18 35 00.3**	**-0.5**
	41nm,0.2s,SNR=40					
ESAC			Lg		18 35 18.3	
	198nm,0.2s,SNR=21					
ESAC	**San Caprasio**	**1.44 187**	Pg	**Pg**	**18 35 00.3**	**-0.5**
	41nm,0.2s,SNR=40					
PAND	**Andorre**	**1.46 115**	S	**Sn**	**18 35 20.0**	**+1.2**
CAVN	**Les Avellanes**	**1.47 149**	P	**Pn**	**18 35 01.0**	**+1.3**
CAVN			S	**Sn**	**18 35 19.5**	**+0.5**
	107nm,0.2s					
CORG	**Organya**	**1.48 128**	P	**Pn**	**18 35 01.1**	**+1.3**
CORG			S	**Sn**	**18 35 19.2**	**0.0**
	9.4nm,0.3s					
ECRI	**Cripan**	**1.75 253**	Pg	**Pg**	**18 35 06.4**	**-0.3**
	4.3nm,0.1s,SNR=7.9					
ECRI			Lg		18 35 28.4	
	16nm,0.2s,SNR=7.9					
CLLI	**Llivia**	**1.77 112**	S	**Sn**	**18 35 26.3**	**-0.1**
	13nm,0.3s					
EMIR	**Miracle**	**1.80 133**	Pg	**Pg**	**18 35 07.4**	**-0.4**
	6.8nm,0.1s,SNR=21					
EMIR			Lg		18 35 31.2	
	48nm,0.2s,SNR=12					
EMIR	**Miracle**	**1.80 133**	Pg	**Pg**	**18 35 07.4**	**-0.4**
	6.8nm,0.1s,SNR=21					
MTLF	**Montolieu**	**1.81 83**	*e*Pg	**Pg**	**18 35 08.4**	**+0.4**
MTLF			*e*Sg	**Sg**	**18 35 32.1**	**+0.6**
	21nm,0.2s,SNR=1.0					
MTLF	**Montolieu**	**1.81 83**	*e*Pn	**Pn**	**18 35 03.7**	**-0.8**
MTLF			*e*Pg	**Pg**	**18 35 08.4**	**+0.4**
MTLF			*e*Sg	**Sg**	**18 35 32.1**	**+0.6**
MTLF	**Montolieu**	**1.81 83**	Pn	**Pn**	**18 35 03.7**	**-0.8**
MTLF			Pg	**Pg**	**18 35 08.4**	**+0.4**
MTLF			Lg		18 35 32.1	
	10nm,0.2s					
MTLF	**Montolieu**	**1.81 83**	*e*Pg	**Pg**	**18 35 08.4**	**+0.4**
MTLF			*e*Sg	**Sg**	**18 35 32.1**	**+0.6**
	10nm,0.2s,SNR=1.0					
LFF	**La Frestale**	**1.93 21**	*e*Pg	**Pg**	**18 35 11.6**	**+1.5**
LFF			*e*Sn	**Sn**	**18 35 28.4**	**-1.8**
	SNR=1.0					
LFF			*e*Sg	**Sg**	**18 35 37.0**	**+1.9**
	43nm,0.2s,SNR=1.0					
LFF	**La Frestale**	**1.93 21**	*e*Pn	**Pn**	**18 35 05.8**	**-0.2**
LFF			*e*Pg	**Pg**	**18 35 11.6**	**+1.5**
LFF			*e*Sn	**Sn**	**18 35 28.4**	**-1.8**
LFF			*e*Sg	**Sg**	**18 35 37.0**	**+1.9**
LFF	**La Frestale**	**1.93 21**	Pn	**Pn**	**18 35 05.8**	**-0.2**
LFF			Pg	**Pg**	**18 35 11.6**	**+1.5**
LFF			Lg		18 35 37.0	
	22nm,0.2s					
LFF	**La Frestale**	**1.93 21**	*e*Pg	**Pg**	**18 35 11.6**	**+1.5**
LFF			*e*Sn	**Sn**	**18 35 28.4**	**-1.8**
	SNR=1.0					
LFF			*e*Sg	**Sg**	**18 35 37.0**	**+1.9**
	22nm,0.2s,SNR=1.0					
EPOB	**Poblet**	**2.05 151**	Pg	**Pg**	**18 35 11.1**	**-1.4**
	2.5nm,0.1s,SNR=18					
EPOB			Lg		18 35 36.7	
	16nm,0.2s,SNR=15					
EPOB	**Poblet**	**2.05 151**	Pg	**Pg**	**18 35 11.1**	**-1.4**
	2.5nm,0.1s,SNR=18					
ERTA	**Horta de San J**	**2.24 169**	Pg	**Pg**	**18 35 14.6**	**-1.5**
	2.4nm,0.1s,SNR=7.9					
ERTA			Lg		18 35 42.5	
	25nm,0.2s,SNR=7.9					
ERTA	**Horta de San J**	**2.24 169**	Pg	**Pg**	**18 35 14.6**	**-1.5**
	2.4nm,0.1s,SNR=7.9					
ELAN	**Lanestosa**	**2.33 273**	Pn	**Pn**	**18 35 14.1**	**+2.5**
	0.3nm,0.1s,SNR=7.9					
ELAN			Sn	**Sn**	**18 35 41.5**	**+1.2**
	1.5nm,0.2s,SNR=7.9					
ELAN	**Lanestosa**	**2.33 273**	Pn	**Pn**	**18 35 14.1**	**+2.5**
	0.3nm,0.1s,SNR=7.9					
ELAN			Sn	**Sn**	**18 35 41.5**	**+1.2**
	1.5nm,0.2s,SNR=7.9					
EJON	**La Jonquera**	**2.41 106**	Pg	**Pg**	**18 35 18.1**	**-1.4**
	1.6nm,0.2s,SNR=7.9					
EJON			Lg		18 35 52.1	
	12nm,0.2s,SNR=9.7					
EJON	**La Jonquera**	**2.41 106**	Pg	**Pg**	**18 35 18.1**	**-1.4**
	1.6nm,0.2s,SNR=7.9					
CAF	**Calviac**	**2.44 42**	*e*Pg	**Pg**	**18 35 20.7**	**+0.8**
CAF			*e*Sg	**Sg**	**18 35 53.4**	**+1.9**
	17nm,0.2s					
CAF	**Calviac**	**2.44 42**	*e*Pn	**Pn**	**18 35 13.1**	**+0.1**
CAF			*e*Pg	**Pg**	**18 35 20.7**	**+0.8**
CAF			*e*Sg	**Sg**	**18 35 53.4**	**+1.9**
CAF	**Calviac**	**2.44 42**	Pn	**Pn**	**18 35 13.1**	**+0.1**
CAF			Pg	**Pg**	**18 35 20.7**	**+0.8**
CAF			Lg		18 35 53.4	
	8.5nm,0.2s					
CAF	**Calviac**	**2.44 42**	*e*Pg	**Pg**	**18 35 20.7**	**+0.8**
CAF			*e*Sg	**Sg**	**18 35 53.4**	**+1.9**
	8.5nm,0.2s					
RJF	**Les Rejaudoux**	**2.50 30**	*e*Pg	**Pg**	**18 35 21.9**	**+0.8**
	SNR=1.0					
RJF			*e*Sn	**Sn**	**18 35 43.2**	**-1.2**
	SNR=1.0					
RJF			*e*Sg	**Sg**	**18 35 55.0**	**+1.5**
	29nm,0.2s,SNR=1.0					
RJF	**Les Rejaudoux**	**2.50 30**	*e*Pn	**Pn**	**18 35 13.7**	**-0.2**
RJF			*e*Pg	**Pg**	**18 35 21.9**	**+0.8**
RJF			*e*Sn	**Sn**	**18 35 43.2**	**-1.2**
RJF			*e*Sg	**Sg**	**18 35 55.0**	**+1.5**
RJF	**Les Rejaudoux**	**2.50 30**	Pn	**Pn**	**18 35 13.7**	**-0.2**
RJF			Pg	**Pg**	**18 35 21.9**	**+0.8**
RJF			Lg		18 35 55.0	
	15nm,0.2s					
RJF	**Les Rejaudoux**	**2.50 30**	*e*Pg	**Pg**	**18 35 21.9**	**+0.8**
	SNR=1.0					
RJF			*e*Sn	**Sn**	**18 35 43.2**	**-1.2**
	SNR=1.0					
RJF			*e*Sg	**Sg**	**18 35 55.0**	**+1.5**
	15nm,0.2s,SNR=1.0					
ETOR	**Torete**	**2.69 211**	Pn	**Pn**	**18 35 17.7**	**+1.2**
	14nm,0.1s,SNR=23					
ETOR			Sn	**Sn**	**18 35 48.3**	**-0.9**
	14nm,0.2s,SNR=7.9					
ETOR			Lg		18 35 57.9	
	48nm,0.2s,SNR=6.1					
ETOR	**Torete**	**2.69 211**	Pn	**Pn**	**18 35 17.7**	**+1.2**
	14nm,0.1s,SNR=23					
ETOR			Sn	**Sn**	**18 35 48.3**	**-0.9**
	14nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**2.79 184**	Pn	**Pn**	**18 35 18.6**	**+0.7**
EMOS			Sn	**Sn**	**18 35 50.1**	**-1.5**
EMOS			Lg		18 35 58.3	
EMOS	**Mosqueruela**	**2.79 184**	Pn	**Pn**	**18 35 18.6**	**+0.7**
	0.9nm,0.2s,SNR=7.9					
EMOS			Sn	**Sn**	**18 35 50.1**	**-1.5**
	2.3nm,0.2s,SNR=7.9					
EMOS			Lg		18 35 59.3	
	7.1nm,0.3s,SNR=9.4					
EMOS	**Mosqueruela**	**2.79 184**	Pn	**Pn**	**18 35 18.6**	**+0.7**
	0.9nm,0.2s,SNR=7.9					
EMOS			Sn	**Sn**	**18 35 50.1**	**-1.5**
	2.3nm,0.2s,SNR=7.9					
LASF	**Ste Croix**	**3.12 71**	*e*P	**Pn**	**18 35 24.7**	**+2.2**
LASF	**Ste Croix**	**3.12 71**	*e*Pg	**Pg**	**18 35 33.2**	**+0.1**
LASF			*e*Sg	**Sg**	**18 36 12.6**	**-0.9**
	7.3nm,0.2s,SNR=1.0					
LASF	**Ste Croix**	**3.12 71**	*e*Pn	**Pn**	**18 35 21.6**	**-0.9**
LASF			*e*P		18 35 24.7	
LASF			*e*Pg	**Pg**	**18 35 33.2**	**+0.1**
LASF			*e*Sg	**Sg**	**18 36 12.6**	**-0.9**
LASF	**Ste Croix**	**3.12 71**	P	**Pn**	**18 35 24.7**	**+2.2**
LASF			Pg	**Pg**	**18 35 33.2**	**+0.1**
LASF	**Ste Croix**	**3.12 71**	*e*P	**Pn**	**18 35 24.7**	**+2.2**
LASF	**Ste Croix**	**3.12 71**	*e*Pg	**Pg**	**18 35 33.2**	**+0.1**
LASF			*e*Sg	**Sg**	**18 36 12.6**	**-0.9**
	3.7nm,0.2s,SNR=1.0					
MFF	**Saint Martin d**	**3.45 1**	*e*Pg	**Pg**	**18 35 39.2**	**-0.2**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**18 36 06.6**	**-1.3**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**18 36 25.1**	**+1.0**
	6.8nm,0.2s,SNR=1.0					
MFF	**Saint Martin d**	**3.45 1**	*e*Pg	**Pg**	**18 35 39.2**	**-0.2**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**18 36 06.6**	**-1.3**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**18 36 25.1**	**+1.0**
	3.4nm,0.2s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.59 28**	*e*Pg	**Pg**	**18 35 42.0**	**-0.1**
TCF			*e*Sg	**Sg**	**18 36 28.7**	**+0.1**
	14nm,0.3s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.59 28**	*e*Pn	**Pn**	**18 35 28.5**	**-0.4**
TCF			*e*Pg	**Pg**	**18 35 42.0**	**-0.1**
TCF			*e*Sg	**Sg**	**18 36 28.7**	**+0.1**
TCF	**Toulx Ste Croi**	**3.59 28**	*e*Pg	**Pg**	**18 35 42.0**	**-0.1**
TCF			*e*Sg	**Sg**	**18 36 28.7**	**+0.1**
	7.1nm,0.3s,SNR=1.0					
EARI	**Arriondas**	**3.63 274**	Pn	**Pn**	**18 35 32.0**	**+2.6**
	1.1nm,0.3s,SNR=5.6					
EARI			Sn	**Sn**	**18 36 13.1**	**+0.8**
	1.4nm,0.4s,SNR=5.0					
EARI	**Arriondas**	**3.63 274**	Pn	**Pn**	**18 35 32.0**	**+2.6**
	1.1nm,0.3s,SNR=5.6					
EARI			Sn	**Sn**	**18 36 13.1**	**+0.8**
	1.4nm,0.4s,SNR=5.0					
VIVF	**Saint-Julien-l**	**3.94 63**	*e*Pg	**Pg**	**18 35 47.7**	**-1.0**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**18 36 38.2**	**-1.5**
	5.9nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**3.94 63**	*e*Pg	**Pg**	**18 35 47.7**	**-1.0**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**18 36 38.2**	**-1.5**
	3.0nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	**4.05 32**	*e*Pg	**Pg**	**18 35 50.7**	**-0.2**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**18 36 44.7**	**+1.2**
	44nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**4.05 32**	*e*Pg	**Pg**	**18 35 50.7**	**-0.2**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**18 36 44.7**	**+1.2**
	22nm,0.4s,SNR=1.0					
SMRF	**Simiane la Rot**	**4.31 77**	*e*Pg	**Pg**	**18 35 54.2**	**-1.6**
SMRF			*e*Sg	**Sg**	**18 36 51.0**	**-0.7**
	2.7nm,0.4s					
SMRF	**Simiane la Rot**	**4.31 77**	*e*Pg	**Pg**	**18 35 54.2**	**-1.6**
SMRF			*e*Sg	**Sg**	**18 36 51.0**	**-0.7**
	1.4nm,0.4s					
AVF	**Avril sur Loir**	**4.45 34**	*e*Pg	**Pg**	**18 35 57.8**	**-0.6**
AVF			*e*Sg	**Sg**	**18 36 55.7**	**-0.3**
	7.2nm,0.3s					
AVF	**Avril sur Loir**	**4.45 34**	*e*Pn	**Pn**	**18 35 40.1**	**-0.6**
AVF			*e*Pg	**Pg**	**18 35 57.8**	**-0.6**
AVF			*e*Sg	**Sg**	**18 36 55.7**	**-0.3**
AVF	**Avril sur Loir**	**4.45 34**	*e*Pg	**Pg**	**18 35 57.8**	**-0.6**
AVF			*e*Sg	**Sg**	**18 36 55.7**	**-0.3**
	3.6nm,0.3s					
ESDC	**Sonseca Array**	**4.46 220**	Pn	**Pn**	**18 35 40.9**	**0.0**
	2.9nm,0.2s,baz=41,slow=14,SNR=8.7					
ESDC			Sn	**Sn**	**18 36 30.0**	**-2.7**
	2.3nm,0.2s,baz=40,slow=24,SNR=7.9					
ESDC	**Sonseca Array**	**4.46 220**	Pn	**Pn**	**18 35 40.9**	**+0.1**
	2.9nm,0.2s,SNR=8.7					
ESDC			Sn	**Sn**	**18 36 30.0**	**-2.7**
	2.3nm,0.2s,SNR=7.9					
SMF	**Signal de Mont**	**4.54 38**	*e*Pg	**Pg**	**18 35 59.1**	**-1.2**
SMF			*e*Sg	**Sg**	**18 36 59.0**	**-0.1**
	5.0nm,0.4s,SNR=1.0					
SMF	**Signal de Mont**	**4.54 38**	*e*Pg	**Pg**	**18 35 59.1**	**-1.2**
SMF			*e*Sg	**Sg**	**18 36 59.0**	**-0.1**
	2.5nm,0.4s,SNR=1.0					
HYF	**Humbligny**	**4.59 25**	*e*Sg	**Sg**	**18 37 01.1**	**+0.3**
SSF	**Saint Saulge**	**4.73 33**	*e*Pg	**Pg**	**18 36 02.3**	**-1.5**
SSF			*e*Sg	**Sg**	**18 37 04.8**	**-0.2**
	5.9nm,0.4s,SNR=1.0					
SSF	**Saint Saulge**	**4.73 33**	*e*Pg	**Pg**	**18 36 02.3**	**-1.5**
SSF			*e*Sg	**Sg**	**18 37 04.8**	**-0.2**
	3.0nm,0.4s,SNR=1.0					
ECAL	**Calabor**	**4.94 258**	Pn	**Pn**	**18 35 49.8**	**+2.3**
	0.7nm,0.2s,SNR=7.9					
ECAL			Sn	**Sn**	**18 36 43.8**	**-0.9**
	2.2nm,0.2s,SNR=7.9					
ECAL	**Calabor**	**4.94 258**	Pn	**Pn**	**18 35 49.8**	**+2.3**
	0.7nm,0.2s,SNR=7.9					
ECAL			Sn	**Sn**	**18 36 43.8**	**-0.9**
	2.2nm,0.2s,SNR=7.9					
LOR	**Lormes**	**5.04 34**	*e*Pg	**Pg**	**18 36 08.8**	**-0.9**
	baz=220					
LOR			*e*Sg	**Sg**	**18 37 14.1**	**-0.8**
	4.8nm,0.3s,SNR=1.0					
LOR	**Lormes**	**5.04 34**	*e*Pg	**Pg**	**18 36 08.8**	**-0.9**
LOR			*e*Sg	**Sg**	**18 37 14.1**	**-0.8**
	2.4nm,0.3s,SNR=1.0					
EPON	**Pontenova**	**5.04 274**	Pn	**Pn**	**18 35 51.2**	**+2.3**
	3.2nm,0.5s,SNR=7.9					
EPON			Sn	**Sn**	**18 36 46.1**	**-1.1**
	1.9nm,0.4s,SNR=7.9					
EPON	**Pontenova**	**5.04 274**	Pn	**Pn**	**18 35 51.2**	**+2.3**
	3.2nm,0.5s,SNR=7.9					
EPON			Sn	**Sn**	**18 36 46.1**	**-1.1**
	1.9nm,0.4s,SNR=7.9					
QUIF	**Quistinic**	**5.19 338**	*e*Pg	**Pg**	**18 36 10.8**	**-1.8**
GRR	**Gorron**	**5.25 356**	*e*Pg	**Pg**	**18 36 12.4**	**-1.5**
GRR			*e*Sg	**Sg**	**18 37 21.0**	**-1.0**
	3.9nm,0.3s					
GRR	**Gorron**	**5.25 356**	*e*Pn	**Pn**	**18 35 51.9**	**+0.1**
GRR			*e*Pg	**Pg**	**18 36 12.4**	**-1.5**
GRR			*e*Sg	**Sg**	**18 37 21.0**	**-1.0**
GRR	**Gorron**	**5.25 356**	Pn	**Pn**	**18 35 51.9**	**+0.1**
GRR			Pg	**Pg**	**18 36 12.4**	**-1.5**
GRR	**Gorron**	**5.25 356**	*e*Pg	**Pg**	**18 36 12.4**	**-1.5**
GRR			*e*Sg	**Sg**	**18 37 21.0**	**-1.0**
	2.0nm,0.3s					
MBDF	**Montbardon**	**5.31 70**	*e*Sg	**Sg**	**18 37 20.4**	**-3.3**
	4.2nm,0.7s,SNR=1.0					
SGMF	**Saint Gilles**	**5.35 343**	*e*P	**Pn**	**18 35 56.4**	**+3.3**
LDF	**La Druitiere**	**5.44 1**	*e*Pn	**Pn**	**18 35 53.5**	**-0.9**
	SNR=1.0					
LDF			*e*Sg	**Sg**	**18 37 27.3**	**-0.7**
	3.7nm,0.3s					
LDF	**La Druitiere**	**5.44 1**	*e*Pn	**Pn**	**18 35 53.5**	**-0.9**
	SNR=1.0					
LDF			*e*Sg	**Sg**	**18 37 27.3**	**-0.7**
	1.9nm,0.3s					
ROSF	**Rostrenen**	**5.60 339**	*e*Pn	**Pn**	**18 35 56.7**	**+0.2**
FLN	**La Foliniere**	**5.62 358**	*e*Pn	**Pn**	**18 35 56.0**	**-0.7**
FLN			*e*Sg	**Sg**	**18 37 32.9**	**-0.6**
	3.9nm,0.4s					
FLN	**La Foliniere**	**5.62 358**	*e*Pn	**Pn**	**18 35 56.0**	**-0.7**
FLN			*e*Sg	**Sg**	**18 37 32.9**	**-0.6**
	2.0nm,0.4s					
EADA	**Adamuz**	**5.97 215**	Pn	**Pn**	**18 36 02.5**	**+0.9**
	0.3nm,0.1s,SNR=7.9					
EADA			Sn	**Sn**	**18 37 05.8**	**-4.1**
	0.7nm,0.3s,SNR=7.9					
EADA	**Adamuz**	**5.97 215**	Pn	**Pn**	**18 36 02.5**	**+0.9**
	0.3nm,0.1s,SNR=7.9					
EADA			Sn	**Sn**	**18 37 05.8**	**-4.1**
	0.7nm,0.3s,SNR=7.9					
EBAD	**Badajoz**	**6.74 232**	Pn	**Pn**	**18 36 11.3**	**-0.9**
	0.5nm,0.3s,SNR=7.9					
EBAD			Sn	**Sn**	**18 37 24.6**	**-4.5**
	1.1nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**6.74 232**	Pn	**Pn**	**18 36 11.3**	**-0.9**
	0.5nm,0.3s,SNR=7.9					
EBAD			Sn	**Sn**	**18 37 24.6**	**-4.5**

*CSEM **15** 19:08:22.9, 6790N×2022E, h0km, ML3.1, Suspected Mining explosion. After UPP*
*UPP **15** 19:08:22.9, 6790N×2022E, h0km, ML3.1, Suspected Mining explosion.*

HEL 15 19:08:23.5±0.2, 6788N×2022E, h0km, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.09**	**31**	*i* P	Pg	19 08 24.4	-0.8
NIKU	**Nikkaluokta**	**0.45**	**269**	*i* P	Pg	19 08 31.6	-0.5
LANU	**Lannavaara**	**0.69**	**75**	*i* P	Pg	19 08 36.2	-0.5
MASU	**Masugnsbyn**	**0.80**	**121**	*i* P	Pg	19 08 38.0	-0.9
SALU	**Saltoluokta**	**0.82**	**233**	*i* P	Pg	19 08 38.2	-1.1
KIF	**Kilpisjarvi**	**1.15**	**11**	*e*P	Pg	19 08 45.6	0.0
KIF				*e*S	Sg	19 09 03.2	+2.7
PAJU	**Pajala**	**1.41**	**126**	*e*P	Pn	19 08 47.5	-2.9
SGF	**Sodankyl**	**2.45**	**97**	*e*P	Pn	19 09 05.0	+0.2
SGF				*e*S	Sn	19 09 36.9	+1.5

*ISCJB **15** 19:21:55.6±0.2, 3617N±002×12027W±002, h10km, mb3.7/3, MS3.3/1, Error ellipse: s-maj=2.4km s-min=2.0km az=84.6*
*NEIC **15** 19:21:55.9, 3617N×12029W, h10km, mb4.4/1, ML3.9(NCEDC), After NCEDC.*
NEIC Felt [IV] at Coalinga.
*IDC **15** 19:22:01.0±1.5, 3622N×11938W, h0km, mb3.4/2, mb1 3.6/6, mb1mx3.5/23, mbtmp3.4/6, ML3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=24.4km s-min=12.3km az=80.0*

ISC 15 19:21:56.0±0.2, 3617N±002×12027W±002, h10km, n86, σ1§14/114, mb3.7/3, MS3.3/1, 26C-44D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U05C	**Westside ANR,**	**0.20**	**35**	P	**Pg**	**19 22 02.0**	**+1.8**
	baz=0.2,SNR=110						
U05C				⇓S	**Sg**	**19 22 06.5**	**+3.4**
	baz=0.2						
PKD	**Parkfield**	**0.32**	**225**	⇑P	**Pg**	**19 22 03.1**	**+0.8**
	baz=0.3,SNR=1000						
PKD				⇓S	**Sg**	**19 22 08.1**	**+1.6**
	baz=0.3						
V05C	**Boulder Hill,**	**0.42**	**136**	⇓P	**Pg**	**19 22 06.0**	**+1.8**
	baz=0.4,SNR=78						
V05C				⇑S	**Sg**	**19 22 13.9**	**+4.1**
	baz=0.4						
PTRM	**Twissleman Ran**	**0.52**	**175**	*e*P	**Pg**	**19 22 06.1**	**+0.1**
LRV	**Little Rabbit**	**0.66**	**293**	*e*P	**Pg**	**19 22 08.8**	**+0.1**
V04C	**Ramage Ranch,**	**0.72**	**223**	⇓P	**Pg**	**19 22 10.1**	**+0.2**
	baz=0.7						
V04C				⇓S	**Sg**	**19 22 20.1**	**+0.7**
	baz=0.7						
T05C	**Eagle Field, D**	**0.80**	**336**	⇓P	**Pg**	**19 22 11.9**	**+0.6**
	baz=0.8,SNR=51						
T05C				⇓S	**Sg**	**19 22 24.4**	**+2.7**
	baz=0.8						
V03C	**Hunter Liggett**	**0.80**	**260**	⇑P	**Pg**	**19 22 11.3**	**0.0**
	baz=0.8,SNR=456						
V03C				⇓S	**Sg**	**19 22 22.5**	**+0.7**
	baz=0.8						
RCTC	**Rector, Farmer**	**0.84**	**80**	⇑P	**Pg**	**19 22 11.5**	**-0.6**
	baz=0.9,SNR=6.9						
RCTC				⇓S	**Sg**	**19 22 23.1**	**0.0**
	baz=0.9						
SMMC	**Simmler**	**0.88**	**166**	⇓P	**Pg**	**19 22 12.6**	**-0.4**
	baz=0.9,SNR=149						
SMMC				⇑S	**Sg**	**19 22 25.2**	**+0.6**
	baz=0.9						
T06C	**Millerton Lake**	**0.95**	**28**	P	**Pg**	**19 22 13.1**	**-1.1**
	baz=1.0,SNR=641						
T06C				⇓S	**Sg**	**19 22 27.1**	**+0.5**
	baz=1.0						
VES	**Vestal, Richgr**	**1.01**	**109**	⇓P	**Pg**	**19 22 14.3**	**-1.2**
	baz=1.0,SNR=101						
VES				⇓S	**Sg**	**19 22 28.5**	**-0.2**
	baz=1.0						
HAST	**UC Hastings Re**	**1.06**	**282**	P	**Pg**	**19 22 15.4**	**-0.9**
	baz=1.0,SNR=1000						
HAST				⇑S	**Sg**	**19 22 30.2**	**+0.1**
	baz=1.0						
SAO	**San Andreas Ge**	**1.12**	**302**	*e*P	**Pb**	**19 22 16.5**	**-1.0**
HELL	**Mitchell Peak,**	**1.12**	**63**	P	**Pb**	**19 22 15.9**	**-1.6**
	baz=1.1,SNR=609						
HELL				⇑S	**Sb**	**19 22 30.6**	**-1.5**
	baz=1.1						
PACP	**Pacheco Peak**	**1.17**	**316**	⇓P	**Pb**	**19 22 17.7**	**-0.6**
	baz=1.2,SNR=289						
PACP				⇓S	**Sb**	**19 22 34.1**	**+0.6**
	baz=1.2						
S05C	**Merced**	**1.18**	**357**	P	**Pb**	**19 22 16.8**	**-1.6**
	baz=1.2,SNR=435						
S05C				⇓S	**Sb**	**19 22 32.8**	**-0.8**
	baz=1.2						
PKM	**Peak Mountain**	**1.32**	**164**	⇓P	**Pn**	**19 22 19.8**	**-0.7**
	baz=1.3,SNR=24						
PKM				⇓S	**Sb**	**19 22 37.5**	**-0.3**
	baz=1.3						
KCC	**Kaiser Creek**	**1.38**	**33**	⇓P	**Pn**	**19 22 20.6**	**-0.7**
	baz=1.4,SNR=415						
KCC				⇑S	**Sb**	**19 22 38.2**	**-1.3**
	baz=1.4						
ISA	**Isabella**	**1.54**	**109**	⇓P	**Pn**	**19 22 22.7**	**-0.8**
	baz=1.6,SNR=124						
ISA				⇑S	**Sn**	**19 22 42.7**	**-0.8**
	baz=1.6						
ARVC	**Arvin**	**1.56**	**131**	⇑P	**Pn**	**19 22 22.5**	**-1.3**
	baz=1.6						
ARVC				⇓S	**Sn**	**19 22 40.9**	**-3.3**
	baz=1.6						
S04C	**Ingram Canyon,**	**1.58**	**328**	P	**Pn**	**19 22 22.4**	**-1.7**
	baz=1.6,SNR=66						
S04C				⇓S	**Sn**	**19 22 42.8**	**-1.7**
	baz=1.6						
S06C	**San Francisco**	**1.74**	**11**	⇓P	**Pn**	**19 22 26.4**	**+0.1**
	baz=1.7,SNR=762						
CWC	**Cottonwood Cre**	**1.79**	**81**	⇓P	**Pn**	**19 22 27.4**	**+0.6**
	baz=1.8,SNR=16						
MTUM	**Tungsten Hills**	**1.81**	**49**	*e*Pn	**Pn**	**19 22 27.7**	**+0.6**
BNLO	**Ben Lomond (Sa**	**1.81**	**303**	P	**Pn**	**19 22 25.9**	**-1.3**
	baz=1.8,SNR=57						
BNLO				⇓S	**Sn**	**19 22 49.1**	**-1.1**
	baz=1.8						
MLAC	**Mammoth Lakes**	**1.85**	**38**	⇑P	**Pn**	**19

TPH	Tonopah	3.09	51	*e*Pn	Pn	19 22 42.9	-1.8
TPH				*e*Pb	Pb	19 22 50.0	-0.9
P05C	Yuba Gap, Truc baz=3.1	3.14	355	⇓P	Pn	19 22 45.9	+0.5
CIS	Catalina Islan baz=3.2,SNR=5.7	3.15	150	⇓P	Pn	19 22 44.2	-1.4
CIS				⇓S	Sn	19 23 20.7	-2.7
WCN	Washoe City baz=3.2	3.15	7	⇓P	Pn	19 22 46.9	+1.3
MNRC	McLaughlin Nat baz=3.2,SNR=8.2	3.21	328	⇑P	Pn	19 22 47.4	+1.0
R09A	Tonopah baz=3.3	3.28	50	⇓P	Pn	19 22 48.3	+0.9
SUTB	Sutter Butte baz=3.3	3.28	339	⇓P	Pn	19 22 46.5	-0.9
OHCM	Honcut	3.31	343	*e*Pn	Pn	19 22 48.0	+0.2
HEC	Hector,Ludlow baz=3.5,SNR=5.9	3.48	111	⇓P	Pn	19 22 49.7	-0.4
ORV	Oroville baz=3.5	3.52	344	⇑P	Pn	19 22 50.8	+0.1
BEKR	Beckwourth baz=3.7	3.69	359	⇓P	Pn	19 22 53.6	+0.6
GMRC	Granite Mounta baz=4.0,SNR=7.3	4.00	109	⇑P	Pn	19 22 56.8	-0.6
PFO	Pinyon Flat Ob 1.3nm,0.3s,baz=305,slow=13,SNR=6.4	4.04	128	Pn	Pn	19 22 58.4	+0.6
PFO	Pinyon Flat Ob	4.04	128	Pn	Pn	19 22 58.4	+0.6
PFO	Pinyon Flat Ob baz=4.1	4.04	128	⇓P	Pn	19 22 57.9	+0.1
O07A	Toulon baz=4.1	4.13	15	⇑P	Pn	19 23 00.5	+1.4
O04C	Chester baz=4.2	4.19	351	⇓P	Pn	19 23 01.5	+1.5
IRM	Iron Mountain baz=4.7	4.64	114	⇑P	Pn	19 23 05.9	-0.2
WDC	Whiskeytown Da	4.75	339	*e*Pn	Pn	19 23 07.5	-0.1
BMN	Battle Mountai	4.88	28	*e*Pb	Pb	19 23 22.2	+0.7
CCUT	Cedar City	5.70	74	Pn	Pn	19 23 23.3	+2.6
CCUT				*e*Pb	Pb	19 23 39.8	+4.3
YBH	Yreka Blue Hor 0.3nm,0.3s,baz=130,slow=7.7,SNR=3.7	5.87	342	Pn	Pb	19 23 36.0	-2.4
YBH				Sn	Sg	19 24 51.3	-13
MSU	Marysvale 0.2nm,0.3s,baz=111,slow=14,SNR=2.1	6.85	68	*e*Pg	Pg	19 24 06.8	-0.4
DUG	Dugway	7.11	53	Pn	Pn	19 23 41.3	+1.2
DUG				*e*Pg	Pg	19 24 09.9	-2.2
WUAZ	Wupatki 45nm,1.6s	7.25	93	*e*Pb	Pb	19 24 03.8	+1.9
SRU	San Rafael 5.9nm,1.0s	8.27	66	*e*Pn	Pn	19 24 01.0	+5.2
PDAR	Pinedale Array 0.1nm,0.3s,baz=212,slow=19,SNR=3.5	10.57	48	Pn	Pn	19 24 31.1	+3.6
TXAR	Lajitas Array 0.1nm,0.3s,baz=338,slow=6.9,SNR=2.6	15.53	111	Pn	Pn	19 25 33.4	-1.6
TXAR				Sn	Sn	19 28 22.2	-4.8
MIAR	Mount Ida 26nm,1.4s,mb4.5	21.81	86	*e*P	P	19 26 49.8	+1.6
ULM	Lac du Bonnet 1.4nm,0.6s,mb3.6,baz=229,slow=12,SNR=2.2	22.54	44	P	P	19 26 57.2	+1.2
YKA	Yellowknife Ar 0.5nm,0.8s,mb3.1,baz=182,slow=8.8,SNR=6.7	26.58	6	P	P	19 27 37.7	+3.5
YKA	Yellowknife Ar	26.58	6	P	P	19 27 37.7	+3.5
CMIG	Matias Romero comp=Z,66nm,18.3s,MS3.3,baz=179,slow=39	29.45	124	LR	LR	19 40 36.6	

IGQ 15 19:22:27.6,073S×8037W,h5^{km}±5^{km},Mb4.2,Ms4.0,11C-6D,Error ellipse: s-maj=4.1km s-min=1.7km az=38.8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	Cerro-Chispas-	0.48	228	⇑P	Pg	19 22 36.2	-0.6
CHIS				S	Sg	19 22 41.3	-1.7
JAMA	Jama	0.49	19	⇓P	Pg	19 22 38.1	+0.9
JAMA				S	Sg	19 22 44.9	+1.3
MAG1	Magdalena	0.89	42	⇓P	Pg	19 22 47.0	+2.4
JUA2	San Juan 2	1.84	74	⇑P	Pn	19 23 01.4	+1.5
TERV	Terraza Guagua	1.85	73	P	Pn	19 23 01.6	+1.6
TERV				S	Sn	19 23 27.7	+4.0
PINO	Pino	1.85	72	⇑P	Pn	19 23 01.1	+1.0
GGP	Refugio Guagua	1.86	73	P	Pn	19 23 02.0	+1.9
CAMI	Rancho Maria	1.87	88	⇓P	Pn	19 23 02.8	+2.6
IGUA	Igualata	1.89	114	⇓P	Pn	19 23 03.3	+2.8
IGUA				S	Sn	19 23 28.6	+3.9
NAS1	Nasa	1.90	87	⇓P	Pn	19 23 03.5	+2.9
YANA	Yana	1.90	71	P	Pn	19 23 01.5	+0.8
BREF	Cotopaxi Volca	1.93	88	P	Pn	19 23 05.0	+3.9
BREF				S	Sn	19 23 36.6	+11
BVC2	Cotopaxi Volca	1.96	88	P	Pn	19 23 05.4	+3.9
BVC2				S	Sn	19 23 36.0	+10
VC1	Cotopaxi 1	1.97	87	⇑P	Pn	19 23 04.5	+2.8
BILB	Tungurahua vol	2.00	111	P	Pn	19 23 06.5	+4.5
TAMB	Tambo	2.00	89	⇑P	Pn	19 23 05.1	+3.0
PISA	Pisayambo	2.01	99	⇑P	Pn	19 23 05.1	+2.9
JUIV	Juive	2.03	110	P	Pn	19 23 05.3	+2.9
RETU	Refugio	2.05	110	⇑P	Pn	19 23 06.9	+4.1
RUN5	Runtun	2.06	109	P	Pn	19 23 06.2	+3.3
BRUN	Tungurahua Vol	2.08	109	P	Pn	19 23 06.8	+3.7
BRUN				S	Sn	19 23 40.3	+11
PATA	Patacocha	2.08	112	⇑P	Pn	19 23 06.7	+3.5
ULBA	Ulba	2.09	110	⇑P	Pn	19 23 06.6	+3.3
ANTI	Antisana	2.23	83	⇑P	Pn	19 23 08.1	+3.0
ANTI				S	Sn	19 23 39.0	+6.0
COTA	Cotacachi	2.29	63	⇑P	Pn	19 23 08.1	+2.0
CAYR	Refugio Cayamb	2.48	73	P	Pn	19 23 12.0	+3.4
CAYR				S	Sn	19 23 45.8	+6.5
CAYA	Cayambe	2.51	72	P	Pn	19 23 12.2	+3.2
CAYA				S	Sn	19 23 47.0	+7.0
CONE	Cono NE Rev Vo	2.81	76	P	Pn	19 23 19.0	+5.8
LAV3	Lava3-Reventad	2.81	77	⇓P	Pn	19 23 18.5	+5.3

IDC 15 19:22:43.0±1.4,068N×12224E,h0^{km},mb3.6/4,mb1 3.7/4,mb1mx3.5/18,mbtmp3.6/4,Error ellipse: s-maj=215.7km s-min=22.0km az=61.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.9nm,0.7s,baz=327,slow=10,SNR=14	23.68	151	P	P	19 27 56.9	+0.6
ASAR	Alice Springs 0.3nm,0.5s,baz=325,slow=8.7,SNR=8.9	26.73	156	P	P	19 28 24.8	+0.8
STKA	Stephens Creek 0.9nm,0.5s,baz=318,slow=13,SNR=3.2	37.21	152	P	P	19 29 55.0	-0.9
MKAR	Makanchi Array 0.7nm,0.3s,baz=126,slow=9.0,SNR=15	57.64	329	P	P	19 32 35.0	+0.2

IGQ 15 19:26:26.9,070S×8036W,h5^{km}±6^{km},Mb4.0,Ms3.8,3C-2D,Error ellipse: s-maj=5.3km s-min=2.0km az=44.6,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	0.46	19	⇓P	Pg	19 26 37.4	+1.6
CHIS	Cerro-Chispas-	0.50	227	⇑P	Pg	19 26 35.5	-1.1
CHIS				S	Sg	19 26 41.9	-1.2
MAG1	Magdalena	0.86	43	⇑P	Pg	19 26 46.5	+3.2
JUA2	San Juan 2	1.82	75	P	Pn	19 27 00.4	+1.5
TERV	Terraza Guagua	1.83	73	P	Pn	19 27 00.9	+1.9
TERV				S	Sn	19 27 27.0	+4.5
PINO	Pino	1.83	73	⇓P	Pn	19 27 00.7	+1.6
GGP	Refugio Guagua	1.84	74	P	Pn	19 27 01.2	+2.0
CAMI	Rancho Maria	1.85	89	P	Pn	19 27 02.1	+2.8
YANA	Yana	1.88	72	⇑P	Pn	19 27 01.0	+1.4
NAS1	Nasa	1.88	88	P	Pn	19 27 02.8	+3.0
IGUA	Igualata	1.89	115	P	Pn	19 27 02.7	+2.8
BVC2	Cotopaxi Volca	1.95	89	P	Pn	19 27 04.5	+3.9
VC1	Cotopaxi 1	1.96	88	P	Pn	19 27 03.8	+3.0
TAMB	Tambo	1.99	90	P	Pn	19 27 04.4	+3.2
PISA	Pisayambo	2.01	100	P	Pn	19 27 05.5	+4.1
RETU	Refugio	2.05	111	P	Pn	19 27 01.8	-0.3
RUN5	Runtun	2.06	110	P	Pn	19 27 05.5	+3.3
BRUN	Tungurahua Vol	2.08	110	P	Pn	19 27 06.3	+3.9
BRUN				S	Sn	19 27 35.4	+6.8
PATA	Patacocha	2.08	113	P	Pn	19 27 06.2	+3.7
ULBA	Ulba	2.09	111	P	Pn	19 27 06.2	+3.7
ANTI	Antisana	2.21	84	P	Pn	19 27 07.4	+3.2
ANTI				S	Sn	19 27 38.2	+6.3
COTA	Cotacachi	2.27	63	P	Pn	19 27 07.2	+2.2
CAYR	Refugio Cayamb	2.46	73	P	Pn	19 27 11.8	+4.2
CAYA	Cayambe	2.49	72	P	Pn	19 27 12.2	+4.1

*IDC **15** 19:31:38.4±6.2,4659N×15338E,h62^{km}±57^{km},mb3.5/5,mb1 3.8/6,mb1mx3.4/23,mbtmp3.6/6,ML3.4/1,Error ellipse: s-maj=52.1km s-min=22.4km az=116.0*

ISC 15 19:31:38.7±1.7,464N±02×1532E±02,h69^{km}±17^{km},n19,σ1$54/23,mb3.6/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	6.09	243	P	Pn	19 33 04.6	-1.4
NEM2				*e*S	Sx	19 34 11.0	
JRA	Rausu	6.20	250	P	Pn	19 33 09.1	+1.5
JNK	Nakash	6.62	248	P	Pn	19 33 14.1	+0.8
JNK				*e*S	Sn	19 34 28.4	+1.1
JAK	Akkeshi	6.93	244	P	Pn	19 33 16.2	-1.4
JAK				*e*S	Sn	19 34 32.3	-2.6
JTKR	Abashiri--Toko	6.98	253	P	Pn	19 33 19.8	+1.5
JAR	Ashorobuto	7.37	249	P	Pn	19 33 24.9	+1.4
JKK2	Kamakawa 2	7.79	255	P	Pn	19 33 31.7	+2.4
ASAJ	Asahikawa 0.5nm,0.3s,baz=79,slow=23,SNR=4.8	7.81	257	P	Pn	19 33 31.8	+2.2
JCH	Churui	7.97	245	P	Pn	19 33 31.4	-0.3
JCH				*e*S	Sx	19 34 58.1	
JNBK	Urakawa-nobuka	8.53	245	P	Pn	19 33 38.3	-1.1
JNBK				*e*S	Sn	19 35 11.4	-2.6
JNB	Noboribetsu	9.53	250	P	Pn	19 33 53.7	+0.7
JNB				*e*S	Sn	19 35 38.5	0.0
JKB	Kayabe	9.82	247	P	Pn	19 33 55.8	-1.2
JKB				*e*S	Sx	19 35 41.3	
JANG	Nango	10.40	239	P	Pn	19 34 01.3	-3.6
JIO	Ouri	11.79	232	P	Pn	19 34 21.1	-2.8
JIO				*e*S	Sx	19 36 23.4	
YKA	Yellowknife Ar 0.3nm,0.5s,mb3.5,baz=295,slow=7.0,SNR=3.6	51.19	37	P	P	19 40 33.1	-1.7
FINES	FINESS Array B 5.6nm,1.1s,mb4.3,baz=290,slow=5.7,SNR=3.5	64.39	335	P	P	19 42 06.6	-0.8
WRA	Warramunga Arr 0.1nm,0.5s,mb2.9,baz=16,slow=7.0,SNR=6.0	68.18	199	P	P	19 42 33.0	+1.4
ASAR	Alice Springs 0.6nm,0.5s,mb3.7,baz=10.0,slow=5.6,SNR=18	71.88	199	P	P	19 42 56.5	+2.3
TXAR	Lajitas Array 0.6nm,0.5s,mb3.6,baz=306,slow=4.5,SNR=8.0	77.63	61	P	P	19 43 27.0	-0.5

IDC 15 20:22:22.0±9.8,2310S×6638W,h224^{km}±66^{km},mb3.5/3,mb1 3.7/5,mb1mx3.4/16,mbtmp3.4/5,Error ellipse: s-maj=106.3km s-min=25.5km az=20.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 4.0nm,0.3s,baz=163,slow=7.8,SNR=50	6.98	346	P	Pn	20 24 02.9	+0.7
LPAZ				S	S	20 25 23.7	+1.7
SIV	San Ignacio 0.6nm,0.3s,baz=248,slow=7.5,SNR=12	8.67	36	P	Pn	20 24 24.6	+0.8
TXAR	Lajitas Array 0.3nm,0.5s,baz=151,slow=6.4,SNR=5.7	63.29	324	P	P	20 32 26.7	-0.2
TORD	Torodi Ar. Bea 2.1nm,0.5s,baz=261,slow=5.9,SNR=44	75.72	69	P	P	20 33 42.7	-0.2
YKA	Yellowknife Ar 0.3nm,0.7s,baz=131,slow=4.4,SNR=6.8	93.48	340	P	P	20 35 11.2	-0.9
MKAR	Makanchi Array 0.7nm,0.7s,baz=291,slow=4.3,SNR=3.8	145.47	39	PKPbc	PKPbc	20 41 34.8	+1.0

*ISCJB **15** 20:33:24.1±0.6,3682N±004×71.1E±0.1,h157^{km}±15^{km},Error ellipse: s-maj=14.9km s-min=5.9km az=170.9*
*NNC **15** 20:33:30.6±2.9,3753N×6987E,h0^{km},mb3.8,mpv4.0,Error ellipse: s-maj=30.0km s-min=22.1km az=149.0*

ISC 15 20:33:25.0±0.6,3682N±004×711E±01,h154^{km}±14^{km},n25,σ0$68/27,2C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.06	168	P	Pn	20 34 13.7	+0.5
CEP				S	Sn	20 34 51.0	+0.5
CHCP	Chirah Chowk	3.60	151	P	Pn	20 34 20.0	-0.2
THW	Thamme Wali	4.05	173	P	Pn	20 34 26.6	+0.7
SBDP	Sheikh Budin	4.52	184	P	Pn	20 34 32.2	+0.1
SBDP				S	Sn	20 35 23.0	-1.4
SARP	Sargodha	5.05	165	P	Pn	20 34 38.7	-0.4
AML	Almayashu SNR=33	5.66	20	P	Pn	20 34 46.9	-0.3
THN	Thein Dam	5.78	138	*e*P	Pn	20 34 52.2	+3.5
THN				*ex*	x	20 35 51.8	
DLH	Dalhousie	5.83	136	*e*P	Pn	20 34 55.0	+5.5
DLH				*e*S	Sx	20 35 31.0	
UCH	Uchtor SNR=9.9	6.00	25	P	Pn	20 34 51.7	+0.1
KZA	Kyzart SNR=6.3	6.14	30	P	Pn	20 34 53.5	0.0
EKS2	Erkin-Say SNR=15	6.18	18	P	Pn	20 34 54.3	+0.3
KK31	Karatay Array 7.7nm,0.4s,baz=179,slow=12,SNR=338	6.29	356	⇓P	Pn	20 34 54.7	-0.9
KK31				⇑S	Sn	20 36 01.9	-4.7
AAK	Ala-Archa SNR=6.9	6.36	23	P	Pn	20 34 56.7	+0.3
CHMS	Chumysh SNR=14	6.77	23	P	Pn	20 35 01.8	-0.1
USP	Ospenovka SNR=7.1	6.94	21	P	Pn	20 35 03.4	-0.7
TKM2	Tokmak 2 SNR=7.9	6.99	28	P	Pn	20 35 05.1	+0.2
JOSI	Joshimath	9.39	129	*e*P	Pn	20 35 37.1	+0.4
JOSI				*e*S	Sx	20 36 53.4	
JOSI				AML	AML	20 37 20.1	
JOSI	comp=E,38nm,0.5s			AML	AML	20 37 21.6	
JOSI	comp=N,48nm,0.6s			AML	AML	20 37 21.6	
KHET	Khetri	9.57	154	*e*S	Sx	20 37 14.9	
KHET				AML	AML	20 37 21.0	
KHET	comp=E,8.5nm,0.4s			AML	AML	20 37 21.2	
KHET	comp=N,8.1nm,0.3s			AML	AML	20 37 21.2	
KUDL	Kundal	9.76	151	*e*P	Pn	20 35 51.7	+10
KUDL				*e*S	Sx	20 37 14.1	
KUDL				AML	AML	20 37 17.7	
KUDL	comp=E,5.8nm,0.6s			AML	AML	20 37 21.7	
KUDL	comp=N,3.7nm,0.5s			AML	AML	20 37 21.7	
SONA	Sohna SNR=14	9.90	148	*e*S	Sx	20 37 16.3	
SONA				AML	AML	20 37 31.1	
SONA	comp=E,11nm,0.4s			AML	AML	20 37 31.3	
SONA	comp=N,7.2nm,0.3s			AML	AML	20 37 31.3	
GKN	Gorkha	14.38	124	*e*P	Pn	20 36 41.2	-0.3
GKN				*e*S	Sx	20 39 08.0	
AB31	Akbulak array comp=N,1.3nm,0.3s,baz=128,slow=12,SNR=58	14.86	330	P	Pn	20 36 47.0	-0.4
AB31				⇓S	Sn	20 39 19.1	-13
AKTO	Aktyubinsk comp=N,0.6nm,0.6s,baz=174,slow=20,SNR=2.7	16.56	329	⇑P	Pn	20 37 09.6	+1.3
KKN	Kakani	14.95	123	*e*P	Pn	20 36 47.9	-0.7
JIRN	Jiri	15.65	121	*e*P	Pn	20 36 57.1	-0.1
JIRN				*e*S	Sx	20 39 37.2	
AKTO	Aktyubinsk comp=N,0.1nm,0.6s	16.56	329	⇑P	Pn	20 37 09.6	+1.3

*MOS **15** 20:53:23.2±1.5,5149N×15948E,h12^{km},mb4.4/8,Error ellipse: s-maj=12.2km s-min=5.9km az=95.2*
*ISCJB **15** 20:53:26.2±0.4,5146N±003×15973E±007,h38^{km},mb4.1/31,Error ellipse: s-maj=6.3km s-min=3.8km az=50.4*
*KRSC **15** 20:53:26.0±0.6,5169N×15988E,h5^{km}±5^{km},ML4.5*
*IDC **15** 20:53:29.7±0.8,5165N×15933E,h39^{km}±5^{km},mb3.7/21,mb1 3.9/22,mb1mx3.8/29,mbtmp3.8/22,ML3.5/1,MS3.5/1,Ms1 3.5/1,ms1mx2.6/39,Error ellipse: s-maj=17.4km s-min=13.7km az=128.0*
*NEIC **15** 20:53:30.2±1.6,5165N×15925E,h44^{km}±13^{km},mb4.6/5,Error ellipse: s-maj=12.3km s-min=9.4km az=145.0*

ISC 15 20:53:28.4±0.4,5153N±003×15966E±007,h40^{km},h40^{km}±1.1^{km}:pP-P,n81,σ1$19/95,mb4.1/31,7C-6D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.15	322	*i* P	Pn	20 53 47.7	-0.3
RUS				*i* S	Sn	20 54 03.4	+0.8
GRL	Gorelyy	1.42	317	*i* P	Pn	20 53 52.7	+1.0
GRL				*e*S	Sn	20 54 12.5	+3.3
SPN	Mys Shipunski	1.59	8	*e*P	Pn	20 53 53.1	-0.9
SPN				*i* S	Sn	20 54 12.6	-0.7
PET	Petropavlovsk	1.62	338	*e*PN	Pn	20 53 54.7	+0.2
PET				*e*S	Sn	20 54 17.9	+3.8
PET				pmax	pmax		
PET	comp=Z,269nm,0.4s			smax			
PET	comp=N,3μm,0.8s			smax			
PET	comp=N,3μm,0.8s			smax			
PET	comp=E,2μm,0.7s			smax			
PET	Petropavlovsk	1.62	338	*e*P	Pn	20 53 53.9	-0.5
PET	Petropavlovsk	1.62	338	*e*P	Pn	20 53 54.6	+0.1
PET				*i* S	Sn	20 54 15.3	+1.2
NLC	Nalytchevo	1.66	353	*e*P	Pn	20 53 54.8	-0.1
NLC				*e*S	Sn	20 54 15.4	+0.4
AVH	Avacha	1.83	342	*e*P	Pn	20 53 58.3	+1.0
AVH				*i* S	Sn	20 54 21.7	+2.4
SKR	Severo-Kuril's	2.39	251	*e*PN	Pn	20 54 04.0	-1.0
SKR				*i* S	Sn	20 54 33.0	0.0
SKR				pmax	pmax		
SKR	comp=E,80nm,0.4s			pmax	pmax		
SKR	comp=Z,150nm,0.4s			pmax	pmax		
SKR	comp=N,110nm,0.8s			smax			
SKR	comp=N,620nm,0.5s			smax			
SKR	comp=E,290nm,0.5s			MLR	MLR		
SKR	comp=Z,3μm,10.0s			MLR	MLR		
GNL	Ganaly	2.41	335	*e*P	Pn	20 54 06.5	+1.2
GNL				*e*S	Sn	20 54 36.0	+2.4
MKZ	Mys Kozlova	3.28	22	*i* P	Pn	20 54 16.1	-1.2
MKZ				*i* S	Sn	20 54 52.2	-2.8
KMNR	Kamenistaya	4.25	4	P	Pn	20 54 31.8	+1.2
KOZ	Kozyrevsk	4.54	1	P	Pn	20 54 34.8	+0.2
ZLN	Zelenaya	4.55	8	P	Pn	20 54 36.4	+1.7
ZLN				*i* S	Sn	20 55 26.3	0.0
KOZR	Kozyr	4.55	2	PN	Pn	20 54 34.8	+0.1
KRSR	Krestovskiy	4.73	6	P	Pn	20 54 36.6	-0.6
SRDR	Sredinnyy	4.80	0	P	Pn	20 54 39.5	+1.4
KLY	Klyuchi	4.83	7	P	Pn	20 54 40.7	+2.1
KBTR	Krutoberegovo	5.05	20	*e*P	Pn	20 54 41.7	+0.2
KBTR				*e*S	Sn	20 55 36.9	-1.7
SRKR	Sorokina	5.21	9	P	Pn	20 54 43.7	-0.1
SRKR				*i* S	Sn	20 55 40.4	-2.2
ASAJ	Asahikawa comp=Z,0.4nm,0.3s,baz=42,slow=13,SNR=4.3	13.63	244	Pn	Pn	20 56 39.4	+0.2
HABR	Khabarovsk	16.09	269	*e*P	Pn	20 57 10.5	-1.2
HABR				*e*S	S	21 00 08.9	-12
YAK	Yakutsk	19.31	315	⇑*e*P	Pn	20 57 47.7	-3.6
YAK				pmax	pmax		
YAK	comp=Z,36nm,0.8s			MLR	MLR		
YAK	comp=Z,100nm,15.0s			MLR	MLR		
YAK	Yakutsk comp=Z,35nm,0.8s	19.31	315	*e*P	Pn	20 57 48.1	-3.2
MJAR	Matsushiro Arr	21.39	234	P	P	20 58 13.8	+1.3
MJAR	Matsushiro Arr comp=Z,3.7nm,0.8s,mb3.8,baz=30,slow=9.8,SNR=9.6	21.39	234	P	P	20 58 13.8	+1.3
MAT	Matsushiro	21.39	234	P	P	20 58 13.3	+0.8
TIXI	Tiksi	24.41	337	⇑*e*P	P	20 58 41.9	-1.1
TIXI				pmax	pmax		
TIXI	comp=Z,9.0nm,0.9s,mb4.2						
TIXI	Tiksi comp=Z,5.7nm,0.6s,mb4.2	24.41	337	*e*P	P	20 58 41.7	-1.3
HIA	Hailar	25.33	281	*e*P	P	20 58 49.0	-2.4
HIA				pmax	pmax		
HIA	comp=Z,17nm,0.9s						
HIA	Hailar comp=Z,17nm,0.9s,mb4.6	25.33	281	*e*P	P	20 58 49.0	-2.4
KSRS	Korea Array comp=Z,2.5nm,0.8s,mb3.8,baz=46,slow=8.9,SNR=6.2	26.41	250	P	P	20 59 02.1	+1.0
BOD	Bodaibo	26.71	302	*e*P	P	20 59 03.3	-0.6
BOD				pmax	pmax		
BOD	comp=Z,3.0nm,1.1s,mb3.7						
SONM	Songino Array comp=Z,0.6nm,0.5s,mb3.8,baz=60,slow=6.6,SNR=5.5	34.03	285	P	P	21 00 08.4	-0.1
ZAK	Zakamensk	34.79	291	*e*P	P	21 00 11.8	-3.3
ZAK				pmax	pmax		
ZAK	comp=Z,2.0nm,1.0s,mb4.0						
INK	Inuvik comp=Z,0.8nm,0.8s,mb3.7,baz=258,slow=4.8,SNR=3.8	35.28	36	P	P	21 00 19.6	+0.3
ZAL	Zalesovo comp=Z,0.7nm,0.7s,mb3.5,baz=46,slow=7.1,SNR=3.6	43.43	304	P	P	21 01 24.6	-2.7
NVS	Novosibirsk	43.80	306	*e*P	P	21 01 27.3	-2.9
NVS				pmax	pmax		
NVS	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
NVS	comp=E,4.0nm,1.0s						
NVS				pmax	pmax		
NVS	comp=Z,6.0nm,1.0s,mb4.3						
YKA	Yellowknife Ar	44.51	41	P	P	21 01 36.6	+0.7
YKA	comp=Z,0.5nm,0.7s,mb3.4,baz=297,slow=8.1,SNR=4.9 Yellowknife Ar	44.51	41	⇑*e*P	P	21 01 36.5	+0.6
KURK	Kurchatov	48.35	303	⇑*e*P	P	21 02 04.5	-1.5
KURK	Kurchatov	48.35	303	*e*P	P	21 02 04.0	-2.1
MK31	comp=Z,10nm,0.9s,mb4.9 Makanchi Array	48.61	297	*e*P	P	21 02 06.3	-1.7
MKAR	Makanchi Array comp=Z,0.3nm,0.4s,mb3.7,baz=45,slow=6.0,SNR=11	48.61	297	P	P	21 02 06.7	-1.4
CHKZ	Chkalovo	50.67	310	*e*P	P	21 02 21.0	-2.7
CHKZ				pmax	pmax		
CHKZ	comp=Z,7.0nm,0.8s,mb4.6						
CHKZ	Chkalovo comp=Z,6.7nm,0.8s,mb4.6	50.67	310	*e*P	P	21 02 21.0	-2.8
BVAR	Borovoye Array comp=Z,3.4nm,0.5s,mb4.5,baz=57,slow=7.2,SNR=32	51.17	309	P	P	21 02 25.6	-1.9
ARCES	ARCESS Array B	54.70	342	P	P	21 02 52.6	-0.9
PDAR	comp=Z,4.0nm,0.8s,mb4.5,baz=44,slow=7.4,SNR=12 Pinedale Array	58.53	60	P	P	21 03 23.9	+3.2
AKTK	comp=Z,0.2nm,0.5s,mb3.4,baz=357,slow=1.8,SNR=2.4 Aktyubinsk	58.69	313	P	P	21 03 20.6	-1.2
AKTO	Aktyubinsk	58.69	313	P	P	21 03 20.6	-1.2
AKTO	comp=Z,0.8nm,0.4s,mb4.1,baz=58,slow=13,SNR=5.1 Aktyubinsk	58.69	313	P	P	21 03 20.6	-1.2
AKTO				pmax	pmax		

GERES pP pP 21 05 22.6 +0.1
comp=Z,0.6nm,0.5s,baz=28,slow=4.7,SNR=4.9
BZS Buzias 76.70 331 ⇓*i*P **P 21 05 15.5 +0.2**
BRTR Keskin Array B 77.66 320 P **P 21 05 20.9 +0.2**
comp=Z,2.4nm,0.9s,mb4.2,baz=33,slow=2.8,SNR=12
BRTR Keskin Array B 77.66 320⇑*e*P **P 21 05 21.5 +0.8**
ASAR Alice Springs 78.22 204 P **P 21 05 25.0 +1.2**
comp=Z,0.3nm,0.5s,mb3.5,baz=15,slow=5.2,SNR=7.5
ASAR pP pP 21 05 37.2 +1.4
comp=Z,0.4nm,0.6s,baz=19,slow=5.6,SNR=3.4
VTS Vitosha 78.92 329 ⇓*i*P **P 21 05 28.0 +0.3**
MMAI Mount Meron Ar 82.65 316 P **P 21 05 47.3 -0.2**
comp=Z,6.6nm,0.8s,mb4.7,baz=44,slow=7.3,SNR=7.0

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*ISCJB **15** 21:03:33.1±0.2,43.12N±001×005E±002, h8km±2km, Error ellipse: s-maj=2.4km s-min=2.0km az=149.6*
*LDG **15** 21:03:34.7±0.0,43.01N×001E, h5km, Md2.7/2, Ml2.8/14, Error ellipse: s-maj=0.8km s-min=0.7km az=171.0*
*NEIC **15** 21:03:34.7, 43.01N×001E, h5km, ML2.4(STR), ML2.8(LDG), MN2.1(MDD), After LDG.*
*STR **15** 21:03:34.6±0.1, 43.00N×003E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **15** 21:03:34.9±0.1, 43.02N×002E, h2km, ML2.8/15, Error ellipse: s-maj=1.0km s-min=0.8km az=156.0*
*MDD **15** 21:03:35.2±0.2, 43.01N×001E, h4km±3km, mbLg2.1/22, Error ellipse: s-maj=1.7km s-min=1.3km az=21.0, PRXIMO*
ISC 15 21:03:34.1±0.2, 43.07N±001×004E±002, h10km±2km, n92, σ0.97/77/175, 1C, France

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.03**	**128**		Pg	**Pg**	**21 03 36.5**	**+0.5**
LABF					Sg	**Sg**	**21 03 37.7**	**+0.3**
LABF	**Labassere**	**0.03**	**128**		P	**Pg**	**21 03 36.5**	**+0.5**
LABF					S	**Sg**	**21 03 37.8**	**+0.4**
VIEF	**Viey**	**0.18**	**183**		Pg	**Pg**	**21 03 37.6**	**-0.5**
VIEF					Sg	**Sg**	**21 03 39.5**	**-1.2**
VIEF	**Viey**	**0.18**	**183**		P	**Pg**	**21 03 37.6**	**-0.4**
VIEF					S	**Sg**	**21 03 39.6**	**-1.1**
EPF	**Esparros**	**0.23**	**99**	*e*Pg		**Pg**	**21 03 39.4**	**+0.6**
	SNR=1.0							
EPF				*e*Sg		**Sg**	**21 03 43.4**	**+1.5**
	215nm,0.2s							
EPF	**Esparros**	**0.23**	**99**	*e*Pg		**Pg**	**21 03 39.4**	**+0.6**
	SNR=1.0							
EPF				*e*Sg		**Sg**	**21 03 43.4**	**+1.5**
	108nm,0.2s							
REYF	**Montagne du Re**	**0.32**	**270**	P		**Pg**	**21 03 40.4**	**0.0**
REYF				S		**Sg**	**21 03 44.9**	**+0.3**
RESF	**Ens**	**0.34**	**140**	Pg		**Pg**	**21 03 40.9**	**0.0**
RESF				Sg		**Sg**	**21 03 45.6**	**+0.1**
RESF	**Ens**	**0.34**	**140**	P		**Pg**	**21 03 40.9**	**0.0**
RESF				S		**Sg**	**21 03 45.7**	**+0.2**
EBIE	**Bielsa**	**0.39**	**169**	⇑Pg		**Pg**	**21 03 41.3**	**-0.4**
	50nm,0.3s,SNR=18							
EBIE				Lg			21 03 45.8	
	46nm,0.1s,SNR=14							
EBIE	**Bielsa**	**0.39**	**169**	Pg		**Pg**	**21 03 41.3**	**-0.5**
	50nm,0.3s,SNR=18							
EBIE				Lg			21 03 45.8	
	46nm,0.1s,SNR=14							
ETSF	**Etsaut**	**0.47**	**249**	*e*Pg		**Pg**	**21 03 43.0**	**-0.3**
	SNR=1.0							
ETSF				*e*Sg		**Sg**	**21 03 48.6**	**-0.9**
	180nm,0.4s							
ETSF	**Etsaut**	**0.47**	**249**	*e*Pg		**Pg**	**21 03 43.0**	**-0.3**
	SNR=1.0							
ETSF				*e*Sg		**Sg**	**21 03 48.6**	**-0.9**
	90nm,0.4s							
FDAF	**Les Forges d'A**	**0.51**	**241**	P		**Pg**	**21 03 43.6**	**-0.4**
FDAF				S		**Sg**	**21 03 50.0**	**-0.7**
ATE	**Arette**	**0.54**	**272**	Pg		**Pg**	**21 03 44.5**	**-0.1**
ATE				Sg		**Sg**	**21 03 52.3**	**+0.6**
ATE	**Arette**	**0.54**	**272**	P		**Pg**	**21 03 44.4**	**-0.2**
ATE				S		**Sg**	**21 03 52.1**	**+0.4**
MELF	**Melles**	**0.56**	**110**	P		**Pg**	**21 03 45.3**	**+0.2**
MELF				S		**Sg**	**21 03 53.6**	**+1.1**
ORDF	**Ordiarp**	**0.73**	**282**	Pg		**Pg**	**21 03 48.8**	**+0.7**
ORDF				Sg		**Sg**	**21 03 59.0**	**+1.4**
ORDF	**Ordiarp**	**0.73**	**282**	P		**Pg**	**21 03 48.8**	**+0.7**
ORDF				S		**Sg**	**21 03 58.8**	**+1.2**
LARF	**Larrau**	**0.75**	**268**	P		**Pg**	**21 03 48.5**	**-0.1**
LARF				S		**Sg**	**21 03 58.9**	**+0.4**
SALF	**Salau**	**0.90**	**110**	Pg		**Pg**	**21 03 51.4**	**0.0**
SALF				Sg		**Sg**	**21 04 03.6**	**+0.4**
SALF	**Salau**	**0.90**	**110**	P		**Pg**	**21 03 51.5**	**0.0**
SALF				S		**Sg**	**21 04 03.6**	**+0.5**
SJPF	**Ste Jean**	**0.93**	**273**	*e*Pn		**Pn**	**21 03 52.6**	**-0.5**
	SNR=1.0							
SJPF				*e*Sg		**Sg**	**21 04 03.7**	**-0.3**
	12nm,0.2s							
SJPF	**Ste Jean**	**0.93**	**273**	*e*Pg		**Pg**	**21 03 51.7**	**-0.2**
SJPF				*e*Pn		**Pn**	**21 03 52.6**	**-0.5**
SJPF				*e*Sg		**Sg**	**21 04 03.7**	**-0.3**
SJPF	**Ste Jean**	**0.93**	**273**	Pg		**Pg**	**21 03 51.7**	**-0.2**
SJPF				Pn		**Pn**	**21 03 52.6**	**-0.5**
SJPF				Lg			21 04 03.7	
	5.8nm,0.2s							
SJPF	**Ste Jean**	**0.93**	**273**	*e*Pn		**Pn**	**21 03 52.6**	**-0.5**
	SNR=1.0							
SJPF				*e*Sg		**Sg**	**21 04 03.7**	**-0.3**
	5.8nm,0.2s							
OSSF	**Osses**	**0.97**	**282**	S		**Sg**	**21 04 05.2**	**-0.2**
IPRE	**Itoiz**	**1.06**	**256**	Pg		**Pg**	**21 03 54.3**	**-0.2**
	SNR=7.9							
IPRE				Lg			21 04 08.2	
	1.7nm,0.1s,SNR=6.6							
IPRE	**Itoiz**	**1.06**	**256**	Pg		**Pg**	**21 03 54.3**	**-0.1**
	SNR=7.9							
CSOR	**Sort**	**1.06**	**130**	P		**Pg**	**21 03 54.3**	**-0.3**
CSOR				S		**Sg**	**21 04 08.6**	**+0.2**
	16nm,0.2s							
EALK	**Alkurruntz**	**1.14**	**278**	Pg		**Pg**	**21 03 56.7**	**+0.7**
	2.4nm,0.3s,SNR=8.9							
EALK				Lg			21 04 11.9	
	4.6nm,0.1s							
ELIZ	**Elizondo**	**1.15**	**275**	Pg		**Pg**	**21 03 56.7**	**+0.5**
	1.6nm,0.3s,SNR=9.6							
ELIZ				Lg			21 04 12.0	
	3.9nm,0.1s							
IUSE	**Utxeti**	**1.17**	**265**	Pg		**Pg**	**21 03 58.8**	**+2.2**
	1.5nm,0.3s,SNR=4.0							
IUSE				Lg			21 04 13.2	
	3.2nm,0.1s,SNR=6.1							
IUSE	**Utxeti**	**1.17**	**265**	Pg		**Pg**	**21 03 56.8**	**+0.2**
	1.5nm,0.3s,SNR=6.6							
EARA	**Aranguren**	**1.22**	**257**	Lg			21 04 14.4	
	3.2nm,0.1s,SNR=7.9							
CORG	**Organya**	**1.26**	**131**	P		**Pn**	**21 03 58.6**	**+0.9**
CAVN	**Les Avellanes**	**1.30**	**156**	P		**Pn**	**21 03 58.4**	**+0.2**
CAVN				S		**Sb**	**21 04 15.8**	**+0.6**
	36nm,0.1s							
ESAC	**San Caprasio**	**1.40**	**196**	Pg		**Pg**	**21 04 01.0**	**0.0**
	76nm,0.3s,SNR=70							
ESAC				Lg			21 04 19.2	
	56nm,0.2s,SNR=11							
ESAC	**San Caprasio**	**1.40**	**196**	Pg		**Pg**	**21 04 01.0**	**+0.1**
	76nm,0.3s,SNR=70							
EMIR	**Miracle**	**1.59**	**136**	Pn		**Pn**	**21 04 04.6**	**+2.3**
	14nm,1.1s,SNR=11							
EMIR				Lg			21 04 25.7	
	15nm,0.2s,SNR=15							
EMIR	**Miracle**	**1.59**	**136**	Pn		**Pn**	**21 04 04.6**	**+2.3**
	14nm,1.1s,SNR=11							
MTLF	**Montolieu**	**1.62**	**80**	*e*Pg		**Pg**	**21 04 05.5**	**+0.4**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**21 04 22.9**	**-0.6**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**21 04 27.2**	**+1.1**
	32nm,0.3s							
MTLF	**Montolieu**	**1.62**	**80**	*e*Pn		**Pn**	**21 04 02.7**	**+0.1**
MTLF				*e*Pg		**Pg**	**21 04 05.5**	**+0.4**
MTLF				*e*Sn		**Sn**	**21 04 22.9**	**-0.6**
MTLF				*e*Sg		**Sg**	**21 04 27.2**	**+1.1**
MTLF	**Montolieu**	**1.62**	**80**	Pn		**Pn**	**21 04 02.7**	**+0.1**
MTLF				Pg		**Pg**	**21 04 05.5**	**+0.4**
MTLF				Sn		**Sn**	**21 04 22.9**	**-0.6**
MTLF				Lg			21 04 27.2	
	16nm,0.3s							
MTLF	**Montolieu**	**1.62**	**80**	*e*Pn		**Pn**	**21 04 02.7**	**+0.1**
	SNR=1.0							
MTLF	**Montolieu**	**1.62**	**80**	*e*Pg		**Pg**	**21 04 05.5**	**+0.4**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**21 04 22.9**	**-0.6**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**21 04 27.2**	**+1.1**
	16nm,0.3s							
EPOB	**Poblet**	**1.88**	**155**	Pg		**Pg**	**21 04 09.0**	**-1.2**
	6.4nm,0.7s,SNR=13							
EPOB				Sn		**Sn**	**21 04 30.1**	**+0.1**
	104nm,1.5s							
EPOB				Lg			21 04 33.7	
	6.5nm,0.1s,SNR=9.6							
EPOB	**Poblet**	**1.88**	**155**	Pg		**Pg**	**21 04 09.0**	**-1.2**
	6.4nm,0.7s,SNR=13							
EPOB				Sn		**Sn**	**21 04 30.1**	**+0.1**
	104nm,1.5s							
ECRI	**Cripan**	**1.93**	**257**	Pg		**Pg**	**21 04 10.6**	**-0.5**
	SNR=7.9							
ECRI				Lg			21 04 36.3	
	2.2nm,0.1s,SNR=7.9							
LFF	**La Frestale**	**1.94**	**15**	*e*Pg		**Pg**	**21 04 11.9**	**+0.6**
	SNR=1.0							
LFF				*e*Sg		**Sg**	**21 04 37.8**	**+1.4**
	20nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**1.94**	**15**	*e*Pn		**Pn**	**21 04 07.5**	**+0.5**
LFF				*e*Pg		**Pg**	**21 04 11.9**	**+0.6**
LFF				*e*Sg		**Sg**	**21 04 37.8**	**+1.4**
LFF	**La Frestale**	**1.94**	**15**	Pn		**Pn**	**21 04 07.5**	**+0.5**
LFF				Pg		**Pg**	**21 04 11.9**	**+0.6**
LFF				Lg			21 04 37.8	
	0.0nm,0.3s							
LFF	**La Frestale**	**1.94**	**15**	*e*Pg		**Pg**	**21 04 11.9**	**+0.6**
	SNR=1.0							
LFF				*e*Sg		**Sg**	**21 04 37.8**	**+1.4**
	10.0nm,0.3s,SNR=1.0							
ERTA	**Horta de San J**	**2.12**	**174**	Pg		**Pg**	**21 04 13.1**	**-1.7**
	SNR=7.9							
ERTA				Sn		**Sn**	**21 04 35.9**	**-0.1**
	6.2nm,0.3s,SNR=7.1							
ERTA				Lg			21 04 40.7	
	3.8nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.12**	**174**	Pg		**Pg**	**21 04 13.1**	**-1.7**
	SNR=7.9							
ERTA				Sn		**Sn**	**21 04 35.9**	**0.0**
	6.2nm,0.3s,SNR=7.1							
EJON	**La Jonquera**	**2.19**	**105**	Pg		**Pg**	**21 04 16.2**	**+0.2**
	SNR=7.9							
EJON				Lg			21 04 45.3	
	4.2nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**2.19**	**105**	Pg		**Pg**	**21 04 16.2**	**+0.1**
	SNR=7.9							
CAF	**Calviac**	**2.36**	**38**	*e*Pg		**Pg**	**21 04 19.5**	**+0.1**
	SNR=1.0							
CAF				*e*Sn		**Sn**	**21 04 42.1**	**+0.2**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**21 04 51.1**	**+1.0**
	6.9nm,0.2s,SNR=1.0							
CAF	**Calviac**	**2.36**	**38**	*e*Pn		**Pn**	**21 04 12.9**	**0.0**
CAF				*e*Pg		**Pg**	**21 04 19.5**	**+0.1**
CAF				*e*Sn		**Sn**	**21 04 42.1**	**+0.2**
CAF				*e*Sg		**Sg**	**21 04 51.1**	**+1.0**
CAF	**Calviac**	**2.36**	**38**	Pn		**Pn**	**21 04 12.9**	**0.0**
CAF				Pg		**Pg**	**21 04 19.5**	**+0.1**
CAF				Sn		**Sn**	**21 04 42.1**	**+0.2**
CAF				Lg			21 04 51.1	
	3.5nm,0.2s							
CAF	**Calviac**	**2.36**	**38**	*e*Pn		**Pn**	**21 04 12.9**	**0.0**
	SNR=1.0							
CAF	**Calviac**	**2.36**	**38**	*e*Pg		**Pg**	**21 04 19.5**	**+0.1**
	SNR=1.0							
CAF				*e*Sn		**Sn**	**21 04 42.1**	**+0.2**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**21 04 51.1**	**+1.0**
	3.5nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*Pg		**Pg**	**21 04 22.0**	**+0.5**
	SNR=1.0							
RJF				*e*Sg		**Sg**	**21 04 54.8**	**+1.2**
	12nm,0.3s							
RJF	**Les Rejaudoux**	**2.48**	**25**	*e*Pg		**Pg**	**21 04 22.0**	**+0.5**
	SNR=1.0							
RJF				*e*Sg		**Sg**	**21 04 54.8**	**+1.2**
	5.9nm,0.3s							
ELAN	**Lanestosa**	**2.55**	**275**	Sn		**Sn**	**21 04 47.0**	**+0.6**
	SNR=4.0							
ELAN	**Lanestosa**	**2.55**	**275**	Sn		**Sn**	**21 04 47.0**	**+0.6**
	SNR=7.9							
EMOS	**Mosqueruela**	**2.73**	**188**	Pg		**Pg**	**21 04 24.3**	**-2.1**
	6.2nm,0.5s,SNR=8.3							
EMOS				Sn		**Sn**	**21 04 51.2**	**+0.3**
	SNR=7.9							
EMOS				Lg			21 05 00.1	
	0.6nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.73**	**188**	Pg		**Pg**	**21 04 24.3**	**-2.1**
	6.2nm,0.5s,SNR=8.3							
EMOS				Sn		**Sn**	**21 04 51.2**	**+0.3**
	SNR=7.9							
ETOR	**Torete**	**2.74**	**215**	Pn		**Pn**	**21 04 19.3**	**+1.3**
	2.2nm,0.6s,SNR=9.6							
ETOR				Pg		**Pg**	**21 04 25.6**	**-1.0**
	5.1nm,0.4s,SNR=6.9							
ETOR				Sn		**Sn**	**21 04 51.9**	**+0.8**
ETOR				Lg			21 05 00.3	
	6.3nm,0.2s,SNR=7.9							
ETOR	**Torete**	**2.74**	**215**	Pg		**Pg**	**21 04 25.6**	**-0.9**
	5.1nm,0.4s,SNR=6.9							
ETOR				Sn		**Sn**	**21 04 51.9**	**+0.8**
LASF	**Ste Croix**	**2.95**	**69**	*e*Pg		**Pg**	**21 04 30.0**	**-0.7**
LASF				*e*Sn		**Sn**	**21 04 54.9**	**-1.6**
LASF				*e*Sg		**Sg**	**21 05 08.7**	**-0.2**
	4.9nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**2.95**	**69**	*e*Pn		**Pn**	**21 04 21.1**	**+0.1**
LASF				*e*Pg		**Pg**	**21 04 30.0**	**-0.7**
LASF				*e*Sn		**Sn**	**21 04 54.9**	**-1.6**
LASF				*e*Sg		**Sg**	**21 05 08.7**	**-0.2**
LASF	**Ste Croix**	**2.95**	**69**	Pn		**Pn**	**21 04 21.1**	**+0.1**
LASF				Pg		**Pg**	**21 04 30.0**	**-0.7**
LASF				Sn		**Sn**	**21 04 54.9**	**-1.6**
LASF				Lg			21 05 08.7	
	2.5nm,0.2s							
LASF	**Ste Croix**	**2.95**	**69**	*e*Pn		**Pn**	**21 04 21.1**	**+0.1**
LASF	**Ste Croix**	**2.95**	**69**	*e*Pg		**Pg**	**21 04 30.0**	**-0.7**
LASF				*e*Sn		**Sn**	**21 04 54.9**	**-1.6**
LASF				*e*Sg		**Sg**	**21 05 08.7**	**-0.2**
	2.5nm,0.2s,SNR=1.0							
MFF	**Saint Martin d**	**3.54**	**358**	*e*Pg		**Pg**	**21 04 41.2**	**-0.6**
MFF				*e*Sg		**Sg**	**21 05 26.8**	**-0.9**
	5.0nm,0.3s							
MFF	**Saint Martin d**	**3.54**	**358**	*e*Pn		**Pn**	**21 04 29.2**	**+0.2**
MFF				*e*Pg		**Pg**	**21 04 41.2**	**-0.6**
MFF				*e*Sg		**Sg**	**21 05 26.8**	**-0.9**
MFF	**Saint Martin d**	**3.54**	**358**	Pn		**Pn**	**21 04 29.2**	**+0.2**
MFF				Pg		**Pg**	**21 04 41.2**	**-0.6**
MFF	**Saint Martin d**	**3.54**	**358**	*e*Pg		**Pg**	**21 04 41.2**	**-0.6**
MFF				*e*Sg		**Sg**	**21 05 26.8**	**-0.9**
	2.5nm,0.3s							
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg		**Pg**	**21 04 42.1**	**-0.4**
TCF				*e*Sn		**Sn**	**21 05 10.2**	**-1.6**
	SNR=1.0							
TCF				*e*Sg		**Sg**	**21 05 28.3**	**-0.5**
	4.4nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.57**	**25**	Pg		**Pg**	**21 04 42.1**	**-0.4**
TCF				Sn		**Sn**	**21 05 10.2**	**-1.6**
TCF	**Toulx Ste Croi**	**3.57**	**25**	*e*Pg		**Pg**	**21 04 42.1**	**-0.4**
TCF				*e*Sn		**Sn**	**21 05 10.2**	**-1.6**
	SNR=1.0							
TCF				*e*Sg		**Sg**	**21 05 28.3**	**-0.5**
	2.2nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**3.79**	**60**	*e*Pg		**Pg**	**21 04 45.8**	**-1.0**
VIVF				*e*Sg		**Sg**	**21 05 35.3**	**-0.6**
	3.1nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**3.79**	**60**	*e*Pg		**Pg**	**21 04 45.8**	**-1.0**
VIVF				*e*Sg		**Sg**	**21 05 35.3**	**-0.6**
	1.5nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**4.02**	**29**	*e*Pg		**Pg**	**21 04 50.4**	**-0.7**
BGF				*e*Sg		**Sg**	**21 05 43.0**	**-0.2**
	15nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**4.02**	**29**	*e*Pg		**Pg**	**21 04 50.4**	**-0.7**
BGF				*e*Sg		**Sg**	**21 05 43.0**	**-0.2**
	7.3nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**4.13**	**75**	*e*Sg		**Sg**	**21 05 45.6**	**-1.1**
	1.6nm,0.4s							
SMRF	**Simiane la Rot**	**4.13**	**75**	*e*Sg		**Sg**	**21 05 45.6**	**-1.1**
	0.8nm,0.4s							
AVF	**Avril sur Loir**	**4.40**	**31**	*e*Sg		**Sg**	**21 05 54.7**	**-0.8**
	1.7nm,0.3s							
AVF	**Avril sur Loir**	**4.40**	**31**	*e*Sg		**Sg**	**21 05 54.7**	**-0.8**
	0.9nm,0.3s							
SSF	**Saint Saulge**	**4.69**	**30**	*e*Sg		**Sg**	**21 06 03.9**	**-0.7**
	2.3nm,0.3s							
SSF	**Saint Saulge**	**4.69**	**30**	*e*Sg		**Sg**	**21 06 03.9**	**-0.7**
	1.1nm,0.3s							

IDC 15 21:18:45.1±2.2, 448N×12276E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=339.3km s-min=25.0km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.80**	**155**		P	P	21 24 27.1	+0.2
	0.5nm,0.3s,baz=334,slow=9.8,SNR=30							
ASAR	**Alice Springs**	**30.01**	**159**		P	P	21 24 56.0	+0.5
	0.2nm,0.4s,baz=342,slow=6.8,SNR=4.9							
MKAR	**Makanchi Array**	**54.73**	**327**		P	P	21 28 16.3	+0.1
	0.3nm,0.3s,baz=120,slow=7.9,SNR=9.0							

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*ISCJB **15** 21:26:30.7±0.6, 41.11N±004×2363E±005, h14km±5km, Error ellipse: s-maj=6.6km s-min=6.2km az=146.9*
*THE **15** 21:26:30.4, 41.15N×2365E, h15km, ML2.1*
*ATH **15** 21:26:30.6, 41.14N×2368E, h32km, MD3.3/3*
*CSEM **15** 21:26:31.3±0.1, 41.13N×2363E, h20km, ML2.1, Error ellipse: s-maj=2.8km s-min=2.1km az=16.0*
ISC 15 21:26:30.9±0.6, 41.11N±004×2363E±005, h18km±5km, n9, σ0.97/77/16, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.03**	**278**	*e*Pg		**Pg**	**21 26 33.3**	**-0.8**
SRS				*e*Sg		**Sg**	**21 26 34.9**	**-1.3**
NVR	**Nevrokopi**	**0.29**	**37**	*e*PB		**Pg**	**21 26 38.9**	**+1.5**
NVR				*e*SB		**Sg**	**21 26 42.5**	**+0.7**
SOH	**Sokhos**	**0.36**	**215**	*e*Pg		**Pg**	**21 26 38.7**	**+0.3**
SOH				*e*Sg		**Sg**	**21 26 44.9**	**+1.4**
KNT	**Kendrikon**	**0.55**	**275**	*e*Pg		**Pg**	**21 26 41.6**	**-0.4**
KNT				*e*Sg		**Sg**	**21 26 49.5**	**+0.1**
HORT	**Hortiatis**	**0.65**	**218**	*e*Pg		**Pg**	**21 26 43.9**	**+0.1**
PLG	**Polygyros**	**0.75**	**191**	*e*PN		**Pb**	**21 26 45.7**	**+0.2**
OUR	**Ouranopolis**	**0.82**	**161**	*e*Pg		**Pg**	**21 26 46.7**	**-0.3**
OUR				*e*Sg		**Sg**	**21 26 57.9**	**0.0**
GRG	**Griva**	**0.94**	**261**	*e*Pg		**Pg**	**21 26 48.7**	**-0.6**
GRG				*e*Sg		**Sg**	**21 27 01.8**	**+0.2**
RDO	**Rodhopi**	**1.44**	**88**	*e*PB		**Pn**	**21 26 54.7**	**-1.4**
RDO				*e*SN		**Sn**	**21 27 14.8**	**+0.2**

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*MOS **15** 21:41:44.2±1.4, 54.11N×16050E, h12km, mb4.9/6, Error ellipse: s-maj=15.1km s-min=7.5km az=75.5*
MOS Felt (II) at Petropavlovsk-Kamchatskyi.
*ISCJB **15** 21:41:50.1±0.4, 5380N±003×16060E±008, h67km±4km, mb4.1/28, Error ellipse: s-maj=8.2km s-min=3.1km az=54.7*
*IDC **15** 21:41:50.2±0.6, 5395N×16029E, h48km±5km, mb3.9/19, mb1 4.1/20, mb1mx4.0/27, mbtmp3.9/20, MS3.5/7, Ms1 3.5/7, ms1mx3.3/48, Error ellipse: s-maj=17.3km s-min=11.6km az=156.0*
*KRSC **15** 21:41:50.0±0.6, 5376N×16068E, h33km±22km, ML4.9*
*NEIC **15** 21:41:51.3±1.1, 5395N×16032E, h60km±11km, mb4.6/7, Error ellipse: s-maj=10.5km s-min=6.6km az=161.0*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
ISC 15 21:41:51.4±0.4, 5381N±003×16050E±008, h67km±4km, h51km±1.7km: pP-P, n78, σ1.9±10/92, mb4.1/28, 1C-4D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.77**	**202**	*i* P		**Pn**	**21 42 04.2**	**-2.7**
NLC	**Nalytchevo**	**0.94**	**228**	*i* P		**Pn**	**21 42 07.7**	**-1.3**
NLC				*e*S		**Sn**	**21 42 19.8**	**-2.2**
MKZ	**Mys Kozlova**	**1.04**	**44**	*i* P		**Pn**	**21 42 06.7**	**-3.6**
AVH	**Avacha**	**1.18**	**243**	*i* P		**Pn**	**21 42 12.5**	**+0.4**
AVH				*i* S		**Sn**	**21 42 28.8**	**+1.2**
INSR	**Institute**	**1.36**	**237**	P		**Pn**	**21 42 14.6**	**+0.2**
INSR				*i* S		**Sn**	**21 42 32.5**	**+0.9**
PET	**Petropavlovsk**	**1.36**	**235**	⇓*i*PN		**Pn**	**21 42 14.2**	**-0.2**
PET				*i* S		**Sn**	**21 42 32.4**	**+0.8**
PET				pmax	pmax			
	comp=Z,1μm,1.3s							
PET				pmax	pmax			
	comp=Z,913nm,0.7s							
PET				smax				
	comp=N,11μm,1.1s							
PET				smax				
	comp=N,11μm,0.9s							
PET				smax				
	comp=E,6μm,0.5s							
PET				smax				
	comp=E,8μm,1.2s							
PET	**Petropavlovsk**	**1.36**	**235**	*e*P		**Pn**	**21 42 14.0**	**-0.4**
PET				*e*S		**Sn**	**21 42 29.4**	**-2.3**
PET	**Petropavlovsk**	**1.36**	**235**	*i* P		**Pn**	**21 42 14.0**	**-0.4**
PET				*i* S		**Sn**	**21 42 31.9**	**+0.3**
GNL	**Ganaly**	**1.52**	**267**	*i* P		**Pn**	**21 42 17.5**	**+0.9**
GNL				*i* S		**Sn**	**21 42 38.0**	**+2.5**
RUS	**Russkaya**	**1.83**	**222**	*i* P		**Pn**	**21 42 19.4**	**-1.2**
RUS				*i* S		**Sn**	**21 42 41.1**	**-1.7**
GRL	**Gorelyy**	**1.93**	**230**	*i* P		**Pn**	**21 42 22.4**	**+0.4**
GRL				*i* S		**Sn**	**21 42

comp=Z,70nm,18.5s,baz=268,slow=36
COLA College 27.73 46 *i* P **P 21 47 32.7 -0.8**
INK Inuvik 33.16 38 P **P 21 48 21.1 -0.2**
comp=Z,3.7nm,0.7s,mb4.3,baz=286,slow=5.7,SNR=19
SONM Songino Array 33.98 282 P **P 21 48 29.2 +0.7**
comp=Z,0.3nm,0.6s,mb3.3,baz=54,slow=7.3,SNR=3.1
SONM PcP PcP 21 51 07.2 +1.9
comp=Z,0.7nm,0.8s,baz=47,slow=1.4,SNR=3.3
SONM pPcP 21 51 19.5
comp=Z,1.1nm,0.8s,baz=78,slow=1.4,SNR=6.0
SONM Songino Array 33.98 282 P **P 21 48 29.2 +0.7**
SONM 21 51 07.2
YKA Yellowknife Ar 42.47 43 P **P 21 49 39.8 0.0**
comp=Z,2.8nm,0.7s,mb4.1,baz=299,slow=8.0,SNR=32
NVS Novosibirsk 42.91 304 *e*P **P 21 49 41.4 -2.0**
KURK Kurchatov 47.56 301⇓*e*P **P 21 50 18.2 -2.0**
KURK Kurchatov 47.56 301 *e*P **P 21 50 17.8 -2.4**
comp=Z,2.4nm,0.8s,mb4.1
MKAR Makanchi Array 48.07 295 P **P 21 50 22.3 -1.8**
comp=Z,0.6nm,0.5s,mb3.6,baz=70,slow=4.8,SNR=7.9
MKAR pP pP 21 50 35.3 -5.8
comp=Z,1.0nm,0.7s,baz=52,slow=6.4,SNR=6.4
MKAR Makanchi Array 48.07 295 *i* P **P 21 50 23.7 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
EDM Edmonton 48.14 54 *e*P **P 21 50 24.6 -0.1**
BVAR Borovoye Array 50.14 308 P **P 21 50 38.4 -1.5**
comp=Z,0.8nm,0.6s,mb3.9,baz=48,slow=6.6,SNR=5.0
BVAR pP pP 21 50 51.2 -5.8
comp=Z,0.9nm,0.6s,baz=33,slow=8.6,SNR=3.0
NVAR Mina Array Bea 55.27 71 P **P 21 51 19.1 +1.2**
comp=Z,4.2nm,0.8s,mb4.5,baz=310,slow=7.0,SNR=15
PDAR Pinedale Array 56.97 61 P **P 21 51 30.8 +0.8**
comp=Z,4.2nm,0.8s,mb4.5,baz=315,slow=3.0,SNR=24
PDAR pP pP 21 51 46.1 -1.2
comp=Z,1.3nm,0.6s,baz=314,slow=3.3,SNR=4.6
ULM Lac du Bonnet 58.16 47 P **P 21 51 38.3 0.0**
comp=Z,3.1nm,0.9s,mb4.3,baz=261,slow=3.5,SNR=4.9
ULM pP pP 21 51 52.9 -2.8
comp=Z,1.2nm,0.4s,baz=312,slow=11,SNR=3.5
ULM LR LR 22 20 17.9
comp=Z,89nm,20.3s,baz=9.7,slow=40
ULM Lac du Bonnet 58.16 47 P **P 21 51 38.3 0.0**
ULM pP pP 21 51 52.9 -2.8
ULM LR LR 22 20 17.9
KAF Kangasniemi 58.92 337 *e*p **P 21 51 42.0 -1.6**
SRU San Rafael 59.06 65 *e*P **P 21 51 45.4 +0.8**
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SRU San Rafael 59.06 65 *e*P **P 21 51 45.4 +0.9**
comp=Z,9.3nm,0.9s,mb4.8
FINES FINESS Array B 59.56 337 P **P 21 51 47.4 -0.6**
comp=Z,4.1nm,0.9s,mb4.5,baz=33,slow=7.6,SNR=9.0
FINES FINESS Array B 59.56 337 *i* P **P 21 51 48.5 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.9s
SDCO Great Sand Dun 62.74 63 *e*P **P 21 52 10.5 +1.0**
comp=Z,1.8nm,1.0s,mb4.0
NB2 NORSAR Subarra 62.92 344 P **P 21 52 10.3 -0.4**
comp=Z,0.2nm,0.6s,mb3.2,baz=24,slow=6.5
NOA NORSAR Array B 62.92 344 P **P 21 52 10.5 -0.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=21,slow=6.5,SNR=5.2
NOA NORSAR Array B 62.92 344 P **P 21 52 10.5 -0.2**
ANMO Albuquerque 64.32 66 P **P 21 52 21.2 +1.3**
comp=Z,1.9nm,0.6s,mb4.1,baz=340,slow=3.8,SNR=5.2
SCHQ Schefferville 64.90 28 P **P 21 52 22.2 -1.5**
comp=Z,2.2nm,0.8s,mb4.1,baz=349,slow=10,SNR=4.3
AKASG Malin Array Be 68.12 329 P **P 21 52 42.0 -2.2**
comp=Z,1.1nm,0.6s,mb3.9,baz=28,slow=6.1,SNR=5.3
WMOK Wichita Mounta 68.54 60 *e*P **P 21 52 46.8 -0.1**
WMOK pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
WMOK Wichita Mounta 68.54 60 *e*P **P 21 52 46.8 -0.1**
comp=Z,9.2nm,0.9s,mb4.6
WMOK *e* pP 21 53 00.7 -4.0
LTX Lajitas 70.14 67 *e*P **P 21 52 57.5 +0.8**
LTX pmax pmax
comp=Z,14nm,1.3s,mb4.6
LTX Lajitas 70.14 67 *e*P **P 21 52 57.5 +0.8**
comp=Z,14nm,1.3s,mb4.6
TXAR Lajitas Array 70.14 67 P **P 21 52 57.5 +0.8**
comp=Z,5.7nm,0.7s,mb4.5,baz=300,slow=4.5,SNR=63
TXAR Lajitas Array 70.14 67 P **P 21 52 57.5 +0.8**
LPIG La Paz 70.45 76 LR LR 22 23 39.8
comp=Z,102nm,18.4s,baz=76,slow=36
GNI Garni 71.36 313 LR LR 22 29 27.8
comp=Z,43nm,19.5s,baz=181,slow=40
KHC Kasperske Hory 73.70 338 *e*P **P 21 53 18.5 +0.4**
GERES GERESS Array B 73.94 338 P **P 21 53 20.0 +0.5**
comp=Z,0.8nm,0.6s,mb3.6,baz=32,slow=5.3,SNR=7.3
KBA Koelnbreinsper 75.69 338⇓*i*P **P 21 53 28.8 -0.8**
comp=Z,11nm,1.1s,mb4.5
KBA Koelnbreinsper 75.69 338⇓*i*P **P 21 53 28.8 -0.7**
KBA pmax pmax
comp=Z,11nm,1.1s,mb4.5
BRTR Keskin Array B 76.22 321 *i* P **P 21 53 34.4 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 76.83 205 P **P 21 53 36.8 +0.8**
comp=Z,1.1nm,0.9s,mb3.6,baz=23,slow=6.3,SNR=4.3
ASAR Alice Springs 80.51 205 P **P 21 53 57.4 +1.2**
comp=Z,1.6nm,0.9s,mb3.9,baz=14,slow=5.3,SNR=8.9
ASAR pP pP 21 54 10.6 -4.0
comp=Z,1.7nm,0.9s,baz=5.4,slow=4.6,SNR=5.9
ESDC Sonseca Array 85.93 348 P **P 21 54 23.9 -0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=0.7,slow=5.4,SNR=4.9
ESDC pP pP 21 54 37.9 -4.7
comp=Z,1.1nm,0.7s,baz=358,slow=6.1,SNR=4.0

IDC 15 21:43:26.8±4.1, 902S×12064E, h152km±34km, mb3.6/3, mb1 3.7/6, mb1mx3.3/17, mbtmp3.5/6, Error ellipse: s-maj=62.3km s-min=25.0km az=30.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.25**	**152**	*e*P	Pn	21 45 48.7	-1.3
	3.2nm,0.3s						
FITZ				*e*S	Sn	21 47 37.2	-6.3
FITZ	**Fitzroy Crossi**	**10.25**	**152**	P	Pn	21 45 48.2	-1.9
	0.4nm,0.3s,baz=358,slow=12,SNR=13						
FITZ				S	Sn	21 47 36.9	-6.6
	2.1nm,0.3s,baz=188,slow=19,SNR=11						
KAKA	**Kakadu**	**12.15**	**109**	*e*P	Pn	21 46 11.4	-3.5
	4.1nm,0.2s						
KAKA				*e*S	Sn	21 48 19.8	-9.4
WRA	**Warramunga Arr**	**17.13**	**131**	P	Pn	21 47 15.9	-1.1
	0.4nm,0.3s,baz=304,slow=12,SNR=32						
WRA				S	S	21 50 17.2	-10
	0.9nm,0.3s,baz=306,slow=25,SNR=9.9						
WB2	**Warramunga Arr**	**17.14**	**131**	*e*P	Pn	21 47 16.7	-0.4
WB2				*e*S	S	21 50 16.4	-11
ASAR	**Alice Springs**	**19.32**	**141**	P	P	21 47 41.6	+1.5
	1.4nm,0.3s,baz=319,slow=10,SNR=57						
ASAR				S	S	21 51 11.6	+0.9
	0.2nm,0.3s,baz=320,slow=21,SNR=6.8						
NWAO	**Narrogin (SRO)**	**24.00**	**187**	P	P	21 48 28.4	+1.0
	1.9nm,0.4s,baz=17,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**29.93**	**142**	*e*P	P	21 49 21.3	+0.9
	2.0nm,0.5s						
STKA	**Stephens Creek**	**29.93**	**142**	P	P	21 49 21.6	+1.2
	2.4nm,0.5s,baz=312,slow=8.7,SNR=9.5						
VNDA	**Vanda**	**71.72**	**171**	P	P	21 54 30.8	-1.5
	0.9nm,1.1s,baz=337,slow=9.8,SNR=3.1						

STR ***15*** *22:14:27.7±0.3, 4757N×759E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***15*** *22:14:28.4±0.1, 4758N×754E, h13km, Md2.3/1, Ml2.1/11, Error ellipse: s-maj=1.5km s-min=1.3km az=132.0*
ZUR 15 22:14:28.3, 4759N×760E, h5km±1km, ML1.5, 1C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Pg	22 14 33.6	+0.3
	263nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	22 14 34.7	+0.3
	54nm,1.0s						
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇓*i*Pg	Pg	22 14 35.3	+0.2
	84nm,0.3s						
MOF	**Molkenrain**	**0.41**	**310**	Pg	Pg	22 14 36.2	-0.1
MOF				Sg	Sg	22 14 41.9	+0.3
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	22 14 38.5	-0.5
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	22 14 39.8	+0.8
HINF				*e*Sn	Sg	22 14 45.3	-0.9
	14nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	22 14 39.5	+0.2
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	22 14 40.1	-0.3
	85nm,0.2s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	22 14 41.6	-0.1
ECH				Sg	Sg	22 14 50.4	-0.4
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	22 14 44.5	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	22 14 44.9	-2.1
CDF				*e*Sg	Sg	22 14 54.8	-1.0
CDF				*e*Sn	Sn	22 14 56.8	-3.1
	12nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	22 14 45.7	-0.7
HAU				*e*Sg	Sg	22 14 58.2	-0.4
	14nm,0.3s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	22 14 55.1	-0.4
CABF				*e*Sg	Sg	22 15 12.2	-1.7
	2.5nm,0.2s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg	Pg	22 15 02.2	-1.2
SFTF				*e*Sg	Sg	22 15 25.5	-1.7
	0.8nm,0.2s						
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sg	Sg	22 15 29.1	-1.5
	2.4nm,0.3s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	Pg	22 15 08.6	-1.0
LPL				*e*Sg	Sg	22 15 36.2	-1.3
	1.2nm,0.4s						
LPG	**La Plagne**	**2.17**	**196**	*e*Pg	Pg	22 15 08.6	-1.3
LPG				*e*Sg	Sg	22 15 37.0	-1.0
	1.3nm,0.3s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	22 15 15.3	-2.1
LOR				*e*Sg	Sg	22 15 47.6	-2.9
	4.0nm,0.2s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Sg	Sg	22 15 52.4	-3.7
	2.5nm,0.3s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Sg	Sg	22 16 00.9	-3.9
	0.5nm,0.2s						

IDC ***15*** *22:28:08.9±26.0, 1945S×174.18W, h0km, mb4.4/4, mb1 4.5/4, mb1mx4.0/17, mbtmp4.4/4, Error ellipse: s-maj=491.8km s-min=160.0km az=74.0*
NEIC 15 22:28:17.9±1.9, 2028S×17454W, h35km, mb4.5/2, Error ellipse: s-maj=98.8km s-min=36.2km az=173.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.74**	**263**	P	P	22 35 23.1	+1.3
	2.8nm,0.5s,baz=90,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**36.74**	**263**	*e*P	P	22 35 22.7	+0.9
	4.1nm,0.6s						
STKA	**Stephens Creek**	**40.81**	**244**	P	P	22 35 57.5	+1.7
	1.7nm,0.8s,baz=54,slow=8.7,SNR=3.0						
ASAR	**Alice Springs**	**47.73**	**256**	P	P	22 36 51.6	+0.4
	4.4nm,0.5s,baz=95,slow=7.7,SNR=64						
WB2	**Warramunga Arr**	**47.84**	**261**	*e*P	P	22 36 51.5	-0.5
WRA	**Warramunga Arr**	**47.85**	**261**	*e*P	P	22 36 51.9	-0.2
	2.5nm,0.3s,baz=97,slow=7.8,SNR=116						
NWAO	**Narrogin (SRO)**	**61.37**	**243**	P	P	22 38 29.1	-1.0
	2.8nm,0.7s						

NEIC ***15*** *22:31:12.0±0.6, 4746N×15527E, h10km, mb4.7/3, Error ellipse: s-maj=15.3km s-min=12.1km az=166.0*
ISCJB ***15*** *22:31:13.8±1.7, 475N±0.1×1553E±0.1, h34km±14km, mb4.1/18, Error ellipse: s-maj=20.8km s-min=11.9km az=103.8*
MOS ***15*** *22:31:13.6±1.0, 4742N×15527E, h34km, mb4.1/3, Error ellipse: s-maj=15.6km s-min=12.6km az=88.4*
IDC ***15*** *22:31:17.2±0.8, 4748N×15531E, h48km±6km, mb3.7/15, mb1 3.9/16, mb1mx3.8/26, mbtmp3.7/16, Error ellipse: s-maj=19.3km s-min=14.8km az=153.0*
ISC 15 22:31:17.1±1.6, 475N±01×1553E±01, h47km±13km, h47km±.2km:pP-P, n30, σ0§90/30, mb4.1/18, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.19**	**9**	*e*PN	**Pn**	**22 32 04.4**	**-0.4**
KUR	**Kuril'sk**	**5.65**	**249**	PN	**Pn**	**22 32 34.0**	**-4.5**
YSS	**Yuzh-Sakhalins**	**8.58**	**271**	*e*PN	**Pn**	**22 33 20.0**	**+1.4**
ASAJ	**Asahikawa**	**9.52**	**254**	P	**Pn**	**22 33 30.6**	**-0.9**
	0.6nm,0.3s,baz=64,slow=18,SNR=3.6						
ASAJ	**Asahikawa**	**9.52**	**254**	PN	**Pn**	**22 33 30.6**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.47**	**253**	P	**P**	**22 36 13.5**	**+1.3**
	comp=Z,2.3nm,0.7s,mb3.7,baz=53,slow=9.4,SNR=7.5						
INK	**Inuvik**	**40.17**	**33**	P	**P**	**22 38 48.8**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=308,slow=6.6,SNR=5.8						
MK31	**Makanchi Array**	**47.92**	**298**	*e*P	**P**	**22 39 51.7**	**+1.0**
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**22 39 49.2**	**-1.4**
	comp=Z,16nm,0.7s,mb5.2,baz=67,slow=7.6,SNR=29						
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**22 39 49.2**	**-1.4**
KURK	**Kurchatov**	**48.19**	**304**	*e*P	**P**	**22 39 51.7**	**-1.0**
	comp=Z,32nm,0.9s						
YKA	**Yellowknife Ar**	**49.38**	**38**	P	**P**	**22 40 01.6**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=293,slow=7.4,SNR=5.9						
YKA				pP	pP	22 40 13.9	-0.9
	comp=Z,0.5nm,0.8s,baz=295,slow=6.9,SNR=3.4						
YKA	**Yellowknife Ar**	**49.38**	**38**	P	**P**	**22 40 01.6**	**-0.3**
YKA				pP	pP	22 40 13.9	-0.9
CHKZ	**Chkalovo**	**51.08**	**310**	*e*P	**P**	**22 40 13.7**	**-1.0**
	comp=Z,4.5nm,0.4s,mb4.8						
BVAR	**Borovoye Array**	**51.52**	**310**	P	**P**	**22 40 17.3**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.4,baz=56,slow=8.0,SNR=16						
LSA	**Lhasa**	**51.73**	**274**	*e*P	**P**	**22 40 19.7**	**+0.1**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**51.73**	**274**	*e*P	**P**	**22 40 19.7**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0						
AB31	**Akbulak array**	**59.08**	**310**	P	**P**	**22 41 11.8**	**-0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AKTK	**Aktyubinsk**	**59.32**	**312**	P	**P**	**22 41 14.8**	**+0.7**
AKTO	**Aktyubinsk**	**59.32**	**312**	P	**P**	**22 41 14.8**	**+0.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=60,slow=13,SNR=3.5						
AKTO	**Aktyubinsk**	**59.32**	**312**	P	**P**	**22 41 14.8**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**63.06**	**55**	P	**P**	**22 41 39.4**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.8,baz=279,slow=7.2,SNR=4.2						
FINES	**FINESS Array B**	**63.96**	**336**	P	**P**	**22 41 45.4**	**0.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=27,slow=6.8,SNR=12						
NOA	**NORSAR Array B**	**67.96**	**342**	P	**P**	**22 42 11.7**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.2,baz=25,slow=6.4,SNR=3.9						
WRA	**Warramunga Arr**	**69.77**	**201**	P	**P**	**22 42 21.7**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=20,slow=6.5,SNR=8.9						
AKASG	**Malin Array Be**	**71.72**	**327**	P	**P**	**22 42 32.8**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=28,slow=6.0,SNR=2.4						
ASAR	**Alice Springs**	**73.45**	**200**	P	**P**	**22 42 44.0**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=15,slow=5.4,SNR=8.3						
TXAR	**Lajitas Array**	**75.79**	**62**	P	**P**	**22 42 59.0**	**+1.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=301,slow=4.8,SNR=24						
TXAR				pP	pP	22 43 12.1	+0.4
	comp=Z,1.2nm,0.5s,baz=304,slow=4.8,SNR=8.7						
GERES	**GERESS Array B**	**78.39**	**335**	P	**P**	**22 43 13.2**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=46,slow=5.8,SNR=5.1						
BRTR	**Keskin Array B**	**78.84**	**318**	P	**P**	**22 43 16.8**	**+1.7**
	comp=Z,1.1nm,0.9s,mb3.8,baz=107,slow=4.1,SNR=4.8						
BRTR				pP	pP	22 43 30.1	+1.2
	comp=Z,1.7nm,0.8s,baz=62,slow=3.9,SNR=7.3						

BJI ***15*** *22:35:23.8, 5609N×11007E, h12km, mB4.7, mb4.5, Ms4.7, Msz4.4*
MOS ***15*** *22:35:25.8±1.0, 5576N×11006E, h7km, mb4.7/10, MS4.0/5, Error ellipse: s-maj=7.9km s-min=6.0km az=77.0*
MOS Felt (II) at Verkhnyaya Zaimka.
ISCJB ***15*** *22:35:25.8±0.2, 5564N±002×11020E±003, h10km, mb4.2/33, MS4.1/19, Error ellipse: s-maj=3.0km s-min=2.1km az=121.0*
IDC ***15*** *22:35:26.2±0.7, 5574N×11026E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML4.4/2, MS3.9/15, Ms1 3.9/15, ms1mx3.6/41, Error ellipse: s-maj=18.1km s-min=16.4km az=75.0*
NEIC ***15*** *22:35:27.2±0.3, 5567N×11025E, h10km, mb4.6/11, Error ellipse: s-maj=8.1km s-min=6.8km az=216.0*
NEIC Felt [II] at Verkhnyaya Zaimka.
BYKL ***15*** *22:35:27.8±0.2, 5570N×110.15E, h9km±3km, FELT I=III MSK at Verchnya Zaimka, II at Mayskiy*

SZGRF ***15*** *22:35:32.6, 5589N×11009E, h33km, mb4.6, Lake Baykal, Russia, region*
ISC 15 22:35:27.3±0.2, 5566N±002×11022E±003, h10km, n141, σ1§31/199, mb4.2/33, MS4.1/19, 28C-19D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.40**	**287**	*e*PG	**Pg**	**22 35 34.8**	**-0.3**
NIZ				*e*		22 35 40.4	
NIZ				pmax	pmax		
	comp=Z,4μm,0.3s						
NIZ				smax			
	comp=N,25μm,0.4s						
NIZ	**Nizh Angarsk**	**0.40**	**287**	⇑*i*Pg	**Pg**	**22 35 34.8**	**-0.3**
NIZ				Pmax		22 35 39.3	
	comp=N,5μm,0.9s						
NIZ				*e*Sg	**Sg**	**22 35 40.4**	**0.0**
NIZ				Smax		22 35 42.3	
	comp=N,25μm,0.3s						
KMO	**Kumora**	**0.60**	**68**	*e*PG	**Pg**	**22 35 38.8**	**-0.1**
KMO				*e*		22 35 46.7	
KMO				pmax	pmax		
	comp=Z,4μm,0.4s						
KMO				smax			
	comp=N,20μm,1.0s						
KMO	**Kumora**	**0.60**	**68**	⇑*i*Pg	**Pg**	**22 35 38.8**	**-0.1**
KMO				Pmax		22 35 39.2	
	comp=N,4μm,0.3s						
KMO				*i* Sg	**Sg**	**22 35 47.0**	**+0.3**
KMO				Smax		22 35 49.5	
	comp=N,20μm,1.0s						
YLYR	**Ulyunkhan**	**0.96**	**145**	*e*PG	**Pg**	**22 35 45.6**	**-0.1**
YLYR				*e*		22 35 58.4	
YLYR				pmax	pmax		
	comp=Z,634nm,0.1s						
YLYR				smax			
	comp=N,8μm,0.3s						
YLYR	**Ulyunkhan**	**0.96**	**145**	⇑*i*Pg	**Pg**	**22 35 45.5**	**-0.2**
YLYR				⇑*i*		22 35 45.8	
YLYR				max		22 35 54.3	
	comp=N,471nm,0.1s						
YLYR				*i* Sg	**Sg**	**22 35 59.0**	**+0.9**
YLYR				Smax		22 36 06.5	
	comp=N,7μm,0.2s						
YOA	**Uoyan**	**0.97**	**60**	⇓*i*PG	**Pg**	**22 35 45.6**	**-0.3**
YOA				*e*		22 35 58.5	
YOA				pmax	pmax		
	comp=Z,2μm,0.3s						
YOA				smax			
	comp=N,34μm,0.5s						
YOA	**Uoyan**	**0.97**	**60**	⇓*i*Pg	**Pg**	**22 35 45.7**	**-0.2**
YOA				Pmax		22 35 50.0	
	comp=N,2μm,0.4s						
YOA				*e*Sg	**Sg**	**22 35 58.6**	**0.0**
YOA				Smax		22 36 09.4	
	comp=N,34μm,0.7s						
SVKR	**Severomuysk**	**1.94**	**75**	*e*PN	**Pg**	**22 36 02.4**	**-2.0**
SVKR				*e*		22 36 04.1	
SVKR				*e*		22 36 28.4	
SVKR				pmax	pmax		
	comp=Z,4μm,0.5s						
SVKR				smax			
	comp=N,36μm,0.4s						
SVKR	**Severomuysk**	**1.94**	**75**	⇑*i*Pg	**Pg**	**22 36 02.4**	**-2.0**
SVKR				Pmax		22 36 05.0	
	comp=N,4μm,0.5s						
SVKR				*e*		22 36 07.9	
SVKR				*e*Sg	**Sg**	**22 36 29.1**	**-0.4**
SVKR				Smax		22 36 32.7	
	comp=N,36μm,0.5s						
SYVR	**Suvo**	**2.01**	**184**	*e*PN	**Pn**	**22 36 04.6**	**+3.3**
SYVR				*e*		22 36 32.3	
SYVR				pmax	pmax		
	comp=Z,1μm,0.7s						
SYVR				smax			
	comp=N,24μm,0.8s						
SYVR	**Suvo**	**2.01**	**184**	*e*Pn	**Pn**	**22 36 03.0**	**+1.7**
SYVR				*i* Pg	**Pg**	**22 36 04.2**	**-1.7**
SYVR				Pmax		22 36 10.6	
	comp=N,2μm,1.4s						
SYVR				*e*Sg	**Sg**	**22 36 32.1**	**+0.1**
SYVR				*i*		22 36 33.6	
SYVR				Smax		22 36 34.4	
	comp=N,29μm,1.1s						
OGRR	**Ongureny**	**2.53**	**218**	*e*PN	**Pn**	**22 36 10.3**	**+1.9**
OGRR				*e*		22 36 13.9	
OGRR				*e*		22 36 45.6	
OGRR				pmax	pmax		
	comp=Z,511nm,0.5s						
OGRR				smax			
	comp=E,6μm,1.5s						
OGRR	**Ongureny**	**2.53**	**218**	⇑*i*Pn	**Pn**	**22 36 10.1**	**+1.7**
	comp=E,159nm,1.3s						
OGRR				⇑*i*Pn	**Pn**	**22 36 10.1**	**+1.7**
	comp=E,130nm,1.3s						
OGRR				⇓*i*Pn	**Pn**	**22 36 10.1**	**+1.7**
	comp=E,154nm,1.3s						
OGRR				*e*Pg	**Pg**	**22 36 14.6**	**-1.2**
OGRR				Pmax		22 36 18.3	
	comp=E,514nm,0.5s						
OGRR				*e*Sn	**Sn**	**22 36 42.6**	**+3.3**
OGRR				*e*Sg	**Sg**	**22 36 47.4**	**-1.3**
OGRR				Smax		22 36 48.9	
	comp=E,6μm,1.5s						
MXMB	**Maximikha**	**2.56**	**200**	*e*Pn	**Pn**	**22 36 10.4**	**+1.7**
MXMB				*e*Pg	**Pg**	**22 36 14.9**	**-1.3**
MXMB				⇑*i*		22 36 18.0	
MXMB				max		22 36 18.7	
	comp=E,2μm,1.4s						
MXMB				*i* Sg	**Sg**	**22 36 47.7**	**-1.6**
MXMB				Smax		22 36 55.2	
	comp=E,10μm,0.8s						
BOD	**Bodaibo**	**3.00**	**42**	*e*PN	**Pn**	**22 36 16.1**	**+1.2**
BOD				*e*		22 36 21.0	
BOD				pmax	pmax		
	comp=Z,292nm,0.6s						
BOD				smax			
	comp=N,4μm,0.7s						
BOD	**Bodaibo**	**3.00**	**42**	⇑*i*Pn	**Pn**	**22 36 16.6**	**+1.7**
BOD				*e*		22 36 21.4	
BOD				max		22 36 26.3	
	comp=N,348nm,0.8s						
BOD				*e*Sn	**Sn**	**22 36 53.7**	**+2.8**
BOD				*i* Sg	**Sg**	**22 36 59.8**	**-3.9**
BOD				Smax		22 37 01.2	
	comp=N,4μm,0.8s						
NLYR	**Nelyaty**	**3.19**	**73**	*e*PN	**Pn**	**22 36 18.9**	**+1.5**
NLYR				*e*		22 36 24.7	
NLYR				*e*S	**Sn**	**22 36 56.5**	**+1.1**
NLYR				*e*		22 37 05.2	
NLYR				pmax	pmax		
	comp=Z,147nm,0.6s						
NLYR				smax			
	comp=N,438nm,0.8s						
NLYR	**Nelyaty**	**3.19**	**73**	⇑*i*Pn	**Pn**	**22 36 18.9**	**+1.5**
NLYR				*e*Pg	**Pg**	**22 36 26.2**	**-2.1**
NLYR				*e*		22 36 28.3	
NLYR				*e*		22 36 48.8	
NLYR				*i* Sg	**Sg**	**22 37 07.4**	**-2.2**
TRG	**Tyrgan**	**3.69**	**220**	*e*PN	**Pn**	**22 36

TRTB Smax 22 37 43.5
comp=E,2μm,1.4s
UUDB Ulan-Yde 4.09 203 *e*Pn **Pn** **22 36 31.6 +1.7**
UUDB *e*Pg **Pg** **22 36 42.5 -3.2**
UUDB Pmax 22 36 48.7
comp=E,283nm,0.9s
UUDB *e*Sg **Sg** **22 37 35.8 -3.0**
UUDB Smax 22 37 53.2
comp=E,3μm,1.5s
CIT Chita 4.15 150 *e*PN **Pn** **22 36 32.0 +1.3**
CIT *e* 22 36 42.9
CIT *e* 22 37 35.1
CIT pmax pmax
comp=Z,1μm,1.4s
CIT smax
comp=E,3μm,1.9s
CIT Chita 4.15 150 *e*Pn **Pn** **22 36 32.1 +1.4**
CIT ⇓*i*Pg **Pg** **22 36 42.4 -4.4**
CIT Pmax 22 36 43.7
comp=E,1μm,1.4s
CIT *e*Sg **Sg** **22 37 35.7 -4.8**
CIT Smax 22 37 56.0
comp=E,3μm,1.6s
STDB Stepnoy Dvoret 4.18 215⇑*i*Pn **Pn** **22 36 33.6 +2.6**
STDB *e* 22 36 37.4
STDB max 22 36 52.5
comp=E,431nm,1.1s
STDB *e* 22 37 25.8
STDB *e*Sg **Sg** **22 37 38.6 -2.8**
STDB Smax 22 38 06.3
comp=E,10μm,1.5s
KAB Kabansk 4.19 212 *e*PN **Pb** **22 36 41.1 0.0**
KAB *e* 22 37 36.3
KAB pmax pmax
comp=Z,160nm,0.8s
KAB smax
comp=E,8μm,1.5s
KAB Kabansk 4.19 212 *e* **Pn** **22 36 32.1 +0.9**
KAB *e* 22 36 37.8
KAB max 22 36 54.2
comp=E,487nm,1.1s
KAB *e* 22 37 27.3
KAB *e*Sg **Sg** **22 37 37.2 -4.6**
KAB Smax 22 37 58.1
comp=E,10μm,1.0s
CRS Chara 4.66 71 *e*PN **Pn** **22 36 39.9 +2.3**
CRS *e* 22 36 51.2
CRS *e* 22 37 54.1
CRS pmax pmax
comp=Z,1μm,0.9s
CRS smax
comp=E,2μm,1.4s
CRS Chara 4.66 71⇑⇑*i*Pn **Pn** **22 36 39.2 +1.6**
CRS ⇑⇑*i*Pg **Pg** **22 36 51.2 -5.2**
CRS Pmax 22 36 54.8
comp=E,1μm,1.5s
CRS *e*Sg **Sg** **22 37 53.8 -2.9**
CRS Smax 22 38 02.6
comp=E,2μm,1.5s
BTMB Babushkin 4.75 215 *e*Pn **Pn** **22 36 39.5 +0.6**
BTMB *e* 22 36 40.8
BTMB max 22 37 03.1
comp=E,155nm,0.8s
BTMB *e* 22 37 36.1
BTMB *e* 22 37 50.3
BTMB *i* Sg **Sg** **22 37 54.8 -5.0**
BTMB Smax 22 38 10.1
comp=E,2μm,0.9s
IRK Irkutsk 4.91 228 *e*PN **Pn** **22 36 41.5 +0.5**
IRK *e* 22 36 54.8
IRK *e* 22 37 58.0
IRK pmax pmax
comp=Z,160nm,0.2s
IRK smax
comp=N,5μm,1.0s
IRK Irkutsk 4.91 228 *e*Pn **Pn** **22 36 42.3 +1.3**
IRK max 22 37 04.1
comp=N,408nm,0.9s
IRK *e* 22 37 12.5
IRK *e*Sn **Sn** **22 37 38.8 +0.9**
IRK *e*Sg **Sg** **22 38 00.4 -4.4**
IRK Smax 22 38 10.3
comp=N,5μm,0.9s
LSTR Listvyanka 4.97 222⇑*i*Pn **Pn** **22 36 43.0 +1.1**
LSTR max 22 36 44.2
comp=N,178nm,1.0s
LSTR *e* 22 37 39.0
LSTR *e* 22 37 54.8
LSTR *i* Sg **Sg** **22 38 01.7 -5.0**
LSTR Smax 22 38 07.4
comp=N,2μm,1.5s
KHNR Khani 5.58 73 *e*Pn **Pn** **22 36 51.0 +0.7**
KHNR *i* Pg **Pg** **22 37 07.7 -6.5**
KHNR *e*Sn **Sn** **22 37 55.7 +1.2**
KHNR *e*Sg **Sg** **22 38 21.9 -4.6**
TLY Talaya 5.58 227 ⇓P **Pn** **22 36 51.1 +0.8**
SNR=8.1
TLY Talaya 5.58 227 *e*PN **Pn** **22 36 50.4 0.0**
TLY *e* 22 37 06.8
TLY *e*S **Sn** **22 37 53.3 -1.3**
TLY *e* 22 38 18.7
TLY pmax pmax
comp=Z,81nm,0.4s
TLY smax
comp=N,346nm,0.4s
TLY Talaya 5.58 227⇓*e*Pn **Pn** **22 36 50.2 -0.2**
comp=N,106nm,0.6s
TLY *e*Sn **Sn** **22 37 53.2 -1.4**
TLY Talaya 5.58 227⇑*i*Pn **Pn** **22 36 50.8 +0.4**
TLY max 22 37 22.3
comp=N,143nm,0.9s
TLY *e*Sn **Sn** **22 37 54.8 +0.2**
TLY *e*Sg **Sg** **22 38 19.0 -7.5**
TLY Smax 22 38 39.6
comp=N,2μm,1.6s
TUP Tupik 5.74 98 *e*PN **Pn** **22 36 53.3 +0.9**
TUP *e* 22 37 10.8
TUP *e*S **Sn** **22 37 59.2 +0.9**
TUP *e* 22 38 26.7
TUP pmax pmax
comp=Z,330nm,1.1s
TUP smax
comp=N,2μm,1.6s
TUP Tupik 5.74 98⇑*i*Pn **Pn** **22 36 53.5 +1.1**
TUP ⇓*i*Pg **Pg** **22 37 10.6 -6.5**
TUP Pmax 22 37 17.7
comp=N,386nm,1.6s
TUP *e*Sn **Sn** **22 37 56.4 -1.9**
TUP *i* Sg **Sg** **22 38 27.0 -4.4**
TUP Smax 22 38 51.4
comp=N,3μm,1.8s
ARS Arshan 5.95 234 *e*PN **Pn** **22 36 56.3 +0.9**
ARS *e*S **Sn** **22 38 01.8 -1.7**
ARS *e*S **Sg** **22 38 30.5 -7.7**
ARS smax
comp=N,6μm,0.8s
ARS Arshan 5.95 234⇑*i*Pn **Pn** **22 36 56.3 +0.9**
ARS max 22 37 08.5
comp=N,309nm,0.7s
ARS *e*Sn **Sn** **22 38 01.5 -2.0**
ARS *e*Sg **Sg** **22 38 30.6 -7.6**
ARS Smax 22 38 36.7
comp=N,6μm,0.8s
KPC Khapcheranga 6.11 167 *e*PN **Pn** **22 36 58.5 +0.9**
KPC *e* 22 37 19.6
KPC *e* 22 38 38.0
KPC pmax pmax
comp=Z,152nm,1.1s
KPC smax
comp=E,2μm,1.3s
KPC Khapcheranga 6.11 167⇓⇓*i*Pn **Pn** **22 36 58.5 +0.9**
KPC ⇓⇓*i*Pg **Pg** **22 37 19.8 -4.5**
KPC Pmax 22 37 26.6
comp=E,151nm,1.5s
KPC *e*Sn **Sn** **22 38 07.6 0.0**
KPC *e* 22 38 23.2
KPC *i* Sg **Sg** **22 38 37.8 -5.7**
KPC Smax 22 38 47.6
comp=E,2μm,1.3s
ZAK Zakamensk 6.74 221 *e*PN **Pn** **22 37 08.2 +1.9**
ZAK *e* 22 37 27.9
ZAK *e*S **Sn** **22 38 26.8 +3.7**
ZAK *e* 22 38 55.3
ZAK pmax pmax
comp=Z,556nm,0.4s
ZAK smax
comp=N,2μm,1.4s
ZAK Zakamensk 6.74 221⇑*i*Pn **Pn** **22 37 08.2 +1.9**
ZAK max 22 37 09.5
comp=N,81nm,0.9s
ZAK *e*Sg **Sg** **22 38 58.1 -5.6**
ZAK Smax 22 39 01.9
comp=N,2μm,1.5s
MOY Mondy 6.79 238 *e*PN **Pn** **22 37 09.0 +2.1**
MOY *e* 22 37 30.1
MOY *e*S **Sn** **22 38 23.3 -0.9**
MOY Mondy 6.79 238⇑*i*Pn **Pn** **22 37 08.9 +2.0**
comp=N,64nm,1.6s
MOY ⇑*i*Pn **Pn** **22 37 08.9 +2.0**
comp=N,82nm,1.6s
MOY ⇓*i*Pn **Pn** **22 37 08.9 +2.0**
comp=N,128nm,1.6s
MOY max 22 37 10.6
comp=N,645nm,0.8s
MOY *e*Sn **Sn** **22 38 24.1 -0.1**
MOY *e*Sg **Sg** **22 38 56.2 -8.9**
MOY Smax 22 39 02.5
comp=N,2μm,1.6s
ORL Orlik 6.87 247⇓⇓*i*Pn **Pn** **22 37 09.8 +1.7**
ORL max 22 37 17.0
comp=N,241nm,1.2s
ORL *e*Sn **Sn** **22 38 25.4 -0.9**
ORL *e*Sg **Sg** **22 38 58.3 -10**
ORL Smax 22 39 14.5
comp=N,3μm,1.4s
ULN Ulaanbaatar 8.05 195 *e*Sg Sx 22 39 37.0
SONM Songino Array 8.19 198 Pn **Pn** **22 37 28.2 +2.1**
comp=N,2.1nm,0.3s,baz=12,slow=11,SNR=59
SONM Lg 22 39 46.4
comp=N,15nm,0.3s,baz=5.2,slow=30,SNR=8.1
SONM LR LR 22 41 15.0
comp=N,208nm,21.0s,baz=295,slow=42
CLNS Chul'man 8.26 76 *e*Sg Sx 22 39 43.6
TNDR Tynda 8.27 88 *e*Sn **Sn** **22 38 56.6 -4.2**
TNDR *e*Sg Sn 22 39 46.2 +45
HIA Hailar 8.65 134 *e*PN **Pn** **22 37 31.4 -1.0**
HIA Hailar 8.65 134 *e*Pn **Pn** **22 37 29.9 -2.5**
comp=N,13nm,0.6s
HIA Hailar 8.65 134 *e*Sg Sx 22 39 57.6
TDJR Todzha 8.93 254 *e*Pn **Pn** **22 37 37.0 +0.7**
TDJR *e*Sg Sn 22 40 02.0 +45
KRAR Krasnoyarsk 9.77 279 *i* P **Pn** **22 37 46.8 -0.9**
YAK Yakutsk 11.89 50 *e*P **Pn** **22 38 14.1 -2.8**
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=N,9.0nm,1.6s
YAK pmax pmax
comp=E,14nm,1.5s
YAK MLR MLR
comp=Z,566nm,9.0s
YAK MLR MLR
comp=N,194nm,6.0s
YAK MLR MLR
comp=E,241nm,6.0s
YAK Yakutsk 11.89 50 *e*Pn **Pn** **22 38 18.1 +1.2**
comp=E,36nm,0.6s
ZAL Zalesovo 14.74 274 Pn **Pn** **22 38 55.0 -0.7**
comp=E,0.8nm,0.3s,baz=40,slow=11,SNR=19
ZAL Lg 22 43 01.4
comp=E,1.1nm,0.3s,baz=298,slow=16,SNR=2.8
ZAL LR LR 22 45 45.8
comp=E,246nm,20.0s,baz=36,slow=42
NVS Novosibirsk 15.37 278⇑*i*P **Pn** **22 39 01.9 -2.3**
NVS pmax pmax
comp=N,28nm,2.0s
NVS pmax pmax
comp=Z,44nm,2.0s
NVS pmax pmax
comp=E,38nm,1.6s
BJI Beijing 16.13 163 *e*P **Pn** **22 39 22.9 +8.9**
BJI AMB AMB
comp=Z,13nm,0.9s
BJI LR LR
comp=N,2μm,8.4s
BJI LR LR
comp=E,1μm,9.2s
BJI LR LR
comp=Z,745nm,16.0s
BJT Baijiatuau 16.15 163 P **Pn** **22 39 09.5 -4.7**
BJT pmax pmax
comp=Z,6.0nm,0.4s
BJT Baijiatuau 16.15 163 Pn **Pn** **22 39 09.5 -4.7**
comp=Z,5.7nm,0.4s
HABR Khabarovsk 16.82 105 P **Pn** **22 39 19.8 -3.0**
HABR *e*S **Sn** **22 42 27.1 -2.5**
GTA Gaotai 17.68 207⇑⇑P **Pn** **22 39 37.3 +3.7**
GTA AP pP 22 39 41.1 +3.8
GTA XP sP 22 39 44.4 +5.8
GTA S **Sn** **22 42 57.9 +7.4**
GTA XS sS 22 43 03.3 +0.9
GTA SS 22 43 20.5
GTA AMB AMB
comp=Z,10.0nm,2.0s
GTA AMB AMB
comp=Z,129nm,4.9s
GTA LR LR
comp=N,745nm,8.7s
GTA LR LR
comp=E,674nm,8.0s
GTA LR LR
comp=Z,814nm,8.0s
TIXI Tiksi 17.90 19*c* *i*P **Pn** **22 39 32.4 -3.9**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 17.90 19 *e*Pn **Pn** **22 39 31.7 -4.5**
comp=Z,20nm,0.6s
KURK Kurchatov 19.46 268⇓⇓P **Pn** **22 39 54.3 -0.9**
SNR=21
KURK Kurchatov 19.46 268⇓⇓*i*P **Pn** **22 39 53.7 -1.6**
MK31 Makanchi Array 19.50 255 *i* P **Pn** **22 39 54.9 -0.8**
MK31 pmax pmax
comp=Z,57nm,0.9s
MKAR Makanchi Array 19.50 255 P **Pn** **22 39 54.5 -1.2**
comp=Z,2.4nm,0.3s,baz=64,slow=9.5,SNR=78
MKAR Lg 22 45 42.0
baz=77,slow=28,SNR=6.3
MKAR LR LR 22 47 37.6
comp=Z,488nm,21.5s,baz=45,slow=37
MKAR Makanchi Array 19.50 255 P **Pn** **22 39 54.9 -0.8**
MKAR pmax pmax
comp=Z,54nm,1.0s
INCN Inchon 21.30 142 *e*P **P** **22 40 13.6 -0.5**
comp=Z,8.5nm,0.3s,mb4.5
XAN Xi'an 21.64 183 P **P** **22 40 19.5 +1.8**
XAN AP 22 40 30.3
XAN S **S** **22 44 18.5 +1.2**
XAN AMB AMB
comp=Z,4.0nm,1.1s,mb3.8
XAN LR LR
comp=N,812nm,10.3s
XAN LR LR
comp=E,455nm,7.0s
XAN LR LR
comp=Z,1μm,10.6s,MS4.6
KSRS Korea Array 21.79 139 P **P** **22 40 23.4 +4.0**
comp=Z,2.0nm,0.8s,mb3.6,baz=328,slow=8.6,SNR=3.4
KSRS LR LR 22 49 55.1
comp=Z,257nm,20.5s,MS3.6,baz=335,slow=40
BVA0 Borovoye Array 23.14 280 *i* P **P** **22 40 33.1 -0.6**
BVA0 pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
BVAR Borovoye Array 23.14 280 P **P** **22 40 35.0 +1.3**
comp=Z,11nm,0.7s,mb4.4,baz=62,slow=6.5,SNR=16
BVAR LR LR 22 50 23.8
comp=Z,434nm,18.9s,MS3.9,baz=307,slow=39
BRVK Borovoye 23.19 280 P **P** **22 40 34.5 +0.3**
SNR=11
BRVK Borovoye 23.19 280 *e*P **P** **22 40 34.1 -0.1**
BRVK pmax pmax
comp=Z,19nm,0.8s,mb4.6
BRVK Borovoye 23.19 280 *e*P **P** **22 40 34.1 -0.1**
comp=Z,19nm,0.8s,mb4.6
ASAJ Asahikawa 23.61 106 LR LR 22 50 52.1
comp=Z,487nm,18.4s,MS4.0,baz=332,slow=39
CD2 Chengdu 25.16 193 *e*P **P** **22 40 55.8 +3.1**
CD2 AP pP 22 41 04.5 +8.8
CD2 PP 22 41 35.0
CD2 SS 22 46 20.3
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,130nm,9.5s
CD2 LR LR
comp=N,450nm,8.3s
CD2 LR LR
comp=E,760nm,9.5s
CD2 LR LR
comp=Z,390nm,10.7s,MS4.2
WHN Wuhan 25.28 172 *e*P **P** **22 40 53.6 -0.1**
WHN *e*S **S** **22 45 19.3 -0.2**
WHN LR LR
comp=Z,993nm,11.9s,MS4.5
SSE Sheshan 25.76 158 P **P** **22 40 59.3 +1.3**
SSE XP sP 22 41 08.1 +5.8
SSE S **S** **22 45 26.8 -0.2**
SSE XS sS 22 45 36.6 +4.5
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,30nm,4.8s
SSE LR LR
comp=N,322nm,10.6s,MS4.1
SSE LR LR
comp=E,47nm,10.7s,MS4.1
SSE LR LR
comp=Z,370nm,10.3s,MS4.2
AAK Ala-Archa 26.42 256 P **P** **22 41 05.2 +1.2**
SNR=6.2
AAK Ala-Archa 26.42 256⇑*i*P **P** **22 41 05.0 +0.9**
AAK pmax pmax
comp=Z,14nm,1.4s,mb4.3
AAK Ala-Archa 26.42 256 *e*P **P** **22 41 03.1 -1.0**
comp=Z,4.0nm,0.7s,mb4.1
JNU Nakatsue 26.74 139 LR LR 22 51 28.8
comp=Z,245nm,21.0s,MS3.7,baz=86,slow=36
MJAR Matsushiro Arr 26.95 123 LR LR 22 52 08.2
comp=Z,276nm,20.7s,MS3.8,baz=325,slow=37
PET Petropavlovsk 27.90 75 *e*P **P** **22 41 15.4 -2.0**
PET MLR MLR
comp=Z,500nm,14.0s,MS4.2
BILL Bilibino 28.06 42 *e*P **P** **22 41 20.3 +1.5**
BILL *e* 22 42 22.5
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
ARU Arti 28.31 293⇑*i*P **P** **22 41 20.3 -0.7**
ARU *e*PPP 22 42 16.3
ARU *e*S **S** **22 46 07.4 +0.1**
ARU *e*SS 22 47 23.5
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
KKAR Karatay Array 28.32 260 *i* P **P** **22 41 26.6 +5.5**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
AKTK Aktyubinsk 31.18 283 P **P** **22 41 46.1 -0.3**
AKTK LR LR 22 55 32.1
AKTO Aktyubinsk 31.18 283 P **P** **22 41 46.1 -0.3**
comp=Z,1.5nm,0.5s,mb4.1,baz=75,slow=12,SNR=3.6
AKTO LR LR 22 55 32.1
comp=Z,304nm,18.7s,MS4.0,baz=136,slow=39
AKTO Aktyubinsk 31.18 283 P **P** **22 41 46.1 -0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
AKTO MLR MLR
comp=Z,304nm,18.7s,MS4.0
QIZ Qiongzhong 36.57 181 P **P** **22 42 32.5 -0.8**
QIZ S **S** **22 48 18.6 +2.8**
QIZ AMB AMB
comp=Z,33nm,1.8s,mb4.9
QIZ LR LR
comp=E,157nm,21.4s
QIZ LR LR
comp=Z,422nm,12.7s
KEV Kevo 37.27 325 *e*p **P** **22 42 38.0 -1.2**
ARCES ARCESS Array B 37.84 325 P **P** **22 42 43.4 -0.7**
comp=Z,1.9nm,0.6s,mb4.0,baz=63,slow=11,SNR=12
ARCES LR LR 23 03 00.4
comp=Z,176nm,19.6s,MS3.9,baz=67,slow=44
JOF Joensuu 38.51 314 *e*p **P** **22 42 48.1 -1.6**
comp=Z,1.7nm,0.5s,mb4.0
OBN Obninsk 40.00 301 P **P** **22 43 03.0 +0.9**
OBN *e*S **S** **22 48 57.3 -10**
OBN MLR MLR
comp=Z,400nm,14.0s,MS4.4
KAF Kangasniemi 40.93 314 *e*p **P** **22 43 08.9 -1.0**
comp=Z,0.9nm,0.3s,mb3.9,baz=62,slow=7.8
KAF Kangasniemi 40.93 314 *e*P **P** **22 43 08.9 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
FINES FINESS Array B 41.37 314 P **P** **22 43 13.0 -0.5**
comp=Z,6.1nm,0.7s,mb4.4,baz=70,slow=8.5,SNR=14
FINES LR LR 23 01 56.3
comp=Z,231nm,18.0s,MS4.1,baz=305,slow=38
FINES FINESS Array B 41.37 314 P **P** **22 43 13.0 -0.5**
FINES LR LR 23 01 56.4
KIV Kislovodsk 43.42 284⇑*e*P **P** **22 43 31.6 +1.5**
KIV *e* pP 22 43 36.4 +3.1
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.5
KIV MLR MLR
comp=Z,100nm,13.0s,MS3.9
KIV Kislovodsk 43.42 284 *e*P **P** **22 43 30.2 +0.1**
comp=Z,15nm,0.9s,mb4.7
AKASG Malin Array Be 46.19 299 P **P** **22 43 51.7 -0.5**
comp=Z,2.0nm,0.5s,mb4.3,baz=44,slow=8.7,SNR=6.5
AKASG LR LR 23 05 07.1
comp=Z,238nm,20.0s,MS4.1,baz=40,slow=39
JMIC Jan Mayen 46.43 337 LR LR 23 04 22.8
comp=Z,159nm,19.7s,MS4.0,baz=261,slow=38
NB2 NORSAR Subarra 47.42 319 P **P** **22 44 01.3 -0.5**
comp=Z,3.9nm,0.6s,mb4.5,baz=47,slow=7.4
NOA NORSAR Array B 47.42 319 P **P** **22 44 01.2 -0.6**
comp=Z,3.0nm,0.6s,mb4.4,baz=47,slow=7.3,SNR=8.4
INK Inuvik 47.80 27 P **P** **22 44 04.9 +0.1**
comp=Z,3.6nm,1.0s,mb4.4,baz=334,slow=8.5,SNR=9.2
BURAR Bucovina Array 50.20 299⇓⇓*i*P **P** **22 44 23.3 +0.1**
BRTR Keskin Array B 51.25 286 P **P** **22 44 31.4 +0.3**
comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=4.9,SNR=4.9
DRGR 52.00 299⇑⇑*i*P **P** **22 44 37.5 +0.7**
BZS Buzias 53.37 299⇓⇓*i*P **P** **22 44 47.3 +0.4**
MOX Moxa 54.45 309 *e*P **P** **22 44 55.1 +0.3**
KHC Kasperske Hory 54.67 307 *e*P **P** **22 44 56.0 -0.4**
KHC x x 22 45 02.5
KHC Kasperske Hory 54.67 307 *e*P **P** **22 44 56.0 -0.4**
KHC *e* 22 45 02.5
GERES GERESS Array B 54.82 307 P **P** **22 44 57.2 -0.2**
comp=Z,1.0nm,0.7s,mb4.0,baz=43,slow=6.0,SNR=6.1
GERES LR LR 23 10 26.2
comp=Z,170nm,20.2s,MS4.1,baz=276,slow=38
GRA1 Grafenberg Arr 55.32 309 *e*P **P** **22 45 00.1 -0.9**
comp=Z,10.0nm,1.5s,mb4.6
GRF Grafenberg Arr 55.32 309 *e*P **P** **22 45 00.1 -0.9**
comp=Z,10.0nm,1.5s,mb4.6
GRF Grafenberg Arr 55.32 309 *e*P **P** **22 45 00.1 -0.9**
GRF pmax pmax
comp=Z,69nm,1.5s
GRF Grafenberg Arr 55.32 309 *e*P **P** **22 45 00.1 -0.9**
GRF pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
YKA Yellowknife Ar 57.10 23 P **P** **22 45 12.6 -1.2**
comp=Z,1.6nm,0.6s,mb4.2,baz=332,slow=7.0,SNR=20
AQU L'Aquila 59.79 302 *e*P **P** **22 45 33.1 +0.6**
AQU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AQU L'Aquila 59.79 302 *e*P **P** **22 45 33.1 +0.5**
comp=Z,7.2nm,0.8s,mb4.8
ESDC Sonseca Array 69.83 311 P **P** **22 46 38.6 +0.6**
comp=Z,2.3nm,0.9s,mb4.1,baz=26,slow=7.1,SNR=5.3
PMG Port Moresby 71.75 141 P **P** **22 46 48.0 -1.7**
PMG pmax pmax
comp=Z,14nm,1.0s
PMG Port Moresby 71.75 141 P **P** **22 46 48.0 -1.7**
comp=Z,14nm,1.0s,mb4.8
NVAR Mina Array Bea 77.57 37 P **P** **22 47 22.4 -1.0**
comp=Z,0.3nm,0.3s,mb3.7,baz=336,slow=4.2,SNR=3.6
WRA Warramunga Arr 78.04 157 P **P** **22 47 26.7 +0.6**
comp=Z,1.4nm,0.7s,mb4.0,baz=350,slow=6.2,SNR=13
WRA Warramunga Arr 78.04 157 *i* P **P** **22 47 29.7 +3.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 81.38 255 LR LR 23 26 49.5
comp=Z,48nm,20.5s,MS3.8,baz=84,slow=38
ASAR Alice Springs 81.55 158 P **P** **22 47 46.4 +1.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=349,slow=4.8,SNR=7.4
TORD Torodi Ar. Bea 89.38 293 P **P** **22 48 24.6 +0.5**
comp=Z,1.5nm,0.9s,mb4.3,baz=38,slow=3.7,SNR=9.0

VNA2	**Neumayer--Watz**	**149.82**	**215**	*e*PKPdf	PKPdf	22 55 13.7	+1.0
VNA2				*e*		22 55 17.4	
VNA2				*e*		22 55 21.5	
VNA2				*e*		22 55 24.6	
VNA3	**Neumayer Olymp**	**150.57**	**215**	*e*PKPdf	PKPdf	22 55 15.9	+2.0
VNA3				*e*		22 55 18.7	
VNA3				*e*		22 55 21.6	
VNA3				*e*		22 55 23.0	

MOS ***15*** *22:56:34.7±1.9, 5567N×11020E, h38km, mb4.2/1, Error ellipse: s-maj=22.9km s-min=14.0km az=55.8*
BYKL 15 22:56:34.2±0.4, 5568N×11019E, h14km±6km, 2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**285**	*e*P	Pg	22 56 41.5	-0.4
NIZ				pmax	pmax		
	comp=Z,488nm,0.6s						
NIZ	**Nizh Angarsk**	**0.38**	**285**	*e*Pg	Pg	22 56 41.7	-0.2
NIZ				*e*		22 56 42.6	
NIZ				*e*		22 56 45.8	
NIZ				*e*Sg	Sg	22 56 47.2	+0.2
NIZ				max			
	comp=Z,113nm,0.1s						
NIZ				Smax			
	comp=Z,1μm,0.5s						
KMO	**Kumora**	**0.61**	**70**	⇓*i*Pg	Pg	22 56 44.7	-1.4
KMO				*i* Sg	Sg	22 56 52.8	-1.3
KMO				Pmax			
	comp=Z,120nm,0.2s						
KMO				Smax			
	comp=Z,474nm,0.3s						
YOA	**Uoyan**	**0.98**	**62**	⇓*i*P	Pb	22 56 52.9	0.0
YOA				*e*		22 57 06.1	
YOA				pmax	pmax		
	comp=Z,95nm,0.3s						
YOA				smax			
	comp=N,620nm,0.3s						
YOA	**Uoyan**	**0.98**	**62**	*e*Pg	Pg	22 56 53.0	-0.1
YOA				*e*Sg	Sg	22 57 07.2	+1.4
YOA				Pmax			
	comp=N,116nm,0.2s						
YOA				Smax			
	comp=N,625nm,0.3s						
YLYR	**Ulyunkhan**	**0.98**	**145**	*e*P	Pb	22 56 52.3	-0.6
YLYR				*e*		22 57 04.9	
YLYR				pmax	pmax		
	comp=Z,27nm,0.1s						
YLYR				smax			
	comp=N,538nm,0.2s						
YLYR	**Ulyunkhan**	**0.98**	**145**	*e*Pg	Pg	22 56 52.1	-1.0
YLYR				*e*Sg	Sg	22 57 04.8	-1.1
YLYR				Pmax			
	comp=N,27nm,0.1s						
YLYR				Smax			
	comp=N,527nm,0.2s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*P	Pn	22 56 55.8	-11
SVKR				*e*S	Sn	22 57 31.2	+0.1
SVKR				*e*S	Sn	22 57 35.1	+4.0
SVKR				smax			
	comp=N,643nm,0.4s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*Pg	Pg	22 57 09.6	-2.0
SVKR				*e*Sg	Sg	22 57 35.1	-1.7
SVKR				Pmax			
	comp=N,95nm,0.5s						
SVKR				Smax			
	comp=N,654nm,0.4s						
SYVR	**Suvo**	**2.03**	**183**	*e*P	Pn	22 57 10.2	+2.2
SYVR				*e*		22 57 39.2	
SYVR				pmax	pmax		
	comp=Z,112nm,0.5s						
SYVR				smax			
	comp=N,253nm,0.4s						
OGRR	**Ongureny**	**2.54**	**218**	*e*Pn	Pn	22 57 13.3	-1.6
OGRR				*e*Sg	Sg	22 57 51.4	-4.3
OGRR				max			
	comp=N,29nm,0.9s						
OGRR				Smax			
	comp=N,130nm,0.9s						
BOD	**Bodaibo**	**3.00**	**43**	*e*Pn	Pn	22 57 19.4	-1.9
BOD				*e*Pg	Pg	22 57 26.1	-5.6
BOD				*e*Sg	Sg	22 58 07.1	-3.5
BOD				Pmax			
	comp=N,28nm,0.6s						
BOD				Smax			
	comp=N,63nm,0.4s						
NLYR	**Nelyaty**	**3.19**	**73**	*e*Pg	Pg	22 57 31.8	-3.6
NLYR				*e*		22 57 36.9	
NLYR				*e*Sg	Sg	22 58 13.4	-3.4
ZRHB	**Zarechye**	**3.61**	**211**	*e*Sg	Sg	22 58 26.8	-3.2
ZRHB				Smax			
	comp=N,260nm,1.5s						
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	Pn	22 57 32.9	+2.1
TRG				*e*Sn	Sn	22 58 14.8	+0.6
TRG				*e*Sg	Sg	22 58 27.8	-5.0
TRG				max			
	comp=N,14nm,0.6s						
TRG				Smax			
	comp=N,54nm,0.5s						
TRTB	**Turuntaevo**	**3.77**	**205**	*e*Pg	Pg	22 57 40.9	-5.6
TRTB				*e*Sg	Sg	22 58 30.4	-5.0
TRTB				Pmax			
	comp=N,9.0nm,0.4s						
TRTB				Smax			
	comp=N,47nm,1.7s						
UUDB	**Ulan-Yde**	**4.10**	**202**	*e*Sg	Sg	22 58 42.1	-3.9
UUDB				Smax			
	comp=N,51nm,1.4s						
CIT	**Chita**	**4.17**	**150**	*e*Pg	Pg	22 57 48.8	-5.3
CIT				*e*Sg	Sg	22 58 42.1	-6.0
CIT				Pmax			
	comp=N,28nm,1.2s						
CIT				Smax			
	comp=N,58nm,0.9s						
HRMR	**Khuramsha**	**4.49**	**207**	*e*Sg	Sg	22 58 53.3	-5.1
HRMR				Smax			
	comp=N,154nm,0.7s						
CRS	**Chara**	**4.67**	**71**	*e*P	Pn	22 57 59.9	+16
CRS				pmax	pmax		
	comp=Z,37nm,1.6s						
CRS	**Chara**	**4.67**	**71**	*e*Pg	Pg	22 57 58.3	-5.2
CRS				*e*Sg	Sg	22 58 59.2	-4.8
CRS				Pmax			
	comp=Z,16nm,1.0s						
CRS				Smax			
	comp=Z,72nm,2.0s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*Sn	Sn	22 58 44.5	-1.1
LSTR				*e*Sg	Sg	22 59 07.0	-6.7
LSTR				Smax			
	comp=Z,36nm,1.4s						
TLY	**Talaya**	**5.58**	**227**	*e*P	Pn	22 57 55.8	-1.0
TLY				*e*S	Sn	22 59 00.0	-0.7
TLY				smax			
	comp=E,36nm,1.1s						
TLY	**Talaya**	**5.58**	**227**	*e*Sg	Sg	22 59 26.4	-7.0
TLY				Smax			
	comp=E,36nm,1.2s						
TUP	**Tupik**	**5.75**	**99**	*e*P	Pn	22 57 59.5	+0.4
TUP				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TUP	**Tupik**	**5.75**	**99**	*e*Pn	Pn	22 57 59.4	+0.3
TUP				*e*Sg	Sg	22 59 32.6	-6.2
TUP				max			
	comp=Z,3.0nm,0.2s						
TUP				Smax			
	comp=Z,51nm,1.8s						
ARS	**Arshan**	**5.95**	**234**	*e*P	Pn	22 58 02.9	+1.1
ARS	**Arshan**	**5.95**	**234**	*e*Pn	Pn	22 58 03.5	+1.7
ARS				*e*Sg	Sg	22 59 38.9	-6.1
ARS				max			
	comp=Z,7.0nm,0.3s						
ARS				Smax			
	comp=Z,140nm,0.6s						
KPC	**Khapcheranga**	**6.13**	**167**	*e*Pg	Pg	22 58 25.1	-6.5
KPC				*e*Sg	Sg	22 59 45.2	-5.8
KPC				Pmax			
	comp=Z,6.0nm,2.1s						
KPC				Smax			
	comp=Z,29nm,1.8s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*Sg	Sg	23 00 03.2	-7.4
ZAK				Smax			
	comp=Z,29nm,1.8s						
MOY	**Mondy**	**6.78**	**237**	*e*P	Pn	22 58 16.2	+2.9
MOY				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MOY	**Mondy**	**6.78**	**237**	*e*Pn	Pn	22 58 16.3	+3.0
MOY				*e*Sn	Sn	22 59 29.1	-1.2
MOY				*e*Sg	Sg	23 00 04.3	-7.5
MOY				max			
	comp=Z,6.0nm,0.6s						
MOY				Smax			
	comp=Z,39nm,1.6s						
ORL	**Orlik**	**6.87**	**247**	*e*P	Pn	22 58 16.1	+1.7
ORL				*e*S	Sn	22 59 31.0	-1.3
ORL				smax			
	comp=N,26nm,1.6s						
ORL	**Orlik**	**6.87**	**247**	*e*Pn	Pn	22 58 15.9	+1.5
ORL				*e*Sn	Sn	22 59 29.0	-3.3
ORL				*e*Sg	Sg	23 00 06.1	-8.4
ORL				max			
	comp=N,5.0nm,0.5s						
ORL				Smax			
	comp=N,36nm,1.2s						

SZGRF ***15*** *22:58:02.8, 3855N×7428E, h102km, mb4.8, Tajikistan-Xinjiang border region*
MOS ***15*** *22:58:08.0±1.0, 3861N×7261E, h93km, mb5.0/96, Error ellipse: s-maj=5.3km s-min=3.3km az=125.2*
BJI ***15*** *22:58:08.7, 3867N×7270E, h94km, mB5.0, mb5.1*
ISCJB ***15*** *22:58:08.2±0.1, 3847N±002×7268E±002, h101km, mb4.9/198, Error ellipse: s-maj=2.6km s-min=2.2km az=79.2*
NEIC ***15*** *22:58:09.7±0.6, 3855N×7268E, h97km±5km, mb4.9/127, Error ellipse: s-maj=4.8km s-min=2.7km az=193.0*
IDC ***15*** *22:58:10.3±0.6, 3851N×7264E, h101km±4km, mb4.6/26, mb1 4.7/27, mb1mx4.7/28, mbtmp4.6/27, MS3.9/15, Ms1 3.9/15, ms1mx3.5/40, Error ellipse: s-maj=13.1km s-min=9.0km az=3.0*
NNC ***15*** *22:58:13.7±1.8, 3901N×7249E, h162km±15km, mb4.2, mpv4.9, Error ellipse: s-maj=20.9km s-min=8.2km az=7.0*
ISC 15 22:58:10.0±0.1, 3849N±002×7270E±002, h103km, h103km±1, 1km: pP-P, n574, σ1⇑02/592, mb4.9/198, 43C-126D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.75**	**67**	⇑*i*P	Pn	22 58 53.6	+1.1
KSH				S	Sn	22 59 23.0	-2.1
KSH				Smax			
	comp=N,21μm,0.6s						
KSH				Smax			
	comp=E,32μm,0.5s						
AML	**Almayashu**	**3.71**	**12**	P	Pn	22 59 04.4	-0.9
	SNR=1272						
UCH	**Uchtor**	**3.98**	**20**	P	Pn	22 59 08.4	-0.5
	SNR=586						
KZA	**Kyzart**	**4.08**	**28**	P	Pn	22 59 09.8	-0.4
	SNR=255						
EKS2	**Erkin-Say**	**4.24**	**11**	P	Pn	22 59 11.6	-0.9
	SNR=987						
AAK	**Ala-Archa**	**4.36**	**18**	P	Pn	22 59 13.8	-0.2
	SNR=430						
AAK	**Ala-Archa**	**4.36**	**18**	Pn	Pn	22 59 12.5	-1.5
	comp=E,5μm,0.4s						
AAK	**Ala-Archa**	**4.36**	**18**	P	Pn	22 59 12.9	-1.1
	SNR=114						
AAK	**Ala-Archa**	**4.36**	**18**	*d i*PN	Pn	22 59 12.8	-1.2
AAK	**Ala-Archa**	**4.36**	**18**	⇓*i*Pn	Pn	22 59 12.6	-1.4
KBK	**Karagaybulak**	**4.50**	**22**	P	Pn	22 59 15.4	-0.5
	SNR=255						
FRU	**Bishkek**	**4.58**	**18**	⇑*i*PN	Pn	22 59 16.0	-1.0
FRU				*i* S	Sn	23 00 06.0	-3.0
FRU				pmax	pmax		
	comp=Z,530nm,1.8s						
FRU				smax			
	comp=N,1μm,1.8s						
ULHL	**Ulahol**	**4.62**	**35**	P	Pn	22 59 17.7	+0.1
	SNR=226						
CEP	**Cherat**	**4.70**	**188**	P	Pn	22 59 20.3	+1.6
SRNI	**Srinagar**	**4.72**	**158**	*e*P	Pn	22 59 20.5	+1.6
SRNI				*ex*	x	22 59 39.5	
CHMS	**Chumysh**	**4.76**	**18**	P	Pn	22 59 19.0	-0.5
	SNR=535						
CHCP	**Chirah Chowk**	**4.85**	**174**	P	Pn	22 59 22.9	+2.3
KK31	**Karatay Array**	**4.89**	**341**	⇓P	Pn	22 59 18.9	-2.4
	comp=N,334nm,0.3s,baz=181,slow=13						
KK31				⇓S	Sn	23 00 10.3	-6.5
	comp=N,813nm,0.8s,baz=149,slow=23,SNR=4.6						
KK31	**Karatay Array**	**4.89**	**341**	*i* P	Pn	22 59 18.9	-2.4
KK31				*i* S	Sn	23 00 10.0	-6.8
KKAR	**Karatay Array**	**4.89**	**341**	*e*PN	Pn	22 59 18.8	-2.5
KKAR				pmax	pmax		
	comp=Z,231nm,0.3s						
TKM2	**Tokmak 2**	**4.94**	**26**	P	Pn	22 59 21.8	-0.2
	SNR=143						
TKM2	**Tokmak 2**	**4.94**	**26**	⇑Pn	Pn	22 59 21.6	-0.3
	comp=Z,20nm,0.5s						
TKM2				⇓Sn	Sn	23 00 13.6	-4.2
	comp=Z,23nm,0.7s						
TKM2				⇑Lg		23 00 44.6	
	comp=Z,55nm,0.7s						
TKM2	**Tokmak 2**	**4.94**	**26**	*i* P	Pn	22 59 21.6	-0.3
USP	**Ospenovka**	**4.96**	**15**	P	Pn	22 59 21.1	-1.1
	SNR=196						
KNDC	**Almaty**	**5.72**	**33**	⇑Pn	Pn	22 59 32.6	+0.1
	comp=Z,112nm,0.6s						
KNDC				⇓Lg		23 01 10.5	
	comp=Z,2μm,1.2s						
AAA	**Alma-Ata**	**5.76**	**33**	*i* PN	Pn	22 59 32.6	-0.4
AAA				*i* S	Sn	23 00 41.5	+3.8
JMU	**Jammu**	**6.04**	**162**	*i* P	Pn	22 59 36.5	-0.3
JMU				*i* S	Sn	23 00 40.5	-3.9
SBDP	**Sheikh Budin**	**6.37**	**195**	P	Pn	22 59 40.9	-0.4
DLH	**Dalhousie**	**6.51**	**155**	*e*P	Pn	22 59 43.0	-0.2
DLH				*e*S	Sn	23 00 53.0	-2.9
THN	**Thein Dam**	**6.53**	**157**	*e*P	Pn	22 59 43.0	-0.4
	comp=Z,21nm,0.4s						
THN				*e*S	Sn	23 00 52.6	-3.8
SARP	**Sargodha**	**6.56**	**180**	P	Pn	22 59 43.5	-0.3
SARP				S	Sn	23 00 53.0	-4.1
SDNR	**Sundarnagar**	**7.81**	**152**	*e*P	Pn	22 59 59.0	-1.8
SDNR				*e*S	Sn	23 01 18.0	-10
DDI	**Dehra Dun**	**9.27**	**150**	*e*P	Pn	23 00 20.6	-0.1
DDI				*e*S	Sn	23 01 53.0	-10
JOSI	**Joshimath**	**9.73**	**142**	*e*P	Pn	23 00 24.6	-2.3
JOSI				*e*S	Sn	23 02 04.8	-9.4
NDI	**New Delhi**	**10.48**	**158**	*e*P	Pn	23 00 35.2	-2.0
NDI				AMb	AMB	23 00 36.8	
	comp=Z,186nm,1.1s						
NDI				*e*S	Sn	23 02 22.9	-10
AYAN	**Aya Nagar**	**10.64**	**158**	*e*P	Pn	23 00 37.0	-2.4
AYAN				*e*S	Sn	23 02 27.5	-9.0
BISR	**Bishrakh**	**10.65**	**157**	*ex*	x	23 00 32.4	
KHET	**Khetri**	**10.71**	**165**	*e*P	Pn	23 00 36.4	-3.9
KHET				AMb	AMB	23 00 38.3	
	comp=Z,65nm,0.7s						
KHET				*e*S	Sn	23 02 26.7	-11
KUDL	**Kundal**	**10.79**	**162**	*ex*	x	23 00 31.7	
KUDL				AMb	AMB	23 00 33.2	
	comp=Z,320nm,0.9s						
SONA	**Sohna**	**10.85**	**159**	*e*P	Pn	23 00 40.6	-1.6
SONA				AMb	AMB	23 00 43.6	
	comp=Z,217nm,0.6s						
PTH	**Pithoragarh**	**10.88**	**143**	*e*P	Pn	23 00 39.0	-3.6
PTH				*e*S	Sn	23 02 29.0	-13
MK31	**Makanchi Array**	**10.89**	**37**	Pn	Pn	23 00 42.2	-0.5
	comp=Z,15nm,0.6s,baz=222,slow=14,SNR=132						
MK31				⇓Lg		23 03 51.9	
	comp=Z,82nm,1.3s						
MK31	**Makanchi Array**	**10.89**	**37**	*e*Pn	Pn	23 00 42.0	-0.6
MKAR	**Makanchi Array**	**10.89**	**37**	P	Pn	23 00 41.8	-0.9
	comp=Z,2.3nm,0.3s,baz=222,slow=14,SNR=121						
MKAR				LR	LR	23 05 15.0	
	comp=Z,257nm,20.9s,baz=341,slow=39						
LGTI	**Lohaghat**	**10.98**	**143**	*i* P	Pn	23 00 40.7	-3.2
LGTI				*e*S	Sn	23 02 36.0	-8.6
ABKT	**Ailbek**	**11.49**	**272**	Pn	Pn	23 00 44.3	-6.4
	comp=Z,694nm,0.6s,SNR=37						
VAN	**Vannovskaya**	**11.49**	**272**	*e*P	Pn	23 00 44.2	-6.6
JASL	**Jaisalmer**	**11.63**	**188**	*ex*	Pn	23 00 45.3	-7.3
AGRA	**Agra**	**12.06**	**157**	*e*P	Pn	23 00 55.1	-3.2
AGRA				*e*S	Sn	23 03 00.2	-11
AJM	**Ajmer**	**12.09**	**172**	*e*P	Pn	23 00 55.5	-3.2
AJM				AMb	AMB	23 01 00.3	
	comp=Z,158nm,0.8s						
AJM				*i* S	Sn	23 03 00.0	-12
AJM				*e*S	Sn	23 03 00.0	-12
WMQ	**Urumqi**	**12.49**	**60**	P	Pn	23 01 01.6	-2.4
WMQ				PP		23 01 13.6	
WMQ				AMB	AMB		
	comp=Z,59nm,0.6s						
WMQ				LR	LR		
	comp=N,631nm,4.5s						
WMQ				LR	LR		
	comp=E,716nm,4.0s						
WMQ				LR	LR		
	comp=Z,270nm,29.0s						
KURK	**Kurchatov**	**12.92**	**17**	Pn	Pn	23 01 05.8	-3.9
	comp=Z,179nm,0.7s,SNR=21						
KURK	**Kurchatov**	**12.92**	**17**	⇓Pn	Pn	23 01 05.3	-4.4
	comp=Z,18nm,1.0s						
KURK				⇑Lg		23 04 51.5	
	comp=Z,195nm,1.9s						
KURK	**Kurchatov**	**12.92**	**17**	⇑P	Pn	23 01 05.3	-4.4
	SNR=14						
KURK	**Kurchatov**	**12.92**	**17**	*e*Pn	Pn	23 01 04.9	-4.8
KOLN	**Koldanda**	**14.05**	**136**	*e*P	Pn	23 01 19.7	-4.7
	comp=Z,88nm,0.3s						
AB31	**Akbulak array**	**14.13**	**324**	⇓P	Pn	23 01 18.6	-6.8
	comp=Z,96nm,0.6s,baz=137,slow=13,SNR=944						
AB31				⇓S	Sn	23 03 42.2	-19
	comp=Z,59nm,0.8s,baz=50,slow=51,SNR=6.0						
AB31	**Akbulak array**	**14.13**	**324**	*e*P	Pn	23 01 18.5	-6.9
AB31				pmax	pmax		
	comp=Z,64nm,0.5s						
GKN	**Gorkha**	**14.45**	**133**	*e*P	Pn	23 01 24.3	-5.2
	comp=Z,596nm,0.5s						
BVA0	**Borovoye Array**	**14.62**	**354**	P	Pn	23 01 27.0	-4.7
	comp=Z,16nm,0.8s,baz=165,slow=14,SNR=392						
BVA0	**Borovoye Array**	**14.62**	**354**	*i* P	Pn	23 01 27.0	-4.7
BVA0				pmax	pmax		
	comp=Z,12nm,0.8s						
BVAR	**Borovoye Array**	**14.62**	**354**	P	Pn	23 01 27.0	-4.7
	comp=Z,9.2nm,0.3s,baz=165,slow=12,SNR=223						
BVAR				LR	LR	23 07 11.2	
	comp=Z,515nm,18.6s,baz=172,slow=37						
BRVK	**Borovoye**	**14.66**	**354**	Pn	Pn	23 01 27.3	-4.9
	comp=Z,668nm,0.8s,SNR=70						
BRVK	**Borovoye**	**14.66**	**354**	P	Pn	23 01 27.8	-4.4
	SNR=32						
BRVK	**Borovoye**	**14.66**	**354**	*e*Pn	Pn	23 01 27.5	-4.7
KKN	**Kakani**	**14.98**	**132**	*e*P	Pn	23 01 30.9	-5.4
	comp=Z,676nm,0.5s						
DMN	**Daman**	**15.02**	**133**	*e*P	Pn	23 01 32.1	-4.6
	comp=Z,162nm,0.4s						
PKI	**Pulchoki**	**15.22**	**132**	*e*P	Pn	23 01 34.4	-4.9
	comp=Z,461nm,0.6s						
GUN	**Gumba**	**15.25**	**130**	*e*P	Pn	23 01 34.6	-5.0
CHKZ	**Chkalovo**	**15.25**	**355**	⇓P	Pn	23 01 34.8	-4.9
	comp=Z,54nm,1.0s						
CHKZ	**Chkalovo**	**15.25**	**355**	*i* P	Pn	23 01 34.8	-4.9
BHJ	**Bhuj**	**15.41**	**191**	*e*P	Pn	23 01 41.4	-0.3
BHJ				AMb	AMB	23 01 46.8	
	comp=Z,182nm,0.7s						
BHJ				*ex*	x	23 04 23.9	
JIRN	**Jiri**	**15.62**	**130**	*e*P	Pn	23 01 40.3	-4.0
	comp=Z,295nm,0.4s						
BHPL	**Bhopal**	**15.73**	**164**	*e*P	Pn	23 01 43.3	-2.4
BHPL				AMb	AMB	23 01 45.1	
	comp=Z,50nm,0.8s						
BHPL				*ex*	x	23 04 25.8	
AKTK	**Aktyubinsk**	**15.85**	**324**	P	Pn	23 01 42.0	-5.2
AKTK				LR	LR	23 08 08.8	
AKTO	**Aktyubinsk**	**15.85**	**324**	⇓P	Pn	23 01 41.8	-5.3
	comp=Z,15nm,0.8s						
AKTO	**Aktyubinsk**	**15.85**	**324**	P	Pn	23 01 42.0	-5.2
	comp=Z,13nm,0.3s,baz=134,slow=14,SNR=68						
AKTO				LR	LR	23 08 08.8	
	comp=Z,449nm,19.2s,baz=136,slow=38						
AKTO	**Aktyubinsk**	**15.85**	**324**	P	Pn	23 01 42.5	-4.7
AKTO				pmax	pmax		
	comp=Z,11nm,0.8s						
JBP	**Jabalpur**	**16.50**	**156**	*e*P	Pn	23 01 52.5	-2.7
JBP				*ex*	x	23 01 59.8	
	comp=Z,122nm,1.8s						
JBP				*ex*	x	23 04 42.0	
BHV	**Bhavnagar**	**16.69**	**182**	*e*P	Pn	23 01 57.0	-0.6
ZAL	**Zalesovo**	**17.53**	**24**	P	Pn	23 02 05.0	-2.8
	comp=Z,19nm,0.3s,baz=254,slow=5.8,SNR=94						
ZAL	**Zalesovo**	**17.53**	**24**	P	Pn	23 02 05.0	-2.8
LSA	**Lhasa**	**17.60**	**114**	⇓*i*P	Pn	23 02 09.2	+0.6
LSA				pmax	pmax		
	comp=Z,58nm,0.8s						
LSA	**Lhasa**	**17.60**	**114**	⇓*i*P	Pn	23 02 09.2	+0.6
	comp=Z,58nm,0.8s						
LSA				*e*PcP	PcP	23 06 43.8	+1.7
LSA				*e*ScP	ScP	23 10 01.1	-6.6
NVS	**Novosibirsk**	**17.84**	**20**	*e*P	Pn	23 02 08.4	-3.2
NVS				*e*S	S	23 05 22.7	-7.8
NVS				pmax	pmax		
	comp=N,54nm,1.2s						
NVS				pmax	pmax		
	comp=E,21nm,1.2s						
NVS				pmax	pmax		
	comp=Z,53nm,1.2s						
NVS				smax			
	comp=N,193nm,1.9s						
NVS				smax			
	comp=E,79nm,1.9s						
AKL	**Akola**	**18.12**	**167**	⇓*i*P	P	23 02 14.8	+1.0
AKL				*ex*	x	23 02 17.7	
	comp=Z,94nm,1.0s						
AKL				*i* x	x	23 05 19.7	
NGP	**Nagpur**	**18.13**	**161**	*e*P	P	23 02 11.8	-2.2
NGP				*ex*	x	23 02 15.0	
	comp=Z,142nm,1.1s						
NGP				*ex*	x	23 05 19.9	
ORR	**Orenburg**	**18.18**	**322**	*e*P	P	23 02 11.8	-2.7
ORR				pmax	pmax		
	comp=Z,690nm,1.0s						
BOK	**Bokaro**	**18.46**	**139**	*e*P	P	23 02 17.6	0.0
BOK				*ex*	x	23 05 23.5	
BANOM	**Banah**	**18.66**	**233**	P	P	23 02 19.4	-0.4
	SNR=10						
BIDO	**Bidbid**	**19.42**	**224**	⇑P	P	23 02 28.6	+0.5
BOM	**Bombay**	**19.53**	**180**	*e*P	P	23 02 30.1	+0.9
BOM				*ex*	x	23 02 31.4	
	comp=Z,123nm,0.8s						
BOM				*ex*	x	23 05 47.3	
HATD	**Hatta, Dubai**	**19.57**	**231**	P	P	23 02 29.8	+0.2
	SNR=8.0						
ASHO	**Ashiyiah**	**19.72**	**231**	P	P	23 02 30.7	-0.5
	SNR=18						
HOQ	**Hoqain**	**19.82**	**226**	⇓P	P	23 02 30.8	-1.7
SMDO	**Samad**	**19.84**	**223**	⇓P	P	23 02 32.0	-0.5
POO	**Poona**	**19.92**	**177**	⇑*i*P	P	23 02 32.0	-1.4
	comp=Z,130nm,1.0s						
POO				*i* x	x	23 06 05.0	
SVE	**Sverdlovsk**	**20.01**	**340**	⇓*e*P	P	23 02 32.0	-2.4
SVE				pmax	pmax		
	comp=Z,180nm,2.0s						
ARU	**Arti**	**20.26**	**337**	P	P	23 02 35.8	-1.3
	comp=Z,983nm,0.7s,SNR=14						
ARU	**Arti**	**20.26**	**337**	⇓*i*P	P	23 02 35.5	-1.6
ARU				*e*PPP		23 03 04.5	
ARU				*e*S	S	23 06 13.7	-4.9
ARU				pmax	pmax		
	comp=Z,133nm,0.8s						
ARU	**Arti**	**20.26**	**337**	*e*P	P	23 02 35.6	-1.5
	comp=Z,153nm,0.8s						
LATR	**Latur**	**20.29**	**169**	*ex*	x	23 02 29.4	
LATR				*ex*	x	23 06 04.9	
JMDO	**Jabal Madar**	**20.37**	**222**	P	P	23 02 38.5	+0.2
	SNR=10						
ARQ	**Araqi**	**20.47**	**227**	⇓P	P	23 02 39.4	0.0
	SNR=6.4						
BSY	**Bisya**	**20.55**	**225**	⇓P	P	23 02 40.0	-0.2
SHL	**Shillong**	**20.70**	**123**	*e*P	P	23 02 40.0	-1.9
SHL				*ex*	x	23 06 19.0	
CAL	**Cal

GTA AMB AMB
comp=Z,373nm,4.5s
GTA LR LR
comp=N,153nm,9.1s
GTA LR LR
comp=E,196nm,12.9s
GTA LR LR
comp=Z,169nm,12.9s
DGRG David-gareji 21.12 287 P **P 23 02 46.6 +0.3**
KAD Karad 21.15 176 *eP* **P 23 02 47.4 +0.7**
KAD AMb AMB 23 02 50.3
comp=Z,104nm,0.8s,mb5.2
KAD *ex* x 23 06 35.1
BWNR Bhubaneshwar 21.39 144 *ex* x 23 02 32.0
BWNR *ex* x 23 06 18.0
MTA Mtatsminda 21.55 287 P **P 23 02 49.6 -1.3**
HYB Hyderabad 21.61 165⇑*iP* **P 23 02 52.0 +0.4**
comp=Z,150nm,1.0s,mb5.3
HYB *e*sP sP 23 03 24.0 -0.3
HYB *e*S **S 23 06 44.0 -1.0**
HYB Hyderabad 21.61 165⇑*eP* **P 23 02 52.0 +0.4**
HYB *e* 23 03 24.0
HYB *e*S **S 23 06 44.0 -1.0**
HYB pmax pmax
comp=Z,150nm,1.0s,mb5.3
HYB Hyderabad 21.61 165⇑*eP* **P 23 02 52.0 +0.4**
comp=Z,150nm,1.0s,mb5.3
HYB *e* 23 03 24.0
HYB *e*S **S 23 06 44.0 -1.0**
DUS Dusheti 21.61 288 P **P 23 02 56.6 +4.9**
GNI Garni 21.66 283 P **P 23 02 52.9 +0.8**
comp=Z,72nm,0.7s,mb5.1,baz=133,slow=1.3,SNR=40
GNI Garni 21.66 283 P **P 23 02 53.8 +1.7**
SNR=27
GNI Garni 21.66 283 *eP* **P 23 02 53.4 +1.3**
GNI pmax pmax
comp=Z,158nm,1.0s
GNI Garni 21.66 283 *eP* **P 23 02 53.4 +1.3**
comp=Z,158nm,1.0s,mb5.3
KZR Kazreti 21.84 287 P **P 23 02 54.5 +0.5**
GOR Gori 22.06 288 P **P 23 02 56.1 -0.2**
ZEI Tsey 22.22 290 *eP* **P 23 02 57.5 -0.5**
ZEI *e* 23 03 17.5
ZEI *e*S **S 23 06 54.7 -0.9**
ZEI pmax pmax
comp=Z,45nm,0.7s,mb4.9
ZEI smax
comp=E,21nm,1.0s
ONI Oni 22.55 290 P **P 23 03 01.5 0.0**
ONI S 23 03 22.8
IMP Imphal 22.59 121 *eP* **P 23 03 03.0 +1.0**
VIS Vishakhapatnam 22.69 153 *eP* **P 23 03 04.0 +1.1**
VIS AMb AMB 23 03 05.8
comp=Z,44nm,0.6s,mb5.0
KIV Kislovodsk 23.15 293 P **P 23 03 06.2 -1.1**
comp=Z,887nm,0.5s,SNR=12
KIV Kislovodsk 23.15 293 P **P 23 03 06.9 -0.3**
SNR=14
KIV Kislovodsk 23.15 293⇓*eP* **P 23 03 08.0 +0.7**
KIV *e* 23 03 49.0
KIV *e*S **S 23 07 12.3 +1.6**
KIV pmax pmax
comp=Z,23nm,0.6s,mb4.7
KIV MLR MLR
comp=Z,100nm,13.0s
KIV Kislovodsk 23.15 293 *eP* **P 23 03 06.0 -1.3**
SOKR Solikamsk 23.41 339 *eP* **P 23 03 09.8 +0.2**
SOKR pmax pmax
comp=Z,120nm,0.8s,mb5.3
BHD Baghdad 23.48 266 *ex* x 23 03 29.0
MSL Mosul 23.58 274 *i* x x 23 03 14.5
ERZM Erzurum 24.26 283 *i* P **P 23 03 19.4 +2.0**
ZAK Zakamensk 24.68 51⇑*iP* **P 23 03 22.8 +1.6**
ZAK pmax pmax
comp=Z,35nm,0.9s,mb4.8
LZH Lanzhou 24.84 86 *eP* **P 23 03 27.5 +4.9**
LZH AP 23 03 48.0
LZH XP sP 23 04 00.0 +2.7
LZH PP 23 04 05.0
LZH PCP PcP 23 06 58.6 +2.5
LZH *e*S **S 23 07 30.0 -7.9**
LZH SS 23 08 38.0
LZH AMB AMB
comp=Z,63nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,269nm,4.3s
LZH Lanzhou 24.84 86 *eP* **P 23 03 27.5 +4.9**
LZH pP 23 03 48.0
LZH sP sP 23 04 00.0 +2.7
LZH PP 23 04 05.0
LZH PcP PcP 23 06 58.6 +2.5
LZH *e*S **S 23 07 30.0 -7.9**
LZH sS sS 23 08 02.0 -15
LZH SS 23 08 38.0
VRHR Novokhopersk 25.19 310 *eP* **P 23 03 24.5 -1.3**
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.6s
TLY Talaya 25.30 49 *eP* **P 23 03 28.3 +1.5**
TLY *e* 23 03 58.2
TLY pmax pmax
comp=Z,11nm,0.7s,mb4.4
TLY MLR MLR
comp=Z,50nm,12.0s
TLY Talaya 25.30 49 *eP* **P 23 03 27.3 +0.5**
KELT Kelkit 25.84 284 *i* P **P 23 03 33.3 +1.6**
IRK Irkutsk 25.85 48 *eP* **P 23 03 32.5 +0.7**
IRK *e* pP 23 03 56.5 +2.0
IRK *e* 23 07 03.4
IRK pmax pmax
comp=Z,44nm,0.9s,mb4.9
SONM Songino Array 26.11 58 P **P 23 03 35.8 +1.6**
comp=Z,26nm,0.9s,mb4.7,baz=257,slow=9.6,SNR=62
SONM LR LR 23 15 52.1
comp=Z,83nm,18.2s,baz=180,slow=41
ELZG Elazig 26.31 281 *i* P **P 23 03 38.0 +2.1**
WHFO Wadi Hawf 26.33 224 P **P 23 03 35.9 -0.2**
SNR=15
RBK Rabkut 26.43 223 P **P 23 03 36.8 -0.3**
SNR=10
CD2 Chengdu 26.54 97 P **P 23 03 40.4 +2.4**
CD2 AP pP 23 04 01.5 +0.7
CD2 XP sP 23 04 13.8 +1.0
CD2 PP 23 04 29.5
CD2 S **S 23 08 07.3 +2.5**
CD2 XS sS 23 08 45.0 +0.3
CD2 SS 23 09 27.5
CD2 AMB AMB
comp=Z,20nm,0.5s,mb4.9
CD2 AMB AMB
comp=Z,100nm,3.8s
CD2 LR LR
comp=N,330nm,5.3s
CD2 LR LR
comp=E,200nm,7.6s
CD2 LR LR
comp=Z,220nm,4.5s
ULN Ulaanbaatar 26.56 58⇑*iP* **P 23 03 39.7 +1.5**
VORD Divnogorie 26.57 309 *eP* **P 23 03 35.7 -2.5**
VORD pmax pmax
comp=Z,30nm,0.7s,mb4.9
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,60nm,0.8s
VOR Voronezh 26.83 310 P **P 23 03 38.0 -2.6**
VOR pmax pmax
comp=Z,80nm,1.7s,mb5.0
VOR pmax pmax
comp=Z,130nm,1.8s,mb5.2
ANN Anapa 26.95 295 *eP* **P 23 03 42.3 +0.6**
ANN *e**PP pP 23 04 04.8 +0.4
ANN *e*S **S 23 08 13.5 +2.4**
ANN pmax pmax
comp=Z,37nm,0.9s,mb4.9
ABTO Aybut 27.05 224⇑P **P 23 03 42.3 -0.3**
GZT Gaziantep 27.64 279 *i* P **P 23 03 49.8 +1.9**
KMI Kunming 28.66 109 P **P 23 03 59.3 +2.4**
KMI S **S 23 08 37.3 -0.8**
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.4

BTO Baotou 28.72 74 *eP* **P 23 03 59.6 +2.2**
BOYT Boyabat 28.97 288 *i* P **P 23 04 00.7 +1.0**
MOS Moscow 29.02 318 *eP* **P 23 03 57.9 -2.2**
MOS *e* 23 04 54.6
MOS pmax pmax
comp=Z,90nm,0.9s,mb5.4
OBN Obninsk 29.37 316 P **P 23 04 02.4 -0.8**
comp=Z,379nm,0.5s,SNR=5.8
OBN Obninsk 29.37 316⇑*iP* **P 23 04 02.9 -0.3**
OBN *i* pP 23 04 30.0 +3.8
OBN pmax pmax
comp=Z,70nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,100nm,10.0s
OBN Obninsk 29.37 316 *eP* **P 23 04 01.3 -1.9**
comp=Z,52nm,0.6s,mb5.3
XAN Xi'an 29.42 87 P **P 23 04 04.8 +1.2**
XAN AMB AMB
comp=Z,33nm,0.6s,mb5.1
ASF Jabal al Asfar 29.75 269 P **P 23 04 07.7 +1.2**
comp=Z,2.5nm,0.8s,mb3.9,baz=63,slow=2.3,SNR=3.4
ASF LR LR 23 17 54.3
comp=Z,62nm,21.4s,baz=170,slow=40
HHC Hu-ho-hao-te 29.85 73 *eP* **P 23 04 09.6 +2.2**
HHC AP pP 23 04 31.5 +1.1
HHC XP sP 23 04 43.4 +1.0
HHC S **S 23 08 57.9 +1.2**
HHC XS sS 23 09 36.6 -0.1
HHC SS SS 23 10 40.8 -27
HHC PCS PcS 23 10 52.8 +1.3
HHC SCS ScS 23 14 36.3 +0.2
HHC AMB AMB
comp=Z,21nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,135nm,5.6s
HHC LR LR
comp=N,400nm,17.2s
HHC LR LR
comp=E,2μm,19.0s
HHC LR LR
comp=Z,183nm,17.8s
CHTO Chiang Mai 30.07 123 *eP* **P 23 04 10.6 +1.2**
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
CHTO Chiang Mai 30.07 123 *eP* **P 23 04 10.6 +1.2**
comp=Z,9.1nm,1.0s,mb4.4
BR131 Keskin Array S 30.17 285 *eP* **P 23 04 09.8 -0.5**
comp=Z,4.0nm,0.4s,mb4.4
BRTR Keskin Array B 30.17 285 P **P 23 04 10.8 +0.4**
comp=Z,5.5nm,0.8s,mb4.2,baz=106,slow=7.4,SNR=30
ELDT Eldivan 30.20 286 *i* P **P 23 04 11.1 +0.5**
KLMR Klimovskoe 30.46 328 *eP* **P 23 04 11.6 -1.2**
KLMR pmax pmax
comp=Z,35nm,1.4s,mb4.8
MMAI Mount Meron Ar 30.61 271 P **P 23 04 15.0 +0.9**
comp=Z,3.1nm,0.9s,mb4.0,baz=64,slow=9.9,SNR=3.8
ANTO Ankara 30.79 285⇓*iP* **P 23 04 16.5 +0.8**
GYA Guiyang 30.89 103⇑*iP* **P 23 04 17.9 +1.2**
GYA AP pP 23 04 37.5 -2.2
GYA XP sP 23 04 49.8 -1.9
GYA PP PP 23 05 24.3 -3.9
GYA PCP PcP 23 07 12.8 +1.9
GYA S **S 23 09 16.5 +3.4**
GYA XS sS 23 09 50.9 -2.3
GYA SCP ScP 23 10 48.3 +4.1
GYA SCS ScS 23 14 43.8 +2.7
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,90nm,4.2s
GYA LR LR
comp=N,460nm,16.7s
GYA LR LR
comp=E,480nm,17.2s
GYA LR LR
comp=Z,540nm,16.2s
SGKT Sivrigoynuk 31.22 287 *i* P **P 23 04 20.4 +0.9**
CIT Chita 31.34 51 *eP* **P 23 04 21.9 +1.3**
CIT *e* pP 23 04 45.6 +2.0
CIT *e* 23 07 13.1
CIT pmax pmax
comp=Z,50nm,1.4s,mb5.0
AKASG Malin Array Be 32.81 306 P **P 23 04 32.5 -0.9**
comp=Z,8.9nm,0.4s,mb5.0,baz=79,slow=7.3,SNR=37
AKASG ScP ScP 23 10 51.4 +0.7
comp=Z,1.0nm,0.6s,baz=75,slow=4.1,SNR=4.2
AKASG Malin Array Be 32.81 306 *i* P **P 23 04 32.5 -0.9**
AKASG pmax pmax
comp=Z,9.0nm,0.4s
AKBB Malin Array Si 32.81 306 *eP* **P 23 04 32.3 -1.1**
KIEV Kiev 32.82 306⇓*eP* **P 23 04 32.5 -1.0**
KIEV pmax pmax
comp=Z,23nm,0.6s,mb5.2
KIEV Kiev 32.82 306⇓*eP* **P 23 04 32.5 -1.0**
comp=Z,22nm,0.6s,mb5.2
BOD Bodaibo 32.96 40 *eP* **P 23 04 34.9 +0.2**
KIS Kishinev 32.96 299 *eP* **P 23 04 32.0 -2.8**
BJT Baijiatuau 33.45 73⇑*eP* **P 23 04 40.5 +1.5**
BJT pmax pmax
comp=Z,26nm,0.6s
BJT Baijiatuau 33.45 73⇑*eP* **P 23 04 40.5 +1.5**
comp=Z,26nm,0.6s,mb5.2
BJI Beijing 33.45 73 *eP* **P 23 04 41.1 +2.1**
BJI AMB AMB
comp=Z,48nm,0.7s,mb5.4
ULDT Uludag 33.49 287 *i* P **P 23 04 39.5 +0.1**
VRI Vrincioaia 34.46 297⇑*iP* **P 23 04 48.9 +1.1**
PLOR Plostina 34.52 297⇑*iP* **P 23 04 49.4 +1.2**
JOF Joensuu 34.86 328 *ep* **P 23 04 49.3 -1.9**
comp=Z,5.3nm,0.4s,mb4.7
WHN Wuhan 34.99 90⇑P **P 23 04 54.4 +2.1**
WHN AMB AMB
comp=Z,90nm,0.7s,mb5.7
MLR Muntele Rosu 35.04 297 P **P 23 04 54.6 +1.9**
comp=Z,14nm,0.7s,mb4.9,baz=77,slow=3.2,SNR=23
MLR Muntele Rosu 35.04 297 P **P 23 04 54.6 +1.9**
MLR pmax pmax
comp=Z,14nm,0.7s
MLR Muntele Rosu 35.04 297⇓P **P 23 04 54.2 +1.4**
MLR Muntele Rosu 35.04 297⇓*iP* **P 23 04 54.2 +1.5**
HIA Hailar 35.05 57 *eP* **P 23 04 54.1 +1.3**
HIA pmax pmax
comp=Z,19nm,1.0s
HIA Hailar 35.05 57 *eP* **P 23 04 54.1 +1.2**
comp=Z,19nm,1.0s,mb4.9
TIA Tai'an 35.13 80⇑P **P 23 04 56.4 +2.8**
TIA AMB AMB
comp=Z,66nm,1.0s,mb5.4
BURAR Bucovina Array 35.39 301⇓*iP* **P 23 04 55.7 0.0**
VOIR 35.67 297⇓P **P 23 04 58.6 +0.5**
VOIR 35.67 297⇓*iP* **P 23 04 58.5 +0.3**
LVV L'vov 36.11 304 *eP* **P 23 05 01.1 -0.8**
LVV *e* pP 23 05 24.1 -1.2
LVV *e* 23 06 19.7
LVV *e*S **S 23 10 30.5 -3.2**
LVZ Lovozero 36.14 337 *eP* **P 23 05 01.2 -0.9**
APA Apatity 36.35 336⇑*iP* **P 23 05 02.6 -1.3**
APA *i* 23 06 24.3
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
FIA1 FINESS Array S 36.62 324 *eP* **P 23 05 05.6 -0.6**
FINES FINESS Array B 36.62 324 P **P 23 05 05.6 -0.6**
comp=Z,24nm,0.6s,mb5.3,baz=117,slow=9.5,SNR=166
FINES LR LR 23 20 41.6
comp=Z,227nm,21.2s,baz=351,slow=37
FINES FINESS Array B 36.62 324 *i* P **P 23 05 05.5 -0.8**
FINES pmax pmax
comp=Z,24nm,0.6s
KAF Kangasniemi 36.72 325 *ep* **P 23 05 05.6 -1.5**
comp=Z,1.8nm,0.3s,mb4.5,baz=106,slow=9.2
KAF Kangasniemi 36.72 325 *eP* **P 23 05 05.6 -1.5**
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
SUW Suwalki 36.77 311 *eP* **P 23 05 06.7 -0.8**
SUW Suwalki 36.77 311 *eP* **P 23 05 06.5 -1.0**
comp=Z,267nm,1.3s,mb6.0
SUW *e*PP PP 23 06 30.5 -2.7
KWP Kalwaria 36.97 304 *eP* **P 23 05 10.0 +0.8**
KWP *e* 23 05 18.7
KWP Kalwaria 36.97 304 *eP* **P 23 05 09.1 -0.1**
comp=Z,34nm,0.5s,mb5.5
DRGR 37.15 299⇓*iP* **P 23 05 11.4 +0.7**
GZR Gura Zlata 37.27 297⇓*iP* **P 23 05 11.7 0.0**
KOLS Kolonicke sedl 37.28 303 *eP* **P 23 05 12.1 +0.3**

KOLS *e*PP PP 23 06 35.6 -3.2
UZH Uzhgorod 37.29 302*d iP* **P 23 05 11.8 -0.1**
UZH *i* *PP pP 23 05 34.4 -1.0
UZH *e* 23 10 58.0
VTS Vitosha 37.40 292⇓*iP* **P 23 05 13.5 +0.6**
QIZ Qiongzhong 37.57 110 P **P 23 05 15.3 +1.1**
QIZ PP PP 23 06 43.3 +1.4
QIZ S **S 23 11 00.3 +4.4**
QIZ AMB AMB
comp=Z,39nm,1.7s,mb5.0
QIZ LR LR
comp=N,75nm,32.0s
QIZ LR LR
comp=E,64nm,32.4s
QIZ LR LR
comp=Z,86nm,36.9s
CRVS Cervenica-Dubn 37.82 303 *eP* **P 23 05 16.7 +0.3**
CRVS *e*PP PP 23 06 39.9 -4.8
STHS Stebnicka Huta 37.93 304 *i* P **P 23 05 17.1 -0.2**
STHS pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
STHS Stebnicka Huta 37.93 304 *i* P **P 23 05 17.1 -0.2**
comp=Z,7.3nm,0.6s,mb4.7
STHS *e*PP PP 23 06 45.9 0.0
IDI Anoyia 38.04 280 P **P 23 05 18.1 -0.1**
comp=Z,19nm,0.8s,mb4.9,baz=80,slow=6.1,SNR=9.0
BZS Buzias 38.05 298⇓*iP* **P 23 05 19.0 +0.7**
KECS Kecovo 38.50 302 *eP* **P 23 05 22.4 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
KECS Kecovo 38.50 302 *eP* **P 23 05 22.4 +0.4**
comp=Z,3.2nm,0.7s,mb4.3
KECS *e*PP PP 23 06 52.3 +0.2
NIE Niedzica 38.54 304 *eP* **P 23 05 23.2 +0.8**
SNY Shenyang 38.57 68⇑P **P 23 05 23.8 +1.2**
SNY AMB AMB
comp=Z,29nm,0.5s,mb5.4
OJC Ojcow 38.82 305 *eP* **P 23 05 24.5 -0.3**
PSZ Piszkesteto 38.94 302 *eP* **P 23 05 26.3 +0.5**
DIVS Divcibare 39.43 296⇓*iP* **P 23 05 30.1 +0.3**
KEV Kevo 39.48 337 *ep* **P 23 05 28.9 -1.3**
comp=Z,1.6nm,0.3s,mb4.3
KEV Kevo 39.48 337 *eP* **P 23 05 28.9 -1.3**
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
CN2 Changchun 39.52 65 *eP* **P 23 05 31.4 +0.9**
CN2 *e*S **S 23 11 30.0 +4.8**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
VYHS Vyhne 39.59 303 *eP* **P 23 05 31.2 +0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
VYHS Vyhne 39.59 303 *eP* **P 23 05 31.2 +0.1**
comp=Z,6.5nm,1.2s,mb4.3
VYHS *e*PP PP 23 07 00.8 -3.2
ARCES ARCESS Array B 39.84 336 P **P 23 05 32.8 -0.4**
comp=Z,19nm,0.6s,mb5.1,baz=111,slow=8.5,SNR=67
ARCES LR LR 23 22 49.2
comp=Z,292nm,19.3s,baz=81,slow=37
ARE0 ARCESS Array S 39.84 336 *eP* **P 23 05 32.8 -0.5**
GKP Gorka Klasztor 40.29 310 *eP* **P 23 05 36.8 -0.1**
MORC Moravsky Berou 40.31 305⇓*iP* **P 23 05 37.1 0.0**
KTK1 Kautokeino 40.36 335 *eP* **P 23 05 37.7 +0.2**
KTK1 AMb AMB 23 05 40.3
comp=Z,69nm,1.9s,mb5.2
ZST Bratislava 40.77 302 *eP* **P 23 05 41.3 +0.4**
VRAC Vranov 40.97 304 P **P 23 05 43.2 +0.6**
comp=Z,17nm,0.9s,mb4.9,baz=80,slow=8.6,SNR=23
VRAC LR LR 23 26 34.4
comp=Z,114nm,19.1s,baz=165,slow=42
VRAC Vranov 40.97 304⇑P **P 23 05 42.9 +0.4**
VRAC Vranov 40.97 304⇑*iP* **P 23 05 42.9 +0.4**
KSP Ksiaz 41.01 306 *eP* **P 23 05 43.2 +0.4**
KSP *e* 23 05 51.3
KSP Ksiaz 41.01 306 *eP* **P 23 05 42.8 0.0**
DPC Dobruska-Polom 41.03 306 *eP* **P 23 05 43.3 +0.2**
DPC *ex* x 23 05 47.9
DPC *e*PP PP 23 07 19.6 0.0
UPC Upice 41.22 306 *eP* **P 23 05 44.9 +0.3**
UPC *ex* x 23 05 51.2
UPC *e*PP PP 23 07 22.0 +0.4
YAK Yakutsk 41.56 37 *eP* **P 23 05 46.9 -0.5**
YAK pmax pmax
comp=Z,33nm,0.7s,mb5.2
YAK Yakutsk 41.56 37 *eP* **P 23 05 47.2 -0.2**
CONA Conrad Observa 41.63 302 *i* P **P 23 05 48.3 +0.4**
comp=Z,24nm,1.2s,mb4.8,SNR=17
ARSA Arzberg 41.97 301⇓*iP* **P 23 05 50.6 0.0**
comp=Z,7.4nm,0.7s,mb4.5
GOLS Golise 42.12 299 *eP* **P 23 05 52.4 +0.5**
PVCC Panska Ves 42.13 306 *eP* **P 23 05 52.2 +0.2**
PVCC *ex* x 23 05 58.7
PRU Pruhonice 42.21 305 *eP* **P 23 05 52.7 0.0**
PRU *e*PP PP 23 07 30.9 -1.4
CRES Cresnjev 42.27 299 *eP* **P 23 05 53.1 -0.1**
MDJ Mudanjiang 42.27 63 P **P 23 05 53.4 +0.3**
MDJ AMB AMB
comp=Z,17nm,0.6s,mb5.0
MDJ AMB AMB
comp=Z,75nm,3.4s
MDJ LR LR
comp=N,53nm,27.4s
MDJ LR LR
comp=E,32nm,30.6s
MDJ LR LR
comp=Z,42nm,17.7s
PERS Pernice 42.35 300 *i* P **P 23 05 53.9 +0.2**
HFS Hagfors 42.36 320 P **P 23 05 53.1 -0.8**
comp=Z,48nm,0.5s,mb5.5,baz=98,slow=11,SNR=228
BOJS Bojanci 42.47 299 *eP* **P 23 05 55.1 +0.3**
BRG Berggiesshubel 42.49 307 *eP* **P 23 05 55.2 +0.3**
comp=Z,20nm,0.7s,mb5.0
BRG Berggiesshubel 42.49 307⇓*iP* **P 23 05 54.7 -0.2**
comp=Z,12nm,0.7s,mb4.7
BRG *i* pP pP 23 06 18.8 0.0
comp=Z,26nm,1.5s
BRG *e*sP sP 23 06 34.9 +4.3
comp=Z,12nm,1.1s
PDKS Podkum 42.53 299 *eP* **P 23 05 55.6 +0.4**
MOA Molln 42.70 302⇑*iP* **P 23 05 56.5 -0.1**
comp=Z,10.0nm,0.8s,mb4.6
OBKA Obir 42.76 300 *i* P **P 23 05 57.8 +0.7**
comp=Z,18nm,1.1s,mb4.7,SNR=9.4
MOR8 Mol Rana 42.77 329 *eP* **P 23 05 55.5 -1.6**
MOR8 AMb AMB 23 06 04.4
comp=Z,83nm,1.5s,mb5.2
FBE Freiberg 42.85 307 *eP* **P 23 05 58.1 +0.3**
FBE *e*pP pP 23 06 22.2 +0.4
LJU Ljubljana 42.86 300 *eP* **P 23 05 58.5 +0.6**
GEC2 GERESS Array S 42.92 304 *eP* **P 23 05 59.3 +0.9**
comp=Z,9.0nm,0.8s,mb4.5
GEC2 *e*pP pP 23 06 22.7 +0.3
GEC2 GERESS Array S 42.92 304 *eP* **P 23 05 59.3 +0.9**
GEC2 *e**PP pP 23 06 22.7 +0.3
GEC2 pmax pmax
comp=Z,41nm,0.8s,mb5.2
GERES GERESS Array B 42.92 304 P **P 23 05 58.6 +0.2**
comp=Z,4.9nm,0.6s,mb4.4,baz=66,slow=8.2,SNR=42
GERES pP pP 23 06 22.3 0.0
comp=Z,2.4nm,0.6s,baz=72,slow=10.0,SNR=2.8
GERES PP PP 23 07 36.6 -3.3
comp=Z,4.9nm,0.8s,baz=74,slow=9.8,SNR=5.0
KHC Kasperske Hory 42.95 304 *eP* **P 23 05 58.8 +0.1**
KHC *ex* x 23 06 02.5
KHC *e*pP pP 23 06 21.0 -1.6
KHC *e*sP sP 23 06 35.0 +0.6
KHC *e*PP PP 23 07 37.0 -3.3
TIP Timpagrande 42.98 289 *eP* **P 23 05 58.6 -0.3**
KSRS Korea Array 42.98 73 P **P 23 05 59.9 +0.9**
comp=Z,14nm,0.9s,mb4.7,baz=284,slow=6.4,SNR=30
KSRS PcP PcP 23 07 48.2 +0.7
comp=Z,8.6nm,0.8s,baz=296,slow=3.6,SNR=11
CLL Collm 43.02 307 *i* P **P 23 05 58.9 -0.3**
CLL pmax pmax
comp=Z,35nm,0.7s,mb5.2
CLL Collm 43.02 307 *i* P **P 23 05 58.9 -0.3**
comp=Z,16nm,0.7s,mb4.9
CLL *i* pP pP 23 06 23.5 +0.3
CLL *e*PP PP 23 07 40.0 -1.0
CLL *i* PcP PcP 23 07 46.4 -1.2
RGNG Rignano Grg 43.13 293 P **P 23 05 59.9 -0.2**

VOY **Vojsko** 43.30 300 *e*P P 23 06 01.5 +0.1
FG4 **Candela** 43.33 292 P P 23 06 02.6 +0.9
FG4 pmax pmax
comp=Z,29nm,0.7s,mb5.1
FG4 **Candela** 43.33 292 P P 23 06 02.6 +0.9
comp=Z,28nm,0.7s,mb5.1
CADS **Cadrg** 43.36 300 *e*P P 23 06 01.9 -0.1
STOK **Stokkvaagen** 43.36 330 *e*P P 23 06 01.2 -0.8
STOK AMb AMB 23 06 03.5
comp=Z,104nm,1.6s,mb5.3
STOK *e*PP PP 23 07 41.8 -2.8
TIXI **Tiksi** 43.42 23 *e*P P 23 05 58.4 -4.0
TIXI *e**SP sP 23 06 31.9 -6.3
TIXI *e*S S 23 12 17.6 -5.3
TIXI pmax pmax
comp=Z,20nm,0.9s,mb4.8
TIXI **Tiksi** 43.42 23 *e*P P 23 05 59.2 -3.2
comp=Z,38nm,0.6s,mb5.3
KBA **Koelnbreinsper** 43.46 301⇑*i*P P 23 06 02.6 -0.1
comp=Z,16nm,1.3s,mb4.6,SNR=9.2
KBA **Koelnbreinsper** 43.46 301⇑*i*P P 23 06 02.6 -0.1
KBA pmax pmax
comp=Z,16nm,1.3s,mb4.6
FG5 **Orsara di Pugl** 43.47 293 P P 23 06 04.1 +1.3
FG5 pmax pmax
comp=Z,33nm,0.8s,mb5.1
FG5 **Orsara di Pugl** 43.47 293 P P 23 06 04.1 +1.3
comp=Z,33nm,0.8s,mb5.1
TANN **Tannenbergstha** 43.48 306 *e*P P 23 06 02.8 -0.1
comp=Z,6.0nm,0.8s,mb4.4
NKC **Novy Kostel** 43.52 306 *e*P P 23 06 03.3 +0.1
NKC *ex* x 23 06 09.2
WERN **Wernitzgruen** 43.55 306 *e*pP pP 23 06 27.7 +0.2
GUNZ **Gunzen** 43.57 306 *e*P P 23 06 03.8 +0.2
comp=Z,9.0nm,0.8s,mb4.5
WERD **Werda** 43.57 306 *e*P P 23 06 03.5 -0.2
NB2 **NORSAR Subarra** 43.63 322 P P 23 06 03.1 -1.0
comp=Z,28nm,0.5s,mb5.2,baz=92,slow=8.6
NOA **NORSAR Array B** 43.63 322 P P 23 06 03.3 -0.8
comp=Z,29nm,0.5s,mb5.3,baz=92,slow=7.8,SNR=92
NOA PP PP 23 07 46.0 -1.5
comp=Z,9.2nm,0.8s,baz=90,slow=11,SNR=5.1
NOA LR LR 23 24 47.0
comp=Z,118nm,19.2s,baz=150,slow=37
NOA **NORSAR Array B** 43.63 322 P P 23 06 03.3 -0.8
NOA 23 07 46.0
NOA **NORSAR Array B** 43.63 322 P P 23 06 03.3 -0.8
NOA PP PP 23 07 46.0 -1.5
NOA LR LR 23 24 47.0
SGO **Sicignano** 43.64 292 P P 23 06 05.2 +1.0
SGO pmax pmax
comp=Z,17nm,0.6s,mb5.0
SGO **Sicignano** 43.64 292 P P 23 06 05.2 +1.0
comp=Z,17nm,0.6s,mb4.9
GMNA **Gemona** 43.69 300 P P 23 06 04.9 +0.3
comp=Z,83nm,0.9s,mb5.5
ROTZ **Rotzenmuhle** 43.74 305 *e*P P 23 06 05.6 +0.6
comp=Z,15nm,1.3s,mb4.6
ROTZ *e*pP pP 23 06 29.8 +0.8
MANZ **Manzenberg** 43.77 306 *e*P P 23 06 05.9 +0.7
comp=Z,9.0nm,1.1s,mb4.4
NAO01 **NORSAR Array S** 43.78 321 *e*P P 23 06 04.1 -1.3
comp=Z,22nm,0.7s,mb5.0
FVI **Forni Avoltri** 43.93 301 P P 23 06 06.2 -0.3
FVI pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
FVI **Forni Avoltri** 43.93 301 P P 23 06 06.2 -0.3
comp=Z,8.2nm,0.5s,mb4.7
MOX **Moxa** 43.98 307 *e*P P 23 06 07.2 +0.3
comp=Z,11nm,1.0s,mb4.5
MOX *e*pP pP 23 06 32.0 +1.0
MOX **Moxa** 43.98 307 *e*P P 23 06 07.0 +0.1
comp=Z,13nm,1.1s,mb4.6
MOX **Moxa** 43.98 307 *e*P P 23 06 07.0 +0.1
MOX pmax pmax
comp=Z,30nm,1.1s,mb4.9
ABTA **Abfaltersbach** 44.08 301⇑*i*P P 23 06 06.8 -1.0
comp=Z,11nm,0.6s,mb4.7
MTTG **Motta San Giov** 44.14 288 P P 23 06 10.5 +2.3
comp=Z,63nm,0.8s,mb5.4
VLA **Vladivostok** 44.24 64 *e*P P 23 06 10.0 +1.0
VLA pmax pmax
comp=Z,49nm,0.7s,mb5.3
GRA1 **Grafenberg Arr** 44.38 305 *e*P P 23 06 11.0 +0.9
comp=Z,15nm,0.9s,mb4.7
GRF **Grafenberg Arr** 44.38 305 *e*P P 23 06 11.0 +0.9
comp=Z,15nm,0.9s,mb4.7
GRF **Grafenberg Arr** 44.38 305 *e*P P 23 06 11.0 +0.9
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GRF **Grafenberg Arr** 44.38 305 *e*P P 23 06 11.0 +0.9
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.7
GRFO **Grafenberg** 44.38 305 *e*P P 23 06 10.7 +0.6
GRFO pmax pmax
comp=Z,22nm,0.9s,mb4.9
GRFO **Grafenberg** 44.38 305 *e*P P 23 06 10.7 +0.6
comp=Z,22nm,0.9s,mb4.9
AQU **L'Aquila** 44.52 295 *e*P P 23 06 10.0 -1.2
AQU pmax pmax
comp=Z,24nm,1.1s,mb4.8
AQU **L'Aquila** 44.52 295 *e*P P 23 06 10.0 -1.2
comp=Z,24nm,1.1s,mb4.8
WTTA **Wattenberg** 44.56 302⇑*i*P P 23 06 10.9 -0.6
comp=Z,12nm,0.8s,mb4.7
WTTA **Wattenberg** 44.56 302⇑*i*P P 23 06 10.9 -0.7
WTTA pmax pmax
comp=Z,12nm,0.8s,mb4.7
NRCA **Norcia** 44.59 295 P P 23 06 12.7 +0.9
comp=Z,21nm,1.1s,mb4.8
SNTG **Esanatoglia** 44.60 296 P P 23 06 12.6 +0.7
comp=Z,11nm,0.5s,mb4.8
FSSB **Fossombrone** 44.60 297 P P 23 06 12.4 +0.5
comp=Z,8.5nm,0.5s,mb4.7
DOMB **Dombas** 44.69 323 *e*P P 23 06 12.1 -0.4
DOMB AMb AMB 23 06 12.9
comp=Z,54nm,1.1s,mb5.2
DOMB **Dombas** 44.69 323 *e*P P 23 06 12.1 -0.4
comp=Z,54nm,1.1s,mb5.2
CTI **Castel Tesino** 44.82 300 P P 23 06 13.5 -0.1
CTI pmax pmax
comp=Z,11nm,0.6s,mb4.8
CTI **Castel Tesino** 44.82 300 P P 23 06 13.5 -0.1
comp=Z,11nm,0.6s,mb4.8
ASS **Assisi** 44.86 296 P P 23 06 15.4 +1.5
ASS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ASS **Assisi** 44.86 296 P P 23 06 15.4 +1.5
comp=Z,2.5nm,0.7s,mb4.0
MOTA **Moosalm** 44.90 302 *i* P P 23 06 13.8 -0.5
comp=Z,8.6nm,0.6s,mb4.7,SNR=8.8
MOTA **Moosalm** 44.90 302 *i* P P 23 06 13.8 -0.4
MOTA pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
HABR **Khabarovsk** 45.17 56 *e*P P 23 06 16.1 -0.3
HABR *e*S S 23 12 47.7 -0.6
HABR pmax pmax
comp=Z,31nm,1.1s,mb5.0
SFI **Santa Sofia** 45.20 297 P P 23 06 17.7 +1.1
SFI pmax pmax
comp=Z,17nm,0.6s,mb5.0
SFI **Santa Sofia** 45.20 297 P P 23 06 17.7 +1.1
comp=Z,17nm,0.6s,mb4.9
FETA **Feichten** 45.22 302⇓*i*P P 23 06 16.1 -0.7
comp=Z,6.7nm,0.8s,mb4.5
VMG **Vicchio** 45.40 297 P P 23 06 20.0 +1.8
comp=Z,47nm,0.7s,mb5.3
SEI **Scarperia** 45.51 298 P P 23 06 20.7 +1.7
comp=Z,58nm,0.5s,mb5.6
BRMO **Bormio** 45.58 301 P P 23 06 19.1 -0.5
comp=Z,6.8nm,0.6s,mb4.5
CSNT **Castellina Chi** 45.70 297 P P 23 06 20.8 +0.2
comp=Z,35nm,1.0s,mb5.0
DAVA **Damuels** 45.73 302 *i* P P 23 06 20.6 -0.2
comp=Z,32nm,0.5s,mb5.3,SNR=36
GSCL **Gusciola** 45.96 298 P P 23 06 24.2 +1.6
comp=Z,12nm,0.6s,mb4.8
GRFL **Gerfalco** 46.02 296 P P 23 06 23.0 0.0
comp=Z,11nm,0.8s,mb4.6
ERBM **Eremo** 46.06 298 P P 23 06 25.4 +2.0
comp=Z,37nm,0.7s,mb5.2
BFO **Black Forest** 46.52 304 *e*P P 23 06 27.0 +0.1
comp=Z,39nm,1.9s,mb4.8
BFO **Black Forest** 46.52 304 *e*P P 23 06 27.0 +0.1
BFO pmax pmax
comp=Z,140nm,1.9s,mb5.4
BFO **Black Forest** 46.52 304 *e*P P 23 06 26.4 -0.5
comp=Z,5.8nm,0.7s,mb4.4
CDF **Champ du Feu** 47.18 304⇓*i*P P 23 06 31.6 -0.5
comp=Z,12nm,0.8s,mb4.4
CDF **Champ du Feu** 47.18 304⇓*i*P P 23 06 31.6 -0.5
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
CDF **Champ du Feu** 47.18 304⇓*i*P P 23 06 31.6 -0.5
comp=Z,6.1nm,0.8s,mb4.4
MEM **Membach** 47.50 307 P P 23 06 34.9 +0.3
comp=Z,6.9nm,1.0s,mb4.4
PGF **Pioggiola** 47.58 296⇓*i*P P 23 06 35.0 -0.2
comp=Z,24nm,0.7s,mb4.8
PGF **Pioggiola** 47.58 296⇓*i*P P 23 06 35.0 -0.2
PGF pmax pmax
comp=Z,12nm,0.7s,mb4.8
PGF **Pioggiola** 47.58 296⇓*i*P P 23 06 35.0 -0.2
comp=Z,12nm,0.7s,mb4.8
HINF **Hinteralfeld** 47.60 304⇓*i*P P 23 06 34.8 -0.5
comp=Z,20nm,0.7s,mb4.7
HINF **Hinteralfeld** 47.60 304⇓*i*P P 23 06 34.8 -0.5
HINF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
HINF **Hinteralfeld** 47.60 304⇓*i*P P 23 06 34.8 -0.5
comp=Z,9.9nm,0.7s,mb4.8
WLF **Walferdange** 47.62 306 *e*P P 23 06 35.9 +0.4
comp=Z,20nm,0.8s,mb5.0
WLF **Walferdange** 47.62 306 P P 23 06 35.9 +0.4
comp=Z,12nm,1.0s,mb4.7
HAU **Haudompre** 47.88 304⇓*i*P P 23 06 37.1 -0.4
comp=Z,26nm,0.8s,mb4.8
HAU *e*MLR
comp=Z,81nm,17.5s
HAU **Haudompre** 47.88 304⇓*i*P P 23 06 37.1 -0.4
HAU pmax pmax
comp=Z,13nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,80nm,17.5s
HAU **Haudompre** 47.88 304⇓*i*P P 23 06 37.1 -0.4
comp=Z,13nm,0.8s,mb4.8
HAU LR LR
comp=Z,80nm,17.5s
BCLA **Clavier** 47.98 307 P P 23 06 38.2 -0.1
LPG **La Plagne** 48.27 301 *e*P P 23 06 40.7 +0.1
comp=Z,50nm,0.7s,mb5.2
LPG **La Plagne** 48.27 301 *e*P P 23 06 40.7 +0.1
LPG pmax pmax
comp=Z,25nm,0.7s,mb5.2
LPG **La Plagne** 48.27 301 *e*P P 23 06 40.7 +0.1
comp=Z,25nm,0.7s,mb5.2
SBF **Sospel** 48.28 298⇓*i*P P 23 06 40.7 +0.1
comp=Z,80nm,0.7s,mb5.3
SBF **Sospel** 48.28 298⇓*i*P P 23 06 40.7 +0.1
SBF pmax pmax
comp=Z,40nm,0.7s,mb5.4
SBF **Sospel** 48.28 298⇓*i*P P 23 06 40.7 +0.1
comp=Z,40nm,0.7s,mb5.3
LPL **La Plagne** 48.28 301⇓*i*P P 23 06 40.8 +0.2
comp=Z,32nm,0.6s,mb5.0
LPL **La Plagne** 48.28 301⇓*i*P P 23 06 40.8 +0.2
LPL pmax pmax
comp=Z,16nm,0.6s,mb5.0
LPL **La Plagne** 48.28 301⇓*i*P P 23 06 40.8 +0.2
comp=Z,16nm,0.6s,mb5.0
GIVF **Givet** 48.35 307 *e*P P 23 06 41.4 +0.2
CABF **La Chapelle** 48.41 302⇓*i*P P 23 06 41.2 -0.4
comp=Z,26nm,0.7s,mb4.9
CABF **La Chapelle** 48.41 302⇓*i*P P 23 06 41.2 -0.4
CABF pmax pmax
comp=Z,13nm,0.7s,mb4.9
CABF **La Chapelle** 48.41 302⇓*i*P P 23 06 41.2 -0.4
comp=Z,13nm,0.7s,mb4.9
BNI **Bardonecchia** 48.45 300 *e*P P 23 06 41.7 -0.2
BNI pmax pmax
comp=Z,39nm,1.3s,mb5.1
BNI **Bardonecchia** 48.45 300 *e*P P 23 06 41.7 -0.2
comp=Z,39nm,1.3s,mb5.1
MBDF **Montbardon** 48.48 300⇓*i*P P 23 06 41.7 -0.4
comp=Z,32nm,0.6s,mb4.9
MBDF **Montbardon** 48.48 300⇓*i*P P 23 06 41.7 -0.4
MBDF pmax pmax
comp=Z,11nm,0.6s,mb4.9
MBDF **Montbardon** 48.48 300⇓*i*P P 23 06 41.7 -0.4
comp=Z,11nm,0.6s,mb4.9
DOU **Dourbes** 48.50 307 P P 23 06 42.2 -0.1
MEZF **Maizieres J'vi** 48.60 305⇓*i*P P 23 06 43.1 +0.1
comp=Z,35nm,0.8s,mb5.0
MEZF *e*pP pP 23 07 07.5 0.0
MEZF **Maizieres J'vi** 48.60 305⇓*i*P P 23 06 43.1 +0.1
comp=Z,35nm,0.8s,mb5.3
MEZF *e*pP pP 23 07 07.5 0.0
BAIF **Baives** 48.75 307⇓*i*P P 23 06 44.4 +0.2
comp=Z,16nm,0.6s,mb4.8
BAIF **Baives** 48.75 307⇓*i*P P 23 06 44.4 +0.2
BAIF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BAIF **Baives** 48.75 307⇓*i*P P 23 06 44.4 +0.2
comp=Z,8.1nm,0.6s,mb4.8
FRF **La Foret Royal** 48.91 298⇓*i*P P 23 06 45.2 -0.3
comp=Z,36nm,0.7s,mb5.1
FRF **La Foret Royal** 48.91 298⇓*i*P P 23 06 45.2 -0.3
FRF pmax pmax
comp=Z,18nm,0.7s,mb5.1
FRF **La Foret Royal** 48.91 298⇓*i*P P 23 06 45.2 -0.3
comp=Z,18nm,0.7s,mb5.1
ORIF **Oris-en-Rattie** 49.03 300⇓*i*P P 23 06 47.1 +0.8
comp=Z,21nm,0.8s,mb4.8
ORIF *e*MLR
comp=Z,62nm,17.0s
ORIF **Oris-en-Rattie** 49.03 300⇓*i*P P 23 06 47.1 +0.8
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.8
ORIF **Oris-en-Rattie** 49.03 300⇓*i*P P 23 06 47.1 +0.8
comp=Z,11nm,0.8s,mb4.8
LMR **La Mourre** 49.08 298⇓*i*P P 23 06 46.1 -0.6
comp=Z,53nm,1.1s,mb5.1
LMR **La Mourre** 49.08 298⇓*i*P P 23 06 46.1 -0.6
LMR pmax pmax
comp=Z,27nm,1.1s,mb5.1
LMR **La Mourre** 49.08 298⇓*i*P P 23 06 46.1 -0.6
comp=Z,26nm,1.1s,mb5.1
SMRF **Simiane la Rot** 49.52 299 *e*P P 23 06 50.3 +0.2
comp=Z,35nm,0.9s,mb5.0
SMRF **Simiane la Rot** 49.52 299 *e*P P 23 06 50.3 +0.2
comp=Z,35nm,0.9s,mb5.3
LOR **Lormes** 49.70 304⇓*i*P P 23 06 50.5 -0.9
comp=Z,13nm,0.7s,mb4.7
LOR *e*MLR
comp=Z,88nm,19.8s
LOR **Lormes** 49.70 304⇓*i*P P 23 06 50.5 -0.9
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LOR MLR MLR
comp=Z,90nm,19.8s
LOR **Lormes** 49.70 304⇓*i*P P 23 06 50.5 -0.9
comp=Z,6.4nm,0.7s,mb4.7
LOR LR LR
comp=Z,90nm,19.8s
KEST **Kesra** 49.70 288 P P 23 06 52.1 +0.7
comp=Z,1.7nm,0.7s,mb4.1,baz=8.2,slow=13,SNR=8.6
VIVF **Saint-Julien-l** 49.87 300⇓*i*P P 23 06 52.6 -0.1
comp=Z,18nm,0.7s,mb4.8
VIVF *e*pP pP 23 07 17.3 0.0
VIVF **Saint-Julien-l** 49.87 300⇓*i*P P 23 06 52.6 -0.1
VIVF *e**PP pP 23 07 17.3 0.0
VIVF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
VIVF **Saint-Julien-l** 49.87 300⇓*i*P P 23 06 52.6 -0.1
comp=Z,9.1nm,0.7s,mb4.8
VIVF *e*pP pP 23 07 17.3 0.0
SMF **Signal de Mont** 49.89 303⇓*i*P P 23 06 52.3 -0.6
comp=Z,16nm,0.6s,mb4.9
SMF **Signal de Mont** 49.89 303⇓*i*P P 23 06 52.3 -0.6
SMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SMF **Signal de Mont** 49.89 303⇓*i*P P 23 06 52.3 -0.6
comp=Z,8.3nm,0.6s,mb4.8
SSF **Saint Saulge** 49.99 303⇓*i*P P 23 06 52.9 -0.7
comp=Z,14nm,0.7s,mb4.7
SSF *e*pP pP 23 07 17.5 -0.7
SSF **Saint Saulge** 49.99 303⇓*i*P P 23 06 52.9 -0.7
SSF *e**PP pP 23 07 17.5 -0.7
SSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SSF **Saint Saulge** 49.99 303⇓*i*P P 23 06 52.9 -0.7
comp=Z,7.1nm,0.7s,mb4.7
SSF *e*pP pP 23 07 17.5 -0.7
AVF **Avril sur Loir** 50.17 303⇓*i*P P 23 06 54.5 -0.5
comp=Z,40nm,0.7s,mb5.2
AVF **Avril sur Loir** 50.17 303⇓*i*P P 23 06 54.5 -0.5
AVF pmax pmax
comp=Z,20nm,0.7s,mb5.2
AVF **Avril sur Loir** 50.17 303⇓*i*P P 23 06 54.5 -0.5
comp=Z,20nm,0.7s,mb5.2
HYF **Humbligny** 50.49 304 *e*P P 23 06 57.4 0.0
BGF **Bois d'Agland** 50.57 303 *e*P P 23 06 57.4 -0.6
comp=Z,15nm,0.7s,mb4.8
BGF **Bois d'Agland** 50.57 303 *e*P P 23 06 57.4 -0.6
BGF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BGF **Bois d'Agland** 50.57 303 *e*P P 23 06 57.4 -0.6
comp=Z,7.6nm,0.7s,mb4.8
YSS **Yuzh-Sakhalins** 50.59 56 *e*P P 23 06 59.0 +0.9
LASF **Ste Croix** 50.67 300⇓*i*P P 23 06 59.0 +0.3
comp=Z,34nm,0.8s,mb5.1
MAJO **Matsushiro** 50.99 71 *e*P P 23 07 01.3 +0.1
MAJO pmax pmax
comp=Z,34nm,0.8s,mb5.4
MAJO **Matsushiro** 50.99 71 *e*P P 23 07 01.3 +0.1
comp=Z,34nm,0.8s,mb5.4
MAT **Matsushiro** 50.99 71 P P 23 07 01.7 +0.5
MJAR **Matsushiro Arr** 50.99 71 P P 23 07 02.3 +1.1
comp=Z,32nm,0.9s,mb5.4,baz=290,slow=9.4,SNR=31
TCF **Toulx Ste Croi** 51.07 303⇓*i*P P 23 07 01.6 -0.2
comp=Z,33nm,0.8s,mb5.1
TCF **Toulx Ste Croi** 51.07 303⇓*i*P P 23 07 01.6 -0.2
TCF pmax pmax
comp=Z,17nm,0.8s,mb5.1
TCF **Toulx Ste Croi** 51.07 303⇓*i*P P 23 07 01.6 -0.2
comp=Z,17nm,0.8s,mb5.1
KMBO **Kilima Mbogo** 51.17 228 P P 23 07 03.7 +1.2
comp=Z,12nm,1.0s,mb4.9,baz=33,slow=11,SNR=29
KMBO **Kilima Mbogo** 51.17 228 P P 23 07 03.7 +1.2
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO **Kilima Mbogo** 51.17 228 *e*P P 23 07 03.5 +1.0
comp=Z,15nm,1.0s,mb5.0
CAF **Calviac** 51.60 301⇓*i*P P 23 07 05.9 +0.2
comp=Z,18nm,0.8s,mb4.8
CAF **Calviac** 51.60 301⇓*i*P P 23 07 05.9 +0.2
CAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CAF **Calviac** 51.60 301⇓*i*P P 23 07 05.9 +0.2
comp=Z,9.1nm,0.8s,mb4.9
RJF **Les Rejaudoux** 51.84 302⇓*i*P P 23 07 07.8 +0.3
comp=Z,23nm,0.9s,mb4.9
RJF *e*MLR
comp=Z,66nm,22.6s
RJF **Les Rejaudoux** 51.84 302⇓*i*P P 23 07 07.8 +0.3
RJF pmax pmax
comp=Z,11nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,70nm,22.6s
RJF **Les Rejaudoux** 51.84 302⇓*i*P P 23 07 07.8 +0.3
comp=Z,11nm,0.9s,mb4.9
RJF LR LR
comp=Z,70nm,22.6s
LDF **La Druitiere** 51.87 306⇓*i*P P 23 07 07.0 -0.7
comp=Z,20nm,0.5s,mb5.1
LDF *e*pP pP 23 07 31.6 -0.9
LDF **La Druitiere** 51.87 306⇓*i*P P 23 07 07.0 -0.7
LDF *e**PP pP 23 07 31.6 -0.9
LDF pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
LDF **La Druitiere** 51.87 306⇓*i*P P 23 07 07.0 -0.7
comp=Z,10.0nm,0.5s,mb5.1
LDF *e*pP pP 23 07 31.6 -0.9
MA2 **Magadan** 51.97 39 *e*P P 23 07 09.0 +0.6
MA2 pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
SEY **Seymchan** 52.01 35 *e*P P 23 07 09.3 +0.5
MTLF **Montolieu** 52.03 299⇓*i*P P 23 07 08.9 0.0
comp=Z,20nm,0.8s,mb4.9
MTLF **Montolieu** 52.03 299⇓*i*P P 23 07 08.9 0.0
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MTLF **Montolieu** 52.03 299⇓*i*P P 23 07 08.9 0.0
comp=Z,9.8nm,0.8s,mb4.9
FLN **La Foliniere** 52.05 307 *e*P P 23 07 08.1 -0.9
comp=Z,12nm,0.6s,mb4.8
FLN *e*MLR
comp=Z,121nm,21.9s
FLN **La Foliniere** 52.05 307 *e*P P 23 07 08.1 -0.9
FLN pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
FLN MLR MLR
comp=Z,120nm,21.9s
FLN **La Foliniere** 52.05 307 *e*P P 23 07 08.1 -0.9
comp=Z,6.3nm,0.6s,mb4.8
FLN LR LR
comp=Z,120nm,21.9s
GRR **Gorron** 52.40 306⇓*i*P P 23 07 10.8 -0.8
comp=Z,45nm,0.8s,mb5.3
GRR *e*pP pP 23 07 35.4 -1.0
GRR **Gorron** 52.40 306⇓*i*P P 23 07 10.8 -0.8
GRR *e**PP pP 23 07 35.4 -1.0
GRR pmax pmax
comp=Z,22nm,0.8s,mb5.2
GRR **Gorron** 52.40 306⇓*i*P P 23 07 10.8 -0.8
comp=Z,22nm,0.8s,mb5.2
GRR *e*pP pP 23 07 35.4 -1.0
LFF **La Frestale** 52.48 302⇓*i*P P 23 07 12.4 +0.1
comp=Z,17nm,0.5s,mb5.0
LFF **La Frestale** 52.48 302⇓*i*P P 23 07 12.4 +0.1
LFF pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
LFF **La Frestale** 52.48 302⇓*i*P P 23 07 12.4 +0.1
comp=Z,8.4nm,0.5s,mb5.0
MFF **Saint Martin d** 52.52 304 *e*P P 23 07 11.7 -0.8
comp=Z,8.9nm,0.7s,mb4.6
MFF **Saint Martin d** 52.52 304 *e*P P 23 07 11.7 -0.8
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MFF **Saint Martin d** 52.52 304 *e*P P 23 07 11.7 -0.8
comp=Z,4.4nm,0.7s,mb4.6
DAG **Danmarks Havn** 53.21 343⇓*i*P P 23 07 17.8 +0.2
comp=Z,3.7nm,0.8s,mb4.5
DAG **Danmarks Havn** 53.21 343⇓*i*P P 23 07 17.8 +0.2
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
EPF **Esparros** 53.43 300⇓*i*P P 23 07 18.2 -1.0
comp=Z,8.7nm,0.8s,mb4.5
EPF **Esparros** 53.43 300⇓*i*P P 23 07 18.2 -1.0
EPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
EPF **Esparros** 53.43 300⇓*i*P P 23 07 18.2 -1.0
comp=Z,4.3nm,0.8s,mb4.5
SGMF **Saint Gilles** 53.52 307⇓*i*P P 23 07 19.3 -0.6
comp=Z,28nm,0.7s,mb5.1
SGMF **Saint Gilles** 53.52 307⇓*i*P P 23 07 19.3 -0.6
SGMF pmax pmax
comp=Z,14nm,0.7s,mb5.1
SGMF **Saint Gilles** 53.52 307⇓*i*P P 23 07 19.3 -0.6
comp=Z,14nm,0.7s,mb5.1
EBIE **Bielsa** 53.69 299 P P 23 07 21.1 0.0
comp=Z,101nm,2.0s,mb5.5
ROSF **Rostrenen** 53.94 307 *e*P P 23 07 22.3 -0.6
QUIF **Quistinic** 54.02 306 *e*P P 23 07 22.7 -0.8
comp=Z,23nm,0.7s,mb5.0
QUIF **Quistinic** 54.02 306 *e*P P 23 07 22.7 -0.8
QUIF pmax pmax
comp=Z,12nm,0.7s,mb5.0
QUIF **Quistinic** 54.02 306 *e*P P 23 07 22.7 -0.8
comp=Z,12nm,0.7s,mb5.0
ETSF **Etsaut** 54.09 300⇓*i*P P 23 07 24.2 +0.2
comp=Z,24nm,0.9s,mb4.9
ETSF **Etsaut** 54.09 300⇓*i*P P 23 07 24.2 +0.2
ETSF pmax pmax
comp=Z,12nm,0.9s,mb4.9
ETSF **Etsaut** 54.09 300⇓*i*P P 23 07 24.2 +0.2
comp=Z,12nm,0.9s,mb4.9
ERTA **Horta de San J** 54.21 297 P P 23 07 24.0 -0.9
comp=Z,251nm,2.0s,mb5.9
EMOS **Mosqueruela** 55.01 297 P P 23 07 31.6 +0.9
comp=Z,36nm,1.4s,mb5.2
ECRI **Cripan** 55.53 300 P P 23 07 35.1 +0.7
ECRI pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ECRI **Cripan** 55.53 300 P P 23 07 35.1 +0.7
comp=Z,4.7nm,0.6s,mb4.7
ECHE **Chera** 55.67 296 P P 23 07 33.9 -1.5
ECHE pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ECHE **Chera** 55.67 296 P P 23 07 33.9 -1.5

comp=Z,6.9nm,0.6s,mb4.9
ELAN Lanestosa 55.91 301 P **P 23 07 37.2 +0.1**
comp=Z,25nm,0.8s,mb5.3
BILL Biiibino 56.23 27 *eP* **P 23 07 39.9 +0.5**
BILL pmax pmax
comp=Z,20nm,1.2s,mb5.0
BILL Bilibino 56.23 27 *eP* **P 23 07 39.0 -0.4**
EVIA Vianos 57.15 296 P **P 23 07 45.9 0.0**
EVIA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
EVIA Vianos 57.15 296 P **P 23 07 45.9 0.0**
comp=Z,5.5nm,0.7s,mb4.7
GUD Guadarrama 57.45 298 P **P 23 07 47.3 -0.7**
GUD pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
GUD Guadarrama 57.45 298 P **P 23 07 47.3 -0.7**
comp=Z,2.8nm,0.6s,mb4.5
EHUE Huescar 57.57 295 P **P 23 07 48.0 -0.9**
EHUE pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
EHUE Huescar 57.57 295 P **P 23 07 48.0 -0.9**
comp=Z,1.8nm,0.4s,mb4.5
ESDC Sonseca Array 57.73 297 P **P 23 07 50.0 0.0**
comp=Z,3.1nm,0.5s,mb4.6,baz=56,slow=7.3,SNR=40
ESDC pP pP 23 08 15.0 -0.2
comp=Z,3.6nm,0.6s,baz=55,slow=7.5,SNR=4.5
ESLA Sonseca Array 57.73 297 *eP* **P 23 07 48.7 -1.3**
comp=Z,0.4nm,0.4s
EQES Quesada 57.92 295 P **P 23 07 51.8 +0.5**
comp=Z,4.2nm,0.4s,mb4.8
EBAN Banos Encina 58.27 296 P **P 23 07 54.1 +0.4**
EBAN pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
EBAN Banos Encina 58.27 296 P **P 23 07 54.1 +0.4**
comp=Z,8.4nm,0.4s,mb5.1
CBIJ Chichi jima 58.27 79 LR LR 23 35 25.7
comp=Z,330nm,21.1s,baz=144,slow=38
EPON Pontenova 58.35 302 P **P 23 07 55.0 +0.7**
comp=Z,45nm,1.6s,mb5.2
ECOG Cogollos-Vega 58.50 295 P **P 23 07 55.1 -0.3**
ECOG pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ECOG Cogollos-Vega 58.50 295 P **P 23 07 55.1 -0.2**
comp=Z,2.1nm,0.4s,mb4.5
ERON Agron 58.79 294 P **P 23 07 56.9 -0.5**
comp=Z,2.5nm,0.4s,mb4.6
EADA Adamuz 58.82 296 P **P 23 07 58.6 +1.1**
comp=Z,8.5nm,1.1s,mb4.7
ELUQ Luque 58.88 295 P **P 23 07 58.0 +0.1**
ELUQ pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
ELUQ Luque 58.88 295 P **P 23 07 58.0 +0.1**
comp=Z,9.5nm,0.4s,mb5.2
ELOJ Sierra Loja 58.98 295 P **P 23 07 58.2 -0.5**
ELOJ pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ELOJ Sierra Loja 58.98 295 P **P 23 07 58.2 -0.4**
comp=Z,2.3nm,0.5s,mb4.5
ELOB Lobios 59.59 301 P **P 23 08 04.3 +1.5**
comp=Z,20nm,1.2s,mb5.0
PCAB Cabril 59.63 301 *eP* **P 23 08 04.1 +1.0**
MTE Manteigas 59.89 300 *eP* **P 23 08 05.3 +0.4**
PVIS Viseu 59.98 300 *eP* **P 23 08 06.4 +0.8**
PCBR Castelo Branco 60.09 299 *eP* **P 23 08 07.7 +1.4**
EBAD Badajoz 60.26 298 P **P 23 08 07.7 +0.2**
comp=Z,6.1nm,0.9s,mb4.6
ESPR Espera 60.32 295 P **P 23 08 08.6 +0.7**
comp=Z,8.6nm,1.1s,mb4.7
EMIN Mina Concepcio 60.48 296 P **P 23 08 09.1 +0.1**
comp=Z,7.0nm,0.6s,mb4.9
PESTR Estremoz 60.61 298 *eP* **P 23 08 10.7 +0.9**
EGRO El Granado 61.16 297 P **P 23 08 13.8 +0.3**
comp=Z,6.4nm,0.7s,mb4.8
PBEJ Beja 61.20 297 *eP* **P 23 08 14.3 +0.5**
KAPI Kappang 61.39 124 P **P 23 08 14.2 -0.9**
comp=Z,99nm,0.9s,mb5.8,SNR=5.6
RES Resolute Bay 66.80 356 *eP* **P 23 08 50.1 -0.4**
RES pmax pmax
comp=Z,81nm,0.6s,mb5.7
RES Resolute Bay 66.80 356 *eP* **P 23 08 50.1 -0.4**
comp=Z,82nm,0.6s,mb5.7
TOA0 Torodi Ar. Sit 67.11 269 *eP* **P 23 08 51.7 -0.7**
TORD Torodi Ar. Bea 67.11 269 P **P 23 08 51.9 -0.6**
comp=Z,5.0nm,0.4s,mb4.7,baz=49,slow=5.8,SNR=143
TORD pP pP 23 09 17.5 -0.8
comp=Z,7.9nm,0.6s,baz=46,slow=6.1,SNR=5.5
LSZ Lusaka 67.80 227 *eP* **P 23 08 56.4 -0.4**
LSZ pmax pmax
comp=Z,11nm,0.6s,mb4.9
LSZ Lusaka 67.80 227 *eP* **P 23 08 56.4 -0.4**
comp=Z,11nm,0.6s,mb4.9
IMA2 Indian Mountai 69.81 18 *eP* **P 23 09 09.0 -0.2**
INK Inuvik 71.72 10 P **P 23 09 21.0 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=6.4,slow=7.0,SNR=26
INK pP pP 23 09 46.6 -0.3
comp=Z,23nm,0.9s,baz=353,slow=9.4,SNR=7.5
INK Inuvik 71.72 10 P **P 23 09 21.0 +0.2**
INK *PP pP 23 09 46.7 -0.2
INK pmax pmax
comp=Z,11nm,0.8s
INK Inuvik 71.72 10 *eP* **P 23 09 20.0 -0.8**
INK *e* pP 23 09 46.1 -0.9
COLA College 72.19 17 *eP* **P 23 09 23.4 -0.2**
MCK McKinley 72.89 18 *eP* **P 23 09 27.3 -0.5**
MCK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
MCK McKinley 72.89 18 *eP* **P 23 09 27.3 -0.5**
comp=Z,3.2nm,0.6s,mb4.3
PMR Palmer 74.65 19 *eP* **P 23 09 37.7 -0.3**
PMR pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
PMR Palmer 74.65 19 *eP* **P 23 09 37.7 -0.4**
comp=Z,6.4nm,0.6s,mb4.5
SML Sawmill 74.67 19 *eP* **P 23 09 37.7 -0.5**
DAWY Dawson 74.67 14 *eP* **P 23 09 37.9 -0.3**
FITZ Fitzroy Crossi 75.03 128⇑*iP* **P 23 09 41.4 +1.2**
comp=Z,32nm,0.9s,mb5.0
SLKM Skilak Lake 75.27 20 *eP* **P 23 09 40.8 -0.8**
KAKA Kakadu 75.50 119⇑*iP* **P 23 09 43.8 +0.9**
comp=Z,33nm,0.6s,mb5.2
LBTB Lobatse 77.06 223⇑*eP* **P 23 09 51.6 -0.1**
LBTB pmax pmax
comp=Z,20nm,0.6s,mb5.0
LBTB Lobatse 77.06 223⇑*eP* **P 23 09 51.5 -0.2**
comp=Z,20nm,0.6s,mb5.0
TSUM Tsumeb 77.20 233 *eP* **P 23 09 53.2 +0.6**
comp=Z,7.4nm,0.6s,mb4.6
YKA Yellowknife Ar 79.19 3 P **P 23 10 03.5 0.0**
comp=Z,10nm,0.6s,mb4.8,baz=349,slow=5.6,SNR=107
YKA pP pP 23 10 29.5 -0.6
comp=Z,14nm,0.9s,baz=348,slow=5.4,SNR=7.2
YKA LR LR 23 47 43.1
comp=Z,62nm,18.5s,baz=5.0,slow=38
YKA Yellowknife Ar 79.19 3 P **P 23 10 03.5 0.0**
YKA *PP pP 23 10 29.5 -0.6
YKA Yellowknife Ar 79.19 3 P **P 23 10 03.5 0.0**
YKA pP pP 23 10 29.5 -0.6
YKA LR LR 23 47 43.1
BOSA Boshof 80.14 221 P **P 23 10 08.1 -0.5**
comp=Z,13nm,0.9s,mb4.8,baz=34,slow=5.3,SNR=24
BOSA LR LR 23 47 16.6
comp=Z,38nm,19.3s,baz=206,slow=37
SCHQ Schefferville 80.78 338 P **P 23 10 11.6 -0.5**
comp=Z,4.6nm,0.7s,mb4.4,baz=63,slow=1.5,SNR=7.3
SCHQ pP pP 23 10 38.0 -0.8
comp=Z,4.8nm,0.8s,baz=36,slow=3.4,SNR=3.3
SCHQ LR LR 23 44 22.5
comp=Z,71nm,20.1s,baz=38,slow=34
SCHQ Schefferville 80.78 338 P **P 23 10 11.6 -0.5**
SCHQ pP pP 23 10 38.0 -0.8
SCHQ LR LR 23 44 22.4
MUN Mundaring 80.97 144 *eP* **P 23 10 13.0 -0.1**
KLBR Kellerberrin 81.38 142⇑*iP* **P 23 10 14.8 -0.4**
comp=Z,6.4nm,0.5s,mb4.7
WRA Warramunga Arr 81.92 123 P **P 23 10 18.8 +0.7**
comp=Z,24nm,0.5s,mb5.3,baz=323,slow=4.8,SNR=619
WRA Warramunga Arr 81.92 123 *iP* **P 23 10 18.7 +0.6**
WRA pmax pmax
comp=Z,24nm,0.5s
WB2 Warramunga Arr 81.93 123⇑*iP* **P 23 10 18.8 +0.7**
PMG Port Moresby 83.87 107 *eP* **P 23 10 29.8 +1.6**
ASAR Alice Springs 84.31 126 P **P 23 10 30.9 +0.5**
comp=Z,13nm,0.9s,mb4.8,baz=317,slow=5.1,SNR=105
FORT Forrest 86.08 135⇑*iP* **P 23 10 39.9 +0.7**
comp=Z,62nm,0.7s,mb5.7

FFC Flin Flon 87.04 357 P **P 23 10 44.8 +0.9**
comp=Z,85nm,0.9s,mb5.7,SNR=5.1
EDM Edmonton 88.51 4 *eP* **P 23 10 51.1 +0.2**
CTA Charters Tower 90.16 116⇑*iP* **P 23 10 59.7 +1.1**
comp=Z,8.4nm,1.2s,mb4.8
CTA Charters Tower 90.16 116⇑*iP* **P 23 10 59.7 +1.1**
CTA pmax pmax
comp=Z,8.0nm,1.2s
CTAO Charters Tower 90.16 116 *eP* **P 23 10 59.7 +1.1**
CTAO pmax pmax
comp=Z,22nm,1.3s,mb5.1
CTAO Charters Tower 90.16 116 *eP* **P 23 10 59.7 +1.1**
comp=Z,22nm,1.3s,mb5.1
ULM Lac du Bonnet 91.06 353 pP pP 23 11 28.9 -1.0
comp=Z,4.1nm,0.9s,baz=13,slow=6.2,SNR=4.9
ULM LR LR 23 52 51.2
comp=Z,80nm,18.9s,baz=359,slow=36
NEW Newport 93.18 7 LR LR 23 53 38.1
comp=Z,108nm,18.3s,baz=27,slow=36
STKA Stephens Creek 94.90 127 *eP* **P 23 11 20.4 -0.1**
comp=Z,2.6nm,0.5s,mb4.9
STKA Stephens Creek 94.90 127 P **P 23 11 20.6 +0.1**
comp=Z,3.4nm,0.6s,mb5.0,baz=325,slow=4.0,SNR=10
DAU Daniels Canyon 101.39 3 *eP* Pdif 23 11 51.2 +1.6
TXAR Lajitas Array 112.44 357 PKiKP PKiKP 23 16 35.0 +1.1
comp=Z,0.2nm,0.6s,baz=347,slow=1.2,SNR=3.3
TXAR Lajitas Array 112.44 357 PKPdf PKiKP 23 16 35.0 +1.1
SNAA Sanae 121.73 201 *e*PKPdf PKPdf 23 16 51.1 -0.6
SNAA *e* 23 16 53.6
VNA2 Neumayer--Watz 122.75 203 *e*PKPdf PKPdf
baz=26,slow=2.5
VNA2 *e* 23 16 57.8
VNA3 Neumayer Olymp 123.56 203 *e*PKPdf PKPdf 23 16 55.2 0.0
VNA3 *e* 23 16 58.4
VNDA Vanda 127.05 164 PKP PKPdf 23 17 01.6 -0.4
comp=Z,2.4nm,0.9s,baz=272,slow=6.0,SNR=14
ROSC El Rosal 127.15 317 PKP PKPdf 23 17 04.1 +2.0
comp=Z,3.7nm,0.3s,baz=94,slow=19,SNR=4.6
QSPA South Pole Qui 128.28 180 *e*PKPdf PKPdf 23 17 03.4 -0.9
LPAZ La Paz 139.20 292 PKP PKPdf 23 17 26.1 +1.3
comp=Z,2.6nm,0.9s,baz=34,slow=4.9,SNR=4.3
TRQA Tornquist 144.69 256 *e*PKPdf PKPdf 23 17 33.8 -0.7
TRQA *e* 23 18 00.8
LCO Las Campanas 148.31 276 *e*PKPdf PKPdf 23 17 42.3 +1.7
LCO *e*PKPbc PKPbc 23 17 45.1 +1.0
PLCA Paso Flores 151.73 254 PKPbc PKPbc 23 17 53.7 +1.3
comp=Z,10nm,0.6s,baz=195,slow=0.5,SNR=30
PLCA pPKPbc pPKPbc 23 18 20.9 +0.4
comp=Z,6.2nm,0.9s,baz=109,slow=2.9,SNR=3.3
PLCA Paso Flores 151.73 254 PKPbc PKPbc 23 17 53.7 +1.3
PLCA pPKPbc pPKPbc 23 18 20.9 +0.4

SZGRF ***15*** *23:00:32.7, 4832N×15670E, h33km, mb4.6, East of Kuril Islands, Russia*
BJI ***15*** *23:00:56.2, 5092N×1574 9E, h161km, mB4.7, mb4.8*
ISCJB ***15*** *23:00:57.6±0.4, 5137N±0.05×15708E±0.08, h138km±2km, mb4.2/50, Error ellipse: s-maj=10.7km s-min=4.6km az=83.6*
MOS ***15*** *23:00:57.5±0.9, 5145N×15704E, h135km, mb4.5/24, Error ellipse: s-maj=11.1km s-min=6.1km az=84.5*
KRSC ***15*** *23:00:59.1±0.8, 5131N×15796E, h137km±52km, ML4.8*
NEIC ***15*** *23:00:59.3±0.7, 5145N×15701E, h139km±6km, mb4.5/27, Error ellipse: s-maj=8.1km s-min=5.2km az=144.0*
IDC ***15*** *23:01:01.2±3.5, 5151N×15691E, h157km±33km, mb3.9/27, mb1 4.1/28, mb1mx4.0/32, mbtmp4.0/28, Error ellipse: s-maj=14.9km s-min=10.8km az=149.0*
ISC 15 23:00:58.7±0.4,**5139N**±0.05×**15709E**±0.08,**h137**km±2km, **n143**,σ0=**97**/158,**mb4.2**/50,**22C-3D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.94**	**222**	⇓*i*PN		**Pn**	**23 01 20.4**	**-1.3**
SKR				*i*S		**Sn**	**23 01 37.0**	**-2.1**
SKR				pmax		pmax		
comp=Z,5μm,0.5s								
SKR				pmax		pmax		
comp=N,4μm,0.2s								
SKR				pmax		pmax		
comp=E,5μm,0.2s								
SKR				pmax		pmax		
comp=N,3μm,0.4s								
SKR				pmax		pmax		
comp=E,4μm,0.4s								
SKR				pmax		pmax		
comp=Z,6μm,0.4s								
SKR				smax				
comp=N,25μm,1.0s								
SKR				smax				
comp=E,12μm,1.0s								
SKR				smax				
comp=N,10μm,0.4s								
SKR				smax				
comp=E,13μm,0.4s								
GRL	**Gorelyy**	**1.32**	**27**	*i*P		**Pn**	**23 01 26.1**	**+0.8**
GRL				*i*S		**Sn**	**23 01 46.1**	**+0.5**
RUS	**Russkaya**	**1.37**	**39**	*i*P		**Pn**	**23 01 25.0**	**-0.9**
RUS				*i*S		**Sn**	**23 01 44.2**	**-2.4**
PET	**Petropavlovsk**	**1.90**	**30**	⇑*i*PN		**Pn**	**23 01 32.0**	**+0.1**
PET				*e*S		**Sn**	**23 01 56.5**	**-0.8**
PET				pmax		pmax		
comp=Z,389nm,0.7s								
PET				smax				
comp=N,3μm,1.2s								
PET				smax				
comp=N,700nm,2.4s								
PET				smax				
comp=E,900nm,4.3s								
PET				smax				
comp=N,4μm,0.6s								
PET				smax				
comp=E,1μm,0.6s								
PET	**Petropavlovsk**	**1.90**	**30**	⇑*i*Pn		**Pn**	**23 01 31.9**	**+0.1**
PET				*e*Sn		**Sn**	**23 01 56.5**	**-0.8**
PET	**Petropavlovsk**	**1.90**	**30**	*i*P		**Pn**	**23 01 31.9**	**0.0**
PET				*i*S		**Sn**	**23 01 56.0**	**-1.3**
INSR	**Institute**	**1.92**	**28**	P		**Pn**	**23 01 32.9**	**+0.8**
INSR				*i*S		**Sn**	**23 01 58.0**	**+0.3**
AVH	**Avacha**	**2.14**	**28**	*i*P		**Pn**	**23 01 36.0**	**+1.3**
AVH				*i*S		**Sn**	**23 02 02.4**	**+0.1**
NLC	**Nalytchevo**	**2.26**	**37**	*i*P		**Pn**	**23 01 34.9**	**-1.3**
NLC				*i*S		**Sn**	**23 02 01.1**	**-3.9**
GNL	**Ganaly**	**2.37**	**12**	*i*P		**Pn**	**23 01 39.0**	**+1.4**
GNL				*i*S		**Sn**	**23 02 07.8**	**+0.3**
SPN	**Mys Shipunski**	**2.49**	**45**	*i*P		**Pn**	**23 01 38.1**	**-0.9**
SPN				*i*S		**Sn**	**23 02 06.3**	**-3.8**
MKZ	**Mys Kozlova**	**4.24**	**40**	*i*P		**Pn**	**23 02 00.3**	**-1.4**
MKZ				*i*S		**Sn**	**23 02 44.7**	**-5.9**
TUMR	**Tumrok**	**4.31**	**24**	*e*P		**Pn**	**23 02 04.3**	**+1.6**
TUMR				*e*S		**Sn**	**23 02 51.8**	**-0.6**
KMNR	**Kamenistaya**	**4.76**	**22**	*e*P		**Pn**	**23 02 10.1**	**+1.4**
KMNR				*e*S		**Sn**	**23 03 01.7**	**-1.5**
KIRR	**Kirishev**	**4.97**	**22**	*e*P		**Pn**	**23 02 12.5**	**+1.1**
BZMR	**Bezymyannaya**	**4.99**	**23**	*e*P		**Pn**	**23 02 13.8**	**+2.1**
ZLN	**Zelenaya**	**5.14**	**24**	*e*P		**Pn**	**23 02 15.5**	**+1.8**
SRDR	**Sredinnyy**	**5.18**	**16**	*e*P		**Pn**	**23 02 15.7**	**+1.5**
KRSR	**Krestovskiy**	**5.26**	**22**	P		**Pn**	**23 02 15.7**	**+0.4**
BDR	**Baidarnaya**	**5.73**	**23**	P		**Pn**	**23 02 22.5**	**+0.9**
SRKR	**Sorokina**	**5.80**	**23**	P		**Pn**	**23 02 22.7**	**+0.2**
KBTR	**Krutoberegovo**	**5.90**	**33**	*i*P		**Pn**	**23 02 23.1**	**-0.8**
KBTR				*i*S		**Sn**	**23 03 24.6**	**-5.9**
YSS	**Yuzh-Sakhalins**	**10.38**	**250**⇑	*e*PN		**Pn**	**23 03 25.4**	**+1.5**
YSS	**Yuzh-Sakhalins**	**10.38**	**250**	*e*Pn		**Pn**	**23 03 24.3**	**+0.4**
comp=E,37nm,1.0s								
ASAJ	**Asahikawa**	**12.15**	**239**	P		**Pn**	**23 03 48.0**	**+0.7**
comp=E,6.9nm,0.3s,baz=76,slow=15,SNR=29								
ASAJ	**Asahikawa**	**12.15**	**239**	PN		**Pn**	**23 03 48.0**	**+0.8**
ASAJ				pmax		pmax		
comp=Z,7.0nm,0.3s								
ERM	**Erimo**	**13.37**	**231**	*e*PN		**Pn**	**23 03 58.5**	**-4.5**
HABR	**Khabarovsk**	**14.48**	**267**	*e*P		**Pn**	**23 04 16.8**	**-0.3**
HABR				*e*S		**Sn**	**23 06 59.9**	**+2.5**
BILL	**Bilibino**	**17.30**	**12**	*e*P		**Pn**	**23 04 51.8**	**+0.1**
BILL				pmax		pmax		
comp=Z,15nm,1.8s								
YAK	**Yakutsk**	**18.28**	**316**	*c iP*		**P**	**23 05 02.2**	**+0.4**
YAK				pmax		pmax		
comp=E,19nm,1.1s								
YAK				pmax		pmax		
comp=Z,74nm,1.1s								
YAK				pmax		pmax		
comp=N,10.0nm,1.3s								
YAK	**Yakutsk**	**18.28**	**316**	*e*P		**P**	**23 05 01.4**	**-0.4**
comp=N,72nm,0.8s								
CLNS	**Chul'man**	**19.53**	**299**	*e*P		**P**	**23 05 16.3**	**+1.0**
CLNS				pmax		pmax		
comp=Z,18nm,0.7s								
CLNS				pmax		pmax		
comp=N,11nm,1.0s								
CLNS				pmax		pmax		
comp=E,13nm,1.0s								
MDJ	**Mudanjiang**	**19.53**	**261**	P		**P**	**23 05 14.5**	**-0.9**
MDJ				AMB		AMB		
comp=Z,25nm,0.8s								
MDJ				AMB		AMB		
comp=Z,91nm,3.9s								
MAJO Matsushiro		**20.04**	**230**	*e*P		**P**	**23 05 21.4**	**+0.6**
MAJO				pmax		pmax		
comp=Z,67nm,0.8s								
MAJO Matsushiro		**20.04**	**230**	*e*P		**P**	**23 05 21.4**	**+0.5**
comp=Z,67nm,0.8s								
MAT Matsushiro		**20.04**	**230**	P		**P**	**23 05 21.2**	**+0.4**
MJAR Matsushiro Arr		**20.04**	**230**	P		**P**	**23 05 21.5**	**+0.6**
comp=Z,42nm,0.8s,baz=22,slow=11,SNR=95								
HIA Hailar		**23.77**	**280**⇓	*e*P		**P**	**23 05 58.4**	**-0.1**
HIA				*e*			23 06 27.9	
HIA				pmax		pmax		
comp=Z,23nm,0.6s								
HIA Hailar		**23.77**	**280**⇓	*e*P		**P**	**23 05 58.4**	**-0.1**
comp=Z,23nm,0.6s,mb4.9								
HIA				*e*			23 06 27.9	
KSRS Korea Array		**24.86**	**247**	P		**P**	**23 06 09.4**	**+1.0**
comp=Z,6.0nm,0.8s,mb4.2,baz=40,slow=9.5,SNR=13								
JNU Nakatsue		**26.41**	**236**	P		**P**	**23 06 23.8**	**+1.4**
comp=Z,23nm,0.6s,mb5.0,baz=193,slow=13,SNR=6.6								
SONM Songino Array		**32.51**	**284**	P		**P**	**23 07 16.6**	**+0.3**
comp=Z,0.7nm,0.5s,mb3.7,baz=66,slow=8.3,SNR=4.1								
SONM				PcP		PcP	23 09 59.9	+0.1
comp=Z,0.4nm,0.6s,baz=118,slow=1.7,SNR=3.6								
INK Inuvik		**36.34**	**36**	P		**P**	**23 07 49.8**	**+0.5**
comp=Z,3.1nm,0.8s,mb4.0,baz=287,slow=6.7,SNR=12								
YKA Yellowknife Ar		**45.67**	**40**	P		**P**	**23 09 05.5**	**0.0**
comp=Z,1.4nm,0.7s,mb3.7,baz=298,slow=7.7,SNR=14								
KURK Kurchatov		**47.06**	**302**	*i* P		**P**	**23 09 13.8**	**-2.6**
MK31 Makanchi Array		**47.23**	**295**	*e*P		**P**	**23 09 16.8**	**-0.9**
MKAR Makanchi Array		**47.23**	**295**	P		**P**	**23 09 16.8**	**-0.8**
comp=Z,3.6nm,0.5s,mb4.2,baz=61,slow=6.7,SNR=9.7								
BVAR Borovoye Array		**50.00**	**308**	P		**P**	**23 09 37.6**	**-1.2**
comp=Z,7.5nm,0.5s,mb4.6,baz=51,slow=6.7,SNR=21								
EDM Edmonton		**51.27**	**50**	*e*P		**P**	**23 09 48.4**	**0.0**
ARCES ARCESS Array B		**54.32**	**341**	P		**P**	**23 10 08.3**	**-2.5**
comp=Z,2.4nm,0.8s,mb4.0,baz=40,slow=7.1,SNR=4.5								
NANT Nan		**54.68**	**255**	⇑P		**P**	**23 10 12.0**	**-1.4**
comp=Z,112nm,1.0s								
CHG Chiang Mai		**55.73**	**257**	⇑P		**P**	**23 10 22.0**	**+1.1**
comp=Z,31nm,0.6s,mb5.3								
CHTO Chiang Mai		**55.73**	**257**⇑	*e*P		**P**	**23 10 22.0**	**+1.1**
HWUT Hardware Ranch		**59.70**	**60**	*e*P		**P**	**23 10 49.4**	**+0.8**
comp=Z,7.7nm,0.9s,mb4.1								
PDAR Pinedale Array		**59.98**	**58**	P		**P**	**23 10 51.5**	**+1.0**
comp=Z,4.2nm,0.8s,mb4.3,baz=318,slow=3.0,SNR=30								
FINES FINESS Array B		**60.93**	**335**	P		**P**	**23 10 54.6**	**-2.4**
comp=Z,2.4nm,0.7s,mb4.1,baz=38,slow=7.6,SNR=4.4								
FINES FINESS Array B		**60.93**	**335**	*i* P		**P**	**23 10 54.9**	**-2.1**
FINES				pmax		pmax		
comp=Z,2.0nm,0.7s								
ULM Lac du Bonnet		**61.34**	**44**	P		**P**	**23 10 59.6**	**-0.1**
comp=Z,2.7nm,0.8s,mb4.1,baz=339,slow=8.6,SNR=5.8								
SRU San Rafael		**62.01**	**62**	*e*P		**P**	**23 11 05.0**	**+0.8**
SRU				pmax		pmax		
comp=Z,7.0nm,0.8s,mb4.5								
SRU San Rafael		**62.01**	**62**	*e*P		**P**	**23 11 05.0**	**+0.7**
comp=Z,6.9nm,0.8s,mb4.5								
ISCO Idaho Springs		**64.18**	**58**	*e*P		**P**	**23 11 19.3**	**+0.7**
ISCO				pmax		pmax		
comp=Z,2.0nm,0.8s,mb4.0								
ISCO Idaho Springs		**64.18**	**58**	*e*P		**P**	**23 11 19.2**	**+0.7**
comp=Z,2.1nm,0.8s,mb4.0								
MVCO Mesa Verde		**64.48**	**62**	*e*P		**P**	**23 11 20.6**	**0.0**
comp=Z,2.4nm,0.6s,mb4.2								
NOA NORSAR Array B		**64.64**	**342**	P		**P**	**23 11 20.7**	**-0.9**
comp=Z,0.9nm,0.4s,mb4.0,baz=23,slow=5.8,SNR=3.0								
HFS Hagfors		**64.98**	**341**	P		**P**	**23 11 22.6**	**-1.2**
comp=Z,1.5nm,0.5s,mb4.1,baz=86,slow=4.5,SNR=5.2								
AKASG Malin Array Be		**69.09**	**327**	P		**P**	**23 11 48.0**	**-1.8**
comp=Z,4.2nm,0.9s,mb4.2,baz=30,slow=6.4,SNR=3.6								
LTX Lajitas		**73.02**	**64**	*e*P		**P**	**23 12 13.9**	**+0.5**
LTX				pmax		pmax		
comp=Z,6.0nm,1.0s,mb4.3								
LTX Lajitas		**73.02**	**64**	*e*P		**P**	**23 12 13.9**	**+0.5**
comp=Z,6.4nm,1.0s,mb4.3								
TXAR Lajitas Array		**73.03**	**64**	P		**P**	**23 12 14.1**	**+0.7**
comp=Z,4.6nm,0.7s,mb4.3,baz=299,slow=4.5,SNR=52								
CLL Collm		**73.26**	**337**	*i* P		**P**	**23 12 14.2**	**-0.6**
CLL				pmax		pmax		
comp=Z,16nm,0.9s,mb4.8								
CLL Collm		**73.26**	**337**	*i* P		**P**	**23 12 14.2**	**-0.6**
comp=Z,9.0nm,0.9s,mb4.5								
WRA Warramunga Arr		**73.77**	**202**	P		**P**	**23 12 17.2**	**-0.6**
comp=Z,1.4nm,0.6s,mb3.9,baz=15,slow=5.8,SNR=4.1								
VRAC Vranov		**74.17**	**334**	P		**P**	**23 12 18.8**	**-1.3**
comp=Z,3.3nm,0.9s,mb4.0,baz=60,slow=8.1,SNR=3.0								
MLR Muntele Rosu		**74.70**	**327**	P		**P**	**23 12 23.1**	**-0.1**
comp=Z,1.7nm,0.5s,mb3.9,baz=20,slow=12,SNR=4.1								
KHC Kasperske Hory		**75.13**	**336**	*e*P		**P**	**23 12 25.5**	**-0.1**
GRA1 Grafenberg Arr		**75.18**	**338**	*e*P		**P**	**23 12 25.9**	**-0.1**
comp=Z,7.0nm,1.4s,mb4.1								
GRF Grafenberg Arr		**75.18**	**338**	*e*P		**P**	**23 12 25.9**	**-0.1**
comp=Z,7.0nm,1.4s,mb4.1								
GRF Grafenberg Arr		**75.18**	**338**	*e*P		**P**	**23 12 25.9**	**-0.1**
GRF				pmax		pmax		
comp=Z,15nm,1.4s,mb4.4								
GRF Grafenberg Arr		**75.18**	**338**	*e*P		**P**	**23 12 25.9**	**-0.1**
GRF				pmax		pmax		
comp=Z,7.0nm,1.4s,mb4.1								
GERES GERESS Array B		**75.36**	**336**	P		**P**	**23 12 26.7**	**-0.3**
comp=Z,1.0nm,0.7s,mb3.6,baz=28,slow=6.0,SNR=5.9								
GIVF Givet		**76.17**	**342**	*e*P		**P**	**23 12 31.2**	**-0.4**
BAIF Baives		**76.33**	**342**⇑	*i*P		**P**	**23 12 32.2**	**-0.3**
comp=Z,9.0nm,0.7s,mb4.2								
BAIF Baives		**76.33**	**342**⇑	*i*P		**P**	**23 12 32.2**	**-0.3**
BAIF				pmax		pmax		
comp=Z,5.0nm,0.7s,mb4.2								
BAIF Baives		**76.33**	**342**⇑	*i*P		**P**	**23 12 32.2**	**-0.3**
comp=Z,4.5nm,0.7s,mb4.2								
BRTR Keskin Array B		**76.72**	**319**	P		**P**	**23 12 33.2**	**-1.5**
comp=Z,0.4nm,0.5s,mb3.3,baz=37,slow=4.4,SNR=3.3								
CDF Champ du Feu		**77.28**	**340**	*e*P		**P**	**23 12 37.6**	**-0.2**
comp=Z,5.8nm,0.7s,mb4.0								
CDF Champ du Feu		**77.28**	**340**	*e*P		**P**	**23 12 37.6**	**-0.2**
CDF				pmax		pmax		
comp=Z,3.0nm,0.7s,mb4.0								
CDF Champ du Feu		**77.28**	**340**	*e*P		**P**	**23 12 37.6**	**-0.2**
comp=Z,2.9nm,0.7s,mb4.0								
**ASAR

comp=Z,24nm,0.9s,mb4.5
AVF Avril sur Loir 79.63 342⇑iP P 23 12 50.6 -0.1
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.5
AVF Avril sur Loir 79.63 342⇑iP P 23 12 50.6 -0.1
comp=Z,12nm,0.9s,mb4.5
SMF Signal de Mont 79.67 342 eP P 23 12 51.0 +0.1
comp=Z,14nm,0.8s,mb4.3
SMF Signal de Mont 79.67 342 eP P 23 12 51.0 +0.1
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
SMF Signal de Mont 79.67 342 eP P 23 12 51.0 +0.1
comp=Z,7.0nm,0.8s,mb4.3
BGF Bois d'Agland 79.95 342 eP P 23 12 52.5 +0.1
LPL La Plagne 80.14 339⇑iP P 23 12 54.3 +0.9
comp=Z,19nm,0.8s,mb4.5
LPL La Plagne 80.14 339⇑iP P 23 12 54.3 +0.9
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
LPL La Plagne 80.14 339⇑iP P 23 12 54.3 +0.9
comp=Z,9.5nm,0.8s,mb4.5
LPG La Plagne 80.16 339⇑iP P 23 12 54.6 +1.1
comp=Z,19nm,0.7s,mb4.5
LPG La Plagne 80.16 339⇑iP P 23 12 54.6 +1.1
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
LPG La Plagne 80.16 339⇑iP P 23 12 54.6 +1.1
comp=Z,9.4nm,0.7s,mb4.5
TCF Toulx Ste Croi 80.33 343 eP P 23 12 54.7 +0.3
comp=Z,16nm,0.9s,mb4.4
TCF Toulx Ste Croi 80.33 343 eP P 23 12 54.7 +0.3
TCF pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
TCF Toulx Ste Croi 80.33 343 eP P 23 12 54.7 +0.3
comp=Z,8.1nm,0.9s,mb4.3
MFF Saint Martin d 80.44 344 eP P 23 12 55.3 +0.2
MBDF Montbardon 80.88 339 eP P 23 12 57.6 +0.2
comp=Z,26nm,1.1s,mb4.5
MBDF Montbardon 80.88 339 eP P 23 12 57.6 +0.2
MBDF pmax pmax
comp=Z,13nm,1.1s,mb4.5
MBDF Montbardon 80.88 339 eP P 23 12 57.6 +0.2
comp=Z,13nm,1.1s,mb4.5
ORIF Oris-en-Rattie 80.90 340 eP P 23 12 58.2 +0.7
comp=Z,27nm,1.0s,mb4.5
ORIF Oris-en-Rattie 80.90 340 eP P 23 12 58.2 +0.7
ORIF pmax pmax
comp=Z,13nm,1.0s,mb4.5
ORIF Oris-en-Rattie 80.90 340 eP P 23 12 58.2 +0.7
comp=Z,13nm,1.0s,mb4.5
VIVF Saint-Julien-l 81.21 341 eP P 23 12 59.7 +0.5
comp=Z,15nm,0.9s,mb4.3
VIVF Saint-Julien-l 81.21 341 eP P 23 12 59.7 +0.5
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
VIVF Saint-Julien-l 81.21 341 eP P 23 12 59.7 +0.5
comp=Z,7.6nm,0.9s,mb4.3
MMAI Mount Meron Ar 81.60 314 P P 23 13 01.5 +0.3
comp=Z,10nm,0.7s,mb4.6,baz=40,slow=6.6,SNR=19
ASF Jabal al Asfar 81.62 312 P P 23 13 01.9 +0.6
comp=Z,5.2nm,0.8s,mb4.2,baz=70,slow=1.9,SNR=6.6
CAF Calviac 81.67 342 eP P 23 13 02.3 +0.8
EPF Esparros 83.82 343 eP P 23 13 13.4 +0.8
IDI Anoyia 84.04 322 P P 23 13 11.7 -2.1
comp=Z,6.7nm,0.9s,mb4.4,baz=22,slow=11,SNR=3.7
ETSF Etsaut 84.11 344 eP P 23 13 14.9 +0.8
comp=Z,5.5nm,0.7s,mb4.1
ETSF Etsaut 84.11 344 eP P 23 13 14.9 +0.8
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ETSF Etsaut 84.11 344 eP P 23 13 14.9 +0.8
comp=Z,2.8nm,0.7s,mb4.1
ESDC Sonseca Array 87.82 345 P P 23 13 31.3 -1.0
comp=Z,2.4nm,0.9s,mb4.0,baz=5.8,slow=6.0,SNR=5.1
KEST Kesra 88.75 334 P P 23 13 35.9 -0.8
comp=Z,1.4nm,0.7s,mb4.0,baz=304,slow=6.3,SNR=6.1
PLCA Paso Flores 145.83 91 PKPbc PKPbc 23 20 21.4 -0.4
comp=Z,2.2nm,0.6s,baz=283,slow=11,SNR=2.8

*UPP **15** 23:02:02.4, 67.19N×2071E, h0km, ML3.3, Mining explosion.*
*CSEM **15** 23:02:02.4, 67.19N×2071E, h0km, ML3.3, Mining explosion. After UPP*
HEL 15 23:02:03.1±0.0, 6719N×2070E, h0km, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**218**	*i* P	Pg	23 02 04.4	-0.2
DUNU	**Dundret**	**0.08**	**218**	P	Pg	23 02 04.4	-0.3
baz=104							
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	23 02 17.1	-1.1
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	23 02 18.9	-0.9
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	23 02 19.9	-1.1
PAJU	**Pajala**	**0.96**	**99**	*e*P	Pg	23 02 20.3	-1.2
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	23 02 21.1	-1.2
LANU	**Lannavaara**	**1.00**	**29**	P	Pg	23 02 21.1	-1.2
baz=283							
HARU	**Harads**	**1.03**	**174**	*e*P	Pg	23 02 21.5	-1.4
HARU	**Harads**	**1.03**	**174**	P	Pg	23 02 21.5	-1.4
baz=13							
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	23 02 33.7	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	23 02 36.0	+0.2
KIF				*e*S	Sn	23 03 01.3	+1.7
LILU	**Lilltraesk**	**1.94**	**191**	*e*P	Pn	23 02 37.3	0.0
SGF	**Sodankyl**	**2.27**	**81**	*e*P	Pn	23 02 42.7	+0.8
SGF				*e*S	Sn	23 03 12.8	+2.2
BURU	**Burvik**	**2.63**	**174**	*e*P	Pn	23 02 47.0	+0.2

*ISCJB **15** 23:36:09.0±0.7, 469N±0.1×1548E±0.1, h10km, mb3.9/19, Error ellipse: s-maj=18.1km s-min=9.6km az=95.9*
*IDC **15** 23:36:08.6±0.8, 4695N×1549.1E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.1/25, mbtmp4.0/18, ML4.2/1, Error ellipse: s-maj=20.8km s-min=17.0km az=138.0*
*NEIC **15** 23:36:10.8±0.9, 4690N×1549.2E, h10km, mb4.5/3, Error ellipse: s-maj=24.0km s-min=17.3km az=130.0*
*MOS **15** 23:36:13.0±2.4, 4708N×1547.5E, h33km, mb4.5/4, Error ellipse: s-maj=14.0km s-min=9.4km az=87.4*
ISC 15 23:36:10.6±0.7, 470N±01×1549E±01, h10km, n44, σ1§46/44, mb3.9/19, 6C-6D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.82**	**12**	*e*PN	**Pn**	**23 37 04.0**	**-5.4**
KUR	**Kuril'sk**	**5.18**	**253**	*e*PN	**Pn**	**23 37 26.0**	**-2.1**
KUR				pmax	pmax		
comp=N,90nm,0.7s							
KUR				pmax	pmax		
comp=Z,170nm,0.7s							
ASAJ	**Asahikawa**	**9.08**	**256**	**Pn**	**Pn**	**23 38 21.4**	**-0.3**
comp=Z,2.6nm,0.3s,baz=222,slow=28,SNR=6.8							
ASAJ	**Asahikawa**	**9.08**	**256**	PN	**Pn**	**23 38 21.5**	**-0.2**
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
MJAR	**Matsushiro Arr**	**16.19**	**236**	Pn	**Pn**	**23 40 03.0**	**+4.9**
comp=Z,0.2nm,0.3s,baz=43,slow=9.4,SNR=4.7							
MAJO	**Matsushiro**	**16.19**	**236**	P	**Pn**	**23 39 58.7**	**+0.6**
MAJO				pmax	pmax		
comp=Z,6.0nm,0.8s							
MAJO	**Matsushiro**	**16.19**	**236**	P	**Pn**	**23 39 58.6**	**+0.5**
comp=Z,5.9nm,0.8s							
BILL	**Biiibino**	**21.93**	**11**	*e*P	**P**	**23 41 02.1**	**-2.1**
BILL				pmax	pmax		
comp=Z,4.0nm,1.8s,mb3.5							
KSRS	**Korea Array**	**22.02**	**254**	P	**P**	**23 41 06.0**	**+0.8**
comp=Z,1.3nm,0.6s,mb3.5,baz=56,slow=9.2,SNR=4.3							
SONM	**Songino Array**	**32.41**	**290**	P	**P**	**23 42 39.6**	**-1.0**
comp=Z,0.7nm,0.8s,mb3.5,baz=60,slow=8.5,SNR=5.3							
INK	**Inuvik**	**40.82**	**33**	P	**P**	**23 43 51.2**	**-1.1**
comp=Z,2.9nm,0.7s,mb4.0,baz=295,slow=6.8,SNR=21							
ZAL	**Zalesovo**	**43.49**	**306**	P	**P**	**23 44 12.2**	**-1.9**
comp=Z,1.0nm,0.4s,mb3.9,baz=53,slow=9.4,SNR=5.5							
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**23 44 48.4**	**-0.7**
comp=Z,0.7nm,0.5s,mb3.9,baz=68,slow=7.7,SNR=14							
YKA	**Yellowknife Ar**	**50.03**	**37**	P	**P**	**23 45 03.8**	**-1.4**
comp=Z,0.3nm,0.6s,mb3.5,baz=294,slow=7.1,SNR=5.2							
YKA				PcP	PcP	23 46 23.5	-1.5
comp=Z,0.4nm,0.7s,baz=296,slow=3.5,SNR=5.9							
YKA	**Yellowknife Ar**	**50.03**	**37**	P	**P**	**23 45 03.8**	**-1.4**
YKA						23 46 23.5	
CHKZ	**Chkalovo**	**51.23**	**311**	*e*P	**P**	**23 45 12.6**	**-1.7**
CHKZ				*e*		23 46 26.4	
CHKZ				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
CHKZ Chkalovo 51.23 311 *e*P **P 23 45 12.6 -1.7**							
comp=Z,4.5nm,0.6s,mb4.6							
CHKZ				*e*PcP	PcP	23 46 26.4	-3.1
BVAR Borovoye Array 51.67 310 P **P 23 45 16.6 -1.0**							
comp=Z,1.4nm,0.4s,mb4.3,baz=60,slow=7.1,SNR=13							
ARCES ARCESS Array B 58.06 341 P **P 23 46 02.5 -1.3**							
comp=Z,2.4nm,0.8s,mb4.3,baz=27,slow=11,SNR=3.7							
FINES FINESS Array B 64.37 335 P **P 23 46 45.8 -0.9**							
comp=Z,1.2nm,0.3s,mb4.3,baz=39,slow=7.3,SNR=26							
NOA NORSAR Array B 68.42 342 P **P 23 47 13.2 +0.6**							
comp=Z,1.6nm,1.0s,mb4.0,baz=30,slow=6.9,SNR=2.9							
WRA Warramunga Arr 69.12 201 P **P 23 47 15.7 -1.2**							
comp=Z,0.8nm,0.8s,mb3.7,baz=19,slow=6.9,SNR=6.9							
AKASG Malin Array Be 72.05 327 P **P 23 47 33.5 -1.3**							
comp=Z,1.3nm,0.5s,mb4.1,baz=34,slow=6.2,SNR=4.4							
AKASG Malin Array Be 72.05 327 P **P 23 47 33.5 -1.3**							
ASAR Alice Springs 72.80 200 P **P 23 47 39.4 +0.1**							
comp=Z,1.3nm,0.8s,mb3.9,baz=16,slow=4.9,SNR=12							
BURAR Bucovina Array 76.08 328⇓iP P 23 48 00.1 +1.7							
TXAR Lajitas Array 76.33 62 P **P 23 47 59.5 -0.3**							
comp=Z,1.1nm,0.5s,mb4.0,baz=292,slow=4.8,SNR=8.3							
CLL Collm 76.78 337 *e*P **P 23 48 04.0 +1.7**							
MORC Moravsky Berou 76.82 333⇑P P 23 48 04.9 +2.4							
MORC Moravsky Berou 76.82 333⇑iP P 23 48 04.8 +2.3							
TIRR Tirgusor 77.48 324⇓iP P 23 48 08.8 +2.6							
VRAC Vranov 77.52 334⇑iP P 23 48 09.1 +2.6							
MLR Muntele Rosu 77.59 326 P **P 23 48 07.0 +0.1**							
comp=Z,2.0nm,0.5s,mb4.3,baz=90,slow=1.0,SNR=5.2							
MLR Muntele Rosu 77.59 326 P **P 23 48 07.0 +0.1**							
MLR				pmax	pmax		
comp=Z,2.0nm,0.5s							
MLR Muntele Rosu 77.59 326⇑P P 23 48 08.6 +1.7							
MLR Muntele Rosu 77.59 326⇑iP P 23 48 08.6 +1.7							
DRGR 77.69 329⇓iP P 23 48 09.4 +2.0							
VOIR 77.98 326⇓P P 23 48 11.7 +2.7							
VOIR 77.98 326⇓iP P 23 48 11.6 +2.6							
KHC Kasperske Hory 78.58 335 *e*P **P 23 48 11.5 -0.8**							
GERES GERESS Array B 78.80 335 P **P 23 48 12.9 -0.6**							
comp=Z,0.4nm,0.6s,mb3.5,baz=48,slow=7.9,SNR=4.4							
BRTR Keskin Array B 79.07 318 P **P 23 48 15.7 +0.6**							
comp=Z,1.2nm,0.8s,mb3.9,baz=86,slow=3.9,SNR=6.0							
BZS Buzias 79.09 329⇓iP P 23 48 17.2 +2.1							
VTS Vitosha 81.09 326⇑iP P 23 48 28.8 +2.8							

*NEIC **15** 23:36:36.2, 3128S×6868W, h150km, MD3.6(GUC), After GUC.*
*GUC **15** 23:36:36.2±0.5, 3128S×6868W, h150km, MD3.6, ML3.9*
*ISCJB **15** 23:36:37.3±1.1, 3130S±004×687W±02, h142km±24km, mb3.7/1, Error ellipse: s-maj=29.6km s-min=5.9km az=173.2*
*IDC **15** 23:36:37.6±16.0, 3130S×6877W, h126km±137km, mb3.8/1, mb1 3.6/2, mb1mx3.4/13, mbtmp3.5/2, ML3.6/1, Error ellipse: s-maj=115.2km s-min=61.4km az=162.0*
ISC 15 23:36:37.3±0.9, 3129S±004×685W±01, h112km±20km, n28, σ0§72/34, mb3.9/1, 7C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.13**	**273**	⇓iP	**Pn**	**23 37 11.6**	**-0.3**
CMCH				*i* S	**Sn**	**23 37 38.8**	**+0.3**
JACH	**Jahuel**	**2.24**	**231**	*i* P	**Pn**	**23 37 13.8**	**+0.4**
TLL	**Tololo Astrono**	**2.26**	**299**	⇑iP	**Pn**	**23 37 14.0**	**+0.3**
TLL				*i* S	**Sn**	**23 37 42.8**	**+1.2**
TLL				AML	AML	23 37 44.9	
comp=N,1μm,0.5s							
TLL	**Tololo Astrono**	**2.26**	**299**	⇑iP	**Pn**	**23 37 14.0**	**+0.3**
TLL				*i* S	**Sn**	**23 37 42.8**	**+1.2**
PTCH	**Petorca**	**2.27**	**244**	*i* P	**Pn**	**23 37 13.6**	**-0.2**
PTCH				*i* S	**Sn**	**23 37 42.1**	**+0.4**
PTCH				AML	AML	23 37 43.9	
comp=E,1μm,0.4s							
PTCH	**Petorca**	**2.27**	**244**	*i* P	**Pn**	**23 37 13.6**	**-0.2**
PTCH				*i* S	**Sn**	**23 37 42.1**	**+0.4**
OVCH	**Ovalle**	**2.40**	**286**	⇑iP	**Pn**	**23 37 14.7**	**-0.8**
OVCH				*i* S	**Sn**	**23 37 44.2**	**-0.5**
FCH	**Farellones**	**2.52**	**216**	*i* P	**Pn**	**23 37 18.4**	**+1.4**
FCH				AML	AML	23 38 02.3	
comp=E,202nm,0.2s							
PEL	**Peldehue**	**2.60**	**224**	⇓iP	**Pn**	**23 37 18.4**	**+0.3**
PEL				AML	AML	23 37 56.0	
comp=E,395nm,0.4s							
ROCH	**El Roble**	**2.70**	**231**	*i* P	**Pn**	**23 37 19.6**	**+0.3**
CLCH	**Cerro Calan**	**2.71**	**219**	AML	AML	23 38 00.2	
comp=E,501nm,0.5s							
LSCH	**La Serena**	**2.72**	**300**	*i* P	**Pn**	**23 37 18.9**	**-0.7**
LSCH				*i* S	**Sn**	**23 37 51.4**	**-0.9**
LSCH				AML	AML	23 37 52.7	
comp=E,227nm,0.4s							
LSCH	**La Serena**	**2.72**	**300**	*i* P	**Pn**	**23 37 18.9**	**-0.7**
LSCH				*i* S	**Sn**	**23 37 51.4**	**-0.9**
PCH	**Pirque**	**2.87**	**215**	*i* P	**Pn**	**23 37 21.9**	**+0.3**
ANTU	**Antumapu**	**2.89**	**218**	AML	AML	23 37 59.6	
comp=N,202nm,0.4s							
RCDM	**Rinconada Maip**	**2.92**	**221**	*i* P	**Pn**	**23 37 22.6**	**+0.3**
RCDM				AML	AML	23 38 00.5	
comp=E,321nm,0.2s							
LCO	**Las Campanas**	**2.96**	**320**	⇑iPn	**Pn**	**23 37 22.5**	**-0.2**
LCO				*e*Sn	**Sn**	**23 37 58.8**	**+1.0**
TACH	**Talagante**	**3.12**	**220**	⇑iP	**Pn**	**23 37 24.5**	**-0.4**
CACH	**El Canelo**	**3.32**	**211**	*i* P	**Pn**	**23 37 27.9**	**+0.4**
VACH	**Vallenar**	**3.33**	**324**	⇑iP	**Pn**	**23 37 27.1**	**-0.6**
VACH				*i* S	**Sn**	**23 38 06.1**	**-0.5**
LCCH	**Las Cruces**	**3.38**	**229**	⇑iP	**Pn**	**23 37 27.5**	**-0.8**
LCCH				*i* S	**Sn**	**23 38 06.7**	**-1.0**
CICH	**Cipreses**	**3.42**	**207**	*i* P	**Pn**	**23 37 29.4**	**+0.6**
TRQA	**Tornquist**	**8.63**	**143**	*e*Pn	**Pn**	**23 38 36.3**	**-3.0**
comp=E,25nm,0.6s							
LPAZ	**La Paz**	**14.94**	**1**	P	**Pn**	**23 40 03.3**	**+0.7**
comp=E,0.1nm,0.3s,baz=193,slow=7.9,SNR=5.0							
TORD	**Torodi Ar. Bea**	**80.47**	**68**	P	**P**	**23 48 36.9**	**+0.2**
comp=E,1.1nm,0.5s,mb3.9,baz=242,slow=3.1,SNR=15							
WRA	**Warramunga Arr**	**124.53**	**206**	PKP	PKPdf	23 55 22.5	-0.9
comp=E,0.1nm,0.4s,baz=178,slow=1.7,SNR=4.9							
ZAL	**Zalesovo**	**150.35**	**32**	PKPbc	PKPbc	23 56 12.8	-2.6
comp=E,0.9nm,0.5s,baz=176,slow=3.9,SNR=4.1							
MKAR	**Makanchi Array**	**152.75**	**47**	PKPbc	PKPbc	23 56 19.6	-1.3
comp=E,0.7nm,0.8s,baz=321,slow=1.7,SNR=4.4							
MKAR				PKPab	PKPab	23 56 31.8	-0.3
comp=E,0.8nm,0.6s,baz=291,slow=2.8,SNR=11							

*ISCJB **15** 23:40:32.1±0.5, 2959N±006×9759E±005, h10km, mb3.9/10, Error ellipse: s-maj=8.7km s-min=5.4km az=130.7*
*IDC **15** 23:40:32.4±0.8, 2956N×9757E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/25, mbtmp3.8/11, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=37.7km s-min=16.4km az=58.0*
*BJI **15** 23:40:36.0, 2970N×9775E, h21km, mB4.9, mb3.9, ML3.9, Ms4.0, Msz3.7*
*MOS **15** 23:40:38.1±1.1, 2987N×9757E, h34km, mb4.4/1, Error ellipse: s-maj=19.2km s-min=12.7km az=95.8*
*NEIC **15** 23:40:38.4±3.6, 2964N×9765E, h35km, mb3.5/1, Error ellipse: s-maj=60.8km s-min=14.2km az=152.0*
ISC 15 23:40:34.2±0.4, 2959N±004×9765E±004, h10km, n35, σ1§11/38, mb3.9/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**5.45**	**75**	PG	**Pb**	**23 42 05.4**	**-4.0**
CD2				LR	LR		
comp=N,460nm,8.4s							
CD2				LR	LR		
comp=E,570nm,6.3s							
CD2				LR	LR		
comp=Z,760nm,9.6s							
LSA	**Lhasa**	**5.66**	**273**	P	**Pn**	**23 42 00.9**	**+2.7**
LSA	**Lhasa**	**5.66**	**273**	*e*P	**Pn**	**23 42 00.6**	**+2.4**
LSA				*e*		23 43 02.5	
LSA				pmax	pmax		
comp=Z,20nm,0.4s							
LSA	**Lhasa**	**5.66**	**273**	*e*Pn	**Pn**	**23 42 00.6**	**+2.4**
comp=Z,20nm,0.4s							
LSA				*e*Sn	**Sn**	**23 43 02.5**	**-0.7**
IMP	**Imphal**	**5.82**	**215**	*e*P	**Pn**	**23 42 04.0**	**+3.5**
KMI	**Kunming**	**6.35**	**133**	PG	**Pb**	**23 42 25.8**	**+1.1**
KMI				SG	**Sg**	**23 43 56.3**	**-1.7**
KMI				Smax			
comp=N,22nm,1.4s							
KMI				Smax			
comp=E,20nm,1.7s							
KMI				LR	LR		
comp=N,675nm,7.9s							
KMI				LR	LR		
comp=E,735nm,8.9s							
KMI				LR	LR		
comp=Z,330nm,9.2s							
SHL Shillong 6.50 233 *e*P **Pn 23 42 11.5 +1.7**							
SHL				*e*S	**Sn**	**23 43 25.0**	**+1.1**
LZH Lanzhou 8.31 37 *e*P **Pn 23 42 37.0 +2.3**							
LZH				AP		23 42 40.5	
LZH				XP		23 42 42.0	
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s							
LZH Lanzhou 8.31 37 *e*P **Pn 23 42 37.0 +2.3**							
LZH				pP		23 42 40.5	
LZH				sP		23 42 42.0	
JIRN Jiri 10.25 262 *e*P **Pn 23 43 01.2 0.0**							
comp=Z,50nm,0.4s							
GUN Gumba 10.46 264 *e*P **Pn 23 43 03.9 -0.3**							
PKI Pulchoki 10.94 262 *e*P **Pn 23 43 10.0 -0.8**							
comp=Z,35nm,0.4s							
KKN Kakani 11.01 264 *e*P **Pn 23 43 10.7 -0.9**							
comp=Z,42nm,0.4s							
DMN Daman 11.20 263 *e*P **Pn 23 43 13.2 -1.0**							
comp=Z,28nm,0.4s							
GKN Gorkha 11.52 265 *e*P **Pn 23 43 16.0 -2.7**							
comp=Z,18nm,0.3s							
KOLN Koldanda 12.47 265 *e*P **Pn 23 43 28.2 -3.4**							
comp=Z,14nm,0.3s							
SONM Songino Array 19.43 18 P **Pn 23 45 01.8 +0.1**							
comp=Z,0.3nm,0.3s,baz=199,slow=11,SNR=9.7							
SONM				LR	LR	23 53 21.2	
comp=Z,80nm,20.6s,baz=151,slow=40							
ULN Ulaanbaatar 19.64 19 *e*P **Pn 23 45 03.2 -1.1**							
ULN				pmax	pmax		
comp=Z,3.0nm,0.9s							
ULN Ulaanbaatar 19.64 19 *e*P **Pn 23 45 03.2 -1.1**							
comp=Z,2.8nm,0.9s							
MK31 Makanchi Array 20.93 329 *e*P **P 23 45 18.5 +1.6**							
MKAR Makanchi Array 20.93 329 P **P 23 45 16.7 -0.2**							
comp=Z,1.6nm,0.5s,baz=143,slow=12,SNR=27							
MKAR Makanchi Array 20.93 329 P **P 23 45 16.7 -0.2**							
ZAK Zakamensk 21.20 10 *e*P **P 23 45 19.9 +0.1**							
AAK Ala-Archa 22.70 311 *e*P **P 23 45 36.9 +1.0**							
AAK				pmax	pmax		
comp=Z,11nm,1.1s,mb4.2							
ZAL Zalesovo 26.06 343 P **P 23 46 07.8 0.0**							
comp=Z,1.7nm,0.6s,mb3.7,baz=315,slow=10.0,SNR=8.0							
BVAR Borovoye Array 30.77 327 P **P 23 46 50.0 +0.3**							
comp=Z,1.0nm,0.5s,mb3.9,baz=124,slow=10,SNR=5.6							
AKTK Aktyubinsk 36.23 316 P **P 23 47 37.0 -0.2**							
AKTO Aktyubinsk 36.23 316 P **P 23 47 37.0 -0.2**							
comp=Z,0.7nm,0.4s,mb3.9,baz=99,slow=12,SNR=3.9							
WRA Warramunga Arr 60.63 140 P **P 23 50 45.6 +0.4**							
comp=Z,0.9nm,0.5s,mb4.2,baz=326,slow=8.0,SNR=21							
WB2 Warramunga Arr 60.63 140 *e*P **P 23 50 45.5 +0.3**							
ASAR Alice Springs 63.39 143 P **P 23 51 04.2 +0.5**							
comp=Z,0.6nm,0.4s,mb4.1,baz=327,slow=6.7,SNR=15							
GERES GERESS Array B 64.56 313 P **P 23 51 11.0 -0.4**							
comp=Z,0.3nm,0.6s,mb3.5,baz=73,slow=4.5,SNR=3.6							
INK Inuvik 75.34 17 P **P 23 52 16.9 -0.8**							
comp=Z,1.3nm,0.9s,mb3.8,baz=314,slow=3.7,SNR=4.8							
YKA Yellowknife Ar 84.66 14 P **P 23 53 07.0 -1.0**							
comp=Z,0.6nm,0.9s,mb3.7,baz=329,slow=4.8,SNR=3.8							
TORD Torodi Ar. Bea 88.68 284 P **P 23 53 27.2 -0.4**							
comp=Z,0.3nm,0.8s,mb3.7,baz=65,slow=2.5,SNR=3.1							

IDC 15 23:47:11.0±2.5, 957S×11482E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=129.9km s-min=18.1km az=41.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.50**	**130**	Pn	Pn	23 50 22.7	-1.1
0.1nm,0.3s,baz=317,slow=15,SNR=3.2							
FITZ				Sn	Sn	23 52 44.8	-10
0.3nm,0.3s,baz=219,slow=22,SNR=8.1							
WRA Warramunga Arr 21.49 121 P P 23 52 03.5 +2.2							
0.3nm,0.5s,baz=308,slow=12,SNR=3.4							
WRA				S	S	23 56 01.5 +1.2	
0.4nm,0.6s,baz=291,slow=23,SNR=5.3							
ASAR Alice Springs 23.00 130 P P 23 52 17.7 +0.3							
0.4nm,0.5s,baz=308,slow=9.0,SNR=5.2							
MKAR Makanchi Array 63.16 336 P P 23 57 40.5 -0.2							
0.4nm,0.8s,baz=157,slow=7.8,SNR=5.6							

*IDC **15** 23:49:29.1±1.5, 1564S×16835E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=45.7km s-min=33.9km az=105.0*
*NEIC **15** 23:49:34.7±1.3, 1571S×16822E, h35km, mb4.1/1, Error ellipse: s-maj=29.4km s-min=27.5km az=50.0*
*ISCJB **15** 23:49:53.3±3.7, 160S±02×1676E±03, h200km±29km, mb3.6/4, Error ellipse: s-maj=45.6km s-min=26.6km az=129.5*
ISC 15 23:49:52.3±3.9, 159S±02×1677E±03, h177km±30km, n10, σ1§10/9, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.22**	**191**	*e*P	**Pn**	**23 51 23.4**	**+1.3**
DZM				*e*S	**Sn**	**23 52 31.9**	**-1.0**
PMG	**Port Moresby**	**21.05**	**285**	P	**P**	**23 54 21.3**	**-1.0**
5.1nm,0.6s,mb4.0							
STKA Stephens Creek 28.55 232 P **P 23 55 33.0 +1.6**							
1.6nm,0.4s,mb4.1,baz=53,slow=11,SNR=8.7							
STKA Stephens Creek 28.55 232 *e*P **P 23 55 32.9 +1.5**							
WB2 Warramunga Arr 31.94 258 *e*P **P 23 56 00.1 -1.1**							
ASAR Alice Springs 32.65 251 P **P 23 56 08.8 +1.3**							
0.9nm,0.3s,mb4.0,baz=76,slow=8.9,SNR=20							
VNDA Vanda 61.68 181 P **P 23 59 50.5 -0.9**							
0.8nm,0.7s,mb3.6,baz=24,slow=4.3,SNR=4.2							
**SONM

RPN Rapa Nui 8.81 338 Pn **Pn 23 59 16.9 -1.4**
9.8nm,0.3s,baz=175,slow=7.0,SNR=7.3
RPN Rapa Nui 8.81 338 *e*Pn **Pn 23 59 17.3 -1.1**
PLCA Paso Flores 28.02 112 P **P 00 03 03.1 +1.0**
22nm,1.0s,mb4.7,baz=276,slow=10,SNR=14
PLCA LR LR 00 11 13.1
comp=Z,3μm,19.8s,MS4.8,baz=88,slow=30
RKT Rikitea 28.24 288 *e*LQ 00 08 53.1
10μm,27.0s
RKT Rikitea 28.24 288 *e*P **P 00 03 01.9 -2.2**
74nm,35.8s
RKT *e*S **S 00 07 42.9 -7.0**
984nm,28.1s
RKT *e*LR LR 00 10 00.2
4μm,16.8s
RKT Rikitea 28.24 288 *e*P **P 00 03 01.9 -2.2**
RKT *e*S **S 00 07 42.9 -7.0**
RKT Rikitea 28.24 288 *e*P **P 00 03 01.9 -2.2**
RKT *e*S **S 00 07 42.9 -7.0**
RKT *e*LQ 00 08 53.1
LCO Las Campanas 30.14 88 PFAKE 00 03 30.0 +9.1
LCO LR LR
comp=Z,6μm,22.0s,MS5.2
USHA Ushuaia 32.15 139 P **P 00 03 39.9 +1.3**
comp=Z,11nm,0.8s,mb4.7,baz=271,slow=15,SNR=4.7
TRQA Tornquist 34.87 108 *e*P **P 00 04 03.2 +0.9**
TRQA LR LR
comp=Z,4μm,21.0s,MS5.1
NNA Nana 34.96 55 *e*P **P 00 04 03.7 +0.6**
comp=Z,27nm,0.9s,mb5.2
NNA LR LR
comp=Z,3μm,21.0s,MS5.0
EFI East Falkland 37.42 131 *e*P **P 00 04 24.2 +0.1**
EFI pmax pmax
comp=Z,72nm,1.3s,mb5.3
EFI MLR MLR
comp=Z,1μm,20.0s,MS4.8
EFI East Falkland 37.42 131 *e*P **P 00 04 24.2 +0.1**
comp=Z,72nm,1.3s,mb5.3
EFI LR LR
comp=Z,1μm,20.0s,MS4.8
ATAH Atahualpa 37.73 48 P **P 00 04 27.1 +0.3**
comp=Z,21nm,1.0s,mb4.8,baz=105,slow=7.2,SNR=11
ATAH LR LR 00 16 20.0
comp=Z,6μm,19.6s,MS5.4,baz=238,slow=30
LPAZ La Paz 38.46 70 P **P 00 04 33.8 +0.9**
comp=Z,6.7nm,0.9s,mb4.4,baz=244,slow=3.5,SNR=16
LPAZ LR LR 00 17 22.3
comp=Z,2μm,19.4s,MS4.9,baz=245,slow=31
PMSA Palmer Station 38.49 153 LR LR 00 14 58.0
comp=Z,1μm,19.8s,MS4.7,baz=296,slow=28
PMSA Palmer Station 38.49 153 PFAKE 00 04 40.0 +6.8
PMSA LR LR
comp=Z,5μm,20.0s,MS5.3
TBI Tubuai 39.73 275 *e*S **S 00 10 44.3 -2.9**
comp=Z,2μm,26.5s
TBI *e*LQ 00 13 49.1
comp=Z,22μm,38.5s
TBI *e*LR LR 00 15 27.7
comp=Z,5μm,26.2s
TAOE Nuku Hiva Isla 41.09 302 *e*S **S 00 10 58.4 -9.2**
comp=Z,4μm,26.4s
TAOE *e*LQ 00 14 10.5
comp=Z,35μm,26.7s
TAOE *e*LR LR 00 15 51.0
comp=Z,12μm,27.7s,baz=140
VAH Vaihoa 42.53 287 *e*P **P 00 05 05.3 -1.3**
comp=Z,120nm,1.0s,mb5.6
PPT Papeete 42.75 283 *e*S **S 00 11 27.1 -5.0**
comp=Z,630nm,26.2s
PPT *e*LQ 00 14 52.6
comp=Z,22μm,26.5s
PPT *e*LR LR 00 16 46.7
comp=Z,2μm,26.2s
PPT Papeete 42.75 283 *e*P **P 00 05 06.9 -1.4**
PPT *e*S **S 00 11 27.1 -5.0**
PPT pmax pmax
comp=Z,54nm,1.2s
PPT Papeete 42.75 283 *e*P **P 00 05 06.9 -1.4**
comp=Z,54nm,1.2s,mb5.2
PPT *e*S **S 00 11 27.1 -5.0**
PPT *e*LQ 00 14 52.6
OTAV Otavalo 43.58 42 *e*P **P 00 05 16.0 +0.9**
OTAV LR LR
comp=Z,752nm,20.0s,MS4.6
SIV San Ignacio 44.14 76 P **P 00 05 18.9 -0.7**
comp=Z,28nm,0.9s,mb5.0,baz=244,slow=7.7,SNR=105
RAR Rarotonga 49.14 272 PFAKE 00 06 10.0 +11
RAR LR LR
comp=Z,2.0nm,20.0s
JTS JuntasAbangare 49.46 27 P **P 00 05 58.6 -2.6**
comp=Z,17nm,0.9s,mb5.1,baz=342,slow=23,SNR=7.9
JTS JuntasAbangare 49.46 27 *e*P **P 00 05 59.3 -1.9**
JTS JuntasAbangare 49.46 27 *e*P **P 00 05 58.8 -2.4**
comp=Z,56nm,1.3s,mb5.4
JTS LR LR
comp=Z,2μm,21.0s,MS5.1
ROSC El Rosal 49.68 43 P **P 00 06 03.6 +0.8**
comp=Z,11nm,0.5s,mb5.1,baz=95,slow=18,SNR=8.7
ROSC LR LR 00 23 07.2
comp=Z,4μm,21.6s,MS5.3,baz=201,slow=31
HOPE Hope Point 50.40 135 PFAKE 00 06 20.0 +12
HOPE LR LR
comp=Z,25nm,20.0s
TGUH Tegucigalpa,Un 52.16 23 *e*P **P 00 06 18.7 -2.9**
comp=Z,81nm,1.1s,mb5.6
TGUH LR LR
comp=Z,2μm,22.0s,MS5.1
QSPA South Pole Qui 54.82 180 PFAKE 00 06 50.0 +8.9
QSPA LR LR
comp=Z,1μm,19.0s,MS5.0
SDV Santo Domingo 55.05 44 *e*P **P 00 06 39.8 -3.0**
comp=Z,15nm,0.9s,mb5.0
SDV LR LR
comp=Z,557nm,20.0s,MS4.6
SBA Scott Base 55.20 195 P **P 00 06 45.7 +1.9**
comp=Z,548nm,2.5s,mb6.1
SBA LR LR
comp=Z,1μm,20.0s,MS4.9
VNDA Vanda 56.30 195 P **P 00 06 50.3 -1.4**
comp=Z,4.9nm,1.1s,mb4.4,baz=93,slow=6.4,SNR=5.1
VNDA LR LR 00 26 07.0
comp=Z,1μm,18.4s,MS5.0,baz=95,slow=31
VNDA Vanda 56.30 195 *e*P **P 00 06 50.6 -1.1**
VNDA pmax pmax
comp=Z,15nm,1.3s
VNDA Vanda 56.30 195 *e*P **P 00 06 50.5 -1.2**
comp=Z,15nm,1.3s,mb4.9
VNDA LR LR 00 26 07.0
TEIG Tepich 57.71 19 PFAKE 00 07 10.0 +8.3
TEIG LR LR
comp=Z,2μm,20.0s,MS5.1
RAO Raoul Island 60.15 254 PFAKE 00 07 30.0 +11
RAO LR LR
comp=Z,2μm,21.0s,MS5.3
URZ Urewera 60.16 242 P **P 00 07 15.5 -3.3**
comp=Z,15nm,0.9s,mb5.0,baz=108,slow=3.2,SNR=5.3
SNZO South Karori 60.68 238 PFAKE 00 07 30.0 +7.7
SNZO LR LR
comp=Z,6μm,20.0s,MS5.7
SNAA Sanae 60.69 159 *e*P **P 00 07 20.0 -2.4**
SNAA pmax pmax
comp=Z,43nm,1.1s
SNAA Sanae 60.69 159 *e*P **P 00 07 20.0 -2.4**
comp=Z,43nm,1.1s,mb5.5
SOR Soroa 61.71 24 *e*P **P 00 07 27.6 -1.7**
AFI Afiamalu 62.69 272 PFAKE 00 07 50.0 +14
AFI LR LR
comp=Z,3μm,22.0s,MS5.4
KVTX Kingsville 63.02 8 PFAKE 00 07 50.0 +12
KVTX LR LR
comp=Z,1μm,20.0s,MS5.0
LTX Lajitas 64.40 2 *e*P **P 00 07 47.3 +0.2**
LTX MLR MLR
comp=Z,1μm,19.0s,MS5.0
TXAR Lajitas Array 64.40 2 P **P 00 07 45.4 -1.7**
comp=Z,7.6nm,0.8s,mb4.8,baz=183,slow=7.4,SNR=31
TXAR LR LR 00 31 09.2
comp=Z,628nm,19.9s,MS4.8,baz=15,slow=32
BBGH Gun Hill 65.05 51 PFAKE 00 08 00.0 +8.6
BBGH LR LR
comp=Z,4μm,20.0s,MS5.6
NVL N'lazarevskaya 65.23 161 ⇓*i*P **P 00 07 53.7 +1.1**
NVL *i*S S 00 16 35.6 -0.3
NVL *e*SS SS 00 20 57.2 +8.7
NVL pmax pmax
comp=Z,38nm,1.0s,mb5.4

JCT Junction City 65.74 6 *e*P **P 00 07 54.0 -1.9**
JCT pmax pmax
comp=Z,27nm,0.8s,mb5.3
JCT MLR MLR
comp=Z,579nm,22.0s,MS4.7
JCT Junction City 65.74 6 *e*P **P 00 07 54.0 -1.9**
comp=Z,27nm,0.8s,mb5.3
JCT LR LR
comp=Z,579nm,22.0s,MS4.7
MNTX Cornudas Mount 66.73 0 *e*P **P 00 08 00.3 -1.9**
comp=Z,26nm,1.4s,mb5.1
MNTX LR LR
comp=Z,491nm,20.0s,MS4.7
DRV Dumont d'Urvil 66.76 203 S S 00 16 57.0 +2.5
DRV L 00 25 00.0
DWPF Disney 67.16 23 PFAKE 00 08 20.0 +15
DWPF LR LR
comp=Z,2μm,20.0s,MS5.2
TUC Tucson 67.51 355 PFAKE 00 08 20.0 +13
TUC LR LR
comp=Z,646nm,19.0s,MS4.9
NATX Nacogdoches 67.58 10 *e*P **P 00 08 06.9 -0.7**
NATX LR LR
comp=Z,855nm,21.0s,MS5.0
DVTC Desert V Tower 68.39 351 ⇓P **P 00 08 13.2 +0.5**
baz=68
GLA Glamis 68.62 352 ⇓P **P 00 08 14.6 +0.5**
baz=69
MONP Monument Peak 68.66 350 ⇓P **P 00 08 15.2 +0.8**
baz=69
Z14A Wintersburg 68.73 353 ⇑P **P 00 08 14.9 +0.1**
baz=69
Y13A Salome 69.26 353 ⇓P **P 00 08 18.3 +0.1**
baz=69
Y12C Blythe 69.27 352 ⇓P **P 00 08 18.5 +0.3**
baz=69
BC3 Big Chuckw Mtn 69.29 351 ⇑P **P 00 08 18.8 +0.5**
baz=69,SNR=6.8
Y14A Wickenburg 69.30 353 ⇓P **P 00 08 18.7 +0.3**
baz=69,SNR=5.8
PFO Pinyon Flat Ob 69.38 350 *e*P **P 00 08 18.8 0.0**
PFO pmax pmax
comp=Z,28nm,1.3s,mb5.0
PFO MLR MLR
comp=Z,204nm,19.0s,MS4.4
PFO Pinyon Flat Ob 69.38 350 *e*P **P 00 08 18.8 0.0**
comp=Z,28nm,1.3s,mb5.0
PFO LR LR
comp=Z,204nm,19.0s,MS4.4
PFO Pinyon Flat Ob 69.38 350 ⇓P **P 00 08 19.3 +0.5**
baz=70
BELC Belle Mtn. 69.70 351 ⇓P **P 00 08 21.1 +0.3**
baz=70
IRM Iron Mountain 69.75 352 ⇓P **P 00 08 21.3 +0.2**
baz=70
PDMCI Parker Dam,Lak 69.78 353 ⇓P **P 00 08 21.4 +0.1**
baz=70
X15A Humboldt 69.78 354 P **P 00 08 21.4 0.0**
baz=70,SNR=16
X14A Yava 69.82 354 ⇓P **P 00 08 21.3 -0.2**
baz=70
ANMO Albuquerque 69.97 359 ⇑*i*P **P 00 08 21.1 -1.4**
ANMO Albuquerque 69.97 359 *e*P **P 00 08 20.5 -2.0**
comp=Z,24nm,1.6s,mb4.9
ANMO LR LR
comp=Z,755nm,20.0s,MS4.9
AMTX Amarillo 70.00 3 *e*P **P 00 08 22.3 -0.4**
AMTX LR LR
comp=Z,1μm,20.0s,MS5.1
X13A Yucca 70.03 353 ⇓P **P 00 08 22.9 0.0**
baz=70
WMOK Wichita Mounta 70.05 6 *e*P **P 00 08 20.3 -2.7**
RCBR Riachuelo 70.15 83 PFAKE 00 08 40.0 +16
RCBR LR LR
comp=Z,1μm,20.0s,MS5.1
BFSC Mount Baldy St 70.17 349 ⇑P **P 00 08 23.8 +0.1**
baz=70
LRAL Lakeview Retre 70.27 17 *e*P **P 00 08 22.5 -1.9**
comp=Z,20nm,1.1s,mb5.0
LRAL LR LR
comp=Z,2μm,22.0s,MS5.3
GMRC Granite Mounta 70.42 351 ⇓P **P 00 08 25.5 +0.2**
baz=70
W15A Williams 70.47 354 ⇑P **P 00 08 25.7 +0.1**
baz=70
MIAR Mount Ida 70.48 11 *e*P **P 00 08 20.5 -5.1**
MIAR pmax pmax
comp=Z,13nm,1.0s,mb4.8
MIAR MLR MLR
comp=Z,600nm,21.0s,MS4.8
MIAR Mount Ida 70.48 11 *e*P **P 00 08 20.5 -5.1**
comp=Z,13nm,1.0s,mb4.8
MIAR LR LR
comp=Z,600nm,21.0s,MS4.8
W13A Hualapai Mount 70.54 353 ⇑P **P 00 08 26.1 +0.1**
baz=71
HEC Hector,Ludlow 70.56 351 ⇑P **P 00 08 26.2 0.0**
baz=71
W14A Seligman 70.58 354 ⇑P **P 00 08 26.4 +0.2**
baz=71,SNR=14
WUAZ Wupatki 70.74 355 *e*P **P 00 08 27.0 -0.2**
comp=Z,51nm,1.6s,mb5.2
WUAZ Wupatki 70.74 355 ⇓P **P 00 08 27.8 +0.6**
baz=71
EDW2 Edwards Air Fo 70.84 349 ⇑P **P 00 08 28.8 +0.9**
baz=71
UALR University of 70.89 12 *e*P **P 00 08 26.3 -1.8**
comp=Z,33nm,1.2s,mb5.1
GSC Goldstone 71.09 350 P **P 00 08 29.2 -0.1**
baz=71,SNR=8.2
TUQ Turquoise Mtn. 71.10 351 ⇑P **P 00 08 29.7 +0.3**
baz=71
PKM Peak Mountain 71.16 348 ⇓P **P 00 08 30.3 +0.5**
baz=71
OXF Oxford 71.17 14 *e*P **P 00 08 25.5 -4.3**
OXF pmax pmax
comp=Z,45nm,1.1s,mb5.3
OXF MLR MLR
comp=Z,509nm,21.0s,MS4.8
OXF Oxford 71.17 14 *e*P **P 00 08 25.5 -4.3**
comp=Z,45nm,1.1s,mb5.3
OXF LR LR
comp=Z,509nm,21.0s,MS4.8
ARVC Arvin 71.22 349 ⇑P **P 00 08 30.9 +0.7**
baz=71
V12A Nelson 71.26 352 ⇓P **P 00 08 30.5 +0.1**
baz=71
LRMC Laurel Mountai 71.39 350 ⇑P **P 00 08 30.2 -0.9**
baz=72
V11A Goodsprings 71.44 352 ⇑P **P 00 08 31.4 -0.1**
baz=72
GOGA Godfrey 71.52 19 *e*P **P 00 08 31.0 -0.9**
GOGA MLR MLR
comp=Z,802nm,19.0s,MS5.0
SMMC Simmler 71.59 348 ⇑P **P 00 08 33.3 +1.0**
baz=72
SHOC Shoshone 71.61 351 ⇑P **P 00 08 32.6 +0.1**
baz=72
ISA Isabella 71.69 349 ⇓P **P 00 08 33.5 +0.5**
baz=72
PLAL Pickwick Lake 71.90 15 *e*P **P 00 08 30.8 -3.5**
PLAL LR LR
comp=Z,1μm,20.0s,MS5.1
U12A Valley of Fire 71.93 352 ⇓P **P 00 08 34.1 -0.3**
baz=72
MPMC Manual Prospec 71.93 350 P **P 00 08 34.2 -0.2**
baz=72,SNR=11
VES Vestal, Richgr 71.96 349 ⇓P **P 00 08 34.8 +0.2**
baz=72
DAC Darwin (Calif) 72.16 350 *e*P **P 00 08 35.9 +0.1**
DAC pmax pmax
comp=Z,32nm,1.4s,mb5.1
DAC MLR MLR
comp=Z,1μm,20.0s,MS5.1
DAC Darwin (Calif) 72.16 350 *e*P **P 00 08 35.9 +0.2**
comp=Z,32nm,1.4s,mb5.1
DAC LR LR
comp=Z,1μm,20.0s,MS5.1
NHSC New Hope 72.19 22 *e*P **P 00 08 36.7 +0.7**
NHSC LR LR

comp=Z,1μm,21.0s,MS5.2
FURC Furnace Creek, 72.25 351 ⇑P **P 00 08 36.8 +0.5**
baz=72
MVCO Mesa Verde 72.28 358 *e*P **P 00 08 34.9 -1.6**
comp=Z,26nm,0.9s,mb5.2
MVCO LR LR
comp=Z,1μm,19.0s,MS5.1
MVCO Mesa Verde 72.28 358 P **P 00 08 36.7 +0.2**
baz=72,SNR=9.7
PKD Parkfield 72.31 347 ⇑P **P 00 08 36.7 0.0**
baz=72
SDCO Great Sand Dun 72.76 0 *e*P **P 00 08 38.6 -0.7**
SDCO LR LR
comp=Z,901nm,21.0s,MS5.0
HELL Mitchell Peak, 72.77 349 P **P 00 08 39.7 +0.3**
baz=73,SNR=8.7
SYO Syowa Base 72.79 168 ⇓*e*P **P 00 08 38.6 -1.0**
GRAC Grapevine Rang 72.84 350 ⇓P **P 00 08 39.9 +0.1**
baz=73
CCUT Cedar City 72.92 354 *e*P **P 00 08 39.6 -0.7**
MYNC Murphy 72.92 18 PFAKE 00 08 50.0 +10
MYNC LR LR
comp=Z,703nm,22.0s,MS4.9
TIN Tinemaha 73.01 350 ⇓P **P 00 08 40.5 -0.4**
baz=73
FUNA Funafuti 73.02 272 PFAKE 00 08 50.0 +9.1
FUNA LR LR
comp=Z,15μm,19.0s
WVT Waverly 73.06 15 *e*P **P 00 08 36.4 -4.7**
WVT pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
WVT Waverly 73.06 15 *e*P **P 00 08 36.4 -4.7**
comp=Z,4.2nm,0.6s,mb4.5
PV01 Paradox Valley 73.20 358 *e*P **P 00 08 40.5 -1.5**
T06C Millerton Lake 73.20 348 P **P 00 08 42.0 0.0**
baz=73,SNR=7.4
S08C White Mtn Res 73.44 350 P **P 00 08 44.3 +0.9**
baz=74,SNR=11
KCC Kaiser Creek 73.44 349 ⇑P **P 00 08 43.6 +0.2**
baz=74
PV10 Paradox Valley 73.46 357 *e*P **P 00 08 40.3 -3.2**
S09A Goldfield 73.53 350 P **P 00 08 44.0 +0.1**
baz=74,SNR=23
S05C Merced 73.64 348 ⇓P **P 00 08 45.1 +0.6**
baz=74
MVU Marysvale 73.77 355 PFAKE 00 09 00.0 +15
MVU LR LR
comp=Z,1μm,19.0s,MS5.2
MSU Marysvale 73.77 355 *e*P **P 00 08 46.6 +1.3**
S04C Ingram Canyon, 73.97 347 ⇓P **P 00 08 47.5 +1.0**
baz=74
R09A Tonopah 74.02 351 P **P 00 08 48.1 +1.4**
baz=74,SNR=12
CBKS Cedar Bluff 74.03 5 *e*P **P 00 08 47.2 +0.4**
CBKS MLR MLR
comp=Z,709nm,20.0s,MS5.0
S06C San Francisco 74.08 348 ⇑P **P 00 08 48.1 +0.9**
baz=74
SRU San Rafael 74.26 356 *e*P **P 00 08 47.2 -1.0**
R08A Mina 74.27 350 ⇓P **P 00 08 49.1 +0.9**
baz=74
SIUC Southern Illin 74.31 13 *e*P **P 00 08 47.0 -1.5**
comp=Z,31nm,1.0s,mb5.2
CMB Columbia Colle 74.32 348 *e*P **P 00 08 48.5 0.0**
CMB pmax pmax
comp=Z,58nm,1.4s,mb5.3
CMB MLR MLR
comp=Z,2μm,20.0s,MS5.3
CMB Columbia Colle 74.32 348 *e*P **P 00 08 48.5 0.0**
comp=Z,58nm,1.4s,mb5.3
CMB LR LR
comp=Z,2μm,20.0s,MS5.3
CMB Columbia Colle 74.32 348 P **P 00 08 49.4 +0.9**
baz=74,SNR=10
FVM French Village 74.35 12 *e*P **P 00 08 46.2 -2.5**
NVAR Mina Array Bea 74.37 350 P **P 00 08 47.4 -1.5**
comp=Z,11nm,0.8s,mb4.8,baz=170,slow=5.5,SNR=1.7
Q11A Duckwater 74.44 352 P **P 00 08 50.0 +0.8**
baz=74,SNR=10
TZTN Tazewell 74.46 18 *e*P **P 00 08 47.6 -1.7**
TZTN LR LR
comp=Z,874nm,19.0s,MS5.1
TMUT Trail Mountain 74.49 356 *e*P **P 00 08 50.8 +1.3**
KSU1 Kansas State U 74.58 7 *e*P **P 00 08 49.3 -0.8**
KSU1 LR LR
comp=Z,493nm,19.0s,MS4.8
Q09A Carvers 74.61 351 ⇓P **P 00 08 52.2 +2.0**
baz=75
R06C Coleville 74.64 349 ⇓P **P 00 08 51.5 +1.1**
baz=75
Q08A Gabbs 74.74 350 ⇑P **P 00 08 51.5 +0.5**
baz=75
ISCO Idaho Springs 74.81 0 *e*P **P 00 08 51.7 +0.3**
ISCO pmax pmax
comp=Z,44nm,1.7s,mb5.1
ISCO MLR MLR
comp=Z,1μm,19.0s,MS5.1
ISCO Idaho Springs 74.81 0 *e*P **P 00 08 51.7 +0.3**
comp=Z,44nm,1.7s,mb5.1
ISCO LR LR
comp=Z,1μm,19.0s,MS5.1
USIN University of 74.86 15 P **P 00 08 49.3 -2.4**
comp=Z,12nm,0.6s,mb5.0
CNNC Cliffs of the 74.88 23 PFAKE 00 09 00.0 +8.2
CNNC LR LR
comp=Z,2μm,20.0s,MS5.5
CASY Casey 74.91 194 *e*P **P 00 08 53.6 +1.6**
CASY LR LR
comp=Z,1μm,19.0s,MS5.3
R05C Kirkwood Meado 74.92 348 ⇓P **P 00 08 52.8 +0.8**
baz=75,SNR=9.3
P12A McGill 74.97 353 P **P 00 08 53.2 +0.9**
baz=75,SNR=6.7
LAVA Lava Cap Winer 75.08 348 ⇑P **P 00 08 53.5 +0.6**
baz=75
NLU North Lily Min 75.20 355 *e*P **P 00 08 55.0 +1.4**
MPU Maple Canyon 75.23 355 *e*P **P 00 08 54.8 +1.0**
MPU LR LR
comp=Z,2μm,20.0s,MS5.4
P10A Eureka 75.30 351 ⇓P **P 00 08 55.1 +0.9**
baz=75
WCI Wyandotte Cave 75.41 16 *e*P **P 00 08 49.7 -5.1**
WCI pmax pmax
comp=Z,36nm,1.4s,mb5.1
WCI Wyandotte Cave 75.41 16 *e*P **P 00 08 49.7 -5.2**
comp=Z,36nm,1.4s,mb5.1
WCN Washoe City 75.45 349 ⇓P **P 00 08 55.5 +0.4**
baz=76
DUG Dugway 75.50 354 *e*P **P 00 08 54.9 -0.4**
DUG pmax pmax
comp=Z,46nm,1.6s,mb5.2
DUG MLR MLR
comp=Z,952nm,22.0s,MS5.0
DUG Dugway 75.50 354 *e*P **P 00 08 54.9 -0.5**
comp=Z,46nm,1.6s,mb5.2
DUG LR LR
comp=Z,952nm,22.0s,MS5.0
DUG Dugway 75.50 354 ⇓P **P 00 08 55.6 +0.3**
baz=76
P05C Yuba Gap, Truc 75.59 348 ⇓P **P 00 08 55.6 -0.3**
baz=76
DAU Daniels Canyon 75.60 356 *e*P **P 00 08 55.3 -0.6**
O11A Cowboy Ranch, 75.71 352 P **P 00 08 56.9 +0.4**
baz=76,SNR=9.1
HOPS Hopland 75.74 346 ⇓P **P 00 08 57.4 +0.6**
baz=76
O12A Currie 75.74 353 ⇑P **P 00 08 56.9 +0.1**
baz=76
JLU Jordanelle 75.80 355 *e*P **P 00 08 56.4 -0.7**
ELN Prospectdale 75.86 20 *e*P **P 00 08 55.9 -1.5**
CTU Camp Tracy 75.91 355 *e*P **P 00 08 58.9 +1.2**
O09A Fish Creek Ran 75.93 351 P **P 00 08 58.9 +1.1**
baz=76,SNR=7.0
BLA Blacksburg 75.94 21 PFAKE 00 09 10.0 +12
BLA LR LR
comp=Z,1μm,19.0s,MS5.2
O10A Cortez Mining, 75.96 351 ⇑P **P 00 08 58.3 +0.3**
baz=76
ORV Oroville 75.99 347 ⇑P **P 00 08 58.6 +0.4**
baz=76
BEKR Beckwourth 76.10 348 P **P 00 08 58.7 0.0**
baz=76,SNR=14
O07A Toulon 76.16 350 P **P 00 09 01.1 +2.0**
baz=76,SNR=17
BMN Battle Mountai 76.19 351 *e*P **P 00 09 00.4 +1.1**
BMN MLR MLR
comp=Z,876nm,20.0s,MS5.1

ELK Elko 76.27 353 PFAKE 00 09 10.0 +10
ELK LR LR
comp=Z,818nm,19.0s,MS5.1
N13A Wendover, West 76.27 353 ⇓P **P 00 09 01.0 +1.2**
baz=76
O05C Quincy 76.28 348 ⇓P **P 00 09 01.7 +1.9**
baz=76
O06A Flanigan 76.30 349 ⇓P **P 00 09 00.9 +0.9**
baz=76
GASB Alder Springs 76.31 347 P **P 00 09 02.0 +2.0**
baz=76,SNR=6.8
PHWY Pilot Hill 76.31 0 *e*P **P 00 09 01.1 +1.1**
N12A Clover Valley, 76.35 353 P **P 00 09 01.8 +1.5**
baz=76,SNR=13
O03C Acorn Hollow, 76.52 347 ⇓P **P 00 09 02.9 +1.7**
baz=77
N08A GE Springer Mi 76.66 350 P **P 00 09 03.7 +1.8**
baz=77,SNR=6.6
O04C Chester 76.66 348 ⇑P **P 00 09 03.3 +1.3**
baz=77
M13A Montello 76.77 353 ⇑P **P 00 09 03.4 +0.8**
baz=77
N07B Gerlach 76.78 350 P **P 00 09 02.8 +0.2**
baz=77,SNR=19
HWUT Hardware Ranch 76.81 355 *e*P **P 00 09 07.3 +4.5**
HWUT LR LR
comp=Z,1µm,19.0s,MS5.2
O02C Red Bluff 76.83 347 ⇓P **P 00 09 03.9 +1.0**
baz=77
N06A Buffalo Meadow 76.88 349 P **P 00 09 02.2 -1.0**
baz=77,SNR=10
M12A Wells 76.90 353 P **P 00 09 04.0 +0.6**
baz=77,SNR=6.3
MAW Mawson 76.96 176 P **P 00 09 01.6 -2.1**
comp=Z,11nm,0.9s,mb4.8,baz=211,slow=7.8,SNR=9.2
MAW LR LR 00 44 25.2
comp=Z,1µm,18.1s,MS5.2,baz=188,slow=37
MAW Mawson 76.96 176 *e*P **P 00 09 01.1 -2.6**
MAW pmax pmax
comp=Z,8.0nm,0.5s
MAW Mawson 76.96 176 *e*P **P 00 09 01.1 -2.5**
comp=Z,7.7nm,0.5s,mb4.9
MAW LR LR 00 44 25.2
M11A Holland Ranch, 77.01 352 ⇑P **P 00 09 04.2 +0.3**
baz=77
WDC Whiskeytown Da 77.17 347 *e*P **P 00 09 05.5 +0.6**
WDC pmax pmax
comp=Z,31nm,1.1s,mb5.2
WDC Whiskeytown Da 77.17 347 *e*P **P 00 09 05.5 +0.6**
comp=Z,31nm,1.1s,mb5.2
WDC Whiskeytown Da 77.17 347 ⇓P **P 00 09 05.3 +0.4**
baz=77
M09A Marrel Ranch, 77.20 351 ⇑P **P 00 09 06.1 +1.1**
baz=77
HATC Hat Creek Radi 77.21 348 ⇑P **P 00 09 05.5 +0.4**
baz=77
M08A Happy Creek Ra 77.35 350 ⇑P **P 00 09 06.9 +1.1**
baz=77
MIR Mirnyy 77.38 188 *e*P **P 00 09 07.0 +1.0**
MIR *i* 00 09 20.0
MIR pmax pmax
comp=Z,200nm,1.7s,mb5.8
M06C Likely Place G 77.42 349 ⇑P **P 00 09 07.0 +0.8**
baz=78
L13A Double Diamond 77.47 354 ⇑P **P 00 09 07.0 +0.5**
baz=78
N02C Big Bar 77.55 346 ⇓P **P 00 09 08.2 +1.2**
baz=78
TAU Tasmania Unive 77.57 226 PFAKE 00 09 20.0 +13
TAU LR LR
comp=Z,834nm,19.0s,MS5.1
BBSR BB Station 77.58 35 PFAKE 00 09 20.0 +13
BBSR LR LR
comp=Z,838nm,21.0s,MS5.0
M05C Lookout 77.68 348 ⇓P **P 00 09 08.3 +0.6**
baz=78,SNR=6.6
SCIA State Center 77.76 9 PFAKE 00 09 20.0 +12
SCIA LR LR
comp=Z,728nm,21.0s,MS5.0
CBN Corbin 77.77 22 PFAKE 00 09 20.0 +12
CBN LR LR
comp=Z,3µm,20.0s,MS5.5
M03C McCloud 77.77 347 ⇑P **P 00 09 08.1 -0.1**
baz=78
L09A Wilkinson Ranc 77.81 351 ⇓P **P 00 09 08.2 -0.2**
baz=78
BW06 Boulder Array 77.86 357 *e*P **P 00 09 06.0 -2.7**
comp=Z,59nm,1.4s,mb5.3
BW06 LR LR
comp=Z,649nm,20.0s,MS5.0
PDAR Pinedale Array 77.86 357 P **P 00 09 05.7 -3.0**
comp=Z,22nm,1.1s,mb5.0,baz=162,slow=6.0,SNR=26
AHID Auburn Hatcher 77.93 356 *e*P **P 00 09 09.4 +0.3**
comp=Z,48nm,1.5s,mb5.2
AHID LR LR
comp=Z,1µm,21.0s,MS5.2
M02C Callahan 78.02 347 ⇑P **P 00 09 09.5 -0.1**
baz=78
K13A Stover Farm, H 78.04 354 ⇑P **P 00 09 09.4 -0.3**
baz=78
L07A Adell 78.04 350 P **P 00 09 10.2 +0.5**
baz=78,SNR=8.0
L08A Fields 78.07 350 ⇓P **P 00 09 10.0 +0.2**
baz=78
MOD Modoc 78.08 349 *e*P **P 00 09 10.7 +0.8**
comp=Z,31nm,1.3s,mb5.1
MOD LR LR
comp=Z,846nm,20.0s,MS5.1
MOD Modoc 78.08 349 ⇑P **P 00 09 10.3 +0.4**
baz=78,SNR=5.9
ACSO Alum Creek Sta 78.09 18 PFAKE 00 09 20.0 +10
ACSO LR LR
comp=Z,5.0nm,20.0s
K12A Draper Farm, C 78.11 353 ⇑P **P 00 09 10.2 +0.1**
baz=78
M04C Macdoel 78.22 348 ⇑P **P 00 09 10.4 -0.3**
baz=78
YBH Yreka Blue Hor 78.32 347 ⇓P **P 00 09 11.0 -0.3**
baz=78
MCWV Mont Chateau 78.38 20 PFAKE 00 09 20.0 +8.4
MCWV LR LR
comp=Z,2µm,20.0s,MS5.4
K09A Rome 78.49 351 ⇓P **P 00 09 12.0 -0.2**
baz=79
REDW Red Top Meadow 78.52 356 *e*P **P 00 09 12.8 +0.5**
L04A Klamath Falls 78.61 348 ⇑P **P 00 09 13.1 +0.2**
baz=79
K08A Mann Creek Ran 78.62 350 ⇑P **P 00 09 12.7 -0.2**
baz=79
K07A Rock Creek Ran 78.69 350 ⇑P **P 00 09 12.7 -0.6**
baz=79
J12A Stokes Ranch, 78.73 353 ⇑P **P 00 09 12.7 -0.8**
baz=79
DCID1 Drake Creek 78.77 356 *e*P **P 00 09 15.2 +1.5**
J13A Cove Ranch, Pi 78.79 354 ⇑P **P 00 09 12.8 -1.0**
baz=79
MOOW Moose Ponds 78.89 356 *e*P **P 00 09 12.9 -1.5**
K06A Valley Falls 78.94 349 ⇑P **P 00 09 14.5 -0.2**
baz=79
MFID Camas Ranch 78.97 352 ⇑P **P 00 09 14.2 -0.6**
baz=79
K05A Summer Lake 78.97 349 ⇓P **P 00 09 14.1 -0.7**
baz=79
HLID Hailey 78.98 354 *e*P **P 00 09 12.9 -2.0**
HLID LR LR
comp=Z,486nm,20.0s,MS4.8
HLID Hailey 78.98 354 ⇓P **P 00 09 14.4 -0.5**
baz=79,SNR=34
K04A Chilquin 79.00 348 ⇓P **P 00 09 15.2 +0.2**
baz=79
SDMD Soldier's Deli 79.04 22 *e*P **P 00 09 14.0 -1.2**
J09A Fry Pan Ranch, 79.13 351 P **P 00 09 15.1 -0.6**
baz=79,SNR=10
RSSD Black Hills 79.14 1 PFAKE 00 09 30.0 +14
RSSD LR LR
comp=Z,722nm,19.0s,MS5.0
HUMO Hull Mountain 79.21 347 ⇑P **P 00 09 15.7 -0.5**
baz=79
J08A Circle Bar Ran 79.23 351 ⇓P **P 00 09 15.5 -0.8**
baz=79
J06A Christmas Vall 79.37 349 P **P 00 09 17.6 +0.6**
baz=80,SNR=10
I11A Placerville 79.48 352 ⇓P **P 00 09 17.5 -0.1**
baz=80
J05A Fort Rock 79.57 348 ⇓P **P 00 09 18.0 -0.2**
baz=80
I09A Lost Marbles R 79.75 351 ⇑P **P 00 09 19.2 +0.1**
baz=80
I08A Drewsey 79.79 351 ⇑P **P 00 09 19.1 -0.2**
baz=80
YMR Madison River 79.82 356 *e*P **P 00 09 18.1 -1.4**
comp=Z,105nm,1.6s,mb5.5
SSPA Standing Stone 79.84 21 *e*P **P 00 09 16.8 -2.8**
comp=Z,58nm,1.5s,mb5.3
SSPA LR LR
comp=Z,1µm,21.0s,MS5.1
AAM Ann Arbor 79.89 16 PFAKE 00 09 30.0 +10
AAM LR LR
comp=Z,1µm,21.0s,MS5.1
H12A Diamond D Ranc 80.00 353 ⇓P **P 00 09 20.9 +0.4**
baz=80
QLMT Earthquake Lak 80.01 356 *e*P **P 00 09 22.2 +1.7**
I06A Prineville 80.06 349 ⇑P **P 00 09 20.2 -0.6**
baz=80
J02A Umpqua 80.06 347 ⇑P **P 00 09 20.6 -0.1**
baz=80
I07A Izee 80.09 350 ⇑P **P 00 09 20.9 0.0**
baz=80
MCMT McKenzie Canyo 80.10 355 *e*P **P 00 09 19.9 -1.1**
RLMT Red Lodge 80.20 357 PFAKE 00 09 30.0 +8.5
RLMT LR LR
comp=Z,856nm,20.0s,MS5.1
H10A Noah's Angus R 80.23 352 ⇓P **P 00 09 21.4 -0.3**
baz=80
H11A Donnelly 80.27 353 ⇓P **P 00 09 22.2 +0.3**
baz=80
H08A Prairie City 80.40 351 ⇑P **P 00 09 22.4 -0.2**
baz=80
G15A Dillon 80.41 355 ⇑P **P 00 09 22.7 0.0**
baz=80
H09A Durkee 80.42 351 ⇓P **P 00 09 22.6 -0.1**
baz=80
G13A Cobalt 80.48 354 ⇑P **P 00 09 22.7 -0.3**
baz=81
BMO Blue Mountains 80.56 352 *e*P **P 00 09 25.5 +2.1**
BMO LR LR
comp=Z,711nm,21.0s,MS5.0
H07A Lands Inn, Kim 80.60 350 P **P 00 09 23.9 +0.2**
baz=81,SNR=7.2
BOZ Bozeman (W) 80.84 356 *e*P **P 00 09 23.8 -1.1**
BOZ pmax pmax
comp=Z,45nm,1.6s,mb5.2
BOZ MLR MLR
comp=Z,854nm,20.0s,MS5.1
BOZ Bozeman (W) 80.84 356 *e*P **P 00 09 23.8 -1.2**
comp=Z,45nm,1.6s,mb5.2
BOZ LR LR
comp=Z,854nm,20.0s,MS5.1
BOZ Bozeman (W) 80.84 356 P **P 00 09 23.7 -1.2**
baz=81,SNR=7.4
H06A Lindquist Farm 80.85 349 ⇑P **P 00 09 25.9 +0.9**
baz=81
G11A Walters Elk Ra 80.98 352 ⇑P **P 00 09 25.6 -0.1**
baz=81
G09A Cove 81.03 351 ⇑P **P 00 09 26.1 +0.1**
baz=81
F14A Wisdom 81.12 355 ⇓P **P 00 09 26.9 +0.4**
baz=81
F13A Darby 81.18 354 P **P 00 09 26.0 -0.7**
baz=81,SNR=9.8
G08A Pilot Rock 81.20 351 ⇓P **P 00 09 26.4 -0.4**
baz=81
F12A Elk City 81.23 353 ⇑P **P 00 09 26.4 -0.7**
baz=81
G07A Ruggs Ranch, H 81.27 350 ⇓P **P 00 09 26.3 -1.0**
baz=81
F11A Grangeville 81.45 353 ⇑P **P 00 09 27.7 -0.5**
baz=82
F09A S2 Ranch, Elgi 81.47 351 ⇓P **P 00 09 28.3 -0.1**
baz=82
F10A Beach Ranch, E 81.65 352 ⇓P **P 00 09 29.6 +0.3**
baz=82
F08A Pendleton 81.67 351 ⇑P **P 00 09 28.8 -0.6**
baz=82
E15A Deer Lodge 81.68 355 ⇑P **P 00 09 29.4 0.0**
baz=82
LAO LASA Array 81.70 360 *e*P **P 00 09 31.1 +1.5**
comp=Z,39nm,1.0s,mb5.3
LAO LR LR
comp=Z,717nm,19.0s,MS5.0
E14A Clinton 81.73 355 ⇑P **P 00 09 28.8 -0.9**
baz=82
E13A Victor 81.81 354 ⇑P **P 00 09 29.6 -0.5**
baz=82
BINY Binghamton 81.85 22 PFAKE 00 09 40.0 +10
BINY LR LR
comp=Z,3µm,20.0s,MS5.6
E11A Bogner Ranch, 81.92 353 P **P 00 09 29.9 -0.7**
baz=82,SNR=11
F06A Goldendale 81.92 349 ⇓P **P 00 09 31.0 +0.3**
baz=82
F07A Phinny Hill Vi 81.92 350 ⇓P **P 00 09 29.9 -0.8**
baz=82
GLMI Grayling 82.08 15 PFAKE 00 11 20.0
GLMI LR LR
comp=Z,1µm,20.0s,MS5.3
E10A Myers Farm, Un 82.14 352 ⇓P **P 00 09 31.6 -0.3**
baz=82
MSO Missoula 82.18 354 *e*P **P 00 09 33.4 +1.4**
CHMT Chamberlain Mo 82.21 355 *e*P **P 00 09 31.9 -0.2**
E08A Dider Farm, El 82.39 351 ⇑P **P 00 09 32.9 -0.3**
baz=82
D14A Greenough 82.39 355 ⇑P **P 00 09 32.8 -0.4**
baz=82
D13A Huson 82.48 354 ⇑P **P 00 09 33.9 +0.2**
baz=83
E07A Sunnyside 82.56 350 ⇓P **P 00 09 33.6 -0.4**
baz=83
D09A Jones Farm, Ri 82.86 351 ⇓P **P 00 09 35.8 +0.3**
baz=83
C13A Hot Springs 83.08 354 ⇑P **P 00 09 36.9 +0.2**
baz=83
C14A Swan Lake 83.09 355 ⇓P **P 00 09 36.5 -0.4**
baz=83
EGMT Eagleton 83.11 357 PFAKE 00 09 50.0 +13
EGMT LR LR
comp=Z,726nm,19.0s,MS5.1
BSMT Bassoo Peak 83.26 354 *e*P **P 00 09 37.2 -0.5**
WES Weston 83.52 25 PFAKE 00 09 50.0 +11
WES LR LR
comp=Z,711nm,19.0s,MS5.1
HRV Harvard--Oak R 83.55 25 PFAKE 00 09 50.0 +11
HRV LR LR
comp=Z,1µm,21.0s,MS5.2
C09A Chrisman Ranch 83.58 351 ⇓P **P 00 09 39.2 -0.1**
baz=84
ACCN Adirondack Com 83.64 23 *e*P **P 00 09 36.1 -3.5**
C07A Waterville 83.70 350 ⇑P **P 00 09 40.2 +0.3**
baz=84
NEW Newport 83.90 352 LR LR 00 41 08.7
comp=Z,634nm,18.2s,MS5.0,baz=146,slow=32
EYMN Ely 83.92 10 *e*P **P 00 09 39.3 -1.7**
EYMN LR LR
comp=Z,682nm,19.0s,MS5.0
NCB Newcomb 84.00 22 *e*P **P 00 09 41.8 +0.4**
NCB LR LR
comp=Z,2µm,22.0s,MS5.3
C04A Brinnon 84.17 348 ⇑P **P 00 09 42.6 +0.3**
baz=84
B09A Rice 84.18 352 P **P 00 09 43.5 +1.1**
baz=84,SNR=7.7
B08A Colville Reser 84.26 351 ⇓P **P 00 09 43.0 +0.2**
baz=84
A13A Flathead Natio 84.31 354 ⇓P **P 00 09 43.2 +0.2**
baz=84
FFD Franklin Falls 84.37 24 *e*P **P 00 09 40.9 -2.5**
comp=Z,42nm,1.0s,mb5.5
WALA Waterton Lakes 84.39 355 *e*P **P 00 09 43.2 -0.2**
LONY Lake Ozonia 84.47 22 *e*P **P 00 09 42.1 -1.7**
LONY LR LR
comp=Z,2µm,21.0s,MS5.5
A11A Hall Mountain, 84.51 353 P **P 00 09 45.2 +1.1**
baz=85,SNR=8.3
B05A Bryant 84.56 349 ⇓P **P 00 09 45.5 +1.2**
baz=85
MSNY Massena 84.73 21 *e*P **P 00 09 44.1 -1.1**
A09A Danville 84.77 351 P **P 00 09 47.2 +1.8**
baz=85,SNR=6.9
A08A Turner Farm, O 84.84 351 ⇑P **P 00 09 46.5 +0.8**
baz=85
LBNH Lisbon 84.97 24 PFAKE 00 10 00.0 +14
LBNH LR LR
comp=Z,1µm,20.0s,MS5.3
A07A Ashnola River, 85.08 350 ⇓P **P 00 09 47.3 +0.4**
baz=85
A05A Maple Falls 85.27 349 ⇑P **P 00 09 48.3 +0.4**
baz=85
ULM Lac du Bonnet 85.70 6 P **P 00 09 46.4 -3.6**
comp=Z,6.7nm,0.8s,mb4.9,baz=202,slow=5.4,SNR=14
ULM LR LR 00 47 25.8
comp=Z,302nm,19.6s,MS4.7,baz=217,slow=35
ULM Lac du Bonnet 85.70 6 P **P 00 09 46.4 -3.6**
ULM LR LR 00 47 25.8
STKA Stephens Creek 88.05 232 P **P 00 09 57.6 -3.9**
comp=Z,3.1nm,0.6s,mb4.7,baz=39,slow=2.8,SNR=5.4
STKA LR LR 00 42 09.8
comp=Z,3µm,20.4s,MS5.7,baz=74,slow=31
STKA Stephens Creek 88.05 232 P **P 00 09 57.6 -3.9**
STKA *e*P 00 09 58.1
STKA LR LR 00 42 09.8
HNR Honiara 88.17 260 PFAKE 00 10 10.0 +8.0
HNR LR LR
comp=Z,812nm,19.0s,MS5.2
EDM Edmonton 88.49 355 *e*P **P 00 10 02.7 -0.9**
CTAO Charters Tower 92.39 243 PFAKE 00 10 30.0 +8.3
CTAO LR LR
comp=Z,2µm,19.0s,MS5.6
SIT Sitka 95.44 344 PFAKE 00 10 50.0 +14
SIT LR LR
comp=Z,2µm,21.0s,MS5.5
SCHQ Schefferville 95.84 21 LR LR 00 47 50.1
comp=Z,429nm,19.8s,MS4.9,baz=210,slow=32
SCHQ Schefferville 95.84 21 PFAKE 00 10 50.0 +12
SCHQ LR LR
comp=Z,844nm,22.0s,MS5.2
SUR Sutherland 95.95 137 PFAKE 00 10 50.0 +12
SUR LR LR
comp=Z,419nm,22.0s,MS4.9
YKA Yellowknife Ar 97.80 356 P **P 00 10 42.7 -3.8**
comp=Z,2.5nm,1.0s,mb4.7,baz=168,slow=4.2,SNR=12
YKA PKKPbc PKKPbc 00 27 19.1 -2.0
comp=Z,0.3nm,0.7s,baz=339,slow=3.4,SNR=5.7
YKA LR LR 00 49 40.1
comp=Z,518nm,18.0s,MS5.1,baz=15,slow=32
YKA Yellowknife Ar 97.80 356 P **P 00 10 42.7 -3.8**
YKA PKKPbc PKKPbc 00 27 19.1 -2.0
YKA LR LR 00 49 40.1
PMG Port Moresby 98.32 252 PFAKE 00 11 00.0 +11
PMG LR LR
comp=Z,730nm,20.0s,MS5.2
ASAR Alice Springs 98.60 233 P **P 00 10 45.6 -4.4**
comp=Z,2.7nm,1.1s,mb4.7,baz=139,slow=4.7,SNR=8.4
ASAR PKKP PKKPbc 00 27 19.9 +1.0
comp=Z,0.3nm,0.4s,baz=316,slow=2.2,SNR=6.1
KDAK Kodiak Island 100.83 337 PFAKE 00 11 10.0 +10
KDAK LR LR
comp=Z,415nm,22.0s,MS4.9
WRA Warramunga Arr 100.90 236 P Pdif 00 10 56.1 -4.1
comp=Z,1.5nm,0.9s,baz=136,slow=3.9,SNR=9.4
NWAO Narrogin (SRO) 101.05 216 PFAKE 00 11 10.0 +9.0
NWAO LR LR
comp=Z,1µm,22.0s,MS5.3
BOSA Boshof 101.29 137 PFAKE 00 11 10.0 +8.0
BOSA LR LR
comp=Z,1µm,20.0s,MS5.3
PMR Palmer 102.87 340 PFAKE 00 11 20.0 +11
PMR LR LR
comp=Z,1µm,22.0s,MS5.3
TSUM Tsumeb 103.58 126 PFAKE 00 11 20.0 +7.8
TSUM LR LR
comp=Z,800nm,21.0s,MS5.2
EGAK Eagle 103.64 345 PFAKE 00 11 20.0 +7.5
EGAK LR LR
comp=Z,786nm,21.0s,MS5.2
LBTB Lobatse 104.26 135 PFAKE 00 11 30.0 +15
LBTB LR LR
comp=Z,909nm,21.0s,MS5.3
MCK McKinley 104.57 342 PFAKE 00 11 30.0 +13
MCK LR LR
comp=Z,509nm,21.0s,MS5.0
COLA College 105.24 343 PFAKE 00 15 40.0 +6.3
COLA LR LR
comp=Z,535nm,21.0s,MS5.1
SFJD Kangerlussuaq 110.24 20 PFAKE 00 15 50.0 +7.0
SFJD LR LR
comp=Z,504nm,19.0s,MS5.1
TORD Torodi Ar. Bea 111.57 89 Pdiff Pdif 00 11 49.5 +1.8
comp=Z,0.7nm,1.1s,baz=261,slow=4.5,SNR=2.6
TORD PKiKP PKiKP 00 15 46.1 +0.5
comp=Z,0.7nm,0.8s,baz=245,slow=1.3,SNR=4.4
TORD PKKPbc PKKPbc 00 26 36.7 -2.8
comp=Z,0.4nm,0.6s,baz=113,slow=1.5,SNR=3.5
TORD Torodi Ar. Bea 111.57 89 Pdif Pdif 00 11 49.5 +1.8
TORD PKPdf PKiKP 00 15 46.1 +0.5
TORD PKKPbc PKKPbc 00 26 36.7 -2.8
MSKU Masuku 112.50 109 PFAKE 00 16 00.0 +13
MSKU LR LR
comp=Z,48nm,19.0s,MS4.1
LSZ Lusaka 113.28 131 PFAKE 00 16 00.0 +11
LSZ LR LR
comp=Z,691nm,21.0s,MS5.2
GUMO Guam 113.55 270 PFAKE 00 16 00.0 +11
GUMO LR LR
comp=Z,509nm,20.0s,MS5.1
PAB San Pablo 119.30 60 PFAKE 00 16 10.0 +10
PAB LR LR
comp=Z,2µm,22.0s,MS5.6
ESDC Sonseca Array 119.62 60 PKP PKPdf 00 16 01.6 +0.6
comp=Z,2.0nm,0.7s,baz=262,slow=1.6,SNR=14
ESLA Sonseca Array 119.62 60 *e*PKPdf PKPdf 00 16 01.7 +0.7
ESLA LR LR
comp=Z,10µm,22.0s
PET Petropavlovsk 120.56 316 PFAKE 00 16 10.0 +7.2
PET LR LR
comp=Z,2µm,21.0s,MS5.6
BILL Bilibino 121.59 334 PFAKE 00 16 10.0 +5.2
BILL LR LR
comp=Z,603nm,19.0s,MS5.3
SJPF Ste Jean 122.79 58 *e*PKIKP PKPdf 00 16 05.9 -1.2
comp=Z,27nm,0.8s
ETSF Etsaut 123.18 58 *e*PKIKP PKPdf 00 16 06.8 -1.0
comp=Z,11nm,0.8s
EPF Esparros 123.85 58 *e*PKIKP PKPdf 00 16 07.8 -1.3
comp=Z,21nm,0.9s
GRR Gorron 124.67 52 *e*PKIKP PKPdf 00 16 08.6 -2.1
LFF La Frestale 124.72 56 *e*PKIKP PKPdf 00 16 10.2 -0.6
FLN La Foliniere 125.01 51 *e*PKIKP PKPdf 00 16 09.1 -2.2
comp=Z,38nm,0.9s
MTLF Montolieu 125.25 58 *e*PKIKP PKPdf 00 16 09.9 -1.9
comp=Z,35nm,1.3s
DAV Davao City (W) 125.33 252 PFAKE 00 16 20.0 +8.0
DAV LR LR
comp=Z,558nm,20.0s,MS5.2
AVF Avril sur Loir 126.99 54 *e*PKIKP PKPdf 00 16 12.8 -2.3
comp=Z,15nm,1.0s
ERM Erimo 127.19 299 PFAKE 00 16 30.0 +14
ERM LR LR
comp=Z,132nm,20.0s,MS4.6
SMF Signal de Mont 127.28 55 *e*PKIKP PKPdf 00 16 13.7 -2.0
comp=Z,18nm,1.0s
COCO West Island 128.12 208 PFAKE 00 16 30.0 +13
COCO LR LR
comp=Z,203nm,22.0s,MS4.8
BAIF Baives 128.29 51 *e*PKIKP PKPdf 00 16 16.7 -0.9
MEZF Maizieres J'vi 128.51 53 *e*PKIKP PKPdf 00 16 16.5 -1.5
YSS Yuzh-Sakhalins 128.75 305 PKHKP 00 15 59.0
MJAR Matsushiro Arr 129.17 291 PKP PKPdf 00 16 17.1 -2.2
comp=Z,3.0nm,0.9s,baz=125,slow=2.0,SNR=4.0
MAJO Matsushiro 129.18 291 PFAKE 00 16 30.0 +11
MAJO LR LR
comp=Z,377nm,20.0s,MS5.1
HAU Haudompre 129.25 54 *e*PKIKP PKPdf 00 16 17.4 -2.0
KBS Kingsbay 129.70 13 PFAKE 00 16 30.0 +10
KBS LR LR
comp=Z,1µm,22.0s,MS5.5
KMBO Kilima Mbogo 129.82 128 PFAKE 00 16 30.0 +9.5
KMBO LR LR
comp=Z,764nm,21.0s,MS5.4
BFO Black Forest 130.61 53 PFAKE 00 16 30.0 +8.0
BFO LR LR
comp=Z,138nm,20.0s,MS4.7
GRFO Grafenberg 132.70 52 PFAKE 00 16 40.0 +14
GRFO LR LR
comp=Z,647nm,22.0s,MS5.3
GRA1 Grafenberg Arr 132.70 52 *e*PKP PKPdf 00 16 27.1 +1.1
GRF Grafenberg Arr 132.70 52 *e*PKIKP PKPdf 00 16 27.1 +1.1
NB2 NORSAR Subarra133.10 36 PKPdf PKPdf 00 16 26.0 -0.7
comp=Z,12nm,1.2s,baz=289,slow=1.9
NOA NORSAR Array B133.10 36 PKP PKPdf 00 16 24.8 -2.0
comp=Z,2.1nm,0.8s,baz=282,slow=2.2,SNR=3.1

NOA	**NORSAR Array B**	**133.10**	**36**	PKP	PKPdf	00 16 24.8	-2.0
NKC	**Novy Kostel**	**133.55**	**51**	*e*PKP	PKPdf	00 16 28.2	+0.6
CLL	**Collm**	**134.00**	**50**	*i* PKIKP	PKPdf	00 16 29.5	+1.1
CLL				*i*		00 16 33.1	
CLL	**Collm**	**134.00**	**50**	*i* PKiKP	PKiKP	00 16 29.5	-0.2
	comp=Z,20nm,1.2s						
CLL				LV		00 10 00.0	
	comp=Z,300nm,20.5s						
CLL				*i* pPKiKP		00 16 33.1	
CLL				*e*PKSdf		00 20 06.0	
CLL				*e*PS	PS	00 29 17.0	-1.1
CLL				*e*PPS		00 31 07.0	
CLL				*e*SSS		00 41 38.0	
CLL				*e*SSSS		00 45 06.0	
KHC	**Kasperske Hory**	**134.17**	**53**	*e*PKP	PKPdf	00 16 28.9	+0.2
KHC				x	x	00 16 37.0	
KHC	**Kasperske Hory**	**134.17**	**53**	*e*PKP	PKPdf	00 16 28.9	+0.2
KHC				*e*		00 16 37.0	
TIXI	**Tiksi**	**134.19**	**339**	*i* PKIKP	PKPdf	00 16 26.3	-2.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	**134.19**	**339**	PFAKE		00 16 40.0	+11
TIXI				LR	LR		
	comp=Z,510nm,21.0s,MS5.2						
GERES	**GERESS Array B**	**134.22**	**53**	PKP	PKPdf	00 16 28.2	-0.6
	comp=Z,2.7nm,0.9s,baz=225,slow=1.7,SNR=3.7						
BRG	**Berggiesshubel**	**134.56**	**51**	*e*P	PKPdf	00 16 30.7	+1.3
	comp=Z,6.2nm,1.2s						
PRU	**Pruhonice**	**134.87**	**52**	*e*PKP	PKPdf	00 16 30.8	+0.8
PVCC	**Panska Ves**	**134.93**	**51**	*e*PKP	PKPdf	00 16 31.4	+1.2
UPC	**Upice**	**135.85**	**51**	*e*PKP	PKPdf	00 16 32.0	+0.1
DPC	**Dobruska-Polom**	**136.04**	**52**	*e*PKP	PKPdf	00 16 32.1	-0.1
MSEY	**Mahe Island**	**136.39**	**152**	PFAKE		00 16 40.0	+7.1
MSEY				LR	LR		
	comp=Z,221nm,21.0s,MS4.9						
MORC	**Moravsky Berou**	**136.80**	**52**	⇓*i P*	PKPdf	00 16 32.6	-1.0
KEV	**Kevo**	**137.15**	**22**	*ep*		00 16 22.1	
	comp=Z,3.4nm,0.8s						
KEV	**Kevo**	**137.15**	**22**	*e*PKHKP		00 16 22.1	
KEV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KEV	**Kevo**	**137.15**	**22**	PFAKE		00 16 40.0	+5.7
KEV				LR	LR		
	comp=Z,653nm,20.0s,MS5.4						
OKC	**Ostrava-Krasne**	**137.19**	**52**	*e*PKP	PKPdf	00 16 35.6	+1.2
KSRS	**Korea Array**	**137.32**	**289**	PKP	PKPdf	00 16 33.3	-1.3
	comp=Z,2.9nm,0.9s,baz=86,slow=2.1,SNR=4.9						
DGAR	**Diego Garcia**	**137.40**	**177**	PFAKE		00 16 50.0	+15
DGAR				LR	LR		
	comp=Z,308nm,21.0s,MS5.0						
MDJ	**Mudanjiang**	**137.41**	**300**	PFAKE		00 16 50.0	+15
MDJ				LR	LR		
	comp=Z,363nm,20.0s,MS5.1						
VYHS	**Vyhne**	**137.58**	**54**	*e*PKIKP	PKPdf	00 16 35.7	+0.6
INCN	**Inchon**	**138.33**	**289**	PFAKE		00 16 50.0	+14
INCN				LR	LR		
	comp=Z,271nm,19.0s,MS5.0						
BZS	**Buzias**	**139.28**	**59**	⇓*i P*	PKPdf	00 16 34.6	-3.6
KAF	**Kangasniemi**	**139.96**	**33**	*ep*	PKPdf	00 16 42.3	+2.9
	comp=Z,5.1nm,0.7s						
FINES	**FINESS Array B**	**140.07**	**34**	PKP	PKPdf	00 16 36.5	-3.1
	comp=Z,1.7nm,0.7s,baz=197,slow=6.0,SNR=4.9						
GZR	**Gura Zlata**	**140.08**	**59**	⇑*i P*	PKPdf	00 16 40.1	+0.5
CLNS	**Chul'man**	**140.08**	**319**	*e*PKIKP	PKPdf	00 16 39.9	+0.2
CLNS				pmax	pmax		
	comp=Z,14nm,0.8s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
DRGR		**140.11**	**57**	⇓PKIKP	PKPdf	00 16 40.4	+0.7
DRGR		**140.11**	**57**	⇓*i P*	PKPdf	00 16 40.3	+0.6
VOIR		**141.68**	**59**	⇑*i P*	PKPdf	00 16 45.5	+3.0
JOF	**Joensuu**	**141.80**	**30**	*ep*	PKPdf	00 16 39.5	-3.3
	comp=E,3.1nm,0.6s						
BURAR	**Bucovina Array**	**141.83**	**56**	⇓*i P*	PKPdf	00 16 40.1	-2.7
SNX	**Sinaia**	**142.00**	**60**	⇑*i P*	PKPdf	00 16 41.3	-1.8
MLR	**Muntele Rosu**	**142.31**	**59**	PKP	PKPdf	00 16 39.3	-4.3
	comp=E,2.6nm,0.8s,baz=176,slow=13,SNR=4.2						
MLR	**Muntele Rosu**	**142.31**	**59**	⇓*i P*	PKPdf	00 16 37.6	-6.1
PLOR	**Plostina**	**142.81**	**59**	⇑*i P*	PKPdf	00 16 44.7	+0.1
TIRR	**Tirgusor**	**144.03**	**61**	⇓*i P*	PKPdf	00 16 44.5	-2.2
KIEV	**Kiev**	**144.24**	**50**	PFAKE		00 17 00.0	+13
KIEV				LR	LR		
	comp=Z,840nm,19.0s,MS5.5						
ULDT	**Uludag**	**144.24**	**69**	*i P*	PKPdf	00 16 43.8	-3.3
HIA	**Hailar**	**144.24**	**307**	PFAKE		00 17 00.0	+13
HIA				LR	LR		
	comp=Z,475nm,19.0s,MS5.3						
AKASG	**Malin Array Be**	**144.24**	**50**	PKP	PKPdf	00 16 42.2	-4.9
	comp=Z,5.2nm,0.8s,baz=268,slow=4.2,SNR=12						
KIS	**Kishinev**	**144.30**	**57**	*e*PKP	PKPdf	00 16 41.0	-6.2
KIS				LRM		01 12 40.0	
	comp=Z,600nm,20.0s						
QIZ	**Qiongzhong**	**144.71**	**252**	PFAKE		00 17 00.0	+12
QIZ				LR	LR		
	comp=Z,513nm,21.0s,MS5.3						
TKTP	**Tekketepe**	**144.85**	**72**	*i P*	PKPdf	00 16 47.0	-1.1
BORA	**Eskisehir**	**145.21**	**69**	*i P*	PKPbc	00 16 46.1	-2.3
BOD	**Bodaibo**	**145.45**	**323**	*e*PKHKP		00 16 42.4	
BOD				pmax	pmax		
	comp=Z,22nm,1.2s						
ESKT	**Eskisehir**	**145.47**	**70**	*i P*	PKPdf	00 16 47.5	-1.7
KLMR	**Klimovskoe**	**146.20**	**30**	*e*PKIKP	PKPdf	00 16 46.7	-3.7
EIL	**Elat**	**146.46**	**88**	*e*PKPdf	PKPdf	00 16 51.5	+0.7
SGKT	**Sivrigoynuk**	**146.50**	**68**	*i P*	PKPdf	00 16 50.0	-1.0
BJI	**Beijing**	**146.81**	**291**	PKP	PKPdf	00 16 50.4	-1.1
BJI				PP	PP	00 20 38.5	+21
BJI				SS	SS	00 39 20.0	+3.5
BJI				LR	LR		
	comp=Z,590nm,23.9s,MS5.3						
BJT	**Baijiatuau**	**146.81**	**291**	PFAKE		00 17 00.0	+8.5
BJT				LR	LR		
	comp=Z,536nm,20.0s,MS5.3						
ANTO	**Ankara**	**147.00**	**70**	⇓PKP2	PKPab	00 16 53.6	-1.7
ANTO				MLR	MLR		
	comp=Z,280nm,22.0s,MS5.0						
ANTO	**Ankara**	**147.00**	**70**	⇓*i P*	PKPdf	00 16 53.6	+1.8
OBN	**Obninsk**	**147.44**	**41**	*e*PKP2	PKPab	00 16 57.7	+0.7
OBN				pmax	pmax		
	comp=Z,14nm,0.8s						
OBN	**Obninsk**	**147.44**	**41**	*e*PKPdf	PKPdf	00 16 53.1	+0.6
OBN				LR	LR		
	comp=Z,207nm,20.0s,MS4.9						
ELDT	**Eldivan**	**147.54**	**69**	*i P*	PKPbc	00 16 56.4	+1.1
BALT	**Daday**	**147.57**	**67**	*i P*	PKPdf	00 16 52.7	0.0
CIT	**Chita**	**147.62**	**313**	*e*PKIKP	PKPdf	00 16 51.6	-1.2
CIT				pmax	pmax		
	comp=Z,60nm,1.4s						
BR131	**Keskin Array S**	**147.63**	**70**	*e*PKPdf	PKPdf	00 16 53.2	+0.4
BR131				LR	LR		
	comp=Z,484nm,20.0s,MS5.3						
BRTR	**Keskin Array B**	**147.63**	**70**	PKPbc	PKPbc	00 16 53.3	-2.3
	comp=Z,13nm,0.9s,baz=195,slow=3.3,SNR=26						
MOS	**Moscow**	**147.76**	**39**	*e*PKP2	PKPab	00 16 54.4	-3.9
MOS				pmax	pmax		
	comp=Z,97nm,1.7s						
SIM	**Simferopol'**	**148.09**	**60**	*d i* PKP2	PKPab	00 16 59.4	-0.2
SIM				pmax	pmax		
	comp=Z,25nm,0.8s						
CDAG	**Cicekdag**	**148.19**	**70**	*i P*	PKPbc	00 16 57.8	+0.8
AVNT	**Avonos**	**148.48**	**72**	*i P*	PKPdf	00 16 55.1	+0.8
CTKT	**Corum**	**148.58**	**68**	*i P*	PKPdf	00 16 56.4	+2.0
BOYT	**Boyabat**	**148.70**	**67**	*i P*	PKPbc	00 16 58.7	+0.3
COBT	**Iskenderun**	**149.27**	**77**	*i P*	PKPdf	00 16 59.1	+3.6
NST	**Nakhon Sawan**	**149.71**	**236**	P	PKPbc	00 17 00.0	-0.9
GZT	**Gaziantep**	**150.43**	**75**	*i P*	PKPdf	00 16 59.0	+1.7
PALK	**Pallekele**	**151.42**	**193**	PFAKE		00 17 10.0	+11
PALK				LR	LR		
	comp=Z,220nm,19.0s,MS5.0						
ELZG	**Elazig**	**151.67**	**73**	*i P*	PKPdf	00 17 01.0	+1.7
VRHR	**Novokhopersk**	**151.75**	**46**	*e*PKIKP	PKPbc	00 17 06.2	+0.5
VRHR				pmax	pmax		
	comp=Z,40nm,0.7s						
VRHR				pmax	pmax		
	comp=N,30nm,0.8s						
VRHR				pmax	pmax		
	comp=E,40nm,1.1s						
KELT	**Kelkit**	**151.97**	**70**	*i P*	PKPbc	00 17 10.0	+3.8
SOC	**Sochi**	**152.20**	**62**	*i* PKIKP	PKPbc	00 17 04.5	-2.2
SOC				*e*		00 20 45.0	
SOC				*e*PPP		00 24 07.3	
SOC				*e*SSS		00 45 56.6	
SOC				pmax	pmax		
	comp=Z,41nm,0.9s						
CM31	**Chiang Mai Arr**	**152.46**	**239**	PFAKE		00 17 10.0	+10
CM31				LR	LR		
	comp=Z,456nm,20.0s,MS5.3						
CHTO	**Chiang Mai**	**152.69**	**239**	*e*PKIKP	PKPbc	00 17 08.4	+0.6
CHTO				MLR	MLR		
	comp=Z,406nm,21.0s,MS5.2						
ULN	**Ulaanbaatar**	**152.77**	**307**	*e*PKIKP	PKPdf	00 16 57.7	-3.2
ULN				MLR	MLR		
	comp=Z,558nm,22.0s,MS5.3						
IRK	**Irkutsk**	**152.88**	**318**	*e*PKIKP	PKPdf	00 17 05.1	+4.0
IRK				*e*		00 21 00.4	
IRK				pmax	pmax		
	comp=Z,73nm,1.6s						
SONM	**Songino Array**	**153.21**	**308**	PKP	PKPdf	00 16 59.4	-2.1
	comp=Z,2.4nm,0.6s,baz=177,slow=1.0,SNR=13						
SONM				PKPbc	PKPbc	00 17 04.9	-4.1
	comp=Z,12nm,0.7s,baz=135,slow=2.5,SNR=40						
TLY	**Talaya**	**153.48**	**317**	*e*PKIKP	PKPbc	00 17 07.1	-2.5
TLY				*e*		00 20 59.3	
TLY				pmax	pmax		
	comp=Z,32nm,1.2s						
TLY	**Talaya**	**153.48**	**317**	*e*PKPdf	PKPbc	00 17 08.6	-1.0
TLY				LR	LR		
	comp=Z,114nm,21.0s,MS4.7						
KMI	**Kunming**	**153.51**	**255**	PKIKP	PKPdf	00 17 01.0	-1.0
KMI						00 17 08.7	
KMI	**Kunming**	**153.51**	**255**	PKP	PKPdf	00 17 01.0	-1.0
KMI				pPKP	pPKPdf	00 17 08.7	+3.3
KMI				sPKP		00 17 11.5	
ERZM	**Erzurum**	**153.58**	**70**	*i P*	PKPbc	00 17 11.5	+1.7
KIV	**Kislovodsk**	**154.29**	**61**	*e*PKIKP	PKPbc	00 17 11.7	+0.4
KIV				MLR	MLR		
	comp=Z,88nm,20.0s,MS4.6						
KIV	**Kislovodsk**	**154.29**	**61**	*e*PKPbc	PKPbc	00 17 11.7	+0.4
KIV				LR	LR		
	comp=Z,88nm,20.0s,MS4.6						
ZEI	**Tsey**	**155.33**	**63**	*e*PKIKP	PKPdf	00 17 05.7	+1.2
LZH	**Lanzhou**	**156.09**	**280**	*e*PKIKP	PKPdf	00 17 03.0	-2.5
LZH						00 17 10.5	
LZH	**Lanzhou**	**156.09**	**280**	*e*PKP	PKPdf	00 17 03.0	-2.5
LZH				pPKP	pPKPdf	00 17 10.5	+1.6
LZH				sPKP		00 17 13.0	
GNI	**Garni**	**156.17**	**70**	PFAKE		00 17 20.0	+14
GNI				LR	LR		
	comp=Z,370nm,21.0s,MS5.2						
ARU	**Arti**	**156.37**	**22**	PFAKE		00 17 20.0	+14
ARU				LR	LR		
	comp=Z,214nm,20.0s,MS5.0						
NVS	**Novosibirsk**	**159.59**	**345**	*e*PKP2	PKPab	00 17 41.8	-6.3
NVS				*e*		00 21 22.7	
NVS				pmax	pmax		
	comp=N,13nm,1.7s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,19nm,1.7s						
ZAL	**Zalesovo**	**160.06**	**342**	PKP	PKPdf	00 17 07.9	-2.4
	comp=Z,1.9nm,0.8s,baz=30,slow=3.1,SNR=8.4						
AKTK	**Aktyubinsk**	**160.85**	**33**	PKP	PKPdf	00 17 10.8	-0.4
AKTK				PKPab	PKPab	00 17 51.8	-1.8
AKTO	**Aktyubinsk**	**160.85**	**33**	PKP	PKPdf	00 17 10.8	-0.4
	comp=Z,4.9nm,1.2s,baz=345,slow=2.9,SNR=5.2						
AKTO				PKPab	PKPab	00 17 51.8	-1.8
	comp=Z,3.4nm,0.9s,baz=269,slow=5.0,SNR=4.9						
CHKZ	**Chkalovo**	**161.52**	**7**	*e*PKIKP	PKPdf	00 17 11.0	-0.9
BRVK	**Borovoye**	**162.10**	**8**	*e*PKIKP	PKPdf	00 17 12.1	-0.4
BRVK				MLR	MLR		
	comp=Z,299nm,21.0s						
KURK	**Kurchatov**	**164.37**	**350**	PFAKE		00 17 20.0	+5.3
KURK				LR	LR		
	comp=Z,202nm,22.0s						
LSA	**Lhasa**	**164.75**	**253**	*e*PKIKP	PKPdf	00 17 16.1	+1.1
LSA				MLR	MLR		
	comp=Z,604nm,20.0s						
MKAR	**Makanchi Array**	**167.13**	**335**	PKP	PKPdf	00 17 15.6	-1.4
	comp=Z,1.1nm,0.9s,baz=333,slow=1.4,SNR=3.8						
AAK	**Ala-Archa**	**172.76**	**359**	PFAKE		00 17 30.0	+10
AAK				LR	LR		
	comp=Z,171nm,21.0s						

*IDC **15** 23:58:40.6±1.2, 035N×9968E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=53.3km s-min=14.5km az=61.0*
*ISCJB **15** 23:58:44.6±1.1, 05N±01×999E±02, h35km, mb3.8/5, Error ellipse: s-maj=36.1km s-min=13.7km az=121.2*
*NEIC **15** 23:58:45.6±1.0, 050N×9993E, h30km, Error ellipse: s-maj=32.4km s-min=12.4km az=60.0*
ISC 15 23:58:46.6±1.1, 06N±02×999E±02, h35km, n8, σ0§60/8, mb3.8/5, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.45**	**336**	Pn	**Pn**	**23 59 24.0**	**0.0**
	16nm,0.3s,baz=165,slow=10.0,SNR=65						
PSI				Lg		23 59 56.8	
	44nm,0.3s,baz=264,slow=21,SNR=11						
KULM	**Kulim**	**4.77**	**9**	⇓*e*Pn	**Pn**	**23 59 55.2**	**-0.7**
WRA	**Warramunga Arr**	**39.40**	**123**	P	**P**	**00 06 12.2**	**-0.7**
	0.7nm,0.7s,mb3.5,baz=300,slow=8.8,SNR=4.3						
ASAR	**Alice Springs**	**40.85**	**128**	P	**P**	**00 06 25.6**	**+0.6**
	0.2nm,0.3s,mb3.2,baz=299,slow=7.3,SNR=5.2						
ASAR				PcP	PcP	00 08 25.6	+0.3
	0.4nm,0.5s,baz=326,slow=2.1,SNR=3.7						
SONM	**Songino Array**	**47.43**	**6**	P	**P**	**00 07 18.6**	**+0.9**
	1.3nm,0.9s,mb3.9,baz=194,slow=8.3,SNR=7.3						
SONM				PcP	PcP	00 08 48.9	+1.1
	0.9nm,0.6s,baz=190,slow=8.9,SNR=5.6						
MK31	**Makanchi Array**	**48.57**	**344**	*e*P	**P**	**00 07 26.6**	**+0.2**
MKAR	**Makanchi Array**	**48.57**	**344**	P	**P**	**00 07 26.9**	**+0.4**
	2.2nm,0.7s,mb4.3,baz=160,slow=8.7,SNR=16						
BRTR	**Keskin Array B**	**71.56**	**312**	P	**P**	**00 10 03.3**	**-0.7**
	1.1nm,0.6s,mb3.9,baz=129,slow=7.4,SNR=6.1						

*IDC **16** 00:10:51.7±1.2, 872S×11426E, h0km, mb4.5/5, mb1 4.7/6, mb1mx4.1/19, mbtmp4.5/6, ML4.3/1, Error ellipse: s-maj=66.7km s-min=20.6km az=47.0*
*ISCJB **16** 00:10:53.4±0.8, 84S±02×1143E±02, h35km, mb4.7/8, Error ellipse: s-maj=36.9km s-min=11.6km az=103.4*
*NEIC **16** 00:10:57.2±0.9, 862S×11441E, h35km, mb4.3/1, Error ellipse: s-maj=29.4km s-min=14.8km az=224.0*
ISC 16 00:10:55.7±0.8, 85S±02×1143E±02, h35km, n13, σ0§93/16, mb4.7/8, 2C, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.60**	**132**	*e*P	**Pn**	**00 14 20.2**	**+0.6**
	16nm,0.8s						
FITZ				*e*S	**Sn**	**00 16 45.7**	**-14**
FITZ	**Fitzroy Crossi**	**14.60**	**132**	Pn	**Pn**	**00 14 19.7**	**0.0**
	1.1nm,0.3s,baz=307,slow=11,SNR=30						
FITZ				Sn	**Sn**	**00 16 45.7**	**-14**
	1.8nm,0.3s,baz=176,slow=18,SNR=12						
WRA	**Warramunga Arr**	**22.49**	**123**	P	**P**	**00 15 51.3**	**-0.7**
	7.0nm,0.4s,mb4.5,baz=295,slow=12,SNR=86						
WRA				S	**S**	**00 19 45.7**	**-11**
	1.1nm,0.8s,baz=286,slow=19,SNR=4.2						
WB2	**Warramunga Arr**	**22.50**	**123**	*e*P	**P**	**00 15 51.3**	**-0.8**
ASAR	**Alice Springs**	**24.10**	**131**	P	**P**	**00 16 07.6**	**-0.3**
	16nm,0.6s,mb4.6,baz=303,slow=9.3,SNR=208						
ASAR				PcP	PcP	00 19 49.1	+0.6
	0.6nm,0.4s,baz=299,slow=1.5,SNR=4.6						
ASAR				S	**S**	**00 20 32.5**	**+9.4**
	0.6nm,0.5s,baz=290,slow=21,SNR=4.7						
NWAO	**Narrogin (SRO)**	**24.48**	**174**	*e*P	**P**	**00 16 11.4**	**+0.1**
	6.3nm,0.7s,mb4.2						
NANT	**Nan**	**30.24**	**334**	⇑P	**P**	**00 17 02.0**	**-1.0**
	152nm,1.0s,mb5.7						
CHG	**Chiang Mai**	**31.06**	**331**	⇑P	**P**	**00 17 09.9**	**-0.3**
	21nm,1.2s,mb4.8						
CTA	**Charters Tower**	**32.98**	**114**	P	**P**	**00 17 28.4**	**+1.3**
	4.9nm,0.6s,mb4.6,baz=268,slow=10,SNR=11						
CTA	**Charters Tower**	**32.98**	**114**	P	**P**	**00 17 28.4**	**+1.3**
STKA	**Stephens Creek**	**34.43**	**136**	P	**P**	**00 17 39.8**	**+0.1**
	6.9nm,0.4s,mb5.0,baz=317,slow=8.2,SNR=27						
MKAR	**Makanchi Array**	**61.97**	**336**	P	**P**	**00 21 14.9**	**+2.8**
	0.3nm,0.3s,mb3.9,baz=147,slow=7.0,SNR=13						
LPAZ	**La Paz**	**155.28**	**174**	PKPab	PKPab	00 31 13.2	+2.9
	1.0nm,0.4s,baz=192,slow=6.5,SNR=6.0						

*PDG **16** 00:18:01.4±0.3, 4024N×1952E, h11km±1km*

*SKO **16** 00:18:03.3, 4049N×1984E, h0km*
*ATH **16** 00:18:03.5, 4055N×1994E, h9km±5km, MD3.5/6*
*ROM **16** 00:18:04.7±0.3, 4049N×2007E, h10km, Ml2.9/4, Error ellipse: s-maj=5.8km s-min=3.3km az=81.0*
*CSEM **16** 00:18:04.3±0.1, 4054N×2000E, h2km, MD3.5, Error ellipse: s-maj=1.5km s-min=1.3km az=156.0*
*THE **16** 00:18:04.8, 4057N×1995E, h10km, ML3.3*
*ISCJB **16** 00:18:04.2±0.2, 4055N±001×1996E±002, h2km, Error ellipse: s-maj=2.3km s-min=2.0km az=98.0*
*TIR **16** 00:18:04.1, 4053N×2008E, h10km, Ml2.9*
*NEIC **16** 00:18:06.0, 4050N×1992E, h10km, MD3.0(PDG), ML2.9(ROM), ML3.4(ATH), After ATH.*
ISC 16 00:18:04.9±0.4, 4053N±002×1997E±002, h2km±3km, n78, σ1§15/121, 6C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.24**	**172**	*i* Pg	**Pg**	**00 18 09.1**	**-0.5**
TPE				*i* Sg	**Sg**	**00 18 14.1**	**+1.4**
VLO	**Vlora**	**0.36**	**260**	*i* Pg	**Pg**	**00 18 13.4**	**+1.5**
VLO				*i* Sg	**Sg**	**00 18 24.3**	**+7.6**
KBN	**Korca**	**0.63**	**82**	*i* Pg	**Pg**	**00 18 15.4**	**-1.6**
KBN				*i* Sg	**Sg**	**00 18 25.5**	**+0.3**
SRN	**Sarande**	**0.65**	**178**	*i* Pg	**Pg**	**00 18 17.1**	**-0.4**
SRN				*i* Sg	**Sg**	**00 18 28.3**	**+2.4**
TIR	**Tirane**	**0.82**	**355**	Pn	**Pg**	**00 18 21.6**	**+1.0**
	414nm,0.6s						
TIR	**Tirane**	**0.82**	**355**	P	**Pg**	**00 18 21.5**	**+0.9**
KEK	**Kerkira**	**0.83**	**189**	Pn	**Pg**	**00 18 20.1**	**-0.7**
	226nm,0.3s						
KEK	**Kerkira**	**0.83**	**189**	*e*Pb	**Pg**	**00 18 19.6**	**-1.2**
KEK	**Kerkira**	**0.83**	**189**	Pn	**Pg**	**00 18 20.1**	**-0.7**
	226nm,0.3s						
OHR	**Ohrid**	**0.86**	**47**	*e*Pg	**Pg**	**00 18 19.6**	**-1.7**
OHR				*i* Sg	**Sg**	**00 18 33.4**	**+0.9**
OHR	**Ohrid**	**0.86**	**47**	*e*Pg	**Pg**	**00 18 19.6**	**-1.7**
OHR				*i* Sg	**Sg**	**00 18 33.4**	**+0.9**
OHR	**Ohrid**	**0.86**	**47**	*e*Pg	**Pg**	**00 18 19.5**	**-1.8**
OHR				*i* Sg	**Sg**	**00 18 33.3**	**+0.9**
IGT	**Igoumenitsa**	**1.04**	**164**	*e*Pg	**Pg**	**00 18 23.9**	**-1.0**
IGT				*e*Sg	**Sg**	**00 18 39.6**	**+1.3**
FNA	**Florina**	**1.10**	**76**	*e*Pg	**Pg**	**00 18 24.2**	**-1.8**
FNA				*e*Sg	**Sg**	**00 18 41.2**	**+0.8**
JAN	**Janina**	**1.11**	**142**	*e*PB	**Pg**	**00 18 24.7**	**-1.5**
BIA	**Bitola**	**1.14**	**64**	*i* Pg	**Pg**	**00 18 24.4**	**-2.3**
BIA				*i* Sg	**Sg**	**00 18 42.2**	**+0.6**
BIA	**Bitola**	**1.14**	**64**	*i* Pg	**Pg**	**00 18 24.4**	**-2.3**
BIA				*i* Sg	**Sg**	**00 18 42.2**	**+0.6**
BIA	**Bitola**	**1.14**	**64**	*i* Pg	**Pg**	**00 18 24.4**	**-2.4**
BIA				*i* Sg	**Sg**	**00 18 42.1**	**+0.6**
SCTE	**Santa Cesarea**	**1.24**	**249**	Pn	**Pn**	**00 18 28.6**	**-0.6**
SCTE				Sn	**Sn**	**00 18 46.9**	**+0.5**
	282nm,0.7s						
KRUS	**Krusevo**	**1.28**	**49**	*i* Pn	**Pn**	**00 18 27.9**	**-1.9**
KRUS				*i* Sn	**Sn**	**00 18 47.9**	**+0.4**
KRUS	**Krusevo**	**1.28**	**49**	*i* Pn	**Pn**	**00 18 27.9**	**-1.9**
KRUS				*i* Sn	**Sn**	**00 18 47.9**	**+0.4**
KRUS	**Krusevo**	**1.28**	**49**	*i* Pn	**Pn**	**00 18 27.9**	**-1.9**
KRUS				*i* Sn	**Sn**	**00 18 47.8**	**+0.3**
KZN	**Kozani**	**1.40**	**99**	*e*PG	**Pg**	**00 18 30.0**	**-1.7**
LCI	**Lecce**	**1.43**	**263**	Pn	**Pn**	**00 18 31.9**	**+0.1**
	49nm,0.2s						
PUK	**Puka**	**1.51**	**358**	*i* Pn	**Pn**	**00 18 33.6**	**+0.7**
PUK				*i* Sn	**Sg**	**00 18 59.3**	**+5.9**
ULC	**Ulcinj**	**1.53**	**340**	⇓*i* Pn	**Pn**	**00 18 32.9**	**-0.2**
ULC				*e*Sn	**Sg**	**00 18 56.9**	**+2.9**
SKO	**Skopje**	**1.82**	**37**	*e*Pn	**Pn**	**00 18 37.0**	**-0.1**
SKO				*e*Sn	**Sg**	**00 19 03.8**	**+0.5**
SKO	**Skopje**	**1.82**	**37**	*e*Pn	**Pn**	**00 18 37.0**	**-0.1**
SKO				*e*Sn	**Sg**	**00 19 03.8**	**+0.5**
SKO	**Skopje**	**1.82**	**37**	*e*Pn	**Pn**	**00 18 37.0**	**-0.1**
SKO				*e*Sn	**Sg**	**00 19 03.7**	**+0.4**
THL	**Klokotos Trika**	**1.85**	**121**	*e*PN	**Pn**	**00 18 37.7**	**+0.2**
THL				*e*SN	**Sn**	**00 19 02.7**	**+1.3**
GRG	**Griva**	**1.90**	**76**	*e*Pb	**Pn**	**00 18 38.5**	**+0.2**
GRG				*e*Sb	**Sb**	**00 19 05.2**	**+0.8**
LKD	**Levkas**	**1.90**	**164**	*e*Pb	**Pn**	**00 18 38.8**	**+0.6**
BUM	**Brajici-Budva**	**1.94**	**336**	⇓*i* Pn	**Pn**	**00 18 38.1**	**-0.7**
BUM				*e*Sn	**Sb**	**00 19 06.5**	**+0.9**
TTG	**Podgorica**	**1.97**

KUA			*i* S	Sg	00 21 04.0	0.0
NIKU	**Nikkaluokta**	**0.44 271**	*i* P	Pg	00 21 08.4	-0.6
LANU	**Lannavaara**	**0.71 74**	*i* P	Pg	00 21 13.4	-0.7
LANU	**Lannavaara**	**0.71 74**	P	Pg	00 21 13.4	-0.7
baz=302						
DUNU	**Dundret**	**0.76 169**	*i* P	Pg	00 21 14.1	-1.0
DUNU	**Dundret**	**0.76 169**	P	Pg	00 21 14.1	-1.1
baz=67						
SALU	**Saltoluokta**	**0.81 234**	*i* P	Pg	00 21 15.2	-0.9
SALU	**Saltoluokta**	**0.81 234**	P	Pg	00 21 15.1	-0.9
KIF	**Kilpisjarvi**	**1.17 11**	*e*P	Pg	00 21 22.2	-0.9
KIF			*e*SB	Sb	00 21 38.6	-0.8
PAJU	**Pajala**	**1.41 125**	*e*P	Pn	00 21 25.6	-1.9
HARU	**Harads**	**1.73 169**	*e*P	Pn	00 21 31.5	-0.5
KEV	**Kevo**	**3.12 49**	*e*SB	Sb	00 22 33.9	-1.7
OUL	**Oulu**	**3.61 138**	*e*SB	Sb	00 22 48.9	-0.7

ISCJB ***16*** *00:37:52.8±1.0, 5672N±009×1539W±02, h35km, mb3.6/5, Error ellipse: s-maj=15.4km s-min=12.1km az=66.4*
NEIC ***16*** *00:37:53.3, 5659N×15372W, h24km, ML3.4(AEIC), After AEIC.*
IDC ***16*** *00:37:54.1±4.2, 5667N×15390W, h28km±25km, mb3.3/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.3/7, ML3.4/1, Error ellipse: s-maj=28.5km s-min=22.1km az=19.0*
ISC 16 00:37:54.8±1.0, 5676N±009×1538W±02, h35km, n13, σ0°81/17, mb3.6/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.23**	**33**	Pn	**Pn**	**00 38 15.4**	**0.0**
	15nm,0.3s,baz=202,slow=8.7,SNR=58						
KDAK				Pg	**Pn**	**00 38 20.4**	**+4.9**
	65nm,0.3s,baz=208,slow=9.3,SNR=69						
KDAK				Sn	**Sn**	**00 38 31.6**	**+0.7**
	33nm,0.3s,baz=307,slow=20,SNR=21						
KDAK				Lg		00 38 36.8	
	49nm,0.3s,baz=47,slow=15,SNR=19						
KDAK	**Kodiak Island**	**1.23**	**33**	Pn	**Pn**	**00 38 15.4**	**0.0**
KDAK				Pg	**Pn**	**00 38 20.4**	**+4.9**
KDAK				Sn	**Sn**	**00 38 31.6**	**+0.7**
KDAK				Lg		00 38 36.8	
SEW	**Seward**	**4.07**	**33**	P	**Pn**	**00 38 52.9**	**-1.6**
SLKM	**Skilak Lake**	**4.21**	**25**	P	**Pn**	**00 38 55.8**	**-0.6**
SVW2	**Sparrevohn**	**4.44**	**349**	P	**Pn**	**00 39 00.0**	**+0.4**
INK	**Inuvik**	**14.79**	**30**	Pn	**Pn**	**00 41 24.7**	**+3.3**
	0.1nm,0.3s,baz=225,slow=13,SNR=4.4						
INK	**Inuvik**	**14.79**	**30**	Pn	**Pn**	**00 41 24.7**	**+3.3**
YKA	**Yellowknife Ar**	**20.39**	**57**	P	**P**	**00 42 28.0**	**-0.6**
	0.6nm,0.7s,baz=270,slow=10,SNR=7.5						
PDAR	**Pinedale Array**	**31.23**	**97**	P	**P**	**00 44 11.2**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=318,slow=5.4,SNR=3.9						
TXAR	**Lajitas Array**	**44.37**	**106**	P	**P**	**00 46 02.0**	**+0.4**
	0.2nm,0.6s,mb3.0,baz=324,slow=4.5,SNR=3.7						
ARCES	**ARCESS Array B**	**54.01**	**0**	P	**P**	**00 47 15.4**	**0.0**
	4.1nm,1.0s,mb4.3,baz=7.8,slow=7.3,SNR=2.2						
SONM	**Songino Array**	**56.37**	**307**	P	**P**	**00 47 32.3**	**-0.2**
	0.4nm,0.8s,mb3.5,baz=38,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**66.70**	**322**	P	**P**	**00 48 42.3**	**+0.2**
	0.4nm,0.8s,mb3.5,baz=35,slow=5.3,SNR=2.3						

ISCJB ***16*** *01:09:35.4±4.3, 66S±0.1×1538E±02, h115km±33km, mb3.8/8, Error ellipse: s-maj=38.3km s-min=22.2km az=0.7*
IDC ***16*** *01:09:35.2±7.3, 6645×15391E, h101km±52km, mb3.6/7, mb1 3.7/9, mb1mx3.6/17, mbtmp3.6/9, MS3.4/1, Ms1 3.4/1, ms1mx3.0/18, Error ellipse: s-maj=71.4km s-min=23.3km az=95.0*
NEIC ***16*** *01:09:36.3±4.0, 651S×15374E, h111km±26km, mb4.6/2, Error ellipse: s-maj=44.3km s-min=18.2km az=89.0*
ISC 16 01:09:36.5±3.9, 66S±01×1538E±02, h109km±29km, n14, σ0°77/14, mb3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.70**	**115**	LR	LR	01 13 36.5	
	comp=Z,265nm,18.6s,baz=358,slow=37						
PMG	**Port Moresby**	**7.17**	**247**	P	**Pn**	**01 11 17.6**	**-1.0**
	1.1nm,0.3s,baz=63,slow=6.8,SNR=3.3						
PMG				S	**Sn**	**01 12 46.0**	**+7.6**
	1.0nm,0.3s,baz=111,slow=14,SNR=2.1						
PMG	**Port Moresby**	**7.17**	**247**	*e*Pn	**Pn**	**01 11 17.4**	**-1.2**
	19nm,1.0s						
PMG				*e*Sn	**Sn**	**01 12 39.3**	**+0.8**
CTA	**Charters Tower**	**15.30**	**208**	P	**Pn**	**01 13 07.5**	**+1.0**
	0.1nm,0.3s,baz=33,slow=7.9,SNR=5.5						
WB2	**Warramunga Arr**	**23.10**	**233**	*e*P	**P**	**01 14 32.8**	**0.0**
WRA	**Warramunga Arr**	**23.11**	**233**	P	**P**	**01 14 32.7**	**-0.1**
	5.0nm,0.9s,mb3.9,baz=56,slow=9.6,SNR=32						
WRA				PcP	PcP	01 18 18.6	+0.4
	0.3nm,0.8s,baz=64,slow=2.7,SNR=3.6						
ASAR	**Alice Springs**	**25.59**	**226**	P	**P**	**01 14 55.1**	**-0.3**
	1.3nm,0.8s,mb3.4,baz=59,slow=9.1,SNR=8.6						
STKA	**Stephens Creek**	**27.64**	**203**	P	**P**	**01 15 13.3**	**-0.5**
	1.4nm,0.4s,mb3.8,baz=26,slow=13,SNR=4.1						
FITZ	**Fitzroy Crossi**	**29.76**	**245**	P	**P**	**01 15 33.3**	**+0.7**
	2.2nm,0.8s,mb3.8,baz=124,slow=9.2,SNR=5.0						
KSRS	**Korea Array**	**50.03**	**333**	P	**P**	**01 18 21.1**	**+1.3**
	1.5nm,0.7s,mb4.1,baz=142,slow=7.0,SNR=4.2						
SONM	**Songino Array**	**68.36**	**328**	P	**P**	**01 20 26.1**	**0.0**
	0.1nm,0.4s,mb3.0,baz=127,slow=9.3,SNR=2.4						
PALK	**Pallekele**	**74.22**	**279**	P	**P**	**01 21 00.0**	**-1.4**
	11nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**82.32**	**319**	P	**P**	**01 21 45.8**	**-0.2**
	0.3nm,0.4s,mb3.5,baz=90,slow=8.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**151.79**	**286**	PKPbc	PKPbc	01 29 18.6	+0.3
	1.1nm,0.8s,baz=89,slow=2.5,SNR=12						
TORD				PKPab	PKPab	01 29 29.9	+2.3
	2.4nm,0.8s,baz=70,slow=2.6,SNR=7.0						

ISCJB ***16*** *01:37:39.2±0.8, 2.1S±0.1×1286E±03, h35km, mb3.9/4, Error ellipse: s-maj=51.6km s-min=8.9km az=147.3*
NEIC ***16*** *01:37:41.3±0.7, 206S×12876E, h35km, mb3.8/1, Error ellipse: s-maj=43.0km s-min=9.5km az=76.0*
IDC ***16*** *01:37:45.8±4.0, 243S×12817E, h79km±38km, mb3.5/4, mb1 3.6/6, mb1mx3.4/17, mbtmp3.5/6, Error ellipse: s-maj=94.7km s-min=11.4km az=71.0*
ISC 16 01:37:41.5±0.8, 22S±01×1286E±04, h35km, n14, σ0°88/12, mb3.9/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.11**	**190**	*e*P	**Pn**	**01 41 27.2**	**+2.0**
	6.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**16.11**	**190**	P	**Pn**	**01 41 24.1**	**-1.1**
	0.1nm,0.3s,baz=26,slow=12,SNR=2.7						
FITZ	**Fitzroy Crossi**	**16.11**	**190**	Pn	pP	01 41 36.6	-0.7
	0.3nm,0.3s,baz=10,slow=16,SNR=6.8						
WRA	**Warramunga Arr**	**18.56**	**163**	P	**Pn**	**01 41 54.8**	**-0.9**
	0.4nm,0.3s,baz=333,slow=13,SNR=41						
WRA				S	**S**	**01 45 20.2**	**-4.9**
	0.1nm,0.3s,baz=342,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**18.56**	**163**	P	pP	01 42 05.7	+1.3
	1.0nm,0.3s,baz=344,slow=12,SNR=18						
WB2	**Warramunga Arr**	**18.57**	**163**	*e*P	**Pn**	**01 41 55.8**	**0.0**
ASAR	**Alice Springs**	**22.01**	**167**	P	**P**	**01 42 33.2**	**+0.6**
	3.4nm,0.5s,mb4.0,baz=347,slow=12,SNR=59						
ASAR				S	**S**	**01 46 29.8**	**-3.7**
	2.2nm,0.9s,baz=347,slow=19,SNR=11						
NACB	**Ninganchiao**	**27.03**	**346**	P	**P**	**01 43 20.2**	**-0.1**
STKA	**Stephens Creek**	**32.02**	**159**	P	**P**	**01 44 05.3**	**+0.7**
	1.6nm,0.7s,mb4.0,baz=342,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**32.02**	**159**	P	**P**	**01 44 05.1**	**+0.6**
SONM	**Songino Array**	**53.42**	**342**	P	**P**	**01 46 58.3**	**+0.5**
	1.0nm,1.0s,mb3.7,baz=164,slow=5.9,SNR=4.6						
SONM	**Songino Array**	**53.42**	**342**	P	pP	01 47 08.3	0.0
	1.7nm,1.0s,baz=153,slow=7.7,SNR=5.3						
MKAR	**Makanchi Array**	**63.41**	**326**	P	**P**	**01 48 06.7**	**-0.8**
	0.5nm,0.7s,mb3.8,baz=119,slow=8.3,SNR=6.0						
MKAR	**Makanchi Array**	**63.41**	**326**	P	pP	01 48 17.3	-0.9
	1.6nm,0.8s,baz=117,slow=7.8,SNR=6.6						

ISCJB ***16*** *01:40:35.8±1.2, 3436N±004×2679E±004, h0km±8km, mb3.8/8, Error ellipse: s-maj=7.9km s-min=4.9km az=71.4*
IDC ***16*** *01:40:36.5±1.2, 3429N×2664E, h0km, mb3.8/7, mb1 3.7/10, mb1mx3.6/21, mbtmp3.7/10, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/39, Error ellipse: s-maj=26.0km s-min=16.6km az=4.0*
CSEM ***16*** *01:40:37.5±0.1, 3430N×2677E, h5km, MD3.6, Error ellipse: s-maj=3.9km s-min=2.1km az=56.0*
THE ***16*** *01:40:41.2, 3465N×2672E, h10km*
ATH ***16*** *01:40:41.7, 3459N×2657E, h27km±5km, MD3.6/7*
NEIC ***16*** *01:40:42.0, 3456N×2658E, h10km, ML3.0(ATH), After ATH.*
HLW ***16*** *01:40:48.6, 3379N×2699E, h33km, Mb3.3*
ISC 16 01:40:37.5±1.1, 3438N±004×2670E±004, h1km±7km, n37, σ1°05/45, mb3.8/8, 2C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.84**	**332**	*e*Pg	**Pg**	**01 40 52.6**	**-0.9**
ZKR				*e*Sg	**Sg**	**01 41 04.1**	**-0.3**
KARP	**Karpathos**	**1.23**	**18**	*e*PN	**Pn**	**01 41 02.4**	**+0.6**
KARP	**Karpathos**	**1.23**	**18**	P	**Pg**	**01 41 02.7**	**+1.7**
NPS	**Neapolis**	**1.26**	**315**	*e*PN	**Pn**	**01 41 00.8**	**-1.4**
NPS				*e*SN	**Sn**	**01 41 15.8**	**-4.0**
NPS	**Neapolis**	**1.26**	**315**	P	**Pg**	**01 41 01.2**	**-0.4**
NPS				*e*Sn	**Sn**	**01 41 15.8**	**-4.0**
SIVA	**Sivas**	**1.68**	**293**	P	**Pn**	**01 41 09.1**	**+1.1**
IDI	**Anoyia**	**1.75**	**302**	Pn	**Pn**	**01 41 09.4**	**+0.5**
	6.7nm,0.3s,baz=137,slow=8.8,SNR=36						
IDI				Sn	**Sn**	**01 41 33.1**	**+1.4**
	20nm,0.3s,baz=344,slow=15,SNR=12						
ARG	**Arkhangelos**	**2.17**	**32**	*e*PN	**Pn**	**01 41 17.0**	**+2.2**
ARG	**Arkhangelos**	**2.17**	**32**	P	**Pn**	**01 41 17.2**	**+2.4**
GVD	**Gavdhos**	**2.21**	**283**	*e*Pn	**Pn**	**01 41 17.1**	**+1.9**
GVD				*e*Sn	**Sn**	**01 41 45.5**	**+2.4**
GVD	**Gavdhos**	**2.21**	**283**	*e*Pb	**Pb**	**01 41 17.5**	**-0.6**
THR6	**Thira Island,**	**2.25**	**332**	*e*Pn	**Pn**	**01 41 15.8**	**0.0**
THR3	**Thira Island,**	**2.29**	**333**	*e*Pn	**Pn**	**01 41 15.9**	**-0.4**
VAM	**Vamos**	**2.30**	**297**	*e*PN	**Pn**	**01 41 17.4**	**+0.9**
VAM	**Vamos**	**2.30**	**297**	P	**Pn**	**01 41 18.2**	**+1.7**
THR5	**Thira Island,**	**2.32**	**332**	*e*Pn	**Pn**	**01 41 16.0**	**-0.7**
THR4	**Thira Island,**	**2.34**	**333**	*e*Pn	**Pn**	**01 41 16.3**	**-0.7**
HMAT	**Matruh**	**3.29**	**174**	⇑P	**Pn**	**01 41 29.9**	**-0.3**
HMAT				S	**Sn**	**01 41 59.5**	**-10**
VLI	**Veliai**	**3.86**	**308**	*e*PN	**Pn**	**01 41 37.0**	**-0.9**
VLI	**Veliai**	**3.86**	**308**	P	**Pn**	**01 41 37.3**	**-0.6**
ITM	**Ithomi**	**4.78**	**307**	*e*PN	**Pn**	**01 41 50.6**	**-0.1**
SWA1		**5.17**	**190**	⇓P	**Pn**	**01 41 56.5**	**+0.6**
SWA1				S	**Sn**	**01 42 46.1**	**-10**
SWA1		**5.17**	**190**	P	**Pn**	**01 41 56.5**	**+0.6**
GLL	**Jalalah**	**6.40**	**137**	⇓P	**Pn**	**01 42 12.8**	**-0.1**
SUZ		**6.89**	**129**	⇑P	**Pn**	**01 42 20.2**	**+0.6**
HFRF	**Wahat Farafira**	**7.34**	**169**	P	**Pn**	**01 42 25.2**	**-0.5**
MMAI	**Mount Meron Ar**	**7.38**	**98**	Pn	**Pn**	**01 42 27.1**	**+0.8**
	1.8nm,0.3s,baz=274,slow=12,SNR=15						
MMAI				Sn	**Sn**	**01 43 50.0**	**-0.7**
	4.6nm,0.3s,baz=293,slow=22,SNR=10.0						
MMAI				LR	LR	01 46 22.4	
	comp=Z,115nm,20.2s,baz=95,slow=47						
BRTR	**Keskin Array B**	**7.70**	**44**	Pn	**Pn**	**01 42 29.7**	**-1.0**
	0.2nm,0.3s,baz=219,slow=16,SNR=5.9						
GERES	**GERESS Array B**	**17.38**	**330**	P	**Pn**	**01 44 41.1**	**-0.2**
	0.1nm,0.3s,baz=150,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**27.09**	**359**	P	**P**	**01 46 20.9**	**-0.8**
	5.1nm,0.9s,mb4.2,baz=163,slow=12,SNR=4.1						
HFS	**Hagfors**	**27.14**	**346**	P	**P**	**01 46 21.3**	**-0.8**
	1.1nm,0.7s,mb3.7,baz=106,slow=11,SNR=4.1						
AKTO	**Aktyubinsk**	**27.88**	**45**	P	**P**	**01 46 30.1**	**+1.4**
	0.5nm,0.3s,mb3.8,baz=239,slow=8.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**30.99**	**233**	P	**P**	**01 46 54.8**	**-1.6**
	0.4nm,0.6s,mb3.6,baz=36,slow=8.2,SNR=9.9						
ARCES	**ARCESS Array B**	**35.22**	**359**	P	**P**	**01 47 29.6**	**-3.6**
	1.8nm,0.7s,mb4.1,baz=174,slow=8.2,SNR=9.3						
MKAR	**Makanchi Array**	**43.16**	**56**	P	**P**	**01 48 40.1**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=269,slow=6.4,SNR=5.4						
SONM	**Songino Array**	**59.00**	**51**	P	**P**	**01 50 38.6**	**-0.2**
	0.5nm,0.6s,mb3.8,baz=278,slow=6.6,SNR=4.8						
SCHQ	**Schefferville**	**64.60**	**320**	P	**P**	**01 51 15.2**	**-1.4**
	0.6nm,0.6s,mb4.0,baz=65,slow=9.9,SNR=4.0						

NEIC ***16*** *01:43:04.2, 1966N×6759W, h17km, MD3.5(RSPR), After RSPR.*
RSPR 16 01:43:04.2, 1966N×6759W, h17km±25km, MD3.5/9, MD3.5/9, 9C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.27**	**159⇑**	*e*P	Pn	01 43 23.7	-3.5
AGPR				*e*S	Sb	01 43 39.6	-4.2
AOPR	**Arecibo Observ**	**1.53**	**149⇑**	*e*P	Pn	01 43 27.8	-2.9
AOPR				*e*S	Sn	01 43 47.3	-2.9
LSP	**Las Mesas**	**1.56**	**162⇑**	*e*P	Pn	01 43 28.2	-2.8
LSP				*e*S	Sn	01 43 47.6	-3.2
CRPR	**Cabo Rojo, PR**	**1.71**	**164⇑**	*e*P	Pn	01 43 30.6	-2.6
CRPR				*e*S	Sn	01 43 50.7	-4.0
GBPR	**Guanica, Bosqu**	**1.81**	**158**	*e*S	Sn	01 43 53.3	-3.9
CELP	**Cerrillos**	**1.85**	**149⇑**	*e*P	Pn	01 43 33.0	-2.1
CELP				*e*S	Sn	01 43 55.0	-3.1
SJG	**San Juan**	**2.06**	**138⇑**	*e*P	Pn	01 43 35.7	-2.4
SJG				*e*S	Sn	01 44 00.2	-3.1
CBYP	**Canovanas**	**2.15**	**130⇑**	*e*P	Pn	01 43 36.8	-2.5
CBYP				*e*S	Sn	01 44 01.5	-4.0
HUMP	**Col San Antoni**	**2.24**	**132⇑**	*e*P	Pn	01 43 38.1	-2.4
HUMP				*e*S	Sn	01 44 04.3	-3.4
MTP	**Monte Pirata**	**2.48**	**129⇑**	*e*P	Pn	01 43 41.4	-2.5
MTP				*e*S	Sn	01 44 10.1	-3.6

ATH ***16*** *01:44:38.0, 3934N×2604E, h23km, MD3.5/4*
NEIC ***16*** *01:44:38.0, 3934N×2604E, h23km, MD3.2(ISK), MD3.5(ATH), After ATH.*
ISK ***16*** *01:44:38.4, 3938N×2599E, h10km, MD3.4*
ISCJB ***16*** *01:44:38.0±0.6, 3936N±003×2601E±003, h2km±5km, Error ellipse: s-maj=4.8km s-min=3.2km az=72.9*
CSEM ***16*** *01:44:39.0±0.1, 3938N×2603E, h12km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.2km az=40.0*
THE ***16*** *01:44:39.1, 3928N×2600E, h10km*
ISC 16 01:44:39.5±0.6, 3936N±003×2600E±003, h8km±3km, n47, σ0°96/62, 4C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.24**	**117**	*e*PB	**Pg**	**01 44 43.6**	**-0.7**
PRK				*e*SB	**Sg**	**01 44 47.3**	**-0.2**
BOZC	**Bozcaada**	**0.49**	**5**	*i* P	**Pg**	**01 44 49.1**	**+0.2**
EZN	**Ezine**	**0.53**	**28**	*i* PG	**Pg**	**01 44 48.8**	**-1.0**
EZN				*i* SG	**Sg**	**01 44 57.1**	**+0.3**
LIA	**Limnos Island**	**0.83**	**311**	*e*PN	**Pg**	**01 44 55.0**	**-0.4**
LIA				*e*SN	**Sg**	**01 45 06.8**	**+0.6**
LOS	**Limnos**	**0.91**	**310**	*e*Pg	**Pg**	**01 44 57.8**	**+0.8**
LOS				*e*Sg	**Sg**	**01 45 11.8**	**+2.9**
LPK	**Lapseki**	**1.17**	**30**	PN	**Pb**	**01 45 00.4**	**-1.5**
LPK				SN	**Sg**	**01 45 16.8**	**-0.4**
BLCB	**Balcova**	**1.27**	**140**	PN	**Pn**	**01 45 03.2**	**-0.2**
BLCB				SN	**Sn**	**01 45 20.1**	**-0.5**
KDAG	**Bornova**	**1.37**	**133**	*i* P	**Pn**	**01 45 05.4**	**+0.5**
KDAG				*i* S	**Sb**	**01 45 24.7**	**+1.7**
IZM	**Izmir**	**1.38**	**134**	PN	**Pn**	**01 45 04.6**	**-0.3**
ENEZ	**Enez**	**1.38**	**5**	PN	**Pn**	**01 45 04.2**	**-0.8**
ENEZ				SN	**Sn**	**01 45 22.2**	**-1.3**
AKS	**Akhisar**	**1.49**	**108**	PN	**Pn**	**01 45 06.3**	**-0.2**
ALN	**Alexandroupoli**	**1.54**	**1**	*e*Pg	**Pn**	**01 45 06.2**	**-1.0**
ALN				*e*Sg	**Sg**	**01 45 27.9**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.61**	**34**	PN	**Pn**	**01 45 07.8**	**-0.3**
SART	**Tekirdag**	**1.61**	**34**	*i* P	**Pn**	**01 45 07.7**	**-0.4**
SART				*i* S	**Sn**	**01 45 30.1**	**+1.0**
BTOK	**Tokmak**	**1.62**	**75**	*i* P	**Pn**	**01 45 09.1**	**+0.8**
BTOK				*i* S	**Sn**	**01 45 30.4**	**+1.0**
EDC	**Edincik**	**1.75**	**55**	PN	**Pn**	**01 45 09.2**	**-0.8**
MRMT	**Marmara Adasi**	**1.75**	**44**	PN	**Pn**	**01 45 09.7**	**-0.3**
SMG	**Samos**	**1.77**	**158**	*e*PN	**Pn**	**01 45 08.9**	**-1.4**
BNT	**Bandirma**	**1.79**	**55**	PN	**Pn**	**01 45 09.3**	**-1.2**
RDO	**Rodhopi**	**1.82**	**349**	*e*PN	**Pn**	**01 45 10.4**	**-0.6**
OUR	**Ouranopolis**	**1.83**	**303**	*e*Pb	**Pn**	**01 45 10.0**	**-1.2**
PAIG	**Paliouri**	**1.88**	**288**	*e*Pb	**Pn**	**01 45 10.6**	**-1.2**
KCT	**Karacabey**	**2.03**	**63**	PN	**Pn**	**01 45 12.8**	**-1.1**
DST	**Dursunbey**	**2.05**	**82**	PN	**Pn**	**01 45 13.9**	**-0.3**
XOR	**Xorichti**	**2.17**	**271**	*e*Pn	**Pn**	**01 45 14.6**	**-1.2**
ULDT	**Uludag**	**2.54**	**71**	*i* P	**Pn**	**01 45 23.9**	**+2.9**
ULDT				*i* S	**Sg**	**01 45 60.0**	**-1.2**
EDRB	**Edirne**	**2.55**	**13**	*e*PN	**Pn**	**01 45 21.0**	**-0.1**
CTT	**Catalca**	**2.58**	**45**	*e*PN	**Pn**	**01 45 21.2**	**-0.3**
GEMT	**Gemlik**	**2.68**	**65**	*e*PN	**Pn**	**01 45 23.1**	**+0.2**
GDZ	**Gediz**	**2.72**	**95**	*i* P	**Pg**	**01 45 31.0**	**-0.6**
GDZ				*i* S	**Sg**	**01 46 07.0**	**+0.2**
IZI	**Iznik**	**2.85**	**69**	*e*PN	**Pn**	**01 45 25.3**	**+0.1**
YER	**Yerkesik**	**2.86**	**140**	*e*PN	**Pn**	**01 45 26.0**	**+0.8**
YLV	**Yalova**	**2.86**	**64**	*e*PN	**Pn**	**01 45 26.2**	**+0.9**
KLYT	**Kilyos**	**3.00**	**50**	*e*PN	**Pn**	**01 45 27.6**	**+0.3**
ADVT	**Abdulvahap**	**3.07**	**68**	*e*PN	**Pn**	**01 45 28.8**	**+0.6**
OSMT	**Osmaniye**	**3.11**	**65**	*e*PN	**Pn**	**01 45 29.2**	**+0.5**
ESKT	**Eskisehir**	**3.76**	**86**	*i* P	**Pn**	**01 45 38.5**	**+0.8**
ESKT				*i* S	**Sg**	**01 46 42.0**	**+1.8**
ESKT	**Eskisehir**	**3.76**	**86**	*e*Pn	**Pn**	**01 45 38.6**	**+0.9**
SEYT	**Eskypehyr**	**3.76**	**86**	*i* P	**Pn**	**01 45 38.5**	**+0.8**
VTS	**Vitosha**	**3.86**	**328**	⇑P	**Pn**	**01 45 39.6**	**+0.5**
VTS				S	**Sg**	**01 46 45.7**	**+2.2**
VTS	**Vitosha**	**3.86**	**328**	⇑*i*P	**Pn**	**01 45 39.6**	**+0.5**
VTS	**Vitosha**	**3.86**	**328**	S	**Sg**	**01 46 45.7**	**+2.2**
MLR	**Muntele Rosu**	**6.13**	**360**	⇓*i*P	**Pn**	**01 46 10.6**	**+0.3**
GZR	**Gura Zlata**	**6.49**	**339**	⇓P	**Pn**	**01 46 17.2**	**+2.0**
GZR	**Gura Zlata**	**6.49**	**339**	⇓*i*P	**Pn**	**01 46 17.2**	**+2.0**
PLOR	**Plostina**	**6.51**	**4**	⇑*i*P	**Pn**	**01 46 16.2**	**+0.7**
VRI	**Vrincioaia**	**6.53**	**4**	⇑*i*P	**Pn**	**01 46 16.7**	**+1.0**

ISCJB ***16*** *01:54:44.9±0.2, 5564N±002×110.16E±003, h10km, mb4.0/23, MS4.1/1, Error ellipse: s-maj=3.1km s-min=2.1km az=119.1*
IDC ***16*** *01:54:45.8±0.8, 5579N×11008E, h0km, mb4.0/15, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, ML4.1/2, MS4.1/1, Ms1 4.1/1, ms1mx2.8/45, Error ellipse: s-maj=17.5km s-min=15.8km az=20.0*
MOS ***16*** *01:54:45.4±1.0, 5575N×110.15E, h14km, mb4.3/11, Error ellipse: s-maj=8.8km s-min=5.7km az=77.4*
BYKL ***16*** *01:54:46.8±0.2, 5568N×110.15E, h7km±4km*
NEIC ***16*** *01:54:47.8±0.5, 5582N×109.92E, h10km, mb4.3/7, Error ellipse: s-maj=9.3km s-min=7.6km az=68.0*
ISC 16 01:54:46.4±0.2, 5566N±002×11016E±003, h10km, n109, σ1°38/170, mb4.0/23, MS4.1/1, 5C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**288**	*e*PG	**Pg**	**01 54 53.8**	**+0.1**
NIZ				*e*		01 54 59.3	
NIZ				pmax	pmax		
	comp=Z,4μm,0.3s						
NIZ				smax			
	comp=N,14μm,0.3s						
NIZ	**Nizh Angarsk**	**0.37**	**288**	⇑*i*Pg	**Pg**	**01 54 53.8**	**+0.1**
NIZ				Pmax		01 54 56.4	
	comp=N,1μm,0.3s						
NIZ				*e*		01 54 58.0	
NIZ				*e*Sg	**Sg**	**01 54 59.5**	**+0.9**
NIZ				Smax		01 55 00.6	
	comp=N,15μm,0.3s						
KMO	**Kumora**	**0.63**	**68**	*e*PG	**Pg**	**01 54 57.8**	**-0.8**
KMO				*e*		01 55 05.8	
KMO				pmax	pmax		
	comp=Z,477nm,0.3s						
KMO				smax			
	comp=E,9μm,1.1s						
KMO	**Kumora**	**0.63**	**68**	⇑*i*Pg	**Pg**	**01 54 57.8**	**-0.8**
KMO				Pmax		01 54 58.1	
	comp=E,1μm,0.2s						
KMO				*e*Sg	**Sg**	**01 55 05.9**	**-0.9**
KMO				Smax		01 55 10.7	
	comp=E,9μm,1.4s						
YLYR	**Ulyunkhan**	**0.97**	**144**	*e*PG	**Pg**	**01 55 04.7**	**-0.4**
YLYR				*i*		01 55 17.0	
YLYR				pmax	pmax		
	comp=Z,182nm,0.1s						
YLYR				smax			
	comp=N,3μm,0.3s						
YLYR	**Ulyunkhan**	**0.97**	**144**	*i* Pg	**Pg**	**01 55 04.6**	**-0.5**
YLYR				Pmax		01 55 05.8	
	comp=N,1μm,0.6s						
YLYR				*e*Sg	**Sg**	**01 55

comp=N,2μm,1.2s
TRG Tyrgan 3.67 219 *e*PN **Pn 01 55 45.1 +1.9**
TRG *e* 01 55 52.8
TRG *e*S **Sn 01 56 27.3 +0.8**
TRG *e* 01 56 40.5
TRG pmax pmax
comp=Z,87nm,0.6s
TRG smax
comp=E,684nm,0.3s
TRG Tyrgan 3.67 219 *e*Pn **Pn 01 55 45.1 +1.9**
TRG max 01 55 49.0
comp=E,91nm,0.4s
TRG *e*Sn **Sn 01 56 28.5 +2.0**
TRG *e*Sg **Sg 01 56 40.3 -3.9**
TRG Smax 01 56 45.9
comp=E,700nm,0.4s
TRTB Turuntaevo 3.75 205 *e*Pn **Pn 01 55 46.0 +1.7**
TRTB *e*Pg **Pg 01 55 54.4 -3.8**
TRTB Pmax 01 56 01.9
comp=E,93nm,0.4s
TRTB *e*Sn **Sn 01 56 28.2 -0.3**
TRTB *e*Sg **Sg 01 56 44.0 -2.8**
TRTB Smax 01 56 46.2
comp=E,670nm,1.1s
UUDB Ulan-Yde 4.08 202 *e*Pn **Pn 01 55 52.2 +3.4**
UUDB *e*Pg **Pg 01 56 00.6 -4.0**
UUDB Pmax 01 56 03.8
comp=E,85nm,1.6s
UUDB *e*Sg **Sg 01 56 54.6 -2.8**
UUDB Smax 01 57 11.3
comp=E,623nm,1.3s
STDB Stepnoy Dvoret 4.16 214 *e*Sg **Sg 01 56 55.8 -4.1**
STDB Smax 01 57 27.0
comp=E,2μm,1.2s
CIT Chita 4.16 150 *e*PN **Pn 01 55 50.4 +0.4**
CIT *e*S **Sg 01 56 54.0 -6.1**
CIT smax
comp=E,796nm,0.7s
CIT Chita 4.16 150 *e*Pn **Pn 01 55 50.9 +0.9**
CIT *e*Pg **Pg 01 56 00.2 -5.9**
CIT Pmax 01 56 02.4
comp=E,361nm,1.1s
CIT *e*Sn **Sn 01 56 39.0 +0.3**
CIT *e*Sg **Sg 01 56 54.4 -5.7**
CIT Smax 01 57 01.1
comp=E,839nm,0.7s
KAB Kabansk 4.17 211 *e* **Pg 01 56 03.0 -3.3**
KAB *e*Sg **Sg 01 56 54.8 -5.5**
KAB Smax 01 57 17.4
comp=E,2μm,0.9s
HRMR Khuramsha 4.47 207 *e* **Sn 01 56 49.4 +3.2**
HRMR *e*Sg **Sg 01 57 04.8 -5.1**
HRMR Smax 01 57 21.6
comp=E,1μm,0.9s
CRS Chara 4.69 71 *e*PN **Pb 01 56 10.9 +2.3**
CRS *e* 01 57 12.5
CRS pmax pmax
comp=Z,511nm,0.9s
CRS smax
comp=E,555nm,1.8s
CRS Chara 4.69 71 *e*Pn **Pn 01 55 58.5 +1.4**
CRS *e*Pg **Pg 01 56 09.9 -6.2**
CRS *e* 01 56 12.7
CRS max 01 56 13.4
comp=E,508nm,0.8s
CRS *e*Sg **Sg 01 57 11.0 -5.8**
CRS Smax 01 57 22.4
comp=E,649nm,1.3s
BTMB Babushkin 4.73 215 *e*Pn **Pn 01 55 59.4 +1.7**
BTMB *e* 01 56 08.6
BTMB max 01 56 16.0
comp=E,40nm,0.6s
BTMB *e*Sg **Sg 01 57 13.4 -4.8**
BTMB Smax 01 57 21.0
comp=E,571nm,0.9s
IRK Irkutsk 4.88 228 *e*PN **Pn 01 56 01.0 +1.2**
IRK *e*S **Sn 01 56 56.9 +0.5**
IRK *e*S **Sg 01 57 18.3 -4.8**
IRK smax
comp=N,1μm,0.9s
IRK Irkutsk 4.88 228 *e* **Sn 01 56 56.5 +0.1**
IRK *e*Sg **Sg 01 57 18.3 -4.8**
IRK Smax 01 57 29.4
comp=N,1μm,0.8s
LSTR Listvyanka 4.94 222 *e*Pn **Pn 01 56 01.9 +1.2**
LSTR max 01 56 07.8
comp=N,49nm,0.9s
LSTR *e*Sn **Sn 01 56 57.3 -0.6**
LSTR *e* 01 57 14.3
LSTR *e*Sg **Sg 01 57 19.1 -6.0**
LSTR Smax 01 57 32.7
comp=N,441nm,0.8s
TLY Talaya 5.56 227 *e*PN **Pn 01 56 09.8 +0.7**
TLY *e* 01 56 26.1
TLY *e*S **Sn 01 57 12.2 -0.9**
TLY *e* 01 57 37.2
TLY pmax pmax
comp=Z,41nm,0.8s
TLY smax
comp=E,417nm,0.9s
TLY Talaya 5.56 227 *e*Pn **Pn 01 56 08.3 -0.9**
comp=E,38nm,0.6s
TLY *e*Sn **Sn 01 57 12.6 -0.5**
TLY Talaya 5.56 227 *i* Pn **Pn 01 56 09.8 +0.7**
TLY *e* 01 56 28.3
TLY max 01 56 32.4
comp=E,39nm,0.8s
TLY *e*Sn **Sn 01 57 12.2 -0.9**
TLY *e*Sg **Sg 01 57 39.2 -5.6**
TLY Smax 01 57 46.7
comp=E,420nm,0.9s
KHNR Khani 5.61 73 *e*Sg **Sg 01 57 39.9 -6.6**
TUP Tupik 5.76 98 *e*PN **Pn 01 56 12.4 +0.4**
TUP *e* 01 56 29.9
TUP *e*S **Sn 01 57 18.1 -0.1**
TUP *e* 01 57 45.3
TUP pmax pmax
comp=Z,130nm,0.9s
TUP smax
comp=N,657nm,1.0s
TUP Tupik 5.76 98 *e*Pn **Pn 01 56 12.4 +0.4**
TUP *e*Pg **Pg 01 56 29.3 -7.5**
TUP Pmax 01 56 33.3
comp=N,131nm,0.9s
TUP *e*Sn **Sn 01 57 18.1 -0.1**
TUP *e*Sg **Sg 01 57 45.0 -6.5**
TUP Smax 01 58 00.0
comp=N,681nm,1.8s
ARS Arshan 5.92 234 *e*PN **Pn 01 56 15.3 +1.2**
ARS *e*S **Sn 01 57 19.5 -2.5**
ARS *e*S **Sg 01 57 51.6 -4.9**
ARS smax
comp=N,2μm,0.7s
ARS Arshan 5.92 234 *e*Pn **Pn 01 56 15.0 +0.9**
ARS *e* 01 56 33.7
ARS max 01 56 43.0
comp=N,146nm,0.7s
ARS *e*Sn **Sn 01 57 20.6 -1.4**
ARS *e*Sg **Sg 01 57 48.7 -7.8**
ARS Smax 01 57 55.1
comp=N,2μm,1.0s
KPC Khapcheranga 6.12 166 *e*PN **Pn 01 56 17.6 +0.8**
KPC *e* 01 56 37.4
KPC *e* 01 57 57.0
KPC pmax pmax
comp=Z,62nm,0.6s
KPC smax
comp=E,458nm,1.4s
KPC Khapcheranga 6.12 166 *e*Pn **Pn 01 56 17.2 +0.4**
KPC *e*Pg **Pg 01 56 37.1 -6.4**
KPC Pmax 01 56 39.0
comp=E,61nm,1.2s
KPC Smax 01 57 06.5
comp=E,463nm,1.2s
KPC *i* Sg **Sg 01 57 56.9 -5.9**
ZAK Zakamensk 6.72 221 *e*PN **Pn 01 56 27.0 +1.9**
ZAK *e* 01 56 48.7
ZAK *e*S **Sn 01 57 43.0 +1.3**
ZAK *e* 01 58 16.3
ZAK pmax pmax
comp=Z,22nm,0.6s
ZAK smax
comp=N,283nm,1.3s
ZAK Zakamensk 6.72 221⇑ *i*Pn **Pn 01 56 27.0 +1.9**
ZAK *e* 01 56 52.8
ZAK max 01 56 54.9
comp=N,22nm,1.0s
ZAK *e*Sg **Sg 01 58 16.8 -5.3**
ZAK Smax 01 58 20.4
comp=N,287nm,1.3s
MOY Mondy 6.76 237 *e*PN **Pn 01 56 28.5 +2.9**
MOY *e* 01 56 50.2
MOY *e*S **Sn 01 57 42.7 +0.1**
MOY *e* 01 58 16.5
MOY pmax pmax
comp=Z,50nm,0.6s
MOY smax
comp=N,569nm,1.6s
MOY Mondy 6.76 237⇑ *i*Pn **Pn 01 56 28.1 +2.5**
MOY max 01 56 28.8
comp=N,205nm,0.8s
MOY *e*Sn **Sn 01 57 41.6 -1.0**
MOY *e*Sg **Sg 01 58 16.5 -6.8**
MOY Smax 01 58 28.8
comp=N,569nm,1.3s
ORL Orlik 6.84 247 *e*PN **Pn 01 56 28.9 +2.1**
ORL *e*S **Sg 01 58 19.6 -6.4**
ORL smax
comp=N,911nm,1.0s
ORL Orlik 6.84 247 *e*Pn **Pn 01 56 28.9 +2.1**
ORL max 01 56 30.2
comp=N,76nm,1.3s
ORL *e*Sn **Sn 01 57 44.9 +0.2**
ORL *e*Sg **Sg 01 58 18.5 -7.5**
ORL Smax 01 58 22.6
comp=N,911nm,1.3s
ULN Ulaanbaatar 8.04 195 *e*PN **Pn 01 56 45.6 +2.4**
ULN Ulaanbaatar 8.04 195 *e*Pn **Pn 01 56 47.0 +3.7**
comp=N,13nm,0.8s
ULN Ulaanbaatar 8.04 195 *e*Sg Sx 01 58 57.3
SONM Songino Array 8.18 198 Pn **Pn 01 56 47.1 +2.0**
comp=N,1.0nm,0.3s,baz=9.2,slow=14,SNR=22
SONM Lg 01 59 08.4
comp=N,6.0nm,0.3s,baz=356,slow=29,SNR=5.2
CLNS Chul'man 8.29 76 *e*PG Px 01 57 17.9
CLNS pmax pmax
comp=Z,11nm,0.6s
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS MLR MLR
comp=Z,300nm,10.0s
CLNS MLR MLR
comp=N,100nm,12.0s
CLNS MLR MLR
comp=E,700nm,8.0s
CLNS Chul'man 8.29 76 *e*Sg Sx 01 59 03.1
TNDR Tynda 8.30 88 *e*Sg Sx 01 59 04.3
HIA Hailar 8.67 134 *e*PN **Pn 01 56 53.6 +1.8**
HIA Hailar 8.67 134 Pn **Pn 01 56 58.5 +6.7**
comp=E,8.1nm,0.6s
HIA Hailar 8.67 134 *i* Sg Sx 01 59 16.3
TDJR Todzha 8.90 254 *e*Pn **Pn 01 56 55.3 +0.3**
TDJR *e*Sg Sn 01 59 20.9 +46
ZAL Zalesovo 14.71 274 Pn **Pn 01 58 14.6 +0.2**
comp=E,0.3nm,0.3s,baz=33,slow=12,SNR=24
ZAL Lg 02 02 27.0
comp=E,0.3nm,0.3s,baz=254,slow=21,SNR=3.2
ZAL Zalesovo 14.71 274 Pn **Pn 01 58 14.6 +0.2**
ZAL Lg 02 02 27.0
HABR Khabarovsk 16.84 105 *e*P **Pn 01 58 39.9 -2.4**
HABR S **Sn 02 01 48.3 -1.1**
TIXI Tiksi 17.91 19 *e*P **Pn 01 58 52.9 -2.7**
TIXI pmax pmax
comp=Z,13nm,1.6s
KURK Kurchatov 19.43 268 *e*P **Pn 01 59 13.1 -0.9**
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 19.43 268 *e*P **Pn 01 59 13.1 -0.9**
comp=Z,16nm,0.8s
MK31 Makanchi Array 19.46 255 *e*P **Pn 01 59 13.4 -1.0**
MKAR Makanchi Array 19.46 255 P **Pn 01 59 13.6 -0.9**
comp=Z,1.7nm,0.3s,baz=55,slow=8.6,SNR=72
CHKZ Chkalovo 22.75 282 *e*P **P 01 59 48.1 -0.5**
CHKZ *e*S **S 02 03 55.7 -1.9**
CHKZ pmax pmax
comp=Z,14nm,1.1s,mb4.3
CHKZ Chkalovo 22.75 282 *e*P **P 01 59 48.1 -0.6**
comp=Z,14nm,1.1s,mb4.3
CHKZ *e*S **S 02 03 55.7 -2.0**
BVAR Borovoye Array 23.11 280 P **P 01 59 52.7 +0.2**
comp=Z,6.0nm,0.6s,mb4.2,baz=67,slow=10,SNR=39
BVAR S **S 02 04 04.6 +1.0**
comp=Z,1.3nm,0.8s,baz=57,slow=21,SNR=3.4
BRVK Borovoye 23.16 280 *e*P **P 01 59 52.2 -0.8**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb4.4
BRVK Borovoye 23.16 280 *e*P **P 01 59 52.2 -0.8**
comp=Z,12nm,0.8s,mb4.4
AAK Ala-Archa 26.39 255 *e*P **P 02 00 23.7 +0.8**
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.0
AAK Ala-Archa 26.39 255 *e*P **P 02 00 23.7 +0.8**
comp=Z,6.5nm,1.3s,mb4.0
BILL Bilibino 28.08 42 *e*P **P 02 00 35.7 -2.4**
BILL *e* 02 01 21.3
BILL pmax pmax
comp=Z,3.0nm,1.4s,mb3.7
AKTK Aktyubinsk 31.15 283 P **P 02 01 05.5 +0.2**
AKTO Aktyubinsk 31.15 283 P **P 02 01 05.5 +0.2**
comp=Z,1.5nm,0.8s,mb3.9,baz=88,slow=9.7,SNR=5.8
AKTO Aktyubinsk 31.15 283 P **P 02 01 05.5 +0.2**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
KEV Kevo 37.26 325 *e*p **P 02 01 56.4 -1.8**
comp=Z,0.6nm,0.3s,mb3.9
KEV Kevo 37.26 325 *e*P **P 02 01 56.4 -1.8**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
ARCES ARCESS Array B 37.83 325 P **P 02 02 02.2 -0.8**
comp=Z,2.1nm,0.8s,mb3.9,baz=69,slow=8.6,SNR=6.3
ARCES ARCESS Array B 37.83 325 P **P 02 02 02.2 -0.8**
JOF Joensuu 38.49 314 *e*p **P 02 02 07.2 -1.4**
comp=Z,0.4nm,0.3s,mb3.6
KAF Kangasniemi 40.91 314 *e*p **P 02 02 28.1 -0.7**
comp=Z,0.8nm,0.3s,mb3.8,baz=57,slow=6.3
KAF Kangasniemi 40.91 314 *e*P **P 02 02 28.1 -0.7**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
FINES FINESS Array B 41.35 314 P **P 02 02 32.0 -0.4**
comp=Z,2.8nm,0.6s,mb4.1,baz=70,slow=8.8,SNR=16
FINES ScP ScP 02 08 21.4 +0.7
comp=Z,1.8nm,0.7s,baz=73,slow=3.1,SNR=6.7
FINES FINESS Array B 41.35 314 *i* P **P 02 02 32.0 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KIV Kislovodsk 43.39 284 *e*P **P 02 02 47.9 -1.1**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
KIV Kislovodsk 43.39 284 *e*P **P 02 02 47.9 -1.1**
comp=Z,6.9nm,0.9s,mb4.4
AKASG Malin Array Be 46.16 299 P **P 02 03 10.3 -0.8**
comp=Z,2.2nm,0.6s,mb4.2,baz=45,slow=8.3,SNR=8.0
AKASG Malin Array Be 46.16 299 P **P 02 03 10.3 -0.8**
HFS Hagfors 47.05 317 P **P 02 03 17.5 -0.6**
comp=Z,3.8nm,0.6s,mb4.5,baz=62,slow=10,SNR=14
NB2 NORSAR Subarra 47.40 319 P **P 02 03 20.4 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=49,slow=7.4
NOA NORSAR Array B 47.40 319 P **P 02 03 20.8 0.0**
comp=Z,2.5nm,0.7s,mb4.2,baz=47,slow=7.1,SNR=7.5
INK Inuvik 47.82 27 P **P 02 03 23.8 -0.3**
comp=Z,0.8nm,0.7s,mb3.9,baz=245,slow=10,SNR=6.3
INK Inuvik 47.82 27 P **P 02 03 23.8 -0.3**
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 47.82 27 *e*P **P 02 03 23.1 -1.0**
comp=Z,99nm,1.1s
GUMO Guam 49.81 134 LR LR 02 25 23.7
comp=Z,176nm,18.5s,MS4.1,baz=294,slow=37
BRTR Keskin Array B 51.22 286 P **P 02 03 51.5 +1.5**
comp=Z,1.2nm,0.9s,mb3.8,baz=64,slow=5.6,SNR=6.7
GERES GERESS Array B 54.80 307 P **P 02 04 16.6 +0.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=34,slow=9.7,SNR=4.7
YKA Yellowknife Ar 57.12 23 P **P 02 04 31.7 -1.3**
comp=Z,0.6nm,0.6s,mb3.8,baz=333,slow=7.0,SNR=8.4
YKA Yellowknife Ar 57.12 23 P **P 02 04 31.7 -1.3**
MDT Midelt 75.85 308 P **P 02 06 32.9 +0.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=7.6,slow=6.3,SNR=5.5
WRA Warramunga Arr 78.05 157 P **P 02 06 45.9 +0.6**
comp=Z,0.5nm,0.6s,mb3.6,baz=348,slow=6.0,SNR=5.9
WRA Warramunga Arr 78.05 157 *i* P **P 02 06 48.2 +2.9**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 81.56 158 P **P 02 07 07.3 +3.0**
comp=Z,0.2nm,0.4s,mb3.4,baz=351,slow=6.3,SNR=4.4
TORD Torodi Ar. Bea 89.35 292 P **P 02 07 43.6 +0.5**
comp=Z,1.0nm,0.8s,mb4.2,baz=35,slow=4.9,SNR=7.1

BJI 16 01:58:09.2, 3765N×12311E, h23km, ML4.1, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.71**	**318**	P		Pn	01 58 37.5	-0.1
DL2				PG		Pn	01 58 38.8	+1.2
DL2				SG		Sn	01 58 59.8	+1.0
DL2				Smax				
	comp=N,2μm,0.5s							
DL2				Smax				
	comp=E,1μm,0.5s							
SNY	**Shenyang**	**4.19**	**5**	⇑PG		Pn	01 59 21.8	+10
SNY				SG		Sn	02 00 13.3	+13
SNY				Smax				
	comp=N,364nm,0.6s							
SNY				Smax				
	comp=E,293nm,0.8s							
TIA	**Tai'an**	**5.01**	**255**	PG		Pn	01 59 39.8	+17
TIA				SG		Sn	02 00 46.6	+27
TIA				Smax				
	comp=N,159nm,0.8s							
TIA				Smax				
	comp=E,130nm,0.6s							
CN2	**Changchun**	**6.40**	**15**	*e*PG		Pn	02 00 06.8	+25
CN2				SG		Sn	02 01 23.5	+29
CN2				Smax				
	comp=N,210nm,0.7s							
CN2				Smax				
	comp=E,180nm,0.7s							

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*IDC **16** 02:09:55.1±1.0, 545N×12624E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/21, mbtmp4.0/11, Error ellipse: s-maj=99.7km s-min=14.3km az=70.0*
*MAN **16** 02:09:55.6, 5.17N×12676E, h14km, mb4.3, ML5.2, MS6.9*
*ISCJB **16** 02:10:02.9±1.0, 534N±006×1263E±0.1, h73km±8km, mb4.2/22, Error ellipse: s-maj=18.5km s-min=9.7km az=145.2*
*NEIC **16** 02:10:02.6±1.6, 533N×12607E, h54km±14km, mb4.5/6, Error ellipse: s-maj=43.8km s-min=8.9km az=71.0*
*BJI **16** 02:10:02.6, 530N×126.10E, h54km, mB5.0, mb4.7, Ms4.3, Msz3.9*

ISC 16 02:10:04.0±1.0, 535N±006×12629E±010, h66km±8km, n33, σ1°33/37, mb4.2/22, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.52**	**299**‖	*e*P		**Pn**	**02 10 26.5**	**-2.6**
GSPH				*e*S		**Sn**	**02 10 49.5**	**+1.4**
MATI	**Mati**	**1.59**	**359**	*e*P		**Pn**	**02 10 24.1**	**-5.9**
MATI				*e*S		**Sn**	**02 10 50.5**	**+0.8**
DAV	**Davao City (W)**	**1.85**	**338**	*e*Pn		**Pn**	**02 10 31.1**	**-2.5**
DAV				*e*Sn		**Sn**	**02 10 46.4**	**-10**
BUKP	**Musuan**	**2.79**	**334**	*e*P		**Pn**	**02 10 47.4**	**+1.1**
BUKP				*e*S		**Sn**	**02 11 26.5**	**+7.6**
FITZ	**Fitzroy Crossi**	**23.31**	**182**	P		**P**	**02 15 05.3**	**-0.8**
	0.6nm,0.4s,mb3.3,baz=8.1,slow=7.1,SNR=2.5							
WRA	**Warramunga Arr**	**26.35**	**163**	P		**P**	**02 15 33.3**	**-0.5**
	2.7nm,0.5s,mb4.0,baz=342,slow=10,SNR=15							
WB2	**Warramunga Arr**	**26.35**	**163**	*e*P		**P**	**02 15 35.1**	**+1.3**
ASAR	**Alice Springs**	**29.78**	**166**	P		**P**	**02 16 05.8**	**+1.5**
	0.5nm,0.5s,mb3.4,baz=353,slow=8.8,SNR=6.5							
KMI	**Kunming**	**29.94**	**313**	P		**P**	**02 16 09.3**	**+3.5**
KMI				AP		pP	02 16 19.4	-2.4
KMI				XP		sP	02 16 24.3	-5.3
KMI				AMB		AMB		
	comp=Z,11nm,0.5s,mb4.7							
KMI				AMB		AMB		
	comp=Z,113nm,5.6s							
KMI				LR		LR		
	comp=N,177nm,20.6s							
KMI				LR		LR		
	comp=E,105nm,21.6s							
KMI				LR		LR		
	comp=E,118nm,21.6s							
KMI	**Kunming**	**29.94**	**313**	P		**P**	**02 16 09.2**	**+3.4**
	comp=Z,11nm,0.5s,mb4.7							
KMI				pP		pP	02 16 19.4	-2.4
KMI				sP		sP	02 16 24.3	-5.3
KMI				S		**S**	**02 21 00.6**	**+2.0**
KMI				sS		sS	02 21 20.3	-5.7
KMI				LR		LR		
	comp=Z,120nm,21.6s							
CD2	**Chengdu**	**33.09**	**323**	*e*P		**P**	**02 16 35.3**	**+1.9**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
CD2				AMB		AMB		
	comp=Z,30nm,5.2s							
HHC	**Hu-ho-hao-te**	**37.73**	**342**	*e*P		**P**	**02 17 16.4**	**+3.1**
HHC				AP		pP	02 17 29.1	-0.5
HHC				XP		sP	02 17 33.9	-3.4
HHC				PP		PP	02 18 45.8	+5.3
HHC				AMB		AMB		
	comp=Z,15nm,0.3s,mb5.3							
HHC				AMB		AMB		
	comp=Z,148nm,6.3s							
HHC				LR		LR		
	comp=N,159nm,16.7s							
HHC				LR		LR		
	comp=E,389nm,20.8s							
HHC				LR		LR		
	comp=Z,114nm,20.2s							
STKA	**Stephens Creek**	**39.79**	**159**	P		**P**	**02 17 31.7**	**+1.3**
	comp=Z,3.0nm,0.5s,mb4.4,baz=337,slow=6.8,SNR=5.6							
STKA	**Stephens Creek**	**39.79**	**159**	*e*P		**P**	**02 17 34.2**	**+3.7**
ULN	**Ulaanbaatar**	**45.45**	**342**	*e*P		**P**	**02 18 16.9**	**+0.6**
	comp=Z,2.9nm,0.8s,mb4.1							
SONM	**Songino Array**	**45.63**	**341**	P		**P**	**02 18 16.7**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.3,baz=139,slow=8.2,SNR=4.1							
WMQ	**Urumqi**	**51.16**	**325**	*e*P		**P**	**02 19 01.5**	**+1.2**
WMQ				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.3							
WMQ				AMB		AMB		
	comp=Z,86nm,4.0s							
WMQ				LR		LR		
	comp=N,27nm,25.0s							
WMQ				LR		LR		
	comp=E,72nm,20.0s							
WMQ				LR		LR		
	comp=Z,54nm,27.0s							
MK31	**Makanchi Array**	**55.99**	**325**	*e*P		**P**	**02 19 34.6**	**-1.0**
MKAR	**Makanchi Array**	**55.99**	**325**	P		**P**	**02 19 34.6**	**-1.0**
	comp=Z,0.9nm,0.3s,mb4.2,baz=114,slow=7.3,SNR=28							
AAK	**Ala-Archa**	**58.87**	**317**	*e*P		**P**	**02 19 56.6**	**+0.8**
	comp=Z,2.7nm,1.1s,mb4.2							
ZAL	**Zalesovo**	**58.96**	**333**	P		**P**	**02 19 55.3**	**-1.2**
	comp=Z,0.7nm,0.4s,mb4.1,baz=333,slow=9.5,SNR=4.5							
KURK	**Kurchatov**	**60.15**	**327**	*e*P		**P**	**02 20 04.5**	**-0.1**
	comp=Z,3.6nm,0.5s,mb4.7							
BVAR	**Borovoye Array**	**65.73**	**327**	P		**P**	**02 20 42.9**	**+1.2**
	comp=Z,2.7nm,0.7s,mb4.2,baz=119,slow=8.6,SNR=17							
BRVK	**Borovoye**	**65.81**	**327**	*e*P		**P**	**02 20 42.7**	**+0.5**
	comp=Z,6.2nm,0.9s,mb4.4							
CHKZ	**Chkalovo**	**65.89**	**327**	*e*P		**P**	**02 20 43.0**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.9							
AKTK	**Aktyubinsk**	**72.13**	**321**	P		**P**	**02 21 20.3**	**-1.1**
AKTO	**Aktyubinsk**	**72.13**	**321**	P		**P**	**02 21 20.3**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=74,slow=5.7,SNR=7.9							
JOF	**Joensuu**	**87.55**	**333**	*e*p		**P**	**02 22 42.4**	**-2.2**
	comp=Z,0.8nm,0.4s,mb4.1							
ARCES	**ARCESS Array B**	**88.79**	**340**	P		**P**	**02 22 49.0**	**-1.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=86,slow=5.4,SNR=6.6							
INK	**Inuvik**	**88.83**	**21**	*e*P		**P**	**02 22 52.0**	**+1.3**
	comp=Z,371nm,1.6s							
FINES	**FINESS Array B**	**90.21**	**332**	P		**P**	**02 22 56.1**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.3,baz=56,slow=4.8,SNR=4.5							
HFS	**Hagfors**	**96.39**	**332**	P		**P**	**02 23 24.9**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.8,baz=106,slow=11,SNR=3.2							
TORD	**Torodi Ar. Bea**	**121.99**	**289**	PKP		PKPdf	02 28 51.1	+0.3
	comp=Z,0.1nm,0.3s,baz=74,slow=1.4,SNR=8.7							

WEL 16 02:10:07.3±0.2, 3805S×17642E, h148km±3km, ML3.5/12,

Error ellipse: s-maj=4.3km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.59**	**111**	*e*PN	Pn	02 10 28.8	-0.1
URZ				SN	Sn	02 10 45.2	-0.1
MWZ	**Matawai**	**0.92**	**108**	PN	Pn	02 10 31.7	+0.5
MWZ				SN	Sn	02 10 49.9	+0.4
BKZ	**Black Stump Fm**	**1.11**	**177**	PN	Pn	02 10 33.1	+0.2
BKZ				SN	Sn	02 10 52.6	+0.2
WPVZ	**Whakapapa**	**1.34**	**210**	PN	Pn	02 10 35.4	+0.4
FWVZ	**Far West T-bar**	**1.38**	**209**	*e*PN	Pn	02 10 35.9	+0.5
WNVZ	**Wahianoa**	**1.43**	**206**	PN	Pn	02 10 36.3	+0.3
MOVZ	**Moawhango**	**1.45**	**201**	PN	Pn	02 10 36.0	-0.2
MXZ	**Matakaoa Point**	**1.58**	**73**	PN	Pn	02 10 37.6	+0.1
PXZ	**Pawanui**	**2.01**	**170**	PN	Pn	02 10 42.2	-0.2
TSZ	**Takapari Road**	**2.04**	**190**	PN	Pn	02 10 42.0	-0.7
BFZ	**Birch Farm**	**2.63**	**183**	PN	Pn	02 10 48.7	-1.3
MRZ	**Mangatainoka R**	**2.69**	**194**	PN	Pn	02 10 49.0	-1.7
KIW	**Kapiti Island**	**3.04**	**202**	PN	Pn	02 10 52.7	-2.3
CAW	**Cannon Point**	**3.23**	**198**	PN	Pn	02 10 55.1	-2.3
MSWZ	**Moikau Station**	**3.48**	**195**	PN	Pn	02 10 57.8	-2.9
TCW	**Tory Channel**	**3.56**	**207**	PN	Pn	02 10 58.9	-3.0
NNZ	**Nelson**	**3.94**	**216**	*e*PN	Pn	02 11 03.5	-3.2
QRZ	**Quartz Range**	**4.09**	**226**	PN	Pn	02 11 05.1	-3.6
THZ	**Tophouse**	**4.58**	**215**	*e*PN	Pn	02 11 11.9	-3.3
KHZ	**Kahutara**	**4.88**	**206**	PN	Pn	02 11 15.5	-3.6
MQZ	**McQueen's Vall**	**6.33**	**206**	SN	Sn	02 12 39.4	-10

*MAN **16** 02:14:28.5, 5.14N×12687E, h32km, mb4.6, ML5.3, MS3.1*
*IDC **16** 02:14:31.9±4.2, 538N×12621E, h27km±28km, mb4.1/17, mb1 4.2/17, mb1mx4.0/24, mbtmp4.0/17, MS3.9/4, Ms1 3.9/4, ms1mx3.3/26, Error ellipse: s-maj=29.0km s-min=13.3km az=72.0*
*BJI **16** 02:14:33.0, 476N×12632E, h79km, mB5.0, mb4.7, Ms4.3, Msz4.0*
*ISCJB **16** 02:14:34.9±0.9, 531N±006×126.35E±009, h69km±7km, mb4.3/31, Error ellipse: s-maj=14.6km s-min=8.8km az=145.2*
*NEIC **16** 02:14:36.6±1.2, 532N×126.18E, h68km±11km, mb4.5/10, Error ellipse: s-maj=22.1km s-min=7.0km az=71.0*
ISC 16 02:14:36.4±0.9, 533N±006×12634E±008, h66km±7km, n48, σ1°12/55, mb4.3/31, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.57**	**299**	⇑*e*P	**Pn**	**02 14 59.6**	**-2.5**
GSPH				*i* S	**Sn**	**02 15 22.4**	**+1.2**
MATI	**Mati**	**1.61**	**357**	*e*P	**Pn**	**02 14 58.6**	**-4.0**
MATI				*e*S	**Sn**	**02 15 22.2**	**+0.1**
DAV	**Davao City (W)**	**1.89**	**337**	*e*Pn	**Pn**	**02 15 05.4**	**-1.0**
DAV				*e*Sn	**Sn**	**02 15 31.5**	**+2.6**
BUKP	**Musuan**	**2.83**	**334**	*e*P	**Pn**	**02 15 18.4**	**-0.8**
BUKP				*e*S	**Sn**	**02 16 02.4**	**+10**
CGP	**Cagayan de Oro**	**3.51**	**332**	⇓*e*P	**Pn**	**02 15 28.5**	**+0.1**
CGP				*e*S	**Sn**	**02 16 16.5**	**+7.8**
FITZ	**Fitzroy Crossi**	**23.29**	**182**	*e*P	**P**	**02 19 38.9**	**+0.5**
	15nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.29**	**182**	P	**P**	**02 19 39.1**	**+0.8**
	2.9nm,0.9s,mb3.6,baz=48,slow=9.4,SNR=4.4						
WRA	**Warramunga Arr**	**26.32**	**163**	P	**P**	**02 20 06.1**	**+0.3**
	2.1nm,0.5s,mb3.8,baz=342,slow=10,SNR=18						
WB2	**Warramunga Arr**	**26.32**	**163**	*e*P	**P**	**02 20 06.9**	**+1.0**
CBIJ	**Chichi jima**	**26.40**	**33**	P	**P**	**02 20 06.8**	**+0.2**
	48nm,0.6s,mb5.1,baz=290,slow=17,SNR=6.4						
PSI	**Prapat**	**27.45**	**266**	P	**P**	**02 20 15.6**	**-0.5**
	2.8nm,0.5s,mb4.1,baz=150,slow=7.2,SNR=4.9						
PSI	**Prapat**	**27.45**	**266**	P	**P**	**02 20 15.6**	**-0.5**
ASAR	**Alice Springs**	**29.75**	**166**	P	**P**	**02 20 37.1**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=356,slow=8.1,SNR=5.7						
ASAR				PcP	PcP	02 23 40.1	+1.2
	0.3nm,0.5s,baz=353,slow=2.8,SNR=3.6						
ASAR				ScP	ScP	02 27 20.8	+5.7
	0.6nm,0.9s,baz=6.1,slow=3.5,SNR=4.8						
KMI	**Kunming**	**29.99**	**313**	P	**P**	**02 20 42.3**	**+3.7**
KMI				AP	pP	02 20 54.3	-0.2
KMI				S	**S**	**02 25 33.3**	**+1.5**
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,105nm,4.0s						
KMI				LR	LR		
	comp=N,198nm,18.1s						
KMI				LR	LR		
	comp=E,148nm,20.9s						
KMI				LR	LR		
	comp=Z,155nm,18.1s						
KMI	**Kunming**	**29.99**	**313**	P	**P**	**02 20 42.2**	**+3.6**
	comp=Z,12nm,0.7s,mb4.6						
KMI				pP	pP	02 20 54.3	-0.2
KMI				S	**S**	**02 25 33.3**	**+1.5**
KMI				sS	sS	02 25 54.2	-4.7
KMI				SS	SS	02 27 08.1	-33
KMI				LR	LR		
	comp=Z,160nm,18.1s						
BJT	**Baijiatuau**	**35.73**	**347**	*e*P	**P**	**02 21 29.1**	**+0.4**
	comp=Z,6.9nm,0.5s,mb4.8						
LZH	**Lanzhou**	**36.94**	**329**	*e*P	**P**	**02 21 41.0**	**+2.1**
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH	**Lanzhou**	**36.94**	**329**	*e*P	**P**	**02 21 41.0**	**+2.1**
	comp=Z,18nm,1.0s,mb5.0						
LZH				pP	pP	02 21 49.2	-5.9
LZH				sP	sP	02 21 52.5	-10
HHC	**Hu-ho-hao-te**	**37.77**	**342**	*e*P	**P**	**02 21 49.3**	**+3.3**
HHC				PP	PP	02 23 19.4	+6.1
HHC				S	**S**	**02 27 36.3**	**+4.5**
HHC				SS	SS	02 30 13.3	-6.3
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.1						
HHC				LR	LR		
	comp=N,179nm,20.2s						
HHC				LR	LR		
	comp=E,353nm,17.2s						
HHC				LR	LR		
	comp=Z,100nm,19.6s						
STKA	**Stephens Creek**	**39.75**	**160**	P	**P**	**02 22 02.7**	**+0.1**
	comp=Z,1.1nm,0.3s,mb4.1,baz=323,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**39.75**	**160**	*e*P	**P**	**02 22 03.9**	**+1.3**
GTA	**Gaotai**	**41.53**	**329**	*e*P	**P**	**02 22 20.3**	**+3.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**45.49**	**342**	*e*P	**P**	**02 22 50.2**	**+1.2**
	comp=Z,6.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**45.67**	**341**	P	**P**	**02 22 50.2**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.6,baz=151,slow=8.1,SNR=7.9						
WMQ	**Urumqi**	**51.20**	**325**	*e*P	**P**	**02 23 34.6**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,60nm,3.8s						
WMQ				LR	LR		
	comp=N,69nm,23.0s						
WMQ				LR	LR		
	comp=E,125nm,21.0s						
WMQ				LR	LR		
	comp=Z,93nm,22.0s						
MK31	**Makanchi Array**	**56.03**	**325**	*e*P	**P**	**02 24 08.1**	**-0.2**
MKAR	**Makanchi Array**	**56.03**	**325**	P	**P**	**02 24 08.0**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.4,baz=115,slow=7.2,SNR=37						
MKAR				PcP	PcP	02 25 06.1	+0.2
	comp=Z,2.4nm,0.8s,baz=104,slow=5.1,SNR=5.5						
MKAR				LR	LR	02 49 15.2	
	comp=Z,75nm,20.9s,baz=261,slow=37						
MKAR	**Makanchi Array**	**56.03**	**325**	P	**P**	**02 24 08.0**	**-0.3**
MKAR				PcP	PcP	02 25 06.1	+0.2
MKAR				LR	LR	02 49 15.2	
AAK	**Ala-Archa**	**58.92**	**317**	*e*P	**P**	**02 24 28.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb4.0						
ZAL	**Zalesovo**	**59.00**	**333**	P	**P**	**02 24 28.7**	**-0.4**
	comp=Z,1.5nm,0.3s,mb4.4,baz=349,slow=9.8,SNR=5.9						
ZAL				LR	LR	02 51 48.0	
	comp=Z,76nm,21.0s,baz=196,slow=38						
KURK	**Kurchatov**	**60.19**	**327**	*e*P	**P**	**02 24 37.0**	**-0.4**
	comp=Z,3.9nm,0.4s,mb4.8						
BVAR	**Borovoye Array**	**65.78**	**327**	P	**P**	**02 25 13.9**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.4,baz=121,slow=10,SNR=23						
BRVK	**Borovoye**	**65.85**	**327**	*e*P	**P**	**02 25 15.9**	**+1.0**
	comp=Z,6.3nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**65.93**	**327**	*e*P	**P**	**02 25 14.3**	**-1.1**
	comp=Z,4.4nm,1.1s,mb4.2						
AKTK	**Aktyubinsk**	**72.17**	**321**	P	**P**	**02 25 53.8**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTK				LR	LR	02 59 09.1	
AKTO	**Aktyubinsk**	**72.17**	**321**	P	**P**	**02 25 53.8**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=84,slow=11,SNR=9.5						
AKTO				LR	LR	02 59 09.1	
	comp=Z,93nm,19.7s,baz=280,slow=37						
JOF	**Joensuu**	**87.59**	**333**	*e*p	**P**	**02 27 16.1**	**-1.2**
	comp=Z,1.0nm,0.4s,mb4.2						
BRTR	**Keskin Array B**	**88.70**	**310**	P	**P**	**02 27 21.8**	**-0.8**
	comp=Z,0.7nm,0.9s,mb3.7,baz=103,slow=4.1,SNR=3.6						
ARCES	**ARCESS Array B**	**88.82**	**340**	P	**P**	**02 27 21.5**	**-1.6**
	comp=Z,5.9nm,0.9s,mb4.6,baz=60,slow=5.8,SNR=8.2						
ARCES	**ARCESS Array B**	**88.82**	**340**	P	**P**	**02 27 21.5**	**-1.6**
KAF	**Kangasniemi**	**90.01**	**332**	*e*p	**P**	**02 27 27.9**	**-0.8**
	comp=Z,0.7nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**90.25**	**332**	P	**P**	**02 27 27.9**	**-1.8**
	comp=Z,2.9nm,0.8s,mb4.5,baz=70,slow=3.7,SNR=8.6						
FINES	**FINESS Array B**	**90.25**	**332**	P	**P**	**02 27 27.9**	**-1.9**
MLR	**Muntele Rosu**	**93.48**	**316**	P	**P**	**02 27 44.3**	**-0.4**
	comp=Z,1.0nm,0.7s,mb4.3,baz=104,slow=4.2,SNR=3.1						
HFS	**Hagfors**	**96.43**	**332**	P	**P**	**02 27 56.1**	**-2.1**
	comp=Z,1.6nm,0.8s,mb4.5,baz=46,slow=4.2,SNR=4.2						
NOA	**NORSAR Array B**	**97.19**	**334**	P	**P**	**02 28 01.8**	**+0.2**
	comp=Z,0.8nm,0.9s,mb4.2,baz=57,slow=5.2,SNR=3.3						
NOA				LR	LR	03 13 30.7	
	comp=Z,79nm,18.8s,baz=40,slow=36						
YKA	**Yellowknife Ar**	**98.21**	**24**	P	**P**	**02 28 07.2**	**+1.0**
	comp=Z,0.1nm,0.5s,mb3.6,baz=293,slow=4.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.04**	**289**	PKP	PKPdf	02 33 24.3	+1.0
	comp=Z,0.3nm,0.6s,baz=52,slow=2.2,SNR=6.4						

*ISCJB **16** 02:25:51.4±0.6, 38N±01×1264E±03, h35km, mb4.1/16, Error ellipse: s-maj=44.5km s-min=9.2km az=144.4*
*IDC **16** 02:25:56.0±6.7, 378N×12647E, h63km±63km, mb3.7/11, mb1 3.8/11, mb1mx3.7/21, mbtmp3.7/11, Error ellipse: s-maj=57.1km s-min=16.0km az=73.0*
*NEIC **16** 02:25:58.4±4.2, 377N×12653E, h86km±40km, mb4.2/6, Error ellipse: s-maj=43.5km s-min=9.7km az=70.0*
ISC 16 02:25:53.4±0.6, 38N±01×1265E±03, h35km, n23, σ0°62/21, mb4.1/16, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.77**	**182**	*e*P	**P**	**02 30 42.8**	**+0.8**
	0.9nm,0.3s,mb3.7						
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**02 30 42.3**	**+0.3**
	1.2nm,0.6s,mb3.5,baz=9.7,slow=9.5,SNR=3.7						
WRA	**Warramunga Arr**	**24.83**	**162**	P	**P**	**02 31 12.1**	**-0.2**
	5.3nm,0.9s,mb4.1,baz=343,slow=10,SNR=40						
WB2	**Warramunga Arr**	**24.83**	**162**	*e*P	**P**	**02 31 11.3**	**-1.0**
ASAR	**Alice Springs**	**28.24**	**165**	P	**P**	**02 31 43.0**	**0.0**
	0.3nm,0.3s,mb3.3,baz=345,slow=7.5,SNR=6.3						
KSRS	**Korea Array**	**33.53**	**2**	P	**P**	**02 32 29.7**	**0.0**
	1.9nm,0.7s,mb4.1,baz=185,slow=10,SNR=4.6						
BJT	**Baijiatuau**	**37.24**	**347**	*e*P	**P**	**02 33 02.4**	**+0.8**
	8.5nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**02 33 10.9**	**+0.5**
	2.3nm,0.6s,mb4.1,baz=341,slow=8.5,SNR=6.5						
STKA	**Stephens Creek**	**38.29**	**159**	*e*P	**P**	**02 33 12.2**	**+1.8**
ULN	**Ulaanbaatar**	**46.97**	**342**	*e*P	**P**	**02 34 21.0**	**+0.1**
	1.6nm,0.7s,mb4.1						
SONM	**Songino Array**	**47.15**	**342**	P	**P**	**02 34 21.7**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=151,slow=7.9,SNR=6.6						
SONM				PcP	PcP	02 35 53.4	-0.1
	0.7nm,0.8s,baz=160,slow=3.2,SNR=4.2						
MK31	**Makanchi Array**	**57.34**	**325**	*e*P	**P**	**02 35 37.9**	**0.0**
MKAR	**Makanchi Array**	**57.34**	**325**	P	**P**	**02 35 37.8**	**-0.1**
	0.8nm,0.4s,mb4.1,baz=119,slow=7.7,SNR=20						
KURK	**Kurchatov**	**61.54**	**328**	*e*P	**P**	**02 36 07.6**	**+0.7**
	3.6nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**67.11**	**327**	P	**P**	**02 36 44.0**	**+0.6**
	2.5nm,0.9s,mb4.2,baz=126,slow=7.5,SNR=9.3						
BRVK	**Borovoye**	**67.19**	**327**	*e*P	**P**	**02 36 44.2**	**+0.3**
	4.4nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**67.28**	**328**	*e*P	**P**	**02 36 44.9**	**+0.5**
	0.9nm,0.4s,mb4.2						
AKTK	**Aktyubinsk**	**73.43**	**322**	P	**P**	**02 37 21.7**	**-0.3**
AKTO	**Aktyubinsk**	**73.43**	**322**	P	**P**	**02 37 21.7**	**-0.3**
	2.5nm,0.8s,mb4.2,baz=106,slow=8.3,SNR=10						
BRTR	**Keskin Array B**	**89.76**	**310**	P	**P**	**02 38 47.1**	**-1.0**
	0.4nm,0.7s,mb3.9,baz=64,slow=6.6,SNR=3.2						
ARCES	**ARCESS Array B**	**90.29**	**340**	P	**P**	**02 38 49.6**	**-1.0**
	2.7nm,0.9s,mb4.6,baz=90,slow=7.6,SNR=3.7						
SCHQ	**Schefferville**	**120.55**	**9**	PKP	PKPdf	02 44 39.2	-2.0
	3.3nm,0.9s,baz=207,slow=2.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.63**	**288**	PKP	PKPdf	02 44 46.0	+0.7
	0.4nm,0.7s,baz=48,slow=2.4,SNR=4.7						

*NEIC **16** 02:30:47.7±0.7, 5017N×1907E, h5km, ML2.8(BRA), ML3.1(SZGRF), ML3.2(BUC), Error ellipse: s-maj=10.9km s-min=4.3km az=15.0*
*PRU **16** 02:30:48.7, 5019N×1903E, h0km*
*IDC **16** 02:30:48.1±2.5, 4999N×1913E, h0km, mb1 3.6/5, mb1mx3.3/20, mbtmp3.5/5, ML2.8/4, Error ellipse: s-maj=38.0km s-min=8.2km az=134.0*
*CSEM **16** 02:30:48.3±0.2, 5014N×1911E, h2km, ML3.1/8, Error ellipse: s-maj=4.4km s-min=2.3km az=12.0*
*BGR **16** 02:30:48.6±0.3, 5015N×1910E, h1km, ML3.1/8, Error ellipse: s-maj=8.9km s-min=4.4km az=177.0*
*VIE **16** 02:30:50.2±0.4, 4981N×1904E, h0km, mb2.3/2, ML3.1/4, Error ellipse: s-maj=2.8km s-min=2.5km az=169.0 49 km S of Kattowitz Suspected Mining induced.*
WAR 16 02:30:48.4, 5011N×1916E, ML3.0, 13C-8D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.43**	**74**	*e*Pg	Pg	02 30 56.7	+0.1
OJC				*e*Sg	Sg	02 31 03.1	+0.9
OJC	**Ojcow**	**0.43**	**74**	*e*Pg	Pg	02 30 56.7	+0.1
OJC				*e*Sg	Sg	02 31 03.4	+1.3
RAC	**Raciborz**	**0.62**	**268**	*e*Pg	Pg	02 31 00.6	+0.3
RAC				*e*Sg	Sg	02 31 09.8	+1.5
OKC	**Ostrava-Krasne**	**0.70**	**248**	*e*Pg	Pg	02 31 01.7	-0.2
OKC				*e*Sg	Sg	02 31 11.5	+0.5
OKC	**Ostrava-Krasne**	**0.70**	**248**	*e*PG	Pg	02 31 01.6	-0.3
OKC				*e*SG	Sg	02 31 11.4	+0.3
	114nm,0.4s						
NIE	**Niedzica**	**1.02**	**132**	*e*Pg	Pg	02 31 08.0	+0.1
NIE				*e*Sg	Sg	02 31 24.7	+3.6
LIKS	**Likavka**	**1.06**	**182**	*e*PN	Pn	02 31 09.3	-1.2
LIKS				*e*SN	Sn	02 31 23.6	-2.3
LIKS	**Likavka**	**1.06**	**182**	*e*Pn	Pn	02 31 09.4	-1.1
LIKS				*e*Sn	Sn	02 31 23.6	-2.3
MORC	**Moravsky Berou**	**1.09**	**253**	*e*Pg	Pg	02 31 08.8	-0.6
MORC				*e*Sg	Sg	02 31 23.1	-0.4
MORC	**Moravsky Berou**	**1.09**	**253**	⇑P	Pg	02 31 08.6	-0.8
MORC				S	Sg	02 31 22.9	-0.7
MORC	**Moravsky Berou**	**1.09**	**253**	⇑*i*P	Pg	02 31 08.6	-0.8
MORC	**Moravsky Berou**	**1.09**	**253**	S	Sg	02 31 22.9	-0.7
STHS	**Stebnicka Huta**	**1.52**	**116**	*e*PN	Pn	02 31 17.5	+0.7
STHS				*e*SN	Sn	02 31 40.6	+3.3
VYHS	**Vyhne**	**1.63**	**188**	*e*PN	Pn	02 31 17.3	-1.0
VYHS				*e*SN	Sn	02 31 39.9	0.0
VYHS	**Vyhne**	**1.63**	**188**	*e*Pn	Pn	02 31 17.3	-1.0
VYHS				*e*Sn	Sn	02 31 40.0	+0.1
DPC	**Dobruska-Polom**	**1.84**	**279**	*e*Pn	Pn	02 31 19.9	-1.3
DPC				*e*Sg	Sg	02 31 46.3	-1.2
DPC	**Dobruska-Polom**	**1.84**	**279**	*e*PG	Pg	02 31 19.9	-3.7
DPC				*e*SG	Sg	02 31 44.5	-2.9
	72nm,0.5s						
KECS	**Kecovo**	**1.84**	**151**	*e*PN	Pn	02 31 20.3	-1.0
KECS				*e*SN	Sn	02 31 46.1	+0.8
VRAC	**Vranov**	**1.85**	**245**	Pg	Pg	02 31 21.3	-2.5
	5.7nm,0.3s,baz=64,slow=13,SNR=27						
VRAC				Lg		02 31 45.3	
	4.1nm,0.3s,baz=75,slow=17,SNR=5.1						
VRAC	**Vranov**	**1.85**	**245**	⇑P	Pn	02 31 20.4	-0.9
VRAC				S	Sn	02 31 45.3	0.0
VRAC	**Vranov**	**1.85**	**245**	⇑*i*P	Pn	02 31 20.4	-0.9
VRAC	**Vranov**	**1.85**	**245**	S	Sn	02 31 45.3	0.0
VRAC	**Vranov**	**1.85**	**245**	*e*Pn	Pn	02 31 20.0	-1.3
VRAC				*e*Sg	Sg	02 31 45.1	-2.6
CRVS	**Cervenica-Dubn**	**1.93**	**128**	*e*PN	Pn	02 31 24.6	+2.2
CRVS				*e*SN	Sn	02 31 51.1	+3.8
SMOL	**Smolenice**	**1.95**	**216**	*e*PN	Pn	02 31 21.8	-1.0
KSP	**Ksiaz**	**1.97**	**293**	*e*Pn	Pn	02 31 21.7	-1.4
KSP				*e*Pg	Pg	02 31 24.6	-1.6
KSP				*e*Sg	Sg	02 31 51.0	-0.8
KSP	**Ksiaz**	**1.97**	**293**	*e*Sg	Sg	02 31 51.0	-0.8
UPC	**Upice**	**2.06**	**282**	*e*PG	Pg	02 31 23.4	-4.4
UPC				*e*SG	Sg	02 31 51.0	-3.5
PSZ	**Piszkesteto**	**2.24**	**167**	⇓P	Pn	02 31 27.3	+0.6
PSZ				S	Sn	02 31 54.7	-0.4
PSZ	**Piszkesteto**	**2.24**	**167**	⇓*i*P	Pn	02 31 27.3	+0.5
PSZ	**Piszkesteto**	**2.24**	**167**	S	Sn	02 31 54.7	-0.4
PSZ	**Piszkesteto**	**2.24**	**167**	*e*PB	Pb	02 31 31.5	+1.7
PSZ				*e*SB	Sb	02 32 00.3	+2.2
PENC	**Penc**	**2.32**	**178**	*e*P	Pn	02 31 27.3	-0.5
ZST	**Bratislava**	**2.34**	**216**	*e*SN	Sn	02 31 57.0	-0.5
KOLS	**Kolonicke sedl**	**2.34**	**119**	*e*PN	Pn	02 31 31.8	+3.6
KWP	**Kalwaria**	**2.35**	**100**	*e*Pn	Pn	02 31 36.7	+8.5
SOP	**Sopron**	**2.97**	**216**	⇑*e*Pn	Pn	02 31 36.8	0.0
SOP				*e*Sn	Sn	02 32 14.0	+0.9
PVCC	**Panska Ves**	**2.97**	**280**	*e*SG	Sg	02 32 20.2	-3.7
PRU	**Pruhonice**	**2.98**	**269**	*e*PN	Pn	02 31 34.6	-2.3
PRU				*e*PG	Pg	02 31 41.4	-4.1
PRU				*e*SG	Sg	02 32 19.6	-4.5
	28nm,0.4s						
CONA	**Conrad Observa**	**3.08**	**226**	⇑*i*Pn	Pn	02 31 36.4	-1.9
CONA				⇑*i*Sg	Sg	02 32 23.4	-3.8
	8.7nm,0.3s						
BRG	**Berggiesshubel**	**3.42**	**285**	*e*Pg	Pg	02 31 48.9	-5.0
BRG				*e*Sg	Sg	02 32 34.8	-3.5
KHC	**Kasperske Hory**	**3.76**	**257**	*e*PN	Pn	02 31 46.4	-1.2
KHC				*e*PG	Pg	02 31 53.8	-6.6
KHC				*e*SG	Sg	02 32 45.5	-3.6
	39nm,0.5s						
GEC2	**GERESS Array S**	**3.77**	**253**	*e*Pn	Pn	02 31 47.0	-0.8
GEC2				*e*Sg	Sg	02 32 46.6	-3.1
GEC2	**GERESS Array S**	**3.77**	**253**	*e*Pn	Pn	02 31 47.0	-0.8
GEC2				*e*Sg	Sg	02 32 46.6	-3.1
GERES	**GERESS Array B**	**3.77**	**253**	Pn	Pn	02 31 45.4	-2.4
	0.3nm,0.3s,baz=66,slow=14,SNR=9.5						
GERES				Pg	Pg	02 31 56.8	-4.0
	1.0nm,0.3s,baz=65,slow=16,SNR=16						
GERES				Lg		02 32 46.2	
	5.6nm,0.3s,baz=61,slow=33,SNR=14						
GERES	**GERESS Array B**	**3.77**	**253**	Pg	Pg	02 31 56.8	-4.0
FBE	**Freiberg**	**3.79**	**285**	*e*Sg	Sg	02 32 49.1	-1.1
MOA	**Molln**	**3.93**	**237**	⇓*i*Pn	Pn	02 31 48.5	-1.5
MOA				⇓*i*Sg	Sg	02 32 52.7	-2.1
	comp=Z,16nm,0.6s						
DRGR		**4.07**	**143**	⇓P	Pn	02 31 51.8	-0.1
DRGR				S	Sn	02 32 38.8	-1.5
DRGR		**4.07**	**143**	⇓*i*P	Pn	02 31 51.8	-0.1
DRGR		**4.07**	**143**	S	Sn	02 32 38.8	-1.5
CLL	**Collm**	**4.09**	**289**	*e*Pg	Pg	02 31 59.4	-7.4
CLL				*e*Sg	Sg	02 32 57.3	-2.6
CLL	**Collm**	**4.09**	**289**	*e*Pg	Pg	02 31 59.0	-7.8
CLL				*i* Sg	Sg	02 32 57.7	-2.2
	comp=Z,20nm,0.6s						
TANN	**Tannenbergstha**	**4.31**	**277**	*e*Pn	Pn	02 31 52.8	-2.4
TANN				*e*Sg	Sg	02 33 02.9	-3.9
NKC	**Novy Kostel**	**4.32**	**274**	*e*SG	Sg	02 33 02.9	-4.1
	comp=Z,22nm,0.5s						
WERN	**Wernitzgruen**	**4.36**	**275**	*e*Sg	Sg	02 33 04.2	-4.3
BURAR	**Bucovina Array**	**4.71**	**120**	⇑P	Pn	02 32 00.6	-0.1
BURAR	**Bucovina Array**	**4.71**	**120**	⇑*i*P	Pn	02 32 00.6	-0.1
BZS	**Buzias**	**4.79**	**159**	⇑P	Pn	02 32 01.4	-0.3
BZS	**Buzias**	**4.79**	**159**	⇑*i*P	Pn	02 32 01.4	-0.3
MOX	**Moxa**	**4.86**	**279**	(SG)	Sg	02 33 24.3	-0.1
GRA1	**Grafenberg Arr**	**5.15**	**268**	Sg	Sg	02 33 30.3	-3.4
GRF	**Grafenberg Arr**	**5.15**	**268**	*e*Sg	Sg	02 33 30.3	-3.4
GZR	**Gura Zlata**	**5.31**	**151**	⇑P	Pn	02 32 09.3	+0.4
GZR				S	Sn	02 33 10.9	+0.1
GZR	**Gura Zlata**	**5.31**	**151**	⇑*i*P	Pn	02 32 09.3	+0.4
GZR	**Gura

VIS			*e*S	Sn	03 23 06.2	-0.2
VIS			AML	AML	03 23 29.6	
	comp=E,56nm,0.4s					
VIS			AML	AML	03 23 29.8	
	comp=N,74nm,0.5s					
SALM	**Salem**	**4.52 220**	*ex*	x	03 22 37.0	
SALM			*e*S	Sn	03 23 36.0	-0.7
LATR	**Latur**	**5.49 307**	*ex*	x	03 23 35.1	
NGP	**Nagpur**	**6.30 342**	*ex*	x	03 22 42.6	
NGP			*ex*	x	03 23 56.3	
NGP			*ex*	x	03 24 22.5	
	comp=E,33nm,0.5s					
MNGI	**Mangalore**	**6.54 251**	*ex*	x	03 23 22.5	
MNGI			*e*S	Sn	03 24 23.5	-3.0
AKL	**Akola**	**6.80 325**	*ex*	x	03 23 08.1	
AKL			*e*S	Sn	03 24 28.3	-4.5
AKL			AML	AML	03 24 39.3	
	comp=E,91nm,0.5s					
AKL			AML	AML	03 24 39.9	
	comp=N,71nm,0.5s					
KAD	**Karad**	**7.05 289**	*ex*	x	03 24 03.7	
KAD			*i* S	Sn	03 24 32.2	-6.8
KAD			AML	AML	03 24 40.9	
	comp=N,103nm,0.5s					
KAD			AML	AML	03 24 40.9	
	comp=E,60nm,0.4s					
POO	**Poona**	**7.78 297**	*i* x	x	03 24 48.5	
BHPL	**Bhopal**	**8.80 337**	*ex*	x	03 24 52.5	
BHPL			AML	AML	03 26 49.6	
	comp=N,8.6nm,0.3s					
BHPL			AML	AML	03 26 51.2	
	comp=E,10nm,0.5s					
BOM	**Bombay**	**8.82 296**	*e*S	Sn	03 25 14.4	-8.2
BOM			AML	AML	03 25 38.2	
	comp=E,64nm,0.6s					
BOM			AML	AML	03 25 38.3	
	comp=N,106nm,0.5s					
BOK	**Bokaro**	**9.68 27**	*e*S	Sn	03 25 36.0	-7.7
BOK			AML	AML	03 26 39.9	
	comp=N,23nm,0.6s					
BOK			AML	AML	03 26 41.6	
	comp=E,24nm,0.8s					
BHV	**Bhavnagar**	**10.79 309**	*ex*	x	03 24 53.0	

*IDC **16** 03:42:56.6±4.5, 4367N×12837W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/23, mbtmp3.5/5, ML3.5/2, MS3.5/6, Ms1 3.5/6, ms1mx3.1/25, Error ellipse: s-maj=69.7km s-min=28.4km az=69.0*

*ISCJB **16** 03:42:57.2±1.2, 4371N±009×12807W±009, h10km, mb3.5/2, MS3.4/4, Error ellipse: s-maj=13.8km s-min=7.8km az=59.7*

ISC 16 03:42:58.6±1.2, 4372N±009×12810W±010, h10km, n27, σ1§08/28, mb3.5/2, MS3.5/4, 11C-7D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	**Sixes**	**2.80**	**108**	⇓S	**Sn**	**03 44 14.2**	**-3.1**
	baz=2.7						
I02A	**Mapleton**	**3.10**	**83**	⇑S	**Sn**	**03 44 25.5**	**+0.8**
	baz=3.0						
J02A	**Umpqua**	**3.31**	**95**	P	**Pn**	**03 43 49.1**	**-1.3**
	baz=3.2,SNR=12						
J02A				⇑S	**Sn**	**03 44 29.2**	**-0.6**
	baz=3.2						
I03A	**Eugene**	**3.50**	**84**	P	**Pn**	**03 43 52.0**	**-1.0**
	baz=3.4,SNR=39						
I03A				⇓S	**Sn**	**03 44 34.2**	**-0.2**
	baz=3.4						
K02A	**Glendale**	**3.50**	**104**	⇓P	**Pn**	**03 43 51.4**	**-1.6**
	baz=3.4						
K02A				⇑S	**Sn**	**03 44 33.8**	**-0.7**
	baz=3.4						
H03A	**Soap Creek Ran**	**3.59**	**73**	⇑P	**Pn**	**03 43 53.2**	**-1.0**
	baz=3.5						
L02A	**Cave Junction**	**3.65**	**114**	⇓S	**Sn**	**03 44 38.2**	**-0.1**
	baz=3.5						
J03A	**Ideyld Park**	**3.75**	**93**	P	**Pn**	**03 43 55.4**	**-1.1**
	baz=3.6,SNR=11						
G03A	**Yamhill**	**3.80**	**63**	⇑P	**Pn**	**03 43 56.3**	**-0.8**
	baz=3.8						
HUMO	**Hull Mountain**	**3.92**	**105**	⇑P	**Pn**	**03 43 59.0**	**+0.1**
	baz=3.8,SNR=6.9						
HUMO				⇓S	**Sn**	**03 44 44.4**	**-0.5**
	baz=3.8						
I04A	**Tendick Farm,**	**4.12**	**87**	⇑P	**Pn**	**03 44 01.2**	**-0.4**
	baz=4.0						
I04A				⇓S	**Sn**	**03 44 50.7**	**+0.9**
	baz=4.0						
G04A	**Mulino**	**4.29**	**68**	⇑P	**Pn**	**03 44 03.7**	**-0.2**
	baz=4.3						
H04A	**Detroit Lake**	**4.36**	**75**	P	**Pn**	**03 44 04.8**	**-0.1**
	baz=4.3,SNR=8.3						
J04A	**Umpqua Nationa**	**4.39**	**94**	⇑P	**Pn**	**03 44 05.0**	**-0.2**
	baz=4.3						
J04A				⇓S	**Sn**	**03 44 57.9**	**+1.6**
	baz=4.3						
K04A	**Chilquin**	**4.79**	**101**	⇑S	**Sn**	**03 45 07.7**	**+1.4**
	baz=4.7						
G05A	**Wamic**	**5.09**	**70**	⇑P	**Pn**	**03 44 16.3**	**+1.4**
	baz=5.0						
NEW	**Newport**	**8.89**	**55**	LR	LR	03 48 47.8	
	comp=Z,272nm,18.4s,baz=234,slow=39						
NVAR	**Mina Array Bea**	**9.09**	**122**	Pn	**Pn**	**03 45 12.2**	**+2.5**
	0.1nm,0.3s,baz=302,slow=14,SNR=7.3						
PDAR	**Pinedale Array**	**13.56**	**88**	Pn	**Pn**	**03 46 17.6**	**+6.7**
	0.1nm,0.3s,baz=289,slow=8.5,SNR=3.1						
PFO	**Pinyon Flat Ob**	**13.57**	**134**	LR	LR	03 51 09.6	
	comp=Z,178nm,21.6s,baz=143,slow=36						
ANMO	**Albuquerque**	**18.85**	**110**	P	**Pn**	**03 47 26.0**	**+6.8**
	0.0nm,0.3s,baz=308,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**20.40**	**18**	P	**P**	**03 47 35.6**	**0.0**
	1.1nm,0.8s,baz=205,slow=11,SNR=12						
ULM	**Lac du Bonnet**	**22.81**	**62**	P	**P**	**03 48 03.0**	**+1.5**
	2.6nm,0.8s,mb3.7,baz=252,slow=11,SNR=5.8						
ULM				LR	LR	03 57 14.7	
	comp=Z,120nm,18.9s,MS3.4,baz=360,slow=37						
TXAR	**Lajitas Array**	**24.21**	**118**	P	**P**	**03 48 16.7**	**+1.5**
	1.3nm,0.9s,mb3.3,baz=302,slow=7.4,SNR=5.4						
INK	**Inuvik**	**24.82**	**355**	LR	LR	03 57 15.9	
	comp=Z,71nm,18.4s,MS3.2,baz=246,slow=35						
SCHQ	**Schefferville**	**40.24**	**52**	LR	LR	04 06 28.6	
	comp=Z,44nm,20.1s,MS3.3,baz=210,slow=35						
FINES	**FINESS Array B**	**73.12**	**13**	LR	LR	04 28 35.2	
	comp=Z,60nm,18.1s,MS3.9,baz=159,slow=37						

*IDC **16** 04:05:47.8±1.9, 650S×129.11E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=138.8km s-min=28.2km az=66.0*

*NEIC **16** 04:05:57.8±4.9, 731S×12774E, h75km±49km, mb4.0/2, Error ellipse: s-maj=61.1km s-min=20.5km az=224.0*

*ISCJB **16** 04:06:07.2±2.1, 801S±0.10×1274E±0.1, h194km±23km, mb3.5/4, Error ellipse: s-maj=21.7km s-min=14.2km az=127.7*

ISC 16 04:06:03.9±2.3, 77S±01×1277E±02, h139km±24km, n9, σ1§10/14, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.83**	**137**	*e*P	**Pn**	**04 07 45.1**	**+3.5**
	74nm,0.6s						
KAKA				*e*S	**Sn**	**04 08 56.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.53**	**191**	*e*P	**Pn**	**04 08 30.9**	**-0.2**
	8.8nm,0.4s						
FITZ				*e*S	**Sn**	**04 10 20.8**	**-6.6**
WRA	**Warramunga Arr**	**13.77**	**153**	Pn	**Pn**	**04 09 13.7**	**+0.5**
	1.5nm,0.3s,baz=341,slow=13,SNR=43						
WRA				Sn	**Sn**	**04 11 41.0**	**-4.5**
	0.8nm,0.3s,baz=336,slow=22,SNR=5.8						
WB2	**Warramunga Arr**	**13.78**	**153**	*e*P	**Pn**	**04 09 13.6**	**+0.3**
WB2				*e*S	**Sn**	**04 11 40.2**	**-5.4**
ASAR	**Alice Springs**	**16.96**	**160**	P	**Pn**	**04 09 56.5**	**+3.7**
	0.7nm,0.3s,baz=345,slow=13,SNR=53						
ASAR				S	**S**	**04 13 00.7**	**-0.8**
	0.3nm,0.3s,baz=339,slow=24,SNR=12						
STKA	**Stephens Creek**	**27.32**	**154**	P	**P**	**04 11 37.6**	**+2.0**
	0.6nm,0.4s,mb3.6,baz=332,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**67.58**	**328**	P	**P**	**04 16 44.8**	**-0.5**
	0.5nm,0.8s,mb3.3,baz=122,slow=7.3,SNR=3.4						
AAK	**Ala-Archa**	**69.61**	**321**	*e*P	**P**	**04 16 57.6**	**-0.4**
	1.0nm,0.6s,mb3.7						
BRVK	**Borovoye**	**77.52**	**329**	*e*P	**P**	**04 17 43.6**	**-0.6**
	1.1nm,0.5s,mb3.7						

IDC 16 04:10:56.9±1.6, 046N×12380E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=152.2km s-min=28.4km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**154**	P	P	04 16 00.7	+0.1
	0.8nm,0.5s,baz=333,slow=10,SNR=4.6						
SONM	**Songino Array**	**49.55**	**345**	P	P	04 19 50.5	+1.0
	0.6nm,0.7s,baz=151,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**58.65**	**328**	P	P	04 20 55.4	-0.5
	0.2nm,0.5s,baz=113,slow=8.7,SNR=4.8						

*BJI **16** 04:51:15.2, 0.17S×9751E, h30km, mB4.7, mb4.7, Ms4.4, Msz3.9*

*ISCJB **16** 04:51:18.1±0.4, 034N±005×9702E±006, h36km, mb4.4/30, MS3.7/8, Error ellipse: s-maj=9.1km s-min=7.7km az=20.4*

*NEIC **16** 04:51:18.9±0.3, 035N×9697E, h30km, mb4.6/9, Error ellipse: s-maj=9.8km s-min=7.5km az=64.0*

*IDC **16** 04:51:19.9±0.4, 033N×9690E, h36km±3km, mb4.1/17, mb1 4.2/18, mb1mx4.1/27, mbtmp4.1/18, ML3.8/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/34, Error ellipse: s-maj=16.8km s-min=9.9km az=51.0*

ISC 16 04:51:20.5±0.4, 037N±005×9704E±006, h38km, h38km±.8km: pP-P, n52, σ1§16/49, mb4.4/30, MS3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.06**	**38**	Pn	**Pn**	**04 52 05.1**	**-1.2**
	12nm,0.3s,baz=272,slow=7.4,SNR=44						
PSI				Sn	**Sn**	**04 52 41.4**	**-0.3**
	11nm,0.3s,baz=194,slow=4.7,SNR=7.0						
PSI				LR	LR	04 52 51.5	
	comp=Z,210nm,19.7s,baz=259,slow=30						
PSI	**Prapat**	**3.06**	**38**	Pn	**Pn**	**04 52 05.1**	**-1.2**
PSI				Sn	**Sn**	**04 52 41.4**	**-0.3**
PSI				LR	LR	04 52 51.5	
KULM	**Kulim**	**6.07**	**36**	*e*Pn	**Pn**	**04 52 46.9**	**-0.8**
CHTO	**Chiang Mai**	**18.42**	**6**	*e*P	**Pn**	**04 55 31.2**	**-1.6**
	9.6nm,0.8s						
CHTO				*e*		04 55 44.0	
KKM	**Kota Kinabalu**	**19.95**	**73**	*e*P	**Pn**	**04 55 49.5**	**-1.6**
KKM				*e*pP	pP	04 55 59.1	+0.3
KMI	**Kunming**	**25.22**	**12**	P	**P**	**04 56 44.3**	**+1.7**
KMI				AP	pP	04 56 53.9	+0.7
KMI				XP	sP	04 56 58.8	+1.0
KMI				PP		04 57 24.1	
KMI				PPP		04 57 33.8	
KMI				S	**S**	**05 01 05.8**	**+0.4**
KMI				XS	sS	05 01 23.0	0.0
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,95nm,5.7s						
KMI				LR	LR		
	comp=N,236nm,9.2s						
KMI				LR	LR		
	comp=E,224nm,11.8s						
KMI				LR	LR		
	comp=Z,192nm,10.9s,MS3.9						
KMI	**Kunming**	**25.22**	**12**	P	**P**	**04 56 44.3**	**+1.7**
	comp=Z,8.0nm,1.0s,mb4.2						
KMI				pP	pP	04 56 53.9	+0.7
KMI				sP	sP	04 56 58.7	+0.9
KMI				PP		04 57 24.1	
KMI				PPP		04 57 33.7	
KMI				S	**S**	**05 01 05.7**	**+0.3**
KMI				sS	sS	05 01 23.0	0.0
KMI				SS		05 02 06.7	
KMI				LR	LR		
	comp=Z,190nm,10.9s,MS3.9						
SHL	**Shillong**	**25.54**	**349**	*e*P	**P**	**04 56 46.6**	**+1.1**
BOK	**Bokaro**	**25.68**	**336**	*e*P	**P**	**04 56 50.3**	**+3.5**
BOK				AMb	AMB	04 56 54.0	
	comp=Z,16nm,0.9s,mb4.5						
LSA	**Lhasa**	**29.70**	**350**	*e*P	**P**	**04 57 20.3**	**-2.5**
	comp=Z,7.6nm,0.6s,mb4.6						
LSA				*e*pP	pP	04 57 29.1	-4.3
CD2	**Chengdu**	**31.03**	**11**	*e*P	**P**	**04 57 37.4**	**+2.9**
CD2				PP	PP	04 58 40.6	-4.4
CD2				SS	SS	05 04 26.8	-24
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,120nm,15.2s						
CD2				LR	LR		
	comp=Z,110nm,14.8s,MS3.6						
FITZ	**Fitzroy Crossi**	**33.58**	**125**	*e*P	**P**	**04 57 56.6**	**-0.3**
	comp=Z,19nm,0.6s,mb5.2						
FITZ				*e*	pP	04 58 08.1	+0.5
FITZ	**Fitzroy Crossi**	**33.58**	**125**	P	**P**	**04 57 57.2**	**+0.3**
	comp=Z,12nm,0.7s,mb4.9,baz=290,slow=4.7,SNR=27						
FITZ				pP	pP	04 58 08.0	+0.4
	comp=Z,4.9nm,0.8s,baz=177,slow=6.6,SNR=5.8						
GTA	**Gaotai**	**38.94**	**3**	*e*P	**P**	**04 58 43.5**	**+0.9**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**41.74**	**121**	P	**P**	**04 59 05.9**	**+0.1**
	comp=Z,15nm,0.6s,mb4.8,baz=302,slow=9.0,SNR=178						
WRA				pP	pP	04 59 17.0	+0.3
	comp=Z,7.5nm,0.7s,baz=302,slow=9.0,SNR=13						
WB2	**Warramunga Arr**	**41.75**	**121**	*e*P	**P**	**04 59 05.8**	**0.0**
WB2				*e*	pP	04 59 16.8	0.0
HHC	**Hu-ho-hao-te**	**42.39**	**16**	*e*P	**P**	**04 59 13.9**	**+2.8**
HHC				AP	pP	04 59 23.0	+0.9
HHC				XP	sP	04 59 27.8	+1.2
HHC				PP	PP	05 00 55.3	+5.6
HHC				S	**S**	**05 05 33.5**	**+3.6**
HHC				XS	sS	05 05 50.1	+2.1
HHC				SS	SS	05 08 38.8	-0.9
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,136nm,5.6s						
HHC				LR	LR		
	comp=N,161nm,16.1s,MS4.3						
HHC				LR	LR		
	comp=E,268nm,17.2s,MS4.3						
HHC				LR	LR		
	comp=Z,162nm,18.4s,MS4.0						
ASAR	**Alice Springs**	**43.03**	**126**	P	**P**	**04 59 16.8**	**+0.6**
	comp=Z,2.5nm,0.5s,mb4.2,baz=298,slow=8.1,SNR=58						
ASAR				PcP	PcP	05 01 06.7	+0.7
	comp=Z,0.7nm,0.8s,baz=286,slow=2.3,SNR=4.5						
WMQ	**Urumqi**	**44.06**	**350**	*e*P	**P**	**04 59 26.1**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,88nm,4.0s						
WMQ				LR	LR		
	comp=N,34nm,21.0s,MS3.4						
WMQ				LR	LR		
	comp=E,37nm,21.0s,MS3.4						
WMQ				LR	LR		
	comp=Z,33nm,15.0s						
KSRS	**Korea Array**	**46.62**	**34**	P	**P**	**04 59 46.0**	**+1.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=220,slow=8.6,SNR=7.5						
KSRS				LR	LR	05 19 20.5	
	comp=Z,40nm,18.3s,MS3.4,baz=326,slow=36						
AAK	**Ala-Archa**	**46.70**	**337**	*e*P	**P**	**04 59 46.4**	**+1.0**
	comp=Z,4.0nm,0.7s,mb4.5						
SONM	**Songino Array**	**47.97**	**8**	P	**P**	**04 59 56.4**	**+1.0**
	comp=Z,1.0nm,0.3s,mb4.3,baz=191,slow=9.2,SNR=6.5						
MK31	**Makanchi Array**	**48.01**	**346**	*e*P	**P**	**04 59 56.9**	**+1.3**
MK31				*e*pP	pP	05 00 07.0	+0.3
MKAR	**Makanchi Array**	**48.01**	**346**	P	**P**	**04 59 56.4**	**+0.8**
	comp=Z,2.9nm,0.7s,mb4.4,baz=162,slow=7.7,SNR=24						
MKAR				pP	pP	05 00 07.2	+0.5
	comp=Z,9.9nm,0.6s,baz=162,slow=8.5,SNR=26						
MKAR				LR	LR	05 24 59.9	
	comp=Z,70nm,18.1s,MS3.7,baz=347,slow=42						
MKAR	**Makanchi Array**	**48.01**	**346**	P	**P**	**04 59 56.4**	**+0.8**
MKAR				pP	pP	05 00 07.2	+0.5
MKAR				LR	LR	05 24 59.9	
MJAR	**Matsushiro Arr**	**52.41**	**42**	LR	LR	05 22 24.3	
	comp=Z,70nm,21.7s,MS3.7,baz=235,slow=36						
KURK	**Kurchatov**	**52.55**	**345**	*e*P	**P**	**05 00 24.9**	**-5.1**
	comp=Z,3.3nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**52.92**	**132**	P	**P**	**05 00 33.7**	**+1.0**
	comp=Z,8.2nm,0.9s,mb4.7,baz=298,slow=6.8,SNR=15						
STKA				pP	pP	05 00 45.9	+1.9
	comp=Z,2.8nm,0.6s,baz=290,slow=8.6,SNR=3.7						
STKA	**Stephens Creek**	**52.92**	**132**	*e*P	**P**	**05 00 33.3**	**+0.6**
ZAL	**Zalesovo**	**54.34**	**351**	P	**P**	**05 00 43.6**	**+0.4**
	comp=Z,3.2nm,0.5s,mb4.5,baz=330,slow=9.8,SNR=7.1						
ZAL				pP	pP	05 00 54.5	+0.1
	comp=Z,10nm,0.5s,baz=316,slow=4.8,SNR=13						
BVAR	**Borovoye Array**	**56.98**	**341**	P	**P**	**05 01 01.5**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=152,slow=9.9,SNR=6.4						
BVAR				pP	pP	05 01 12.5	-0.9
	comp=Z,3.5nm,0.7s,baz=146,slow=8.6,SNR=14						
BRVK	**Borovoye**	**57.04**	**341**	*e*P	**P**	**05 01 01.1**	**-1.5**
	comp=Z,5.4nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**57.46**	**342**	*e*P	**P**	**05 01 05.0**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.8						
CHKZ				*e*pP	pP	05 01 15.8	-1.0
AKTK	**Aktyubinsk**	**59.89**	**332**	P	**P**	**05 01 21.3**	**-1.1**
AKTK				pP	pP	05 01 32.0	-1.7
AKTO	**Aktyubinsk**	**59.89**	**332**	P	**P**	**05 01 21.3**	**-1.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=69,slow=11,SNR=4.0						
AKTO				pP	pP	05 01 32.0	-1.8
	comp=Z,2.4nm,0.7s,baz=136,slow=6.3,SNR=5.6						
CASY	**Casey**	**67.20**	**174**	*e*P	**P**	**05 02 10.2**	**-0.4**
	comp=Z,14nm,1.4s,mb4.8						
BRTR	**Keskin Array B**	**69.55**	**313**	P	**P**	**05 02 24.7**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=129,slow=6.6,SNR=11						
BRTR				pP	pP	05 02 35.6	-1.3
	comp=Z,1.5nm,0.7s,baz=140,slow=7.0,SNR=7.4						
MATP	**Matopo**	**70.07**	**248**	P	**P**	**05 02 28.6**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=94,slow=6.8,SNR=7.3						
MATP				pP	pP	05 02 39.1	-1.0
	comp=Z,1.5nm,0.8s,baz=82,slow=7.3,SNR=2.8						
DZM	**Mont Dzumac**	**71.10**	**113**	LR	LR	05 33 18.1	
	comp=Z,79nm,18.6s,MS4.0,baz=198,slow=35						
AKASG	**Malin Array Be**	**75.82**	**323**	P	**P**	**05 03 01.4**	**-1.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=88,slow=4.9,SNR=6.8						
AKASG				pP	pP	05 03 12.3	-1.9
	comp=Z,2.5nm,0.5s,baz=91,slow=4.7,SNR=8.8						
MLR	**Muntele Rosu**	**76.56**	**317**	P	**P**	**05 03 06.4**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=225,slow=6.7,SNR=5.5						
MLR				pP	pP	05 03 17.5	-1.0
	comp=Z,4.8nm,1.1s,baz=167,slow=7.0,SNR=5.3						
JOF	**Joensuu**	**78.82**	**335**	*e*p	**P**	**05 03 28.3**	**+8.9**
	comp=Z,0.5nm,0.4s,mb3.8						
FINES	**FINESS Array B**	**80.66**	**333**	P	**P**	**05 03 28.8**	**-0.6**
	comp=Z,7.1nm,1.1s,mb4.5,baz=270,slow=1.0,SNR=4.2						
FINES				pP	pP	05 03 39.4	-1.7
	comp=Z,1.1nm,0.6s,baz=108,slow=6.2,SNR=1.4						
FINES	**FINESS Array B**	**80.66**	**333**	P	**P**	**05 03 28.8**	**-0.6**
FINES				pP	pP	05 03 39.4	-1.7
ARCES	**ARCESS Array B**	**83.26**	**340**	P	**P**	**05 03 41.0**	**-2.0**
	comp=Z,2.3nm,0.8s,mb4.3,baz=335,slow=11,SNR=3.8						
ARCES				pP	pP	05 03 53.8	-1.0
	comp=Z,0.8nm,0.4s,baz=101,slow=4.6,SNR=1.4						
HFS	**Hagfors**	**86.36**	**330**	pP	pP	05 04 09.4	-1.0
	comp=Z,3.3nm,0.8s,baz=116,slow=6.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**95.13**	**283**	P	**P**	**05 04 39.7**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.9,baz=94,slow=4.3,SNR=5.0						
TORD				pP	pP	05 04 51.0	-0.5
	comp=Z,0.3nm,0.7s,baz=98,slow=4.8,SNR=1.9						
TXAR	**Lajitas Array**	**144.45**	**32**	PKP	PKPdf	05 10 52.7	+0.2
	comp=Z,1.4nm,0.8s,baz=191,slow=1.3,SNR=21						
TXAR				pPKP	pPKPdf	05 11 03.1	-1.7
	comp=Z,1.3nm,0.7s,baz=277,slow=1.3,SNR=8.4						
TXAR	**Lajitas Array**	**144.45**	**32**	PKP	PKPdf	05 10 52.7	+0.1
TXAR				pPKP	pPKPdf	05 11 03.1	-1.7
JCT	**Junction City**	**145.39**	**26**	*e*PKPbc	PKPbc	05 10 54.8	+0.7
JCT				*e*		05 11 06.3	
CFAA	**Coronel Fontan**	**145.95**	**203**	PKPbc	PKPbc	05 10 56.5	+0.6
	comp=Z,0.4nm,0.5s,baz=151,slow=3.6,SNR=11						
CFAA				pPKPbc	pPKPbc	05 11 07.9	-0.2
	comp=Z,0.2nm,0.4s,baz=230,slow=0.6,SNR=3.5						
SIV	**San Ignacio**	**153.41**	**233**	PKPbc	PKPbc	05 11 14.8	+0.2
	comp=Z,1.2nm,0.9s,baz=178,slow=3.2,SNR=5.7						

*ISCJB **16** 04:54:40.6±0.3, 5157N±002×16.11E±002, h0km, Error ellipse: s-maj=2.9km s-min=2.1km az=39.1*

*NEIC **16** 04:54:42.7±0.3, 5163N×16.11E, h5km, ML2.6(BRA), ML2.9(SZGRF), Error ellipse: s-maj=3.7km s-min=3.6km az=104.0*

*WAR **16** 04:54:44.9, 5151N×1606E, ML2.7, Mining Induced*

*IDC **16** 04:54:44.3±0.7, 5154N×1592E, h0km, mb1 3.4/7, mb1mx3.3/23, mbtmp3.3/7, ML3.2/7, Error ellipse: s-maj=12.3km s-min=6.7km az=97.0*

*PRU **16** 04:54:45.3, 5147N×1602E, h0km*

*CSEM **16** 04:54:45.7±0.1, 5144N×1606E, h1km, ML3.4/5, Error ellipse: s-maj=2.4km s-min=1.5km az=6.0, Suspected Mining induced.*

*VIE **16** 04:54:46.1±0.6, 5131N×1603E, h0km, mb2.6/4, ML3.0/4, Error ellipse: s-maj=3.9km s-min=3.6km az=170.0 73 km WNW of Breslau Suspected Mining induced.*

ISC 16 04:54:42.4±0.3, 5157N±002×1608E±002, h0km, n58, σ1§14/108, 5C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**169**	⇓*i*Pg	**Pg**	**04 54 57.4**	**+0.8**
KSP				*e*Sg	**Sg**	**04 55 05.9**	**-0.3**
UPC	**Upice**	**1.06**	**182**	*e*PG	**Pg**	**04 55 03.3**	**+0.5**
DPC	**Dobruska-Polom**	**1.23**	**173**	*e*PG	**Pg**	**04 55 06.1**	**+0.1**
DPC				*e*SG	**Sg**	**04 55 20.8**	**-1.2**
	66nm,0.5s						
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG	**Pg**	**04 55 09.8**	**+0.3**
PVCC				*e*SG	**Sg**	**04 55 28.0**	**+0.2**
	188nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**243**	PN	**Pn**	**04 55 10.6**	**-0.2**
BRG				PG	**Pg**	**04 55 12.3**	**+0.8**
BRG				SG	**Sg**	**04 55 32.0**	**+1.0**
	49nm,0.4s						
RUE	**Ruedersdorf**	**1.69**	**304**	*e*Pn	**Pn**	**04 55 12.1**	**-1.1**
RUE				*e*Sn	**Sn**	**04 55 33.8**	**-1.7**
RUE	**Ruedersdorf**	**1.69**	**304**	*e*Pn	**Pn**	**04 55 12.1**	**-1.1**
RUE				*e*Sn	**Sn**	**04

comp=Z,2.9nm,0.3s,baz=30,slow=12,SNR=81
GERES Pg Pg 04 55 40.3 -2.1
comp=Z,5.8nm,0.3s,baz=29,slow=19,SNR=36
GERES Lg 04 56 21.6
comp=Z,4.4nm,0.3s,baz=32,slow=28,SNR=8.0
GERES GERESS Array B 3.13 210 Pg Pg 04 55 40.3 -2.0
SMOL Smolenice 3.18 164 eSG Sg 04 56 25.0 +0.4
ZST Bratislava 3.44 169 eSg Sg 04 56 33.9 +0.9
ZST Bratislava 3.44 169 eSG Sg 04 56 33.9 +0.9
NIE Niedzica 3.46 127 eP Pg 04 55 48.5 -0.2
NIE eS Sg 04 56 31.6 -1.9
VYHS Vyhne 3.56 149 ePN Pn 04 55 39.2 +0.4
VYHS ePG Pg 04 55 52.1 +1.5
VYHS eSG Sg 04 56 40.4 +3.7
BSD Bornholm Skovb 3.62 349 i P Pn 04 55 40.3 +0.6
BSD i S Sn 04 56 20.6 -2.5
BSD i S Sn 04 56 23.5 +0.4
GRA1 Grafenberg Arr 3.62 241 ePn Pn 04 55 40.5 +0.8
GRA1 eSg Sg 04 56 38.3 -0.4
GRF Grafenberg Arr 3.62 241 ePn Pn 04 55 40.5 +0.8
GRF eSg Sg 04 56 38.3 -0.4
GRFO Grafenberg 3.62 241 ePn Pn 04 55 40.6 +0.8
GRFO ePg Pg 04 55 52.7 +0.9
GRFO eSg Sg 04 56 38.9 +0.1
GRFO Grafenberg 3.62 241 ePn Pn 04 55 40.6 +0.9
GRFO Grafenberg 3.62 241 ePg Pg 04 55 52.7 +0.9
CONA Conrad Observa 3.65 182 ⇓iPn Pn 04 55 40.2 +0.1
CONA ⇑iSg Sg 04 56 37.8 -1.8
comp=Z,19nm,0.5s
MOA Molln 3.91 198 ⇑iPn Pn 04 55 44.5 +0.9
MOA ⇑iSg Sg 04 56 47.3 -0.6
comp=Z,7.6nm,0.3s
MOA Molln 3.91 198 ⇑iPn Pn 04 55 44.5 +0.9
MOA ⇑iSg Sg 04 56 47.3 -0.6
comp=Z,7.6nm,0.3s
MOA Molln 3.91 198 Pn Pn 04 55 44.5 +0.8
MOA Sg Sg 04 56 47.3 -0.6
comp=Z,7.6nm,0.3s
STHS Stebnicka Huta 3.94 121 ePN Pn 04 55 45.3 +1.2
STHS ePG Pg 04 55 58.0 +0.1
STHS eSG Sg 04 56 52.3 +3.3
KECS Kecovo 4.20 136 ePG Pg 04 56 03.8 +0.9
KECS eSG Sg 04 57 01.7 +4.4
CRVS Cervenica-Dubn 4.37 126 ePg Pg 04 56 07.2 +1.1
CRVS eSg Sg 04 57 03.4 +0.7
CRVS eSG Sg 04 57 03.4 +0.7
CRVS Cervenica-Dubn 4.37 126 ePG Pg 04 56 07.1 +1.0
KWP Kalwaria 4.65 112 ePn Pn 04 55 54.0 +0.1
KWP ePg Pg 04 56 09.4 -2.1
KWP eSg Sg 04 57 12.3 +0.6
KWP Kalwaria 4.65 112 ePn Pn 04 55 54.0 +0.2
KWP Kalwaria 4.65 112 ePg Pg 04 56 09.4 -2.1
PERS Pernice 4.98 188 i Pn Pn 04 56 00.2 +1.8
CRES Cresnjev 5.76 184 i Pn Pn 04 56 10.5 +1.4
VISS Visnje 5.83 189 ePn Pn 04 56 11.2 +1.1
BOJS Bojanci 6.09 185 i Pn Pn 04 56 15.2 +1.5
AKASG Malin Array Be 8.32 91 Pn Pn 04 56 44.8 +0.5
comp=Z,1.3nm,0.3s,baz=279,slow=12,SNR=3.9
AKBB Malin Arrray Si 8.32 91 eP Pn 04 56 44.5 +0.2
HFS Hagfors 8.69 352 Pn Pn 04 56 47.6 -1.7
comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=5.2
NOA NORSAR Array B 9.87 346 Pn Pn 04 57 04.2 -1.3
comp=Z,0.1nm,0.3s,baz=168,slow=13,SNR=2.6
FINES FINESS Array B 11.32 25 Pn Pn 04 57 24.5 -0.9
comp=Z,0.3nm,0.3s,baz=213,slow=11,SNR=14
KAF Kangasniemi 11.94 24 ep Pn 04 57 32.9 -1.0
comp=Z,0.4nm,0.3s
JOF Joensuu 14.00 30 ep Pn 04 57 59.1 -2.9
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 17.01 127 Pn Pn 04 58 46.9 +5.3
comp=Z,0.1nm,0.3s,baz=358,slow=12,SNR=3.4
ARCES ARCESS Array B 18.57 10 Pn Pn 04 58 57.9 -3.1
comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=8.8

*NEIC **16** 04:55:38.8±0.5, 46.79N×153.04E, h10km, mb3.9/1, Error ellipse: s-maj=14.1km s-min=12.4km az=180.0*
*ISCJB **16** 04:55:42.7±1.3, 46.85N±0.09×153.0E±0.1, h49km±10km, mb4.0/19, Error ellipse: s-maj=20.1km s-min=7.3km az=91.3*
*MOS **16** 04:55:42.0±1.1, 46.87N×153.01E, h42km, mb4.3/2, Error ellipse: s-maj=17.1km s-min=11.3km az=78.7*
*IDC **16** 04:55:47.9±3.9, 46.82N×152.98E, h82km±36km, mb3.6/16, mb1 3.8/18, mb1mx3.7/28, mbtmp3.6/18, Error ellipse: s-maj=20.4km s-min=17.1km az=154.0*
ISC 16 04:55:45.4±1.1, 46.89N±0.09×153.0E±0.1, h60km±9km, n39, σ0.75/40, mb4.0/19, 6C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.94**	**247**	ePN	**Pn**	**04 56 40.5**	**-2.9**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
SKR	**Severo-Kuril's**	**4.32**	**27**	ePN	**Pn**	**04 56 48.5**	**-0.1**
SKR				eS	**Sn**	**04 57 37.5**	**-0.1**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=N,220nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.78**	**243**	PN	**Pn**	**04 57 13.8**	**+5.3**
YUK				eS	**Sn**	**04 58 13.0**	**-0.4**
YUK				smax			
	comp=N,520nm,0.6s						
YUK				smax			
	comp=E,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.02**	**274**	PN	**Pn**	**04 57 34.8**	**+9.2**
ASAJ	**Asahikawa**	**7.82**	**253**	P	**Pn**	**04 57 37.4**	**+0.9**
	comp=E,1.4nm,0.3s,baz=98,slow=18,SNR=3.7						
ASAJ	**Asahikawa**	**7.82**	**253**	PN	**Pn**	**04 57 37.4**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.10**	**232**	P	**Pn**	**04 59 16.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=35,slow=8.8,SNR=5.2						
BILL	**Bilibino**	**22.27**	**13**	eP	**P**	**05 00 31.8**	**-5.7**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.8						
INK	**Inuvik**	**41.58**	**32**	P	**P**	**05 03 27.9**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.0,baz=281,slow=6.7,SNR=27						
INK	**Inuvik**	**41.58**	**32**	eP	**P**	**05 03 27.9**	**+0.6**
	comp=Z,122nm,1.0s,mb5.5						
MKAR	**Makanchi Array**	**46.81**	**297**	P	**P**	**05 04 10.7**	**+1.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=51,slow=8.3,SNR=3.4						
CHKZ	**Chkalovo**	**50.29**	**310**	eP	**P**	**05 04 34.8**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**50.29**	**310**	eP	**P**	**05 04 34.8**	**-1.0**
	comp=Z,1.1nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**50.71**	**309**	P	**P**	**05 04 40.0**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=36,slow=11,SNR=2.9						
YKA	**Yellowknife Ar**	**50.86**	**37**	P	**P**	**05 04 40.5**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=296,slow=7.1,SNR=15						
YKA	**Yellowknife Ar**	**50.86**	**37**	P	**P**	**05 04 40.5**	**+0.4**
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**05 06 11.2**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=49,slow=9.0,SNR=7.3						
PDAR	**Pinedale Array**	**64.73**	**54**	P	**P**	**05 06 17.6**	**+0.3**
	comp=Z,0.9nm,0.9s,mb3.8,baz=329,slow=2.6,SNR=7.1						
ULM	**Lac du Bonnet**	**66.47**	**41**	P	**P**	**05 06 28.2**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=312,slow=7.9,SNR=4.2						
NB2	**NORSAR Subarra**	**68.08**	**341**	P	**P**	**05 06 38.2**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.08**	**341**	P	**P**	**05 06 38.5**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.4,baz=27,slow=6.3,SNR=6.6						
HFS	**Hagfors**	**68.30**	**339**	P	**P**	**05 06 39.7**	**-0.5**
	comp=Z,6.3nm,0.7s,mb4.7,baz=64,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**68.62**	**199**	P	**P**	**05 06 41.3**	**-0.8**
	comp=Z,0.4nm,1.0s,mb3.3,baz=14,slow=6.7,SNR=3.1						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**05 06 58.3**	**-0.9**
	comp=Z,1.6nm,0.5s,mb4.2,baz=32,slow=5.8,SNR=7.0						
ASAR	**Alice Springs**	**72.31**	**198**	P	**P**	**05 07 04.3**	**-0.3**
	comp=Z,0.3nm,0.9s,mb3.2,baz=16,slow=5.9,SNR=4.7						
BURAR	**Bucovina Array**	**75.43**	**326**	⇑iP	**P**	**05 07 22.5**	**-0.4**
MORC	**Moravsky Berou**	**76.28**	**332**	⇓iP	**P**	**05 07 28.0**	**+0.3**
CLL	**Collm**	**76.31**	**335**	i P	**P**	**05 07 27.4**	**-0.5**
	comp=Z,9.0nm,1.1s,mb4.6						
MLR	**Muntele Rosu**	**76.91**	**325**	P	**P**	**05 07 31.4**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=201,slow=2.5,SNR=7.2						
MLR	**Muntele Rosu**	**76.91**	**325**	P	**P**	**05 07 31.4**	**+0.1**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MLR	**Muntele Rosu**	**76.91**	**325**	⇑P	**P**	**05 07 32.3**	**+1.0**
MLR	**Muntele Rosu**	**76.91**	**325**	⇑iP	**P**	**05 07 32.3**	**+1.0**
DRGR		**77.06**	**327**	⇑iP	**P**	**05 07 32.1**	**0.0**
VOIR		**77.31**	**325**	⇑iP	**P**	**05 07 34.5**	**+1.0**
TXAR	**Lajitas Array**	**77.49**	**60**	P	**P**	**05 07 34.9**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=300,slow=4.7,SNR=18						
BRTR	**Keskin Array B**	**78.24**	**317**	P	**P**	**05 07 39.1**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=57,slow=4.6,SNR=6.3						
GERES	**GERESS Array B**	**78.30**	**334**	P	**P**	**05 07 38.3**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=349,slow=1.0,SNR=3.2						
BZS	**Buzias**	**78.46**	**327**	⇑iP	**P**	**05 07 39.6**	**-0.3**
CFAA	**Coronel Fontan**	**145.04**	**79**	PKPbc	PKPbc	05 15 14.3	-1.1
	comp=Z,0.2nm,0.8s,baz=51,slow=2.9,SNR=4.0						

MEX 16 04:56:39.2±0.6, 15.96N×97.05W, h20km±703km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.92**	**102**	i P	Pb	04 56 53.6	-2.9
HUIG				i S	Sb	04 57 05.2	-3.1
VHO	**Vista Hermosa**	**1.14**	**15**	i P	Pn	04 56 56.7	-3.3
VHO				i S	Sb	04 57 10.9	-3.7
OXX	**Oaxaca**	**1.15**	**15**	i P	Pn	04 56 57.0	-3.2
OXX				i S	Sb	04 57 12.0	-3.0
UTMO	**Huajuapan**	**1.99**	**339**	i P	Pn	04 57 11.1	-0.6
UTMO				i S	Sn	04 57 33.2	-2.9
TPIG	**Tehuac#an**	**2.46**	**353**	eP	Pn	04 57 16.1	-2.0
TPIG				i S	Sn	04 57 45.0	-2.6

*ISCJB **16** 05:00:47.5±0.4, 51.50N±0.02×16.09E±0.03, h0km, Error ellipse: s-maj=3.4km s-min=2.2km az=26.7*
*NEIC **16** 05:00:49.8±0.4, 51.53N×16.08E, h5km, ML2.8(BRA), ML2.9(SZGRF), Error ellipse: s-maj=5.3km s-min=3.9km az=193.0*
*WAR **16** 05:00:50.7, 51.50N×16.09E, ML2.6, Mining Induced*
*VIE **16** 05:00:50.6±1.5, 51.43N×16.08E, h0km, Error ellipse: s-maj=9.5km s-min=8.9km az=21.0, Suspected Mining induced. 75 km WNW of Breslau*
*PRU **16** 05:00:51.9, 51.43N×16.00E, h0km*
*IDC **16** 05:00:51.0±0.7, 51.48N×15.95E, h0km, mb1 3.6/7, mb1mx3.4/23, mbtmp3.4/7, ML2.7/5, Error ellipse: s-maj=13.7km s-min=7.2km az=102.0*
*CSEM **16** 05:00:52.1±0.1, 51.43N×16.09E, h2km, ML3.4/3, Error ellipse: s-maj=2.7km s-min=1.5km az=12.0*
ISC 16 05:00:49.1±0.4, 51.53N±0.02×16.10E±0.03, h0km, n51, σ1.04/93, 7C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	i Pg	**Pg**	**05 01 03.0**	**+0.6**
KSP				e		05 01 09.5	
KSP				eSg	**Sg**	**05 01 11.9**	**+0.5**
KSP	**Ksiaz**	**0.69**	**170**	⇓iPg	**Pg**	**05 01 03.0**	**+0.6**
KSP				e		05 01 09.5	
KSP				eSg	**Sg**	**05 01 11.9**	**+0.5**
UPC	**Upice**	**1.02**	**183**	ePG	**Pg**	**05 01 09.0**	**+0.4**
DPC	**Dobruska-Polom**	**1.19**	**173**	eSG	**Sg**	**05 01 26.8**	**-0.4**
PVCC	**Panska Ves**	**1.39**	**225**	ePG	**Pg**	**05 01 15.7**	**0.0**
PVCC				eSG	**Sg**	**05 01 33.5**	**-0.2**
	122nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**245**	PN	**Pn**	**05 01 17.6**	**+0.3**
BRG				PG	**Pg**	**05 01 18.6**	**+0.7**
BRG				SG	**Sg**	**05 01 38.5**	**+1.0**
	34nm,0.4s						
PRU	**Pruhonice**	**1.83**	**213**	ePN	**Pn**	**05 01 21.3**	**-0.4**
PRU				ePG	**Pg**	**05 01 23.0**	**-1.1**
PRU				eSG	**Sg**	**05 01 47.3**	**-0.5**
	37nm,0.6s						
CLL	**Collm**	**1.95**	**265**	ePn	**Pn**	**05 01 23.0**	**-0.4**
CLL				i Pg	**Pg**	**05 01 26.3**	**-0.1**
CLL				i Sg	**Sg**	**05 01 52.2**	**+0.5**
CLL	**Collm**	**1.95**	**265**	ePn	**Pn**	**05 01 23.0**	**-0.4**
CLL				i Pg	**Pg**	**05 01 26.3**	**-0.1**
CLL				i x	x	05 01 31.4	
CLL				i Sg	**Sg**	**05 01 52.2**	**+0.5**
	comp=Z,29nm,0.9s						
MORC	**Moravsky Berou**	**1.98**	**152**	ePn	**Pn**	**05 01 23.5**	**-0.3**
MORC				eSn	**Sn**	**05 01 48.1**	**-1.2**
MORC	**Moravsky Berou**	**1.98**	**152**	ePn	**Pn**	**05 01 23.6**	**-0.2**
MORC				eSg	**Sg**	**05 01 51.8**	**-0.8**
OKC	**Ostrava-Krasne**	**2.13**	**142**	ePG	**Pg**	**05 01 29.6**	**-0.4**
OKC				eSG	**Sg**	**05 01 57.0**	**-0.7**
	comp=Z,36nm,0.7s						
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**05 01 27.2**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=329,slow=14,SNR=7.6						
VRAC				Lg		05 02 00.8	
	comp=Z,3.9nm,0.3s,baz=71,slow=20,SNR=7.0						
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**05 01 27.2**	**-0.2**
VRAC				eSg	**Sg**	**05 01 59.1**	**-2.0**
NKC	**Novy Kostel**	**2.65**	**242**	ePN	**Pn**	**05 01 33.5**	**+0.5**
NKC				ePG	**Pg**	**05 01 40.3**	**+0.5**
NKC				eSG	**Sg**	**05 02 15.3**	**+1.1**
	comp=Z,45nm,0.3s						
OJC	**Ojcow**	**2.69**	**118**	ePg	**Pg**	**05 01 41.1**	**+0.6**
OJC				eSg	**Sg**	**05 02 16.7**	**+1.4**
KHC	**Kasperske Hory**	**2.89**	**215**	ePN	**Pn**	**05 01 36.2**	**-0.1**
KHC				ePG	**Pg**	**05 01 42.3**	**-2.2**
KHC				eSN	**Sn**	**05 02 09.0**	**-2.8**
KHC				eSG	**Sg**	**05 02 21.2**	**-0.7**
	comp=Z,18nm,0.6s						
MOX	**Moxa**	**2.96**	**254**	ePg	**Pg**	**05 01 45.4**	**-0.4**
MOX				eSg	**Sg**	**05 02 25.5**	**+1.3**
MOX				eSG	**Sg**	**05 02 25.5**	**+1.3**
MOX	**Moxa**	**2.96**	**254**	ePG	**Pg**	**05 01 45.4**	**-0.4**
GEC2	**GERESS Array S**	**3.09**	**211**	ePn	**Pn**	**05 01 40.0**	**+0.9**
GEC2				ePg	**Pg**	**05 01 47.8**	**-0.5**
GEC2				eSg	**Sg**	**05 02 26.6**	**-1.9**
GEC2	**GERESS Array S**	**3.09**	**211**	ePn	**Pn**	**05 01 40.0**	**+0.9**
GEC2	**GERESS Array S**	**3.09**	**211**	ePg	**Pg**	**05 01 47.8**	**-0.6**
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**05 01 40.4**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=30,slow=12,SNR=24						
GERES				Pg	**Pg**	**05 01 46.4**	**-2.0**
	comp=Z,2.6nm,0.3s,baz=28,slow=17,SNR=25						
GERES				Lg		05 02 26.6	
	comp=Z,2.5nm,0.3s,baz=32,slow=28,SNR=7.7						
GERES	**GERESS Array B**	**3.09**	**211**	Pg	**Pg**	**05 01 46.4**	**-2.0**
SMOL	**Smolenice**	**3.13**	**164**	eSG	**Sg**	**05 02 31.5**	**+1.7**
ZST	**Bratislava**	**3.40**	**169**	eSG	**Sg**	**05 02 37.2**	**-1.0**
NIE	**Niedzica**	**3.42**	**126**	ePg	**Pg**	**05 01 53.0**	**-1.6**
NIE				eSg	**Sg**	**05 02 37.8**	**-1.2**
VYHS	**Vyhne**	**3.51**	**149**	ePN	**Pn**	**05 01 46.2**	**+1.3**
VYHS				ePG	**Pg**	**05 01 56.4**	**0.0**
VYHS				eSG	**Sg**	**05 02 43.6**	**+1.7**
VYHS	**Vyhne**	**3.51**	**149**	ePn	**Pn**	**05 01 46.3**	**+1.4**
VYHS				ePg	**Pg**	**05 01 56.4**	**0.0**
VYHS				eSg	**Sg**	**05 02 43.6**	**+1.7**
CONA	**Conrad Observa**	**3.60**	**183**	⇑iPn	**Pn**	**05 01 46.4**	**+0.2**
CONA				⇓iSg	**Sg**	**05 02 46.4**	**+1.5**
	comp=Z,9.2nm,0.4s						
GRA1	**Grafenberg Arr**	**3.61**	**241**	ePn	**Pn**	**05 01 47.2**	**+1.0**
GRA1				eSg	**Sg**	**05 02 45.4**	**+0.4**
GRF	**Grafenberg Arr**	**3.61**	**241**	ePn	**Pn**	**05 01 47.2**	**+1.0**
GRF				eSg	**Sg**	**05 02 45.4**	**+0.4**
BSD	**Bornholm Skovb**	**3.66**	**349**	i P	**Pn**	**05 01 46.6**	**-0.4**
BSD				eS	**Sn**	**05 02 25.9**	**-5.0**
BSD				i LG		05 02 29.3	
BSD	**Bornholm Skovb**	**3.66**	**349**	eP	**Pn**	**05 01 46.6**	**-0.4**
MOA	**Molln**	**3.87**	**199**	⇑iPn	**Pn**	**05 01 50.4**	**+0.7**
MOA				⇑iSg	**Sg**	**05 02 57.0**	**+3.7**
	comp=Z,5.6nm,0.3s						
MOA	**Molln**	**3.87**	**199**	⇑iPn	**Pn**	**05 01 50.4**	**+0.7**
MOA				i Sg	**Sg**	**05 02 53.3**	**-0.1**
MOA	**Molln**	**3.87**	**199**	⇑iPn	**Pn**	**05 01 50.4**	**+0.6**
MOA				i Sg	**Sg**	**05 02 53.3**	**0.0**
MOA				⇑iSg	**Sg**	**05 02 53.3**	**-0.1**
	comp=Z,5.6nm,0.3s						
MOA	**Molln**	**3.87**	**199**	⇑iPn	**Pn**	**05 01 50.4**	**+0.7**
STHS	**Stebnicka Huta**	**3.91**	**121**	ePN	**Pn**	**05 01 51.1**	**+0.8**
STHS				ePG	**Pg**	**05 02 04.1**	**+0.2**
STHS				eSG	**Sg**	**05 02 59.8**	**+5.2**
KECS	**Kecovo**	**4.16**	**135**	eSG	**Sg**	**05 03 04.5**	**+1.9**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	ePG	**Pg**	**05 02 13.6**	**+1.5**
CRVS				eSG	**Sg**	**05 03 13.7**	**+5.5**
KWP	**Kalwaria**	**4.62**	**112**	ePg	**Pg**	**05 02 14.7**	**-2.9**
KWP	**Kalwaria**	**4.62**	**112**	ePg	**Pg**	**05 02 14.7**	**-2.9**
KOLS	**Kolonicke sedl**	**4.74**	**121**	eSg	**Sg**	**05 03 25.7**	**+4.4**
KOLS	**Kolonicke sedl**	**4.74**	**121**	eSG	**Sg**	**05 03 25.7**	**+4.4**
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**05 02 51.5**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=281,slow=12,SNR=3.4						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**05 02 56.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=159,slow=16,SNR=2.7						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**05 03 11.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=124,slow=13,SNR=2.7						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**05 03 30.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=5.6						
KAF	**Kangasniemi**	**11.98**	**24**	ep	**Pn**	**05 03 35.6**	**-5.4**
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**Pn**	**05 05 03.7**	**-4.4**
	baz=195,slow=14,SNR=3.6						

IDC 16 05:09:51.0±0.8, 55.17N×35.29W, h0km, mb3.9/10, mb1 3.9/10, mb1mx3.8/25, mbtmp3.9/10, MS3.5/14, Ms1 3.5/14, ms1mx3.3/31, Error ellipse: s-maj=24.5km s-min=20.2km az=29.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.85**	**30**	LR	LR	05 16 02.9	
	comp=Z,578nm,21.1s,baz=139,slow=31						
SCHQ	**Schefferville**	**18.02**	**282**	LR	LR	05 20 22.0	
	comp=Z,68nm,18.1s,baz=155,slow=35						
JMIC	**Jan Mayen**	**19.66**	**26**	LR	LR	05 19 51.1	
	comp=Z,160nm,21.2s,baz=273,slow=30						
NOA	**NORSAR Array B**	**24.81**	**57**	LR	LR	05 23 07.3	
	comp=Z,103nm,21.3s,baz=275,slow=32						
ESDC	**Sonseca Array**	**25.97**	**114**	P	P	05 15 25.1	-0.1
	0.8nm,0.7s,baz=308,slow=7.7,SNR=5.4						
HFS	**Hagfors**	**26.17**	**59**	LR	LR	05 24 07.3	
	comp=Z,131nm,18.9s,baz=250,slow=33						
ARCES	**ARCESS Array B**	**30.10**	**38**	LR	LR	05 25 12.5	
	comp=Z,131nm,20.3s,baz=242,slow=31						
GERES	**GERESS Array B**	**30.28**	**81**	LR	LR	05 27 22.1	
	comp=Z,77nm,20.4s,baz=281,slow=35						
MDT	**Midelt**	**30.99**	**123**	P	P	05 16 10.4	+0.3
	2.6nm,1.1s,baz=340,slow=11,SNR=5.2						
MDT				LR	LR	05 26 56.2	
	comp=Z,41nm,19.5s,baz=267,slow=33						
FINES	**FINESS Array B**	**31.75**	**53**	LR	LR	05 27 09.5	
	comp=Z,86nm,18.1s,baz=326,slow=33						
ULM	**Lac du Bonnet**	**36.01**	**288**	LR	LR	05 30 46.6	
	comp=Z,91nm,18.4s,baz=3.2,slow=35						
AKASG	**Malin Array Be**	**37.90**	**69**	P	P	05 17 08.8	-1.0
	1.4nm,0.6s,baz=302,slow=8.6,SNR=7.0						
YKA	**Yellowknife Ar**	**39.21**	**314**	P	P	05 17 20.0	-0.8
	0.9nm,0.9s,baz=60,slow=8.8,SNR=8.1						
YKA				PcP	PcP	05 19 28.7	-1.4
	0.3nm,0.8s,baz=66,slow=3.7,SNR=4.9						
YKA				LR	LR	05 32 56.1	
	comp=Z,47nm,18.8s,baz=165,slow=35						
BRTR	**Keskin Array B**	**47.12**	**79**	P	P	05 18 25.3	+0.4
	1.6nm,0.8s,baz=308,slow=4.2,SNR=9.0						
PDAR	**Pinedale Array**	**48.03**	**288**	LR	LR	05 38 29.0	
	comp=Z,77nm,18.4s,baz=85,slow=36						
TORD	**Torodi Ar. Bea**	**50.84**	**131**	P	P	05 18 52.5	-0.9
	1.2nm,1.0s,baz=338,slow=7.5,SNR=7.5						
AKTO	**Aktyubinsk**	**52.52**	**54**	P	P	05 19 05.2	-0.7
	0.9nm,0.5s,baz=298,slow=10,SNR=4.8						
TXAR	**Lajitas Array**	**54.28**	**271**	LR	LR	05 43 22.1	
	comp=Z,87nm,19.1s,baz=65,slow=37						
MKAR	**Makanchi Array**	**65.63**	**42**	P	P	05 20 37.1	+0.2
	1.0nm,0.9s,baz=327,slow=6.9,SNR=3.1						
SONM	**Songino Array**	**72.43**	**26**	P	P	05 21 18.8	-0.3
	1.0nm,1.0s,baz=353,slow=5.8,SNR=3.9						
LPAZ	**La Paz**	**76.43**	**212**	P	P	05 21 43.3	+0.9
	1.1nm,0.8s,baz=27,slow=4.5,SNR=3.5						
KSRS	**Korea Array**	**86.63**	**13**	LR	LR	05 59 27.2	
	comp=Z,21nm,19.3s,baz=340,slow=34						
ASAR	**Alice Springs**	**147.53**	**19**	PKPbc	PKPbc	05 29 36.2	-0.8
	2.3nm,0.9s,baz=346,slow=2.4,SNR=20						

*IDC **16** 05:16:05.4±2.0, 82.42N×39.39E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=82.3km s-min=18.7km az=99.0*
*NEIC **16** 05:16:06.8±1.4, 82.37N×40.02E, h10km, mb3.2/1, Error ellipse: s-maj=30.5km s-min=16.6km az=93.0*
*ISCJB **16** 05:16:11.3±1.6, 81.8N±0.1×38.4E±0.7, h10km, mb3.5/6, Error ellipse: s-maj=18.7km s-min=13.8km az=13.3*
ISC 16 05:16:11.2±1.8, 82.0N±0.2×38.8E±0.7, h10km, n15, σ1.27/19, mb3.5/6, Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.34**	**250**	eP	**Pn**	**05 17 31.6**	**+0.7**
KBS				eS	**Sn**	**05 18 32.9**	**+0.5**
KBS				AML	AML	05 18 38.9	
	comp=Z,17nm,0.3s						
KBS	**Kingsbay**	**5.34**	**250**	ePn	**Pn**	**05 17 31.4**	**+0.5**
KBS				eSn	**Sn**	**05 18 32.0**	**-0.4**
HOPEN	**Hopen**	**6.01**	**212**	eP	**Pn**	**05 17 31.6**	**-8.5**
HOPEN				eS	**Sn**	**05 18 42.5**	**-6.6**
HO

4.3nm,0.8s,mb4.1
FITZ Fitzroy Crossi 29.77 245 P **P 05 30 56.7 +0.5**
2.4nm,0.8s,mb3.9,baz=98,slow=7.7,SNR=7.5
FITZ LR LR 05 44 11.2
comp=Z,47nm,18.1s,baz=114,slow=38
SONM Songino Array 68.42 328 P **P 05 35 49.3 -0.5**
0.3nm,0.4s,mb3.5,baz=139,slow=6.1,SNR=3.8
MK31 Makanchi Array 82.38 319 *e*P **P 05 37 09.9 +0.3**
MKAR Makanchi Array 82.38 319 P **P 05 37 10.0 +0.4**
1.0nm,0.6s,mb3.8,baz=99,slow=5.5,SNR=11
TOA0 Torodi Ar. Sit 151.83 285 *e*PKPbc PKPbc 05 44 41.6 -0.1
TORD Torodi Ar. Bea 151.83 285 PKPbc PKPbc 05 44 41.8 +0.2
3.4nm,0.7s,baz=68,slow=2.1,SNR=30

IDC 16 05:50:40.0±2.7,1792S×17799W,h329km±34km,mb3.5/4, mb1 3.8/5,mb1mx3.4/16,mbtmp3.6/5,Error ellipse: s-maj=114.0km s-min=21.4km az=155.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.18**	**57**	P	Pn	05 52 25.5	+1.6
	9.0nm,0.3s,baz=219,slow=6.5,SNR=12						
AFI				S	S	05 53 47.5	-0.9
	3.2nm,0.3s,baz=247,slow=18,SNR=2.8						
STKA	**Stephens Creek**	**38.98**	**241**	P	P	05 57 35.4	0.0
	2.2nm,0.5s,baz=89,slow=9.1,SNR=7.7						
WRA	**Warramunga Arr**	**45.03**	**259**	P	P	05 58 24.0	+0.2
	1.1nm,0.5s,baz=97,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**45.18**	**254**	P	P	05 58 25.3	+0.3
	11nm,0.5s,baz=90,slow=8.4,SNR=240						
TXAR	**Lajitas Array**	**85.66**	**57**	P	P	06 02 42.8	+0.6
	0.6nm,0.9s,baz=201,slow=6.7,SNR=4.3						

*ISCJB **16** 05:52:50.5±0.4,5013N±003×1841E±003,h0km,Error ellipse: s-maj=4.5km s-min=2.6km az=36.3*
*NEIC **16** 05:52:51.3±0.5,5015N×1842E,h5km,ML2.6(BUC),Error ellipse: s-maj=8.3km s-min=3.7km az=199.0*
*CSEM **16** 05:52:52.3±0.2,5009N×1843E,h6km,ML2.6,Error ellipse: s-maj=4.4km s-min=2.2km az=5.0*
*WAR **16** 05:52:52.6,5006N×1845E,ML2.6,Mining Induced*
*PRU **16** 05:52:53.7,5007N×1833E,h0km*

ISC 16 05:52:51.8±0.4,5009N±003×1839E±003,h0km,n38, σ1§22/61,4C-11D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.13**	**267**	⇓*i*P*g*	**Pg**	**05 52 56.3**	**+2.0**
RAC				*e*Sg	**Sg**	**05 52 59.4**	**+3.5**
OKC	**Ostrava-Krasne**	**0.30**	**212**	*e*PG	**Pg**	**05 52 58.3**	**+0.8**
OKC				*e*SG	**Sg**	**05 53 02.4**	**+1.0**
	135nm,0.5s						
MORC	**Moravsky Berou**	**0.63**	**241**	⇓P	**Pg**	**05 53 04.5**	**+0.6**
MORC				S	**Sg**	**05 53 13.6**	**+1.5**
MORC	**Moravsky Berou**	**0.63**	**241**	⇓*i*P	**Pg**	**05 53 04.5**	**+0.6**
MORC				S	**Sg**	**05 53 13.6**	**+1.5**
MORC	**Moravsky Berou**	**0.63**	**241**	*e*Pg	**Pg**	**05 53 04.4**	**+0.5**
MORC				*e*Sg	**Sg**	**05 53 13.9**	**+1.8**
OJC	**Ojcow**	**0.91**	**81**	*e*Pg	**Pg**	**05 53 08.8**	**-0.5**
OJC				*e*Sg	**Sg**	**05 53 21.2**	**0.0**
LIKS	**Likavka**	**1.14**	**156**	*e*PN	**Pn**	**05 53 14.9**	**-0.1**
LIKS				*e*SN	**Sn**	**05 53 31.6**	**+0.3**
DPC	**Dobruska-Polom**	**1.36**	**282**	*e*PG	**Pg**	**05 53 18.0**	**+0.2**
DPC				*e*SG	**Sg**	**05 53 36.3**	**+0.9**
	43nm,0.6s						
VRAC	**Vranov**	**1.41**	**237**	⇓P	**Pn**	**05 53 18.3**	**-0.3**
VRAC				S	**Sg**	**05 53 37.3**	**+0.3**
VRAC	**Vranov**	**1.41**	**237**	⇓*i*P	**Pn**	**05 53 18.3**	**-0.4**
VRAC	**Vranov**	**1.41**	**237**	S	**Sg**	**05 53 37.3**	**+0.3**
VRAC	**Vranov**	**1.41**	**237**	*e*Pn	**Pn**	**05 53 18.2**	**-0.5**
VRAC				*e*Sg	**Sg**	**05 53 37.6**	**+0.6**
NIE	**Niedzica**	**1.42**	**118**	*e*P*g*	**Pg**	**05 53 18.7**	**-0.2**
NIE				*e*Sg	**Sg**	**05 53 38.2**	**+0.9**
KSP	**Ksiaz**	**1.54**	**300**	*e*Pn	**Pn**	**05 53 20.4**	**-0.1**
KSP				*e*P*g*	**Pg**	**05 53 23.3**	**+2.0**
KSP				*e*Sg	**Sg**	**05 53 42.4**	**+1.1**
UPC	**Upice**	**1.58**	**286**	*e*PG	**Pg**	**05 53 22.1**	**-0.1**
VYHS	**Vyhne**	**1.62**	**170**	*e*PN	**Pn**	**05 53 21.2**	**-0.4**
VYHS				*e*SN	**Sn**	**05 53 42.9**	**-0.3**
SMOL	**Smolenice**	**1.70**	**202**	*e*PN	**Pn**	**05 53 21.8**	**-0.9**
SMOL				*e*SN	**Sn**	**05 53 45.5**	**+0.4**
STHS	**Stebnicka Huta**	**1.97**	**109**	*e*PN	**Pn**	**05 53 29.4**	**+3.0**
STHS				*e*SN	**Sn**	**05 53 56.7**	**+4.9**
KECS	**Kecovo**	**2.11**	**139**	*e*PN	**Pn**	**05 53 32.5**	**+4.1**
KECS				*e*SN	**Sn**	**05 53 55.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**2.33**	**120**	*e*PN	**Pn**	**05 53 34.0**	**+2.7**
CRVS				*e*SN	**Sn**	**05 54 05.8**	**+5.2**
PSZ	**Piszkesteto**	**2.39**	**155**	⇑P	**Pn**	**05 53 31.4**	**-0.8**
PSZ				S	**Sn**	**05 54 07.5**	**+5.4**
PSZ	**Piszkesteto**	**2.39**	**155**	⇑*i*P	**Pn**	**05 53 31.4**	**-0.7**
PSZ	**Piszkesteto**	**2.39**	**155**	S	**Sn**	**05 54 07.5**	**+5.4**
PRU	**Pruhonice**	**2.48**	**269**	*e*PG	**Pg**	**05 53 37.0**	**-2.4**
PRU				*e*SG	**Sg**	**05 54 09.6**	**-2.1**
	9.2nm,0.5s						
PVCC	**Panska Ves**	**2.49**	**282**	*e*PG	**Pg**	**05 53 38.8**	**-0.7**
BRG	**Berggiesshubel**	**2.95**	**287**	PG	**Pg**	**05 53 46.5**	**-1.8**
BRG				SG	**Sg**	**05 54 25.9**	**-0.7**
	3.6nm,0.4s						
KHC	**Kasperske Hory**	**3.27**	**255**	*e*PN	**Pn**	**05 53 43.9**	**-0.5**
KHC				*e*PG	**Pg**	**05 53 52.0**	**-2.6**
KHC				*e*SG	**Sg**	**05 54 34.6**	**-2.4**
	6.4nm,0.4s						
CLL	**Collm**	**3.64**	**292**	*e*Sg	**Sg**	**05 54 51.0**	**+2.3**
	comp=Z,13nm,1.1s						
NKC	**Novy Kostel**	**3.83**	**274**	*e*SG	**Sg**	**05 54 54.4**	**-0.3**
DRGR		**4.38**	**137**	⇓P	**Pn**	**05 53 59.1**	**-0.4**
DRGR		**4.38**	**137**	⇓*i*P	**Pn**	**05 53 59.1**	**-0.4**
DRGR		**4.38**	**137**	S	**Sn**	**05 54 47.3**	**-3.9**
BZS	**Buzias**	**4.97**	**153**	⇓P	**Pn**	**05 54 07.1**	**-0.6**
BZS	**Buzias**	**4.97**	**153**	⇓*i*P	**Pn**	**05 54 07.1**	**-0.6**
GZR	**Gura Zlata**	**5.55**	**146**	⇓P	**Pn**	**05 54 15.2**	**-0.4**
GZR	**Gura Zlata**	**5.55**	**146**	⇓*i*P	**Pn**	**05 54 15.3**	**-0.3**
VRI	**Vrincioaia**	**7.01**	**124**	⇑P	**Pn**	**05 54 33.9**	**-1.8**
VRI	**Vrincioaia**	**7.01**	**124**	⇑*i*P	**Pn**	**05 54 33.8**	**-1.9**

JMA 16 05:53:59.8±0.2,4195N×13849E,h30km±2km,M3.5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.75**	**79**	P	Pn	05 54 13.8	-0.5
JOSM				*e*S	Sb	05 54 23.9	-0.2
JSH	**Shimam**	**1.34**	**59**	P	Pn	05 54 22.7	+0.2
JSH				*e*S	Sn	05 54 38.7	-0.7
JYM2	**Yakumo 2**	**1.41**	**83**	P	Pn	05 54 24.7	+1.3
JYM2				*e*S	Sn	05 54 41.8	+0.8
JSR	**Shiriuchi**	**1.50**	**106**	P	Pn	05 54 25.6	+0.9
JSR				*e*S	Sn	05 54 43.3	+0.1
JIW	**Iwasaki**	**1.77**	**139**	P	Pn	05 54 27.5	-0.9
JIW				*e*S	Sn	05 54 48.8	-1.1
JKB	**Kayabe**	**1.90**	**91**	P	Pn	05 54 31.5	+1.4
JKB				*e*S	Sn	05 54 54.5	+1.5
JNB	**Noboribetsu**	**1.96**	**74**	P	Pn	05 54 32.4	+1.4
JNB				*e*S	Sn	05 54 55.7	+1.1
JOT	**Ohata**	**2.00**	**106**	P	Pn	05 54 32.2	+0.7
JOT				*e*S	Sn	05 54 55.5	0.0
JSK	**Shakotan**	**2.03**	**46**	*e*S	Sn	05 54 55.9	-0.3
JTM	**Tenmabayashi**	**2.26**	**120**	P	Pn	05 54 35.7	+0.6
JTM				*e*S	Sn	05 55 02.4	+0.4
JAH	**Hinai**	**2.39**	**137**	P	Pn	05 54 36.6	-0.3
JAH				*e*S	Sn	05 55 05.7	+0.5

*NEIC **16** 05:53:51.7±0.5,4782N×15354E,h10km,mb4.0/1,Error ellipse: s-maj=15.7km s-min=13.2km az=175.0*
*MOS **16** 05:53:53.8±2.1,4785N×15385E,h33km,mb4.1/1,Error ellipse: s-maj=20.3km s-min=14.1km az=59.2*
*ISCJB **16** 05:53:58.0±1.2,479N±0.1×1537E±0.1,h74km±10km, mb3.5/11,Error ellipse: s-maj=21.8km s-min=7.5km az=95.0*
*IDC **16** 05:54:02.7±4.4,4786N×15351E,h101km±41km,mb3.3/10, mb1 3.5/11,mb1mx3.4/25,mbtmp3.4/11,MS2.9/1, Ms1 2.9/1,ms1mx2.3/37,Error ellipse: s-maj=20.7km s-min=18.4km az=142.0*

ISC 16 05:54:00.3±1.1,480N±01×1537E±01,h79km±9km,n20, σ1§05/21,mb3.5/11,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.17**	**30**	*e*PN	**Pn**	**05 54 46.0**	**-1.9**
SKR				*e*S	**Sn**	**05 55 24.9**	**+0.3**
SKR				smax			
	comp=E,160nm,0.9s						
SKR				smax			
	comp=N,150nm,0.5s						
KUR	**Kuril'sk**	**4.83**	**238**	*e*PN	**Pn**	**05 55 07.0**	**-3.5**
KUR				*e*S	**Sn**	**05 56 05.0**	**-0.1**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,80nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.46**	**266**	PN	**Pn**	**05 55 47.9**	**+1.6**
ASAJ	**Asahikawa**	**8.60**	**248**	P	**Pn**	**05 56 02.9**	**+1.0**
	comp=E,1.3nm,0.3s,baz=78,slow=14,SNR=4.7						
ASAJ	**Asahikawa**	**8.60**	**248**	PN	**Pn**	**05 56 02.9**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.12**	**231**	LR	LR	06 03 19.7	
	comp=Z,41nm,19.4s,baz=315,slow=35						
MKAR	**Makanchi Array**	**46.72**	**297**	P	**P**	**06 02 20.2**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.5,baz=65,slow=6.6,SNR=7.2						
MKAR	**Makanchi Array**	**46.72**	**297**	P	**P**	**06 02 20.2**	**-1.1**
KURK	**Kurchatov**	**47.01**	**303**	*e*P	**P**	**06 02 23.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
KURK	**Kurchatov**	**47.01**	**303**	*e*P	**P**	**06 02 23.0**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.7						
YKA	**Yellowknife Ar**	**49.74**	**37**	P	**P**	**06 02 44.1**	**-0.4**
	comp=Z,0.2nm,0.8s,mb3.1,baz=289,slow=7.8,SNR=3.2						
BVAR	**Borovoye Array**	**50.38**	**309**	P	**P**	**06 02 49.9**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=58,slow=11,SNR=3.9						
YBH	**Yreka Blue Hor**	**56.86**	**63**	P	**P**	**06 03 37.9**	**+1.3**
	comp=Z,37nm,0.6s,baz=182,slow=6.7,SNR=8.9						
FINES	**FINESS Array B**	**63.10**	**335**	P	**P**	**06 04 19.1**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.9,baz=30,slow=7.6,SNR=9.0						
PDAR	**Pinedale Array**	**63.74**	**55**	P	**P**	**06 04 25.1**	**+1.4**
	comp=Z,0.2nm,0.9s,mb2.9,baz=321,slow=2.1,SNR=3.5						
HFS	**Hagfors**	**67.45**	**340**	P	**P**	**06 04 48.0**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.1,baz=58,slow=5.6,SNR=12						
WRA	**Warramunga Arr**	**69.77**	**199**	P	**P**	**06 05 00.4**	**-1.6**
	comp=Z,0.2nm,0.3s,mb3.4,baz=21,slow=6.4,SNR=3.8						
AKASG	**Malin Array Be**	**70.75**	**326**	P	**P**	**06 05 07.2**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.6,baz=270,slow=6.2,SNR=3.9						
ASAR	**Alice Springs**	**73.47**	**199**	P	**P**	**06 05 23.8**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.6,baz=12,slow=5.6,SNR=9.5						
TXAR	**Lajitas Array**	**76.58**	**61**	P	**P**	**06 05 43.0**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.4,baz=295,slow=3.6,SNR=8.3						

*IDC **16** 06:07:35.9±4.9,775N×12654E,h104km±46km,mb3.8/18, mb1 3.9/19,mb1mx3.9/25,mbtmp3.8/19,Error ellipse: s-maj=33.6km s-min=9.9km az=78.0*
*ISCJB **16** 06:07:36.2±0.6,769N±004×1265 6E±008,h123km±5km, mb4.1/22,Error ellipse: s-maj=12.8km s-min=5.7km az=157.5*
*MAN **16** 06:07:36.9,785N×12676E,h62km,mb4.0,ML5.0,MS3.2*
*NEIC **16** 06:07:37.4±1.1,778N×12659E,h120km±10km,mb4.4/4, Error ellipse: s-maj=19.5km s-min=7.5km az=76.0*

ISC 16 06:07:37.6±0.6,768N±004×12653E±007,h119km±5km, n41,σ0§92/47,mb4.1/22,4C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.78**	**200**	*e*P	**Pn**	**06 07 56.5**	**-1.0**
MATI				*e*S	**Sn**	**06 08 10.6**	**-1.8**
DAV	**Davao City (W)**	**1.12**	**237**	⇓*i*P	**Pn**	**06 08 00.0**	**-0.7**
DAV	**Davao City (W)**	**1.12**	**237**	⇓P	**Pn**	**06 08 01.4**	**+0.7**
DMPH	**Davao City--Mi**	**1.17**	**240**	⇑*e*P	**Pn**	**06 08 02.0**	**+0.8**
BUKP	**Musuan**	**1.46**	**278**	*e*P	**Pn**	**06 08 05.0**	**+0.5**
BUKP				*e*S	**Sn**	**06 08 26.1**	**+1.2**
CGP	**Cagayan de Oro**	**1.97**	**293**	⇑*i*P	**Pn**	**06 08 11.0**	**+0.4**
CGP				*i* S	**Sn**	**06 08 34.0**	**-1.8**
GSPH	**General Santos**	**2.23**	**225**	⇑*i*P	**Pn**	**06 08 13.6**	**-0.2**
GSPH				*i* S	**Sn**	**06 08 41.2**	**-0.4**
CTBH	**Cotabato--PC H**	**2.31**	**259**	⇓*i*P	**Pn**	**06 08 15.1**	**+0.2**
CTBH				*i* S	**Sn**	**06 08 42.3**	**-1.1**
SCPH	**Surigao**	**2.33**	**334**	⇑*e*P	**Pn**	**06 08 15.9**	**+0.8**
SCPH				*e*S	**Sn**	**06 08 43.5**	**-0.3**
MSLP	**Maasin**	**2.94**	**326**	*e*P	**Pn**	**06 08 22.6**	**-0.5**
MSLP				*e*S	**Sn**	**06 08 59.9**	**+1.8**
TBP	**Tagbilaran**	**3.31**	**307**	*e*P	**Pn**	**06 08 28.5**	**+0.6**
LLP	**Lapu-Lapu**	**3.64**	**316**	*e*P	**Pn**	**06 08 33.3**	**+1.0**
SNPH	**Sibulan**	**3.65**	**297**	⇓*i*P	**Pn**	**06 08 33.5**	**+1.1**
JOW	**Kunigami**	**19.12**	**5**	P	**P**	**06 11 51.2**	**+0.1**
	2.3nm,0.3s,baz=173,slow=17,SNR=3.9						
KAKA	**Kakadu**	**21.09**	**164**	*e*P	**P**	**06 12 13.2**	**+0.7**
	6.4nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**25.63**	**182**	P	**P**	**06 12 56.6**	**+0.6**
	1.9nm,0.5s,mb3.8,baz=351,slow=9.0,SNR=12						
JNU	**Nakatsue**	**25.64**	**8**	P	**P**	**06 12 53.5**	**-2.4**
	19nm,1.0s,mb4.5,baz=214,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**28.51**	**164**	P	**P**	**06 13 21.3**	**-0.4**
	0.8nm,0.5s,mb3.6,baz=352,slow=9.9,SNR=18						
WB2	**Warramunga Arr**	**28.51**	**164**	*e*P	**P**	**06 13 23.0**	**+1.3**
KSRS	**Korea Array**	**29.66**	**2**	P	**P**	**06 13 31.9**	**0.0**
	1.8nm,0.7s,mb3.8,baz=170,slow=9.3,SNR=5.7						
MJAR	**Matsushiro Arr**	**30.64**	**19**	P	**P**	**06 13 39.4**	**-1.1**
	3.0nm,0.8s,mb4.1,baz=195,slow=9.6,SNR=8.7						
ASAR	**Alice Springs**	**31.98**	**167**	P	**P**	**06 13 52.8**	**+0.6**
	0.5nm,0.3s,mb3.7,baz=341,slow=7.5,SNR=19						
ASAR				PcP	PcP	06 16 41.0	+1.6
	0.4nm,0.5s,baz=339,slow=2.6,SNR=5.4						
CTA	**Charters Tower**	**33.74**	**145**	P	**P**	**06 14 09.4**	**+1.8**
	1.0nm,0.3s,mb4.1,baz=319,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**41.89**	**161**	*e*P	**P**	**06 15 17.2**	**+1.2**
	1.8nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**41.89**	**161**	P	**P**	**06 15 16.2**	**+0.2**
	2.1nm,0.5s,mb4.1,baz=345,slow=8.2,SNR=8.3						
SONM	**Songino Array**	**43.52**	**340**	P	**P**	**06 15 29.3**	**0.0**
	0.6nm,0.4s,mb3.7,baz=158,slow=9.1,SNR=7.8						
MKAR	**Makanchi Array**	**54.24**	**324**	P	**P**	**06 16 51.7**	**+0.6**
	2.5nm,0.4s,mb4.6,baz=115,slow=7.7,SNR=69						
MKAR				PcP	PcP	06 17 54.4	+0.5
	1.3nm,0.6s,baz=109,slow=5.6,SNR=4.9						
ZAL	**Zalesovo**	**57.01**	**332**	P	**P**	**06 17 10.1**	**-0.8**
	0.7nm,0.3s,mb4.1,baz=333,slow=5.9,SNR=3.3						
KURK	**Kurchatov**	**58.34**	**326**	*e*P	**P**	**06 17 20.5**	**+0.4**
	2.2nm,0.4s,mb4.5						
AKTK	**Aktyubinsk**	**70.47**	**321**	P	**P**	**06 18 39.3**	**+0.2**
AKTO	**Aktyubinsk**	**70.47**	**321**	P	**P**	**06 18 39.3**	**+0.2**
	0.8nm,0.3s,mb4.1,baz=98,slow=9.4,SNR=5.9						
COLA	**College**	**81.24**	**26**	*e*P	**P**	**06 19 36.5**	**-3.8**
	9.1nm,0.8s,mb4.7						
JOF	**Joensuu**	**85.59**	**333**	*e*p	**P**	**06 20 02.1**	**-0.5**
	1.0nm,0.4s,mb4.1						
INK	**Inuvik**	**86.59**	**22**	P	**P**	**06 20 07.2**	**-0.3**
	2.4nm,1.3s,mb4.0,baz=310,slow=8.7,SNR=5.0						
ARCES	**ARCESS Array B**	**86.69**	**340**	P	**P**	**06 20 07.3**	**-0.7**
	2.7nm,0.9s,mb4.2,baz=82,slow=6.5,SNR=4.5						
VNDA	**Vanda**	**87.34**	**173**	P	**P**	**06 20 11.0**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=347,slow=4.2,SNR=4.9						
VNDA	**Vanda**	**87.34**	**173**	P	**P**	**06 20 11.0**	**-0.1**
BRTR	**Keskin Array B**	**87.36**	**310**	P	**P**	**06 20 11.1**	**-0.2**
	0.9nm,0.6s,mb3.9,baz=118,slow=4.7,SNR=6.8						
FINES	**FINESS Array B**	**88.28**	**332**	P	**P**	**06 20 14.8**	**-0.7**
	1.5nm,0.7s,mb4.1,baz=76,slow=3.9,SNR=11						
AKASG	**Malin Array Be**	**88.72**	**321**	P	**P**	**06 20 16.1**	**-1.5**
	0.8nm,0.5s,mb4.0,baz=65,slow=3.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**121.43**	**290**	PKP	PKPdf	06 26 17.1	+0.3
	0.4nm,0.8s,baz=38,slow=2.9,SNR=3.6						

IDC 16 06:10:13.4±2.4,318N×12901E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.5/18,mbtmp3.5/4,MS3.4/1,Ms1 3.4/1, ms1mx2.6/17,Error ellipse: s-maj=127.3km s-min=25.5km az=72.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.41**	**189**	P	P	06 15 03.5	+0.8
	0.6nm,0.5s,baz=21,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**23.57**	**167**	P	P	06 15 26.6	+0.9
	0.4nm,0.4s,baz=345,slow=10.0,SNR=5.1						
ASAR	**Alice Springs**	**27.11**	**170**	P	P	06 15 57.0	-0.9
	0.4nm,0.5s,baz=351,slow=6.9,SNR=4.0						
MJAR	**Matsushiro Arr**	**34.27**	**13**	LR	LR	06 30 59.5	
	comp=Z,49nm,18.1s,baz=325,slow=36						
MKAR	**Makanchi Array**	**59.32**	**324**	P	P	06 20 17.5	+0.4
	0.5nm,0.5s,baz=113,slow=8.8,SNR=4.8						

*BJI **16** 06:14:03.0,3620N×12030W,h9km,mB4.8,mb4.2,Msz4.4*
*IDC **16** 06:14:04.5±1.1,3606N×12004W,h0km,mb4.0/6, mb1 4.1/11,mb1mx3.9/25,mbtmp3.8/11,ML3.5/5,MS3.4/9, Ms1 3.4/9,ms1mx3.2/38,Error ellipse: s-maj=17.6km s-min=10.9km az=85.0*
*ISCJB **16** 06:14:05.7±0.2,3616N±002×12026W±002,h24km±2km, mb3.9/6,MS3.5/6,Error ellipse: s-maj=2.9km s-min=2.2km az=85.1*
*NEIC **16** 06:14:05.0,3617N×12029W,h10km,mb3.8/1, MW4.2(BRK),After NCEDC.*
NEIC Felt [IV] at Coalinga. Also felt at American Canyon, Antelope, Avenal, Burbank, Carmichael, Clovis, Creston, Cupertino, Huron, Irvine, Lemoore, Soledad, Three Rivers and Tulare.

ISC 16 06:14:05.9±0.3,3616N±002×12027W±002,h18km±2km, n102,σ0§95/132,mb3.9/6,MS3.5/6,38C-25D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U05C	**Westside ANR,**	**0.21**	**34**	⇓P	**Pg**	**06 14 11.3**	**+0.3**
	baz=0.2,SNR=1000						
U05C				⇓S	**Sg**	**06 14 15.5**	**+0.9**
	baz=0.2						
PKD	**Parkfield**	**0.30**	**226**	⇓P	**Pg**	**06 14 12.6**	**0.0**
	baz=0.3,SNR=1000						
PKD				⇓S	**Sg**	**06 14 17.7**	**+0.7**
	baz=0.3						
V05C	**Boulder Hill,**	**0.42**	**134**	⇑P	**Pg**	**06 14 15.5**	**+1.1**
	baz=0.4,SNR=407						
U04C	**Hernandez Rese**	**0.46**	**296**	⇑P	**Pg**	**06 14 14.9**	**-0.4**
	baz=0.4						
U04C				⇑S	**Sg**	**06 14 22.3**	**+0.7**
	baz=0.4						
PTRM	**Twissleman Ran**	**0.51**	**174**	*e*P*g*	**Pg**	**06 14 16.3**	**+0.3**
LRV	**Little Rabbit**	**0.66**	**294**	*e*P*g*	**Pg**	**06 14 18.4**	**-0.5**
V04C	**Ramage Ranch,**	**0.71**	**223**	⇑P	**Pb**	**06 14 19.7**	**-0.1**
	baz=0.7						
V04C				⇓S	**Sb**	**06 14 30.3**	**+1.1**
	baz=0.7						
V03C	**Hunter Liggett**	**0.79**	**260**	⇑P	**Pb**	**06 14 20.9**	**-0.2**
	baz=0.8,SNR=307						
V03C				⇑S	**Sb**	**06 14 32.4**	**+0.8**
	baz=0.8						
T05C	**Eagle Field, D**	**0.80**	**336**	P	**Pb**	**06 14 21.3**	**0.0**
	baz=0.8,SNR=244						
RCTC	**Rector, Farmer**	**0.85**	**79**	⇑P	**Pb**	**06 14 20.8**	**-1.2**
	baz=0.8,SNR=51						
RCTC				⇓S	**Sb**	**06 14 32.1**	**-1.0**
	baz=0.8						
SMMC	**Simmler**	**0.87**	**165**	⇑P	**Pb**	**06 14 22.2**	**-0.3**
	baz=0.9,SNR=76						
SMMC				⇓S	**Sb**	**06 14 34.9**	**+1.1**
	baz=0.9						
T06C	**Millerton Lake**	**0.96**	**28**	⇑P	**Pb**	**06 14 22.5**	**-1.5**
	baz=0.9,SNR=1000						
T06C				⇑S	**Sb**	**06 14 36.1**	**-0.3**
	baz=0.9						
VES	**Vestal, Richgr**	**1.02**	**108**	P	**Pb**	**06 14 23.7**	**-1.2**
	baz=1.0,SNR=386						
VES				⇓S	**Sb**	**06 14 36.9**	**-1.0**
	baz=1.0						
HAST	**UC Hastings Re**	**1.06**	**283**	⇓P	**Pb**	**06 14 24.8**	**-0.9**
	baz=1.1,SNR=467						
HAST				⇑S	**Sb**	**06 14 39.5**	**+0.3**
	baz=1.1						
SAO	**San Andreas Ge**	**1.12**	**303**	*e*P*g*	**Pg**	**06 14 25.7**	**-1.9**
SAO				*e*Sg	**Sg**	**06 14 41.6**	**-0.8**
HELL	**Mitchell Peak,**	**1.13**	**62**	⇑P	**Pn**	**06 14 25.3**	**-1.5**
	baz=1.1,SNR=1000						
HELL				⇑S	**Sb**	**06 14 39.9**	**-1.4**
	baz=1.1						
PACP	**Pacheco Peak**	**1.18**	**316**	⇑P	**Pn**	**06 14 26.7**	**-0.8**
	baz=1.1,SNR=162						
PACP				⇓S	**Sb**	**06 14 42.8**	**+0.2**
	baz=1.1						
S05C	**Merced**	**1.19**	**358**	P	**Pn**	**06 14 26.1**	**-1.4**
	baz=1.1,SNR=143						
S05C				⇓S	**Sb**	**06 14 41.8**	**-1.1**
	baz=1.1						
PKM	**Peak Mountain**	**1.31**	**164**	⇑P	**Pn**	**06 14 29.3**	**0.0**
	baz=1.4,SNR=46						
PKM				⇓S	**Sn**	**06 14 46.8**	**+0.4**
	baz=1.4						
KCC	**Kaiser Creek**	**1.39**	**33**	P	**Pn**	**06 14 29.9**	**-0.5**
	baz=1.4,SNR=1000						
KCC		

OHCM	Honcut	3.31	344	ePn	Pn	06 14 57.6	+0.8
OHCM				eSn	Sb	06 15 44.1	0.0
HEC	Hector,Ludlow	3.48	111	⇑P	Pn	06 14 58.9	-0.1
	baz=3.5						
MURC	Murrieta	3.59	134	⇑P	Pn	06 14 59.8	-0.8
	baz=3.6,SNR=6.1						
GMRC	Granite Mounta	4.01	109	⇑P	Pn	06 15 05.6	-0.8
	baz=4.0,SNR=13						
PFO	Pinyon Flat Ob	4.04	128	Pn	Pn	06 15 06.4	-0.4
	2.7nm,0.3s,baz=302,slow=11,SNR=25						
PFO				LR	LR	06 16 01.3	
	comp=Z,171nm,20.6s,baz=261,slow=30						
PFO				Sn	Sb	06 16 04.3	-0.6
	2.6nm,0.3s,baz=244,slow=16,SNR=4.2						
PFO	Pinyon Flat Ob	4.04	128	ePn	Pn	06 15 06.4	-0.4
PFO	Pinyon Flat Ob	4.04	128	⇑P	Pn	06 15 06.1	-0.7
	baz=4.1,SNR=11						
BELC	Belle Mtn.	4.11	120	⇓P	Pn	06 15 07.4	-0.4
	baz=4.1,SNR=25						
IRM	Iron Mountain	4.64	114	⇑P	Pn	06 15 14.7	-0.5
	baz=4.7,SNR=11						
WDC	Whiskeytown Da	4.76	339	ePn	Pn	06 15 16.9	+0.2
WDC				eSn	Sn	06 16 19.4	+8.0
BMN	Battle Mountai	4.89	28	ePn	Pn	06 15 20.8	+2.3
BMN				eSg	Sg	06 16 44.1	+1.1
W13A	Hualapai Mount	5.31	100	⇓P	Pn	06 15 24.7	+0.5
	baz=5.3,SNR=19						
X13A	Yucca	5.49	105	⇑P	Pn	06 15 26.6	-0.1
	baz=5.5,SNR=7.6						
CCUT	Cedar City	5.71	74	ePn	Pn	06 15 33.1	+3.4
MOD	Modoc	5.74	360	ePn	Pn	06 15 30.8	+0.7
	28nm,0.8s						
MOD				eSg	Sg	06 17 01.7	-8.3
Y13A	Salome	5.78	112	⇓P	Pn	06 15 30.3	-0.4
	baz=5.8						
YBH	Yreka Blue Hor	5.88	342	Pn	Pn	06 15 41.2	+9.1
	0.1nm,0.3s,baz=210,slow=8.1,SNR=2.7						
YBH				Sn	Sb	06 16 54.1	-3.8
	baz=4.2,slow=11,SNR=2.0						
ELK	Elko	6.05	39	ePn	Pn	06 15 36.3	+2.0
	36nm,0.9s						
ELK				eSg	Sn	06 17 13.4	+30
WVOR	Wild Horse Val	6.39	11	ePn	Pn	06 15 37.7	-1.5
	47nm,1.2s						
WVOR				eSg	Sn	06 17 28.5	+37
MSU	Marysvale	6.86	68	ePn	Pn	06 15 45.7	+0.1
MSU				eSg	Sn	06 17 40.5	+37
DUG	Dugway	7.12	53	ePn	Pn	06 15 49.3	+0.2
	46nm,1.0s						
DUG				eSg	Sn	06 17 48.8	+39
WUAZ	Wupatki	7.25	92	ePn	Pn	06 15 50.4	-0.6
	28nm,1.1s						
WUAZ				eSg	Sn	06 17 53.8	+41
BGU	Big Grassy Mou	7.41	48	ePn	Pn	06 15 56.8	+3.8
BGU				eSg	Sn	06 17 55.3	+39
NLU	North Lily Min	7.49	57	ePn	Pn	06 15 55.6	+1.4
NLU				eSg	Sn	06 17 58.4	+40
HVU	Hansel Valley	8.10	44	ePn	Pn	06 16 10.0	+7.5
	14nm,0.9s						
JLU	Jordanelle	8.22	55	ePn	Pn	06 16 08.9	+4.6
DAU	Daniels Canyon	8.26	56	ePn	Pn	06 16 09.0	+4.2
SRU	San Rafael	8.28	66	Pn	Pn	06 16 09.8	+4.8
	29nm,1.4s						
HLID	Hailey	8.66	30	ePn	Pn	06 16 15.5	+5.3
	8.7nm,0.9s						
MVCO	Mesa Verde	9.52	80	ePn	Pn	06 16 23.2	+1.2
	12nm,1.3s						
PV01	Paradox Valley	9.55	75	ePn	Pn	06 16 23.0	+0.6
MCMT	McKenzie Canyo	10.34	31	ePn	Pn	06 16 29.2	-4.0
PDAR	Pinedale Array	10.58	48	Pn	Pn	06 16 41.8	+5.1
	0.0nm,0.3s,baz=227,slow=13,SNR=6.2						
PDAR				LR	LR	06 21 10.1	
	comp=Z,206nm,18.6s,baz=76,slow=40						
LAZ	Ladron	10.88	95	Pn	Pn	06 16 48.8	+8.2
NEW	Newport	12.32	10	Pn	Pn	06 17 07.0	+6.7
	0.1nm,0.3s,baz=160,slow=13,SNR=3.8						
NEW				LR	LR	06 20 58.2	
	comp=Z,113nm,21.9s,baz=322,slow=33						
LPIG	La Paz	14.77	142	LR	LR	06 23 28.2	
	comp=Z,269nm,18.0s,baz=326,slow=39						
LTX	Lajitas	15.53	111	P	Pn	06 17 51.5	+7.6
	8.2nm,1.4s						
TXAR	Lajitas Array	15.53	111	Pn	Pn	06 17 47.2	+3.3
	0.0nm,0.3s,baz=341,slow=13,SNR=4.1						
EDM	Edmonton	17.74	14	eP	Pn	06 18 14.5	+2.6
ULM	Lac du Bonnet	22.55	44	P	P	06 19 05.2	+0.4
	1.6nm,0.7s,mb3.5,baz=190,slow=11,SNR=5.3						
ULM				LR	LR	06 28 20.2	
	comp=Z,115nm,19.7s,MS3.3,baz=35,slow=38						
YKA	Yellowknife Ar	26.60	6	P	P	06 19 43.7	+0.7
	0.8nm,0.9s,mb3.2,baz=187,slow=9.6,SNR=11						
YKA				PcP	PcP	06 23 07.3	+0.3
	0.2nm,0.6s,baz=172,slow=2.4,SNR=3.9						
YKA				LR	LR	06 30 22.9	
	comp=Z,31nm,19.8s,MS2.9,baz=225,slow=37						
CMIG	Matias Romero	29.45	123	LR	LR	06 32 56.0	
	comp=Z,98nm,19.3s,MS3.4,baz=284,slow=39						
TKL	Tuckaleechee C	29.46	80	LR	LR	06 32 17.5	
	comp=Z,54nm,19.6s,MS3.2,baz=353,slow=37						
INK	Inuvik	33.05	351	P	P	06 20 42.0	+1.7
	3.7nm,1.1s,mb4.2,baz=152,slow=9.4,SNR=3.1						
ARCES	ARCESS Array B	71.67	12	LR	LR	07 02 01.1	
	comp=Z,63nm,18.4s,MS3.9,baz=75,slow=40						
GERES	GERESS Array B	86.00	28	P	P	06 26 48.0	+2.9
	0.5nm,0.8s,mb3.8,baz=299,slow=4.0,SNR=3.6						
SONM	Songino Array	86.57	331	P	P	06 26 49.7	+1.7
	0.6nm,0.8s,mb3.9,baz=4.7,slow=3.7,SNR=4.7						
ZAL	Zalesovo	87.69	345	P	P	06 26 56.9	+3.5
	1.6nm,0.2s,mb4.8,baz=197,slow=4.0,SNR=3.2						
HHC	Hu-ho-hao-te	89.81	323	eP	P	06 27 03.3	-0.1
HHC				XP	sP	06 27 09.8	-1.8
HHC				PP	PP	06 30 37.4	+1.7
HHC				SKS		06 37 29.4	
HHC				S	S	06 37 52.1	-2.4
HHC				PS	PS	06 39 01.3	-0.9
HHC				SS	SS	06 43 51.1	-0.5
HHC				LR	LR		
	comp=Z,147nm,19.0s,MS4.4						
WMQ	Urumqi	96.44	340	eP	P	06 27 35.5	+1.6
LZH	Lanzhou	97.25	325	eP	P	06 27 36.0	-1.6

IDC 16 06:47:01.1±2.2,588S×14699E,h0km,mb3.3/2,mb1 3.6/4, mb1mx3.5/15,mbtmp3.5/4,ML3.3/2,MS3.1/1,Ms1 3.0/1, ms1mx2.3/16,Error ellipse: s-maj=52.9km s-min=36.7km az=106.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.50	177	Pn	Pn	06 47 57.5	+0.6
	11nm,0.3s,baz=348,slow=5.7,SNR=31						
PMG				Sn	Sn	06 48 35.5	-3.5
	24nm,0.3s,baz=191,slow=23,SNR=15						
WRA	Warramunga Arr	18.61	220	P	Pn	06 51 20.2	-0.1
	0.2nm,0.3s,baz=45,slow=12,SNR=5.9						
ASAR	Alice Springs	21.71	214	P	P	06 51 53.4	-0.3
	0.5nm,0.4s,baz=52,slow=8.7,SNR=16						
FITZ	Fitzroy Crossi	24.12	238	P	P	06 52 19.3	+0.8
	0.9nm,0.4s,baz=46,slow=8.4,SNR=6.1						
STKA	Stephens Creek	26.35	190	LR	LR	07 04 29.5	
	comp=Z,37nm,18.9s,baz=34,slow=40						
SIV	San Ignacio	144.73	128	PKP	PKPdf	07 06 40.5	+0.6
	0.1nm,0.4s,baz=254,slow=15,SNR=7.0						
TORD	Torodi Ar. Bea	145.05	284	PKPbc	PKPbc	07 06 40.0	+0.2
	0.8nm,0.6s,baz=74,slow=4.0,SNR=8.4						

*ISCJB **16** 06:55:18.7±1.6,237S±0.1×1797W±02,h480km±17km, mb3.9/10,Error ellipse: s-maj=23.2km s-min=17.0km az=138.6*
*IDC **16** 06:55:19.9±2.4,2379S×17968W,h476km±24km,mb3.4/9, mb1 3.6/10,mb1mx3.5/16,mbtmp3.4/10,Error ellipse: s-maj=23.9km s-min=16.0km az=30.0*
*NEIC **16** 06:55:21.2±2.2,2391S×17984W,h479km±13km,mb4.1/1, Error ellipse: s-maj=46.7km s-min=14.7km az=222.0*

ISC 16 06:55:20.9±1.6,239S±01×1797W±02,h488km±18km,n18, σ0°53/14,mb3.9/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.55	164	P	P	06 56 52.4	+0.1
	73nm,0.3s,baz=255,slow=24,SNR=2.4						
URZ	Urewera	14.57	190	P	P	06 58 26.8	0.0
	1.9nm,0.3s,baz=4.8,slow=1.4,SNR=11						
URZ				S	S	07 00 59.4	-0.7
	1.0nm,0.3s,baz=248,slow=22,SNR=7.3						
RPZ	Rata Peaks	21.18	199	P	P	06 59 31.0	+0.1
	5.3nm,0.3s,mb4.5,baz=44,slow=19,SNR=2.0						
CTA	Charters Tower	31.78	270	P	P	07 01 04.9	+0.7
	9.7nm,0.5s,mb4.5,baz=96,slow=11,SNR=24						
STKA	Stephens Creek	35.00	248	P	P	07 01 31.0	-0.5
	1.5nm,0.5s,mb3.7,baz=66,slow=6.0,SNR=5.6						
STKA	Stephens Creek	35.00	248	P	P	07 01 31.0	-0.5
ASAR	Alice Springs	42.33	261	P	P	07 02 30.7	-0.4
	2.4nm,0.5s,mb3.9,baz=98,slow=6.7,SNR=34						
WRA	Warramunga Arr	42.71	266	P	P	07 02 33.7	-0.3
	7.7nm,0.6s,mb4.3,baz=103,slow=8.1,SNR=50						
WRA				PcP	PcP	07 04 15.1	+0.2
	0.6nm,0.9s,baz=98,slow=6.0,SNR=4.7						
FITZ	Fitzroy Crossi	51.13	265	P	P	07 03 38.1	+0.3
	3.5nm,0.6s,mb3.8,baz=122,slow=8.9,SNR=12						
VNDA	Vanda	54.40	185	P	P	07 04 02.1	+0.9
	3.1nm,1.3s,mb3.5,baz=98,slow=5.9,SNR=5.9						
VNDA				PcP	PcP	07 04 57.8	+0.2
	0.9nm,1.0s,baz=63,slow=4.5,SNR=3.4						
QSPA	South Pole Qui	66.18	180	eP	P	07 05 20.2	+0.8
	4.4nm,0.8s,mb4.1						
MAW	Mawson	77.85	200	P	P	07 06 27.2	-0.2
	1.5nm,0.6s,mb3.6,baz=146,slow=11,SNR=1.9						
TXAR	Lajitas Array	90.17	58	P	P	07 07 27.7	-0.8
	0.3nm,0.7s,mb3.2,baz=190,slow=4.6,SNR=2.9						
ARCES	ARCESS Array B	131.95	348	PKP	PKPdf	07 13 35.6	-2.7
	2.9nm,0.8s,baz=22,slow=5.1,SNR=3.3						
HFS	Hagfors	142.61	349	PKhKP		07 13 52.8	
	1.7nm,0.9s,baz=66,slow=3.6,SNR=5.7						
AKASG	Malin Array Be	145.14	327	PKPbc	PKPbc	07 14 01.9	-1.1
	0.5nm,0.4s,baz=42,slow=4.0,SNR=4.2						
BRTR	Keskin Array B	147.82	307	PKPbc	PKPbc	07 14 09.2	-1.2
	0.7nm,0.8s,baz=8.5,slow=2.5,SNR=3.6						
MMAI	Mount Meron Ar	147.98	294	PKPbc	PKPbc	07 14 12.3	+1.5
	1.6nm,0.4s,baz=46,slow=6.2,SNR=4.2						

IDC 16 07:02:30.5±9.4,769S×14883E,h407km±86km,mb3.0/2, mb1 3.1/4,mb1mx2.8/15,mbtmp2.9/4,Error ellipse: s-maj=73.6km s-min=55.6km az=1.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	12.57	191	P	P	07 05 16.4	+0.2
	0.2nm,0.3s,baz=344,slow=7.4,SNR=3.2						
WRA	Warramunga Arr	18.59	228	P	P	07 06 21.3	+0.6
	0.2nm,0.3s,baz=52,slow=10,SNR=12						
WRA				PcP	PcP	07 10 27.9	-0.8
	0.1nm,0.3s,baz=55,slow=2.9,SNR=4.9						
ASAR	Alice Springs	21.38	220	P	P	07 06 47.2	+0.3
	0.7nm,0.5s,baz=59,slow=8.7,SNR=11						
FITZ	Fitzroy Crossi	24.82	243	P	P	07 07 17.6	-0.3
	1.4nm,0.5s,baz=57,slow=6.7,SNR=4.4						
TORD	Torodi Ar. Bea	147.24	282	PKPbc	PKPbc	07 21 27.9	+1.1
	1.2nm,0.7s,baz=70,slow=1.9,SNR=8.4						

IDC 16 07:20:15.9±1.4,2186N×14361E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/21,mbtmp3.4/4,Error ellipse: s-maj=48.7km s-min=27.9km az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.47	320	P	P	07 27 49.1	+1.2
	0.2nm,0.4s,baz=137,slow=7.4,SNR=4.0						
WRA	Warramunga Arr	42.53	193	P	P	07 28 13.4	+0.3
	0.3nm,0.5s,baz=12,slow=9.1,SNR=10.0						
MKAR	Makanchi Array	54.88	313	P	P	07 29 47.2	-0.9
	0.9nm,1.0s,baz=90,slow=8.2,SNR=3.3						
YKA	Yellowknife Ar	76.12	28	P	P	07 32 05.2	-0.4
	0.2nm,0.6s,baz=295,slow=5.8,SNR=5.7						

*SKO **16** 07:36:23.7,4060N×21.11E,h1km*
*ISCJB **16** 07:36:24.7±0.5,4070N±003×21.16E±005,h12km,Error ellipse: s-maj=5.0km s-min=4.2km az=159.8*
*THE **16** 07:36:24.1,4084N×2104E,h1km,ML2.8*
*CSEM **16** 07:36:24.7±0.1,4074N×2114E,h12km,ML2.8,Error ellipse: s-maj=2.3km s-min=1.6km az=81.0*
*ATH **16** 07:36:28.1,4043N×2121E,h4km,MD3.4/5*

ISC 16 07:36:25.0±0.6,4069N±003×2113E±005,h7km±7km,n25, σ1°00/35,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	Florina	0.21	63	ePg	Pg	07 36 29.3	0.0
FNA				eSg	Sg	07 36 33.4	+1.2
FNA	Florina	0.21	63	ePg	Pg	07 36 29.3	0.0
FNA				eSg	Sg	07 36 33.3	+1.2
BIA	Bitola	0.36	24	iPg	Pg	07 36 30.8	-1.2
BIA				iSg	Sg	07 36 39.6	+2.8
OHR	Ohrid	0.49	330	iPg	Pg	07 36 33.7	-0.8
OHR				iSg	Sg	07 36 41.7	+0.7
OHR	Ohrid	0.49	330	iPg	Pg	07 36 33.7	-0.8
OHR				iSg	Sg	07 36 41.7	+0.7
OHR	Ohrid	0.49	330	iPg	Pg	07 36 33.7	-0.8
OHR				iSg	Sg	07 36 41.6	+0.7
KZN	Kozani	0.62	128	ePG	Pg	07 36 36.7	-0.3
KRUS	Krusevo	0.69	8	iPg	Pg	07 36 37.3	-1.0
KRUS				iSg	Sg	07 36 47.6	+0.4
KRUS	Krusevo	0.69	8	iPg	Pg	07 36 37.3	-1.0
KRUS				iSg	Sg	07 36 47.6	+0.4
KRUS	Krusevo	0.69	8	iPg	Pg	07 36 37.2	-1.0
KRUS				iSg	Sg	07 36 47.5	+0.3
GRG	Griva	1.00	74	ePg	Pg	07 36 43.2	-1.1
GRG				eSg	Sg	07 36 57.9	+0.6
LIT	Litokhoron	1.19	119	ePg	Pg	07 36 49.5	+1.5
VAY	Valandovo	1.26	59	iPg	Pg	07 36 47.3	-1.9
STIP	Stip	1.28	38	ePn	Pn	07 36 48.7	-0.6
SKO	Skopje	1.30	10	ePn	Pn	07 36 50.6	+1.0
SKO	Skopje	1.30	10	ePn	Pn	07 36 50.6	+1.0
SKO	Skopje	1.30	10	ePn	Pn	07 36 50.5	+0.9
IGT	Igoumenitsa	1.30	208	ePg	Pg	07 36 49.9	-0.2
IGT	Igoumenitsa	1.30	208	ePg	Pg	07 36 49.8	-0.3
THL	Klokotos Trika	1.31	148	ePN	Pn	07 36 49.3	-0.4
KEK	Kerkira	1.41	227	ePB	Pb	07 36 52.5	+0.9
KNT	Kendrikon	1.42	70	ePg	Pg	07 36 50.7	-1.6
PLG	Polygyros	1.79	99	ePG	Pg	07 36 59.9	+0.5
EVR	Evrytania	1.84	163	ePN	Pn	07 36 57.2	+0.2
AGG	Agios Georgios	1.90	151	ePn	Pn	07 36 58.2	+0.4

*NEIC **16** 07:36:39.5,3266S×7147W,h28km,MD3.5(GUC),After GUC.*

GUC 16 07:36:39.5±0.6,3266S×7147W,h28km±3km,MD3.5, ML2.4,9C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.12	12	⇑iP	Pb	07 36 45.0	+0.3
PACH				iS	Sb	07 36 48.9	+0.7
ROCH	El Roble	0.49	129	⇑iP	Pb	07 36 49.8	+0.1
ROCH				iS	Sb	07 36 57.4	+0.7
PTCH	Petorca	0.60	49	eP	Pb	07 36 51.6	+0.1
PTCH				iS	Sb	07 37 00.5	+0.9
JACH	Jahuel	0.74	92	⇑iP	Pb	07 36 53.5	-0.2
JACH				iS	Sb	07 37 04.2	+0.7
PEL	Peldehue	0.81	126	⇑iP	Pb	07 36 55.0	-0.1
PEL				iS	Sb	07 37 05.8	+0.1
PEL				AML	AML	07 37 07.2	
	comp=E,408nm,0.3s						
LCCH	Las Cruces	0.82	186	⇑iP	Pb	07 36 54.5	-0.6
LCCH				iS	Sb	07 37 04.3	-1.5
RCDM	Rinconada Maip	1.00	146	⇑iP	Pn	07 36 57.2	-0.4
RCDM				iS	Sn	07 37 10.7	-0.1
RCDM				AML	AML	07 37 11.1	
	comp=N,721nm,0.1s						
RCDM	Rinconada Maip	1.00	146	⇑iP	Pn	07 36 57.2	-0.4
RCDM				iS	Sn	07 37 10.7	-0.1
STL	Santa Lucia	1.04	138	⇑iP	Pn	07 36 57.3	-1.0
STL				iS	Sn	07 37 11.4	-0.4
STL				AML	AML	07 37 12.1	
	comp=N,52nm,0.1s						
DSCH	Colegio Aleman	1.05	135	eP	Pn	07 36 57.7	-0.7
DSCH				iS	Sn	07 37 11.9	-0.3
DSCH				AML	AML	07 37 12.6	
	comp=E,42nm,0.2s						
DSCH	Colegio Aleman	1.05	135	eP	Pn	07 36 57.7	-0.7
DSCH				iS	Sn	07 37 11.9	-0.3
CLCH	Cerro Calan	1.07	133	⇓iP	Pn	07 36 58.7	0.0
CLCH				iS	Sn	07 37 13.3	+0.7
CLCH				AML	AML	07 37 15.2	
	comp=E,114nm,0.8s						
TACH	Talagante	1.08	156	⇓iP	Pn	07 36 58.8	0.0
TACH				eS	Sn	07 37 13.0	+0.1
ANTU	Antumapu	1.15	143	eP	Pn	07 36 59.6	-0.1
ANTU				iS	Sn	07 37 15.1	+0.6
ANTU				AML	AML	07 37 20.4	
	comp=N,147nm,0.4s						
ANTU	Antumapu	1.15	143	eP	Pn	07 36 59.6	-0.1
ANTU				iS	Sn	07 37 15.1	+0.6
PCH	Pirque	1.25	140	⇓iP	Pn	07 37 01.6	+0.5
PCH				iS	Sn	07 37 18.0	+1.0
LNV	Longovilo	1.29	178	⇑iP	Pn	07 37 01.9	+0.2
CHCH	Chadas Angostu	1.44	152	eP	Pn	07 37 04.5	+0.8
CHCH				iS	Sn	07 37 23.4	+1.6
CMCH	Combarbala	1.53	15	eP	Pn	07 37 05.5	+0.5
CMCH				iS	Sn	07 37 25.6	+1.6
CMCH				AML	AML	07 37 32.1	
	comp=E,252nm,0.7s						
CMCH	Combarbala	1.53	15	eP	Pn	07 37 05.5	+0.5
CMCH				iS	Sn	07 37 25.6	+1.6
LMEL	Las Melosas	1.59	139	eP	Pn	07 37 06.8	+1.1
LMEL				iS	Sn	07 37 27.6	+2.2
LMEL				AML	AML	07 37 32.1	
	comp=N,217nm,0.2s						
LMEL	Las Melosas	1.59	139	eP	Pn	07 37 06.8	+1.1
LMEL				iS	Sn	07 37 27.6	+2.2
CICH	Cipreses	1.87	152	eP	Pn	07 37 11.4	+1.8

*ISCJB **16** 07:45:18.9±0.6,3476N±005×2694E±007,h35km,Error ellipse: s-maj=8.9km s-min=6.8km az=34.2*
*CSEM **16** 07:45:19.2±0.3,3473N×2691E,h40km,MD3.6,Error ellipse: s-maj=8.3km s-min=5.6km az=73.0*
*ATH **16** 07:45:21.7,3524N×2662E,h39km±7km,MD3.6/7*
*NEIC **16** 07:45:21.7,3524N×2662E,h39km,MD3.6(ATH),After ATH.*
*HLW **16** 07:45:32.9,3384N×2681E,h33km,Mb3.5*

ISC 16 07:45:20.2±0.6,3482N±005×2690E±007,h35km,n14, σ0°89/18,3C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.64	298	P	Pn	07 45 32.2	-0.6
KARP	Karpathos	0.76	16	ePN	Pn	07 45 34.0	-0.5
XRY	Khrisi	0.99	274	ePN	Pn	07 45 38.0	+0.3
NPS	Neapolis	1.15	293	ePN	Pn	07 45 36.3	-3.5
NPS	Neapolis	1.15	293	P	Pn	07 45 41.1	+1.3
IDI	Anoyia	1.72	287	P	Pn	07 45 49.2	+1.6
ARG	Arkhangelos	1.72	35	ePN	Pn	07 45 48.1	+0.5
ARG				eSN	Sn	07 46 08.6	+0.3
VAM	Vamos	2.29	286	ePB	Pn	07 45 56.8	+1.3
SLUM		3.60	204	⇑P	Pn	07 46 13.5	0.0
SLUM				S	Sn	07 46 43.6	-11
HMAT	Matruh	3.71	177	⇑eP	Pn	07 46 14.7	-0.4
HMAT				S	Sn	07 46 44.7	-13
VLI	Veliai	3.74	302	ePN	Pn	07 46 13.9	-1.5
ITM	Ithomi	4.67	302	ePN	Pn	07 46 27.1	-1.1
SWA1		5.63	191	⇓P	Pn	07 46 41.2	-0.1
SWA1				S	Sn	07 47 30.9	-14
HFRF	Wahat Farafira	7.74	171	⇑eP	Pn	07 47 10.5	+0.2

*NEIC **16** 07:46:18.0,1632N×9435W,h52km,MD3.9(MEX),After MEX.*

MEX 16 07:46:18.0±1.0,1632N×9435W,h52km±84km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	1.71	358	iP	Pn	07 46 44.7	-0.6
TUIG				iS	Sn	07 47 03.1	-2.9
HUIG	Huatulco	1.78	252	iP	Pn	07 46 44.1	-2.2
HUIG				iS	Sn	07 47 07.0	-0.8
CCIG	Comitan	2.12	91	iP	Pn	07 46 50.1	-0.9
CCIG				iS	Sn	07 47 14.1	-2.1
OXX	Oaxaca	2.40	289	iP	Pn	07 46 54.0	-0.8
OXX				iS	Sn	07 47 23.0	0.0
VHO	Vista Hermosa	2.41	288	eP	Pn	07 46 53.0	-1.9
VHO				iS	Sn	07 47 22.0	-1.2
TPIG	Tehuac#an	3.56	306	iS	Sn	07 47 50.5	-0.9
UTMO	Huajuapan	3.63	295	iP	Pn	07 47 11.4	-0.3
UTMO				iS	Sn	07 47 51.1	-2.2

*NEIC **16** 07:50:34.9,1900N×6522W,h103km,MD3.6(RSPR), After RSPR.*

RSPR 16 07:50:34.9,1900N×6522W,h103km±5km,MD3.5/4, MD3.5/4,9C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.69	159	⇑eP	Pn	07 50 50.5	-1.9
STVI				eS	Sn	07 51 05.2	-0.4
CBYP	Canovanas	0.94	220	⇑eP	Pn	07 50 54.0	-0.9
CBYP				eS	Sn	07 51 10.2	+0.2
MTP	Monte Pirata	0.95	200	⇑eP	Pn	07 50 54.8	-0.2
MTP				eS	Sn	07 51 10.6	+0.5
HUMP	Col San Antoni	1.04	215	⇑eP	Pn	07 50 55.6	-0.4
HUMP				eS	Sn	07 51 11.3	-0.5
CPD	Cerro la Pandu	1.16	215	⇑eP	Pn	07 50 57.3	0.0
CPD				eS	Sn	07 51 13.4	-0.8
SJG	San Juan	1.25	225	⇑eP	Pn	07 50 57.5	-0.8
SJG				eS	Sn	07 51 16.4	+0.4
CELP	Cerrillos	1.59	235	⇑eP	Pn	07 51 02.2	-0.1
CELP				eS	Sn	07 51 22.6	-0.6
AOPR	Arecibo Observ	1.59	246	⇑eP	Pn	07 51 01.9	-0.5
AOPR				eS	Sn	07 51 23.5	+0.1
CRPR	Cabo Rojo, PR	2.05	242	⇑eP	Pn	07 51 08.2	0.0
CRPR				eS	Sn	07 51 33.5	-0.1

*NEIC **16** 07:52:11.2,3694S×17746E,h207km,MG3.8(WEL),After WEL.*

WEL 16 07:52:10.7±0.5,3677S×17749E,h194km±5km,ML3.7/12, 1C,Error ellipse: s-maj=7.1km s-min=6.2km az=90.0, Off east coast of North Island

| Code |

*IDC **16** 08:10:55.1±2.3,5.71S×13067E,h0km,mb3.7/1,mb1 4.0/4, mb1mx3.7/14,mbtmp3.8/4,ML3.8/3,Error ellipse: s-maj=96.7km s-min=28.5km az=77.0*

NEIC 16 08:10:58.6±1.3,578S×13058E,h20km,mb3.6/1,Error ellipse: s-maj=29.4km s-min=17.8km az=73.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.16**	**201**	Pn	Pn	08 14 05.4	+1.0
	0.6nm,0.3s,baz=35,slow=14,SNR=21						
FITZ				Sn	Sn	08 16 16.7	-13
	1.0nm,0.3s,baz=107,slow=18,SNR=9.0						
WRA	**Warramunga Arr**	**14.54**	**166**	Pn	Pn	08 14 22.3	-0.9
	0.3nm,0.3s,baz=349,slow=13,SNR=17						
WRA				Sn	Sn	08 16 51.3	-13
	0.7nm,0.3s,baz=334,slow=24,SNR=6.7						
ASAR	**Alice Springs**	**18.07**	**170**	P	Pn	08 15 08.2	-0.2
	0.4nm,0.3s,baz=345,slow=9.5,SNR=22						
ASAR				S	Sn	08 18 16.3	-13
	0.2nm,0.3s,baz=349,slow=25,SNR=4.7						
CTAO	**Charters Tower**	**20.84**	**134**	*e*P	P	08 15 40.3	+1.3
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**67.53**	**326**	P	P	08 21 53.2	-0.1
	0.4nm,0.5s,baz=116,slow=7.8,SNR=5.6						
MKAR	**Makanchi Array**	**67.53**	**326**	P	P	08 21 53.2	-0.1

*ISCJB **16** 08:16:59.1±0.2,43.14N±001×0.10W±001,h13km±1km, Error ellipse: s-maj=1.8km s-min=1.4km az=120.9*
*STR **16** 08:17:01.2±0.2,43.10N×008W,h5km±1km,Ml4.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **16** 08:17:01.6±0.2,4303N×0.10W,h5km±1km,mbLg3.3/50, Error ellipse: s-maj=1.7km s-min=1.1km az=10.0,PRXIMO*
*LDG **16** 08:17:01.4±0.1,4306N×0.12W,h7km,Md3.6/3,Ml4.1/39, Error ellipse: s-maj=1.3km s-min=1.0km az=145.0*
*CSEM **16** 08:17:01.7±0.0,4308N×0.12W,h10km,ML3.9/71,Error ellipse: s-maj=0.8km s-min=0.5km az=131.0*
*NEIC **16** 08:17:01.2,43.10N×.008W,h5km,ML4.1(LDG), ML4.1(STR),After STR.*
*INMG **16** 08:17:02.3±1.0,4300N×0.11W,h2km±1km,ML3.2,Error ellipse: s-maj=1.7km s-min=1.1km az=51.0*

ISC 16 08:17:00.2±0.2,43119N±0009×008W±001,h13km±1km, n299,σ1§35/646,3C-4D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.13**	**122**	Pg	**Pg**	**08 17 04.5**	**+0.9**
LABF				Sg	**Sg**	**08 17 08.8**	**+2.8**
LABF	**Labassere**	**0.13**	**122**	P	**Pg**	**08 17 04.5**	**+1.0**
LABF				S	**Sg**	**08 17 06.8**	**+0.8**
REYF	**Montagne du Re**	**0.23**	**258**	Pg	**Pg**	**08 17 05.6**	**+0.4**
REYF	**Montagne du Re**	**0.23**	**258**	P	**Pg**	**08 17 05.6**	**+0.5**
REYF				S	**Sg**	**08 17 09.0**	**+0.4**
VIEF	**Viey**	**0.25**	**162**	Pg	**Pg**	**08 17 05.0**	**-0.4**
VIEF	**Viey**	**0.25**	**162**	P	**Pg**	**08 17 05.1**	**-0.3**
VIEF				S	**Sg**	**08 17 07.5**	**-1.4**
EPF	**Esparros**	**0.32**	**106**	*e*Pg	**Pg**	**08 17 07.7**	**+1.0**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**08 17 12.8**	**+1.7**
	8µm,0.2s						
EPF	**Esparros**	**0.32**	**106**	*e*Pg	**Pg**	**08 17 07.7**	**+1.0**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**08 17 12.8**	**+1.7**
	4µm,0.2s						
ETSF	**Etsaut**	**0.41**	**238**	*e*Pg	**Pg**	**08 17 08.3**	**-0.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**08 17 12.7**	**-1.3**
	13µm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**0.41**	**238**	*e*Pg	**Pg**	**08 17 08.3**	**-0.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**08 17 12.7**	**-1.3**
	6µm,0.3s,SNR=1.0						
RESF	**Ens**	**0.44**	**135**	Pg	**Pg**	**08 17 09.0**	**+0.2**
RESF	**Ens**	**0.44**	**135**	P	**Pg**	**08 17 09.0**	**+0.2**
RESF				S	**Sg**	**08 17 14.3**	**-0.4**
ATE	**Arette**	**0.46**	**266**	Pg	**Pg**	**08 17 09.4**	**+0.2**
ATE	**Arette**	**0.46**	**266**	P	**Pg**	**08 17 09.3**	**+0.2**
ATE				S	**Sg**	**08 17 15.8**	**+0.5**
EBIE	**Bielsa**	**0.46**	**159**	⇑Pg	**Pg**	**08 17 08.8**	**-0.5**
	1µm,0.3s,SNR=18						
EBIE				Lg		08 17 13.6	
	460nm,0.3s,SNR=12						
EBIE	**Bielsa**	**0.46**	**159**	Pg	**Pg**	**08 17 08.8**	**-0.5**
	1µm,0.3s,SNR=18						
EBIE				Lg		08 17 13.6	
	460nm,0.3s,SNR=12						
FDAF	**Les Forges d'A**	**0.47**	**230**	P	**Pg**	**08 17 09.0**	**-0.4**
FDAF				S	**Sg**	**08 17 14.4**	**-1.2**
ORDF	**Ordiarp**	**0.63**	**279**	P	**Pg**	**08 17 12.8**	**+0.3**
ORDF				S	**Sg**	**08 17 22.9**	**+2.0**
MELF	**Melles**	**0.66**	**112**	Pg	**Pg**	**08 17 13.0**	**-0.1**
MELF				Sg	**Sg**	**08 17 24.9**	**+3.1**
MELF	**Melles**	**0.66**	**112**	P	**Pg**	**08 17 13.2**	**+0.1**
MELF				S	**Sg**	**08 17 22.5**	**+0.6**
LARF	**Larrau**	**0.67**	**263**	Pg	**Pg**	**08 17 13.3**	**+0.1**
LARF	**Larrau**	**0.67**	**263**	P	**Pg**	**08 17 13.3**	**+0.1**
LARF				S	**Sg**	**08 17 22.6**	**+0.6**
SJPF	**Ste Jean**	**0.84**	**270**	*e*Pn	**Pn**	**08 17 17.5**	**-0.2**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**08 17 26.5**	**-0.8**
	1µm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**0.84**	**270**	*e*Pg	**Pg**	**08 17 16.1**	**-0.3**
SJPF				*e*Pn	**Pn**	**08 17 17.5**	**-0.2**
SJPF				*e*Sg	**Sg**	**08 17 26.5**	**-0.8**
SJPF	**Ste Jean**	**0.84**	**270**	Pg	**Pg**	**08 17 16.1**	**-0.3**
SJPF				Pn	**Pn**	**08 17 17.5**	**-0.2**
SJPF				Lg		08 17 26.5	
	562nm,0.3s						
SJPF	**Ste Jean**	**0.84**	**270**	*e*Pn	**Pn**	**08 17 17.5**	**-0.2**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**08 17 26.5**	**-0.8**
	562nm,0.3s,SNR=1.0						
OSSF	**Osses**	**0.87**	**279**	Pg	**Pg**	**08 17 17.6**	**+0.5**
OSSF				Sg	**Sg**	**08 17 30.8**	**+2.3**
MLS	**Moulis**	**0.88**	**100**	Pg	**Pg**	**08 17 16.8**	**-0.3**
MLS				Sg	**Sg**	**08 17 30.4**	**+1.8**
IPRE	**Itoiz**	**0.99**	**252**	Pg	**Pg**	**08 17 19.2**	**0.0**
	107nm,0.3s,SNR=164						
IPRE				Lg		08 17 31.9	
	481nm,0.3s,SNR=27						
IPRE	**Itoiz**	**0.99**	**252**	Pg	**Pg**	**08 17 19.2**	**0.0**
	107nm,0.3s,SNR=164						
SALF	**Salau**	**1.00**	**111**	Pg	**Pg**	**08 17 18.7**	**-0.8**
SALF	**Salau**	**1.00**	**111**	P	**Pb**	**08 17 18.7**	**-0.7**
SALF				S	**Sb**	**08 17 32.9**	**+0.5**
EALK	**Alkurruntz**	**1.05**	**276**	Pg	**Pg**	**08 17 20.9**	**+0.5**
	89nm,0.3s,SNR=70						
EALK				Lg		08 17 36.0	
	514nm,0.3s,SNR=11						
ELIZ	**Elizondo**	**1.06**	**273**	Pg	**Pg**	**08 17 20.8**	**+0.2**
	159nm,0.2s,SNR=111						
ELIZ				Lg		08 17 36.0	
	297nm,0.2s,SNR=17						
IUSE	**Utxeti**	**1.09**	**261**	Pg	**Pg**	**08 17 20.9**	**-0.3**
	123nm,0.2s,SNR=62						
IUSE				Lg		08 17 36.1	
	299nm,0.3s,SNR=16						
EARA	**Aranguren**	**1.15**	**253**	⇓Pg	**Pg**	**08 17 22.8**	**+0.4**
	78nm,0.3s,SNR=18						
EARA				Lg		08 17 38.0	
	500nm,0.3s,SNR=15						
CSOR	**Sort**	**1.16**	**129**	P	**Pn**	**08 17 22.2**	**+0.1**
CSOR				S	**Sb**	**08 17 37.6**	**+0.5**
	451nm,0.2s						
GRBF	**Gourbit**	**1.22**	**103**	P	**Pn**	**08 17 24.3**	**+1.4**
PAND	**Andorre**	**1.34**	**116**	P	**Pn**	**08 17 26.5**	**+1.9**
PAND				S	**Sn**	**08 17 42.5**	**+0.3**
CORG	**Organya**	**1.36**	**130**	P	**Pn**	**08 17 25.9**	**+1.0**
CORG				S	**Sn**	**08 17 43.6**	**+0.8**
	223nm,0.4s						
CAVN	**Les Avellanes**	**1.38**	**153**	P	**Pn**	**08 17 25.8**	**+0.7**
CAVN				S	**Sn**	**08 17 43.4**	**+0.1**
	426nm,0.2s						
ESAC	**San Caprasio**	**1.43**	**192**	⇑Pg	**Pg**	**08 17 26.2**	**-1.4**
	2µm,0.3s,SNR=18						
ESAC				Lg		08 17 43.5	
	1µm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.43**	**192**	Pg	**Pg**	**08 17 26.2**	**-1.4**
	2µm,0.3s,SNR=18						
LPEF	**Le Peyrat**	**1.47**	**96**	P	**Pn**	**08 17 29.4**	**+3.1**
CARF	**Carcanieres**	**1.66**	**103**	Pg	**Pg**	**08 17 32.3**	**+0.3**
CARF				Sg	**Sg**	**08 17 54.4**	**+0.9**
EMIR	**Miracle**	**1.69**	**135**	Pg	**Pg**	**08 17 32.1**	**-0.5**
	115nm,0.3s,SNR=172						
EMIR				Lg		08 17 54.0	
	328nm,0.3s,SNR=12						
EMIR	**Miracle**	**1.69**	**135**	Pg	**Pg**	**08 17 32.1**	**-0.5**
	115nm,0.3s,SNR=172						
MTLF	**Montolieu**	**1.69**	**82**	*e*Pg	**Pg**	**08 17 33.5**	**+0.8**
MTLF				*e*Sn	**Sn**	**08 17 51.8**	**+0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**08 17 56.7**	**+2.0**
	563nm,0.3s						
MTLF	**Montolieu**	**1.69**	**82**	*e*Pn	**Pn**	**08 17 30.3**	**+0.8**
MTLF				*e*Pg	**Pg**	**08 17 33.5**	**+0.8**
MTLF				*e*Sn	**Sn**	**08 17 51.8**	**+0.8**
MTLF				*e*Sg	**Sg**	**08 17 56.7**	**+2.0**
MTLF	**Montolieu**	**1.69**	**82**	Pn	**Pn**	**08 17 30.3**	**+0.8**
MTLF				Pg	**Pg**	**08 17 33.5**	**+0.8**
MTLF				Sn	**Sn**	**08 17 51.8**	**+0.8**
MTLF				Lg		08 17 56.7	
	282nm,0.3s						
MTLF	**Montolieu**	**1.69**	**82**	*e*Pn	**Pn**	**08 17 30.3**	**+0.8**
	SNR=1.0						
MTLF	**Montolieu**	**1.69**	**82**	*e*Pg	**Pg**	**08 17 33.5**	**+0.8**
MTLF				*e*Sn	**Sn**	**08 17 51.8**	**+0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**08 17 56.7**	**+2.0**
	282nm,0.3s						
VALF	**Valcebollere**	**1.70**	**114**	Pg	**Pg**	**08 17 33.1**	**+0.2**
VALF				Sg	**Sg**	**08 17 56.1**	**+1.1**
ECRI	**Cripan**	**1.86**	**255**	⇓Pg	**Pg**	**08 17 34.4**	**-1.4**
	22nm,0.2s,SNR=18						
ECRI				Sn	**Sn**	**08 17 56.7**	**+1.7**
	70nm,0.2s,SNR=7.9						
ECRI				Lg		08 17 59.5	
	250nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.86**	**255**	Pg	**Pg**	**08 17 34.4**	**-1.4**
	22nm,0.2s,SNR=18						
ECRI				Sn	**Sn**	**08 17 56.7**	**+1.7**
	70nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.91**	**18**	*e*Pg	**Pg**	**08 17 38.7**	**+1.8**
LFF				*e*Sn	**Sn**	**08 17 56.6**	**+0.2**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**08 18 04.4**	**+2.7**
	1µm,0.4s,SNR=1.0						
LFF	**La Frestale**	**1.91**	**18**	*e*Pn	**Pn**	**08 17 33.4**	**+0.9**
LFF				*e*Pg	**Pg**	**08 17 38.7**	**+1.8**
LFF				*e*Sn	**Sn**	**08 17 56.6**	**+0.2**
LFF				*e*Sg	**Sg**	**08 18 04.4**	**+2.7**
LFF	**La Frestale**	**1.91**	**18**	Pn	**Pn**	**08 17 33.4**	**+0.9**
LFF				Pg	**Pg**	**08 17 38.7**	**+1.8**
LFF				Lg		08 18 04.4	
	561nm,0.4s						
LFF	**La Frestale**	**1.91**	**18**	*e*Pg	**Pg**	**08 17 38.7**	**+1.8**
LFF				*e*Sn	**Sn**	**08 17 56.6**	**+0.2**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**08 18 04.4**	**+2.7**
	561nm,0.4s,SNR=1.0						
EPOB	**Poblet**	**1.96**	**154**	Pn	**Pn**	**08 17 34.2**	**+1.0**
	70nm,0.5s,SNR=195						
EPOB				Pg	**Pg**	**08 17 36.2**	**-1.6**
	66nm,0.3s,SNR=12						
EPOB				Sn	**Sn**	**08 17 57.5**	**-0.2**
	27nm,0.2s,SNR=7.9						
EPOB				Lg		08 18 01.5	
	51nm,0.1s,SNR=19						
EPOB	**Poblet**	**1.96**	**154**	Pn	**Pn**	**08 17 34.2**	**+1.0**
	70nm,0.5s,SNR=195						
EPOB	**Poblet**	**1.96**	**154**	Pg	**Pg**	**08 17 36.2**	**-1.7**
	66nm,0.3s,SNR=12						
EPOB				Sn	**Sn**	**08 17 57.5**	**-0.2**
	27nm,0.2s,SNR=7.9						
FILF	**Fillols**	**2.02**	**105**	Pg	**Pg**	**08 17 36.9**	**-2.0**
FILF				Sg	**Sg**	**08 18 03.7**	**-1.5**
ERTA	**Horta de San J**	**2.18**	**172**	Pn	**Pn**	**08 17 36.8**	**+0.7**
	1.1nm,0.1s,SNR=7.9						
ERTA				Pg	**Pg**	**08 17 39.9**	**-2.2**
	60nm,0.3s,SNR=116						
ERTA				Sn	**Sn**	**08 18 02.8**	**-0.2**
	61nm,0.4s,SNR=7.9						
ERTA				Lg		08 18 08.3	
	32nm,0.1s,SNR=16						
ERTA	**Horta de San J**	**2.18**	**172**	Pn	**Pn**	**08 17 36.8**	**+0.6**
	1.1nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.18**	**172**	Pg	**Pg**	**08 17 39.9**	**-2.1**
	60nm,0.3s,SNR=116						
ERTA				Sn	**Sn**	**08 18 02.8**	**-0.3**
	61nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**2.27**	**105**	Pg	**Pg**	**08 17 41.2**	**-2.5**
SJAF				Sg	**Sg**	**08 18 14.4**	**+1.2**
EJON	**La Jonquera**	**2.29**	**106**	Pn	**Pn**	**08 17 40.4**	**+2.8**
	35nm,0.3s,SNR=32						
EJON				Pg	**Pg**	**08 17 43.9**	**-0.1**
	29nm,0.3s,SNR=13						
EJON				Lg		08 18 14.4	
	92nm,0.3s,SNR=5.1						
EJON	**La Jonquera**	**2.29**	**106**	Pn	**Pn**	**08 17 40.4**	**+2.8**
	35nm,0.3s,SNR=32						
EJON	**La Jonquera**	**2.29**	**106**	Pg	**Pg**	**08 17 43.9**	**-0.1**
	29nm,0.3s,SNR=13						
CAF	**Calviac**	**2.38**	**40**	*e*Pg	**Pg**	**08 17 47.1**	**+1.3**
CAF				*e*Sn	**Sn**	**08 18 07.3**	**-0.6**
CAF				*e*Sg	**Sg**	**08 18 17.7**	**+1.1**
	240nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.38**	**40**	*e*Pn	**Pn**	**08 17 39.2**	**+0.3**
CAF				*e*Pg	**Pg**	**08 17 47.1**	**+1.3**
CAF				*e*Sn	**Sn**	**08 18 07.3**	**-0.6**
CAF				*e*Sg	**Sg**	**08 18 17.7**	**+1.1**
CAF	**Calviac**	**2.38**	**40**	Pn	**Pn**	**08 17 39.2**	**+0.3**
CAF				Pg	**Pg**	**08 17 47.1**	**+1.3**
CAF	**Calviac**	**2.38**	**40**	*e*Pg	**Pg**	**08 17 47.1**	**+1.3**
CAF				*e*Sn	**Sn**	**08 18 07.3**	**-0.6**
CAF				*e*Sg	**Sg**	**08 18 17.7**	**+1.1**
	120nm,0.2s,SNR=1.0						
ELAN	**Lanestosa**	**2.46**	**274**	Pn	**Pn**	**08 17 42.5**	**+2.6**
	14nm,0.3s,SNR=62						
ELAN				Pg	**Pg**	**08 17 47.2**	**0.0**
	34nm,0.5s,SNR=8.0						
ELAN				Sn	**Sn**	**08 18 12.2**	**+2.4**
	52nm,0.4s,SNR=6.5						
ELAN				Lg		08 18 20.5	
	63nm,0.5s,SNR=5.0						
ELAN	**Lanestosa**	**2.46**	**274**	Pg	**Pg**	**08 17 47.2**	**0.0**
	34nm,0.5s,SNR=8.0						
ELAN				Sn	**Sn**	**08 18 12.2**	**+2.4**
	52nm,0.4s,SNR=6.5						
RJF	**Les Rejaudoux**	**2.47**	**27**	*e*Pg	**Pg**	**08 17 48.4**	**+0.9**
RJF				*e*Sn	**Sn**	**08 18 09.9**	**-0.2**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**08 18 20.7**	**+1.2**
	459nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.47**	**27**	*e*Pn	**Pn**	**08 17 40.3**	**+0.2**
RJF				*e*Pg	**Pg**	**08 17 48.4**	**+0.9**
RJF				*e*Sn	**Sn**	**08 18 09.9**	**-0.2**
RJF				*e*Sg	**Sg**	**08 18 20.7**	**+1.2**
RJF	**Les Rejaudoux**	**2.47**	**27**	Pn	**Pn**	**08 17 40.3**	**+0.2**
RJF				Pg	**Pg**	**08 17 48.4**	**+0.9**
RJF	**Les Rejaudoux**	**2.47**	**27**	*e*Pg	**Pg**	**08 17 48.4**	**+0.9**
RJF				*e*Sn	**Sn**	**08 18 09.9**	**-0.2**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**08 18 20.7**	**+1.2**
	230nm,0.3s,SNR=1.0						
MATF	**Mathat**	**2.71**	**357**	Pg	**Pg**	**08 17 53.6**	**+1.4**
MATF				Sg	**Sg**	**08 18 29.9**	**+2.5**
MATF	**Mathat**	**2.71**	**357**	Pn	**Pn**	**08 17 44.5**	**+1.0**
MATF				Pg	**Pg**	**08 17 53.6**	**+1.4**
MATF				Sg	**Sg**	**08 18 29.9**	**+2.5**
MATF	**Mathat**	**2.71**	**357**	Pg	**Pg**	**08 17 53.6**	**+1.4**
MATF				Sg	**Sg**	**08 18 29.9**	**+2.5**
ETOR	**Torete**	**2.73**	**213**	⇑Pn	**Pn**	**08 17 45.1**	**+1.4**
	73nm,0.3s,SNR=18						
ETOR				Pg	**Pg**	**08 17 50.2**	**-2.2**
	242nm,0.3s,SNR=10.0						
ETOR				Sn	**Sn**	**08 18 15.5**	**-1.0**
	362nm,0.4s,SNR=6.7						
ETOR				Lg		08 18 25.4	
	80nm,0.1s,SNR=6.4						
ETOR	**Torete**	**2.73**	**213**	Pg	**Pg**	**08 17 50.2**	**-2.3**
	242nm,0.3s,SNR=10.0						
ETOR				Sn	**Sn**	**08 18 15.5**	**-1.0**
	362nm,0.4s,SNR=6.7						
EMOS	**Mosqueruela**	**2.77**	**186**	Pn	**Pn**	**08 17 45.2**	**+0.9**
EMOS				Pg	**Pg**	**08 17 50.6**	**-2.6**
EMOS				Sn	**Sn**	**08 18 17.0**	**-0.5**
EMOS				Lg		08 18 25.4	
EMOS	**Mosqueruela**	**2.77**	**186**	Pn	**Pn**	**08 17 45.2**	**+0.9**
	59nm,0.6s,SNR=37						
EMOS				Pg	**Pg**	**08 17 50.6**	**-2.6**
	1.8nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**08 18 17.0**	**-0.5**
	47nm,0.5s,SNR=7.9						
EMOS				Lg		08 18 26.3	
	19nm,0.1s,SNR=8.8						
EMOS	**Mosqueruela**	**2.77**	**186**	Pn	**Pn**	**08 17 45.2**	**+1.0**
	59nm,0.6s,SNR=37						
EMOS	**Mosqueruela**	**2.77**	**186**	Pg	**Pg**	**08 17 50.6**	**-2.6**
	1.8nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**08 18 17.0**	**-0.5**
	47nm,0.5s,SNR=7.9						
FRNF	**Fournols**	**2.96**	**39**	Pg	**Pg**	**08 17 57.8**	**+1.0**
FRNF				Sg	**Sg**	**08 18 37.6**	**+2.4**
FRNF	**Fournols**	**2.96**	**39**	Pn	**Pn**	**08 17 48.1**	**+1.3**
FRNF				Pg	**Pg**	**08 17 57.8**	**+1.0**
FRNF				Sg	**Sg**	**08 18 37.6**	**+2.4**
FRNF	**Fournols**	**2.96**	**39**	Pg	**Pg**	**08 17 57.8**	**+1.0**
FRNF				Sg	**Sg**	**08 18 37.6**	**+2.4**
OLEF	**Ile d'Oleron**	**2.97**	**343**	Pn	**Pn**	**08 17 47.6**	**+0.7**
OLEF				Pg	**Pg**	**08 17 57.9**	**+0.9**
OLEF				Sg	**Sg**	**08 18 37.2**	**+1.7**
LASF	**Ste Croix**	**3.02**	**70**	*e*Pg	**Pg**	**08 17 57.7**	**-0.3**
LASF				*e*Sn	**Sn**	**08 18 22.8**	**-0.8**
LASF				*e*Sg	**Sg**	**08 18 37.0**	**-0.1**
	166nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**3.02**	**70**	*e*Pn	**Pn**	**08 17 47.9**	**+0.3**
LASF				*e*Pg	**Pg**	**08 17 57.7**	**-0.3**
LASF				*e*Sn	**Sn**	**08 18 22.8**	**-0.8**
LASF				*e*Sg	**Sg**	**08 18 37.0**	**-0.1**
LASF	**Ste Croix**	**3.02**	**70**	Pn	**Pn**	**08 17 47.9**	**+0.3**
LASF				Pg	**Pg**	**08 17 57.7**	**-0.3**
LASF				Sn	**Sn**	**08 18 22.8**	**-0.8**
LASF	**Ste Croix**	**3.02**	**70**	*e*Pg	**Pg**	**08 17 57.7**	**-0.3**
LASF				*e*Sn	**Sn**	**08 18 22.8**	**-0.8**
LASF				*e*Sg	**Sg**	**08 18 37.0**	**-0.1**
	83nm,0.2s,SNR=1.0						
LBL	**Lubilhac**	**3.19**	**47**	Pn	**Pn**	**08 17 50.7**	**+0.6**
PYM	**Petit Puy Mans**	**3.44**	**39**	Pn	**Pn**	**08 17 55.7**	**+2.3**
PYM				Sg	**Sg**	**08 18 52.9**	**+2.3**
MFF	**Saint Martin d**	**3.48**	**359**	*e*Pg	**Pg**	**08 18 06.3**	**-0.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**08 18 33.9**	**-1.2**
MFF				*e*Sg	**Sg**	**08 18 52.1**	**+0.1**
	237nm,0.4s						
MFF	**Saint Martin d**	**3.48**	**359**	*e*Pn	**Pn**	**08 17 54.3**	**+0.3**
MFF				*e*Pg	**Pg**	**08 18 06.3**	**-0.6**
MFF				*e*Sn	**Sn**	**08 18 33.9**	**-1.2**
MFF				*e*Sg	**Sg**	**08 18 52.1**	**+0.1**
MFF	**Saint Martin d**	**3.48**	**359**	Pn	**Pn**	**08 17 54.3**	**+0.3**
MFF				Pg	**Pg**	**08 18 06.3**	**-0.6**
MFF	**Saint Martin d**	**3.48**	**359**	*e*Pg	**Pg**	**08 18 06.3**	**-0.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**08 18 33.9**	**-1.2**
MFF				*e*Sg	**Sg**	**08 18 52.1**	**+0.1**
	119nm,0.4s						
TCF	**Toulx Ste Croi**	**3.56**	**26**	*e*Pg	**Pg**	**08 18 08.5**	**0.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**08 18 35.9**	**-1.2**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**08 18 55.0**	**+0.3**
	160nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.56**	**26**	*e*Pn	**Pn**	**08 17 56.3**	**+1.1**
TCF				*e*Pg	**Pg**	**08 18 08.5**	**0.0**
TCF				*e*Sn	**Sn**	**08 18 35.9**	**-1.2**
TCF				*e*Sg	**Sg**	**08 18 55.0**	**+0.3**
TCF	**Toulx Ste Croi**	**3.56**	**26**	Pn	**Pn**	**08 17 56.3**	**+1.1**
TCF				Pg	**Pg**	**08 18 08.5**	**0.0**
TCF	**Toulx Ste Croi**	**3.56**	**26**	*e*Pg	**Pg**	**08 18 08.5**	**0.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**08 18 35.9**	**-1.2**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**08 18 55.0**	**+0.3**
	80nm,0.3s,SNR=1.0						
LCHF	**La Chataignera**	**3.58**	**353**	Pn	**Pn**	**08 17 56.3**	**+0.9**
ECHE	**Chera**	**3.59**	**191**	Pn	**Pn**	**08 17 56.4**	**+0.9**
	1.4nm,0.1s,SNR=7.9						
ECHE				Pg	**Pg**	**08 18 05.5**	**-3.4**
	1.9nm,0.2s,SNR=7.9						
ECHE				Sn	**Sn**	**08 18 36.3**	**-1.4**
	22nm,0.4s,SNR=7.9						
ECHE				Lg		08 18 52.2	
	42nm,0.4s,SNR=7.9						
ECHE	**Chera**	**3.59**	**191**	Pg	**Pg**	**08 18 05.5**	**-3.4**
	1.9nm,0.2s,SNR=7.9						
ECHE				Sn	**Sn**	**08 18 36.3**	**-1.4**
	22nm,0.4s,SNR=7.9						
COLF	**Collangettes**	**3.62**	**47**	Pn	**Pn**	**08 17 56.1**	**+0.2**
AGO	**Saint Águolin**	**3.72**	**37**	Pn	**Pn**	**08 17 59.1**	**+1.7**
AGO				Sg	**Sg**	**08 19 02.0**	**+2.3**
EARI	**Arriondas**	**3.75**	**275**	Pn	**Pn**	**08 18 00.6**	**+2.8**
	9.6nm,0.3s,SNR=46						
EARI				Pg	**Pg**	**08 18 10.7**	**-1.4**
	10nm,0.4s,SNR=8.7						
EARI				Sn	**Sn**	**08 18 43.2**	**+1.4**
	11nm,0.4s,SNR=6.5	

1.7nm,0.2s,SNR=7.9
EIBI Sn **Sn** **08 18 50.0 -3.5**
16nm,0.2s,SNR=7.0
AVF Avril sur Loir 4.41 32 *e*Pg **Pg** **08 18 23.9 -0.7**
AVF *e*Sg **Sg** **08 19 21.3 -0.3**
116nm,0.3s
AVF Avril sur Loir 4.41 32 *e*Pn **Pn** **08 18 07.4 +0.7**
AVF *e*Pg **Pg** **08 18 23.9 -0.7**
AVF *e*Sg **Sg** **08 19 21.3 -0.3**
AVF Avril sur Loir 4.41 32 Pn **Pn** **08 18 07.4 +0.7**
AVF Pg **Pg** **08 18 23.9 -0.7**
AVF Avril sur Loir 4.41 32 *e*Pg **Pg** **08 18 23.9 -0.7**
AVF *e*Sg **Sg** **08 19 21.3 -0.3**
58nm,0.3s
EBEN Beniarda 4.41 181 Pn **Pn** **08 18 07.4 +0.6**
13nm,0.8s,SNR=17
EBEN Pg **Pg** **08 18 20.7 -4.0**
8.9nm,0.4s,SNR=6.0
EBEN Sn **Sn** **08 18 54.9 -3.1**
19nm,0.5s,SNR=7.9
EBEN Lg 08 19 18.6
22nm,0.5s,SNR=5.0
EBEN Beniarda 4.41 181 Pn **Pn** **08 18 07.4 +0.6**
13nm,0.8s,SNR=17
EBEN Beniarda 4.41 181 Pg **Pg** **08 18 20.7 -4.0**
8.9nm,0.4s,SNR=6.0
EBEN Sn **Sn** **08 18 54.9 -3.2**
19nm,0.5s,SNR=7.9
SMF Signal de Mont 4.49 37 *e*Pg **Pg** **08 18 25.7 -0.5**
SMF *e*Sn **Sn** **08 18 58.1 -2.0**
SNR=1.0
SMF *e*Sg **Sg** **08 19 23.2 -1.3**
79nm,0.3s,SNR=1.0
SMF Signal de Mont 4.49 37 *e*Pn **Pn** **08 18 08.5 +0.6**
SMF *e*Pg **Pg** **08 18 25.7 -0.5**
SMF *e*Sn **Sn** **08 18 58.1 -2.0**
SMF *e*Sg **Sg** **08 19 23.2 -1.3**
SMF Signal de Mont 4.49 37 Pn **Pn** **08 18 08.5 +0.6**
SMF Pg **Pg** **08 18 25.7 -0.5**
SMF Signal de Mont 4.49 37 *e*Pg **Pg** **08 18 25.7 -0.5**
SMF *e*Sn **Sn** **08 18 58.1 -2.0**
SNR=1.0
SMF *e*Sg **Sg** **08 19 23.2 -1.3**
40nm,0.3s,SNR=1.0
TAVF Tavernes 4.50 82 Pn **Pn** **08 18 11.1 +3.0**
ESDC Sonseca Array 4.51 222 Pn **Pn** **08 18 08.5 +0.3**
7.0nm,0.3s,baz=43,slow=14,SNR=72
ESDC Pg **Pg** **08 18 22.3 -4.3**
3.5nm,0.3s,baz=44,slow=14,SNR=7.2
ESDC Sn **Sn** **08 18 57.8 -2.8**
46nm,0.3s,baz=43,slow=24,SNR=26
ESDC Lg 08 19 21.6
29nm,0.2s,baz=45,slow=29,SNR=6.2
ESDC Sonseca Array 4.51 222 Pn **Pn** **08 18 08.5 +0.3**
7.0nm,0.3s,SNR=72
ESDC Sonseca Array 4.51 222 Pg **Pg** **08 18 22.3 -4.3**
3.5nm,0.3s,SNR=7.2
ESDC Sn **Sn** **08 18 57.8 -2.7**
46nm,0.3s,SNR=26
ESLA Sonseca Array 4.51 222 *e*Pn **Pn** **08 18 08.7 +0.5**
ESLA *e*Sn **Sn** **08 18 57.1 -3.5**
ESLA Sonseca Array 4.51 222 *e*Pn **Pn** **08 18 08.7 +0.5**
ESLA *e*Sn **Sn** **08 18 57.1 -3.4**
ETOB Tobarra 4.61 194 Pn **Pn** **08 18 10.2 +0.8**
3.4nm,0.3s,SNR=16
ETOB Pg **Pg** **08 18 24.0 -4.4**
11nm,0.4s,SNR=7.2
ETOB Sn **Sn** **08 18 59.1 -3.8**
22nm,0.7s,SNR=4.7
ETOB Lg 08 19 24.9
22nm,0.3s,SNR=5.0
ETOB Tobarra 4.61 194 Pn **Pn** **08 18 10.2 +0.7**
3.4nm,0.3s,SNR=16
ETOB Tobarra 4.61 194 Pg **Pg** **08 18 24.0 -4.4**
11nm,0.4s,SNR=7.2
ETOB Sn **Sn** **08 18 59.1 -3.7**
22nm,0.7s,SNR=4.7
ORIF Oris-en-Rattie 4.66 65 *e*Pn **Pn** **08 18 12.9 +2.7**
SNR=1.0
ORIF *e*Sn **Sn** **08 19 01.7 -2.5**
ORIF *e*Sg **Sg** **08 19 29.8 0.0**
21nm,0.5s
ORIF Oris-en-Rattie 4.66 65 *e*Pn **Pn** **08 18 12.9 +2.7**
SNR=1.0
ORIF *e*Sg **Sg** **08 19 29.8 0.0**
10nm,0.5s
SSF Saint Saulge 4.69 32 *e*Pg **Pg** **08 18 29.3 -0.7**
SSF *e*Sn **Sn** **08 19 01.3 -3.6**
SNR=1.0
SSF *e*Sg **Sg** **08 19 30.0 -0.7**
80nm,0.3s,SNR=1.0
SSF Saint Saulge 4.69 32 *e*Pn **Pn** **08 18 11.4 +0.8**
SSF *e*Pg **Pg** **08 18 29.3 -0.7**
SSF *e*Sn **Sn** **08 19 01.3 -3.6**
SSF *e*Sg **Sg** **08 19 30.0 -0.7**
SSF Saint Saulge 4.69 32 Pn **Pn** **08 18 11.4 +0.8**
SSF Pg **Pg** **08 18 29.3 -0.7**
SSF Saint Saulge 4.69 32 *e*Pg **Pg** **08 18 29.3 -0.7**
SSF *e*Sn **Sn** **08 19 01.3 -3.6**
SNR=1.0
SSF *e*Sg **Sg** **08 19 30.0 -0.7**
40nm,0.3s,SNR=1.0
PAB San Pablo 4.80 223 *e*Pn **Pn** **08 18 12.6 +0.4**
PAB *e*Sn **Sn** **08 19 05.6 -2.1**
LMR La Mourre 4.82 85 *e*Pg **Pg** **08 18 31.0 -1.5**
SNR=1.0
LMR *e*Sn **Sn** **08 19 05.6 -2.5**
LMR *e*Sg **Sg** **08 19 33.2 -1.7**
18nm,0.3s,SNR=1.0
LMR La Mourre 4.82 85 *e*Pn **Pn** **08 18 12.8 +0.4**
LMR *e*Pg **Pg** **08 18 31.0 -1.5**
LMR *e*Sn **Sn** **08 19 05.6 -2.5**
LMR *e*Sg **Sg** **08 19 33.2 -1.7**
LMR La Mourre 4.82 85 Pn **Pn** **08 18 12.8 +0.4**
LMR Pg **Pg** **08 18 31.0 -1.5**
LMR Sn **Sn** **08 19 05.6 -2.5**
LMR La Mourre 4.82 85 *e*Pg **Pg** **08 18 31.0 -1.5**
SNR=1.0
LMR *e*Sg **Sg** **08 19 33.2 -1.7**
9.2nm,0.3s,SNR=1.0
EVIA Vianos 4.84 203 Pn **Pn** **08 18 13.4 +0.7**
3.4nm,0.3s,SNR=5.1
EVIA Pg **Pg** **08 18 28.4 -4.4**
12nm,0.4s,SNR=7.2
EVIA Sn **Sn** **08 19 05.0 -3.5**
16nm,0.5s,SNR=7.9
EVIA Lg 08 19 31.4
31nm,0.4s,SNR=5.0
FRF La Foret Royal 4.93 83 *e*Pn **Pn** **08 18 14.5 +0.6**
SNR=1.0
FRF *e*Sn **Sn** **08 19 08.6 -2.2**
SNR=1.0
FRF *e*Sg **Sg** **08 19 36.7 -1.6**
35nm,0.4s,SNR=1.0
FRF La Foret Royal 4.93 83 Pn **Pn** **08 18 14.5 +0.6**
FRF Sn **Sn** **08 19 08.6 -2.2**
FRF La Foret Royal 4.93 83 *e*Pn **Pn** **08 18 14.5 +0.6**
SNR=1.0
FRF *e*Sg **Sg** **08 19 36.7 -1.6**
17nm,0.4s,SNR=1.0
LOR Lormes 5.00 33 *e*Pn **Pn** **08 18 16.1 +1.3**
baz=218,SNR=1.0
LOR Lormes 5.00 33 *e*Pg **Pg** **08 18 34.8 -1.1**
baz=214
LOR *e*Sn **Sn** **08 19 07.5 -5.0**
SNR=1.0
LOR *e*Sg **Sg** **08 19 39.2 -1.4**
82nm,0.4s,SNR=1.0
LOR Lormes 5.00 33 *e*Pn **Pn** **08 18 16.1 +1.3**
LOR *e*Pg **Pg** **08 18 34.8 -1.1**
LOR *e*Sn **Sn** **08 19 07.5 -5.0**
LOR *e*Sg **Sg** **08 19 39.2 -1.4**
LOR Lormes 5.00 33 Pn **Pn** **08 18 16.1 +1.3**
LOR Pg **Pg** **08 18 34.8 -1.1**
LOR Lormes 5.00 33 *e*Pg **Pg** **08 18 34.8 -1.1**
LOR *e*Sg **Sg** **08 19 39.2 -1.4**
41nm,0.4s,SNR=1.0
ECAL Calabor 5.06 259 ⇓Pn **Pn** **08 18 17.2 +1.5**
17nm,0.3s,SNR=18
ECAL Sn **Sn** **08 19 10.5 -3.4**
101nm,0.4s,SNR=14
ECAL Lg 08 19 42.1
4.5nm,0.2s,SNR=5.0
ECAL Calabor 5.06 259 Pn **Pn** **08 18 17.2 +1.5**
17nm,0.3s,SNR=18
ECAL Sn **Sn** **08 19 10.5 -3.5**
101nm,0.4s,SNR=14
PBRG Braganca 5.10 257 *e*Pn **Pn** **08 18 17.8 +1.5**
PBRG *e*Sn **Sn** **08 19 12.5 -2.5**
PBRG A 08 19 16.1
85nm,0.5s
PBRG Braganca 5.10 257 Pn **Pn** **08 18 17.1 +0.8**
PBRG Sn **Sn** **08 19 11.8 -3.2**
EPON Pontenova 5.17 275 Pn **Pn** **08 18 19.9 +2.7**
8.8nm,0.3s,SNR=25
EPON Sn **Sn** **08 19 16.4 -0.4**
8.7nm,0.3s,SNR=7.9
EPON Lg 08 19 47.4
17nm,0.4s,SNR=5.0
EPON Pontenova 5.17 275 Pn **Pn** **08 18 19.9 +2.7**
8.8nm,0.3s,SNR=25
EPON Sn **Sn** **08 19 16.4 -0.3**
8.7nm,0.3s,SNR=7.9
MBDF Montbardon 5.20 70 *e*Pn **Pn** **08 18 18.8 +1.1**
MBDF *e*Sg **Sg** **08 19 46.4 -0.8**
12nm,0.6s,SNR=1.0
MBDF Montbardon 5.20 70 *e*Pn **Pn** **08 18 18.8 +1.1**
MBDF *e*Sg **Sg** **08 19 46.4 -0.8**
6.1nm,0.6s,SNR=1.0
ERUA La Rua 5.25 264 Pn **Pn** **08 18 20.3 +2.0**
15nm,0.4s,SNR=8.4
ERUA Sn **Sn** **08 19 18.4 -0.3**
136nm,0.6s,SNR=20
ERUA Lg 08 19 48.9
21nm,0.4s,SNR=5.0
ERUA La Rua 5.25 264 Pn **Pn** **08 18 20.3 +2.0**
15nm,0.4s,SNR=8.4
ERUA Sn **Sn** **08 19 18.4 -0.3**
136nm,0.6s,SNR=20
QUIF Quistinic 5.26 337 *e*Pg **Pg** **08 18 39.0 -2.0**
SNR=1.0
QUIF *e*Sn **Sn** **08 19 15.0 -4.1**
QUIF *e*Sg **Sg** **08 19 47.5 -1.7**
52nm,0.3s
QUIF Quistinic 5.26 337 *e*Pn **Pn** **08 18 19.4 +0.9**
QUIF *e*Pg **Pg** **08 18 39.0 -2.0**
QUIF *e*Sn **Sn** **08 19 15.0 -4.1**
QUIF *e*Sg **Sg** **08 19 47.5 -1.7**
QUIF Quistinic 5.26 337 Pn **Pn** **08 18 19.4 +0.9**
QUIF Pg **Pg** **08 18 39.0 -2.0**
QUIF Quistinic 5.26 337 *e*Pg **Pg** **08 18 39.0 -2.0**
SNR=1.0
QUIF *e*Sn **Sn** **08 19 15.0 -4.1**
QUIF *e*Sg **Sg** **08 19 47.5 -1.7**
26nm,0.3s
GRR Gorron 5.30 354 *e*Pn **Pn** **08 18 18.9 -0.1**
SNR=1.0
GRR *e*Sn **Sn** **08 19 17.1 -2.8**
SNR=1.0
GRR *e*Sg **Sg** **08 19 49.3 -0.9**
54nm,0.3s
GRR Gorron 5.30 354 *e*Pn **Pn** **08 18 18.9 -0.1**
SNR=1.0
GRR *e*Sn **Sn** **08 19 17.1 -2.8**
SNR=1.0
GRR *e*Sg **Sg** **08 19 49.3 -0.9**
27nm,0.3s
EMUR La Murta 5.34 190 Pn **Pn** **08 18 20.7 +1.1**
5.6nm,0.3s,SNR=5.8
EMUR Sn **Sn** **08 19 17.9 -3.1**
28nm,1.0s,SNR=7.9
EMUR Lg 08 19 48.8
15nm,0.7s,SNR=5.0
EMUR La Murta 5.34 190 Pn **Pn** **08 18 20.7 +1.1**
5.6nm,0.3s,SNR=5.8
EMUR Sn **Sn** **08 19 17.9 -3.2**
28nm,1.0s,SNR=7.9
SGMF Saint Gilles 5.42 342 *e*Pg **Pg** **08 18 43.0 -1.0**
SNR=1.0
SGMF *e*Sn **Sn** **08 19 16.1 -6.8**
SNR=1.0
SGMF *e*Sg **Sg** **08 19 51.7 -2.5**
109nm,0.6s,SNR=1.0
SGMF Saint Gilles 5.42 342 *e*Pn **Pn** **08 18 20.9 +0.2**
SGMF *e*Pg **Pg** **08 18 43.0 -1.0**
SGMF *e*Sn **Sn** **08 19 16.1 -6.8**
SGMF *e*Sg **Sg** **08 19 51.7 -2.5**
SGMF Saint Gilles 5.42 342 Pn **Pn** **08 18 20.9 +0.2**
SGMF Pg **Pg** **08 18 43.0 -1.0**
SGMF Saint Gilles 5.42 342 *e*Pg **Pg** **08 18 43.0 -1.0**
SNR=1.0
SGMF *e*Sg **Sg** **08 19 51.7 -2.5**
54nm,0.6s,SNR=1.0
LPL La Plagne 5.44 62 *e*Pn **Pn** **08 18 23.2 +2.2**
SNR=1.0
LPL *e*Sg **Sg** **08 19 54.3 -0.6**
22nm,0.5s,SNR=1.0
LPL La Plagne 5.44 62 *e*Pn **Pn** **08 18 23.2 +2.2**
SNR=1.0
LPL *e*Sg **Sg** **08 19 54.3 -0.6**
11nm,0.5s,SNR=1.0
LPG La Plagne 5.45 62 *e*Pn **Pn** **08 18 23.1 +2.0**
SNR=1.0
LPG *e*Sg **Sg** **08 19 52.8 -2.3**
17nm,0.4s
LPG La Plagne 5.45 62 *e*Pn **Pn** **08 18 23.1 +2.0**
SNR=1.0
LPG *e*Sg **Sg** **08 19 52.8 -2.3**
8.4nm,0.4s
LDF La Druitiere 5.47 360 *e*Pg **Pg** **08 18 43.0 -2.0**
SNR=1.0
LDF *e*Sn **Sn** **08 19 19.6 -4.7**
SNR=1.0
LDF *e*Sg **Sg** **08 19 53.9 -2.0**
86nm,0.4s,SNR=1.0
LDF La Druitiere 5.47 360 *e*Pn **Pn** **08 18 21.4 0.0**
LDF *e*Pg **Pg** **08 18 43.0 -2.0**
LDF *e*Sn **Sn** **08 19 19.6 -4.7**
LDF *e*Sg **Sg** **08 19 53.9 -2.0**
LDF La Druitiere 5.47 360 *e*Pg **Pg** **08 18 43.0 -2.0**
SNR=1.0
LDF *e*Sn **Sn** **08 19 19.6 -4.7**
SNR=1.0
LDF *e*Sg **Sg** **08 19 53.9 -2.0**
43nm,0.4s,SNR=1.0
SBF Sospel 5.52 80 *e*P **Pn** **08 18 26.7 +4.7**
SNR=1.0
SBF Sospel 5.52 80 *e*Pg **Pg** **08 18 44.1 -1.7**
SNR=1.0
SBF *e*Sn **Sn** **08 19 22.3 -3.0**
SBF *e*Sg **Sg** **08 19 56.0 -1.3**
51nm,0.6s
SBF Sospel 5.52 80 *e*Pn **Pn** **08 18 22.4 +0.4**
SBF *e*P 08 18 26.7
SBF *e*Pg **Pg** **08 18 44.1 -1.7**
SBF *e*Sn **Sn** **08 19 22.3 -3.0**
SBF *e*Sg **Sg** **08 19 56.0 -1.3**
SBF Sospel 5.52 80 Pn **Pn** **08 18 22.4 +0.4**
SBF Pg **Pg** **08 18 44.1 -1.7**
SBF Sn **Sn** **08 19 22.3 -3.0**
SBF Sospel 5.52 80 *e*P **Pn** **08 18 26.7 +4.7**
SNR=1.0
SBF Sospel 5.52 80 *e*Pg **Pg** **08 18 44.1 -1.7**
SNR=1.0
SBF *e*Sg **Sg** **08 19 56.0 -1.3**
26nm,0.6s
CABF La Chapelle 5.60 49 *e*Pg **Pg** **08 18 46.4 -1.1**
SNR=1.0
CABF *e*Sg **Sg** **08 19 58.7 -1.3**
98nm,0.7s
CABF La Chapelle 5.60 49 *e*Pn **Pn** **08 18 24.1 +0.9**
CABF *e*Pg **Pg** **08 18 46.4 -1.1**
CABF *e*Sg **Sg** **08 19 58.7 -1.3**
CABF La Chapelle 5.60 49 Pn **Pn** **08 18 24.1 +0.9**
CABF Pg **Pg** **08 18 46.4 -1.1**
CABF La Chapelle 5.60 49 *e*Pg **Pg** **08 18 46.4 -1.1**
SNR=1.0
CABF *e*Sg **Sg** **08 19 58.7 -1.3**
49nm,0.7s
EHUE Huescar 5.63 201 Pn **Pn** **08 18 24.7 +1.1**
0.3nm,0.1s,SNR=7.9
EHUE Pg **Pg** **08 18 42.4 -5.6**
1.0nm,0.2s,SNR=7.9
EHUE Sn **Sn** **08 19 24.9 -3.3**
7.4nm,2.3s,SNR=7.9
FLN La Foliniere 5.65 357 *e*Pn **Pn** **08 18 23.5 -0.3**
baz=175,SNR=1.0
FLN *e*Sn **Sn** **08 19 23.9 -4.7**
SNR=1.0
FLN *e*Sg **Sg** **08 20 00.0 -1.6**
83nm,0.5s,SNR=1.0
FLN La Foliniere 5.65 357 *e*Pn **Pn** **08 18 23.5 -0.3**
SNR=1.0
FLN *e*Sn **Sn** **08 19 23.9 -4.7**
SNR=1.0
FLN *e*Sg **Sg** **08 20 00.0 -1.6**
41nm,0.5s,SNR=1.0
ROSF Rostrenen 5.68 338 *e*Pg **Pg** **08 18 47.0 -1.8**
SNR=1.0
ROSF *e*Sn **Sn** **08 19 23.2 -6.0**
SNR=1.0
ROSF *e*Sg **Sg** **08 20 00.1 -2.2**
38nm,0.3s
ROSF Rostrenen 5.68 338 *e*Pn **Pn** **08 18 24.3 +0.1**
ROSF *e*Pg **Pg** **08 18 47.0 -1.8**
ROSF *e*Sn **Sn** **08 19 23.2 -6.0**
ROSF *e*Sg **Sg** **08 20 00.1 -2.2**
ROSF Rostrenen 5.68 338 Pn **Pn** **08 18 24.3 +0.1**
ROSF Pg **Pg** **08 18 47.0 -1.8**
ROSF Rostrenen 5.68 338 *e*Pg **Pg** **08 18 47.0 -1.8**
SNR=1.0
ROSF *e*Sg **Sg** **08 20 00.1 -2.2**
19nm,0.3s
EBAN Banos Encina 5.70 211 Pn **Pn** **08 18 25.3 +0.9**
8.7nm,0.4s,SNR=5.6
EBAN Pg **Pg** **08 18 44.0 -5.2**
3.0nm,0.2s,SNR=7.9
EBAN Sn **Sn** **08 19 26.0 -3.7**
18nm,0.4s,SNR=6.5
EBAN Lg 08 20 00.5
21nm,0.3s,SNR=5.0
EBAN Banos Encina 5.70 211 Pg **Pg** **08 18 44.0 -5.2**
3.0nm,0.2s,SNR=7.9
EBAN Sn **Sn** **08 19 26.0 -3.7**
18nm,0.4s,SNR=6.5
EQES Quesada 5.78 204 Pn **Pn** **08 18 26.6 +1.0**
4.4nm,0.3s,SNR=8.4
EQES Pg **Pg** **08 18 45.6 -5.2**
15nm,0.5s,SNR=7.1
EQES Sn **Sn** **08 19 27.8 -4.0**
15nm,0.5s,SNR=4.0
EQES Lg 08 20 02.4
9.8nm,0.4s,SNR=7.5
EQES Quesada 5.78 204 Pn **Pn** **08 18 26.5 +0.9**
4.4nm,0.3s,SNR=8.4
EQES Quesada 5.78 204 Pg **Pg** **08 18 45.6 -5.2**
15nm,0.5s,SNR=7.1
EQES Sn **Sn** **08 19 27.8 -3.9**
15nm,0.5s,SNR=4.0
PVRL Vila Real 5.96 255 *e*Pn **Pn** **08 18 29.2 +1.1**
PVRL *e*Sn **Sn** **08 19 33.6 -2.7**
PVRL A 08 20 10.2
27nm,0.3s
PVRL Vila Real 5.96 255 Pn **Pn** **08 18 28.9 +0.8**
PVRL Sn **Sn** **08 19 32.4 -3.9**
EADA Adamuz 6.01 216 Pn **Pn** **08 18 29.8 +1.0**
3.5nm,0.3s,SNR=20
EADA Sn **Sn** **08 19 33.0 -4.5**
6.7nm,0.4s,SNR=4.7
EADA Lg 08 20 10.2
27nm,0.6s,SNR=5.0
EADA Adamuz 6.01 216 Pn **Pn** **08 18 29.8 +1.0**
3.5nm,0.3s,SNR=20
ELOB Lobios 6.03 261 Pn **Pn** **08 18 30.3 +1.2**
2.9nm,0.1s,SNR=19
ELOB Sn **Sn** **08 19 35.9 -2.0**
14nm,0.3s,SNR=6.4
ELOB Lg 08 20 13.7
22nm,0.5s,SNR=5.0
ELOB Lobios 6.03 261 Pn **Pn** **08 18 30.3 +1.2**
2.9nm,0.1s,SNR=19
ELOB Sn **Sn** **08 19 35.9 -2.1**
14nm,0.3s,SNR=6.4
PCAB Cabril 6.05 259 *e*Pn **Pn** **08 18 30.4 +1.1**
PCAB *e*Sn **Sn** **08 19 34.4 -4.0**
PCAB A 08 20 19.9
32nm,0.7s
PCAB Cabril 6.05 259 Pn **Pn** **08 18 29.5 +0.2**
PCAB Sn **Sn** **08 19 34.3 -4.1**
MTE Manteigas 6.21 247 *e*Pn **Pn** **08 18 31.9 +0.4**
MTE *e*Sn **Sn** **08 19 38.4 -3.9**
MTE A 08 20 23.2
31nm,0.5s
MTE Manteigas 6.21 247 Pn **Pn** **08 18 31.7 +0.2**
MTE Sn **Sn** **08 19 37.6 -4.7**
STS Santiago 6.21 271 Pn **Pn** **08 18 33.3 +1.7**
11nm,0.1s,SNR=7.9
STS Sn **Sn** **08 19 40.5 -2.0**
24nm,1.2s,SNR=7.9
SFTF Sexfontaines 6.22 33 *e*Pn **Pn** **08 18 32.0 +0.3**
baz=208
SFTF Sexfontaines 6.22 33 *e*Pg **Pg** **08 18 56.8 -2.5**
baz=214
SFTF *e*Sg **Sg** **08 20 18.4 -1.5**
50nm,0.4s
SFTF Sexfontaines 6.22 33 *e*Pn **Pn** **08 18 32.0 +0.3**
SFTF *e*Pg **Pg** **08 18 56.8 -2.5**
SFTF *e*Sg **Sg** **08 20 18.4 -1.5**
SFTF Sexfontaines 6.22 33 Pn **Pn** **08 18 32.0 +0.3**
SFTF Pg **Pg** **08 18 56.8 -2.5**
SFTF Sexfontaines 6.22 33 *e*Pg **Pg** **08 18 56.8 -2.5**
SFTF *e*Sg **Sg** **08 20 18.4 -1.5**
25nm,0.4s
PVIS Viseu 6.30 250 *e*Sn **Sn** **08 19 41.3 -3.4**
PVIS A 08 19 43.1
14nm,0.2s
PVIS Viseu 6.30 250 Pn **Pn** **08 18 33.4 +0.6**
PVIS Sn **Sn** **08 19 40.7 -4.0**
ENIJ Nijar 6.35 196 Pn **Pn** **08 18 34.4 +0.9**
0.9nm,0.1s,SNR=7.9
ENIJ Pg **Pg** **08 18 56.1 -5.7**
4.0nm,0.3s,SNR=7.9
ENIJ Sn **Sn** **08 19 41.4 -4.5**
6.3nm,0.6s,SNR=7.9
ELUQ Luque 6.41 211 Pg **Pg** **08 18 57.3 -5.5**
5.0nm,0.2s,SNR=7.9
ELUQ Sn **Sn** **08 19 43.0 -4.2**
6.7nm,0.3s,SNR=5.7
ECOG Cogollos-Vega 6.42 206 Pn **Pn** **08 18 35.4 +1.0**
0.9nm,0.2s,SNR=7.9
ECOG Sn **Sn** **08 19 43.0 -4.4**
14nm,0.8s,SNR=7.9
ECOG Lg 08 20 22.7
6.8nm,0.7s,SNR=7.9
ECOG Cogollos-Vega 6.42 206 Pn **Pn** **08 18 35.4 +1.1**
0.9nm,0.2s,SNR=7.9
ECOG Sn **Sn** **08 19 43.0 -4.4**
14nm,0.8s,SNR=7.9
EZAM Zamans 6.43 264 Pn **Pn** **08 18 36.0 +1.5**
17nm,0.3s,SNR=7.9
EZAM Sn **Sn** **08 19 46.2 -1.5**
27nm,0.4s,SNR=7.9
EZAM Lg 08 20 27.0
2.9nm,0.5s,SNR=7.9
EZAM Zamans 6.43 264 Pn **Pn** **08 18 36.0 +1.5**
17nm,0.3s,SNR=7.9
EZAM Sn **Sn** **08 19 46.2 -1.5**
27nm,0.4s,SNR=7.9
EQUE Quentar 6.44 205 Pn **Pn** **08 18 35.8 +1.1**
2.3nm,0.3s,SNR=8.2
EQUE Sn **Sn** **08 19 43.6 -4.5**
3.1nm,0.4s,SNR=5.2
EQUE Lg 08 20 23.9
3.5nm,0.4s,SNR=5.0
EQUE Quentar 6.44 205 Pn **Pn** **08 18 35.8 +1.1**
2.3nm,0.3s,SNR=8.2
EQUE Sn **Sn** **08 19 43.6 -4.5**
3.1nm,0.4s,SNR=5.2
PCBR Castelo Branco 6.45 242 *e*Pn **Pn** **08 18 35.3 +0.5**
PCBR *e*Sn **Sn** **08 19 44.1 -4.1**
PCBR A 08 20 23.7
17nm,0.6s
PCBR Castelo Branco 6.45 242 Pn **Pn** **08 18 35.2 +0.4**
PCBR Sn **Sn** **08 19 43.9 -4.3**
MEZF Maizieres J'vi 6.47 32 *e*Pg **Pg** **08 19 01.6 -2.4**
baz=214
MEZF *e*Sg **Sg** **08 20 25.8 -1.9**
78nm,0.4s
MEZF Maizieres J'vi 6.47 32 *e*Pn **Pn** **08 18 36.0 +0.9**
MEZF *e*Pg **Pg** **08 19 01.6 -2.4**
MEZF *e*Sg **Sg** **08 20 25.8 -1.9**
MEZF Maizieres J'vi 6.47 32 Pn **Pn** **08 18 36.0 +0.9**
MEZF Pg **Pg** **08 19 01.6 -2.4**
MEZF Maizieres J'vi 6.47 32 *e*Pg **Pg** **08 19 01.6 -2.4**
MEZF *e*Sg **Sg** **08 20 25.8 -1.9**
39nm,0.4s
EMAZ Mazaricos 6.52 272 Pn **Pn** **08 18 37.6 +1.8**
11nm,0.2s,SNR=26

EMAZ				Sn	Sn	08 19 48.5	-1.5
	5.0nm,0.6s,SNR=7.9						
EMAZ				Lg		08 20 30.5	
	6.0nm,0.3s,SNR=5.0						
EMAZ	**Mazaricos**	**6.52**	**272**	Pn	**Pn**	**08 18 37.6**	**+1.8**
	11nm,0.2s,SNR=26						
EMAZ				Sn	Sn	08 19 48.5	-1.5
	5.0nm,0.6s,SNR=7.9						
EBER	**Berja**	**6.58**	**200**	Pn	**Pn**	**08 18 37.6**	**+1.1**
	6.7nm,0.3s,SNR=7.9						
EBER				Sn	Sn	08 19 46.5	-4.9
	13nm,0.5s,SNR=7.9						
EBER				Lg		08 20 28.3	
	5.7nm,0.4s,SNR=7.9						
EBER	**Berja**	**6.58**	**200**	Pn	**Pn**	**08 18 37.6**	**+1.0**
	6.7nm,0.3s,SNR=7.9						
HAU	**Haudompre**	**6.65**	**40**	*e*Pg	**Pg**	**08 19 05.1**	**-2.4**
HAU				*e*Sg	**Sg**	**08 20 31.3**	**-2.3**
	42nm,0.6s						
HAU	**Haudompre**	**6.65**	**40**	*e*Pg	**Pg**	**08 19 05.1**	**-2.4**
HAU				*e*Sg	**Sg**	**08 20 31.3**	**-2.3**
	21nm,0.6s						
PGF	**Pioggiola**	**6.70**	**92**	*e*Pn	**Pn**	**08 18 38.2**	**-0.1**
	SNR=1.0						
PGF				*e*Sn	Sn	08 19 50.6	-3.9
	15nm,0.4s,SNR=1.0						
PGF	**Pioggiola**	**6.70**	**92**	*e*Pn	**Pn**	**08 18 38.2**	**-0.1**
	SNR=1.0						
PGF				*e*Sn	Sn	08 19 50.6	-3.9
	7.5nm,0.4s,SNR=1.0						
ERON	**Agron**	**6.73**	**206**	Pn	**Pn**	**08 18 39.8**	**+1.1**
	4.5nm,0.5s,SNR=7.9						
ERON				Sn	Sn	08 19 51.4	-3.7
	6.8nm,1.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**6.73**	**209**	Pn	**Pn**	**08 18 39.3**	**+0.6**
	1.2nm,0.4s,SNR=7.9						
ELOJ				Sn	Sn	08 19 51.1	-4.0
	9.0nm,0.8s,SNR=7.9						
RFYF	**Reffroy**	**6.74**	**33**	*e*Pn	**Pn**	**08 18 39.3**	**+0.6**
	baz=215						
RFYF				*e*Sg	Sg	08 20 34.7	-1.6
	55nm,0.5s						
RFYF	**Reffroy**	**6.74**	**33**	*e*Pn	**Pn**	**08 18 39.3**	**+0.6**
RFYF				*e*Sg	**Sg**	**08 20 34.7**	**-1.6**
	28nm,0.5s						
HINF	**Hinteralfeld**	**6.77**	**44**	*e*Pg	**Pg**	**08 19 07.9**	**-1.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**08 20 35.6**	**-1.8**
	27nm,0.5s						
HINF	**Hinterlalfeld**	**6.77**	**44**	*e*Pn	**Pn**	**08 18 39.6**	**+0.4**
HINF				*e*Pg	**Pg**	**08 19 07.9**	**-1.8**
HINF				*e*Sg	**Sg**	**08 20 35.6**	**-1.8**
HINF	**Hinterlalfeld**	**6.77**	**44**	Pn	**Pn**	**08 18 39.6**	**+0.4**
HINF				Pg	**Pg**	**08 19 07.9**	**-1.8**
HINF	**Hinterlalfeld**	**6.77**	**44**	*e*Pg	**Pg**	**08 19 07.9**	**-1.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**08 20 35.6**	**-1.8**
	14nm,0.5s						
EBAD	**Badajoz**	**6.82**	**233**	Pn	**Pn**	**08 18 40.1**	**+0.2**
	3.5nm,0.3s,SNR=16						
EBAD				Sn	Sn	08 19 53.1	-4.4
	15nm,0.4s,SNR=8.6						
EBAD				Lg		08 20 37.5	
	9.4nm,0.3s,SNR=5.0						
EBAD	**Badajoz**	**6.82**	**233**	Pn	**Pn**	**08 18 40.1**	**+0.2**
	3.5nm,0.3s,SNR=16						
EBAD				Sn	Sn	08 19 53.1	-4.3
	15nm,0.4s,SNR=8.6						
EGUA	**Guajares**	**6.82**	**204**	Pn	**Pn**	**08 18 40.8**	**+0.9**
	0.2nm,0.5s,SNR=7.9						
EGUA				Sn	Sn	08 19 52.4	-5.1
	3.1nm,1.8s,SNR=7.9						
EGUA				Lg		08 20 36.0	
	0.9nm,2.0s,SNR=7.9						
PESTR	**Estremoz**	**7.09**	**236**	*e*Pn	**Pn**	**08 18 43.9**	**+0.3**
PESTR				*e*Sn	**Sn**	**08 20 00.2**	**-3.9**
PESTR				A		08 20 49.6	
	14nm,0.3s						
PESTR	**Estremoz**	**7.09**	**236**	*e*Pn	**Pn**	**08 18 43.9**	**+0.3**
PESTR				*e*Sn	**Sn**	**08 20 00.2**	**-3.9**
	14nm,0.3s						
EMIN	**Mina Concepcio**	**7.34**	**225**	Pn	**Pn**	**08 18 47.5**	**+0.5**
	0.9nm,0.4s,SNR=6.6						
EMIN				Sn	Sn	08 20 04.5	-5.6
	6.3nm,0.4s,SNR=6.1						
EMIN				Lg		08 20 52.1	
	2.0nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**7.34**	**225**	Pn	**Pn**	**08 18 47.5**	**+0.5**
	0.9nm,0.4s,SNR=6.6						
CDF	**Champ du Feu**	**7.38**	**42**	*e*Pg	Px	08 19 20.6	
	SNR=1.0						
CDF				*e*Sg	Sx	08 20 54.1	
	13nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**7.38**	**42**	*e*Pg	Px	08 19 20.6	
	SNR=1.0						
CDF				*e*Sg	Sx	08 20 54.1	
	6.6nm,0.4s,SNR=1.0						
EMIJ	**Mijas**	**7.47**	**210**	Pn	**Pn**	**08 18 49.8**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
EMIJ				Sn	Sn	08 20 08.3	-5.2
	26nm,1.6s,SNR=7.9						
EMIJ				Lg		08 20 57.4	
	3.6nm,0.4s,SNR=7.9						
BAIF	**Baives**	**7.54**	**22**	*e*Pn	**Pn**	**08 18 50.2**	**+0.4**
BAIF				*e*Sn	**Sn**	**08 20 11.0**	**-4.2**
BAIF				*e*Sg	Sn	08 20 59.9	+45
	22nm,0.6s						
BAIF	**Baives**	**7.54**	**22**	Pn	**Pn**	**08 18 50.2**	**+0.4**
BAIF				Sn	**Sn**	**08 20 11.0**	**-4.2**
BAIF	**Baives**	**7.54**	**22**	*e*Pn	**Pn**	**08 18 50.2**	**+0.4**
BAIF				*e*Sn	**Sn**	**08 20 11.0**	**-4.2**
BAIF				*e*Sg	Sn	08 20 59.9	+45
	11nm,0.6s						
ESPR	**Espera**	**7.66**	**217**	Pn	**Pn**	**08 18 52.4**	**+1.0**
	2.0nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**08 20 13.1**	**-4.8**
	15nm,1.3s,SNR=7.9						
ESPR				Lg		08 21 02.7	
	3.4nm,0.3s,SNR=7.9						
ESPR	**Espera**	**7.66**	**217**	Pn	**Pn**	**08 18 52.4**	**+1.0**
	2.0nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**08 20 13.1**	**-4.8**
	15nm,1.3s,SNR=7.9						
DOU	**Dourbes**	**7.68**	**23**	P	**Pn**	**08 18 51.9**	**+0.1**
DOU				E		19 37 53.5	
GIVF	**Givet**	**7.76**	**24**	*e*Pn	**Pn**	**08 18 53.6**	**+0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**08 20 16.2**	**-4.2**
GIVF				*e*Sg	Sn	08 21 06.1	+46
	30nm,0.6s						
GIVF	**Givet**	**7.76**	**24**	Pn	**Pn**	**08 18 53.6**	**+0.8**
GIVF				Sn	**Sn**	**08 20 16.2**	**-4.2**
GIVF	**Givet**	**7.76**	**24**	*e*Pn	**Pn**	**08 18 53.6**	**+0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**08 20 16.2**	**-4.2**
GIVF				*e*Sg	Sn	08 21 06.1	+46
	15nm,0.6s						
MOE	**Montemor**	**7.77**	**237**	*e*Pn	**Pn**	**08 18 53.1**	**+0.2**
MOE				*e*Sn	**Sn**	**08 20 16.0**	**-4.8**
PBEJ	**Beja**	**7.81**	**232**	*e*Pn	**Pn**	**08 18 53.5**	**0.0**
PBEJ				*e*Sn	**Sn**	**08 20 16.4**	**-5.3**
PBEJ				A		08 20 19.4	
	8.0nm,0.4s						
PBEJ	**Beja**	**7.81**	**232**	Pn	**Pn**	**08 18 53.4**	**-0.1**
PBEJ				*e*Sn	**Sn**	**08 20 16.4**	**-5.3**
	8.0nm,0.4s						
EJIF	**Jimena Fronter**	**7.84**	**214**	Pn	**Pn**	**08 18 55.0**	**+1.1**
	1.3nm,0.3s,SNR=7.9						
EJIF				Pg	Pn	08 19 23.3	+29
	1.6nm,0.3s,SNR=7.9						
EJIF				Lg		08 21 08.8	
	9.0nm,0.7s,SNR=7.9						
EGRO	**El Granado**	**7.94**	**228**	Pn	**Pn**	**08 18 55.0**	**-0.3**
	0.6nm,0.2s,SNR=10						
EGRO				Sn	**Sn**	**08 20 19.8**	**-5.2**
	3.4nm,0.3s,SNR=4.9						
EGRO				Lg		08 21 12.5	
	20nm,1.4s,SNR=7.9						
EGRO	**El Granado**	**7.94**	**228**	Pn	**Pn**	**08 18 55.0**	**-0.3**
	0.6nm,0.2s,SNR=10						
PTEO	**Sao Teotonio**	**8.63**	**233**	*e*Pn	**Pn**	**08 19 04.4**	**-0.4**
PTEO				*e*Sn	**Sn**	**08 20 37.0**	**-5.0**
PTEO	**Sao Teotonio**	**8.63**	**233**	Pn	**Pn**	**08 19 04.4**	**-0.4**
PTEO				Sn	**Sn**	**08 20 35.3**	**-6.7**

IDC 16 08:20:16.4±5.0, 1783S×17489W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/24, Error ellipse: s-maj=179.4km s-min=100.8km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.70**	**193**	LR	LR	08 26 16.2	
	comp=Z,275nm,20.9s,baz=144,slow=31						
STKA	**Stephens Creek**	**41.62**	**242**	P	P	08 28 07.1	+0.9
	6.5nm,1.4s,baz=87,slow=6.7,SNR=3.1						
WRA	**Warramunga Arr**	**47.94**	**259**	P	P	08 28 56.9	+0.2
	0.5nm,0.4s,baz=98,slow=7.8,SNR=26						
ASAR	**Alice Springs**	**48.04**	**254**	P	P	08 28 57.5	+0.2
	1.0nm,0.5s,baz=86,slow=8.1,SNR=20						
ASAR				PcP	PcP	08 30 25.5	+0.2
	0.3nm,0.5s,baz=100,slow=3.7,SNR=5.1						

MEX 16 08:20:36.1±0.9, 1738N×10076W, h16km±104km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.57**	**125**	*i* P	Pg	08 20 45.4	-1.9
CAIG				*i* S	Sg	08 20 52.5	-2.4
ACX	**Acapulco**	**0.95**	**122**	*i* P	Pb	08 20 51.0	-3.2
ACX				*i* S	Sb	08 21 04.0	-2.5
MEIG	**Mezcala**	**1.21**	**63**	*i* P	Pn	08 20 54.7	-3.7
MEIG				*i* S	Sb	08 21 08.6	-5.5
PLIG	**Platanillo**	**1.56**	**50**	*i* P	Pn	08 21 00.7	-2.6
PLIG				*i* S	Sn	08 21 17.7	-5.6

*NEIC **16** 08:54:54.1±1.4, 1267S×16900E, h648km±15km, mb4.2/3, Error ellipse: s-maj=20.6km s-min=17.1km az=99.0*
*ISCJB **16** 08:54:55.0±1.3, 128S±0.1×1689E±0.1, h682km±15km, mb3.8/11, Error ellipse: s-maj=21.0km s-min=19.1km az=102.5*
*IDC **16** 08:54:55.9±1.8, 1272S×16893E, h682km±21km, mb3.0/9, mb1 3.2/11, mb1mx3.1/19, mbtmp3.1/11, Error ellipse: s-maj=22.7km s-min=14.8km az=151.0*

ISC 16 08:54:54.7±1.5, 127S±01×1690E±01, h666km±19km, n44, σ0§60/18, mb3.8/11, 2C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.50**	**289**	P	**P**	**08 57 09.1**	**-0.8**
	10nm,0.3s,baz=270,slow=9.1,SNR=4.4						
DZM	**Mont Dzumac**	**9.63**	**195**	P	**P**	**08 57 11.1**	**0.0**
	0.4nm,0.3s,baz=92,slow=14,SNR=4.6						
CTA	**Charters Tower**	**23.04**	**248**	P	**P**	**08 59 12.1**	**-0.6**
	3.3nm,0.8s,mb3.8,baz=68,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**31.61**	**228**	P	**P**	**09 00 27.2**	**+0.5**
	0.6nm,0.4s,mb3.5,baz=72,slow=13,SNR=5.4						
STKA	**Stephens Creek**	**31.61**	**228**	P	**P**	**09 00 27.2**	**+0.5**
WB2	**Warramunga Arr**	**34.01**	**253**	⇑*i* P	**P**	**09 00 46.9**	**+0.2**
WRA	**Warramunga Arr**	**34.02**	**253**	P	**P**	**09 00 47.1**	**+0.3**
	4.3nm,0.4s,mb4.3,baz=84,slow=8.7,SNR=99						
WRA				S	**S**	**09 05 26.7**	**-1.2**
	20nm,1.5s,baz=84,slow=14,SNR=4.7						
ASAR	**Alice Springs**	**35.02**	**247**	P	**P**	**09 00 55.5**	**+0.5**
	4.0nm,0.4s,mb4.3,baz=72,slow=9.7,SNR=59						
ASAR				S	**S**	**09 05 42.0**	**-0.9**
	1.3nm,0.7s,baz=76,slow=16,SNR=9.6						
KAKA	**Kakadu**	**35.69**	**266**	⇑*i* P	**P**	**09 01 01.1**	**+0.6**
	5.6nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**42.11**	**257**	*e*P	**P**	**09 01 52.8**	**+1.1**
	2.6nm,0.9s,mb3.7						
FITZ	**Fitzroy Crossi**	**42.11**	**257**	P	**P**	**09 01 52.3**	**+0.6**
	0.8nm,0.5s,mb3.5,baz=91,slow=6.4,SNR=4.0						
VNDA	**Vanda**	**64.91**	**182**	P	**P**	**09 04 30.9**	**-0.3**
	0.4nm,0.7s,mb2.9,baz=346,slow=5.7,SNR=4.0						
SONM	**Songino Array**	**81.92**	**323**	P	**P**	**09 06 07.8**	**+0.7**
	0.5nm,0.6s,mb3.2,baz=139,slow=3.8,SNR=3.8						
MAW	**Mawson**	**84.39**	**202**	*e*P	**P**	**09 06 19.2**	**-0.1**
	5.8nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**94.98**	**27**	P	**P**	**09 07 07.3**	**-1.0**
	0.6nm,0.7s,mb3.8,baz=258,slow=4.9,SNR=11						
MKAR	**Makanchi Array**	**96.94**	**316**	P	**P**	**09 07 17.4**	**+0.3**
	0.3nm,0.4s,mb3.9,baz=83,slow=6.0,SNR=3.4						
ARCES	**ARCESS Array B**	**118.73**	**346**	PKP	PKPdf	09 12 28.4	-0.9
	1.1nm,0.3s,baz=61,slow=2.2,SNR=31						
FINES	**FINESS Array B**	**124.47**	**339**	PKP	PKPdf	09 12 38.5	-1.8
	3.8nm,1.0s,baz=35,slow=3.4,SNR=3.1						
NOA	**NORSAR Array B**	**129.11**	**346**	PKP	PKPdf	09 12 49.0	-0.1
	0.9nm,0.9s,baz=0.7,slow=3.6,SNR=2.6						
FLN	**La Foliniere**	**143.02**	**348**	*e*PKP1	PKPdf	09 13 12.9	-1.8
LDF	**La Druitiere**	**143.11**	**348**	*e*PKP1	PKPdf	09 13 14.0	-0.9
CABF	**La Chapelle**	**143.28**	**340**	*e*PKP1	PKPdf	09 13 15.3	+0.1
	9.0nm,0.7s						
LOR	**Lormes**	**143.37**	**343**	*e*PKP1	PKPdf	09 13 15.3	0.0
GRR	**Gorron**	**143.45**	**349**	*e*PKP1	PKPdf	09 13 14.7	-0.8
	10nm,0.5s						
SSF	**Saint Saulge**	**143.66**	**343**	*e*PKP1	PKPdf	09 13 15.7	-0.1
	15nm,0.8s						
SMF	**Signal de Mont**	**143.94**	**343**	*e*PKP1	PKPdf	09 13 16.8	+0.5
	6.8nm,0.4s						
AVF	**Avril sur Loir**	**143.95**	**343**	*e*PKP1	PKPdf	09 13 16.7	+0.4
LPL	**La Plagne**	**144.01**	**339**	*e*PKP1	PKPdf	09 13 17.1	+0.7
LPG	**La Plagne**	**144.02**	**339**	*e*PKP1	PKPdf	09 13 17.2	+0.7
	3.4nm,0.6s						
BGF	**Bois d'Agland**	**144.31**	**344**	*e*PKP1	PKPdf	09 13 17.5	+0.5
	10nm,0.6s						
TCF	**Toulx Ste Croi**	**144.73**	**344**	*e*PKP1	PKPdf	09 13 19.2	+1.5
ORIF	**Oris-en-Rattie**	**144.83**	**339**	*e*PKP1	PKPdf	09 13 20.0	+2.1
	7.1nm,0.7s						
MFF	**Saint Martin d**	**145.01**	**347**	*e*PKP1	PKPbc	09 13 19.6	+0.3
	10nm,0.5s						
SBF	**Sospel**	**145.16**	**336**	*e*PKP1	PKPbc	09 13 21.1	+1.4
	18nm,0.5s						
PGF	**Pioggiola**	**145.60**	**333**	*e*PKP1	PKPbc	09 13 21.7	+0.7
	9.9nm,0.7s						
FRF	**La Foret Royal**	**145.72**	**337**	*e*PKP1	PKPbc	09 13 21.9	+0.6
RJF	**Les Rejaudoux**	**145.82**	**344**	*e*PKP1	PKPbc	09 13 22.0	+0.4
	4.3nm,0.5s						
LMR	**La Mourre**	**145.96**	**337**	*e*PKP1	PKPbc	09 13 22.0	0.0
CAF	**Calviac**	**146.02**	**343**	*e*PKP1	PKPbc	09 13 22.7	+0.6
LFF	**La Frestale**	**146.36**	**345**	*e*PKP1	PKPbc	09 13 23.5	+0.4
	11nm,0.6s						
MTLF	**Montolieu**	**147.43**	**342**	*e*PKP1	PKPbc	09 13 26.5	+0.7
	3.6nm,0.6s						
EPF	**Esparros**	**148.25**	**344**	*e*PKP1	PKPbc	09 13 28.7	+0.8
	4.4nm,0.7s						
ETSF	**Etsaut**	**148.60**	**345**	*e*PKP1	PKPbc	09 13 30.2	+1.4
TORD	**Torodi Ar. Bea**	**167.66**	**273**	PKPab	PKPab	09 14 57.1	-0.9
	0.3nm,0.7s,baz=48,slow=2.1,SNR=2.4						

CASC 16 08:59:57.9±1.5, 1467N×9234W, h75km±21km, MD3.7, 2C-7D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.76**	**117**	⇓*e*P	Pn	09 00 13.9	0.0
FUG	**Fuego 3**	**1.47**	**98**	⇓*e*P	Pn	09 00 23.4	+0.8
TER	**Terranova**	**1.64**	**102**	⇓*e*P	Pn	09 00 25.2	+0.3
TER				*e*S	Sn	09 00 46.1	+0.8
PCG	**Pacaya**	**1.70**	**99**	*e*P	Pn	09 00 25.7	0.0
RBDL	**Robledal**	**2.63**	**102**	⇑*e*P	x	09 01 22.5	
RBDL				*e*S	x	09 01 54.7	
RTR	**El Retiro**	**2.72**	**106**	⇓*e*P	x	09 01 23.8	
RTR				*e*S	x	09 01 56.6	
SBLS	**San Blas**	**2.76**	**107**	⇓*e*P	x	09 01 23.9	
SBLS				*e*S	x	09 01 57.2	
SNJE	**San Jose**	**2.77**	**106**	⇓*e*P	x	09 01 24.2	
SNJE				*e*S	x	09 01 58.2	
BOQS	**Boqueron**	**3.11**	**107**	*e*P	x	09 01 28.4	
BOQS				*e*S	x	09 02 06.9	
LBRS	**Las Brisas**	**3.33**	**106**	*e*P	x	09 01 31.5	
LBRS				*e*S	x	09 02 10.2	
LFRS	**El Faro**	**3.34**	**108**	⇓*e*P	x	09 01 31.7	
LFRS				*e*S	x	09 02 10.6	
LCBS	**La Ceiba**	**3.41**	**107**	⇓*e*P	x	09 01 33.1	
LCBS				*e*S	x	09 02 13.1	
SNVI	**San Vicente**	**3.55**	**107**	*e*P	x	09 01 29.2	
SNVI				*e*S	x	09 02 11.3	

IDC 16 09:07:54.4±2.8, 1273S×16885E, h682km±36km, mb3.1/3, mb1 3.2/4, mb1mx2.9/16, mbtmp3.1/4, 1C, Error ellipse: s-maj=41.2km s-min=17.3km az=175.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.57**	**194**	P	P	09 10 08.6	-1.8
	0.6nm,0.3s,baz=94,slow=13,SNR=11						
RAO	**Raoul Island**	**20.53**	**145**	P	P	09 11 50.1	+0.4
	203nm,0.4s,baz=156,slow=22,SNR=3.4						
STKA	**Stephens Creek**	**31.46**	**228**	P	P	09 13 25.2	+0.7
	1.1nm,0.4s,baz=71,slow=6.8,SNR=5.6						
WB2	**Warramunga Arr**	**33.83**	**253**	⇑*i* P	P	09 13 44.5	+0.3
WRA	**Warramunga Arr**	**33.84**	**253**	P	P	09 13 44.8	+0.5
	2.5nm,0.4s,baz=84,slow=8.7,SNR=76						
WRA				S	S	09 18 24.2	+0.5
	0.8nm,0.7s,baz=87,slow=13,SNR=7.1						
ASAR	**Alice Springs**	**34.85**	**247**	P	P	09 13 53.3	+0.7
	3.4nm,0.4s,baz=73,slow=9.4,SNR=67						
ASAR				S	S	09 18 40.0	+1.2
	0.9nm,0.9s,baz=75,slow=16,SNR=8.0						
ARCES	**ARCESS Array B**	**118.70**	**346**	PKP	PKPdf	09 25 26.2	-1.2
	3.7nm,0.9s,baz=63,slow=2.3,SNR=6.9						

*IDC **16** 09:20:34.5±2.0, 4035N×5192E, h0km, mb3.9/9, mb1 4.1/14, mb1mx3.9/26, mbtmp4.0/14, ML4.5/2, MS3.2/4, Ms1 3.2/4, ms1mx2.6/34, Error ellipse: s-maj=39.7km s-min=14.7km az=161.0*
*CSEM **16** 09:20:37.4±0.1, 4073N×5193E, h16km, mb4.2/4, Error ellipse: s-maj=2.6km s-min=1.9km az=95.0*
*NEIC **16** 09:20:38.6±1.0, 4073N×5193E, h10km, mb3.9/5, Error ellipse: s-maj=20.1km s-min=6.5km az=170.0*
*THR **16** 09:20:38.8±0.3, 4059N×5189E, h15km, ML4.2*
*ISCJB **16** 09:20:38.4±1.2, 4071N±004×5196E±004, h23km±11km, mb3.9/13, MS3.1/4, Error ellipse: s-maj=6.5km s-min=4.5km az=1.5*
*MOS **16** 09:20:39.6±0.9, 4073N×5190E, h33km, mb4.3/2, Error ellipse: s-maj=9.4km s-min=7.2km az=117.2*
*NNC **16** 09:20:44.9±6.9, 4136N×5204E, h0km, mb3.6, Error ellipse: s-maj=88.1km s-min=55.9km az=104.0*

ISC 16 09:20:38.7±1.8, 4072N±004×5199E±004, h10km±13km, n78, σ1§02/90, mb3.9/13, MS3.1/4, 5C-10D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**3.69**	**240**	*e*Pn	**Pn**	**09 21 35.6**	**-0.2**
GRMI				AML	AML	09 22 17.6	
	comp=E,438nm,0.2s						
MRVT	**Maraveh tapeh**	**4.42**	**133**	*e*Pn	**Pn**	**09 21 47.0**	**+1.2**
CHTH	**Charan**	**4.86**	**188**	*e*Pn	**Pn**	**09 21 51.7**	**-0.1**
CHTH				AML	AML	09 22 44.5	
	comp=N,65nm,0.3s						
THKV	**Tehran--Karaj**	**4.88**	**191**	*e*Pn	**Pn**	**09 21 51.8**	**-0.3**
THKV				AML	AML	09 22 46.1	
	comp=N,323nm,0.4s						
DGRG	**David-gareji**	**5.05**	**280**	P	**Pn**	**09 21 57.2**	**+2.7**
DGRG				S	**Sn**	**09 22 54.6**	**+1.6**
DAMV	**Damavand**	**5.09**	**180**	*e*Pn	**Pn**	**09 21 55.2**	**+0.2**
DAMV				AML	AML	09 22 51.5	
	comp=N,221nm,0.5s						
MTA	**Mtatsminda**	**5.51**	**282**	P	**Pb**	**09 22 14.7**	**-0.4**
MTA				S	**Sn**	**09 23 03.6**	**-0.7**
GNI	**Garni**	**5.56**	**266**	Pn	**Pn**	**09 22 01.4**	**-0.1**
	comp=N,1.0nm,0.3s,baz=126,slow=8.7,SNR=2.7						
GNI	**Garni**	**5.56**	**266**	*i* P	**Pn**	**09 22 02.0**	**+0.5**
DUS	**Dusheti**	**5.65**	**286**	P	**Pn**	**09 22 02.1**	**-0.6**
DUS				S	**Sn**	**09 23 09.4**	**+1.8**
GOR	**Gori**	**6.06**	**285**	S	**Sn**	**09 23 18.2**	**+0.4**
ASAO	**Ashtian**	**6.36**	**195**	*e*Pn	**Pn**	**09 22 12.6**	**+0.1**
PYA	**Pyatigorsk**	**7.39**	**300**	*e*P	**Pn**	**09 22 28.2**	**+1.5**
SHAR	**Shatzhatmas**	**7.54**	**297**	*e*P	**Pn**	**09 22 31.3**	**+2.6**
KIV	**Kislovodsk**	**7.61**	**298**	*i* P	**Pn**	**09 22 29.2**	**-0.4**
KIV				*e*S	**Sn**	**09 23 56.0**	**+0.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**7.61**	**298**	*i* P	**Pn**	**09 22 29.2**	**-0.4**
	comp=Z,5.0nm,1.0s						
NASN	**Na'in**	**7.94**	**175**	*e*Pn	**Pn**	**09 22 34.3**	**+0.2**
SOC	**Sochi**	**9.55**	**291**	*e*P	**Pn**	**09 22 55.7**	**-0.6**
AB31	**Akbulak array**	**10.22**	**31**	P	**Pn**	**09 23 04.8**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=212,slow=14,SNR=58						
AB31				⇓S	**Sn**	**09 24 55.4**	**-4.6**
	comp=Z,26nm,0.6s,baz=221,slow=26						
AKTK	**Aktyubinsk**	**10.59**	**21**	Pn	**Pn**	**09 23 10.6**	**+0.2**
AKTK				Sn	**Sn**	**09 25 03.1**	**-6.0**
AKTK	**Aktyubinsk**	**10.59**	**21**	P	**Pn**	**09 23 10.6**	**+0.2**
	comp=Z,3.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.59**	**21**	⇓P	**Pn**	**09 23 10.4**	**0.0**
	comp=Z,0.2nm,0.8s						
AKTO				⇓S	**Sn**	**09 25 03.2**	**-5.8**
	comp=Z,0.6nm,0.5s						
AKTO	**Aktyubinsk**	**10.59**	**21**	Pn	**Pn**	**09 23 10.6**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=198,slow=11,SNR=21						
AKTO				Sn	**Sn**	**09 25 03.1**	**-6.0**
	comp=Z,4.9nm,0.3s,baz=350,slow=24,SNR=13						
AKTO	**Aktyubinsk**	**10.59**	**21**	P	**Pn**	**09 23 10.6**	**+0.2**
AKTO						09 25 03.1	
AKTO				pmax	pmax		
	comp

GZR	Gura Zlata	21.79 292	⇑ *i*P	P	09 25 30.4	-0.3
DRGR		21.92 296	⇓ *i*P	P	09 25 35.9	+3.7
BZS	Buzias	22.61 293	⇓ *i*P	P	09 25 34.3	-5.2
MK31	Makanchi Array	22.62 64	*e*P	P	09 25 40.2	+0.6
MKAR	Makanchi Array	22.62 64	⇑ *e*P	P	09 25 40.1	+0.5
	comp=Z,2.1nm,0.9s,mb3.5,baz=261,slow=9.5,SNR=8.8					
MKAR	Makanchi Array	22.62 64	⇑ *e*P	P	09 25 40.4	+0.8
JOF	Joensuu	25.41 338	*e*p	P	09 26 06.0	-0.3
	comp=Z,2.9nm,0.3s,mb4.3					
ZAL	Zalesovo	25.60 48	P	P	09 26 07.9	-0.2
	comp=Z,0.9nm,0.6s,mb3.5,baz=206,slow=8.8,SNR=5.6					
ZAL			LR	LR	09 37 44.1	
	comp=Z,48nm,19.8s,MS3.0,baz=267,slow=40					
FINES	FINESS Array B	26.05 331	P	P	09 26 11.5	-0.7
	comp=Z,5.1nm,1.0s,mb4.0,baz=144,slow=13,SNR=15					
FINES			Pn	P	09 26 23.5	+11
	comp=Z,3.1nm,0.5s,mb4.1,baz=141,slow=12,SNR=3.0					
FINES	FINESS Array B	26.05 331	P	P	09 26 11.5	-0.7
FINES			Pn	P	09 26 23.5	+11
VRAC	Vranov	26.25 301	LR	LR	09 36 32.5	
	comp=Z,44nm,18.3s,MS3.0,baz=208,slow=36					
KAF	Kangasniemi	26.41 333	*e*p	P	09 26 17.3	+1.9
	comp=Z,0.6nm,0.3s,mb3.6					
KAF	Kangasniemi	26.41 333	*e*P	P	09 26 17.3	+1.9
KAF			pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8					
GERES	GERESS Array B	28.12 300	P	P	09 26 30.2	-0.6
	comp=Z,0.7nm,0.5s,mb3.6,baz=91,slow=8.4,SNR=9.8					
HFS	Hagfors	30.55 322	P	P	09 26 51.3	-1.1
	comp=Z,1.3nm,0.3s,mb4.2,baz=104,slow=9.5,SNR=18					
HFS			Pn	P	09 27 02.5	+10
	comp=Z,3.2nm,0.6s,mb4.3,baz=108,slow=9.8,SNR=3.2					
NB2	NORSAR Subarra	32.02 323	P	P	09 27 04.2	-1.1
	comp=Z,0.9nm,0.6s,mb3.8,baz=111,slow=9.3					
NOA	NORSAR Array B	32.02 323	P	P	09 27 03.9	-1.4
	comp=Z,0.8nm,0.6s,mb3.8,baz=114,slow=8.4,SNR=3.4					
NOA			Pn	P	09 27 15.2	+10
	comp=Z,1.7nm,0.8s,mb3.9,baz=113,slow=8.4,SNR=3.6					
NOA			LR	LR	09 42 26.0	
	comp=Z,22nm,19.9s,MS2.9,baz=310,slow=41					
NOA	NORSAR Array B	32.02 323	P	P	09 27 03.9	-1.4
NOA					09 27 15.2	
ARCES	ARCESS Array B	32.05 343	P	P	09 27 05.0	-0.5
	comp=Z,3.7nm,1.0s,mb4.2,baz=149,slow=9.6,SNR=6.4					
ULN	Ulaanbaatar	39.33 61	*i* P	P	09 28 06.2	-1.8
KMBO	Kilima Mbogo	43.76 202	LR	LR	09 48 48.0	
	comp=Z,46nm,20.5s,MS3.4,baz=90,slow=39					
SCHQ	Schefferville	71.45 328	P	P	09 31 57.8	-1.6
	comp=Z,2.5nm,0.9s,mb4.1,baz=42,slow=14,SNR=3.5					
YKA	Yellowknife Ar	76.57 354	P	P	09 32 26.7	-2.5
	comp=Z,0.1nm,0.6s,mb2.9,baz=7.5,slow=6.0,SNR=5.9					

JMA 16 09:21:00.8±0.6, 4425N×15121E, h30km, M4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	4.05	259	P	Pn	09 22 00.2	-0.6
NEM2				*e*S	Sn	09 22 44.4	-2.8
JRA	Rausu	4.40	268	P	Pn	09 22 06.7	+1.2
JRA				*e*S	Sn	09 22 56.3	+0.6
JNK	Nakash	4.74	264	P	Pn	09 22 10.7	+0.6
JNK				*e*S	Sn	09 23 01.8	-2.2
JAK	Akkeshi	4.89	257	P	Pn	09 22 11.6	-0.7
JAK				*e*S	Sn	09 23 04.3	-3.6
JTKR	Abashiri--Toko	5.26	269	P	Pn	09 22 19.4	+2.0
JAR	Ashorobuto	5.47	263	P	Pn	09 22 21.1	+0.9
JAR				*e*S	Sn	09 23 20.7	-1.4
JOB	Onbets	5.52	258	P	Pn	09 22 20.7	-0.3
JOB				*e*S	Sn	09 23 20.1	-3.4
JMP	Maruseppu	5.66	270	P	Pn	09 22 26.1	+3.3
JCH	Churui	5.94	257	P	Pn	09 22 26.8	+0.1
JCH				*e*S	Sn	09 23 29.7	-4.1
JNBK	Urakawa-nobuka	6.48	255	P	Pn	09 22 33.7	-0.4
JNBK				*e*S	Sn	09 23 42.6	-4.4
JBT2	Biratori 2	6.60	260	P	Pn	09 22 36.4	+0.7
JNB	Noboribetsu	7.62	260	*e*S	Sn	09 24 12.0	-3.1
JKB	Kayabe	7.82	256	P	Pn	09 22 52.1	-0.3
JKB				*e*S	Sn	09 24 14.1	-5.8
JANG	Nango	8.16	245	P	Pn	09 22 53.8	-3.4
JANG				*e*S	Sn	09 24 17.9	-10
JTH	Tanohata	8.18	241	P	Pn	09 22 53.9	-3.5
JTH				*e*S	Sn	09 24 17.2	-11
JTM	Tenmabayashi	8.25	249	*e*S	Sn	09 24 22.7	-7.9
OFUJ	Ofunato	8.81	237	P	Pn	09 23 03.0	-3.1
OFUJ				*e*S	Sn	09 24 31.8	-13
JRG	Rokugo	9.26	242	*e*S	Sn	09 24 46.0	-9.4
JIO	Ouri	9.40	235	*e*S	Sn	09 24 44.4	-14
JFK	Kawauchi	10.42	232	*e*S	Sn	09 25 07.1	-17

IDC 16 09:29:40.0±2.1, 137N×12646E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=179.2km s-min=25.0km az=66.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.55	160	P	P	09 34 42.0	+0.4
	0.9nm,0.4s,baz=339,slow=11,SNR=15						
WB2	Warramunga Arr	22.55	160	*e*P	P	09 34 41.7	+0.1
ASAR	Alice Springs	25.92	164	P	P	09 35 14.0	+0.2
	0.3nm,0.5s,baz=348,slow=7.1,SNR=8.6						
MKAR	Makanchi Array	59.34	326	P	P	09 39 44.0	+0.2
	0.5nm,0.3s,baz=120,slow=8.1,SNR=6.6						

ISCJB ***16*** *09:32:10.3±0.8, 3302N±006×140.1E±0.1, h116km±6km, mb3.7/2, Error ellipse: s-maj=20.8km s-min=9.6km az=168.2*
IDC ***16*** *09:32:11.3±3.2, 3251N×13948E, h70km±74km, mb3.3/2, mb1 3.4/3, mb1mx3.1/21, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=140.2km s-min=49.0km az=60.0*
JMA ***16*** *09:32:12.3±0.1, 3314N×14009E, h106km±2km, M2.5*
ISC 16 09:32:11.6±0.8, 3305N±006×1401E±01, h110km±6km, n14, σ0§53/19, mb3.7/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.24	285	P	Pn	09 32 27.4	+0.3
JHJ2				S	Sn	09 32 39.0	+0.3
JHJ	Hachijo jima 2	0.27	285	P	Pn	09 32 27.3	+0.1
	168nm,0.3s,baz=97,slow=22,SNR=118						
JHJ				S	Sn	09 32 38.1	-0.8
	220nm,0.3s,baz=73,slow=23,SNR=44						
JIM2	Oshima 3	1.75	342	P	Pn	09 32 41.5	+0.1
JIM2				S	Sn	09 33 03.6	-0.6
BSO1	Boso 1	1.76	24	P	Pn	09 32 41.4	-0.1
BSO3	Boso 3	1.78	11	P	Pn	09 32 42.1	+0.3
JIZS	Izushimoda	1.95	329	P	Pn	09 32 43.8	-0.1
KTJJ	Kamata 2	2.06	336	P	Pn	09 32 45.8	+0.5
KTJJ				S	Sn	09 33 10.7	-0.4
TK02	Tokai 2	2.15	295	P	Pn	09 32 46.5	+0.1
JOD2	Odawara 2	2.36	340	P	Pn	09 32 49.6	+0.4
JOD2				S	Sn	09 33 17.9	-0.1
JHU	Hanno	2.88	347	P	Pn	09 32 56.6	+0.7
JHO	Hitachi	3.58	6	P	Pn	09 33 04.5	-0.7
MJAR	Matsushiro Arr	3.82	337	P	Pn	09 33 12.1	+3.7
	0.5nm,0.3s,baz=177,slow=13,SNR=4.6						
WRA	Warramunga Arr	52.98	187	P	P	09 41 15.9	-0.8
	0.5nm,0.4s,mb3.9,baz=5.4,slow=7.6,SNR=25						
ASAR	Alice Springs	56.70	187	P	P	09 41 43.9	+0.2
	0.2nm,0.4s,mb3.5,baz=359,slow=6.7,SNR=11						

ISCJB ***16*** *09:45:58.3±0.3, 4771N±002×1373E±002, h8km, Error ellipse: s-maj=2.3km s-min=1.9km az=116.0*
PRU ***16*** *09:45:59.8, 4767N×1380E, h0km*
CSEM ***16*** *09:45:59.6±0.1, 4761N×1374E, h12km, ML3.2/11, Error ellipse: s-maj=2.3km s-min=1.9km az=140.0*
VIE ***16*** *09:45:59.1±0.1, 4766N×1372E, h8km±1km, mb2.1/6, ML2.7/9, Error ellipse: s-maj=0.8km s-min=0.6km az=169.0 8 km NW of Bad Aussee*
BGR ***16*** *09:46:02.2±0.7, 4768N×1376E, h10km, ML2.9/6, Error ellipse: s-maj=7.8km s-min=5.6km az=134.0*
ISC 16 09:45:59.7±0.3, 4766N±002×1376E±002, h1km±5km, n38, σ1§10/66, 17C-6D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	Molln	0.39	61	⇑ *e*Pg	Pg	09 46 07.4	+0.2
	46nm,0.4s,SNR=89						
MOA				⇑ *i*Sg	Sg	09 46 13.2	+1.0
	59nm,0.3s						
BGLD	Berchtesgaden	0.51	269	⇑ *i*Pg	Pg	09 46 08.1	-1.3
KBA	Koelnbreinsper	0.65	206	⇑ *e*Pg	Pg	09 46 11.2	-0.9
	13nm,0.4s,SNR=14						
KBA				⇑ *i*Sg	Sg	09 46 20.8	+0.1
	59nm,0.4s						
GEC2	GERESS Array S	1.18	358	*e*Pn	Pn	09 46 22.6	-0.8
	SNR=3.2						
GEC2				*e*Pg	Pg	09 46 23.5	+1.1
	SNR=38						
GEC2				*e*Sg	Sg	09 46 40.4	+2.7
ABTA	Abfaltersbach	1.25	223	⇑ *i*Pg	Pg	09 46 22.8	-0.9
	11nm,0.4s						
ABTA				⇑ *i*Sg	Sg	09 46 40.1	+0.2
	89nm,1.0s						
ARSA	Arzberg	1.27	108	⇑ *e*Pg	Pg	09 46 24.3	+0.3
	16nm,0.4s,SNR=17						
ARSA				⇓ *i*Sg	Sg	09 46 41.5	+1.1
	40nm,0.6s						
OBKA	Obir	1.27	155	⇑ *e*Pg	Pg	09 46 23.4	-0.8
	8.6nm,0.3s,SNR=6.7						
OBKA				⇑ *i*Sg	Sg	09 46 42.4	+1.7
	73nm,0.7s						
CONA	Conrad Observa	1.44	79	⇑ *e*Pn	Pn	09 46 26.4	-0.6
	4.3nm,0.3s,SNR=24						
CONA				⇑ *i*Sn	Sn	09 46 46.1	-0.5
CONA				⇓ *i*Sg	Sg	09 46 47.5	+1.4
	87nm,0.8s						
KHC	Kasperske Hory	1.47	355	*e*PG	Pg	09 46 27.7	-0.2
KHC				*e*SG	Sg	09 46 48.3	+1.3
	48nm,0.5s						
WTTA	Wattenberg	1.50	255	⇑ *e*Pg	Pg	09 46 27.4	-1.0
	7.4nm,0.2s,SNR=11						
WTTA				⇑ *i*Sg	Sg	09 46 47.8	0.0
	39nm,0.4s						
WATA	Walderalm	1.52	258	⇓ *i*Pg	Pg	09 46 27.6	-1.2
	8.3nm,0.2s						
WATA				⇑ *i*Sg	Sg	09 46 48.4	-0.1
	11nm,0.2s						
SCE	Schlegeis	1.53	247	⇑ *i*Pg	Pg	09 46 29.3	+0.3
SCE				*i* Sg	Sg	09 46 49.0	+0.2
VOY	Vojsko	1.64	177	*e*Pn	Pn	09 46 31.2	+1.5
VOY				*e*		09 46 56.7	
FUR	Furstenfeldbru	1.74	288	*e*Sg	Sg	09 46 56.7	+0.9
SQTA	Sankt Quirin	1.79	257	⇓ *i*Pg	Pg	09 46 32.4	-1.5
	6.2nm,0.3s,SNR=11						
SQTA				⇑ *i*Sg	Sg	09 46 57.3	+0.2
	35nm,0.4s						
MOTA	Moosalm	1.83	261	⇓ *i*Pg	Pg	09 46 33.4	-1.4
	4.1nm,0.2s,SNR=14						
MOTA				⇓ *i*Sg	Sg	09 46 58.8	+0.3
	20nm,0.4s						
ZST	Bratislava	2.31	75	*e*SG	Sg	09 47 14.5	+0.5
PRU	Pruhonice	2.38	12	*e*PG	Pb	09 46 42.5	-0.9
PRU				*e*SG	Sg	09 47 14.6	-1.7
	13nm,0.4s						
VRAC	Vranov	2.50	48	*e*Pn	Pn	09 46 41.1	-0.5
GRA1	Grafenberg Arr	2.63	321	Pg	Pg	09 46 50.7	+0.5
	SNR=2.1						
GRA1				Sg	Sg	09 47 25.2	+0.8
GRF	Grafenberg Arr	2.63	321	*e*Pg	Pg	09 46 50.7	+0.4
	SNR=2.1						
GRF				*e*Sg	Sg	09 47 25.2	+0.8
NKC	Novy Kostel	2.71	342	*e*PG	Pg	09 46 49.5	-2.2
NKC				*e*SG	Sg	09 47 26.0	-0.9
	27nm,0.7s						
TANN	Tannenbergstha	2.88	343	*e*Pn	Pn	09 46 47.6	+0.8
	SNR=1.0						
TANN				*e*Pg	Pg	09 46 54.9	-0.1
	SNR=2.7						
TANN				*e*Sg	Sg	09 47 33.3	+0.9
PVCC	Panska Ves	2.92	10	*e*SG	Sg	09 47 34.3	+0.9
	39nm,0.7s						
DPC	Dobruska-Polom	3.17	31	*e*PG	Pg	09 46 58.2	-2.4
DPC				*e*SG	Sg	09 47 41.2	-0.5
	13nm,0.6s						
UPC	Upice	3.21	27	*e*PG	Pg	09 46 58.8	-2.4
UPC				*e*SG	Sg	09 47 41.4	-1.4
BRG	Berggiesshubel	3.21	2	*e*Sg	Sg	09 47 45.2	+2.2
BRG	Berggiesshubel	3.21	2	PG	Pg	09 46 59.7	-1.7
BRG				*i*		09 47 30.0	
BRG	Berggiesshubel	3.21	2	SG	Sg	09 47 42.9	-0.1
	11nm,0.7s						
MOX	Moxa	3.30	336	*e*Pn	Pn	09 46 52.6	+0.1
	SNR=1.9						
MOX				*e*Sg	Sg	09 47 45.5	-0.2
VYHS	Vyhne	3.50	74	*e*Sg	Sg	09 47 53.4	+1.1
OKC	Ostrava-Krasne	3.63	52	*e*SG	Sg	09 47 54.9	-1.4
	14nm,0.6s						
CLL	Collm	3.68	353	*e*Sg	Sg	09 47 57.9	-0.1
CLL	Collm	3.68	353	*i* Sg	Sg	09 47 58.0	0.0
	comp=Z,15nm,1.0s						
BFO	Black Forest	3.71	282	*e*Pn	Pn	09 46 58.0	-0.1
	SNR=2.4						
BFO				*e*Pg	Pg	09 47 12.6	+1.9
	SNR=1.5						
BFO				*e*Sg	Sg	09 48 01.0	+2.2
BFO	Black Forest	3.71	282	Pg	Pg	09 47 12.6	+1.8
	SNR=1.5						
BFO				Sg	Sg	09 48 01.0	+2.2
TNS	Taunus Mts	4.34	308	*e*Pn	Pn	09 47 07.7	+0.8
	SNR=2.2						
TNS				*e*Sg	Sg	09 48 18.8	-0.2
CLZ	Clausthal	4.72	334	*e*Sg	Sg	09 48 33.4	+1.9

NIED ***16*** *10:00:00, 3520N×13840E, h23km, Mw3.9 Best double couple: M0=8.35000×10^14 NP1:ϕs=283.00000°, δ50.00000°, λ115.00000°. NP2:ϕs=68.00000°, δ46.00000°, λ64.00000°.*
IDC ***16*** *10:00:07.0±0.8, 3508N×13846E, h0km, mb3.9/12, mb1 4.1/12, mb1mx4.0/24, mbtmp3.9/12, MS3.5/2, Ms1 3.5/2, ms1mx2.8/32, Error ellipse: s-maj=32.3km s-min=16.5km az=84.0*
NEIC ***16*** *10:00:07.9±1.8, 3510N×13871E, h10km, MG4.0(JMA), Error ellipse: s-maj=66.3km s-min=16.1km az=83.0*
ISCJB ***16*** *10:00:10.2±0.4, 3510N±003×13843E±004, h28km±3km, mb3.9/13, MS4.1/1, Error ellipse: s-maj=5.9km s-min=5.3km az=135.2*
JMA ***16*** *10:00:10.9±0.1, 3516N×13842E, h21km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs=48.00000°, δ44.00000°, λ39.00000°. NP2:ϕs288.00000°, δ64.00000°, λ127.00000°. Principal axes: T Plg55.0000°, Azm245.0000°; N Plg32.0000°, Azm90.0000°; P Plg12.0000°, Azm352.0000°;*
JMA Felt III J1.
ISC 16 10:00:10.7±0.5, 3512N±003×13845E±004, h21km±4km, n27, σ0§75/34, mb3.9/13, MS4.1/1, 2C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	Shizuoka 3	0.20	254	⇑ P	Pb	10 00 16.0	0.0
SHZ3				S	Sb	10 00 19.8	+0.3
JYN	Shimob	0.38	12	⇓ P	Pb	10 00 18.4	-0.4
JYN				S	Sb	10 00 23.9	-0.4
JNY	Yasuok	0.54	296	⇓ P	Pb	10 00 21.0	-0.3
JNY				S	Sb	10 00 28.5	-0.1
JIZS	Izushimoda	0.54	139	⇓ P	Pb	10 00 21.6	+0.2
JIZS				S	Sb	10 00 29.3	+0.6
JOD2	Odawara 2	0.54	75	⇑ P	Pb	10 00 21.4	-0.1
JOD2				*e*S	Sb	10 00 29.0	+0.1
TK04	Tokai 4	0.87	213	⇓ P	Pb	10 00 27.9	+0.8
JIM2	Oshima 3	0.90	116	P	Pb	10 00 27.8	+0.2
JRY	Ryogami san	0.97	22	⇓ P	Pb	10 00 28.2	-0.5
JRY				S	Sb	10 00 40.6	-0.4
MJAR	Matsushiro Arr	1.43	352	Pn	Pn	10 00 33.7	-1.6
	155nm,0.3s,baz=1.3,slow=16,SNR=676						
MJAR				Sn	Sn	10 00 55.2	+1.7
	207nm,0.3s,baz=174,slow=22,SNR=18						
MAJO	Matsushiro	1.43	352	*e*Pn	Pn	10 00 35.8	+0.5
MAJO				*e*Sg	Sn	10 00 57.1	+3.6
MAT	Matsushiro	1.43	352	P	Pn	10 00 35.6	+0.2
MAT				S	Sn	10 00 54.7	+1.2
KSRS	Korea Array	8.81	288	LR	LR	10 05 36.4	
	comp=Z,95nm,18.5s,baz=159,slow=37						
MKAR	Makanchi Array	43.13	303	P	P	10 08 09.8	+0.3
	0.2nm,0.5s,mb3.1,baz=88,slow=8.3,SNR=3.4						
BVAR	Borovoye Array	50.10	313	P	P	10 09 04.3	+0.2
	0.6nm,0.5s,mb3.9,baz=72,slow=6.4,SNR=4.2						
BVAR				PcP	PcP	10 10 23.3	-0.2
	0.5nm,0.8s,baz=117,slow=5.2,SNR=3.7						
WRA	Warramunga Arr	54.90	185	P	P	10 09 38.7	-0.9
	0.9nm,0.7s,mb3.9,baz=360,slow=7.6,SNR=15						
ASAR	Alice Springs	58.62	185	P	P	10 10 05.3	-0.8
	0.3nm,0.7s,mb3.4,baz=9.9,slow=12,SNR=5.0						
JOF	Joensuu	66.50	332	*e*p	P	10 10 57.5	-1.2
	0.7nm,0.3s,mb4.2						
YKA	Yellowknife Ar	66.65	29	P	P	10 10 59.2	-0.4
	0.4nm,0.8s,mb3.5,baz=301,slow=6.5,SNR=7.1						
FINES	FINESS Array B	69.37	332	P	P	10 11 16.1	-0.7
	14nm,1.2s,mb4.8,baz=62,slow=7.7,SNR=11						
HFS	Hagfors	74.81	335	P	P	10 11 48.6	-0.7
	2.4nm,0.7s,mb4.3,baz=90,slow=8.9,SNR=5.4						
NB2	NORSAR Subarra	75.00	336	P	P	10 11 49.8	-0.6
	comp=Z,0.2nm,0.7s,mb3.2,baz=50,slow=6.2						
NOA	NORSAR Array B	75.00	336	P	P	10 11 50.1	-0.3
	comp=Z,2.3nm,0.8s,mb4.2,baz=43,slow=5.9,SNR=5.3						
BRTR	Keskin Array B	78.29	310	P	P	10 12 09.8	+0.8
	comp=Z,0.9nm,0.8s,mb3.7,baz=116,slow=5.6,SNR=5.4						
GERES	GERESS Array B	83.03	327	P	P	10 12 34.4	0.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=32,slow=5.2,SNR=4.8						
PPT	Papeete	85.98	115	LR	LR	10 47 59.1	
	comp=Z,81nm,19.3s,MS4.1,baz=243,slow=33						
SCHQ	Schefferville	87.81	14	P	P	10 12 58.1	-0.1
	comp=Z,1.9nm,0.7s,mb4.4,baz=259,slow=19,SNR=4.5						
TXAR	Lajitas Array	93.19	51	P	P	10 13 24.8	+1.5
	comp=Z,0.5nm,0.7s,mb4.0,baz=299,slow=3.0,SNR=7.6						

ISCJB ***16*** *10:07:26.6±1.8, 451S×007×13832E±008, h171km±17km, mb3.7/4, Error ellipse: s-maj=13.7km s-min=11.0km az=56.4*
NEIC ***16*** *10:07:29.0±2.2, 451S×13808E, h170km±23km, mb4.0/2, Error ellipse: s-maj=18.5km s-min=15.4km az=153.0*
IDC ***16*** *10:07:35.1±2.7, 468S×13824E, h238km±29km, mb3.4/4, mb1 3.7/9, mb1mx3.5/15, mbtmp3.6/9, Error ellipse: s-maj=22.2km s-min=10.0km az=98.0*
ISC 16 10:07:32.5±1.7, 468S±008×1382E±01, h208km±19km, n13, σ1§11/16, mb3.6/4, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.78	215	*e*P	Pn	10 09 46.1	-2.7
	26nm,0.5s						
PMG	Port Moresby	10.08	118	P	Pn	10 09 52.5	-0.2
	1.6nm,0.3s,baz=293,slow=3.0,SNR=7.4						
PMG				S		10 11 37.4	
	0.9nm,0.3s,baz=241,slow=19,SNR=2.6						
WB2	Warramunga Arr	15.62	193	*e*P	Pn	10 11 01.5	-0.3
WRA	Warramunga Arr	15.62	193	P	Pn	10 11 02.3	+0.4
	3.1nm,0.3s,baz=18,slow=12,SNR=118						
WRA				S	S	10 13 51.6	-3.2
	0.4nm,0.3s,baz=15,slow=22,SNR=5.2						
CTA	Charters Tower	17.22	153	*e*P	P	10 11 20.0	+0.8
	7.6nm,0.8s						
CTA	Charters Tower	17.22	153	P	P	10 11 19.5	+0.3
	0.5nm,0.3s,baz=332,slow=11,SNR=11						
FITZ	Fitzroy Crossi	18.11	222	⇓ *i*P	P	10 11 30.6	+1.6
	4.5nm,0.7s						
FITZ	Fitzroy Crossi	18.11	222	P	P	10 11 30.7	+1.8
	0.2nm,0.3s,baz=44,slow=12,SNR=10						
FITZ				S	S	10 14 46.2	+0.7
	0.1nm,0.3s,baz=156,slow=20,SNR=3.2						
ASAR	Alice Springs	19.32	192	P	P	10 11 43.9	+1.9
	3.7nm,0.3s,baz=20,slow=11,SNR=293						
ASAR				S	S	10 15 08.2	-1.1
	0.0nm,0.3s,baz=18,slow=23,SNR=2.7						
SONM	Songino Array	59.27	336	P	P	10 17 11.5	-0.7
	0.3nm,0.5s,mb3.2,baz=153,slow=6.8,SNR=3.1						
MKAR	Makanchi Array	71.02	323	P	P	10 18 27.3	-0.3
	1.8nm,0.8s,mb3.8,baz=106,slow=7.5,SNR=17						
VNDA	Vanda	73.88	175	P	P	10 18 44.9	+0.3
	0.8nm,0.5s,mb3.6,baz=330,slow=7.1,SNR=11						
BVAR	Borovoye Array	80.61	325	P	P	10 19 21.5	-0.4
	1.9nm,0.7s,mb3.8,baz=108,slow=4.8,SNR=8.9						

ISCJB ***16*** *10:13:34.4±0.3, 4311N±002×045E±002, h8km±4km, Error ellipse: s-maj=3.2km s-min=2.8km az=85.8*
STR ***16*** *10:13:35.7±0.2, 4304N×044E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***16*** *10:13:36.3±0.3, 4304N×042E, h6km±4km, mbLg1.5/19, Error ellipse: s-maj=2.4km s-min=1.9km az=169.0, PRXIMO*
LDG ***16*** *10:13:36.0±0.1, 4303N×043E, h4km, Md2.2/1, Ml2.3/6, Error ellipse: s-maj=1.4km s-min=0.7km az=163.0*
ISC 16 10:13:35.3±0.3, 4307N±002×044E±002, h12km±3km, n41, σ0§49/67, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	Esparros	0.08	243	*e*Pg	Pg	10 13 37.8	-0.1
EPF				*e*Sg	Sg	10 13 39.1	-0.7
	76nm,0.1s						
EPF	Esparros	0.08	243	Pg	Pg	10 13 37.8	-0.1
EPF				Lg		10 13 39.1	
	38nm,0.1s						
LABF	Labassere	0.27	266	Pg	Pg	10 13 40.9	0.0
LABF				Sg	Sg	10 13 45.1	+0.5
LABF	Labassere	0.27	266	P	Pg	10 13 40.9	+0.1
LABF				S	Sg	10 13 45.1	+0.6
RESF	Ens	0.27	195	Pg	Pg	10 13 41.2	+0.3
RESF	Ens	0.27	195	P	Pg	10 13 41.2	+0.3
RESF				S	Sg	10 13 44.8	+0.1
MELF	Melles	0.31	129	Pg	Pg	10 13 41.3	-0.3
MELF				Sg	Sg	10 13 45.4	-0.4
MELF	Melles	0.31	129	P	Pg	10 13 41.4	-0.2
MELF				S	Sg	10 13 45.7	-0.1
VIEF	Viey	0.35	239	Pg	Pg	10 13 42.6	+0.2
VIEF				Sg	Sg	10 13 47.7	+0.5
VIEF	Viey	0.35	239	P	Pg	10 13 42.7	+0.3
VIEF

EPOB	**Poblet**	**1.78**	**164**	Pg	**Pg**	**10 14 08.9**	**-0.5**
	1.5nm,0.2s,SNR=7.9						
EPOB				Lg		10 14 31.9	
	1.1nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**1.89**	**7**	*e*Pg	**Pg**	**10 14 11.7**	**+0.2**
LFF				*e*Sg	**Sg**	**10 14 36.8**	**+0.8**
	5.8nm,0.3s						
LFF	**La Frestale**	**1.89**	**7**	Pg	**Pg**	**10 14 11.7**	**+0.2**
LFF				Lg		10 14 36.8	
	2.9nm,0.3s						
ERTA	**Horta de San J**	**2.11**	**182**	Pg	**Pg**	**10 14 15.2**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
ERTA				Lg		10 14 43.5	
	2.1nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.20**	**32**	*e*Pn	**Pn**	**10 14 12.0**	**+0.3**
CAF	**Calviac**	**2.20**	**32**	*e*Pg	**Pg**	**10 14 17.5**	**0.0**
CAF				*e*Sn	**Sn**	**10 14 38.3**	**-0.5**
CAF				*e*Sg	**Sg**	**10 14 46.1**	**0.0**
	3.3nm,0.3s						
CAF	**Calviac**	**2.20**	**32**	Pn	**Pn**	**10 14 12.0**	**+0.3**
CAF				Pg	**Pg**	**10 14 17.5**	**0.0**
CAF				Sn	**Sn**	**10 14 38.3**	**-0.5**
CAF				Lg		10 14 46.1	
	1.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.37**	**19**	*e*Pg	**Pg**	**10 14 20.5**	**-0.3**
RJF				*e*Sn	**Sn**	**10 14 42.4**	**-0.6**
RJF				*e*Sg	**Sg**	**10 14 51.7**	**+0.2**
	3.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.37**	**19**	Pg	**Pg**	**10 14 20.5**	**-0.3**
RJF				Sn	**Sn**	**10 14 42.4**	**-0.6**
RJF				Lg		10 14 51.7	
	1.5nm,0.2s						
LASF	**Ste Croix**	**2.68**	**67**	*e*Pn	**Pn**	**10 14 18.4**	**+0.1**
LASF	**Ste Croix**	**2.68**	**67**	*e*Pg	**Pg**	**10 14 26.1**	**-0.7**
LASF				*e*Sg	**Sg**	**10 15 00.9**	**-0.7**
	2.5nm,0.3s						
LASF	**Ste Croix**	**2.68**	**67**	Pn	**Pn**	**10 14 18.4**	**+0.1**
LASF				Pg	**Pg**	**10 14 26.1**	**-0.7**
LASF				Lg		10 15 00.9	
	1.2nm,0.3s						
EMOS	**Mosqueruela**	**2.78**	**194**	Pg	**Pg**	**10 14 28.1**	**-0.6**
	0.1nm,0.2s,SNR=7.9						
EMOS				Lg		10 15 05.2	
	3.2nm,0.6s,SNR=7.9						

*IDC **16** 10:15:50.4±0.5, 9.13S×15864E, h0km, mb4.6/15, mb1 4.8/16, mb1mx4.8/17, mbtmp4.6/16, ML4.2/1, MS4.0/12, Ms1 4.1/12, ms1mx3.9/18, Error ellipse: s-maj=16.4km s-min=14.9km az=161.0*

*NEIC **16** 10:15:52.9±0.4, 9.13S×15863E, mb5.0/14, Error ellipse: s-maj=11.7km s-min=8.5km az=126.0*

*ISCJB **16** 10:15:54.4±0.3, 9.17S±006×15857E±005, h35km, mb4.8/32, MS4.0/12, Error ellipse: s-maj=9.0km s-min=7.2km az=1.5*

*BJI **16** 10:15:54.6, 8.475S×15839E, h15km, mB5.1, mb4.9, Ms4.5, Msz4.1*

ISC 16 10:15:56.3±0.3, 917S±006×15863E±005, h35km, (h23km±8.3km:pP-P), n55, σ0.91/48, mb4.8/32, MS4.0/12, 3C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.32**	**101**	Pn	**Pn**	**10 16 15.6**	**-2.6**
	3μm,0.3s,baz=262,slow=4.7,SNR=316						
HNR				Sn	**Sn**	**10 16 34.4**	**-0.2**
	5μm,0.3s,baz=82,slow=22,SNR=31						
PMG	**Port Moresby**	**11.33**	**268**	LR	LR	10 22 42.9	
	comp=Z,2μm,19.5s,baz=102,slow=36						
CTA	**Charters Tower**	**16.15**	**226**	*e*P	**Pn**	**10 19 39.3**	**-1.2**
	15nm,0.8s						
CTA				*e*S	**S**	**10 22 57.8**	**+7.1**
CTA	**Charters Tower**	**16.15**	**226**	Pn	**Pn**	**10 19 39.7**	**-0.7**
	0.6nm,0.3s,baz=46,slow=12,SNR=10						
CTAO	**Charters Tower**	**16.15**	**226**	*e*Pn	**Pn**	**10 19 39.2**	**-1.2**
	38nm,1.1s						
ARMA	**Armidale**	**22.12**	**196**	*e*P	**P**	**10 20 51.1**	**+2.5**
WB2	**Warramunga Arr**	**25.79**	**243**	⇑*i*P	**P**	**10 21 23.6**	**-0.2**
WRA	**Warramunga Arr**	**25.80**	**243**	P	**P**	**10 21 23.9**	**0.0**
	22nm,0.8s,mb4.7,baz=70,slow=9.3,SNR=72						
WRA				PcP	PcP	10 24 53.8	+0.9
	1.7nm,0.8s,baz=65,slow=2.3,SNR=4.6						
WRA				LR	LR	10 30 56.2	
	comp=Z,373nm,21.6s,MS3.9,baz=80,slow=35						
KAKA	**Kakadu**	**25.95**	**260**	⇑*i*P	**P**	**10 21 25.0**	**-0.3**
	30nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**27.57**	**213**	*e*P	**P**	**10 21 40.1**	**+0.2**
	13nm,0.4s,mb4.9						
STKA				*e*S	**S**	**10 26 29.8**	**+11**
STKA	**Stephens Creek**	**27.57**	**213**	P	**P**	**10 21 40.5**	**+0.5**
	14nm,0.5s,mb4.9,baz=26,slow=10,SNR=23						
STKA				LR	LR	10 32 46.7	
	comp=Z,720nm,18.2s,MS4.3,baz=28,slow=37						
ASAR	**Alice Springs**	**27.68**	**236**	P	**P**	**10 21 40.4**	**-0.5**
	7.9nm,0.8s,mb4.4,baz=64,slow=9.3,SNR=55						
ASAR				PcP	PcP	10 24 58.0	+0.7
	1.0nm,0.6s,baz=56,slow=3.3,SNR=4.4						
ASAR				ScP	ScP	10 28 39.9	+4.6
	1.1nm,0.9s,baz=48,slow=4.3,SNR=6.4						
AFI	**Afiamalu**	**29.36**	**102**	LR	LR	10 31 53.3	
	comp=Z,438nm,19.6s,MS4.1,baz=281,slow=33						
TOO	**Toolangi**	**30.66**	**201**	*e*P	**P**	**10 22 08.2**	**+0.8**
	6.1nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.22**	**251**	⇑*i*P	**P**	**10 22 28.9**	**-0.9**
	15nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.22**	**251**	P	**P**	**10 22 29.0**	**-0.8**
	7.9nm,0.6s,mb4.8,baz=83,slow=8.8,SNR=30						
URZ	**Urewera**	**33.40**	**153**	LR	LR	10 32 35.2	
	comp=Z,190nm,21.9s,MS3.8,baz=275,slow=30						
FORT	**Forrest**	**35.68**	**229**	*e*P	**P**	**10 22 50.6**	**-0.5**
	26nm,1.1s,mb5.1						
KSM	**Kuching**	**49.29**	**280**	*e*P	**P**	**10 24 41.6**	**0.0**
MJAR	**Matsushiro Arr**	**49.36**	**338**	P	**P**	**10 24 40.6**	**-1.6**
	2.2nm,0.8s,mb4.3,baz=162,slow=7.2,SNR=7.3						
KSRS	**Korea Array**	**54.57**	**330**	P	**P**	**10 25 21.1**	**+0.1**
	10.0nm,1.0s,mb4.8,baz=147,slow=8.0,SNR=17						
KSRS				LR	LR	10 45 25.3	
	comp=Z,63nm,21.0s,MS3.7,baz=128,slow=32						
CN2	**Changchun**	**60.72**	**333**	*e*P	**P**	**10 26 03.8**	**-0.4**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.2						
XAN	**Xi'an**	**63.77**	**315**	P	**P**	**10 26 23.9**	**-0.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI	**Kunming**	**64.21**	**304**	P	**P**	**10 26 28.8**	**+1.3**
KMI				AP	pP	10 26 35.3	-3.0
KMI				XP	sP	10 26 38.3	-4.0
KMI				PCP	PcP	10 26 58.9	-3.3
KMI				SCP		10 30 59.5	
KMI				SKS		10 36 18.8	
KMI				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
KMI				AMB	AMB		
	comp=Z,95nm,4.2s						
KMI				LR	LR		
	comp=N,193nm,20.4s,MS4.4						
KMI				LR	LR		
	comp=E,144nm,21.0s,MS4.4						
KMI				LR	LR		
	comp=Z,149nm,21.0s,MS4.2						
KMI	**Kunming**	**64.21**	**304**	P	**P**	**10 26 28.7**	**+1.2**
	comp=Z,11nm,1.4s,mb4.7						
KMI				pP	pP	10 26 35.2	-3.1
KMI				sP	sP	10 26 38.2	-4.1
KMI				PcP	PcP	10 26 58.9	-3.3
KMI				PP	PP	10 28 56.7	+7.8
KMI				ScP		10 30 59.5	
KMI				S	**S**	**10 35 15.5**	**+13**
KMI				SKS		10 36 18.7	
KMI				SS	SS	10 39 33.2	+21
KMI				SSS		10 42 28.6	
KMI				LR	LR		
	comp=Z,150nm,21.0s,MS4.2						
CHTO	**Chiang Mai**	**65.08**	**296**	*e*pP	pP	10 26 43.6	-0.3
	comp=Z,9.1nm,1.0s						
HIA	**Hailar**	**67.43**	**334**	*e*P	**P**	**10 26 47.7**	**-0.5**
	comp=Z,15nm,0.9s,mb5.0						
HIA				*e*pP	pP	10 27 00.3	+1.3
VNDA	**Vanda**	**68.34**	**179**	P	**P**	**10 26 54.1**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.5,baz=340,slow=5.3,SNR=8.7						
VNDA				LR	LR	10 50 10.8	
	comp=Z,151nm,19.8s,MS4.2,baz=324,slow=30						
LZH	**Lanzhou**	**68.39**	**315**	*e*P	**P**	**10 26 54.5**	**+0.2**
LZH				AP	pP	10 26 57.5	-7.6
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,70nm,4.4s						
LZH	**Lanzhou**	**68.39**	**315**	*e*P	**P**	**10 26 54.5**	**+0.2**
	comp=Z,19nm,1.0s,mb5.1						
LZH				pP	pP	10 26 57.5	-7.6
LZH				sP	sP	10 26 59.0	-10
ULN	**Ulaanbaatar**	**72.78**	**326**	*e*P	**P**	**10 27 21.4**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8						
GTA	**Gaotai**	**72.79**	**316**	P	**P**	**10 27 21.8**	**+0.7**
GTA				AP	pP	10 27 29.4	-2.6
GTA				XP	sP	10 27 32.5	-3.5
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
SONM	**Songino Array**	**73.12**	**326**	P	**P**	**10 27 23.6**	**+0.6**
	comp=Z,13nm,0.8s,mb4.9,baz=136,slow=5.6,SNR=100						
SONM				LR	LR	10 57 30.0	
	comp=Z,60nm,18.1s,MS3.9,baz=346,slow=34						
YAK	**Yakutsk**	**74.47**	**346**	*e*P	**P**	**10 27 30.5**	**-0.5**
	comp=Z,20nm,0.7s,mb5.2						
BILL	**Bilibino**	**77.21**	**3**	*e*P	**P**	**10 27 48.0**	**+1.4**
	comp=Z,15nm,0.9s,mb4.9						
GUN	**Gumba**	**79.32**	**301**	*e*P	**P**	**10 27 59.2**	**+0.9**
PKI	**Pulchoki**	**79.62**	**300**	*e*P	**P**	**10 27 59.7**	**-0.2**
	comp=Z,17nm,0.8s,mb5.0						
KKN	**Kakani**	**79.80**	**300**	*e*P	**P**	**10 28 00.6**	**-0.2**
	comp=Z,11nm,0.7s,mb4.9						
DMN	**Daman**	**79.89**	**300**	*e*P	**P**	**10 28 01.9**	**+0.5**
	comp=Z,48nm,1.1s,mb5.3						
GKN	**Gorkha**	**80.40**	**300**	*e*P	**P**	**10 28 04.4**	**+0.3**
	comp=Z,52nm,1.1s,mb5.4						
KOLN	**Koldanda**	**81.22**	**300**	*e*P	**P**	**10 28 08.8**	**+0.3**
	comp=Z,20nm,0.9s,mb5.0						
MAW	**Mawson**	**83.78**	**203**	P	**P**	**10 28 21.4**	**-0.4**
	comp=Z,4.9nm,1.0s,mb4.6,baz=76,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**87.41**	**318**	P	**P**	**10 28 39.2**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.3,baz=102,slow=6.1,SNR=15						
MKAR				LR	LR	11 10 17.3	
	comp=Z,36nm,18.6s,MS3.8,baz=279,slow=37						
ZAL	**Zalesovo**	**88.00**	**325**	P	**P**	**10 28 42.6**	**-0.1**
	comp=Z,2.3nm,0.3s,mb4.9,baz=35,slow=4.0,SNR=4.8						
ZAL				LR	LR	11 07 53.8	
	comp=Z,61nm,18.2s,MS4.0,baz=257,slow=36						
NVAR	**Mina Array Bea**	**90.25**	**51**	P	**P**	**10 28 54.6**	**+1.4**
	comp=Z,2.4nm,0.9s,mb4.5,baz=250,slow=8.7,SNR=7.0						
BVAR	**Borovoye Array**	**96.20**	**323**	P	**P**	**10 29 18.2**	**-2.4**
	comp=Z,0.9nm,0.5s,mb4.5,baz=132,slow=4.4,SNR=5.2						
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**10 29 22.2**	**-0.1**
	comp=Z,0.4nm,0.7s,mb4.0,baz=257,slow=4.7,SNR=6.5						
YKA				LR	LR	11 06 47.3	
	comp=Z,105nm,19.5s,MS4.3,baz=290,slow=32						
PDAR	**Pinedale Array**	**97.48**	**48**	P	**P**	**10 29 28.2**	**+1.8**
	comp=Z,0.6nm,0.8s,mb4.1,baz=243,slow=1.7,SNR=5.9						
PDAR				LR	LR	11 09 15.8	
	comp=Z,81nm,18.7s,MS4.2,baz=78,slow=33						
NOA	**NORSAR Array B**	**122.91**	**342**	PKP	PKPdf	10 34 46.2	-2.5
	comp=Z,1.3nm,0.8s,baz=42,slow=1.8,SNR=4.4						
NOA	**NORSAR Array B**	**122.91**	**342**	PKP	PKPdf	10 34 46.2	-2.5
LPAZ	**La Paz**	**127.26**	**118**	PKP	PKPdf	10 34 57.6	+0.6
	comp=Z,0.8nm,0.7s,baz=90,slow=2.0,SNR=3.1						
GERES	**GERESS Array B**	**130.75**	**330**	PKP	PKPdf	10 35 01.6	-2.0
	comp=Z,0.6nm,0.6s,baz=11,slow=3.4,SNR=4.2						
SIV	**San Ignacio**	**133.41**	**122**	PKP	PKPdf	10 35 09.1	+0.4
	comp=Z,0.9nm,0.7s,baz=279,slow=5.0,SNR=3.5						
MDT	**Midelt**	**151.83**	**329**	PKPbc	PKPbc	10 35 47.6	+0.3
	comp=Z,2.4nm,0.9s,baz=66,slow=5.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**157.04**	**282**	PKP	PKPdf	10 35 48.7	+0.7
	comp=Z,0.3nm,0.9s,baz=23,slow=1.4,SNR=3.2						

*IDC **16** 10:21:13.0±1.2, 18.18N×6147W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, ML3.4/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/27, Error ellipse: s-maj=27.8km s-min=26.9km az=132.0*

*TRN **16** 10:21:14.1, 17.90N×6155W, h15km, MD3.6*

*ISCJB **16** 10:21:15.8±0.7, 1807N±005×6150W±004, h35km, mb3.8/5, MS3.7/1, Error ellipse: s-maj=7.5km s-min=5.4km az=37.0*

*NEIC **16** 10:21:16.2±1.3, 18.13N×6141W, h30km, MD3.6(TRN), MD4.2(FDF), MD4.4(RSPR), Error ellipse: s-maj=16.8km s-min=11.1km az=68.0*

*RSPR **16** 10:21:18.6, 1866N×6157W, h25km±59km, MD4.4/13, MD4.4/13*

ISC 16 10:21:17.5±0.7, 1797N±006×6149W±004, h35km, n31, σ0.97/41, mb3.8/5, MS3.7/1, 10C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKTB	**Turtle Beach**	**1.32**	**235**	*e*P	**Pn**	**10 21 37.8**	**-1.5**
NVRH	**Round Hill, Ne**	**1.32**	**234**	⇓*i*P	**Pn**	**10 21 38.3**	**-1.0**
NVRH				*e*S	**Sn**	**10 21 56.6**	**+0.9**
SKI	**Saint Kitts**	**1.35**	**242**	*e*P	**Pn**	**10 21 39.0**	**-0.8**
SKI				*e*S	**Sn**	**10 21 57.0**	**+0.6**
STMA	**St. Maarten, A**	**1.54**	**273**	*e*P	**Pn**	**10 21 42.8**	**+0.4**
STMA				*e*S	**Sn**	**10 22 02.2**	**+1.0**
LZG	**Guadaloupe-1**	**1.84**	**189**	⇓*e*P	**Pn**	**10 21 45.4**	**-1.2**
SCG	**Saint Claude**	**1.94**	**185**	*e*P	**Pn**	**10 21 47.6**	**-0.2**
TBG	**Guadaloupe-3**	**2.11**	**184**	*e*P	**Pn**	**10 21 50.0**	**-0.3**
STVI	**Saint Thomas**	**3.32**	**277**	⇑*e*P	**Pn**	**10 22 06.1**	**-0.7**
STVI				*e*S	**Sn**	**10 22 43.0**	**-2.0**
MTP	**Monte Pirata**	**3.87**	**272**	⇑*e*P	**Pn**	**10 22 14.3**	**-0.1**
MTP				*e*S	**Sn**	**10 22 58.6**	**0.0**
HUMP	**Col San Antoni**	**4.15**	**273**	⇓*e*P	**Pn**	**10 22 18.9**	**+0.6**
HUMP				*e*S	**Sn**	**10 23 06.2**	**+0.6**
CBYP	**Canovanas**	**4.16**	**275**	⇑*e*P	**Pn**	**10 22 18.1**	**-0.4**
CBYP				*e*S	**Sn**	**10 23 00.2**	**-5.7**
CPD	**Cerro la Pandu**	**4.21**	**272**	⇑*e*P	**Pn**	**10 22 18.5**	**-0.6**
CPD				*e*S	**Sn**	**10 23 07.2**	**+0.1**
SJG	**San Juan**	**4.44**	**273**	⇑*e*P	**Pn**	**10 22 23.1**	**+0.9**
SJG				*e*S	**Sn**	**10 23 12.1**	**-0.6**
ICM	**Isla Caja Muer**	**4.79**	**270**	⇑*e*P	**Pn**	**10 22 26.5**	**-0.6**
ICM				*e*S	**Sn**	**10 23 25.3**	**+4.0**
CELP	**Cerrillos**	**4.84**	**272**	⇑*e*P	**Pn**	**10 22 28.1**	**+0.3**
OBIP	**Obispado Ponce**	**4.87**	**272**	⇓*e*P	**Pn**	**10 22 28.2**	**0.0**
AOPR	**Arecibo Observ**	**5.02**	**275**	⇓*e*P	**Pn**	**10 22 31.6**	**+1.3**
AOPR				*e*S	**Sn**	**10 23 25.9**	**-1.1**
GBPR	**Guanica, Bosqu**	**5.13**	**271**	⇑*e*P	**Pn**	**10 22 33.3**	**+1.5**
LSP	**Las Mesas**	**5.33**	**273**	⇑*e*P	**Pn**	**10 22 36.2**	**+1.8**
LSP				*e*S	**Sn**	**10 23 34.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**5.35**	**271**	⇑*e*P	**Pn**	**10 22 34.5**	**-0.2**
PCRV	**Puerto La Cruz**	**8.33**	**202**	Pn	**Pn**	**10 23 19.4**	**+3.8**
	1.4nm,0.3s,baz=62,slow=6.8,SNR=5.5						
PCRV				LR	LR	10 26 48.1	
	comp=Z,158nm,19.4s,baz=15,slow=39						
SDV	**Santo Domingo**	**12.67**	**226**	Pn	**Pn**	**10 24 18.5**	**+3.4**
	0.1nm,0.3s,baz=87,slow=10,SNR=6.3						
SDV				LR	LR	10 28 50.0	
	comp=Z,88nm,21.9s,baz=320,slow=36						
TEIG	**Tepich**	**25.40**	**279**	P	**P**	**10 26 42.0**	**+0.4**
	4.5nm,0.5s,mb4.3,baz=352,slow=3.3,SNR=13						
TXAR	**Lajitas Array**	**40.06**	**294**	P	**P**	**10 28 50.2**	**+0.9**
	0.5nm,0.7s,mb3.4,baz=108,slow=8.1,SNR=8.9						
ULM	**Lac du Bonnet**	**42.32**	**327**	P	**P**	**10 29 06.7**	**-1.1**
	0.6nm,0.4s,mb3.5,baz=108,slow=9.6,SNR=3.9						
ULM	**Lac du Bonnet**	**42.32**	**327**	P	**P**	**10 29 06.7**	**-1.1**
EGMT	**Eagleton**	**49.26**	**319**	*e*P	**P**	**10 30 00.9**	**-1.7**
	22nm,0.7s						
YKA	**Yellowknife Ar**	**57.53**	**334**	P	**P**	**10 31 03.4**	**+0.1**
	0.5nm,0.4s,mb3.9,baz=101,slow=7.5,SNR=17						
TORD	**Torodi Ar. Bea**	**60.82**	**85**	P	**P**	**10 31 27.4**	**+1.4**
	0.5nm,0.6s,mb3.8,baz=292,slow=7.2,SNR=3.9						
TORD				LR	LR	10 54 16.2	
	comp=Z,47nm,18.1s,MS3.7,baz=245,slow=33						
ASAR	**Alice Springs**	**164.54**	**246**	PKPab	PKPab	10 42 12.9	+0.5
	0.3nm,0.6s,baz=107,slow=3.7,SNR=5.7						
WRA	**Warramunga Arr**	**164.90**	**260**	PKPab	PKPab	10 42 15.5	+1.5
	1.4nm,1.3s,baz=90,slow=4.2,SNR=5.3						

*NEIC **16** 10:43:15.4, 3485N×2433E, h6km, MD3.6(ATH), After ATH.*

*CSEM **16** 10:43:15.4, 3485N×2433E, h6km, MD3.6/6, After ATH*

ATH 16 10:43:15.4, 3485N×2433E, h6km±4km, MD3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.20**	**267**	*e*Pg	Pg	10 43 21.9	+2.5
VAM	**Vamos**	**0.57**	**349**	*e*PB	Pg	10 43 26.3	0.0
VAM				*e*SB	Sg	10 43 34.4	+0.7
XRY	**Khrisi**	**1.12**	**88**	*e*PG	Pg	10 43 36.0	-0.9
NPS	**Neapolis**	**1.13**	**68**	*e*PN	Pn	10 43 36.5	-1.2
NPS				*e*SB	Sb	10 43 51.4	-0.9
KYTH	**Kithira**	**1.77**	**324**	*e*PN	Pn	10 43 49.0	+2.4
SANT	**Santorini**	**1.77**	**31**	*e*Pn	Pn	10 43 46.0	-0.6
SANT				*e*Sn	Sn	10 44 08.7	-0.7
SANT				*e*Sg	Sg	10 44 12.9	+0.5
VLI	**Veliai**	**2.18**	**329**	*e*PN	Pn	10 43 53.8	+1.6
KARP	**Karpathos**	**2.42**	**72**	*e*PN	Pn	10 43 58.3	+2.8

*ISCJB **16** 10:51:09.6±1.0, 55S±01×1499E±01, h10km, mb3.7/2, Error ellipse: s-maj=19.5km s-min=11.3km az=94.6*

*IDC **16** 10:51:09.1±3.3, 576S×15028E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/14, mbtmp3.4/3, ML1.9/1, Error ellipse: s-maj=134.1km s-min=36.7km az=120.0*

*NEIC **16** 10:51:11.7±1.0, 550S×14980E, h10km, mb4.4/1, Error ellipse: s-maj=22.2km s-min=15.2km az=159.0*

ISC 16 10:51:11.8±1.0, 54S±01×1498E±01, h10km, n8, σ0.85/8, mb3.7/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75**	**214**	Pn	**Pn**	**10 52 20.4**	**-3.0**
	0.3nm,0.3s,baz=166,slow=17,SNR=1.6						
PMG				Sn	**Sn**	**10 53 18.6**	**+0.2**
	1.1nm,0.3s,baz=299,slow=19,SNR=3.3						
HNR	**Honiara**	**10.79**	**112**	*e*Pn	**Pn**	**10 53 46.4**	**+0.1**
WB2	**Warramunga Arr**	**20.84**	**225**	*e*P	**P**	**10 55 54.4**	**+0.8**
WRA	**Warramunga Arr**	**20.85**	**225**	P	**P**	**10 55 54.6**	**+0.9**
	1.2nm,0.5s,baz=52,slow=11,SNR=23						
ASAR	**Alice Springs**	**23.74**	**219**	P	**P**	**10 56 23.9**	**-0.3**
	0.3nm,0.5s,mb3.0,baz=57,slow=8.6,SNR=6.1						
KKM	**Kota Kinabalu**	**35.44**	**286**	*e*P	**P**	**10 58 07.9**	**-0.2**
PMR	**Palmer**	**81.50**	**25**	*e*P	**P**	**11 03 29.3**	**-0.1**
	2.1nm,0.5s,mb4.3						
TORD	**Torodi Ar. Bea**	**147.66**	**286**	PKPbc	PKPbc	11 10 57.2	+0.7
	0.4nm,1.0s,baz=55,slow=3.1,SNR=2.9						

*IDC **16** 11:02:20.8±0.8, 507S×7751W, h0km, mb3.8/6, mb1 4.1/10, mb1mx4.0/20, mbtmp3.9/10, ML4.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/26, Error ellipse: s-maj=31.1km s-min=17.5km az=74.0*

*ISCJB **16** 11:02:25.8±1.8, 5.13S±008×77.4W±01, h54km±21km, mb3.8/6, Error ellipse: s-maj=18.2km s-min=13.2km az=172.7*

ISC 16 11:02:25.7±3.9, 507S±005×774W±01, h29km±30km, n18, σ0.78/12, mb3.8/6, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.14**	**206**	Pn	**Pn**	**11 02 59.7**	**+0.3**
	48nm,0.3s,baz=25,slow=9.8,SNR=97						
ATAH				Sn	**Sn**	**11 03 25.6**	**+0.6**
	24nm,0.3s,baz=13,slow=13,SNR=4.2						
NNA	**Nana**	**6.90**	**175**	Pn	**Pn**	**11 04 03.7**	**-1.1**
	4.3nm,0.3s,baz=359,slow=12,SNR=9.8						
NNA				Sn	**Sn**	**11 05 22.6**	**+0.3**
	6.6nm,0.3s,baz=176,slow=19,SNR=4.0						
SDV	**Santo Domingo**	**15.44**	**26**	Pn	**Pn**	**11 06 02.7**	**+1.4**
	0.8nm,0.3s,baz=248,slow=5.4,SNR=6.0						
SIV	**San Ignacio**	**19.39**	**125**	P	**Pn**	**11 06 49.9**	**-0.6**
	0.1nm,0.3s,baz=235,slow=19,SNR=4.8						
PCRV	**Puerto La Cruz**	**19.80**	**40**	LR	LR	11 15 35.2	
	comp=Z,86nm,20.4s,baz=15,slow=40						
TXAR	**Lajitas Array**	**42.49**	**325**	P	**P**	**11 10 18.4**	**+0.1**
	0.4nm,0.6s,mb3.2,baz=145,slow=9.0,SNR=6.7						
TXAR				PcP	PcP	11 12 11.3	+0.6
	0.4nm,0.8s,baz=152,slow=5.1,SNR=4.6						
PDAR	**Pinedale Array**	**55.82**	**332**	P	**P**	**11 12 00.1**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=123,slow=5.5,SNR=4.8						
PDAR				PcP	PcP	11 12 58.0	-1.0
	0.3nm,0.5s,baz=142,slow=5.5,SNR=5.0						
ULM	**Lac du Bonnet**	**57.36**	**346**	P	**P**	**11 12 10.0**	**-1.2**
	2.2nm,0.6s,mb4.4,baz=177,slow=8.8,SNR=8.5						
NVAR	**Mina Array Bea**	**57.50**	**322**	P	**P**	**11 12 12.6**	**+0.4**
	1.2nm,0.9s,mb3.9,baz=130,slow=7.1,SNR=3.6						
YKA	**Yellowknife Ar**	**73.09**	**343**	P	**P**	**11 13 52.3**	**-0.9**
	0.5nm,0.6s,mb3.6,baz=140,slow=6.0,SNR=14						
TORD	**Torodi Ar. Bea**	**80.61**	**76**	P	**P**	**11 14 36.6**	**+1.0**
	0.9nm,0.7s,mb3.8,baz=287,slow=6.2,SNR=5.6						
ZAL	**Zalesovo**	**129.18**	**13**	PKP	PKPdf	11 21 29.4	-1.6
	0.7nm,0.5s,baz=210,slow=5.8,SNR=4.7						
MKAR	**Makan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ				S	S	11 07 20.7	-10
	18nm,0.3s,baz=278,slow=23,SNR=12						
KSRS	Korea Array	8.72	299	P	Pn	11 06 14.6	+0.3
	baz=117,slow=11,SNR=8.9						
ASAJ	Asahikawa	11.22	19	P	Pn	11 06 44.7	+0.7
	0.8nm,0.3s,baz=274,slow=11,SNR=7.5						
SONM	Songino Array	27.33	311	P	P	11 09 26.3	+0.9
	0.9nm,0.8s,mb3.1,baz=124,slow=10,SNR=6.9						
MKAR	Makanchi Array	43.35	305	P	P	11 11 40.6	+0.2
	0.4nm,0.6s,mb2.7,baz=84,slow=10,SNR=9.4						
FITZ	Fitzroy Crossi	52.64	194	*e*P	P	11 12 50.9	+0.1
	4.1nm,0.9s,mb3.8						
FITZ	Fitzroy Crossi	52.64	194	P	P	11 12 50.7	-0.1
	1.2nm,0.6s,mb3.4,baz=82,slow=14,SNR=5.1						
WB2	Warramunga Arr	53.32	184	*e*P	P	11 12 55.3	-0.4
WRA	Warramunga Arr	53.32	184	P	P	11 12 55.3	-0.4
	1.2nm,0.3s,mb3.7,baz=0.3,slow=7.5,SNR=91						
ASAR	Alice Springs	57.05	184	P	P	11 13 22.1	0.0
	0.7nm,0.3s,mb3.4,baz=356,slow=3.8,SNR=20						
FINES	FINESS Array B	70.35	332	P	P	11 14 47.9	-0.3
	1.7nm,0.8s,mb3.8,baz=134,slow=5.5,SNR=6.8						

IDC 16 11:08:29.0±3.5,1427S×16685E,h0km,mb3.9/4, mb1 4.0/5,mb1mx3.8/16,mbtmp4.0/5,ML4.5/1,Error ellipse: s-maj=69.8km s-min=40.9km az=86.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.77	183	*e*P	Pn	11 10 23.9	+0.6
DZM				*e*S	Sn	11 11 40.8	-11
DZM	Mont Dzumac	7.77	183	Pn	Pn	11 10 23.8	+0.5
	7.3nm,0.3s,baz=21,slow=18,SNR=66						
DZM				Sn	Sn	11 11 47.6	-4.3
	8.0nm,0.3s,baz=195,slow=22,SNR=7.4						
STKA	Stephens Creek	28.98	229	P	P	11 14 30.0	-0.3
	2.3nm,0.6s,baz=40,slow=7.7,SNR=9.9						
WRA	Warramunga Arr	31.54	255	P	P	11 14 53.9	+1.0
	0.2nm,0.5s,baz=85,slow=9.2,SNR=4.0						
ASAR	Alice Springs	32.45	248	P	P	11 15 01.2	+0.3
	0.5nm,0.5s,baz=79,slow=8.8,SNR=12						
MKAR	Makanchi Array	96.59	316	P	P	11 22 00.7	0.0
	0.4nm,0.8s,baz=95,slow=6.1,SNR=3.7						

NIED ***16*** *11:34:00,3630N×14170E,h20km,Mw4.0 Best double couple: M0 1.25000×10^15 NP1:φ0=25.00000°,δ77.00000°, λ71.00000°. NP2:φ0=262.00000°,δ22.00000°,λ145.00000°.*
MOS ***16*** *11:34:28.2±0.5,3624N×14187E,h33km,mb4.7/5,Error ellipse: s-maj=18.8km s-min=10.3km az=127.6*
ISCJB ***16*** *11:34:28.3±1.6,3626N±003×14187E±006,h33km±12km, mb3.9/18,MS3.5/4,Error ellipse: s-maj=8.2km s-min=5.3km az=179.7*
JMA ***16*** *11:34:29.9±0.2,3631N×14167E,h59km±4km,M4.1*
JMA Felt I J1.
NEIC ***16*** *11:34:31.4±0.6,3622N×14165E,mb4.5/2,MW4.0(NIED), Error ellipse: s-maj=15.1km s-min=12.2km az=196.0*
IDC ***16*** *11:34:32.3±2.0,3620N×14159E,h43km±19km,mb3.5/13, mb1 3.8/18,mb1mx3.7/27,mbtmp3.7/18,ML3.8/5,MS3.4/7, Ms1 3.4/7,ms1mx3.1/31,Error ellipse: s-maj=20.5km s-min=12.1km az=85.0*

ISC 16 11:34:30.2±1.5,3626N±003×14174E±006,h30km±10km, h36km±1.4km:pP-P,n57,σ0°84/65,mb3.9/18,MS3.5/4,5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.91	233	P	Pn	11 34 46.5	-0.4
CHOJ				S	Sb	11 34 59.7	+0.6
JHO	Hitachi	1.01	291	⇓P	Pn	11 34 46.9	-1.5
ONAJ	Iwakimizuishiy	1.14	318	⇓P	Pn	11 34 48.6	-1.5
JFK	Kawauchi	1.31	328	⇓P	Pn	11 34 51.3	-1.2
JFT	Otama	1.69	319	⇓P	Pn	11 34 57.7	0.0
JFT				S	Sn	11 35 18.6	+0.2
BSO1	Boso 1	1.72	202	P	Pn	11 34 58.0	-0.1
BSO3	Boso 3	1.77	215	P	Pn	11 34 59.5	+0.7
JMM	Marumori	1.78	335	⇓P	Pn	11 34 58.2	-0.7
JMM				*e*S	Sn	11 35 20.3	-0.2
JAG	Ashikaga	1.86	276	P	Pn	11 34 59.1	-0.9
JAG				*e*S	Sn	11 35 22.9	+0.4
JFY	Yanaizu	2.00	306	P	Pn	11 35 02.1	+0.1
JFY				*e*S	Sn	11 35 27.2	+1.2
JKT	Katashina	2.07	285	P	Pn	11 35 03.1	+0.1
JRY	Ryogami san	2.31	265	P	Pn	11 35 05.7	-0.6
JOD2	Odawara 2	2.38	246	P	Pn	11 35 07.6	+0.4
MJAR	Matsushiro Arr	2.87	277	P	Pn	11 35 13.6	-0.3
	22nm,0.3s,baz=114,slow=8.6,SNR=215						
MJAR				S	Sn	11 35 52.8	+5.4
	20nm,0.3s,baz=90,slow=26,SNR=6.9						
MAJO	Matsushiro	2.87	277	*e*P	Pn	11 35 14.8	+0.9
MAT	Matsushiro	2.87	277	P	Pn	11 35 14.5	+0.6
MAT				S	Sn	11 35 53.7	+6.3
JHJ	Hachijo jima 2	3.52	208	P	Pn	11 35 23.1	+0.1
	46nm,0.3s,baz=107,slow=2.8,SNR=19						
JHJ				S	Sn	11 36 02.2	-1.4
	76nm,0.3s,baz=58,slow=23,SNR=13						
ASAJ	Asahikawa	7.88	4	P	Pn	11 36 23.6	+0.9
	0.9nm,0.3s,baz=200,slow=21,SNR=9.5						
ASAJ				S	Sn	11 37 50.7	-0.2
	0.9nm,0.3s,baz=90,slow=20,SNR=3.7						
ASAJ				LR	LR	11 40 17.5	
	comp=Z,118nm,19.5s,baz=179,slow=43						
ASAJ	Asahikawa	7.88	4	P	Pn	11 36 23.7	+0.9
ASAJ				S	Sn	11 37 50.7	-0.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
YUK	Yuzh-Kuril'sk	8.38	21	*e*S	Sn	11 37 54.5	-8.8
YUK				smax			
	comp=N,220nm,0.5s						
CBIJ	Chichi jima	9.14	178	P	Pn	11 36 39.8	-0.3
	comp=N,5.3nm,0.3s,baz=300,slow=20,SNR=3.4						
CBIJ				S	Sn	11 38 16.2	-5.7
	comp=N,2.0nm,0.3s,baz=254,slow=20,SNR=2.5						
JNU	Nakatsue	9.48	254	LR	LR	11 40 05.1	
	comp=N,407nm,20.4s,baz=282,slow=36						
KSRS	Korea Array	11.14	280	P	Pn	11 37 09.5	+2.1
	baz=94,slow=14,SNR=3.4						
KSRS				LR	LR	11 41 20.6	
	comp=N,111nm,19.5s,baz=358,slow=37						
YAK	Yakutsk	26.89	347	*i* P	P	11 40 08.1	-0.3
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
ULN	Ulaanbaatar	28.02	305	*i* P	P	11 40 19.5	+0.9
SONM	Songino Array	28.44	305	P	P	11 40 22.9	+0.5
	comp=Z,4.2nm,0.6s,mb4.0,baz=106,slow=8.9,SNR=21						
SONM				LR	LR	11 51 54.0	
	comp=Z,74nm,18.8s,MS3.3,baz=278,slow=37						
ZAK	Zakamensk	30.96	309	*e*	P	11 40 43.6	-1.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
ZAL	Zalesovo	42.65	313	P	P	11 42 24.0	0.0
	comp=Z,1.7nm,0.6s,mb4.0,baz=21,slow=5.6,SNR=9.7						
NVS	Novosibirsk	43.57	314	*e*P	P	11 42 30.3	-1.2
MK31	Makanchi Array	44.76	303	*e*P	P	11 42 41.3	+0.3
MK31				*e**PP	pP	11 42 50.9	+1.0
MKAR	Makanchi Array	44.76	303	P	P	11 42 41.5	+0.5
	comp=Z,2.1nm,0.8s,mb4.0,baz=88,slow=10,SNR=20						
MKAR				LR	LR	12 02 12.1	
	comp=Z,32nm,18.9s,MS3.3,baz=244,slow=37						
KURK	Kurchatov	46.62	309	*e*P	P	11 42 55.8	+0.1
KURK				*e**PP	pP	11 43 06.4	+1.8
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	Kurchatov	46.62	309	*e*P	P	11 42 55.8	+0.1
	comp=Z,5.1nm,0.7s,mb4.6						
KURK				*e*pP	pP	11 43 06.4	+1.8
HNR	Honiara	48.57	156	LR	LR	12 02 09.7	
	comp=Z,33nm,19.2s,MS3.5,baz=360,slow=34						
CHKZ	Chkalovo	51.04	314	*e*P	P	11 43 29.2	-0.4
CHKZ				*e**PP	pP	11 43 39.9	+1.3
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
CHKZ	Chkalovo	51.04	314	*e*P	P	11 43 29.2	-0.4
	comp=Z,6.3nm,1.2s,mb4.4						
CHKZ				*e*pP	pP	11 43 39.9	+1.3
BVAR	Borovoye Array	51.29	313	P	P	11 43 31.7	+0.2
	comp=Z,1.2nm,0.8s,mb3.9,baz=79,slow=7.7,SNR=6.3						
WRA	Warramunga Arr	56.33	188	P	P	11 44 08.3	0.0
	comp=Z,0.2nm,0.5s,mb3.4,baz=7.4,slow=7.4,SNR=10						
WRA	Warramunga Arr	56.33	188	*i* P	P	11 44 08.6	+0.3
AKTK	Aktyubinsk	59.39	312	P	P	11 44 29.4	-0.4
AKTO	Aktyubinsk	59.39	312	P	P	11 44 29.4	-0.4
	baz=71,slow=11						
ASAR	Alice Springs	60.06	188	P	P	11 44 34.5	+0.1
	comp=Z,0.2nm,0.7s,mb3.3,baz=19,slow=11,SNR=3.1						
DZM	Mont Dzumac	62.54	154	LR	LR	12 10 14.0	
	comp=Z,87nm,18.2s,MS4.0,baz=211,slow=34						
YKA	Yellowknife Ar	64.35	30	P	P	11 45 03.3	+0.2
	comp=Z,0.2nm,0.6s,mb3.3,baz=303,slow=7.0,SNR=6.1						
YKA	Yellowknife Ar	64.35	30	*i* P	P	11 45 06.3	+3.2
OBN	Obninsk	68.88	324	*e*P	P	11 45 31.9	-0.2
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
NB2	NORSAR Subarra	75.01	337	P	P	11 46 09.4	+0.6
	comp=Z,0.9nm,0.7s,mb3.8,baz=41,slow=5.9						
NOA	NORSAR Array B	75.01	337	P	P	11 46 09.3	+0.5
	comp=Z,2.1nm,0.9s,mb4.1,baz=38,slow=5.7,SNR=4.1						
NOA	NORSAR Array B	75.01	337	P	P	11 46 09.3	+0.5
AKASG	Malin Array Be	75.08	323	P	P	11 46 09.3	+0.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=45,slow=5.8,SNR=9.2						
AKASG	Malin Array Be	75.08	323	*i* P	P	11 46 08.6	-0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	75.08	323	P	P	11 46 09.3	+0.1
PDAR	Pinedale Array	78.02	45	P	P	11 46 29.0	+3.1
	comp=Z,0.3nm,0.7s,mb3.3,baz=280,slow=2.7,SNR=4.3						
BRTR	Keskin Array B	79.57	312	P	P	11 46 33.0	-1.4
	comp=Z,0.5nm,0.7s,mb3.5,baz=48,slow=4.3,SNR=3.6						
BRTR	Keskin Array B	79.57	312	*i* P	P	11 46 37.7	+3.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	83.51	328	P	P	11 46 54.1	-1.1
	comp=Z,0.3nm,0.5s,mb3.7,baz=30,slow=8.0,SNR=3.9						
TXAR	Lajitas Array	90.38	53	P	P	11 47 30.5	+1.8
	comp=Z,0.3nm,0.9s,mb3.6,baz=294,slow=4.8,SNR=2.9						

IDC ***16*** *11:43:10.8±1.5,1623S×17851W,h0km,mb4.1/5, mb1 4.4/5,mb1mx4.0/15,mbtmp4.1/5,Error ellipse: s-maj=145.5km s-min=24.0km az=153.0*
NEIC ***16*** *11:43:13.9±0.9,1494S×179.18W,h10km,mb4.4/1,Error ellipse: s-maj=20.7km s-min=19.7km az=155.0*
ISCJB ***16*** *11:43:16.1±0.9,1513S±01×1793W±01,h35km,mb4.4/8, Error ellipse: s-maj=21.6km s-min=19.6km az=120.8*

ISC 16 11:43:18.1±0.9,150S±01×1792W±01,h35km,n11, σ1°42/11,mb4.4/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	14.20	175	*e*Pn	Pn	11 46 36.0	-0.5
	388nm,0.4s						
HNR	Honiara	21.11	283	P	P	11 47 54.1	-5.4
	79nm,1.1s,mb5.0						
PMG	Port Moresby	33.31	276	P	P	11 49 50.6	-1.8
	3.7nm,0.7s,mb4.4						
STKA	Stephens Creek	39.41	238	P	P	11 50 41.9	-2.6
	2.4nm,0.6s,mb4.1,baz=82,slow=11,SNR=8.3						
WB2	Warramunga Arr	44.45	257	*e*P	P	11 51 26.5	+0.9
WRA	Warramunga Arr	44.46	257	P	P	11 51 27.4	+1.7
	1.1nm,0.5s,mb3.8,baz=91,slow=7.0,SNR=51						
ASAR	Alice Springs	44.89	251	P	P	11 51 29.6	+0.5
	12nm,0.6s,mb4.9,baz=89,slow=8.2,SNR=286						
CASY	Casey	68.42	204	*e*P	P	11 54 19.1	+2.9
	19nm,0.6s,mb5.3						
TXAR	Lajitas Array	85.13	58	P	P	11 55 49.8	-0.6
	0.4nm,0.7s,mb3.7,baz=229,slow=5.7,SNR=6.9						
PDAR	Pinedale Array	85.82	44	P	P	11 55 54.3	+0.4
	0.3nm,0.5s,mb3.8,baz=218,slow=3.9,SNR=3.8						
SMCO	Snowmass	86.17	48	*e*P	P	11 55 48.8	-6.8
	82nm,1.0s						

IDC 16 11:52:58.4±3.4,817S×11139E,h0km,mb3.2/3,mb1 3.3/3, mb1mx3.2/17,mbtmp3.2/3,Error ellipse: s-maj=194.8km s-min=27.5km az=49.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.11	120	P	P	11 58 24.6	-0.2
	0.3nm,1.0s,baz=293,slow=11,SNR=7.3						
ASAR	Alice Springs	26.51	128	P	P	11 58 38.5	+1.0
	0.2nm,0.4s,baz=300,slow=8.3,SNR=4.5						
MKAR	Makanchi Array	60.54	337	P	P	12 03 10.5	+0.1
	0.2nm,0.5s,baz=144,slow=7.4,SNR=5.9						

IDC 16 11:56:22.0±3.7,450S×15338E,h0km,mb3.5/2,mb1 3.8/2, mb1mx3.4/14,mbtmp3.5/2,Error ellipse: s-maj=171.4km s-min=48.8km az=122.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.08	229	P	P	12 01 39.4	+0.4
	0.9nm,0.4s,baz=54,slow=9.8,SNR=27						
ASAR	Alice Springs	26.76	223	P	P	12 02 04.0	+0.6
	0.4nm,0.9s,baz=56,slow=9.4,SNR=4.1						
TORD	Torodi Ar. Bea	150.76	289	PKPbc	PKPbc	12 16 16.9	+0.7
	0.7nm,0.7s,baz=94,slow=1.9,SNR=5.7						

NEIC ***16*** *12:12:13.9,3467N×2502E,h5km,MD3.5(ATH),After ATH.*
CSEM ***16*** *12:12:13.9,3467N×2502E,h5km,MD3.5/5,After ATH*

ATH 16 12:12:13.9,3467N×2502E,h5km,MD3.5/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.59	70	*e*PB	Pg	12 12 25.5	+0.2
NPS	Neapolis	0.77	39	*e*PG	Pg	12 12 28.3	-0.3
NPS				*e*SB	Sb	12 12 39.0	-1.4
GVD	Gavdhos	0.79	283	*e*P	Pg	12 12 30.4	+1.4
VAM	Vamos	1.00	318	*e*PG	Pg	12 12 32.9	-0.1
VAM				*e*SB	Sb	12 12 47.8	+0.7
SANT	Santorini	1.73	12	*e*P	Pn	12 12 46.9	+2.2
SANT				*e*S	Sn	12 13 08.4	+1.2
KARP	Karpathos	1.96	63	*e*PN	Pn	12 12 52.5	+4.7
VLI	Velíai	2.66	321	*e*PN	Pn	12 13 00.3	+3.0

IDC ***16*** *12:12:45.9±3.5,3485N×6757E,h0km,mb3.5/4,mb1 3.6/6, mb1mx3.4/23,mbtmp3.4/6,ML3.3/2,Error ellipse: s-maj=95.3km s-min=29.3km az=94.0*
ISCJB ***16*** *12:12:49.5±1.1,3514N±006×6836E±01,h10km,mb3.4/4, Error ellipse: s-maj=16.6km s-min=6.7km az=136.2*
NEIC ***16*** *12:12:50.1±1.5,3494N×6835E,h10km,mb3.4/1,Error ellipse: s-maj=28.5km s-min=10.3km az=68.0*
NNC ***16*** *12:12:55.7±1.8,3558N×6783E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=21.9km s-min=15.7km az=96.0*

ISC 16 12:12:50.7±1.1,3507N±006×682E±01,h10km,n18, σ1°48/22,mb3.4/4,3C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	0.89	127	*e*Pg	Pg	12 13 02.8	-4.9
KBL				*e*Sg	Sg	12 13 10.8	-8.4
CEP	Cherat	3.32	111	P	Pn	12 13 44.2	+1.5
SBDP	Sheikh Budin	3.53	141	P	Pn	12 13 51.0	+5.5
THW	Thamme Wali	3.73	127	P	Pn	12 13 48.7	+0.4
THW				S	Sn	12 14 30.0	-2.3
CHCP	Chirah Chowk	4.43	107	P	Pn	12 13 59.4	+1.4
KK31	Karatay Array	8.22	12	Pn	Pn	12 14 50.8	+0.8
	0.7nm,0.3s,baz=176,slow=12,SNR=20						
KK31				⇑Sn	Sn	12 16 20.8	-2.1
	0.4nm,0.3s,baz=200,slow=16,SNR=4.5						
KK31				⇑Lg		12 17 02.2	
	1.5nm,0.5s,baz=203,slow=32,SNR=4.3						
AAK	Ala-Archa	9.01	31	*e*Pn	Pn	12 15 00.7	-0.1
	2.7nm,0.3s						
AAK				*e*Sn	Sn	12 16 40.6	-1.7
TKM2	Tokmak 2	9.73	34	⇓Pn	Pn	12 15 13.3	+2.7
	0.2nm,0.6s						
AB31	Akbulak array	15.42	339	P	Pn	12 16 26.4	-1.8
	0.4nm,0.6s,baz=219,slow=33,SNR=13						
MK31	Makanchi Array	15.81	38	⇑P	Pn	12 16 36.9	+3.7
	2.0nm,0.9s,baz=226,slow=12,SNR=3.8						
MK31	Makanchi Array	15.81	38	*e*Pn	Pn	12 16 33.0	-0.3
MKAR	Makanchi Array	15.81	38	Pn	Pn	12 16 36.5	+3.3
	0.1nm,0.3s,baz=219,slow=11,SNR=5.4						
BVAR	Borovoye Array	18.02	4	P	Pn	12 17 01.1	0.0
	0.1nm,0.3s,baz=184,slow=10,SNR=2.8						
BRVK	Borovoye	18.04	4	P	Pn	12 17 02.0	+0.6
	2.3nm,0.8s						
ZAL	Zalesovo	22.17	27	P	P	12 17 46.8	0.0
	0.9nm,0.4s,mb3.5,baz=204,slow=5.7,SNR=4.4						
SONM	Songino Array	31.03	54	P	P	12 19 09.8	+1.3
	0.7nm,1.0s,mb3.4,baz=247,slow=9.8,SNR=3.2						
WRA	Warramunga Arr	83.22	120	P	P	12 25 15.9	-1.3
	0.1nm,0.4s,mb3.2,baz=322,slow=4.9,SNR=7.3						
ASAR	Alice Springs	85.36	123	P	P	12 25 27.1	-1.0
	0.3nm,0.7s,mb3.5,baz=314,slow=4.3,SNR=4.3						

IDC ***16*** *12:32:02.1±1.0,4685N×15395E,h0km,mb3.6/8, mb1 3.8/9,mb1mx3.6/23,mbtmp3.6/9,ML3.2/1,Error ellipse: s-maj=29.9km s-min=23.4km az=156.0*
NEIC ***16*** *12:32:03.4±0.7,4680N×1538E,h10km,Error ellipse: s-maj=21.1km s-min=11.9km az=144.0*
ISCJB ***16*** *12:32:05.3±0.9,468N±02×1538E±02,h35km,mb3.6/8, Error ellipse: s-maj=28.1km s-min=14.8km az=124.5*

ISC 16 12:32:07.0±0.9,468N±02×1538E±02,h35km,n10, σ0°89/10,mb3.6/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	8.35	255	Pn	Pn	12 34 07.3	+1.7
	0.3nm,0.3s,baz=66,slow=6.2,SNR=3.4						
ERM	Erimo	9.03	242	Pn	Pn	12 34 12.8	-2.0
MKAR	Makanchi Array	47.35	298	P	P	12 40 37.0	-0.5
	0.4nm,0.6s,mb3.5,baz=67,slow=6.8,SNR=5.3						
YKA	Yellowknife Ar	50.57	37	P	P	12 41 01.6	-0.5
	0.2nm,0.7s,mb3.1,baz=298,slow=7.6,SNR=2.8						
FINES	FINESS Array B	64.19	335	P	P	12 42 38.1	0.0
	0.8nm,0.4s,mb4.1,baz=38,slow=7.7,SNR=11						
PDAR	Pinedale Array	64.30	54	P	P	12 42 39.0	+0.1
	0.5nm,0.8s,mb3.6,baz=31,slow=3.5,SNR=4.2						
NOA	NORSAR Array B	68.32	341	P	P	12 43 05.3	+0.7
	0.9nm,0.7s,mb3.9,baz=28,slow=6.6,SNR=2.6						
AKASG	Malin Array Be	71.76	327	P	P	12 43 25.4	-0.4
	0.3nm,0.4s,mb3.6,baz=31,slow=6.8,SNR=3.3						
ASAR	Alice Springs	72.44	199	P	P	12 43 30.4	+0.6
	0.5nm,1.0s,mb3.4,baz=12,slow=6.3,SNR=6.3						
TXAR	Lajitas Array	77.02	61	P	P	12 43 56.3	0.0
	0.4nm,0.7s,mb3.5,baz=299,slow=4.3,SNR=5.7						

TIF ***16*** *13:08:10.5,4278N×46.15E,h10km±4km*
ISCJB ***16*** *13:08:11.0±0.4,4285N±003×46.19E±002,h7km±4km, Error ellipse: s-maj=4.7km s-min=2.9km az=27.5*
MOS ***16*** *13:08:11.0±1.6,4293N×4629E,h17km,mb4.2/1,Error ellipse: s-maj=12.6km s-min=7.5km az=23.7*
CSEM ***16*** *13:08:13.2±0.2,4290N×4638E,h34km±2km,mb4.2,Error ellipse: s-maj=5.8km s-min=3.7km az=174.0*

ISC 16 13:08:11.8±0.4,4283N±002×4618E±002,h8km±4km,n30, σ1°29/56,4C-2D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	Dylym	0.41	54	*i* PG	Pg	13 08 18.3	-1.4
DLMR				*i* S	Sg	13 08 26.3	+1.2
DLMR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
DLMR	Dylym	0.41	54	*i* Pg	Pg	13 08 18.3	-1.4
	comp=Z,1.0nm,0.2s						
DLMR				*i* Sg	Sg	13 08 26.3	+1.2
UNCR	Uncukul	0.47	104	*i* Pg	Pg	13 08 19.2	-1.6
UNCR				*i* Sg	Sg	13 08 28.8	+1.9
DBC	Dubki	0.51	68	*e*PG	Pg	13 08 21.3	-0.4
DBC				*i* S	Sg	13 08 31.0	+2.6
KRNR	Karanay	0.54	90	⇓*i*PG	Pg	13 08 20.6	-1.5
KRNR				*i* S	Sg	13 08 29.3	+0.2
BUJR	Buynaksk	0.68	90	*e*Pg	Pg	13 08 27.4	+2.5
BUJR				*i* Sg	Sg	13 08 38.9	+5.1
GNBR	Gunib	0.73	127	*i* Pg	Pg	13 08 24.0	-1.8
GNBR				*i* Sg	Sg	13 08 35.8	+0.6
KMKR	Kumukh	0.97	135	⇓*i*PG	Pg	13 08 28.0	-2.5
KMKR				*e*S	Sg	13 08 43.0	-0.1
SNJR	Sundja	1.03	284	*i* Pg	Pg	13 08 32.3	+0.7
SNJR				*i* Sg	Sg	13 08 48.7	+3.7
VLKR	Vladikavkaz	1.12	282	*i* Pg	Pg	13 08 33.5	+0.1
VLKR				*i* Sg	Sg	13 08 50.9	+2.9
URKR	Urkarakh	1.26	121	*e*Pg	Pg	13 08 34.4	-1.6
URKR				*e*Sg	Sg	13 08 59.4	+7.0
DUS	Dusheti	1.32	236	P	Pn	13 08 36.3	-0.2
DUS				S	Sb	13 08 53.4	-0.5
LACR	Lac	1.39	270	*i* Pg	Pg	13 08 36.2	-2.2
LACR				*i* Sg	Sg	13 08 55.2	-1.1
ARNR	Ardon	1.44	285	*e*Pg	Pg	13 08 37.8	-1.6
ARNR				*e*Sg	Sg	13 08 59.1	+1.0
DGRG	David-gareji	1.50	204	P	Pn	13 08 40.3	+1.3
DGRG				S	Sg	13 09 01.9	+1.8
MTA	Mtatsminda	1.53	223	P	Pn	13 08 40.4	+0.9
MTA				S	Sn	13 08 59.0	-0.6
ZEI	Tsey	1.68	269	*e*PN	Pn	13 08 40.0	-1.5
ZEI				pmax	pmax		
	comp=Z,74nm,0.2s						
ZEI	Tsey	1.68	269	*e*Pn	Pn	13 08 40.0	-1.5
	comp=Z,74nm,0.2s						
GOR	Gori	1.75	242	P	Pn	13 08 43.6	+1.1
GOR				S	Sn	13 09 06.2	+1.3
AKT	Akhty	1.77	139	*e*PN	Pn	13 08 43.0	+0.2
AKT				*i* S	Sg	13 09 10.0	+1.2
DIGR	Digorskoe uzhe	1.91	273	*i* Pn	Pn	13 08 44.3	-0.4
KZR	Kazreti	1.95	223	S	Sn	13 09 10.5	+0.5
SHAR	Shatzhatmas	2.72	291	*i* PN	Pn	13 08 56.3	+0.5
SHAR

ROB	Roburent	0.52 118		Pg	Pg	14 15 53.8 0.0
TOUF	Mont Tournerai	0.53 178	Pg	Pg	Pg	14 15 54.1 +0.2
AUTN	L'Aution	0.56 165	Pg	Pg	Pg	14 15 54.5 -0.1
AUTN			Sg	Sg	Sg	14 16 02.2 +0.1
SAOF	Saorge	0.60 157	Pg	Pg	Pg	14 15 55.5 +0.2
MVIF	Mont Vial	0.65 185	Pg	Pg	Pg	14 15 56.3 +0.2
MVIF			Sg	Sg	Sg	14 16 05.5 +0.8
LUCF	Luceram	0.65 172	Pg	Pg	Pg	14 15 56.3 0.0
SBF	Sospel	0.69 167	*e*Pg	Pg	Pg	14 15 57.0 0.0
SBF			*e*Sg	Sg	Sg	14 16 06.1 -0.1
FIN	Finale Ligure	0.78 115	Pg	Pg	Pg	14 15 58.3 -0.3
LPG	La Plagne	1.02 341	*e*Pg	Pg	Pg	14 16 03.0 -0.1
LPG			*e*Sg	Sg	Sg	14 16 16.2 -0.2
ORIF	Oris-en-Rattie	1.03 292	*e*Pg	Pg	Pg	14 16 03.6 +0.2
ORIF			*e*Sg	Sg	Sg	14 16 17.0 0.0
LPL	La Plagne	1.04 340	*e*Pg	Pg	Pg	14 16 03.2 -0.3
LPL			*e*Sg	Sg	Sg	14 16 17.0 -0.1
FRF	La Foret Royal	1.06 203	*e*Pg	Pg	Pg	14 16 03.9 -0.1
FRF			*e*Sg	Sg	Sg	14 16 17.6 -0.4
LMR	La Mourre	1.31 204	*e*Pg	Pg	Pg	14 16 08.4 -0.3
LMR			*e*Sg	Sg	Sg	14 16 25.6 -0.3
SMRF	Simiane la Rot	1.31 245	*e*Sg	Sg	Sg	14 16 25.8 -0.1
VIVF	Saint-Julien-l	1.85 281	*e*Sg	Sg	Sg	14 16 42.5 -0.5

*NEIC **16** 14:17:17.9, 16.19N×99.15W, h9km, MD4.1(MEX), After MEX.*

MEX 16 14:17:17.9±1.2, 1619N×9915W, h9km±19km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	1.00	313	*i* P	Pg	14 17 33.0	-4.0
ACX				*i* S	Sg	14 17 47.0	-3.0
PNIG	Pinotepa	1.00	78	*i* P	Pg	14 17 34.4	-2.8
PNIG				*i* S	Sg	14 17 47.0	-3.2
CAIG	El Cayaco	1.37	309	*i* P	Pn	14 17 39.8	-3.4
CAIG				*i* S	Sb	14 17 57.5	-3.8
PLIG	Platanillo	2.21	351	*e*P	Pn	14 17 53.0	-1.9
PLIG				*i* S	Sn	14 18 17.7	-4.6
VHO	Vista Hermosa	2.48	69	*i* P	Pn	14 17 56.3	-2.1
VHO				*i* S	Sn	14 18 25.6	-3.2
OXX	Oaxaca	2.49	69	*i* P	Pn	14 17 56.0	-2.6
OXX				*i* S	Sn	14 18 26.0	-3.1
YAIG	Yautepec	2.66	2	*e*P	Pn	14 17 58.2	-2.7
YAIG				*i* S	Sn	14 18 28.4	-4.8
PPM	Popocatepetl	2.90	10	*i* P	Pn	14 18 10.7	+6.4
HUIG	Huatulco	2.96	98	*e*P	Pn	14 18 03.1	-1.9
HUIG				*i* S	Sn	14 18 34.0	-6.6
PTVM	Pico Tres Padr	3.38	1	*e*P	Pn	14 18 12.7	+1.8
PTVM				*i* S	Sn	14 18 57.9	+6.7

*NEIC **16** 14:25:47.8, 1925N×6478W, h50km, MD3.6(RSPR), After RSPR.*

RSPR 16 14:25:47.8, 1925N×6478W, h50km±14km, MD3.5/8, MD3.5/8, 10C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	1.36	213⇑	*e*P	Pn	14 26 09.3	-1.1
MTP				*e*S	Sn	14 26 26.7	-0.6
CBYP	Canovanas	1.41	226⇑	*e*P	Pn	14 26 09.7	-1.3
CBYP				*e*S	Sn	14 26 27.5	-0.9
CPD	Cerro la Pandu	1.61	222⇑	*e*P	Pn	14 26 12.8	-1.0
CPD				*e*S	Sn	14 26 33.0	-0.4
SJG	San Juan	1.72	229⇑	*e*P	Pn	14 26 14.3	-0.9
SJG				*e*S	Sn	14 26 34.9	-1.1
CELP	Cerrillos	2.06	236⇑	*e*P	Pn	14 26 18.9	-1.1
CELP				*e*S	Sn	14 26 43.5	-1.0
ICM	Isla Caja Muer	2.13	231⇑	*e*P	Pn	14 26 20.3	-0.6
ICM				*e*S	Sn	14 26 45.2	-0.9
LRS	Lares	2.17	244⇑	*e*P	Pn	14 26 21.1	-0.4
LRS				*e*S	Sn	14 26 46.4	-0.8
GBPR	Guanica, Bosqu	2.36	238⇑	*e*P	Pn	14 26 23.6	-0.3
GBPR	Guanica, Bosqu	2.36	238	*e*S	Sn	14 26 51.1	-0.6
LSP	Las Mesas	2.43	244⇑	*e*P	Pn	14 26 24.7	-0.3
LSP				*e*S	Sn	14 26 53.2	-0.3
CRPR	Cabo Rojo, PR	2.53	241⇑	*e*P	Pn	14 26 25.8	-0.6
CRPR				*e*S	Sn	14 26 54.8	-1.1

*ISCJB **16** 14:35:17.8±0.3, 4344N±002×1239E±002, h79km±3km, Error ellipse: s-maj=3.1km s-min=2.7km az=40.5*
*CSEM **16** 14:35:18.2±0.0, 4336N×1241E, h60km, ML3.1/17, Error ellipse: s-maj=1.5km s-min=1.0km az=39.0*
*LDG **16** 14:35:18.8±0.4, 4347N×1243E, h10km, Ml3.0/13, Error ellipse: s-maj=7.1km s-min=5.0km az=107.0*
*NEIC **16** 14:35:19.4, 4336N×1237E, h64km, MD2.9(ROM), After ROM.*
*ROM **16** 14:35:19.4±0.1, 4336N×1237E, h64km±2km, Md2.9/46, Ml2.9/33, Error ellipse: s-maj=1.7km s-min=1.2km az=142.0*

ISC 16 14:35:19.0±0.3, 4343N±002×1240E±002, h71km±3km, n108, σ0§93/166, 14C-18D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BADI	Badiali	0.14	306⇓	*i*Pg	Pn	14 35 29.3	-0.2
BADI				Sg	Sn	14 35 36.4	-0.7
MURB	Monte Urbino	0.19	151⇓	*i*Pg	Pn	14 35 29.1	-0.5
MURB				Sg	Sn	14 35 36.0	-1.4
FSSB	Fossombrone	0.38	46	Pg	Pn	14 35 31.2	+0.4
FSSB				Sg	Sn	14 35 41.2	+1.7
CRE	Caprese Michel	0.38	301⇓	*i*Pg	Pn	14 35 30.9	0.0
CRE				Sg	Sn	14 35 39.2	-0.3
ARVD	Arcevia	0.40	79⇑	*i*Pg	Pn	14 35 31.2	+0.2
ARVD				Sg	Sn	14 35 40.5	+0.7
ASS	Assisi	0.41	153⇓	*i*Pg	Pn	14 35 30.5	-0.6
ASS				Sg	Sn	14 35 38.2	-1.7
SNTG	Esanatoglia	0.43	113⇑	*i*Pg	Pn	14 35 31.5	+0.3
SNTG				Sg	Sn	14 35 41.3	+1.1
RSM	Repubblica di	0.51	4	Pg	Pn	14 35 33.2	+1.3
CING	Cingoli	0.58	95	Pg	Pn	14 35 33.0	+0.3
PESA	Pesaro	0.60	32	Pg	Pn	14 35 33.7	+0.8
SFI	Santa Sofia	0.63	320⇓	*i*Pg	Pn	14 35 34.1	+0.9
SACS	San Casciano d	0.68	212⇓	*i*Pg	Pn	14 35 33.2	-0.5
SACS				Sg	Sn	14 35 43.7	-0.9
NRCA	Norcia	0.79	138	Pg	Pn	14 35 34.6	-0.4
CSNT	Castellina Chi	0.81	274⇓	*i*Pg	Pn	14 35 35.4	+0.2
CSNT				Sg	Sn	14 35 47.2	0.0
VMG	Vicchio	0.82	311⇑	*i*Pg	Pn	14 35 36.7	+1.3
AOI	Ancona	0.88	82	Pg	Pn	14 35 36.2	+0.1
ARCI	Arcidosso	0.89	230	Pg	Pn	14 35 35.9	-0.3
LATE	Laterza	0.92	209	Pg	Pn	14 35 36.1	-0.5
LNSS	Leonessa	0.95	150	Pg	Pn	14 35 36.7	-0.2
LNSS				Sg	Sn	14 35 49.6	-0.5
SEI	Scarperia	0.98	310	Pg	Pn	14 35 38.2	+0.9
MNS	Montasola	1.06	169	Pg	Pn	14 35 38.0	-0.3
GRFL	Gerfalco	1.08	256	Pg	Pn	14 35 38.5	0.0
CRMI	Carmignano	1.10	290	Pg	Pn	14 35 39.4	+0.6
CRMI				Sg	Sn	14 35 53.6	0.0
CAMP	Campotosto	1.16	140	Pg	Pn	14 35 39.6	+0.1
CAMP				Sg	Sn	14 35 54.7	-0.1
FNVD	Fontana Vidola	1.19	309	Pg	Pn	14 35 40.9	+1.0
TERO	Teramo	1.19	132	Pg	Pn	14 35 40.2	+0.2
FIAM	Fiamignano	1.27	155	Pg	Pn	14 35 40.9	-0.1
FIAM				Sg	Sn	14 35 58.0	+0.5
PZZT	Monte Pizzetto	1.32	303⇓	*i*Pg	Pn	14 35 42.4	+0.8
PZZT				Sg	Sn	14 35 59.5	+0.9
MAON	Monte Argentar	1.37	224⇓	*i*Pg	Pn	14 35 41.8	-0.4
MAON				Sg	Sn	14 35 58.4	-1.3
TOLF	Tolfa	1.39	192	Pg	Pn	14 35 42.2	-0.4
MTCE	Montecelio	1.43	170	Pg	Pn	14 35 43.1	+0.1
FAGN	Fagnano	1.45	143	Pg	Pn	14 35 44.7	+1.4
BDI	Bagni Di Lucca	1.46	297	Pg	Pn	14 35 44.0	+0.6
BDI				Sg	Sn	14 36 02.0	+0.3
MAIM		1.47	290	Pg	Pn	14 35 44.4	+0.8
VCEL	Villa Celiera	1.48	134	Pg	Pn	14 35 44.2	+0.5
CERT	Cerreto	1.54	164	Pg	Pn	14 35 44.3	-0.2
GSCL	Gusciola	1.60	306	Pg	Pn	14 35 47.3	+1.9
ERBM	Eremo	1.75	305	Pg	Pn	14 35 49.4	+2.1
INTR	Introdacqua	1.80	141	Pg	Pn	14 35 48.2	+0.3
VVLD	Villa Vallelon	1.80	150	Pg	Pn	14 35 48.3	+0.4
SDI	San Donato	2.01	148	Pg	Pn	14 35 51.3	+0.6
NVLJ	Novalja	2.11	57	*i* Pn	Pn	14 35 51.8	-0.4
NVLJ				*i* Sn	Sn	14 36 15.4	-2.1
NVLJ	Novalja	2.11	57	*i* Pn	Pn	14 35 51.8	-0.4
NVLJ				*i* Sn	Sn	14 36 15.3	-2.2
SKDS	Skadanscina	2.41	28	*i* Pn	Pn	14 35 55.3	-0.9
SKDS				*i* Sn	Sn	14 36 22.5	-2.2
PGF	Pioggiola	2.65	252	*e*Pn	Pn	14 36 00.1	+0.7
PGF				*e*Sn	Sn	14 36 29.6	-0.8
PGF	Pioggiola	2.65	252	*e*Pn	Pn	14 36 00.1	+0.7
PGF				*e*Sn	Sn	14 36 29.6	-0.8
MAGA	Magasa	2.67	332	Pg	Pn	14 35 59.8	+0.1
CTI	Castel Tesino	2.68	349	Pg	Pn	14 35 59.6	-0.2
VOY	Vojsko	2.81	22	*e*Pn	Pn	14 36 00.9	-0.8
VOY				*e*Sn	Sn	14 36 32.5	-2.0
RGNG	Rignano Grg	2.93	126	Pg	Pn	14 36 02.5	-0.8
MABI	Malga Bissina	2.95	334	Pg	Pn	14 36 03.9	+0.3
CADS	Cadrg	2.96	18	*i* Pn	Pn	14 36 03.0	-0.6
SGRT	San Giovanni R	2.98	123⇓	*i*Pg	Pn	14 36 03.4	-0.5
MDI	Monti di Nese	3.04	322	Pg	Pn	14 36 05.0	+0.3
PTCC	Patocco-Chiusa	3.05	12	Pg	Pn	14 36 04.5	-0.4
MSAG	Monte S. Angel	3.10	122	Pg	Pn	14 36 05.0	-0.6
FIN	Finale Ligure	3.13	286	Pg	Pn	14 36 07.1	+1.1
APPI	Appiano	3.16	345	Pg	Pn	14 36 07.2	+0.8
FVI	Forni Avoltri	3.18	5	Pg	Pn	14 36 07.1	+0.4
PDKS	Podkum	3.22	34	*i* Pn	Pn	14 36 07.2	0.0
ABTA	Abfaltersbach	3.32	1	⇑*i*Pn	Pn	14 36 09.3	+0.7
ABTA				⇑*i*Sn	Sn	14 36 47.5	+0.6
OBKA	Obir	3.44	26	⇑*i*Sn	Sn	14 36 47.8	-2.0
OBKA	Obir	3.44	26	⇑*i*Pn	Pn	14 36 10.3	+0.1
OBKA				⇓*i*Sn	Sn	14 36 49.4	-0.3
OBKA	Obir	3.44	26	⇑*i*Pn	Pn	14 36 10.3	+0.1
OBKA				*i* Sn	Sn	14 36 47.8	-2.0
OBKA	Obir	3.44	26	Pn	Pn	14 36 10.3	+0.1
OBKA				Sn	Sn	14 36 47.8	-1.9
SBF	Sospel	3.63	279	*e*Pn	Pn	14 36 14.1	+1.3
SBF				*e*Sn	Sn	14 36 53.6	-0.9
SBF	Sospel	3.63	279	*e*Pn	Pn	14 36 14.1	+1.3
SBF				*e*Sn	Sn	14 36 53.6	-0.9
SCE	Schlegeis	3.65	353⇓	*i*Pn	Pn	14 36 14.6	+1.6
KBA	Koelnbreinsper	3.71	10⇓	*i*Sn	Sn	14 36 54.1	-2.4
KBA	Koelnbreinsper	3.71	10⇓	*i*Pn	Pn	14 36 14.7	+0.8
KBA				⇓*i*Sn	Sn	14 36 57.1	+0.7
KBA	Koelnbreinsper	3.71	10⇓	*i*Pn	Pn	14 36 14.7	+0.8
KBA				*i* Sn	Sn	14 36 54.1	-2.3
KBA	Koelnbreinsper	3.71	10	Pn	Pn	14 36 14.7	+0.8
KBA				Sn	Sn	14 36 54.1	-2.3
WTTA	Wattenberg	3.88	352⇓	*i*Sn	Sn	14 37 00.3	-0.1
WTTA	Wattenberg	3.88	352⇑	*i*Pn	Pn	14 36 17.8	+1.7
WTTA				⇑*i*Sn	Sn	14 37 01.4	+1.0
WTTA	Wattenberg	3.88	352⇑	*i*Pn	Pn	14 36 17.8	+1.7
WTTA				*i* Sn	Sn	14 37 00.3	-0.1
WTTA	Wattenberg	3.88	352	Pn	Pn	14 36 17.8	+1.7
WTTA				Sn	Sn	14 37 00.3	-0.1
STON	Ston	3.92	96	*i* Pn	Pn	14 36 16.1	-0.6
STON				*i* Sn	Sn	14 36 57.5	-3.9
STON	Ston	3.92	96	*i* Pn	Pn	14 36 16.1	-0.6
STON				*i* Sn	Sn	14 36 57.4	-4.0
FRF	La Foret Royal	4.19	274	*e*Pn	Pn	14 36 20.7	+0.3
FRF				*e*Sn	Sn	14 37 06.4	-1.7
FRF	La Foret Royal	4.19	274	*e*Pn	Pn	14 36 20.7	+0.3
FRF				*e*Sn	Sn	14 37 06.4	-1.7
MBDF	Montbardon	4.26	290	*e*Pn	Pn	14 36 22.0	+0.6
MBDF				*e*Sn	Sn	14 37 09.1	-0.8
MBDF	Montbardon	4.26	290	*e*Pn	Pn	14 36 22.0	+0.6
MBDF				*e*Sn	Sn	14 37 09.1	-0.8
LMR	La Mourre	4.30	271	*e*Pn	Pn	14 36 22.5	+0.6
LMR				*e*Sn	Sn	14 37 08.6	-2.1
LMR	La Mourre	4.30	271	*e*Pn	Pn	14 36 22.5	+0.6
LMR				*e*Sn	Sn	14 37 08.6	-2.1
LPG	La Plagne	4.54	299	*e*Pn	Pn	14 36 25.7	+0.4
LPG				*e*Sn	Sn	14 37 16.5	-0.3
LPG	La Plagne	4.54	299	*e*Pn	Pn	14 36 25.7	+0.4
LPG				*e*Sn	Sn	14 37 16.5	-0.3
LPL	La Plagne	4.56	299	*e*Pn	Pn	14 36 25.7	+0.2
LPL				*e*Sn	Sn	14 37 16.3	-1.0
LPL	La Plagne	4.56	299	*e*Pn	Pn	14 36 25.7	+0.2
LPL				*e*Sn	Sn	14 37 16.3	-1.0
MOA	Molln	4.61	16⇑	*i*Pn	Pn	14 36 26.9	+0.7
MOA				⇑*i*Sn	Sn	14 37 16.8	-1.7
MOA	Molln	4.61	16⇑	*i*Pn	Pn	14 36 26.9	+0.7
MOA				*i* Sn	Sn	14 37 16.8	-1.7
ORIF	Oris-en-Rattie	4.92	290	*e*P	Pn	14 36 34.8	+4.3
ORIF				*e*Sn	Sn	14 37 25.3	-0.8
ORIF	Oris-en-Rattie	4.92	290	*e*Pn	Pn	14 36 31.5	+1.0
ORIF				*e*P		14 36 34.8	
ORIF				*e*Sn	Sn	14 37 25.3	-0.8
ORIF	Oris-en-Rattie	4.92	290	*e*P	Pn	14 36 34.8	+4.3
ORIF				*e*Sn	Sn	14 37 25.3	-0.8
SMRF	Simiane la Rot	4.98	279	*e*Pn	Pn	14 36 32.2	+1.0
CABF	La Chapelle	5.49	308	*e*Pn	Pn	14 36 38.6	+0.4
CABF				*e*Sn	Sn	14 37 38.2	-1.8
CABF	La Chapelle	5.49	308	*e*Pn	Pn	14 36 38.6	+0.4
CABF				*e*Sn	Sn	14 37 38.2	-1.8
HINF	Hinteralfeld	5.87	320	*e*Pn	Pn	14 36 42.8	-0.5
HINF				*e*Sn	Sn	14 37 46.2	-3.0
HINF	Hinteralfeld	5.87	320	*e*Pn	Pn	14 36 42.8	-0.5
HINF				*e*Sn	Sn	14 37 46.2	-3.0
CDF	Champ du Feu	6.13	326	*e*Pn	Pn	14 36 46.7	-0.3
CDF				*e*Sn	Sn	14 37 55.4	-0.3
LASF	Ste Croix	6.22	279	*e*Pn	Pn	14 36 49.2	+1.0
HAU	Haudompre	6.24	319	*e*Pn	Pn	14 36 48.2	-0.2
HAU				*e*Sn	Sn	14 37 54.6	-3.7
HAU	Haudompre	6.24	319	*e*Pn	Pn	14 36 48.2	-0.2
HAU				*e*Sn	Sn	14 37 54.6	-3.7
BZS	Buzias	6.94	68	S	Sn	14 38 18.8	+3.3
LOR	Lormes	7.14	306	*e*Sn	Sn	14 38 17.1	-3.3
LOR	Lormes	7.14	306	*e*Sn	Sn	14 38 17.1	-3.3
AVF	Avril sur Loir	7.23	301	*e*Pn	Pn	14 37 02.7	+0.7
MTLF	Montolieu	7.42	273	*e*Pn	Pn	14 37 04.7	+0.1
VTS	Vitosha	7.96	92⇓	*i*P	Pn	14 37 07.4	-4.6

*JSN **16** 14:48:47.5±0.5, 1915N×7944W, h0km±758km, MD4.3*
*ISCJB **16** 14:48:51.6±1.1, 1885N±006×7920W±007, h10km, Error ellipse: s-maj=10.7km s-min=6.7km az=93.7*
*SSNC **16** 14:48:54.8, 1841N×7953W, h25km, MD3.4, ML3.3*

ISC 16 14:48:50.9±2.1, 1880N±008×7929W±008, h2km±13km, n7, σ1§05/10, 3D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	Malvern	1.75	119⇓	*e*P	Pn	14 49 21.9	-0.4
MCJ				*e*S	Sg	14 49 48.0	+0.8
CVJ	Coleyville	1.76	109⇓	*e*P	Pn	14 49 21.4	-1.0
STH	Stony Hill	2.46	107⇓	*e*P	Pn	14 49 31.4	-0.6
STH				*e*S	Sn	14 50 03.8	+1.1
LMGC	Las Mercedes	2.50	59	*e*PG	Pg	14 49 37.4	-1.4
LMGC	baz=249			*e*SG	Sg	14 50 10.7	-0.5
	comp=N,95nm,0.0s						
LMGC				*e*			
	comp=E,69nm,0.0s						
CCCC	Cccc	2.79	31	*e*P	Pg	14 49 47.4	+3.1
MGV	Manicaragua	3.36	349	*e*P	Pb	14 49 51.8	+0.6
SOR	Soroa	5.28	319	*e*P	Pn	14 50 10.7	-0.1

IDC 16 14:57:59.6±3.5, 4859S×12075E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, MS3.2/2, Ms1 3.1/2, ms1mx2.7/23, Error ellipse: s-maj=122.3km s-min=65.0km az=121.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	22.95	51	P	P	15 03 05.2	-0.2
	1.3nm,0.8s,baz=216,slow=14,SNR=3.0						
STKA				LR	LR	15 10 29.9	
	comp=Z,53nm,18.7s,baz=25,slow=33						
ASAR	Alice Springs	26.97	27	P	P	15 03 42.9	0.0
	1.3nm,1.1s,baz=206,slow=9.3,SNR=6.8						
WRA	Warramunga Arr	30.61	26	P	P	15 04 15.5	+0.2
	0.9nm,1.1s,baz=198,slow=7.9,SNR=4.4						
CTA	Charters Tower	35.06	45	LR	LR	15 19 06.7	
	comp=Z,37nm,18.9s,baz=57,slow=36						
YKA	Yellowknife Ar	146.88	44	PKPbc	PKPbc	15 17 41.8	-2.1
	0.5nm,0.8s,baz=270,slow=2.8,SNR=8.9						

*CSEM **16** 15:09:34.4±0.1, 3226N×4850E, h30km, mb3.9/7, Error ellipse: s-maj=2.8km s-min=1.8km az=38.0*
*NEIC **16** 15:09:36.6, 3235N×4876E, h18km, mb3.9/2, ML3.6(THR), After THR.*
*THR **16** 15:09:36.6±0.4, 32.34N×4876E, h18km±4km, ML3.6*
*TEH **16** 15:09:36.0, 3224N×4847E, h25km, Mn3.7*
*ISCJB **16** 15:09:37.5±0.7, 32.30N±004×4870E±005, h49km±8km, mb3.8/10, MS3.5/2, Error ellipse: s-maj=7.4km s-min=5.5km az=81.8*
*MOS **16** 15:09:39.7±1.4, 3271N×4887E, h33km, mb4.0/9, Error ellipse: s-maj=23.2km s-min=15.1km az=82.8*
*IDC **16** 15:09:45.8±7.2, 3250N×4875E, h98km±63km, mb3.5/8, mb1 3.5/10, mb1mx3.3/25, mbtmp3.4/10, ML3.2/2, MS3.5/2, Ms1 3.4/2, ms1mx2.6/37, Error ellipse: s-maj=44.1km s-min=19.2km az=163.0*

ISC 16 15:09:36.8±0.9, 3228N±004×4857E±004, h29km±8km, n54, σ1§02/67, mb3.8/10, MS3.5/2, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.26	130	*e*Pg	Pb	15 09 42.0	-1.6
SHGR				AML	AML	15 09 48.9	
	comp=E,20μm,0.4s						
SHGR				AML	AML	15 09 49.1	
	comp=N,14μm,0.3s						
IPIR	Pirpir	2.00	78	*e*Pn	Pn	15 10 09.4	+0.8
IPIR				*e*Sn	Sn	15 10 34.8	+2.1
IKOM	Komasi	2.09	335	*e*Sn	Sn	15 10 34.3	-0.5
ASAO	Ashtian	2.57	28	*e*Pn	Pn	15 10 17.7	+1.3
ASAO				AML	AML	15 11 01.5	
	comp=E,168nm,0.6s						
ASAO	Ashtian	2.57	28	Pn	Pn	15 10 17.0	+0.6
IGHG	Ghaleghazi	2.65	321	*e*Pn	Pn	15 10 16.6	-0.8
IGHG				*e*Sn	Sn	15 10 47.0	-1.5
IKLH	Kalahroud	2.74	67	*e*Pn	Pn	15 10 19.4	+0.7
IKLH				*e*Sn	Sn	15 10 51.9	+1.1
SNGE	Sanandaj	2.99	340	*e*Pn	Pn	15 10 25.2	+3.1
SNGE				*e*Sg	Sn	15 11 09.9	+13
SNGE				AML	AML	15 11 19.4	
	comp=N,144nm,0.8s						
SNGE	Sanandaj	2.99	340	Pn	Pn	15 10 25.0	+2.9
SNGE				Sg	Sn	15 11 09.0	+12
SNGE	Sanandaj	2.99	340	*e*Pn	Pn	15 10 25.2	+3.1
	SNR=52						
SNGE				Sg	Sn	15 11 09.0	+12
IGAR	Garneh	3.07	90	*e*Pn	Pn	15 10 23.5	+0.2
IZEF	Zefreh	3.23	78	*e*Pn	Pn	15 10 26.5	+1.0
IZEF				*e*Sn	Sn	15 11 03.6	+0.6
IRAZ	Razeghan	3.32	20	*e*Pn	Pn	15 10 28.6	+1.9
IRAZ				*e*Sn	Sn	15 11 05.0	-0.1
NASN	Na'in	3.62	81	*e*Pn	Pn	15 10 31.9	+1.1
NASN	Na'in	3.62	81	Pn	Pn	15 10 31.0	+0.2
BHD	Baghdad	3.67	287	*ex*	x	15 10 32.0	
BHD				*ex*	x	15 11 14.0	
ISFB	Sefidab	3.70	55	*e*Pn	Pn	15 10 32.5	+0.5
ISFB				*e*Sn	Sn	15 11 14.4	-0.2
IVRN	Varamin	3.78	43	*e*Pn	Pn	15 10 33.8	+0.7
IVRN				*e*Sn	Sn	15 11 16.3	-0.2
IMHD	Mahdasht	3.82	27	*e*Pn	Pn	15 10 34.1	+0.5
IMHD				*e*Sn	Sn	15 11 17.1	-0.4
IDMV	Damavand	4.37	40	*e*Pn	Pn	15 10 41.5	+0.3
IDMV				*e*Sn	Sn	15 11 30.7	-0.4
IPAR	Pars	4.55	121	*e*Pn	Pn	15 10 43.9	+0.3
IPAR				*e*Sn	Sn	15 11 34.3	-1.1
IFIR	Firoozkooh	4.83	45	*e*Pn	Pn	15 10 46.4	-1.1
IFIR				*e*Sn	Sn	15 11 41.5	-1.0
ICHK	Chekchek	4.95	89	*e*Pn	Pn	15 10 49.7	+0.6
ICHK				*e*Sn	Sn	15 11 44.0	-1.3
IMEH	Mehriz	5.22	98	*e*Pn	Pn	15 10 52.9	+0.1
IBAF	Bafgh	5.99	95	*e*Pn	Pn	15 11 03.6	+0.2
IBAF				*e*Sn	Sn	15 12 08.7	-2.3
MSL	Mosul	6.05	313	*ex*	x	15 11 13.0	
MSL				*ex*	x	15 12 23.0	
BRTR	Keskin Array B	14.18	306	P	Pn	15 13 00.1	+4.6
	comp=N,0.1nm,0.3s,baz=124,slow=9.7,SNR=3.3						
AKTK	Aktyubinsk	19.45	18	P	Pn	15 14 01.5	-0.8
AKTO	Aktyubinsk	19.45	18	P	Pn	15 14 01.5	-0.8
	comp=N,0.1nm,0.3s,baz=203,slow=14,SNR=5.5						
MLR	Muntele Rosu	21.91	314	P	P	15 14 32.4	+4.8
	comp=N,1.1nm,0.5s,mb3.6,baz=245,slow=19,SNR=2.8						
MLR	Muntele Rosu	21.91	314	P	P	15 14 32.4	+4.8
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	Borovoye	26.01	31	P	P	15 15 06.9	-0.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
BRVK	Borovoye	26.01	31	P	P	15 15 06.9	-0.2
	comp=Z,2.1nm,0.8s,mb3.7						
BRVK	Borovoye	26.01	31	P	P	15 15 06.9	-0.2
	comp=Z,2

KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KURK Kurchatov 28.79 41 P **P 15 15 30.7 -1.4**
comp=Z,2.9nm,0.9s,mb4.0
KURK Kurchatov 28.79 41 P **P 15 15 30.7 -1.4**
comp=Z,3.0nm,0.9s,mb4.0
MKAR Makanchi Array 29.52 51 P **P 15 15 38.9 +0.4**
comp=Z,1.0nm,0.7s,mb3.6,baz=246,slow=8.0,SNR=9.9
MKAR Makanchi Array 29.52 51 P **P 15 15 38.9 +0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 32.63 340 P **P 15 16 06.2 +0.3**
comp=Z,1.4nm,0.8s,mb4.0,baz=147,slow=9.0,SNR=9.5
FINES FINESS Array B 32.63 340 P **P 15 16 06.2 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 32.63 340 P **P 15 16 06.2 +0.3**
ZAL Zalesovo 33.63 39 P **P 15 16 14.2 -0.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=212,slow=10,SNR=5.1
ZAL Zalesovo 33.63 39 P **P 15 16 14.2 -0.5**
ZAL pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 36.11 331 P **P 15 16 36.2 +0.2**
comp=Z,0.8nm,0.3s,mb4.1,baz=116,slow=10,SNR=6.9
HFS LR LR 15 33 41.6
comp=Z,45nm,21.6s,MS3.2,baz=252,slow=40
HFS Hagfors 36.11 331 P **P 15 16 36.2 +0.2**
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS MLR MLR
comp=Z,45nm,21.7s
TORD Torodi Ar. Bea 46.83 257 P **P 15 18 07.2 +3.3**
comp=Z,0.6nm,0.6s,mb3.7,baz=56,slow=7.6,SNR=5.8
TORD Torodi Ar. Bea 46.83 257 P **P 15 18 07.2 +3.3**
BOSA Boshof 64.48 203 LR LR 15 51 06.8
comp=Z,49nm,19.6s,MS3.7,baz=356,slow=38
YKA Yellowknife Ar 84.59 352 P **P 15 22 06.7 -0.6**
comp=Z,0.7nm,0.9s,mb3.8,baz=11,slow=5.2,SNR=8.2
YKA Yellowknife Ar 84.59 352 P **P 15 22 06.7 -0.6**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 84.59 352 P **P 15 22 06.7 -0.6**

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*ISCJB **16** 15:23:31.8±1.9,349N±0.1×234E±0.1,h5km, Error ellipse: s-maj=17.2km s-min=9.7km az=70.0*
*CSEM **16** 15:23:32.9±0.5,3489N×2343E,h12km, MD3.7, Error ellipse: s-maj=12.3km s-min=6.6km az=20.0*
*ATH **16** 15:23:33.2,3492N×2345E,h5km±4km, MD3.7/7*
*NEIC **16** 15:23:33.2,3492N×2345E,h5km, MD3.7(ATH), After ATH.*
ISC 16 15:23:33.6±1.8,350N±01×235E±01,h2km±12km,n10, σ0§82/12,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.53**	**105**	*e*PB	**Pg**	**15 23 43.0**	**-0.8**
VAM	**Vamos**	**0.74**	**55**	*e*PG	**Pg**	**15 23 47.7**	**-0.1**
VAM				*e*SB	**Sb**	**15 23 59.1**	**-0.7**
KYTH	**Kithira**	**1.34**	**345**	*e*PB	**Pb**	**15 23 59.5**	**0.0**
NPS	**Neapolis**	**1.79**	**80**	*e*PG	**Pg**	**15 24 07.3**	**-0.5**
VLI	**Veliai**	**1.79**	**346**	*e*PG	**Pg**	**15 24 07.3**	**-0.5**
XRY	**Khrisi**	**1.84**	**93**	*e*PN	**Pg**	**15 24 09.0**	**+0.2**
SANT	**Santorini**	**2.14**	**49**	*e*Pn	**Pn**	**15 24 09.7**	**-0.6**
SANT				*e*Pg	**Pg**	**15 24 16.4**	**+1.9**
SANT	**Santorini**	**2.14**	**49**	*e*Pn	**Pn**	**15 24 09.7**	**-0.6**
SANT	**Santorini**	**2.14**	**49**	*e*Pg	**Pg**	**15 24 16.4**	**+1.8**
KARP	**Karpathos**	**3.08**	**78**	*e*PN	**Pn**	**15 24 24.5**	**+1.3**

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*NEIC **16** 15:31:17.8,2718S×6973W,h88km, MG3.9(GUC), After GUC.*
GUC 16 15:31:17.8±1.0,2718S×6973W,h88km±12km,ML3.9,4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.58**	**252**	⇑*i*P	Pn	15 31 33.3	+0.3
CPCH				*i* S	Sn	15 31 44.8	+0.5
CPCH				AML	AML	15 31 46.7	
	comp=E,28μm,0.1s						
CPCH	**Copiapo**	**0.58**	**252**	⇑*i*P	Pn	15 31 33.3	+0.3
CPCH				*i* S	Sn	15 31 44.8	+0.5
CDCH	**Caldera**	**0.98**	**276**	*e*P	Pn	15 31 37.8	+0.6
CDCH				*i* S	Sn	15 31 52.1	+0.4
CDCH				AML	AML	15 31 53.5	
	comp=N,4μm,0.5s						
CDCH	**Caldera**	**0.98**	**276**	*e*P	Pn	15 31 37.8	+0.6
CDCH				*i* S	Sn	15 31 52.1	+0.4
VACH	**Vallenar**	**1.66**	**213**	⇑*i*P	Pn	15 31 45.8	+0.3
VACH				*i* S	Sn	15 32 06.6	+0.1
LCO	**Las Campanas**	**2.01**	**205**	*e*Pn	Pn	15 31 50.5	+0.4
LCO				*e*Sn	Sn	15 32 11.9	-2.7
CPN1	**Cerro Paranal**	**2.62**	**346**	*e*P	Pn	15 31 59.8	+1.6
CPN1				*i* S	Sn	15 32 30.7	+1.6
CPN1				AML	AML	15 32 40.1	
	comp=N,198nm,0.6s						
TLL	**Tololo Astrono**	**3.12**	**197**	*e*P	Pn	15 32 06.0	+1.1
TLL				*i* S	Sn	15 32 43.0	+1.9
TLL				AML	AML	15 33 15.1	
	comp=N,210nm,0.4s						
TLL	**Tololo Astrono**	**3.12**	**197**	*e*P	Pn	15 32 06.0	+1.1
TLL				*i* S	Sn	15 32 43.0	+1.9
CEN1	**Los Morros**	**3.80**	**354**	⇑*i*P	Pn	15 32 12.0	-2.1

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*CSEM **16** 15:41:50.9±0.1,3863N×2663E,h2km, MD3.1, Error ellipse: s-maj=2.7km s-min=1.5km az=80.0*
*ATH **16** 15:41:50.6,3859N×2643E,h33km±9km, MD3.3/4*
*NEIC **16** 15:41:50.6,3859N×2643E,h33km, MD3.4(ATH), After ATH.*
*ISCJB **16** 15:41:51.7±0.5,3861N±002×2656E±004,h10km, Error ellipse: s-maj=5.1km s-min=2.9km az=132.7*
*ISK **16** 15:41:52.4,3863N×2666E,h8km, MD3.1*
ISC 16 15:41:51.9±0.5,3860N±002×2653E±004,h10km,n23, σ1§02/33,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.24**	**168**	*i* P	**Pg**	**15 41 56.9**	**0.0**
URLA				*i* S	**Sg**	**15 42 01.0**	**+0.8**
BLCB	**Balcova**	**0.45**	**118**	PG	**Pg**	**15 41 59.8**	**-1.0**
BLCB				SG	**Sg**	**15 42 06.0**	**-0.8**
IZM	**Izmir**	**0.61**	**109**	PG	**Pg**	**15 42 03.9**	**+0.2**
IZM				SG	**Sg**	**15 42 11.1**	**-0.5**
KDAG	**Bornova**	**0.61**	**109**	*i* P	**Pg**	**15 42 02.7**	**-1.0**
KDAG				*i* S	**Sg**	**15 42 12.1**	**+0.4**
PRK	**Paraskevi**	**0.68**	**343**	*e*PN	**Pg**	**15 42 04.5**	**-0.5**
PRK				*e*SN	**Sg**	**15 42 13.9**	**0.0**
AYVA	**Ayvalik**	**0.72**	**10**	*i* P	**Pg**	**15 42 04.9**	**-0.9**
AYVA				*i* S	**Sg**	**15 42 15.3**	**+0.2**
SMG	**Samos**	**0.92**	**165**	*e*PN	**Pg**	**15 42 08.5**	**-1.1**
SMG				*e*SN	**Sg**	**15 42 21.9**	**+0.3**
AKS	**Akhisar**	**1.04**	**74**	PG	**Pg**	**15 42 10.7**	**-1.2**
AKS				SG	**Sg**	**15 42 24.0**	**-1.4**
EZN	**Ezine**	**1.23**	**353**	*e*PN	**Pn**	**15 42 16.7**	**+1.5**
BOZC	**Bozcaada**	**1.30**	**343**	*i* P	**Pn**	**15 42 14.5**	**-1.5**
BOZC				*i* S	**Sb**	**15 42 31.9**	**-1.2**
BTOK	**Tokmak**	**1.64**	**45**	*i* P	**Pn**	**15 42 22.3**	**+1.5**
BTOK				*i* S	**Sn**	**15 42 44.6**	**+2.6**
APE	**Apeiranthos**	**1.72**	**208**	*e*PB	**Pn**	**15 42 19.8**	**-2.1**
DST	**Dursunbey**	**1.92**	**58**	*e*PN	**Pn**	**15 42 25.5**	**+0.9**
YER	**Yerkesik**	**2.01**	**136**	*e*PN	**Pn**	**15 42 27.3**	**+1.4**
EDC	**Edincik**	**2.03**	**30**	*e*PN	**Pn**	**15 42 26.1**	**0.0**
DAT	**Datca**	**2.04**	**156**	*e*PN	**Pn**	**15 42 28.0**	**+1.7**
BNT	**Bandirma**	**2.06**	**31**	*e*PN	**Pn**	**15 42 26.9**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.14**	**13**	*e*PN	**Pn**	**15 42 28.5**	**+0.8**
ENEZ	**Enez**	**2.15**	**352**	*e*PN	**Pn**	**15 42 28.9**	**+1.0**
KCT	**Karacabey**	**2.18**	**40**	*e*PN	**Pn**	**15 42 28.5**	**+0.2**
MFT	**Murefte**	**2.26**	**15**	*e*PN	**Pn**	**15 42 29.7**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.48**	**137**	*e*PN	**Pn**	**15 42 32.9**	**+0.6**
RDO	**Rodhopi**	**2.66**	**344**	*e*PN	**Pn**	**15 42 33.8**	**-1.0**

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*CSEM **16** 15:43:41.7±0.8,3864N×2857W,h6km±4km, ML1.9, Error ellipse: s-maj=3.1km s-min=2.0km az=177.0, After PDA*
*PDA **16** 15:43:41.7±0.8,3864N×2857W,h6km±4km, MD2.8, ML1.9, Error ellipse: s-maj=3.1km s-min=2.0km az=177.0*
SVSA 16 15:43:41.7±0.8,3864N×2857W,h6km±4km,MD2.8,ML1.9, Error ellipse: s-maj=3.1km s-min=2.0km az=177.0,

Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**263**	*e*P	Pg	15 43 43.8	-0.2
PCED				*e*S	Sg	15 43 45.9	+0.4
PCED							
	224nm,0.2s						
PCED	**Cedros**	**0.10**	**263**	*e*P	Pg	15 43 43.8	-0.2
PCED				*e*S	Sg	15 43 45.9	+0.4
CALA	**Caldeira**	**0.12**	**240**	*e*P	Pg	15 43 44.0	-0.2
CALA				*e*S	Sg	15 43 45.9	0.0
HOR	**Horta**	**0.12**	**202**	*e*P	Pg	15 43 43.5	-0.8
PICO	**Pico**	**0.18**	**141**	*e*P	Pg	15 43 45.0	-0.3
PICO				*i* S	Sg	15 43 48.0	+0.3
ROSA	**Rosais**	**0.27**	**73**	*e*P	Pg	15 43 46.8	-0.2
ROSA				*e*S	Sg	15 43 50.1	-0.4
PMAN	**Manadas**	**0.38**	**91**	*e*S	Sg	15 43 53.3	-0.6
PMAN							
	58nm,0.2s						
PID	**Ribeirinha**	**0.41**	**119**	*e*P	Pg	15 43 49.1	-0.4
PID				*e*S	Sg	15 43 54.1	-0.8

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*ISCJB **16** 15:44:19.1±3.2,5357N±009×163.1W±0.1,h24km±25km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=16.0km s-min=11.0km az=170.3*
*IDC **16** 15:44:19.5±1.7,5423N×16325W,h0km, mb3.4/6, mb1 3.6/7, mb1mx3.5/25, mbtmp3.4/7, ML3.4/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/25, Error ellipse: s-maj=51.3km s-min=22.9km az=13.0*
*NEIC **16** 15:44:21.6,5361N×16320W,h10km, ML3.0(AEIC), After AEIC.*
ISC 16 15:44:18.1±4.6,5360N±009×1631W±01,h9km±29km,n11, σ1§03/13,mb3.5/6,MS2.8/2,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.28**	**351**	P	**Pn**	**15 44 42.5**	**+0.4**
FALS				S	**Sb**	**15 44 59.0**	**+0.2**
AKLV	**Akutan Long Va**	**1.80**	**289**	P	**Pn**	**15 44 49.3**	**0.0**
AKLV				S	**Sn**	**15 45 12.8**	**+0.6**
UNV	**Unalaska Valle**	**2.06**	**278**	P	**Pn**	**15 44 52.6**	**-0.2**
SDPT	**Sand Point**	**2.31**	**40**	*e*Pn	**Pn**	**15 44 56.5**	**+0.2**
INK	**Inuvik**	**20.25**	**32**	P	**P**	**15 48 50.6**	**-2.9**
	0.1nm,0.3s,baz=233,slow=11,SNR=6.3						
INK				LR	LR	15 55 59.0	
	comp=Z,42nm,20.4s,MS2.8,baz=336,slow=35						
YKA	**Yellowknife Ar**	**26.53**	**51**	P	**P**	**15 49 56.1**	**+0.2**
	0.5nm,0.6s,mb3.2,baz=275,slow=9.4,SNR=8.4						
YKA				LR	LR	16 00 17.2	
	comp=Z,32nm,19.1s,MS2.9,baz=210,slow=36						
NVAR	**Mina Array Bea**	**33.96**	**98**	P	**P**	**15 51 07.2**	**+5.5**
	0.4nm,0.7s,mb3.5,baz=292,slow=9.5,SNR=3.2						
TXAR	**Lajitas Array**	**48.98**	**95**	P	**P**	**15 53 08.0**	**+3.2**
	0.3nm,0.7s,mb3.5,baz=300,slow=6.0,SNR=4.8						
SONM	**Songino Array**	**53.88**	**303**	P	**P**	**15 53 41.7**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=50,slow=6.2,SNR=3.0						
MKAR	**Makanchi Array**	**65.63**	**317**	P	**P**	**15 55 00.7**	**-1.7**
	0.3nm,0.8s,mb3.4,baz=38,slow=6.0,SNR=4.3						
BRTR	**Keskin Array B**	**85.94**	**347**	P	**P**	**15 56 58.0**	**-0.4**
	1.1nm,1.1s,mb4.0,baz=23,slow=6.7,SNR=3.9						

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*ISCJB **16** 15:49:35.2±1.7,4301N±008×0.10W±006,h13km±15km, Error ellipse: s-maj=13.4km s-min=6.6km az=151.4*
*CSEM **16** 15:49:35.8±0.1,4301N×009W,h10km, ML2.1, Error ellipse: s-maj=3.6km s-min=1.6km az=167.0*
*STR **16** 15:49:35.6±0.1,4299N×001W,h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 15:49:35.7±0.1,4301N×009W,h10km, Md1.4/2, Error ellipse: s-maj=3.2km s-min=1.4km az=167.0*
*MDD **16** 15:49:36.3±0.4,4300N×0.10W,h0km, mbLg0.8/2, Error ellipse: s-maj=2.8km s-min=2.3km az=173.0, PRXIMO*
ISC 16 15:49:35.6±1.6,4301N±008×009W±006,h12km±14km,n9, σ0§14/17,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.13**	**73**	Pg	**Pg**	**15 49 38.7**	**-0.1**
LABF				Sg	**Sg**	**15 49 41.0**	**0.0**
LABF	**Labassere**	**0.13**	**73**	P	**Pg**	**15 49 38.8**	**0.0**
LABF				S	**Sg**	**15 49 41.1**	**+0.1**
VIEF	**Viey**	**0.15**	**146**	Pg	**Pg**	**15 49 39.2**	**0.0**
VIEF				Sg	**Sg**	**15 49 41.7**	**0.0**
VIEF	**Viey**	**0.15**	**146**	P	**Pg**	**15 49 39.3**	**+0.1**
VIEF				S	**Sg**	**15 49 41.7**	**+0.1**
EPF	**Esparros**	**0.32**	**86**	*e*Pg	**Pg**	**15 49 42.2**	**+0.2**
EPF				*e*Sg	**Sg**	**15 49 46.2**	**-0.2**
	1.7nm,0.3s						
EPF	**Esparros**	**0.32**	**86**	*e*Pg	**Pg**	**15 49 42.2**	**+0.2**
EPF				*e*Sg	**Sg**	**15 49 46.2**	**-0.2**
	0.9nm,0.3s						
ETSF	**Etsaut**	**0.36**	**252**	*e*Pg	**Pg**	**15 49 43.0**	**+0.2**
ETSF				*e*Sg	**Sg**	**15 49 47.4**	**-0.2**
	3.8nm,0.3s						
ETSF	**Etsaut**	**0.36**	**252**	*e*Pg	**Pg**	**15 49 43.0**	**+0.2**
ETSF				*e*Sg	**Sg**	**15 49 47.4**	**-0.2**
	1.9nm,0.3s						
EBIE	**Bielsa**	**0.37**	**152**	Pg	**Pg**	**15 49 42.8**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		15 49 47.8	
	2.7nm,0.1s,SNR=15						

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*ISCJB **16** 15:50:05.1±2.9,464N±0.1×1530E±02,h6km±20km, mb3.7/8, MS3.5/1, Error ellipse: s-maj=28.1km s-min=7.4km az=105.6*
*NEIC **16** 15:50:07.7±1.2,4646N×15286E,h10km, Error ellipse: s-maj=37.1km s-min=14.6km az=146.0*
*MOS **16** 15:50:08.9±1.4,4645N×15278E,h35km, mb4.1/5, Error ellipse: s-maj=25.1km s-min=13.0km az=58.4*
*IDC **16** 15:50:14.2±4.7,4611N×15281E,h77km±53km, mb3.4/8, mb1 3.6/9, mb1mx3.3/24, mbtmp3.4/9, ML2.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=71.4km s-min=24.3km az=0.0*
ISC 16 15:50:11.7±1.5,465N±01×1529E±02,h42km±12km,n19, σ1§23/22,mb3.7/8,MS3.5/1,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.75**	**253**	*e*PN	**Pn**	**15 51 03.0**	**-4.0**
KUR				*e*S	**Sn**	**15 51 51.0**	**+1.1**
KUR				pmax	pmax		
	comp=Z,90nm,0.6s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
SKR	**Severo-Kuril's**	**4.72**	**25**	*e*PN	**Pn**	**15 51 21.2**	**+0.9**
SKR				*e*S	**Sn**	**15 52 14.9**	**+1.2**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,180nm,1.0s						
SKR				smax			
	comp=E,220nm,1.0s						
PET	**Petropavlovsk**	**7.53**	**27**	Pn	**Pn**	**15 51 58.2**	**-0.8**
PET				*e*Sn	**Sn**	**15 53 21.4**	**-1.6**
ASAJ	**Asahikawa**	**7.66**	**256**	P	**Pn**	**15 52 01.3**	**+0.6**
	comp=E,0.2nm,0.3s,baz=125,slow=25,SNR=3.0						
ASAJ				LR	LR	15 54 50.8	
	comp=E,66nm,19.7s,baz=159,slow=37						
ERM	**Erimo**	**8.31**	**241**	PN	**Pn**	**15 52 08.2**	**-1.4**
INK	**Inuvik**	**41.96**	**32**	P	**P**	**15 57 58.1**	**-0.4**
	comp=E,1.2nm,0.9s,mb3.5,baz=278,slow=5.3,SNR=5.2						
INK	**Inuvik**	**41.96**	**32**	P	**P**	**15 57 58.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**46.96**	**298**	P	**P**	**15 58 37.7**	**-0.7**
	comp=Z,0.9nm,1.0s,mb3.7,baz=82,slow=8.7,SNR=4.6						
MKAR				LR	LR	16 19 26.1	
	comp=Z,53nm,20.7s,MS3.5,baz=259,slow=37						
MKAR	**Makanchi Array**	**46.96**	**298**	P	**P**	**15 58 37.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,53nm,20.7s						
YKA	**Yellowknife Ar**	**51.22**	**37**	P	**P**	**15 59 13.2**	**+2.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=295,slow=7.0,SNR=5.4						
YKA	**Yellowknife Ar**	**51.22**	**37**	P	**P**	**15 59 13.2**	**+2.2**
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**16 00 41.3**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=27,slow=6.4,SNR=5.5						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**16 00 41.3**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**65.01**	**54**	P	**P**	**16 00 48.7**	**+1.2**
	comp=Z,0.5nm,0.9s,mb3.5,baz=270,slow=4.3,SNR=3.7						
NOA	**NORSAR Array B**	**68.45**	**341**	P	**P**	**16 01 11.0**	**+1.7**
	comp=Z,1.0nm,0.8s,mb3.9,baz=27,slow=6.5,SNR=2.2						
NOA	**NORSAR Array B**	**68.45**	**341**	P	**P**	**16 01 11.0**	**+1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**16 01 28.2**	**-1.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=35,slow=6.2,SNR=4.6						
AKASG	**Malin Array Be**	**71.71**	**326**	P	**P**	**16 01 28.2**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.74**	**60**	P	**P**	**16 02 03.2**	**-1.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=304,slow=4.1,SNR=5.1						

CASC 16 15:50:52.2±1.3,1373N×9122W,h36km±9km,MD3.5, 6C-2D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.71**	**325**	⇓*e*P	Pn	15 51 06.6	+0.9
JAT				*e*S	Sn	15 51 14.8	-0.6
TER	**Terranova**	**0.77**	**42**	⇑*e*P	Pn	15 51 06.6	+0.1
TER				*e*S	Sn	15 51 18.4	+1.5
FUG	**Fuego 3**	**0.80**	**27**	⇓*e*P	Pn	15 51 07.6	+0.6
RTR	**El Retiro**	**1.54**	**84**	⇑*e*P	x	15 51 17.5	
SBLS	**San Blas**	**1.55**	**86**	⇑*e*P	x	15 51 17.6	
SBLS				*e*S	x	15 51 37.5	
SNJE	**San Jose**	**1.57**	**85**	⇑*e*P	x	15 51 17.8	
SNJE				*e*S	x	15 51 38.2	
BOQS	**Boqueron**	**1.88**	**90**	*e*P	x	15 51 22.2	
LFRS	**El Faro**	**2.10**	**93**	⇑*e*P	x	15 51 25.4	
LFRS				*e*S	x	15 51 50.1	
SNVI	**San Vicente**	**2.32**	**93**	⇑*e*P	x	15 51 28.8	
SNVI				*e*S	x	15 51 56.5	

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*NIED **16** 16:03:00,4650N×15330E,h20km, Mw4.1 Best double couple: M0:1.40000×10^15 NP1:φ=70.00000°,δ=86.00000°, λ=102.00000°. NP2:φ=178.00000°,δ=12.00000°,λ=18.00000°.*
*NEIC **16** 16:03:35.9±0.6,4632N×153.19E,h10km, mb4.3/4, Error ellipse: s-maj=15.8km s-min=10.2km az=144.0*
*ISCJB **16** 16:03:38.4±1.5,4636N±009×1532E±0.1,h39km±12km, mb3.9/18, MS3.3/3, Error ellipse: s-maj=18.7km s-min=8.7km az=106.7*
*MOS **16** 16:03:41.8±1.7,4631N×153.14E,h69km, mb4.1/10, Error ellipse: s-maj=12.3km s-min=11.7km az=69.8*
*IDC **16** 16:03:43.6±4.3,4632N×153.18E,h72km±39km, mb3.5/14, mb1 3.7/15, mb1mx3.6/24, mbtmp3.5/15, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=22.7km s-min=18.0km az=148.0*
ISC 16 16:03:41.6±1.3,4639N±009×1532E±01,h52km±11km,n47, σ1§02/50,mb3.9/18,MS3.3/3,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**255**	*e*PN	**Pn**	**16 04 36.0**	**-2.9**
KUR				*e*S	**Sn**	**16 05 21.5**	**-1.8**
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.69**	**248**	PN	**Pn**	**16 05 08.1**	**+4.7**
YUK				*e*S	**Sn**	**16 06 07.0**	**-0.3**
YUK				smax			
	comp=N,160nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.20**	**278**	*e*PN	**Pn**	**16 05 28.5**	**+4.3**
YSS	**Yuzh-Sakhalins**	**7.20**	**278**	*e*Pn	**Pn**	**16 05 26.3**	**+2.2**
PET	**Petropavlovsk**	**7.53**	**26**	*e*Pn	**Pn**	**16 05 28.2**	**-0.4**
PET				*e*Sn	**Sn**	**16 06 43.2**	**-9.3**
ASAJ	**Asahikawa**	**7.81**	**257**	P	**Pn**	**16 05 34.1**	**+1.6**
	comp=N,0.3nm,0.3s,baz=265,slow=11,SNR=4.4						
ERM	**Erimo**	**8.43**	**242**	*i* PN	**Pn**	**16 05 41.8**	**+0.8**
YAK	**Yakutsk**	**20.65**	**328**	*i* P	**P**	**16 08 16.9**	**+0.1**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.2						
KSRS	**Korea Array**	**20.74**	**254**	P	**P**	**16 08 18.7**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=72,slow=9.0,SNR=3.8						
BILL	**Bilibino**	**22.73**	**13**	*e*P	**P**	**16 08 41.7**	**+2.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
BILL	**Bilibino**	**22.73**	**13**	P	**P**	**16 08 37.4**	**-1.7**
	comp=Z,2.6nm,0.6s,mb3.8						
TIXI	**Tiksi**	**27.83**	**344**	*i* P	**P**	**16 09 26.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.4						
LZH	**Lanzhou**	**37.95**	**272**	*e*P	**P**	**16 10 56.3**	**+2.2**
	comp=Z,16nm,1.2s,mb4.6						
LZH				pP	pP	16 11 02.5	-5.1
LZH				sP	sP	16 11 06.4	-7.2
INK	**Inuvik**	**41.93**	**32**	P	**P**	**16 11 27.3**	**+0.2**
	comp=Z,1.2nm,0.6s,mb3.7,baz=290,slow=8.6,SNR=15						
INK	**Inuvik**	**41.93**	**32**	P	**P**	**16 11 27.3**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**41.93**	**32**	*e*P	**P**	**16 11 27.3**	**+0.3**
	comp=Z,88nm,0.9s,mb5.4						
ZAL	**Zalesovo**	**42.88**	**306**	P	**P**	**16 11 33.6**	**-1.2**
	comp=Z,0.6nm,0.3s,mb3.7,baz=344,slow=5.9,SNR=3.5						
ZAL				LR	LR	16 30 57.8	
	comp=Z,43nm,18.1s,MS3.4,baz=78,slow=38						
ZAL	**Zalesovo**	**42.88**	**306**	P	**P**	**16 11 33.6**	**-1.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,43nm,18.1s						
MK31	**Makanchi Array**	**47.15**	**298**	*e*P	**P**	**16 12 08.1**	**-0.6**
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**16 12 08.5**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=66,slow=8.0,SNR=14						
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**16 12 08.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**16 12 08.5**	**-0.2**
KURK	**Kurchatov**	**47.61**	**304**	⇓*e*P	**P**	**16 12 11.6**	**-0.6**
KURK	**Kurchatov**	**47.61**	**304**	*e*P	**P**	**16 12 11.

comp=Z,0.8nm,0.7s,mb3.8,baz=298,slow=3.4,SNR=9.5
TXAR Lajitas Array 77.63 61 P **P 16 15 32.0 -0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 78.69 317 P **P 16 15 38.2 0.0**
comp=Z,0.6nm,0.8s,mb3.6,baz=70,slow=4.1,SNR=4.5
BRTR Keskin Array B 78.69 317 *eP* **P 16 15 40.8 +2.6**
GERES GERESS Array B 78.80 334 P **P 16 15 39.3 +0.5**
comp=Z,0.6nm,0.8s,mb3.6,baz=12,slow=6.8,SNR=4.4
GERES GERESS Array B 78.80 334 P **P 16 15 39.3 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.8s

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*ISCJB **16** 16:23:19.6±0.9,3186S±008×13857E±006,h10km, Error ellipse: s-maj=11.2km s-min=7.0km az=2.3*
*AUST **16** 16:23:23.2,3182S×13850E,h20km,ML2.2*
*IDC **16** 16:23:26.2±3.2,2959S×14110E,h0km,mb1 2.8/3, mb1mx2.8/12,mbtmp2.6/3,ML2.6/3,Error ellipse: s-maj=80.8km s-min=16.9km az=68.0*
ISC 16 16:23:21.7±0.9,3188S±008×13854E±006,h10km,n6, σ1°05/10,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**2.29**	**245**	*eP*	**Pn**	**16 24 00.3**	**+0.7**
BBOO				*eS*	**Sn**	**16 24 27.3**	**-0.6**
10nm,0.3s							
STKA	**Stephens Creek**	**2.60**	**91**	*eP*	**Pn**	**16 24 05.4**	**+1.6**
STKA				*eS*	**Sn**	**16 24 35.3**	**-0.2**
4.1nm,0.3s							
STKA	**Stephens Creek**	**2.60**	**91**	Pn	**Pn**	**16 24 05.5**	**+1.7**
1.0nm,0.3s,baz=278,slow=14,SNR=15							
STKA				Pg	**Pg**	**16 24 08.3**	**-3.3**
1.0nm,0.3s,baz=278,slow=12,SNR=17							
STKA				Lg		16 24 40.3	
1.9nm,0.3s,baz=356,slow=20,SNR=10							
ARPS	**Mount Arapiles**	**5.59**	**152**	*eP*	**Pn**	**16 24 45.7**	**+0.8**
ARPS				*eS*	**Sn**	**16 25 48.7**	**-0.5**
0.2nm,1.1s							
ASAR	**Alice Springs**	**9.15**	**332**	Pn	**Pn**	**16 25 33.4**	**-0.4**
0.0nm,0.3s,baz=151,slow=13,SNR=4.1							
WRA	**Warramunga Arr**	**12.47**	**341**	Pn	**Pn**	**16 26 11.0**	**-8.3**
0.0nm,0.3s,baz=149,slow=13,SNR=5.1							

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*ATH **16** 16:45:37.8,3901N×2193E,h77km±3km*
*ISCJB **16** 16:45:38.1±0.7,3901N±005×2192E±005,h76km±7km, Error ellipse: s-maj=8.6km s-min=5.5km az=102.3*
*CSEM **16** 16:45:38.2±0.1,3903N×2189E,h60km,ML2.7,Error ellipse: s-maj=2.6km s-min=1.9km az=130.0*
*THE **16** 16:45:38.9,3904N×2191E,h18km,ML2.7*
ISC 16 16:45:38.7±0.7,3900N±005×2193E±005,h74km±7km,n20, σ0°50/29,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.13**	**228**	*eP*	**Pn**	**16 45 49.6**	**+0.2**
EVR				*eS*	**Sn**	**16 45 57.8**	**+0.5**
AGG	**Agios Georgios**	**0.31**	**86**	*ePg*	**Pn**	**16 45 50.1**	**-0.2**
AGG				*eSg*	**Sn**	**16 45 58.7**	**-0.1**
THL	**Klokotos Trika**	**0.57**	**7**	*eP*	**Pn**	**16 45 52.2**	**-0.3**
THL				*eS*	**Sn**	**16 46 02.6**	**0.0**
LKR	**Lokris**	**0.91**	**112**	*eP*	**Pn**	**16 45 56.4**	**+0.2**
RLS	**Riolos of Patr**	**1.01**	**201**	*eP*	**Pn**	**16 45 57.6**	**+0.1**
LKD	**Levkas**	**1.04**	**254**	*ePg*	**Pn**	**16 45 57.9**	**0.0**
LKD				*eSg*	**Sn**	**16 46 12.3**	**+0.2**
XOR	**Xorichti**	**1.05**	**69**	*ePg*	**Pn**	**16 45 57.2**	**-0.7**
JAN	**Janina**	**1.06**	**308**	*eP*	**Pn**	**16 45 59.2**	**+1.1**
LIT	**Litokhoron**	**1.18**	**21**	*ePg*	**Pn**	**16 45 59.7**	**+0.1**
VLS	**Valsamata**	**1.33**	**232**	*eP*	**Pn**	**16 46 00.6**	**-1.0**
IGT	**Igoumenitsa**	**1.35**	**294**	*ePg*	**Pn**	**16 46 01.6**	**-0.2**
IGT				*eSg*	**Sn**	**16 46 18.2**	**-0.9**
IGT	**Igoumenitsa**	**1.35**	**294**	*ePg*	**Pn**	**16 46 01.6**	**-0.2**
IGT				*eSg*	**Sn**	**16 46 18.2**	**-0.9**
PAIG	**Paliouri**	**1.64**	**55**	*ePb*	**Pn**	**16 46 05.1**	**-0.5**
KEK	**Kerkira**	**1.80**	**294**	*eP*	**Pn**	**16 46 07.5**	**-0.2**
PLG	**Polygyros**	**1.80**	**40**	*eP*	**Pn**	**16 46 07.5**	**-0.3**
PLG				*eS*	**Sn**	**16 46 29.0**	**-0.8**
ITM	**Ithomi**	**1.82**	**180**	*eP*	**Pn**	**16 46 08.5**	**+0.5**
OUR	**Ouranopolis**	**2.07**	**49**	*ePn*	**Pn**	**16 46 11.0**	**-0.3**
SOH	**Sokhos**	**2.12**	**31**	*ePn*	**Pn**	**16 46 12.7**	**+0.6**
SOH				*eSn*	**Sn**	**16 46 37.7**	**+0.2**
KNT	**Kendrikon**	**2.28**	**19**	*ePn*	**Pn**	**16 46 14.8**	**+0.6**
KNT				*eSn*	**Sn**	**16 46 41.7**	**+0.3**
NVR	**Nevrokopi**	**2.77**	**32**	*eP*	**Pn**	**16 46 21.5**	**+0.7**

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*IDC **16** 18:07:05.1±0.7,5117N×17778W,h0km,mb4.2/21, mb1 4.4/22,mb1mx4.3/31,mbtmp4.2/22,ML4.0/1,MS3.9/6, Ms1 3.8/6,ms1mx3.4/40,Error ellipse: s-maj=23.5km s-min=12.9km az=175.0*
*ISCJB **16** 18:07:08.0±2.1,5104N±009×17770W±006,h29km±14km, mb4.5/67,MS3.9/10,Error ellipse: s-maj=15.2km s-min=5.7km az=153.5*
*NEIC **16** 18:07:08.4±1.4,5110N×17767W,h20km±9km,mb4.7/41, Error ellipse: s-maj=10.3km s-min=4.6km az=171.0*
*BJI **16** 18:07:08.3,5166N×17806W,h20km,mB5.1,mb4.7,Ms4.5, Msz4.0*
ISC 16 18:07:10.2±2.2,5118N±009×17771W±006,h31km±15km, n153,σ0°91/152,mb4.5/67,MS3.9/10,4C-10D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.95**	**42**	P	**Pn**	**18 07 28.7**	**+1.3**
ADK				S	**Sn**	**18 07 44.7**	**+4.9**
AMKA	**Amchitka**	**1.89**	**277**	P	**Pn**	**18 07 39.8**	**-0.4**
ATKA	**Atka Island**	**2.41**	**64**	P	**Pn**	**18 07 48.3**	**+0.8**
ATKA				S	**Sn**	**18 08 17.1**	**+1.2**
UNV	**Unalaska Valle**	**7.34**	**64**	Pn	**Pn**	**18 08 51.0**	**-4.2**
SVW2	**Sparrevohn**	**15.75**	**42**	*ePn*	**Pn**	**18 10 53.9**	**+4.3**
KDAK	**Kodiak Island**	**15.96**	**56**	Pn	**Pn**	**18 10 49.0**	**-3.4**
0.6nm,0.3s,baz=96,slow=17,SNR=6.3							
KDAK	**Kodiak Island**	**15.96**	**56**	*ePn*	**Pn**	**18 10 50.5**	**-1.9**
97nm,1.3s							
SLKM	**Skilak Lake**	**17.91**	**48**	*ePn*	**Pn**	**18 11 16.9**	**+0.1**
IMA2	**Indian Mountai**	**19.27**	**30**	*ePn*	**Pn**	**18 11 33.3**	**0.0**
MCK	**McKinley**	**19.71**	**39**	*ePn*	**Pn**	**18 11 35.9**	**-2.7**
12nm,1.2s							
COLA	**College**	**20.65**	**37**	*ePn*	**P**	**18 11 49.2**	**+2.0**
8.8nm,0.9s							
EGAK	**Eagle**	**23.25**	**40**	*eP*	**P**	**18 12 13.9**	**-1.0**
7.5nm,0.9s,mb4.1							
DAWY	**Dawson**	**23.79**	**43**	*eP*	**P**	**18 12 19.0**	**-1.0**
SKAG	**Skagway**	**25.10**	**54**	*eP*	**P**	**18 12 29.9**	**-2.1**
8.6nm,1.1s,mb4.2							
YSS	**Yuzh-Sakhalins**	**26.02**	**276**	P	**P**	**18 12 40.4**	**0.0**
14nm,0.9s,mb4.5							
INK	**Inuvik**	**27.23**	**34**	P	**P**	**18 12 50.5**	**-0.8**
0.7nm,0.4s,mb3.5,baz=262,slow=9.9,SNR=7.2							
INK	**Inuvik**	**27.23**	**34**	*eP*	**P**	**18 12 50.2**	**-1.1**
119nm,1.1s,mb5.3							
ERM	**Erimo**	**28.12**	**266**	P	**P**	**18 12 57.6**	**-1.6**
51nm,1.1s,mb5.1							
MJAR	**Matsushiro Arr**	**34.44**	**262**	P	**P**	**18 13 53.6**	**-1.2**
2.3nm,0.8s,mb4.2,baz=49,slow=7.8,SNR=4.3							
MAJO	**Matsushiro**	**34.44**	**262**	*eP*	**P**	**18 13 54.1**	**-0.7**
9.7nm,0.9s,mb4.7							
YKA	**Yellowknife Ar**	**34.87**	**46**	P	**P**	**18 13 57.9**	**-0.7**
1.2nm,0.7s,mb4.0,baz=282,slow=8.4,SNR=13							
NEW	**Newport**	**38.31**	**70**	P	**P**	**18 14 28.9**	**+1.0**
3.1nm,0.5s,mb4.3,baz=309,slow=8.5,SNR=9.6							
NEW				LR	LR	18 27 18.4	
comp=Z,143nm,19.6s,MS3.8,baz=90,slow=32							
EDM	**Edmonton**	**38.31**	**61**	*eP*	**P**	**18 14 28.0**	**+0.1**
HIA	**Hailar**	**39.00**	**293**	*eP*	**P**	**18 14 33.5**	**-0.1**
44nm,1.1s,mb5.1							
WALA	**Waterton Lakes**	**39.82**	**67**	*eP*	**P**	**18 14 40.5**	**+0.1**
24nm,1.5s,mb4.7							
KSRS	**Korea Array**	**40.33**	**272**	P	**P**	**18 14 44.3**	**-0.4**
1.4nm,0.8s,mb3.8,baz=50,slow=7.9,SNR=3.2							
KSRS				LR	LR	18 27 52.3	
comp=Z,53nm,21.8s,MS3.4,baz=40,slow=31							
CHMT	**Chamberlain Mo**	**41.25**	**70**	*eP*	**P**	**18 14 51.1**	**-1.2**
HLID	**Hailey**	**42.33**	**75**	*eP*	**P**	**18 15 01.4**	**+0.2**
5.0nm,1.1s,mb4.1							
MCMT	**McKenzie Canyo**	**42.59**	**72**	*eP*	**P**	**18 15 03.4**	**+0.2**
NVAR	**Mina Array Bea**	**42.89**	**83**	P	**P**	**18 15 06.3**	**+0.6**
0.2nm,0.3s,mb3.3,baz=286,slow=14,SNR=3.7							
NVAR				PcP	PcP	18 16 56.0	-0.2
0.5nm,0.6s,baz=335,slow=5.5,SNR=3.4							

DUG	**Dugway**	**45.24**	**78**	*eP*	**P**	**18 15 24.3**	**-0.3**
9.2nm,1.1s,mb4.5							
BW06	**Boulder Array**	**45.72**	**73**	*eP*	**P**	**18 15 28.8**	**+0.5**
7.4nm,0.9s,mb4.6							
PDAR	**Pinedale Array**	**45.72**	**73**	P	**P**	**18 15 29.1**	**+0.8**
5.9nm,0.8s,mb4.6,baz=305,slow=3.9,SNR=38							
ULN	**Ulaanbaatar**	**46.96**	**297**	*eP*	**P**	**18 15 38.5**	**+0.4**
9.1nm,0.8s,mb4.8							
SONM	**Songino Array**	**47.35**	**297**	P	**P**	**18 15 42.1**	**+1.0**
7.9nm,0.8s,mb4.7,baz=52,slow=9.0,SNR=47							
SONM				LR	LR	18 36 27.6	
comp=Z,269nm,20.1s,MS4.2,baz=39,slow=37							
HHC	**Hu-ho-hao-te**	**48.40**	**287**	*eP*	**P**	**18 15 49.9**	**+0.6**
HHC				PP	PP	18 17 42.0	0.0
HHC				S	**S**	**18 22 46.5**	**-1.3**
HHC				SCS	ScS	18 25 37.5	-2.3
HHC				SS	SS	18 26 10.5	-7.1
HHC				AMB	AMB		
comp=Z,19nm,0.5s,mb5.4							
HHC				AMB	AMB		
comp=Z,151nm,5.2s							
HHC				LR	LR		
comp=N,191nm,17.2s,MS4.4							
HHC				LR	LR		
comp=E,279nm,16.7s,MS4.4							
HHC				LR	LR		
comp=Z,187nm,17.2s,MS4.1							
ULM	**Lac du Bonnet**	**49.22**	**57**	LR	LR	18 39 07.5	
comp=Z,84nm,18.4s,MS3.8,baz=245,slow=39							
SDCO	**Great Sand Dun**	**51.23**	**75**	P	**P**	**18 16 10.7**	**-0.1**
comp=Z,6.0nm,1.2s,mb4.4							
SDCO				*e*		18 16 24.1	
EYMN	**Ely**	**52.90**	**57**	*eP*	**P**	**18 16 22.4**	**-0.7**
comp=Z,9.7nm,0.9s,mb4.7							
LZH	**Lanzhou**	**56.10**	**287**	*eP*	**P**	**18 16 48.5**	**+2.1**
LZH				AMB	AMB		
comp=Z,23nm,1.0s,mb5.2							
LZH				AMB	AMB		
comp=Z,113nm,5.1s							
LZH	**Lanzhou**	**56.10**	**287**	*eP*	**P**	**18 16 48.5**	**+2.1**
comp=Z,23nm,1.0s,mb5.2							
LZH				pP	pP	18 17 04.0	+8.1
LZH				sP	sP	18 17 11.0	+11
GTA	**Gaotai**	**56.28**	**293**	*eP*	**P**	**18 16 49.3**	**+1.6**
GTA				PP	PP	18 18 55.0	+1.8
GTA				S	**S**	**18 24 28.8**	**-6.8**
GTA				PS		18 24 45.9	
GTA				XS	sS	18 24 49.0	-2.2
GTA				AMB	AMB		
comp=Z,13nm,1.1s,mb4.9							
GTA				AMB	AMB		
comp=Z,65nm,4.6s							
GTA				LR	LR		
comp=N,171nm,16.0s,MS4.4							
GTA				LR	LR		
comp=E,181nm,15.2s,MS4.4							
GTA				LR	LR		
comp=Z,193nm,17.5s,MS4.2							
TXAR	**Lajitas Array**	**58.00**	**82**	P	**P**	**18 16 58.9**	**-1.0**
comp=Z,0.6nm,0.9s,mb3.6,baz=296,slow=3.3,SNR=4.7							
ARCES	**ARCESS Array B**	**58.40**	**351**	P	**P**	**18 17 01.8**	**-0.9**
comp=Z,3.1nm,0.8s,mb4.4,baz=22,slow=6.7,SNR=7.1							
ARCES				LR	LR	18 42 36.0	
comp=Z,79nm,20.1s,MS3.8,baz=29,slow=36							
ARCES	**ARCESS Array B**	**58.40**	**351**	P	**P**	**18 17 01.8**	**-0.9**
ARCES				LR	LR	18 42 36.0	
CD2	**Chengdu**	**59.69**	**283**	*eP*	**P**	**18 17 12.6**	**+1.0**
CD2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
CD2				AMB	AMB		
comp=Z,30nm,5.2s							
WMQ	**Urumqi**	**60.02**	**304**	*eP*	**P**	**18 17 16.3**	**+2.4**
WMQ				AMB	AMB		
comp=Z,4.0nm,1.0s,mb4.4							
WMQ				AMB	AMB		
comp=Z,99nm,4.0s							
WMQ				LR	LR		
comp=N,135nm,21.0s,MS4.1							
WMQ				LR	LR		
comp=E,86nm,21.0s,MS4.1							
WMQ				LR	LR		
comp=Z,101nm,21.0s,MS3.9							
MKAR	**Makanchi Array**	**60.69**	**309**	P	**P**	**18 17 16.9**	**-1.6**
comp=Z,1.6nm,0.8s,mb4.2,baz=57,slow=5.2,SNR=12							
MKAR	**Makanchi Array**	**60.69**	**309**	P	**P**	**18 17 16.9**	**-1.6**
comp=Z,1.7nm,0.3s,mb4.6,baz=51,slow=7.2,SNR=17							
BRVK	**Borovoye**	**61.50**	**320**	*eP*	**P**	**18 17 23.4**	**-0.6**
comp=Z,7.7nm,1.1s,mb4.8							
BRVK				*e*		18 18 02.2	
JOF	**Joensuu**	**63.96**	**346**	*ep*	**P**	**18 17 38.2**	**-2.1**
comp=Z,0.6nm,0.4s,mb4.0							
KMI	**Kunming**	**64.43**	**279**	P	**P**	**18 17 43.1**	**-0.3**
KMI				S	**S**	**18 26 15.3**	**-4.8**
KMI				SS	SS	18 30 27.1	-3.3
KMI				AMB	AMB		
comp=Z,8.0nm,1.0s,mb4.7							
KMI				AMB	AMB		
comp=Z,111nm,4.6s							
KMI				LR	LR		
comp=Z,26nm,22.9s,MS3.4							
KMI	**Kunming**	**64.43**	**279**	P	**P**	**18 17 43.1**	**-0.3**
comp=Z,8.0nm,1.0s,mb4.7							
KMI				pP	pP	18 17 57.1	+4.1
KMI				sP	sP	18 18 01.3	+4.6
KMI				S	**S**	**18 26 15.3**	**-4.8**
KMI				SS	SS	18 30 27.1	-3.3
KMI				LR	LR		
comp=Z,30nm,22.9s,MS3.4							
TKL	**Tuckaleechee C**	**65.43**	**63**	P	**P**	**18 17 50.2**	**+0.3**
comp=Z,1.7nm,0.4s,mb4.5,baz=272,slow=6.7,SNR=3.6							
FINES	**FINESS Array B**	**66.13**	**348**	P	**P**	**18 17 53.2**	**-1.2**
comp=Z,1.6nm,0.8s,mb4.1,baz=241,slow=2.0,SNR=6.8							
FINES	**FINESS Array B**	**66.13**	**348**	P	**P**	**18 17 53.2**	**-1.2**
AAK	**Ala-Archa**	**67.52**	**310**	*eP*	**P**	**18 18 02.2**	**-1.0**
comp=Z,1.9nm,0.8s,mb4.2							
NOA	**NORSAR Array B**	**67.90**	**355**	P	**P**	**18 18 04.1**	**-1.6**
comp=Z,1.1nm,0.9s,mb3.9,baz=324,slow=4.4,SNR=4.2							
LSA	**Lhasa**	**68.15**	**290**	P	**P**	**18 18 09.0**	**+1.7**
LSA				AMB	AMB		
comp=Z,20nm,1.0s,mb5.1							
LSA	**Lhasa**	**68.15**	**290**	*eP*	**P**	**18 18 08.9**	**+1.6**
comp=Z,18nm,1.0s,mb5.1							
AKTK	**Aktyubinsk**	**68.24**	**325**	P	**P**	**18 18 08.1**	**+0.3**
AKTO	**Aktyubinsk**	**68.24**	**325**	P	**P**	**18 18 08.1**	**+0.3**
comp=Z,21nm,0.7s,mb5.3,baz=48,slow=6.6,SNR=94							
GUN	**Gumba**	**72.57**	**293**	*eP*	**P**	**18 18 35.3**	**+1.1**
comp=Z,61nm,1.0s,mb5.5							
GUN	**Gumba**	**72.57**	**293**	*eP*	**P**	**18 18 35.3**	**+1.1**
comp=Z,61nm,1.0s,mb5.5							
KKN	**Kakani**	**73.00**	**293**	*eP*	**P**	**18 18 37.4**	**+0.6**
comp=Z,16nm,0.9s,mb4.9							
KKN	**Kakani**	**73.00**	**293**	*eP*	**P**	**18 18 37.5**	**+0.7**
comp=Z,16nm,0.9s,mb4.9							
PKI	**Pulchoki**	**73.10**	**293**	*eP*	**P**	**18 18 38.3**	**+0.9**
PKI	**Pulchoki**	**73.10**	**293**	*eP*	**P**	**18 18 38.4**	**+1.0**
GKN	**Gorkha**	**73.22**	**294**	*eP*	**P**	**18 18 38.1**	**0.0**
comp=Z,48nm,1.3s,mb5.3							
GKN	**Gorkha**	**73.22**	**294**	*eP*	**P**	**18 18 38.7**	**+0.6**
comp=Z,48nm,1.3s,mb5.3							
DMN	**Daman**	**73.24**	**293**	*eP*	**P**	**18 18 39.6**	**+1.4**
DMN	**Daman**	**73.24**	**293**	*eP*	**P**	**18 18 39.9**	**+1.7**
RAR	**Rarotonga**	**73.78**	**163**	LR	LR	18 45 24.9	
comp=Z,193nm,18.9s,MS4.2,baz=235,slow=31							
KOLN	**Koldanda**	**73.99**	**294**	*eP*	**P**	**18 18 42.2**	**-0.4**
comp=Z,26nm,1.3s,mb5.0							
KOLN	**Koldanda**	**73.99**	**294**	*eP*	**P**	**18 18 43.0**	**+0.4**
comp=Z,26nm,1.3s,mb5.0							
AKASG	**Malin Array Be**	**75.95**	**343**	P	**P**	**18 18 52.8**	**-1.2**
comp=Z,4.4nm,0.8s,mb4.4,baz=19,slow=5.9,SNR=17							
STHS	**Stebnicka Huta**	**78.48**	**348**	*eP*	**P**	**18 19 09.3**	**+1.1**
STHS	**Stebnicka Huta**	**78.48**	**348**	*eP*	**P**	**18 19 09.4**	**+1.2**
comp=Z,3.5nm,1.0s,mb4.2							
KOLS	**Kolonicke sedl**	**78.81**	**347**	*eP*	**P**	**18 19 10.2**	**+0.2**
CRVS	**Cervenica-Dubn**	**78.96**	**347**	*eP*	**P**	**18 19 10.2**	**-0.6**
KIV	**Kislovodsk**	**78.97**	**332**	*eP*	**P**	**18 19 10.8**	**-0.1**
comp=Z,7.4nm,0.8s,mb4.7							
GIVF	**Givet**	**79.07**	**358**	*eP*	**P**	**18 19 11.3**	**-0.1**
BAIF	**Baives**	**79.13**	**359**	*eP*	**P**	**18 19 12.0**	**+0.3**
comp=Z,23nm,1.0s,mb4.8							
BAIF	**Baives**	**79.13**	**359**	*eP*	**P**	**18 19 12.0**	**+0.3**
comp=Z,11nm,1.0s,mb4.8							
KECS	**Kecovo**	**79.50**	**348**	*eP*	**P**	**18 19 11.9**	**-1.8**
comp=Z,2.2nm,0.8s,mb4.1							
KHC	**Kasperske Hory**	**79.60**	**352**	*eP*	**P**	**18 19 14.5**	**+0.2**
BURAR	**Bucovina Array**	**79.63**	**344**	⇓P	**P**	**18 19 15.0**	**+0.5**

BURAR	**Bucovina Array**	**79.63**	**344**	⇓*iP*	**P**	**18 19 15.0**	**+0.6**
VYHS	**Vyhne**	**79.70**	**349**	*eP*	**P**	**18 19 14.2**	**-0.6**
GERES	**GERESS Array B**	**79.88**	**352**	P	**P**	**18 19 15.2**	**-0.6**
comp=Z,1.5nm,0.7s,mb4.0,baz=28,slow=6.0,SNR=8.2							
FLN	**La Foliniere**	**80.41**	**2**	*eP*	**P**	**18 19 18.4**	**-0.2**
comp=Z,9.1nm,0.7s,mb4.5							
FLN	**La Foliniere**	**80.41**	**2**	*eP*	**P**	**18 19 18.4**	**-0.2**
comp=Z,4.6nm,0.7s,mb4.5							
LDF	**La Druitiere**	**80.58**	**2**	*eP*	**P**	**18 19 19.3**	**-0.3**
comp=Z,9.3nm,0.6s,mb4.6							
LDF	**La Druitiere**	**80.58**	**2**	*eP*	**P**	**18 19 19.3**	**-0.3**
comp=Z,4.7nm,0.6s,mb4.6							
MEZF	**Maizieres J'vi**	**80.67**	**358**	*eP*	**P**	**18 19 20.3**	**+0.3**
comp=Z,28nm,1.1s,mb4.8							
MEZF	**Maizieres J'vi**	**80.67**	**358**	*eP*	**P**	**18 19 20.3**	**+0.3**
comp=Z,28nm,1.1s,mb5.1							
CDF	**Champ du Feu**	**80.70**	**357**	*eP*	**P**	**18 19 20.1**	**-0.1**
comp=Z,3.6nm,0.7s,mb4.1							
CDF	**Champ du Feu**	**80.70**	**357**	*eP*	**P**	**18 19 20.1**	**-0.1**
comp=Z,1.8nm,0.7s,mb4.1							
GRR	**Gorron**	**80.78**	**2**	*eP*	**P**	**18 19 20.5**	**-0.1**
comp=Z,22nm,0.9s,mb4.8							
GRR	**Gorron**	**80.78**	**2**	*eP*	**P**	**18 19 20.5**	**-0.1**
comp=Z,11nm,0.9s,mb4.8							
SGMF	**Saint Gilles**	**80.86**	**3**	*eP*	**P**	**18 19 21.1**	**+0.1**
VRI	**Vrincioaia**	**81.06**	**343**	⇓P	**P**	**18 19 25.7**	**+3.6**
VRI	**Vrincioaia**	**81.06**	**343**	⇓*iP*	**P**	**18 19 25.7**	**+3.6**
HAU	**Haudompre**	**81.13**	**357**	*eP*	**P**	**18 19 22.5**	**0.0**
QUIF	**Quistinic**	**81.17**	**4**	*eP*	**P**	**18 19 22.3**	**-0.4**
CFR	**Carcaliu**	**81.45**	**342**	⇓P	**P**	**18 19 22.8**	**-1.4**
MLR	**Muntele Rosu**	**81.56**	**343**	⇑P	**P**	**18 19 26.3**	**+1.5**
MLR	**Muntele Rosu**	**81.56**	**343**	⇑*iP*	**P**	**18 19 26.3**	**+1.5**
VOIR		**81.77**	**344**	⇓P	**P**	**18 19 26.7**	**+0.8**
VOIR		**81.77**	**344**	⇓*iP*	**P**	**18 19 26.7**	**+0.8**
LOR	**Lormes**	**81.92**	**359**	*eP*	**P**	**18 19 26.7**	**0.0**
comp=Z,8.0nm,0.8s,mb4.4							
LOR	**Lormes**	**81.92**	**359**	*eP*	**P**	**18 19 26.7**	**0.0**
comp=Z,4.0nm,0.8s,mb4.4							
MTUR	**Matau**	**81.97**	**344**	⇓P	**P**	**18 19 26.2**	**-0.7**
MTUR	**Matau**	**81.97**	**344**	⇓*iP*	**P**	**18 19 26.2**	**-0.8**
SSF	**Saint Saulge**	**82.13**	**359**	*eP*	**P**	**18 19 27.8**	**0.0**
comp=Z,13nm,1.1s,mb4.5							
SSF	**Saint Saulge**	**82.13**	**359**	*eP*	**P**	**18 19 27.8**	**0.0**
comp=Z,6.3nm,1.0s,mb4.5							
BZS	**Buzias**	**82.15**	**346**	⇑P	**P**	**18 19 28.0**	**+0.1**
BZS	**Buzias**	**82.15**	**346**	⇑*iP*	**P**	**18 19 28.0**	**+0.1**
GZR	**Gura Zlata**	**82.19**	**346**	⇓*iP*	**P**	**18 19 28.8**	**+0.7**
AVF	**Avril sur Loir**	**82.41**	**359**	*eP*	**P**	**18 19 29.1**	**-0.1**
comp=Z,3.8nm,0.7s,mb4.1							
AVF	**Avril sur Loir**	**82.41**	**359**	*eP*	**P**	**18 19 29.1**	**-0.1**
comp=Z,1.9nm,0.7s,mb4.1							
CABF	**La Chapelle**	**82.54**	**357**	*eP*	**P**	**18 19 30.4**	**+0.5**
SMF	**Signal de Mont**	**82.55**	**359**	*eP*	**P**	**18 19 29.9**	**-0.1**
comp=Z,32nm,1.2s,mb4.9							
SMF	**Signal de Mont**	**82.55**	**359**	*eP*	**P**	**18 19 29.9**	**-0.1**
comp=Z,16nm,1.2s,mb4.9							
MFF	**Saint Martin d**	**82.58**	**2**	*eP*	**P**	**18 19 30.3**	**+0.2**
comp=Z,24nm,0.9s,mb4.9							
MFF	**Saint Martin d**	**82.58**	**2**	*eP*	**P**	**18 19 30.3**	**+0.2**
comp=Z,12nm,0.9s,mb4.9							
BGF	**Bois d'Agland**	**82.64**	**360**	*eP*	**P**	**18 19 30.7**	**+0.3**
TCF	**Toulx Ste Croi**	**82.91**	**0**	*eP*	**P**	**18 19 31.9**	**0.0**
comp=Z,12nm,0.9s,mb4.6							
TCF	**Toulx Ste Croi**	**82.91**	**0**	*eP*	**P**	**18 19 31.9**	**0.0**
comp=Z,5.9nm,0.9s,mb4.6							
PSI	**Prapat**	**83.67**	**267**	P	**P**	**18 19 34.9**	**-0.8**
comp=Z,1.6nm,0.5s,mb4.4,baz=165,slow=15,SNR=3.8							
RJF	**Les Rejaudoux**	**83.89**	**1**	*eP*	**P**	**18 19 37.2**	**+0.3**
ORIF	**Oris-en-Rattie**	**84.23**	**357**	*eP*	**P**	**18 19 39.5**	**+0.9**
LFF	**La Frestale**	**84.25**	**1**	*eP*	**P**	**18 19 39.2**	**+0.5**
CAF	**Calviac**	**84.28**	**0**	*eP*	**P**	**18 19 39.4**	**+0.6**
comp=Z,14nm,1.1s,mb4.7							
CAF	**Calviac**	**84.28**	**0**	*eP*	**P**	**18 19 39.4**	**+0.6**
comp=Z,6.9nm,1.1s,mb4.7						

	1.7nm,0.6s,mb3.9						
BILL	**Bilibino**	**80.42**	**360**	*e*P	**P**	**18 47 14.2**	**-0.8**
	11nm,1.1s,mb4.4						
SONM	**Songino Array**	**80.60**	**324**	P	**P**	**18 47 15.9**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=134,slow=5.8,SNR=9.1						
MAW	**Mawson**	**83.74**	**202**	P	**P**	**18 47 31.8**	**-0.4**
	6.3nm,1.4s,mb4.3						
LSA	**Lhasa**	**84.16**	**302**	*e*P	**P**	**18 47 36.0**	**+1.6**
	2.4nm,0.7s,mb4.0						
GUN	**Gumba**	**88.09**	**299**	*e*P	**P**	**18 47 54.6**	**+1.2**
PKI	**Pulchoki**	**88.40**	**299**	*e*P	**P**	**18 47 55.8**	**+0.9**
KKN	**Kakani**	**88.57**	**299**	*e*P	**P**	**18 47 56.6**	**+0.9**
	11nm,0.7s,mb4.8						
DMN	**Daman**	**88.67**	**299**	*e*P	**P**	**18 47 57.3**	**+1.1**
	11nm,0.6s,mb4.8						
GKN	**Gorkha**	**89.17**	**299**	*e*P	**P**	**18 47 58.8**	**+0.3**
KOLN	**Koldanda**	**90.00**	**298**	*e*P	**P**	**18 48 02.8**	**+0.4**
MKAR	**Makanchi Array**	**95.44**	**317**	P	**P**	**18 48 27.7**	**+0.3**
	1.4nm,0.6s,mb4.3,baz=91,slow=6.5,SNR=20						
TXAR	**Lajitas Array**	**95.54**	**61**	P	**P**	**18 48 28.4**	**+0.5**
	0.5nm,0.7s,mb3.8,baz=229,slow=5.4,SNR=6.3						
SNAA	**Sanae**	**95.65**	**183**	*e*P	**P**	**18 48 27.6**	**-0.7**
	1.0nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**95.80**	**27**	P	**P**	**18 48 27.6**	**-1.4**
	0.6nm,0.5s,mb4.0,baz=259,slow=4.7,SNR=16						
ARCES	**ARCESS Array B**	**118.11**	**346**	PKP	PKPdf	18 53 47.9	-0.6
	2.1nm,0.8s,baz=70,slow=2.4,SNR=14						
KIV	**Kislovodsk**	**123.14**	**315**	*e*PKPdf	PKPdf	18 53 57.3	-0.8
FINES	**FINESS Array B**	**123.63**	**339**	PKP	PKPdf	18 53 58.4	-0.6
	6.1nm,1.1s,baz=50,slow=2.2,SNR=5.2						
HINF	**Hinteralfeld**	**141.14**	**339**	*e*PKP1	PKPdf	18 54 31.0	-0.8
	2.6nm,0.6s						
HAU	**Haudompre**	**141.16**	**339**	*e*PKP1	PKPdf	18 54 31.0	-0.9
	2.4nm,0.5s						
CABF	**La Chapelle**	**142.44**	**338**	*e*PKP1	PKPdf	18 54 32.2	-2.0
	4.1nm,0.7s						
FLN	**La Foliniere**	**142.46**	**346**	*e*PKP1	PKPdf	18 54 31.3	-2.9
LDF	**La Druitiere**	**142.53**	**346**	*e*PKP1	PKPdf	18 54 31.7	-2.6
LOR	**Lormes**	**142.63**	**341**	*e*PKP1	PKPdf	18 54 31.5	-3.0
GRR	**Gorron**	**142.89**	**346**	*e*PKP1	PKPdf	18 54 32.6	-2.4
	6.0nm,0.6s						
SSF	**Saint Saulge**	**142.92**	**341**	*e*PKP1	PKPdf	18 54 32.3	-2.7
	2.1nm,0.6s						
LPL	**La Plagne**	**143.12**	**337**	*e*PKP1	PKPdf	18 54 33.9	-1.5
LPG	**La Plagne**	**143.13**	**337**	*e*PKP1	PKPdf	18 54 33.9	-1.5
	6.7nm,0.8s						
SMF	**Signal de Mont**	**143.18**	**340**	*e*PKP1	PKPdf	18 54 33.7	-1.8
AVF	**Avril sur Loir**	**143.21**	**341**	*e*PKP1	PKPdf	18 54 33.7	-1.8
BGF	**Bois d'Agland**	**143.58**	**341**	*e*PKP1	PKPdf	18 54 34.8	-1.4
	3.4nm,0.5s						
MBDF	**Montbardon**	**143.76**	**336**	*e*PKP1	PKPdf	18 54 35.3	-1.2
	7.8nm,0.7s						
ORIF	**Oris-en-Rattie**	**143.95**	**337**	*e*PKP1	PKPdf	18 54 36.4	-0.4
	19nm,0.8s						
TCF	**Toulx Ste Croi**	**144.01**	**342**	*e*PKP1	PKPdf	18 54 36.2	-0.7
	15nm,0.9s						
SBF	**Sospel**	**144.20**	**334**	*e*PKP1	PKPdf	18 54 36.5	-0.7
	36nm,0.8s						
MFF	**Saint Martin d**	**144.39**	**345**	*e*PKP1	PKPdf	18 54 37.5	-0.1
	18nm,0.5s						
VIVF	**Saint-Julien-l**	**144.45**	**338**	*e*PKP1	PKPdf	18 54 38.1	+0.4
	8.3nm,0.7s						
PGF	**Pioggiola**	**144.54**	**331**	*e*PKP1	PKPdf	18 54 37.9	+0.1
	22nm,0.8s						
FRF	**La Foret Royal**	**144.77**	**335**	*e*PKP1	PKPdf	18 54 38.6	+0.4
	19nm,0.8s						
SMRF	**Simiane la Rot**	**144.86**	**336**	*e*PKP1	PKPdf	18 54 39.4	+1.0
	17nm,0.9s						
LMR	**La Mourre**	**145.02**	**335**	*e*PKP1	PKPbc	18 54 39.4	+0.8
	13nm,0.8s						
RJF	**Les Rejaudoux**	**145.11**	**342**	*e*PKP1	PKPbc	18 54 40.0	+1.1
CAF	**Calviac**	**145.28**	**341**	*e*PKP1	PKPbc	18 54 40.9	+1.5
LASF	**Ste Croix**	**145.42**	**338**	*e*PKP1	PKPbc	18 54 41.1	+1.3
	3.2nm,0.6s						
LFF	**La Frestale**	**145.67**	**343**	*e*PKP1	PKPbc	18 54 41.6	+1.0
	13nm,0.6s						
MTLF	**Montolieu**	**146.64**	**340**	*e*PKP1	PKPbc	18 54 44.6	+1.2
	9.6nm,0.7s						
EPF	**Esparros**	**147.53**	**342**	*e*PKP1	PKPbc	18 54 47.2	+1.3
ETSF	**Etsaut**	**147.92**	**343**	*e*PKP1	PKPbc	18 54 48.2	+1.3
	7.1nm,0.8s						
ESDC	**Sonseca Array**	**151.85**	**345**	PKPbc	PKPbc	18 54 56.7	+0.3
	4.1nm,1.1s,baz=5.7,slow=1.7,SNR=5.9						
ESDC				PKPab	PKPab	18 55 07.7	+1.3
	1.5nm,0.6s,baz=22,slow=3.3,SNR=8.0						
TORD	**Torodi Ar. Bea**	**165.60**	**274**	PKPab	PKPab	18 56 06.8	+0.8
	1.0nm,0.7s,baz=98,slow=4.4,SNR=6.6						

*IDC **16** 18:58:21.9±2.1,4340N×10528W,h0km,mb4.5/1,*
mb1 4.0/4,mb1mx3.6/22,mbtmp3.8/4,ML3.6/3,MS3.7/3,
Ms1 3.7/3,ms1mx2.9/36,Error ellipse: s-maj=47.9km
s-min=8.0km az=153.0
*ISCJB **16** 18:58:23.0±0.6,4378N±004×10525W±007,h0km,mb4.7/1,*
MS3.8/3,Error ellipse: s-maj=7.3km s-min=5.5km az=28.5
*NEIC **16** 18:58:24.3±0.4,4371N×10524W,h0km,ML3.1,Error*
ellipse: s-maj=6.1km s-min=4.5km az=131.0,Suspected
Mining explosion.
NEIC 70 km [45 miles] SSE of Gillette.

ISC 16 18:58:24.4±0.5,4376N±004×10522W±007,h0km,n32,
σ1§03/32,mb4.7/1,MS3.8/3,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**67**	*e*Pg	**Pg**	**18 58 43.5**	**+1.3**
PHWY	**Pilot Hill**	**2.47**	**184**	*e*Pn	**Pn**	**18 59 05.0**	**-0.8**
PHWY				*e*Sn	**Sn**	**18 59 38.3**	**+1.6**
RWWY	**Rawlins**	**2.54**	**216**	*e*Pn	**Pn**	**18 59 06.8**	**-0.1**
RWWY				*e*Sn	**Sn**	**18 59 39.9**	**+1.4**
LAO	**LASA Array**	**3.01**	**347**	*e*Pn	**Pn**	**18 59 14.7**	**+1.4**
RLMT	**Red Lodge**	**3.20**	**297**	*e*Pn	**Pn**	**18 59 16.0**	**0.0**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**18 59 17.1**	**-0.5**
	5.4nm,0.3s,baz=70,slow=15,SNR=102						
PDAR				Pg	**Pg**	**18 59 22.8**	**-5.2**
	12nm,0.3s,baz=66,slow=20,SNR=58						
PDAR				Lg		19 00 01.6	
	16nm,0.3s,baz=79,slow=29,SNR=11						
BW06	**Boulder Array**	**3.32**	**254**	*e*Pn	**Pn**	**18 59 16.9**	**-0.7**
ISCO	**Idaho Springs**	**3.97**	**184**	*e*Pn	**Pn**	**18 59 26.4**	**-0.2**
MOOW	**Moose Ponds**	**4.00**	**272**	*e*Pn	**Pn**	**18 59 27.4**	**+0.4**
SNOW	**Snow King Moun**	**4.03**	**268**	*e*Pn	**Pn**	**18 59 29.6**	**+2.3**
YFT	**Old Faithful**	**4.10**	**282**	*e*Pn	**Pn**	**18 59 30.5**	**+2.2**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**18 59 28.4**	**-0.1**
YMR	**Madison River**	**4.22**	**284**	*e*Pn	**Pn**	**18 59 30.4**	**+0.4**
DCID1	**Drake Creek**	**4.33**	**270**	*e*Pn	**Pn**	**18 59 32.2**	**+0.8**
QLMT	**Earthquake Lak**	**4.58**	**286**	Pn	**Pn**	**18 59 39.4**	**+4.5**
BOZ	**Bozeman (W)**	**4.94**	**296**	*e*Pn	**Pn**	**18 59 38.8**	**-1.0**
HWUT	**Hardware Ranch**	**5.15**	**247**	*e*Pn	**Pn**	**18 59 41.5**	**-1.2**
EGMT	**Eagleton**	**5.31**	**325**	Pn	**Pn**	**18 59 45.4**	**+0.5**
DAU	**Daniels Canyon**	**5.60**	**235**	*e*Pn	**Pn**	**18 59 49.1**	**+0.2**
HVU	**Hansel Valley**	**5.90**	**253**	*e*Pn	**Pn**	**18 59 52.7**	**-0.3**
SRU	**San Rafael**	**6.12**	**222**	*e*Pn	**Pn**	**18 59 54.6**	**-1.5**
TMUT	**Trail Mountain**	**6.33**	**227**	*e*Pn	**Pn**	**18 59 58.2**	**-0.8**
DUG	**Dugway**	**6.68**	**240**	*e*Pn	**Pn**	**19 00 02.5**	**-1.4**
MSO	**Missoula**	**6.87**	**300**	*e*Pn	**Pn**	**19 00 06.0**	**-0.4**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**19 00 36.2**	**-0.8**
	2.5nm,0.3s,baz=233,slow=11,SNR=24						
ULM				Lg		19 03 13.4	
	0.1nm,0.3s,baz=311,slow=20,SNR=1.9						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**19 02 54.5**	**-0.3**
	0.1nm,0.3s,baz=154,slow=11,SNR=7.6						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**19 02 54.5**	**-0.3**
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 08 40.5**	**-1.7**
	6.8nm,1.0s,mb4.7,baz=334,slow=8.0,SNR=2.0						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 08 40.5**	**-1.7**
MLR	**Muntele Rosu**	**81.12**	**32**	LR	LR	19 47 36.0	
	comp=Z,81nm,21.2s,MS4.0,baz=136,slow=36						
IDI	**Anoyia**	**89.17**	**39**	LR	LR	19 49 21.6	
	comp=Z,40nm,20.6s,MS3.8,baz=254,slow=34						
MMAI	**Mount Meron Ar**	**95.56**	**32**	LR	LR	19 56 27.5	
	comp=Z,18nm,20.7s,MS3.5,baz=65,slow=36						

MAN 16 18:59:06.3,1763N×12062E,h26km,MS4.0,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.09**	**74**	*e*P	Pb	18 59 11.9	+0.9
ABRA				*e*S	Sb	18 59 15.2	+1.1
BCPH	**Baguio City Da**	**1.24**	**182**	*e*P	Pn	18 59 27.6	-0.3
BCPH				*e*S	Sn	18 59 42.6	-1.1
CAUP	**Cauayan**	**1.33**	**120**	*e*P	Pn	18 59 28.9	-0.2
CAUP				*e*S	Sn	18 59 47.5	+1.5
BALP	**Baler**	**2.08**	**154**	*e*P	Pn	18 59 40.3	+0.8

IDC 16 19:27:44.5±1.7,397N×12690E,h0km,mb3.5/5,mb1 3.7/5,
mb1mx3.5/19,mbtmp3.5/5,Error ellipse: s-maj=95.8km
s-min=23.7km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	P	19 32 39.8	0.0
	1.4nm,0.7s,baz=14,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	19 33 08.5	-0.1
	2.4nm,0.8s,baz=344,slow=11,SNR=23						
WB2	**Warramunga Arr**	**24.86**	**163**	*e*P	P	19 33 09.1	+0.4
ASAR	**Alice Springs**	**28.30**	**166**	P	P	19 33 40.0	+0.4
	0.2nm,0.3s,baz=346,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**38.29**	**160**	P	P	19 35 07.5	+0.9
	0.9nm,0.6s,baz=319,slow=9.8,SNR=4.5						
MKAR	**Makanchi Array**	**57.46**	**325**	P	P	19 37 35.2	+0.1
	0.1nm,0.4s,baz=123,slow=7.4,SNR=6.5						

*CSEM **16** 19:34:29.7±0.0,3634N×105E,h10km,mb4.4/27,ML4.0/8,*
Error ellipse: s-maj=1.3km s-min=1.0km az=32.0
*IDC **16** 19:34:30.5±0.6,3637N×107E,h0km,mb4.2/18,*
mb1 4.3/24,mb1mx4.3/30,mbtmp4.2/24,ML4.3/6,MS3.4/13,
Ms1 3.5/13,ms1mx3.2/38,Error ellipse: s-maj=14.5km
s-min=12.4km az=140.0
*ISCJB **16** 19:34:30.5±0.1,3647N±001×101E±001,h10km,mb4.4/39,*
MS3.7/12,Error ellipse: s-maj=1.9km s-min=1.5km
az=163.1
*MOS **16** 19:34:31.4±1.2,3646N×101E,h14km,mb4.5/21,Error*
ellipse: s-maj=4.8km s-min=2.7km az=72.9
*SFS **16** 19:34:31.0,3635N×108E,h0km,ML4.7*
*MDD **16** 19:34:32.2±0.6,3637N×110E,h5km±6km,mb4.7/45,Error*
ellipse: s-maj=4.4km s-min=3.1km az=148.0,PRXIMO
*INMG **16** 19:34:33.2±2.0,3641N×100E,h10km,ML3.7,Error*
ellipse: s-maj=6.0km s-min=3.9km az=117.0
*CRAAG **16** 19:34:33.0,3627N×124E,Ml5.1*
*NEIC **16** 19:34:33.2±1.8,3637N×103E,h17km±12km,mb4.4/26,*
Error ellipse: s-maj=4.9km s-min=2.4km az=152.0
NEIC Felt at Damous.
*BJI **16** 19:34:34.2,3701N×138E,h17km,mB5.0,mb4.6,Ms4.7,*
Msz4.3
*LDG **16** 19:34:34.9±0.1,3629N×109E,h40km,Ml4.1/20,ms3.0/6,*
Error ellipse: s-maj=4.2km s-min=2.7km az=170.0
*CNRM **16** 19:34:34.6,3636N×120W,h30km,MD4.6*
*STR **16** 19:34:44.4±0.7,3723N×120E,h10km±1km,Ml4.1,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 16 19:34:32.4±0.1,3646N±001×098E±001,h10km,n435,
σ1§45/575,mb4.4/39,MS3.7/12,16C-19D,Northern
Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**0.42**	**136**	P	**Pg**	**19 34 37.2**	**-3.4**
ECHA	**Ech Chlef**	**0.44**	**134**	P	**Pg**	**19 34 37.2**	**-3.8**
EBNR	**Beni Rached**	**0.47**	**110**	P	**Pg**	**19 34 38.8**	**-2.9**
EANR	**'Ain N'Sour**	**0.51**	**169**	P	**Pg**	**19 34 40.2**	**-2.2**
ETRT	**Tiaret**	**1.09**	**166**	P	**Pb**	**19 34 50.6**	**-2.9**
EMHD	**Djebel Mahouad**	**1.61**	**99**	P	**Pn**	**19 34 57.7**	**-3.2**
ABA	**Alger-Bouzarea**	**1.69**	**78**	P	**Pn**	**19 34 58.9**	**-3.1**
OTSS	**Djebel Tessala**	**1.86**	**231**	P	**Pn**	**19 35 04.0**	**-0.3**
CART	**Cartagena**	**1.95**	**306**	*e*Pn	**Pn**	**19 35 04.6**	**-1.0**
CART				*e*Sn	**Sn**	**19 35 28.1**	**-1.9**
CART	**Cartagena**	**1.95**	**306**	⇓P	**Pn**	**19 35 04.8**	**-0.7**
CART	**Cartagena**	**1.95**	**306**	*e*Pn	**Pn**	**19 35 04.6**	**-0.9**
CART	**Cartagena**	**1.95**	**306**	*i* P	**Pn**	**19 35 04.8**	**-0.7**
CART				*e*Sn	**Sn**	**19 35 28.1**	**-1.9**
ADJB	**Djebel Djouab**	**2.01**	**98**	P	**Pn**	**19 35 03.0**	**-3.4**
ODZI	**Dzioua**	**2.14**	**238**	P	**Pn**	**19 35 07.0**	**-1.2**
EMUR	**La Murta**	**2.25**	**309**	⇓P	**Pn**	**19 35 09.4**	**-0.3**
	46nm,0.2s,SNR=18						
EMUR				S	**Sn**	**19 35 36.8**	**-0.7**
	581nm,0.5s						
EMUR	**La Murta**	**2.25**	**309**	P	**Pn**	**19 35 09.4**	**-0.3**
	46nm,0.2s,SNR=18						
OLHC	**Oulhaca**	**2.29**	**239**	P	**Pg**	**19 35 18.0**	**+1.6**
AKET	**Djebel Ketaf**	**2.38**	**99**	P	**Pn**	**19 35 14.0**	**+2.5**
EBEN	**Beniarda**	**2.44**	**337**	⇓P	**Pn**	**19 35 12.4**	**+1.0**
	33nm,0.3s,SNR=18						
EBEN				S	**Sn**	**19 35 41.2**	**-1.0**
	364nm,0.4s						
EBEN	**Beniarda**	**2.44**	**337**	P	**Pn**	**19 35 12.4**	**+0.1**
	33nm,0.3s,SNR=18						
EIBI	**Ibiza**	**2.58**	**6**	⇓P	**Pn**	**19 35 14.0**	**-0.3**
	16nm,0.2s,SNR=18						
EIBI				S	**Sn**	**19 35 42.5**	**-3.2**
	638nm,0.2s,SNR=12						
EIBI	**Ibiza**	**2.58**	**6**	P	**Pn**	**19 35 14.0**	**-0.3**
	16nm,0.2s,SNR=18						
ENIJ	**Nijar**	**2.61**	**282**	P	**Pn**	**19 35 13.8**	**-0.9**
	36nm,0.2s,SNR=40						
ENIJ				S	**Sn**	**19 35 44.5**	**-1.9**
	143nm,0.2s						
AKF	**Akfadou**	**2.89**	**85**	P	**Pn**	**19 35 16.3**	**-2.2**
OUJ	**Oujda**	**2.96**	**233**	P	**Pn**	**19 35 19.5**	**+0.1**
OUJ				S	**Sn**	**19 35 53.0**	**-2.0**
OUJ	**Oujda**	**2.96**	**233**	*i* P	**Pn**	**19 35 19.5**	**+0.1**
ETOB	**Tobarra**	**2.97**	**318**	⇓P	**Pn**	**19 35 20.9**	**+1.3**
	189nm,0.5s,SNR=18						
ETOB				S	**Sn**	**19 35 56.0**	**+0.8**
	216nm,0.2s						
ETOB	**Tobarra**	**2.97**	**318**	P	**Pn**	**19 35 20.9**	**+1.3**
	189nm,0.5s,SNR=18						
EBER	**Berja**	**3.14**	**279**	P	**Pn**	**19 35 23.1**	**+1.1**
	19nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**19 36 00.1**	**+0.5**
	247nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.14**	**279**	P	**Pn**	**19 35 23.1**	**+1.1**
	19nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**3.16**	**296**	P	**Pn**	**19 35 23.1**	**+0.8**
	36nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**19 35 57.2**	**-2.8**
	74nm,0.5s,SNR=7.9						
EALB	**Alboran**	**3.29**	**262**	P	**Pn**	**19 35 23.9**	**-0.1**
	30nm,0.2s,SNR=9.4						
EALB				S	**Sn**	**19 36 02.2**	**-0.9**
	646nm,0.7s,SNR=5.0						
EALB	**Alboran**	**3.29**	**262**	P	**Pn**	**19 35 23.9**	**-0.1**
	30nm,0.2s,SNR=9.4						
ZAI	**Zaio**	**3.38**	**245**	*e*P	**Pn**	**19 35 27.0**	**+1.8**
ZAI				*i* S	**Sn**	**19 36 07.0**	**+1.7**
ZAI	**Zaio**	**3.38**	**245**	P	**Pn**	**19 35 25.0**	**-0.2**
ZAI				S	**Sn**	**19 36 06.0**	**+0.7**
ZAI	**Zaio**	**3.38**	**245**	*e*P	**Pn**	**19 35 25.0**	**-0.2**
EMLI	**Melilla**	**3.40**	**251**	P	**Pn**	**19 35 24.7**	**-0.7**
	50nm,0.1s,SNR=4.0						
EMEL	**Melilla**	**3.40**	**251**	P	**Pn**	**19 35 24.7**	**-0.8**
	50nm,0.1s,SNR=4.0						
ECHE	**Chera**	**3.49**	**334**	⇓P	**Pn**	**19 35 27.8**	**+1.0**
	8.5nm,0.3s,SNR=18						
ECHE				S	**Sn**	**19 36 08.2**	**+0.2**
	94nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.51**	**294**	⇓P	**Pn**	**19 35 28.9**	**+1.9**
	16nm,0.2s,SNR=18						
EQES				S	**Sn**	**19 36 10.0**	**+1.5**
	996nm,0.5s,SNR=11						
EQES	**Quesada**	**3.51**	**294**	P	**Pn**	**19 35 28.9**	**+1.9**
	16nm,0.2s,SNR=18						
EVIA	**Vianos**	**3.52**	**309**	⇓P	**Pn**	**19 35 28.2**	**+0.9**
	10.0nm,0.2s,SNR=18						
EVIA				S	**Sn**	**19 36 09.9**	**+1.0**
	300nm,0.3s						
SET	**Setif**	**3.58**	**93**	P	**Pn**	**19 35 26.0**	**-1.9**
ETOS	**Mallorca**	**3.61**	**23**	P	**Pn**	**19 35 26.6**	**-1.8**
	10nm,0.2s,SNR=122						
ETOS				S	**Sn**	**19 36 06.6**	**-4.4**
	103nm,0.4s,SNR=9.5						
ETOS	**Mallorca**	**3.61**	**23**	P	**Pn**	**19 35 26.6**	**-1.8**
	10nm,0.2s,SNR=122						
EQUE	**Quentar**	**3.62**	**283**	P	**Pn**	**19 35 29.5**	**+0.9**
	22nm,0.3s,SNR=236						
EQUE				S	**Sn**	**19 36 11.6**	**+0.1**
	96nm,0.4s,SNR=4.4						
EGUA	**Guajares**	**3.68**	**277**	P	**Pn**	**19 35 29.5**	**+0.2**
	11nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**19 36 11.8**	**-0.9**
	51nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.74**	**284**	P	**Pn**	**19 35 31.6**	**+1.5**
	9.8nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**19 36 14.9**	**+0.7**
	87nm,0.5s,SNR=7.9						
ERON	**Agron**	**3.89**	**280**	P	**Pn**	**19 35 31.9**	**-0.3**
	15nm,0.3s,SNR=4.0						
ERON				S	**Sn**	**19 36 18.2**	**+0.3**
	39nm,0.4s						
DFRA	**Djebel Bou Aff**	**3.94**	**87**	P	**Pn**	**19 35 31.5**	**-1.5**
EMOS	**Mosqueruela**	**4.07**	**344**	P	**Pn**	**19 35 35.9**	**+1.2**
	27nm,0.3s,SNR=225						
EMOS				S	**Sn**	**19 36 21.6**	**-0.7**
	240nm,0.4s						
EMOS	**Mosqueruela**	**4.07**	**344**	P	**Pn**	**19 35 35.9**	**+1.2**
	27nm,0.3s,SNR=225						
CMER	**Merouana**	**4.07**	**100**	P	**Pn**	**19 35 34.0**	**-0.8**
TOU	**Touzarine**	**4.13**	**250**	*e*P	**Pn**	**19 35 37.0**	**+1.4**
TOU				*e*S	**Sn**	**19 36 26.0**	**+2.1**
TOU	**Touzarine**	**4.13**	**250**	P	**Pn**	**19 35 36.0**	**+0.4**
TOU				S	**Sn**	**19 36 22.0**	**-1.9**
TOU	**Touzarine**	**4.13**	**250**	*e*P	**Pn**	**19 35 36.0**	**+0.4**
EBAN	**Banos Encina**	**4.17**	**296**	P	**Pn**	**19 35 37.2**	**+1.1**
	10nm,0.2s,SNR=36						
EBAN				S	**Sn**	**19 36 24.0**	**-0.8**
	56nm,0.4s						
ELOJ	**Sierra Loja**	**4.18**	**281**	P	**Pn**	**19 35 38.5**	**+2.3**
	23nm,0.4s,SNR=7.9						
ELOJ				S	**Sn**	**19 36 26.9**	**+1.8**
	96nm,0.4s,SNR=7.9						
MAHO	**Mahon**	**4.30**	**36**	*e*P	**Pn**	**19 35 34.4**	**-3.5**
ELUQ	**Luque**	**4.34**	**286**	P	**Pn**	**19 35 40.2**	**+1.7**
	9.2nm,0.2s,SNR=37						
ELUQ				S	**Sn**	**19 36 28.7**	**-0.4**
	62nm,0.2s						
EMAL	**Malaga-Limoner**	**4.36**	**276**	P	**Pn**	**19 35 37.3**	**-1.5**
EMAL				S	**Sn**	**19 36 23.8**	**-5.8**
EMAL	**Malaga-Limoner**	**4.36**	**276**	*e*P	**Pn**	**19 35 37.3**	**-1.5**
CTEI	**Djebel Teioual**	**4.40**	**94**	P	**Pn**	**19 35 37.5**	**-1.8**
CASM	**Ain Smara**	**4.45**	**91**	P	**Pn**	**19 35 40.0**	**0.0**
ERTA	**Horta de San J**	**4.52**	**354**	P	**Pn**	**19 35 41.4**	**+0.5**
	12nm,0.1s,SNR=68						
ERTA				S	**Sn**	**19 36 30.7**	**-2.8**
	49nm,0.2s						
ERTA	**Horta de San J**	**4.52**	**354**	P	**Pn**	**19 35 41.4**	**+0.5**
	12nm,0.1s,SNR=68						
CKFL	**Kef-Lekhel**	**4.63**	**89**	P	**Pn**	**19 35 42.0**	**-0.4**
EMIJ	**Mijas**	**4.64**	**273**	P	**Pn**	**19 35 41.5**	**-1.0**
	12nm,0.3s,SNR=66						
EMIJ				S	**Sn**	**19 36 32.6**	**-3.8**
	78nm,0.4s						
CAEH	**'Ain El Ouahch**	**4.73**	**84**	P	**Pn**	**19 35 41.0**	**-2.8**
EADA	**Adamuz**	**4.75**	**293**	P	**Pn**	**19 35 44.3**	**+0.3**
	15nm,0.3s,SNR=77						
EADA				S	**Sn**	**19 36 37.1**	**-2.0**
	140nm,0.4s,SNR=4.4						
EADA	**Adamuz**	**4.75**	**293**	P	**Pn**	**19 35 44.3**	**+0.2**
	15nm,0.3s,SNR=77						
TZK	**Tazeka**	**4.84**	**242**	*i* P	**Pn**	**19 35 48.0**	**+2.7**
TZK				*i* S	**Sn**	**19 36 43.5**	**+2.1**
TZK	**Tazeka**	**4.84**	**242**	P	**Pn**	**19 35 45.0**	**-0.3**
TZK				S	**Sn**	**19 36 41.0**	**-0.4**
TZK	**Tazeka**	**4.84**	**242**	*i* P	**Pn**	**19 35 45.0**	**-0.3**
EPOB	**Poblet**	**4.89**	**1**	P	**Pn**	**19 35 46.3**	**+0.3**
	13nm,0.2s,SNR=102						
EPOB				S	**Sn**	**19 36 38.7**	**-3.9**
	60nm,0.4s						
EPOB	**Poblet**	**4.89**	**1**	P	**Pn**	**19 35 46.3**	**+0.3**
	13nm,0.2s,SNR=102						
ETOR	**Torete**	**4.96**	**332**	P	**Pn**	**19 35 49.2**	**+2.2**
	13nm,0.2s,SNR=40						
ETOR				S	**Sn**	**19 36 43.0**	**-1.4**
	54nm,0.3s,SNR=4.7						
REAL	**Reales**	**4.99**	**272**	*e*P	**Pn**	**19 35 49.0**	**+1.6**
ESDC	**Sonseca Array**	**5.05**	**311**	Pn	**Pn**	**19 35 48.7**	**+0.5**
	28nm,0.3s,baz=126,slow=14,SNR=142		

comp=Z,11nm,0.6s
EBIE Bielsa 6.26 354 P **Pn** **19 36 05.0 +0.2**
comp=Z,1.4nm,0.3s,SNR=13
SALF Salau 6.30 1 P **Pn** **19 36 06.7 +1.4**
SALF S **Sn** **19 37 15.7 -1.6**
CARF Carcanieres 6.31 8 P **Pn** **19 36 06.5 +1.0**
CARF S **Sn** **19 37 17.6 -0.1**
RESF Ens 6.36 356 P **Pn** **19 36 07.9 +1.7**
MELF Melles 6.41 359 P **Pn** **19 36 08.6 +1.7**
MELF S **Sn** **19 37 16.1 -4.0**
VIEF Viey 6.46 354 P **Pn** **19 36 10.0 +2.4**
VIEF S **Sn** **19 37 18.5 -2.9**
MLS Moulis 6.49 1 S **Sn** **19 37 21.1 -1.1**
ETSF Etsaut 6.54 350 *e*Pn **Pn** **19 36 10.2 +1.5**
SNR=1.0
ETSF *e*Sn **Sn** **19 37 19.5 -3.9**
comp=Z,41nm,0.6s,SNR=1.0
ETSF Etsaut 6.54 350 *e*Pn **Pn** **19 36 10.2 +1.5**
SNR=1.0
ETSF *e*Sn **Sn** **19 37 19.5 -3.9**
comp=Z,20nm,0.6s,SNR=1.0
EPF Esparros 6.58 356 *e*Pn **Pn** **19 36 10.2 +0.9**
SNR=1.0
EPF *e*Sn **Sn** **19 37 21.5 -2.9**
comp=Z,23nm,0.5s,SNR=1.0
IPRE Itoiz 6.59 345 P **Pn** **19 36 11.4 +2.0**
comp=Z,4.4nm,0.2s,SNR=8.0
IPRE S **Sn** **19 37 22.5 -2.1**
comp=Z,6.0nm,0.2s,SNR=7.9
IPRE Itoiz 6.59 345 P **Pn** **19 36 11.4 +2.0**
comp=Z,4.4nm,0.2s,SNR=8.0
EARA Aranguren 6.61 343 P **Pn** **19 36 11.9 +2.3**
comp=Z,10nm,0.5s,SNR=5.6
EARA S **Sn** **19 37 22.0 -3.0**
comp=Z,20nm,0.5s,SNR=7.9
EARA Aranguren 6.61 343 P **Pn** **19 36 11.9 +2.3**
comp=Z,10nm,0.5s,SNR=5.6
LABF Labassere 6.62 354 P **Pn** **19 36 11.4 +1.6**
LABF S **Sn** **19 37 23.0 -2.3**
REYF Montagne du Re 6.69 351 P **Pn** **19 36 12.9 +2.2**
REYF S **Sn** **19 37 22.3 -4.7**
ECRI Cripan 6.71 337 P **Pn** **19 36 14.4 +3.4**
comp=Z,10nm,0.4s,SNR=7.9
ECRI S **Sn** **19 37 26.6 -0.9**
comp=Z,7.1nm,0.4s,SNR=7.9
LARF Larrau 6.75 348 P **Pn** **19 36 13.8 +2.3**
LARF S **Sn** **19 37 30.0 +1.6**
LARF Larrau 6.75 348 P **Pn** **19 36 13.2 +1.7**
LARF Larrau 6.75 348 P **Pn** **19 36 13.2 +1.7**
LARF S **Sn** **19 37 30.0 +1.6**
ATE Arette 6.75 349 P **Pn** **19 36 13.3 +1.8**
ATE S **Sn** **19 37 25.6 -2.8**
EBAD Badajoz 6.75 292 P **Pn** **19 36 11.3 -0.2**
comp=Z,4.0nm,0.2s,SNR=30
EBAD S **Sn** **19 37 25.6 -2.8**
comp=Z,46nm,0.2s
EBAD Badajoz 6.75 292 P **Pn** **19 36 11.3 -0.2**
comp=Z,4.0nm,0.2s,SNR=30
IUSE Utxeti 6.77 344 P **Pn** **19 36 11.2 -0.6**
comp=Z,0.5nm,0.1s,SNR=7.9
IUSE S **Sn** **19 37 27.5 -1.4**
comp=Z,6.1nm,0.4s,SNR=7.9
IUSE Utxeti 6.77 344 P **Pn** **19 36 11.2 -0.6**
comp=Z,0.5nm,0.1s,SNR=7.9
KEST Kesra 6.81 94 Pn **Pn** **19 36 10.7 -1.7**
comp=Z,3.0nm,0.3s,baz=260,slow=2.5,SNR=62
KEST Sn **Sn** **19 37 28.5 -1.5**
comp=Z,1.0nm,0.3s,baz=37,slow=20,SNR=2.8
EGRO El Granado 6.86 282 P **Pn** **19 36 12.9 -0.2**
comp=Z,10nm,0.3s,SNR=76
EGRO S **Sn** **19 37 28.2 -3.0**
comp=Z,21nm,0.3s
EGRO El Granado 6.86 282 P **Pn** **19 36 12.9 -0.2**
comp=Z,10nm,0.3s,SNR=76
SJPF Ste Jean 6.86 346 *e*Pn **Pn** **19 36 14.5 +1.4**
SNR=1.0
SJPF *e*Sn **Sn** **19 37 29.4 -1.8**
comp=Z,42nm,0.5s
SJPF Ste Jean 6.86 346 *e*Pn **Pn** **19 36 14.5 +1.4**
SNR=1.0
SJPF *e*Sn **Sn** **19 37 29.4 -1.8**
comp=Z,21nm,0.5s
MTLF Montolieu 6.94 7 *e*Pn **Pn** **19 36 15.7 +1.5**
SNR=1.0
MTLF *e*Sn **Sn** **19 37 26.5 -6.7**
comp=Z,20nm,0.6s,SNR=1.0
KIB El Ksiba 6.97 238 P **Pn** **19 36 16.0 +1.5**
KIB S **Sn** **19 37 29.0 -4.8**
ELIZ Elizondo 6.97 345 P **Pn** **19 36 17.1 +2.5**
comp=Z,10nm,0.3s,SNR=42
ELIZ S **Sn** **19 37 32.2 -1.7**
comp=Z,24nm,0.3s
OSSF Osses 7.01 346 P **Pn** **19 36 16.6 +1.5**
EALK Alkurruntz 7.02 345 P **Pn** **19 36 17.4 +2.1**
comp=Z,11nm,0.3s,SNR=30
EALK S **Sn** **19 37 32.7 -2.4**
comp=Z,76nm,0.4s
PESTR Estremoz 7.21 292 *e*Pn **Pn** **19 36 18.4 +0.5**
PESTR *e*Sn **Sn** **19 37 37.1 -2.8**
PESTR A 19 38 13.9
comp=Z,38nm,0.7s
PESTR Estremoz 7.21 292 *e*Pn **Pn** **19 36 18.4 +0.5**
PESTR *e*Sn **Sn** **19 37 37.1 -2.8**
comp=Z,38nm,0.7s
PBEJ Beja 7.23 285 *e*Pn **Pn** **19 36 18.3 +0.2**
PBEJ *e*Sn **Sn** **19 37 36.6 -3.7**
PBEJ A 19 37 42.8
comp=Z,34nm,0.4s
PBEJ Beja 7.23 285 *e*Pn **Pn** **19 36 18.3 +0.2**
PBEJ *e*Sn **Sn** **19 37 36.6 -3.7**
comp=Z,34nm,0.4s
PCBR Castelo Branco 7.47 299 *e*Pn **Pn** **19 36 22.5 +1.0**
PCBR *e*Sn **Sn** **19 37 44.1 -2.1**
PCBR A 19 38 24.2
comp=Z,36nm,0.4s
PCBR Castelo Branco 7.47 299 P **Pn** **19 36 23.0 +1.5**
PCBR S **Sn** **19 37 44.1 -2.1**
PCBR Castelo Branco 7.47 299 *e*Pn **Pn** **19 36 22.5 +1.0**
PCBR *e*Sn **Sn** **19 37 44.1 -2.1**
comp=Z,36nm,0.4s
TZC Tazercounte 7.53 237 P **Pn** **19 36 24.0 +1.8**
TZC S **Sn** **19 37 44.0 -3.6**
ELAN Lanestosa 7.57 335 P **Pn** **19 36 24.1 +1.3**
ELAN S **Sn** **19 37 46.8 -1.8**
ELAN Lanestosa 7.57 335 P **Pn** **19 36 24.1 +1.3**
comp=Z,16nm,0.3s,SNR=173
ELAN S **Sn** **19 37 46.8 -1.8**
comp=Z,42nm,0.5s,SNR=7.9
ELAN Lanestosa 7.57 335 P **Pn** **19 36 24.1 +1.3**
comp=Z,16nm,0.3s,SNR=173
MOE Montemor 7.70 288 *e*Pn **Pn** **19 36 25.2 +0.6**
GELF Grande-Etoile 7.71 25 P **Pn** **19 36 24.1 -0.7**
MTE Manteigas 7.76 303 *e*Pn **Pn** **19 36 26.9 +1.4**
MTE *e*Sn **Sn** **19 37 52.1 -1.3**
MTE A 19 38 32.6
comp=Z,60nm,0.5s
MTE Manteigas 7.76 303 P **Pn** **19 36 26.7 +1.2**
MTE S **Sn** **19 37 53.9 +0.5**
MTE Manteigas 7.76 303 *e*Pn **Pn** **19 36 26.9 +1.4**
MTE *e*Sn **Sn** **19 37 52.1 -1.3**
comp=Z,60nm,0.5s
PTEO Sao Teotonio 7.84 281 *e*Pn **Pn** **19 36 26.8 +0.3**
PTEO *e*Sn **Sn** **19 37 51.4 -4.0**
PTEO A 19 38 08.7
comp=Z,31nm,0.7s
PTEO Sao Teotonio 7.84 281 P **Pn** **19 36 26.7 +0.2**
PTEO S **Sn** **19 37 51.2 -4.2**
PTEO Sao Teotonio 7.84 281 *e*Pn **Pn** **19 36 26.8 +0.3**
PTEO *e*Sn **Sn** **19 37 51.4 -4.0**
comp=Z,31nm,0.7s
LASF Ste Croix 7.92 15 *e*Pn **Pn** **19 36 27.7 +0.1**
SNR=1.0
LASF *e*Sn **Sn** **19 37 52.4 -4.9**
comp=Z,13nm,0.6s,SNR=1.0
LASF Ste Croix 7.92 15 Pn **Pn** **19 36 27.7 +0.1**
LASF Sn **Sn** **19 37 52.4 -4.9**
comp=Z,6.7nm,0.6s
PRAF Pradon 8.01 22 P **Pn** **19 36 29.0 +0.2**
PBRG Braganca 8.03 314 *e*Pn **Pn** **19 36 30.1 +1.0**
PBRG *e*Sn **Sn** **19 37 58.2 -1.8**
PBRG A 19 38 50.4
comp=Z,29nm,0.8s
PBRG Braganca 8.03 314 *e*Pn **Pn** **19 36 30.1 +1.0**
PBRG *e*Sn **Sn** **19 37 58.2 -1.8**
comp=Z,29nm,0.8s
LMR La Mourre 8.07 30 *e*Pn **Pn** **19 36 28.7 -1.0**
SNR=1.0
LMR *e*Sn **Sn** **19 37 53.3 -7.8**
comp=Z,20nm,0.3s
LMR La Mourre 8.07 30 Pn **Pn** **19 36 28.7 -1.0**
LMR Sn **Sn** **19 37 53.3 -7.8**
comp=Z,10nm,0.3s
ECAL Calabor 8.12 315 P **Pn** **19 36 31.0 +0.7**
comp=Z,20nm,0.3s,SNR=73
ECAL S **Sn** **19 37 59.7 -2.4**
comp=Z,20nm,0.4s,SNR=7.9
ECAL Calabor 8.12 315 P **Pn** **19 36 31.0 +0.7**
comp=Z,20nm,0.3s,SNR=73
TAVF Tavernes 8.14 27 P **Pn** **19 36 29.9 -0.7**
PVIS Viseu 8.15 304 *e*Pn **Pn** **19 36 31.9 +1.2**
PVIS *e*Sn **Sn** **19 38 00.6 -2.3**
PVIS A 19 38 04.5
comp=Z,39nm,0.4s
PVIS Viseu 8.15 304 P **Pn** **19 36 31.9 +1.2**
PVIS S **Sn** **19 38 01.2 -1.7**
PVIS Viseu 8.15 304 *e*Pn **Pn** **19 36 31.9 +1.2**
PVIS *e*Sn **Sn** **19 38 00.6 -2.3**
comp=Z,39nm,0.4s
SMRF Simiane la Rot 8.29 24 *e*Pn **Pn** **19 36 33.6 +0.9**
SNR=1.0
SMRF *e*Sn **Sn** **19 38 00.9 -5.5**
comp=Z,4.8nm,0.5s
SMRF Simiane la Rot 8.29 24 Pn **Pn** **19 36 33.6 +0.9**
SMRF Sn **Sn** **19 38 00.9 -5.5**
comp=Z,4.8nm,0.5s
PVRL Vila Real 8.32 308 *e*Pn **Pn** **19 36 34.6 +1.6**
PVRL *e*Sn **Sn** **19 38 04.2 -2.8**
PVRL A 19 38 53.5
comp=Z,22nm,0.7s
PVRL Vila Real 8.32 308 P **Pn** **19 36 34.7 +1.7**
PVRL S **Sn** **19 38 04.0 -3.0**
PVRL Vila Real 8.32 308 *e*Pn **Pn** **19 36 34.6 +1.6**
PVRL *e*Sn **Sn** **19 38 04.2 -2.8**
comp=Z,22nm,0.7s
FRF La Foret Royal 8.32 30 *e*Pn **Pn** **19 36 32.3 -0.8**
SNR=1.0
FRF *e*Sn **Sn** **19 38 00.8 -6.3**
comp=Z,39nm,0.5s,SNR=1.0
FRF La Foret Royal 8.32 30 *e*Pn **Pn** **19 36 32.3 -0.8**
SNR=1.0
FRF *e*Sn **Sn** **19 38 00.8 -6.3**
comp=Z,19nm,0.5s,SNR=1.0
EARI Arriondas 8.33 327 P **Pn** **19 36 34.5 +1.3**
comp=Z,7.3nm,0.3s,SNR=41
EARI S **Sn** **19 38 03.6 -3.6**
comp=Z,14nm,0.6s,SNR=7.9
EARI Arriondas 8.33 327 P **Pn** **19 36 34.5 +1.3**
PLOU Loures 8.39 290 *e*Pn **Pn** **19 36 34.6 +0.5**
PLOU *e*Sn **Sn** **19 38 05.5 -3.4**
PLOU A 19 38 54.9
comp=Z,64nm,1.0s
PLOU Loures 8.39 290 P **Pn** **19 36 34.4 +0.3**
PLOU S **Sn** **19 38 05.4 -3.5**
LFF La Frestale 8.48 359 *e*Pn **Pn** **19 36 35.8 +0.6**
SNR=1.0
LFF *e*Sn **Sn** **19 38 08.2 -2.8**
comp=Z,26nm,0.4s,SNR=1.0
LFF La Frestale 8.48 359 Pn **Pn** **19 36 35.8 +0.6**
LFF Sn **Sn** **19 38 08.2 -2.8**
comp=Z,13nm,0.4s
CAF Calviac 8.50 5 *e*Pn **Pn** **19 36 36.7 +1.1**
SNR=1.0
CAF *e*Sn **Sn** **19 38 07.6 -3.9**
comp=Z,20nm,0.5s
CAF Calviac 8.50 5 Pn **Pn** **19 36 36.7 +1.1**
CAF Sn **Sn** **19 38 07.6 -3.9**
comp=Z,9.9nm,0.5s
PMAFR Mafra 8.51 290 *e*Pn **Pn** **19 36 36.0 +0.3**
PMAFR *e*Sn **Sn** **19 38 08.2 -3.6**
PMAFR A 19 38 12.3
comp=Z,48nm,0.6s
ERUA La Rua 8.64 316 P **Pn** **19 36 38.2 +0.7**
comp=Z,12nm,0.2s,SNR=11
PGF Pioggiola 8.68 43 *e*Pn **Pn** **19 36 36.3 -1.8**
SNR=1.0
PGF *e*Sn **Sn** **19 38 07.7 -8.3**
comp=Z,19nm,0.5s,SNR=1.0
PGF Pioggiola 8.68 43 *e*Pn **Pn** **19 36 36.3 -1.8**
SNR=1.0
PGF *e*Sn **Sn** **19 38 07.7 -8.3**
comp=Z,9.6nm,0.5s,SNR=1.0
PCAB Cabril 8.75 310 *e*Pn **Pn** **19 36 40.3 +1.3**
PCAB *e*Sn **Sn** **19 38 15.4 -2.3**
PCAB A 19 39 20.3
comp=Z,26nm,1.0s
PCAB Cabril 8.75 310 P **Pn** **19 36 40.4 +1.4**
PCAB S **Sn** **19 38 14.5 -3.2**
PTO Porto 8.82 305 *e*Pn **Pn** **19 36 41.1 +1.1**
PTO *e*Sn **Sn** **19 38 16.9 -2.5**
VIVF Saint-Julien-l 8.85 17 *e*Pn **Pn** **19 36 39.7 -0.6**
SNR=1.0
VIVF *e*Sn **Sn** **19 38 12.7 -7.3**
comp=Z,9.4nm,0.5s,SNR=1.0
VIVF Saint-Julien-l 8.85 17 Pn **Pn** **19 36 39.7 -0.6**
VIVF Sn **Sn** **19 38 12.7 -7.3**
comp=Z,4.7nm,0.5s
RJF Les Rejaudoux 8.85 2 *e*Pn **Pn** **19 36 40.3 -0.1**
SNR=1.0
RJF *e*Sn **Sn** **19 38 14.2 -5.9**
comp=Z,16nm,0.4s,SNR=1.0
RJF *e*MLR
comp=Z,390nm,14.7s
RJF Les Rejaudoux 8.85 2 Pn **Pn** **19 36 40.3 -0.1**
RJF Sn **Sn** **19 38 14.2 -5.9**
comp=Z,7.8nm,0.4s
ELOB Lobios 8.86 310 P **Pn** **19 36 41.2 +0.7**
comp=Z,7.2nm,0.3s,SNR=25
ELOB S **Sn** **19 38 16.0 -4.3**
comp=Z,9.2nm,0.4s,SNR=7.9
ELOB Lobios 8.86 310 P **Pn** **19 36 41.2 +0.7**
SBF Sospel 8.89 32 *e*Pn **Pn** **19 36 39.6 -1.4**
SNR=1.0
SBF *e*Sn **Sn** **19 38 15.2 -6.0**
comp=Z,11nm,0.3s,SNR=1.0
SBF Sospel 8.89 32 *e*Pn **Pn** **19 36 39.6 -1.4**
SNR=1.0
SBF *e*Sn **Sn** **19 38 15.2 -6.0**
comp=Z,5.4nm,0.3s,SNR=1.0
LBL Lubilhac 8.93 10 P **Pn** **19 36 42.8 +1.3**
FRNF Fournols 9.00 7 P **Pn** **19 36 44.5 +2.1**
OUK Oukaimeden 9.03 237 P **Pn** **19 36 43.5 +0.7**
OUK S **Sn** **19 38 19.0 -5.5**
ORIF Oris-en-Rattie 9.23 22 *e*Pn **Pn** **19 36 45.5 -0.1**
SNR=1.0
ORIF *e*MLR
comp=Z,187nm,13.8s
EPON Pontenova 9.28 320 P **Pn** **19 36 47.0 +0.8**
comp=Z,24nm,0.3s,SNR=62
EPON S **Sn** **19 38 25.8 -4.8**
comp=Z,9.9nm,0.6s,SNR=7.9
EPON Pontenova 9.28 320 P **Pn** **19 36 47.0 +0.8**
VERF Verneugheol 9.35 6 P **Pn** **19 36 48.0 +0.7**
MBDF Montbardon 9.36 26 *e*Pn **Pn** **19 36 48.3 +1.0**
SNR=1.0
EZAM Zamans 9.41 310 P **Pn** **19 36 48.8 +0.8**
comp=Z,15nm,0.3s,SNR=7.9
PYM Petit Puy Mans 9.41 9 P **Pn** **19 36 49.8 +1.8**
CIA Chichaoua 9.44 242 S **Sn** **19 38 29.0 -5.7**
AGO Saint Agoulin 9.72 9 P **Pn** **19 36 54.2 +1.9**
STS Santiago 9.75 314 P **Pn** **19 36 53.6 +0.9**
comp=Z,6.0nm,0.2s,SNR=7.9
TCF Toulx Ste Croi 9.87 5 *e*Pn **Pn** **19 36 54.9 +0.6**
SNR=1.0
TCF *e*Sn **Sn** **19 38 38.3 -6.8**
comp=Z,8.1nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 9.87 5 Pn **Pn** **19 36 54.9 +0.6**
TCF Sn **Sn** **19 38 38.3 -6.8**
comp=Z,4.1nm,0.4s
LPG La Plagne 10.03 24 *e*Pn **Pn** **19 36 58.2 +1.7**
SNR=1.0
LPL La Plagne 10.04 24 *e*Pn **Pn** **19 36 57.9 +1.3**
SNR=1.0
EMAZ Mazaricos 10.04 313 P **Pn** **19 36 58.4 +1.7**
comp=Z,4.4nm,0.2s,SNR=8.5
EMAZ S **Sn** **19 38 44.1 -5.3**
comp=Z,7.4nm,0.4s,SNR=7.9
EMAZ Mazaricos 10.04 313 P **Pn** **19 36 58.4 +1.7**
comp=Z,4.4nm,0.2s
MFF Saint Martin d 10.17 356 *e*Pn **Pn** **19 36 58.6 +0.1**
SNR=1.0
MFF *e*Sn **Sn** **19 38 47.2 -5.4**
comp=Z,13nm,0.5s
MFF Saint Martin d 10.17 356 Pn **Pn** **19 36 58.6 +0.1**
MFF Sn **Sn** **19 38 47.2 -5.4**
comp=Z,6.5nm,0.5s
BGF Bois d'Agland 10.19 7 *e*Pn **Pn** **19 37 00.0 +1.3**
SNR=1.0
BGF *e*Sn **Sn** **19 38 47.5 -5.5**
comp=Z,20nm,0.6s
BGF Bois d'Agland 10.19 7 Pn **Pn** **19 37 00.0 +1.3**
BGF Sn **Sn** **19 38 47.5 -5.5**
comp=Z,10nm,0.6s
SMF Signal de Mont 10.40 11 *e*Pn **Pn** **19 37 03.9 +2.3**
SNR=1.0
AVF Avril sur Loir 10.48 9 *e*Pn **Pn** **19 37 03.6 +0.9**
SSF Saint Saulge 10.76 9 *e*Pn **Pn** **19 37 08.1 +1.5**
SNR=1.0
CABF La Chapelle 10.84 19 *e*Pn **Pn** **19 37 08.0 +0.4**
LOR Lormes 11.01 10 *e*P **Pn** **19 37 14.7 +4.7**
baz=193
LOR *e*MLR
comp=Z,173nm,18.0s
QUIF Quistinic 11.86 346 *e*Pn **Pn** **19 37 22.7 +1.2**
QUIF *e*Sn **Sn** **19 39 28.5 -5.4**
comp=Z,21nm,0.6s
QUIF Quistinic 11.86 346 Pn **Pn** **19 37 22.7 +1.2**
QUIF Sn **Sn** **19 39 28.5 -5.4**
comp=Z,10nm,0.6s
GRR Gorron 12.00 354 *e*Pn **Pn** **19 37 23.6 +0.1**
SNR=1.0
GRR *e*Sn **Sn** **19 39 31.4 -6.0**
comp=Z,7.0nm,0.5s
GRR Gorron 12.00 354 Pn **Pn** **19 37 23.6 +0.1**
GRR Sn **Sn** **19 39 31.4 -6.0**
comp=Z,3.5nm,0.5s
SGMF Saint Gilles 12.07 349 *e*Pn **Pn** **19 37 25.0 +0.5**
SNR=1.0
LDF La Druitiere 12.16 357 *e*Pn **Pn** **19 37 25.8 +0.1**
SNR=1.0
LDF *e*Sn **Sn** **19 39 33.8 -7.4**
comp=Z,6.7nm,0.6s
FLN La Foliniere 12.35 355 *e*Pn **Pn** **19 37 28.1 -0.1**
baz=173,SNR=1.0
FLN *e*MLR
comp=Z,251nm,19.2s
BFO Black Forest 13.04 22 *e*P **Pn** **19 37 37.1 -0.6**
BFO pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 13.04 22 *e*Pn **Pn** **19 37 37.1 -0.6**
comp=Z,8.4nm,0.9s
BFO Black Forest 13.04 22 *e*P **Pn** **19 37 37.1 -0.6**
comp=Z,8.0nm,0.9s
SQTA Sankt Quirin 13.17 32⇓ *i*P **Pn** **19 37 45.5 +6.0**
comp=Z,9.4nm,1.2s
SQTA Sankt Quirin 13.17 32⇓ *i*P **Pn** **19 37 45.5 +6.0**
SQTA pmax pmax
comp=Z,9.0nm,1.2s
RETA Reutte 13.19 30⇓ *i*Pn **Pn** **19 37 43.1 +3.3**
comp=Z,11nm,1.1s
MOTA Moosalm 13.22 32⇓ *i*P **Pn** **19 37 45.2 +5.0**
comp=Z,8.3nm,1.0s
MOTA Moosalm 13.22 32⇓ *i*P **Pn** **19 37 45.2 +5.0**
MOTA pmax pmax
comp=Z,8.0nm,1.0s
WLF Walferdange 13.73 14 P **Pn** **19 37 42.6 -4.5**
WLF pmax pmax
comp=Z,19nm,1.1s
WLF Walferdange 13.73 14 P **Pn** **19 37 42.6 -4.5**
comp=Z,19nm,1.1s
BAIF Baives 13.80 9 *e*Pn **Pn** **19 37 48.9 +0.9**
MEM Membach 14.60 13 P **Pn** **19 38 03.5 +4.5**
MOA Molln 15.03 37⇑ *i*P **Pn** **19 38 05.6 +0.8**
comp=Z,14nm,1.4s
GRA1 Grafenberg Arr 15.18 26 *e*P **Pn** **19 38 09.4 +2.6**
comp=Z,26nm,1.1s
GRF Grafenberg Arr 15.18 26 *e*P **Pn** **19 38 09.4 +2.6**
GRF pmax pmax
comp=Z,26nm,1.1s
GRF Grafenberg Arr 15.18 26 *e*P **Pn** **19 38 09.4 +2.6**
GRF pmax pmax
comp=Z,7.0nm,1.1s
GRF Grafenberg Arr 15.18 26 *e*P **Pn** **19 38 09.4 +2.6**
comp=Z,26nm,1.1s
ARSA Arzberg 15.26 41⇑ *i*P **Pn** **19 38 10.2 +2.3**
comp=Z,14nm,1.2s
GEC2 GERESS Array S 15.49 33 *e*P **Pn** **19 38 11.7 +0.8**
GERES GERESS Array B 15.49 33 Pn **Pn** **19 38 10.6 -0.4**
comp=Z,0.2nm,0.3s,baz=217,slow=13,SNR=20
GERES LR LR 19 42 58.7
comp=Z,28nm,21.7s,baz=318,slow=33
KHC Kasperske Hory 15.65 32 *e*P **Pn** **19 38 13.4 +0.4**
KHC *e*pP pP 19 38 18.5 -1.5
KHC AMS AMS 19 46 20.0
comp=Z,400nm,9.3s
KHC Kasperske Hory 15.65 32 *e*P **Pn** **19 38 13.4 +0.4**
KHC *e* 19 38 18.5
KHC Kasperske Hory 15.65 32 *e*P **Pn** **19 38 13.4 +0.4**
comp=Z,400nm,9.3s
CONA Conrad Observa 15.87 39⇑ *i*Pn **Pn** **19 38 16.6 +0.7**
comp=Z,11nm,1.1s
MOX Moxa 16.12 25 *e*P **Pn** **19 38 25.2 +6.2**
DIVS Divcibare 16.37 56 *e*P **Pn** **19 38 20.7 -1.6**
PRU Pruhonice 16.71 32 *e*P **Pn** **19 38 25.6 -1.0**
PRU AMS AMS 19 46 20.0
comp=Z,300nm,8.3s
PRU Pruhonice 16.71 32 *e*P **Pn** **19 38 25.6 -1.0**
PRU Pruhonice 16.71 32 *e*P **Pn** **19 38 25.6 -1.0**
comp=Z,300nm,8.3s
GRUS Gruza 16.79 58⇓ *i*P **Pn** **19 38 29.5 +1.9**
BRG Berggiesshubel 17.15 29 *e*P **Pn** **19 38 34.3 +2.1**
comp=Z,9.7nm,1.6s
BRG Berggiesshubel 17.15 29 *e*P **Pn** **19 38 34.3 +2.1**
BRG pmax pmax
comp=Z,10.0nm,1.6s
CLL Collm 17.15 26 *e*P **Pn** **19 38 34.0 +1.8**
CLL *e*PP 19 42 41.0
VRAC Vranov 17.16 37 P **Pn** **19 38 33.0 +0.8**
comp=Z,0.2nm,0.3s,baz=257,slow=14,SNR=2.1
VRAC LR LR 19 45 24.2
comp=Z,60nm,18.1s,baz=68,slow=38
VRAC Vranov 17.16 37⇑ P **Pn** **19 38 33.1 +0.9**
VRAC Vranov 17.16 37⇑ *i*P **Pn** **19 38 33.1 +0.9**
UPC Upice 17.73 33 *e*P **Pn** **19 38 42.8 +3.4**
DPC Dobruska-Polom 17.76 34 *e*P **Pn** **19 38 42.4 +2.7**
DPC AMS AMS 19 47 00.0
comp=Z,300nm,12.6s
DPC Dobruska-Polom 17.76 34 *e*P **Pn** **19 38 42.4 +2.7**
comp=Z,300nm,12.6s
VYHS Vyhne 17.79 42 *e*P **Pn** **19 38 41.0 +1.0**
MORC Moravsky Berou 17.93 37 *e*P **Pn** **19 38 42.9 +1.1**
comp=Z,14nm,1.3s
MORC Moravsky Berou 17.93 37⇑ *i*P **Pn** **19 38 43.2 +1.4**
MORC Moravsky Berou 17.93 37 *e*P **Pn** **19 38 42.9 +1.1**
comp=Z,14nm,1.3s
KKB Krupnik 17.95 66 *i*P **Pn** **19 38 42.8 +0.7**
BZS Buzias 18.02 53 P **Pn** **19 38 45.5 +2.6**
BZS Buzias 18.02 53⇓ P **Pn** **19 38 41.8 -1.1**
BZS Buzias 18.02 53⇓ *i*P **Pn** **19 38 41.8 -1.1**
PSZ Piszkesteto 18.05 45 P **Pn** **19 38 40.6 -2.6**
comp=Z,41nm,1.4s
PSZ Piszkesteto 18.05 45⇑ *i*P **Pn** **19 38 43.3 0.0**
KSP Ksiaz 18.10 33 *e*P **Pn** **19 38 46.9 +3.0**
VTS Vitosha 18.19 64 *i*P **Pn** **19 38 45.4 +0.4**
VTS Vitosha 18.19 64 P **Pn** **19 38 46.2 +1.2**
VTS Vitosha 18.19 64⇑ *i*P **Pn** **19 38 44.0 -1.0**
MMB Musomiste 18.38 67 *i*P **Pn** **19 38 47.4 0.0**
KECS Kecovo 18.68 44 *e*P **Pn** **19 38 50.0 -1.1**
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 18.68 44 *e*P **Pn** **19 38 50.0 -1.1**
comp=Z,7.4nm,1.1s
GZR Gura Zlata 18.69 55⇓ P **Pn** **19 38 50.6 -0.5**
GZR Gura Zlata 18.69 55⇓ *i*P **Pn** **19 38 50.6 -0.5**
PGB Panagyurishte 18.87 64 *i*P **Pn** **19 38 53.0 -0.3**
NIE Niedzica 19.12 41 *e*P **Pn** **19 38 57.3 +1.0**
RZN Rozhen 19.13 67 *i*P **Pn** **19 38 55.6 -0.9**
PLD Plovdiv 19.18 66 *i*P **Pn** **19 38 56.2 -0.9**
DRGR 19.19 51 P **Pn** **19 38 58.6 +1.4**
DRGR 19.19 51⇑ P **Pn** **19 38 57.7 +0.5**
DRGR 19.19 51⇑ *i*P **Pn** **19 38 57.7 +0.5**
OJC Ojcow 19.33 39 *e*P **Pn** **19 39 00.0 +1.1**
IDI Anoyia 19.40 86 P **Pn** **19 38 58.0 -1.7**
comp=Z,0.7nm,0.3s,baz=289,slow=12,SNR=9.4
CRVS Cervenica-Dubn 19.45 44 *e*P **Pn** **19 39 00.3 -0.1**
STHS Stebnicka Huta 19.61 42 *e*P **Pn** **19 39 03.3 +1.0**
STHS pmax pmax

comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 19.61 42 *e*P **Pn 19 39 03.3 +1.0**
comp=Z,5.8nm,1.1s
KDZ Kurdzhali 19.65 67 *i* P **Pn 19 38 59.7 -2.9**
APE Apeiranthos 19.67 81 *e*P **Pn 19 39 03.2 +0.3**
DIM Dimitrovgrad 19.79 66 *i* P **Pn 19 39 02.7 -1.6**
UZH Uzhgorod 19.79 45 *e*P **Pn 19 39 04.4 +0.1**
PVL Pavlikeni 19.84 63 *i* P **Pn 19 39 03.3 -1.7**
KOLS Kolonicke sedl 19.93 45 *e*P **Pn 19 39 05.0 -1.0**
ZIMR 19.96 61 P **Pn 19 39 05.4 -1.0**
VOIR 20.21 56⇑*i*P **P 19 39 10.1 +2.7**
SZH Strazhica 20.28 63 *i* P **P 19 39 08.3 +0.1**
JMB Yambol 20.62 65 *i* P **P 19 39 11.1 -0.7**
MLR Muntele Rosu 20.83 57 P **P 19 39 14.3 +0.2**
comp=Z,21nm,0.7s,baz=283,slow=11,SNR=14
MLR Muntele Rosu 20.83 57 P **P 19 39 16.4 +2.3**
MLR Muntele Rosu 20.83 57⇑*i*P **P 19 39 16.3 +2.2**
BURAR Bucovina Array 21.09 51⇓*i*P **P 19 39 18.7 +1.8**
LVV L'vov 21.37 44 *e*P **P 19 39 23.3 +3.4**
PLOR Plostina 21.41 56⇑*i*P **P 19 39 21.6 +1.2**
VRI Vrincioaia 21.46 56⇑*i*P **P 19 39 23.9 +2.9**
TOA0 Torodi Ar. Sit 23.22 178 *e*P **P 19 39 37.4 -2.3**
TOA0 Torodi Ar. Sit 23.22 178 *e*P **P 19 39 37.4 -2.2**
TORD Torodi Ar. Bea 23.22 178 P **P 19 39 37.3 -2.3**
comp=Z,17nm,0.9s,mb4.5,baz=358,slow=10,SNR=81
TORD Lg 19 46 36.9
comp=Z,3.0nm,1.1s,baz=2.6,slow=25,SNR=3.0
SUW Suwalki 23.34 34 *e*P **P 19 39 41.5 +0.5**
KIEV Kiev 24.73 46 *e*P **P 19 39 51.1 -2.7**
KIEV pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
KIEV Kiev 24.73 46 *e*P **P 19 39 51.1 -2.8**
comp=Z,8.5nm,1.0s,mb4.2
KIEV Kiev 24.73 46 *e*P **P 19 39 51.1 -2.7**
comp=Z,8.5nm,1.0s,mb4.2
AKASG Malin Array Be 24.74 46 P **P 19 39 52.1 -1.9**
comp=Z,1.5nm,0.6s,mb3.7,baz=245,slow=10,SNR=11
AKASG Malin Array Be 24.74 46 P **P 19 39 52.1 -1.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 25.07 15 P **P 19 39 56.9 0.0**
comp=Z,3.3nm,0.6s,mb4.0,baz=187,slow=10,SNR=11
HFS Hagfors 25.07 15 P **P 19 39 56.9 -0.1**
HFS pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 25.45 12 P **P 19 40 01.1 +0.7**
comp=Z,1.2nm,0.8s,mb3.5,baz=197,slow=10,SNR=3.2
NOA LR LR 19 51 00.4
comp=Z,23nm,18.8s,MS2.7,baz=135,slow=39
NOA NORSAR Array B 25.45 12 P **P 19 40 01.2 +0.8**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,23nm,18.8s
NOA NORSAR Array B 25.45 12 P **P 19 40 01.1 +0.7**
BRTR Keskin Array B 25.83 73 P **P 19 40 03.7 -0.2**
comp=Z,2.7nm,1.1s,mb3.7,baz=272,slow=8.3,SNR=11
BRTR Keskin Array B 25.83 73 P **P 19 40 03.7 -0.2**
BRTR pmax pmax
comp=Z,3.0nm,1.1s
CSS Prodhromos 26.25 84 *e*P **P 19 40 04.5 -3.2**
comp=Z,9.1nm,0.6s,mb4.5
CSS Prodhromos 26.25 84 *e*P **P 19 40 04.5 -3.2**
comp=Z,9.1nm,0.6s,mb4.5
MMAI Mount Meron Ar 28.41 87 P **P 19 40 27.0 0.0**
comp=Z,3.6nm,0.7s,mb4.1,baz=300,slow=9.3,SNR=3.7
EIL Elat 29.16 94 *e*P **P 19 40 32.9 -0.8**
comp=Z,59nm,0.6s,mb5.5
EIL Elat 29.16 94 *e*P **P 19 40 32.9 -0.8**
comp=Z,59nm,0.6s,mb5.5
FINES FINESS Array B 29.58 24 P **P 19 40 37.8 +0.3**
comp=Z,1.2nm,0.6s,mb3.8,baz=210,slow=11,SNR=5.0
FINES FINESS Array B 29.58 24 P **P 19 40 37.8 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.6s
LIC Lamto 30.59 192 *e*P **P 19 40 44.8 -1.6**
comp=Z,12nm,0.6s,mb4.6,baz=359
LIC *e*MLR
comp=Z,71nm,19.9s
LIC Lamto 30.59 192 *e*P **P 19 40 44.8 -1.6**
comp=Z,5.8nm,0.6s,mb4.6
LIC LR LR
comp=Z,40nm,19.9s,MS3.1
LIC Lamto 30.59 192 *e*P **P 19 40 44.8 -1.6**
comp=Z,5.8nm,0.6s,mb4.6
GNI Garni 34.28 70 *i* P **P 19 41 19.9 +1.2**
GNI pmax pmax
comp=Z,7.0nm,1.3s
GNI Garni 34.28 70 *e*P **P 19 41 16.8 -2.0**
comp=Z,4.6nm,0.8s,mb4.5
GNI Garni 34.28 70 *i* P **P 19 41 19.9 +1.2**
comp=Z,7.0nm,1.3s,mb4.4
ARCES ARCESS Array B 35.73 14 P **P 19 41 32.4 +1.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=210,slow=7.0,SNR=7.8
ARCES LR LR 19 56 58.2
comp=Z,41nm,18.6s,MS3.2,baz=277,slow=38
ARCES ARCESS Array B 35.73 14 P **P 19 41 32.4 +1.2**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,41nm,18.6s
ARCES ARCESS Array B 35.73 14 P **P 19 41 32.4 +1.2**
ARCES LR LR 19 56 58.2
ORR Orenburg 40.57 51 *e*P **P 19 42 11.5 -0.5**
ORR pmax pmax
comp=Z,30nm,1.1s,mb4.8
ORR Orenburg 40.57 51 *e*P **P 19 42 11.5 -0.5**
comp=Z,30nm,1.1s,mb4.8
SVE Sverdlovsk 44.10 43 *e*P **P 19 42 40.0 -0.8**
SCHQ Schefferville 48.80 315 LR LR 20 00 37.9
comp=Z,46nm,18.3s,MS3.5,baz=36,slow=32
BRVK Borovoye 49.93 48 *e*P **P 19 43 25.4 -0.9**
BRVK pmax pmax
comp=Z,13nm,1.3s,mb4.8
BRVK Borovoye 49.93 48 *e*P **P 19 43 25.4 -1.0**
comp=Z,14nm,1.3s,mb4.8
BRVK Borovoye 49.93 48 *e*P **P 19 43 25.4 -0.9**
comp=Z,13nm,1.3s,mb4.8
CHKZ Chkalovo 50.02 47 *e*P **P 19 43 26.0 -1.0**
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CHKZ Chkalovo 50.02 47 *e*P **P 19 43 26.0 -1.1**
comp=Z,3.8nm,0.8s,mb4.5
CHKZ Chkalovo 50.02 47 *e*P **P 19 43 26.0 -1.0**
comp=Z,3.8nm,0.8s,mb4.5
KMBO Kilima Mbogo 50.33 130 P **P 19 43 29.4 +0.1**
comp=Z,4.8nm,0.8s,mb4.6,baz=321,slow=7.6,SNR=16
KMBO LR LR 20 05 37.8
comp=Z,67nm,20.8s,MS3.6,baz=73,slow=37
KMBO Kilima Mbogo 50.33 130 *e*P **P 19 43 29.7 +0.3**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 50.33 130 *e*P **P 19 43 29.7 +0.3**
comp=Z,4.9nm,0.8s,mb4.6
KMBO Kilima Mbogo 50.33 130 *e*P **P 19 43 29.7 +0.3**
comp=Z,4.9nm,0.8s,mb4.6
AAK Ala-Archa 55.38 59 *i* P **P 19 44 07.9 +1.2**
AAK pmax pmax
comp=Z,6.0nm,2.0s,mb4.3
AAK Ala-Archa 55.38 59 *e*P **P 19 44 05.8 -0.9**
comp=Z,2.1nm,0.8s,mb4.2
KURK Kurchatov 55.50 49*c i*P **P 19 44 06.3 -1.2**
KURK Kurchatov 55.50 49 *e*P **P 19 44 06.4 -1.2**
comp=Z,7.5nm,0.7s,mb4.8
KURK Kurchatov 55.50 49 *e*P **P 19 44 06.4 -1.1**
comp=Z,7.4nm,0.7s,mb4.8
NVS Novosibirsk 56.94 43 *e*P **P 19 44 17.4 -0.4**
NVS pmax pmax
comp=Z,12nm,1.3s,mb4.8
NVS Novosibirsk 56.94 43 *e*P **P 19 44 17.4 -0.4**
comp=Z,12nm,1.3s,mb4.8
LSZ Lusaka 57.51 148 *e*P **P 19 44 21.2 -0.7**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LSZ Lusaka 57.51 148 *e*P **P 19 44 21.2 -0.7**
comp=Z,5.5nm,0.8s,mb4.6
LSZ Lusaka 57.51 148 *e*P **P 19 44 21.2 -0.7**
comp=Z,5.5nm,0.8s,mb4.6
TSUM Tsumeb 57.54 161 *e*P **P 19 44 20.8 -1.2**
comp=Z,4.9nm,0.8s,mb4.6
TSUM Tsumeb 57.54 161 *e*P **P 19 44 20.8 -1.2**
comp=Z,4.9nm,0.8s,mb4.6
ZAL Zalesovo 58.10 44 P **P 19 44 24.5 -1.5**
comp=Z,2.2nm,0.7s,mb4.3,baz=195,slow=5.6,SNR=13
ZAL Zalesovo 58.10 44 P **P 19 44 24.5 -1.5**
ZAL pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 59.10 52 P **P 19 44 31.6 -1.4**
comp=Z,3.6nm,0.7s,mb4.5,baz=290,slow=5.9,SNR=32
MKAR Makanchi Array 59.10 52⇑*e*P **P 19 44 32.0 -0.9**
WMQ Urumqi 63.79 54 *e*P **P 19 45 05.4 +0.7**
WMQ AMB AMB
comp=Z,3.0nm,1.1s,mb4.2
WMQ LR LR
comp=N,30nm,19.0s,MS3.7
WMQ LR LR
comp=E,36nm,18.0s,MS3.7
WMQ LR LR
comp=Z,23nm,17.0s,MS3.4
LBTB Lobatse 65.40 155 *e*P **P 19 45 13.6 -1.6**
LBTB pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LBTB Lobatse 65.40 155 *e*P **P 19 45 13.6 -1.6**
comp=Z,4.7nm,0.9s,mb4.5
LBTB Lobatse 65.40 155 *e*P **P 19 45 13.6 -1.6**
comp=Z,4.7nm,0.9s,mb4.5
ULM Lac du Bonnet 66.93 316 P **P 19 45 24.4 -0.6**
comp=Z,2.4nm,0.7s,mb4.3,baz=70,slow=6.1,SNR=6.1
BOSA Boshof 68.63 157 P **P 19 45 34.8 -1.0**
comp=Z,3.7nm,0.8s,mb4.4,baz=345,slow=7.4,SNR=7.7
BOSA LR LR 20 16 14.3
comp=Z,70nm,19.2s,MS3.9,baz=340,slow=36
BOSA Boshof 68.63 157 P **P 19 45 34.8 -1.0**
BOSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BOSA MLR MLR
comp=Z,71nm,19.2s,MS3.9
BOSA Boshof 68.63 157 *e*P **P 19 45 34.5 -1.3**
comp=Z,4.7nm,0.8s,mb4.5
YKA Yellowknife Ar 68.76 333 P **P 19 45 36.5 0.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=54,slow=6.2,SNR=34
YKA LR LR 20 15 14.0
comp=Z,63nm,18.3s,MS3.9,baz=180,slow=36
YKA Yellowknife Ar 68.76 333 P **P 19 45 36.5 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA MLR MLR
comp=Z,63nm,18.3s
YKA Yellowknife Ar 68.76 333 P **P 19 45 36.5 0.0**
YKA LR LR 20 15 14.0
ZAK Zakamensk 69.85 42 *e*P **P 19 45 43.2 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.9s,mb3.9
ZAK Zakamensk 69.85 42 *e*P **P 19 45 43.2 -0.1**
comp=Z,3.0nm,1.9s,mb3.9
BOD Bodaibo 70.67 31 *e*P **P 19 45 46.0 -2.3**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOD Bodaibo 70.67 31 *e*P **P 19 45 46.0 -2.3**
comp=Z,5.0nm,0.9s,mb4.4
SONM Songino Array 72.97 43 P **P 19 46 02.4 +0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=280,slow=7.1,SNR=11
SONM Songino Array 72.97 43 P **P 19 46 02.4 +0.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
LSA Lhasa 73.17 65 P **P 19 46 00.5 -2.8**
LSA pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
LSA Lhasa 73.17 65 P **P 19 46 00.5 -2.8**
comp=Z,5.0nm,1.1s,mb4.4
ULN Ulaanbaatar 73.31 42 *e*P **P 19 46 03.8 -0.4**
comp=Z,3.9nm,1.1s,mb4.2
ULN Ulaanbaatar 73.31 42 *e*P **P 19 46 04.8 +0.6**
YAK Yakutsk 73.50 23 *e*P **P 19 46 05.5 +0.3**
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.8
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK Yakutsk 73.50 23 *e*P **P 19 46 03.6 -1.7**
comp=E,8.6nm,0.4s,mb5.0
YAK Yakutsk 73.50 23 *e*P **P 19 46 05.5 +0.3**
comp=E,6.0nm,1.3s,mb4.4
DAWY Dawson 75.03 343 *e*P **P 19 46 14.7 +0.5**
PDAR Pinedale Array 78.93 315 LR LR 20 17 14.4
comp=E,64nm,18.4s,MS4.0,baz=262,slow=32
HHC Hu-ho-hao-te 80.19 46 *e*P **P 19 46 45.8 +2.8**
HHC XP sP 19 46 52.6 +5.1
HHC PP PP 19 49 49.3 +4.0
HHC S S 19 56 47.9 0.0
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,95nm,5.6s
HHC LR LR
comp=N,105nm,17.2s,MS4.5
HHC LR LR
comp=E,154nm,16.0s,MS4.5
HHC LR LR
comp=Z,107nm,16.1s,MS4.3
LPAZ La Paz 83.62 245 P **P 19 47 01.9 +0.9**
comp=Z,1.5nm,0.6s,mb4.3,baz=186,slow=0.5,SNR=6.0
LPAZ La Paz 83.62 245 P **P 19 47 01.9 +0.9**
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
LPAZ La Paz 83.62 245 P **P 19 47 01.9 +0.9**
TXAR Lajitas Array 83.67 302 P **P 19 47 02.8 +1.5**
comp=Z,0.8nm,0.7s,mb4.0,baz=76,slow=5.2,SNR=8.5
TXAR LR LR 20 20 35.2
comp=Z,54nm,21.4s,MS3.9,baz=185,slow=33
TXAR Lajitas Array 83.67 302 P **P 19 47 02.8 +1.5**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR MLR MLR
comp=Z,54nm,21.4s
KMI Kunming 84.21 63 P **P 19 47 06.5 +2.4**
KMI AMB AMB
comp=Z,5.0nm,1.9s,mb4.3
KMI Kunming 84.21 63 P **P 19 47 06.5 +2.4**
comp=Z,5.0nm,1.9s,mb4.3
LPIG La Paz 91.56 302 LR LR 20 31 34.1
comp=Z,64nm,19.4s,MS4.1,baz=341,slow=37
WRA Warramunga Arr 136.16 81 PKP PKPdf 19 53 52.9 -1.0
comp=Z,0.5nm,1.0s,baz=301,slow=1.8,SNR=3.0
WRA Warramunga Arr 136.16 81 PKIKP PKPdf 19 53 52.9 -1.1
WRA pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 137.69 86 PKP PKPdf 19 53 56.2 -0.6
comp=Z,0.3nm,0.8s,baz=298,slow=2.0,SNR=3.3
STKA Stephens Creek 147.25 94 *e*P PKPdf 19 54 14.5 +0.8
comp=Z,5.6nm,1.0s
STKA Stephens Creek 147.25 94 PKPbc PKPbc 19 54 15.3 -0.7
comp=Z,7.5nm,0.9s,baz=343,slow=4.8,SNR=9.4

IDC 16 19:42:18.2±64.0, 1717S×17938W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/15, mbtmp4.3/3, Error ellipse: s-maj=1161.0km s-min=151.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.18**	**240**	P	P	19 49 39.9	+0.5
	1.4nm,0.4s,baz=100,slow=11,SNR=5.3						
WB2	**Warramunga Arr**	**43.85**	**259**	*e*P	P	19 50 26.2	+0.1
WRA	**Warramunga Arr**	**43.86**	**259**	P	P	19 50 26.6	+0.4
	1.5nm,0.5s,baz=95,slow=7.5,SNR=77						
ASAR	**Alice Springs**	**44.10**	**254**	P	P	19 50 28.2	+0.1
	7.0nm,0.6s,baz=87,slow=8.7,SNR=111						

*ISCJB **16** 19:47:53.8±0.5, 3887N±003×2288E±005, h4km, Error ellipse: s-maj=5.6km s-min=3.8km az=127.9*
*CSEM **16** 19:47:54.7±0.1, 3888N×2285E, h1km±2km, ML2.6, Error ellipse: s-maj=2.9km s-min=1.8km az=64.0*
*THE **16** 19:47:54.6, 3887N×2288E, h8km, ML2.6*
*NEIC **16** 19:47:54.3, 3884N×2286E, h4km, ML2.6(ATH), After ATH.*
*ATH **16** 19:47:54.3, 3884N×2286E, h4km, MD3.2/9*

ISC 16 19:47:54.1±0.5, 3885N±003×2288E±005, h6km±7km, n14, σ0°68/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.22**	**155**	*e*PG	**Pg**	**19 47 58.3**	**-0.2**
LKR				*e*SG	**Sg**	**19 48 01.6**	**+0.1**
AGG	**Agios Georgios**	**0.46**	**292**	*e*Pg	**Pg**	**19 48 02.9**	**-0.1**
AGG				*e*Sg	**Sg**	**19 48 10.3**	**+1.4**
XOR	**Xorichti**	**0.57**	**25**	*e*Pg	**Pg**	**19 48 05.4**	**+0.4**
XOR				*e*Sg	**Sg**	**19 48 13.0**	**+0.5**
EVR	**Evrytania**	**0.84**	**275**	*e*PB	**Pb**	**19 48 11.6**	**+0.6**
THL	**Klokotos Trika**	**0.98**	**317**	*e*PB	**Pb**	**19 48 12.6**	**-0.8**
ATH	**Athens Observa**	**1.10**	**143**	*e*PB	**Pb**	**19 48 15.6**	**+0.1**
ATH				*e*SB	**Sb**	**19 48 30.4**	**+0.3**
PTL	**Penteli**	**1.12**	**136**	*e*PG	**Pg**	**19 48 16.0**	**+0.5**
NAIG	**Nisos Aigina**	**1.19**	**156**	*e*PB	**Pb**	**19 48 17.0**	**-0.1**
PAIG	**Paliouri**	**1.24**	**30**	*e*Pg	**Pg**	**19 48 17.1**	**-0.7**
KVR	**Kavouri**	**1.24**	**145**	*e*PB	**Pb**	**19 48 18.0**	**+0.1**
LIT	**Litokhoron**	**1.28**	**347**	*e*Pg	**Pg**	**19 48 17.6**	**-1.0**
RLS	**Riolos of Patr**	**1.36**	**235**	*e*PG	**Pg**	**19 48 19.0**	**-1.2**
PLG	**Polygyros**	**1.58**	**16**	*e*PN	**Pn**	**19 48 23.6**	**+1.0**
OUR	**Ouranopolis**	**1.71**	**30**	*e*Pb	**Pn**	**19 48 23.6**	**-0.7**

IDC 16 19:49:59.5±2.6, 501N×9743E, h167km±32km, mb2.8/3, mb1 2.9/4, mb1mx2.8/22, mbtmp2.8/4, Error ellipse: s-maj=244.7km s-min=20.5km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.65**	**146**	P	Pn	19 50 45.0	+1.7
	0.9nm,0.3s,baz=327,slow=13,SNR=8.4						
PSI				S	Sn	19 51 19.8	+2.6
	1.0nm,0.3s,baz=161,slow=23,SNR=5.8						
MKAR	**Makanchi Array**	**43.64**	**345**	P	P	19 57 47.2	-0.1
	0.2nm,0.3s,baz=157,slow=8.3,SNR=8.9						
WRA	**Warramunga Arr**	**43.95**	**125**	P	P	19 57 50.2	+0.4
	0.4nm,0.6s,baz=304,slow=9.4,SNR=6.9						
ASAR	**Alice Springs**	**45.58**	**130**	P	P	19 58 03.0	+0.3
	0.3nm,0.6s,baz=302,slow=8.0,SNR=5.5						

IDC 16 20:10:32.1±1.4, 2213N×14331E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, Error ellipse: s-maj=52.2km s-min=25.6km az=85.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.08**	**320**	P	P	20 18 00.8	-0.1
	0.4nm,0.5s,baz=129,slow=6.1,SNR=5.5						
WRA	**Warramunga Arr**	**42.72**	**192**	P	P	20 18 30.3	-0.5
	0.6nm,0.9s,baz=20,slow=8.8,SNR=4.0						
ASAR	**Alice Springs**	**46.43**	**192**	P	P	20 19 01.4	+0.9
	0.2nm,0.7s,baz=12,slow=9.5,SNR=3.1						
MKAR	**Makanchi Array**	**54.49**	**312**	P	P	20 20 01.4	-0.1
	0.3nm,0.7s,baz=95,slow=8.5,SNR=3.6						
YKA	**Yellowknife Ar**	**76.02**	**28**	P	P	20 22 21.2	0.0
	0.3nm,0.4s,baz=293,slow=5.8,SNR=4.6						

*ISCJB **16** 20:19:14.6±0.4, 1131N±003×6238W±003, h156km±4km, mb3.3/5, Error ellipse: s-maj=6.7km s-min=3.6km az=81.7*
*NEIC **16** 20:19:16.1, 1129N×6234W, h155km, MD3.7(TRN), After TRN.*
NEIC Felt [II] on Trinidad.
*IDC **16** 20:19:16.6±1.1, 1145N×6247W, h171km±10km, mb3.2/5, mb1 3.5/7, mb1mx3.2/22, mbtmp3.3/7, Error ellipse: s-maj=23.9km s-min=12.7km az=144.0*
*TRN **16** 20:19:16.1, 1129N×6234W, h155km, MD3.7*
*FUNV **16** 20:19:19.8, 1131N×6234W, h129km, MW4.1*

ISC 16 20:19:15.6±0.4, 1132N±003×6238W±003, h153km±4km, n36, σ1°21/60, mb3.3/5, 5C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.69**	**167**	*e*P	**Pn**	**20 19 39.6**	**+1.3**
GUIV				*e*S	**Sn**	**20 19 53.2**	**-2.4**
ITEV	**Isla Los Testi**	**0.74**	**273**⇓	*e*P	**Pn**	**20 19 40.2**	**+1.6**
ITEV				*e*S	**Sn**	**20 19 55.0**	**-1.3**
TCE	**Chacachacare**	**0.87**	**135**	*e*P	**Pn**	**20 19 40.4**	**+0.8**
TCE				*e*S	**Sn**	**20 19 56.7**	**-1.2**
CRUV	**Carupano**	**1.06**	**233**⇓	*i*P	**Pn**	**20 19 43.5**	**+2.3**
CRUV				*e*S	**Sn**	**20 20 00.2**	**-0.4**
GRGR	**Grenville**	**1.07**	**41**⇑	*i*Pn	**Pn**	**20 19 41.3**	**0.0**
GRGR				*e*Sn	**Sn**	**20 20 00.1**	**-0.7**
GRW	**Mount Saint Ca**	**1.09**	**40**	*e*P	**Pn**	**20 19 41.3**	**0.0**
GRW				*e*S	**Sn**	**20 19 56.1**	**-5.0**
GRHS	**Sauteurs**	**1.15**	**39**⇓	*i*P	**Pn**	**20 19 42.8**	**+0.8**
GRHS				*e*S	**Sn**	**20 20 02.1**	**0.0**
TRN	**Trinidad (W)**	**1.16**	**125**⇑	*i*P	**Pn**	**20 19 42.6**	**+0.6**
TRN				*e*S	**Sn**	**20 20 00.4**	**-1.9**
GRIC	**Isle de Caille**	**1.23**	**39**	*e*P	**Pn**	**20 19 43.5**	**+0.8**
GRIC				*e*S	**Sn**	**20 20 04.0**	**+0.6**
GUNV	**Guanoco**	**1.28**	**206**	*e*P	**Pn**	**20 19 45.4**	**+2.3**
GUNV				*e*S	**Sn**	**20 20 03.9**	**-0.4**
TPP	**Pointe-a-Pierr**	**1.35**	**138**⇑	*i*P	**Pn**	**20 19 45.1**	**+1.3**
TPP				*e*S	**Sn**	**20 20 05.5**	**+0.1**
TBH	**Brigand Hill**	**1.53**	**123**⇑	*i*P	**Pn**	**20 19 46.2**	**+0.5**
TBH				*e*S	**Sn**	**20 20 08.7**	**0.0**
TPR	**Prospect**	**1.57**	**95**⇑	*i*P	**Pn**	**20 19 45.5**	**-0.7**
TPR				*e*S	**Sn**	**20 20 08.1**	**-1.4**
FCV	**Fort Charlotte**	**2.13**	**31**	*e*P	**Pn**	**20 19 52.7**	**+0.3**
FCV				*e*S	**Sn**	**20 20 21.0**	**+0.2**
IBAV	**Isla La Blanqu**	**2.21**	**283**	*e*P	**Pn**	**20 19 55.5**	**+2.1**
SVB	**Belmont**	**2.23**	**29**	*e*P	**Pn**	**20 19 54.0**	**+0.4**
SVB				*e*S	**Sn**	**20 20 23.1**	**+0.3**
SVV	**Soufriere Volc**	**2.29**	**30**	*e*P	**Pn**	**20 19 54.9**	**+0.7**
SVV				*e*S	**Sn**	**20 20 22.6**	**-1.4**
SSV	**Crater Summit**	**2.31**	**30**	*e*P	**Pn**	**20 19 55.1**	**+0.6**
SSV				*e*S	**Sn**	**20 20 24.2**	**-0.2**
BHS	**Barnard House**	**2.31**	**32**	*e*P	**Pn**	**20 19 55.1**	**+0.6**
BHS				*e*S	**Sn**	**20 20 23.3**	**-1.2**
ORIV	**Oritupano**	**2.46**	**205**	*e*P	**Pn**	**20 19 58.8**	**+2.5**
ORIV				*e*S	**Sn**	**20 20 27.9**	**+0.2**
PCRV	**Puerto La Cruz**	**2.50**	**243**	P	**Pn**	**20 19 59.9**	**+3.1**
	19nm,0.3s,baz=50,slow=3.6,SNR=110						
PCRV				S	**Sn**	**20 20 30.4**	**+1.8**
	16nm,0.3s,baz=267,slow=18,SNR=21						
PCRV	**Puerto La Cruz**	**2.50**	**243**	*e*P	**Pn**	**20 19 59.9**	**+3.1**
PCRV				*e*S	**Sn**	**20 20 27.7**	**-0.9**
SLB	**Belfond**	**2.81**	**27**	*e*P	**Pn**	**20 20 01.0**	**+0.3**
SLB				*e*S	**Sn**	**20 20 35.0**	**-0.5**
BIRV	**Birongo**	**3.92**	**258**	*e*P	**Pn**	**20 20 18.2**	**+3.4**
MERV	**Las Mercedes**	**4.37**	**242**	*e*S	**Sn**	**20 21 09.7**	**-1.8**
CAOV	**Caicara del Or**	**5.56**	**225**	*e*S	**Sn**	**20 21 36.5**	**-3.2**
BAUV	**El Baul**	**6.06**	**248**	*e*S	**Sn**	**20 21 49.1**	**-2.4**
PAYV	**Puerto Ayacuch**	**7.85**	**222**	*e*P	**Pn**	**20 21 07.1**	**+0.1**
PAYV				*e*S	**Sn**	**20 22 29.4**	**-5.1**
SDV	**Santo Domingo**	**8.48**	**254**	P	**Pn**	**20 21 16.2**	**+0.8**
	0.7nm,0.3s,baz=86,slow=8.4,SNR=13						
SDV				S	**Sn**	**20 22 48.6**	**-1.1**
	2.0nm,0.3s,baz=250,slow=7.1,SNR=9.7						
SDV	**Santo Domingo**	**8.48**	**254**	P	**Pn**	**20 21 16.2**	**+0.8**
SDV				S	**Sn**	**20 22 48.6**	**-1.1**
TXAR	**Lajitas Array**	**42.39**	**301**	P	P	**20 26 54.5**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=115,slow=9.4,SNR=9.7						
PDAR	**Pinedale Array**	**51.48**	**316**	P	**P**	**20 28 02.6**	**-2.6**
	0.4nm,0.5s,mb3.3,baz=119,slow=8.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**62.49**	**81**	P	**P**	**20 29 22.8**	**0.0**
	0.4nm,0.4s,mb3.6,baz=281,slow=6.6,SNR=8.0						
YKA	**Yellowknife Ar**	**63.15**	**336**	P	**P**	**20 29 23.6**	**-3.5**
	0.1nm,0.5s,mb2.9,baz=110,slow=7.0,SNR=3.8						
FINES	**FINESS Array B**	**79.41**	**29**	P	**P**	**20 31 03.5**	**-1.2**
	1.8nm,1.0s,mb3.7,baz=191,slow=1.9,SNR=5.6						
STKA	**Stephens Creek**	**149.88**	**224**	PKPbc	PKPbc	20 38 46.8	-0.8
	0.4nm,0.3s,baz=293,slow=15,SNR=6.5						

*NEIC **16** 20:37:24.5±0.9, 4673N×15476E, h10km, mb4.3/2, Error ellipse: s-maj=25.4km s-min=22.9km az=184.0*
*ISCJB **16** 20:37:26.2±0.9, 468N±02×1548E±02, h35km, mb3.7/8, Error ellipse: s-maj=23.2km s-min=18.3km az=148.7*
*IDC **16** 20:37:29.2±5.5, 4679N×15501E, h47km±51km, mb3.2/6, mb1 3.5/7, mb1mx3.3/23, mbtmp3.3/7, ML3.2/1, Error ellipse: s-maj=33.3km s-min=24.9km az=89.0*

ISC 16 20:37:28.1±0.9, 468N±02×1549E±02, h35km, n11, σ1°28/11, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.06**	**257**	P	**Pn**	**20 39 37.9**	**+1.6**
	0.3nm,0.3s,baz=112,slow=19,SNR=3.0						
BJT	**Baijatuau**	**28.72**	**271**	*e*P	**P**	**20 43 19.4**	**-2.6**
	2.7nm,0.3s,mb4.5						
SONM	**Songino Array**	**32.46**	**290**	P	**P**	**20 43 56.5**	**+1.5**
	0.4nm,0.9s,mb3.2,baz=53,slow=5.6,SNR=2.6						
MKAR	**Makanchi Array**	**47.99**	**298**	P	**P**	**20 46 03.2**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=65,slow=7.8,SNR=4.7						
CHKZ	**Chkalovo**	**51.32**	**311**	*e*P	**P**	**20 46 27.7**	**-1.1**
	1.4nm,0.5s,mb4.2						

FINES FINESS Array B 64.49 335 P **P 20 48 00.5 -0.7**
1.3nm,0.8s,mb4.0,baz=35,slow=5.6,SNR=7.6
FINES FINESS Array B 64.49 335 P **P 20 48 00.5 -0.7**
WRA Warramunga Arr 69.00 201 P **P 20 48 29.5 -0.4**
0.3nm,0.8s,mb3.3,baz=22,slow=7.3,SNR=4.2
ASAR Alice Springs 72.68 200 P **P 20 48 52.0 -0.3**
0.3nm,0.7s,mb3.4,baz=28,slow=4.2,SNR=3.8
TXAR Lajitas Array 76.39 62 P **P 20 49 13.6 -0.2**
0.5nm,0.6s,mb3.6,baz=297,slow=5.0,SNR=9.0
MVL Millersville 82.23 37 *e*P **P 20 49 48.1 +2.4**

*IDC **16** 21:18:03.4±3.1, 432S×13107E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=285.6km s-min=26.7km az=69.0*
*ISCJB **16** 21:18:06.2±1.3, 45S±01×1309E±02, h35km, mb3.5/3, Error ellipse: s-maj=27.0km s-min=18.7km az=140.1*
*NEIC **16** 21:18:08.4±1.4, 454S×13097E, h35km, mb3.7/2, Error ellipse: s-maj=28.6km s-min=19.8km az=69.0*
ISC 16 21:18:08.5±1.3, 46S±01×1309E±02, h35km, n7, σ0$94/8, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.65**	**168**	Pn	**Pn**	**21 21 45.2**	**-1.1**
	0.1nm,0.3s,baz=350,slow=13,SNR=5.2						
WRA				Sn	**Sn**	**21 24 32.2**	**-6.3**
	0.1nm,0.3s,baz=358,slow=23,SNR=4.9						
WB2	**Warramunga Arr**	**15.65**	**168**	*e*Pn	**Pn**	**21 21 45.8**	**-0.5**
PMG	**Port Moresby**	**16.80**	**108**	*e*Pn	**Pn**	**21 22 01.2**	**+0.3**
	10nm,0.9s						
ASAR	**Alice Springs**	**19.22**	**172**	P	**Pn**	**21 22 31.6**	**+1.0**
	0.2nm,0.3s,baz=348,slow=10.0,SNR=20						
CTAO	**Charters Tower**	**21.46**	**137**	P	**P**	**21 22 52.9**	**-0.9**
	0.8nm,0.5s,mb3.3						
STKA	**Stephens Creek**	**28.96**	**161**	P	**P**	**21 24 06.2**	**+1.7**
	0.6nm,0.4s,mb3.6,baz=337,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**66.72**	**326**	P	**P**	**21 28 55.6**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=112,slow=8.1,SNR=10						

*ISCJB **16** 21:27:57.7±0.7, 1869N±008×6870W±006, h168km±11km, Error ellipse: s-maj=14.2km s-min=7.8km az=47.2*
*NEIC **16** 21:28:00.8, 1858N×6850W, h172km, mb4.1/3, MD4.0(RSPR), After RSPR.*
*RSPR **16** 21:28:00.8, 1858N×6850W, h172km±1km, MD4.0/11, MD4.0/11*
*SSNC **16** 21:28:37.7, 2038N×7146W, h0km, MD3.4, ML2.2*
ISC 16 21:27:58.6±0.7, 1867N±008×6872W±005, h164km±11km, n18, σ0$80/32, 12C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.62**	**107⇑**	*e*P	**Pn**	**21 28 31.3**	**+0.9**
LSP				*e*S	**Sn**	**21 28 54.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.66**	**113⇑**	*e*P	**Pn**	**21 28 31.3**	**+0.5**
CRPR				*e*S	**Sn**	**21 28 55.3**	**-0.3**
LRS	**Lares**	**1.81**	**102⇑**	*e*P	**Pn**	**21 28 33.6**	**+1.1**
LRS				*e*S	**Sn**	**21 28 58.3**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.87**	**111⇑**	*e*P	**Pn**	**21 28 34.1**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.87**	**111**	*e*S	**Sn**	**21 28 59.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.89**	**99⇑**	*e*P	**Pn**	**21 28 34.0**	**+0.7**
AOPR				*e*S	**Sn**	**21 28 60.0**	**0.0**
CELP	**Cerrillos**	**2.11**	**106⇓**	*e*P	**Pn**	**21 28 36.5**	**+0.7**
CELP				*e*S	**Sn**	**21 29 04.2**	**-0.3**
ICM	**Isla Caja Muer**	**2.22**	**110⇑**	*e*P	**Pn**	**21 28 37.4**	**+0.4**
ICM				*e*S	**Sn**	**21 29 05.9**	**-0.9**
SJG	**San Juan**	**2.50**	**102⇑**	*e*P	**Pn**	**21 28 40.7**	**+0.4**
SJG				*e*S	**Sn**	**21 29 12.1**	**-0.5**
CPD	**Cerro la Pandu**	**2.73**	**103⇑**	*e*P	**Pn**	**21 28 43.5**	**+0.4**
CPD				*e*S	**Sn**	**21 29 17.3**	**-0.4**
CBYP	**Canovanas**	**2.74**	**98⇑**	*e*P	**Pn**	**21 28 43.4**	**+0.1**
CBYP				*e*S	**Sn**	**21 29 17.0**	**-0.9**
HUMP	**Col San Antoni**	**2.77**	**100⇑**	*e*P	**Pn**	**21 28 43.7**	**+0.1**
HUMP				*e*S	**Sn**	**21 29 17.7**	**-0.8**
MTP	**Monte Pirata**	**3.06**	**100⇑**	*e*P	**Pn**	**21 28 47.7**	**+0.5**
MTP				*e*S	**Sn**	**21 29 24.4**	**-0.5**
MASC	**Masc**	**5.42**	**287**	*e*PG	**Pn**	**21 29 17.6**	**-0.1**
	baz=100						
MASC				*e*SG	**Sn**	**21 30 17.8**	**-1.8**
	comp=N,1.4nm,0.2s						
MASC				*e*			
	comp=E,1.9nm,0.2s						
RCC	**Rio Carpintero**	**6.72**	**282**	*e*P	**Pn**	**21 29 37.0**	**+2.1**
RCC				*e*S	**Sn**	**21 30 46.3**	**-4.3**
	comp=N,9.3nm,0.3s						
RCC				*e*			
	comp=E,10.0nm,0.4s						
SDV	**Santo Domingo**	**9.90**	**191⇑**	*e*Pn	**Pn**	**21 30 17.5**	**+0.6**
	comp=E,8.3nm,0.6s						
SDV				*e*Sn	**Sn**	**21 32 07.2**	**+0.5**
JTS	**JuntasAbangare**	**17.78**	**244**	P	**Pn**	**21 31 54.9**	**-1.0**
	comp=E,14nm,1.2s						
OTAV	**Otavalo**	**20.66**	**209**	*e*P	**P**	**21 32 23.6**	**-1.9**
	comp=E,1.1nm,0.6s						

*IDC **16** 21:35:50.3±0.5, 5113N×17777W, h0km, mb4.5/28, mb1 4.6/29, mb1mx4.6/33, mbtmp4.5/29, ML5.0/1, MS3.8/14, Ms1 3.8/14, ms1mx3.6/41, Error ellipse: s-maj=16.9km s-min=11.0km az=164.0*
*MOS **16** 21:35:54.5±0.8, 5106N×17776W, h36km, mb5.1/78, Error ellipse: s-maj=9.0km s-min=4.6km az=93.5*
*BJI **16** 21:35:54.4, 5151N×17779W, h37km, mB5.0, mb4.8, Ms4.5, Msz4.3*
*ISCJB **16** 21:35:54.8±0.8, 5106N±004×17780W±003, h38km±6km, mb4.8/156, MS4.1/69, Error ellipse: s-maj=7.6km s-min=3.0km az=14.5*
*NEIC **16** 21:35:57.0±0.5, 5106N×17778W, h45km±3km, mb4.8/98, MS4.1/46, ML4.6(AEIC), Error ellipse: s-maj=5.8km s-min=2.8km az=182.0*
*SZGRF **16** 21:36:00.5, 5166N×17748W, h33km, mb5.0, Andreanof Islands, Aleutian Islands, United States*
ISC 16 21:35:57.5±0.7, 5115N±004×17779W±003, h47km±5km, h48km±2.1km; pP-P, n572, σ0$71/545, mb4.8/156, MS4.1/69, 118C-60D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.01**	**43⇑**	*i*P	**Pn**	**21 36 14.1**	**-1.2**
ADK				*e*S	**Sn**	**21 36 30.0**	**+1.7**
AMKA	**Amchitka**	**1.84**	**278**	P	**Pn**	**21 36 24.9**	**-1.7**
FX1	**Attu Island--F**	**5.84**	**291**	P	**Pn**	**21 37 22.9**	**+1.3**
UNV	**Unalaska Valle**	**7.40**	**64**	P	**Pn**	**21 37 43.0**	**+0.1**
AKUT	**Akutan**	**7.90**	**63**	*e*P	**Pn**	**21 37 55.2**	**+5.4**
	286nm,1.2s						
FALS	**False Pass**	**9.43**	**61**	*e*Pn	**Pn**	**21 38 10.5**	**-0.2**
TNA	**Tin City**	**15.31**	**16**	*e*Pn	**Pn**	**21 39 33.8**	**+3.3**
	13nm,1.1s						
SVW2	**Sparrevohn**	**15.80**	**42**	*e*P	**Pn**	**21 39 39.1**	**+2.3**
KDAK	**Kodiak Island**	**16.02**	**56**	Pn	**Pn**	**21 39 35.2**	**-4.4**
	5.8nm,0.3s,baz=261,slow=6.9,SNR=18						
KDAK	**Kodiak Island**	**16.02**	**56**	*e*P	**Pn**	**21 39 36.2**	**-3.4**
	31nm,0.6s						
SLKM	**Skilak Lake**	**17.96**	**48**	*e*P	**Pn**	**21 40 01.4**	**-2.3**
BILL	**Bilibino**	**18.65**	**341⇑**	*e*P	**Pn**	**21 40 13.3**	**+1.3**
BILL				pmax	pmax		
	comp=Z,33nm,1.2s						
BILL	**Bilibino**	**18.65**	**341**	*e*P	**Pn**	**21 40 12.3**	**+0.3**
	comp=Z,26nm,0.9s						
PMR	**Palmer**	**18.83**	**45**	*e*P	**Pn**	**21 40 13.6**	**-0.7**
PMR				pmax	pmax		
	comp=Z,11nm,0.9s						
PMR	**Palmer**	**18.83**	**45**	*e*Pn	**Pn**	**21 40 13.6**	**-0.6**
	comp=Z,11nm,0.9s						
IMA2	**Indian Mountai**	**19.32**	**30**	*e*P	**Pn**	**21 40 19.2**	**-0.8**
MCK	**McKinley**	**19.77**	**39**	*e*P	**Pn**	**21 40 22.3**	**-3.1**
SEY	**Seymchan**	**19.84**	**318**	*i* P	**Pn**	**21 40 25.6**	**-0.6**
COLA	**College**	**20.70**	**37**	*d* iP	**P**	**21 40 33.8**	**+0.1**
COLA	**College**	**20.70**	**37**	*e*P	**P**	**21 40 33.4**	**-0.4**
	comp=Z,33nm,1.1s						
COLA				LR	LR		
	comp=Z,642nm,19.0s,MS4.0						
MENT	**Mentasta**	**21.67**	**44**	*e*P	**P**	**21 40 43.1**	**-0.9**
EGAK	**Eagle**	**23.31**	**40**	*e*P	**P**	**21 40 59.7**	**-1.7**
	comp=Z,8.0nm,0.5s,mb4.4						
EGAK				LR	LR		
	comp=Z,630nm,19.0s,MS4.1						
DAWY	**Dawson**	**23.84**	**43**	*e*P	**P**	**21 41 05.1**	**-1.2**
YSS	**Yuzh-Sakhalins**	**25.97**	**276⇓**	*e*P	**P**	**21 41 26.5**	**+0.9**
YSS				pmax	pmax		
	comp=Z,40nm,1.7s,mb4.7						
YSS				MLR	MLR		
	comp=Z,300nm,25.0s,MS3.7						
YSS	**Yuzh-Sakhalins**	**25.97**	**276**	PFAKE		21 41 40.0	+14
YSS				LR	LR		
	comp=Z,335nm,19.0s,MS3.9						
INK	**Inuvik**	**27.29**	**34**	P	**P**	**21 41 35.9**	**-1.6**
	comp=Z,2.6nm,0.8s,mb3.8,baz=233,slow=7.4,SNR=18						
INK				PcP	PcP	21 44 55.1	-1.0
	comp=Z,1.5nm,0.5s,baz=288,slow=3.5,SNR=6.4						
INK	**Inuvik**	**27.29**	**34**	*e*P	**P**	**21 41 36.3**	**-1.1**
ASAJ	**Asahikawa**	**27.34**	**271**	P	**P**	**21 41 37.1**	**-0.8**
	comp=Z,11nm,0.9s,mb4.4,baz=296,slow=25,SNR=4.8						
ASAJ				LR	LR	21 52 23.7	
	comp=Z,148nm,18.3s,MS3.6,baz=351,slow=36						
ASAJ	**Asahikawa**	**27.34**	**271**	P	**P**	**21 41 37.2**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,148nm,18.3s						
YAK	**Yakutsk**	**30.04**	**312**	*i* P	**P**	**21 41 59.4**	**-2.6**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
YAK				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.8						
YAK	**Yakutsk**	**30.04**	**312**	*e*P	**P**	**21 41 59.9**	**-2.0**
	comp=Z,8.3nm,0.8s,mb4.5						
YAK				LR	LR		
	comp=Z,217nm,20.0s,MS3.8						
HABR	**Khabarovsk**	**30.14**	**284**	*e*P	**P**	**21 42 02.5**	**-0.3**
HABR				pmax	pmax		
	comp=Z,27nm,1.8s,mb4.7						
TIXI	**Tiksi**	**31.14**	**331⇑**	*e*P	**P**	**21 42 11.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,400nm,24.0s,MS4.0						
TIXI	**Tiksi**	**31.14**	**331**	*e*PcP	PcP	21 45 03.9	-2.1
	comp=Z,6.3nm,0.8s						
TIXI				LR	LR		
	comp=Z,145nm,19.0s,MS3.7						
MJAR	**Matsushiro Arr**	**34.38**	**262**	P	**P**	**21 42 39.8**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=50,slow=8.5,SNR=8.5						
MJAR	**Matsushiro Arr**	**34.38**	**262**	P	**P**	**21 42 39.8**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAJO	**Matsushiro**	**34.38**	**262**	*e*P	**P**	**21 42 40.3**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
MAJO				MLR	MLR		
	comp=Z,132nm,20.0s,MS3.7						
MAJO	**Matsushiro**	**34.38**	**262**	*e*P	**P**	**21 42 40.3**	**+0.4**
	comp=Z,17nm,1.0s,mb4.9						
MAJO				LR	LR		
	comp=Z,132nm,20.0s,MS3.7						
MAT	**Matsushiro**	**34.38**	**262**	P	**P**	**21 42 39.6**	**-0.3**
YKW3	**Yellowknife Ar**	**34.91**	**46**	*e*P	**P**	**21 42 43.4**	**-1.1**
YKA	**Yellowknife Ar**	**34.93**	**46**	P	**P**	**21 42 43.2**	**-1.5**
	comp=Z,4.3nm,0.8s,mb4.5,baz=282,slow=8.3,SNR=38						
YKA				PcP	PcP	21 45 15.9	-0.5
	comp=Z,1.0nm,0.9s,baz=294,slow=2.8,SNR=3.7						
YKA				ScP	ScP	21 49 00.7	+2.7
	comp=Z,0.2nm,0.7s,baz=286,slow=3.0,SNR=2.7						
YKA	**Yellowknife Ar**	**34.93**	**46**	P	**P**	**21 42 43.2**	**-1.5**
YKA						21 45 15.9	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**34.93**	**46**	P	**P**	**21 42 43.2**	**-1.5**
YKA				PcP	PcP	21 45 15.9	-0.5
YKA				ScP	ScP	21 49 00.7	+2.7
A05A	**Maple Falls**	**35.09**	**71**	⇑P	**P**	**21 42 46.4**	**+0.2**
	baz=35						
C04A	**Brinnon**	**35.12**	**74**	⇑P	**P**	**21 42 46.8**	**+0.4**
	baz=35						
B05A	**Bryant**	**35.41**	**72**	P	**P**	**21 42 49.9**	**+1.1**
	baz=35,SNR=5.5						
B06A	**Marblemount**	**35.66**	**72**	⇑P	**P**	**21 42 50.2**	**-0.8**
	baz=36						
A07A	**Ashnola River,**	**36.09**	**70**	P	**P**	**21 42 55.3**	**+0.7**
	baz=36,SNR=9.5						
B07A	**Winthrop**	**36.50**	**71**	⇓P	**P**	**21 42 58.1**	**-0.1**
	baz=36						
A08A	**Turner Farm, O**	**36.78**	**70**	P	**P**	**21 43 01.1**	**+0.5**
	baz=37,SNR=9.0						
TBM	**Table Mountain**	**36.80**	**73**	P	**P**	**21 43 01.4**	**+0.6**
J02A	**Umpqua**	**36.87**	**80**	⇓P	**P**	**21 43 01.2**	**-0.1**
	baz=37						
E06A	**Yakima**	**36.87**	**74**	⇓P	**P**	**21 43 01.3**	**0.0**
	baz=37						
C07A	**Waterville**	**36.89**	**72**	P	**P**	**21 43 01.9**	**+0.4**
	baz=37,SNR=5.5						
EBG	**Ellensburg**	**36.95**	**74**	P	**P**	**21 43 02.7**	**+0.7**
B08A	**Colville Reser**	**37.02**	**71**	P	**P**	**21 43 03.0**	**+0.5**
	baz=37,SNR=18						
H04A	**Detroit Lake**	**37.05**	**78**	⇓P	**P**	**21 43 02.3**	**-0.6**
	baz=37						
D07A	**Quincy**	**37.17**	**73**	⇓P	**P**	**21 43 04.2**	**+0.4**
	baz=37						
A09A	**Danville**	**37.18**	**69**	P	**P**	**21 43 04.5**	**+0.5**
	baz=37,SNR=8.0						
EPH	**Ephrata**	**37.32**	**72**	P	**P**	**21 43 05.0**	**-0.1**
C08A	**Higginbotham F**	**37.45**	**71**	P	**P**	**21 43 06.3**	**+0.1**
	baz=37,SNR=5.9						
E07A	**Sunnyside**	**37.55**	**74**	⇑P	**P**	**21 43 07.0**	**0.0**
	baz=37						
H05A	**Madras**	**37.66**	**77**	⇑P	**P**	**21 43 07.8**	**-0.2**
	baz=38						
B09A	**Rice**	**37.69**	**70**	P	**P**	**21 43 08.6**	**+0.3**
	baz=38,SNR=9.7						
SNIWA	**Snively Ranch**	**37.71**	**74**	P	**P**	**21 43 09.1**	**+0.7**
G06A	**Carlson Farm,**	**37.72**	**76**	⇓P	**P**	**21 43 08.4**	**-0.2**
	baz=38						
GBL	**Gable Mountain**	**37.76**	**73**	P	**P**	**21 43 09.3**	**+0.4**
F07A	**Phinny Hill Vi**	**37.82**	**75**	⇑P	**P**	**21 43 10.0**	**+0.6**
	baz=38						
OD2	**Odessa Site #2**	**37.84**	**72**	P	**P**	**21 43 09.4**	**-0.1**
J04A	**Umpqua Nationa**	**37.84**	**80**	⇓P	**P**	**21 43 09.2**	**-0.4**
	baz=38						
D08A	**Wollman Farm,**	**37.87**	**72**	P	**P**	**21 43 10.0**	**+0.3**
	baz=38,SNR=7.6						
C09A	**Chrisman Ranch**	**37.90**	**71**	P	**P**	**21 43 10.2**	**+0.1**
	baz=38,SNR=7.8						
E08A	**Dider Farm, El**	**38.06**	**73**	⇓P	**P**	**21 43 11.7**	**+0.3**
	baz=38						
H06A	**Lindquist Farm**	**38.16**	**77**	⇓P	**P**	**21 43 12.0**	**-0.2**
	baz=38						
CN2	**Changchun**	**38.21**	**282**	*e*P	**P**	**21 43 15.0**	**+2.3**
CN2				*e*XP	sP	21 43 32.6	+1.7
CN2				*e*S	**S**	**21 49 05.0**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				LR	LR		
	comp=N,300nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.1						
D09A	**Jones Farm, Ri**	**38.23**	**72**	⇑P	**P**	**21 43 12.9**	**+0.1**
	baz=38						
YBH	**Yreka Blue Hor**	**38.29**	**82**	P	**P**	**21 43 13.1**	**-0.2**
	comp=Z,2.3nm,1.0s,mb3.9,baz=289,slow=7.8,SNR=2.0						
YBH	**Yreka Blue Hor**	**38.29**	**82**	P	**P**	**21 43 13.1**	**-0.2**
YBH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YBH	**Yreka Blue Hor**	**38.29**	**82**	P	**P**	**21 43 13.1**	**-0.2**
B10A	**Chitwood Farm,**	**38.29**	**70**	⇓P	**P**	**21 43 13.5**	**+0.2**
	baz=38						
G07A	**Ruggs Ranch, H**	**38.30**	**75**	⇓P	**P**	**21 43 13.2**	**-0.1**
	baz=38						
J05A	**Fort Rock**	**38.36**	**79**	⇑P	**P**	**21 43 13.9**	**0.0**
	baz=38						
EDM	**Edmonton**	**38.37**	**61**	*e*P	**P**	**21 43 13.6**	**-0.4**
A11A	**Hall Mountain,**	**38.49**	**68**	P	**P**	**21 43 15.9**	**+0.9**
	baz=38,SNR=18						
L04A	**Klamath Falls**	**38.55**	**81**	⇓P	**P**	**21 43 15.7**	**+0.1**
	baz=38						
F08A	**Pendleton**	**38.57**	**74**	⇓P	**P**	**21 43 15.6**	**-0.1**
	baz=38						
E09A	**Wood Farm, Sta**	**38.60**	**73**	⇑P	**P**	**21 43 15.6**	**-0.3**
	baz=38						
BOD	**Bodaibo**	**38.62**	**307**	*e*P	**P**	**21 43 13.4**	**-2.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
H07A	**Lands Inn, Kim**	**38.70**	**76**	⇑P	**P**	**21 43 16.3**	**-0.5**
	baz=38						
G08A	**Pilot Rock**	**38.72**	**75**	⇓P	**P**	**21 43 16.5**	**-0.4**
	baz=39						
B11A	**Sandpoint**	**38.73**	**69**	⇓P	**P**	**21 43 17.0**	**-0.1**
	baz=39						
D10A	**Wagner Farm, O**	**38.85**	**72**	P	**P**	**21 43 17.6**	**-0.5**
	baz=39,SNR=12						
K05A	**Summer Lake**	**38.87**	**80**	⇑P	**P**	**21 43 18.1**	**-0.1**
	baz=39						
HIA	**Hailar**	**38.96**	**293**	*e*P	**P**	**21 43 18.5**	**-0.4**
HIA				pmax	pmax		
	comp=Z,48nm,0.9s						
HIA				MLR	MLR		
	comp=Z,330nm,19.0s						
HIA	**Hailar**	**38.96**	**293**	*e*P	**P**	**21 43 18.5**	**-0.4**
	comp=Z,48nm,0.9s,mb5.2						
HIA				LR	LR		
	comp=Z,330nm,19.0s,MS4.2						
I07A	**Izee**	**39.01**	**77**	P	**P**	**21 43 19.6**	**+0.3**
	baz=39,SNR=6.9						
J06A	**Christmas Vall**	**39.05**	**78**	⇓P	**P**	**21 43 20.3**	**+0.6**
	baz=39						
O02C	**Red Bluff**	**39.11**	**84**	⇑P	**P**	**21 43 20.2**	**-0.1**
	baz=39						
F09A	**S2 Ranch, Elgi**	**39.14**	**74**	⇑P	**P**	**21 43 21.0**	**+0.6**
	baz=39						
B12A	**Libby**	**39.18**	**69**	⇓P	**P**	**21 43 21.6**	**+0.9**
	baz=39						
K06A	**Valley Falls**	**39.23**	**79**	⇑P	**P**	**21 43 21.4**	**+0.2**
	baz=39						
E10A	**Myers Farm, Un**	**39.23**	**72**	⇑P	**P**	**21 43 21.2**	**0.0**
	baz=39						
H08A	**Prairie City**	**39.29**	**76**	⇑P	**P**	**21 43 22.4**	**+0.8**
	baz=39						
F10A	**Beach Ranch, E**	**39.42**	**73**	⇑P	**P**	**21 43 22.1**	**-0.7**
	baz=39						
M05C	**Lookout**	**39.47**	**82**	⇓P	**P**	**21 43 23.0**	**-0.2**
	baz=39						
A13A	**Flathead Natio**	**39.65**	**68**	⇑P	**P**	**21 43 24.3**	**-0.3**
	baz=40						
I08A	**Drewsey**	**39.67**	**77**	⇑P	**P**	**21 43 25.9**	**+1.0**
	baz=40						
MOD	**Modoc**	**39.69**	**80**	⇓P	**P**	**21 43 25.5**	**+0.5**
	baz=40						
H09A	**Durkee**	**39.83**	**75**	⇓P	**P**	**21 43 26.3**	**+0.2**
	baz=40						
E11A	**Bogner Ranch,**	**39.84**	**72**	⇓P	**P**	**21 43 25.7**	**-0.6**
	baz=40						
WALA	**Waterton Lakes**	**39.88**	**67**	*e*P	**P**	**21 43 26.9**	**+0.4**
	comp=Z,10nm,0.9s,mb4.6						
B13A	**Whitefish**	**39.88**	**68**	⇓P	**P**	**21 43 26.5**	**-0.1**
	baz=40						
K07A	**Rock Creek Ran**	**39.91**	**79**	⇓P	**P**	**21 43 27.1**	**+0.3**
	baz=40						
BSMT	**Bassoo Peak**	**39.94**	**69**	P	**P**	**21 43 27.2**	**+0.1**
BMO	**Blue Mountains**	**39.95**	**75**	*e*P	**P**	**21 43 26.9**	**-0.2**
BMO				LR	LR		
	comp=Z,226nm,19.0s,MS4.0						
M06C	**Likely Place G**	**39.97**	**81**	⇑P	**P**	**21 43 27.8**	**+0.4**
	baz=40						
J08A	**Circle Bar Ran**	**40.02**	**77**	⇓P	**P**	**21 43 28.8**	**+1.0**
	baz=40						
F11A	**Grangeville**	**40.11**	**73**	⇓P	**P**	**21 43 28.2**	**-0.3**
	baz=40						
I09A	**Lost Marbles R**	**40.14**	**76**	⇑P	**P**	**21 43 27.9**	**-0.9**
	baz=40						
C13A	**Hot Springs**	**40.15**	**69**	P	**P**	**21 43 28.9**	**+0.1**
	baz=40,SNR=6.0						
L07A	**Adell**	**40.22**	**80**	⇓P	**P**	**21 43 29.0**	**-0.4**
	baz=40						
KSRS	**Korea Array**	**40.27**	**272**	P	**P**	**21 43 30.1**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.2,baz=55,slow=9.4,SNR=7.5						
KSRS				LR	LR	21 57 51.7	
	comp=Z,73nm,20.4s,MS3.5,baz=212,slow=33						
K08A	**Mann Creek Ran**	**40.36**	**78**	⇓P	**P**	**21 43 30.8**	**+0.3**
	baz=40						
H10A	**Noah's Angus R**	**40.42**	**75**	⇑P	**P**	**21 43 31.3**	**+0.2**
	baz=40						
WVOR	**Wild Horse Val**	**40.43**	**79**	*e*P	**P**	**21 43 31.2**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
WVOR	**Wild Horse Val**	**40.43**	**79**	*e*P	**P**	**21 43 31.2**	**0.0**
	comp=Z,12nm,0.8s,mb4.7						
SNY	**Shenyang**	**40.44**	**280**	⇓P	**P**	**21 43 32.9**	**+1.7**
SNY				AMB	AMB		
	comp=Z,25nm,2.5s,mb4.5						
J09A	**Fry Pan Ranch,**	**40.47**	**77**	⇓P	**P**	**21 43 31.2**	**-0.3**
	baz=40						
Q03C	**Winters**	**40.50**	**86**	⇑P	**P**	**21 43 30.7**	**-1.1**
	baz=40						
D13A	**Huson**	**40.51**	**70**	⇓P	**P**	**21 43 31.3**	**-0.5**
	baz=40						
C14A	**Swan Lake**	**40.59**	**69**	⇑P	**P**	**21 43 32.7**	**+0.2**
	baz=40						
M07A	**Soldier Meadow**	**40.68**	**80**	⇑P	**P**	**21 43 34.0**	**+0.8**
	baz=40						
F12A	**Elk City**	**40.72**	**72**	P	**P**	**21 43 33.5**	**-0.1**
	baz=40,SNR=18						
L08A	**Fields**	**40.74**	**79**	⇑P	**P**	**21 43 34.0**	**+0.2**
	baz=41						
H11A	**Donnelly**	**40.81**	**74**	P	**P**	**21 43 34.0**	**-0.2**
	baz=41,SNR=7.1						
K09A	**Rome**	**40.84**	**78**	⇑P	**P**	**21 43 33.6**	**-1.0**
	baz=41						
MSO	**Missoula**	**40.95**	**70**	*e*P	**P**	**21 43 35.5**	**+0.1**
	comp=Z,15nm,1.1s,mb4.5						
E13A	**Victor**	**41.00**	**71**	P	**P**	**21 43 35.9**	**0.0**
	baz=41,SNR=6.7						
D14A	**Greenough**	**41.08**	**70**	P	**P**	**21 43 36.3**	**-0.2**
	baz=41,SNR=17						
CIT	**Chita**	**41.20**	**299**	*e*P	**P**	**21 43 37.7**	**+0.2**
CIT				*e*		21 45 14.7	
CIT				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.1						
F13A	**Darby**	**41.25**	**72**	P	**P**	**21 43 37.8**	**-0.1**

comp=Z,263nm,19.0s,MS4.2
BOZ Bozeman (W) 42.94 70 P **P 21 43 51.6 -0.1**
baz=43,SNR=27
T06C Millerton Lake 42.94 86 ⇑P **P 21 43 51.5 -0.2**
baz=43
NVAR Mina Array Bea 42.95 83 P **P 21 43 52.5 +0.7**
comp=Z,1.0nm,0.7s,baz=301,slow=7.2,SNR=7.5
NVAR PcP PcP 21 45 42.1 +0.4
comp=Z,1.7nm,0.8s,baz=318,slow=2.9,SNR=5.5
O10A Cortez Mining, 42.97 80 ⇑P **P 21 43 52.4 +0.5**
baz=43
KCC Kaiser Creek 42.99 85 ⇓P **P 21 43 52.3 +0.2**
baz=43
K13A Stover Farm, H 43.10 75 ⇑P **P 21 43 53.1 +0.1**
baz=43
M12A Wells 43.30 77 ⇓P **P 21 43 55.1 +0.6**
baz=43
QLMT Earthquake Lak 43.49 71 *e*P **P 21 43 56.3 +0.2**
L13A Double Diamond 43.50 76 ⇓P **P 21 43 56.9 +0.7**
baz=43
N12A Clover Valley, 43.55 78 ⇓P **P 21 43 57.1 +0.6**
baz=43
HELL Mitchell Peak, 43.58 86 ⇓P **P 21 43 56.3 -0.5**
baz=43
O11A Cowboy Ranch, 43.59 79 ⇓P **P 21 43 57.4 +0.5**
baz=43
R09A Tonopah 43.84 83 ⇓P **P 21 43 59.6 +0.6**
baz=44
TIN Tinemaha 43.84 85 ⇓P **P 21 43 59.8 +0.8**
baz=44
YMR Madison River 43.86 71 *e*P **P 21 43 59.0 -0.1**
comp=Z,10nm,0.7s,mb4.7
S09A Goldfield 44.06 83 ⇑P **P 21 44 01.0 +0.3**
baz=44
YFT Old Faithful 44.06 71 *e*P **P 21 44 02.2 +1.6**
VES Vestal, Richgr 44.07 87 ⇑P **P 21 44 00.5 -0.2**
baz=44
O12A Currie 44.07 79 P **P 21 44 00.7 -0.1**
baz=44,SNR=7.1
CWC Cottonwood Cre 44.32 85 ⇑P **P 21 44 02.9 +0.2**
baz=44
Q11A Duckwater 44.35 81 ⇓P **P 21 44 03.8 +0.7**
baz=44
HVU Hansel Valley 44.40 76 *e*P **P 21 44 04.0 +0.6**
P12A McGill 44.44 80 ⇓P **P 21 44 03.6 -0.2**
baz=44
MOOW Moose Ponds 44.50 72 *e*P **P 21 44 04.7 +0.5**
RLMT Red Lodge 44.62 70 *e*P **P 21 44 05.2 +0.1**
comp=Z,27nm,0.9s,mb5.1
REDW Red Top Meadow 44.66 73 *e*P **P 21 44 06.3 +0.8**
comp=Z,19nm,1.4s,mb4.7
Q12A Willow Creek R 44.75 80 ⇓P **P 21 44 07.3 +1.1**
baz=45
AHID Auburn Hatcher 44.85 74 *e*P **P 21 44 06.0 -1.0**
comp=Z,8.0nm,1.0s,mb4.5
AHID LR LR
comp=Z,175nm,21.0s,MS4.0
MPMC Manual Prospec 44.93 85 ⇓P **P 21 44 07.5 -0.1**
baz=45
FURC Furnace Creek, 45.06 84 ⇑P **P 21 44 08.6 -0.1**
baz=45
BLG Laguna Peak 45.19 89 ⇑P **P 21 44 09.4 -0.3**
baz=45
HWUT Hardware Ranch 45.23 75 *e*P **P 21 44 10.4 +0.3**
DUG Dugway 45.30 78 *e*P **P 21 44 10.3 -0.3**
DUG pmax pmax
comp=Z,15nm,1.1s,mb4.7
DUG Dugway 45.30 78 *e*P **P 21 44 10.3 -0.3**
comp=Z,15nm,1.1s,mb4.7
LAO LASA Array 45.54 66 PFAKE 21 44 20.0 +7.6
LAO LR LR
comp=Z,323nm,19.0s,MS4.3
BW06 Boulder Array 45.77 73 *e*P **P 21 44 14.2 -0.1**
PDAR Pinedale Array 45.77 73 P **P 21 44 14.2 -0.2**
comp=Z,21nm,0.7s,mb5.2,baz=302,slow=3.9,SNR=164
PDAR LR LR 22 01 26.6
comp=Z,91nm,19.3s,MS3.7,baz=100,slow=34
SHOC Shoshone 45.79 85 ⇓P **P 21 44 14.4 -0.1**
baz=46
GSC Goldstone 45.84 86 ⇓P **P 21 44 14.4 -0.5**
baz=46
NLU North Lily Min 45.90 77 *e*P **P 21 44 16.1 +0.8**
BJI Beijing 46.04 283 *e*P **P 21 44 16.5 +0.1**
BJI AMB AMB
comp=Z,12nm,0.8s,mb4.9
BJI LR LR
comp=Z,122nm,21.0s,MS3.8
BJI Beijing 46.04 283 *e*P **P 21 44 16.5 +0.1**
comp=Z,12nm,0.8s,mb4.9
BJI S S 21 51 21.1 +23
BJI LR LR
comp=Z,120nm,21.0s,MS3.8
BJT Baijiatuau 46.06 283 *e*P **P 21 44 15.8 -0.8**
BJT pmax pmax
comp=Z,7.0nm,0.6s
BJT MLR MLR
comp=Z,223nm,22.0s
BJT Baijiatuau 46.06 283 *e*P **P 21 44 15.8 -0.7**
comp=Z,7.4nm,0.6s,mb4.8
BJT LR LR
comp=Z,223nm,22.0s,MS4.1
DAU Daniels Canyon 46.13 76 *e*P **P 21 44 18.0 +0.9**
DAU *e* 21 45 52.9
MPU Maple Canyon 46.13 77 PFAKE 21 44 30.0 +13
MPU LR LR
comp=Z,1μm,21.0s,MS4.8
MSU Marysvale 46.71 79 *e*P **P 21 44 21.8 +0.1**
MSU *e* 21 45 55.7
TLY Talaya 46.72 303 PFAKE 21 44 30.0 +8.3
TLY LR LR
comp=Z,43nm,20.0s,MS3.4
TMUT Trail Mountain 46.83 78 *e*P **P 21 44 23.0 +0.4**
ULN Ulaanbaatar 46.93 297 *e*P **P 21 44 23.9 +0.5**
ULN *e* 21 45 55.0
ULN MLR MLR
comp=Z,386nm,21.0s,MS4.3
JOW Kunigami 47.15 260 P **P 21 44 25.0 -0.1**
comp=Z,46nm,0.9s,mb5.4,baz=114,slow=10.0,SNR=3.1
SONM Songino Array 47.31 297 P **P 21 44 27.3 +0.9**
comp=Z,16nm,0.8s,mb5.0,baz=53,slow=9.2,SNR=121
SONM LR LR 22 05 13.0
comp=Z,396nm,20.0s,MS4.4,baz=42,slow=37
SONM Songino Array 47.31 297 P **P 21 44 27.3 +0.9**
SONM pmax pmax
comp=Z,16nm,0.8s
SONM MLR MLR
comp=Z,397nm,20.0s
SRU San Rafael 47.36 77 *e*P **P 21 44 27.9 +1.1**
SRU *e* 21 45 53.2
ZAK Zakamensk 47.61 302 *e*P **P 21 44 29.4 +0.7**
ZAK *e* 21 45 57.2
ZAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
RWWY Rawlins 47.82 72 *e*P **P 21 44 29.2 -1.1**
RSSD Black Hills 48.26 68 PFAKE 21 44 50.0 +16
RSSD LR LR
comp=Z,533nm,19.0s,MS4.5
HHC Hu-ho-hao-te 48.36 287 *e*P **P 21 44 35.6 +1.1**
HHC AP pP 21 44 48.8 +1.4
HHC XP sP 21 44 53.4 +0.5
HHC PP PP 21 46 27.4 +0.1
HHC PCS PcS 21 49 56.8 +0.4
HHC S **S 21 51 30.8 -0.6**
HHC XS sS 21 51 52.1 -0.9
HHC SS SS 21 54 55.3 -6.0
HHC AMB AMB
comp=Z,15nm,0.8s,mb5.1
HHC AMB AMB
comp=Z,152nm,5.6s
HHC LR LR
comp=N,211nm,17.8s,MS4.3
HHC LR LR
comp=E,180nm,19.6s,MS4.3
HHC LR LR
comp=Z,200nm,19.6s,MS4.1
PV01 Paradox Valley 49.17 77 *e*P **P 21 44 40.2 -0.5**
ULM Lac du Bonnet 49.28 57 P **P 21 44 40.8 -0.8**
comp=Z,3.5nm,0.8s,mb4.4,baz=296,slow=8.2,SNR=5.9
ULM LR LR 22 05 37.3
comp=Z,97nm,19.8s,MS3.8,baz=350,slow=36
KRAR Krasnoyarsk 49.70 313 *i* P **P 21 44 44.1 -0.6**
KRAR pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
KRAR MLR MLR
comp=Z,100nm,25.0s,MS3.7
ISCO Idaho Springs 49.93 73 *e*P **P 21 44 47.1 +0.6**
ISCO pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ISCO Idaho Springs 49.93 73 *e*P **P 21 44 47.1 +0.6**
comp=Z,6.6nm,1.0s,mb4.6
SDCO Great Sand Dun 51.29 75 *e*P **P 21 44 57.1 +0.4**
comp=Z,11nm,1.2s,mb4.7
SDCO LR LR
comp=Z,113nm,19.0s,MS3.9
ANMO Albuquerque 52.52 79 PFAKE 21 45 20.0 +14
ANMO LR LR
comp=Z,152nm,20.0s,MS4.0
EYMN Ely 52.96 57 *e*P **P 21 45 08.4 -0.7**
WHN Wuhan 53.30 275 P **P 21 45 11.0 -0.7**
XAN Xi'an 54.32 282 P **P 21 45 18.1 -1.0**
XAN AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
ZAL Zalesovo 54.66 314 P **P 21 45 20.9 -0.6**
comp=Z,0.5nm,0.6s,baz=135,slow=10.0,SNR=3.2
ZAL PcP PcP 21 46 23.9 -0.1
comp=Z,2.0nm,0.8s,baz=87,slow=4.1,SNR=10.0
MNTX Cornudas Mount 55.36 81 *e*P **P 21 45 26.4 -0.3**
comp=Z,4.8nm,0.8s,mb4.6
MNTX LR LR
comp=Z,203nm,20.0s,MS4.2
SCIA State Center 55.85 64 *e*P **P 21 45 29.6 -0.6**
comp=Z,15nm,0.6s,mb5.2
LZH Lanzhou 56.05 287 *e*P **P 21 45 32.0 +0.4**
LZH AP pP 21 45 44.5 -0.3
LZH XP sP 21 45 49.0 -1.2
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,75nm,4.4s
LZH Lanzhou 56.05 287 *e*P **P 21 45 32.0 +0.4**
LZH *PP pP 21 45 44.5 -0.3
LZH *SP sP 21 45 49.0 -1.2
LZH pmax pmax
comp=Z,23nm,1.0s,mb5.2
LZH Lanzhou 56.05 287 *e*P **P 21 45 32.0 +0.4**
comp=Z,23nm,1.0s,mb5.2
LZH pP pP 21 45 44.5 -0.3
LZH sP sP 21 45 49.0 -1.2
GTA Gaotai 56.24 293 *e*P **P 21 45 33.6 +0.7**
GTA AP pP 21 45 46.1 0.0
GTA XP sP 21 45 51.3 -0.2
GTA PP PP 21 47 39.5 +1.0
GTA S **S 21 53 14.1 -5.1**
GTA PS 21 53 32.8
GTA XS sS 21 53 35.8 -5.4
GTA SS SS 21 57 00.3 -5.9
GTA AMB AMB
comp=Z,31nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,167nm,6.8s
GTA LR LR
comp=N,177nm,16.4s,MS4.5
GTA LR LR
comp=E,216nm,12.9s,MS4.5
GTA LR LR
comp=Z,189nm,16.4s,MS4.3
ENH Enshi 56.53 278 PFAKE 21 45 50.0 +15
ENH LR LR
comp=Z,2.0nm,20.0s
LTX Lajitas 58.06 82 *e*P **P 21 45 44.9 -0.9**
LTX pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
LTX MLR MLR
comp=Z,197nm,20.0s,MS4.2
LTX Lajitas 58.06 82 *e*P **P 21 45 44.9 -0.9**
comp=Z,3.9nm,0.8s,mb4.5
LTX LR LR
comp=Z,197nm,20.0s,MS4.2
TXAR Lajitas Array 58.06 82 P **P 21 45 44.4 -1.4**
comp=Z,1.5nm,0.8s,mb4.1,baz=304,slow=5.6,SNR=11
TXAR Lajitas Array 58.06 82 P **P 21 45 44.4 -1.4**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 58.06 82 P **P 21 45 44.4 -1.4**
ARCES ARCESS Array B 58.42 351 P **P 21 45 46.6 -1.7**
comp=Z,2.6nm,0.5s,mb4.5,baz=28,slow=8.1,SNR=16
ARCES LR LR 22 12 15.6
comp=Z,54nm,20.2s,MS3.7,baz=48,slow=37
ARCES ARCESS Array B 58.42 351 P **P 21 45 46.6 -1.7**
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES MLR MLR
comp=Z,55nm,20.2s
GLMI Grayling 58.61 56 PFAKE 21 55 10.0
GLMI LR LR
comp=Z,504nm,21.0s,MS4.6
FUNA Funafuti 59.49 183 PFAKE 21 46 10.0 +14
FUNA LR LR
comp=Z,4μm,20.0s
KURK Kurchatov 59.63 314 *e*P **P 21 45 55.7 -1.0**
KURK *e*PP pP 21 46 09.4 -0.6
KURK *e* 21 46 42.8
KURK MLR MLR
comp=Z,19nm,19.0s,MS3.2
CD2 Chengdu 59.64 283 *e*P **P 21 45 57.3 +0.6**
CD2 AP pP 21 46 09.9 -0.1
CD2 XP sP 21 46 15.3 -0.1
CD2 PP PP 21 48 10.4 +1.7
CD2 S **S 21 54 01.1 -2.5**
CD2 XS sS 21 54 22.6 -3.3
CD2 SS SS 21 57 57.8 -1.9
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CD2 LR LR
comp=N,230nm,12.0s,MS4.7
CD2 LR LR
comp=E,240nm,13.2s,MS4.7
CD2 LR LR
comp=Z,150nm,14.4s,MS4.3
SCHQ Schefferville 59.79 39 LR LR 22 13 24.9
comp=Z,160nm,18.7s,MS4.2,baz=323,slow=38
SCHQ Schefferville 59.79 39 PFAKE 21 46 10.0 +12
SCHQ LR LR
comp=Z,277nm,20.0s,MS4.4
WMQ Urumqi 59.99 304 P **P 21 45 59.6 +0.4**
WMQ PCP PcP 21 46 45.5 +0.6
WMQ PP PP 21 48 14.1 +2.3
WMQ PPP 21 49 41.3
WMQ S **S 21 54 06.9 -1.3**
WMQ XS sS 21 54 30.0 -0.4
WMQ SCS ScS 21 55 41.8 -3.8
WMQ SS SS 21 58 05.0 -0.3
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,91nm,3.8s
WMQ LR LR
comp=N,177nm,21.0s,MS4.2
WMQ LR LR
comp=E,124nm,22.0s,MS4.2
WMQ LR LR
comp=Z,136nm,21.0s,MS4.1
FVM French Village 60.07 66 *e*P **P 21 45 58.6 -1.1**
FVM pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
FVM French Village 60.07 66 *e*P **P 21 45 58.6 -1.1**
comp=Z,8.4nm,0.8s,mb4.8
MKAR Makanchi Array 60.67 309 P **P 21 46 02.2 -1.5**
comp=Z,3.5nm,0.8s,mb4.5,baz=49,slow=6.7,SNR=22
MKAR Makanchi Array 60.67 309 *i* P **P 21 46 02.7 -1.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
CHKZ Chkalovo 60.89 321 *e*P **P 21 46 04.2 -1.1**
CHKZ pmax pmax
comp=Z,11nm,1.3s,mb4.8
CHKZ Chkalovo 60.89 321 *e*P **P 21 46 04.2 -1.0**
comp=Z,11nm,1.3s,mb4.8
GYA Guiyang 60.98 277 P **P 21 46 07.6 +1.7**
GYA AP pP 21 46 21.9 +2.7
GYA XP sP 21 46 27.3 +2.7
GYA PCP PcP 21 46 50.8 +2.0
GYA PP PP 21 48 24.3 +3.8
GYA SCP ScP 21 50 46.4 +0.1
GYA S **S 21 54 19.9 -0.9**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,90nm,5.9s
GYA LR LR
comp=N,210nm,18.4s,MS4.4
GYA LR LR
comp=E,170nm,19.6s,MS4.4
GYA LR LR
comp=Z,180nm,18.0s,MS4.3
BVAR Borovoye Array 61.47 320 P **P 21 46 08.4 -0.8**
comp=Z,6.0nm,0.5s,mb5.0,baz=51,slow=7.0,SNR=36
BVAR PcP PcP 21 46 50.0 -0.8
comp=Z,3.5nm,0.7s,baz=56,slow=5.6,SNR=6.2
BVAR Borovoye Array 61.47 320 P **P 21 46 08.4 -0.8**
BVAR 21 46 50.0
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BRVK Borovoye 61.49 320 *e*P **P 21 46 08.9 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
BRVK MLR MLR
comp=Z,68nm,22.0s,MS3.8
BRVK Borovoye 61.49 320 *e*P **P 21 46 08.9 -0.4**
comp=Z,7.5nm,0.6s,mb5.0
BRVK LR LR
comp=Z,68nm,22.0s,MS3.8
USIN University of 61.66 64 *e*P **P 21 46 10.8 +0.3**
comp=Z,25nm,0.5s,mb5.6
SVE Sverdlovsk 62.12 328 *e*P **P 21 46 14.0 +0.4**
WCI Wyandotte Cave 62.25 63 *e*P **P 21 46 13.1 -1.3**
WCI pmax pmax
comp=Z,16nm,0.8s,mb5.2
WCI Wyandotte Cave 62.25 63 *e*P **P 21 46 13.1 -1.3**
comp=Z,16nm,0.8s,mb5.2
WVT Waverly 62.85 65 PFAKE 21 46 30.0 +12
WVT LR LR
comp=Z,124nm,19.0s,MS4.1
OXF Oxford 63.08 68 *e*P **P 21 46 17.0 -3.0**
OXF *e*PP pP 21 46 32.6 -0.8
ARU Arti 63.13 329 ⇑ *i*P **P 21 46 20.0 -0.3**
ARU *e* 21 46 56.8
ARU *e* 21 48 34.9
ARU *e*S **S 21 54 48.8 +0.9**
ARU *e*SS SS 21 58 50.7 -3.6
ARU pmax pmax
comp=Z,28nm,0.8s,mb5.4
ARU Arti 63.13 329 *e*P **P 21 46 19.9 -0.3**
ALLY Alegheny Colle 63.16 56 *e*P **P 21 46 20.7 +0.2**
PLAL Pickwick Lake 63.52 67 *e*P **P 21 46 21.5 -1.4**
comp=Z,3.9nm,0.6s,mb4.6
PLAL LR LR
comp=Z,129nm,21.0s,MS4.1
JOF Joensuu 63.97 346 *e*p **P 21 46 24.9 -1.0**
comp=Z,1.2nm,0.4s,mb4.3
JOF Joensuu 63.97 346 *e*P **P 21 46 24.9 -1.0**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KMI Kunming 64.38 279 P **P 21 46 28.3 -0.3**
KMI AP pP 21 46 41.9 -0.1
KMI XP sP 21 46 47.8 +0.4
KMI PP PP 21 48 56.5 +6.0
KMI S **S 21 55 02.3 -1.2**
KMI XS sS 21 55 22.0 -3.9
KMI SS SS 21 59 13.9 0.0
KMI SSS 22 02 03.5
KMI AMB AMB
comp=Z,7.0nm,1.3s,mb4.5
KMI AMB AMB
comp=Z,152nm,4.0s
KMI LR LR
comp=Z,42nm,24.9s,MS3.5
KMI Kunming 64.38 279 P **P 21 46 28.3 -0.3**
KMI *PP pP 21 46 41.9 -0.1
KMI 21 48 56.5
KMI S **S 21 55 02.3 -1.2**
KMI *SS sS 21 55 22.0 -3.9
KMI SS SS 21 59 13.9 0.0
KMI SSS 22 02 03.5
KMI pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
KMI MLR MLR
comp=Z,40nm,24.9s,MS3.5
KMI Kunming 64.38 279 P **P 21 46 28.3 -0.3**
comp=Z,7.0nm,1.3s,mb4.5
KMI pP pP 21 46 41.9 -0.1
KMI sP sP 21 46 47.8 +0.4
KMI PP PP 21 48 56.5 +6.0
KMI S **S 21 55 02.3 -1.2**
KMI sS sS 21 55 22.0 -3.9
KMI SS SS 21 59 13.9 0.0
KMI SSS 22 02 03.5
KMI LR LR
comp=Z,40nm,24.9s,MS3.5
KLMR Klimovskoe 64.40 341 *e*P **P 21 46 24.7 -4.0**
KLMR pmax pmax
comp=Z,30nm,2.0s,mb5.0
BINY Binghamton 64.91 53 *e*P **P 21 46 32.1 +0.1**
TZTN Tazewell 64.98 62 *e*P **P 21 46 32.6 +0.2**
TZTN LR LR
comp=Z,295nm,19.0s,MS4.5
SSPA Standing Stone 65.07 56 *e*P **P 21 46 31.7 -1.3**
comp=Z,19nm,0.8s,mb5.2
KAF Kangasniemi 65.47 348 *e*p **P 21 46 30.4 -5.2**
comp=Z,1.3nm,0.4s,mb4.3
KAF Kangasniemi 65.47 348 *e*P **P 21 46 30.4 -5.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
TKL Tuckaleechee C 65.49 63 LR LR 22 16 12.9
comp=Z,110nm,19.0s,MS4.1,baz=296,slow=37
MYNC Murphy 65.71 64 *e*P **P 21 46 36.9 -0.3**
MYNC MLR MLR
comp=Z,655nm,21.0s,MS4.8
FINES FINESS Array B 66.14 348 P **P 21 46 37.9 -2.0**
comp=Z,3.7nm,0.8s,mb4.4,baz=25,slow=7.7,SNR=10
FINES LR LR 22 19 09.0
comp=Z,49nm,21.0s,MS3.7,baz=158,slow=39
FINES FINESS Array B 66.14 348 P **P 21 46 37.9 -2.0**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,49nm,21.0s
FINES FINESS Array B 66.14 348 P **P 21 46 37.9 -2.0**
FINES LR LR 22 19 09.0
TKM2 Tokmak 2 66.75 310 P **P 21 46 43.8 0.0**
SNR=6.4
USP Ospenovka 67.01 311 P **P 21 46 45.7 +0.3**
SNR=10
WES Weston 67.08 50 PFAKE 21 47 00.0 +14
WES LR LR
comp=Z,1μm,22.0s,MS5.0
CBN Corbin 67.13 57 PFAKE 21 47 00.0 +14
CBN LR LR
comp=Z,271nm,19.0s,MS4.5
KBK Karagaybulak 67.26 310 P **P 21 46 47.2 +0.2**
SNR=6.0
GOGA Godfrey 67.30 65 *e*P **P 21 46 46.9 -0.4**
AAK Ala-Archa 67.49 310 P **P 21 46 48.8 +0.3**
SNR=7.9
AAK Ala-Archa 67.49 310 *c i*P **P 21 46 47.8 -0.7**
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
AAK Ala-Archa 67.49 310 *e*P **P 21 46 46.1 -2.5**
AAK LR LR
comp=Z,31nm,22.0s,MS3.5
PMG Port Moresby 67.50 218 PFAKE 21 47 00.0 +11
PMG LR LR
comp=Z,97nm,21.0s,MS4.0
NB2 NORSAR Subarra 67.92 355 P **P 21 46 50.6 -0.7**
comp=Z,2.9nm,0.8s,mb4.4,baz=6.2,slow=6.5
NOA NORSAR Array B 67.92 355 P **P 21 46 49.9 -1.4**
comp=Z,5.6nm,0.9s,mb4.6,baz=5.0,slow=6.3,SNR=12
NOA LR LR 22 17 57.6
comp=Z,36nm,18.4s,MS3.6,baz=85,slow=37
NOA NORSAR Array B 67.92 355 P **P 21 46 49.9 -1.4**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,36nm,18.4s
LSA Lhasa 68.11 290 PFAKE 21 47 00.0 +7.6
LSA LR LR
comp=Z,162nm,19.0s,MS4.3
AKTK Aktyubinsk 68.23 325 P **P 21 46 53.2 0.0**
AKTO Aktyubinsk 68.23 325 P **P 21 46 53.2 0.0**
comp=Z,56nm,0.7s,mb5.7,baz=49,slow=6.9,SNR=249
AKTO Aktyubinsk 68.23 325 P **P 21 46 53.2 0.0**
AKTO pmax pmax
comp=Z,56nm,0.7s,mb5.7
AML Almayashu 68.26 311 P **P 21 46 54.4 +1.1**
SNR=6.1

ORR Orenburg 68.38 328 *eP* **P 21 46 53.8 -0.3**
ORR pmax pmax
comp=Z,40nm,0.8s,mb5.5
AB31 Akbulak array 68.50 323 P **P 21 46 54.5 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
KKAR Karatay Array 69.00 313 *i* P **P 21 46 57.1 -0.9**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NHSC New Hope 69.38 63 *ep*P pP 21 47 13.9 0.0
NHSC LR LR
comp=Z,112nm,20.0s,MS4.1
OBN Obninsk 70.30 340⇓*eP* **P 21 47 05.7 -0.3**
OBN *eS* S 21 56 11.6 -3.0
OBN pmax pmax
comp=Z,32nm,0.9s,mb5.2
GUN Gumba 72.53 293 *eP* **P 21 47 20.7 +1.3**
comp=Z,79nm,0.7s,mb5.7
PPT Papeete 72.76 152 *e*LR LR 22 09 31.2
comp=Z,122nm,29.2s
VRHR Novokhopersk 72.78 335 *eP* **P 21 47 20.4 -0.5**
VRHR pmax pmax
comp=Z,30nm,0.9s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
KKN Kakani 72.97 293 *eP* **P 21 47 23.1 +1.1**
comp=E,25nm,0.8s,mb5.2
PKI Pulchoki 73.06 293 *eP* **P 21 47 23.5 +1.0**
comp=E,40nm,0.9s,mb5.3
GKN Gorkha 73.18 294 *eP* **P 21 47 24.0 +0.8**
comp=E,57nm,1.0s,mb5.4
DMN Daman 73.20 293 *eP* **P 21 47 24.7 +1.3**
comp=E,57nm,1.3s,mb5.3
RAR Rarotonga 73.78 163 PFAKE 21 47 40.0 +13
RAR LR LR
comp=Z,2.0nm,21.0s
KOLN Koldanda 73.95 294 *eP* **P 21 47 28.4 +0.6**
comp=Z,30nm,1.1s,mb5.2
BSEG Bad Segeberg 75.06 355 *eP* **P 21 47 34.7 +0.5**
comp=Z,18nm,0.9s,mb5.0
BSEG Bad Segeberg 75.06 355 *eP* **P 21 47 34.7 +0.5**
BSEG pmax pmax
comp=Z,72nm,0.9s,mb5.6
AKASG Malin Array Be 75.95 343 P **P 21 47 38.7 -0.7**
comp=Z,11nm,0.8s,mb4.8,baz=18,slow=5.8,SNR=37
AKASG Malin Array Be 75.95 343 P **P 21 47 38.7 -0.7**
AKASG pmax pmax
comp=Z,11nm,0.8s
AKASG Malin Array Be 75.95 343 P **P 21 47 38.7 -0.7**
AKBB Malin Array Si 75.95 343 *eP* **P 21 47 38.7 -0.7**
KIEV Kiev 75.97 343 *eP* **P 21 47 39.0 -0.4**
KIEV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIEV MLR MLR
comp=Z,108nm,19.0s,MS4.2
KIEV Kiev 75.97 343 *eP* **P 21 47 39.0 -0.5**
comp=Z,12nm,0.8s,mb4.9
KIEV LR LR
comp=Z,108nm,19.0s,MS4.2
IBBN Ibbenburen 76.81 357 *eP* **P 21 47 44.6 +0.4**
KAKA Kakadu 76.87 230 *eP* **P 21 47 43.3 -1.3**
comp=Z,16nm,1.2s,mb4.8
CLZ Clausthal 77.15 355 *eP* **P 21 47 46.4 +0.3**
comp=Z,24nm,0.8s,mb5.2
WTSB Winterswijk 77.18 357⇑*eP* **P 21 47 45.9 -0.4**
comp=Z,21nm,0.9s,mb5.0
CLL Collm 77.50 353 *eP* **P 21 47 47.5 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 77.50 353 *i* P **P 21 47 47.5 -0.6**
CLL pmax pmax
comp=Z,20nm,0.8s,mb5.1
CLL Collm 77.50 353 *i* P **P 21 47 47.5 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
BUG Bochum--Univer 77.69 357 *eP* **P 21 47 49.3 +0.2**
BRG Berggiesshubel 77.86 352 *eP* **P 21 47 49.7 -0.4**
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 77.86 352 *i* P **P 21 47 49.4 -0.7**
comp=Z,4.5nm,1.0s,mb4.4
BRG Berggiesshubel 77.86 352 *i* P **P 21 47 49.4 -0.7**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
OJC Ojcow 77.90 349 *eP* **P 21 47 50.1 -0.2**
UPC Upice 78.04 351 *eP* **P 21 47 50.8 -0.3**
KWP Kalwaria 78.08 347 *eP* **P 21 47 52.1 +0.8**
PVCC Panska Ves 78.15 352 *eP* **P 21 47 51.5 -0.2**
DPC Dobruska-Polom 78.16 351 *eP* **P 21 47 51.2 -0.6**
UBBA Unterbreizbach 78.19 355 *eP* **P 21 47 51.5 -0.4**
MOX Moxa 78.26 354 *eP* **P 21 47 52.1 -0.2**
comp=Z,10.0nm,1.1s,mb4.7
HGN Heimansgroeve 78.41 358⇑*eP* **P 21 47 53.0 -0.1**
comp=Z,20nm,0.9s,mb5.1
TANN Tannenbergstha 78.43 353 *eP* **P 21 47 52.7 -0.6**
OKC Ostrava-Krasne 78.47 350 *eP* **P 21 47 53.4 -0.1**
STHS Stebnicka Huta 78.50 347 *eP* **P 21 47 54.6 +1.0**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 78.50 347 *eP* **P 21 47 54.6 +1.0**
comp=Z,7.3nm,0.8s,mb4.7
MEM Membach 78.56 358 P **P 21 47 54.2 +0.2**
comp=Z,15nm,1.1s,mb4.8
MORC Moravsky Berou 78.60 350⇓**P P 21 47 53.9 -0.3**
NKC Novy Kostel 78.61 353 *eP* **P 21 47 54.3 0.0**
PRU Pruhonice 78.69 352 *eP* **P 21 47 53.8 -0.9**
PRU *e*PCP PcP 21 48 01.2 -2.2
SNF Seneffe 78.70 359 P **P 21 47 54.7 0.0**
comp=Z,6.2nm,1.1s,mb4.5
BCLA Clavier 78.77 358 P **P 21 47 55.2 +0.1**
KOLS Kolonicke sedl 78.82 347 *eP* **P 21 47 55.4 0.0**
TNS Taunus Mts 78.86 356 *eP* **P 21 47 55.6 0.0**
comp=Z,14nm,0.8s,mb4.9
KIV Kislovodsk 78.97 331 *c i*P **P 21 47 56.6 +0.4**
KIV *e* 21 48 02.0
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.0
KIV Kislovodsk 78.97 331 *eP* **P 21 47 56.3 +0.1**
ROTZ Rotzenmuhle 79.10 353 *eP* **P 21 47 57.0 +0.1**
GIVF Givet 79.10 358 *eP* **P 21 47 56.8 -0.1**
comp=Z,34nm,1.0s,mb4.9
GIVF Givet 79.10 358 *eP* **P 21 47 56.8 -0.1**
GIVF pmax pmax
comp=Z,17nm,1.0s,mb4.9
GIVF Givet 79.10 358 *eP* **P 21 47 56.8 -0.1**
comp=Z,17nm,1.0s,mb4.9
DOU Dourbes 79.11 358 P **P 21 47 57.0 0.0**
comp=Z,9.5nm,1.3s,mb4.6
BAIF Baives 79.15 359 *eP* **P 21 47 57.4 +0.2**
comp=Z,53nm,0.9s,mb5.2
BAIF Baives 79.15 359 *eP* **P 21 47 57.4 +0.2**
BAIF pmax pmax
comp=Z,26nm,0.9s,mb5.2
BAIF Baives 79.15 359 *eP* **P 21 47 57.4 +0.2**
comp=Z,26nm,0.9s,mb5.2
GRA1 Grafenberg Arr 79.24 354 *eP* **P 21 47 58.1 +0.4**
comp=Z,22nm,0.9s,mb5.1
GRF Grafenberg Arr 79.24 354 *eP* **P 21 47 58.1 +0.4**
comp=Z,22nm,0.9s,mb5.1
GRF Grafenberg Arr 79.24 354 *eP* **P 21 47 58.1 +0.4**
GRF pmax pmax
comp=Z,26nm,0.9s,mb5.2
GRF Grafenberg Arr 79.24 354 *eP* **P 21 47 58.1 +0.4**
GRF pmax pmax
comp=Z,22nm,0.9s,mb5.1
WLF Walferdange 79.50 357 *eP* **P 21 47 59.8 +0.7**
WLF Walferdange 79.50 357 P **P 21 47 59.7 +0.6**
KECS Kecovo 79.51 348 *eP* **P 21 47 59.4 +0.2**
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KECS Kecovo 79.51 348 *eP* **P 21 47 59.4 +0.2**
comp=Z,5.5nm,0.8s,mb4.5
KHC Kasperske Hory 79.62 352 *eP* **P 21 47 59.5 -0.3**
KHC *ep*P pP 21 48 11.1 -2.5
BURAR Bucovina Array 79.64 344⇑**P P 21 47 59.9 0.0**
ZEI Tsey 79.67 330 *eP* **P 21 48 00.1 +0.1**
ZEI pmax pmax
comp=Z,16nm,0.7s,mb5.1
VYHS Vyhne 79.71 349 *eP* **P 21 48 00.3 0.0**
VYHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
VYHS Vyhne 79.71 349 *eP* **P 21 48 00.3 0.0**
comp=Z,4.2nm,1.2s,mb4.2
SMOL Smolenice 79.86 350 *eP* **P 21 48 01.9 +0.9**
GEC2 GERESS Array S 79.90 352 *eP* **P 21 48 01.1 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
GEC2 GERESS Array S 79.90 352 *eP* **P 21 48 01.1 -0.1**
GEC2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GERES GERESS Array B 79.90 352 P **P 21 48 00.6 -0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=25,slow=5.6,SNR=28
GERES GERESS Array B 79.90 352 P **P 21 48 00.6 -0.6**
GERES pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 80.15 348 *eP* **P 21 48 03.3 +0.7**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 80.15 348 *eP* **P 21 48 03.3 +0.8**
comp=Z,7.3nm,0.8s,mb4.7
ZST Bratislava 80.21 350 *eP* **P 21 48 03.5 +0.6**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ZST Bratislava 80.21 350 *eP* **P 21 48 03.5 +0.6**
comp=Z,7.9nm,0.9s,mb4.6
FLN La Foliniere 80.44 2⇑*iP* **P 21 48 03.8 -0.4**
comp=Z,41nm,0.9s,mb5.0
FLN *e*MLR
comp=Z,84nm,18.8s
FLN La Foliniere 80.44 2⇑*iP* **P 21 48 03.8 -0.4**
FLN pmax pmax
comp=Z,20nm,0.9s,mb5.0
FLN MLR MLR
comp=Z,80nm,18.8s,MS4.1
FLN La Foliniere 80.44 2⇑*iP* **P 21 48 03.8 -0.4**
comp=Z,20nm,0.9s,mb5.1
FLN LR LR
comp=Z,80nm,18.8s,MS4.1
CONA Conrad Observa 80.60 351⇑*iP* **P 21 48 05.1 +0.1**
comp=Z,5.0nm,0.8s,mb4.5
LDF La Druitiere 80.61 2⇑*iP* **P 21 48 04.6 -0.5**
comp=Z,30nm,0.6s,mb5.1
LDF La Druitiere 80.61 2⇑*iP* **P 21 48 04.6 -0.5**
LDF pmax pmax
comp=Z,15nm,0.6s,mb5.1
LDF La Druitiere 80.61 2⇑*iP* **P 21 48 04.6 -0.5**
comp=Z,15nm,0.6s,mb5.1
MEZF Maizieres J'vi 80.69 358⇑*iP* **P 21 48 05.7 +0.2**
comp=Z,42nm,1.0s,mb5.0
MEZF Maizieres J'vi 80.69 358⇑*iP* **P 21 48 05.7 +0.2**
comp=Z,42nm,1.0s,mb5.3
CDF Champ du Feu 80.72 357⇑*iP* **P 21 48 05.5 -0.2**
comp=Z,12nm,0.8s,mb4.6
CDF Champ du Feu 80.72 357⇑*iP* **P 21 48 05.5 -0.2**
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CDF Champ du Feu 80.72 357⇑*iP* **P 21 48 05.5 -0.2**
comp=Z,6.1nm,0.8s,mb4.6
FUR Furstenfeldbru 80.75 354 *eP* **P 21 48 05.4 -0.5**
BFO Black Forest 80.76 356 *eP* **P 21 48 05.6 -0.3**
comp=Z,17nm,1.5s,mb4.8
BFO Black Forest 80.76 356 *eP* **P 21 48 05.6 -0.3**
BFO pmax pmax
comp=Z,39nm,1.5s,mb5.1
ROSF Rostrenen 80.78 4 *eP* **P 21 48 05.9 -0.1**
comp=Z,6.1nm,0.7s,mb4.4
ROSF Rostrenen 80.78 4 *eP* **P 21 48 05.9 -0.1**
ROSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ROSF Rostrenen 80.78 4 *eP* **P 21 48 05.9 -0.1**
comp=Z,3.0nm,0.7s,mb4.3
GRR Gorron 80.80 2⇑*iP* **P 21 48 06.0 -0.1**
comp=Z,50nm,0.8s,mb5.2
GRR Gorron 80.80 2⇑*iP* **P 21 48 06.0 -0.1**
GRR pmax pmax
comp=Z,25nm,0.8s,mb5.2
GRR Gorron 80.80 2⇑*iP* **P 21 48 06.0 -0.1**
comp=Z,25nm,0.8s,mb5.2
DRGR 80.85 346⇑*iP* **P 21 48 06.4 0.0**
SGMF Saint Gilles 80.89 3⇑*iP* **P 21 48 06.5 -0.1**
comp=Z,33nm,0.7s,mb5.1
SGMF Saint Gilles 80.89 3⇑*iP* **P 21 48 06.5 -0.1**
SGMF pmax pmax
comp=Z,17nm,0.7s,mb5.1
SGMF Saint Gilles 80.89 3⇑*iP* **P 21 48 06.5 -0.1**
comp=Z,16nm,0.7s,mb5.1
VRI Vrincioaia 81.07 343⇓*iP* **P 21 48 08.3 +0.8**
PLOR Plostina 81.09 343⇑*iP* **P 21 48 08.2 +0.5**
HAU Haudompre 81.16 357⇑*iP* **P 21 48 07.8 -0.2**
comp=Z,16nm,0.8s,mb4.7
HAU *e*MLR
comp=Z,75nm,20.2s
HAU Haudompre 81.16 357⇑*iP* **P 21 48 07.8 -0.2**
HAU pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
HAU MLR MLR
comp=Z,80nm,20.3s,MS4.1
HAU Haudompre 81.16 357⇑*iP* **P 21 48 07.8 -0.2**
comp=Z,8.1nm,0.8s,mb4.7
HAU LR LR
comp=Z,80nm,20.3s,MS4.1
QUIF Quistinic 81.20 4 *eP* **P 21 48 07.3 -0.9**
comp=Z,12nm,0.7s,mb4.6
QUIF Quistinic 81.20 4 *eP* **P 21 48 07.3 -0.9**
QUIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
QUIF Quistinic 81.20 4 *eP* **P 21 48 07.3 -0.9**
comp=Z,5.8nm,0.7s,mb4.6
ARSA Arzberg 81.31 351⇑*iP* **P 21 48 09.1 +0.3**
comp=Z,5.9nm,0.8s,mb4.6
ARSA Arzberg 81.31 351 *eP* **P 21 48 09.3 +0.5**
HINF Hinteralfeld 81.33 357⇑*iP* **P 21 48 08.5 -0.4**
comp=Z,9.9nm,0.8s,mb4.5
HINF Hinteralfeld 81.33 357⇑*iP* **P 21 48 08.5 -0.4**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HINF Hinteralfeld 81.33 357⇑*iP* **P 21 48 08.5 -0.4**
comp=Z,4.9nm,0.8s,mb4.5
CFR Carcaliu 81.46 342⇑P **P 21 48 08.3 -1.3**
MLR Muntele Rosu 81.57 343 LR LR 22 28 13.8
comp=Z,69nm,20.5s,MS4.0,baz=314,slow=38
MLR Muntele Rosu 81.57 343⇑*iP* **P 21 48 11.6 +1.4**
WTTA Wattenberg 81.63 354 *eP* **P 21 48 11.2 +0.7**
KBA Koelnbreinsper 81.68 352⇑*iP* **P 21 48 11.5 +0.7**
comp=Z,24nm,0.6s,mb5.3
KBA Koelnbreinsper 81.68 352 *eP* **P 21 48 11.5 +0.7**
KBA Koelnbreinsper 81.68 352⇑*iP* **P 21 48 11.5 +0.7**
KBA pmax pmax
comp=Z,24nm,0.6s,mb5.3
SQTA Sankt Quirin 81.70 354⇑*iP* **P 21 48 11.2 +0.3**
comp=Z,5.3nm,1.0s,mb4.4
SQTA Sankt Quirin 81.70 354⇑*iP* **P 21 48 11.2 +0.3**
SQTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GNI Garni 81.77 328 P **P 21 48 11.8 +0.6**
comp=Z,3.3nm,0.6s,mb4.5,baz=264,slow=6.8,SNR=4.2
GNI Garni 81.77 328 *i P* **P 21 48 12.4 +1.2**
GNI pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 81.77 328 *eP* **P 21 48 12.3 +1.1**
comp=Z,8.0nm,0.8s,mb4.7
GNI LR LR
comp=Z,82nm,19.0s,MS4.1
VOIR 81.78 344⇓*iP* **P 21 48 12.9 +1.6**
LOR Lormes 81.95 359 *eP* **P 21 48 12.2 0.0**
comp=Z,17nm,0.8s,mb4.7
LOR *e*MLR
comp=Z,70nm,18.8s
LOR Lormes 81.95 359 *eP* **P 21 48 12.2 0.0**
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LOR MLR MLR
comp=Z,70nm,18.8s,MS4.0
LOR Lormes 81.95 359 *eP* **P 21 48 12.2 0.0**
comp=Z,8.7nm,0.8s,mb4.7
LOR LR LR
comp=Z,70nm,18.8s,MS4.0
HYF Humbligny 81.96 360 *eP* **P 21 48 12.4 +0.2**
MTUR Matau 81.98 344⇓*iP* **P 21 48 14.1 +1.7**
TIRR Tirgusor 82.10 341⇓*iP* **P 21 48 13.0 +0.1**
OBKA Obir 82.14 351⇑*iP* **P 21 48 13.2 +0.1**
comp=Z,13nm,0.8s,mb4.9
OBKA Obir 82.14 351⇑*iP* **P 21 48 13.2 +0.1**
comp=Z,13nm,0.8s,mb4.9
BZS Buzias 82.16 346⇓*iP* **P 21 48 13.0 -0.3**
SSF Saint Saulge 82.16 359⇑*iP* **P 21 48 13.3 0.0**
comp=Z,24nm,1.0s,mb4.8
SSF Saint Saulge 82.16 359⇑*iP* **P 21 48 13.3 0.0**
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.8
SSF Saint Saulge 82.16 359⇑*iP* **P 21 48 13.3 0.0**
comp=Z,12nm,1.0s,mb4.8
GZR Gura Zlata 82.20 346⇓*iP* **P 21 48 14.0 +0.5**
WRA Warramunga Arr 82.29 225 P **P 21 48 12.0 -1.9**
comp=Z,1.5nm,0.8s,mb4.0,baz=35,slow=5.7,SNR=10
WRA Warramunga Arr 82.29 225 P **P 21 48 12.0 -2.0**
WRA pmax pmax
comp=Z,2.0nm,0.8s
PTCC Patocco-Chiusa 82.35 352 P **P 21 48 13.7 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
AVF Avril sur Loir 82.43 359⇑*iP* **P 21 48 14.6 -0.1**
comp=Z,28nm,1.0s,mb4.8
AVF Avril sur Loir 82.43 359⇑*iP* **P 21 48 14.6 -0.1**
AVF pmax pmax
comp=Z,14nm,1.0s,mb4.8
AVF Avril sur Loir 82.43 359⇑*iP* **P 21 48 14.6 -0.1**
comp=Z,14nm,1.0s,mb4.8
GMNA Gemona 82.49 352 P **P 21 48 14.6 -0.4**
comp=Z,96nm,1.0s,mb5.7
CABF La Chapelle 82.56 357⇑*iP* **P 21 48 15.7 +0.3**
comp=Z,23nm,1.0s,mb4.9
CABF La Chapelle 82.56 357⇑*iP* **P 21 48 15.7 +0.3**
CABF pmax pmax
comp=Z,12nm,1.0s,mb4.9
CABF La Chapelle 82.56 357⇑*iP* **P 21 48 15.7 +0.3**
comp=Z,12nm,1.0s,mb4.9
SMF Signal de Mont 82.57 359⇑*iP* **P 21 48 15.4 0.0**
comp=Z,28nm,0.9s,mb5.0
SMF Signal de Mont 82.57 359⇑*iP* **P 21 48 15.4 0.0**
SMF pmax pmax
comp=Z,14nm,0.9s,mb5.0
SMF Signal de Mont 82.57 359⇑*iP* **P 21 48 15.4 0.0**
comp=Z,14nm,0.9s,mb5.0
MFF Saint Martin d 82.60 2⇑*iP* **P 21 48 15.7 +0.1**
comp=Z,40nm,0.9s,mb5.2
MFF Saint Martin d 82.60 2⇑*iP* **P 21 48 15.7 +0.1**
MFF pmax pmax
comp=Z,20nm,0.9s,mb5.2
MFF Saint Martin d 82.60 2⇑*iP* **P 21 48 15.7 +0.1**
comp=Z,20nm,0.9s,mb5.2
BGF Bois d'Agland 82.67 360⇑*iP* **P 21 48 15.8 -0.1**
comp=Z,37nm,1.3s,mb5.0
BGF Bois d'Agland 82.67 360⇑*iP* **P 21 48 15.8 -0.1**
BGF pmax pmax
comp=Z,18nm,1.3s,mb4.9
BGF Bois d'Agland 82.67 360⇑*iP* **P 21 48 15.8 -0.1**
comp=Z,18nm,1.3s,mb5.0
RKT Rikitea 82.99 141 *e*LR LR 22 15 19.9
comp=Z,126nm,25.8s
BOJS Bojanci 83.06 351 *i P* **P 21 48 17.9 -0.1**
SVIS Svilajnac 83.51 346⇑*iP* **P 21 48 20.2 -0.1**
PSI Prapat 83.61 267 P **P 21 48 20.4 -0.3**
comp=Z,6.6nm,0.8s,mb4.8,baz=22,slow=4.6,SNR=9.2
PSI Prapat 83.61 267 P **P 21 48 20.5 -0.3**
PSI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LPL La Plagne 83.63 357 *eP* **P 21 48 21.1 +0.2**
comp=Z,5.6nm,0.8s,mb4.5
LPL La Plagne 83.63 357 *eP* **P 21 48 21.1 +0.2**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LPL La Plagne 83.63 357 *eP* **P 21 48 21.1 +0.2**
comp=Z,2.8nm,0.8s,mb4.4
LPG La Plagne 83.65 357 *eP* **P 21 48 21.5 +0.5**
comp=Z,7.4nm,0.9s,mb4.5
LPG La Plagne 83.65 357 *eP* **P 21 48 21.5 +0.5**
LPG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LPG La Plagne 83.65 357 *eP* **P 21 48 21.5 +0.5**
comp=Z,3.7nm,0.9s,mb4.5
SZH Strazhica 83.72 343 *i P* **P 21 48 21.4 0.0**
DIVS Divcibare 83.88 347⇑*iP* **P 21 48 22.4 +0.2**
RJF Les Rejaudoux 83.92 0 *eP* **P 21 48 22.6 +0.2**
comp=Z,10nm,0.7s,mb4.8
RJF *e*MLR
comp=Z,83nm,17.0s
RJF Les Rejaudoux 83.92 0 *eP* **P 21 48 22.6 +0.2**
RJF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
RJF MLR MLR
comp=Z,80nm,17.0s,MS4.2
RJF Les Rejaudoux 83.92 0 *eP* **P 21 48 22.6 +0.2**
comp=Z,5.2nm,0.7s,mb4.8
RJF LR LR
comp=Z,80nm,17.0s,MS4.2
GRUS Gruza 83.98 347⇑*iP* **P 21 48 23.0 +0.3**
ORIF Oris-en-Rattie 84.26 357 *eP* **P 21 48 25.0 +0.9**
comp=Z,26nm,1.2s,mb4.9
ORIF *e*MLR
comp=Z,83nm,18.5s
ORIF Oris-en-Rattie 84.26 357 *eP* **P 21 48 25.0 +0.9**
ORIF pmax pmax
comp=Z,13nm,1.3s,mb4.9
ORIF Oris-en-Rattie 84.26 357 *eP* **P 21 48 25.0 +0.9**
comp=Z,13nm,1.3s,mb4.9
LFF La Frestale 84.28 1⇑*iP* **P 21 48 24.4 +0.2**
CAF Calviac 84.30 0⇑*iP* **P 21 48 24.7 +0.4**
comp=Z,24nm,1.0s,mb5.0
CAF Calviac 84.30 0⇑*iP* **P 21 48 24.7 +0.4**
CAF pmax pmax
comp=Z,12nm,1.0s,mb5.0
CAF Calviac 84.30 0⇑*iP* **P 21 48 24.7 +0.4**
comp=Z,12nm,1.0s,mb5.0
VIVF Saint-Julien-l 84.35 358 *eP* **P 21 48 25.0 +0.4**
comp=Z,28nm,1.2s,mb5.0
VIVF Saint-Julien-l 84.35 358 *eP* **P 21 48 25.0 +0.4**
VIVF pmax pmax
comp=Z,14nm,1.2s,mb5.0
VIVF Saint-Julien-l 84.35 358 *eP* **P 21 48 25.0 +0.4**
comp=Z,14nm,1.2s,mb5.0
JMB Yambol 84.37 342 *i P* **P 21 48 27.2 +2.5**
MBDF Montbardon 84.42 357 *eP* **P 21 48 25.7 +0.8**
comp=Z,12nm,0.7s,mb4.8
MBDF Montbardon 84.42 357 *eP* **P 21 48 25.7 +0.8**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
MBDF Montbardon 84.42 357 *eP* **P 21 48 25.7 +0.8**
comp=Z,5.8nm,0.7s,mb4.8
PGB Panagyurishte 84.74 344 *i P* **P 21 48 27.0 +0.5**
FITZ Fitzroy Crossi 84.83 233 *eP* **P 21 48 26.5 -0.5**
comp=Z,14nm,0.8s,mb5.2
FITZ Fitzroy Crossi 84.83 233 P **P 21 48 25.9 -1.0**
comp=Z,9.1nm,0.8s,mb4.9,baz=53,slow=1.8,SNR=15
FITZ LR LR 22 24 12.5
comp=Z,45nm,18.8s,MS3.9,baz=154,slow=34
VTS Vitosha 84.86 345 *i P* **P 21 48 27.1 0.0**
VTS Vitosha 84.86 345 ⇓**P P 21 48 27.4 +0.2**
VTS Vitosha 84.86 345⇓*iP* **P 21 48 27.4 +0.3**
LASF Ste Croix 85.14 359 *eP* **P 21 48 29.1 +0.6**
comp=Z,18nm,1.0s,mb4.8
SMRF Simiane la Rot 85.21 358 *eP* **P 21 48 29.9 +1.0**
comp=Z,26nm,0.9s,mb5.1
SMRF Simiane la Rot 85.21 358 *eP* **P 21 48 29.9 +1.0**
comp=Z,26nm,0.9s,mb5.4
SBF Sospel 85.26 356 *eP* **P 21 48 29.0 -0.1**
comp=Z,72nm,1.0s,mb5.5
SBF Sospel 85.26 356 *eP* **P 21 48 29.0 -0.1**
SBF pmax pmax
comp=Z,36nm,1.0s,mb5.5
SBF Sospel 85.26 356 *eP* **P 21 48 29.0 -0.1**
comp=Z,36nm,1.0s,mb5.5
KDZ Kurdzhali 85.38 343 *i P* **P 21 48 30.1 +0.3**
BR131 Keskin Array S 85.41 336 *eP* **P 21 48 30.9 +1.0**
comp=Z,2.1nm,0.4s,mb4.6
BR131 *ep*P pP 21 48 42.1 -1.7
BR131 LR LR
comp=Z,251nm,21.0s,MS4.6
BRTR Keskin Array B 85.41 336 P **P 21 48 30.3 +0.4**
comp=Z,8.4nm,0.9s,mb4.9,baz=49,slow=2.3,SNR=40
BRTR Keskin Array B 85.41 336 *i P* **P 21 48 30.2 +0.3**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
CSNT Castellina Chi 85.42 353 P **P 21 48 29.7 -0.3**
ANTO Ankara 85.49 337⇑*iP* **P 21 48 31.3 +1.0**
SNTG Esanatoglia 85.51 352 P **P 21 48 30.9 +0.5**
comp=Z,20nm,0.9s,mb5.3
FRF La Foret Royal 85.59 357 *eP* **P 21 48 30.8 0.0**
comp=Z,22nm,0.9s,mb5.1
FRF La Foret Royal 85.59 357 *eP* **P 21 48 30.8 0.0**
FRF pmax pmax
comp=Z,11nm,0.9s,mb5.1
FRF La Foret Royal 85.59 357 *eP* **P 21 48 30.8 0.0**
comp=Z,11nm,0.9s,mb5.1
MMB Musomiste 85.75 344 *i P* **P 21 48 32.5 +0.9**
ASAR Alice Springs 85.75 223 P **P 21 48 30.5 -1.1**
comp=Z,1.9nm,0.9s,mb4.3,baz=30,slow=4.8,SNR=7.4
ASAR Alice Springs 85.75 223 P **P 21 48 30.5 -1.1**
ASAR pmax pmax
comp=Z,2.0nm,1.0s
LMR La Mourre 85.82 357⇑*iP* **P 21 48 32.1 +0.2**
comp=Z,12nm,0.7s,mb4.9

LMR	La Mourre	85.82	357	⇑iP		P	21 48 32.1	+0.2
LMR					pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.9								
LMR	La Mourre	85.82	357	⇑iP		P	21 48 32.1	+0.2
comp=Z,6.2nm,0.7s,mb5.0								
MTLF	Montolieu	85.89	360	eP		P	21 48 32.7	+0.4
comp=Z,18nm,0.9s,mb5.0								
MTLF	Montolieu	85.89	360	eP		P	21 48 32.7	+0.4
MTLF					pmax	pmax		
comp=Z,9.0nm,0.9s,mb5.0								
MTLF	Montolieu	85.89	360	eP		P	21 48 32.7	+0.4
comp=Z,8.8nm,0.9s,mb5.0								
NRCA	Norcia	85.91	352	P		P	21 48 33.3	+0.9
comp=Z,9.9nm,0.7s,mb5.2								
SJPF	Ste Jean	86.07	3	eP		P	21 48 32.8	-0.3
TERO	Teramo	86.08	352	P		P	21 48 33.5	+0.3
comp=Z,27nm,1.3s,mb5.3								
EPF	Esparros	86.18	1	eP		P	21 48 33.4	-0.3
ETSF	Etsaut	86.30	2	eP		P	21 48 34.5	+0.2
comp=Z,6.0nm,0.7s,mb4.6								
ETSF	Etsaut	86.30	2	eP		P	21 48 34.5	+0.2
ETSF					pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.6								
ETSF	Etsaut	86.30	2	eP		P	21 48 34.5	+0.2
comp=Z,3.0nm,0.7s,mb4.6								
AQU	L'Aquila	86.36	352	⇑iP		P	21 48 35.3	+0.7
FIAM	Fiamignano	86.47	352	P		P	21 48 35.5	+0.4
comp=Z,18nm,0.8s,mb5.3								
PGF	Pioggiola	86.49	355	eP		P	21 48 35.3	+0.1
comp=Z,77nm,1.0s,mb5.6								
PGF	Pioggiola	86.49	355	eP		P	21 48 35.3	+0.1
PGF					pmax	pmax		
comp=Z,38nm,1.0s,mb5.6								
PGF	Pioggiola	86.49	355	eP		P	21 48 35.3	+0.1
comp=Z,38nm,1.0s,mb5.6								
ESDC	Sonseca Array	89.39	5	P		P	21 48 48.3	-0.7
comp=Z,2.7nm,0.8s,mb4.6,baz=350,slow=4.4,SNR=19								
STKA	Stephens Creek	90.08	214	eP		P	21 48 51.2	-1.1
comp=Z,3.1nm,0.8s,mb4.7								
STKA	Stephens Creek	90.08	214	P		P	21 48 51.0	-1.3
comp=Z,3.2nm,0.7s,mb4.8,baz=58,slow=3.8,SNR=6.0								
STKA	Stephens Creek	90.08	214	eP		P	21 48 50.9	-1.4
ASF	Jabal al Asfar	91.58	331	LR		LR	22 37 32.9	
comp=Z,39nm,19.3s,MS3.9,baz=91,slow=40								
MDT	Midelt	96.18	6	LR		LR	22 34 43.5	
comp=Z,48nm,18.9s,MS4.0,baz=78,slow=37								
TORD	Torodi Ar. Bea	115.97	1	PKP		PKPdf	21 54 34.0	-1.1
comp=Z,0.3nm,0.4s,baz=352,slow=2.6,SNR=9.0								
KMBO	Kilima Mbogo	122.05	317	PKP		PKPdf	21 54 47.5	+0.7
comp=Z,0.2nm,0.3s,baz=225,slow=23,SNR=4.0								
VNDA	Vanda	129.03	186	PFAKE			21 55 10.0	+10
VNDA				LR		LR		
comp=Z,406nm,19.0s,MS5.1								
MSKU	Masuku	129.75	345	PFAKE			21 55 10.0	+8.5
MSKU				LR		LR		
comp=Z,60nm,19.0s,MS4.3								
TSUM	Tsumeb	145.88	333	ePKPdf		PKPdf	21 55 31.1	+0.1
MAW	Mawson	146.69	217	PKPbc		PKPbc	21 55 31.9	-2.1
comp=Z,11nm,0.9s,baz=67,slow=3.4,SNR=10								
MAW	Mawson	146.69	217	PKPbc		PKPbc	21 55 31.9	-2.1
MAW				LR		LR		
comp=Z,313nm,20.0s,MS5.1								
LBTB	Lobatse	148.33	317	ePKP2		PKPab	21 55 38.2	-3.5
BOSA	Boshof	151.59	314	PKPbc		PKPbc	21 55 46.2	-0.3
comp=Z,3.6nm,0.6s,baz=14,slow=1.2,SNR=16								
BOSA	Boshof	151.59	314	PKIKP		PKPbc	21 55 46.2	-0.3
BOSA				pmax		pmax		
comp=Z,4.0nm,0.6s								
BOSA	Boshof	151.59	314	PFAKE			21 55 50.0	+10
BOSA				LR		LR		
comp=Z,164nm,19.0s,MS4.9								
HOPE	Hope Point	156.56	113	PFAKE			21 56 00.0	+13
HOPE				LR		LR		
comp=Z,20nm,21.0s,MS3.9								

*ISCJB **16** 21:38:10.1±1.2, 166S±07×176.7W±03, h35km, mb4.2/5, Error ellipse: s-maj=103.5km s-min=8.5km az=130.6*
*NEIC **16** 21:38:11.8±1.4, 1695S×17661W, h35km, mb4.2/3, Error ellipse: s-maj=93.8km s-min=13.8km az=154.0*
*IDC **16** 21:39:22.8±15.0, 1744S×17942W, h634km±155km, mb3.2/4, mb1 3.3/4, mb1mx3.0/15, mbtmp3.2/4, Error ellipse: s-maj=138.4km s-min=78.2km az=105.0*

ISC 16 21:38:12.2±1.4, 168S±07×1767W±03, h35km, n12, σ0$93/10, mb4.2/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.51	60	ePn		Pn	21 39 32.1	+0.4
37nm,0.4s								
AFI					Sn	Sn	21 40 33.6	-0.2
CTA	Charters Tower	35.28	259	P		P	21 45 05.2	+1.6
3.0nm,0.9s,mb4.2,baz=60,slow=8.1,SNR=3.1								
CTA	Charters Tower	35.28	259	P		P	21 45 05.2	+1.6
CTAO	Charters Tower	35.28	259	P		P	21 45 04.8	+1.2
1.7nm,0.7s,mb4.1								
STKA	Stephens Creek	40.63	240	eP		P	21 45 49.1	+0.4
1.2nm,0.3s,mb4.0								
STKA	Stephens Creek	40.63	240	P		P	21 45 49.5	+0.7
2.0nm,0.5s,mb4.0,baz=96,slow=13,SNR=8.2								
WRA	Warramunga Arr	46.48	258	P		P	21 46 35.0	-0.8
1.2nm,0.5s,mb4.0,baz=95,slow=7.2,SNR=20								
ASAR	Alice Springs	46.70	253	P		P	21 46 35.9	-1.6
0.7nm,0.4s,mb4.0,baz=89,slow=7.9,SNR=5.2								
ASAR					PcP	PcP	21 48 08.1	-2.6
0.6nm,0.6s,baz=106,slow=3.7,SNR=4.9								
KAKA	Kakadu	49.28	268	eP		P	21 46 57.7	+0.2
2.2nm,0.3s,mb4.7								
MKAR	Makanchi Array	109.53	314	PKiKP		PKiKP	21 56 38.8	-0.2
0.1nm,0.5s,baz=212,slow=1.7,SNR=3.4								
BRTR	Keskin Array B	145.12	317	PKP		PKPdf	21 57 46.8	+0.9
0.6nm,0.7s,baz=65,slow=3.8,SNR=4.6								
GERES	GERESS Array B	146.90	347	PKPbc		PKPbc	21 57 55.6	+4.8
0.4nm,0.6s,baz=20,slow=4.3,SNR=4.2								

*ISCJB **16** 21:40:10.8±2.0, 59S±04×107.4E±05, h35km, mb4.0/6, Error ellipse: s-maj=92.6km s-min=20.4km az=98.0*
*NEIC **16** 21:40:12.7±1.9, 603S×10735E, h35km, mb4.4/3, Error ellipse: s-maj=89.6km s-min=18.7km az=49.0*
*IDC **16** 21:40:29.3±4.8, 578S×10789E, h188km±33km, mb3.7/4, mb1 3.9/4, mb1mx3.3/18, mbtmp3.7/4, Error ellipse: s-maj=142.1km s-min=22.5km az=51.0*

ISC 16 21:40:13.1±2.1, 60S±05×1074E±05, h35km, n10, σ0$71/10, mb4.0/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.50	126	eP		P	21 45 00.6	+1.8
3.2nm,0.8s,mb3.7								
FITZ	Fitzroy Crossi	21.50	126	P		P	21 45 00.5	+1.7
0.6nm,0.5s,mb3.2,baz=318,slow=9.5,SNR=5.8								
KAKA	Kakadu	25.58	107	eP		P	21 45 38.6	-0.3
6.6nm,0.6s,mb4.3								
WRA	Warramunga Arr	29.63	120	P		P	21 46 14.9	-0.2
0.7nm,0.4s,mb3.8,baz=311,slow=9.0,SNR=32								
WRA					PcP	PcP	21 49 15.9	-3.2
0.4nm,0.4s,baz=310,slow=2.0,SNR=8.1								
WRA					ScP	ScP	21 52 40.3	-18
0.2nm,0.9s,baz=320,slow=2.3,SNR=4.8								
WB2	Warramunga Arr	29.64	120	eP		P	21 46 14.6	-0.6
ASAR	Alice Springs	30.98	127	P		P	21 46 26.6	-0.3
2.3nm,0.5s,mb4.3,baz=298,slow=8.1,SNR=32								
ASAR	Alice Springs	30.98	127	P		P	21 46 26.6	-0.3
STKA	Stephens Creek	41.04	133	eP		P	21 47 52.6	-0.4
6.9nm,0.3s,mb4.8								
STKA	Stephens Creek	41.04	133	P		P	21 47 52.6	-0.4
8.0nm,0.4s,mb4.8,baz=311,slow=7.8,SNR=30								
MKAR	Makanchi Array	57.06	340	P		P	21 49 55.9	+0.2
0.1nm,0.4s,mb3.2,baz=151,slow=9.5,SNR=2.8								

*ISCJB **16** 21:49:50.4±0.8, 2401S±004×670W±02, h180km±12km, mb3.9/5, Error ellipse: s-maj=22.7km s-min=7.3km az=2.0*
*IDC **16** 21:49:50.7±1.6, 2397S×6686W, h168km±15km, mb3.9/5, mb1 4.0/9, mb1mx3.8/18, mbtmp3.9/9, Error ellipse: s-maj=25.8km s-min=12.4km az=95.0*
*NEIC **16** 21:49:51.4±0.8, 2396S×6697W, h180km±9km, mb4.4/3, Error ellipse: s-maj=18.4km s-min=8.5km az=93.0*

ISC 16 21:49:51.3±0.8, 2401S±005×670W±02, h175km±11km, n20, σ1$03/22, mb3.9/5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	5.99	213	ePn		Pn	21 51 18.7	+0.7
61nm,0.9s								
LCO					eSn	Sn	21 52 19.7	-6.5
CFAA	Coronel Fontan	7.65	188	P		Pn	21 51 41.1	+1.2
1.2nm,0.3s,baz=5.7,slow=12,SNR=64								
CFAA					S	Sn	21 53 03.3	-2.4
0.9nm,0.3s,baz=140,slow=18,SNR=6.1								
LPAZ	La Paz	7.75	352	P		Pn	21 51 43.2	+2.0
10nm,0.3s,baz=170,slow=8.1,SNR=97								
LPAZ					S	Sn	21 53 08.1	0.0
baz=207,slow=18,SNR=2.0								
LPAZ	La Paz	7.75	352	P		Pn	21 51 43.2	+2.0
LPAZ					S	Sn	21 53 08.1	0.0
ARE	Arequipa	8.61	330	eP		Pn	21 51 51.0	-1.5
ARE					eS	Sn	21 53 22.0	-6.6
SIV	San Ignacio	9.72	36	P		Pn	21 52 06.6	-0.6
7.8nm,0.3s,baz=220,slow=12,SNR=113								
SIV					S	Sn	21 53 48.6	-6.7
0.3nm,0.3s,baz=210,slow=18,SNR=4.1								
TRQA	Tornquist	14.65	164	ePn		Pn	21 53 09.6	-0.5
19nm,1.0s								
PLCA	Paso Flores	16.95	189	P		Pn	21 53 39.0	+1.0
0.7nm,0.3s,baz=20,slow=11,SNR=14								
PLCA	Paso Flores	16.95	189	eP		Pn	21 53 39.1	+1.0
6.4nm,0.8s								
TOA0	Torodi Ar. Sit	76.57	69	eP		P	22 01 21.7	-0.5
TORD	Torodi Ar. Bea	76.57	69	P		P	22 01 21.9	-0.3
5.5nm,0.5s,mb4.5,baz=263,slow=6.0,SNR=81								
ULM	Lac du Bonnet	78.23	342	P		P	22 01 31.0	-0.5
1.4nm,0.6s,mb3.7,baz=141,slow=6.2,SNR=4.6								
BOSA	Boshof	80.73	117	P		P	22 01 46.0	+1.1
2.1nm,0.3s,mb4.2,baz=250,slow=8.1,SNR=19								
ESDC	Sonseca Array	86.40	44	P		P	22 02 14.1	+0.3
0.5nm,0.7s,mb3.3,baz=234,slow=5.0,SNR=4.7								
YKA	Yellowknife Ar	94.13	340	P		P	22 02 49.4	-0.5
0.5nm,0.5s,mb3.9,baz=131,slow=4.5,SNR=15								
YKA	Yellowknife Ar	94.13	340	P		P	22 02 49.4	-0.5
WRA	Warramunga Arr	131.62	207	PKP		PKPdf	22 08 43.2	0.0
0.3nm,0.5s,baz=160,slow=1.7,SNR=9.8								
ZAL	Zalesovo	143.40	28	PKP		PKPdf	22 09 02.2	-2.6
1.3nm,0.6s,baz=305,slow=0.2,SNR=7.6								
MKAR	Makanchi Array	146.53	40	PKPbc		PKPbc	22 09 10.6	-1.3
3.4nm,0.7s,baz=311,slow=1.6,SNR=44								
SONM	Songino Array	155.64	11	PKPab		PKPab	22 09 51.2	+0.1
0.3nm,0.6s,baz=321,slow=3.0,SNR=3.5								

*NEIC **16** 21:54:54.6, 1691N×9432W, h154km, MD3.7(MEX), After MEX.*

MEX 16 21:54:54.6±1.4, 1691N×9432W, h154km±27km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	1.12	355	iP		Pn	21 55 19.1	-1.7
TUIG				iS		Sn	21 55 39.0	-1.8
HUIG	Huatulco	2.06	237	iP		Pn	21 55 28.7	-2.0
HUIG				iS		Sn	21 55 56.9	-1.5
CCIG	Comitan	2.18	106	iP		Pn	21 55 32.1	0.0
CCIG				iS		Sn	21 55 58.7	-2.3
OXX	Oaxaca	2.31	275	iP		Pn	21 55 34.5	+0.9
OXX				iS		Sn	21 56 03.5	-0.1
VHO	Vista Hermosa	2.32	274	iP		Pn	21 55 34.6	+0.9
VHO				iS		Sn	21 56 04.0	+0.2
TPIG	Tehuac#an	3.27	298	iS		Sn	21 56 22.5	-2.4

CASC 16 21:59:14.6±2.0, 839N×8281W, h0km±5km, MD3.8, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DVD	David	0.36	82	⇓iP		Pg	21 59 22.7	+1.2
DVD				eS		Sg	21 59 28.4	+2.3
ACR	Cerro Adams	0.44	307	⇑iP		Pg	21 59 22.3	-0.8
ACR				eS		Sg	21 59 32.3	+3.5
BRU	Baru	0.48	30	⇓iP		Pg	21 59 26.2	+2.3
CNI	Changuinola	1.06	16	⇓iP		Pg	21 59 35.2	+0.3
LCR2	La Lucha 2	1.79	319	eP		Pn	21 59 46.9	+0.2
LCR2				eS		Sn	22 00 11.5	+1.4
LCR2				eS		Sn	22 00 11.8	+1.7
LAJ	Bijagual	1.96	319	eP		Pn	21 59 52.9	+3.9
PRS1	Puriscal	2.17	317	eP		Pn	21 59 51.6	-0.3
PRS1				eP			21 59 51.8	
PRS1				eS		Sn	22 00 20.3	+0.8
PRS1				eS		Sn	22 00 20.3	+0.8
CGA2	Cerro Gallo 2	2.30	315	eP		Pn	21 59 54.7	+1.0
CGA2				eS		Sn	22 00 25.4	+2.7
PTP	Ponta Puerca	19.37	58	⇑iP			21 59 19.3	

*ISCJB **16** 22:14:37.7±2.5, 25S±01×128.1E±03, h33km±24km, mb3.7/4, Error ellipse: s-maj=59.4km s-min=11.3km az=139.7*
*NEIC **16** 22:14:39.7±0.8, 251S×12838E, h35km, mb3.6/1, Error ellipse: s-maj=43.8km s-min=11.5km az=74.0*
*IDC **16** 22:14:45.6±3.6, 269S×128.18E, h92km±34km, mb3.4/4, mb1 3.7/6, mb1mx3.5/17, mbtmp3.5/6, Error ellipse: s-maj=78.2km s-min=11.2km az=71.0*

ISC 16 22:14:45.8±1.8, 27S±01×1281E±03, h94km±17km, n11, σ0$79/14, mb3.6/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.83	157	eP		Pn	22 17 18.6	+0.9
4.1nm,0.3s								
FITZ	Fitzroy Crossi	15.47	189	eP		Pn	22 18 18.9	+0.2
4.0nm,0.8s								
FITZ	Fitzroy Crossi	15.47	189	P		Pn	22 18 18.7	0.0
0.1nm,0.3s,baz=12,slow=14,SNR=4.0								
WRA	Warramunga Arr	18.18	161	P		Pn	22 18 50.9	-1.0
1.2nm,0.3s,baz=340,slow=11,SNR=102								
WRA					S	S	22 22 13.7	-0.5
0.2nm,0.3s,baz=346,slow=21,SNR=5.7								
WB2	Warramunga Arr	18.18	161	eP		Pn	22 18 51.3	-0.7
WB2				eS		S	22 22 14.2	-0.1
WB2	Warramunga Arr	18.18	161	eP		Pn	22 18 50.7	-1.3
ASAR	Alice Springs	21.57	165	P		P	22 19 27.9	+0.2
1.6nm,0.3s,mb3.8,baz=347,slow=12,SNR=32								
ASAR					S	S	22 23 23.4	+2.0
3.5nm,0.8s,baz=345,slow=19,SNR=12								
STKA	Stephens Creek	31.67	158	P		P	22 21 01.8	+1.5
0.5nm,0.3s,mb3.8,baz=343,slow=10,SNR=7.4								
STKA	Stephens Creek	31.67	158	eP		P	22 21 00.1	-0.2
STKA				P			22 21 01.8	
SONM	Songino Array	53.80	342	P		P	22 23 59.2	+0.5
0.6nm,1.1s,mb3.5,baz=163,slow=8.6,SNR=3.1								
MKAR	Makanchi Array	63.62	327	P		P	22 25 06.3	-0.5
0.5nm,0.9s,mb3.4,baz=120,slow=8.5,SNR=4.4								

*NIED **16** 22:20:00, 4680N×15280E, h5km, Mw3.8 Best double couple: M0:6.52000×10^14 NP1:φ=217.00000°, δ=77.00000°, λ=142.00000°. NP2:φ=317.00000°, δ=53.00000°, λ=16.00000°.*
*IDC **16** 22:20:55.2±1.5, 4651N×15305E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.9/26, mbtmp3.9/16, ML3.4/1, MS3.5/4, Ms1 3.5/4, ms1mx2.9/53, Error ellipse: s-maj=43.3km s-min=18.8km az=166.0*
*NEIC **16** 22:20:55.9±1.2, 4634N×15306E, h10km, mb4.5/3, Error ellipse: s-maj=33.1km s-min=14.3km az=175.0*
*ISCJB **16** 22:20:57.8±0.7, 462N±0.1×1530E±0.1, h35km, mb4.0/21, MS3.7/3, Error ellipse: s-maj=18.4km s-min=4.3km az=109.4*
*MOS **16** 22:20:57.8±0.9, 4633N×15291E, h35km, mb4.2/13, Error ellipse: s-maj=14.1km s-min=11.6km az=73.3*

ISC 16 22:20:59.7±0.7, 463N±01×1530E±01, h35km, n67, σ1$33/76, mb4.0/21, MS3.7/3, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.74	255	⇑iPN		Pn	22 21 53.0	-1.9
KUR				eS		Sn	22 22 37.5	-0.2
KUR					pmax	pmax		
comp=N,80nm,0.5s								
KUR					pmax	pmax		
comp=Z,230nm,0.5s								
KUR					smax			
comp=N,150nm,0.6s								
KUR					smax			
comp=E,110nm,0.6s								
SKR	Severo-Kuril's	4.86	24	ePN		Pn	22 22 10.4	+0.1
SKR					pmax	pmax		
comp=N,60nm,0.5s								
SKR					pmax	pmax		
comp=Z,60nm,0.5s								
YUK	Yuzh-Kuril'sk	5.52	248	⇑iPN		Pn	22 22 18.3	-1.2
YUK				eS		Sn	22 23 22.5	+0.8
YUK					pmax	pmax		
comp=Z,180nm,0.4s								
YUK					pmax	pmax		
comp=E,120nm,0.4s								
YUK					smax			
comp=N,280nm,0.6s								
YUK					smax			
comp=E,140nm,0.4s								
NEM2	Nemuro 2	5.93	243	P		Pn	22 22 23.4	-1.6
NEM2				eS		Sn	22 23 28.0	-3.7
JRA	Rausu	6.05	250	P		Pn	22 22 27.4	+0.8
JNK	Nakash	6.46	248	P		Pn	22 22 32.6	+0.2
JNK				eS		Sn	22 23 44.9	0.0
JAK	Akkeshi	6.77	244	P		Pn	22 22 35.1	-1.5
JAK				eS		Sn	22 23 48.0	-4.5
JTKR	Abashiri--Toko	6.83	253	P		Pn	22 22 38.5	+1.1
JMP	Maruseppu	7.18	255	P		Pn	22 22 42.7	+0.5
JAR	Ashorobuto	7.21	249	P		Pn	22 22 43.1	+0.5
JAR				eS		Sn	22 24 02.5	-0.8
JOB	Onbets	7.36	246	P		Pn	22 22 45.3	+0.6
JOB				eS		Sn	22 24 04.8	-2.2
JKK2	Kamakawa 2	7.64	255	P		Pn	22 22 50.4	+1.9
ASAJ	Asahikawa	7.66	257	Pn		Pn	22 22 50.6	+1.9
comp=E,0.6nm,0.3s,baz=83,slow=16,SNR=3.4								
ASAJ					LR	LR	22 25 49.5	
comp=E,76nm,18.2s,baz=2.8,slow=38								
JCH	Churui	7.81	245	P		Pn	22 22 50.3	-0.5
JCH				eS		Sn	22 24 13.5	-4.5
JFR	Furan	8.04	251	P		Pn	22 22 56.2	+2.2
ERM	Erimo	8.26	242	iPN		Pn	22 22 58.3	+1.3
JBT2	Biratori 2	8.37	249	P		Pn	22 22 59.1	+0.6
JBT2				eS		Sn	22 24 27.9	-3.7
JNBK	Urakawa-nobuka	8.37	245	eS		Sn	22 24 26.9	-4.8
JKB	Kayabe	9.66	247	P		Pn	22 23 14.7	-1.6
JKB				eS		Sn	22 24 56.3	-7.2
JANG	Nango	10.24	239	P		Pn	22 23 20.5	-3.6
JANG				eS		Sn	22 25 06.9	-11
KSRS	Korea Array	20.58	254	P		P	22 25 37.9	+2.3
comp=E,1.9nm,0.8s,baz=58,slow=10,SNR=4.0								
YAK	Yakutsk	20.66	328	iP		P	22 25 36.9	+0.5
YAK					pmax	pmax		
comp=Z,3.0nm,0.3s								
YAK	Yakutsk	20.66	328	eP		P	22 25 36.5	+0.2
comp=Z,9.2nm,0.7s								
SONM	Songino Array	31.41	290	P		P	22 27 17.0	-0.4
comp=Z,0.2nm,0.7s,mb3.1,baz=90,slow=5.8,SNR=3.1								
SONM					LR	LR	22 40 60.0	
comp=Z,38nm,19.8s,MS3.1,baz=67,slow=38								
LZH	Lanzhou	37.82	272	eP		P	22 28 15.0	+2.2
LZH					*SP	sP	22 28 23.0	-4.2
LZH					pmax	pmax		
comp=Z,19nm,1.0s,mb4.8								
LZH	Lanzhou	37.82	272	eP		P	22 28 15.0	+2.2
comp=Z,19nm,1.0s,mb4.8								
LZH					pP	pP	22 28 20.5	-2.5
LZH					sP	sP	22 28 23.0	-4.2
INK	Inuvik	42.08	32	P		P	22 28 47.4	-0.8
comp=Z,1.1nm,0.7s,mb3.6,baz=285,slow=6.2,SNR=4.1								
INK	Inuvik	42.08	32	P		P	22 28 47.4	-0.8
INK					pmax	pmax		
comp=Z,1.0nm,0.7s								
MKAR	Makanchi Array	47.07	298	P		P	22 29 26.0	-2.0
comp=Z,1.2nm,0.8s,mb3.9,baz=64,slow=8.5,SNR=7.8								
MKAR					PcP	PcP	22 30 59.8	+0.2
comp=Z,0.2nm,0.6s,baz=71,slow=5.7,SNR=2.6								
MKAR	Makanchi Array	47.07	298	iP		P	22 29 27.7	-0.3
MKAR					pmax	pmax		
comp=Z,1.0nm,0.8s								
MKAR	Makanchi Array	47.07	298	P		P	22 29 26.0	-2.0
MKAR					PcP	PcP	22 30 59.8	+0.2
KURK	Kurchatov	47.54	304	⇑eP		P	22 29 30.5	-1.2
CHKZ	Chkalovo	50.66	310	eP		P	22 29 53.6	-1.9
CHKZ					pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.5								
CHKZ	Chkalovo	50.66	310	eP		P	22 29 53.6	-1.9
comp=Z,2.6nm,0.5s,mb4.4								
YKA	Yellowknife Ar	51.34	36	P		P	22 30 00.3	-0.3
comp=Z,0.5nm,0.7s,mb3.5,baz=298,slow=6.8,SNR=6.2								
YKA	Yelloknife Ar	51.34	36	P		P	22 30 00.3	-0.3
YKA					pmax	pmax		
comp=Z,1.0nm,0.7s								
YKA	Yellowknife Ar	51.34	36	P		P	22 30 00.3	-0.3
AAK	Ala-Archa	53.96	297	iP		P	22 30 19.5	-0.5
AAK					pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.0								
GUN	Gumba	54.95	275	eP		P	22 30 30.3	+3.1
KKN	Kakani	55.44	276	eP		P	22 30 32.8	+2.0
DMN	Daman	55.68	275	eP		P	22 30 35.1	+2.7
GKN	Gorkha	55.76	276	eP		P	22 30 34.5	+1.5
comp=Z,10nm,0.8s,mb4.9								
KOLN	Koldanda	56.62	277	eP		P	22 30 40.9	+1.8
comp=Z,7.8nm,0.8s,mb4.8								
ARCES	ARCESS Array B	58.25	341	P		P	22 30 48.7	-1.9
comp=Z,3.2nm,0.8s,mb4.4,baz=23,slow=7.2,SNR=3.7								
ARCES	ARCESS Array B	58.25	341	P		P	22 30 48.7	-2.0
ARCES					pmax	pmax		
comp=Z,3.0nm,0.9s								
ARCES	ARCESS Array B	58.25	341	P		P	22 30 48.7	-1.9
AKTO	Aktyubinsk	58.96	312	LR		LR	22 59 07.8	
comp=Z,63nm,18.9s,MS3.8,baz=242,slow=39								
JOF	Joensuu	61.70	334	ep		P	22 31 10.2	-4.1
comp=Z,0.4nm,0.3s,mb4.0								
NVAR	Mina Array Bea	62.72	62	P		P	22 31 20.1	-1.0
comp=Z,0

ISC 16 22:27:15.3±1.0, 157S±03×1735W±02, h35km, n78, σ1$03/19, mb4.2/11, MS3.8/8, 8C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**43**	**Pn**	**Pn**	**22 27 49.4**	**-3.3**
	50nm,0.3s,baz=115,slow=0.4,SNR=34						
AFI				Sn	**Sn**	**22 28 15.8**	**-5.6**
	102nm,0.3s,baz=63,slow=23,SNR=9.8						
AFI				LR	LR	22 28 51.8	
	comp=Z,680nm,21.5s,baz=286,slow=38						
AFI	**Afiamalu**	**2.45**	**43**	*e*Pn	**Pn**	**22 27 49.1**	**-3.7**
AFI				*e*Sn	**Sn**	**22 28 20.1**	**-1.4**
DZM	**Mont Dzumac**	**20.00**	**249**	LR	LR	22 37 56.8	
	comp=Z,119nm,21.3s,baz=64,slow=32						
PAE	**Paea**	**22.98**	**98**	*e*T		22 55 38.8	
	13nm,0.3s						
PPT	**Papeete**	**22.98**	**98**	*e*LR	LR	22 37 42.2	
	137nm,25.5s						
PPT	**Papeete**	**22.98**	**98**	LR	LR	22 39 05.6	
	comp=Z,36nm,19.6s,MS2.8,baz=188,slow=32						
TBI	**Tubuai**	**23.85**	**112**	*e*LR	LR	22 37 58.2	
	175nm,25.5s						
TBI	**Tubuai**	**23.85**	**112**	*e*T		22 56 22.0	
	10nm,0.4s						
HNR	**Honiara**	**26.66**	**280**	LR	LR	22 41 59.0	
	comp=Z,245nm,21.1s,MS3.7,baz=180,slow=33						
RKT	**Rikitea**	**36.97**	**108**	*e*LR	LR	22 44 05.4	
	101nm,26.2s						
RKT	**Rikitea**	**36.97**	**108**	*e*T		23 12 51.2	
	3.7nm,0.3s						
STKA	**Stephens Creek**	**43.80**	**240**	*e*P	**P**	**22 35 16.7**	**-0.9**
	3.4nm,1.3s,mb3.9						
STKA	**Stephens Creek**	**43.80**	**240**	P	**P**	**22 35 16.5**	**-1.1**
	1.0nm,0.5s,mb3.8,baz=89,slow=9.0,SNR=4.8						
WB2	**Warramunga Arr**	**49.68**	**257**	*e*P	**P**	**22 36 03.9**	**+0.3**
WRA	**Warramunga Arr**	**49.69**	**257**	P	**P**	**22 36 03.2**	**-0.5**
	1.6nm,0.6s,mb4.2,baz=92,slow=6.9,SNR=31						
WRA				PcP	PcP	22 37 25.1	+0.6
	0.7nm,0.7s,baz=91,slow=3.7,SNR=5.2						
ASAR	**Alice Springs**	**49.93**	**252**	P	**P**	**22 36 04.9**	**-0.6**
	3.3nm,0.5s,mb4.7,baz=90,slow=7.9,SNR=29						
KAKA	**Kakadu**	**52.39**	**266**	*e*P	**P**	**22 36 23.7**	**-0.3**
	3.8nm,0.7s,mb4.4						
VNDA	**Vanda**	**63.04**	**186**	LR	LR	22 59 05.0	
	comp=Z,96nm,19.7s,MS4.0,baz=133,slow=31						
YBH	**Yreka Blue Hor**	**73.91**	**37**	P	**P**	**22 38 48.4**	**+1.7**
	4.2nm,0.9s,mb4.4,baz=104,slow=3.6,SNR=7.7						
YBH				LR	LR	23 02 08.1	
	comp=Z,119nm,21.8s,MS4.1,baz=62,slow=28						
NVAR	**Mina Array Bea**	**74.63**	**42**	P	**P**	**22 38 51.8**	**+0.9**
	2.6nm,0.8s,mb4.2,baz=226,slow=8.8,SNR=15						
KSRS	**Korea Array**	**76.34**	**316**	LR	LR	23 07 27.3	
	comp=Z,26nm,19.9s,MS3.5,baz=125,slow=32						
TXAR	**Lajitas Array**	**80.86**	**56**	P	**P**	**22 39 25.6**	**0.0**
	0.9nm,0.9s,mb3.7,baz=232,slow=7.7,SNR=7.2						
PDAR	**Pinedale Array**	**82.56**	**42**	P	**P**	**22 39 34.8**	**+0.2**
	2.7nm,0.8s,mb4.3,baz=227,slow=3.5,SNR=8.4						
PDAR				LR	LR	23 08 45.2	
	comp=Z,70nm,20.9s,MS4.0,baz=339,slow=30						
MAW	**Mawson**	**87.46**	**199**	LR	LR	23 14 44.6	
	comp=Z,99nm,21.7s,MS4.2,baz=65,slow=33						
INK	**Inuvik**	**88.61**	**14**	P	**P**	**22 40 04.7**	**+0.1**
	0.6nm,0.8s,mb4.0,baz=198,slow=9.7,SNR=3.2						
INK	**Inuvik**	**88.61**	**14**	P	**P**	**22 40 04.7**	**+0.1**
YKA	**Yellowknife Ar**	**90.43**	**23**	P	**P**	**22 40 12.5**	**-0.6**
	0.9nm,0.9s,mb4.1,baz=235,slow=4.0,SNR=9.1						
YKA	**Yellowknife Ar**	**90.43**	**23**	P	**P**	**22 40 12.5**	**-0.6**
SONM	**Songino Array**	**95.03**	**318**	P	**P**	**22 40 36.4**	**+2.0**
	0.3nm,0.7s,mb3.9,baz=118,slow=4.3,SNR=4.1						
SONM				LR	LR	23 17 08.2	
	comp=Z,53nm,20.5s,MS4.0,baz=304,slow=31						
FINES	**FINESS Array B**	**132.25**	**347**	PKP	PKPdf	22 46 23.4	-2.1
	1.4nm,0.8s,baz=123,slow=7.0,SNR=4.4						
OJC	**Ojcow**	**143.96**	**345**	*e*PX		22 46 46.2	
CLL	**Collm**	**144.13**	**353**	*i* PKPdf	PKPdf	22 46 46.7	-0.5
	comp=Z,3.0nm,0.7s						
STHS	**Stebnicka Huta**	**144.32**	**343**	*e*PKP	PKPdf	22 46 48.2	+0.6
BRG	**Berggiesshubel**	**144.44**	**352**	*e*(P)	PKPdf	22 46 47.4	-0.4
	comp=Z,1.0nm,0.8s						
KOLS	**Kolonicke sedl**	**144.46**	**342**	*e*PKP	PKPdf	22 46 47.9	+0.1
NIE	**Niedzica**	**144.57**	**344**	*e*PX		22 46 49.0	
DPC	**Dobruska-Polom**	**144.57**	**349**	*e*PKP	PKPdf	22 46 48.5	+0.5
DPC				*ep*PKP	pPKPdf	22 47 04.6	+5.1
BURAR	**Bucovina Array**	**144.64**	**338**	⇑*i*P	PKPdf	22 46 48.8	+0.7
PVCC	**Panska Ves**	**144.69**	**351**	*e*PKP	PKPdf	22 46 50.2	+2.0
OKC	**Ostrava-Krasne**	**144.69**	**347**	*e*PKP	PKPdf	22 46 48.5	+0.3
MORC	**Moravsky Berou**	**144.88**	**348**	⇑*i*P	PKPdf	22 46 48.5	0.0
PRU	**Pruhonice**	**145.22**	**351**	*e*PKP	PKPdf	22 46 50.5	+1.4
NKC	**Novy Kostel**	**145.25**	**353**	*e*PKP	PKPdf	22 46 50.3	+1.1
NKC				*ep*PKP	pPKPdf	22 47 06.3	+5.7
KMBO	**Kilima Mbogo**	**145.32**	**244**	PKPbc	PKPbc	22 46 50.5	+1.4
	comp=Z,1.2nm,0.8s,baz=48,slow=22,SNR=4.0						
KECS	**Kecovo**	**145.38**	**344**	*e*PKP	PKPdf	22 46 51.4	+2.0
KECS				*e*		22 47 03.9	
GIVF	**Givet**	**145.69**	**2**	*e*PKP1	PKPbc	22 46 50.6	+0.3
BAIF	**Baives**	**145.71**	**3**	*e*PKP1	PKPbc	22 46 50.8	+0.4
KHC	**Kasperske Hory**	**146.19**	**352**	*e*PKP	PKPdf	22 46 53.3	+2.5
KHC				*ep*PKP	pPKPdf	22 47 09.5	+7.2
DRGR		**146.22**	**340**	⇑*i*P	PKPdf	22 46 53.3	+2.5
BRTR	**Keskin Array B**	**146.36**	**321**	PKPbc	PKPbc	22 46 54.1	+1.8
	comp=Z,5.0nm,0.8s,baz=108,slow=2.8,SNR=34						
GERES	**GERESS Array B**	**146.46**	**351**	PKPbc	PKPbc	22 46 53.8	+1.2
	comp=Z,2.4nm,0.8s,baz=27,slow=3.3,SNR=19						
VOIR		**146.53**	**336**	⇓*i*P	PKPbc	22 46 55.2	+2.3
PSN	**Preselentsi**	**146.59**	**331**	*i* P	PKPbc	22 46 56.5	+3.5
ANTO	**Ankara**	**146.78**	**322**	⇑*i*P	PKPbc	22 46 55.6	+2.0
CONA	**Conrad Observa**	**146.98**	**348**	⇑*i*PKPab	PKPab	22 46 55.6	0.0
	comp=Z,5.5nm,0.8s						
MOA	**Molln**	**147.34**	**350**	⇑*i*P	PKPbc	22 46 56.4	+1.2
	comp=Z,4.6nm,0.8s						
CDF	**Champ du Feu**	**147.40**	**359**	*e*PKP1	PKPbc	22 46 55.9	+0.6
	comp=Z,15nm,1.1s						
GZR	**Gura Zlata**	**147.42**	**339**	⇓*i*P	PKPbc	22 46 57.2	+1.8
BZS	**Buzias**	**147.62**	**340**	⇓*i*P	PKPbc	22 46 57.2	+1.3
HAU	**Haudompre**	**147.82**	**0**	*e*PKP1	PKPbc	22 46 56.9	+0.5
	comp=Z,17nm,1.1s						
SZH	**Strazhica**	**147.94**	**333**	*i* P	PKPbc	22 46 59.0	+2.2
WTTA	**Wattenberg**	**148.27**	**353**	⇓*i*P	PKPbc	22 46 59.2	+1.5
	comp=Z,7.2nm,0.6s						
LOR	**Lormes**	**148.48**	**3**	*e*PKP1	PKPbc	22 46 57.7	-0.5
	comp=Z,8.2nm,1.0s						
SSF	**Saint Saulge**	**148.66**	**4**	*e*PKP1	PKPbc	22 46 58.2	-0.5
	comp=Z,18nm,1.3s						
ABTA	**Abfaltersbach**	**148.67**	**352**	⇑*i*PKPbc	PKPbc	22 46 59.1	+0.4
	comp=Z,7.0nm,0.7s						
AVF	**Avril sur Loir**	**148.92**	**4**	*e*PKP1	PKPbc	22 46 59.3	0.0
	comp=Z,30nm,1.6s						
CABF	**La Chapelle**	**149.21**	**1**	*e*PKP1	PKPbc	22 47 01.1	+1.1
	comp=Z,94nm,1.6s						
PGB	**Panagyurishte**	**149.28**	**334**	*i* P	PKPbc	22 47 01.1	+0.9
KDZ	**Kurdzhali**	**149.45**	**331**	*i* P	PKPbc	22 47 02.1	+1.5
VTS	**Vitosha**	**149.64**	**335**	*i* P	PKPbc	22 47 02.1	+1.0
VTS	**Vitosha**	**149.64**	**335**	⇑*i*P	PKPbc	22 47 02.3	+1.2
RZN	**Rozhen**	**149.74**	**332**	*i* P	PKPbc	22 47 02.9	+1.6
MMB	**Musomiste**	**150.25**	**333**	*i* P	PKPbc	22 47 04.1	+1.5
KKB	**Krupnik**	**150.29**	**335**	*i* P	PKPbc	22 47 04.1	+1.4
LPL	**La Plagne**	**150.31**	**360**	*e*PKP1	PKPbc	22 47 03.3	+0.6
	comp=Z,16nm,1.1s						
LPG	**La Plagne**	**150.32**	**360**	*e*PKP1	PKPbc	22 47 03.4	+0.6
ORIF	**Oris-en-Rattie**	**150.90**	**1**	*e*PKP1	PKPbc	22 47 04.2	+0.1
	comp=Z,21nm,1.2s						
MBDF	**Montbardon**	**151.10**	**360**	*e*PKP1	PKPbc	22 47 05.4	+0.8

NIED ***16*** *22:46:00, 46.80N×153.20E, h32km, Mw4.0 Best double couple: M0=1.24000×10^15 NP1:φs=308.00000°, δ85.00000°, λ18.00000°. NP2:φs=216.00000°, δ72.00000°, λ174.00000°.*
IDC ***16*** *22:46:35.2±0.7, 46.99N×152.78E, h0km, mb4.2/18, mb1 4.4/18, mb1mx4.2/27, mbtmp4.2/18, MS3.2/3, Ms1 3.2/3, ms1mx2.7/29, Error ellipse: s-maj=19.8km s-min=18.3km az=153.0*
SKHL ***16*** *22:46:36.6±2.2, 46.50N×153.80E, h51km±2km, mb5.5/1*
NEIC ***16*** *22:46:37.7±0.6, 47.18N×152.92E, h10km, mb4.6/2, Error ellipse: s-maj=18.9km s-min=11.5km az=134.0*
JMA ***16*** *22:46:40.6±0.8, 46.85N×153.23E, h30km, M4.3*
ISCJB ***16*** *22:46:41.1±0.9, 46.93N±0.08×152.97E±0.10, h55km±8km, mb4.2/22, MS3.3/2, Error ellipse: s-maj=16.2km s-min=6.7km az=103.9*
MOS ***16*** *22:46:41.5±1.2, 46.96N×152.94E, h59km, mb4.5/13, Error ellipse: s-maj=13.8km s-min=9.2km az=68.5*

ISC 16 22:46:42.8±0.7, 4701N±007×1530E±01, h53km±6km, n79, σ1$18/92, mb4.2/22, MS3.3/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**245**	*e*PN	**Pn**	**22 47 38.2**	**-3.0**
KUR				*e*S	**Sn**	**22 48 26.5**	**0.0**
KUR				pmax	pmax		
	comp=Z,210nm,0.9s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,320nm,0.8s						
SKR	**Severo-Kuril's**	**4.22**	**28**	*e*PN	**Pn**	**22 47 45.5**	**+1.0**
SKR				*e*S	**Sn**	**22 48 31.0**	**-1.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,140nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**242**	*e*PN	**Pn**	**22 48 05.1**	**-1.4**
YUK				*e*S	**Sn**	**22 49 11.5**	**-0.3**
YUK				pmax	pmax		
	comp=Z,190nm,0.4s						
YUK				smax			
	comp=N,1μm,0.9s						
YUK				smax			
	comp=E,180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**242**	*e*P	**Pn**	**22 48 05.1**	**-1.4**
YUK				AMB	AMB	22 48 11.0	
	comp=E,190nm,0.4s						
YUK				*e*S	**Sn**	**22 49 11.5**	**-0.3**
YUK				A		22 49 31.5	
	comp=E,1μm,0.9s						
YUK				A		22 49 31.5	
	comp=E,180nm,0.9s						
NEM2	**Nemuro 2**	**6.28**	**237**	P	**Pn**	**22 48 10.7**	**-2.1**
NEM2				*e*S	**Sn**	**22 49 17.8**	**-5.4**
JRA	**Rausu**	**6.32**	**244**	P	**Pn**	**22 48 15.2**	**+1.9**
JRA				*e*S	**Sn**	**22 49 26.4**	**+2.2**
JNK	**Nakash**	**6.76**	**243**	P	**Pn**	**22 48 19.6**	**+0.3**
JNK				*e*S	**Sn**	**22 49 34.1**	**-0.8**
YSS	**Yuzh-Sakhalins**	**7.00**	**273**	*e*P	**Pn**	**22 48 26.0**	**+3.4**
JTKR	**Abashiri--Toko**	**7.06**	**248**	P	**Pn**	**22 48 25.5**	**+2.0**
JAK	**Akkeshi**	**7.11**	**239**	P	**Pn**	**22 48 22.1**	**-2.1**
JAK				*e*S	**Sn**	**22 49 38.1**	**-5.5**
JMP	**Maruseppu**	**7.39**	**250**	P	**Pn**	**22 48 30.5**	**+2.4**
JAR	**Ashorobuto**	**7.49**	**244**	P	**Pn**	**22 48 29.8**	**+0.4**
JAR				*e*S	**Sn**	**22 49 52.2**	**-0.8**
JOB	**Onbets**	**7.68**	**241**	P	**Pn**	**22 48 31.3**	**-0.6**
JOB				*e*S	**Sn**	**22 49 53.1**	**-4.3**
ASAJ	**Asahikawa**	**7.84**	**252**	Pn	**Pn**	**22 48 36.6**	**+2.5**
	comp=E,1.1nm,0.3s,baz=59,slow=11,SNR=12						
ASAJ				LR	LR	22 51 23.5	
	comp=E,94nm,19.8s,baz=44,slow=37						
ASAJ	**Asahikawa**	**7.84**	**252**	P	**Pn**	**22 48 37.7**	**+3.5**
JKK2	**Kamakawa 2**	**7.85**	**250**	P	**Pn**	**22 48 36.4**	**+2.1**
JCH	**Churui**	**8.13**	**241**	P	**Pn**	**22 48 37.2**	**-0.9**
JCH				*e*S	**Sn**	**22 50 02.6**	**-5.9**
JFR	**Furan**	**8.29**	**246**	P	**Pn**	**22 48 42.8**	**+2.4**
JEM	**Erimo**	**8.61**	**238**	P	**Pn**	**22 48 44.3**	**-0.4**
ERM	**Erimo**	**8.61**	**238**	*e*PN	**Pn**	**22 48 45.2**	**+0.5**
ERM				pmax	pmax		
	comp=Z,33nm,0.6s						
ERM	**Erimo**	**8.61**	**238**	*e*Pn	**Pn**	**22 48 45.2**	**+0.5**
	comp=Z,33nm,0.6s						
ERM				*e*Sn	**Sn**	**22 50 15.2**	**-5.2**
JBT2	**Biratori 2**	**8.64**	**245**	P	**Pn**	**22 48 44.7**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.69**	**241**	P	**Pn**	**22 48 44.8**	**-1.0**
JNBK				*e*S	**Sn**	**22 50 16.0**	**-6.3**
JNB	**Noboribetsu**	**9.63**	**246**	P	**Pn**	**22 48 58.4**	**-0.3**
JKB	**Kayabe**	**9.96**	**243**	P	**Pn**	**22 48 59.3**	**-3.8**
JKB				*e*S	**Sn**	**22 50 45.5**	**-7.9**
JANG	**Nango**	**10.62**	**235**	P	**Pn**	**22 49 07.9**	**-4.3**
JANG				*e*S	**Sn**	**22 50 56.6**	**-13**
MJAR	**Matsushiro Arr**	**15.17**	**232**	Pn	**Pn**	**22 50 14.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=35,slow=9.7,SNR=8.2						
YAK	**Yakutsk**	**20.05**	**327**	*i* P	**P**	**22 51 12.7**	**+1.2**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSRS	**Korea Array**	**20.79**	**252**	P	**P**	**22 51 20.8**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=63,slow=9.7,SNR=5.9						
BILL	**Bilibino**	**22.16**	**13**	*e*P	**P**	**22 51 35.0**	**+0.9**
INK	**Inuvik**	**41.48**	**33**	P	**P**	**22 54 24.6**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.0,baz=297,slow=5.6,SNR=15						
INK	**Inuvik**	**41.48**	**33**	P	**P**	**22 54 24.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAL	**Zalesovo**	**42.40**	**306**	LR	LR	23 13 17.6	
	comp=Z,39nm,19.5s,MS3.3,baz=269,slow=38						
MKAR	**Makanchi Array**	**46.74**	**297**	P	**P**	**22 55 05.0**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=68,slow=7.4,SNR=7.2						
MKAR				PcP	PcP	22 56 38.6	-0.7
	comp=Z,0.5nm,0.7s,baz=70,slow=3.3,SNR=5.9						
MKAR	**Makanchi Array**	**46.74**	**297**	P	**P**	**22 55 05.0**	**-1.6**
MKAR				PcP	PcP	22 56 38.6	-0.7
KURK	**Kurchatov**	**47.14**	**303**	*i* P	**P**	**22 55 09.6**	**-0.1**
BVAR	**Borovoye Array**	**50.62**	**309**	PcP	PcP	22 56 52.9	-0.5
	comp=Z,1.0nm,0.5s,baz=35,slow=5.3,SNR=4.5						
BVAR				LR	LR	23 20 03.8	
	comp=Z,33nm,19.2s,MS3.4,baz=244,slow=40						
YKA	**Yellowknife Ar**	**50.77**	**37**	P	**P**	**22 55 37.3**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=296,slow=7.2,SNR=12						
YKA				PcP	PcP	22 56 53.1	-0.7
	comp=Z,0.5nm,0.7s,baz=296,slow=3.9,SNR=5.7						
YKA	**Yellowknife Ar**	**50.77**	**37**	P	**P**	**22 55 37.3**	**-0.2**
YKA						22 56 53.1	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.77**	**37**	P	**P**	**22 55 37.3**	**-0.2**
YKA				PcP	PcP	22 56 53.1	-0.7
KKN	**Kakani**	**55.37**	**275**	*e*P	**P**	**22 56 12.0**	**+0.6**
	comp=Z,11nm,0.8s,mb5.0						
PKI	**Pulchoki**	**55.42**	**275**	*e*P	**P**	**22 56 12.4**	**+0.7**
DMN	**Daman**	**55.61**	**275**	*e*P	**P**	**22 56 14.1**	**+1.1**
GKN	**Gorkha**	**55.67**	**276**	*e*P	**P**	**22 56 14.1**	**+0.6**
KOLN	**Koldanda**	**56.53**	**276**	*e*P	**P**	**22 56 20.4**	**+0.8**
ARCES	**ARCESS Array B**	**57.58**	**341**	P	**P**	**22 56 26.7**	**-0.3**
	comp=Z,6.4nm,0.9s,mb4.6,baz=30,slow=7.4,SNR=3.7						
ARCES	**ARCESS Array B**	**57.58**	**341**	P	**P**	**22 56 26.7**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JOF	**Joensuu**	**61.06**	**334**	*ep*	**P**	**22 56 50.4**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.7						
BOZ	**Bozeman (W)**	**61.67**	**53**	*e*P	**P**	**22 56 56.2**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.7						
BOZ	**Bozeman (W)**	**61.67**	**53**	*e*P	**P**	**22 56 56.2**	**+1.0**
	comp=Z,2.0nm,0.3s,mb4.7						
NVAR	**Mina Array Bea**	**62.39**	**62**	P	**P**	**22 57 00.5**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=296,slow=8.3,SNR=6.2						
KAF	**Kangasniemi**	**63.17**	**335**	*ep*	**P**	**22 57 01.3**	**-3.9**
	comp=Z,2.2nm,0.7s,mb4.4						
KAF	**Kangasniemi**	**63.17**	**335**	*e*P	**P**	**22 57 01.3**	**-3.9**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**22 57 07.6**	**-1.6**
	comp=Z,2.2nm,0.6s,mb4.3,baz=36,slow=7.4,SNR=15						
FINES	**FINESS Array B**	**63.76**	**335**	*e*P	**P**	**22 57 08.1**	**-1.0**
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**22 57 07.6**	**-1.6**
PDAR	**Pinedale Array**	**64.67**	**54**	P	**P**	**22 57 15.9**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=292,slow=2.0,SNR=11						
NB2	**NORSAR Subarra**	**67.95**	**341**	P	**P**	**22 57 35.1**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.4,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**22 57 35.4**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.6,baz=27,slow=6.3,SNR=11						
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**22 57 35.4**	**-0.7**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS	**Hagfors**	**68.18**	**339**	P	**P**	**22 57 36.7**	**-0.8**
	comp=Z,5.3nm,0.5s,mb4.8,baz=64,slow=6.8,SNR=26						
HFS	**Hagfors**	**68.18**	**339**	P	**P**	**22 57 36.7**	**-0.8**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRA	**Warramunga Arr**	**68.73**	**199**	P	**P**	**22 57 39.8**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=15,slow=6.1,SNR=3.8						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**22 57 55.5**	**-1.1**
	comp=Z,3.2nm,0.4s,mb4.6,baz=35,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**22 57 55.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR	**Alice Springs**	**72.43**	**198**	P	**P**	**22 58 03.6**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=9.9,slow=5.3,SNR=7.2						
ASAR	**Alice Springs**	**72.43**	**198**	P	**P**	**22 58 03.6**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DPC	**Dobruska-Polom**	**76.05**	**333**	*e*P	**P**	**22 58 26.1**	**+1.6**
MLR	**Muntele Rosu**	**76.80**	**325**	P	**P**	**22 58 28.7**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.3,baz=283,slow=5.9,SNR=3.8						
MLR	**Muntele Rosu**	**76.80**	**325**	P	**P**	**22 58 28.7**	**-0.1**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VRAC	**Vranov**	**76.88**	**332**	P	**P**	**22 58 28.9**	**-0.3**
	comp=Z,0.7nm,0.3s,mb4.1,baz=51,slow=6.1,SNR=5.1						
VRAC	**Vranov**	**76.88**	**332**	P	**P**	**22 58 28.9**	**-0.3**
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**22 58 33.0**	**+0.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=299,slow=4.9,SNR=23						
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**22 58 33.0**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	**Kasperske Hory**	**77.96**	**334**	*e*P	**P**	**22 58 34.8**	**-0.5**
GERES	**GERESS Array B**	**78.18**	**334**	P	**P**	**22 58 35.7**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=42,slow=7.1,SNR=8.6						
GERES	**GERESS Array B**	**78.18**	**334**	P	**P**	**22 58 35.7**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MMAI	**Mount Meron Ar**	**82.57**	**311**	P	**P**	**22 59 00.6**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.4,baz=28,slow=6.0,SNR=6.9						
IDI	**Anoyia**	**85.76**	**320**	P	**P**	**22 59 14.5**	**-1.8**
	comp=Z,1.5nm,0.5s,mb4.5,baz=227,slow=17,SNR=5.9						

ISCJB ***16*** *22:55:04.5±2.1, 60S±0.1×1482E±0.1, h43km±18km, mb4.2/6, Error ellipse: s-maj=22.3km s-min=13.7km az=75.5*
NEIC ***16*** *22:55:05.1±0.9, 592S×14826E, h35km, mb4.1/2, Error ellipse: s-maj=15.5km s-min=14.5km az=122.0*
IDC ***16*** *22:55:10.2±2.3, 6.17S×14826E, h76km±19km, mb3.9/5, mb1 4.1/7, mb1mx3.7/15, mbtmp3.9/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/21, Error ellipse: s-maj=29.7km s-min=13.8km az=120.0*

ISC 16 22:55:08.9±1.7, 61S±01×1482E±01, h64km±14km, n15, σ1$03/18, mb4.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**196**	P	**Pn**	**22 56 00.8**	**+0.6**
	18nm,0.3s,baz=7.3,slow=6.1,SNR=49						
PMG				S	**Sn**	**22 56 40.7**	**+0.7**
	67nm,0.3s,baz=16,slow=17,SNR=16						
PMG	**Port Moresby**	**3.46**	**196**	*e*Pn	**Pn**	**22 55 59.9**	**-0.3**
PMG				*e*Sn	**Sn**	**22 56 40.9**	**+0.9**
HNR	**Honiara**	**12.15**	**107**	LR	LR	23 01 45.7	
	comp=Z,60nm,18.2s,baz=1.0,slow=33						
KAKA	**Kakadu**	**16.84**	**246**	*e*P	**Pn**	**22 58 59.9**	**-0.4**
	6.0nm,0.3s						
WB2	**Warramunga Arr**	**19.24**	**223**	*e*P	**Pn**	**22 59 28.0**	**-1.4**
WB2				*e*S	**S**	**23 02 59.4**	**-2.9**
WRA	**Warramunga Arr**	**19.25**	**223**	P	**Pn**	**22 59 28.2**	**-1.3**
	1.1nm,0.3s,baz=49,slow=10,SNR=57						
WRA				S	**S**	**23 03 02.9**	**+0.5**
	0.1nm,0.3s,baz=53,slow=18,SNR=8.7						
ASAR	**Alice Springs**	**22.23**	**217**	P	**P**	**23 00 00.6**	**+0.5**
	4.7nm,0.6s,mb4.1,baz=51,slow=9.2,SNR=49						

SONM Songino Array 31.68 287 P **P** **23 14 56.9 -0.2**
comp=Z,0.2nm,0.4s,mb3.2,baz=61,slow=7.1,SNR=3.1
SONM LR LR 23 28 24.5
comp=Z,33nm,18.9s,baz=309,slow=38
MKAR Makanchi Array 46.97 296 P **P** **23 17 04.0 -0.1**
comp=Z,0.4nm,0.5s,mb3.4,baz=61,slow=7.1,SNR=8.9
BVAR Borovoye Array 50.43 309 P **P** **23 17 31.0 +0.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=51,slow=9.2,SNR=4.5
BVAR Borovoye Array 50.43 309 P **P** **23 17 31.0 +0.4**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 70.64 200 P **P** **23 19 47.6 -0.4**
comp=Z,1.2nm,0.8s,mb3.8,baz=16,slow=6.3,SNR=12
WRA Warramunga Arr 70.64 200 P **P** **23 19 47.6 -0.4**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 74.33 200 P **P** **23 20 10.3 +0.4**
comp=Z,0.4nm,0.6s,mb3.4,baz=15,slow=6.1,SNR=5.7
RPZ Rata Peaks 93.11 168 LR LR 00 00 04.3
comp=Z,86nm,18.5s,baz=189,slow=33

IDC 16 23:31:41.9±1.2, 867N×7773W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML2.1/1, Error ellipse: s-maj=41.4km s-min=30.2km az=42.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**5.07**	**138**	Pn	Pn	23 32 59.9	+0.8
	1.5nm,0.3s,baz=278,slow=14,SNR=8.7						
ROSC				Sn	Sn	23 34 09.3	+11
	4.6nm,0.3s,baz=30,slow=23,SNR=5.5						
YKA	**Yellowknife Ar**	**60.02**	**341**	P	P	23 41 50.0	-0.2
	1.0nm,0.7s,baz=132,slow=7.3,SNR=17						
ESDC	**Sonseca Array**	**72.03**	**51**	P	P	23 43 08.4	+0.8
	0.5nm,0.7s,baz=272,slow=6.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**77.84**	**78**	P	P	23 43 41.8	+0.6
	0.6nm,0.5s,baz=283,slow=5.9,SNR=14						
ASAR	**Alice Springs**	**146.27**	**240**	PKPbc	PKPbc	23 51 25.2	+0.9
	0.5nm,0.7s,baz=117,slow=3.8,SNR=4.6						
WRA	**Warramunga Arr**	**147.04**	**247**	PKPbc	PKPbc	23 51 26.1	-0.4
	0.2nm,0.5s,baz=99,slow=3.2,SNR=3.2						

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*CSEM **17** 00:19:26.5, 6783N×2020E, h0km, ML2.6, Mining explosion. After UPP*
*UPP **17** 00:19:26.5, 6783N×2020E, h0km, ML2.6, Mining explosion.*
HEL 17 00:19:27.1±0.0, 6783N×2020E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	*i*P	Pg	00 19 29.4	-0.3
KUA				*i*S	Sg	00 19 31.4	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i*P	Pg	00 19 35.0	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i*P	Pg	00 19 39.9	-0.8
DUNU	**Dundret**	**0.73**	**169**	*i*P	Pg	00 19 40.0	-1.0
MASU	**Masugnsbyn**	**0.78**	**118**	*i*P	Pg	00 19 41.4	-0.7
SALU	**Saltoluokta**	**0.79**	**236**	*i*P	Pg	00 19 41.4	-0.9
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 19 49.6	-0.5
KIF				*e*S	Sg	00 20 05.3	-0.4
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	00 19 51.9	-1.8
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 19 57.4	-0.6
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	00 20 08.2	+0.6
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	00 20 08.2	+0.6
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 20 09.5	-2.5

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*ISCJB **17** 00:57:37.1±1.5, 3460N±008×2509E±005, h7km±8km, Error ellipse: s-maj=12.9km s-min=6.5km az=159.5*
*THE **17** 00:57:40.0, 3471N×2500E, h10km*
*ATH **17** 00:57:40.8, 3479N×2498E, h18km±6km, MD3.4/5*
*NEIC **17** 00:57:40.8, 3479N×2498E, h18km, MD3.4(ATH), After ATH.*
*CSEM **17** 00:57:41.3±0.4, 3479N×2502E, h2km, MD3.4, Error ellipse: s-maj=10.7km s-min=4.2km az=171.0*
ISC 17 00:57:38.3±1.5, 3463N±008×2509E±005, h15km±8km, n10, σ0°95/15, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.45**	**330**	*e*Pg	**Pg**	**00 57 46.9**	**-0.3**
SIVA				*e*Sg	**Sg**	**00 57 53.1**	**-0.2**
NPS	**Neapolis**	**0.77**	**34**	*e*PB	**Pg**	**00 57 53.2**	**0.0**
NPS				*e*SN	**Sg**	**00 58 04.3**	**+1.1**
GVD	**Gavdhos**	**0.85**	**285**	*e*Pg	**Pg**	**00 57 55.5**	**+0.8**
GVD				*e*Sg	**Sg**	**00 58 07.1**	**+1.3**
VAM	**Vamos**	**1.06**	**317**	*e*PN	**Pn**	**00 57 57.6**	**-1.1**
KARN	**Karanos**	**1.23**	**309**	*e*Pg	**Pg**	**00 58 00.4**	**-1.5**
KARN				*e*Sg	**Sg**	**00 58 17.4**	**-0.6**
THR6	**Thira Island,**	**1.74**	**8**	*e*Pb	**Pb**	**00 58 09.7**	**-0.3**
THR6				*e*Sb	**Sb**	**00 58 32.5**	**+0.8**
THR1	**Thera Island**	**1.76**	**10**	*e*Pb	**Pb**	**00 58 09.4**	**-0.9**
THR3	**Thira Island,**	**1.79**	**8**	*e*Pb	**Pb**	**00 58 10.2**	**-0.7**
KARP	**Karpathos**	**1.93**	**61**	*e*PN	**Pg**	**00 58 15.2**	**-0.2**
VLI	**Veliai**	**2.72**	**321**	*e*PN	**Pn**	**00 58 23.7**	**+2.2**

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*NEIC **17** 00:59:12.9±0.6, 1306N×1447E, h35km, Error ellipse: s-maj=34.6km s-min=10.0km az=98.0*
*ISCJB **17** 00:59:13.5±1.1, 1305N±009×1447E±03, h55km±11km, mb4.0/10, MS3.4/4, Error ellipse: s-maj=40.9km s-min=14.7km az=6.6*
*IDC **17** 00:59:13.8±1.1, 1307N×1448E, h44km±10km, mb3.7/9, mb1 3.9/9, mb1mx3.8/19, mbtmp3.7/9, MS3.4/4, Ms1 3.4/4, ms1mx2.9/22, Error ellipse: s-maj=40.0km s-min=14.7km az=93.0*
ISC 17 00:59:14.9±1.1, 1309N±009×1448E±03, h52km±10km, n19, σ0°69/14, mb4.0/10, MS3.4/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO Guam		**0.50**	**9**	P	**Pn**	**00 59 25.4**	**-0.9**
	523nm,0.3s,baz=152,slow=12,SNR=173						
GUMO				S	**Sn**	**00 59 35.2**	**+0.7**
	2μm,0.3s,baz=352,slow=14,SNR=31						
PMG	**Port Moresby**	**22.47**	**174**	LR	LR	01 10 54.5	
	comp=Z,37nm,21.7s,MS2.8,baz=46,slow=31						
MJAR	**Matsushiro Arr**	**24.09**	**347**	P	**P**	**01 04 25.5**	**0.0**
	1.3nm,0.8s,mb3.4,baz=166,slow=41,SNR=3.9						
HNR	**Honiara**	**26.96**	**145**	LR	LR	01 14 07.5	
	comp=Z,76nm,19.1s,MS3.3,baz=360,slow=33						
KSRS	**Korea Array**	**28.56**	**331**	P	**P**	**01 05 05.8**	**+0.1**
	0.8nm,0.3s,mb4.0,baz=181,slow=9.2,SNR=5.8						
WB2	**Warramunga Arr**	**34.40**	**198**	*e*P	**P**	**01 05 57.5**	**+0.5**
WRA	**Warramunga Arr**	**34.40**	**198**	P	**P**	**01 05 57.6**	**+0.6**
	4.1nm,0.9s,mb4.4,baz=21,slow=9.8,SNR=43						
ASAR	**Alice Springs**	**38.05**	**196**	P	**P**	**01 06 27.6**	**-0.6**
	0.8nm,0.6s,mb3.6,baz=24,slow=9.9,SNR=13						
STKA	**Stephens Creek**	**44.81**	**184**	P	**P**	**01 07 23.2**	**-0.3**
	0.5nm,0.3s,mb3.8,baz=37,slow=5.1,SNR=2.7						
BVAR	**Borovoye Array**	**70.27**	**322**	P	**P**	**01 10 23.2**	**+0.6**
	0.8nm,0.3s,mb4.1,baz=102,slow=8.1,SNR=6.0						
YKA	**Yellowknife Ar**	**83.34**	**27**	P	**P**	**01 11 35.2**	**-1.0**
	0.6nm,0.5s,mb3.9,baz=288,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**83.34**	**27**	P	**P**	**01 11 35.2**	**-1.0**
NVAR	**Mina Array Bea**	**87.29**	**51**	P	**P**	**01 11 57.1**	**+1.2**
	0.5nm,0.5s,mb4.0,baz=289,slow=5.6,SNR=4.5						
ARCES	**ARCESS Array B**	**87.53**	**342**	P	**P**	**01 11 52.7**	**-4.4**
	5.7nm,1.0s,mb4.8,baz=60,slow=7.2,SNR=5.2						
FINES	**FINESS Array B**	**91.58**	**335**	P	**P**	**01 12 15.4**	**-0.7**
	1.6nm,0.8s,mb4.4,baz=98,slow=3.9,SNR=5.6						
AKASG	**Malin Array Be**	**95.38**	**325**	LR	LR	01 58 29.1	
	comp=Z,39nm,20.1s,MS3.9,baz=300,slow=37						
NOA	**NORSAR Array B**	**97.49**	**339**	LR	LR	02 02 12.8	
	comp=Z,20nm,18.2s,MS3.6,baz=260,slow=39						
TORD	**Torodi Ar. Bea**	**135.08**	**304**	PKP	PKPdf	01 18 28.7	+0.4
	0.3nm,0.7s,baz=23,slow=1.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**135.08**	**304**	PKP	PKPdf	01 18 28.7	+0.4

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*ISCJB **17** 01:02:09.9±0.5, 4510N±009×9270E±009, h10km, mb3.8/13, Error ellipse: s-maj=14.3km s-min=8.0km az=42.6*
*IDC **17** 01:02:09.8±0.8, 4498N×9260E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.9/24, mbtmp3.8/13, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/26, Error ellipse: s-maj=30.1km s-min=16.0km az=31.0*
*BJI **17** 01:02:09.4, 4514N×9270E, h7km, ML4.1*
*MOS **17** 01:02:10.8±1.5, 4490N×9260E, h28km, mb4.5/1, Error ellipse: s-maj=25.8km s-min=13.0km az=132.2*
*NEIC **17** 01:02:12.4±1.7, 4519N×9259E, h10km, mb3.7/2, Error ellipse: s-maj=41.8km s-min=9.2km az=182.0*
ISC 17 01:02:13.8±2.7, 4519N±009×9269E±008, h24km±20km, n24, σ0°72/27, mb3.8/13, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.82**	**251**	P	**Pn**	**01 03 12.5**	**+1.3**
WMQ				S	**Sn**	**01 03 57.5**	**+2.2**
WMQ				SG	**Sn**	**01 04 07.5**	**+12**
WMQ				Smax			
	comp=N,580nm,0.6s						
WMQ				Smax			
	comp=E,395nm,0.7s						
MKAR	**Makanchi Array**	**7.42**	**286**	Pn	**Pn**	**01 04 00.1**	**-0.4**
	comp=E,1.2nm,0.3s,baz=100,slow=14,SNR=65						
MKAR				Lg		01 05 56.9	
	comp=E,3.4nm,0.3s,baz=94,slow=19,SNR=3.7						
GTA	**Gaotai**	**7.82**	**135**	P	**Pn**	**01 04 05.3**	**-0.8**
GTA				S	**Sn**	**01 05 28.8**	**-5.0**
GTA				SG	Sn	01 06 11.8	+38
GTA				Smax			
	comp=N,49nm,0.7s						
GTA				Smax			
	comp=E,71nm,0.8s						
SONM	**Songino Array**	**9.82**	**69**	Pn	**Pn**	**01 04 34.6**	**+1.2**
	comp=E,0.2nm,0.3s,baz=24,slow=25,SNR=3.4						
SONM				Lg		01 07 20.7	
	comp=E,1.9nm,0.3s,baz=261,slow=33,SNR=8.6						
SONM				LR	LR	01 08 30.2	
	comp=E,72nm,18.8s,baz=262,slow=38						
BVAR	**Borovoye Array**	**16.52**	**306**	**Pn**	**Pn**	**01 06 02.6**	**-1.4**
	comp=E,0.4nm,0.3s,baz=110,slow=11,SNR=18						
BRVK	**Borovoye**	**16.60**	**306**	*e*P	**Pn**	**01 06 04.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**16.60**	**306**	*e*Pn	**Pn**	**01 06 04.1**	**-0.7**
	comp=Z,6.7nm,0.8s						
CHKZ	**Chkalovo**	**16.63**	**309**	*e*P	**Pn**	**01 06 05.4**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHKZ	**Chkalovo**	**16.63**	**309**	*e*Pn	**Pn**	**01 06 05.4**	**+0.1**
	comp=Z,4.6nm,1.0s						
AKTK	**Aktyubinsk**	**23.72**	**295**	P	**P**	**01 07 24.0**	**-0.1**
AKTO	**Aktyubinsk**	**23.72**	**295**	P	**P**	**01 07 24.0**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.5,baz=86,slow=14,SNR=5.6						
TIXI	**Tiksi**	**31.63**	**21**	*e*P	**P**	**01 08 35.4**	**+0.5**
TIXI				*e*	pP	01 08 42.4	+0.3
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
JOF	**Joensuu**	**38.40**	**320**	*e*p	**P**	**01 09 32.9**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**40.68**	**330**	P	**P**	**01 09 52.6**	**+0.3**
	comp=Z,2.2nm,0.9s,mb3.8,baz=88,slow=8.6,SNR=3.7						
FINES	**FINESS Array B**	**40.98**	**318**	P	**P**	**01 09 54.8**	**+0.1**
	comp=Z,1.4nm,0.5s,mb3.8,baz=72,slow=8.7,SNR=15						
AKASG	**Malin Array Be**	**41.71**	**301**	P	**P**	**01 10 00.2**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.3,baz=333,slow=6.3,SNR=2.6						
NB2	**NORSAR Subarra**	**48.03**	**320**	P	**P**	**01 10 51.1**	**0.0**
	comp=Z,2.9nm,0.6s,mb4.5,baz=66,slow=7.4						
NOA	**NORSAR Array B**	**48.03**	**320**	P	**P**	**01 10 51.1**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.4,baz=66,slow=7.4,SNR=11						
ESDC	**Sonseca Array**	**67.27**	**304**	P	**P**	**01 13 06.8**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=51,slow=5.9,SNR=5.8						
YKA	**Yellowknife Ar**	**70.46**	**13**	P	**P**	**01 13 26.7**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=336,slow=6.1,SNR=9.5						
WRA	**Warramunga Arr**	**75.08**	**140**	P	**P**	**01 13 52.7**	**-1.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=339,slow=5.8,SNR=3.5						
ASAR	**Alice Springs**	**78.14**	**142**	P	**P**	**01 14 10.7**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=346,slow=6.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**81.50**	**280**	P	**P**	**01 14 28.4**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=53,slow=4.5,SNR=12						
NVAR	**Mina Array Bea**	**92.21**	**24**	P	**P**	**01 15 22.2**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.7,baz=320,slow=3.5,SNR=2.6						

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*MOS **17** 01:32:19.9±1.3, 147N×1268E, h33km, mb4.8/3, Error ellipse: s-maj=28.5km s-min=9.0km az=73.0*
*NEIC **17** 01:32:22.4±0.5, 151N×1269E, h35km, mb4.7/9, Error ellipse: s-maj=21.7km s-min=9.0km az=73.0*
*ISCJB **17** 01:32:28.0±2.1, 143N±006×1269E±0.1, h107km±20km, mb4.4/18, Error ellipse: s-maj=22.5km s-min=8.3km az=154.6*
*IDC **17** 01:32:34.1±2.0, 134N×1270E, h153km±18km, mb4.0/13, mb1 4.0/14, mb1mx3.9/20, mbtmp3.9/14, Error ellipse: s-maj=22.9km s-min=7.8km az=75.0*
ISC 17 01:32:32.7±1.9, 139N±006×1270E±01, h136km±18km, n38, σ0°86/40, mb4.3/18, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.00**	**159**	*e*P	**Pn**	**01 35 56.4**	**-1.3**
	26nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.41**	**184**	*e*P	**P**	**01 36 48.9**	**+0.6**
	5.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.41**	**184**	P	**P**	**01 36 48.3**	**0.0**
	0.6nm,0.3s,baz=26,slow=9.6,SNR=14						
FITZ				S	**S**	**01 40 16.9**	**-3.5**
	0.2nm,0.3s,baz=92,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**22.38**	**162**	P	**P**	**01 37 18.8**	**-1.1**
	16nm,0.4s,mb4.8,baz=341,slow=11,SNR=209						
WRA				PcP	PcP	01 41 09.8	+0.2
	1.0nm,0.5s,baz=328,slow=2.2,SNR=6.9						
WRA				S	**S**	**01 41 15.1**	**-0.4**
	2.1nm,0.7s,baz=331,slow=20,SNR=8.4						
WRA				ScP	ScP	01 44 32.3	-2.1
	0.8nm,0.8s,baz=334,slow=3.0,SNR=5.2						
WRA	**Warramunga Arr**	**22.38**	**162**	P	**P**	**01 37 18.8**	**-1.0**
WRA						01 41 09.8	
WRA				S	**S**	**01 41 15.1**	**-0.4**
WB2	**Warramunga Arr**	**22.38**	**162⇑**	*i*P	**P**	**01 37 19.5**	**-0.4**
WB2				*e*S	**S**	**01 41 15.1**	**-0.5**
WB2	**Warramunga Arr**	**22.38**	**162⇑**	*i*P	**P**	**01 37 19.3**	**-0.6**
WB2				*e*		01 37 26.6	
WB2				*e*PcP	PcP	01 41 09.5	-0.1
WB2				*e*S	**S**	**01 41 18.6**	**+3.0**
PMG	**Port Moresby**	**22.74**	**119**	P	**P**	**01 37 22.9**	**-0.3**
	3.4nm,0.4s,mb4.2,baz=301,slow=5.9,SNR=4.6						
PMG	**Port Moresby**	**22.74**	**119**	*e*P	**P**	**01 37 23.4**	**+0.2**
PMG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PMG	**Port Moresby**	**22.74**	**119**	*e*P	**P**	**01 37 23.4**	**+0.2**
	comp=Z,5.3nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**25.79**	**165**	P	**P**	**01 37 51.0**	**+0.1**
	comp=Z,3.5nm,0.6s,mb4.2,baz=346,slow=7.3,SNR=52						
ASAR				PcP	PcP	01 41 17.1	+0.1
	comp=Z,0.8nm,0.5s,baz=341,slow=1.9,SNR=4.3						
ASAR				S	**S**	**01 42 09.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=27,slow=32,SNR=3.4						
CTA	**Charters Tower**	**28.48**	**140**	*e*P	**P**	**01 38 20.9**	**+6.0**
	comp=Z,3.1nm,1.1s,mb4.0						
CTA	**Charters Tower**	**28.48**	**140**	P	**P**	**01 38 15.1**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.0,baz=326,slow=11,SNR=3.4						
CTA	**Charters Tower**	**28.48**	**140**	P	**P**	**01 38 15.1**	**+0.1**
FORT	**Forrest**	**32.00**	**178**	*e*P	**P**	**01 38 46.5**	**+0.5**
	comp=Z,26nm,0.7s,mb5.1						
KLBR	**Kellerberrin**	**33.96**	**194**	*e*P	**P**	**01 39 04.0**	**+1.0**
	comp=Z,10nm,0.5s,mb4.8						
MUN	**Mundaring**	**34.73**	**196**	*e*P	**P**	**01 39 10.8**	**+1.1**
NWAO	**Narrogin (SRO)**	**35.36**	**194**	P	**P**	**01 39 15.4**	**+0.3**
	comp=Z,6.3nm,0.6s,mb4.4,baz=70,slow=13,SNR=7.9						
STKA	**Stephens Creek**	**35.85**	**159**	*e*P	**P**	**01 39 19.4**	**+0.2**
	comp=Z,12nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**35.85**	**159**	P	**P**	**01 39 18.7**	**-0.5**
	comp=Z,4.8nm,0.4s,mb4.5,baz=335,slow=7.8,SNR=21						
STKA				PcP	PcP	01 41 42.9	-0.8
	comp=Z,1.4nm,0.6s,baz=349,slow=5.2,SNR=3.0						
STKA	**Stephens Creek**	**35.85**	**159**	*e*P	**P**	**01 39 19.3**	**0.0**
STKA				*e*P		01 39 19.4	
MJAR	**Matsushiro Arr**	**36.48**	**15**	P	**P**	**01 39 25.3**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=195,slow=7.9,SNR=3.3						
ARMA	**Armidale**	**39.37**	**145**	*e*P	**P**	**01 39 50.0**	**+1.2**
CNB	**Canberra Magne**	**42.06**	**152**	*e*P	**P**	**01 40 12.1**	**+1.2**
	comp=Z,19nm,1.5s,mb4.5						
ULN	**Ulaanbaatar**	**49.42**	**342**	*e*P	**P**	**01 41 09.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**49.42**	**342**	*e*P	**P**	**01 41 09.0**	**+0.3**
	comp=Z,5.3nm,1.1s,mb4.1						
SONM	**Songino Array**	**49.60**	**342**	P	**P**	**01 41 09.8**	**-0.2**
	comp=Z,1.7nm,0.7s,mb3.8,baz=157,slow=9.1,SNR=13						
SONM				PcP	PcP	01 42 29.1	-0.4
	comp=Z,1.0nm,0.8s,baz=165,slow=4.9,SNR=4.4						
MKAR	**Makanchi Array**	**59.64**	**326**	P	**P**	**01 42 22.9**	**+0.5**
	comp=Z,4.2nm,0.6s,mb4.5,baz=119,slow=8.6,SNR=67						
MKAR				PcP	PcP	01 43 08.1	0.0
	comp=Z,1.1nm,0.7s,baz=113,slow=5.5,SNR=4.7						
KURK	**Kurchatov**	**63.87**	**328**	*e*P	**P**	**01 42 50.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**63.87**	**328**	*e*P	**P**	**01 42 50.3**	**-0.4**
	comp=Z,8.1nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**69.44**	**327**	P	**P**	**01 43 25.5**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.1,baz=148,slow=7.0,SNR=14						
VNDA	**Vanda**	**81.08**	**173**	P	**P**	**01 44 32.0**	**-0.6**
	comp=Z,1.6nm,0.6s,mb3.9,baz=318,slow=7.0,SNR=18						
MAW	**Mawson**	**81.68**	**200**	P	**P**	**01 44 35.8**	**0.0**
	comp=Z,3.3nm,0.5s,mb4.2,baz=59,slow=4.3,SNR=9.3						
ARCES	**ARCESS Array B**	**92.74**	**340**	P	**P**	**01 45 27.3**	**-2.2**
	comp=Z,2.9nm,0.9s,mb4.4,baz=69,slow=5.9,SNR=3.3						
ESDC	**Sonseca Array**	**119.39**	**318**	PKP	PKPdf	01 51 04.6	-1.3
	comp=Z,0.2nm,0.4s,baz=195,slow=28,SNR=7.5						
ESDC	**Sonseca Array**	**119.39**	**318**	PKP	PKPdf	01 51 04.6	-1.3
TXAR	**Lajitas Array**	**122.77**	**53**	PKP	PKPdf	01 51 11.1	-1.3
	comp=Z,0.4nm,0.8s,baz=314,slow=1.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**123.90**	**287**	PKP	PKPdf	01 51 14.4	-0.2
	comp=Z,1.3nm,0.8s,baz=100,slow=2.0,SNR=11						

IDC 17 02:22:22.3±1.8, 511N×12368E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/21, mbtmp4.0/4, Error ellipse: s-maj=155.5km s-min=22.3km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.15**	**175**	P	P	02 27 30.4	+0.1
	2.1nm,0.8s,baz=3.7,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**27.02**	**157**	P	P	02 28 06.2	+0.2
	1.3nm,0.3s,baz=337,slow=9.5,SNR=37						
ASAR	**Alice Springs**	**30.29**	**161**	P	P	02 28 35.8	+0.5
	0.9nm,0.3s,baz=335,slow=7.1,SNR=10						
MKAR	**Makanchi Array**	**54.71**	**326**	P	P	02 31 53.4	+0.1
	0.8nm,0.3s,baz=122,slow=7.4,SNR=37						

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*MOS **17** 02:42:51.3±1.1, 4712N×1545E, h33km, mb4.1/3, Error ellipse: s-maj=99.9km s-min=33.1km az=78.5*
*IDC **17** 02:42:52.8±1.1, 4789N×1545E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=34.4km s-min=28.5km az=116.0*
*ISCJB **17** 02:42:56.3±1.0, 479N±02×1545E±03, h35km, mb3.7/6, Error ellipse: s-maj=34.4km s-min=27.1km az=62.2*
ISC 17 02:42:58.1±1.0, 479N±02×1545E±03, h35km, n11, σ0°27/11, mb3.7/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.95**	**21**	*e*PN	**Pn**	**02 43 49.5**	**+7.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YKA	**Yellowknife Ar**	**49.42**	**38**	P	**P**	**02 51 44.3**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=293,slow=7.1,SNR=6.2						
PDAR	**Pinedale Array**	**63.31**	**55**	P	**P**	**02 53 23.4**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.7,baz=298,slow=3.2,SNR=5.1						
FINES	**FINESS Array B**	**63.36**	**335**	P	**P**	**02 53 23.2**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.1,baz=38,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**63.36**	**335**	P	**P**	**02 53 23.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**67.40**	**342**	P	**P**	**02 53 50.3**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=28,slow=6.5,SNR=2.7						
NOA	**NORSAR Array B**	**67.40**	**342**	P	**P**	**02 53 50.3**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**73.63**	**200**	P	**P**	**02 54 27.8**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=14,slow=6.0,SNR=4.0						
ASAR	**Alice Springs**	**73.63**	**200**	P	**P**	**02 54 27.8**	**0.0**
TXAR	**Lajitas Array**	**76.11**	**62**	P	**P**	**02 54 42.1**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=297,slow=5.0,SNR=15						
TXAR	**Lajitas Array**	**76.11**	**62**	P	**P**	**02 54 42.2**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

MAN 17 02:52:02.5, 675N×12594E, h56km, mb3.1, ML4.4, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.37**	**58**	*e*P	Pn	02 52 15.1	+2.2
MATI				*e*S	Sn	02 52 23.5	+3.2
GSPH	**General Santos**	**1.19**	**236⇑**	*e*P	Pn	02 52 20.7	-2.2
GSPH				*e*S	Sn	02 52 34.2	-3.9
BUKP	**Musuan**	**1.42**

CD2 Chengdu 168.31 47 *e*PKP PKPdf 03 15 56.0 -3.1

NEIC ***17*** *03:02:52.0, 3784N×2697E, h5km, ML3.0(ATH), ML3.4(ISK), ML4.0(THE), After ISK.*
ATH ***17*** *03:02:53.3, 3790N×2717E, h19km±1km, MD3.7/12*
ISK ***17*** *03:02:53.4, 3788N×2701E, h4km, MD3.5*
THE ***17*** *03:02:54.7, 3791N×2705E, h1km*
ISCJB ***17*** *03:02:54.1±0.2, 3787N±002×2702E±003, h5km, mb3.3/1, Error ellipse: s-maj=3.1km s-min=2.1km az=41.5*
IDC ***17*** *03:02:55.0±1.4, 3737N×2730E, h0km, mb3.3/1, mb1 3.4/6, mb1mx3.2/23, mbtmp3.2/6, ML3.3/5, Error ellipse: s-maj=24.9km s-min=20.2km az=122.0*
CSEM ***17*** *03:02:54.0±0.0, 3785N×2704E, h5km, MD3.5, Error ellipse: s-maj=1.5km s-min=1.0km az=95.0*

ISC 17 03:02:54.4±0.5, 3784N±002×2700E±003, h2km±4km, n75, σ1§04/93, mb3.3/1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.19**	**224**	*e*PB	**Pg**	**03 03 00.6**	**+2.6**
SMG				*e*SB	**Sg**	**03 03 05.2**	**+4.8**
SMG	**Samos**	**0.19**	**224**	P	**Pg**	**03 03 00.4**	**+2.4**
BLCB	**Balcova**	**0.54**	**3**	*i* PG	**Pg**	**03 03 04.1**	**-0.7**
BLCB				*i* SG	**Sg**	**03 03 11.0**	**-0.8**
BLCB	**Balcova**	**0.54**	**3**	*e*Pg	**Pg**	**03 03 04.1**	**-0.7**
BLCB				*e*Sg	**Sg**	**03 03 11.0**	**-0.8**
IZM	**Izmir**	**0.59**	**20**	PG	**Pg**	**03 03 04.8**	**-0.9**
IZM				SG	**Sg**	**03 03 12.7**	**-0.7**
KDAG	**Bornova**	**0.60**	**20**	*i* P	**Pg**	**03 03 04.8**	**-1.1**
KDAG				*i* S	**Sg**	**03 03 12.0**	**-1.6**
URLA	**Izmir**	**0.61**	**328**	*i* P	**Pg**	**03 03 06.6**	**+0.6**
URLA				*i* S	**Sg**	**03 03 16.8**	**+2.9**
MLSB	**Milas**	**0.82**	**131**	PG	**Pg**	**03 03 09.9**	**-0.3**
BDRM	**Kayabasi**	**0.85**	**155**	*i* P	**Pg**	**03 03 10.7**	**0.0**
BDRM				*i* S	**Sg**	**03 03 24.5**	**+2.7**
DAT	**Datca**	**1.20**	**157**	PN	**Pn**	**03 03 16.8**	**-1.4**
AKS	**Akhisar**	**1.22**	**31**	PN	**Pn**	**03 03 16.0**	**-2.4**
NISR	**Nisiros**	**1.23**	**175**	*e*PN	**Pn**	**03 03 17.5**	**-1.2**
YER	**Yerkesik**	**1.24**	**124**	PN	**Pn**	**03 03 17.3**	**-1.5**
APE	**Apeiranthos**	**1.40**	**237**	*e*Pg	**Pg**	**03 03 20.5**	**-0.8**
APE	**Apeiranthos**	**1.40**	**237**	*e*PB	**Pb**	**03 03 20.4**	**-0.9**
APE				*e*SN	**Sg**	**03 03 43.2**	**+3.7**
APE	**Apeiranthos**	**1.40**	**237**	*e*Pg	**Pn**	**03 03 20.5**	**-0.5**
APE				*e*Sn	**Sg**	**03 03 43.2**	**+3.7**
AYVA	**Ayvalik**	**1.48**	**351**	*i* P	**Pb**	**03 03 21.9**	**-0.2**
AYVA				*i* S	**Sb**	**03 03 43.8**	**+1.8**
PRK	**Paraskevi**	**1.51**	**338**	*e*PN	**Pn**	**03 03 21.2**	**-1.3**
PRK				*e*SN	**Sn**	**03 03 42.3**	**-0.5**
PRK	**Paraskevi**	**1.51**	**338**	P	**Pn**	**03 03 21.8**	**-0.7**
DENT	**Denizli**	**1.61**	**93**	PN	**Pn**	**03 03 23.6**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.69**	**129**	PN	**Pn**	**03 03 24.3**	**-0.6**
ARG	**Arkhangelos**	**1.86**	**151**	*e*PN	**Pn**	**03 03 26.4**	**-0.8**
ARG	**Arkhangelos**	**1.86**	**151**	P	**Pn**	**03 03 28.5**	**+1.3**
SANT	**Santorini**	**1.92**	**220**	*e*Pn	**Pn**	**03 03 27.8**	**-0.3**
THR1	**Thera Island**	**1.92**	**220**	*e*Pn	**Pn**	**03 03 27.5**	**-0.6**
THR3	**Thira Island,**	**1.92**	**222**	*e*Pn	**Pn**	**03 03 28.9**	**+0.8**
THR6	**Thira Island,**	**1.96**	**221**	*e*Pn	**Pn**	**03 03 28.9**	**+0.3**
KHL	**Karahalli**	**2.05**	**76**	PN	**Pn**	**03 03 30.4**	**+0.6**
EZN	**Ezine**	**2.05**	**345**	PN	**Pn**	**03 03 29.1**	**-0.8**
BTOK	**Tokmak**	**2.08**	**22**	*i* P	**Pn**	**03 03 30.5**	**+0.2**
BTOK				*i* S	**Sn**	**03 03 58.9**	**+2.2**
GOLH	**Golhisar**	**2.12**	**106**	*i* P	**Pn**	**03 03 30.9**	**0.0**
GOLH				*i* S	**Sg**	**03 04 07.7**	**+5.1**
BOZC	**Bozcaada**	**2.13**	**340**	*i* P	**Pb**	**03 03 33.8**	**+0.1**
BOZC				*i* S	**Sg**	**03 04 02.9**	**+0.1**
DST	**Dursunbey**	**2.17**	**35**	PN	**Pn**	**03 03 31.6**	**0.0**
KARP	**Karpathos**	**2.29**	**177**	*e*PN	**Pn**	**03 03 32.8**	**-0.5**
KARP	**Karpathos**	**2.29**	**177**	P	**Pn**	**03 03 33.2**	**-0.1**
GDZ	**Gediz**	**2.31**	**57**	*i* P	**Pn**	**03 03 35.5**	**+2.0**
GDZ				*i* S	**Sg**	**03 04 09.5**	**+0.8**
LIA	**Limnos Island**	**2.50**	**326**	*e*PN	**Pn**	**03 03 35.8**	**-0.2**
ELL	**Elmali**	**2.56**	**114**	*e*PN	**Pn**	**03 03 37.4**	**+0.5**
LOS	**Limnos**	**2.57**	**325**	*e*Pn	**Pn**	**03 03 36.6**	**-0.4**
EDC	**Edincik**	**2.59**	**15**	*e*PN	**Pn**	**03 03 37.8**	**+0.5**
BNT	**Bandirma**	**2.61**	**16**	*e*PN	**Pn**	**03 03 36.7**	**-0.9**
KCT	**Karacabey**	**2.64**	**23**	*e*PN	**Pn**	**03 03 37.2**	**-0.8**
ALT	**Altintas**	**2.72**	**63**	*e*PN	**Pn**	**03 03 39.5**	**+0.3**
MRMT	**Marmara Adasi**	**2.79**	**9**	*e*PN	**Pn**	**03 03 40.6**	**+0.5**
NPS	**Neapolis**	**2.81**	**204**	*e*PN	**Pn**	**03 03 40.1**	**-0.2**
NPS	**Neapolis**	**2.81**	**204**	P	**Pn**	**03 03 40.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.84**	**3**	*e*PN	**Pn**	**03 03 41.0**	**+0.2**
SHUT	**Suhut-Afyon**	**2.88**	**75**	*e*PN	**Pn**	**03 03 42.3**	**+0.9**
MFT	**Murefte**	**2.95**	**4**	*e*PN	**Pn**	**03 03 42.6**	**+0.4**
ENEZ	**Enez**	**2.96**	**347**	*e*PN	**Pn**	**03 03 41.4**	**-1.1**
IDI	**Anoyia**	**3.06**	**214**	Pn	**Pn**	**03 03 41.8**	**-2.1**
	0.8nm,0.3s,baz=36,slow=12,SNR=22						
IDI				Pg	**Pg**	**03 03 53.8**	**+0.7**
	3.1nm,0.3s,baz=49,slow=16,SNR=18						
IDI				Lg		03 04 37.8	
	4.6nm,0.3s,baz=312,slow=20,SNR=4.4						
GEMT	**Gemlik**	**3.10**	**33**	*e*PN	**Pn**	**03 03 44.8**	**+0.5**
ALN	**Alexandroupoli**	**3.14**	**347**	*e*Pn	**Pn**	**03 03 43.7**	**-1.1**
IZI	**Iznik**	**3.15**	**37**	*e*PN	**Pn**	**03 03 45.4**	**+0.4**
YLV	**Yalova**	**3.29**	**33**	*e*PN	**Pn**	**03 03 47.5**	**+0.6**
VAM	**Vamos**	**3.31**	**224**	*e*PN	**Pn**	**03 03 48.7**	**+1.4**
ADVT	**Abdulvahap**	**3.35**	**39**	*e*PN	**Pn**	**03 03 48.5**	**+0.7**
BORA	**Eskisehir**	**3.38**	**52**	*i* P	**Pg**	**03 03 57.2**	**-1.9**
BORA				*i* S	**Sg**	**03 04 44.8**	**+1.9**
BADT	**Buyukada**	**3.42**	**28**	*e*PN	**Pn**	**03 03 49.6**	**+0.8**
VLI	**Velíai**	**3.43**	**252**	*e*PN	**Pn**	**03 03 50.5**	**+1.6**
ESKT	**Eskisehir**	**3.45**	**60**	*e*PN	**Pn**	**03 03 48.9**	**-0.2**
CTT	**Catalca**	**3.48**	**18**	*e*PN	**Pn**	**03 03 50.1**	**+0.5**
RDO	**Rodhopi**	**3.49**	**342**	*e*PN	**Pn**	**03 03 49.1**	**-0.6**
RDO	**Rodhopi**	**3.49**	**342**	P	**Pn**	**03 03 51.0**	**+1.3**
GPA	**Golpazari**	**3.55**	**45**	*e*PN	**Pn**	**03 03 51.2**	**+0.7**
HRT	**Hereke**	**3.62**	**34**	*e*PN	**Pn**	**03 03 52.4**	**+0.9**
KLYT	**Kilyos**	**3.75**	**24**	*e*PN	**Pn**	**03 03 54.2**	**+0.9**
KIZT	**Kizilcal**	**3.97**	**73**	*e*PN	**Pn**	**03 03 56.1**	**-0.2**
EDRB	**Edirne**	**4.00**	**357**	*e*PN	**Pn**	**03 03 56.8**	**0.0**
NVR	**Nevrokopi**	**4.26**	**326**	*e*PN	**Pn**	**03 03 59.9**	**-0.4**
BRTR	**Keskin Array B**	**5.52**	**68**	Pn	**Pn**	**03 04 16.3**	**-1.2**
	0.2nm,0.3s,baz=193,slow=18,SNR=12						
BRTR				Pg	**Pg**	**03 04 34.2**	**-5.9**
	0.2nm,0.3s,baz=260,slow=13,SNR=4.3						
MLR	**Muntele Rosu**	**7.68**	**354**	Pn	**Pn**	**03 04 57.2**	**+10**
	0.2nm,0.3s,baz=152,slow=15,SNR=2.3						
MMAI	**Mount Meron Ar**	**8.38**	**123**	Pn	**Pn**	**03 04 53.5**	**-3.3**
	1.4nm,0.3s,baz=298,slow=12,SNR=4.6						
GERES	**GERESS Array B**	**14.62**	**323**	Pn	**Pn**	**03 06 31.2**	**+8.9**
	0.1nm,0.3s,baz=139,slow=10,SNR=3.9						
TORD	**Torodi Ar. Bea**	**33.36**	**229**	P	**P**	**03 09 33.5**	**-0.4**
	0.3nm,0.7s,mb3.3,baz=40,slow=8.4,SNR=4.9						

IDC ***17*** *03:15:54.2±1.7, 4455×1323 0E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=68.5km s-min=25.3km az=68.0*
NEIC ***17*** *03:15:55.8±1.0, 4415×1323 6E, h10km, mb3.8/3, Error ellipse: s-maj=20.3km s-min=14.6km az=73.0*
ISCJB ***17*** *03:16:01.1±3.6, 4850±01×1322E±02, h73km±36km, mb3.5/1, Error ellipse: s-maj=30.4km s-min=19.4km az=64.2*

ISC 17 03:16:03.7±2.1, 4850±01×1322E±02, h78km±20km, n10, σ1§10/13, mb3.5/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.86**	**178**	*e*P	**Pn**	**03 17 55.6**	**+0.3**
	6.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.68**	**205**	Pn	**Pn**	**03 19 28.6**	**+1.3**
	0.2nm,0.3s,baz=48,slow=11,SNR=8.7						
FITZ				Sn	**Sn**	**03 22 08.3**	**-0.5**
	0.2nm,0.3s,baz=80,slow=23,SNR=4.7						
FITZ	**Fitzroy Crossi**	**14.68**	**205**	*e*P	**Pn**	**03 19 29.4**	**+2.2**
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**15.20**	**172**	Pn	**Pn**	**03 19 32.4**	**-1.4**
	0.2nm,0.3s,baz=1.7,slow=13,SNR=22						
WRA				Sn	**Sn**	**03 22 14.7**	**-6.6**
	0.6nm,0.3s,baz=358,slow=23,SNR=8.1						
WB2	**Warramunga Arr**	**15.20**	**172**	*e*P	**Pn**	**03 19 32.2**	**-1.7**
ASAR	**Alice Springs**	**18.83**	**175**	P	**Pn**	**03 20 20.1**	**+1.5**
	0.2nm,0.3s,baz=349,slow=9.7,SNR=9.8						
ASAR				S	**S**	**03 23 47.2**	**0.0**
	0.2nm,0.3s,baz=359,slow=30,SNR=5.6						
CTA	**Charters Tower**	**20.46**	**139**	*e*P	**P**	**03 20 35.6**	**+0.6**
	3.1nm,0.8s						
CTA	**Charters Tower**	**20.46**	**139**	P	**P**	**03 20 35.6**	**+0.7**
	4.5nm,0.8s,baz=320,slow=11,SNR=5.8						
CTAO	**Charters Tower**	**20.46**	**139**	*e*P	**P**	**03 20 35.8**	**+0.8**
	3.6nm,0.8s						
MKAR	**Makanchi Array**	**67.62**	**325**	P	**P**	**03 26 51.6**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=113,slow=7.9,SNR=7.2						

IDC 17 03:16:41.9±17.0, 5745×1275 2E, h122km±185km, mb3.6/1, mb1 3.8/4, mb1mx3.4/16, mbtmp3.6/4, ML4.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/23, Error ellipse: s-maj=163.5km s-min=55.4km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.46**	**145**	*e*P	Pn	03 18 46.9	+5.3
	9.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.43**	**188**	P	Pn	03 19 34.5	0.0
	0.3nm,0.3s,baz=12,slow=11,SNR=6.1						
FITZ				LR	LR	03 25 07.2	
	comp=Z,37nm,20.8s,baz=19,slow=41						
WRA	**Warramunga Arr**	**15.60**	**155**	P	Pn	03 20 15.7	+0.7
	1.2nm,0.3s,baz=334,slow=13,SNR=16						
WB2	**Warramunga Arr**	**15.60**	**155**	*e*P	Pn	03 20 16.1	+1.1
ASAR	**Alice Springs**	**18.86**	**162**	P	P	03 20 52.5	+0.1
	0.4nm,0.3s,baz=345,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**65.84**	**328**	P	P	03 27 14.3	+0.1
	0.6nm,0.4s,baz=113,slow=8.3,SNR=11						

BJI ***17*** *03:17:48.8, 1790N×10130W, h60km, mB5.3, mb5.3, Ms5.2, Msz4.5*
ISCJB ***17*** *03:17:50.4±0.2, 1803N±003×101.15W±002, h65km, mb4.9/116, Error ellipse: s-maj=4.6km s-min=1.9km az=57.0*
MEX ***17*** *03:17:50.9±0.7, 1794N×10132W, h60km±7km, MD4.7*
NEIC ***17*** *03:17:50.8, 1791N×10131W, h60km, mb4.9/103, MD4.7(MEX), After MEX.*
NEIC Felt [III] at Zihuatanejo. Felt at Ixtapa.
MOS ***17*** *03:17:51.3±1.0, 1816N×101.10W, h67km, mb5.2/50, Error ellipse: s-maj=8.4km s-min=4.5km az=80.5*
IDC ***17*** *03:17:53.1±2.3, 1816N×10104W, h76km±18km, mb4.3/16, mb1 4.5/21, mb1mx4.4/26, mbtmp4.3/21, MS3.9/25, Ms1 3.9/25, ms1mx3.8/34, Error ellipse: s-maj=22.9km s-min=12.4km az=29.0*
SZGRF ***17*** *03:18:01.2, 1639N×9624W, h78km, mb5.0, Oaxaca, Mexico*

ISC 17 03:17:52.6±0.2, 1810N±003×10108W±002, h67km, h67km±3.5km: pP-P, n537, σ0§99/521, mb4.7/116, 76C-65D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**217**	⇓*i*P	**Pn**	**03 17 59.7**	**-6.6**
ZIIG				*i* S	**Sn**	**03 18 07.7**	**-8.6**
CAIG	**El Cayaco**	**1.30**	**143**	⇑*i*P	**Pn**	**03 18 12.0**	**-2.8**
CAIG				*i* S	**Sn**	**03 18 28.0**	**-3.5**
CAIG	**El Cayaco**	**1.30**	**143**	⇑*i*P	**Pn**	**03 18 12.0**	**-2.8**
CAIG				*e*S	**Sn**	**03 18 25.3**	**-6.1**
MEIG	**Mezcala**	**1.40**	**97**	*e*P	**Pn**	**03 18 16.2**	**+0.1**
MEIG				*e*S	**Sn**	**03 18 34.7**	**+1.0**
PLIG	**Platanillo**	**1.52**	**79**	*e*P	**Pn**	**03 18 18.3**	**+0.5**
PLIG				*i* S	**Sn**	**03 18 40.0**	**+3.2**
MOIG	**Morelia**	**1.57**	**356**	*e*P	**Pn**	**03 18 17.1**	**-1.3**
MOIG				*e*S	**Sn**	**03 18 38.6**	**+0.7**
ACX	**Acapulco**	**1.65**	**138**	*i* P	**Pn**	**03 18 17.5**	**-2.0**
ACX				*i* S	**Sn**	**03 18 37.0**	**-2.8**
SZVM	**Salazar**	**2.02**	**53**	*i* P	**Pn**	**03 18 26.1**	**+1.7**
SZVM				*i* S	**Sn**	**03 18 51.9**	**+3.3**
YAIG	**Yautepec**	**2.05**	**68**	*e*P	**Pn**	**03 18 25.6**	**+0.7**
YAIG				*i* S	**Sn**	**03 18 53.5**	**+4.0**
MMIG	**Aquila**	**2.17**	**275**	*e*P	**Pn**	**03 18 20.0**	**-6.4**
MMIG				*i* S	**Sn**	**03 18 43.2**	**-8.9**
UNM	**Universidad Na**	**2.17**	**56**	*e*P	**Pn**	**03 18 28.0**	**+1.5**
PTVM	**Pico Tres Padr**	**2.38**	**51**	*i* P	**Pn**	**03 18 27.5**	**-1.8**
PTVM				*i* S	**Sn**	**03 19 09.4**	**+12**
SFJM	**Santa Fe**	**3.01**	**322**	*i* P	**Pn**	**03 18 32.0**	**-5.9**
UTMO	**Huajuapan**	**3.13**	**94**	*i* P	**Pn**	**03 18 41.0**	**+1.5**
UTMO				*i* S	**Sn**	**03 19 16.3**	**+0.6**
PNIG	**Pinotepa**	**3.29**	**121**	*i* P	**Pn**	**03 18 41.5**	**-0.3**
PNIG				*i* S	**Sn**	**03 19 18.0**	**-1.7**
TPIG	**Tehuac#an**	**3.54**	**84**	*e*P	**Pn**	**03 18 47.5**	**+2.3**
TPIG				*i* S	**Sn**	**03 19 28.9**	**+3.0**
CJM	**Chamela**	**4.01**	**291**	*e*P	**Pn**	**03 18 47.0**	**-4.5**
CJM				*i* S	**Sn**	**03 19 30.7**	**-6.5**
VHO	**Vista Hermosa**	**4.27**	**103**	*e*P	**Pn**	**03 18 57.0**	**+1.9**
VHO				*e*S	**Sn**	**03 19 42.8**	**-0.8**
OXX	**Oaxaca**	**4.27**	**103**	*i* P	**Pn**	**03 18 57.0**	**+1.8**
OXX				*i* S	**Sn**	**03 19 43.0**	**-0.7**
ANIG	**Ahuacatlan**	**4.38**	**313**	*e*P	**Pn**	**03 18 53.9**	**-2.7**
ANIG				*i* S	**Sn**	**03 19 42.4**	**-3.9**
LVIG	**Laguna Verde**	**4.70**	**69**	*e*P	**Pn**	**03 19 02.5**	**+1.6**
HUIG	**Huatulco**	**5.29**	**115**	*e*P	**Pn**	**03 19 10.0**	**+0.9**
HUIG				*i* S	**Sn**	**03 20 07.4**	**-1.3**
CMIG	**Matias Romero**	**5.99**	**99**	P	**Pn**	**03 19 19.5**	**+0.9**
	22nm,0.3s,baz=279,slow=8.2,SNR=571						
CMIG				S	**Sn**	**03 20 26.3**	**+0.5**
	12nm,0.3s,baz=279,slow=23,SNR=3.6						
CMIG				LR	LR	03 21 53.4	
	comp=Z,1μm,20.1s,baz=277,slow=40						
CMIG	**Matias Romero**	**5.99**	**99**	*e*P	**Pn**	**03 19 20.0**	**+1.4**
CMIG				*e*S	**Sn**	**03 20 25.9**	**+0.1**
CMIG	**Matias Romero**	**5.99**	**99**	*e*P	**Pn**	**03 19 20.0**	**+1.4**
CMIG				*e*S	**Sn**	**03 20 25.9**	**+0.1**
CMIG				LR	LR	03 21 53.4	
LNIG	**Linares**	**6.93**	**12**	*e*P	**Pn**	**03 19 31.1**	**-0.4**
LNIG				*e*S	**Sn**	**03 20 54.5**	**+5.7**
MAIG	**Mazatlaan**	**7.12**	**316**	*i* P	**Pn**	**03 19 31.1**	**-3.0**
MAIG				*i* S	**Sn**	**03 20 50.8**	**-2.7**
CCIG	**Comitan**	**8.73**	**101**	*e*P	**Pn**	**03 19 59.2**	**+3.1**
CCIG				*e*S	**Sn**	**03 21 34.1**	**+1.0**
LPIG	**La Paz**	**10.48**	**306**	P	**Pn**	**03 20 21.7**	**+1.7**
	13nm,0.3s,baz=119,slow=1.3,SNR=8.2						
LPIG				LR	LR	03 25 17.2	
	comp=Z,124nm,19.1s,baz=131,slow=42						
LTX	**Lajitas**	**11.43**	**349**	*e*P	**Pn**	**03 20 34.0**	**+1.0**
TXAR	**Lajitas Array**	**11.43**	**349**	P	**Pn**	**03 20 34.2**	**+1.2**
	0.2nm,0.3s,baz=167,slow=14,SNR=44						
TXAR				LR	LR	03 25 19.0	
	comp=Z,1μm,19.1s,baz=155,slow=39						
TXAR	**Lajitas Array**	**11.43**	**349**	P	**Pn**	**03 20 34.2**	**+1.2**
TXAR				LR	LR	03 25 19.0	
TEIG	**Tepich**	**12.28**	**78**	P	**Pn**	**03 20 43.7**	**-0.8**
	2.4nm,0.3s,baz=122,slow=2.4,SNR=17						
TEIG				S	**Sn**	**03 22 57.7**	**-1.9**
	2.0nm,0.3s,baz=90,slow=22,SNR=4.1						
TEIG				LR	LR	03 26 20.1	
	comp=Z,254nm,18.9s,baz=228,slow=41						
TEIG	**Tepich**	**12.28**	**78**	*e*Pn	**Pn**	**03 20 44.1**	**-0.5**
JCT	**Junction City**	**12.38**	**5**	*e*P	**Pn**	**03 20 46.7**	**+0.8**
TGUH	**Tegucigalpa,Un**	**13.86**	**105**	*e*Pn	**Pn**	**03 21 08.9**	**+3.0**
	79nm,1.0s						
MNTX	**Cornudas Mount**	**14.09**	**345**	*e*Pn	**Pn**	**03 21 08.4**	**-0.4**
GDL2	**Guadalupe Moun**	**14.35**	**349**	*e*Pn	**Pn**	**03 21 13.5**	**+1.2**
NATX	**Nacogdoches**	**14.79**	**22**	*e*Pn	**Pn**	**03 21 19.3**	**+1.3**
TUC	**Tucson**	**16.64**	**330**	*e*P	**Pn**	**03 21 42.7**	**+1.3**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TUC	**Tucson**	**16.64**	**330**	*e*Pn	**Pn**	**03 21 42.7**	**+1.3**
	comp=Z,9.8nm,1.0s						
WMOK	**Wichita Mounta**	**16.70**	**7**	*e*P	**Pn**	**03 21 42.3**	**+0.1**
WMOK				pmax	pmax		
	comp=Z,47nm,1.4s						
WMOK	**Wichita Mounta**	**16.70**	**7**	*e*Pn	**Pn**	**03 21 42.3**	**+0.1**
	comp=Z,47nm,1.4s						
BNM	**Barren Site**	**16.74**	**344**	*e*Pn	**Pn**	**03 21 43.5**	**+0.9**
LENM	**Lemitar**	**16.84**	**343**	*e*Pn	**Pn**	**03 21 45.1**	**+1.1**
LPM	**Los Pinos Moun**	**16.89**	**344**	*e*Pn	**Pn**	**03 21 45.6**	**+1.1**
LAZ	**Ladron**	**17.11**	**343**	*e*Pn	**Pn**	**03 21 48.5**	**+1.1**
116A	**Eloy**	**17.29**	**328**	⇓P	**Pn**	**03 21 50.6**	**+1.0**
	baz=17						
JTS	**JuntasAbangare**	**17.44**	**114**	P	**Pn**	**03 21 54.7**	**+3.3**
	comp=Z,3.2nm,0.3s,baz=304,slow=11,SNR=14						
JTS				LR	LR	03 29 03.4	
	comp=Z,144nm,20.3s,baz=302,slow=38						
JTS	**JuntasAbangare**	**17.44**	**114**	*e*P	**Pn**	**03 21 56.2**	**+4.8**
JTS				pmax	pmax		
	comp=Z,29nm,0.8s						
JTS	**JuntasAbangare**	**17.44**	**114**	*e*P	**Pn**	**03 21 56.2**	**+4.8**
	comp=Z,29nm,0.8s						
ANMO	**Albuquerque**	**17.45**	**345**	P	**Pn**	**03 21 52.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=29						
ANMO				LR	LR	03 29 14.4	
	comp=Z,872nm,19.2s,baz=188,slow=39						
ANMO	**Albuquerque**	**17.45**	**345**	⇓*e*P	**Pn**	**03 21 52.6**	**+1.1**
ANMO	**Albuquerque**	**17.45**	**345**	*e*Pn	**Pn**	**03 21 52.8**	**+1.3**
115A	**Sonoran Desert**	**17.67**	**327**	⇓P	**Pn**	**03 21 55.1**	**+1.0**
	baz=18						
MIAR	**Mount Ida**	**17.69**	**21**	*e*P	**Pn**	**03 21 53.7**	**-0.7**
MIAR				pmax	pmax		
	comp=Z,53nm,1.0s						
MIAR	**Mount Ida**	**17.69**	**21**	*e*P	**Pn**	**03 21 53.7**	**-0.7**
	comp=Z,53nm,1.0s						
UALR	**University of**	**18.34**	**23**	*e*P	**Pn**	**03 22 00.6**	**-1.7**
	comp=Z,72nm,1.4s						
UALR				*e*pP	pP	03 22 19.0	+3.5
Z14A	**Wintersburg**	**18.56**	**327**	⇑P	**Pn**	**03 22 05.2**	**+0.3**
	baz=18						
Y14A	**Wickenburg**	**19.04**	**328**	P	**Pn**	**03 22 09.8**	**-0.8**
	baz=19,SNR=11						
X15A	**Humboldt**	**19.12**	**331**	⇓P	**Pn**	**03 22 12.0**	**+0.4**
	baz=19,SNR=7.6						
GLA	**Glamis**	**19.35**	**323**	⇓P	**Pn**	**03 22 13.5**	**-0.8**
	baz=19						
Y13A	**Salome**	**19.37**	**326**	⇓P	**Pn**	**03 22 14.0**	**-0.6**
	baz=19						
OXF	**Oxford**	**19.38**	**30**	*e*P	**Pn**	**03 22 12.1**	**-2.6**
OXF				pmax	pmax		
	comp=Z,50nm,0.8s						
OXF	**Oxford**	**19.38**	**30**	*e*P	**Pn**	**03 22 12.1**	**-2.6**
	comp=Z,50nm,0.8s						
X14A	**Yava**	**19.41**	**329**	P	**Pn**	**03 22 14.3**	**-0.8**
	baz=19,SNR=7.5						
LRAL	**Lakeview Retre**	**19.52**	**38**	*e*P	**Pn**	**03 22 13.7**	**-2.7**
	comp=Z,22nm,0.8s						
WUAZ	**Wupatki**	**19.61**	**334**	*e*P	**Pn**	**03 22 16.3**	**-1.0**
	comp=Z,45nm,1.1s						
WUAZ	**Wupatki**	**19.61**	**334**	⇓P	**Pn**	**03 22 16.9**	**-0.5**
	baz=20,SNR=6.8						
Y12C	**Blythe**	**19.69**	**325**	P	**Pn**	**03 22 17.6**	**-0.8**
	baz=20,SNR=9.2						
W15A	**Williams**	**19.70**	**332**	⇑P	**Pn**	**03 22 18.4**	**-0.2**
	baz=20						
DVTC	**Desert V Tower**	**19.82**	**320**	⇑P	**Pn**	**03 22 18.2**	**-1.8**
	baz=20						
PDMCI	**Parker Dam,Lak**	**19.91**	**327**	P	**Pn**	**03 22 19.3**	**-1.7**
	baz=20,SNR=9.9						
SDCO	**Great Sand Dun**	**19.95**	**350**	*e*P	**Pn**	**03 22 20.1**	**-1.3**
	comp=Z,19nm,0.7s						
SDCO				*e*pP	pP	03 22 32.6	-0.6
X13A	**Yucca**	**19.98**	**328**	⇓P	**Pn**	**03 22 20.0**	**-1.7**
	baz=20						
W14A	**Seligman**	**20.11**	**330**	P	**P**	**03 22 21.9**	**+1.1**
	baz=20,SNR=27						
MVCO	**Mesa Verde**	**20.12**	**343**	*e*P	**P**	**03 22 21.4**	**+0.4**
	comp=Z,35nm,0.9s						
MVCO	**Mesa Verde**	**20.12**	**343**	P	**P**	**03 22 21.9**	**+0.9**
	baz=20,SNR=24						
BC3	**Big Chuckw Mtn**	**20.14**	**323**	⇑P	**P**	**03 22 21.8**	**+0.5**
	baz=20						
MGV	**Manicaragua**	**20.21**	**75**	*e*P	**P**	**03 22 26.2**	**+4.2**
IRM	**Iron Mountain**	**20.34**	**325**	P	**P**	**03 22 24.3**	**+0.8**
	baz=20,SNR=5.8						
W13A	**Hualapai Mount**	**20.41**	**329**	⇓P	**P**	**03 22 24.7**	**+0.6**
	baz=20						
PLAL	**Pickwick Lake**	**20.41**	**32**	*e*P	**P**	**03 22 22.6**

GRAC Grapevine Rang 23.66 326 P **P 03 22 58.8 +0.8**
baz=24,SNR=9.2
VES Vestal, Richgr 23.80 322 P **P 03 22 60.0 +0.8**
baz=24,SNR=11
WCI Wyandotte Cave 23.86 30 *e*P **P 03 22 58.1 -1.6**
WCI *e* 03 26 39.9
WCI pmax pmax
comp=Z,54nm,1.2s,mb4.8
WCI Wyandotte Cave 23.86 30 *e*P **P 03 22 58.1 -1.6**
comp=Z,54nm,1.2s,mb4.8
WCI *e*PcP PcP 03 26 39.9 -1.2
DAU Daniels Canyon 23.91 341 *e*P **P 03 23 00.5 +0.3**
NHSC New Hope 23.98 47 *e*P **P 03 23 00.7 -0.2**
comp=Z,52nm,0.7s,mb5.0
SMMC Simmler 24.00 319 ⇓P **P 03 23 01.6 +0.6**
baz=24
TZTN Tazewell 24.01 37 *e*P **P 03 22 59.0 -2.1**
comp=Z,28nm,0.5s,mb4.8
Q12A Willow Creek R 24.05 333 ⇑P **P 03 23 01.6 +0.1**
baz=24,SNR=7.2
RCC Rio Carpintero 24.06 81 *e*P **P 03 23 02.8 +1.2**
RWWY Rawlins 24.09 349 *e*P **P 03 23 02.8 +1.0**
comp=Z,18nm,0.8s,mb4.5
S09A Goldfield 24.13 327 P **P 03 23 02.8 +0.5**
baz=24,SNR=8.8
JLU Jordanelle 24.14 340 *e*P **P 03 23 01.6 -0.7**
TIN Tinemaha 24.17 325 ⇑P **P 03 23 03.3 +0.7**
baz=24
RCTC Rector, Farmer 24.21 322 ⇓P **P 03 23 03.8 +0.9**
baz=24,SNR=11
DUG Dugway 24.24 338 *e*P **P 03 23 03.3 +0.1**
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
DUG Dugway 24.24 338 *e*P **P 03 23 03.3 0.0**
comp=Z,9.5nm,0.9s,mb4.1
DUG Dugway 24.24 338 P **P 03 23 03.4 +0.2**
baz=24,SNR=12
Q11A Duckwater 24.25 331 P **P 03 23 04.1 +0.8**
baz=24,SNR=5.7
V05C Boulder Hill, 24.31 320 ⇑P **P 03 23 04.2 +0.4**
baz=24
CTU Camp Tracy 24.32 340 *e*P **P 03 23 01.4 -2.6**
HELL Mitchell Peak, 24.34 323 P **P 03 23 04.9 +0.7**
baz=24,SNR=27
PTRM Twissleman Ran 24.36 320 *e*P **P 03 23 05.7 +1.5**
P12A McGill 24.44 333 P **P 03 23 05.4 +0.3**
baz=24,SNR=8.4
R09A Tonopah 24.45 328 P **P 03 23 05.8 +0.6**
baz=24,SNR=16
S08C White Mtn Res 24.46 326 P **P 03 23 06.4 +1.2**
baz=24,SNR=10
BLO Bloomington 24.51 28 *e*P **P 03 23 04.7 -1.0**
BLO pmax pmax
comp=Z,20nm,0.8s,mb4.6
BLO Bloomington 24.51 28 *e*P **P 03 23 04.7 -1.0**
comp=Z,20nm,0.8s,mb4.6
SCIA State Center 24.66 14 *e*P **P 03 23 05.6 -1.4**
comp=Z,24nm,0.8s,mb4.7
PKD Parkfield 24.75 320 ⇑P **P 03 23 08.9 +1.1**
baz=25
U05C Westside ANR, 24.75 321 ⇑P **P 03 23 08.4 +0.5**
baz=25
V04C Ramage Ranch, 24.75 319 ⇑P **P 03 23 08.6 +0.7**
baz=25
P11A Circle Ranch, 24.88 332 ⇑P **P 03 23 09.5 +0.5**
baz=25
MLAC Mammoth Lakes 24.92 325 ⇓P **P 03 23 10.2 +0.8**
baz=25,SNR=8.2
BGU Big Grassy Mou 24.96 338 *e*P **P 03 23 09.4 -0.3**
KCC Kaiser Creek 24.97 324 P **P 03 23 10.1 +0.3**
baz=25,SNR=26
Q09A Carvers 24.97 329 ⇓P **P 03 23 09.9 0.0**
baz=25
T06C Millerton Lake 24.97 323 P **P 03 23 10.0 +0.2**
baz=25,SNR=7.7
O12A Currie 25.04 335 ⇓P **P 03 23 10.5 0.0**
baz=25
R08A Mina 25.06 327 ⇑P **P 03 23 11.3 +0.6**
baz=25,SNR=7.9
HWUT Hardware Ranch 25.09 341 *e*P **P 03 23 11.1 +0.1**
comp=Z,23nm,0.8s,mb4.7
HWUT *e*PcP PcP 03 26 43.5 -0.3
NVAR Mina Array Bea 25.22 327 P **P 03 23 12.8 +0.7**
comp=Z,28nm,0.7s,mb4.8,baz=141,slow=10,SNR=104
NVAR PcP PcP 03 26 43.6 -0.5
comp=Z,0.9nm,0.7s,baz=116,slow=2.1,SNR=4.7
V03C Hunter Liggett 25.23 319 ⇓P **P 03 23 13.5 +1.3**
baz=25
P10A Eureka 25.25 331 ⇑P **P 03 23 13.2 +0.8**
baz=25
O11A Cowboy Ranch, 25.31 333 ⇓P **P 03 23 13.4 +0.4**
baz=25
N13A Wendover, West 25.33 336 ⇓P **P 03 23 13.6 +0.4**
baz=25
Q08A Gabbs 25.36 328 P **P 03 23 14.2 +0.8**
baz=25,SNR=24
S05C Merced 25.56 322 ⇑P **P 03 23 16.0 +0.8**
baz=26,SNR=6.3
BW06 Boulder Array 25.62 345 *e*P **P 03 23 15.2 -0.6**
comp=Z,16nm,0.9s,mb4.5
PDAR Pinedale Array 25.62 345 P **P 03 23 15.0 -0.8**
comp=Z,14nm,0.8s,mb4.5,baz=152,slow=10,SNR=61
PDAR PcP PcP 03 26 44.5 -0.5
comp=Z,2.7nm,0.9s,baz=137,slow=4.6,SNR=9.6
PDAR LR LR 03 34 15.3
comp=Z,357nm,19.2s,baz=170,slow=38
HVU Hansel Valley 25.63 339 *e*P **P 03 23 15.3 -0.6**
HVU pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
HVU Hansel Valley 25.63 339 *e*P **P 03 23 15.3 -0.6**
comp=Z,8.2nm,0.8s,mb4.2
N12A Clover Valley, 25.66 335 ⇑P **P 03 23 16.6 +0.5**
baz=26
S06C San Francisco 25.66 324 ⇓P **P 03 23 17.1 +1.0**
baz=26,SNR=9.2
M13A Montello 25.75 337 ⇑P **P 03 23 17.5 +0.5**
baz=26
O10A Cortez Mining, 25.81 332 ⇑P **P 03 23 18.7 +1.2**
baz=26
PACP Pacheco Peak 25.90 321 ⇑P **P 03 23 18.9 +0.6**
baz=26
R06C Coleville 25.90 326 ⇓P **P 03 23 19.7 +1.4**
baz=26,SNR=8.7
O09A Fish Creek Ran 26.02 331 P **P 03 23 20.1 +0.7**
baz=26,SNR=11
RSSD Black Hills 26.06 355 *e*P **P 03 23 19.7 0.0**
RSSD pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
RSSD Black Hills 26.06 355 *e*P **P 03 23 19.7 -0.1**
comp=Z,2.2nm,0.5s,mb3.8
CMB Columbia Colle 26.07 324 *e*P **P 03 23 19.9 +0.1**
CMB Columbia Colle 26.07 324 ⇑P **P 03 23 19.9 +0.1**
baz=26
M12A Wells 26.09 336 ⇓P **P 03 23 20.1 +0.1**
baz=26
ELN Prospectdale 26.11 39 *e*P **P 03 23 18.5 -1.7**
BLA Blacksburg 26.30 39 *e*P **P 03 23 20.5 -1.4**
BLA pmax pmax
comp=Z,30nm,0.7s,mb4.8
BLA Blacksburg 26.30 39 *e*P **P 03 23 20.5 -1.4**
comp=Z,30nm,0.7s,mb4.8
R05C Kirkwood Meado 26.37 325 ⇓P **P 03 23 23.9 +1.4**
baz=26
M11A Holland Ranch, 26.45 335 ⇑P **P 03 23 23.5 +0.3**
baz=26
REDW Red Top Meadow 26.51 344 *e*P **P 03 23 23.3 -0.5**
comp=Z,14nm,1.1s,mb4.4
SNOW Snow King Moun 26.57 344 *e*P **P 03 23 24.7 +0.3**
comp=Z,29nm,1.0s,mb4.8
WCN Washoe City 26.63 326 ⇓P **P 03 23 24.8 -0.1**
baz=26
N09A Rock Creek Ran 26.72 331 ⇑P **P 03 23 25.8 0.0**
baz=27
LAVA Lava Cap Winer 26.77 324 ⇑P **P 03 23 26.5 +0.4**
baz=27
DCID1 Drake Creek 26.81 344 *e*P **P 03 23 27.6 +1.1**
O07A Toulon 26.82 329 ⇓P **P 03 23 26.6 0.0**
baz=27,SNR=7.6
MOOW Moose Ponds 26.84 344 *e*P **P 03 23 26.0 -0.8**
comp=Z,10nm,0.8s,mb4.4
MOOW *e*PcP PcP 03 26 48.2 +0.4
BDM Black Diamond 26.87 322 ⇑P **P 03 23 26.7 -0.3**
baz=27
N08A GE Springer Mi 26.95 331 ⇓P **P 03 23 27.6 -0.1**
baz=27,SNR=5.5
P06A Stead Airport, 26.98 327 ⇓P **P 03 23 28.8 +0.8**
baz=27

P05C Yuba Gap, Truc 27.09 325 ⇓P **P 03 23 29.8 +0.8**
baz=27
K12A Draper Farm, C 27.13 337 ⇑P **P 03 23 30.0 +0.6**
baz=27
M09A Marrel Ranch, 27.15 332 ⇑P **P 03 23 30.1 +0.5**
baz=27
Q04C Lincoln 27.18 324 ⇓P **P 03 23 31.2 +1.3**
baz=27
N07B Gerlach 27.34 329 ⇑P **P 03 23 32.0 +0.7**
baz=27
BEKR Beckwourth 27.36 326 ⇓P **P 03 23 32.3 +0.9**
baz=27
YFT Old Faithful 27.52 345 *e*P **P 03 23 33.5 +0.7**
J13A Cove Ranch, Pi 27.54 339 ⇑P **P 03 23 33.2 +0.1**
baz=27
OHCM Honcut 27.59 324 *e*P **P 03 23 33.4 -0.1**
O05C Quincy 27.73 326 ⇑P **P 03 23 35.3 +0.6**
baz=28
J12A Stokes Ranch, 27.74 338 ⇑P **P 03 23 34.5 -0.3**
baz=28
N06A Buffalo Meadow 27.75 328 ⇑P **P 03 23 35.4 +0.5**
baz=28,SNR=8.3
ORV Oroville 27.75 325 ⇓P **P 03 23 35.5 +0.5**
baz=28
HLID Hailey 27.77 339 *e*P **P 03 23 34.8 -0.3**
comp=Z,4.1nm,0.8s,mb4.0
HLID Hailey 27.77 339 P **P 03 23 35.0 0.0**
baz=28,SNR=7.9
RLMT Red Lodge 27.80 348 *e*P **P 03 23 34.2 -1.1**
comp=Z,2.5nm,0.6s,mb3.9
M07A Soldier Meadow 27.91 330 ⇓P **P 03 23 36.8 +0.5**
baz=28
QLMT Earthquake Lak 28.02 344 *e*P **P 03 23 41.0 +3.7**
O04C Chester 28.07 326 ⇑P **P 03 23 38.5 +0.7**
baz=28
ELFS Eagle Lake Fie 28.10 327 ⇓P **P 03 23 38.7 +0.7**
baz=28
MFID Camas Ranch 28.15 337 ⇑P **P 03 23 38.4 0.0**
baz=28
K09A Rome 28.31 334 P **P 03 23 40.5 +0.6**
baz=28,SNR=6.5
M06C Likely Place G 28.41 328 ⇓P **P 03 23 40.9 +0.1**
baz=28
MCMT McKenzie Canyo 28.41 342 *e*P **P 03 23 41.2 +0.4**
OTAV Otavalo 28.46 126 *e*P **P 03 23 44.2 +3.1**
comp=Z,1.3nm,0.5s,mb3.7
L07A Adell 28.48 331 ⇑P **P 03 23 41.6 +0.1**
baz=28
G15A Dillon 28.62 343 ⇑P **P 03 23 42.0 -0.6**
baz=28
I11A Placerville 28.62 337 ⇑P **P 03 23 42.5 -0.1**
baz=28
K08A Mann Creek Ran 28.66 333 P **P 03 23 43.5 +0.5**
baz=29,SNR=7.7
H12A Diamond D Ranc 28.79 339 ⇑P **P 03 23 44.3 +0.1**
baz=29,SNR=12
DLMT Dillon 28.83 343 *e*P **P 03 23 44.5 0.0**
comp=Z,17nm,0.9s,mb4.7
BOZ Bozeman (W) 28.84 345 *e*P **P 03 23 43.6 -1.0**
BOZ pmax pmax
comp=Z,11nm,1.4s,mb4.3
BOZ Bozeman (W) 28.84 345 *e*P **P 03 23 43.5 -1.0**
comp=Z,11nm,1.4s,mb4.3
BOZ Bozeman (W) 28.84 345 ⇑P **P 03 23 44.4 -0.1**
baz=29
MOD Modoc 28.85 329 *e*P **P 03 23 45.5 +0.8**
MOD Modoc 28.85 329 ⇓P **P 03 23 44.9 +0.2**
baz=29
J09A Fry Pan Ranch, 28.85 334 ⇓P **P 03 23 44.8 +0.1**
baz=29
M05C Lookout 28.86 328 ⇓P **P 03 23 45.1 +0.3**
baz=29
K07A Rock Creek Ran 28.97 332 ⇑P **P 03 23 46.0 +0.3**
baz=29
G13A Cobalt 29.07 341 P **P 03 23 46.7 0.0**
baz=29,SNR=12
I10A Payette 29.09 336 ⇑P **P 03 23 46.5 -0.3**
baz=29
J08A Circle Bar Ran 29.16 333 ⇓P **P 03 23 47.4 0.0**
baz=29
LRM Limekiln Ridge 29.21 344 *e*P **P 03 23 48.0 +0.1**
ROSC El Rosal 29.27 113 LR LR 03 36 30.2
comp=Z,105nm,19.1s,baz=344,slow=38
H11A Donnelly 29.33 338 P **P 03 23 48.9 0.0**
baz=29,SNR=6.7
I09A Lost Marbles R 29.36 335 P **P 03 23 48.8 -0.5**
baz=29,SNR=5.4
F14A Wisdom 29.46 342 ⇓P **P 03 23 49.7 -0.4**
baz=29
H10A Noah's Angus R 29.50 337 ⇓P **P 03 23 49.9 -0.6**
baz=29
M04C Macdoel 29.52 327 ⇓P **P 03 23 50.4 -0.3**
baz=29
I08A Drewsey 29.65 334 ⇑P **P 03 23 51.4 -0.4**
baz=30
F13A Darby 29.73 341 P **P 03 23 52.2 -0.2**
baz=30,SNR=18
E15A Deer Lodge 29.82 344 ⇑P **P 03 23 53.0 -0.3**
baz=30
HRY Holter Researc 29.88 345 *e*P **P 03 23 53.6 -0.2**
H09A Durkee 29.91 336 ⇑P **P 03 23 53.4 -0.6**
baz=30
YBH Yreka Blue Hor 29.94 326 P **P 03 23 52.5 -1.9**
comp=Z,2.8nm,0.7s,mb4.0,baz=67,slow=2.6,SNR=4.8
YBH LR LR 03 35 58.4
comp=Z,126nm,20.1s,baz=338,slow=36
F12A Elk City 29.99 340 P **P 03 23 54.6 -0.2**
baz=30,SNR=21
E14A Clinton 30.05 343 P **P 03 23 54.7 -0.6**
baz=30,SNR=7.2
H08A Prairie City 30.19 335 ⇓P **P 03 23 56.2 -0.4**
baz=30
E13A Victor 30.27 342 P **P 03 23 56.9 -0.4**
baz=30,SNR=13
D15A Lincoln 30.36 344 ⇓P **P 03 23 57.1 -1.0**
baz=30
F11A Grangeville 30.41 339 ⇓P **P 03 23 57.3 -1.2**
baz=30
CHMT Chamberlain Mo 30.44 343 *e*P **P 03 23 57.6 -1.1**
MSO Missoula 30.55 342 *e*P **P 03 23 59.2 -0.6**
H07A Lands Inn, Kim 30.62 334 ⇑P **P 03 23 59.9 -0.5**
baz=30
D14A Greenough 30.66 343 ⇑P **P 03 24 00.3 -0.4**
baz=30
EGMT Eagleton 30.68 349 ⇑P **P 03 24 00.3 -0.6**
baz=30
E11A Bogner Ranch, 30.83 339 P **P 03 24 00.9 -1.3**
baz=31,SNR=9.6
F10A Beach Ranch, E 30.86 338 P **P 03 24 02.1 -0.4**
baz=31,SNR=20
F09A S2 Ranch, Elgi 30.88 337 ⇑P **P 03 24 01.9 -0.8**
baz=31
D13A Huson 30.94 342 P **P 03 24 02.5 -0.7**
baz=31,SNR=22
G08A Pilot Rock 30.94 335 ⇓P **P 03 24 02.7 -0.4**
baz=31
SDV Santo Domingo 30.95 103 *e*P **P 03 24 05.6 +2.4**
comp=Z,4.3nm,0.8s,mb4.2
G07A Ruggs Ranch, H 31.21 334 ⇑P **P 03 24 06.8 +1.2**
baz=31
E10A Myers Farm, Un 31.25 338 ⇑P **P 03 24 06.5 +0.6**
baz=31
C13A Hot Springs 31.50 342 ⇓P **P 03 24 07.9 -0.2**
baz=31
D10A Wagner Farm, O 31.80 339 P **P 03 24 09.7 -1.0**
baz=32,SNR=7.3
I03A Eugene 31.85 329 ⇑P **P 03 24 11.8 +0.6**
baz=32
F06A Goldendale 32.08 334 ⇓P **P 03 24 13.8 +0.6**
baz=32
B13A Whitefish 32.10 343 P **P 03 24 13.0 -0.4**
baz=32,SNR=7.2
BINY Binghamton 32.14 36 *e*P **P 03 24 12.1 -1.7**
comp=Z,13nm,0.6s,mb4.8
D09A Jones Farm, Ri 32.17 338 ⇓P **P 03 24 13.0 -1.1**
baz=32
E07A Sunnyside 32.34 335 ⇑P **P 03 24 14.6 -0.9**
baz=32
ULM Lac du Bonnet 32.34 6 P **P 03 24 13.2 -2.3**
comp=Z,3.9nm,0.5s,mb4.4,baz=189,slow=9.8,SNR=14
ULM PcP PcP 03 27 00.3 -1.6
comp=Z,2.5nm,0.6s,baz=203,slow=4.4,SNR=5.0
ULM LR LR 03 38 20.9
ULM Lac du Bonnet 32.34 6 *e*P **P 03 24 12.9 -2.6**
comp=Z,10.0nm,0.8s,mb4.6
G04A Mulino 32.39 331 ⇓P **P 03 24 16.5 +0.7**
baz=32

D08A Wollman Farm, 32.40 337 ⇓P **P 03 24 16.0 +0.1**
baz=32
C10A Spilker Farm, 32.48 339 ⇓P **P 03 24 16.8 +0.1**
baz=32
B12A Libby 32.51 342 ⇑P **P 03 24 16.4 -0.6**
baz=32
WALA Waterton Lakes 32.58 344 *e*P **P 03 24 18.1 +0.5**
comp=Z,5.3nm,0.6s,mb4.5
A13A Flathead Natio 32.60 344 P **P 03 24 17.8 0.0**
baz=32,SNR=8.2
C09A Chrisman Ranch 32.79 338 ⇓P **P 03 24 18.8 -0.6**
baz=33
B10A Chitwood Farm, 32.87 340 ⇓P **P 03 24 19.8 -0.3**
baz=33
D07A Quincy 32.91 336 ⇑P **P 03 24 19.8 -0.6**
baz=33
A12A Yaak River Ran 32.95 342 ⇑P **P 03 24 20.7 -0.1**
baz=33
C08A Higginbotham F 33.05 338 P **P 03 24 22.2 +0.5**
baz=33,SNR=5.5
A11A Hall Mountain, 33.18 341 ⇓P **P 03 24 22.5 -0.3**
baz=33
B09A Rice 33.28 339 ⇑P **P 03 24 23.3 -0.4**
baz=33
C07A Waterville 33.35 336 ⇓P **P 03 24 23.6 -0.7**
baz=33
CPD Cerro la Pandu 33.40 85 *e*P **P 03 24 25.8 +1.1**
ATAH Atahualpa 33.52 136 P **P 03 24 29.3 +3.6**
comp=Z,5.4nm,0.7s,mb4.5,baz=37,slow=5.1,SNR=3.2
ATAH LR LR 03 35 29.6
comp=Z,142nm,21.2s,baz=100,slow=31
B08A Colville Reser 33.64 338 ⇓P **P 03 24 26.4 -0.4**
baz=34
MTP Monte Pirata 33.73 84 *e*P **P 03 24 29.2 +1.5**
A09A Danville 33.91 339 ⇑P **P 03 24 28.9 -0.2**
baz=34
B06A Marblemount 34.58 336 ⇓P **P 03 24 34.5 -0.4**
baz=34
B05A Bryant 34.61 335 ⇓P **P 03 24 36.3 +1.1**
baz=34
EDM Edmonton 36.33 348 *e*P **P 03 24 48.7 -1.3**
FCC Fort Churchill 40.93 6 *e*P **P 03 25 26.1 -2.3**
FCC pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
FCC Fort Churchill 40.93 6 *e*P **P 03 25 26.1 -2.3**
comp=Z,5.6nm,0.8s,mb4.5
SCHQ Schefferville 45.03 27 P **P 03 25 59.5 -2.0**
comp=Z,7.1nm,0.9s,mb4.4,baz=254,slow=9.2,SNR=6.0
SCHQ LR LR 03 46 54.8
comp=Z,55nm,18.0s,baz=200,slow=39
YKA Yellowknife Ar 45.34 351 P **P 03 26 01.8 -2.3**
comp=Z,4.6nm,0.8s,mb4.2,baz=161,slow=7.4,SNR=36
YKA PcP PcP 03 27 41.1 -1.5
comp=Z,1.9nm,0.7s,baz=155,slow=3.5,SNR=13
YKA LR LR 03 46 29.4
comp=Z,310nm,18.5s,baz=160,slow=38
YKA Yellowknife Ar 45.34 351 P **P 03 26 01.8 -2.3**
YKA 03 27 41.2
YKA Yellowknife Ar 45.34 351 P **P 03 26 01.8 -2.3**
YKA PcP PcP 03 27 41.1 -1.5
YKA LR LR 03 46 29.4
TAOE Nuku Hiva Isla 46.96 238 *e*LR LR 03 39 19.2
comp=Z,696nm,27.2s,baz=63
LPAZ La Paz 47.12 135 LR LR 03 44 38.5
comp=Z,105nm,18.1s,baz=186,slow=34
LPAZ La Paz 47.12 135 *e*P **P 03 26 18.5 +0.5**
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 47.12 135 *e*P **P 03 26 18.5 +0.5**
comp=Z,1.7nm,0.7s,mb3.9
RKT Rikitea 52.68 220 *e*LR LR 03 42 09.3
comp=Z,256nm,27.5s,baz=40
RKT Rikitea 52.68 220 *e*T 04 22 52.2
comp=Z,12nm,0.3s
DAWY Dawson 52.73 340 *e*P **P 03 26 59.1 -1.5**
EGAK Eagle 53.78 340 *e*P **P 03 27 07.6 -0.6**
comp=Z,7.1nm,0.7s,mb4.8
INK Inuvik 54.19 346 *e*P **P 03 27 10.0 -1.3**
comp=Z,316nm,1.0s
INK *e*pP pP 03 27 24.6 -3.9
PMR Palmer 54.88 334 *e*P **P 03 27 15.9 -0.4**
PMR pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
PMR Palmer 54.88 334 *e*P **P 03 27 15.9 -0.4**
comp=Z,5.6nm,0.5s,mb4.8
MCK McKinley 55.91 337 *e*P **P 03 27 23.1 -0.5**
COLA College 56.13 338 *e*P **P 03 27 25.3 +0.1**
COLA College 56.13 338 *e*P **P 03 27 25.0 -0.2**
PMOR Pomariorio Ree 56.66 238 *e*T 04 27 53.3
comp=Z,7.9nm,0.2s
RES Resolute Bay 56.70 2 *e*P **P 03 27 27.3 -2.0**
RES pmax pmax
comp=Z,156nm,1.0s
RES Resolute Bay 56.70 2 *e*P **P 03 27 27.3 -1.9**
comp=Z,156nm,1.0s
SVW2 Sparrevohn 57.44 332 *e*P **P 03 27 33.0 -1.5**
PPT Papeete 59.43 236 *e*LR LR 03 45 05.8
comp=Z,297nm,27.8s
TBI Tubuai 62.69 231 *e*S **S 03 36 33.4 -0.4**
comp=Z,76nm,28.0s
TBI *e*LR LR 03 46 48.7
comp=Z,228nm,27.8s
PLCA Paso Flores 65.05 155 LR LR 03 49 18.4
comp=Z,124nm,19.2s,baz=188,slow=29
TRQA Tornquist 66.85 147 *e*P **P 03 28 36.7 -0.8**
comp=Z,13nm,1.1s,mb4.7
DAG Danmarks Havn 70.77 14⇓*i*P **P 03 29 00.2 -1.6**
comp=Z,3.4nm,0.7s,mb4.3
DAG Danmarks Havn 70.77 14⇓*i*P **P 03 29 00.2 -1.6**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BILL Bilibino 74.36 337⇑*e*P **P 03 29 22.7 -0.4**
BILL *e* 03 32 09.1
BILL pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
BILL MLR MLR
comp=Z,200nm,18.0s
ELOB Lobios 80.33 49 P **P 03 29 53.6 -2.9**
comp=Z,89nm,1.8s,mb5.3
PCAB Cabril 80.40 49 *i* P pP 03 30 17.7 +2.6
PVIS Viseu 80.76 50 *i* P pP 03 30 21.2 +4.2
ERUA La Rua 80.85 48 P **P 03 29 59.1 -0.1**
ERUA pmax pmax
comp=Z,60nm,1.4s,mb5.2
ERUA La Rua 80.85 48 P **P 03 29 59.1 -0.1**
comp=Z,60nm,1.4s,mb5.2
PTEO Sao Teotonio 81.00 54 *i* P pP 03 30 22.5 +4.2
MTE Manteigas 81.11 50 *e*P **P 03 30 01.0 +0.4**
MTE *i* P pP 03 30 23.1 +4.2
PBRG Braganca 81.30 49 *e*P **P 03 30 02.7 +1.1**
PBRG *i* P pP 03 30 23.8 +3.9
PCBR Castelo Branco 81.31 51 *e*P **P 03 30 02.6 +0.9**
PCBR *i* P pP 03 30 23.0 +3.0
PESTR Estremoz 81.50 52 *i* P pP 03 30 24.9 +3.9
PBEJ Beja 81.53 53 *e*P **P 03 30 04.1 +1.2**
PBEJ *i* P pP 03 30 25.3 +4.2
EGRO El Granado 81.95 53 P **P 03 30 01.3 -3.8**
comp=Z,34nm,1.7s,mb4.9
EMIN Mina Concepcio 82.50 53 P **P 03 30 01.6 -6.4**
comp=Z,23nm,1.3s,mb4.9
ELAN Lanestosa 83.21 47 P **P 03 30 07.2 -4.5**
comp=Z,64nm,1.5s,mb5.2
GRR Gorron 83.24 41 *e*P **P 03 30 12.2 +0.4**
comp=Z,53nm,1.2s,mb4.9
GRR *e*pP pP 03 30 27.7 -2.4
GRR Gorron 83.24 41 *e*P **P 03 30 12.2 +0.4**
GRR *e*PP pP 03 30 27.7 -2.4
GRR pmax pmax
comp=Z,27nm,1.2s,mb5.0
GRR Gorron 83.24 41 *e*P **P 03 30 12.2 +0.4**
comp=Z,26nm,1.2s,mb4.9
GRR *e*pP pP 03 30 27.7 -2.4
FLN La Foliniere 83.35 41 *e*P **P 03 30 13.0 +0.6**
comp=Z,88nm,1.3s,mb5.1
FLN *e*MLR
comp=Z,62nm,19.2s
FLN La Foliniere 83.35 41 *e*P **P 03 30 13.0 +0.6**
FLN pmax pmax
comp=Z,44nm,1.3s,mb5.1
FLN MLR MLR
comp=Z,60nm,19.3s
FLN La Foliniere 83.35 41 *e*P **P 03 30 13.0 +0.6**
comp=Z,44nm,1.3s,mb5.1
FLN LR LR
comp=Z,60nm,19.3s
ESPR Espera 83.39 54 P **P 03 30 12.0 -0.6**

comp=Z,47nm,1.5s,mb5.1
GUD Guadarrama 83.50 49 P P 03 30 13.6 +0.5
GUD pmax pmax
comp=Z,20nm,1.2s,mb4.8
GUD Guadarrama 83.50 49 P P 03 30 13.6 +0.4
comp=Z,20nm,1.2s,mb4.8
LDF La Druitiere 83.63 41 *eP* **P 03 30 14.3 +0.5**
comp=Z,44nm,1.1s,mb4.9
LDF La Druitiere 83.63 41 *eP* **P 03 30 14.3 +0.5**
LDF pmax pmax
comp=Z,22nm,1.1s,mb4.9
LDF La Druitiere 83.63 41 *eP* **P 03 30 14.3 +0.5**
comp=Z,22nm,1.1s,mb4.9
PAB San Pablo 83.70 51 *eP* **P 03 30 15.0 +0.8**
PAB *e*PP* pP 03 30 30.7 -1.8
PAB pmax pmax
comp=Z,17nm,1.5s,mb4.7
PAB San Pablo 83.70 51 *eP* **P 03 30 15.0 +0.8**
comp=Z,17nm,1.5s,mb4.7
PAB *e*pP pP 03 30 30.7 -1.8
EJIF Jimena Fronter 83.81 54 P **P 03 30 16.2 +1.5**
EJIF pmax pmax
comp=Z,45nm,1.4s,mb5.1
EJIF Jimena Fronter 83.81 54 P **P 03 30 16.2 +1.4**
comp=Z,45nm,1.4s,mb5.1
ESDC Sonseca Array 83.95 50 P **P 03 30 15.4 0.0**
comp=Z,0.7nm,0.6s,baz=303,slow=5.2,SNR=6.4
EADA Adamuz 83.96 52 P **P 03 30 13.6 -1.9**
comp=Z,38nm,1.7s,mb5.0
MFF Saint Martin d 84.30 43 *eP* **P 03 30 17.5 +0.3**
comp=Z,70nm,1.4s,mb5.0
MFF *e*pP pP 03 30 33.1 -2.5
MFF Saint Martin d 84.30 43 *eP* **P 03 30 17.5 +0.3**
MFF *e*PP* pP 03 30 33.1 -2.5
MFF pmax pmax
comp=Z,35nm,1.4s,mb5.0
MFF Saint Martin d 84.30 43 *eP* **P 03 30 17.5 +0.3**
comp=Z,35nm,1.4s,mb5.0
MFF *e*pP pP 03 30 33.1 -2.5
EMIJ Mijas 84.31 54 P **P 03 30 17.9 +0.6**
comp=Z,25nm,1.3s,mb4.9
TIXI Tiksi 84.32 346*c iP* **P 03 30 16.3 -1.0**
TIXI pmax pmax
comp=Z,22nm,1.3s,mb4.8
TIXI Tiksi 84.32 346 *eP* **P 03 30 16.0 -1.3**
comp=Z,14nm,1.0s,mb4.7
TIXI *e*pP pP 03 30 31.0 -4.7
ELUQ Luque 84.39 52 P **P 03 30 17.9 +0.3**
ELUQ pmax pmax
comp=Z,11nm,1.3s,mb4.5
ELUQ Luque 84.39 52 P **P 03 30 17.9 +0.3**
comp=Z,11nm,1.3s,mb4.5
EBAN Banos Encina 84.56 52 P **P 03 30 18.6 +0.1**
EBAN pmax pmax
comp=Z,17nm,1.1s,mb4.9
EBAN Banos Encina 84.56 52 P **P 03 30 18.6 +0.1**
comp=Z,17nm,1.1s,mb4.9
NB2 NORSAR Subarra 84.60 27 P **P 03 30 19.1 +0.4**
comp=Z,2.8nm,0.7s,mb4.3,baz=297,slow=5.1
NOA NORSAR Array B 84.60 27 P **P 03 30 19.2 +0.5**
comp=Z,3.9nm,0.8s,mb4.4,baz=298,slow=4.8,SNR=13
NOA LR LR 04 06 40.6
comp=Z,59nm,19.1s,baz=320,slow=35
NOA NORSAR Array B 84.60 27 P **P 03 30 19.2 +0.5**
NOA LR LR 04 06 40.6
ELOJ Sierra Loja 84.60 53 P **P 03 30 19.3 +0.6**
ELOJ pmax pmax
comp=Z,20nm,1.2s,mb4.9
ELOJ Sierra Loja 84.60 53 P **P 03 30 19.3 +0.5**
comp=Z,20nm,1.2s,mb4.9
SJPF Ste Jean 84.77 46 *eP* **P 03 30 20.0 +0.4**
comp=Z,66nm,1.4s,mb5.1
SJPF Ste Jean 84.77 46 *eP* **P 03 30 20.0 +0.4**
SJPF pmax pmax
comp=Z,33nm,1.4s,mb5.1
SJPF Ste Jean 84.77 46 *eP* **P 03 30 20.0 +0.4**
comp=Z,33nm,1.4s,mb5.1
ARCES ARCESS Array B 84.85 16 P **P 03 30 20.0 0.0**
comp=Z,4.2nm,0.6s,mb4.5,baz=315,slow=4.7,SNR=10
ARCES LR LR 04 08 31.9
comp=Z,125nm,18.8s,baz=143,slow=36
ERON Agron 84.91 53 P **P 03 30 21.1 +0.9**
comp=Z,12nm,0.9s,mb4.8
ETOR Torete 84.96 49 P **P 03 30 20.2 -0.3**
ETOR pmax pmax
comp=Z,12nm,1.2s,mb4.7
ETOR Torete 84.96 49 P **P 03 30 20.2 -0.4**
comp=Z,12nm,1.2s,mb4.7
ECOG Cogollos-Vega 85.00 53 P **P 03 30 21.3 +0.5**
ECOG pmax pmax
comp=Z,22nm,1.2s,mb5.0
ECOG Cogollos-Vega 85.00 53 P **P 03 30 21.3 +0.5**
comp=Z,22nm,1.2s,mb5.0
EGUA Guajares 85.15 53 P **P 03 30 20.5 -0.9**
comp=Z,1.8nm,1.1s,mb3.9
EQES Quesada 85.21 52 P **P 03 30 20.5 -1.2**
comp=Z,28nm,1.4s,mb5.0
ETSF Etsaut 85.30 46 *eP* **P 03 30 22.9 +0.7**
comp=Z,31nm,1.0s,mb4.9
ETSF Etsaut 85.30 46 *eP* **P 03 30 22.9 +0.7**
ETSF pmax pmax
comp=Z,15nm,1.0s,mb4.9
ETSF Etsaut 85.30 46 *eP* **P 03 30 22.9 +0.7**
comp=Z,15nm,1.0s,mb4.9
EVIA Vianos 85.36 51 P **P 03 30 23.6 +1.1**
EVIA pmax pmax
comp=Z,14nm,0.9s,mb4.9
EVIA Vianos 85.36 51 P **P 03 30 23.6 +1.1**
comp=Z,14nm,0.9s,mb4.9
LFF La Frestale 85.47 44 *eP* **P 03 30 23.2 +0.1**
comp=Z,161nm,1.5s,mb5.4
LFF *e*pP pP 03 30 38.6 -2.8
LFF La Frestale 85.47 44 *eP* **P 03 30 23.2 +0.1**
LFF *e*PP* pP 03 30 38.6 -2.8
LFF pmax pmax
comp=Z,80nm,1.5s,mb5.4
LFF La Frestale 85.47 44 *eP* **P 03 30 23.2 +0.1**
comp=Z,80nm,1.5s,mb5.4
LFF *e*pP pP 03 30 38.6 -2.8
EHUE Huescar 85.56 52 P **P 03 30 23.5 0.0**
EHUE pmax pmax
comp=Z,29nm,1.2s,mb5.1
EHUE Huescar 85.56 52 P **P 03 30 23.5 0.0**
comp=Z,29nm,1.2s,mb5.1
MDT Midelt 85.62 57 P **P 03 30 24.7 +0.9**
comp=Z,12nm,0.9s,mb4.8,baz=290,slow=4.7,SNR=29
MDT LR LR 04 04 24.9
comp=Z,69nm,20.6s,baz=92,slow=33
EBER Berja 85.64 53 P **P 03 30 24.9 +1.0**
comp=Z,81nm,1.4s,mb5.5
BAIF Baives 85.73 39 *eP* **P 03 30 24.8 +0.5**
comp=Z,46nm,1.2s,mb5.0
BAIF Baives 85.73 39 *eP* **P 03 30 24.8 +0.5**
BAIF pmax pmax
comp=Z,23nm,1.2s,mb5.0
BAIF Baives 85.73 39 *eP* **P 03 30 24.8 +0.5**
comp=Z,23nm,1.2s,mb5.0
RJF Les Rejaudoux 85.85 44 *eP* **P 03 30 24.7 -0.2**
comp=Z,44nm,1.4s,mb4.9
RJF *e*pP pP 03 30 40.2 -3.1
RJF *e*MLR
comp=Z,58nm,18.0s
RJF Les Rejaudoux 85.85 44 *eP* **P 03 30 24.7 -0.2**
RJF *e*PP* pP 03 30 40.2 -3.1
RJF pmax pmax
comp=Z,22nm,1.4s,mb4.9
RJF MLR MLR
comp=Z,60nm,18.0s
RJF Les Rejaudoux 85.85 44 *eP* **P 03 30 24.7 -0.2**
comp=Z,22nm,1.4s,mb4.9
RJF *e*pP pP 03 30 40.2 -3.1
RJF LR LR
comp=Z,60nm,18.0s
EBIE Bielsa 85.86 46 P **P 03 30 22.9 -2.1**
comp=Z,44nm,1.5s,mb5.2
EPF Esparros 85.88 46 *eP* **P 03 30 25.2 +0.1**
comp=Z,36nm,1.2s,mb4.9
EPF *e*pP pP 03 30 40.7 -2.8
EPF Esparros 85.88 46 *eP* **P 03 30 25.2 +0.1**
EPF *e*PP* pP 03 30 40.7 -2.8
EPF pmax pmax
comp=Z,18nm,1.2s,mb4.9
EPF Esparros 85.88 46 *eP* **P 03 30 25.2 +0.1**
comp=Z,18nm,1.2s,mb4.9
EPF *e*pP pP 03 30 40.7 -2.8
TCF Toulx Ste Croi 85.93 43⇑*iP* **P 03 30 25.4 0.0**
comp=Z,62nm,1.3s,mb5.1
TCF *e*pP pP 03 30 40.5 -3.3
TCF Toulx Ste Croi 85.93 43⇑*iP* **P 03 30 25.4 0.0**
TCF *e*PP* pP 03 30 40.5 -3.3
TCF pmax pmax
comp=Z,31nm,1.3s,mb5.1
TCF Toulx Ste Croi 85.93 43⇑*iP* **P 03 30 25.4 0.0**
comp=Z,31nm,1.3s,mb5.1
TCF *e*pP pP 03 30 40.5 -3.3
ETOB Tobarra 86.06 51 P **P 03 30 23.9 -2.0**
comp=Z,47nm,2.0s,mb5.1
GIVF Givet 86.08 38 *eP* **P 03 30 25.6 -0.5**
HFS Hagfors 86.11 27 LR LR 04 07 39.8
comp=Z,56nm,21.7s,baz=68,slow=35
EGRA Graus 86.16 47 P **P 03 30 24.4 -2.1**
comp=Z,32nm,1.2s,mb5.1
BGF Bois d'Agland 86.24 42 *eP* **P 03 30 26.9 0.0**
comp=Z,38nm,1.1s,mb4.9
BGF *e*pP pP 03 30 43.3 -2.0
BGF Bois d'Agland 86.24 42 *eP* **P 03 30 26.9 0.0**
BGF *e*PP* pP 03 30 43.3 -2.0
BGF pmax pmax
comp=Z,19nm,1.1s,mb4.9
BGF Bois d'Agland 86.24 42 *eP* **P 03 30 26.9 0.0**
comp=Z,19nm,1.1s,mb4.9
BGF *e*pP pP 03 30 43.3 -2.0
EMOS Mosqueruela 86.25 49 P **P 03 30 20.5 -6.4**
comp=Z,43nm,1.3s,mb5.2
CAF Calviac 86.35 44 *eP* **P 03 30 27.5 +0.1**
comp=Z,12nm,1.0s,mb4.5
CAF Calviac 86.35 44 *eP* **P 03 30 27.5 +0.1**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CAF Calviac 86.35 44 *eP* **P 03 30 27.5 +0.1**
comp=Z,6.0nm,1.0s,mb4.5
SSF Saint Saulge 86.47 42⇑*iP* **P 03 30 28.0 0.0**
comp=Z,19nm,1.0s,mb4.7
SSF *e*pP pP 03 30 44.4 -2.0
SSF Saint Saulge 86.47 42⇑*iP* **P 03 30 28.0 0.0**
SSF *e*PP* pP 03 30 44.4 -2.0
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SSF Saint Saulge 86.47 42⇑*iP* **P 03 30 28.0 0.0**
comp=Z,9.6nm,1.0s,mb4.7
SSF *e*pP pP 03 30 44.4 -2.0
AVF Avril sur Loir 86.47 42⇑*iP* **P 03 30 27.7 -0.3**
comp=Z,16nm,1.0s,mb4.6
AVF Avril sur Loir 86.47 42⇑*iP* **P 03 30 27.7 -0.3**
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
AVF Avril sur Loir 86.47 42⇑*iP* **P 03 30 27.7 -0.3**
comp=Z,8.1nm,1.0s,mb4.6
MEM Membach 86.56 38 P sP 03 30 51.2 -2.9
LOR Lormes 86.61 41⇑*iP* **P 03 30 29.0 +0.3**
comp=Z,31nm,1.0s,mb4.9
LOR *e*MLR
comp=Z,32nm,18.0s
LOR Lormes 86.61 41⇑*iP* **P 03 30 29.0 +0.3**
LOR pmax pmax
comp=Z,16nm,1.0s,mb4.9
LOR MLR MLR
comp=Z,30nm,18.0s
LOR Lormes 86.61 41⇑*iP* **P 03 30 29.0 +0.3**
comp=Z,16nm,1.0s,mb4.9
LOR LR LR
comp=Z,30nm,18.0s
PYM Petit Puy Mans 86.65 43 *eP* **P 03 30 28.9 0.0**
SMF Signal de Mont 86.84 42 *eP* **P 03 30 29.5 -0.3**
MEZF Maizieres J'vi 86.86 40 *eP* **P 03 30 29.2 -0.7**
LBL Lubilhac 87.01 43 *eP* **P 03 30 30.8 +0.2**
WLF Walferdange 87.04 38 *eP* **P 03 30 30.0 -0.8**
comp=Z,21nm,1.0s,mb5.0
WLF Walferdange 87.04 38 P sP 03 30 53.6 -2.9
WLF Walferdange 87.04 38 *eP* **P 03 30 30.6 -0.2**
WLF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WLF Walferdange 87.04 38 *eP* **P 03 30 30.6 -0.2**
comp=Z,7.3nm,0.9s,mb4.6
MTLF Montolieu 87.04 45 *eP* **P 03 30 31.0 +0.2**
comp=Z,19nm,1.1s,mb4.6
MTLF *e*pP pP 03 30 46.5 -2.7
MTLF Montolieu 87.04 45 *eP* **P 03 30 31.0 +0.2**
MTLF *e*PP* pP 03 30 46.5 -2.7
MTLF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MTLF Montolieu 87.04 45 *eP* **P 03 30 31.0 +0.2**
comp=Z,9.6nm,1.1s,mb4.6
MTLF *e*pP pP 03 30 46.5 -2.7
BSEG Bad Segeberg 87.48 33 *ep*P pP 03 30 54.7 +3.3
HAU Haudompre 87.85 40 *eP* **P 03 30 33.9 -0.8**
HAU *e*pP pP 03 30 49.4 -3.7
HAU *e*MLR
comp=Z,83nm,22.5s
HAU Haudompre 87.85 40 *eP* **P 03 30 33.9 -0.8**
HAU *e*pP pP 03 30 49.4 -3.7
HAU LR LR
comp=Z,80nm,22.5s
LASF Ste Croix 87.86 44 *eP* **P 03 30 34.6 -0.1**
comp=Z,15nm,1.1s,mb4.6
VIVF Saint-Julien-I 88.08 43 *eP* **P 03 30 36.3 +0.5**
comp=Z,30nm,1.4s,mb4.8
VIVF Saint-Julien-I 88.08 43 *eP* **P 03 30 36.3 +0.5**
VIVF pmax pmax
comp=Z,15nm,1.4s,mb4.8
VIVF Saint-Julien-I 88.08 43 *eP* **P 03 30 36.3 +0.5**
comp=Z,15nm,1.4s,mb4.8
TNS Taunus Mts 88.14 37 *eP* **P 03 30 36.0 0.0**
comp=Z,17nm,1.1s,mb5.0
TNS *e*pP pP 03 30 58.0 +3.5
TNS Taunus Mts 88.14 37 *eP* **P 03 30 36.0 0.0**
TNS *e*PP* pP 03 30 58.0 +3.5
TNS pmax pmax
comp=Z,17nm,1.1s,mb5.0
HINF Hinteralfeld 88.24 40 *eP* **P 03 30 35.5 -1.0**
CLZ Clausthal 88.49 35 *eP* **P 03 30 38.6 +0.9**
comp=Z,22nm,1.1s,mb5.1
CLZ Clausthal 88.49 35 *eP* **P 03 30 38.6 +0.9**
CLZ pmax pmax
comp=Z,22nm,1.1s,mb5.1
BFO Black Forest 88.91 39 *eP* **P 03 30 38.3 -1.4**
comp=Z,9.0nm,1.4s,mb4.6
BFO Black Forest 88.91 39 *eP* **P 03 30 38.3 -1.4**
BFO pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
LPG La Plagne 89.16 42 *eP* **P 03 30 40.6 -0.2**
comp=Z,13nm,1.4s,mb4.5
LPG La Plagne 89.16 42 *eP* **P 03 30 40.6 -0.2**
LPG pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
LPG La Plagne 89.16 42 *eP* **P 03 30 40.6 -0.2**
comp=Z,6.7nm,1.4s,mb4.5
STU Stuttgart 89.22 38 *ep*P pP 03 31 03.5 +3.9
MOX Moxa 89.74 36 *eP* **P 03 30 43.7 +0.1**
comp=Z,11nm,1.4s,mb4.8
LMR La Mourre 89.92 44 *eP* **P 03 30 43.7 -0.7**
comp=Z,5.9nm,0.9s,mb4.4
LMR La Mourre 89.92 44 *eP* **P 03 30 43.7 -0.7**
LMR pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
LMR La Mourre 89.92 44 *eP* **P 03 30 43.7 -0.7**
comp=Z,3.0nm,0.9s,mb4.4
GRA1 Grafenberg Arr 89.97 37 *eP* **P 03 30 45.5 +0.8**
comp=Z,20nm,1.2s,mb5.1
GRA1 *e*pP pP 03 31 06.8 +3.6
GRF Grafenberg Arr 89.97 37 *eP* **P 03 30 45.5 +0.8**
comp=Z,20nm,1.2s,mb5.1
GRF *e*pP pP 03 31 06.8 +3.6
GRF Grafenberg Arr 89.97 37 *eP* **P 03 30 45.5 +0.8**
GRF *e*PP* pP 03 31 06.8 +3.6
GRF pmax pmax
comp=Z,20nm,1.2s,mb5.1
GRF Grafenberg Arr 89.97 37 *eP* **P 03 30 45.5 +0.8**
GRF *e*PP* pP 03 31 06.8 +3.6
GRF pmax pmax
comp=Z,20nm,1.2s,mb5.1
CLL Collm 90.18 35 P pP 03 30 59.0 -5.1
CLL *e* 03 31 07.0
CLL Collm 90.18 35 *e*(pP) pP 03 30 59.0 -5.1
WERD Werda 90.22 36 *ep*P pP 03 31 06.6 +2.3
GUNZ Gunzen 90.28 36 *eP* **P 03 30 47.7 +1.6**
comp=Z,15nm,1.4s,mb4.9
GUNZ *e*pP pP 03 31 07.2 +2.6
FINES FINESS Array B 90.30 23 P **P 03 30 45.0 -1.1**
comp=Z,2.3nm,0.8s,mb4.3,baz=260,slow=3.5,SNR=5.3
FINES LR LR 04 10 43.8
comp=Z,84nm,18.1s,baz=352,slow=35
TANN Tannenbergstha 90.33 36 *eP* **P 03 30 46.6 +0.3**
comp=Z,9.0nm,1.3s,mb4.7
TANN *e*pP pP 03 31 07.7 +2.9
MANZ Manzenberg 90.34 36 *eP* **P 03 30 46.7 +0.4**
comp=Z,7.0nm,1.2s,mb4.7
FBE Freiberg 90.57 35 *eP* **P 03 30 47.4 0.0**
comp=Z,17nm,1.5s,mb5.0
FBE *e*pP pP 03 31 09.4 +3.5
YAK Yakutsk 90.65 339 *eP* **P 03 30 47.1 -0.7**
YAK *e* pP 03 31 08.4 +2.1
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.1
YAK pmax pmax
comp=E,4.0nm,1.3s
BRG Berggiesshubel 90.91 35 *eP* **P 03 30 49.2 +0.2**
comp=Z,6.0nm,1.1s,mb4.6
BRG *e*pP pP 03 31 10.5 +3.0
BRG Berggiesshubel 90.91 35 *eP* **P 03 30 49.1 +0.1**
comp=Z,7.6nm,1.3s,mb4.7
BRG *e* pP 03 31 10.1 +2.5
comp=Z,3.5nm,1.1s
BRG Berggiesshubel 90.91 35 *eP* **P 03 30 49.1 +0.1**
BRG *e* pP 03 31 10.1 +2.6
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
KHC Kasperske Hory 91.59 37 *iP* **P 03 30 52.0 -0.2**
GEC2 GERESS Array S 91.81 37 *eP* **P 03 30 53.4 +0.2**
comp=Z,6.0nm,1.2s,mb4.7
GEC2 GERESS Array S 91.81 37 *eP* **P 03 30 53.4 +0.2**
GEC2 pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
GERES GERESS Array B 91.81 37 P **P 03 30 53.4 +0.3**
comp=Z,0.6nm,0.7s,mb3.9,baz=279,slow=3.4,SNR=6.1
GERES LR LR 04 12 17.1
comp=Z,58nm,19.7s,baz=302,slow=36
VRAC Vranov 93.19 35 LR LR 04 12 45.2
comp=Z,37nm,18.1s,baz=352,slow=35
MORC Moravsky Berou 93.45 35 *eP* **P 03 31 01.2 +0.4**
MORC *e*PP* pP 03 31 16.8 -2.5
MORC pmax pmax
comp=Z,100nm,2.6s,mb5.7
MORC Moravsky Berou 93.45 35 *eP* **P 03 31 01.2 +0.4**
comp=Z,100nm,2.6s,mb5.7
MORC *e*pP pP 03 31 16.8 -2.5
NIE Niedzica 95.14 34 *eP* **P 03 31 08.7 +0.2**
KEST Kesra 95.19 50 P **P 03 31 08.9 +0.2**
comp=Z,1.9nm,0.9s,mb4.5,baz=259,slow=5.2,SNR=3.6
KLMR Klimovskoe 95.19 18 P **P 03 31 06.2 -2.5**
KLMR pmax pmax
comp=Z,36nm,2.5s,mb5.4
UZH Uzhgorod 96.66 34 *e* **P 03 31 17.0 +1.6**
TORD Torodi Ar. Bea 97.76 73 P **P 03 31 18.7 -1.7**
comp=Z,0.8nm,1.0s,mb4.2,baz=299,slow=4.5,SNR=4.8
BZS Buzias 98.08 37 S sS 03 43 14.5 -0.7
OBN Obninsk 98.69 23⇓*eP* **P 03 31 21.8 -2.7**
OBN *e*PP* pP 03 31 43.9 +0.8
OBN *e*S SKSac 03 41 53.0 -3.7
OBN pmax pmax
comp=Z,10.0nm,1.4s,mb5.2
AKASG Malin Array Be 98.79 29 LR LR 04 14 59.4
comp=Z,58nm,20.9s,baz=350,slow=35
AKASG Malin Array Be 98.79 29 *iP* **P 03 31 26.7 +1.7**
GZR Gura Zlata 98.87 36 S S 03 43 13.0 +23
MDJ Mudanjiang 102.38 326 P Pdif 03 31 39.4 -1.6
MDJ AMB AMB
comp=Z,9.0nm,1.7s
MDJ AMB AMB
comp=Z,76nm,4.7s
BJI Beijing 112.54 330 PKIKP 03 36 34.5
HHC Hu-ho-hao-te 113.98 333 *e*PKP PKiKP 03 36 23.9 -0.1
HHC PP PP 03 37 22.0 +3.4
HHC PKS 03 39 58.4
HHC SKS SKSdf 03 43 24.3 -6.0
HHC SS SS 03 53 00.3 -2.9
HHC PP PP
comp=Z,91nm,11.3s
HHC LR LR
comp=N,178nm,17.2s
HHC LR LR
comp=E,183nm,16.1s
HHC LR LR
comp=Z,114nm,20.8s
MKAR Makanchi Array 115.34 357 PKP PKPdf 03 36 24.2 -2.4
comp=Z,0.3nm,0.5s,baz=35,slow=4.4,SNR=5.3
WMQ Urumqi 117.86 353 *e*PDIF Pdif 03 32 49.0 -0.8
WMQ PKP PKPdf 03 36 30.8 -0.6
WMQ PP PP 03 37 49.1 +3.3
WMQ PKS 03 40 06.3
WMQ PPP 03 40 19.8
WMQ SKS SKSdf 03 43 31.9 -5.8
WMQ SKKS SKKSac 03 44 31.0 -9.4
WMQ PP PP
comp=Z,150nm,4.5s
WMQ LR LR
comp=N,91nm,32.0s
WMQ LR LR
comp=E,35nm,23.0s
WMQ LR LR
comp=Z,89nm,25.0s
LZH Lanzhou 121.17 336 *e*PKIKP PKPdf 03 36 34.0 -3.8
LZH **PP 03 36 55.0
LZH Lanzhou 121.17 336 *eP* PKPdf 03 36 34.0 -3.8
LZH pP 03 36 55.0
LZH sP 03 37 13.4
STKA Stephens Creek 122.26 243 *eP* PKPdf 03 36 39.2 -0.7
comp=Z,2.0nm,0.7s
STKA Stephens Creek 122.26 243 PKP PKPdf 03 36 38.6 -1.3
comp=Z,3.0nm,0.7s,baz=41,slow=3.6,SNR=7.5
CD2 Chengdu 125.74 334 *e*PKP PKPdf 03 36 45.6 -1.0
WB2 Warramunga Arr 127.77 258 *eP* PKPdf 03 36 50.2 -0.2
WRA Warramunga Arr 127.78 258 PKP PKPdf 03 36 50.2 -0.3
comp=Z,2.9nm,0.7s,baz=80,slow=2.3,SNR=38
ASAR Alice Springs 128.59 254 PKP PKPdf 03 36 51.2 -0.7
comp=Z,2.2nm,0.9s,baz=109,slow=2.0,SNR=13
MAW Mawson 129.46 172 PKP PKPdf 03 36 52.3 -1.3
comp=Z,4.2nm,0.9s,baz=235,slow=9.9,SNR=3.7
BOSA Boshof 129.98 112 PKP PKPdf 03 36 55.4 +0.7
comp=Z,4.2nm,1.1s,baz=332,slow=13,SNR=3.1
KMI Kunming 131.18 331 PKP PKPdf 03 36 54.8 -2.1
HYB Hyderabad 144.70 1 *i* PKP PKPdf 03 37 20.0 -1.7
HYB Hyderabad 144.70 1 *e* PKPdf 03 37 20.0 -1.7
KULM Kulim 148.38 315 *e*PKPbc PKPbc 03 37 31.7 +0.3

NEIC ***17*** *03:21:19.8, 2905S×7162W, h34km, ML4.4(GUC), After GUC.*
GUC ***17*** *03:21:19.8±0.7, 2905S×7162W, h34km±3km, MD4.4, ML4.4*
ISCJB ***17*** *03:21:20.2±1.1, 2904S±004×7167W±009, h35km±14km, mb3.8/2, Error ellipse: s-maj=13.2km s-min=5.4km az=23.7*
IDC ***17*** *03:21:24.5±3.8, 2900S×7155W, h58km±31km, mb3.5/2, mb1 3.8/4, mb1mx3.5/16, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=53.6km s-min=21.1km az=58.0*
ISC 17 03:21:20.0±2.0, 2905S±003×7160W±007, h17km±13km, n21, σ1§09/31, mb3.8/2, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.79**	**87**	*e*Pn	**Pn**	**03 21 34.4**	**-1.9**
LCO				*e*Sn	**Sn**	**03 21 46.0**	**-1.7**
VACH	**Vallenar**	**0.88**	**58**	*i* P	**Pb**	**03 21 35.8**	**-1.0**
VACH				*i* S	**Sb**	**03 21 48.9**	**+0.7**
VACH				AML	AML	03 21 51.1	
VACH	comp=N,27μm,0.4s **Vallenar**	**0.88**	**58**	*i* P	**Pb**	**03 21 35.8**	**-1.0**
VACH				*i* S	**Sb**	**03 21 48.9**	**+0.7**
LSCH	**La Serena**	**0.91**	**160**⇑	*i*P	**Pb**	**03 21 36.6**	**-0.6**
LSCH				*i* S	**Sb**	**03 21 48.6**	**-0.4**
TLL	**Tololo Astrono**	**1.31**	**148**⇓	*i*P	**Pn**	**03 21 43.5**	**0.0**
TLL				*i* S	**Sb**	**03 22 01.2**	**+0.6**
TLL				AML	AML	03 22 04.4	
TLL	comp=N,6μm,0.6s **Tololo Astrono**	**1.31**	**148**⇓	*i*P	**Pn**	**03 21 43.5**	**0.0**
TLL				*i* S	**Sb**	**03 22 01.2**	**+0.6**
OVCH	**Ovalle**	**1.59**	**167**⇑	*i*P	**Pn**	**03 21 47.0**	**-0.3**
OVCH				*i* S	**Sn**	**03 22 07.3**	**-0.1**
OVCH	comp=N,6μm,0.8s **Ovalle**	**1.59**	**167**⇑	*i*P	**Pn**	**03 21 47.0**	**-0.3**
OVCH				*i* S	**Sn**	**03 22 07.3**	**-0.1**

CPCH	**Copiapo**	**2.02**	**33⇑**	*i* P	**Pn**	03 21 53.0	-0.1
CPCH				*i* S	**Sn**	03 22 18.1	+0.1
CPCH				AML	AML	03 22 23.4	
	comp=E,9μm,0.1s						
CPCH	**Copiapo**	**2.02**	**33⇑**	*i* P	**Pn**	03 21 53.0	-0.1
CPCH				*i* S	**Sn**	03 22 18.1	+0.1
CDCH	**Caldera**	**2.09**	**19**	AML	AML	03 22 30.5	
	comp=E,2μm,0.4s						
CMCH	**Combarbala**	**2.18**	**166⇓**	*i* P	**Pn**	03 21 55.1	-0.3
CMCH				AML	AML	03 22 31.8	
	comp=N,7μm,0.5s						
CFAA	**Coronel Fontan**	**3.86**	**132**	P	**Pn**	03 22 21.0	+2.4
	comp=N,1.7nm,0.3s,baz=314,slow=12,SNR=3.2						
CFAA				S	**Sn**	03 23 06.5	+2.9
	comp=N,1.6nm,0.3s,baz=216,slow=22,SNR=5.9						
CFAA	**Coronel Fontan**	**3.86**	**132**	P	**Pn**	03 22 21.0	+2.4
CFAA				S	**Sn**	03 23 06.5	+2.9
PEL	**Peldehue**	**4.15**	**169⇓**	*i* Pn	**Pn**	03 22 22.4	-0.1
PEL				*i* S	**Sn**	03 23 10.1	-0.6
TRQA	**Tornquist**	**12.04**	**141**	*e*Pn	**Pn**	03 24 12.0	+1.3
	comp=N,6.1nm,0.7s						
LPAZ	**La Paz**	**13.10**	**15**	P	**Pn**	03 24 27.3	+2.1
	comp=N,0.3nm,0.3s,baz=159,slow=7.2,SNR=12						
TXAR	**Lajitas Array**	**65.64**	**329**	P	**P**	03 32 03.0	-0.1
	comp=N,0.2nm,0.5s,mb3.4,baz=156,slow=8.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**82.19**	**70**	P	**P**	03 33 39.2	-0.8
	comp=N,2.1nm,0.8s,mb4.1,baz=271,slow=4.9,SNR=21						
WRA	**Warramunga Arr**	**125.23**	**210**	PKP	PKPdf	03 40 18.7	-0.9
	comp=N,0.1nm,0.5s,baz=161,slow=1.8,SNR=4.8						
MKAR	**Makanchi Array**	**153.03**	**42**	PKPbc	PKPbc	03 41 15.5	-1.0
	comp=N,0.3nm,0.7s,baz=5.5,slow=1.8,SNR=2.9						

*ISCJB **17** 03:40:38.3±3.7, 580S±0.1×259W±0.2, h102km±36km, mb4.1/16, Error ellipse: s-maj=17.6km s-min=13.2km az=26.0*
*IDC **17** 03:40:38.1±4.5, 5806S×2603W, h88km±41km, mb4.0/10, mb1 4.1/12, mb1mx4.0/17, mbtmp4.0/12, MS3.3/1, Ms1 3.2/1, ms1mx2.9/20, Error ellipse: s-maj=19.0km s-min=14.5km az=16.0*
*NEIC **17** 03:40:41.7±2.7, 5805S×2587W, h120km±25km, mb4.3/12, Error ellipse: s-maj=13.0km s-min=9.7km az=192.0*
*BJI **17** 03:40:42.0, 5800S×2590W, h120km*

ISC 17 03:40:39.4±3.9, 581S±01×260W±02, h100km±37km, n38, σ0§84/28, mb4.1/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.59**	**154**	P	**Pn**	**03 44 26.7**	**+0.8**
	0.5nm,0.3s,baz=320,slow=13,SNR=52						
SNAA				S	**S**	**03 47 14.8**	**-20**
	0.1nm,0.3s,baz=324,slow=17,SNR=3.5						
SNAA	**Sanae**	**16.59**	**154**	*e*Pn	**Pn**	**03 44 26.5**	**+0.6**
	7.1nm,0.5s						
SNAA				*e*Sn	**Sn**	**03 47 19.6**	**-10**
PMSA	**Palmer Station**	**19.13**	**234**	P	**P**	**03 44 52.7**	**-1.8**
	0.7nm,0.3s,baz=180,slow=6.1,SNR=5.6						
PMSA	**Palmer Station**	**19.13**	**234**	*e*P	**P**	**03 44 58.3**	**+3.7**
	34nm,1.1s						
USHA	**Ushuaia**	**23.39**	**260**	P	**P**	**03 45 39.1**	**-0.1**
	8.4nm,1.0s,mb4.0,baz=120,slow=14,SNR=3.1						
QSPA	**South Pole Qui**	**32.14**	**180**	*e*P	**P**	**03 46 57.6**	**+0.3**
	5.7nm,0.6s,mb4.5						
PLCA	**Paso Flores**	**33.05**	**282**	P	**P**	**03 47 05.5**	**+0.3**
	3.7nm,0.9s,mb4.2,baz=160,slow=6.3,SNR=5.6						
PLCA	**Paso Flores**	**33.05**	**282**	*e*P	**P**	**03 47 06.2**	**+1.0**
	5.4nm,0.9s,mb4.4						
MAW	**Mawson**	**38.11**	**142**	P	**P**	**03 47 47.7**	**-0.8**
	1.3nm,0.6s,mb3.9,baz=243,slow=2.3,SNR=2.4						
CFAA	**Coronel Fontan**	**39.00**	**294**	P	**P**	**03 47 53.8**	**-2.1**
	0.1nm,0.3s,mb3.1,baz=175,slow=6.8,SNR=5.2						
VNDA	**Vanda**	**44.54**	**182**	P	**P**	**03 48 41.5**	**+0.4**
	1.6nm,0.6s,mb4.0,baz=185,slow=5.4,SNR=13						
VNDA	**Vanda**	**44.54**	**182**	*e*P	**P**	**03 48 41.7**	**+0.6**
	2.1nm,0.7s,mb4.0						
BOSA	**Boshof**	**45.89**	**73**	P	**P**	**03 48 51.3**	**-0.5**
	3.0nm,0.5s,mb4.3,baz=212,slow=7.5,SNR=12						
BOSA				LR	LR	04 03 20.5	
	comp=Z,36nm,18.5s,baz=103,slow=30						
BOSA	**Boshof**	**45.89**	**73**	*e*P	**P**	**03 48 51.2**	**-0.6**
	4.8nm,0.7s,mb4.3						
LBTB	**Lobatse**	**49.03**	**70**	P	**P**	**03 49 15.9**	**-0.1**
	5.4nm,0.8s,mb4.5,baz=229,slow=7.7,SNR=11						
LBTB	**Lobatse**	**49.03**	**70**	*e*P	**P**	**03 49 15.7**	**-0.3**
	5.8nm,0.7s,mb4.6						
TSUM	**Tsumeb**	**50.16**	**58**	*e*P	**P**	**03 49 24.8**	**+0.1**
	3.0nm,0.7s,mb4.3						
LPAZ	**La Paz**	**52.11**	**305**	P	**P**	**03 49 39.1**	**-0.1**
	0.9nm,0.4s,mb4.1,baz=226,slow=11,SNR=7.3						
LPAZ	**La Paz**	**52.11**	**305**	*e*P	**P**	**03 49 38.8**	**-0.4**
	1.3nm,0.8s,mb4.2						
LSZ	**Lusaka**	**58.54**	**67**	*e*P	**P**	**03 50 25.4**	**0.0**
	2.9nm,0.8s,mb4.4						
OTAV	**Otavalo**	**71.34**	**303**	*e*P	**P**	**03 51 50.3**	**+2.0**
	1.2nm,0.7s,mb3.8						
TOA0	**Torodi Ar. Sit**	**74.55**	**28**	*e*P	**P**	**03 52 07.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**74.55**	**28**	P	**P**	**03 52 07.6**	**+0.4**
	11nm,0.5s,mb4.8,baz=199,slow=6.3,SNR=485						
TORD				pP	pP	03 52 31.6	-1.3
	2.3nm,0.5s,baz=198,slow=6.4,SNR=3.2						
SDV	**Santo Domingo**	**75.93**	**314**	*e*P	**P**	**03 52 15.3**	**+0.1**
	2.1nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**89.75**	**169**	P	**P**	**03 53 26.6**	**+0.1**
	1.3nm,0.9s,mb4.1,baz=303,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**96.82**	**161**	P	**P**	**03 53 58.2**	**-0.8**
	0.2nm,0.5s,mb3.8,baz=179,slow=3.5,SNR=4.3						
WRA	**Warramunga Arr**	**100.54**	**161**	P	Pdif	03 54 14.9	-0.7
	0.3nm,0.9s,baz=192,slow=4.1,SNR=2.7						
PDAR	**Pinedale Array**	**121.98**	**300**	PKP	PKPdf	03 59 20.8	-1.3
	0.1nm,0.3s,baz=152,slow=6.0,SNR=4.0						
FINES	**FINESS Array B**	**125.90**	**28**	PKP	PKPdf	03 59 27.2	-2.3
	1.3nm,0.7s,baz=153,slow=3.3,SNR=12						
ARCES	**ARCESS Array B**	**132.61**	**22**	PKP	PKPdf	03 59 40.1	-2.1
	3.2nm,0.9s,baz=228,slow=3.1,SNR=6.3						
MKAR	**Makanchi Array**	**136.89**	**73**	PKP	PKPdf	03 59 48.9	-1.4
	0.2nm,0.6s,baz=316,slow=0.6,SNR=4.1						
MKAR	**Makanchi Array**	**136.89**	**73**	PKP	PKPdf	03 59 48.9	-1.4
WMQ	**Urumqi**	**137.65**	**80**	*e*PKP	PKPdf	03 59 52.5	+0.8
YKA	**Yellowknife Ar**	**138.13**	**316**	PKhKP		03 59 42.6	
	0.1nm,0.5s,baz=122,slow=3.3,SNR=4.8						
YKA				PKP	PKPdf	03 59 51.2	-1.4
	0.9nm,0.6s,baz=129,slow=2.3,SNR=26						
YKA	**Yellowknife Ar**	**138.13**	**316**	PKP		03 59 42.6	
YKA				PKP	PKPdf	03 59 51.2	-1.4
INK	**Inuvik**	**147.80**	**318**	PKPbc	PKPbc	04 00 10.8	-1.7
	2.3nm,0.6s,baz=96,slow=4.1,SNR=14						
HHC	**Hu-ho-hao-te**	**148.13**	**104**	*e*PKP	PKPdf	04 00 12.8	+2.7
HHC				APKP		04 00 41.1	
HHC				XPKP		04 00 52.4	
HHC				PP	PP	04 03 49.6	+7.4
HHC				LR	LR		
	comp=N,196nm,18.4s						
HHC				LR	LR		
	comp=E,160nm,19.0s						
HHC				LR	LR		
	comp=Z,93nm,19.6s						
SONM	**Songino Array**	**150.14**	**89**	PKPbc	PKPbc	04 00 17.3	-1.2
	comp=Z,2.7nm,0.5s,baz=226,slow=3.6,SNR=28						
SONM				pPKPbc	pPKPbc	04 00 41.0	-4.9
	comp=Z,1.0nm,0.5s,baz=224,slow=3.7,SNR=3.2						

KRSC 17 04:03:12.3±0.3, 5315N×15916E, h127km±23km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.11**	**79**	*i* P	Pn	04 03 30.5	+0.9
NLC				*i* S	Sn	04 03 44.1	+1.5
AVH	**Avacha**	**0.28**	**295**	*e*P	Pn	04 03 30.8	+0.8
AVH				*i* S	Sn	04 03 43.9	+0.6
PET	**Petropavlovsk**	**0.33**	**248**	*i* P	Pn	04 03 30.6	+0.4
PET				*i* S	Sn	04 03 43.7	0.0
SPN	**Mys Shipunski**	**0.52**	**95**	*e*P	Pn	04 03 31.9	+0.8
SPN				*i* S	Sn	04 03 46.2	+0.8
RUS	**Russkaya**	**0.82**	**209**	*i* P	Pn	04 03 33.3	0.0
RUS				*i* S	Sn	04 03 48.8	-0.4
GRL	**Gorelyy**	**0.89**	**228**	*e*P	Pn	04 03 34.8	+0.9
GRL				*i* S	Sn	04 03 51.2	+0.9
GNL	**Ganaly**	**0.91**	**307**	*e*P	Pn	04 03 34.2	+0.1
GNL				*i* S	Sn	04 03 50.5	-0.1
MKZ	**Mys Kozlova**	**2.07**	**46**	*i* P	Pn	04 03 48.0	+1.0
MKZ				*i* S	Sn	04 04 13.1	-0.5
TUMR	**Tumrok**	**2.21**	**15**	*e*P	Pn	04 03 50.6	+1.9
TUMR				*i* S	Sn	04 04 19.5	+2.8
KMNR	**Kamenistaya**	**2.69**	**13**	*i* P	Pn	04 03 56.7	+2.0
KMNR				*i* S	Sn	04 04 29.6	+2.2
BZMR	**Bezymyannaya**	**2.90**	**15**	*e*P	Pn	04 03 59.4	+2.0
ZLN	**Zelenaya**	**3.03**	**18**	*i* P	Pn	04 04 01.8	+2.6
ZLN				*i* S	Sn	04 04 37.9	+2.6
CIRR	**Tsirk**	**3.11**	**17**	*e*P	Pn	04 04 02.7	+2.5
SRDR	**Sredinnyy**	**3.19**	**6**	*e*P	Pn	04 04 02.3	+1.0
BDR	**Baidarnaya**	**3.62**	**18**	*e*P	Pn	04 04 09.1	+2.1
BDR				*i* S	Sn	04 04 50.5	+1.2
SMKR	**Semkarok**	**3.69**	**20**	*e*P	Pn	04 04 10.1	+2.3
SRKR	**Sorokina**	**3.70**	**17**	*e*P	Pn	04 04 10.2	+2.2
SRKR				*i* S	Sn	04 04 51.9	+0.9
KBTR	**Krutoberegovo**	**3.73**	**33**	*e*P	Pn	04 04 09.3	+0.9
KBTR				*i* S	Sn	04 04 51.1	-0.7

*ISCJB **17** 04:07:54.5±0.4, 1794N±004×10130W±003, h63km±5km, mb4.0/15, Error ellipse: s-maj=6.9km s-min=4.1km az=20.3*
*MEX **17** 04:07:56.4±0.8, 1797N×10131W, h57km±10km, MD4.3*
*NEIC **17** 04:07:56.5, 1797N×10131W, h56km, mb4.0/13, MD4.4(MEX), After MEX.*
*IDC **17** 04:08:01.3±3.5, 1818N×10076W, h109km±29km, mb3.9/6, mb1 4.0/9, mb1mx3.7/21, mbtmp3.7/9, MS2.7/2, Ms1 2.7/2, ms1mx2.4/31, Error ellipse: s-maj=39.1km s-min=18.8km az=39.0*

ISC 17 04:07:55.6±0.4, 1794N±004×10130W±003, h57km±5km, n45, σ1§39/59, mb4.0/15, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.37**	**206**	*i* P	**Pn**	**04 08 05.3**	**-0.7**
ZIIG				*i* S	**Sn**	**04 08 13.3**	**-0.2**
CAIG	**El Cayaco**	**1.32**	**132**	*i* P	**Pn**	**04 08 17.5**	**-0.3**
CAIG				*i* S	**Sn**	**04 08 33.8**	**-0.7**
MEIG	**Mezcala**	**1.60**	**90**	*e*P	**Pn**	**04 08 21.8**	**+0.3**
MEIG				*i* S	**Sn**	**04 08 39.8**	**-1.2**
ACX	**Acapulco**	**1.69**	**129**	*i* P	**Pn**	**04 08 23.0**	**+0.1**
ACX				*i* S	**Sn**	**04 08 44.0**	**+0.5**
MOIG	**Morelia**	**1.73**	**3**	*e*P	**Pn**	**04 08 22.4**	**-1.0**
MOIG				*e*S	**Sn**	**04 08 43.8**	**-0.6**
PLIG	**Platanillo**	**1.77**	**75**	*e*P	**Pn**	**04 08 24.0**	**+0.2**
PLIG				*e*S	**Sn**	**04 08 44.4**	**-0.8**
MMIG	**Aquila**	**1.98**	**280**	*i* P	**Pn**	**04 08 25.7**	**-1.0**
MMIG				*e*S	**Sn**	**04 08 48.2**	**-2.2**
SZVM	**Salazar**	**2.28**	**53**	*e*P	**Pn**	**04 08 29.0**	**-1.9**
SZVM				*i* S	**Sn**	**04 08 58.0**	**+0.3**
YAIG	**Yautepec**	**2.31**	**66**	*e*P	**Pn**	**04 08 31.5**	**+0.3**
YAIG				*i* S	**Sn**	**04 08 58.7**	**+0.3**
UNM	**Universidad Na**	**2.44**	**55**	*i* P	**Pn**	**04 08 36.0**	**+3.0**
PPM	**Popocatepetl**	**2.77**	**66**	*e*P	**Pn**	**04 08 38.6**	**+1.1**
PPM				*e*S	**Sn**	**04 09 08.4**	**-1.4**
SFJM	**Santa Fe**	**3.02**	**327**	*i* P	**Pn**	**04 08 41.0**	**0.0**
TPIG	**Tehuac#an**	**3.77**	**82**	*e*P	**Pn**	**04 08 53.2**	**+2.0**
TPIG				*e*S	**Sn**	**04 09 33.4**	**-1.0**
CJM	**Chamela**	**3.87**	**294**	*e*P	**Pn**	**04 08 54.3**	**+1.7**
CJM				*e*S	**Sn**	**04 09 34.9**	**-2.0**
ANIG	**Ahuacatlan**	**4.34**	**316**	*e*P	**Pn**	**04 09 00.0**	**+1.0**
VHO	**Vista Hermosa**	**4.44**	**101**	*e*P	**Pn**	**04 09 02.6**	**+2.2**
OXX	**Oaxaca**	**4.45**	**100**	*e*P	**Pn**	**04 09 03.0**	**+2.5**
OXX				*i* S	**Sn**	**04 09 48.0**	**-2.9**
HUIG	**Huatulco**	**5.42**	**113**	*e*P	**Pn**	**04 09 15.4**	**+1.6**
CMIG	**Matias Romero**	**6.18**	**97**	P	**Pn**	**04 09 25.6**	**+1.4**
	1.9nm,0.3s,baz=250,slow=11,SNR=42						
CMIG				S	**Sn**	**04 10 27.1**	**-6.3**
	2.2nm,0.3s,baz=302,slow=13,SNR=4.4						
CMIG				LR	LR	04 12 05.4	
	comp=Z,68nm,21.8s,baz=329,slow=43						
CMIG	**Matias Romero**	**6.18**	**97**	*e*P	**Pn**	**04 09 24.6**	**+0.4**
CMIG				*i* S	**Sn**	**04 10 33.1**	**-0.4**
TXAR	**Lajitas Array**	**11.55**	**350**	P	**Pn**	**04 10 39.9**	**+2.2**
	0.1nm,0.3s,baz=164,slow=14,SNR=9.8						
TXAR				LR	LR	04 16 03.2	
	comp=Z,40nm,20.2s,baz=0.0,slow=42						
MNTX	**Cornudas Mount**	**14.19**	**346**	*e*Pn	**Pn**	**04 11 18.9**	**+5.4**
WMOK	**Wichita Mounta**	**16.88**	**7**	*e*P	**Pn**	**04 11 49.2**	**+1.3**
	1.6nm,0.7s						
LAZ	**Ladron**	**17.21**	**343**	*e*P	**Pn**	**04 11 53.7**	**+1.7**
ANMO	**Albuquerque**	**17.56**	**346**	P	**Pn**	**04 11 59.1**	**+2.8**
	0.1nm,0.3s,baz=158,slow=12,SNR=12						
SDCO	**Great Sand Dun**	**20.07**	**350**	*e*P	**P**	**04 12 25.0**	**+0.7**
	6.9nm,0.6s						
PLAL	**Pickwick Lake**	**20.66**	**32**	*e*P	**P**	**04 12 28.6**	**-1.9**
	7.1nm,0.8s						
WVT	**Waverly**	**21.69**	**31**	*e*P	**P**	**04 12 40.6**	**-1.0**
	2.5nm,0.4s,mb4.0						
TKL	**Tuckaleechee C**	**23.52**	**38**	P	**P**	**04 12 57.8**	**-2.7**
	5.2nm,0.5s,mb4.2,baz=203,slow=11,SNR=17						
WCI	**Wyandotte Cave**	**24.10**	**30**	*e*P	**P**	**04 13 04.5**	**-1.3**
	6.6nm,0.7s,mb4.2						
DUG	**Dugway**	**24.31**	**338**	*e*P	**P**	**04 13 08.5**	**+0.7**
	3.5nm,1.0s,mb3.7						
HWUT	**Hardware Ranch**	**25.18**	**342**	*e*P	**P**	**04 13 16.1**	**+0.5**
	8.3nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**25.25**	**327**	P	**P**	**04 13 18.6**	**+2.4**
	5.9nm,0.7s,mb4.2,baz=140,slow=11,SNR=34						
BW06	**Boulder Array**	**25.73**	**346**	*e*P	**P**	**04 13 22.2**	**+1.6**
	6.5nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**25.73**	**346**	P	**P**	**04 13 20.5**	**-0.1**
	5.1nm,0.8s,mb4.1,baz=153,slow=12,SNR=37						
SNOW	**Snow King Moun**	**26.67**	**345**	*e*P	**P**	**04 13 29.9**	**+0.8**
	6.9nm,0.9s,mb4.2						
MOOW	**Moose Ponds**	**26.94**	**345**	*e*P	**P**	**04 13 35.1**	**+3.5**
	2.6nm,0.9s,mb3.8						
HLID	**Hailey**	**27.85**	**339**	*e*P	**P**	**04 13 39.4**	**-0.2**
	0.8nm,0.8s,mb3.4						
WVOR	**Wild Horse Val**	**28.53**	**332**	*e*P	**P**	**04 13 44.7**	**-1.1**
	3.6nm,1.0s,mb4.1						
ULM	**Lac du Bonnet**	**32.53**	**6**	P	**P**	**04 14 18.6**	**-2.4**
	2.5nm,0.7s,mb4.3,baz=193,slow=10.0,SNR=5.5						
ULM	**Lac du Bonnet**	**32.53**	**6**	*e*P	**P**	**04 14 18.2**	**-2.8**
	2.6nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**45.47**	**351**	P	**P**	**04 16 07.1**	**-1.9**
	0.7nm,0.9s,mb3.5,baz=161,slow=7.5,SNR=7.0						
YKA	**Yellowknife Ar**	**45.47**	**351**	P	**P**	**04 16 07.1**	**-2.0**
ARCES	**ARCESS Array B**	**85.07**	**16**	P	**P**	**04 20 23.0**	**-2.2**
	4.9nm,0.9s,mb4.6,baz=333,slow=4.5,SNR=5.7						
WRA	**Warramunga Arr**	**127.54**	**258**	PKP	PKPdf	04 26 54.8	+0.6
	0.4nm,0.7s,baz=77,slow=2.4,SNR=9.6						

*NEIC **17** 04:18:48.5, 2907S×7152W, h41km, MD3.7(GUC), After GUC.*

GUC 17 04:18:48.5±0.9, 2907S×7152W, h41km±4km, MD3.7, ML2.9, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.72**	**86**	*e*Pn	Pn	04 19 02.2	0.0
LCO				*e*Sn	Sn	04 19 11.9	-0.1
VACH	**Vallenar**	**0.83**	**54⇓**	*i* P	Pn	04 19 04.4	+0.7
VACH				*i* S	Sn	04 19 15.6	+1.0
VACH				AML	AML	04 19 19.9	
	comp=N,1μm,0.1s						
VACH	**Vallenar**	**0.83**	**54⇓**	*i* P	Pn	04 19 04.4	+0.7
VACH				*i* S	Sn	04 19 15.6	+1.0
LSCH	**La Serena**	**0.87**	**164**	*e*P	Pn	04 19 05.0	+0.7
LSCH				*i* S	Sn	04 19 16.9	+1.1
TLL	**Tololo Astrono**	**1.26**	**151⇓**	*i* P	Pn	04 19 11.7	+2.1
TLL				*i* S	Sn	04 19 28.9	+3.5
TLL				AML	AML	04 19 35.0	
	comp=E,157nm,0.5s						
TLL	**Tololo Astrono**	**1.26**	**151⇓**	*i* P	Pn	04 19 11.7	+2.1
TLL				*i* S	Sn	04 19 28.9	+3.5
CMCH	**Combarbala**	**2.15**	**168**	*e*P	Pn	04 19 22.6	+0.9
CMCH				*i* S	Sn	04 19 48.9	+1.7
CMCH				AML	AML	04 19 57.5	
	comp=N,230nm,0.4s						
CMCH	**Combarbala**	**2.15**	**168**	*e*P	Pn	04 19 22.6	+0.9
CMCH				*i* S	Sn	04 19 48.9	+1.7

*NAO **17** 04:19:51.8±1.3, 6734N×3299E, ML2.6*
*HEL **17** 04:19:51.2±0.3, 6769N×3379E, h0km, ML2.8, ML2.5(BER), ML2.6(NAO), Explosion*
*CSEM **17** 04:19:52.1±2.1, 6736N×3329E, h2km, ML2.5, Error ellipse: s-maj=66.5km s-min=27.4km az=77.0*
*ISCJB **17** 04:19:54.5±0.6, 6764N±003×3256E±008, h0km, Error ellipse: s-maj=5.2km s-min=4.0km az=93.7*

ISC 17 04:19:55.4±0.6, 6762N±003×3271E±009, h0km, n21, σ1§28/38, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.11**	**94**	Pg	**Pg**	**04 19 56.5**	**-1.0**
	baz=82,slow=16						
APA0				Lg		04 20 00.7	
	baz=75,slow=37						
APA0				Rg		04 20 02.6	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.11**	**94**	*i* P	**Pg**	**04 19 56.5**	**-1.0**
APA0				*i* S	**Sg**	**04 20 00.7**	**+1.7**
APA0				*e*RG		04 20 02.6	
KU4	**Liikasenvaara**	**1.76**	**226**	*e*P	**Pn**	**04 20 28.2**	**+1.1**
KU4				*e*S	**Sn**	**04 20 55.2**	**+5.0**
KU6	**Riekki**	**1.95**	**216**	*e*PB	**Pb**	**04 20 31.1**	**-0.6**
KU6				*e*SB	**Sb**	**04 20 59.9**	**+3.3**
MSF	**Maaselka**	**2.25**	**222**	*e*PB	**Pb**	**04 20 36.5**	**-0.3**
MSF				*e*SB	**Sb**	**04 21 09.3**	**+4.2**
SGF	**Sodankyl**	**2.38**	**269**	*e*PB	**Pb**	**04 20 39.8**	**+0.7**
SGF				*e*SB	**Sb**	**04 21 15.3**	**+6.3**
SGF				MSG		04 21 18.9	
	comp=Z,46nm,0.4s						
KEV	**Kevo**	**2.99**	**319**	*e*P	**Pn**	**04 20 43.2**	**-0.9**
KEV				*e*S	**Sn**	**04 21 21.9**	**+1.3**
KEV				MSG		04 21 36.5	
	comp=Z,30nm,0.5s						
ARA0	**ARCESS Array S**	**3.27**	**309**	Pn	**Pn**	**04 20 47.3**	**-0.6**
	baz=122,slow=16						
ARA0				Pg	**Pg**	**04 20 55.9**	**-2.2**
	baz=119,slow=16						
ARA0				Sn	**Sn**	**04 21 29.6**	**+2.1**
	baz=118,slow=28						
ARA0				Lg		04 21 40.2	
	baz=131,slow=28						
ARA0	**ARCESS Array S**	**3.27**	**309**	*e*P	**Pn**	**04 20 47.3**	**-0.6**
ARA0				*e*PG	**Pg**	**04 20 55.9**	**-2.2**
ARA0				*e*S	**Sn**	**04 21 29.6**	**+2.1**
ARA0				*e*SG	**Sg**	**04 21 40.2**	**-0.3**
ARA0	**ARCESS Array S**	**3.27**	**309**	Pg	**Pg**	**04 20 55.8**	**-2.3**
	SNR=90						
ARA0				Sn	**Sn**	**04 21 29.6**	**+2.1**
	SNR=2.0						
OUL	**Oulu**	**3.74**	**230**	*e*PB	**Pb**	**04 21 00.0**	**-2.3**
OUL				*e*SG	**Sg**	**04 21 59.0**	**+3.5**
KTK1	**Kautokeino**	**3.78**	**296**	*e*P	**Pn**	**04 20 55.3**	**+0.4**
KTK1				*e*Sg	**Sg**	**04 21 57.2**	**+0.3**
KTK1				AML	AML	04 22 05.9	
	comp=Z,26nm,0.6s						
KTK1	**Kautokeino**	**3.78**	**296**	*e*P	**Pn**	**04 20 55.3**	**+0.4**
	SNR=49						
KTK1				*e*Sg	**Sg**	**04 21 57.2**	**+0.2**
	SNR=90						
KJN	**Kajaani**	**4.09**	**212**	*e*P	**Pn**	**04 20 58.7**	**-0.5**
KJN				*e*S	**Sn**	**04 21 48.3**	**+0.5**
KJN				MSG		04 22 05.4	
	comp=Z,15nm,0.5s						
TRO	**Tromso**	**5.43**	**298**	*e*	**Sn**	**04 22 20.1**	**-0.6**
TRO	**Tromso**	**5.43**	**298**	*e*S	**Sn**	**04 22 20.1**	**-0.6**
FIA0	**FINESS Array S**	**6.82**	**208**	Pn	**Pn**	**04 21 29.6**	**-7.0**
FIA0				Lg		04 23 15.6	
	baz=30,slow=28						
FIA0	**FINESS Array S**	**6.82**	**208**	*e*	**Pn**	**04 21 29.6**	**-7.0**
FIA0				*e*SB	**Sb**	**04 23 15.6**	**-1.2**
FIA0	**FINESS Array S**	**6.82**	**208**	Pn	**Pn**	**04 21 29.6**	**-7.0**
	SNR=50						
MOR8	**Moi Rana**	**7.33**	**267**	*e*	**Sg**	**04 23 46.2**	**-4.5**
MOR8	**Moi Rana**	**7.33**	**267**	*e*SG	**Sg**	**04 23 46.2**	**-4.5**

*SZGRF **17** 04:23:31.1, 2078S×17656W, h33km, Fiji Islands region*
*ISCJB **17** 04:24:27.3±1.2, 201S±0.1×1778W±0.2, h511km±19km, mb3.9/10, Error ellipse: s-maj=29.6km s-min=13.7km az=89.4*
*NEIC **17** 04:24:28.8±1.0, 2023S×17763W, h526km±12km, mb4.1/7, Error ellipse: s-maj=20.5km s-min=10.4km az=144.0*
*IDC **17** 04:24:29.4±1.6, 2014S×17780W, h526km±20km, mb3.2/5, mb1 3.6/7, mb1mx3.3/16, mbtmp3.4/7, Error ellipse: s-maj=27.3km s-min=12.9km az=144.0*

ISC 17 04:24:28.1±1.2, 202S±02×1776W±02, h518km±21km, n29, σ0§94/18, mb3.9/10, 1D, Fiji Islands region

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

THR1	Thera Island	1.97	37	*e*Pn	Pn	04 45 11.4	-0.3
THR1	Thera Island	1.97	37	*e*Pn	Pn	04 45 11.4	-0.4
SANT	Santorini	1.97	37	*e*Pn	Pn	04 45 10.7	-1.1
THR3	Thira Island,	1.98	35	*e*Pn	Pn	04 45 11.5	-0.3
VLI	Veliai	2.10	336	*e*PN	Pn	04 45 13.2	-0.4
VLI	Veliai	2.10	336	*e*P	Pn	04 45 13.1	-0.5
APE	Apeiranthos	2.59	28	*e*Pn	Pn	04 45 18.8	-1.5
APE				*e*Sn	Sn	04 45 52.0	+1.1
KARP	Karpathos	2.70	73	*e*PN	Pn	04 45 22.1	+0.3
KARP	Karpathos	2.70	73	*e*P	Pn	04 45 22.5	+0.7

GUC 17 04:54:58.9±0.5, 3156S×6820W, h150km, MD3.8, ML3.8, 2C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	2.31	241	⇓*i*P	Pn	04 55 38.6	+0.9
PTCH	Petorca	2.42	253	⇓*i*P	Pn	04 55 39.4	+0.4
PTCH				*i* S	Sn	04 56 10.3	+0.4
PTCH				AML	AML	04 56 11.4	
	comp=N,1μm,0.4s						
CMCH	Combarbala	2.42	278	⇓*i*P	Pn	04 55 39.8	+0.7
CMCH				*i* S	Sn	04 56 10.8	+0.8
CMCH				AML	AML	04 56 13.4	
	comp=N,879nm,0.9s						
PEL	Peldehue	2.63	232	⇓*i*P	Pn	04 55 42.0	+0.4
PEL				*i* S	Sn	04 56 15.0	+0.6
PEL				AML	AML	04 56 16.9	
	comp=N,277nm,0.5s						
TLL	Tololo Astrono	2.63	301	⇑*i*P	Pn	04 55 42.9	+1.3
TLL				*i* S	Sn	04 56 16.2	+1.6
TLL				AML	AML	04 56 24.0	
	comp=N,140nm,0.6s						
CLCH	Cerro Calan	2.69	227	*e*P	Pn	04 55 43.0	+0.6
CLCH				*i* S	Sn	04 56 16.6	+0.7
CLCH				AML	AML	04 56 19.7	
	comp=E,131nm,0.8s						
OVCH	Ovalle	2.74	290	*e*P	Pn	04 55 43.3	+0.3
OVCH				*i* S	Sn	04 56 16.4	-0.7
ROCH	El Roble	2.76	239	*e*P	Pn	04 55 44.2	+1.0
ROCH				*i* S	Sn	04 56 18.5	+1.1
PCH	Pirque	2.83	223	*e*P	Pn	04 55 45.1	+1.0
RCDM	Rinconada Maip	2.92	228	⇑*i*P	Pn	04 55 46.0	+0.8
RCDM				*i* S	Sn	04 56 21.9	+0.9
RCDM				AML	AML	04 56 29.4	
	comp=E,128nm,0.2s						
TACH	Talagante	3.11	227	⇓*i*P	Pn	04 55 48.0	+0.4
CHCH	Chadas Angostu	3.14	220	*e*P	Pn	04 55 48.3	+0.4
CACH	El Canelo	3.25	218	*e*P	Pn	04 55 50.9	+1.5
CACH				*i* S	Sn	04 56 30.2	+1.7
CICH	Cipreses	3.32	214	*e*P	Pn	04 55 51.3	+1.0

ISCJB 17 05:11:38.3±1.1, 297S±0.1×1795W±0.3, h300km±16km, mb3.4/4, Error ellipse: s-maj=37.8km s-min=16.3km az=19.3
IDC 17 05:11:38.3±1.4, 2950S×17908W, h319km±15km, mb3.0/3, mb1 3.3/4, mb1mx3.2/14, mbtmp3.2/4, Error ellipse: s-maj=30.3km s-min=25.7km az=113.0
NEIC 17 05:11:38.1±1.2, 2936S×17905W, h322km±14km, mb3.6/1, Error ellipse: s-maj=34.8km s-min=28.8km az=103.0
ISC 17 05:11:38.9±1.1, 2964S±010×1793W±03, h302km±15km, n21, σ1§26/19, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.30	73	P	Pn	05 12 21.2	+0.2
	128nm,0.3s,baz=71,slow=21,SNR=9.0						
MXZ	Matakaoa Point	8.14	193	*e*PN	Pn	05 13 36.7	+2.6
MWZ	Matawai	9.05	196	*e*PN	Pn	05 13 44.1	-1.1
URZ	Urewera	9.08	198	P	Pn	05 13 47.6	+2.0
	5.3nm,0.3s,baz=261,slow=2.5,SNR=25						
URZ				S	S	05 15 30.5	+1.6
	1.6nm,0.3s,baz=264,slow=22,SNR=9.2						
URZ	Urewera	9.08	198	*e*PN	Pn	05 13 45.1	-0.6
KNZ	Kokohu	9.67	194	*e*PN	Pn	05 13 54.7	+1.8
WNVZ	Wahianoa	10.52	202	*e*PN	Pn	05 14 04.0	+0.7
TSZ	Takapari Road	11.08	199	PN	Pn	05 14 08.8	-1.4
BFZ	Birch Farm	11.59	197	*e*PN	Pn	05 14 16.5	+0.2
MRZ	Mangatainoka R	11.75	199	*e*PN	Pn	05 14 17.3	-1.0
KIW	Kapiti Island	12.13	201	*e*PN	Pn	05 14 20.7	-2.2
CAW	Cannon Point	12.31	200	*e*PN	Pn	05 14 23.5	-1.5
MRW	Makara Radio	12.53	201	*e*PN	Pn	05 14 27.0	-0.7
TCW	Tory Channel	12.66	203	*e*PN	Pn	05 14 28.1	-1.1
STKA	Stephens Creek	33.52	256	P	P	05 17 52.1	+1.5
	0.6nm,0.5s,mb3.4,baz=97,slow=11,SNR=3.6						
ASAR	Alice Springs	41.99	267	P	P	05 19 01.4	+0.4
	0.6nm,0.5s,mb3.1,baz=102,slow=7.0,SNR=12						
WRA	Warramunga Arr	42.91	272	P	P	05 19 07.7	-0.6
	1.1nm,0.4s,mb3.4,baz=110,slow=8.2,SNR=13						
QSPA	South Pole Qui	60.46	180	*e*P	P	05 21 18.0	+0.7
	1.1nm,0.5s,mb3.6						
FINES	FINESS Array B	144.03	339	PKP	PKPdf	05 30 32.7	-5.8
	2.8nm,1.0s,baz=59,slow=3.7,SNR=13						
FINES	FINESS Array B	144.03	339	PKP	PKPdf	05 30 32.7	-5.8
TORD	Torodi Ar. Bea	163.56	184	PKPab	PKPab	05 31 58.5	-0.4
	0.1nm,0.4s,baz=162,slow=3.1,SNR=5.3						

IDC 17 05:45:54.6±3.2, 3187S×17881W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/14, mbtmp3.8/3, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/19, Error ellipse: s-maj=71.4km s-min=36.9km az=106.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.72	17	LR	LR	05 47 05.3	
	comp=Z,408nm,21.8s,baz=100,slow=26						
URZ	Urewera	7.20	207	Pn	Pn	05 47 42.2	+1.0
	1.0nm,0.3s,baz=115,slow=5.8,SNR=7.2						
URZ				Sn	Sn	05 49 02.1	-1.5
	0.6nm,0.3s,baz=146,slow=14,SNR=3.9						
ASAR	Alice Springs	42.37	269	P	P	05 53 50.7	+0.3
	0.3nm,0.4s,baz=108,slow=7.9,SNR=6.5						
WRA	Warramunga Arr	43.49	274	P	P	05 53 59.6	+0.1
	1.0nm,0.4s,baz=114,slow=7.1,SNR=6.6						
FINES	FINESS Array B	146.27	339	PKPbc	PKPbc	06 05 35.5	-1.6
	2.7nm,1.0s,baz=20,slow=2.2,SNR=3.7						

ISCJB 17 05:52:32.7±0.8, 5058S±006×72.1W±0.3, h10km, mb4.3/7, MS3.9/3, Error ellipse: s-maj=24.3km s-min=8.0km az=156.8
IDC 17 05:52:32.4±1.1, 5051S×7255W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.1/13, mbtmp4.2/7, ML3.5/2, MS3.5/5, Ms1 3.5/5, ms1mx3.3/14, Error ellipse: s-maj=45.6km s-min=16.8km az=72.0
NEIC 17 05:52:34.0±0.8, 5054S×7247W, h10km, mb4.6/2, Error ellipse: s-maj=27.1km s-min=11.9km az=89.0
ISC 17 05:52:34.0±0.8, 5059S±006×723W±02, h10km, n16, σ1§09/14, mb4.3/7, MS3.9/3, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	4.86	153	Pn	Pn	05 53 46.4	-0.6
	5.4nm,0.3s,baz=322,slow=14,SNR=91						
USHA				Pg	Pg	05 54 05.7	-1.3
	10nm,0.3s,baz=313,slow=11,SNR=6.1						
USHA				Sn	Sn	05 54 43.3	-0.1
	12nm,0.3s,baz=285,slow=10,SNR=10.0						
USHA				Lg		05 55 10.7	
	21nm,0.3s,baz=166,slow=4.5,SNR=3.6						
PLCA	Paso Flores	9.93	8	Pg	Px	05 55 25.4	
	0.1nm,0.3s,baz=187,slow=8.6,SNR=3.0						
PLCA				Lg		05 57 42.8	
	0.1nm,0.3s,baz=290,slow=22,SNR=3.3						
PLCA				LR	LR	05 58 49.0	
	comp=Z,190nm,19.9s,baz=184,slow=38						
TRQA	Tornquist	14.52	34	*e*Pn	Pn	05 56 00.7	+1.3
CFAA	Coronel Fontan	19.20	11	P	Pn	05 56 57.3	-1.6
	0.1nm,0.3s,baz=200,slow=10,SNR=5.4						
CFAA				LR	LR	06 05 33.9	
	comp=Z,17nm,20.5s,baz=15,slow=41						
LPAZ	La Paz	34.38	7	P	P	05 59 20.9	-0.2
	3.8nm,0.8s,mb4.4,baz=170,slow=6.7,SNR=14						
SNAA	Sanae	36.71	150	P	P	05 59 42.1	+1.0
	3.2nm,0.8s,mb4.2,baz=293,slow=7.7,SNR=16						
SNAA	Sanae	36.71	150	*e*P	P	05 59 41.9	+0.8
	9.5nm,0.8s,mb4.7						
QSPA	South Pole Qui	39.66	180	*e*P	P	06 00 07.6	+1.5
	15nm,1.1s,mb4.6						
MAW	Mawson	57.42	161	LR	LR	06 26 16.3	
	comp=Z,142nm,19.6s,MS4.1,baz=242,slow=35						
BOSA	Boshof	72.93	114	P	P	06 04 06.4	+2.9
	4.1nm,0.9s,mb4.3,baz=207,slow=6.1,SNR=5.0						
TXAR	Lajitas Array	84.28	333	P	P	06 05 05.5	-0.5
	0.7nm,1.0s,mb3.7,baz=134,slow=3.6,SNR=4.6						
TXAR				LR	LR	06 36 27.0	
	comp=Z,33nm,18.9s,MS3.7,baz=185,slow=31						
TXAR	Lajitas Array	84.28	333	P	P	06 05 05.5	-0.5
TXAR				LR	LR	06 36 27.0	
TORD	Torodi Ar. Bea	90.16	69	P	P	06 05 33.8	-0.7
	0.8nm,0.8s,mb4.1,baz=237,slow=3.4,SNR=5.7						
STKA	Stephens Creek	92.60	208	P	P	06 05 45.6	-0.2
	1.9nm,0.9s,mb4.5,baz=125,slow=8.1,SNR=4.3						
PDAR	Pinedale Array	98.49	333	LR	LR	06 42 31.7	
	comp=Z,38nm,19.6s,MS3.9,baz=80,slow=30						
YKA	Yellowknife Ar	117.61	339	PKP	PKPdf	06 11 17.9	-2.3
	0.1nm,0.6s,baz=145,slow=1.9,SNR=3.1						

IDC 17 06:09:15.3±1.4, 4225N×78.16E, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.7/26, mbtmp3.9/9, ML3.7/4, MS3.4/6, Ms1 3.4/6, ms1mx3.1/28, Error ellipse: s-maj=19.2km s-min=13.1km az=146.0
MOS 17 06:09:16.7±0.9, 4245N×78.11E, h21km, mb3.9/1, Error ellipse: s-maj=15.7km s-min=9.4km az=117.3
NEIC 17 06:09:17.3±1.0, 4233N×7795E, h10km, Error ellipse: s-maj=15.7km s-min=9.4km az=166.0
ISCJB 17 06:09:18.9±1.3, 4256N±005×7807E±005, h28km±11km, mb3.6/4, MS3.4/4, Error ellipse: s-maj=8.0km s-min=5.6km az=167.5
NNC 17 06:09:19.0±2.3, 4238N×7770E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=19.9km s-min=15.6km az=179.0
BJI 17 06:09:19.0, 4220N×7848E, h10km, mB4.3, mb4.2, ML4.0, Ms4.0, Msz3.7
ISC 17 06:09:19.1±1.1, 4249N±004×7800E±004, h14km±6km, n47, σ1§33/59, mb3.6/4, MS3.4/4, 13C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	1.06	314	⇑P	Pg	06 09 38.1	-1.4
	161nm,0.5s						
KNDC				⇓S	Sg	06 09 55.2	+2.0
	819nm,0.3s						
AAA	Alma-Ata	1.10	316	*i* PG	Pg	06 09 38.8	-1.6
AAA				*i* S	Sg	06 09 56.3	+1.6
AAA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AAA				smax			
	comp=N,5.0nm,0.2s						
ULHL	Ulahol	1.33	260	P	Pn	06 09 38.6	-4.6
	SNR=2536						
TKM2	Tokmak 2	1.83	285	P	Pn	06 09 49.3	-0.8
	SNR=872						
TKM2	Tokmak 2	1.83	285	⇑P	Pn	06 09 49.3	-0.8
	comp=N,13nm,0.3s						
TKM2				⇑S	Sn	06 10 15.1	+2.1
	comp=N,21nm,0.3s						
TKM2				⇑Rg		06 10 17.8	
	comp=N,304nm,0.9s						
TKM2	Tokmak 2	1.83	285	PN	Pn	06 09 49.2	-0.9
TKM2				S	Sn	06 10 14.5	+1.5
TKM2				pmax	pmax		
	comp=Z,81nm,0.4s						
TKM2				smax			
	comp=Z,96nm,0.3s						
KZA	Kyzart	2.08	260	P	Pn	06 09 52.1	-1.5
	SNR=213						
KBK	Karagaybulak	2.26	275	P	Pn	06 09 55.2	-0.9
	SNR=60						
CHMS	Chumysh	2.45	283	P	Pn	06 09 58.4	-0.3
	SNR=135						
FRU	Bishkek	2.52	279	⇑*i*PN	Pn	06 09 59.0	-0.6
FRU				*i* S	Sb	06 10 35.0	0.0
FRU				pmax	pmax		
	comp=Z,480nm,2.0s						
FRU				smax			
	comp=E,2μm,1.8s						
AAK	Ala-Archa	2.60	274	P	Pn	06 10 00.7	0.0
	SNR=272						
AAK	Ala-Archa	2.60	274	*e*Pn	Pn	06 09 59.6	-1.1
AAK				*e*Sn	Sn	06 10 35.5	+3.4
UCH	Uchtor	2.60	265	P	Pn	06 10 00.8	+0.1
	SNR=196						
USP	Ospenovka	2.69	288	P	Pn	06 10 02.8	+0.9
	SNR=266						
EKS2	Erkin-Say	3.13	275	P	Pn	06 10 08.7	+0.8
	SNR=22						
AML	Almayashu	3.21	265	P	Pn	06 10 11.4	+2.2
	SNR=128						
KSH	Kashi	3.34	208	P	Pn	06 10 12.5	+1.6
KSH				Smax			
	comp=N,1μm,0.7s						
KSH				Smax			
	comp=E,1μm,0.8s						
MKAR	Makanchi Array	5.28	34	Pn	Pn	06 10 39.4	+1.8
	comp=E,7.1nm,0.3s,baz=216,slow=13,SNR=214						
MKAR				Sn	Sn	06 11 42.3	+4.0
	comp=E,4.3nm,0.3s,baz=215,slow=23,SNR=6.7						
MKAR				Lg		06 12 04.7	
	comp=E,7.9nm,0.3s,baz=142,slow=12,SNR=6.2						
MKAR	Makanchi Array	5.28	34	PN	Pn	06 10 39.4	+1.8
MKAR						06 11 42.3	
KK31	Karatay Array	5.55	279	⇑Pn	Pn	06 10 42.5	+1.3
	comp=E,46nm,0.8s,baz=91,slow=12,SNR=97						
KK31				Lg		06 12 07.8	
	comp=E,239nm,1.1s,baz=98,slow=27,SNR=9.6						
KKAR	Karatay Array	5.55	279	PN	Pb	06 10 51.8	-3.9
KKAR				*e*		06 12 07.7	
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KKAR				pmax	pmax		
	comp=Z,34nm,0.5s						
WMQ	Urumqi	7.21	76	P	Pn	06 11 03.3	-0.8
WMQ				S	Sn	06 12 26.5	+0.7
WMQ				SG		06 13 02.3	
WMQ				Smax			
	comp=N,53nm,0.9s						
WMQ				Smax			
	comp=E,75nm,1.0s						
BVA0	Borovoye Array	11.71	337	⇑Pn	Pn	06 12 06.7	+0.9
	comp=E,0.7nm,0.8s,baz=148,slow=13,SNR=11						
BVA0				⇑Sn	Sn	06 14 14.2	-2.2
	comp=E,1.7nm,0.8s,baz=150,slow=22,SNR=9.3						
BVA0				⇓Lg		06 15 30.5	
	comp=E,8.2nm,1.1s,baz=153,slow=23,SNR=3.5						
BVA0	Borovoye Array	11.71	337	*e*P	Pn	06 12 06.1	+0.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	Borovoye Array	11.71	337	Pn	Pn	06 12 06.0	+0.2
	comp=Z,0.5nm,0.3s,baz=146,slow=14,SNR=8.2						
BVAR				Sn	Sn	06 14 15.8	-0.5
	comp=Z,0.6nm,0.3s,baz=160,slow=29,SNR=8.6						
BVAR				Lg		06 15 35.7	
	comp=Z,1.1nm,0.3s,baz=129,slow=27,SNR=5.5						
BVAR	Borovoye Array	11.71	337	P	Pn	06 12 06.0	+0.2
BVAR						06 14 15.8	
BRVK	Borovoye	11.77	337	*e*P	Pn	06 12 07.3	+0.7
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRVK	Borovoye	11.77	337	*e*Pn	Pn	06 12 07.2	+0.6
	comp=Z,6.7nm,0.9s						
CHKZ	Chkalovo	12.23	339	⇑Pn	Pn	06 12 11.2	-1.6
	comp=Z,4.1nm,1.9s						
CHKZ				⇑Sn	Sn	06 14 26.5	-2.5
	comp=Z,6.2nm,0.7s						
CHKZ				⇑Lg		06 15 47.0	
	comp=Z,38nm,0.9s						
CHKZ	Chkalovo	12.23	339	*e*P	Pn	06 12 12.9	+0.1
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CHKZ	Chkalovo	12.23	339	*e*Pn	Pn	06 12 12.8	0.0
	comp=Z,1.7nm,0.3s						
ZAL	Zalesovo	12.31	19	Pn	Pn	06 12 14.8	+0.8
	comp=Z,0.9nm,0.3s,baz=258,slow=12,SNR=15						
ZAL				Sn	Sn	06 14 32.0	+1.0
	comp=Z,0.2nm,0.3s,baz=276,slow=16,SNR=4.7						
ZAL				Lg		06 15 57.6	
	comp=Z,0.3nm,0.3s,baz=154,slow=23,SNR=3.4						
ZAL				LR	LR	06 17 54.6	
	comp=Z,114nm,20.7s,baz=267,slow=42						
ZAL	Zalesovo	12.31	19	P	Pn	06 12 14.8	+0.8
ZAL						06 14 32.1	
ZAL	Zalesovo	12.31	19	Pn	Pn	06 12 14.8	+0.8
ZAL				Sn	Sn	06 14 32.0	+1.0
ZAL				Lg		06 15 57.6	
AB31	Akbulak array	14.27	305	⇑Pn	Pn	06 12 38.3	-2.3
	comp=Z,2.4nm,0.8s,baz=114,slow=12,SNR=4.8						
AB31				⇑Sn	Sn	06 15 29.2	+10
	comp=Z,4.4nm,1.0s						
AB31				⇓Lg		06 16 47.5	
	comp=Z,19nm,1.1s						
AKTK	Aktyubinsk	15.87	307	Pn	Pn	06 13 00.4	-1.6
AKTK				Lg		06 17 48.8	
AKTO	Aktyubinsk	15.87	307	Pn	Pn	06 13 00.4	-1.6
	comp=Z,0.2nm,0.3s,baz=117,slow=9.8,SNR=5.0						
AKTO				Lg		06 17 48.8	
	comp=Z,0.1nm,0.3s,baz=53,slow=20,SNR=4.7						
AKTO				LR	LR	06 19 21.9	
	comp=Z,141nm,18.0s,baz=1.5,slow=38						
GTA	Gaotai	16.76	93	*e*P	Pn	06 13 14.8	+1.4
GTA				AP	pP	06 13 18.8	-0.6
GTA				XP	sP	06 13 21.5	+0.3
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,83nm,5.3s						
GTA				LR	LR		
	comp=N,230nm,11.0s						
GTA				LR	LR		
	comp=E,183nm,11.8s						
GTA				LR	LR		
	comp=Z,175nm,12.9s						
ZAK	Zakamensk	19.06	57	*e*P	Pn	06 13 38.0	-3.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	Songino Array	20.66	65	P	P	06 13 57.8	-0.6
	comp=Z,3.9nm,0.8s,baz=268,slow=10,SNR=25						
SONM				LR	LR	06 22 43.4	
	comp=Z,83nm,19.0s,MS3.1,baz=345,slow=39						
ARCES	ARCESS Array B	37.97	333	P	P	06 16 35.9	-0.5
	comp=Z,1.8nm,0.8s,mb3.8,baz=96,slow=8.3,SNR=4.9						
NOA	NORSAR Array B	43.13	319	P	P	06 17 19.2	+0.2
	comp=Z,0.8nm,0.7s,mb3.6,baz=85,slow=8.0,SNR=2.8						
NOA				LR	LR	06 35 59.1	
	comp=Z,50nm,19.5s,MS3.4,baz=190,slow=37						
GERES	GERESS Array B	44.19	301	LR	LR	06 39 34.9	
	comp=Z,46nm,18.1s,MS3.4,baz=99,slow=41						
KMBO	Kilima Mbogo	56.83	231	LR	LR	06 46 24.3	
	comp=Z,51nm,19.7s,MS3.6,baz=78,slow=39						
TORD	Torodi Ar. Bea	71.18	271	P	P	06 20 37.0	-0.4
	comp=Z,0.6nm,0.9s,mb3.5,baz=44,slow=5.2,SNR=4.6						
YKA	Yellowknife Ar	74.88	6	P	P	06 20 57.5	-1.8
	comp=Z,0.2nm,0.4s,mb3.4,baz=347,slow=5.8,SNR=4.6						
YKA	Yellowknife Ar	74.88	6	P	P	06 20 57.5	-1.8

ISCJB 17 06:13:11.2±0.9, 3786N±003×27.11E±006, h2km±8km, Error ellipse: s-maj=7.5km s-min=4.9km az=5.7
CSEM 17 06:13:11.8±0.1, 3790N×27.16E, h8km, MD3.2, Error ellipse: s-maj=1.6km s-min=1.1km az=88.0
ISK 17 06:13:11.3, 3789N×27.10E, h6km, MD3.2
NEIC 17 06:13:11.4, 3789N×27.11E, h6km, MD3.1(ISK), MD3.2(ATH), After ISK.
ATH 17 06:13:12.5, 3777N×2705E, h27km±1km, MD3.2/4
ISC 17 06:13:12.3±0.7, 3788N±003×2718E±005, h3km±6km, n37, σ1§03/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.32	238	*e*PB	Pg	06 13 18.2	-0.2
SMG				*e*SB	Sg	06 13 22.6	+0.1
BLCB	Balcova	0.52	348	PG	Pg	06 13 21.9	-0.3
BLCB				SG	Sg	06 13 28.3	-0.6
BLCB	Balcova	0.52	348	*e*P	Pg	06 13 21.9	-0.3
BLCB	Balcova	0.52	348	Pg	Pg	06 13 21.6	-0.5
BLCB				Sg	Sg	06 13 28.6	-0.3
BLCB	Balcova	0.52	348	*e*Pg	Pg	06 13 21.9	-0.3
BLCB				Sg	Sg	06 13 28.6	-0.3
IZM	Izmir	0.52	7	PG	Pg	06 13 22.3	0.0
IZM				SG	Sg	06 13 29.9	+0.8
IZM	Izmir	0.52	7	Pg	Pg	06 13 22.4	+0.1
IZM				Sg	Sg	06 13 29.4	+0.3
MLSB	Milas	0.75	141	PG	Pg	06 13 27.3	+0.6
AKS	Akhisar	1.12	26	PN	Pn	06 13 33.5	-1.3
AKS	Akhisar	1.12	26	Pn	Pn	06 13 33.5	-1.2
YER	Yerkesik	1.15	130	PN	Pn	06 13 34.8	-0.5
YER	Yerkesik	1.15	130	Pn	Pn	06 13 34.9	-0.4
YER	Yerkesik	1.15	130	Pn	Pn	06 13 34.9	-0.4
DAT	Datca	1.19	164	PN	Pn	06 13 34.6	-1.2
APE	Apeiranthos	1.54	239	*e*P	Pn	06 13 39.0	-1.6
APE	Apeiranthos	1.54	239	*e*Pn	Pn	06 13 38.1	-2.5
PRK	Paraskevi	1.54	333	*e*PN	Pn	06 13 40.7	+0.1
PRK				*e*SN	Sn	06 14 01.7	+0.6
DALT	Dalyan (Mudla)	1.61	133	*e*PN	Pn	06 13 41.8	+0.3
THR3	Thira Island,	2.04	225	*e*P	Pn	06 13 50.0	+2.5
EZN	Ezine	2.06	341	*e*PN	Pn	06 13 47.4	-0.3
EZN	Ezine	2.06	341	Pn	Pn	06 13 47.4	-0.3
DST	Dursunbey	2.06	33	*e*PN	Pn	06 13 47.6	-0.2
DST	Dursunbey	2.06	33	Pn	Pn	06 13 47.7	-0.1
THR5	Thira Island,	2.06	226	*e*P	Pn	06 13 50.9	+3.0
THR5	Thira Island,	2.06	226	*e*P	Pn	06 13 50.8	+3.0
THR6	Thira Island,	2.08	224	*e*P	Pn	06 13 51.1	+3.0
KARP	Karpathos	2.33	180	*e*PN	Pn	06 13 50.0	-1.4
KCT	Karacabey	2.55	21	*e*PN	Pn	06 13 53.9	-0.7
KCT	Karacabey	2.55	21	Pn	Pn	06 13 53.6	-1.0
LOS	Limnos	2.62	322	*e*P	Pn	06 13 54.5	-1.0
GEMT	Gemlik	2.99	31	*e*PN	Pn	06 14 00.8	+0.2
GEMT	Gemlik	2.99	31	Pn	Pn	06 14 00.9	+0.3
IZI	Iznik	3.04	35	*e*PN	Pn	06 14 01.6	+0.4
IZI	Iznik	3.04	35	Pn	Pn	06 14 01.7	+0.5
YLV	Yalova	3.18	32	*e*PN	Pn	06 14 04.2	+1.0
GPA	Golpazari	3.42	44	*e*PN	Pn	06 14 07.4	+0.9
GPA	Golpazari	3.42	44	Pn	Pn	06 14 07.5	+1.0

ISCJB 17 06:22:18.7±0.9, 442N±0.1×8137E±008, h10km, Error ellipse: s-maj=19.9km s-min=8.4km az=168.6
BJI 17 06:22:18.8, 4425N×8141E, h16km, ML3.4
NNC 17 06:22:21.3±4.7, 4451N×8098E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=96.2km s-min=24.8km az=138.0
ISC 17 06:22:20.1±0.9, 443N±01×8133E±009, h10km, n4, σ0§60/6, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK05	Makanchi Array	2.58	15	⇓

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.18**	**344**	⇓*i*Pg	**Pg**	**06 26 45.8**	**-0.7**
BOB				Sg	**Sg**	**06 26 48.3**	**-0.8**
	1μm,0.3s						
SC2M	**Scurtabr**	**0.19**	**176**	⇑*i*Pg	**Pg**	**06 26 47.7**	**+0.9**
SC2M				Sg	**Sg**	**06 26 52.1**	**+2.6**
	1μm,0.2s						
CODM		**0.32**	**130**	P	**Pg**	**06 26 49.2**	**+0.2**
GRAM		**0.41**	**105**	P	**Pg**	**06 26 50.1**	**-0.6**
GENL	**Genova Univers**	**0.43**	**244**	P	**Pg**	**06 26 51.8**	**+0.6**
BACM		**0.51**	**128**	P	**Pg**	**06 26 52.4**	**-0.3**
VALM		**0.58**	**115**	P	**Pg**	**06 26 53.3**	**-0.7**
VINC	**Vinca**	**0.64**	**135**	P	**Pg**	**06 26 54.8**	**-0.4**
ERBM	**Eremo**	**0.67**	**105**	Pg	**Pg**	**06 26 55.8**	**+0.2**
ERBM				Sg	**Sg**	**06 27 06.0**	**+1.7**
	96nm,0.9s						
PCP	**Pian Castagno**	**0.70**	**266**	Pg	**Pg**	**06 26 56.5**	**+0.3**
PCP				Sg	**Sg**	**06 27 06.8**	**+1.5**
	96nm,0.4s						
PCP	**Pian Castagno**	**0.70**	**266**	P	**Pg**	**06 26 55.6**	**-0.6**
PCP	**Pian Castagno**	**0.70**	**266**	Pg	**Pg**	**06 26 56.5**	**+0.3**
PCP				Sg	**Sg**	**06 27 06.8**	**+1.5**
	96nm,0.4s						
SARO	**Sassorosso**	**0.76**	**123**	P	**Pg**	**06 26 56.6**	**-0.7**
VLC	**Villacollemand**	**0.76**	**125**	Pg	**Pg**	**06 26 56.9**	**-0.5**
VLC				Sg	**Sg**	**06 27 08.5**	**+1.1**
	76nm,1.1s						
GSCL	**Gusciola**	**0.81**	**107**	Pg	**Pg**	**06 26 58.4**	**+0.1**
	13nm,0.4s						
QLNO	**Quiliano**	**0.88**	**252**	Pg	**Pg**	**06 27 00.3**	**+0.6**
QLNO				Sg	**Sg**	**06 27 13.4**	**+2.2**
BDI	**Bagni Di Lucca**	**0.94**	**124**	Pg	**Pg**	**06 27 00.1**	**-0.8**
BDI				Sg	**Sg**	**06 27 13.4**	**+0.3**
	65nm,0.3s						
MAIM		**0.98**	**134**	Pg	**Pg**	**06 27 00.9**	**-0.6**
MAIM				Sg	**Sg**	**06 27 14.4**	**+0.1**
	56nm,0.3s						
FIN	**Finale Ligure**	**1.01**	**248**	Pg	**Pg**	**06 27 02.3**	**+0.1**
	65nm,0.4s						
FIN	**Finale Ligure**	**1.01**	**248**	P	**Pg**	**06 27 01.1**	**-1.1**
FIN	**Finale Ligure**	**1.01**	**248**	Pg	**Pg**	**06 27 02.3**	**+0.1**
	65nm,0.4s						
PZZT	**Monte Pizzetto**	**1.07**	**115**	Pg	**Pg**	**06 27 03.1**	**-0.2**
	59nm,0.4s						
ZCCA	**Zocca**	**1.07**	**103**	Pg	**Pg**	**06 27 04.4**	**+1.0**
	17nm,0.4s						
RORO		**1.15**	**246**	P	**Pb**	**06 27 03.1**	**-1.6**
MDI	**Monti di Nese**	**1.19**	**7**	Pg	**Pg**	**06 27 04.4**	**-1.2**
MDI				Sg	**Sg**	**06 27 21.6**	**+0.6**
	138nm,0.3s						
ROB	**Roburent**	**1.22**	**256**	P	**Pn**	**06 27 04.7**	**-1.2**
FNVD	**Fontana Vidola**	**1.23**	**110**	Pg	**Pg**	**06 27 07.0**	**+0.6**
	70nm,0.6s						
IMI	**Imperia**	**1.35**	**240**	Pg	**Pg**	**06 27 07.4**	**-1.4**
	50nm,0.4s						
MONE	**Monesi**	**1.36**	**248**	P	**Pn**	**06 27 06.7**	**-1.2**
MUGIO	**Muggio**	**1.37**	**346**	Pg	**Pg**	**06 27 08.6**	**-0.4**
MAGA	**Magasa**	**1.42**	**33**	Pg	**Pn**	**06 27 07.6**	**-1.0**
MAGA				Sg	**Sg**	**06 27 27.8**	**-0.6**
	345nm,0.5s						
SEI	**Scarperia**	**1.43**	**112**	Pg	**Pg**	**06 27 10.9**	**+0.8**
	82nm,0.4s						
NEGI	**Negi**	**1.50**	**241**	P	**Pn**	**06 27 07.9**	**-1.9**
ORX	**Oropa**	**1.50**	**314**	P	**Pn**	**06 27 07.3**	**-2.5**
SAOF	**Saorge**	**1.53**	**247**	Pn	**Pn**	**06 27 09.7**	**-0.5**
SAOF				Sg	**Sg**	**06 27 30.7**	**-1.4**
ENR	**Entracque**	**1.55**	**257**	P	**Pn**	**06 27 09.1**	**-1.3**
TRAV		**1.55**	**307**	P	**Pn**	**06 27 08.4**	**-2.1**
STV	**Sta Anna Valdi**	**1.61**	**258**	Pg	**Pn**	**06 27 11.7**	**+0.4**
	24nm,0.8s						
STV	**Sta Anna Valdi**	**1.61**	**258**	P	**Pn**	**06 27 09.2**	**-2.1**
STV	**Sta Anna Valdi**	**1.61**	**258**	Pg	**Pn**	**06 27 11.7**	**+0.4**
	24nm,0.8s						
AUTN	**L'Aution**	**1.61**	**249**	Pn	**Pn**	**06 27 11.9**	**+0.5**
AUTN				Sg	**Sg**	**06 27 33.5**	**-1.2**
MABI	**Malga Bissina**	**1.62**	**25**	Pg	**Pn**	**06 27 10.5**	**-0.9**
	8.0nm,0.5s						
DOI	**San Damiano**	**1.62**	**268**	Pg	**Pg**	**06 27 13.7**	**-0.2**
	99nm,0.4s						
SBF	**Sospel**	**1.67**	**245**	*e*Pn	**Pn**	**06 27 11.8**	**-0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**06 27 34.3**	**+0.8**
	69nm,0.4s,SNR=1.0						
SBF	**Sospel**	**1.67**	**245**	*e*Pn	**Pn**	**06 27 11.8**	**-0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**06 27 34.3**	**+0.8**
	34nm,0.4s,SNR=1.0						
RSP	**Reno Superiore**	**1.70**	**290**	P	**Pn**	**06 27 10.4**	**-2.1**
CSNT	**Castellina Chi**	**1.70**	**131**	Pg	**Pn**	**06 27 12.8**	**+0.2**
	7.0nm,0.3s						
TEOL	**Teolo**	**1.71**	**63**	⇓*i*Pg	**Pn**	**06 27 11.6**	**-1.0**
TEOL				*i* Sg	**Sg**	**06 27 37.5**	**-0.2**
LUCF	**Luceram**	**1.71**	**246**	Pn	**Pn**	**06 27 12.3**	**-0.4**
PZZ	**Prazzo**	**1.73**	**268**	P	**Pn**	**06 27 11.7**	**-1.2**
TOUF	**Mont Tournerai**	**1.73**	**251**	Pn	**Pn**	**06 27 13.5**	**+0.6**
TOUF				Sg	**Sg**	**06 27 36.7**	**-1.6**
REVF	**Revere**	**1.77**	**242**	Pn	**Pn**	**06 27 15.0**	**+1.6**
SFI	**Santa Sofia**	**1.81**	**112**	Pg	**Pg**	**06 27 17.6**	**+0.1**
	7.0nm,0.3s						
MVIF	**Mont Vial**	**1.84**	**248**	Sg	**Sn**	**06 27 39.2**	**+1.5**
TUE	**Stuetta**	**1.88**	**356**	Pg	**Pn**	**06 27 15.6**	**+0.6**
LSD	**Ceresole Reale**	**1.88**	**298**	P	**Pn**	**06 27 14.2**	**-0.8**
MBDF	**Montbardon**	**1.96**	**275**	*e*Pn	**Pn**	**06 27 18.3**	**+2.2**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**06 27 42.8**	**+1.9**
	16nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**1.96**	**275**	*e*Pn	**Pn**	**06 27 18.3**	**+2.2**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**06 27 42.8**	**+1.9**
	7.8nm,0.3s,SNR=1.0						
RRL	**Cesana Torines**	**1.97**	**280**	P	**Pn**	**06 27 16.1**	**-0.2**
PGF	**Pioggiola**	**2.08**	**191**	*e*Pn	**Pn**	**06 27 16.8**	**-1.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**06 27 41.0**	**-2.8**
	6.2nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.08**	**191**	*e*Pn	**Pn**	**06 27 16.8**	**-1.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**06 27 41.0**	**-2.8**
	3.1nm,0.2s,SNR=1.0						
CTI	**Castel Tesino**	**2.09**	**45**	Pg	**Pn**	**06 27 16.9**	**-1.0**
LPG	**La Plagne**	**2.16**	**296**	*e*Pn	**Pn**	**06 27 19.4**	**+0.6**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**06 27 47.4**	**+1.8**
LPG				*e*Sg	**Sg**	**06 27 57.2**	**+5.1**
	10nm,0.5s,SNR=1.0						
LPG	**La Plagne**	**2.16**	**296**	*e*Pn	**Pn**	**06 27 19.4**	**+0.6**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**06 27 47.4**	**+1.8**
LPL	**La Plagne**	**2.18**	**296**	*e*Pn	**Pn**	**06 27 20.4**	**+1.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**06 27 48.3**	**+2.2**
	7.7nm,0.3s						
LPL	**La Plagne**	**2.18**	**296**	*e*Pn	**Pn**	**06 27 20.4**	**+1.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**06 27 48.3**	**+2.2**
	3.8nm,0.3s						
FRF	**La Foret Royal**	**2.31**	**244**	*e*Pn	**Pn**	**06 27 18.9**	**-2.0**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**06 27 49.2**	**-0.3**
	15nm,0.4s						
FRF	**La Foret Royal**	**2.31**	**244**	*e*Pn	**Pn**	**06 27 18.9**	**-2.0**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**06 27 49.2**	**-0.3**
	7.6nm,0.4s						
LMR	**La Mourre**	**2.51**	**241**	*e*Pn	**Pn**	**06 27 22.9**	**-0.8**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**06 27 52.0**	**-2.4**
	12nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**2.51**	**241**	*e*Pn	**Pn**	**06 27 22.9**	**-0.8**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**06 27 52.0**	**-2.4**
	5.8nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.61**	**278**	*e*Pn	**Pn**	**06 27 27.4**	**+2.4**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**06 27 58.6**	**+1.8**
	14nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.61**	**278**	*e*Pn	**Pn**	**06 27 27.4**	**+2.4**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**06 27 58.6**	**+1.8**
	6.9nm,0.5s,SNR=1.0						
SQTA	**Sankt Quirin**	**2.88**	**24**	⇑*i*Sn	**Sn**	**06 27 55.7**	**-7.7**
SQTA	**Sankt Quirin**	**2.88**	**24**	⇓*i*Pn	**Pn**	**06 27 30.4**	**+1.7**
SQTA				⇑*i*Sn	**Sn**	**06 28 05.7**	**+2.2**
SMRF	**Simiane la Rot**	**2.90**	**259**	*e*Pn	**Pn**	**06 27 28.9**	**-0.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**06 28 04.6**	**+0.7**
	8.1nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.90**	**259**	*e*Pn	**Pn**	**06 27 28.9**	**-0.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**06 28 04.6**	**+0.7**
	4.1nm,0.4s,SNR=1.0						
MOTA	**Moosalm**	**2.96**	**21**	⇓*i*Sg	**Sn**	**06 28 05.4**	**-0.1**
	comp=Z,3.6nm,0.3s						
MOTA	**Moosalm**	**2.96**	**21**	⇓*i*Pn	**Pn**	**06 27 30.7**	**+0.8**
MOTA				⇓*i*Sn	**Sn**	**06 28 05.4**	**-0.1**
	3.6nm,0.3s						
ABTA	**Abfaltersbach**	**3.01**	**43**	⇓*i*Pn	**Pn**	**06 27 31.0**	**+0.5**
ABTA				⇑*i*Sn	**Sn**	**06 28 06.3**	**-0.3**
RETA	**Reutte**	**3.02**	**16**	⇑*i*Pn	**Pn**	**06 27 31.7**	**+1.1**
FVI	**Forni Avoltri**	**3.04**	**48**	Pg	**Pg**	**06 27 31.0**	**-10**
	3.0nm,0.3s						
WTTA	**Wattenberg**	**3.05**	**28**	⇑*i*Sn	**Sn**	**06 27 59.9**	**-7.8**
WTTA	**Wattenberg**	**3.05**	**28**	⇓*i*Pn	**Pn**	**06 27 32.7**	**+1.6**
WTTA				⇑*i*Sn	**Sn**	**06 28 08.7**	**+0.9**
CABF	**La Chapelle**	**3.14**	**311**	*e*Pn	**Pn**	**06 27 33.5**	**+1.2**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**06 28 10.3**	**+0.4**
	4.0nm,0.5s						
CABF	**La Chapelle**	**3.14**	**311**	*e*Pn	**Pn**	**06 27 33.5**	**+1.2**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**06 28 10.3**	**+0.4**
	2.0nm,0.5s						
VIVF	**Saint-Julien-I**	**3.46**	**276**	*e*Pn	**Pn**	**06 27 38.5**	**+1.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**06 28 18.4**	**+0.6**
	2.0nm,0.3s						
VIVF	**Saint-Julien-I**	**3.46**	**276**	*e*Pn	**Pn**	**06 27 38.5**	**+1.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**06 28 18.4**	**+0.6**
	1.0nm,0.3s						
HINF	**Hinteralfeld**	**3.71**	**331**	*e*Pn	**Pn**	**06 27 39.5**	**-0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**06 28 22.7**	**-1.4**
	3.2nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**3.71**	**331**	*e*Pn	**Pn**	**06 27 39.5**	**-0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**06 28 22.7**	**-1.4**
	1.6nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**4.06**	**328**	*e*Pn	**Pn**	**06 27 45.5**	**+0.6**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**06 28 32.3**	**-0.2**
	3.6nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**4.09**	**265**	*e*Pn	**Pn**	**06 27 46.2**	**+0.8**
LASF				*e*Sn	**Sn**	**06 28 33.0**	**-0.4**
	1.3nm,0.3s						
LASF	**Ste Croix**	**4.09**	**265**	*e*Pn	**Pn**	**06 27 46.2**	**+0.8**
LASF				*e*Sn	**Sn**	**06 28 33.0**	**-0.4**
	0.6nm,0.3s						
CDF	**Champ du Feu**	**4.12**	**339**	*e*Pn	**Pn**	**06 27 45.5**	**-0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**06 28 30.7**	**-3.3**
	1.4nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**4.48**	**299**	*e*Pn	**Pn**	**06 27 51.5**	**+0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**06 28 42.6**	**-0.3**
	2.4nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.48**	**299**	*e*Pn	**Pn**	**06 27 51.5**	**+0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**06 28 42.6**	**-0.3**
	1.2nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.77**	**306**	*e*Pn	**Pn**	**06 27 55.6**	**+0.9**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**06 28 48.8**	**-1.2**
	5.7nm,0.4s,SNR=1.0						
LOR	**Lormes**	**4.77**	**306**	*e*Pn	**Pn**	**06 27 55.6**	**+0.9**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**06 28 48.8**	**-1.2**
	2.8nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.84**	**299**	*e*Pn	**Pn**	**06 27 57.1**	**+1.4**
	SNR=1.0						
SSF	**Saint Saulge**	**4.87**	**303**	*e*Pn	**Pn**	**06 27 56.6**	**+0.5**
BGF	**Bois d'Agland**	**5.08**	**295**	*e*Pn	**Pn**	**06 27 58.6**	**-0.4**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**06 28 57.3**	**-0.4**
	7.2nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**5.08**	**295**	*e*Pn	**Pn**	**06 27 58.6**	**-0.4**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**06 28 57.3**	**-0.4**
	3.6nm,0.4s,SNR=1.0						
CAF	**Calviac**	**5.32**	**276**	*e*Pn	**Pn**	**06 28 04.7**	**+2.4**
KHC	**Kasperske Hory**	**5.32**	**30**	*ex*	x	06 28 40.5	
KHC				*e*SN	**Sn**	**06 29 01.5**	**-2.2**
TCF	**Toulx Ste Croi**	**5.41**	**291**	*e*Pn	**Pn**	**06 28 05.1**	**+1.5**
MTLF	**Montolieu**	**5.42**	**259**	*e*Pn	**Pn**	**06 28 03.8**	**+0.2**
MTLF				*e*Sn	**Sn**	**06 29 04.5**	**-1.5**
	1.2nm,0.3s						

*ISCJB **17** 07:59:11.4±3.4,2174N±008×1428E±02,h162km±32km, mb3.9/12, Error ellipse: s-maj=30.5km s-min=13.2km az=166.6*
*IDC **17** 07:59:11.1±5.7,2180N×14286E,h144km±52km, mb3.7/13, mb1 3.9/14,mb1mx3.8/23,mbtmp3.7/14,MS3.3/8, Ms1 3.3/8,ms1mx3.1/25,Error ellipse: s-maj=26.1km s-min=12.0km az=79.0*

ISC 17 07:59:13.1±3.5,2178N±008×1428E±02,h163km±33km, n22,σ0°69/17,mb3.9/12,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.38**	**166**	LR	LR	08 03 40.7	
	comp=Z,168nm,19.5s,baz=22,slow=32						
MJAR	**Matsushiro Arr**	**15.25**	**346**	P	**Pn**	**08 02 39.6**	**-0.2**
	0.3nm,0.3s,baz=161,slow=12,SNR=4.3						
KSRS	**Korea Array**	**20.25**	**324**	P	**P**	**08 03 36.5**	**+0.8**
	8.2nm,0.9s,baz=136,slow=10,SNR=13						
KSRS				LR	LR	08 10 39.9	
	comp=Z,92nm,18.2s,baz=83,slow=34						
ASAJ	**Asahikawa**	**22.27**	**360**	LR	LR	08 12 36.8	
	comp=Z,43nm,21.0s,baz=343,slow=36						
PMG	**Port Moresby**	**31.28**	**172**	LR	LR	08 16 28.1	
	comp=Z,28nm,20.6s,baz=194,slow=33						
HNR	**Honiara**	**35.27**	**150**	LR	LR	08 18 11.6	
	comp=Z,72nm,18.0s,baz=182,slow=32						
SONM	**Songino Array**	**39.07**	**321**	P	**P**	**08 06 23.7**	**-0.4**
	2.3nm,0.6s,mb4.0,baz=126,slow=7.2,SNR=19						
SONM				LR	LR	08 21 50.4	
	comp=Z,58nm,18.8s,baz=171,slow=35						
CTA	**Charters Tower**	**41.75**	**175**	*e*P	**P**	**08 06 46.6**	**+0.5**
	3.5nm,1.0s,mb3.9						
CTA	**Charters Tower**	**41.75**	**175**	P	**P**	**08 06 47.2**	**+1.1**
	3.8nm,1.0s,mb4.0,baz=356,slow=7.0,SNR=4.2						
CTA				LR	LR	08 22 58.5	
	comp=Z,72nm,19.0s,baz=52,slow=34						
WB2	**Warramunga Arr**	**42.29**	**192**	*e*P	**P**	**08 06 50.3**	**-0.2**
WRA	**Warramunga Arr**	**42.30**	**192**	P	**P**	**08 06 50.4**	**-0.1**
	3.1nm,1.0s,mb3.9,baz=13,slow=8.5,SNR=10						
WRA				LR	LR	08 23 15.3	
	comp=Z,28nm,18.1s,baz=145,slow=34						
ASAR	**Alice Springs**	**46.01**	**191**	P	**P**	**08 07 19.8**	**-0.2**
	1.0nm,0.7s,mb3.6,baz=14,slow=9.4,SNR=19						
STKA	**Stephens Creek**	**53.37**	**181**	*e*P	**P**	**08 08 15.0**	**-0.7**
	2.2nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**53.37**	**181**	P	**P**	**08 08 15.4**	**-0.3**
	1.6nm,0.7s,mb3.9,baz=331,slow=6.3,SNR=4.2						
ZAL	**Zalesovo**	**53.95**	**322**	P	**P**	**08 08 19.2**	**-0.7**
	2.5nm,0.8s,mb4.0,baz=23,slow=9.4,SNR=15						
MKAR	**Makanchi Array**	**54.40**	**313**	P	**P**	**08 08 23.8**	**+0.6**
	1.4nm,0.7s,mb3.8,baz=93,slow=9.6,SNR=15						
YKA	**Yellowknife Ar**	**76.53**	**28**	P	**P**	**08 10 43.9**	**-1.2**
	1.6nm,0.6s,mb3.9,baz=293,slow=5.9,SNR=32						
FINES	**FINESS Array B**	**82.97**	**334**	P	**P**	**08 11 18.9**	**-0.9**
	2.3nm,1.1s,mb3.8,baz=90,slow=5.7,SNR=5.2						
NVAR	**Mina Array Bea**	**83.34**	**51**	P	**P**	**08 11 22.3**	**+0.6**
	2.0nm,0.8s,mb3.9,baz=272,slow=4.6,SNR=7.6						
PDAR	**Pinedale Array**	**87.56**	**45**	P	**P**	**08 11 43.4**	**+0.8**
	1.4nm,1.1s,mb3.7,baz=329,slow=5.2,SNR=4.8						
BRTR	**Keskin Array B**	**90.05**	**313**	P	**P**	**08 11 55.3**	**+1.0**
	1.6nm,0.9s,mb3.9,baz=111,slow=2.8,SNR=6.7						
LPAZ	**La Paz**	**150.25**	**85**	PKPbc	PKPbc	08 18 48.1	+3.4
	1.1nm,0.5s,baz=306,slow=3.3,SNR=5.9						
LPAZ				PKPab	PKPab	08 18 53.6	+2.1
	1.8nm,0.8s,baz=280,slow=1.0,SNR=6.2						

IDC 17 08:00:05.9±3.5,1428S×17810W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.9/16,mbtmp4.2/4,Error ellipse: s-maj=71.6km s-min=51.4km az=51.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.26**	**189**	P	P	08 05 24.7	+0.1
	3.9nm,0.8s,baz=286,slow=17,SNR=4.2						
STKA	**Stephens Creek**	**40.73**	**238**	P	P	08 07 48.7	+0.4
	2.1nm,0.9s,baz=53,slow=8.7,SNR=3.2						
WRA	**Warramunga Arr**	**45.69**	**256**	P	P	08 08 28.7	+0.2
	0.3nm,0.4s,baz=91,slow=7.4,SNR=6.7						
ASAR	**Alice Springs**	**46.16**	**251**	P	P	08 08 32.6	+0.4
	8.8nm,0.3s,baz=85,slow=8.6,SNR=205						
GERES	**GERESS Array B**	**144.19**	**347**	PKP	PKPdf	08 19 43.4	-0.3
	0.2nm,0.5s,baz=14,slow=4.5,SNR=3.3						

*CSEM **17** 08:06:00.5±0.1,4437N×757E,h5km,ML2.6/11,Error ellipse: s-maj=1.7km s-min=1.3km az=75.0*
*GEN **17** 08:06:01.5,4433N×751E,h11km,ML2.0*
*STR **17** 08:06:01.5±0.2,4435N×752E,h5km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **17** 08:06:01.4±0.3,4433N±002×754E±003,h17km±4km, Error ellipse: s-maj=3.2km s-min=2.5km az=135.6*
*LDG **17** 08:06:01.3±0.1,4434N×760E,h3km,Md2.8/2,Ml2.7/12, Error ellipse: s-maj=1.9km s-min=0.9km az=85.0*
*NEIC **17** 08:06:01.0,4433N×750E,h12km,ML2.3(ROM), ML2.5(STR),ML2.7(LDG),After ROM.*
*ROM **17** 08:06:01.0±0.1,4433N×750E,h12km±6km,Md2.4/9, Ml2.3/7,Error ellipse: s-maj=2.5km s-min=1.4km az=142.0*

ISC 17 08:06:01.2±0.2,4435N±001×753E±002,h16km±2km,n79, σ0°62/140,3C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENR	**Entracque**	**0.15**	**214**		**Pg**	**08 06 04.6**	**-0.4**
ENR	**Entracque**	**0.15**	**214**	*e*P	**Pg**	**08 06 04.6**	**-0.4**
STV	**Sta Anna Valdi**	**0.18**	**235**	⇑*i*Pg	**Pg**	**08 06 05.2**	**-0.4**
STV				Sg	**Sg**	**08 06 07.5**	**-1.1**
	1μm,0.2s						
ROB	**Roburent**	**0.25**	**102**		**Pg**	**08 06 07.1**	**+0.5**
ROB	**Roburent**	**0.25**	**102**	*e*P	**Pg**	**08 06 07.1**	**+0.5**
DOI	**San Damiano**	**0.26**	**307**	⇓*i*Pg	**Pg**	**08 06 06.8**	**0.0**
DOI				Sg	**Sg**	**08 06 10.5**	**-0.1**
	693nm,0.2s						
MONE	**Monesi**	**0.31**	**149**	P	**Pg**	**08 06 07.6**	**-0.1**
PZZ	**Prazzo**	**0.35**	**297**		**Pg**	**08 06 08.1**	**-0.2**
PZZ	**Prazzo**	**0.35**	**297**	*e*P	**Pg**	**08 06 08.1**	**-0.2**
PZZ	**Prazzo**	**0.35**	**297**	P	**Pg**	**08 06 08.3**	**0.0**
AUTN	**L'Aution**	**0.36**	**192**	Pg	**Pg**	**08 06 08.7**	**+0.1**
AUTN				Sg	**Sg**	**08 06 13.4**	**-0.2**
SAOF	**Saorge**	**0.36**	**178**	Pg	**Pg**	**08 06 08.7**	**+0.1**
SAOF				Sg	**Sg**	**08 06 13.4**	**-0.2**
TOUF	**Mont Tournerai**	**0.39**	**212**	Pg	**Pg**	**08 06 09.2**	**+0.1**
TOUF				Sg	**Sg**	**08 06 14.3**	**-0.2**
RORO		**0.45**	**121**	P	**Pg**	**08 06 10.5**	**+0.3**
LUCF	**Luceram**	**0.47**	**197**	Pg	**Pg**	**08 06 10.6**	**-0.1**
LUCF				Sg	**Sg**	**08 06 17.2**	**+0.1**
SBF	**Sospel**	**0.49**	**188**	*e*Pn	**Pg**	**08 06 12.3**	**+1.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**08 06 17.3**	**-0.2**
	106nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.49**	**188**	*e*Pg	**Pg**	**08 06 10.9**	**0.0**
SBF				*e*Pn	**Pg**	**08 06 12.3**	**+1.4**
SBF				*e*Sg	**Sg**	**08 06 17.3**	**-0.2**
SBF	**Sospel**	**0.49**	**188**	*e*Pn	**Pg**	**08 06 12.3**	**+1.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**08 06 17.3**	**-0.2**
	53nm,0.2s,SNR=1.0						
FIN	**Finale Ligure**	**0.50**	**106**	⇑*i*Pg	**Pg**	**08 06 11.5**	**+0.3**
FIN				Sg	**Sg**	**08 06 18.3**	**+0.3**
	89nm,0.2s						
IMI	**Imperia**	**0.51**	**150**	Pg	**Pg**	**08 06 11.4**	**+0.2**
IMI				Sg	**Sg**	**08 06 18.6**	**+0.5**
	127nm,0.1s						
NEGI	**Negi**	**0.52**	**166**	P	**Pg**	**08 06 11.1**	**-0.3**
MVIF	**Mont Vial**	**0.53**	**211**	Pg	**Pg**	**08 06 11.7**	**+0.1**
MVIF				Sg	**Sg**	**08 06 18.8**	**+0.1**
QLNO	**Quiliano**	**0.58**	**92**	⇑*i*Pg	**Pg**	**08 06 13.0**	**+0.3**
QLNO				Sg	**Sg**	**08 06 20.8**	**+0.4**
	73nm,0.3s						
REVF	**Revere**	**0.62**	**191**	Pg	**Pg

14nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.46 256 *e*Pn **Pn 08 06 27.6 +0.7**
SMRF *e*Pg **Pg 08 06 29.4 +0.2**
SMRF *e*Sn **Sn 08 06 46.3 +0.6**
SMRF *e*Sg **Sg 08 06 49.0 +0.8**
SMRF Simiane la Rot 1.46 256 *e*Pg **Pg 08 06 29.4 +0.2**
SNR=1.0
SMRF *e*Sn **Sn 08 06 46.3 +0.6**
SNR=1.0
SMRF *e*Sg **Sg 08 06 49.0 +0.8**
7.1nm,0.2s,SNR=1.0
PGF Pioggiola 2.09 149 *e*Pn **Pn 08 06 34.9 -0.7**
SNR=1.0
PGF *e*Sn **Sn 08 06 58.9 -2.4**
6.1nm,0.2s,SNR=1.0
PGF Pioggiola 2.09 149 *e*Pn **Pn 08 06 34.9 -0.7**
SNR=1.0
PGF *e*Sn **Sn 08 06 58.9 -2.4**
3.0nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 2.11 285 *e*Pg **Pg 08 06 41.3 -0.3**
VIVF *e*Sn **Sn 08 07 02.2 +0.5**
4.9nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 2.11 285 *e*Pn **Pn 08 06 36.8 +1.0**
VIVF *e*Pg **Pg 08 06 41.3 -0.3**
VIVF *e*Sn **Sn 08 07 02.2 +0.5**
VIVF Saint-Julien-l 2.11 285 *e*Pg **Pg 08 06 41.3 -0.3**
VIVF *e*Sn **Sn 08 07 02.2 +0.5**
2.5nm,0.4s,SNR=1.0
LASF Ste Croix 2.66 265 *e*Pg **Pg 08 06 51.4 -0.7**
LASF *e*Sn **Sn 08 07 15.1 -0.2**
3.5nm,0.4s,SNR=1.0
LASF Ste Croix 2.66 265 *e*Pn **Pn 08 06 43.0 -0.4**
LASF *e*Pg **Pg 08 06 51.4 -0.7**
LASF *e*Sn **Sn 08 07 15.1 -0.2**
LASF Ste Croix 2.66 265 *e*Pg **Pg 08 06 51.4 -0.7**
LASF *e*Sn **Sn 08 07 15.1 -0.2**
1.8nm,0.4s,SNR=1.0
SMF Signal de Mont 3.47 313 *e*P **Pn 08 06 58.5 +4.0**
SNR=1.0
SMF *e*Sg **Sg 08 07 53.3 +0.8**
1.6nm,0.3s,SNR=1.0
SMF Signal de Mont 3.47 313 *e*Pn **Pn 08 06 54.8 +0.3**
SMF *e*P 08 06 58.5
SMF *e*Sg **Sg 08 07 53.3 +0.8**
SMF Signal de Mont 3.47 313 *e*P **Pn 08 06 58.5 +4.0**
SNR=1.0
SMF *e*Sg **Sg 08 07 53.3 +0.8**
0.8nm,0.3s,SNR=1.0
HINF Hinteralfeld 3.50 352 *e*Sn **Sn 08 07 35.0 -1.1**
0.8nm,0.2s,SNR=1.0
HINF Hinteralfeld 3.50 352 *e*Sn **Sn 08 07 35.0 -1.1**
0.4nm,0.2s,SNR=1.0
HAU Haudompre 3.75 348 *e*Pn **Pn 08 06 58.0 -0.4**
SNR=1.0
LOR Lormes 3.89 320 *e*Pn **Pn 08 07 00.9 +0.6**
CAF Calviac 3.95 280 *e*P **Pn 08 07 04.8 +3.7**
SNR=1.0
CAF Calviac 3.95 280 *e*Pn **Pn 08 07 01.5 +0.4**
CAF *e*P 08 07 04.8
CAF Calviac 3.95 280 *e*P **Pn 08 07 04.8 +3.7**
SNR=1.0
BGF Bois d'Agland 3.97 305 *e*P **Pn 08 07 05.1 +3.7**
SNR=1.0
BGF Bois d'Agland 3.97 305 *e*Pn **Pn 08 07 02.2 +0.8**
BGF *e*P 08 07 05.1
BGF Bois d'Agland 3.97 305 *e*P **Pn 08 07 05.1 +3.7**
SNR=1.0
CDF Champ du Feu 4.07 358 *e*Pn **Pn 08 07 02.7 -0.1**
CDF *e*Sn **Sn 08 07 47.8 -2.3**
1.0nm,0.2s,SNR=1.0
CDF Champ du Feu 4.07 358 *e*Pn **Pn 08 07 02.7 -0.1**
CDF *e*Sn **Sn 08 07 47.8 -2.3**
0.5nm,0.2s,SNR=1.0

ISCJB ***17*** *08:16:58.0±1.1,2.1N±0.1×1003W±0.1,h10km,mb4.1/18, MS3.8/13,Error ellipse: s-maj=24.1km s-min=10.4km az=90.3*
IDC ***17*** *08:16:58.2±1.1,2.13N×10036W,h0km,mb4.0/9, mb1 4.1/11,mb1mx4.0/18,mbtmp3.9/11,ML3.1/2,MS3.8/14, Ms1 3.8/14,ms1mx3.7/27,Error ellipse: s-maj=33.0km s-min=17.0km az=51.0*
NEIC ***17*** *08:16:59.5±0.7,2.09N×10028W,h10km,mb4.4/10,Error ellipse: s-maj=17.0km s-min=10.1km az=48.0*
ISC 17 08:17:00.1±1.0,21N±01×1003W±01,h10km,n37,σ1º24/27, mb4.1/18,MS3.8/13,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**15.80**	**19**	**Pn**		**08 20 44.3**	**+1.7**
	0.0nm,0.3s,baz=201,slow=3.9,SNR=1.5						
CMIG				LR	LR	08 25 14.9	
	comp=Z,805nm,18.9s,baz=168,slow=31						
JTS	**JuntasAbangare**	**17.29**	**61**	P	**Pn**	**08 21 02.1**	**+0.5**
	0.1nm,0.3s,baz=322,slow=18,SNR=4.0						
JTS	**JuntasAbangare**	**17.29**	**61**	*e*P	**Pn**	**08 21 01.6**	**0.0**
	18nm,1.2s						
TEIG	**Tepich**	**21.49**	**32**	LR	LR	08 28 45.9	
	comp=Z,496nm,21.1s,MS3.9,baz=117,slow=33						
OTAV	**Otavalo**	**21.95**	**95**	*e*P	**P**	**08 21 52.4**	**-1.6**
	15nm,1.4s,mb4.2						
ATAH	**Atahualpa**	**23.70**	**113**	P	**P**	**08 22 14.2**	**+2.0**
	4.3nm,0.4s,mb4.2,baz=39,slow=19,SNR=5.0						
ATAH				LR	LR	08 28 22.0	
	comp=Z,40nm,20.2s,MS2.9,baz=222,slow=29						
LPIG	**La Paz**	**23.88**	**337**	LR	LR	08 29 52.7	
	comp=Z,84nm,18.9s,MS3.2,baz=165,slow=32						
ROSC	**El Rosal**	**26.09**	**83**	P	**P**	**08 22 35.3**	**+1.4**
	1.0nm,0.3s,mb3.8,baz=110,slow=23,SNR=4.0						
NNA	**Nana**	**27.23**	**122**	LR	LR	08 30 51.8	
	comp=Z,160nm,19.3s,MS3.6,baz=320,slow=31						
LTX	**Lajitas**	**27.24**	**354**	*e*P	**P**	**08 22 42.9**	**-1.4**
	6.6nm,1.1s,mb4.1						
TXAR	**Lajitas Array**	**27.24**	**354**	P	**P**	**08 22 45.4**	**+1.1**
	1.6nm,0.7s,mb3.6,baz=177,slow=11,SNR=20						
TXAR				LR	LR	08 32 38.3	
	comp=Z,454nm,19.3s,MS4.1,baz=10,slow=34						
JCT	**Junction City**	**28.20**	**1**	*e*P	**P**	**08 22 52.6**	**-0.3**
	11nm,1.1s,mb4.4						
SDV	**Santo Domingo**	**30.29**	**76**	LR	LR	08 32 44.3	
	comp=Z,110nm,21.5s,MS3.5,baz=0.0,slow=31						
BNM	**Barren Site**	**32.39**	**350**	*e*P	**P**	**08 23 31.9**	**+1.9**
MIAR	**Mount Ida**	**32.86**	**10**	*e*P	**P**	**08 23 33.3**	**-0.7**
	13nm,1.3s,mb4.7						
WVT	**Waverly**	**35.75**	**17**	*e*P	**P**	**08 23 57.8**	**-1.3**
	11nm,1.1s,mb4.7						
SDCO	**Great Sand Dun**	**35.76**	**353**	*e*P	**P**	**08 24 00.5**	**+1.3**
	2.3nm,1.1s,mb4.0						
LPAZ	**La Paz**	**36.70**	**121**	P	**P**	**08 24 08.3**	**+1.1**
	1.8nm,1.0s,mb3.9,baz=326,slow=8.0,SNR=5.4						
LPAZ	**La Paz**	**36.70**	**121**	P	**P**	**08 24 08.3**	**+1.1**
SIUC	**Southern Illin**	**36.85**	**15**	*e*P	**P**	**08 24 08.0**	**-0.5**
	11nm,0.6s,mb4.9						
ELN	**Prospectdale**	**39.30**	**25**	*e*P	**P**	**08 24 28.1**	**-1.1**
HWUT	**Hardware Ranch**	**40.58**	**347**	*e*P	**P**	**08 24 41.0**	**+1.2**
	9.2nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**41.29**	**350**	P	**P**	**08 24 46.0**	**+0.4**
	1.4nm,0.8s,mb3.6,baz=153,slow=8.4,SNR=11						
PDAR				LR	LR	08 41 36.7	
	comp=Z,180nm,19.6s,MS3.9,baz=206,slow=36						
RSSD	**Black Hills**	**41.94**	**356**	*e*P	**P**	**08 24 51.8**	**+0.8**
	4.6nm,0.9s,mb4.1						
SIV	**San Ignacio**	**42.77**	**116**	P	**P**	**08 24 56.4**	**-1.4**
	1.0nm,1.1s,mb3.5,baz=288,slow=6.4,SNR=3.3						
MCMT	**McKenzie Canyo**	**43.93**	**347**	*e*P	**P**	**08 25 06.6**	**-0.5**
GCMT	**Greycliff**	**44.24**	**351**	*e*P	**P**	**08 25 10.0**	**+0.4**
YBH	**Yreka Blue Hor**	**44.26**	**336**	P	**P**	**08 25 10.3**	**+0.6**
	2.2nm,0.9s,mb3.9,baz=187,slow=8.4,SNR=3.1						
ULM	**Lac du Bonnet**	**48.09**	**4**	P	**P**	**08 25 38.3**	**-1.6**
	2.2nm,0.7s,mb4.3,baz=179,slow=6.3,SNR=4.7						
ULM				LR	LR	08 47 59.3	
	comp=Z,53nm,18.5s,MS3.5,baz=79,slow=39						
PLCA	**Paso Flores**	**50.57**	**151**	LR	LR	08 42 55.8	
	comp=Z,154nm,18.2s,MS4.1,baz=21,slow=31						
SCHQ	**Schefferville**	**59.18**	**22**	LR	LR	08 52 18.3	
	comp=Z,162nm,19.0s,MS4.2,baz=275,slow=36						
YKA	**Yellowknife Ar**	**61.16**	**352**	P	**P**	**08 27 12.3**	**-2.4**
	1.3nm,0.9s,mb4.1,baz=155,slow=8.2,SNR=8.5						
YKA				LR	LR	08 51 20.4	
	comp=Z,49nm,20.3s,MS3.6,baz=10.0,slow=34						
INK	**Inuvik**	**69.80**	**347**	LR	LR	08 59 21.2	
	comp=Z,144nm,18.9s,MS4.2,baz=96,slow=36						
RES	**Resolute Bay**	**72.54**	**2**	*e*P	**P**	**08 28 25.7**	**-1.6**
RPZ	**Rata Peaks**	**90.46**	**226**	LR	LR	09 03 56.0	
	comp=Z,83nm,19.4s,MS4.2,baz=226,slow=31						

ASAR	**Alice Springs**	**123.39**	**243**	PKP	PKPdf	08 35 58.6	+1.1
	0.4nm,0.9s,baz=96,slow=0.9,SNR=3.8						
WRA	**Warramunga Arr**	**123.79**	**247**	PKP	PKPdf	08 35 59.2	+0.9
	0.6nm,0.9s,baz=93,slow=2.2,SNR=3.9						

ISCJB ***17*** *08:21:44.9±1.8,957S±008×789W±02,h79km±16km, mb3.8/7,Error ellipse: s-maj=33.5km s-min=8.7km az=141.0*
IDC ***17*** *08:21:46.2±2.2,962S×7897W,h75km±21km,mb3.6/7, mb1 3.9/10,mb1mx3.8/20,mbtmp3.7/10,MS3.4/1, Ms1 3.4/1,ms1mx2.8/16,Error ellipse: s-maj=35.1km s-min=7.9km az=72.0*
ISC 17 08:21:46.5±1.8,955S±009×789W±02,h73km±16km,n13, σ0º73/12,mb3.8/7,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.58**	**11**	P	**Pn**	**08 22 26.2**	**+0.1**
	32nm,0.3s,baz=231,slow=3.9,SNR=39						
ATAH				S	**Sn**	**08 22 56.4**	**0.0**
	106nm,0.3s,baz=169,slow=7.8,SNR=9.8						
NNA	**Nana**	**3.16**	**140**	P	**Pn**	**08 22 33.8**	**-0.1**
	22nm,0.3s,baz=330,slow=8.0,SNR=122						
NNA				S	**Sn**	**08 23 10.6**	**+0.2**
	142nm,0.3s,baz=210,slow=16,SNR=14						
SIV	**San Ignacio**	**18.53**	**112**	P	**Pn**	**08 25 57.4**	**-0.6**
	0.1nm,0.3s,baz=288,slow=12,SNR=9.9						
TXAR	**Lajitas Array**	**45.43**	**329**	P	**P**	**08 29 59.0**	**+1.0**
	0.4nm,0.6s,mb3.3,baz=148,slow=9.6,SNR=6.1						
TXAR				LR	LR	08 49 57.0	
	comp=Z,42nm,18.0s,baz=180,slow=37						
PDAR	**Pinedale Array**	**59.11**	**334**	P	**P**	**08 31 39.6**	**+0.3**
	0.6nm,0.6s,mb3.8,baz=130,slow=9.3,SNR=6.1						
NVAR	**Mina Array Bea**	**60.22**	**325**	P	**P**	**08 31 47.8**	**+0.8**
	0.2nm,0.3s,mb3.6,baz=133,slow=6.3,SNR=6.6						
ULM	**Lac du Bonnet**	**61.36**	**348**	P	**P**	**08 31 54.0**	**-0.7**
	1.3nm,0.4s,mb4.3,baz=252,slow=3.3,SNR=6.2						
YBH	**Yreka Blue Hor**	**64.94**	**325**	P	**P**	**08 32 17.1**	**-1.3**
	2.0nm,0.8s,mb4.0,baz=113,slow=7.7,SNR=3.4						
YKA	**Yellowknife Ar**	**76.94**	**344**	P	**P**	**08 33 30.2**	**-0.8**
	1.0nm,0.6s,mb3.7,baz=140,slow=5.9,SNR=18						
TORD	**Torodi Ar. Bea**	**83.13**	**75**	P	**P**	**08 34 05.5**	**+1.2**
	0.9nm,0.8s,mb3.6,baz=274,slow=5.5,SNR=5.8						
TORD				pP	pP	08 34 22.7	-1.4
	0.6nm,0.7s,baz=290,slow=5.3,SNR=2.8						
ASAR	**Alice Springs**	**133.97**	**224**	PKP	PKPdf	08 40 56.0	+0.7
	0.5nm,0.7s,baz=122,slow=2.0,SNR=9.2						
WRA	**Warramunga Arr**	**136.07**	**228**	PKP	PKPdf	08 40 59.8	+0.6
	1.1nm,0.5s,baz=125,slow=1.9,SNR=7.8						
MKAR	**Makanchi Array**	**139.58**	**20**	PKP	PKPdf	08 41 05.9	+0.2
	0.2nm,0.5s,baz=13,slow=3.3,SNR=2.8						

IDC 17 08:23:02.9±6.8,2176N×14290E,h170km±64km,mb3.5/13, mb1 3.7/13,mb1mx3.6/21,mbtmp3.5/13,MS3.1/4, Ms1 3.1/4,ms1mx2.9/24,Error ellipse: s-maj=27.6km s-min=11.9km az=75.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.35**	**353**	LR	LR	08 25 48.1	
	comp=Z,130nm,19.3s,baz=287,slow=31						
GUMO	**Guam**	**8.34**	**167**	LR	LR	08 27 19.8	
	comp=Z,96nm,21.3s,baz=145,slow=31						
MJAR	**Matsushiro Arr**	**15.28**	**346**	LR	LR	08 31 39.9	
	comp=Z,164nm,19.0s,baz=165,slow=34						
KSRS	**Korea Array**	**20.31**	**324**	P	P	08 27 26.3	+0.7
	3.9nm,0.8s,baz=145,slow=8.4,SNR=7.6						
KSRS				LR	LR	08 34 29.4	
	comp=Z,50nm,19.1s,baz=140,slow=34						
SONM	**Songino Array**	**39.12**	**321**	P	P	08 30 13.5	-0.2
	1.4nm,0.6s,baz=129,slow=7.2,SNR=14						
CTA	**Charters Tower**	**41.72**	**175**	P	P	08 30 35.5	+0.5
WRA	**Warramunga Arr**	**42.28**	**192**	P	P	08 30 39.7	+0.1
	2.0nm,0.9s,baz=10,slow=8.5,SNR=9.7						
ASAR	**Alice Springs**	**45.99**	**191**	P	P	08 31 08.9	-0.1
	0.7nm,0.7s,baz=17,slow=9.9,SNR=8.2						
STKA	**Stephens Creek**	**53.35**	**181**	P	P	08 32 03.8	-0.8
	1.3nm,0.7s,baz=351,slow=13,SNR=3.2						
ZAL	**Zalesovo**	**54.01**	**322**	P	P	08 32 09.0	-0.4
	1.8nm,0.3s,baz=6.6,slow=1.5,SNR=7.6						
MKAR	**Makanchi Array**	**54.46**	**313**	P	P	08 32 13.5	+0.8
	0.8nm,0.8s,baz=97,slow=9.3,SNR=7.2						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	P	08 34 33.4	-0.7
	1.0nm,0.4s,baz=292,slow=5.8,SNR=20						
FINES	**FINESS Array B**	**83.01**	**334**	P	P	08 35 08.2	-0.8
	0.9nm,0.7s,baz=64,slow=3.2,SNR=4.2						
NVAR	**Mina Array Bea**	**83.31**	**51**	P	P	08 35 11.5	+0.9
	1.1nm,0.7s,baz=254,slow=8.2,SNR=5.5						
AKASG	**Malin Array Be**	**87.30**	**324**	P	P	08 35 29.9	-0.5
	0.3nm,0.4s,baz=48,slow=4.7,SNR=3.6						
PDAR	**Pinedale Array**	**87.53**	**45**	P	P	08 35 31.4	-0.1
	0.4nm,0.9s,baz=226,slow=4.8,SNR=2.9						
BRTR	**Keskin Array B**	**90.11**	**313**	P	P	08 35 44.7	+1.2
	0.6nm,0.7s,baz=66,slow=5.2,SNR=3.4						
LPAZ	**La Paz**	**150.20**	**85**	PKPab	PKPab	08 42 43.6	+3.4
	1.1nm,0.9s,baz=207,slow=10,SNR=5.7						

IDC 17 08:31:01.5±7.1,2179N×14279E,h266km±71km,mb3.1/8, mb1 3.3/8,mb1mx3.2/21,mbtmp3.1/8,Error ellipse: s-maj=35.5km s-min=14.3km az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.23**	**324**	P	P	08 35 16.9	+0.2
	1.9nm,0.7s,baz=145,slow=8.6,SNR=5.4						
SONM	**Songino Array**	**39.04**	**321**	P	P	08 38 02.0	-0.7
	1.1nm,0.7s,baz=137,slow=7.9,SNR=9.4						
WRA	**Warramunga Arr**	**42.29**	**192**	P	P	08 38 30.3	+1.0
	0.3nm,0.5s,baz=18,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**46.00**	**191**	P	P	08 38 57.7	-0.8
	0.3nm,0.6s,baz=16,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**54.37**	**313**	P	P	08 40 02.3	+1.3
	0.4nm,0.6s,baz=92,slow=10.0,SNR=7.0						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	P	08 42 22.3	-0.2
	0.5nm,0.4s,baz=293,slow=5.9,SNR=14						
FINES	**FINESS Array B**	**82.94**	**334**	P	P	08 42 55.7	-1.0
	1.4nm,0.8s,baz=79,slow=7.2,SNR=2.7						
NVAR	**Mina Array Bea**	**83.37**	**51**	P	P	08 42 60.0	+1.0
	0.6nm,0.8s,baz=278,slow=6.3,SNR=2.5						

MEX 17 08:40:42.9±0.6,1678N×9976W,h7km±3km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.17**	**299**	*i* P	Pg	08 40 46.0	-0.5
ACX				*i* S	Sg	08 40 49.0	+0.1
CAIG	**El Cayaco**	**0.55**	**299**	*i* P	Pg	08 40 53.0	-0.6
CAIG				*i* S	Sg	08 41 00.9	+0.1
MEIG	**Mezcala**	**1.15**	**7**	*i* P	Pg	08 41 01.1	-3.8
MEIG				*i* S	Sg	08 41 16.1	-3.7
PLIG	**Platanillo**	**1.62**	**9**	*i* P	Pn	08 41 09.1	-2.7
PLIG				*i* S	Sn	08 41 28.3	-4.6
UTMO	**Huajuapan**	**2.14**	**61**	*i* P	Pn	08 41 16.6	-2.4
UTMO				*i* S	Sn	08 41 42.3	-3.5
TPIG	**Tehuac#an**	**2.81**	**54**	*i* S	Sn	08 41 58.6	-3.6

SKHL ***17*** *08:41:34.1±1.8,4585N×15422E,h41km±11km,mb5.9/3, mbh5.8/3,Ms4.9/4,msh5.8/2*
ISCJB ***17*** *08:41:38.5±0.3,4670N±005×153.12E±004,h14km, mb4.7/102,MS4.5/44,Error ellipse: s-maj=7.5km s-min=3.3km az=129.3*
BJI ***17*** *08:41:38.6,4693N×15324E,h20km,mB5.1,mb4.6,Ms4.7, Msz4.5*
GCMT ***17*** *08:41:40.0±0.3,4652N×15360E,h18km±1km,MW5.0/66, Moment Tensor Solution. s43,c57; s66,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.85±.16; $M_{\theta\theta}$-1.59±.10; $M_{\phi\phi}$-1.26±.10; $M_{r\theta}$1.01±.23; $M_{\theta\phi}$-1.81±.06; $M_{\phi r}$2.13±.25; Best double couple: $M_0$3.86300×10^{16} NP1:ϕ_s243.00000°,δ29.00000°,λ116.00000°. NP2: ϕ_s34.00000°,δ64.00000°,λ76.00000°. Principal axes: T 3.7650, Plg68.0000°, Azm277.0000°; N 0.1960, Plg12.0000°, Azm40.0000°; P -3.9610, Plg18.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *08:41:40.0±0.3,4682N×15302E,h10km,mb4.8/62 Error ellipse: s-maj=9.9km s-min=5.4km az=163.0*
SZGRF ***17*** *08:41:41.5,4628N×15347E,h33km,mb4.8,MS4.6,Kuril Islands, Russia*
MOS ***17*** *08:41:42.3±1.3,4661N×153.11E,h45km,mb5.0/47, MS4.6/17,Error ellipse: s-maj=7.8km s-min=5.9km az=102.6*
IDC ***17*** *08:41:45.4±3.9,4657N×15323E,h69km±35km,mb4.0/21, mb1 4.2/22,mb1mx4.2/25,mbtmp4.0/22,ML4.1/1,MS4.4/25, Ms1 4.3/25,ms1mx4.2/38,Error ellipse: s-maj=15.5km s-min=12.7km az=119.0*
ISC 17 08:41:40.9±0.2,4687N±005×15306E±004,h15km, h15km±1.0km:pP-P,n260,σ1º21/281,mb4.7/102,MS4.5/43, 19C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.97**	**248**	*i* PN	**Pn**	**08 42 39.0**	**-2.2**
KUR				*e*S	**Sn**	**08 43 29.0**	**+1.5**
KUR				pmax	pmax		
	comp=N,160nm,0.8s						
KUR				pmax	pmax		
	comp=E,160nm,0.8s						
KUR				pmax	pmax		
	comp=Z,970nm,0.8s						
KUR				pmax	pmax		
	comp=E,7μm,4.0s						
KUR				pmax	pmax		
	comp=Z,5μm,4.0s						
KUR				smax			
	comp=N,1μm,0.8s						
KUR				smax			
	comp=E,750nm,0.8s						
KUR				smax			
	comp=N,10μm,4.0s						
KUR	**Kuril'sk**	**3.97**	**248**	*i* P	**Pn**	**08 42 39.0**	**-2.2**
KUR				AMB	AMB	08 42 40.5	
	comp=N,160nm,0.8s						
KUR				AMB	AMB	08 42 40.5	
	comp=N,970nm,0.8s						
KUR				AMB	AMB	08 42 45.0	
	comp=N,7μm,4.0s						
KUR				AMB	AMB	08 42 45.0	
	comp=N,5μm,4.0s						
KUR				*e*S	**Sn**	**08 43 29.0**	**+1.5**
KUR				A		08 43 46.0	
	comp=N,1μm,0.8s						
KUR				A		08 43 46.0	
	comp=N,750nm,0.8s						
KUR				A		08 43 53.6	
	comp=N,10μm,4.0s						
SKR	**Severo-Kuril's**	**4.32**	**27**	*e*PN	**Pn**	**08 42 53.0**	**+6.9**
SKR				*e*S	**Sn**	**08 43 49.9**	**+14**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=E,7μm,8.0s						
SKR				smax			
	comp=N,820nm,0.9s						
SKR				smax			
	comp=E,330nm,0.9s						
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR				MLR	MLR		
	comp=E,5μm,14.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.80**	**243**	*e*P	**Pn**	**08 43 06.2**	**-0.2**
YUK				AMB	AMB	08 43 17.3	
	comp=Z,2μm,1.0s						
YUK				AMB	AMB	08 43 17.3	
	comp=Z,3μm,1.0s						
YUK				AMB	AMB	08 43 17.9	
	comp=Z,210nm,0.5s						
YUK				AMB	AMB	08 43 17.9	
	comp=Z,330nm,0.5s						
YUK				A		08 44 26.9	
	comp=Z,810nm,0.5s						
YUK				A		08 44 26.9	
	comp=Z,280nm,0.5s						
YUK				A		08 44 37.2	
	comp=Z,4μm,2.0s						
YUK				A		08 44 37.2	
	comp=Z,10μm,2.0s						
YSS	**Yuzh-Sakhalins**	**7.06**	**274**	*e*PN	**Pn**	**08 43 29.9**	**+6.2**
YSS				*e*S	**Sn**	**08 44 55.4**	**+12**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				smax			
	comp=N,30nm,0.9s						
YSS				smax			
	comp=E,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,14.0s						
YSS				MLR	MLR		
	comp=E,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.06**	**274**	*e*Pn	**Pn**	**08 43 29.1**	**+5.4**
YSS	**Yuzh-Sakhalins**	**7.06**	**274**	*e*P	**Pn**	**08 43 29.9**	**+6.2**
YSS				AMB	AMB	08 43 32.3	
	comp=E,60nm,1.0s						
YSS				AMB	AMB	08 43 32.3	
	comp=E,40nm,1.0s						
YSS				*e*S	**Sn**	**08 44 55.4**	**+12**
YSS				A		08 44 57.1	
	comp=E,30nm,0.9s						
YSS				AMS	AMS	08 46 10.0	
	comp=E,2μm,15.0s						
YSS				AMS	AMS	08 46 10.0	
	comp=E,3μm,15.0s						
PET	**Petropavlovsk**	**7.14**	**28**	*e*PN	**Pn**	**08 43 29.3**	**+4.5**
PET				pmax	pmax		
	comp=Z,62nm,1.7s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PET	**Petropavlovsk**	**7.14**	**28**	*e*Pn	**Pn**	**08 43 24.9**	**+0.1**
JMP	**Maruseppu**	**7.40**	**251**	P	**Pn**	**08 43 29.8**	**+1.5**
UGL	**Uglegorsk**	**7.70**	**291**	*e*PN	**Pn**	**08 43 39.8**	**+7.3**
UGL				*e*		08 45 07.5	
UGL				pmax	pmax		
	comp=Z,110nm,1.0s						
UGL				pmax	pmax		
	comp=E,1μm,6.0s						
UGL				pmax	pmax		
	comp=Z,1μm,6.0s						
UGL				pmax	pmax		
	comp=N,500nm,4.0s						
UGL				MLR	MLR		
	comp=E,5μm,16.0s						
UGL				MLR	MLR		
	comp=Z,4μm,16.0s						
UGL				MLR	MLR		
	comp=N,3μm,13.0s						
ASAJ	**Asahikawa**	**7.85**	**253**	P	**Pn**	**08 43 37.4**	**+2.8**
	comp=N,2.7nm,0.3s,baz=94,slow=15,SNR=29						
ASAJ				LR	LR	08 46 30.8	
	comp=N,2μm,19.1s,baz=62,slow=36						
ASAJ	**Asahikawa**	**7.85**	**253**	P	**Pn**	**08 43 37.2**	**+2.7**
ASAJ	**Asahikawa**	**7.85**	**253**	PN	**Pn**	**08 43 37.4**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.1s						
JWK2	**Keihoku**	**7.91**	**263**	P	**Pn**	**08 43 41.0**	**+5.6**
JEM	**Erimo**	**8.58**	**239**	P	**Pn**	**08 43 44.4**	**-0.2**
**

comp=Z,2μm,15.0s
JSH Shimam 10.17 250 P Pn 08 44 06.4 0.0
JOT Ohata 10.22 242 P Pn 08 44 04.3 -2.8
JOT eS Sn 08 45 52.0 -9.5
JTM Tenmabayashi 10.58 239 P Pn 08 44 08.0 -3.9
JTM eS Sn 08 46 01.7 -8.4
JOM Ohasama 11.32 233 P Pn 08 44 17.0 -5.2
JOM eS Sn 08 46 14.6 -14
HABR Khabarovsk 12.25 284⇑r/PN Pn 08 44 39.7 +4.9
HABR eS Sn 08 47 00.5 +9.4
HABR pmax pmax
comp=Z,63nm,2.0s
MAJO Matsushiro 15.12 232 eP **Pn 08 45 18.0 +4.0**
MAJO pmax pmax
comp=Z,19nm,0.8s
MAJO Matsushiro 15.12 232 eP **Pn 08 45 18.0 +4.0**
comp=Z,19nm,0.8s
MAT Matsushiro 15.12 232 P Pn 08 45 16.8 +2.8
MAT S Sn 08 48 09.2 +8.0
MAT Matsushiro 15.12 232 P Pn 08 45 07.1 -6.9
MJAR Matsushiro Arr 15.12 232 P Pn 08 45 08.5 -5.4
comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=5.4
MJAR LR LR 08 52 08.9
comp=Z,597nm,18.3s,baz=35,slow=42
VLA Vladivostok 15.43 264 P Pn 08 45 18.0 0.0
VLA pmax pmax
comp=Z,40nm,1.3s
VLA MLR MLR
comp=Z,1μm,17.3s
MDJ Mudanjiang 16.52 271 P Pn 08 45 31.4 -0.7
MDJ AP pP 08 45 36.9 -1.9
MDJ XP sP 08 45 39.4 -1.3
MDJ S **Sn 08 48 33.5 -1.8**
MDJ PCP PcP 08 50 25.3 +2.3
MDJ SCP ScP 08 53 59.8 +2.7
MDJ PCS PcS 08 54 01.3 +2.5
MDJ AMB AMB
comp=Z,27nm,1.6s
MDJ AMB AMB
comp=Z,258nm,7.8s
MDJ LR LR
comp=N,994nm,15.4s
MDJ LR LR
comp=E,430nm,14.2s
MDJ LR LR
comp=Z,2μm,15.4s
JWT Wachi 17.59 235 P Pn 08 45 45.9 +0.4
CN2 Changchun 19.61 271 eP **Pn 08 46 07.9 -2.2**
CN2 eS **Sn 08 49 38.4 -12**
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,1μm,16.0s
CN2 LR LR
comp=E,800nm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CLNS Chul'man 19.91 310 eP **Pn 08 46 18.6 +4.9**
CLNS ePPP 08 46 34.7
CLNS eS **Sn 08 49 58.2 +0.9**
CLNS eSS 08 50 28.2
CLNS pmax pmax
comp=Z,8.0nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS smax
comp=N,76nm,12.3s
CLNS smax
comp=Z,169nm,10.4s
CLNS smax
comp=E,864nm,12.9s
CLNS MLR MLR
comp=N,700nm,13.0s
CLNS MLR MLR
comp=Z,3μm,13.0s
CLNS MLR MLR
comp=E,3μm,14.0s
YAK Yakutsk 20.20 327 eP **P 08 46 18.7 +3.6**
YAK e 08 46 36.0
YAK eS **S 08 50 03.3 +1.9**
YAK eSS 08 50 26.1
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=Z,29nm,1.5s
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,18nm,1.3s
YAK smax
comp=E,319nm,3.8s
YAK smax
comp=N,183nm,4.6s
YAK MLR MLR
comp=Z,1μm,15.0s,MS4.3
YAK MLR MLR
comp=N,1μm,17.0s,MS4.4
YAK MLR MLR
comp=E,747nm,14.0s,MS4.4
YAK Yakutsk 20.20 327 eP **P 08 46 14.2 -0.9**
comp=E,36nm,0.9s
KSRS Korea Array 20.80 252 P P 08 46 22.1 +0.5
comp=E,11nm,0.9s,baz=59,slow=9.7,SNR=17
KSRS LR LR 08 53 21.8
comp=E,555nm,21.1s,MS3.9,baz=59,slow=33
SNY Shenyang 21.61 267⇓P P 08 46 31.4 +1.1
SNY AP 08 46 40.8
SNY XP sP 08 46 44.4 +8.1
SNY S **S 08 50 32.0 +2.8**
SNY AMB AMB
comp=Z,23nm,0.8s,mb4.7
SNY AMB AMB
comp=Z,680nm,5.5s
SNY LR LR
comp=E,1μm,12.9s
SNY LR LR
comp=Z,1μm,16.3s,MS4.3
INCN Inchon 21.63 254 eP **P 08 46 31.2 +0.7**
comp=Z,31nm,0.7s,mb4.8
JNU Nakatsue 21.75 239 LR LR 08 54 29.7
comp=Z,2μm,20.6s,MS4.5,baz=81,slow=35
BILL Bilibino 22.29 13⇓eP **P 08 46 39.7 +2.1**
BILL e 08 47 17.6
BILL eS **S 08 50 37.1 -5.3**
BILL pmax pmax
comp=Z,17nm,1.7s,mb4.2
BILL MLR MLR
comp=Z,800nm,15.0s,MS4.3
BILL Bilibino 22.29 13 eP **P 08 46 36.1 -1.5**
comp=Z,20nm,1.0s,mb4.5
HIA Hailar 22.29 288 eP **P 08 46 36.9 -0.7**
HIA Hailar 22.29 288 eP **P 08 46 36.2 -1.4**
comp=Z,5.1nm,0.8s,mb4.0
DL2 Dalian 24.24 262⇑P P 08 46 56.8 -0.4
DL2 S **S 08 51 16.3 +1.0**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.5
DL2 AMB AMB
comp=Z,240nm,6.4s
DL2 LR LR
comp=N,320nm,12.6s,MS4.2
DL2 LR LR
comp=E,310nm,11.6s,MS4.2
DL2 LR LR
comp=Z,290nm,15.3s,MS3.9
TIXI Tiksi 27.34 344 eP **P 08 47 23.3 -2.0**
TIXI eS **S 08 52 05.7 +1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb3.9
TIXI MLR MLR
comp=Z,971nm,15.0s,MS4.5
BJI Beijing 27.44 269 P P 08 47 28.8 +2.6
BJI S **S 08 52 10.6 +4.5**
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.4
BJI LR LR
comp=N,763nm,18.2s,MS4.6
BJI LR LR
comp=E,1μm,17.7s,MS4.6
BJI LR LR
comp=Z,897nm,17.5s,MS4.4
BJI Beijing 27.44 269 P P 08 47 28.7 +2.5
BJI S **S 08 52 10.6 +4.5**
BJI pmax pmax
comp=Z,11nm,0.8s,mb4.4
BJI MLR MLR
comp=Z,900nm,17.5s,MS4.4
BJI Beijing 27.44 269 P P 08 47 28.7 +2.5
comp=Z,11nm,0.8s,mb4.4
BJI S **S 08 52 10.6 +4.5**
BJI LR LR
comp=Z,900nm,17.5s,MS4.4
SSE Sheshan 29.11 249 P P 08 47 42.1 +1.1
SSE S **S 08 52 33.3 +1.0**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,380nm,4.5s
SSE LR LR
comp=N,239nm,20.5s,MS3.9
SSE LR LR
comp=E,189nm,20.5s,MS3.9
SSE LR LR
comp=Z,303nm,21.8s,MS3.9
SSE Sheshan 29.11 249 P P 08 47 42.1 +1.1
comp=Z,32nm,0.7s,mb5.2
SSE sP sP 08 47 46.5 -0.8
SSE S **S 08 52 33.2 +0.9**
SSE sS sS 08 52 38.6 -1.1
SSE LR LR
comp=Z,300nm,21.8s,MS3.9
HHC Hu-ho-hao-te 30.25 274 eP **P 08 47 50.6 -0.5**
HHC PP PP 08 48 48.8 -11
HHC S **S 08 52 48.3 -2.0**
HHC SS SS 08 54 24.6 -35
HHC PCS PcS 08 54 35.3 +0.1
HHC SCS ScS 08 58 27.3 -1.9
HHC AMB AMB
comp=Z,25nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,200nm,4.3s
HHC LR LR
comp=N,963nm,17.2s,MS4.5
HHC LR LR
comp=E,399nm,17.8s,MS4.5
HHC LR LR
comp=Z,948nm,16.1s,MS4.5
ULN Ulaanbaatar 30.82 289 eP **P 08 47 58.9 +2.7**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
ULN Ulaanbaatar 30.82 289 eP **P 08 47 58.9 +2.7**
comp=Z,6.9nm,0.9s,mb4.5
SONM Songino Array 31.26 289 P P 08 47 59.6 -0.5
comp=Z,1.1nm,0.8s,mb3.7,baz=60,slow=7.7,SNR=6.5
SONM LR LR 09 01 46.3
comp=Z,1μm,18.3s,MS4.7,baz=83,slow=38
ZAK Zakamensk 32.59 295 eP **P 08 48 11.4 -0.4**
IMA2 Indian Mountai 33.73 36 eP **P 08 48 22.9 +1.2**
GUMO Guam 33.88 194 LR LR 08 59 58.9
comp=Z,135nm,19.6s,MS3.7,baz=191,slow=32
MCK McKinley 35.59 40 eP **P 08 48 37.3 -0.4**
comp=Z,7.7nm,1.2s,mb4.5
COLA College 36.07 38 eP **P 08 48 42.4 +0.5**
COLA pmax pmax
comp=Z,22nm,1.3s,mb4.9
COLA College 36.07 38 eP **P 08 48 42.4 +0.5**
comp=Z,22nm,1.3s,mb4.9
LZH Lanzhou 37.85 272⇑P P 08 48 58.5 +1.5
LZH AP pP 08 49 02.0 +0.5
LZH XP sP 08 49 03.4 +0.1
LZH PP PP 08 50 27.0 +3.5
LZH eS **S 08 54 47.0 -0.7**
LZH AMB AMB
comp=Z,60nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,270nm,4.2s
LZH LR LR
comp=N,745nm,15.4s
LZH LR LR
comp=Z,926nm,17.0s,MS4.7
LZH Lanzhou 37.85 272⇑P P 08 48 58.5 +1.5
LZH 08 50 27.0
LZH eS **S 08 54 47.0 -0.7**
LZH SS SS 08 57 18.1 -16
LZH pmax pmax
comp=Z,60nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,930nm,17.0s,MS4.7
LZH Lanzhou 37.85 272⇑P P 08 48 58.5 +1.5
comp=Z,60nm,1.2s,mb5.2
LZH pP pP 08 49 02.0 +0.5
LZH sP sP 08 49 03.4 +0.1
LZH PP PP 08 50 27.0 +3.5
LZH eS **S 08 54 47.0 -0.7**
LZH sS sS 08 54 52.0 -3.1
LZH SS SS 08 57 18.1 -16
LZH LR LR
comp=Z,930nm,17.0s,MS4.7
GTA Gaotai 38.91 279 eP **P 08 49 07.1 +1.1**
GTA AP pP 08 49 11.0 +0.5
GTA XP sP 08 49 13.6 +1.3
GTA PP PP 08 50 43.3 +8.1
GTA PCP PcP 08 51 16.6 0.0
GTA S **S 08 55 08.3 +4.5**
GTA XS sS 08 55 17.0 +5.8
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
GTA AMB AMB
comp=Z,84nm,3.8s
GTA LR LR
comp=N,423nm,13.7s,MS4.7
GTA LR LR
comp=E,556nm,12.9s,MS4.7
GTA LR LR
comp=Z,580nm,13.3s,MS4.6
EGAK Eagle 38.93 38 eP **P 08 49 04.5 -1.6**
comp=Z,22nm,1.2s,mb4.8
DAWY Dawson 39.77 39 eP **P 08 49 14.6 +1.4**
CD2 Chengdu 40.85 265 P P 08 49 22.0 -0.1
CD2 AP pP 08 49 26.5 -0.1
CD2 XP sP 08 49 29.1 +0.7
CD2 PP PP 08 50 59.3 +3.0
CD2 S **S 08 55 29.0 -3.8**
CD2 AMB AMB
comp=Z,400nm,5.8s
CD2 LR LR
comp=N,560nm,12.7s,MS4.7
CD2 LR LR
comp=E,520nm,15.6s,MS4.7
CD2 LR LR
comp=Z,560nm,13.2s,MS4.6
INK Inuvik 41.57 32 P P 08 49 27.3 -0.7
comp=Z,2.4nm,0.9s,mb3.9,baz=268,slow=9.8,SNR=4.4
INK Inuvik 41.57 32 eP **P 08 49 28.3 +0.3**
comp=Z,103nm,0.7s,mb5.6
GYA Guiyang 41.70 257 P P 08 49 28.6 -0.5
GYA AP pP 08 49 32.8 -0.8
GYA XP sP 08 49 35.8 +0.4
GYA PP PP 08 51 10.9 +5.4
GYA PCP PcP 08 51 29.4 +3.8
GYA SCP ScP 08 55 18.3 +3.0
GYA S **S 08 55 47.4 +1.9**
GYA SS SS 08 58 45.8 -5.2
GYA AMB AMB
comp=Z,30nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,520nm,5.5s
GYA LR LR
comp=N,540nm,16.4s,MS4.6
GYA LR LR
comp=E,490nm,16.0s,MS4.6
GYA LR LR
comp=Z,500nm,16.2s,MS4.5
ZAL Zalesovo 42.53 306 P P 08 49 34.8 -1.0
comp=Z,1.1nm,0.4s,mb4.0,baz=86,slow=6.5,SNR=3.8
ZAL LR LR 09 09 09.4
comp=Z,2μm,19.3s,MS4.9,baz=49,slow=38
NVS Novosibirsk 43.09 307 eP **P 08 49 39.8 -0.6**
NVS pmax pmax
comp=Z,41nm,2.8s,mb4.7
NVS pmax pmax
comp=E,28nm,2.2s
WMQ Urumqi 44.85 291 P P 08 49 56.1 +1.6
WMQ XP sP 08 50 02.3 +1.5
WMQ PP PP 08 51 41.0 +1.7
WMQ S **S 08 56 31.1 -0.4**
WMQ SS SS 08 59 42.4 -10
WMQ SCS ScS 08 59 52.4 +0.8
WMQ AMB AMB
comp=Z,6.0nm,1.1s,mb4.3
WMQ AMB AMB
comp=Z,133nm,4.0s
WMQ LR LR
comp=N,612nm,17.0s,MS4.7
WMQ LR LR
comp=E,436nm,16.0s,MS4.7
WMQ LR LR
comp=Z,677nm,17.0s,MS4.6
KMI Kunming 45.23 259 P P 08 49 57.9 +0.4
KMI AP pP 08 50 01.5 -0.6
KMI XP sP 08 50 03.5 -0.4
KMI PP PP 08 51 44.1 +0.8
KMI S **S 08 56 36.6 -0.4**
KMI SS SS 08 59 51.6 -8.3
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,160nm,6.1s
KMI LR LR
comp=N,227nm,16.7s,MS4.4
KMI LR LR
comp=E,310nm,19.7s,MS4.4
KMI LR LR
comp=Z,317nm,19.7s,MS4.2
KMI Kunming 45.23 259 P P 08 49 57.9 +0.4
KMI 08 51 44.1
KMI PPP 08 52 26.1
KMI S **S 08 56 36.6 -0.4**
KMI *SS sS 08 56 44.6 +0.1
KMI SS SS 08 59 51.6 -8.3
KMI pmax pmax
comp=Z,14nm,1.2s,mb4.7
KMI MLR MLR
comp=Z,320nm,19.7s,MS4.3
KMI Kunming 45.23 259 P P 08 49 57.9 +0.4
comp=Z,14nm,1.2s,mb4.7
KMI pP pP 08 50 01.5 -0.6
KMI sP sP 08 50 03.5 -0.4
KMI PP PP 08 51 44.1 +0.8
KMI PPP 08 52 26.1
KMI S **S 08 56 36.6 -0.4**
KMI sS sS 08 56 44.6 +0.1
KMI SS SS 08 59 51.6 -8.3
KMI LR LR
comp=Z,320nm,19.7s,MS4.3
MKAR Makanchi Array 46.85 297 P P 08 50 10.1 -0.3
comp=Z,7.1nm,0.8s,mb4.6,baz=66,slow=7.6,SNR=53
MKAR Makanchi Array 46.85 297 P P 08 50 10.1 -0.3
KURK Kurchatov 47.27 304 eP **P 08 50 12.4 -1.2**
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KURK Kurchatov 47.27 304 eP **P 08 50 12.4 -1.1**
comp=Z,9.1nm,0.8s,mb4.8
LSA Lhasa 50.23 273 eP **P 08 50 38.6 +2.3**
LSA pmax pmax
comp=Z,13nm,0.6s,mb5.1
LSA Lhasa 50.23 273 eP **P 08 50 38.6 +2.3**
comp=Z,13nm,0.6s,mb5.1
CHKZ Chkalovo 50.33 310 eP **P 08 50 35.8 -1.3**
CHKZ pmax pmax
comp=Z,13nm,0.8s,mb5.0
CHKZ Chkalovo 50.33 310 eP **P 08 50 35.8 -1.3**
comp=Z,13nm,0.8s,mb5.0
RES Resolute Bay 50.74 19 eP **P 08 50 39.2 -0.9**
comp=Z,105nm,0.9s,mb5.8
BVAR Borovoye Array 50.76 309 LR LR 09 14 21.8
comp=Z,879nm,18.1s,MS4.8,baz=319,slow=38
BRVK Borovoye 50.80 309 eP **P 08 50 39.6 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRVK Borovoye 50.80 309 eP **P 08 50 39.5 -1.1**
comp=Z,6.1nm,0.8s,mb4.6
YKW3 Yellowknife Ar 50.82 37 eP **P 08 50 39.3 -1.5**
YKA Yellowknife Ar 50.85 37 P P 08 50 39.9 -1.1
comp=Z,3.6nm,0.9s,mb4.3,baz=296,slow=7.0,SNR=18
YKA LR LR 09 13 43.0
comp=Z,124nm,20.1s,MS3.9,baz=225,slow=38
CHTO Chiang Mai 52.11 257 eP **P 08 50 50.7 +0.3**
CHTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
CHTO Chiang Mai 52.11 257 eP **P 08 50 50.7 +0.3**
comp=Z,14nm,0.8s,mb4.9
AAK Ala-Archa 53.75 296 eP **P 08 51 02.0 -0.5**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AAK Ala-Archa 53.75 296 eP **P 08 51 02.0 -0.5**
comp=Z,6.6nm,0.9s,mb4.6
GUN Gumba 54.95 275 eP **P 08 51 12.3 +1.0**
comp=Z,35nm,0.7s,mb5.5
KKN Kakani 55.44 275 eP **P 08 51 15.8 +1.0**
comp=Z,26nm,0.6s,mb5.4
PKI Pulchoki 55.49 275 eP **P 08 51 16.2 +1.0**
comp=Z,22nm,0.7s,mb5.3
DMN Daman 55.67 275 eP **P 08 51 17.8 +1.3**
comp=Z,37nm,0.7s,mb5.5
GKN Gorkha 55.74 276 eP **P 08 51 17.9 +0.9**
comp=Z,27nm,0.6s,mb5.5
EDM Edmonton 56.26 46 eP **P 08 51 19.2 -1.5**
HNR Honiara 56.38 172 LR LR 09 11 04.9
comp=Z,134nm,19.4s,MS4.0,baz=90,slow=31
KOLN Koldanda 56.60 276 eP **P 08 51 24.2 +1.1**
comp=Z,45nm,0.9s,mb5.5
JOSI Joshimath 57.58 282 eP **P 08 51 31.2 +1.1**
ARCES ARCESS Array B 57.73 341 P P 08 51 30.2 -0.9
comp=Z,8.4nm,1.0s,mb4.7,baz=24,slow=9.1,SNR=3.1
KLP Kalpa 57.85 283 eP **P 08 51 32.8 +0.8**
KLP AMb AMB 08 51 34.1
comp=Z,24nm,1.1s,mb5.1
BSMT Bassoo Peak 58.65 52 eP **P 08 51 41.5 +4.0**
BMO Blue Mountains 59.04 56 eP **P 08 51 42.3 +2.0**
BMO pmax pmax
comp=Z,21nm,1.6s,mb4.9
BMO Blue Mountains 59.04 56 eP **P 08 51 42.2 +2.0**
comp=Z,21nm,1.6s,mb4.9
MSO Missoula 59.72 53 eP **P 08 51 48.6 +3.7**
comp=Z,18nm,1.6s,mb4.9
NDI New Delhi 60.34 281 eP **P 08 51 49.5 +0.2**
AYAN Aya Nagar 60.53 281 eP **P 08 51 51.0 +0.4**
AYAN AMb AMB 08 51 51.8
comp=Z,13nm,1.5s,mb4.8
AGRA Agra 60.79 280 eP **P 08 51 52.4 +0.1**
LRM Limekiln Ridge 61.15 53 eP **P 08 51 55.0 +0.2**
FCC Fort Churchill 61.19 33 eP **P 08 51 55.1 +0.1**
FCC pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
FCC Fort Churchill 61.19 33 eP **P 08 51 55.0 +0.1**
comp=Z,2.4nm,0.6s,mb4.5
EGMT Eagleton 61.21 49 eP **P 08 51 56.2 +1.0**
comp=Z,37nm,1.5s,mb5.3
JOF Joensuu 61.21 334 ep **P 08 51 54.2 -1.0**
comp=Z,6.4nm,0.8s,mb4.8
DLMT Dillon 61.36 53 eP **P 08 52 00.0 +3.8**
HLID Hailey 61.47 56 eP **P 08 51 58.3 +1.4**
comp=Z,5.5nm,1.1s,mb4.6
KHET Khetri 61.68 282 eP **P 08 51 58.6 +0.3**
KHET AMb AMB 08 51 59.3
comp=Z,6.6nm,0.8s,mb4.8
BOZ Bozeman (W) 61.71 52 eP **P 08 51 58.1 -0.4**
BOZ pmax pmax
comp=Z,32nm,1.7s,mb5.2
BOZ Bozeman (W) 61.71 52 eP **P 08 51 58.1 -0.4**
comp=Z,32nm,1.7s,mb5.2
NVAR Mina Array Bea 62.41 62 P P 08 52 01.9 -1.4
comp=Z,1.6nm,0.9s,mb4.2,baz=304,slow=7.8,SNR=6.8
KAF Kangasniemi 63.32 335 ep **P 08 52 04.5 -4.8**
comp=Z,12nm,0.8s,mb5.1
KAF Kangasniemi 63.32 335 eP **P 08 52 04.5 -4.8**
KAF pmax pmax
comp=Z,12nm,0.8s,mb5.1
SNOW Snow King Moun 63.59 54 eP **P 08 52 13.2 +2.2**
comp=Z,24nm,1.4s,mb5.0
REDW Red Top Meadow 63.60 54 eP **P 08 52 10.1 -1.0**
comp=Z,14nm,1.1s,mb4.9
BHPL Bhopal 63.77 277 eP **P 08 52 13.0 +0.8**
BHPL AMb AMB 08 52 13.5
comp=Z,18nm,1.4s,mb4.9
LAO LASA Array 63.91 49 eP **P 08 52 17.1 +3.9**
FINES FINESS Array B 63.92 335 P P 08 52 12.7 -0.5
comp=Z,3.9nm,0.6s,mb4.6,baz=38,slow=7.4,SNR=18

FINES LR LR 09 23 03.9
comp=Z,441nm,18.5s,MS4.7,baz=12,slow=39
FINES FINESS Array B 63.92 335 *i P* **P 08 52 12.6 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.6s
NGP Nagpur 64.06 274 *eP* **P 08 52 12.5 -1.7**
NGP AMb AMB 08 52 14.1
comp=Z,23nm,1.2s,mb5.1
DUG Dugway 64.54 58 *eP* **P 08 52 18.9 +1.6**
DUG pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
DUG Dugway 64.54 58 *eP* **P 08 52 18.9 +1.6**
comp=Z,6.6nm,1.1s,mb4.6
BW06 Boulder Array 64.71 54 *eP* **P 08 52 19.7 +1.3**
comp=Z,12nm,1.4s,mb4.7
PDAR Pinedale Array 64.71 54 P **P 08 52 16.8 -1.6**
comp=Z,2.1nm,0.9s,mb4.2,baz=318,slow=2.0,SNR=10.0
PDAR LR LR 09 18 04.8
comp=Z,106nm,20.4s,MS4.0,baz=200,slow=34
OBN Obninsk 65.19 325⇑ *eP* **P 08 52 19.2 -2.3**
OBN *e* 08 54 44.2
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.7
AKL Akola 65.76 275 *eP* **P 08 52 26.0 +0.8**
AKL AMb AMB 08 52 26.8
comp=Z,18nm,0.8s,mb5.2
MSU Marysvale 66.02 59 *eP* **P 08 52 25.7 -1.2**
ULM Lac du Bonnet 66.46 41 P **P 08 52 27.2 -2.5**
comp=Z,1.7nm,0.9s,mb4.0,baz=94,slow=13,SNR=2.7
ULM LR LR 09 25 34.5
comp=Z,134nm,18.0s,MS4.2,baz=341,slow=40
SRU San Rafael 66.58 57 *eP* **P 08 52 31.8 +1.3**
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SRU San Rafael 66.58 57 *eP* **P 08 52 31.8 +1.2**
comp=Z,4.8nm,0.7s,mb4.6
RSSD Black Hills 66.78 50 *eP* **P 08 52 33.5 +1.8**
RSSD pmax pmax
comp=Z,20nm,1.5s,mb4.9
RSSD Black Hills 66.78 50 *eP* **P 08 52 33.5 +1.7**
comp=Z,20nm,1.5s,mb4.9
PV10 Paradox Valley 67.94 57 *eP* **P 08 52 40.9 +1.8**
PHWY Pilot Hill 67.95 53 *eP* **P 08 52 36.2 -3.0**
NB2 NORSAR Subarra 68.11 341 P **P 08 52 39.5 -0.6**
comp=Z,33nm,1.7s,mb5.1,baz=26,slow=6.5
NOA NORSAR Array B 68.11 341 P **P 08 52 39.6 -0.5**
comp=Z,4.1nm,0.6s,mb4.6,baz=28,slow=6.3,SNR=13
NOA LR LR 09 27 08.1
comp=Z,293nm,18.8s,MS4.5,baz=25,slow=40
AFI Afiamalu 68.23 143 LR LR 09 16 24.1
comp=Z,255nm,21.9s,MS4.4,baz=23,slow=31
WB2 Warramunga Arr 68.61 199 *eP* **P 08 52 42.1 -1.2**
WRA Warramunga Arr 68.61 199 P **P 08 52 38.8 -4.5**
comp=Z,4.7nm,0.9s,mb4.4,baz=17,slow=6.7,SNR=11
WRA LR LR 09 18 00.2
comp=Z,203nm,21.6s,MS4.3,baz=190,slow=32
WRA Warramunga Arr 68.61 199 P **P 08 52 38.9 -4.5**
WRA LR LR 09 18 00.2
ISCO Idaho Springs 68.90 54 *eP* **P 08 52 47.3 +2.2**
ISCO pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
ISCO Idaho Springs 68.90 54 *eP* **P 08 52 47.3 +2.2**
comp=Z,9.0nm,1.3s,mb4.5
FITZ Fitzroy Crossi 69.23 208 *eP* **P 08 52 43.9 -3.3**
comp=Z,6.9nm,0.8s,mb4.6
FITZ Fitzroy Crossi 69.23 208 P **P 08 52 43.6 -3.6**
comp=Z,3.2nm,0.7s,mb4.3,baz=84,slow=5.4,SNR=6.3
POO Poona 69.41 275 *eP* **P 08 52 46.0 -2.3**
SDCO Great Sand Dun 70.39 56 *eP* **P 08 52 58.1 +3.8**
KIV Kislovodsk 70.69 314 *eP* **P 08 52 54.8 -1.3**
KIV *e* 08 53 15.2
KIV *e*S S 09 02 08.1 -1.8
KIV *e*SS SS 09 06 40.2 -1.6
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KIV MLR MLR
comp=Z,980nm,18.0s,MS5.1
AKASG Malin Array Be 71.43 326 P **P 08 52 59.8 -0.8**
comp=Z,2.4nm,0.4s,mb4.5,baz=33,slow=6.1,SNR=24
AKASG LR LR 09 27 21.1
comp=Z,347nm,18.4s,MS4.7,baz=30,slow=38
AKASG Malin Array Be 71.43 326 *i P* **P 08 52 59.7 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
KIEV Kiev 71.44 326 *eP* **P 08 52 59.7 -1.0**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIEV Kiev 71.44 326 *eP* **P 08 52 59.7 -1.0**
comp=Z,10.0nm,0.8s,mb4.8
LAZ Ladron 71.79 59 *eP* **P 08 53 04.8 +2.1**
ANMO Albuquerque 71.80 58 *eP* **P 08 53 04.4 +1.5**
ANMO pmax pmax
comp=Z,11nm,1.5s
ANMO Albuquerque 71.80 58 *eP* **P 08 53 04.4 +1.6**
comp=Z,11nm,1.5s,mb4.6
ASAR Alice Springs 72.31 198 P **P 08 53 02.4 -3.5**
comp=Z,2.7nm,0.6s,mb4.4,baz=10,slow=5.4,SNR=84
SOC Sochi 72.41 316 *eP* **P 08 53 12.2 +5.7**
SOC *e*S S 09 02 35.6 +5.8
SOC MLR MLR
comp=Z,753nm,17.0s,MS5.0
GNI Garni 72.43 310 LR LR 09 28 32.3
comp=Z,339nm,18.4s,MS4.7,baz=351,slow=39
GNI Garni 72.43 310 *eP* **P 08 53 06.2 -0.4**
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 72.43 310 *eP* **P 08 53 06.2 -0.4**
comp=Z,8.9nm,0.8s,mb4.8
MNGI Mangalore 72.65 270 *eP* **P 08 53 06.7 -1.2**
MNGI AMb AMB 08 53 22.6
comp=Z,89nm,2.4s,mb5.3
SCHQ Schefferville 73.22 23 LR LR 09 29 45.9
comp=Z,120nm,18.1s,MS4.2,baz=338,slow=39
KIS Kishinev 74.57 324 *eP* **P 08 53 18.0 -1.2**
KIS *e* 08 53 30.0
KIS MLR MLR
comp=N,500nm,16.0s
KIS MLR MLR
comp=Z,700nm,16.0s,MS5.0
KIS MLR MLR
comp=Z,700nm,16.0s
KIS Kishinev 74.57 324 *eP* **P 08 53 18.0 -1.2**
KIS *e*L 09 25 24.0
KIS LRM 09 29 40.0
comp=Z,700nm,16.0s
KWP Kalwaria 74.70 329 *eP* **P 08 53 20.6 +0.6**
KWP pmax pmax
comp=Z,29nm,1.1s,mb5.1
KWP Kalwaria 74.70 329 *eP* **P 08 53 20.6 +0.6**
comp=Z,29nm,1.1s,mb5.1
MNTX Cornudas Mount 74.74 60 *eP* **P 08 53 21.4 +1.2**
comp=Z,18nm,1.8s,mb4.7
STHS Stebnicka Huta 75.40 330 *eP* **P 08 53 25.1 +1.1**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
STHS Stebnicka Huta 75.40 330 *eP* **P 08 53 25.1 +1.1**
comp=Z,5.0nm,0.9s,mb4.4
KOLS Kolonicke sedl 75.44 329 *eP* **P 08 53 23.8 -0.5**
BURAR Bucovina Array 75.47 326⇓ *iP* **P 08 53 24.6 +0.2**
CRVS Cervenica-Dubn 75.76 329 *eP* **P 08 53 25.7 -0.4**
OKC Ostrava-Krasne 76.07 332 *eP* **P 08 53 27.8 0.0**
OKC AMS AMS 09 30 40.0
comp=Z,400nm,14.5s
UPC Upice 76.16 333 *eP* **P 08 53 32.6 +4.2**
UPC *e*PCP PcP 08 53 41.8 +1.4
DPC Dobruska-Polom 76.20 333 *eP* **P 08 53 28.8 +0.2**
DPC AMS AMS 09 31 20.0
comp=Z,600nm,16.2s
MORC Moravsky Berou 76.32 332 *eP* **P 08 53 28.4 -0.9**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MORC Moravsky Berou 76.32 332 *eP* **P 08 53 28.4 -0.8**
comp=Z,7.7nm,1.0s,mb4.6
MORC Moravsky Berou 76.32 332⇓ *iP* **P 08 53 29.7 +0.4**
WMOK Wichita Mounta 76.32 54 *eP* **P 08 53 30.6 +1.3**
WMOK pmax pmax
comp=Z,16nm,1.7s,mb4.7
WMOK Wichita Mounta 76.32 54 *eP* **P 08 53 30.6 +1.4**
comp=Z,16nm,1.7s,mb4.7
CLL Collm 76.34 335⇑ *iP* **P 08 53 28.6 -0.8**
CLL *i* 08 53 42.5
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLL MLR MLR
comp=Z,400nm,15.2s,MS4.8
CLL Collm 76.34 335⇑ *iP* **P 08 53 28.6 -0.8**
comp=Z,14nm,1.0s,mb4.8
CLL *i* pP 08 53 33.7 -0.5
CLL *i* 08 53 42.5
CLL LR LR
comp=Z,400nm,15.2s,MS4.8
CLL Collm 76.34 335⇑ *iP* **P 08 53 28.6 -0.8**
comp=Z,14nm,1.0s,mb4.8
CLL *i* pP pP 08 53 33.7 -0.5
CLL *i* pPcP 08 53 42.5
BRG Berggiesshubel 76.46 335 *e*(P) **P 08 53 26.4 -3.7**
comp=Z,9.5nm,2.0s,mb4.4
BRG Berggiesshubel 76.46 335 P **P 08 53 26.4 -3.7**
BRG pmax pmax
comp=Z,10.0nm,2.0s,mb4.4
PVCC Panska Ves 76.58 334 *eP* **P 08 53 31.8 +1.1**
PVCC AMS AMS 09 30 20.0
comp=Z,300nm,17.1s
MLR Muntele Rosu 76.95 325⇑ *iP* **P 08 53 33.9 +1.1**
VYHS Vyhne 77.01 331 *eP* **P 08 53 33.0 -0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
VYHS Vyhne 77.01 331 *eP* **P 08 53 33.0 -0.1**
comp=Z,5.0nm,1.2s,mb4.3
PRU Pruhonice 77.07 334 *eP* **P 08 53 34.1 +0.6**
PRU AMS AMS 09 31 20.0
comp=Z,500nm,18.2s
DRGR 77.10 328⇑ *iP* **P 08 53 33.7 +0.1**
LPIG La Paz 77.12 69 LR LR 09 19 37.5
comp=Z,85nm,21.7s,MS4.0,baz=350,slow=30
PSZ Piszkesteto 77.14 330 *eP* **P 08 53 33.3 -0.6**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PSZ Piszkesteto 77.14 330 *eP* **P 08 53 33.3 -0.6**
comp=Z,3.8nm,0.8s,mb4.4
PSZ Piszkesteto 77.14 330⇓ *iP* **P 08 53 34.9 +1.0**
MOX Moxa 77.33 336 *eP* **P 08 53 25.5 -9.5**
MOX
comp=Z,200nm,20.0s
VOIR 77.34 325⇓ *iP* **P 08 53 35.8 +0.8**
NKC Novy Kostel 77.46 335 *eP* **P 08 53 36.7 +1.0**
LTX Lajitas 77.47 61 *eP* **P 08 53 34.4 -1.3**
LTX pmax pmax
comp=Z,28nm,1.5s,mb5.0
LTX Lajitas 77.47 61 *eP* **P 08 53 34.4 -1.3**
comp=Z,28nm,1.5s,mb5.0
TXAR Lajitas Array 77.47 61 P **P 08 53 33.6 -2.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=305,slow=4.8,SNR=20
KHC Kasperske Hory 78.12 334 *eP* **P 08 53 39.7 +0.4**
KHC AMS AMS 09 31 30.0
comp=Z,400nm,17.0s
GZR Gura Zlata 78.25 327⇑ *iP* **P 08 53 40.2 +0.1**
BRTR Keskin Array B 78.28 317 P **P 08 53 40.2 0.0**
comp=Z,3.3nm,1.0s,mb4.2,baz=65,slow=3.3,SNR=12
GRA1 Grafenberg Arr 78.30 336 *eP* **P 08 53 40.3 -0.1**
comp=Z,10.0nm,1.0s,mb4.7
GRA1 LR LR
comp=Z,300nm,18.0s,MS4.7
GRF Grafenberg Arr 78.30 336 *eP* **P 08 53 40.3 -0.1**
comp=Z,10.0nm,1.0s,mb4.7
GRF *e*L 09 31 51.5
comp=Z,269nm,18.0s
GRF Grafenberg Arr 78.30 336 *eP* **P 08 53 40.3 -0.1**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF MLR MLR
comp=Z,300nm,18.0s,MS4.7
GRF Grafenberg Arr 78.30 336 *eP* **P 08 53 40.3 -0.1**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF MLR MLR
comp=Z,300nm,18.0s,MS4.7
GERES GERESS Array B 78.33 334 P **P 08 53 40.2 -0.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=35,slow=4.9,SNR=14
GERES LR LR 09 32 15.1
comp=Z,433nm,18.5s,MS4.8,baz=272,slow=38
BZS Buzias 78.50 328⇓ *iP* **P 08 53 41.5 +0.1**
MEM Membach 78.82 339 P **P 08 53 43.0 -0.3**
comp=Z,5.7nm,1.0s,mb4.5
STKA Stephens Creek 79.06 190 P **P 08 53 40.4 -4.2**
comp=Z,0.9nm,0.3s,mb4.2,baz=252,slow=6.1,SNR=2.7
BCLA Clavier 79.17 340 P **P 08 53 44.3 -0.9**
ARSA Arzberg 79.18 332⇑ *iP* **P 08 53 45.3 +0.1**
comp=Z,4.9nm,1.1s,mb4.3
STU Stuttgart 79.69 337 *eP* **P 08 53 47.5 -0.5**
STU pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
STU Stuttgart 79.69 337 *eP* **P 08 53 47.5 -0.5**
comp=Z,4.7nm,0.6s,mb4.6
RAR Rarotonga 80.00 136 LR LR 09 24 02.4
comp=Z,288nm,20.7s,MS4.6,baz=252,slow=32
KBA Koelnbreinsper 80.02 333⇓ *iP* **P 08 53 50.5 +0.7**
comp=Z,18nm,1.1s,mb4.9
KBA Koelnbreinsper 80.02 333⇓ *iP* **P 08 53 50.5 +0.7**
KBA pmax pmax
comp=Z,18nm,1.1s,mb4.9
BFO Black Forest 80.33 337 *eP* **P 08 53 49.4 -2.0**
BFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BFO Black Forest 80.33 337 *eP* **P 08 53 49.4 -2.1**
comp=Z,4.0nm,0.9s,mb4.3
WTTA Wattenberg 80.37 334⇑ *iP* **P 08 53 52.0 +0.4**
comp=Z,12nm,1.0s,mb4.8
WTTA Wattenberg 80.37 334⇑ *iP* **P 08 53 52.0 +0.4**
WTTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 80.45 335⇑ *iP* **P 08 53 52.1 0.0**
comp=Z,7.1nm,1.0s,mb4.5
MOTA Moosalm 80.45 335⇑ *iP* **P 08 53 52.1 0.0**
MOTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VTS Vitosha 80.45 325⇑ *iP* **P 08 53 52.8 +0.7**
CDF Champ du Feu 80.53 338 *eP* **P 08 53 52.1 -0.4**
comp=Z,43nm,1.6s,mb4.8
CDF Champ du Feu 80.53 338 *eP* **P 08 53 52.1 -0.4**
CDF pmax pmax
comp=Z,22nm,1.6s,mb4.8
CDF Champ du Feu 80.53 338 *eP* **P 08 53 52.1 -0.4**
comp=Z,22nm,1.6s,mb4.8
NATX Nacogdoches 80.83 53 *eP* **P 08 53 55.1 +1.0**
comp=Z,5.6nm,0.5s,mb4.8
PPT Papeete 82.26 126 LR LR 09 24 35.9
comp=Z,310nm,19.6s,MS4.7,baz=270,slow=31
GRR Gorron 82.44 343 *eP* **P 08 54 01.9 -0.8**
comp=Z,40nm,1.1s,mb5.0
GRR Gorron 82.44 343 *eP* **P 08 54 01.9 -0.8**
GRR pmax pmax
comp=Z,20nm,1.1s,mb5.0
GRR Gorron 82.44 343 *eP* **P 08 54 01.9 -0.8**
comp=Z,20nm,1.1s,mb5.0
SMF Signal de Mont 83.04 339 *eP* **P 08 54 05.4 -0.4**
comp=Z,59nm,1.4s,mb5.1
SMF Signal de Mont 83.04 339 *eP* **P 08 54 05.4 -0.4**
SMF pmax pmax
comp=Z,30nm,1.4s,mb5.1
SMF Signal de Mont 83.04 339 *eP* **P 08 54 05.4 -0.4**
comp=Z,30nm,1.4s,mb5.1
LPG La Plagne 83.36 337 *eP* **P 08 54 08.1 +0.7**
comp=Z,42nm,1.4s,mb5.0
LPG La Plagne 83.36 337 *eP* **P 08 54 08.1 +0.7**
LPG pmax pmax
comp=Z,21nm,1.4s,mb5.0
LPG La Plagne 83.36 337 *eP* **P 08 54 08.1 +0.7**
comp=Z,21nm,1.4s,mb5.0
CAF Calviac 85.08 340 *eP* **P 08 54 16.1 -0.1**
ESDC Sonseca Array 91.43 342 P **P 08 54 45.3 -1.2**
comp=Z,0.1nm,0.2s,mb3.7,baz=338,slow=3.2,SNR=4.9
ESDC LR LR 09 43 56.9
comp=Z,151nm,18.5s,MS4.5,baz=340,slow=41
KEST Kesra 91.55 331 LR LR 09 40 37.2
comp=Z,128nm,18.5s,MS4.4,baz=126,slow=38
CFAA Coronel Fontan 145.01 79 PKP PKPdf 09 01 12.6 -5.0
comp=Z,0.2nm,0.6s,baz=281,slow=4.2,SNR=4.9
CFAA Coronel Fontan 145.01 79 PKP PKPdf 09 01 12.6 -5.0
PLCA Paso Flores 148.25 95 PKPab PKPab 09 01 25.1 -4.3
comp=Z,2.5nm,0.8s,baz=97,slow=1.1,SNR=5.3

IDC **17** *08:50:27.3±2.9,* **3051S×17759W, h0**^{km}**, mb4.1**/3, **mb1 4.2**/4, **mb1mx3.9**/15, **mbtmp4.0**/4, **ML3.1**/1, **MS4.2**/1, **Ms1 4.2**/1, **ms1mx2.9**/23, **Error ellipse: s-maj=61.9km s-min=25.9km az=108.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**347**	Pn	Pn	08 50 52.9	+0.4
	165nm,0.3s,baz=203,slow=21,SNR=12						
RAO				Sn	Sn	08 51 04.5	-5.9
	939nm,0.3s,baz=164,slow=22,SNR=24						
URZ	**Urewera**	**8.89**	**208**	Pn	Pn	08 52 38.7	+1.7
	0.2nm,0.3s,baz=295,slow=24,SNR=4.4						
CTA	**Charters Tower**	**34.16**	**279**	P	P	08 57 15.8	+1.6
	1.3nm,0.4s,baz=83,slow=8.1,SNR=3.9						
STKA	**Stephens Creek**	**34.80**	**257**	P	P	08 57 19.4	-0.3
	1.2nm,0.5s,baz=107,slow=9.1,SNR=3.5						
WRA	**Warramunga Arr**	**44.45**	**272**	P	P	08 58 38.9	-1.2
	1.2nm,0.5s,baz=118,slow=7.9,SNR=8.3						
GUMO	**Guam**	**56.80**	**315**	LR	LR	09 20 39.5	
	comp=Z,184nm,18.9s,baz=232,slow=32						
FINES	**FINESS Array B**	**145.37**	**340**	PKPbc	PKPbc	09 10 05.2	-1.8
	1.0nm,0.5s,baz=68,slow=3.4,SNR=10						

ISCJB **17** *08:53:02.5±0.7, 32S±0.1×1303E±02, h35*^{km}*, mb4.0/8, Error ellipse: s-maj=27.0km s-min=9.3km az=126.6*
NEIC **17** *08:53:04.0±0.6, 308S×13037E, h30*^{km}*, mb4.2/4, Error ellipse: s-maj=19.2km s-min=8.6km az=61.0*
IDC **17** *08:53:06.1±4.5, 3155S×13034E, h51*^{km}*±42*^{km}*, mb3.8/8, mb1 3.9/9, mb1mx3.8/19, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=41.3km s-min=11.5km az=71.0*
ISC 17 08:53:04.5±0.7, 315S±008×1304E±02, h35^{km}**, n18,** σ**1§21**/20**, mb4.0**/8**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.71**	**168**	*eP*	**Sn**	**08 57 07.6**	**-1.8**
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.58**	**197**	*eP*	**Pn**	**08 56 43.2**	**+1.9**
	9.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.58**	**197**	P	**Pn**	**08 56 43.6**	**+2.2**
	0.3nm,0.3s,baz=20,slow=14,SNR=11						
WRA	**Warramunga Arr**	**17.12**	**167**	P	**Pn**	**08 56 58.5**	**-2.5**
	0.3nm,0.3s,baz=348,slow=13,SNR=5.6						
WRA				S	**S**	**09 00 00.2**	**-19**
	0.1nm,0.3s,baz=339,slow=21,SNR=3.1						
WB2	**Warramunga Arr**	**17.13**	**167**	*eP*	**Pn**	**08 57 01.2**	**+0.2**
KSM	**Kuching**	**20.61**	**283**	*eP*	**P**	**08 57 41.0**	**+0.4**
ASAR	**Alice Springs**	**20.67**	**171**	P	**P**	**08 57 42.0**	**+0.8**
	6.4nm,0.5s,baz=351,slow=11,SNR=65						
ASAR				S	**S**	**09 01 31.1**	**+0.7**
	1.7nm,0.8s,baz=349,slow=19,SNR=8.0						
CTA	**Charters Tower**	**22.86**	**139**	*eP*	**P**	**08 58 06.4**	**+1.8**
	4.1nm,0.8s,mb3.9						
CTA	**Charters Tower**	**22.86**	**139**	P	**P**	**08 58 06.2**	**+1.5**
	6.2nm,0.9s,mb4.0,baz=317,slow=12,SNR=5.5						
CTAO	**Charters Tower**	**22.86**	**139**	*eP*	**P**	**08 58 06.8**	**+2.2**
	18nm,1.3s,mb4.3						
STKA	**Stephens Creek**	**30.45**	**161**	P	**P**	**08 59 14.1**	**+0.3**
	0.6nm,0.3s,mb3.8,baz=286,slow=7.4,SNR=3.2						
PSI	**Prapat**	**32.02**	**280**	P	**P**	**08 59 26.9**	**-0.6**
	2.9nm,0.7s,mb4.2,baz=72,slow=5.2,SNR=3.8						
PSI	**Prapat**	**32.02**	**280**	P	**P**	**08 59 26.9**	**-0.6**
SONM	**Songino Array**	**54.96**	**340**	P	**P**	**09 02 30.1**	**-1.9**
	0.7nm,0.9s,mb3.7,baz=147,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**65.27**	**326**	P	**P**	**09 03 42.1**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=117,slow=8.1,SNR=9.7						
ZAL	**Zalesovo**	**68.35**	**333**	P	**P**	**09 04 03.2**	**+0.9**
	0.7nm,0.6s,mb3.9,baz=358,slow=9.0,SNR=2.6						
KURK	**Kurchatov**	**69.48**	**328**	*eP*	**P**	**09 04 09.0**	**-0.3**
	5.3nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**75.06**	**327**	P	**P**	**09 04 43.1**	**+0.5**
	0.9nm,0.7s,mb3.8,baz=126,slow=7.4,SNR=6.3						

MOS **17** *09:04:20.8±1.3, 021S×12492E, h41*^{km}*, mb5.2/36, Error ellipse: s-maj=11.9km s-min=5.7km az=108.9*
ISCJB **17** *09:04:21.8±0.8, 028S±004×12505E±005, h52*^{km}*±7*^{km}*, mb5.0/76, MS4.2/14, Error ellipse: s-maj=8.0km s-min=5.3km az=130.1*
IDC **17** *09:04:21.3±2.4, 023S×12493E, h32*^{km}*±17*^{km}*, mb4.7/21, mb1 4.7/22, mb1mx4.7/25, mbtmp4.7/22, ML4.7/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/25, Error ellipse: s-maj=19.9km s-min=10.1km az=77.0*
BJI **17** *09:04:21.5, 058S×125.17E, h74*^{km}*, mB5.2, mb4.9, Ms4.6, Msz4.2*
NEIC **17** *09:04:23.9±1.3, 028S×12497E, h56*^{km}*±12*^{km}*, mb5.0/31, Error ellipse: s-maj=10.2km s-min=5.3km az=64.0*
ISC 17 09:04:24.9±0.7, 029S±004×12511E±004, h65^{km}**±7**^{km}**, h74**^{km}**±6.1**^{km}**: pP-P, n185,** σ**1§23**/182**, mb4.9**/76**, 14C-12D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.57**	**138**	P	**Pn**	**09 05 30.7**	**-0.8**
	474nm,1.0s						
PCI	**Palu**	**5.30**	**263**	P	**Pn**	**09 05 45.7**	**+4.2**
	459nm,1.0s						
KAPI	**Kappang**	**7.11**	**229**	Pn	**Pn**	**09 06 05.9**	**-0.4**
	386nm,0.4s,SNR=16						
BUKP	**Musuan**	**8.12**	**360**	*eP*	**Pn**	**09 06 21.5**	**+1.4**
KKM	**Kota Kinabalu**	**10.88**	**305**	*e*Pn	**Pn**	**09 06 58.3**	**+0.5**
KAKA	**Kakadu**	**14.32**	**150**⇓ *iP*		**Pn**	**09 07 42.3**	**-2.0**
	73nm,0.6s						
KSM	**Kuching**	**14.90**	**277**	*e*Pn	**Pn**	**09 07 56.1**	**+4.3**
JAY	**Jayapura**	**15.75**	**98**	P	**Pn**	**09 08 01.5**	**-1.2**
	83nm,0.6s						
BJII	**Banjamegara**	**16.87**	**245**	P	**Pn**	**09 08 19.6**	**+2.9**
	42nm,1.1s						
FITZ	**Fitzroy Crossi**	**17.70**	**178**⇓ *iP*		**Pn**	**09 08 26.6**	**-0.4**
	48nm,0.6s						
FITZ				*e*		09 08 36.8	
FITZ	**Fitzroy Crossi**	**17.70**	**178**	P	**Pn**	**09 08 26.7**	**-0.3**
	2.1nm,0.3s,baz=14,slow=8.9,SNR=67						
FITZ				LR	LR	09 15 57.0	
	comp=Z,169nm,19.0s,baz=4.0,slow=39						
LEM	**Lembang**	**18.61**	**249**	P	**Pn**	**09 08 39.7**	**+1.7**
	86nm,0.9s						
WRA	**Warramunga Arr**	**21.52**	**156**	P	**P**	**09 09 07.4**	**-1.1**
	21nm,0.6s,mb4.7,baz=333,slow=11,SNR=51						
WRA				S	**S**	**09 12 59.6**	**-3.7**
	0.9nm,0.8s,baz=339,slow=20,SNR=2.0						
WRA				ScP	ScP	09 16 44.5	+4.3
	1.6nm,0.9s,baz=337,slow=3.0,SNR=5.0						
WRA	**Warramunga Arr**	**21.52**	**156**	P	**P**	**09 09 07.4**	**-1.1**
WRA				S	**S**	**09 12 59.6**	**-3.7**
WB2	**Warramunga Arr**	**21.52**	**156**⇓ *iP*		**P**	**09 09 07.4**	**-1.2**
WB2				*e*SCS	ScS	09 20 24.4	0.0
PMG	**Port Moresby**	**23.74**	**113**	P	**P**	**09 09 31.9**	**+0.7**
	15nm,0.8s,mb4.4,baz=322,slow=6.7,SNR=5.4						
PMG	**Port Moresby**	**23.74**	**113**	*eP*	**P**	**09 09 32.1**	**+0.9**
PMG	**Port Moresby**	**23.74**	**113**	*eP*	**P**	**09 09 31.9**	**+0.8**
	10nm,0.6s,mb4.3						
GUMO	**Guam**	**23.95**	**54**	P	**P**	**09 09 32.8**	**-0.3**
	117nm,0.7s,mb5.3,baz=195,slow=14,SNR=4.6						
GUMO	**Guam**	**23.95**	**54**	*eP*	**P**	**09 09 33.6**	**+0.6**
GUMO				pmax	pmax		
	comp=Z,93nm,0.6s,mb5.3						
GUMO	**Guam**	**23.95**	**54**	*eP*	**P**	**09 09 33.6**	**+0.6**
	comp=Z,93nm,0.6s,mb5.3						
ASAR	**Alice Springs**	**24.75**	**160**	P	**P**	**09 09 40.9**	**+0.6**
	comp=Z,24nm,0.8s,mb4.7,baz=340,slow=7.7,SNR=153						
ASAR				PcP	PcP	09 13 17.6	+2.1
	comp=Z,2.2nm,0.5s,baz=351,slow=2.0,SNR=14						
ASAR				ScP	ScP	09 16 53.0	+4.3
	comp=Z,2.3nm,1.1s,baz=354,slow=2.5,SNR=7.9						
ASAR	**Alice Springs**	**24.75**	**160**	P	**P**	**09 09 40.9**	**+0.6**
ASAR						09 13 17.7	
KULM	**Kulim**	**25.05**	**283**	*eP*	**P**	**09 09 42.1**	**-0.9**
YHNB	**Yeheng**	**25.08**	**352**	*eP*	**P**	**09 09 42.4**	**-0.9**
JOW	**Kunigami**	**27.14**	**6**	P	**P**	**09 10 02.9**	**+0.9**
	comp=Z,63nm,0.8s,mb5.2,baz=193,slow=8.7,SNR=4.2						
CTA	**Charters Tower**	**28.56**	**135**	*eP*	**P**	**09 10 16.6**	**+2.0**
	comp=Z,4.9nm,0.8s,mb4.2						
CTA	**Charters Tower**	**28.56**	**135**	P	**P**	**09 10 16.6**	**+2.0**
	comp=Z,6.1nm,0.8s,mb4.3,baz=316,slow=13,SNR=6.6						
CTA	**Charters Tower**	**28.56**	**135**	*eP*	**P**	**09 10 16.6**	**+2.0**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CTAO	**Charters Tower**	**28.56**	**135**	*eP*	**P**	**09 10 17.4**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.6						
CTAO	**Charters Tower**	**28.56**	**135**	*eP*	**P**	**09 10 17.4**	**+2.8**
	comp=Z,19nm,1.3s,mb4.6						
FORT	**Forrest**	**30.45**	**175**⇓ *iP*		**P**	**09 10 31.7**	**+0.4**
	comp=Z,71nm,0.7s,mb5.4						
CBIJ	**Chichi jima**	**31.80**	**30**	P	**P**	**09 10 42.6**	**-0.6**
	comp=Z,125nm,0.7s,mb5.7,baz=298,slow=18,SNR=3.6						
CHTO	**Chiang Mai**	**31.95**	**308**	*eP*	**P**	**09 10 43.9**	**-0.6**
CHTO				pmax	pmax		

comp=Z,15nm,1.2s,mb4.6
CHTO Chiang Mai 31.95 308 *e*P **P 09 10 43.9 -0.6**
comp=Z,15nm,1.2s,mb4.6
GYA Guiyang 31.99 328⇑ *i*P **P 09 10 46.8 +1.9**
GYA PP PP 09 11 56.8 -1.3
GYA PCP PcP 09 13 36.6 +3.1
GYA S **S 09 15 52.5 +0.8**
GYA SCP ScP 09 17 11.6 +0.3
GYA SCS ScS 09 21 08.8 -1.1
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,210nm,5.2s
GYA LR LR
comp=N,640nm,17.6s
GYA LR LR
comp=E,570nm,17.2s
GYA LR LR
comp=Z,520nm,17.0s
MUN Mundaring 32.62 194 *e*P **P 09 10 50.5 +0.1**
KMI Kunming 33.27 321 P **P 09 10 54.3 -1.7**
KMI AP pP 09 11 09.3 -2.5
KMI AMB AMB
comp=Z,13nm,1.3s,mb4.6
KMI AMB AMB
comp=Z,137nm,7.2s
KMI LR LR
comp=N,281nm,17.1s
KMI LR LR
comp=E,261nm,14.3s
KMI LR LR
comp=Z,236nm,16.2s
KMI Kunming 33.27 321 P **P 09 10 54.3 -1.7**
comp=Z,13nm,1.3s,mb4.6
KMI pP pP 09 11 09.3 -2.5
KMI sP sP 09 11 17.4 -2.0
KMI LR LR
comp=Z,240nm,16.2s
NWAO Narrogin (SRO) 33.30 192 P **P 09 10 56.1 -0.2**
comp=Z,3.3nm,0.3s,mb4.7,baz=26,slow=9.3,SNR=7.5
STKA Stephens Creek 35.07 155⇓ *i*P **P 09 11 12.7 +1.1**
comp=Z,38nm,1.1s,mb5.1
STKA Stephens Creek 35.07 155 P **P 09 11 12.8 +1.2**
comp=Z,38nm,0.6s,mb5.4,baz=326,slow=8.6,SNR=77
STKA PcP PcP 09 13 43.6 +1.4
comp=Z,1.6nm,0.4s,baz=302,slow=6.6,SNR=4.3
STKA LR LR 09 26 20.1
comp=Z,122nm,19.9s,baz=17,slow=38
CD2 Chengdu 37.07 329 P **P 09 11 29.3 +0.6**
CD2 AP pP 09 11 47.5 +2.8
CD2 PP PP 09 12 56.8 +2.6
CD2 S **S 09 17 08.8 -1.2**
CD2 XS sS 09 17 40.0 +2.8
CD2 SS SS 09 19 42.0 -12
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,370nm,5.1s
CD2 LR LR
comp=N,480nm,10.7s
CD2 LR LR
comp=E,390nm,10.8s
CD2 LR LR
comp=Z,380nm,9.6s
XAN Xi'an 37.38 338 P **P 09 11 29.4 -1.9**
XAN AMB AMB
comp=Z,17nm,1.1s,mb4.9
KSRS Korea Array 37.65 4 P **P 09 11 34.1 +0.5**
comp=Z,17nm,0.9s,mb4.9,baz=181,slow=11,SNR=23
KSRS PcP PcP 09 13 51.4 +1.5
comp=Z,2.0nm,0.7s,baz=180,slow=4.4,SNR=4.8
KSRS LR LR 09 26 42.5
comp=Z,216nm,20.7s,baz=180,slow=36
MJAR Matsushiro Arr 38.62 17 P **P 09 11 41.0 -0.7**
comp=Z,16nm,0.8s,mb4.9,baz=193,slow=8.4,SNR=28
MAJO Matsushiro 38.62 17 *e*P **P 09 11 40.8 -0.9**
MAJO pmax pmax
comp=Z,20nm,0.8s,mb5.0
MAJO Matsushiro 38.62 17 *e*P **P 09 11 40.8 -1.0**
comp=Z,20nm,0.8s,mb5.0
MAT Matsushiro 38.62 17 P **P 09 11 40.9 -0.8**
ARMA Armidale 39.15 142 *e*P **P 09 11 48.4 +2.2**
BJT Baijiatuau 40.94 350 *e*P **P 09 12 01.7 +0.7**
BJT pmax pmax
comp=Z,31nm,1.1s
BJT Baijiatuau 40.94 350 *e*P **P 09 12 01.7 +0.7**
comp=Z,31nm,1.1s,mb5.0
BJI Beijing 40.96 350 P **P 09 12 02.1 +0.9**
BJI S **S 09 18 12.4 +3.9**
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.7
BJI LR LR
comp=N,227nm,15.8s
BJI LR LR
comp=E,237nm,15.3s
BJI LR LR
comp=Z,300nm,32.3s
BJI Beijing 40.96 350 P **P 09 12 02.1 +0.9**
comp=Z,11nm,0.8s,mb4.7
BJI S **S 09 18 12.4 +3.9**
BJI LR LR
comp=Z,300nm,32.3s
LZH Lanzhou 41.25 334 *e*P **P 09 12 05.0 +1.5**
LZH PP PP 09 13 44.8 +5.0
LZH PCP PcP 09 14 03.1 +1.8
LZH SCP ScP 09 17 44.6 -0.9
LZH PCS PcS 09 17 52.5 0.0
LZH *e*S **S 09 18 13.0 +0.3**
LZH XS sS 09 18 44.0 +3.8
LZH SS SS 09 21 13.1 -4.9
LZH AMB AMB
comp=Z,56nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,240nm,4.9s
LZH LR LR
comp=E,420nm,15.2s
LZH LR LR
comp=Z,630nm,16.3s
LZH Lanzhou 41.25 334 *e*P **P 09 12 05.0 +1.5**
LZH *PP pP 09 12 24.9 +5.1
LZH 09 13 44.8
LZH 09 14 03.1
LZH *e*S **S 09 18 13.0 +0.3**
LZH SS SS 09 21 13.1 -4.9
LZH pmax pmax
comp=Z,56nm,1.0s,mb5.3
LZH MLR MLR
comp=Z,630nm,16.3s
LZH Lanzhou 41.25 334 *e*P **P 09 12 05.0 +1.5**
comp=Z,56nm,1.0s,mb5.3
LZH pP pP 09 12 24.9 +5.1
LZH sP sP 09 12 34.9 +7.6
LZH PP PP 09 13 44.8 +5.0
LZH PcP PcP 09 14 03.1 +1.8
LZH ScP ScP 09 17 44.6 -0.9
LZH PcS PcS 09 17 52.5 0.0
LZH *e*S **S 09 18 13.0 +0.3**
LZH sS sS 09 18 44.0 +3.8
LZH SS SS 09 21 13.1 -4.9
LZH LR LR
comp=Z,630nm,16.3s
CNB Canberra Magne 41.54 150 *e*P **P 09 12 08.9 +3.0**
comp=Z,24nm,1.0s,mb4.9
TOO Toolangi 41.59 155⇓ *i*P **P 09 12 09.1 +2.7**
comp=Z,23nm,0.7s,mb5.0
TOO Toolangi 41.59 155⇓ *i*P **P 09 12 09.1 +2.7**
TOO pmax pmax
comp=Z,23nm,0.7s,mb5.0
HHC Hu-ho-hao-te 42.76 345 *e*P **P 09 12 17.3 +1.4**
HHC AP pP 09 12 35.3 +3.1
HHC PP PP 09 14 00.3 +4.2
HHC S **S 09 18 35.0 0.0**
HHC SCS ScS 09 22 10.3 -0.4
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,129nm,5.9s
HHC LR LR
comp=N,136nm,17.2s
HHC LR LR
comp=E,208nm,19.0s
HHC LR LR
comp=Z,273nm,22.0s
VLA Vladivostok 43.65 7 *e*P **P 09 12 22.0 -1.0**
VLA pmax pmax
comp=Z,68nm,1.3s,mb5.2
CN2 Changchun 43.90 0 *e*P **P 09 12 28.3 +3.2**
CN2 *e*XP sP 09 12 50.8 +1.9
CN2 *e*S **S 09 18 53.3 +1.6**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
LSA Lhasa 44.01 316 *e*P **P 09 12 27.6 +1.6**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
LSA Lhasa 44.01 316 *e*P **P 09 12 27.6 +1.6**
comp=Z,8.5nm,0.7s,mb4.6
MDJ Mudanjiang 44.89 5 P **P 09 12 33.4 +0.4**
MDJ PP PP 09 14 18.8 -0.1
MDJ SCP ScP 09 17 59.8 -0.5
MDJ PCS PcS 09 18 08.4 +1.1
MDJ S **S 09 19 08.0 +1.9**
MDJ SCS ScS 09 22 22.0 -2.1
MDJ AMB AMB
comp=Z,29nm,0.7s,mb5.1
MDJ AMB AMB
comp=Z,78nm,4.0s
MDJ LR LR
comp=N,89nm,30.4s
MDJ LR LR
comp=E,41nm,23.4s
MDJ LR LR
comp=Z,121nm,24.5s
GTA Gaotai 45.80 333 *e*P **P 09 12 39.8 -0.3**
GTA PCP PcP 09 14 17.8 +1.1
GTA PP PP 09 14 26.9 -1.5
GTA S **S 09 19 18.5 -0.6**
GTA SCS ScS 09 22 29.3 -0.6
GTA SS SS 09 22 35.1 -9.1
GTA AMB AMB
comp=Z,34nm,0.8s,mb5.1
GTA LR LR
comp=N,161nm,17.5s
GTA LR LR
comp=E,202nm,15.2s
GTA LR LR
comp=Z,220nm,16.0s
ASAJ Asahikawa 46.89 17 P **P 09 12 49.6 +0.9**
GUN Gumba 46.91 310 *e*P **P 09 12 48.2 -0.6**
comp=Z,21nm,0.5s,mb5.1
PKI Pulchoki 47.10 309 *e*P **P 09 12 49.9 -0.5**
KKN Kakani 47.31 309 *e*P **P 09 12 51.6 -0.4**
DMN Daman 47.36 309 *e*P **P 09 12 52.2 -0.1**
comp=Z,22nm,0.8s,mb4.9
GKN Gorkha 47.91 309 *e*P **P 09 12 56.5 -0.1**
comp=Z,20nm,0.7s,mb5.0
KOLN Koldanda 48.61 308 *e*P **P 09 13 01.2 -0.8**
comp=Z,47nm,0.9s,mb5.4
DANN Dangsing 48.76 309 *e*P **P 09 13 03.7 +0.6**
HABR Khabarovsk 49.33 9⇑ *i*P **P 09 13 07.9 +0.4**
HABR *e*S **S 09 20 12.5 +3.2**
HABR pmax pmax
comp=Z,31nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 49.53 16 *e*P **P 09 13 09.2 +0.2**
YSS pmax pmax
comp=Z,30nm,1.7s,mb5.0
HIA Hailar 49.58 355 *e*P **P 09 13 09.8 +0.4**
HIA pmax pmax
comp=Z,24nm,0.8s
HIA Hailar 49.58 355 *e*P **P 09 13 09.8 +0.3**
comp=Z,24nm,0.8s,mb5.2
ULN Ulaanbaatar 50.47 344 *e*P **P 09 13 15.6 -0.6**
ULN pmax pmax
comp=Z,25nm,1.0s,mb5.1
ULN Ulaanbaatar 50.47 344 *e*P **P 09 13 15.6 -0.6**
comp=Z,25nm,1.0s,mb5.1
SONM Songino Array 50.63 344 P **P 09 13 16.2 -1.2**
comp=Z,16nm,0.8s,mb5.1,baz=159,slow=8.4,SNR=44
SONM LR LR 09 34 53.2
comp=Z,164nm,20.5s,baz=159,slow=36
CIT Chita 53.03 351 *e*P **P 09 13 35.2 0.0**
ZAK Zakamensk 53.81 343 *e*P **P 09 13 41.7 +0.7**
ZAK *e* 09 14 47.0
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TLY Talaya 54.87 344 *e*P **P 09 13 49.2 +0.6**
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.9
TLY Talaya 54.87 344 *e*P **P 09 13 48.3 -0.3**
comp=Z,12nm,0.7s,mb5.0
WMQ Urumqi 55.15 328 P **P 09 13 52.0 +1.3**
WMQ AMB AMB
comp=Z,19nm,1.9s,mb4.8
WMQ AMB AMB
comp=Z,79nm,8.0s
WMQ LR LR
comp=N,148nm,22.0s
WMQ LR LR
comp=E,108nm,21.0s
WMQ LR LR
comp=Z,131nm,21.0s
CLNS Chul'man 56.95 360 *e*P **P 09 14 01.2 -2.3**
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,11nm,1.0s
BOD Bodaibo 58.61 353 *i*P **P 09 14 14.3 -0.8**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.9
MKAR Makanchi Array 59.98 327 P **P 09 14 23.1 -1.5**
comp=Z,13nm,0.7s,mb5.1,baz=125,slow=7.1,SNR=111
MKAR PcP PcP 09 15 10.4 +0.3
comp=Z,3.0nm,0.6s,baz=114,slow=4.4,SNR=4.3
MKAR ScP ScP 09 19 07.2 +1.8
comp=Z,0.6nm,0.8s,baz=125,slow=3.6,SNR=3.7
MKAR Makanchi Array 59.98 327 P **P 09 14 23.1 -1.5**
MKAR 09 15 10.5
PET Petropavlovsk 60.04 23⇑ *e*P **P 09 14 25.3 +0.3**
PET pmax pmax
comp=Z,30nm,1.6s,mb5.1
PET Petropavlovsk 60.04 23 *e*P **P 09 14 26.6 +1.5**
comp=Z,37nm,1.1s,mb5.3
KZA Kyzart 61.54 320 P **P 09 14 37.5 +2.4**
SNR=11
TKM2 Tokmak 2 61.74 321 P **P 09 14 38.1 +1.6**
SNR=13
KBK Karagaybulak 62.02 320 P **P 09 14 40.2 +1.8**
SNR=7.6
UCH Uchtor 62.09 320 P **P 09 14 41.2 +2.3**
SNR=17
YAK Yakutsk 62.26 2 *e*P **P 09 14 39.7 -0.3**
YAK *e* 09 15 15.1
YAK *e* 09 17 03.8
YAK *e*PPP 09 18 27.1
YAK *e*S **S 09 23 01.2 +0.1**
YAK *e* 09 24 26.4
YAK pmax pmax
comp=Z,76nm,1.1s,mb5.6
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
YAK smax
comp=N,52nm,2.6s
YAK smax
comp=E,73nm,3.2s
YAK Yakutsk 62.26 2 *e*P **P 09 14 39.6 -0.4**
comp=E,82nm,0.8s,mb5.8
AAK Ala-Archa 62.30 320 P **P 09 14 42.1 +1.9**
SNR=9.4
AAK Ala-Archa 62.30 320 P **P 09 14 41.2 +0.9**
comp=E,83nm,0.9s,mb5.8,SNR=6.0
AAK Ala-Archa 62.30 320 *e*P **P 09 14 39.5 -0.8**
AAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
AAK Ala-Archa 62.30 320 *e*P **P 09 14 39.5 -0.8**
comp=Z,11nm,0.8s,mb5.0
AML Almayashu 62.58 319 P **P 09 14 44.6 +2.5**
SNR=16
USP Ospenovka 62.61 321 P **P 09 14 43.5 +1.2**
SNR=16
EKS2 Erkin-Say 62.78 320 P **P 09 14 44.4 +0.9**
SNR=13
MA2 Magadan 62.98 14 *e*P **P 09 14 45.7 +0.9**
MA2 pmax pmax
comp=Z,20nm,0.6s,mb5.2
ZAL Zalesovo 63.46 335 P **P 09 14 46.9 -1.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=352,slow=6.9,SNR=26
ZAL Zalesovo 63.46 335 P **P 09 14 46.9 -1.1**
KURK Kurchatov 64.29 329 P **P 09 14 52.7 -0.8**
comp=Z,257nm,0.8s,SNR=16
KURK Kurchatov 64.29 329 *e*P **P 09 14 51.9 -1.6**
KURK pmax pmax
comp=Z,33nm,0.8s,mb5.2
KURK Kurchatov 64.29 329 *e*P **P 09 14 51.9 -1.6**
comp=Z,33nm,0.8s,mb5.2
NVS Novosibirsk 64.75 335 *e*P **P 09 14 53.9 -2.5**
NVS pmax pmax
comp=Z,17nm,0.9s,mb4.9
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,11nm,1.1s
KK31 Karatay Array 65.11 319 *i*P **P 09 14 57.7 -1.1**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
KKAR Karatay Array 65.11 319 *i*P **P 09 14 57.7 -1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SEY Seymchan 66.29 13⇑ *e*P **P 09 15 07.4 +1.0**
CASY Casey 66.66 186 *e*P **P 09 15 07.2 -1.5**
BVA0 Borovoye Array 69.83 328 *i*P **P 09 15 27.1 -1.4**
BVAR Borovoye Array 69.83 328 P **P 09 15 26.8 -1.7**
comp=Z,10nm,0.9s,mb4.7,baz=128,slow=8.5,SNR=41
BRVK Borovoye 69.90 328 P **P 09 15 26.1 -2.9**
comp=Z,112nm,1.1s,mb5.6,SNR=14
BRVK Borovoye 69.90 328 *e*P **P 09 15 27.8 -1.2**
BRVK pmax pmax
comp=Z,23nm,1.0s,mb5.0
BRVK Borovoye 69.90 328 *e*P **P 09 15 27.8 -1.2**
comp=Z,23nm,1.0s,mb5.0
CHKZ Chkalovo 70.03 329 *e*P **P 09 15 28.1 -1.7**
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb4.8
CHKZ Chkalovo 70.03 329 *e*P **P 09 15 28.1 -1.7**
comp=Z,17nm,1.0s,mb4.8
TIXI Tiksi 71.87 1⇑ *e*P **P 09 15 39.3 -1.6**
TIXI pmax pmax
comp=Z,19nm,1.2s,mb4.8
TIXI Tiksi 71.87 1 *e*P **P 09 15 39.8 -1.2**
comp=Z,8.1nm,0.6s,mb4.7
BILL Bilibino 73.83 15⇑ *e*P **P 09 15 51.9 -0.6**
BILL pmax pmax
comp=Z,15nm,2.2s,mb4.3
AB31 Akbulak array 74.25 322 P **P 09 15 53.4 -1.6**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
SVE Sverdlovsk 76.55 329 *e*P **P 09 16 06.0 -2.1**
ARU Arti 77.47 329⇓ *i*P **P 09 16 12.8 -0.5**
ARU *e* 09 16 24.1
ARU *e* 09 19 08.4
ARU *e*S S 09 26 01.9 +2.7
ARU *e*SS SS 09 31 00.4 +1.3
ARU pmax pmax
comp=Z,16nm,0.9s,mb4.8
ORR Orenburg 78.13 323 *e*P **P 09 16 16.8 -0.2**
ORR pmax pmax
comp=Z,80nm,1.5s,mb5.2
MAW Mawson 79.44 200 LR LR 09 46 57.8
comp=Z,95nm,21.3s,baz=69,slow=32
FALS False Pass 79.66 34 *e*P **P 09 16 26.6 +1.2**
VNDA Vanda 79.67 172 P **P 09 16 26.0 +0.6**
comp=Z,2.7nm,0.8s,mb4.1,baz=305,slow=6.1,SNR=11
SDPT Sand Point 81.42 34 *e*P **P 09 16 35.5 +0.8**
GNI Garni 82.82 310⇑ *e*P **P 09 16 44.1 +2.0**
ZEI Tsey 83.74 313 *e*P **P 09 16 48.2 +1.4**
ZEI *e**PP pP 09 17 00.0 -4.8
ZEI pmax pmax
comp=Z,14nm,0.9s,mb4.8
KIV Kislovodsk 84.74 314 *e*P **P 09 16 53.5 +1.6**
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KIV Kislovodsk 84.74 314 *e*P **P 09 16 52.9 +0.9**
comp=Z,10.0nm,0.8s,mb4.8
VRHR Novokhopersk 86.12 321 *e*P **P 09 16 58.6 -0.2**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,7.0nm,0.3s
KDAK Kodiak Island 86.14 32 P **P 09 17 00.2 +1.4**
comp=E,9.9nm,0.6s,mb4.9,baz=159,slow=5.3,SNR=7.3
IMA2 Indian Mountai 86.69 24 *e*P **P 09 17 02.7 +1.1**
SLKM Skilak Lake 87.62 30 *e*P **P 09 17 06.2 +0.1**
KMBO Kilima Mbogo 87.85 269 P **P 09 17 09.7 +2.6**
comp=E,3.3nm,0.8s,mb4.4,baz=61,slow=7.9,SNR=8.2
KMBO Kilima Mbogo 87.85 269 *e*P **P 09 17 09.7 +2.5**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 87.85 269 *e*P **P 09 17 09.7 +2.5**
comp=Z,3.2nm,0.8s,mb4.4
KLMR Klimovskoe 88.10 331 *e*P **P 09 17 06.5 -1.8**
KLMR pmax pmax
comp=Z,25nm,1.2s,mb5.1
SYO Syowa Base 88.11 201⇓ *e*pP pP 09 17 31.4 +4.9
MCK McKinley 88.47 26 *e*P **P 09 17 09.8 -0.3**
MCK pmax pmax
comp=Z,20nm,1.6s,mb4.9
MCK McKinley 88.47 26 *e*P **P 09 17 09.8 -0.3**
comp=Z,20nm,1.6s,mb4.9
COLA College 89.00 25 *e*P **P 09 17 13.4 +0.8**
COLA College 89.00 25 *e*P **P 09 17 12.7 +0.1**
comp=Z,2.1nm,0.6s,mb4.3
OBN Obninsk 89.40 325⇑ *e*P **P 09 17 13.8 -0.7**
OBN *e* 09 20 44.7
OBN *e*S S 09 27 53.6 -5.8
OBN pmax pmax
comp=Z,52nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 89.40 325 *e*P **P 09 17 13.9 -0.5**
comp=Z,32nm,0.8s,mb5.4
BRTR Keskin Array B 91.32 310 P **P 09 17 23.0 -0.4**
comp=Z,1.9nm,0.9s,mb4.2,baz=142,slow=6.3,SNR=7.9
JOF Joensuu 92.00 333 *e*p **P 09 17 24.2 -2.3**
comp=Z,9.9nm,0.7s,mb5.2
ARCES ARCESS Array B 93.64 340 P **P 09 17 32.4 -1.7**
comp=Z,6.9nm,0.9s,mb5.0,baz=71,slow=7.8,SNR=5.5
AKASG Malin Array Be 93.96 321 P **P 09 17 34.4 -1.2**
comp=Z,3.9nm,0.8s,mb4.8,baz=67,slow=4.9,SNR=7.4
KAF Kangasniemi 94.38 332 *e*p **P 09 17 35.2 -2.3**
INK Inuvik 94.48 21 *e*P **P 09 17 38.3 +0.3**
comp=Z,372nm,1.0s
FINES FINESS Array B 94.58 332 P **P 09 17 36.6 -1.9**
comp=Z,3.1nm,0.8s,mb4.8,baz=64,slow=4.4,SNR=5.2
FINES FINESS Array B 94.58 332 *i*P **P 09 17 36.7 -1.7**
FINES pmax pmax
comp=Z,3.0nm,0.8s
TAOE Nuku Hiva Isla 94.64 99 *e*LR LR 09 18 04.7
comp=Z,774nm,21.5s,baz=323
TIRR Tirgusor 94.99 314⇓ *i*P **P 09 17 38.4 -1.9**
VRI Vrincioaia 96.05 316⇓ *i*P **P 09 17 45.3 +0.1**
MLR Muntele Rosu 96.64 316⇑ *i*P **P 09 17 47.3 -0.5**
BURAR Bucovina Array 96.89 318⇑ *i*P **P 09 17 49.3 +0.3**
BOSA Boshof 98.51 241 LR LR 09 56 37.0
comp=Z,137nm,20.0s,baz=34,slow=32
DRGR 98.70 317⇑ *i*P **P 09 17 57.5 +0.4**
GZR Gura Zlata 98.86 316⇑ *i*P **P 09 17 58.4 +0.6**
VTS Vitosha 98.96 313⇑ *i*P **P 09 17 57.7 -0.5**
BZS Buzias 99.63 316⇓ *i*P Pdif 09 18 01.1 -0.2
YKA Yellowknife Ar 103.81 24 Pdiff Pdif 09 18 20.5 +0.7
comp=Z,0.4nm,0.6s,baz=298,slow=4.6,SNR=7.6
PDAR Pinedale Array 115.43 42 PKP PKPdf 09 23 01.4 +2.1
comp=Z,0.4nm,0.7s,baz=318,slow=1.2,SNR=2.7
ANMO Albuquerque 120.90 49⇑ *i*PKIKP PKPdf 09 23 12.5 +2.7
TORD Torodi Ar. Bea 122.52 285 PKP PKPdf 09 23 14.6 +1.7
comp=Z,1.7nm,0.7s,baz=68,slow=1.8,SNR=14
TORD PKKPab PKKPab 09 33 10.9 +3.3
comp=Z,0.5nm,0.8s,baz=275,slow=2.8,SNR=3.9
TORD Torodi Ar. Bea 122.52 285 PKP PKPdf 09 23 14.6 +1.7
TORD PKKPab PKKPab 09 33 10.9 +3.3
SCHQ Schefferville 124.77 8 PKP PKPdf 09 23 18.2 +1.0
comp=Z,1.5nm,0.5s,baz=0.0,slow=4.0,SNR=3.5
SCHQ Schefferville 124.77 8 PKP PKPdf 09 23 18.2 +1.0
TXAR Lajitas Array 125.31 54 PKP PKPdf 09 23 20.4 +2.2
comp=Z,0.8nm,0.8s,baz=202,slow=1.9,SNR=9.4
KSU1 Kansas State U 125.73 40 *e*PKPdf PKPdf 09 23 21.1 +2.0
JCT Junction City 127.88 51 *e*PKIKP PKPdf 09 23 25.8 +2.6
LRAL Lakeview Retre 135.59 40 *e*PKPdf PKPdf 09 23 39.4 +1.7
TGUH Tegucigalpa,Un 145.16 65 *e*PKPdf PKPdf 09 23 57.5 +2.5
JTS JuntasÀbangare 148.50 71 *e*PKP2 PKPab 09 24 06.2 -1.6

IDC 17 09:25:53.9±6.4, 311S×13035E, h25km±39km, mb3.6/3, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=121.8km s-min=16.2km az=77.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	15.59	197	*e*P	Pn	09 29 36.2	+4.2
	5.1nm,0.7s						
FITZ	**Fitzroy Crossi**	15.59	197	Pn	Pn	09 29 31.3	-0.7
	0.1nm,0.3s,baz=25,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	17.18	167	P	Pn	09 29 50.5	-1.6
	0.4nm,0.3s,baz=353,slow=13,SNR=11						
WB2	**Warramunga Arr**	17.18	167	*e*P	Pn	09 29 53.0	+0.9
ASAR	**Alice Springs**	20.72	171	P	P	09 30 33.8	+1.5
	5.2nm,0.6s,baz=347,slow=9.0,SNR=79						
ASAR				S	S	09 34 23.8	+1.3
	0.9nm,1.0s,baz=350,slow=20,SNR=6.3						
SONM	**Songino Array**	54.90	340	P	P	09 35 22.7	+0.3
	0.4nm,0.9s,baz=167,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	65.20	326	P	P	09 36 32.9	-0.1
	0.5nm,0.6s,baz=115,slow=7.5,SNR=7.9						

IGQ 17 09:40:04.2, 025S×7908W, h15km, Mb4.2, Ms4.0, 4C-15D, Error ellipse: s-maj=1.2km s-min=0.8km az=20.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUA2	**San Juan 2**	0.48	86	⇓P	Pg	09 40 14.7	+1.1
PINO	**Pino**	0.48	79	⇓P	Pg	09 40 14.6	+0.8
TERV	**Terraza Guagua**	0.48	81	⇓P	Pg	09 40 14.6	+0.9
GGP	**Refugio Guagua**	0.49	81	⇓P	Pg	09 40 14.7	+0.8
YANA	**Yana**	0.53	76	⇓P	Pg	09 40 15.1	+0.5
CAMI	**Rancho Maria**	0.71	126	⇓P	Pg	09 40 19.0	+0.9
VC1	**Cotopaxi 1**	0.78	120	⇓P	Pg	09 40 20.1	+0.7
TAMB	**Tambo**	0.84	122	⇓P	Pb	09 40 21.0	+0.6
ANTI	**Antisana**	0.94	102	⇓P	Pb	09 40 22.5	+0.3
COTA	**Cotacachi**	0.94	52	⇑P	Pb	09 40 22.6	+0.4
PISA	**Pisayambo**	1.06	139	⇑P	Pb	09 40 24.7	+0.5
PISA				S	Sb	09 40 38.7	+0.8
CAYR	**Refugio Cayamb**	1.10	76	⇓P	Pb	09 40 25.8	+0.8
JAMA	**Jama**	1.13	269	P	Pb	09 40 24.7	-0.6
CAYA	**Cayambe**	1.14	74	⇓P	Pb	09 40 26.1	+0.6
IGUA	**Igualata**	1.31	160	P	Pn	09 40 29.5	+1.6
BILB	**Tungurahua vol**	1.32	154	⇓P	Pn	09 40 29.2	+1.2
JUIV	**Juive**	1.32	152	⇓P	Pn	09 40 29.1	+1.1
RUN5	**Runtun**	1.33	150	⇓P	Pn	09 40 29.1	+1.0
RUN5				S	Sn	09 40 47.0	+1.4
ULBA	**Ulba**	1.37	151	P	Pn	09 40 29.3	+0.6
ARRY	**Arrayan**	1.40	153	⇑P	Pn	09 40 29.8	+0.7
CONE	**Cono NE Rev Vo**	1.45	83	⇑P	Pn	09 40 31.7	+1.9
LAV3	**Lava3-Reventad**	1.46	84	⇓P	Pn	09 40 31.7	+1.8

*ISCJB **17** 10:01:50.4±1.4, 27N±02×954E±02, h35km, mb3.9/6, Error ellipse: s-maj=38.4km s-min=15.3km az=86.9*
*IDC **17** 10:01:54.6±10.0, 284N×9561E, h46km±77km, mb3.6/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.5/6, ML2.7/1, Error ellipse: s-maj=135.0km s-min=20.6km az=60.0*
*NEIC **17** 10:01:54.6±7.2, 282N×9559E, h50km±52km, mb4.2/1, Error ellipse: s-maj=92.3km s-min=14.3km az=58.0*

ISC 17 10:01:52.9±1.5, 28N±02×955E±02, h35km, n9, σ0°23/9, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	3.47	90	P	Pn	10 02 44.4	+0.1
	0.7nm,0.3s,baz=265,slow=9.1,SNR=8.5						
WRA	**Warramunga Arr**	44.35	122	P	P	10 09 59.2	-0.4
	0.5nm,0.6s,mb3.4,baz=299,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	45.31	347	P	P	10 10 07.5	+0.2
	2.7nm,0.6s,mb4.3,baz=166,slow=7.7,SNR=35						
MKAR	**Makanchi Array**	45.31	347	P	P	10 10 07.5	+0.2
ASAR	**Alice Springs**	45.73	127	P	P	10 10 11.0	+0.4
	0.2nm,0.7s,mb3.2,baz=298,slow=7.9,SNR=3.7						
SONM	**Songino Array**	45.87	10	P	P	10 10 11.6	-0.1
	1.1nm,0.7s,mb3.9,baz=190,slow=9.0,SNR=9.4						
SONM				PcP	PcP	10 11 49.3	+0.8
	0.2nm,0.6s,baz=197,slow=4.5,SNR=3.6						
ZAL	**Zalesovo**	51.74	352	P	P	10 10 56.7	-0.1
	2.2nm,0.6s,mb4.3,baz=327,slow=7.0,SNR=10						
ZAL	**Zalesovo**	51.74	352	P	P	10 10 56.7	-0.1
CHKZ	**Chkalovo**	54.69	342	*e*P	P	10 11 18.4	0.0
	2.0nm,0.8s,mb4.2						

*GII **17** 10:13:00.1±0.2, 3076N×3504E, h0km, ML2.5/8*
*HLW **17** 10:13:00.9, 3084N×3514E, h20km, Mb2.9*
*ISCJB **17** 10:13:01.2±0.5, 3075N±003×3504E±005, h21km±5km, Error ellipse: s-maj=6.8km s-min=4.6km az=47.2*

ISC 17 10:13:01.1±0.5, 3075N±003×3505E±004, h18km±4km, n19, σ0°77/25, 1C-3D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	0.23	151	Pg	**Pg**	10 13 05.5	-0.9
RMNI	**Mount Ramon**	0.29	238	Pg	**Pg**	10 13 06.8	-0.7
RMNI				Sg	**Sg**	10 13 13.2	+1.3
MASH	**Mash'abbe Sade**	0.34	317	Pg	**Pg**	10 13 07.7	-0.5
PRNI	**Paran**	0.40	186	Pg	**Pg**	10 13 09.0	-0.4
PRNI				Sg	**Sg**	10 13 16.1	+1.2
SVTA	**Shivta**	0.41	296	Pg	**Pg**	10 13 09.1	-0.5
RTMI	**Retamim**	0.43	314	Pg	**Pg**	10 13 09.3	-0.7
KZIT	**Kziot**	0.58	285	Pg	**Pg**	10 13 12.0	-0.7
KZIT				Sg	**Sg**	10 13 22.0	+1.5
YTIR	**Yattir**	0.61	5	Pg	**Pg**	10 13 12.6	-0.7
MZDA	**Masada**	0.62	26	Pg	**Pg**	10 13 13.2	-0.1
MZDA				Sg	**Sg**	10 13 21.3	-0.2
HRFI	**Mount Harif**	0.71	181	Pg	**Pg**	10 13 14.6	-0.5
DSI	**Dead Sea**	0.86	19	Pg	**Pg**	10 13 18.8	+0.9
DRGI	**Dragot**	0.89	19	Pg	**Pg**	10 13 19.2	-0.2
EIL	**Elat**	1.08	185	Pg	**Pg**	10 13 22.2	+0.1
HNKL	**Nakhl**	1.24	229	⇓P	**Pn**	10 13 23.5	0.0
SLTI	**Sal'it**	1.48	360	Pn	**Pn**	10 13 28.3	+1.4
HMDT	**Nahal Hemdat**	1.55	15	Pn	**Pn**	10 13 29.1	+1.3
AMAG	**Maghara**	1.59	267	⇑P	**Pn**	10 13 28.0	-0.4
AMAG				S	**Sn**	10 13 47.5	-1.0
SUZ		2.12	245	⇓P	**Pn**	10 13 36.2	+0.5
SUZ				S	**Sn**	10 14 01.2	-0.4
HKAT	**Jabal Katrina**	2.41	203	⇓P	**Pn**	10 13 39.6	0.0

*NSSP **17** 10:31:22.9, 3950N×4278E, h10km, ML3.4*
*CSEM **17** 10:31:25.3±0.5, 3957N×4276E, h4km±3km, MD3.5, Error ellipse: s-maj=3.7km s-min=2.3km az=172.0*
*ISK **17** 10:31:25.4, 3960N×4278E, h6km, MD3.5*
*ISCJB **17** 10:31:26.3±0.3, 3957N±003×4275E±003, h4km, Error ellipse: s-maj=4.3km s-min=2.9km az=106.3*

ISC 17 10:31:26.3±0.6, 3957N±003×4276E±003, h1km±5km, n28, σ1°03/43, 4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	0.18	88	*i* PG	**Pg**	10 31 29.3	-0.5
AGRB				*i* SG	**Sg**	10 31 32.0	-0.1
DIGO	**Kars**	0.97	29	*i* P	**Pg**	10 31 45.0	+0.1
DIGO				*i* S	**Sg**	10 32 01.1	+3.7
CLDR	**Caldiran**	0.99	115	PG	**Pg**	10 31 44.8	-0.6
KARS	**Kars**	1.07	14	PG	**Pg**	10 31 46.0	-0.9
KARS				SG	**Sg**	10 32 00.4	-0.4
ERZM	**Erzurum**	1.12	288	*i* P	**Pg**	10 31 48.9	+1.0
ERZM				*i* S	**Sg**	10 32 06.8	+4.3
EZM	**Erzurum**	1.13	288	PN	**Pn**	10 31 47.8	-1.5
TVAN	**Van**	1.16	154	*i* P	**Pg**	10 31 48.3	-0.2
TVAN				*i* S	**Sg**	10 32 04.6	+1.1
VANT	**Van**	1.23	156	PN	**Pn**	10 31 49.4	-1.2
ARUZ	**Aruch**	1.25	55	⇓P	**Pg**	10 31 49.4	-0.9
ARUZ				S	**Sg**	10 32 07.4	+1.0
PAAR	**P'arak'ar**	1.38	65	P	**Pn**	10 31 51.6	-1.1
PAAR				S	**Sg**	10 32 11.2	+0.6
BNGL	**BINGOL**	1.39	244	*i* P	**Pn**	10 31 52.7	-0.3
BNGL				*i* S	**Sb**	10 32 12.8	+1.3
HARI	**Harich**	1.41	42	P	**Pn**	10 31 51.8	-1.3
HARI				S	**Sb**	10 32 14.3	+2.4
AMBZ	**Amberd**	1.41	54	⇓P	**Pn**	10 31 52.0	-1.2
AMBZ				S	**Sb**	10 32 12.1	+0.1
HNAZ	**Hnaberd**	1.50	45	P	**Pn**	10 31 53.1	-1.3
HNAZ				S	**Sn**	10 32 18.3	+3.6
KAMZ	**Kamo**	1.55	36	⇓P	**Pn**	10 31 54.2	-0.9
KAMZ				S	**Sn**	10 32 17.8	+2.0
GNI	**Garni**	1.63	69	PN	**Pn**	10 31 55.7	-0.5
KAPZ	**Kaputan**	1.67	63	⇓P	**Pn**	10 31 56.1	-0.6
KAPZ				S	**Sn**	10 32 19.9	+1.1
BTMT	**Batman**	1.69	216	PN	**Pn**	10 31 58.7	+1.6
ARTV	**Artvin**	1.73	339	*i* P	**Pn**	10 31 57.6	0.0
ARTV				*i* S	**Sn**	10 32 25.9	+5.5
STE	**Stepanavan**	1.89	40	P	**Pn**	10 32 01.0	+1.3
STE				S	**Sn**	10 32 30.0	+5.9
BINT	**Bingol**	1.89	249	PN	**Pn**	10 31 59.4	-0.4
BCA	**Borcka**	2.06	336	*e*PN	**Pn**	10 32 00.9	-1.2
HKR	**Hakkari**	2.13	159	*e*PN	**Pn**	10 32 03.1	0.0
CUKT	**Cukurca**	2.41	164	*e*PN	**Pn**	10 32 07.1	+0.2
DIY	**Diyarbakir**	2.59	231	*e*PN	**Pn**	10 32 09.7	+0.3
GUMT	**Gumushane**	2.67	290	*e*PN	**Pn**	10 32 10.4	-0.1
PTK	**Pertek**	2.70	257	*e*PN	**Pn**	10 32 11.3	+0.4
URFA	**Urfa**	3.75	237	*e*PN	**Pn**	10 32 25.4	+0.1

*NEIC **17** 10:40:55.0±3.0, 452S×1524E, h159km±27km, Error ellipse: s-maj=27.2km s-min=19.4km az=219.0*

IDC 17 10:40:54.7±5.1, 449S×15244E, h154km±47km, mb3.4/5, mb1 3.5/6, mb1mx3.4/16, mbtmp3.4/6, MS3.5/4, Ms1 3.5/4, ms1mx3.1/21, Error ellipse: s-maj=33.5km s-min=27.9km az=67.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.17	227	P	Pn	10 42 37.6	+0.6
	0.9nm,0.3s,baz=119,slow=23,SNR=3.6						
DZM	**Mont Dzumac**	22.13	143	P	P	10 45 37.5	-0.3
	7.9nm,1.0s,baz=307,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	23.39	227	P	P	10 45 49.5	0.0
	5.6nm,0.6s,baz=49,slow=9.5,SNR=41						
ASAR	**Alice Springs**	26.14	221	P	P	10 46 15.0	+0.5
	0.6nm,0.5s,baz=52,slow=8.4,SNR=12						
STKA	**Stephens Creek**	29.09	199	LR	LR	10 58 28.2	
	comp=Z,79nm,20.2s,baz=26,slow=36						
FITZ	**Fitzroy Crossi**	29.50	241	LR	LR	10 59 56.3	
	comp=Z,40nm,19.8s,baz=107,slow=39						
SONM	**Songino Array**	65.87	328	P	P	10 51 23.7	0.0
	1.1nm,1.0s,baz=142,slow=7.2,SNR=3.6						
SONM				LR	LR	11 17 46.6	
	comp=Z,41nm,20.7s,baz=131,slow=34						
MKAR	**Makanchi Array**	79.86	319	P	P	10 52 46.7	+0.6
	0.3nm,0.8s,baz=99,slow=8.9,SNR=2.5						
YKA	**Yellowknife Ar**	95.31	28	LR	LR	11 34 36.6	
	comp=Z,39nm,18.2s,baz=150,slow=34						

IDC 17 10:54:13.3±56.0, 1586S×17224W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, MS3.7/1, Ms1 3.6/1, ms1mx2.8/28, Error ellipse: s-maj=1096.0km s-min=191.8km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	1.99	13	LR	LR	10 55 16.9	
	comp=Z,546nm,20.9s,baz=147,slow=32						
STKA	**Stephens Creek**	44.78	241	P	P	11 02 29.1	+0.4
	0.8nm,0.5s,baz=79,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	50.83	257	P	P	11 03 16.1	+0.4
	0.5nm,0.4s,baz=94,slow=7.0,SNR=12						
ASAR	**Alice Springs**	51.04	252	P	P	11 03 17.5	+0.3
	1.5nm,0.6s,baz=89,slow=8.6,SNR=21						
TXAR	**Lajitas Array**	79.94	56	LR	LR	11 34 54.9	
	comp=Z,37nm,18.8s,baz=185,slow=30						

*GRAL **17** 10:55:04.8±0.8, 3329N×3598E, h25km±8km, MD2.5*
*ISCJB **17** 10:55:05.7±3.1, 3333N±008×359E±02, h21km±16km, Error ellipse: s-maj=34.8km s-min=7.3km az=39.3*
*GII **17** 10:55:07.3±0.0, 3338N×3583E, h0km±6km*

ISC 17 10:55:05.7±3.1, 3333N±008×359E±02, h22km±12km, n5, σ0°90/9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	0.18	330	*e*Pg	**Pb**	10 55 11.0	+0.3
RCY				*e*Sg	**Sb**	10 55 14.6	+0.5
KSDI	**Kefar Szold**	0.26	238	Pg	**Pb**	10 55 11.0	-1.0
KSDI				Sg	**Sb**	10 55 15.5	-0.6
MMA0	**Mount Meron ar**	0.54	234	Pg	**Pb**	10 55 18.7	+2.2
MMA0				Sg	**Sb**	10 55 23.9	+0.1
MMC7	**Mount Meron ar**	0.54	235	Sg	**Sb**	10 55 23.8	-0.1
BHL	**Bhannes**	0.61	339	*e*Pg	**Pb**	10 55 16.5	-1.2
BHL				*e*Sg	**Sb**	10 55 26.2	+0.3

*NEIC **17** 11:04:57.1, 3920S×17690E, h27km, ML3.7(WEL), After WEL.*

WEL 17 11:04:56.7±0.2, 3921S×17693E, h26km±2km, ML3.7/41, 10C-3D, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	0.34	276	P	Pb	11 05 04.0	-0.4
BKZ				S	Sb	11 05 09.3	-0.3
BKZ	**Black Stump Fm**	0.34	276	⇓P*	Pb	11 05 04.0	-0.4
BKZ				S*	Sb	11 05 09.3	-0.3
KNZ	**Kokohu**	0.61	72	P	Pb	11 05 09.8	+1.1
KNZ	**Kokohu**	0.61	72	P*	Pb	11 05 09.8	+1.2
HATZ	**Hinemaiaia**	0.73	295	P	Pb	11 05 10.0	-0.7
HATZ				S	Sb	11 05 19.6	-0.6
HATZ	**Hinemaiaia**	0.73	295	⇓P*	Pb	11 05 10.0	-0.7
HATZ				S*	Sb	11 05 19.6	-0.7
PXZ	**Pawanui**	0.83	184	P*	Pb	11 05 12.4	0.0
RITZ	**Rihia Road**	0.87	285	P	Pb	11 05 12.7	-0.3
RITZ	**Rihia Road**	0.87	285	PN	Pn	11 05 12.7	-0.5
WHTZ	**Whakaora**	0.93	305	P	Pn	11 05 13.6	-0.5
WHTZ	**Whakaora**	0.93	305	PN	Pn	11 05 13.1	-1.0
MOVZ	**Moawhango**	0.94	257	P	Pn	11 05 13.6	-0.6
MOVZ	**Moawhango**	0.94	257	⇓PN	Pn	11 05 13.6	-0.6
URZ	**Urewera**	0.95	8	P	Pn	11 05 13.8	-0.6
URZ	**Urewera**	0.95	8	⇑PN	Pn	11 05 13.8	-0.6
RATZ	**Rangitukua**	0.96	290	P	Pn	11 05 14.0	-0.6
RATZ	**Rangitukua**	0.96	290	PN	Pn	11 05 14.0	-0.6
PATZ	**Paeroa**	0.98	327	P	Pn	11 05 14.1	-0.6
PATZ	**Paeroa**	0.98	327	⇑PN	Pn	11 05 14.1	-0.6
OTVZ	**Oturere**	0.99	272	⇑PN	Pn	11 05 14.6	-0.2
MWZ	**Matawai**	0.99	28	P	Pn	11 05 15.2	+0.3
MWZ	**Matawai**	0.99	28	⇑PN	Pn	11 05 15.1	+0.2
KATZ	**Kakaramea**	0.99	283	P	Pn	11 05 14.4	-0.5
KATZ	**Kakaramea**	0.99	283	⇑PN	Pn	11 05 14.4	-0.5
TUVZ	**Tukino**	0.99	266	P	Pn	11 05 14.9	-0.1
TUVZ	**Tukino**	0.99	266	PN	Pn	11 05 14.9	-0.1
KRVZ	**Karewarewa**	1.01	276	PN	Pn	11 05 14.7	-0.5
NGZ	**Ngauruhoe**	1.03	271	P	Pn	11 05 15.3	-0.2
NGZ	**Ngauruhoe**	1.03	271	⇑PN	Pn	11 05 15.3	-0.2
WNVZ	**Wahianoa**	1.04	263	P	Pn	11 05 15.6	0.0
WNVZ	**Wahianoa**	1.04	263	PN	Pn	11 05 15.6	0.0
WTVZ	**West Tongariro**	1.05	274	PN	Pn	11 05 15.4	-0.3
WATZ	**Wairara**	1.06	298	P	Pn	11 05 14.8	-1.0
WATZ	**Wairara**	1.06	298	PN	Pn	11 05 14.8	-1.0
DRZ	**Dome Shelter**	1.06	266	P	Pn	11 05 15.9	0.0
DRZ	**Dome Shelter**	1.06	266	PN	Pn	11 05 15.9	0.0
FWVZ	**Far West T-bar**	1.07	267	P	Pn	11 05 15.8	-0.2
FWVZ	**Far West T-bar**	1.07	267	PN	Pn	11 05 15.8	-0.2
WPVZ	**Whakapapa**	1.08	270	P	Pn	11 05 15.9	-0.2
WPVZ	**Whakapapa**	1.08	270	⇑PN	Pn	11 05 15.9	-0.2
TRVZ	**Turoa**	1.08	265	PN	Pn	11 05 16.0	-0.1
EDRZ	**Edgecumbe**	1.11	352	P	Pn	11 05 16.0	-0.5
EDRZ	**Edgecumbe**	1.11	352	PN	Pn	11 05 15.8	-0.8
TSZ	**Takapari Road**	1.14	221	P	Pn	11 05 16.2	-0.7
TSZ	**Takapari Road**	1.14	221	⇑PN	Pn	11 05 16.1	-0.8
MTVZ	**Mangateitei**	1.15	261	⇑PN	Pn	11 05 16.8	-0.2
TWVZ	**Taurewa**	1.17	276	PN	Pn	11 05 16.6	-0.8
PKVZ	**Pokaka**	1.23	266	PN	Pn	11 05 17.9	-0.3
MARZ	**Manawahe**	1.23	351	P	Pn	11 05 17.9	-0.4
MARZ	**Manawahe**	1.23	351	PN	Pn	11 05 17.3	-1.0
PUZ	**Puketiti**	1.54	43	*e*P	Pn	11 05 21.9	-0.5
PUZ	**Puketiti**	1.54	43	*e*PN	Pn	11 05 21.6	-0.8
BFZ	**Birch Farm**	1.56	199	*e*P	Pn	11 05 21.5	-1.3
BFZ	**Birch Farm**	1.56	199	PN	Pn	11 05 21.5	-1.3
WAZ	**Wanganui**	1.60	249	P	Pn	11 05 23.8	+0.5
WAZ	**Wanganui**	1.60	249	⇑PN	Pn	11 05 23.7	+0.4
VRZ	**Vera Road**	1.69	272	P	Pn	11 05 24.2	-0.4
VRZ	**Vera Road**	1.69	272	PN	Pn	11 05 23.6	-1.0
HIZ	**Hauiti**	1.76	292	P	Pn	11 05 24.9	-0.6
HIZ	**Hauiti**	1.76	292	PN	Pn	11 05 24.9	-0.6
TIWZ	**Tintock**	1.76	207	PN	Pn	11 05 24.4	-1.1
MRZ	**Mangatainoka R**	1.79	215	*e*P	Pn	11 05 24.1	-1.8
MRZ	**Mangatainoka R**	1.79	215	PN	Pn	11 05 24.1	-1.7
RAEZ	**Rainy Point**	1.97	267	P	Pn	11 05 28.7	+0.3
RAEZ	**Rainy Point**	1.97	267	PN	Pn	11 05 28.6	+0.2
NEZ	**North Egmont**	2.20	267	P	Pn	11 05 32.4	+0.8
MTW	**Mount Morrison**	2.24	209	P	Pn	11 05 29.6	-2.4
MTW	**Mount Morrison**	2.24	209	PN	Pn	11 05 29.6	-2.4
KIW	**Kapiti Island**	2.27	223	PN	Pn	11 05 30.6	-1.9
PKE	**Pukeiti**	2.29	269	PN	Pn	11 05 33.3	+0.5
NRZ	**Ngariki Road**	2.33	266	P	Pn	11 05 34.1	+0.8
CAW	**Cannon Point**	2.38	216	P	Pn	11 05 31.4	-2.6
CAW	**Cannon Point**	2.38	216	PN	Pn	11 05 31.4	-2.5
NWEZ	**Newall Road**	2.38	267	P	Pn	11 05 35.1	+1.1
TRWZ	**Traveller**	2.39	203	PN	Pn	11 05 31.9	-2.2
PAWZ	**Paruwai Farm**	2.46	207	P	Pn	11 05 32.5	-2.6
PAWZ	**Paruwai Farm**	2.46	207	PN	Pn	11 05 32.5	-2.6
KUZ	**Kuaotunu**	2.64	338	*e*P	Pn	11 05 36.8	-0.7
DUWZ	**D'Urville Isla**	2.81	234	PN	Pn	11 05 38.3	-1.7
TCW	**Tory Channel**	2.85	225	P	Pn	11 05 38.0	-2.6
TCW	**Tory Channel**	2.85	225	PN	Pn	11 05 38.0	-2.5
TUWZ	**Tuamarina**	3.19	225	PN	Pn	11 05 42.2	-2.9
NNZ	**Nelson**	3.38	232	*e*P	Pn	11 05 45.3	-2.5
NNZ	**Nelson**	3.38	232	PN	Pn	11 05 45.3	-2.5
QRZ	**Quartz Range**	3.75	243	*e*P	Pn	11 05 49.9	-2.9
QRZ	**Quartz Range**	3.75	243	PN	Pn	11 05 49.9	-2.9
THZ	**Tophouse**	4.00	229	*e*P	Pn	11 05 53.4	-2.8
THZ	**Tophouse**	4.00	229	PN	Pn	11 05 53.4	-2.8
LTZ	**Lake Taylor**	5.02	223	*e*P	Pn	11 06 08.6	-1.7
MQZ	**McQueen's Vall**	5.53	214	SN	Sn	11 07 10.5	-9.4

IDC 17 11:09:05.3±4.8, 235S×13837E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/12, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=199.3km s-min=28.4km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	17.92	192	P	Pn	11 13 16.5	+0.6
	0.1nm,0.3s,baz=16,slow=12,SNR=5.1						
ASAR	**Alice Springs**	21.63	191	P	P	11 13 57.5	+0.4
	0.3nm,0.4s,baz=12,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	69.30	322	P	P	11 20 14.5	+0.1
	0.2nm,0.5s,baz=123,slow=7.1,SNR=3.3						

*IDC **17** 11:13:15.8±2.7, 201N×12381E, h352km±28km, mb3.2/7, mb1 3.3/7, mb1mx3.1/20, mbtmp3.2/7, Error ellipse: s-maj=37.7km s-min=12.0km az=63.0*
*ISCJB **17** 11:13:17.6±2.9, 20N±02×1239E±02, h395km±34km, mb3.4/6, Error ellipse: s-maj=42.1km s-min=13.2km az=118.8*
*NEIC **17** 11:13:18.0±3.3, 198N×12380E, h380km±38km, mb4.2/3, Error ellipse: s-maj=29.5km s-min=12.4km az=55.0*

ISC 17 11:13:19.1±2.4, 20N±02×1238E±02, h392km±27km, n12, σ0°45/13, mb3.4/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	16.90	150	*e*P	**P**	11 16 51.9	-0.3
	23nm,0.6s						
FITZ	**Fitzroy Crossi**	20.02	175	*e*P	**P**	11 17 24.7	+0.5
	2.9nm,0.2s						
FITZ	**Fitzroy Crossi**	20.02	175	P	**P**	11 17 24.2	+0.1
	1.6nm,0.3s,baz=9.0,slow=5.9,SNR=33						
WRA	**Warramunga Arr**	24.09	155	P	**P**	11 18 00.8	-0.3
	1.3nm,0.3s,mb3.8,baz=338,slow=10.0,SNR=26						
WRA				S	**S**	11 21 49.5	+0.1
	1.4nm,0.9s,baz=341,slow=15,SNR=5.8						
WB2	**Warramunga Arr**	24.09	155	*e*P	**P**	11 18 00.6	-0.5
WB2				*e*S	**S**	11 21 49.0	-0.5
PSI	**Prapat**	24.90	272	P	**P**	11 18 08.2	-0.2
	2.5nm,0.6s,mb3.8,baz=289,slow=21,SNR=4.2						
ASAR	**Alice Springs**	27.30	160	P	**P**	11 18 29.9	+0.3
	0.3nm,0.3s,mb3.2,baz=343,slow=13,SNR=14						
ASAR				ScP	ScP	11 24 45.5	+5.7
	0.5nm,0.8s,baz=348,slow=3.0,SNR=5.3						
STKA	**Stephens Creek**	37.64	155	*e*P	**P**	11 19 59.5	+1.2
	1.5nm,0.9s,mb3.3			

NEIC 17 12:06:28.9, 3271S×7180W, h15km, ML3.4(GUC), After GUC.

GUC 17 12:06:28.9±0.6, 3271S×7180W, h15km±4km, MD3.9, ML3.4, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**158**	↑*iP*	Pg	12 06 35.9	0.0
IHA				*i* S	Sg	12 06 41.4	+0.7
PACH	**Papudo**	**0.35**	**60**	*eP*	Pg	12 06 36.2	+0.1
PACH				*i* S	Sg	12 06 41.6	+0.7
ROCH	**El Roble**	**0.71**	**112**	↑*iP*	Pg	12 06 42.4	-0.4
ROCH				*i* S	Sg	12 06 52.5	+0.3
LCCH	**Las Cruces**	**0.79**	**166**	*eP*	Pg	12 06 42.9	-1.3
LCCH				*i* S	Sg	12 06 54.0	-0.6
PTCH	**Petorca**	**0.86**	**59**	↑*iP*	Pb	12 06 44.5	-0.9
PTCH				*i* S	Sb	12 06 56.4	-0.4
PTCH				AML	AML	12 06 58.5	
	comp=N,2μm,0.3s						
PTCH	**Petorca**	**0.86**	**59**	↑*iP*	Pb	12 06 44.5	-0.9
PTCH				*i* S	Sb	12 06 56.4	-0.4
JACH	**Jahuel**	**1.01**	**89**	*eP*	Pb	12 06 47.0	-1.2
JACH				*i* S	Sb	12 07 00.8	-0.5
PEL	**Peldehue**	**1.03**	**115**	↑*iP*	Pb	12 06 47.6	-0.8
PEL				*i* S	Sb	12 07 01.9	+0.2
PEL				AML	AML	12 07 05.4	
	comp=N,6μm,0.3s						
RCDM	**Rinconada Maip**	**1.14**	**133**	*eP*	Pb	12 06 48.7	-1.6
RCDM				*i* S	Sb	12 07 03.7	-1.1
RCDM				AML	AML	12 07 08.4	
	comp=N,1μm,0.4s						
RCDM	**Rinconada Maip**	**1.14**	**133**	*eP*	Pb	12 06 48.7	-1.6
RCDM				*i* S	Sb	12 07 03.7	-1.1
TACH	**Talagante**	**1.18**	**143**	*eP*	Pn	12 06 49.4	-1.6
TACH				*i* S	Sb	12 07 05.3	-0.9
SAN	**Santiago**	**1.21**	**128**	*eP*	Pn	12 06 50.1	-1.1
SAN				*i* S	Sb	12 07 06.1	-0.7
SAN				AML	AML	12 07 10.2	
	comp=N,898nm,0.5s						
SAN	**Santiago**	**1.21**	**128**	*eP*	Pn	12 06 50.1	-1.1
SAN				*i* S	Sb	12 07 06.1	-0.7
STL	**Santa Lucia**	**1.21**	**127**	*i* P	Pn	12 06 49.5	-1.8
STL				*i* S	Sb	12 07 05.5	-1.4
CLCH	**Cerro Calan**	**1.26**	**123**	↑*iP*	Pn	12 06 50.9	-1.0
CLCH				*i* S	Sb	12 07 07.7	-0.6
CLCH				AML	AML	12 07 16.4	
	comp=E,838nm,0.9s						
LNV	**Longovilo**	**1.28**	**166**	↑*iP*	Pn	12 06 50.9	-1.4
LNV				*i* S	Sb	12 07 08.2	-0.9
ANTU	**Antumapu**	**1.30**	**132**	*eP*	Pn	12 06 51.0	-1.4
ANTU				*e*S	Sb	12 07 08.7	-0.8
ANTU				AML	AML	12 07 14.9	
	comp=E,1μm,0.3s						
ANTU	**Antumapu**	**1.30**	**132**	*eP*	Pn	12 06 51.0	-1.4
ANTU				*e*S	Sb	12 07 08.7	-0.8
FCH	**Farellones**	**1.41**	**116**	↓*iP*	Pn	12 06 53.5	-0.5
FCH				*i* S	Sn	12 07 12.3	+0.1
FCH				AML	AML	12 07 13.5	
	comp=E,1μm,0.2s						
PCH	**Pirque**	**1.41**	**131**	*eP*	Pn	12 06 53.3	-0.7
CHCH	**Chadas Angostu**	**1.55**	**142**	*eP*	Pn	12 06 55.5	-0.5
CHCH				*i* S	Sn	12 07 15.0	-0.8
CMCH	**Combarbala**	**1.67**	**24**	↓*iP*	Pn	12 06 56.5	-1.2
CMCH				*i* S	Sn	12 07 17.9	-0.9
CMCH	**Combarbala**	**1.67**	**24**	↓*iP*	Pn	12 06 56.5	-1.2
CMCH				*i* S	Sn	12 07 17.9	-0.9
CACH	**El Canelo**	**1.72**	**145**	↑*iP*	Pn	12 06 59.2	+0.8
CACH				*e*S	Sn	12 07 22.9	+2.9
YECH	**El Yeso**	**1.72**	**124**	*eP*	Pn	12 06 58.7	+0.4
YECH				*i* S	Sn	12 07 21.4	+1.4
LMEL	**Las Melosas**	**1.75**	**131**	*i* P	Pn	12 06 59.9	+1.2
LMEL				*i* S	Sn	12 07 21.8	+1.1
LMEL				AML	AML	12 07 25.9	
	comp=E,917nm,0.4s						
LMEL	**Las Melosas**	**1.75**	**131**	P	Pn	12 06 59.9	+1.2
LMEL				*i* S	Sn	12 07 21.8	+1.1
CICH	**Cipreses**	**1.97**	**145**	*eP*	Pn	12 07 02.4	+0.7
SFDO	**San Fernando**	**2.01**	**161**	↓*iP*	Pn	12 07 02.7	+0.4
SFDO				*i* S	Sn	12 07 27.9	+0.8

CSEM 17 12:09:31.4±0.2, 3279N×4936E, h20km, ML3.3, Error ellipse: s-maj=4.0km s-min=2.1km az=42.0
ISCJB 17 12:09:32.4±1.1, 3282N±006×4934E±007, h20km, Error ellipse: s-maj=10.3km s-min=6.1km az=92.0
TEH 17 12:09:32.8, 3283N×4933E, h4km, Mn3.7
THR 17 12:09:35.8±0.3, 3307N×4970E, h14km±3km, ML3.3

ISC 17 12:09:32.0±2.4, 3280N±008×494E±01, h7km±24km, n20, σ0°68/29, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.84**	**18**	*e*Pg	**Pn**	**12 10 03.4**	**-0.6**
ASAO				*e*Sg	**Sn**	**12 10 23.6**	**-3.8**
ASAO				AML	AML	12 10 30.1	
	comp=E,303nm,0.6s						
ASAO				AML	AML	12 10 33.0	
	comp=N,333nm,0.8s						
ASAO	**Ashtian** SNR=90	**1.84**	**18**	*e*Pg	**Pn**	**12 10 03.4**	**-0.5**
ASAO				*e*Sg	**Sn**	**12 10 23.6**	**-3.8**
	comp=N,333nm,0.8s,SNR=90						
IKLH	**Kalahroud**	**1.95**	**74**	*e*Pn	**Pn**	**12 10 04.0**	**-1.5**
IKLH				*e*Sn	**Sn**	**12 10 29.6**	**-0.6**
IKOM	**Komasi**	**2.06**	**312**	*e*Pn	**Pn**	**12 10 07.3**	**+0.3**
IGAR	**Garneh**	**2.47**	**102**	*e*Pn	**Pn**	**12 10 12.2**	**-0.5**
IGAR				*e*Sn	**Sn**	**12 10 42.1**	**-1.0**
IZEF	**Zefreh**	**2.51**	**87**	*e*Pn	**Pn**	**12 10 13.7**	**+0.4**
IZEF				*e*Sn	**Sn**	**12 10 45.5**	**+1.3**
IRAZ	**Razeghan**	**2.65**	**10**	*e*Pn	**Pn**	**12 10 15.1**	**0.0**
SNGE	**Sanandaj**	**2.83**	**325**	*e*Pn	**Pn**	**12 10 22.3**	**+4.7**
SNGE				AML	AML	12 11 11.1	
	comp=N,158nm,0.6s						
NASN	**Na'in**	**2.92**	**89**	*e*Pn	**Pn**	**12 10 20.0**	**+1.2**
NASN				*e*Sg	**Sn**	**12 10 58.2**	**+4.1**
NASN				AML	AML	12 11 03.3	
	comp=E,159nm,0.4s						
NASN				AML	AML	12 11 06.3	
	comp=N,99nm,0.5s						
NASN	**Na'in** SNR=52	**2.92**	**89**	*e*Pn	**Pn**	**12 10 20.0**	**+1.2**
NASN				*e*Sg	**Sn**	**12 10 58.2**	**+4.1**
	comp=N,99nm,0.5s,SNR=90						
IMHD	**Mahdasht**	**3.08**	**20**	*e*Pn	**Pn**	**12 10 21.3**	**+0.2**
IMHD				*e*Sn	**Sn**	**12 10 58.0**	**-0.2**
THKV	**Tehran--Karaj**	**3.36**	**22**	*e*Pn	**Pn**	**12 10 25.1**	**+0.2**
THKV				AML	AML	12 11 16.0	
	comp=E,67nm,0.5s						
THKV				AML	AML	12 11 27.0	
	comp=N,68nm,0.5s						
CHTH	**Charan**	**3.44**	**25**	*e*Pn	**Pn**	**12 10 26.1**	**+0.2**
IDMV	**Damavand**	**3.56**	**38**	*e*Pn	**Pn**	**12 10 27.5**	**-0.1**
DAMV	**Damavand**	**3.57**	**37**	*e*Pn	**Pn**	**12 10 27.5**	**-0.3**
DAMV				AML	AML	12 11 17.8	
	comp=N,75nm,0.4s						
DAMV				AML	AML	12 11 26.9	
	comp=E,72nm,0.6s						
IFIR	**Firoozkooh**	**4.00**	**44**	*e*Pn	**Pn**	**12 10 33.8**	**+0.1**
ICHK	**Chekchek**	**4.31**	**96**	*e*Pn	**Pn**	**12 10 37.9**	**-0.1**
ISHM	**Shahmirzad**	**4.44**	**46**	*e*Pn	**Pn**	**12 10 39.3**	**-0.4**
ISHM				*e*Sn	**Sn**	**12 11 32.2**	**+0.6**
IANJ	**Anjiloo**	**4.63**	**54**	*e*Pn	**Pn**	**12 10 43.0**	**+0.6**
IBAF	**Bafgh**	**5.41**	**101**	*e*Pn	**Pn**	**12 10 53.1**	**0.0**

ISCJB 17 12:14:24.9±0.6, 689N±007×7303W±008, h169km±7km, mb3.3/2, Error ellipse: s-maj=15.7km s-min=6.1km az=77.3
IDC 17 12:14:25.3±0.7, 676N×7295W, h163km±9km, mb3.0/2, mb1 3.5/4, mb1mx3.1/20, mbtmp3.2/4, Error ellipse: s-maj=35.7km s-min=7.8km az=131.0
NEIC 17 12:14:25.9±0.7, 674N×7295W, h172km±9km, Error ellipse: s-maj=31.1km s-min=10.8km az=128.0
FUNV 17 12:14:25.0, 673N×73.15W, h166km, MW3.2

ISC 17 12:14:25.9±0.6, 687N±007×7302W±008, h164km±7km, n19, σ0°89/26, mb3.3/2, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**35**	↑*eP*	**Pn**	**12 14 54.8**	**+1.0**
CAPV				*e*S	**Sn**	**12 15 15.7**	**+0.6**
ROSC	**El Rosal**	**2.39**	**213**	P	**Pn**	**12 15 06.5**	**+0.1**
	48nm,0.3s,baz=285,slow=15,SNR=120						
ROSC				S	**Sn**	**12 15 37.0**	**-0.8**
	46nm,0.3s,baz=91,slow=21,SNR=8.8						
VIGV	**El Vigia**	**2.55**	**40**	*e*P	**Pn**	**12 15 09.1**	**+0.8**
VIGV				*e*S	**Sn**	**12 15 41.0**	**-0.1**
SOCV	**Socops**	**2.56**	**57**	↑*eP*	**Pn**	**12 15 09.6**	**+1.1**
SOCV				*e*S	**Sn**	**12 15 41.4**	**0.0**
SDV	**Santo Domingo**	**3.09**	**50**	P	**Pn**	**12 15 16.4**	**+1.4**
	11nm,0.3s,baz=288,slow=5.4,SNR=70						
SDV				S	**Sn**	**12 15 53.3**	**+0.2**
	23nm,0.3s,baz=236,slow=9.3,SNR=29						
SDV	**Santo Domingo**	**3.09**	**50**	*e*Pn	**Pn**	**12 15 16.1**	**+1.1**
SDV				*e*Sn	**Sn**	**12 15 53.6**	**+0.5**
VIRV	**Villa del Rosa**	**3.66**	**9**	↓*eP*	**Pn**	**12 15 21.5**	**-0.6**
VIRV				*e*S	**Sn**	**12 16 03.8**	**-2.0**
QARV	**Quebrada Arrib**	**4.13**	**36**	↓*eP*	**Pn**	**12 15 29.1**	**+0.9**
QARV				*e*S	**Sn**	**12 16 16.4**	**-0.3**
SANV	**Sanarito**	**4.32**	**53**	*e*P	**Pn**	**12 15 31.7**	**+1.0**
CURV	**Curarigua**	**4.34**	**44**	*e*P	**Pn**	**12 15 31.1**	**+0.1**
CURV				*e*S	**Sn**	**12 16 19.9**	**-1.8**
SIQV	**Siquisique**	**4.91**	**40**	*e*P	**Pn**	**12 15 38.5**	**+0.1**
BAUV	**El Baul**	**5.34**	**67**	*e*P	**Pn**	**12 15 42.9**	**-1.1**
CAOV	**Caicara del Or**	**6.66**	**86**	*e*P	**Pn**	**12 15 59.8**	**-1.6**
OTAV	**Otavalo**	**8.54**	**220**	P	**Pn**	**12 16 25.9**	**-0.4**
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**12 21 16.1**	**+0.7**
	0.3nm,0.6s,mb3.1,baz=123,slow=8.4,SNR=5.1						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**12 24 37.0**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=134,slow=6.6,SNR=11						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**12 24 37.0**	**+0.1**
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	PKPbc	12 33 55.0	0.0
	0.4nm,0.5s,baz=125,slow=3.6,SNR=12						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	PKPbc	12 33 58.1	+0.1
	0.4nm,0.4s,baz=109,slow=2.4,SNR=28						

NEIC 17 12:16:38.8, 1751N×9481W, h142km, MD3.9(MEX), After MEX.

MEX 17 12:16:38.3±0.8, 1750N×9478W, h146km±11km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.63**	**33**	*e*P	Pn	12 16 58.4	-1.6
TUIG				*i* S	Sn	12 17 14.4	-2.0
OXX	**Oaxaca**	**1.90**	**258**	*e*P	Pn	12 17 11.0	-1.0
OXX				*i* S	Sn	12 17 37.0	-0.8
VHO	**Vista Hermosa**	**1.91**	**257**	*i* P	Pn	12 17 11.2	-0.9
VHO				*i* S	Sn	12 17 37.4	-0.6
HUIG	**Huatulco**	**2.14**	**217**	*i* P	Pn	12 17 12.6	-2.2
HUIG				*i* S	Sn	12 17 41.1	-1.8
TPIG	**Tehuac#an**	**2.62**	**291**	*i* P	Pn	12 17 19.7	-1.0
TPIG				*i* S	Sn	12 17 52.9	-0.5
CCIG	**Comitan**	**2.81**	**115**	*i* P	Pn	12 17 23.4	+0.3
CCIG				*i* S	Sn	12 17 57.9	+0.3
UTMO	**Huajuapan**	**2.90**	**277**	*i* P	Pn	12 17 22.9	-1.3
UTMO				*i* S	Sn	12 17 57.6	-2.0

IDC 17 12:19:16.6±2.6, 590N×12720E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.2/3, Error ellipse: s-maj=200.0km s-min=26.9km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.63**	**165**	P	P	12 24 58.2	+1.4
	0.4nm,0.5s,baz=345,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**30.11**	**168**	P	P	12 25 27.2	-0.7
	0.1nm,0.5s,baz=337,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**56.06**	**324**	P	P	12 28 57.5	+0.1
	0.2nm,0.4s,baz=124,slow=6.9,SNR=5.5						

HLW 17 12:34:38.0, 2955N×3658E, h20km, Mb2.9

GII 17 12:34:36.3±0.0, 2986N×3631E, h0km, ML1.9/1, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.10**	**263**	Pg	Pg	12 34 57.2	-0.2
HRFI	**Mount Harif**	**1.11**	**279**	Pg	Pg	12 34 57.2	-0.5
HRFI				Sg	Sg	12 35 14.5	+2.4
EIL	**Elat**	**1.19**	**261**	Pg	Pg	12 34 59.2	+0.1
EIL				Sg	Sg	12 35 15.9	+1.2
ZFRI	**Zfri**	**1.20**	**306**	Pg	Pg	12 34 59.0	-0.2
MBH	**Mount Berech**	**1.21**	**267**	Pg	Pg	12 34 57.4	-2.1
PRNI	**Paran**	**1.23**	**294**	Pg	Pg	12 34 59.0	-0.8
PRNI				Sg	Sg	12 35 16.2	+0.4
MZDA	**Masada**	**1.66**	**331**	Pn	Pn	12 35 06.8	+0.1
SVTA	**Shivta**	**1.81**	**307**	Pn	Pn	12 35 08.6	0.0
YTIR	**Yattir**	**1.82**	**326**	Pn	Pn	12 35 09.4	+0.6
HDHB	**Dhahab**	**1.86**	**233**	P	Pn	12 35 08.0	-1.3
DSI	**Dead Sea**	**1.88**	**335**	Pn	Pn	12 35 10.8	+1.1
DRGI	**Dragot**	**1.90**	**336**	Pn	Pn	12 35 09.6	-0.3
KZIT	**Kziot**	**1.95**	**303**	Pn	Pn	12 35 11.3	+0.7
HNKL	**Nakhl**	**2.02**	**273**	↓P	Pn	12 35 13.7	+2.1
HNKL				S	Sn	12 35 40.0	+2.5
HKAT	**Jabal Katrina**	**2.42**	**237**	P	Pn	12 35 16.5	-0.6
AMAG	**Maghara**	**2.79**	**287**	P	Pn	12 35 25.4	+3.1
AMAG				S	Sn	12 35 59.3	+2.7

ISCJB 17 12:40:07.8±2.8, 2130S±005×17447W±005, h15km±19km, mb4.9/51, MS5.2/10, Error ellipse: s-maj=10.0km s-min=5.8km az=101.5
IDC 17 12:40:07.4±0.5, 2107S×17474W, h0km, mb4.6/16, mb1 4.8/17, mb1mx4.8/18, mbtmp4.6/17, ML5.1/2, MS4.3/3, Ms1 4.3/3, ms1mx4.1/28, Error ellipse: s-maj=19.5km s-min=14.7km az=125.0
BJI 17 12:40:08.7, 2073S×17438W, h11km, mB5.6, mb5.1, Ms5.4, Msz5.1
NEIC 17 12:40:10.7±4.2, 2118S×17457W, h24km±28km, mb5.0/29, Error ellipse: s-maj=10.9km s-min=7.7km az=151.0
GCMT 17 12:40:10.7±0.2, 2130S×17389W, h18km, MW5.5/68, Moment Tensor Solution. s68,c121; s67,c112; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr1.41±.04; Mθθ0.01±.03; Mϕϕ-1.42±.03; Mrθ0.56±.07; Mθϕ-0.52±.03; Mϕr0.99±.08; Best double couple: M0 1.88200×1017 NP1:ϕs189.00000°, δ27.00000°, λ75.00000°. NP2:ϕs26.00000°, δ64.00000°, λ97.00000°. Principal axes: T 1.8070, Plg70.0000°, Azm311.0000°; N 0.1480, Plg7.0000°, Azm202.0000°; P -1.9560, Plg18.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS 17 12:40:12.1±2.6, 2130S×17422W, h33km, mb5.2/21, MS5.3/4 Error ellipse: s-maj=12.0km s-min=10.5km az=45.8
SZGRF 17 12:40:13.1, 2094S×17496W, h33km, Tonga Islands

ISC 17 12:40:11.4±3.2, 2131S±005×17444W±005, h28km±22km, h34km±1.9km: pP-P, n408, σ0°95/299, mb4.9/51, MS5.2/10, 106C-76D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.78**	**19**	Pn	**Pn**	**12 41 55.1**	**-7.7**
	33nm,0.3s,baz=141,slow=4.6,SNR=16						
AFI				Sn	**Sn**	**12 43 16.7**	**-13**
	36nm,0.3s,baz=80,slow=19,SNR=6.5						
AFI	**Afiamalu**	**7.78**	**19**	*e*P	**Pn**	**12 41 54.8**	**-8.0**
AFI				pmax	pmax		
	comp=Z,116nm,0.4s						
AFI	**Afiamalu**	**7.78**	**19**	*e*Pn	**Pn**	**12 41 54.8**	**-8.0**
	comp=Z,116nm,0.4s						
AFI				*e*Sn	**Sn**	**12 43 14.8**	**-15**
RAO	**Raoul Island**	**8.51**	**201**	Pn	**Pn**	**12 42 13.1**	**+0.3**
	comp=Z,70nm,0.3s,baz=323,slow=20,SNR=2.8						
RAO				Sn	**Sn**	**12 43 46.5**	**-1.4**
	comp=Z,74nm,0.3s,baz=73,slow=23,SNR=6.4						
RAO				LR	LR	12 45 11.0	
	comp=Z,2μm,21.1s,baz=12,slow=35						
RAO	**Raoul Island**	**8.51**	**201**	Pn	**Pn**	**12 42 13.0**	**+0.2**
RAO				*e*Sn	**Sn**	**12 43 47.2**	**-0.7**
RAR	**Rarotonga**	**13.68**	**92**	Pn	**Pn**	**12 43 13.5**	**-10**
	comp=Z,32nm,0.3s,baz=246,slow=7.0,SNR=26						
RAR				Sn	Sn	12 45 30.6	-24
	comp=Z,5.3nm,0.3s,baz=133,slow=19,SNR=6.5						
RAR				LR	LR	12 47 56.8	
	comp=Z,2μm,18.6s,baz=244,slow=34						
DZM	**Mont Dzumac**	**17.78**	**264**	*e*P	**Pn**	**12 44 20.7**	**+3.8**
DZM	**Mont Dzumac**	**17.78**	**264**	Pn	**Pn**	**12 44 20.6**	**+3.8**
	comp=Z,0.9nm,0.3s,baz=69,slow=16,SNR=11						
DZM				LR	LR	12 48 26.5	
	comp=Z,872nm,20.4s,baz=354,slow=28						
URZ	**Urewera**	**18.40**	**201**	P	**Pn**	**12 44 24.8**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=359,slow=4.9,SNR=12						
PATZ	**Paeroa**	**18.81**	**203**	*e*PN	**Pn**	**12 44 30.2**	**+0.8**
SNZO	**South Karori**	**21.96**	**202**	*e*P	**P**	**12 45 01.9**	**-0.9**
NNZ	**Nelson**	**22.37**	**205**	*e*PN	**P**	**12 45 08.2**	**+0.9**
NNZ				SN	**S**	**12 49 05.3**	**-6.5**
THZ	**Tophouse**	**23.02**	**205**	*e*PN	**P**	**12 45 12.6**	**-1.5**
TBI	**Tubuai**	**23.19**	**100**	*e*LR	LR	12 50 42.8	
	comp=Z,6μm,29.2s						
PAE	**Paea**	**23.71**	**86**	*e*P	**P**	**12 45 17.5**	**-3.5**
	comp=Z,72nm,1.0s,mb5.1						
PAE	**Paea**	**23.71**	**86**	*e*P	**P**	**12 45 17.5**	**-3.5**
PAE				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.1						
PPT	**Papeete**	**23.73**	**85**	*e*P	**P**	**12 45 17.9**	**-3.3**
	comp=Z,40nm,1.2s,mb4.7						
PPT	**Papeete**	**23.73**	**85**	*e*LR	LR	12 50 52.6	
	comp=Z,7μm,28.2s						
PPT	**Papeete**	**23.73**	**85**	P	**P**	**12 45 18.3**	**-2.9**
	comp=Z,15nm,0.6s,mb4.6,baz=217,slow=10,SNR=2.9						
TVO	**Taravao**	**23.99**	**86**	*e*P	**P**	**12 45 20.5**	**-3.1**
	comp=Z,142nm,1.2s,mb5.3						
TVO	**Taravao**	**23.99**	**86**	*e*P	**P**	**12 45 20.5**	**-3.1**
TVO				pmax	pmax		
	comp=Z,142nm,1.2s,mb5.3						
LTZ	**Lake Taylor**	**24.14**	**204**	PN	**P**	**12 45 26.1**	**+1.2**
RPZ	**Rata Peaks**	**25.40**	**205**	P	**P**	**12 45 38.2**	**+1.8**
	comp=Z,11nm,0.4s,mb4.7,baz=44,slow=2.7,SNR=11						
PMOR	**Pomariorio Ree**	**25.97**	**80**	*e*P	**P**	**12 45 39.1**	**-2.5**
	comp=Z,27nm,1.1s,mb4.7						
VAH	**Vaihoa**	**26.15**	**81**	*e*P	**P**	**12 45 40.9**	**-2.3**
	comp=Z,44nm,1.0s,mb5.0						
HNR	**Honiara**	**27.32**	**292**	P	**P**	**12 45 53.5**	**-0.3**
TAOE	**Nuku Hiva Isla**	**35.26**	**75**	*e*S	**S**	**12 52 34.2**	**-1.4**
	comp=Z,1μm,26.5s						
TAOE				*e*LR	LR	12 56 10.8	
	comp=Z,8μm,29.7s						
CTA	**Charters Tower**	**36.72**	**265**	*e*P	**P**	**12 47 15.9**	**-0.2**
	comp=Z,4.7nm,0.6s,mb4.5						
CTA	**Charters Tower**	**36.72**	**265**	*e*P	**P**	**12 47 15.9**	**-0.2**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CTAO	**Charters Tower**	**36.72**	**265**	*e*P	**P**	**12 47 16.0**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
CTAO	**Charters Tower**	**36.72**	**265**	*e*P	**P**	**12 47 16.0**	**-0.1**
	comp=Z,6.6nm,0.7s,mb4.6						
TAU	**Tasmania Unive**	**38.45**	**227**	*e*P	**P**	**12 47 31.4**	**+0.7**
TAU				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.9						
TAU	**Tasmania Unive**	**38.45**	**227**	*e*P	**P**	**12 47 31.4**	**+0.7**
	comp=Z,23nm,0.9s,mb4.9						
PMG	**Port Moresby**	**38.76**	**282**	P	**P**	**12 47 33.1**	**-0.2**
	comp=Z,18nm,0.8s,mb4.9,baz=93,slow=10.0,SNR=7.3						
PMG	**Port Moresby**	**38.76**	**282**	*e*P	**P**	**12 47 33.1**	**-0.2**
PMG				pmax	pmax		
	comp=Z,26nm,0.8s						
PMG	**Port Moresby**	**38.76**	**282**	*e*P	**P**	**12 47 33.1**	**-0.2**
	comp=Z,26nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**40.46**	**246**	*e*P	**P**	**12 47 46.4**	**-1.1**
	comp=Z,5.8nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**40.46**	**246**	P	**P**	**12 47 46.3**	**-1.2**
	comp=Z,5.4nm,0.7s,mb4.4,baz=68,slow=7.9,SNR=8.0						
ASAR	**Alice Springs**	**47.58**	**257**	P	**P**	**12 48 42.6**	**-2.0**
	comp=Z,12nm,0.8s,mb5.0,baz=86,slow=7.8,SNR=78						
ASAR				PcP	PcP	12 50 14.6	+0.5
	comp=Z,3.8nm,0.7s,baz=101,slow=4.2,SNR=5.0						
WB2	**Warramunga Arr**	**47.77**	**262**	↑*iP*	**P**	**12 48 44.5**	**-1.6**
WRA	**Warramunga Arr**	**47.78**	**262**	P	**P**	**12 48 43.9**	**-2.3**
	comp=Z,3.9nm,0.6s,mb4.6,baz=95,slow=8.1,SNR=68						
WRA				PcP	PcP	12 50 15.3	+0.5
	comp=Z,4.3nm,1.0s,baz=94,slow=3.5,SNR=4.8						
KAKA	**Kakadu**	**51.31**	**271**	*e*P	**P**	**12 49 11.4**	**-1.7**
	comp=Z,10nm,0.6s,mb4.9						
FORT	**Forrest**	**52.04**	**247**	*e*P	**P**	**12 49 19.1**	**+0.6**
	comp=Z,28nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**56.21**	**262**	*e*P	**P**	**12 49 47.9**	**-1.0**
	comp=Z,7.8nm,0.6s,mb4.9						
SBA	**Scott Base**	**57.32**	**185**	*e*P	**P**	**12 49 59.1**	**+2.4**
SBA				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
SBA	**Scott Base**	**57.32**	**185**	*e*P	**P**	**12 49 59.1**	**+2.4**
	comp=Z,24nm,1.1s,mb5.2						
VNDA	**Vanda**	**57.43**	**186**	P	**P**	**12 49 59.1**	**+1.6**
	comp=Z,4.2nm,0.9s,mb4.5,baz=6.1,slow=6.4,SNR=14						
MUN	**Mundaring**	**61.98**	**244**	*e*P	**P**	**12 50 30.0**	**+1.2**
CASY	**Casey**	**64.67**	**206**	*e*P	**P**	**12 50 47.2**	**+0.5**
MJAR	**Matsushiro Arr**	**72.86**	**322**	P	**P**	**12 51 36.0**	**-1.7**
	comp=Z,8.4nm,0.7s,mb4.8,baz=160,slow=6.0,SNR=14						
MAJO	**Matsushiro**	**72.86**	**322**	*e*P	**P**	**12 51 37.1**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**72.86**	**322**	*e*P	**P**	**12 51 37.1**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9				

BC3	Big Chuckw Mtn	78.38	47	⇓P	P	12 52 09.3 +0.1
	baz=79					
GSC	Goldstone	78.44	45	⇑P	P	12 52 09.7 +0.1
	baz=79					
MPMC	Manual Prospec	78.44	44	⇓P	P	12 52 10.6 +1.0
	baz=79					
R05C	Kirkwood Meado	78.45	40	⇑P	P	12 52 08.9 -0.8
	baz=79					
HEC	Hector,Ludlow	78.47	45	⇑P	P	12 52 10.2 +0.4
	baz=79					
DAC	Darwin (Calif)	78.51	44	eP	P	12 52 10.3 +0.3
DAC				pmax	pmax	
	comp=Z,24nm,1.7s,mb4.8					
DAC	Darwin (Calif)	78.51	44	eP	P	12 52 10.3 +0.3
	comp=Z,24nm,1.7s,mb4.9					
P05C	Yuba Gap, Truc	78.52	40	⇑P	P	12 52 10.2 +0.1
	baz=79					
MTUM	Tungsten Hills	78.55	42	eP	P	12 52 10.5 +0.3
M02C	Callahan	78.58	37	⇑P	P	12 52 12.6 +2.2
	baz=79					
R07C	Lee Vining	78.70	41	⇓P	P	12 52 12.4 +1.3
	baz=79					
R06C	Coleville	78.72	41	⇓P	P	12 52 12.2 +1.0
	baz=79,SNR=5.6					
O05C	Quincy	78.76	39	⇑P	P	12 52 12.7 +1.3
	baz=79					
IRM	Iron Mountain	78.87	47	⇑P	P	12 52 12.4 +0.4
	baz=79					
S08C	White Mtn Res	78.88	42	⇓P	P	12 52 13.3 +1.3
	baz=79					
YBH	Yreka Blue Hor	78.89	37	⇓P	P	12 52 14.3 +2.2
	baz=79					
GMRC	Granite Mounta	78.89	46	⇓P	P	12 52 13.1 +1.0
	baz=79					
O04C	Chester	78.89	39	⇓P	P	12 52 14.3 +2.2
	baz=79					
M03C	McCloud	78.92	37	⇑P	P	12 52 14.8 +2.5
	baz=79					
HATC	Hat Creek Radi	78.99	38	⇓P	P	12 52 14.9 +2.2
	baz=79					
BEKR	Beckwourth	79.03	39	⇓P	P	12 52 13.5 +0.7
	baz=79					
WCN	Washoe City	79.03	40	⇑P	P	12 52 12.9 +0.1
	baz=79					
Y12C	Blythe	79.07	47	⇑P	P	12 52 14.0 +1.0
	baz=79					
GRAC	Grapevine Rang	79.09	43	⇓P	P	12 52 14.2 +1.0
	baz=79					
FURC	Furnace Creek,	79.09	44	⇑P	P	12 52 14.5 +1.3
	baz=79					
TUQ	Turquoise Mtn.	79.10	45	⇑P	P	12 52 15.1 +1.9
	baz=79					
SHOC	Shoshone	79.14	45	⇓P	P	12 52 16.9 +3.4
	baz=79					
P06A	Stead Airport,	79.18	40	⇓P	P	12 52 15.6 +1.9
	baz=79					
HUMO	Hull Mountain	79.34	36	⇑P	P	12 52 16.8 +2.2
	baz=80					
NVAR	Mina Array Bea	79.37	42	P	P	12 52 15.0 +0.3
	comp=Z,12nm,0.8s,mb4.8,baz=231,slow=8.1,SNR=35					
NVAR	Mina Array Bea	79.37	42	P	P	12 52 15.0 +0.3
Q07A	Schurz	79.37	41	⇑P	P	12 52 16.6 +1.9
	baz=80					
M04C	Macdoel	79.41	37	⇑P	P	12 52 14.4 -0.5
	baz=80					
R08A	Mina	79.44	42	⇑P	P	12 52 15.2 +0.1
	baz=80					
M05C	Lookout	79.53	38	⇑P	P	12 52 14.8 -0.8
	baz=80					
O06A	Flanigan	79.53	39	⇑P	P	12 52 14.8 -0.8
	baz=80					
Y13A	Salome	79.58	48	⇓P	P	12 52 16.8 +1.0
	baz=80					
S09A	Goldfield	79.61	43	⇓P	P	12 52 15.8 -0.2
	baz=80					
L04A	Klamath Falls	79.64	37	⇑P	P	12 52 16.9 +0.7
	baz=80					
PDMCI	Parker Dam,Lak	79.64	47	⇑P	P	12 52 16.6 +0.4
	baz=80					
V11A	Goodsprings	79.66	45	⇓P	P	12 52 16.0 -0.2
	baz=80					
P07A	Fallon	79.70	40	⇑P	P	12 52 16.9 +0.4
	baz=80					
KSRS	Korea Array	79.72	317	P	P	12 52 16.6 -0.1
	comp=Z,4.4nm,0.8s,mb4.4,baz=135,slow=6.5,SNR=7.0					
M06C	Likely Place G	79.81	38	⇑P	P	12 52 17.8 +0.7
	baz=80					
Q08A	Gabbs	79.86	41	⇓P	P	12 52 17.2 -0.2
	baz=80					
N06A	Buffalo Meadow	79.90	39	⇓P	P	12 52 16.7 -0.8
	baz=80					
V12A	Nelson	79.98	45	⇑P	P	12 52 18.1 0.0
	baz=80					
X13A	Yucca	80.02	47	⇓P	P	12 52 18.0 -0.3
	baz=80					
R09A	Tonopah	80.02	42	⇓P	P	12 52 18.0 -0.2
	baz=80					
O07A	Toulon	80.09	40	P	P	12 52 18.9 +0.3
	baz=80,SNR=8.3					
L05A	Lakeview	80.15	37	⇑P	P	12 52 19.0 +0.1
	baz=80					
Y14A	Wickenburg	80.22	48	⇑P	P	12 52 19.0 -0.3
	baz=80					
J04A	Umpqua Nationa	80.22	36	⇓P	P	12 52 20.3 +1.0
	baz=80					
W13A	Hualapai Mount	80.27	46	⇑P	P	12 52 19.6 0.0
	baz=80					
P08A	Dixie Valley	80.28	41	⇑P	P	12 52 20.0 +0.4
	baz=80					
Q09A	Carvers	80.31	42	⇑P	P	12 52 20.2 +0.4
	baz=80					
MOD	Modoc	80.36	38	⇑P	P	12 52 19.9 -0.2
	baz=81					
N07B	Gerlach	80.42	39	⇑P	P	12 52 20.5 +0.1
	baz=81					
K05A	Summer Lake	80.56	37	⇑P	P	12 52 21.2 +0.1
	baz=81					
U12A	Valley of Fire	80.59	45	⇑P	P	12 52 21.3 0.0
	baz=81					
X14A	Yava	80.59	47	⇑P	P	12 52 21.3 0.0
	baz=81					
J05A	Fort Rock	80.73	36	⇓P	P	12 52 21.2 -0.8
	baz=81					
P09A	Austin	80.77	41	⇑P	P	12 52 22.0 -0.3
	baz=81					
W14A	Seligman	80.87	47	⇑P	P	12 52 22.9 0.0
	baz=81					
N08A	GE Springer Mi	80.92	40	⇑P	P	12 52 23.7 +0.7
	baz=81					
K06A	Valley Falls	80.97	37	⇓P	P	12 52 23.4 +0.1
	baz=81					
L07A	Adell	80.99	38	⇑P	P	12 52 23.2 -0.3
	baz=81					
X15A	Humboldt	81.05	48	⇓P	P	12 52 23.5 -0.3
	baz=81					
O09A	Fish Creek Ran	81.12	41	⇓P	P	12 52 24.8 +0.6
	baz=81					
M08A	Happy Creek Ra	81.19	39	⇓P	P	12 52 24.0 -0.6
	baz=81					
P10A	Eureka	81.23	42	⇑P	P	12 52 25.4 +0.6
	baz=81					
Q11A	Duckwater	81.28	43	⇓P	P	12 52 24.7 -0.3
	baz=82					
J06A	Christmas Vall	81.31	37	⇑P	P	12 52 24.9 -0.3
	baz=82					
N09A	Rock Creek Ran	81.33	40	⇑P	P	12 52 25.3 0.0
	baz=82					
K07A	Rock Creek Ran	81.47	38	⇓P	P	12 52 26.0 0.0
	baz=82					
L08A	Fields	81.67	39	⇓P	P	12 52 26.8 -0.3
	baz=82					
I06A	Prineville	81.72	36	⇑P	P	12 52 27.1 -0.3
	baz=82					
M09A	Marrel Ranch,	81.72	40	⇑P	P	12 52 27.1 -0.3
	baz=82					
Q12A	Willow Creek R	81.91	43	⇑P	P	12 52 28.6 +0.3
	baz=82					
MAW	Mawson	81.91	199	P	P	12 52 28.5 +0.2
	comp=Z,18nm,0.8s,mb5.0,baz=93,slow=11,SNR=22					
K08A	Mann Creek Ran	81.93	38	⇑P	P	12 52 27.8 -0.6
	baz=82					
L09A	Wilkinson Ranc	81.96	39	⇓P	P	12 52 28.3 -0.3
	baz=82					
O11A	Cowboy Ranch,	82.03	41	⇑P	P	12 52 29.0 0.0
	baz=82					
P12A	McGill	82.11	42	⇓P	P	12 52 29.4 0.0
	baz=82					
E04A	Onalaska	82.14	33	⇓P	P	12 52 29.6 0.0
	baz=82					
H06A	Lindquist Farm	82.17	36	⇑P	P	12 52 29.4 -0.3
	baz=82					
I07A	Izee	82.20	37	⇑P	P	12 52 29.9 0.0
	baz=82					
J08A	Circle Bar Ran	82.33	38	⇑P	P	12 52 29.9 -0.6
	baz=82					
M10A	I.L. Ranch, Tu	82.33	40	⇓P	P	12 52 30.5 0.0
	baz=82					
G06A	Carlson Farm,	82.33	35	⇓P	P	12 52 29.0 -1.5
	baz=82					
K09A	Rome	82.35	38	⇓P	P	12 52 30.0 -0.6
	baz=82					
H07A	Lands Inn, Kim	82.50	36	⇓P	P	12 52 30.8 -0.6
	baz=83					
F06A	Goldendale	82.60	35	⇓P	P	12 52 31.3 -0.6
	baz=83					
I08A	Drewsey	82.62	37	P	P	12 52 32.1 +0.1
	baz=83,SNR=6.7					
O12A	Currie	82.68	42	⇑P	P	12 52 32.6 +0.3
	baz=83					
M11A	Holland Ranch,	82.72	40	⇑P	P	12 52 32.6 0.0
	baz=83					
J09A	Fry Pan Ranch,	82.73	38	P	P	12 52 32.8 +0.1
	baz=83,SNR=10					
C04A	Brinnon	82.77	32	⇑P	P	12 52 32.2 -0.6
	baz=83					
HABR	Khabarovsk	82.82	329	⇑eP	P	12 52 32.7 -0.4
HABR				e		12 52 38.3
HABR				eS	S	13 02 46.6 -2.9
N12A	Clover Valley,	82.84	41	⇓P	P	12 52 32.6 -0.6
	baz=83					
G07A	Ruggs Ranch, H	82.87	36	⇓P	P	12 52 33.3 0.0
	baz=83					
H08A	Prairie City	82.94	37	⇑P	P	12 52 33.4 -0.3
	baz=83					
E06A	Yakima	83.00	34	⇑P	P	12 52 33.1 -0.9
	baz=83					
MDJ	Mudanjiang	83.11	323	P	P	12 52 34.9 +0.3
MDJ				AP	pP	12 52 44.4 +0.8
MDJ				XP	sP	12 52 46.9 +0.1
MDJ				PP	PP	12 55 45.9 +0.1
MDJ				S	S	13 02 55.5 +3.0
MDJ				AMB	AMB	
	comp=Z,12nm,1.0s,mb4.9					
MDJ				AMB	AMB	
	comp=Z,229nm,5.4s					
MDJ				LR	LR	
	comp=N,560nm,20.9s,MS5.0					
MDJ				LR	LR	
	comp=E,290nm,17.6s,MS5.0					
MDJ				LR	LR	
	comp=Z,297nm,23.1s					
I09A	Lost Marbles R	83.13	37	⇓P	P	12 52 34.7 0.0
	baz=83					
F07A	Phinny Hill Vi	83.14	35	⇑P	P	12 52 33.8 -0.9
	baz=83					
M12A	Wells	83.25	41	⇑P	P	12 52 35.0 -0.3
	baz=83					
G08A	Pilot Rock	83.27	36	P	P	12 52 35.5 +0.1
	baz=84,SNR=10					
MSU	Marysvale	83.31	44	eP	P	12 52 36.5 +0.9
J10A	Berg Farm, Mel	83.35	38	⇑P	P	12 52 35.8 0.0
	baz=84					
N13A	Wendover, West	83.35	42	⇑P	P	12 52 36.4 +0.6
	baz=84					
B05A	Bryant	83.58	32	⇑P	P	12 52 36.4 -0.6
	baz=84					
H09A	Durkee	83.60	37	⇓P	P	12 52 37.1 0.0
	baz=84					
E07A	Sunnyside	83.60	34	P	P	12 52 37.3 +0.2
	baz=84,SNR=9.0					
HAWA	Hanford	83.67	35	eP	P	12 52 37.3 -0.2
M13A	Montello	83.67	41	⇑P	P	12 52 37.7 +0.3
	baz=84					
F08A	Pendleton	83.69	36	P	P	12 52 37.6 0.0
	baz=84,SNR=5.5					
DUG	Dugway	83.85	43	eP	P	12 52 38.2 -0.2
DUG	Dugway	83.85	43	⇓P	P	12 52 39.5 +1.2
	baz=84					
MFID	Camas Ranch	83.89	39	⇑P	P	12 52 38.5 0.0
	baz=84					
BMO	Blue Mountains	83.91	37	eP	P	12 52 38.3 -0.4
	comp=Z,25nm,1.4s,mb5.2					
D07A	Quincy	83.95	34	⇓P	P	12 52 37.6 -1.2
	baz=84					
K12A	Draper Farm, C	83.97	40	⇑P	P	12 52 38.6 -0.3
	baz=84					
E08A	Dider Farm, El	83.98	35	⇓P	P	12 52 38.7 -0.3
	baz=84					
B06A	Marblemount	84.05	32	⇑P	P	12 52 39.4 0.0
	baz=84					
H10A	Noah's Angus R	84.07	37	⇓P	P	12 52 39.5 0.0
	baz=84					
I11A	Placerville	84.11	38	P	P	12 52 39.6 -0.1
	baz=84,SNR=9.3					
F09A	S2 Ranch, Elgi	84.11	36	⇑P	P	12 52 39.1 -0.6
	baz=84					
J12A	Stokes Ranch,	84.22	39	⇑P	P	12 52 40.2 -0.1
	baz=84					
QIZ	Qiongzhong	84.23	293	P	P	12 52 42.4 +2.1
QIZ				S	S	13 03 05.3 +1.6
QIZ				AMB	AMB	
	comp=Z,44nm,1.8s,mb5.3					
QIZ				LR	LR	
	comp=E,926nm,20.6s					
QIZ				LR	LR	
	comp=Z,951nm,22.5s,MS5.1					
C07A	Waterville	84.23	34	P	P	12 52 39.9 -0.4
	baz=84,SNR=8.2					
TMUT	Trail Mountain	84.38	44	eP	P	12 52 41.6 +0.6
D08A	Wollman Farm,	84.42	34	P	P	12 52 41.4 +0.1
	baz=85,SNR=9.4					
E09A	Wood Farm, Sta	84.49	35	⇑P	P	12 52 40.7 -1.0
	baz=85					
MPU	Maple Canyon	84.50	43	eP	P	12 52 42.7 +1.0
MNTX	Cornudas Mount	84.54	53	eP	P	12 52 39.3 -2.6
H11A	Donnelly	84.55	38	⇑P	P	12 52 42.2 +0.2
	baz=85					
LAZ	Ladron	84.59	50	eP	P	12 52 42.9 +0.8
F10A	Beach Ranch, E	84.65	36	P	P	12 52 42.0 -0.5
	baz=85,SNR=17					
B07A	Winthrop	84.70	33	⇓P	P	12 52 42.3 -0.4
	baz=85					
TXAR	Lajitas Array	84.72	56	P	P	12 52 45.5 +2.7
	comp=Z,1.2nm,0.8s,mb4.1,baz=209,slow=8.2,SNR=10.0					
SRU	San Rafael	84.72	45	eP	P	12 52 42.5 -0.3
D09A	Jones Farm, Ri	84.74	35	⇑P	P	12 52 42.2 -0.7
	baz=85					
HVU	Hansel Valley	84.77	41	P	P	12 52 43.0 0.0
HVU				pmax	pmax	
	comp=Z,11nm,0.8s,mb5.0					
HVU	Hansel Valley	84.77	41	P	P	12 52 43.0 -0.1
	comp=Z,11nm,0.8s,mb5.0					
CTU	Camp Tracy	84.80	43	eP	P	12 52 43.3 +0.1
HLID	Hailey	84.80	39	eP	P	12 52 43.5 +0.3
HLID	Hailey	84.80	39	⇑P	P	12 52 43.1 -0.1
	baz=85					
C08A	Higginbotham F	84.81	34	⇓P	P	12 52 42.3 -1.0
	baz=85					
BNM	Barren Site	84.83	50	eP	P	12 52 43.5 +0.1
J13A	Cove Ranch, Pi	84.85	39	⇑P	P	12 52 43.7 +0.2
	baz=85					
JLU	Jordanelle	84.94	43	eP	P	12 52 44.1 +0.2
A07A	Ashnola River,	84.95	32	⇑P	P	12 52 43.3 -0.7
	baz=85					
CN2	Changchun	84.99	321	eP	P	12 52 44.0 -0.2
CN2				eS	S	13 03 10.3 -1.0
CN2				AMB	AMB	
	comp=Z,30nm,1.6s,mb5.2					
CN2				AMB	AMB	
	comp=Z,300nm,5.0s					
CN2				LR	LR	
	comp=N,1μm,19.0s,MS5.4					
CN2				LR	LR	
	comp=E,900nm,19.0s,MS5.4					
CN2				LR	LR	
	comp=Z,800nm,21.0s,MS5.1					
E10A	Myers Farm, Un	85.03	36	⇓P	P	12 52 44.3 -0.1
	baz=85					
B08A	Colville Reser	85.03	33	⇑P	P	12 52 43.7 -0.7
	baz=85					
F11A	Grangeville	85.19	37	⇓P	P	12 52 44.8 -0.4
	baz=85					
C09A	Chrisman Ranch	85.23	34	⇑P	P	12 52 45.3 -0.1
	baz=85					
D10A	Wagner Farm, O	85.29	35	⇑P	P	12 52 44.7 -1.0
	baz=86					
ANMO	Albuquerque	85.34	50	eP	P	12 52 46.2 +0.3
ANMO	Albuquerque	85.34	50	eP	P	12 52 46.1 +0.2
	comp=Z,11nm,1.0s,mb5.0					
HWUT	Hardware Ranch	85.42	42	P	P	12 52 45.2 -1.1
	comp=Z,3.7nm,0.6s,mb4.7					
HWUT				e		12 52 57.0
E11A	Bogner Ranch,	85.44	36	⇑P	P	12 52 45.1 -1.3
	baz=86					
A08A	Turner Farm, O	85.44	33	P	P	12 52 46.4 -0.1
	baz=86,SNR=11					
F12A	Elk City	85.61	37	⇓P	P	12 52 46.6 -0.7
	baz=86					
B09A	Rice	85.68	34	⇑P	P	12 52 46.3 -1.3
	baz=86					
G13A	Cobalt	85.80	38	⇓P	P	12 52 47.8 -0.4
	baz=86					
A09A	Danville	85.81	33	⇑P	P	12 52 47.5 -0.7
	baz=86					
F13A	Darby	86.15	37	⇓P	P	12 52 48.6 -1.3
	baz=86					
PLCA	Paso Flores	86.29	132	P	P	12 52 54.6 +3.9
	comp=Z,3.8nm,1.1s,mb4.5,baz=246,slow=6.1,SNR=2.7					
MCMT	McKenzie Canyo	86.45	39	eP	P	12 52 52.1 +0.7
E13A	Victor	86.62	37	⇑P	P	12 52 51.8 -0.4
	baz=87					
SYO	Syowa Base	86.65	192	⇓eP	P	12 52 50.8 -1.6
SYO	Syowa Base	86.65	192	⇓ePcP	PcP	12 52 52.4 -2.3
REDW	Red Top Meadow	86.83	41	eP	P	12 52 52.9 -0.3
	comp=Z,8.3nm,1.1s,mb4.9					
D13A	Huson	86.85	36	⇓P	P	12 52 52.6 -0.7
	baz=87					
G15A	Dillon	86.86	39	⇑P	P	12 52 53.0 -0.4
	baz=87					
A11A	Hall Mountain,	86.94	34	⇓P	P	12 52 53.7 -0.1
	baz=87					
E14A	Clinton	86.99	37	⇑P	P	12 52 54.2 +0.2
	baz=87					
B12A	Libby	87.06	35	⇓P	P	12 52 54.5 +0.2
	baz=87					
SNAA	Sanae	87.09	177	P	P	12 52 53.4 -1.1
QLMT	Earthquake Lak	87.29	39	P	P	12 52 56.2 +0.7
A12A	Yaak River Ran	87.30	34	⇓P	P	12 52 55.1 -0.5
	baz=88					
BW06	Boulder Array	87.30	42	eP	P	12 52 54.0 -1.5
PDAR	Pinedale Array	87.30	42	P	P	12 52 55.3 -0.3
	comp=Z,1.2nm,0.7s,mb4.2,baz=220,slow=3.7,SNR=10					
DLBC	Dease Lake	87.53	22	P	P	12 52 54.5 -2.2
BOZ	Bozeman (W)	87.63	39	⇑P	P	12 52 56.3 -0.8
	baz=88					
SEY	Seymchan	87.95	345	eP	P	12 53 01.5 +2.9
A13A	Flathead Natio	87.96	35	⇑P	P	12 52 55.8 -2.9
	baz=88					
WALA	Waterton Lakes	88.30	35	P	P	12 52 57.5 -2.8
	comp=Z,5.8nm,1.1s,mb4.7					
COLA	College	88.32	11	eP	P	12 52 59.0 -1.4
COLA	College	88.32	11	eP	P	12 52 58.7 -1.7
	comp=Z,25nm,1.2s,mb5.3					
IMA2	Indian Mountai	88.52	8	eP	P	12 53 00.3 -1.0
DAWY	Dawson	89.36	15	eP	P	12 53 05.0 -0.3
EGAK	Eagle	89.56	14	eP	P	12 53 05.5 -0.8
	comp=Z,11nm,1.0s,mb5.1					
GYA	Guiyang	89.95	298	P	P	12 53 08.9 +0.9
GYA				AP	pP	12 53 19.9 +2.8
GYA				PP	PP	12 56 45.0 +4.0
GYA				SKS		13 03 35.9
GYA				S	S	13 03 57.9 -1.0
GYA				AMB	AMB	
	comp=Z,20nm,1.0s,mb5.4					
GYA				AMB	AMB	
	comp=Z,120nm,5.9s					
GYA				LR	LR	
	comp=N,430nm,19.8s,MS5.0					
GYA				LR	LR	
	comp=E,460nm,19.6s,MS5.0					
GYA				LR	LR	
	comp=Z,420nm,19.0s,MS4.9					
BILL	Bilibino	90.21	353	deP	P	12 53 14.5 +5.2
BILL				e		12 56 52.6
BILL				eS	SKSac	13 03 42.2 +3.8
BILL				pmax	pmax	
	comp=Z,3.0nm,1.0s,mb4.6					
BILL	Bilibino	90.21	353	eP	P	12 53 08.1 -1.1
EDM	Edmonton	91.01	32	eP	P	12 53 10.9 -2.1
XAN	Xi'an	91.28	306	P	P	12 53 15.3 +1.1
RSSD	Black Hills	91.45	43	eP	P	12 53 14.7 -0.4
RSSD				pmax	pmax	
	comp=Z,4.0nm,0.9s,mb4.8					
RSSD	Black Hills	91.45	43	eP	P	12 53 14.7 -0.4
	comp=Z,3.6nm,0.9s,mb4.7					
HHC	Hu-ho-hao-te	92.31	313	eP	P	12 53 19.6 +0.6
HHC				AP	pP	12 53 30.1 +2.0
HHC				PP	PP	12 57 03.0 +3.3
HHC				S	S	13 04 17.8 -2.6
HHC				AMB	AMB	
	comp=Z,12nm,0.5s,mb5.5					
HHC				AMB	AMB	
	comp=Z,278nm,5.5s					
HHC				LR	LR	
	comp=N,419nm,16.1s,MS5.1					
HHC				LR	LR	
	comp=E,287nm,13.1s,MS5.1					
HHC				LR	LR	
	comp=Z,209nm,17.3s,MS4.6					
KMI	Kunming	92.68	296	P	P	12 53 22.3 +1.5
KMI				AMB	AMB	
	comp=Z,16nm,1.3s,mb5.3					
KMI	Kunming	92.68	296	P	P	12 53 22.3 +1.5
	comp=Z,16nm,1.3s,mb5.3					
CHTO	Chiang Mai	93.65	289	eP	P	12 53 26.6 +1.4
CHTO				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb5.1					
CHTO	Chiang Mai	93.65	289	eP	P	12 53 26.6 +1.4
	comp=Z,6.5nm,0.8s,mb5.1					
CD2	Chengdu	94.03	301	P	P	12 53 26.3 -0.7
CD2				AP	pP	12 53 36.9 +0.9
CD2				XP	sP	12 53 40.8 +1.6
CD2				SKS		13 03 56.9
CD2				AMB	AMB	
	comp=Z,20nm,0.5s,mb5.8					
CD2				AMB	AMB	
	comp=Z,260nm,5.5s					
CD2				LR	LR	
	comp=N,900nm,21.6s,MS5.4					
CD2				LR	LR	
	comp=E,990nm,22.8s,MS5.4					
CD2				LR	LR	
	comp=Z,710nm,19.2s,MS5.1					
YAK	Yakutsk	94.12	337	eP	P	12 53 31.0 +3.6
YAK				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.9					
YKA	Yellowknife Ar	95.88	24	P	P	12 53 34.6 -0.8
	comp=Z,1.0nm,0.7s,mb4.4,baz=236,slow=4.5,SNR=20					
LZH	Lanzhou	95.91	306	eP	P	12 53 37.8 +2.3
LZH				PP	PP	12 57 31.8 +4.0
LZH				eSKS		13 04 10.3
LZH				AMB	AMB	
	comp=Z,14nm,1.0s,mb5.3					
LZH				AMB	AMB	
	comp=Z,80nm,4.9s					
LZH				LR	LR	
	comp=E,550nm,13.5s					
LZH				LR	LR	
	comp=Z,690nm,15.0s,MS5.2					
LZH	Lanzhou	95.91	306	eP	P	12 53 37.8 +2.3
LZH				*PP	pP	12 53 49.5 +4.9
LZH				*SP	sP	12 53 53.2 +5.4
LZH						12 57 31.8
LZH				e		13 04 10.3
LZH				eS	S	13 04 48.2 -3.7
LZH				SS	SS	13 11 25.0 +2.6
LZH				pmax	pmax	
	comp=Z,14nm,1.0s,mb5.3					
LZH				MLR	MLR	
	comp=Z,690nm,15.0s,MS5.2					
LZH	Lanzhou	95.91	306	eP	P	12 53 37.8 +2.3
	comp=Z,14nm,1.0s,mb5.3					
LZH				pP	pP	12 53 49.5 +4.9
LZH				sP	sP	12 53 53.2 +5.4
LZH				PP	PP	12 57 31.8 +4.0
LZH				eSKS		13 04 10.3
LZH				eS	S	13 04 48.2 -3.7
LZH				sS	sS	13 05 05.0 -2.0
LZH				SS	SS	13 11 25.0 +2.6
LZH				LR	LR	

comp=Z,690nm,15.0s,MS5.2
SONM Songino Array 98.56 318 P **P** **12 53 47.8 +0.3**
comp=Z,0.3nm,0.5s,mb4.0,baz=90,slow=1.4,SNR=2.9
LPAZ La Paz 98.67 111 P **P** **12 53 52.4 +4.3**
comp=Z,0.5nm,0.6s,mb4.2,baz=262,slow=3.4,SNR=2.6
ZAL Zalesovo 113.22 321 PKiKP PKiKP 12 58 44.9 -1.4
comp=Z,0.9nm,0.4s,baz=347,slow=10.0,SNR=3.9
MKAR Makanchi Array 114.17 313 PKiKP PKiKP 12 58 46.6 -1.5
comp=Z,0.5nm,0.5s,baz=236,slow=1.2,SNR=12
CHKZ Chkalovo 121.62 321 *e*PKIKP PKPdf 12 59 00.0 -2.4
BRVK Borovoye 121.89 320 *e*PKIKP PKPdf 12 59 00.9 -2.0
BOSA Boshof 126.85 202 PKP PKPdf 12 59 13.9 +1.5
comp=Z,1.2nm,0.5s,baz=209,slow=13,SNR=2.8
ARU Arti 127.74 326 *e*PKPdf PKPdf 12 59 13.4 -0.7
ARCES ARCESS Array B 130.27 351 PKP PKPdf 12 59 17.9 -1.0
comp=Z,3.4nm,0.8s,baz=53,slow=0.6,SNR=10
FINES FINESS Array B 137.43 346 PKhKP 12 59 25.6
comp=Z,3.6nm,1.0s,baz=103,slow=2.5,SNR=3.8
FINES PKP PKPdf 12 59 31.5 -0.9
comp=Z,0.8nm,0.5s,baz=82,slow=4.0,SNR=8.4
NB2 NORSAR Subarra140.10 356 PKP 12 59 28.8
comp=Z,27nm,2.0s,baz=15,slow=2.6
NOA NORSAR Array B 140.10 356 PKhKP 12 59 29.3
comp=Z,1.2nm,0.8s,baz=42,slow=1.8,SNR=3.5
KIV Kislovodsk 141.88 315 *e*PKIKP PKPdf 12 59 44.6 +4.1
KIV pmax pmax
comp=Z,6.0nm,1.1s
SUW Suwalki 144.70 342 *e*PKP PKPdf 12 59 44.3 -1.1
MUD Monsted U'grnd 144.80 357 *i* P PKPdf 12 59 43.8 -1.8
comp=Z,72nm,1.2s
MUD Monsted U'grnd 144.80 357 *i* PKIKP PKPdf 12 59 43.8 -1.8
MUD pmax pmax
comp=Z,72nm,1.2s
AKASG Malin Array Be 145.27 333 PKP PKPdf 12 59 44.6 -1.8
comp=Z,10nm,0.6s,baz=39,slow=4.2,SNR=57
KIEV Kiev 145.29 333 *e*PKP2 PKPab 12 59 44.4 -1.9
BSD Bornholm Skovb 145.51 351 *i* P PKPdf 12 59 45.8 -1.0
comp=Z,61nm,0.8s
BSD *i* 12 59 59.0
BSD Bornholm Skovb 145.51 351 *i* PKIKP PKPdf 12 59 45.8 -1.0
BSD *i* 12 59 59.0
BSD pmax pmax
comp=Z,61nm,0.8s
SIM Simferopol' 146.71 322 *i* PKP2 pPKPbc 13 00 01.5 +1.7
SIM pmax pmax
comp=Z,34nm,1.1s
BSEG Bad Segeberg 147.22 355 *e*PKPbc PKPbc 12 59 52.1 +0.1
BSEG *ep*PKPbc pPKPbc 13 00 02.3 +1.0
LVV L'vov 148.00 337 *e*PKP2 pPKPbc 13 00 03.2 -0.2
KIS Kishinev 148.18 329 *e*PKIKP PKPdf 12 59 52.0 +0.7
KIS *e* 13 00 04.0
KIS Kishinev 148.18 329 *e*UNK PKPdf 12 59 52.0 +0.7
KWP Kalwaria 148.63 338 *e*PKP PKPbc 12 59 55.9 +0.1
OJC Ojcow 149.03 342 *e*PKP PKPbc 12 59 56.9 +0.1
CLZ Clausthal 149.29 354 *e*PKPbc PKPbc 12 59 57.3 -0.2
CLZ *ep*PKPbc pPKPbc 13 00 07.0 +0.3
STHS Stebnicka Huta 149.30 340 *e*PKP PKPab 13 00 03.2 +1.1
BURAR Bucovina Array 149.33 333⇑ *i*P PKPbc 12 59 58.4 +0.9
KSP Ksiaz 149.34 347 *e*PKP PKPbc 12 59 57.9 +0.3
KSP Ksiaz 149.34 347 *e*PKP PKPbc 12 59 57.2 -0.4
KSP *ep*PKP pPKPdf 13 00 07.1 +4.6
KOLS Kolonicke sedl 149.37 338 *e*PKP PKPbc 13 00 01.8 +4.1
KOLS *e* 13 00 07.2
CLL Collm 149.50 351 *e*PKPbc PKPbc 12 59 57.7 -0.3
CLL *ep*PKPbc pPKPbc 13 00 07.2 0.0
CLL Collm 149.50 351 *i* PKP2 PKPab 13 00 01.8 -1.1
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 149.50 351⇑ *i*PKPbc PKPbc 12 59 57.7 -0.3
comp=Z,12nm,0.7s
CLL *i* PKPab PKPab 13 00 01.8 -1.1
comp=Z,19nm,1.0s
CLL *i* sPKPbc 13 00 07.0
NIE Niedzica 149.59 341 *e*PKP PKPbc 12 59 58.7 +0.5
UZH Uzhgorod 149.62 338 *c* PKP2 PKPbc 12 59 58.6 +0.3
CRVS Cervenica-Dubn 149.68 339 *e*PKP PKPab 13 00 06.1 +2.5
UPC Upice 149.72 347⇑ *e*PKP PKPbc 12 59 58.2 -0.3
UPC *ep*PKP pPKPdf 13 00 06.2 +3.1
BRG Berggiesshubel 149.76 349 *e*PKPbc PKPbc 12 59 58.1 -0.5
BRG *ep*PKPbc pPKPbc 13 00 08.0 +0.1
BRG Berggiesshubel 149.76 349 *e*PKP PKPbc 12 59 57.7 -1.0
comp=Z,7.1nm,1.0s
BRG *i* 13 00 08.1
comp=Z,22nm,1.3s
BRG
comp=N,506nm,18.1s
BRG
comp=E,243nm,19.1s
BRG
comp=Z,476nm,16.9s
BRG Berggiesshubel 149.76 349 *e*PKP PKPbc 12 59 57.7 -1.0
BRG *i* 13 00 08.1
BRG LR LR
comp=Z,480nm,16.9s,MS5.4
DPC Dobruska-Polom 149.80 346⇑ *e*PKP PKPbc 12 59 59.0 +0.3
DPC *ep*PKP pPKPdf 13 00 07.0 +3.8
FBE Freiberg 149.82 350 *e*PKPbc PKPbc 12 59 58.7 0.0
FBE *ep*PKPbc pPKPbc 13 00 08.0 0.0
BRTR Keskin Array B 149.82 314 PKPbc PKPbc 12 59 58.9 +0.1
comp=Z,5.8nm,0.7s,baz=136,slow=3.6,SNR=28
OKC Ostrava-Krasne 149.83 344⇑ *e*PKP PKPbc 12 59 58.3 -0.5
OKC *ep*PKP pPKPdf 13 00 07.5 +4.2
BUG Bochum--Univer 149.89 358 *e*PKPbc PKPbc 12 59 58.6 -0.3
PVCC Panska Ves 149.99 348⇑ *e*PKP PKPbc 12 59 59.5 +0.3
PVCC *ep*PKP pPKPdf 13 00 08.3 +4.8
MORC Moravsky Berou 150.04 344 *e*PKPbc PKPbc 12 59 59.3 0.0
MORC Moravsky Berou 150.04 344⇑ *i*P PKPbc 12 59 59.8 +0.5
TIRR Tirgusor 150.17 326 *e*PKIKP PKPab 13 00 06.2 +0.6
TIRR Tirgusor 150.17 326⇓ *i*P PKPab 13 00 06.5 +0.9
ANTO Ankara 150.31 315 *e*PKIKP PKPbc 13 00 00.1 +0.2
ANTO Ankara 150.31 315⇓ *i*P PKPbc 13 00 00.9 +1.0
MOX Moxa 150.33 352 *e*PKPbc PKPbc 12 59 59.6 -0.4
MOX *ep*PKPbc pPKPbc 13 00 09.4 +0.1
MOX Moxa 150.33 352 *e*PKP PKPbc 12 59 59.7 -0.3
comp=Z,34nm,1.5s
KECS Kecovo 150.36 340 *e*PKP PKPbc 13 00 00.9 +0.8
KECS *e* 13 00 07.6
WERD Werda 150.43 351 *e*PKPbc PKPbc 13 00 00.4 +0.2
WERD *ep*PKPbc pPKPbc 13 00 10.3 +0.8
TANN Tannenbergstha 150.44 351 *e*PKPbc PKPbc 13 00 09.3 0.0
TANN *ep*PKPbc pPKPbc 13 00 09.8 +0.3
PRU Pruhonice 150.51 348⇑ *e*PKP PKPbc 12 59 59.7 -0.7
PRU *ep*PKP PKPdf 13 00 09.8 +5.4
GUNZ Gunzen 150.51 351 *e*PKPbc PKPbc 13 00 00.6 +0.2
NKC Novy Kostel 150.62 351⇑ *e*PKP PKPbc 13 00 00.0 -0.7
BHL Bhannes 150.64 302 *e*P PKPbc 13 00 03.2 +2.5
MLR Muntele Rosu 150.64 330⇓ *i*P PKPbc 13 00 01.8 +1.1
VRAC Vranov 150.71 345⇓ *i*P PKPab 13 00 05.7 -2.2
MEM Membach 150.75 359 PKPbc PKPbc 12 59 59.6 -1.3
MEM APKPbc pPKPbc 13 00 10.8 +0.6
SNF Seneffe 150.84 2 APKPbc pPKPbc 13 00 11.4 +0.9
VYHS Vyhne 150.86 342 *e*PKP PKPbc 13 00 01.6 +0.4
VYHS *e* 13 00 08.5
MANZ Manzenberg 150.91 351 *e*PKPbc PKPbc 13 00 01.0 -0.4
MANZ *ep*PKPbc pPKPbc 13 00 11.3 +0.7
BCLA Clavier 150.94 0 PKP PKPbc 12 59 58.3 -3.1
BCLA PKPab PKPab 13 00 08.4 -0.5
DRGR **151.00 335**⇓ *i*P PKPab 13 00 01.5 -0.1
PSZ Piszkesteto 151.05 340 *e*PKIKP PKPbc 13 00 01.0 -0.7
PSZ *e* 13 00 10.9
PSZ Piszkesteto 151.05 340⇑ *i*P PKPbc 13 00 01.3 -0.4
TNS Taunus Mts 151.05 356 *e*PKPbc PKPbc 13 00 02.0 +0.3
ROTZ Rotzenmuhle 151.11 351 *e*PKPbc PKPbc 13 00 02.3 +0.5
ROTZ *ep*PKPbc pPKPbc 13 00 11.9 +0.8
GIVF Givet 151.26 1 *e*PKP1 PKPbc 13 00 01.9 -0.3
comp=Z,68nm,1.0s
DOU Dourbes 151.26 1 PKP PKPdf 12 59 57.9 +1.7
DOU APKPbc pPKPbc 13 00 12.3 +0.9
BAIF Baives 151.29 2 *e*PKP1 PKPbc 13 00 02.1 -0.1
comp=Z,50nm,1.0s
GRA1 Grafenberg Arr 151.32 352 *e*PKPbc PKPbc 13 00 02.2 -0.1
GRA1 LR LR
comp=Z,900nm,21.0s,MS5.5
GRF Grafenberg Arr 151.32 352 *e*PKIKP PKPbc 13 00 02.2 -0.1
GRF MLR MLR
comp=Z,900nm,21.0s,MS5.5
KHC Kasperske Hory 151.51 349⇑ *e*PKP PKPbc 13 00 02.6 -0.1
KHC PKPAB PKPab 13 00 07.5 -3.7
KHC *ep*PKP pPKPdf 13 00 12.3 +6.4
KHC Kasperske Hory 151.51 349 *e*PKIKP PKPbc 13 00 02.6 -0.1
KHC *e* 13 00 07.5
KHC *e* 13 00 12.3
WLF Walferdange 151.70 359 APKPbc PKPab 13 00 13.7 +1.7
WLF Walferdange 151.70 359 *e*PKPab PKPab 13 00 13.6 +1.6
GEC2 GERESS Array S 151.76 349 *e*PKPbc PKPbc 13 00 02.6 -0.7
GEC2 *ep*PKPbc pPKPbc 13 00 12.8 +0.2
GERES GERESS Array B 151.76 349 PKP PKPdf 12 59 57.1 +0.1
comp=Z,0.1nm,0.3s,baz=294,slow=1.0,SNR=2.6
GERES PKPbc PKPbc 13 00 03.2 -0.1
comp=Z,2.7nm,0.7s,baz=3.8,slow=2.0,SNR=17
CSS Prodhromos 152.09 305 *e*PKPbc PKPbc 13 00 04.0 -0.1
ROSF Rostrenen 152.11 13 *e*PKP1 PKPbc 13 00 03.1 -1.0
FLN La Foliniere 152.18 9 *e*PKP1 PKPbc 13 00 03.5 -0.8
comp=Z,47nm,0.9s
EIL Elat 152.25 293 *e*PKPbc PKPbc 13 00 04.7 +0.3
SGMF Saint Gilles 152.33 12 *e*PKP1 PKPbc 13 00 03.7 -0.9
comp=Z,32nm,0.9s
LDF La Druitiere 152.40 8 *e*PKP1 PKPbc 13 00 04.0 -0.8
comp=Z,25nm,0.8s
BZS Buzias 152.40 335⇑ *i*P PKPbc 13 00 04.2 -0.6
GRR Gorron 152.49 9 *e*PKP1 PKPbc 13 00 04.3 -0.7
comp=Z,20nm,0.6s
QUIF Quistinic 152.54 13 *e*PKP1 PKPbc 13 00 04.2 -0.9
MEZF Maizieres J'vi 152.86 1 *e*PKP1 PKPbc 13 00 05.7 -0.1
comp=Z,47nm,1.0s
CDF Champ du Feu 152.92 357 *e*PKP1 PKPbc 13 00 05.6 -0.3
comp=Z,18nm,1.0s
BFO Black Forest 152.95 356 *e*PKIKP PKPbc 13 00 05.1 -0.9
HAU Haudompre 153.35 359 *e*PKP1 PKPbc 13 00 06.4 -0.5
comp=Z,18nm,0.9s
HINF Hinteralfeld 153.53 358 *e*PKP1 PKPbc 13 00 06.6 -0.7
comp=Z,25nm,1.2s
GROS Grobnik 153.63 344 *e*PKPbc PKPbc 13 00 08.6 +1.2
LOR Lormes 154.06 3 *e*PKP1 PKPbc 13 00 08.1 -0.3
comp=Z,15nm,0.9s
SSF Saint Saulge 154.25 3 *e*PKP1 PKPbc 13 00 08.6 -0.2
comp=Z,19nm,0.9s
DIVS Divcibare 154.31 336⇓ *i*PKP pPKPbc 13 00 12.2 -6.1
AVF Avril sur Loir 154.51 4 *e*PKP1 PKPbc 13 00 08.8 -0.6
SMF Signal de Mont 154.68 3 *e*PKP1 PKPbc 13 00 09.4 -0.3
BGF Bois d'Agland 154.71 4 *e*PKP1 PKPbc 13 00 09.4 -0.4
comp=Z,15nm,0.9s
TCF Toulx Ste Croi 154.93 5 *e*PKP1 PKPbc 13 00 09.8 -0.5
comp=Z,12nm,1.0s
ESDC Sonseca Array 159.96 22 PKPab PKPab 13 00 47.3 0.0
comp=Z,0.7nm,0.7s,baz=316,slow=3.8,SNR=4.4
LIC Lamto 161.84 144 *e*PKIKP PKPdf 13 00 09.5 -0.3
comp=Z,34nm,1.4s
TORD Torodi Ar. Bea 171.09 155 PKP PKPdf 13 00 16.9 -0.1
comp=Z,1.0nm,0.8s,baz=351,slow=1.3,SNR=6.8
TORD PKPab PKPab 13 01 39.7 +3.3
comp=Z,1.6nm,0.9s,baz=185,slow=5.4,SNR=3.4
TORD PP PP 13 05 30.9 +4.0
comp=Z,0.9nm,1.1s,baz=208,slow=2.8,SNR=3.3
TORD Torodi Ar. Bea 171.09 155 PKP PKPdf 13 00 16.9 -0.1
TORD PKPab PKPab 13 01 39.7 +3.3
TORD PP PP 13 05 30.9 +4.0

IDC ***17*** *12:51:06.7±0.4,2117S×17455W,h0km,mb5.0/19, mb1 5.1/20,mb1mx5.1/21,mbtmp4.9/20,ML5.5/2,MS5.3/25, Ms1 5.3/25,ms1mx5.1/32,Error ellipse: s-maj=18.6km s-min=12.9km az=125.0*

NEIC ***17*** *12:51:08.7±3.1,2126S×17447W,h14km±18km,mb5.5/56, MS5.5/146,MW5.7,Error ellipse: s-maj=7.3km s-min=4.7km az=143.0,Moment Tensor Solution. s19 Moment tensor: Scale 10^17^Nm; Mrr3.98; Mθθ-1.06; Mφφ-2.92; Mrθ0.86; Mθφ-1.28; Mφr1.62; Best double couple: M0=4.20000×10^17^ NP1:φ=27.00000°,δ58.00000°, λ90.00000°. NP2:φ=207.00000°,δ32.00000°,λ89.00000°. Principal axes: T 4.4000, Plg77.0000°, Azm298.0000°; N -0.4000, Plg0.0000°, Azm207.0000°; P -4.0000, Plg13.0000°, Azm117.0000°;*

BJI ***17*** *12:51:08.6,2130S×17450W,h14km,mB6.0,mb5.3,Ms5.6, Msz5.4*

GCMT ***17*** *12:51:08.7±0.1,2137S×17388W,h20km,MW5.8/95, Moment Tensor Solution. s83,c161; s95,c286; Duration: 29 0 Moment tensor: Scale 10^17^Nm; Mrr5.66±.07; Mθθ-0.68±.05; Mφφ-4.98±.05; Mrθ1.63±.11; Mθφ-2.90±.04; Mφr2.92±.12; Best double couple: M0=6.91300×10^17^ NP1:φ=205.00000°,δ31.00000°, λ87.00000°. NP2:φ=28.00000°,δ59.00000°,λ91.00000°. Principal axes: T 6.5250, Plg75.0000°, Azm302.0000°; N 0.7800, Plg1.0000°, Azm207.0000°; P -7.3010, Plg14.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SZGRF ***17*** *12:51:10.2,2197S×17379W,h34km,mb5.6,Tonga Islands*

MOS ***17*** *12:51:10.8±1.5,2117S×17444W,h33km,mb5.7/42, MS5.5/41,Error ellipse: s-maj=9.4km s-min=8.0km az=138.1*

ISCJB ***17*** *12:51:10.6±0.1,2137S±004×17445W±004,h38km, mb5.3/86,MS5.5/180,Error ellipse: s-maj=6.3km s-min=3.3km az=91.8*

ISC 17 12:51:12.4±0.1,2136S±004×17446W±004,h40km, h40km±2.1km;pP-P,n828,σ0°80/482,mb5.3/86,MS5.5/181, 121C-94D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.84**	**19**	Pn	**Pn**	**12 52 54.9**	**-9.0**
	36nm,0.3s,baz=162,slow=15,SNR=24						
AFI				Sn	**Sn**	**12 54 16.1**	**-15**
	62nm,0.3s,baz=30,slow=20,SNR=4.8						
AFI	**Afiamalu**	**7.84**	**19**	*e*P	**Pn**	**12 52 54.9**	**-9.0**
AFI				pmax	pmax		
	comp=Z,201nm,0.5s						
AFI	**Afiamalu**	**7.84**	**19**	*e*Pn	**Pn**	**12 52 54.9**	**-9.0**
	comp=Z,201nm,0.5s						
AFI				*e*Sn	**Sn**	**12 54 15.4**	**-16**
RAO	**Raoul Island**	**8.46**	**201**	Pn	**Pn**	**12 53 12.8**	**+0.4**
	comp=Z,107nm,0.3s,baz=94,slow=21,SNR=5.7						
RAO				Sn	**Sn**	**12 54 43.2**	**-3.2**
	comp=Z,51nm,0.3s,baz=96,slow=23,SNR=8.3						
RAO				LR	LR	12 56 11.0	
	comp=Z,9μm,19.5s,baz=212,slow=35						
RAO	**Raoul Island**	**8.46**	**201**	*e*P	**Pn**	**12 53 12.7**	**+0.3**
RAO				pmax	pmax		
	comp=Z,580nm,0.6s						
RAO	**Raoul Island**	**8.46**	**201**	*e*Pn	**Pn**	**12 53 12.7**	**+0.3**
	comp=Z,580nm,0.6s						
RAR	**Rarotonga**	**13.69**	**92**	Pn	**Pn**	**12 54 13.6**	**-10**
	comp=Z,24nm,0.3s,baz=252,slow=8.2,SNR=32						
RAR				Sn	Sn	12 56 32.1	-22
	comp=Z,6.2nm,0.3s,baz=127,slow=20,SNR=5.8						
FUNA	**Funafuti**	**14.15**	**333**	*e*Pn	**Pn**	**12 54 29.8**	**-0.4**
	comp=Z,789nm,1.9s						
DZM	**Mont Dzumac**	**17.76**	**264**	*e*P	**Pn**	**12 55 19.1**	**+2.5**
DZM	**Mont Dzumac**	**17.76**	**264**	P	**Pn**	**12 55 19.1**	**+2.5**
	comp=Z,1.1nm,0.3s,baz=91,slow=15,SNR=20						
URZ	**Urewera**	**18.34**	**202**	P	**Pn**	**12 55 24.3**	**+0.6**
	comp=Z,8.9nm,0.3s,baz=1.5,slow=5.2,SNR=22						
URZ				S	**S**	**12 58 36.2**	**-15**
	comp=Z,2.5nm,0.3s,baz=145,slow=23,SNR=7.5						
PATZ	**Paeroa**	**18.75**	**203**	PN	**Pn**	**12 55 30.4**	**+1.7**
PXZ	**Pawanui**	**20.03**	**200**	*e*PN	**P**	**12 55 41.4**	**-0.5**
PXZ				SN	**S**	**12 59 10.5**	**-14**
BFZ	**Birch Farm**	**20.82**	**200**	SN	**S**	**12 59 28.1**	**-12**
MRZ	**Mangatainoka R**	**21.02**	**202**	SN	**S**	**12 59 30.0**	**-14**
SNZO	**South Karori**	**21.90**	**202**	*e*P	**P**	**12 56 01.0**	**-1.0**
	comp=Z,210nm,1.1s,mb5.5						
SNZO				LR	LR		
	comp=Z,10μm,19.0s,MS5.2						
NNZ	**Nelson**	**22.31**	**205**	*e*PN	**P**	**12 56 03.7**	**-2.8**
NNZ				SN	**S**	**12 59 58.7**	**-11**
QRZ	**Quartz Range**	**22.33**	**207**	*e*PN	**P**	**12 56 06.7**	**+0.1**
THZ	**Tophouse**	**22.96**	**205**	*e*PN	**P**	**12 56 11.3**	**-2.0**
TBI	**Tubuai**	**23.20**	**100**	*e*LQ		13 00 38.0	
	comp=Z,18μm,27.2s						
TBI	**Tubuai**	**23.20**	**100**	*e*P	**P**	**12 56 12.9**	**-2.9**
	comp=Z,504nm,1.3s,mb5.8						
TBI				*e*LR	LR	13 01 42.1	
	comp=Z,22μm,29.0s,baz=272						
TBI	**Tubuai**	**23.20**	**100**	*e*P	**P**	**12 56 12.9**	**-2.9**
	comp=Z,504nm,1.3s,mb5.8						
TBI				*e*LQ		13 00 38.0	
KHZ	**Kahutara**	**23.29**	**203**	SN	**S**	**13 00 20.7**	**-5.3**
PAE	**Paea**	**23.73**	**85**	*e*P	**P**	**12 56 17.3**	**-3.5**
	comp=Z,138nm,0.9s,mb5.4						
PAE	**Paea**	**23.73**	**85**	*e*P	**P**	**12 56 17.3**	**-3.5**
PAE				pmax	pmax		
	comp=Z,138nm,0.9s,mb5.4						
PPT	**Papeete**	**23.75**	**85**	*e*P	**P**	**12 56 17.7**	**-3.3**
	comp=Z,58nm,0.8s,mb5.0						
PPT	**Papeete**	**23.75**	**85**	*e*LQ		13 00 46.0	
	comp=Z,26μm,27.5s						
PPT				*e*LR	LR	13 01 51.9	
	comp=Z,25μm,27.5s,baz=256						
PPT	**Papeete**	**23.75**	**85**	P	**P**	**12 56 17.6**	**-3.5**
	comp=Z,44nm,0.7s,mb5.0,baz=209,slow=4.6,SNR=9.8						
PPT				LR	LR	13 02 58.6	
	comp=Z,7μm,19.7s,MS5.1,baz=258,slow=30						
TVO	**Taravao**	**24.00**	**86**	*e*P	**P**	**12 56 20.1**	**-3.3**
	comp=Z,82nm,0.8s,mb5.2						
TVO	**Taravao**	**24.00**	**86**	*e*P	**P**	**12 56 20.1**	**-3.3**
TVO				pmax	pmax		
	comp=Z,82nm,0.8s,mb5.2						
LTZ	**Lake Taylor**	**24.08**	**204**	*e*PN	**P**	**12 56 22.3**	**-1.7**
WVZ	**Waitaha Valley**	**24.94**	**206**	*e*PN	**P**	**12 56 31.7**	**-0.1**
RPZ	**Rata Peaks**	**25.34**	**205**	P	**P**	**12 56 35.9**	**+0.3**
	comp=Z,39nm,0.7s,mb5.1,baz=67,slow=3.0,SNR=13						
RPZ				LR	LR	13 06 29.4	
	comp=Z,16μm,19.0s,MS5.6,baz=22,slow=36						
FOZ	**Fox Glacier**	**25.78**	**207**	*e*PN	**P**	**12 56 40.7**	**+1.2**
PMOR	**Pomariorio Ree**	**26.00**	**80**	*e*P	**P**	**12 56 39.2**	**-2.2**
	comp=Z,24nm,0.8s,mb4.8						
VAH	**Vaihoa**	**26.17**	**81**	*e*P	**P**	**12 56 40.8**	**-2.2**
	comp=Z,160nm,1.6s,mb5.3						
JCZ	**Jackson Bay**	**26.59**	**208**	*e*PN	**P**	**12 56 47.8**	**+1.0**
HNR	**Honiara**	**27.33**	**292**	P	**P**	**12 56 51.7**	**-1.7**
	comp=Z,49nm,0.8s,mb5.1,baz=94,slow=4.2,SNR=2.8						
HNR				LR	LR	13 06 06.1	
	comp=Z,6μm,19.9s,MS5.2,baz=179,slow=33						
WHZ	**Wether Hill Ro**	**28.39**	**206**	*e*PN	**P**	**12 57 05.1**	**+2.2**
ARMA	**Armidale**	**31.72**	**246**	*e*P	**P**	**12 57 32.1**	**-0.2**
CNB	**Canberra Magne**	**34.54**	**238**	*e*P	**P**	**12 57 56.7**	**-0.3**
	comp=Z,34nm,1.1s,mb5.2						
TAOE	**Nuku Hiva Isla**	**35.29**	**75**	*e*LR	LR	13 07 09.2	
	comp=Z,29μm,29.1s,baz=254						
CTA	**Charters Tower**	**36.70**	**265**	*e*P	**P**	**12 58 14.2**	**-1.3**
	comp=Z,27nm,2.0s,mb4.7						
CTA	**Charters Tower**	**36.70**	**265**	LR	LR	13 11 46.3	
	comp=Z,5μm,19.5s,MS5.3,baz=92,slow=34						
CTA	**Charters Tower**	**36.70**	**265**	*e*P	**P**	**12 58 14.2**	**-1.3**
CTA				pmax	pmax		
	comp=Z,27nm,2.0s						
CTAO	**Charters Tower**	**36.70**	**265**	*e*P	**P**	**12 58 15.0**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
CTAO				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.4						
CTAO	**Charters Tower**	**36.70**	**265**	*e*P	**P**	**12 58 15.0**	**-0.6**
	comp=Z,28nm,1.0s,mb5.0						
CTAO				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
TOO	**Toolangi**	**38.11**	**236**	*e*P	**P**	**12 58 27.9**	**+0.4**
	comp=Z,8.2nm,0.7s,mb4.6						
TOO	**Toolangi**	**38.11**	**236**	*e*P	**P**	**12 58 27.9**	**+0.4**
TOO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
TAU	**Tasmania Unive**	**38.40**	**227**	PFAKE		12 58 40.0	+10
TAU				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
PMG	**Port Moresby**	**38.76**	**282**	LR	LR	13 12 19.5	
	comp=Z,7μm,19.4s,MS5.5,baz=122,slow=33						
PMG	**Port Moresby**	**38.76**	**282**	*e*P	**P**	**12 58 32.0**	**-0.9**
	comp=Z,101nm,1.0s,mb5.5						
PMG				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
STKA	**Stephens Creek**	**40.42**	**246**⇑ *i*P		**P**	**12 58 45.9**	**-0.8**
	comp=Z,21nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**40.42**	**246**	P	**P**	**12 58 46.1**	**-0.6**
	comp=Z,12nm,0.9s,mb4.6,baz=88,slow=9.3,SNR=29						
STKA				LR	LR	13 14 28.0	
	comp=Z,5μm,18.0s,MS5.4,baz=76,slow=35						
POHA	**Pohakuloa**	**44.86**	**26**	PFAKE		12 59 30.0	+7.2
POHA				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
ASAR	**Alice Springs**	**47.55**	**257**	P	**P**	**12 59 43.1**	**-0.8**
	comp=Z,23nm,0.8s,mb5.2,baz=92,slow=8.1,SNR=169						
ASAR				PcP	PcP	13 01 14.3	+0.9
	comp=Z,12nm,0.7s,baz=103,slow=4.7,SNR=6.0						
ASAR				S	**S**	**13 06 34.0**	**-2.1**
	comp=Z,2.2nm,1.0s,baz=96,slow=16,SNR=5.7						
WB2	**Warramunga Arr**	**47.75**	**262**	*e*P	**P**	**12 59 42.7**	**-2.7**
WRA	**Warramunga Arr**	**47.76**	**262**	P	**P**	**12 59 43.5**	**-2.0**
	comp=Z,17nm,0.8s,mb5.1,baz=96,slow=8.3,SNR=141						
WRA				PcP	PcP	13 01 15.6	+1.5
	comp=Z,8.7nm,0.7s,baz=98,slow=3.2,SNR=7.0						
WRA				S	**S**	**13 06 35.3**	**-3.9**
	comp=Z,0.3nm,0.8s,baz=95,slow=13,SNR=2.7						
WRA				LR	LR	13 19 41.2	
	comp=Z,6μm,18.6s,MS5.6,baz=100,slow=36						
WRA	**Warramunga Arr**	**47.76**	**262**	P	**P**	**12 59 43.5**	**-2.0**
WRA						13 01 15.6	
WRA				S	**S**	**13 06 35.3**	**-3.9**
MIDW	**Midway**	**49.37**	**357**	PFAKE		13 00 10.0	+12
MIDW				LR	LR		
	comp=Z,7μm,20.0s,MS5.6						
KAKA	**Kakadu**	**51.30**	**271**	*e*P	**P**	**13 00 10.2**	**-2.3**
	comp=Z,16nm,0.9s,mb5.0						
FORT	**Forrest**	**52.00**	**247**	*e*P	**P**	**13 00 16.1**	**-1.6**
	comp=Z,47nm,0.7s,mb5.5						
GUMO	**Guam**	**52.92**	**307**	PFAKE		13 00 40.0	+15
GUMO				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
DRV	**Dumont d'Urvil**	**53.68**	**201**	P	**P**	**13 00 34.0**	**+3.9**
DRV				S	**S**	**13 08 00.0**	**-1.2**
DRV				L		13 13 00.0	
FITZ	**Fitzroy Crossi**	**56.19**	**262**	*e*P	**P**	**13 00 47.6**	**-0.7**
	comp=Z,35nm,0.9s,mb5.4						
FITZ	**Fitzroy Crossi**	**56.19**	**262**	LR	LR	13 24 25.8	
	comp=Z,7μm,19.0s,MS5.8,baz=98,slow=36						
SBA	**Scott Base**	**57.26**	**185**	*e*P	**P**	**13 00 59.2**	**+3.4**
SBA				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.6						
SBA				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.4						
SBA	**Scott Base**	**57.26**	**185**	*e*P	**P**	**13 00 59.1**	**+3.3**
	comp=Z,59nm,1.0s,mb5.6						
SBA				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
VNDA	**Vanda**	**57.37**	**186**	P	**P**	**13 00 59.0**	**+2.4**
	comp=Z,13nm,0.9s,mb5.0,baz=5.8,slow=6.3,SNR=32						
VNDA				LR	LR	13 21 40.6	
	comp=Z,1μm,18.1s,MS5.1,baz=20,slow=32						
RPN	**Rapa Nui**	**59.09**	**110**	LR	LR	13 20 33.1	
	comp=Z,51nm,20.2s,baz=136,slow=30						
RPN	**Rapa Nui**	**59.09**	**110**	PFAKE		13 01 20.0	+11
RPN				LR	LR		

KKM Kota Kinabalu 73.18 284 P **P** **13 02 38.7 -0.3**
JOW Kunigami 73.28 308 LR LR 13 29 55.5
comp=Z,3µm,20.6s,MS5.5,baz=101,slow=32
ERM Erimo 74.24 329 PFAKE 13 03 00.0 +15
ERM LR LR
comp=Z,950nm,20.0s,MS5.1
SMY Shemya 74.45 353 PFAKE 13 03 00.0 +14
SMY LR LR
comp=Z,5µm,20.0s,MS5.8
YUK Yuzh-Kuril'sk 74.54 331 *e*P **P** **13 02 41.0 -6.0**
YUK *e* 13 12 25.0
YUK pmax pmax
comp=Z,3µm,2.0s
UNV Unalaska Valle 75.21 5 PFAKE 13 03 00.0 +9.2
UNV LR LR
comp=Z,7µm,19.0s,MS6.0
V04C Ramage Ranch, 76.07 42 ⇑P **P** **13 02 56.7 +0.9**
baz=76
ASAJ Asahikawa 76.10 330 LR LR 13 30 11.9
comp=Z,3µm,21.1s,MS5.6,baz=158,slow=31
HAST UC Hastings Re 76.13 42 ⇓P **P** **13 02 57.4 +1.3**
baz=76
BNLO Ben Lomond (Sa 76.23 41 ⇓P **P** **13 02 57.8 +1.1**
baz=76
SMMC Simmler 76.42 43 ⇓P **P** **13 02 59.1 +1.3**
baz=77
SAO San Andreas Ge 76.43 41 *e*P **P** **13 02 58.4 +0.6**
SAO pmax pmax
comp=Z,86nm,1.3s,mb5.5
SAO MLR MLR
comp=Z,5µm,19.0s,MS5.8
SAO San Andreas Ge 76.43 41 *e*P **P** **13 02 58.4 +0.6**
comp=Z,86nm,1.3s,mb5.5
SAO LR LR
comp=Z,5µm,19.0s,MS5.8
MCCM Marconi Confer 76.47 39 PFAKE 13 03 10.0 +12
MCCM LR LR
comp=Z,4µm,19.0s,MS5.7
PKD Parkfield 76.48 42 ⇓P **P** **13 02 58.8 +0.8**
baz=77
PTRM Twissleman Ran 76.50 43 *e*P **P** **13 02 58.6 +0.4**
U04C Hernandez Rese 76.59 42 ⇓P **P** **13 02 59.7 +1.0**
baz=77
PACP Pacheco Peak 76.69 41 P **P** **13 03 00.2 +1.0**
baz=77,SNR=9.8
WENL Wente Brothers 76.80 40 ⇑P **P** **13 03 01.2 +1.3**
baz=77
KSM Kuching 76.81 277 *e*P **P** **13 03 01.3 +1.3**
OSI Osito Adit 76.81 44 ⇓P **P** **13 03 01.6 +1.6**
baz=77
V05C Boulder Hill, 76.83 43 ⇑P **P** **13 03 01.1 +1.0**
baz=77
CVS Carmenet Viney 76.85 40 ⇓P **P** **13 03 00.6 +0.4**
baz=77
DECC Green Verdugo 76.85 45 ⇑P **P** **13 03 01.7 +1.6**
baz=77
HOPS Hopland 76.92 39 PFAKE 13 03 10.0 +9.5
HOPS LR LR
comp=Z,5µm,19.0s,MS5.8
HOPS Hopland 76.92 39 ⇓P **P** **13 03 01.3 +0.7**
baz=77
BDM Black Diamond 76.95 40 ⇑P **P** **13 03 01.7 +1.0**
baz=77
S04C Ingram Canyon, 76.98 41 P **P** **13 03 01.6 +0.7**
baz=77,SNR=7.3
U05C Westside ANR, 76.99 42 ⇓P **P** **13 03 01.9 +0.9**
baz=77
T05C Eagle Field, D 77.00 42 ⇑P **P** **13 03 02.3 +1.3**
baz=77
ARVC Arvin 77.06 44 ⇓P **P** **13 03 02.0 +0.7**
baz=77
P01C Double 8 Ranch 77.08 38 ⇓P **P** **13 03 01.9 +0.5**
baz=77
MNRC McLaughlin Nat 77.21 39 P **P** **13 03 03.2 +1.0**
baz=77,SNR=8.7
MURC Murrieta 77.21 46 ⇑P **P** **13 03 02.8 +0.6**
baz=77
BFSC Mount Baldy St 77.29 45 ⇑P **P** **13 03 03.3 +0.7**
baz=77
Q03C Winters 77.30 40 ⇓P **P** **13 03 02.5 -0.2**
baz=78
MONP Monument Peak 77.32 47 ⇑P **P** **13 03 02.7 -0.1**
baz=78
VES Vestal, Richgr 77.34 43 P **P** **13 03 02.9 0.0**
baz=78,SNR=15
TATO Taipei 77.41 303 PFAKE 13 03 10.0 +6.7
TATO LR LR
comp=Z,3µm,20.0s,MS5.6
EDW2 Edwards Air Fo 77.46 45 P **P** **13 03 03.7 +0.2**
baz=78,SNR=9.8
S05C Merced 77.49 41 P **P** **13 03 03.9 +0.1**
baz=78,SNR=10
RCTC Rector, Farmer 77.53 43 ⇑P **P** **13 03 03.7 -0.3**
baz=78
ISA Isabella 77.62 44 ⇑P **P** **13 03 04.9 +0.4**
baz=78,SNR=15
T06C Millerton Lake 77.67 42 P **P** **13 03 04.9 +0.2**
baz=78,SNR=19
PET Petropavlovsk 77.67 344 *e*P **P** **13 03 02.4 -2.4**
PET *e* pP 13 03 13.5 -3.4
PET *e*S S 13 12 53.2 -0.5
PET *e*PS 13 13 22.1
PET pmax pmax
comp=Z,35nm,2.4s,mb4.9
PET pmax pmax
comp=Z,800nm,6.4s
PET smax
comp=E,900nm,15.8s
PET MLR MLR
comp=Z,2µm,19.0s,MS5.4
PET Petropavlovsk 77.67 344 *e*P **P** **13 03 04.3 -0.4**
PET LR LR
comp=Z,2µm,20.0s,MS5.5
R04C Big Horse Ranc 77.70 40 ⇓P **P** **13 03 04.7 -0.2**
baz=78
PFO Pinyon Flat Ob 77.72 46 P **P** **13 03 04.1 -0.9**
comp=Z,6.9nm,0.9s,mb4.6,baz=227,slow=7.6,SNR=3.8
PFO Pinyon Flat Ob 77.72 46 *e*P **P** **13 03 06.1 +1.1**
PFO pmax pmax
comp=Z,37nm,1.2s,mb5.2
PFO Pinyon Flat Ob 77.72 46 P **P** **13 03 05.2 +0.2**
comp=Z,49nm,1.6s,mb5.2
PFO LR LR
comp=Z,590nm,19.0s,MS4.9
PFO Pinyon Flat Ob 77.72 46 ⇓P **P** **13 03 05.3 +0.2**
baz=78
Q04C Lincoln 77.81 40 ⇓P **P** **13 03 05.8 +0.2**
baz=78
SUTB Sutter Butte 77.82 39 ⇓P **P** **13 03 05.5 -0.1**
baz=78
O02C Red Bluff 77.86 38 ⇓P **P** **13 03 06.1 +0.2**
baz=78,SNR=6.3
HELL Mitchell Peak, 77.89 43 ⇓P **P** **13 03 06.6 +0.6**
baz=78,SNR=12
CMB Columbia Colle 77.89 41 *e*P **P** **13 03 05.7 -0.3**
CMB pmax pmax
comp=Z,56nm,1.1s,mb5.4
CMB Columbia Colle 77.89 41 *e*P **P** **13 03 04.4 -1.6**
comp=Z,56nm,1.1s,mb5.4
CMB LR LR
comp=Z,4µm,19.0s,MS5.7
CMB Columbia Colle 77.89 41 ⇑P **P** **13 03 06.3 +0.3**
baz=78,SNR=20
LRMC Laurel Mountai 78.01 44 ⇑P **P** **13 03 06.4 -0.3**
baz=78
OHCM Honcut 78.07 39 *e*P **P** **13 03 06.8 -0.2**
KCC Kaiser Creek 78.11 42 ⇑P **P** **13 03 07.3 +0.2**
baz=78,SNR=14
S06C San Francisco 78.13 41 ⇑P **P** **13 03 07.5 +0.2**
baz=78,SNR=12
LAVA Lava Cap Winer 78.14 40 ⇓P **P** **13 03 07.7 +0.3**
baz=78,SNR=8.1
O03C Acorn Hollow, 78.18 38 ⇑P **P** **13 03 08.0 +0.4**
baz=78
YSS Yuzh-Sakhalins 78.18 332 *e*P **P** **13 03 07.4 -0.2**
YSS *e* 13 03 14.0
YSS *e**PP pP 13 03 18.6 -1.1
YSS *e* 13 06 06.0
YSS *e*S S 13 13 04.0 +4.7
YSS *e*PS 13 13 44.0
YSS pmax pmax
comp=Z,190nm,1.9s,mb5.7
YSS smax
comp=E,700nm,6.0s
YSS Yuzh-Sakhalins 78.18 332 *e*P **P** **13 03 07.2 -0.5**
comp=E,84nm,1.0s,mb5.6
YSS LR LR
comp=Z,2µm,20.0s,MS5.5
ORV Oroville 78.20 39 P **P** **13 03 07.8 +0.1**
baz=78,SNR=13
BELC Belle Mtn. 78.26 46 ⇓P **P** **13 03 07.8 -0.2**
baz=78
WDC Whiskeytown Da 78.27 38 *e*P **P** **13 03 06.0 -2.1**
WDC pmax pmax
comp=Z,57nm,1.3s,mb5.3
WDC MLR MLR
comp=Z,4µm,21.0s,MS5.7
WDC Whiskeytown Da 78.27 38 *e*P **P** **13 03 06.0 -2.1**
comp=Z,57nm,1.3s,mb5.3
WDC LR LR
comp=Z,4µm,21.0s,MS5.7
WDC Whiskeytown Da 78.27 38 ⇓P **P** **13 03 07.4 -0.7**
baz=78,SNR=5.6
CWC Cottonwood Cre 78.34 43 ⇓P **P** **13 03 08.5 0.0**
baz=78,SNR=6.6
BC3 Big Chuckw Mtn 78.43 47 ⇑P **P** **13 03 08.9 -0.1**
baz=79
GSC Goldstone 78.48 45 ⇑P **P** **13 03 09.1 -0.2**
baz=79
MPMC Manual Prospec 78.49 44 P **P** **13 03 09.4 +0.1**
baz=79,SNR=20
R05C Kirkwood Meado 78.51 40 P **P** **13 03 09.5 +0.1**
baz=79,SNR=13
GLA Glamis 78.51 48 ⇑P **P** **13 03 09.2 -0.2**
baz=79
HEC Hector,Ludlow 78.52 45 P **P** **13 03 09.7 +0.2**
baz=79,SNR=5.2
DAC Darwin (Calif) 78.56 44 *e*P **P** **13 03 10.0 +0.3**
DAC pmax pmax
comp=Z,68nm,1.6s,mb5.3
DAC MLR MLR
comp=Z,3µm,19.0s,MS5.7
DAC Darwin (Calif) 78.56 44 *e*P **P** **13 03 09.9 +0.3**
comp=Z,68nm,1.6s,mb5.3
DAC LR LR
comp=Z,3µm,19.0s,MS5.7
P05C Yuba Gap, Truc 78.57 40 P **P** **13 03 10.3 +0.5**
baz=79,SNR=16
MTUM Tungsten Hills 78.60 42 *e*P **P** **13 03 10.2 +0.3**
MLAC Mammoth Lakes 78.60 42 ⇑P **P** **13 03 10.1 +0.2**
baz=79
TIN Tinemaha 78.62 43 ⇓P **P** **13 03 10.6 +0.6**
baz=79
M02C Callahan 78.64 37 ⇑P **P** **13 03 10.6 +0.5**
baz=79
K01A Sixes 78.71 35 ⇓P **P** **13 03 10.5 0.0**
baz=79
R07C Lee Vining 78.75 41 P **P** **13 03 11.4 +0.7**
baz=79,SNR=11
R06C Coleville 78.77 41 P **P** **13 03 11.2 +0.4**
baz=79,SNR=22
O05C Quincy 78.81 39 P **P** **13 03 11.5 +0.4**
baz=79,SNR=8.7
IRM Iron Mountain 78.92 47 ⇑P **P** **13 03 12.3 +0.7**
baz=79,SNR=6.5
S08C White Mtn Res 78.93 42 P **P** **13 03 12.3 +0.6**
baz=79,SNR=24
GMRC Granite Mounta 78.94 46 ⇓P **P** **13 03 12.0 +0.2**
baz=79
YBH Yreka Blue Hor 78.94 37 P **P** **13 03 11.4 -0.4**
comp=Z,20nm,1.0s,mb5.0,baz=284,slow=1.9,SNR=13
YBH Yreka Blue Hor 78.94 37 ⇓P **P** **13 03 12.3 +0.5**
baz=79
O04C Chester 78.94 39 ⇓P **P** **13 03 12.6 +0.8**
baz=79,SNR=13
M03C McCloud 78.97 37 P **P** **13 03 12.3 +0.4**
baz=79,SNR=6.6
HATC Hat Creek Radi 79.05 38 P **P** **13 03 12.9 +0.6**
baz=79,SNR=5.8
BEKR Beckwourth 79.08 39 ⇑P **P** **13 03 13.3 +0.7**
baz=79,SNR=22
WCN Washoe City 79.08 40 P **P** **13 03 13.2 +0.7**
baz=79,SNR=13
Y12C Blythe 79.11 47 ⇑P **P** **13 03 13.0 +0.2**
baz=79
GRAC Grapevine Rang 79.14 43 ⇓P **P** **13 03 13.7 +0.8**
baz=79,SNR=16
FURC Furnace Creek, 79.14 44 ⇑P **P** **13 03 13.6 +0.7**
baz=79
TUQ Turquoise Mtn. 79.15 45 ⇓P **P** **13 03 13.2 +0.2**
baz=79
PMSA Palmer Station 79.17 156 PFAKE 13 03 20.0 +7.0
PMSA LR LR
comp=Z,2µm,20.0s,MS5.4
SHOC Shoshone 79.18 45 ⇑P **P** **13 03 12.8 -0.3**
baz=79
K02A Glendale 79.21 36 ⇑P **P** **13 03 13.2 -0.1**
baz=79
P06A Stead Airport, 79.23 40 P **P** **13 03 13.7 +0.3**
baz=79,SNR=7.3
ELFS Eagle Lake Fie 79.34 39 ⇑P **P** **13 03 14.2 +0.2**
baz=80
HUMO Hull Mountain 79.39 36 *e*P **P** **13 03 14.3 +0.1**
HUMO LR LR
comp=Z,38nm,1.1s,mb5.2
comp=Z,3µm,20.0s,MS5.7
HUMO Hull Mountain 79.39 36 ⇓P **P** **13 03 14.6 +0.4**
baz=80
NVAR Mtn Array Bea 79.42 42 P **P** **13 03 14.5 +0.1**
comp=Z,20nm,0.7s,mb5.2,baz=226,slow=7.4,SNR=101
Q07A Schurz 79.42 41 ⇓P **P** **13 03 14.7 +0.3**
baz=80
M04C Macdoel 79.46 37 ⇑P **P** **13 03 14.6 -0.1**
baz=80,SNR=6.6
R08A Mina 79.49 42 ⇓P **P** **13 03 14.8 0.0**
baz=80,SNR=12
M05C Lookout 79.58 38 ⇓P **P** **13 03 15.3 +0.1**
baz=80
O06A Flanigan 79.58 39 P **P** **13 03 15.3 0.0**
baz=80,SNR=15
Y13A Salome 79.63 48 ⇑P **P** **13 03 15.6 +0.1**
baz=80
S09A Goldfield 79.67 43 P **P** **13 03 15.3 -0.4**
baz=80,SNR=12
PDMCI Parker Dam,Lak 79.69 47 ⇓P **P** **13 03 15.8 -0.1**
baz=80
L04A Klamath Falls 79.69 37 ⇑P **P** **13 03 15.7 -0.2**
baz=80,SNR=7.4
KSRS Korea Array 79.75 317 P **P** **13 03 17.4 +1.2**
comp=Z,12nm,0.9s,mb4.8,baz=140,slow=6.2,SNR=19
KSRS LR LR 13 33 12.5
comp=Z,1µm,21.8s,MS5.3,baz=131,slow=32
P07A Fallon 79.75 40 ⇓P **P** **13 03 15.9 -0.3**
baz=80
W12A Cal Nev Ari 79.77 46 ⇑P **P** **13 03 16.5 +0.2**
baz=80
M06C Likely Place G 79.86 38 P **P** **13 03 17.0 +0.2**
baz=80,SNR=15
J03A Ideyld Park 79.90 35 ⇑P **P** **13 03 17.2 +0.2**
baz=80
Q08A Gabbs 79.92 41 P **P** **13 03 17.4 +0.3**
baz=80,SNR=15
N06A Buffalo Meadow 79.95 39 P **P** **13 03 17.1 -0.1**
baz=80,SNR=18
Z14A Wintersburg 79.99 48 ⇑P **P** **13 03 17.7 +0.2**
baz=80
V12A Nelson 80.03 45 ⇓P **P** **13 03 18.3 +0.6**
baz=80
X13A Yucca 80.07 47 ⇑P **P** **13 03 18.4 +0.5**
baz=80
K04A Chilquin 80.07 37 ⇑P **P** **13 03 18.4 +0.5**
baz=80
R09A Tonopah 80.07 42 P **P** **13 03 17.8 -0.1**
baz=80,SNR=17
U11A Corn Creek 80.08 45 ⇓P **P** **13 03 18.6 +0.7**
baz=80
115A Sonoran Desert 80.13 49 ⇓P **P** **13 03 18.1 -0.1**
baz=80
O07A Toulon 80.14 40 P **P** **13 03 18.3 -0.1**
baz=80,SNR=30
L05A Lakeview 80.20 37 ⇓P **P** **13 03 19.0 +0.3**
baz=80
Y14A Wickenburg 80.27 48 ⇓P **P** **13 03 19.4 +0.5**
baz=80
J04A Umpqua Nationa 80.28 36 ⇑P **P** **13 03 19.2 +0.2**
baz=80,SNR=7.4
W13A Hualapai Mount 80.31 46 ⇓P **P** **13 03 19.9 +0.6**
baz=80
P08A Dixie Valley 80.34 41 ⇑P **P** **13 03 19.6 +0.3**
baz=80
Q09A Carvers 80.36 42 ⇑P **P** **13 03 19.5 0.0**
baz=80
MOD Modoc 80.41 38 *e*P **P** **13 03 19.5 -0.2**
comp=Z,29nm,1.0s,mb5.2
MOD LR LR
comp=Z,2µm,20.0s,MS5.5
MOD Modoc 80.41 38 P **P** **13 03 20.1 +0.3**
baz=81,SNR=19
116A Eloy 80.42 50 ⇑P **P** **13 03 19.8 0.0**
baz=80
N07B Gerlach 80.48 39 P **P** **13 03 20.4 +0.3**
baz=81,SNR=10.0
I04A Tendick Farm, 80.48 35 ⇓P **P** **13 03 20.3 +0.2**
baz=81
COR Corvallis 80.54 34 PFAKE 13 03 30.0 +10
COR LR LR
comp=Z,5µm,20.0s,MS5.8
INCN Inchon 80.59 316 PFAKE 13 03 30.0 +9.3
INCN LR LR
comp=Z,1µm,19.0s,MS5.2
H03A Soap Creek Ran 80.60 34 ⇓P **P** **13 03 21.6 +0.8**
baz=81
K05A Summer Lake 80.61 37 ⇓P **P** **13 03 21.2 +0.3**
baz=81,SNR=14
U12A Valley of Fire 80.64 45 ⇓P **P** **13 03 21.6 +0.6**
baz=81,SNR=8.2
X14A Yava 80.64 47 ⇑P **P** **13 03 21.0 0.0**
baz=81
O08A Rochester Mine 80.66 40 ⇓P **P** **13 03 21.8 +0.7**
baz=81
J05A Fort Rock 80.78 36 ⇑P **P** **13 03 22.2 +0.5**
baz=81
SSE Sheshan 80.80 308 P **P** **13 03 21.8 0.0**
SSE XP sP 13 03 38.8 +0.2
SSE S S 13 13 30.6 +3.6
SSE SS SS 13 18 41.3 +0.4
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,768nm,10.2s
SSE LR LR
comp=N,938nm,21.9s,MS5.2
SSE LR LR
comp=E,655nm,21.9s,MS5.2
SSE LR LR
comp=Z,1µm,21.5s,MS5.2
SSE Sheshan 80.80 308 P **P** **13 03 21.7 -0.1**
comp=Z,30nm,0.7s,mb5.3
SSE sP sP 13 03 38.7 +0.1
SSE S S 13 13 30.6 +3.6
SSE sS sS 13 13 50.5 +3.3
SSE SS SS 13 18 41.3 +0.4
SSE LR LR
comp=Z,1µm,21.5s,MS5.2
P09A Austin 80.82 41 P **P** **13 03 22.0 0.0**
baz=81,SNR=8.2
VLA Vladivostok 80.92 323 *e*P **P** **13 03 21.6 -0.9**
VLA *e* pP 13 03 31.3 -3.3
VLA *e*S S 13 13 23.7 -4.5
VLA pmax pmax
comp=Z,142nm,2.5s,mb5.5
W14A Seligman 80.92 47 ⇑P **P** **13 03 22.4 -0.1**
baz=81,SNR=12
KDAK Kodiak Island 80.93 12 P **P** **13 03 22.2 -0.3**
comp=Z,15nm,0.8s,mb5.0,baz=182,slow=4.9,SNR=7.9
KDAK Kodiak Island 80.93 12 P **P** **13 03 22.2 -0.3**
KDAK LR LR
comp=Z,686nm,19.0s,MS5.0
TUC Tucson 80.94 50 *e*P **P** **13 03 23.6 +1.0**
TUC pmax pmax
comp=Z,143nm,2.2s,mb5.5
TUC MLR MLR
comp=Z,3µm,19.0s,MS5.6
TUC Tucson 80.94 50 *e*P **P** **13 03 23.6 +1.0**
comp=Z,143nm,2.2s,mb5.5
TUC LR LR
comp=Z,3µm,19.0s,MS5.6
N08A GE Springer Mi 80.97 40 ⇑P **P** **13 03 22.5 -0.3**
baz=81
K06A Valley Falls 81.02 37 P **P** **13 03 23.5 +0.5**
baz=81,SNR=14
L07A Adell 81.04 38 P **P** **13 03 23.4 +0.3**
baz=81,SNR=15
X15A Humboldt 81.10 48 ⇓P **P** **13 03 23.5 0.0**
baz=81,SNR=6.5
O09A Fish Creek Ran 81.17 41 P **P** **13 03 23.8 0.0**
baz=81,SNR=14
M08A Happy Creek Ra 81.24 39 P **P** **13 03 24.2 0.0**
baz=81,SNR=15
P10A Eureka 81.28 42 ⇑P **P** **13 03 24.8 +0.4**
baz=81,SNR=6.8
BMN Battle Mountai 81.31 40 *e*P **P** **13 03 24.9 +0.3**
BMN pmax pmax
comp=Z,51nm,1.3s,mb5.3
BMN Battle Mountai 81.31 40 PFAKE 13 03 40.0 +15
BMN LR LR
comp=Z,3µm,19.0s,MS5.7
Q11A Duckwater 81.33 43 P **P** **13 03 25.2 +0.6**
baz=82,SNR=14
J06A Christmas Vall 81.36 37 P **P** **13 03 24.8 -0.1**
baz=82,SNR=13
N09A Rock Creek Ran 81.38 40 ⇑P **P** **13 03 25.1 +0.1**
baz=82,SNR=10
G04A Mulino 81.39 34 ⇓P **P** **13 03 25.6 +0.6**
baz=82
W15A Williams 81.46 47 ⇓P **P** **13 03 25.7 +0.3**
baz=82
K07A Rock Creek Ran 81.52 38 P **P** **13 03 26.2 +0.5**
baz=82,SNR=15
O10A Cortez Mining, 81.66 41 ⇑P **P** **13 03 27.1 +0.7**
baz=82,SNR=8.9
P11A Circle Ranch, 81.68 42 ⇓P **P** **13 03 26.6 +0.1**
baz=82
H05A Madras 81.68 35 ⇓P **P** **13 03 26.6 0.0**
baz=82
WVOR Wild Horse Val 81.71 38 *e*P **P** **13 03 26.1 -0.6**
WVOR pmax pmax
comp=Z,50nm,1.1s,mb5.4
WVOR MLR MLR
comp=Z,4µm,19.0s,MS5.8
WVOR Wild Horse Val 81.71 38 *e*P **P** **13 03 26.1 -0.6**
comp=Z,50nm,1.1s,mb5.4
WVOR LR LR
comp=Z,4µm,19.0s,MS5.8
L08A Fields 81.72 39 P **P** **13 03 26.6 -0.2**
baz=82,SNR=24
E03A Lebam 81.73 33 ⇓P **P** **13 03 27.4 +0.6**
baz=82
M09A Marrel Ranch, 81.78 40 ⇓P **P** **13 03 27.2 +0.1**
baz=82,SNR=6.9
I06A Prineville 81.78 36 ⇑P **P** **13 03 27.2 +0.2**
baz=82,SNR=13
MAW Mawson 81.86 199 *i* S S 13 13 38.8 +0.9
MAW Mawson 81.86 199 P **P** **13 03 29.2 +1.7**
comp=Z,13nm,0.7s,mb5.0,baz=129,slow=8.1,SNR=22
MAW LR LR 13 39 06.1
comp=Z,2µm,18.2s,MS5.4,baz=12,slow=35
MAW Mawson 81.86 199 *e*P **P** **13 03 28.7 +1.3**
MAW *i* S S 13 13 38.8 +0.9
MAW pmax pmax
comp=Z,15nm,0.9s
MAW Mawson 81.86 199 *e*P **P** **13 03 28.7 +1.3**
comp=Z,15nm,0.9s,mb4.9
MAW *i* S S 13 13 38.8 +0.9
HOOD Mount Hood Mea 81.90 35 *e*P **P** **13 03 28.8 +1.1**
Q12A Willow Creek R 81.96 43 ⇓P **P** **13 03 27.6 -0.3**
baz=82,SNR=7.8
K08A Mann Creek Ran 81.98 38 P **P** **13 03 28.2 +0.2**
baz=82,SNR=20
L09A Wilkinson Ranc 82.02 39 ⇓P **P** **13 03 28.3 0.0**
baz=82,SNR=9.2
G05A Wamic 82.03 35 ⇑P **P** **13 03 28.2 -0.1**
baz=82
CCUT Cedar City 82.05 45 *e*P **P** **13 03 28.6 +0.1**
O11A Cowboy Ranch, 82.08 41 P **P** **13 03 28.7 +0.1**
baz=82,SNR=16
P12A McGill 82.16 42 ⇓P **P** **13 03 29.3 +0.2**
baz=82,SNR=5.9
E04A Onalaska 82.19 33 ⇓P **P** **13 03 29.3 +0.1**
baz=82
H06A Lindquist Farm 82.22 36 P **P** **13 03 29.0 -0.3**
baz=82,SNR=16
WUAZ Wupatki 82.25 47 PFAKE 13 03 40.0 +10
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.3
WUAZ Wupatki 82.25 47 ⇓P **P** **13 03 29.0 -0.5**
baz=82
I07A Izee 82.26 37 P **P** **13 03 30.1 +0.5**
baz=82,SNR=12
J08A Circle Bar Ran 82.38 38 P **P** **13 03 29.9 -0.3**
baz=82,SNR=18
M10A I.L. Ranch, Tu 82.38 40 ⇓P **P** **13 03 30.2 0.0**

baz=82,SNR=11
G06A Carlson Farm, 82.39 35 P P 13 03 30.3 +0.1
baz=82,SNR=7.6
K09A Rome 82.40 38 P P 13 03 30.2 -0.1
baz=83,SNR=32
N11A Elko Archery C 82.44 41 ⇑P P 13 03 30.6 +0.1
baz=83
D04A Dobbs Creek Ra 82.50 33 ⇑P P 13 03 30.9 0.0
baz=83
H07A Lands Inn, Kim 82.55 36 P P 13 03 30.8 -0.3
baz=83,SNR=22
F06A Goldendale 82.65 35 ⇓P P 13 03 31.4 -0.3
baz=83
I08A Drewsey 82.67 37 P P 13 03 31.9 +0.2
baz=83,SNR=16
ELK Elko 82.70 41 *e*P **P 13 03 31.7 -0.2**
ELK pmax pmax
comp=Z,82nm,1.7s
ELK MLR MLR
comp=Z,3μm,19.0s
ELK Elko 82.70 41 *e*P **P 13 03 31.7 -0.2**
comp=Z,82nm,1.7s,mb5.5
ELK LR LR
comp=Z,3μm,19.0s,MS5.7
O12A Currie 82.73 42 ⇑P P 13 03 31.7 -0.3
baz=83,SNR=14
M11A Holland Ranch, 82.77 40 ⇑P P 13 03 32.1 -0.2
baz=83,SNR=15
J09A Fry Pan Ranch, 82.78 38 ⇑P P 13 03 32.3 0.0
baz=83,SNR=22
B04A Port Angeles 82.80 32 ⇑P P 13 03 32.6 +0.2
baz=83
C04A Brinnon 82.83 32 ⇑P P 13 03 32.8 +0.3
baz=83,SNR=5.5
HABR Khabarovsk 82.86 329 ⇑*i*P **P 13 03 32.7 0.0**
HABR *e*S S 13 13 49.5 +1.3
HABR pmax pmax
comp=Z,113nm,2.3s,mb5.5
WPW White Pass 82.86 34 P P 13 03 32.5 -0.3
N12A Clover Valley, 82.89 41 P P 13 03 33.3 +0.5
baz=83,SNR=16
G07A Ruggs Ranch, H 82.92 36 P P 13 03 33.1 +0.1
baz=83,SNR=11
H08A Prairie City 83.00 37 P P 13 03 33.1 -0.3
baz=83,SNR=8.7
GZH Guangzhou 83.04 298 P P 13 03 35.8 +2.2
GZH S S 13 13 55.8 +5.8
GZH LR LR
comp=N,686nm,8.4s
GZH LR LR
comp=E,788nm,15.5s
GZH LR LR
comp=Z,2μm,20.2s,MS5.4
E06A Yakima 83.06 34 P P 13 03 33.5 -0.2
baz=83,SNR=8.4
MDJ Mudanjiang 83.15 323 P P 13 03 34.5 +0.3
MDJ AP pP 13 03 46.1 -0.3
MDJ XP sP 13 03 50.4 -0.6
MDJ S S 13 13 52.3 +1.1
MDJ SS SS 13 19 16.8 +0.9
MDJ AMB AMB
comp=Z,52nm,2.0s,mb5.2
MDJ AMB AMB
comp=Z,1μm,7.6s
MDJ LR LR
comp=N,661nm,23.1s,MS5.3
MDJ LR LR
comp=E,1μm,20.1s,MS5.3
MDJ LR LR
comp=Z,2μm,20.1s,MS5.5
MDJ Mudanjiang 83.15 323 *e*P **P 13 03 34.6 +0.4**
comp=Z,161nm,1.5s,mb5.8
MDJ LR LR
comp=Z,2μm,21.0s,MS5.5
I09A Lost Marbles R 83.18 37 P P 13 03 34.2 -0.1
baz=83,SNR=9.7
F07A Phinny Hill Vi 83.19 35 P P 13 03 34.2 -0.1
baz=83,SNR=9.2
PGC Sidney 83.23 31 *e*P **P 13 03 34.3 -0.3**
M12A Wells 83.30 41 P P 13 03 35.0 0.0
baz=83,SNR=14
G08A Pilot Rock 83.33 36 P P 13 03 35.0 -0.1
baz=84,SNR=41
MVU Marysvale 83.33 44 PFAKE 13 03 50.0 +15
MVU LR LR
comp=Z,2μm,21.0s,MS5.5
MSU Marysvale 83.36 44 *e*P **P 13 03 35.8 +0.5**
J10A Berg Farm, Mel 83.40 38 ⇓P P 13 03 35.2 -0.3
baz=84,SNR=9.9
N13A Wendover, West 83.41 42 P P 13 03 35.6 +0.1
baz=84,SNR=21
HTW Haystack Looko 83.49 33 P P 13 03 35.7 -0.2
SVW2 Sparrevohn 83.57 9 *e*P **P 13 03 34.6 -1.8**
B05A Bryant 83.63 32 ⇑P P 13 03 36.4 -0.3
baz=84,SNR=18
A04A Legoe Bay, Lum 83.64 32 ⇓P P 13 03 36.7 0.0
baz=84
H09A Durkee 83.65 37 P P 13 03 36.5 -0.3
baz=84,SNR=27
E07A Sunnyside 83.66 34 P P 13 03 36.7 -0.1
baz=84,SNR=39
TBM Table Mountain 83.67 34 P P 13 03 36.9 0.0
RSW Rattlesnake Hi 83.69 35 P P 13 03 37.2 +0.3
HAWA Hanford 83.72 35 *e*P **P 13 03 36.5 -0.6**
HAWA LR LR
comp=Z,4μm,19.0s,MS5.8
M13A Montello 83.72 41 ⇓P P 13 03 36.9 -0.2
baz=84,SNR=5.9
F08A Pendleton 83.75 36 P P 13 03 36.9 -0.3
baz=84,SNR=25
DUG Dugway 83.90 43 *e*P **P 13 03 38.1 +0.1**
DUG pmax pmax
comp=Z,44nm,1.6s,mb5.3
DUG Dugway 83.90 43 PFAKE 13 03 50.0 +12
DUG LR LR
comp=Z,3μm,19.0s,MS5.6
DUG Dugway 83.90 43 ⇓P P 13 03 37.5 -0.5
baz=84
SLKM Skilak Lake 83.92 12 *e*P **P 13 03 36.9 -1.2**
MFID Camas Ranch 83.94 39 ⇑P P 13 03 37.6 -0.6
baz=84
BMO Blue Mountains 83.97 37 *e*P **P 13 03 37.4 -1.0**
BMO LR LR
comp=Z,3μm,19.0s,MS5.7
D07A Quincy 84.00 34 ⇓P P 13 03 38.1 -0.4
baz=84,SNR=7.5
K12A Draper Farm, C 84.02 40 ⇑P P 13 03 38.3 -0.4
baz=84
E08A Dider Farm, El 84.03 35 ⇑P P 13 03 38.3 -0.4
baz=84
RPW Rockport 84.04 32 P P 13 03 38.1 -0.7
B06A Marblemount 84.10 32 ⇑P P 13 03 38.2 -0.8
baz=84
H10A Noah's Angus R 84.12 37 ⇓P P 13 03 38.4 -0.8
baz=84
A05A Maple Falls 84.13 32 ⇓P P 13 03 38.8 -0.4
baz=84
I11A Placerville 84.16 38 P P 13 03 38.9 -0.5
baz=84,SNR=31
F09A S2 Ranch, Elgi 84.16 36 ⇑P P 13 03 38.9 -0.5
baz=84
QIZ Qiongzhong 84.24 293 P P 13 03 41.8 +2.1
QIZ S S 13 14 05.3 +3.2
QIZ AMB AMB
comp=Z,1μm,6.8s
QIZ LR LR
comp=E,951nm,26.2s
QIZ LR LR
comp=Z,1μm,25.2s,MS5.2
QIZ Qiongzhong 84.24 293 PFAKE 13 03 50.0 +10
QIZ LR LR
comp=Z,1μm,19.0s,MS5.3
J12A Stokes Ranch, 84.27 39 ⇑P P 13 03 39.7 -0.2
baz=84
C07A Waterville 84.28 34 P P 13 03 39.3 -0.7
baz=84,SNR=22
EPH Ephrata 84.31 34 P P 13 03 39.5 -0.6
TMUT Trail Mountain 84.42 44 *e*P **P 13 03 40.9 +0.2**
COCO West Island 84.46 259 PFAKE 13 03 50.0 +9.1
COCO LR LR
comp=Z,674nm,20.0s,MS5.0
D08A Wollman Farm, 84.47 34 P P 13 03 40.7 -0.2
baz=85,SNR=30
A06A Chilliwack 84.49 32 ⇑P P 13 03 40.5 -0.6
baz=85
E09A Wood Farm, Sta 84.54 35 ⇑P P 13 03 40.5 -0.7
baz=85,SNR=12

MPU Maple Canyon 84.55 43 *e*P **P 13 03 41.3 0.0**
MPU LR LR
comp=Z,4μm,20.0s,MS5.8
MNTX Cornudas Mount 84.58 53 *e*P **P 13 03 40.9 -0.6**
MNTX LR LR
comp=Z,2μm,19.0s,MS5.5
NOQ North Oquirrh 84.59 43 *e*P **P 13 03 42.0 +0.5**
H11A Donnelly 84.61 38 P P 13 03 41.2 -0.4
baz=85,SNR=25
Y22C IRIS PASSCAL I 84.62 50 ⇓P P 13 03 40.9 -0.8
baz=85
LENM Lemitar 84.63 50 *e*P **P 13 03 42.0 +0.3**
LAZ Ladron 84.63 50 *e*P **P 13 03 42.6 +0.8**
DL2 Dalian 84.65 315 ⇑P P 13 03 42.6 +0.8
DL2 AP pP 13 03 55.4 +1.3
DL2 SKS 13 14 01.3
DL2 S S 13 14 08.3 +2.1
DL2 PS 13 15 07.4
DL2 SS SS 13 19 41.1 +3.1
DL2 AMB AMB
comp=Z,40nm,1.4s,mb5.4
DL2 AMB AMB
comp=Z,560nm,7.2s
DL2 LR LR
comp=N,620nm,16.7s,MS5.1
DL2 LR LR
comp=E,240nm,16.7s,MS5.1
DL2 LR LR
comp=Z,600nm,17.6s,MS5.0
F10A Beach Ranch, E 84.70 36 P P 13 03 41.4 -0.7
baz=85,SNR=44
SIT Sitka 84.73 20 PFAKE 13 03 50.0 +7.7
SIT LR LR
comp=Z,2μm,19.0s,MS5.5
B07A Winthrop 84.75 33 ⇓P P 13 03 42.0 -0.3
baz=85
LTX Lajitas 84.76 56 *e*P **P 13 03 41.8 -0.6**
LTX MLR MLR
comp=Z,2μm,20.0s,MS5.5
TXAR Lajitas Array 84.76 56 P P 13 03 42.7 +0.3
comp=Z,5.2nm,1.0s,mb4.6,baz=212,slow=6.8,SNR=28
TXAR LR LR 13 35 36.7
comp=Z,2μm,18.3s,MS5.5,baz=145,slow=32
TXAR Lajitas Array 84.76 56 P P 13 03 42.7 +0.3
TXAR LR LR 13 35 36.7
SRU San Rafael 84.77 45 *e*P **P 13 03 42.3 -0.1**
SRU pmax pmax
comp=Z,127nm,1.6s,mb5.8
SRU San Rafael 84.77 45 *e*P **P 13 03 42.3 -0.1**
comp=Z,127nm,1.6s,mb5.8
D09A Jones Farm, Ri 84.80 35 P P 13 03 42.2 -0.4
baz=85,SNR=20
HVU Hansel Valley 84.82 41 P P 13 03 43.0 +0.3
HVU pmax pmax
comp=Z,110nm,1.6s,mb5.7
HVU Hansel Valley 84.82 41 P P 13 03 41.9 -0.8
HLID Hailey 84.86 39 *e*P **P 13 03 43.0 +0.1**
comp=Z,31nm,1.0s,mb5.4
HLID LR LR
comp=Z,2μm,19.0s,MS5.5
HLID Hailey 84.86 39 ⇓P P 13 03 43.2 +0.3
baz=85
C08A Higginbotham F 84.87 34 ⇑P P 13 03 42.3 -0.6
baz=85,SNR=9.8
BNM Barren Site 84.87 50 *e*P **P 13 03 43.2 +0.2**
J13A Cove Ranch, Pi 84.90 39 ⇓P P 13 03 43.3 +0.2
baz=85
LPM Los Pinos Moun 84.95 50 *e*P **P 13 03 43.8 +0.4**
JLU Jordanelle 84.99 43 P P 13 03 41.6 -1.9
A07A Ashnola River, 85.00 32 P P 13 03 43.3 -0.3
baz=85,SNR=17
DAU Daniels Canyon 85.01 43 P P 13 03 43.2 -0.4
CN2 Changchun 85.03 321 *e*P **P 13 03 44.9 +1.2**
CN2 *e*S S 13 14 10.0 0.0
CN2 AMB AMB
comp=Z,80nm,1.8s,mb5.5
CN2 AMB AMB
comp=Z,1μm,4.0s
CN2 LR LR
comp=N,600nm,18.0s,MS5.2
CN2 LR LR
comp=E,800nm,18.0s,MS5.2
CN2 LR LR
comp=Z,1μm,21.0s,MS5.3
E10A Myers Farm, Un 85.08 36 P P 13 03 43.7 -0.3
baz=85,SNR=14
B08A Colville Reser 85.09 33 P P 13 03 43.5 -0.5
baz=85,SNR=18
MVCO Mesa Verde 85.12 47 *e*P **P 13 03 41.8 -2.4**
MVCO LR LR
comp=Z,31nm,1.8s,mb5.1
comp=Z,2μm,20.0s,MS5.4
MVCO Mesa Verde 85.12 47 ⇓P P 13 03 43.7 -0.5
baz=85
PMR Palmer 85.13 12 *e*P **P 13 03 42.8 -1.5**
PMR pmax pmax
comp=Z,260nm,2.2s,mb6.0
PMR Palmer 85.13 12 *e*P **P 13 03 42.8 -1.5**
comp=Z,260nm,2.2s,mb6.0
H12A Diamond D Ranc 85.18 38 P P 13 03 44.2 -0.3
baz=85,SNR=25
WRAK Wrangell Islan 85.23 22 PFAKE 13 04 00.0 +15
WRAK LR LR
comp=Z,2μm,20.0s,MS5.5
F11A Grangeville 85.24 37 ⇑P P 13 03 43.9 -0.9
baz=85,SNR=12
C09A Chrisman Ranch 85.28 34 P P 13 03 44.5 -0.5
baz=85,SNR=12
D10A Wagner Farm, O 85.34 35 P P 13 03 44.8 -0.5
baz=86,SNR=13
ANMO Albuquerque 85.39 50 *e*P **P 13 03 46.0 +0.4**
ANMO Albuquerque 85.39 50 *e*P **P 13 03 45.8 +0.3**
comp=Z,57nm,1.5s,mb5.5
ANMO LR LR
comp=Z,2μm,19.0s,MS5.5
HWUT Hardware Ranch 85.47 42 PFAKE 13 04 00.0 +14
HWUT LR LR
comp=Z,4μm,19.0s,MS5.8
E11A Bogner Ranch, 85.50 36 ⇓P P 13 03 44.9 -1.2
baz=86
A08A Turner Farm, O 85.50 33 P P 13 03 45.6 -0.5
baz=86,SNR=31
WHN Wuhan 85.63 305 ⇓P P 13 03 48.3 +1.5
F12A Elk City 85.67 37 ⇑P P 13 03 46.0 -0.9
baz=86,SNR=37
B09A Rice 85.74 34 ⇑P P 13 03 46.4 -0.9
baz=86,SNR=15
C10A Spilker Farm, 85.80 35 ⇑P P 13 03 46.7 -0.9
baz=86
G13A Cobalt 85.86 38 ⇑P P 13 03 47.3 -0.5
baz=86,SNR=10
A09A Danville 85.86 33 P P 13 03 47.5 -0.4
baz=86,SNR=16
B10A Chitwood Farm, 86.14 34 ⇑P P 13 03 48.5 -0.8
baz=86
F13A Darby 86.21 37 P P 13 03 49.2 -0.4
baz=86,SNR=13
PLCA Paso Flores 86.26 132 P P 13 03 50.7 +0.8
comp=Z,10nm,1.0s,mb5.0,baz=242,slow=2.5,SNR=5.6
PLCA LR LR 13 33 11.3
comp=Z,2μm,21.6s,MS5.4,baz=237,slow=29
PLCA Paso Flores 86.26 132 P P 13 03 50.7 +0.8
PLCA LR LR 13 33 11.3
AHID Auburn Hatcher 86.40 41 P P 13 03 50.7 +0.2
comp=Z,112nm,1.8s,mb5.8
AHID LR LR
comp=Z,3μm,19.0s,MS5.7
MCMT McKenzie Canyo 86.50 39 *e*P **P 13 03 51.2 +0.1**
SYO Syowa Base 86.59 192 ⇓*e*P **P 13 03 51.0 -0.5**
SYO Syowa Base 86.59 192 ⇑*i*PcP PcP 13 03 52.0 -1.8
SYO Syowa Base 86.59 192 ⇓*i*pP pP 13 04 03.4 -0.3
E13A Victor 86.67 37 ⇑P P 13 03 51.3 -0.5
baz=87
B11A Sandpoint 86.68 34 ⇑P P 13 03 51.1 -0.8
baz=87,SNR=9.6
SKAG Skagway 86.68 19 *e*P **P 13 03 52.3 +0.4**
comp=Z,126nm,1.4s,mb6.0
F14A Wisdom 86.77 38 ⇑P P 13 03 51.8 -0.5
baz=87
TNA Tin City 86.79 3 *e*P **P 13 03 51.9 -0.6**
comp=Z,22nm,1.2s,mb5.3
TNA LR LR
comp=Z,1μm,21.0s,MS5.2
DCID1 Drake Creek 86.80 41 *e*P **P 13 03 53.5 +1.0**
D13A Huson 86.90 36 ⇓P P 13 03 52.3 -0.7
baz=87,SNR=8.0

G15A Dillon 86.91 39 P P 13 03 52.7 -0.3
baz=87,SNR=11
DLMT Dillon 86.96 39 *e*P **P 13 03 53.4 +0.1**
A11A Hall Mountain, 87.00 34 P P 13 03 53.9 +0.4
baz=87,SNR=9.3
SNAA Sanae 87.03 177 *e*P **P 13 03 54.1 +0.5**
SNAA pmax pmax
comp=Z,43nm,1.4s
SNAA Sanae 87.03 177 *e*P **P 13 03 54.1 +0.5**
comp=Z,43nm,1.4s,mb5.5
MSO Missoula 87.03 37 *e*P **P 13 03 51.8 -1.9**
MSO LR LR
comp=Z,2μm,20.0s,MS5.5
E14A Clinton 87.05 37 ⇑P P 13 03 53.6 -0.1
baz=87,SNR=9.6
B12A Libby 87.11 35 ⇑P P 13 03 53.9 -0.1
baz=87
MCK McKinley 87.14 11 *e*P **P 13 03 52.7 -1.4**
MCK MLR MLR
comp=Z,998nm,19.0s,MS5.2
KULM Kulim 87.17 277 *e*P **P 13 03 54.9 +0.6**
BSMT Bassoo Peak 87.17 36 *e*P **P 13 03 54.3 0.0**
C13A Hot Springs 87.19 36 ⇑P P 13 03 54.3 -0.1
baz=87
LRM Limekiln Ridge 87.30 38 *e*P **P 13 03 55.0 +0.1**
QLMT Earthquake Lak 87.34 39 *e*P **P 13 03 55.7 +0.6**
BW06 Boulder Array 87.35 42 *e*P **P 13 03 54.5 -0.7**
BW06 LR LR
comp=Z,2μm,20.0s,MS5.6
PDAR Pinedale Array 87.35 42 P P 13 03 54.6 -0.6
comp=Z,3.3nm,0.8s,mb4.6,baz=205,slow=2.9,SNR=25
PDAR LR LR 13 40 40.5
comp=Z,2μm,18.1s,MS5.5,baz=245,slow=34
A12A Yaak River Ran 87.36 34 P P 13 03 55.3 +0.1
baz=88,SNR=8.3
D14A Greenough 87.42 37 P P 13 03 54.7 -0.9
baz=88,SNR=7.8
SDCO Great Sand Dun 87.44 48 PFAKE 13 04 10.0 +14
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
MENT Mentasta 87.45 14 *e*P **P 13 03 55.2 -0.5**
CHMT Chamberlain Mo 87.47 37 *e*P **P 13 03 54.9 -0.9**
YMR Madison River 87.53 40 PFAKE 13 04 10.0 +14
YMR LR LR
comp=Z,2μm,19.0s,MS5.6
E15A Deer Lodge 87.53 38 ⇓P P 13 03 55.6 -0.4
baz=88
DLBC Dease Lake 87.59 22 *e*P **P 13 03 56.0 -0.4**
B13A Whitefish 87.65 35 ⇑P P 13 03 56.4 -0.3
baz=88
BOZ Bozeman (W) 87.68 39 *e*P **P 13 03 55.5 -1.3**
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.6
BOZ Bozeman (W) 87.68 39 ⇓P P 13 03 56.4 -0.3
baz=88,SNR=9.2
C14A Swan Lake 87.69 36 ⇓P P 13 03 56.4 -0.4
baz=88
PSI Prapat 87.86 274 LR LR 13 45 19.7
comp=Z,3μm,19.7s,MS5.7,baz=153,slow=37
D15A Lincoln 87.95 37 ⇑P P 13 03 57.5 -0.6
baz=88,SNR=6.0
SEY Seymchan 88.00 346 *i*P **P 13 03 57.8 -0.5**
SEY Seymchan 88.00 346 *i*P **P 13 03 57.8 -0.5**
A13A Flathead Natio 88.01 35 P P 13 03 58.1 -0.2
baz=88,SNR=6.5
HRY Holter Researc 88.16 38 *e*P **P 13 03 57.9 -1.1**
JCT Junction City 88.27 56 PFAKE 13 04 10.0 +10
JCT LR LR
comp=Z,2μm,20.0s,MS5.6
RWWY Rawlins 88.28 44 *e*P **P 13 03 60.0 +0.4**
comp=Z,35nm,1.3s,mb5.4
COLA College 88.37 11 P P 13 03 58.6 -1.5
COLA pmax pmax
comp=Z,93nm,1.3s,mb5.8
COLA College 88.37 11 *e*P **P 13 03 58.4 -1.7**
comp=Z,93nm,1.3s,mb5.9
COLA LR LR
comp=Z,2μm,20.0s,MS5.5
ISCO Idaho Springs 88.38 46 *e*P **P 13 04 02.9 +2.8**
ISCO MLR MLR
comp=Z,1μm,19.0s,MS5.4
KVTX Kingsville 88.53 60 PFAKE 13 04 10.0 +9.2
KVTX LR LR
comp=Z,1μm,19.0s,MS5.4
RLMT Red Lodge 88.79 40 PFAKE 13 04 10.0 +8.0
RLMT LR LR
comp=Z,3μm,19.0s,MS5.7
AMTX Amarillo 88.81 52 PFAKE 13 04 10.0 +7.9
AMTX LR LR
comp=Z,830nm,19.0s,MS5.2
BJT Baijiatuau 88.84 314 *e*P **P 13 04 03.0 +0.7**
BJT pmax pmax
comp=Z,140nm,1.6s
BJT MLR MLR
comp=Z,2μm,20.0s
BJT Baijiatuau 88.84 314 *e*P **P 13 04 03.0 +0.7**
comp=Z,140nm,1.6s,mb6.0
BJT LR LR
comp=Z,2μm,20.0s,MS5.5
BJI Beijing 88.85 314 P P 13 04 02.3 0.0
BJI AMB AMB
comp=Z,47nm,2.0s,mb5.5
BJI AMB AMB
comp=Z,1μm,4.8s
BJI LR LR
comp=N,1μm,18.4s,MS5.4
BJI LR LR
comp=E,879nm,18.7s,MS5.4
BJI LR LR
comp=Z,1μm,20.4s,MS5.3
BJI Beijing 88.85 314 P P 13 04 02.2 -0.1
BJI S SKSac 13 14 28.9 +0.3
BJI pmax pmax
comp=Z,47nm,2.0s,mb5.5
BJI MLR MLR
comp=Z,1μm,20.4s,MS5.3
BJI Beijing 88.85 314 P P 13 04 02.2 -0.1
comp=Z,47nm,2.0s,mb5.5
BJI S SKSac 13 14 28.9 +0.3
BJI SS SS 13 21 07.5 +28
BJI LR LR
comp=Z,1μm,20.4s,MS5.3
GCMT Greycliff 88.91 39 P P 13 04 02.0 -0.6
KKTK Khon Kaen 89.30 288 P P 13 04 06.0 +1.6
DAWY Dawson 89.41 15 *e*P **P 13 04 04.9 0.0**
EGAK Eagle 89.62 14 *e*P **P 13 04 05.0 -0.9**
comp=Z,46nm,1.1s,mb5.7
EGAK LR LR
comp=Z,2μm,20.0s,MS5.5
GYA Guiyang 89.96 298 ⇑*i*P **P 13 04 08.8 +1.3**
GYA AP pP 13 04 21.8 +2.0
GYA PP PP 13 07 44.3 +3.7
GYA PPP 13 09 44.4
GYA SKS 13 14 34.0
GYA S S 13 14 56.3 -0.9
GYA XS sS 13 15 16.9 -0.9
GYA PS PS 13 16 10.5 +2.4
GYA SS SS 13 20 58.8 +3.2
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,160nm,4.9s
GYA LR LR
comp=N,1μm,20.9s,MS5.7
GYA LR LR
comp=E,3μm,20.4s,MS5.7
GYA LR LR
comp=Z,3μm,20.6s,MS5.7
EGMT Eagleton 90.06 37 *e*P **P 13 04 06.6 -1.4**
comp=Z,47nm,1.6s,mb5.6
EGMT LR LR
comp=Z,3μm,19.0s,MS5.8
EGMT Eagleton 90.06 37 ⇓P P 13 04 07.3 -0.6
baz=90
BILL Bilibino 90.26 353 ⇓*e*P **P 13 04 08.1 -0.8**
BILL *e* 13 07 51.3
BILL *e*SS SS 13 21 01.6 +1.6
BILL pmax pmax
comp=Z,25nm,1.7s,mb5.3
BILL Bilibino 90.26 353 *e*P **P 13 04 07.8 -1.2**
comp=Z,64nm,1.6s,mb5.7
BILL LR LR
comp=Z,4μm,20.0s,MS5.9
WMOK Wichita Mounta 90.89 53 *e*P **P 13 04 12.1 +0.3**
WMOK MLR MLR
comp=Z,1μm,19.0s,MS5.4

EDM	**Edmonton**	**91.06**	**32**	P	**P**	**13 04 06.8**	**-5.8**
LCO	**Las Campanas**	**91.11**	**122**	PFAKE		13 04 30.0	+17
LCO				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
XAN	**Xi'an**	**91.30**	**306**	P	**P**	**13 04 14.6**	**+0.9**
XAN				PPP		13 09 47.5	
XAN				SKS		13 14 41.5	
XAN				S	S	13 15 09.8	+0.3
XAN				SS	SS	13 21 12.8	-2.2
XAN				AMB	AMB		
comp=Z,64nm,1.7s,mb5.7							
XAN				LR	LR		
comp=N,357nm,17.5s							
XAN				LR	LR		
comp=E,605nm,22.7s							
XAN				LR	LR		
comp=Z,1μm,22.5s,MS5.2							
HIA	**Hailar**	**91.34**	**323**	⇑*i*P	**P**	**13 04 13.4**	**-0.5**
HIA	**Hailar**	**91.34**	**323**	*e*P	**P**	**13 04 14.3**	**+0.4**
comp=Z,139nm,1.9s,mb6.0							
HIA				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
LAO	**LASA Array**	**91.42**	**40**	*e*P	**P**	**13 04 14.1**	**-0.2**
LAO				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
NST	**Nakhon Sawan**	**91.45**	**286**	P	**P**	**13 04 17.0**	**+2.6**
RSSD	**Black Hills**	**91.50**	**43**	P	**P**	**13 04 14.1**	**-0.6**
RSSD				pmax	pmax		
comp=Z,19nm,1.2s,mb5.3							
RSSD	**Black Hills**	**91.50**	**43**	*e*P	**P**	**13 04 13.6**	**-1.1**
RSSD				LR	LR		
comp=Z,19nm,1.2s,mb5.3							
CBKS	**Cedar Bluff**	**91.96**	**49**	PFAKE		13 04 30.0	+13
CBKS				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
NANT	**Nan**	**92.10**	**289**	⇑P	**P**	**13 04 17.0**	**-0.4**
comp=Z,688nm,1.0s							
HHC	**Hu-ho-hao-te**	**92.34**	**313**	*e*P	**P**	**13 04 19.6**	**+1.1**
HHC				AP	pP	13 04 32.5	+1.6
HHC				PP	PP	13 08 03.6	+4.1
HHC				SKS		13 14 47.4	
HHC				S	S	13 15 17.1	-1.8
HHC				PS	PS	13 16 39.3	+4.9
HHC				SS	SS	13 21 32.1	+2.2
HHC				AMB	AMB		
comp=Z,28nm,1.8s,mb5.3							
HHC				AMB	AMB		
comp=Z,581nm,6.2s							
HHC				LR	LR		
comp=N,1μm,17.2s,MS5.5							
HHC				LR	LR		
comp=E,1μm,17.8s,MS5.5							
HHC				LR	LR		
comp=Z,2μm,18.4s,MS5.5							
TGUH	**Tegucigalpa,Un**	**92.46**	**76**	PFAKE		13 04 30.0	+11
TGUH				LR	LR		
comp=Z,849nm,20.0s,MS5.2							
NNA	**Nana**	**92.64**	**104**	PFAKE		13 04 30.0	+10
NNA				LR	LR		
comp=Z,432nm,21.0s,MS4.9							
KMI	**Kunming**	**92.70**	**296**	P	**P**	**13 04 22.1**	**+1.9**
KMI				SKS		13 14 50.0	
KMI				S	S	13 15 24.0	+1.9
KMI				AMB	AMB		
comp=Z,43nm,1.6s,mb5.6							
KMI				AMB	AMB		
comp=Z,464nm,8.2s							
KMI				LR	LR		
comp=N,1μm,19.1s,MS5.7							
KMI				LR	LR		
comp=E,2μm,20.1s,MS5.7							
KMI				LR	LR		
comp=Z,3μm,21.2s,MS5.7							
KMI	**Kunming**	**92.70**	**296**	P	**P**	**13 04 22.1**	**+1.9**
KMI				*PP	pP	13 04 36.0	+3.5
KMI						13 14 50.0	
KMI				S	S	13 15 24.0	+1.9
KMI				SP	SP	13 16 37.3	+4.0
KMI				PS	PS	13 16 46.0	+7.6
KMI				SS	SS	13 21 48.8	+14
KMI				SSS		13 25 19.5	
KMI				pmax	pmax		
comp=Z,43nm,1.6s,mb5.6							
KMI				MLR	MLR		
comp=Z,3μm,21.2s,MS5.7							
KMI	**Kunming**	**92.70**	**296**	P	**P**	**13 04 22.1**	**+1.9**
comp=Z,43nm,1.6s,mb5.6							
KMI				pP	pP	13 04 36.0	+3.5
KMI				sP	sP	13 04 42.0	+5.0
KMI				PP	PP	13 08 13.6	+11
KMI				SKS		13 14 50.0	
KMI				S	S	13 15 24.0	+1.9
KMI				SP	SP	13 16 37.3	+4.0
KMI				PS	PS	13 16 46.0	+7.6
KMI				SS	SS	13 21 48.8	+14
KMI				SSS		13 25 19.5	
KMI				LR	LR		
comp=Z,3μm,21.2s,MS5.7							
NATX	**Nacogdoches**	**92.81**	**57**	PFAKE		13 04 30.0	+9.3
NATX				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
NRGR	**Nerungri**	**92.92**	**331**	*e*P	**P**	**13 04 21.9**	**+0.7**
CLNS	**Chul'man**	**92.95**	**331**	*e*P	**P**	**13 04 17.1**	**-4.2**
CLNS				*e**PP	pP	13 04 25.9	-7.8
CLNS				*e*S	S	13 15 14.0	-10
CLNS				*e*PPS		13 17 04.6	
CLNS				*e*SS	SS	13 21 42.2	+3.5
CLNS				pmax	pmax		
comp=N,5.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,8.0nm,0.9s							
CLNS				pmax	pmax		
comp=Z,10.0nm,0.9s,mb5.2							
CLNS				smax			
comp=E,873nm,12.9s							
CLNS				smax			
comp=Z,130nm,12.0s							
CLNS				smax			
comp=N,184nm,13.7s							
CLNS				MLR	MLR		
comp=Z,1μm,18.0s,MS5.3							
CLNS				MLR	MLR		
comp=N,200nm,15.0s,MS5.6							
CLNS				MLR	MLR		
comp=E,2μm,12.0s,MS5.6							
JTS	**JuntasAbangare**	**93.23**	**80**	*e*P	**P**	**13 04 21.3**	**-1.3**
JTS	**JuntasAbangare**	**93.23**	**80**	*e*P	**P**	**13 04 24.1**	**+1.4**
comp=E,21nm,1.0s,mb5.5							
JTS				LR	LR		
comp=Z,241nm,19.0s,MS4.7							
TRQA	**Tornquist**	**93.38**	**133**	PFAKE		13 04 40.0	+17
TRQA				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
CHG	**Chiang Mai**	**93.65**	**289**	⇑P	**P**	**13 04 26.4**	**+1.8**
comp=Z,36nm,0.9s,mb5.8							
CHTO	**Chiang Mai**	**93.65**	**289**	P	**P**	**13 04 26.2**	**+1.6**
CHTO				pmax	pmax		
comp=Z,47nm,1.3s,mb5.8							
CHTO	**Chiang Mai**	**93.65**	**289**	*e*P	**P**	**13 04 25.9**	**+1.4**
comp=Z,47nm,1.3s,mb5.8							
CHTO				LR	LR		
comp=Z,1μm,20.0s,MS5.3							
TEIG	**Tepich**	**93.79**	**70**	PFAKE		13 04 40.0	+15
TEIG				LR	LR		
comp=Z,1μm,21.0s,MS5.3							
CD2	**Chengdu**	**94.05**	**301**	*e*P	**P**	**13 04 26.3**	**-0.1**
CD2				AP	pP	13 04 36.8	-2.0
CD2				XP	sP	13 04 40.8	-2.5
CD2				PP	PP	13 08 15.4	+2.5
CD2				SKS	SKSac	13 14 56.9	-1.2
CD2				S	S	13 15 31.3	-2.7
CD2				XS	sS	13 15 49.0	-5.7
CD2				PS	PS	13 16 55.4	+2.1
CD2				SS	SS	13 21 55.4	+1.0
CD2				AMB	AMB		
comp=Z,20nm,1.7s,mb5.3							
CD2				AMB	AMB		
comp=Z,870nm,10.7s							
CD2				LR	LR		
comp=N,1μm,19.0s,MS5.5							
CD2				LR	LR		
comp=E,1μm,17.8s,MS5.5							
CD2				LR	LR		
comp=Z,800nm,17.8s,MS5.2							
YAK	**Yakutsk**	**94.17**	**337**	*e*P	**P**	**13 04 25.0**	**-2.0**
YAK				*e**PP	pP	13 04 36.6	-2.7
YAK				*e*		13 08 15.0	
YAK				*e*S	SKSac	13 14 56.5	-2.3
YAK				*e*SS	SS	13 21 56.6	+0.4
YAK				pmax	pmax		
comp=N,2.0nm,0.8s							
YAK				pmax	pmax		
comp=Z,13nm,0.8s,mb5.4							
YAK				pmax	pmax		
comp=E,5.0nm,1.2s							
YAK				MLR	MLR		
comp=E,822nm,18.0s,MS5.4							
YAK				MLR	MLR		
comp=Z,1μm,18.0s,MS5.4							
YAK				MLR	MLR		
comp=N,748nm,17.0s,MS5.4							
YAK	**Yakutsk**	**94.17**	**337**	*e*P	**P**	**13 04 25.2**	**-1.8**
comp=N,21nm,0.9s,mb5.6							
YAK				LR	LR		
comp=Z,1μm,19.0s,MS5.4							
INK	**Inuvik**	**94.27**	**14**	*e*P	**P**	**13 04 24.6**	**-2.9**
comp=Z,588nm,1.0s							
KSU1	**Kansas State U**	**94.29**	**50**	PFAKE		13 04 40.0	+12
KSU1				LR	LR		
comp=Z,3μm,19.0s,MS5.7							
MIAR	**Mount Ida**	**94.73**	**55**	*e*P	**P**	**13 04 31.4**	**+1.8**
MIAR				pmax	pmax		
comp=Z,28nm,1.7s,mb5.4							
MIAR				MLR	MLR		
comp=Z,2μm,21.0s,MS5.5							
MIAR	**Mount Ida**	**94.73**	**55**	*e*P	**P**	**13 04 31.4**	**+1.8**
comp=Z,28nm,1.7s,mb5.4							
MIAR				LR	LR		
comp=Z,2μm,21.0s,MS5.5							
ARE	**Arequipa**	**95.66**	**110**	P	**P**	**13 04 33.0**	**-0.8**
LZH	**Lanzhou**	**95.93**	**306**	⇑P	**P**	**13 04 36.3**	**+1.3**
LZH				PP	PP	13 08 31.0	+3.5
LZH				*e*SKS		13 15 08.0	
LZH				*e*S	S	13 15 48.0	-2.3
LZH				XS	sS	13 16 09.0	-2.1
LZH				SS	SS	13 22 24.3	+3.1
LZH				AMB	AMB		
comp=Z,56nm,1.5s,mb5.8							
LZH				AMB	AMB		
comp=Z,250nm,6.5s							
LZH				LR	LR		
comp=E,1μm,15.7s							
LZH				LR	LR		
comp=Z,1μm,17.0s,MS5.4							
LZH	**Lanzhou**	**95.93**	**306**	⇑P	**P**	**13 04 36.2**	**+1.2**
LZH				*PP	pP	13 04 50.0	+2.6
LZH						13 08 31.0	
LZH				*e*		13 15 08.0	
LZH				*e*S	S	13 15 48.0	-2.3
LZH				SS	SS	13 22 24.2	+3.0
LZH				pmax	pmax		
comp=Z,56nm,1.5s,mb5.8							
LZH				MLR	MLR		
comp=Z,1μm,17.0s,MS5.4							
LZH	**Lanzhou**	**95.93**	**306**	⇑P	**P**	**13 04 36.2**	**+1.2**
comp=Z,56nm,1.5s,mb5.8							
LZH				pP	pP	13 04 50.0	+2.6
LZH				sP	sP	13 04 58.4	+6.5
LZH				PP	PP	13 08 31.0	+3.5
LZH				*e*SKS		13 15 08.0	
LZH				*e*S	S	13 15 48.0	-2.3
LZH				sS	sS	13 16 09.0	-2.1
LZH				SS	SS	13 22 24.2	+3.0
LZH				LR	LR		
comp=Z,1μm,17.0s,MS5.4							
YKA	**Yellowknife Ar**	**95.93**	**24**	P	**P**	**13 04 34.1**	**-0.9**
comp=Z,3.4nm,0.8s,mb4.8,baz=236,slow=4.3,SNR=44							
YKW3	**Yellowknife Ar**	**95.97**	**24**	*e*P	**P**	**13 04 34.6**	**-0.6**
SCIA	**State Center**	**97.76**	**48**	PFAKE		13 04 50.0	+6.7
SCIA				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
OXF	**Oxford**	**97.92**	**56**	PFAKE		13 05 00.0	+16
OXF				LR	LR		
comp=Z,2μm,20.0s,MS5.7							
BOD	**Bodaibo**	**98.51**	**329**	*e*P	**P**	**13 04 57.4**	**+11**
BRAL	**Brewton**	**98.59**	**60**	PFAKE		13 05 00.0	+13
BRAL				LR	LR		
comp=Z,1μm,19.0s,MS5.4							
SONM	**Songino Array**	**98.59**	**318**	P	**P**	**13 04 46.6**	**-0.4**
comp=Z,1.1nm,0.8s,mb4.4,baz=130,slow=4.8,SNR=7.6							
SONM				LR	LR	13 48 54.7	
comp=Z,976nm,19.7s,MS5.3,baz=353,slow=35							
LPAZ	**La Paz**	**98.67**	**111**	P	**P**	**13 04 50.7**	**+3.3**
comp=Z,0.7nm,0.6s,mb4.4,baz=190,slow=6.1,SNR=3.1							
LPAZ				LR	LR	13 42 16.5	
comp=Z,1μm,18.7s,MS5.5,baz=324,slow=31							
PLAL	**Pickwick Lake**	**99.11**	**56**	PFAKE		13 05 00.0	+11
PLAL				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
ULM	**Lac du Bonnet**	**99.16**	**40**	LR	LR	13 44 54.4	
comp=Z,3μm,18.8s,MS5.8,baz=242,slow=33							
LRAL	**Lakeview Retre**	**99.31**	**58**	PFAKE		13 05 00.0	+10
LRAL				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
WVT	**Waverly**	**99.68**	**55**	PFAKE		13 05 00.0	+8.1
WVT				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
GTA	**Gaotai**	**100.09**	**308**	*e*P	Pdif	13 04 54.0	+0.3
GTA				AP		13 05 05.8	
GTA				XP		13 05 10.3	
GTA				PP	PP	13 09 00.9	+1.5
GTA				SKS		13 15 27.5	
GTA				S	Sdif	13 16 18.3	-7.4
GTA				AMB	AMB		
comp=Z,5.0nm,1.8s							
GTA				AMB	AMB		
comp=Z,174nm,4.9s							
GTA				LR	LR		
comp=N,453nm,21.7s,MS5.3							
GTA				LR	LR		
comp=E,757nm,19.0s,MS5.3							
GTA				LR	LR		
comp=Z,1μm,19.0s,MS5.3							
TIXI	**Tiksi**	**100.44**	**344**	*e*P	Pdif	13 04 52.9	-2.4
TIXI				*e*		13 15 29.0	
TIXI				*e*		13 16 24.3	
TIXI				*e*SS	SS	13 23 19.6	-5.0
TIXI				pmax	pmax		
comp=Z,4.0nm,1.0s							
TIXI				MLR	MLR		
comp=Z,751nm,19.0s,MS5.2							
TIXI	**Tiksi**	**100.44**	**344**	*e*P	Pdif	13 04 54.8	-0.5
TIXI				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
EYMN	**Ely**	**101.03**	**43**	PFAKE		13 05 10.0	+12
EYMN				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
ZAK	**Zakamensk**	**101.41**	**320**	*e*P	Pdif	13 05 04.8	+5.2
ZAK				pmax	pmax		
comp=Z,3.0nm,1.6s							
WCI	**Wyandotte Cave**	**101.52**	**53**	PFAKE		13 05 10.0	+10
WCI				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
TLY	**Talaya**	**101.63**	**321**	PFAKE		13 05 10.0	+9.4
TLY				LR	LR		
comp=Z,350nm,20.0s,MS4.9							
GOGA	**Godfrey**	**102.24**	**59**	PFAKE		13 05 10.0	+6.8
GOGA				LR	LR		
comp=Z,1μm,20.0s,MS5.5							
DWPF	**Disney**	**102.31**	**65**	PFAKE		13 05 20.0	+16
DWPF				LR	LR		
comp=Z,677nm,19.0s,MS5.2							
TZTN	**Tazewell**	**103.10**	**56**	PFAKE		13 05 20.0	+13
TZTN				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
LSA	**Lhasa**	**103.92**	**297**	PFAKE		13 05 20.0	+9.2
LSA				LR	LR		
comp=Z,1μm,22.0s,MS5.3							
AAM	**Ann Arbor**	**104.62**	**50**	PFAKE		13 05 30.0	+16
AAM				LR	LR		
comp=Z,3μm,19.0s,MS5.9							
NHSC	**New Hope**	**104.79**	**60**	PFAKE		13 05 30.0	+15
NHSC				LR	LR		
comp=Z,1μm,19.0s,MS5.5							
BLA	**Blacksburg**	**105.69**	**56**	PFAKE		13 09 40.0	+8.5
BLA				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
SDV	**Santo Domingo**	**106.00**	**87**	PFAKE		13 09 40.0	+8.0
SDV				LR	LR		
comp=Z,370nm,20.0s,MS4.9							
PALK	**Pallekele**	**106.40**	**272**	PFAKE		13 09 50.0	+17
PALK				LR	LR		
comp=Z,496nm,20.0s,MS5.1							
MCWV	**Mont Chateau**	**106.74**	**53**	PFAKE		13 09 50.0	+17
MCWV				LR	LR		
comp=Z,3μm,20.0s,MS5.9							
CNNC	**Cliffs of the**	**107.17**	**58**	PFAKE		13 09 50.0	+16
CNNC				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
JIRN	**Jiri**	**107.55**	**293**	*e*P	PKiKP	13 09 35.4	+0.5
comp=Z,6.8nm,0.7s							
GUN	**Gumba**	**107.88**	**294**	*e*P	PKiKP	13 09 36.9	+1.4
comp=Z,5.6nm,0.4s							
PKI	**Pulchoki**	**108.20**	**293**	*e*P	PKiKP	13 09 36.2	+0.1
CBN	**Corbin**	**108.28**	**55**	PFAKE		13 09 50.0	+14
CBN				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
KKN	**Kakani**	**108.37**	**293**	*e*P	PKiKP	13 09 36.7	+0.3
comp=Z,7.2nm,0.7s							
SSPA	**Standing Stone**	**108.43**	**53**	PFAKE		13 09 50.0	+13
SSPA				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
DGAR	**Diego Garcia**	**108.43**	**254**	PFAKE		13 09 50.0	+13
DGAR				LR	LR		
comp=Z,843nm,19.0s,MS5.3							
DMN	**Daman**	**108.47**	**293**	*e*P	PKiKP	13 09 36.9	+0.3
MDRS	**Chennai**	**108.72**	**277**	*e*x	x	13 05 35.7	
MDRS				*e*x	x	13 09 46.7	
MDRS				*e*x	x	13 20 06.7	
KOLN	**Koldanda**	**109.80**	**293**	*e*P	PKiKP	13 09 39.1	0.0
comp=Z,8.6nm,0.8s							
BINY	**Binghamton**	**110.14**	**52**	PFAKE		13 09 50.0	+10
BINY				LR	LR		
comp=Z,3μm,19.0s,MS5.8							
LONY	**Lake Ozonia**	**111.57**	**49**	PFAKE		13 09 50.0	+7.5
LONY				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
NCB	**Newcomb**	**111.72**	**50**	PFAKE		13 09 50.0	+7.3
NCB				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
ZAL	**Zalesovo**	**113.25**	**321**	PKiKP	PKiKP	13 09 44.5	-1.1
comp=Z,2.2nm,0.6s,baz=51,slow=2.2,SNR=9.2							
LBNH	**Lisbon**	**113.40**	**50**	PFAKE		13 10 00.0	+14
LBNH				LR	LR		
comp=Z,3μm,19.0s,MS5.9							
WES	**Weston**	**113.59**	**52**	PFAKE		13 10 00.0	+14
WES				LR	LR		
comp=Z,3μm,21.0s,MS5.8							
MKAR	**Makanchi Array**	**114.20**	**313**	PKiKP	PKiKP	13 09 46.9	-0.6
comp=Z,1.4nm,0.6s,baz=207,slow=0.5,SNR=15							
MKAR				PKKPbc	PKKPbc	13 20 29.2	+1.6
comp=Z,0.4nm,0.8s,baz=258,slow=5.5,SNR=2.9							
NVS	**Novosibirsk**	**114.23**	**322**	*e*PKIKP	PKiKP	13 09 44.9	-2.6
PKME	**Peaks-Kenny Pk**	**115.38**	**49**	PFAKE		13 10 00.0	+10
PKME				LR	LR		
comp=Z,3μm,20.0s,MS5.8							
FRU	**Bishkek**	**119.36**	**308**	*e*PKIKP	PKPdf	13 09 56.0	-1.4
CHKZ	**Chkalovo**	**121.66**	**321**	*e*PKIKP	PKPdf	13 10 00.6	-1.2
BRVK	**Borovoye**	**121.93**	**320**	*e*PKIKP	PKPdf	13 10 01.8	-0.5
BRVK				MLR	MLR		
comp=Z,327nm,21.0s,MS5.0							
KBS	**Kingsbay**	**122.30**	**359**	*e*PP	PP	13 11 36.3	-2.6
KBS	**Kingsbay**	**122.30**	**359**	PFAKE		13 10 10.0	+7.0
KBS				LR	LR		
comp=Z,709nm,19.0s,MS5.3							
SFJD	**Kangerlussuaq**	**122.48**	**23**	PFAKE		13 10 10.0	+6.6
SFJD				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
SUR	**Sutherland**	**124.60**	**196**	PFAKE		13 10 20.0	+13
SUR				LR	LR		
comp=Z,479nm,20.0s,MS5.2							
MSEY	**Mahe Island**	**124.66**	**248**	PFAKE		13 10 20.0	+12
MSEY				LR	LR		
comp=Z,382nm,19.0s,MS5.1							
SVE	**Sverdlovsk**	**126.57**	**326**	*e*PKIKP	PKPdf	13 10 11.0	-0.2
BOSA	**Boshof**	**126.80**	**202**	PKP	PKPdf	13 10 12.4	+0.7
comp=Z,5.2nm,0.8s,baz=92,slow=2.7,SNR=6.7							
SOKR	**Solikamsk**	**127.50**	**330**	*e*PKIKP	PKPdf	13 10 12.6	-0.4
SOKR				pmax	pmax		
comp=Z,10.0nm,0.7s							
ARU	**Arti**	**127.78**	**326**	*i* PKIKP	PKPdf	13 10 14.2	+0.7
ARU				*e*		13 12 11.1	
ARU				*e*PPP		13 15 00.1	
ARU				*e*		13 17 16.9	
ARU				*e*SP	SP	13 22 13.5	-3.5
ARU				MLR	MLR		
comp=E,1μm,20.0s,MS5.6							
ARU				MLR	MLR		
comp=Z,2μm,20.0s,MS5.7							
ARU				MLR	MLR		
comp=N,500nm,21.0s,MS5.6							
ARU	**Arti**	**127.78**	**326**	*e*PKPdf	PKPdf	13 10 10.5	-3.1
ARU				LR	LR		
comp=Z,462nm,21.0s,MS5.1							
JMIC	**Jan Mayen**	**129.68**	**6**	AMS	AMS	14 04 42.6	
comp=Z,599nm,19.9s,MS5.3							
KEV	**Kevo**	**129.90**	**350**	PFAKE		13 10 30.0	+12
KEV				LR	LR		
comp=Z,2μm,22.0s,MS5.7							
ARCES	**ARCESS Array B**	**130.33**	**351**	PKP	PKPdf	13 10 17.8	-0.6
comp=Z,4.1nm,0.7s,baz=16,slow=1.6,SNR=12							
TRO	**Tromso**	**131.05**	**354**	*e*PP	PP	13 12 34.6	-2.3
TRO				*e*SS	SS	13 30 01.5	-3.6
TRO				AMS	AMS	14 15 43.5	
comp=Z,709nm,18.5s,MS5.4							
BORG	**Borgarnes**	**133.14**	**15**	PFAKE		13 10 30.0	+6.3
BORG				LR	LR		
comp=Z,214nm,20.0s,MS4.9							
KLMR	**Klimovskoe**	**133.96**	**338**	*e*PKIKP	PKPdf	13 10 23.3	-1.9
JOF	**Joensuu**	**134.93**	**344**	*e*p	PKPdf	13 10 25.2	-1.8
comp=Z,10nm,0.8s							
KAF	**Kangasniemi**	**136.84**	**346**	*e*p	PKPdf	13 10 26.1	-4.5
comp=Z,6.6nm,0.8s							
LSZ	**Lusaka**	**137.34**	**213**	*e*PKIKP	PKPdf	13 10 31.9	+0.4
LSZ				MLR	MLR		
comp=Z,1μm,19.0s,MS5.7							
FINES	**FINESS Array B**	**137.48**	**346**	PKhKP		13 10 21.6	
comp=Z,2.9nm,1.0s,baz=322,slow=18,SNR=3.1							
FINES				PKP	PKPdf	13 10 30.8	-1.0
comp=Z,3.3nm,0.7s,baz=113,slow=2.5,SNR=5.9							
FINES	**FINESS Array B**	**137.48**	**346**	⇑*i*PKIKP	PKPdf	13 10 30.7	-1.1
TSUM	**Tsumeb**	**138.00**	**197**	PFAKE		13 10 50.0	+17
TSUM				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
MAK	**Makhachkala**	**139.00**	**312**	*i* PKIKP	PKPdf	13 10 37.2	+2.6
MAK				*e*		13 13 25.4	
MAK				pmax	pmax		
comp=Z,86nm,1.3s							
OBN	**Obninsk**	**139.05**	**333**	⇑*i*PKIKP	PKPdf	13 10 31.5	-3.2
OBN				*e*		13 13 24.5	
OBN				pmax	pmax		
comp=Z,21nm,1.0s							
OBN				MLR	MLR		
comp=Z,1μm,22.0s,MS5.5							
OBN	**Obninsk**	**139.05**	**333**	⇑*e*PKP	PKPdf	13 10 31.6	-3.1
OBN				LR	LR		
comp=Z,1μm,22.0s,MS5.5							
VOR	**Voronezh**	**140.01**	**328**	PKIKP	PKPdf	13 10 37.0	+0.6
VOR				pmax	pmax		
comp=Z,90nm,2.0s							
NB2	**NORSAR Subarra**	**140.16**	**356**	PKPdf		13 10 27.2	
comp=Z,4.9nm,1.0s,baz=31,slow=1.9							
NB2	**NORSAR Subarra**	**140.16**	**356**	PKPdf		13 10 27.2	
baz=31,slow=1.9							
NOA	**NORSAR Array B**	**140.16**	**356**	PKhKP		13 10 28.4	
comp=Z,1.9nm,0.7s,baz=35,slow=2.1,SNR=5.5							
NOA				PKP	PKPdf	13 10 35.9	-0.8
comp=Z,2.3nm,0.9s,baz=350,slow=2.3,SNR=4.7							
BER	**Bergen**	**141.01**	**0**	*e*P	PKPdf	13 10 34.8	-3.5
BER				*e*SS	SS	13 32 05.9	+1.8
BER				AMS	AMS	14 14 04.0	
comp=Z,640nm,19.1s,MS5.4							
ZEI	**Tsey**	**141.56**	**313**	*e*PKIKP	PKPdf	13 10 42.8	+3.6
KONO	**Kongsberg**	**141.64**	**357**	*e*	PKPdf	13 10 35.2	-4.2
KONO				*e*PP	PP	13 13 42.1	-1.2

KIV eSSS 13 37 30.2
KIV pmax pmax
comp=Z,8.0nm,0.8s
KIV Kislovodsk 141.92 315 ePKP PKPdf 13 10 40.8 +0.9
KIV LR LR
comp=Z,284nm,21.0s,MS5.0
CLDR Caldiran 142.75 307 eP PKPdf 13 10 38.3 -3.0
DIGO Kars 142.75 309 i P PKPdf 13 10 36.6 -4.8
MNK Minsk 142.87 338 ePKHKP 13 10 36.0
CUKT Cukurca 143.50 304 eP PKPdf 13 10 37.8 -4.8
BCA Borcka 143.63 312 eP PKPdf 13 10 38.8 -4.1
BHD Baghdad 143.71 297 i x x 13 10 53.0
SOC Sochi 144.02 316 i PKIKP PKPdf 13 10 40.1 -3.5
SOC eSSS 13 38 01.2
SOC pmax pmax
comp=Z,35nm,1.1s
SOC MLR MLR
comp=Z,1μm,22.0s,MS5.6
MSL Mosul 144.14 303 ex x 13 10 45.0
SIRT Sirnak 144.33 305 eP PKPdf 13 10 46.0 +1.9
ERZM Erzurum 144.37 309 i P PKPdf 13 10 44.2 0.0
EZM Erzurum 144.37 309 eP PKPdf 13 10 44.2 0.0
SUW Suwalki 144.75 342 ePKP PKPdf 13 10 43.3 -1.5
BTMT Batman 144.84 307 eP PKPdf 13 10 45.0 0.0
BNGL BINGOL 144.85 308 i P PKPdf 13 10 45.5 +0.5
MUD Monsted U'grnd 144.85 356 ⇑i P PKPdf 13 10 43.7 -1.3
MUD i 13 10 52.0
MUD
comp=Z,580nm,21.0s
ANN Anapa 144.86 319 i PKIKP PKPdf 13 10 44.0 -1.0
ANN eSS SS 13 32 44.5 -4.1
ANN pmax pmax
comp=Z,215nm,1.4s
ANN MLR MLR
comp=Z,786nm,20.0s,MS5.5
ASCN Ascension 144.94 144 PFAKE 13 11 00.0 +15
ASCN LR LR
comp=Z,370nm,19.0s,MS5.2
KTUT Trabzon 145.09 312 eP PKPbc 13 10 44.1 -0.9
AKASG Malin Array Be 145.32 333 PKPbc PKPbc 13 10 44.9 -0.8
comp=Z,27nm,0.6s,baz=38,slow=4.2,SNR=77
KIEV Kiev 145.33 333 ePKP2 PKPbc 13 10 43.9 -1.8
KIEV MLR MLR
comp=Z,1μm,21.0s,MS5.6
BINT Bingol 145.36 308 eP PKPbc 13 10 43.1 -2.7
ESK Eskdalemuir 145.47 9 PFAKE 13 11 00.0 +14
ESK LR LR
comp=Z,381nm,20.0s,MS5.2
GUMT Gumushane 145.50 311 eP PKPdf 13 10 47.7 +1.5
EZC Erzincan 145.54 310 eP PKPbc 13 10 48.5 +2.2
BSD Bornholm Skovb 145.57 350 ⇑i P PKPdf 13 10 45.6 -0.7
comp=Z,103nm,0.8s
BSD
comp=Z,800nm,21.0s
BSD Bornholm Skovb 145.57 350 ⇑i PKIKP PKPdf 13 10 45.6 -0.7
BSD pmax pmax
comp=Z,100nm,0.8s
BSD MLR MLR
comp=Z,800nm,21.0s,MS5.5
KELT Kelkit 145.78 311 i P PKPdf 13 10 48.2 +1.6
PTK Pertek 146.16 309 eP PKPdf 13 10 47.4 +0.2
ELZG Elazig 146.60 308 i P PKPbc 13 10 51.8 +2.2
SIM Simferopol' 146.75 322 c i PKP2 PKPab 13 10 52.2 +0.9
SIM e 13 14 17.0
SIM ePPP 13 17 40.0
SIM pmax pmax
comp=Z,36nm,0.7s
DLF Lyons Farm 146.80 13 eP PKPdf 13 10 48.4 +0.1
GKP Gorka Klasztor 146.91 347 ePKP PKPdf 13 10 50.5 +2.0
WAR Warsaw 146.93 342 ePKP PKPbc 13 10 51.3 +0.8
MYA Malataya 147.07 308 eP PKPbc 13 10 51.2 +0.3
URFA Urfa 147.09 307 eP PKPbc 13 10 51.2 +0.3
BSEG Bad Segeberg 147.28 355 ePKPbc PKPbc 13 10 51.2 -0.3
SVSK Karacayir 147.46 312 eP PKPdf 13 10 48.9 -0.6
KVT Kavak 147.59 314 eP PKPdf 13 10 47.9 -1.8
DIKM Dikmen 147.83 316 eP PKPdf 13 10 48.9 -1.2
LVV L'vov 148.05 337 ePKP2 PKPbc 13 10 53.2 -0.4
LVV e 13 14 20.6
GZT Gaziantep 148.06 307 i P PKPbc 13 10 54.7 +1.1
KIS Kishinev 148.22 329 ePKIKP PKPdf 13 10 52.0 +1.3
KIS e 13 11 02.0
KIS e 13 14 22.0
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,2μm,10.0s
KIS pmax pmax
comp=Z,2μm,10.0s
KIS MLR MLR
comp=N,1μm,21.0s,MS5.7
KIS MLR MLR
comp=E,800nm,21.0s,MS5.7
KIS MLR MLR
comp=Z,2μm,21.0s,MS5.8
KIS MLR MLR
comp=Z,2μm,21.0s
KIS Kishinev 148.22 329 ePKP PKPdf 13 10 52.0 +1.3
comp=Z,200nm,2.0s
KIS Kishinev 148.22 329 ePP PP 13 14 22.0 -0.5
KIS eSKP 13 14 32.0
KIS eL 14 01 00.0
KIS LRM 14 15 18.0
comp=Z,1μm,21.0s
RUE Ruedersdorf 148.29 350 ePKPbc PKPbc 13 10 54.2 0.0
GAZ Gaziantep 148.38 307 eP PKPbc 13 10 55.6 +1.1
BZK Bozkurt 148.48 317 eP PKPbc 13 10 53.2 -1.5
CTKT Corum 148.64 314 i P PKPbc 13 10 56.0 +0.8
KWP Kalwaria 148.68 338 ePKP PKPbc 13 10 55.7 +0.5
BNN Bunyan 148.72 311 eP PKPbc 13 10 55.7 +0.4
CORM Corum 148.96 314 eP PKPbc 13 10 54.6 -1.3
IBBN Ibbenburen 149.06 357 ePKPbc PKPbc 13 10 56.0 -0.2
OJC Ojcow 149.08 342 ePKP PKPdf 13 10 52.4 +0.3
BALT Daday 149.09 317 i P PKPbc 13 10 57.3 +1.0
KOZT Kozan 149.29 308 eP PKPdf 13 10 51.7 -0.7
COBT Iskenderun 149.33 306 i P PKPbc 13 10 58.2 +1.3
CLZ Clausthal 149.35 354 ePKPbc PKPbc 13 10 56.7 -0.2
STHS Stebnicka Huta 149.35 340 ePKP PKPbc 13 10 57.8 +0.9
STHS e 13 11 08.1
BURAR Bucovina Array 149.38 333 ⇑i P PKPbc 13 10 57.3 +0.3
KSP Ksiaz 149.39 347 ePKP PKPbc 13 10 57.8 +0.8
KSP Ksiaz 149.39 347 i PKP2 PKPbc 13 10 57.5 +0.5
KSP eSS SS 13 33 39.0 -0.8
KSP Ksiaz 149.39 347 ePKP PKPdf 13 10 53.9 +1.3
KSP ePKPdf PKPbc 13 10 57.5 +0.5
KSP epPKP pPKPdf 13 11 04.5 -0.8
KSP e 13 24 43.0
KSP eSS SS 13 33 39.0 -0.8
KSP LR LR
comp=Z,3μm,19.9s,MS6.1
CDAG Cicekdag 149.40 313 i P PKPdf 13 10 52.3 -0.3
KOLS Kolonicke sedl 149.42 338 ePKP PKPbc 13 10 56.9 -0.2
KOLS e 13 11 11.1
CANT Cankiri 149.42 315 eP PKPbc 13 10 58.0 +0.9
WTSB Winterswijk 149.44 358 ePKP PKPbc 13 10 56.6 -0.5
comp=Z,89nm,2.2s
AVNT Avonos 149.45 311 i P PKPbc 13 10 57.4 +0.2
CEYT Ceyhan 149.53 307 eP PKPdf 13 10 52.7 -0.1
CLL Collm 149.55 351 ePKPdf PKPdf 13 10 53.8 +1.0
CLL ⇑i PKPbc PKPbc 13 10 56.9 -0.5
comp=Z,470nm,2.6s
CLL ePKPab PKPab 13 11 02.7 +0.2
CLL epPKPbc pPKPbc 13 11 07.5 -2.6
CLL ePP PP 13 14 38.3 +8.1
CLL ePSKS 13 24 50.9
CLL eSS SS 13 33 36.7 -4.8
CLL eSSS 13 39 24.1
CLL eL 14 20 37.9
comp=Z,1μm,20.0s
CLL Collm 149.55 351 ePKHKP PKPdf 13 10 52.0 -0.8
CLL i 13 11 02.6
CLL MLR MLR
comp=Z,1μm,17.6s,MS5.8
CLL Collm 149.55 351 ePKP PKPdf 13 10 52.0 -0.8
CLL ⇑i PKP PKPdf 13 10 57.0 +4.2
CLL i PKP PKPdf 13 11 02.6 +10
CLL i pPKP pPKPdf 13 11 07.4 +1.8
CLL i 13 11 21.9
CLL LR LR
comp=Z,1μm,17.6s,MS5.8
CLL Collm 149.55 351 ePKPdf PKPdf 13 10 52.0 -0.8
CLL ⇑i PKPbc PKPbc 13 10 57.0 -0.4
comp=Z,458nm,2.6s
CLL i PKPab PKPab 13 11 02.6 +0.1
comp=Z,38nm,1.0s
CLL i sPKPab 13 11 07.4
CLL i x x 13 11 21.9
CLL ePP PP 13 14 24.0 -6.2
CLL e(SS) 13 33 34.0
CLL eSSS 13 39 30.0
CLL Collm 149.55 351 ⇑i (PKP) 13 11 09.6
comp=Z,86nm,0.9s
NIE Niedzica 149.64 341 ePKP PKPbc 13 10 58.6 +1.0
UZH Uzhgorod 149.67 338 d i PKP2 PKPbc 13 10 57.6 -0.1
UZH i i 13 14 37.0
SAFT Safranbolu 149.70 317 eP PKPbc 13 10 58.5 +0.7
CRVS Cervenica-Dubn 149.72 339 ePKHKP PKPdf 13 10 52.6 -0.5
CRVS e 13 10 59.7
CRVS Cervenica-Dubn 149.72 339 ePKP PKPdf 13 10 52.6 -0.5
CRVS e 13 10 59.7
CRVS e 13 11 16.7
UPC Upice 149.77 347 ePKPDF PKPdf 13 10 53.4 +0.2
UPC ⇑ePKP PKPbc 13 10 58.6 +0.7
UPC epPKP pPKPdf 13 11 08.1 +2.2
UPC Upice 149.77 347 ePKHKP PKPdf 13 10 53.4 +0.2
UPC e 13 10 58.6
BRG Berggiesshubel 149.82 349 ePKPbc PKPbc 13 10 58.3 +0.2
BRG epPKPbc pPKPbc 13 11 08.3 -2.4
BRG Berggiesshubel 149.82 349 ePKP PKPdf 13 10 52.8 -0.4
comp=Z,12nm,1.5s
BRG i 13 10 59.8
comp=Z,74nm,1.8s
BRG i pPKP pPKPdf 13 11 08.4 +2.4
comp=Z,91nm,1.5s
BRG i 13 11 16.0
BRG i 13 14 29.0
BRG i 13 24 44.0
BRG SS SS 13 33 23.0 -22
BRG
comp=N,414nm,18.9s
BRG
comp=E,429nm,18.3s
BRG
comp=Z,796nm,18.7s
BRG Berggiesshubel 149.82 349 ePKHKP PKPdf 13 10 52.8 -0.5
BRG i 13 10 59.8
BRG i 13 14 29.0
BRG MLR MLR
comp=Z,800nm,18.7s,MS5.5
BRG Berggiesshubel 149.82 349 ePKP PKPdf 13 10 52.8 -0.4
BRG i 13 10 59.8
BRG i pPKP pPKPdf 13 11 08.4 +2.4
BRG i 13 11 16.0
BRG i 13 14 29.0
BRG i 13 24 44.0
BRG SS SS 13 33 23.0 -22
BRG LR LR
comp=Z,800nm,18.7s,MS5.5
DPC Dobruska-Polom 149.85 346 ePKPDF PKPdf 13 10 54.9 +1.6
DPC ⇑ePKP PKPdf 13 10 59.1 +5.8
DPC ePKPAB PKPab 13 11 07.5 +3.8
DPC ex x 13 24 38.5
DPC eSS SS 13 33 40.0 -4.8
DPC AMS AMS 14 20 10.0
comp=Z,1μm,18.5s
BRTR Keskin Array B 149.85 314 PKPbc PKPbc 13 10 58.3 +0.2
comp=Z,18nm,0.7s,baz=137,slow=3.5,SNR=74
CFR Carcaliu 149.85 327 PKP2 PKPbc 13 10 59.4 +1.3
FBE Freiberg 149.87 350 ePKPbc PKPbc 13 10 58.4 +0.2
OKC Ostrava-Krasne 149.88 344 ePKPDF PKPdf 13 10 54.3 +0.9
OKC ⇑ePKP PKPbc 13 10 58.6 +0.4
OKC eSS SS 13 33 43.6 -1.6
OKC AMS AMS 14 24 30.0
comp=Z,800nm,22.5s
OKC Ostrava-Krasne 149.88 344 ePKP PKPdf 13 10 54.3 +0.9
OKC e 13 10 58.6
OKC e 13 33 43.6
KARA Karaisali 149.94 308 eP PKPbc 13 10 57.5 -0.9
BUG Bochum--Univer 149.95 358 ePKPbc PKPbc 13 10 58.6 +0.2
KAMT Kaman 149.97 313 eP PKPbc 13 10 58.9 +0.5
KRTS Karatas 149.97 307 eP PKPbc 13 10 58.0 -0.5
PVCC Panska Ves 150.04 348 ePKPDF PKPdf 13 10 54.0 +0.4
PVCC ⇑ePKP PKPbc 13 10 59.1 +0.5
PVCC epPKP pPKPdf 13 11 08.0 +1.6
PVCC AMS AMS 14 27 50.0
comp=Z,1μm,19.2s
PVCC Panska Ves 150.04 348 ePKHKP PKPdf 13 10 54.0 +0.4
PVCC e 13 10 59.1
PVCC MLR MLR
comp=Z,1μm,19.2s,MS5.7
VRI Vrincioaia 150.04 330 PKP2 PKPbc 13 10 59.1 +0.5
VRI Vrincioaia 150.04 330 ⇑P PKPbc 13 10 58.6 0.0
VRI Vrincioaia 150.04 330 ⇑i P PKPbc 13 10 58.7 +0.1
MORC Moravsky Berou 150.09 344 ePKIKP PKPdf 13 10 53.1 -0.6
MORC 13 10 56.6
MORC Moravsky Berou 150.09 344 ⇑i P PKPdf 13 10 56.6 +2.9
TIRR Tirgusor 150.21 326 PKIKP PKPbc 13 10 59.7 +0.7
TIRR Tirgusor 150.21 326 ePKPbc PKPbc 13 10 58.7 -0.3
TIRR Tirgusor 150.21 326 ⇓i P PKPbc 13 10 59.4 +0.4
ANTO Ankara 150.34 315 PKIKP PKPbc 13 11 00.7 +1.4
ANTO Ankara 150.34 315 ePKPbc PKPbc 13 10 59.6 +0.2
ANTO LR LR
comp=Z,831nm,20.0s,MS5.5
ANTO Ankara 150.34 315 ⇓i P PKPbc 13 11 00.1 +0.8
MOX Moxa 150.39 352 ePKPbc PKPbc 13 10 59.3 -0.1
MOX epPKPbc pPKPbc 13 11 09.2 -2.9
MOX Moxa 150.39 352 ePKP PKPdf 13 10 55.3 +1.1
MOX e 13 10 59.3
comp=Z,98nm,1.8s
MOX
comp=Z,1μm,20.0s
KECS Kecovo 150.41 340 ePKP PKPbc 13 11 00.1 +0.6
KECS e 13 11 09.8
SGKT Sivrigoynuk 150.46 316 i P PKPbc 13 11 00.5 +0.9
WERD Werda 150.49 351 ePKPbc PKPbc 13 10 59.8 +0.1
MERS Mersin 150.49 308 eP PKPdf 13 10 58.2 +3.9
TANN Tannenbergstha 150.50 351 ePKPbc PKPbc 13 10 59.7 0.0
PRA Prague 150.50 348 ⇑PKP PKPab 13 11 10.0 +3.6
PRU Pruhonice 150.56 348 ePKPDF PKPdf 13 10 54.7 +0.3
PRU ⇑ePKP PKPbc 13 11 00.1 +0.2
PRU ePKPAB PKPab 13 11 09.0 +2.4
PRU eSS SS 13 33 47.3 -5.5
PRU AMS AMS 14 28 10.0
comp=Z,1μm,18.5s
GUNZ Gunzen 150.57 351 ePKPbc PKPbc 13 11 00.1 +0.2
UCC Uccle 150.61 2 PKPbc PKPbc 13 10 59.6 -0.4
UCC PKPab PKPab 13 11 10.0 +3.2
BEBN Eben Emael 150.62 360 PKPbc PKPbc 13 11 01.5 +1.5
WERN Wernitzgruen 150.63 351 ePKPbc PKPbc 13 11 00.4 +0.4
WERN epPKPbc pPKPbc 13 11 10.4 -2.3
HGN Heimansgroeve 150.66 359 ePKP PKPbc 13 11 00.0 -0.1
comp=Z,56nm,2.2s
NKC Novy Kostel 150.68 351 ePKPDF PKPdf 13 10 55.7 +1.1
NKC ⇑ePKP PKPbc 13 11 00.2 +0.1
NKC ePKPAB PKPab 13 11 09.6 +2.5
MLR Muntele Rosu 150.69 330 PKIKP PKPbc 13 11 00.5 +0.3
MLR Muntele Rosu 150.69 330 ⇓P PKPbc 13 11 00.4 +0.2
MLR Muntele Rosu 150.69 330 ⇓i P PKPbc 13 11 00.4 +0.2
VRAC Vranov 150.76 345 ⇑i P PKPdf 13 10 56.6 +1.9
MEM Membach 150.81 359 PKPab PKPbc 13 11 00.3 -0.1
SNF Seneffe 150.90 2 PKPbc PKPbc 13 11 01.1 +0.4
SNF PKPab PKPab 13 11 09.7 +1.7
VYHS Vyhne 150.91 342 ePKIKP PKPdf 13 10 55.1 +0.1
VYHS e 13 11 00.8
VYHS e 13 11 10.9
VYHS Vyhne 150.91 342 ePKP PKPdf 13 10 55.1 +0.1
VYHS e 13 11 00.8
VYHS e 13 11 10.9
VYHS e 13 11 24.9
MANZ Manzenberg 150.97 351 ePKPbc PKPbc 13 11 01.0 +0.2
BCLA Clavier 151.00 0 PKPbc PKPbc 13 11 00.5 -0.4
BCLA PKPab PKPab 13 11 08.1 -0.4
DRGR 151.05 335 PKIKP PKPbc 13 11 01.2 +0.2
DRGR 151.05 335 ⇓P PKPbc 13 10 59.5 -1.5
DRGR 151.05 335 ⇓i P PKPbc 13 10 59.5 -1.5
MDU Mudurnu 151.05 317 eP PKPbc 13 11 01.1 +0.1
PSZ Piszkesteto 151.09 340 ⇓PKIKP PKPdf 13 10 55.0 -0.3
PSZ e 13 11 01.3
PSZ Piszkesteto 151.09 340 ⇓P PKPdf 13 10 55.0 -0.3
PSZ Piszkesteto 151.09 340 epPKP PKPbc 13 11 01.3 +0.2
TNS Taunus Mts 151.11 356 ePKPbc PKPbc 13 11 01.2 +0.1
TNS epPKPbc pPKPbc 13 11 11.3 -2.5
VOIR 151.14 331 ⇑i P PKPdf 13 10 55.9 +0.6
ROTZ Rotzenmuhle 151.17 351 ePKPbc PKPbc 13 11 01.6 +0.3
SMOL Smolenice 151.28 343 ePKP PKPbc 13 11 02.3 +0.8
GIVF Givet 151.31 1 ePKP1 PKPbc 13 11 01.5 -0.1
comp=Z,204nm,1.3s
DOU Dourbes 151.32 1 PKPbc PKPbc 13 11 01.3 -0.3
DOU PKPab PKPab 13 11 11.5 +1.7
BAIF Baives 151.34 2 ePKP1 PKPbc 13 11 01.7 0.0
comp=Z,189nm,1.4s
IKL Isikli 151.36 307 eP PKPbc 13 10 59.9 -1.8
GRA1 Grafenberg Arr 151.37 352 ePKPbc PKPbc 13 11 02.3 +0.5
GRA1 epPKPbc pPKPbc 13 11 13.1 -1.3
GRA1 ePP PP 13 14 37.1 -3.6
GRF Grafenberg Arr 151.37 352 ePKPbc PKPbc 13 11 02.3 +0.5
GRF epPKPbc pPKPbc 13 11 13.1 -1.3
GRF ePP PP 13 14 37.1 -3.6
GRF eL 14 21 46.1
comp=Z,941nm,21.0s
GRF Grafenberg Arr 151.37 352 ePKIKP PKPbc 13 11 02.3 +0.5
GRF e 13 11 13.1
GRF e 13 14 37.1
KIZT Kizilcal 151.45 314 eP PKPbc 13 11 02.7 +0.8
KHC Kasperske Hory 151.56 349 ePKPDF PKPdf 13 10 56.4 +0.4
KHC ⇑ePKP PKPbc 13 11 02.7 +0.5
KHC ePKPAB PKPab 13 11 13.5 +2.7
KHC ex x 13 24 51.8
KHC eSS SS 13 33 56.8 -7.0
KHC AMS AMS 14 24 00.0
comp=Z,1μm,17.9s
KHC Kasperske Hory 151.56 349 ePKIKP PKPdf 13 10 56.4 +0.4
KHC e 13 11 02.7
KHC e 13 33 56.8
KHC MLR MLR
comp=Z,1μm,17.9s,MS5.8
KONT Konya--Tatoy 151.57 311 eP PKPdf 13 10 55.1 -0.9
ZST Bratislava 151.66 344 ePKIKP PKPdf 13 10 56.7 +0.6
ZST e 13 11 11.9
ZST MLR MLR
comp=Z,900nm,19.3s,MS5.6
ZST Bratislava 151.66 344 ePKP PKPdf 13 10 56.7 +0.6
ZST e 13 11 11.9
ZST e 13 11 19.2
ZST Bratislava 151.66 344 ePKP PKPdf 13 10 56.7 +0.6
ZST e 13 11 11.9
ZST e 13 11 19.2
ZST LR LR
comp=Z,900nm,19.3s,MS5.6
WLF Walferdange 151.75 359 ePKPbc PKPbc 13 11 02.9 +0.3
WLF Walferdange 151.75 359 PKPbc PKPbc 13 11 03.5 +0.9
WLF PKPab PKPab 13 11 11.3 -0.3
WLF Walferdange 151.75 359 ePKPbc PKPbc 13 11 02.5 -0.1
ESKT Eskisehir 151.80 316 eP PKPbc 13 11 03.7 +1.0
ESKT Eskisehir 151.80 316 i P PKPbc 13 11 03.2 +0.5
GEC2 GERESS Array S 151.81 349 ePKPbc PKPbc 13 11 03.0 +0.2
GERES GERESS Array B 151.81 349 PKP PKPdf 13 10 56.5 +0.2
comp=Z,0.6nm,0.6s,baz=19,slow=5.7,SNR=7.2
GERES PKPbc PKPbc 13 11 02.8 +0.1
comp=Z,7.4nm,0.9s,baz=18,slow=2.1,SNR=41
GERES PKPab PKPab 13 11 10.6 -1.3
comp=Z,17nm,1.0s,baz=29,slow=3.0,SNR=16
HDMB Hadim 151.93 310 eP PKPbc 13 11 01.3 -1.7
ADVT Abdulvahap 152.00 318 eP PKPbc 13 10 59.9 -3.3
CSS Prodhromos 152.12 305 ePKPbc PKPbc 13 11 03.4 -0.1
GZR Gura Zlata 152.16 333 ⇓i P PKPdf 13 10 59.5 +2.6
ROSF Rostrenen 152.17 13 ePKP1 PKPbc 13 11 02.7 -0.9
comp=Z,89nm,1.4s
FLN La Foiniere 152.24 9 ePKP1 PKPbc 13 11 03.1 -0.6
comp=Z,62nm,0.8s
FLN eMLR
comp=Z,1μm,21.5s
EIL Elat 152.26 293 ePKPbc PKPbc 13 11 04.5 +0.7
SOP Sopron 152.28 344 ⇑ePKP PKPbc 13 11 04.1 +0.3
LANF Langenberg 152.38 357 PKP PKPdf 13 10 57.9 +0.7
SGMF Saint Gilles 152.39 12 ePKP1 PKPbc 13 11 03.4 -0.7
comp=Z,54nm,1.1s
BZS Buzias 152.45 335 ⇓i P PKPdf 13 10 58.9 +1.6
LDF La Druitiere 152.45 8 ePKP1 PKPbc 13 11 03.5 -0.7
comp=Z,53nm,0.8s
STU Stuttgart 152.50 355 ePKPbc PKPbc 13 11 04.8 +0.5
STU Stuttgart 152.50 355 ePKPbc PKPbc 13 11 04.3 0.0
SHUT Suhut-Afyon 152.51 314 eP PKPbc 13 11 02.8 -1.6
ULDT Uludag 152.54 318 i P PKPbc 13 11 05.2 +0.7
GRR Gorron 152.55 9 ePKP1 PKPbc 13 11 04.0 -0.4
comp=Z,52nm,0.8s
QUIF Quistinic 152.59 13 ePKP1 PKPbc 13 11 03.6 -0.9
FUR Furstenfeldbru 152.86 352 ePKPbc PKPbc 13 11 05.4 +0.3
FUR epPKPbc pPKPbc 13 11 15.1 -2.7
MEZF Maizieres J'vi 152.92 1 ePKP1 PKPbc 13 11 05.3 +0.1
comp=Z,246nm,1.5s
GDZ Gediz 152.93 316 i P PKPbc 13 11 02.5 -2.7
CDF Champ du Feu 152.98 357 ePKP1 PKPbc 13 11 05.2 -0.2
comp=Z,88nm,1.2s
BFO Black Forest 153.00 356 ePKPbc PKPbc 13 11 04.7 -0.7
BFO epPKPbc pPKPbc 13 11 15.4 -2.7
THEF They Montfort 153.19 359 PKP PKPdf 13 11 00.7 +2.3
HAU Haudompre 153.41 359 ePKP1 PKPbc 13 11 06.1 -0.2
comp=Z,53nm,1.0s
HAU eMLR
comp=Z,1μm,19.8s
KOGS Kog 153.50 343 ePKPdf PKPdf 13 10 58.5 -0.3
KOGS ePP PP 13 14 50.2 -2.6
KBA Koelnbreinsper 153.58 346 ⇑i P PKPdf 13 10 58.0 -1.0
comp=Z,20nm,1.3s
HINF Hinteralfeld 153.59 358 ePKP1 PKPbc 13 11 06.3 -0.4
comp=Z,114nm,1.7s
BBS Basel-Blauen 153.91 357 PKIKP PKPdf 13 11 02.5 +3.1
AKS Akhisar 154.11 317 eP PKPbc 13 11 06.1 -1.7
LOR Lormes 154.12 3 ePKP1 PKPbc 13 11 07.8 -0.1
LOR eMLR
comp=Z,2μm,18.2s
GRUS Gruza 154.24 334 ⇑i PKP PKPbc 13 11 08.0 -0.1
LJU Ljubljana 154.31 345 ePKPdf PKPdf 13 10 59.9 -0.1
LJU ePKPbc PKPbc 13 11 08.2 0.0
LJU ePP PP 13 14 54.2 -3.1
CADS Cadrg 154.31 347 ePKPdf PKPdf 13 10 59.0 -1.0
CADS ePKPbc PKPbc 13 11 09.1 +0.8
SSF Saint Saulge 154.31 3 ePKP1 PKPbc 13 11 08.2 -0.1
comp=Z,60nm,1.1s
DIVS Divcibare 154.35 335 ⇑i P PKPdf 13 10 60.0 0.0
VOY Vojsko 154.46 346 ePKPdf PKPdf 13 11 03.2 +3.0
VOY e 13 11 25.3
AVF Avril sur Loir 154.57 4 ePKP1 PKPbc 13 11 08.4 -0.4
comp=Z,29nm,0.9s
BOJS Bojanci 154.63 344 ePKPdf PKPdf 13 11 00.3 -0.1
BOJS ePKPbc PKPbc 13 11 10.6 +1.7
BOJS e 13 11 31.8
BOJS e 13 11 44.8
BOJS ePP PP 13 14 57.3 -1.9
SMF Signal de Mont 154.74 3 ePKP1 PKPbc 13 11 09.0 -0.2
comp=Z,115nm,1.3s
BGF Bois d'Agland 154.77 4 ePKP1 PKPbc 13 11 08.9 -0.3
comp=Z,86nm,1.4s
BLCB Balcova 154.89 317 eP PKPbc 13 11 12.3 +2.9
TCF Toulx Ste Croi 154.99 5 ePKP1 PKPbc 13 11 09.2 -0.5
comp=Z,50nm,1.3s
AGO Saint Agoulin 155.29 4 PKP PKPab 13 11 21.0 -5.6
PLDF La Plantade 155.41 3 PKP PKPab 13 11 20.6 -6.5
SKO Skopje 155.48 331 ePKP PKPdf 13 10 56.6 -5.0
SKO Skopje 155.48 331 ePKP PKPdf 13 10 56.6 -5.0
PYM Petit Puy Mans 155.59 4 PKP PKPab 13 11 22.5 -5.3
LBL Lubilhac 156.12 4 PKP PKPab 13 11 21.0 -9.1
SANT Santorini 157.09 315 ePKPab PKPab 13 11 33.8 -0.5
PAB San Pablo 160.00 23 PFAKE 13 11 20.0 +13
PAB LR LR
comp=Z,1μm,20.0s,MS5.7
ESDC Sonseca Array 160.02 22 PKP PKPdf 13 11 08.1 +0.9
comp=Z,1.2nm,0.8s,baz=345,slow=3.2,SNR=8.0
ESDC PKPab PKPab 13 11 47.9 +0.9
comp=Z,2.6nm,0.7s,baz=325,slow=4.6,SNR=8.5
SFS San Fernando 161.80 32 PKIKP PKPdf 13 11 15.0 +5.9
LIC Lamto 161.80 144 ePKIKP PKPdf 13 11 09.7 +0.6
comp=Z,142nm,1.5s
LIC eMLR
comp=Z,2μm,21.0s
LIC Lamto 161.80 144 ePKPdf PKPdf 13 11 09.7 +0.6
LIC LR LR
comp=Z,910nm,21.0s
TORD Torodi Ar. Bea 171.04 155 PKP PKPdf 13 11 16.1 -0.1
comp=Z,4.0nm,0.9s,baz=307,slow=0.8,SNR=14
TORD PKPab PKPab 13 12 37.6 +2.0
comp=Z,2.1nm,0.8s,baz=165,slow=1.4,SNR=3.5
TORD PP PP 13 16 33.1 +7.0
comp=Z,3.6nm,1.1s,baz=209,slow=3.9,SNR=5.0

ISCJB **17** *13:27:52.3±2.7, 77S±02×1203E±0.1, h148km±28km,*

mb4.3/8, Error ellipse: s-maj=32.7km s-min=8.6km az=84.9
*IDC **17** 13:27:56.4±3.5, 754S×12067E, h169km±37km, mb3.8/5, mb1 3.8/7, mb1mx3.6/18, mbtmp3.7/7, Error ellipse: s-maj=89.9km s-min=9.2km az=55.0*
*NEIC **17** 13:27:58.4±2.7, 8.10S×11998E, h201km±28km, mb4.3/4, Error ellipse: s-maj=36.5km s-min=14.9km az=56.0*
ISC 17 13:27:56.3±1.7, 76S±01×1206E±01, h171km±17km, n18, σ0§94/22, mb4.3/8, 2C, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.53**	**155**	*e*P	**Pn**	**13 30 34.4**	**-1.4**
	3.7nm,0.3s						
FITZ				*e*S	**Sn**	**13 32 33.1**	**-11**
FITZ	**Fitzroy Crossi**	**11.53**	**155**	P	**Pn**	**13 30 36.0**	**+0.2**
	0.1nm,0.3s,baz=21,slow=10.0,SNR=7.3						
FITZ				S	**Sn**	**13 32 35.8**	**-7.8**
	1.2nm,0.3s,baz=170,slow=19,SNR=7.8						
KAKA	**Kakadu**	**12.75**	**114**	*e*P	**Pn**	**13 30 56.8**	**+5.3**
	3.9nm,0.3s						
KAKA				*e*S	**Sn**	**13 33 12.2**	**-0.7**
WRA	**Warramunga Arr**	**18.12**	**134**	P	**P**	**13 31 56.5**	**+1.1**
	1.5nm,0.3s,baz=307,slow=12,SNR=193						
WRA				S	**S**	**13 35 13.6**	**-0.4**
	0.7nm,0.3s,baz=302,slow=21,SNR=8.0						
WB2	**Warramunga Arr**	**18.13**	**134**	⇑*i*P	**P**	**13 31 56.7**	**+1.2**
WB2				*e*S	**S**	**13 35 13.4**	**-0.8**
ASAR	**Alice Springs**	**20.45**	**143**	P	**P**	**13 32 20.8**	**+0.3**
	2.2nm,0.4s,baz=324,slow=12,SNR=54						
ASAR				S	**S**	**13 36 03.3**	**+3.4**
	0.6nm,0.8s,baz=333,slow=24,SNR=3.4						
STKA	**Stephens Creek**	**31.09**	**144**	⇑*i*P	**P**	**13 33 58.7**	**+0.4**
	3.0nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**31.09**	**144**	P	**P**	**13 33 58.9**	**+0.6**
	4.2nm,0.4s,mb4.5,baz=313,slow=8.5,SNR=22						
LSA	**Lhasa**	**46.66**	**324**	*e*P	**P**	**13 36 09.1**	**+1.6**
	3.5nm,0.7s,mb4.1						
GUN	**Gumba**	**48.70**	**318**	*e*P	**P**	**13 36 22.9**	**-0.3**
	9.1nm,0.6s,mb4.6						
DMN	**Daman**	**49.02**	**317**	*e*P	**P**	**13 36 25.1**	**-0.6**
GKN	**Gorkha**	**49.59**	**317**	*e*P	**P**	**13 36 28.8**	**-1.2**
	4.6nm,0.4s,mb4.4						
KOLN	**Koldanda**	**50.15**	**316**	*e*P	**P**	**13 36 33.1**	**-1.1**
	2.8nm,0.3s,mb4.4						
SONM	**Songino Array**	**56.63**	**349**	P	**P**	**13 37 22.9**	**+1.4**
	0.4nm,0.4s,mb3.6,baz=169,slow=8.7,SNR=4.8						
MKAR	**Makanchi Array**	**63.96**	**332**	P	**P**	**13 38 11.2**	**0.0**
	2.1nm,0.5s,mb4.3,baz=153,slow=7.5,SNR=28						
ZAL	**Zalesovo**	**68.33**	**338**	P	**P**	**13 38 38.4**	**-0.7**
	2.7nm,0.4s,mb4.3,baz=335,slow=5.3,SNR=8.6						
YKA	**Yellowknife Ar**	**112.33**	**24**	PKiKP	PKiKP	13 46 10.2	-1.5
	0.2nm,0.5s,baz=297,slow=2.0,SNR=5.0						
YKA	**Yellowknife Ar**	**112.33**	**24**	PKPdf	PKiKP	13 46 10.2	-1.5

IDC 17 13:33:38.5±27.0, 2121S×17322W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/17, mbtmp4.2/4, Error ellipse: s-maj=503.6km s-min=155.3km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.87**	**264**	P	P	13 40 58.5	+1.4
	3.7nm,0.4s,baz=99,slow=11,SNR=9.7						
STKA	**Stephens Creek**	**41.54**	**246**	P	P	13 41 26.5	-1.2
	0.9nm,0.6s,baz=90,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**48.71**	**257**	P	P	13 42 24.8	+0.1
	0.9nm,0.4s,baz=94,slow=7.4,SNR=42						
WRA	**Warramunga Arr**	**48.93**	**262**	P	P	13 42 27.0	+0.6
	1.4nm,0.3s,baz=94,slow=8.5,SNR=110						

*ISCJB **17** 13:42:09.6±0.5, 2385N±006×12145E±003, h10km, mb3.9/12, Error ellipse: s-maj=8.6km s-min=3.9km az=7.6*
*NEIC **17** 13:42:12.0±1.3, 2394N×12176E, h19km±7km, mb4.5/2, ML4.7(TAP), Error ellipse: s-maj=20.8km s-min=8.8km az=67.0*
NEIC Recorded [5 TAP] in Hua-lien, [3 TAP] in Nan-t'ou, [2 TAP] in I-lan and [1 TAP] in T'ai-chung and Yun-lin Counties.
*JMA **17** 13:42:12.5±0.3, 2385N×12144E, h58km, M3.6*
*BJI **17** 13:42:18.6, 2440N×121.11E, h18km, mB4.7, mb4.1, ML3.9, Ms4.1, Msz3.9*
*IDC **17** 13:42:20.9±7.0, 2381N×12151E, h96km±68km, mb3.6/9, mb1 3.7/10, mb1mx3.6/23, mbtmp3.6/10, ML3.8/1, Error ellipse: s-maj=39.6km s-min=13.5km az=65.0*
ISC 17 13:42:12.5±1.2, 2392N±006×12148E±003, h18km±6km, n28, σ0§88/37, mb3.9/12, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.28**	**22**	*e*Pn	**Pg**	**13 42 18.6**	**0.0**
NACB				*e*Sn	**Sg**	**13 42 22.3**	**+0.7**
YHNB	**Yeheng**	**0.76**	**353**	*e*Pn	**Pn**	**13 42 27.2**	**-1.1**
YHNB				*e*Sn	**Sn**	**13 42 36.4**	**-2.9**
TATO	**Taipei**	**1.05**	**0**	*e*Pn	**Pn**	**13 42 32.4**	**0.0**
YOJ	**Yonaguni jima**	**1.50**	**68**	P	**Pn**	**13 42 38.5**	**0.0**
YOJ				*e*S	**Sn**	**13 42 57.8**	**+0.2**
IRIF	**Iriomote-Funau**	**2.10**	**78**	P	**Pn**	**13 42 47.2**	**+0.5**
IRIF				*e*S	**Sn**	**13 43 13.0**	**+0.7**
HATJ	**Hateruma jima**	**2.13**	**86**	P	**Pn**	**13 42 47.2**	**0.0**
HATJ				*e*S	**Sn**	**13 43 12.8**	**-0.4**
JKRS	**Kuro-shima**	**2.33**	**82**	P	**Pn**	**13 42 49.7**	**-0.3**
JKRS				*e*S	**Sn**	**13 43 18.4**	**+0.2**
JIJ	**Ishigaki jima**	**2.47**	**79**	P	**Pn**	**13 42 51.9**	**0.0**
JIJ				*e*S	**Sn**	**13 43 20.9**	**-0.7**
QZH	**Quanzhou**	**2.83**	**292**	⇑*i*P	**Pn**	**13 42 57.3**	**+0.6**
QZH				S	**Sn**	**13 43 29.6**	**-0.7**
QZH				Smax			
	comp=N,680nm,0.9s						
QZH				Smax			
	comp=E,480nm,0.8s						
QZH				LR	LR		
	comp=N,3μm,10.4s						
QZH				LR	LR		
	comp=E,3μm,13.9s						
QZH				LR	LR		
	comp=Z,4μm,11.1s						
JTJ	**Tarama**	**3.03**	**76**	P	**Pn**	**13 43 00.1**	**+0.6**
JTJ				*e*S	**Sn**	**13 43 35.7**	**+0.4**
JKE	**Kume jima 2**	**5.37**	**62**	P	**Pn**	**13 43 32.7**	**+0.9**
KSRS	**Korea Array**	**14.58**	**21**	P	**Pn**	**13 45 44.4**	**+6.5**
	baz=201,slow=12,SNR=15						
GTA	**Gaotai**	**23.97**	**315**	*e*P	**P**	**13 47 28.3**	**+2.5**
GTA				AP		13 47 35.1	
GTA				XP	sP	13 47 37.8	+4.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb3.5						
SONM	**Songino Array**	**26.72**	**337**	P	**P**	**13 47 51.7**	**+0.9**
	comp=Z,1.6nm,0.8s,mb3.6,baz=157,slow=10,SNR=11						
LSA	**Lhasa**	**27.63**	**289**	*e*P	**P**	**13 48 02.2**	**+3.2**
	comp=Z,5.2nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**38.72**	**316**	P	**P**	**13 49 36.4**	**+0.9**
	comp=Z,1.9nm,0.7s,mb3.9,baz=108,slow=9.8,SNR=15						
ZAL	**Zalesovo**	**40.62**	**327**	P	**P**	**13 49 50.6**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.5,baz=335,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**45.36**	**163**	P	**P**	**13 50 28.3**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.0,baz=345,slow=8.7,SNR=15						
BVAR	**Borovoye Array**	**48.05**	**321**	P	**P**	**13 50 51.9**	**+1.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=105,slow=8.5,SNR=9.0						
BVAR	**Borovoye Array**	**48.05**	**321**	P	**P**	**13 50 51.9**	**+1.1**
CHKZ	**Chkalovo**	**48.12**	**322**	*e*P	**P**	**13 50 51.2**	**0.0**
	comp=Z,2.7nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**48.81**	**165**	P	**P**	**13 50 56.0**	**-0.6**
	comp=Z,1.5nm,1.0s,mb4.0,baz=339,slow=6.9,SNR=12						
AKTK	**Aktyubinsk**	**55.16**	**316**	P	**P**	**13 51 44.2**	**+0.3**
AKTO	**Aktyubinsk**	**55.16**	**316**	P	**P**	**13 51 44.2**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=180,slow=5.1,SNR=4.2						
STKA	**Stephens Creek**	**58.72**	**160**	P	**P**	**13 52 07.9**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=334,slow=7.8,SNR=6.3						
DAWY	**Dawson**	**72.65**	**27**	*e*P	**P**	**13 53 37.8**	**-1.2**
YKA	**Yellowknife Ar**	**83.11**	**23**	P	**P**	**13 54 36.2**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=314,slow=4.9,SNR=23						
YKA	**Yellowknife Ar**	**83.11**	**23**	P	**P**	**13 54 36.2**	**-1.0**

IDC 17 14:04:24.2±2.0, 934S×11192E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=74.4km s-min=19.5km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.92**	**125**	Pn	Pn	14 08 08.1	-1.4
	0.2nm,0.3s,baz=310,slow=12,SNR=4.1						
FITZ				Sn	Sn	14 10 52.8	-14
	0.2nm,0.3s,baz=190,slow=14,SNR=5.2						
WRA	**Warramunga Arr**	**24.09**	**118**	P	P	14 09 41.7	+0.3
	2.5nm,0.7s,baz=292,slow=12,SNR=18						
ASAR	**Alice Springs**	**25.39**	**127**	P	P	14 09 54.0	+0.9
	1.6nm,0.7s,baz=302,slow=8.8,SNR=27						
KSRS	**Korea Array**	**48.90**	**17**	P	P	14 13 12.1	+0.3
	0.9nm,0.8s,baz=204,slow=6.1,SNR=3.8						
SONM	**Songino Array**	**57.13**	**356**	P	P	14 14 13.3	+0.8
	0.8nm,0.6s,baz=176,slow=8.0,SNR=7.8						
MKAR	**Makanchi Array**	**61.81**	**337**	P	P	14 14 44.1	-0.8
	0.9nm,0.3s,baz=148,slow=7.3,SNR=27						

WEL 17 14:20:40.1±0.6, 3550S×17945E, h319km±18km, ML3.7/8, Error ellipse: s-maj=20.3km s-min=15.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.75**	**200**	*e*PN	Pn	14 21 35.1	+0.4
PUZ				SN	S	14 22 17.9	-0.6
MWZ	**Matawai**	**3.23**	**208**	PN	Pn	14 21 40.0	+0.7
MWZ				SN	S	14 22 26.9	+0.2
URZ	**Urewera**	**3.34**	**213**	PN	Pn	14 21 39.7	-0.6
URZ				SN	S	14 22 27.9	-0.8
KNZ	**Kokohu**	**3.79**	**201**	SN	S	14 22 38.2	+1.0
BKZ	**Black Stump Fm**	**4.36**	**212**	PN	Pn	14 21 51.6	+0.5
BKZ				SN	S	14 22 46.7	-1.5
TSZ	**Takapari Road**	**5.33**	**210**	PN	Pn	14 22 02.5	+0.5
BFZ	**Birch Farm**	**5.76**	**205**	PN	Pn	14 22 08.5	+1.5
TIWZ	**Tintock**	**5.97**	**207**	PN	Pn	14 22 10.9	+1.3
MRZ	**Mangatainoka R**	**5.99**	**209**	PN	Pn	14 22 09.7	0.0
TCW	**Tory Channel**	**7.01**	**214**	PN	Pn	14 22 21.6	-0.2
TUWZ	**Tuamarina**	**7.33**	**214**	PN	Pn	14 22 24.9	-0.7
NNZ	**Nelson**	**7.44**	**218**	SN	S	14 23 52.6	-1.1
THZ	**Tophouse**	**8.08**	**217**	*e*PN	Pn	14 22 34.5	-0.2
KHZ	**Kahutara**	**8.30**	**212**	PN	Pn	14 22 37.6	+0.2
MQZ	**McQueen's Vall**	**9.73**	**211**	SN	S	14 24 43.0	-1.9

IDC 17 15:03:13.8±67.0, 2084S×17661E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=1181.0km s-min=140.8km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.11**	**243**	P	P	15 09 50.5	-0.9
	1.1nm,0.5s,baz=90,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**39.52**	**258**	P	P	15 10 46.5	+0.3
	2.3nm,0.7s,baz=93,slow=8.6,SNR=23						
WRA	**Warramunga Arr**	**39.55**	**264**	P	P	15 10 47.6	+1.1
	0.9nm,0.3s,baz=95,slow=8.0,SNR=26						

*ISCJB **17** 15:10:37.1±0.5, 685N±006×7303W±006, h164km±6km, mb3.6/5, Error ellipse: s-maj=11.1km s-min=7.1km az=92.8*
*IDC **17** 15:10:37.4±0.7, 678N×7296W, h154km±8km, mb3.4/5, mb1 3.6/7, mb1mx3.4/21, mbtmp3.4/7, Error ellipse: s-maj=23.7km s-min=7.9km az=128.0*
*NEIC **17** 15:10:38.3±0.8, 682N×73.11W, h160km±8km, mb3.6/2, Error ellipse: s-maj=15.3km s-min=13.0km az=108.0*
*FUNV **17** 15:10:39.0, 688N×7307W, h172km, MW3.2*
ISC 17 15:10:38.1±0.5, 684N±006×7303W±006, h158km±6km, n27, σ1§03/35, mb3.6/5, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**35**	⇓*e*P	**Pn**	**15 11 07.0**	**+1.3**
CAPV				*e*S	**Sn**	**15 11 28.1**	**+1.2**
ROSC	**El Rosal**	**2.36**	**213**	P	**Pn**	**15 11 19.2**	**+1.3**
	34nm,0.3s,baz=324,slow=2.4,SNR=90						
ROSC				S	**Sn**	**15 11 48.2**	**-0.4**
	92nm,0.3s,baz=82,slow=19,SNR=12						
ROSC	**El Rosal**	**2.36**	**213**	*e*Pn	**Pn**	**15 11 19.0**	**+1.1**
ROSC				Sn	**Sn**	**15 11 46.4**	**-2.2**
VIGV	**El Vigia**	**2.58**	**40**	⇓*e*P	**Pn**	**15 11 21.5**	**+0.9**
VIGV				*e*S	**Sn**	**15 11 53.4**	**0.0**
SOCV	**Socops**	**2.59**	**56**	⇓*e*P	**Pn**	**15 11 21.9**	**+1.2**
SOCV				*e*S	**Sn**	**15 11 52.7**	**-0.8**
SDV	**Santo Domingo**	**3.12**	**49**	P	**Pn**	**15 11 28.4**	**+1.1**
	9.1nm,0.3s,baz=228,slow=2.5,SNR=50						
SDV				S	**Sn**	**15 12 04.1**	**-1.3**
	12nm,0.3s,baz=273,slow=8.4,SNR=7.1						
SDV	**Santo Domingo**	**3.12**	**49**	*e*Pn	**Pn**	**15 11 28.5**	**+1.2**
SDV				*e*Sn	**Sn**	**15 12 05.4**	**0.0**
ELOV	**Elorza**	**3.52**	**87**	*e*P	**Pn**	**15 11 33.0**	**+0.7**
ELOV				*e*S	**Sn**	**15 12 12.8**	**-1.6**
VIRV	**Villa del Rosa**	**3.69**	**10**	⇑*e*P	**Pn**	**15 11 33.6**	**-0.9**
VIRV				*e*S	**Sn**	**15 12 14.9**	**-3.5**
QARV	**Quebrada Arrib**	**4.16**	**36**	*e*P	**Pn**	**15 11 40.8**	**+0.2**
QARV				*e*S	**Sn**	**15 12 25.1**	**-4.2**
SANV	**Sanarito**	**4.35**	**52**	*e*P	**Pn**	**15 11 43.5**	**+0.4**
CURV	**Curarigua**	**4.37**	**44**	*e*P	**Pn**	**15 11 44.0**	**+0.6**
SIQV	**Siquisique**	**4.94**	**40**	*e*P	**Pn**	**15 11 50.7**	**-0.2**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**15 11 55.3**	**-1.1**
CAOV	**Caicara del Or**	**6.67**	**85**	*e*P	**Pn**	**15 12 13.1**	**-0.7**
BCIP	**Isla Barro Col**	**7.13**	**289**	*e*Pn	**Pn**	**15 12 17.7**	**-2.1**
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**15 15 33.6**	**+0.1**
	0.3nm,0.3s,mb3.2,baz=349,slow=12,SNR=3.7						
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**15 15 33.8**	**+0.3**
	0.5nm,0.5s,mb3.2						
TXAR	**Lajitas Array**	**36.52**	**312**	P	**P**	**15 17 29.1**	**+0.9**
	0.4nm,0.4s,mb3.4,baz=127,slow=9.1,SNR=8.6						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**15 18 55.4**	**-0.3**
	1.9nm,0.5s,mb4.0,baz=284,slow=8.6,SNR=6.2						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**15 18 55.4**	**-0.2**
	1.9nm,0.5s,mb4.0						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**15 20 49.7**	**-0.2**
	1.3nm,0.6s,mb4.0,baz=133,slow=6.6,SNR=23						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**15 20 49.7**	**-0.2**
INK	**Inuvik**	**73.04**	**340**	P	**P**	**15 21 51.1**	**+0.4**
	0.8nm,0.6s,mb3.6,baz=104,slow=4.2,SNR=4.2						
INK	**Inuvik**	**73.04**	**340**	*e*P	**P**	**15 21 51.3**	**+0.6**
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	PKPbc	15 30 08.1	+0.2
	0.3nm,0.4s,baz=119,slow=3.2,SNR=13						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPbc	15 30 11.2	+0.3
	0.4nm,0.7s,baz=120,slow=1.9,SNR=5.1						

*BJI **17** 15:13:33.9, 4040N×125.10W, h2km, mB5.0, mb4.6, Ms4.9, Msz4.6*
*ISCJB **17** 15:13:38.5±0.4, 4040N±001×125.10W±003, h10km, mb3.3/2, MS3.6/8, Error ellipse: s-maj=3.7km s-min=1.9km az=153.4*
*NEIC **17** 15:13:40.0, 4042N×12507W, h0km, mb4.0/4, MW4.3(BRK), After NCEDC.*
NEIC Felt [III] at San Francisco and [II] at Fortuna. Felt at Alameda, Berkeley, Eureka, Ferndale, Merced, Oakland and Redway.
*IDC **17** 15:13:41.8±1.9, 4046N×12475W, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/24, mbtmp3.5/6, ML3.5/3, MS3.5/9, Ms1 3.5/9, ms1mx3.3/27, Error ellipse: s-maj=20.3km s-min=11.5km az=100.0*
ISC 17 15:13:40.0±0.4, 4041N±001×12510W±003, h10km, n149, σ1§24/205, mb3.3/2, MS3.6/8, 69C-83D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.92**	**63**	⇑P	**Pg**	**15 13 57.5**	**-0.1**
	baz=0.9,SNR=1000						
JCC				⇓S	**Sg**	**15 14 10.5**	**+1.0**
	baz=0.9						
O01C	**Eel River Cons**	**1.02**	**105**	⇑P	**Pg**	**15 13 59.2**	**-0.4**
	baz=0.9,SNR=494						
O01C				⇓S	**Sg**	**15 14 15.1**	**+2.3**
	baz=0.9						
KHMM	**Horse Mountain**	**1.15**	**65**	⇑*i*Pn	**Pn**	**15 14 01.3**	**-0.8**
KCPM	**Cahto Peak**	**1.37**	**121**	⇓*e*Pn	**Pn**	**15 14 04.0**	**-1.1**
KIPM	**Iron Peak**	**1.38**	**115**	*e*Pn	**Pn**	**15 14 04.6**	**-0.7**
N02C	**Big Bar**	**1.43**	**72**	P	**Pn**	**15 14 05.3**	**-0.7**
	baz=1.4,SNR=1000						
N02C				⇑S	**Sn**	**15 14 24.6**	**-0.3**
	baz=1.4						
KRMB	**Red Mountain**	**1.44**	**39**	*e*Pn	**Pn**	**15 14 04.4**	**-1.7**
M01C	**Crescent City**	**1.62**	**27**	⇑P	**Pn**	**15 14 06.2**	**-2.5**
	baz=1.6,SNR=40						
M01C				⇓S	**Sn**	**15 14 25.9**	**-3.6**
	baz=1.6						
P01C	**Double 8 Ranch**	**1.65**	**124**	P	**Pn**	**15 14 07.5**	**-1.4**
	baz=1.6,SNR=1000						
P01C				⇑S	**Sn**	**15 14 29.5**	**-0.7**
	baz=1.6						
O02C	**Red Bluff**	**1.79**	**97**	P	**Pn**	**15 14 10.9**	**+0.1**
	baz=1.7,SNR=1000						
O02C				⇓S	**Sn**	**15 14 34.3**	**+0.7**
	baz=1.7						
WDC	**Whiskeytown Da**	**1.96**	**84**	*e*Pn	**Pn**	**15 14 13.1**	**-0.2**
WDC	**Whiskeytown Da**	**1.96**	**84**	P	**Pn**	**15 14 13.2**	**-0.1**
	baz=1.9,SNR=635						
WDC				⇑S	**Sn**	**15 14 37.8**	**-0.2**
	baz=1.9						
GASB	**Alder Springs**	**1.98**	**112**	⇓P	**Pn**	**15 14 12.9**	**-0.6**
	baz=1.9,SNR=542						
GASB				⇓S	**Sn**	**15 14 38.5**	**+0.1**
	baz=1.9						
L02A	**Cave Junction**	**2.08**	**32**	⇓P	**Pn**	**15 14 13.3**	**-1.7**
	baz=2.1,SNR=38						
L02A				⇓S	**Sn**	**15 14 38.5**	**-2.5**
	baz=2.1						
HOPS	**Hopland**	**2.11**	**131**	*e*Pn	**Pn**	**15 14 14.3**	**-1.0**
HOPS	**Hopland**	**2.11**	**131**	⇑P	**Pn**	**15 14 14.5**	**-0.8**
	baz=2.0						
YBH	**Yreka Blue Hor**	**2.24**	**53**	Pn	**Pn**	**15 14 17.0**	**-0.2**
	5.9nm,0.3s,baz=254,slow=12,SNR=67						
YBH				Lg		15 14 44.6	
	25nm,0.3s,baz=139,slow=15,SNR=14						
YBH				LR	LR	15 15 02.1	
	comp=Z,471nm,19.2s,baz=263,slow=40						
YBH	**Yreka Blue Hor**	**2.24**	**53**	*e*Pn	**Pn**	**15 14 16.9**	**-0.3**
YBH	**Yreka Blue Hor**	**2.24**	**53**	⇓P	**Pn**	**15 14 16.6**	**-0.6**
	baz=2.2,SNR=61						
YBH				⇓S	**Sn**	**15 14 44.2**	**-0.7**
	baz=2.2						
O03C	**Acorn Hollow,**	**2.39**	**99**	⇓P	**Pn**	**15 14 18.7**	**-0.5**
	baz=2.3,SNR=52						
O03C				⇓S	**Sn**	**15 14 48.3**	**-0.2**
	baz=2.3						
M03C	**McCloud**	**2.42**	**68**	⇑P	**Pn**	**15 14 19.2**	**-0.4**
	baz=2.4,SNR=16						
M03C				⇓S	**Sn**	**15 14 49.7**	**+0.4**
	baz=2.4						
K01A	**Sixes**	**2.45**	**11**	⇓S	**Sn**	**15 14 46.0**	**-4.0**
	baz=2.5						
MNRC	**McLaughlin Nat**	**2.56**	**126**	⇓P	**Pn**	**15 14 21.2**	**-0.2**
	baz=2.5,SNR=68						
K02A	**Glendale**	**2.65**	**27**	⇓P	**Pn**	**15 14 21.4**	**-1.4**
	baz=2.6,SNR=75						
K02A				⇓S	**Sn**	**15 14 52.5**	**-2.5**
	baz=2.6						
NSHM	**Saint Helena R**	**2.70**	**133**	*e*Pn	**Pn**	**15 14 22.8**	**-0.6**
HUMO	**Hull Mountain**	**2.73**	**36**	*e*Pn	**Pn**	**15 14 23.1**	**-0.7**
HUMO	**Hull Mountain**	**2.73**	**36**	⇓P	**Pn**	**15 14 22.9**	**-0.9**
	baz=2.7,SNR=64						
HUMO				⇓S	**Sn**	**15 14 56.1**	**-0.7**
	baz=2.7						
HATC	**Hat Creek Radi**	**2.80**	**80**	⇑P	**Pn**	**15 14 25.6**	**+0.7**
	baz=2.7,SNR=109						
HATC				⇑S	**Sn**	**15 14 59.4**	**+0.6**
	baz=2.7						
SUTB	**Sutter Butte**	**2.81**	**114**	⇓P	**Pn**	**15 14 23.8**	**-1.2**
	baz=2.7						
SUTB				⇑S	**Sn**	**15 14 57.2**	**-1.7**
	baz=2.7						
M04C	**Macdoel**	**2.82**	**60**	⇓P	**Pn**	**15 14 25.2**	**+0.1**
	baz=2.8,SNR=34						
M04C				⇑S	**Sn**	**15 14 58.2**	**-1.0**
	baz=2.8						
MCCM	**Marconi Confer**	**2.84**	**142**	*e*Pn	**Pn**	**15 14 24.2**	**-1.2**
MCCM	**Marconi Confer**	**2.84**	**142**	⇓P	**Pn**	**15 14 24.2**	**-1.2**
	baz=2.8						
MCCM				⇑S	**Sn**	**15 14 57.9**	**-1.8**
	baz=2.8						
ORV	**Oroville**	**2.90**	**106**	⇑P	**Pn**	**15 14 25.0**	**-1.2**
	baz=2.8,SNR=81						
ORV				⇑S	**Sn**	**15 15 00.6**	**-0.4**
	baz=2.8						
CVS	**Carmenet Viney**	**2.90**	**134**	⇑P	**Pn**	**15 14 25.2**	**-1.1**
	baz=2.8,SNR=38						
CVS				⇓S	**Sn**	**15 14 60.0**	**-1.2**
	baz=2.8						
Q03C	**Winters**	**2.97**	**126**	⇓P	**Pn**	**15 14 27.9**	**+0.7**
	baz=2.9,SNR=52						
Q03C				⇓S	**Sn**	**15 15 02.8**	**-0.1**
	baz=2.9						
OHCM	**Honcut**	**2.98**	**110**	*e*Pn	**Pn**	**15 14 26.1**	**-1.3**
L04A	**Klamath Falls**	**3.00**	**53**	⇓P	**Pn**	**15 14 28.4**	**+0.9**
	baz=3.0,SNR=24						
L04A				⇓S	**Sn**	**15 15 03.3**	**-0.3**
	baz=3.0						
O04C	**Chester**	**3.07**	**90**	⇓P	**Pn**	**15 14 29.2**	**+0.7**
	baz=3.0,SNR=324						
O04C				⇑S	**Sn**	**15 15 05.2**	**-0.1**
	baz=3.0						
M05C	**Lookout**	**3.15**	**71**	⇑P	**Pn**	**15 14 28.7**	**-0.9**
	baz=3.1						
M05C				⇓S	**Sn**	**15 15 06.4**	**-0.8**
	baz=3.1						
FARB	**Farallon Islan**	**3.16**	**148**	⇓S	**Sn**	**15 15

baz=3.9
BNLO **Ben Lomond (Sa** 3.99 144 ⇑P Pn 15 14 38.8 -2.5
baz=3.9,SNR=25
BNLO ⇑S Sn 15 15 25.1 -3.0
baz=3.9
HBO **Huckleberry Mo** 4.01 30 P Pn 15 14 42.9 +1.3
N06A **Buffalo Meadow** 4.03 83 P Pn 15 14 41.8 0.0
baz=4.0,SNR=80
N06A ⇑S Sn 15 15 29.4 +0.5
baz=4.0
O06A **Flanigan** 4.04 92 ⇓P Pn 15 14 42.5 +0.6
baz=4.0
O06A ⇓S Sn 15 15 29.8 +0.5
baz=4.0
P06A **Stead Airport,** 4.06 99 ⇓P Pn 15 14 42.5 +0.3
baz=4.0
P06A ⇑S Sn 15 15 29.3 -0.5
baz=4.0
J05A **Fort Rock** 4.08 44 ⇓P Pn 15 14 43.2 +0.8
baz=4.0
S04C **Ingram Canyon,** 4.13 133 ⇑P Pn 15 14 43.1 +0.1
baz=4.1,SNR=29
S04C ⇑S Sn 15 15 31.0 -0.4
baz=4.1
IRO **Indian Ridge** 4.17 30 P Pn 15 14 44.8 +1.1
R05C **Kirkwood Meado** 4.24 112 ⇓P Pn 15 14 45.6 +1.0
baz=4.2,SNR=34
R05C ⇓S Sn 15 15 34.3 +0.1
baz=4.2
WCN **Washoe City** 4.26 103 ⇑P Pn 15 14 46.1 +1.2
baz=4.2,SNR=38
WCN ⇓S Sn 15 15 35.9 +1.3
baz=4.2
K06A **Valley Falls** 4.35 55 ⇓P Pn 15 14 46.2 0.0
baz=4.3,SNR=70
K06A ⇑S Sn 15 15 37.0 0.0
baz=4.3
CMB **Columbia Colle** 4.36 121 *e*Pn Pn 15 14 47.0 +0.7
CMB **Columbia Colle** 4.36 121 ⇑P Pn 15 14 46.7 +0.4
baz=4.3,SNR=67
CMB ⇓S Sn 15 15 38.2 +1.1
baz=4.3
FRIS **Frissel Point** 4.41 29 P Pn 15 14 48.0 +1.1
H03A **Soap Creek Ran** 4.47 17 ⇑P Pn 15 14 47.5 -0.4
baz=4.5,SNR=43
H03A ⇑S Sn 15 15 36.7 -3.2
baz=4.5
PACP **Pacheco Peak** 4.52 137 ⇑P Pn 15 14 47.2 -1.3
baz=4.5
PACP ⇓S Sn 15 15 40.5 -0.5
baz=4.5
BEND **Bend** 4.61 36 P Pn 15 14 51.2 +1.5
J06A **Christmas Vall** 4.67 51 ⇓P Pn 15 14 50.2 -0.3
baz=4.6,SNR=14
J06A ⇓S Sn 15 15 41.7 -3.0
baz=4.6
N07B **Gerlach** 4.68 83 ⇑P Pn 15 14 50.9 +0.2
baz=4.6,SNR=23
R06C **Coleville** 4.76 111 ⇑S Sn 15 15 46.7 -0.3
baz=4.7
O07A **Toulon** 4.77 91 P Pn 15 14 52.2 +0.3
baz=4.7,SNR=113
O07A ⇑S Sn 15 15 46.5 -0.7
baz=4.7
H04A **Detroit Lake** 4.79 26 ⇑P Pn 15 14 52.3 +0.1
baz=4.8,SNR=16
H04A ⇑S Sn 15 15 45.5 -2.2
baz=4.8
S06C **San Francisco** 4.80 120 ⇓P Pn 15 14 53.7 +1.4
baz=4.7,SNR=50
S05C **Merced** 4.82 128 ⇓P Pn 15 14 53.2 +0.6
baz=4.7,SNR=10
S05C ⇑S Sn 15 15 48.9 +0.5
baz=4.7
HAST **UC Hastings Re** 4.88 144 P Pn 15 14 50.6 -2.9
baz=4.8,SNR=52
HAST ⇓S Sn 15 15 47.3 -2.8
baz=4.8
K07A **Rock Creek Ran** 4.95 61 ⇓P Pn 15 14 54.0 -0.4
baz=4.9,SNR=16
G03A **Yamhill** 5.09 15 ⇑P Pn 15 14 54.6 -1.7
baz=5.1
H05A **Madras** 5.12 33 ⇓S Sn 15 15 53.1 -2.6
baz=5.1
G04A **Mulino** 5.17 21 ⇑S Sn 15 15 56.0 -1.2
baz=5.2
M08A **Happy Creek Ra** 5.20 76 ⇑P Pn 15 14 57.6 -0.2
baz=5.1,SNR=13
R07C **Lee Vining** 5.24 114 ⇓S Sn 15 15 58.5 -0.3
baz=5.2
WVOR **Wild Horse Val** 5.27 65 *e*Pn Pn 15 14 59.8 +1.1
32nm,1.1s
U04C **Hernandez Rese** 5.27 139 ⇑P Pn 15 14 58.8 -0.1
baz=5.2
U04C ⇓S Sn 15 15 58.7 -0.9
baz=5.2
VIPM **Ingram Point** 5.27 37 P Pn 15 15 00.7 +1.8
N08A **GE Springer Mi** 5.32 84 ⇓P Pn 15 14 59.3 -0.2
baz=5.2,SNR=7.6
N08A ⇑S Sn 15 16 01.0 +0.2
baz=5.2
V03C **Hunter Liggett** 5.33 144 ⇑S Sn 15 16 01.0 -0.1
baz=5.3
T06C **Millerton Lake** 5.41 127 ⇓P Pn 15 15 00.9 +0.1
baz=5.3,SNR=25
KCC **Kaiser Creek** 5.46 122 ⇓P Pn 15 15 02.6 +1.2
baz=5.4,SNR=72
K08A **Mann Creek Ran** 5.48 63 ⇓P Pn 15 15 01.4 -0.3
baz=5.4
K08A ⇓S Sn 15 16 03.7 -1.0
baz=5.4
I07A **Izee** 5.55 47 ⇓P Pn 15 15 04.2 +1.6
baz=5.5
H06A **Lindquist Farm** 5.58 38 ⇑P Pn 15 15 04.7 +1.7
baz=5.6,SNR=13
G05A **Wamic** 5.58 29 ⇓P Pn 15 15 04.6 +1.5
baz=5.6,SNR=9.2
NVAR **Mina Array Bea** 5.62 108 Pn Pn 15 15 05.3 +1.6
1.7nm,0.3s,baz=286,slow=15,SNR=28
NVAR Sn Sn 15 16 06.7 -1.5
0.1nm,0.3s,baz=289,slow=18,SNR=2.8
NVAR Lg 15 16 22.9
0.2nm,0.3s,baz=293,slow=18,SNR=2.2
NVAR **Mina Array Bea** 5.62 108 Pn Pn 15 15 05.3 +1.7
NVAR Sn Sn 15 16 06.7 -1.5
NVAR Lg 15 16 22.9
F03A **Seaside** 5.64 11 ⇑S Sn 15 16 06.2 -2.5
baz=5.7
PKD **Parkfield** 5.72 140 ⇓P Pn 15 15 03.6 -1.3
baz=5.7
PKD ⇑S Sn 15 16 09.5 -1.2
baz=5.7
J08A **Circle Bar Ran** 5.76 57 ⇑P Pn 15 15 04.8 -0.7
baz=5.7
J08A ⇑S Sn 15 16 12.3 +0.6
baz=5.7
N09A **Rock Creek Ran** 5.78 83 ⇓P Pn 15 15 05.7 -0.2
baz=5.7,SNR=6.2
R08A **Mina** 5.80 108 ⇑P Pn 15 15 07.1 +1.1
baz=5.7
V04C **Ramage Ranch,** 5.81 144 ⇑S Sn 15 16 12.6 -0.4
baz=5.8
G06A **Carlson Farm,** 5.84 33 ⇑P Pn 15 15 07.6 +1.0
baz=5.8,SNR=9.3
H07A **Lands Inn, Kim** 5.85 43 ⇑P Pn 15 15 09.0 +2.2
baz=5.8
MTUM **Tungsten Hills** 5.94 119 *e*Pn Pn 15 15 10.7 +2.6
HELL **Mitchell Peak,** 6.04 126 ⇓P Pn 15 15 11.3 +1.9
baz=6.0,SNR=109
S08C **White Mtn Res** 6.13 116 ⇓P Pn 15 15 12.8 +2.2
baz=6.1
F06A **Goldendale** 6.22 29 ⇑P Pn 15 15 12.9 +1.0
baz=6.2
E03A **Lebam** 6.24 10 ⇓S Sn 15 16 19.6 -3.9
baz=6.3
H08A **Prairie City** 6.29 47 ⇑P Pn 15 15 14.2 +1.4
baz=6.2
G07A **Ruggs Ranch, H** 6.29 38 ⇓P Pn 15 15 14.4 +1.6
baz=6.3,SNR=16
M10A **I.L. Ranch, Tu** 6.58 77 ⇓P Pn 15 15 18.1 +1.3
baz=6.5
F07A **Phinny Hill Vi** 6.67 33 ⇑P Pn 15 15 19.1 +1.1
baz=6.6
E06A **Yakima** 6.83 25 ⇑P Pn 15 15 21.3 +1.1
baz=6.8,SNR=13
DAC **Darwin (Calif)** 7.20 123 *e*Pn Pn 15 15 26.7 +1.5
17nm,0.9s
HAWA **Hanford** 7.23 32 *e*Pn Pn 15 15 25.6 -0.1
5.6nm,0.5s
BMO **Blue Mountains** 7.27 50 *e*Pn Pn 15 15 28.1 +1.9
11nm,0.8s
DUG **Dugway** 9.39 87 *e*Pn Pn 15 15 57.6 +2.2
12nm,0.9s
PFO **Pinyon Flat Ob** 9.68 132 Pn Pn 15 16 00.7 +1.4
0.3nm,0.3s,baz=328,slow=15,SNR=4.6
PFO LR LR 15 20 04.5
comp=Z,350nm,18.1s,baz=337,slow=40
NEW **Newport** 9.71 33 LR LR 15 19 13.4
comp=Z,361nm,20.1s,baz=206,slow=35
MCMT **McKenzie Canyo** 10.05 60 *e*Pn Pn 15 16 05.0 +0.5
MSU **Marysvale** 10.17 97 *e*P Pn 15 16 08.4 +2.3
MSO **Missoula** 10.32 48 *e*P Pn 15 16 11.0 +2.9
4.9nm,0.9s
CHMT **Chamberlain Mo** 10.77 49 *e*P Pn 15 16 16.7 +2.5
SRU **San Rafael** 11.30 92 *e*P Pn 15 16 26.1 +4.6
10.0nm,0.9s
PDAR **Pinedale Array** 11.88 73 Pn Pn 15 16 30.9 +1.5
0.0nm,0.3s,baz=248,slow=14,SNR=2.2
SDCO **Great Sand Dun** 15.45 94 *e*P Pn 15 17 18.0 0.0
27nm,1.3s
ANMO **Albuquerque** 15.72 104 *e*P Pn 15 17 24.2 +2.6
4.8nm,1.4s
MNTX **Cornudas Mount** 18.13 112 P Pn 15 17 50.2 -1.7
12nm,1.6s
LPIG **La Paz** 20.46 138 LR LR 15 25 58.2
comp=Z,219nm,19.8s,MS3.5,baz=254,slow=36
LTX **Lajitas** 20.71 116 *e*P P 15 18 22.4 +1.9
18nm,1.3s
TXAR **Lajitas Array** 20.71 116 P P 15 18 23.1 +2.7
5.5nm,0.9s,baz=299,slow=8.8,SNR=53
TXAR LR LR 15 27 10.6
comp=Z,182nm,18.4s,MS3.5,baz=310,slow=40
ULM **Lac du Bonnet** 22.65 54 P P 15 18 42.6 +1.3
4.7nm,1.1s,mb3.8,baz=267,slow=9.0,SNR=3.2
ULM LR LR 15 28 10.8
comp=Z,190nm,18.7s,MS3.6,baz=266,slow=39
YKA **Yellowknife Ar** 23.01 12 P P 15 18 47.6 +2.7
0.3nm,0.8s,mb2.8,baz=199,slow=8.9,SNR=3.4
INK **Inuvik** 28.33 353 LR LR 15 30 10.6
comp=Z,164nm,18.4s,MS3.7,baz=123,slow=35
SCHQ **Schefferville** 40.63 49 LR LR 15 40 16.3
comp=Z,58nm,19.7s,MS3.4,baz=326,slow=40
NOA **NORSAR Array B** 72.83 21 LR LR 15 56 30.3
comp=Z,25nm,18.1s,MS3.5,baz=240,slow=35
KSRS **Korea Array** 77.67 309 LR LR 15 55 25.4
comp=Z,4.7nm,19.9s,MS2.8,baz=330,slow=32
HHC **Hu-ho-hao-te** 84.13 320 *e*P P 15 26 07.5 -3.7
HHC AP pP 15 26 13.0 -1.5
HHC AMB AMB
comp=Z,188nm,5.8s
HHC LR LR
comp=N,115nm,17.2s,MS4.7
HHC LR LR
comp=E,300nm,19.6s,MS4.7
HHC LR LR
comp=Z,109nm,20.8s,MS4.2
LZH **Lanzhou** 91.58 322 *e*P P 15 26 43.0 -4.1
LZH AP pP 15 26 47.4 -3.0
GYA **Guiyang** 97.91 315 P P 15 27 18.4 +2.4

IDC 17 15:13:59.6±6.5,1063S×16161E,h104km±40km,mb3.7/5, mb1 3.9/6,mb1mx3.7/17,mbtmp3.8/6,Error ellipse: s-maj=60.7km s-min=25.6km az=107.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	2.03	306	P	Pn	15 14 33.1	+0.5
	534nm,0.3s,baz=116,slow=3.0,SNR=332						
HNR				S	Sn	15 14 58.3	+0.5
	406nm,0.3s,baz=87,slow=21,SNR=13						
CTA	**Charters Tower**	17.53	236	P	Pn	15 18 00.5	+3.2
	0.4nm,0.3s,baz=49,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	27.85	247	P	P	15 19 40.1	+0.9
	2.1nm,0.4s,baz=78,slow=8.9,SNR=26						
ASAR	**Alice Springs**	29.41	240	P	P	15 19 52.8	-0.2
	0.8nm,0.7s,baz=63,slow=10,SNR=7.3						
FITZ	**Fitzroy Crossi**	35.58	254	P	P	15 20 47.3	+0.4
	1.6nm,0.7s,baz=62,slow=14,SNR=4.0						
SONM	**Songino Array**	75.97	325	P	P	15 25 35.6	+0.5
	1.4nm,0.8s,baz=146,slow=5.6,SNR=10.0						
MKAR	**Makanchi Array**	90.46	318	P	P	15 26 49.3	-0.2
	0.5nm,0.4s,baz=92,slow=6.3,SNR=17						

*ISCJB **17** 15:33:54.4±0.5,3134N±005×13999E±009,h136km±5km, mb3.7/17,Error ellipse: s-maj=12.7km s-min=6.6km az=135.8*
*MOS **17** 15:33:54.6±1.4,3137N×13960E,h140km,mb3.9/1,Error ellipse: s-maj=28.1km s-min=10.9km az=96.7*
*IDC **17** 15:33:55.0±0.8,3133N×13983E,h126km±7km,mb3.5/14, mb1 3.7/16,mb1mx3.6/24,mbtmp3.6/16,Error ellipse: s-maj=17.3km s-min=7.8km az=76.0*
*NEIC **17** 15:33:56.7±1.8,3148N×13993E,h138km±15km,mb3.6/2, Error ellipse: s-maj=18.5km s-min=14.8km az=114.0*
*JMA **17** 15:34:10.4±0.1,3234N×13929E,h27km,M3.6*
ISC 17 15:33:55.6±0.5,3136N±005×14001E±008,h132km±5km, n45,σ1°09/48,mb3.7/17,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	1.76	355	P	Pn	15 34 26.7	0.0
JHJ	**Hachijo jima 2**	1.77	354	P	Pn	15 34 26.9	+0.1
	111nm,0.3s,baz=250,slow=23,SNR=27						
JHJ				S	Sn	15 34 50.0	-0.8
	44nm,0.3s,baz=272,slow=23,SNR=3.9						
JKO	**Kozu shima**	2.92	346	P	Pn	15 34 40.9	-0.3
TK01	**Tokai 1**	3.15	320	P	Pn	15 34 44.3	0.0
TK02	**Tokai 2**	3.21	324	P	Pn	15 34 45.2	+0.3
BSO3	**Boso 3**	3.46	7	P	Pn	15 34 53.0	+4.7
JIZS	**Izushimoda**	3.48	344	P	Pn	15 34 48.4	-0.2
TK04	**Tokai 4**	3.51	330	P	Pn	15 34 49.3	+0.3
JOD2	**Odawara 2**	3.97	349	P	Pn	15 34 56.7	+1.7
SHZ3	**Shizuoka 3**	4.00	338	P	Pn	15 34 55.9	+0.6
JIE	**Ise**	4.11	318	P	Pn	15 34 56.7	-0.1
JWZ	**Kozaga**	4.23	302	P	Pn	15 34 58.5	+0.1
JKN2	**Miekihoku**	4.26	313	P	Pn	15 34 59.0	+0.1
JYN	**Shimob**	4.31	344	P	Pn	15 34 59.7	+0.2
CBIJ	**Chichi jima**	4.65	155	P	Pn	15 35 03.6	-0.4
	24nm,0.3s,baz=324,slow=20,SNR=17						
CBIJ				S	Sn	15 35 56.0	-1.2
	39nm,0.3s,baz=321,slow=23,SNR=6.5						
JWY	**Kouya**	4.69	309	P	Pn	15 35 05.4	+0.9
JRY	**Ryogami san**	4.74	349	P	Pn	15 35 06.4	+1.2
MJAR	**Matsushiro Arr**	5.38	344	P	Pn	15 35 13.0	-0.8
	1.2nm,0.3s,baz=101,slow=14,SNR=8.2						
MJAR				S	Sn	15 36 14.0	-0.8
	0.9nm,0.3s,baz=308,slow=30,SNR=3.4						
MJAR	**Matsushiro Arr**	5.38	344	P	Pn	15 35 13.0	-0.8
MJAR				S	Sn	15 36 14.0	-0.8
MAJO	**Matsushiro**	5.38	344	*e*P	Pn	15 35 11.9	-2.0
MAT	**Matsushiro**	5.38	344	P	Pn	15 35 15.1	+1.2
JNU	**Nakatsue**	7.94	285	P	Pn	15 35 50.7	+2.5
	2.5nm,0.3s,baz=267,slow=23,SNR=9.9						
KSRS	**Korea Array**	11.69	305	P	Pn	15 36 38.2	0.0
	baz=117,slow=14,SNR=9.9						
YSS	**Yuzh-Sakhalins**	15.72	7	*e*P	Pn	15 37 28.1	-1.6
SONM	**Songino Array**	30.39	312	P	P	15 39 55.0	-0.1
	0.2nm,0.3s,mb3.3,baz=116,slow=9.9,SNR=5.2						
MKAR	**Makanchi Array**	46.36	307	P	P	15 42 06.8	-1.6
	0.3nm,0.5s,mb3.2,baz=82,slow=9.5,SNR=9.5						
MKAR				ScP	ScP	15 47 20.4	-2.0
	0.4nm,0.6s,baz=77,slow=5.6,SNR=4.8						
MKAR	**Makanchi Array**	46.36	307	P	P	15 42 06.8	-1.6
MKAR				ScP	ScP	15 47 20.4	-2.0
WRA	**Warramunga Arr**	51.30	187	P	P	15 42 45.3	-0.8
	1.4nm,0.4s,mb3.9,baz=2.5,slow=7.7,SNR=18						
WRA				ScP	ScP	15 47 42.2	-1.1
	0.3nm,0.5s,baz=357,slow=4.5,SNR=6.3						
CHKZ	**Chkalovo**	53.47	316	P	P	15 43 00.0	-2.1
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
CHKZ	**Chkalovo**	53.47	316	P	P	15 43 00.0	-2.1
	comp=Z,0.6nm,0.8s,mb3.4						
ASAR	**Alice Springs**	55.02	187	P	P	15 43 13.6	+0.2
	comp=Z,0.6nm,0.6s,mb3.5,baz=14,slow=14,SNR=22						
INK	**Inuvik**	59.98	25	P	P	15 43 47.9	-0.2
	comp=Z,1.5nm,0.3s,mb4.3,baz=275,slow=4.8,SNR=13						
INK	**Inuvik**	59.98	25	*e*P	P	15 43 48.1	0.0
	comp=Z,59nm,0.3s,mb5.9						
ARCES	**ARCESS Array B**	68.90	340	P	P	15 44 44.3	-1.8
	comp=Z,5.9nm,1.0s,mb4.3,baz=71,slow=6.9,SNR=8.3						
YKA	**Yellowknife Ar**	69.31	29	P	P	15 44 48.3	-0.4
	comp=Z,0.7nm,0.7s,mb3.5,baz=293,slow=6.1,SNR=8.3						
FINES	**FINESS Array B**	73.30	333	P	P	15 45 11.4	-1.2
	comp=Z,0.9nm,0.6s,mb3.6,baz=57,slow=4.6,SNR=5.6						
NEW	**Newport**	75.05	42	P	P	15 45 24.3	+1.5
	comp=Z,0.9nm,0.5s,mb3.6,baz=281,slow=5.2,SNR=3.3						
URZ	**Urewera**	77.42	151	P	P	15 45 38.3	+2.1
	comp=Z,2.9nm,0.6s,mb4.1						
AKASG	**Malin Array Be**	78.08	323	P	P	15 45 41.0	+1.2
	comp=Z,0.1nm,0.3s,mb2.9,baz=166,slow=24,SNR=1.8						
NOA	**NORSAR Array B**	78.96	337	P	P	15 45 42.7	-2.0
	comp=Z,0.5nm,0.6s,mb3.4,baz=49,slow=6.6,SNR=2.7						
NVAR	**Mina Array Bea**	79.37	51	P	P	15 45 48.1	+1.2
	comp=Z,0.7nm,0.5s,mb3.5,baz=293,slow=5.7,SNR=5.4						
BW06	**Boulder Array**	82.50	44	P	P	15 46 04.0	+0.5
	comp=Z,1.1nm,0.8s,mb3.6						
PDAR	**Pinedale Array**	82.50	44	P	P	15 46 04.2	+0.8
	comp=Z,0.4nm,0.7s,mb3.3,baz=256,slow=1.5,SNR=3.6						
TXAR	**Lajitas Array**	94.52	52	P	P	15 47 02.9	+1.8
	comp=Z,1.3nm,0.6s,mb4.3,baz=300,slow=3.0,SNR=19						
LPAZ	**La Paz**	150.32	66	PKPbc	PKPbc	15 53 34.1	+2.9
	comp=Z,1.8nm,0.7s,baz=10.0,slow=1.3,SNR=14						

*NEIC **17** 15:40:19.2±0.9,5391N×162.14E,h10km,Error ellipse: s-maj=28.0km s-min=15.0km az=148.0*
*MOS **17** 15:40:22.9±1.2,5423N×16169E,h47km,mb4.6/1,Error ellipse: s-maj=27.0km s-min=9.6km az=75.6*
*ISCJB **17** 15:40:23.2±0.5,5428N±002×16146E±007,h62km±6km, mb3.8/8,Error ellipse: s-maj=7.4km s-min=3.3km az=42.6*
*KRSC **17** 15:40:23.9±0.9,5431N×16127E,h55km±55km,ML4.5*
*IDC **17** 15:40:25.9±0.8,5485N×16354E,h0km,mb3.8/8, mb1 4.1/8,mb1mx3.8/24,mbtmp3.8/8,Error ellipse: s-maj=37.2km s-min=20.5km az=145.0*
ISC 17 15:40:24.1±0.5,5428N±003×16144E±007,h56km±6km, n39,σ0°76/62,mb3.8/8,1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	0.32	31	*i* P	Pn	15 40 33.8	-0.2
MKZ				*i* S	Sn	15 40 41.0	-0.1
TUMR	**Tumrok**	1.25	324	*i* P	Pn	15 40 45.1	-0.3
TUMR				*i* S	Sn	15 41 00.8	-0.4
SPN	**Mys Shipunski**	1.45	216	*i* P	Pn	15 40 47.3	-0.8
SPN				*i* S	Sn	15 41 04.3	-1.8
KMNR	**Kamenistaya**	1.63	335	*i* P	Pn	15 40 51.1	+0.6
KMNR				*i* S	Sn	15 41 10.8	+0.4
NLC	**Nalytchevo**	1.67	229	*i* P	Pn	15 40 50.8	-0.2
NLC				*i* S	Sn	15 41 10.6	-0.7
BZMR	**Bezymyannaya**	1.75	342	*e*P	Pn	15 40 52.3	+0.3
ZLN	**Zelenaya**	1.78	348	*i* P	Pn	15 40 53.0	+0.5
ZLN				*i* S	Sn	15 41 14.1	+0.1
KIRR	**Kirishev**	1.79	340	*i* P	Pn	15 40 53.2	+0.6
KIRR				*i* S	Sn	15 41 14.5	+0.2
KPT	**Kopyto**	1.83	338	*e*P	Pn	15 40 53.8	+0.6
CIRR	**Tsirk**	1.88	348	*e*P	Pn	15 40 54.5	+0.6
AVH	**Avacha**	1.90	239	*e*P	Pn	15 40 55.3	+1.2
AVH				*i* S	Sn	15 41 18.2	+1.3
KOZ	**Kozyrevsk**	2.00	334	*i* P	Pn	15 40 55.8	+0.4
KOZ				*i* S	Sn	15 41 18.9	-0.4
KOZR	**Kozyr**	2.00	334	PN	Pn	15 40 55.8	+0.4
KOZR				S	Sn	15 41 18.9	-0.4
KRSR	**Krestovskiy**	2.01	346	*i* P	Pn	15 40 55.6	0.0
KRSR				*i* S	Sn	15 41 18.9	-0.6
PET	**Petropavlovsk**	2.08	234	⇓*i* PN	Pn	15 40 57.1	+0.5
PET				*e*S	Sn	15 41 21.8	+0.4
PET				pmax	pmax		
	comp=Z,484nm,0.5s						
PET				pmax	pmax		
	comp=N,255nm,0.4s						
PET				pmax	pmax		
	comp=E,188nm,0.4s						
PET				smax			
	comp=E,2μm,0.4s						
PET				smax			
	comp=N,2μm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,23.0s						
PET	**Petropavlovsk**	2.08	234	*e*Pn	Pn	15 40 56.6	0.0
PET				*e*Sn	Sn	15 41 15.1	-6.2
PET	**Petropavlovsk**	2.08	234	*i* P	Pn	15 40 57.0	+0.4
PET				*i* S	Sn	15 41 21.5	+0.1
KBTR	**Krutoberegovo**	2.09	22	*e*P	Pn	15 40 56.8	+0.1
KBTR				*i* S	Sn	15 41 20.9	-0.6
KLY	**Klyuchi**	2.09	348	*i* P	Pn	15 40 56.5	-0.2
KLY				*i* S	Sn	15 41 20.2	-1.3
GNL	**Ganaly**	2.15	256	*e*P	Pn	15 40 58.4	+0.9
GNL				*i* S	Sn	15 41 23.3	+0.3
SRDR	**Sredinnyy**	2.27	335	*i* P	Pn	15 40 58.9	-0.2
SRDR				*i* S	Sn	15 41 24.2	-1.7
BDR	**Baidarnaya**	2.30	357	*e*P	Pn	15 41 00.1	+0.6
BDR				*i* S	Sn	15 41 26.5	-0.1
SMKR	**Semkarok**	2.31	0	*e*P	Pn	15 41 00.3	+0.6
SRKR	**Sorokina**	2.38	356	*i* P	Pn	15 41 01.2	+0.5
SRKR				*i* S	Sn	15 41 28.7	-0.1
RUS	**Russkaya**	2.55	225	*e*P	Pn	15 41 02.7	-0.3
RUS				*i* S	Sn	15 41 31.0	-1.8
GRL	**Gorelyy**	2.66	231	*e*P	Pn	15 41 05.5	+1.0
GRL				*i* S	Sn	15 41 35.7	+0.2
SKR	**Severo-Kuril's**	4.85	224	*e*PN	Pn	15 41 40.0	+5.5
SKR				*e*S	Sn	15 42 35.0	+5.6
SKR				smax			
	comp=N,110nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
BILL	**Biiibino**	13.99	8	*e*P	Pn	15 43 42.4	+3.0
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BILL	**Biiibino**	13.99	8	*e*Pn	Pn	15 43 42.4	+2.9
	comp=Z,3.2nm,0.7s						
YAK	**Yakutsk**	18.30	308	*e*P	Pn	15 44 40.8	+6.9
YAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YKA	**Yellowknife Ar**	41.75	44	P	P	15 48 06.8	-0.9
	comp=Z,0.6nm,0.6s,mb3.4,baz=301,slow=7.7,SNR=5.1						
BVAR	**Borovoye Array**	50.28	308	P	P	15 49 28.0	+13
	comp=Z,0.2nm,0.5s,mb3.4,baz=54,slow=7.8,SNR=2.1						
NVAR	**Mina Array Bea**	54.60	72	P	P	15 49 47.1	+0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=296,slow=7.9,SNR=4.2						
PDAR	**Pinedale Array**	56.25	62	P	P	15 49 58.4	-0.3
	comp=Z,0.5nm,0.6s,mb3.7,baz=327,slow=3.2,SNR=4.5						
ULM	**Lac du Bonnet**	57.43	48	P	P	15 50 05.6	-1.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=324,slow=8.7,SNR=4.0						
TXAR	**Lajitas Array**	69.44	68	P	P	15 51 26.8	+0.4
	comp=Z,1.2nm,0.6s,mb4.0,baz=302,slow=4.5,SNR=15						
TXAR	**Lajitas Array**	69.44	68	P	P	15 51 26.8	+0.4
WRA	**Warramunga Arr**	77.50	206	P	P	15 52 28.3	+15
	comp=Z,1.1nm,0.6s,mb4.0,baz=20,slow=6.1,SNR=9.1						
ASAR	**Alice Springs**	81.17	205	P	P	15 52 49.5	+16
	comp=Z,0.8nm,0.7s,mb3.8,baz=16,slow=5.7,SNR=9.9						

IDC 17 15:47:02.2±8.3,2000S×17525W,h60km±58km,mb3.5/3, mb1 3.9/4,mb1mx3.6/17,mbtmp3.6/4,ML2.3/1,MS3.6/1, Ms1 3.6/1,ms1mx2.9/20,Error ellipse: s-maj=127.5km s-min=21.8km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	6.90	29	P	Pn	15 48 41.3	+0.6
	3.0nm,0.3s,baz=263,slow=21,SNR=5.2						
AFI				S	Sn	15 49 58.5	+0.7
	0.9nm,0.3s,baz=16,slow=21,SNR=2.8						
HNR	**Honiara**	26.15	290	LR	LR	16 00 41.8	
	comp=Z,117nm,18.7s,baz=15,slow=31						
ASAR	**Alice Springs**	47.15	256	P	P	15 55 28.6	+0.2
	1.1nm,0.8s,baz=96,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	47.23	261	P	P	15 55 29.6	+0.5
	0.8nm,0.8s,baz=95,slow=8.3,SNR=3.6						
NVAR	**Mina Array Bea**	78.90	42	P	P	15 58 59.2	+0.2
	1.0nm,0.7s,baz=226,slow=7.2,SNR=4.9						
AKASG	**Malin Array Be**	143.77	334	PKP	PKPdf	16 06 29.2	-1.2
	1.2nm,0.6s,baz=38,slow=3.9,SNR=11						
BRTR	**Keskin Array B**	148.37	315	PKPbc	PKPbc	16 06 40.9	-0.9
	0.5nm,0.6s,baz=297,slow=5.4,SNR=2.7						
GERES	**GERESS Array B**	150.33	348	PKPbc	PKPbc	16 06 48.1	+1.5
	0.2nm,0.6s,baz=4.3,slow=5.4,SNR=3.7						

CASC 17 15:58:15.7±2.5,1399N×8974W,h8km±10km,MD3.8, ML3.7,1C-6D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.13**	**135**	⇓*iP*	x	15 58 30.5	
RTR				*eS*	x	15 58 35.2	
SNJE	**San Jose**	**0.18**	**133**	⇓*iP*	x	15 58 31.4	
SNJE				*eS*	x	15 58 34.2	
SBLS	**San Blas**	**0.19**	**143**	⇓*iP*	x	15 58 31.3	
SBLS				*eS*	x	15 58 34.6	
BOQS	**Boqueron**	**0.51**	**119**	⇓*eP*	x	15 58 37.6	
BOQS				*eS*	x	15 58 45.9	
SNET	**Serv Nac Est T**	**0.58**	**121**	*eP*	x	15 58 27.0	
SNET				*eS*	x	15 58 36.3	
LBRS	**Las Brisas**	**0.72**	**110**	⇓*iP*	x	15 58 41.3	
LBRS				*eS*	x	15 58 52.7	
LFRS	**El Faro**	**0.75**	**119**	⇓*eP*	x	15 58 41.7	
LFRS				*eS*	x	15 58 52.8	
LCBS	**La Ceiba**	**0.81**	**114**	*eP*	x	15 58 42.7	
LCBS				*eS*	x	15 58 54.6	
SNVI	**San Vicente**	**0.95**	**113**	*eP*	x	15 58 45.4	
SNVI				*eS*	x	15 58 58.7	
FUG	**Fuego 3**	**1.16**	**293**	*eP*	Pg	15 58 36.0	-2.0
FUG				*eS*	Sg	15 58 53.1	0.0
BLLM	**Bellamira**	**1.56**	**110**	⇓*eP*	x	15 58 55.8	
BLLM				*eS*	x	15 59 16.5	
JAT	**Jato**	**1.87**	**280**	*eP*	Pn	15 58 47.2	-0.8

*IDC **17** 16:04:30.0±2.9, 974S×10808E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=127.5km s-min=20.2km az=52.0*
*NEIC **17** 16:04:30.4±0.6, 1004S×10775E, h10km, mb4.3/3, Error ellipse: s-maj=25.6km s-min=10.1km az=51.0*
*ISCJB **17** 16:04:31.9±0.8, 101S±02×1078E±02, h35km, mb4.0/8, Error ellipse: s-maj=33.9km s-min=13.4km az=100.3*

ISC 17 16:04:34.1±0.8, 101S±02×1078E±02, h35km, n11, σ0°72/10, mb4.0/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.07**	**117**	P	**Pn**	**16 08 53.5**	**-0.8**
	0.0nm,0.3s,baz=270,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**27.43**	**114**	P	**P**	**16 10 16.6**	**+0.1**
	1.1nm,0.8s,mb3.5,baz=286,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**28.36**	**122**	P	**P**	**16 10 24.9**	**+0.2**
	0.8nm,0.7s,mb3.5,baz=307,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**38.06**	**130**	P	**P**	**16 11 50.4**	**+1.2**
	3.2nm,0.8s,mb4.1,baz=316,slow=8.4,SNR=7.5						
STKA	**Stephens Creek**	**38.06**	**130**	*eP*	**P**	**16 11 50.5**	**+1.3**
LSA	**Lhasa**	**42.66**	**338**	*eP*	**P**	**16 12 28.2**	**+1.0**
	4.4nm,0.8s,mb4.2						
LSA				*e*	pP	16 12 39.6	+2.2
SONM	**Songino Array**	**57.66**	**359**	P	**P**	**16 14 19.9**	**-1.0**
	1.2nm,0.7s,mb4.1,baz=176,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	**61.01**	**340**	P	**P**	**16 14 43.9**	**-0.1**
	0.7nm,0.8s,mb3.8,baz=162,slow=8.9,SNR=4.0						
MAW	**Mawson**	**64.68**	**197**	*eP*	**P**	**16 15 07.8**	**-0.6**
	3.0nm,0.3s,mb4.8						
CHKZ	**Chkalovo**	**70.89**	**338**	*eP*	**P**	**16 15 47.5**	**0.0**
	0.7nm,0.4s,mb3.9						
TXAR	**Lajitas Array**	**144.91**	**52**	PKP	PKPdf	16 24 09.1	+1.7
	0.8nm,0.9s,baz=199,slow=2.1,SNR=7.5						

*NEIC **17** 16:09:12.9, 3222S×7171W, h28km, ML2.9(GUC), After GUC.*

GUC 17 16:09:12.9±0.8, 3222S×7171W, h28km±3km, MD3.7, ML2.9, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.39**	**143**	⇓*iP*	Pb	16 09 21.4	0.0
PACH				*i* S	Sb	16 09 27.8	+0.4
PTCH	**Petorca**	**0.66**	**94**	⇓*iP*	Pb	16 09 26.0	0.0
PTCH				*i* S	Sb	16 09 35.5	+0.7
PTCH				AML	AML	16 09 38.9	
	comp=E,1μm,0.2s						
PTCH	**Petorca**	**0.66**	**94**	⇓*iP*	Pb	16 09 26.0	0.0
PTCH				*i* S	Sb	16 09 35.5	+0.7
ROCH	**El Roble**	**0.95**	**142**	*eP*	Pn	16 09 30.0	-0.3
ROCH				*i* S	Sn	16 09 43.4	+0.5
JACH	**Jahuel**	**1.05**	**116**	*iP*	Pn	16 09 31.6	-0.1
JACH				*i* S	Sn	16 09 46.2	+0.8
CMCH	**Combarbala**	**1.21**	**30**	⇑*iP*	Pn	16 09 34.0	+0.1
CMCH				*i* S	Sn	16 09 50.1	+0.8
CMCH				AML	AML	16 09 53.9	
	comp=E,871nm,0.6s						
CMCH	**Combarbala**	**1.21**	**30**	⇑*iP*	Pn	16 09 34.0	+0.1
CMCH				*i* S	Sn	16 09 50.1	+0.8
PEL	**Peldehue**	**1.26**	**137**	*eP*	Pn	16 09 35.0	+0.5
PEL				*i* S	Sn	16 09 52.0	+1.4
PEL				AML	AML	16 09 56.3	
	comp=E,550nm,0.2s						
RCDM	**Rinconada Maip**	**1.47**	**149**	⇑*iP*	Pn	16 09 38.3	+0.8
RCDM				*i* S	Sn	16 09 57.4	+1.6
RCDM				AML	AML	16 09 58.8	
	comp=N,344nm,0.1s						
RCDM	**Rinconada Maip**	**1.47**	**149**	⇑*iP*	Pn	16 09 38.3	+0.8
RCDM				*i* S	Sn	16 09 57.4	+1.6
CLCH	**Cerro Calan**	**1.53**	**140**	*eP*	Pn	16 09 39.4	+1.1
CLCH				*i* S	Sn	16 09 59.2	+2.0
CLCH				AML	AML	16 10 02.3	
	comp=E,191nm,0.2s						
TACH	**Talagante**	**1.57**	**156**	⇓*iP*	Pn	16 09 40.1	+1.3
TACH				*i* S	Sn	16 10 00.5	+2.4
ANTU	**Antumapu**	**1.62**	**146**	*i* S	Sn	16 10 01.4	+2.0
ANTU				AML	AML	16 10 11.4	
	comp=N,146nm,0.4s						
FCH	**Farellones**	**1.63**	**133**	*eP*	Pn	16 09 40.8	+1.2
FCH				*i* S	Sn	16 10 02.5	+2.9
FCH				AML	AML	16 10 04.3	
	comp=E,241nm,0.2s						
PCH	**Pirque**	**1.72**	**144**	⇑*iP*	Pn	16 09 42.7	+1.8
PCH				*i* S	Sn	16 10 05.1	+3.2
LNV	**Longovilo**	**1.75**	**172**	*eP*	Pn	16 09 42.4	+1.1
CHCH	**Chadas Angostu**	**1.92**	**153**	*eP*	Pn	16 09 45.1	+1.4
CHCH				*i* S	Sn	16 10 09.7	+2.8
LMEL	**Las Melosas**	**2.06**	**142**	*eP*	Pn	16 09 47.1	+1.6
LMEL				*i* S	Sn	16 10 13.1	+2.9
LMEL				AML	AML	16 10 19.9	
	comp=N,158nm,0.2s						
LMEL	**Las Melosas**	**2.06**	**142**	*eP*	Pn	16 09 47.1	+1.6
LMEL				*i* S	Sn	16 10 13.1	+2.9
CACH	**El Canelo**	**2.10**	**154**	*eP*	Pn	16 09 48.5	+2.3
CACH				*i* S	Sn	16 10 15.6	+4.2
TLL	**Tololo Astrono**	**2.19**	**21**	*eP*	Pn	16 09 49.7	+2.3
TLL				AML	AML	16 10 23.5	
	comp=N,128nm,0.4s						
CICH	**Cipreses**	**2.35**	**153**	*eP*	Pn	16 09 51.7	+2.0
SFDO	**San Fernando**	**2.45**	**166**	⇑*iP*	Pn	16 09 52.4	+1.4

*ISCJB **17** 16:13:25.3±0.8, 3234N±005×10390E±008, h10km, mb3.6/4, MS2.4/1, Error ellipse: s-maj=11.1km s-min=6.3km az=61.6*
*IDC **17** 16:13:25.9±1.2, 3222N×10354E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.6/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/34, Error ellipse: s-maj=47.1km s-min=23.4km az=50.0*
*BJI **17** 16:13:28.4, 3235N×10374E, h15km, ML3.5*

ISC 17 16:13:27.5±0.8, 3230N±005×10377E±008, h10km, n7, σ1°12/11, mb3.6/4, MS2.4/1, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.39**	**180**	P	**Pn**	**16 13 53.0**	**+0.1**
CD2				PG	**Pg**	**16 13 54.1**	**-0.1**
CD2				SG	**Sg**	**16 14 11.6**	**-0.6**
CD2				Smax			
	comp=N,2μm,0.6s						
CD2				Smax			
	comp=E,1μm,0.7s						
XAN	**Xi'an**	**4.66**	**67**	P	**Pn**	**16 14 40.8**	**+2.9**
XAN				PG	**Pg**	**16 14 52.3**	**-4.4**
XAN				SG	**Sg**	**16 15 55.6**	**-1.4**
XAN				Smax			
	comp=N,75nm,0.8s						
XAN				Smax			
	comp=E,62nm,1.0s						
KSRS	**Korea Array**	**20.45**	**69**	P	**P**	**16 18 07.0**	**+2.0**
	comp=E,2.3nm,0.7s,baz=253,slow=10,SNR=6.5						
KSRS				LR	LR	16 27 29.7	
	comp=E,16nm,21.0s,MS2.4,baz=5.0,slow=41						

MKAR	**Makanchi Array**	**21.89**	**318**	P	**P**	**16 18 20.1**	**-0.5**
	comp=E,1.7nm,0.9s,mb3.5,baz=114,slow=15,SNR=5.1						
FINES	**FINESS Array B**	**56.42**	**326**	P	**P**	**16 23 08.2**	**-1.0**
	comp=E,1.1nm,0.7s,mb4.0,baz=114,slow=4.8,SNR=4.6						
WRA	**Warramunga Arr**	**59.63**	**146**	P	**P**	**16 23 31.5**	**-0.1**
	comp=E,0.7nm,1.0s,mb3.7,baz=338,slow=7.6,SNR=7.2						
ASAR	**Alice Springs**	**62.66**	**149**	P	**P**	**16 23 53.2**	**+0.9**
	comp=E,0.1nm,0.6s,mb3.1,baz=334,slow=6.6,SNR=4.4						

*IDC **17** 16:23:56.3±0.6, 1337N×146.10E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.3/24, mbtmp4.2/15, MS3.8/4, Ms1 3.8/4, ms1mx3.3/34, Error ellipse: s-maj=18.0km s-min=14.1km az=67.0*
*BJI **17** 16:24:00.7, 1282N×14609E, h70km, mB4.8, mb4.5, Ms3.8, Msz3.4*
*NEIC **17** 16:24:01.8±1.9, 1336N×14604E, h40km±16km, mb4.7/11, Error ellipse: s-maj=14.6km s-min=7.1km az=85.0*
*ISCJB **17** 16:24:02.5±1.5, 1335N±005×14600E±0.10, h61km±11km, mb4.5/37, Error ellipse: s-maj=15.6km s-min=9.0km az=169.1*
*MOS **17** 16:24:02.4±1.1, 1342N×14590E, h54km, mb4.9/13, Error ellipse: s-maj=16.0km s-min=9.1km az=117.3*

ISC 17 16:24:02.1±1.9, 1339N±006×14609E±009, h40km±16km, n70, σ0°98/67, mb4.5/37, MS3.9/5, 6C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.21**	**280**	Pn	**Pn**	**16 24 21.9**	**-0.6**
	423nm,0.3s,baz=145,slow=7.9,SNR=231						
GUMO				Sn	**Sn**	**16 24 38.0**	**+0.4**
	396nm,0.3s,baz=245,slow=22,SNR=36						
GUMO	**Guam**	**1.21**	**280**	*eP*	**Pn**	**16 24 21.9**	**-0.6**
GUMO				Sn	**Sn**	**16 24 38.0**	**+0.4**
BUKP	**Musuan**	**21.37**	**257**	*eP*	**P**	**16 28 46.4**	**+0.3**
MJAR	**Matsushiro Arr**	**24.11**	**344**	P	**P**	**16 29 13.8**	**-0.2**
	2.6nm,0.4s,mb4.0,baz=196,slow=8.6,SNR=5.2						
MAJO	**Matsushiro**	**24.12**	**344**	*eP*	**P**	**16 29 12.7**	**-1.3**
HNR	**Honiara**	**26.52**	**148**	LR	LR	16 39 08.3	
	comp=Z,163nm,20.9s,MS3.5,baz=359,slow=34						
KSRS	**Korea Array**	**28.93**	**329**	P	**P**	**16 29 57.7**	**+0.3**
	9.3nm,1.0s,mb4.5,baz=146,slow=11,SNR=11						
KAKA	**Kakadu**	**29.25**	**208**	*eP*	**P**	**16 29 59.7**	**-0.6**
	7.7nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**35.08**	**199**	*eP*	**P**	**16 30 50.9**	**-0.4**
WRA	**Warramunga Arr**	**35.08**	**199**	P	**P**	**16 30 51.0**	**-0.3**
	1.8nm,0.7s,mb4.1,baz=23,slow=9.5,SNR=21						
HABR	**Khabarovsk**	**36.16**	**348**	P	**P**	**16 30 57.7**	**-2.9**
HABR				*eS*	**S**	**16 36 35.7**	**-1.9**
FITZ	**Fitzroy Crossi**	**37.23**	**213**	*eP*	**P**	**16 31 08.8**	**-0.9**
	9.1nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**38.71**	**198**	P	**P**	**16 31 22.0**	**-0.2**
	0.6nm,0.7s,mb3.5,baz=20,slow=8.9,SNR=19						
DZM	**Mont Dzumac**	**40.50**	**150**	P	**P**	**16 31 38.0**	**+0.9**
	6.9nm,1.0s,mb4.2,baz=323,slow=22,SNR=2.9						
PET	**Petropavlovsk**	**40.78**	**12**	⇑*eP*	**P**	**16 31 40.5**	**+1.1**
PET				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
HIA	**Hailar**	**41.83**	**334**	*eP*	**P**	**16 31 48.4**	**+0.4**
HIA	**Hailar**	**41.83**	**334**	*eP*	**P**	**16 31 48.6**	**+0.6**
	comp=Z,18nm,1.3s,mb4.5						
LZH	**Lanzhou**	**44.07**	**308**	*eP*	**P**	**16 32 06.5**	**+0.4**
LZH				*SP	sP	16 32 22.0	-0.2
LZH				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.6						
LZH	**Lanzhou**	**44.07**	**308**	*eP*	**P**	**16 32 06.5**	**+0.4**
	comp=Z,18nm,1.3s,mb4.6						
LZH				pP	pP	16 32 18.4	+0.9
LZH				sP	sP	16 32 22.0	-0.2
STKA	**Stephens Creek**	**45.21**	**185**	*eP*	**P**	**16 32 14.4**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**45.21**	**185**	P	**P**	**16 32 14.2**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.0,baz=352,slow=5.7,SNR=4.1						
SONM	**Songino Array**	**47.58**	**324**	P	**P**	**16 32 34.1**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=137,slow=7.2,SNR=10						
PSI	**Prapat**	**47.78**	**262**	P	**P**	**16 32 35.4**	**+0.1**
	comp=Z,1.7nm,0.3s,mb4.5,baz=127,slow=4.4,SNR=4.7						
PSI	**Prapat**	**47.78**	**262**	P	**P**	**16 32 35.4**	**+0.1**
GTA	**Gaotai**	**48.20**	**311**	⇑P	**P**	**16 32 39.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.3						
YAK	**Yakutsk**	**49.98**	**350**	*eP*	**P**	**16 32 50.7**	**-1.5**
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
YAK	**Yakutsk**	**49.98**	**350**	*eP*	**P**	**16 32 50.2**	**-2.0**
	comp=Z,12nm,0.8s,mb5.0						
BOD	**Bodaibo**	**50.53**	**338**	*eP*	**P**	**16 32 54.3**	**-2.1**
ZAK	**Zakamensk**	**50.67**	**326**	*eP*	**P**	**16 32 56.7**	**-0.7**
LSA	**Lhasa**	**53.15**	**297**	*eP*	**P**	**16 33 17.3**	**+1.4**
LSA	**Lhasa**	**53.15**	**297**	*eP*	**P**	**16 33 17.5**	**+1.6**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
LSA	**Lhasa**	**53.15**	**297**	*eP*	**P**	**16 33 17.5**	**+1.6**
	comp=Z,11nm,0.8s,mb4.8						
BILL	**Bilibino**	**56.17**	**9**	*eP*	**P**	**16 33 38.8**	**+1.0**
BILL				*e*		16 35 46.1	
BILL				*eS*	**S**	**16 41 20.2**	**-4.0**
BILL				*e*SS	SS	16 45 05.7	-5.3
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
BILL	**Bilibino**	**56.17**	**9**	*eP*	**P**	**16 33 38.0**	**+0.2**
	comp=Z,12nm,1.3s,mb4.8						
JIRN	**Jiri**	**57.38**	**294**	*eP*	**P**	**16 33 47.1**	**+0.8**
	comp=Z,17nm,0.9s,mb5.1						
GUN	**Gumba**	**57.66**	**295**	*eP*	**P**	**16 33 49.1**	**+0.8**
	comp=Z,36nm,1.0s,mb5.4						
PKI	**Pulchoki**	**58.07**	**294**	*eP*	**P**	**16 33 51.6**	**+0.4**
	comp=Z,8.3nm,0.6s,mb4.9						
KKN	**Kakani**	**58.19**	**294**	*eP*	**P**	**16 33 52.3**	**+0.3**
DMN	**Daman**	**58.34**	**294**	*eP*	**P**	**16 33 53.1**	**0.0**
	comp=Z,17nm,0.8s,mb5.1						
GKN	**Gorkha**	**58.76**	**295**	*eP*	**P**	**16 33 56.2**	**+0.2**
	comp=Z,16nm,0.7s,mb5.1						
TIXI	**Tiksi**	**59.16**	**354**	⇑*eP*	**P**	**16 34 00.9**	**+2.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
KOLN	**Koldanda**	**59.67**	**294**	*eP*	**P**	**16 34 02.6**	**+0.3**
	comp=Z,20nm,0.9s,mb5.2						
MKAR	**Makanchi Array**	**62.46**	**316**	P	**P**	**16 34 21.3**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.4,baz=92,slow=8.7,SNR=16						
MKAR	**Makanchi Array**	**62.46**	**316**	⇑*eP*	**P**	**16 34 21.7**	**+0.5**
MKAR	**Makanchi Array**	**62.46**	**316**	P	**P**	**16 34 21.3**	**0.0**
ZAL	**Zalesovo**	**62.49**	**324**	P	**P**	**16 34 20.4**	**-1.0**
	comp=Z,0.8nm,0.3s,mb4.3,baz=1.5,slow=15,SNR=4.1						
ZAL				LR	LR	17 03 39.7	
	comp=Z,78nm,18.6s,MS3.9,baz=83,slow=38						
NVS	**Novosibirsk**	**63.61**	**325**	*i* P	**P**	**16 34 28.3**	**-0.6**
KURK	**Kurchatov**	**65.50**	**320**	⇑*eP*	**P**	**16 34 41.3**	**+0.1**
KURK	**Kurchatov**	**65.50**	**320**	*eP*	**P**	**16 34 40.6**	**-0.6**
	comp=Z,14nm,1.1s,mb4.9						
CHKZ	**Chkalovo**	**70.72**	**322**	*eP*	**P**	**16 35 13.1**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**70.72**	**322**	*eP*	**P**	**16 35 13.1**	**-0.9**
	comp=Z,5.2nm,1.0s,mb4.4						
BRVK	**Borovoye**	**70.89**	**322**	*eP*	**P**	**16 35 14.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**70.89**	**322**	*eP*	**P**	**16 35 14.6**	**-0.3**
	comp=Z,6.4nm,0.9s,mb4.5						
INK	**Inuvik**	**74.10**	**22**	P	**P**	**16 35 34.6**	**+0.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=135,slow=1.4,SNR=3.5						
ARU	**Arti**	**77.61**	**325**	⇑*iP*	**P**	**16 35 54.5**	**+0.4**
ARU				*e*		16 38 50.4	
ARU				*eS*	S	16 45 46.2	+3.4
ARU				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
AKTK	**Aktyubinsk**	**78.59**	**319**	P	**P**	**16 36 01.4**	**+1.8**
AKTO	**Aktyubinsk**	**78.59**	**319**	P	**P**	**16 36 01.4**	**+1.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=76,slow=12						
YKA	**Yellowknife Ar**	**82.49**	**28**	P	**P**	**16 36 20.1**	**-0.3**
	comp=Z,1.6nm,1.0s,mb3.9,baz=287,slow=5.3,SNR=11						
NVAR	**Mina Array Bea**	**86.11**	**52**	P	**P**	**16 36 40.5**	**+1.7**
	comp=Z,0.8nm,0.6s,mb4.1,baz=275,slow=5.9,SNR=4.8						
PFO	**Pinyon Flat Ob**	**88.77**	**56**	LR	LR	17 09 03.7	
	comp=Z,87nm,20.8s,MS4.2,baz=286,slow=30						
OBN	**Obninsk**	**89.92**	**327**	*eP*	**P**	**16 36 55.3**	**-1.7**
OBN				*eS*	SKSac	16 47 25.2	+0.6
OBN				pmax	pmax		
	comp=Z,19nm,1.8s,mb5.1						
GNI	**Garni**	**89.94**	**311**	*eP*	**P**	**16 36 57.2**	**+0.1**
GNI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KIV	**Kislovodsk**	**90.22**	**315**	*eP*	**P**	**16 37 05.6**	**+7.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8						
FINES	**FINESS Array B**	**91.84**	**335**	P	**P**	**16 37 04.3**	**-1.6**
	comp=Z,4.6nm,1.0s,mb4.8,baz=77,slow=3.6,SNR=7.5						
FINES	**FINESS Array B**	**91.84**	**335**	*i* P	**P**	**16 37 05.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NOA	**NORSAR Array B**	**97.65**	**340**	LR	LR	17 21 18.4	
	comp=Z,25nm,19.8s,MS3.7,baz=180,slow=35						
TORD	**Torodi Ar. Bea**	**135.95**	**305**	PKP	PKPdf	16 43 20.7	+2.0
	comp=Z,0.1nm,0.6s,baz=80,slow=37,SNR=3.3						
TORD	**Torodi Ar. Bea**	**135.95**	**305**	PKP	PKPdf	16 43 20.7	+2.0
LPAZ	**La Paz**	**146.82**	**99**	PKPbc	PKPbc	16 43 40.9	+1.0
	comp=Z,3.1nm,0.9s,baz=340,slow=2.9,SNR=13						
LPAZ	**La Paz**	**146.82**	**99**	PKPbc	PKPbc	16 43 40.9	+1.0

*NIED **17** 17:15:00, 2990N×13240E, h5km, Mw3.9 Best double couple: M0 7.79000×10^14 NP1:φ0 29.00000°, δ60.00000°, λ-72.00000°. NP2:φ0 177.00000°, δ34.00000°, λ-118.00000°.*
*IDC **17** 17:15:28.3±1.2, 2984N×13240E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.6/24, mbtmp3.6/9, ML3.2/3, MS3.8/1, Ms1 3.8/1, ms1mx2.4/33, Error ellipse: s-maj=45.4km s-min=19.3km az=74.0*
*NEIC **17** 17:15:28.7±0.8, 3000N×13282E, h10km, mb3.8/1, Error ellipse: s-maj=23.4km s-min=14.8km az=81.0*
*ISCJB **17** 17:15:30.6±0.6, 2986N±004×13235E±005, h35km, mb3.6/7, Error ellipse: s-maj=6.7km s-min=5.0km az=21.2*
*JMA **17** 17:15:30.4±0.1, 2986N×13237E, h63km, M3.7*

ISC 17 17:15:32.7±0.6, 2988N±004×13230E±005, h35km, n23, σ0°90/30, mb3.6/7, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.38**	**304**	P	**Pn**	**17 15 54.8**	**-0.6**
JTN				S	**Sn**	**17 16 12.9**	**+0.5**
JTSR	**Tashiro 2**	**1.75**	**317**	P	**Pn**	**17 15 59.8**	**-0.7**
JTSR				S	**Sn**	**17 16 21.8**	**+0.3**
JNAR	**Kushima--Naru**	**1.86**	**332**	P	**Pn**	**17 16 01.7**	**-0.4**
JNAR				S	**Sn**	**17 16 24.4**	**0.0**
JKC	**Kuchinoerabu**	**1.91**	**288**	S	**Sn**	**17 16 26.7**	**+1.1**
JTZ	**Takazaki**	**2.27**	**333**	P	**Pn**	**17 16 07.0**	**-0.6**
JTZ				S	**Sn**	**17 16 34.1**	**-0.2**
JAM	**Amami Oshima**	**2.78**	**239**	P	**Pn**	**17 16 13.5**	**-1.1**
JAM				S	**Sn**	**17 16 46.4**	**-0.5**
JSJ	**Shimokoshiki**	**2.86**	**309**	S	**Sn**	**17 16 48.3**	**-0.6**
JTO	**Tosashimizu**	**3.00**	**8**	P	**Pn**	**17 16 16.2**	**-1.5**
JTO				S	**Sn**	**17 16 47.4**	**-5.0**
JNU	**Nakatsue**	**3.45**	**340**	Pn	**Pn**	**17 16 24.2**	**+0.3**
	3.7nm,0.3s,baz=237,slow=19,SNR=26						
JNU				Sn	**Sn**	**17 17 03.5**	**-0.1**
	19nm,0.3s,baz=214,slow=19,SNR=15						
JTK	**Tokunoshima**	**3.61**	**235**	P	**Pn**	**17 16 25.6**	**-0.4**
JTK				S	**Sn**	**17 17 07.4**	**0.0**
JMN	**Monobe**	**4.06**	**19**	P	**Pn**	**17 16 31.5**	**-0.8**
JHJ	**Hachijo jima 2**	**7.16**	**61**	LR	LR	17 19 45.5	
	comp=Z,672nm,20.1s,baz=77,slow=36						
MAJO	**Matsushiro**	**8.28**	**35**	*ePn	**Pn**	**17 17 24.1**	**-6.2**
MJAR	**Matsushiro Arr**	**8.28**	**35**	Pn	**Pn**	**17 17 31.1**	**+0.9**
	0.9nm,0.3s,baz=232,slow=4.1,SNR=4.4						
KSRS	**Korea Array**	**8.39**	**335**	Pn	**Pn**	**17 17 34.1**	**+2.4**
	baz=155,slow=14,SNR=2.9						
SONM	**Songino Array**	**26.79**	**319**	P	**P**	**17 21 09.1**	**-0.2**
	0.4nm,0.7s,mb3.1,baz=143,slow=9.4,SNR=4.0						
MKAR	**Makanchi Array**	**41.96**	**308**	P	**P**	**17 23 22.5**	**+2.4**
	1.0nm,0.5s,mb3.7,baz=88,slow=10,SNR=18						
MKAR	**Makanchi Array**	**41.96**	**308**	P	**P**	**17 23 22.5**	**+2.4**
WRA	**Warramunga Arr**	**49.57**	**177**	P	**P**	**17 24 19.9**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=355,slow=8.5,SNR=5.0						
CHKZ	**Chkalovo**	**49.95**	**317**	*eP*	**P**	**17 24 23.3**	**+0.2**
	0.6nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**53.26**	**178**	P	**P**	**17 24 49.2**	**+1.4**
	0.2nm,0.6s,mb3.3,baz=9.1,slow=13,SNR=4.5						
FINES	**FINESS Array B**	**71.45**	**331**	P	**P**	**17 26 49.1**	**-0.4**
	0.9nm,0.4s,mb4.0,baz=73,slow=5.3,SNR=11						
BRTR	**Keskin Array B**	**77.61**	**309**	P	**P**	**17 27 29.0**	**+3.8**
	0.7nm,0.9s,mb3.6,baz=94,slow=7.4,SNR=4.4						

WEL 17 17:56:28.8±0.3, 3778S×17579E, h280km±3km, ML3.6/4, Error ellipse: s-maj=5.5km s-min=4.4km az=90.0, North Island

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

0.9nm,0.7s,baz=127,slow=4.5,SNR=5.2
KHC Kasperske Hory 150.19 348⇑ *e*PKP PKPdf 18 16 09.5 +6.2
GERES GERESS Array B 150.44 348 PKPbc PKPbc 18 16 09.9 +0.8
1.3nm,0.6s,baz=31,slow=2.0,SNR=17

IDC 17 18:18:42.3±4.7, 4573N×15403E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, Error ellipse: s-maj=167.2km s-min=39.3km az=9.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.98**	**299**	P	P	18 27 22.6	-0.2
	0.3nm,0.6s,baz=68,slow=6.5,SNR=4.4						
FINES	**FINESS Array B**	**65.24**	**335**	P	P	18 29 25.0	-0.6
	1.6nm,0.9s,baz=46,slow=5.5,SNR=4.8						
TXAR	**Lajitas Array**	**77.43**	**61**	P	P	18 30 39.6	+0.2
	0.4nm,0.8s,baz=302,slow=3.0,SNR=6.1						

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*ISCJB **17** 18:30:55.3±1.2, 1900N±007×7950W±007, h10km, Error ellipse: s-maj=11.5km s-min=8.3km az=59.3*
*JSN **17** 18:30:55.2±1.0, 1917N×7968W, h30km, MD4.3, MW4.6*
*SSNC **17** 18:30:59.6, 1798N×7947W, h20km, MD3.4, ML3.2*
ISC 17 18:30:55.2±1.2, 1893N±008×7959W±007, h10km, n7, σ0§62/11, 1C-2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**2.06**	**119⇓**	*e*P	**Pn**	**18 31 29.4**	**-0.5**
MCJ				*e*S	**Sn**	**18 31 56.7**	**+1.0**
CVJ	**Coleyville**	**2.07**	**109⇓**	*e*P	**Pn**	**18 31 30.0**	**0.0**
LMGC	**Las Mercedes**	**2.69**	**65**	*e*PG	**Pg**	**18 31 46.8**	**+0.1**
LMGC				*e*SG	**Sg**	**18 32 21.6**	**0.0**
	comp=N,47nm,0.1s						
LMGC				*e*			
	comp=E,43nm,0.2s						
STH	**Stony Hill**	**2.77**	**107⇑**	*e*P	**Pn**	**18 31 39.9**	**+0.3**
STH				*e*S	**Sn**	**18 32 12.1**	**-1.1**
CCCC	**Cccc**	**2.84**	**37**	*e*P	**Pg**	**18 31 56.2**	**+6.6**
RCC	**Rio Carpintero**	**3.83**	**73**	*e*P	**Pn**	**18 31 59.1**	**+5.0**
RCC				*e*S	**Sn**	**18 32 43.5**	**+4.4**
	comp=N,15nm,0.7s						
RCC				*e*			
	comp=E,15nm,0.0s						
SOR	**Soroa**	**5.00**	**321**	*e*P	**Pb**	**18 32 22.8**	**0.0**

IDC 17 18:33:28.9±1.7, 415S×12934E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.5/17, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=111.9km s-min=23.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.34**	**194**	Pn	Pn	18 36 53.1	0.0
	0.1nm,0.3s,baz=18,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**16.44**	**163**	Pn	Pn	18 37 19.4	-1.5
	0.1nm,0.3s,baz=348,slow=13,SNR=6.0						
ASAR	**Alice Springs**	**19.90**	**168**	P	Pn	18 38 03.0	-0.4
	0.1nm,0.3s,baz=343,slow=9.9,SNR=14						
SONM	**Songino Array**	**55.54**	**341**	P	P	18 43 06.7	+0.8
	0.3nm,0.7s,baz=134,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	**65.50**	**326**	P	P	18 44 13.4	-0.5
	1.1nm,1.1s,baz=110,slow=7.7,SNR=7.5						

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*ISCJB **17** 19:05:37.1±0.4, 5898S±009×257W±0.1, h10km, mb4.5/15, MS4.0/10, Error ellipse: s-maj=13.7km s-min=9.7km az=48.2*
*IDC **17** 19:05:37.1±0.5, 5895S×2555W, h0km, mb4.6/11, mb1 4.7/12, mb1mx4.6/18, mbtmp4.6/12, ML5.0/1, MS3.8/9, Ms1 3.8/9, ms1mx3.7/17, Error ellipse: s-maj=20.9km s-min=16.8km az=16.0*
*BJI **17** 19:05:39.8, 5849S×2620W, h40km, mB4.7, Ms5.0, Msz4.7*
*NEIC **17** 19:05:42.6±1.9, 5902S×2566W, h38km±17km, mb4.6/9, Error ellipse: s-maj=12.0km s-min=7.7km az=201.0*
ISC 17 19:05:38.7±0.4, 5904S±009×257W±01, h10km, n62, σ0§86/26, mb4.5/15, MS4.0/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.68**	**153**	Pn	**Pn**	**19 09 19.9**	**+0.3**
	5.6nm,0.3s,baz=311,slow=14,SNR=238						
SNAA				Sn	**Sn**	**19 12 00.8**	**-13**
	0.7nm,0.3s,baz=201,slow=22,SNR=4.4						
SNAA				LR	LR	19 14 11.0	
	comp=Z,134nm,18.2s,baz=28,slow=33						
SNAA	**Sanae**	**15.68**	**153**	*e*Pn	**Pn**	**19 09 19.6**	**0.0**
	66nm,0.6s						
EFI	**East Falkland**	**19.68**	**278**	*e*P	**Pn**	**19 10 08.0**	**-1.2**
	8.8nm,0.5s						
USHA	**Ushuaia**	**23.40**	**262**	P	**P**	**19 10 49.8**	**+2.0**
	10.0nm,0.7s,mb4.4,baz=101,slow=12,SNR=7.0						
USHA				LR	LR	19 17 46.0	
	comp=Z,424nm,21.5s,MS3.9,baz=35,slow=31						
TRQA	**Tornquist**	**31.32**	**296**	*e*P	**P**	**19 11 59.7**	**+0.6**
PLCA	**Paso Flores**	**33.41**	**283**	P	**P**	**19 12 19.1**	**+1.7**
	4.6nm,0.9s,mb4.4,baz=161,slow=6.7,SNR=4.1						
PLCA	**Paso Flores**	**33.41**	**283**	*e*P	**P**	**19 12 17.4**	**0.0**
MAW	**Mawson**	**37.27**	**141**	LR	LR	19 26 01.9	
	comp=Z,192nm,20.5s,MS3.9,baz=251,slow=33						
MAW	**Mawson**	**37.27**	**141**	P	**P**	**19 12 50.4**	**-0.2**
	6.3nm,1.0s,mb4.4						
CFAA	**Coronel Fontan**	**39.54**	**295**	P	**P**	**19 13 09.6**	**-0.1**
	3.0nm,0.7s,mb4.1,baz=154,slow=6.5,SNR=24						
LCO	**Las Campanas**	**42.86**	**294**	*e*P	**P**	**19 13 36.4**	**-0.6**
	15nm,0.7s,mb4.8						
VNDA	**Vanda**	**43.61**	**182**	P	**P**	**19 13 44.4**	**+1.3**
	10nm,0.6s,mb4.7,baz=185,slow=6.6,SNR=88						
VNDA				LR	LR	19 29 21.8	
	comp=Z,174nm,21.2s,MS3.9,baz=216,slow=33						
VNDA	**Vanda**	**43.61**	**182**	*e*P	**P**	**19 13 44.2**	**+1.1**
	11nm,0.7s,mb4.7						
BOSA	**Boshof**	**46.02**	**72**	P	**P**	**19 14 02.7**	**+0.4**
	3.6nm,0.8s,mb4.3,baz=94,slow=3.1,SNR=6.3						
BOSA				LR	LR	19 29 50.2	
	comp=Z,57nm,21.6s,MS3.5,baz=197,slow=32						
LBTB	**Lobatse**	**49.19**	**69**	P	**P**	**19 14 26.6**	**-0.3**
	2.5nm,0.7s,mb4.4,baz=202,slow=7.6,SNR=7.8						
LBTB	**Lobatse**	**49.19**	**69**	*e*P	**P**	**19 14 26.5**	**-0.4**
	6.6nm,0.8s,mb4.7						
TSUM	**Tsumeb**	**50.52**	**57**	*e*P	**P**	**19 14 37.9**	**+0.8**
	3.1nm,0.7s,mb4.3						
LPAZ	**La Paz**	**52.78**	**305**	P	**P**	**19 14 53.2**	**-0.7**
	1.0nm,0.6s,mb3.9,baz=167,slow=8.1,SNR=7.8						
LPAZ				LR	LR	19 35 25.7	
	comp=Z,90nm,20.3s,MS3.8,baz=264,slow=34						
LPAZ	**La Paz**	**52.78**	**305**	P	**P**	**19 14 52.1**	**-1.8**
	1.8nm,0.6s,mb4.2						
LSZ	**Lusaka**	**58.77**	**66**	*e*P	**P**	**19 15 36.7**	**-0.2**
	6.2nm,0.7s,mb4.8						
ROSC	**El Rosal**	**74.44**	**309**	LR	LR	19 47 54.3	
	comp=Z,57nm,18.1s,MS3.9,baz=64,slow=34						
TOA0	**Torodi Ar. Sit**	**75.30**	**28**	*e*P	**P**	**19 17 22.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**75.30**	**28**	P	**P**	**19 17 22.4**	**+0.4**
	17nm,0.6s,mb5.1,baz=199,slow=6.3,SNR=212						
TORD				LR	LR	19 41 53.9	
	comp=Z,55nm,21.4s,MS3.8,baz=210,slow=29						
KMBO	**Kilima Mbogo**	**75.40**	**67**	LR	LR	19 47 45.8	
	comp=Z,106nm,18.5s,MS4.2,baz=91,slow=34						
STKA	**Stephens Creek**	**88.81**	**169**	P	**P**	**19 18 32.4**	**-0.4**
	5.2nm,0.7s,mb5.0,baz=164,slow=4.0,SNR=15						
STKA	**Stephens Creek**	**88.81**	**169**	*e*P	**P**	**19 18 31.9**	**-0.9**
ASAR	**Alice Springs**	**95.88**	**161**	P	**P**	**19 19 04.7**	**-0.8**
	3.6nm,0.7s,mb4.9,baz=184,slow=4.1,SNR=78						
ASAR				PP	PP	19 22 56.5	-0.9
	0.6nm,0.8s,baz=169,slow=7.7,SNR=5.7						
WRA	**Warramunga Arr**	**99.60**	**161**	P	**P**	**19 19 21.1**	**-1.1**
	0.7nm,0.8s,mb4.1,baz=193,slow=4.0,SNR=4.0						
AKASG	**Malin Array Be**	**118.13**	**36**	PKP	PKPdf	19 24 23.3	-2.6
	1.0nm,0.6s,baz=235,slow=1.5,SNR=7.0						
PDAR	**Pinedale Array**	**122.59**	**300**	PKP	PKPdf	19 24 32.2	-2.2
	0.2nm,0.4s,baz=118,slow=5.9,SNR=4.9						
ULM	**Lac du Bonnet**	**122.95**	**314**	PKP	PKPdf	19 24 32.8	-2.4
	2.5nm,0.5s,baz=98,slow=2.3,SNR=8.2						
NB2	**NORSAR Subarra**	**123.13**	**20**	PKPdf	PKPdf	19 24 33.2	-2.3
	comp=Z,2.5nm,0.9s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**123.13**	**20**	PKP	PKPdf	19 24 33.7	-1.8
	comp=Z,2.4nm,0.9s,baz=193,slow=1.6,SNR=4.4						
NOA	**NORSAR Array B**	**123.13**	**20**	PKP	PKPdf	19 24 33.7	-1.8
KOLN	**Koldanda**	**123.22**	**91**	*e*P	PKPdf	19 24 34.2	-1.4
	comp=Z,9.6nm,0.7s						
NVAR	**Mina Array Bea**	**123.27**	**290**	PKP	PKPdf	19 24 36.4	+0.6
	comp=Z,0.7nm,0.6s,baz=126,slow=2.3,SNR=4.3						
DMN	**Daman**	**123.87**	**92**	*e*P	PKPdf	19 24 35.9	-1.0
	comp=Z,2.3nm,0.2s						
GKN	**Gorkha**	**123.94**	**91**	*e*P	PKPdf	19 24 35.2	-1.8
	comp=Z,15nm,0.9s						
PKI	**Pulchoki**	**123.99**	**92**	*e*P	PKPdf	19 24 35.9	-1.2
KKN	**Kakani**	**124.10**	**92**	*e*P	PKPdf	19 24 36.1	-1.2
	comp=Z,6.4nm,0.6s						
JIRN	**Jiri**	**124.47**	**93**	*e*P	PKPdf	19 24 37.3	-0.7
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**124.51**	**93**	*e*P	PKPdf	19 24 37.2	-0.9
	comp=Z,15nm,0.8s						
FINES	**FINESS Array B**	**126.65**	**28**	PKP	PKPdf	19 24 39.9	-2.3
	comp=Z,1.4nm,0.5s,baz=143,slow=1.4,SNR=14						
LSA	**Lhasa**	**128.67**	**96**	*e*PKPdf	PKPdf	19 24 46.5	+0.4
ARCES	**ARCESS Array B**	**133.42**	**22**	PKP	PKPdf	19 24 52.9	-2.2
	comp=Z,4.8nm,0.8s,baz=219,slow=1.6,SNR=6.9						
CD2	**Chengdu**	**136.03**	**107**	*e*PKP	PKPdf	19 24 57.0	-2.9
CHKZ	**Chkalovo**	**136.19**	**59**	*e*P	PKPdf	19 24 58.2	-2.0
MKAR	**Makanchi Array**	**137.01**	**73**	PKhKP		19 24 51.0	
	comp=Z,0.3nm,0.5s,baz=225,slow=0.5,SNR=4.0						
MKAR				PKP	PKPdf	19 25 00.9	-0.9
	comp=Z,1.8nm,0.8s,baz=259,slow=2.5,SNR=5.9						
WMQ	**Urumqi**	**137.64**	**81**	*e*PKP	PKPdf	19 25 03.0	+0.1
WMQ				PP	PP	19 27 53.8	+4.5
WMQ				PKS		19 28 37.8	
WMQ				PPP		19 30 54.4	
WMQ				SKS	SKSdf	19 32 08.5	-5.2
WMQ				PP	PP		
	comp=Z,6.0nm,12.0s						
WMQ				LR	LR		
	comp=N,69nm,38.0s,MS4.2						
WMQ				LR	LR		
	comp=E,55nm,34.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,36nm,20.0s						
YKA	**Yellowknife Ar**	**138.91**	**315**	PKP	PKPdf	19 25 03.1	-2.2
	comp=Z,6.9nm,0.6s,baz=127,slow=2.4,SNR=19						
LZH	**Lanzhou**	**140.21**	**102**	*e*PKP	PKPdf	19 25 04.1	-3.5
GTA	**Gaotai**	**140.69**	**95**	*e*PKP	PKPdf	19 25 07.3	-1.2
ZAL	**Zalesovo**	**142.86**	**67**	PKhKP		19 25 06.4	
	comp=Z,1.1nm,0.5s,baz=158,slow=4.1,SNR=5.1						
HHC	**Hu-ho-hao-te**	**147.74**	**105**	*e*PKP	PKPdf	19 25 19.8	-0.9
HHC				APKP		19 25 28.9	
HHC				XPKP		19 25 33.1	
HHC				PKS		19 28 54.8	
HHC				LR	LR		
	comp=N,173nm,25.0s,MS4.9						
HHC				LR	LR		
	comp=E,169nm,25.0s,MS4.9						
INK	**Inuvik**	**148.60**	**317**	PKPbc	PKPbc	19 25 23.4	-2.5
	comp=E,9.2nm,0.7s,baz=47,slow=2.6,SNR=26						
INK	**Inuvik**	**148.60**	**317**	*e*PKPbc	PKPbc	19 25 23.0	-2.8
SONM	**Songino Array**	**149.98**	**90**	PKP	PKPdf	19 25 22.9	-1.5
	comp=E,1.8nm,0.8s,baz=212,slow=2.0,SNR=4.4						
SONM				PKPbc	PKPbc	19 25 27.8	-1.5
	comp=E,8.2nm,0.8s,baz=218,slow=2.8,SNR=50						
KSRS	**Korea Array**	**152.47**	**130**	PKPbc	PKPbc	19 25 33.5	-1.5
	comp=E,2.0nm,0.7s,baz=206,slow=1.7,SNR=6.9						
KSRS				PKPab	PKPab	19 25 44.9	-0.5
	comp=E,4.1nm,1.1s,baz=230,slow=3.3,SNR=4.4						
KDAK	**Kodiak Island**	**152.77**	**291**	PKPbc	PKPbc	19 25 33.5	-2.3
	comp=E,5.2nm,0.6s,baz=137,slow=5.8,SNR=3.9						
KDAK	**Kodiak Island**	**152.77**	**291**	PKPbc	PKPbc	19 25 33.5	-2.3
MCK	**McKinley**	**153.23**	**304**	*e*PKPbc	PKPbc	19 25 34.6	-2.1
IMA2	**Indian Mountai**	**155.71**	**309**	*e*PKPab	PKPab	19 25 57.2	-1.8

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*IDC **17** 19:10:03.9±2.5, 4341N×10524W, h0km, mb4.1/1, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.5/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/35, Error ellipse: s-maj=60.9km s-min=8.1km az=153.0*
*ISCJB **17** 19:10:04.8±0.6, 4376N±004×105.19W±006, h0km, mb4.5/1, MS3.5/1, Error ellipse: s-maj=6.5km s-min=5.7km az=0.9*
*NEIC **17** 19:10:06.2±0.5, 4372N×10523W, h0km, ML3.2, Error ellipse: s-maj=7.7km s-min=5.7km az=129.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 17 19:10:06.1±0.5, 4377N±004×10519W±006, h0km, n31, σ1§13/32, mb4.5/1, MS3.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**67**	*e*Pg	**Pg**	**19 10 24.8**	**+1.3**
PHWY	**Pilot Hill**	**2.47**	**185**	*e*Pn	**Pn**	**19 10 47.8**	**+0.1**
PHWY				*e*Sn	**Sn**	**19 11 19.8**	**+1.2**
RWWY	**Rawlins**	**2.56**	**216**	*e*Pn	**Pn**	**19 10 49.0**	**+0.1**
LAO	**LASA Array**	**3.01**	**346**	*e*Pn	**Pn**	**19 10 56.5**	**+1.5**
RLMT	**Red Lodge**	**3.22**	**296**	*e*Pn	**Pn**	**19 10 57.4**	**-0.5**
RLMT				*e*S	**Sb**	**19 11 44.5**	**+0.6**
BW06	**Boulder Array**	**3.34**	**254**	*e*Pn	**Pn**	**19 10 59.0**	**-0.7**
BW06				*e*Sg	**Sn**	**19 11 42.4**	**+2.3**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**19 10 59.0**	**-0.6**
	4.1nm,0.3s,baz=73,slow=16,SNR=84						
PDAR				Pg	**Pg**	**19 11 06.2**	**-4.0**
	9.4nm,0.3s,baz=74,slow=18,SNR=50						
PDAR				Lg		19 11 43.1	
	5.8nm,0.3s,baz=94,slow=21,SNR=3.7						
GCMT	**Greycliff**	**3.78**	**304**	*e*Pn	**Pn**	**19 11 05.8**	**+0.2**
ISCO	**Idaho Springs**	**3.98**	**185**	*e*Pn	**Pn**	**19 11 07.3**	**-1.1**
MOOW	**Moose Ponds**	**4.03**	**272**	*e*Pn	**Pn**	**19 11 09.9**	**+0.9**
SNOW	**Snow King Moun**	**4.05**	**268**	*e*Pn	**Pn**	**19 11 13.5**	**+4.1**
REDW	**Red Top Meadow**	**4.13**	**266**	*e*Pn	**Pn**	**19 11 10.5**	**-0.1**
REDW				*e*		19 11 17.9	
YMR	**Madison River**	**4.25**	**284**	*e*Pn	**Pn**	**19 11 13.8**	**+1.8**
AHID	**Auburn Hatcher**	**4.43**	**259**	Pn	**Pn**	**19 11 13.0**	**-1.6**
QLMT	**Earthquake Lak**	**4.60**	**285**	Pg	**Pg**	**19 11 27.4**	**-7.0**
BOZ	**Bozeman (W)**	**4.96**	**294**	*e*Pn	**Pn**	**19 11 20.9**	**-1.0**
HWUT	**Hardware Ranch**	**5.17**	**248**	*e*Pn	**Pn**	**19 11 23.6**	**-1.2**
	8.8nm,0.3s						
EGMT	**Eagleton**	**5.32**	**325**	*e*Pn	**Pn**	**19 11 24.9**	**-1.8**
	15nm,0.6s						
MCMT	**McKenzie Canyo**	**5.60**	**284**	*e*Pn	**Pn**	**19 11 34.6**	**+3.9**
DAU	**Daniels Canyon**	**5.62**	**235**	*e*Pn	**Pn**	**19 11 32.4**	**+1.4**
SRU	**San Rafael**	**6.14**	**223**	*e*Pn	**Pn**	**19 11 37.2**	**-0.9**
	9.9nm,0.3s						
TMUT	**Trail Mountain**	**6.35**	**227**	*e*Pn	**Pn**	**19 11 41.0**	**+0.1**
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*Pn	**Pn**	**19 11 42.6**	**-0.3**
DUG	**Dugway**	**6.71**	**240**	*e*Pn	**Pn**	**19 11 45.7**	**-0.1**
	3.2nm,0.4s						
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 12 18.1**	**-0.4**
	1.5nm,0.3s,baz=235,slow=11,SNR=17						
ULM				Pg	Pn	19 12 54.0	+36
	1.2nm,0.3s,baz=238,slow=12,SNR=5.8						
ULM				Lg		19 14 51.3	
	0.8nm,0.3s,baz=144,slow=4.9,SNR=3.3						
NEW	**Newport**	**9.44**	**303**	Lg		19 15 02.2	
	0.1nm,0.3s,baz=174,slow=21,SNR=2.6						
TKL	**Tuckaleechee C**	**18.32**	**109**	LR	LR	19 21 36.2	
	comp=Z,85nm,20.3s,baz=238,slow=38						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**19 14 37.7**	**+1.2**
	0.1nm,0.3s,baz=155,slow=8.6,SNR=4.7						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**19 14 37.7**	**+1.2**
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**19 20 21.7**	**-2.1**
	3.6nm,0.9s,mb4.5,baz=328,slow=8.5,SNR=3.6						
KEST	**Kesra**	**81.03**	**49**	LR	LR	19 55 41.2	
	comp=Z,22nm,20.9s,MS3.5,baz=253,slow=34						

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*NIED **17** 19:24:00, 4730N×15470E, h5km, Mw4.6 Best double couple: M0:8.10000×10^15 NP1:φs=217.00000°, δ70.00000°, λ-104.00000°. NP2:φs=73.00000°, δ24.00000°, λ-56.00000°.*
*IDC **17** 19:24:10.4±0.5, 4678N×15480E, h0km, mb4.3/20, mb1 4.5/21, mb1mx4.5/24, mbtmp4.3/21, ML4.2/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/38, Error ellipse: s-maj=15.9km s-min=13.4km az=138.0*
*ISCJB **17** 19:24:11.5±1.1, 4654N±005×15478E±005, h13km±7km, mb4.6/69, MS3.8/17, Error ellipse: s-maj=9.8km s-min=4.6km az=127.7*
*JMA **17** 19:24:12.3±0.8, 4734N×15466E, h30km, M5.3*
*NEIC **17** 19:24:12.0±0.3, 4679N×15481E, h10km, mb4.8/32, Error ellipse: s-maj=9.3km s-min=6.7km az=136.0*
*SKHL **17** 19:24:13.7±0.8, 4670N×155.10E, h50km±18km, mb5.5/3, ms4.1/2*
*BJI **17** 19:24:14.7, 4679N×154.14E, h10km, mB4.8, mb4.7, Ms4.6, Msz4.4*
*MOS **17** 19:24:16.0±2.4, 4661N×15462E, h40km, mb4.9/29, Error ellipse: s-maj=9.4km s-min=6.6km az=111.1*
*SZGRF **17** 19:24:25.3, 4757N×15430E, h33km, mb4.8, Kuril Islands, Russia*
ISC 17 19:24:15.4±1.2, 4656N±005×15475E±005, h27km±8km, h13km±1.1km: pP-P, n192, σ1§66/203, mb4.6/69, MS3.8/17, 10C-11D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.22**	**12**	*e*PN	**Pn**	**19 25 18.5**	**+0.5**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR				MLR	MLR		
	comp=Z,2μm,12.0s						
KUR	**Kuril'sk**	**4.99**	**257**	*i*P	**Pn**	**19 25 27.8**	**-0.6**
KUR				AMB	AMB	19 25 28.5	
	comp=Z,230nm,0.6s						
KUR				AMB	AMB	19 25 28.5	
	comp=Z,790nm,0.6s						
KUR				*e*S	**Sn**	**19 26 24.0**	**-1.2**
KUR				A		19 26 27.5	
	comp=Z,660nm,0.7s						
KUR				A		19 26 27.5	
	comp=Z,340nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.76**	**251⇑**	*i*PN	**Pn**	**19 25 53.9**	**+1.1**
YUK				pmax	pmax		
	comp=Z,440nm,0.3s						
YUK				pmax	pmax		
	comp=N,180nm,0.3s						
YUK				pmax	pmax		
	comp=E,130nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.76**	**251**	*e*P	**Pn**	**19 25 53.9**	**+1.1**
YUK				AMB	AMB	19 25 54.5	
	comp=E,180nm,0.3s						
YUK				AMB	AMB	19 25 54.5	
	comp=E,130nm,0.3s						
YUK				AMB	AMB	19 25 54.5	
	comp=E,440nm,0.3s						
YUK				*e*S	**Sn**	**19 27 08.5**	**-0.3**
YUK				A		19 27 14.9	
	comp=E,2μm,0.6s						
YUK				A		19 27 16.4	
	comp=E,420nm,0.5s						
YUK				A		19 27 16.4	
	comp=E,390nm,0.5s						
PET	**Petropavlovsk**	**6.95**	**20**	*e*PN	**Pn**	**19 25 49.5**	**-5.8**
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
PET	**Petropavlovsk**	**6.95**	**20**	*e*P	**Pn**	**19 25 49.2**	**-6.2**
PET				S	**Sn**	**19 26 59.6**	**-14**
NEM2	**Nemuro 2**	**7.14**	**247**	P	**Pn**	**19 25 57.5**	**-0.6**
NEM2				*e*S	**Sn**	**19 27 14.7**	**-3.6**
JRA	**Rausu**	**7.28**	**252**	P	**Pn**	**19 26 02.1**	**+2.1**
JNK	**Nakash**	**7.70**	**251**	P	**Pn**	**19 26 07.0**	**+1.3**
JAK	**Akkeshi**	**7.99**	**247**	P	**Pn**	**19 26 09.0**	**-0.7**
JTKR	**Abashiri--Toko**	**8.08**	**255**	P	**Pn**	**19 26 12.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**8.25**	**277**	*e*PN	**Pn**	**19 26 14.1**	**+0.9**
YSS				pmax	pmax		
	comp=Z,58nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.25**	**277**	*e*P	**Pn**	**19 26 18.2**	**+5.0**
	comp=Z,17nm,0.5s						
YSS				*e*S	**Sn**	**19 27 47.5**	**+2.0**
YSS	**Yuzh-Sakhalins**	**8.25**	**277**	*e*P	**Pn**	**19 26 17.8**	**+4.6**
YSS				*e*S	**Sn**	**19 27 46.5**	**+1.0**
YSS				A		19 27 49.1	
	comp=Z,30nm,0.8s						
YSS				AMS	AMS	19 30 14.0	
	comp=Z,400nm,14.0s						
YSS				AMS	AMS	19 30 14.0	
	comp=Z,500nm,14.0s						
JMP	**Maruseppu**	**8.43**	**256**	P	**Pn**	**19 26 17.6**	**+1.9**
JAR	**Ashorobuto**	**8.45**	**251**	P	**Pn**	**19 26 16.9**	**+1.0**
JAR				*e*S	**Sn**	**19 27 48.3**	**-2.1**
JOB	**Onbets**	**8.59**	**249**	*e*S	**Sn**	**19 27 51.3**	**-2.5**
JKK2	**Kamakawa 2**	**8.89**	**257**	P	**Pn**	**19 26 23.9**	**+1.9**
UGL	**Uglegorsk**	**8.90**	**291**	*e*PN	**Pn**	**19 26 25.0**	**+2.8**
UGL				pmax	pmax		
	comp=Z,37nm,0.7s						
UGL				MLR	MLR		
	comp=E,500nm,15.0s						
UGL				MLR	MLR		
	comp=Z,500nm,15.0s						
UGL				MLR	MLR		
	comp=N,650nm,12.0s						
ASAJ	**Asahikawa**	**8.90**	**258**	Pn	**Pn**	**19 26 24.9**	**+2.7**
	comp=N,4.6nm,0.3s,baz=80,slow=7.9,SNR=14						
ASAJ				LR	LR	19 30 04.7	
	comp=N,97nm,20.5s,baz=118,slow=39						
ASAJ	**Asahikawa**	**8.90**	**258**	P	**Pn**	**19 26 24.6**	**+2.4**
JCH	**Churui**	**9.03**	**248**	P	**Pn**	**19 26 24.0**	**0.0**
JCH				*e*S	**Sn**	**19 28 00.3**	**-4.5**
JFR	**Furan**	**9.28**	**253**	P	**Pn**	**19 26 29.4**	**+2.1**
JEM	**Erimo**	**9.47**	**246**	*e*S	**Sn**	**19 28 12.2**	**-3.4**
ERM	**Erimo**	**9.47**	**246**	*e*PN	**Pn**	**19 26 25.2**	**-4.8**
JNBK	**Urakawa-nobuka**	**9.59**	**248**	*e*S	**Sn**	**19 28 11.8**	**-6.7**
JBT2	**Biratori 2**	**9.60**	**251**	P	**Pn**	**19 26 32.2**	**+0.4**
JNB	**Noboribetsu**	**10.61**	**252**	*e*S	**Sn**	**19 28 39.5**	**-4.0**

KSRS LR LR 19 37 15.1
comp=Z,61nm,20.1s,MS3.0,baz=60,slow=36
BILL Bilibino 22.34 11⇓ *eP* **P 19 29 05.7 -5.3**
BILL *eS* **S 19 33 15.6 +0.2**
BILL pmax pmax
comp=Z,24nm,0.9s,mb4.6
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.3
BILL Bilibino 22.34 11 *eP* **P 19 29 07.4 -3.7**
comp=Z,12nm,0.8s,mb4.4
HIA Hailar 23.50 289 *eP* **P 19 29 18.7 -4.4**
BOD Bodaibo 26.98 310 *eP* **P 19 29 50.9 -3.9**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
TIXI Tiksi 27.98 343 *eP* **P 19 29 57.3 -6.4**
TIXI pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
TIXI MLR MLR
comp=Z,99nm,16.0s,MS3.5
TIXI Tiksi 27.98 343 *eP* **P 19 29 58.8 -4.9**
comp=Z,11nm,1.1s,mb4.4
BJI Beijing 28.61 271 P **P 19 30 07.8 -1.5**
BJI AMB AMB
comp=Z,4.0nm,0.5s,mb4.4
BJI Beijing 28.61 271 P **P 19 30 07.7 -1.6**
BJI pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
BJI Beijing 28.61 271 P **P 19 30 07.7 -1.6**
comp=Z,4.0nm,0.5s,mb4.4
JOW Kunigami 28.73 236 LR LR 19 40 59.9
comp=Z,191nm,20.3s,MS3.7,baz=83,slow=35
HHC Hu-ho-hao-te 31.43 275 *eP* **P 19 30 34.6 +0.3**
HHC XP sP 19 30 42.3 -3.3
HHC PP PP 19 31 37.6 -7.9
HHC S **S 19 35 40.8 +0.4**
HHC XS sS 19 35 48.0 -5.5
HHC AMB AMB
comp=Z,14nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,107nm,6.1s
HHC LR LR
comp=N,164nm,14.9s,MS4.0
HHC LR LR
comp=E,157nm,14.9s,MS4.0
HHC LR LR
comp=Z,189nm,14.3s,MS3.9
SONM Songino Array 32.46 290 P **P 19 30 41.7 -1.6**
comp=Z,1.8nm,0.6s,mb4.1,baz=74,slow=7.9,SNR=18
SONM PcP PcP 19 33 29.3 -0.8
comp=Z,0.3nm,0.6s,baz=84,slow=3.9,SNR=4.1
SONM LR LR 19 45 27.2
comp=Z,102nm,18.1s,MS3.6,baz=20,slow=39
SONM Songino Array 32.46 290 P **P 19 30 41.7 -1.6**
SONM 19 33 29.3
TLY Talaya 33.27 298 *eP* **P 19 30 48.7 -1.7**
TLY pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TLY MLR MLR
comp=Z,124nm,16.0s,MS3.7
TLY Talaya 33.27 298 *eP* **P 19 30 48.4 -2.1**
COLA College 35.59 38 *eP* **P 19 31 05.3 -5.2**
XAN Xi'an 36.63 267 P **P 19 31 18.9 -0.5**
XAN AMB AMB
comp=Z,14nm,0.8s,mb4.8
KRAR Krasnoyarsk 38.60 307 *eP* **P 19 31 29.4 -6.7**
KRAR pmax pmax
comp=Z,4.0nm,1.3s,mb4.0
LZH Lanzhou 39.02 273 *eP* **P 19 31 41.5 +1.9**
LZH AP pP 19 31 44.8 -2.9
LZH XP sP 19 31 46.6 -4.3
LZH PP PP 19 33 13.8 +4.5
LZH *eS* **S 19 37 37.0 0.0**
LZH XS sS 19 37 43.0 -7.3
LZH SS SS 19 40 19.3 -10
LZH AMB AMB
comp=Z,39nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,210nm,6.0s
LZH LR LR
comp=N,420nm,13.1s
LZH LR LR
comp=Z,630nm,14.8s,MS4.6
LZH Lanzhou 39.02 273 *eP* **P 19 31 41.5 +1.9**
LZH 19 33 13.7
LZH *eS* **S 19 37 37.0 0.0**
LZH SS SS 19 40 19.2 -10
LZH pmax pmax
comp=Z,39nm,1.5s,mb4.9
LZH MLR MLR
comp=Z,630nm,14.8s,MS4.6
LZH Lanzhou 39.02 273 *eP* **P 19 31 41.5 +1.9**
comp=Z,39nm,1.5s,mb4.9
LZH pP pP 19 31 44.8 -2.9
LZH sP sP 19 31 46.6 -4.3
LZH PP PP 19 33 13.7 +4.4
LZH *eS* **S 19 37 37.0 0.0**
LZH sS sS 19 37 43.0 -7.3
LZH SS SS 19 40 19.2 -10
LZH LR LR
comp=Z,630nm,14.8s,MS4.6
GTA Gaotai 40.12 280 *eP* **P 19 31 49.9 +1.2**
GTA AP pP 19 31 53.3 -3.5
GTA XP sP 19 31 56.5 -3.6
GTA PP PP 19 33 25.8 +4.6
GTA PCP PcP 19 33 53.0 +0.1
GTA S **S 19 37 57.9 +4.5**
GTA XS sS 19 38 04.4 -2.3
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
GTA AMB AMB
comp=Z,69nm,3.8s
GTA LR LR
comp=N,108nm,13.7s,MS4.0
GTA LR LR
comp=E,93nm,14.5s,MS4.0
GTA LR LR
comp=Z,143nm,13.3s,MS4.0
INK Inuvik 41.21 32 P **P 19 31 54.9 -2.8**
comp=Z,3.8nm,0.5s,mb4.3,baz=267,slow=7.3,SNR=21
INK Inuvik 41.21 32 *eP* **P 19 31 54.5 -3.3**
comp=Z,254nm,0.9s
CD2 Chengdu 41.99 267 P **P 19 32 04.0 -0.2**
CD2 AP pP 19 32 08.3 -4.0
CD2 XP sP 19 32 11.0 -4.5
CD2 PP PP 19 33 44.8 +3.3
CD2 S **S 19 38 22.0 +0.7**
CD2 XS sS 19 38 30.0 -4.6
CD2 SS SS 19 41 23.6 -5.1
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,250nm,5.9s
CD2 LR LR
comp=N,300nm,8.3s
CD2 LR LR
comp=E,240nm,10.3s
CD2 LR LR
comp=Z,340nm,11.3s,MS4.5
GYA Guiyang 42.78 259⇑ *iP* **P 19 32 12.5 +1.9**
GYA AP pP 19 32 16.9 -1.8
GYA XP sP 19 32 19.8 -2.2
GYA PP PP 19 33 53.6 +3.6
GYA PCP PcP 19 34 03.4 +1.8
GYA SCP ScP 19 37 53.3 +2.6
GYA S **S 19 38 35.6 +2.7**
GYA SS SS 19 41 39.8 -4.4
GYA SCS ScS 19 42 10.6 +0.8
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,590nm,15.8s,MS4.7
GYA LR LR
comp=E,420nm,15.4s,MS4.7
GYA LR LR
comp=Z,460nm,15.3s,MS4.5
ZAL Zalesovo 43.65 306 P **P 19 32 14.7 -2.9**
comp=Z,3.8nm,0.5s,mb4.4,baz=45,slow=8.0,SNR=19
ZAL LR LR 19 52 34.4
comp=Z,89nm,18.2s,MS3.7,baz=84,slow=39
WMQ Urumqi 46.05 292 *eP* **P 19 32 37.3 +0.6**
WMQ PCP PcP 19 34 15.1 +2.3
WMQ PP PP 19 34 26.4 +1.6
WMQ PPP 19 35 08.8
WMQ S **S 19 39 21.1 +0.8**
WMQ SCS ScS 19 42 29.9 -0.6
WMQ SS SS 19 42 38.0 -7.4
WMQ LR LR
comp=N,55nm,22.0s,MS3.5
WMQ LR LR
comp=E,7.0nm,22.0s,MS3.5
WMQ LR LR
comp=Z,52nm,17.0s,MS3.5
KMI Kunming 46.32 261 P **P 19 32 37.3 -1.6**
KMI AP pP 19 32 49.1 +2.1
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
KMI Kunming 46.32 261 P **P 19 32 37.3 -1.6**
comp=Z,8.0nm,1.3s,mb4.5
KMI pP pP 19 32 49.1 +2.1
MKAR Makanchi Array 48.03 298 P **P 19 32 50.8 -1.4**
comp=Z,2.1nm,0.5s,mb4.4,baz=70,slow=7.4,SNR=27
KURK Kurchatov 48.41 304 *eP* **P 19 32 53.0 -2.1**
KURK *e* 19 33 04.7
KURK pmax pmax
comp=Z,12nm,0.8s,mb5.0
KURK Kurchatov 48.41 304 *eP* **P 19 32 53.0 -2.1**
comp=Z,12nm,0.8s,mb5.0
KURK *e* 19 33 04.7
YKA Yellowknife Ar 50.40 37 P **P 19 33 07.3 -2.9**
comp=Z,1.8nm,0.8s,mb4.1,baz=296,slow=7.3,SNR=16
YKA PcP PcP 19 34 26.5 -2.0
comp=Z,0.2nm,0.6s,baz=300,slow=3.4,SNR=6.3
YKA Yellowknife Ar 50.40 37 P **P 19 33 07.3 -2.9**
YKA PcP PcP 19 34 26.5 -2.0
LSA Lhasa 51.41 274 P **P 19 33 21.0 +3.1**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 51.41 274 *eP* **P 19 33 20.4 +2.5**
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.1
LSA Lhasa 51.41 274 *eP* **P 19 33 20.4 +2.5**
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 51.41 311 *eP* **P 19 33 15.4 -2.5**
CHKZ *e* 19 33 27.1
CHKZ pmax pmax
comp=Z,13nm,0.4s,mb5.2
CHKZ Chkalovo 51.41 311 *eP* **P 19 33 15.4 -2.6**
comp=Z,13nm,0.4s,mb5.2
CHKZ *e* 19 33 27.1
BRVK Borovoye 51.89 310 *eP* **P 19 33 19.5 -2.0**
BRVK *e* 19 33 30.5
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 51.89 310 *eP* **P 19 33 19.5 -1.9**
comp=Z,7.0nm,0.6s,mb4.8
BRVK *e* 19 33 30.5
ARU Arti 55.91 318 *eP* **P 19 33 48.7 -2.2**
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARU Arti 55.91 318 *eP* **P 19 33 48.5 -2.4**
comp=Z,10nm,0.6s,mb5.0
JIRN Jiri 56.09 276 *eP* **P 19 33 53.5 +1.4**
comp=Z,29nm,0.7s,mb5.4
GUN Gumba 56.14 276 *eP* **P 19 33 54.4 +1.9**
comp=Z,16nm,0.4s,mb5.4
KKN Kakani 56.63 277 *eP* **P 19 33 57.6 +1.6**
comp=Z,16nm,0.6s,mb5.2
PKI Pulchoki 56.68 276 *eP* **P 19 33 58.4 +2.1**
DMN Daman 56.86 276 *eP* **P 19 33 59.7 +2.1**
comp=Z,81nm,1.0s,mb5.7
GKN Gorkha 56.94 277 *eP* **P 19 33 59.3 +1.1**
comp=Z,29nm,0.7s,mb5.4
KOLN Koldanda 57.79 278 *eP* **P 19 34 05.3 +1.1**
comp=Z,32nm,1.0s,mb5.3
ARCES ARCESS Array B 58.40 341 P **P 19 34 06.3 -2.2**
comp=Z,8.6nm,1.0s,mb4.8,baz=42,slow=7.5,SNR=8.9
ARCES LR LR 20 00 20.4
comp=Z,62nm,19.9s,MS3.7,baz=196,slow=37
ARCES ARCESS Array B 58.40 341 P **P 19 34 06.3 -2.2**
ARCES LR LR 20 00 20.4
KLMR Klimovskoe 60.85 330 *eP* **P 19 34 22.1 -3.2**
KLMR pmax pmax
comp=Z,36nm,1.8s,mb5.2
NVAR Mina Array Bea 61.52 63 P **P 19 34 28.7 -1.1**
comp=Z,1.0nm,0.8s,mb4.0,baz=307,slow=6.6,SNR=4.3
JOF Joensuu 62.00 334 *ep* **P 19 34 29.7 -3.4**
comp=Z,2.6nm,0.4s,mb4.7
KAKA Kakadu 62.31 205 *eP* **P 19 34 36.0 +0.8**
comp=Z,10.0nm,0.9s,mb5.0
DUG Dugway 63.72 59 *eP* **P 19 34 42.4 -2.1**
DUG pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
DUG Dugway 63.72 59 *eP* **P 19 34 42.4 -2.1**
comp=Z,2.0nm,0.8s,mb4.2
BW06 Boulder Array 63.94 55 *eP* **P 19 34 43.8 -2.2**
comp=Z,8.8nm,0.9s,mb4.3
PDAR Pinedale Array 63.94 55 P **P 19 34 44.5 -1.6**
comp=Z,2.1nm,0.8s,mb4.2,baz=296,slow=2.1,SNR=16
KAF Kangasniemi 64.09 336 *ep* **P 19 34 44.0 -3.0**
comp=Z,2.4nm,0.4s,mb4.6
KAF Kangasniemi 64.09 336 *eP* **P 19 34 44.0 -3.0**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
FINES FINESS Array B 64.69 335 P **P 19 34 48.5 -2.5**
comp=Z,3.8nm,0.4s,mb4.8,baz=40,slow=7.4,SNR=50
ULM Lac du Bonnet 65.92 42 P **P 19 34 56.6 -2.3**
comp=Z,2.4nm,0.7s,mb4.3,baz=310,slow=8.9,SNR=7.1
WB2 Warramunga Arr 68.71 201 *eP* **P 19 35 17.4 +0.8**
WRA Warramunga Arr 68.71 201 P **P 19 35 17.1 +0.5**
comp=Z,3.7nm,0.7s,mb4.4,baz=19,slow=6.9,SNR=25
NB2 NORSAR Subarra 68.77 342 P **P 19 35 15.6 -1.3**
comp=Z,13nm,1.1s,mb4.8,baz=26,slow=6.5
NOA NORSAR Array B 68.77 342 P **P 19 35 15.2 -1.7**
comp=Z,4.7nm,0.9s,mb4.4,baz=26,slow=6.4,SNR=9.6
FITZ Fitzroy Crossi 69.52 210 *eP* **P 19 35 23.0 +1.4**
comp=Z,6.3nm,0.6s,mb4.7
KIV Kislovodsk 71.74 315 *eP* **P 19 35 31.0 -4.1**
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KIV MLR MLR
comp=Z,41nm,18.0s,MS3.7
AKASG Malin Array Be 72.33 327 P **P 19 35 35.7 -2.9**
comp=Z,1.6nm,0.5s,mb4.2,baz=32,slow=6.1,SNR=11
ASAR Alice Springs 72.40 200 P **P 19 35 40.5 +1.5**
comp=Z,6.7nm,0.8s,mb4.7,baz=16,slow=5.3,SNR=116
OJC Ojcow 76.03 332 *eP* X 19 36 01.3
STHS Stebnicka Huta 76.24 331 *eP* **P 19 36 03.0 +1.6**
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
STHS Stebnicka Huta 76.24 331 *eP* **P 19 36 03.0 +1.6**
comp=Z,6.1nm,1.0s,mb4.5
KOLS Kolonicke sedl 76.30 330 *eP* **P 19 36 01.8 0.0**
KOLS Kolonicke sedl 76.30 330 *eP* **P 19 36 01.9 +0.1**
BURAR Bucovina Array 76.36 328 *i*P **P 19 36 00.2 -1.9**
LTX Lajitas 76.60 62 *eP* **P 19 36 01.6 -1.8**
LTX pmax pmax
comp=Z,15nm,1.0s,mb4.9
LTX Lajitas 76.60 62 *eP* **P 19 36 01.6 -1.9**
comp=Z,15nm,1.0s,mb4.9
TXAR Lajitas Array 76.60 62 P **P 19 36 02.2 -1.2**
comp=Z,9.5nm,0.6s,mb4.9,baz=304,slow=4.9,SNR=137
TXAR Lajitas Array 76.60 62 P **P 19 36 02.2 -1.2**
CRVS Cervenica-Dubn 76.61 330 *eP* **P 19 36 04.9 +1.4**
UPC Upice 76.95 334 *ep*P pP 19 36 08.8 -5.2
DPC Dobruska-Polom 77.00 334 *eP* **P 19 36 06.6 +0.9**
CLL Collm 77.10 337 *i* P **P 19 36 07.2 +0.9**
CLL *i* 19 36 18.7
CLL *i* 19 36 20.1
CLL pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CLL Collm 77.10 337 *i* P **P 19 36 07.2 +0.9**
comp=Z,10.0nm,0.7s,mb4.8
CLL *i* 19 36 09.0
CLL *i* P 19 36 18.7
CLL *i* 19 36 20.1
CLL Collm 77.10 337 *i* pP **P 19 36 07.2 +0.9**
comp=Z,10.0nm,0.7s,mb4.8
CLL *i* sP sP 19 36 09.0 -9.0
comp=Z,14nm,0.8s
CLL *i* pPcP 19 36 18.7
comp=Z,6.0nm,0.5s
CLL *i* sPcP 19 36 20.1
comp=Z,15nm,1.2s
MORC Moravsky Berou 77.13 333⇑ *iP* **P 19 36 08.5 +2.1**
BRG Berggiesshubel 77.23 336 *eP* **P 19 36 08.4 +1.4**
comp=Z,2.1nm,0.7s,mb4.2
BRG *e* 19 36 21.0
comp=Z,4.3nm,1.3s
BRG Berggiesshubel 77.23 336 *eP* **P 19 36 08.4 +1.4**
BRG *e* 19 36 21.0
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
PLOR Plostina 77.29 326⇑ *iP* **P 19 36 12.1 +4.8**
PVCC Panska Ves 77.36 335 *eP* **P 19 36 09.0 +1.3**
VRAC Vranov 77.83 333 LR LR 20 11 41.0
comp=Z,111nm,19.5s,MS4.2,baz=178,slow=37
VRAC Vranov 77.83 333⇓ *iP* **P 19 36 11.5 +1.1**
VYHS Vyhne 77.84 332 *eP* **P 19 36 11.8 +1.4**
PRU Pruhonice 77.85 335 *eP* **P 19 36 11.5 +1.1**
MLR Muntele Rosu 77.86 326⇓ *iP* **P 19 36 10.1 -0.4**
MOX Moxa 78.08 337 *eP* **P 19 36 14.4 +2.7**
comp=Z,8.0nm,1.3s,mb4.5
MOX Moxa 78.08 337 *eP* **P 19 36 14.4 +2.7**
MOX pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
TREC Trest 78.18 334 *ep*P pP 19 36 15.3 -5.6
NKC Novy Kostel 78.22 336 *ep*P pP 19 36 15.9 -5.2
VOIR 78.25 326⇑⇑ *iP* **P 19 36 15.5 +2.8**
VOIR 78.25 326⇑ *iP* **P 19 36 15.4 +2.7**
KHC Kasperske Hory 78.89 335 *eP* **P 19 36 14.9 -1.3**
KHC *ep*P pP 19 36 18.0 -6.8
KHC Kasperske Hory 78.89 335 *eP* **P 19 36 14.1 -2.1**
STKA Stephens Creek 78.97 191 P **P 19 36 16.9 +0.2**
comp=Z,1.7nm,0.7s,mb4.1,baz=327,slow=12,SNR=5.7
GRA1 Grafenberg Arr 79.05 337 *eP* **P 19 36 18.9 +1.8**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.05 337 *eP* **P 19 36 18.9 +1.8**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.05 337 *eP* **P 19 36 18.9 +1.8**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.05 337 *eP* **P 19 36 18.9 +1.8**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GERES GERESS Array B 79.11 335 P **P 19 36 15.6 -1.9**
comp=Z,1.2nm,0.6s,mb4.0,baz=35,slow=4.9,SNR=12
GZR Gura Zlata 79.14 328⇓ *iP* **P 19 36 18.9 +1.3**
BRTR Keskin Array B 79.30 318 P **P 19 36 17.7 -0.7**
comp=Z,2.0nm,0.8s,mb4.1,baz=63,slow=3.6,SNR=10
BZS Buzias 79.37 329⇓ *iP* **P 19 36 20.1 +1.3**
MEM Membach 79.52 340 E 19 36 22.0
BCLA Clavier 79.86 341 E 19 36 25.8
KBA Koelnbreinsper 80.81 334⇑ *iP* **P 19 36 26.0 -0.6**
comp=Z,12nm,0.7s,mb5.0
KBA Koelnbreinsper 80.81 334⇑ *iP* **P 19 36 26.0 -0.6**
KBA pmax pmax
comp=Z,12nm,0.6s,mb5.0
WATA Walderalm 81.09 336⇓ *iP* **P 19 36 30.4 +2.3**
comp=Z,7.9nm,1.2s,mb4.5
WATA Walderalm 81.09 336⇓ *iP* **P 19 36 30.4 +2.3**
WATA pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
WATA Walderalm 81.09 336⇓ *iP* **P 19 36 30.4 +2.3**
comp=Z,7.9nm,1.2s,mb4.5
WTTA Wattenberg 81.14 336⇑ *iP* **P 19 36 31.3 +2.9**
comp=Z,7.9nm,0.7s,mb4.7
WTTA Wattenberg 81.14 336⇑ *iP* **P 19 36 31.3 +2.9**
WTTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MOTA Moosalm 81.22 336⇓ *iP* **P 19 36 30.7 +1.9**
comp=Z,9.9nm,1.2s,mb4.6
MOTA Moosalm 81.22 336⇓ *iP* **P 19 36 30.7 +1.9**
MOTA pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CDF Champ du Feu 81.25 339 *eP* **P 19 36 30.4 +1.4**
comp=Z,6.6nm,0.7s,mb4.4
CDF Champ du Feu 81.25 339 *eP* **P 19 36 30.4 +1.4**
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CDF Champ du Feu 81.25 339 *eP* **P 19 36 30.4 +1.4**
comp=Z,3.3nm,0.7s,mb4.4
GRR Gorron 83.07 344 *eP* **P 19 36 40.7 +2.2**
SMF Signal de Mont 83.73 340 *eP* **P 19 36 44.1 +2.2**
comp=Z,30nm,1.2s,mb5.0
SMF Signal de Mont 83.73 340 *eP* **P 19 36 44.1 +2.2**
SMF pmax pmax
comp=Z,15nm,1.2s,mb5.0
SMF Signal de Mont 83.73 340 *eP* **P 19 36 44.1 +2.2**
comp=Z,15nm,1.2s,mb5.0
LPG La Plagne 84.09 338 *eP* **P 19 36 46.8 +3.1**
comp=Z,12nm,0.7s,mb4.9
LPG La Plagne 84.09 338 *eP* **P 19 36 46.8 +3.1**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
LPG La Plagne 84.09 338 *eP* **P 19 36 46.8 +3.1**
comp=Z,6.2nm,0.7s,mb4.8
CAF Calviac 85.77 341 *eP* **P 19 36 54.2 +2.1**
comp=Z,10.0nm,0.9s,mb4.8
CAF Calviac 85.77 341 *eP* **P 19 36 54.2 +2.1**
CAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
CAF Calviac 85.77 341 *eP* **P 19 36 54.2 +2.1**
comp=Z,5.0nm,0.9s,mb4.7
CMIG Matias Romero 91.05 64 P **P 19 37 15.6 -1.7**
comp=Z,1.2nm,0.5s,mb4.5,baz=16,slow=5.4,SNR=4.3
ESDC Sonseca Array 92.06 344 P **P 19 37 19.4 -2.6**
comp=Z,0.2nm,0.5s,mb3.7,baz=2.7,slow=3.3,SNR=3.3
TORD Torodi Ar. Bea 115.83 331 PKP PKPdf 19 42 54.1 -1.3
comp=Z,0.4nm,0.5s,baz=357,slow=0.4,SNR=6.3
PLCA Paso Flores 147.06 97 PKPbc PKPbc 19 43 55.0 -0.7
comp=Z,5.2nm,0.9s,baz=242,slow=4.5,SNR=6.2
SNAA Sanae 152.68 195 PKPbc PKPbc 19 44 07.4 -2.1
comp=Z,0.8nm,0.7s,baz=9.8,slow=1.8,SNR=8.2
SNAA PKPab PKPab 19 44 17.2 -3.0
comp=Z,1.0nm,0.8s,baz=62,slow=4.9,SNR=4.7

MAN 17 19:24:43.0, 1601N×12189E, h33km, mb2.7, ML4.2, MS3.4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.40**	**228**	*eP*	Pb	19 24 53.2	+1.1
BALP				*eS*	Sb	19 25 00.6	+2.2
PCPH	**Palayan**	**0.88**	**240⇓**	*eP*	Pn	19 25 00.2	+1.1
PCPH				*eS*	Sn	19 25 12.5	+1.7
CAUP	**Cauayan**	**0.93**	**356**	*eP*	Pn	19 24 58.9	-0.9
CAUP				*eS*	Sn	19 25 11.5	-0.4
POLP	**Polilio Island**	**1.28**	**178**	*eP*	Sn	19 25 26.5	+6.0
BCPH	**Baguio City Da**	**1.31**	**286⇓**	*eP*	Pn	19 25 04.8	-0.1
BCPH				*i* S	Sn	19 25 21.2	0.0

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*NEIC **17** 19:45:56.2, 3824S×17973E, h33km, ML3.7(WEL), After WEL.*

WEL 17 19:45:56.8±0.3, 3822S×17967E, h33km, ML3.7/7, Error ellipse: s-maj=3.0km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.12**	**277**	SN	Sn	19 46 29.3	-1.2
MXZ	**Matakaoa Point**	**1.26**	**301**	P	Pn	19 46 17.6	-0.5
MXZ				S	Sn	19 46 33.7	-0.2
MXZ	**Matakaoa Point**	**1.26**	**301**	PN	Pn	19 46 17.6	-0.5
MXZ				SN	Sn	19 46 33.7	-0.3
MWZ	**Matawai**	**1.69**	**265**	P	Pn	19 46 23.2	-0.8
MWZ				S	Sn	19 46 43.0	-1.4
MWZ	**Matawai**	**1.69**	**265**	PN	Pn	19 46 23.2	-0.8
MWZ				SN	Sn	19 46 43.0	-1.5
KNZ	**Kokohu**	**1.75**	**242**	P	Pn	19 46 24.4	-0.5
KNZ	**Kokohu**	**1.75**	**242**	PN	Pn	19 46 24.4	-0.5
URZ	**Urewera**	**2.01**	**268**	PN	Pn	19 46 28.2	-0.3
URZ				SN	Sn	19 46 52.4	-0.1
BKZ	**Black Stump Fm**	**2.66**	**248**	P	Pn	19 46 36.8	-0.5
BKZ	**Black Stump Fm**	**2.66**	**248**	PN	Pn	19 46 36.8	-0.5
BKZ				SN	Sn	19 47 07.1	-1.3
PXZ	**Pawanui**	**2.83**	**229**	PN	Pn	19 46 37.7	-2.1
KRVZ	**Karewarewa**	**3.27**	**253**	*e*PN	Pn	19 46 45.0	-0.7
MOVZ	**Moawhango**	**3.28**	**248**	P	Pn	19 46 45.4	-0.5
MOVZ	**Moawhango**	**3.28**	**248**	PN	Pn	19 46 45.4	-0.4
WNVZ	**Wahianoa**	**3.37**	**250**	P	Pn	19 46 46.4	-0.7
WNVZ	**Wahianoa**	**3.37**	**250**	PN	Pn	19 46 46.3	-0.8
TSZ	**Takapari Road**	**3.42**	**236**	P	Pn	19 46 46.2	-1.6
KUZ	**Kuaotunu**	**3.47**	**294**	*e*P	Pn	19 46 47.3	-1.2
KUZ	**Kuaotunu**	**3.47**	**294**	*e*PN	Pn	19 46 46.2	-2.3
MTVZ	**Mangateitei**	**3.48**	**249**	PN	Pn	19 46 48.1	-0.5
BFZ	**Birch Farm**	**3.61**	**226**	P	Pn	19 46 47.5	-2.9
BFZ	**Birch Farm**	**3.61**	**226**	PN	Pn	19 46 47.4	-3.1
BFZ				SN	Sn	19 47 27.9	-4.0
TIWZ	**Tintock**	**3.88**	**228**	PN	Pn	19 46 51.4	-2.7
MRZ	**Mangatainoka R**	**4.00**	**231**	*e*P	Pn	19 46 53.5	-2.2
MRZ	**Mangatainoka R**	**4.00**	**231**	PN	Pn	19 46 53.3	-2.4

MTW	Mount Morrison	4.35 226	P	Pn	19 46 56.7	-3.9
MTW	Mount Morrison	4.35 226	PN	Pn	19 46 56.7	-3.9
KIW	Kapiti Island	4.53 233	P	Pn	19 47 00.8	-2.2
KIW	Kapiti Island	4.53 233	PN	Pn	19 47 00.8	-2.2
MSWZ	Moikau Station	4.66 225	SN	Sn	19 47 52.1	-5.7
TCW	Tory Channel	5.12 233	P	Pn	19 47 08.2	-2.9
TCW	Tory Channel	5.12 233	PN	Pn	19 47 08.1	-3.1
LTZ	Lake Taylor	7.25 229	*e*P	Pn	19 47 36.7	-3.7
MQZ	McQueen's Vall	7.63 222	SN	Sn	19 49 00.0	-11

BJI ***17*** *19:57:10.8, 2090S×17450W, h10km, mb4.5, Ms4.6, Msz4.3*
IDC ***17*** *19:57:11.4±0.7, 2099S×17446W, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/18, mbtmp4.2/12, ML4.0/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/25, Error ellipse: s-maj=30.3km s-min=17.3km az=141.0*
NEIC ***17*** *19:57:12.8±0.3, 2094S×17447W, h10km, mb4.0/5, Error ellipse: s-maj=17.2km s-min=8.9km az=142.0*
ISCJB ***17*** *19:57:14.9±0.5, 21.12S±008×1745W±0.1, h35km, mb4.3/15, MS4.1/14, Error ellipse: s-maj=16.0km s-min=8.6km az=58.6*
SZGRF ***17*** *19:57:17.6, 2075S×17262W, h33km, Tonga Islands region*

ISC 17 19:57:16.8±0.5, 211S±01×1744W±01, h35km, n77, σ0°89/37, mb4.3/15, MS4.1/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**20**	Pn	**Pn**	**19 58 57.6**	**-6.6**
	11nm,0.3s,baz=293,slow=22,SNR=15						
AFI				Sn	**Sn**	**20 00 16.9**	**-11**
	4.2nm,0.3s,baz=141,slow=22,SNR=4.3						
AFI	**Afiamalu**	**7.54**	**20**	*e*P	**Pn**	**19 58 57.0**	**-7.2**
	37nm,0.4s						
AFI				*e*S	**Sn**	**20 00 16.4**	**-12**
RAR	**Rarotonga**	**13.67**	**93**	Pn	**Pn**	**20 00 16.7**	**-11**
	5.3nm,0.3s,baz=272,slow=6.5,SNR=11						
DZM	**Mont Dzumac**	**17.83**	**263**	P	**Pn**	**20 01 26.5**	**+4.5**
	0.6nm,0.3s,baz=72,slow=18,SNR=9.8						
DZM				LR	LR	20 05 43.2	
	comp=Z,153nm,18.5s,baz=91,slow=29						
URZ	**Urewera**	**18.64**	**201**	P	**Pn**	**20 01 31.7**	**-0.2**
	0.5nm,0.3s,baz=352,slow=14,SNR=4.0						
URZ				S	**S**	**20 04 52.8**	**-9.1**
	0.4nm,0.3s,baz=337,slow=15,SNR=3.0						
TBI	**Tubuai**	**23.22**	**100**	*e*LR	LR	20 07 27.7	
	820nm,32.2s,baz=278						
PPT	**Papeete**	**23.70**	**86**	*e*LQ		20 06 45.5	
	756nm,26.8s						
PPT				*e*LR	LR	20 07 41.3	
	896nm,28.8s,baz=259						
RPZ	**Rata Peaks**	**25.63**	**205**	LR	LR	20 12 18.4	
	comp=Z,414nm,20.8s,MS3.9,baz=183,slow=35						
HNR	**Honiara**	**27.25**	**291**	LR	LR	20 12 00.8	
	comp=Z,263nm,19.7s,MS3.8,baz=180,slow=33						
TAOE	**Nuku Hiva Isla**	**35.18**	**75**	*e*LR	LR	20 12 51.9	
	1μm,32.0s						
CTA	**Charters Tower**	**36.76**	**264**	LR	LR	20 17 43.5	
	comp=Z,211nm,19.6s,MS3.9,baz=91,slow=34						
CTAO	**Charters Tower**	**36.76**	**264**	*e*P	**P**	**20 04 21.4**	**+0.5**
	1.4nm,0.5s,mb4.0						
PMG	**Port Moresby**	**38.73**	**281**	LR	LR	20 18 45.4	
	comp=Z,180nm,18.3s,MS3.9,baz=265,slow=33						
STKA	**Stephens Creek**	**40.58**	**245**	*e*P	**P**	**20 04 53.0**	**+0.2**
	2.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**40.58**	**245**	P	**P**	**20 04 52.3**	**-0.6**
	1.3nm,0.5s,mb3.8,baz=108,slow=10,SNR=9.1						
STKA				LR	LR	20 18 13.2	
	comp=Z,195nm,20.4s,MS4.0,baz=50,slow=31						
ASAR	**Alice Springs**	**47.65**	**257**	P	**P**	**20 05 49.0**	**-0.4**
	6.9nm,0.8s,mb4.7,baz=91,slow=8.2,SNR=44						
WB2	**Warramunga Arr**	**47.82**	**262**	*e*P	**P**	**20 05 50.0**	**-0.8**
WRA	**Warramunga Arr**	**47.84**	**262**	P	**P**	**20 05 49.9**	**-1.1**
	2.5nm,0.8s,mb4.3,baz=96,slow=7.5,SNR=21						
WRA				LR	LR	20 25 38.7	
	comp=Z,223nm,19.6s,MS4.1,baz=100,slow=36						
FITZ	**Fitzroy Crossi**	**56.27**	**262**	*e*P	**P**	**20 06 53.7**	**+0.1**
	6.2nm,1.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**56.27**	**262**	P	**P**	**20 06 53.6**	**0.0**
	0.7nm,0.6s,mb3.9,baz=92,slow=5.6,SNR=3.8						
VNDA	**Vanda**	**57.68**	**186**	P	**P**	**20 07 04.5**	**+0.9**
	1.0nm,0.8s,mb3.9,baz=51,slow=8.6,SNR=4.8						
VNDA	**Vanda**	**57.68**	**186**	*e*P	**P**	**20 07 04.8**	**+1.1**
	1.3nm,0.9s,mb4.0						
MJAR	**Matsushiro Arr**	**72.68**	**322**	P	**P**	**20 08 41.4**	**+0.5**
	6.2nm,0.7s,mb4.6,baz=158,slow=6.7,SNR=11						
MJAR				LR	LR	20 37 58.6	
	comp=Z,91nm,18.9s,MS4.1,baz=120,slow=34						
NVAR	**Mina Array Bea**	**79.17**	**42**	P	**P**	**20 09 18.3**	**+0.3**
	1.8nm,0.7s,mb4.1,baz=231,slow=8.0,SNR=8.0						
NVAR	**Mina Array Bea**	**79.17**	**42**	P	**P**	**20 09 18.3**	**+0.3**
KSRS	**Korea Array**	**79.55**	**317**	P	**P**	**20 09 20.8**	**+0.8**
	3.6nm,1.1s,mb4.2,baz=126,slow=6.4,SNR=5.6						
KSRS				LR	LR	20 38 52.6	
	comp=Z,37nm,20.6s,MS3.7,baz=175,slow=32						
MDJ	**Mudanjiang**	**82.92**	**323**	P	**P**	**20 09 35.6**	**-2.3**
MSU	**Marysvale**	**83.12**	**44**	*e*P	**P**	**20 09 38.8**	**-0.1**
TMUT	**Trail Mountain**	**84.19**	**44**	*e*P	**P**	**20 09 45.6**	**+1.3**
TXAR	**Lajitas Array**	**84.56**	**56**	P	**P**	**20 09 46.2**	**-0.1**
	0.8nm,1.0s,mb3.8,baz=201,slow=6.7,SNR=4.0						
TXAR				LR	LR	20 42 12.1	
	comp=Z,94nm,18.2s,MS4.2,baz=185,slow=32						
TXAR	**Lajitas Array**	**84.56**	**56**	P	**P**	**20 09 46.2**	**-0.1**
TXAR				LR	LR	20 42 12.1	
PLCA	**Paso Flores**	**86.45**	**132**	LR	LR	20 42 23.9	
	comp=Z,40nm,19.3s,MS3.8,baz=184,slow=31						
BW06	**Boulder Array**	**87.11**	**42**	P	**P**	**20 09 57.3**	**-1.6**
	1.6nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**87.11**	**42**	P	**P**	**20 09 58.5**	**-0.4**
	1.1nm,0.9s,mb4.1,baz=205,slow=3.7,SNR=7.8						
PDAR				LR	LR	20 42 47.8	
	comp=Z,109nm,18.0s,MS4.3,baz=147,slow=31						
GYA	**Guiyang**	**89.84**	**298**	P	**P**	**20 10 11.9**	**+0.1**
XAN	**Xi'an**	**91.14**	**306**	P	**P**	**20 10 19.5**	**+1.6**
XAN				AMB	AMB		
	comp=Z,10.0nm,2.4s,mb4.7						
HHC	**Hu-ho-hao-te**	**92.15**	**313**	*e*P	**P**	**20 10 23.3**	**+0.7**
HHC				XP	sP	20 10 30.3	-7.4
HHC				PP	PP	20 14 05.4	+2.6
HHC				SKS		20 20 53.3	
HHC				S	S	20 21 21.9	-0.7
HHC				SS	SS	20 27 33.4	+0.9
HHC				LR	LR		
	comp=N,187nm,20.8s,MS4.6						
HHC				LR	LR		
	comp=E,156nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=Z,171nm,19.6s,MS4.5						
YKA	**Yellowknife Ar**	**95.64**	**24**	P	**P**	**20 10 37.8**	**-0.8**
	comp=Z,0.9nm,1.0s,mb4.2,baz=241,slow=4.3,SNR=6.7						
YKA	**Yellowknife Ar**	**95.64**	**24**	P	**P**	**20 10 37.8**	**-0.8**
LZH	**Lanzhou**	**95.78**	**306**	*e*P	**P**	**20 10 39.9**	**+0.7**
LZH				AP	pP	20 10 43.3	-7.1
LZH				XP	sP	20 10 45.3	-9.1
LZH	**Lanzhou**	**95.78**	**306**	*e*P	**P**	**20 10 39.9**	**+0.7**
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.2						
LZH	**Lanzhou**	**95.78**	**306**	*e*P	**P**	**20 10 39.9**	**+0.7**
	comp=Z,10.0nm,1.0s,mb5.2						
LZH				pP	pP	20 10 43.2	-7.2
LZH				sP	sP	20 10 45.3	-9.1
LPAZ	**La Paz**	**98.75**	**111**	LR	LR	20 44 34.7	
	comp=Z,90nm,21.7s,MS4.2,baz=8.8,slow=29						
ULM	**Lac du Bonnet**	**98.91**	**40**	LR	LR	20 52 00.8	
	comp=Z,135nm,18.2s,MS4.5,baz=350,slow=33						
AKASG	**Malin Array Be**	**145.06**	**334**	PKP	PKPdf	20 16 49.1	-1.2
	comp=Z,3.3nm,0.5s,baz=40,slow=4.1,SNR=22						
KIEV	**Kiev**	**145.07**	**334**	*e*PKP	PKPdf	20 16 48.9	-1.5
STHS	**Stebnicka Huta**	**149.07**	**340**	*e*PKP	PKPbc	20 17 02.3	+1.1
KSP	**Ksiaz**	**149.10**	**347**	*e*PKP	PKPbc	20 17 01.6	+0.4
KOLS	**Kolonicke sedl**	**149.15**	**338**	*e*PKP	PKPbc	20 17 05.1	+3.8
CLL	**Collm**	**149.25**	**351**	*e*PKPbc	PKPbc	20 17 01.8	+0.2
CLL	**Collm**	**149.25**	**351**	*i* PKPbc	PKPbc	20 17 01.7	+0.1
	comp=Z,37nm,1.7s						
CRVS	**Cervenica-Dubn**	**149.45**	**339**	*e*PKP	PKPbc	20 17 02.8	+0.7
UPC	**Upice**	**149.48**	**347**	*e*PKPbc	PKPbc	20 17 03.1	+0.9
BRG	**Berggiesshubel**	**149.52**	**350**	*e*P	PKPbc	20 17 02.5	+0.3
	comp=Z,9.0nm,1.3s						
BRG				*e*		20 17 12.1	
	comp=Z,7.7nm,1.4s						
DPC	**Dobruska-Polom**	**149.56**	**346**	*e*PKPbc	PKPbc	20 17 02.9	+0.5
FBE	**Freiberg**	**149.57**	**350**	*e*PKPbc	PKPbc	20 17 02.7	+0.3
OKC	**Ostrava-Krasne**	**149.59**	**344**	*e*PKPbc	PKPbc	20 17 03.0	+0.5
BR131	**Keskin Array S**	**149.66**	**314**	*e*PKPbc	PKPbc	20 17 03.1	+0.5
BRTR	**Keskin Array B**	**149.66**	**314**	PKPbc	PKPbc	20 17 03.5	+0.8
	comp=Z,1.9nm,0.8s,baz=132,slow=3.9,SNR=12						
PVCC	**Panska Ves**	**149.74**	**349**	*e*PKPbc	PKPbc	20 17 03.5	+0.7
MORC	**Moravsky Berou**	**149.81**	**344**	*e*PKPbc	PKPbc	20 17 02.6	-0.3
ASF	**Jabal al Asfar**	**149.99**	**298**	PKPbc	PKPbc	20 17 05.1	+1.6
	comp=Z,1.2nm,0.5s,baz=111,slow=3.9,SNR=3.8						
MOX	**Moxa**	**150.09**	**352**	*e*PKPbc	PKPbc	20 17 03.9	+0.2
KECS	**Kecovo**	**150.13**	**340**	*e*P	PKPbc	20 17 04.3	+0.5
WERD	**Werda**	**150.19**	**351**	*e*PKPbc	PKPbc	20 17 04.1	+0.2
TANN	**Tannenbergstha**	**150.20**	**351**	*e*PKPbc	PKPbc	20 17 04.4	+0.5
PRU	**Pruhonice**	**150.27**	**348**	*e*PKPbc	PKPbc	20 17 04.5	+0.4
GUNZ	**Gunzen**	**150.27**	**351**	*e*PKPbc	PKPbc	20 17 03.7	-0.4
WERN	**Wernitzgruen**	**150.34**	**351**	*e*PKPbc	PKPbc	20 17 04.9	+0.6
MLR	**Muntele Rosu**	**150.44**	**330**	PKPbc	PKPbc	20 17 04.7	+0.2
	comp=Z,3.1nm,0.9s,baz=32,slow=3.7,SNR=5.3						
VRAC	**Vranov**	**150.47**	**345**	PKPbc	PKPbc	20 17 04.9	+0.4
	comp=Z,0.9nm,0.4s,baz=246,slow=1.0,SNR=4.0						
VYHS	**Vyhne**	**150.63**	**342**	*e*PKP	PKPbc	20 17 05.4	+0.5
MANZ	**Manzenberg**	**150.67**	**351**	*e*PKPbc	PKPbc	20 17 05.7	+0.7
ROTZ	**Rotzenmuhle**	**150.87**	**351**	*e*PKPbc	PKPbc	20 17 05.8	+0.3
KHC	**Kasperske Hory**	**151.27**	**349**	*e*PKPbc	PKPbc	20 17 07.2	+0.8
GERES	**GERESS Array B**	**151.52**	**349**	PKPbc	PKPbc	20 17 07.6	+0.5
	comp=Z,1.8nm,0.8s,baz=48,slow=2.0,SNR=14						
ESDC	**Sonseca Array**	**159.72**	**22**	PKPab	PKPab	20 17 50.1	-0.5
	comp=Z,0.4nm,0.7s,baz=322,slow=4.0,SNR=4.2						

ISCJB ***17*** *20:00:15.0±0.7, 3443N±003×2402E±003, h29km±5km, mb4.1/26, Error ellipse: s-maj=4.8km s-min=3.3km az=42.1*
CSEM ***17*** *20:00:15.3±0.1, 3441N×2403E, h30km, mb4.2/8, Error ellipse: s-maj=2.2km s-min=1.4km az=15.0*
HLW ***17*** *20:00:15.2, 3482N×2436E, h33km, Mb4.0*
MOS ***17*** *20:00:16.9±1.1, 3455N×2403E, h41km, mb4.3/10, Error ellipse: s-maj=7.1km s-min=4.0km az=108.9*
IDC ***17*** *20:00:17.9±2.1, 3456N×2405E, h35km±13km, mb3.9/12, mb1 4.0/19, mb1mx3.9/28, mbtmp3.9/19, ML3.8/7, MS3.0/2, Ms1 3.0/2, ms1mx2.3/32, Error ellipse: s-maj=20.1km s-min=14.0km az=169.0*
ATH ***17*** *20:00:20.6, 3484N×2421E, h34km±3km, MD4.0/8*
NEIC ***17*** *20:00:20.6, 3484N×2421E, h34km, mb4.0/18, MD4.0(ATH), ML4.4(THE), After ATH.*
NAO ***17*** *20:01:24.1, 4191N×2437E, h33km, mb3.4*

ISC 17 20:00:16.8±0.7, 3446N±003×2400E±003, h26km±5km, n223, σ1°19/247, mb4.1/26, 9C-5b, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.39**	**10**	*e*P	**Pb**	**20 00 23.2**	**-1.9**
GVD	**Gavdhos**	**0.39**	**10**	P	**Pb**	**20 00 23.2**	**-1.9**
GVD				S	**Sb**	**20 00 29.0**	**-1.9**
GVD	**Gavdhos**	**0.39**	**10**	*e*P	**Pb**	**20 00 23.2**	**-2.0**
GVD				S	**Sb**	**20 00 29.0**	**-1.9**
SIVA	**Sivas**	**0.87**	**50**	*e*P	**Pn**	**20 00 33.3**	**-0.1**
SIVA	**Sivas**	**0.87**	**50**	P	**Pn**	**20 00 33.3**	**-0.1**
SIVA				S	**Sb**	**20 00 47.1**	**+2.7**
SIVA	**Sivas**	**0.87**	**50**	P	**Pn**	**20 00 33.3**	**-0.1**
SIVA				S	**Sb**	**20 00 47.2**	**+2.8**
KARN	**Karanos**	**0.94**	**356**	*e*P	**Pn**	**20 00 32.7**	**-1.7**
VAM	**Vamos**	**0.96**	**10**	*e*PN	**Pn**	**20 00 32.7**	**-1.9**
VAM				*e*SN	**Sn**	**20 00 41.8**	**-5.6**
IDI	**Anoyia**	**1.10**	**41**	Pn	**Pn**	**20 00 35.6**	**-1.0**
	210nm,0.3s,baz=227,slow=16,SNR=186						
IDI				Pg	**Pn**	**20 00 38.2**	**+1.6**
	210nm,0.3s,baz=215,slow=14,SNR=535						
IDI				Lg		20 00 53.0	
	182nm,0.3s,baz=307,slow=22,SNR=12						
IDI	**Anoyia**	**1.10**	**41**	Pg	**Pn**	**20 00 38.2**	**+1.6**
XRY	**Khrisi**	**1.45**	**73**	*e*PN	**Pn**	**20 00 42.9**	**+1.5**
NPS	**Neapolis**	**1.55**	**58**	*e*PN	**Pn**	**20 00 42.9**	**+0.2**
ZKR	**Zakros**	**1.94**	**70**	*e*P	**Pn**	**20 00 49.8**	**+1.8**
KYTH	**Kithira**	**1.98**	**337**	*e*PB	**Pb**	**20 00 50.5**	**-1.7**
THR6	**Thira Island,**	**2.21**	**31**	*e*P	**Pn**	**20 00 51.9**	**+0.1**
THR5	**Thira Island,**	**2.24**	**29**	*e*P	**Pn**	**20 00 52.7**	**+0.5**
SANT	**Santorini**	**2.25**	**32**	*e*P	**Pn**	**20 00 53.3**	**+0.9**
THR1	**Thera Island**	**2.25**	**32**	*e*P	**Pn**	**20 00 52.5**	**+0.2**
THR1	**Thera Island**	**2.25**	**32**	*e*P	**Pn**	**20 00 52.5**	**+0.2**
THR3	**Thira Island,**	**2.25**	**30**	*e*P	**Pn**	**20 00 52.7**	**+0.2**
THR4	**Thira Island,**	**2.30**	**29**	*e*P	**Pn**	**20 00 52.6**	**-0.4**
VLI	**Veliai**	**2.42**	**339**	*e*PN	**Pn**	**20 00 55.9**	**+1.2**
KARP	**Karpathos**	**2.81**	**66**	*e*PN	**Pn**	**20 01 01.6**	**+1.5**
APE	**Apeiranthos**	**2.88**	**25**	*e*P	**Pn**	**20 01 00.3**	**-0.8**
APE	**Apeiranthos**	**2.88**	**25**	*e*Pn	**Pn**	**20 01 00.6**	**-0.5**
APE	**Apeiranthos**	**2.88**	**25**	*e*P	**Pn**	**20 01 00.8**	**-0.3**
ITM	**Ithomi**	**3.20**	**329**	*e*PN	**Pn**	**20 01 07.9**	**+2.5**
ATH	**Athens Observa**	**3.51**	**356**	P	**Pn**	**20 01 10.2**	**+0.4**
DAT	**Datca**	**3.69**	**51**	*e*P	**Pn**	**20 01 11.7**	**-0.5**
ARG	**Arkhangelos**	**3.80**	**61**	P	**Pn**	**20 01 14.9**	**+1.2**
BDRM	**Kayabasi**	**3.82**	**46**	*i* P	**Pn**	**20 01 14.1**	**+0.1**
SMG	**Samos**	**3.97**	**34**	P	**Pn**	**20 01 17.8**	**+1.7**
MLSB	**Milas**	**4.17**	**46**	*e*P	**Pn**	**20 01 19.0**	**+0.2**
MLSB	**Milas**	**4.17**	**46**	P	**Pn**	**20 01 11.7**	**-7.1**
HMAT	**Matruh**	**4.25**	**141**	P	**Pn**	**20 01 19.2**	**-0.7**
LKR	**Lokris**	**4.26**	**349**	P	**Pn**	**20 01 20.3**	**+0.3**
YER	**Yerkesik**	**4.38**	**51**	*e*P	**Pn**	**20 01 22.7**	**+1.0**
DALT	**Dalyan (Mudla)**	**4.42**	**57**	*e*P	**Pn**	**20 01 23.4**	**+1.1**
BLCB	**Balcova**	**4.62**	**31**	*e*P	**Pn**	**20 01 25.3**	**+0.4**
VLS	**Valsamata**	**4.62**	**324**	P	**Pn**	**20 01 25.5**	**+0.5**
AOS	**Alonnisos**	**4.70**	**359**	*e*P	**Pn**	**20 01 25.8**	**-0.3**
IZM	**Izmir**	**4.73**	**33**	*e*P	**Pn**	**20 01 26.9**	**+0.4**
KDAG	**Bornova**	**4.73**	**33**	*i* P	**Pn**	**20 01 27.1**	**+0.6**
KDAG	**Bornova**	**4.73**	**33**	*i* P	**Pn**	**20 01 27.1**	**+0.6**
AGG	**Agios Georgios**	**4.75**	**344**	*e*P	**Pn**	**20 01 26.0**	**-0.7**
AGG	**Agios Georgios**	**4.75**	**344**	P	**Pn**	**20 01 26.0**	**-0.7**
AGG				S	**Sn**	**20 02 19.7**	**-1.2**
AKAS	**Kas**	**4.91**	**67**	*i* P	**Pn**	**20 01 29.0**	**0.0**
XOR	**Xorichti**	**4.94**	**353**	*e*P	**Pn**	**20 01 29.7**	**+0.3**
LKD	**Levkas**	**5.02**	**329**	*e*P	**Pn**	**20 01 31.8**	**+1.2**
PRK	**Paraskevi**	**5.11**	**20**	P	**Pn**	**20 01 31.5**	**-0.2**
DNZL	**Cakiroluk**	**5.20**	**50**	*i* P	**Pn**	**20 01 40.4**	**+7.4**
DENT	**Denizli**	**5.23**	**50**	*e*P	**Pn**	**20 01 34.1**	**+0.7**
GOLH	**Golhisar**	**5.30**	**57**	*i* P	**Pn**	**20 01 35.1**	**+0.8**
ELL	**Elmali**	**5.33**	**63**	*e*P	**Pn**	**20 01 35.1**	**+0.4**
AKS	**Akhisar**	**5.37**	**34**	*e*P	**Pn**	**20 01 36.2**	**+0.9**
SWA1		**5.38**	**164**	⇑P	**Pn**	**20 01 37.2**	**+1.7**
SWA1				S	**Sn**	**20 02 37.4**	**+0.8**
SWA1		**5.38**	**164**	⇑P	**Pn**	**20 01 37.2**	**+1.7**
SWA1				S	**Sn**	**20 02 37.4**	**+0.8**
LOS	**Limnos**	**5.53**	**9**	*e*P	**Pn**	**20 01 37.4**	**-0.1**
EZN	**Ezine**	**5.67**	**18**	*e*P	**Pn**	**20 01 38.6**	**-0.8**
KHL	**Karahalli**	**5.89**	**48**	*e*P	**Pn**	**20 01 43.0**	**+0.5**
KEK	**Kerkira**	**6.23**	**329**	P	**Pn**	**20 01 48.6**	**+1.5**
TKTP	**Tekketepe**	**6.23**	**53**	*i* P	**Pn**	**20 01 47.7**	**+0.6**
LPK	**Lapseki**	**6.30**	**20**	*e*P	**Pn**	**20 01 49.8**	**+1.8**
SHUT	**Suhut-Afyon**	**6.67**	**50**	*e*P	**Pn**	**20 01 53.5**	**+0.3**
KNT	**Kendrikon**	**6.75**	**353**	*e*P	**Pn**	**20 01 55.0**	**+0.8**
MFT	**Murefte**	**6.83**	**21**	*e*P	**Pn**	**20 01 58.2**	**+2.9**
BIA	**Bitola**	**6.88**	**343**	*e*Pn	**Pn**	**20 01 52.9**	**-3.1**
BIA				*e*Sg	**Sn**	**20 03 05.2**	**-8.4**
BIA	**Bitola**	**6.88**	**343**	*e*Pn	**Pn**	**20 01 52.9**	**-3.1**
BIA				*e*Sg	**Sn**	**20 03 05.2**	**-8.4**
BIA	**Bitola**	**6.88**	**343**	*e*Pn	**Pn**	**20 01 52.9**	**-3.2**
BIA				*e*Sg	**Sn**	**20 03 05.1**	**-8.4**
KRUS	**Krusevo**	**7.23**	**343**	*e*Pn	**Pn**	**20 01 58.4**	**-2.5**
KRUS				*e*Sg	**Sn**	**20 03 17.6**	**-4.6**
KRUS	**Krusevo**	**7.23**	**343**	*e*Pn	**Pn**	**20 01 58.4**	**-2.5**
KRUS				*e*Sg	**Sn**	**20 03 17.6**	**-4.6**
KRUS	**Krusevo**	**7.23**	**343**	*e*Pn	**Pn**	**20 01 58.4**	**-2.5**
KRUS				*e*Sg	**Sn**	**20 03 17.5**	**-4.6**
HDMB	**Hadim**	**7.34**	**68**	*e*P	**Pn**	**20 02 01.9**	**-0.4**
STIP	**Stip**	**7.36**	**349**	*e*Pn	**Pn**	**20 02 02.1**	**-0.5**
STIP	**Stip**	**7.36**	**349**	*e*Pn	**Pn**	**20 02 02.1**	**-0.5**
STIP	**Stip**	**7.36**	**349**	*e*Pn	**Pn**	**20 02 02.1**	**-0.6**
HNAT	**Natroun**	**7.39**	**129**	P	**Pn**	**20 02 01.5**	**-1.5**
ESKT	**Eskisehir**	**7.45**	**45**	*e*P	**Pn**	**20 02 04.6**	**+0.8**
ESKT	**Eskisehir**	**7.45**	**45**	*i* P	**Pn**	**20 02 05.5**	**+1.7**
SEYT	**Eskypehyr**	**7.45**	**45**	*i* P	**Pn**	**20 02 05.5**	**+1.7**
TIP	**Timpagrande**	**7.48**	**311**	P	**Pn**	**20 02 05.0**	**+0.8**
LCI	**Lecce**	**7.51**	**323**	P	**Pn**	**20 02 03.6**	**-1.0**
LCI				pmax	pmax		
	comp=Z,106nm,1.4s						
LCI	**Lecce**	**7.51**	**323**	Pn	**Pn**	**20 02 03.6**	**-1.0**
	comp=Z,106nm,1.4s						
ERMK	**Ermenek**	**7.58**	**71**	*i* P	**Pn**	**20 02 07.0**	**+1.4**
KONT	**Konya--Tatoy**	**7.60**	**60**	*e*P	**Pn**	**20 02 05.5**	**-0.4**
HAVL	**Avola**	**7.64**	**292**	Pn	**Pn**	**20 02 06.7**	**+0.2**
	comp=Z,96nm,0.3s						
EDRB	**Edirne**	**7.68**	**15**	*e*P	**Pn**	**20 02 09.2**	**+2.1**
CSS	**Prodhromos**	**7.70**	**84**	*e*P	**Pn**	**20 02 04.8**	**-2.5**
CSS	**Prodhromos**	**7.70**	**84**	*e*Pn	**Pn**	**20 02 05.2**	**-2.0**
	comp=Z,20nm,0.8s						
CSS				*e*Sn	**Sn**	**20 03 27.7**	**-5.9**
CSS	**Prodhromos**	**7.70**	**84**	*e*Pn	**Pn**	**20 02 05.2**	**-2.0**
	comp=Z,20nm,0.8s						
KIZT	**Kizilcal**	**7.71**	**53**	*e*P	**Pn**	**20 02 07.7**	**+0.3**
PZI	**Palazzolo**	**7.80**	**292**	P	**Pn**	**20 02 08.6**	**-0.1**
PZI				pmax	pmax		
	comp=Z,45nm,0.1s						
PZI	**Palazzolo**	**7.80**	**292**	Pn	**Pn**	**20 02 08.6**	**-0.1**
	comp=Z,45nm,0.1s						
IKL	**Isikli**	**8.11**	**75**	*e*P	**Pn**	**20 02 11.1**	**-1.8**
VAE	**Valguarnera**	**8.34**	**294**	Pn	**Pn**	**20 02 18.4**	**+2.4**
	comp=Z,1.3nm,0.3s,baz=85,slow=13,SNR=3.0						
VAE				Sn	**Sn**	**20 03 44.4**	**-4.9**
	comp=Z,3.0nm,0.3s,baz=356,slow=5.0,SNR=5.6						
VAE	**Valguarnera**	**8.34**	**294**	Pn	**Pn**	**20 02 18.4**	**+2.4**
VAE				Sn	**Sn**	**20 03 44.4**	**-4.9**
VAE	**Valguarnera**	**8.34**	**294**	Sn	**Sn**	**20 03 44.4**	**-4.9**
AMAG	**Maghara**	**8.65**	**114**	⇓P	**Pn**	**20 02 17.4**	**-2.9**
AMAG	**Maghara**	**8.65**	**114**	⇓P	**Pn**	**20 02 17.4**	**-2.9**
SUZ		**8.79**	**119**	⇑P	**Pn**	**20 02 20.0**	**-2.2**
SUZ		**8.79**	**119**	⇑P	**Pn**	**20 02 20.0**	**-2.2**
MERS	**Mersin**	**8.89**	**71**	*e*P	**Pn**	**20 02 22.6**	**-1.1**
KAMT	**Kaman**	**9.19**	**55**	*e*P	**Pn**	**20 02 27.4**	**-0.3**
SGO	**Sicignano**	**9.21**	**314**	P	**Pn**	**20 02 30.1**	**+2.2**
SGO				pmax	pmax		
	comp=Z,6.0nm,0.2s						
SGO	**Sicignano**	**9.21**	**314**	P	**Pn**	**20 02 30.1**	**+2.2**
	comp=Z,6.0nm,0.2s						
BR131	**Keskin Array S**	**9.32**	**53**	*e*P	**Pn**	**20 02 29.0**	**-0.5**
	comp=Z,3.1nm,0.8s						
BR131	**Keskin Array S**	**9.32**	**53**	*e*P	**Pn**	**20 02 29.0**	**-0.5**
	comp=Z,3.1nm,0.8s						
BRTR	**Keskin Array B**	**9.32**	**53**	Pn	**Pn**	**20 02 29.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=224,slow=13,SNR=18						
BRTR				Sn	**Sn**	**20 04 14.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=267,slow=30,SNR=2.9						
ASUT		**9.57**	**135**	⇑P	**Pn**	**20 02 33.2**	**+0.2**
HNKL	**Nakhl**	**9.58

OBN				*e*			20 05 36.4
OBN				*e*S		**S**	**20 09 12.5 -6.2**
OBN				pmax		pmax	
comp=Z,6.0nm,1.2s,mb3.9							
OBN	**Obninsk**	**22.43**	**19**	*e*P		**P**	**20 05 13.5 -0.1**
comp=Z,6.0nm,1.2s,mb3.9							
LDF	**La Druitiere**	**22.80**	**316**	*e*P		**P**	**20 05 16.3 -1.2**
ESDC	**Sonseca Array**	**22.87**	**291**	P		**P**	**20 05 20.0 +1.8**
comp=Z,0.6nm,0.5s,mb3.3,baz=79,slow=9.3,SNR=12							
FLN	**La Foliniere**	**23.09**	**316**	*e*P		**P**	**20 05 18.9 -1.7**
comp=Z,25nm,0.8s,mb4.4							
FLN	**La Foliniere**	**23.09**	**316**	*e*P		**P**	**20 05 18.9 -1.7**
FLN				pmax		pmax	
comp=Z,13nm,0.8s,mb4.4							
FLN	**La Foliniere**	**23.09**	**316**	*e*P		**P**	**20 05 18.9 -1.7**
comp=Z,13nm,0.8s,mb4.4							
GRR	**Gorron**	**23.13**	**314**	*e*P		**P**	**20 05 21.1 +0.1**
comp=Z,15nm,0.8s,mb4.2							
GRR	**Gorron**	**23.13**	**314**	*e*P		**P**	**20 05 21.1 +0.1**
GRR				pmax		pmax	
comp=Z,7.0nm,0.8s,mb4.1							
GRR	**Gorron**	**23.13**	**314**	*e*P		**P**	**20 05 21.1 +0.1**
comp=Z,7.4nm,0.8s,mb4.2							
MDT	**Midelt**	**23.85**	**274**	P		**P**	**20 05 31.1 +3.1**
comp=Z,0.7nm,0.7s,mb3.2,baz=92,slow=17,SNR=3.5							
SGMF	**Saint Gilles**	**24.09**	**313**	*e*P		**P**	**20 05 30.3 +0.1**
comp=Z,18nm,0.9s,mb4.2							
SGMF	**Saint Gilles**	**24.09**	**313**	*e*P		**P**	**20 05 30.3 +0.1**
SGMF				pmax		pmax	
comp=Z,9.0nm,0.9s,mb4.2							
SGMF	**Saint Gilles**	**24.09**	**313**	*e*P		**P**	**20 05 30.3 +0.1**
comp=Z,9.1nm,0.9s,mb4.2							
QUIF	**Quistinic**	**24.32**	**312**	*e*P		**P**	**20 05 32.2 -0.1**
comp=Z,24nm,0.9s,mb4.3							
QUIF	**Quistinic**	**24.32**	**312**	*e*P		**P**	**20 05 32.2 -0.1**
QUIF				pmax		pmax	
comp=Z,12nm,0.9s,mb4.3							
QUIF	**Quistinic**	**24.32**	**312**	*e*P		**P**	**20 05 32.2 -0.1**
comp=Z,12nm,0.9s,mb4.3							
ROSF	**Rostrenen**	**24.56**	**313**	*e*P		**P**	**20 05 34.3 -0.2**
HFS	**Hagfors**	**26.55**	**348**	P		**P**	**20 05 50.8 -1.8**
comp=Z,2.9nm,0.5s,mb4.0,baz=156,slow=11,SNR=16							
FINES	**FINESS Array B**	**27.03**	**2**	P		**P**	**20 05 55.1 -1.8**
comp=Z,1.8nm,0.8s,mb3.7,baz=149,slow=15,SNR=5.4							
FINES	**FINESS Array B**	**27.03**	**2**	*i* P		**P**	**20 06 02.0 +5.1**
FINES				pmax		pmax	
comp=Z,2.0nm,0.7s							
NB2	**NORSAR Subarra**	**27.85**	**347**	P		**P**	**20 06 01.8 -2.4**
comp=Z,1.3nm,0.5s,mb3.8,baz=151,slow=11							
NOA	**NORSAR Array B**	**27.85**	**347**	P		**P**	**20 06 02.3 -1.9**
comp=Z,1.0nm,0.5s,mb3.7,baz=155,slow=9.4,SNR=5.9							
JOF	**Joensuu**	**28.85**	**7**	*e*p		**P**	**20 06 07.0 -6.1**
comp=Z,0.7nm,0.3s,mb3.9							
TOA0	**Torodi Ar. Sit**	**29.31**	**229**	*e*P		**P**	**20 06 18.7 +1.4**
TOA0	**Torodi Ar. Sit**	**29.31**	**229**	*e*P		**P**	**20 06 18.7 +1.5**
TORD	**Torodi Ar. Bea**	**29.31**	**229**	P		**P**	**20 06 18.5 +1.3**
comp=Z,1.2nm,0.5s,mb3.9,baz=33,slow=8.8,SNR=37							
TORD	**Torodi Ar. Bea**	**29.31**	**229**	P		**P**	**20 06 18.5 +1.3**
AKTK	**Aktyubinsk**	**29.42**	**47**	P		**P**	**20 06 16.7 -1.5**
AKTO	**Aktyubinsk**	**29.42**	**47**	P		**P**	**20 06 16.7 -1.5**
comp=Z,3.6nm,0.5s,mb4.4,baz=258,slow=7.1,SNR=19							
ARCES	**ARCESS Array B**	**35.14**	**1**	P		**P**	**20 07 05.3 -3.0**
comp=Z,2.2nm,0.8s,mb4.1,baz=182,slow=9.6,SNR=18							
CHKZ	**Chkalovo**	**37.78**	**45**	*e*P		**P**	**20 07 29.6 -1.2**
CHKZ				pmax		pmax	
comp=Z,11nm,1.3s,mb4.4							
CHKZ	**Chkalovo**	**37.78**	**45**	*e*P		**P**	**20 07 29.6 -1.2**
comp=Z,12nm,1.3s,mb4.5							
CHKZ	**Chkalovo**	**37.78**	**45**	*e*P		**P**	**20 07 29.6 -1.2**
comp=Z,11nm,1.3s,mb4.4							
MKAR	**Makanchi Array**	**44.95**	**56**	P		**P**	**20 08 29.1 -0.6**
comp=Z,3.6nm,0.6s,mb4.4,baz=269,slow=7.5,SNR=52							
NVS	**Novosibirsk**	**45.26**	**44**	*i* P		**P**	**20 08 30.8 -1.3**
ZAL	**Zalesovo**	**46.16**	**46**	P		**P**	**20 08 37.0 -2.3**
comp=Z,4.0nm,0.5s,mb4.7,baz=199,slow=7.4,SNR=21							
KOLN	**Koldanda**	**50.83**	**80**	*e*P		**P**	**20 09 15.8 +0.6**
GKN	**Gorkha**	**51.59**	**80**	*e*P		**P**	**20 09 20.1 -0.7**
comp=Z,6.4nm,0.4s,mb4.9							
DMN	**Daman**	**52.12**	**80**	*e*P		**P**	**20 09 25.2 +0.4**
comp=Z,3.5nm,0.3s,mb4.8							
KKN	**Kakani**	**52.19**	**80**	*e*P		**P**	**20 09 25.1 -0.2**
comp=Z,8.1nm,0.6s,mb4.8							
PKI	**Pulchoki**	**52.38**	**80**	*e*P		**P**	**20 09 26.4 -0.4**
GUN	**Gumba**	**52.63**	**79**	*e*P		**P**	**20 09 28.4 -0.2**
JIRN	**Jiri**	**52.98**	**79**	*e*P		**P**	**20 09 31.3 +0.1**
comp=Z,3.2nm,0.4s,mb4.6							
ZAK	**Zakamensk**	**57.92**	**48**	*e*P		**P**	**20 10 06.3 -0.4**
ZAK				pmax		pmax	
comp=Z,2.0nm,0.9s,mb4.2							
ZAK	**Zakamensk**	**57.92**	**48**	*e*P		**P**	**20 10 06.3 -0.4**
comp=Z,2.0nm,0.9s,mb4.2							
SONM	**Songino Array**	**60.66**	**50**	P		**P**	**20 10 25.5 -0.2**
comp=Z,1.5nm,0.5s,mb4.4,baz=283,slow=7.2,SNR=22							
YKA	**Yellowknife Ar**	**77.82**	**342**	P		**P**	**20 12 11.2 -0.7**
comp=Z,0.2nm,0.3s,mb3.5,baz=30,slow=5.4,SNR=5.5							
YKA	**Yellowknife Ar**	**77.82**	**342**	P		**P**	**20 12 11.2 -0.7**
KSRS	**Korea Array**	**79.46**	**52**	P		**P**	**20 12 20.9 0.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=315,slow=4.5,SNR=6.3							

*ISCJB **17** 20:13:57.9±0.3, 48.14N±0.03°×76.2E±0.02, h12km±4km, Error ellipse: s-maj=4.7km s-min=2.7km az=7.4*
*LDG **17** 20:13:58.9±0.1, 48.14N×76.5E, h10km, Md1.9/1, Ml2.0/7, Error ellipse: s-maj=1.4km s-min=0.8km az=6.0*
*STR **17** 20:13:58.0±0.6, 48.15N×76.6E, h10km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **17** 20:13:59.5, 48.08N×76.9E, h4km±5km, ML1.4/5*
*LEDBW **17** 20:13:59.0±0.4, 48.13N±0.04°×76.6E±0.04, h10km, ML1.2, Error ellipse: s-maj=14.0km s-min=8.0km az=41.0*

ISC 17 20:13:58.3±0.3, 48.14N±0.03°×76.4E±0.02, h17km±3km, n31, σ0§49/50, 6C-6D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KIZ	**Kirchzarten**	**0.26**	**133**	⇓*i*P*		**Pg**		**20 14 04.0**	**-0.1**
KIZ				*i* S*		**Sg**		**20 14 07.5**	**-0.6**
KIZ				PmP				20 14 07.8	
KIZ	**Kirchzarten**	**0.26**	**133**	⇓*i*Pg		**Pg**		**20 14 04.0**	**-0.1**
KIZ				*i* Sg		**Sg**		**20 14 07.5**	**-0.6**
KIZ	**Kirchzarten**	**0.26**	**133**	PmP				20 14 07.8	
ECH	**Echery**	**0.33**	**284**	Pg		**Pg**		**20 14 05.4**	**+0.1**
ECH				Sg		**Sg**		**20 14 09.8**	**-0.3**
ECH	**Echery**	**0.33**	**284**	Pg		**Pg**		**20 14 05.7**	**+0.4**
ECH				Sg		**Sg**		**20 14 10.1**	**0.0**
FELD	**Feldberg im Sc**	**0.36**	**136**	⇓*i*P*		**Pg**		**20 14 05.9**	**+0.1**
FELD				S*		**Sg**		**20 14 10.7**	**-0.1**
CDF	**Champ du Feu**	**0.37**	**319**	*e*Pg		**Pg**		**20 14 06.3**	**+0.3**
CDF				*e*Sg		**Sg**		**20 14 11.3**	**+0.2**
11nm,0.3s									
MOF	**Molkenrain**	**0.44**	**230**	Pg		**Pg**		**20 14 07.7**	**+0.4**
BFO	**Black Forest**	**0.50**	**67**	*e*Pg		**Pg**		**20 14 08.3**	**-0.1**
BFO				*e*Sg		**Sg**		**20 14 14.7**	**-0.5**
HINF	**Hinteralfeld**	**0.62**	**239**	*e*Pg		**Pg**		**20 14 10.5**	**0.0**
HINF				*e*Sg		**Sg**		**20 14 18.9**	**+0.2**
4.2nm,0.2s									
SLE	**Schleitheim**	**0.68**	**122**	⇓*i*P		**Pb**		**20 14 12.4**	**+0.6**
49nm,1.5s									
SULZ	**Sulz-Cheisache**	**0.69**	**152**	⇓*i*P		**Pb**		**20 14 11.8**	**-0.1**
SPAK	**Spaichingen-Ko**	**0.77**	**92**	P*		**Pb**		**20 14 13.5**	**+0.3**
BOURR	**Bourrignon**	**0.79**	**200**	*e*P		**Pb**		**20 14 14.6**	**+1.0**
22nm,0.5s									
BALST	**Balsthal**	**0.80**	**177**	*i* P		**Pb**		**20 14 14.3**	**+0.5**
27nm,0.7s									
HAU	**Haudompre**	**0.87**	**262**	*e*Pg		**Pg**		**20 14 15.5**	**+0.1**
HAU				*e*Sg		**Sg**		**20 14 27.4**	**+0.5**
8.1nm,0.3s									
LBG	**Lerchenberg**	**0.94**	**55**	⇑P*		**Pb**		**20 14 15.5**	**-0.6**
LBG				PmP				20 14 16.5	
LBG				S*		**Sb**		**20 14 28.2**	**0.0**
LBG				SmS				20 14 29.0	
LBG	**Lerchenberg**	**0.94**	**55**	⇑Pn		**Pb**		**20 14 15.5**	**-0.6**
LBG				Sn		**Sb**		**20 14 28.2**	**0.0**
STEIN	**Stein am Rhein**	**0.95**	**119**	⇓*e*P		**Pb**		**20 14 16.9**	**+0.6**
14nm,0.3s									
GUT	**Gutenstein**	**0.99**	**93**	⇑P*		**Pn**		**20 14 17.4**	**0.0**
GUT				Pg		**Pg**		**20 14 17.6**	**0.0**
GUT				Sg		**Sg**		**20 14 30.5**	**-0.2**
GUT	**Gutenstein**	**0.99**	**93**	⇑Pn		**Pn**		**20 14 17.4**	**0.0**
GUT	**Gutenstein**	**0.99**	**93**	P		**Pg**		**20 14 17.6**	**0.0**
GUT				S		**Sg**		**20 14 30.5**	**-0.2**
SISB	**Singen-Schiene**	**1.00**	**116**	Pg		**Pg**		**20 14 18.0**	**+0.3**
SISB				Sg		**Sg**		**20 14 31.1**	**+0.2**
BUCH	**Bad Urach**	**1.19**	**74**	⇑P		**Pn**		**20 14 19.2**	**-0.9**
BUCH				Pg		**Pg**		**20 14 21.4**	**+0.1**
BUCH				Sg		**Sg**		**20 14 37.3**	**+0.5**
BUCH	**Bad Urach**	**1.19**	**74**	⇑Pn		**Pn**		**20 14 19.2**	**-0.9**
BUCH	**Bad Urach**	**1.19**	**74**	P		**Pg**		**20 14 21.4**	**+0.1**
BUCH				S		**Sg**		**20 14 37.3**	**+0.5**
RFYF	**Reffroy**	**1.52**	**290**	*e*Sn		**Sn**		**20 14 43.5**	**-0.6**
RFYF				*e*Sg		**Sg**		**20 14 47.7**	**+0.2**
4.2nm,0.2s									
SFTF	**Sexfontaines**	**1.74**	**273**	*e*Pg		**Pg**		**20 14 31.2**	**-0.6**
SFTF				*e*Sg		**Sg**		**20 14 55.0**	**+0.5**
2.2nm,0.3s									
MEZF	**Maizieres J'vi**	**1.76**	**283**	*e*Sg		**Sg**		**20 14 55.6**	**+0.4**
1.5nm,0.2s									
CABF	**La Chapelle**	**1.85**	**215**	*e*Sg		**Sg**		**20 14 57.1**	**-1.0**
0.7nm,0.2s									
LOR	**Lormes**	**2.69**	**253**	*e*Sg		**Sg**		**20 15 23.5**	**-1.5**
0.7nm,0.2s									

*IDC **17** 20:16:52.5±2.8, 64.25N×151.40E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=75.5km s-min=45.0km az=114.0*
*NEIC **17** 20:16:53.7±1.1, 64.44N×151.46E, h10km, mb4.2/1, Error ellipse: s-maj=28.6km s-min=15.5km az=105.0*
*ISCJB **17** 20:16:56.4±1.4, 65.53N±0.01°×151.3E±0.2, h35km, mb3.5/4, Error ellipse: s-maj=30.7km s-min=18.4km az=25.3*

ISC 17 20:16:58.0±1.4, 65.53N±0.01°×151.4E±0.2, h35km, n13, σ1§10/12, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**235**	Pn		**Pn**		**20 18 10.7**	**-0.9**
CTAO	**Charters Tower**	**14.40**	**200**	P		**Pn**		**20 20 17.4**	**-1.9**
WB2	**Warramunga Arr**	**21.26**	**229**	*e*P		**P**		**20 21 42.0**	**+0.9**
WB2	**Warramunga Arr**	**21.26**	**229**	*e*P		**P**		**20 21 41.9**	**+0.7**
WRA	**Warramunga Arr**	**21.27**	**229**	P		**P**		**20 21 41.7**	**+0.5**
0.7nm,0.5s,mb3.3,baz=58,slow=11,SNR=10.0									
ASAR	**Alice Springs**	**23.95**	**223**	P		**P**		**20 22 09.2**	**+0.3**
1.1nm,0.7s,mb3.4,baz=58,slow=9.1,SNR=22									
STKA	**Stephens Creek**	**26.86**	**199**	P		**P**		**20 22 36.5**	**+1.3**
0.6nm,0.7s,mb3.2,baz=25,slow=13,SNR=3.0									
FITZ	**Fitzroy Crossi**	**27.62**	**243**	*e*P		**P**		**20 22 43.8**	**+1.7**
1.7nm,0.4s,mb4.0									
FITZ	**Fitzroy Crossi**	**27.62**	**243**	P		**P**		**20 22 41.9**	**-0.2**
1.4nm,0.6s,mb3.8,baz=61,slow=9.1,SNR=6.6									
TAU	**Tasmania Unive**	**36.45**	**185**	P		**P**		**20 23 59.5**	**+0.1**
KURK	**Kurchatov**	**84.22**	**322**	P		**P**		**20 29 23.8**	**-2.0**
BRVK	**Borovoye**	**89.81**	**323**	P		**P**		**20 29 53.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc		PKPbc		20 36 44.2	+0.9
0.6nm,0.9s,baz=80,slow=3.1,SNR=3.1									

*IDC **17** 20:19:02.3±2.8, 65.55N×151.56E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=70.0km s-min=44.8km az=110.0*
*NEIC **17** 20:19:03.6±0.9, 65.65N×151.58E, h10km, mb4.2/2, Error ellipse: s-maj=25.1km s-min=10.6km az=106.0*
*ISCJB **17** 20:19:06.3±1.5, 67.53N±0.1°×151.5E±0.3, h35km, mb3.7/6, Error ellipse: s-maj=37.1km s-min=16.0km az=27.5*

ISC 17 20:19:08.0±1.5, 66.53N±0.01°×151.5E±0.3, h35km, n13, σ0§36/11, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.12**	**237**	Pn		**Pn**		**20 20 21.8**	**-0.4**
CTAO	**Charters Tower**	**14.32**	**200**	Pn		**Pn**		**20 22 27.5**	**-0.7**
WB2	**Warramunga Arr**	**21.28**	**230**	*e*P		**P**		**20 23 51.8**	**+0.5**
WRA	**Warramunga Arr**	**21.29**	**230**	P		**P**		**20 23 51.6**	**+0.1**
0.4nm,0.4s,mb3.1,baz=56,slow=11,SNR=5.2									
ASAR	**Alice Springs**	**23.95**	**223**	P		**P**		**20 24 18.9**	**0.0**
0.7nm,0.5s,mb3.4,baz=55,slow=9.1,SNR=10									
STKA	**Stephens Creek**	**26.78**	**199**	P		**P**		**20 24 45.0**	**+0.5**
1.9nm,0.9s,mb3.6,baz=45,slow=11,SNR=3.3									
STKA	**Stephens Creek**	**26.78**	**199**	P		**P**		**20 24 45.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.69**	**243**	P		**P**		**20 24 53.0**	**+0.4**
1.0nm,0.6s,mb3.6,baz=70,slow=10.0,SNR=4.9									
LSA	**Lhasa**	**68.23**	**305**	P		**P**		**20 30 04.8**	**-0.2**
KURK	**Kurchatov**	**84.42**	**322**	*e*P		**P**		**20 31 36.6**	**-0.2**
1.0nm,0.7s,mb4.0									
CHKZ	**Chkalovo**	**89.92**	**324**	*e*P		**P**		**20 32 03.5**	**0.0**
2.3nm,1.3s,mb4.3									
TORD	**Torodi Ar. Bea**	**149.59**	**285**	PKPbc		PKPbc		20 38 54.4	+0.7
0.4nm,0.8s,baz=74,slow=3.4,SNR=4.2									
TORD	**Torodi Ar. Bea**	**149.59**	**285**	PKPbc		PKPbc		20 38 54.4	+0.7

*MOS **17** 20:22:00.0±0.5, 42.01N×45.34E, h13km, mb3.9/1, Error ellipse: s-maj=17.6km s-min=11.3km az=117.1*
*ISCJB **17** 20:22:01.1±0.6, 42.27N±0.03°×45.41E±0.05, h2km±6km, Error ellipse: s-maj=6.1km s-min=5.1km az=55.4*
*TIF **17** 20:22:01.3, 42.31N×45.35E, h11km±4km*

ISC 17 20:22:02.0±0.6, 42.28N±0.03°×45.40E±0.04, h11km±6km, n15, σ1§18/25, 3C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.55**	**251**	P		**Pg**		**20 22 13.0**	**+0.3**
DUS				S		**Sg**		**20 22 21.0**	**+1.1**
MTA	**Mtatsminda**	**0.74**	**218**	P		**Pg**		**20 22 16.4**	**+0.1**
MTA				S		**Sg**		**20 22 26.6**	**+0.7**
DGRG	**David-gareji**	**0.82**	**181**	P		**Pg**		**20 22 19.8**	**+1.9**
DGRG				S		**Sg**		**20 22 33.0**	**+4.3**
SNJR	**Sundja**	**0.90**	**332**	⇓*i*PG		**Pg**		**20 22 20.8**	**+1.4**
SNJR				*i* S		**Sg**		**20 22 33.9**	**+2.7**
LACR	**Lac**	**0.98**	**304**	⇑*i*PG		**Pg**		**20 22 20.4**	**-0.5**
LACR				*i* S		**Sg**		**20 22 33.1**	**-0.6**
GOR	**Gori**	**1.00**	**254**	P		**Pg**		**20 22 20.4**	**-0.9**
GOR				S		**Sg**		**20 22 34.0**	**-0.3**
UNCR	**Uncukul**	**1.12**	**67**	*e*PG		**Pg**		**20 22 23.2**	**-0.4**
KZR	**Kazreti**	**1.16**	**220**	P		**Pb**		**20 22 23.2**	**-0.8**
KZR				S		**Sb**		**20 22 38.4**	**-0.5**
ZEI	**Tsey**	**1.21**	**295**	⇓*i*PG		**Pg**		**20 22 24.0**	**-1.3**
ZEI				*i* S		**Sb**		**20 22 39.3**	**-1.3**
ARNR	**Ardon**	**1.23**	**318**	⇑*i*PG		**Pg**		**20 22 25.7**	**+0.1**
ARNR				*e*S		**Sb**		**20 22 42.7**	**+1.6**
KRNR	**Karanay**	**1.24**	**63**	*e*PG		**Pg**		**20 22 25.8**	**-0.1**
KMKR	**Kumukh**	**1.27**	**96**	*e*PG		**Pg**		**20 22 24.0**	**-2.4**
ONI	**Oni**	**1.47**	**283**	P		**Pn**		**20 22 28.7**	**+0.3**
ONI				S		**Sn**		**20 22 47.5**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.48**	**296**	⇑*i*PG		**Pg**		**20 22 28.5**	**-1.9**
PRTR	**Priterechnaya**	**1.69**	**331**	⇓*i*PN		**Pn**		**20 22 34.0**	**+2.6**

*NEIC **17** 20:54:51.2±0.5, 46.92N×154.78E, h10km, mb3.9/8, Error ellipse: s-maj=13.5km s-min=8.4km az=145.0*
*ISCJB **17** 20:54:54.0±2.2, 46.9N±0.1°×154.7E±0.1, h45km±20km, mb3.9/14, Error ellipse: s-maj=19.4km s-min=13.1km az=105.0*
*MOS **17** 20:54:54.1±0.8, 46.99N×154.69E, h43km, mb4.0/5, Error ellipse: s-maj=16.1km s-min=13.1km az=66.2*
*IDC **17** 20:54:55.8±5.0, 46.88N×154.74E, h44km±48km, mb3.5/8, mb1 3.7/9, mb1mx3.5/24, mbtmp3.5/9, ML3.2/1, MS2.6/1, Ms1 2.6/1, ms1mx1.7/47, Error ellipse: s-maj=31.1km s-min=24.6km az=178.0*

ISC 17 20:54:56.1±1.8, 46.9N±0.1°×154.7E±0.1, h48km±17km, n31, σ0§69/31, mb3.8/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.08**	**253**	*e*PN		**Pn**		**20 56 09.5**	**-0.1**
ASAJ	**Asahikawa**	**8.98**	**256**	P		**Pn**		**20 57 02.9**	**-0.2**
0.3nm,0.3s,baz=355,slow=22,SNR=2.9									
ASAJ				LR		LR		21 00 31.0	
comp=Z,33nm,19.3s,baz=16,slow=37									
MAJO	**Matsushiro**	**16.10**	**236**	*e*P		**Pn**		**20 58 40.0**	**+1.0**
MAJO				pmax		pmax			
comp=Z,5.0nm,0.8s									
MAJO	**Matsushiro**	**16.10**	**236**	*e*Pn		**Pn**		**20 58 40.0**	**+1.0**
comp=Z,5.3nm,0.8s									
YAK	**Yakutsk**	**20.78**	**326**	P		**P**		**20 59 32.4**	**-0.6**
YAK				pmax		pmax			
comp=Z,2.0nm,0.4s									
YAK	**Yakutsk**	**20.78**	**326**	P		**P**		**20 59 32.4**	**-0.6**
comp=Z,2.4nm,0.4s									
MCK	**McKinley**	**34.78**	**40**	P		**P**		**21 01 41.8**	**-0.1**
MCK				pmax		pmax			
comp=Z,1.0nm,0.6s,mb3.9									
MCK	**McKinley**	**34.78**	**40**	P		**P**		**21 01 41.8**	**-0.1**
comp=Z,0.5nm,0.6s,mb3.6									
NACB	**Ninganchiao**	**34.85**	**241**	*e*P		**P**		**21 01 42.1**	**-0.4**
COLA	**College**	**35.30**	**39**	*e*P		**P**		**21 01 47.2**	**+0.9**
COLA				pmax		pmax			
comp=Z,1.0nm,0.4s,mb4.1									
COLA	**College**	**35.30**	**39**	*e*P		**P**		**21 01 47.2**	**+0.8**
comp=Z,1.2nm,0.4s,mb4.2									
ENH	**Enshi**	**38.50**	**261**	*e*P		**P**		**21 02 12.4**	**-1.1**
comp=Z,0.4nm,0.4s,mb3.5									
ZAL	**Zalesovo**	**43.42**	**306**	P		**P**		**21 02 52.4**	**-1.6**
comp=Z,0.8nm,0.4s,mb3.8,baz=124,slow=1.9,SNR=2.6									
MKAR	**Makanchi Array**	**47.84**	**298**	P		**P**		**21 03 29.2**	**+0.3**
comp=Z,0.6nm,0.7s,mb3.8,baz=68,slow=9.1,SNR=3.2									
KURK	**Kurchatov**	**48.19**	**304**	*e*P		**P**		**21 03 31.8**	**+0.2**
KURK				pmax		pmax			
comp=Z,6.0nm,0.9s,mb4.6									
KURK	**Kurchatov**	**48.19**	**304**	*e*P		**P**		**21 03 31.8**	**+0.1**
comp=Z,6.1nm,0.9s,mb4.6									
YKA	**Yellowknife Ar**	**50.10**	**37**	P		**P**		**21 03 45.7**	**-0.5**
comp=Z,0.2nm,0.7s,mb3.2,baz=295,slow=7.3,SNR=4.3									
YKA	**Yellowknife Ar**	**50.10**	**37**	P		**P**		**21 03 45.7**	**-0.5**
RES	**Resolute Bay**	**50.30**	**19**	P		**P**		**21 03 47.1**	**-0.7**
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P		**P**		**21 03 54.3**	**+0.1**
CHKZ				pmax		pmax			
comp=Z,2.0nm,0.6s,mb4.2									
CHKZ	**Chkalovo**	**51.16**	**311**	*e*P		**P**		**21 03 54.3**	**+0.1**
comp=Z,1.6nm,0.6s,mb4.1									
CHKZ				PcP		PcP		21 05 18.1	+8.9
LSA	**Lhasa**	**51.37**	**274**	P		**P**		**21 03 56.9**	**+1.1**
BVAR	**Borovoye Array**	**51.60**	**310**	P		**P**		**21 03 58.2**	**+0.7**
comp=Z,0.6nm,0.4s,mb3.8,baz=52,slow=9.6,SNR=5.0									
BRVK	**Borovoye**	**51.63**	**310**	P		**P**		**21 03 58.8**	**+1.0**
FCC	**Fort Churchill**	**60.49**	**34**	*e*P		**P**		**21 05 00.4**	**-0.6**
FCC				pmax		pmax			
comp=Z,1.0nm,0.6s,mb4.0									
FCC	**Fort Churchill**	**60.49**	**34**	*e*P		**P**		**21 05 00.4**	**-0.6**
comp=Z,0.6nm,0.6s,mb3.8									
PDAR	**Pinedale Array**	**63.73**	**55**	P		**P**		**21 05 22.9**	**+0.2**
comp=Z,0.4nm,0.9s,mb3.5,baz=318,slow=4.0,SNR=3.4									
FINES	**FINESS Array B**	**64.34**	**335**	P		**P**		**21 05 27.4**	**+0.6**
comp=Z,2.6nm,0.9s,mb4.3,baz=32,slow=5.6,SNR=7.4									
WB2	**Warramunga Arr**	**69.06**	**201**	P		**P**		**21 05 56.5**	**-0.4**
ASAR	**Alice Springs**	**72.75**	**200**	P		**P**		**21 06 18.8**	**-0.4**
comp=Z,0.6nm,0.9s,mb3.5,baz=21,slow=4.9,SNR=4.3									
TXAR	**Lajitas Array**	**76.42**	**62**	P		**P**		**21 06 41.1**	**+0.7**
comp=Z,0.8nm,0.6s,mb3.8,baz=296,slow=4.1,SNR=11									

*BJI **17** 20:57:33.7, 39.34N×72.37E, h30km, mb4.3, ML3.4*
*IDC **17** 20:57:35.6±1.5, 39.13N×72.96E, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.4/25, mbtmp3.6/8, ML3.1/4, Error ellipse: s-maj=27.6km s-min=18.7km az=151.0*
*ISCJB **17** 20:57:39.1±0.9, 39.29N±0.09°×72.71E±0.07, h35km, mb3.7/5, Error ellipse: s-maj=12.4km s-min=8.0km az=157.8*
*NEIC **17** 20:57:43.1±1.6, 39.55N×72.63E, h35km, mb3.9/1, Error ellipse: s-maj=25.8km s-min=12.2km az=145.0*
*MOS **17** 20:57:48.1±1.2, 40.13N×72.45E, h33km, mb4.1/1, Error ellipse: s-maj=29.7km s-min

Msz5.5

GCMT **17** *21:10:21.9±0.1, 458N×9489E, h54km, MW5.8/94, Moment Tensor Solution. s94,c180; s94,c250; Duration: 1!9 Moment tensor: Scale 1017Nm; Mrr4.30±.07; Mθθ-2.40±.05; Mφφ-1.90±.06; Mrθ2.50±.05; Mθφ2.51±.04; Mφr-2.10±.06; Best double couple: M0:5.54900×1017 NP1:φs314.00000°, δ27.00000°, λ93.00000°. NP2:φs131.00000°, δ63.00000°, λ89.00000°. Principal axes: T 5.3640, Plg72.0000°, Azm38.0000°; N 0.3700, Plg1.0000°, Azm131.0000°; P -5.7340, Plg18.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB **17** *21:10:21.8±0.1, 481N±002×9506E±002, h50km, mb5.8/290, MS5.5/208 Error ellipse: s-maj=3.4km s-min=2.4km az=33.2*

NEIC **17** *21:10:21.9±0.1, 482N×9502E, h36km, mb5.7/150, ME5.6, MS5.6/143, MW5.8, Error ellipse: s-maj=4.5km s-min=2.8km az=25.0, Moment Tensor Solution. s32 Moment tensor: Scale 1017Nm; Mrr4.98; Mθθ-3.45; Mφφ-1.52; Mrθ3.00; Mθφ1.51; Mφr-2.26; Best double couple: M0:6.00000×1017 NP1:φs124.00000°, δ65.00000°, λ94.00000°. NP2:φs295.00000°, δ26.00000°, λ83.00000°. Principal axes: T 6.3300, Plg70.0000°, Azm41.0000°; N -0.7300, Plg3.0000°, Azm302.0000°; P -5.5900, Plg19.0000°, Azm211.0000°; Broadband fault plane solution: P waves. NP1:φs305.00000°, δ15.00000°, λ90.00000°. NP2:φs125.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm35.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm215.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC *Felt [IV] at Banda Aceh and Calang. Felt at Kuala Lumpur and Kampong Baharu Nilai, Malaysia.*

IDC **17** *21:10:24.4±0.9, 483N×95.15E, h59km±6km, mb5.3/37, mb1 5.3/38, mb1mx5.3/39, mbtmp5.3/38, MS5.1/28, Ms1 5.1/28, ms1mx5.0/36 Error ellipse: s-maj=10.3km s-min=5.7km az=44.0*

ISC 17 21:10:24.1±0.1, **486N**±002×**9506E**±002, **h52**km, **h52**km±1.2km: **pP-P, n1435,** σ**1900**/1071, **mb5.8**/289, **MS5.5**/208, **345C-109D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.36**	**118**	P	**Pn**	**21 11 29.1**	**+1.3**
	90nm,0.3s,baz=310,slow=11,SNR=112						
PSI				S	**Sn**	**21 12 19.9**	**+2.6**
	133nm,0.3s,baz=343,slow=8.8,SNR=4.5						
PKT	**Phuket**	**4.46**	**44**	P	**Pn**	**21 11 33.0**	**+3.9**
KULM	**Kulim**	**5.58**	**85**	⇓*i*Pn	**Pn**	**21 11 45.3**	**+0.8**
KULM				*e*S	**Sn**	**21 12 47.4**	**+0.1**
IPM	**Ipoh**	**5.96**	**93**	P	**Pn**	**21 11 50.9**	**+1.3**
PBA	**Port Blair**	**7.13**	**341**	*e*P	**Pn**	**21 12 01.5**	**-4.2**
PBA				AMb	AMB	21 12 07.2	
	comp=Z,127nm,0.6s						
PBA				*e*S	**Sn**	**21 13 17.2**	**-8.2**
KGM	**Kluang**	**8.71**	**109**	P	**Pn**	**21 12 28.9**	**+1.5**
NNT	**Nongplab**	**8.96**	**31**	P	**Pn**	**21 12 35.2**	**+4.4**
NST	**Nakhon Sawan**	**11.85**	**25**	P	**Pn**	**21 13 13.6**	**+3.4**
	comp=Z,392nm,0.5s						
KKTK	**Khon Kaen**	**13.72**	**33**	PG	**Pn**	**21 13 41.0**	**+5.3**
KKTK				SG		21 13 46.5	
CHTO	**Chiang Mai**	**14.38**	**15**	P	**Pn**	**21 13 46.9**	**+2.3**
	SNR=69						
CHTO	**Chiang Mai**	**14.38**	**15**⇑	*e*P	**Pn**	**21 13 46.1**	**+1.5**
CHTO				*e*		21 16 27.3	
CHTO				pmax	pmax		
	comp=Z,334nm,0.7s						
CHTO	**Chiang Mai**	**14.38**	**15**⇑	*e*Pn	**Pn**	**21 13 46.1**	**+1.5**
	comp=Z,334nm,0.7s						
CHTO				*e*Sn	**Sn**	**21 16 27.3**	**+4.7**
PALK	**Pallekele**	**14.48**	**280**⇑	*e*Pn	**Pn**	**21 13 46.3**	**+0.4**
	comp=Z,97nm,0.9s						
PALK				*e*Sn		21 16 10.6	
KSM	**Kuching**	**15.59**	**102**⇓	*e*Pn	**Pn**	**21 14 04.0**	**+3.6**
KSM				*e*Sn	**Sn**	**21 16 56.8**	**+4.8**
MDRS	**Chennai**	**16.74**	**300**	*e*P	**Pn**	**21 14 16.8**	**+1.9**
MDRS				AMb	AMB	21 14 33.4	
	comp=Z,157nm,0.5s						
MDRS				*e*S	**S**	**21 17 20.2**	**-8.3**
COCO	**West Island**	**17.03**	**174**⇓	*e*Pn	**Pn**	**21 14 16.6**	**-1.8**
	comp=Z,511nm,1.4s						
COCO				*e*Sn	**Sn**	**21 17 20.9**	**-6.0**
VIS	**Vishakhapatnam**	**17.18**	**319**	*i* P	**Pn**	**21 14 20.7**	**+0.4**
VIS				*i* x	x	21 17 17.7	
TRD	**Trivandrum**	**18.34**	**282**	*e*P	**Pn**	**21 14 34.3**	**-0.2**
TRD				AMb	AMB	21 14 39.1	
	comp=Z,122nm,1.1s						
TRD				*i* x	x	21 17 38.4	
CAL	**Calcutta**	**18.74**	**340**	*e*P	**Pn**	**21 14 36.6**	**-2.9**
CAL				*e*S	**S**	**21 18 06.7**	**-2.4**
AGT	**Agartala**	**19.27**	**349**	*i* P	**Pn**	**21 14 45.0**	**-0.7**
AGT				*i* x	x	21 15 51.0	
IMP	**Imphal**	**19.84**	**357**	*e*P	**Pn**	**21 14 49.0**	**-3.5**
IMP				*e*S	**S**	**21 18 31.0**	**-0.1**
IMP				*e*PCS	PcS	21 22 44.0	+0.3
QIZ	**Qiongzhong**	**20.16**	**44**	P	**P**	**21 14 56.4**	**+2.4**
QIZ				AP		21 15 06.0	
QIZ				XP	sP	21 15 11.4	-0.9
QIZ				PP		21 15 16.3	
QIZ				S	**S**	**21 18 38.8**	**+1.4**
QIZ				XS	sS	21 18 53.1	-3.4
QIZ				AMB	AMB		
	comp=Z,109nm,1.8s						
QIZ				AMB	AMB		
	comp=Z,2μm,11.8s						
QIZ				LR	LR		
	comp=E,13μm,19.7s						
QIZ				LR	LR		
	comp=Z,12μm,21.5s,MS5.2						
QIZ	**Qiongzhong**	**20.16**	**44**	*e*P	**P**	**21 14 56.6**	**+2.6**
	comp=Z,1μm,1.6s						
QIZ				*e*S	**S**	**21 18 39.5**	**+2.1**
QIZ				*e*PcP	PcP	21 19 08.1	+1.2
QIZ				LR	LR		
	comp=Z,14μm,20.0s,MS5.3						
HYB	**Hyderabad**	**20.42**	**309**⇑	*i*P	**P**	**21 14 58.5**	**+1.7**
	comp=Z,246nm,0.8s						
HYB				*e*S	**S**	**21 18 33.0**	**-10**
HYB	**Hyderabad**	**20.42**	**309**⇑	*e*P	**P**	**21 14 58.5**	**+1.7**
HYB				*e*S	**S**	**21 18 33.0**	**-10**
HYB				pmax	pmax		
	comp=Z,246nm,0.8s						
HYB	**Hyderabad**	**20.42**	**309**⇑	*e*P	**P**	**21 14 58.5**	**+1.7**
	comp=Z,246nm,0.8s						
HYB				*e*S	**S**	**21 18 33.0**	**-10**
BOK	**Bokaro**	**20.80**	**336**	*e*P	**P**	**21 15 01.2**	**+0.3**
BOK				AMb	AMB	21 15 06.3	
	comp=Z,680nm,0.6s						
BOK				*e*x	x	21 15 26.0	
SHL	**Shillong**	**20.81**	**352**	*e*P	**P**	**21 14 55.4**	**-5.7**
SHL				*i* S	**S**	**21 18 42.0**	**-8.4**
KKM	**Kota Kinabalu**	**21.09**	**86**	P	**P**	**21 15 07.8**	**+3.7**
KKM	**Kota Kinabalu**	**21.09**	**86**⇑	*e*P	**P**	**21 15 06.1**	**+2.1**
KKM				*e*S	**S**	**21 18 52.4**	**-3.4**
BLSP	**Bilaspur**	**21.25**	**325**	*e*x	x	21 16 47.2	
BLSP				AMb	AMB	21 16 52.0	
	comp=Z,709nm,0.7s,mb6.1						
KMI	**Kunming**	**21.46**	**19**	P	**P**	**21 15 10.1**	**+2.1**
KMI				AP		21 15 17.5	
KMI				S	**S**	**21 19 02.0**	**-1.0**
KMI				SS		21 19 37.6	
KMI				SSS		21 19 51.4	
KMI				AMB	AMB		
	comp=Z,150nm,1.5s,mb5.1						
KMI				AMB	AMB		
	comp=Z,2μm,4.0s						
KMI				LR	LR		
	comp=N,14μm,15.3s,MS5.5						
KMI				LR	LR		
	comp=E,8μm,16.2s,MS5.5						
KMI				LR	LR		
	comp=Z,16μm,22.6s						
KMI	**Kunming**	**21.46**	**19**	P	**P**	**21 15 10.1**	**+2.1**
KMI				*SP	sP	21 15 20.3	-6.1
KMI						21 15 32.8	
KMI				PPP		21 15 42.4	
KMI				S	**S**	**21 19 02.0**	**-1.0**
KMI				SS		21 19 37.6	
KMI				SSS		21 19 51.4	
KMI				pmax	pmax		
	comp=Z,150nm,1.5s,mb5.1						
KMI				MLR	MLR		
	comp=Z,16μm,22.6s,MS5.4						
KMI	**Kunming**	**21.46**	**19**	P	**P**	**21 15 10.1**	**+2.1**
	comp=Z,150nm,1.5s,mb5.1						
KMI				pP		21 15 17.5	
KMI				sP	sP	21 15 20.3	-6.1
KMI				PP		21 15 32.8	
KMI				PPP		21 15 42.4	
KMI				S	**S**	**21 19 02.0**	**-1.0**
KMI				SS		21 19 37.6	
KMI				SSS		21 19 51.4	
KMI				LR	LR		
	comp=Z,16μm,22.6s,MS5.4						
MNGI	**Mangalore**	**21.53**	**293**	*e*P	**P**	**21 15 07.8**	**-1.0**
MNGI				*e*x	x	21 15 32.2	
	comp=Z,492nm,1.3s						
MNGI				*i* S	**S**	**21 19 06.7**	**+2.3**
NGP	**Nagpur**	**22.45**	**318**	*e*P	**P**	**21 15 18.9**	**+0.4**
NGP				*e*x	x	21 15 22.2	
	comp=Z,452nm,0.9s						
NGP				*e*S	**S**	**21 19 23.7**	**+1.8**
LATR	**Latur**	**22.55**	**308**	*e*P	**P**	**21 15 13.0**	**-6.5**
LATR				*e*S	**S**	**21 19 20.0**	**-3.5**
SLGI	**Shiliguri**	**22.63**	**344**	*e*P	**P**	**21 15 21.1**	**+0.7**
TSM	**Tawau**	**22.75**	**90**	P	**P**	**21 15 22.2**	**+0.6**
BATP	**Bataraza**	**22.91**	**79**	*e*P	**P**	**21 15 22.6**	**-0.8**
JBP	**Jabalpur**	**23.31**	**323**	*e*P	**P**	**21 15 27.8**	**+0.3**
JBP				*e*x	x	21 15 45.5	
	comp=Z,598nm,1.7s						
JBP				*e*S	**S**	**21 19 40.5**	**+4.6**
GOA	**Goa**	**23.39**	**298**	*e*P	**P**	**21 15 28.9**	**+0.7**
AKL	**Akola**	**23.57**	**314**	*e*P	**P**	**21 15 31.7**	**+1.8**
AKL				*e*x	x	21 15 51.3	
	comp=Z,683nm,1.6s						
AKL				*i* S	**S**	**21 19 43.0**	**+2.8**
KAD	**Karad**	**23.90**	**303**	*e*P	**P**	**21 15 33.6**	**+0.7**
KAD				AMb	AMB	21 15 41.9	
	comp=Z,202nm,1.6s,mb5.3						
KAD				*e*S	**S**	**21 19 50.2**	**+4.8**
ALBI	**Allahabad**	**23.98**	**329**	*e*P	**P**	**21 15 32.0**	**-1.6**
GYA	**Guiyang**	**24.18**	**26**⇑	*i*P	**P**	**21 15 35.5**	**+0.1**
GYA				AP		21 15 44.8	
GYA				XP	sP	21 15 48.4	-6.3
GYA				PP		21 16 11.5	
GYA				PCP	PcP	21 19 17.5	+2.5
GYA				S	**S**	**21 19 51.1**	**+1.2**
GYA				SS		21 20 44.0	
GYA				AMB	AMB		
	comp=Z,440nm,0.8s,mb5.9						
GYA				AMB	AMB		
	comp=Z,2μm,8.4s						
GYA				LR	LR		
	comp=N,12μm,19.2s,MS5.5						
GYA				LR	LR		
	comp=E,6μm,14.7s,MS5.5						
GYA				LR	LR		
	comp=Z,14μm,20.4s						
JIRN	**Jiri**	**24.20**	**341**	*e*P	**P**	**21 15 34.3**	**-1.3**
	comp=Z,665nm,0.6s,mb6.2						
PKI	**Pulchoki**	**24.39**	**339**	*e*P	**P**	**21 15 36.1**	**-1.2**
	comp=Z,293nm,0.7s,mb5.8						
DMN	**Daman**	**24.53**	**338**	*e*P	**P**	**21 15 37.5**	**-1.1**
	comp=Z,497nm,0.7s,mb6.2						
GUN	**Gumba**	**24.53**	**340**	*e*P	**P**	**21 15 37.4**	**-1.3**
	comp=Z,535nm,0.6s,mb6.2						
KKN	**Kakani**	**24.63**	**339**	*e*P	**P**	**21 15 38.3**	**-1.3**
	comp=Z,468nm,0.7s,mb6.2						
POO	**Poona**	**24.77**	**305**	*e*P	**P**	**21 15 43.3**	**+2.4**
POO				AMb	AMB	21 15 50.0	
	comp=Z,114nm,0.9s,mb5.4						
BHPL	**Bhopal**	**24.98**	**319**	*e*P	**P**	**21 15 43.9**	**+1.2**
BHPL				AMb	AMB	21 15 49.6	
	comp=Z,390nm,0.9s,mb5.9						
LSA	**Lhasa**	**24.98**	**352**	P	**P**	**21 15 43.3**	**+0.5**
LSA				AP		21 15 55.1	
LSA				XP	sP	21 15 59.8	-2.3
LSA				PP		21 16 20.0	
LSA				S	**S**	**21 19 58.8**	**-4.1**
LSA				XS	sS	21 20 27.5	+2.3
LSA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
LSA				AMB	AMB		
	comp=Z,2μm,8.0s						
LSA				LR	LR		
	comp=N,4μm,23.0s,MS5.1						
LSA				LR	LR		
	comp=E,6μm,23.0s,MS5.1						
LSA				LR	LR		
	comp=Z,7μm,27.0s,MS5.0						
LSA	**Lhasa**	**24.98**	**352**⇑	*e*P	**P**	**21 15 43.1**	**+0.3**
LSA				*e*		21 19 18.7	
LSA				*e*S	**S**	**21 20 02.9**	**0.0**
LSA				pmax	pmax		
	comp=Z,232nm,0.6s,mb5.9						
LSA				MLR	MLR		
	comp=Z,6μm,21.0s,MS5.1						
LSA	**Lhasa**	**24.98**	**352**⇑	*e*P	**P**	**21 15 43.1**	**+0.3**
	comp=Z,232nm,0.6s,mb5.9						
LSA				*e*PcP	PcP	21 19 18.7	+1.9
LSA				*e*S	**S**	**21 20 02.9**	**0.0**
LSA				*e*ScP	ScP	21 22 56.7	+5.3
LSA				LR	LR		
	comp=Z,6μm,21.0s,MS5.1						
GKN	**Gorkha**	**25.06**	**338**	*e*P	**P**	**21 15 42.8**	**-0.7**
	comp=Z,425nm,0.6s,mb6.2						
KOLN	**Koldanda**	**25.26**	**336**	*e*P	**P**	**21 15 45.8**	**+0.5**
	comp=Z,1μm,0.7s,mb6.6						
GZH	**Guangzhou**	**25.30**	**43**	P	**P**	**21 15 50.8**	**+5.2**
GZH				LR	LR		
	comp=N,5μm,20.8s,MS5.2						
GZH				LR	LR		
	comp=E,7μm,20.5s,MS5.2						
GZH				LR	LR		
	comp=Z,13μm,20.2s,MS5.5						
HKC	**Hong Kong**	**25.35**	**45**⇓	*i*P	**P**	**21 15 45.0**	**-1.1**
DGAR	**Diego Garcia**	**25.64**	**242**	*e*P	**P**	**21 15 48.2**	**-0.5**
DGAR				pmax	pmax		
	comp=Z,761nm,1.6s,mb6.0						
DGAR				MLR	MLR		
	comp=Z,3μm,21.0s,MS4.8						
DGAR	**Diego Garcia**	**25.64**	**242**	*e*P	**P**	**21 15 48.2**	**-0.6**
	comp=Z,761nm,1.6s,mb6.0						
DGAR				LR	LR		
	comp=Z,3μm,21.0s,MS4.8						
BOM	**Bombay**	**25.81**	**305**	*e*P	**P**	**21 15 52.4**	**+2.2**
BOM				*e*x	x	21 16 00.2	
	comp=Z,356nm,1.5s						
BOM				*e*x	x	21 20 37.1	
BUSP	**Coron**	**25.84**	**72**	*e*P	**P**	**21 15 52.5**	**+2.0**
LUBP	**Lubang**	**26.35**	**69**	*e*P	**P**	**21 15 56.0**	**+0.9**
TGY	**Tagaytay City**	**27.10**	**68**	P	**P**	**21 16 01.1**	**-0.7**
	comp=Z,249nm,0.3s,baz=186,slow=5.2,SNR=12						
TGY				LR	LR	21 25 45.1	
	comp=Z,23nm,18.2s,baz=71,slow=34						
CD2	**Chengdu**	**27.18**	**17**⇑	*i*P	**P**	**21 16 01.8**	**-0.8**
CD2				AP	pP	21 16 11.3	-4.5
CD2				PP		21 16 48.9	
CD2				S	**S**	**21 20 36.3**	**-1.3**
CD2				SS		21 21 53.0	
CD2				AMB	AMB		
	comp=Z,230nm,0.8s,mb5.8						
CD2				AMB	AMB		
	comp=Z,1μm,5.9s						
CD2				LR	LR		
	comp=N,9μm,18.6s,MS5.7						
CD2				LR	LR		
	comp=E,15μm,15.6s,MS5.7						
CD2				LR	LR		
	comp=Z,9μm,18.6s,MS5.4						
BCPH	**Baguio City Da**	**27.53**	**63**⇑	*e*P	**P**	**21 16 07.2**	**+1.4**
OTRP	**Odiongan**	**27.66**	**73**	*e*P	**P**	**21 16 07.2**	**+0.3**
BOAC	**Boac**	**27.76**	**70**	*e*P	**P**	**21 16 08.8**	**+1.0**
BHV	**Bhavnagar**	**27.84**	**309**	*e*P	**P**	**21 16 11.0**	**+2.5**
GUIM	**Jordan**	**27.86**	**76**	*e*P	**P**	**21 16 01.6**	**-7.1**
ABRA	**Dolores**	**28.13**	**61**	*e*P	**P**	**21 16 12.2**	**+1.1**
LGTI	**Lohaghat**	**28.19**	**332**	*i* P	**P**	**21 16 11.5**	**-0.1**
BALP	**Baler**	**28.20**	**65**	*e*P	**P**	**21 16 12.5**	**+0.8**
POLP	**Polilio Island**	**28.21**	**68**	*e*P	**P**	**21 16 14.7**	**+2.9**
ENH	**Enshi**	**28.71**	**27**	PFAKE		21 16 30.0	+14
ENH				LR	LR		
	comp=Z,2.0nm,22.0s						
CAUP	**Cauayan**	**28.84**	**63**	*e*P	**P**	**21 16 18.0**	**+0.6**
AJM	**Ajmer**	**29.04**	**320**	*e*P	**P**	**21 16 21.8**	**+2.7**
AJM				AMb	AMB	21 16 24.8	
	comp=Z,128nm,0.7s,mb5.7						
NDI	**New Delhi**	**29.12**	**326**	*e*P	**P**	**21 16 19.3**	**-0.6**
NDI				AMb	AMB	21 16 36.0	
	comp=Z,194nm,1.5s,mb5.6						
QZH	**Quanzhou**	**30.16**	**46**⇓	*i*P	**P**	**21 16 30.8**	**+1.7**
QZH				S	**S**	**21 21 28.8**	**+4.4**
QZH				AMB	AMB		
	comp=Z,270nm,0.8s,mb6.0						
QZH				LR	LR		
	comp=N,8μm,13.9s,MS5.6						
QZH				LR	LR		
	comp=E,5μm,12.4s,MS5.6						
QZH				LR	LR		
	comp=Z,21μm,25.0s						
DAV	**Davao City (W)**	**30.43**	**84**	*e*P	**P**	**21 16 32.5**	**+1.0**
BHJ	**Bhuj**	**30.59**	**309**	*e*P	**P**	**21 16 34.1**	**+1.3**
BHJ				AMb	AMB	21 16 39.6	
	comp=Z,172nm,1.4s,mb5.7						
SMLA	**Simla**	**31.08**	**329**	*e*P	**P**	**21 16 37.0**	**-0.2**
SMLA				*e*x	x	21 16 52.0	
WHN	**Wuhan**	**31.36**	**33**⇓	*i*P	**P**	**21 16 41.1**	**+1.5**
WHN				S	**S**	**21 21 46.4**	**+3.2**
WHN				LR	LR		
	comp=Z,24μm,16.2s,MS6.0						
SDNR	**Sundarnagar**	**31.48**	**329**	*e*P	**P**	**21 16 41.1**	**+0.4**
SDNR				*e*x	x	21 21 52.1	
XAN	**Xi'an**	**31.76**	**22**	P	**P**	**21 16 42.6**	**-0.6**
XAN				PP	PP	21 17 46.3	-9.3
XAN				S	**S**	**21 21 43.9**	**-5.6**
XAN				AMB	AMB		
	comp=Z,906nm,0.8s,mb6.7						
XAN				LR	LR		
	comp=N,6μm,16.2s,MS5.6						
XAN				LR	LR		
	comp=E,8μm,15.9s,MS5.6						
XAN				LR	LR		
	comp=Z,16μm,15.7s,MS5.8						
NACB	**Ninganchiao**	**31.95**	**50**	*e*P	**P**	**21 16 47.9**	**+3.0**
NACB				*e*	pP	21 16 57.0	-1.2
NACB				*e*PcP	PcP	21 19 35.4	+1.3
YHNB	**Yeheng**	**32.05**	**49**	*e*P	**P**	**21 16 47.2**	**+1.4**
LZH	**Lanzhou**	**32.11**	**13**	⇑P	**P**	**21 16 45.6**	**-0.7**
LZH				AP	pP	21 16 55.6	-4.0
LZH				XP	sP	21 17 01.5	-4.3
LZH				PP	PP	21 17 53.1	-6.4
LZH				PCP	PcP	21 19 36.0	+1.5
LZH				*e*S	**S**	**21 21 52.0**	**-3.0**
LZH				SCP	ScP	21 23 15.5	+1.9
LZH				PCS	PcS	21 23 19.3	0.0
LZH				SS	SS	21 23 48.0	-26
LZH				SCS	ScS	21 27 11.6	-0.8
LZH				AMB	AMB		
	comp=Z,210nm,1.0s,mb5.9						
LZH				AMB	AMB		
	comp=Z,820nm,4.0s						
LZH				LR	LR		
	comp=N,5μm,14.2s						
LZH				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
LZH	**Lanzhou**	**32.11**	**13**	⇑P	**P**	**21 16 45.6**	**-0.7**
LZH				*PP	pP	21 16 55.6	-4.0
LZH				*SP	sP	21 17 01.5	-4.3
LZH						21 17 53.1	
LZH						21 19 36.0	
LZH				*e*S	**S**	**21 21 52.0**	**-3.0**
LZH				*SS	sS	21 22 09.0	-8.5
LZH				SS	SS	21 23 48.0	-26
LZH						21 27 11.6	
LZH				pmax	pmax		
	comp=Z,210nm,1.0s,mb5.9						
LZH				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.5						
LZH	**Lanzhou**	**32.11**	**13**	⇑P	**P**	**21 16 45.6**	**-0.7**
	comp=Z,210nm,1.0s,mb5.9						
LZH				pP	pP	21 16 55.6	-4.0
LZH				sP	sP	21 17 01.5	-4.3
LZH				PP	PP	21 17 53.1	-6.4
LZH				PcP	PcP	21 19 36.0	+1.5
LZH				*e*S	**S**	**21 21 52.0**	**-3.0**
LZH				sS	sS	21 22 09.0	-8.5
LZH				ScP	ScP	21 23 15.5	+1.9
LZH				PcS	PcS	21 23 19.3	0.0
LZH				SS	SS	21 23 48.0	-26
LZH				ScS	ScS	21 27 11.6	-0.8
LZH				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
TATO	**Taipei**	**32.31**	**49**	PFAKE		21 17 00.0	+12
TATO				LR	LR		
	comp=Z,6μm,22.0s,MS5.2						
PONG	**Pong**	**32.36**	**329**	*e*x	x	21 16 41.5	
DLH	**Dalhousie**	**32.82**	**329**	*e*P	**P**	**21 16 52.0**	**-0.5**
DLH				*e*x	x	21 17 07.0	
THN	**Thein Dam**	**32.86**	**329**	*e*x	x	21 16 48.8	
THN				*e*S	**S**	**21 22 09.0**	**+2.4**
GTA	**Gaotai**	**34.66**	**6**⇑	*i*P	**P**	**21 17 08.3**	**-0.2**
GTA				AP	pP	21 17 17.9	-4.0
GTA				PCP	PcP	21 19 42.5	+0.8
GTA				S	**S**	**21 22 34.4**	**-0.1**
GTA				SCP	ScP	21 23 24.8	+2.2
GTA				PCS	PcS	21 23 26.5	-1.7
GTA				SS	SS	21 24 47.4	-19
GTA				SCS	ScS	21 27 24.4	-1.3
GTA				AMB	AMB		
	comp=Z,73nm,0.6s,mb5.8						
GTA				AMB	AMB		
	comp=Z,1μm,5.7s						
GTA				LR	LR		
	comp=N,3μm,20.2s,MS5.2						
GTA				LR	LR		
	comp=E,4μm,22.8s,MS5.2						
GTA				LR	LR		
	comp=Z,5μm,26.6s,MS5.1						
SSE	**Sheshan**	**35.84**	**40**	P	**P**	**21 17 19.3**	**+0.7**
SSE				S	**S**	**21 22 54.1**	**+1.6**
SSE				AMB	AMB		
	comp=Z,58nm,0.9s,mb5.5						
SSE				AMB	AMB		
	comp=Z,696nm,7.8s						
SSE				LR	LR		
	comp=N,3μm,21.5s,MS5.3						
SSE				LR	LR		
	comp=E,5μm,21.5s,MS5.3						
SSE				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
SSE	**Sheshan**	**35.84**	**40**	P	**P**	**21 17 19.2**	**+0.6**
	comp=Z,58nm,0.9s,mb5.5						
SSE				S	**S**	**21 22 54.1**	**+1.6**
SSE				sS	sS	21 23 09.1	-6.1
SSE				SS	SS	21 25 30.4	+0.2
SSE				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
QUE	**Quetta**	**36.57**	**317**	*e*P	**P**	**21 17 26.0**	**+1.1**
QUE				*e*S	**S**	**21 23 05.0**	**+1.2**
TIA	**Tai'an**	**37.22**	**30**	⇑P	**P**	**21 17 30.4**	**+0.1**
TIA				S	**S**	**21 23 09.3**	**-4.3**
TIA				AMB	AMB		
	comp=Z,296nm,1.2s,mb6.0						
TIA				LR	LR		
	comp=N,2μm,14.0s,MS5.4						
TIA				LR	LR		
	comp=E,3μm,12.0s,MS5.4						
FITZ	**Fitzroy Crossi**	**37.82**	**128**⇑	*i*P	**P**	**21 17 33.9**	**-1.5**
	comp=E,44nm,0.8s,mb5.2						
FITZ				*es*P	sP	21 17 50.2	-4.8
FITZ				*e*SCP	ScP	21 23 35.1	+0.9
FITZ	**Fitzroy Crossi**	**37.82**	**128**	P	**P**	**21 17 34.0**	**-1.4**
	comp=E,18nm,0.6s,mb5.0,baz=308,slow=5.9,SNR=52						
FITZ				S	**S**	**21 23 17.3**	**-5.4**
	comp=E,3.9nm,1.0s,baz=263,slow=23,SNR=3.2						
FITZ				LR	LR	21 35 00.7	
	comp=E,3μm,19.8s,MS5.1,baz=302,slow=39						
BTO	**Baotou**	**38.05**	**19**	*e*P	**P**	**21 17 36.3**	**-1.1**
BTO				PP	PP	21 19 04.5	-0.5
BTO				LR	LR		
	comp=N,4μm,12.9s,MS5.4						
BTO				LR	LR

KSH Kashi 38.58 336 P **P** **21 17 42.6 +0.8**
KSH AP pP 21 17 52.4 -3.0
KSH XP sP 21 17 56.3 -5.2
KSH PP PP 21 19 16.0 +5.1
KSH PCP PcP 21 19 55.8 +2.3
KSH S **S** **21 23 36.9 +2.7**
KSH PCS PcS 21 23 43.4 +0.6
KSH XS sS 21 23 52.6 -4.4
KSH SS SS 21 26 18.8 -6.8
KSH AMB AMB
comp=Z,1μm,0.8s,mb6.6
KSH AMB AMB
comp=Z,4μm,3.0s
KSH LR LR
comp=N,5μm,13.9s,MS5.7
KSH LR LR
comp=E,7μm,15.8s,MS5.7
KSH LR LR
comp=Z,8μm,19.2s,MS5.6
HHC Hu-ho-hao-te 38.78 20 *e*P **P** **21 17 44.1 +0.6**
HHC AP pP 21 17 52.8 -4.2
HHC PP PP 21 19 17.8 +4.8
HHC S **S** **21 23 37.1 -0.1**
HHC SS SS 21 26 22.8 -6.8
HHC AMB AMB
comp=Z,241nm,1.0s,mb5.9
HHC LR LR
comp=N,11μm,19.6s,MS5.8
HHC LR LR
comp=E,4μm,17.2s,MS5.8
HHC LR LR
comp=Z,11μm,23.2s
WBK Wadi Bani Khal 39.08 300 P **P** **21 17 49.1 +3.1**
SNR=13
WMQ Urumqi 39.34 352 P **P** **21 17 48.3 +0.1**
WMQ XP sP 21 18 03.1 -4.8
WMQ PP PP 21 19 23.9 +4.7
WMQ PPP 21 19 46.4
WMQ PCP PcP 21 19 57.0 +1.1
WMQ S **S** **21 23 46.5 +0.8**
WMQ XS sS 21 24 04.1 -4.4
WMQ SS SS 21 26 33.1 -7.8
WMQ SCS ScS 21 27 52.5 +0.5
WMQ AMB AMB
comp=Z,96nm,1.0s,mb5.5
WMQ LR LR
comp=N,2μm,22.0s,MS5.1
WMQ LR LR
comp=E,3μm,27.0s,MS5.1
WMQ LR LR
comp=Z,3μm,28.0s,MS5.0
JMDO Jabal Madar 39.75 299 P **P** **21 17 53.9 +2.3**
SNR=13
BJT Baijiatuau 39.84 26⇑ *i*P **P** **21 17 53.7 +1.3**
BJT *e* 21 19 26.5
BJT *e*S **S** **21 23 58.0 +4.8**
BJT pmax pmax
comp=Z,644nm,0.8s
BJT MLR MLR
comp=Z,6μm,21.0s
BJT Baijiatuau 39.84 26⇑ *i*P **P** **21 17 53.7 +1.3**
comp=Z,644nm,0.8s,mb6.4
BJT *e*PP PP 21 19 26.5 +1.9
BJT *e*ScP ScP 21 23 43.3 +1.3
BJT *e*S **S** **21 23 58.0 +4.8**
BJT LR LR
comp=Z,6μm,21.0s,MS5.4
BJI Beijing 39.87 26 P **P** **21 17 53.9 +1.3**
BJI S **S** **21 23 45.8 -7.7**
BJI AMB AMB
comp=Z,753nm,0.7s,mb6.5
BJI LR LR
comp=N,6μm,20.3s
BJI LR LR
comp=E,4μm,25.6s
BJI LR LR
comp=Z,9μm,25.3s,MS5.5
BJI Beijing 39.87 26 P **P** **21 17 53.9 +1.3**
comp=Z,753nm,0.7s,mb6.5
BJI S **S** **21 23 45.8 -7.7**
BJI LR LR
comp=Z,9μm,25.3s,MS5.5
SMDO Samad 40.04 300 ⇑P **P** **21 17 56.7 +2.7**
SNR=8.2
BIDO Bidbid 40.14 301 P **P** **21 17 57.7 +2.9**
SNR=16
MSEY Mahe Island 40.65 257 PFAKE 21 18 10.0 +11
MSEY LR LR
comp=Z,2μm,20.0s,MS4.9
BSY Bisya 40.66 300 P **P** **21 18 01.6 +2.5**
SNR=36
ULHL Ulahol 40.83 339 P **P** **21 18 01.6 +1.1**
SNR=75
HOQ Hoqain 40.86 301 P **P** **21 18 03.3 +2.5**
SNR=13
KAKA Kakadu 41.04 116⇑ *i*P **P** **21 18 00.5 -1.7**
comp=Z,91nm,0.8s,mb5.5
KZA Kyzart 41.05 337 P **P** **21 18 03.7 +1.3**
SNR=22
ARQ Araqi 41.45 300 P **P** **21 18 09.1 +3.4**
SNR=11
UCH Uchtor 41.47 337 P **P** **21 18 07.3 +1.5**
SNR=464
AAA Alma-Ata 41.48 340 *i* P **P** **21 18 07.0 +1.2**
AAA *i* S **S** **21 24 19.5 +2.0**
AAA pmax pmax
comp=Z,4μm,2.2s,mb6.6
AAA smax
comp=N,6μm,5.6s
DL2 Dalian 41.58 32⇑ *i*P **P** **21 18 05.5 -1.2**
DL2 PP PP 21 19 48.3 +4.8
DL2 PPP 21 20 19.0
DL2 S **S** **21 24 21.3 +2.2**
DL2 SS SS 21 27 25.3 -0.2
DL2 AMB AMB
comp=Z,410nm,0.7s,mb6.2
DL2 AMB AMB
comp=Z,460nm,6.3s
DL2 LR LR
comp=N,3μm,16.9s,MS5.3
DL2 LR LR
comp=E,2μm,16.5s,MS5.3
DL2 LR LR
comp=Z,3μm,16.6s,MS5.3
TKM2 Tokmak 2 41.65 338 P **P** **21 18 08.3 +1.1**
SNR=249
KBK Karagaybulak 41.66 338 P **P** **21 18 09.1 +1.7**
SNR=649
AML Almayashu 41.71 336 P **P** **21 18 09.3 +1.6**
SNR=611
MUN Mundaring 41.80 153 *e*P **P** **21 18 08.1 -0.4**
MUN *e* pP 21 18 24.8 +2.6
AAK Ala-Archa 41.82 337 P **P** **21 18 09.9 +1.3**
SNR=235
FRU Bishkek 41.94 337 *oe*P **P** **21 18 10.0 +0.4**
FRU *e* pP 21 18 22.0 -1.3
FRU *e*S **S** **21 24 27.5 +3.1**
FRU pmax pmax
comp=Z,1μm,2.0s,mb6.2
FRU pmax pmax
comp=Z,2μm,3.8s
FRU smax
comp=N,3μm,11.0s
FRU MLR MLR
comp=N,3μm,18.0s
FRU MLR MLR
comp=Z,4μm,18.0s,MS5.3
CHMS Chumysh 42.03 338 P **P** **21 18 11.3 +0.9**
SNR=10
EKS2 Erkin-Say 42.12 336 P **P** **21 18 12.6 +1.5**
SNR=363
KLBR Kellerberrin 42.21 151 *e*P **P** **21 18 10.6 -1.2**
comp=Z,156nm,1.3s,mb5.5
HATD Hatta, Dubai 42.31 302 P **P** **21 18 15.6 +3.0**
SNR=8.3
ASHO Ashiyiah 42.32 302 P **P** **21 18 16.3 +3.6**
SNR=14
USP Ospenovka 42.36 338 P **P** **21 18 13.9 +0.9**
SNR=612
WHFO Wadi Hawf 42.39 291 P **P** **21 18 15.4 +2.1**
SNR=14
BANOM Banah 42.58 304 ⇓P **P** **21 18 17.6 +2.8**
ABTO Aybut 42.71 290 ⇓P **P** **21 18 19.2 +3.3**
NWAO Narrogin (SRO) 43.07 152 P **P** **21 18 17.4 -1.4**
comp=Z,17nm,0.9s,mb4.8,baz=332,slow=6.6,SNR=5.8
NWAO LR LR 21 36 52.0
comp=Z,3μm,19.6s,MS5.2,baz=327,slow=37
NWAO Narrogin (SRO) 43.07 152 *e*P **P** **21 18 18.0 -0.8**
NWAO *e* pP 21 18 29.3 -3.2
NWAO *e* 21 19 58.4
NWAO *e* 21 20 08.1
NWAO pmax pmax
comp=Z,59nm,1.0s
NWAO MLR MLR
comp=Z,3μm,19.0s
NWAO Narrogin (SRO) 43.07 152 *e*P **P** **21 18 18.0 -0.8**
comp=Z,59nm,1.0s,mb5.3
NWAO *e* pP 21 18 29.3 -3.2
NWAO *e*PP PP 21 19 58.4 -1.1
NWAO *e*PcP PcP 21 20 08.1 +0.1
NWAO LR LR
comp=Z,3μm,19.0s,MS5.2
MKAR Makanchi Array 43.21 347 P **P** **21 18 19.6 -0.4**
comp=Z,392nm,0.7s,mb6.2,baz=164,slow=7.5,SNR=599
MKAR S **S** **21 24 45.0 +1.9**
comp=Z,1.7nm,0.8s,baz=184,slow=9.8,SNR=2.2
MKAR LR LR 21 39 42.0
comp=Z,2μm,20.2s,MS4.9,baz=158,slow=41
MKAR Makanchi Array 43.21 347 P **P** **21 18 19.6 -0.3**
MKAR S **S** **21 24 45.0 +2.0**
INCN Inchon 43.42 37⇑ *e*P **P** **21 18 20.8 -0.8**
comp=Z,188nm,0.8s,mb5.9
INCN LR LR
comp=Z,7μm,19.0s,MS5.6
JNU Nakatsue 43.63 45 P **P** **21 18 23.9 +0.6**
comp=Z,92nm,0.9s,mb5.5,baz=208,slow=20,SNR=18
SONM Songino Array 43.91 11 P **P** **21 18 24.7 -0.8**
comp=Z,72nm,0.8s,mb5.5,baz=194,slow=9.3,SNR=176
SONM PcP PcP 21 20 11.0 +0.1
comp=Z,45nm,0.8s,baz=190,slow=3.4,SNR=12
SONM ScP ScP 21 23 58.8 +0.6
comp=Z,5.0nm,1.0s,baz=197,slow=4.4,SNR=5.4
SONM LR LR 21 39 18.8
comp=Z,4μm,18.3s,MS5.4,baz=193,slow=40
SONM Songino Array 43.91 11 P **P** **21 18 24.7 -0.8**
SONM 21 20 11.0
KSRS Korea Array 44.19 38 P **P** **21 18 27.4 -0.4**
comp=Z,86nm,0.8s,mb5.5,baz=223,slow=8.5,SNR=109
KSRS PcP PcP 21 20 11.8 -0.1
comp=Z,6.9nm,0.7s,baz=230,slow=3.8,SNR=4.4
KSRS ScP ScP 21 23 59.4 +0.1
comp=Z,8.6nm,1.1s,baz=230,slow=5.4,SNR=8.6
KSRS LR LR 21 40 50.6
comp=Z,3μm,18.4s,MS5.2,baz=217,slow=41
SNY Shenyang 44.74 30 ⇑P **P** **21 18 31.4 -0.8**
SNY S **S** **21 25 04.6 -0.7**
SNY XS sS 21 25 26.4 -2.1
SNY AMB AMB
comp=Z,83nm,0.6s,mb5.7
SNY AMB AMB
comp=Z,710nm,3.5s
SNY LR LR
comp=N,5μm,17.4s
SNY LR LR
comp=Z,5μm,20.4s,MS5.4
WRA Warramunga Arr 45.80 124 P **P** **21 18 40.3 -0.3**
comp=Z,135nm,0.7s,mb6.0,baz=302,slow=9.1,SNR=368
WRA ScP ScP 21 24 05.0 -1.0
comp=Z,7.0nm,1.0s,baz=308,slow=3.8,SNR=7.4
WRA S **S** **21 25 17.2 -3.5**
comp=Z,11nm,1.2s,baz=294,slow=16,SNR=10
WRA LR LR 21 38 49.8
comp=Z,2μm,21.3s,MS5.1,baz=275,slow=37
WRA Warramunga Arr 45.80 124 P **P** **21 18 40.3 -0.3**
WRA S **S** **21 25 17.2 -3.5**
WB2 Warramunga Arr 45.81 124⇑ *i*P **P** **21 18 40.4 -0.3**
WB2 *e*S **S** **21 25 18.4 -2.4**
ZAK Zakamensk 45.89 7⇓ *i*P **P** **21 18 40.3 -1.0**
ZAK *e* 21 20 17.5
ZAK *e* 21 20 33.2
ZAK pmax pmax
comp=Z,35nm,0.9s,mb5.3
CN2 Changchun 47.12 30 ⇑P **P** **21 18 50.8 -0.2**
CN2 *e*S **S** **21 25 41.8 +2.3**
CN2 AMB AMB
comp=Z,170nm,0.7s,mb6.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,4μm,18.0s,MS5.6
CN2 LR LR
comp=E,4μm,18.0s,MS5.6
CN2 LR LR
comp=Z,6μm,19.0s,MS5.6
TLY Talaya 47.21 7 ⇓P **P** **21 18 50.8 -0.9**
SNR=34
TLY Talaya 47.21 7 *c i*P **P** **21 18 51.2 -0.4**
TLY pmax pmax
comp=Z,88nm,0.8s,mb5.7
TLY Talaya 47.21 7⇑ *i*P **P** **21 18 51.3 -0.3**
ASAR Alice Springs 47.31 129 P **P** **21 18 52.0 -0.5**
comp=Z,25nm,0.5s,mb5.4,baz=299,slow=7.9,SNR=317
ASAR ScP ScP 21 24 12.7 +0.4
comp=Z,3.1nm,1.0s,baz=299,slow=3.8,SNR=4.4
ASAR S **S** **21 25 39.5 -2.7**
comp=Z,5.5nm,1.0s,baz=296,slow=13,SNR=6.3
FORT Forrest 47.44 140⇑ *i*P **P** **21 18 53.1 -0.3**
comp=Z,63nm,0.7s,mb5.7
KURK Kurchatov 47.74 346 P **P** **21 18 56.0 +0.3**
SNR=182
KURK Kurchatov 47.74 346⇑ *i*P **P** **21 18 55.7 0.0**
KURK *e* 21 20 26.4
KURK *e*S **S** **21 25 48.9 +0.6**
KURK pmax pmax
comp=Z,290nm,0.8s,mb6.4
KURK MLR MLR
comp=Z,426nm,19.0s,MS4.4
KURK Kurchatov 47.74 346⇑ *i*P **P** **21 18 55.7 -0.1**
comp=Z,290nm,0.8s,mb6.4
KURK *e*PcP PcP 21 20 26.4 +2.1
KURK *e*ScP ScP 21 24 19.8 +5.7
KURK *e*S **S** **21 25 48.9 +0.6**
KURK LR LR
comp=Z,426nm,19.0s,MS4.4
IRK Irkutsk 47.84 8 *e*P **P** **21 18 55.1 -1.4**
IRK *e* 21 20 25.2
IRK *e* 21 21 35.0
IRK pmax pmax
comp=Z,142nm,0.8s,mb6.0
HIA Hailar 48.95 21⇑ *i*P **P** **21 19 04.8 -0.3**
HIA *e* 21 20 28.6
HIA *e* 21 20 58.0
HIA *e*S **S** **21 26 05.8 +0.4**
HIA pmax pmax
comp=Z,124nm,0.7s
HIA MLR MLR
comp=Z,18μm,19.0s
HIA Hailar 48.95 21⇑ *i*P **P** **21 19 04.8 -0.3**
comp=Z,124nm,0.7s,mb6.0
HIA *e*PcP PcP 21 20 28.6 0.0
HIA *e*PP PP 21 20 58.0 -0.9
HIA *e*S **S** **21 26 05.8 +0.4**
HIA LR LR
comp=Z,18μm,19.0s,MS6.1
CIT Chita 49.45 15 *e*P **P** **21 19 07.7 -1.2**
CIT *e* 21 19 26.6
CIT *e* 21 20 37.0
CIT pmax pmax
comp=Z,197nm,2.1s,mb5.8
ZAL Zalesovo 49.64 352 P **P** **21 19 09.6 -0.7**
comp=Z,85nm,0.6s,mb6.0,baz=304,slow=5.6,SNR=277
ZAL S **S** **21 26 12.9 -2.1**
comp=Z,1.5nm,0.6s,baz=176,slow=23,SNR=2.2
ZAL Zalesovo 49.64 352 P **P** **21 19 09.6 -0.7**
ZAL S **S** **21 26 12.9 -2.1**
MDJ Mudanjiang 49.82 32 P **P** **21 19 12.8 +1.1**
MDJ AP pP 21 19 21.8 -3.9
MDJ XP sP 21 19 26.3 -5.4
MDJ PCP PcP 21 20 32.9 +1.1
MDJ PP PP 21 21 06.3 -0.4
MDJ PCS PcS 21 24 31.0 +2.4
MDJ S **S** **21 26 16.3 -1.3**
MDJ AMB AMB
comp=Z,211nm,1.4s,mb6.0
MDJ AMB AMB
comp=Z,795nm,9.0s
MDJ LR LR
comp=N,3μm,23.2s,MS5.3
MDJ LR LR
comp=E,2μm,23.9s,MS5.3
MDJ LR LR
comp=Z,6μm,24.7s,MS5.5
MDJ Mudanjiang 49.82 32 PFAKE 21 19 20.0 +8.3
MDJ LR LR
comp=Z,5μm,22.0s,MS5.5
GUMO Guam 49.84 76 PFAKE 21 19 20.0 +8.2
GUMO LR LR
comp=Z,2μm,22.0s,MS5.2
CBIJ Chichi jima 50.02 58 P **P** **21 19 12.4 -0.8**
comp=Z,189nm,0.4s,mb6.5,baz=107,slow=5.6,SNR=19
VLA Vladivostok 50.11 35 *e*P **P** **21 19 14.2 +0.3**
VLA S **S** **21 26 20.0 -1.6**
VLA pmax pmax
comp=Z,569nm,2.0s,mb6.2
VLA MLR MLR
comp=Z,6μm,18.3s,MS5.6
VLA Vladivostok 50.11 35 *i* P **P** **21 19 15.4 +1.5**
MAJO Matsushiro 50.55 45 *e*P **P** **21 19 18.0 +0.8**
MAJO pmax pmax
comp=Z,130nm,1.2s,mb5.7
MAJO MLR MLR
comp=Z,6μm,21.0s,MS5.6
MAJO Matsushiro 50.55 45 *e*P **P** **21 19 18.0 +0.7**
comp=Z,130nm,1.2s,mb5.7
MAJO *e*ScP ScP 21 24 27.6 +1.6
MAJO LR LR
comp=Z,6μm,21.0s,MS5.6
MAT Matsushiro 50.55 45 P **P** **21 19 17.2 0.0**
MAT *e*S **S** **21 26 34.0 +6.3**
MJAR Matsushiro Arr 50.55 45 P **P** **21 19 17.3 +0.1**
comp=Z,26nm,0.8s,mb5.2,baz=234,slow=6.7,SNR=38
MJAR PcP PcP 21 20 34.1 -0.3
comp=Z,43nm,0.8s,baz=240,slow=3.6,SNR=17
MJAR ScP ScP 21 24 26.8 +0.7
comp=Z,6.8nm,1.0s,baz=231,slow=3.6,SNR=8.6
MJAR LR LR 21 42 17.2
comp=Z,5μm,20.7s,MS5.5,baz=250,slow=38
MJAR Matsushiro Arr 50.55 45 P **P** **21 19 17.3 +0.1**
MJAR 21 20 34.1
MJAR Matsushiro Arr 50.55 45 P **P** **21 19 17.3 +0.1**
MJAR PcP PcP 21 20 34.1 -0.3
MJAR ScP ScP 21 24 26.8 +0.7
MJAR LR LR 21 42 17.2
NVS Novosibirsk 50.74 351 *i* P **P** **21 19 17.5 -1.2**
NVS *i* S **S** **21 26 27.5 -2.9**
NVS pmax pmax
comp=Z,191nm,0.9s,mb6.0
NVS pmax pmax
comp=N,153nm,1.1s
NVS pmax pmax
comp=E,75nm,0.8s
NVS smax
comp=N,101nm,1.9s
NVS smax
comp=E,191nm,1.9s
ATD Arta Tunnel 52.04 281 P **P** **21 19 30.5 +2.1**
comp=E,21nm,1.0s,mb5.0,baz=110,slow=10,SNR=8.6
ATD LR LR 21 38 01.5
comp=E,815nm,19.8s,MS4.8,baz=262,slow=32
BVAR Borovoye Array 52.12 341 P **P** **21 19 28.6 -0.3**
comp=E,474nm,0.7s,mb6.5,baz=144,slow=9.5,SNR=1018
BVAR ScP ScP 21 24 34.1 +1.3
comp=E,2.9nm,0.8s,baz=126,slow=3.7,SNR=3.1
BVAR S **S** **21 26 49.4 0.0**
comp=E,5.8nm,0.9s,baz=126,slow=17,SNR=4.7
BVAR LR LR 21 44 45.2
comp=E,2μm,20.7s,MS5.2,baz=181,slow=40
BVAR Borovoye Array 52.12 341 P **P** **21 19 28.6 -0.4**
BVAR S **S** **21 26 49.4 +0.1**
BRVK Borovoye 52.18 341 P **P** **21 19 29.1 -0.3**
SNR=630
BRVK P 21 19 29.3
SNR=184
BRVK Borovoye 52.18 341 P **P** **21 19 28.5 -0.9**
BRVK pmax pmax
comp=Z,510nm,0.7s,mb6.6
BRVK Borovoye 52.18 341 *e*P **P** **21 19 28.4 -1.0**
CHKZ Chkalovo 52.60 342⇑ *i*P **P** **21 19 32.6 +0.1**
comp=Z,4μm,1.4s
CHKZ *e*PcP PcP 21 20 42.8 +0.7
CHKZ *e*S **S** **21 26 55.9 -0.1**
PMG Port Moresby 53.82 105⇑ *e*P **P** **21 19 41.0 -0.5**
PMG *e* pP 21 19 54.3 -1.3
PMG *e* 21 20 47.4
PMG *e* 21 21 40.9
PMG pmax pmax
comp=Z,53nm,0.6s
PMG Port Moresby 53.82 105⇑ *e*P **P** **21 19 41.0 -0.5**
comp=Z,54nm,0.6s,mb5.7
PMG *e* pP 21 19 54.3 -1.3
PMG *e*PcP PcP 21 20 47.4 +0.7
PMG *e*PP PP 21 21 40.9 -2.0
BOD Bodaibo 54.87 12 *e*P **P** **21 19 47.5 -1.6**
BOD pmax pmax
comp=Z,78nm,0.9s,mb5.7
BHD Baghdad 54.91 308 *i* x x 21 19 48.0
BHD *ex* x 21 27 25.0
AKTK Aktyubinsk 55.02 332 P **P** **21 19 49.0 -0.5**
AKTK S **S** **21 27 28.6 0.0**
AKTK LR LR 21 47 31.2
AKTO Aktyubinsk 55.02 332 P **P** **21 19 49.6 -0.5**
comp=Z,66nm,0.6s,mb5.9,baz=120,slow=8.4,SNR=54
AKTO S **S** **21 27 28.6 0.0**
comp=Z,5.5nm,1.0s,baz=231,slow=22,SNR=8.5
AKTO LR LR 21 47 31.3
comp=Z,2μm,20.7s,MS5.2,baz=134,slow=40
AKTO Aktyubinsk 55.02 332 P **P** **21 19 49.7 -0.5**
AKTO S **S** **21 27 28.6 0.0**
HABR Khabarovsk 55.19 31⇑ *i*P **P** **21 19 51.0 -0.4**
HABR *e*S **S** **21 27 34.6 +3.7**
HABR pmax pmax
comp=Z,195nm,0.8s,mb6.2
HABR MLR MLR
comp=Z,3μm,19.4s,MS5.4
CTA Charters Tower 56.07 118⇑ *i*P **P** **21 19 57.3 -0.4**
comp=Z,25nm,0.8s,mb5.3
CTA *e*pP pP 21 20 12.7 +0.8
CTA Charters Tower 56.07 118 P **P** **21 19 57.2 -0.5**
comp=Z,36nm,0.9s,mb5.4,baz=290,slow=7.5,SNR=21
CTA LR LR 21 45 13.6
comp=Z,4μm,21.7s,MS5.5,baz=286,slow=37
CTA Charters Tower 56.07 118⇑ *i*P **P** **21 19 57.3 -0.4**
CTA *e**PP pP 21 20 12.7 +0.8
CTA pmax pmax
comp=Z,25nm,0.8s
CTAO Charters Tower 56.07 118⇑ *e*P **P** **21 19 57.2 -0.5**
CTAO *e* pP 21 20 12.1 +0.2
CTAO *e* 21 21 00.6
CTAO pmax pmax
comp=Z,100nm,1.2s,mb5.7
CTAO MLR MLR
comp=Z,4μm,22.0s,MS5.5
CTAO Charters Tower 56.07 118⇑ *e*P **P** **21 19 57.2 -0.5**
comp=Z,100nm,1.2s,mb5.7
CTAO *e* pP 21 20 12.1 +0.2
CTAO *e*PcP PcP 21 21 00.6 +5.2
CTAO LR LR
comp=Z,4μm,22.0s,MS5.5
ERM Erimo 56.49 42 P **P** **21 20 01.5 +0.8**
ERM pmax pmax
comp=Z,43nm,0.7s,mb5.6
ERM Erimo 56.49 42 *e*P **P** **21 20 01.4 +0.6**
comp=Z,43nm,0.6s,mb5.7
ERM *e* pP 21 20 16.8 +1.9
ERM LR LR
comp=Z,960nm,21.0s,MS4.9
MAK Makhachkala 56.58 320 *i* P **P** **21 19 59.9 -1.5**
MAK *e* 21 22 08.6
MAK *e*PPP 21 23 27.2
MAK *e*S **S** **21 27 45.0 -4.3**
MAK *i* 21 29 44.8
MAK *e*SS SS 21 31 43.1 +5.8
MAK pmax pmax
comp=Z,123nm,0.6s,mb6.1
NRGR Nerungri 56.75 19 *e*P **P** **21 20 03.2 +0.6**
NRGR S **S** **21 27 55.8 +4.2**
NRGR smax
comp=N,17nm,0.5s
CUKT Cukurca 56.89 312 *e*P **P** **21 20 02.3 -1.3**
HKR Hakkari 56.91 312 *e*P **P** **21 20 03.4 -0.4**
HAKT HAKKARI 56.93 312 *i* P **P** **21 20 03.2 -0.6**
MSL Mosul 56.94 311 *ex* x 21 20 06.0
MSL *ex* x 21 27 52.0
CLNS Chul'man 56.95 19 *e*P **P** **21 20 02.5 -1.5**
CLNS *e**PP pP 21 20 09.2 -9.0
CLNS *e* 21 22 04.8

CLNS				*e*S	**S**	**21 28 01.4 +7.2**
CLNS				pmax	pmax	
	comp=Z,68nm,0.7s,mb5.8					
CLNS				pmax	pmax	
	comp=N,29nm,0.6s					
CLNS				pmax	pmax	
	comp=E,32nm,0.9s					
CLNS				pmax	pmax	
	comp=N,15nm,1.0s					
CLNS				pmax	pmax	
	comp=E,16nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,15nm,1.0s,mb5.0					
CLNS				smax		
	comp=N,185nm,12.4s					
CLNS				smax		
	comp=Z,221nm,12.4s					
CLNS				smax		
	comp=E,1μm,14.3s					
ASAJ	**Asahikawa**	**57.12 39**		P	**P**	**21 20 05.8 +0.6**
	comp=E,58nm,0.6s,mb5.8,baz=260,slow=4.8,SNR=44					
ASAJ				LR	LR	21 46 33.7
	comp=E,2μm,19.5s,MS5.3,baz=191,slow=38					
DGRG	**David-gareji**	**57.31 317**		P	**P**	**21 20 07.2 +0.7**
DGRG				S	**S**	**21 27 57.5 -1.5**
ORR	**Orenburg**	**57.35 331**		*e*P	**P**	**21 20 06.9 +0.1**
ORR				*e*	pP	21 20 19.0 -2.0
ORR				pmax	pmax	
	comp=Z,90nm,0.9s,mb5.8					
ORR				MLR	MLR	
	comp=Z,2μm,22.0s,MS5.2					
CLDR	**Caldiran**	**57.38 314**		*e*P	**P**	**21 20 07.0 -0.1**
STKA	**Stephens Creek**	**57.39 133**		*e*P	**P**	**21 20 06.4 -0.7**
	comp=Z,23nm,0.8s,mb5.2					
STKA				*e*sP	sP	21 20 23.3 -3.9
STKA	**Stephens Creek**	**57.39 133**		P	**P**	**21 20 06.4 -0.7**
	comp=Z,14nm,0.8s,mb5.1,baz=310,slow=7.9,SNR=40					
STKA				S	**S**	**21 27 59.1 -0.9**
	comp=Z,1.2nm,0.8s,baz=33,slow=16,SNR=1.7					
STKA				LR	LR	21 47 47.5
	comp=Z,2μm,20.3s,MS5.2,baz=297,slow=39					
VANB	**Van**	**57.55 313**		*e*P	**P**	**21 20 12.6 +4.4**
MTA	**Mtatsminda**	**57.81 317**		P	**P**	**21 20 09.9 -0.1**
MTA				S	**S**	**21 28 00.4 -5.1**
SIRT	**Sirnak**	**57.85 312**		*e*P	**P**	**21 20 09.2 -1.1**
KZR	**Kazreti**	**57.93 317**		P	**P**	**21 20 12.5 +1.6**
DUS	**Dusheti**	**58.04 317**		P	**P**	**21 20 12.9 +1.2**
KMBO	**Kilima Mbogo**	**58.05 266**		P	**P**	**21 20 13.6 +1.8**
	comp=Z,15nm,1.1s,mb5.0,baz=54,slow=9.1,SNR=22					
KMBO				S	**S**	**21 28 12.3 +3.6**
	comp=Z,1.1nm,0.8s,baz=232,slow=24,SNR=3.6					
KMBO				LR	LR	21 41 12.8
	comp=Z,4μm,20.9s,MS5.5,baz=97,slow=32					
KMBO	**Kilima Mbogo**	**58.05 266**	⇑	P	**P**	**21 20 14.3 +2.5**
	SNR=16					
KMBO	**Kilima Mbogo**	**58.05 266**		P	**P**	**21 20 13.6 +1.8**
KMBO				S	**S**	**21 28 12.3 +3.6**
KMBO	**Kilima Mbogo**	**58.05 266**		P	**P**	**21 20 13.6 +1.8**
KMBO				S	**S**	**21 28 12.3 +3.6**
KMBO				LR	LR	21 41 12.8
AGRB	**Hanur-Agry**	**58.21 314**		*e*P	**P**	**21 20 13.2 +0.3**
GOR	**Gori**	**58.39 317**		P	**P**	**21 20 16.4 +2.2**
SVE	**Sverdlovsk**	**58.52 339**	⇑	*i*P	**P**	**21 20 14.0 -1.0**
SVE				*e*		21 22 28.0
SVE				*e*S	**S**	**21 28 16.0 +1.2**
SVE				*e*		21 28 39.0
SVE				*e*SS	SS	21 32 06.0 -1.9
SVE				*e*SSS		21 34 30.0
SVE				pmax	pmax	
	comp=Z,580nm,1.8s,mb6.3					
SVE				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.3					
KARS	**Kars**	**58.54 315**		*e*P	**P**	**21 20 15.5 +0.3**
YSS	**Yuzh-Sakhalins**	**58.62 36**	α	*e*P	**P**	**21 20 15.7 0.0**
YSS				*e*		21 20 24.1
YSS				*e**SP	sP	21 20 30.6 -5.3
YSS				*e*		21 20 59.0
YSS				S	**S**	**21 28 16.0 -0.1**
YSS				pmax	pmax	
	comp=N,60nm,1.0s					
YSS				pmax	pmax	
	comp=Z,370nm,1.0s,mb6.4					
YSS				pmax	pmax	
	comp=E,110nm,0.9s					
YSS	**Yuzh-Sakhalins**	**58.62 36**	⇑	*e*P	**P**	**21 20 15.9 +0.2**
BTMT	**Batman**	**58.80 312**		*e*P	**P**	**21 20 17.0 0.0**
ZEI	**Tsey**	**58.86 318**		*e*P	**P**	**21 20 17.8 +0.4**
ZEI				*i*		21 20 24.4
ZEI				*e*		21 21 05.9
ZEI				pmax	pmax	
	comp=Z,108nm,0.6s,mb6.1					
ARU	**Arti**	**59.01 337**	⇓	*i*P	**P**	**21 20 16.6 -1.8**
ARU				*e*		21 21 04.3
ARU				*e*		21 22 23.9
ARU				*e*S	**S**	**21 28 22.4 +1.3**
ARU				*e*		21 30 00.7
ARU				*e*SS	SS	21 32 15.5 0.0
ARU				pmax	pmax	
	comp=Z,193nm,1.1s,mb6.0					
ARU				MLR	MLR	
	comp=N,1μm,18.0s,MS5.1					
ARU				MLR	MLR	
	comp=E,400nm,18.0s,MS5.1					
ARU				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.2					
ARU	**Arti**	**59.01 337**	⇑	*i*P	**P**	**21 20 17.4 -1.0**
	comp=Z,269nm,1.1s,mb6.2					
ARU				*e*	pP	21 20 32.5 -0.2
ARU				LR	LR	
	comp=Z,554nm,19.0s,MS4.7					
ONI	**Oni**	**59.09 318**		P	**P**	**21 20 19.2 +0.3**
ONI				S	**S**	**21 28 10.8 -11**
YUK	**Yuzh-Kuril'sk**	**59.17 41**		*e*P	pP	21 20 29.8 -4.0
BNGL	**BINGOL**	**59.31 313**		*i*P	**P**	**21 20 20.9 +0.4**
ERZM	**Erzurum**	**59.50 314**		*i*P	**P**	**21 20 22.4 +0.6**
EZM	**Erzurum**	**59.50 314**		*e*P	**P**	**21 20 22.4 +0.6**
ARTV	**Artvin**	**59.57 316**		*i*P	**P**	**21 20 22.1 -0.2**
BINT	**Bingol**	**59.77 313**		*e*P	**P**	**21 20 23.8 +0.2**
BCA	**Borcka**	**59.88 316**		*e*P	**P**	**21 20 23.9 -0.5**
KIV	**Kislovodsk**	**60.16 319**		P	**P**	**21 20 26.4 0.0**
	SNR=37					
KIV	**Kislovodsk**	**60.16 319**	*c*	*i*P	**P**	**21 20 25.4 -0.9**
KIV				*e*		21 22 38.0
KIV				*e*PPP		21 24 01.3
KIV				*e*S	**S**	**21 28 34.6 -1.4**
KIV				*e*SS	SS	21 32 30.9 -2.7
KIV				pmax	pmax	
	comp=Z,91nm,0.6s,mb6.0					
KIV				pmax	pmax	
	comp=Z,601nm,2.2s,mb6.2					
KIV	**Kislovodsk**	**60.16 319**		*i*P	**P**	**21 20 25.6 -0.7**
URFA	**Urfa**	**60.55 311**		*e*P	**P**	**21 20 28.8 -0.2**
EZC	**Erzincan**	**60.56 313**		*e*P	**P**	**21 20 31.6 +2.5**
PTK	**Pertek**	**60.58 312**		*e*P	**P**	**21 20 28.4 -0.8**
ASF	**Jabal al Asfar**	**60.64 304**		P	**P**	**21 20 31.1 +1.6**
	comp=Z,8.2nm,0.9s,mb4.9,baz=328,slow=5.0,SNR=18					
ASF				LR	LR	21 47 40.6
	comp=Z,1μm,19.7s,MS5.0,baz=156,slow=37					
ELZG	**Elazig**	**60.76 312**		*i*P	**P**	**21 20 30.8 +0.4**
MACK	**Trabzon**	**61.01 315**		*i*P	**P**	**21 20 30.8 -1.3**
KTUT	**Trabzon**	**61.02 315**		*e*P	**P**	**21 20 31.6 -0.6**
GUMT	**Gumushane**	**61.04 314**		*e*P	**P**	**21 20 31.2 -1.2**
KELT	**Kelkit**	**61.10 314**		*i*P	**P**	**21 20 32.7 0.0**
MYA	**Malataya**	**61.12 311**		*e*P	**P**	**21 20 33.0 +0.1**
GZT	**Gaziantep**	**61.48 310**		*i*P	**P**	**21 20 36.1 +0.9**
GAZ	**Gaziantep**	**61.69 310**		*e*P	**P**	**21 20 37.6 +0.9**
EIL	**Elat**	**61.73 301**	⇑	*i*P	**P**	**21 20 37.9 +0.9**
	comp=Z,599nm,0.8s,mb6.8					
EIL				*e*		21 20 46.6
EIL				*e*	pP	21 20 53.1 +1.8
EIL				*e*PcP	PcP	21 21 20.0 +2.1
EIL				*e*PP	PP	21 22 58.2 +4.9
RCY	**Rachaya**	**61.83 305**		*e*P	**P**	**21 20 39.4 +1.8**
SOKR	**Solikamsk**	**61.92 339**		*e*P	**P**	**21 20 36.5 -1.8**
SOKR				*e*	pP	21 20 53.3 +0.6
SOKR				S	**S**	**21 28 53.2 -5.2**
SOKR				SS	SS	21 33 08.3 +7.1
SOKR				pmax	pmax	
	comp=Z,230nm,0.9s,mb6.3					
SOKR				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.3					
SOC	**Sochi**	**61.99 317**	*c*	*i*P	**P**	**21 20 37.5 -1.3**
SOC				*e**PP	pP	21 20 47.1 -6.0
SOC				*e*		21 21 12.8
SOC				*e*		21 22 55.9
SOC				*e*PPP		21 24 28.2
SOC				*e*S	**S**	**21 28 55.1 -4.2**
SOC				*e**SS	sS	21 29 17.7 -5.7
SOC				*e*		21 30 28.0
SOC				*e*SS	SS	21 32 56.3 -6.0
SOC				pmax	pmax	
	comp=Z,274nm,1.3s,mb6.2					
SOC				pmax	pmax	
	comp=Z,119nm,0.6s,mb6.2					
SOC	**Sochi**	**61.99 317**		*i*P	**P**	**21 20 38.3 -0.5**
KMRS	**Kahramanmaras**	**62.03 310**		*e*P	**P**	**21 20 39.2 +0.2**
MMAI	**Mount Meron Ar**	**62.06 305**		LR	LR	21 48 29.2
	comp=Z,1μm,21.9s,MS5.1,baz=100,slow=37					
BHL	**Bhannes**	**62.06 306**		*e*P	**P**	**21 20 40.6 +1.4**
HTY	**Hatay**	**62.23 308**		*e*P	**P**	**21 20 40.0 -0.4**
COBT	**Iskenderun**	**62.25 309**		*i*P	**P**	**21 20 41.5 +1.0**
YAK	**Yakutsk**	**62.56 18**	*c*	*i*P	**P**	**21 20 40.8 -1.7**
YAK				*e**PP	pP	21 20 48.0 -8.9
YAK				*e*		21 21 18.0
YAK				*e*		21 22 59.7
YAK				*e*PPP		21 24 28.4
YAK				*i*S	**S**	**21 29 03.3 -3.1**
YAK				pmax	pmax	
	comp=Z,234nm,0.8s,mb6.4					
YAK				pmax	pmax	
	comp=N,59nm,1.3s					
YAK				pmax	pmax	
	comp=E,61nm,1.1s					
YAK				pmax	pmax	
	comp=Z,28nm,0.8s,mb5.4					
YAK				pmax	pmax	
	comp=N,14nm,1.3s					
YAK				pmax	pmax	
	comp=E,22nm,1.5s					
YAK				smax		
	comp=E,143nm,2.2s					
YAK				smax		
	comp=N,174nm,1.7s					
YAK				MLR	MLR	
	comp=Z,12μm,23.0s,MS6.0					
YAK				MLR	MLR	
	comp=N,4μm,16.0s					
YAK				MLR	MLR	
	comp=E,8μm,22.0s					
YAK	**Yakutsk**	**62.56 18**	⇑	*e*P	**P**	**21 20 40.9 -1.6**
SVSK	**Karacayir**	**62.67 313**		*e*P	**P**	**21 20 42.2 -1.1**
CEYT	**Ceyhan**	**62.77 309**		*e*P	**P**	**21 20 44.4 +0.4**
KOZT	**Kozan**	**62.84 310**		*e*P	**P**	**21 20 44.6 +0.2**
KRTS	**Karatas**	**62.95 309**		*e*P	**P**	**21 20 46.6 +1.5**
TOO	**Toolangi**	**63.05 137**		*e*P	**P**	**21 20 46.6 +0.8**
	comp=E,19nm,0.9s,mb5.2					
TOO				*e*pP	pP	21 21 03.0 +2.8
TOO	**Toolangi**	**63.05 137**		*e*P	**P**	**21 20 46.6 +0.8**
TOO				*e**PP	pP	21 21 03.0 +2.8
TOO				pmax	pmax	
	comp=Z,19nm,0.9s,mb5.2					
BNN	**Bunyan**	**63.20 311**		*e*P	**P**	**21 20 47.5 +0.7**
KARA	**Karaisali**	**63.37 309**		*e*P	**P**	**21 20 47.6 -0.4**
MERS	**Mersin**	**63.69 309**		*e*P	**P**	**21 20 49.7 -0.3**
KVT	**Kavak**	**63.71 314**		*e*P	**P**	**21 20 49.8 -0.4**
YOZ	**Yozgat**	**63.82 312**		*e*P	PcP	21 21 27.4 +1.1
VRHR	**Novokhopersk**	**63.92 326**		*e*P	**P**	**21 20 51.0 -0.5**
VRHR				*e*S	**S**	**21 29 17.7 -5.7**
VRHR				pmax	pmax	
	comp=Z,210nm,0.5s,mb6.4					
VRHR				pmax	pmax	
	comp=N,70nm,0.7s					
VRHR				pmax	pmax	
	comp=E,150nm,1.3s					
VRHR				smax		
	comp=N,230nm,2.0s					
VRHR				smax		
	comp=Z,70nm,2.2s					
VRHR				smax		
	comp=E,80nm,0.7s					
VRHR				MLR	MLR	
	comp=Z,690nm,19.0s,MS4.9					
VRHR				MLR	MLR	
	comp=N,800nm,15.0s					
VRHR				MLR	MLR	
	comp=E,430nm,23.0s					
AVNT	**Avonos**	**63.93 311**		*i*P	**P**	**21 20 51.7 +0.1**
ANN	**Anapa**	**63.97 318**		*e*P	**P**	**21 20 48.4 -3.4**
ANN				*e*S	**S**	**21 29 22.4 -1.5**
ANN				*e*SS	SS	21 33 29.7 -3.4
ANN				*e*SSS		21 36 24.6
ANN				pmax	pmax	
	comp=Z,100nm,1.2s,mb5.7					
ANN				MLR	MLR	
	comp=Z,631nm,17.0s,MS4.9					
CSS	**Prodhromos**	**64.17 307**		*e*P	**P**	**21 20 53.1 -0.1**
IKL	**Isikli**	**64.19 308**		*e*P	**P**	**21 20 52.7 -0.6**
DIKM	**Dikmen**	**64.45 314**		*e*P	**P**	**21 20 54.4 -0.6**
CORM	**Corum**	**64.48 312**		*e*P	**P**	**21 20 53.5 -1.7**
CTKT	**Corum**	**64.49 313**		*i*P	**P**	**21 20 56.6 +1.4**
CDAG	**Cicekdag**	**64.52 312**		*i*P	**P**	**21 20 54.8 -0.7**
BOYT	**Boyabat**	**64.64 314**		*i*P	**P**	**21 20 55.9 -0.3**
CNB	**Canberra Magne**	**64.72 133**		*e*P	**P**	**21 20 56.9 +0.1**
	comp=Z,65nm,1.2s,mb5.5					
CNB				*e*pP	pP	21 21 12.0 +0.8
BYBT	**Boyabat**	**64.75 314**		*e*P	**P**	**21 20 57.3 +0.3**
KAMT	**Kaman**	**64.94 311**		*e*P	**P**	**21 20 57.3 -0.9**
BR131	**Keskin Array S**	**65.09 312**	⇑	*i*P	**P**	**21 20 58.5 -0.7**
	comp=Z,62nm,0.8s,mb5.7					
BR131				*e*	pP	21 21 14.6 +0.9
BR131				LR	LR	
	comp=Z,876nm,22.0s,MS4.9					
BRTR	**Keskin Array B**	**65.09 312**		P	**P**	**21 20 58.6 -0.6**
	comp=Z,59nm,0.7s,mb5.7,baz=131,slow=7.5,SNR=215					
BRTR				LR	LR	21 51 39.9
	comp=Z,476nm,21.8s,MS4.7,baz=317,slow=38					
BRTR	**Keskin Array B**	**65.09 312**		*i*P	**P**	**21 20 58.5 -0.7**
BRTR				pmax	pmax	
	comp=Z,59nm,0.7s					
TOS	**Tosya**	**65.16 313**		*e*P	**P**	**21 20 59.3 -0.4**
VORD	**Divnogorie**	**65.19 325**		*e*P	**P**	**21 20 57.2 -2.6**
VORD				pmax	pmax	
	comp=Z,70nm,0.7s,mb5.8					
VORD				pmax	pmax	
	comp=N,10.0nm,0.6s					
VORD				pmax	pmax	
	comp=E,20nm,0.9s					
PECR	**Pechory**	**65.20 332**		*e*P	**P**	**21 20 59.0 -0.9**
PECR				*i*	pP	21 21 12.0 -2.4
PECR				*e*PS		21 29 35.0
PECR				pmax	pmax	
	comp=Z,1μm,6.0s					
PECR				MLR	MLR	
	comp=Z,4μm,21.0s,MS5.6					
PECR				MLR	MLR	
	comp=N,1μm,14.0s					
PECR				MLR	MLR	
	comp=N,1μm,16.0s					
HDMB	**Hadim**	**65.29 309**		*e*P	**P**	**21 21 00.2 -0.3**
CANT	**Cankiri**	**65.34 313**		*e*P	**P**	**21 21 00.5 -0.3**
BZK	**Bozkurt**	**65.44 314**		*e*P	**P**	**21 21 01.0 -0.4**
ELDT	**Eldivan**	**65.45 312**		*i*P	**P**	**21 21 01.0 -0.5**
VOR	**Voronezh**	**65.56 326**		*e*P	**P**	**21 21 02.0 -0.2**
VOR				*e*	pP	21 21 16.5 -0.2
VOR				pmax	pmax	
	comp=N,220nm,2.0s					
VOR				pmax	pmax	
	comp=Z,380nm,2.0s,mb6.1					
VOR				pmax	pmax	
	comp=E,180nm,1.6s					
KONT	**Konya--Tatoy**	**65.62 310**		*e*P	**P**	**21 21 02.7 +0.1**
ANTO	**Ankara**	**65.76 312**		*e*P	**P**	**21 21 02.9 -0.6**
ANTO	**Ankara**	**65.76 312**		P	**P**	**21 21 03.6 +0.1**
	SNR=31					
ANTO	**Ankara**	**65.76 312**	⇑	P	**P**	**21 21 03.5 0.0**
ANTO	**Ankara**	**65.76 312**	⇑	*i*P	**P**	**21 21 03.5 0.0**
BALT	**Daday**	**65.76 314**		*i*P	**P**	**21 21 03.7 +0.2**
SAFT	**Safranbolu**	**66.19 313**		*e*P	**P**	**21 21 05.3 -1.0**
HNR	**Honiara**	**66.20 102**	⇑	*e*P	**P**	**21 21 05.5 -0.8**
HNR				*e*	pP	21 21 21.5 +0.7
HNR				*e*		21 23 32.2
HNR				pmax	pmax	
	comp=Z,276nm,0.9s,mb6.3					
HNR				MLR	MLR	
	comp=Z,1μm,22.0s,MS5.0					
HNR	**Honiara**	**66.20 102**	⇑	*e*P	**P**	**21 21 05.5 -0.9**
	comp=Z,276nm,0.9s,mb6.3					
HNR				*e*	pP	21 21 21.5 +0.6
HNR				*e*PP	PP	21 23 32.2 -0.3
HNR				LR	LR	
	comp=Z,1μm,22.0s,MS5.0					
KIZT	**Kizilcal**	**66.20 310**		*e*P	**P**	**21 21 05.3 -1.0**
SIM	**Simferopol'**	**66.24 317**	*c*	*e*P	**P**	**21 21 07.6 +1.0**
SIM				*e*S	S	21 29 52.5 +0.6
SIM				pmax	pmax	
	comp=Z,131nm,0.6s,mb6.1					
SGKT	**Sivrigoynuk**	**66.48 312**		*i*P	**P**	**21 21 08.5 +0.3**
TAU	**Tasmania Unive**	**66.98 141**		PFAKE		21 21 20.0 +8.7
TAU				LR	LR	
	comp=Z,604nm,20.0s,MS4.8					
MDU	**Mudurnu**	**67.08 312**		*e*P	**P**	**21 21 11.3 -0.6**
KDZE	**Karadeniz Ereo**	**67.11 313**		*e*P	**P**	**21 21 11.0 -1.1**
ESKT	**Eskisehir**	**67.13 311**		*e*P	**P**	**21 21 11.9 -0.3**
SHUT	**Suhut-Afyon**	**67.14 310**		*e*P	**P**	**21 21 12.1 -0.2**
TKTP	**Tekketepe**	**67.21 309**		*i*P	**P**	**21 21 12.4 -0.4**
ELL	**Elmali**	**67.27 308**		*e*P	**P**	**21 21 13.3 +0.2**
HENT	**Hendek**	**67.39 312**		*i*P	**P**	**21 21 13.2 -0.8**
BORA	**Eskisehir**	**67.51 311**		*i*P	**P**	**21 21 14.1 -0.6**
ALT	**Altintas**	**67.59 310**		*e*P	**P**	**21 21 16.3 +1.2**
GOLH	**Golhisar**	**67.64 308**		*i*P	**P**	**21 21 15.1 -0.3**
GPA	**Golpazari**	**67.71 312**		*e*P	**P**	**21 21 15.4 -0.5**
KHL	**Karahalli**	**67.88 309**		*e*P	**P**	**21 21 17.1 +0.1**
GDZ	**Gediz**	**68.07 310**		*i*P	**P**	**21 21 17.5 -0.7**
MOS	**Moscow**	**68.12 329**	α	*i*P	**P**	**21 21 17.4 -1.1**
MOS				*i*	pP	21 21 31.4 -1.6
MOS				*e*		21 21 44.9
MOS				*e*		21 23 46.5
MOS				*e*S	S	21 30 09.6 -4.8
MOS				pmax	pmax	
	comp=Z,334nm,1.1s,mb6.3					
MOS				pmax	pmax	
	comp=Z,1μm,1.7s,mb6.6					
MOS				MLR	MLR	
	comp=Z,1μm,22.0s,MS5.2					
DENT	**Denizli**	**68.15 309**		*e*P	**P**	**21 21 18.4 -0.3**
ADVT	**Abdulvahap**	**68.17 312**		*e*P	**P**	**21 21 17.7 -1.1**
SKR	**Severo-Kuril's**	**68.18 37**		*e*P	**P**	**21 21 23.2 +4.3**
SKR				*e*		21 21 32.0
SKR				*e*S	sS	21 30 44.0 +4.4
SKR				*e*		21 31 06.0
SKR				pmax	pmax	
	comp=Z,240nm,0.8s,mb6.3					
SKR				pmax	pmax	
	comp=N,90nm,0.7s					
SKR				pmax	pmax	
	comp=E,70nm,0.7s					
SKR				pmax	pmax	
	comp=N,2μm,4.0s					
SKR				pmax	pmax	
	comp=E,2μm,4.0s					
SKR				pmax	pmax	
	comp=Z,2μm,4.0s					
SKR				MLR	MLR	
	comp=N,3μm,16.0s,MS5.8					
SKR				MLR	MLR	
	comp=E,4μm,16.0s,MS5.8					
SKR				MLR	MLR	
	comp=Z,3μm,16.0s,MS5.7					
DALT	**Dalyan (Mudla)**	**68.27 308**		*e*P	**P**	**21 21 19.5 0.0**
HRT	**Hereke**	**68.30 312**		*e*P	**P**	**21 21 19.0 -0.7**
IZI	**Iznik**	**68.34 312**		*e*P	**P**	**21 21 19.2 -0.7**
OBN	**Obninsk**	**68.40 328**	⇑	*e*P	**P**	**21 21 18.7 -1.6**
OBN				*e**PP	pP	21 21 36.0 +1.2
OBN				*e*		21 23 49.4
OBN				*e*S	S	21 30 17.9 +0.1
OBN				pmax	pmax	
	comp=Z,135nm,1.3s,mb5.8					
OBN				MLR	MLR	
	comp=Z,1μm,20.0s,MS5.1					
OBN	**Obninsk**	**68.40 328**	⇑	*i*P	**P**	**21 21 18.8 -1.5**
YLV	**Yalova**	**68.47 312**		*e*P	**P**	**21 21 19.2 -1.4**
ULDT	**Uludag**	**68.55 311**		*i*P	**P**	**21 21 21.1 -0.2**
GEMT	**Gemlik**	**68.58 312**		*e*P	**P**	**21 21 20.8 -0.6**
ARG	**Arkhangelos**	**68.58 307**		*e*P	**P**	**21 21 22.5 +1.1**
YER	**Yerkesik**	**68.62 308**		*e*P	**P**	**21 21 21.7 +0.1**
ISK	**Istanbul-Kandi**	**68.81 312**		*e*P	**P**	**21 21 22.1 -0.7**
ISK	**Istanbul-Kandi**	**68.81 312**		*e*P	**P**	**21 21 22.1 -0.6**
KLYT	**Kilyos**	**68.86 312**		*e*P	**P**	**21 21 22.0 -1.1**
MA2	**Magadan**	**69.01 27**		*e*P	**P**	**21 21 23.4 -0.7**
MA2				*e*		21 21 45.2
MA2				*e*S	S	21 30 25.3 +0.2
MA2				*e*		21 31 20.0
MA2				pmax	pmax	
	comp=Z,90nm,0.7s,mb5.8					
MA2				MLR	MLR	
	comp=Z,5μm,21.0s,MS5.7					
MLSB	**Milas**	**69.05 308**		*e*P	**P**	**21 21 23.4 -0.8**
DAT	**Datca**	**69.10 307**		*e*P	**P**	**21 21 23.6 -1.0**
LSZ	**Lusaka**	**69.16 252**	⇑	P	**P**	**21 21 26.5 +1.5**
	SNR=20					
LSZ	**Lusaka**	**69.16 252**	⇑	*e*P	**P**	**21 21 26.8 +1.8**
LSZ				*e*	pP	21 21 40.0 +0.4
LSZ				pmax	pmax	
	comp=Z,641nm,0.7s,mb6.7					
LSZ				MLR	MLR	
	comp=Z,5μm,20.0s,MS5.8					
LSZ	**Lusaka**	**69.16 252**	⇑	*e*P	**P**	**21 21 26.8 +1.8**
	comp=Z,641nm,0.7s,mb6.7					
LSZ				*e*	pP	21 21 40.0 +0.4
LSZ				LR	LR	
	comp=Z,5μm,20.0s,MS5.8					
KARP	**Karpathos**	**69.24 306**		*e*P	**P**	**21 21 25.5 0.0**
CTT	**Catalca**	**69.29 312**		*e*P	**P**	**21 21 24.8 -1.0**
AKS	**Akhisar**	**69.31 310**		*e*P	**P**	**21 21 26.1 +0.2**
BTOK	**Tokmak**	**69.31 311**		*i*P	**P**	**21 21 25.5 -0.4**
BNT	**Bandirma**	**69.51 311**		*e*P	**P**	**21 21 27.1 0.0**
KLMR	**Klimovskoe**	**69.55 334**	*d*	*i*P	**P**	**21 21 27.1 -0.3**
KLMR				*e**PP	pP	21 21 37.4 -4.6
KLMR				*e**SP	sP	21 21 41.3 -6.5
KLMR				*e*		21 23 55.9
KLMR				*e*S	S	21 30 27.3 -4.1
KLMR				pmax	pmax	
	comp=Z,294nm,1.6s,mb6.0					
KLMR				MLR	MLR	
	comp=Z,1μm,22.0s,MS5.2					
KDAG	**Bornova**	**69.64 309**		*i*P	**P**	**21 21 27.9 -0.1**
IZM	**Izmir**	**69.64 309**		*e*P	**P**	**21 21 28.1 +0.1**
BLCB	**Balcova**	**69.81 309**		*e*P	**P**	**21 21 29.0 0.0**
SMG	**Samos**	**69.85 308**		*e*P	**P**	**21 21 29.5 +0.3**
ZKR	**Zakros**	**69.94 306**		*e*P	**P**	**21 21 30.1 +0.4**
TIXI	**Tiksi**	**70.00 11**		*e*P	**P**	**21 21 24.9 -5.2**
TIXI				*e*		21 21 45.2
TIXI				*e*PPP		21 25 41.8
TIXI				*e*S	S	21 30 27.1 -10
TIXI				*e*		21 31 21.6
TIXI				*e*SS	SS	21 35 09.8 +3.2
TIXI				pmax	pmax	
	comp=N,27nm,0.7s					
TIXI				pmax	pmax	
	comp=E,14nm,0.7s					
TIXI				pmax	pmax	
	comp=Z,170nm,0.7s,mb6.1					
TIXI				pmax	pmax	
	comp=Z,747nm,2.0s,mb6.3					
TIXI				MLR	MLR	
	comp=N,2μm,17.0s,MS5.7					
TIXI				MLR	MLR	
	comp=E,3μm,17.0s,MS5.7					
TIXI				MLR	MLR	
	comp=Z,5μm,17.0s,MS5.8					
TIXI	**Tiksi**	**70.00 11**	⇑	*e*P	**P**	**21 21 27.8 -2.3**
PSN	**Preselentsi**	**70.01 315**		*i*P	**P**	**21 21 29.4 -0.8**
TIRR	**T

KIS MLR MLR
comp=N,500nm,20.0s,MS4.9
KIS MLR MLR
comp=E,300nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,600nm,20.0s
KIS Kishinev 70.36 318 *i* P **P 21 21 31.0 -1.4**
comp=Z,400nm,2.0s,mb6.0
KIS Kishinev 70.36 318 *e*PcP PcP 21 21 47.0 -6.6
KIS Kishinev 70.36 318 *e*PP PP 21 24 14.0 +5.4
LPK Lapseki 70.38 311 *e*P **P 21 21 32.4 -0.1**
CFR Carcaliu 70.38 316 P **P 21 21 39.7 +7.2**
HARR Harsova 70.42 316 P **P 21 21 39.3 +6.6**
PET Petropavlovsk 70.44 35 *e*P **P 21 21 31.2 -1.7**
PET pmax pmax
comp=Z,189nm,0.8s,mb6.1
PET MLR MLR
comp=Z,3μm,20.0s,MS5.5
PET Petropavlovsk 70.44 35⇑ *e*P **P 21 21 32.5 -0.4**
NPS Neapolis 70.45 306 *e*P **P 21 21 35.0 +2.1**
PRD Provadia 70.47 314 *i* P **P 21 21 32.1 -0.9**
PRK Paraskevi 70.55 305 *e*P **P 21 21 33.5 0.0**
EZN Ezine 70.61 310 *e*P **P 21 21 32.8 -1.0**
EDRB Edirne 70.67 313 *e*P **P 21 21 33.4 -0.9**
THR1 Thera Island 70.73 307 *e*P **P 21 21 33.8 -0.8**
SANT Santorini 70.73 307 *e*P **P 21 21 33.8 -0.8**
comp=Z,4μm,0.4s
SANT *e* pP 21 21 49.2 0.0
APE Apeiranthos 70.78 307 *e*P **P 21 21 34.0 -0.9**
APE Apeiranthos 70.78 307 *e*P **P 21 21 33.5 -1.4**
THR6 Thira Island, 70.78 307 *e*P **P 21 21 34.2 -0.7**
THR3 Thira Island, 70.78 307 *e*P **P 21 21 34.1 -0.8**
ENEZ Enez 70.90 311 *e*P **P 21 21 34.8 -0.9**
JMB Yambol 70.91 313 *e*P **P 21 21 35.5 -0.2**
JMB Yambol 70.91 313 *i* P **P 21 21 35.2 -0.5**
ALN Alexandroupoli 71.01 312 *e*P **P 21 21 36.0 -0.3**
SIVA Sivas 71.07 305 *e*P **P 21 21 37.0 +0.3**
AKASG Malin Array Be 71.08 322 P **P 21 21 35.2 -1.5**
comp=Z,57nm,0.6s,mb5.7,baz=88,slow=5.2,SNR=194
AKASG S S 21 30 44.4 -4.8
comp=Z,0.2nm,0.3s,baz=98,slow=11,SNR=9.5
AKASG Malin Array Be 71.08 322 *i* P **P 21 21 35.2 -1.5**
AKASG pmax pmax
comp=Z,57nm,0.6s
AKBB Malin Array Si 71.08 322⇑ *i*P **P 21 21 35.2 -1.5**
AKBB *e* pP 21 21 47.6 -3.7
AKBB *e* 21 21 56.9
AKBB *e* 21 24 19.6
AKBB Malin Array Si 71.08 322⇑ *i*P **P 21 21 35.2 -1.5**
AKBB *e* pP 21 21 47.5 -3.8
AKBB *e* pP 21 21 52.6 +1.2
AKBB *e*PcP PcP 21 21 56.9 +0.2
AKBB *e*PP PP 21 24 19.6 +4.9
KIEV Kiev 71.08 322⇑ *i*P **P 21 21 35.1 -1.7**
KIEV *e* pP 21 21 47.5 -3.9
KIEV *e* 21 21 56.9
KIEV pmax pmax
comp=Z,1μm,3.2s
KIEV MLR MLR
comp=Z,993nm,22.0s,MS5.0
KIEV Kiev 71.08 322⇑ *i*P **P 21 21 35.0 -1.7**
comp=Z,1μm,3.2s
KIEV *e* pP 21 21 47.5 -3.9
KIEV *e*PcP PcP 21 21 56.9 +0.2
KIEV LR LR
comp=Z,993nm,22.0s,MS5.0
IAS Iasi 71.24 318⇓ *i*P **P 21 21 37.5 -0.2**
MIR Mirnyy 71.25 181 *d* *i*P **P 21 21 48.0 +10**
MIR pmax pmax
comp=Z,250nm,1.0s,mb6.1
SEY Seymchan 71.28 24⇑ *e*P **P 21 21 38.8 +0.9**
RDO Rodhopi 71.43 312 *e*P **P 21 21 38.8 -0.1**
VRI Vrincioaia 71.50 317⇓ *i*P **P 21 21 40.2 +0.9**
SZH Strazhica 71.53 314 *i* P **P 21 21 39.7 +0.3**
KDZ Kurdzhali 71.61 312 *i* P **P 21 21 38.6 -1.3**
GVD Gavdhos 71.54 305 *e*P **P 21 21 37.1 -3.0**
GVD Gavdhos 71.64 305 *e*P **P 21 21 40.0 -0.1**
BUC1 Bucharest 71.67 315 P **P 21 21 42.0 +1.7**
BUC1 Bucharest 71.67 315⇓ *i*P **P 21 21 41.0 +0.7**
KARN Karanos 71.84 306 *e*P **P 21 21 41.3 -0.1**
CASY Casey 71.85 173 P pP 21 21 54.0 -2.0
CASY LR LR
comp=Z,4μm,20.0s,MS5.6
PVL Pavlikeni 71.95 314 *i* P **P 21 21 41.9 -0.1**
MLR Muntele Rosu 71.96 316 P **P 21 21 42.9 +0.9**
MLR Muntele Rosu 71.96 316⇑ P **P 21 21 42.4 +0.4**
MLR Muntele Rosu 71.96 316⇑ *i*P **P 21 21 42.4 +0.4**
ZIMR 72.01 314 P **P 21 21 42.8 +0.5**
ZIMR 72.01 314⇓ P **P 21 21 42.5 +0.2**
ZIMR 72.01 314⇓ *i*P **P 21 21 42.5 +0.2**
RZN Rozhen 72.01 312 *i* P **P 21 21 42.1 -1.0**
PTL Penteli 72.23 308 *e*P **P 21 21 42.5 -1.1**
KVR Kavouri 72.27 308 *e*P **P 21 21 42.5 -1.4**
ATH Athens Observa 72.33 308 *e*P **P 21 21 45.5 +1.2**
OUR Ouranopolis 72.47 311 *e*P **P 21 21 44.1 -0.9**
NAIG Nisos Aigina 72.48 308 *e*P **P 21 21 43.5 -1.7**
MTUR Matau 72.52 316⇑ *i*P **P 21 21 45.4 0.0**
VOIR 72.57 316⇑ *i*P **P 21 21 45.2 -0.5**
PAIG Paliouri 72.64 310 *e*P **P 21 21 45.2 -0.8**
KYTH Kithira 72.66 306 *e*P **P 21 21 45.5 -0.7**
PGB Panagyurishte 72.68 313 *i* P **P 21 21 45.5 -0.8**
VLI Veliai 72.79 307 *e*P **P 21 21 47.0 0.0**
MMB Musomiste 72.85 312 *i* P **P 21 21 46.0 -1.3**
SRS Serrai 72.88 311 *e*P **P 21 21 46.4 -1.1**
PLG Polygyros 72.88 311 *e*P **P 21 21 46.5 -1.0**
PLG Polygyros 72.88 311 *e*P **P 21 21 47.0 -0.5**
BURAR Bucovina Array 72.89 318 P **P 21 21 48.4 +0.9**
BURAR Bucovina Array 72.89 318⇑ P **P 21 21 48.2 +0.7**
BURAR Bucovina Array 72.89 318⇑ *i*P **P 21 21 48.2 +0.7**
MNK Minsk 72.94 326⇑ *i*P **P 21 21 44.0 -3.9**
MNK *e**PP pP 21 21 58.0 -4.6
MNK *e*S S 21 31 04.0 -6.6
MNK pmax pmax
comp=Z,700nm,1.0s,mb6.5
SOH Sokhos 73.01 311 *e*P **P 21 21 47.2 -1.1**
HORT Hortiatis 73.17 311 *e*P **P 21 21 48.1 -1.1**
CRAR CRAIOVA 73.24 315 P **P 21 21 50.0 +0.4**
KKB Krupnik 73.37 312 *i* P **P 21 21 49.3 -1.1**
VTS Vitosha 73.39 313 *i* P **P 21 21 50.0 -0.5**
KNT Kendrikon 73.40 311 *e*P **P 21 21 49.2 -1.4**
AGG Agios Georgios 73.55 309 *e*P **P 21 21 49.5 -2.0**
LIT Litokhoron 73.56 310 *e*P **P 21 21 49.8 -1.8**
LBTB Lobatse 73.63 242⇑ *e*P **P 21 21 53.7 +1.7**
LBTB *e* pP 21 22 09.9 +3.2
LBTB pmax pmax
comp=Z,69nm,1.1s,mb5.5
LBTB MLR MLR
comp=Z,6μm,22.0s,MS5.9
LBTB Lobatse 73.63 242⇑ *e*P **P 21 21 53.7 +1.7**
comp=Z,69nm,1.1s,mb5.5
LBTB *e* pP 21 22 09.9 +3.2
LBTB LR LR
comp=Z,6μm,22.0s,MS5.9
ITM Ithomi 73.65 307 *e*P **P 21 21 51.0 -1.0**
VAY Valandovo 73.67 312 *e*P **P 21 21 50.3 -1.9**
VAY Valandovo 73.67 312 *e*P **P 21 21 50.1 -2.0**
VAY Valandovo 73.67 312 *e*P **P 21 21 50.1 -2.0**
IDID Didziasalis 73.77 326 *e*P **P 21 21 52.2 -0.5**
IDID AMb AMB 21 21 54.9
comp=Z,2μm,0.3s
IDID *e*pP pP 21 22 03.3 -4.2
EVR Evrytania 73.94 309 *e*P **P 21 21 52.5 -1.2**
JOF Joensuu 73.95 335 *e*p **P 21 21 52.6 -1.2**
comp=Z,160nm,0.7s,mb6.1
STIP Stip 74.01 312 *e*P **P 21 21 52.0 -2.1**
STIP Stip 74.01 312 *e*P **P 21 21 52.0 -2.1**
IIGN Ignalina 74.07 326 *e*P **P 21 21 53.9 -0.6**
LVV L'vov 74.10 320 *i* P **P 21 21 53.7 -1.0**
LVV *e* pP 21 22 05.6 -3.8
LVV *e* 21 24 47.6
LVV *e*S S 21 31 19.8 -3.9
GZR Gura Zlata 74.14 316 P **P 21 21 55.2 +0.3**
GZR Gura Zlata 74.14 316 ⇓P **P 21 21 54.6 -0.3**
GZR Gura Zlata 74.14 316⇓ *i*P **P 21 21 54.6 -0.3**
IZAR Zarasai 74.16 327 *e*P **P 21 21 54.5 -0.5**
IZAR AMb AMB 21 21 57.1
comp=Z,2μm,0.7s
DRGR 74.41 317⇓ *i*P **P 21 21 57.2 +0.7**
BARS Barje 74.43 313⇑ *i*P **P 21 21 58.6 +2.0**
FNA Florina 74.50 311 *e*P **P 21 21 55.2 -1.7**
BIA Bitola 74.56 311 *e*P **P 21 21 55.0 -2.4**
BIA Bitola 74.56 311 *e*P **P 21 21 55.0 -2.4**

SKO Skopje 74.60 312 *e*P **P 21 21 56.2 -1.4**
SKO Skopje 74.60 312 *e*P **P 21 21 56.2 -1.4**
KRUS Krusevo 74.66 311 *e*P **P 21 21 56.7 -1.2**
KRUS Krusevo 74.66 311 *e*P **P 21 21 56.7 -1.2**
LVZ Lovozero 74.69 340 P **P 21 21 57.9 -0.2**
comp=Z,2μm,0.7s
LVZ Lovozero 74.69 340 *i* P **P 21 21 57.0 -1.1**
LVZ S S 21 31 24.9 -5.3
LVZ pmax pmax
comp=E,27nm,0.6s
LVZ pmax pmax
comp=Z,195nm,0.6s,mb6.2
LVZ pmax pmax
comp=N,18nm,0.7s
LVZ MLR MLR
comp=Z,2μm,22.0s,MS5.4
LVZ MLR MLR
comp=N,1μm,21.0s,MS5.4
LVZ MLR MLR
comp=E,2μm,24.0s,MS5.4
LVZ Lovozero 74.69 340 *e*P **P 21 21 57.1 -1.0**
DZM Mont Dzumac 74.71 114 *e*P **P 21 21 59.1 +0.9**
DZM Mont Dzumac 74.71 114 P **P 21 21 59.0 +0.8**
comp=E,23nm,1.1s,mb5.0,baz=284,slow=7.1,SNR=10.0
JAN Janina 74.76 310 *e*P **P 21 21 58.0 -0.5**
BOSA Boshof 74.79 239 P **P 21 21 59.7 +1.0**
comp=E,18nm,1.0s,mb5.0,baz=88,slow=5.5,SNR=18
BOSA LR LR 21 49 55.6
comp=E,3μm,21.2s,MS5.5,baz=84,slow=32
BOSA Boshof 74.79 239 P **P 21 22 00.3 +1.6**
BOSA pmax pmax
comp=Z,110nm,1.3s,mb5.6
VLS Valsamata 74.81 308 *e*P **P 21 21 57.5 -1.3**
LKD Levkas 74.81 309 *e*P **P 21 21 58.1 -0.7**
KWP Kalwaria 74.91 320 *e*P **P 21 21 59.6 +0.2**
KWP *e*S S 21 31 30.8 -1.9
KWP *e*SKS 21 31 59.0
KWP L 21 50 46.3
comp=Z,0.9nm,32.0s
KWP Kalwaria 74.91 320 *e*P **P 21 21 59.6 +0.2**
KWP *e*S S 21 31 30.8 -1.9
KWP *e*SKS 21 31 59.0
OHR Ohrid 74.97 311 *e*P **P 21 21 57.2 -2.5**
OHR Ohrid 74.97 311 *e*P **P 21 21 57.2 -2.5**
APA Apatity 74.97 340⇓ *i*P **P 21 21 58.6 -1.1**
APA *i* pP 21 22 14.5 0.0
APA *i* 21 24 47.0
APA *e*S S 21 31 35.0 +1.6
APA *e* 21 31 57.0
APA pmax pmax
comp=Z,95nm,0.7s,mb5.8
BZS Buzias 74.98 316⇑ *i*P **P 21 21 59.5 -0.3**
UZH Uzhgorod 75.00 319 *d* *i*P **P 21 21 59.4 -0.5**
UZH *e* 21 22 20.0
UZH *i* S S 21 31 31.8 -1.9
UZH *e* 21 31 54.0
UZH *e*PS 21 32 11.0
UZH pmax pmax
comp=Z,90nm,0.8s,mb5.8
KOLS Kolonicke sedl 75.07 319 *e*P **P 21 22 00.7 +0.4**
KOLS pmax pmax
comp=Z,61nm,1.1s,mb5.4
KOLS Kolonicke sedl 75.07 319 *e*P **P 21 22 00.7 +0.4**
comp=Z,61nm,1.1s,mb5.4
GRUS Gruza 75.37 314⇑ *i*P **P 21 22 01.0 -1.0**
SUW Suwalki 75.47 325 *e*P **P 21 22 01.7 -0.9**
SUW *e*pP pP 21 22 09.0 -8.4
SUW *e*PcP PcP 21 22 14.5 -1.0
SUW *e*S S 21 31 36.4 -2.6
KEK Kerkira 75.58 310 *e*P **P 21 22 02.0 -1.2**
PVY Plav 75.75 313⇑ *i*P **P 21 22 03.7 -0.5**
FINES FINESS Array B 75.79 332 P **P 21 22 03.5 -1.0**
comp=Z,67nm,0.6s,mb5.8,baz=109,slow=6.4,SNR=268
FINES LR LR 22 00 29.8
comp=Z,994nm,21.1s,MS5.1,baz=272,slow=40
FINES FINESS Array B 75.79 332 P **P 21 22 03.5 -1.0**
FINES LR LR 22 00 29.8
MAW Mawson 75.79 192 PFAKE 21 22 20.0 +16
MAW LR LR
comp=Z,4μm,22.0s,MS5.6
STHS Stebnicka Huta 75.81 320 *i* P **P 21 22 04.9 +0.3**
STHS pmax pmax
comp=Z,124nm,0.8s,mb5.9
STHS Stebnicka Huta 75.81 320 *i* P **P 21 22 04.9 +0.3**
comp=Z,124nm,0.8s,mb5.9
IVA Berane 75.84 313⇑ *i*P **P 21 22 04.9 +0.2**
KAF Kangasniemi 75.88 333 *e*p **P 21 22 03.3 -1.6**
comp=Z,137nm,0.7s,mb6.0
KAF Kangasniemi 75.88 333 *e*P **P 21 22 03.3 -1.6**
KAF pmax pmax
comp=Z,137nm,0.7s,mb6.0
DIVS Divcibare 75.92 314⇑ *i*P **P 21 22 04.6 -0.6**
DIVS Divcibare 75.92 314 *e*P **P 21 22 04.3 -0.9**
KECS Kecovo 76.16 319 *i* P **P 21 22 06.7 +0.1**
KECS pmax pmax
comp=Z,78nm,0.7s,mb5.8
KECS Kecovo 76.16 319 *i* P **P 21 22 06.7 +0.1**
comp=Z,78nm,0.7s,mb5.8
ULC Ulcinj 76.22 312⇑ *i*P **P 21 22 06.5 -0.3**
PLE Pljevlja 76.26 313⇑ *i*P **P 21 22 07.7 +0.6**
TTG Podgorica 76.26 312⇑ *i*P **P 21 22 06.1 -1.0**
NIE Niedzica 76.41 320 *i* P **P 21 22 08.6 +0.6**
WAR Warsaw 76.42 323 *e*P **P 21 22 09.7 +1.7**
WAR L 21 52 51.2
comp=Z,1.2nm,37.4s
PSZ Piszkesteto 76.47 318⇑ *i*P **P 21 22 08.5 +0.2**
PSZ Piszkesteto 76.47 318⇑ *e*P **P 21 22 08.4 +0.1**
NKY Niiksic 76.49 313⇑ *i*P **P 21 22 07.8 -0.6**
BUM Brajici-Budva 76.51 312⇑ *i*P **P 21 22 08.0 -0.6**
UPM Unac-Piva 76.60 313⇑ *i*P **P 21 22 08.3 -0.7**
HCY Herceg Novi 76.82 312⇑ *i*P **P 21 22 09.6 -0.7**
BRY Bratogost 76.83 313⇑ *i*P **P 21 22 09.6 -0.8**
OJC Ojcow 76.86 320 *i* P **P 21 22 10.5 0.0**
OJC *e*pP pP 21 22 22.5 -2.8
OJC *e*sP sP 21 22 26.4 -4.7
OJC *e*S S 21 31 53.7 -0.5
OJC L 22 06 36.4
comp=Z,4.0nm,21.5s
BUD Budapest 77.00 318⇑ *e*P **P 21 22 11.1 -0.2**
VYHS Vyhne 77.25 319 *i* P **P 21 22 12.7 0.0**
VYHS pmax pmax
comp=Z,103nm,1.4s,mb5.6
VYHS Vyhne 77.25 319 *i* P **P 21 22 12.7 0.0**
comp=Z,103nm,1.4s,mb5.6
OKC Ostrava-Krasne 77.86 320⇑ *i*P **P 21 22 16.4 +0.3**
OKC *e*pP pP 21 22 32.1 +1.2
OKC AMS AMS 21 51 40.0
OKC Ostrava-Krasne 77.86 320⇑ *i*P **P 21 22 16.4 +0.3**
OKC *e*pP pP 21 22 32.1 +1.2
RAC Raciborz 77.86 320 *e*P **P 21 22 16.8 +0.7**
RAC MLR MLR
comp=Z,1μm,21.5s,MS5.1
KEV Kevo 77.97 341 *e*p **P 21 22 15.0 -1.7**
comp=Z,153nm,0.7s,mb6.0
KEV Kevo 77.97 341 P **P 21 22 16.0 -0.7**
KEV pmax pmax
comp=Z,160nm,0.7s,mb6.1
ORI Oriolo Calabro 78.17 310 P **P 21 22 19.5 +1.7**
SMOL Smolenice 78.18 318 *e*P **P 21 22 17.8 -0.1**
SMOL *e*pP pP 21 22 31.2 -1.5
MORC Moravsky Berou 78.25 320⇑ *i*P **P 21 22 18.7 +0.5**
ZST Bratislava 78.37 318 *e*P **P 21 22 19.2 +0.3**
ZST pmax pmax
comp=Z,210nm,0.9s,mb6.1
ZST MLR MLR
comp=Z,400nm,20.7s,MS4.7
ZST Bratislava 78.37 318 *e*P **P 21 22 19.2 +0.3**
comp=Z,210nm,0.9s,mb6.1
ZST LR LR
comp=Z,400nm,20.7s,MS4.7
ARCES ARCESS Array B 78.39 340 P **P 21 22 18.6 -0.5**
comp=Z,91nm,0.6s,mb5.9,baz=96,slow=5.5,SNR=504
ARCES pmax PP 21 25 16.9 +0.2
comp=Z,22nm,0.9s,baz=103,slow=10,SNR=4.2
ARCES LR LR 22 00 06.0
comp=Z,2μm,21.2s,MS5.4,baz=112,slow=38
ARCES ARCESS Array B 78.39 340 P **P 21 22 18.6 -0.4**
ARCES 21 25 16.9
BILL Bilibino 78.54 21⇓ *e*P **P 21 22 18.9 -0.9**
BILL *e* 21 25 24.7
BILL pmax pmax
comp=Z,73nm,1.2s,mb5.5
BILL Bilibino 78.54 21 *i* P **P 21 22 19.6 -0.2**
BILL LR LR

comp=Z,7μm,19.0s,MS6.0
SCLL Scilla 78.64 308 P **P 21 22 22.8 +2.4**
comp=Z,68nm,1.2s,mb5.5
SOP Sopron 78.68 318⇑ *e*P **P 21 22 20.7 +0.1**
KOGS Kog 78.78 316 *e*P **P 21 22 21.2 +0.1**
KOGS *e*S S 21 32 13.6 -1.3
VRAC Vranov 78.81 319 P **P 21 22 21.5 +0.2**
VRAC Vranov 78.81 319⇑ P **P 21 22 20.8 -0.6**
VRAC Vranov 78.81 319⇑ *i*P **P 21 22 20.8 -0.5**
GKP Gorka Klasztor 78.84 323 *e*P **P 21 22 20.9 -0.6**
GKP *e*S S 21 32 13.4 -2.2
VKA Vienna 78.90 318 *i* P **P 21 22 23.2 +1.4**
RGNG Rignano Grg 78.92 311 P **P 21 22 21.8 -0.2**
KTK1 Kautokeino 79.02 340 *e*P **P 21 22 21.5 -1.0**
KTK1 AMb AMB 21 22 24.8
comp=Z,349nm,0.9s,mb6.3
KTK1 *e*pP pP 21 22 32.8 -4.5
KTK1 *e*sP sP 21 22 37.4 -5.7
KTK1 Kautokeino 79.02 340 *e*P **P 21 22 21.5 -1.0**
comp=Z,349nm,0.9s,mb6.3
DPC Dobruska-Polom 79.09 320⇑ *i*P **P 21 22 23.6 +0.7**
DPC *e*pP pP 21 22 39.9 +2.2
DPC *e*S S 21 32 16.7 -1.5
DPC AMS AMS 21 52 20.0
DPC Dobruska-Polom 79.09 320⇑ *i*P **P 21 22 23.6 +0.7**
DPC *e*pP pP 21 22 39.9 +2.2
DPC *e*S S 21 32 16.7 -1.5
KSP Ksiaz 79.16 321 *e*P **P 21 22 23.6 +0.4**
KSP *e*S S 21 32 18.8 -0.1
KSP Ksiaz 79.16 321⇑ *e*P **P 21 22 23.5 +0.3**
KSP *e*PP pP 21 22 38.4 +0.3
KSP *e*S S 21 32 15.0 -3.9
KSP LR LR
comp=Z,3μm,20.5s,MS5.5
CONA Conrad Observa 79.17 318 *i* P **P 21 22 23.0 -0.3**
comp=Z,48nm,1.1s,mb5.3,SNR=50
CRES Cresnjev 79.29 316 *e*P **P 21 22 24.0 0.0**
GROS Grobnik 79.30 316 *i* P **P 21 22 24.2 +0.2**
UPC Upice 79.30 320⇑ *i*P **P 21 22 24.5 +0.5**
UPC *e*pP pP 21 22 40.8 +1.9
UPC *e*S S 21 32 20.0 -0.5
ARSA Arzberg 79.35 317 *i* P **P 21 22 24.6 +0.3**
comp=Z,160nm,1.4s,mb5.8,SNR=34
SLNA Salina 79.35 308 P **P 21 22 24.3 0.0**
comp=Z,107nm,0.6s,mb6.0
SUR Sutherland 79.39 236 P **P 21 22 27.1 +2.6**
SNR=6.9
SUR Sutherland 79.39 236 PFAKE 21 22 40.0 +15
SUR LR LR
comp=Z,338nm,21.0s,MS4.7
BOJS Bojanci 79.41 315 *i* P **P 21 22 24.7 +0.1**
BOJS *e*S S 21 32 17.3 -4.3
TREC Trest 79.53 319⇑ *i*P **P 21 22 25.5 +0.2**
TREC *e*pP pP 21 22 41.7 +1.6
TREC AMS AMS 21 52 20.0
comp=Z,1μm,27.6s
PERS Pernice 79.58 316 *e*P **P 21 22 25.9 +0.3**
PERS *e*S S 21 32 20.9 -2.4
NVLJ Novalja 79.62 314 *i* P **P 21 22 24.7 -1.0**
TSUM Tsumeb 79.82 250 *e*P **P 21 22 29.2 +2.3**
comp=Z,22nm,1.0s,mb5.0
TSUM *e* pP 21 22 44.9 +3.2
TSUM *e*PP PP 21 25 29.5 +0.9
TSUM LR LR
comp=Z,2μm,20.0s,MS5.5
MIDA Miranda 79.92 311 P **P 21 22 28.0 +0.6**
CSLB Castelbuono 79.94 308 P **P 21 22 27.7 +0.2**
comp=Z,39nm,0.6s,mb5.5
LJU Ljubljana 79.95 316 *i* P **P 21 22 27.9 +0.4**
OBKA Obir 79.96 316 *i* P **P 21 22 28.0 +0.4**
comp=Z,143nm,1.4s,mb5.7,SNR=34
KNDS Knezji Dol 80.02 315 *e*P **P 21 22 27.4 -0.5**
KNDS *e* pP 21 22 42.1 -0.7
RFI Roccamonfina 80.11 311 P **P 21 22 28.9 +0.5**
comp=Z,35nm,1.7s,mb5.0
PRU Pruhonice 80.20 320⇑ *i*P **P 21 22 29.1 +0.2**
PRU *e*pP pP 21 22 44.4 +0.6
PRU *e*S S 21 32 28.6 -1.3
PRU AMS AMS 21 52 50.0
comp=Z,1μm,29.5s
PVCC Panska Ves 80.22 320⇑ *i*P **P 21 22 29.4 +0.4**
PVCC *e*pP pP 21 22 45.7 +1.8
PVCC *e*S S 21 32 30.6 +0.4
PVCC AMS AMS 21 52 50.0
comp=Z,800nm,27.3s
MOA Molln 80.24 318 *i* P **P 21 22 28.8 -0.3**
comp=Z,58nm,0.8s,mb5.5,SNR=47
PRA Prague 80.28 320 ⇑P **P 21 22 30.0 +0.7**
VOY Vojsko 80.39 316 *e*P **P 21 22 29.8 -0.1**
VOY *e* pP 21 22 44.2 -0.6
VOY *e* 21 22 58.0
VOY *e*S 21 23 21.0
VOY *e* 21 23 55.7
BSD Bornholm Skovb 80.40 325⇑ *i*P **P 21 22 29.4 -0.5**
comp=Z,135nm,0.8s,mb5.9
BSD *e*S S 21 32 30.3 -1.7
BSD
comp=Z,650nm,19.0s
BSD Bornholm Skovb 80.40 325⇑ *i*P **P 21 22 29.4 -0.5**
BSD *e*S S 21 32 30.3 -1.7
BSD pmax pmax
comp=Z,140nm,0.8s,mb5.9
BSD MLR MLR
comp=Z,650nm,19.0s,MS5.0
CADS Cadrg 80.51 316 *e*P **P 21 22 30.3 -0.3**
AQU L'Aquila 80.58 312 P **P 21 22 31.4 +0.5**
AQU pmax pmax
comp=Z,93nm,0.8s,mb5.8
AQU L'Aquila 80.58 312 P **P 21 22 31.4 +0.5**
comp=Z,92nm,0.8s,mb5.8
BRG Berggiesshubel 80.64 321 *e*P **P 21 22 31.4 +0.1**
comp=Z,531nm,2.2s,mb6.1
BRG Berggiesshubel 80.64 321⇑ *i*P **P 21 22 31.4 +0.2**
comp=Z,13nm,0.7s,mb4.9
BRG PP PP 21 25 26.0 -9.4
BRG S S 21 32 33.0 -1.6
BRG SP 21 33 03.0
BRG SS SS 21 37 13.0 -35
BRG
comp=N,330nm,29.4s
BRG
comp=E,833nm,23.5s
BRG
comp=Z,907nm,17.7s
BRG Berggiesshubel 80.64 321⇑ *i*P **P 21 22 31.4 +0.2**
comp=Z,13nm,0.7s,mb5.0
BRG PP PP 21 25 26.0 -9.4
BRG S S 21 32 33.0 -1.6
BRG SP 21 33 03.0
BRG SS SS 21 37 13.0 -35
BRG LR LR
comp=Z,910nm,17.7s,MS5.2
USI Ustica 80.65 308 P **P 21 22 30.9 -0.4**
comp=Z,237nm,0.8s,mb6.2
TRO Tromso 80.65 340 *e*P **P 21 22 29.1 -2.2**
TRO AMb AMB 21 22 31.8
comp=Z,202nm,1.0s,mb6.0
TRO *e* 21 32 25.2
TRO *e*S S 21 32 35.1 +0.4
TRO AMS AMS 22 33 46.4
comp=Z,5μm,25.6s,MS5.7
GEC2 GERESS Array S 80.67 319 *e*P **P 21 22 31.8 +0.4**
comp=Z,177nm,0.9s,mb6.0
GEC2 GERESS Array S 80.67 319 *e*P **P 21 22 31.8 +0.4**
GEC2 pmax pmax
comp=Z,177nm,0.9s,mb6.0
GERES GERESS Array B 80.67 319 P **P 21 22 31.6 +0.2**
comp=Z,85nm,0.7s,mb5.8,baz=104,slow=5.3,SNR=301
GERES S S 21 32 37.1 +2.2
comp=Z,1.7nm,1.0s,baz=87,slow=11,SNR=10.0
CING Cingoli 80.77 313 P **P 21 22 32.3 +0.4**
KHC Kasperske Hory 80.77 319⇑ *i*P **P 21 22 32.0 +0.1**
KHC *e*pP pP 21 22 47.6 +0.8
KHC *e*S S 21 32 35.5 -0.4
KHC AMS AMS 21 53 30.0
comp=Z,600nm,26.3s
PTCC Patocco-Chiusa 80.78 316 P **P 21 22 32.0 0.0**
comp=Z,96nm,0.6s,mb5.9
KBA Koelnbreinsper 80.82 317 *i* P **P 21 22 31.8 -0.4**
comp=Z,50nm,0.8s,mb5.5,SNR=47
KBA Koelnbreinsper 80.82 317 *i* P **P 21 22 31.8 -0.4**
KBA pmax pmax
comp=Z,50nm,0.8s,mb5.5
RUE Ruedersdorf 80.85 322⇑ *e*P **P 21 22 32.2 -0.2**

comp=Z,217nm,0.8s,mb6.1
RUE *e* pP 21 22 44.3 -3.0
RUE *e*PP PP 21 25 33.7 -3.5
GMNA Gemona 80.86 316 P **P 21 22 32.5 +0.1**
comp=Z,567nm,0.9s,mb6.5
CERT Cerreto 80.88 312 P **P 21 22 31.9 -0.6**
MURB Monte Urbino 81.26 313 P **P 21 22 35.0 +0.5**
CLL Collm 81.26 321 *e*P **P 21 22 33.9 -0.7**
comp=Z,79nm,1.2s,mb5.5
CLL *e*pP pP 21 22 50.2 +0.7
CLL *e*PP PP 21 25 38.8 -1.7
CLL *e*S S 21 32 38.2 -2.8
CLL *e*sS sS 21 33 05.1 -1.0
CLL *e*PS 21 33 35.7
CLL *e*L 22 05 17.1
comp=Z,1µm,20.0s
CLL Collm 81.26 321⇑*i*P **P 21 22 34.2 -0.4**
CLL *i* 21 22 40.5
CLL *i* S S 21 32 37.8 -3.2
CLL pmax pmax
comp=Z,78nm,1.2s,mb5.5
CLL MLR MLR
comp=Z,1µm,16.9s,MS5.3
CLL Collm 81.26 321⇑*i*P **P 21 22 34.2 -0.4**
comp=Z,78nm,1.2s,mb5.5
CLL *i* 21 22 40.5
CLL *i* S S 21 32 37.8 -3.2
CLL *e*ScS ScS 21 32 58.0 -0.7
CLL LR LR
comp=Z,1µm,16.9s,MS5.3
CLL Collm 81.26 321⇑*i*P **P 21 22 34.2 -0.4**
comp=Z,78nm,1.2s,mb5.5
CLL *e*Plp 21 22 35.0
comp=Z,600nm,11.4s
CLL *i* PcP PcP 21 22 40.5 -0.1
CLL *i* sP sP 21 22 50.1 -5.1
CLL *e*PP PP 21 25 39.0 -1.5
CLL *i* S S 21 32 37.8 -3.2
CLL *e*ScS ScS 21 32 58.0 -0.7
CLL *e*PS 21 33 36.0
TANN Tannenbergstha 81.56 320 *e*P **P 21 22 36.1 0.0**
NKC Novy Kostel 81.56 320⇑*i*P **P 21 22 36.3 +0.2**
NKC *e*pP pP 21 22 52.2 +1.2
NKC *e*S S 21 32 47.8 +3.7
NKC AMS AMS 21 53 40.0
NKC Novy Kostel 81.56 320⇑*i*P **P 21 22 36.3 +0.2**
NKC *e*pP pP 21 22 52.2 +1.2
NKC *e*S S 21 32 47.8 +3.7
TOLF Tolfa 81.62 312 P **P 21 22 36.2 -0.2**
MSKU Masuku 81.62 268 PFAKE 21 22 50.0 +14
MSKU LR LR
comp=Z,38nm,21.0s
CRE Caprese Michel 81.68 313 P **P 21 22 36.8 0.0**
ROTZ Rotzenmuhle 81.69 319 *e*P **P 21 22 37.4 +0.6**
MANZ Manzenberg 81.77 320 *e*P **P 21 22 37.9 +0.7**
MOR8 Moi Rana 81.79 336 *e*P **P 21 22 35.8 -1.5**
MOR8 AMb AMB 21 22 39.5
comp=Z,245nm,0.7s,mb6.3
MOR8 *e*PP PP 21 25 43.4 -1.5
CTI Castel Tesino 81.95 316 P **P 21 22 38.7 +0.5**
CTI pmax pmax
comp=Z,103nm,0.6s,mb5.9
CTI Castel Tesino 81.95 316 P **P 21 22 38.7 +0.5**
comp=Z,103nm,0.6s,mb5.9
WTTA Wattenberg 81.99 317 *i* P **P 21 22 37.9 -0.5**
comp=Z,169nm,1.2s,mb5.8,SNR=71
WTTA Wattenberg 81.99 317 *i* P **P 21 22 37.9 -0.5**
WTTA pmax pmax
comp=Z,169nm,1.2s,mb5.8
WATA Walderalm 82.03 317⇑*i*P **P 21 22 37.4 -1.2**
comp=Z,42nm,0.9s,mb5.4,SNR=57
WATA Walderalm 82.03 317⇑*i*P **P 21 22 37.4 -1.2**
WATA pmax pmax
comp=Z,42nm,0.9s,mb5.4
MOX Moxa 82.11 320 *e*P **P 21 22 38.9 -0.1**
comp=Z,238nm,1.8s,mb5.8
MOX *e* pP 21 22 54.9 +1.0
MOX
comp=Z,800nm,19.0s
MOX Moxa 82.11 320 *e*P **P 21 22 38.9 -0.1**
MOX *e* pP 21 22 54.9 +1.0
MOX pmax pmax
comp=Z,238nm,1.8s,mb5.8
MOX MLR MLR
comp=Z,800nm,19.0s,MS5.1
APPI Appiano 82.25 316 P **P 21 22 38.8 -1.0**
FUR Furstenfeldbru 82.26 318 *e*P **P 21 22 39.3 -0.5**
comp=Z,105nm,0.8s,mb5.8
FUR Furstenfeldbru 82.26 318 *e*P **P 21 22 39.3 -0.5**
FUR pmax pmax
comp=Z,105nm,0.8s,mb5.8
MAON Monte Argentar 82.27 312 P **P 21 22 39.9 +0.1**
SQTA Sankt Quirin 82.28 317 *i* P **P 21 22 39.4 -0.5**
comp=Z,69nm,1.1s,mb5.5,SNR=169
SQTA Sankt Quirin 82.28 317 *i* P **P 21 22 39.4 -0.5**
SQTA pmax pmax
comp=Z,69nm,1.1s,mb5.5
FNVD Fontana Vidola 82.29 314 P **P 21 22 41.1 +1.1**
GRA1 Grafenberg Arr 82.33 319 *e*P **P 21 22 40.6 +0.4**
comp=Z,162nm,1.3s,mb5.8
GRA1 *e*pP pP 21 22 55.0 -0.1
GRA1 *e*SKS 21 32 54.6
GRA1 LR LR
comp=Z,900nm,21.4s,MS5.1
GRF Grafenberg Arr 82.33 319 *e*P **P 21 22 40.6 +0.4**
comp=Z,162nm,1.3s,mb5.8
GRF *e*pP pP 21 22 55.0 -0.1
GRF *e*SKS 21 32 54.6
GRF *e*L 22 05 54.2
comp=Z,859nm,21.4s
GRF Grafenberg Arr 82.33 319 *e*P **P 21 22 40.6 +0.4**
GRF *e**PP pP 21 22 55.0 -0.1
GRF *e* 21 32 54.6
GRF pmax pmax
comp=Z,162nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,900nm,21.4s,MS5.1
GRF Grafenberg Arr 82.33 319 *e*P **P 21 22 40.6 +0.4**
GRF *e**PP pP 21 22 55.0 -0.1
GRF *e* 21 32 54.6
GRF pmax pmax
comp=Z,162nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,900nm,21.4s,MS5.1
LOF Lofoten 82.35 338 *e*P **P 21 22 41.0 +0.7**
MOTA Moosalm 82.36 317 *i* P **P 21 22 39.7 -0.6**
comp=Z,56nm,0.9s,mb5.5,SNR=80
MOTA Moosalm 82.36 317 *i* P **P 21 22 39.8 -0.5**
MOTA pmax pmax
comp=Z,56nm,0.9s,mb5.5
STOK Stokkvaagen 82.38 336 *e*P **P 21 22 39.6 -0.8**
STOK AMb AMB 21 22 44.4
comp=Z,223nm,1.5s,mb5.9
STOK Stokkvaagen 82.38 336 *e*P **P 21 22 39.6 -0.8**
comp=Z,223nm,1.5s,mb5.9
BDI Bagni Di Lucca 82.67 314 P **P 21 22 41.1 -0.8**
MABI Malga Bissina 82.74 316 P **P 21 22 42.6 +0.3**
NB2 NORSAR Subarra 82.79 331 P **P 21 22 41.4 -1.2**
comp=Z,46nm,0.8s,mb5.6,baz=95,slow=5.6
NOA NORSAR Array B 82.79 331 P **P 21 22 41.4 -1.2**
comp=Z,31nm,0.8s,mb5.4,baz=95,slow=5.1,SNR=44
NOA PP PP 21 25 52.0 -1.2
comp=Z,8.2nm,0.8s,baz=90,slow=8.6,SNR=4.6
NOA LR LR 22 05 23.7
comp=Z,745nm,18.7s,MS5.1,baz=75,slow=40
NOA NORSAR Array B 82.79 331 P **P 21 22 41.4 -1.2**
NOA 21 25 52.0
ERBM Eremo 82.80 314 P **P 21 22 43.9 +1.3**
comp=Z,114nm,0.9s,mb5.9
BRMO Bormio 82.84 316 P **P 21 22 43.1 +0.3**
FUORN Ofenpass 82.92 316⇑*i*P **P 21 22 35.9 -7.3**
comp=Z,492nm,2.3s,mb6.1
CLZ Clausthal 82.92 322 *e*P **P 21 22 43.2 0.0**
comp=Z,94nm,0.9s,mb5.8
CLZ Clausthal 82.92 322 *e*P **P 21 22 43.2 0.0**
CLZ pmax pmax
comp=Z,94nm,0.9s,mb5.8
NAO01 NORSAR Array S 82.94 331⇓*e*P **P 21 22 42.5 -0.9**
comp=Z,29nm,0.8s,mb5.4
NAO01 *e* pP 21 22 54.8 -3.5
OSL Oslo 82.98 330 *e*P **P 21 22 43.3 -0.2**
OSL AMb AMB 21 22 46.0
comp=Z,143nm,1.0s,mb6.0
OSL Oslo 82.98 330 *e*P **P 21 22 43.3 -0.2**
comp=Z,143nm,1.0s,mb6.0

BSEG Bad Segeberg 83.00 324 *e*P **P 21 22 43.7 0.0**
comp=Z,167nm,0.9s,mb6.1
BERNI Berninapass 83.08 316⇑*i*P **P 21 22 37.9 -6.2**
comp=Z,422nm,0.8s,mb6.5
DAVOX Davos 83.19 316⇑*i*P **P 21 22 38.5 -6.1**
comp=Z,211nm,0.6s,mb6.3
DAVA Damuels 83.19 317 *i*P **P 21 22 44.6 0.0**
comp=Z,137nm,1.4s,mb5.8,SNR=54
RPZ Rata Peaks 83.28 135 P **P 21 22 43.3 -1.8**
comp=Z,44nm,1.0s,mb5.5,baz=40,slow=1.1,SNR=12
VDL Val di Lei 83.47 316⇑*i*P **P 21 22 38.6 -7.5**
comp=Z,297nm,2.5s,mb5.9
BOB Bobbio (Coli) 83.49 314 P **P 21 22 45.7 -0.5**
PLONS Plons 83.53 317⇑*i*P **P 21 22 42.3 -4.1**
comp=Z,405nm,1.6s,mb6.3
KONO Kongsberg 83.54 329 *e*P **P 21 22 43.7 -2.7**
KONO *e*S S 21 33 01.7 -2.6
KONO Kongsberg 83.54 329⇑*e*P **P 21 22 46.4 0.0**
STU Stuttgart 83.65 318 *e*P **P 21 22 46.7 -0.3**
STU Stuttgart 83.65 318⇑*e*P **P 21 22 46.5 -0.5**
STU *e* pP 21 23 02.9 +0.9
STU *e* 21 26 00.2
STU pmax pmax
comp=Z,53nm,0.9s,mb5.7
STU Stuttgart 83.65 318⇑*e*P **P 21 22 46.5 -0.5**
comp=Z,53nm,0.9s,mb5.7
STU *e* pP 21 23 02.9 +0.9
STU *e*PP PP 21 26 00.2 +0.1
MUD Monsted U'grnd 83.70 326 *i* P **P 21 22 47.4 +0.1**
comp=Z,76nm,0.9s,mb5.8
MUD *i* S S 21 33 03.5 -2.5
MUD
comp=Z,540nm,18.0s
MUD Monsted U'grnd 83.70 326 *i* P **P 21 22 47.4 +0.1**
MUD *i* S S 21 33 03.5 -2.5
MUD pmax pmax
comp=Z,76nm,0.9s,mb5.8
MUD MLR MLR
comp=Z,540nm,18.0s,MS5.0
KEST Kesra 83.71 305 P **P 21 22 48.2 +0.9**
comp=Z,15nm,0.7s,mb5.2,baz=195,slow=0.5,SNR=78
KEST LR LR 21 59 58.8
comp=Z,483nm,20.9s,MS4.8,baz=175,slow=36
MUGIO Muggio 83.77 316⇑*i*P **P 21 22 44.6 -3.0**
comp=Z,91nm,0.7s,mb6.0
LLS Linth-Limmern 83.78 316⇑*i*P **P 21 22 44.6 -3.1**
comp=Z,131nm,1.2s,mb5.9
WEIN Weingarten 83.79 317⇑*i*P **P 21 22 43.5 -4.2**
comp=Z,167nm,1.7s,mb5.9
PGF Pioggiola 83.84 312⇑*i*P **P 21 22 47.9 -0.1**
comp=Z,104nm,1.0s,mb5.6
PGF Pioggiola 83.84 312⇑*i*P **P 21 22 47.9 -0.1**
PGF pmax pmax
comp=Z,52nm,1.0s,mb5.6
PGF Pioggiola 83.84 312⇑*i*P **P 21 22 47.9 -0.1**
comp=Z,52nm,1.0s,mb5.6
DOMB Dombas 83.86 332 *e*P **P 21 22 47.4 -0.7**
DOMB AMb AMB 21 22 50.6
comp=Z,117nm,1.4s,mb5.8
DOMB *e*sP sP 21 23 02.6 -6.2
DOMB Dombas 83.86 332 *e*P **P 21 22 47.4 -0.7**
comp=Z,117nm,1.4s,mb5.8
STEIN Stein am Rhein 83.87 317⇑*e*P **P 21 22 44.7 -3.4**
comp=Z,381nm,1.5s,mb6.3
TOD Tromm 83.90 319 *e*P **P 21 22 47.9 -0.4**
SPAK Spaichingen-Ko 83.92 318 *e*P **P 21 22 48.2 -0.2**
KBS Kingsbay 83.94 349 *e*PP PP 21 26 02.0 -0.5
KBS AMS AMS 22 35 46.5
comp=Z,2µm,21.9s,MS5.4
KBS Kingsbay 83.94 349 P **P 21 22 49.1 +0.6**
KBS pmax pmax
comp=Z,97nm,1.2s,mb5.8
KBS Kingsbay 83.94 349 *e*P **P 21 22 48.0 -0.5**
comp=Z,97nm,1.2s,mb5.8
KBS *e* pP 21 23 02.5 -0.9
KBS LR LR
comp=Z,2µm,20.0s,MS5.5
TRULL Truellikon 84.00 317⇑*i*P **P 21 22 45.5 -3.3**
comp=Z,144nm,0.7s,mb6.2
FUSIO Fusio 84.03 316⇑*i*P **P 21 22 46.4 -2.5**
comp=Z,139nm,2.0s,mb5.7
MUO Muotathal 84.04 317⇑*i*P **P 21 22 46.4 -2.6**
comp=Z,381nm,2.0s,mb6.2
TNS Taunus Mts 84.13 320 *e*P **P 21 22 49.5 +0.1**
comp=Z,64nm,0.9s,mb5.8
TNS Taunus Mts 84.13 320 *e*P **P 21 22 49.5 +0.1**
TNS pmax pmax
comp=Z,64nm,0.9s,mb5.8
BFO Black Forest 84.23 318 *e*P **P 21 22 49.3 -0.6**
BFO *e* pP 21 23 05.7 +0.8
BFO pmax pmax
comp=Z,62nm,0.8s,mb5.8
BFO Black Forest 84.23 318 *e*P **P 21 22 49.3 -0.6**
comp=Z,62nm,0.8s,mb5.8
BFO *e* pP 21 23 05.7 +0.7
QLNO Quiliano 84.28 314 P **P 21 22 50.2 0.0**
HASLI Hasliberg 84.37 316⇑*i*P **P 21 22 47.4 -3.3**
comp=Z,209nm,2.0s,mb5.9
SULZ Sulz-Cheisache 84.38 317⇑*i*P **P 21 22 46.6 -4.1**
comp=Z,198nm,1.2s,mb6.1
FELD Feldberg im Sc 84.45 318⇑*e*P **P 21 22 50.6 -0.5**
MMK Mattmark 84.52 316⇑*i*P **P 21 22 47.7 -3.7**
comp=Z,154nm,1.8s,mb5.8
IBBN Ibbenburen 84.54 322 *e*P **P 21 22 51.5 0.0**
LANF Langenberg 84.56 319 *e*P **P 21 22 51.6 0.0**
BALST Balsthal 84.67 317⇑*i*P **P 21 22 47.7 -4.5**
comp=Z,129nm,0.9s,mb6.0
ABH Alteburg 84.71 320 *e*P **P 21 22 52.3 -0.1**
LKBD Leukerbad 84.74 316⇑*i*P **P 21 22 48.2 -4.3**
comp=Z,156nm,0.7s,mb6.2
BBS Basel-Blauen 84.80 317 *e*P **P 21 22 51.8 -1.0**
BUG Bochum--Univer 84.86 321 *e*P **P 21 22 53.0 -0.1**
comp=Z,94nm,0.9s,mb5.9
SAOF Saorge 84.86 314 *e*P **P 21 22 53.0 -0.1**
DIX Grande Dixence 84.90 316⇑*i*P **P 21 22 48.5 -4.8**
comp=Z,211nm,0.7s,mb6.4
CDF Champ du Feu 84.93 318⇑*i*P **P 21 22 52.8 -0.7**
comp=Z,46nm,0.7s,mb5.4
CDF Champ du Feu 84.93 318⇑*i*P **P 21 22 52.8 -0.7**
CDF pmax pmax
comp=Z,23nm,0.7s,mb5.4
CDF Champ du Feu 84.93 318⇑*i*P **P 21 22 52.8 -0.7**
comp=Z,23nm,0.7s,mb5.4
FUNA Funafuti 84.93 99 PFAKE 21 23 10.0 +16
FUNA LR LR
comp=Z,5µm,19.0s,MS5.9
SBF Sospel 84.95 313⇑*i*P **P 21 22 53.4 -0.2**
comp=Z,249nm,0.7s,mb6.2
SBF Sospel 84.95 313⇑*i*P **P 21 22 53.4 -0.2**
SBF pmax pmax
comp=Z,125nm,0.7s,mb6.2
SBF Sospel 84.95 313⇑*i*P **P 21 22 53.4 -0.2**
comp=Z,125nm,0.7s,mb6.2
AUTN L'Aution 84.95 314 *e*P **P 21 22 54.1 +0.5**
REVF Revere 85.01 313 *e*P **P 21 22 53.8 -0.1**
ECH Echery 85.01 318 *e*P **P 21 22 53.1 -0.8**
STV Sta Anna Valdi 85.02 314 P **P 21 22 54.6 +0.7**
MOF Molkenrain 85.04 317 *e*P **P 21 22 53.6 -0.4**
TOUF Mont Tournerai 85.08 314 *e*P **P 21 22 54.6 +0.3**
GRYON Gryon 85.11 316⇑*i*P **P 21 22 49.2 -5.2**
comp=Z,105nm,0.7s,mb6.1
ADK Adak 85.13 38 *e*P **P 21 22 53.7 -0.8**
ADK *e* pP 21 23 10.7 +1.2
ADK pmax pmax
comp=Z,135nm,0.8s,mb6.1
ADK MLR MLR
comp=Z,2µm,22.0s,MS5.4
ADK Adak 85.13 38 *e*P **P 21 22 53.7 -0.8**
comp=Z,134nm,0.8s,mb6.1
ADK *e* pP 21 23 10.7 +1.2
ADK LR LR
comp=Z,2µm,22.0s,MS5.4
WTSB Winterswijk 85.14 322⇑*i*P **P 21 22 54.4 -0.1**
comp=Z,116nm,1.2s,mb5.9
BLS5 Blasjo 85.14 329 *e*P **P 21 22 55.0 +0.5**
BLS5 AMb AMB 21 22 59.5
comp=Z,122nm,0.8s,mb6.1
BLS5 *e*sP pP 21 23 09.9 +0.4
BLS5 Blasjo 85.14 329 *e*P **P 21 22 55.0 +0.5**
comp=Z,122nm,0.8s,mb6.1
MVIF Mont Vial 85.16 314 *e*P **P 21 22 55.1 +0.5**
TORNY Torny 85.19 316⇑*i*P **P 21 22 50.1 -4.7**
comp=Z,147nm,0.8s,mb6.1
HINF Hinteralfeld 85.23 317⇑*i*P **P 21 22 53.9 -1.1**
comp=Z,21nm,0.6s,mb5.2
HINF Hinteralfeld 85.23 317⇑*i*P **P 21 22 53.9 -1.1**

HINF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
HINF Hinteralfeld 85.23 317⇑*i*P **P 21 22 53.9 -1.1**
comp=Z,10nm,0.6s,mb5.1
EMV Vieux Emosson 85.26 316⇑*i*P **P 21 22 50.4 -4.7**
comp=Z,246nm,2.2s,mb5.9
LOMF Lomont 85.26 317 *e*P **P 21 22 55.1 0.0**
OG22 Abries 85.27 314 *e*P **P 21 22 54.4 -0.8**
LPG La Plagne 85.38 315⇑*i*P **P 21 22 55.9 +0.2**
comp=Z,159nm,0.8s,mb5.9
LPG La Plagne 85.38 315⇑*i*P **P 21 22 55.9 +0.2**
LPG pmax pmax
comp=Z,80nm,0.8s,mb5.9
LPG La Plagne 85.38 315⇑*i*P **P 21 22 55.9 +0.2**
comp=Z,80nm,0.8s,mb5.9
LPL La Plagne 85.40 315⇑*i*P **P 21 22 55.9 +0.1**
comp=Z,207nm,0.8s,mb6.0
LPL La Plagne 85.40 315⇑*i*P **P 21 22 55.9 +0.1**
LPL pmax pmax
comp=Z,103nm,0.8s,mb6.0
LPL La Plagne 85.40 315⇑*i*P **P 21 22 55.9 +0.1**
comp=Z,103nm,0.8s,mb6.0
MBDF Montbardon 85.40 314⇑*i*P **P 21 22 55.1 -0.7**
comp=Z,47nm,0.6s,mb5.5
MBDF Montbardon 85.40 314⇑*i*P **P 21 22 55.1 -0.7**
MBDF pmax pmax
comp=Z,23nm,0.6s,mb5.5
MBDF Montbardon 85.40 314⇑*i*P **P 21 22 55.1 -0.7**
comp=Z,23nm,0.6s,mb5.5
OG01 Vacheresse 85.40 316 *e*P **P 21 22 55.8 0.0**
SNZO South Karori 85.43 132 PFAKE 21 23 10.0 +14
SNZO LR LR
comp=Z,2µm,22.0s,MS5.5
RSL Roselend 85.46 315 *e*P **P 21 22 55.8 -0.4**
FRF La Foret Royal 85.54 313⇑*i*P **P 21 22 56.5 0.0**
comp=Z,188nm,1.1s,mb5.9
FRF La Foret Royal 85.54 313⇑*i*P **P 21 22 56.5 0.0**
FRF pmax pmax
comp=Z,94nm,1.1s,mb5.9
FRF La Foret Royal 85.54 313⇑*i*P **P 21 22 56.5 0.0**
comp=Z,94nm,1.1s,mb5.9
HAU Haudompre 85.56 318⇑*i*P **P 21 22 56.0 -0.6**
comp=Z,132nm,0.8s,mb5.9
HAU *e*MLR
comp=Z,662nm,20.2s
HAU Haudompre 85.56 318⇑*i*P **P 21 22 56.0 -0.6**
HAU pmax pmax
comp=Z,66nm,0.8s,mb5.9
HAU MLR MLR
comp=Z,660nm,20.3s,MS5.0
HAU Haudompre 85.56 318⇑*i*P **P 21 22 56.0 -0.6**
comp=Z,66nm,0.8s,mb5.9
HAU LR LR
comp=Z,660nm,20.3s,MS5.0
MIDW Midway 85.59 62 PFAKE 21 23 10.0 +13
MIDW LR LR
comp=Z,1µm,19.0s,MS5.3
WLF Walferdange 85.62 319 *e*P **P 21 22 57.3 +0.4**
WLF Walferdange 85.62 319 P **P 21 22 57.6 +0.7**
comp=Z,52nm,1.7s,mb5.5
WLF XP sP 21 23 12.2 -5.5
WLF Walferdange 85.62 319⇑*e*P **P 21 22 56.9 0.0**
WLF *e* pP 21 23 11.6 -0.4
WLF pmax pmax
comp=Z,64nm,1.1s,mb5.8
WLF Walferdange 85.62 319⇑*e*P **P 21 22 56.9 -0.1**
comp=Z,64nm,1.1s,mb5.8
WLF *e* pP 21 23 11.6 -0.4
LMR La Mourre 85.65 313⇑*i*P **P 21 22 56.9 -0.2**
comp=Z,246nm,1.5s,mb5.9
LMR La Mourre 85.65 313⇑*i*P **P 21 22 56.9 -0.2**
LMR pmax pmax
comp=Z,123nm,1.5s,mb5.9
LMR La Mourre 85.65 313⇑*i*P **P 21 22 56.9 -0.2**
comp=Z,123nm,1.5s,mb5.9
BER Bergen 85.68 330 *e*P **P 21 22 56.6 -0.6**
BER AMS AMS 22 39 42.2
comp=Z,3µm,21.4s,MS5.7
MEM Membach 85.68 320 P **P 21 22 57.0 -0.2**
comp=Z,25nm,0.9s,mb5.5
MEM XP sP 21 23 13.0 -5.0
HGN Heimansgroeve 85.72 320 *e*P **P 21 22 57.0 -0.4**
comp=Z,39nm,2.3s,mb5.2
HGN *e*PP PP 21 26 13.3 -3.7
HGN *e*PPP 21 28 07.8
HGN *i* S S 21 33 19.9 -6.1
HGN *e*SS SS 21 38 40.5 -23
THEF They Montfort 85.80 318 *e*P **P 21 22 57.0 -0.8**
CABF La Chapelle 85.80 316⇑*i*P **P 21 22 57.8 0.0**
comp=Z,80nm,0.8s,mb5.7
CABF La Chapelle 85.80 316⇑*i*P **P 21 22 57.8 0.0**
CABF pmax pmax
comp=Z,40nm,0.8s,mb5.7
CABF La Chapelle 85.80 316⇑*i*P **P 21 22 57.8 0.0**
comp=Z,40nm,0.8s,mb5.7
BEBN Eben Emael 85.88 320 P **P 21 22 59.0 +0.8**
OG25 Le Caire 85.91 314 *e*P **P 21 22 58.2 -0.2**
TAVF Tavernes 85.96 313 *e*P **P 21 22 59.4 +0.8**
CASM Ain Smara 86.01 306 P **P 21 23 02.0 +3.2**
ORIF Oris-en-Rattie 86.02 315⇑*i*P **P 21 22 58.5 -0.4**
comp=Z,70nm,0.7s,mb5.7
ORIF *e*MLR
comp=Z,962nm,21.8s
ORIF Oris-en-Rattie 86.02 315⇑*i*P **P 21 22 58.5 -0.4**
ORIF pmax pmax
comp=Z,35nm,0.7s,mb5.7
ORIF Oris-en-Rattie 86.02 315⇑*i*P **P 21 22 58.5 -0.4**
comp=Z,35nm,0.7s,mb5.7
STOF St-Etienne Org 86.05 314 *e*P **P 21 23 01.4 +2.3**
CTEI Djebel Teioual 86.08 306 P **P 21 23 03.0 +3.8**
BCLA Clavier 86.14 320 P **P 21 22 59.6 +0.1**
comp=Z,21nm,1.5s,mb5.2
OG05 Jujurieux 86.26 316 *e*P **P 21 22 59.7 -0.4**
SMRF Simiane la Rot 86.29 314⇑*i*P **P 21 23 00.7 +0.5**
comp=Z,92nm,1.0s,mb5.7
SMRF Simiane la Rot 86.29 314⇑*i*P **P 21 23 00.7 +0.5**
comp=Z,92nm,1.0s,mb6.0
MEZF Maizieres J'vi 86.40 318⇑*i*P **P 21 23 00.4 -0.4**
comp=Z,71nm,1.0s,mb5.6
MEZF Maizieres J'vi 86.40 318⇑*i*P **P 21 23 00.4 -0.4**
comp=Z,71nm,1.0s,mb5.8
OCF Saint Nazaire 86.45 314 *e*P **P 21 23 01.3 +0.3**
OG26 St.-Nazaire-De 86.45 314 *e*P **P 21 23 01.3 +0.3**
GIVF Givet 86.46 320 *e*P **P 21 23 00.7 -0.4**
comp=Z,68nm,1.1s,mb5.5
GIVF Givet 86.46 320 *e*P **P 21 23 00.7 -0.4**
GIVF pmax pmax
comp=Z,34nm,1.1s,mb5.5
GIVF Givet 86.46 320 *e*P **P 21 23 00.7 -0.4**
comp=Z,34nm,1.1s,mb5.5
DFRA Djebel Bou Aff 86.48 306 P **P 21 23 06.0 +4.8**
PRAF Pradon 86.59 314 *e*P **P 21 23 03.1 +1.4**
DOU Dourbes 86.61 320 P **P 21 23 01.6 -0.2**
DOU XP sP 21 23 17.6 -5.0
UCC Uccle 86.72 321 P **P 21 23 02.3 -0.1**
UCC XP sP 21 23 17.8 -5.3
URZ Urewera 86.75 129 P **P 21 23 01.2 -1.3**
comp=Z,47nm,0.9s,mb5.7,baz=307,slow=2.0,SNR=16
SNF Seneffe 86.78 320 P **P 21 23 02.5 -0.2**
SNF XP sP 21 23 18.3 -5.1
BAIF Baives 86.86 320⇑*i*P **P 21 23 03.0 0.0**
comp=Z,98nm,0.8s,mb5.8
BAIF Baives 86.86 320⇑*i*P **P 21 23 03.0 0.0**
BAIF pmax pmax
comp=Z,49nm,0.8s,mb5.8
BAIF Baives 86.86 320⇑*i*P **P 21 23 03.0 0.0**
comp=Z,49nm,0.8s,mb5.8
VIVF Saint-Julien-I 86.88 315⇑*i*P **P 21 23 03.0 -0.1**
comp=Z,87nm,1.0s,mb5.6
VIVF Saint-Julien-I 86.88 315⇑*i*P **P 21 23 03.0 -0.1**
VIVF pmax pmax
comp=Z,43nm,1.0s,mb5.6
VIVF Saint-Julien-I 86.88 315⇑*i*P **P 21 23 03.0 -0.1**
comp=Z,44nm,1.0s,mb5.6
SET Setif 86.89 306 P **P 21 23 04.0 +0.8**
LOR Lormes 87.28 317⇑*i*P **P 21 23 04.7 -0.4**
comp=Z,107nm,0.8s,mb5.8
LOR *e*MLR
comp=Z,775nm,20.8s
LOR Lormes 87.28 317⇑*i*P **P 21 23 04.7 -0.4**
LOR pmax pmax
comp=Z,54nm,0.8s,mb5.8
LOR MLR MLR
LOR Lormes 87.28 317⇑*i*P **P 21 23 04.7 -0.4**
comp=Z,54nm,0.8s,mb5.8

LOR LR LR
comp=Z,770nm,20.8s,MS5.1
SMF Signal de Mont 87.34 316⇑*i*P P 21 23 04.9 -0.5
comp=Z,73nm,0.6s,mb5.8
SMF Signal de Mont 87.34 316⇑*i*P P 21 23 04.9 -0.5
SMF pmax pmax
comp=Z,37nm,0.6s,mb5.8
SMF Signal de Mont 87.34 316⇑*i*P P 21 23 04.9 -0.5
comp=Z,36nm,0.6s,mb5.8
LASF Ste Croix 87.52 314 *e*P P 21 23 06.3 +0.1
comp=Z,69nm,1.0s,mb5.6
COLF Collangettes 87.53 315 *e*P P 21 23 05.9 -0.4
SSF Saint Saulge 87.54 317⇑*i*P P 21 23 05.9 -0.4
comp=Z,38nm,0.7s,mb5.5
SSF Saint Saulge 87.54 317⇑*i*P P 21 23 05.9 -0.4
SSF pmax pmax
comp=Z,19nm,0.7s,mb5.4
SSF Saint Saulge 87.54 317⇑*i*P P 21 23 05.9 -0.4
comp=Z,19nm,0.7s,mb5.4
PLDF La Plantade 87.55 316 *e*P P 21 23 06.4 +0.1
AVF Avril sur Loir 87.67 317⇑*i*P P 21 23 06.4 -0.5
comp=Z,63nm,0.8s,mb5.6
AVF Avril sur Loir 87.67 317⇑*i*P P 21 23 06.4 -0.5
AVF pmax pmax
comp=Z,31nm,0.8s,mb5.6
AVF Avril sur Loir 87.67 317⇑*i*P P 21 23 06.4 -0.5
comp=Z,31nm,0.8s,mb5.6
LBL Lubilhac 87.86 315 *e*P P 21 23 08.1 +0.2
AGO Saint Agoulin 87.88 316 *e*P P 21 23 08.1 +0.2
PYM Petit Puy Mans 87.99 316 *e*P P 21 23 08.6 +0.1
BGF Bois d'Agland 88.03 316⇑*i*P P 21 23 08.7 0.0
comp=Z,82nm,0.8s,mb5.7
BGF Bois d'Agland 88.03 316⇑*i*P P 21 23 08.7 0.0
BGF pmax pmax
comp=Z,41nm,0.8s,mb5.7
BGF Bois d'Agland 88.03 316⇑*i*P P 21 23 08.7 0.0
comp=Z,41nm,0.8s,mb5.7
HYF Humbligny 88.11 317 *e*P P 21 23 09.3 +0.3
MENF Mencas 88.13 320 *e*P P 21 23 09.2 +0.1
FRNF Fournols 88.33 315 *e*P P 21 23 10.6 +0.5
VERF Verneugheol 88.36 316 *e*P P 21 23 10.6 +0.4
EJON La Jonquera 88.36 312 P P 21 23 09.3 -0.9
comp=Z,85nm,1.7s,mb5.7
TCF Toulx Ste Croi 88.50 316⇑*i*P P 21 23 10.8 0.0
comp=Z,65nm,1.1s,mb5.5
TCF Toulx Ste Croi 88.50 316⇑*i*P P 21 23 10.8 0.0
TCF pmax pmax
comp=Z,32nm,1.1s,mb5.5
TCF Toulx Ste Croi 88.50 316⇑*i*P P 21 23 10.8 0.0
comp=Z,32nm,1.1s,mb5.5
AEU East Anglia Un 88.50 323 *e*P P 21 23 11.1 +0.3
TNA Tin City 88.52 24⇑*e*P P 21 23 10.4 -0.5
TNA *e* pP 21 23 25.0 -1.0
TNA LR LR
comp=Z,1μm,20.0s,MS5.3
ABA1 Baconsthorpe 88.53 323 *e*P P 21 23 12.0 +1.0
FILF Fillols 88.59 312 *e*P P 21 23 12.1 +0.8
ETOS Mallorca 88.65 310 P P 21 23 13.4 +1.8
comp=Z,12nm,1.0s,mb5.2
CAF Calviac 88.73 315⇑*i*P P 21 23 12.2 +0.3
comp=Z,50nm,1.0s,mb5.5
CAF Calviac 88.73 315⇑*i*P P 21 23 12.2 +0.3
CAF pmax pmax
comp=Z,25nm,1.0s,mb5.5
CAF Calviac 88.73 315⇑*i*P P 21 23 12.2 +0.3
comp=Z,25nm,1.0s,mb5.5
MTLF Montolieu 88.77 313⇑*i*P P 21 23 12.3 +0.2
comp=Z,60nm,1.1s,mb5.5
MTLF Montolieu 88.77 313⇑*i*P P 21 23 12.3 +0.2
MTLF pmax pmax
comp=Z,30nm,1.1s,mb5.5
MTLF Montolieu 88.77 313⇑*i*P P 21 23 12.3 +0.2
comp=Z,30nm,1.1s,mb5.5
EMHD Djebel Mahouad 88.86 306 P P 21 23 15.0 +2.4
LRW Lerwick 88.93 330 *e*P P 21 23 14.0 +1.1
LRW *e*P 21 23 14.0
LRW AMb AMB 21 23 17.1
comp=Z,77nm,1.9s,mb5.7
RJF Les Rejaudoux 89.08 315⇑*i*P P 21 23 13.9 +0.3
comp=Z,40nm,0.8s,mb5.5
RJF *e*MLR
comp=Z,639nm,22.0s
RJF Les Rejaudoux 89.08 315⇑*i*P P 21 23 13.9 +0.3
RJF pmax pmax
comp=Z,20nm,0.8s,mb5.5
RJF MLR MLR
comp=Z,640nm,22.0s,MS5.0
RJF Les Rejaudoux 89.08 315⇑*i*P P 21 23 13.9 +0.3
comp=Z,20nm,0.8s,mb5.5
RJF LR LR
comp=Z,640nm,22.0s,MS5.0
WAL1 Walls 89.13 330 *e*P P 21 23 14.5 +0.6
EMIR Miracle 89.42 312 P P 21 23 15.8 +0.7
comp=Z,37nm,0.7s,mb5.8
LWH Whinny Nab 89.43 324⇑*e*P P 21 23 17.2 +1.9
RAO Raoul Island 89.75 119 PFAKE 21 23 30.0 +13
RAO LR LR
comp=Z,987nm,20.0s,MS5.2
VNDA Vanda 89.81 168 P P 21 23 16.7 -0.3
comp=Z,2.4nm,0.8s,baz=278,slow=8.3,SNR=8.5
VNDA PKKPbc PKKPbc 21 40 51.6 +2.6
comp=Z,1.4nm,0.9s,baz=322,slow=10.0,SNR=5.1
VNDA Vanda 89.81 168 P P 21 23 16.7 -0.3
VNDA PKKPbc PKKPbc 21 40 51.6 +2.6
VNDA LR LR
comp=Z,2μm,20.0s,MS5.5
EPOB Poblet 89.81 311 P P 21 23 17.8 +0.7
comp=Z,23nm,0.7s,mb5.6
LDF La Druitiere 89.82 319⇑*i*P P 21 23 17.0 -0.1
comp=Z,137nm,0.9s,mb6.0
LDF La Druitiere 89.82 319⇑*i*P P 21 23 17.0 -0.1
LDF pmax pmax
comp=Z,68nm,0.9s,mb6.0
LDF La Druitiere 89.82 319⇑*i*P P 21 23 17.0 -0.1
comp=Z,68nm,0.9s,mb6.0
JMIC Jan Mayen 89.84 341 P P 21 23 16.5 -0.7
comp=Z,116nm,0.6s,mb6.4,baz=186,slow=4.9,SNR=4.1
JMIC LR LR 22 07 58.4
comp=Z,1μm,19.6s,MS5.3,baz=78,slow=38
JMIC Jan Mayen 89.84 341 AMS AMS 22 38 13.4
comp=Z,1μm,21.1s,MS5.4
SKP1 Kophill 89.86 322⇑*e*P P 21 23 17.8 +0.6
EIBI Ibiza 89.86 309 P P 21 23 18.7 +1.5
comp=Z,31nm,0.8s,mb5.7
EBNR Beni Rached 90.00 306 P P 21 23 20.0 +2.1
FLN La Foliniere 90.03 319⇑*i*P P 21 23 18.0 -0.1
comp=Z,135nm,0.8s,mb6.0
FLN *e*MLR
comp=Z,810nm,20.5s
FLN La Foliniere 90.03 319⇑*i*P P 21 23 18.0 -0.1
FLN pmax pmax
comp=Z,68nm,0.8s,mb6.0
FLN MLR MLR
comp=Z,810nm,20.5s,MS5.1
FLN La Foliniere 90.03 319⇑*i*P P 21 23 18.0 -0.1
comp=Z,68nm,0.8s,mb6.0
FLN LR LR
comp=Z,810nm,20.5s,MS5.1
MFF Saint Martin d 90.08 317⇑*i*P P 21 23 18.3 0.0
comp=Z,100nm,1.0s,mb5.8
MFF Saint Martin d 90.08 317⇑*i*P P 21 23 18.3 0.0
MFF pmax pmax
comp=Z,50nm,1.0s,mb5.8
MFF Saint Martin d 90.08 317⇑*i*P P 21 23 18.3 0.0
comp=Z,50nm,1.0s,mb5.8
ECHA Ech Chlef 90.15 306 P P 21 23 21.0 +2.4
EPF Esparros 90.17 313⇑*i*P P 21 23 18.8 +0.1
comp=Z,18nm,0.8s,mb5.2
EPF Esparros 90.17 313⇑*i*P P 21 23 18.8 +0.1
EPF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
EPF Esparros 90.17 313⇑*i*P P 21 23 18.8 +0.1
comp=Z,9.0nm,0.8s,mb5.2
XSO Sourhope Farm 90.17 326⇑*e*P P 21 23 18.1 -0.6
RESF Ens 90.19 313 *e*P P 21 23 20.2 +1.4
LHO Holmfirth 90.23 324⇑*i*P P 21 23 19.0 0.0
XAL Allendale 90.25 325⇑*i*P P 21 23 18.9 -0.1
MME1 Meikle Cairn 90.28 328⇑*e*P P 21 23 20.0 +0.8
ETRT Tiaret 90.28 305 P P 21 23 23.0 +3.8
KWE Weaver Farm 90.31 323⇑*i*P P 21 23 19.3 0.0
ESY Stoneypath 90.31 326⇑*e*P P 21 23 18.9 -0.4
MLA1 Latheron 90.32 329 *e*P P 21 23 19.5 +0.1
GRR Gorron 90.33 318 *e*P P 21 23 19.6 +0.2
comp=Z,95nm,1.0s,mb5.8
GRR Gorron 90.33 318 *e*P P 21 23 19.6 +0.2
GRR pmax pmax
comp=Z,47nm,1.0s,mb5.8
GRR Gorron 90.33 318 *e*P P 21 23 19.6 +0.2
comp=Z,47nm,1.0s,mb5.8
EBIE Bielsa 90.35 313 P P 21 23 19.7 +0.2
comp=Z,9.3nm,0.7s,mb5.2
EANR 'Ain N'Sour 90.38 306 P P 21 23 22.0 +2.3
MCD Coleburn Disti 90.39 328⇑*e*P P 21 23 20.2 +0.5
ERTA Horta de San J 90.42 311 P P 21 23 20.5 +0.6
comp=Z,17nm,0.7s,mb5.5
VIEF Viey 90.42 313 *e*P P 21 23 21.3 +1.5
SSW Stow on the Wo 90.46 322 *e*P P 21 23 20.0 0.0
LCHF La Chataignera 90.48 317 *e*P P 21 23 20.3 +0.2
SWN1 Swindon 90.50 322 *e*P P 21 23 20.5 +0.3
EBL Broad Law 90.57 326⇑*e*P P 21 23 20.5 -0.1
DAG Danmarks Havn 90.60 348⇓*i*P P 21 23 18.8 -1.9
comp=Z,37nm,0.6s,mb5.9
DAG Danmarks Havn 90.60 348⇓*i*P P 21 23 18.8 -1.9
DAG pmax pmax
comp=Z,37nm,0.6s,mb5.9
EDI Edinburgh 90.62 326 *e*P P 21 23 20.8 0.0
EDI AMb AMB 21 23 23.9
comp=Z,147nm,2.0s,mb6.0
REYF Montagne du Re 90.70 313 *e*P P 21 23 22.0 +0.9
ESK Eskdalemuir 90.74 326⇑*e*P P 21 23 21.0 -0.3
ESK AMb AMB 21 23 24.5
comp=Z,93nm,2.0s,mb5.8
ESK Eskdalemuir 90.74 326 *e*P P 21 23 21.5 +0.2
ESK *e* pP 21 23 35.9 -0.5
ESK pmax pmax
comp=Z,123nm,1.4s,mb6.0
ESK MLR MLR
comp=Z,334nm,22.0s,MS4.7
ESK Eskdalemuir 90.74 326 *e*P P 21 23 21.4 +0.1
comp=Z,124nm,1.4s,mb6.0
ESK *e* pP 21 23 35.9 -0.6
ESK LR LR
comp=Z,334nm,22.0s,MS4.7
EAU Auchinoon 90.78 326 *e*P P 21 23 22.4 +0.9
MVH1 Achvaich 90.82 328⇑*i*P P 21 23 21.9 +0.2
ETSF Etsaut 90.84 313 *e*P P 21 23 22.4 +0.6
comp=Z,36nm,0.7s,mb5.5
ETSF Etsaut 90.84 313 *e*P P 21 23 22.4 +0.6
ETSF pmax pmax
comp=Z,18nm,0.7s,mb5.5
ETSF Etsaut 90.84 313 *e*P P 21 23 22.4 +0.6
comp=Z,18nm,0.7s,mb5.5
SBA Scott Base 90.91 168 *e*P P 21 23 21.5 -0.7
SBA *e* pP 21 23 39.2 +1.9
SBA pmax pmax
comp=Z,167nm,1.8s,mb6.1
SBA MLR MLR
comp=Z,1μm,20.0s,MS5.4
SBA Scott Base 90.91 168 *e*P P 21 23 21.5 -0.7
comp=Z,167nm,1.8s,mb6.1
SBA *e* pP 21 23 39.2 +1.9
SBA LR LR
comp=Z,1μm,20.0s,MS5.4
ATE Arette 90.92 313 *e*P P 21 23 22.9 +0.7
ESAC San Caprasio 90.92 312 P P 21 23 22.7 +0.5
comp=Z,49nm,0.7s,mb5.9
MDO Dochfour 91.00 328⇑*i*P P 21 23 22.2 -0.3
UNV Unalaska Valle 91.08 36 *e*P P 21 23 22.7 -0.3
comp=Z,97nm,0.9s,mb6.1
UNV *e* pP 21 23 34.2 -3.8
EMOS Mosqueruela 91.10 310 P P 21 23 24.7 +1.7
comp=Z,37nm,0.7s,mb5.8
JVM Valle D.L. Mar 91.10 319 *e*P P 21 23 23.5 +0.5
EBEN Beniarda 91.11 309 P P 21 23 23.6 +0.5
comp=Z,56nm,1.6s,mb5.6
LARF Larrau 91.13 313 *e*P P 21 23 23.7 +0.5
MCH1 Michaelchurch 91.16 322 *e*P P 21 23 23.7 +0.4
MCH1 AMb AMB 21 23 27.5
comp=Z,41nm,1.6s,mb5.5
EAB Aberfoyle 91.22 327 *e*P P 21 23 23.5 -0.1
SJPF Ste Jean 91.30 313 *e*P P 21 23 24.7 +0.8
comp=Z,48nm,0.8s,mb5.6
SJPF Ste Jean 91.30 313 *e*P P 21 23 24.7 +0.8
SJPF pmax pmax
comp=Z,24nm,0.8s,mb5.6
SJPF Ste Jean 91.30 313 *e*P P 21 23 24.7 +0.8
comp=Z,24nm,0.8s,mb5.6
PGBU Glenifferbraes 91.36 326 *e*P P 21 23 25.3 +1.0
PGBU AMb AMB 21 23 29.5
comp=Z,53nm,2.1s,mb5.5
AKUT Akutan 91.46 36 *e*P P 21 23 24.1 -0.5
SGMF Saint Gilles 91.47 318⇑*i*P P 21 23 24.7 0.0
comp=Z,89nm,0.9s,mb5.8
SGMF Saint Gilles 91.47 318⇑*i*P P 21 23 24.7 0.0
SGMF pmax pmax
comp=Z,45nm,0.9s,mb5.8
SGMF Saint Gilles 91.47 318⇑*i*P P 21 23 24.7 0.0
comp=Z,45nm,0.9s,mb5.8
EALK Alkurruntz 91.48 313 P P 21 23 26.3 +1.5
comp=Z,14nm,0.8s,mb5.3
ECHE Chera 91.57 310 P P 21 23 25.6 +0.4
ECHE pmax pmax
comp=Z,19nm,1.5s,mb5.2
ECHE Chera 91.57 310 P P 21 23 25.6 +0.4
comp=Z,18nm,1.5s,mb5.2
GIM North Isle of 91.64 325⇑*e*P P 21 23 25.5 0.0
GAL1 Galloway 91.67 325 *e*P P 21 23 25.6 0.0
GAL1 ⇑*e*P 21 23 25.6
GAL1 AMb AMB 21 23 30.8
comp=Z,86nm,1.8s,mb5.8
KPL Plockton 91.70 328 *e*P P 21 23 25.0 -0.8
KPL AMb AMB 21 23 29.2
comp=Z,105nm,2.1s,mb5.8
WCB1 Church Bay 91.85 324 *e*P P 21 23 27.4 +0.9
QUIF Quistinic 91.93 318 *e*P P 21 23 26.5 -0.4
comp=Z,60nm,0.7s,mb5.7
QUIF Quistinic 91.93 318 *e*P P 21 23 26.5 -0.4
QUIF pmax pmax
comp=Z,30nm,0.7s,mb5.7
QUIF Quistinic 91.93 318 *e*P P 21 23 26.5 -0.4
comp=Z,30nm,0.7s,mb5.7
ROSF Rostrenen 91.93 319 *e*P P 21 23 26.8 -0.1
comp=Z,70nm,0.9s,mb5.7
ROSF Rostrenen 91.93 319 *e*P P 21 23 26.8 -0.1
ROSF pmax pmax
comp=Z,35nm,0.9s,mb5.7
ROSF Rostrenen 91.93 319 *e*P P 21 23 26.8 -0.1
comp=Z,35nm,0.9s,mb5.7
DYA Yadsworthy 92.00 321 *e*P P 21 23 27.1 -0.1
EMUR La Murta 92.02 308 P P 21 23 27.9 +0.6
comp=Z,12nm,1.0s,mb5.2
ALE Alert 92.14 357 P P 21 23 27.0 -0.9
comp=Z,414nm,0.8s,mb6.8,SNR=32
ETOB Tobarra 92.15 309 P P 21 23 29.1 +1.2
comp=Z,9.5nm,0.8s,mb5.2
TORD Torodi Ar. Bea 92.18 283 P P 21 23 28.7 +0.7
comp=Z,5.1nm,0.7s,mb4.9,baz=84,slow=4.4,SNR=28
TORD PKKPbc PKKPbc 21 40 44.5 +1.3
comp=Z,0.8nm,0.6s,baz=315,slow=2.3,SNR=12
TORD LR LR 22 04 07.3
comp=Z,1μm,18.9s,MS5.3,baz=110,slow=35
TORD Torodi Ar. Bea 92.18 283 P P 21 23 28.7 +0.7
TORD PKKPbc PKKPbc 21 40 44.5 +1.3
TORD LR LR 22 04 07.2
ETOR Torete 92.23 311 P P 21 23 29.2 +1.0
ETOR pmax pmax
comp=Z,34nm,0.7s,mb5.8
ETOR Torete 92.23 311 P P 21 23 29.2 +1.0
comp=Z,34nm,0.7s,mb5.8
ECRI Cripan 92.30 313 P P 21 23 29.2 +0.6
ECRI pmax pmax
comp=Z,1.0nm,0.2s,mb4.8
ECRI Cripan 92.30 313 P P 21 23 29.2 +0.6
comp=Z,0.7nm,0.2s
NVL N'lazarevskaya 92.32 199 *e*P P 21 23 26.8 -1.9
NVL *i* 21 34 32.5
NVL *e* 21 35 48.3
NVL pmax pmax
comp=Z,23nm,1.4s,mb5.3
GCL Cushendall 92.43 326⇑*e*P P 21 23 29.4 +0.2
ELAN Lanestosa 92.88 314 P P 21 23 32.9 +1.7
comp=Z,13nm,0.8s,mb5.4
EVIA Vianos 92.89 309 P P 21 23 32.0 +0.7
EVIA pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
EVIA Vianos 92.89 309 P P 21 23 32.0 +0.7
comp=Z,6.5nm,0.7s,mb5.2
ENIJ Nijar 92.90 307 P P 21 23 33.1 +1.8
ENIJ pmax pmax
comp=Z,1.0nm,0.9s
ENIJ Nijar 92.90 307 P P 21 23 33.1 +1.8
comp=Z,1.2nm,0.9s
DSB Dublin 92.95 324 *e*P P 21 23 31.7 +0.2
comp=Z,24nm,1.0s,mb5.6
DLF Lyons Farm 93.03 324 *e*P P 21 23 31.6 -0.4
EHUE Huescar 93.08 308 P P 21 23 31.9 -0.3
EHUE pmax pmax
comp=Z,13nm,0.8s,mb5.4
EHUE Huescar 93.08 308 P P 21 23 31.9 -0.3
comp=Z,13nm,0.8s,mb5.4
EBER Berja 93.45 307 P P 21 23 34.7 +0.8
comp=Z,70nm,1.4s,mb5.9
EQES Quesada 93.46 308 P P 21 23 34.9 +1.0
comp=Z,6.9nm,0.5s,mb5.3
GUD Guadarrama 93.83 311 P P 21 23 36.5 +0.9
GUD pmax pmax
comp=Z,11nm,1.6s,mb5.0
GUD Guadarrama 93.83 311 P P 21 23 36.5 +0.9
comp=Z,11nm,1.6s,mb5.0
ESDC Sonseca Array 93.85 310 P P 21 23 35.3 -0.4
comp=Z,6.0nm,0.6s,mb5.2,baz=62,slow=4.1,SNR=63
ESDC PP PP 21 27 20.5 -1.2
comp=Z,1.1nm,0.9s,baz=72,slow=7.4,SNR=4.0
ESDC PKKPbc PKKPbc 21 40 39.1 +0.3
comp=Z,1.3nm,0.8s,baz=272,slow=2.4,SNR=8.7
ESDC LR LR 22 07 07.2
comp=Z,479nm,20.4s,MS4.9,baz=130,slow=36
ESDC Sonseca Array 93.85 310 P P 21 23 36.1 +0.4
comp=Z,5.2nm,0.6s,mb5.1
ESLA Sonseca Array 93.85 310 PFAKE 21 23 50.0 +14
ESLA LR LR
comp=Z,4μm,22.0s,MS5.9
EBAN Banos Encina 93.96 309 P P 21 23 38.0 +1.8
EBAN pmax pmax
comp=Z,6.0nm,0.5s,mb5.3
EBAN Banos Encina 93.96 309 P P 21 23 38.0 +1.8
comp=Z,5.6nm,0.5s,mb5.2
EGUA Guajares 94.00 307 P P 21 23 36.3 -0.1
comp=Z,0.3nm,0.6s
IMA2 Indian Mountai 94.04 22 *e*P P 21 23 36.2 -0.4
IMA2 PP PP 21 27 25.8 +2.6
EARI Arriondas 94.14 314 P P 21 23 37.9 +0.8
comp=Z,51nm,1.3s,mb5.8
ERON Agron 94.16 308 P P 21 23 37.6 +0.5
comp=Z,4.8nm,0.6s,mb5.1
PAB San Pablo 94.16 310 PFAKE 21 23 50.0 +13
PAB LR LR
comp=Z,509nm,21.0s,MS5.0
SDPT Sand Point 94.19 34 *e*P P 21 23 35.8 -1.5
ELOJ Sierra Loja 94.41 308 P P 21 23 38.8 +0.5
ELOJ pmax pmax
comp=Z,2.0nm,0.9s
ELOJ Sierra Loja 94.41 308 P P 21 23 38.8 +0.6
comp=Z,2.4nm,0.9s
ELUQ Luque 94.43 308 P P 21 23 38.2 -0.2
ELUQ pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
ELUQ Luque 94.43 308 P P 21 23 38.2 -0.2
comp=Z,4.2nm,0.7s,mb5.0
EADA Adamuz 94.57 309 P P 21 23 41.0 +2.0
comp=Z,4.1nm,0.7s,mb5.0
QSPA South Pole Qui 94.78 180 PFAKE 21 23 50.0 +10
QSPA LR LR
comp=Z,5μm,20.0s,MS6.0
SVW2 Sparrevohn 94.99 27 *e*P P 21 23 40.8 -0.1
SVW2 *e* pP 21 23 54.0 -2.1
EMIJ Mijas 95.00 307 P P 21 23 43.0 +2.1
comp=Z,4.8nm,0.5s,mb5.2
EJIF Jimena Fronter 95.57 307 P P 21 23 43.8 +0.2
EJIF pmax pmax
comp=Z,2.0nm,1.0s
EJIF Jimena Fronter 95.57 307 P P 21 23 43.8 +0.2
comp=Z,2.3nm,1.0s
ESPR Espera 95.80 308 P P 21 23 47.1 +2.4
comp=Z,4.1nm,0.8s,mb4.9
EMIN Mina Concepcio 96.27 309 P P 21 23 47.2 +0.4
comp=Z,3.6nm,0.6s,mb5.0
EBAD Badajoz 96.34 310 P P 21 23 47.3 +0.2
comp=Z,1.2nm,0.5s
MTE Manteigas 96.42 311 *e*P P 21 23 48.7 +1.3
comp=Z,8.3nm,1.1s,mb5.1
MTE Manteigas 96.42 311 *e*PP PP 21 27 48.1 +6.5
MTE *e*S S 21 35 02.7 -0.9
MTE *e*SS SS 21 41 43.7 +6.2
MTE *e*LQ 21 49 13.3
MTE *e*LR LR 21 57 48.9
comp=Z,434nm,20.0s
PCBR Castelo Branco 96.48 311 *e*P P 21 23 48.6 +0.9
comp=Z,10nm,1.1s,mb5.2
PCAB Cabril 96.50 313 *e*P P 21 23 48.5 +0.7
BORG Borgarnes 96.54 337 P P 21 23 50.7 +2.7
comp=Z,18nm,0.8s,mb5.5,baz=112,slow=5.4,SNR=5.2
BORG Borgarnes 96.54 337 P P 21 23 50.7 +2.7
BORG LR LR
comp=Z,486nm,20.0s,MS5.0
COLA College 96.76 23 PFAKE 21 24 00.0 +11
COLA LR LR
comp=Z,2μm,21.0s,MS5.5
PESTR Estremoz 96.76 310 *e*P P 21 23 49.4 +0.4
comp=Z,14nm,1.6s,mb5.1
PESTR Estremoz 96.76 310 *e*PP PP 21 27 48.1 +3.8
PESTR *e*S S 21 35 07.3 +0.7
PESTR *e*SS SS 21 41 48.6 +6.2
PESTR *e*LQ 21 49 17.3
PESTR *e*LR LR 21 59 11.6
comp=Z,415nm,22.0s
MCK McKinley 96.84 24 PFAKE 21 24 00.0 +11
MCK LR LR
comp=Z,980nm,20.0s,MS5.3
KDAK Kodiak Island 97.58 30 P P 21 23 52.2 -0.5
comp=Z,27nm,0.8s,mb5.8,baz=290,slow=4.6,SNR=14
KDAK LR LR 22 10 02.2
comp=Z,2μm,21.7s,MS5.5,baz=312,slow=37
SLKM Skilak Lake 97.65 27 P P 21 23 52.9 -0.1
SLKM Skilak Lake 97.65 27 *e*P P 21 23 52.6 -0.4
SLKM *e* pP 21 24 04.8 -3.3
PMR Palmer 97.68 26 *e*P P 21 23 53.6 +0.5
PMR pmax pmax
comp=Z,15nm,0.8s,mb5.6
PMR MLR MLR
comp=Z,2μm,19.0s,MS5.7
PMR Palmer 97.68 26 *e*P P 21 23 53.6 +0.5
comp=Z,15nm,0.8s,mb5.6
PMR LR LR
comp=Z,2μm,19.0s,MS5.7
SML Sawmill 97.93 25 P P 21 23 55.1 +0.8
SML Sawmill 97.93 25 *e*P P 21 23 53.2 -1.1
SML *e* pP 21 24 06.3 -3.1
PMAFR Mafra 98.03 310 *e*PP PP 21 28 00.2 +6.1
PMAFR *e*S S 21 35 17.1 -0.4
PMAFR *e*SS SS 21 42 06.1 +5.8
PMAFR *e*LQ 21 49 42.4
PMAFR Mafra 98.03 310 *e*LR LR 22 00 02.1
comp=Z,455nm,21.9s
EGAK Eagle 99.29 21 PFAKE 21 24 10.0 +10
EGAK LR LR
comp=Z,3μm,19.0s,MS5.8
INK Inuvik 99.61 16 P Pdif 21 24 01.0 -0.8
comp=Z,13nm,0.7s,baz=353,slow=6.4,SNR=25
INK PKKPbc PKKPbc 21 40 20.7 -2.4
comp=Z,0.8nm,0.8s,baz=229,slow=4.9,SNR=3.5
INK LR LR 22 14 57.0
comp=Z,3μm,20.7s,MS5.7,baz=295,slow=39
DAWY Dawson 100.32 21 *e*Pdif Pdif 21 24 04.5 -0.4
RES Resolute Bay 100.35 3 *e*P Pdif 21 24 05.4 +0.3
RES *e* 21 28 10.5
RES pmax pmax
comp=Z,792nm,0.8s
RES Resolute Bay 100.35 3 *e*Pdif Pdif 21 24 05.4 +0.3
comp=Z,792nm,0.8s
RES *e*PP PP 21 28 10.5 -1.3
SFJD Kangerlussuaq 104.25 347 PKiKP PKiKP 21 28 38.3 -0.7
comp=Z,22nm,0.7s,baz=69,slow=2.8,SNR=7.5
SFJD Kangerlussuaq 104.25 347 *i* P PKiKP 21 28 43.3 +4.4
SFJD *i* 21 37 54.8
SFJD *i* 21 43 37.8
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 104.25 347 PFAKE 21 24 30.0 +7.6
SFJD LR LR
comp=Z,2μm,22.0s,MS5.5
RAR Rarotonga 105.87 111 PFAKE 21 28 50.0 +8.1
RAR LR LR
comp=Z,2.0nm,21.0s
SIT Sitka 106.06 26 PFAKE 21 28 50.0 +7.7
SIT LR LR
comp=Z,4μm,22.0s,MS5.9
TRIS Tristan da Cun 106.77 233 PFAKE 21 29 00.0 +16

TRIS LR LR
comp=Z,2µm,21.0s,MS5.6
WRAK Wrangell Islan 107.75 25 PFAKE 21 29 00.0 +15
WRAK LR LR
comp=Z,2µm,21.0s,MS5.7
YKA Yellowknife Ar 109.12 14 Pdiff Pdif 21 24 43.9 -0.1
comp=Z,1.4nm,0.6s,baz=330,slow=4.6,SNR=21
YKA PKIKP PKiKP 21 28 47.1 -0.9
comp=Z,0.8nm,0.6s,baz=346,slow=1.9,SNR=11
YKA PP PP 21 29 10.1 -6.6
comp=Z,3.7nm,0.8s,baz=334,slow=7.1,SNR=6.0
YKA PKKPbc PKKPbc 21 39 52.5 -2.1
comp=Z,0.8nm,0.8s,baz=153,slow=2.7,SNR=7.8
YKA Yellowknife Ar 109.12 14 Pdif Pdif 21 24 43.9 -0.1
YKA PKPdf PKiKP 21 28 47.1 -0.9
YKA PP PP 21 29 10.2 -6.6
YKA PKKPbc PKKPbc 21 39 52.5 -2.1
ASCN Ascension 109.86 263 PFAKE 21 29 00.0 +11
ASCN LR LR
comp=Z,361nm,19.0s,MS5.0
TBI Tubuai 115.28 113 *e*PP PP 21 29 58.9 -1.9
comp=Z,164nm,28.2s
TBI Tubuai 115.28 113 *e*SP SP 21 39 37.0 +2.1
comp=Z,842nm,28.2s
TBI *e*LR LR 22 03 54.7
comp=Z,2µm,25.2s
PPT Papeete 115.62 107 *e*PP PP 21 29 56.7 -6.5
comp=Z,212nm,28.0s
PPT Papeete 115.62 107 *e*PS PS 21 39 40.8 -3.3
comp=Z,2µm,26.5s
PPT Papeete 115.62 107 *e*LR LR 22 04 03.5
comp=Z,2µm,25.2s
HOPE Hope Point 117.11 210 PFAKE 21 29 10.0 +6.8
HOPE LR LR
comp=Z,8.0nm,21.0s
EDM Edmonton 117.37 19 PKIKP PKPdf 21 29 03.1 -0.6
EDM Edmonton 117.37 19 *e*PKPdf PKPdf 21 29 02.8 -0.9
EDM *e* 21 29 19.4
A05A Maple Falls 117.37 27 ⇓P PKPdf 21 29 03.3 -0.4
baz=117
C04A Brinnon 117.90 28 ⇑P PKPdf 21 29 04.4 -0.3
baz=118
B05A Bryant 117.91 27 P PKPdf 21 29 05.0 +0.2
baz=118,SNR=12
HDW Hoodsport 117.91 28 P PKPdf 21 29 05.5 +0.7
B06A Marblemount 118.00 27 ⇓P PKPdf 21 29 04.7 -0.3
baz=118
A07A Ashnola River, 118.08 26 P PKPdf 21 29 05.1 0.0
baz=118,SNR=11
PMSA Palmer Station 118.36 190 PFAKE 21 29 20.0 +14
PMSA LR LR
comp=Z,3µm,19.0s,MS6.0
A08A Turner Farm, O 118.63 25 ⇓P PKPdf 21 29 05.9 -0.3
baz=118
B07A Winthrop 118.64 26 P PKPdf 21 29 06.0 -0.2
baz=118,SNR=5.9
SCHQ Schefferville 118.64 348 PKP PKPdf 21 29 05.0 -1.2
comp=Z,12nm,0.9s,baz=208,slow=1.0,SNR=14
SCHQ PP PP 21 30 20.1 -4.1
comp=Z,6.1nm,0.7s,baz=16,slow=11,SNR=2.5
SCHQ Schefferville 118.64 348 PKP PKPdf 21 29 05.0 -1.2
SCHQ PP PP 21 30 20.1 -4.1
SCHQ LR LR
comp=Z,2µm,20.0s,MS5.7
D05A Enumclaw 118.74 28 ⇑P PKPdf 21 29 05.9 -0.5
baz=119
E04A Onalaska 118.83 29 ⇑P PKPdf 21 29 06.1 -0.5
baz=119
F03A Seaside 118.89 30 ⇑P PKPdf 21 29 06.4 -0.2
baz=119
A09A Danville 118.90 25 ⇑P PKPdf 21 29 06.4 -0.3
baz=119
FFC Flin Flon 118.96 11 *e*PKIKP PKPdf 21 29 05.6 -1.2
FFC *e* 21 29 22.1
FFC MLR MLR
comp=Z,649nm,21.0s,MS5.2
B08A Colville Reser 119.06 26 P PKPdf 21 29 06.7 -0.3
baz=119,SNR=6.9
C07A Waterville 119.25 26 P PKPdf 21 29 06.6 -0.8
baz=119,SNR=8.8
WTV Waterville 119.29 26 P PKPdf 21 29 06.9 -0.5
TBM Table Mountain 119.40 27 P PKPdf 21 29 07.5 -0.1
F04A Amboy 119.45 29 ⇓P PKPdf 21 29 07.6 -0.1
baz=119,SNR=8.7
G03A Yamhill 119.46 30 ⇑P PKPdf 21 29 07.8 0.0
baz=119
B09A Rice 119.51 25 P PKPdf 21 29 07.9 +0.1
baz=119,SNR=27
EBG Ellensburg 119.61 27 P PKPdf 21 29 08.0 0.0
C08A Higginbotham F 119.62 26 ⇓P PKPdf 21 29 07.8 -0.3
baz=120
D07A Quincy 119.66 27 ⇑P PKPdf 21 29 08.0 -0.1
baz=120
E06A Yakima 119.69 28 ⇓P PKPdf 21 29 08.1 -0.1
baz=120
A11A Hall Mountain, 119.81 23 ⇓P PKPdf 21 29 08.6 +0.2
baz=120,SNR=25
H03A Soap Creek Ran 119.91 31 ⇑P PKPdf 21 29 08.6 0.0
baz=120
G04A Mulino 119.94 30 ⇓P PKPdf 21 29 08.9 +0.2
baz=120
C09A Chrisman Ranch 119.94 25 P PKPdf 21 29 08.7 0.0
baz=120,SNR=12
COR Corvallis 119.96 31 PFAKE 21 29 20.0 +11
COR LR LR
comp=Z,2µm,20.0s,MS5.7
NEW Newport 120.06 24 PKP PKPdf 21 29 08.3 -0.6
comp=Z,12nm,0.8s,baz=343,slow=2.1,SNR=14
NEW Newport 120.06 24 PKP PKPdf 21 29 08.3 -0.6
A12A Yaak River Ran 120.11 23 P PKPdf 21 29 09.3 +0.3
baz=120,SNR=12
E07A Sunnyside 120.19 27 P PKPdf 21 29 09.3 +0.2
baz=120,SNR=11
D08A Wollman Farm, 120.23 26 P PKPdf 21 29 09.4 +0.2
baz=120,SNR=8.0
F06A Goldendale 120.35 28 P PKPdf 21 29 10.1 +0.6
baz=120,SNR=12
I03A Eugene 120.40 31 ⇑P PKPdf 21 29 09.8 +0.2
baz=120
H04A Detroit Lake 120.46 30 ⇓P PKPdf 21 29 09.9 +0.2
baz=120
HAWA Hanford 120.47 27 *e*PKPdf PKPdf 21 29 09.6 0.0
HAWA *e* 21 29 21.9
HAWA *e*SKPdf SKPdf 21 32 43.3 +2.6
HAWA LR LR
comp=Z,1µm,20.0s,MS5.6
G05A Wamic 120.48 29 ⇑P PKPdf 21 29 09.7 0.0
baz=120
D09A Jones Farm, Ri 120.50 26 ⇓P PKPdf 21 29 10.0 +0.3
baz=120,SNR=7.3
B12A Libby 120.51 23 ⇑P PKPdf 21 29 09.6 -0.1
baz=120
A13A Flathead Natio 120.59 22 P PKPdf 21 29 10.2 +0.3
baz=120,SNR=46
E08A Dider Farm, El 120.61 27 P PKPdf 21 29 10.1 +0.1
baz=120,SNR=21
F07A Phinny Hill Vi 120.66 28 ⇑P PKPdf 21 29 09.8 -0.2
baz=120
G06A Carlson Farm, 120.81 29 ⇑P PKPdf 21 29 10.2 -0.2
baz=121,SNR=5.2
D10A Wagner Farm, O 120.95 25 P PKPdf 21 29 10.5 -0.1
baz=121,SNR=22
H05A Madras 120.96 30 ⇑P PKPdf 21 29 10.5 -0.1
baz=121,SNR=8.6
J03A Ideyld Park 120.99 32 ⇑P PKPdf 21 29 10.5 -0.2
baz=121
E09A Wood Farm, Sta 120.99 26 P PKPdf 21 29 10.8 +0.1
baz=121,SNR=10
B13A Whitefish 121.02 23 P PKPdf 21 29 10.8 0.0
baz=121,SNR=18
K02A Glendale 121.13 32 ⇓P PKPdf 21 29 11.1 +0.1
baz=121
G07A Ruggs Ranch, H 121.25 28 ⇑P PKPdf 21 29 11.2 0.0
baz=121
F08A Pendleton 121.26 27 P PKPdf 21 29 11.2 0.0
baz=121,SNR=10
H06A Lindquist Farm 121.33 29 P PKPdf 21 29 11.6 +0.3
baz=121,SNR=10
LNOR Lincton Mounta 121.43 27 PKIKP PKPdf 21 29 11.3 -0.2
E10A Myers Farm, Un 121.47 26 P PKPdf 21 29 11.4 -0.2
baz=121,SNR=12
HUMO Hull Mountain 121.52 32 PFAKE 21 29 20.0 +8.3
HUMO LR LR
comp=Z,2µm,20.0s,MS5.7
HUMO Hull Mountain 121.52 32 ⇑P PKPdf 21 29 12.0 +0.3
baz=121
J04A Umpqua Nationa 121.52 31 ⇑P PKPdf 21 29 11.9 +0.2
baz=121,SNR=12
C13A Hot Springs 121.55 23 ⇑P PKPdf 21 29 12.0 +0.3
baz=121,SNR=14
G08A Pilot Rock 121.56 28 P PKPdf 21 29 12.2 +0.5
baz=121,SNR=10
F09A S2 Ranch, Elgi 121.72 27 P PKPdf 21 29 12.0 -0.1
baz=122,SNR=24
C14A Swan Lake 121.80 22 ⇓P PKPdf 21 29 12.0 -0.2
baz=122
H07A Lands Inn, Kim 121.80 29 P PKPdf 21 29 12.6 +0.4
baz=122,SNR=28
F10A Beach Ranch, E 121.81 26 P PKPdf 21 29 12.2 -0.1
baz=122,SNR=77
J05A Fort Rock 121.94 31 ⇑P PKPdf 21 29 12.8 +0.3
baz=122,SNR=15
E11A Bogner Ranch, 121.95 25 P PKPdf 21 29 11.7 -0.9
baz=122,SNR=21
I06A Prineville 121.97 29 ⇑P PKPdf 21 29 12.9 +0.3
baz=122
D13A Huson 122.07 23 P PKPdf 21 29 11.9 -0.8
baz=122,SNR=14
K04A Chilquin 122.16 31 ⇑P PKPdf 21 29 12.8 -0.1
baz=122
I07A Izee 122.21 29 P PKPdf 21 29 13.6 +0.5
baz=122,SNR=13
YBH Yreka Blue Hor 122.26 33 PKP PKPdf 21 29 12.2 -1.0
comp=Z,4.0nm,0.8s,baz=342,slow=4.6,SNR=6.1
YBH Yreka Blue Hor 122.26 33 PKP PKPdf 21 29 12.2 -1.0
YBH LR LR
comp=Z,1µm,20.0s,MS5.5
YBH Yreka Blue Hor 122.26 33 ⇑P PKPdf 21 29 13.1 0.0
baz=122
H08A Prairie City 122.28 28 ⇓P PKPdf 21 29 13.0 -0.1
baz=122,SNR=8.2
F11A Grangeville 122.35 25 P PKPdf 21 29 12.7 -0.6
baz=122,SNR=34
L04A Klamath Falls 122.39 32 ⇑P PKPdf 21 29 13.2 -0.2
baz=122
D14A Greenough 122.46 23 P PKPdf 21 29 13.0 -0.5
baz=122,SNR=13
MSO Missoula 122.50 23 *e*PKPdf PKPdf 21 29 12.9 -0.6
MSO *e* 21 29 29.1
MSO *e*PP PP 21 30 50.8 +0.2
MSO *e*SKPdf SKPdf 21 32 46.5 +1.9
MSO LR LR
comp=Z,2µm,19.0s,MS5.7
J06A Christmas Vall 122.51 30 ⇑P PKPdf 21 29 13.9 +0.3
baz=122,SNR=26
K05A Summer Lake 122.51 31 P PKPdf 21 29 14.4 +0.8
baz=122,SNR=11
N02C Big Bar 122.56 34 ⇓P PKPdf 21 29 13.6 -0.1
baz=122
H09A Durkee 122.63 27 ⇓P PKPdf 21 29 13.6 -0.2
baz=122
BMO Blue Mountains 122.65 27 *e*PKIKP PKPdf 21 29 13.6 -0.3
BMO *e* 21 29 27.0
BMO MLR MLR
comp=Z,1µm,21.0s,MS5.5
BMO Blue Mountains 122.65 27 *e*PKPdf PKPdf 21 29 13.6 -0.3
BMO *e* 21 29 27.0
BMO *e*PP PP 21 30 49.9 -1.7
BMO LR LR
comp=Z,1µm,21.0s,MS5.5
M04C Macdoel 122.69 32 ⇓P PKPdf 21 29 13.9 -0.1
baz=123
CHMT Chamberlain Mo 122.69 23 *e*PKPdf PKPdf 21 29 13.5 -0.4
E13A Victor 122.71 24 P PKPdf 21 29 13.5 -0.5
baz=123,SNR=49
I08A Drewsey 122.79 28 P PKPdf 21 29 14.9 +0.8
baz=123,SNR=13
K06A Valley Falls 122.79 30 ⇑P PKPdf 21 29 14.5 +0.4
baz=123,SNR=16
F12A Elk City 122.83 25 ⇑P PKPdf 21 29 13.4 -0.8
baz=123,SNR=12
D15A Lincoln 122.87 22 P PKPdf 21 29 14.4 +0.1
baz=123,SNR=6.7
M03C McCloud 122.90 33 P PKPdf 21 29 14.8 +0.5
baz=123,SNR=9.2
E14A Clinton 123.01 23 ⇓P PKPdf 21 29 14.9 +0.4
baz=123,SNR=10.0
EGMT Eagleton 123.01 20 *e*PKPdf PKPdf 21 29 14.6 0.0
EGMT LR LR
comp=Z,2µm,20.0s,MS5.8
EGMT Eagleton 123.01 20 ⇑P PKPdf 21 29 14.7 +0.1
baz=123
L05A Lakeview 123.03 31 ⇑P PKPdf 21 29 14.9 +0.3
baz=123
H10A Noah's Angus R 123.11 27 P PKPdf 21 29 14.3 -0.5
baz=123,SNR=25
I09A Lost Marbles R 123.13 28 ⇑P PKPdf 21 29 15.1 +0.3
baz=123,SNR=5.9
KIPM Iron Peak 123.14 35 *e*PKPdf PKPdf 21 29 16.0 +1.2
WDC Whiskeytown Da 123.15 34 PFAKE 21 29 30.0 +15
WDC LR LR
comp=Z,1µm,19.0s,MS5.6
WDC Whiskeytown Da 123.15 34 ⇑P PKPdf 21 29 14.8 0.0
baz=123
KCPM Cahto Peak 123.17 35 *e*PKPdf PKPdf 21 29 15.6 +0.8
F13A Darby 123.19 24 P PKPdf 21 29 14.3 -0.5
baz=123,SNR=32
J08A Circle Bar Ran 123.25 29 ⇓P PKPdf 21 29 15.3 +0.3
baz=123,SNR=16
O02C Red Bluff 123.28 34 ⇑P PKPdf 21 29 15.5 +0.4
baz=123
E15A Deer Lodge 123.33 23 ⇓P PKPdf 21 29 15.3 +0.1
baz=123
H11A Donnelly 123.34 26 P PKPdf 21 29 15.3 +0.1
baz=123,SNR=34
M05C Lookout 123.36 32 ⇓P PKPdf 21 29 15.9 +0.7
baz=123,SNR=5.5
K07A Rock Creek Ran 123.37 30 P PKPdf 21 29 16.0 +0.8
baz=123,SNR=28
MOD Modoc 123.41 31 *e*PKPdf PKPdf 21 29 16.2 +0.9
MOD *e* 21 29 29.1
MOD *e*PP PP 21 30 56.2 -0.5
MOD LR LR
comp=Z,929nm,21.0s,MS5.4
MOD Modoc 123.41 31 P PKPdf 21 29 16.3 +1.0
baz=123,SNR=17
F14A Wisdom 123.56 24 P PKPdf 21 29 16.9 +1.3
baz=123,SNR=10
HATC Hat Creek Radi 123.57 33 ⇑P PKPdf 21 29 16.0 +0.4
baz=124
J09A Fry Pan Ranch, 123.60 28 P PKPdf 21 29 16.4 +0.7
baz=124,SNR=5.8
LBCM Butte Creek Ri 123.62 33 P PKPdf 21 29 15.8 +0.1
GASB Alder Springs 123.68 35 ⇓P PKPdf 21 29 16.4 +0.5
baz=124
K08A Mann Creek Ran 123.71 29 P PKPdf 21 29 17.0 +1.1
baz=124,SNR=30
G13A Cobalt 123.79 25 ⇓P PKPdf 21 29 16.2 +0.1
baz=124
L07A Adell 123.82 30 ⇓P PKPdf 21 29 16.5 +0.4
baz=124
M06C Likely Place G 123.82 32 ⇑P PKPdf 21 29 16.5 +0.4
baz=124,SNR=5.4
O03C Acorn Hollow, 123.83 34 ⇓P PKPdf 21 29 16.4 +0.3
baz=124
WVOR Wild Horse Val 123.86 30 PKIKP PKPdf 21 29 17.1 +0.9
WVOR Wild Horse Val 123.86 30 *e*PKPdf PKPdf 21 29 16.9 +0.8
WVOR *e* 21 29 33.5
WVOR LR LR
comp=Z,1µm,20.0s,MS5.5
F15A Butte 123.88 23 P PKPdf 21 29 16.4 +0.1
baz=124,SNR=7.6
HOPS Hopland 123.92 35 PFAKE 21 29 30.0 +14
HOPS LR LR
comp=Z,2µm,22.0s,MS5.6
HOPS Hopland 123.92 35 ⇑P PKPdf 21 29 16.8 +0.5
baz=124
H12A Diamond D Ranc 123.97 25 P PKPdf 21 29 16.4 0.0
baz=124,SNR=21
I11A Placerville 123.99 27 ⇓P PKPdf 21 29 16.3 -0.1
baz=124
J10A Berg Farm, Mel 124.00 28 ⇓P PKPdf 21 29 16.7 +0.3
baz=124
K09A Rome 124.11 29 P PKPdf 21 29 17.4 +0.7
baz=124,SNR=45
O04C Chester 124.12 33 ⇑P PKPdf 21 29 16.9 +0.2
baz=124,SNR=11
L08A Fields 124.19 30 ⇑P PKPdf 21 29 17.5 +0.7
baz=124,SNR=28
DLMT Dillon 124.23 23 *e*PKPdf PKPdf 21 29 17.5 +0.6
DLMT *e* 21 29 33.0
DLMT *e*PP PP 21 30 56.2 -6.1
ULM Lac du Bonnet 124.30 8 PKP PKPdf 21 29 16.2 -0.8
comp=Z,15nm,0.6s,baz=344,slow=2.5,SNR=43
ULM Lac du Bonnet 124.30 8 *e*PKPdf PKPdf 21 29 15.8 -1.3
ULM PKP PKPdf 21 29 16.2 -0.8
MNRC McLaughlin Nat 124.36 35 ⇓P PKPdf 21 29 17.8 +0.6
baz=124
BOZ Bozeman (W) 124.37 22 PKIKP PKPdf 21 29 17.7 +0.5
BOZ *e* 21 29 34.2
BOZ Bozeman (W) 124.37 22 *e*PKPdf PKPdf 21 29 17.6 +0.4
BOZ LR LR
comp=Z,2µm,19.0s,MS5.8
BOZ Bozeman (W) 124.37 22 ⇓P PKPdf 21 29 17.7 +0.5
baz=124
ORV Oroville 124.43 34 ⇓P PKPdf 21 29 17.6 +0.3
baz=124,SNR=8.9
MFID Camas Ranch 124.44 27 ⇓P PKPdf 21 29 17.6 +0.4
baz=124
G15A Dillon 124.44 23 P PKPdf 21 29 18.1 +0.9
baz=124,SNR=34
O05C Quincy 124.47 33 P PKPdf 21 29 17.6 +0.3
baz=124,SNR=17
N06A Buffalo Meadow 124.49 32 ⇓P PKPdf 21 29 17.7 +0.3
baz=124,SNR=21
SUTB Sutter Butte 124.50 34 ⇓P PKPdf 21 29 17.4 0.0
baz=124
NSHM Saint Helena R 124.51 36 *e*PKPdf PKPdf 21 29 18.4 +1.0
MCMT McKenzie Canyo 124.58 24 *e*PKPdf PKPdf 21 29 18.5 +0.9
MCCM Marconi Confer 124.60 36 PFAKE 21 29 30.0 +12
MCCM LR LR
comp=Z,2µm,20.0s,MS5.7
L09A Wilkinson Ranc 124.65 29 ⇓P PKPdf 21 29 18.2 +0.5
baz=124,SNR=18
CVS Carmenet Viney 124.71 36 ⇓P PKPdf 21 29 18.5 +0.7
baz=125
M08A Happy Creek Ra 124.72 30 ⇓P PKPdf 21 29 18.8 +1.0
baz=125,SNR=8.9
Q03C Winters 124.78 35 ⇓P PKPdf 21 29 18.6 +0.7
baz=125
BEKR Beckwourth 124.84 33 P PKPdf 21 29 18.7 +0.7
baz=125,SNR=13
J12A Stokes Ranch, 124.90 27 ⇑P PKPdf 21 29 18.7 +0.5
baz=125
O06A Flanigan 124.91 32 P PKPdf 21 29 19.1 +0.9
baz=125,SNR=8.1
N07B Gerlach 124.92 31 ⇓P PKPdf 21 29 18.9 +0.7
baz=125,SNR=16
HLID Hailey 124.95 26 *e*PKPdf PKPdf 21 29 19.2 +0.9
HLID *e*PP PP 21 31 07.7 +0.6
HLID LR LR
comp=Z,2µm,22.0s,MS5.7
HLID Hailey 124.95 26 P PKPdf 21 29 19.0 +0.8
baz=125,SNR=40
GCMT Greycliff 124.97 21 *e*PKPdf PKPdf 21 29 18.8 +0.5
Q04C Lincoln 125.00 34 ⇓P PKPdf 21 29 19.1 +0.7
baz=125
TAOE Nuku Hiva Isla 125.08 97 *e*LR LR 22 08 23.9
comp=Z,2µm,26.5s
P05C Yuba Gap, Truc 125.10 34 ⇓P PKPdf 21 29 19.5 +1.0
baz=125
QLMT Earthquake Lak 125.13 23 *e*PKPdf PKPdf 21 29 19.9 +1.3
J13A Cove Ranch, Pi 125.18 26 ⇑P PKPdf 21 29 19.9 +1.2
baz=125
M09A Marrel Ranch, 125.20 30 ⇑P PKPdf 21 29 19.4 +0.7
baz=125
P06A Stead Airport, 125.22 33 ⇑P PKPdf 21 29 19.9 +1.1
baz=125
LAO LASA Array 125.32 18 *e*PKPdf PKPdf 21 29 19.6 +0.6
LAO LR LR
comp=Z,3µm,21.0s,MS5.9
BDM Black Diamond 125.32 36 ⇑P PKPdf 21 29 19.6 +0.6
baz=125
N08A GE Springer Mi 125.34 31 P PKPdf 21 29 20.3 +1.3
baz=125,SNR=14
LAVA Lava Cap Winer 125.41 34 P PKPdf 21 29 19.6 +0.4
baz=125,SNR=13
O07A Toulon 125.42 32 ⇓P PKPdf 21 29 19.6 +0.5
baz=125,SNR=19
YMR Madison River 125.45 23 *e*PKPdf PKPdf 21 29 20.6 +1.3
YMR LR LR
comp=Z,2µm,21.0s,MS5.7
K12A Draper Farm, C 125.47 27 ⇑P PKPdf 21 29 19.6 +0.3
baz=125
JRSC Jasper Ridge 125.47 36 ⇑P PKPdf 21 29 19.5 +0.2
baz=125
PAHR Pah Rah Range 125.48 32 *e*PKPdf PKPdf 21 29 20.2 +1.0
WCN Washoe City 125.57 33 ⇓P PKPdf 21 29 19.8 +0.4
baz=126
M10A I.L. Ranch, Tu 125.57 29 ⇓P PKPdf 21 29 20.3 +0.8
baz=125,SNR=9.6
N09A Rock Creek Ran 125.60 30 ⇑P PKPdf 21 29 20.6 +1.1
baz=126,SNR=12
WENL Wente Brothers 125.61 36 ⇓P PKPdf 21 29 20.3 +0.8
baz=126
YFT Old Faithful 125.68 23 *e*P PKPdf 21 29 22.0 +2.3
YFT *e* 21 29 37.9
RLMT Red Lodge 125.69 21 *e*PKPdf PKPdf 21 29 20.4 +0.7
RLMT *e* 21 29 33.2
RLMT LR LR
comp=Z,2µm,20.0s,MS5.8
LKWY Lake 125.75 22 *e*PKIKP PKPdf 21 29 22.0 +2.2
LKWY *e* 21 29 31.3
LKWY *e* 21 31 14.2
LKWY MLR MLR
comp=Z,2µm,20.0s,MS5.8
R05C Kirkwood Meado 125.82 34 ⇓P PKPdf 21 29 21.0 +1.1
baz=126,SNR=5.5
M11A Holland Ranch, 126.00 28 ⇑P PKPdf 21 29 21.4 +1.1
baz=126,SNR=16
BMN Battle Mountai 126.06 30 PFAKE 21 29 30.0 +10
BMN LR LR
comp=Z,850nm,19.0s,MS5.4
IMW Indian Meadow 126.11 23 *e*PKPdf PKPdf 21 29 21.4 +0.9
CMB Columbia Colle 126.11 35 PKIKP PKPdf 21 29 21.3 +0.8
CMB Columbia Colle 126.11 35 *e*PKPdf PKPdf 21 29 20.9 +0.4
CMB LR LR
comp=Z,2µm,21.0s,MS5.7
CMB Columbia Colle 126.11 35 ⇑P PKPdf 21 29 21.5 +1.0
baz=126
P08A Dixie Valley 126.17 32 ⇑P PKPdf 21 29 21.7 +1.1
baz=126
O09A Fish Creek Ran 126.28 30 ⇑P PKPdf 21 29 21.9 +1.0
baz=126,SNR=5.1
R06C Coleville 126.29 33 ⇓P PKPdf 21 29 21.9 +1.1
baz=126,SNR=11
PACP Pacheco Peak 126.30 36 ⇑P PKPdf 21 29 22.1 +1.3
baz=126
MOOW Moose Ponds 126.31 23 *e*PKPdf PKPdf 21 29 21.6 +0.8
MOOW *e* 21 29 37.0
MOOW *e*PP PP 21 31 18.4 +2.3
SAO San Andreas Ge 126.37 36 PFAKE 21 29 30.0 +9.0
SAO LR LR
comp=Z,923nm,21.0s,MS5.4
M12A Wells 126.42 28 ⇓P PKPdf 21 29 21.9 +0.8
baz=126,SNR=46
LOHW Long Hollow 126.48 23 *e*PKPdf PKPdf 21 29 21.7 +0.5
LOHW *e* 21 29 38.2
N11A Elko Archery C 126.50 29 ⇑P PKPdf 21 29 22.0 +0.7
baz=126
S06C San Francisco 126.52 34 P PKPdf 21 29 22.2 +0.9
baz=126,SNR=14
O10A Cortez Mining, 126.53 30 ⇑P PKPdf 21 29 22.1 +0.8
baz=126,SNR=9.9
SNOW Snow King Moun 126.55 23 *e*PKPdf PKPdf 21 29 22.2 +0.9
SNOW *e* 21 29 38.2
REDW Red Top Meadow 126.59 23 *e*PKPdf PKPdf 21 29 22.2 +0.8
REDW *e*SKPdf SKPdf 21 32 56.1 +3.8
S05C Merced 126.62 35 ⇑P PKPdf 21 29 22.2 +0.8
baz=126
T05C Eagle Field, D 126.74 36 ⇓P PKPdf 21 29 22.9 +1.2
baz=127
ELK Elko 126.80 29 PKIKP PKPdf 21 29 23.3 +1.5
ELK Elko 126.80 29 *e*PKPdf PKPdf 21 29 22.8 +1.0
ELK *e* 21 29 37.7
ELK LR LR
comp=Z,2µm,22.0s,MS5.7
N12A Clover Valley, 126.81 28 ⇑P PKPdf 21 29 22.8 +0.9
baz=127,SNR=31
M13A Montello 126.81 27 ⇓P PKPdf 21 29 23.2 +1.3
baz=127
LRV Little Rabbit 126.86 36 *e*PKPdf PKPdf 21 29 23.1 +1.2
LRV *e* 21 29 39.1
Q08A Gabbs 126.87 32 ⇑P PKPdf 21 29 23.1 +1.1
baz=127,SNR=11
NVAR Mina Array Bea 126.98 33 PKP PKPdf 21 29 23.1 +1.0
comp=Z,20nm,0.8s,baz=322,slow=2.5,SNR=42
NVAR PP PP 21 31 22.3 +1.7
comp=Z,5.9nm,1.0s,baz=311,slow=4.2,SNR=3.7
AHID Auburn Hatcher 126.99 24 PFAKE 21 29 30.0 +7.8

AHID LR LR
comp=Z,2μm,22.0s,MS5.8
P10A Eureka 127.06 30 ⇓P PKPdf 21 29 23.5 +1.2
baz=127,SNR=6.3
O11A Cowboy Ranch, 127.07 29 ⇓P PKPdf 21 29 23.5 +1.1
baz=127,SNR=19
HVU Hansel Valley 127.10 26 *e*PKIKP PKPdf 21 29 23.6 +1.2
EYMN Ely 127.10 6 *e*PKPdf PKPdf 21 29 22.5 +0.1
EYMN LR LR
comp=Z,2μm,21.0s,MS5.8
N13A Wendover, West 127.20 28 ⇓P PKPdf 21 29 23.6 +1.0
baz=127,SNR=5.4
KCC Kaiser Creek 127.22 34 ⇓P PKPdf 21 29 23.4 +0.8
baz=127
T06C Millerton Lake 127.22 35 ⇓P PKPdf 21 29 23.4 +0.8
baz=127,SNR=7.3
MLAC Mammoth Lakes 127.27 34 ⇑P PKPdf 21 29 23.5 +0.8
baz=127
Q09A Carvers 127.28 32 ⇑P PKPdf 21 29 24.0 +1.2
baz=127
O12A Currie 127.40 29 ⇑P PKPdf 21 29 23.9 +0.9
baz=127,SNR=31
U05C Westside ANR, 127.44 36 ⇓P PKPdf 21 29 24.0 +1.0
baz=127
PKD Parkfield 127.46 37 ⇑P PKPdf 21 29 24.5 +1.5
baz=127
P11A Circle Ranch, 127.47 30 ⇑P PKPdf 21 29 24.2 +1.1
baz=127
BW06 Boulder Array 127.60 23 PFAKE 21 29 40.0 +17
BW06 LR LR
comp=Z,2μm,21.0s,MS5.7
PDAR Pinedale Array 127.60 23 PKP PKPdf 21 29 23.3 0.0
comp=Z,22nm,0.9s,baz=144,slow=1.7,SNR=27
PDAR PP PP 21 31 23.8 -0.9
comp=Z,1.8nm,0.7s,baz=354,slow=3.7,SNR=2.9
MTUM Tungsten Hills 127.62 34 *e*PKPdf PKPdf 21 29 24.8 +1.4
BGU Big Grassy Mou 127.68 27 *e*PKPdf PKPdf 21 29 24.2 +0.7
BGU *e*SKPdf SKPdf 21 32 57.9 +3.5
S08C White Mtn Res 127.73 33 ⇑P PKPdf 21 29 24.9 +1.3
baz=128,SNR=12
HWUT Hardware Ranch 127.76 25 *e*PKPdf PKPdf 21 29 24.1 +0.4
HWUT *e*PP PP 21 31 25.3 -0.4
HWUT LR LR
comp=Z,2μm,22.0s,MS5.7
R09A Tonopah 127.78 32 ⇓P PKPdf 21 29 24.6 +0.9
baz=128,SNR=12
TPH Tonopah 127.82 32 PFAKE 21 29 40.0 +16
TPH LR LR
comp=Z,1μm,20.0s,MS5.6
HELL Mitchell Peak, 127.84 35 ⇑P PKPdf 21 29 24.7 +1.0
baz=128,SNR=13
P12A McGill 127.94 29 ⇑P PKPdf 21 29 25.1 +1.1
baz=128,SNR=23
TIN Tinemaha 128.02 34 ⇓P PKPdf 21 29 24.9 +0.7
baz=128
Q11A Duckwater 128.06 30 ⇑P PKPdf 21 29 25.1 +0.9
baz=128,SNR=12
S09A Goldfield 128.08 33 ⇓P PKPdf 21 29 25.0 +0.7
baz=128,SNR=20
PKME Peaks-Kenny Pk 128.18 346 PFAKE 21 29 40.0 +16
PKME LR LR
comp=Z,1μm,20.0s,MS5.6
SMMC Simmler 128.22 37 ⇑P PKPdf 21 29 24.9 +0.4
baz=128
EFI East Falkland 128.26 201 PKIKP PKPdf 21 29 24.5 -0.1
RSSD Black Hills 128.30 17 *e*PKIKP PKPdf 21 29 24.1 -0.6
RSSD MLR MLR
comp=Z,2μm,19.0s,MS5.8
NOQ North Oquirrh 128.30 26 *e*PKPdf PKPdf 21 29 25.2 +0.5
Q12A Willow Creek R 128.32 30 ⇑P PKPdf 21 29 25.0 +0.3
baz=128
DUG Dugway 128.36 27 *e*PKIKP PKPdf 21 29 26.0 +1.2
DUG MLR MLR
comp=Z,1μm,22.0s,MS5.5
DUG Dugway 128.36 27 ⇓P PKPdf 21 29 25.3 +0.5
baz=128
VES Vestal, Richgr 128.39 36 ⇑P PKPdf 21 29 25.4 +0.5
baz=128
CTU Camp Tracy 128.43 26 *e*PKPdf PKPdf 21 29 25.4 +0.5
GRAC Grapevine Rang 128.53 33 ⇓P PKPdf 21 29 26.2 +1.1
baz=128
CWC Cottonwood Cre 128.54 34 ⇓P PKPdf 21 29 26.1 +0.9
baz=128,SNR=6.5
PKM Peak Mountain 128.61 37 ⇓P PKPdf 21 29 26.6 +1.4
baz=128
ISA Isabella 128.87 35 ⇓P PKPdf 21 29 27.2 +1.5
baz=129,SNR=5.1
DAU Daniels Canyon 128.88 26 *e*PKIKP PKPdf 21 29 27.1 +1.3
NLU North Lily Min 128.89 27 *e*PKPdf PKPdf 21 29 26.9 +1.2
DAC Darwin (Calif) 128.93 34 *e*PKIKP PKPdf 21 29 27.3 +1.4
DAC MLR MLR
comp=Z,1μm,22.0s,MS5.6
ARVC Arvin 129.04 36 ⇑P PKPdf 21 29 26.5 +0.5
baz=129
MPU Maple Canyon 129.04 26 PFAKE 21 29 40.0 +14
MPU LR LR
comp=Z,2μm,20.0s,MS5.8
MPMC Manual Prospec 129.14 34 ⇓P PKPdf 21 29 27.3 +1.0
baz=129,SNR=20
FURC Furnace Creek, 129.20 33 ⇑P PKPdf 21 29 27.4 +1.0
baz=129
RWWY Rawlins 129.41 22 *e*PKPdf PKPdf 21 29 27.2 +0.4
LRMC Laurel Mountai 129.45 35 ⇓P PKPdf 21 29 28.3 +1.4
baz=129,SNR=6.7
EDW2 Edwards Air Fo 129.70 36 ⇑P PKPdf 21 29 28.8 +1.4
baz=130,SNR=5.9
LBNH Lisbon 129.74 348 PFAKE 21 29 40.0 +13
LBNH LR LR
comp=Z,2μm,21.0s,MS5.8
TMUT Trail Mountain 129.81 27 *e*PKPdf PKPdf 21 29 28.9 +1.3
LONY Lake Ozonia 129.88 350 PFAKE 21 29 40.0 +12
LONY LR LR
comp=Z,987nm,20.0s,MS5.5
SHOC Shoshone 129.93 33 ⇑P PKPdf 21 29 29.0 +1.2
baz=130
DECC Green Verdugo 129.94 36 ⇓P PKPdf 21 29 29.1 +1.3
baz=130
ARUT Antelope Range 129.98 30 *e*PKIKP PKPdf 21 29 29.9 +2.0
MVU Marysvale 130.00 28 PFAKE 21 29 40.0 +12
MVU LR LR
comp=Z,1μm,20.0s,MS5.5
MSU Marysvale 130.01 28 *e*PKIKP PKPdf 21 29 29.5 +1.6
U11A Corn Creek 130.03 32 ⇑P PKPdf 21 29 28.9 +0.9
baz=130
GSC Goldstone 130.08 34 ⇓P PKPdf 21 29 29.4 +1.4
baz=130,SNR=6.4
CCUT Cedar City 130.20 30 *e*PKPdf PKPdf 21 29 30.4 +2.2
SRU San Rafael 130.27 26 PKIKP PKPdf 21 29 29.5 +1.1
SRU *e* 21 31 43.3
SRU San Rafael 130.27 26 PKPdf PKPdf 21 29 29.5 +1.1
SRU *e*PP PP 21 31 43.2 +1.1
SRU *e*SKPab 21 32 49.0
FMP Fort Macarthur 130.34 37 ⇑P PKPdf 21 29 29.9 +1.3
baz=130
NCB Newcomb 130.44 350 PFAKE 21 29 40.0 +11
NCB LR LR
comp=Z,2μm,21.0s,MS5.8
U12A Valley of Fire 130.47 32 ⇓P PKPdf 21 29 30.0 +1.2
baz=130,SNR=5.2
V12A Nelson 130.84 32 ⇑P PKPdf 21 29 30.8 +1.4
baz=131,SNR=11
MURC Murrieta 131.07 36 ⇓P PKPdf 21 29 31.0 +1.1
baz=131
GMRC Granite Mounta 131.10 34 P PKPdf 21 29 31.1 +1.1
baz=131,SNR=14
HRV Harvard--Oak R 131.31 347 PFAKE 21 29 40.0 +10
HRV LR LR
comp=Z,2μm,21.0s,MS5.7
WES Weston 131.38 347 PFAKE 21 29 40.0 +9.5
WES LR LR
comp=Z,2μm,22.0s,MS5.8
BELC Belle Mtn. 131.48 35 ⇓P PKPdf 21 29 31.5 +0.8
baz=131
PFO Pinyon Flat Ob 131.50 36 PKP PKPdf 21 29 31.8 +1.1
comp=Z,6.0nm,0.7s,baz=343,slow=1.8,SNR=5.7
PFO SKPbc SKPbc 21 32 52.1 +0.5
comp=Z,31nm,1.0s,baz=316,slow=2.5,SNR=17
PFO Pinyon Flat Ob 131.50 36 PKP PKPdf 21 29 31.8 +1.1
PFO SKPbc SKPbc 21 32 52.1 +0.5
PFO LR LR
comp=Z,314nm,22.0s,MS5.0
PFO Pinyon Flat Ob 131.50 36 ⇑P PKPdf 21 29 31.6 +0.9
baz=131
PV10 Paradox Valley 131.52 25 *e*PKPdf PKPdf 21 29 32.9 +2.1
109C Camp Elliot, M 131.62 37 ⇓P PKPdf 21 29 31.9 +0.9
baz=132

ISCO Idaho Springs 131.65 21 PKIKP PKPdf 21 29 32.2 +1.2
ISCO Idaho Springs 131.65 21 *e*PKPdf PKPdf 21 29 31.6 +0.5
ISCO LR LR
comp=Z,2μm,20.0s,MS5.9
W13A Hualapai Mount 131.82 32 ⇓P PKPdf 21 29 32.5 +1.2
baz=132,SNR=13
IRM Iron Mountain 131.84 34 ⇑P PKPdf 21 29 32.7 +1.4
baz=132
MONP Monument Peak 132.03 36 ⇓P PKPdf 21 29 33.1 +1.4
baz=132
BC3 Big Chuckw Mtn 132.04 35 ⇓P PKPdf 21 29 33.0 +1.3
baz=132,SNR=8.1
W14A Seligman 132.16 31 ⇓P PKPdf 21 29 33.2 +1.3
baz=132,SNR=11
X13A Yucca 132.24 33 ⇑P PKPdf 21 29 33.5 +1.3
baz=132,SNR=16
PTCN Pitcairn Islan 132.28 120 PFAKE 21 29 40.0 +7.8
PTCN LR LR
comp=Z,4μm,21.0s,MS6.1
PDMCI Parker Dam,Lak 132.29 33 ⇓P PKPdf 21 29 33.6 +1.4
baz=132
DVTC Desert V Tower 132.38 36 ⇑P PKPdf 21 29 34.0 +1.6
baz=132
BINY Binghamton 132.46 351 *e*PKPdf PKPdf 21 29 33.0 +0.4
BINY *e* 21 29 43.7
BINY LR LR
comp=Z,2μm,21.0s,MS5.7
Y12C Blythe 132.49 34 ⇓P PKPdf 21 29 34.2 +1.6
baz=132,SNR=7.2
W15A Williams 132.60 31 ⇑P PKPdf 21 29 34.5 +1.7
baz=132
MVCO Mesa Verde 132.73 26 *e*PKPdf PKPdf 21 29 34.7 +1.6
MVCO *e*SKPbc SKPbc 21 32 57.5 +1.5
MVCO LR LR
comp=Z,2μm,22.0s,MS5.7
MVCO Mesa Verde 132.73 26 ⇓P PKPdf 21 29 34.9 +1.8
baz=133
WUAZ Wupatki 132.78 30 *e*PKPdf PKPdf 21 29 35.1 +2.0
WUAZ *e* 21 29 49.3
WUAZ LR LR
comp=Z,1μm,19.0s,MS5.6
WUAZ Wupatki 132.78 30 ⇑P PKPdf 21 29 34.9 +1.7
baz=133
Y13A Salome 132.83 33 ⇓P PKPdf 21 29 35.1 +1.8
baz=133,SNR=8.2
X14A Yava 132.83 32 ⇓P PKPdf 21 29 35.1 +1.8
baz=133,SNR=9.4
GLA Glamis 132.84 35 ⇓P PKPdf 21 29 35.0 +1.8
baz=133,SNR=12
SCIA State Center 132.85 8 *e*PKPdf PKPdf 21 29 33.8 +0.5
SCIA LR LR
comp=Z,2μm,20.0s,MS5.9
AAM Ann Arbor 133.05 359 PFAKE 21 29 50.0 +16
AAM LR LR
comp=Z,1μm,21.0s,MS5.6
X15A Humboldt 133.16 31 ⇓P PKPdf 21 29 35.5 +1.6
baz=133,SNR=21
Y14A Wickenburg 133.18 32 ⇑P PKPdf 21 29 35.5 +1.6
baz=133,SNR=8.3
SDCO Great Sand Dun 133.50 23 PFAKE 21 29 50.0 +15
SDCO LR LR
comp=Z,3μm,20.0s,MS6.0
Z14A Wintersburg 133.65 33 ⇓P PKPdf 21 29 36.6 +1.8
baz=134,SNR=6.7
SSPA Standing Stone 134.27 353 *e*PKPdf PKPdf 21 29 36.1 +0.2
SSPA *e* 21 29 52.9
SSPA LR LR
comp=Z,2μm,21.0s,MS5.7
CBKS Cedar Bluff 134.44 16 PFAKE 21 29 50.0 +14
CBKS LR LR
comp=Z,2μm,21.0s,MS5.9
115A Sonoran Desert 134.54 33 ⇑P PKPdf 21 29 38.7 +2.2
baz=134
MVL Millersville 134.67 351 *e*PKPdf PKPdf 21 29 36.6 -0.1
MVL *e* 21 29 50.3
MVL *e*PP PP 21 32 09.3 -1.1
MVL *e*SKP 21 33 04.5
116A Eloy 134.93 32 ⇑P PKPdf 21 29 39.6 +2.4
baz=135
KSU1 Kansas State U 134.95 13 *e*PKPdf PKPdf 21 29 37.4 +0.1
KSU1 *e*PP PP 21 32 11.9 -0.2
KSU1 LR LR
comp=Z,2μm,20.0s,MS5.8
ACSO Alum Creek Sta 135.10 358 PFAKE 21 29 50.0 +12
ACSO LR LR
comp=Z,5.0nm,21.0s
MCWV Mont Chateau 135.46 354 PFAKE 21 29 50.0 +12
MCWV LR LR
comp=Z,1μm,20.0s,MS5.7
ANMO Albuquerque 135.52 25 PKhKP 21 29 25.2
comp=Z,2.4nm,0.9s,baz=41,slow=1.8,SNR=5.8
ANMO PKP PKPdf 21 29 40.4 +2.1
comp=Z,24nm,0.8s,baz=325,slow=1.4,SNR=15
ANMO SKPbc SKPbc 21 33 06.2 +1.1
comp=Z,3.5nm,0.7s,baz=347,slow=3.1,SNR=8.0
TUC Tucson 135.61 32 *e*PKIKP PKPdf 21 29 37.6 -0.9
TUC Tucson 135.61 32 *e*PKP PKPdf 21 29 37.3 -1.2
TUC LR LR
comp=Z,818nm,20.0s,MS5.5
CBN Corbin 136.58 351 PFAKE 21 29 50.0 +10
CBN LR LR
comp=Z,2μm,22.0s,MS5.8
FVM French Village 137.07 6 PKIKP PKPdf 21 29 42.9 +1.7
FVM French Village 137.07 6 *e*PKPdf PKPdf 21 29 41.6 +0.4
FVM *e*PP PP 21 32 23.9 -1.6
WCI Wyandotte Cave 137.11 2 *e*PKIKP PKPdf 21 29 40.9 -0.4
WCI MLR MLR
comp=Z,2μm,21.0s,MS5.7
AMTX Amarillo 137.44 20 *e*PKPdf PKPdf 21 29 43.6 +1.8
AMTX *e*PP PP 21 32 26.9 -0.8
AMTX *e*SKP 21 33 12.2
AMTX LR LR
comp=Z,2μm,21.0s,MS5.9
SIUC Southern Illin 137.46 5 *e*PKP 21 29 35.0
BLA Blacksburg 137.94 355 *e*PKIKP PKPdf 21 29 43.0 +0.2
BLA *e* 21 32 26.7
BLA MLR MLR
comp=Z,2μm,19.0s,MS5.8
BBSR BB Station 138.27 334 PFAKE 21 30 00.0 +17
BBSR LR LR
comp=Z,969nm,20.0s,MS5.5
WMOK Wichita Mounta 138.51 17 PFAKE 21 30 00.0 +16
WMOK LR LR
comp=Z,2μm,20.0s,MS5.8
MNTX Cornudas Mount 138.75 27 *e*PKP 21 29 37.1
MNTX LR LR
comp=Z,2μm,22.0s,MS5.7
TZTN Tazewell 138.79 358 *e*PKP 21 29 34.2
TZTN LR LR
comp=Z,2μm,20.0s,MS5.9
WVT Waverly 139.14 4 *e*PKHKP 21 29 36.3
WVT MLR MLR
comp=Z,2μm,22.0s,MS5.7
CNNC Cliffs of the 139.57 351 PFAKE 21 30 00.0 +14
CNNC LR LR
comp=Z,1μm,20.0s,MS5.7
TKL Tuckaleechee C 139.68 359 PKhKP 21 29 37.6
comp=Z,4.9nm,0.7s,baz=139,slow=5.9,SNR=6.6
TKL PKP PKPdf 21 29 46.8 +0.8
comp=Z,12nm,0.8s,baz=116,slow=2.9,SNR=11
TKL PP PP 21 32 39.9 -1.7
comp=Z,7.6nm,0.8s,baz=321,slow=1.0,SNR=4.6
TKL SKPbc SKPbc 21 33 18.9 +1.6
comp=Z,8.1nm,0.9s,baz=196,slow=11,SNR=6.3
TKL Tuckaleechee C 139.68 359 PKHKP 21 29 37.7
TKL 21 29 46.8
TKL 21 32 39.9
UALR University of 139.97 9 *e*PKP 21 29 41.1
UALR *e*SKPdf SKPdf 21 33 19.3 +2.4
MIAR Mount Ida 139.97 11 *e*PKHKP 21 29 38.8
MIAR MLR MLR
comp=Z,2μm,22.0s,MS5.7
PLAL Pickwick Lake 140.26 4 *e*PKP 21 29 39.3
PLAL *e*PP PP 21 32 44.7 -0.4
PLAL LR LR
comp=Z,2μm,19.0s,MS5.8
OXF Oxford 140.62 6 *e*PKHKP 21 29 40.7
OXF MLR MLR
comp=Z,1μm,20.0s,MS5.7
LTX Lajitas 141.54 27 *e*PKIKP 21 29 44.3
LTX *e* 21 32 54.0
LTX MLR MLR
comp=Z,2μm,21.0s,MS5.8
LTX Lajitas 141.54 27 *e*PKP 21 29 44.3
LTX *e*PP PP 21 32 54.0 +1.1

LTX *e*SKP 21 33 23.1
LTX LR LR
comp=Z,2μm,21.0s,MS5.8
TXAR Lajitas Array 141.54 27 PKhKP 21 29 43.2
comp=Z,8.9nm,0.7s,baz=250,slow=1.0,SNR=21
TXAR PP PP 21 32 53.7 +0.7
comp=Z,3.0nm,0.9s,baz=344,slow=9.4,SNR=4.4
TXAR SKPbc SKPbc 21 33 23.8 +1.7
comp=Z,5.7nm,0.8s,baz=253,slow=1.2,SNR=6.3
TXAR Lajitas Array 141.54 27 PKHKP 21 29 43.3
TXAR 21 32 53.7
GOGA Godfrey 141.91 358 *e*PKIKP 21 29 45.2
GOGA *e* 21 32 55.0
GOGA MLR MLR
comp=Z,2μm,21.0s,MS5.8
GOGA Godfrey 141.91 358 *e*PKPdf 21 29 45.2
GOGA *e*PP PP 21 32 55.0 -0.3
GOGA *e*SKPbc SKPbc 21 33 25.9 +2.9
GOGA LR LR
comp=Z,2μm,21.0s,MS5.8
NHSC New Hope 141.97 354 PFAKE 21 30 00.0 +10
NHSC LR LR
comp=Z,1μm,22.0s,MS5.7
PLCA Paso Flores 142.01 198 PKhKP 21 29 46.4
comp=Z,5.1nm,0.7s,baz=203,slow=1.7,SNR=13
PLCA Paso Flores 142.01 198 PKP PKPdf 21 29 46.4 -3.8
PLCA LR LR
comp=Z,2μm,19.0s,MS5.8
JCT Junction City 142.09 21 *e*PKIKP PKPdf 21 29 45.7 -4.6
JCT MLR MLR
comp=Z,2μm,20.0s,MS5.9
LRAL Lakeview Retre 142.26 3 *e*PKP PKPdf 21 29 45.0 -5.6
LRAL LR LR
comp=Z,2μm,20.0s,MS5.9
NATX Nacogdoches 142.43 14 *e*PKP PKPdf 21 29 47.3 -3.6
NATX *e* 21 30 03.4
NATX *e*SKPdf SKPdf 21 33 24.1 +3.0
NATX LR LR
comp=Z,2μm,20.0s,MS5.8
BRAL Brewton 144.28 3 PFAKE 21 30 10.0 +16
BRAL LR LR
comp=Z,2μm,22.0s,MS5.8
KVTX Kingsville 145.44 21 *e*PKPdf PKPdf 21 29 57.6 +1.4
KVTX LR LR
comp=Z,2μm,20.0s,MS5.8
DWPF Disney 147.05 354 *e*PKP PKPbc 21 30 01.9 +0.9
DWPF *e* 21 30 12.1
DWPF LR LR
comp=Z,2μm,21.0s,MS5.9
MDZ Mendoza 148.33 206 *e*P pPKPab 21 30 24.1 +1.1
DEG La Desirade 148.37 312 *e*P PKPbc 21 30 04.7 +0.1
LZG Guadaloupe-1 149.01 313 *e*P PKPbc 21 30 07.0 +0.8
BBGH Gun Hill 149.09 306 PFAKE PKPbc 21 30 10.0 +3.6
BBGH LR LR
comp=Z,2μm,19.0s,MS6.0
TBG Guadaloupe-3 149.09 312 *e*P PKPbc 21 30 07.3 +0.9
SFJM Santa Fe 149.17 35 *i*P PKPbc 21 30 06.0 -0.6
MTP Monte Pirata 150.23 321 *e*PKPdf PKPdf 21 30 05.8 +1.7
MTP *e*PKPbc PKPbc 21 30 10.0 +0.8
MTP *e*PKPab PKPab 21 30 16.0 +0.5
CPD Cerro la Pandu 150.51 321 *e*PKIKP PKPdf 21 30 05.5 +1.0
CPD *e* 21 30 10.7
CPD *e* 21 30 17.8
SJG San Juan 150.60 321 PKPbc PKPbc 21 30 09.9 -0.2
comp=Z,41nm,0.8s,baz=136,slow=3.6,SNR=13
MOIG Morelia 150.84 33 *e*P PKPbc 21 30 08.1 -2.6
TPR Prospect 151.15 304 *e*P PKPbc 21 30 10.2 -1.1
GRW Mount Saint Ca 151.34 306 *e*P PKPbc 21 30 08.6 -3.2
GRGR Grenville 151.35 306 *e*PKPdf PKPbc 21 30 08.1 -3.7
TRN Trinidad (W) 151.96 303 *e*P PKPbc 21 30 15.8 +2.6
LCO Las Campanas 152.45 208 PFAKE 21 30 20.0 +13
LCO LR LR
comp=Z,2μm,20.0s,MS5.9
SOR Soroa 152.46 356 *e*P PKPdf 21 30 08.6 +1.2
YAIG Yautepec 152.63 30 *e*P PKPbc 21 30 15.1 +0.4
MGV Manicaragua 152.76 350 *e*P PKPdf 21 30 10.4 +2.5
PLIG Platanillo 152.80 31 *i*P PKPbc 21 30 16.6 +1.4
CCCC Cccc 153.16 345 *e*P PKPbc 21 30 18.0 +2.1
CAIG El Cayaco 153.48 34 *i*P PKPbc 21 30 17.4 +0.8
RCC Rio Carpintero 153.68 340 *e*P PKPab 21 30 30.8 +0.9
ACX Acapulco 153.82 34 *i*P PKPbc 21 30 19.0 +1.6
TEIG Tepich 154.86 7 PKPbc PKPbc 21 30 18.1 -1.4
comp=Z,9.0nm,0.6s,baz=327,slow=8.7,SNR=4.3
TEIG PKPab PKPab 21 30 36.1 +1.2
comp=Z,58nm,0.9s,baz=337,slow=7.3,SNR=18
TEIG Tepich 154.86 7 *e*PKPdf PKPdf 21 30 12.6 +1.7
TEIG PKPbc PKPbc 21 30 18.1 -1.4
TEIG *e*PKPbc PKPbc 21 30 21.6 +2.0
TEIG PKPab PKPab 21 30 36.1 +1.2
TEIG LR LR
comp=Z,921nm,20.0s,MS5.6
OXX Oaxaca 155.28 28 *e*P PKPdf 21 30 16.0 +4.5
CMIG Matias Romero 156.08 24 PKP PKPdf 21 30 10.9 -1.6
comp=Z,5.2nm,0.8s,baz=48,slow=1.9,SNR=7.5
CMIG PKPab PKPab 21 30 41.5 +1.3
comp=Z,22nm,0.8s,baz=353,slow=4.4,SNR=11
CMIG Matias Romero 156.08 24 PKP PKPdf 21 30 10.9 -1.6
CMIG *e*P 21 30 14.4
CMIG PKPab PKPab 21 30 41.5 +1.3
LPAZ La Paz 159.97 234 PKP PKPdf 21 30 18.9 +1.6
comp=Z,5.2nm,0.9s,baz=181,slow=1.2,SNR=18
LPAZ La Paz 159.97 234 PKP PKPdf 21 30 18.9 +1.6
SDV Santo Domingo 160.25 314 PFAKE 21 30 30.0 +12
SDV LR LR
comp=Z,800nm,21.0s
TGUH Tegucigalpa,Un 161.06 7 PFAKE 21 30 30.0 +12
TGUH LR LR
comp=Z,2μm,21.0s
JTS JuntasAbangare 164.95 0 PFAKE 21 30 30.0 +7.8
JTS LR LR
comp=Z,339nm,20.0s
ROSC El Rosal 165.67 312 PKP PKPdf 21 30 23.6 +0.7
comp=Z,15nm,0.7s,baz=201,slow=1.0,SNR=17
ROSC El Rosal 165.67 312 PKP PKPdf 21 30 23.6 +0.7
ROSC *e*PKPdf PKPdf 21 30 24.1 +1.3
NNA Nana 169.31 228 PFAKE 21 30 40.0 +15
NNA LR LR
comp=Z,304nm,20.0s
OTAV Otavalo 171.78 308 PFAKE 21 30 40.0 +13
OTAV LR LR
comp=Z,1μm,20.0s
PAYG Puerto Ayora 173.23 52 PFAKE 21 30 40.0 +13
PAYG LR LR
comp=Z,2μm,19.0s

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*ISCJB **17** 21:39:16.0±0.1, 063N±002×9980E±002, h30km, mb5.4/179, MS5.7/188, Error ellipse: s-maj=3.4km s-min=2.7km az=67.9*
*BJI **17** 21:39:15.7, 026N×9953E, h49km, mB5.4, mb5.1, Ms6.1, Msz5.9*
*MOS **17** 21:39:16.0±1.1, 062N×10000E, h33km, mb5.7/89, MS5.6/61, Error ellipse: s-maj=15.9km s-min=8.1km az=109.0*
*IDC **17** 21:39:16.8±1.3, 073N×10004E, h26km±8km, mb5.0/31, mb1 5.0/32, mb1mx5.0/32, mbtmp5.0/32, ML4.2/1, MS5.4/26, Ms1 5.4/26, ms1mx5.3/33, Error ellipse: s-maj=12.4km s-min=7.4km az=58.0*
*NEIC **17** 21:39:17.4±0.1, 063N×9986E, h30km, mb5.5/95, MS5.8/143, Error ellipse: s-maj=5.9km s-min=4.5km az=49.0*
NEIC Seven people killed, 100 injured and more than 680 homes damaged or destroyed in the Muarasipongi area. Landslides reported in the Muarasipongi district. Felt [VI] at Muarasipongi; [IV] at Aekgodang and Payakumbuh; [III] at Airbangis, Kotanopan, Mandahiling, Padangpanjang and Pekanbaru; [II] at Padang. Felt [II] at Kuala Lumpur, Malaysia and in Singapore. Also felt at Johor Bahru and Petaling Jaya, Malaysia.
*GCMT **17** 21:39:17.5±0.1, 057N×9983E, h18km, MW5.8/89, Moment Tensor Solution. s82,c160; s89,c254; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.61±.07; $M_{\theta\theta}$-3.40±.06; $M_{\phi\phi}$4.01±.08; $M_{r\theta}$-0.44±.15; $M_{\theta\phi}$5.10±.06; $M_{\phi r}$-0.26±.17; Best double couple: $M_0$6.32400×10^{17} NP1:$\phi_1$162.00000°, δ86.00000°, λ180.00000°. NP2:$\phi_2$252.00000°, δ90.00000°, λ4.00000°. Principal axes: T 6.6340, Plg3.0000°, Azm117.0000°; N -0.6200, Plg85.0000°, Azm256.0000°; P -6.0130, Plg3.0000°, Azm27.0000°; nsta1 refers to body waves,*

cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
SZGRF ***17*** *21:39:20.0,005N×9869E,h33km,mb5.6,MS5.7, Northern Sumatera, Indonesia*
ISC 17 21:39:18.1±0.1,061N×002×9979E±002,h32km, h32km±2.0km:pP-P,n812,σ1⇑11/705,mb5.4/179,MS5.7/188, 78C-29D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.34**	**338**	Pn		**Pn**		**21 39 53.3**	**-1.1**
	64nm,0.3s,baz=148,slow=13,SNR=386								
PSI				Pg		**Pn**		**21 39 57.0**	**+2.6**
	634nm,0.3s,baz=147,slow=14,SNR=177								
PSI				Lg				21 40 28.3	
	616nm,0.3s,baz=250,slow=23,SNR=8.5								
KGM	**Kluang**	**3.79**	**68**	P		**Pn**		**21 40 12.7**	**-1.6**
IPM	**Ipoh**	**4.03**	**18**	P		**Pn**		**21 40 17.5**	**-0.1**
KULM	**Kulim**	**4.72**	**10**	⇓*i*Pn		**Pn**		**21 40 26.2**	**-0.9**
KULM				*e*Sn		**Sn**		**21 41 21.8**	**+0.9**
KSI	**Kapahiang**	**5.08**	**147**	P		**Pn**		**21 40 32.6**	**+0.6**
	3μm,1.2s								
SNG	**Songkhla**	**6.57**	**7**	P		**Pn**		**21 40 51.0**	**-1.5**
	2μm,1.0s								
BSI	**Banda Aceh**	**6.61**	**317**	P		**Pn**		**21 40 53.0**	**0.0**
	806nm,1.2s								
KLI	**Kotabumi**	**7.43**	**137**	P		**Pn**		**21 41 07.8**	**+3.5**
	601nm,1.4s								
PKT	**Phuket**	**7.59**	**348**	P		**Pn**		**21 41 07.0**	**+0.5**
SBJI	**Serang**	**9.21**	**137**	P		**Pn**		**21 41 31.9**	**+3.3**
	3μm,1.4s								
TNG	**Tangerang**	**9.60**	**135**	P		**Pn**		**21 41 38.6**	**+4.5**
	2μm,1.9s								
CBJI	**Citeko**	**9.92**	**135**	P		**Pn**		**21 41 42.0**	**+3.6**
	2μm,1.4s								
KSM	**Kuching**	**10.55**	**85**	⇓*e*Pn		**Pn**		**21 41 50.0**	**+2.9**
KSM				*e*Sn		**Sn**		**21 43 44.1**	**+0.1**
LEM	**Lembang**	**10.75**	**134**	P		**Pn**		**21 41 50.1**	**+0.3**
	1μm,2.4s								
NNT	**Nongplab**	**11.90**	**360**	P		**Pn**		**21 42 06.8**	**+1.3**
BJII	**Banjamegara**	**12.65**	**129**	P		**Pn**		**21 42 16.3**	**+0.5**
	591nm,1.8s								
PBA	**Port Blair**	**13.01**	**328**	*e*P		**Pn**		**21 42 21.9**	**+1.2**
PBA				AMb		AMB		21 42 30.0	
	comp=Z,717nm,1.0s								
PBA				*ex*		x		21 44 60.0	
COCO	**West Island**	**13.05**	**193**	⇓*e*Pn		**Pn**		**21 42 21.3**	**0.0**
COCO				Sn		**Sn**		**21 44 43.3**	**-2.1**
KRKI	**Karangkates**	**15.34**	**125**	P		**Pn**		**21 42 52.6**	**+0.5**
	comp=Z,886nm,1.7s								
KKTK	**Khon Kaen**	**15.91**	**11**	PG		**Pn**		**21 43 01.0**	**+1.4**
KKTK				SG				21 43 07.5	
KMMI	**Kalianget**	**16.06**	**119**	P		**Pn**		**21 43 01.2**	**-0.3**
	comp=Z,1μm,1.0s								
KKM	**Kota Kinabalu**	**17.25**	**71**	P		**Pn**		**21 43 16.8**	**+0.3**
KKM	**Kota Kinabalu**	**17.25**	**71**	*e*Pn		**Pn**		**21 43 16.8**	**+0.2**
KKM				*e*Sn		**Sn**		**21 46 30.8**	**+3.3**
CM31	**Chiang Mai Arr**	**17.75**	**357**	*e*Pn		**Pn**		**21 43 24.2**	**+1.4**
	comp=Z,94nm,1.4s								
CM31				*e*Sn		**Sn**		**21 46 39.4**	**-0.2**
DNP	**Denpasar**	**17.92**	**121**	P		**Pn**		**21 43 26.0**	**+1.2**
	comp=Z,453nm,1.2s								
CHG	**Chiang Mai**	**18.11**	**357**	⇓P		**Pn**		**21 43 28.6**	**+1.5**
	comp=Z,86nm,1.5s								
CHTO	**Chiang Mai**	**18.11**	**357**	P		**Pn**		**21 43 28.8**	**+1.6**
	SNR=28								
CHTO	**Chiang Mai**	**18.11**	**357**	⇓*i*P		**Pn**		**21 43 28.3**	**+1.2**
CHTO				pmax		pmax			
	comp=Z,68nm,1.0s								
CHTO	**Chiang Mai**	**18.11**	**357**	⇓*i*Pn		**Pn**		**21 43 28.2**	**+1.1**
	comp=Z,68nm,1.0s								
CHTO				*e*Sn		**Sn**		**21 47 00.1**	**+12**
CHTO				*e*PcP		PcP		21 48 13.6	+14
TSM	**Tawau**	**18.43**	**78**	P		**Pn**		**21 43 30.4**	**-0.6**
BATP	**Bataraza**	**19.69**	**65**	*e*P		**Pn**		**21 43 45.8**	**-0.4**
PCI	**Palu**	**20.10**	**94**	P		**P**		**21 43 49.8**	**+0.7**
	comp=Z,564nm,1.6s								
PALK	**Pallekele**	**20.15**	**290**	P		**P**		**21 43 53.2**	**+3.6**
	SNR=16								
PALK	**Pallekele**	**20.15**	**290**	*e*Pn		**P**		**21 43 51.8**	**+2.2**
	comp=Z,290nm,1.1s								
PALK				LR		LR			
	comp=Z,3μm,20.0s,MS4.7								
QIZ	**Qiongzhong**	**20.79**	**28**	P		**P**		**21 43 55.3**	**-1.2**
QIZ				AP				21 44 08.1	
QIZ				S		**S**		**21 47 40.8**	**-6.0**
QIZ				AMB		AMB			
	comp=Z,158nm,1.9s								
QIZ				AMB		AMB			
	comp=Z,2μm,11.6s								
QIZ				LR		LR			
	comp=N,21μm,13.0s,MS5.9								
QIZ				LR		LR			
	comp=E,27μm,12.9s,MS5.9								
QIZ				LR		LR			
	comp=Z,17μm,13.2s,MS5.6								
QIZ	**Qiongzhong**	**20.79**	**28**	*e*Pn		**P**		**21 43 59.3**	**+2.8**
	comp=Z,186nm,1.0s								
QIZ				LR		LR			
	comp=Z,13μm,20.0s,MS5.3								
MDRS	**Chennai**	**22.98**	**303**	*e*P		**P**		**21 44 21.2**	**+1.2**
MDRS				AMb		AMB		21 44 26.7	
	comp=Z,484nm,1.3s,mb5.8								
MDRS				⇑*i*S		**S**		**21 48 28.7**	**+0.5**
BUSP	**Coron**	**23.20**	**60**	*e*P		**P**		**21 44 23.0**	**+0.7**
VIS	**Vishakhapatnam**	**23.48**	**317**	*e*P		**P**		**21 44 25.1**	**0.0**
VIS				AMb		AMB		21 44 33.2	
	comp=Z,247nm,1.4s,mb5.4								
VIS				*e*S		**S**		**21 48 38.9**	**+2.6**
BWNR	**Bhubaneshwar**	**23.87**	**326**	*ex*		x		21 44 06.0	
TRD	**Trivandrum**	**24.06**	**290**	*e*P		**P**		**21 44 31.7**	**+1.3**
TRD				AMb		AMB		21 44 34.9	
TRD				*i* x		x		21 48 55.4	
LUBP	**Lubang**	**24.08**	**56**	*e*P		**P**		**21 44 31.6**	**+0.9**
KOD	**Kodaikanal**	**24.17**	**294**	*e*P		**P**		**21 44 33.9**	**+2.5**
KOD				AMb		AMB		21 44 39.7	
	comp=Z,363nm,1.7s,mb5.5								
CAL	**Calcutta**	**24.48**	**334**	*ex*		**P**		**21 44 30.2**	**-4.1**
CAL				*ex*		x		21 49 03.1	
KMI	**Kunming**	**24.53**	**6**	P		**P**		**21 44 37.3**	**+2.6**
KMI				AP				21 44 45.8	
KMI				XP		sP		21 44 51.0	+3.2
KMI				PP				21 45 11.8	
KMI				PPP				21 45 23.8	
KMI				S		**S**		**21 48 57.6**	**+4.3**
KMI				XS		sS		21 49 14.6	+6.1
KMI				SS				21 49 57.3	
KMI				AMB		AMB			
	comp=Z,259nm,5.3s								
KMI				LR		LR			
	comp=N,21μm,11.0s,MS6.2								
KMI				LR		LR			
	comp=E,46μm,11.8s,MS6.2								
KMI				LR		LR			
	comp=Z,32μm,13.5s,MS6.0								
KMI	**Kunming**	**24.53**	**6**	P		**P**		**21 44 37.2**	**+2.5**
KMI				*PP				21 44 45.7	
KMI				*SP		sP		21 44 51.0	+3.2
KMI								21 45 11.8	
KMI				PPP				21 45 23.8	
KMI				S		**S**		**21 48 57.6**	**+4.3**
KMI				*SS		sS		21 49 14.6	+6.1
KMI				SS				21 49 57.2	
KMI				pmax		pmax			
	comp=Z,210nm,1.1s,mb5.6								
KMI				MLR		MLR			
	comp=Z,32μm,13.5s,MS6.0								
KMI	**Kunming**	**24.53**	**6**	P		**P**		**21 44 37.2**	**+2.5**
	comp=Z,21nm,1.1s,mb4.6								
KMI				pP				21 44 45.7	
KMI				sP		sP		21 44 51.0	+3.2
KMI				PP				21 45 11.8	
KMI				PPP				21 45 23.8	
KMI				S		**S**		**21 48 57.6**	**+4.3**
KMI				sS		sS		21 49 14.6	+6.1
KMI				SS				21 49 57.2	
KMI				SSS				21 50 14.7	
KMI				LR		LR			
	comp=Z,32μm,13.5s,MS6.0								
AGT	**Agartala**	**24.57**	**341**	*i* P		**P**		**21 44 36.0**	**+0.9**
AGT				*i* x		x		21 45 44.0	
IMP	**Imphal**	**24.69**	**347**	*e*P		**P**		**21 44 36.0**	**-0.1**
IMP				*ex*		x		21 49 02.0	
GUIM	**Jordan**	**24.75**	**66**	*e*P		**P**		**21 44 38.2**	**+1.6**
TGY	**Tagaytay City**	**24.84**	**56**	LR		LR		21 53 41.7	
	comp=Z,68nm,18.2s,baz=25,slow=35								
OTRP	**Odiongan**	**24.95**	**61**	*e*P		**P**		**21 44 39.3**	**+0.8**
RCP	**Roxas**	**25.25**	**64**	*e*P		**P**		**21 44 41.8**	**+0.5**
LLP	**Lapu-Lapu**	**25.89**	**67**	*e*P		**P**		**21 44 47.9**	**+0.8**
GZH	**Guangzhou**	**25.93**	**30**	P		**P**		**21 44 51.8**	**+4.4**
GZH				LR		LR			
	comp=N,32μm,14.9s,MS6.1								
GZH				LR		LR			
	comp=E,25μm,14.9s,MS6.1								
GZH				LR		LR			
	comp=Z,39μm,14.3s,MS6.1								
SHL	**Shillong**	**25.96**	**344**	*e*P		**P**		**21 44 47.0**	**-0.7**
SHL				*ex*		x		21 49 13.0	
CGP	**Cagayan de Oro**	**26.00**	**72**	*e*P		**P**		**21 44 48.4**	**+0.4**
BUKP	**Musuan**	**26.20**	**73**	*e*P		**P**		**21 44 51.1**	**+1.3**
GYA	**Guiyang**	**26.54**	**14**	P		**P**		**21 44 53.3**	**+0.4**
GYA				AP		pP		21 45 01.9	-0.2
GYA				PP				21 45 37.9	
GYA				PCP		PcP		21 48 18.0	+1.1
GYA				S		**S**		**21 49 24.3**	**-0.8**
GYA				SCP		ScP		21 51 54.3	-0.2
GYA				AMB		AMB			
	comp=Z,2μm,8.6s								
GYA				LR		LR			
	comp=N,12μm,19.2s,MS5.5								
GYA				LR		LR			
	comp=E,6μm,15.6s,MS5.5								
GYA				LR		LR			
	comp=Z,14μm,19.6s,MS5.5								
ABRA	**Dolores**	**26.64**	**49**	*e*P		**P**		**21 44 55.0**	**+1.2**
MSLP	**Maasin**	**26.66**	**68**	*e*P		**P**		**21 44 54.1**	**+0.1**
BOK	**Bokaro**	**26.70**	**331**	*e*P		**P**		**21 44 55.4**	**+1.0**
BOK				AMb		AMB		21 44 59.4	
	comp=Z,277nm,1.0s,mb5.7								
HYB	**Hyderabad**	**26.75**	**310**	*i* P		**P**		**21 44 55.5**	**+0.7**
	comp=Z,100nm,1.0s,mb5.3								
HYB				*e*S		**S**		**21 49 30.0**	**+1.5**
HYB				LR		LR			
	comp=Z,22nm,22.0s								
HYB	**Hyderabad**	**26.75**	**310**	*e*P		**P**		**21 44 55.5**	**+0.7**
HYB				*e*S		**S**		**21 49 30.0**	**+1.5**
HYB				pmax		pmax			
	comp=Z,100nm,1.0s,mb5.3								
HYB	**Hyderabad**	**26.75**	**310**	*e*P		**P**		**21 44 55.5**	**+0.7**
	comp=Z,100nm,1.0s,mb5.3								
HYB				*e*S		**S**		**21 49 30.0**	**+1.5**
CAUP	**Cauayan**	**27.09**	**52**	*e*P		**P**		**21 44 58.9**	**+1.0**
BLSP	**Bilaspur**	**27.45**	**322**	*ex*		x		21 46 42.1	
BLSP				AMb		AMB		21 46 45.5	
	comp=Z,259nm,1.2s,mb5.6								
MNGI	**Mangalore**	**27.61**	**297**	*e*P		**P**		**21 45 03.8**	**+1.2**
MNGI				AMb		AMB		21 45 13.1	
	comp=Z,138nm,1.8s,mb5.3								
MNGI				*i* x		x		21 49 55.7	
DGAR	**Diego Garcia**	**28.41**	**253**	PFAKE				21 45 20.0	+10
DGAR				LR		LR			
	comp=Z,1μm,20.0s								
AAI	**Ambon**	**28.70**	**99**	P		**P**		**21 45 12.5**	**+0.2**
	comp=Z,216nm,1.3s,mb5.7								
NGP	**Nagpur**	**28.75**	**317**	*e*P		**P**		**21 45 12.6**	**-0.1**
NGP				*ex*		x		21 45 19.6	
	comp=Z,138nm,1.9s								
NGP				*ex*		x		21 50 05.2	
JBP	**Jabalpur**	**29.55**	**321**	*e*P		**P**		**21 45 20.7**	**+1.0**
JBP				*ex*		x		21 45 43.5	
	comp=Z,66nm,1.3s								
JBP				*e*S		**S**		**21 50 15.2**	**+2.7**
GOA	**Goa**	**29.59**	**301**	*e*P		**P**		**21 45 21.6**	**+1.4**
GOA				AMb		AMB		21 45 26.2	
	comp=Z,68nm,1.6s,mb5.1								
JIRN	**Jiri**	**29.89**	**335**	*e*P		**P**		**21 45 23.5**	**+0.7**
	comp=Z,474nm,1.0s,mb6.2								
AKL	**Akola**	**29.90**	**313**	*e*P		**P**		**21 45 24.4**	**+1.5**
AKL				*ex*		x		21 45 32.6	
	comp=Z,119nm,1.6s								
AKL				*i* S		**S**		**21 50 22.6**	**+4.5**
ALBI	**Allahabad**	**30.08**	**326**	*e*P		**P**		**21 45 23.0**	**-1.5**
LSA	**Lhasa**	**30.08**	**345**	P		**P**		**21 45 25.1**	**+0.6**
LSA				PP		PP		21 46 20.0	-13
LSA				S		**S**		**21 50 17.3**	**-3.5**
LSA				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.8								
LSA				LR		LR			
	comp=N,4μm,14.0s,MS5.4								
LSA				LR		LR			
	comp=E,6μm,16.0s,MS5.4								
LSA				LR		LR			
	comp=Z,10μm,16.0s,MS5.5								
LSA	**Lhasa**	**30.08**	**345**	⇓*e*P		**P**		**21 45 25.6**	**+1.1**
LSA				*e*S		**S**		**21 50 24.6**	**+3.8**
LSA				pmax		pmax			
	comp=Z,32nm,0.6s,mb5.2								
LSA				MLR		MLR			
	comp=Z,10μm,21.0s,MS5.4								
LSA	**Lhasa**	**30.08**	**345**	⇓*e*P		**P**		**21 45 25.6**	**+1.1**
	comp=Z,32nm,0.6s,mb5.2								
LSA				*e*S		**S**		**21 50 24.6**	**+3.7**
LSA				LR		LR			
	comp=Z,10μm,21.0s,MS5.4								
PKI	**Pulchoki**	**30.15**	**334**	*e*P		**P**		**21 45 25.4**	**+0.3**
	comp=Z,211nm,1.2s,mb5.7								
KAD	**Karad**	**30.17**	**305**	*e*P		**P**		**21 45 26.1**	**+0.8**
KAD				AMb		AMB		21 45 33.5	
	comp=Z,39nm,0.9s,mb5.1								
GUN	**Gumba**	**30.24**	**335**	*e*P		**P**		**21 45 26.6**	**+0.7**
	comp=Z,344nm,0.7s,mb6.2								
DMN	**Daman**	**30.32**	**334**	*e*P		**P**		**21 45 26.8**	**+0.2**
	comp=Z,212nm,1.1s,mb5.8								
CD2	**Chengdu**	**30.37**	**7**	P		**P**		**21 45 27.9**	**+0.9**
CD2				PP		PP		21 46 31.0	-4.8
CD2				S		**S**		**21 50 24.6**	**-0.8**
CD2				AMB		AMB			
	comp=Z,60nm,0.8s,mb5.4								
CD2				AMB		AMB			
	comp=Z,540nm,8.3s								
CD2				LR		LR			
	comp=Z,32μm,12.3s,MS6.2								
KKN	**Kakani**	**30.39**	**334**	*e*P		**P**		**21 45 27.4**	**+0.1**
	comp=Z,272nm,1.1s,mb5.9								
GKN	**Gorkha**	**30.86**	**333**	*e*P		**P**		**21 45 31.6**	**+0.2**
	comp=Z,283nm,1.1s,mb6.0								
ENH	**Enshi**	**30.90**	**16**	*e*P		**P**		**21 45 29.9**	**-1.9**
	comp=Z,0.3nm,0.4s								
ENH				LR		LR			
	comp=Z,3.0nm,22.0s								
POO	**Poona**	**31.08**	**306**	*e*P		**P**		**21 45 34.5**	**+1.2**
POO				AMb		AMB		21 45 41.4	
	comp=Z,49nm,0.9s								
POO				*e*PP		PP		21 46 36.5	-7.2
POO				*i* S		**S**		**21 50 40.0**	**+3.5**
KOLN	**Koldanda**	**31.15**	**331**	*e*P		**P**		**21 45 34.4**	**+0.5**
	comp=Z,188nm,1.0s,mb5.9								
BHPL	**Bhopal**	**31.27**	**318**	*e*P		**P**		**21 45 35.8**	**+0.8**
BHPL				AMb		AMB		21 45 39.1	
	comp=Z,49nm,1.2s,mb5.2								
FITZ	**Fitzroy Crossi**	**31.50**	**127**	*e*P		**P**		**21 45 33.4**	**-3.6**
	comp=Z,17nm,0.9s,mb4.9								
NACB	**Ninganchiao**	**31.54**	**40**	*e*P		**P**		**21 45 34.5**	**-2.9**
YHNB	**Yeheng**	**31.75**	**39**	⇓*e*P		**P**		**21 45 41.8**	**+2.6**
TATO	**Taipei**	**32.04**	**39**	*e*P		**P**		**21 45 41.3**	**-0.5**
TATO				LR		LR			
	comp=Z,5μm,21.0s,MS5.2								
BOM	**Bombay**	**32.10**	**306**	*e*P		**P**		**21 45 38.6**	**-3.7**
BOM				*ex*		x		21 45 51.5	
	comp=Z,148nm,1.4s								
BOM				*e*S		**S**		**21 50 49.0**	**-3.5**
WHN	**Wuhan**	**32.82**	**24**	P		**P**		**21 45 49.3**	**+0.7**
WHN				S		**S**		**21 51 03.0**	**-0.7**
WHN				LR		LR			
	comp=Z,26μm,17.0s,MS6.0								
BHV	**Bhavnagar**	**34.17**	**310**	*e*P		**P**		**21 46 02.0**	**+1.6**
LGTI	**Lohaghat**	**34.20**	**329**	*e*P		**P**		**21 46 00.5**	**-0.1**
XAN	**Xi'an**	**34.34**	**14**	P		**P**		**21 46 00.6**	**-1.2**
XAN				S		**S**		**21 51 21.5**	**-5.7**
XAN				AMB		AMB			
	comp=Z,46nm,1.2s,mb5.3								
XAN				LR		LR			
	comp=N,7μm,14.3s,MS6.2								
XAN				LR		LR			
	comp=E,36μm,15.6s,MS6.2								
XAN				LR		LR			
	comp=Z,30μm,15.1s,MS6.2								
KAKA	**Kakadu**	**34.99**	**113**	*e*P		**P**		**21 46 05.2**	**-2.2**
	comp=Z,16nm,0.8s,mb5.0								
NDI	**New Delhi**	**35.28**	**324**	*e*P		**P**		**21 46 09.7**	**-0.2**
NDI				*e*P				21 46 10.0	
NDI				AMb		AMB		21 46 12.8	
	comp=Z,183nm,2.0s,mb5.7								
NDI				*e*S		**S**		**21 51 42.0**	**+0.3**
AJM	**Ajmer**	**35.32**	**319**	*e*P		**P**		**21 46 11.2**	**+1.0**
AJM				AMb		AMB		21 46 16.9	
	comp=Z,66nm,1.7s,mb5.3								
LZH	**Lanzhou**	**35.49**	**6**	*e*P		**P**		**21 46 13.0**	**+1.2**
LZH				AP		pP		21 46 24.8	+3.7
LZH				XP		sP		21 46 30.5	+5.5
LZH				PP		PP		21 47 33.8	+1.1
LZH				PCP		PcP		21 48 42.0	+1.3
LZH				*e*S		**S**		**21 51 45.0**	**0.0**
LZH				SS		SS		21 54 08.0	-12
LZH				AMB		AMB			
	comp=Z,70nm,1.2s,mb5.5								
LZH				AMB		AMB			
	comp=Z,400nm,6.0s								
LZH				LR		LR			
	comp=E,28μm,11.2s								
LZH				LR		LR			
	comp=Z,24μm,15.5s,MS6.1								
LZH	**Lanzhou**	**35.49**	**6**	*e*P		**P**		**21 46 13.0**	**+1.2**
LZH				*PP		pP		21 46 24.8	+3.7
LZH				*SP		sP		21 46 30.5	+5.5
LZH								21 47 33.8	
LZH								21 48 42.0	
LZH				*e*S		**S**		**21 51 45.0**	**0.0**
LZH				*SS		sS		21 52 01.0	+0.6
LZH				SS		SS		21 54 08.0	-12
LZH				pmax		pmax			
	comp=Z,70nm,1.2s,mb5.5								
LZH				MLR		MLR			
	comp=Z,24μm,15.5s,MS6.1								
LZH	**Lanzhou**	**35.49**	**6**	*e*P		**P**		**21 46 13.0**	**+1.2**
	comp=Z,70nm,1.2s,mb5.5								
LZH				pP		pP		21 46 24.8	+3.7
LZH				sP		sP		21 46 30.5	+5.5
LZH				PP		PP		21 47 33.8	+1.1
LZH				PcP		PcP		21 48 42.0	+1.3
LZH				*e*S		**S**		**21 51 45.0**	**0.0**
LZH				sS		sS		21 52 01.0	+0.6
LZH				SS		SS		21 54 08.0	-12
LZH				LR		LR			
	comp=Z,24μm,15.5s,MS6.1								
MUN	**Mundaring**	**35.95**	**156**	*e*P		**P**		**21 46 16.0**	**+0.3**
KLBR	**Kellerberrin**	**36.27**	**154**	*e*P		**P**		**21 46 18.4**	**-0.1**
	comp=Z,41nm,1.0s,mb5.3								
SSE	**Sheshan**	**36.47**	**32**	P		**P**		**21 46 22.5**	**+2.3**
SSE				PP		PP		21 47 46.8	+3.4
SSE				S		**S**		**21 52 06.3**	**+6.3**
SSE				AMB		AMB			
	comp=Z,33nm,1.0s,mb5.2								
SSE				AMB		AMB			
	comp=Z,710nm,12.0s								
SSE				LR		LR			
	comp=N,10μm,16.0s,MS5.8								
SSE				LR		LR			
	comp=E,9μm,16.0s,MS5.8								
SSE				LR		LR			
	comp=Z,18μm,15.0s,MS6.0								
SSE	**Sheshan**	**36.47**	**32**	P		**P**		**21 46 22.5**	**+2.3**
	comp=Z,33nm,1.0s,mb5.2								
SSE				pP		pP		21 46 28.7	-0.8
SSE				PP		PP		21 47 46.7	+3.3
SSE				S		**S**		**21 52 06.3**	**+6.3**
SSE				ScS		ScS		21 56 36.5	+2.4
SSE				LR		LR			
	comp=Z,18μm,15.0s,MS6.0								
BHJ	**Bhuj**	**36.92**	**310**	*e*P		**P**		**21 46 25.5**	**+1.5**
BHJ				AMb		AMB		21 46 29.9	
	comp=Z,130nm,1.4s,mb5.6								
NWAO	**Narrogin (SRO)**	**37.20**	**155**	P		**P**		**21 46 24.4**	**-2.0**
	comp=Z,35nm,0.9s,mb5.2,baz=332,slow=9.4,SNR=14								
NWAO				LR		LR		22 00 01.7	
	comp=Z,25μm,21.9s,MS6.0,baz=327,slow=34								
NWAO	**Narrogin (SRO)**	**37.20**	**155**	*e*P		**P**		**21 46 26.6**	**+0.3**
NWAO				pmax		pmax			
	comp=Z,75nm,1.2s								
NWAO				MLR		MLR			
	comp=Z,21μm,22.0s								
NWAO	**Narrogin (SRO)**	**37.20**	**155**	*e*P		**P**		**21 46 26.6**	**+0.3**
	comp=Z,75nm,1.2s,mb5.4								
NWAO				LR		LR			
	comp=Z,21μm,22.0s,MS5.9								
SDNR	**Sundarnagar**	**37.55**	**327**	*e*P		**P**		**21 46 30.5**	**+1.2**
SDNR				*ex*		x		21 52 42.5	
GTA	**Gaotai**	**38.61**	**0**	*e*P		**P**		**21 46 37.4**	**-0.9**
GTA				PP		PP		21 48 09.6	+2.7
GTA				S		**S**		**21 52 32.0**	**-0.5**
GTA				SCS		ScS		21 56 43.8	-2.5
GTA				AMB		AMB			
	comp=Z,390nm,5.3s								
GTA				LR		LR			
	comp=Z,12μm,21.3s,MS5.7								
TIA	**Tai'an**	**38.90**	**23**	*e*P		**P**		**21 46 40.8**	**+0.1**
TIA				S		**S**		**21 52 36.8**	**0.0**
TIA				LR		LR			
	comp=N,7μm,11.0s,MS5.9								
TIA				LR		LR			
	comp=E,8μm,12.0s,MS5.9								
THN	**Thein Dam**	**38.95**	**327**	*e*P		**P**		**21 46 39.8**	**-1.3**
THN				*e*S		**S**		**21 52 36.7**	**-0.8**
WRA	**Warramunga Arr**	**39.53**	**123**	P		**P**		**21 46 43.0**	**-2.9**
	comp=E,20nm,1.0s,mb4.8,baz=300,slow=9.2,SNR=33								
WRA				PcP		PcP		21 48 52.7	-0.4
	comp=E,5.9nm,0.7s,baz=318,slow=2.5,SNR=5.7								
WRA				ScP		ScP		21 52 39.8	+0.4
	comp=E,4.6nm,1.0s,baz=309,slow=3.4,SNR=5.1								
WRA				LR		LR		22 05 11.6	
	comp=E,6μm,18.9s,MS5.4,baz=290,slow=40								
WRA	**Warramunga Arr**	**39.53**	**123**	P		**P**		**21 46 43.0**	**-3.0**
WRA								21 48 52.7	
WRA								21 52 39

DL2	**Dalian**	**43.04**	**25**	P	**P**	**21 47 15.8 +1.0**
DL2				S	**S**	**21 53 41.3 +2.9**
DL2				AMB	AMB	
	comp=Z,40nm,1.2s,mb5.0					
DL2				AMB	AMB	
	comp=Z,420nm,7.7s					
DL2				LR	LR	
	comp=N,4μm,11.7s,MS5.8					
DL2				LR	LR	
	comp=E,6μm,13.4s,MS5.8					
DL2				LR	LR	
	comp=Z,5μm,17.3s,MS5.5					
INCN	**Inchon**	**44.26**	**31**	PFAKE		21 47 40.0 +15
INCN				LR	LR	
	comp=Z,7μm,19.0s,MS5.6					
WMQ	**Urumqi**	**44.35**	**347**	P	**P**	**21 47 25.6 +0.3**
WMQ				AP	pP	21 47 34.5 -0.3
WMQ				PCP	PcP	21 49 09.8 +0.8
WMQ				PP	PP	21 49 11.1 +2.1
WMQ				PPP		21 49 49.4
WMQ				S	**S**	**21 53 57.8 +0.3**
WMQ				SS	SS	21 57 08.1 -8.6
WMQ				SCS	ScS	21 57 18.5 -2.6
WMQ				AMB	AMB	
	comp=Z,72nm,1.6s,mb5.2					
WMQ				LR	LR	
	comp=N,7μm,14.0s,MS5.8					
WMQ				LR	LR	
	comp=E,7μm,19.0s,MS5.8					
WMQ				LR	LR	
	comp=Z,4μm,22.0s,MS5.3					
KSH	**Kashi**	**44.41**	**333**	P	**P**	**21 47 26.4 +0.6**
KSH				AP	pP	21 47 33.3 -2.0
KSH				PP	PP	21 49 10.5 +0.8
KSH				PCP	PcP	21 49 11.8 +2.6
KSH				PPP		21 49 48.8
KSH				PCS	PcS	21 53 03.0 +0.5
KSH				S	**S**	**21 53 58.6 +0.2**
KSH				SS	SS	21 57 08.4 -9.5
KSH				AMB	AMB	
	comp=Z,251nm,1.1s,mb5.9					
KSH				LR	LR	
	comp=Z,23μm,23.4s,MS6.0					
MSEY	**Mahe Island**	**44.58**	**263**	PFAKE		21 47 40.0 +13
MSEY				LR	LR	
	comp=Z,882nm,19.0s,MS4.7					
KS15	**Wonju Array Si**	**44.88**	**32**	*e*P	**P**	**21 47 31.6 +2.1**
KSRS	**Korea Array**	**44.91**	**32**	P	**P**	**21 47 28.2 -1.5**
	comp=Z,10nm,0.9s,mb4.7,baz=223,slow=7.9,SNR=21					
KSRS				LR	LR	22 06 11.1
	comp=Z,6μm,18.9s,MS5.5,baz=218,slow=36					
WBK	**Wadi Bani Khal**	**45.31**	**302**	P	**P**	**21 47 34.9 +2.0**
	SNR=8.5					
JMDO	**Jabal Madar**	**45.96**	**301**	P	**P**	**21 47 39.6 +1.6**
	SNR=6.7					
SMDO	**Samad**	**46.27**	**302**	P	**P**	**21 47 42.1 +1.6**
	SNR=9.4					
SNY	**Shenyang**	**46.30**	**25**	P	**P**	**21 47 39.9 -0.8**
SNY				S	**S**	**21 54 26.8 +1.2**
SNY				AMB	AMB	
	comp=Z,200nm,1.6s,mb5.8					
SNY				LR	LR	
	comp=N,2μm,14.5s					
BIDO	**Bidbid**	**46.38**	**303**	P	**P**	**21 47 42.9 +1.5**
	SNR=10					
GUMO	**Guam**	**46.44**	**72**	LR	LR	22 08 28.1
	comp=N,3μm,18.8s,MS5.2,baz=77,slow=38					
GUMO	**Guam**	**46.44**	**72**	PFAKE		21 47 50.0 +8.1
GUMO				LR	LR	
	comp=Z,3μm,21.0s,MS5.2					
ULHL	**Ulahol**	**46.55**	**336**	P	**P**	**21 47 43.3 +0.6**
	SNR=7.1					
KZA	**Kyzart**	**46.82**	**335**	P	**P**	**21 47 45.3 +0.4**
	SNR=18					
BSY	**Bisya**	**46.87**	**301**	P	**P**	**21 47 47.2 +2.0**
	SNR=8.1					
HOQ	**Hoqain**	**47.09**	**302**	P	**P**	**21 47 48.6 +1.6**
	SNR=9.5					
AAA	**Alma-Ata**	**47.13**	**337**	*i* P	**P**	**21 47 48.2 +0.9**
AAA				*i* S	**S**	**21 54 41.4 +3.9**
AAA				pmax	pmax	
	comp=Z,1μm,4.6s					
AAA				smax		
	comp=E,3μm,9.4s					
UCH	**Uchtor**	**47.26**	**334**	P	**P**	**21 47 49.4 +1.1**
	SNR=88					
TKM2	**Tokmak 2**	**47.37**	**336**	P	**P**	**21 47 49.6 +0.5**
	SNR=60					
SONM	**Songino Array**	**47.38**	**6**	P	**P**	**21 47 49.4 +0.1**
	comp=E,33nm,0.9s,mb5.2,baz=190,slow=8.7,SNR=64					
SONM				ScP	ScP	21 53 10.6 -0.6
	comp=E,3.2nm,1.0s,baz=176,slow=1.6,SNR=5.2					
SONM				LR	LR	22 10 41.2
	comp=E,11μm,18.8s,MS5.8,baz=188,slow=40					
KBK	**Karagaybulak**	**47.42**	**335**	P	**P**	**21 47 50.5 +0.9**
	SNR=118					
AML	**Almayashu**	**47.54**	**334**	P	**P**	**21 47 51.5 +1.1**
	SNR=44					
AAK	**Ala-Archa**	**47.60**	**335**	P	**P**	**21 47 51.8 +0.9**
	SNR=28					
FRU	**Bishkek**	**47.71**	**335⇑**	*e*P	**P**	**21 47 52.0 +0.2**
FRU				*e*S	**S**	**21 54 50.0 +4.3**
FRU				pmax	pmax	
	comp=Z,310nm,2.0s,mb6.0					
CHMS	**Chumysh**	**47.79**	**335**	P	**P**	**21 47 52.6 +0.3**
	SNR=26					
RBK	**Rabkut**	**47.86**	**293**	P	**P**	**21 47 54.8 +1.8**
	SNR=10					
EKS2	**Erkin-Say**	**47.93**	**334**	P	**P**	**21 47 54.5 +1.0**
	SNR=90					
USP	**Ospenovka**	**48.11**	**335**	P	**P**	**21 47 55.2 +0.3**
	SNR=102					
PMG	**Port Moresby**	**48.20**	**103**	P	**P**	**21 47 55.2 -0.3**
	comp=Z,44nm,0.9s,mb5.5,baz=304,slow=3.4,SNR=12					
PMG	**Port Moresby**	**48.20**	**103**	*c* P	**P**	**21 47 54.6 -0.9**
PMG	**Port Moresby**	**48.20**	**103**	*e*P	**P**	**21 47 55.1 -0.4**
	comp=Z,48nm,0.9s,mb5.5					
PMG				LR	LR	
	comp=Z,5μm,22.0s,MS5.4					
WHFO	**Wadi Hawf**	**48.37**	**294**	P	**P**	**21 47 57.9 +1.0**
	SNR=12					
CBIJ	**Chichi jima**	**48.46**	**53**	LR	LR	22 07 52.8
	comp=Z,2μm,20.5s,MS5.0,baz=229,slow=36					
MKAR	**Makanchi Array**	**48.48**	**344**	P	**P**	**21 47 57.3 -0.4**
	comp=Z,70nm,0.9s,mb5.7,baz=153,slow=6.5,SNR=92					
MKAR				S	**S**	**21 54 56.6 +0.1**
	comp=Z,1.8nm,1.0s,baz=150,slow=15,SNR=3.2					
MKAR				LR	LR	22 14 17.4
	comp=Z,5μm,18.5s,MS5.5,baz=157,slow=43					
MKAR	**Makanchi Array**	**48.48**	**344**	P	**P**	**21 47 57.3 -0.4**
MKAR				S	**S**	**21 54 56.7 +0.1**
MKAR	**Makanchi Array**	**48.48**	**344**	P	**P**	**21 47 57.3 -0.4**
MKAR				S	**S**	**21 54 56.6 +0.1**
MKAR				LR	LR	22 14 17.4
HATD	**Hatta, Dubai**	**48.57**	**303**	P	**P**	**21 47 59.8 +1.4**
	SNR=6.5					
ABTO	**Aybut**	**48.66**	**293**	P	**P**	**21 48 00.8 +1.7**
	SNR=7.4					
CN2	**Changchun**	**48.70**	**25**	*e*P	**P**	**21 48 00.3 +0.9**
CN2				*e*S	**S**	**21 55 01.8 +2.0**
CN2				SS	SS	21 58 27.6 -2.6
CN2				AMB	AMB	
	comp=Z,20nm,0.9s,mb5.2					
CN2				AMB	AMB	
	comp=Z,200nm,4.0s					
CN2				LR	LR	
	comp=N,12μm,14.0s,MS6.2					
CN2				LR	LR	
	comp=E,10μm,14.0s,MS6.2					
CN2				LR	LR	
	comp=Z,9μm,14.0s,MS5.9					
ZAK	**Zakamensk**	**49.67**	**3⇑**	*i* P	**P**	**21 48 06.7 -0.1**
ZAK				pmax	pmax	
	comp=Z,11nm,1.6s,mb4.6					
CTA	**Charters Tower**	**49.92**	**117**	*e*P	**P**	**21 48 07.0 -1.8**
	comp=Z,30nm,0.9s,mb5.3					
CTA	**Charters Tower**	**49.92**	**117**	P	**P**	**21 48 07.2 -1.6**
	comp=Z,40nm,0.9s,mb5.4,baz=290,slow=9.0,SNR=16					
CTA	**Charters Tower**	**49.92**	**117**	*e*P	**P**	**21 48 07.0 -1.8**
CTA				pmax	pmax	
	comp=Z,30nm,0.9s					
CTAO	**Charters Tower**	**49.92**	**117**	*e*P	**P**	**21 48 09.4 +0.6**
CTAO				pmax	pmax	
	comp=Z,47nm,1.0s,mb5.5					
CTAO				MLR	MLR	
	comp=Z,6μm,20.0s,MS5.6					
CTAO	**Charters Tower**	**49.92**	**117**	*e*P	**P**	**21 48 09.4 +0.6**
	comp=Z,47nm,1.0s,mb5.5					
CTAO				LR	LR	
	comp=Z,6μm,20.0s,MS5.6					
MAJO	**Matsushiro**	**50.41**	**40**	*e*P	**P**	**21 48 09.8 -2.6**
MAJO				pmax	pmax	
	comp=Z,33nm,1.1s,mb5.3					
MAJO				MLR	MLR	
	comp=Z,3μm,19.0s,MS5.3					
MAJO	**Matsushiro**	**50.41**	**40**	*e*P	**P**	**21 48 09.8 -2.7**
	comp=Z,33nm,1.1s,mb5.3					
MAJO				LR	LR	
	comp=Z,3μm,19.0s,MS5.3					
MAT	**Matsushiro**	**50.41**	**40**	P	**P**	**21 48 09.6 -2.8**
MAT				S	**S**	**21 55 27.0 +3.3**
MJAR	**Matsushiro Arr**	**50.41**	**40**	P	**P**	**21 48 10.0 -2.4**
	comp=Z,10nm,0.9s,mb4.8,baz=213,slow=6.7,SNR=9.9					
TLY	**Talaya**	**50.99**	**3**	⇓P	**P**	**21 48 17.4 +0.7**
	SNR=6.0					
TLY	**Talaya**	**50.99**	**3**	*e*P	**P**	**21 48 17.0 +0.2**
TLY				*e*S	**S**	**21 55 36.1 +4.4**
TLY				pmax	pmax	
	comp=Z,24nm,1.0s,mb5.1					
TLY				MLR	MLR	
	comp=Z,11μm,16.0s,MS6.0					
TLY	**Talaya**	**50.99**	**3**	*e*P	**P**	**21 48 18.6 +1.8**
TLY				LR	LR	
	comp=Z,3μm,19.0s,MS5.3					
STKA	**Stephens Creek**	**51.05**	**133**	P	**P**	**21 48 15.3 -2.0**
	comp=Z,27nm,1.0s,mb5.2,baz=307,slow=7.6,SNR=29					
STKA	**Stephens Creek**	**51.05**	**133**	*e*P	**P**	**21 48 18.3 +1.0**
MDJ	**Mudanjiang**	**51.16**	**27**	P	**P**	**21 48 16.1 -2.0**
MDJ				AP	pP	21 48 29.9 +2.2
MDJ				PCP	PcP	21 49 29.9 -3.4
MDJ				PP	PP	21 50 15.3 +0.4
MDJ				SCP	ScP	21 53 25.5 -1.8
MDJ				PCS	PcS	21 53 27.9 -3.0
MDJ				S	**S**	**21 55 32.5 -1.6**
MDJ				SCS	ScS	21 58 02.3 -3.9
MDJ				AMB	AMB	
	comp=Z,15nm,1.7s,mb4.7					
MDJ				AMB	AMB	
	comp=Z,400nm,7.5s					
MDJ				LR	LR	
	comp=N,11μm,13.6s,MS6.2					
MDJ				LR	LR	
	comp=E,7μm,12.4s,MS6.2					
MDJ				LR	LR	
	comp=Z,18μm,13.6s,MS6.2					
MDJ	**Mudanjiang**	**51.16**	**27**	PFAKE		21 48 30.0 +12
MDJ				LR	LR	
	comp=Z,8μm,20.0s,MS5.8					
HIA	**Hailar**	**51.41**	**17⇑**	*e*P	**P**	**21 48 20.3 +0.3**
HIA						21 49 32.4
HIA				pmax	pmax	
	comp=Z,42nm,1.4s					
HIA				MLR	MLR	
	comp=Z,12μm,19.0s					
HIA	**Hailar**	**51.41**	**17⇑**	*e*P	**P**	**21 48 20.3 +0.3**
	comp=Z,42nm,1.4s,mb5.2					
HIA				PcP	PcP	21 49 32.4 -1.8
HIA				LR	LR	
	comp=Z,12μm,19.0s,MS5.9					
IRK	**Irkutsk**	**51.59**	**4**	*e*P	**P**	**21 48 21.0 -0.3**
IRK				*e*		21 49 30.6
IRK				*e*S	**S**	**21 55 44.5 +4.6**
IRK				pmax	pmax	
	comp=Z,71nm,2.0s,mb5.2					
CIT	**Chita**	**52.52**	**11**	*e*P	**P**	**21 48 29.4 +1.2**
KURK	**Kurchatov**	**53.06**	**343**	⇑P	**P**	**21 48 32.0 -0.3**
	SNR=66					
KURK	**Kurchatov**	**53.06**	**343⇑**	*e*P	**P**	**21 48 31.3 -0.9**
KURK	**Kurchatov**	**53.06**	**343**	*e*P	**P**	**21 48 30.1 -2.1**
	comp=Z,95nm,1.0s,mb5.7					
KURK				LR	LR	
	comp=Z,2μm,20.0s,MS5.1					
ZAL	**Zalesovo**	**54.57**	**349**	P	**P**	**21 48 42.4 -0.9**
	comp=Z,33nm,0.7s,mb5.5,baz=316,slow=5.3,SNR=87					
ZAL				S	**S**	**21 56 20.9 +0.3**
	comp=Z,1.2nm,0.7s,baz=178,slow=20,SNR=11					
ZAL				LR	LR	22 14 28.9
	comp=Z,5μm,21.6s,MS5.5,baz=301,slow=39					
ZAL	**Zalesovo**	**54.57**	**349**	P	**P**	**21 48 42.4 -0.9**
ZAL				S	**S**	**21 56 20.9 +0.3**
OPO	**Ambohidratompo**	**55.06**	**247**	P	**P**	**21 48 49.6 +2.8**
	comp=Z,28nm,1.0s,mb5.2,baz=65,slow=7.7,SNR=11					
NVS	**Novosibirsk**	**55.73**	**348**	*i* P	**P**	**21 48 50.4 -1.2**
NVS				*i* S	**S**	**21 56 29.2 -6.9**
NVS				pmax	pmax	
	comp=Z,74nm,1.6s,mb5.5					
NVS				pmax	pmax	
	comp=N,86nm,1.5s					
NVS				pmax	pmax	
	comp=E,35nm,1.1s					
NVS				smax		
	comp=N,33nm,1.5s					
NVS				smax		
	comp=E,82nm,1.7s					
ERM	**Erimo**	**56.71**	**38**	PFAKE		21 49 10.0 +11
ERM				LR	LR	
	comp=Z,907nm,19.0s,MS4.9					
ATD	**Arta Tunnel**	**57.55**	**283**	P	**P**	**21 49 06.7 +2.2**
	comp=Z,23nm,1.0s,mb5.2,baz=310,slow=5.5,SNR=9.8					
ATD				LR	LR	22 08 14.2
	comp=Z,2μm,20.5s,MS5.2,baz=224,slow=30					
ASAJ	**Asahikawa**	**57.60**	**35**	LR	LR	22 14 19.4
	comp=Z,2μm,20.1s,MS5.3,baz=228,slow=37					
BVAR	**Borovoye Array**	**57.68**	**339**	P	**P**	**21 49 04.2 -1.2**
	comp=Z,22nm,0.5s,mb5.4,baz=142,slow=9.3,SNR=80					
BVAR				S	**S**	**21 57 00.9 -0.9**
	comp=Z,4.9nm,1.2s,baz=134,slow=10,SNR=4.8					
BVAR				LR	LR	22 16 01.8
	comp=Z,3μm,18.3s,MS5.5,baz=118,slow=38					
BVAR	**Borovoye Array**	**57.68**	**339**	P	**P**	**21 49 04.2 -1.3**
BVAR				S	**S**	**21 57 00.9 -0.9**
BRVK	**Borovoye**	**57.74**	**339**	P	**P**	**21 49 05.1 -0.8**
	SNR=15					
BRVK	**Borovoye**	**57.74**	**339**	*e*P	**P**	**21 49 04.6 -1.3**
BRVK				LR	LR	
	comp=Z,722nm,20.0s,MS4.8					
CHKZ	**Chkalovo**	**58.13**	**340**	*e*P	**P**	**21 49 07.9 -0.7**
CHKZ				pmax	pmax	
	comp=Z,61nm,1.0s,mb5.6					
CHKZ	**Chkalovo**	**58.13**	**340**	*e*P	**P**	**21 49 07.9 -0.8**
	comp=Z,61nm,1.0s,mb5.6					
YSS	**Yuzh-Sakhalins**	**59.40**	**33**	*e*P	**P**	**21 49 18.1 +0.6**
YSS				*e*		21 49 23.3
YSS				*e**SP	sP	21 49 31.2 +0.2
YSS				*e*		21 50 03.3
YSS				pmax	pmax	
	comp=Z,40nm,1.0s,mb5.4					
YSS				MLR	MLR	
	comp=Z,3μm,20.0s,MS5.4					
YSS				MLR	MLR	
	comp=N,4μm,16.0s,MS5.7					
YSS				MLR	MLR	
	comp=E,3μm,18.0s,MS5.7					
YSS	**Yuzh-Sakhalins**	**59.40**	**33⇑**	*e*P	**P**	**21 49 18.2 +0.7**
CLNS	**Chul'man**	**59.57**	**16**	*e*P	sP	21 49 33.8 +1.7
CLNS				*e**PP	pP	21 49 39.9 +12
CLNS				*e*PPP		21 52 51.2
CLNS				*e*S	sS	21 57 42.3 -0.2
CLNS				pmax	pmax	
	comp=Z,23nm,1.4s,mb5.0					
CLNS				pmax	pmax	
	comp=N,10.0nm,0.9s					
CLNS				pmax	pmax	
	comp=E,17nm,1.2s					
CLNS				MLR	MLR	
	comp=N,3μm,13.0s,MS5.7					
CLNS				MLR	MLR	
	comp=Z,8μm,13.0s,MS6.0					
CLNS				MLR	MLR	
	comp=E,3μm,18.0s,MS5.7					
HNR	**Honiara**	**60.71**	**101**	P	**P**	**21 49 26.0 -0.4**
HNR				pmax	pmax	
	comp=Z,420nm,1.3s,mb6.4					
HNR	**Honiara**	**60.71**	**101**	*e*P	**P**	**21 49 25.6 -0.8**
	comp=Z,418nm,1.3s,mb6.4					
HNR				*e*	pP	21 49 35.1 -1.1
HNR				LR	LR	
	comp=Z,3μm,22.0s,MS5.4					
TAU	**Tasmania Unive**	**60.73**	**142**	*e*P	**P**	**21 49 26.5 -0.1**
TAU				pmax	pmax	
	comp=Z,18nm,0.8s,mb5.2					
TAU				MLR	MLR	
	comp=Z,1μm,19.0s,MS5.1					
TAU	**Tasmania Unive**	**60.73**	**142**	*e*P	**P**	**21 49 26.4 -0.1**
	comp=Z,18nm,0.8s,mb5.2					
TAU				LR	LR	
	comp=Z,1μm,19.0s,MS5.1					
AKTK	**Aktyubinsk**	**60.98**	**331**	P	**P**	**21 49 27.0 -1.3**
AKTK				S	**S**	**21 57 42.1 -2.5**
AKTK				LR	LR	22 23 00.4
AKTO	**Aktyubinsk**	**60.98**	**331**	P	**P**	**21 49 27.0 -1.3**
	comp=Z,23nm,1.0s,mb5.2,baz=133,slow=6.1,SNR=39					
AKTO				S	**S**	**21 57 42.1 -2.5**
	comp=Z,0.6nm,0.6s,baz=15,slow=19,SNR=5.6					
AKTO				LR	LR	22 23 00.4
	comp=Z,2μm,18.1s,MS5.4,baz=117,slow=43					
AKTO	**Aktyubinsk**	**60.98**	**331**	P	**P**	**21 49 27.0 -1.3**
AKTO				S	**S**	**21 57 42.1 -2.5**
BHD	**Baghdad**	**61.23**	**308**	*i* x	x	21 49 29.0
BHD				*i* x	x	21 49 49.0
BHD				*ex*	x	21 57 47.0
KMBO	**Kilima Mbogo**	**62.56**	**268**	P	**P**	**21 49 41.6 +2.7**
	comp=Z,14nm,0.9s,mb5.1,baz=63,slow=9.2,SNR=36					
KMBO				LR	LR	22 10 27.2
	comp=Z,3μm,21.5s,MS5.5,baz=90,slow=30					
KMBO	**Kilima Mbogo**	**62.56**	**268**	P	**P**	**21 49 41.9 +3.0**
	SNR=15					
KMBO	**Kilima Mbogo**	**62.56**	**268**	*e*P	**P**	**21 49 41.7 +2.8**
KMBO				LR	LR	
	comp=Z,3μm,22.0s,MS5.5					
MAK	**Makhachkala**	**62.86**	**319**	*i* P	sP	21 49 51.8 -2.7
MAK				*i*		21 50 20.9
MAK				*i* S		21 58 34.2
MAK				*e*SS	SS	22 02 15.2 +1.7
MAK				pmax	pmax	
	comp=Z,204nm,1.1s,mb6.2					
CUKT	**Cukurca**	**63.23**	**312**	*e*P	**P**	**21 49 42.1 -1.2**
HKR	**Hakkari**	**63.25**	**312**	*e*P	**P**	**21 49 42.7 -0.8**
HAKT	**HAKKARI**	**63.27**	**312**	*i* P	**P**	**21 49 42.3 -1.3**
MSL	**Mosul**	**63.27**	**311**	*ex*	x	21 49 46.5
MSL				*ex*	x	21 50 21.5
MSL				*ex*	x	21 58 35.0
ORR	**Orenburg**	**63.33**	**330**	*e*P	**P**	**21 49 43.2 -0.8**
ORR				pmax	pmax	
	comp=Z,80nm,1.6s,mb5.6					
ORR				MLR	MLR	
	comp=Z,3μm,18.0s,MS5.4					
DGRG	**David-gareji**	**63.62**	**317**	P	**P**	**21 49 46.6 +0.6**
CLDR	**Caldiran**	**63.71**	**314**	*e*P	**P**	**21 49 46.3 -0.3**
VANB	**Van**	**63.88**	**313**	*e*P	**P**	**21 49 51.2 +3.6**
MTA	**Mtatsminda**	**64.11**	**317**	P	**P**	**21 49 49.1 -0.1**
SIRT	**Sirnak**	**64.19**	**312**	*e*P	**P**	**21 49 47.8 -1.8**
SVE	**Sverdlovsk**	**64.21**	**337⇑**	*e*P	**P**	**21 49 49.0 -0.8**
SVE				*e*S	**S**	**21 58 26.0 +1.0**
SVE				*e*SS	SS	22 02 42.0 +7.4
SVE				pmax	pmax	
	comp=Z,200nm,2.3s,mb5.7					
SVE				MLR	MLR	
	comp=N,2μm,20.0s,MS5.6					
SVE				MLR	MLR	
	comp=E,3μm,20.0s,MS5.6					
SVE				MLR	MLR	
	comp=Z,6μm,20.0s,MS5.8					
KZR	**Kazreti**	**64.25**	**317**	P	**P**	**21 49 50.0 0.0**
DUS	**Dusheti**	**64.34**	**317**	P	**P**	**21 49 54.1 +3.4**
AGRB	**Hanur-Agry**	**64.54**	**314**	*e*P	**P**	**21 49 50.5 -1.4**
ARU	**Arti**	**64.75**	**336⇑**	*i* P	**P**	**21 49 51.6 -1.7**
ARU				*e*		21 50 23.3
ARU				*e*		21 52 13.2
ARU				*e*S	**S**	**21 58 31.2 -0.5**
ARU				*e*		21 59 41.9
ARU				*e*SS	SS	22 02 44.8 +1.8
ARU				*e*SSS		22 05 33.1
ARU				pmax	pmax	
	comp=Z,49nm,1.1s,mb5.5					
ARU				MLR	MLR	
	comp=N,5μm,22.0s,MS5.8					
ARU				MLR	MLR	
	comp=Z,9μm,22.0s,MS5.9					
ARU				MLR	MLR	
	comp=E,5μm,19.0s,MS5.8					
ARU	**Arti**	**64.75**	**336**	*e*P	**P**	**21 49 50.9 -2.4**
	comp=E,62nm,1.1s,mb5.5					
ARU				LR	LR	
	comp=Z,2μm,21.0s,MS5.4					
KARS	**Kars**	**64.86**	**315**	*e*P	**P**	**21 49 53.6 -0.5**
BTMT	**Batman**	**65.13**	**312**	*e*P	**P**	**21 49 55.2 -0.6**
ZEI	**Tsey**	**65.16**	**318**	*e*P	**P**	**21 49 56.5 +0.5**
ZEI				*i*	pP	21 50 05.2 -0.7
ZEI				*e*		21 50 29.2
ZEI				*e*S	S	21 58 39.0 +2.2
ZEI				pmax	pmax	
	comp=Z,67nm,0.9s,mb5.7					
YAK	**Yakutsk**	**65.29**	**15**	*e*P	**P**	**21 49 58.3 +1.5**
ONI	**Oni**	**65.39**	**317**	P	**P**	**21 49 59.4 +1.9**
BNGL	**BINGOL**	**65.65**	**313**	*i* P	**P**	**21 49 59.6 +0.5**
ERZM	**Erzurum**	**65.83**	**314**	*i* P	**P**	**21 50 01.2 +0.9**
EZM	**Erzurum**	**65.83**	**314**	*e*P	**P**	**21 50 00.9 +0.5**
BINT	**Bingol**	**66.10**	**313**	*e*P	**P**	**21 50 02.1 0.0**
BCA	**Borcka**	**66.20**	**316**	*e*P	**P**	**21 49 59.6 -3.1**
KIV	**Kislovodsk**	**66.45**	**319**	⇑P	**P**	**21 50 04.3 0.0**
	SNR=28					
KIV	**Kislovodsk**	**66.45**	**319⇑**	*e*P	**P**	**21 50 04.1 -0.2**
KIV				pmax	pmax	
	comp=Z,118nm,1.1s,mb5.8					
KIV	**Kislovodsk**	**66.45**	**319**	*e*P	**P**	**21 50 04.0 -0.3**
KIV				LR	LR	
	comp=Z,621nm,20.0s,MS4.8					
URFA	**Urfa**	**66.88**	**311**	*e*P	**P**	**21 50 06.7 -0.4**
EZC	**Erzincan**	**66.89**	**313**	*e*P	**P**	**21 50 09.4 +2.2**
PTK	**Pertek**	**66.92**	**312**	*e*P	**P**	**21 50 05.4 -1.9**
ASF	**Jabal al Asfar**	**66.92**	**305**	P	**P**	**21 50 08.7 +1.4**
	comp=Z,45nm,1.0s,mb5.5,baz=346,slow=3.0,SNR=30					
ELZG	**Elazig**	**67.09**	**312**	*i* P	**P**	**21 50 09.1 +0.7**
CASY	**Casey**	**67.19**	**175**	*e*P	**P**	**21 50 10.0 +1.0**
MIR	**Mirnyy**	**67.19**	**183**	*d* *i* P	**P**	**21 50 12.0 +3.0**
MIR				*i*		21 50 25.0
MIR				pmax	pmax	
	comp=Z,500nm,1.2s,mb6.4					
KTUT	**Trabzon**	**67.35**	**315**	*e*P	**P**	**21 50 10.7 +0.6**
GUMT	**Gumushane**	**67.37**	**314**	*e*P	**P**	**21 50 09.8 -0.4**
MYA	**Malataya**	**67.45**	**312**	*e*P	**P**	**21 50 11.7 +0.9**
SOKR	**Solikamsk**	**67.58**	**338**	*e*P	**P**	**21 50 10.9 -0.6**
SOKR				pmax	pmax	
	comp=Z,50nm,1.0s,mb5.5					
SOKR				MLR	MLR	
	comp=Z,11μm,26.0s,MS6.0					
GZT	**Gaziantep**	**67.81**	**310**	*i* P	**P**	**21 50 13.7 +0.8**
EIL	**Elat**	**67.96**	**302**	*e*P	**P**	**21 50 14.8 +0.9**
GAZ	**Gaziantep**	**68.03**	**310**	*e*P	**P**	**21 50 14.8 +0.5**
SOC	**Sochi**	**68.30**	**317**	*c* *i* P	**P**	**21 50 15.2 -0.8**
SOC				*e**PP	pP	21 50 25.6 -0.3
SOC				*e**SP	sP	21 50 30.4 +0.7
SOC				*e*		21 52 56.4
SOC				*e*PPP		21 54 26.8
SOC				*e*S	S	21 59 12.7 -2.0
SOC				*e**SS	sS	21 59 34.3 +3.2
SOC				*e*		22 00 11.6
SOC				*e*SS	SS	22 03 43.8 +5.7
SOC				pmax	pmax	
	comp=Z,108nm,0.7s,mb6.0					
SOC				pmax	pmax	
	comp=Z,172nm,1.2s,mb6.0					
SOC	**Sochi**	**68.30**	**317**	*i* P	**P**	**21 50 15.5 -0.5**
MMAI	**Mount Meron Ar**	**68.35**	**305**	P	**P**	**21 50 17.1 +0.8**
	comp=Z,53nm,1.0s,mb5.5,baz=94,slow=8.4,SNR=43					
MMAI				S	S	21 59 20.5 +5.2
	comp=Z,0.2nm,0.2s,baz=130,slow=15,SNR=3.6					
KMRS	**Kahramanmaras**	**68.36**	**310**

VRHR pmax pmax
comp=E,30nm,0.5s
ANN Anapa 70.26 318 *e*P **P 21 50 24.6 -3.6**
ANN *e*S S 21 59 34.6 -3.3
ANN pmax pmax
comp=Z,62nm,1.2s,mb5.4
ANN MLR MLR
comp=Z,1µm,20.0s,MS5.2
AVNT Avonos 70.26 311 *i* P **P 21 50 28.0 -0.2**
CSS Prodhromos 70.49 307 *e*P **P 21 50 29.7 +0.1**
comp=Z,122nm,1.1s,mb5.8
CSS *e*PcP PcP 21 50 49.1 -1.6
IKL Isikli 70.51 308 *e*P **P 21 50 27.9 -1.7**
DIKM Dikmen 70.78 314 *e*P **P 21 50 30.5 -0.8**
CORM Corum 70.81 313 *e*P **P 21 50 28.3 -3.2**
CTKT Corum 70.82 313 *i* P **P 21 50 30.0 -1.6**
BOYT Boyabat 70.97 314 *i* P **P 21 50 32.2 -0.2**
BYBT Boyabat 71.08 314 *e*P **P 21 50 32.7 -0.4**
PECR Pechory 71.17 331 *i* P **P 21 50 32.0 -1.7**
PECR *e* 21 53 12.6
PECR pmax pmax
comp=Z,160nm,2.0s,mb5.6
PECR pmax pmax
comp=Z,700nm,5.4s
KAMT Kaman 71.28 312 *e*P **P 21 50 32.8 -1.5**
PET Petropavlovsk 71.29 33 *e*P PcP 21 50 52.4 -1.7
PET *e*S SKSac 22 00 28.8 -6.2
PET pmax pmax
comp=Z,49nm,1.2s,mb5.3
PET MLR MLR
comp=Z,4µm,19.0s,MS5.6
PET Petropavlovsk 71.29 33 PFAKE 21 50 50.0 +16
PET LR LR
comp=Z,2µm,20.0s,MS5.4
VORD Divnogorie 71.36 324 *e*P **P 21 50 30.3 -4.6**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s,mb5.1
VORD MLR MLR
comp=E,2µm,17.0s,MS5.5
VORD MLR MLR
comp=Z,3µm,17.0s,MS5.6
VORD MLR MLR
comp=N,970nm,14.0s,MS5.5
BR131 Keskin Array S 71.43 312 *e*P **P 21 50 34.7 -0.5**
comp=N,38nm,0.8s,mb5.4
BR131 LR LR
comp=Z,1µm,20.0s,MS5.2
BRTR Keskin Array B 71.43 312 P **P 21 50 34.5 -0.7**
comp=Z,42nm,0.8s,mb5.4,baz=131,slow=7.3,SNR=210
BRTR LR LR 22 23 06.9
comp=Z,2µm,21.5s,MS5.3,baz=133,slow=37
TOS Tosya 71.50 313 *e*P **P 21 50 35.2 -0.5**
HDMB Hadim 71.62 309 *e*P **P 21 50 35.9 -0.6**
CANT Cankiri 71.67 313 *e*P **P 21 50 35.4 -1.4**
VOR Voronezh 71.72 325 *e*P **P 21 50 36.5 -0.5**
VOR pmax pmax
comp=Z,200nm,2.0s,mb5.7
BZK Bozkurt 71.77 314 *e*P **P 21 50 36.6 -0.6**
ELDT Eldivan 71.78 313 *i* P **P 21 50 36.7 -0.7**
KONT Konya--Tatoy 71.95 310 *e*P **P 21 50 36.7 -1.7**
ANTO Ankara 72.09 312 *e*P **P 21 50 36.9 -2.3**
ANTO Ankara 72.09 312 P **P 21 50 39.2 -0.1**
SNR=11
ANTO Ankara 72.09 312 ⇓*i*P **P 21 50 39.2 0.0**
BALT Daday 72.09 314 *i* P **P 21 50 39.2 0.0**
LSZ Lusaka 72.44 254 P **P 21 50 43.1 +1.8**
comp=Z,17nm,1.0s,mb4.9,baz=82,slow=6.0,SNR=19
LSZ Lusaka 72.44 254 ⇑P **P 21 50 43.5 +2.2**
SNR=5.2
LSZ Lusaka 72.44 254 *e*P **P 21 50 43.4 +2.1**
LSZ *e*PcP PcP 21 50 59.5 +0.5
LSZ LR LR
comp=Z,2µm,20.0s,MS5.3
SAFT Safranbolu 72.52 313 *e*P **P 21 50 40.7 -1.1**
KIZT Kizilcal 72.54 311 *e*P **P 21 50 40.0 -1.9**
SIM Simferopol' 72.55 317*c i*P **P 21 50 42.7 +0.7**
SIM *e*S S 22 00 13.6 +9.3
SIM pmax pmax
comp=Z,72nm,1.0s,mb5.6
SIM MLR MLR
comp=Z,4µm,25.0s,MS5.6
MATP Matopo 72.72 248 P **P 21 50 45.1 +2.1**
comp=Z,42nm,0.9s,mb5.4,baz=83,slow=5.4,SNR=47
MAW Mawson 72.75 194 *e*P **P 21 50 45.6 +2.4**
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 72.75 194 P **P 21 50 43.7 +0.6**
comp=Z,13nm,0.8s,mb4.9,baz=26,slow=9.6,SNR=9.6
MAW LR LR 22 16 34.2
comp=Z,4µm,20.9s,MS5.7,baz=33,slow=31
MAW Mawson 72.75 194 *e*P **P 21 50 43.8 +0.6**
SGKT Sivrigoynuk 72.82 312 *i* P **P 21 50 43.1 -0.5**
BCK Bucak 73.21 309 *e*P PcP 21 51 04.6 +2.3
TIXI Tiksi 73.33 9 *e*P **P 21 50 44.1 -2.5**
TIXI *e* 21 51 09.9
TIXI pmax pmax
comp=Z,15nm,1.3s,mb4.8
TIXI MLR MLR
comp=Z,7µm,18.0s,MS6.0
TIXI MLR MLR
comp=N,7µm,17.0s,MS6.2
TIXI MLR MLR
comp=E,7µm,16.0s,MS6.2
TIXI Tiksi 73.33 9 *e*P **P 21 50 46.1 -0.4**
TIXI LR LR
comp=Z,8µm,19.0s,MS6.0
MDU Mudurnu 73.41 312 *e*P **P 21 50 46.2 -0.9**
KDZE Karadeniz Ereo 73.45 313 *e*P **P 21 50 45.5 -1.8**
ESKT Eskisehir 73.46 311 *e*P **P 21 50 47.1 -0.2**
ESKT Eskisehir 73.46 311 *i* P **P 21 50 46.1 -1.2**
SHUT Suhut-Afyon 73.47 310 *e*P **P 21 50 46.8 -0.6**
TKTP Tekketepe 73.54 310 *i* P **P 21 50 47.0 -0.9**
ELL Elmali 73.59 308 *e*P **P 21 50 46.2 -1.9**
HENT Hendek 73.73 312 *i* P **P 21 50 48.1 -0.8**
MOS Moscow 74.17 329 *e*P **P 21 50 48.7 -2.8**
MOS *e* 21 51 06.1
MOS *e*S S 22 00 16.8 -5.8
MOS *e* 22 00 52.2
MOS pmax pmax
comp=Z,124nm,1.2s,mb5.7
MOS MLR MLR
comp=N,4µm,20.0s
MOS MLR MLR
comp=Z,4µm,20.0s,MS5.7
KHL Karahalli 74.21 310 *e*P **P 21 50 49.7 -2.1**
OBN Obninsk 74.48 328⇑*e*P **P 21 50 51.6 -1.8**
OBN *i* 21 51 14.2
OBN *e* 21 53 38.2
OBN *e*S S 22 00 25.4 -0.8
OBN pmax pmax
comp=Z,79nm,1.3s,mb5.5
OBN MLR MLR
comp=Z,4µm,20.0s,MS5.7
OBN Obninsk 74.48 328 *e*P **P 21 50 52.1 -1.3**
OBN LR LR
comp=Z,1µm,22.0s,MS5.1
ADVT Abdulvahap 74.50 312 *e*P **P 21 50 52.0 -1.4**
DALT Dalyan (Mudla) 74.59 308 *e*P **P 21 50 52.5 -1.5**
HRT Hereke 74.64 312 *e*P **P 21 50 53.0 -1.2**
IZI Iznik 74.68 312 *e*P **P 21 50 52.8 -1.7**
YLV Yalova 74.80 312 *e*P **P 21 50 54.0 -1.2**
ULDT Uludag 74.89 311 *i* P **P 21 50 55.1 -0.6**
GEMT Gemlik 74.91 312 *e*P **P 21 50 53.7 -2.1**
ISK Istanbul-Kandi 75.14 312 *e*P **P 21 50 55.4 -1.8**
KLYT Kilyos 75.19 313 *e*P **P 21 50 55.1 -2.4**
KLMR Klimovskoe 75.41 334 *e*P **P 21 50 57.4 -1.3**
KLMR pmax pmax
comp=Z,60nm,1.1s,mb5.4
DAT Datca 75.42 308 *e*P **P 21 50 57.5 -1.3**
AKS Akhisar 75.64 310 *e*P **P 21 50 59.3 -0.7**
BNT Bandirma 75.84 311 *e*P **P 21 50 60.0 -1.2**
LBTB Lobatse 75.96 244 P **P 21 51 03.8 +2.0**
LBTB pmax pmax
comp=Z,23nm,1.0s,mb5.1
LBTB Lobatse 75.96 244 *e*P **P 21 51 03.4 +1.6**
comp=Z,23nm,0.9s,mb5.1
LBTB *e* pP 21 51 11.9 +0.1
LBTB LR LR
comp=Z,2µm,19.0s,MS5.4
KDAG Bornova 75.97 309 *i* P **P 21 51 01.9 0.0**
IZM Izmir 75.97 309 *e*P **P 21 51 01.3 -0.6**

BLCB Balcova 76.14 309 *e*P **P 21 51 01.6 -1.2**
TIRR Tirgusor 76.35 316⇓*i*P **P 21 51 03.9 -0.1**
RKY Sarkoy-Tekirda 76.46 312 *e*P **P 21 51 03.1 -1.5**
AYVA Ayvalik 76.58 310 *i* P **P 21 51 04.5 -0.8**
KIS Kishinev 76.65 318 *e*P **P 21 51 04.0 -1.8**
KIS *e* pP 21 51 13.0 -2.8
KIS *e*PPP 21 55 46.0
KIS *e*S S 22 00 48.0 -2.2
KIS *e*PS 22 01 18.0
KIS *e*SS SS 22 05 44.0 -1.9
KIS *e*SSS 22 09 12.0
KIS Kishinev 76.65 318 *e*PcP PcP 21 51 13.0 -4.1
KIS Kishinev 76.65 318 *e*PP PP 21 54 10.0 +12
CFR Carcaliu 76.70 316 P **P 21 51 12.8 +6.8**
LPK Lapseki 76.72 311 *e*P **P 21 51 04.9 -1.2**
BOSA Boshof 76.74 241 P **P 21 51 07.8 +1.6**
comp=Z,21nm,1.1s,mb5.0,baz=91,slow=6.3,SNR=13
BOSA LR LR 22 20 46.0
comp=Z,913nm,18.1s,MS5.1,baz=87,slow=32
BOSA Boshof 76.74 241 P **P 21 51 08.3 +2.0**
BOSA pmax pmax
comp=Z,27nm,1.0s,mb5.1
BOSA Boshof 76.74 241 P **P 21 51 07.8 +1.5**
BOSA LR LR 22 20 46.0
EZN Ezine 76.94 311 *e*P **P 21 51 06.0 -1.4**
EDRB Edirne 77.00 313 *e*P **P 21 51 06.1 -1.6**
SANT Santorini 77.05 307 *e*P **P 21 51 06.8 -1.2**
THR1 Thera Island 77.05 307 *e*P **P 21 51 07.2 -0.8**
THR6 Thira Island, 77.09 307 *e*P **P 21 51 07.5 -0.8**
THR3 Thira Island, 77.10 307 *e*P **P 21 51 07.7 -0.6**
ENEZ Enez 77.24 312 *e*P **P 21 51 07.9 -1.1**
JMB Yambol 77.24 313 *e*P **P 21 51 08.6 -0.5**
AKASG Malin Array Be 77.31 322 P **P 21 51 07.6 -1.9**
comp=Z,37nm,1.1s,mb5.2,baz=86,slow=4.5,SNR=54
AKASG PP PP 21 54 05.5 +1.7
comp=Z,1.8nm,0.8s,baz=92,slow=6.5,SNR=4.2
AKASG LR LR 22 31 28.9
comp=Z,2µm,18.9s,MS5.4,baz=115,slow=40
AKASG Malin Array Be 77.31 322 P **P 21 51 07.6 -1.9**
AKASG 21 54 05.5
AKASG Malin Array Be 77.31 322 P **P 21 51 07.6 -1.9**
AKASG PP PP 21 54 05.5 +1.7
AKASG LR LR 22 31 28.9
AKBB Malin Array Si 77.31 322 P **P 21 51 08.2 -1.3**
AKBB Malin Array Si 77.31 322 *e*P **P 21 51 07.9 -1.5**
KIEV Kiev 77.31 322 *e*P **P 21 51 07.4 -2.1**
KIEV pmax pmax
comp=Z,35nm,1.0s,mb5.2
KIEV MLR MLR
comp=Z,2µm,20.0s,MS5.4
KIEV Kiev 77.31 322 *e*P **P 21 51 07.4 -2.1**
comp=Z,35nm,1.0s,mb5.2
KIEV LR LR
comp=Z,2µm,20.0s,MS5.4
ALN Alexandroupoli 77.35 312 *e*P **P 21 51 08.6 -1.0**
SIVA Sivas 77.37 306 *e*P **P 21 51 09.6 -0.2**
IAS Iasi 77.53 318 P **P 21 51 10.9 +0.2**
VRI Vrincioaia 77.81 317⇑*i*P **P 21 51 12.9 +0.6**
SZH Strazhica 77.86 314 *e*P **P 21 51 11.6 -0.9**
GVD Gavdhos 77.93 305 *e*P **P 21 51 12.7 -0.3**
comp=Z,45nm,0.9s,mb5.4
GVD *e* pP 21 51 22.6 -0.4
BUC1 Bucharest 78.00 315 P **P 21 51 14.2 +0.9**
KARN Karanos 78.14 306 *e*P **P 21 51 14.3 +0.2**
MLR Muntele Rosu 78.28 316 P **P 21 51 15.4 +0.6**
MLR Muntele Rosu 78.28 316 ⇓P **P 21 51 15.0 +0.2**
MLR Muntele Rosu 78.28 316⇓*i*P **P 21 51 15.0 +0.2**
PVL Pavlikeni 78.28 314 *e*P **P 21 51 12.4 -2.5**
OUR Ouranopolis 78.80 311 *e*P **P 21 51 16.7 -1.1**
VOIR 78.88 316⇑*i*P **P 21 51 17.6 -0.6**
PAIG Paliouri 78.97 310 *e*P **P 21 51 17.8 -0.9**
PGB Panagyurishte 79.01 313 *e*P **P 21 51 16.7 -2.2**
MNK Minsk 79.09 326⇓*e*P **P 21 51 16.0 -3.3**
MNK pmax pmax
comp=Z,190nm,1.0s,mb6.0
SNZO South Karori 79.10 132 *e*P **P 21 51 18.1 -1.3**
comp=Z,30nm,0.7s,mb5.3
SNZO LR LR
comp=Z,7µm,20.0s,MS6.0
BURAR Bucovina Array 79.18 318⇓*i*P **P 21 51 20.9 +1.1**
MMB Musomiste 79.18 312 *e*P **P 21 51 17.1 -2.7**
PLG Polygyros 79.21 311 *e*P **P 21 51 17.9 -2.1**
SRS Serrai 79.21 312 *e*P **P 21 51 18.5 -1.5**
SOH Sokhos 79.35 311 *e*P **P 21 51 18.9 -1.8**
KKB Krupnik 79.70 312 *e*P **P 21 51 21.2 -1.5**
VTS Vitosha 79.72 313 *e*P **P 21 51 20.0 -2.8**
KNT Kendrikon 79.74 312 *e*P **P 21 51 21.8 -1.1**
JOF Joensuu 79.79 334 *e*p **P 21 51 20.5 -2.6**
comp=Z,31nm,0.9s,mb5.2
LIT Litokhoron 79.90 311 *e*P **P 21 51 22.3 -1.4**
VAY Valandovo 80.01 312 *e*P **P 21 51 22.4 -1.9**
VAY Valandovo 80.01 312 *e*P **P 21 51 22.4 -1.9**
LVV L'vov 80.36 320 *e* pP 21 51 33.0 -3.3
LVV *e*S S 22 01 28.0 -1.9
GZR Gura Zlata 80.45 316⇓*i*P **P 21 51 26.9 +0.2**
APA Apatity 80.59 339⇓*e*P **P 21 51 26.0 -1.4**
APA *i* 21 51 39.0
APA *e*S S 22 01 34.0 +1.7
APA pmax pmax
comp=Z,58nm,1.2s,mb5.4
DRGR 80.72 317⇓*i*P **P 21 51 28.8 +0.7**
BILL Bilibino 80.80 20⇓*e*P **P 21 51 28.5 -0.1**
BILL *e* 21 54 31.9
BILL *e*S S 22 01 31.6 -2.8
BILL pmax pmax
comp=Z,7.0nm,1.6s
SKO Skopje 80.93 312 *e*P **P 21 51 29.3 0.0**
SKO Skopje 80.93 312 *e*P **P 21 51 29.3 0.0**
KRUS Krusevo 81.00 312 *e*P **P 21 51 28.5 -1.1**
KRUS Krusevo 81.00 312 *e*P **P 21 51 28.5 -1.1**
SUR Sutherland 81.02 237 *e*P **P 21 51 32.3 +2.6**
SUR LR LR
comp=Z,327nm,20.0s,MS4.7
LKD Levkas 81.14 309 *e*P **P 21 51 29.9 -0.5**
KWP Kalwaria 81.18 320 *e*P **P 21 51 30.6 0.0**
KWP L 22 32 18.5
comp=Z,2.3nm,22.2s
UZH Uzhgorod 81.28 319 *e*P **P 21 51 29.0 -2.2**
UZH *e* 21 51 44.6
UZH *e*S S 22 01 37.0 -2.5
UZH pmax pmax
comp=Z,34nm,1.0s,mb5.2
UZH MLR MLR
comp=Z,1µm,17.0s,MS5.3
BZS Buzias 81.29 316 ⇑P **P 21 51 31.1 -0.1**
BZS Buzias 81.29 316⇑*i*P **P 21 51 31.0 -0.2**
OHR Ohrid 81.30 311 *e*P **P 21 51 29.3 -2.0**
OHR Ohrid 81.30 311 *e*P **P 21 51 29.3 -2.0**
KOLS Kolonicke sedl 81.35 319 *e*P **P 21 51 31.9 +0.4**
KOLS *e*S S 22 01 43.4 +3.3
SUW Suwalki 81.65 325 *e*P **P 21 51 32.4 -0.7**
SUW L 21 54 21.2
comp=Z,1.0nm,28.6s
SUW L 22 27 16.0
comp=Z,3.4nm,27.0s
FIA1 FINESS Array S 81.72 332 *e*P **P 21 51 32.7 -0.7**
FIA1 *e*PcP PcP 21 51 37.5 -1.6
FINES FINESS Array B 81.72 332 P **P 21 51 32.8 -0.6**
comp=Z,16nm,0.9s,mb5.0,baz=103,slow=5.5,SNR=29
FINES LR LR 22 34 34.3
comp=Z,2µm,18.8s,MS5.5,baz=286,slow=41
FINES FINESS Array B 81.72 332 P **P 21 51 32.8 -0.6**
FINES LR LR 22 34 34.3
KAF Kangasniemi 81.78 333 *e*p **P 21 51 32.3 -1.5**
comp=Z,32nm,0.8s,mb5.3,baz=100,slow=4.9
KAF Kangasniemi 81.78 333 *e*P **P 21 51 32.3 -1.5**
KAF pmax pmax
comp=Z,32nm,0.8s,mb5.3
STHS Stebnicka Huta 82.09 320 *e*P **P 21 51 35.8 +0.4**
STHS pmax pmax
comp=Z,28nm,1.0s,mb5.2
STHS Stebnicka Huta 82.09 320 *e*P **P 21 51 35.8 +0.4**
comp=Z,28nm,1.0s,mb5.1
DIVS Divcibare 82.25 314⇑*i*P **P 21 51 35.4 -0.8**
KECS Kecovo 82.45 319 *i* P **P 21 51 37.1 -0.2**
KECS pmax pmax
comp=Z,13nm,1.0s,mb4.8
KECS Kecovo 82.45 319 *i* P **P 21 51 37.1 -0.2**
comp=Z,13nm,1.0s,mb4.8
NIE Niedzica 82.69 320 *e*P **P 21 51 38.9 +0.4**
PSZ Piszkesteto 82.77 318⇑*i*P **P 21 51 38.7 -0.3**
PSZ Piszkesteto 82.77 318⇑*e*P **P 21 51 38.8 -0.2**
TSUM Tsumeb 82.84 251 *e*P **P 21 51 40.5 +1.2**

comp=Z,41nm,1.1s,mb5.4
TSUM LR LR
comp=Z,1µm,19.0s,MS5.3
OJC Ojcow 83.12 320 *e*P **P 21 51 40.5 -0.3**
KEV Kevo 83.52 340 PFAKE 21 51 50.0 +7.2
KEV LR LR
comp=Z,6µm,21.0s,MS6.0
VYHS Vyhne 83.54 319 *e*P **P 21 51 42.8 -0.1**
VYHS *e* 21 54 52.9
VYHS pmax pmax
comp=Z,16nm,1.3s,mb5.0
VYHS Vyhne 83.54 319 *e*P **P 21 51 42.8 -0.1**
comp=Z,16nm,1.3s,mb5.0
VYHS *e*PP PP 21 54 52.9 -2.6
RAO Raoul Island 83.56 119 PFAKE 21 51 50.0 +7.0
RAO LR LR
comp=Z,3µm,20.0s,MS5.7
ARCES ARCESS Array B 83.96 340 P **P 21 51 44.0 -1.1**
comp=Z,14nm,0.8s,mb5.2,baz=95,slow=3.8,SNR=26
ARCES LR LR 22 32 26.5
comp=Z,7µm,21.0s,MS6.0,baz=111,slow=38
ARE0 ARCESS Array S 83.96 340 *e*P **P 21 51 45.9 +0.8**
OKC Ostrava-Krasne 84.14 320 *e*P **P 21 51 46.2 +0.2**
OKC *e*x x 22 02 27.7
OKC AMS AMS 22 38 30.0
comp=Z,2µm,15.0s
OKC Ostrava-Krasne 84.14 320 *e*P **P 21 51 46.2 +0.2**
OKC *e*S sS 22 02 27.7 +2.3
GRI Girifalco 84.45 309 P **P 21 51 49.0 +1.5**
SMOL Smolenice 84.48 319 *e*P **P 21 51 47.5 -0.2**
SMOL Smolenice 84.48 319 *e*P **P 21 51 47.6 -0.1**
MORC Moravsky Berou 84.52 320 *e*P **P 21 51 48.6 +0.7**
MORC pmax pmax
comp=Z,29nm,1.1s,mb5.3
MORC Moravsky Berou 84.52 320 *e*P **P 21 51 48.6 +0.7**
comp=Z,29nm,1.1s,mb5.3
MORC Moravsky Berou 84.52 320⇓*i*P **P 21 51 48.0 +0.1**
ZST Bratislava 84.66 318 *e*P **P 21 51 49.0 +0.4**
ZST *e*PS 22 02 16.4
ZST pmax pmax
comp=Z,30nm,1.0s,mb5.4
ZST MLR MLR
comp=Z,1µm,19.2s,MS5.3
ZST Bratislava 84.66 318 *e*P **P 21 51 49.0 +0.4**
ZST *e*S S 22 02 16.4 +2.6
ZST Bratislava 84.66 318 *e*P **P 21 51 49.0 +0.4**
comp=Z,30nm,1.0s,mb5.4
ZST *e*PS 22 02 16.4
ZST LR LR
comp=Z,1µm,19.2s,MS5.3
VNDA Vanda 84.75 169 P **P 21 51 48.6 -0.5**
comp=Z,9.8nm,1.1s,mb4.9,baz=293,slow=5.6,SNR=16
VNDA LR LR 22 29 16.9
comp=Z,2µm,18.1s,MS5.6,baz=307,slow=35
VNDA Vanda 84.75 169 P **P 21 51 49.0 -0.1**
VNDA pmax pmax
comp=Z,48nm,1.5s
GKP Gorka Klasztor 85.05 323 *e*P **P 21 51 50.3 -0.3**
GKP L 21 54 54.6
comp=Z,1.0nm,29.8s
GKP L 22 35 51.7
comp=Z,2.5nm,21.2s
VRAC Vranov 85.09 319⇓*i*P **P 21 51 49.9 -0.9**
KOGS Kog 85.10 316 *e*P **P 21 51 51.0 +0.1**
KOGS *e*S S 22 02 19.2 +1.0
FG4 Candela 85.28 311 P **P 21 51 52.4 +0.7**
FG4 pmax pmax
comp=Z,165nm,1.1s,mb6.1
FG4 Candela 85.28 311 P **P 21 51 52.4 +0.7**
comp=Z,165nm,1.1s,mb6.1
DPC Dobruska-Polom 85.36 320 *e*P **P 21 51 52.6 +0.5**
DPC *e*x x 22 03 25.7
DPC AMS AMS 22 35 20.0
comp=Z,2µm,16.8s
KSP Ksiaz 85.41 321 *e*P **P 21 51 54.3 +1.9**
KSP L 22 03 50.4
comp=Z,2.3nm,20.5s
KSP L 22 36 35.4
comp=Z,6.1nm,19.7s
KSP Ksiaz 85.41 321 *e*P **P 21 51 52.4 0.0**
KSP *e*PP pP 21 52 00.8 -1.8
KSP LR LR
comp=Z,7µm,19.7s,MS6.1
CONA Conrad Observa 85.47 318 *i* P **P 21 51 52.3 -0.3**
comp=Z,13nm,1.1s,mb5.0,SNR=11
UPC Upice 85.56 320 *e*P **P 21 51 53.7 +0.5**
CRES Cresnjev 85.61 316 *e*P **P 21 51 53.3 -0.1**
GROS Grobnik 85.62 316 *e*P **P 21 51 53.3 -0.2**
BOJS Bojanci 85.73 315 *i* P **P 21 51 54.0 0.0**
BOJS *e*S S 22 02 24.4 0.0
TREC Trest 85.81 319 *e*P **P 21 51 54.4 0.0**
TREC *e*S S 22 02 25.8 +0.6
TREC AMS AMS 22 39 30.0
comp=Z,2µm,17.2s
SBA Scott Base 85.84 169 *e*P **P 21 51 55.4 +0.9**
SBA MLR MLR
comp=Z,2µm,20.0s,MS5.6
PERS Pernice 85.89 317 *e*P **P 21 51 55.0 +0.2**
MSKU Masuku 86.20 268 PFAKE 21 52 10.0 +14
MSKU LR LR
comp=Z,31nm,20.0s
LJU Ljubljana 86.27 316 *e*P **P 21 51 56.9 +0.3**
LJU *e*S S 22 02 30.0 +0.3
PRU Pruhonice 86.47 320 *e*P **P 21 51 58.1 +0.5**
PRU *e*S S 22 02 31.9 +0.3
PRU AMS AMS 22 36 50.0
comp=Z,2µm,21.1s
PVCC Panska Ves 86.49 320 *e*P **P 21 51 58.5 +0.8**
PVCC AMS AMS 22 36 50.0
comp=Z,3µm,18.4s
MOA Molln 86.54 318⇑*i*P **P 21 51 57.7 -0.3**
comp=Z,17nm,1.1s,mb5.2,SNR=13
SDI San Donato 86.59 312 P **P 21 51 57.8 -0.4**
SDI pmax pmax
comp=Z,30nm,1.1s,mb5.4
SDI San Donato 86.59 312 P **P 21 51 57.8 -0.4**
comp=Z,30nm,1.1s,mb5.4
VOY Vojsko 86.71 316 *e*P **P 21 51 58.3 -0.5**
VOY *e* 21 52 51.3
CADS Cadrg 86.83 316 *i* P **P 21 51 59.1 -0.3**
BRG Berggiesshubel 86.90 321 *e*P **P 21 52 00.2 +0.5**
comp=Z,32nm,1.1s,mb5.5
BRG Berggiesshubel 86.90 321 *i* P **P 21 51 59.8 +0.1**
comp=Z,20nm,1.1s,mb5.2
BRG
comp=N,828nm,17.5s
BRG
comp=E,1µm,18.0s
BRG
comp=Z,2µm,20.6s
AQU L'Aquila 86.92 312 P **P 21 52 00.8 +1.0**
AQU pmax pmax
comp=Z,92nm,1.2s,mb5.9
AQU L'Aquila 86.92 312 P **P 21 52 00.8 +1.0**
comp=Z,92nm,1.2s,mb5.9
GEC2 GERESS Array S 86.96 319 *e*P **P 21 52 00.5 +0.5**
comp=Z,50nm,1.2s,mb5.6
GEC2 GERESS Array S 86.96 319 *e*P **P 21 52 00.5 +0.5**
GEC2 pmax pmax
comp=Z,50nm,1.2s,mb5.6
GERES GERESS Array B 86.96 319 P **P 21 52 00.2 +0.2**
comp=Z,23nm,1.0s,mb5.3,baz=98,slow=5.5,SNR=53
GERES LR LR 22 36 36.6
comp=Z,2µm,20.4s,MS5.4,baz=76,slow=40
KHC Kasperske Hory 87.06 319 *e*P **P 21 52 00.6 +0.1**
KHC *e*pP pP 21 52 12.5 +1.8
KHC *e*S S 22 02 33.4 -3.9
KHC AMS AMS 22 37 00.0
comp=Z,2µm,18.9s
RUE Ruedersdorf 87.08 322 *e*P **P 21 52 01.1 +0.4**
PTCC Patocco-Chiusa 87.10 316 P **P 21 52 00.6 -0.1**
comp=Z,37nm,0.9s,mb5.6
FIAM Fiamignano 87.13 312 P **P 21 52 01.1 +0.3**
NRCA Norcia 87.15 313 P **P 21 52 01.4 +0.5**
comp=Z,34nm,1.2s,mb5.5
GMNA Gemona 87.17 316 P **P 21 52 01.5 +0.4**
comp=Z,280nm,1.1s,mb6.4
MTCE Montecelio 87.40 312 P **P 21 52 02.2 +0.1**
RGN Rugen 87.45 324 *e*P **P 21 52 01.6 -0.8**
FVI Forni Avoltri 87.50 316 P **P 21 52 02.5 -0.1**
FVI pmax pmax
comp=Z,47nm,1.6s,mb5.5
FVI Forni Avoltri 87.50 316 P **P 21 52 02.5 -0.1**
comp=Z,47nm,1.6s,mb5.5
CLL Collm 87.51 321 *e*P **P 21 52 02.7 0.0**

comp=Z,41nm,1.2s,mb5.5
CLL Collm 87.51 321⇑iP P 21 52 02.4 -0.3
CLL eS S 22 02 39.0 -2.7
CLL pmax pmax
comp=Z,24nm,1.2s,mb5.3
CLL MLR MLR
comp=Z,2µm,17.4s,MS5.5
CLL Collm 87.51 321⇑iP P 21 52 02.4 -0.3
comp=Z,24nm,1.2s,mb5.3
CLL i 21 52 04.4
CLL eS S 22 02 39.0 -2.7
CLL LR LR
comp=Z,2µm,17.4s,MS5.5
CLL Collm 87.51 321⇑iP P 21 52 02.4 -0.3
comp=Z,24nm,1.2s,mb5.3
CLL i Pmax 21 52 04.4
comp=Z,42nm,1.2s
CLL eS S 22 02 39.0 -2.7
CLL e(SS) 22 08 18.0
CLL eSSS 22 12 00.0
CLL eSSSS 22 15 18.0
NKC Novy Kostel 87.83 320 eP P 21 52 04.7 +0.5
NKC AMS AMS 22 37 50.0
comp=Z,3µm,18.1s
ROTZ Rotzenmuhle 87.97 320 eP P 21 52 05.7 +0.8
CRE Caprese Michel 88.02 313 P P 21 52 07.1 +2.0
CRE pmax pmax
comp=Z,26nm,1.0s,mb5.4
CRE Caprese Michel 88.02 313 P P 21 52 07.1 +2.0
comp=Z,26nm,1.0s,mb5.4
MANZ Manzenberg 88.04 320 eP P 21 52 06.2 +1.0
SFI Santa Sofia 88.10 314 P P 21 52 06.7 +1.2
SFI pmax pmax
comp=Z,104nm,1.3s,mb5.9
SFI Santa Sofia 88.10 314 P P 21 52 06.7 +1.2
comp=Z,104nm,1.3s,mb5.9
CTI Castel Tesino 88.27 316 P P 21 52 06.8 +0.5
WTTA Wattenberg 88.30 317⇑iP P 21 52 06.2 -0.2
comp=Z,32nm,1.1s,mb5.5,SNR=11
WTTA Wattenberg 88.30 317⇑iP P 21 52 06.2 -0.2
WTTA pmax pmax
comp=Z,32nm,1.1s,mb5.5
MOX Moxa 88.37 320 eP P 21 52 07.2 +0.4
comp=Z,50nm,1.3s,mb5.6
MOX Moxa 88.37 320 eP P 21 52 07.0 +0.2
comp=Z,45nm,1.3s,mb5.5
MOX
comp=Z,1µm,22.0s
MOX Moxa 88.37 320 eP P 21 52 07.0 +0.2
MOX pmax pmax
comp=Z,45nm,1.3s,mb5.5
MOX MLR MLR
comp=Z,1µm,22.0s,MS5.3
SEI Scarperia 88.45 314 P P 21 52 08.5 +1.3
comp=Z,49nm,0.8s,mb5.8
FUR Furstenfeldbru 88.56 318 eP P 21 52 07.5 -0.1
comp=Z,33nm,1.2s,mb5.5
FUR Furstenfeldbru 88.56 318 eP P 21 52 07.5 -0.1
FUR pmax pmax
comp=Z,33nm,1.2s,mb5.5
SQTA Sankt Quirin 88.59 317⇑iP P 21 52 07.4 -0.4
comp=Z,15nm,1.0s,mb5.3,SNR=8.4
SQTA Sankt Quirin 88.59 317⇑iP P 21 52 07.4 -0.4
SQTA pmax pmax
comp=Z,15nm,1.0s,mb5.3
GRA1 Grafenberg Arr 88.61 320 eP P 21 52 08.7 +0.8
comp=Z,71nm,1.2s,mb5.9
GRA1 LR LR
comp=Z,2µm,18.8s,MS5.7
GRF Grafenberg Arr 88.61 320 eP P 21 52 08.7 +0.8
comp=Z,71nm,1.2s,mb5.9
GRF eL 22 38 35.6
comp=Z,2µm,18.8s
GRF Grafenberg Arr 88.61 320 eP P 21 52 08.7 +0.8
GRF pmax pmax
comp=Z,71nm,1.2s,mb5.9
GRF MLR MLR
comp=Z,2µm,18.8s,MS5.7
GRF Grafenberg Arr 88.61 320 eP P 21 52 08.7 +0.8
GRF pmax pmax
comp=Z,71nm,1.2s,mb5.9
GRF MLR MLR
comp=Z,2µm,18.8s,MS5.7
AFI Afiamalu 88.62 104 P P 21 52 06.0 -2.0
AFI MLR MLR
comp=Z,2µm,20.0s,MS5.5
FNVD Fontana Vidola 88.62 314 P P 21 52 09.8 +1.8
MOTA Moosalm 88.66 317⇑iP P 21 52 07.7 -0.4
comp=Z,31nm,1.1s,mb5.5,SNR=20
MOTA Moosalm 88.66 317⇑iP P 21 52 07.7 -0.5
MOTA pmax pmax
comp=Z,31nm,1.1s,mb5.5
NB2 NORSAR Subarra 88.78 331 P P 21 52 07.8 -0.9
comp=Z,30nm,1.2s,mb5.5,baz=92,slow=5.3
NOA NORSAR Array B 88.78 331 P P 21 52 07.0 -1.6
comp=Z,11nm,1.1s,mb5.1,baz=94,slow=4.6,SNR=9.1
NOA LR LR 22 35 45.4
comp=Z,2µm,21.1s,MS5.6,baz=90,slow=38
NAO01 NORSAR Array S 88.94 331 eP P 21 52 09.1 -0.3
comp=Z,5.1nm,0.8s,mb4.9
KBS Kingsbay 88.99 349 PFAKE 21 52 20.0 +10
KBS LR LR
comp=Z,5µm,21.0s,MS5.9
GSCL Gusciola 89.01 314 P P 21 52 11.5 +1.7
comp=Z,63nm,1.2s,mb5.8
MABI Malga Bissina 89.06 316 P P 21 52 10.6 +0.6
BRMO Bormio 89.16 316 P P 21 52 11.1 +0.6
CLZ Clausthal 89.16 322 eP P 21 52 11.1 +0.6
comp=Z,92nm,1.2s,mb6.0
CLZ Clausthal 89.16 322 eP P 21 52 11.1 +0.6
CLZ pmax pmax
comp=Z,92nm,1.2s,mb6.0
BSEG Bad Segeberg 89.20 324 eP P 21 52 11.3 +0.6
comp=Z,62nm,1.1s,mb5.8
DAVA Damuels 89.50 317 i P P 21 52 12.6 +0.6
comp=Z,56nm,1.1s,mb5.8,SNR=20
KONO Kongsberg 89.58 329 eP P 21 52 12.8 +0.4
KONO pmax pmax
comp=Z,18nm,0.9s,mb5.4
KONO MLR MLR
comp=Z,3µm,20.0s,MS5.7
KONO Kongsberg 89.58 329 eP P 21 52 12.8 +0.4
comp=Z,18nm,0.9s,mb5.4
KONO LR LR
comp=Z,3µm,20.0s,MS5.7
MUD Monsted U'grnd 89.84 326 i P P 21 52 15.2 +1.5
comp=Z,24nm,1.0s,mb5.5
MUD Monsted U'grnd 89.84 326 i P P 21 52 15.2 +1.5
MUD pmax pmax
comp=Z,24nm,1.0s,mb5.5
NVL N'lazarevskaya 89.90 199d iP P 21 52 16.9 +3.0
NVL pmax pmax
comp=Z,69nm,1.5s,mb5.8
STU Stuttgart 89.94 319 eP P 21 52 14.4 +0.3
STU Stuttgart 89.94 319 eP P 21 52 14.0 -0.1
STU pmax pmax
comp=Z,11nm,0.7s,mb5.3
STU Stuttgart 89.94 319 eP P 21 52 13.9 -0.2
comp=Z,11nm,0.7s,mb5.3
KEST Kesra 90.01 306 P P 21 52 16.1 +1.6
comp=Z,16nm,1.0s,mb5.3,baz=193,slow=0.3,SNR=20
KEST LR LR 22 36 04.5
comp=Z,928nm,19.2s,MS5.2,baz=157,slow=38
PGF Pioggiola 90.18 312⇑iP P 21 52 15.5 +0.3
comp=Z,107nm,1.4s,mb5.7
PGF Pioggiola 90.18 312⇑iP P 21 52 15.5 +0.3
PGF pmax pmax
comp=Z,53nm,1.4s,mb5.7
PGF Pioggiola 90.18 312⇑iP P 21 52 15.5 +0.3
comp=Z,54nm,1.4s,mb5.7
TOD Tromm 90.18 319 eP P 21 52 15.9 +0.6
TNA Tin City 90.40 25 PFAKE 21 52 30.0 +14
TNA LR LR
comp=Z,2µm,19.0s,MS5.6
TNS Taunus Mts 90.40 320 eP P 21 52 16.9 +0.6
comp=Z,63nm,1.0s,mb5.9
TNS Taunus Mts 90.40 320 eP P 21 52 16.9 +0.6
TNS pmax pmax
comp=Z,63nm,1.0s,mb5.9
BFO Black Forest 90.52 318 eP P 21 52 16.8 -0.1
comp=Z,34nm,1.0s,mb5.6
BFO Black Forest 90.52 318 P P 21 52 17.1 +0.2
BFO pmax pmax
comp=Z,30nm,1.0s,mb5.6
QSPA South Pole Qui 90.56 180 PFAKE 21 52 30.0 +13
QSPA LR LR

comp=Z,3µm,20.0s,MS5.7
FIN Finale Ligure 90.72 314 P P 21 52 18.0 +0.2
FIN pmax pmax
comp=Z,97nm,1.0s,mb6.1
FIN Finale Ligure 90.72 314 P P 21 52 18.0 +0.2
comp=Z,96nm,1.0s,mb6.1
FELD Feldberg im Sc 90.75 318 eP P 21 52 17.9 0.0
IBBN Ibbenburen 90.77 322 eP P 21 52 19.2 +1.2
LANF Langenberg 90.85 319 eP P 21 52 18.7 +0.3
BBS Basel-Blauen 91.10 317 eP P 21 52 19.5 -0.1
BUG Bochum-Univer 91.11 321 eP P 21 52 19.9 +0.3
CDF Champ du Feu 91.22 318⇑iP P 21 52 20.0 -0.1
comp=Z,59nm,1.1s,mb5.5
CDF Champ du Feu 91.22 318⇑iP P 21 52 20.0 -0.1
CDF pmax pmax
comp=Z,30nm,1.1s,mb5.5
CDF Champ du Feu 91.22 318⇑iP P 21 52 20.0 -0.1
comp=Z,30nm,1.1s,mb5.5
SBF Sospel 91.28 314⇑iP P 21 52 20.7 +0.3
comp=Z,136nm,1.1s,mb5.9
SBF Sospel 91.28 314⇑iP P 21 52 20.7 +0.3
SBF pmax pmax
comp=Z,68nm,1.1s,mb5.9
SBF Sospel 91.28 314⇑iP P 21 52 20.7 +0.3
comp=Z,68nm,1.1s,mb5.9
ECH Echery 91.31 318 eP P 21 52 21.1 +0.6
TOUF Mont Tournerai 91.42 314 eP P 21 52 22.2 +1.2
MVIF Mont Vial 91.49 314 eP P 21 52 22.4 +1.1
LOMF Lomont 91.57 317 eP P 21 52 21.5 -0.2
UNV Unalaska Valle 91.70 36 PFAKE 21 52 30.0 +7.7
UNV LR LR
comp=Z,5µm,20.0s,MS5.9
LPG La Plagne 91.71 315⇑iP P 21 52 22.9 +0.5
comp=Z,74nm,0.9s,mb5.7
LPG La Plagne 91.71 315⇑iP P 21 52 22.9 +0.5
LPG pmax pmax
comp=Z,37nm,0.9s,mb5.7
LPG La Plagne 91.71 315⇑iP P 21 52 22.9 +0.5
comp=Z,37nm,0.9s,mb5.7
OG01 Vacheresse 91.72 316 eP P 21 52 22.8 +0.4
LPL La Plagne 91.72 315⇑iP P 21 52 22.9 +0.5
comp=Z,117nm,1.0s,mb5.9
LPL La Plagne 91.72 315⇑iP P 21 52 22.9 +0.5
LPL pmax pmax
comp=Z,59nm,1.0s,mb5.9
LPL La Plagne 91.72 315⇑iP P 21 52 22.9 +0.5
comp=Z,59nm,1.0s,mb5.9
MBDF Montbardon 91.73 315⇑iP P 21 52 22.0 -0.4
comp=Z,33nm,1.0s,mb5.3
MBDF Montbardon 91.73 315⇑iP P 21 52 22.0 -0.4
MBDF pmax pmax
comp=Z,17nm,1.0s,mb5.3
MBDF Montbardon 91.73 315⇑iP P 21 52 22.0 -0.4
comp=Z,17nm,1.0s,mb5.3
RSL Roselend 91.79 316 eP P 21 52 22.6 -0.1
HAU Haudompre 91.86 318⇑iP P 21 52 22.9 -0.2
comp=Z,120nm,1.1s,mb5.8
HAU eMLR
comp=Z,2µm,21.5s
HAU Haudompre 91.86 318⇑iP P 21 52 22.9 -0.2
HAU pmax pmax
comp=Z,60nm,1.1s,mb5.8
HAU MLR MLR
comp=Z,2µm,21.5s,MS5.4
HAU Haudompre 91.86 318⇑iP P 21 52 22.9 -0.2
comp=Z,60nm,1.1s,mb5.8
HAU LR LR
comp=Z,2µm,21.5s,MS5.4
FRF La Foret Royal 91.87 313⇑iP P 21 52 23.4 +0.3
comp=Z,74nm,1.1s,mb5.6
FRF La Foret Royal 91.87 313⇑iP P 21 52 23.4 +0.3
FRF pmax pmax
comp=Z,37nm,1.1s,mb5.6
FRF La Foret Royal 91.87 313⇑iP P 21 52 23.4 +0.3
comp=Z,37nm,1.1s,mb5.6
WLF Walferdange 91.90 320 eP P 21 52 24.0 +0.7
WLF Walferdange 91.90 320 P P 21 52 24.4 +1.1
WLF Walferdange 91.90 320 eP P 21 52 24.1 +0.8
WLF pmax pmax
comp=Z,17nm,0.8s,mb5.4
WLF Walferdange 91.90 320 eP P 21 52 24.1 +0.8
comp=Z,17nm,0.8s,mb5.4
LMR La Mourre 91.98 313 eP P 21 52 24.0 +0.4
comp=Z,21nm,1.0s,mb5.1
LMR La Mourre 91.98 313 eP P 21 52 24.0 +0.4
LMR pmax pmax
comp=Z,11nm,1.0s,mb5.1
LMR La Mourre 91.98 313 eP P 21 52 24.0 +0.4
comp=Z,11nm,1.0s,mb5.1
THEF They Montfort 92.09 318 eP P 21 52 24.5 +0.4
CABF La Chapelle 92.11 316⇑iP P 21 52 24.7 +0.5
comp=Z,82nm,1.0s,mb5.7
CABF La Chapelle 92.11 316⇑iP P 21 52 24.7 +0.5
CABF pmax pmax
comp=Z,41nm,1.0s,mb5.7
CABF La Chapelle 92.11 316⇑iP P 21 52 24.7 +0.5
comp=Z,41nm,1.0s,mb5.7
ORIF Oris-en-Rattie 92.35 315 eP P 21 52 25.7 +0.4
comp=Z,41nm,1.1s,mb5.4
ORIF eMLR
comp=Z,2µm,19.0s
ORIF Oris-en-Rattie 92.35 315 eP P 21 52 25.7 +0.4
ORIF pmax pmax
comp=Z,20nm,1.1s,mb5.4
ORIF Oris-en-Rattie 92.35 315 eP P 21 52 25.7 +0.4
comp=Z,20nm,1.1s,mb5.4
BCLA Clavier 92.40 320 P P 21 52 27.3 +1.7
OG05 Jujurieux 92.58 316 eP P 21 52 26.4 0.0
SMRF Simiane la Rot 92.62 314 eP P 21 52 26.0 -0.6
comp=Z,54nm,1.2s,mb5.5
SMRF Simiane la Rot 92.62 314 eP P 21 52 26.0 -0.6
comp=Z,54nm,1.2s,mb5.8
MEZF Maizieres J'vi 92.70 318⇑iP P 21 52 27.1 +0.2
comp=Z,47nm,1.1s,mb5.5
MEZF Maizieres J'vi 92.70 318⇑iP P 21 52 27.1 +0.2
comp=Z,47nm,1.1s,mb5.8
GIVF Givet 92.73 320 eP P 21 52 27.1 0.0
BAIF Baives 93.13 320 eP P 21 52 29.2 +0.3
comp=Z,30nm,1.1s,mb5.4
BAIF Baives 93.13 320 eP P 21 52 29.2 +0.3
BAIF pmax pmax
comp=Z,15nm,1.0s,mb5.4
BAIF Baives 93.13 320 eP P 21 52 29.2 +0.3
comp=Z,15nm,1.0s,mb5.4
VIVF Saint-Julien-l 93.21 315 eP P 21 52 29.4 +0.1
comp=Z,34nm,1.1s,mb5.4
VIVF Saint-Julien-l 93.21 315 eP P 21 52 29.4 +0.1
VIVF pmax pmax
comp=Z,17nm,1.1s,mb5.4
VIVF Saint-Julien-l 93.21 315 eP P 21 52 29.4 +0.1
comp=Z,17nm,1.1s,mb5.4
LOR Lormes 93.59 317⇑iP P 21 52 31.1 0.0
comp=Z,66nm,1.1s,mb5.7
LOR eMLR
comp=Z,2µm,22.5s
LOR Lormes 93.59 317⇑iP P 21 52 31.1 0.0
LOR pmax pmax
comp=Z,33nm,1.1s,mb5.7
LOR MLR MLR
comp=Z,2µm,22.5s,MS5.5
LOR Lormes 93.59 317⇑iP P 21 52 31.1 0.0
comp=Z,33nm,1.1s,mb5.7
LOR LR LR
comp=Z,2µm,22.5s,MS5.5
SMF Signal de Mont 93.66 317⇑iP P 21 52 31.3 0.0
comp=Z,60nm,1.1s,mb5.6
SMF Signal de Mont 93.66 317⇑iP P 21 52 31.3 0.0
SMF pmax pmax
comp=Z,30nm,1.1s,mb5.6
SMF Signal de Mont 93.66 317⇑iP P 21 52 31.3 0.0
comp=Z,30nm,1.1s,mb5.6
SSF Saint Saulge 93.85 317⇑iP P 21 52 32.2 0.0
comp=Z,28nm,1.2s,mb5.3
SSF Saint Saulge 93.85 317⇑iP P 21 52 32.2 0.0
SSF pmax pmax
comp=Z,14nm,1.2s,mb5.3
SSF Saint Saulge 93.85 317⇑iP P 21 52 32.2 0.0
comp=Z,14nm,1.2s,mb5.3
LASF Ste Croix 93.85 314 eP P 21 52 32.6 +0.3
PLDF La Plantade 93.86 316 eP P 21 52 34.3 +2.0
AVF Avril sur Loir 93.98 317⇑iP P 21 52 32.8 0.0
comp=Z,28nm,1.1s,mb5.3
AVF Avril sur Loir 93.98 317⇑iP P 21 52 32.8 0.0
AVF pmax pmax
comp=Z,14nm,1.1s,mb5.3
AVF Avril sur Loir 93.98 317⇑iP P 21 52 32.8 0.0

comp=Z,14nm,1.1s,mb5.3
AGO Saint Agoulin 94.20 316 eP P 21 52 34.3 +0.5
BGF Bois d'Agland 94.35 317⇑iP P 21 52 34.8 +0.3
comp=Z,45nm,1.2s,mb5.5
BGF Bois d'Agland 94.35 317⇑iP P 21 52 34.8 +0.3
BGF pmax pmax
comp=Z,22nm,1.2s,mb5.5
BGF Bois d'Agland 94.35 317⇑iP P 21 52 34.8 +0.3
comp=Z,22nm,1.2s,mb5.5
HYF Humbligny 94.42 317 eP P 21 52 35.4 +0.5
SNAA Sanae 94.55 198 eP P 21 52 37.7 +2.3
TCF Toulx Ste Croi 94.81 316 eP P 21 52 37.0 +0.3
comp=Z,29nm,1.3s,mb5.2
TCF Toulx Ste Croi 94.81 316 eP P 21 52 37.0 +0.3
TCF pmax pmax
comp=Z,15nm,1.3s,mb5.3
TCF Toulx Ste Croi 94.81 316 eP P 21 52 37.0 +0.3
comp=Z,15nm,1.3s,mb5.2
CAF Calviac 95.05 315 eP P 21 52 38.1 +0.3
comp=Z,34nm,1.3s,mb5.3
CAF Calviac 95.05 315 eP P 21 52 38.1 +0.3
CAF pmax pmax
comp=Z,17nm,1.3s,mb5.3
CAF Calviac 95.05 315 eP P 21 52 38.1 +0.3
comp=Z,17nm,1.3s,mb5.3
MTLF Montolieu 95.10 313 eP P 21 52 38.1 +0.1
comp=Z,16nm,1.0s,mb5.1
MTLF Montolieu 95.10 313 eP P 21 52 38.1 +0.1
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
MTLF Montolieu 95.10 313 eP P 21 52 38.1 +0.1
comp=Z,7.8nm,1.0s,mb5.1
RJF Les Rejaudoux 95.40 315 eP P 21 52 39.6 +0.3
RJF eMLR
comp=Z,1µm,23.0s
RJF Les Rejaudoux 95.40 315 eP P 21 52 39.6 +0.3
RJF LR LR
comp=Z,1µm,23.0s,MS5.3
DAG Danmarks Havn 95.70 348⇓iP P 21 52 40.2 -0.5
comp=Z,5.9nm,0.9s,mb5.0
DAG Danmarks Havn 95.70 348⇓eP P 21 52 40.2 -0.5
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
IMA2 Indian Mountai 96.10 23 eP P 21 52 42.5 0.0
LDF La Druitiere 96.11 319 eP P 21 52 42.2 -0.4
comp=Z,15nm,0.9s,mb5.1
LDF La Druitiere 96.11 319 eP P 21 52 42.2 -0.4
LDF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
LDF La Druitiere 96.11 319 eP P 21 52 42.2 -0.4
comp=Z,7.7nm,0.9s,mb5.1
FLN La Foliniere 96.32 319 eP P 21 52 43.0 -0.5
comp=Z,38nm,1.2s,mb5.4
FLN eMLR
comp=Z,2µm,18.8s
FLN La Foliniere 96.32 319 eP P 21 52 43.0 -0.5
FLN pmax pmax
comp=Z,19nm,1.2s,mb5.4
FLN MLR MLR
comp=Z,2µm,18.8s,MS5.6
FLN La Foliniere 96.32 319 eP P 21 52 43.0 -0.5
comp=Z,19nm,1.2s,mb5.4
FLN LR LR
comp=Z,2µm,18.8s,MS5.6
MFF Saint Martin d 96.39 317 eP P 21 52 43.6 -0.3
comp=Z,15nm,0.9s,mb5.1
MFF Saint Martin d 96.39 317 eP P 21 52 43.6 -0.3
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
MFF Saint Martin d 96.39 317 eP P 21 52 43.6 -0.3
comp=Z,7.3nm,0.9s,mb5.1
ESK Eskdalemuir 96.88 326 P P 21 52 46.7 +0.6
ESK MLR MLR
comp=Z,577nm,20.0s,MS5.1
TOA0 Torodi Ar. Sit 97.75 283 eP P 21 52 50.9 +0.9
TOA0 ePP PP 21 56 49.1 +1.0
TORD Torodi Ar. Bea 97.75 283 P P 21 52 51.0 +1.0
comp=Z,4.6nm,1.0s,mb5.0,baz=70,slow=2.9,SNR=20
TORD PP PP 21 56 44.4 -3.8
comp=Z,1.5nm,1.1s,baz=96,slow=11,SNR=3.6
TORD LR LR 22 36 25.0
comp=Z,2µm,19.2s,MS5.5,baz=85,slow=35
MCK McKinley 98.74 25 PFAKE 21 53 10.0 +16
MCK LR LR
comp=Z,2µm,20.0s,MS5.5
COLA College 98.79 24 P P 21 52 53.2 -1.5
COLA MLR MLR
comp=Z,3µm,19.0s,MS5.8
KDAK Kodiak Island 98.81 31 LR LR 22 40 53.7
comp=Z,3µm,21.9s,MS5.8,baz=308,slow=38
KDAK Kodiak Island 98.81 31 PFAKE 21 53 10.0 +15
KDAK LR LR
comp=Z,924nm,22.0s,MS5.2
PMR Palmer 99.36 27 PFAKE 21 53 10.0 +13
PMR LR LR
comp=Z,2µm,19.0s,MS5.7
RAR Rarotonga 99.95 111 PFAKE 21 53 10.0 +10
RAR LR LR
comp=Z,2.0nm,19.0s
ESDC Sonseca Array 100.18 310 P Pdif 21 53 01.5 +0.7
comp=Z,0.9nm,0.8s,baz=52,slow=4.4,SNR=5.2
ESDC PP PP 21 57 00.7 -6.0
comp=Z,0.8nm,0.8s,baz=91,slow=10,SNR=3.3
ESLA Sonseca Array 100.18 310 e Pdif Pdif 21 53 00.8 -0.1
ESLA LR LR
comp=Z,5µm,19.0s,MS6.0
PAB San Pablo 100.50 310 PFAKE 21 53 10.0 +7.7
PAB LR LR
comp=Z,690nm,20.0s,MS5.2
EGAK Eagle 101.45 22 PFAKE 21 53 20.0 +14
EGAK LR LR
comp=Z,3µm,20.0s,MS5.7
BORG Borgarnes 102.25 338 PFAKE 21 53 20.0 +10
BORG LR LR
comp=Z,711nm,20.0s,MS5.2
INK Inuvik 102.25 18 P Pdif 21 53 07.8 -2.3
SFS San Fernando 102.47 307 P Pdif 21 53 11.5 +0.5
SIT Sitka 107.67 28 PFAKE 21 57 50.0 +8.1
SIT LR LR
comp=Z,5µm,19.0s,MS6.1
TBI Tubuai 109.25 114 eLR LR 22 30 05.9
comp=Z,4µm,24.0s
SFJD Kangerlussuaq 109.39 348 PFAKE 21 58 00.0 +15
SFJD LR LR
comp=Z,3µm,21.0s,MS5.9
WRAK Wrangell Islan 109.40 28 PFAKE 21 58 00.0 +15
WRAK LR LR
comp=Z,3µm,20.0s,MS5.9
PPT Papeete 109.83 108 eLR LR 22 30 17.4
comp=Z,3µm,25.2s
YKA Yellowknife Ar 111.94 16 PKiKP PKiKP 21 57 49.8 -0.1
comp=Z,0.2nm,0.6s,baz=321,slow=1.6,SNR=3.9
YKA PP PP 21 58 32.2 -1.2
comp=Z,0.4nm,0.8s,baz=318,slow=4.7,SNR=4.0
YKA PKKPbc PKKPbc 22 08 42.2 +0.3
comp=Z,0.7nm,0.9s,baz=146,slow=3.3,SNR=7.7
YKA Yellowknife Ar 111.94 16 PKiKP PKiKP 21 57 49.9 -0.1
YKA 21 58 32.2
YKA Yellowknife Ar 111.94 16 PKPdf PKiKP 21 57 49.9 -0.1
YKA PP PP 21 58 32.2 -1.2
YKA PKKPbc PKKPbc 22 08 42.2 +0.3
ASCN Ascension 114.00 262 PFAKE 21 58 10.0 +16
ASCN LR LR
comp=Z,282nm,19.0s,MS4.9
PMSA Palmer Station 114.91 188 PFAKE 21 58 10.0 +14
PMSA LR LR
comp=Z,3µm,19.0s,MS6.0
HOPE Hope Point 115.62 207 PFAKE 21 58 10.0 +13
HOPE LR LR
comp=Z,1.0nm,20.0s
EDM Edmonton 119.67 22 PKIKP PKPdf 21 58 05.4 +0.6
TAOE Nuku Hiva Isla 119.78 100 eLR LR 22 34 52.5
comp=Z,6µm,24.4s
COR Corvallis 120.95 35 PFAKE 21 58 20.0 +13
COR LR LR
comp=Z,2µm,22.0s,MS5.6
NEW Newport 121.76 28 PKP PKPdf 21 58 10.3 +1.5
comp=Z,2.9nm,0.9s,baz=196,slow=4.6,SNR=4.8
NEW Newport 121.76 28 PKP PKPdf 21 58 10.3 +1.5
HAWA Hanford 121.85 31 PFAKE 21 58 20.0 +11
HAWA LR LR
comp=Z,2µm,19.0s,MS5.7
FFC Flin Flon 122.01 15 ePKIKP PKPdf 21 58 08.3 -1.0
HUMO Hull Mountain 122.34 36 PKPdf PKPdf 21 58 08.8 -1.1
HUMO LR LR
comp=Z,2µm,20.0s,MS5.7

YBH Yreka Blue Hor 123.01 37 PFAKE 21 58 20.0 +8.8
YBH LR LR
comp=Z,2μm,20.0s,MS5.8
SCHQ Schefferville 123.66 351 PFAKE 21 58 20.0 +7.6
SCHQ LR LR
comp=Z,6μm,22.0s,MS6.2
WDC Whiskeytown Da 123.79 38 PFAKE 21 58 20.0 +7.3
WDC LR LR
comp=Z,2μm,21.0s,MS5.8
BMO Blue Mountains 124.05 31 PFAKE 21 58 20.0 +6.8
BMO LR LR
comp=Z,2μm,22.0s,MS5.7
MSO Missoula 124.28 27 *e*PKPdf PKPdf 21 58 14.6 +1.0
MSO LR LR
comp=Z,2μm,21.0s,MS5.6
MOD Modoc 124.33 36 *e*PKPdf PKPdf 21 58 16.7 +3.0
MOD LR LR
comp=Z,1μm,21.0s,MS5.6
HOPS Hopland 124.37 40 PFAKE 21 58 30.0 +16
HOPS LR LR
comp=Z,2μm,22.0s,MS5.7
WVOR Wild Horse Val 124.94 34 *e*PKIKP PKPdf 21 58 16.0 +1.1
WVOR MLR MLR
comp=Z,2μm,20.0s,MS5.7
EGMT Eagleton 125.18 24 *e*PKPdf PKPdf 21 58 15.2 -0.1
EGMT LR LR
comp=Z,2μm,20.0s,MS5.8
DLMT Dillon 126.00 28 *e*PKPdf PKPdf 21 58 19.7 +2.8
BOZ Bozeman (W) 126.23 27 *e*PKIKP PKPdf 21 58 17.1 -0.3
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.7
HLID Hailey 126.43 31 *e*PKPdf PKPdf 21 58 19.0 +1.2
HLID LR LR
comp=Z,2μm,21.0s,MS5.8
CMB Columbia Colle 126.64 39 PFAKE 21 58 30.0 +12
CMB LR LR
comp=Z,2μm,22.0s,MS5.7
SAO San Andreas Ge 126.69 41 PFAKE 21 58 30.0 +12
SAO LR LR
comp=Z,1μm,19.0s,MS5.5
QLMT Earthquake Lak 126.94 27 PKPdf PKPdf 21 58 17.4 -1.4
BMN Battle Mountai 127.06 35 PFAKE 21 58 30.0 +11
BMN LR LR
comp=Z,2μm,22.0s,MS5.7
YMR Madison River 127.28 27 *e*PKPdf PKPdf 21 58 20.7 +1.3
YMR LR LR
comp=Z,3μm,19.0s,MS6.0
ULM Lac du Bonnet 127.59 13 PKP PKPdf 21 58 20.5 +0.5
comp=Z,3.9nm,0.9s,baz=26,slow=3.8,SNR=7.5
ULM Lac du Bonnet 127.59 13 PKP PKPdf 21 58 20.5 +0.5
ULM LR LR
comp=Z,4μm,21.0s,MS6.1
LKWY Lake 127.62 27 PFAKE 21 58 30.0 +10
LKWY LR LR
comp=Z,4μm,20.0s,MS6.1
LAO LASA Array 127.66 22 *e*PKPdf PKPdf 21 58 19.7 -0.3
LAO LR LR
comp=Z,2μm,20.0s,MS5.8
RLMT Red Lodge 127.69 26 PFAKE 21 58 30.0 +10
RLMT LR LR
comp=Z,3μm,19.0s,MS6.0
NVAR Mina Array Bea 127.70 38 PKP PKPdf 21 58 21.6 +1.4
comp=Z,5.6nm,1.2s,baz=295,slow=1.8,SNR=6.4
ELK Elko 127.97 34 PFAKE 21 58 30.0 +9.3
ELK LR LR
comp=Z,2μm,20.0s,MS5.7
REDW Red Top Meadow 128.33 28 *e*PKPdf PKPdf 21 58 24.1 +2.8
AHID Auburn Hatcher 128.66 29 PKPdf PKPdf 21 58 21.7 -0.3
AHID LR LR
comp=Z,2μm,21.0s,MS5.7
HWUT Hardware Ranch 129.30 30 *e*PKPdf PKPdf 21 58 25.9 +2.7
HWUT LR LR
comp=Z,2μm,20.0s,MS5.9
BW06 Boulder Array 129.40 28 *e*PKPdf PKPdf 21 58 21.8 -1.6
BW06 *e*PKPdf PKPdf 21 58 24.0 +0.6
BW06 LR LR
comp=Z,2μm,21.0s,MS5.8
PDAR Pinedale Array 129.40 28 PKP PKPdf 21 58 22.9 -0.5
comp=Z,1.1nm,0.7s,baz=285,slow=2.3,SNR=8.4
DAC Darwin (Calif) 129.48 39 PFAKE 21 58 40.0 +16
DAC LR LR
comp=Z,1μm,20.0s,MS5.7
DUG Dugway 129.67 32 *e*PKIKP PKPdf 21 58 26.5 +2.6
DUG MLR MLR
comp=Z,2μm,20.0s,MS5.8
MPU Maple Canyon 130.43 32 PFAKE 21 58 40.0 +15
MPU LR LR
comp=Z,2μm,21.0s,MS5.8
EYMN Ely 130.65 10 PFAKE 21 58 40.0 +14
EYMN LR LR
comp=Z,3μm,22.0s,MS5.9
RSSD Black Hills 130.65 23 PKIKP PKPdf 21 58 26.6 +0.8
RSSD Black Hills 130.65 23 *e*PKPdf PKPdf 21 58 25.2 -0.6
RSSD LR LR
comp=Z,2μm,21.0s,MS5.8
MVU Marysvale 131.20 34 PFAKE 21 58 40.0 +13
MVU LR LR
comp=Z,1μm,20.0s,MS5.6
MSU Marysvale 131.22 34 *e*PKPdf PKPdf 21 58 30.4 +3.5
MSU *e*SKPbc SKPbc 22 01 50.5 +1.2
SRU San Rafael 131.68 32 *e*PKIKP PKPdf 21 58 29.7 +2.0
PFO Pinyon Flat Ob 131.85 41 PFAKE 21 58 40.0 +12
PFO LR LR
comp=Z,376nm,19.0s,MS5.1
PKME Peaks-Kenny Pk 133.31 349 PFAKE 21 58 40.0 +9.2
PKME LR LR
comp=Z,2μm,20.0s,MS5.8
ISCO Idaho Springs 133.56 27 *e*SKPbc SKPbc 22 02 05.0 +7.5
ISCO LR LR
comp=Z,2μm,21.0s,MS5.8
WUAZ Wupatki 133.78 36 *e*PKPdf PKPdf 21 58 31.8 +0.1
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.7
MVCO Mesa Verde 134.15 32 PFAKE 21 58 40.0 +7.6
MVCO LR LR
comp=Z,2μm,22.0s,MS5.9
LONY Lake Ozonia 134.69 354 PFAKE 21 58 50.0 +17
LONY LR LR
comp=Z,2μm,22.0s,MS5.8
LBNH Lisbon 134.74 352 PFAKE 21 58 50.0 +17
LBNH LR LR
comp=Z,2μm,19.0s,MS5.8
SDCO Great Sand Dun 135.25 29 PFAKE 21 58 50.0 +16
SDCO LR LR
comp=Z,2μm,20.0s,MS5.9
NCB Newcomb 135.29 354 PFAKE 21 58 50.0 +15
NCB LR LR
comp=Z,3μm,20.0s,MS6.0
SCIA State Center 136.07 14 PFAKE 21 58 50.0 +14
SCIA LR LR
comp=Z,3μm,22.0s,MS6.0
TUC Tucson 136.33 39 *e*PKIKP PKPdf 21 58 34.8 -1.7
TUC MLR MLR
comp=Z,2μm,21.0s,MS5.7
HRV Harvard--Oak R 136.38 351 PFAKE 21 58 50.0 +13
HRV LR LR
comp=Z,2μm,20.0s,MS5.8
WES Weston 136.46 350 PFAKE 21 58 50.0 +13
WES LR LR
comp=Z,2μm,20.0s,MS5.9
CBKS Cedar Bluff 136.86 22 PFAKE 21 58 50.0 +13
CBKS LR LR
comp=Z,3μm,20.0s,MS6.0
ANMO Albuquerque 136.94 32 PKP PKPdf 21 58 38.4 +0.8
comp=Z,2.3nm,0.8s,baz=147,slow=0.5,SNR=5.9
ANMO Albuquerque 136.94 32 PKP PKPdf 21 58 38.4 +0.8
ANMO *e*PKPdf PKPdf 21 58 40.5 +2.9
ANMO *e*PKPdf PKPdf 21 58 42.1 +4.5
ANMO *e*SKPbc SKPbc 22 02 09.6 +1.5
ANMO LR LR
comp=Z,2μm,20.0s,MS5.8
AAM Ann Arbor 137.17 4 PFAKE 21 58 50.0 +12
AAM LR LR
comp=Z,4μm,21.0s,MS6.1
BINY Binghamton 137.22 355 PFAKE 21 58 50.0 +12
BINY LR LR
comp=Z,4μm,22.0s,MS6.1
KSU1 Kansas State U 137.71 19 PFAKE 21 58 50.0 +11
KSU1 LR LR
comp=Z,3μm,21.0s,MS6.0
BRNJ Basking Ridge 138.58 354 *e*PKPdf PKPdf 21 58 39.1 -1.5
SSPA Standing Stone 138.89 357 PFAKE 21 58 50.0 +8.8
SSPA LR LR
comp=Z,3μm,22.0s,MS6.0
PLCA Paso Flores 139.11 191 PKP PKPdf 21 58 41.5 -0.1
comp=Z,6.4nm,1.1s,baz=210,slow=7.0,SNR=3.2
PLCA Paso Flores 139.11 191 PKPdf PKPdf 21 58 40.6 -0.9
TRQA Tornquist 139.14 202 PKP PKPdf 21 58 35.7 -5.9
TRQA LR LR
comp=Z,2μm,21.0s,MS5.8
ACSO Alum Creek Sta 139.27 3 *e*PKPdf PKPdf 21 58 39.8 -2.1
MCWV Mont Chateau 139.92 360 PFAKE 21 58 50.0 +7.0
MCWV LR LR
comp=Z,3μm,20.0s,MS6.0
MNTX Cornudas Mount 139.98 34 *e*PKPdf PKPdf 21 58 42.7 -0.4
MNTX LR LR
comp=Z,2μm,19.0s,MS5.9
WMOK Wichita Mounta 140.77 25 PKHKP 21 58 38.3
WMOK MLR MLR
comp=Z,2μm,21.0s,MS5.8
WCI Wyandotte Cave 140.95 8 PKIKP PKPdf 21 58 45.7 +0.8
WCI Wyandotte Cave 140.95 8 *e*PKPdf PKPdf 21 58 44.1 -0.8
WCI LR LR
comp=Z,2μm,21.0s,MS5.9
SIUC Southern Illin 140.97 11 *e*PKPdf PKPdf 21 58 43.1 -1.8
USIN University of 141.00 9 *e*Pdif Pdif 21 56 00.1 -2.2
CBN Corbin 141.29 356 PFAKE 21 59 00.0 +14
CBN LR LR
comp=Z,3μm,21.0s,MS6.0
BLA Blacksburg 142.37 0 PFAKE 21 59 00.0 +13
BLA LR LR
comp=Z,2μm,22.0s,MS5.9
LTX Lajitas 142.73 35 *e*PKIKP PKPdf 21 58 52.8 +4.7
LTX MLR MLR
comp=Z,3μm,22.0s,MS6.0
TXAR Lajitas Array 142.73 35 PKP PKPdf 21 58 45.7 -2.4
comp=Z,0.7nm,0.5s,baz=203,slow=0.8,SNR=12
WVT Waverly 142.76 10 PKIKP PKPdf 21 58 45.4 -2.7
WVT Waverly 142.76 10 *e*PKPdf PKPdf 21 58 44.0 -4.2
WVT LR LR
comp=Z,3μm,21.0s,MS6.0
MIAR Mount Ida 142.85 18 *e*PKIKP PKPdf 21 58 44.6 -3.7
MIAR MLR MLR
comp=Z,3μm,21.0s,MS6.1
TZTN Tazewell 142.90 4 PFAKE 21 59 00.0 +12
TZTN LR LR
comp=Z,4μm,21.0s,MS6.2
TKL Tuckaleechee C 143.76 5 PKP PKPdf 21 58 48.4 -1.5
comp=Z,2.9nm,0.5s,baz=136,slow=5.4,SNR=5.7
PLAL Pickwick Lake 143.83 11 *e*PKPdf PKPdf 21 58 48.2 -1.9
PLAL LR LR
comp=Z,2μm,21.0s,MS6.0
JCT Junction City 143.89 29 *e*PKIKP PKPdf 21 58 48.5 -1.6
JCT MLR MLR
comp=Z,2μm,22.0s,MS5.8
OXF Oxford 144.01 13 *e*PKIKP PKPdf 21 58 49.3 -1.0
OXF *e* 21 58 54.0
OXF MLR MLR
comp=Z,2μm,19.0s,MS5.8
BBSR BB Station 144.07 337 PFAKE 21 59 00.0 +10
BBSR LR LR
comp=Z,2μm,22.0s,MS5.8
CNNC Cliffs of the 144.27 357 PFAKE 21 59 00.0 +9.2
CNNC LR LR
comp=Z,3μm,22.0s,MS6.0
NATX Nacogdoches 145.01 22 *e*PKPdf PKPdf 21 58 53.4 +1.3
NATX LR LR
comp=Z,3μm,21.0s,MS6.0
MAIG Mazatlaan 145.22 45 *e*P PKPbc 21 58 54.0 +1.9
LRAL Lakeview Retre 145.93 10 *e*PKPdf PKPdf 21 58 53.5 -0.2
LRAL *i* S LR
comp=Z,3μm,20.0s,MS6.0
GOGA Godfrey 146.02 5 *e*PKP2 PKPab 21 58 53.9 -1.3
GOGA MLR MLR
comp=Z,4μm,22.0s,MS6.1
FCH Farellones 146.15 195 *e*P PKPdf 21 58 56.8 +2.8
MDZ Mendoza 146.17 197 *e*PKP2 PKPab 21 58 57.4 +1.6
NHSC New Hope 146.46 360 *e*PKPab PKPab 21 58 57.8 +0.8
NHSC LR LR
comp=Z,2μm,19.0s,MS6.0
KVTX Kingsville 147.25 30 *e*PKPdf PKPdf 21 58 56.2 +0.3
KVTX LR LR
comp=Z,2μm,19.0s,MS5.9
BRAL Brewton 147.88 11 *e*PKPdf PKPdf 21 58 56.9 -0.1
BRAL *e*PKPab PKPab 21 59 01.2 -1.3
BRAL LR LR
comp=Z,3μm,21.0s,MS6.1
SFJM Santa Fe 149.35 46 *i* P PKPdf 21 59 04.0 +4.7
LCO Las Campanas 150.34 197 *e*PKPdf PKPdf 21 59 01.8 +0.9
LCO *e*PKPbc PKPbc 21 59 07.9 +1.8
LCO LR LR
comp=Z,2μm,20.0s,MS5.9
DWPF Disney 151.42 2 PFAKE 21 59 10.0 +7.5
DWPF LR LR
comp=Z,2μm,20.0s,MS6.0
BBGH Gun Hill 155.38 304 PFAKE 21 59 20.0 +12
BBGH LR LR
comp=Z,3μm,19.0s,MS6.1
CPD Cerro la Pandu 156.74 324 *e*PKPab PKPab 21 59 41.0 +1.5
CMIG Matias Romero 157.22 39 PKP PKPdf 21 59 11.5 +0.9
comp=Z,2.2nm,0.8s,baz=341,slow=5.5,SNR=4.0
CMIG Matias Romero 157.22 39 PKP PKPdf 21 59 11.5 +0.9
TEIG Tepich 157.83 20 PFAKE 21 59 20.0 +8.6
TEIG LR LR
comp=Z,2μm,22.0s,MS6.0
LPAZ La Paz 160.39 217 PKP PKPdf 21 59 15.9 +1.5
comp=Z,2.6nm,0.9s,baz=15,slow=2.6,SNR=15
TGUH Tegucigalpa,Un 163.83 25 PFAKE 21 59 30.0 +12
TGUH LR LR
comp=Z,1μm,22.0s
SDV Santo Domingo 166.58 315 *e*PKPdf PKPdf 21 59 22.7 +2.5
SDV *e*PKPab PKPab 22 00 25.6 +3.0
SDV LR LR
comp=Z,867nm,20.0s
JTS JuntasAbangare 168.19 23 PFAKE 21 59 30.0 +8.6
JTS LR LR
comp=Z,465nm,20.0s
NNA Nana 168.22 196 PKPdf PKPdf 21 59 21.5 +0.1
NNA LR LR
comp=Z,347nm,22.0s
ROSC El Rosal 172.00 313 PKP PKPdf 21 59 25.6 +2.1
comp=Z,3.1nm,0.4s,baz=105,slow=22,SNR=4.4
OTAV Otavalo 178.05 296 *e*PKPdf PKPdf 21 59 26.3 +1.1
OTAV LR LR
comp=Z,878nm,21.0s

*IDC **17** 21:39:14.9±2.4, 34.37N×76.14E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/23, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=51.3km s-min=28.9km az=147.0*
*NEIC **17** 21:39:19.4±0.7, 34.32N×76.23E, h35km, mb3.3/3, Error ellipse: s-maj=13.9km s-min=9.4km az=202.0*
*ISCJB **17** 21:39:21.5±1.0, 34.48N±007×76.48E±007, h80km±16km, mb3.4/3, Error ellipse: s-maj=11.2km s-min=8.9km az=47.5*
*NDI **17** 21:39:25.3±3.8, 34.36N×76.15E, h33km, ML3.2, mb3.3(NEIC)*

ISC 17 21:39:21.9±0.9, 34.53N±005×76.38E±008, h56km±15km, n29, σ0.88/32, mb3.5/3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.01**	**190**	*e*P	**Pn**	**21 39 53.0**	**-0.4**
DLH				*ex*	x	21 40 21.0	
THN	**Thein Dam**	**2.16**	**195**	*e*P	**Pn**	**21 39 55.9**	**+0.4**
THN				*e*S	**Sn**	**21 40 21.6**	**+0.5**
SDNR	**Sundarnagar**	**3.06**	**170**	*e*P	**Pn**	**21 40 11.6**	**+3.8**
SDNR				*ex*	x	21 40 50.6	
KLP	**Kalpa**	**3.37**	**152**	*e*P	**Pn**	**21 40 15.3**	**+3.2**
KLP				*e*S	**Sn**	**21 40 50.5**	**-0.4**
KLP				AML	AML	21 41 10.3	
	comp=E,202nm,0.7s						
KLP				AML	AML	21 41 14.6	
	comp=N,143nm,0.7s						
JOSI	**Joshimath**	**4.78**	**145**	*e*P	**Pn**	**21 40 35.2**	**+3.8**
JOSI				*e*S	**Sn**	**21 41 26.7**	**+1.2**
JOSI				AML	AML	21 41 49.7	
	comp=N,39nm,0.8s						
JOSI				AML	AML	21 41 50.5	
	comp=E,34nm,0.7s						
SONA	**Sohna**	**6.29**	**174**	*e*S	**Sn**	**21 41 57.5**	**-4.9**
KUDL	**Kundal**	**6.36**	**179**	*e*S	**Sn**	**21 41 57.3**	**-7.0**
KOLN	**Koldanda**	**9.14**	**135**	*e*P	**Pn**	**21 41 30.4**	**-0.7**
	comp=E,2.5nm,0.3s						
GKN	**Gorkha**	**9.60**	**130**	*e*P	**Pn**	**21 41 37.0**	**-0.4**
KKN	**Kakani**	**10.16**	**129**	*e*P	**Pn**	**21 41 44.4**	**-0.6**
	comp=E,12nm,0.8s						
DMN	**Daman**	**10.17**	**130**	*e*P	**Pn**	**21 41 45.5**	**+0.3**
PKI	**Pulchoki**	**10.39**	**129**	*e*P	**Pn**	**21 41 48.0**	**-0.2**
GUN	**Gumba**	**10.47**	**126**	*e*P	**Pn**	**21 41 49.0**	**-0.2**
JIRN	**Jiri**	**10.84**	**127**	*e*P	**Pn**	**21 41 53.8**	**-0.5**
	comp=E,17nm,0.4s						
MKAR	**Makanchi Array**	**13.04**	**18**	Pn	**Pn**	**21 42 24.1**	**-0.3**
	comp=E,0.0nm,0.3s,baz=201,slow=14,SNR=3.1						
LSA	**Lhasa**	**13.41**	**107**	Pn	**Pn**	**21 42 27.7**	**-1.7**
KURK	**Kurchatov**	**16.26**	**5**	*e*P	**Pn**	**21 43 06.2**	**-0.4**
	comp=E,1.1nm,0.5s						
BRVK	**Borovoye**	**19.03**	**349**	*e*P	**Pn**	**21 43 41.2**	**+0.8**
	comp=E,1.2nm,0.4s						
CHKZ	**Chkalovo**	**19.57**	**350**	*e*P	**Pn**	**21 43 47.4**	**+0.5**
	comp=E,0.5nm,0.5s						
ZAL	**Zalesovo**	**20.29**	**14**	P	**P**	**21 43 54.0**	**+1.0**
	comp=E,1.0nm,0.4s,baz=184,slow=5.3,SNR=3.3						
AKTK	**Aktyubinsk**	**20.79**	**325**	P	**P**	**21 43 58.4**	**0.0**
AKTO	**Aktyubinsk**	**20.79**	**325**	P	**P**	**21 43 58.4**	**0.0**
	comp=E,3.7nm,0.6s,baz=120,slow=10,SNR=21						
SONM	**Songino Array**	**26.03**	**50**	P	**P**	**21 44 52.7**	**+3.0**
	comp=E,0.4nm,0.8s,mb3.0,baz=245,slow=10.0,SNR=3.6						
KIV	**Kislovodsk**	**27.58**	**300**	P	**P**	**21 45 03.2**	**-0.5**
BR131	**Keskin Array S**	**34.23**	**291**	P	**P**	**21 46 01.1**	**-1.1**
OBN	**Obninsk**	**34.29**	**319**	P	**P**	**21 46 03.4**	**+0.6**
TIRR	**Tirgusor**	**37.84**	**300**	*e*P	**P**	**21 46 31.9**	**-1.2**
ARCES	**ARCESS Array B**	**44.65**	**337**	P	**P**	**21 47 29.5**	**+0.6**
	comp=E,6.1nm,1.0s,mb4.4,baz=119,slow=9.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**70.12**	**273**	P	**P**	**21 50 28.0**	**-0.4**
	comp=E,0.3nm,0.9s,mb3.2,baz=46,slow=5.6,SNR=2.7						

MAN 17 21:50:04.7, 16.37N×122.49E, h60km, mb2.5, ML4.0, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.69**	**355**	*e*P	Pn	21 50 20.2	+1.4
PALP				*e*S	Sn	21 50 32.4	+3.2
CAUP	**Cauayan**	**0.86**	**312**	*e*P	Pn	21 50 21.9	+1.0
CAUP				*e*S	Sn	21 50 34.5	+1.7
BALP	**Baler**	**1.08**	**235**	*e*P	Pn	21 50 24.6	+0.9
BALP				*e*S	Sn	21 50 39.5	+1.6

*NEIC **17** 21:53:42.8, 34.03S×70.07W, h8km, ML2.5(GUC), After GUC.*

GUC 17 21:53:42.8±0.8, 34.03S×70.07W, h8km±3km, MD3.6, ML2.5, 9C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.21**	**329**	*e*P	Pg	21 53 47.4	+0.2
LMEL				*i* S	Sg	21 53 50.7	+0.6
LMEL				AML	AML	21 53 51.1	
	comp=E,3μm,0.3s						
LMEL	**Las Melosas**	**0.21**	**329**	*e*P	Pg	21 53 47.4	+0.2
LMEL				*i* S	Sg	21 53 50.7	+0.6
YECH	**El Yeso**	**0.36**	**358**	⇑*i*P	Pg	21 53 50.1	+0.1
YECH				*i* S	Sg	21 53 55.8	+1.0
YECH				AML	AML	21 53 56.8	
	comp=N,737nm,0.2s						
CICH	**Cipreses**	**0.41**	**225**	⇑*i*P	Pg	21 53 50.9	+0.1
CICH				*i* S	Sg	21 53 56.7	+0.5
CACH	**El Canelo**	**0.45**	**259**	⇓*i*P	Pg	21 53 51.4	-0.1
CACH				*i* S	Sg	21 53 57.4	0.0
CHCH	**Chadas Angostu**	**0.49**	**281**	*e*P	Pg	21 53 52.3	0.0
CHCH				*i* S	Sg	21 53 58.8	0.0
PCH	**Pirque**	**0.55**	**318**	⇑*i*P	Pg	21 53 53.4	-0.1
PCH				*i* S	Sg	21 54 01.3	+0.6
ANTU	**Antumapu**	**0.66**	**314**	⇓*i*P	Pg	21 53 55.5	+0.1
ANTU				*i* S	Sg	21 54 04.7	+0.7
ANTU				AML	AML	21 54 05.3	
	comp=E,355nm,0.5s						
ANTU	**Antumapu**	**0.66**	**314**	⇓*i*P	Pg	21 53 55.5	+0.1
ANTU				*i* S	Sg	21 54 04.7	+0.7
FCH	**Farellones**	**0.72**	**345**	*e*P	Pg	21 53 56.6	-0.2
FCH				*i* S	Sg	21 54 06.7	+0.5
FCH				AML	AML	21 54 08.4	
	comp=N,311nm,0.6s						
CLCH	**Cerro Calan**	**0.74**	**328**	⇑*i*P	Pg	21 53 57.0	-0.1
CLCH				*i* S	Sg	21 54 07.5	+0.7
CLCH				AML	AML	21 54 09.5	
	comp=E,553nm,0.6s						
SAN	**Santiago**	**0.76**	**319**	*i* S	Sg	21 54 07.6	+0.3
SAN				AML	AML	21 54 08.0	
	comp=N,243nm,0.2s						
TACH	**Talagante**	**0.81**	**297**	⇓*i*P	Pg	21 53 58.0	-0.4
TACH				*i* S	Sg	21 54 09.2	+0.2
RCDM	**Rinconada Maip**	**0.82**	**311**	⇑*i*P	Pg	21 53 58.3	-0.3
RCDM				*i* S	Sg	21 54 09.7	+0.5
RCDM				AML	AML	21 54 10.1	
	comp=E,388nm,0.1s						
RCDM	**Rinconada Maip**	**0.82**	**311**	⇑*i*P	Pg	21 53 58.3	-0.3
RCDM				*i* S	Sg	21 54 09.7	+0.5
SFDO	**San Fernando**	**0.97**	**233**	⇑*i*P	Pg	21 54 00.9	-0.6
SFDO				*i* S	Sg	21 54 14.1	-0.1
PEL	**Peldehue**	**1.02**	**330**	⇑*i*P	Pg	21 54 01.9	-0.5
PEL				*i* S	Sg	21 54 15.4	-0.3
PEL				AML	AML	21 54 17.0	
	comp=N,244nm,0.3s						
LNV	**Longovilo**	**1.12**	**273**	⇑*i*P	Pg	21 54 03.2	-1.1

*IDC **17** 21:54:38.4±4.0, 02S×99.97E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.8/6, ML4.1/1, MS4.1/1, Ms1 4.1/1, ms1mx3.4/36, Error ellipse: s-maj=84.2km s-min=68.1km az=122.0*
*ISCJB **17** 21:54:41.4±0.6, 02S±007×99.9E±0.1, h35km, mb3.9/9, Error ellipse: s-maj=17.1km s-min=8.8km az=151.8*
*NEIC **17** 21:54:42.9±0.6, 05N×100.00E, h30km, mb4.1/4, Error ellipse: s-maj=18.4km s-min=9.2km az=62.0*

ISC 17 21:54:43.5±0.6, 006S±007×999E±01, h35km, n18, σ0.86/20, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.99**	**342**	Pn	**Pn**	**21 55 26.3**	**-2.1**
	28nm,0.3s,baz=166,slow=6.9,SNR=20						
PSI				LR	LR	21 56 36.2	
	comp=Z,4μm,21.5s,baz=101,slow=41						
PSI	**Prapat**	**2.99**	**342**	Pn	**Pn**	**21 55 26.3**	**-2.1**
PSI				LR	LR	21 56 36.2	
IPM	**Ipoh**	**4.65**	**14**	P	**Pn**	**21 55 54.8**	**+3.7**
KULM	**Kulim**	**5.37**	**8**	*e*Pn	**Pn**	**21 55 56.9**	**-4.1**
KULM				*e*Pg	**Pn**	**21 56 09.1**	**+8.1**
KULM				*e*Sn	**Sn**	**21 57 01.9**	**+0.3**
KULM				*e*Sg	Sn	21 57 25.8	+24
KKM	**Kota Kinabalu**	**17.40**	**69**	P	**Pn**	**21 58 43.2**	**-0.3**
LSA	**Lhasa**	**30.74**	**345**	*e*P	**P**	**22 00 56.2**	**+0.9**
	2.9nm,0.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**36.56**	**155**	*e*P	**P**	**22 01 45.7**	**-0.2**
WB2	**Warramunga Arr**	**39.12**	**122**	P	**P**	**22 02 08.1**	**+0.6**
SONM	**Songino Array**	**48.03**	**6**	P	**P**	**22 03 19.4**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=184,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**49.13**	**344**	P	**P**	**22 03 27.6**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=152,slow=8.5,SNR=6.5						
STKA	**Stephens Creek**	**50.55**	**133**	P	**P**	**22 03 37.4**	**-1.0**
KURK	**Kurchatov**	**53.72**	**343**	*e*P	**P**	**22 04 02.1**	**+0.1**
	0.8nm,0.8s,mb3.7						
ZAL	**Zalesovo**	**55.24**	**349**	P	**P**	**22 04 12.9**	**-0.1**
	1.3nm,0.5s,mb4.3,baz=341,slow=4.1,SNR=6.5						
BVAR	**Borovoye Array**	**58.33**	**340**	P	**P**	**22 04 34.1**	**-0.8**
	0.4nm,0.5s,mb3.7,baz=139,slow=9.8,SNR=4.2						
BRVK	**Borovoye**	**58.39**	**340**	*e*P	**P**	**22 04 34.9**	**-0.5**
	3.4nm,1.2s,mb4.2						
CHKZ	**Chkalovo**	**58.78**	**340**	*e*P	**P**	**22 04 38.1**	**0.0**
	0.8nm,0.8s,mb3.8						
BRTR	**Keskin Array B**	**71.93**	**312**	P	**P**	**22 06 04.8**	**+1.7**
	0.6nm,0.8s,mb3.6,baz=111,slow=7.9,SNR=4.5						
VNDA	**Vanda**	**84.08**	**169**	P	**P**	**22 07 10.9**	**+0.3**

*NEIC **17** 21:54:59.2±0.3, 050N×99.96E, h30km, mb4.5/12, Error ellipse: s-maj=9.1km s-min=6.7km az=63.0*
*BJI **17** 21:54:59.2, 050N×100.00E, h30km, mb4.8*
*ISCJB **17** 21:55:00.4±1.1, 052N±005×100.00E±006, h58km±9km, mb4.4/34, Error ellipse: s-maj=10.5km s-min=6.7km az=105.7*
*IDC **17** 21:55:02.2±0.8, 057N×99.99E, h57km±7km, mb3.9/19, mb1 4.0/20, mb1mx3.9/25, mbtmp3.9/20, Error ellipse: s-maj=21.6km s-min=10.7km az=57.0*

ISC 17 21:55:02.3±0.9, 053N±005×100.01E±006, h55km±8km,

h65km±2.1km**:pP-P,n62,**σ0°**86**/62**,mb4.4**/34**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.50**	**334**	P	**Pn**	**21 55 38.5**	**-2.1**
	153nm,0.3s,baz=136,slow=8.2,SNR=40						
PSI				S	**Sn**	**21 56 09.9**	**0.0**
	220nm,0.3s,baz=195,slow=20,SNR=8.7						
PSI	**Prapat**	**2.50**	**334**	P	**Pn**	**21 55 38.5**	**-2.1**
PSI				S	**Sn**	**21 56 09.9**	**0.0**
KGM	**Kluang**	**3.62**	**66**	P	**Pn**	**21 55 55.8**	**-0.1**
KSM	**Kuching**	**10.34**	**85**	Pn	**Pn**	**21 57 29.0**	**+1.2**
COCO	**West Island**	**13.02**	**194**	P	**Pn**	**21 58 03.8**	**-0.6**
KKM	**Kota Kinabalu**	**17.08**	**71**	P	**Pn**	**21 58 57.9**	**+0.8**
KKM	**Kota Kinabalu**	**17.08**	**71**	*e*Pn	**Pn**	**21 58 57.7**	**+0.6**
CM31	**Chiang Mai Arr**	**17.85**	**357**	*e*Pn	**Pn**	**21 59 06.7**	**+0.1**
	12nm,1.0s						
CHTO	**Chiang Mai**	**18.20**	**357**	*e*P	**Pn**	**21 59 10.9**	**0.0**
PALK	**Pallekele**	**20.38**	**290**	*e*P	**P**	**21 59 35.9**	**+1.6**
	34nm,1.3s						
DGAR	**Diego Garcia**	**28.59**	**253**	*e*P	**P**	**22 00 53.2**	**+0.1**
JIRN	**Jiri**	**30.06**	**335**	*e*P	**P**	**22 01 06.5**	**+0.4**
	27nm,0.8s,mb5.0						
LSA	**Lhasa**	**30.21**	**345**	*e*P	**P**	**22 01 08.0**	**+0.5**
	3.9nm,0.5s,mb4.4						
PKI	**Pulchoki**	**30.32**	**334**	*e*P	**P**	**22 01 09.5**	**+1.1**
GUN	**Gumba**	**30.41**	**335**	*e*P	**P**	**22 01 09.7**	**+0.5**
	46nm,0.8s,mb5.3						
DMN	**Daman**	**30.49**	**333**	*e*P	**P**	**22 01 10.9**	**+1.0**
	32nm,1.2s,mb4.9						
KKN	**Kakani**	**30.57**	**334**	*e*P	**P**	**22 01 10.6**	**0.0**
	55nm,1.3s,mb5.2						
ENH	**Enshi**	**30.92**	**16**	*e*P	**P**	**22 01 14.9**	**+1.2**
	0.3nm,0.3s,mb3.6						
GKN	**Gorkha**	**31.04**	**333**	*e*P	**P**	**22 01 14.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**31.28**	**128**	P	**P**	**22 01 15.8**	**-1.1**
	1.1nm,0.5s,mb3.9,baz=278,slow=19,SNR=5.0						
FITZ				pP	pP	22 01 32.2	+1.4
	2.6nm,0.9s,baz=286,slow=6.7,SNR=3.6						
KOLN	**Koldanda**	**31.33**	**331**	*e*P	**P**	**22 01 17.7**	**+0.4**
	19nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**37.03**	**156**	P	**P**	**22 02 07.9**	**+1.2**
	7.5nm,0.8s,mb4.6,baz=315,slow=3.5,SNR=5.3						
NWAO	**Narrogin (SRO)**	**37.03**	**156**	*e*P	**P**	**22 02 08.7**	**+2.0**
	10nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**39.31**	**123**	P	**P**	**22 02 26.0**	**+0.2**
	0.8nm,0.6s,mb3.7,baz=300,slow=9.2,SNR=4.5						
WRA				pP	pP	22 02 41.1	+1.1
	3.8nm,0.8s,baz=300,slow=9.2,SNR=9.0						
WB2	**Warramunga Arr**	**39.32**	**123**	*e*P	**P**	**22 02 26.3**	**+0.4**
ASAR	**Alice Springs**	**40.77**	**128**	P	**P**	**22 02 37.7**	**-0.2**
	1.4nm,0.7s,mb3.7,baz=301,slow=7.8,SNR=15						
ASAR				pP	pP	22 02 53.4	+1.3
	2.0nm,0.7s,baz=293,slow=7.8,SNR=8.0						
ASAR				PcP	PcP	22 04 39.4	+1.2
	1.0nm,0.6s,baz=296,slow=3.1,SNR=6.4						
ASAR				ScP	ScP	22 08 25.9	+2.9
	1.0nm,0.9s,baz=305,slow=3.6,SNR=5.8						
BJT	**Baijiatuau**	**41.97**	**19**	*e*P	**P**	**22 02 47.1**	**-0.6**
	4.2nm,0.5s,mb4.3						
WMQ	**Urumqi**	**44.48**	**347**	P	**P**	**22 03 11.3**	**+3.3**
WMQ				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.4						
KSRS	**Korea Array**	**44.87**	**32**	P	**P**	**22 03 09.7**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.7,baz=224,slow=9.2,SNR=3.3						
SONM	**Songino Array**	**47.45**	**6**	P	**P**	**22 03 32.1**	**+0.7**
	comp=Z,2.0nm,0.5s,mb4.3,baz=188,slow=9.6,SNR=13						
MKAR	**Makanchi Array**	**48.62**	**344**	P	**P**	**22 03 40.1**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.4,baz=156,slow=9.5,SNR=32						
STKA	**Stephens Creek**	**50.84**	**133**	P	**P**	**22 03 57.1**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=336,slow=5.5,SNR=3.9						
TLY	**Talaya**	**51.06**	**3**	P	**P**	**22 03 59.3**	**+0.3**
HIA	**Hailar**	**51.43**	**16**	*e*P	**P**	**22 04 00.5**	**-1.2**
	comp=Z,1.8nm,0.4s,mb4.3						
KURK	**Kurchatov**	**53.20**	**343**	*e*P	**P**	**22 04 15.0**	**+0.1**
	comp=Z,16nm,1.3s,mb4.8						
ZAL	**Zalesovo**	**54.70**	**349**	P	**P**	**22 04 24.5**	**-1.2**
	comp=Z,8.0nm,0.5s,mb5.0,baz=322,slow=5.5,SNR=28						
BVAR	**Borovoye Array**	**57.83**	**339**	P	**P**	**22 04 46.9**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.3,baz=141,slow=9.8,SNR=13						
BRVK	**Borovoye**	**57.90**	**339**	*e*P	**P**	**22 04 47.2**	**-1.3**
	comp=Z,2.8nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**58.29**	**340**	*e*P	**P**	**22 04 50.5**	**-0.8**
	comp=Z,3.8nm,0.7s,mb4.5						
HNR	**Honiara**	**60.48**	**101**	P	**P**	**22 05 06.5**	**+0.2**
TAU	**Tasmania Unive**	**60.53**	**142**	P	**P**	**22 05 05.6**	**-1.2**
AKTK	**Aktyubinsk**	**61.16**	**331**	P	**P**	**22 05 11.8**	**+0.8**
AKTO	**Aktyubinsk**	**61.16**	**331**	P	**P**	**22 05 11.8**	**+0.8**
	comp=Z,1.4nm,0.5s,mb4.3,baz=111,slow=11,SNR=4.8						
KMBO	**Kilima Mbogo**	**62.77**	**268**	P	**P**	**22 05 21.0**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.9,baz=257,slow=18,SNR=2.6						
KMBO	**Kilima Mbogo**	**62.77**	**268**	P	**P**	**22 05 21.5**	**-0.3**
EIL	**Elat**	**68.19**	**302**	P	**P**	**22 05 56.5**	**-0.3**
BRTR	**Keskin Array B**	**71.64**	**312**	P	**P**	**22 06 17.1**	**-0.9**
	comp=Z,2.5nm,0.7s,mb4.3,baz=134,slow=7.2,SNR=10						
MAW	**Mawson**	**72.72**	**194**	*e*P	**P**	**22 06 24.2**	**-0.2**
LBTB	**Lobatse**	**76.12**	**244**	*e*P	**P**	**22 06 44.5**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0						
BOSA	**Boshof**	**76.89**	**241**	P	**P**	**22 06 49.9**	**+1.4**
	comp=Z,5.2nm,1.1s,mb4.4,baz=95,slow=11,SNR=4.3						
BOSA	**Boshof**	**76.89**	**241**	*e*P	**P**	**22 06 48.9**	**+0.4**
AKASG	**Malin Array Be**	**77.51**	**322**	P	**P**	**22 06 51.0**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=86,slow=5.3,SNR=4.5						
AKASG	**Malin Array Be**	**77.51**	**322**	P	**P**	**22 06 51.0**	**-1.0**
FINES	**FINESS Array B**	**81.89**	**332**	P	**P**	**22 07 15.0**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=103,slow=6.7,SNR=5.0						
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**	**22 07 26.3**	**-0.9**
	comp=Z,3.1nm,0.8s,mb4.5,baz=97,slow=4.4,SNR=17						
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**	**22 07 26.3**	**-0.9**
VNDA	**Vanda**	**84.62**	**169**	P	**P**	**22 07 29.4**	**-0.4**
	comp=Z,1.5nm,1.0s,mb4.1,baz=346,slow=4.2,SNR=3.6						
VNDA	**Vanda**	**84.62**	**169**	*e*P	**P**	**22 07 29.3**	**-0.5**
	comp=Z,4.0nm,1.3s,mb4.4						
GERES	**GERESS Array B**	**87.17**	**319**	P	**P**	**22 07 43.1**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.9,baz=111,slow=4.3,SNR=4.4						
LPG	**La Plagne**	**91.92**	**315**	*e*P	**P**	**22 08 05.9**	**+1.3**
	comp=Z,9.5nm,0.9s,mb4.8						
PLCA	**Paso Flores**	**139.07**	**191**	PKP	PKPdf	22 14 22.6	-0.1
	comp=Z,4.6nm,1.1s,baz=150,slow=4.8,SNR=2.9						
TXAR	**Lajitas Array**	**142.67**	**35**	PKP	PKPdf	22 14 28.2	-0.9
	comp=Z,0.3nm,0.5s,baz=32,slow=4.2,SNR=4.5						

IDC 17 22:02:49.2±1.8**,028N**×**9965E,h0**km**,mb3.7**/5**,mb1 3.8**/5**, mb1mx3.6**/20**,mbtmp3.7**/5**,Error ellipse: s-maj=73.5km s-min=28.8km az=55.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.89**	**128**	P	P	22 10 33.4	+0.4
	0.2nm,0.7s,baz=299,slow=7.3,SNR=4.3						
SONM	**Songino Array**	**47.73**	**6**	P	P	22 11 27.7	0.0
	0.4nm,0.7s,baz=182,slow=10.0,SNR=3.4						
MKAR	**Makanchi Array**	**48.76**	**344**	P	P	22 11 36.3	+0.6
	1.2nm,0.9s,baz=160,slow=8.2,SNR=8.1						
ZAL	**Zalesovo**	**54.88**	**349**	P	P	22 12 20.6	-0.7
	1.2nm,0.5s,baz=327,slow=10,SNR=3.0						
BRTR	**Keskin Array B**	**71.54**	**312**	P	P	22 14 12.4	+0.4
	0.7nm,0.9s,baz=104,slow=3.0,SNR=3.8						

*IDC **17** 22:38:24.3±0.8, 1338N×146.12E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.8/9, Error ellipse: s-maj=20.4km s-min=19.1km az=10.0*
*NEIC **17** 22:38:29.5±0.3, 1336N×146.05E, h35km, mb4.4/7, Error ellipse: s-maj=10.9km s-min=7.0km az=80.0*
*ISCJB **17** 22:38:30.2±2.1, 1335N±007×1460E±0.1, h60km±16km, mb4.2/18, Error ellipse: s-maj=21.4km s-min=11.6km az=154.4*
ISC 17 22:38:27.4±5.6**,1339N**±007×**14616E**±008**,h21**km±40km**, n33,**σ0°**65**/33**,mb4.2**/18**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.27**	**279**	Pn	**Pn**	**22 38 50.1**	**+0.2**
	235nm,0.3s,baz=126,slow=6.6,SNR=42						
GUMO				Sn	**Sn**	**22 39 06.5**	**+0.2**
	315nm,0.3s,baz=234,slow=22,SNR=20						
GUMO	**Guam**	**1.27**	**279**	Pn	**Pn**	**22 38 50.1**	**+0.2**
GUMO				Sn	**Sn**	**22 39 06.5**	**+0.2**
PMG	**Port Moresby**	**22.67**	**177**	P	**P**	**22 43 27.1**	**-0.1**
YHNB	**Yeheng**	**25.93**	**299**	P	**P**	**22 43 57.4**	**-0.7**
KSRS	**Korea Array**	**28.97**	**329**	P	**P**	**22 44 25.4**	**+0.1**
	1.3nm,0.7s,mb3.8,baz=145,slow=8.6,SNR=3.1						
YSS	**Yuzh-Sakhalins**	**33.58**	**356**	*e*P	**P**	**22 45 05.6**	**-0.4**
	6.9nm,0.3s,mb5.1						
WB2	**Warramunga Arr**	**35.10**	**200**	*e*P	**P**	**22 45 19.4**	**+0.2**
WRA	**Warramunga Arr**	**35.10**	**200**	P	**P**	**22 45 18.5**	**-0.7**
	1.2nm,0.7s,mb3.9,baz=22,slow=9.5,SNR=4.1						
ENH	**Enshi**	**37.75**	**302**	*e*P	**P**	**22 45 41.7**	**-0.1**
	0.3nm,0.3s,mb3.5						
ASAR	**Alice Springs**	**38.73**	**198**	P	**P**	**22 45 50.0**	**0.0**
	0.6nm,0.7s,mb3.4,baz=18,slow=7.9,SNR=5.6						
HIA	**Hailar**	**41.86**	**334**	P	**P**	**22 46 15.9**	**0.0**
STKA	**Stephens Creek**	**45.22**	**185**	*e*P	**P**	**22 46 43.1**	**+0.1**
SONM	**Songino Array**	**47.62**	**324**	P	**P**	**22 47 03.1**	**+1.2**
	0.5nm,0.7s,mb3.6,baz=137,slow=7.2,SNR=3.4						
YAK	**Yakutsk**	**49.99**	**350**	*e*P	**P**	**22 47 19.8**	**-0.3**
	14nm,0.3s,mb5.5						
LSA	**Lhasa**	**53.20**	**297**	*e*P	**P**	**22 47 45.7**	**+1.7**
	3.4nm,0.7s,mb4.4						
JIRN	**Jiri**	**57.43**	**294**	*e*P	**P**	**22 48 14.9**	**+0.3**
GUN	**Gumba**	**57.72**	**295**	*e*P	**P**	**22 48 17.1**	**+0.6**
PKI	**Pulchoki**	**58.12**	**294**	*e*P	**P**	**22 48 19.3**	**-0.1**
KKN	**Kakani**	**58.24**	**294**	*e*P	**P**	**22 48 20.2**	**0.0**
GKN	**Gorkha**	**58.82**	**295**	*e*P	**P**	**22 48 23.6**	**-0.6**
	4.5nm,0.5s,mb4.8						
KOLN	**Koldanda**	**59.73**	**294**	*e*P	**P**	**22 48 30.3**	**-0.3**
	5.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**62.51**	**316**	P	**P**	**22 48 48.9**	**-0.5**
	0.4nm,0.4s,mb3.9,baz=92,slow=8.9,SNR=10						
KURK	**Kurchatov**	**65.55**	**320**	*e*P	**P**	**22 49 08.9**	**-0.4**
	1.6nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**70.76**	**322**	*e*P	**P**	**22 49 41.3**	**-0.8**
	1.5nm,0.6s,mb4.1						
BRVK	**Borovoye**	**70.93**	**322**	*e*P	**P**	**22 49 43.0**	**-0.1**
	1.6nm,0.6s,mb4.1						
INK	**Inuvik**	**74.07**	**22**	P	**P**	**22 50 00.8**	**-1.1**
	1.2nm,0.6s,mb4.0,baz=148,slow=9.5,SNR=5.1						
INK	**Inuvik**	**74.07**	**22**	*e*P	**P**	**22 50 01.9**	**0.0**
	77nm,0.8s						
YKA	**Yellowknife Ar**	**82.46**	**28**	P	**P**	**22 50 48.3**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=285,slow=5.1,SNR=7.0						
NVAR	**Mina Array Bea**	**86.06**	**52**	P	**P**	**22 51 08.7**	**+2.2**
	0.5nm,0.7s,mb3.9,baz=280,slow=5.2,SNR=3.6						
FINES	**FINESS Array B**	**91.87**	**335**	P	**P**	**22 51 33.2**	**-0.8**
	0.9nm,0.5s,mb4.4,baz=76,slow=8.0,SNR=7.6						
FINES	**FINESS Array B**	**91.87**	**335**	P	**P**	**22 51 33.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**136.01**	**305**	PKP	PKPdf	22 57 49.3	+2.5
	0.3nm,0.7s,baz=69,slow=1.1,SNR=2.5						
LPAZ	**La Paz**	**146.75**	**99**	PKPbc	PKPbc	22 58 10.9	+3.1
	1.2nm,0.6s,baz=26,slow=4.2,SNR=5.6						

*IDC **17** 23:01:22.6±1.2, 047N×9998E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/33, Error ellipse: s-maj=58.9km s-min=12.8km az=56.0*
*ISCJB **17** 23:01:26.7±0.6, 049N±007×100.16E±009, h35km, mb4.2/16, Error ellipse: s-maj=13.9km s-min=8.4km az=130.3*
*NEIC **17** 23:01:27.0±0.6, 046N×9998E, h30km, mb4.2/5, Error ellipse: s-maj=17.0km s-min=9.6km az=51.0*
ISC 17 23:01:28.7±0.6**,047N**±007×**10013E**±009**,h35**km**,n28,** σ1°**43**/31**,mb4.2**/16**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.61**	**333**	Pn	**Pn**	**23 02 02.9**	**-5.5**
	27nm,0.3s,baz=156,slow=7.7,SNR=47						
PSI				Pg	**Pn**	**23 02 08.1**	**-0.3**
	37nm,0.3s,baz=141,slow=17,SNR=71						
PSI				Lg		23 02 39.4	
	124nm,0.3s,baz=27,slow=5.5,SNR=12						
PSI				LR	LR	23 03 16.2	
	comp=Z,1μm,19.7s,baz=322,slow=46						
PSI	**Prapat**	**2.61**	**333**	Pn	**Pn**	**23 02 02.9**	**-5.5**
PSI				Pg	**Pn**	**23 02 08.1**	**-0.3**
PSI				Lg		23 02 39.4	
PSI				LR	LR	23 03 16.2	
KULM	**Kulim**	**4.82**	**6**	*e*Pn	**Pn**	**23 02 37.7**	**-1.0**
KULM				*e*Sn	**Sn**	**23 03 32.8**	**-0.5**
KKM	**Kota Kinabalu**	**16.99**	**71**	Pn	**Pn**	**23 05 23.2**	**-0.3**
JIRN	**Jiri**	**30.16**	**335**	*e*P	**P**	**23 07 38.1**	**+2.7**
	14nm,0.8s,mb4.7						
LSA	**Lhasa**	**30.30**	**344**	*e*P	**P**	**23 07 37.9**	**+1.2**
	1.8nm,0.6s,mb4.0						
PKI	**Pulchoki**	**30.43**	**334**	*e*P	**P**	**23 07 40.7**	**+3.0**
GUN	**Gumba**	**30.51**	**335**	*e*P	**P**	**23 07 41.0**	**+2.5**
	22nm,0.5s,mb5.2						
DMN	**Daman**	**30.59**	**333**	*e*P	**P**	**23 07 42.4**	**+3.2**
KKN	**Kakani**	**30.67**	**334**	*e*P	**P**	**23 07 42.2**	**+2.3**
	5.5nm,0.5s,mb4.6						
GKN	**Gorkha**	**31.14**	**333**	*e*P	**P**	**23 07 45.2**	**+1.1**
KOLN	**Koldanda**	**31.43**	**331**	*e*P	**P**	**23 07 48.7**	**+2.1**
WRA	**Warramunga Arr**	**39.18**	**123**	P	**P**	**23 08 52.6**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=302,slow=9.0,SNR=2.6						
ASAR	**Alice Springs**	**40.64**	**128**	P	**P**	**23 09 06.1**	**+0.8**
	0.5nm,0.7s,mb3.2,baz=306,slow=7.6,SNR=4.5						
SONM	**Songino Array**	**47.49**	**6**	P	**P**	**23 09 59.8**	**-0.5**
	0.6nm,0.4s,mb3.8,baz=190,slow=9.1,SNR=7.1						
MK31	**Makanchi Array**	**48.71**	**344**	*e*P	**P**	**23 10 08.3**	**-1.3**
MKAR	**Makanchi Array**	**48.71**	**344**	P	**P**	**23 10 08.5**	**-1.1**
	1.0nm,0.4s,mb4.2,baz=153,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**50.71**	**133**	P	**P**	**23 10 25.2**	**+0.3**
	1.1nm,0.7s,mb3.9,baz=285,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**50.71**	**133**	P	**P**	**23 10 25.2**	**+0.3**
KURK	**Kurchatov**	**53.29**	**343**	*e*P	**P**	**23 10 44.4**	**+0.3**
	2.2nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**54.78**	**349**	P	**P**	**23 10 53.6**	**-1.3**
	2.2nm,0.4s,mb4.6,baz=329,slow=6.6,SNR=8.0						
BRVK	**Borovoye**	**57.99**	**339**	*e*P	**P**	**23 11 16.0**	**-1.9**
	1.0nm,0.4s,mb4.2						
CHKZ	**Chkalovo**	**58.38**	**340**	*e*P	**P**	**23 11 19.5**	**-1.1**
	3.1nm,0.9s,mb4.3						
HNR	**Honiara**	**60.35**	**101**	P	**P**	**23 11 35.8**	**+1.6**
KIV	**Kislovodsk**	**66.78**	**319**	*e*P	**P**	**23 12 14.8**	**-1.7**
	3.1nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**71.77**	**312**	P	**P**	**23 12 46.1**	**-1.4**
	1.4nm,0.8s,mb3.9,baz=141,slow=6.8,SNR=9.1						
LBTB	**Lobatse**	**76.19**	**244**	*e*P	**P**	**23 13 11.1**	**-2.2**
FINES	**FINESS Array B**	**82.00**	**332**	P	**P**	**23 13 45.0**	**0.0**
	2.9nm,0.9s,mb4.2,baz=158,slow=4.5,SNR=2.8						

*IDC **17** 23:18:20.3±1.4, 038N×9951E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, ML2.6/1, Error ellipse: s-maj=55.7km s-min=16.3km az=66.0*
*ISCJB **17** 23:18:23.2±0.7, 046N±007×9969E±0.10, h35km, mb3.8/7, Error ellipse: s-maj=14.1km s-min=9.9km az=150.1*
*NEIC **17** 23:18:24.8±0.6, 051N×9969E, h30km, mb4.0/2, Error ellipse: s-maj=15.2km s-min=9.1km az=47.0*
ISC 17 23:18:25.5±0.7**,045N**±007×**9965E**±010**,h35**km**,n16,** σ1°**05**/19**,mb3.8**/7**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.45**	**343**	Pn	**Pn**	**23 19 01.0**	**-2.0**
	14nm,0.3s,baz=155,slow=9.8,SNR=5.9						
PSI				Pg	**Pn**	**23 19 05.0**	**+2.0**
	33nm,0.3s,baz=136,slow=10,SNR=49						
PSI				Lg		23 19 36.2	
	75nm,0.3s,baz=253,slow=7.0,SNR=10						
PSI	**Prapat**	**2.45**	**343**	Pn	**Pn**	**23 19 01.0**	**-2.0**
PSI				Pg	**Pn**	**23 19 05.0**	**+2.0**
PSI				Lg		23 19 36.2	
KULM	**Kulim**	**4.91**	**12**	*e*Pn	**Pn**	**23 19 34.7**	**-2.2**
KULM				*e*Sn	**Sn**	**23 20 34.2**	**+1.7**
KSM	**Kuching**	**10.70**	**84**	Pn	**Pn**	**23 20 55.8**	**-0.5**
LSA	**Lhasa**	**30.20**	**345**	P	**P**	**23 24 32.6**	**+0.1**
WRA	**Warramunga Arr**	**39.56**	**123**	P	**P**	**23 25 54.9**	**+1.6**
	0.2nm,0.4s,mb3.2,baz=302,slow=9.0,SNR=2.7						
WB2	**Warramunga Arr**	**39.57**	**123**	P	**P**	**23 25 54.1**	**+0.8**
SONM	**Songino Array**	**47.56**	**6**	P	**P**	**23 26 57.3**	**-0.3**
	0.4nm,0.4s,mb3.8,baz=188,slow=9.7,SNR=3.4						
MKAR	**Makanchi Array**	**48.60**	**344**	P	**P**	**23 27 05.8**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=154,slow=9.0,SNR=22						
KURK	**Kurchatov**	**53.18**	**343**	P	**P**	**23 27 40.4**	**+0.4**
	0.6nm,0.3s,mb4.0						
ZAL	**Zalesovo**	**54.71**	**349**	P	**P**	**23 27 50.2**	**-1.0**
	1.9nm,0.4s,mb4.4,baz=296,slow=5.2,SNR=10.0						
CHKZ	**Chkalovo**	**58.24**	**340**	*e*P	**P**	**23 28 16.2**	**-0.2**
	0.9nm,0.6s,mb4.0						
HNR	**Honiara**	**60.81**	**101**	*e*P	**P**	**23 28 32.6**	**-1.5**
	66nm,0.3s						
KIV	**Kislovodsk**	**66.48**	**319**	*e*P	**P**	**23 29 11.4**	**-0.1**
BRTR	**Keskin Array B**	**71.43**	**312**	P	**P**	**23 29 42.9**	**+0.7**
	0.6nm,0.7s,mb3.7,baz=117,slow=6.7,SNR=5.4						
LBTB	**Lobatse**	**75.76**	**244**	P	**P**	**23 30 07.7**	**+0.1**

*CASC **17** 23:46:13.5±2.6, 1386N×8976W, h10km, MD3.7, ML3.7*
NEIC 17 23:46:04.2±2.2**,1347N**×**9004W,h70**km±26**km, MD3.5**(SNET)**,5C-5D,Error ellipse: s-maj=39.5km s-min=14.7km az=220.0,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.55**	**47⇓**	*i*P	x	23 46 31.4	
SBLS				*e*S	x	23 46 33.8	
RTR	**El Retiro**	**0.57**	**42⇑**	*i*P	x	23 46 30.6	
RTR				*e*S	x	23 46 33.2	
SNJE	**San Jose**	**0.58**	**47⇑**	*i*P	x	23 46 31.5	
SNJE				*e*S	x	23 46 34.6	
BOQS	**Boqueron**	**0.78**	**70⇓**	*i*P	x	23 46 37.8	
BOQS				*e*S	x	23 46 46.0	
SNET	**Serv Nac Est T**	**0.81**	**74**	*e*P	x	23 46 23.8	
SNET				*e*S	x	23 46 32.4	
LFRS	**El Faro**	**0.96**	**81⇑**	*i*P	x	23 46 41.9	
LFRS				*e*S	x	23 46 53.3	
LBRS	**Las Brisas**	**1.00**	**74⇓**	*e*P	x	23 46 41.4	
LBRS				*e*S	x	23 46 52.1	
TER	**Terranova**	**1.04**	**323**	*e*P	Pn	23 46 30.1	+7.0
TER				*e*S	Sn	23 46 47.2	+10
LCBS	**La Ceiba**	**1.05**	**80⇑**	*e*P	x	23 46 42.6	
LCBS				*e*S	x	23 46 55.5	
SNVI	**San Vicente**	**1.18**	**83**	*e*P	x	23 46 45.4	
SNVI				*e*S	x	23 46 58.6	
FUG	**Fuego 3**	**1.25**	**321⇑**	*e*P	Pn	23 46 34.3	+8.5
FUG				*e*S	Sn	23 46 52.9	+11
BLLM	**Bellamira**	**1.75**	**91⇓**	*e*P	x	23 46 55.9	
BLLM				*e*S	x	23 47 18.1	
JAT	**Jato**	**1.77**	**299**	*e*P	Pn	23 46 47.1	+14
CNCH	**Conchagua**	**2.15**	**95⇓**	*e*P	x	23 47 02.9	
CNCH				*e*S	x	23 47 29.5	
TGUH	**Tegucigalpa,Un**	**2.75**	**77**	*e*Pn	Pn	23 46 46.0	+0.1
TGUH				*e*Pg	Pn	23 46 55.2	+9.2
TGUH				*e*Sn	Sn	23 47 16.1	-1.9
JTS	**JuntasAbangare**	**5.89**	**122**	Pn	Pn	23 47 29.1	+0.2
NATX	**Nacogdoches**	**18.69**	**348**	*e*Pn	Pn	23 50 13.9	-4.0
SDV	**Santo Domingo**	**19.57**	**101**	*e*P	Pn	23 50 26.7	-1.6
	1.4nm,0.7s						
LTX	**Lajitas**	**20.22**	**323**	*e*P	P	23 50 33.2	-0.2
MNTX	**Cornudas Mount**	**22.97**	**325**	*e*P	P	23 51 03.0	+0.3
	0.6nm,0.8s						
ANMO	**Albuquerque**	**26.04**	**328**	*e*P	P	23 51 31.6	+0.8
	0.5nm,0.5s						

UPP 18 00:19:12.6,6785N×**2019E,h3**km**,ML2.6,Mining explosion.,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	00 19 20.7	-0.3
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	00 19 25.8	-0.4
	baz=305						
DUNU	**Dundret**	**0.74**	**169**	P	Pg	00 19 26.1	-0.8
	baz=65						
MASU	**Masugnsbyn**	**0.80**	**119**	P	Pg	00 19 27.3	-0.6

FALS				eS		Sb	00 26 30.3	-0.9
FALS				eS		Sb	00 26 30.3	-0.9
SDPT	**Sand Point**	**1.18**	**33**	eP		Pb	00 26 13.8	-2.5
SDPT				eS		Sb	00 26 30.0	-1.6
AKUT	**Akutan**	**2.46**	**266**	eP		Pn	00 26 33.2	-0.8
AKUT				eS		Sn	00 27 02.7	-1.4
CHGN	**Chignik**	**2.66**	**42**	eP		Pn	00 26 35.3	-1.5
SVW2	**Sparrevohn**	**7.47**	**23**	Pn		Pn	00 27 42.1	-0.9

*IDC **18** 00:47:27.9±1.4, 2443S×17993E, h499km±12km, mb3.7/13, mb1 3.8/15, mb1mx3.8/18, mbtmp3.7/15, Error ellipse: s-maj=14.8km s-min=13.8km az=29.0*
*ISCJB **18** 00:47:30.2±0.9, 2442S±006×17975E±008, h533km±11km, mb4.0/16, Error ellipse: s-maj=11.0km s-min=9.7km az=21.4*
*NEIC **18** 00:47:31.1±0.7, 2438S×17979E, h535km±8km, mb4.3/8, Error ellipse: s-maj=8.9km s-min=8.2km az=149.0*
ISC 18 00:47:31.1±0.9, 2441S±007×17981E±008, h531km±11km, n59, σ0982/43, mb4.0/16, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.23**	**158**	eP	**P**	**00 49 02.3**	**+0.6**
	240nm,0.5s						
DZM	**Mont Dzumac**	**12.50**	**278**	P	**P**	**00 50 14.8**	**+0.1**
	1.5nm,0.3s,baz=84,slow=17,SNR=21						
AFI	**Afiamalu**	**13.12**	**39**	eP	**P**	**00 50 20.8**	**-0.4**
URZ	**Urewera**	**14.00**	**189**	P	**P**	**00 50 26.6**	**-3.7**
	0.8nm,0.3s,baz=315,slow=1.4,SNR=4.7						
URZ				S	**S**	**00 52 53.7**	**-4.3**
	1.3nm,0.3s,baz=143,slow=23,SNR=11						
SNZO	**South Karori**	**17.38**	**193**	eP	**P**	**00 51 05.0**	**+0.9**
	18nm,0.8s						
RPZ	**Rata Peaks**	**20.55**	**198**	P	**P**	**00 51 30.4**	**-2.6**
	7.7nm,0.4s,baz=54,slow=7.3,SNR=7.9						
HNR	**Honiara**	**24.09**	**305**	P	**P**	**00 52 04.7**	**+0.1**
ARMA	**Armidale**	**25.68**	**250**	eP	**P**	**00 52 19.6**	**+0.9**
CTA	**Charters Tower**	**31.30**	**271**	‖iP	**P**	**00 53 08.5**	**+0.8**
CTA	**Charters Tower**	**31.30**	**271**	P	**P**	**00 53 08.3**	**+0.7**
	20nm,0.4s,mb5.0,baz=97,slow=10,SNR=39						
CTAO	**Charters Tower**	**31.30**	**271**	eP	**P**	**00 53 08.3**	**+0.6**
	39nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**34.37**	**249**	‖iP	**P**	**00 53 34.0**	**+0.4**
STKA	**Stephens Creek**	**34.37**	**249**	P	**P**	**00 53 33.9**	**+0.3**
	6.5nm,0.4s,mb4.5,baz=91,slow=9.5,SNR=38						
PMG	**Port Moresby**	**34.50**	**290**	P	**P**	**00 53 35.0**	**+0.4**
	28nm,0.9s,mb4.8,baz=32,slow=3.0,SNR=7.2						
PMG	**Port Moresby**	**34.50**	**290**	eP	**P**	**00 53 35.0**	**+0.4**
	15nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**00 54 33.6**	**-0.3**
	7.2nm,1.0s,mb4.2,baz=96,slow=8.4,SNR=45						
ASAR				S	**S**	**01 00 15.7**	**+2.8**
	0.3nm,0.4s,baz=99,slow=16,SNR=4.4						
WB2	**Warramunga Arr**	**42.19**	**267**	‖iP	**P**	**00 54 36.7**	**-0.4**
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**00 54 36.9**	**-0.3**
	11nm,0.6s,mb4.6,baz=104,slow=8.0,SNR=49						
WRA				ScP	ScP	00 59 24.2	+5.3
	5.0nm,0.8s,baz=100,slow=4.1,SNR=17						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**00 54 36.9**	**-0.3**
WRA				ScP	ScP	00 59 24.2	+5.3
FORT	**Forrest**	**45.97**	**250**	eP	**P**	**00 55 05.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**50.62**	**266**	eP	**P**	**00 55 41.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**50.62**	**266**	P	**P**	**00 55 41.4**	**+0.4**
	12nm,0.8s,mb4.3,baz=132,slow=11,SNR=23						
VNDA	**Vanda**	**53.86**	**185**	P	**P**	**00 56 03.7**	**-0.5**
	0.6nm,0.7s,mb3.1,baz=9.2,slow=7.5,SNR=5.9						
VNDA				ScP	ScP	01 00 09.8	+1.3
	0.7nm,0.9s,baz=324,slow=5.3,SNR=3.6						
VNDA	**Vanda**	**53.86**	**185**	eP	**P**	**00 56 04.2**	**0.0**
	1.0nm,0.8s,mb3.2						
VNDA				ScP	ScP	01 00 09.8	+1.3
SBA	**Scott Base**	**53.86**	**183**	eP	**P**	**00 56 05.2**	**+0.9**
	7.7nm,0.9s,mb4.0						
KLBR	**Kellerberrin**	**54.63**	**248**	eP	**P**	**00 56 08.8**	**-0.8**
CASY	**Casey**	**59.58**	**206**	P	**P**	**00 56 44.0**	**+0.5**
QSPA	**South Pole Qui**	**65.68**	**180**	eP	**P**	**00 57 23.0**	**+0.1**
	15nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**72.22**	**326**	P	**P**	**00 58 01.5**	**-0.7**
	2.8nm,0.7s,mb3.8,baz=165,slow=6.5,SNR=4.7						
MAJO	**Matsushiro**	**72.22**	**326**	P	**P**	**00 58 02.0**	**-0.2**
MAW	**Mawson**	**77.21**	**201**	P	**P**	**00 58 30.2**	**0.0**
	1.8nm,0.6s,mb3.7,baz=153,slow=9.0,SNR=6.2						
MAW	**Mawson**	**77.21**	**201**	eP	**P**	**00 58 30.2**	**-0.1**
	2.1nm,0.5s,mb3.8						
YSS	**Yuzh-Sakhalins**	**78.52**	**335**	P	**P**	**00 58 37.1**	**-0.2**
KSRS	**Korea Array**	**78.52**	**320**	P	**P**	**00 58 37.1**	**-0.2**
	1.7nm,0.7s,mb3.5,baz=140,slow=5.9,SNR=4.0						
CMB	**Columbia Colle**	**83.69**	**43**	eP	**P**	**00 59 03.7**	**-0.2**
	0.6nm,0.4s,mb3.5						
SNAA	**Sanae**	**84.16**	**179**	eP	**P**	**00 59 04.7**	**-1.6**
	1.4nm,0.5s,mb3.8						
PMR	**Palmer**	**89.28**	**14**	P	**P**	**00 59 29.8**	**-0.7**
TXAR	**Lajitas Array**	**90.85**	**58**	P	**P**	**00 59 38.5**	**+0.7**
	1.5nm,0.8s,mb4.0,baz=215,slow=6.8,SNR=19						
HWUT	**Hardware Ranch**	**91.30**	**44**	eP	**P**	**00 59 41.2**	**+1.3**
PDAR	**Pinedale Array**	**93.18**	**44**	P	**P**	**00 59 48.4**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=235,slow=3.0,SNR=4.4						
NNA	**Nana**	**96.96**	**106**	P	**P**	**01 00 06.5**	**+0.9**
SONM	**Songino Array**	**97.37**	**319**	PP	PP	01 04 11.1	-1.9
	0.5nm,0.8s,baz=46,slow=4.3,SNR=3.6						
LSA	**Lhasa**	**100.60**	**298**	ePdif	Pdif	01 00 23.4	+1.6
OTAV	**Otavalo**	**100.79**	**95**	ePdif	Pdif	01 00 24.9	+2.2
LPAZ	**La Paz**	**102.38**	**114**	Pdif	Pdif	01 00 32.5	+2.8
MKAR	**Makanchi Array**	**112.36**	**313**	PKiKP	PKiKP	01 05 05.5	-1.0
	0.3nm,0.7s,baz=114,slow=2.9,SNR=3.0						
CHKZ	**Chkalovo**	**120.57**	**319**	ePKPdf	PKPdf	01 05 22.2	-0.1
BVAR	**Borovoye Array**	**120.70**	**319**	PKP	PKPdf	01 05 21.2	-1.3
	0.4nm,0.4s,baz=83,slow=3.6,SNR=4.1						
MATP	**Matopo**	**127.41**	**215**	SKPbc		01 08 06.0	
	1.0nm,0.7s,baz=84,slow=18,SNR=3.4						
LSZ	**Lusaka**	**131.80**	**218**	SKPbc	SKPbc	01 08 23.2	+3.1
	1.7nm,0.7s,baz=173,slow=0.8,SNR=6.4						
ARCES	**ARCESS Array B**	**132.35**	**348**	PKP	PKPdf	01 05 43.1	-1.6
	2.8nm,0.9s,baz=64,slow=2.1,SNR=4.7						
ARCES				SKPbc	SKPbc	01 08 23.6	+1.7
	3.9nm,0.8s,baz=27,slow=4.1,SNR=4.9						
FINES	**FINESS Array B**	**138.87**	**341**	PKhKP		01 05 47.9	
	1.3nm,0.9s,baz=108,slow=4.2,SNR=5.2						
FINES				PKP	PKPdf	01 05 55.9	-1.0
	2.5nm,0.9s,baz=111,slow=4.3,SNR=4.7						
FINES				SKPbc	SKPbc	01 08 43.3	+1.5
	1.8nm,0.6s,baz=60,slow=4.7,SNR=9.4						
KIV	**Kislovodsk**	**140.06**	**310**	PKPdf	PKPdf	01 05 60.0	+0.9
NOA	**NORSAR Array B**	**142.55**	**351**	SKPbc	SKPbc	01 08 52.9	+1.7
	1.3nm,0.8s,baz=14,slow=4.3,SNR=3.5						
AKASG	**Malin Array Be**	**145.30**	**327**	PKPbc	PKPbc	01 06 08.0	-1.3
	1.2nm,0.4s,baz=42,slow=4.2,SNR=9.8						
AKASG				SKPbc	SKPbc	01 08 59.9	+2.2
	1.2nm,0.6s,baz=44,slow=2.8,SNR=7.0						
AKASG	**Malin Array Be**	**145.30**	**327**	PKPbc	PKPbc	01 06 08.0	-1.3
AKASG				SKPbc	SKPbc	01 08 59.9	+2.2
BRTR	**Keskin Array B**	**147.74**	**306**	PKPbc	PKPbc	01 06 15.9	0.0
	1.0nm,0.6s,baz=136,slow=4.9,SNR=6.2						
BRTR				PKPab	PKPab	01 06 20.2	-0.1
	2.1nm,0.6s,baz=98,slow=2.8,SNR=14						
MMAI	**Mount Meron Ar**	**147.75**	**294**	PKPbc	PKPbc	01 06 17.5	+1.5
	2.1nm,0.5s,baz=68,slow=4.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**168.66**	**189**	PKP	PKPdf	01 06 35.4	-1.4
	0.9nm,1.1s,baz=205,slow=1.1,SNR=2.8						
TORD				PKPab	PKPab	01 07 50.5	-0.2
	1.2nm,0.7s,baz=185,slow=4.6,SNR=12						

*CASC **18** 01:06:23.5±0.7, 1569N×9175W, h237km±9km, MD3.9, mb4.2(NEIC)*
*ISCJB **18** 01:06:32.7±0.4, 1504N±004×9164W±004, h184km±4km, mb3.9/16, Error ellipse: s-maj=8.1km s-min=5.2km az=91.6*
*NEIC **18** 01:06:33.4±0.6, 1497N×9156W, h178km±6km, mb4.2/11, Error ellipse: s-maj=10.9km s-min=7.2km az=47.0*
*MEX **18** 01:06:35.4±0.9, 1521N×9183W, h202km±13km, MD4.4*
*IDC **18** 01:06:38.0±2.1, 1522N×9104W, h211km±20km, mb3.5/12, mb1 3.7/15, mb1mx3.6/22, mbtmp3.5/15, Error ellipse: s-maj=22.9km s-min=9.4km az=58.0*
ISC 18 01:06:33.7±0.4, 1505N±004×9164W±004, h177km±4km, n54, σ1925/65, mb3.9/16, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.73**	**180**	eP	**Pn**	**01 07 00.0**	**+0.8**
FUG	**Fuego 3**	**0.98**	**128**	eP	**Pn**	**01 07 01.4**	**+0.5**
TER	**Terranova**	**1.19**	**129**	eP	**Pn**	**01 07 02.7**	**+0.2**
CCIG	**Comitan**	**1.31**	**339**	iP	**Pn**	**01 07 04.7**	**+1.1**
CCIG				iS	**Sn**	**01 07 28.2**	**+1.5**
CMIG	**Matias Romero**	**3.72**	**303**	P	**Pn**	**01 07 31.9**	**+0.8**
	16nm,0.3s,baz=123,slow=9.9,SNR=192						
CMIG				S	**Sn**	**01 08 12.6**	**-3.3**
	37nm,0.3s,baz=104,slow=12,SNR=23						
CMIG	**Matias Romero**	**3.72**	**303**	iP	**Pn**	**01 07 31.1**	**0.0**
CMIG				iS	**Sn**	**01 08 12.0**	**-4.0**
CMIG	**Matias Romero**	**3.72**	**303**	iP	**Pn**	**01 07 32.1**	**+1.0**
CMIG				iS	**Sn**	**01 08 10.2**	**-5.7**
SCIG	**Sabancuy**	**3.92**	**6**	iP	**Pn**	**01 07 33.7**	**+0.1**
SCIG				iS	**Sn**	**01 08 18.2**	**-2.1**
TGUH	**Tegucigalpa,Un**	**4.34**	**103**	ePn	**Pn**	**01 07 38.9**	**-0.1**
TGUH				eS	**Sn**	**01 08 23.3**	**-6.8**
HUIG	**Huatulco**	**4.37**	**280**	iP	**Pn**	**01 07 38.9**	**-0.5**
HUIG				iS	**Sn**	**01 08 25.2**	**-5.6**
HUIG	**Huatulco**	**4.37**	**280**	iP	**Pn**	**01 07 38.9**	**-0.5**
HUIG				iS	**Sn**	**01 08 25.4**	**-5.4**
OXX	**Oaxaca**	**5.29**	**293**	iP	**Pn**	**01 07 54.0**	**+2.7**
OXX				iS	**Sn**	**01 08 50.0**	**-2.2**
VHO	**Vista Hermosa**	**5.29**	**293**	iP	**Pn**	**01 07 50.8**	**-0.6**
VHO				iS	**Sn**	**01 08 49.2**	**-3.1**
TEIG	**Tepich**	**6.06**	**31**	P	**Pn**	**01 08 00.2**	**-1.2**
	8.7nm,0.3s,baz=220,slow=2.1,SNR=45						
TEIG	**Tepich**	**6.06**	**31**	iP	**Pn**	**01 08 00.7**	**-0.7**
TEIG				iS	**Sn**	**01 09 09.7**	**-0.7**
TEIG	**Tepich**	**6.06**	**31**	ePn	**Pn**	**01 08 00.7**	**-0.7**
	61nm,0.3s						
JTS	**JuntasAbangare**	**8.06**	**125**	P	**Pn**	**01 08 26.5**	**-1.2**
	4.7nm,0.3s,baz=322,slow=16,SNR=12						
JTS				S	**Sn**	**01 09 45.7**	**-12**
	0.2nm,0.3s,baz=317,slow=15,SNR=2.0						
MEIG	**Mezcala**	**8.17**	**292**	eP	**Pn**	**01 08 27.9**	**-1.2**
MEIG				iS	**Sn**	**01 09 54.9**	**-5.8**
JCR	**Jicaral**	**8.21**	**128**	eP	**Pn**	**01 08 29.9**	**+0.3**
CGA2	**Cerro Gallo 2**	**8.61**	**125**	eP	**Pn**	**01 08 35.5**	**+0.6**
PRS1	**Puriscal**	**8.75**	**124**	eP	**Pn**	**01 08 36.8**	**+0.1**
LCR2	**La Lucha 2**	**9.13**	**124**	eP	**Pn**	**01 08 42.1**	**+0.2**
LTX	**Lajitas**	**18.04**	**324**	eP	**P**	**01 10 37.0**	**+5.7**
	1.4nm,0.6s						
TXAR	**Lajitas Array**	**18.04**	**324**	P	**P**	**01 10 35.2**	**+3.9**
	0.3nm,0.3s,baz=143,slow=11,SNR=22						
OXF	**Oxford**	**19.48**	**6**	eP	**P**	**01 10 47.9**	**+0.9**
	8.7nm,0.4s						
MIAR	**Mount Ida**	**19.49**	**355**	eP	**P**	**01 10 48.2**	**+1.1**
	2.3nm,0.6s						
OTAV	**Otavalo**	**19.66**	**137**	eP	**P**	**01 10 48.4**	**-0.5**
	2.8nm,0.8s						
GOGA	**Godfrey**	**19.72**	**21**	eP	**P**	**01 10 51.3**	**+1.7**
	11nm,0.5s						
WMOK	**Wichita Mounta**	**20.63**	**343**	eP	**P**	**01 11 01.5**	**+2.2**
	0.9nm,0.5s						
WVT	**Waverly**	**21.27**	**9**	eP	**P**	**01 11 05.5**	**-0.6**
	4.4nm,0.6s,mb4.0						
SDV	**Santo Domingo**	**21.43**	**104**	P	**P**	**01 11 05.2**	**-2.6**
	7.0nm,0.6s,mb4.2,baz=327,slow=11,SNR=6.9						
TKL	**Tuckaleechee C**	**21.70**	**18**	P	**P**	**01 11 10.4**	**-0.1**
	4.5nm,0.6s,mb4.1,baz=183,slow=10,SNR=7.8						
SIUC	**Southern Illin**	**22.67**	**5**	eP	**P**	**01 11 20.7**	**+0.8**
	21nm,0.7s,mb4.7						
WCI	**Wyandotte Cave**	**23.56**	**11**	eP	**P**	**01 11 28.5**	**+0.4**
	13nm,0.6s,mb4.6						
ANMO	**Albuquerque**	**23.88**	**329**	P	**P**	**01 11 35.1**	**+4.2**
ELN	**Prospectdale**	**24.11**	**22**	eP	**P**	**01 11 32.6**	**-0.5**
RSSD	**Black Hills**	**30.84**	**342**	eP	**P**	**01 12 34.2**	**+1.3**
	0.7nm,0.5s,mb3.6						
PDAR	**Pinedale Array**	**31.62**	**334**	P	**P**	**01 12 42.2**	**+2.4**
	0.2nm,0.6s,mb3.0,baz=142,slow=8.9,SNR=2.8						
NVAR	**Mina Array Bea**	**33.09**	**320**	P	**P**	**01 12 57.1**	**+4.5**
	2.0nm,0.6s,mb4.0,baz=131,slow=8.2,SNR=17						
ULM	**Lac du Bonnet**	**35.27**	**355**	P	**P**	**01 13 11.2**	**-0.2**
	1.5nm,0.9s,mb3.6,baz=206,slow=6.5,SNR=3.1						
WALA	**Waterton Lakes**	**38.51**	**336**	P	**P**	**01 13 41.5**	**+2.8**
LPAZ	**La Paz**	**38.84**	**142**	P	**P**	**01 13 41.9**	**+0.5**
	2.1nm,0.7s,mb3.9,baz=326,slow=7.0,SNR=8.8						
LPAZ	**La Paz**	**38.84**	**142**	P	**P**	**01 13 41.9**	**+0.5**
SIV	**San Ignacio**	**43.16**	**134**	P	**P**	**01 14 15.9**	**-0.9**
	5.6nm,0.7s,mb4.3,baz=306,slow=8.0,SNR=35						
SIV				PcP	PcP	01 16 03.5	+0.6
	0.4nm,0.5s,baz=305,slow=4.5,SNR=3.9						
SCHQ	**Schefferville**	**44.12**	**20**	P	**P**	**01 14 22.8**	**-1.6**
	2.2nm,0.6s,mb3.9,baz=276,slow=13,SNR=5.1						
SCHQ	**Schefferville**	**44.12**	**20**	P	**P**	**01 14 22.8**	**-1.6**
YKA	**Yellowknife Ar**	**50.09**	**346**	P	**P**	**01 15 10.3**	**-0.2**
	1.3nm,0.7s,mb3.7,baz=149,slow=7.5,SNR=19						
PLCA	**Paso Flores**	**58.85**	**161**	P	**P**	**01 16 14.3**	**+0.6**
	1.8nm,0.8s,mb4.0,baz=358,slow=14,SNR=3.5						
PLCA	**Paso Flores**	**58.85**	**161**	P	**P**	**01 16 14.3**	**+0.6**
INK	**Inuvik**	**59.54**	**343**	eP	**P**	**01 16 18.0**	**-0.3**
	35nm,0.6s						
ESDC	**Sonseca Array**	**78.79**	**52**	P	**P**	**01 18 14.2**	**-2.5**
	0.2nm,0.5s,mb3.0,baz=288,slow=6.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**89.79**	**77**	P	**P**	**01 19 09.0**	**-3.0**
	0.4nm,0.8s,mb3.4,baz=284,slow=2.4,SNR=2.9						
SBA	**Scott Base**	**107.06**	**193**	ePKiKP	PKiKP	01 24 37.4	-1.1
WRA	**Warramunga Arr**	**135.98**	**257**	PKhKP		01 25 32.2	
	0.5nm,0.5s,baz=85,slow=2.3,SNR=4.9						
WRA				PKP	PKPdf	01 25 35.4	+1.9
	0.5nm,0.5s,baz=86,slow=2.2,SNR=6.6						

*BJI **18** 01:24:13.8, 033S×9978E, h51km, mB4.9, mb4.7, Ms4.6, Msz4.0*
*IDC **18** 01:24:14.7±0.5, 070N×10000E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.3/20, mbtmp4.2/17, MS3.9/9, Ms1 3.9/9, ms1mx3.5/25, Error ellipse: s-maj=21.9km s-min=13.9km az=60.0*
*ISCJB **18** 01:24:19.3±1.6, 070N×008×9989E±009, h41km±13km, mb4.5/35, MS3.9/10, Error ellipse: s-maj=17.9km s-min=9.8km az=107.2*
*NEIC **18** 01:24:20.2±0.6, 056N×9937E, h30km, mb4.7/9, Error ellipse: s-maj=21.1km s-min=13.6km az=72.0*
NEIC Felt [IV] at Muarasipongi.
ISC 18 01:24:21.0±1.5, 068N±008×9994E±010, h40km±13km, n61, σ1917/62, mb4.5/35, MS3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.34**	**334**	Pn	**Pn**	**01 24 56.9**	**0.0**
	64nm,0.3s,baz=163,slow=8.3,SNR=94						
PSI				Sn	**Sn**	**01 25 29.9**	**+5.5**
	222nm,0.3s,baz=281,slow=18,SNR=11						
KGM	**Kluang**	**3.63**	**69**	P	**Pn**	**01 25 14.1**	**-0.6**
IPM	**Ipoh**	**3.92**	**16**	P	**Pn**	**01 25 19.8**	**+1.1**
KULM	**Kulim**	**4.63**	**9**	ePn	**Pn**	**01 25 27.5**	**-1.0**
KULM				eSn	**Sn**	**01 26 30.1**	**+9.2**
KSM	**Kuching**	**10.40**	**86**	Pn	**Pn**	**01 26 57.4**	**+10**
JIRN	**Jiri**	**29.89**	**335**	eP	**P**	**01 30 24.7**	**-0.1**
	51nm,0.9s,mb5.3						
LSA	**Lhasa**	**30.05**	**345**	eP	**P**	**01 30 28.4**	**+2.2**
	4.6nm,0.5s,mb4.5						
PKI	**Pulchoki**	**30.15**	**334**	eP	**P**	**01 30 28.0**	**+0.9**
	12nm,0.5s,mb4.8						
GUN	**Gumba**	**30.24**	**335**	eP	**P**	**01 30 27.8**	**-0.1**
	84nm,0.6s,mb5.7						
DMN	**Daman**	**30.32**	**333**	eP	**P**	**01 30 29.3**	**+0.7**
	20nm,0.8s,mb4.9						
KKN	**Kakani**	**30.40**	**334**	eP	**P**	**01 30 28.6**	**-0.7**
	24nm,0.6s,mb5.1						
GKN	**Gorkha**	**30.87**	**333**	eP	**P**	**01 30 32.7**	**-0.7**
	16nm,0.6s,mb5.0						
KOLN	**Koldanda**	**31.16**	**331**	eP	**P**	**01 30 35.5**	**-0.5**
	12nm,0.6s,mb4.9						
XAN	**Xi'an**	**34.23**	**13**	P	**P**	**01 31 04.1**	**+1.2**
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**37.20**	**156**	eP	**P**	**01 31 30.2**	**+1.9**
	comp=Z,4.3nm,0.7s,mb4.4						
GTA	**Gaotai**	**38.54**	**360**	eP	**P**	**01 31 44.3**	**+4.7**
GTA				AP	pP	01 31 53.0	+2.1
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**39.45**	**123**	P	**P**	**01 31 46.4**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.1,baz=303,slow=9.0,SNR=19						
WRA				PcP	PcP	01 33 53.9	-0.6
	comp=Z,1.7nm,0.7s,baz=309,slow=2.5,SNR=8.9						
WRA				LR	LR	01 48 42.7	
	comp=Z,109nm,21.8s,MS3.6,baz=200,slow=37						
ASAR	**Alice Springs**	**40.92**	**129**	P	**P**	**01 31 58.2**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.5,baz=306,slow=8.4,SNR=9.0						
ASAR				PcP	PcP	01 33 59.0	-0.3
	comp=Z,1.8nm,0.7s,baz=310,slow=2.6,SNR=13						
BJI	**Beijing**	**41.87**	**19**	P	**P**	**01 32 09.3**	**+2.1**
BJI				S	**S**	**01 38 38.3**	**+16**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3						
BJI				LR	LR		
	comp=N,318nm,13.2s,MS4.4						
BJI				LR	LR		
	comp=E,115nm,13.2s,MS4.4						
BJI				LR	LR		
	comp=Z,134nm,20.0s						
BJI	**Beijing**	**41.87**	**19**	P	**P**	**01 32 09.3**	**+2.1**
	comp=Z,7.0nm,0.8s,mb4.3						
BJI				S	**S**	**01 38 38.2**	**+16**
BJI				LR	LR		
	comp=Z,130nm,20.0s,MS3.8						
KSRS	**Korea Array**	**44.77**	**32**	P	**P**	**01 32 31.1**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.3,baz=226,slow=9.0,SNR=10						
KSRS				LR	LR	01 53 21.8	
	comp=Z,81nm,19.8s,MS3.6,baz=27,slow=39						
SONM	**Songino Array**	**47.30**	**6**	P	**P**	**01 32 50.3**	**-0.2**
	comp=Z,6.0nm,0.6s,mb4.7,baz=188,slow=8.9,SNR=28						
SONM				PcP	PcP	01 34 21.7	+0.7
	comp=Z,0.9nm,1.0s,baz=179,slow=3.7,SNR=2.8						
SONM				ScP	ScP	01 38 17.7	+5.9
	comp=Z,1.7nm,1.2s,baz=180,slow=2.9,SNR=4.0						
SONM				LR	LR	01 55 42.1	
	comp=Z,151nm,18.8s,MS4.0,baz=200,slow=40						
TKM2	**Tokmak 2**	**47.37**	**336**	P	**P**	**01 32 51.3**	**+0.3**
	SNR=7.0						
KBK	**Karagaybulak**	**47.42**	**335**	P	**P**	**01 32 51.9**	**+0.5**
	SNR=7.9						
AML	**Almayashu**	**47.54**	**334**	P	**P**	**01 32 52.7**	**+0.4**
	SNR=7.0						
EKS2	**Erkin-Say**	**47.93**	**334**	P	**P**	**01 32 55.7**	**+0.3**
	SNR=8.6						
USP	**Ospenovka**	**48.11**	**335**	P	**P**	**01 32 57.3**	**+0.5**
	SNR=8.9						
MKAR	**Makanchi Array**	**48.45**	**344**	P	**P**	**01 32 58.4**	**-1.0**
	comp=Z,5.0nm,0.6s,mb4.8,baz=153,slow=8.9,SNR=66						
MKAR				LR	LR	01 56 21.1	
	comp=Z,80nm,18.4s,MS3.7,baz=162,slow=40						
CTAO	**Charters Tower**	**49.83**	**117**	P	**P**	**01 33 14.5**	**+4.6**
MJAR	**Matsushiro Arr**	**50.27**	**40**	LR	LR	01 54 42.7	
	comp=Z,90nm,20.0s,MS3.8,baz=210,slow=36						
TLY	**Talaya**	**50.91**	**3**	P	**P**	**01 33 19.6**	**+1.4**
STKA	**Stephens Creek**	**50.99**	**133**	P	**P**	**01 33 17.3**	**-1.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=310,slow=8.8,SNR=5.8						
STKA				LR	LR	01 54 57.8	
	comp=Z,166nm,19.6s,MS4.1,baz=286,slow=36						
STKA	**Stephens Creek**	**50.99**	**133**	P	**P**	**01 33 17.3**	**-1.4**
STKA				LR	LR	01 54 57.8	
MDJ	**Mudanjiang**	**51.03**	**27**	P	**P**	**01 33 23.1**	**+4.0**
KURK	**Kurchatov**	**53.04**	**343**	eP	**P**	**01 33 33.1**	**-0.8**
	comp=Z,18nm,1.3s,mb4.8						
ZAL	**Zalesovo**	**54.53**	**349**	P	**P**	**01 33 43.2**	**-1.7**
	comp=Z,13nm,0.5s,mb5.2,baz=315,slow=6.1,SNR=23						
ZAL				LR	LR	01 59 29.2	
	comp=Z,96nm,18.4s,MS3.9,baz=96,slow=39						
BRVK	**Borovoye**	**57.73**	**339**	eP	**P**	**01 34 05.9**	**-1.8**
	comp=Z,4.4nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**58.12**	**340**	eP	**P**	**01 34 08.9**	**-1.5**
	comp=Z,50nm,1.3s,mb5.4						
YSS	**Yuzh-Sakhalins**	**59.26**	**33**	P	**P**	**01 34 22.9**	**+4.5**
KMBO	**Kilima Mbogo**	**62.71**	**268**	P	**P**	**01 34 42.8**	**+1.0**
	comp=Z,1.0nm,0.7s,mb4.0,baz=73,slow=15,SNR=5.0						
**KM

1.7nm,0.8s,baz=42,slow=9.3,SNR=3.5
TXAR Lajitas Array 72.92 64 P P 02 17 24.0 +0.1
0.3nm,0.6s,baz=299,slow=4.3,SNR=6.2

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*NEIC **18** 02:07:47.1,3832S×17579E,h242km, MG4.1(WEL), After WEL.*
WEL 18 02:07:48.2±0.3,3835S×17574E,h232km±2km,ML4.0/15, 1C-4D, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**0.41**	**95**	PN	Pn	02 08 19.2	+0.4
TOZ	**Tahuroa Road**	**0.64**	**343**	PN	Pn	02 08 19.3	-0.3
HIZ	**Hauiti**	**0.72**	**256**	⇓PN	Pn	02 08 19.6	-0.3
KRVZ	**Karewarewa**	**0.75**	**186**	PN	Pn	02 08 20.2	+0.1
TWVZ	**Taurewa**	**0.76**	**198**	P	Pn	02 08 20.0	-0.1
TWVZ	**Taurewa**	**0.76**	**198**	PN	Pn	02 08 20.2	+0.1
WTVZ	**West Tongariro**	**0.78**	**189**	P	Pn	02 08 20.4	+0.2
WTVZ				S	S	02 08 46.5	+1.3
WTVZ	**West Tongariro**	**0.78**	**189**	⇓PN	Pn	02 08 20.4	+0.2
WTVZ				eSN	S	02 08 45.2	0.0
OTVZ	**Oturere**	**0.82**	**184**	PN	Pn	02 08 20.7	+0.3
NGZ	**Ngauruhoe**	**0.84**	**187**	P	Pn	02 08 20.6	+0.1
NGZ	**Ngauruhoe**	**0.84**	**187**	PN	Pn	02 08 20.6	+0.2
WPVZ	**Whakapapa**	**0.87**	**190**	P	Pn	02 08 20.8	+0.1
WPVZ	**Whakapapa**	**0.87**	**190**	PN	Pn	02 08 20.8	+0.1
WPVZ				SN	S	02 08 45.8	-0.2
FWVZ	**Far West T-bar**	**0.92**	**189**	P	Pn	02 08 21.1	+0.2
FWVZ	**Far West T-bar**	**0.92**	**189**	PN	Pn	02 08 21.1	+0.1
FWVZ				eSN	S	02 08 46.5	-0.1
TUVZ	**Tukino**	**0.93**	**184**	P	Pn	02 08 21.2	+0.3
TUVZ	**Tukino**	**0.93**	**184**	PN	Pn	02 08 21.2	+0.3
WNVZ	**Wahianoa**	**0.99**	**186**	P	Pn	02 08 21.4	+0.1
WNVZ	**Wahianoa**	**0.99**	**186**	⇓PN	Pn	02 08 21.4	+0.1
PKVZ	**Pokaka**	**0.99**	**198**	PN	Pn	02 08 21.3	0.0
BKZ	**Black Stump Fm**	**1.01**	**145**	⇓PN	Pn	02 08 21.6	+0.2
BKZ				eSN	S	02 08 46.4	-1.0
MTVZ	**Mangateitei**	**1.06**	**191**	PN	Pn	02 08 21.8	+0.1
MOVZ	**Moawhango**	**1.06**	**180**	P	Pn	02 08 21.6	-0.1
MOVZ	**Moawhango**	**1.06**	**180**	PN	Pn	02 08 21.6	-0.2
URZ	**Urewera**	**1.08**	**86**	eP	Pn	02 08 20.8	-1.1
URZ	**Urewera**	**1.08**	**86**	ePN	Pn	02 08 20.8	-1.1
URZ				SN	S	02 08 47.7	-0.5
VRZ	**Vera Road**	**1.09**	**224**	ePN	Pn	02 08 22.0	0.0
MWZ	**Matawai**	**1.41**	**90**	P	Pn	02 08 24.1	0.0
MWZ	**Matawai**	**1.41**	**90**	PN	Pn	02 08 23.8	-0.3
MWZ				SN	S	02 08 52.0	-0.2
WAZ	**Wanganui**	**1.53**	**202**	⇑PN	Pn	02 08 24.7	-0.4
WAZ				SN	S	02 08 53.6	-0.4
KNZ	**Kokohu**	**1.66**	**115**	eP	Pn	02 08 26.7	+0.6
KNZ	**Kokohu**	**1.66**	**115**	PN	Pn	02 08 26.7	+0.6
TSZ	**Takapari Road**	**1.72**	**174**	P	Pn	02 08 26.4	-0.3
TSZ	**Takapari Road**	**1.72**	**174**	PN	Pn	02 08 26.4	-0.3
PUZ	**Puketiti**	**2.00**	**83**	eP	Pn	02 08 28.4	-0.8
PUZ	**Puketiti**	**2.00**	**83**	PN	Pn	02 08 28.4	-0.8
MXZ	**Matakaoa Point**	**2.17**	**70**	P	Pn	02 08 29.9	-1.0
MXZ	**Matakaoa Point**	**2.17**	**70**	PN	Pn	02 08 29.9	-1.0
MRZ	**Mangatainoka R**	**2.32**	**183**	P	Pn	02 08 30.8	-1.5
MRZ	**Mangatainoka R**	**2.32**	**183**	PN	Pn	02 08 30.8	-1.6
MRZ				SN	S	02 09 05.0	-2.1
BFZ	**Birch Farm**	**2.37**	**171**	eP	Pn	02 08 31.6	-1.2
BFZ	**Birch Farm**	**2.37**	**171**	PN	Pn	02 08 31.6	-1.2
TIWZ	**Tintock**	**2.43**	**177**	PN	Pn	02 08 32.1	-1.4
KIW	**Kapiti Island**	**2.59**	**194**	P	Pn	02 08 33.2	-2.0
KIW	**Kapiti Island**	**2.59**	**194**	PN	Pn	02 08 33.2	-2.0
CAW	**Cannon Point**	**2.81**	**190**	P	Pn	02 08 35.4	-2.1
CAW	**Cannon Point**	**2.81**	**190**	PN	Pn	02 08 35.4	-2.2
MTW	**Mount Morrison**	**2.82**	**184**	P	Pn	02 08 35.3	-2.3
MTW	**Mount Morrison**	**2.82**	**184**	PN	Pn	02 08 35.3	-2.3
DUWZ	**D'Urville Isla**	**2.83**	**209**	PN	Pn	02 08 35.1	-2.6
MRW	**Makara Radio**	**2.99**	**195**	P	Pn	02 08 36.9	-2.6
MRW	**Makara Radio**	**2.99**	**195**	PN	Pn	02 08 36.9	-2.7
PAWZ	**Paruwai Farm**	**3.04**	**184**	PN	Pn	02 08 37.6	-2.5
TRWZ	**Traveller**	**3.05**	**181**	PN	Pn	02 08 38.0	-2.2
SNZO	**South Karori**	**3.07**	**195**	P	Pn	02 08 37.6	-2.8
SNZO	**South Karori**	**3.07**	**195**	PN	Pn	02 08 37.6	-2.8
TCW	**Tory Channel**	**3.08**	**201**	P	Pn	02 08 38.0	-2.5
TCW	**Tory Channel**	**3.08**	**201**	PN	Pn	02 08 38.0	-2.5
MSWZ	**Moikau Station**	**3.09**	**187**	P	Pn	02 08 38.0	-2.6
MSWZ	**Moikau Station**	**3.09**	**187**	PN	Pn	02 08 38.0	-2.7
BHW	**Baring Head**	**3.13**	**192**	P	Pn	02 08 38.3	-2.8
BHW	**Baring Head**	**3.13**	**192**	PN	Pn	02 08 38.3	-2.8
TUWZ	**Tuamarina**	**3.38**	**204**	PN	Pn	02 08 41.2	-2.8
NNZ	**Nelson**	**3.40**	**212**	P	Pn	02 08 40.7	-3.4
NNZ	**Nelson**	**3.40**	**212**	PN	Pn	02 08 40.7	-3.5
QRZ	**Quartz Range**	**3.51**	**224**	P	Pn	02 08 41.1	-4.3
QRZ	**Quartz Range**	**3.51**	**224**	PN	Pn	02 08 41.1	-4.4
BSWZ	**Blackbirch Sta**	**3.66**	**202**	P	Pn	02 08 44.4	-2.8
BSWZ	**Blackbirch Sta**	**3.66**	**202**	PN	Pn	02 08 44.4	-2.8
THZ	**Tophouse**	**4.05**	**212**	P	Pn	02 08 48.0	-3.8
THZ	**Tophouse**	**4.05**	**212**	PN	Pn	02 08 48.0	-3.8
KHZ	**Kahutara**	**4.40**	**202**	P	Pn	02 08 52.8	-3.3
KHZ	**Kahutara**	**4.40**	**202**	PN	Pn	02 08 52.8	-3.3
LTZ	**Lake Taylor**	**5.16**	**210**	P	Pn	02 09 00.7	-4.8
LTZ	**Lake Taylor**	**5.16**	**210**	PN	Pn	02 09 00.7	-4.8
MQZ	**McQueen's Vall**	**5.84**	**203**	P	Pn	02 09 08.4	-5.6
MQZ	**McQueen's Vall**	**5.84**	**203**	PN	Pn	02 09 08.4	-5.6
WVZ	**Waitaha Valley**	**6.07**	**217**	PN	Pn	02 09 11.0	-5.8
FOZ	**Fox Glacier**	**6.94**	**219**	eP	Pn	02 09 21.0	-6.9
FOZ	**Fox Glacier**	**6.94**	**219**	PN	Pn	02 09 21.0	-6.9
JCZ	**Jackson Bay**	**7.77**	**220**	eP	Pn	02 09 32.4	-6.2
JCZ	**Jackson Bay**	**7.77**	**220**	ePN	Pn	02 09 31.5	-7.1

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*IDC **18** 02:21:51.3±0.7,4660N×15535E,h0km, mb4.0/19, mb1 4.2/20,mb1mx4.1/26,mbtmp4.0/20,ML3.5/1,MS3.1/3, Ms1 3.1/3,ms1mx2.7/42, Error ellipse: s-maj=20.4km s-min=14.8km az=165.0*
*NEIC **18** 02:21:53.2±0.5,4673N×15536E,h10km, mb4.6/9, Error ellipse: s-maj=13.1km s-min=10.5km az=148.0*
*MOS **18** 02:21:54.5±1.5,4672N×155.17E,h33km, mb4.8/6, Error ellipse: s-maj=14.9km s-min=9.4km az=93.8*
*ISCJB **18** 02:21:55.7±0.6,4691N±008×1553E±01,h35km, mb4.2/30, MS3.2/2, Error ellipse: s-maj=13.1km s-min=8.4km az=89.6*
ISC 18 02:21:57.2±0.5,4689N±007×1553E±01,h35km,n54, σ1§13/55,mb4.2/30,MS3.2/2,1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.84**	**8**	ePN	**Pn**	**02 22 53.9**	**+0.1**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
KUR	**Kuril'sk**	**5.43**	**255**	ePN	**Pn**	**02 23 10.0**	**-5.7**
KUR				pmax	pmax		
	comp=Z,120nm,0.7s						
PET	**Petropavlovsk**	**6.51**	**18**	ePN	**Pn**	**02 23 29.2**	**-1.4**
PET				pmax	pmax		
	comp=Z,27nm,0.3s						
PET	**Petropavlovsk**	**6.51**	**18**	ePn	**Pn**	**02 23 29.2**	**-1.3**
	comp=Z,27nm,0.3s						
PET				eSn	**Sn**	**02 24 42.5**	**-1.1**
ASAJ	**Asahikawa**	**9.34**	**257**	Pn	**Pn**	**02 24 06.5**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=147,slow=14,SNR=2.0						
ASAJ				LR	LR	02 27 29.6	
	comp=Z,57nm,18.4s,baz=173,slow=36						
MJAR	**Matsushiro Arr**	**16.39**	**237**	Pn	**Pn**	**02 25 46.9**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=40,slow=9.9,SNR=4.1						
YAK	**Yakutsk**	**21.04**	**325**	eP	**P**	**02 26 37.1**	**-0.9**
YAK				pmax	pmax		
	comp=Z,12nm,0.4s,mb4.6						
YAK	**Yakutsk**	**21.04**	**325**	ePn	**P**	**02 26 37.1**	**-0.9**
	comp=Z,12nm,0.4s,mb4.6						
BILL	**Bilibino**	**21.95**	**11**	⇑iP	**P**	**02 26 49.9**	**+2.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
BILL	**Bilibino**	**21.95**	**11**	eP	**P**	**02 26 48.4**	**+0.7**
	comp=Z,18nm,1.1s,mb4.4						
KSRS	**Korea Array**	**22.27**	**255**	P	**P**	**02 26 50.6**	**-0.6**
	comp=Z,1.3nm,0.6s,mb3.6,baz=50,slow=12,SNR=4.2						
BJT	**Baijiatuau**	**28.99**	**271**	P	**P**	**02 27 54.9**	**+1.3**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJT	**Baijiatuau**	**28.99**	**271**	P	**P**	**02 27 54.9**	**+1.3**
	comp=Z,5.0nm,0.4s,mb4.6						
SONM	**Songino Array**	**32.70**	**290**	P	**P**	**02 28 26.3**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=83,slow=7.6,SNR=3.0						
SONM				LR	LR	02 43 04.9	
	comp=Z,43nm,18.3s,MS3.2,baz=118,slow=39						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**40.73**	**33**	P	**P**	**02 29 34.8**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.0,baz=270,slow=5.3,SNR=7.4						
ZAL	**Zalesovo**	**43.76**	**306**	P	**P**	**02 29 59.0**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.0,baz=43,slow=11,SNR=3.3						
ZAL	**Zalesovo**	**43.76**	**306**	P	**P**	**02 29 59.0**	**-0.3**
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**02 30 34.6**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=71,slow=9.2,SNR=7.7						
KURK	**Kurchatov**	**48.53**	**304**	eP	**P**	**02 30 37.5**	**+0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**48.53**	**304**	eP	**P**	**02 30 37.5**	**+0.7**
	comp=Z,4.8nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**49.91**	**37**	P	**P**	**02 30 47.1**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=296,slow=7.2,SNR=9.6						
YKA				PcP	PcP	02 32 06.8	-0.5
	comp=Z,0.4nm,0.6s,baz=308,slow=3.7,SNR=5.2						
CHKZ	**Chkalovo**	**51.49**	**311**	eP	**P**	**02 30 59.1**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**51.49**	**311**	eP	**P**	**02 30 59.1**	**-0.1**
	comp=Z,10nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**51.93**	**310**	P	**P**	**02 31 03.1**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.4,baz=56,slow=7.6,SNR=15						
BRVK	**Borovoye**	**51.96**	**310**	eP	**P**	**02 31 02.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.96**	**310**	eP	**P**	**02 31 02.8**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**58.21**	**341**	P	**P**	**02 31 47.4**	**-0.5**
	comp=Z,3.3nm,0.8s,mb4.4,baz=39,slow=7.8,SNR=3.7						
ARCES	**ARCESS Array B**	**58.21**	**341**	P	**P**	**02 31 47.4**	**-0.5**
NVAR	**Mina Array Bea**	**61.04**	**64**	P	**P**	**02 32 07.4**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.2,baz=303,slow=7.5,SNR=8.9						
JOF	**Joensuu**	**61.87**	**335**	ep	**P**	**02 32 10.9**	**-2.0**
	comp=Z,12nm,0.9s,mb5.0						
PDAR	**Pinedale Array**	**63.45**	**55**	P	**P**	**02 32 23.7**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=294,slow=2.9,SNR=14						
FINES	**FINESS Array B**	**64.55**	**336**	P	**P**	**02 32 30.7**	**0.0**
	comp=Z,1.9nm,0.3s,mb4.5,baz=42,slow=6.9,SNR=32						
PV10	**Paradox Valley**	**66.63**	**58**	eP	**P**	**02 32 45.5**	**+1.4**
NB2	**NORSAR Subarra**	**68.57**	**342**	P	**P**	**02 32 56.2**	**-0.2**
	comp=Z,4.9nm,1.2s,mb4.3,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.57**	**342**	P	**P**	**02 32 58.8**	**+2.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=26,slow=6.4,SNR=3.4						
NOA				LR	LR	03 10 34.7	
	comp=Z,13nm,20.2s,MS3.2,baz=345,slow=42						
NOA	**NORSAR Array B**	**68.57**	**342**	P	**P**	**02 32 58.8**	**+2.4**
NOA				LR	LR	03 10 34.7	
HFS	**Hagfors**	**68.84**	**341**	P	**P**	**02 33 00.7**	**+2.6**
	comp=Z,1.6nm,0.4s,mb4.3,baz=65,slow=3.9,SNR=16						
WRA	**Warramunga Arr**	**69.15**	**201**	P	**P**	**02 32 57.2**	**-2.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=19,slow=6.6,SNR=4.9						
KIV	**Kislovodsk**	**71.77**	**315**	eP	**P**	**02 33 23.3**	**+7.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**	**02 33 19.5**	**+0.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=32,slow=6.2,SNR=5.5						
AKASG	**Malin Array Be**	**72.26**	**327**	P	**P**	**02 33 19.5**	**+0.6**
ASAR	**Alice Springs**	**72.83**	**200**	P	**P**	**02 33 20.5**	**-1.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=15,slow=5.1,SNR=6.8						
TXAR	**Lajitas Array**	**76.11**	**62**	P	**P**	**02 33 42.1**	**+0.7**
	comp=Z,4.9nm,0.7s,mb4.5,baz=302,slow=4.3,SNR=56						
GERES	**GERESS Array B**	**78.98**	**335**	P	**P**	**02 33 57.3**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=15,slow=4.3,SNR=3.4						
BRTR	**Keskin Array B**	**79.31**	**318**	P	**P**	**02 33 59.4**	**+0.2**
	comp=Z,0.8nm,0.9s,mb3.6,baz=86,slow=3.8,SNR=4.0						
STKA	**Stephens Creek**	**79.37**	**192**	P	**P**	**02 33 58.5**	**-1.0**
CDF	**Champ du Feu**	**81.08**	**339**	eP	**P**	**02 34 15.5**	**+6.8**
	comp=Z,5.8nm,0.9s,mb4.2						
CDF	**Champ du Feu**	**81.08**	**339**	eP	**P**	**02 34 15.5**	**+6.8**
	comp=Z,2.9nm,0.9s,mb4.2						
GRR	**Gorron**	**82.86**	**344**	eP	**P**	**02 34 25.3**	**+7.2**
SMF	**Signal de Mont**	**83.55**	**341**	eP	**P**	**02 34 28.5**	**+6.8**
	comp=Z,19nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**83.55**	**341**	eP	**P**	**02 34 28.5**	**+6.8**
	comp=Z,9.6nm,1.2s,mb4.8						
LPG	**La Plagne**	**83.93**	**338**	eP	**P**	**02 34 31.3**	**+7.7**
	comp=Z,11nm,0.9s,mb4.7						
LPG	**La Plagne**	**83.93**	**338**	eP	**P**	**02 34 31.3**	**+7.7**
	comp=Z,5.6nm,0.9s,mb4.7						
CAF	**Calviac**	**85.58**	**341**	eP	**P**	**02 34 39.1**	**+7.2**

IDC 18 02:23:37.6±2.1,3243S×17833W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/14,mbtmp3.8/3,ML3.6/1, Error ellipse: s-maj=54.7km s-min=35.6km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.91**	**211**	Pn	Pn	02 25 21.1	+1.1
	1.1nm,0.3s,baz=70,slow=1.6,SNR=5.7						
URZ				Sn	Sn	02 26 38.5	-0.9
	2.0nm,0.3s,baz=278,slow=20,SNR=13						
ASAR	**Alice Springs**	**42.76**	**269**	P	P	02 31 36.4	-0.3
	0.4nm,0.5s,baz=108,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**43.93**	**274**	P	P	02 31 46.8	+0.6
	1.2nm,0.4s,baz=115,slow=7.6,SNR=19						
FINES	**FINESS Array B**	**146.94**	**339**	PKPbc	PKPbc	02 43 20.6	-1.4
	1.3nm,0.7s,baz=22,slow=2.4,SNR=7.5						
TORD	**Torodi Ar. Bea**	**160.81**	**180**	PKP	PKPdf	02 43 39.3	-0.3
	0.6nm,1.0s,baz=209,slow=1.8,SNR=6.6						

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*MOS **18** 02:35:19.8±1.2,5567N×110.10E,h8km, mb4.4/1, Error ellipse: s-maj=22.7km s-min=13.7km az=69.8*
BYKL 18 02:35:21.2±0.3,5572N×11018E,h3km±5km,3C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**279**	ePg	Pg	02 35 28.4	+0.2
NIZ				eSg	Sg	02 35 33.7	+0.7
NIZ				Pmax			
	64nm,0.3s						
NIZ				Smax			
	617nm,3.5s						
KMO	**Kumora**	**0.60**	**73**	ePg	Pg	02 35 31.5	-1.2
KMO				*i* Sg	Sg	02 35 39.7	-0.8
KMO				Pmax			
	80nm,0.3s						
KMO				Smax			
	218nm,0.3s						
YOA	**Uoyan**	**0.96**	**64**	ePG	Pg	02 35 39.6	-0.1
YOA				*e*		02 35 52.7	
YOA				pmax	pmax		
	comp=Z,124nm,0.3s						
YOA				smax			
	comp=N,650nm,0.4s						
YOA	**Uoyan**	**0.96**	**64**	eSg	Sg	02 35 51.7	-0.4
YOA				Smax			
	comp=N,667nm,0.4s						
YLYR	**Ulyunkhan**	**1.01**	**146**	⇑iPG	Pg	02 35 39.3	-1.4
YLYR				*e*		02 35 52.4	
YLYR				pmax	pmax		
	comp=Z,133nm,0.2s						
YLYR				smax			
	comp=N,458nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**146**	⇑*i*Pg	Pg	02 35 39.3	-1.4
YLYR				eSg	Sg	02 35 52.5	-1.3
YLYR				*e*		02 35 59.0	
YLYR				Pmax			
	comp=N,81nm,0.3s						
YLYR				max			
	comp=N,458nm,0.3s						
SVKR	**Severomuysk**	**1.94**	**77**	ePN	Pn	02 35 55.3	+0.2
SVKR				*e*		02 35 56.7	
SVKR				eS	Sn	02 36 20.8	+0.8
SVKR				*e*		02 36 22.2	
SVKR				pmax	pmax		
	comp=Z,122nm,0.8s						
SVKR				smax			
	comp=N,2μm,0.7s						
SVKR	**Severomuysk**	**1.94**	**77**	ePn	Pn	02 35 54.0	-1.1
SVKR				ePg	Pg	02 35 56.7	-1.7
SVKR				eSg	Sg	02 36 23.0	-0.6
SYVR	**Suvo**	**2.07**	**183**	ePN	Pn	02 35 58.1	+1.3
SYVR	**Suvo**	**2.07**	**183**	⇑iPg	Pg	02 35 58.2	-2.7
SYVR				eSg	Sg	02 36 26.8	-0.9
SYVR				Pmax			
	comp=N,98nm,0.5s						
SYVR				Smax			
	comp=N,320nm,0.4s						
OGRR	**Ongureny**	**2.57**	**217**	ePN	Pn	02 36 08.3	+4.7
OGRR				*e*		02 36 40.4	
OGRR				pmax	pmax		
	comp=Z,24nm,0.5s						
OGRR				smax			
	comp=E,144nm,0.4s						
OGRR	**Ongureny**	**2.57**	**217**	⇓*i*Pn	Pn	02 36 04.7	+1.1
OGRR				ePg	Pg	02 36 07.2	-3.2
OGRR				*e*		02 36 37.1	
OGRR				eSg	Sg	02 36 40.5	-3.1
OGRR				Pmax			
	comp=E,25nm,0.5s						
OGRR				Smax			
	comp=E,145nm,0.3s						
MXMB	**Maximikha**	**2.60**	**199**	eSg	Sg	02 36 42.7	-2.1
BOD	**Bodaibo**	**2.98**	**43**	ePn	Pn	02 36 09.1	-0.2
BOD				ePg	Pg	02 36 13.6	-4.6
BOD				*e*		02 36 17.0	
BOD				eSn	Sn	02 36 45.7	+0.2
BOD				eSg	Sg	02 36 52.3	-4.5
BOD				max			
	comp=E,15nm,0.6s						
BOD				Smax			
	comp=E,131nm,0.6s						
NLYR	**Nelyaty**	**3.19**	**74**	ePg	Pg	02 36 18.0	-4.3
NLYR				eSg	Sg	02 37 00.5	-3.1
ZRHB	**Zarechye**	**3.64**	**211**	ePg	Pg	02 36 27.2	-3.7
ZRHB				eSg	Sg	02 37 13.5	-4.6
ZRHB				Pmax			
	comp=E,46nm,0.7s						
ZRHB				Smax			
	comp=E,227nm,1.3s						
TRG	**Tyrgan**	**3.72**	**219**	ePn	Pn	02 36 20.6	+1.1
TRG				eSn	Sn	02 37 04.8	+0.9
TRG				eSg	Sg	02 37 15.7	-5.1
TRG				max			
	comp=E,27nm,0.3s						
TRG				Smax			
	comp=E,55nm,0.4s						
TRTB	**Turuntaevo**	**3.81**	**204**	ePn	Pn	02 36 21.1	+0.4
TRTB				ePg	Pg	02 36 29.5	-4.7
TRTB				eSg	Sg	02 37 18.6	-4.9
TRTB				Pmax			
	comp=E,10.0nm,0.6s						
TRTB				Smax			
	comp=E,48nm,0.8s						
UUDB	**Ulan-Yde**	**4.14**	**202**	ePg	Pg	02 36 34.8	-5.7
UUDB				eSg	Sg	02 37 29.8	-4.4
UUDB				Pmax			
	comp=E,15nm,0.8s						
UUDB				Smax			
	comp=E,50nm,1.0s						
CIT	**Chita**	**4.21**	**150**	ePN	Pn	02 36 36.0	+10
CIT				*e*		02 37 29.2	
CIT				pmax	pmax		
	comp=Z,43nm,1.0s						
CIT				smax			
	comp=N,90nm,1.1s						
CIT	**Chita**	**4.21**	**150**	ePg	Pg	02 36 36.1	-5.8
CIT				eSg	Sg	02 37 29.9	-6.5
CIT				Pmax			
	comp=N,43nm,0.9s						
CIT				Smax			
	comp=N,90nm,1.0s						
CRS	**Chara**	**4.66**	**72**	ePN	Pn	02 36 46.1	+14
CRS				*e*		02 37 46.4	
CRS				pmax	pmax		
	comp=Z,39nm,1.6s						
CRS				smax			
	comp=E,70nm,1.7s						
CRS	**Chara**	**4.66**	**72**	*e*	Pn	02 36 38.3	+5.9
CRS				ePg	Pg	02 36 44.4	-6.0
CRS				eSg	Sg	02 37 45.4	-5.4
CRS				Pmax			
	comp=E,12nm,0.9s						
CRS				Smax			
	comp=E,71nm,1.6s						
LSTR	**Listvyanka**	**4.99**	**222**	eSn	Sn	02 37 32.2	-3.0
LSTR				eSg	Sg	02 37 54.8	-6.8
LSTR				Smax			
	comp=E,53nm,1.4s						
TLY	**Talaya**	**5.61**	**227**	ePN	Pn	02 36 44.7	-0.7
TLY				*e*		02 37 01.4	
TLY				*e*		02 38 13.6	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TLY				smax			
	comp=E,36nm,0.9s						
TLY	**Talaya**	**5.61**	**227**	eSg	Sg	02 38 13.5	-7.8
TLY				Smax			
	comp=E,36nm,0.8s						
TUP	**Tupik**	**5.76**	**99**	ePN	Pn	02 36 50.2	+2.6
TUP				*e*		02 37 07.0	
TUP				eS	Sn	02 37 52.5	-1.7
TUP				*e*		02 38 18.6	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TUP				smax			
	comp=N,54nm,1.0s						
TUP	**Tupik**	**5.76**	**99**	ePn	Pn	02 36 47.0	-0.6
TUP				ePg	Pg	02 37 04.2	-7.4
TUP				eSn	Sn	02 37 50.8	-3.4
TUP				eSg	Sg	02 38 20.6	-5.7
TUP				Pmax			
	comp=N,4.0nm,1.0s						
TUP				Smax			
	comp=N,53nm,1.0s						
ARS	**

MEIG	**Mezcala**	**3.00 313**	*e*P	Pn	02 59 04.3	-2.2
MEIG			*i* S	Sn	02 59 38.7	-3.2

NEIC ***18*** *03:09:13.0, 3692N×3035E, h5km, mb4.4/31, ML4.1(ISK), After ISK.*
IDC ***18*** *03:09:13.8±0.6, 3690N×3045E, h0km, mb4.1/14, mb1 4.1/21, mb1mx4.1/28, mbtmp4.0/21, ML3.8/7, MS3.1/11, Ms1 3.1/11, ms1mx2.8/36, Error ellipse: s-maj=13.6km s-min=12.3km az=145.0*
ISK ***18*** *03:09:13.1, 3692N×3035E, h5km, ML4.1*
CSEM ***18*** *03:09:13.6±0.1, 3688N×3033E, h10km, mb4.5/22, Ms2.8, Error ellipse: s-maj=1.9km s-min=1.3km az=175.0*
HLW ***18*** *03:09:13.8, 37.13N×3018E, h33km, Mb3.8*
MOS ***18*** *03:09:13.8±1.0, 3695N×3035E, h7km, mb4.5/25, Error ellipse: s-maj=7.5km s-min=3.9km az=118.7*
ISCJB ***18*** *03:09:16.0±0.4, 3688N±002×3036E±002, h26km±4km, mb4.4/43, MS3.1/9, Error ellipse: s-maj=2.9km s-min=2.5km az=9.5*
THE ***18*** *03:09:19.9, 3694N×3039E, h26km, ML4.5*
ISC 18 03:09:15.7±0.5,**3688N**±002×**3037E**±002,**h9**km±3km,**n288,** σ**1**§**18**/299,**mb4.4**/43,**MS3.1**/9,**24C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.39**	**250**	*i* PG	**Pg**	**03 09 21.3**	**-2.1**
ELL				*i* SG	**Sg**	**03 09 28.6**	**0.0**
GOLH	**Golhisar**	**0.73**	**299**	*i* P	**Pg**	**03 09 27.0**	**-3.0**
GOLH				*i* S	**Sg**	**03 09 42.4**	**+2.9**
AKAS	**Kas**	**0.89**	**224**	*i* P	**Pg**	**03 09 32.3**	**-0.6**
AKAS				*i* S	**Sg**	**03 09 50.2**	**+5.7**
ISP	**Isparta**	**0.97**	**7**	*e*P	**Pg**	**03 09 31.8**	**-2.5**
KSL	**Kastellorizon**	**0.97**	**221**	*e*P	**Pg**	**03 09 32.5**	**-1.8**
TKTP	**Tekketepe**	**1.16**	**358**	*i* P	**Pb**	**03 09 35.7**	**-2.2**
TKTP				*i* S	**Sb**	**03 09 53.3**	**+0.3**
DENT	**Denizli**	**1.37**	**310**	PN	**Pn**	**03 09 39.2**	**-1.9**
DALT	**Dalyan (Mudla)**	**1.39**	**266**	PN	**Pn**	**03 09 40.4**	**-0.9**
KHL	**Karahalli**	**1.59**	**335**	PN	**Pn**	**03 09 43.0**	**-1.0**
SHUT	**Suhut-Afyon**	**1.67**	**5**	PN	**Pn**	**03 09 44.4**	**-0.8**
YER	**Yerkesik**	**1.69**	**279**	PN	**Pn**	**03 09 45.5**	**+0.1**
HDMB	**Hadim**	**1.70**	**87**	PN	**Pn**	**03 09 45.0**	**-0.6**
KONT	**Konya--Tatoy**	**1.91**	**56**	PN	**Pn**	**03 09 48.2**	**-0.3**
ARG	**Arkhangelos**	**1.92**	**250**	*e*P	**Pn**	**03 09 50.0**	**+1.4**
ERMK	**Ermenek**	**2.06**	**96**	*i* P	**Pg**	**03 09 56.5**	**+1.3**
ERMK				*i* S	**Sg**	**03 10 21.1**	**-0.8**
MLSB	**Milas**	**2.11**	**282**	PN	**Pn**	**03 09 51.0**	**-0.2**
ALT	**Altintas**	**2.18**	**355**	PN	**Pn**	**03 09 51.4**	**-0.8**
DAT	**Datca**	**2.24**	**267**	PN	**Pn**	**03 09 53.0**	**-0.1**
KIZT	**Kizilcal**	**2.33**	**31**	PN	**Pn**	**03 09 53.9**	**-0.3**
AKMC	**Akamas**	**2.44**	**139**	P	**Pn**	**03 09 56.4**	**+0.6**
ALFC	**Alevga**	**2.50**	**133**	P	**Pn**	**03 09 52.1**	**-4.5**
	9.8nm,0.6s						
PPCY	**Paphos**	**2.56**	**141**	P	**Pb**	**03 10 01.2**	**-0.6**
NISR	**Nisiros**	**2.62**	**265**	*e*P	**Pg**	**03 10 03.5**	**-2.4**
ESKT	**Eskisehir**	**2.66**	**8**	PN	**Pn**	**03 09 58.6**	**-0.2**
IKL	**Isikli**	**2.75**	**103**	*e*PN	**Pn**	**03 10 00.9**	**+0.9**
AKS	**Akhisar**	**2.84**	**315**	PN	**Pn**	**03 10 00.8**	**-0.4**
MAMC	**Mammari**	**2.87**	**126**	P	**Pn**	**03 10 03.0**	**+1.3**
IZM	**Izmir**	**2.89**	**302**	PN	**Pn**	**03 10 02.1**	**+0.1**
KARP	**Karpathos**	**2.91**	**244**	*e*P	**Pn**	**03 10 04.5**	**+2.2**
SMG	**Samos**	**2.93**	**287**	*e*P	**Pn**	**03 10 02.5**	**0.0**
SZAC	**Souni-Zanaja**	**2.95**	**135**	P	**Pg**	**03 10 08.0**	**-4.2**
	17nm,1.0s						
BLCB	**Balcova**	**3.04**	**301**	PN	**Pn**	**03 10 04.0**	**0.0**
BLCB	**Balcova**	**3.04**	**301**	*e*Pn	**Pn**	**03 10 04.3**	**+0.4**
BLCB				*e*Sn	**Sn**	**03 10 38.7**	**-1.8**
DST	**Dursunbey**	**3.04**	**334**	PN	**Pn**	**03 10 03.6**	**-0.5**
CSS	**Prodhromos**	**3.08**	**128**	*e*Pn	**Pn**	**03 10 00.8**	**-3.7**
CSS	**Prodhromos**	**3.08**	**128**	*e*Pn	**Pn**	**03 10 00.8**	**-3.7**
MERS	**Mersin**	**3.33**	**89**	PN	**Pn**	**03 10 08.4**	**+0.4**
GPA	**Golpazari**	**3.40**	**359**	PN	**Pn**	**03 10 08.9**	**-0.1**
IZI	**Iznik**	**3.52**	**349**	PN	**Pn**	**03 10 10.5**	**-0.1**
ANTO	**Ankara**	**3.54**	**32**	*e*PN	**Pn**	**03 10 10.8**	**-0.1**
ANTO	**Ankara**	**3.54**	**32**	*e*Pn	**Pn**	**03 10 10.4**	**-0.5**
ANTO				*e*Sn	**Sn**	**03 10 55.7**	**+2.8**
ADVT	**Abdulvahap**	**3.58**	**352**	*e*PN	**Pn**	**03 10 11.4**	**0.0**
KAMT	**Kaman**	**3.62**	**46**	*e*PN	**Pn**	**03 10 11.9**	**-0.1**
MDU	**Mudurnu**	**3.64**	**10**	*e*PN	**Pn**	**03 10 12.5**	**+0.3**
KCT	**Karacabey**	**3.73**	**336**	*e*PN	**Pn**	**03 10 13.1**	**-0.4**
YLV	**Yalova**	**3.76**	**348**	*e*PN	**Pn**	**03 10 13.8**	**-0.1**
KARA	**Karaisali**	**3.77**	**83**	*e*PN	**Pn**	**03 10 14.9**	**+0.9**
BRTR	**Keskin Array B**	**3.83**	**41**	Pn	**Pn**	**03 10 15.0**	**+0.1**
	3.7nm,0.3s,baz=18,slow=11,SNR=119						
BRTR				Sn	**Sn**	**03 11 01.0**	**+0.9**
	6.0nm,0.3s,baz=213,slow=22,SNR=16						
BRTR				LR	LR	03 11 18.9	
	comp=Z,190nm,18.3s,baz=306,slow=33						
BRTR	**Keskin Array B**	**3.83**	**41**	P	**Pn**	**03 10 15.0**	**+0.1**
BRTR						03 11 01.0	
APE	**Apeiranthos**	**3.88**	**274**	*e*Pn	**Pn**	**03 10 16.3**	**+0.8**
APE				*e*Sn	**Sn**	**03 11 01.8**	**+0.7**
APE	**Apeiranthos**	**3.88**	**274**	*e*P	**Pn**	**03 10 16.5**	**+1.0**
BNT	**Bandirma**	**3.96**	**332**	*e*PN	**Pn**	**03 10 16.4**	**-0.3**
HRT	**Hereke**	**3.97**	**352**	*e*PN	**Pn**	**03 10 17.4**	**+0.6**
SANT	**Santorini**	**3.98**	**264**	*e*Pn	**Pn**	**03 10 17.8**	**+0.9**
THR1	**Thera Island**	**3.98**	**264**	*e*Pn	**Pn**	**03 10 17.8**	**+0.9**
PRK	**Paraskevi**	**4.00**	**307**	*e*P	**Pn**	**03 10 17.5**	**+0.3**
THR4	**Thira Island,**	**4.02**	**265**	*e*Pn	**Pn**	**03 10 18.9**	**+1.5**
THR3	**Thira Island,**	**4.02**	**265**	*e*Pn	**Pn**	**03 10 18.6**	**+1.1**
THR6	**Thira Island,**	**4.03**	**264**	*e*Pn	**Pn**	**03 10 18.8**	**+1.2**
KRTS	**Karatas**	**4.04**	**93**	*e*PN	**Pn**	**03 10 18.8**	**+1.1**
THR5	**Thira Island,**	**4.06**	**265**	*e*Pn	**Pn**	**03 10 19.4**	**+1.4**
BADT	**Buyukada**	**4.08**	**347**	*e*PN	**Pn**	**03 10 18.2**	**-0.1**
NPS	**Neapolis**	**4.18**	**249**	*e*P	**Pn**	**03 10 20.5**	**+0.9**
MRMT	**Marmara Adasi**	**4.30**	**331**	*e*PN	**Pn**	**03 10 20.9**	**-0.4**
EZN	**Ezine**	**4.33**	**314**	*e*PN	**Pn**	**03 10 21.6**	**-0.1**
KOZT	**Kozan**	**4.40**	**81**	*e*PN	**Pn**	**03 10 23.9**	**+1.2**
KLYT	**Kilyos**	**4.49**	**347**	*e*PN	**Pn**	**03 10 23.7**	**-0.2**
KDZE	**Karadeniz Ereo**	**4.50**	**10**	*e*PN	**Pn**	**03 10 24.4**	**+0.3**
CANT	**Cankiri**	**4.50**	**33**	*e*PN	**Pn**	**03 10 24.2**	**+0.1**
CTT	**Catalca**	**4.52**	**341**	*e*PN	**Pn**	**03 10 24.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**4.54**	**328**	*e*PN	**Pn**	**03 10 24.2**	**-0.5**
MFT	**Murefte**	**4.58**	**329**	*e*PN	**Pn**	**03 10 25.0**	**-0.2**
CORM	**Corum**	**4.69**	**44**	*e*PN	**Pn**	**03 10 27.0**	**+0.3**
SAFT	**Safranbolu**	**4.71**	**22**	*e*PN	**Pn**	**03 10 27.1**	**+0.1**
IDI	**Anoyia**	**4.71**	**252**	Pn	**Pn**	**03 10 26.8**	**-0.2**
	3.2nm,0.3s,baz=65,slow=15,SNR=73						
IDI				Sn	**Sn**	**03 11 24.2**	**+2.5**
	7.3nm,0.3s,baz=294,slow=16,SNR=4.8						
TOS	**Tosya**	**5.03**	**33**	*e*PN	**Pn**	**03 10 32.0**	**+0.6**
ENEZ	**Enez**	**5.06**	**321**	*e*PN	**Pn**	**03 10 32.2**	**+0.4**
LOS	**Limnos**	**5.15**	**308**	*e*Pn	**Pn**	**03 10 33.7**	**+0.7**
ALN	**Alexandroupoli**	**5.24**	**321**	*e*Pn	**Pn**	**03 10 34.0**	**-0.2**
KMRS	**Kahramanmaras**	**5.25**	**81**	*e*PN	**Pn**	**03 10 36.4**	**+2.0**
PTL	**Penteli**	**5.30**	**285**	*e*P	**Pn**	**03 10 36.5**	**+1.4**
KVR	**Kavouri**	**5.34**	**282**	*e*P	**Pn**	**03 10 37.0**	**+1.4**
GAZ	**Gaziantep**	**5.48**	**85**	*e*PN	**Pn**	**03 10 39.3**	**+1.7**
GVD	**Gavdhos**	**5.49**	**250**	*e*P	**Pn**	**03 10 40.5**	**+2.8**
GVD	**Gavdhos**	**5.49**	**250**	*e*Pn	**Pn**	**03 10 38.3**	**+0.6**
	94nm,0.9s						
GVD				*e*Sn	**Sn**	**03 11 40.1**	**-0.9**
GVD	**Gavdhos**	**5.49**	**250**	*e*Pn	**Pn**	**03 10 38.3**	**+0.6**
	94nm,0.9s						
NAIG	**Nisos Aigina**	**5.55**	**281**	*e*P	**Pn**	**03 10 40.0**	**+1.5**
AOS	**Alonnisos**	**5.61**	**296**	*e*Pn	**Pn**	**03 10 40.7**	**+1.4**
MMAI	**Mount Meron Ar**	**5.66**	**132**	Pn	**Pn**	**03 10 39.4**	**-0.6**
	8.0nm,0.3s,baz=312,slow=12,SNR=38						
MMAI				Sn	**Sn**	**03 11 47.5**	**+2.5**
	baz=309,slow=28,SNR=2.3						
MMAI				LR	LR	03 13 13.5	
	comp=Z,199nm,21.3s,baz=330,slow=43						
RDO	**Rodhopi**	**5.68**	**320**	*e*P	**Pn**	**03 10 41.0**	**+0.7**
EDRB	**Edirne**	**5.70**	**332**	*e*PN	**Pn**	**03 10 40.5**	**0.0**
BYBT	**Boyabat**	**5.71**	**35**	*e*PN	**Pn**	**03 10 42.5**	**+1.7**
BZK	**Bozkurt**	**5.80**	**28**	*e*PN	**Pn**	**03 10 43.2**	**+1.3**
KYTH	**Kithira**	**5.93**	**266**	*e*P	**Pn**	**03 10 45.5**	**+1.8**
VLI	**Veliai**	**5.96**	**271**	*e*P	**Pn**	**03 10 47.0**	**+2.8**
SVSK	**Karacayir**	**6.03**	**58**	*e*PN	**Pn**	**03 10 46.1**	**+1.1**
PAIG	**Paliouri**	**6.07**	**302**	*e*Pn	**Pn**	**03 10 46.5**	**+0.8**
OUR	**Ouranopolis**	**6.07**	**307**	*e*Pn	**Pn**	**03 10 46.3**	**+0.6**
DIKM	**Dikmen**	**6.09**	**37**	*e*PN	**Pn**	**03 10 47.2**	**+1.3**
KVT	**Kavak**	**6.09**	**45**	*e*PN	**Pn**	**03 10 46.8**	**+0.8**
JMB	**Yambol**	**6.29**	**334**	*e*Pn	**Pn**	**03 10 49.3**	**+0.6**
HMAT	**Matruh**	**6.38**	**206**	⇑P	**Pn**	**03 10 48.2**	**-1.7**
PLG	**Polygyros**	**6.44**	**305**	*e*P	**Pn**	**03 10 52.0**	**+1.2**
AMAG	**Maghara**	**6.66**	**158**	⇓P	**Pn**	**03 10 53.6**	**-0.1**
AGG	**Agios Georgios**	**6.70**	**291**	*e*Pn	**Pn**	**03 10 56.7**	**+2.4**
ITM	**Ithomi**	**6.76**	**275**	*e*P	**Pn**	**03 11 00.5**	**+5.4**
URFA	**Urfa**	**6.78**	**83**	*e*PN	**Pn**	**03 10 57.3**	**+2.0**
HORT	**Hortiatis**	**6.78**	**305**	*e*Pn	**Pn**	**03 10 56.7**	**+1.3**
LIT	**Litokhoron**	**6.96**	**300**	*e*Pn	**Pn**	**03 10 59.7**	**+1.8**
EVR	**Evrytania**	**7.07**	**289**	*e*P	**Pn**	**03 11 02.5**	**+3.2**
ASF	**Jabal al Asfar**	**7.15**	**129**	Pn	**Pn**	**03 11 05.1**	**+4.6**
	0.6nm,0.3s,baz=203,slow=11,SNR=9.8						
ASF				Sn	**Sn**	**03 12 25.9**	**+4.1**
	baz=125,slow=19,SNR=1.9						
ASF				LR	LR	03 13 59.8	
	comp=Z,165nm,21.8s,baz=160,slow=40						
ASF	**Jabal al Asfar**	**7.15**	**129**	P	**Pn**	**03 11 05.1**	**+4.6**
ASF						03 12 25.9	
KNT	**Kendrikon**	**7.21**	**309**	*e*Pn	**Pn**	**03 11 02.5**	**+1.2**
SUZ		**7.32**	**163**	P	**Pn**	**03 11 02.8**	**0.0**
GLL	**Jalalah**	**7.37**	**171**	⇑P	**Pn**	**03 11 03.2**	**-0.3**
GRG	**Griva**	**7.42**	**306**	*e*Pn	**Pn**	**03 11 06.4**	**+2.2**
HNKL	**Nakhl**	**7.56**	**155**	P	**Pn**	**03 11 06.2**	**+0.1**
HNKL				S	**Sn**	**03 12 29.0**	**-3.0**
TIRR	**Tirgusor**	**7.71**	**350**	⇑*i*P	**Pn**	**03 11 08.8**	**+0.6**
VLS	**Valsamata**	**7.88**	**282**	*e*P	**Pn**	**03 11 14.5**	**+4.1**
JAN	**Janina**	**7.98**	**293**	*e*P	**Pn**	**03 11 17.5**	**+5.6**
HARR	**Harsova**	**8.02**	**347**	⇑*i*P	**Pn**	**03 11 19.7**	**+7.3**
FNA	**Florina**	**8.02**	**302**	*e*Pn	**Pn**	**03 11 15.2**	**+2.7**
EIL	**Elat**	**8.15**	**151**	*e*Pn	**Pn**	**03 11 13.8**	**-0.4**
	316nm,0.6s						
EIL				*e*Sn	**Sn**	**03 12 43.2**	**-3.2**
SWA1		**8.54**	**209**	P	**Pn**	**03 11 18.3**	**-1.3**
SWA1				S	**Sn**	**03 12 48.9**	**-7.2**
MLR	**Muntele Rosu**	**9.22**	**340**	Pn	**Pn**	**03 11 30.0**	**+1.1**
	0.4nm,0.3s,baz=203,slow=6.3,SNR=14						
MLR				LR	LR	03 15 39.4	
	comp=Z,91nm,18.3s,baz=331,slow=42						
MLR	**Muntele Rosu**	**9.22**	**340**	⇓P	**Pn**	**03 11 30.7**	**+1.8**
MLR	**Muntele Rosu**	**9.22**	**340**	⇓*i*P	**Pn**	**03 11 30.7**	**+1.8**
MTUR	**Matau**	**9.25**	**336**	⇑*i*P	**Pn**	**03 11 30.0**	**+0.8**
VRI	**Vrincioaia**	**9.38**	**344**	⇓*i*P	**Pn**	**03 11 31.8**	**+0.7**
VOIR		**9.44**	**337**	⇑*i*P	**Pn**	**03 11 32.6**	**+0.7**
ASUT		**9.51**	**174**	⇓P	**Pn**	**03 11 32.9**	**0.0**
GZR	**Gura Zlata**	**10.24**	**328**	⇓P	**Pn**	**03 11 42.2**	**-0.8**
GZR	**Gura Zlata**	**10.24**	**328**	⇓*i*P	**Pn**	**03 11 42.2**	**-0.7**
BZS	**Buzias**	**10.93**	**326**	⇓*i*P	**Pn**	**03 11 51.0**	**-1.2**
HDK1	**Dakhla**	**11.33**	**184**	⇑P	**Pn**	**03 11 57.6**	**-0.2**
AKRG	**Al Kharijah**	**11.34**	**179**	⇑P	**Pn**	**03 11 56.7**	**-1.3**
AKRG	**Al Kharijah**	**11.34**	**179**	⇑P	**Pn**	**03 11 56.7**	**-1.3**
BURAR	**Bucovina Array**	**11.38**	**342**	⇑*i*P	**Pn**	**03 11 59.4**	**+0.9**
DRGR		**11.42**	**332**	⇑*i*P	**Pn**	**03 11 58.7**	**-0.3**
ZEI	**Tsey**	**11.95**	**56**	*e*P	**Pn**	**03 12 15.3**	**+9.1**
KIEV	**Kiev**	**13.83**	**357**	*e*P	**Pn**	**03 12 30.0**	**-2.0**
KIEV				*e*		03 15 04.3	
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIEV	**Kiev**	**13.83**	**357**	*e*Pn	**Pn**	**03 12 30.0**	**-2.0**
	comp=Z,6.5nm,0.8s						
KIEV				*e*Sn	**Sn**	**03 15 04.3**	**-1.4**
KIEV	**Kiev**	**13.83**	**357**	*e*Pn	**Pn**	**03 12 30.0**	**-2.0**
	comp=Z,6.5nm,0.8s						
AKASG	**Malin Array Be**	**13.84**	**357**	Pn	**Pn**	**03 12 29.7**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=178,slow=12,SNR=8.8						
KWP	**Kalwaria**	**13.90**	**339**	*e*P	**Pn**	**03 12 29.0**	**-3.9**
KWP				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KWP	**Kalwaria**	**13.90**	**339**	*e*Pn	**Pn**	**03 12 29.0**	**-3.9**
	comp=Z,6.0nm,0.8s						
KWP	**Kalwaria**	**13.90**	**339**	*e*Pn	**Pn**	**03 12 29.0**	**-3.9**
	comp=Z,6.0nm,0.8s						
KEST	**Kesra**	**16.98**	**272**	Pn	**Pn**	**03 13 14.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=228,slow=17,SNR=3.5						
GERES	**GERESS Array B**	**17.05**	**320**	Pn	**Pn**	**03 13 16.8**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=14						
GERES				LR	LR	03 18 53.0	
	comp=Z,41nm,19.1s,baz=304,slow=34						
KHC	**Kasperske Hory**	**17.29**	**320**	*e*P	**Pn**	**03 13 21.5**	**+4.1**
OBN	**Obninsk**	**18.72**	**11**	⇑*i*P	**Pn**	**03 13 35.0**	**0.0**
OBN				pmax	pmax		
	comp=Z,23nm,1.5s						
OBN	**Obninsk**	**18.72**	**11**	*i* P	**Pn**	**03 13 35.0**	**0.0**
	comp=Z,23nm,1.5s						
GRA1	**Grafenberg Arr**	**18.86**	**319**	*e*P	**Pn**	**03 13 39.0**	**+2.4**
GRF	**Grafenberg Arr**	**18.86**	**319**	*e*P	**Pn**	**03 13 39.0**	**+2.4**
MOX	**Moxa**	**19.23**	**322**	*e*P	**Pn**	**03 13 42.6**	**+1.5**
	comp=Z,20nm,1.6s						
MOX	**Moxa**	**19.23**	**322**	*e*P	**Pn**	**03 13 42.6**	**+1.5**
MOX				pmax	pmax		
	comp=Z,20nm,1.6s						
MBDF	**Montbardon**	**19.46**	**301**	*e*P	**Pn**	**03 13 43.7**	**-0.2**
	comp=Z,23nm,0.7s						
MBDF	**Montbardon**	**19.46**	**301**	*e*P	**Pn**	**03 13 43.7**	**-0.2**
MBDF				pmax	pmax		
	comp=Z,11nm,0.7s						
MBDF	**Montbardon**	**19.46**	**301**	*e*P	**Pn**	**03 13 43.7**	**-0.2**
	comp=Z,11nm,0.7s						
STU	**Stuttgart**	**19.48**	**314**	*e*P	**Pn**	**03 13 43.3**	**-0.8**
STU				pmax	pmax		
	comp=Z,24nm,0.8s						
STU	**Stuttgart**	**19.48**	**314**	*e*P	**Pn**	**03 13 43.3**	**-0.8**
	comp=Z,24nm,0.8s						
STU	**Stuttgart**	**19.48**	**314**	*e*P	**Pn**	**03 13 43.3**	**-0.8**
	comp=Z,24nm,0.8s						
LPG	**La Plagne**	**19.69**	**303**	*e*P	**Pn**	**03 13 45.5**	**-1.2**
	comp=Z,30nm,0.8s						
LPG	**La Plagne**	**19.69**	**303**	*e*P	**Pn**	**03 13 45.5**	**-1.2**
LPG				pmax	pmax		
	comp=Z,15nm,0.8s						
LPG	**La Plagne**	**19.69**	**303**	*e*P	**Pn**	**03 13 45.5**	**-1.2**
	comp=Z,15nm,0.8s						
LPL	**La Plagne**	**19.71**	**303**	*e*P	**Pn**	**03 13 45.5**	**-1.4**
	comp=Z,52nm,0.9s						
LPL	**La Plagne**	**19.71**	**303**	*e*P	**Pn**	**03 13 45.5**	**-1.4**
LPL				pmax	pmax		
	comp=Z,26nm,0.9s						
LPL	**La Plagne**	**19.71**	**303**	*e*P	**Pn**	**03 13 45.5**	**-1.4**
	comp=Z,26nm,0.9s						
BFO	**Black Forest**	**19.77**	**312**	*e*P	**Pn**	**03 13 47.8**	**+0.2**
BFO				pmax	pmax		
	comp=Z,18nm,1.1s						
BFO	**Black Forest**	**19.77**	**312**	*e*P	**Pn**	**03 13 47.8**	**+0.2**
	comp=Z,18nm,1.1s						
ORIF	**Oris-en-Rattie**	**20.12**	**301**	*e*P	**P**	**03 13 48.8**	**-1.1**
	comp=Z,30nm,1.0s						
ORIF				*e*MLR			
	comp=Z,122nm,19.8s						
ORIF	**Oris-en-Rattie**	**20.12**	**301**	*e*P	**P**	**03 13 48.8**	**-1.1**
ORIF				pmax	pmax		
	comp=Z,15nm,1.0s						
ORIF	**Oris-en-Rattie**	**20.12**	**301**	*e*P	**P**	**03 13 48.8**	**-1.1**
	comp=Z,15nm,1.0s						
CDF	**Champ du Feu**	**20.44**	**312**	⇑*i*P	**P**	**03 13 54.3**	**+0.9**
	comp=Z,62nm,1.1s						
CDF	**Champ du Feu**	**20.44**	**312**	⇑*i*P	**P**	**03 13 54.3**	**+0.9**
CDF				pmax	pmax		
	comp=Z,31nm,1.1s						
CDF	**Champ du Feu**	**20.44**	**312**	⇑*i*P	**P**	**03 13 54.3**	**+0.9**
	comp=Z,31nm,1.1s						
HINF	**Hinteralfeld**	**20.45**	**310**	*e*P	**P**	**03 13 53.1**	**-0.3**
	comp=Z,8.5nm,0.6s						
HINF	**Hinteralfeld**	**20.45**	**310**	*e*P	**P**	**03 13 53.1**	**-0.3**
HINF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HINF	**Hinteralfeld**	**20.45**	**310**	*e*P	**P**	**03 13 53.1**	**-0.3**
	comp=Z,4.2nm,0.6s						
CABF	**La Chapelle**	**20.49**	**306**	*e*P	**P**	**03 13 53.8**	**-0.1**
	comp=Z,44nm,0.9s						
CABF	**La Chapelle**	**20.49**	**306**	*e*P	**P**	**03 13 53.8**	**-0.1**
CABF				pmax	pmax		
	comp=Z,22nm,0.9s						
CABF	**La Chapelle**	**20.49**	**306**	*e*P	**P**	**03 13 53.8**	**-0.1**
	comp=Z,22nm,0.9s						
HAU	**Haudompre**	**20.83**	**310**	⇑*i*P	**P**	**03 13 58.1**	**+0.5**
	comp=Z,28nm,0.9s						
HAU				*e*MLR			
	comp=Z,46nm,21.8s						
HAU	**Haudompre**	**20.83**	**310**	⇑*i*P	**P**	**03 13 58.1**	**+0.5**
HAU				pmax	pmax		
	comp=Z,14nm,0.9s						
HAU				MLR	MLR		
	comp=Z,50nm,21.8s,MS2.9						
HAU	**Haudompre**	**20.83**	**310**	⇑*i*P	**P**	**03 13 58.1**	**+0.5**
	comp=Z,14nm,0.9s						
HAU				LR	LR		
	comp=Z,50nm,21.8s,MS2.9						
VIVF	**Saint-Julien-l**	**20.94**	**300**	*e*P	**P**	**03 13 58.2**	**-0.6**
	comp=Z,31nm,1.0s						
VIVF	**Saint-Julien-l**	**20.94**	**300**	*e*P	**P**	**03 13 58.2**	**-0.6**
VIVF				pmax	pmax		
	comp=Z,16nm,1.0s						
VIVF	**Saint-Julien-l**	**20.94**	**300**	*e*P	**P**	**03 13 58.2**	**-0.6**
	comp=Z,16nm,1.0s						
LASF	**Ste Croix**	**21.35**	**298**	*e*P	**P**	**03 14 02.4**	**-0.8**
	comp=Z,78nm,1.5s,mb4.5						
LASF	**Ste Croix**	**21.35**	**298**	*e*P	**P**	**03 14 02.4**	**-0.8**
	comp=Z,39nm,1.5s,mb4.5						
WLF	**Walferdange**	**21.66**	**314**	P	**P**	**03 14 08.6**	**+2.1**
WLF	**Walferdange**	**21.66**	**314**	*e*P	**P**	**03 14 04.7**	**-1.8**
WLF				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
WLF	**Walferdange**	**21.66**	**314**	*e*P	**P**	**03 14 04.7**	**-1.9**
	comp=Z,13nm,0.8s,mb4.4						
WLF	**Walferdange**	**21.66**	**314**	*e*P	**P**	**03 14 04.7**	**-1.8**
	comp=Z,13nm,0.8s,mb4.4						
MEZF	**Maizieres J'vi**	**21.83**	**310**	*e*P	**P**	**03 14 07.6**	**-0.7**
	comp=Z,34nm,1.1s,mb4.4						
MEZF	**Maizieres J'vi**	**21.83**	**310**	*e*P	**P**	**03 14 07.6**	**-0.7**
	comp=Z,17nm,1.1s,mb4.4						
SMF	**Signal de Mont**	**21.97**	**305**	⇑*i*P	**P**	**03 14 09.5**	**-0.3**
	comp=Z,61nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**21.97**	**305**	⇑*i*P	**P**	**03 14 09.5**	**-0.3**
SMF				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**21.97**	**305**	⇑*i*P	**P**	**03 14 09.5**	**-0.3**
	comp=Z,30nm,1.0s,mb4.7						
LOR	**Lormes**	**22.14**	**306**	*e*P	**P**	**03 14 11.2**	**-0.5**
	comp=Z,15nm,0.8s,mb4.2						
LOR				*e*MLR			
	comp=Z,52nm,21.5s						
LOR	**Lormes**	**22.14**	**306**	*e*P	**P**	**03 14 11.2**	**-0.5**
LOR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
LOR				MLR	MLR		
	comp=Z,50nm,21.5s,MS2.9						
LOR	**Lormes**	**22.14**	**306**	*e*P	**P**	**03 14 11.2**	**-0.5**
	comp=Z,7.6nm,0.8s,mb4.2						
LOR				LR	LR		
	comp=Z,50nm,21.5s,MS2.9						
MEM	**Membach**	**22.18**	**316**	P	**P**	**03 14 15.2**	**+3.0**
SSF	**Saint Saulge**	**22.31**	**306**	*e*P	**P**	**03 14 12.9**	**-0.6**
	comp=Z,20nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**22.31**	**306**	*e*P	**P**	**03 14 12.9**	**-0.6**
SSF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**22.31**	**306**	*e*P	**P**	**03 14 12.9**	**-0.6**
	comp=Z,9.8nm,0.8s,mb4.3						
AVF

MDT Midelt 28.89 272 P P 03 15 14.9 +0.1
comp=Z,1.1nm,1.0s,mb3.5,baz=11,slow=5.2,SNR=2.3
CHKZ Chkalovo 32.39 46 *e*P **P 03 15 45.5 -0.2**
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
CHKZ Chkalovo 32.39 46 *e*P **P 03 15 45.5 -0.3**
comp=Z,5.1nm,1.0s,mb4.3
CHKZ Chkalovo 32.39 46 *e*P **P 03 15 45.5 -0.2**
comp=Z,5.1nm,1.0s,mb4.3
ARCES ARCESS Array B 32.82 357 P **P 03 15 49.6 +0.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=81,slow=10,SNR=8.2
TOA0 Torodi Ar. Sit 34.88 235 *e*P **P 03 16 07.8 +0.4**
TOA0 Torodi Ar. Sit 34.88 235 *e*P **P 03 16 07.8 +0.4**
TORD Torodi Ar. Bea 34.88 235 P **P 03 16 07.3 -0.1**
comp=Z,2.5nm,0.6s,mb4.3,baz=38,slow=8.5,SNR=24
TORD PcP PcP 03 18 40.5 +0.3
comp=Z,0.3nm,0.7s,baz=33,slow=1.7,SNR=4.4
TORD LR LR 03 33 09.9
comp=Z,28nm,19.1s,MS3.0,baz=215,slow=41
KURK Kurchatov 36.80 52 *e*P **P 03 16 23.6 -0.3**
KURK pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
KURK Kurchatov 36.80 52 *e*P **P 03 16 23.6 -0.3**
comp=Z,3.3nm,0.4s,mb4.5
KURK Kurchatov 36.80 52 *e*P **P 03 16 23.6 -0.3**
comp=Z,3.3nm,0.4s,mb4.5
MKAR Makanchi Array 39.29 59 P **P 03 16 44.5 -0.4**
comp=Z,4.6nm,0.7s,mb4.3,baz=273,slow=7.7,SNR=42
MKAR PcP PcP 03 18 52.0 -1.6
comp=Z,1.9nm,0.8s,baz=289,slow=3.7,SNR=4.7
MKAR Makanchi Array 39.29 59 P **P 03 16 44.5 -0.4**
MKAR PcP PcP 03 18 52.0 -1.6
JMIC Jan Mayen 39.72 341 LR LR 03 33 30.3
comp=Z,40nm,19.4s,MS3.3,baz=75,slow=37
NVS Novosibirsk 39.88 46 *e*P **P 03 16 49.4 -0.4**
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=Z,10.0nm,1.5s,mb4.3
NVS pmax pmax
comp=E,8.0nm,1.2s
ZAL Zalesovo 40.74 47 P **P 03 16 55.3 -1.6**
comp=E,1.2nm,0.5s,mb3.8,baz=219,slow=7.0,SNR=4.5
KOLN Koldanda 45.39 86 *e*P **P 03 17 34.7 +0.1**
comp=E,36nm,1.0s,mb5.2
GKN Gorkha 46.12 85 *e*P **P 03 17 40.3 0.0**
comp=E,41nm,0.8s,mb5.4
DMN Daman 46.67 85 *e*P **P 03 17 44.9 +0.3**
comp=E,53nm,0.7s,mb5.5
KKN Kakani 46.73 85 *e*P **P 03 17 44.6 -0.5**
comp=E,24nm,0.7s,mb5.3
PKI Pulchoki 46.92 85 *e*P **P 03 17 46.6 0.0**
comp=E,25nm,0.8s,mb5.2
GUN Gumba 47.15 84 *e*P **P 03 17 48.5 +0.1**
comp=E,53nm,1.0s,mb5.4
JIRN Jiri 47.51 84 *e*P **P 03 17 51.4 +0.2**
comp=E,22nm,0.7s,mb5.3
ZAK Zakamensk 52.42 51 *e*P **P 03 18 28.1 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
ZAK Zakamensk 52.42 51 *e*P **P 03 18 28.1 -0.4**
comp=Z,3.0nm,1.7s,mb4.0
SONM Songino Array 55.11 53 P **P 03 18 47.7 -0.5**
comp=Z,2.2nm,0.6s,mb4.4,baz=289,slow=8.1,SNR=17
SONM PcP PcP 03 19 47.0 -2.5
comp=Z,1.4nm,1.0s,baz=305,slow=5.1,SNR=3.4
BOSA Boshof 65.33 185 P **P 03 19 59.0 +0.9**
comp=Z,3.8nm,0.7s,mb4.5,baz=190,slow=21,SNR=9.2
BOSA Boshof 65.33 185 P **P 03 19 59.0 +0.8**
KSRS Korea Array 73.86 55 P **P 03 20 48.7 -2.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=307,slow=5.0,SNR=6.9
KSRS LR LR 03 56 42.6
comp=Z,30nm,18.8s,MS3.6,baz=155,slow=39
YKA Yellowknife Ar 77.03 344 P **P 03 21 07.2 -1.9**
comp=Z,0.5nm,0.8s,mb3.5,baz=32,slow=5.2,SNR=6.0
WRA Warramunga Arr 112.63 98 PKIKP PKiKP 03 27 51.0 -1.5
comp=Z,0.9nm,1.1s,baz=321,slow=1.9,SNR=4.0
WRA Warramunga Arr 112.63 98 PKIKP PKiKP 03 27 51.0 -1.6
ASAR Alice Springs 114.24 102 PKP PKiKP 03 27 54.0 -1.7
comp=Z,0.4nm,0.8s,baz=314,slow=0.8,SNR=4.2
STKA Stephens Creek 124.13 107 PKP PKPdf 03 28 13.1 -1.6
comp=Z,2.3nm,1.0s,baz=120,slow=7.5,SNR=3.7
RPZ Rata Peaks 149.47 115 PKPbc PKPbc 03 29 04.3 -1.1
comp=Z,20nm,1.0s,baz=90,slow=4.7,SNR=4.9

*IDC **18** 03:14:52.6±1.0, 1335S×146.17E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, Error ellipse: s-maj=25.4km s-min=20.8km az=59.0*
*ISCJB **18** 03:14:58.9±3.8, 133N±0.1×146.0E±0.3, h59km±29km, mb3.8/6, Error ellipse: s-maj=47.0km s-min=19.4km az=163.5*
*NEIC **18** 03:14:58.1±0.7, 1332N×146.10E, h35km, Error ellipse: s-maj=20.5km s-min=13.7km az=76.0*
ISC 18 03:14:58.1±4.5, 133N±0.1×146.1E±0.2, h37km±38km, n11, σ0.55/12, mb3.8/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.26**	**281**	**Pn**	**Pn**	**03 15 18.9**	**-0.3**
	232nm,0.3s,baz=119,slow=6.3,SNR=38						
GUMO				Sn	**Sn**	**03 15 35.0**	**+0.2**
	212nm,0.3s,baz=260,slow=21,SNR=21						
GUMO	**Guam**	**1.26**	**281**	**Pn**	**Pn**	**03 15 18.9**	**-0.3**
GUMO				Sn	**Sn**	**03 15 35.0**	**+0.2**
WRA	**Warramunga Arr**	**35.05**	**200**	P	**P**	**03 21 47.3**	**0.0**
	0.7nm,0.6s,mb3.8,baz=22,slow=9.7,SNR=6.7						
WRA				PcP	PcP	03 24 19.6	+0.9
	0.7nm,0.6s,baz=18,slow=3.7,SNR=8.9						
ASAR	**Alice Springs**	**38.68**	**198**	P	**P**	**03 22 18.4**	**+0.2**
	0.4nm,0.7s,mb3.3,baz=16,slow=8.7,SNR=5.0						
ASAR				PcP	PcP	03 24 29.9	+0.3
	0.4nm,0.7s,baz=48,slow=5.5,SNR=3.6						
STKA	**Stephens Creek**	**45.17**	**185**	P	**P**	**03 23 11.2**	**0.0**
SONM	**Songino Array**	**47.65**	**324**	P	**P**	**03 23 31.5**	**+0.9**
	0.5nm,0.6s,mb3.7,baz=130,slow=6.0,SNR=4.3						
MKAR	**Makanchi Array**	**62.52**	**316**	P	**P**	**03 25 17.9**	**-0.1**
	0.4nm,0.5s,mb3.8,baz=86,slow=8.8,SNR=11						
YKA	**Yellowknife Ar**	**82.51**	**28**	P	**P**	**03 27 17.4**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=286,slow=5.0,SNR=4.8						
FINES	**FINESS Array B**	**91.90**	**335**	P	**P**	**03 28 01.3**	**-1.3**
	1.6nm,0.8s,mb4.4,baz=90,slow=5.7,SNR=9.8						
FINES	**FINESS Array B**	**91.90**	**335**	P	**P**	**03 28 01.3**	**-1.3**
TORD	**Torodi Ar. Bea**	**136.02**	**305**	PKP	PKPdf	03 34 18.1	+3.0
	0.3nm,0.7s,baz=29,slow=1.7,SNR=5.1						

*CSEM **18** 03:26:04.8, 67.18N×2063E, h6km, ML3.1, Mining explosion. After UPP*
*UPP **18** 03:26:04.8, 67.18N×2063E, h6km, ML3.1, Mining explosion.*
HEL 18 03:26:05.2±0.1, 6717N×2065E, h0km, ML1.4, ML3.1(UPP), 3D, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**217**	⇓*i*P	Pg	03 26 06.1	-0.2
DUNU				*i* S	Sg	03 26 07.1	+0.1
DUNU	**Dundret**	**0.06**	**217**	⇓P	Pg	03 26 06.1	-0.1
	baz=110						
DUNU				S	Sg	03 26 07.1	+0.1
MASU	**Masugnsbyn**	**0.60**	**60**	⇓*i*P	Pg	03 26 16.0	-0.7
KUA	**Kurravaara**	**0.80**	**351**	*i* P	Pg	03 26 19.3	-1.3
KUA				*i* S	Sg	03 26 30.4	-0.6
NIKU	**Nikkaluokta**	**0.94**	**319**	*e*P	Pg	03 26 21.9	-1.4
PAJU	**Pajala**	**0.97**	**97**	*e*P	Pg	03 26 22.7	-1.2
HARU	**Harads**	**1.01**	**173**	*e*P	Pg	03 26 23.4	-1.2
HARU	**Harads**	**1.01**	**173**	P	Pg	03 26 23.4	-1.2
	baz=348						
LANU	**Lannavaara**	**1.02**	**29**	*e*P	Pg	03 26 23.4	-1.4
LANU	**Lannavaara**	**1.02**	**29**	P	Pg	03 26 23.4	-1.5
	baz=288						
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	03 26 35.5	-0.7
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*SG	Sg	03 27 04.4	-0.2
LILU	**Lilltraesk**	**1.92**	**190**	*e*P	Pn	03 26 38.8	-0.3
SGF	**Sodankyl**	**2.29**	**80**	*e*P	Pn	03 26 44.4	+0.1
SGF				*e*SG	Sg	03 27 15.3	-3.7
KEV	**Kevo**	**3.50**	**39**	*e*SG	Sg	03 27 55.8	-1.9
MSF	**Maaselka**	**3.58**	**107**	*e*SG	Sg	03 27 56.7	-3.6
KU6	**Riekki**	**3.86**	**103**	*e*SG	Sg	03 28 01.9	-7.3
VAF	**Ylistaro**	**4.23**	**167**	*e*SG	Sg	03 28 18.8	-2.2

IDC 18 03:26:35.8±5.2, 1928S×17599W, h75km±50km, mb3.4/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.6/3, ML2.2/1, Error ellipse: s-maj=58.8km s-min=27.3km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.69**	**38**	P	Pn	03 28 11.2	-0.2
	2.5nm,0.3s,baz=108,slow=20,SNR=4.1						
AFI				S	Sn	03 29 27.5	+1.3
	1.9nm,0.3s,baz=107,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**46.65**	**255**	P	P	03 34 57.2	+0.5
	1.0nm,0.8s,baz=95,slow=8.2,SNR=10						
WRA	**Warramunga Arr**	**46.66**	**260**	P	P	03 34 57.0	+0.3
	1.0nm,0.7s,baz=95,slow=8.0,SNR=28						
AKASG	**Malin Array Be**	**142.82**	**333**	PKP	PKPdf	03 45 57.6	-2.9
	0.2nm,0.4s,baz=42,slow=3.6,SNR=5.0						
BRTR	**Keskin Array B**	**147.37**	**315**	PKPbc	PKPbc	03 46 11.0	+0.2
	0.5nm,0.8s,baz=113,slow=1.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**173.51**	**160**	PKPab	PKPab	03 48 05.8	+0.1
	1.9nm,1.3s,baz=202,slow=1.6,SNR=3.7						

*NEIC **18** 03:28:49.7±0.8, 2045S×6978W, h35km, mb3.6/3, Error ellipse: s-maj=20.9km s-min=10.7km az=81.0*
*ISCJB **18** 03:28:50.2±1.0, 2021S±0.06×696W±0.1, h75km±13km, mb3.4/4, Error ellipse: s-maj=16.2km s-min=9.1km az=170.0*
*IDC **18** 03:28:51.3±3.0, 2059S×6967W, h75km±25km, mb3.2/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.3/4, Error ellipse: s-maj=36.2km s-min=28.7km az=87.0*
ISC 18 03:28:51.9±0.9, 2023S±0.06×696W±0.1, h72km±12km, n15, σ1.14/16, mb3.4/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.19**	**190**	*e*P	**Pn**	**03 29 40.3**	**+0.6**
CEN1				*i* S	**Sn**	**03 30 27.2**	**+11**
ARE	**Arequipa**	**4.14**	**334**	*e*P	**Pn**	**03 29 53.0**	**+0.3**
ARE				*e*S	**Sn**	**03 30 39.0**	**-0.8**
LPAZ	**La Paz**	**4.16**	**20**	P	**Pn**	**03 29 59.6**	**+6.7**
	4.4nm,0.3s,baz=186,slow=7.7,SNR=90						
LPAZ	**La Paz**	**4.16**	**20**	*e*Pn	**Pn**	**03 29 59.5**	**+6.6**
LPAZ				*e*Sn	**Sn**	**03 30 39.0**	**-1.3**
SIV	**San Ignacio**	**9.15**	**64**	P	**Pn**	**03 31 02.6**	**+1.5**
	7.0nm,0.3s,baz=260,slow=9.8,SNR=263						
CFAA	**Coronel Fontan**	**11.40**	**174**	P	**Pn**	**03 31 25.8**	**-5.9**
	0.0nm,0.3s,baz=351,slow=13,SNR=2.8						
TRQA	**Tornquist**	**18.97**	**161**	*e*P	**Pn**	**03 33 06.8**	**-1.9**
	3.7nm,0.8s						
PLCA	**Paso Flores**	**20.46**	**182**	P	**P**	**03 33 23.4**	**-0.1**
	3.4nm,0.7s,baz=0.9,slow=13,SNR=8.0						
PLCA	**Paso Flores**	**20.46**	**182**	*e*P	**P**	**03 33 23.1**	**-0.4**
	4.2nm,0.8s						
OTAV	**Otavalo**	**22.10**	**336**	*e*P	**P**	**03 33 43.4**	**+2.3**
	0.7nm,0.5s,mb3.2						
TXAR	**Lajitas Array**	**59.21**	**325**	P	**P**	**03 38 45.3**	**-0.1**
	0.1nm,0.5s,mb3.1,baz=168,slow=9.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**77.56**	**71**	P	**P**	**03 40 39.9**	**-0.1**
	0.4nm,0.3s,mb3.6,baz=250,slow=5.2,SNR=12						
TORD				pP	pP	03 40 59.0	-0.4
	0.6nm,0.6s,baz=254,slow=5.4,SNR=3.4						
TORD				sP	sP	03 41 10.6	+3.3
	0.6nm,0.7s,baz=250,slow=5.6,SNR=1.9						
YKA	**Yellowknife Ar**	**89.77**	**341**	P	**P**	**03 41 42.1**	**-0.2**
	0.4nm,0.6s,mb3.7,baz=136,slow=4.5,SNR=7.5						
YKA				pP	pP	03 42 02.0	-0.1
	0.9nm,0.7s,baz=133,slow=4.7,SNR=7.6						
YKA				sP	sP	03 42 10.3	+0.4
	0.5nm,0.7s,baz=135,slow=4.7,SNR=4.4						
WRA	**Warramunga Arr**	**133.70**	**212**	PKP	PKPdf	03 48 01.1	+0.9
	0.3nm,0.7s,baz=134,slow=1.7,SNR=5.1						
MKAR	**Makanchi Array**	**144.98**	**34**	PKPbc	PKPbc	03 48 20.9	+0.8
	0.3nm,0.4s,baz=320,slow=3.1,SNR=8.4						

*IDC **18** 03:35:35.6±0.9, 1525S×173.10W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, Error ellipse: s-maj=49.5km s-min=17.1km az=139.0*
NEIC 18 03:35:40.6±0.8, 1524S×17303W, h35km, Error ellipse: s-maj=45.2km s-min=14.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.79**	**43**	Pn	Pn	03 36 07.1	-1.9
	188nm,0.3s,baz=188,slow=1.4,SNR=385						
AFI				S	Sn	03 36 25.0	-5.6
	607nm,0.3s,baz=54,slow=18,SNR=24						
AFI	**Afiamalu**	**1.79**	**43**	*e*Pn	Pn	03 36 07.1	-1.9
AFI				*e*Sn	Sn	03 36 25.3	-5.2
RAR	**Rarotonga**	**13.92**	**117**	Pn	Pn	03 38 50.3	-5.1
	1.3nm,0.3s,baz=171,slow=14,SNR=3.1						
URZ	**Urewera**	**24.53**	**199**	P	P	03 40 56.7	0.0
	5.7nm,0.5s,baz=52,slow=7.0,SNR=9.0						
STKA	**Stephens Creek**	**44.42**	**240**	P	P	03 43 47.6	-0.3
	0.8nm,0.3s,baz=106,slow=7.4,SNR=3.8						
WRA	**Warramunga Arr**	**50.23**	**257**	P	P	03 44 32.4	-0.7
	0.4nm,0.8s,baz=92,slow=6.6,SNR=3.6						
ASAR	**Alice Springs**	**50.50**	**252**	P	P	03 44 34.8	-0.3
	1.1nm,0.7s,baz=87,slow=8.2,SNR=9.7						
NVAR	**Mina Array Bea**	**73.97**	**42**	P	P	03 47 13.4	+1.1
	0.5nm,0.7s,baz=230,slow=7.0,SNR=3.0						
TXAR	**Lajitas Array**	**80.23**	**56**	P	P	03 47 49.4	+1.9
	0.6nm,0.9s,baz=207,slow=5.3,SNR=5.8						
YKA	**Yellowknife Ar**	**89.81**	**23**	P	P	03 48 35.3	-0.2
	0.7nm,0.7s,baz=241,slow=4.6,SNR=9.8						
DPC	**Dobruska-Polom**	**144.17**	**350**	*e*PKP	PKPdf	03 55 06.3	-6.3
KHC	**Kasperske Hory**	**145.77**	**352**	*e*PKP	PKPdf	03 55 17.0	+1.6
GERES	**GERESS Array B**	**146.03**	**352**	PKPbc	PKPbc	03 55 18.0	+1.3
	0.9nm,0.8s,baz=46,slow=3.9,SNR=6.3						
BRTR	**Keskin Array B**	**146.25**	**321**	PKPbc	PKPbc	03 55 19.5	+2.2
	0.9nm,0.7s,baz=128,slow=2.4,SNR=7.7						

MEX 18 03:38:31.2±0.8, 2092N×10447W, h44km±13km, MD3.9, 1D, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**0.14**	**340**	⇓*i*P	Pn	03 38 37.0	-1.5
ANIG				*i* S	Sn	03 38 42.4	-1.3
SFJM	**Santa Fe**	**1.41**	**108**	*i* P	Pn	03 38 53.5	-0.8
SFJM				*i* S	Sn	03 39 09.0	-2.7
CJM	**Chamela**	**1.51**	**201**	*i* P	Pn	03 38 54.0	-1.8
CJM				*i* S	Sn	03 39 12.4	-1.9
MMIG	**Aquila**	**2.83**	**158**	*i* P	Pn	03 39 13.3	-0.5
MMIG				*i* S	Sn	03 39 44.7	-1.9

*ISCJB **18** 03:42:12.3±0.9, 2349S±0.06×17993W±0.05, h536km±12km, mb4.6/34, Error ellipse: s-maj=9.8km s-min=5.7km az=113.2*
*MOS **18** 03:42:12.3±1.3, 2336S×17986W, h539km, mb4.6/10, Error ellipse: s-maj=15.8km s-min=10.9km az=151.9*
*BJI **18** 03:42:12.4, 2374S×17961W, h565km, mB5.0, mb4.6*
*IDC **18** 03:42:14.0±0.9, 2335S×18000W, h548km±9km, mb4.1/16, mb1 4.3/17, mb1mx4.2/21, mbtmp4.1/17, Error ellipse: s-maj=11.9km s-min=9.1km az=168.0*
*NEIC **18** 03:42:14.3±0.8, 2356S×17984W, h555km±9km, mb4.7/17, Error ellipse: s-maj=9.3km s-min=5.7km az=161.0*
ISC 18 03:42:15.1±0.7, 2364S±005×17986W±005, h561km±8km, h568km±1.3km; pP-P, n327, σ0.67/285, mb4.6/34, 76C-87D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.86**	**163**	P	**P**	**03 43 53.1**	**+0.1**
	102nm,0.3s,baz=267,slow=14,SNR=3.3						
RAO				S	**S**	**03 45 14.3**	**+1.3**
	125nm,0.3s,baz=82,slow=23,SNR=6.0						
AFI	**Afiamalu**	**12.33**	**40**	P	**P**	**03 44 49.8**	**-7.2**
	8.9nm,0.3s,baz=267,slow=0.6,SNR=9.5						
AFI				S	**S**	**03 46 56.6**	**-14**
	2.9nm,0.3s,baz=213,slow=20,SNR=3.5						
AFI	**Afiamalu**	**12.33**	**40**	*e*P	**P**	**03 44 50.3**	**-6.7**
AFI				*e*S	**S**	**03 46 54.2**	**-16**
AFI				pmax	pmax		
	comp=Z,106nm,0.9s						
AFI	**Afiamalu**	**12.33**	**40**	*e*P	**P**	**03 44 50.3**	**-6.7**
	comp=Z,106nm,0.9s						
AFI				*e*S	**S**	**03 46 54.2**	**-16**
DZM	**Mont Dzumac**	**12.72**	**274**	P	**P**	**03 45 02.3**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=83,slow=20,SNR=18						
MXZ	**Matakaoa Point**	**13.97**	**186**	*e*PN	**P**	**03 45 11.0**	**-2.9**
PUZ	**Puketiti**	**14.48**	**186**	*e*P	**P**	**03 45 20.7**	**+1.6**
PUZ	**Puketiti**	**14.48**	**186**	*e*PN	**P**	**03 45 18.2**	**-0.9**
URZ	**Urewera**	**14.81**	**189**	P	**P**	**03 45 20.1**	**-2.3**
	comp=Z,12nm,0.3s,baz=321,slow=3.8,SNR=49						
URZ				S	**S**	**03 47 55.3**	**-1.2**
	comp=Z,5.9nm,0.3s,baz=7.0,slow=24,SNR=11						
URZ	**Urewera**	**14.81**	**189**	P	**P**	**03 45 20.0**	**-2.4**
URZ	**Urewera**	**14.81**	**189**	*e*PN	**P**	**03 45 20.0**	**-2.4**
MWZ	**Matawai**	**14.82**	**188**	*e*P	**P**	**03 45 21.3**	**-1.2**
MWZ	**Matawai**	**14.82**	**188**	*e*PN	**P**	**03 45 21.3**	**-1.3**
KIW	**Kapiti Island**	**17.73**	**193**	P	**P**	**03 45 49.3**	**-0.6**
KIW	**Kapiti Island**	**17.73**	**193**	PN	**P**	**03 45 49.2**	**-0.7**
SNZO	**South Karori**	**18.20**	**193**	*e*P	**P**	**03 45 54.1**	**-0.1**
TCW	**Tory Channel**	**18.20**	**194**	P	**P**	**03 45 54.5**	**+0.3**
TCW	**Tory Channel**	**18.20**	**194**	*e*PN	**P**	**03 45 54.2**	**-0.1**
QRZ	**Quartz Range**	**18.30**	**199**	*e*PN	**P**	**03 45 56.8**	**+1.7**
QRZ				*e*SN	**S**	**03 48 54.4**	**+0.5**
NNZ	**Nelson**	**18.43**	**196**	*e*P	**P**	**03 45 56.8**	**+0.6**
NNZ	**Nelson**	**18.43**	**196**	*e*PN	**P**	**03 45 56.6**	**+0.3**
TUWZ	**Tuamarina**	**18.49**	**195**	*e*PN	**P**	**03 45 56.6**	**-0.2**
THZ	**Tophouse**	**19.06**	**197**	*e*P	**P**	**03 46 02.4**	**+0.4**
THZ	**Tophouse**	**19.06**	**197**	*e*PN	**P**	**03 46 02.4**	**+0.3**
KHZ	**Kahutara**	**19.52**	**195**	*e*P	**P**	**03 46 04.6**	**-1.6**
KHZ	**Kahutara**	**19.52**	**195**	*e*PN	**P**	**03 46 05.8**	**-0.4**
LTZ	**Lake Taylor**	**20.18**	**197**	*e*P	**P**	**03 46 11.7**	**-0.5**
LTZ	**Lake Taylor**	**20.18**	**197**	*e*PN	**P**	**03 46 11.7**	**-0.5**
RPZ	**Rata Peaks**	**21.38**	**198**	P	**P**	**03 46 23.5**	**+0.5**
	comp=Z,42nm,0.6s,mb5.3,baz=355,slow=2.5,SNR=20						
JCZ	**Jackson Bay**	**22.43**	**202**	P	**P**	**03 46 32.4**	**0.0**
JCZ	**Jackson Bay**	**22.43**	**202**	*e*PN	**P**	**03 46 32.3**	**-0.1**
ARMA	**Armidale**	**26.23**	**249**	⇓*i*P	**P**	**03 47 07.7**	**+1.7**
PAE	**Paea**	**28.92**	**84**	*e*P	**P**	**03 47 28.7**	**-0.8**
	comp=Z,49nm,1.0s,mb5.1						
PAE				*e*pP		03 48 54.2	
	comp=Z,28nm,0.9s						
PPT	**Papeete**	**28.95**	**84**	*e*P	**P**	**03 47 29.3**	**-0.4**
	comp=Z,53nm,1.5s,mb4.9						
PPT	**Papeete**	**28.95**	**84**	*e*P	**P**	**03 47 29.3**	**-0.4**
PPT				pmax	pmax		
	comp=Z,53nm,1.5s						
CNB	**Canberra Magne**	**29.09**	**239**	⇓*i*P	**P**	**03 47 32.6**	**+1.6**
TVO	**Taravao**	**29.18**	**84**	*e*P	**P**	**03 47 31.2**	**-0.6**
	comp=Z,31nm,0.7s,mb5.0						
TVO	**Taravao**	**29.18**	**84**	*e*P	**P**	**03 47 31.2**	**-0.6**
TVO				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.0						
PMOR	**Pomariorio Ree**	**31.31**	**80**	*e*P	**P**	**03 47 49.3**	**-0.7**
	comp=Z,22nm,0.9s,mb4.7						
VAH	**Vaihoa**	**31.47**	**81**	*e*P	**P**	**03 47 50.4**	**-1.0**
	comp=Z,44nm,1.0s,mb5.0						
CTA	**Charters Tower**	**31.60**	**270**	⇓*i*P	**P**	**03 47 52.4**	**-0.1**
CTA	**Charters Tower**	**31.60**	**270**	P	**P**	**03 47 52.8**	**+0.3**
	comp=Z,75nm,0.4s,mb5.6,baz=96,slow=11,SNR=166						
CTAO	**Charters Tower**	**31.60**	**270**	*e*P	**P**	**03 47 52.5**	**0.0**
TOO	**Toolangi**	**32.70**	**237**	⇓*i*P	**P**	**03 48 03.0**	**+1.2**
TAU	**Tasmania Unive**	**33.21**	**227**	*e*P	**P**	**03 48 07.3**	**+1.2**
TAU				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
TAU	**Tasmania Unive**	**33.21**	**227**	*e*P	**P**	**03 48 07.3**	**+1.2**
	comp=Z,10nm,0.5s,mb4.6						
PMG	**Port Moresby**	**34.53**	**289**	P	**P**	**03 48 16.2**	**-1.0**
	comp=Z,38nm,0.6s,mb5.1,baz=111,slow=5.9,SNR=14						
PMG	**Port Moresby**	**34.53**	**289**	*e*P	**P**	**03 48 16.5**	**-0.7**
PMG	**Port Moresby**	**34.53**	**289**	*e*P	**P**	**03 48 16.1**	**-1.1**
	comp=Z,42nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**34.94**	**248**	⇓*i*P	**P**	**03 48 21.4**	**+0.8**
STKA	**Stephens Creek**	**34.94**	**248**	P	**P**	**03 48 21.4**	**+0.8**
	comp=Z,20nm,0.4s,mb5.0,baz=92,slow=9.6,SNR=65						
STKA				PcP	PcP	03 50 37.8	+0.8
	comp=Z,2.5nm,0.4s,baz=87,slow=5.6,SNR=2.9						
STKA	**Stephens Creek**	**34.94**	**248**	*e*P	**P**	**03 48 21.4**	**+0.8**
TAOE	**Nuku Hiva Isla**	**40.70**	**76**	*e*P	**P**	**03 49 06.3**	**-1.1**
	comp=Z,409nm,1.1s						
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**03 49 19.1**	**-0.2**
	comp=Z,25nm,0.4s,mb5.1,baz=95,slow=7.4,SNR=189						
ASAR				PcP	PcP	03 51 00.3	+0.2
	comp=Z,2.7nm,0.6s,baz=99,slow=5.1,SNR=7.6						
ASAR				ScP	ScP	03 54 01.2	+3.7
	comp=Z,3.2nm,0.9s,baz=115,slow=4.0,SNR=10.0						
ASAR				S	**S**	**03 54 56.9**	**-2.4**
	comp=Z,4.3nm,0.7s,baz=98,slow=14,SNR=21						
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**03 49 19.1**	**-0.2**
ASAR				pP		03 51 00.4	+2.0
ASAR				S	**S**	**03 54 56.9**	**-2.4**
WB2	**Warramunga Arr**	**42.54**	**266**	⇓*i*P	**P**	**03 49 20.9**	**-1.0**
WB2				*e*S	**S**	**03 55 00.5**	**-3.6**
WB2	**Warramunga Arr**	**42.54**	**266**	⇓*i*P	**P**	**03 49 20.9**	**-1.0**
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**03 49 21.0**	**-1.0**
	comp=Z,28nm,0.3s,mb5.2,baz=93,slow=8.5,SNR=742						
WRA				PcP	PcP	03 51 01.7	+0.3
	comp=Z,5.0nm,0.8s,baz=95,slow=3.1,SNR=5.4						
WRA				ScP	ScP	03 54 02.7	+3.8
	comp=Z,3.6nm,1.0s,baz=98,slow=4.1,SNR=7.8						
WRA				S	**S**	**03 54 59.5**	**-4.7**

baz=83
T06C Millerton Lake 82.73 44 ⇑P P 03 53 40.6 +0.1
baz=83
ISA Isabella 82.75 46 ⇓P P 03 53 40.7 +0.1
baz=83
O02C Red Bluff 82.77 40 ⇓P P 03 53 40.8 +0.1
baz=83
SUTB Sutter Butte 82.79 42 ⇓P P 03 53 40.6 -0.2
baz=83
CMB Columbia Colle 82.92 43 eP P 03 53 41.5 0.0
CMB pmax pmax
comp=Z,11nm,0.9s,mb4.4
CMB Columbia Colle 82.92 43 eP P 03 53 41.5 0.0
comp=Z,11nm,0.9s,mb4.4
CMB Columbia Colle 82.92 43 ⇓P P 03 53 41.9 +0.4
baz=83
PFO Pinyon Flat Ob 82.94 49 P P 03 53 40.4 -1.2
comp=Z,3.9nm,0.9s,mb3.9,baz=150,slow=12,SNR=2.7
HELL Mitchell Peak, 82.98 45 ⇓P P 03 53 41.3 -0.5
baz=83
BBRC Big Bear Sol-O 82.98 48 ⇓P P 03 53 41.9 +0.1
baz=83
O03C Acorn Hollow, 83.11 41 ⇑P P 03 53 41.9 -0.5
baz=83
LAVA Lava Cap Winer 83.14 43 ⇑P P 03 53 42.3 -0.2
baz=83
LRMC Laurel Mountai 83.16 47 ⇑P P 03 53 42.8 +0.1
baz=83
ORV Oroville 83.16 42 ⇓P P 03 53 42.8 +0.1
baz=83
S06C San Francisco 83.17 44 ⇓P P 03 53 42.8 +0.1
baz=83
KCC Kaiser Creek 83.17 44 ⇑P P 03 53 43.1 +0.4
baz=83
WDC Whiskeytown Da 83.17 40 ⇓P P 03 53 42.8 +0.1
baz=83
SYO Syowa Base 83.30 193 ⇑iP P 03 53 42.6 -0.7
BELC Belle Mtn. 83.47 49 ⇑P P 03 53 44.7 +0.5
baz=84
R05C Kirkwood Meado 83.52 43 ⇑P P 03 53 44.5 +0.1
baz=84
P05C Yuba Gap, Truc 83.55 42 ⇑P P 03 53 44.7 +0.1
baz=84
MPMC Manual Prospec 83.63 46 ⇑P P 03 53 45.3 +0.3
baz=84
GSC Goldstone 83.65 47 ⇓P P 03 53 45.2 +0.1
baz=84
BC3 Big Chuckw Mtn 83.65 49 ⇑P P 03 53 45.2 +0.1
baz=84
HEC Hector,Ludlow 83.71 48 ⇓P P 03 53 45.7 +0.3
baz=84,SNR=6.4
CN2 Changchun 83.75 324 eP P 03 53 45.0 -0.6
GLA Glamis 83.76 50 P P 03 53 46.8 +1.2
baz=84,SNR=5.3
O05C Quincy 83.77 41 ⇓P P 03 53 45.5 -0.2
baz=84
YBH Yreka Blue Hor 83.80 39 P P 03 53 45.0 -0.9
comp=Z,2.2nm,0.5s,mb4.0,baz=162,slow=7.0,SNR=7.5
YBH Yreka Blue Hor 83.80 39 ⇑P P 03 53 46.5 +0.7
baz=84
R06C Coleville 83.80 43 ⇑P P 03 53 46.4 +0.5
baz=84
M03C McCloud 83.86 40 ⇓P P 03 53 46.5 +0.4
baz=84
O04C Chester 83.88 41 ⇓P P 03 53 46.2 -0.1
baz=84
HATC Hat Creek Radi 83.96 41 ⇓P P 03 53 47.1 +0.5
baz=84
K02A Glendale 84.01 38 ⇓P P 03 53 47.2 +0.3
baz=84
S08C White Mtn Res 84.02 45 ⇓P P 03 53 47.5 +0.6
baz=84
BEKR Beckwourth 84.05 42 ⇓P P 03 53 46.9 -0.2
baz=84
WCN Washoe City 84.08 43 ⇑P P 03 53 47.8 +0.6
baz=84
GMRC Granite Mounta 84.14 48 ⇑P P 03 53 47.8 +0.3
baz=84
IRM Iron Mountain 84.14 49 P P 03 53 47.6 +0.1
baz=84,SNR=6.7
GRAC Grapevine Rang 84.25 46 ⇓P P 03 53 48.5 +0.5
baz=84
TUQ Turquoise Mtn. 84.32 47 ⇑P P 03 53 48.6 +0.2
baz=84
SHOC Shoshone 84.34 47 ⇑P P 03 53 48.6 +0.1
baz=84
J02A Umpqua 84.35 38 ⇓P P 03 53 49.2 +0.7
baz=84
Y12C Blythe 84.35 50 ⇑P P 03 53 49.3 +0.7
baz=84
NVAR Mina Array Bea 84.47 44 P P 03 53 48.3 -0.9
comp=Z,2.9nm,0.9s,mb3.8,baz=222,slow=5.8,SNR=11
NVAR pP pP 03 55 51.4 +1.5
comp=Z,1.8nm,1.0s,baz=239,slow=10,SNR=6.0
M05C Lookout 84.49 40 ⇓P P 03 53 49.5 +0.3
baz=84
PAHR Pah Rah Range 84.55 42 eP P 03 53 50.1 +0.6
O06A Flanigan 84.55 42 ⇓P P 03 53 49.6 +0.1
baz=85
L04A Klamath Falls 84.56 39 ⇓P P 03 53 49.8 +0.2
baz=85
J03A Ideyld Park 84.69 38 ⇓P P 03 53 50.2 0.0
baz=85
M06C Likely Place G 84.79 41 ⇓P P 03 53 51.0 +0.3
baz=85
NEE2 Needles Airpor 84.84 49 ⇑P P 03 53 51.6 +0.7
baz=85
Y13A Salome 84.87 50 P P 03 53 51.9 +0.8
baz=85,SNR=7.0
N06A Buffalo Meadow 84.90 41 ⇓P P 03 53 50.9 -0.3
baz=85
PDMCI Parker Dam,Lak 84.92 49 ⇑P P 03 53 51.8 +0.5
baz=85
SNAA Sanae 84.93 179 eP P 03 53 51.0 -0.4
SNAA pmax pmax
comp=Z,5.0nm,0.5s
SNAA Sanae 84.93 179 eP P 03 53 51.0 -0.3
comp=Z,5.2nm,0.5s,mb4.3
Q08A Gabbs 84.96 44 ⇑P P 03 53 51.4 -0.1
baz=85
L05A Lakeview 85.09 40 ⇓P P 03 53 50.7 -1.5
baz=85
J04A Umpqua Nationa 85.10 38 ⇓P P 03 53 52.6 +0.4
baz=85
O07A Toulon 85.13 42 P P 03 53 52.4 +0.1
baz=85,SNR=5.5
R09A Tonopah 85.15 45 ⇑P P 03 53 52.5 0.0
baz=85
V12A Nelson 85.21 48 ⇓P P 03 53 53.0 +0.3
baz=85
Z14A Wintersburg 85.25 51 ⇓P P 03 53 53.9 +1.0
baz=85
X13A Yucca 85.29 49 ⇓P P 03 53 53.6 +0.5
baz=85
MOD Modoc 85.32 40 eP P 03 53 52.3 -1.0
MOD Modoc 85.32 40 ⇑P P 03 53 53.7 +0.4
baz=85
K05A Summer Lake 85.47 39 ⇑P P 03 53 54.1 +0.1
baz=86
Y14A Wickenburg 85.52 50 ⇑P P 03 53 54.6 +0.4
baz=86
W13A Hualapai Mount 85.53 49 ⇓P P 03 53 54.9 +0.6
baz=86
J05A Fort Rock 85.62 39 P P 03 53 55.3 +0.6
baz=86,SNR=5.8
M07A Soldier Meadow 85.69 41 ⇑P P 03 53 55.2 +0.2
baz=86
116A Eloy 85.72 52 ⇑P P 03 53 56.2 +1.0
baz=86
U12A Valley of Fire 85.81 47 ⇑P P 03 53 56.0 +0.4
baz=86
X14A Yava 85.88 50 ⇓P P 03 53 56.6 +0.7
baz=86
K06A Valley Falls 85.89 40 ⇑P P 03 53 56.2 +0.2
baz=86
N08A GE Springer Mi 85.96 42 ⇑P P 03 53 56.0 -0.3
baz=86
L07A Adell 85.96 41 ⇑P P 03 53 56.9 +0.6
baz=86
W14A Seligman 86.14 49 ⇑P P 03 53 57.9 +0.7
baz=86
O09A Fish Creek Ran 86.19 43 ⇓P P 03 53 57.4 0.0
baz=86
M08A Happy Creek Ra 86.20 41 ⇑P P 03 53 57.6 +0.1
baz=86
J06A Christmas Vall 86.23 39 ⇓P P 03 53 57.4 -0.2
baz=86
X15A Humboldt 86.35 50 ⇓P P 03 53 58.8 +0.6
baz=86
N09A Rock Creek Ran 86.37 42 ⇓P P 03 53 57.6 -0.7
baz=86
Q11A Duckwater 86.41 45 ⇓P P 03 53 58.6 +0.1
baz=86
K07A Rock Creek Ran 86.42 40 P P 03 53 58.9 +0.4
baz=86,SNR=5.0
H05A Madras 86.47 38 ⇑P P 03 53 58.5 -0.3
baz=86
I06A Prineville 86.61 39 P P 03 54 00.0 +0.6
baz=87,SNR=8.1
F04A Amboy 86.62 36 ⇑P P 03 53 59.3 -0.2
baz=87
L08A Fields 86.66 41 P P 03 53 59.6 0.0
baz=87,SNR=5.7
O10A Cortez Mining, 86.69 43 ⇑P P 03 53 59.8 0.0
baz=87
GYA Guiyang 86.72 301 P P 03 54 00.3 +0.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
M09A Marrel Ranch, 86.75 42 ⇓P P 03 54 00.7 +0.6
baz=87
K08A Mann Creek Ran 86.89 40 P P 03 54 00.8 +0.2
baz=87,SNR=6.1
H06A Lindquist Farm 87.03 38 P P 03 54 01.0 -0.3
baz=87,SNR=7.3
Q12A Willow Creek R 87.05 45 ⇓P P 03 54 01.5 0.0
baz=87
I07A Izee 87.10 39 P P 03 54 01.9 +0.2
baz=87,SNR=8.0
O11A Cowboy Ranch, 87.13 44 ⇓P P 03 54 02.0 +0.2
baz=87
G06A Carlson Farm, 87.17 37 ⇑P P 03 54 02.1 +0.1
baz=87
P12A McGill 87.24 45 ⇑P P 03 54 02.7 +0.3
baz=87
J08A Circle Bar Ran 87.27 40 P P 03 54 02.5 0.0
baz=87,SNR=5.8
K09A Rome 87.33 41 P P 03 54 02.8 +0.1
baz=87,SNR=9.1
M10A I.L. Ranch, Tu 87.37 42 P P 03 54 03.2 +0.3
baz=87,SNR=6.6
H07A Lands Inn, Kim 87.38 38 P P 03 54 02.8 -0.2
baz=87,SNR=8.6
F06A Goldendale 87.41 37 ⇓P P 03 54 02.9 -0.3
baz=87
C04A Brinnon 87.46 34 ⇑P P 03 54 03.5 +0.1
baz=88
N11A Elko Archery C 87.47 43 ⇑P P 03 54 03.1 -0.3
baz=88
WUAZ Wupatki 87.49 49 ⇓P P 03 54 03.8 +0.3
baz=88
I08A Drewsey 87.54 39 P P 03 54 03.7 0.0
baz=88,SNR=6.1
D05A Enumclaw 87.64 35 ⇓P P 03 54 04.5 +0.3
baz=88
J09A Fry Pan Ranch, 87.69 40 P P 03 54 04.4 0.0
baz=88,SNR=7.1
G07A Ruggs Ranch, H 87.72 38 ⇓P P 03 54 04.5 -0.1
baz=88
M11A Holland Ranch, 87.78 43 ⇑P P 03 54 05.3 +0.4
baz=88
E06A Yakima 87.78 36 ⇑P P 03 54 04.6 -0.3
baz=88
H08A Prairie City 87.84 39 ⇓P P 03 54 04.8 -0.4
baz=88
N12A Clover Valley, 87.92 43 ⇓P P 03 54 05.8 +0.2
baz=88
I09A Lost Marbles R 88.06 40 ⇑P P 03 54 05.9 -0.3
baz=88
C05A Tolt Reservoir 88.12 35 ⇓P P 03 54 05.9 -0.6
baz=88
G08A Pilot Rock 88.14 38 P P 03 54 06.4 -0.1
baz=88,SNR=8.6
A04A Legoe Bay, Lum 88.24 34 ⇑P P 03 54 07.3 +0.3
baz=88
B05A Bryant 88.27 34 ⇑P P 03 54 06.8 -0.3
baz=88
M12A Wells 88.32 43 ⇑P P 03 54 07.5 +0.1
baz=88
J10A Berg Farm, Mel 88.32 41 ⇓P P 03 54 07.4 0.0
baz=88
E07A Sunnyside 88.41 37 ⇑P P 03 54 07.7 -0.1
baz=88
N13A Wendover, West 88.45 44 ⇓P P 03 54 07.9 -0.1
baz=88
MSU Marysvale 88.51 47 eP P 03 54 08.6 +0.3
H09A Durkee 88.51 39 P P 03 54 07.9 -0.4
baz=88,SNR=5.2
F08A Pendleton 88.55 38 ⇑P P 03 54 08.3 -0.1
baz=89
XAN Xi'an 88.68 308 P P 03 54 09.3 +0.3
XAN AMB AMB
comp=Z,8.0nm,0.8s,mb4.6
D07A Quincy 88.73 36 ⇓P P 03 54 09.2 -0.1
baz=89
M13A Montello 88.76 43 P P 03 54 09.8 +0.4
baz=89,SNR=5.5
E08A Dider Farm, El 88.80 37 ⇓P P 03 54 09.2 -0.4
baz=89
MFID Camas Ranch 88.88 41 ⇓P P 03 54 10.3 +0.3
baz=89
C07A Waterville 88.98 36 ⇓P P 03 54 09.8 -0.7
baz=89
F09A S2 Ranch, Elgi 88.98 38 ⇑P P 03 54 10.6 +0.1
baz=89
DUG Dugway 88.99 45 ⇑P P 03 54 10.7 +0.2
baz=89
H10A Noah's Angus R 89.00 40 ⇓P P 03 54 10.4 -0.2
baz=89
K12A Draper Farm, C 89.00 42 ⇓P P 03 54 10.8 +0.2
baz=89
I11A Placerville 89.08 40 P P 03 54 11.0 +0.1
baz=89,SNR=7.6
D08A Wollman Farm, 89.22 37 ⇑P P 03 54 11.5 -0.1
baz=89
J12A Stokes Ranch, 89.22 41 ⇓P P 03 54 12.2 +0.6
baz=89
KMI Kunming 89.25 298 P P 03 54 10.5 -1.2
KMI AMB AMB
comp=Z,14nm,0.8s,mb4.8
E09A Wood Farm, Sta 89.32 37 ⇑P P 03 54 11.9 -0.1
baz=89
EFI East Falkland 89.37 148 eP P 03 54 10.6 -1.6
B07A Winthrop 89.42 35 ⇑P P 03 54 11.9 -0.6
baz=89
H11A Donnelly 89.50 40 P P 03 54 12.6 -0.3
baz=90,SNR=5.3
F10A Beach Ranch, E 89.52 38 ⇓P P 03 54 12.4 -0.6
baz=90
D09A Jones Farm, Ri 89.56 37 ⇑P P 03 54 12.4 -0.7
baz=90
TMUT Trail Mountain 89.56 46 eP P 03 54 13.7 +0.6
C08A Higginbotham F 89.58 36 ⇓P P 03 54 12.7 -0.6
baz=90
A07A Ashnola River, 89.64 35 ⇑P P 03 54 13.0 -0.5
baz=90
CHTO Chiang Mai 89.70 291 eP P 03 54 13.9 +0.1
CHTO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CHTO Chiang Mai 89.70 291 eP P 03 54 13.9 +0.1
comp=Z,6.7nm,1.0s,mb4.4
B08A Colville Reser 89.78 35 ⇓P P 03 54 13.1 -1.0
baz=90
HLID Hailey 89.81 41 ⇑P P 03 54 14.6 +0.3
baz=90
J13A Cove Ranch, Pi 89.87 42 ⇑P P 03 54 15.0 +0.4
baz=90
SRU San Rafael 89.92 47 eP P 03 54 15.1 +0.3
CTU Camp Tracy 89.94 45 eP P 03 54 15.1 +0.2
MNTX Cornudas Mount 89.96 55 eP P 03 54 14.7 -0.3
JLU Jordanelle 90.09 45 eP P 03 54 14.6 -0.9
H12A Diamond D Ranc 90.09 40 ⇑P P 03 54 15.4 -0.2
baz=90
D10A Wagner Farm, O 90.12 37 ⇓P P 03 54 14.9 -0.8
baz=90
A08A Turner Farm, O 90.17 35 ⇓P P 03 54 15.4 -0.5
baz=90
TXAR Lajitas Array 90.18 58 P P 03 54 17.0 +1.0
comp=Z,2.8nm,0.7s,mb4.2,baz=214,slow=6.6,SNR=37
TXAR pP pP 03 56 21.0 +2.4
comp=Z,0.9nm,0.9s,baz=216,slow=6.2,SNR=7.9
TXAR PKKPbc PKKPbc 04 11 42.4 +0.2
comp=Z,0.1nm,0.4s,baz=106,slow=2.7,SNR=3.8
HHC Hu-ho-hao-te 90.32 315 eP P 03 54 18.4 +1.8
HHC PP PP 03 58 04.8 +3.9
HHC S S 04 04 28.4 +4.8
HHC PS PS 04 06 50.3 -2.6
HHC SS SS 04 10 49.3 +8.7
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,130nm,4.5s
B09A Rice 90.45 36 ⇓P P 03 54 16.4 -0.8
baz=90
F12A Elk City 90.53 39 ⇑P P 03 54 16.9 -0.7
baz=90
HWUT Hardware Ranch 90.54 44 eP P 03 54 17.4 -0.2
comp=Z,3.8nm,0.7s,mb4.4
A09A Danville 90.54 35 ⇓P P 03 54 17.1 -0.6
baz=90
ANMO Albuquerque 90.69 52 eP P 03 54 18.7 +0.3
F13A Darby 91.09 40 ⇓P P 03 54 19.5 -0.7
baz=91
E13A Victor 91.53 39 ⇑P P 03 54 22.3 +0.1
baz=92
COLA College 91.63 13 eP P 03 54 20.1 -2.6
A11A Hall Mountain, 91.72 36 ⇓P P 03 54 22.9 -0.2
baz=92
G15A Dillon 91.84 41 ⇑P P 03 54 23.3 -0.3
baz=92
B12A Libby 91.87 37 ⇑P P 03 54 23.2 -0.5
baz=92
BILL Bilibino 91.97 355 eP P 03 54 21.9 -2.4
BILL pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
A12A Yaak River Ran 92.09 36 ⇑P P 03 54 24.5 -0.3
baz=92
PDAR Pinedale Array 92.41 44 P P 03 54 25.6 -0.7
comp=Z,1.9nm,0.8s,mb4.2,baz=214,slow=3.3,SNR=16
SDCO Great Sand Dun 92.69 50 eP P 03 54 27.6 0.0
LZH Lanzhou 93.31 308 eP P 03 54 30.3 -0.1
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
YKA Yellowknife Ar 100.07 25 PKKPbc PKKPbc 04 11 14.9 -1.3
comp=Z,0.4nm,0.9s,baz=38,slow=2.5,SNR=4.3
MKAR Makanchi Array 112.07 313 PKiKP PKiKP 03 59 45.3 -1.8
comp=Z,0.8nm,0.6s,baz=139,slow=0.6,SNR=15
OPO Ambohidratompo117.81 232 PKP PKPdf 03 59 58.1 0.0
comp=Z,2.8nm,0.8s,baz=101,slow=7.3,SNR=4.8
SUR Sutherland 120.90 200 PKP PKPdf 04 00 03.9 -0.1
comp=Z,6.4nm,0.8s,baz=195,slow=10,SNR=5.1
BOSA Boshof 122.69 206 PKP PKPdf 04 00 08.3 +0.9
comp=Z,1.5nm,0.6s,baz=232,slow=21,SNR=5.3
LBTB Lobatse 125.71 209 PKP PKPdf 04 00 13.8 +0.5
comp=Z,1.2nm,0.5s,baz=252,slow=21,SNR=4.9
MATP Matopo 128.21 215 PKP PKPdf 04 00 18.5 +0.5
comp=Z,1.9nm,0.4s,baz=196,slow=2.5,SNR=10
MATP SKPbc 04 02 47.2
comp=Z,2.2nm,0.6s,baz=152,slow=6.8,SNR=7.3
ARCES ARCESS Array B 131.65 348 PKP PKPdf 04 00 22.5 -2.0
comp=Z,3.6nm,0.8s,baz=63,slow=1.5,SNR=9.7
ARCES SKPbc SKPbc 04 02 55.8 -2.2
comp=Z,4.6nm,0.8s,baz=350,slow=6.3,SNR=3.7
LSZ Lusaka 132.59 218 PKP PKPdf 04 00 27.7 +1.4
comp=Z,2.0nm,0.5s,baz=46,slow=5.2,SNR=5.6
LSZ SKPbc SKPbc 04 03 04.1 +2.8
comp=Z,2.7nm,0.7s,baz=126,slow=6.1,SNR=6.6
KMBO Kilima Mbogo 136.34 241 PKP PKPdf 04 00 35.1 +1.8
comp=Z,4.1nm,1.1s,baz=62,slow=0.3,SNR=3.7
KMBO SKPbc SKPbc 04 03 17.0 +3.9
comp=Z,2.7nm,0.9s,baz=148,slow=2.0,SNR=6.0
KMBO Kilima Mbogo 136.34 241 iPKIKP PKPdf 04 00 36.5 +3.2
KMBO pmax pmax
comp=Z,4.0nm,1.2s
FINES FINESS Array B 138.24 342 PKhKP 04 00 25.1
comp=Z,2.0nm,0.8s,baz=197,slow=23,SNR=4.5
FINES PKP PKPdf 04 00 35.3 -1.5
comp=Z,1.0nm,0.5s,baz=83,slow=4.6,SNR=5.5
FINES SKPbc SKPbc 04 03 17.7 -0.8
comp=Z,2.3nm,0.8s,baz=81,slow=2.5,SNR=8.0
NB2 NORSAR Subarra141.84 351 PKP 04 00 37.3
comp=Z,1.3nm,0.7s,baz=18,slow=3.0
NOA NORSAR Array B 141.84 351 PKhKP 04 00 37.1
comp=Z,1.4nm,0.6s,baz=16,slow=4.7,SNR=7.6
HFS Hagfors 142.31 349 PKhKP 04 00 38.6
comp=Z,5.6nm,0.3s,baz=67,slow=3.9,SNR=63
AKASG Malin Array Be 144.82 328 PKP PKPdf 04 00 47.0 -1.4
comp=Z,5.0nm,0.4s,baz=43,slow=3.9,SNR=75
AKASG pPKP pPKPdf 04 02 58.0 -1.5
comp=Z,1.1nm,0.7s,baz=42,slow=4.3,SNR=2.9
AKASG Malin Array Be 144.82 328 iPKIKP PKPdf 04 00 53.5 +5.0
KIEV Kiev 144.83 328 ePKIKP PKPdf 04 00 47.1 -1.4
SUW Suwalki 145.07 336 ePKP PKPdf 04 00 48.2 -0.7
SIM Simferopol' 145.16 316 iPKIKP PKPdf 04 00 51.1 +2.1
SIM pmax pmax
comp=Z,16nm,1.0s
ASF Jabal al Asfar 146.55 293 PKPbc PKPbc 04 00 54.0 0.0
comp=Z,7.0nm,0.7s,baz=299,slow=1.9,SNR=14
BHL Bhannes 147.37 296 eP PKPbc 04 00 56.3 +0.2
BR131 Keskin Array S 147.52 308 ePKPbc PKPbc 04 00 55.9 -0.6
BR131 ePKPab PKPab 04 01 00.2 -0.4
BRTR Keskin Array B 147.52 308 PKP PKPdf 04 00 51.9 -1.1
comp=Z,3.1nm,0.7s,baz=125,slow=2.3,SNR=9.6
BRTR PKPbc PKPbc 04 00 55.6 -0.9
comp=Z,3.1nm,0.7s,baz=144,slow=4.9,SNR=23
BRTR PKPab PKPab 04 00 59.8 -0.8
comp=Z,5.2nm,0.6s,baz=64,slow=2.1,SNR=26
ANTO Ankara 148.08 308 ePKHKP PKPbc 04 00 55.6 -2.3
ANTO e 04 01 02.8
EIL Elat 148.39 289 ePKPbc PKPbc 04 00 58.6 -0.1
EIL ePKPab PKPab 04 01 04.8 +0.6
KWP Kalwaria 148.60 331 ePKP PKPbc 04 00 58.6 -0.6
KWP Kalwaria 148.60 331 ePKPbc PKPbc 04 00 58.5 -0.7
BURAR Bucovina Array 148.82 326 ⇓iP PKPbc 04 01 00.8 +1.0
VRI Vrincioaia 149.12 322 ⇓iP PKPbc 04 01 00.3 -0.2
KOLS Kolonicke sedl 149.30 331 ePKP PKPbc 04 01 00.6 -0.3
OJC Ojcow 149.35 335 ePKP PKPbc 04 01 00.0 -1.0
STHS Stebnicka Huta 149.39 332 ePKP PKPbc 04 01 00.9 -0.2
NIE Niedzica 149.78 333 ePKP PKPbc 04 01 02.0 0.0
MLR Muntele Rosu 149.78 323 PKPbc PKPbc 04 01 00.5 -1.6
comp=Z,1.6nm,0.3s,baz=313,slow=5.0,SNR=11
MLR Muntele Rosu 149.78 323 ⇑iP PKPbc 04 01 01.0 -1.1
KSP Ksiaz 150.09 339 ePKP PKPbc 04 01 02.3 -0.5
OKC Ostrava-Krasne 150.29 336 ePKPbc PKPbc 04 01 01.9 -1.3
UPC Upice 150.47 339 ePKPbc PKPbc 04 01 03.0 -0.7
UPC epPKP pPKPab 04 03 15.9 -1.7
DPC Dobruska-Polom 150.50 339 ePKPbc PKPbc 04 01 03.3 -0.4
DPC epPKP pPKPab 04 03 15.4 -2.4
MORC Moravsky Berou 150.56 337 ⇑iP PKPbc 04 01 03.5 -0.4
CLL Collm 150.64 343 ⇓iPKPbc PKPbc 04 01 03.0 -1.1
comp=Z,12nm,0.7s
CLL iPKPab PKPab 04 01 12.1 -1.4
CLL epPKPbc pPKPbc 04 03 12.0 -2.0
BRG Berggiesshubel 150.78 342 ⇑iP PKPbc 04 01 03.5 -0.8
comp=Z,5.0nm,0.6s
BRG e 04 01 12.8
comp=Z,2.4nm,1.0s
BRG e 04 03 15.7
comp=Z,5.8nm,1.3s
PVCC Panska Ves 150.90 341 ePKPbc PKPbc 04 01 04.0 -0.6
PVCC epPKP pPKPab 04 03 17.1 -2.3
VYHS Vyhne 151.11 334 ePKP PKPbc 04 01 03.8 -1.3
VYHS e 04 01 14.8
VRAC Vranov 151.29 337 ⇑iP PKPab 04 01 16.3 0.0
PRU Pruhonice 151.38 340 ePKPbc PKPbc 04 01 04.9 -0.8
PRU epPKP pPKPab 04 03 17.3 -4.0
GZR Gura Zlata 151.56 325 ⇑iP PKPbc 04 01 05.0 -1.1
BZS Buzias 152.00 327 ⇑iP PKPbc 04 01 06.4 -0.7
KHC Kasperske Hory 152.44 341 ePKPbc PKPbc 04 01 07.3 -0.8
KHC PKPab PKPab 04 01 20.0 -1.1
KHC epPKP pPKPab 04 03 20.4 -5.3
GERES GERESS Array B 152.65 340 PKPbc PKPbc 04 01 07.0 -1.5
comp=Z,1.0nm,0.7s,baz=40,slow=2.3,SNR=7.1
GERES pPKPbc pPKPbc 04 03 19.0 +0.3
comp=Z,1.1nm,0.9s,baz=45,slow=2.1,SNR=3.9
ESDC Sonseca Array 163.64 11 PKPab PKPab 04 02 06.6 -3.2
comp=Z,0.9nm,0.8s,baz=354,slow=5.5,SNR=5.2
TORD Torodi Ar. Bea 169.47 188 PKP PKPdf 04 01 17.2 -1.1
comp=Z,2.1nm,1.0s,baz=318,slow=0.5,SNR=8.7
TORD PKPab PKPab 04 02 36.3 +0.7
comp=Z,4.9nm,0.9s,baz=174,slow=4.4,SNR=19
TORD PP PP 04 06 25.1 -1.3
comp=Z,1.5nm,1.0s,baz=164,slow=5.5,SNR=4.7

NEIC 18 03:52:37.0,3707N×2329E,h10km,ML3.8(ATH),After ATH.,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**2.20**	**143**	P	Pn	03 53 15.8	+2.2
SIVA	**Sivas**	**2.39**	**149**	P	Pn	03 53 15.8	-0.4
NPS	**Neapolis**	**2.60**	**133**	P	Pn	03 53 18.1	-1.0

ZKR	Zakros	3.07	129	P	Pn	03 53 26.8	+1.3
TIR	Tirane	5.03	329	P	Pn	03 53 52.8	+0.3

*ISCJB **18** 03:58:55.0±0.9, 37.16N±005×72.1E±0.1, h166km±17km, Error ellipse: s-maj=18.3km s-min=4.7km az=137.5*
*NNC **18** 03:59:03.6±7.1, 3787N×7180E, h196km±73km, mb2.2, mpv3.2, Error ellipse: s-maj=67.0km s-min=38.2km az=17.0*
*NDI **18** 04:01:06.5±3.8, 32.19N×7576E, h33km, ML2.8*

ISC 18 03:58:55.7±0.9, 3716N±005×721E±01, h160km±14km, n28, σ0°73/33, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.12**	**13**	P	**Pn**	**04 00 10.8**	**0.0**
	SNR=68						
UCH	**Uchtor**	**5.39**	**19**	P	**Pn**	**04 00 14.7**	**+0.3**
	SNR=36						
KZA	**Kyzart**	**5.48**	**25**	P	**Pn**	**04 00 15.6**	**0.0**
	SNR=17						
THN	**Thein Dam**	**5.57**	**147**	*ex*	**Pn**	**04 00 18.1**	**+1.3**
THN				*eS*	**Sn**	**04 01 19.8**	**-0.5**
DLH	**Dalhousie**	**5.59**	**144**	*eS*	**Sn**	**04 01 21.0**	**+0.2**
EKS2	**Erkin-Say**	**5.65**	**13**	P	**Pn**	**04 00 18.4**	**+0.7**
	SNR=36						
AAK	**Ala-Archa**	**5.77**	**18**	P	**Pn**	**04 00 19.8**	**+0.4**
	SNR=16						
KBK	**Karagaybulak**	**5.91**	**21**	P	**Pn**	**04 00 22.3**	**+1.1**
	SNR=5.9						
ULHL	**Ulahol**	**6.00**	**31**	P	**Pn**	**04 00 23.6**	**+1.2**
	SNR=6.2						
KK31	**Karatay Array**	**6.06**	**349**	⇓P	**Pn**	**04 00 21.8**	**-1.5**
	7.5nm,0.6s,baz=166,slow=11						
KK31				⇑S	**Sn**	**04 01 24.4**	**-7.5**
	44nm,0.5s,baz=162,slow=21						
CHMS	**Chumysh**	**6.18**	**18**	P	**Pn**	**04 00 24.8**	**0.0**
	SNR=11						
TKM2	**Tokmak 2**	**6.35**	**24**	P	**Pn**	**04 00 27.4**	**+0.4**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.35**	**24**	P	**Pn**	**04 00 26.9**	**-0.2**
	0.4nm,0.6s						
TKM2				⇑S	**Sn**	**04 01 37.6**	**-1.1**
	0.3nm,0.6s						
USP	**Ospenovka**	**6.37**	**16**	P	**Pn**	**04 00 26.7**	**-0.7**
	SNR=8.7						
SDNR	**Sundarnagar**	**6.93**	**143**	*eP*	rx	04 01 26.0	
SDNR				*ex*	**Sn**	**04 01 52.0**	**-0.7**
KLP	**Kalpa**	**7.57**	**136**	*eP*	rx	04 01 41.7	
KLP				*eS*	**Sn**	**04 02 08.5**	**+0.5**
KLP				AML	AML	04 02 12.9	
	comp=N,90nm,0.3s						
KLP				AML	AML	04 02 13.5	
	comp=E,130nm,0.5s						
JOSI	**Joshimath**	**9.04**	**135**	*eS*	**Sn**	**04 02 40.0**	**-3.3**
JOSI				AML	AML	04 02 44.7	
	comp=E,50nm,0.4s						
JOSI				AML	AML	04 02 46.6	
	comp=N,68nm,0.6s						
KHET	**Khetri**	**9.58**	**160**	*eS*	**Sn**	**04 02 50.1**	**-6.1**
KHET				AML	AML	04 02 52.7	
	comp=E,11nm,0.5s						
KHET				AML	AML	04 02 53.9	
	comp=N,8.2nm,0.5s						
SONA	**Sohna**	**9.82**	**153**	*eS*	**Sn**	**04 02 52.4**	**-10**
SONA				AML	AML	04 03 01.0	
	comp=N,12nm,0.3s						
SONA				AML	AML	04 03 01.3	
	comp=E,21nm,0.4s						
KOLN	**Koldanda**	**13.47**	**131**	*eP*	**Pn**	**04 02 00.8**	**+0.3**
	comp=E,8.1nm,0.6s						
GKN	**Gorkha**	**13.95**	**127**	*eP*	**Pn**	**04 02 06.2**	**-0.4**
	comp=E,10nm,0.3s						
KKN	**Kakani**	**14.51**	**126**	*eP*	**Pn**	**04 02 13.3**	**-0.3**
	comp=E,16nm,0.5s						
DMN	**Daman**	**14.53**	**127**	*eP*	**Pn**	**04 02 13.0**	**-0.7**
	comp=E,19nm,0.6s						
PKI	**Pulchoki**	**14.75**	**127**	*eP*	**Pn**	**04 02 16.3**	**-0.2**
	comp=E,12nm,0.5s						
GUN	**Gumba**	**14.82**	**125**	*eP*	**Pn**	**04 02 17.9**	**+0.5**
	comp=E,32nm,0.9s						
AB31	**Akbulak array**	**14.97**	**328**	⇑P	**Pn**	**04 02 18.8**	**-0.4**
	comp=E,0.6nm,0.3s,baz=128,slow=14,SNR=26						
AB31				⇓S	**Sn**	**04 04 51.5**	**-14**
	comp=E,2.1nm,0.6s,baz=152,slow=24,SNR=8.4						
JIRN	**Jiri**	**15.19**	**125**	*eP*	**Pn**	**04 02 22.6**	**+0.6**
	comp=E,20nm,0.4s						
AKTO	**Aktyubinsk**	**16.68**	**327**	⇑P	**Pn**	**04 02 40.3**	**+0.2**
	comp=E,0.2nm,1.4s						
AKTO				⇑S	**S**	**04 05 33.0**	**-12**
	comp=E,0.1nm,1.0s						

CASC 18 04:28:58.0±1.7, 1216N×8782W, h28km±8km, MD3.8, ML3.2, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.93**	**54**	*eP*	Pn	04 29 14.7	-0.4
CRIN				*i*		04 29 33.4	
	comp=E,3μm,0.4s						
TELN	**Telica**	**1.07**	**65**	⇑*eP*	Pn	04 29 17.1	+0.1
CNCH	**Conchagua**	**1.11**	**359**	*eP*	x	04 29 34.8	
CNCH				*eS*	x	04 29 51.2	
CNGN	**Cerro Negro**	**1.15**	**73**	⇓*eP*	Pn	04 29 17.8	-0.4
CNGN				*i*		04 29 43.0	
	comp=N,1μm,0.4s						
BLLM	**Bellamira**	**1.34**	**342**	*eP*	x	04 29 38.0	
BLLM				*eS*	x	04 29 56.9	
XAVN	**Gruta Xavier**	**1.46**	**90**	*eP*	Pn	04 29 22.4	0.0
MGAN	**Managua**	**1.54**	**90**	⇑*eP*	Pn	04 29 23.7	+0.1
MGAN				*eS*	Sn	04 29 42.8	+0.2
MGAN				*i*		04 29 47.3	
	comp=N,547nm,0.4s						
TICN	**Ticuantepe**	**1.56**	**94**	*eP*	Pn	04 29 24.2	+0.4
APON	**Apoyo**	**1.73**	**98**	*eP*	Pn	04 29 26.6	+0.4
SNVI	**San Vicente**	**1.75**	**326**	*eP*	x	04 29 44.0	
SNVI				*eS*	x	04 30 06.8	
LCBS	**La Ceiba**	**1.87**	**323**	*eP*	x	04 29 45.6	
LCBS				*eS*	x	04 30 08.4	
LFRS	**El Faro**	**1.89**	**320**	*eP*	x	04 29 45.6	
LFRS				*eS*	x	04 30 08.8	
BOAB	**BOACO BROADBAN**	**2.13**	**82**	*eP*	Pn	04 29 31.1	-0.5
BOAB				*i*		04 30 02.4	
	comp=N,23nm,0.5s						

*ISCJB **18** 04:42:00.2±0.8, 2384S±009×1753W±0.1, h35km, mb4.3/5, Error ellipse: s-maj=17.2km s-min=8.7km az=74.0*
*IDC **18** 04:42:00.8±1.1, 2398S×17578W, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.1/18, mbtmp4.3/6, ML3.8/1, Error ellipse: s-maj=42.9km s-min=26.0km az=171.0*
*NEIC **18** 04:42:02.9±0.8, 2396S×17530W, h35km, mb4.7/2, Error ellipse: s-maj=22.0km s-min=13.6km az=148.0*

ISC 18 04:42:02.5±0.8, 2393S±008×1753W±0.1, h35km, n17, σ0°93/15, mb4.3/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.49**	**19**	Pn	**Pn**	**04 44 31.2**	**+0.9**
	2.8nm,0.3s,baz=48,slow=19,SNR=3.8						
AFI	**Afiamalu**	**10.49**	**19**	*e*Pn	**Pn**	**04 44 30.4**	**+0.1**
	38nm,0.7s						
AFI				*e*Sn	**Sn**	**04 46 26.0**	**-0.7**
RAR	**Rarotonga**	**14.55**	**82**	Pn	**Pn**	**04 45 26.4**	**+0.6**
	4.1nm,0.3s,baz=269,slow=4.0,SNR=11						
URZ	**Urewera**	**15.70**	**203**	Pn	**Pn**	**04 45 40.4**	**-0.6**
	0.4nm,0.3s,baz=166,slow=17,SNR=3.1						
DZM	**Mont Dzumac**	**16.96**	**273**	Pn	**Pn**	**04 46 00.0**	**+3.1**
	0.2nm,0.3s,baz=77,slow=18,SNR=8.2						
CTA	**Charters Tower**	**35.82**	**268**	P	**P**	**04 48 59.2**	**+0.7**
	2.4nm,0.3s,mb4.6,baz=117,slow=9.1,SNR=4.6						
CTAO	**Charters Tower**	**35.82**	**268**	*eP*	**P**	**04 48 59.5**	**+1.0**
	5.4nm,0.7s,mb4.6						
PMG	**Port Moresby**	**38.65**	**285**	P	**P**	**04 49 22.4**	**-0.1**
	18nm,0.8s,mb4.9,baz=83,slow=6.7,SNR=5.0						
PMG	**Port Moresby**	**38.65**	**285**	*eP*	**P**	**04 49 22.8**	**+0.2**
	18nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**46.31**	**260**	P	**P**	**04 50 25.1**	**+0.3**
	2.9nm,0.9s,mb4.2,baz=97,slow=8.4,SNR=24						
WB2	**Warramunga Arr**	**46.73**	**265**	*eP*	**P**	**04 50 26.7**	**-1.4**
WB2	**Warramunga Arr**	**46.73**	**265**	*eP*	**P**	**04 50 26.9**	**-1.1**
WRA	**Warramunga Arr**	**46.74**	**265**	P	**P**	**04 50 27.3**	**-0.9**
	2.8nm,0.8s,mb4.2,baz=98,slow=8.0,SNR=19						
TXAR	**Lajitas Array**	**86.80**	**56**	P	**P**	**04 54 49.7**	**+6.5**

2006 DEC

	0.7nm,1.0s,mb3.9,baz=242,slow=7.8,SNR=3.2						
AKASG	**Malin Array Be**	**147.23**	**331**	PKPbc	PKPbc	05 01 45.3	+3.3
	1.6nm,0.7s,baz=40,slow=3.8,SNR=5.9						
BRTR	**Keskin Array B**	**151.00**	**310**	PKPbc	PKPbc	05 01 54.0	+2.4
	1.0nm,0.8s,baz=134,slow=3.4,SNR=7.4						
TORD	**Torodi Ar. Bea**	**168.89**	**164**	PKPab	PKPab	05 03 21.2	+4.5
	0.5nm,0.8s,baz=189,slow=4.9,SNR=4.1						

*IDC **18** 04:47:28.8±2.5, 1351N×14528E, h35km±18km, mb3.7/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=38.5km s-min=17.4km az=79.0*
*NEIC **18** 04:47:28.5±0.7, 1345N×14528E, h35km, mb4.4/1, Error ellipse: s-maj=19.8km s-min=11.8km az=69.0*
*ISCJB **18** 04:47:29.4±1.2, 135N±0.1×145.1E±02, h56km±9km, mb4.0/8, MS3.3/1, Error ellipse: s-maj=38.2km s-min=17.0km az=163.9*

ISC 18 04:47:29.8±1.8, 135N±01×1452E±02, h44km±14km, n16, σ0°73/14, mb4.0/8, MS3.3/1, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.35**	**290**	Pg	**Pn**	**04 47 38.6**	**-0.3**
	4μm,0.3s,baz=128,slow=5.2,SNR=522						
GUMO				Lg		04 47 45.1	
	11μm,0.3s,baz=317,slow=23,SNR=186						
GUMO	**Guam**	**0.35**	**290**	⇓*iP*	**Pn**	**04 47 38.5**	**-0.4**
GUMO				*eS*	**Sn**	**04 47 45.6**	**+0.3**
PMG	**Port Moresby**	**22.81**	**175**	*eP*	**P**	**04 52 28.1**	**-0.7**
	14nm,0.9s,mb4.4						
HNR	**Honiara**	**27.05**	**146**	LR	LR	05 02 32.5	
	comp=Z,91nm,20.7s,MS3.3,baz=360,slow=33						
WB2	**Warramunga Arr**	**34.88**	**198**	*eP*	**P**	**04 54 16.6**	**-0.3**
WRA	**Warramunga Arr**	**34.88**	**198**	P	**P**	**04 54 17.3**	**+0.3**
	4.6nm,0.9s,mb4.4,baz=19,slow=9.7,SNR=20						
FITZ	**Fitzroy Crossi**	**36.84**	**212**	*eP*	**P**	**04 54 34.0**	**+0.3**
ASAR	**Alice Springs**	**38.53**	**197**	P	**P**	**04 54 48.5**	**+0.6**
	1.3nm,0.6s,mb3.8,baz=23,slow=11,SNR=23						
DZM	**Mont Dzumac**	**41.01**	**149**	P	**P**	**04 55 09.8**	**+1.2**
	1.8nm,0.6s,mb3.9,baz=295,slow=19,SNR=3.1						
STKA	**Stephens Creek**	**45.22**	**184**	*eP*	**P**	**04 55 39.7**	**-2.9**
STKA	**Stephens Creek**	**45.22**	**184**	P	**P**	**04 55 42.0**	**-0.6**
	4.6nm,1.0s,mb4.3,baz=359,slow=9.2,SNR=6.5						
SONM	**Songino Array**	**47.01**	**325**	P	**P**	**04 55 57.5**	**+0.8**
	1.1nm,1.1s,mb3.7,baz=118,slow=5.7,SNR=4.1						
MKAR	**Makanchi Array**	**61.80**	**316**	P	**P**	**04 57 43.4**	**-0.7**
	0.3nm,0.4s,mb3.8,baz=96,slow=8.1,SNR=9.9						
YKA	**Yellowknife Ar**	**82.81**	**27**	P	**P**	**04 59 49.1**	**-0.3**
	0.2nm,0.6s,mb3.3,baz=287,slow=5.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**135.20**	**305**	PKP	PKPdf	05 06 46.5	+2.0
	0.5nm,0.7s,baz=34,slow=2.2,SNR=12						
LPAZ	**La Paz**	**147.68**	**99**	PKPbc	PKPbc	05 07 10.2	+0.7
	1.2nm,0.8s,baz=231,slow=3.2,SNR=3.8						

*IDC **18** 05:24:37.3±0.7, 4723N×15357E, h0km, mb3.8/15, mb1 4.0/17, mb1mx3.9/26, mbtmp3.8/17, ML3.7/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/39, Error ellipse: s-maj=21.4km s-min=16.3km az=147.0*
*NEIC **18** 05:24:38.6±0.5, 4720N×15355E, h10km, mb4.3/1, Error ellipse: s-maj=14.3km s-min=8.9km az=141.0*
*ISCJB **18** 05:24:41.2±0.6, 4725N±008×1536E±01, h35km, mb4.1/20, MS3.5/4, Error ellipse: s-maj=14.9km s-min=5.2km az=92.2*
*MOS **18** 05:24:41.7±1.3, 4733N×15336E, h42km, mb4.4/1, Error ellipse: s-maj=14.5km s-min=8.9km az=68.6*

ISC 18 05:24:43.1±0.6, 4728N±008×1536E±01, h35km, n50, σ1°19/48, mb4.1/20, MS3.5/4, 7C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.79**	**25**	*e*PN	**Pn**	**05 25 40.0**	**+1.0**
SKR				*eS*	**Sn**	**05 26 22.0**	**-0.3**
SKR				pmax	pmax		
	comp=Z,160nm,0.6s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=N,160nm,0.6s						
KUR	**Kuril'sk**	**4.46**	**245**	*e*PN	**Pn**	**05 25 46.0**	**-2.2**
KUR				*eS*	**Sn**	**05 26 40.8**	**+1.9**
KUR				pmax	pmax		
	comp=Z,160nm,0.8s						
KUR				smax			
	comp=E,430nm,0.7s						
PET	**Petropavlovsk**	**6.61**	**28**	*e*PN	**Pn**	**05 26 19.9**	**+2.2**
PET				pmax	pmax		
	comp=Z,21nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.40**	**271**	*e*PN	**Pn**	**05 26 29.0**	**+0.5**
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.40**	**271**	Pn	**Pn**	**05 26 26.4**	**-2.1**
	comp=E,12nm,0.4s						
ASAJ	**Asahikawa**	**8.32**	**252**	Pn	**Pn**	**05 26 40.5**	**-0.6**
	comp=E,0.7nm,0.3s,baz=60,slow=27,SNR=1.7						
ASAJ				LR	LR	05 29 42.9	
	comp=E,135nm,21.0s,baz=170,slow=37						
ERM	**Erimo**	**9.11**	**238**	*e*PN	**Pn**	**05 26 54.6**	**+2.7**
MJAR	**Matsushiro Arr**	**15.66**	**232**	Pn	**Pn**	**05 28 17.7**	**-3.3**
	comp=E,0.5nm,0.3s,baz=18,slow=9.6,SNR=4.1						
MAJO	**Matsushiro**	**15.66**	**232**	*e*P	**Pn**	**05 28 19.1**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,18nm,1.0s						
MAJO	**Matsushiro**	**15.66**	**232**	*e*Pn	**Pn**	**05 28 19.1**	**-1.9**
	comp=Z,18nm,1.0s						
SEY	**Seymchan**	**15.70**	**358**	⇑*eP*	**Pn**	**05 28 18.2**	**-3.4**
CLNS	**Chul'man**	**19.93**	**309**	*eP*	**Pn**	**05 29 27.2**	**+14**
CLNS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
YAK	**Yakutsk**	**20.05**	**326**	⇓*eP*	**P**	**05 29 10.2**	**-3.0**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSRS	**Korea Array**	**21.27**	**252**	P	**P**	**05 29 26.5**	**+0.2**
	comp=Z,3.1nm,0.7s,mb3.8,baz=57,slow=11,SNR=6.6						
KSRS				LR	LR	05 36 42.3	
	comp=Z,45nm,19.5s,MS2.9,baz=50,slow=34						
SONM	**Songino Array**	**31.47**	**289**	LR	LR	05 44 17.4	
	comp=Z,67nm,18.2s,MS3.4,baz=244,slow=38						
INK	**Inuvik**	**41.03**	**33**	P	**P**	**05 32 23.1**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.5,baz=285,slow=8.1,SNR=4.4						
ZAL	**Zalesovo**	**42.58**	**305**	P	**P**	**05 32 33.6**	**-2.0**
	comp=Z,0.9nm,0.4s,mb3.9,baz=117,slow=3.6,SNR=2.3						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**05 33 09.4**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=70,slow=7.2,SNR=11						
KURK	**Kurchatov**	**47.34**	**303**	⇑*eP*	**P**	**05 33 13.0**	**-0.4**
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**05 33 36.0**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=296,slow=7.0,SNR=15						
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**05 33 36.0**	**-0.2**
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**05 33 39.4**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=242,slow=44,SNR=2.7						
JIRN	**Jiri**	**55.23**	**275**	*eP*	**P**	**05 34 13.4**	**+0.9**
	comp=Z,12nm,0.5s,mb5.1						
GUN	**Gumba**	**55.28**	**275**	*eP*	**P**	**05 34 13.8**	**+0.9**
	comp=Z,7.4nm,0.5s,mb5.0						
KKN	**Kakani**	**55.76**	**275**	*eP*	**P**	**05 34 17.7**	**+1.3**
PKI	**Pulchoki**	**55.81**	**275**	*eP*	**P**	**05 34 17.5**	**+0.8**
DMN	**Daman**	**55.99**	**275**	*eP*	**P**	**05 34 19.2**	**+1.2**
	comp=Z,20nm,0.9s,mb5.2						
GKN	**Gorkha**	**56.06**	**276**	*eP*	**P**	**05 34 19.5**	**+1.0**
	comp=Z,14nm,0.5s,mb5.2						
KOLN	**Koldanda**	**56.91**	**276**	*eP*	**P**	**05 34 25.6**	**+1.0**
	comp=Z,12nm,0.7s,mb5.0						
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**	**05 35 10.3**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.1,baz=30,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**63.70**	**335**	*eP*	**P**	**05 35 09.8**	**-1.2**
FINES	**FINESS Array B**	**63.70**	**335**	P	**P**	**05 35 10.3**	**-0.6**
PDAR	**Pinedale Array**	**64.17**	**54**	P	**P**	**05 35 14.2**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=250,slow=5.4,SNR=2.8						
NB2	**NORSAR Subarra**	**67.83**	**341**	P	**P**	**05 35 37.0**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.83**	**341**	P	**P**	**05 35 37.1**	**-0.4**
	comp=Z,2.0nm,0.9s,mb4.2,baz=25,slow=6.5,SNR=4.4						
WRA	**Warramunga Arr**	**69.12**	**199**	P	**P**	**05 35 44.4**	**-1.2**
	comp=Z,0.8nm,1.0s,mb3.6,baz=19,slow=6.3,SNR=3.8						
ANMO	**Albuquerque**	**71.28**	**59**	LR	LR	06 05 50.8	
	comp=Z,92nm,21.9s,MS4.0,baz=276,slow=35						
AKASG	**Malin Array Be**	**71.29**	**326**	P	**P**	**05 35 57.5**	**-1.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=32,slow=6.6,SNR=3.5						
ASAR	**Alice Springs**	**72.81**	**199**	P	**P**	**05 36 08.0**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.3,baz=11,slow=6.1,SNR=4.5						
BURAR	**Bucovina Array**	**75.32**	**327**	⇑*iP*	**P**	**05 36 22.6**	**-0.1**
MLR	**Muntele Rosu**	**76.82**	**325**	⇑*iP*	**P**	**05 36 32.2**	**+1.0**
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**05 36 31.4**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=304,slow=4.5,SNR=8.0						
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**05 36 31.4**	**-0.5**
VOIR		**77.21**	**326**	⇑*iP*	**P**	**05 36 34.7**	**+1.3**
GERES	**GERESS Array B**	**78.12**	**334**	P	**P**	**05 36 37.9**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=36,slow=5.3,SNR=4.3						
BRTR	**Keskin Array B**	**78.22**	**317**	P	**P**	**05 36 39.6**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=78,slow=3.7,SNR=8.1						
BZS	**Buzias**	**78.34**	**328**	⇓*iP*	**P**	**05 36 39.8**	**+0.1**
VTS	**Vitosha**	**80.32**	**325**	⇑*iP*	**P**	**05 36 50.7**	**+0.2**
TKL	**Tuckaleechee C**	**82.76**	**44**	LR	LR	06 11 38.7	
	comp=Z,39nm,20.0s,MS3.8,baz=329,slow=34						
CFAA	**Coronel Fontan**	**144.57**	**79**	PKP	PKPdf	05 44 12.9	-2.9
	comp=Z,0.2nm,0.5s,baz=241,slow=5.1,SNR=4.7						

IGQ 18 05:25:16.6, 066S×8133W, h14km±6km, Mb4.2, Ms4.0, 5C-4D, Error ellipse: s-maj=7.4km s-min=5.3km az=23.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.72**	**123**	⇓P	Pg	05 25 28.6	-1.9
JAMA	**Jama**	**1.19**	**71**	P	Pn	05 25 40.6	+1.8
JAMA				S	Sb	05 25 53.7	-0.6
JUA2	**San Juan 2**	**2.76**	**81**	P	Pn	05 26 03.0	+2.6
JUA2				S	Sn	05 26 35.7	+2.1
PINO	**Pino**	**2.77**	**80**	⇑P	Pn	05 26 03.0	+2.5
TERV	**Terraza Guagua**	**2.77**	**80**	⇑P	Pn	05 26 02.9	+2.4
GGP	**Refugio Guagua**	**2.78**	**80**	⇑P	Pn	05 26 03.0	+2.3
GGP				S	Sn	05 26 33.7	-0.3
YANA	**Yana**	**2.81**	**79**	⇓P	Pn	05 26 03.5	+2.4
IGUA	**Igualata**	**2.81**	**107**	P	Pn	05 26 03.0	+1.8
CAMI	**Rancho Maria**	**2.83**	**90**	P	Pn	05 26 04.6	+3.3
CAMI				S	Sn	05 26 36.9	+1.8
VC1	**Cotopaxi 1**	**2.93**	**90**	P	Pn	05 26 05.8	+3.1
VC1				S	Sn	05 26 42.6	+4.9
TAMB	**Tambo**	**2.96**	**91**	P	Pn	05 26 07.0	+3.8
JUIV	**Juive**	**2.96**	**105**	P	Pn	05 26 07.5	+4.3
PISA	**Pisayambo**	**2.97**	**98**	⇑P	Pn	05 26 06.4	+3.1
RETU	**Refugio**	**2.99**	**105**	P	Pn	05 26 07.2	+3.6
RETU				S	Sn	05 26 42.4	+3.2
ARRY	**Arrayan**	**3.00**	**106**	⇓P	Pn	05 26 05.3	+1.7
RUN5	**Runtun**	**3.00**	**104**	P	Pn	05 26 06.0	+2.3
RUN5				S	Sn	05 26 42.6	+3.2
ULBA	**Ulba**	**3.02**	**105**	P	Pn	05 26 06.8	+2.7
COTA	**Cotacachi**	**3.15**	**72**	P	Pn	05 26 09.2	+3.4
ANTI	**Antisana**	**3.18**	**86**	P	Pn	05 26 10.1	+4.0
ANTI				S	Sn	05 26 50.0	+6.2
CAYR	**Refugio Cayamb**	**3.39**	**79**	⇑P	Pn	05 26 14.8	+5.7
CAYR				S	Sn	05 26 52.7	+3.6
CAYA	**Cayambe**	**3.42**	**78**	⇓P	Pn	05 26 14.7	+5.2
CAYA				S	Sn	05 26 57.6	+7.9

*ISCJB **18** 05:31:34.0±0.7, 2807S±003×6927W±0.10, h107km±9km, mb3.5/3, Error ellipse: s-maj=14.5km s-min=5.5km az=171.5*
*IDC **18** 05:31:34.4±2.3, 2798S×69.12W, h88km±22km, mb3.4/3, mb1 3.6/6, mb1mx3.5/16, mbtmp3.3/6, Error ellipse: s-maj=39.2km s-min=17.3km az=84.0*
*NEIC **18** 05:31:34.9, 2806S×6943W, h116km, mb3.7/1, After GUC.*
*GUC **18** 05:31:34.9±0.9, 2806S×6943W, h116km±16km, ML4.7*

ISC 18 05:31:35.2±0.7, 2807S±003×6928W±009, h100km±9km, n25, σ0°97/38, mb3.5/3, 1C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.19**	**307**	⇓*iP*	**Pn**	**05 31 58.0**	**+0.3**
CPCH				*i* S	**Sn**	**05 32 14.8**	**+0.1**
CPCH				AML	AML	05 32 16.5	
	comp=E,24μm,0.1s						
CPCH	**Copiapo**	**1.19**	**307**	⇓*iP*	**Pn**	**05 31 58.0**	**+0.3**
CPCH				*i* S	**Sn**	**05 32 14.8**	**+0.1**
VACH	**Vallenar**	**1.40**	**249**	⇓*iP*	**Pn**	**05 32 00.6**	**+0.5**
VACH				*i* S	**Sn**	**05 32 19.6**	**+0.6**
VACH				AML	AML	05 32 21.5	
	comp=N,8μm,0.1s						
VACH	**Vallenar**	**1.40**	**249**	⇓*iP*	**Pn**	**05 32 00.6**	**+0.5**
VACH				*i* S	**Sn**	**05 32 19.6**	**+0.6**
LCO	**Las Campanas**	**1.56**	**233**	*e*Pn	**Pn**	**05 32 02.

TER			eS	Sg	05 50 18.3	+0.8
FUG	**Fuego 3**	**1.15 294⇑**	eP	Pg	05 50 08.4	-0.5
FUG			eS	Sg	05 50 24.7	+0.9
BLLM	**Bellamira**	**1.57 110⇓**	eP	x	05 50 32.8	
BLLM			eS	x	05 50 54.5	
JAT	**Jato**	**1.85 280**	eP	Pn	05 50 21.1	+1.6
CNCH	**Conchagua**	**2.00 111⇓**	eP	x	05 50 39.7	
CNCH			eS	x	05 51 06.9	

IDC 18 06:11:27.5±7.0, 671S×12801E, h443km±92km, mb2.9/2, mb1 2.7/5, mb1mx2.6/15, mbtmp2.6/5, Error ellipse: s-maj=90.9km s-min=31.5km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.56**	**191**	P	P	06 14 01.4	-0.2
	0.2nm,0.3s,baz=30,slow=8.1,SNR=6.0						
WRA	**Warramunga Arr**	**14.52**	**156**	P	P	06 14 34.2	+0.5
	0.2nm,0.3s,baz=335,slow=12,SNR=14						
WRA				S	S	06 17 08.9	+1.5
	0.1nm,0.3s,baz=330,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**17.79**	**162**	P	P	06 15 09.3	+1.1
	0.1nm,0.3s,baz=344,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**28.07**	**155**	P	P	06 16 40.6	-0.8
	1.6nm,0.7s,baz=318,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**66.91**	**328**	P	P	06 21 34.6	+0.1
	0.2nm,0.5s,baz=111,slow=7.9,SNR=2.9						

*IDC **18** 06:37:19.1±1.8, 5139N×17770W, h0km, mb3.9/12, mb1 4.2/12, mb1mx4.0/27, mbtmp3.9/12, MS3.6/1, Ms1 3.6/1, ms1mx2.7/31, Error ellipse: s-maj=56.2km s-min=18.2km az=9.0*
*NEIC **18** 06:37:19.1, 5074N×17754W, h20km, ML3.5(AEIC), After AEIC.*
*ISCJB **18** 06:37:21.4±1.9, 509N±02×1777W±01, h41km±13km, mb3.9/12, MS3.6/1, Error ellipse: s-maj=26.7km s-min=10.3km az=155.3*

ISC 18 06:37:22.0±3.4, 509N±01×1777W±01, h33km±24km, n18, σ1§06/19, mb3.9/12, MS3.6/1, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.17**	**33**	P	**Pn**	**06 37 41.0**	**-1.1**
ADK				S	**Sn**	**06 37 58.4**	**+1.4**
AMKA	**Amchitka**	**1.94**	**285**	P	**Pn**	**06 37 53.7**	**+1.0**
ATKA	**Atka Island**	**2.55**	**58**	P	**Pn**	**06 38 00.4**	**-0.6**
ATKA				S	**Sn**	**06 38 30.6**	**-0.4**
KDAK	**Kodiak Island**	**16.12**	**55**	Pn	**Pn**	**06 41 07.0**	**+0.9**
	1.4nm,0.3s,baz=323,slow=20,SNR=16						
YKA	**Yellowknife Ar**	**35.06**	**46**	P	**P**	**06 44 10.4**	**-1.4**
	1.2nm,1.0s,mb3.8,baz=281,slow=8.1,SNR=7.1						
YKA	**Yellowknife Ar**	**35.06**	**46**	S	**P**	**06 44 10.4**	**-1.4**
NEW	**Newport**	**38.41**	**70**	P	**P**	**06 44 40.3**	**0.0**
	2.6nm,0.7s,mb4.0,baz=293,slow=7.4,SNR=4.8						
PDAR	**Pinedale Array**	**45.80**	**72**	P	**P**	**06 45 42.0**	**+1.4**
	2.8nm,0.7s,mb4.3,baz=303,slow=4.0,SNR=24						
SONM	**Songino Array**	**47.47**	**298**	P	**P**	**06 45 54.8**	**+1.1**
	1.8nm,0.8s,mb4.1,baz=54,slow=8.8,SNR=14						
SONM				LR	LR	07 06 28.4	
	comp=Z,54nm,18.3s,MS3.6,baz=314,slow=37						
TXAR	**Lajitas Array**	**58.05**	**82**	P	**P**	**06 47 12.4**	**+0.6**
	0.3nm,0.9s,mb3.3,baz=290,slow=2.6,SNR=3.4						
ARCES	**ARCESS Array B**	**58.67**	**351**	P	**P**	**06 47 12.6**	**-3.6**
	2.1nm,0.8s,mb4.2,baz=320,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**60.87**	**309**	P	**P**	**06 47 29.4**	**-1.8**
	0.4nm,0.8s,mb3.6,baz=79,slow=7.5,SNR=3.1						
BVAR	**Borovoye Array**	**61.69**	**320**	P	**P**	**06 47 36.0**	**-0.9**
	0.6nm,0.4s,mb4.0,baz=66,slow=5.3,SNR=4.1						
NOA	**NORSAR Array B**	**68.18**	**355**	P	**P**	**06 48 18.6**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=358,slow=16,SNR=2.7						
AKASG	**Malin Array Be**	**76.21**	**343**	P	**P**	**06 49 06.0**	**-1.0**
	0.2nm,0.3s,mb3.5,baz=20,slow=5.8,SNR=4.9						
MLR	**Muntele Rosu**	**81.83**	**343**	P	**P**	**06 49 38.7**	**+0.9**
	2.6nm,0.7s,mb4.3,baz=274,slow=11,SNR=4.8						
BRTR	**Keskin Array B**	**85.66**	**336**	P	**P**	**06 49 58.1**	**+0.8**
	1.0nm,0.8s,mb4.1,baz=40,slow=2.1,SNR=5.7						
LBTB	**Lobatse**	**148.55**	**317**	PKPbc	PKPbc	06 57 06.3	+0.8
	1.6nm,0.6s,baz=211,slow=19,SNR=2.7						

*ISCJB **18** 06:48:07.4±2.0, 472N±02×1528E±03, h69km±16km, mb3.6/6, Error ellipse: s-maj=39.0km s-min=10.7km az=89.2*
*MOS **18** 06:48:08.0±0.7, 4718N×15267E, h75km, mb4.3/2, Error ellipse: s-maj=36.5km s-min=24.2km az=56.1*
*IDC **18** 06:48:10.4±5.5, 4695N×15278E, h90km±63km, mb3.5/6, mb1 3.7/8, mb1mx3.3/25, mbtmp3.5/8, ML3.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/24, Error ellipse: s-maj=64.8km s-min=27.9km az=6.0*

ISC 18 06:48:09.2±1.7, 471N±02×1528E±03, h73km±14km, n13, σ0§12/14, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.18**	**31**	ePN	**Pn**	**06 49 18.5**	**+8.0**
SKR				eS	**Sn**	**06 49 58.1**	**0.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.4s						
SKR				smax			
	comp=E,130nm,0.4s						
ASAJ	**Asahikawa**	**7.74**	**251**	P	**Pn**	**06 49 59.2**	**+0.1**
	comp=E,0.9nm,0.3s,baz=82,slow=18,SNR=2.6						
ASAJ				LR	LR	06 53 40.6	
	comp=E,40nm,18.6s,baz=341,slow=43						
MJAR	**Matsushiro Arr**	**15.13**	**231**	P	**Pn**	**06 51 38.6**	**-0.1**
	comp=E,0.5nm,0.3s,baz=50,slow=9.9,SNR=5.4						
MJAR	**Matsushiro Arr**	**15.13**	**231**	P	**Pn**	**06 51 38.6**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**46.56**	**297**	P	**P**	**06 56 29.3**	**-0.2**
	comp=Z,0.3nm,1.0s,mb3.0,baz=59,slow=36,SNR=2.5						
YKA	**Yellowknife Ar**	**50.76**	**37**	P	**P**	**06 57 01.8**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=296,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**50.76**	**37**	P	**P**	**06 57 01.8**	**+0.1**
FINES	**FINESS Array B**	**63.59**	**335**	P	**P**	**06 58 32.4**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=35,slow=7.0,SNR=7.8						
FINES	**FINESS Array B**	**63.59**	**335**	P	**P**	**06 58 32.4**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**68.02**	**339**	P	**P**	**06 59 00.7**	**+0.1**
	comp=Z,4.7nm,0.8s,mb4.3,baz=55,slow=5.6,SNR=10						
AKASG	**Malin Array Be**	**71.10**	**326**	P	**P**	**06 59 19.5**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.0,baz=33,slow=6.2,SNR=4.5						
AKASG	**Malin Array Be**	**71.10**	**326**	P	**P**	**06 59 19.5**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.51**	**60**	P	**P**	**06 59 56.8**	**-0.1**
	comp=Z,0.2nm,0.5s,mb3.1,baz=302,slow=4.8,SNR=10.0						

IDC 18 06:59:24.2±0.8, 055N×9998E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, ML3.9/1, MS3.7/11, Ms1 3.7/11, ms1mx3.5/29, Error ellipse: s-maj=31.8km s-min=16.7km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.48**	**335**	Pn	Pn	07 00 05.2	-0.5
	31nm,0.3s,baz=152,slow=12,SNR=34						
WRA	**Warramunga Arr**	**39.34**	**123**	P	P	07 06 55.0	-0.1
	1.0nm,0.8s,baz=300,slow=9.1,SNR=7.3						
WRA				PcP	PcP	07 09 05.0	+1.3
	0.6nm,0.6s,baz=314,slow=2.5,SNR=10						
WRA				LR	LR	07 23 27.2	
	comp=Z,89nm,21.4s,baz=175,slow=37						
ASAR	**Alice Springs**	**40.80**	**128**	P	P	07 07 06.9	-0.3
	0.4nm,0.7s,baz=305,slow=8.4,SNR=7.8						
ASAR				PcP	PcP	07 09 09.7	+1.4
	0.8nm,0.7s,baz=304,slow=2.7,SNR=8.6						
KSRS	**Korea Array**	**44.87**	**32**	P	P	07 07 39.7	-0.5
	1.1nm,0.8s,baz=9.9,slow=25,SNR=2.9						
SONM	**Songino Array**	**47.43**	**6**	P	P	07 08 01.0	+0.7
	2.7nm,0.9s,baz=191,slow=8.0,SNR=11						
SONM				LR	LR	07 30 52.2	
	comp=Z,89nm,18.1s,baz=77,slow=40						
MKAR	**Makanchi Array**	**48.59**	**344**	P	P	07 08 09.3	-0.1
	2.4nm,0.7s,baz=153,slow=8.1,SNR=14						
STKA	**Stephens Creek**	**50.87**	**133**	LR	LR	07 30 07.2	
	comp=Z,167nm,19.8s,baz=335,slow=36						
ZAL	**Zalesovo**	**54.67**	**349**	P	P	07 08 54.0	-0.8
	2.9nm,0.5s,baz=293,slow=2.8,SNR=7.4						
ZAL				LR	LR	07 32 09.5	
	comp=Z,41nm,20.7s,baz=271,slow=36						
BVAR	**Borovoye Array**	**57.81**	**339**	LR	LR	07 36 43.4	
	comp=Z,28nm,19.2s,baz=325,slow=39						
AKTO	**Aktyubinsk**	**61.13**	**331**	LR	LR	07 37 38.2	
	comp=Z,42nm,18.5s,baz=356,slow=38						
KMBO	**Kilima Mbogo**	**62.75**	**268**	P	P	07 09 52.6	+1.6
	1.6nm,0.7s,baz=252,slow=22,SNR=5.5						
KMBO				LR	LR	07 31 37.3	
	comp=Z,53nm,19.4s,baz=79,slow=31						
DZM	**Mont Dzumac**	**68.48**	**114**	LR	LR	07 40 09.6	
	comp=Z,94nm,20.1s,baz=266,slow=36						
BRTR	**Keskin Array B**	**71.61**	**312**	P	P	07 10 46.4	-1.0
	1.8nm,0.7s,baz=131,slow=7.4,SNR=13						
FINES	**FINESS Array B**	**81.86**	**332**	P	P	07 11 45.1	-0.2
	4.1nm,1.0s,baz=161,slow=7.5,SNR=2.8						
FINES				LR	LR	07 54 42.7	
	comp=Z,44nm,18.5s,baz=357,slow=40						
ARCES	**ARCESS Array B**	**84.09**	**340**	P	P	07 11 58.2	+1.3
	4.6nm,1.0s,baz=101,slow=6.3,SNR=7.5						
ARCES				LR	LR	07 52 39.1	
	comp=Z,78nm,21.5s,baz=259,slow=38						
NOA	**NORSAR Array B**	**88.92**	**331**	LR	LR	07 58 39.1	
	comp=Z,30nm,18.2s,baz=90,slow=40						
TXAR	**Lajitas Array**	**142.68**	**35**	PKP	PKPdf	07 18 58.3	-0.9
	0.2nm,0.7s,baz=292,slow=2.8,SNR=2.6						

IDC 18 07:21:38.6±5.2, 1881N×14581E, h261km±50km, mb3.3/12, mb1 3.4/13, mb1mx3.3/24, mbtmp3.3/13, Error ellipse: s-maj=29.6km s-min=11.7km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.89**	**341**	P	P	07 25 41.3	+1.3
	0.3nm,0.3s,baz=170,slow=8.0,SNR=5.5						
KSRS	**Korea Array**	**24.29**	**324**	P	P	07 26 31.4	-1.0
	1.3nm,0.7s,baz=6.1,slow=39,SNR=2.7						
WB2	**Warramunga Arr**	**40.12**	**197**	eP	P	07 28 49.0	-0.2
WRA	**Warramunga Arr**	**40.12**	**197**	P	P	07 28 49.3	+0.1
	1.0nm,0.3s,baz=15,slow=8.5,SNR=29						
WRA				PcP	PcP	07 30 49.1	+1.0
	0.3nm,0.6s,baz=12,slow=3.5,SNR=4.6						
FITZ	**Fitzroy Crossi**	**41.69**	**210**	eP	P	07 29 01.8	-0.2
FITZ	**Fitzroy Crossi**	**41.69**	**210**	P	P	07 29 02.0	0.0
	1.5nm,0.6s,baz=38,slow=11,SNR=6.7						
SONM	**Songino Array**	**43.12**	**321**	P	P	07 29 14.0	+0.6
	0.4nm,0.5s,baz=135,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**43.78**	**196**	P	P	07 29 18.8	+0.1
	0.3nm,0.5s,baz=17,slow=6.6,SNR=5.5						
MKAR	**Makanchi Array**	**58.46**	**314**	P	P	07 31 07.8	+0.5
	0.5nm,0.5s,baz=94,slow=7.0,SNR=10						
BVAR	**Borovoye Array**	**66.46**	**320**	P	P	07 31 59.7	-0.4
	1.1nm,0.4s,baz=107,slow=7.7,SNR=7.9						
INK	**Inuvik**	**69.23**	**23**	P	P	07 32 15.2	-2.1
	1.9nm,0.7s,baz=193,slow=5.0,SNR=5.2						
AKTO	**Aktyubinsk**	**74.35**	**318**	P	P	07 32 47.2	-0.5
	0.7nm,0.5s,baz=344,slow=7.4,SNR=4.2						
YKA	**Yellowknife Ar**	**77.84**	**28**	P	P	07 33 08.0	+0.6
	0.1nm,0.4s,baz=288,slow=4.7,SNR=3.5						
ARCES	**ARCESS Array B**	**82.42**	**342**	P	P	07 33 32.3	+0.6
	4.4nm,1.1s,baz=82,slow=8.7,SNR=6.5						
FINES	**FINESS Array B**	**86.83**	**335**	P	P	07 33 53.4	-0.3
	0.6nm,0.3s,baz=72,slow=4.8,SNR=9.6						

*NIED **18** 07:27:00, 3680N×14130E, h26km, Mw4.0 Best double couple: M₀9.88000×10^14 NP1:φ₀219.00000°, δ85.00000°, λ-92.00000°. NP2:φ₀61.00000°, δ5.00000°, λ-69.00000°.*
*ISCJB **18** 07:27:48.4±0.9, 3672N±004×14153E±007, h35km±7km, mb4.2/18, MS3.4/2, Error ellipse: s-maj=8.9km s-min=6.3km az=14.7*
*JMA **18** 07:27:50.5±0.1, 3677N×14132E, h49km±2km, M4.3*
JMA Felt II J1.
*IDC **18** 07:27:51.2±2.0, 3671N×14150E, h42km±18km, mb3.7/16, mb1 4.0/21, mb1mx3.9/29, mbtmp3.9/21, ML4.2/5, MS3.2/4, Ms1 3.2/4, ms1mx2.9/28, Error ellipse: s-maj=15.4km s-min=10.5km az=69.0*

ISC 18 07:27:47.7±1.1, 3674N±004×14152E±005, h15km±5km, n41, σ1§07/49, mb4.2/18, MS3.4/2, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.68**	**302**	⇓P	**Pg**	**07 28 01.8**	**+0.8**
ONAJ				S	**Sg**	**07 28 10.0**	**0.0**
JHO	**Hitachi**	**0.78**	**260**	⇓P	**Pg**	**07 28 03.1**	**+0.3**
JHO				S	**Sg**	**07 28 11.9**	**-1.2**
JFK	**Kawauchi**	**0.81**	**320**	⇓P	**Pg**	**07 28 03.8**	**+0.4**
JFK				S	**Sg**	**07 28 13.0**	**-1.1**
JYT	**Yasato**	**1.19**	**245**	⇓P	**Pn**	**07 28 09.2**	**-0.5**
JYT				S	**Sb**	**07 28 23.0**	**-2.0**
JFT	**Otama**	**1.22**	**310**	⇓P	**Pn**	**07 28 10.5**	**+0.3**
JMM	**Marumori**	**1.26**	**333**	P	**Pn**	**07 28 10.5**	**-0.2**
JFY	**Yanaizu**	**1.60**	**295**	P	**Pn**	**07 28 15.5**	**+0.2**
JAG	**Ashikaga**	**1.69**	**260**	P	**Pn**	**07 28 16.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.67**	**267**	P	**Pn**	**07 28 31.3**	**+1.2**
	36nm,0.3s,baz=89,slow=15,SNR=132						
MJAR				S	**Sn**	**07 29 02.9**	**+0.7**
	35nm,0.3s,baz=124,slow=17,SNR=14						
MJAR				LR	LR	07 29 51.8	
	comp=Z,517nm,19.1s,baz=115,slow=46						
MAT	**Matsushiro**	**2.67**	**267**	P	**Pn**	**07 28 31.3**	**+1.2**
MAT				eS	**Sn**	**07 29 02.8**	**+0.6**
JHJ	**Hachijo jima 2**	**3.89**	**202**	P	**Pn**	**07 28 48.5**	**+1.6**
	87nm,0.3s,baz=53,slow=20,SNR=22						
JHJ				S	**Sn**	**07 29 31.4**	**-0.8**
	105nm,0.3s,baz=80,slow=22,SNR=6.1						
ASAJ	**Asahikawa**	**7.41**	**6**	P	**Pn**	**07 29 36.1**	**+0.9**
	3.9nm,0.3s,baz=221,slow=12,SNR=12						
ASAJ				S	**Sn**	**07 30 56.6**	**-2.4**
	1.9nm,0.3s,baz=198,slow=18,SNR=3.2						
ASAJ				LR	LR	07 33 15.9	
	comp=Z,45nm,19.1s,baz=150,slow=44						
CBIJ	**Chichi jima**	**9.63**	**176**	P	**Pn**	**07 30 04.8**	**-0.9**
	14nm,0.3s,baz=264,slow=23,SNR=9.1						
CBIJ				S	**Sn**	**07 31 45.5**	**-8.2**
	18nm,0.3s,baz=272,slow=23,SNR=4.0						
KSRS	**Korea Array**	**10.89**	**278**	P	**Pn**	**07 30 24.9**	**+2.1**
	baz=19,slow=29,SNR=3.2						
SONM	**Songino Array**	**28.02**	**304**	P	**P**	**07 33 38.2**	**+0.2**
	3.4nm,0.6s,mb4.2,baz=109,slow=8.7,SNR=26						
SONM				LR	LR	07 44 50.7	
	comp=Z,54nm,19.2s,MS3.1,baz=5.5,slow=36						
ZAL	**Zalesovo**	**42.19**	**313**	P	**P**	**07 35 39.1**	**-0.6**
	3.3nm,0.6s,mb4.2,baz=35,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**07 35 56.4**	**-0.8**
	1.3nm,0.7s,mb3.7,baz=86,slow=9.7,SNR=10						
JIRN	**Jiri**	**47.13**	**276**	eP	**P**	**07 36 21.6**	**+2.4**
	6.8nm,0.4s,mb5.0						
GUN	**Gumba**	**47.27**	**276**	eP	**P**	**07 36 22.0**	**+1.7**
	21nm,0.4s						
PKI	**Pulchoki**	**47.79**	**276**	eP	**P**	**07 36 23.7**	**-0.6**
KKN	**Kakani**	**47.80**	**276**	eP	**P**	**07 36 25.2**	**+0.8**
	13nm,0.4s,mb5.3						
GKN	**Gorkha**	**48.22**	**277**	eP	**P**	**07 36 28.2**	**+0.6**
	18nm,0.4s						
KOLN	**Koldanda**	**49.15**	**277**	eP	**P**	**07 36 31.9**	**-2.9**
	7.9nm,0.5s,mb5.0						
KAKA	**Kakadu**	**49.93**	**192**	eP	**P**	**07 36 40.3**	**-0.4**
BVAR	**Borovoye Array**	**50.83**	**313**	P	**P**	**07 36 46.5**	**-1.1**
	1.3nm,0.7s,mb4.0,baz=69,slow=8.1,SNR=5.7						
FITZ	**Fitzroy Crossi**	**56.57**	**198**	eP	**P**	**07 37 29.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**56.57**	**198**	P	**P**	**07 37 29.1**	**-0.5**
	1.2nm,0.5s,mb4.2,baz=51,slow=6.1,SNR=6.8						
WB2	**Warramunga Arr**	**56.78**	**188**	eP	**P**	**07 37 30.2**	**-0.9**
WRA	**Warramunga Arr**	**56.78**	**188**	P	**P**	**07 37 30.5**	**-0.6**
	1.0nm,0.3s,mb4.3,baz=5.5,slow=7.3,SNR=51						
AKTO	**Aktyubinsk**	**58.93**	**312**	P	**P**	**07 37 47.1**	**+0.9**
	1.4nm,0.9s,mb4.0,baz=48,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**60.51**	**188**	P	**P**	**07 37 56.9**	**-0.1**
	1.4nm,0.7s,mb4.2,baz=10,slow=6.4,SNR=18						
YKA	**Yellowknife Ar**	**64.02**	**30**	P	**P**	**07 38 19.5**	**-1.1**
	0.1nm,0.6s,baz=300,slow=5.9,SNR=2.6						
ARCES	**ARCESS Array B**	**64.30**	**339**	P	**P**	**07 38 21.1**	**-1.3**
	4.1nm,1.0s,mb4.4,baz=38,slow=8.0,SNR=2.3						
FINES	**FINESS Array B**	**69.11**	**332**	P	**P**	**07 38 52.6**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=57,slow=7.0,SNR=5.0						
NB2	**NORSAR Subarra**	**74.49**	**337**	P	**P**	**07 39 28.6**	**+3.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.49**	**337**	P	**P**	**07 39 24.5**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=59,slow=9.5,SNR=2.9						
NOA				LR	LR	08 15 18.8	
	comp=Z,31nm,18.3s,MS3.6,baz=265,slow=38						
AKASG	**Malin Array Be**	**74.58**	**322**	P	**P**	**07 39 24.8**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=46,slow=6.4,SNR=2.6						
NVAR	**Mina Array Bea**	**75.09**	**53**	P	**P**	**07 39 30.7**	**+1.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=287,slow=6.2,SNR=6.3						
PDAR	**Pinedale Array**	**77.81**	**45**	P	**P**	**07 39 45.2**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=291,slow=2.5,SNR=6.7						
TXAR	**Lajitas Array**	**90.23**	**52**	P	**P**	**07 40 48.1**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.8,baz=289,slow=2.8,SNR=5.2						
LPAZ	**La Paz**	**146.76**	**60**	PKPbc	PKPbc	07 47 30.2	+1.3
	comp=Z,2.0nm,0.5s,baz=298,slow=2.0,SNR=16						

IDC 18 07:45:54.3±1.6, 676S×12959E, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=108.6km s-min=25.3km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.89**	**161**	Pn	Pn	07 49 11.5	-0.9
	0.2nm,0.3s,baz=340,slow=13,SNR=14						
WRA				Sn	Sn	07 51 34.0	-13
	0.7nm,0.3s,baz=340,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.31**	**167**	P	Pn	07 49 58.6	+1.2
	0.2nm,0.3s,baz=349,slow=10,SNR=19						
STKA	**Stephens Creek**	**27.39**	**157**	P	P	07 51 41.5	+0.2
	0.5nm,0.3s,baz=346,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**67.80**	**327**	P	P	07 56 54.2	+0.2
	0.4nm,0.4s,baz=111,slow=8.0,SNR=8.4						

*ISCJB **18** 08:00:33.3±0.3, 4705N±002×495E±002, h10km, Error ellipse: s-maj=2.5km s-min=2.0km az=122.1*
*CSEM **18** 08:00:35.7±0.0, 4707N×492E, h20km, ML2.6/17, Error ellipse: s-maj=1.1km s-min=0.6km az=148.0*
*LDG **18** 08:00:35.8±0.0, 4707N×492E, h20km, Md2.6/2, Ml2.6/18, Error ellipse: s-maj=1.0km s-min=0.6km az=144.0*
*NEIC **18** 08:00:35.8, 4707N×492E, h20km, ML2.5(STR), ML2.6(LDG), After LDG.*
*STR **18** 08:00:43.9±2.0, 4667N×483E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 08:00:34.7±0.3, 4706N±002×492E±002, h10km, n48, σ1§05/109, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOR	**Lormes**	**0.76**	**287**	ePg	**Pg**	**08 00 50.5**	**+1.2**
	baz=110						
LOR				eSg	**Sg**	**08 01 00.4**	**+1.3**
	113nm,0.2s,baz=105						
LOR	**Lormes**	**0.76**	**287**	ePg	**Pg**	**08 00 50.5**	**+1.2**
LOR				eSg	**Sg**	**08 01 00.4**	**+1.3**
	56nm,0.2s						
SMF	**Signal de Mont**	**0.85**	**241**	ePg	**Pb**	**08 00 51.9**	**+0.4**
SMF				eSn	**Sg**	**08 01 02.4**	**+0.3**
	70nm,0.2s						
SMF	**Signal de Mont**	**0.85**	**241**	ePn	**Pg**	**08 00 51.2**	**+0.2**
SMF				ePg	**Pb**	**08 00 51.9**	**+0.4**
SMF				eSn	**Sg**	**08 01 02.4**	**+0.3**
SMF	**Signal de Mont**	**0.85**	**241**	ePg	**Pb**	**08 00 51.9**	**+0.4**
SMF				eSn	**Sg**	**08 01 02.4**	**+0.3**
	35nm,0.2s						
CABF	**La Chapelle**	**0.92**	**119**	ePg	**Pb**	**08 00 53.6**	**+0.9**
CABF				eSn	**Sg**	**08 01 04.2**	**-0.1**
	20nm,0.2s						
CABF	**La Chapelle**	**0.92**	**119**	ePn	**Pg**	**08 00 52.7**	**+0.4**
CABF				ePg	**Pb**	**08 00 53.6**	**+0.9**
CABF				eSn	**Sg**	**08 01 04.2**	**-0.1**
CABF	**La Chapelle**	**0.92**	**119**	ePg	**Pb**	**08 00 53.6**	**+0.9**
CABF				eSn	**Sg**	**08 01 04.2**	**-0.1**
	9.9nm,0.2s						
SSF	**Saint Saulge**	**0.97**	**271**	ePg	**Pg**	**08 00 54.1**	**+0.8**
SSF				eSn	**Sg**	**08 01 05.2**	**-0.7**
SSF				eSg	**Sg**	**08 01 06.7**	**+0.8**
	18nm,0.3s						
SSF	**Saint Saulge**	**0.97**	**271**	ePn	**Pn**	**08 00 53.0**	**-1.3**
SSF				ePg	**Pg**	**08 00 54.1**	**+0.8**
SSF				eSn	**Sg**	**08 01 05.2**	**-0.7**
SSF				eSg	**Sg**	**08 01 06.7**	**+0.8**
SSF	**Saint Saulge**	**0.97**	**271**	ePg	**Pg**	**08 00 54.1**	**+0.8**
SSF				eSn	**Sg**	**08 01 05.2**	**-0.7**
SSF				eSg	**Sg**	**08 01 06.7**	**+0.8**
	9.1nm,0.3s						
OG05	**Jujurieux**	**1.08**	**160**	Pg	**Pg**	**08 00 55.9**	**+0.4**
OG05				Sg	**Sg**	**08 01 10.3**	**+0.7**
AVF	**Avril sur Loir**	**1.11**	**257**	ePg	**Pg**	**08 00 56.4**	**+0.4**
AVF		

TCF	**Toulx Ste Croi**	**2.02**	**249**	*e*Pg		**Pg**		**08 01 13.5**	**+0.1**
TCF				*e*Sg		**Sg**		**08 01 39.7**	**+0.1**
3.6nm,0.2s									
TCF	**Toulx Ste Croi**	**2.02**	**249**	*e*Pn		**Pn**		**08 01 07.1**	**-1.7**
TCF				*e*Pg		**Pg**		**08 01 13.5**	**+0.1**
TCF				*e*Sg		**Sg**		**08 01 39.7**	**+0.1**
TCF	**Toulx Ste Croi**	**2.02**	**249**	*e*Pg		**Pg**		**08 01 13.5**	**+0.1**
TCF				*e*Sg		**Sg**		**08 01 39.7**	**+0.1**
1.8nm,0.2s									
CDF	**Champ du Feu**	**2.09**	**49**	*e*Pg		**Pg**		**08 01 14.7**	**0.0**
CDF				*e*Sg		**Sg**		**08 01 41.6**	**-0.2**
5.2nm,0.3s									
CDF	**Champ du Feu**	**2.09**	**49**	*e*Pn		**Pn**		**08 01 08.0**	**-1.7**
CDF				*e*Pg		**Pg**		**08 01 14.7**	**0.0**
CDF				*e*Sg		**Sg**		**08 01 41.6**	**-0.2**
CDF	**Champ du Feu**	**2.09**	**49**	*e*Pg		**Pg**		**08 01 14.7**	**0.0**
CDF				*e*Sg		**Sg**		**08 01 41.6**	**-0.2**
2.6nm,0.3s									
LBL	**Lubilhac**	**2.17**	**213**	Pn		**Pn**		**08 01 17.0**	**+6.2**
LBL				Sg		**Sg**		**08 01 42.9**	**-1.4**
VIVF	**Saint-Julien-l**	**2.21**	**185**	*e*Sn		**Sn**		**08 01 35.3**	**-3.4**
5.2nm,0.2s									
VIVF	**Saint-Julien-l**	**2.21**	**185**	*e*Sn		**Sn**		**08 01 35.3**	**-3.4**
2.6nm,0.2s									
ORIF	**Oris-en-Rattie**	**2.24**	**162**	*e*Sg		**Sg**		**08 01 47.1**	**+0.4**
4.0nm,0.3s									
ORIF	**Oris-en-Rattie**	**2.24**	**162**	*e*Sg		**Sg**		**08 01 47.1**	**+0.4**
2.0nm,0.3s									

*ISCJB **18** 08:07:10.8±1.3,174S±04×1790W±02,h512km±20km, mb3.7/7,Error ellipse: s-maj=68.9km s-min=12.8km az=121.8*
*IDC **18** 08:07:11.7±2.0,1733S×17898W,h510km±27km,mb3.3/7, mb1 3.6/9,mb1mx3.4/17,mbtmp3.3/9,Error ellipse: s-maj=86.4km s-min=13.2km az=152.0*
ISC 18 08:07:11.9±1.2,174S±04×1789W±02,h512km±18km,n17, σ0555/14,mb3.7/7,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**64**	P		**P**	**08 09 05.3**	**-0.3**
4.3nm,0.3s,baz=115,slow=22,SNR=7.8							
DZM	**Mont Dzumac**	**14.54**	**249**	P		**P**	**08 10 17.4**	**+0.4**
0.3nm,0.3s,baz=94,slow=17,SNR=5.4							
ARMA	**Armidale**	**29.78**	**239**	*e*P		**P**	**08 12 37.0**	**+0.5**
CNB	**Canberra Magne**	**33.36**	**231**	*e*P		**P**	**08 13 07.0**	**-0.1**
STKA	**Stephens Creek**	**38.45**	**240**	⇓*i*P		**P**	**08 13 49.4**	**0.0**
STKA	**Stephens Creek**	**38.45**	**240**	P		**P**	**08 13 49.5**	**+0.1**
3.5nm,0.5s,mb4.2,baz=94,slow=8.6,SNR=20							
WRA	**Warramunga Arr**	**44.24**	**259**	P		**P**	**08 14 34.9**	**-0.4**
1.0nm,0.6s,mb3.6,baz=95,slow=7.3,SNR=24							
ASAR	**Alice Springs**	**44.46**	**254**	P		**P**	**08 14 36.9**	**-0.1**
12nm,0.6s,mb4.6,baz=88,slow=8.1,SNR=256							
KAKA	**Kakadu**	**47.10**	**269**	*e*P		**P**	**08 14 57.6**	**+0.5**
FORT	**Forrest**	**49.78**	**244**	*e*P		**P**	**08 15 16.2**	**-0.9**
NVAR	**Mina Array Bea**	**79.39**	**44**	P		**P**	**08 18 25.4**	**+0.9**
0.7nm,0.6s,mb3.2,baz=228,slow=9.0,SNR=6.7							
TXAR	**Lajitas Array**	**86.14**	**58**	P		**P**	**08 18 59.1**	**+0.7**
0.7nm,0.7s,mb3.4,baz=220,slow=6.5,SNR=10							
PDAR	**Pinedale Array**	**87.31**	**44**	P		**P**	**08 19 03.4**	**-0.6**
0.6nm,0.6s,mb3.4,baz=213,slow=2.8,SNR=6.3							
YKA	**Yellowknife Ar**	**94.06**	**25**	P		**P**	**08 19 34.5**	**-0.6**
0.4nm,0.8s,mb3.6,baz=243,slow=4.3,SNR=3.8							
MKAR	**Makanchi Array**	**108.41**	**314**	PKiKP	PKiKP		08 24 40.2	-1.7
0.2nm,0.5s,baz=180,slow=1.4,SNR=2.6							
BRTR	**Keskin Array B**	**144.06**	**315**	PKP	PKPdf		08 25 47.2	-1.7
0.4nm,0.4s,baz=123,slow=2.2,SNR=3.7							
GERES	**GERESS Array B**	**146.98**	**345**	PKPbc	PKPbc		08 25 57.2	+0.4
0.6nm,0.4s,baz=38,slow=2.4,SNR=5.4							

PLV 18 08:11:50.7±1.2,2132N×10734E,h0km±999km,ML2.5, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLV	**Phu-Lien**	**0.83**	**233**	*e*SG	Sg	08 12 17.3	-0.2
MTZV	**Met**	**0.95**	**284**	*e*PG	Pg	08 12 14.3	+5.3
MTZV				*e*SG	Sg	08 12 29.2	+7.8
HNV	**Hanoi**	**1.46**	**260**	*e*Pg	Pg	08 12 21.4	+2.7
HNV				*e*SG	Sg	08 12 42.5	+4.9
HNV	**Hanoi**	**1.46**	**260**	*e*SG	Sg	08 12 42.3	+4.7
DSV	**Doi Son**	**1.47**	**241**	*e*Pg	Pg	08 12 19.1	+0.3
DSV				*e*SG	Sg	08 12 38.0	+0.1
DSV				*e*		08 12 45.4	
comp=Z,63nm,0.3s							
DSV	**Doi Son**	**1.47**	**241**	*e*PG	Pg	08 12 19.8	+1.0
DSV				*e*SG	Sg	08 12 36.2	-1.6
DSV				*e*		08 12 45.4	
comp=Z,63nm,0.3s							
BVV	**Ba Vi**	**1.85**	**264**	*e*Pg	Pg	08 12 25.8	-0.3
BVV				*e*Sg	Sg	08 12 50.0	-0.1
BVV	**Ba Vi**	**1.85**	**264**	*e*PG	Pg	08 12 27.6	+1.5
BVV				*e*SG	Sg	08 12 51.5	+1.4

*NEIC **18** 08:42:24.3,3662N×8.12W,h20km,MN2.7(MDD),After MDD.*
*CSEM **18** 08:42:25.3±0.2,3672N×795W,h10km,ML3.3/29,Error ellipse: s-maj=4.9km s-min=2.5km az=41.0*
*INMG **18** 08:42:25.6±1.1,3666N×8024W,h16km±2km,ML2.5,Error ellipse: s-maj=3.9km s-min=2.0km az=54.0*
MDD 18 08:42:24.1±1.5,3661N×809W,h19km±5km,mbLg2.9/8, 5C-1D,Error ellipse: s-maj=11.1km s-min=6.2km az=46.0,PRXIMO,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**1.01**	**41**	⇑Pg	Pg	08 42 42.1	-1.7
SNR=18							
ERIP				Lg		08 42 57.6	
74nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**1.04**	**28**	⇑Pn	Pn	08 42 42.6	-1.1
EGRO				Pg	Pg	08 42 43.6	-0.8
EGRO				Sn	Sn	08 42 55.9	-1.8
EGRO				Lg		08 42 57.1	
EGRO	**El Granado**	**1.04**	**28**	⇑Pg	Pg	08 42 42.6	-1.8
9.9nm,0.1s,SNR=18							
EGRO				Lg		08 42 56.8	
142nm,0.1s,SNR=14							
EGRO	**El Granado**	**1.04**	**28**	Pn	Pn	08 42 42.6	-1.1
5.0nm,0.1s,SNR=18							
EGRO	**El Granado**	**1.04**	**28**	Pg	Pg	08 42 43.6	-0.8
8.9nm,0.1s,SNR=46							
EGRO				Sn	Sn	08 42 55.9	-1.9
35nm,0.1s,SNR=7.9							
PBEJ	**Beja**	**1.43**	**7**	*e*S	Sn	08 43 05.8	-1.4
PBEJ				A		08 43 11.5	
40nm,0.1s							
PBEJ	**Beja**	**1.43**	**7**	S	Sn	08 43 05.8	-1.4
20nm,0.1s							
EMIN	**Mina Concepcio**	**1.62**	**44**	Pn	Pn	08 42 50.2	-1.4
EMIN				Pg	Pg	08 42 52.6	-2.7
EMIN				Sn	Sn	08 43 10.7	-1.2
EMIN				Lg		08 43 15.2	
EMIN	**Mina Concepcio**	**1.62**	**44**	Pn	Pn	08 42 50.2	-1.4
0.9nm,0.1s,SNR=19							
EMIN				Pg	Pg	08 42 52.6	-2.7
3.2nm,0.2s,SNR=7.9							
EMIN				Lg		08 43 14.9	
28nm,0.2s,SNR=15							
EMIN	**Mina Concepcio**	**1.62**	**44**	Pn	Pn	08 42 50.2	-1.4
0.9nm,0.1s,SNR=19							
EMIN	**Mina Concepcio**	**1.62**	**44**	Pg	Pg	08 42 52.6	-2.7
3.2nm,0.2s,SNR=7.9							
EMIN				Sn	Sn	08 43 10.7	-1.3
4.2nm,0.1s,SNR=7.9							
ESPR	**Espera**	**1.81**	**81**	Pn	Pn	08 42 53.4	-0.9
ESPR				Pg	Pg	08 42 57.2	-1.8
ESPR				Sn	Sn	08 43 14.7	-2.1
ESPR				Lg		08 43 20.3	
ESPR	**Espera**	**1.81**	**81**	Pn	Pn	08 42 53.4	-0.9
7.5nm,0.2s,SNR=7.9							
ESPR				Sn	Sn	08 43 14.7	-2.1
74nm,0.3s,SNR=7.9							
ESPR	**Espera**	**1.81**	**81**	Pn	Pn	08 42 53.4	-0.9
7.5nm,0.2s,SNR=7.9							
ESPR	**Espera**	**1.81**	**81**	Pg	Pg	08 42 57.2	-1.8
6.6nm,0.1s,SNR=6.6							
ESPR				Sn	Sn	08 43 14.7	-2.0
72nm,0.3s,SNR=7.9							
MOE	**Montemor**	**1.92**	**354**	*e*P	Pn	08 42 55.9	+0.1
MOE				*e*S	Sn	08 43 17.8	-1.6
EJIF	**Jimena Fronter**	**2.12**	**93**	Pn	Pn	08 42 58.3	-0.2
EJIF				Pg	Pg	08 43 02.4	-2.4
EJIF				Sn	Sn	08 43 23.1	-1.2
EJIF				Lg		08 43 30.8	
EJIF	**Jimena Fronter**	**2.12**	**93**	Pn	Pn	08 42 57.9	-0.6
1.4nm,0.2s,SNR=7.9							
EJIF				Sn	Sn	08 43 23.1	-1.2
2.8nm,0.2s,SNR=7.9							
EJIF				Lg		08 43 30.8	
2.2nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**2.12**	**93**	Pn	Pn	08 42 58.3	-0.2
1.4nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**2.12**	**93**	Pg	Pg	08 43 02.4	-2.4
0.6nm,0.1s,SNR=7.9							
EJIF				Sn	Sn	08 43 23.1	-1.1
2.8nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**2.29**	**10**	*e*Pn	Pn	08 43 00.5	-0.4
PESTR				*e*Sn	Sn	08 43 26.6	-1.9
PESTR				A		08 43 39.0	
19nm,0.2s							
PESTR	**Estremoz**	**2.29**	**10**	*e*Pn	Pn	08 43 00.5	-0.4
PESTR				*e*Sn	Sn	08 43 26.6	-1.9
19nm,0.2s							
EBAD	**Badajoz**	**2.31**	**21**	Pn	Pn	08 42 59.8	-1.3
EBAD				Pg	Pg	08 43 05.1	-3.3
EBAD				Sn	Sn	08 43 27.7	-1.3
EBAD				Lg		08 43 36.3	
EBAD	**Badajoz**	**2.31**	**21**	Pn	Pn	08 42 60.0	-1.1
4.2nm,0.1s,SNR=20							
EBAD				Sn	Sn	08 43 26.8	-2.1
7.2nm,0.1s,SNR=7.9							
EBAD				Lg		08 43 36.3	
20nm,0.1s,SNR=7.6							
EBAD	**Badajoz**	**2.31**	**21**	Pn	Pn	08 42 59.8	-1.3
4.2nm,0.1s,SNR=20							
EBAD	**Badajoz**	**2.31**	**21**	Pg	Pg	08 43 05.1	-3.3
3.8nm,0.1s,SNR=7.9							
EBAD				Sn	Sn	08 43 27.7	-1.3
6.4nm,0.1s,SNR=7.9							
PLOU	**Loures**	**2.42**	**340**	*e*Sn	Sn	08 43 30.7	-1.1
PLOU				A		08 43 45.3	
39nm,0.3s							
PLOU	**Loures**	**2.42**	**340**	*e*Sn	Sn	08 43 30.7	-1.1
39nm,0.3s							
PMAFR	**Mafra**	**2.53**	**338**	*e*Pn	Pn	08 43 03.9	-0.2
PMAFR				*e*Sn	Sn	08 43 32.6	-1.8
PMAFR				A		08 43 48.9	
35nm,0.3s							
PMAFR	**Mafra**	**2.53**	**338**	*e*Pn	Pn	08 43 03.9	-0.2
PMAFR				*e*Sn	Sn	08 43 32.6	-1.8
35nm,0.3s							
EMIJ	**Mijas**	**2.67**	**90**	Pn	Pn	08 43 05.5	-0.5
EMIJ				Sn	Sn	08 43 36.0	-1.9
EMIJ				Lg		08 43 47.9	
EMIJ	**Mijas**	**2.67**	**90**	Pn	Pn	08 43 05.5	-0.6
0.8nm,0.1s,SNR=7.9							
EMIJ				Sn	Sn	08 43 36.0	-1.9
2.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.20**	**60**	⇑Pn	Pn	08 43 12.4	-1.0
EADA				Sn	Sn	08 43 47.9	-3.1
EADA				Lg		08 44 03.0	
EADA	**Adamuz**	**3.20**	**60**	⇓Pn	Pn	08 43 12.3	-1.1
3.1nm,0.1s,SNR=18							
EADA				Sn	Sn	08 43 47.9	-3.1
8.4nm,0.1s,SNR=7.9							
EADA				Lg		08 44 02.9	
18nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.20**	**60**	Pn	Pn	08 43 12.4	-1.0
3.1nm,0.1s,SNR=18							
EADA				Sn	Sn	08 43 47.9	-3.1
8.4nm,0.1s,SNR=7.9							
ELUQ	**Luque**	**3.20**	**72**	Pn	Pn	08 43 13.2	-0.2
ELUQ				Sn	Sn	08 43 48.6	-2.4
ELUQ	**Luque**	**3.20**	**72**	Pn	Pn	08 43 13.2	-0.2
3.7nm,0.2s,SNR=7.9							
ELUQ				Sn	Sn	08 43 48.6	-2.4
4.5nm,0.2s,SNR=7.9							
ELOJ	**Sierra Loja**	**3.20**	**79**	Pn	Pn	08 43 13.3	-0.1
ELOJ				Sn	Sn	08 43 48.7	-2.3
ELOJ	**Sierra Loja**	**3.20**	**79**	Pn	Pn	08 43 13.3	-0.1
1.5nm,0.1s,SNR=7.9							
ELOJ				Sn	Sn	08 43 48.7	-2.3
1.6nm,0.2s,SNR=7.9							
PCBR	**Castelo Branco**	**3.26**	**8**	*e*Pn	Pn	08 43 14.0	-0.2
PCBR				*e*Sn	Sn	08 43 49.7	-2.8
PCBR				*e*Sg	Sg	08 44 04.6	-4.4
PCBR				A		08 44 11.0	
8.5nm,0.4s							
PCBR	**Castelo Branco**	**3.26**	**8**	*e*Pn	Pn	08 43 14.0	-0.2
PCBR				*e*Sn	Sn	08 43 49.7	-2.8
PCBR				*e*Sg	Sg	08 44 04.6	-4.4
8.5nm,0.4s							
ECOG	**Cogollos-Vega**	**3.69**	**78**	Pn	Pn	08 43 19.7	-0.3
ECOG				Sn	Sn	08 43 59.7	-3.3
ECOG	**Cogollos-Vega**	**3.69**	**78**	Pn	Pn	08 43 19.7	-0.3
1.4nm,0.1s,SNR=7.9							
ECOG				Sn	Sn	08 43 59.7	-3.2
3.4nm,0.3s,SNR=7.9							
EBAN	**Banos Encina**	**3.76**	**64**	Pn	Pn	08 43 19.7	-1.4
EBAN				Sn	Sn	08 44 01.4	-3.5
EBAN	**Banos Encina**	**3.76**	**64**	⇑Pn	Pn	08 43 19.7	-1.4
4.6nm,0.1s,SNR=18							
EBAN				Sn	Sn	08 43 59.6	-5.2
5.8nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**3.76**	**64**	Pn	Pn	08 43 19.7	-1.4
4.6nm,0.1s,SNR=7.9							
EBAN				Sn	Sn	08 44 01.4	-3.5
5.8nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**3.77**	**80**	Pn	Pn	08 43 21.0	-0.3
0.5nm,0.1s,SNR=5.7							
EQUE				Sn	Sn	08 44 03.3	-1.8
1.6nm,0.2s,SNR=7.9							
MTE	**Manteigas**	**3.81**	**6**	*e*Sn	Sn	08 44 02.8	-3.2
MTE				A		08 44 32.3	
14nm,0.5s							
MTE	**Manteigas**	**3.81**	**6**	*e*Sn	Sn	08 44 02.8	-3.2
14nm,0.5s							
PVIS	**Viseu**	**4.10**	**2**	*e*S	Sn	08 44 08.9	-4.4
EQES	**Quesada**	**4.18**	**72**	Pn	Pn	08 43 26.9	+0.1
EQES				Pg	Pg	08 43 37.9	-6.3
EQES				Sn	Sn	08 44 12.2	-3.0
EQES	**Quesada**	**4.18**	**72**	Pn	Pn	08 43 26.2	-0.7
1.0nm,0.1s,SNR=4.0							
EQES				Sn	Sn	08 44 12.2	-3.0
27nm,1.3s,SNR=7.9							
EQES	**Quesada**	**4.18**	**72**	Pn	Pn	08 43 26.9	+0.1
1.0nm,0.1s,SNR=7.9							
EQES	**Quesada**	**4.18**	**72**	Pg	Pg	08 43 37.9	-6.3
0.8nm,0.1s,SNR=7.9							
EQES				Sn	Sn	08 44 12.2	-3.0
27nm,1.3s,SNR=7.9							
EBER	**Berja**	**4.19**	**84**	Sn	Sn	08 44 13.1	-2.2
7.6nm,0.4s,SNR=7.9							
ESDC	**Sonseca Array**	**4.47**	**45**	Pn	Pn	08 43 29.6	-1.2
ESDC				Pg	Pg	08 43 42.7	-7.0
ESDC				Sn	Sn	08 44 18.5	-3.7
ESDC				Lg		08 44 41.1	
ESDC	**Sonseca Array**	**4.47**	**45**	Pn	Pn	08 43 29.6	-1.2
2.5nm,0.1s,SNR=3.5							
ESDC	**Sonseca Array**	**4.47**	**45**	Pg	Pg	08 43 42.7	-7.0
1.9nm,0.1s,SNR=7.9							
ESDC				Sn	Sn	08 44 18.5	-3.7
2.3nm,0.4s,SNR=3.8							
EHUE	**Huescar**	**4.55**	**73**	Pn	Pn	08 43 31.6	-0.3
EHUE				Sn	Sn	08 44 20.1	-4.2
EHUE	**Huescar**	**4.55**	**73**	Pn	Pn	08 43 30.5	-1.4
0.3nm,0.1s,SNR=4.0							
EHUE				Sn	Sn	08 44 20.1	-4.2
1.0nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**4.55**	**73**	Pn	Pn	08 43 31.6	-0.3
0.3nm,0.1s,SNR=7.9							
EHUE				Sn	Sn	08 44 20.1	-4.2
1.0nm,0.1s,SNR=7.9							
PVRL	**Vila Real**	**4.67**	**3**	*e*S	Sn	08 44 22.4	-4.8
EVIA	**Vianos**	**4.88**	**64**	Pn	Pn	08 43 34.9	-1.6
1.9nm,0.1s,SNR=7.9							
EVIA				Sn	Sn	08 44 27.8	-4.6
2.3nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.25**	**0**	Pn	Pn	08 43 41.1	-0.4
ELOB				Sn	Sn	08 44 36.8	-4.8
ELOB				Lg		08 45 04.8	
ELOB	**Lobios**	**5.25**	**0**	Pn	Pn	08 43 41.1	-0.5
0.2nm,0.1s,SNR=4.9							
ELOB				Sn	Sn	08 44 36.8	-4.8
2.1nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**5.29**	**11**	*e*S	Sn	08 44 38.3	-4.3
ECAL	**Calabor**	**5.43**	**11**	Pn	Pn	08 43 42.6	-1.4
ECAL				Sn	Sn	08 44 41.1	-4.8
ECAL				Lg		08 45 10.3	
ECAL	**Calabor**	**5.43**	**11**	Pn	Pn	08 43 43.3	-0.7
2.2nm,0.2s,SNR=7.9							
ECAL				Sn	Sn	08 44 41.1	-4.8
2.6nm,0.2s,SNR=7.9							
ECAL				Lg		08 45 13.7	
2.6nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.43**	**11**	Pn	Pn	08 43 42.6	-1.4
2.2nm,0.2s,SNR=7.9							
ECAL				Sn	Sn	08 44 41.1	-4.8
2.6nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.58**	**67**	Pn	Pn	08 43 44.3	-1.7
ETOB				Sn	Sn	08 44 45.0	-4.6
ETOB				Lg		08 45 16.4	
ETOB	**Tobarra**	**5.58**	**67**	Pn	Pn	08 43 44.3	-1.7
0.3nm,0.1s,SNR=7.9							
ETOB				Sn	Sn	08 44 45.0	-4.6
2.4nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.58**	**67**	Pn	Pn	08 43 44.3	-1.7
0.3nm,0.1s,SNR=7.9							
ETOB				Sn	Sn	08 44 45.0	-4.6
2.4nm,0.2s,SNR=7.9							
ETOR	**Torete**	**6.32**	**46**	Pn	Pn	08 43 55.4	-0.8
5.8nm,0.1s,SNR=18							
ETOR				Sn	Sn	08 45 02.2	-5.7
4.3nm,0.2s,SNR=7.9							
ECHE	**Chera**	**6.36**	**60**	Pn	Pn	08 43 55.6	-1.1
ECHE				Sn	Sn	08 45 04.1	-4.7
ECHE	**Chera**	**6.36**	**60**	Pn	Pn	08 43 55.6	-1.2
0.2nm,0.1s,SNR=7.9							
ECHE				Sn	Sn	08 45 04.1	-4.7
2.0nm,0.4s,SNR=7.9							
EMAZ	**Mazaricos**	**6.37**	**354**	Pn	Pn	08 43 56.5	-0.4
EMAZ				Sn	Sn	08 45 03.6	-5.5
EMAZ	**Mazaricos**	**6.37**	**354**	Pn	Pn	08 43 56.5	-0.4
0.5nm,0.1s,SNR=7.9							
EMAZ				Sn	Sn	08 45 03.6	-5.5
1.4nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**7.05**	**56**	Pn	Pn	08 44 06.6	+0.3
EMOS				Sn	Sn	08 45 20.7	-5.2
EMOS	**Mosqueruela**	**7.05**	**56**	Pn	Pn	08 44 06.6	+0.3
0.2nm,0.1s,SNR=4.0							
EMOS	**Mosqueruela**	**7.05**	**56**	Pn	Pn	08 44 06.6	+0.3
0.2nm,0.1s,SNR=7.9							
EMOS				Sn	Sn	08 45 20.7	-5.2
2.5nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**8.78**	**44**	Pn	Pn	08 44 29.9	-0.2
1.0nm,0.1s,SNR=6.7							
EBIE	**Bielsa**	**8.78**	**44**	Pn	Pn	08 44 29.9	-0.1
1.0nm,0.1s,SNR=6.7							

IDC 18 09:01:39.5±1.7,311N×12894E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.7/18,mbtmp3.8/5,Error ellipse: s-maj=96.3km s-min=21.7km az=70.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.33**	**189**	*e*P	P	09 06 30.1	+2.1
FITZ	**Fitzroy Crossi**	**21.33**	**189**	P	P	09 06 29.7	+1.7
0.8nm,0.4s,baz=16,slow=11,SNR=4.3							
WRA	**Warramunga Arr**	**23.51**	**167**	P	P	09 06 51.3	+0.1
0.9nm,0.3s,baz=345,slow=10,SNR=31							
WB2	**Warramunga Arr**	**23.52**	**167**	*e*P	P	09 06 52.8	+1.5
ASAR	**Alice Springs**	**27.05**	**170**	P	P	09 07 22.9	-0.6
0.6nm,0.3s,baz=347,slow=8.1,SNR=20							
ASAR				pP		09 07 47.0	
0.4nm,0.5s,baz=337,slow=9.4,SNR=2.9							
STKA	**Stephens Creek**	**36.81**	**162**	P	P	09 08 49.0	0.0
0.9nm,0.5s,baz=342,slow=6.4,SNR=4.4							
MKAR	**Makanchi Array**	**59.33**	**324**	P	P	09 11 43.6	+0.5
0.5nm,0.4s,baz=118,slow=8.4,SNR=12							

CASC 18 09:01:58.1±2.9,864N×8319W,h12km±6km,MD4.0,5C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.02**	**55**	⇑*i*P	Pg	09 02 00.6	+0.3
ACR				*e*S	Sg	09 02 03.5	+1.8
BRU2	**Volcan**	**0.52**	**73**	⇓*i*P	Pg	09 02 07.8	-0.4
BRU2				*e*S	Sg	09 02 16.9	+1.9
BRU	**Baru**	**0.64**	**75**	⇓*i*P	Pg	09 02 10.4	-0.2
DVD	**David**	**0.76**	**105**	*e*P	Pg	09 02 11.5	-1.3
CNI	**Changuinola**	**1.02**	**41**	⇓*i*P	Pb	09 02 16.2	-1.4
BUS	**Buena Vista**	**1.07**	**328**	*e*P	Pb	09 02 16.4	-2.1
BUS				*e*P		09 02 16.4	
LCR2	**La Lucha 2**	**1.36**	**324**	⇑*e*P	Pn	09 02 20.6	-2.3
LCR2				*e*P		09 02 20.4	
LCR2				*e*S	Sb	09 02 41.0	+0.1
ICR	**Volcan Irazu**	**1.48**	**335**	*e*P	Pn	09 02 23.8	-0.7
LAJ	**Bijagual**	**1.53**	**323**	⇑*e*P	Pn	09 02 26.3	+1.1
LAJ				*e*P		09 02 26.3	
SJS	**Escuela Geolog**	**1.55**	**327**	*e*P	Pn	09 02 26.1	+0.6
SJS				*e*S	Sn	09 02 46.7	+1.2
PRS1	**Puriscal**	**1.74**	**320**	*e*P	Pn	09 02 26.0	-2.0
PRS1				*e*P		09 02 26.1	
**CGA

50nm,0.6s,mb5.3,baz=94,slow=5.0,SNR=2.9
CTA Charters Tower 31.23 271 ⇓*iP* **P 09 36 39.5 +0.8**
CTA Charters Tower 31.23 271 P **P 09 36 39.9 +1.2**
33nm,0.3s,mb5.3,baz=95,slow=11,SNR=68
CTAO Charters Tower 31.23 271 *eP* **P 09 36 39.9 +1.2**
20nm,0.3s,mb5.1
STKA Stephens Creek 34.34 249 ⇓*iP* **P 09 37 06.4 +1.4**
STKA Stephens Creek 34.34 249 P **P 09 37 06.5 +1.5**
1.5nm,0.4s,mb3.9,baz=100,slow=8.4,SNR=11
PMG Port Moresby 34.39 290 P **P 09 37 05.7 +0.3**
28nm,0.6s,mb5.0,baz=104,slow=4.8,SNR=11
PMG Port Moresby 34.39 290 *eP* **P 09 37 05.4 -0.1**
24nm,0.6s,mb4.9
ASAR Alice Springs 41.72 261 P **P 09 38 05.8 +0.7**
4.0nm,0.4s,mb4.3,baz=94,slow=7.4,SNR=122
ASAR S ScP ScP 09 42 53.1 +3.8
2.0nm,0.9s,baz=113,slow=4.3,SNR=9.7
ASAR S **S 09 43 44.0 0.0**
0.4nm,0.6s,baz=96,slow=17,SNR=4.4
WB2 Warramunga Arr 42.12 267 ⇓*iP* **P 09 38 08.1 -0.2**
WB2 *e* 09 42 55.0
WB2 *e*S **S 09 43 47.6 -2.1**
WRA Warramunga Arr 42.13 267 P **P 09 38 08.3 0.0**
14nm,0.5s,mb4.7,baz=103,slow=8.2,SNR=129
WRA S ScP ScP 09 42 54.8 +3.8
2.0nm,0.7s,baz=101,slow=3.8,SNR=13
WRA S **S 09 43 48.1 -1.8**
0.5nm,0.7s,baz=100,slow=13,SNR=5.3
FORT Forrest 45.93 250 *eP* **P 09 38 37.9 +0.1**
KAKA Kakadu 46.09 276 ⇓*iP* **P 09 38 38.6 -0.4**
FITZ Fitzroy Crossi 50.55 266 ⇓*iP* **P 09 39 12.7 +0.5**
GUMO Guam 50.77 314 P **P 09 39 12.8 -1.0**
43nm,0.5s,mb5.1,baz=160,slow=7.5,SNR=2.9
VNDA Vanda 53.96 185 P **P 09 39 38.1 +1.4**
0.8nm,0.8s,baz=16,slow=7.6,SNR=3.4
VNDA S ScP ScP 09 43 42.0 +0.8
0.9nm,0.9s,baz=310,slow=3.2,SNR=4.0
VNDA Vanda 53.96 185 P **P 09 39 38.1 +1.4**
VNDA S ScP ScP 09 43 42.0 +0.8
KLBR Kellerberrin 54.60 248 ⇓*iP* **P 09 39 41.4 +0.2**
QSPA South Pole Qui 65.78 180 *eP* **P 09 40 56.7 +1.4**
6.7nm,0.7s,mb4.3
MJAR Matsushiro Arr 72.08 326 P **P 09 41 32.1 -1.2**
5.2nm,0.8s,mb4.0,baz=162,slow=5.5,SNR=12
MAJO Matsushiro 72.09 326 *eP* **P 09 41 32.3 -1.0**
ASAJ Asahikawa 76.11 333 P **P 09 41 57.1 +1.1**
6.3nm,0.7s,mb4.2,baz=263,slow=8.1,SNR=3.1
KSRS Korea Array 78.39 320 P **P 09 42 08.6 +0.1**
2.8nm,0.7s,mb3.7,baz=136,slow=6.3,SNR=12
NVAR Mina Array Bea 85.22 44 P **P 09 42 42.6 -0.7**
0.4nm,0.7s,baz=218,slow=6.9,SNR=3.2
TXAR Lajitas Array 90.86 58 P **P 09 43 10.3 +0.6**
1.2nm,0.7s,mb3.9,baz=212,slow=6.2,SNR=17
TXAR Lajitas Array 90.86 58 P **P 09 43 10.3 +0.6**
MKAR Makanchi Array 112.24 313 PKiKP PKiKP 09 48 36.8 -1.4
0.3nm,0.6s,baz=110,slow=1.2,SNR=4.8
BVAR Borovoye Array 120.57 319 PKP PKPdf 09 48 52.7 -1.5
0.9nm,0.5s,baz=281,slow=0.8,SNR=6.7
AKTK Aktyubinsk 128.41 316 PKP PKPdf 09 49 08.8 -0.4
AKTO Aktyubinsk 128.41 316 PKP PKPdf 09 49 08.8 -0.4
0.3nm,0.3s,baz=99,slow=3.3,SNR=5.2
ARCES ARCESS Array B 132.23 348 PKP PKPdf 09 49 15.7 -0.8
3.4nm,0.8s,baz=76,slow=3.8,SNR=3.9
FINES FINESS Array B 138.75 341 PKhKP 09 49 19.9
0.5nm,0.4s,baz=27,slow=1.9,SNR=3.8
FINES PKP PKPdf 09 49 28.2 -0.3
1.9nm,0.9s,baz=64,slow=3.2,SNR=3.5
FINES SKPbc SKPbc 09 52 13.5 -0.3
4.3nm,0.9s,baz=61,slow=4.5,SNR=6.4
FINES FINESS Array B 138.75 341 PKP PKPdf 09 49 19.9 -8.7
FINES PKP PKPdf 09 49 28.2 -0.3
FINES SKPbc SKPbc 09 52 13.5 -0.3
NOA NORSAR Array B 142.44 351 PKhKP 09 49 27.4
1.2nm,0.8s,baz=16,slow=4.6,SNR=3.2
AKASG Malin Array Be 145.17 327 PKP PKPdf 09 49 39.2 -0.7
1.7nm,0.3s,baz=41,slow=4.1,SNR=15
AKASG SKPbc SKPbc 09 52 30.2 +0.5
0.1nm,0.3s,baz=43,slow=2.2,SNR=5.5
AKASG Malin Array Be 145.17 327 PKP PKPdf 09 49 39.2 -0.7
AKASG SKPbc SKPbc 09 52 30.2 +0.5
AKBB Malin Array Si 145.17 327 *e*PKPdf PKPdf 09 49 38.8 -1.1
KIEV Kiev 145.18 327 *e*PKPdf PKPdf 09 49 38.8 -1.1
BRTR Keskin Array B 147.62 307 PKPbc PKPbc 09 49 47.0 -0.5
2.6nm,0.6s,baz=142,slow=3.9,SNR=8.9
CLL Collm 151.16 343 ⇑*i*PKPdf PKPdf 09 49 55.5 +5.9
CLL Collm 151.16 343 ⇑*i*PKPbc PKPbc 09 49 55.5 -0.6
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 151.29 341 *eP* PKPdf 09 49 55.7 +5.9
comp=Z,3.8nm,0.9s
BRG *e* 09 50 05.8
comp=Z,3.7nm,1.0s
GERES GERESS Array B 153.15 339 PKPbc PKPbc 09 50 01.9 +1.5
comp=Z,0.2nm,0.3s,baz=264,slow=2.9,SNR=3.5
GERES PKPab PKPab 09 50 13.6 -1.2
comp=Z,0.3nm,0.4s,baz=35,slow=4.9,SNR=4.3
TORD Torodi Ar. Bea 168.75 190 PKPab PKPab 09 51 23.9 +0.8
comp=Z,0.2nm,0.5s,baz=167,slow=3.1,SNR=4.6

*IDC **18** 09:43:17.6±0.9, 0.10N×9955E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/23, mbtmp4.0/12, ML3.7/1, MS3.8/10, Ms1 3.8/10, ms1mx3.3/36, Error ellipse: s-maj=43.3km s-min=14.1km az=58.0*
*ISCJB **18** 09:43:21.3±0.7, 02N±01×997E±02, h35km, mb4.2/15, MS3.8/9, Error ellipse: s-maj=29.3km s-min=8.6km az=119.7*
*NEIC **18** 09:43:23.7±0.7, 055N×10023E, h30km, mb4.2/1, Error ellipse: s-maj=30.6km s-min=9.4km az=58.0*
ISC 18 09:43:23.8±0.7, 03N±01×998E±02, h35km, n27, σ1§01/27, mb4.2/15, MS3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**341**	Pn		**Pn**	**09 44 02.3**	**-1.9**
	13nm,0.3s,baz=139,slow=13,SNR=63							
PSI				Sn		**Sn**	**09 44 34.4**	**-0.7**
	66nm,0.3s,baz=243,slow=22,SNR=11							
PSI				LR		LR	09 45 12.2	
	comp=Z,1μm,21.4s,baz=142,slow=43							
PSI	**Prapat**	**2.66**	**341**	Pn		**Pn**	**09 44 02.3**	**-1.9**
PSI				Sn		**Sn**	**09 44 34.4**	**-0.7**
KULM	**Kulim**	**5.06**	**10**	*e*Pn		**Pn**	**09 44 32.3**	**-4.8**
KULM				*e*Pg		**Pn**	**09 44 52.5**	**+15**
JIRN	**Jiri**	**30.20**	**336**	*eP*		**P**	**09 49 31.4**	**+0.6**
PKI	**Pulchoki**	**30.45**	**334**	*eP*		**P**	**09 49 34.2**	**+1.1**
GUN	**Gumba**	**30.55**	**335**	*eP*		**P**	**09 49 33.4**	**-0.5**
	18nm,0.6s,mb5.0							
DMN	**Daman**	**30.62**	**334**	*eP*		**P**	**09 49 35.5**	**+1.0**
KKN	**Kakani**	**30.70**	**334**	*eP*		**P**	**09 49 35.3**	**+0.1**
	11nm,0.6s,mb4.9							
GKN	**Gorkha**	**31.17**	**333**	*eP*		**P**	**09 49 39.6**	**+0.2**
KOLN	**Koldanda**	**31.45**	**332**	*eP*		**P**	**09 49 43.5**	**+1.7**
	8.7nm,0.8s,mb4.7							
NWAO	**Narrogin (SRO)**	**36.89**	**155**	LR		LR	10 03 44.8	
	comp=Z,229nm,20.1s,MS4.0,baz=154,slow=33							
WRA	**Warramunga Arr**	**39.35**	**123**	P		**P**	**09 50 49.2**	**-0.5**
	0.8nm,0.9s,mb3.5,baz=298,slow=8.9,SNR=4.4							
WRA				PcP		PcP	09 52 58.7	+1.0
	0.4nm,0.6s,baz=316,slow=2.5,SNR=5.1							
WRA				LR		LR	10 07 37.5	
	comp=Z,86nm,19.9s,MS3.6,baz=300,slow=37							
WRA	**Warramunga Arr**	**39.35**	**123**	P		**P**	**09 50 49.2**	**-0.5**
WRA				PcP		PcP	09 52 58.7	+1.0
ASAR	**Alice Springs**	**40.78**	**128**	P		**P**	**09 51 01.3**	**-0.3**
	0.6nm,0.7s,mb3.3,baz=301,slow=7.9,SNR=12							
ASAR				PcP		PcP	09 53 03.6	+1.3
	0.7nm,0.7s,baz=312,slow=2.4,SNR=11							
KSRS	**Korea Array**	**45.20**	**32**	P		**P**	**09 51 39.2**	**+1.9**
	2.3nm,0.9s,mb4.0,baz=225,slow=8.7,SNR=6.5							
KSRS				LR		LR	10 10 25.7	
	comp=Z,44nm,21.2s,MS3.4,baz=330,slow=36							
SONM	**Songino Array**	**47.72**	**6**	P		**P**	**09 51 56.8**	**-0.3**
	1.2nm,0.7s,mb4.1,baz=189,slow=9.0,SNR=11							
SONM				LR		LR	10 14 47.3	
	comp=Z,79nm,19.0s,MS3.7,baz=27,slow=39							
AAK	**Ala-Archa**	**47.91**	**335**	*eP*		**P**	**09 51 58.4**	**-0.1**
	2.3nm,0.9s,mb4.2							
MKAR	**Makanchi Array**	**48.80**	**344**	P		**P**	**09 52 03.8**	**-1.6**
	2.0nm,0.9s,mb4.2,baz=154,slow=8.6,SNR=14							
MKAR				LR		LR	10 16 34.9	
	comp=Z,56nm,18.8s,MS3.6,baz=350,slow=41							
STKA	**Stephens Creek**	**50.82**	**133**	P		**P**	**09 52 20.2**	**-0.6**
	0.9nm,0.5s,mb4.0,baz=294,slow=12,SNR=2.3							
STKA				LR		LR	10 13 39.8	
	comp=Z,116nm,21.5s,MS3.9,baz=207,slow=36							
ZAL	**Zalesovo**	**54.91**	**349**	P		**P**	**09 52 50.8**	**-0.2**
	3.2nm,0.5s,mb4.7,baz=298,slow=6.4,SNR=9.4							
BVAR	**Borovoye Array**	**58.00**	**340**	P		**P**	**09 53 13.3**	**+0.4**
	1.8nm,0.7s,mb4.2,baz=141,slow=9.2,SNR=10							
AKTK	**Aktyubinsk**	**61.28**	**331**	P		**P**	**09 53 36.6**	**+1.1**
AKTO	**Aktyubinsk**	**61.28**	**331**	P		**P**	**09 53 36.6**	**+1.1**
	1.1nm,0.7s,mb4.1,baz=143,slow=5.1,SNR=3.4							
BRTR	**Keskin Array B**	**71.65**	**312**	P		**P**	**09 54 39.6**	**-2.2**
	0.9nm,0.8s,mb3.8,baz=126,slow=8.3,SNR=4.6							
BRTR				LR		LR	10 27 13.5	
	comp=Z,318nm,20.1s,MS4.6,baz=139,slow=37							
FINES	**FINESS Array B**	**82.02**	**332**	LR		LR	10 38 10.7	
	comp=Z,36nm,19.6s,MS3.7,baz=159,slow=40							
ARCES	**ARCESS Array B**	**84.28**	**340**	P		**P**	**09 55 51.5**	**-0.5**
	4.4nm,0.9s,mb4.6,baz=123,slow=3.3,SNR=4.3							
ARCES				LR		LR	10 36 20.4	
	comp=Z,89nm,18.5s,MS4.2,baz=277,slow=38							
HFS	**Hagfors**	**87.81**	**330**	LR		LR	10 35 07.8	
	comp=Z,1.5nm,22.0s,baz=67,slow=35							

*HLW **18** 10:01:35.3, 31.13N×3499E, h3km, Mb3.1*
*GII **18** 10:01:37.5±0.2, 3086N×3500E, h0km±1km, ML2.9/10*
*ISCJB **18** 10:01:38.5±0.4, 3085N±002×3501E±004, h4km±4km, Error ellipse: s-maj=5.3km s-min=2.6km az=16.2*
ISC 18 10:01:39.1±0.3, 3086N±002×3501E±004, h7km±3km, n33, σ0§97/49, 6C-6D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.24**	**307**	Pg		**Pg**	**10 01 43.1**	**-0.6**
RMNI	**Mount Ramon**	**0.33**	**219**	Pg		**Pg**	**10 01 45.1**	**-0.4**
RMNI				Sg		**Sg**	**10 01 51.4**	**+1.5**
ZFRI	**Zfri**	**0.33**	**154**	Pg		**Pg**	**10 01 45.0**	**-0.5**
ZFRI				Sg		**Sg**	**10 01 49.7**	**-0.3**
RTMI	**Retamim**	**0.34**	**307**	Pg		**Pg**	**10 01 44.9**	**-0.7**
SVTA	**Shivta**	**0.34**	**283**	Pg		**Pg**	**10 01 45.1**	**-0.6**
PRNI	**Paran**	**0.50**	**180**	Pg		**Pg**	**10 01 48.2**	**-0.5**
PRNI				Sg		**Sg**	**10 01 57.0**	**+1.7**
YTIR	**Yattir**	**0.52**	**11**	Pg		**Pg**	**10 01 48.5**	**-0.6**
YTIR				Sg		**Sg**	**10 01 56.7**	**+1.0**
KZIT	**Kziot**	**0.53**	**276**	Pg		**Pg**	**10 01 48.5**	**-0.7**
KZIT				Sg		**Sg**	**10 01 57.1**	**+1.1**
MZDA	**Masada**	**0.55**	**34**	Pg		**Pg**	**10 01 49.1**	**-0.5**
MZDA				Sg		**Sg**	**10 01 57.7**	**+0.9**
AMAZ	**Amatzia**	**0.68**	**354**	Pg		**Pg**	**10 01 52.1**	**0.0**
AMAZ				Sg		**Sg**	**10 02 01.9**	**+0.9**
DSI	**Dead Sea**	**0.78**	**24**	Pg		**Pg**	**10 01 54.5**	**+0.4**
DRGI	**Dragot**	**0.81**	**24**	Pg		**Pg**	**10 01 54.0**	**-0.6**
HRFI	**Mount Harif**	**0.82**	**178**	Pg		**Pg**	**10 01 53.9**	**-0.8**
HRFI				Sg		**Sg**	**10 02 06.2**	**+0.9**
AQBJ	**Aqaba**	**1.12**	**178**	Pg		**Pg**	**10 02 00.3**	**-0.3**
EIL	**Elat**	**1.18**	**182**	Pg		**Pg**	**10 02 00.9**	**-0.9**
EIL				Sg		**Sg**	**10 02 17.8**	**+0.7**
HNKL	**Nakhl**	**1.28**	**224**	⇑P		**Pn**	**10 02 01.9**	**-1.5**
HNKL				S		**Sg**	**10 02 21.9**	**+1.7**
SLTI	**Sal'it**	**1.38**	**1**	Pn		**Pn**	**10 02 04.0**	**-0.8**
SLTI				Sn		**Sn**	**10 02 23.8**	**+0.5**
HMDT	**Nahal Hemdat**	**1.46**	**18**	Pn		**Pn**	**10 02 04.9**	**-1.0**
HMDT				Sn		**Sn**	**10 02 26.3**	**+1.0**
AMAG	**Maghara**	**1.56**	**263**	⇑*e*P		**Pn**	**10 02 03.8**	**-3.5**
AMAG	**Maghara**	**1.56**	**263**	⇑*e*P		**Pn**	**10 02 03.8**	**-3.5**
MMLI	**Mount Malkishu**	**1.62**	**13**	Pn		**Pn**	**10 02 07.2**	**-0.8**
MMLI				Sn		**Sn**	**10 02 30.2**	**+1.1**
HBST	**Basata**	**1.65**	**188**	⇓*iP*		**Pn**	**10 02 08.2**	**-0.3**
HBST				S		**Sn**	**10 02 32.1**	**+2.2**
HBST	**Basata**	**1.65**	**188**	⇓*iP*		**Pn**	**10 02 08.2**	**-0.3**
HBST				S		**Sn**	**10 02 32.1**	**+2.2**
OFRI	**'Ofer**	**1.76**	**359**	Pn		**Pn**	**10 02 09.4**	**-0.6**
OFRI				Sn		**Sn**	**10 02 34.7**	**+2.1**
SUZ		**2.13**	**242**	⇑*e*P		**Pn**	**10 02 13.0**	**-2.1**
SUZ		**2.13**	**242**	⇑*e*P		**Pn**	**10 02 13.0**	**-2.1**
HDHB	**Dhahab**	**2.15**	**189**	⇓*e*P		**Pn**	**10 02 14.8**	**-0.6**
HDHB	**Dhahab**	**2.15**	**189**	⇓*e*P		**Pn**	**10 02 14.8**	**-0.6**
MMA1	**Mount Meron ar**	**2.18**	**9**	Pn		**Pn**	**10 02 15.5**	**-0.3**
HKAT	**Jabal Katrina**	**2.48**	**201**	⇓*iP*		**Pn**	**10 02 19.6**	**-0.3**
HKAT	**Jabal Katrina**	**2.48**	**201**	⇓*iP*		**Pn**	**10 02 19.6**	**-0.3**
HKAT	**Jabal Katrina**	**2.48**	**201**	P		**Pn**	**10 02 19.6**	**-0.4**
TR1		**2.98**	**198**	⇑P		**Pn**	**10 02 26.7**	**-0.1**

*NEIC **18** 10:16:43.9, 1668N×10052W, h9km, MD4.0(MEX), After MEX.*
MEX 18 10:16:42.2±0.5, 1655N×10063W, h17km±28km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.60**	**35**	*i*P		Pg	10 16 52.0	-2.1
CAIG				*i*S		Sg	10 16 59.4	-2.7
CAIG	**El Cayaco**	**0.60**	**35**	*i*P		Pg	10 16 52.0	-2.1
CAIG				*i*S		Sg	10 16 58.7	-3.4
ACX	**Acapulco**	**0.75**	**65**	*i*P		Pb	10 16 54.0	-2.8
ACX				*i*S		Sb	10 17 04.0	-2.8
MEIG	**Mezcala**	**1.67**	**35**	*i*P		Pn	10 17 08.0	-2.7
MEIG				*i*S		Sn	10 17 28.1	-3.6
PLIG	**Platanillo**	**2.12**	**30**	*i*P		Pn	10 17 14.3	-2.6
PLIG				*i*S		Sn	10 17 39.7	-3.2
PLIG	**Platanillo**	**2.12**	**30**	*i*P		Pn	10 17 15.7	-1.2
PLIG				*i*S		Sn	10 17 40.0	-2.8
UTMO	**Huajuapan**	**2.98**	**64**	*i*P		Pn	10 17 26.8	-2.0
UTMO				*e*S		Sn	10 18 00.3	-3.8
SZVM	**Salazar**	**3.00**	**23**	*e*P		Pn	10 17 27.2	-1.8
SZVM				*i*S		Sn	10 18 02.4	-2.1
MOIG	**Morelia**	**3.15**	**350**	*i*S		Sn	10 18 04.6	-3.7
MOIG	**Morelia**	**3.15**	**350**	*i*S		Sn	10 18 11.7	+3.5
IIO	**Organos**	**3.52**	**31**	*i*P		Pn	10 17 34.4	-1.8
IIO				*i*S		Sn	10 18 13.5	-4.0
TPIG	**Tehuac#an**	**3.63**	**59**	*e*P		Pn	10 17 35.4	-2.2
TPIG				*i*S		Sn	10 18 16.9	-3.2
VHO	**Vista Hermosa**	**3.77**	**82**	*e*P		Pn	10 17 44.4	+4.9
VHO				*i*S		Sn	10 18 18.1	-5.4

*ISCJB **18** 10:21:37.3±2.4, 2918N±005×358E±02, h10km, Error ellipse: s-maj=21.8km s-min=6.6km az=2.8*
*HLW **18** 10:21:37.6, 2906N×3599E, h20km, Mb2.7*
*GII **18** 10:21:39.9±0.6, 2919N×3548E, h0km±30km, ML1.6/1*
ISC 18 10:21:37.3±2.7, 2913N±007×358E±02, h7km±12km, n11, σ0§49/15, 7C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EIL	**Elat**	**0.90**	**307**	Pg		**Pg**	**10 21 54.0**	**-0.6**
HDHB	**Dhahab**	**1.09**	**249**	⇑*i*P		**Pg**	**10 21 58.8**	**+0.5**
HDHB	**Dhahab**	**1.09**	**249**	⇑*i*P		**Pg**	**10 21 58.8**	**+0.5**
HRFI	**Mount Harif**	**1.11**	**325**	Pg		**Pg**	**10 21 58.6**	**-0.1**
HRFI				Sg		**Sg**	**10 22 13.0**	**-0.1**
PRNI	**Paran**	**1.39**	**331**	Pg		**Pg**	**10 22 04.2**	**+0.2**
PRNI				Sg		**Sg**	**10 22 22.0**	**-0.1**
HKAT	**Jabal Katrina**	**1.68**	**249**	⇑*i*P		**Pn**	**10 22 07.0**	**-0.1**
HKAT				S		**Sn**	**10 22 28.7**	**-0.1**
HKAT	**Jabal Katrina**	**1.68**	**249**	⇑*i*P		**Pn**	**10 22 07.0**	**-0.1**
HKAT				S		**Sn**	**10 22 28.7**	**-0.1**
HNKL	**Nakhl**	**1.76**	**298**	⇑P		**Pn**	**10 22 09.0**	**+0.8**
SHRM		**1.90**	**230**	P		**Pn**	**10 22 06.1**	**-4.0**
TR1		**1.95**	**236**	⇑*e*P		**Pn**	**10 22 10.4**	**-0.5**
TR1		**1.95**	**236**	⇑*e*P		**Pn**	**10 22 10.4**	**-0.5**

*NEIC **18** 10:22:28.6, 1509N×9234W, h131km, MD3.9(MEX), After MEX.*
MEX 18 10:22:28.6±0.9, 1509N×9234W, h131km±41km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.21**	**9**	*i*P		Pn	10 22 52.1	-1.5
CCIG				*i*S		Sn	10 23 11.6	-1.0
CMIG	**Matias Romero**	**3.16**	**310**	*i*P		Pn	10 23 16.9	-0.4
CMIG				*i*S		Sn	10 23 52.2	-2.7
HUIG	**Huatulco**	**3.70**	**281**	*i*P		Pn	10 23 23.9	-0.5
HUIG				*i*S		Sn	10 24 05.1	-2.5
OXX	**Oaxaca**	**4.66**	**296**	*e*P		Pn	10 23 37.0	-0.1

MAN 18 10:25:46.6, 1091N×12246E, h24km, mb2.5, ML4.0, MS1.6, Panay

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.31**	**155**	*e*P		Pb	10 25 54.6	+0.9
GUIM				*e*S		Sb	10 26 03.3	+4.9
OTRP	**Odiongan**	**1.51**	**344**	*e*P		Pn	10 26 12.3	+0.3
OTRP				*e*S		Sn	10 26 31.4	+0.5

*ISCJB **18** 10:27:48.6±0.2, 1363S±004×6989W±007, h261km, mb4.3/41, Error ellipse: s-maj=10.3km s-min=4.1km az=143.6*
*IDC **18** 10:27:50.9±0.4, 1367S×7008W, h274km±3km, mb4.0/13, mb1 4.1/18, mb1mx4.1/24, mbtmp4.0/18, Error ellipse: s-maj=13.0km s-min=7.5km az=63.0*
*MOS **18** 10:27:50.3±1.3, 1362S×6995W, h284km, mb4.4/12, Error ellipse: s-maj=30.3km s-min=8.3km az=109.7*
*NEIC **18** 10:27:50.0±0.2, 1363S×7004W, mb4.4/30, Error ellipse: s-maj=11.7km s-min=5.3km az=67.0*
ISC 18 10:27:50.5±0.2, 1368S±004×6991W±007, h263km, h263km±3.0km±pP-P, n233, σ0§89/213, mb4.3/41, 51C-53D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.11**	**147**	P		**Pn**	**10 28 48.6**	**+3.7**
	18nm,0.3s,baz=324,slow=9.8,SNR=308							
LPAZ				S		**S**	**10 29 32.6**	**+4.5**
	10nm,0.3s,baz=177,slow=23,SNR=10							
LPAZ	**La Paz**	**3.11**	**147**	⇓*i*Pn		**Pn**	**10 28 48.6**	**+3.7**
LPAZ				*e*S		**S**	**10 29 32.2**	**+4.1**
NNA	**Nana**	**6.96**	**283**	P		**Pn**	**10 29 27.9**	**-2.9**
	6.5nm,0.3s,baz=130,slow=14,SNR=24							
NNA	**Nana**	**6.96**	**283**	*e*Pn		**Pn**	**10 29 27.6**	**-3.2**
SIV	**San Ignacio**	**8.85**	**106**	P		**Pn**	**10 29 58.0**	**+3.5**
	4.9nm,0.3s,baz=300,slow=12,SNR=103							
CEN1	**Los Morros**	**9.66**	**182**	*e*P		**Pn**	**10 30 05.0**	**+0.4**
CEN1				*i*S		**S**	**10 31 46.8**	**-6.7**
ATAH	**Atahualpa**	**10.66**	**308**	P		**Pn**	**10 30 13.4**	**-3.7**
	4.1nm,0.3s,baz=132,slow=14,SNR=20							
LCO	**Las Campanas**	**15.27**	**183**	*e*P		**Pn**	**10 31 12.7**	**-0.7**
	62nm,0.7s							
LCO				*e*S		**S**	**10 33 58.9**	**-1.3**
OTAV	**Otavalo**	**16.21**	**328**	*e*P		**P**	**10 31 23.3**	**+0.5**
TLL	**Tololo Astrono**	**16.43**	**183**	*e*P		**P**	**10 31 25.6**	**+0.4**
CFAA	**Coronel Fontan**	**17.91**	**175**	P		**P**	**10 31 41.5**	**+0.3**
	1.3nm,0.3s,baz=347,slow=10,SNR=135							
MDZ	**Mendoza**	**19.14**	**177**	*e*P		**P**	**10 31 54.4**	**0.0**
PEL	**Peldehue**	**19.39**	**182**	⇑*i*P		**P**	**10 31 56.6**	**-0.4**
CICH	**Cipreses**	**20.55**	**181**	*e*P		**P**	**10 32 09.9**	**+0.5**
SDV	**Santo Domingo**	**22.43**	**358**	P		**P**	**10 32 27.1**	**-0.2**
	17nm,0.5s,mb4.7,baz=166,slow=9.7,SNR=40							
SDV				pP			10 33 14.3	
	26nm,0.7s,baz=210,slow=14,SNR=2.6							
SDV	**Santo Domingo**	**22.43**	**358**	*e*P		**P**	**10 32 27.1**	**-0.1**
PAYG	**Puerto Ayora**	**23.95**	**301**	P		**P**	**10 32 38.4**	**-2.7**
TRQA	**Tornquist**	**25.28**	**165**	*e*P		**P**	**10 32 52.1**	**-0.9**
PLCA	**Paso Flores**	**26.95**	**181**	P		**P**	**10 33 07.0**	**-1.0**
	21nm,0.6s,mb4.8,baz=356,slow=10.0,SNR=101							
PLCA	**Paso Flores**	**26.95**	**181**	*e*P		**P**	**10 33 06.7**	**-1.3**
PLCA				pmax		pmax		
	comp=Z,13nm,0.6s							
PLCA	**Paso Flores**	**26.95**	**181**	*e*P		**P**	**10 33 06.7**	**-1.2**
	comp=Z,13nm,0.6s,mb4.5							
JTS	**JuntasAbangare**	**28.11**	**327**	pP		pP	10 34 10.3	+0.9
	comp=Z,6.2nm,0.8s,baz=25,slow=7.3,SNR=3.3							
JTS	**JuntasAbangare**	**28.11**	**327**	⇑*e*P		**P**	**10 33 11.9**	**-6.3**
CPD	**Cerro la Pandu**	**31.76**	**7**	*e*P		**P**	**10 33 49.0**	**-1.3**
TEIG	**Tepich**	**38.23**	**331**	*e*P		**P**	**10 34 44.5**	**-0.8**
	comp=Z,9.6nm,0.4s,mb4.6							
EFI	**East Falkland**	**39.08**	**168**	⇑*e*P		**P**	**10 34 51.4**	**-1.0**
USHA	**Ushuaia**	**41.07**	**179**	P		**P**	**10 35 08.3**	**-0.4**
	comp=Z,22nm,0.7s,mb4.5,baz=355,slow=5.4,SNR=27							
DWPF	**Disney**	**43.02**	**345**	*e*P		**P**	**10 35 24.1**	**-0.2**
BBSR	**BB Station**	**46.06**	**6**	*e*P		**P**	**10 35 45.9**	**-2.3**
	comp=Z,12nm,0.6s,mb4.4							
LRAL	**Lakeview Retre**	**49.24**	**341**	*e*P		**P**	**10 36 10.5**	**-2.0**
	comp=Z,5.1nm,0.4s,mb4.2							
PMSA	**Palmer Station**	**51.19**	**177**	*e*P		**P**	**10 36 27.8**	**+0.6**
OXF	**Oxford**	**51.38**	**339**	*e*P		**P**	**10 36 25.2**	**-3.4**
OXF				pmax		pmax		
	comp=Z,7.0nm,0.4s,mb4.3							
OXF	**Oxford**	**51.38**	**339**	*e*P		**P**	**10 36 25.2**	**-3.3**
	comp=Z,6.6nm,0.4s,mb4.3							
ELN	**Prospectdale**	**51.65**	**349**	P		**P**	**10 36 30.2**	**-0.3**
WVT	**Waverly**	**52.36**	**342**	*e*P		**P**	**10 36 32.5**	**-3.2**
WVT				pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.2							
WVT	**Waverly**	**52.36**	**342**

V11A	Goodsprings	65.39 320	⇑P	P	10 38 06.1 +1.0
	baz=66				
ARUT	Antelope Range	65.48 323	eP	P	10 38 06.3 +0.7
GSC	Goldstone	65.92 319	⇓P	P	10 38 09.2 +0.8
	baz=66				
DAU	Daniels Canyon	66.08 327	eP	P	10 38 10.2 +0.8
JLU	Jordanelle	66.32 327	eP	P	10 38 11.7 +0.8
EDW2	Edwards Air Fo	66.41 318	⇓P	P	10 38 11.8 +0.3
	baz=66				
BLG	Laguna Peak	66.65 317	⇓P	P	10 38 14.0 +1.0
	baz=67				
FURC	Furnace Creek,	66.69 320	P	P	10 38 13.3 +0.1
	baz=67,SNR=6.2				
DUG	Dugway	66.78 325	eP	P	10 38 13.4 +0.5
DUG			pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.4				
DUG	Dugway	66.78 325	eP	P	10 38 14.3 +0.5
	comp=Z,5.9nm,0.8s,mb4.4				
DUG	Dugway	66.78 325	⇑P	P	10 38 13.8 0.0
	baz=67				
MPMC	Manual Prospec	66.82 319	⇑P	P	10 38 14.6 +0.6
	baz=67				
PDAR	Pinedale Array	66.91 329	P	P	10 38 13.3 -1.3
	comp=Z,4.6nm,0.4s,mb4.5,baz=123,slow=9.2,SNR=89				
PDAR			pP	pP	10 39 09.3 -5.0
	comp=Z,0.9nm,0.5s,baz=116,slow=8.5,SNR=1.5				
HWUT	Hardware Ranch	67.10 327	eP	P	10 38 14.5 -1.3
	comp=Z,9.7nm,0.5s,mb4.8				
ARVC	Arvin	67.11 318	⇑P	P	10 38 17.1 +1.2
	baz=67				
Q12A	Willow Creek R	67.13 323	⇓P	P	10 38 16.1 +0.1
	baz=67				
ISA	Isabella	67.21 319	⇓P	P	10 38 16.8 +0.3
	baz=67				
GRAC	Grapevine Rang	67.34 320	⇑P	P	10 38 17.2 -0.1
	baz=67				
BGU	Big Grassy Mou	67.40 326	eP	P	10 38 17.4 -0.3
CWC	Cottonwood Cre	67.43 319	⇑P	P	10 38 18.2 +0.3
	baz=68				
P12A	McGill	67.47 324	⇓P	P	10 38 18.2 +0.1
	baz=68				
Q11A	Duckwater	67.49 323	⇑P	P	10 38 18.2 0.0
	baz=68				
ULM	Lac du Bonnet	67.61 342	P	P	10 38 16.9 -2.1
	comp=Z,9.7nm,0.5s,mb4.8,baz=152,slow=5.8,SNR=54				
ULM			pP	pP	10 39 15.9 -3.0
	comp=Z,5.7nm,0.7s,baz=158,slow=7.1,SNR=4.6				
ULM	Lac du Bonnet	67.61 342	eP	P	10 38 16.4 -2.6
	comp=Z,12nm,0.5s,mb4.9				
PKM	Peak Mountain	67.62 317	⇓P	P	10 38 19.5 +0.4
	baz=68				
VES	Vestal, Richgr	67.70 318	⇓P	P	10 38 20.3 +0.7
	baz=68				
S09A	Goldfield	67.70 321	⇑P	P	10 38 19.8 +0.2
	baz=68				
HVU	Hansel Valley	67.86 327	eP	P	10 38 21.0 +0.4
HVU			pmax	pmax	
	comp=Z,8.0nm,0.4s,mb4.8				
HVU	Hansel Valley	67.86 327	eP	P	10 38 21.0 +0.4
	comp=Z,8.3nm,0.4s,mb4.8				
O12A	Currie	67.91 324	P	P	10 38 21.3 +0.5
	baz=68,SNR=9.8				
R09A	Tonopah	67.94 321	⇓P	P	10 38 21.4 +0.4
	baz=68				
SMMC	Simmler	67.99 317	⇓P	P	10 38 21.6 +0.3
	baz=68				
REDW	Red Top Meadow	67.99 329	eP	P	10 38 21.5 +0.1
	comp=Z,4.2nm,0.6s,mb4.3				
P11A	Circle Ranch,	68.01 323	P	P	10 38 20.9 -0.5
	baz=68,SNR=7.3				
SNOW	Snow King Moun	68.02 329	eP	P	10 38 21.8 +0.3
	comp=Z,4.8nm,0.5s,mb4.5				
RCTC	Rector, Farmer	68.09 319	⇓P	P	10 38 22.3 +0.3
	baz=68				
S08C	White Mtn Res	68.15 320	⇑P	P	10 38 22.5 +0.2
	baz=68				
HELL	Mitchell Peak,	68.18 319	⇓P	P	10 38 22.7 +0.1
	baz=68				
SCHQ	Schefferville	68.29 2	P	P	10 38 21.6 -1.7
	comp=Z,3.8nm,0.8s,mb4.2,baz=191,slow=5.2,SNR=4.9				
SCHQ			pP	pP	10 39 24.0 +0.8
	comp=Z,4.6nm,0.8s,baz=218,slow=6.3,SNR=3.3				
SCHQ	Schefferville	68.29 2	eP	P	10 38 21.6 -1.7
M13A	Montello	68.32 326	⇑P	P	10 38 22.8 -0.6
	baz=68				
O11A	Cowboy Ranch,	68.33 324	⇑P	P	10 38 23.6 +0.1
	baz=68				
RLMT	Red Lodge	68.52 331	eP	P	10 38 24.0 -0.7
	comp=Z,3.9nm,0.4s,mb4.5				
LKWY	Lake	68.65 330	eP	P	10 38 25.8 +0.4
LKWY			pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.2				
LKWY	Lake	68.65 330	eP	P	10 38 25.8 +0.4
	comp=Z,3.9nm,0.8s,mb4.2				
M12A	Wells	68.77 325	⇓P	P	10 38 27.0 +0.8
	baz=69				
NVAR	Mina Array Bea	68.81 321	P	P	10 38 26.7 +0.3
	comp=Z,0.4nm,0.6s,mb3.4,baz=120,slow=6.4,SNR=5.7				
NVAR			pP	pP	10 39 27.4 +0.9
	comp=Z,1.5nm,0.6s,baz=148,slow=6.2,SNR=5.7				
Q08A	Gabbs	68.85 322	⇑P	P	10 38 27.1 +0.4
	baz=69				
O10A	Cortez Mining,	68.93 323	⇑P	P	10 38 28.1 +0.9
	baz=69				
O09A	Fish Creek Ran	69.25 323	⇑P	P	10 38 29.6 +0.5
	baz=69				
M11A	Holland Ranch,	69.27 325	⇓P	P	10 38 29.7 +0.5
	baz=69				
S05C	Merced	69.41 319	⇓P	P	10 38 30.7 +0.6
	baz=70				
S06C	San Francisco	69.43 320	⇓P	P	10 38 30.8 +0.6
	baz=70				
K12A	Draper Farm, C	69.59 326	⇓P	P	10 38 31.3 +0.1
	baz=70				
J13A	Cove Ranch, Pi	69.73 327	⇑P	P	10 38 32.1 0.0
	baz=70				
CMB	Columbia Colle	69.86 320	P	P	10 38 33.1 +0.2
	comp=Z,0.7nm,0.6s,mb3.6				
SNAA	Sanae	69.96 162	eP	P	10 38 32.6 -0.8
HLID	Hailey	69.97 327	P	P	10 38 34.0 +0.6
	baz=70,SNR=6.6				
BOZ	Bozeman (W)	70.03 330	⇑P	P	10 38 33.0 -0.9
	baz=70				
MCMT	McKenzie Canyo	70.05 329	eP	P	10 38 33.7 -0.2
G15A	Dillon	70.11 329	⇓P	P	10 38 33.9 -0.5
	baz=70				
J12A	Stokes Ranch,	70.12 327	⇑P	P	10 38 34.3 -0.1
	baz=70				
N08A	GE Springer Mi	70.19 323	⇓P	P	10 38 34.9 0.0
	baz=70				
M09A	Marrel Ranch,	70.21 324	⇓P	P	10 38 36.1 +1.2
	baz=70				
O07A	Toulon	70.24 322	⇓P	P	10 38 34.7 -0.5
	baz=70				
MFID	Camas Ranch	70.62 326	⇓P	P	10 38 38.3 +0.9
	baz=71				
H12A	Diamond D Ranc	70.88 328	P	P	10 38 39.6 +0.7
	baz=71,SNR=5.1				
EGMT	Eagleton	70.92 333	P	P	10 38 39.0 -0.3
	baz=71,SNR=7.7				
G13A	Cobalt	70.93 328	P	P	10 38 40.2 +0.9
	baz=71,SNR=7.8				
BEKR	Beckwourth	70.95 321	⇑P	P	10 38 40.8 +1.4
	baz=71				
F14A	Wisdom	71.00 329	⇑P	P	10 38 39.8 +0.1
	baz=71,SNR=5.8				
I11A	Placerville	71.02 327	⇓P	P	10 38 40.2 +0.3
	baz=71				
N06A	Buffalo Meadow	71.18 322	P	P	10 38 41.4 +0.6
	baz=71,SNR=7.7				
K09A	Rome	71.19 325	P	P	10 38 41.5 +0.6
	baz=71,SNR=5.1				
L08A	Fields	71.21 324	⇑P	P	10 38 41.0 0.0
	baz=71				
O05C	Quincy	71.35 321	⇑P	P	10 38 42.7 +0.9
	baz=71				
F13A	Darby	71.47 329	⇑P	P	10 38 42.4 -0.1
	baz=72				
D15A	Lincoln	71.47 331	⇓P	P	10 38 42.5 0.0
	baz=72				
E14A	Clinton	71.49 330	⇓P	P	10 38 42.0 -0.6
	baz=72,SNR=10				
H11A	Donnelly	71.59 327	⇑P	P	10 38 42.7 -0.6
	baz=72				
J09A	Fry Pan Ranch,	71.63 325	P	P	10 38 41.4 -2.0
	baz=72,SNR=6.9				
O04C	Chester	71.67 321	⇓P	P	10 38 44.7 +1.0
	baz=72				
E13A	Victor	71.85 329	⇓P	P	10 38 44.7 0.0
	baz=72				
F12A	Elk City	71.91 328	⇓P	P	10 38 45.2 0.0
	baz=72				
D14A	Greenough	71.97 330	⇑P	P	10 38 45.3 -0.2
	baz=72				
I09A	Lost Marbles R	72.03 326	⇑P	P	10 38 46.1 +0.2
	baz=72				
J08A	Circle Bar Ran	72.04 325	⇑P	P	10 38 46.5 +0.6
	baz=72				
MOD	Modoc	72.17 323	P	P	10 38 47.4 +0.7
	baz=72,SNR=6.4				
M05C	Lookout	72.33 322	⇓P	P	10 38 48.3 +0.6
	baz=72				
F11A	Grangeville	72.46 328	⇓P	P	10 38 47.7 -0.7
	baz=73				
K06A	Valley Falls	72.69 324	⇑P	P	10 38 50.5 +0.8
	baz=73				
E11A	Bogner Ranch,	72.81 328	⇓P	P	10 38 50.2 -0.2
	baz=73				
M03C	McCloud	72.87 321	⇑P	P	10 38 50.9 +0.1
	baz=73				
H08A	Prairie City	72.89 326	⇑P	P	10 38 51.4 +0.5
	baz=73				
C13A	Hot Springs	72.91 330	⇓P	P	10 38 50.7 -0.3
	baz=73				
M04C	Macdoel	73.00 322	⇑P	P	10 38 52.0 +0.4
	baz=73				
K05A	Summer Lake	73.02 323	⇑P	P	10 38 52.5 +0.8
	baz=73				
I07A	Izee	73.07 325	⇑P	P	10 38 52.5 +0.5
	baz=73				
F10A	Beach Ranch, E	73.07 328	⇑P	P	10 38 52.0 +0.1
	baz=73				
F09A	S2 Ranch, Elgi	73.26 327	P	P	10 38 53.5 +0.5
	baz=73,SNR=5.2				
N02C	Big Bar	73.33 321	⇑P	P	10 38 54.4 +0.9
	baz=73				
E10A	Myers Farm, Un	73.35 328	⇓P	P	10 38 53.7 +0.1
	baz=74				
I06A	Prineville	73.38 325	⇓P	P	10 38 54.5 +0.7
	baz=74				
K04A	Chilquin	73.44 323	⇓P	P	10 38 54.5 +0.4
	baz=74				
G08A	Pilot Rock	73.55 326	⇓P	P	10 38 54.3 -0.5
	baz=74				
WALA	Waterton Lakes	73.57 332	eP	P	10 38 54.7 -0.1
A13A	Flathead Natio	73.71 331	⇑P	P	10 38 54.6 -1.1
	baz=74				
F08A	Pendleton	73.77 327	⇓P	P	10 38 56.0 0.0
	baz=74				
D10A	Wagner Farm, O	73.82 328	⇑P	P	10 38 55.7 -0.6
	baz=74				
E09A	Wood Farm, Sta	73.91 328	⇓P	P	10 38 56.8 0.0
	baz=74				
B12A	Libby	73.94 330	⇑P	P	10 38 56.4 -0.6
	baz=74				
H06A	Lindquist Farm	73.95 325	⇓P	P	10 38 57.3 +0.3
	baz=74				
A12A	Yaak River Ran	74.30 331	⇓P	P	10 38 58.4 -0.7
	baz=74				
NVL	N'lazarevskaya	74.45 160	d iP	P	10 38 59.5 -0.5
NVL			pmax	pmax	
	comp=Z,32nm,1.2s,mb4.8				
C09A	Chrisman Ranch	74.82 329	⇑P	P	10 39 02.8 +0.7
	baz=75				
E07A	Sunnyside	74.84 327	⇑P	P	10 39 03.3 +1.2
	baz=75				
FCC	Fort Churchill	74.84 347	eP	P	10 38 59.0 -3.2
FCC			e*PP	pP	10 40 00.6 -2.7
FCC			pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.3				
FCC	Fort Churchill	74.84 347	eP	P	10 38 59.0 -3.1
	comp=Z,4.8nm,0.6s,mb4.3				
FCC			epP	pP	10 40 00.6 -2.7
B09A	Rice	75.17 329	⇑P	P	10 39 04.0 0.0
	baz=75				
C07A	Waterville	75.67 328	⇓P	P	10 39 06.1 -0.8
	baz=76				
TOA0	Torodi Ar. Sit	75.78 72	eP	P	10 39 08.3 +0.8
TORD	Torodi Ar. Bea	75.78 72	P	P	10 39 08.5 +1.0
	comp=Z,4.3nm,0.4s,mb4.4,baz=262,slow=4.5,SNR=109				
TORD			pP	pP	10 40 12.1 +3.3
	comp=Z,2.1nm,0.8s,baz=264,slow=6.2,SNR=2.5				
TORD			S	S	10 48 26.3 -0.9
	comp=Z,1.1nm,0.9s,baz=260,slow=13,SNR=5.5				
A08A	Turner Farm, O	76.08 329	⇑P	P	10 39 09.2 0.0
	baz=76				
A07A	Ashnola River,	76.70 329	⇓P	P	10 39 12.4 -0.3
	baz=77				
E03A	Lebam	76.85 325	⇓P	P	10 39 14.4 +1.0
	baz=77				
MDT	Midelt	77.57 52	P	P	10 39 18.6 +1.2
	comp=Z,2.1nm,0.9s,mb3.8,baz=253,slow=7.6,SNR=4.2				
ESDC	Sonseca Array	81.01 46	P	P	10 39 37.1 +1.1
	comp=Z,1.8nm,0.6s,mb4.0,baz=257,slow=5.1,SNR=9.6				
ESDC			pP	pP	10 40 41.4 +3.3
	comp=Z,1.2nm,0.6s,baz=252,slow=6.6,SNR=2.3				
TSUM	Tsumeb	83.28 108	eP	P	10 39 48.5 +0.7
	comp=Z,1.8nm,0.8s,mb4.0				
SUR	Sutherland	83.41 122	eP	P	10 39 49.2 +0.8
YKA	Yellowknife Ar	83.53 341	P	P	10 39 46.7 -2.3
	comp=Z,4.2nm,0.5s,mb4.6,baz=134,slow=5.2,SNR=185				
YKA			pP	pP	10 40 48.9 -2.6
	comp=Z,2.1nm,0.7s,baz=134,slow=5.5,SNR=4.4				
SYO	Syowa Base	84.13 160	⇓eP	P	10 39 50.8 -1.2
SYO	Syowa Base	84.13 160	⇓eP	P	10 39 53.8 +1.8
DLBC	Dease Lake	86.86 333	eP	P	10 40 04.5 -1.0
BOSA	Boshof	88.00 119	P	P	10 40 10.2 -0.6
	comp=Z,2.3nm,0.9s,mb4.0,baz=265,slow=3.6,SNR=4.1				
LBTB	Lobatse	89.19 115	P	P	10 40 15.9 -0.5
LBTB			pmax	pmax	
	comp=Z,1.0nm,0.7s,mb3.8				
LBTB	Lobatse	89.19 115	P	P	10 40 15.9 -0.5
	comp=Z,1.3nm,0.7s,mb3.9				
RES	Resolute Bay	89.57 354	eP	P	10 40 16.1 -2.1
MAW	Mawson	92.06 164	eP	P	10 40 29.5 -0.2
SOC	Sochi	113.50 48	i PKIKP	PKiKP	10 45 47.5 -10
BILL	Bilibino	114.91 340	i PKIKP	PKiKP	10 45 58.5 -1.4
BILL			pmax	pmax	
	comp=Z,9.0nm,1.6s				
TIXI	Tiksi	120.96 353	i PKIKP	PKPdf	10 46 08.8 -2.7
TIXI	Tiksi	120.96 353	ePKPdf	PKPdf	10 46 09.7 -1.8
ARU	Arti	122.10 31	⇓i PKIKP	PKPdf	10 46 11.8 -1.9
STKA	Stephens Creek	125.56 213	eP	PKPdf	10 46 20.1 -0.2
STKA	Stephens Creek	125.56 213	PKP	PKPdf	10 46 20.1 -0.2
	comp=Z,5.8nm,0.6s,baz=108,slow=3.2,SNR=29				
CTA	Charters Tower	131.09 227	eP	PKPdf	10 46 31.3 +0.4
CTA	Charters Tower	131.09 227	PKP	PKPdf	10 46 31.3 +0.4
	comp=Z,2.5nm,0.5s,baz=116,slow=3.9,SNR=5.4				
FORT	Forrest	132.54 201	eP	PKPdf	10 46 33.6 0.0
KLBR	Kellerberrin	134.39 189	eP	PKPdf	10 46 36.6 -0.5
ZAL	Zalesovo	135.17 21	PKP	PKPdf	10 46 37.5 -1.1
	comp=Z,2.9nm,0.4s,baz=282,slow=0.8,SNR=5.6				
ASAR	Alice Springs	136.18 212	PKhKP		10 46 24.6
	comp=Z,0.2nm,0.5s,baz=136,slow=3.6,SNR=7.1				
ASAR			PKP	PKPdf	10 46 41.2 +0.8
	comp=Z,3.4nm,0.7s,baz=136,slow=0.8,SNR=12				
ASAR			SKPbc	SKPbc	10 49 45.4 -1.9
	comp=Z,1.5nm,0.9s,baz=142,slow=3.8,SNR=7.1				
WB2	Warramunga Arr	138.93 216	eP	PKPdf	10 46 35.9 -10
WRA	Warramunga Arr	138.94 216	PKhKP		10 46 35.0
	comp=Z,1.0nm,0.5s,baz=138,slow=2.4,SNR=25				
WRA			PKP	PKPdf	10 46 44.9 -0.6
	comp=Z,4.7nm,0.4s,baz=140,slow=1.8,SNR=44				
WRA			SKPbc	SKPbc	10 49 53.0 -2.2
	comp=Z,1.8nm,0.8s,baz=143,slow=2.4,SNR=8.1				
MK31	Makanchi Array	139.60 30	ePKIKP	PKPdf	10 46 45.8 -0.9
MKAR	Makanchi Array	139.60 30	SKPbc	SKPbc	10 49 54.1 -2.9
	comp=Z,0.7nm,0.7s,baz=324,slow=3.6,SNR=5.1				
FITZ	Fitzroy Crossi	144.89 206	⇓i PP	PKPdf	10 46 55.9 -0.2
FITZ	Fitzroy Crossi	144.89 206	PKP	PKPdf	10 46 55.9 -0.1
	comp=Z,58nm,0.6s,baz=173,slow=1.8,SNR=206				
KAKA	Kakadu	145.67 221	⇓i PP	PKPdf	10 46 57.7 +0.3
SONM	Songino Array	145.81 4	PKPbc	PKPbc	10 46 57.5 -1.2
	comp=Z,4.0nm,0.6s,baz=326,slow=2.2,SNR=38				
SONM			SKPbc	SKPbc	10 50 09.2 -3.0
	comp=Z,0.4nm,0.5s,baz=269,slow=1.2,SNR=5.0				
MJAR	Matsushiro Arr	146.07 317	PKPbc	PKPbc	10 46 58.6 -0.9
	comp=Z,5.2nm,0.6s,baz=116,slow=1.2,SNR=15				
MJAR			pPKPbc	pPKPbc	10 48 07.1 +2.0
	comp=Z,3.1nm,0.7s,baz=73,slow=2.8,SNR=3.9				
KSRS	Korea Array	151.48 329	PKP	PKPdf	10 47 06.8 +0.1
	comp=Z,1.2nm,0.6s,baz=37,slow=2.1,SNR=4.7				
KSRS			PKPbc	PKPbc	10 47 12.7 -0.5
	comp=Z,11nm,0.6s,baz=21,slow=2.3,SNR=38				
KSRS			PKPab	PKPab	10 47 21.6 -1.0
	comp=Z,2.7nm,0.8s,baz=357,slow=2.1,SNR=4.9				
KSRS			pPKPbc	pPKPbc	10 48 21.3 +1.8
	comp=Z,2.5nm,0.8s,baz=31,slow=1.9,SNR=3.8				

IDC 18 10:28:53.6±9.4, 640S×15131E, h50km±64km, mb3.6/4, mb1 3.8/5, mb1mx3.4/15, mbtmp3.6/5, ML2.5/1, Error ellipse: s-maj=75.5km s-min=62.2km az=8.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.08	234	P	Pn	10 30 07.7	+0.6
	1.2nm,0.3s,baz=58,slow=10,SNR=3.8						
PMG				S	Sn	10 31 05.5	+1.1
	1.1nm,0.3s,baz=151,slow=19,SNR=2.5						
WB2	Warramunga Arr	21.27	229	eP	P	10 33 35.6	-0.1
WRA	Warramunga Arr	21.28	229	P	P	10 33 35.4	-0.4
	1.5nm,0.6s,baz=56,slow=12,SNR=15						
ASAR	Alice Springs	23.97	222	P	P	10 34 03.4	+0.1
	1.2nm,0.5s,baz=60,slow=9.1,SNR=36						
STKA	Stephens Creek	26.92	198	P	P	10 34 31.0	+0.9
	2.0nm,0.8s,baz=21,slow=14,SNR=3.8						
FITZ	Fitzroy Crossi	27.60	243	eP	P	10 34 36.4	+0.3
FITZ	Fitzroy Crossi	27.60	243	P	P	10 34 36.4	+0.3
	1.1nm,0.7s,baz=74,slow=9.3,SNR=4.6						

IDC 18 10:48:54.4±1.3, 075N×12674E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=135.1km s-min=21.0km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.87	160	P	P	10 53 48.3	-0.5
	1.1nm,0.5s,baz=339,slow=11,SNR=10						
ASAR	Alice Springs	25.25	164	P	P	10 54 22.9	+0.8
	0.3nm,0.3s,baz=345,slow=11,SNR=14						
SONM	Songino Array	50.11	342	P	P	10 57 51.4	+0.2
	0.7nm,1.0s,baz=155,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	60.01	326	P	P	10 59 02.9	+0.1
	0.3nm,0.4s,baz=120,slow=7.9,SNR=5.9						

*IDC **18** 11:01:19.5±3.1, 4704N×15568E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.7/7, Error ellipse: s-maj=96.5km s-min=27.5km az=6.0*
*MOS **18** 11:01:21.8±3.4, 4721N×15529E, h33km, mb4.2/6, Error ellipse: s-maj=21.6km s-min=13.7km az=80.8*
*ISCJB **18** 11:01:23.6±0.8, 4730N±009×1555E±01, h35km, mb3.9/9, Error ellipse: s-maj=14.7km s-min=11.6km az=74.2*

ISC 18 11:01:25.1±0.8, 4728N±009×1554E±01, h35km, n20, σ1§09/21, mb3.9/9, 7C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.44	8	ePN	Pn	11 02 16.0	-0.1
SKR				eS	Sn	11 02 54.5	-1.1
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,90nm,0.3s						
SKR				smax			
	comp=E,90nm,0.3s						
PET	Petropavlovsk	6.12	19	ePN	Pn	11 02 45.0	-7.9
YSS	Yuzh-Sakhalins	8.63	272⇑	ePN	Pn	11 03 25.6	-1.9
ERM	Erimo	10.19	243⇑	ePN	Pn	11 03 42.6	-6.1
YAK	Yakutsk	20.76	325⇓	eP	P	11 06 05.8	+3.0
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BILL	Bilibino	21.55	11⇑	eP	P	11 06 13.2	+1.9
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
HIA	Hailar	23.68	288⇑	eP	P	11 06 33.5	0.0
KRAR	Krasnoyarsk	38.52	307⇑	eP	P	11 08 43.9	-0.1
MKAR	Makanchi Array	48.08	298	P	P	11 10 03.1	+2.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=69,slow=9.2,SNR=4.6						
KURK	Kurchatov	48.37	304⇑	eP	P	11 10 03.0	-0.4
YKA	Yellowknife Ar	49.56	38	P	P	11 10 12.9	+0.4
	comp=Z,0.7nm,0.5s,mb3.9,baz=294,slow=7.2,SNR=14						
YKA	Yellowknife Ar	49.56	38	i P	P	11 10 12.8	+0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	Ala-Archa	54.99	297⇑	eP	P	11 10 52.5	-0.3
AAK				pmax	pmax		
	comp=Z,5.0nm,2.1s,mb4.2						
NVAR	Mina Array Bea	60.80	64	P	P	11 11 32.2	-1.4
	comp=Z,0.3nm,0.7s,mb3.6,baz=294,slow=6.8,SNR=2.5						
PDAR	Pinedale Array	63.16	55	P	P	11 11 49.4	-0.1
	comp=Z,0.5nm,0.8s,mb3.7,baz=349,slow=3.0,SNR=3.8						
FINES	FINESS Array B	64.22	336	P	P	11 11 57.1	+0.7
	comp=Z,1.6nm,0.8s,mb4.1,baz=33,slow=10,SNR=2.9						
FINES	FINESS Array B	64.22	336	P	P	11 11 57.1	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM	Lac du Bonnet	65.09	42	P	P	11 12 01.4	-0.7
	comp=Z,1.1nm,0.9s,mb3.9,baz=326,slow=7.3,SNR=3.0						
TXAR	Lajitas Array	75.86	62	P	P	11 13 08.1	+0.3
	comp=Z,0.6nm,0.7s,mb3.7,baz=302,slow=4.3,SNR=7.8						
TXAR	Lajitas Array	75.86	62	P	P	11 13 08.1	+0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IGQ 18 11:02:57.0, 266S×7926W, h21km±9km, Mb4.1, Ms3.9, 4C-7D, Error ellipse: s-maj=16.8km s-min=4.3km az=44.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	1.32	28	⇓P	Pn	11 03 23.6	+3.5
IGUA				S	Sn	11 03 39.3	+2.2
BILB	Tungurahua vol	1.43	32	P	Pn	11 03 25.4	+3.7
BILB				S	Sn	11 03 42.5	+2.6
RETU	Refugio	1.45	34	P	Pn	11 03 25.5	+3.5
RETU				S	Sn	11 03 41.3	+1.0
JUIV	Juive	1.46	33	⇑P	Pn	11 03 25.1	+2.9
JUIV				S	Sn	11 03 41.7	+1.0
ULBA	Ulba	1.47	35	P	Pn	11 03 25.4	+3.1
ULBA				S	Sn	11 03 42.4	+1.5
RUN5	Runtun	1.49	34	P	Pn	11 03 25.7	+3.1
RUN5				S	Sn	11 03 43.5	+2.1
PISA	Pisayambo	1.81	29	⇑P	Pn	11 03 30.0	+3.0
PISA				S	Sn	11 03 54.2	+4.8
CAMI	Rancho Maria	2.11	21	⇓P	Pn	11 03 33.9	+2.8
TAMB	Tambo	2.15	25	P	Pn	11 03 34.1	+2.6
VC1	Cotopaxi 1	2.18	23	⇓P	Pn	11 03 35.1	+3.1
VC1				S	Sn	11 04 04.8	+6.4
ANTI	Antisana	2.46	27	⇑P	Pn	11 03 38.3	+2.5
ANTI				S	Sn	11 04 09.9	+4.8
JUA2	San Juan 2	2.52	15	P	Pn	11 03 40.9	+4.3
JUA2				S	Sn	11 04 12.7	+6.0
TERV	Terraza Guagua	2.56	15	⇑P	Pn	11 03 40.0	+2.8
TERV				S	Sn	11 04 10.9	+3.3
GGP	Refugio Guagua	2.56	15	⇓P	P

VLO	**Vlora**	**0.18 313**	*i* Pg	**Pg**	**11 08 49.9**	**-0.8**
VLO			*i* Sg	**Sg**	**11 08 56.0**	**+2.7**
SRN	**Sarande**	**0.53 151**	*i* Pg	**Pg**	**11 08 55.5**	**-1.5**
SRN			*i* Sg	**Sg**	**11 09 04.6**	**+0.6**
KEK	**Kerkira**	**0.64 171**	⇓*i*PB	**Pg**	**11 08 58.1**	**-1.0**
LSK	**Leskovik**	**0.74 105**	*i* Pg	**Pg**	**11 08 57.7**	**-3.3**
LSK			*i* Sg	**Sg**	**11 09 09.7**	**-0.9**
IGT	**Igoumenitsa**	**0.96 148**	*e*Pg	**Pg**	**11 09 06.6**	**+1.4**
JAN	**Janina**	**1.14 127**	*e*PB	**Pb**	**11 09 07.6**	**-0.9**
JAN			*e*SB	**Sb**	**11 09 23.3**	**0.0**
OHR	**Ohrid**	**1.15 48**	*e*Pg	**Pb**	**11 09 06.2**	**-2.5**
OHR	**Ohrid**	**1.15 48**	*e*Pg	**Pb**	**11 09 06.0**	**-2.7**
OHR			*e*Sg	**Sg**	**11 09 24.0**	**+0.2**
OHR	**Ohrid**	**1.15 48**	*e*Pg	**Pb**	**11 09 06.0**	**-2.7**
OHR			*e*Sg	**Sg**	**11 09 24.0**	**+0.2**
OHR	**Ohrid**	**1.15 48**	*e*Pg	**Pb**	**11 09 06.2**	**-2.5**
OHR			*e*Sg	**Sg**	**11 09 23.9**	**+0.1**
LCI	**Lecce**	**1.19 270**	Pn	**Pb**	**11 09 08.5**	**-0.9**
MEV	**Metsovon**	**1.32 115**	*e*Pg	**Pn**	**11 09 09.9**	**-1.3**
MEV			*e*Sg	**Sg**	**11 09 32.5**	**+3.3**
FNA	**Florina**	**1.37 71**	*e*Pg	**Pn**	**11 09 09.8**	**-2.2**
FNA			*e*Sg	**Sb**	**11 09 29.9**	**-0.1**
BIA	**Bitola**	**1.43 61**	*e*Pg	**Pn**	**11 09 11.0**	**-1.8**
BIA	**Bitola**	**1.43 61**	*e*Pg	**Pn**	**11 09 11.8**	**-1.0**
BIA			*e*Sg	**Sn**	**11 09 31.3**	**-0.2**
BIA	**Bitola**	**1.43 61**	*e*Pg	**Pn**	**11 09 11.8**	**-1.0**
BIA			*e*Sg	**Sn**	**11 09 31.3**	**-0.2**
BIA	**Bitola**	**1.43 61**	*e*Pg	**Pn**	**11 09 11.0**	**-1.7**
BIA			*e*Sg	**Sn**	**11 09 31.3**	**-0.2**
KRUS	**Krusevo**	**1.58 49**	*e*Pn	**Pn**	**11 09 14.6**	**-0.2**
KRUS			*e*Sg	**Sg**	**11 09 37.6**	**+0.2**
KRUS	**Krusevo**	**1.58 49**	*e*Pn	**Pn**	**11 09 14.6**	**-0.2**
KRUS			*e*Sg	**Sg**	**11 09 37.6**	**+0.2**
KRUS	**Krusevo**	**1.58 49**	*e*Pn	**Pn**	**11 09 14.5**	**-0.3**
KRUS			*e*Sg	**Sg**	**11 09 37.6**	**+0.1**
KZN	**Kozani**	**1.61 91**	*e*PG	**Pg**	**11 09 15.9**	**-1.7**
ULC	**Ulcinj**	**1.65 349**	⇓*i*Pg	**Pn**	**11 09 14.5**	**-1.3**
ULC			*e*Sg	**Sg**	**11 09 38.3**	**-1.5**
THL	**Klokotos Trika**	**1.96 113**	*e*PN	**Pn**	**11 09 21.8**	**+1.7**
THL			*e*SN	**Sn**	**11 09 47.7**	**+2.9**
BUM	**Brajici-Budva**	**2.04 344**	⇓*i*Pn	**Pn**	**11 09 20.6**	**-0.5**
BUM			*e*Sn	**Sn**	**11 09 47.1**	**+0.4**
BUM	**Brajici-Budva**	**2.04 344**	⇓*i*Pn	**Pn**	**11 09 20.6**	**-0.5**
BUM			*e*Sn	**Sn**	**11 09 47.1**	**+0.4**
SKO	**Skopje**	**2.10 39**	*e*Pn	**Pn**	**11 09 23.6**	**+1.6**
SKO			*e*Sg	**Sg**	**11 09 54.2**	**-0.2**
TTG	**Podgorica**	**2.11 352**	⇓*i*Pn	**Pn**	**11 09 21.0**	**-1.1**
TTG			*e*Sn	**Sn**	**11 09 49.0**	**+0.7**
GRG	**Griva**	**2.17 73**	*e*Pn	**Pn**	**11 09 22.7**	**-0.2**
LIT	**Litokhoron**	**2.17 96**	*e*Pn	**Pn**	**11 09 23.5**	**+0.5**
EVR	**Evrytania**	**2.18 130**	*e*PN	**Pn**	**11 09 24.9**	**+1.8**
PVY	**Plav**	**2.26 6**	⇑*i*Pn	**Pn**	**11 09 24.8**	**+0.6**
PVY			*e*Sn	**Sn**	**11 09 54.0**	**+1.9**
VLS	**Valsamata**	**2.28 161**	*e*PB	**Pn**	**11 09 24.7**	**+0.3**
HCY	**Herceg Novi**	**2.28 338**	⇑*i*Pn	**Pn**	**11 09 23.5**	**-1.0**
HCY			*e*Sn	**Sn**	**11 09 52.5**	**0.0**
SG1	**Sgolgore (BA)**	**2.33 283**	*e*Pn	**Pn**	**11 09 24.9**	**-0.2**
VAY	**Valandovo**	**2.41 65**	*e*Pn	**Pn**	**11 09 26.1**	**-0.1**
VAY	**Valandovo**	**2.41 65**	*e*Pn	**Pn**	**11 09 26.2**	**0.0**
VAY	**Valandovo**	**2.41 65**	*e*Pn	**Pn**	**11 09 26.2**	**0.0**
AGG	**Agios Georgios**	**2.44 122**	*e*Pn	**Pn**	**11 09 28.6**	**+2.0**
NKY	**Niksic**	**2.52 349**	⇓*i*Pn	**Pn**	**11 09 27.1**	**-0.6**
NKY			*e*Sn	**Sn**	**11 09 58.6**	**+0.2**
IVA	**Berane**	**2.53 4**	⇑*i*Pn	**Pn**	**11 09 28.5**	**+0.6**
IVA			*e*Sn	**Sn**	**11 10 00.1**	**+1.3**
KNT	**Kendrikon**	**2.58 71**	*e*Pn	**Pn**	**11 09 28.4**	**-0.3**
HORT	**Hortiatis**	**2.63 83**	*e*Pn	**Pn**	**11 09 28.9**	**-0.3**
BRY	**Bratogost**	**2.69 342**	⇓*i*Pn	**Pn**	**11 09 29.2**	**-0.9**
BRY			*e*Sn	**Sn**	**11 10 02.9**	**+0.2**
XOR	**Xorichti**	**2.88 109**	*e*Pn	**Pn**	**11 09 33.8**	**+1.1**
PLG	**Polygyros**	**2.88 88**	*e*PN	**Pn**	**11 09 33.7**	**+0.9**
UPM	**Unac-Piva**	**2.91 349**	⇑*i*Pn	**Pn**	**11 09 33.5**	**+0.4**
UPM			*e*Sn	**Sn**	**11 10 08.5**	**+0.3**
PLE	**Pljevlja**	**2.99 356**	⇑*i*Pn	**Pn**	**11 09 34.0**	**-0.2**
PLE			*e*Sn	**Sn**	**11 10 10.7**	**+0.6**
PAIG	**Paliouri**	**3.10 96**	*e*Pn	**Pn**	**11 09 35.1**	**-0.6**
FGMS	**Monte Sant'Ang**	**3.12 297**	Pn	**Pn**	**11 09 35.5**	**-0.6**
AOS	**Alonnisos**	**3.45 109**	*e*Pn	**Pn**	**11 09 41.6**	**+1.1**
SOI	**Samo**	**3.61 232**	Pn	**Pn**	**11 09 41.9**	**-0.8**
SGG	**Gregorio Mates**	**4.14 286**	Pn	**Pn**	**11 09 52.3**	**+2.2**
NRCA	**Norcia**	**5.51 299**	Pn	**Pn**	**11 10 09.1**	**+0.3**
	9.8nm,0.4s					

*IDC **18** 11:18:15.2±1.1, 5649S×2531W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/13, mbtmp4.1/3, Error ellipse: s-maj=43.4km s-min=30.7km az=87.0*

NEIC 18 11:18:21.1±0.7, 5649S×2533W, h40km, Error ellipse: s-maj=33.5km s-min=18.0km az=84.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**33.76**	**180**	*e*P	P	11 24 58.9	0.0
	6.5nm,0.5s						
VNDA	**Vanda**	**46.18**	**182**	P	P	11 26 40.6	-1.2
	0.8nm,0.6s,baz=178,slow=8.6,SNR=8.9						
LPAZ	**La Paz**	**51.48**	**303**	P	P	11 27 22.9	+0.4
	1.5nm,0.4s,baz=148,slow=4.7,SNR=8.8						
TORD	**Torodi Ar. Bea**	**72.94**	**28**	P	P	11 29 46.0	-0.2
	1.6nm,0.7s,baz=198,slow=6.6,SNR=12						
YKA	**Yellowknife Ar**	**137.19**	**317**	PKP	PKPdf	11 37 39.0	-0.9
	0.2nm,0.6s,baz=127,slow=2.3,SNR=4.3						
YKA	**Yellowknife Ar**	**137.19**	**317**	PKP	PKPdf	11 37 39.0	-0.9
SONM	**Songino Array**	**149.72**	**86**	PKPbc	PKPbc	11 38 05.7	-0.8
	0.7nm,0.6s,baz=225,slow=3.1,SNR=6.1						

*IDC **18** 11:29:29.0±0.6, 087N×126.12E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/18, mbtmp4.0/11, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=46.7km s-min=13.8km az=76.0*

*NEIC **18** 11:29:30.3±0.5, 090N×126.18E, h10km, mb4.7/1, Error ellipse: s-maj=33.2km s-min=8.9km az=74.0*

*ISCJB **18** 11:29:31.9±0.6, 082N±009×1259E±03, h35km, mb4.1/11, Error ellipse: s-maj=39.9km s-min=10.0km az=153.1*

ISC 18 11:29:34.1±0.6, 082N±009×1260E±03, h35km, n15, σ0°83/13, mb4.1/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.80**	**181**	P	**Pn**	**11 33 50.3**	**-1.0**
	0.1nm,0.3s,baz=355,slow=12,SNR=3.5						
FITZ				LR	LR	11 40 56.2	
	comp=Z,46nm,21.5s,baz=33,slow=36						
WRA	**Warramunga Arr**	**22.19**	**159**	P	**P**	**11 34 27.1**	**-0.1**
	2.6nm,0.6s,mb3.8,baz=338,slow=11,SNR=26						
WB2	**Warramunga Arr**	**22.20**	**159**	*e*P	**P**	**11 34 27.2**	**-0.1**
WB2				*e*P		11 34 27.3	
ASAR	**Alice Springs**	**25.52**	**163**	P	**P**	**11 34 59.8**	**+0.5**
	2.6nm,0.7s,mb3.9,baz=343,slow=6.9,SNR=33						
ASAR				PcP	PcP	11 38 31.1	+0.9
	0.4nm,0.7s,baz=348,slow=2.1,SNR=6.2						
STKA	**Stephens Creek**	**35.71**	**157**	P	**P**	**11 36 29.7**	**+0.5**
	5.3nm,0.8s,mb4.5,baz=1.4,slow=8.1,SNR=8.3						
KSRS	**Korea Array**	**36.50**	**3**	P	**P**	**11 36 36.7**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=186,slow=7.9,SNR=3.0						
MJAR	**Matsushiro Arr**	**37.30**	**16**	P	**P**	**11 36 41.8**	**-1.0**
	3.6nm,0.9s,mb4.2,baz=186,slow=9.1,SNR=7.1						
SONM	**Songino Array**	**49.83**	**343**	P	**P**	**11 38 22.9**	**-0.7**
	1.0nm,0.8s,mb3.9,baz=158,slow=3.8,SNR=6.7						
SONM				PcP	PcP	11 39 43.8	-0.1
	0.5nm,0.9s,baz=169,slow=3.1,SNR=3.6						
MKAR	**Makanchi Array**	**59.55**	**327**	P	**P**	**11 39 33.4**	**-0.6**
	1.2nm,0.6s,mb4.1,baz=121,slow=7.2,SNR=15						
ZAL	**Zalesovo**	**62.86**	**334**	P	**P**	**11 39 57.5**	**+1.1**
	1.1nm,0.3s,mb4.5,baz=335,slow=7.7,SNR=3.7						
KURK	**Kurchatov**	**63.81**	**329**	*e*P	**P**	**11 40 02.1**	**-0.6**
	3.8nm,0.8s,mb4.5						
VNDA	**Vanda**	**80.65**	**173**	P	**P**	**11 41 43.5**	**+0.2**
	1.3nm,0.9s,mb3.9,baz=313,slow=6.9,SNR=4.9						
BRTR	**Keskin Array B**	**91.31**	**310**	P	**P**	**11 42 39.2**	**+3.2**
	0.5nm,0.8s,mb3.9,baz=96,slow=5.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**123.08**	**286**	PKP	PKPdf	11 48 28.1	+1.2
	0.8nm,0.7s,baz=66,slow=1.7,SNR=5.3						
TXAR	**Lajitas Array**	**123.92**	**53**	PKP	PKPdf	11 48 28.6	+0.1
	0.2nm,0.7s,baz=79,slow=1.9,SNR=3.6						

IDC 18 11:31:42.9±1.8, 457N×12790E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=96.6km s-min=23.5km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.64**	**186**	P	P	11 36 47.6	+2.1
	0.8nm,0.5s,baz=14,slow=9.6,SNR=5.0						
WRA	**Warramunga Arr**	**25.17**	**166**	P	P	11 37 10.1	+0.2
	1.2nm,0.5s,baz=343,slow=10.8,SNR=6.8						
ASAR	**Alice Springs**	**28.67**	**168**	P	P	11 37 41.1	-0.2
	0.4nm,0.6s,baz=359,slow=9.2,SNR=4.2						
STKA	**Stephens Creek**	**38.52**	**161**	P	P	11 39 06.0	-1.0
	0.8nm,0.3s,baz=338,slow=9.7,SNR=4.0						
MKAR	**Makanchi Array**	**57.54**	**324**	P	P	11 41 34.4	+0.2
	0.4nm,0.5s,baz=111,slow=8.0,SNR=7.6						

*IDC **18** 11:57:58.0±1.2, 3451N×7320E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/24, mbtmp3.7/8, ML2.9/1, Error ellipse: s-maj=32.5km s-min=26.0km az=75.0*

*NEIC **18** 11:57:59.5±0.9, 3450N×7316E, h10km, Error ellipse: s-maj=20.0km s-min=16.4km az=108.0*

*ISCJB **18** 11:58:01.7±1.0, 3469N±004×7294E±006, h32km±10km, mb3.6/4, Error ellipse: s-maj=8.2km s-min=6.8km az=20.0*

*NNC **18** 11:58:10.4±5.2, 3512N×7248E, h35km±144km, mb3.1, mpv3.4, Error ellipse: s-maj=166.1km s-min=54.5km az=130.0*

ISC 18 11:58:02.9±1.1, 3463N±004×7292E±006, h29km±11km, n26, σ1°15/29, mb3.6/5, 4C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.01**	**163**	P	**Pn**	**11 58 20.3**	**-0.8**
CEP	**Cherat**	**1.16**	**226**	P	**Pn**	**11 58 25.5**	**+2.4**
CEP				S	**Sn**	**11 58 37.0**	**-1.0**
THW	**Thamme Wali**	**2.08**	**208**	P	**Pb**	**11 58 40.2**	**+0.3**
SARP	**Sargodha**	**2.71**	**184**	P	**Pb**	**11 58 50.2**	**-0.4**
SBDP	**Sheikh Budin**	**2.92**	**218**	P	**Pb**	**11 58 51.8**	**-2.4**
THN	**Thein Dam**	**3.21**	**132**	*ex*	**Pn**	**11 58 52.6**	**+1.3**
THN				*ex*	**Sb**	**11 59 36.9**	**-0.8**
SDNR	**Sundarnagar**	**4.62**	**131**	*e*S	**Sb**	**12 00 19.4**	**+1.1**
KLP	**Kalpa**	**5.44**	**123**	*ex*	**Sn**	**12 00 29.9**	**+6.3**
KUDL	**Kundal**	**7.15**	**154**	*ex*	x	12 00 55.4	
TKM2	**Tokmak 2**	**8.54**	**13**	Pn	**Pn**	**12 00 05.7**	**+1.2**
	0.3nm,0.8s						
TKM2				⇓Sn	**Sn**	**12 01 38.7**	**-1.2**
	0.4nm,0.5s						
KK31	**Karatay Array**	**8.66**	**348**	Pn	**Pn**	**12 00 08.4**	**+2.2**
	4.2nm,0.3s,baz=157,slow=11						
KK31				⇑Sn	**Sn**	**12 01 41.6**	**-1.3**
	1.2nm,0.3s,baz=173,slow=22						
MKAR	**Makanchi Array**	**14.06**	**27**	Pn	**Pn**	**12 01 19.8**	**-0.3**
	0.1nm,0.3s,baz=208,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**14.06**	**27**	Pn	**Pn**	**12 01 19.8**	**-0.3**
AB31	**Akbulak array**	**17.47**	**331**	⇑P	**Pn**	**12 02 04.3**	**-0.1**
	0.4nm,0.4s						
BVA0	**Borovoye Array**	**18.48**	**355**	P	**Pn**	**12 02 17.3**	**+0.6**
	0.1nm,0.8s,baz=205,slow=27,SNR=12						
BVAR	**Borovoye Array**	**18.48**	**355**	P	**Pn**	**12 02 17.3**	**+0.7**
	0.7nm,0.3s,baz=162,slow=9.5,SNR=17						
CHKZ	**Chkalovo**	**19.11**	**356**	⇑P	**Pn**	**12 02 23.1**	**-1.2**
	2.8nm,1.4s						
AKTK	**Aktyubinsk**	**19.18**	**330**	P	**Pn**	**12 02 25.9**	**+0.7**
AKTO	**Aktyubinsk**	**19.18**	**330**	⇑P	**Pn**	**12 02 25.0**	**-0.1**
	0.1nm,0.8s						
AKTO	**Aktyubinsk**	**19.18**	**330**	P	**Pn**	**12 02 25.9**	**+0.7**
	0.9nm,0.3s,baz=132,slow=11,SNR=13						
ZAL	**Zalesovo**	**21.04**	**20**	P	**P**	**12 02 42.6**	**-1.7**
	2.4nm,0.4s,mb3.9,baz=251,slow=8.9,SNR=5.8						
ARCES	**ARCESS Array B**	**43.46**	**338**	P	**P**	**12 06 04.4**	**+1.1**
	2.5nm,0.8s,mb4.0,baz=114,slow=9.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**67.27**	**271**	P	**P**	**12 08 55.9**	**+1.2**
	0.4nm,0.5s,mb3.7,baz=54,slow=6.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**67.27**	**271**	P	**P**	**12 08 55.9**	**+1.2**
WRA	**Warramunga Arr**	**79.67**	**123**	P	**P**	**12 10 06.6**	**-1.0**
	0.3nm,0.9s,mb3.2,baz=309,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**83.02**	**4**	P	**P**	**12 10 24.9**	**-0.6**
	0.2nm,0.5s,mb3.4,baz=347,slow=5.6,SNR=6.1						

*ISCJB **18** 12:02:44.9±0.6, 4026N±004×2042E±006, h10km, Error ellipse: s-maj=6.8km s-min=4.3km az=61.3*

*CSEM **18** 12:02:45.5±0.2, 4037N×2027E, h15km, MD3.2, Error ellipse: s-maj=5.1km s-min=2.5km az=115.0*

*ATH **18** 12:02:45.8, 4023N×2038E, h10km, MD3.2/4*

*SKO **18** 12:02:46.0, 4027N×2042E, h0km*

ISC 18 12:02:45.4±0.7, 4027N±003×2041E±005, h1km±12km, n11, σ0°59/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.18**	**129**	*i* Pg	**Pg**	**12 02 48.4**	**-0.6**
LSK				*i* Sg	**Sg**	**12 02 51.0**	**-0.4**
SRN	**Sarande**	**0.50**	**220**	*i* Pg	**Pg**	**12 02 54.8**	**-0.2**
SRN				*i* Sg	**Sg**	**12 03 02.8**	**+1.3**
JAN	**Janina**	**0.70**	**151**	*e*PB	**Pg**	**12 02 58.7**	**-0.1**
KEK	**Kerkira**	**0.73**	**221**	*e*PB	**Pg**	**12 02 59.0**	**-0.4**
KEK				*e*SB	**Sg**	**12 03 08.5**	**-0.3**
OHR	**Ohrid**	**0.89**	**19**	*e*Pg	**Pg**	**12 03 02.2**	**-0.3**
OHR				*e*Sg	**Sg**	**12 03 14.8**	**+0.6**
OHR	**Ohrid**	**0.89**	**19**	*e*Pg	**Pg**	**12 03 02.2**	**-0.3**
OHR				*e*Sg	**Sg**	**12 03 14.8**	**+0.6**
OHR	**Ohrid**	**0.89**	**19**	*e*Pg	**Pg**	**12 03 02.2**	**-0.4**
OHR				*e*Sg	**Sg**	**12 03 14.7**	**+0.6**
BIA	**Bitola**	**1.02**	**42**	*e*Pg	**Pg**	**12 03 05.0**	**0.0**
KRUS	**Krusevo**	**1.27**	**30**	*e*Pn	**Pn**	**12 03 10.1**	**-0.2**
THL	**Klokotos Trika**	**1.42**	**119**	*e*PB	**Pn**	**12 03 12.5**	**+0.1**
THL				*e*SB	**Sg**	**12 03 32.2**	**+1.2**
EVR	**Evrytania**	**1.73**	**141**	*e*PN	**Pg**	**12 03 17.9**	**-0.6**

*ATH **18** 12:33:23.3, 4085N×2160E, h4km±2km, MD3.2/3*

*SKO **18** 12:33:24.1, 3999N×2177E, h0km*

*CSEM **18** 12:33:31.2±0.3, 4045N×2176E, h12km, MD3.2, Error ellipse: s-maj=11.5km s-min=6.1km az=81.0*

ISC 18 12:33:32.8±0.9, 4031N±004×2177E±009, h7km±9km, n10, σ0°76/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.00**	**147**	*e*PG	**Pg**	**12 33 34.1**	**+0.1**
KZN				*e*SG	**Sg**	**12 33 41.9**	**+7.1**
THL	**Klokotos Trika**	**0.77**	**166**	*e*PB	**Pb**	**12 33 48.2**	**-0.2**
THL				*e*SB	**Sb**	**12 34 06.4**	**+7.3**
BIA	**Bitola**	**0.79**	**335**	*e*Pg	**Pg**	**12 33 43.2**	**-4.7**
BIA				*e*Sg	**Sg**	**12 33 59.0**	**+0.9**
BIA	**Bitola**	**0.79**	**335**	*e*Pg	**Pg**	**12 33 43.2**	**-4.7**
BIA				*e*Sg	**Sg**	**12 33 59.0**	**+0.9**
OHR	**Ohrid**	**1.09**	**318**	*e*Pg	**Pg**	**12 33 47.7**	**-5.9**
OHR				*e*Sg	**Sg**	**12 34 06.6**	**-1.2**
KRUS	**Krusevo**	**1.13**	**340**	*e*Pg	**Pg**	**12 33 50.5**	**-3.9**
KRUS				*e*Sg	**Sg**	**12 34 09.8**	**+0.7**
KRUS	**Krusevo**	**1.13**	**340**	*e*Pg	**Pg**	**12 33 50.5**	**-3.9**
KRUS				*e*Sg	**Sg**	**12 34 09.8**	**+0.7**
KRUS	**Krusevo**	**1.13**	**340**	*e*Pg	**Pg**	**12 33 50.5**	**-4.0**
KRUS				*e*Sg	**Sg**	**12 34 09.7**	**+0.6**
VAY	**Valandovo**	**1.18**	**31**	*e*Pg	**Pn**	**12 33 50.7**	**-5.0**
VAY				*e*Sg	**Sg**	**12 34 10.3**	**-0.4**
EVR	**Evrytania**	**1.39**	**179**	*e*PN	**Pn**	**12 33 59.0**	**+0.4**

IDC 18 12:46:55.9±1.1, 1016S×12003E, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.7/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/29, Error ellipse: s-maj=54.2km s-min=18.8km az=64.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.58**	**146**	*e*P	Pn	12 49 14.7	-0.3
FITZ				*e*S	Sn	12 50 53.3	-10
FITZ	**Fitzroy Crossi**	**9.58**	**146**	Pn	Pn	12 49 14.7	-0.3
	0.5nm,0.3s,baz=332,slow=11,SNR=21						
FITZ				Sn	Sn	12 50 52.5	-11
	2.4nm,0.3s,baz=180,slow=19,SNR=9.0						
KAKA	**Kakadu**	**12.42**	**103**	*e*P	Pn	12 49 56.5	+2.6
WRA	**Warramunga Arr**	**16.88**	**127**	Pn	Pn	12 50 52.2	-1.3
	0.3nm,0.3s,baz=302,slow=13,SNR=17						
WRA				Sn	Sn	12 53 45.1	-17
	0.4nm,0.3s,baz=292,slow=22,SNR=6.8						
WB2	**Warramunga Arr**	**16.89**	**127**	*e*P	Pn	12 50 52.6	-1.0
WB2				*e*S	Sn	12 53 43.2	-19
ASAR	**Alice Springs**	**18.86**	**137**	P	Pn	12 51 19.4	+1.4
	0.3nm,0.3s,baz=298,slow=10,SNR=40						
ASAR				S	Sn	12 54 35.0	-15
	0.2nm,0.3s,baz=314,slow=24,SNR=7.7						
NWAO	**Narrogin (SRO)**	**22.80**	**186**	P	P	12 52 00.5	+0.4
	3.8nm,0.5s,baz=104,slow=6.1,SNR=4.8						
NWAO				S	S	12 56 00.2	-10
	4.3nm,0.4s,baz=126,slow=13,SNR=5.6						
STKA	**Stephens Creek**	**29.41**	**140**	P	P	12 53 00.3	-0.6
	0.9nm,0.5s,baz=261,slow=7.0,SNR=3.7						
ASAJ	**Asahikawa**	**57.78**	**19**	LR	LR	13 21 20.9	
	comp=Z,68nm,21.3s,baz=139,slow=36						
SONM	**Songino Array**	**59.00**	**349**	P	P	12 56 57.6	+0.3
	0.5nm,0.6s,baz=168,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**65.95**	**333**	P	P	12 57 43.4	-0.4
	0.3nm,0.7s,baz=132,slow=6.2,SNR=3.4						
YKA	**Yellowknife Ar**	**114.82**	**25**	PKP	PKiKP	13 05 38.9	+0.4
	0.3nm,0.5s,baz=294,slow=2.1,SNR=7.2						

*BJI **18** 12:52:37.5, 630S×1457E, h81km, mB5.0, mb4.9, Ms4.9, Msz4.3*

*ISCJB **18** 12:52:38.3±1.6, 702S±010×1544E±006, h108km±16km, mb4.7/26, Error ellipse: s-maj=16.5km s-min=10.0km az=173.5*

*IDC **18** 12:52:38.1±2.5, 684S×1541E, h96km±23km, mb4.2/11, mb1 4.3/15, mb1mx4.2/19, mbtmp4.2/15, MS4.0/11, Ms1 4.0/11, ms1mx3.7/24, Error ellipse: s-maj=19.0km s-min=15.7km az=160.0*

*NEIC **18** 12:52:39.1±1.6, 686S×1540E, h104km±15km, mb4.9/7, Error ellipse: s-maj=15.5km s-min=11.1km az=166.0*

ISC 18 12:52:40.1±1.4, 704S±010×15445E±006, h106km±13km, n54, σ1°24/46, mb4.7/26, 4C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.94**	**114**	P	**Pn**	**12 54 06.9**	**+1.4**
	3.8nm,0.3s,baz=269,slow=8.3,SNR=3.9						
HNR				S	**Sn**	**12 55 22.1**	**+10**
	8.9nm,0.3s,baz=78,slow=2.1,SNR=4.2						
HNR				LR	LR	12 56 18.8	
	comp=Z,792nm,20.9s,baz=356,slow=36						
HNR	**Honiara**	**5.94**	**114**	*e*Pn	**Pn**	**12 54 06.5**	**+0.9**
	101nm,0.8s						
PMG	**Port Moresby**	**7.59**	**251**	P	**Pn**	**12 54 25.9**	**-2.0**
	1.8nm,0.3s,baz=48,slow=9.3,SNR=13						
PMG				S	**Sn**	**12 55 53.0**	**+0.7**
	1.9nm,0.3s,baz=75,slow=21,SNR=10						
PMG	**Port Moresby**	**7.59**	**251**	*e*Pn	**Pn**	**12 54 26.0**	**-1.9**
	40nm,0.8s						
CTA	**Charters Tower**	**15.22**	**211**	*e*P	**Pn**	**12 56 12.8**	**+3.7**
CTA	**Charters Tower**	**15.22**	**211**	P	**Pn**	**12 56 11.1**	**+2.0**
	0.2nm,0.3s,baz=105,slow=11,SNR=3.6						
CTA				LR	LR	13 01 13.4	
	comp=Z,150nm,18.4s,baz=46,slow=34						
CTAO	**Charters Tower**	**15.22**	**211**	*e*P	**Pn**	**12 56 11.8**	**+2.7**
	23nm,0.8s						
DZM	**Mont Dzumac**	**18.90**	**143**	P	**P**	**12 56 52.5**	**+0.3**
	0.3nm,0.3s,baz=356,slow=14,SNR=6.5						
KAKA	**Kakadu**	**22.40**	**254**	*e*P	**P**	**12 57 27.9**	**-1.8**
WB2	**Warramunga Arr**	**23.34**	**235**	*e*P	**P**	**12 57 37.0**	**-1.8**
WRA	**Warramunga Arr**	**23.35**	**235**	P	**P**	**12 57 38.1**	**-0.8**
	16nm,1.0s,mb4.3,baz=60,slow=9.6,SNR=41						
WRA				PcP	PcP	13 01 22.4	-0.2
	1.0nm,0.7s,baz=61,slow=1.7,SNR=4.7						
WRA				ScP	ScP	13 05 03.1	+12
	0.9nm,0.8s,baz=55,slow=3.4,SNR=6.6						
ASAR	**Alice Springs**	**25.74**	**228**	P	**P**	**12 58 00.8**	**+0.3**
	4.9nm,0.9s,mb3.9,baz=62,slow=8.9,SNR=21						
ASAR				ScP	ScP	13 05 10.5	+13
	2.2nm,1.

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.8nm,0.6s,baz=98,slow=1.7,SNR=5.7						
BRG	Berggiesshubel	125.41	330	e(P)	PKPdf	13 11 29.5	+1.0
	comp=Z,2.1nm,0.8s						
BRG	Berggiesshubel	125.41	330	P	PKPdf	13 11 29.5	+1.0
CLL	Collm	125.59	331	ePKPdf	PKPdf	13 11 28.0	-0.8
GERES	GERESS Array B	126.81	329	PKP	PKPdf	13 11 30.3	-0.8
	comp=Z,1.2nm,0.7s,baz=22,slow=1.4,SNR=8.9						
LPAZ	La Paz	131.91	119	PKP	PKPdf	13 11 42.5	+1.7
	comp=Z,0.5nm,0.4s,baz=9.3,slow=5.9,SNR=4.0						
TOA0	Torodi Ar. Sit	152.51	285	ePKPbc	PKPbc	13 12 25.3	+1.5
TORD	Torodi Ar. Bea	152.51	285	PKP	PKPdf	13 12 17.9	+1.0
	comp=Z,1.2nm,0.9s,baz=2.7,slow=1.5,SNR=7.6						
TORD				PKPbc	PKPbc	13 12 24.8	+1.0
	comp=Z,5.5nm,1.0s,baz=52,slow=2.2,SNR=19						

*MOS **18** 13:25:24.3±1.1, 5571N×110.14E, h5^{km}, mb4.4/1, Error ellipse: s-maj=17.3km s-min=12.0km az=55.1*

BYKL 18 13:25:25.5±0.2, 5570N×11014E, h5^{km}±4^{km}, 9C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.35	283	ePG	Pg	13 25 32.1	-0.1
NIZ				e		13 25 37.7	
NIZ				pmax	pmax		
	comp=Z,495nm,0.3s						
NIZ				smax			
	comp=N,2μm,0.3s						
NIZ	Nizh Angarsk	0.35	283	⇑iPg	Pg	13 25 32.3	+0.1
NIZ				eSg	Sg	13 25 37.1	+0.4
NIZ				Pmax			
	comp=N,184nm,0.2s						
NIZ				Smax			
	comp=N,2μm,0.3s						
KMO	Kumora	0.63	72	⇑iPG	Pg	13 25 36.5	-1.1
KMO				e		13 25 44.6	
KMO				pmax	pmax		
	comp=Z,475nm,0.3s						
KMO				smax			
	comp=N,787nm,0.3s						
KMO	Kumora	0.63	72	⇑iPg	Pg	13 25 36.5	-1.1
KMO				i Sg	Sg	13 25 44.9	-0.8
KMO				Pmax			
	comp=N,474nm,0.3s						
KMO				Smax			
	comp=N,410nm,1.0s						
YOA	Uoyan	0.99	63	ePG	Pg	13 25 44.3	-0.2
YOA				e		13 25 57.2	
YOA				pmax	pmax		
	comp=Z,326nm,0.2s						
YOA				smax			
	comp=E,1μm,0.4s						
YOA	Uoyan	0.99	63	eSg	Sg	13 25 57.1	-0.3
YOA				Smax			
	comp=E,1μm,0.3s						
YLYR	Ulyunkhan	1.01	144	⇑iPG	Pg	13 25 43.5	-1.4
YLYR				e		13 25 56.7	
YLYR				pmax	pmax		
	comp=Z,99nm,0.2s						
YLYR				smax			
	comp=E,427nm,0.2s						
YLYR	Ulyunkhan	1.01	144	⇑iPg	Pg	13 25 43.5	-1.4
YLYR				eSg	Sg	13 25 56.8	-1.2
YLYR				e		13 26 02.4	
YLYR				Pmax			
	comp=E,98nm,0.4s						
YLYR				max			
	comp=E,420nm,0.2s						
SVKR	Severomuysk	1.97	76	ePN	Pn	13 26 01.1	+1.6
SVKR				e		13 26 26.6	
SVKR				pmax	pmax		
	comp=Z,255nm,0.5s						
SVKR				smax			
	comp=N,1μm,1.1s						
SVKR	Severomuysk	1.97	76	ePg	Pg	13 26 01.4	-1.9
SVKR				eSg	Sg	13 26 28.3	-0.5
SVKR				Pmax			
	comp=N,255nm,0.3s						
SVKR				Smax			
	comp=N,1μm,0.5s						
SYVR	Suvo	2.05	182	ePN	Pn	13 26 02.0	+1.4
SYVR				e		13 26 30.2	
SYVR				pmax	pmax		
	comp=Z,82nm,0.4s						
SYVR				smax			
	comp=E,501nm,0.7s						
SYVR	Suvo	2.05	182	ePn	Pn	13 26 00.9	+0.3
SYVR				⇑iPg	Pg	13 26 02.1	-2.7
SYVR				eSg	Sg	13 26 30.2	-1.1
SYVR				Pmax			
	comp=E,82nm,0.4s						
SYVR				Smax			
	comp=E,598nm,0.7s						
OGRR	Ongureny	2.54	217	ePN	Pn	13 26 08.2	+0.9
OGRR				e		13 26 11.9	
OGRR				e		13 26 43.6	
OGRR				pmax	pmax		
	comp=Z,29nm,0.3s						
OGRR				smax			
	comp=E,153nm,0.3s						
OGRR	Ongureny	2.54	217	ePn	Pn	13 26 08.3	+1.0
OGRR				ePg	Pg	13 26 10.9	-3.2
OGRR				e		13 26 40.1	
OGRR				eSg	Sg	13 26 43.5	-3.5
OGRR				Pmax			
	comp=E,29nm,0.5s						
OGRR				Smax			
	comp=E,152nm,0.5s						
MXMB	Maximikha	2.57	199	eSg	Sg	13 26 46.0	-2.2
MXMB				Smax			
	comp=E,269nm,0.6s						
BOD	Bodaibo	3.01	43	ePn	Pn	13 26 14.2	+0.4
BOD				ePg	Pg	13 26 18.2	-4.9
BOD				eSn	Sn	13 26 50.2	0.0
BOD				i Sg	Sg	13 26 57.9	-4.2
BOD				Pmax			
	comp=E,14nm,0.2s						
BOD				Smax			
	comp=E,133nm,0.8s						
NLYR	Nelyaty	3.22	73	ePn	Pn	13 26 17.3	+0.7
NLYR				ePg	Pg	13 26 23.1	-4.0
NLYR				eSg	Sg	13 27 05.7	-3.1
TRG	Tyrgan	3.69	219	ePn	Pn	13 26 24.2	+1.0
TRG				e		13 27 09.1	
TRG				eSg	Sg	13 27 20.1	-4.0
TRG				max			
	comp=E,27nm,0.5s						
TRG				Smax			
	comp=E,93nm,0.7s						
TRTB	Turuntaevo	3.78	204	ePn	Pn	13 26 25.0	+0.6
TRTB				ePg	Pg	13 26 33.8	-4.1
TRTB				eSn	Sn	13 27 10.1	+0.9
TRTB				eSg	Sg	13 27 23.0	-3.9
TRTB				Pmax			
	comp=E,10.0nm,0.5s						
TRTB				Smax			
	comp=E,55nm,1.1s						
UUDB	Ulan-Yde	4.11	202	eSg	Sg	13 27 33.1	-4.5
UUDB				Smax			
	comp=E,90nm,1.2s						
CIT	Chita	4.20	150	ePn	Pn	13 26 29.8	-0.4
CIT				ePg	Pg	13 26 39.9	-6.1
CIT				eSg	Sg	13 27 34.6	-5.9
CIT				Pmax			
	comp=E,34nm,1.0s						
CIT				Smax			
	comp=E,80nm,0.7s						
HRMR	Khuramsha	4.50	206	ePn	Pn	13 26 36.0	+1.7
HRMR				ePg	Pg	13 26 45.0	-6.7
HRMR				e		13 26 50.2	
HRMR				eSn	Sn	13 27 27.9	+0.9
HRMR				eSg	Sg	13 27 43.8	-6.2
HRMR				max			
	comp=E,20nm,0.6s						
HRMR				Smax			
	comp=E,140nm,0.9s						
CRS	Chara	4.69	72	ePN	Pn	13 26 37.7	+0.9
CRS				e		13 26 49.1	
CRS				e		13 27 50.2	
CRS				pmax	pmax		
	comp=Z,40nm,1.0s						
CRS				smax			
	comp=E,69nm,1.5s						
CRS	Chara	4.69	72	e	Pn	13 26 37.5	+0.7
CRS				ePg	Pg	13 26 49.9	-5.4
CRS				eSg	Sg	13 27 50.8	-5.2
CRS				Pmax			
	comp=E,63nm,0.7s						
CRS				Smax			
	comp=E,82nm,1.8s						
IRK	Irkutsk	4.90	227	e	Pn	13 27 36.2	+56
IRK				eSg	Sg	13 27 57.1	-5.7
IRK				Smax			
	comp=E,174nm,0.4s						
LSTR	Listvyanka	4.96	222	ePn	Pn	13 26 41.3	+0.6
LSTR				ePg	Pg	13 26 54.4	-6.2
LSTR				eSn	Sn	13 27 35.9	-2.5
LSTR				eSg	Sg	13 27 58.9	-6.0
LSTR				Pmax			
	comp=E,17nm,0.6s						
LSTR				Smax			
	comp=E,52nm,0.6s						
TLY	Talaya	5.58	226	ePn	Pn	13 26 48.2	-0.9
TLY				eSn	Sn	13 27 50.3	-3.2
TLY				eSg	Sg	13 28 17.8	-6.8
TLY				max			
	comp=E,5.0nm,0.6s						
TLY				Smax			
	comp=E,46nm,1.2s						
TUP	Tupik	5.78	99	ePN	Pn	13 26 51.5	-0.4
TUP				e		13 27 08.8	
TUP				eS	Sn	13 27 56.0	-2.6
TUP				e		13 28 22.9	
TUP				pmax	pmax		
	comp=Z,20nm,0.7s						
TUP				smax			
	comp=N,70nm,0.9s						
TUP	Tupik	5.78	99	ePn	Pn	13 26 51.4	-0.5
TUP				ePg	Pg	13 27 08.9	-7.4
TUP				eSn	Sn	13 27 58.6	0.0
TUP				eSg	Sg	13 28 25.6	-5.6
TUP				Pmax			
	comp=N,11nm,1.0s						
TUP				Smax			
	comp=N,67nm,0.9s						
ARS	Arshan	5.93	234	ePN	Pn	13 26 53.9	-0.1
ARS				eS	Sn	13 28 29.4	+27
ARS				smax			
	comp=E,168nm,0.7s						
ARS	Arshan	5.93	234	⇑iPn	Pn	13 26 54.2	+0.2
ARS				eSn	Sn	13 28 00.7	-1.7
ARS				eSg	Sg	13 28 30.8	-5.3
ARS				max			
	comp=E,16nm,0.5s						
ARS				Smax			
	comp=E,169nm,0.7s						
KPC	Khapcheranga	6.16	166	ePn	Pn	13 26 56.4	-0.7
KPC				ePg	Pg	13 27 16.8	-6.7
KPC				i Sg	Sg	13 28 36.2	-7.0
KPC				Pmax			
	comp=E,4.0nm,0.6s						
KPC				Smax			
	comp=E,38nm,1.1s						
ZAK	Zakamensk	6.74	221	eSg	Sg	13 28 55.6	-6.4
ZAK				Smax			
	comp=E,16nm,0.5s						
MOY	Mondy	6.77	237	ePN	Pn	13 27 07.2	+1.7
MOY				e		13 27 28.0	
MOY				e		13 28 53.9	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MOY				smax			
	comp=E,49nm,1.2s						
MOY	Mondy	6.77	237	⇑iPn	Pn	13 27 07.3	+1.8
MOY				e		13 28 23.2	
MOY				eSg	Sg	13 28 53.9	-8.9
MOY				max			
	comp=E,13nm,0.7s						
MOY				Smax			
	comp=E,48nm,1.1s						
ORL	Orlik	6.85	247	⇑iPn	Pn	13 27 08.0	+1.4
ORL				eSn	Sn	13 28 24.3	-0.6
ORL				eSg	Sg	13 28 57.1	-8.2
ORL				max			
	comp=E,5.0nm,0.7s						
ORL				Smax			
	comp=E,75nm,1.0s						
TDJR	Todzha	8.89	254	ePn	Pn	13 27 36.0	+1.3
TDJR				eSg	Sn	13 29 59.7	+44

*IDC **18** 13:27:11.0±1.4, 120N×12589E, h0^{km}, mb4.1/4, mb1 4.2/5, mb1mx3.8/18, mbtmp4.1/5, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=103.4km s-min=21.4km az=67.0*

*ISCJB **18** 13:27:13.4±1.1, 13N±02×126.1E±05, h35^{km}, mb4.2/4, Error ellipse: s-maj=73.6km s-min=14.1km az=132.8*

*NEIC **18** 13:27:13.1±0.8, 074N×125.13E, h10^{km}, Error ellipse: s-maj=75.3km s-min=12.8km az=66.0*

ISC 18 13:27:15.7±1.1, 12N±02×1261E±04, h35^{km}, n9, σ0^{s}89/9, mb4.2/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.20	156	eP	Pn	13 30 45.6	-2.1
KAKA				e		13 30 55.1	
FITZ	Fitzroy Crossi	19.23	181	P	Pn	13 31 37.7	-0.2
	0.2nm,0.3s,baz=16,slow=13,SNR=6.5						
WRA	Warramunga Arr	22.53	160	P	P	13 32 12.7	+0.2
	6.3nm,0.4s,mb4.4,baz=336,slow=12,SNR=42						
WB2	Warramunga Arr	22.54	159	eP	P	13 32 12.5	0.0
ASAR	Alice Springs	25.88	164	P	P	13 32 45.3	+1.1
	2.3nm,0.5s,mb3.9,baz=342,slow=11,SNR=47						
ASAR				PcP	PcP	13 36 14.0	+1.5
	0.6nm,0.6s,baz=356,slow=2.6,SNR=7.2						
STKA	Stephens Creek	36.05	157	eP	P	13 34 14.9	+1.2
STKA	Stephens Creek	36.05	157	P	P	13 34 14.5	+0.8
	1.4nm,0.4s,mb4.2,baz=327,slow=8.8,SNR=11						
MK31	Makanchi Array	59.27	326	eP	P	13 37 13.6	-0.2
MKAR	Makanchi Array	59.27	326	P	P	13 37 13.4	-0.3
	0.7nm,0.4s,mb4.0,baz=120,slow=7.4,SNR=9.9						

*ISCJB **18** 13:36:16.0±1.9, 474S±008×1294E±0.1, h188^{km}±20^{km}, mb4.4/13, Error ellipse: s-maj=23.5km s-min=10.0km az=138.4*

*NEIC **18** 13:36:16.2±2.0, 465S×12946E, h172^{km}±19^{km}, mb3.8/2, Error ellipse: s-maj=33.7km s-min=10.3km az=62.0*

*IDC **18** 13:36:18.8±4.7, 470S×12951E, h196^{km}±44^{km}, mb3.7/6, mb1 3.8/9, mb1mx3.6/16, mbtmp3.7/9, MS3.8/1, Ms1 3.8/1, ms1mx2.5/20, Error ellipse: s-maj=75.1km s-min=14.5km az=70.0*

ISC 18 13:36:15.2±2.4, 46S±01×1296E±02, h159^{km}±24^{km}, n28, σ0^{s}75/28, mb4.4/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	8.55	161	eP	Pn	13 38 16.7	+0.8
KAKA				eS	Sn	13 39 46.0	-5.1
FITZ	Fitzroy Crossi	13.97	196	eP	Pn	13 39 26.4	+0.1
FITZ				eS	Sn	13 41 53.1	-8.2
FITZ	Fitzroy Crossi	13.97	196	P	Pn	13 39 26.6	+0.3
	0.6nm,0.3s,baz=38,slow=9.7,SNR=15						
WRA	Warramunga Arr	15.95	163	P	Pn	13 39 50.3	-0.5
	1.1nm,0.3s,baz=344,slow=12,SNR=48						
WB2	Warramunga Arr	15.96	163	eP	Pn	13 39 49.9	-1.0
WB2				eS	S	13 42 38.5	-10
KKM	Kota Kinabalu	17.01	308	eP	Pn	13 40 02.1	-1.6
ASAR	Alice Springs	19.42	168	P	P	13 40 30.5	+1.3
	2.1nm,0.3s,baz=350,slow=12,SNR=312						
ASAR				PcP	PcP	13 44 43.2	-0.4
	0.3nm,0.3s,baz=350,slow=1.5,SNR=4.2						
STKA	Stephens Creek	29.40	159	P	P	13 42 03.0	-0.4
	0.8nm,0.4s,mb3.8,baz=321,slow=14,SNR=6.1						
STKA	Stephens Creek	29.40	159	eP	P	13 42 03.6	+0.2
CBIJ	Chichi jima	33.77	20	LR	LR	13 54 23.8	
	comp=Z,158nm,18.2s,baz=102,slow=32						
JIRN	Jiri	52.70	310	eP	P	13 45 13.9	+0.6
	10nm,0.5s,mb4.8						
GUN	Gumba	53.07	310	eP	P	13 45 16.4	+0.5
	23nm,0.7s,mb5.0						
PKI	Pulchoki	53.26	309	eP	P	13 45 17.3	0.0
	4.7nm,0.2s,mb4.8						
KKN	Kakani	53.47	310	eP	P	13 45 19.1	+0.3
	11nm,0.6s,mb4.7						
DMN	Daman	53.51	309	eP	P	13 45 19.5	+0.3
GKN	Gorkha	54.07	310	eP	P	13 45 23.5	+0.3
	19nm,0.7s,mb4.9						
KOLN	Koldanda	54.76	309	eP	P	13 45 28.7	+0.5
	15nm,0.5s,mb5.0						
SONM	Songino Array	56.03	341	P	P	13 45 38.0	+0.7
	1.3nm,0.6s,mb4.0,baz=165,slow=7.2,SNR=15						
MK31	Makanchi Array	65.99	326	eP	P	13 46 44.6	+0.2
MKAR	Makanchi Array	65.99	326	P	P	13 46 44.9	+0.5
	4.1nm,0.4s,mb4.6,baz=114,slow=8.6,SNR=120						
ZAL	Zalesovo	69.25	334	P	P	13 47 04.0	-0.8
	1.5nm,0.3s,mb4.2,baz=337,slow=4.7,SNR=6.3						
ZAL	Zalesovo	69.25	334	P	P	13 47 04.0	-0.8
VNDA	Vanda	74.88	173	P	P	13 47 36.5	-1.8
	0.7nm,0.5s,mb3.5,baz=327,slow=7.0,SNR=8.6						
VNDA	Vanda	74.88	173	eP	P	13 47 37.0	-1.3
	0.5nm,0.4s,mb3.5						
BVAR	Borovoye Array	75.81	328	P	P	13 47 43.6	0.0
	1.7nm,0.5s,mb3.9,baz=126,slow=7.5,SNR=10						
BRVK	Borovoye	75.88	328	eP	P	13 47 43.1	-0.9
	3.0nm,0.8s,mb4.0						
TORD	Torodi Ar. Bea	127.89	283	PKP	PKPdf	13 55 01.5	-0.3
	0.9nm,0.7s,baz=82,slow=1.6,SNR=5.4						
TORD	Torodi Ar. Bea	127.89	283	PKP	PKPdf	13 55 01.5	-0.3

*ISCJB **18** 13:42:43.7±1.7, 3539N±008×2735E±008, h7^{km}±8^{km}, Error ellipse: s-maj=16.5km s-min=6.9km az=107.9*

*CSEM **18** 13:42:45.7±0.1, 3545N×2728E, h10^{km}, MD3.4, Error ellipse: s-maj=2.5km s-min=1.0km az=147.0*

*THE **18** 13:42:46.4, 3539N×2726E, h10^{km}*

*ATH **18** 13:42:46.1, 3566N×27.19E, h12^{km}±4^{km}, MD3.4/3*

*NEIC **18** 13:42:46.1, 3566N×27.19E, h12^{km}, MD3.4(ATH), After ATH.*

ISC 18 13:42:44.4±1.7, 3543N±010×2735E±009, h10^{km}±7^{km}, n12, σ0^{s}30/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.20	308	ePG	Pg	13 42 48.9	+0.4
KARP				eSG	Sg	13 42 51.2	-0.1
ZKR	Zakros	0.98	252	ePg	Pg	13 43 03.0	-0.1
ZKR				eSg	Sg	13 43 16.0	+0.1
ARG	Arkhangelos	1.01	38	ePB	Pb	13 43 04.3	+0.4
ARG				eSB	Sb	13 43 17.3	+0.1
NPS	Neapolis	1.43	264	ePG	Pg	13 43 11.3	-0.5
NPS				eSB	Sb	13 43 30.0	+0.7
THR1	Thera Island	1.80	302	ePb	Pn	13 43 15.2	-0.2
THR1	Thera Island	1.80	302	ePb	Pn	13 43 15.2	-0.2
SANT	Santorini	1.80	302	ePb	Pn	13 43 15.0	-0.4
THR6	Thira Island,	1.84	301	ePb	Pn	13 43 15.8	-0.1
THR3	Thira Island,	1.86	302	ePb	Pn	13 43 16.2	-0.1
THR5	Thira Island,	1.90	302	ePb	Pn	13 43 16.7	-0.1
APE	Apeiranthos	2.20	319	ePn	Pn	13 43 20.8	-0.1
APE	Apeiranthos	2.20	319	ePn	Pn	13 43 20.9	0.0

*CSEM **18** 13:55:44.6, 1208N×4379E, h11^{km}, ML3.5, After DHMR*

DHMR 18 13:55:44.6±1.5, 1208N×4379E, h12^{km}±10^{km}, ML3.5, 3C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.19	15	i P	Pn	13 56 07.2	+0.1
TRBA				i S	Sb	13 56 23.0	+0.5
TRBA				AML	AML	13 56 25.2	
	comp=N,824nm,0.1s						
ADEN	Aden	1.35	59	⇓iP	Pn	13 56 09.4	+0.1
ADEN				i S	Sb	13 56 28.4	+1.2
ADEN				AML	AML	13 56 33.7	
	comp=E,2μm,0.3s						
ADEN	Aden	1.35	59	⇓iP	Pn	13 56 09.4	0.0
ADEN				i S	Sb	13 56 28.4	+1.2
	comp=E,808nm,0.3s						
UDYN	Al 'Udayn	1.89	5	⇑iP	Pn	13 56 17.9	+1.2
UDYN				i S	Sn	13 56 44.3	+3.8
UDYN				AML	AML	13 56 51.3	
	comp=E,401nm,0.6s						
UDYN	Al 'Udayn	1.89	5	⇑iP	Pn	13 56 17.9	+1.2
UDYN				i S	Sn	13 56 44.3	+3.9
	comp=E,201nm,0.6s						
LBOS		2.28	38	⇑iP	Pn	13 56 24.2	+2.1
LBOS				i S	Sn	13 56 56.3	+6.1
DHBB	Dhamar BB	2.55	13	i P	Pn	13 56 29.1	+3.3
DHBB				i S	Sn	13 57 03.3	+6.5
BDHA	Al Bayda'	2.56	42	i P	Pn	13 56 28.6	+2.6
BDHA				i S	Sn	13 57 02.4	+5.4
BDHA				AML	AML	13 57 10.1	
	comp=E,213nm,0.5s						
HAJJ	Hajjah	3.61	357	⇓iP	Pn	13 56 42.4	+2.1
HAJJ				i S	Sn	13 57 28.7	+5.8
HAJJ				AML	AML	13 57 40.4	
	comp=N,230nm,1.0s						
HAJJ	Hajjah	3.61	357	⇓iP	Pn	13 56 42.4	+2.1
HAJJ				i S	Sn	13 57 28.7	+5.8
	comp=N,115nm,1.0s						

*ISCJB **18** 14:05:51.1±0.3, 4936N±001×684E±003, h0^{km}, Error ellipse: s-maj=3.3km s-min=2.1km az=169.4*

*CSEM **18** 14:05:52.7±0.1, 4937N×691E, h2^{km}, ML2.6/7, Error ellipse: s-maj=1.9km s-min=1.5km az=75.0*

*LDG **18** 14:05:52.8±0.1, 4938N×688E, h1^{km}, Md2.4/1, Ml2.7/8, Error ellipse: s-maj=2.6km s-min=1.8km az=80.0, Suspected Mining induced.*

*NEIC **18** 14:05:53.5, 4934N×701E, h1^{km}, ML2.3(STR), ML2.7(LDG), After STR.*

*BGR **18** 14:05:53.5±1.8, 4937N×691E, h1^{km}, ML1.8/2, Error ellipse: s-maj=25.6km s-min=6.7km az=93.0*

*BNS **18** 14:05:54.7±0.6, 4945N×691E, h1^{km}, ML1.4*

ISC 18 14:05:52.1±0.3, 4936N±001×687E±003, h0^{km}, n29, σ0^{s}67/54, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.36	20	Pg	Pg	14 05 59.8	+0.7
RUP				Sg	Sg	14 06 05.4	+1.6
LANF	Langenberg	0.72	121	Pg	Pg	14 06 05.9	-0.1
BGG	Burgeitz	0.90	20	ePg	Pg	14 06 10.3	+0.9
BGG				eSg	Sg	14 06 21.0	0.0
CDF	Champ du Feu	0.99	164	ePn	Pn	14 06 11.9	-1.3
CDF				eSg	Sg	14 06 23.6	-0.3
	20nm,0.3s						
CDF	Champ du Feu	0.99	164	ePn	Pn	14 06 11.9	-1.3
CDF				eSg	Sg	14 06 23.6	-0.3
	9.8nm,0.3s						
ECH	Echery	1.16	170	Pg	Pg	14 06 15.0	+0.6
ECH				Sg	Sg	14 06 29.9	+0.4
RFYF	Reffroy	1.17	232	ePg	Pg	14 06 15.4	+0.8
	baz=37						
RFYF				eSg	Sg	14 06 30.1	+0.2
	16nm,0.3s						
RFYF	Reffroy	1.17	232	ePg	Pg	14 06 15.4	+0.8
RFYF				eSg	Sg	14 06 30.1	+0.2
	8.1nm,0.3s						
STB	Steinbach	1.23	359	ePg	Pg	14 06 15.8	0.0
STB				eSg	Sg	14 06 31.8	-0.1
	6.5nm,0.3s						
TOD	Tromm	1.29	78	Pn	Pn	14 06 15.8	-1.6
KLL	Kalltalsperre	1.34	345	ePg	Pg	14 06 17.3	-0.5
KLL				eSg	Sg	14 06 34.7	-0.5
	7.3nm,0.6s						
TNS	Taunus Mts	1.34	49	ePg	Pg	14 06 17.4	-0.4
	SNR=1.9						
TNS				eSg	Sg	14 06 35.4	+0.2
DREG	Dreilaegerbach	1.37	343	ePg	Pg	14 06 18.0	-0.3
DREG				eSg	Sg	14 06 35.5	-0.6
	6.6nm,0.8s						
MEM	Membach	1.37	336	P	Pg	14 06 17.5	-0.9
HAU	Haudompre	1.40	194	ePg	Pg	14 06 18.9	-0.1
HAU				eSg	Sg	14 06 37.3	+0.2
	16nm,0.3s						
HAU	Haudompre	1.40	194	ePg	Pg	14 06 18.9	-0.1
HAU				eSg	Sg	14 06 37.3	+0.2
	7.8nm,0.3s						
BFO	Black Forest	1.41	136	ePg	Pg	14 06 19.6	+0.4
	SNR=3.3						
BFO				eSg	Sg	14 06 37.6	+0.1
BFO	Black Forest	1.41	136	ePn	Pn	14 06 19.6	+0.5
BFO				eSn	Sn	14 06 37.8	-0.6
BFO	Black Forest	1.41	136	ePn	Pn	14 06 19.6	+0.5
BFO				eSn	Sn	14 06 37.8	-0.6
GIVF	Givet	1.52	300	ePg	Pg	14 06 21.2	-0.1
GIVF				eSg	Sg	14 06 42.0	+1.0

	6.2nm,0.3s						
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**14 06 21.2**	**-0.1**
GIVF				*e*Sg	**Sg**	**14 06 42.0**	**+1.0**
	3.1nm,0.3s						
MOF	**Molkenrain**	**1.52**	**173**	Pn	**Pn**	**14 06 21.5**	**+0.9**
MOF				Sg	**Sg**	**14 06 41.7**	**+0.7**
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**14 06 21.5**	**-0.3**
HINF				*e*Sg	**Sg**	**14 06 42.0**	**+0.2**
	26nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**14 06 21.5**	**-0.3**
HINF				*e*Sg	**Sg**	**14 06 42.0**	**+0.2**
	13nm,0.3s						
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**14 06 27.8**	**-0.1**
BAIF				*e*Sg	**Sg**	**14 06 52.5**	**+0.5**
	5.4nm,0.3s						
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**14 06 27.8**	**-0.1**
BAIF				*e*Sg	**Sg**	**14 06 52.5**	**+0.5**
	2.7nm,0.3s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**14 06 37.9**	**-1.7**
	baz=55						
LOR				*e*Sg	**Sg**	**14 07 24.6**	**-0.8**
	3.2nm,0.3s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**14 06 37.9**	**-1.7**
LOR				*e*Sg	**Sg**	**14 07 24.6**	**-0.8**
	1.6nm,0.3s						
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	**Pn**	**14 07 01.9**	**+0.1**
	SNR=2.0						

ISCJB ***18*** *14:24:58.5±0.8, 3796N±006×727E±02, h163km±18km, Error ellipse: s-maj=20.7km s-min=5.9km az=139.1*
NNC ***18*** *14:25:03.5±12.0, 3839N×7264E, h159km±181km, mb2.5, mpv3.3, Error ellipse: s-maj=126.3km s-min=58.8km az=5.0*

ISC 18 14:24:59.5±0.8, 3796N±005×727E±02, h158km±15km, n20, σ0°77/26, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.23**	**10**	P	**Pn**	**14 26 02.7**	**-0.3**
	SNR=28						
UCH	**Uchtor**	**4.48**	**17**	P	**Pn**	**14 26 06.3**	**+0.2**
	SNR=38						
KZA	**Kyzart**	**4.55**	**25**	P	**Pn**	**14 26 06.8**	**-0.3**
	SNR=7.6						
EKS2	**Erkin-Say**	**4.76**	**9**	P	**Pn**	**14 26 10.2**	**+0.3**
	SNR=48						
AAK	**Ala-Archa**	**4.86**	**16**	P	**Pn**	**14 26 11.6**	**+0.4**
	SNR=16						
KBK	**Karagaybulak**	**4.99**	**19**	P	**Pn**	**14 26 14.6**	**+1.7**
	SNR=8.2						
ULHL	**Ulahol**	**5.06**	**31**	P	**Pn**	**14 26 13.7**	**-0.1**
	SNR=11						
CHMS	**Chumysh**	**5.26**	**16**	P	**Pn**	**14 26 16.9**	**+0.4**
	SNR=8.6						
KK31	**Karatay Array**	**5.40**	**343**	⇓P	**Pn**	**14 26 17.4**	**-0.9**
	6.1nm,0.3s,baz=148,slow=12						
KK31				⇑S	**Sn**	**14 27 15.1**	**-4.9**
	14nm,0.5s,baz=168,slow=21						
TKM2	**Tokmak 2**	**5.42**	**23**	⇑P	**Pn**	**14 26 17.2**	**-1.3**
	1.2nm,1.1s						
TKM2				⇑S	**Sn**	**14 27 16.0**	**-4.3**
	0.3nm,0.6s						
USP	**Ospenovka**	**5.47**	**14**	P	**Pn**	**14 26 18.9**	**-0.3**
	SNR=9.9						
DLH	**Dalhousie**	**6.03**	**153**	*e*P	**Sn**	**14 27 36.0**	**+1.2**
THN	**Thein Dam**	**6.04**	**155**	*e*P	**Pn**	**14 26 27.4**	**+0.6**
THN				*e*S	**Sn**	**14 27 33.8**	**-1.3**
KOLN	**Koldanda**	**13.66**	**135**	*e*P	**Pn**	**14 28 06.0**	**-0.7**
KOLN				*e*S	**Sn**	**14 30 28.6**	**-10**
GKN	**Gorkha**	**14.08**	**131**	*e*P	**Pn**	**14 28 11.8**	**-0.3**
GKN				*e*S	**Sn**	**14 30 38.9**	**-9.4**
AB31	**Akbulak array**	**14.57**	**325**	⇑P	**Pn**	**14 28 17.5**	**-0.7**
	3.0nm,0.4s						
AB31				⇑S	**Sn**	**14 30 50.9**	**-9.2**
	1.4nm,0.6s						
KKN	**Kakani**	**14.62**	**130**	*e*P	**Pn**	**14 28 18.4**	**-0.4**
PKI	**Pulchoki**	**14.86**	**130**	*e*P	**Pn**	**14 28 22.2**	**+0.4**
JIRN	**Jiri**	**15.28**	**128**	*e*P	**Pn**	**14 28 27.3**	**+0.4**
	12nm,0.4s						
AKTO	**Aktyubinsk**	**16.29**	**325**	⇑P	**Pn**	**14 28 40.3**	**+1.0**
	0.1nm,0.8s						

CASC 18 14:36:27.0±2.0, 1393N×8971W, h7km±6km, MD3.6, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.07**	**120**	*e*P	x	14 36 29.5	
RTR				*e*S	x	14 36 32.2	
SNJE	**San Jose**	**0.12**	**122**	*e*P	x	14 36 30.1	
SNJE				*e*P	x	14 36 30.1	
SNJE				*e*S	x	14 36 32.6	
SBLS	**San Blas**	**0.13**	**138**	⇓*e*P	x	14 36 30.2	
SBLS				*e*S	x	14 36 32.8	
BOQS	**Boqueron**	**0.46**	**115**	*e*P	x	14 36 36.6	
SNET	**Serv Nac Est T**	**0.53**	**118**	*e*P	x	14 36 39.2	
SNET				*e*S	x	14 36 46.2	
LBRS	**Las Brisas**	**0.68**	**107**	*e*P	x	14 36 40.5	
LFRS	**El Faro**	**0.70**	**116**	*e*P	x	14 36 40.6	
LFRS				*e*S	x	14 36 50.8	
LCBS	**La Ceiba**	**0.76**	**111**	*e*P	x	14 36 42.0	
FUG	**Fuego 3**	**1.21**	**295**	⇑*e*P	Pg	14 36 47.8	-2.4
FUG				*e*S	Sg	14 37 06.7	+0.7
JAT	**Jato**	**1.91**	**282**	*e*P	Pn	14 37 00.8	+0.9
JAT				*e*S	Sn	14 37 26.0	+1.8
CNCH	**Conchagua**	**1.94**	**109**	*e*P	x	14 37 00.5	

CASC 18 14:39:28.4±1.4, 1395N×8975W, h5km±3km, MD3.8, ML3.9, 7C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.11**	**118**	⇑*i*P	x	14 39 32.0	
RTR				*e*S	x	14 39 33.7	
SNJE	**San Jose**	**0.16**	**121**	⇑*i*P	x	14 39 32.8	
SNJE				*e*S	x	14 39 35.3	
SBLS	**San Blas**	**0.17**	**132**	⇓*e*P	x	14 39 32.8	
SBLS				*e*S	x	14 39 34.8	
BOQS	**Boqueron**	**0.50**	**115**	⇓*i*P	x	14 39 39.1	
BOQS				*e*S	x	14 39 47.5	
SNET	**Serv Nac Est T**	**0.57**	**118**	*e*P	x	14 39 39.5	
SNET				*e*S	x	14 39 48.0	
SNET				*i*		14 40 02.2	
	comp=Z,3μm,0.8s						
LBRS	**Las Brisas**	**0.72**	**107**	⇓*e*P	x	14 39 42.8	
LBRS				*e*S	x	14 39 53.5	
LFRS	**El Faro**	**0.74**	**116**	⇑*e*P	x	14 39 43.2	
LFRS				*e*S	x	14 39 54.6	
LCBS	**La Ceiba**	**0.80**	**111**	⇓*e*P	x	14 39 44.1	
PCG	**Pacaya**	**0.94**	**298**	⇓*e*P	Pg	14 39 46.5	0.0
TER	**Terranova**	**0.97**	**291**	⇑*e*P	Pg	14 39 46.6	-0.5
TER				*e*S	Sg	14 39 58.8	-0.9
FUG	**Fuego 3**	**1.17**	**295**	⇑*e*P	Pg	14 39 50.0	-0.8
FUG				*e*S	Sg	14 40 05.6	-0.4
VSM	**San Miguel**	**1.52**	**110**	⇑*e*P	x	14 39 57.5	
BLLM	**Bellamira**	**1.55**	**109**	⇑*e*P	x	14 39 57.2	
JAT	**Jato**	**1.87**	**281**	*e*P	Pn	14 40 03.4	+2.4
JAT				*e*S	Sn	14 40 28.4	+3.4
CNCH	**Conchagua**	**1.98**	**110**	⇓*e*P	x	14 40 04.3	

SKO ***18*** *14:47:37.8, 4252N×1973E, h75km*
ISCJB ***18*** *14:47:40.0±0.4, 4240N±002×1982E±003, h10km, Error ellipse: s-maj=2.8km s-min=2.7km az=30.5*
NEIC ***18*** *14:47:40.8, 4241N×1980E, h0km, ML2.6(PDG), After PDG.*
PDG ***18*** *14:47:40.8±0.2, 4241N×1980E, h0km±1km*
TIR ***18*** *14:47:40.1, 4242N×1974E, h0km, Ml2.5*

ISC 18 14:47:40.9±0.4, 4240N±002×1981E±003, h10km, n20, σ1°01/40, 11C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.23**	**32**	⇑*i*Pg	**Pg**	**14 47 44.8**	**-0.9**
PVY				*e*Sg	**Sg**	**14 47 48.9**	**0.0**
TTG	**Podgorica**	**0.41**	**274**	⇑*i*Pg	**Pg**	**14 47 47.0**	**-1.8**
TTG				*e*Sg	**Sg**	**14 47 53.3**	**-1.0**
SDA	**Shkodra**	**0.42**	**213**	*i* Pg	**Pg**	**14 47 47.9**	**-1.2**
SDA				*i* Sg	**Sg**	**14 47 55.6**	**+1.0**
IVA	**Berane**	**0.48**	**8**	⇑*i*Pg	**Pg**	**14 47 49.4**	**-0.8**
IVA				*e*Sg	**Sg**	**14 47 57.0**	**+0.5**
ULC	**Ulcinj**	**0.60**	**224**	⇑*i*Pg	**Pg**	**14 47 52.0**	**-0.6**
ULC				*e*Sg	**Sg**	**14 48 01.6**	**+1.1**
BUM	**Brajici-Budva**	**0.68**	**262**	⇓*i*Pg	**Pg**	**14 47 53.0**	**-1.0**
BUM				*e*Sg	**Sg**	**14 48 03.9**	**+0.9**
NKY	**Niksic**	**0.72**	**305**	⇑*i*Pg	**Pg**	**14 47 53.8**	**-1.1**
NKY				*e*Sg	**Sg**	**14 48 05.2**	**+0.8**
HCY	**Herceg Novi**	**0.97**	**273**	⇑*i*Pg	**Pg**	**14 47 57.8**	**-1.8**
HCY				*e*Sg	**Sg**	**14 48 13.3**	**+1.1**
PLE	**Pljevlja**	**0.98**	**342**	⇑*i*Pg	**Pg**	**14 47 58.8**	**-1.0**
PLE				*e*Sg	**Sg**	**14 48 13.5**	**+1.0**
UPM	**Unac-Piva**	**1.04**	**321**	⇑*i*Pg	**Pg**	**14 48 00.1**	**-0.8**
UPM				*e*Sg	**Sg**	**14 48 16.0**	**+1.6**
BRY	**Bratogost**	**1.06**	**299**	⇓*i*Pg	**Pg**	**14 48 00.2**	**-1.0**
BRY				*e*Sg	**Sg**	**14 48 16.7**	**+1.7**
OHR	**Ohrid**	**1.49**	**150**	*e*Pg	**Pg**	**14 48 09.2**	**-0.2**
OHR				*e*Sg	**Sg**	**14 48 29.5**	**+0.7**
OHR	**Ohrid**	**1.49**	**150**	*e*Pg	**Pg**	**14 48 09.2**	**-0.2**
OHR				*e*Sg	**Sg**	**14 48 29.5**	**+0.7**
KRUS	**Krusevo**	**1.49**	**133**	*e*Pg	**Pg**	**14 48 08.5**	**-1.0**
KRUS				*e*Sg	**Sg**	**14 48 29.8**	**+0.9**
KRUS	**Krusevo**	**1.49**	**133**	*e*Pg	**Pg**	**14 48 08.5**	**-1.0**
KRUS				*e*Sg	**Sg**	**14 48 29.8**	**+0.9**
BBLS	**Bajina Basta -**	**1.50**	**349**	⇑*i*Pn	**Pn**	**14 48 09.0**	**+1.2**
BBLS				Sg	**Sg**	**14 48 29.3**	**+0.3**
BARS	**Barje**	**1.55**	**74**	⇑*i*Pn	**Pn**	**14 48 09.1**	**+0.6**
BARS				Sg	**Sg**	**14 48 31.2**	**+0.5**
STON	**Ston**	**1.62**	**288**	*i* Pn	**Pn**	**14 48 09.8**	**+0.2**
STON				*i* Sn	**Sn**	**14 48 34.9**	**+4.3**
GRUS	**Gruza**	**1.63**	**24**	⇑*i*Pn	**Pn**	**14 48 10.8**	**+1.2**
GRUS				Sg	**Sg**	**14 48 33.6**	**+0.3**
DIVS	**Divcibare**	**1.70**	**4**	*e*Pn	**Pn**	**14 48 11.1**	**+0.4**
DIVS				Sg	**Sg**	**14 48 34.0**	**-1.6**

IDC ***18*** *15:00:16.7±3.5, 4289N×14488E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=91.5km s-min=26.4km az=55.0*
ISCJB ***18*** *15:00:22.8±0.6, 4257N±004×14376E±006, h27km±5km, mb3.4/2, Error ellipse: s-maj=8.6km s-min=5.0km az=88.9*
JMA ***18*** *15:00:23.5, 4259N×14373E, h19km±2km, M3.3*
JMA Felt I J1.

ISC 18 15:00:23.2±0.8, 4258N±004×14375E±006, h19km±5km, n13, σ0°74/21, mb3.4/2, 3C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.29**	**277**	⇑P	**Pg**	**15 00 29.1**	**-0.5**
JCH				*e*S	**Sg**	**15 00 33.5**	**-0.4**
JOB	**Onbets**	**0.33**	**11**	⇓P	**Pg**	**15 00 30.4**	**+0.1**
JOB				*e*S	**Sg**	**15 00 36.3**	**+1.2**
JEM	**Erimo**	**0.71**	**218**	⇑P	**Pb**	**15 00 36.8**	**-0.2**
JEM				*e*S	**Sb**	**15 00 46.4**	**-0.1**
JAR	**Ashorobuto**	**0.72**	**1**	P	**Pb**	**15 00 36.6**	**-0.5**
JAR				*e*S	**Sb**	**15 00 46.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.80**	**248**	⇑P	**Pb**	**15 00 38.1**	**-0.3**
JNBK				*e*S	**Sb**	**15 00 49.7**	**+0.9**
JAK	**Akkeshi**	**0.81**	**59**	P	**Pb**	**15 00 38.0**	**-0.7**
JAK				*e*S	**Sb**	**15 00 49.3**	**0.0**
JFR	**Furan**	**1.03**	**305**	P	**Pb**	**15 00 42.1**	**-0.3**
JFR				*e*S	**Sb**	**15 00 55.8**	**+0.2**
JBT2	**Biratori 2**	**1.04**	**281**	P	**Pb**	**15 00 41.4**	**-1.2**
ASAJ	**Asahikawa**	**1.75**	**332**	Pn	**Pn**	**15 00 54.4**	**+1.8**
	5.7nm,0.3s,baz=184,slow=12,SNR=67						
ASAJ				Sn	**Sn**	**15 01 19.6**	**+5.3**
	12nm,0.3s,baz=315,slow=32,SNR=20						
MJAR	**Matsushiro Arr**	**7.39**	**217**	Pn	**Pn**	**15 02 11.5**	**+1.4**
	0.3nm,0.3s,baz=28,slow=14,SNR=6.3						
KSRS	**Korea Array**	**13.16**	**252**	Pn	**Pn**	**15 03 37.3**	**+8.2**
	baz=59,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**42.92**	**298**	P	**P**	**15 08 20.3**	**-0.4**
	0.4nm,0.7s,mb3.3,baz=83,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**62.81**	**190**	P	**P**	**15 10 47.4**	**-0.2**
	0.4nm,0.8s,mb3.6,baz=5.1,slow=6.6,SNR=4.5						

MAN 18 15:07:48.9, 837N×12547E, h89km, mb2.7, ML4.1, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.64**	**220**	*e*P	Pn	15 08 06.5	+1.8
BUKP				*e*S	Sn	15 08 19.3	+2.9
CGP	**Cagayan de Oro**	**0.77**	**276**	⇑*e*P	Pn	15 08 07.7	+1.7
CGP				*i* S	Sn	15 08 20.6	+1.8
MATI	**Mati**	**1.62**	**151**	*e*P	Pn	15 08 16.4	+0.3
MATI				*e*S	Sn	15 08 37.6	+1.0
MSLP	**Maasin**	**1.85**	**341**	*e*P	Pn	15 08 19.4	+0.3

IDC ***18*** *15:17:50.1±20.0, 2831S×17789W, h127km±140km, mb3.7/3, mb1 3.8/4, mb1mx3.5/14, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=186.4km s-min=37.9km az=37.0*

ISC 18 15:17:55.7±2.6, 2881S×007×1789W±04, h100km, n21, σ0°97/21, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**9.03**	**194**	*e*PN	**Pn**	**15 20 09.8**	**+6.6**
MXZ				*e*SN	**Sn**	**15 21 43.8**	**+0.7**
PUZ	**Puketiti**	**9.54**	**194**	SN	**Sn**	**15 21 53.7**	**-1.6**
MWZ	**Matawai**	**9.95**	**196**	PN	**Pn**	**15 20 20.7**	**+5.0**
MWZ				*e*SN	**Sn**	**15 22 04.2**	**-1.2**
URZ	**Urewera**	**9.99**	**198**	P	**Pn**	**15 20 20.6**	**+4.4**
	0.3nm,0.3s,baz=300,slow=22,SNR=7.5						
URZ				S	**Sn**	**15 22 07.6**	**+1.2**
	3.8nm,0.3s,baz=134,slow=22,SNR=16						
URZ	**Urewera**	**9.99**	**198**	PN	**Pn**	**15 20 21.8**	**+5.6**
URZ				SN	**Sn**	**15 22 07.3**	**+0.9**
PXZ	**Pawanui**	**11.72**	**196**	*e*PN	**Pn**	**15 20 39.3**	**-0.3**
PXZ				SN	**Sn**	**15 22 39.9**	**-8.6**
TSZ	**Takapari Road**	**11.99**	**199**	*e*SN	Sx	15 22 46.5	
WAZ	**Wanganui**	**12.03**	**203**	*e*PN	**Pn**	**15 20 48.1**	**+4.5**
MRZ	**Mangatainoka R**	**12.66**	**200**	*e*PN	**Pn**	**15 20 51.3**	**-0.7**
MRZ				SN	Sx	15 22 58.8	
TIWZ	**Tintock**	**12.68**	**198**	*e*PN	**Pn**	**15 20 52.1**	**-0.1**
CAW	**Cannon Point**	**13.22**	**200**	*e*PN	**Pn**	**15 20 59.6**	**+0.2**
TCW	**Tory Channel**	**13.57**	**202**	*e*SN	Sx	15 23 21.4	
NNZ	**Nelson**	**13.89**	**205**	*e*SN	Sx	15 23 29.0	
QRZ	**Quartz Range**	**13.89**	**208**	*e*PN	**Pn**	**15 21 10.2**	**+2.0**
THZ	**Tophouse**	**14.54**	**205**	*e*PN	**Pn**	**15 21 16.8**	**+0.3**
THZ				*e*SN	Sx	15 23 41.6	
KHZ	**Kahutara**	**14.89**	**202**	*e*PN	**Pn**	**15 21 21.7**	**+0.8**
MQZ	**McQueen's Vall**	**16.34**	**202**	*e*SN	Sx	15 24 20.0	
STKA	**Stephens Creek**	**34.10**	**255**	P	**P**	**15 24 31.5**	**+0.8**
	0.9nm,0.4s,mb3.9,baz=107,slow=14,SNR=6.9						
ASAR	**Alice Springs**	**42.43**	**266**	P	**P**	**15 25 39.5**	**-0.9**
	2.1nm,0.5s,mb4.1,baz=104,slow=6.7,SNR=76						
WRA	**Warramunga Arr**	**43.27**	**271**	P	**P**	**15 25 46.4**	**-0.9**
	1.3nm,0.4s,mb4.0,baz=110,slow=7.7,SNR=35						
TORD	**Torodi Ar. Bea**	**164.40**	**182**	PKPab	PKPab	15 38 36.0	-6.5
	0.2nm,0.5s,baz=160,slow=4.8,SNR=4.3						

NIED ***18*** *15:39:00, 2420N×12520E, h11km, Mw3.7 Best double couple: M0=4.36000×10^14 NP1:φs=271.00000°, δ86.00000°, λ-105.00000°. NP2:φs=167.00000°, δ16.00000°, λ-14.00000°.*
IDC ***18*** *15:39:50.6±1.1, 2421N×125.17E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx1.9/19, Error ellipse: s-maj=36.4km s-min=20.5km az=75.0*
JMA ***18*** *15:39:54.4±0.2, 2420N×12525E, h0km, M3.6*
JMA Felt I J1.
ISCJB ***18*** *15:39:55.3±0.9, 2429N±009×12535E±006, h50km±8km, mb3.4/4, Error ellipse: s-maj=16.2km s-min=6.9km az=128.4*
NEIC ***18*** *15:39:57.2±1.1, 2434N×12547E, h56km±12km, MG4.2(JMA), Error ellipse: s-maj=14.4km s-min=11.8km az=166.0*

ISC 18 15:39:53.3±1.5, 2413N±007×12533E±005, h11km±9km, n17, σ1°17/22, mb3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.63**	**6**	P	**Pg**	**15 40 06.3**	**+0.8**
JOGS				S	**Sg**	**15 40 14.8**	**+1.0**
JMJ	**Miyako jima 2**	**0.68**	**357**	P	**Pg**	**15 40 06.7**	**+0.2**
JMJ				S	**Sg**	**15 40 15.2**	**-0.2**
JTJ	**Tarama**	**0.77**	**312**	P	**Pg**	**15 40 07.9**	**-0.1**
JTJ				S	**Sg**	**15 40 17.2**	**-0.8**
JIJ	**Ishigaki jima**	**1.11**	**282**	P	**Pg**	**15 40 14.1**	**-0.5**
JIJ				S	**Sg**	**15 40 28.1**	**-0.9**
JKRS	**Kuro-shima**	**1.21**	**275**	P	**Pb**	**15 40 16.1**	**-0.1**
JKRS				S	**Sb**	**15 40 31.7**	**-0.2**
HATJ	**Hateruma jima**	**1.40**	**267**	P	**Pn**	**15 40 19.0**	**+0.3**
IRIF	**Iriomote-Funau**	**1.47**	**278**	P	**Pn**	**15 40 21.3**	**+1.5**
IRIF				S	**Sn**	**15 40 40.6**	**+1.5**
NACB	**Ninganchiao**	**3.41**	**271**	Pn	**Pn**	**15 40 48.7**	**+2.3**
YHNB	**Yeheng**	**3.65**	**279**	*e*Pn	**Pn**	**15 40 53.4**	**+3.8**
JOW	**Kunigami**	**3.78**	**44**	Pn	**Pn**	**15 40 49.8**	**-1.7**
	2.8nm,0.3s,baz=218,slow=10,SNR=6.3						
JNU	**Nakatsue**	**10.20**	**27**	LR	LR	15 46 18.9	
	comp=Z,28nm,21.1s,baz=39,slow=38						
MJAR	**Matsushiro Arr**	**16.61**	**39**	Pn	**Pn**	**15 43 47.4**	**+1.3**
	0.4nm,0.3s,baz=218,slow=11,SNR=4.5						
SONM	**Songino Array**	**28.03**	**332**	P	**P**	**15 45 41.5**	**-3.0**
	0.2nm,0.7s,mb2.9,baz=146,slow=10,SNR=2.6						
MK31	**Makanchi Array**	**41.05**	**314**	*e*P	**P**	**15 47 34.8**	**-1.9**
MKAR	**Makanchi Array**	**41.05**	**314**	P	**P**	**15 47 34.8**	**-1.9**
	0.4nm,0.5s,mb3.3,baz=100,slow=10,SNR=14						
WRA	**Warramunga Arr**	**44.68**	**168**	P	**P**	**15 48 05.9**	**-0.2**
	0.8nm,0.5s,mb3.8,baz=348,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**48.23**	**169**	P	**P**	**15 48 34.2**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=355,slow=8.2,SNR=26						

ISCJB ***18*** *15:40:54.1±2.1, 4029N±010×197E±02, h6km±14km, Error ellipse: s-maj=32.6km s-min=8.8km az=53.0*
CSEM ***18*** *15:40:58.1, 3999N×1976E, h27km, MD3.2/3, After ATH*
ATH ***18*** *15:40:58.1, 3999N×1976E, h27km, MD3.2/3*
SKO ***18*** *15:41:07.5, 4031N×2071E, h9km*

ISC 18 15:40:54.2±2.3, 4027N±009×196E±02, h10km±11km, n10, σ0°90/17, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.57**	**167**	*e*PB	**Pb**	**15 41 05.1**	**-1.3**
JAN	**Janina**	**1.12**	**123**	*e*PN	**Pn**	**15 41 15.5**	**-0.5**
OHR	**Ohrid**	**1.22**	**46**	*e*Pg	**Pg**	**15 41 23.1**	**+5.5**
OHR				*e*Sg	**Sg**	**15 41 32.9**	**-0.6**
OHR	**Ohrid**	**1.22**	**46**	*e*Pg	**Pg**	**15 41 23.1**	**+5.5**
OHR				*e*Sg	**Sg**	**15 41 32.9**	**-0.6**
BIA	**Bitola**	**1.49**	**59**	*e*Pg	**Pg**	**15 41 22.2**	**-0.6**
BIA				*e*Sg	**Sn**	**15 41 35.5**	**-5.1**
BIA	**Bitola**	**1.49**	**59**	*e*Pg	**Pg**	**15 41 22.2**	**-0.6**
BIA				*e*Sg	**Sn**	**15 41 35.5**	**-5.1**
KRUS	**Krusevo**	**1.65**	**48**	*e*Pg	**Pg**	**15 41 27.1**	**+1.4**
KRUS				*e*Sg	**Sn**	**15 41 43.9**	**-0.6**
KRUS	**Krusevo**	**1.65**	**48**	*e*Pg	**Pg**	**15 41 27.1**	**+1.4**
KRUS				*e*Sg	**Sn**	**15 41 43.9**	**-0.6**
THL	**Klokotos Trika**	**1.97**	**110**	*e*PN	**Pn**	**15 41 29.1**	**+1.5**
THL				*e*SN	**Sn**	**15 41 52.3**	**0.0**
EVR	**Evrytania**	**2.16**	**128**	*e*PN	**Pn**	**15 41 31.0**	**+0.7**

MAN 18 15:53:26.2, 961N×12661E, h35km, mb3.4, ML4.6, MS5.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.80**	**287**	*e*P	Pn	15 53 55.7	+1.0
MSLP				*e*S	Sn	15 54 17.0	+0.6
BESP	**Borongan**	**2.29**	**330**	*e*P	Pn	15 54 01.7	+0.3
BESP				*e*S	Sn	15 54 29.6	+1.3
OCLP	**Ormoc**	**2.43**	**306**	*e*P	Pn	15 54 04.7	+1.3

NIED ***18*** *16:27:00, 3890N×14170E, h95km, Mw3.8 Best double couple: M0=6.04000×10^14 NP1:φs=226.00000°, δ54.00000°, λ95.00000°. NP2:φs=38.00000°, δ36.00000°, λ83.00000°.*
ISCJB ***18*** *16:27:40.8±0.7, 3888N±005×14177E±0.10, h69km±4km, mb3.3/5, Error ellipse: s-maj=13.9km s-min=6.2km az=47.8*
JMA ***18*** *16:27:42.1, 3889N×14166E, h66km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs=66.00000°, δ8.00000°, λ147.00000°. NP2:φs=189.00000°, δ85.00000°, λ83.00000°. Principal axes: T Plg49.0000°, Azm91.0000°; N Plg7.0000°, Azm189.0000°; P Plg40.0000°, Azm285.0000°;*
JMA Felt II J1.
IDC ***18*** *16:27:42.8±2.4, 3888N×14189E, h77km±23km, mb3.2/5, mb1 3.4/8, mb1mx3.2/24, mbtmp3.2/8 Error ellipse: s-maj=26.9km s-min=14.9km az=106.0*

ISC 18 16:27:42.1±0.7, 3888N±005×14174E±010, h63km±5km, n17, σ0°76/26, mb3.4/5, 8C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.21**	**345**	⇑P	**Pn**	**16 27 52.3**	**+0.3**
OFUJ				S	**Sn**	**16 27 59.5**	**+0.4**
JMK	**Ichinoseki**	**0.41**	**281**	⇑P	**Pn**	**16 27 53.2**	**-0.3**
JMK				S	**Sn**	**16 28 01.2**	**-0.5**
JIO	**Ouri**	**0.52**	**216**	⇑P	**Pn**	**16 27 54.5**	**0.0**
JIO				S	**Sn**	**16 28 03.3**	**-0.3**
JOM	**Ohasama**	**0.69**	**330**	⇑P	**Pn**	**16 27 56.3**	**-0.1**
JOM				S	**Sn**	**16 28 06.7**	**-0.2**
JOU	**Okura**	**0.98**	**239**	⇑P	**Pn**	**16 27 59.7**	**-0.4**
JOU				S	**Sn**	**16 28 12.9**	**-0.5**
JYK	**Kaneyama**	**1.08**	**273**	⇑P	**Pn**	**16 28 00.9**	**-0.4**
JYK				S	**

KMI	**Kunming**	**24.53**	**5**	P	**P**	**16 43 19.8**	**+1.3**
	comp=Z,6.0nm,0.9s,mb4.2						
KMI				pP		16 44 04.5	
KMI				S	**S**	**16 47 21.1**	**-2.4**
KMI				sS	sS	16 48 32.3	-4.7
KMI				LR	LR		
	comp=Z,20nm,27.3s						
JIRN	**Jiri**	**30.19**	**334**	*e*P	**P**	**16 44 10.0**	**+1.2**
	comp=Z,9.8nm,0.3s,mb4.9						
LSA	**Lhasa**	**30.28**	**344**	*e*P	**P**	**16 44 10.6**	**+0.9**
	comp=Z,6.7nm,0.5s,mb4.5						
GUN	**Gumba**	**30.54**	**334**	*e*P	**P**	**16 44 13.2**	**+1.3**
	comp=Z,44nm,0.4s,mb5.4						
DMN	**Daman**	**30.62**	**333**	*e*P	**P**	**16 44 14.4**	**+1.7**
KKN	**Kakani**	**30.70**	**333**	*e*P	**P**	**16 44 14.0**	**+0.6**
	comp=Z,15nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**31.01**	**128**	ScP	ScP	16 50 28.3	-1.2
	comp=Z,0.9nm,0.4s,baz=337,slow=6.4,SNR=6.3						
GKN	**Gorkha**	**31.18**	**332**	*e*P	**P**	**16 44 18.3**	**+0.8**
	comp=Z,11nm,0.4s,mb4.9						
KOLN	**Koldanda**	**31.48**	**331**	*e*P	**P**	**16 44 21.1**	**+0.9**
	comp=Z,27nm,0.7s,mb5.0						
XAN	**Xi'an**	**34.26**	**13**	P	**P**	**16 44 42.8**	**-1.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
MUN	**Mundaring**	**35.66**	**157**	*e*P	**P**	**16 44 57.5**	**+1.2**
NWAO	**Narrogin (SRO)**	**36.91**	**156**	P	**P**	**16 45 07.7**	**+0.9**
	comp=Z,7.2nm,0.9s,mb4.2,baz=343,slow=4.9,SNR=3.5						
GTA	**Gaotai**	**38.67**	**359**	*e*P	**P**	**16 45 20.1**	**-1.4**
WRA	**Warramunga Arr**	**39.02**	**123**	P	**P**	**16 45 23.7**	**-0.8**
	comp=Z,6.7nm,0.5s,mb4.4,baz=303,slow=9.0,SNR=66						
WRA				ScP	ScP	16 50 57.1	-1.4
	comp=Z,0.4nm,0.9s,baz=309,slow=3.6,SNR=5.7						
WB2	**Warramunga Arr**	**39.03**	**123**	*e*P	**P**	**16 45 23.9**	**-0.6**
ASAR	**Alice Springs**	**40.50**	**129**	P	**P**	**16 45 35.5**	**-1.1**
	comp=Z,1.2nm,0.6s,mb3.5,baz=300,slow=7.9,SNR=20						
ASAR				ScP	ScP	16 51 03.0	-1.3
	comp=Z,0.7nm,0.7s,baz=303,slow=4.0,SNR=11						
FORT	**Forrest**	**40.79**	**142**	*e*P	**P**	**16 45 38.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**41.37**	**13**	*e*P	**P**	**16 45 45.8**	**+2.1**
HHC				AP	pP	16 46 30.5	+2.7
HHC				PP	PP	16 47 28.8	+5.0
HHC				PCS	PcS	16 51 30.3	+1.0
HHC				S	**S**	**16 51 45.6**	**+3.2**
HHC				SS	SS	16 54 53.5	-1.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
HHC				AMB	AMB		
	comp=Z,206nm,5.7s						
HHC				LR	LR		
	comp=N,173nm,17.8s						
HHC				LR	LR		
	comp=E,497nm,17.8s						
HHC				LR	LR		
	comp=Z,173nm,17.2s						
JNU	**Nakatsue**	**43.26**	**38**	P	**P**	**16 45 59.9**	**+0.9**
	comp=Z,11nm,0.8s,mb4.3,baz=226,slow=12,SNR=3.1						
WMQ	**Urumqi**	**44.53**	**347**	P	**P**	**16 46 09.8**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,135nm,5.0s						
WMQ				LR	LR		
	comp=N,26nm,17.0s						
WMQ				LR	LR		
	comp=E,9.0nm,17.0s						
WMQ				LR	LR		
	comp=Z,28nm,16.0s						
KSRS	**Korea Array**	**44.65**	**32**	P	**P**	**16 46 09.7**	**-0.3**
	comp=Z,2.1nm,0.7s,mb3.6,baz=224,slow=7.8,SNR=8.1						
SONM	**Songino Array**	**47.38**	**6**	P	**P**	**16 46 30.9**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.4,baz=187,slow=9.8,SNR=12						
SONM				PcP	PcP	16 47 58.4	0.0
	comp=Z,1.3nm,0.6s,baz=181,slow=4.8,SNR=7.8						
SONM				ScP	ScP	16 51 29.7	-2.7
	comp=Z,0.4nm,0.6s,baz=168,slow=3.6,SNR=4.9						
MK31	**Makanchi Array**	**48.69**	**344**	*e*P	**P**	**16 46 40.8**	**-0.5**
MKAR	**Makanchi Array**	**48.69**	**344**	P	**P**	**16 46 40.7**	**-0.6**
	comp=Z,5.6nm,0.6s,mb4.1,baz=158,slow=8.6,SNR=103						
MKAR	**Makanchi Array**	**48.69**	**344**	P	**P**	**16 46 40.7**	**-0.6**
CTA	**Charters Tower**	**49.38**	**117**	P	**P**	**16 46 46.7**	**+0.2**
	comp=Z,3.4nm,0.6s,mb3.9,baz=270,slow=5.1,SNR=3.7						
CTA	**Charters Tower**	**49.38**	**117**	P	**P**	**16 46 46.7**	**+0.2**
CTAO	**Charters Tower**	**49.38**	**117**	*e*P	**P**	**16 46 46.6**	**+0.1**
MJAR	**Matsushiro Arr**	**50.08**	**40**	P	**P**	**16 46 51.2**	**-0.5**
	comp=Z,2.6nm,1.0s,mb3.5,baz=220,slow=7.5,SNR=4.0						
STKA	**Stephens Creek**	**50.59**	**133**	*e*P	**P**	**16 46 55.1**	**-0.5**
STKA	**Stephens Creek**	**50.59**	**133**	P	**P**	**16 46 54.6**	**-1.1**
	comp=Z,2.4nm,0.7s,mb3.8,baz=323,slow=6.7,SNR=7.4						
ZAL	**Zalesovo**	**54.74**	**349**	P	**P**	**16 47 24.5**	**-1.4**
	comp=Z,4.4nm,0.6s,mb4.2,baz=324,slow=5.3,SNR=10						
ZAL	**Zalesovo**	**54.74**	**349**	P	**P**	**16 47 24.5**	**-1.4**
BVAR	**Borovoye Array**	**57.93**	**339**	P	**P**	**16 47 47.3**	**-1.2**
	comp=Z,5.1nm,0.5s,mb4.4,baz=142,slow=9.4,SNR=60						
BVAR				PcP	PcP	16 48 37.9	-0.4
	comp=Z,0.9nm,0.6s,baz=136,slow=5.1,SNR=4.1						
BRVK	**Borovoye**	**58.00**	**339**	*e*P	**P**	**16 47 47.5**	**-1.4**
	comp=Z,4.0nm,0.4s,mb4.4						
BR131	**Keskin Array S**	**71.89**	**312**	*e*P	**P**	**16 49 18.2**	**-0.2**
	comp=Z,4.6nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**71.89**	**312**	P	**P**	**16 49 18.6**	**+0.2**
	comp=Z,5.4nm,0.6s,mb4.4,baz=133,slow=7.0,SNR=44						
AKASG	**Malin Array Be**	**77.70**	**322**	P	**P**	**16 49 50.9**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.1,baz=87,slow=4.9,SNR=14						
AKASG	**Malin Array Be**	**77.70**	**322**	P	**P**	**16 49 50.9**	**-0.8**
FINES	**FINESS Array B**	**82.04**	**332**	P	**P**	**16 50 14.6**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.2,baz=108,slow=5.5,SNR=25						
KAF	**Kangasniemi**	**82.09**	**333**	*e*p	**P**	**16 50 13.8**	**-1.4**
	comp=Z,7.8nm,0.6s,mb4.5,baz=98,slow=4.8						
STHS	**Stebnicka Huta**	**82.50**	**320**	*e*P	**P**	**16 50 18.8**	**+1.5**
KECS	**Kecovo**	**82.87**	**319**	*e*P	**P**	**16 50 19.2**	**-0.1**
KECS	**Kecovo**	**82.87**	**319**	*e*P	**P**	**16 50 19.3**	**0.0**
ARCES	**ARCESS Array B**	**84.21**	**340**	P	**P**	**16 50 25.2**	**-0.9**
	comp=Z,8.8nm,1.0s,mb4.4,baz=101,slow=4.8,SNR=12						
ARCES	**ARCESS Array B**	**84.21**	**340**	P	**P**	**16 50 25.2**	**-0.9**
GERES	**GERESS Array B**	**87.39**	**319**	P	**P**	**16 50 42.3**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.6,baz=104,slow=3.3,SNR=6.9						
TXAR	**Lajitas Array**	**142.44**	**36**	PKP	PKPdf	16 57 23.4	-2.5
	comp=Z,0.7nm,0.6s,baz=304,slow=1.2,SNR=10						
TXAR				SKPbc	SKPbc	17 00 42.6	-1.2
	comp=Z,0.2nm,0.6s,baz=318,slow=1.1,SNR=3.7						

*ISCJB **18** 16:49:24.3±1.0, 4028N±003×2028E±006, h4km±5km, Error ellipse: s-maj=8.5km s-min=4.6km az=55.6*
*CSEM **18** 16:49:25.9±0.4, 4028N×2032E, h2km, ML2.1, Error ellipse: s-maj=9.1km s-min=3.7km az=119.0*
*THE **18** 16:49:26.2, 4027N×2038E, h10km, ML2.1*
*ATH **18** 16:49:27.1, 40.16N×2038E, h25km, MD3.1/3*

ISC 18 16:49:25.7±0.8, 4028N±003×2034E±006, h8km±5km, n17, σ0°86/29, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.70**	**216**	*e*PN	**Pn**	**16 49 39.7**	**-2.2**
KEK				*e*SN	**Sg**	**16 49 48.9**	**+0.7**
KEK	**Kerkira**	**0.70**	**216**	*e*Sn	**Sg**	**16 49 48.9**	**+0.7**
JAN	**Janina**	**0.73**	**147**	*e*PN	**Pg**	**16 49 39.3**	**-0.5**
IGT	**Igoumenitsa**	**0.74**	**180**	*e*Pg	**Pg**	**16 49 39.6**	**-0.4**
IGT				*e*Sg	**Sg**	**16 49 51.0**	**+1.3**
MEV	**Metsovon**	**0.84**	**125**	*e*Pg	**Pg**	**16 49 40.5**	**-1.4**
MEV				*e*Sg	**Sg**	**16 49 53.8**	**+0.9**
MEV	**Metsovon**	**0.84**	**125**	*e*Pg	**Pg**	**16 49 40.5**	**-1.4**
MEV				*e*Sg	**Sg**	**16 49 53.8**	**+0.9**
FNA	**Florina**	**0.94**	**57**	*e*Pg	**Pg**	**16 49 43.9**	**+0.1**
FNA				*e*Sg	**Sg**	**16 49 56.2**	**+0.2**
BIA	**Bitola**	**1.06**	**45**	*e*Pg	**Pg**	**16 49 46.6**	**+0.6**
BIA				*e*Sg	**Sg**	**16 49 58.9**	**-0.9**
BIA	**Bitola**	**1.06**	**45**	*e*Pg	**Pg**	**16 49 46.6**	**+0.6**
BIA				*e*Sg	**Sg**	**16 49 58.9**	**-0.9**
KRUS	**Krusevo**	**1.29**	**32**	*e*Pn	**Pn**	**16 49 50.4**	**+0.3**
KRUS				*e*Sn	**Sn**	**16 50 09.0**	**+1.5**
KRUS	**Krusevo**	**1.29**	**32**	*e*Pn	**Pn**	**16 49 50.4**	**+0.3**
KRUS				*e*Sn	**Sn**	**16 50 09.0**	**+1.5**
THL	**Klokotos Trika**	**1.47**	**118**	*e*PN	**Pn**	**16 49 53.0**	**+0.5**
THL				*e*SN	**Sn**	**16 50 11.6**	**-0.4**
LIT	**Litokhoron**	**1.66**	**95**	*e*Pb	**Pb**	**16 49 56.1**	**-0.5**
LIT				*e*Sb	**Sb**	**16 50 17.1**	**-0.4**
GRG	**Griva**	**1.71**	**66**	*e*Pb	**Pb**	**16 49 56.5**	**-1.0**
GRG				*e*Sb	**Sb**	**16 50 19.8**	**+0.7**
AGG	**Agios Georgios**	**1.98**	**128**	*e*Pb	**Pn**	**16 50 00.2**	**+0.7**
AGG	**Agios Georgios**	**1.98**	**128**	*e*Pb	**Pn**	**16 50 00.2**	**+0.6**
KNT	**Kendrikon**	**2.14**	**65**	*e*Pn	**Pn**	**16 50 01.5**	**-0.2**

OTT 18 16:49:53.4±0.3, 6582N×9039W, h18km, MN3.3/4, Wager Bay, Nu 203km west from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDN	**First Sedna Si**	**2.61**	**188**	PN	Pn	16 50 34.8	+0.2
SEDN				PG	Pg	16 50 39.7	-3.7
SEDN				SN	Sn	16 51 04.3	-1.5
SEDN				SG	Sg	16 51 12.1	-5.2
SEDN				Trac		16 51 12.6	
	comp=Z,26nm,0.1s						
YRTN	**Rankin Inlet**	**3.12**	**195**	PN	Pn	16 50 41.7	+0.1
YRTN				SN	Sn	16 51 15.7	-2.7
YRTN				SG	Sg	16 51 27.1	-6.5
YRTN				Trac		16 51 32.6	
	comp=Z,30nm,0.1s						
ILON	**Igloolik, Nuna**	**4.84**	**39**	PN	Pn	16 51 01.9	-3.3
ILON				SN	Sn	16 51 58.4	-2.4
ILON				SG	Sg	16 52 23.2	-5.5
ILON				Trac		16 52 25.5	
	comp=Z,34nm,0.3s						
IVKQ	**Ivujivik**	**6.44**	**116**	PN	Pn	16 51 26.1	-1.2
IVKQ				SN	Sn	16 52 36.0	-4.3
IVKQ				LG		16 53 13.1	
IVKQ				Trac		16 53 19.8	
	comp=Z,21nm,0.6s						
FCC	**Fort Churchill**	**7.29**	**195**	PN	Pn	16 51 37.9	-1.1
FCC				SN	Sn	16 52 55.5	-5.9
FCC				LG		16 53 34.8	
FCC				Trac		16 53 40.0	
	comp=Z,32nm,0.4s						
AKVQ	**Akulik**	**7.44**	**127**	PN	Pn	16 51 33.7	-7.3
AKVQ				SN	Sn	16 52 59.7	-5.2
AKVQ				LG		16 53 40.8	
PINU	**Pond Inlet**	**8.17**	**27**	PN	Pn	16 51 50.4	-0.6
PINU				SN	Sn	16 53 17.9	-4.9
PINU				LG		16 54 06.9	
KNDN	**Kennady Lake**	**8.42**	**262**	PN	Pn	16 51 54.7	+0.2
KNDN				SN	Sn	16 53 20.4	-8.7
KNDN				LG		16 54 10.6	
MLON	**Marlo Lake**	**8.49**	**266**	PN	Pn	16 51 54.5	-0.9
MLON				SN	Sn	16 53 23.6	-7.1
MLON				LG		16 54 11.6	
RES	**Resolute Bay**	**9.03**	**352**	SN	Sn	16 53 37.3	-6.8
RES				LG		16 54 28.9	
INUQ	**Inukjuak**	**9.35**	**137**	SN	Sn	16 53 42.5	-9.3
INUQ				LG		16 54 42.6	
FRB	**Frobisher Bay**	**9.54**	**93**	SN	Sn	16 53 49.8	-6.6
FRB				Trac		16 53 53.0	
	comp=Z,7.6nm,0.6s						
FRB				LG		16 54 37.0	
CTLN	**Castor Lake**	**10.85**	**274**	PN	Pn	16 52 25.8	-2.0
CTLN				SN	Sn	16 54 17.7	-11
CTLN				LG		16 55 19.8	
YKW3	**Yellowknife Ar**	**11.02**	**264**	PN	Pn	16 52 27.5	-2.6
YKW3				SN	Sn	16 54 19.8	-13
YKW3				LG		16 55 29.7	
YKW3				Trac		16 55 31.2	
	comp=Z,3.0nm,0.4s						
VIMO	**Victor Mine**	**13.47**	**162**	PN	Pn	16 52 47.5	-16
VIMO				SN	Sn	16 55 18.0	-15
LG4Q	**La Grande 4**	**14.66**	**139**	PN	Pn	16 53 15.2	-4.7
LG4Q				SN	Sn	16 55 45.5	-16
NANO	**Nakina Ontario**	**15.62**	**172**	PN	Pn	16 53 30.2	-2.2
NANO				SN	Sn	16 56 11.0	-14
SCHQ	**Schefferville**	**15.91**	**123**	PN	Pn	16 53 31.8	-4.6

*IDC **18** 16:59:33.0±0.4, 1338N×146.10E, h0km, mb4.8/28, mb1 4.9/28, mb1mx4.8/30, mbtmp4.8/28, MS4.7/15, Ms1 4.7/15, ms1mx4.5/29, Error ellipse: s-maj=14.5km s-min=8.9km az=81.0*
*ISCJB **18** 16:59:37.0±0.2, 1343N±004×14581E±002, h31km, mb5.1/96, MS4.7/41, Error ellipse: s-maj=5.5km s-min=3.4km az=13.3*
*BJI **18** 16:59:37.1, 1351N×146.19E, h48km, mB5.1, mb5.0, Ms4.8, Msz4.6*
*NEIC **18** 16:59:39.3±1.5, 1339N×14589E, h42km±13km, mb5.3/28, Error ellipse: s-maj=7.7km s-min=5.6km az=95.0*
NEIC Felt at Santa Rita and Yigo.
*MOS **18** 16:59:39.3±1.0, 1349N×14587E, h56km, mb5.4/29, MS4.6/12, Error ellipse: s-maj=10.4km s-min=5.9km az=114.2*
*GCMT **18** 16:59:39.3±0.2, 1323N×146.17E, h16km, MW5.1/65, Moment Tensor Solution. s42,c54; s65,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mr-4.40±.18; Mθθ0.87±.11; Mφφ3.53±.13; Mrθ1.08±.35; Mφθ1.28±.09; Mφr2.49±.34; Best double couple: M0=5.02000×10^16 NP1:φs21.00000°, δ29.00000°, λ-91.00000°. NP2: φs203.00000°, δ61.00000°, λ-89.00000°. Principal axes: T 4.8420, Plg16.0000°, Azm292.0000°; N 0.3550, Plg1.0000°, Azm22.0000°; P -5.1970, Plg74.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 16:59:39.3±0.2, 1346N±004×14587E±002, h32km, h32km±3.1km: pP-P, n425, σ0°90/433, mb5.0/96, MS4.7/41, 82C-73D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.99**	**277**	Pn	**Pn**	**16 59 58.7**	**+1.9**
	970nm,0.3s,baz=148,slow=8.5,SNR=297						
GUMO				Sn	**Sn**	**17 00 16.2**	**+6.6**
	2μm,0.3s,baz=255,slow=20,SNR=38						
GUMO	**Guam**	**0.99**	**277**	*e*Pn	**Pn**	**16 59 58.1**	**+1.3**
JHJ	**Hachijo jima 2**	**20.34**	**345**	P	**P**	**17 04 12.4**	**-0.3**
	91nm,0.6s,baz=115,slow=19,SNR=2.6						
JOW	**Kunigami**	**21.17**	**312**	P	**P**	**17 04 23.8**	**+2.0**
	89nm,0.9s,mb5.1,baz=133,slow=12,SNR=13						
PMG	**Port Moresby**	**22.76**	**177**	P	**P**	**17 04 37.8**	**-0.9**
	11nm,0.7s,mb4.4,baz=316,slow=2.5,SNR=5.9						
PMG				S	**S**	**17 08 45.5**	**-0.1**
	4.4nm,0.7s,baz=84,slow=18,SNR=2.6						
PMG				LR	LR	17 12 15.5	
	comp=Z,853nm,20.3s,MS4.2,baz=177,slow=34						
PMG	**Port Moresby**	**22.76**	**177**	*de*P	**P**	**17 04 37.2**	**-1.4**
PMG	**Port Moresby**	**22.76**	**177**	*e*P	**P**	**17 04 36.8**	**-1.9**
	36nm,0.8s,mb4.8						
JNU	**Nakatsue**	**23.87**	**328**	P	**P**	**17 04 51.0**	**+1.2**
	79nm,1.2s,mb5.0,baz=180,slow=24,SNR=6.7						
MJAR	**Matsushiro Arr**	**23.99**	**345**	P	**P**	**17 04 49.4**	**-1.4**
	13nm,0.9s,mb4.3,baz=175,slow=11,SNR=16						
MJAR				LR	LR	17 13 49.6	
	comp=Z,2μm,19.4s,MS4.6,baz=165,slow=36						
MAJO	**Matsushiro**	**23.99**	**345**	*e*P	**P**	**17 04 49.3**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,46nm,1.0s,mb4.9						
MAJO	**Matsushiro**	**23.99**	**345**	*e*P	**P**	**17 04 49.3**	**-1.5**
	comp=Z,46nm,1.0s,mb4.9						
MAT	**Matsushiro**	**23.99**	**345**	P	**P**	**17 04 50.3**	**-0.5**
MAT				*e*S	**S**	**17 08 58.6**	**-6.9**
TGY	**Tagaytay City**	**24.23**	**274**	P	**P**	**17 04 53.5**	**+0.5**
	comp=Z,188nm,0.9s,baz=126,slow=7.4,SNR=6.0						
SSE	**Sheshan**	**28.70**	**312**	P	**P**	**17 05 34.1**	**+0.8**
SSE				S	**S**	**17 10 22.3**	**+2.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,110nm,5.8s						
SSE				LR	LR		
	comp=N,89nm,19.3s,MS3.8						
SSE				LR	LR		
	comp=E,223nm,19.3s,MS3.8						
SSE				LR	LR		
	comp=Z,349nm,18.4s,MS4.0						
SSE	**Sheshan**	**28.70**	**312**	P	**P**	**17 05 34.1**	**+0.8**
	comp=Z,30nm,0.6s,mb5.2						
SSE				S	**S**	**17 10 22.3**	**+2.1**
SSE				sS	sS	17 10 43.9	+8.3
SSE				LR	LR		
	comp=Z,350nm,18.4s,MS4.0						
KSRS	**Korea Array**	**28.76**	**329**	P	**P**	**17 05 33.4**	**-0.5**
	comp=Z,27nm,1.0s,mb5.0,baz=141,slow=9.9,SNR=58						
KSRS				PcP	PcP	17 08 44.2	+0.8
	comp=Z,5.9nm,1.0s,baz=147,slow=2.4,SNR=6.5						
KAKA	**Kakadu**	**29.22**	**208**	*e*P	**P**	**17 05 35.8**	**-2.1**
KAPI	**Kappang**	**31.78**	**236**	P	**P**	**17 06 00.9**	**+0.4**
	comp=Z,156nm,1.1s,mb5.8,SNR=7.2						
VLA	**Vladivostok**	**31.92**	**340**	⇑*i*P	**P**	**17 06 00.3**	**-1.4**
VLA				*e**PP	pP	17 06 15.3	+4.2
VLA				*e**SP	sP	17 06 22.6	+7.5
VLA				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.2						
VLA				MLR	MLR		
	comp=Z,1μm,16.7s,MS4.6						
DL2	**Dalian**	**33.19**	**324**	P	**P**	**17 06 14.3**	**+1.4**
DL2				S	**S**	**17 11 32.4**	**+1.9**
DL2				XS	sS	17 11 52.5	+6.4
DL2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
DL2				AMB	AMB		
	comp=Z,100nm,4.1s						
DL2				LR	LR		
	comp=N,370nm,17.1s,MS4.4						
DL2				LR	LR		
	comp=E,430nm,16.2s,MS4.4						
DL2				LR	LR		
	comp=Z,440nm,18.5s,MS4.2						
CTA	**Charters Tower**	**33.34**	**179**	P	**P**	**17 06 11.0**	**-3.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=356,slow=14,SNR=3.4						
CTA	**Charters Tower**	**33.34**	**179**	P	**P**	**17 06 11.0**	**-3.2**
YSS	**Yuzh-Sakhalins**	**33.49**	**356**	*e*P	**P**	**17 06 13.0**	**-2.5**
YSS				*e*		17 06 28.5	
YSS				MLR	MLR		
	comp=Z,800nm,18.0s,MS4.5						
YSS				MLR	MLR		
	comp=N,600nm,16.0s,MS4.5						
YSS				MLR	MLR		
	comp=E,400nm,16.0s,MS4.5						
WHN	**Wuhan**	**33.65**	**306**	⇓P	**P**	**17 06 17.5**	**+0.6**
MDJ	**Mudanjiang**	**34.02**	**339**	P	**P**	**17 06 19.8**	**-0.3**
MDJ				PP	PP	17 07 33.9	-3.5
MDJ				PCP	PcP	17 08 54.1	-3.4
MDJ				S	**S**	**17 11 44.4**	**+1.2**
MDJ				PCS	PcS	17 12 44.0	+0.4
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,102nm,5.9s						
MDJ				LR	LR		
	comp=N,575nm,17.4s,MS4.5						
MDJ				LR	LR		
	comp=E,470nm,17.4s,MS4.5						
MDJ				LR	LR		
	comp=Z,685nm,17.4s,MS4.4						
SNY	**Shenyang**	**34.26**	**330**	⇓P	**P**	**17 06 21.8**	**-0.4**
SNY				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
SNY				LR	LR		
	comp=N,770nm,20.4s						
SNY				LR	LR		
	comp=E,946nm,15.0s						
SNY				LR	LR		
	comp=Z,1μm,18.6s,MS4.6						
CN2	**Changchun**	**34.95**	**334**	*e*P	**P**	**17 06 27.6**	**-0.5**
CN2				*e*S	**S**	**17 11 58.8**	**+1.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,900nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,800nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,1μm,18.0s,MS4.7						
QIZ	**Qiongzhong**	**34.99**	**284**	*e*P	**P**	**17 06 29.6**	**+1.1**
QIZ				*e*S	**S**	**17 12 01.4**	**+3.2**
QIZ				LR	LR		
	comp=E,1μm,23.2s						
QIZ				LR	LR		
	comp=Z,1μm,19.5s,MS4.6						
WB2	**Warramunga Arr**	**35.08**	**199**	*e*P	**P**	**17 06 28.0**	**-1.3**
WB2				*e*PCP	PcP	17 09 01.3	+0.8
WRA	**Warramunga Arr**	**35.08**	**199**	P	**P**	**17 06 27.7**	**-1.6**
	comp=Z,21nm,0.9s,mb5.1,baz=21,slow=9.6,SNR=88						
WRA				PcP	PcP	17 09 01.0	+0.4
	comp=Z,10.0nm,0.8s,baz=15,slow=3.6,SNR=14						
WRA				ScP	ScP	17 12 44.1	+0.4
	comp=Z,3.3nm,1.1s,baz=15,slow=3.7,SNR=5.8						
WRA				PKiKP	PKiKP	17 16 20.7	-1.6
	comp=Z,1.0nm,0.8s,baz=332,slow=1.4,SNR=9.8						
WRA				LR	LR	17 21 15.1	
	comp=Z,725nm,18.1s,MS4.5,baz=10.0,slow=37						
WRA	**Warramunga Arr**	**35.08**	**199**	P	**P**	**17 06 27.7**	**-1.6**
WRA						17 09 01.0	
WRA	**Warramunga Arr**	**35.08**	**199**	P	**P**	**17 06 27.7**	**-1.6**
WRA				PcP	PcP	17 09 01.0	+0.4
WRA				ScP	ScP	17 12 44.1	+0.5
BJT	**Baijiatuau**	**37.14**	**321**	*e*P	**P**	**17 06 47.1**	**+0.2**
BJT				pmax	pmax		
	comp=Z,64nm,1.2s						
BJT	**Baijiatuau**	**37.14**	**321**	*e*P	**P**	**17 06 47.1**	**+0.1**
	comp=Z,64nm,1.2s,mb5.3						
BJI	**Beijing**	**37.15**	**321**	P	**P**	**17 06 45.8**	**-1.2**
BJI				S	**S**	**17 12 39.3**	**+7.9**
BJI				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.0						
BJI				AMB	AMB		
	comp=Z,147nm,3.6s						
BJI				LR	LR		
	comp=N,717nm,17.1s,MS4.7						
BJI				LR	LR		
	comp=E,710nm,17.0s,MS4.7						
BJI				LR	LR		
	comp=Z,848nm,17.1s,MS4.6						
BJI	**Beijing**	**37.15**	**321**	P	**P**	**17 06 45.8**	**-1.2**
	comp=Z,29nm,1.1s,mb5.0						
BJI				S	**S**	**17 12 39.3**	**+7.9**
BJI				LR	LR		
	comp=Z,850nm,17.1s,MS4.6						
FITZ	**Fitzroy Crossi**	**37.18**	**213**	*e*P	**P**	**17 06 46.8**	**-0.4**
FITZ				*e*PCP

HHC				AMB	AMB		
	comp=Z,125nm,4.5s						
HHC				LR	LR		
	comp=N,566nm,20.2s,MS4.5						
HHC				LR	LR		
	comp=E,469nm,21.4s,MS4.5						
HHC				LR	LR		
	comp=Z,615nm,22.0s,MS4.4						
PET	**Petropavlovsk**	**40.76**	**12**⇑	*e*P	**P**	**17 07 15.0**	**-2.2**
PET				pmax	pmax		
	comp=Z,38nm,1.7s,mb4.8						
BTO	**Baotou**	**41.38**	**318**	*e*P	**P**	**17 07 21.8**	**-0.5**
HIA	**Hailar**	**41.67**	**334**	*e*P	**P**	**17 07 23.8**	**-0.9**
HIA				pmax	pmax		
	comp=Z,45nm,1.1s						
HIA	**Hailar**	**41.67**	**334**	*e*P	**P**	**17 07 23.8**	**-0.9**
	comp=Z,45nm,1.1s,mb5.0						
KMI	**Kunming**	**42.16**	**293**	P	**P**	**17 07 27.9**	**-0.8**
KMI				PP	PP	17 09 05.1	-1.5
KMI				PCP	PcP	17 09 24.8	+2.2
KMI				S	**S**	**17 13 43.8**	**-2.6**
KMI				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.8						
KMI				LR	LR		
	comp=N,534nm,15.9s,MS4.6						
KMI				LR	LR		
	comp=E,377nm,19.0s,MS4.6						
KMI				LR	LR		
	comp=Z,491nm,22.2s,MS4.3						
KMI	**Kunming**	**42.16**	**293**	P	**P**	**17 07 27.9**	**-0.8**
KMI				*SP	sP	17 07 41.3	-0.9
KMI						17 09 05.1	
KMI						17 09 24.8	
KMI				S	**S**	**17 13 43.8**	**-2.6**
KMI				SS	SS	17 16 45.4	-9.5
KMI				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.8						
KMI				MLR	MLR		
	comp=Z,490nm,22.2s,MS4.3						
KMI	**Kunming**	**42.16**	**293**	P	**P**	**17 07 27.9**	**-0.8**
	comp=Z,12nm,0.5s,mb4.8						
KMI				sP	sP	17 07 41.3	-0.9
KMI				PP	PP	17 09 05.1	-1.5
KMI				PcP	PcP	17 09 24.8	+2.2
KMI				S	**S**	**17 13 43.8**	**-2.6**
KMI				SS	SS	17 16 45.4	-9.5
KMI				LR	LR		
	comp=Z,490nm,22.2s,MS4.3						
CD2	**Chengdu**	**42.40**	**301**	P	**P**	**17 07 30.9**	**+0.3**
CD2				AP	pP	17 07 38.3	-1.9
CD2				PP	PP	17 09 12.5	+3.4
CD2				PCP	PcP	17 09 24.5	+1.1
CD2				S	**S**	**17 13 49.1**	**-0.8**
CD2				SS	SS	17 16 53.0	-6.5
CD2				SCS	ScS	17 17 28.8	-1.1
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
CD2				AMB	AMB		
	comp=Z,170nm,5.7s						
CD2				LR	LR		
	comp=N,610nm,11.2s,MS4.9						
CD2				LR	LR		
	comp=E,780nm,13.7s,MS4.9						
CD2				LR	LR		
	comp=Z,710nm,13.1s,MS4.7						
NANT	**Nan**	**43.63**	**283**	⇑P	**P**	**17 07 39.3**	**-1.3**
LZH	**Lanzhou**	**43.86**	**308**	⇓P	**P**	**17 07 43.9**	**+1.5**
LZH				AP	pP	17 07 51.6	-0.5
LZH				XP	sP	17 07 56.3	+0.3
LZH				PP	PP	17 09 28.0	+3.2
LZH				PCP	PcP	17 09 29.9	+1.6
LZH				*e*S	**S**	**17 14 14.0**	**+2.6**
LZH				XS	sS	17 14 28.0	+0.8
LZH				SS	SS	17 17 21.1	-7.1
LZH				AMB	AMB		
	comp=Z,61nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
LZH				LR	LR		
	comp=N,512nm,13.2s						
LZH				LR	LR		
	comp=Z,810nm,16.0s,MS4.7						
LZH	**Lanzhou**	**43.86**	**308**	⇓P	**P**	**17 07 43.9**	**+1.5**
LZH				*SP	sP	17 07 56.2	+0.2
LZH						17 09 28.0	
LZH						17 09 29.9	
LZH				*e*S	**S**	**17 14 14.0**	**+2.6**
LZH				SS	SS	17 17 21.1	-7.1
LZH				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.3						
LZH				MLR	MLR		
	comp=Z,810nm,16.0s,MS4.7						
LZH	**Lanzhou**	**43.86**	**308**	⇓P	**P**	**17 07 43.9**	**+1.5**
	comp=Z,61nm,1.0s,mb5.3						
LZH				pP	pP	17 07 51.6	-0.5
LZH				sP	sP	17 07 56.2	+0.2
LZH				PP	PP	17 09 28.0	+3.2
LZH				PcP	PcP	17 09 29.9	+1.6
LZH				*e*S	**S**	**17 14 14.0**	**+2.6**
LZH				sS	sS	17 14 28.0	+0.8
LZH				SS	SS	17 17 21.1	-7.1
LZH				LR	LR		
	comp=Z,810nm,16.0s,MS4.7						
NST	**Nakhon Sawan**	**44.26**	**279**	P	**P**	**17 07 47.0**	**+1.4**
STKA	**Stephens Creek**	**45.27**	**185**	*e*P	**P**	**17 07 50.0**	**-3.7**
STKA	**Stephens Creek**	**45.27**	**185**	P	**P**	**17 07 51.1**	**-2.6**
	comp=Z,9.0nm,0.7s,mb4.7,baz=356,slow=7.2,SNR=24						
STKA				LR	LR	17 28 15.8	
	comp=Z,1μm,18.1s,MS4.8,baz=11,slow=38						
KULM	**Kulim**	**45.29**	**264**	*e*P	**P**	**17 07 53.6**	**-0.2**
CLNS	**Chul'man**	**46.17**	**344**	*e*P	**P**	**17 07 58.2**	**-2.6**
CLNS				*e*		17 09 34.9	
CLNS				*e*S	**S**	**17 14 35.2**	**-10**
CLNS				*e*		17 17 57.0	
CLNS				pmax	pmax		
	comp=E,8.0nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.9s						
CLNS				smax			
	comp=N,54nm,13.5s						
CLNS				smax			
	comp=Z,73nm,11.5s						
CLNS				smax			
	comp=E,401nm,11.1s						
CLNS				MLR	MLR		
	comp=N,100nm,15.0s,MS5.1						
CLNS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s,MS5.1						
MA2	**Magadan**	**46.17**	**3**	*e*P	**P**	**17 07 59.8**	**-1.0**
MA2				*e*		17 08 14.0	
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
CIT	**Chita**	**46.38**	**333**	*e*P	**P**	**17 08 01.0**	**-1.4**
FORT	**Forrest**	**47.21**	**201**	⇓*i*P	**P**	**17 08 08.2**	**-0.7**
SONM	**Songino Array**	**47.40**	**324**	P	**P**	**17 08 10.8**	**+0.4**
	comp=Z,4.6nm,0.7s,mb4.5,baz=137,slow=7.9,SNR=31						
SONM				PcP	PcP	17 09 41.8	+1.1
	comp=Z,3.1nm,0.7s,baz=118,slow=3.6,SNR=3.7						
PSI	**Prapat**	**47.58**	**261**	P	**P**	**17 08 12.3**	**+0.5**
	comp=Z,14nm,0.9s,mb5.0,baz=94,slow=2.5,SNR=8.6						
GTA	**Gaotai**	**47.99**	**311**	*e*P	**P**	**17 08 15.3**	**+0.3**
GTA				AP	pP	17 08 28.0	+3.3
GTA				XP	sP	17 08 32.9	+4.3
GTA				PCP	PcP	17 09 44.5	+1.8
GTA				PP	PP	17 10 08.3	+1.2
GTA				S	**S**	**17 15 09.8**	**-0.9**
GTA				XS	sS	17 15 28.1	+1.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,171nm,7.3s						
GTA				LR	LR		
	comp=N,397nm,17.6s,MS4.7						
GTA				LR	LR		
	comp=E,648nm,18.7s,MS4.7						
GTA				LR	LR		
	comp=Z,654nm,18.3s,MS4.6						
SEY	**Seymchan**	**49.62**	**4**⇑	*e*P	**P**	**17 08 26.6**	**-0.9**
YAK	**Yakutsk**	**49.87**	**350**	*d i*P	**P**	**17 08 27.2**	**-2.2**
YAK				*e*S	**S**	**17 15 35.3**	**-1.9**
YAK				pmax	pmax		
	comp=N,22nm,1.1s						
YAK				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.5						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				smax			
	comp=E,3.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,737nm,20.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,399nm,18.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,260nm,18.0s,MS4.5						
YAK	**Yakutsk**	**49.87**	**350**	*e*P	**P**	**17 08 26.7**	**-2.7**
	comp=E,46nm,0.9s,mb5.5						
BOD	**Bodaibo**	**50.39**	**338**	*e*P	**P**	**17 08 31.0**	**-2.3**
BOD				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
ZAK	**Zakamensk**	**50.49**	**326**	*e*P	**P**	**17 08 32.5**	**-1.6**
ZAK				*e*		17 09 50.1	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
IRK	**Irkutsk**	**50.97**	**328**	*e*P	**P**	**17 08 37.8**	**+0.1**
IRK				*e*		17 10 31.0	
IRK				pmax	pmax		
	comp=Z,44nm,2.0s,mb5.0						
TLY	**Talaya**	**50.98**	**327**	*e*P	**P**	**17 08 37.8**	**0.0**
TLY				*e*		17 10 29.7	
TLY				*e*PPP		17 11 36.5	
TLY				*e*S	**S**	**17 15 51.7**	**-0.9**
TLY				*e*SS	SS	17 19 25.2	-2.5
TLY				*e*SSS		17 21 01.3	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TLY	**Talaya**	**50.98**	**327**	P	**P**	**17 08 36.7**	**-1.1**
	comp=Z,24nm,1.2s,mb5.0						
KLBR	**Kellerberrin**	**52.29**	**211**	*e*P	**P**	**17 08 46.8**	**-0.8**
LSA	**Lhasa**	**52.92**	**297**	*e*P	**P**	**17 08 53.7**	**+1.4**
LSA				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3						
LSA	**Lhasa**	**52.92**	**297**	*e*P	**P**	**17 08 53.7**	**+1.4**
	comp=Z,34nm,0.8s,mb5.3						
MUN	**Mundaring**	**53.38**	**212**	⇓*i*P	**P**	**17 08 54.7**	**-0.9**
BILL	**Bilibino**	**56.13**	**9**	⇓*i*P	**P**	**17 09 14.0**	**-1.5**
BILL				*i*		17 09 33.3	
BILL				*e*		17 10 11.8	
BILL				*e*		17 11 19.0	
BILL				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.4						
BILL	**Bilibino**	**56.13**	**9**	*e*P	**P**	**17 09 13.4**	**-2.1**
	comp=Z,44nm,1.1s,mb5.4						
JIRN	**Jiri**	**57.15**	**294**	*e*P	**P**	**17 09 23.7**	**+0.9**
	comp=Z,25nm,0.5s,mb5.5						
GUN	**Gumba**	**57.43**	**295**	*e*P	**P**	**17 09 25.6**	**+0.8**
	comp=Z,139nm,1.1s,mb5.9						
PKI	**Pulchoki**	**57.84**	**294**	*e*P	**P**	**17 09 27.9**	**+0.2**
	comp=Z,20nm,0.6s,mb5.3						
WMQ	**Urumqi**	**57.93**	**313**	P	**P**	**17 09 28.8**	**+0.5**
WMQ				AP	pP	17 09 37.0	-1.2
WMQ				PCP	PcP	17 10 21.1	+0.8
WMQ				PP	PP	17 11 37.9	+1.1
WMQ				S	**S**	**17 17 25.6**	**-0.5**
WMQ				SCS	ScS	17 19 11.6	-3.8
WMQ				SS	SS	17 21 19.6	+2.3
WMQ				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.1						
WMQ				LR	LR		
	comp=N,234nm,10.0s,MS4.7						
WMQ				LR	LR		
	comp=E,186nm,12.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,234nm,20.0s						
KKN	**Kakani**	**57.96**	**294**	*e*P	**P**	**17 09 28.7**	**+0.2**
	comp=Z,39nm,1.0s,mb5.4						
DMN	**Daman**	**58.11**	**294**	*e*P	**P**	**17 09 30.0**	**+0.5**
	comp=Z,46nm,0.9s,mb5.5						
GKN	**Gorkha**	**58.53**	**295**	*e*P	**P**	**17 09 32.8**	**+0.3**
	comp=Z,92nm,1.0s,mb5.8						
KRAR	**Krasnoyarsk**	**58.65**	**328**⇑	*e*P	**P**	**17 09 31.4**	**-1.9**
KRAR				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.1						
TIXI	**Tiksi**	**59.06**	**354**⇑	*e*P	**P**	**17 09 33.8**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.4						
TIXI	**Tiksi**	**59.06**	**354**	*e*P	**P**	**17 09 33.4**	**-2.8**
	comp=Z,12nm,1.0s,mb4.9						
KOLN	**Koldanda**	**59.45**	**294**	*e*P	**P**	**17 09 39.2**	**+0.4**
	comp=Z,45nm,0.9s,mb5.5						
MK31	**Makanchi Array**	**62.26**	**316**	*i* P	**P**	**17 09 58.0**	**+0.1**
MK31				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
MK31	**Makanchi Array**	**62.26**	**316**	*e*P	**P**	**17 09 57.1**	**-0.9**
MKAR	**Makanchi Array**	**62.26**	**316**	P	**P**	**17 09 58.0**	**+0.1**
	comp=Z,4.6nm,0.5s,mb4.8,baz=88,slow=8.7,SNR=30						
MKAR				PKP2bc		17 39 12.1	
	comp=Z,0.5nm,0.8s,baz=304,slow=2.2,SNR=3.6						
MKAR	**Makanchi Array**	**62.26**	**316**	P	**P**	**17 09 58.0**	**+0.1**
MKAR				⇑*e*		17 39 12.1	
ZAL	**Zalesovo**	**62.30**	**324**	P	**P**	**17 09 57.1**	**-1.1**
	comp=Z,3.3nm,0.6s,mb4.7,baz=17,slow=8.0,SNR=7.8						
SVW2	**Sparrevohn**	**63.33**	**28**	*e*P	**P**	**17 10 04.8**	**-0.3**
NVS	**Novosibirsk**	**63.43**	**325**	*i* P	**P**	**17 10 04.8**	**-0.9**
NVS				*e*		17 10 40.5	
NVS				*e*		17 14 02.3	
NVS				*e*S	**S**	**17 18 35.8**	**-0.5**
NVS				*e*SS	SS	17 22 34.6	-8.8
NVS				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.3						
NVS				pmax	pmax		
	comp=N,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,28nm,1.3s						
NVS				smax			
	comp=N,27nm,2.8s						
NVS				smax			
	comp=E,13nm,2.6s						
KDAK	**Kodiak Island**	**63.66**	**32**	P	**P**	**17 10 06.0**	**-1.3**
	comp=E,5.2nm,0.6s,mb4.8,baz=109,slow=9.8,SNR=6.0						
KDAK	**Kodiak Island**	**63.66**	**32**	P	**P**	**17 10 06.0**	**-1.3**
HYB	**Hyderabad**	**64.73**	**283**	*i* P	**P**	**17 10 15.0**	**+0.8**
HYB	**Hyderabad**	**64.73**	**283**	*e*P	**P**	**17 10 15.0**	**+0.8**
KURK	**Kurchatov**	**65.31**	**320**	P	**P**	**17 10 17.1**	**-0.9**
	comp=E,184nm,0.7s,SNR=18						
KURK	**Kurchatov**	**65.31**	**320**	P	**P**	**17 10 17.8**	**-0.2**
	SNR=17						
KURK	**Kurchatov**	**65.31**	**320**	*c i*P	**P**	**17 10 17.2**	**-0.8**
KURK	**Kurchatov**	**65.31**	**320**	*e*P	**P**	**17 10 17.1**	**-0.9**
	comp=E,34nm,1.0s,mb5.3						
SLKM	**Skilak Lake**	**65.62**	**29**	*e*P	**P**	**17 10 18.9**	**-1.1**
IMA2	**Indian Mountai**	**65.98**	**23**	*e*P	**P**	**17 10 21.7**	**-0.6**
KSH	**Kashi**	**66.09**	**307**	P	**P**	**17 10 25.3**	**+2.2**
KSH				AP	pP	17 10 33.6	+0.5
KSH				PCP	PcP	17 10 55.6	+2.3
KSH				PP	PP	17 12 53.1	+4.4
KSH				PCS		17 14 58.4	
KSH				S	S	17 19 11.6	+2.4
KSH				SCS	ScS	17 20 16.1	-0.9
KSH				SS	SS	17 23 28.0	+3.0
KSH				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.3						
KSH				LR	LR		
	comp=N,681nm,5.6s						
KSH				LR	LR		
	comp=E,647nm,5.8s						
KSH				LR	LR		
	comp=Z,957nm,15.1s,MS5.1						
TKM2	**Tokmak 2**	**66.54**	**311**	P	**P**	**17 10 26.9**	**+0.9**
	SNR=8.0						
KZA	**Kyzart**	**66.75**	**310**	P	**P**	**17 10 29.0**	**+1.7**
	SNR=15						
SML	**Sawmill**	**66.86**	**28**	*e*P	**P**	**17 10 27.1**	**-0.9**
KBK	**Karagaybulak**	**67.00**	**311**	P	**P**	**17 10 29.5**	**+0.6**
	SNR=12						
CHMS	**Chumysh**	**67.16**	**311**	P	**P**	**17 10 30.3**	**+0.4**
	SNR=7.3						
FRU	**Bishkek**	**67.25**	**311**	*e*P	**P**	**17 10 30.0**	**-0.5**
UCH	**Uchtor**	**67.30**	**310**	P	**P**	**17 10 32.3**	**+1.5**
	SNR=20						
AAK	**Ala-Archa**	**67.33**	**311**	P	**P**	**17 10 31.6**	**+0.7**
	SNR=7.0						
AAK	**Ala-Archa**	**67.33**	**311**	P	**P**	**17 10 30.8**	**-0.2**
	comp=Z,36nm,1.1s,mb5.3,SNR=5.4						
AAK	**Ala-Archa**	**67.33**	**311**	*d i*P	**P**	**17 10 30.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
AAK				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.7						
AAK	**Ala-Archa**	**67.33**	**311**	*e*P	**P**	**17 10 29.4**	**-1.5**
	comp=Z,8.6nm,1.1s,mb4.7						
USP	**Ospenovka**	**67.36**	**311**	P	**P**	**17 10 31.6**	**+0.4**
	SNR=6.7						
EKS2	**Erkin-Say**	**67.86**	**311**	P	**P**	**17 10 35.7**	**+1.3**
	SNR=5.9						
COLA	**College**	**67.89**	**25**	⇓*i*P	**P**	**17 10 33.7**	**-0.8**
AML	**Almayashu**	**67.91**	**310**	P	**P**	**17 10 35.9**	**+1.3**
	SNR=15						
KAD	**Karad**	**68.88**	**284**	*i* P	**P**	**17 10 40.5**	**-0.2**
POO	**Poona**	**69.03**	**285**	⇓*i*P	**P**	**17 10 37.0**	**-4.6**
	comp=Z,30nm,1.0s,mb5.2						
KK31	**Karatay Array**	**70.27**	**311**	*i* P	**P**	**17 10 49.1**	**-0.2**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
KKAR	**Karatay Array**	**70.27**	**311**	P	**P**	**17 10 49.1**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**70.53**	**322**	*i* P	**P**	**17 10 49.2**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
BVA0	**Borovoye Array**	**70.63**	**322**	*i* P	**P**	**17 10 50.4**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**70.63**	**322**	P	**P**	**17 10 50.9**	**-0.6**
	comp=Z,16nm,0.6s,mb5.1,baz=106,slow=7.0,SNR=72						
EGAK	**Eagle**	**70.66**	**26**	*e*P	**P**	**17 10 51.1**	**-0.6**
	comp=Z,26nm,1.1s,mb5.1						
BRVK	**Borovoye**	**70.70**	**322**	P	**P**	**17 10 51.3**	**-0.6**
	comp=Z,132nm,0.8s,mb5.9,SNR=18						
BRVK	**Borovoye**	**70.70**	**322**	P	**P**	**17 10 51.7**	**-0.2**
	SNR=9.5						
BRVK	**Borovoye**	**70.70**	**322**	*e*P	**P**	**17 10 51.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
BRVK	**Borovoye**	**70.70**	**322**	*e*P	**P**	**17 10 51.0**	**-0.9**
	comp=Z,16nm,0.8s,mb5.0						
PPT	**Papeete**	**70.77**	**114**	*e*S	S	17 20 02.7	-2.1
	comp=Z,482nm,27.5s						
PPT				*e*LR	LR	17 32 01.5	
	comp=Z,1μm,21.5s,baz=295						
PPT	**Papeete**	**70.77**	**114**	LR	LR	17 36 30.5	
	comp=Z,1μm,18.4s,MS5.2,baz=254,slow=31						
DAWY	**Dawson**	**71.31**	**27**	*e*P	**P**	**17 10 54.9**	**-0.7**
TBI	**Tubuai**	**73.06**	**120**	*e*S	S	17 20 26.0	-5.1
	comp=Z,242nm,35.0s						
TBI				*e*LR	LR	17 32 38.8	
	comp=Z,705nm,21.5s,baz=294						
DLBC	**Dease Lake**	**75.56**	**33**	*e*P	**P**	**17 11 20.6**	**0.0**
SVE	**Sverdlovsk**	**76.25**	**326**	*e*P	**P**	**17 11 25.0**	**+0.5**
SVE				*e*		17 11 49.0	
SVE				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2						
TAOE	**Nuku Hiva Isla**	**76.70**	**103**	*e*LR	LR	17 35 01.5	
	comp=Z,2μm,21.4s,baz=294						
AB31	**Akbulak array**	**77.29**	**318**	P	**P**	**17 11 29.6**	**-0.8**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ARU	**Arti**	**77.42**	**325**	⇓*i*P	**P**	**17 11 30.7**	**-0.5**
ARU				*e*		17 14 25.7	
ARU				*e*S	S	17 21 18.7	-0.9
ARU				*e*SS	SS	17 26 16.6	-2.0
ARU				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
AKTO	**Aktyubinsk**	**78.40**	**319**	*i* P	**P**	**17 11 35.5**	**-1.1**
ABKT	**Ailbek**	**80.11**	**307**	P	**P**	**17 11 47.5**	**+1.6**
	comp=Z,114nm,1.5s,mb5.6,SNR=7.0						
ORR	**Orenburg**	**80.27**	**321**	*e*P	**P**	**17 11 46.1**	**-0.7**
ORR				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
ORR				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.7						
B04A	**Port Angeles**	**80.53**	**43**	⇑P	**P**	**17 11 48.0**	**-0.2**
	baz=80						
HDW	**Hoodsport**	**80.90**	**43**	P	**P**	**17 11 51.0**	**+0.8**
I02A	**Mapleton**	**80.99**	**47**	⇑P	**P**	**17 11 50.5**	**-0.2**
	baz=81						
H03A	**Soap Creek Ran**	**81.26**	**46**	⇑P	**P**	**17 11 52.2**	**+0.1**
	baz=81						
J02A	**Umpqua**	**81.29**	**48**	⇓P	**P**	**17 11 52.0**	**-0.2**
	baz=81						
E04A	**Onalaska**	**81.31**	**44**	⇓P	**P**	**17 11 52.8**	**+0.5**
	baz=81						
I03A	**Eugene**	**81.39**	**47**	⇓P	**P**	**17 11 53.2**	**+0.5**
	baz=81						
B05A	**Bryant**	**81.42**	**42**	⇓P	**P**	**17 11 52.7**	**-0.2**
	baz=81						
K02A	**Glendale**	**81.46**	**48**	⇓P	**P**	**17 11 53.3**	**+0.1**
	baz=81						
L02A	**Cave Junction**	**81.48**	**49**	⇑P	**P**	**17 11 53.4**	**+0.1**
	baz=81						
JCW	**Jim Creek**	**81.55**	**43**	P	**P**	**17 11 54.1**	**+0.5**
F04A	**Amboy**	**81.64**	**45**	⇓P	**P**	**17 11 53.9**	**-0.2**
	baz=82						
O01C	**Eel River Cons**	**81.69**	**51**	⇑P	**P**	**17 11 55.1**	**+0.8**
	baz=82						
D05A	**Enumclaw**	**81.69**	**44**	⇓P	**P**	**17 11 54.2**	**-0.2**
	baz=82						
G04A	**Mulino**	**81.73**	**46**	⇓P	**P**	**17 11 54.4**	**-0.2**
	baz=82						
B06A	**Marblemount**	**81.78**	**42**	⇓P	**P**	**17 11 54.6**	**-0.2**
	baz=82						
C05A	**Tolt Reservoir**	**81.80**	**43**	⇓P	**P**	**17 11 54.4**	**-0.5**
	baz=82						
HUMO	**Hull Mountain**	**81.87**	**48**	⇓P	**P**	**17 11 55.8**	**+0.5**
	baz=82,SNR=6.0						
N02C	**Big Bar**	**81.95**	**50**	⇑P	**P**	**17 11 55.5**	**-0.2**
	baz=82						
BBOR	**Butler Butte**	**82.02**	**48**	P	**P**	**17 11 56.6**	**+0.6**
H04A	**Detroit Lake**	**82.03**	**46**	⇑P	**P**	**17 11 55.6**	**-0.5**
	baz=82						
M02C	**Callahan**	**82.17**	**49**	⇑P	**P**	**17 11 57.0**	**+0.1**
	baz=82						
YBH	**Yreka Blue Hor**	**82.22**	**49**	⇑P	**P**	**17 11 56.6**	**-0.5**
	baz=82,SNR=7.5						
J04A	**Umpqua Nationa**	**82.36**	**47**	⇓P	**P**	**17 11 57.7**	**-0.2**
	baz=82						
A07A	**Ashnola River,**	**82.39**	**41**	P	**P**	**17 11 58.6**	**+0.6**
	baz=82,SNR=5.7						
O02C	**Red Bluff**	**82.46**	**51**	⇓P	**P**	**17 11 58.5**	**+0.1**
	baz=82,SNR=5.3						
E06A	**Yakima**	**82.50**	**44**	⇓P	**P**	**17 11 58.7**	**+0.1**
	baz=82						
YKA	**Yellowknife Ar**	**82.52**	**28**	P	**P**	**17 11 57.2**	**-1.4**
	comp=Z,3.4nm,0.6s,mb4.5,baz=286,slow=5.1,SNR=34						
YKA				LR	LR	17 48 08.3	
	comp=Z,540nm,19.7s,MS4.9,baz=120,slow=35						
YKA	**Yellowknife Ar**	**82.52**	**28**	P	**P**	**17 11 57.2**	**-1.4**
YKA				LR	LR	17 48 08.3	
WDC	**Whiskeytown Da**	**82.56**	**50**	⇓P	**P**	**17 11 59.4**	**+0.5**
	baz=82						
LHEM	**Herd Peak**	**82.60**	**49**	P	**P**	**17 11 59.8**	**+0.7**
GASB	**Alder Springs**	**82.61**	**51**	⇓P	**P**	**17 12 00.3**	**+1.1**
	baz=82						
B07A	**Winthrop**	**82.68**	**42**

baz=83
A08A Turner Farm, O 83.12 41 ⇑P P 17 12 01.3 -0.6
baz=83
B08A Colville Reser 83.21 42 ⇓P P 17 12 02.0 -0.2
baz=83,SNR=6.2
E07A Sunnyside 83.25 44 ⇓P P 17 12 02.3 -0.2
baz=83
EPH Ephrata 83.26 43 P P 17 12 02.4 -0.1
H06A Lindquist Farm 83.31 46 P P 17 12 03.1 +0.3
baz=83,SNR=6.0
HATC Hat Creek Radi 83.32 50 ⇓P P 17 12 04.0 +1.1
baz=83
K05A Summer Lake 83.34 48 ⇓P P 17 12 03.7 +0.8
baz=83
F07A Phinny Hill Vi 83.35 45 ⇑P P 17 12 03.4 +0.4
baz=83
LBCM Butte Creek Ri 83.40 50 P P 17 12 03.1 -0.2
SUTB Sutter Butte 83.40 51 ⇑P P 17 12 03.1 -0.2
baz=83
HOQ Hoqain 83.43 293 P P 17 12 04.9 +1.5
SNR=16
JRSC Jasper Ridge 83.43 53 ⇑P P 17 12 02.9 -0.5
baz=83
M05C Lookout 83.44 49 P P 17 12 04.2 +0.7
baz=83,SNR=6.2
C08A Higginbotham F 83.53 43 ⇓P P 17 12 03.0 -0.9
baz=83
ORV Oroville 83.55 51 ⇑P P 17 12 04.2 +0.1
baz=84
A09A Danville 83.56 41 ⇑P P 17 12 04.5 +0.4
baz=84
I06A Prineville 83.57 46 P P 17 12 05.2 +1.1
baz=84,SNR=6.3
BDM Black Diamond 83.61 53 ⇑P P 17 12 05.1 +0.8
baz=84
G07A Ruggs Ranch, H 83.66 45 ⇑P P 17 12 04.0 -0.6
baz=84
BSY Bisya 83.70 292 P P 17 12 05.9 +1.1
SNR=9.0
O04C Chester 83.70 50 P P 17 12 05.8 +1.0
baz=84,SNR=6.8
J06A Christmas Vall 83.76 47 ⇓P P 17 12 05.2 +0.1
baz=84
D08A Wollman Farm, 83.77 43 ⇑P P 17 12 04.9 -0.3
baz=84
K06A Valley Falls 83.79 48 P P 17 12 06.2 +1.0
baz=84,SNR=5.6
E08A Dider Farm, El 83.81 44 ⇑P P 17 12 05.1 -0.3
baz=84
H07A Lands Inn, Kim 83.88 46 ⇑P P 17 12 06.1 +0.4
baz=84
O05C Quincy 83.91 51 ⇓P P 17 12 06.0 +0.1
baz=84
ELFS Eagle Lake Fie 83.91 50 ⇑P P 17 12 06.3 +0.4
baz=84
MOD Modoc 83.94 49 P P 17 12 06.0 0.0
baz=84,SNR=11
M06C Likely Place G 83.97 49 ⇓P P 17 12 05.9 -0.2
baz=84
B09A Rice 83.97 42 ⇑P P 17 12 06.2 +0.1
baz=84
C09A Chrisman Ranch 84.03 42 ⇑P P 17 12 05.9 -0.6
baz=84
I07A Izee 84.04 46 ⇑P P 17 12 06.3 -0.2
baz=84
S04C Ingram Canyon, 84.12 53 P P 17 12 08.0 +1.0
baz=84,SNR=5.5
G08A Pilot Rock 84.14 45 P P 17 12 07.1 0.0
baz=84,SNR=7.1
F08A Pendleton 84.15 44 P P 17 12 07.2 +0.1
baz=84,SNR=6.8
D09A Jones Farm, Ri 84.18 43 P P 17 12 07.3 0.0
baz=84,SNR=6.9
HAST UC Hastings Re 84.18 54 ⇑P P 17 12 07.4 +0.1
baz=84
ARQ Araqi 84.19 293 P P 17 12 09.0 +1.7
SNR=6.4
ARQ P 17 12 09.1
SNR=5.9
PACP Pacheco Peak 84.25 53 ⇓P P 17 12 07.4 -0.2
baz=84
P05C Yuba Gap, Truc 84.28 51 ⇑P P 17 12 07.5 -0.2
baz=84
LAVA Lava Cap Winer 84.30 52 ⇑P P 17 12 06.6 -1.2
baz=84
BEKR Beckwourth 84.35 51 P P 17 12 08.0 -0.1
baz=84,SNR=12
E09A Wood Farm, Sta 84.42 44 P P 17 12 08.8 +0.4
baz=84,SNR=6.0
RES Resolute Bay 84.44 13 *e*P P 17 12 07.4 -1.2
comp=Z,2μm,1.4s
H08A Prairie City 84.52 46 ⇑P P 17 12 08.4 -0.6
baz=84
K07A Rock Creek Ran 84.53 48 P P 17 12 10.0 +1.0
baz=84,SNR=8.8
N06A Buffalo Meadow 84.54 50 P P 17 12 09.4 +0.3
baz=84,SNR=6.2
L07A Adell 84.62 48 P P 17 12 10.8 +1.3
baz=84,SNR=14
O06A Flanigan 84.68 50 P P 17 12 10.7 +0.9
baz=85,SNR=6.1
CMB Columbia Colle 84.73 52 P P 17 12 11.1 +1.1
baz=85,SNR=5.4
I08A Drewsey 84.73 46 ⇓P P 17 12 09.4 -0.6
baz=85
F09A S2 Ranch, Elgi 84.77 44 ⇑P P 17 12 09.9 -0.3
baz=85
U04C Hernandez Rese 84.79 54 ⇓P P 17 12 10.4 +0.1
baz=85
D10A Wagner Farm, O 84.87 43 ⇑P P 17 12 10.4 -0.3
baz=85
M07A Soldier Meadow 84.89 49 P P 17 12 11.7 +0.9
baz=85,SNR=9.9
WCN Washoe City 84.93 51 ⇑P P 17 12 10.4 -0.6
baz=85
S05C Merced 84.93 53 ⇓P P 17 12 10.8 -0.2
baz=85
J08A Circle Bar Ran 84.93 47 ⇑P P 17 12 11.1 +0.1
baz=85
A11A Hall Mountain, 84.99 41 P P 17 12 12.6 +1.2
baz=85,SNR=10
WVOR Wild Horse Val 85.03 48 *e*P P 17 12 10.7 -0.8
WVOR pmax pmax
comp=Z,20nm,1.2s,mb5.1
WVOR Wild Horse Val 85.03 48 *e*P P 17 12 10.7 -0.9
comp=Z,20nm,1.2s,mb5.1
K08A Mann Creek Ran 85.07 47 P P 17 12 11.7 -0.1
baz=85,SNR=7.2
PKD Parkfield 85.08 54 ⇑P P 17 12 11.9 +0.1
baz=85
B11A Sandpoint 85.12 41 ⇑P P 17 12 12.0 0.0
baz=85
E10A Myers Farm, Un 85.12 43 ⇓P P 17 12 11.7 -0.3
baz=85
F10A Beach Ranch, E 85.16 44 ⇓P P 17 12 11.9 -0.3
baz=85
N07B Gerlach 85.17 49 P P 17 12 12.2 0.0
baz=85,SNR=13
S06C San Francisco 85.18 52 ⇓P P 17 12 11.7 -0.6
baz=85
L08A Fields 85.30 48 P P 17 12 13.1 +0.2
baz=85,SNR=16
I09A Lost Marbles R 85.30 46 ⇑P P 17 12 12.3 -0.6
baz=85
R06C Coleville 85.34 52 P P 17 12 14.3 +1.3
baz=85,SNR=5.6
BMO Blue Mountains 85.39 45 *e*P P 17 12 12.4 -0.9
BMO pmax pmax
comp=Z,32nm,1.4s,mb5.3
BMO Blue Mountains 85.39 45 *e*P P 17 12 12.3 -1.0
comp=Z,32nm,1.4s,mb5.3
O07A Toulon 85.39 50 ⇓P P 17 12 13.1 -0.3
baz=85
J09A Fry Pan Ranch, 85.44 47 P P 17 12 14.2 +0.6
baz=85,SNR=7.8
A12A Yaak River Ran 85.45 41 P P 17 12 14.8 +1.2
baz=85,SNR=6.5
M08A Happy Creek Ra 85.45 49 P P 17 12 15.1 +1.5
baz=85,SNR=6.2
T06C Milleton Lake 85.49 53 ⇑P P 17 12 12.6 -1.2
baz=85
B12A Libby 85.61 41 ⇑P P 17 12 15.1 +0.7
baz=86
K09A Rome 85.62 47 P P 17 12 14.8 +0.3
baz=86,SNR=7.7
KCC Kaiser Creek 85.72 53 ⇓P P 17 12 13.7 -1.2
baz=86
E11A Bogner Ranch, 85.75 43 P P 17 12 14.7 -0.4
baz=86,SNR=11
N08A GE Springer Mi 85.79 49 P P 17 12 15.2 -0.2
baz=86,SNR=12
L09A Wilkinson Ranc 85.83 48 ⇑P P 17 12 15.6 +0.1
baz=86
H10A Noah's Angus R 85.84 45 P P 17 12 15.1 -0.4
baz=86,SNR=8.5
PKM Peak Mountain 85.89 55 ⇓P P 17 12 15.9 +0.1
baz=86
F11A Grangeville 85.91 44 ⇑P P 17 12 14.9 -1.0
baz=86
APA Apatity 85.93 339 ⇑*i*P P 17 12 14.4 -1.6
APA *i* 17 12 27.5
APA *i* 17 12 41.0
APA pmax pmax
comp=Z,54nm,1.4s,mb5.6
HELL Mitchell Peak, 86.10 53 P P 17 12 17.1 +0.2
baz=86,SNR=5.5
KLMR Klimovskoe 86.12 332 *e*P P 17 12 13.5 -3.5
KLMR *e*S S 17 22 33.4 -16
KLMR pmax pmax
comp=Z,51nm,1.5s,mb5.5
KLMR MLR MLR
comp=Z,553nm,16.0s,MS5.0
M09A Marrel Ranch, 86.13 48 P P 17 12 17.8 +0.8
baz=86,SNR=5.1
N09A Rock Creek Ran 86.22 49 ⇓P P 17 12 17.8 +0.4
baz=86
NVAR Mina Array Bea 86.23 52 P P 17 12 17.6 +0.1
comp=Z,4.4nm,0.8s,mb4.7,baz=279,slow=6.3,SNR=15
A13A Flathead Natio 86.23 41 ⇓P P 17 12 17.9 +0.3
baz=86
VES Vestal, Richgr 86.25 54 ⇓P P 17 12 18.0 +0.4
baz=86
BSMT Bassoo Peak 86.29 42 P P 17 12 17.6 -0.2
H11A Donnelly 86.31 45 ⇑P P 17 12 17.6 -0.3
baz=86
B13A Whitefish 86.35 41 P P 17 12 18.7 +0.6
baz=86,SNR=12
Q08A Gabbs 86.41 51 ⇓P P 17 12 18.8 +0.4
baz=86
C13A Hot Springs 86.48 42 P P 17 12 19.0 +0.3
baz=86,SNR=6.7
F12A Elk City 86.55 44 P P 17 12 19.6 +0.6
baz=86,SNR=9.8
I11A Placerville 86.56 46 P P 17 12 19.5 +0.4
baz=86,SNR=6.6
S08C White Mtn Res 86.56 52 ⇑P P 17 12 19.2 +0.1
baz=86
O09A Fish Creek Ran 86.64 50 P P 17 12 19.8 +0.3
baz=86,SNR=7.1
D13A Huson 86.71 42 P P 17 12 20.2 +0.4
baz=87,SNR=7.1
M10A I.L. Ranch, Tu 86.77 48 ⇓P P 17 12 20.5 +0.4
baz=87
ISA Isabella 86.78 54 ⇑P P 17 12 19.9 -0.2
baz=87
MFID Camas Ranch 86.78 46 ⇓P P 17 12 20.6 +0.4
baz=87
CWC Cottonwood Cre 86.89 53 ⇑P P 17 12 20.5 -0.3
baz=87
Q09A Carvers 86.98 51 ⇑P P 17 12 22.2 +1.1
baz=87
E13A Victor 87.08 43 ⇑P P 17 12 21.3 -0.3
baz=87
O10A Cortez Mining, 87.12 49 ⇓P P 17 12 23.2 +1.4
baz=87
H12A Diamond D Ranc 87.15 45 P P 17 12 22.9 +0.9
baz=87,SNR=10
F13A Darby 87.16 44 P P 17 12 21.9 -0.1
baz=87,SNR=20
R09A Tonopah 87.22 51 P P 17 12 22.4 +0.1
baz=87,SNR=8.3
S09A Goldfield 87.23 52 P P 17 12 23.1 +0.7
baz=87,SNR=6.0
GRAC Grapevine Rang 87.31 53 ⇓P P 17 12 22.5 -0.3
baz=87
P10A Eureka 87.32 50 ⇓P P 17 12 23.5 +0.7
baz=87
M11A Holland Ranch, 87.34 48 ⇑P P 17 12 23.6 +0.7
baz=87
J12A Stokes Ranch, 87.34 46 ⇑P P 17 12 23.3 +0.3
baz=87
D14A Greenough 87.34 42 ⇓P P 17 12 22.6 -0.3
baz=87
EDW2 Edwards Air Fo 87.35 55 P P 17 12 23.8 +0.9
baz=87,SNR=5.0
G13A Cobalt 87.43 44 P P 17 12 22.9 -0.4
baz=87,SNR=29
MPMC Manual Prospec 87.45 54 P P 17 12 24.5 +1.0
baz=87,SNR=8.3
ARCES ARCESS Array B 87.50 342 P P 17 12 23.0 -0.7
comp=Z,3.1nm,0.6s,mb4.7,baz=36,slow=4.5,SNR=14
ARCES LR LR 17 58 12.9
comp=Z,339nm,18.1s,MS4.8,baz=59,slow=40
ARCES ARCESS Array B 87.50 342 P P 17 12 23.0 -0.7
ARCES LR LR 17 58 12.9
E14A Clinton 87.54 43 ⇓P P 17 12 24.2 +0.3
baz=87
CHMT Chamberlain Mo 87.56 42 *e*P P 17 12 22.9 -1.1
RBK Rabkut 87.59 287 P P 17 12 25.4 +1.3
SNR=10
K12A Draper Farm, C 87.65 47 ⇑P P 17 12 24.1 -0.3
baz=88
HLID Hailey 87.73 46 *e*P P 17 12 24.4 -0.4
comp=Z,22nm,1.3s,mb5.2
HLID Hailey 87.73 46 P P 17 12 25.6 +0.8
baz=88,SNR=14
F14A Wisdom 87.80 43 ⇓P P 17 12 24.4 -0.7
baz=88
FURC Furnace Creek, 87.84 53 ⇑P P 17 12 25.0 -0.3
baz=88
P11A Circle Ranch, 87.87 50 ⇑P P 17 12 26.1 +0.7
baz=88
WHFO Wadi Hawf 87.89 288 P P 17 12 26.9 +1.4
SNR=8.8
ELK Elko 87.92 49 *e*P P 17 12 25.2 -0.5
ELK pmax pmax
comp=Z,39nm,1.2s
ELK Elko 87.92 49 *e*P P 17 12 25.2 -0.5
comp=Z,39nm,1.2s,mb5.5
J13A Cove Ranch, Pi 87.95 46 ⇓P P 17 12 26.8 +1.0
baz=88
M12A Wells 87.97 48 P P 17 12 27.2 +1.2
baz=88,SNR=16
D15A Lincoln 88.00 42 P P 17 12 26.1 0.0
baz=88,SNR=6.8
N12A Clover Valley, 88.04 49 P P 17 12 27.4 +1.1
baz=88,SNR=6.4
Q11A Duckwater 88.13 51 P P 17 12 28.1 +1.4
baz=88,SNR=8.8
GSC Goldstone 88.18 54 ⇓P P 17 12 26.7 -0.3
baz=88
TRCR Troy Canyon 88.32 51 *e*P P 17 12 27.1 -0.4
F15A Butte 88.38 43 P P 17 12 27.6 -0.2
baz=88,SNR=17
O12A Currie 88.42 49 P P 17 12 28.2 +0.2
baz=88,SNR=17
SHOC Shoshone 88.44 54 ⇓P P 17 12 27.9 -0.3
baz=88
MCMT McKenzie Canyo 88.44 44 *e*P P 17 12 28.0 -0.2
P12A McGill 88.52 50 P P 17 12 28.9 +0.4
baz=88,SNR=7.1
M13A Montello 88.53 48 P P 17 12 28.5 -0.1
baz=88,SNR=15
HRY Holter Researc 88.55 42 *e*P P 17 12 28.0 -0.7
G15A Dillon 88.58 44 P P 17 12 28.9 +0.1
baz=88,SNR=5.9
N13A Wendover, West 88.65 48 ⇑P P 17 12 29.5 +0.3
baz=88
HEC Hector,Ludlow 88.68 55 ⇑P P 17 12 29.3 0.0
baz=89
Q12A Willow Creek R 88.70 50 P P 17 12 31.1 +1.7
baz=89,SNR=9.2
JOF Joensuu 88.82 335 *e*p P 17 12 27.3 -2.6
comp=Z,10nm,0.7s,mb5.3
TUQ Turquoise Mtn. 88.84 54 ⇑P P 17 12 30.1 0.0
baz=89
PFO Pinyon Flat Ob 88.91 56 ⇓P P 17 12 30.7 +0.4
baz=89
BOZ Bozeman (W) 89.01 43 P P 17 12 30.8 0.0
baz=89,SNR=13
V11A Goodsprings 89.12 53 ⇑P P 17 12 31.7 +0.4
baz=89
MONP Monument Peak 89.12 56 ⇓P P 17 12 31.1 -0.3
baz=89
GMRC Granite Mounta 89.23 55 P P 17 12 32.7 +0.8
baz=89,SNR=6.0
QLMT Earthquake Lak 89.40 44 *e*P P 17 12 31.8 -0.8
HVU Hansel Valley 89.41 47 *e*P P 17 12 32.7 0.0
HVU pmax pmax
comp=Z,14nm,1.0s,mb5.2
HVU Hansel Valley 89.41 47 *e*P P 17 12 32.7 0.0
comp=Z,14nm,1.0s,mb5.2
DVTC Desert V Tower 89.44 57 ⇑P P 17 12 32.9 +0.1
baz=89
EGMT Eagleton 89.46 41 ⇓P P 17 12 31.9 -1.1
baz=89
V12A Nelson 89.60 53 P P 17 12 35.4 +1.8
baz=90,SNR=7.5
BC3 Big Chuckw Mtn 89.70 56 ⇓P P 17 12 33.8 -0.3
baz=90
OBN Obninsk 89.74 327 *c*P P 17 12 33.0 -1.2
OBN pmax pmax
comp=Z,55nm,1.6s,mb5.6
YMR Madison River 89.77 44 *e*P P 17 12 35.1 +0.7
comp=Z,21nm,0.6s,mb5.7
IRM Iron Mountain 89.80 55 P P 17 12 35.5 +0.9
baz=90,SNR=6.6
DUG Dugway 89.85 49 *e*P P 17 12 34.3 -0.5
DUG pmax pmax
comp=Z,38nm,1.2s,mb5.6
DUG Dugway 89.85 49 *e*P P 17 12 34.3 -0.5
comp=Z,38nm,1.2s,mb5.6
DUG Dugway 89.85 49 P P 17 12 35.6 +0.8
baz=90,SNR=16
KIV Kislovodsk 90.02 315 *e*P P 17 12 35.3 -0.2
KIV *e* 17 23 04.2
KIV pmax pmax
comp=Z,14nm,1.2s,mb5.2
KIV pmax pmax
comp=Z,43nm,2.0s,mb5.4
NEE2 Needles Airpor 90.06 54 ⇑P P 17 12 36.7 +1.0
baz=90
HWUT Hardware Ranch 90.32 47 *e*P P 17 12 36.6 -0.4
comp=Z,25nm,1.0s,mb5.5
HWUT *e* 17 12 52.8
GLA Glamis 90.37 56 ⇑P P 17 12 37.2 0.0
baz=90
Y12C Blythe 90.42 55 ⇑P P 17 12 37.4 0.0
baz=90
W13A Hualapai Mount 90.54 54 ⇓P P 17 12 38.0 0.0
baz=90
PDMCI Parker Dam,Lak 90.57 55 ⇓P P 17 12 37.8 -0.3
baz=90
JLU Jordanelle 90.72 48 *e*P P 17 12 38.6 -0.2
X13A Yucca 90.73 54 P P 17 12 39.9 +1.1
baz=91,SNR=7.8
MSU Marysvale 90.83 50 *e*P P 17 12 39.6 +0.2
DAU Daniels Canyon 90.92 48 *e*P P 17 12 40.5 +0.7
Y13A Salome 90.95 55 ⇑P P 17 12 39.9 0.0
baz=91
W14A Seligman 91.13 53 P P 17 12 41.9 +1.2
baz=91,SNR=9.8
KAF Kangasniemi 91.23 336 *e*p P 17 12 38.4 -2.8
comp=Z,14nm,0.8s,mb5.3,baz=56,slow=4.4
KAF Kangasniemi 91.23 336 *e*P P 17 12 38.4 -2.8
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.3
VNDA Vanda 91.28 177 P P 17 12 39.2 -2.2
comp=Z,4.5nm,1.0s,mb4.8,baz=327,slow=5.4,SNR=9.6
VNDA LR LR 17 54 05.3
comp=Z,189nm,18.2s,MS4.6,baz=339,slow=36
PDAR Pinedale Array 91.36 45 P P 17 12 41.1 -0.6
comp=Z,1.8nm,0.9s,mb4.4,baz=232,slow=1.4,SNR=9.1
PDAR LR LR 17 49 18.2
comp=Z,367nm,19.2s,MS4.8,baz=316,slow=33
X14A Yava 91.50 54 P P 17 12 44.0 +1.6
baz=91,SNR=8.0
Y14A Wickenburg 91.57 55 ⇓P P 17 12 43.1 +0.3
baz=92
FIA1 FINESS Array S 91.68 335 *e*P P 17 12 41.1 -2.2
FINES FINESS Array B 91.69 335 P P 17 12 41.2 -2.1
comp=Z,5.3nm,0.5s,mb5.2,baz=70,slow=4.3,SNR=59
FINES LR LR 17 56 30.4
comp=Z,204nm,19.0s,MS4.6,baz=161,slow=37
W15A Williams 91.78 53 P P 17 12 45.8 +2.1
baz=92,SNR=10.0
Z14A Wintersburg 91.79 55 ⇑P P 17 12 44.5 +0.7
baz=92
X15A Humboldt 92.02 54 P P 17 12 45.5 +0.6
baz=92,SNR=9.1
LAO LASA Array 92.18 41 *e*P P 17 12 45.9 +0.3
comp=Z,23nm,0.9s,mb5.5
WUAZ Wupatki 92.37 53 *e*P P 17 12 47.0 +0.6
comp=Z,18nm,1.0s,mb5.4
WUAZ Wupatki 92.37 53 ⇑P P 17 12 47.4 +1.0
baz=92,SNR=8.0
ANN Anapa 93.25 317 *e*P P 17 12 54.6 +4.1
ANN MLR MLR
comp=Z,366nm,19.0s,MS4.8
MVCO Mesa Verde 94.01 50 ⇑P P 17 12 54.9 +0.9
baz=94
AKASG Malin Array Be 95.68 325 P P 17 12 59.7 -2.0
comp=Z,1.2nm,0.7s,mb4.5,baz=51,slow=4.7,SNR=12
AKASG LR LR 17 59 36.3
comp=Z,679nm,18.9s,MS5.1,baz=60,slow=38
ANMO Albuquerque 96.35 52⇑*e*P P 17 13 04.0 -0.7
ULM Lac du Bonnet 96.79 35 P P 17 13 04.7 -2.0
comp=Z,3.5nm,1.0s,mb4.7,baz=302,slow=3.9,SNR=3.9
ULM LR LR 17 57 10.5
comp=Z,366nm,18.0s,MS4.9,baz=290,slow=36
ULM Lac du Bonnet 96.79 35 P P 17 13 04.7 -2.0
ULM LR LR 17 57 10.5
NB2 NORSAR Subarra 97.51 340 PKP P 17 13 08.7 -1.3
comp=Z,11nm,1.4s,mb5.2,baz=108,slow=3.1
NOA NORSAR Array B 97.51 340 P P 17 13 08.0 -2.0
comp=Z,0.8nm,0.7s,mb4.3,baz=52,slow=4.3,SNR=3.8
NOA LR LR 17 59 48.8
comp=Z,182nm,18.8s,MS4.6,baz=20,slow=37
NOA NORSAR Array B 97.51 340 P P 17 13 08.0 -2.0
NOA LR LR 17 59 48.8
BRTR Keskin Array B 97.86 314 P P 17 13 10.8 -0.7
comp=Z,1.7nm,0.8s,mb4.6,baz=92,slow=2.8,SNR=11
BRTR LR LR 18 02 26.5
comp=Z,115nm,20.4s,MS4.3,baz=255,slow=38
MAW Mawson 99.69 203 LR LR 17 53 22.2
comp=Z,259nm,18.5s,MS4.8,baz=68,slow=32
TXAR Lajitas Array 100.61 56 P Pdif 17 13 24.2 +0.3
comp=Z,0.2nm,0.7s,baz=311,slow=5.7,SNR=3.3
LSZ Lusaka 119.79 260 *e*PKIKP PKPdf 17 18 27.8 +1.7
ESDC Sonseca Array 120.14 333 PP PP 17 19 50.0 -1.9
comp=Z,0.5nm,0.3s,baz=26,slow=7.8,SNR=5.5
BOSA Boshof 123.08 245 PKP PKPdf 17 18 33.9 +1.5
comp=Z,5.2nm,1.0s,baz=200,slow=1.2,SNR=7.6
BOSA Boshof 123.08 245 PKP PKPdf 17 18 33.9 +1.5
MDT Midelt 126.03 329 PKP PKPdf 17 18 37.8 -0.2
comp=Z,3.6nm,1.1s,baz=349,slow=3.7,SNR=5.4
TOA0 Torodi Ar. Sit 135.74 305 *e*PKPdf PKPdf 17 18 58.9 +2.5
TORD Torodi Ar. Bea 135.74 305 PKP PKPdf 17 18 57.5 +1.1
comp=Z,1.7nm,0.9s,baz=55,slow=2.3,SNR=4.5
TORD PP PP 17 21 35.4 +0.9
comp=Z,1.6nm,0.9s,baz=68,slow=4.7,SNR=4.2
TORD Torodi Ar. Bea 135.74 305 PKP PKPdf 17 18 57.5 +1.1
TORD PP PP 17 21 35.4 +0.9
SDV Santo Domingo 137.49 60 *e*PKPdf PKPdf 17 19 00.3 +0.7
PLCA Paso Flores 138.18 137 PKP PKPdf 17 19 01.7 +0.8
comp=Z,1.5nm,0.7s,baz=305,slow=4.8,SNR=4.3
PLCA Paso Flores 138.18 137 PKP PKPdf 17 19 01.7 +0.8
TRQA Tornquist 145.19 140 *e*PKPdf PKPdf 17 19 11.8 -1.6
LPAZ La Paz 147.04 99 PKPbc PKPbc 17 19 18.1 -0.6
comp=Z,14nm,0.9s,baz=344,slow=3.8,SNR=31
LPAZ La Paz 147.04 99 *e*PKPdf PKPdf 17 19 18.3 +1.7

NEIC ***18*** *17:03:59.5,2684S×71.11W,h38km,ML3.5(GUC),After GUC.*

GUC 18 17:03:59.5±1.0,2684S×7111W,h38km±5km,ML3.5,
2C-1D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.34**	**133**	⇓*i*P	Pn	17 04 08.1	0.0
CDCH				*i* S	Sn	17 04 13.8	-0.2
CPCH	**Copiapo**	**0.85**	**128**	⇑*i*P	Pn	17 04 15.7	+0.8
CPCH				*i* S	Sn	17 04 27.3	+1.2
VACH	**Vallenar**	**1.76**	**170**	*e*P	Pn	17 04 28.7	+1.3
VACH				*i* S	Sn	17 04 50.8	+2.2
VACH				AML	AML	17 04 53.1	
comp=N,671nm,0.4s							
VACH	**Vallenar**	**1.76**	**170**	*e*P	Pn	17 04 28.7	+1.3
VACH				*i* S	Sn	17 04 50.8	+2.2
CPN1	**Cerro Paranal**	**2.29**	**16**	⇑*i*P	Pn	17 04 36.9	+2.1
CPN1				*e*S	Sn	17 05 04.7	+2.9

CPN1			AML	AML	17 05 19.5	
	comp=E,449nm,0.6s					
TLL	**Tololo Astrono**	**3.33 175**	*e*P	Pn	17 04 51.8	+2.7
TLL			*i* S	Sn	17 05 30.2	+2.9
TLL			AML	AML	17 05 51.0	
	comp=E,74nm,0.6s					
TLL	**Tololo Astrono**	**3.33 175**	*e*P	Pn	17 04 51.8	+2.7
TLL			*i* S	Sn	17 05 30.2	+2.9

NEIC ***18*** *17:06:17.7, 3825S×17592E, h194km, MG3.8(WEL), After WEL.*

WEL 18 17:06:17.8±0.4, 3826S×17591E, h194km±24km, ML3.7/20, 3C-1D, Error ellipse: s-maj=4.7km s-min=4.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.89**	**196**	P	Pn	17 06 46.3	+0.2
WTVZ	**West Tongariro**	**0.89**	**196**	PN	Pn	17 06 46.3	+0.2
URZ	**Urewera**	**0.94**	**90**	P	Pn	17 06 46.2	-0.3
URZ	**Urewera**	**0.94**	**90**	PN	Pn	17 06 46.2	-0.2
URZ				SN	Sn	17 07 08.3	-0.4
NGZ	**Ngauruhoe**	**0.95**	**195**	P	Pn	17 06 46.8	+0.3
NGZ	**Ngauruhoe**	**0.95**	**195**	PN	Pn	17 06 46.8	+0.3
WPVZ	**Whakapapa**	**0.99**	**197**	P	Pn	17 06 46.9	+0.2
WPVZ	**Whakapapa**	**0.99**	**197**	⇑PN	Pn	17 06 46.9	+0.2
BKZ	**Black Stump Fm**	**1.01**	**153**	P	Pn	17 06 47.2	+0.3
BKZ				S	Sn	17 07 09.5	0.0
BKZ	**Black Stump Fm**	**1.01**	**153**	⇑PN	Pn	17 06 47.2	+0.2
BKZ				SN	Sn	17 07 09.4	-0.1
TUVZ	**Tukino**	**1.03**	**191**	P	Pn	17 06 47.3	+0.3
TUVZ	**Tukino**	**1.03**	**191**	PN	Pn	17 06 47.3	+0.3
WNVZ	**Wahianoa**	**1.09**	**193**	P	Pn	17 06 47.7	+0.2
WNVZ	**Wahianoa**	**1.09**	**193**	PN	Pn	17 06 47.7	+0.1
MOVZ	**Moawhango**	**1.15**	**186**	P	Pn	17 06 47.7	-0.3
MOVZ	**Moawhango**	**1.15**	**186**	PN	Pn	17 06 47.7	-0.3
MTVZ	**Mangateitei**	**1.18**	**197**	PN	Pn	17 06 48.1	0.0
MWZ	**Matawai**	**1.27**	**94**	P	Pn	17 06 49.1	+0.2
MWZ	**Matawai**	**1.27**	**94**	PN	Pn	17 06 49.1	+0.2
MWZ				SN	Sn	17 07 12.7	-0.3
KNZ	**Kokohu**	**1.58**	**119**	*e*P	Pn	17 06 52.1	+0.5
KNZ	**Kokohu**	**1.58**	**119**	PN	Pn	17 06 52.1	+0.5
WAZ	**Wanganui**	**1.66**	**205**	P	Pn	17 06 51.8	-0.6
WAZ	**Wanganui**	**1.66**	**205**	⇓PN	Pn	17 06 51.8	-0.5
TSZ	**Takapari Road**	**1.80**	**179**	P	Pn	17 06 53.2	-0.5
TSZ	**Takapari Road**	**1.80**	**179**	⇑PN	Pn	17 06 53.2	-0.5
PUZ	**Puketiti**	**1.86**	**85**	PN	Pn	17 06 54.0	-0.3
PXZ	**Pawanui**	**1.92**	**158**	PN	Pn	17 06 54.9	0.0
MXZ	**Matakaoa Point**	**2.02**	**71**	P	Pn	17 06 55.7	-0.3
MXZ	**Matakaoa Point**	**2.02**	**71**	PN	Pn	17 06 55.7	-0.2
MRZ	**Mangatainoka R**	**2.41**	**186**	P	Pn	17 06 58.6	-1.6
MRZ	**Mangatainoka R**	**2.41**	**186**	PN	Pn	17 06 58.6	-1.6
BFZ	**Birch Farm**	**2.43**	**174**	P	Pn	17 06 59.4	-1.1
BFZ	**Birch Farm**	**2.43**	**174**	PN	Pn	17 06 59.4	-1.1
TIWZ	**Tintock**	**2.51**	**180**	PN	Pn	17 06 59.9	-1.4
KIW	**Kapiti Island**	**2.71**	**196**	P	Pn	17 07 01.5	-2.2
KIW	**Kapiti Island**	**2.71**	**196**	PN	Pn	17 07 01.5	-2.1
MTW	**Mount Morrison**	**2.91**	**186**	P	Pn	17 07 03.6	-2.4
MTW	**Mount Morrison**	**2.91**	**186**	PN	Pn	17 07 03.6	-2.4
CAW	**Cannon Point**	**2.92**	**193**	P	Pn	17 07 04.0	-2.1
CAW	**Cannon Point**	**2.92**	**193**	PN	Pn	17 07 04.0	-2.1
DUWZ	**D'Urville Isla**	**2.97**	**211**	PN	Pn	17 07 04.1	-2.5
MRW	**Makara Radio**	**3.11**	**197**	P	Pn	17 07 06.0	-2.3
MRW	**Makara Radio**	**3.11**	**197**	PN	Pn	17 07 06.0	-2.4
TRWZ	**Traveller**	**3.14**	**183**	PN	Pn	17 07 06.4	-2.3
WEL	**Wellington**	**3.15**	**196**	P	Pn	17 07 06.4	-2.4
WEL	**Wellington**	**3.15**	**196**	PN	Pn	17 07 06.4	-2.4
SNZO	**South Karori**	**3.18**	**197**	P	Pn	17 07 06.7	-2.6
SNZO	**South Karori**	**3.18**	**197**	PN	Pn	17 07 06.7	-2.6
MSWZ	**Moikau Station**	**3.19**	**189**	P	Pn	17 07 06.7	-2.6
MSWZ	**Moikau Station**	**3.19**	**189**	PN	Pn	17 07 06.7	-2.7
TCW	**Tory Channel**	**3.21**	**203**	P	Pn	17 07 07.0	-2.5
TCW	**Tory Channel**	**3.21**	**203**	PN	Pn	17 07 07.0	-2.6
BHW	**Baring Head**	**3.25**	**194**	P	Pn	17 07 07.2	-2.8
BHW	**Baring Head**	**3.25**	**194**	PN	Pn	17 07 07.2	-2.7
TUWZ	**Tuamarina**	**3.51**	**205**	PN	Pn	17 07 10.3	-3.0
NNZ	**Nelson**	**3.54**	**213**	P	Pn	17 07 10.6	-3.0
NNZ	**Nelson**	**3.54**	**213**	PN	Pn	17 07 10.6	-3.0
QRZ	**Quartz Range**	**3.66**	**225**	*e*P	Pn	17 07 11.1	-4.0
QRZ	**Quartz Range**	**3.66**	**225**	PN	Pn	17 07 11.1	-4.0
BSWZ	**Blackbirch Sta**	**3.79**	**204**	P	Pn	17 07 13.8	-2.8
BSWZ	**Blackbirch Sta**	**3.79**	**204**	PN	Pn	17 07 13.8	-2.8
THZ	**Tophouse**	**4.19**	**212**	*e*P	Pn	17 07 18.1	-3.6
THZ	**Tophouse**	**4.19**	**212**	*e*PN	Pn	17 07 17.8	-3.9
KHZ	**Kahutara**	**4.53**	**203**	*e*P	Pn	17 07 22.7	-3.3
KHZ	**Kahutara**	**4.53**	**203**	PN	Pn	17 07 22.7	-3.3
LTZ	**Lake Taylor**	**5.30**	**210**	*e*P	Pn	17 07 31.8	-4.1
LTZ	**Lake Taylor**	**5.30**	**210**	PN	Pn	17 07 31.8	-4.0
MQZ	**McQueen's Vall**	**5.97**	**203**	*e*P	Pn	17 07 39.5	-5.1
MQZ	**McQueen's Vall**	**5.97**	**203**	PN	Pn	17 07 39.5	-5.0

ISCJB ***18*** *17:44:46.8±0.5, 5648N±007×1577W±0.1, h70km±6km, mb3.7/11, Error ellipse: s-maj=13.8km s-min=8.3km az=107.3*
NEIC ***18*** *17:44:47.5, 5621N×15733W, h20km, ML3.9(AEIC), After AEIC.*
NEIC Felt in the Chignik Lagoon area.
IDC ***18*** *17:44:47.4±5.2, 5669N×15766W, h50km±41km, mb3.5/11, mb1 3.7/12, mb1mx3.6/24, mbtmp3.5/12, ML4.4/2, Error ellipse: s-maj=36.9km s-min=18.2km az=34.0*

ISC 18 17:44:48.0±0.5, 5644N±008×1577W±01, h68km±6km, n27, σ1§07/30, mb3.7/11, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.40**	**250**	P	Pn	17 44 59.2	-0.5
CHGN				S	Sn	17 45 07.8	-0.5
SDPT	**Sand Point**	**1.89**	**236**	P	Pn	17 45 17.8	-0.3
KDAK	**Kodiak Island**	**3.12**	**62**	P	Pn	17 45 33.6	-1.1
	83nm,0.3s,baz=240,slow=6.8,SNR=668						
KDAK				S	Sn	17 46 06.0	-4.7
	17nm,0.3s,baz=165,slow=19,SNR=4.1						
FALS	**False Pass**	**3.59**	**246**	P	Pn	17 45 41.9	+0.8
SVW2	**Sparrevohn**	**4.80**	**13**	P	Pn	17 45 59.3	+1.6
SLKM	**Skilak Lake**	**5.67**	**41**	P	Pn	17 46 09.7	+0.1
RC01	**Rabbit Creek A**	**6.25**	**38**	P	Pn	17 46 17.3	-0.1
GHO	**Glory Hole Cre**	**7.01**	**37**	P	Pn	17 46 28.2	+0.3
SML	**Sawmill**	**7.23**	**38**	P	Pn	17 46 30.2	-0.7
IMA2	**Indian Mountai**	**9.85**	**10**	*e*Pn	Pn	17 47 08.0	+1.3
TNA	**Tin City**	**10.38**	**336**	*e*Pn	Pn	17 47 16.9	+2.9
	7.3nm,0.5s						
INK	**Inuvik**	**16.20**	**33**	P	Pn	17 48 28.1	-3.0
	0.8nm,0.3s,baz=228,slow=16,SNR=5.1						
INK				S	S	17 51 30.8	-8.6
	0.1nm,0.3s,baz=62,slow=18,SNR=2.5						
YKA	**Yellowknife Ar**	**22.38**	**57**	P	P	17 49 39.4	-0.9
	0.7nm,0.4s,mb3.3,baz=273,slow=10,SNR=19						
YKA	**Yellowknife Ar**	**22.38**	**57**	P	P	17 49 39.4	-0.9
EDM	**Edmonton**	**25.43**	**78**	*e*P	P	17 50 09.4	+0.3
EDM				*e*	pP	17 50 22.0	-3.4
NVAR	**Mina Array Bea**	**31.61**	**108**	P	P	17 51 06.2	+2.0
	0.4nm,0.6s,mb3.3,baz=313,slow=11,SNR=2.7						
PDAR	**Pinedale Array**	**33.35**	**93**	P	P	17 51 20.4	+1.0
	0.5nm,0.7s,mb3.5,baz=308,slow=4.4,SNR=2.1						
ULM	**Lac du Bonnet**	**36.32**	**73**	P	P	17 51 45.0	0.0
	1.0nm,0.4s,mb4.1,baz=322,slow=18,SNR=2.7						
ULM	**Lac du Bonnet**	**36.32**	**73**	P	P	17 51 45.0	0.0
TXAR	**Lajitas Array**	**46.38**	**102**	P	P	17 53 07.8	+0.4
	0.3nm,0.6s,mb3.2,baz=308,slow=6.0,SNR=5.1						
ARCES	**ARCESS Array B**	**54.31**	**359**	P	P	17 54 05.7	-1.5
	5.9nm,0.9s,mb4.6,baz=11,slow=7.4,SNR=6.5						
SONM	**Songino Array**	**54.81**	**305**	P	P	17 54 10.9	0.0
	0.7nm,0.7s,mb3.8,baz=28,slow=7.6,SNR=6.5						
FINES	**FINESS Array B**	**62.42**	**358**	P	P	17 55 03.5	-0.2
	1.4nm,0.8s,mb4.1,baz=15,slow=7.6,SNR=4.6						
NOA	**NORSAR Array B**	**62.54**	**6**	P	P	17 55 05.1	+0.6
	0.6nm,0.8s,mb3.7,baz=353,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**65.57**	**319**	P	P	17 55 24.0	-0.4
	0.6nm,0.7s,mb3.5,baz=59,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**65.57**	**319**	P	P	17 55 24.0	-0.4
AKASG	**Malin Array Be**	**73.07**	**355**	P	P	17 56 08.6	-2.1
	0.5nm,0.5s,mb3.6,baz=8.1,slow=5.6,SNR=5.1						

NEIC ***18*** *18:02:03.8±2.8, 525S×14774E, h122km±30km, Error ellipse: s-maj=34.2km s-min=14.9km az=155.0*
ISCJB ***18*** *18:02:05.1±3.1, 55S±02×1477E±0.1, h134km±32km, mb4.1/4, Error ellipse: s-maj=38.0km s-min=17.4km az=130.9*
IDC ***18*** *18:02:07.2±4.1, 564S×14785E, h145km±43km, mb3.7/3, mb1 4.0/5, mb1mx3.6/15, mbtmp3.9/5, Error ellipse: s-maj=50.6km s-min=24.8km az=142.0*

ISC 18 18:02:06.2±3.1, 55S±02×1478E±01, h129km±33km, n12, σ0§63/13, mb4.1/4, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.91**	**189**	P	Pn	18 03 06.0	+1.3
	1.1nm,0.3s,baz=350,slow=13,SNR=15						
PMG				S	Sn	18 03 49.1	-1.0
	4.7nm,0.3s,baz=172,slow=21,SNR=15						
PMG	**Port Moresby**	**3.91**	**189**	*e*Pn	Pn	18 03 05.7	+1.0
PMG				*e*Sn	Sn	18 03 49.3	-0.8
HNR	**Honiara**	**12.69**	**109**	P	Pn	18 05 01.7	-0.3
	2.0nm,0.3s,baz=84,slow=5.8,SNR=6.4						
KAKA	**Kakadu**	**16.73**	**244**	*e*P	Pn	18 05 52.1	-0.7
WB2	**Warramunga Arr**	**19.39**	**221**	⇑*i*P	P	18 06 22.4	+0.4
WRA	**Warramunga Arr**	**19.39**	**221**	P	P	18 06 22.5	+0.4
	1.7nm,0.3s,baz=48,slow=11,SNR=149						
ASAR	**Alice Springs**	**22.45**	**215**	P	P	18 06 55.0	+0.4
	4.7nm,0.4s,mb4.3,baz=52,slow=8.5,SNR=148						
FITZ	**Fitzroy Crossi**	**24.97**	**238**	⇑*i*P	P	18 07 17.3	-0.3
FITZ	**Fitzroy Crossi**	**24.97**	**238**	P	P	18 07 17.4	-0.2
	3.0nm,0.4s,mb4.2,baz=62,slow=10,SNR=30						
MKAR	**Makanchi Array**	**77.61**	**320**	P	P	18 13 47.9	-0.2
	0.3nm,0.4s,mb3.2,baz=93,slow=8.4,SNR=5.9						
TIXI	**Tiksi**	**78.01**	**354**	*e*P	P	18 13 44.8	-5.5
	8.7nm,0.5s,mb4.6						
TORD	**Torodi Ar. Bea**	**145.71**	**285**	PKPbc	PKPbc	18 21 29.2	-0.7
	0.2nm,0.4s,baz=68,slow=3.4,SNR=3.7						

NEIC ***18*** *18:24:49.3, 1721N×10073W, h20km, MD3.9(MEX), After MEX.*

MEX 18 18:24:49.1±1.1, 1719N×10073W, h19km±37km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.47**	**108**	*i* P	Pg	18 24 56.8	-1.8
CAIG				*i* S	Sg	18 25 02.9	-2.0
ZIIG	**Zihuatanejo**	**0.81**	**301**	*i* P	Pb	18 25 01.7	-3.0
ZIIG				*i* S	Sb	18 25 12.4	-2.8
ACX	**Acapulco**	**0.84**	**112**	*i* P	Pb	18 25 03.5	-1.6
ACX				*i* S	Sb	18 25 15.0	-1.1
MEIG	**Mezcala**	**1.29**	**55**	*i* P	Pn	18 25 09.8	-2.3
MEIG				*i* S	Sn	18 25 23.4	-5.3
PLIG	**Platanillo**	**1.67**	**44**	*i* P	Pn	18 25 15.4	-1.9
PLIG				*i* S	Sn	18 25 33.2	-5.1
SZVM	**Salazar**	**2.48**	**31**	*e*P	Pn	18 25 31.2	+2.7
SZVM				*i* S	Sn	18 26 00.8	+2.7
MOIG	**Morelia**	**2.51**	**350**	*e*P	Pn	18 25 25.5	-3.4
MOIG				*i* S	Sn	18 25 55.7	-3.3
MMIG	**Aquila**	**2.72**	**294**	*i* P	Pn	18 25 28.8	-3.0
MMIG				*i* S	Sn	18 26 01.7	-2.5
UTMO	**Huajuapan**	**2.86**	**77**	*e*P	Pn	18 25 32.2	-1.5
UTMO				*i* S	Sn	18 26 03.4	-4.3
IIO	**Organos**	**3.05**	**38**	*e*P	Pn	18 25 39.4	+3.0
VHO	**Vista Hermosa**	**3.82**	**91**	*i* S	Sn	18 26 28.2	-3.2
OXX	**Oaxaca**	**3.83**	**91**	*i* P	Pn	18 25 45.0	-2.1
SFJM	**Santa Fe**	**3.94**	**327**	*e*P	Pn	18 25 55.0	+6.5

NIED ***18*** *18:28:00, 3200N×13160E, h32km, Mw4.3 Best double couple: M0 3.09000×10^15 NP1:φ1=200.00000°, δ64.00000°, λ-129.00000°. NP2:φ2=82.00000°, δ46.00000°, λ-37.00000°.*
ISCJB ***18*** *18:28:50.3±0.5, 3192N±004×13161E±006, h53km±4km, mb3.9/14, MS3.6/5, Error ellipse: s-maj=8.4km s-min=6.5km az=5.2*
JMA ***18*** *18:28:51.4±0.1, 3198N×13158E, h40km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ1=76.00000°, δ49.00000°, λ-26.00000°. NP2:φ2=183.00000°, δ71.00000°, λ-136.00000°. Principal axes: T Plg13.0000°, Azm305.0000°; N Plg43.0000°, Azm203.0000°; P Plg44.0000°, Azm48.0000°;*
JMA Felt II J1.
NEIC ***18*** *18:28:51.7±0.7, 3192N×13144E, h50km±7km, mb4.0/1 Error ellipse: s-maj=9.5km s-min=7.6km az=106.0*
NEIC Recorded [2 JMA] in Kumamoto and Miyazaki; [1 JMA] in Kagoshima Prefectures.
BJI ***18*** *18:28:51.6, 3190N×13140E, h49km, mB4.8, mb4.2, Ms3.9, Msz4.0*
IDC ***18*** *18:28:52.8±1.3, 3190N×13140E, h60km±11km, mb3.7/12, mb1 3.9/15, mb1mx3.8/25, mbtmp3.7/15, MS3.5/9, Ms1 3.5/9, ms1mx3.2/42, Error ellipse: s-maj=19.4km s-min=9.3km az=89.0*

ISC 18 18:28:51.6±0.5, 3190N±003×13156E±006, h48km±4km, n34, σ1§00/37, mb3.9/14, MS3.6/5, 2C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.35**	**352**	⇑P	Pn	18 28 58.9	-2.2
JTSN				S	Sn	18 29 05.4	-2.4
JTZ	**Takazaki**	**0.40**	**270**	⇓P	Pn	18 29 00.7	-0.9
JTZ				S	Sn	18 29 08.8	+0.1
JNAR	**Kushima--Naru**	**0.45**	**214**	⇓P	Pn	18 29 02.5	+0.4
JNAR				S	Sn	18 29 11.1	+1.5
JZO	**Okuchi**	**0.85**	**287**	⇓P	Pn	18 29 07.1	-0.2
JZO				S	Sn	18 29 19.7	+1.0
JIU2	**Izumi 2**	**0.90**	**316**	⇑P	Pn	18 29 07.4	-0.6
JIU2				*e*S	Sn	18 29 20.2	+0.3
JSU	**Suzuyama**	**1.02**	**248**	⇓P	Pn	18 29 10.4	+0.8
JNU	**Nakatsue**	**1.35**	**335**	P	Pn	18 29 14.2	+0.2
	290nm,0.3s,baz=193,slow=21,SNR=2122						
JNU				S	Sn	18 29 31.4	+0.6
	369nm,0.3s,baz=235,slow=19,SNR=47						
JOW	**Kunigami**	**5.81**	**210**	P	Pn	18 30 14.1	-1.0
	0.8nm,0.3s,baz=119,slow=19,SNR=3.1						
JOW				S	Sn	18 31 19.3	-1.1
	5.1nm,0.3s,baz=60,slow=26,SNR=6.4						
KSRS	**Korea Array**	**6.30**	**333**	P	Pn	18 30 23.0	+1.1
	baz=146,slow=15,SNR=4.0						
KSRS				S	Sn	18 31 34.1	+1.6
	baz=149,slow=17,SNR=4.8						
KSRS				LR	LR	18 33 00.5	
	comp=Z,375nm,19.1s,baz=150,slow=40						
JHJ	**Hachijo jima 2**	**7.05**	**78**	LR	LR	18 33 17.4	
	comp=Z,167nm,18.3s,baz=324,slow=37						
MAJO	**Matsushiro**	**7.19**	**48**	*e*P	Pn	18 30 34.6	+0.5
MAT	**Matsushiro**	**7.19**	**48**	P	Pn	18 30 34.5	+0.3
MJAR	**Matsushiro Arr**	**7.19**	**48**	P	Pn	18 30 35.0	+0.8
	3.7nm,0.3s,baz=235,slow=15,SNR=37						
MJAR				LR	LR	18 33 38.4	
	comp=Z,261nm,20.0s,baz=230,slow=39						
ASAJ	**Asahikawa**	**14.96**	**32**	LR	LR	18 37 25.3	
	comp=Z,168nm,21.8s,baz=315,slow=34						
SONM	**Songino Array**	**24.87**	**317**	P	P	18 34 09.5	-0.1
	2.6nm,0.7s,mb3.9,baz=126,slow=6.7,SNR=21						
SONM				LR	LR	18 45 23.7	
	comp=Z,93nm,21.0s,MS3.3,baz=144,slow=40						
GTA	**Gaotai**	**26.76**	**295**	*e*P	P	18 34 28.0	+1.2
GTA				AMB	AMB		
	comp=Z,2.0nm,1.6s,mb3.4						
ZAL	**Zalesovo**	**39.77**	**318**	LR	LR	18 54 31.6	
	comp=Z,100nm,19.1s,MS3.7,baz=85,slow=39						
MK31	**Makanchi Array**	**40.23**	**306**	*e*P	P	18 36 22.6	-0.9
MKAR	**Makanchi Array**	**40.23**	**306**	P	P	18 36 22.6	-0.9
	comp=Z,1.2nm,0.7s,mb3.8,baz=88,slow=11,SNR=10						
MKAR				LR	LR	18 53 46.2	
	comp=Z,59nm,19.7s,MS3.4,baz=172,slow=37						
BRVK	**Borovoye**	**48.24**	**315**	*e*P	P	18 37 27.1	-0.4
	comp=Z,0.9nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**51.61**	**177**	P	P	18 37 54.0	+0.8
	comp=Z,1.4nm,0.9s,mb3.9,baz=354,slow=8.2,SNR=8.4						
ASAR	**Alice Springs**	**55.30**	**177**	P	P	18 38 21.5	+1.4
	comp=Z,0.4nm,0.6s,mb3.6,baz=9.7,slow=12,SNR=14						
STKA	**Stephens Creek**	**64.14**	**171**	P	P	18 39 21.1	+0.1
	comp=Z,1.5nm,0.7s,mb4.2,baz=9.0,slow=10.0,SNR=4.8						
FINES	**FINESS Array B**	**69.39**	**330**	P	P	18 39 52.7	-1.6
	comp=Z,0.7nm,0.4s,mb4.0,baz=83,slow=6.0,SNR=4.8						
FINES	**FINESS Array B**	**69.39**	**330**	P	P	18 39 52.7	-1.6
YKA	**Yellowknife Ar**	**72.17**	**26**	P	P	18 40 11.0	-0.2
	comp=Z,1.3nm,0.8s,mb3.9,baz=303,slow=5.8,SNR=17						
AKASG	**Malin Array Be**	**73.12**	**320**	P	P	18 40 15.3	-1.6
	comp=Z,0.3nm,0.4s,mb3.6,baz=52,slow=6.2,SNR=5.6						
AKASG	**Malin Array Be**	**73.12**	**320**	P	P	18 40 15.3	-1.6
NOA	**NORSAR Array B**	**75.51**	**344**	LR	LR	19 16 46.0	
	comp=Z,26nm,18.9s,MS3.5,baz=315,slow=38						
BRTR	**Keskin Array B**	**75.86**	**308**	P	P	18 40 31.6	-1.2
	comp=Z,1.0nm,0.9s,mb3.8,baz=101,slow=5.2,SNR=6.3						
VRAC	**Vranov**	**80.64**	**323**	LR	LR	19 19 29.6	
	comp=Z,68nm,19.5s,MS4.0,baz=326,slow=38						
NVAR	**Mina Array Bea**	**84.52**	**48**	P	P	18 41 19.6	+0.1
	comp=Z,1.3nm,0.7s,mb4.2,baz=304,slow=5.7,SNR=7.4						
PDAR	**Pinedale Array**	**86.95**	**40**	P	P	18 41 32.7	+1.2
	comp=Z,0.8nm,0.8s,mb4.0,baz=321,slow=1.9,SNR=5.7						
ULM	**Lac du Bonnet**	**88.06**	**28**	P	P	18 41 37.0	+0.3
	comp=Z,2.1nm,0.8s,mb4.4,baz=332,slow=7.4,SNR=4.5						

ISCJB ***18*** *18:51:19.3±0.6, 686N±007×7307W±007, h162km±8km, mb3.5/5, Error ellipse: s-maj=14.3km s-min=7.9km az=105.2*
NEIC ***18*** *18:51:20.2±0.7, 680N×7311W, h159km±7km, Error ellipse: s-maj=11.3km s-min=10.4km az=146.0*
IDC ***18*** *18:51:20.1±0.7, 678N×7296W, h156km±7km, mb3.3/5, mb1 3.6/8, mb1mx3.4/22, mbtmp3.5/8, Error ellipse: s-maj=17.9km s-min=7.3km az=130.0*

ISC 18 18:51:20.7±0.6, 678N±007×7300W±006, h157km±8km, n19, σ1§27/22, mb3.5/5, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.32**	**215**	P	Pn	18 52 00.7	+0.7
	93nm,0.3s,baz=225,slow=0.3,SNR=99						
ROSC				S	Sn	18 52 31.4	+1.1
	170nm,0.3s,baz=86,slow=19,SNR=14						
ROSC	**El Rosal**	**2.32**	**215**	*e*Pn	Pn	18 52 00.5	+0.5
ROSC				*e*Sn	Sn	18 52 27.7	-2.6
SDV	**Santo Domingo**	**3.15**	**48**	P	Pn	18 52 10.5	+0.3
	101nm,0.3s,baz=231,slow=5.4,SNR=207						
SDV				S	Sn	18 52 47.5	-1.0
	84nm,0.3s,baz=270,slow=21,SNR=18						
SDV	**Santo Domingo**	**3.15**	**48**	*e*Pn	Pn	18 52 10.3	+0.2
SDV				*e*Sn	Sn	18 52 47.1	-1.4
SDV				S	Sn	18 52 47.5	-1.0
BCIP	**Isla Barro Col**	**7.17**	**290**	*e*Pn	Pn	18 52 59.7	-3.3
PCRV	**Puerto La Cruz**	**8.94**	**67**	P	Pn	18 53 27.6	+1.1
	4.0nm,0.3s,baz=335,slow=23,SNR=20						
PCRV				S	Sn	18 55 05.5	-0.3
	1.3nm,0.3s,baz=324,slow=17,SNR=2.7						
STH	**Stony Hill**	**11.82**	**342**	⇓*e*P	Pn	18 54 06.6	+2.1
STH				*e*S	Sn	18 56 01.9	-13
CVJ	**Coleyville**	**12.20**	**339**	⇓*e*P	Pn	18 54 11.2	+1.8
LPAZ	**La Paz**	**23.42**	**168**	P	P	18 56 16.6	+1.0
	0.9nm,0.5s,mb3.5,baz=338,slow=8.4,SNR=4.1						
SIV	**San Ignacio**	**25.52**	**153**	P	P	18 56 33.8	-0.8
	0.6nm,0.7s,mb3.4,baz=323,slow=13,SNR=4.3						
TXAR	**Lajitas Array**	**36.58**	**312**	P	P	18 58 11.6	+0.1
	0.3nm,0.6s,mb3.1,baz=128,slow=9.6,SNR=4.9						
TXAR				PcP	PcP	19 00 33.0	+1.7
	0.2nm,0.6s,baz=134,slow=3.9,SNR=3.2						
TXAR	**Lajitas Array**	**36.58**	**312**	P	P	18 58 11.6	+0.1
TXAR				PcP	PcP	19 00 33.0	+1.7
ULM	**Lac du Bonnet**	**47.36**	**340**	P	P	18 59 37.9	-1.0
	1.0nm,0.3s,mb3.9,baz=126,slow=8.2,SNR=4.8						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	P	19 01 32.3	-0.8
	0.6nm,0.5s,mb3.7,baz=132,slow=6.7,SNR=16						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	P	19 01 32.3	-0.8
MKAR	**Makanchi Array**	**122.32**	**20**	PKP	PKPdf	19 09 55.9	-1.1
	0.2nm,0.7s,baz=323,slow=2.4,SNR=2.6						
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	PKPbc	19 10 50.5	-0.1
	1.0nm,0.6s,baz=116,slow=3.6,SNR=18						
WB2	**Warramunga Arr**	**150.41**	**241**	*e*PKPbc	PKPbc	19 10 53.3	-0.2
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	19 10 53.5	0.0
	0.8nm,0.5s,baz=106,slow=2.9,SNR=32						

NIED ***18*** *18:54:00, 4680N×15320E, h20km, Mw4.0 Best double couple: M0 9.61000×10^14 NP1:φ1=308.00000°, δ89.00000°, λ23.00000°. NP

comp=Z,6.2nm,0.5s,mb4.9
GKN Gorkha 55.71 276 *e*P **P** 19 04 17.1 +1.4
comp=Z,12nm,0.9s,mb4.9
KOLN Koldanda 56.56 276 *e*P **P** 19 04 23.3 +1.5
comp=Z,9.1nm,0.9s,mb4.8
ARCES ARCESS Array B 58.01 341 P **P** 19 04 30.0 -2.0
comp=Z,2.2nm,0.9s,mb4.2,baz=72,slow=8.6,SNR=3.1
FINES FINESS Array B 64.18 335 P **P** 19 05 11.2 -2.5
comp=Z,1.1nm,0.4s,mb4.2,baz=66,slow=6.5,SNR=7.0
PDAR Pinedale Array 64.96 54 P **P** 19 05 19.3 +0.5
comp=Z,0.6nm,0.8s,mb3.7,baz=317,slow=5.2,SNR=4.0
ULM Lac du Bonnet 66.75 41 P **P** 19 05 29.2 -1.2
comp=Z,0.8nm,0.4s,mb4.1,baz=293,slow=7.7,SNR=3.0
ULM Lac du Bonnet 66.75 41 P **P** 19 05 29.2 -1.2
NB2 NORSAR Subarra 68.39 341 P **P** 19 05 38.9 -1.8
comp=Z,1.2nm,0.6s,mb4.1,baz=26,slow=6.5
NOA NORSAR Array B 68.39 341 P **P** 19 05 39.3 -1.4
comp=Z,2.5nm,0.8s,mb4.3,baz=27,slow=6.4,SNR=6.8
AKASG Malin Array Be 71.66 326 P **P** 19 05 58.9 -1.8
comp=Z,0.6nm,0.3s,mb3.9,baz=33,slow=6.0,SNR=8.3
ASAR Alice Springs 71.98 198 P **P** 19 06 04.8 +2.2
comp=Z,0.3nm,0.7s,mb3.3,baz=12,slow=6.0,SNR=4.1
BURAR Bucovina Array 75.70 326⇓*i*P **P** 19 06 23.6 -0.8
MLR Muntele Rosu 77.17 325 P **P** 19 06 33.0 +0.3
comp=Z,2.6nm,0.8s,mb4.2,baz=10,slow=11,SNR=3.9
MLR Muntele Rosu 77.17 325⇓*i*P **P** 19 06 33.1 +0.4
VOIR 77.57 325⇑*i*P **P** 19 06 34.2 -0.7
TXAR Lajitas Array 77.69 60 P **P** 19 06 36.2 +0.6
comp=Z,0.4nm,0.6s,mb3.5,baz=311,slow=4.1,SNR=5.0
TXAR Lajitas Array 77.69 60 P **P** 19 06 36.2 +0.6
BRTR Keskin Array B 78.47 317 P **P** 19 06 39.0 -0.9
comp=Z,1.0nm,0.9s,mb3.8,baz=60,slow=3.0,SNR=6.0
MMAI Mount Meron Ar 82.87 311 P **P** 19 07 04.4 +1.0
comp=Z,1.3nm,0.6s,mb4.1,baz=76,slow=6.5,SNR=4.9
SNAA Sanae 152.33 196 PKPbc PKPbc 19 14 33.1 -1.4
comp=Z,0.3nm,0.8s,baz=315,slow=17,SNR=4.3

IDC 18 19:00:01.0±42.0, 4434N×15280E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/23, mbtmp3.9/4, Error ellipse: s-maj=1059.0km s-min=63.1km az=178.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**53.00**	**36**	P	P	19 09 18.9	-0.6
	0.3nm,0.7s,baz=296,slow=7.1,SNR=3.7						
FINES	**FINESS Array B**	**66.14**	**335**	P	P	19 10 49.2	-0.9
	2.1nm,0.9s,baz=46,slow=8.2,SNR=4.7						
NOA	**NORSAR Array B**	**70.44**	**341**	P	P	19 11 17.1	0.0
	0.9nm,0.7s,baz=28,slow=6.5,SNR=3.0						
HFS	**Hagfors**	**70.65**	**340**	P	P	19 11 17.9	-0.5
	1.3nm,0.5s,baz=28,slow=6.5,SNR=5.9						

*ISCJB **18** 19:06:58.8±0.7, 2245±004×7693W±008, h10km, mb4.1/5, Error ellipse: s-maj=11.5km s-min=4.9km az=148.2*
*IGQ **18** 19:07:00.6, 1875×7697W, h16km±6km, Mb4.9, Ms4.8, Error ellipse: s-maj=24.3km s-min=5.9km az=51.3*
*NEIC **18** 19:07:17.9±1.5, 2975×7684W, h158km±19km, mb4.1/2, Error ellipse: s-maj=25.4km s-min=10.6km az=77.0*
*IDC **18** 19:07:18.6±1.7, 3055×7688W, h164km±22km, mb3.4/4, mb1 3.6/8, mb1mx3.4/22, mbtmp3.6/8, MS3.6/1, Ms1 3.6/1, ms1mx2.8/15, Error ellipse: s-maj=28.0km s-min=15.1km az=85.0*

ISC 18 19:07:00.1±0.6, 228S±004×7704W±007, h10km, n40, σ1§15/42, mb4.1/5, 15D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.59**	**299**	⇓P	**Pn**	19 07 28.8	+0.5
ULBA	**Ulba**	**1.60**	**301**	⇓P	**Pn**	19 07 28.6	+0.2
ARRY	**Arrayan**	**1.61**	**298**	⇓P	**Pn**	19 07 28.8	+0.3
RUN5	**Runtun**	**1.63**	**302**	P	**Pn**	19 07 28.9	+0.1
RETU	**Refugio**	**1.63**	**300**	⇓P	**Pn**	19 07 29.1	+0.4
JUIV	**Juive**	**1.66**	**301**	⇓P	**Pn**	19 07 29.4	+0.2
BILB	**Tungurahua vol**	**1.68**	**300**	P	**Pn**	19 07 29.8	+0.3
IGUA	**Igualata**	**1.78**	**296**	⇓P	**Pn**	19 07 32.5	+1.6
PISA	**Pisayambo**	**1.81**	**312**	⇓P	**Pn**	19 07 31.0	-0.3
TAMB	**Tambo**	**2.06**	**320**	⇓P	**Pn**	19 07 33.9	-0.8
VC1	**Cotopaxi 1**	**2.12**	**320**	⇓P	**Pn**	19 07 35.1	-0.5
ANTI	**Antisana**	**2.13**	**328**	⇓P	**Pn**	19 07 33.9	-1.9
CAMI	**Rancho Maria**	**2.16**	**317**	⇓P	**Pn**	19 07 36.1	-0.1
LAV3	**Lava3-Reventad**	**2.25**	**345**	P	**Pn**	19 07 34.1	-3.1
CONE	**Cono NE Rev Vo**	**2.27**	**345**	P	**Pn**	19 07 34.5	-3.2
CAYR	**Refugio Cayamb**	**2.47**	**337**	⇓P	**Pn**	19 07 38.5	-1.9
CAYA	**Cayambe**	**2.52**	**338**	⇓P	**Pn**	19 07 39.0	-2.0
JUA2	**San Juan 2**	**2.58**	**323**	P	**Pn**	19 07 42.0	+0.1
TERV	**Terraza Guagua**	**2.61**	**323**	⇓P	**Pn**	19 07 42.9	+0.6
PINO	**Pino**	**2.62**	**323**	P	**Pn**	19 07 42.1	-0.4
YANA	**Yana**	**2.63**	**324**	⇓P	**Pn**	19 07 42.3	-0.3
COTA	**Cotacachi**	**2.90**	**333**	P	**Pn**	19 07 46.5	+0.2
MAG1	**Magdalena**	**3.50**	**309**	P	**Pb**	19 08 04.6	+2.4
ATAH	**Atahualpa**	**4.88**	**196**	P	**Pb**	19 08 23.9	-1.8
	26nm,0.3s,baz=17,slow=6.2,SNR=109						
ATAH				S	**Sb**	19 09 24.4	0.0
	baz=342,slow=20,SNR=2.7						
ROSC	**El Rosal**	**7.58**	**21**	P	**Pb**	19 09 14.8	+3.1
	3.6nm,0.3s,baz=86,slow=19,SNR=5.9						
ROSC				S	**Sb**	19 10 49.7	+7.5
	7.8nm,0.3s,baz=77,slow=22,SNR=3.6						
ROSC				LR	LR	19 12 08.5	
	comp=Z,346nm,18.0s,baz=310,slow=35						
ROSC	**El Rosal**	**7.58**	**21**	*e*Pn	**Pb**	19 09 13.8	+2.1
ROSC				S	**Sb**	19 10 49.7	+7.5
ROSC				LR	LR	19 12 08.5	
NNA	**Nana**	**9.65**	**179**	P	**Pn**	19 09 24.0	+5.0
	3.4nm,0.3s,baz=342,slow=10,SNR=16						
NNA	**Nana**	**9.65**	**179**	*e*P	**Pn**	19 09 24.1	+5.2
LPAZ	**La Paz**	**16.45**	**148**	P	**Pn**	19 10 51.3	+0.3
	0.1nm,0.3s,baz=330,slow=8.1,SNR=1.9						
LPAZ	**La Paz**	**16.45**	**148**	Pn	**Pn**	19 10 51.9	+0.9
SIV	**San Ignacio**	**20.81**	**132**	P	**P**	19 11 40.9	-0.7
	0.4nm,0.3s,baz=280,slow=15,SNR=4.1						
PLCA	**Paso Flores**	**38.73**	**172**	P	**P**	19 14 26.0	+1.6
	5.6nm,0.8s,mb4.3,baz=348,slow=9.3,SNR=7.5						
TXAR	**Lajitas Array**	**40.47**	**323**	P	**P**	19 14 47.7	+8.8
	0.6nm,0.7s,mb3.4,baz=139,slow=8.4,SNR=6.3						
TXAR	**Lajitas Array**	**40.47**	**323**	P	**P**	19 14 47.7	+8.8
ANMO	**Albuquerque**	**46.17**	**326**	P	**P**	19 15 32.3	+7.4
	5.0nm,0.8s,mb4.5,baz=161,slow=7.2,SNR=7.7						
ANMO	**Albuquerque**	**46.17**	**326**	*e*P	**P**	19 15 32.8	+7.9
	4.0nm,0.8s,mb4.4						
BW06	**Boulder Array**	**53.58**	**331**	*e*P	**P**	19 16 26.4	+5.2
	2.0nm,0.6s,mb4.2						
ULM	**Lac du Bonnet**	**54.77**	**345**	P	**P**	19 16 36.7	+6.8
	1.8nm,0.7s,mb4.2,baz=163,slow=11,SNR=3.9						
ULM	**Lac du Bonnet**	**54.77**	**345**	P	**P**	19 16 36.7	+6.8
WRA	**Warramunga Arr**	**142.11**	**233**	PKhKP		19 26 28.1	
	0.3nm,0.6s,baz=121,slow=2.8,SNR=6.1						
WRA				PKP	PKPdf	19 26 31.9	-0.6
	0.4nm,0.6s,baz=119,slow=2.7,SNR=4.5						

*CSEM **18** 19:10:10.4±0.1, 3572N×3145E, h60km, Mw3.4, Error ellipse: s-maj=2.0km s-min=1.5km az=86.0*
*NIC **18** 19:10:10.5±0.3, 3594N×3155E, h55km, ML3.4, MW3.4*
*NEIC **18** 19:10:10.5, 3594N×3155E, h55km, MG3.4(NIC), After NIC.*
*ISK **18** 19:10:11.5, 3572N×3145E, h32km, MD3.7*
*ISCJB **18** 19:10:11.4±0.3, 3569N±003×3148E±004, h82km±11km, Error ellipse: s-maj=5.5km s-min=4.0km az=111.3*
*HLW **18** 19:10:12.5, 3567N×3138E, h33km, Mb3.7*

ISC 18 19:10:12.9±0.3, 3569N±003×3148E±004, h59km±19km, n51, σ0§96/70, 8C-8D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.96**	**134**	P	**Pn**	19 10 29.9	-0.4
ALFC	**Alevga**	**1.06**	**120**	P	**Pn**	19 10 30.3	-1.3
	25nm,0.2s						
ALFC				S	**Sn**	19 10 46.1	+0.6
PPCY	**Paphos**	**1.07**	**139**	P	**Pn**	19 10 32.1	+0.3
SZAC	**Souni-Zanaja**	**1.48**	**129**	P	**Pn**	19 10 38.2	+1.0
	10nm,0.2s						
SZAC				S	**Sn**	19 11 02.6	+7.0
ERMK	**Ermenek**	**1.49**	**50**	*i*P	**Pn**	19 10 38.5	+1.0
ERMK				*i*S	**Sn**	19 10 57.5	+1.6
HDMB	**Hadim**	**1.50**	**32**	PN	**Pn**	19 10 37.1	-0.5
HDMB				SN	**Sn**	19 10 54.2	-2.0
MAMC	**Mammari**	**1.51**	**110**	P	**Pn**	19 10 36.5	-1.2
AKAS	**Kas**	**1.62**	**290**	*i*P	**Pn**	19 10 38.6	-0.5
AKAS				*i*S	**Sn**	19 11 10.4	+11
ELL	**Elmali**	**1.65**	**310**	PN	**Pn**	19 10 38.8	-0.8
CSS	**Prodhromos**	**1.68**	**115**	P	**Pn**	19 10 38.6	-1.3
	3.8nm,0.2s						
CSS				S	**Sn**	19 11 00.9	+0.5
IKL	**Isikli**	**1.87**	**72**	PN	**Pn**	19 10 41.7	-0.8
GOLH	**Golhisar**	**2.19**	**315**	*i*P	**Pn**	19 10 48.9	+2.0
GOLH				*i*S	**Sn**	19 11 24.9	+12
GOLH	**Golhisar**	**2.19**	**315**	*i*P	**Pn**	19 10 48.8	+2.0
PHNC	**Paralimni**	**2.19**	**108**	P	**Pn**	19 10 47.5	+0.6
	7.9nm,0.5s						
PHNC				S	**Sn**	19 11 16.4	+3.5
KONT	**Konya--Tatoy**	**2.35**	**17**	PN	**Pn**	19 10 49.3	+0.2
DALT	**Dalyan (Mudla)**	**2.54**	**296**	PN	**Pn**	19 10 50.3	-1.4
MERS	**Mersin**	**2.72**	**64**	PN	**Pn**	19 10 55.1	+1.0
SHUT	**Suhut-Afyon**	**2.95**	**346**	PN	**Pn**	19 10 57.8	+0.5
YER	**Yerkesik**	**2.96**	**300**	PN	**Pn**	19 10 57.3	0.0
KIZT	**Kizilcal**	**3.20**	**6**	PN	**Pn**	19 11 00.4	-0.2
KARA	**Karaisali**	**3.27**	**60**	PN	**Pn**	19 11 02.5	+0.8
DAT	**Datca**	**3.32**	**289**	PN	**Pn**	19 11 01.7	-0.7
GDZ	**Gediz**	**3.75**	**335**	*i*P	**Pn**	19 11 08.7	+0.6
GDZ				*i*S	**Sn**	19 11 51.7	+0.7
HTY	**Hatay**	**3.80**	**82**	*e*PN	**Pn**	19 11 10.0	+1.1
ESKT	**Eskisehir**	**3.85**	**353**	*e*PN	**Pn**	19 11 09.9	+0.3
BHL	**Bhannes**	**3.87**	**116**	*e*P	**Pn**	19 11 11.2	+1.3
BHL				*e*S	**Sn**	19 11 47.8	-6.2
KOZT	**Kozan**	**3.92**	**62**	*e*PN	**Pn**	19 11 10.6	0.0
HWQ	**Hawqa**	**3.93**	**110**	*e*P	**Pn**	19 11 13.6	+3.0
HWQ				*e*S	**Sn**	19 11 54.9	-0.6
KAMT	**Kaman**	**4.07**	**25**	*e*PN	**Pn**	19 11 12.8	+0.1
FKH	**Fakeheh**	**4.29**	**108**	*e*S	**Sn**	19 12 03.4	-1.0
KDAG	**Bornova**	**4.32**	**310**	*i*P	**Pn**	19 11 15.3	-0.7
KDAG				*i*S	**Sn**	19 12 00.6	-4.6
GZT	**Gaziantep**	**5.17**	**70**	*i*P	**Pn**	19 11 26.2	-1.5
GZT				*i*S	**Sn**	19 12 24.0	-2.0
AMAG	**Maghara**	**5.24**	**164**	⇓P	**Pn**	19 11 28.5	-0.1
HHAG	**Hagoal**	**5.75**	**175**	⇑P	**Pn**	19 11 35.8	+0.2
HMAT	**Matruh**	**5.87**	**220**	⇑P	**Pn**	19 11 36.8	-0.5
HMAT				S	**Sn**	19 12 38.1	-5.1
HMAT	**Matruh**	**5.87**	**220**	⇑P	**Pn**	19 11 36.8	-0.5
HMAT				S	**Sn**	19 12 38.1	-5.1
SUZ		**5.95**	**169**	P	**Pn**	19 11 38.6	+0.3
AYT	**Al 'Ayyat**	**5.98**	**183**	⇓P	**Pn**	19 11 38.8	+0.1
HSAF	**As Saff**	**6.06**	**179**	⇓*i*P	**Pn**	19 11 40.0	+0.2
HSAF	**As Saff**	**6.06**	**179**	⇓*i*P	**Pn**	19 11 40.0	+0.2
HNAT	**Natroun**	**6.09**	**187**	⇓P	**Pn**	19 11 40.1	-0.1
GLL	**Jalalah**	**6.10**	**178**	⇓P	**Pn**	19 11 40.2	-0.2
GLL	**Jalalah**	**6.10**	**178**	⇓P	**Pn**	19 11 40.2	-0.2
GLL	**Jalalah**	**6.10**	**178**	P	**Pn**	19 11 40.2	-0.2
HNKL	**Nakhl**	**6.12**	**159**	⇑P	**Pn**	19 11 41.0	+0.3
HNKL				S	**Sn**	19 12 46.4	-2.9
HNKL	**Nakhl**	**6.12**	**159**	⇑P	**Pn**	19 11 41.0	+0.3
HNKL				S	**Sn**	19 12 46.4	-2.9
ZAF		**6.46**	**172**	⇓P	**Pn**	19 11 45.6	+0.3
SWA1		**8.05**	**219**	⇑P	**Pn**	19 12 07.2	+0.1
SWA1				S	**Sn**	19 13 30.4	-6.3
SWA1		**8.05**	**219**	⇑P	**Pn**	19 12 07.2	+0.1
SWA1				S	**Sn**	19 13 30.4	-6.3
ASUT		**8.27**	**180**	P	**Pn**	19 12 10.8	+0.7
HDK1	**Dakhla**	**10.27**	**191**	⇑P	**Pn**	19 12 38.3	+0.8

*NEIC **18** 19:42:28.6, 4029N×2041E, h11km, MD3.3(ATH), After ATH.*
*ATH **18** 19:42:28.6, 4029N×2041E, h11km±1km, MD3.3/3*
*CSEM **18** 19:42:28.5±0.1, 4031N×2031E, h0km±1km, MD3.3, Error ellipse: s-maj=2.1km s-min=1.0km az=122.0*
*ISCJB **18** 19:42:28.7±0.5, 4028N±002×2035E±004, h10km, Error ellipse: s-maj=4.7km s-min=2.8km az=51.8*
*THE **18** 19:42:29.3, 4027N×2037E, h10km, ML2.3*
*SKO **18** 19:42:29.4, 4025N×2031E, h14km*

ISC 18 19:42:29.3±0.5, 4027N±002×2038E±004, h10km, n25, σ1§04/45, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.21**	**124**	*i*Pg	**Pg**	19 42 32.1	-1.5
LSK				*i*Sg	**Sg**	19 42 34.8	-1.7
KBN	**Korca**	**0.48**	**41**	*i*Pg	**Pg**	19 42 38.1	-0.5
KBN				*i*Sg	**Sg**	19 42 46.2	+1.3
SRN	**Sarande**	**0.48**	**217**	*i*Pg	**Pg**	19 42 38.3	-0.4
SRN				*i*Sg	**Sg**	19 42 46.4	+1.4
KEK	**Kerkira**	**0.71**	**219**	*e*PB	**Pg**	19 42 42.8	-0.2
KEK				*e*SB	**Sg**	19 42 53.0	+0.8
JAN	**Janina**	**0.71**	**149**	*e*PG	**Pg**	19 42 42.0	-1.0
JAN				*e*SB	**Sg**	19 42 52.0	-0.3
IGT	**Igoumenitsa**	**0.73**	**183**	*e*Pg	**Pg**	19 42 42.6	-0.8
MEV	**Metsovon**	**0.81**	**126**	*e*Pg	**Pg**	19 42 43.5	-1.5
MEV				*e*Sg	**Sg**	19 42 56.4	+0.9
OHR	**Ohrid**	**0.91**	**21**	*e*Pg	**Pg**	19 42 45.8	-0.9
OHR				*e*Sg	**Sg**	19 43 00.4	+1.8
OHR	**Ohrid**	**0.91**	**21**	*e*Pg	**Pg**	19 42 45.8	-0.9
OHR				*e*Sg	**Sg**	19 43 00.4	+1.8
OHR	**Ohrid**	**0.91**	**21**	*e*Pg	**Pg**	19 42 45.7	-1.0
OHR				*e*Sg	**Sg**	19 43 00.3	+1.8
FNA	**Florina**	**0.92**	**55**	*e*Pg	**Pg**	19 42 46.3	-0.8
FNA				*e*Sg	**Sg**	19 43 00.3	+1.2
BIA	**Bitola**	**1.04**	**43**	*e*Pg	**Pg**	19 42 48.6	-0.8
BIA				*e*Sg	**Sg**	19 43 02.5	-0.4
BIA	**Bitola**	**1.04**	**43**	*e*Pg	**Pg**	19 42 48.6	-0.8
BIA				*e*Sg	**Sg**	19 43 02.5	-0.4
BIA	**Bitola**	**1.04**	**43**	*e*Pg	**Pg**	19 42 48.5	-0.9
BIA				*e*Sg	**Sg**	19 43 02.5	-0.5
KZN	**Kozani**	**1.07**	**87**	*e*PB	**Pg**	19 42 48.5	-1.4
KRUS	**Krusevo**	**1.29**	**31**	*e*Pg	**Pg**	19 42 53.8	-0.3
KRUS				*e*Sg	**Sg**	19 43 09.6	-1.2
KRUS	**Krusevo**	**1.29**	**31**	*e*Pg	**Pg**	19 42 53.8	-0.3
KRUS				*e*Sg	**Sg**	19 43 09.6	-1.2
KRUS	**Krusevo**	**1.29**	**31**	*e*Pg	**Pg**	19 42 53.7	-0.3
KRUS				*e*Sg	**Sg**	19 43 09.5	-1.2
THL	**Klokotos Trika**	**1.44**	**118**	*e*PB	**Pn**	19 42 55.6	+0.1
THL				*e*SB	**Sb**	19 43 15.5	+0.9
LIT	**Litokhoron**	**1.63**	**95**	*e*Pb	**Pn**	19 42 58.5	+0.5
LIT				*e*Sb	**Sb**	19 43 21.6	+1.6
GRG	**Griva**	**1.69**	**65**	*e*Pb	**Pb**	19 42 59.7	-0.8
GRG				*e*Sb	**Sb**	19 43 22.2	+0.4
EVR	**Evrytania**	**1.74**	**140**	*e*PN	**Pn**	19 43 01.0	+1.4
AGG	**Agios Georgios**	**1.95**	**129**	*e*Pb	**Pb**	19 43 04.1	-0.8
AGG				*e*Sb	**Sb**	19 43 30.6	+1.2
KNT	**Kendrikon**	**2.12**	**64**	*e*Pn	**Pn**	19 43 06.1	+1.3
XOR	**Xorichti**	**2.35**	**112**	*e*Pn	**Pn**	19 43 08.8	+0.9

*TEH **18** 19:43:08.4, 2709N×5587E, h5km, ML4.2*
*ISCJB **18** 19:43:34.3±0.2, 2693N±003×5573E±003, h10km, mb4.3/59, MS3.4/5, Error ellipse: s-maj=4.6km s-min=3.0km az=105.2*
*MOS **18** 19:43:36.8±0.8, 2687N×5574E, h33km, mb4.7/24, Error ellipse: s-maj=10.1km s-min=5.2km az=123.0*
*THR **18** 19:43:37.3±0.4, 2699N×5599E, h15km±7km, ML4.1*
*CSEM **18** 19:43:37.1±0.1, 2693N×5574E, h35km, mb4.5/30, Error ellipse: s-maj=2.4km s-min=1.7km az=61.0*
*BJI **18** 19:43:37.0, 2791N×5556E, h19km, mb4.0*
*NEIC **18** 19:43:38.3, 2695N×5600E, h27km, mb4.6/22, ML4.1(THR), MN4.2(TEH), After THR.*
*IDC **18** 19:43:40.8±4.8, 2698N×5583E, h51km±44km, mb3.9/23, mb1 4.0/26, mb1mx4.0/30, mbtmp3.9/26, ML4.2/3, MS3.3/6, Ms1 3.3/6, ms1mx2.9/37, Error ellipse: s-maj=16.4km s-min=12.5km az=142.0*

ISC 18 19:43:35.9±0.2, 2692N±003×5575E±003, h10km, n188, σ1§16/193, mb4.3/59, MS3.3/6, 30C-11D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.61**	**38**	*e*Pg	**Pg**	19 43 46.1	-1.7
BNDS	**Bandar-Abbas**	**0.61**	**38**	*e*Pg	**Pg**	19 43 48.0	+0.2
BANOM	**Banah**	**1.11**	**153**	⇓P	**Pb**	19 43 56.5	-0.6
	SNR=5676						
BANOM				⇑S	**Sg**	19 44 11.9	+0.3
HATD	**Hatta, Dubai**	**2.11**	**170**	P	**Pn**	19 44 12.3	+1.0
	SNR=32						
ASHO	**Ashiyiah**	**2.24**	**173**	P	**Pn**	19 44 14.4	+1.4
	SNR=236						
ASHO	**Ashiyiah**	**2.24**	**173**	P	**Pn**	19 44 14.4	+1.3
	SNR=236						
GHIR	**Ghir-Karzin**	**2.80**	**300**	*e*Pn	**Pn**	19 44 25.8	+5.0
GHIR				*e*Sg	**Sg**	19 45 09.8	+3.8
GHIR				AML	AML	19 45 24.8	
	comp=E,737nm,0.4s						
GHIR				AML	AML	19 45 26.0	
	comp=N,665nm,0.6s						
GHIR	**Ghir-Karzin**	**2.80**	**300**	*e*Pn	**Pn**	19 44 26.0	+5.2
GHIR				*e*Sg	**Sg**	19 45 09.0	+3.1
KRBR	**Kerman**	**3.18**	**16**	*e*Pn	**Pn**	19 44 27.4	+1.4
KRBR				AML	AML	19 45 13.8	
	comp=E,427nm,0.4s						
KRBR				AML	AML	19 45 23.2	
	comp=N,547nm,0.4s						
KRBR	**Kerman**	**3.18**	**16**	*e*Pn	**Pn**	19 44 27.0	+1.0
HOQ	**Hoqain**	**3.61**	**157**	⇓P	**Pn**	19 44 31.5	-0.4
	SNR=11						
ARQ	**Araqi**	**3.63**	**169**	P	**Pn**	19 44 32.7	+0.5
	SNR=31						
BIDO	**Bidbid**	**4.01**	**147**	P	**Pn**	19 44 35.6	-1.8
	SNR=11						
BSY	**Bisya**	**4.36**	**162**	⇓P	**Pn**	19 44 43.4	+1.2
	SNR=20						
SMDO	**Samad**	**4.37**	**151**	⇓P	**Pn**	19 44 42.9	+0.5
	SNR=12						
BSYO	**Bisya**	**4.38**	**162**	P	**Pn**	19 44 43.4	+0.9
	SNR=20						
IMEH	**Mehriz**	**4.57**	**348**	*e*Pn	**Pn**	19 44 48.0	+3.0
IMEH	**Mehriz**	**4.57**	**348**	Pn	**Pn**	19 44 47.9	+2.9
IBAF	**Bafgh**	**4.66**	**358**	*e*Pn	**Pn**	19 44 47.9	+1.6
JMDO	**Jabal Madar**	**5.01**	**154**	⇓P	**Pn**	19 44 51.0	-0.1
	SNR=20						
ZHSF	**Zahedan**	**5.18**	**58**	*e*Pn	**Pn**	19 44 53.8	+0.2
ZHSF	**Zahedan**	**5.18**	**58**	*e*Pn	**Pn**	19 44 53.0	-0.5
WBK	**Wadi Bani Khal**	**5.19**	**145**	P	**Pn**	19 44 52.5	-1.1
	SNR=19						
ICHK	**Chekchek**	**5.43**	**348**	*e*Pn	**Pn**	19 44 59.1	+2.1
IGAR	**Garneh**	**6.14**	**331**	*e*Pn	**Pn**	19 45 11.9	+5.2
IGAR				*e*Sn	**Sn**	19 46 20.0	+3.0
IKOO		**6.18**	**27**	*e*Pn	**Pn**	19 45 07.5	+0.3
IZEF	**Zefreh**	**6.66**	**334**	*e*Pn	**Pn**	19 45 15.1	+1.4
IKLH	**Kalahroud**	**7.33**	**332**	*e*Pn	**Pn**	19 45 25.3	+2.3
ILAS	**Lasjerd**	**8.77**	**345**	*e*Pn	**Pn**	19 45 46.0	+3.2
IMYA	**Miamay**	**10.10**	**20**	*e*Pn	**Pn**	19 46 02.1	+1.1
IMYA	**Miamay**	**10.10**	**20**	Pn	**Pn**	19 46 02.0	+1.0
IKRD	**Kardeh**	**10.10**	**13**	*e*Pn	**Pn**	19 46 07.1	+6.1
IKRD	**Kardeh**	**10.10**	**13**	Pn	**Pn**	19 46 07.0	+6.0
IKOM	**Komasi**	**10.13**	**318**	*e*Pn	**Pn**	19 46 02.7	+1.3
ASF	**Jabal al Asfar**	**17.21**	**292**	P	**Pn**	19 47 37.1	+0.7
	comp=N,0.6nm,0.3s,baz=340,slow=4.8,SNR=6.0						
ASF				S	**Sn**	19 50 48.1	+0.2
	comp=N,0.3nm,0.3s,baz=342,slow=20,SNR=2.2						
ASF				LR	LR	19 55 26.5	
	comp=N,46nm,21.7s,baz=73,slow=41						
ASF	**Jabal al Asfar**	**17.21**	**292**	P	**Pn**	19 47 37.1	+0.7
ASF				S	**Sn**	19 50 48.1	+0.3
MAK	**Makhachkala**	**17.36**	**339**	*e*P	**Pn**	19 47 42.3	+4.1
EIL	**Elat**	**18.52**	**283**	*e*P	**Pn**	19 47 53.2	+0.7
	comp=N,241nm,1.1s						
ZEI	**Tsey**	**18.53**	**332**	*e*P	**Pn**	19 47 54.8	+2.1
MMAI	**Mount Meron Ar**	**18.63**	**294**	P	**Pn**	19 47 55.1	+1.2
	comp=N,0.9nm,0.3s,baz=93,slow=14,SNR=11						
MMAI				LR	LR	19 57 01.8	
	comp=N,75nm,19.8s,baz=130,slow=43						
ATD	**Arta Tunnel**	**19.53**	**221**	P	**Pn**	19 48 05.5	+0.7
	comp=N,0.5nm,0.3s,baz=188,slow=20,SNR=5.5						
KIV	**Kislovodsk**	**20.01**	**332**	*e*P	**P**	19 48 10.5	+1.8
KIV				pmax	pmax		
	comp=Z,69nm,1.0s						
KIV				MLR	MLR		
	comp=Z,61nm,15.0s,MS3.1						
KIV	**Kislovodsk**	**20.01**	**332**	*e*P	**P**	19 48 09.9	+1.2
	comp=Z,80nm,1.1s						
KIV	**Kislovodsk**	**20.01**	**332**	*e*P	**P**	19 48 10.5	+1.8
	comp=Z,61nm,15.0s						
SOC	**Sochi**	**21.10**	**326**	*e*P	**P**	19 48 20

comp=Z,16nm,1.7s,mb4.5
KRAR Krasnoyarsk 39.43 32 *e*P **P 19 51 05.8 -0.3**
comp=Z,16nm,1.7s,mb4.5
FINES FINESS Array B 39.85 338 P **P 19 51 08.8 -0.8**
comp=Z,2.3nm,0.5s,mb4.2,baz=140,slow=11,SNR=21
FINES FINESS Array B 39.85 338 P **P 19 51 08.8 -0.8**
SQTA Sankt Quirin 40.24 312⇑ *i*P **P 19 51 11.8 -1.1**
comp=Z,9.7nm,0.4s,mb4.9
SQTA Sankt Quirin 40.24 312⇑ *i*P **P 19 51 11.8 -1.0**
SQTA pmax pmax
comp=Z,10.0nm,0.4s,mb4.9
KAF Kangasniemi 40.27 339 *e*p **P 19 51 11.4 -1.6**
comp=Z,1.1nm,0.4s,mb3.9
KAF Kangasniemi 40.27 339 *e*P **P 19 51 11.4 -1.6**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
KEST Kesra 40.29 294 P **P 19 51 13.6 +0.4**
comp=Z,2.4nm,1.2s,mb3.8,baz=356,slow=16,SNR=2.7
DAVA Damuels 41.14 312⇓ *i*P **P 19 51 19.5 -0.7**
comp=Z,19nm,0.5s,mb5.0
MBDF Montbardon 42.81 308 *e*P **P 19 51 33.0 -0.9**
LPG La Plagne 42.93 309 *e*P **P 19 51 34.6 -0.3**
comp=Z,10nm,0.8s,mb4.3
LPG La Plagne 42.93 309 *e*P **P 19 51 34.6 -0.3**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
LPG La Plagne 42.93 309 *e*P **P 19 51 34.6 -0.3**
comp=Z,5.2nm,0.8s,mb4.3
LPL La Plagne 42.95 309 *e*P **P 19 51 34.2 -0.8**
comp=Z,5.3nm,0.6s,mb4.2
LPL La Plagne 42.95 309 *e*P **P 19 51 34.2 -0.8**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LPL La Plagne 42.95 309 *e*P **P 19 51 34.2 -0.8**
comp=Z,2.7nm,0.6s,mb4.2
CDF Champ du Feu 43.10 313 *e*P **P 19 51 35.4 -0.8**
HINF Hinteralfeld 43.26 312 *e*P **P 19 51 36.9 -0.6**
TLY Talaya 43.53 42⇓ *e*P **P 19 51 40.9 +1.2**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
TLY Talaya 43.53 42 *e*P **P 19 51 40.9 +1.2**
comp=Z,7.0nm,0.8s,mb4.4
CABF La Chapelle 43.56 310 *e*P **P 19 51 39.4 -0.5**
HAU Haudompre 43.62 312 *e*P **P 19 51 39.1 -1.4**
comp=Z,4.9nm,0.6s,mb4.1
HAU Haudompre 43.62 312 *e*P **P 19 51 39.1 -1.4**
HAU pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
HAU Haudompre 43.62 312 *e*P **P 19 51 39.1 -1.4**
comp=Z,2.5nm,0.6s,mb4.1
HFS Hagfors 43.81 331 P **P 19 51 41.0 -0.9**
comp=Z,1.6nm,0.3s,mb4.2,baz=127,slow=9.6,SNR=7.0
HFS LR LR 20 10 05.0
comp=Z,48nm,18.6s,MS3.4,baz=79,slow=36
SONM Songino Array 44.42 48 P **P 19 51 46.3 -0.6**
comp=Z,1.8nm,1.0s,mb3.8,baz=262,slow=7.7,SNR=11
SONM LR LR 20 12 31.3
comp=Z,76nm,19.9s,MS3.6,baz=50,slow=39
GIVF Givet 45.01 315 *e*P **P 19 51 51.4 -0.2**
comp=Z,35nm,1.3s,mb4.7
GIVF Givet 45.01 315 *e*P **P 19 51 51.4 -0.2**
GIVF pmax pmax
comp=Z,18nm,1.3s,mb4.7
GIVF Givet 45.01 315 *e*P **P 19 51 51.4 -0.2**
comp=Z,18nm,1.3s,mb4.7
SMF Signal de Mont 45.10 310⇑ *i*P **P 19 51 51.3 -0.9**
comp=Z,7.0nm,0.6s,mb4.4
SMF Signal de Mont 45.10 310⇑ *i*P **P 19 51 51.3 -0.9**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SMF Signal de Mont 45.10 310⇑ *i*P **P 19 51 51.3 -0.9**
comp=Z,3.5nm,0.6s,mb4.4
LOR Lormes 45.17 311 *e*P **P 19 51 51.8 -1.0**
NB2 NORSAR Subarra 45.32 331 P **P 19 51 52.4 -1.6**
comp=Z,0.5nm,0.3s,mb3.8,baz=118,slow=8.6
NOA NORSAR Array B 45.32 331 P **P 19 51 52.8 -1.2**
comp=Z,1.3nm,0.9s,mb3.8,baz=119,slow=7.4,SNR=3.8
NOA LR LR 20 14 53.5
comp=Z,30nm,18.2s,MS3.3,baz=155,slow=41
SSF Saint Saulge 45.38 311⇑ *i*P **P 19 51 53.7 -0.8**
comp=Z,7.6nm,0.6s,mb4.4
SSF Saint Saulge 45.38 311⇑ *i*P **P 19 51 53.7 -0.8**
SSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SSF Saint Saulge 45.38 311⇑ *i*P **P 19 51 53.7 -0.8**
comp=Z,3.8nm,0.6s,mb4.4
BAIF Baives 45.39 315⇑ *i*P **P 19 51 54.9 +0.3**
comp=Z,3.6nm,0.4s,mb4.2
BAIF Baives 45.39 315⇑ *i*P **P 19 51 54.9 +0.3**
comp=Z,1.8nm,0.4s,mb4.2
AVF Avril sur Loir 45.45 310⇑ *i*P **P 19 51 53.9 -1.1**
comp=Z,4.9nm,0.7s,mb4.2
AVF Avril sur Loir 45.45 310⇑ *i*P **P 19 51 53.9 -1.1**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
AVF Avril sur Loir 45.45 310⇑ *i*P **P 19 51 53.9 -1.1**
comp=Z,2.5nm,0.7s,mb4.2
BGF Bois d'Agland 45.77 310 *e*P **P 19 51 56.7 -0.9**
comp=Z,9.2nm,0.6s,mb4.6
BGF Bois d'Agland 45.77 310 *e*P **P 19 51 56.7 -0.9**
BGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BGF Bois d'Agland 45.77 310 *e*P **P 19 51 56.7 -0.9**
comp=Z,4.6nm,0.6s,mb4.6
MTLF Montolieu 45.96 305 *e*P **P 19 51 59.3 +0.2**
ARCES ARCESS Array B 46.15 346 P **P 19 52 00.3 -0.3**
comp=Z,3.3nm,0.8s,mb4.3,baz=144,slow=9.1,SNR=15
CAF Calviac 46.16 307 *e*P **P 19 52 00.3 -0.4**
comp=Z,6.5nm,0.7s,mb4.4
CAF Calviac 46.16 307 *e*P **P 19 52 00.3 -0.4**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CAF Calviac 46.16 307 *e*P **P 19 52 00.3 -0.4**
comp=Z,3.2nm,0.7s,mb4.4
TCF Toulx Ste Croi 46.18 309⇑ *i*P **P 19 52 00.2 -0.6**
comp=Z,5.5nm,0.6s,mb4.4
TCF Toulx Ste Croi 46.18 309⇑ *i*P **P 19 52 00.2 -0.6**
TCF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
TCF Toulx Ste Croi 46.18 309⇑ *i*P **P 19 52 00.2 -0.6**
comp=Z,2.8nm,0.6s,mb4.4
RJF Les Rejaudoux 46.58 308 *e*P **P 19 52 02.8 -1.1**
LFF La Frestale 47.10 307 *e*P **P 19 52 07.8 -0.2**
comp=Z,13nm,0.7s,mb4.7
LFF La Frestale 47.10 307 *e*P **P 19 52 07.8 -0.2**
LFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LFF La Frestale 47.10 307 *e*P **P 19 52 07.8 -0.2**
comp=Z,6.6nm,0.7s,mb4.7
EPF Esparros 47.32 305 *e*P **P 19 52 09.2 -0.5**
MFF Saint Martin d 47.83 310 *e*P **P 19 52 11.6 -2.1**
ETSF Etsaut 47.98 305 *e*P **P 19 52 14.6 -0.2**
LDF La Druitiere 47.98 312⇑ *i*P **P 19 52 13.5 -1.4**
comp=Z,6.3nm,0.4s,mb4.7
LDF La Druitiere 47.98 312⇑ *i*P **P 19 52 13.5 -1.4**
comp=Z,3.2nm,0.4s,mb4.7
FLN La Foliniere 48.24 312 *e*P **P 19 52 15.6 -1.3**
GRR Gorron 48.45 312 *e*P **P 19 52 17.7 -0.8**
comp=Z,2.9nm,0.3s,mb4.4
GRR Gorron 48.45 312 *e*P **P 19 52 17.7 -0.8**
comp=Z,1.5nm,0.3s,mb4.4
SJPF Ste Jean 48.47 305⇑ *i*P **P 19 52 18.8 +0.2**
comp=Z,12nm,0.7s,mb4.8
SJPF Ste Jean 48.47 305⇑ *i*P **P 19 52 18.8 +0.2**
SJPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
SJPF Ste Jean 48.47 305⇑ *i*P **P 19 52 18.8 +0.2**
comp=Z,6.1nm,0.7s,mb4.8
SGMF Saint Gilles 49.57 312 *e*P **P 19 52 26.2 -0.9**
QUIF Quistinic 49.96 311 *e*P **P 19 52 28.9 -1.1**
ROSF Rostrenen 50.05 312 *e*P **P 19 52 30.0 -0.8**
ESDC Sonseca Array 50.66 300 P **P 19 52 34.9 -0.5**
comp=Z,0.6nm,0.4s,mb3.8,baz=73,slow=7.5,SNR=6.9
BOD Bodaibo 50.82 36 *e*P **P 19 52 34.4 -2.2**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BOD Bodaibo 50.82 36 *e*P **P 19 52 34.4 -2.2**
comp=Z,5.0nm,1.1s,mb4.4
TOA0 Torodi Ar. Sit 52.24 266 *e*P **P 19 52 47.1 -0.1**
TOA0 Torodi Ar. Sit 52.24 266 *e*P **P 19 52 47.1 -0.1**
TORD Torodi Ar. Bea 52.24 266 P **P 19 52 47.3 +0.1**
comp=Z,13nm,0.5s,mb5.1,baz=66,slow=7.4,SNR=166
LBTB Lobatse 59.26 212 *e*P **P 19 53 37.8 +0.3**
LBTB pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LBTB Lobatse 59.26 212 *e*P **P 19 53 37.8 +0.3**
comp=Z,6.0nm,0.9s,mb4.6

KSRS Korea Array 60.65 60 P **P 19 53 45.5 -1.6**
comp=Z,1.7nm,0.5s,mb4.4,baz=277,slow=6.7,SNR=11
LIC Lamto 61.19 262 *e*P **P 19 53 52.1 +1.3**
comp=Z,6.1nm,0.5s,mb4.7
LIC Lamto 61.19 262 *e*P **P 19 53 52.1 +1.3**
comp=Z,3.0nm,0.5s,mb4.7
BOSA Boshof 62.48 210 P **P 19 53 59.5 +0.1**
comp=Z,2.9nm,0.8s,mb4.5,baz=37,slow=4.0,SNR=6.8
BOSA Boshof 62.48 210 P **P 19 53 59.6 +0.1**
BOSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BOSA Boshof 62.48 210 *e*P **P 19 53 59.0 -0.5**
YSS Yuzh-Sakhalins 68.90 47 *e*P **P 19 54 39.5 -1.4**
BILL Biilibino 72.58 22⇑ *e*P **P 19 55 05.6 +2.3**
BILL pmax pmax
comp=Z,11nm,1.6s,mb4.5
WRA Warramunga Arr 89.23 113 P **P 19 56 31.1 -1.0**
comp=Z,1.0nm,0.7s,mb4.3,baz=315,slow=4.0,SNR=12
WRA Warramunga Arr 89.23 113⇑ *e*P **P 19 56 34.0 +2.0**
YKA Yellowknife Ar 90.57 356 P **P 19 56 36.6 -1.7**
comp=Z,0.3nm,0.6s,mb3.8,baz=358,slow=5.1,SNR=6.6
YKA Yellowknife Ar 90.57 356 *e*P **P 19 56 37.2 -1.1**
ASAR Alice Springs 90.67 116 P **P 19 56 38.0 -0.8**
comp=Z,0.4nm,0.9s,mb3.8,baz=319,slow=4.1,SNR=3.8
TXAR Lajitas Array 120.69 339 PKP PKPdf 20 02 27.4 -0.7
comp=Z,0.1nm,0.3s,baz=114,slow=1.5,SNR=3.4

*IDC **18** 19:53:18.0±1.8,3600N×14172E,h0km,mb3.6/5, mb1 3.7/7,mb1mx3.6/24,mbtmp3.6/7,ML3.7/2,MS3.0/3, Ms1 3.0/3,ms1mx2.8/23,Error ellipse: s-maj=46.0km s-min=19.8km az=61.0*
*ISCJB **18** 19:53:22.3±1.4,3595N±004×14149E±009,h33km±8km, mb4.0/8,Error ellipse: s-maj=12.8km s-min=5.9km az=0.9*
*NEIC **18** 19:53:22.6±4.1,3594N×14155E,h27km±29km, MG3.4(JMA),Error ellipse: s-maj=16.8km s-min=14.1km az=125.0*
*JMA **18** 19:53:23.0±0.2,3595N×14141E,h38km±2km,M3.4*
ISC 18 19:53:22.7±1.4,3595N±003×14145E±009,h24km±8km, n29,σ0°69/33,mb4.0/8,3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.54**	**243**	⇓P	**Pb**	**19 53 33.6**	**0.0**
CHOJ				S	**Sb**	**19 53 41.5**	**+0.6**
JHO	**Hitachi**	**0.97**	**313**	⇓P	**Pb**	**19 53 40.1**	**-0.7**
JYT	**Yasato**	**1.05**	**285**	P	**Pn**	**19 53 41.0**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.26**	**336**	P	**Pn**	**19 53 44.3**	**-0.5**
BSO4	**Boso 4**	**1.32**	**224**	P	**Pn**	**19 53 46.0**	**+0.4**
BSO1	**Boso 1**	**1.35**	**197**	P	**Pn**	**19 53 46.2**	**+0.1**
BSO1				S	**Sn**	**19 54 03.2**	**-0.1**
BSO3	**Boso 3**	**1.38**	**214**	P	**Pn**	**19 53 46.2**	**-0.3**
JFK	**Kawauchi**	**1.48**	**342**	P	**Pn**	**19 53 47.5**	**-0.4**
JFK				*e*S	**Sn**	**19 54 06.4**	**-0.1**
JAG	**Ashikaga**	**1.68**	**287**	⇓P	**Pn**	**19 53 49.8**	**-0.8**
MJAR	**Matsushiro Arr**	**2.68**	**284**	Pn	**Pn**	**19 54 05.5**	**+1.1**
	6.9nm,0.3s,baz=112,slow=7.7,SNR=41						
MJAR				Sn	**Sn**	**19 54 42.0**	**+6.0**
	4.6nm,0.3s,baz=207,slow=14,SNR=6.3						
MAJO	**Matsushiro**	**2.68**	**284**	*e*Pn	**Pn**	**19 54 05.2**	**+0.8**
MAT	**Matsushiro**	**2.68**	**284**	P	**Pn**	**19 54 05.2**	**+0.8**
MAT				*e*S	**Sn**	**19 54 34.9**	**-1.2**
JHJ	**Hachijo jima 2**	**3.14**	**206**	Pn	**Pn**	**19 54 11.0**	**+0.3**
	31nm,0.3s,baz=249,slow=20,SNR=9.5						
JHJ				Sn	**Sn**	**19 54 45.6**	**-1.8**
	50nm,0.3s,baz=52,slow=24,SNR=8.3						
ERM	**Erimo**	**6.20**	**12**	Pn	**Pn**	**19 54 52.3**	**-0.4**
ERM				*e*Sn	**Sn**	**19 55 58.3**	**-4.5**
ASAJ	**Asahikawa**	**8.20**	**6**	LR	LR	19 59 00.2	
	2.62nm,22.0s,baz=348,slow=42						
JNU	**Nakatsue**	**9.16**	**255**	LR	LR	19 58 50.0	
	comp=Z,218nm,20.7s,baz=281,slow=35						
KSRS	**Korea Array**	**10.96**	**282**	LR	LR	20 00 01.5	
	comp=Z,59nm,19.4s,baz=183,slow=36						
SONM	**Songino Array**	**28.42**	**306**	P	**P**	**19 59 14.8**	**-0.6**
	0.7nm,0.6s,mb3.5,baz=106,slow=9.5,SNR=6.7						
MK31	**Makanchi Array**	**44.72**	**303**	P	**P**	**20 01 34.8**	**+0.8**
MKAR	**Makanchi Array**	**44.72**	**303**	P	**P**	**20 01 34.5**	**+0.5**
	0.6nm,0.6s,mb3.6,baz=84,slow=9.3,SNR=7.0						
JIRN	**Jiri**	**47.15**	**276**	*e*P	**P**	**20 01 54.0**	**+0.9**
	8.8nm,0.8s,mb4.7						
GUN	**Gumba**	**47.30**	**277**	*e*P	**P**	**20 01 55.1**	**+0.9**
PKI	**Pulchoki**	**47.82**	**276**	*e*P	**P**	**20 01 58.3**	**0.0**
KKN	**Kakani**	**47.83**	**277**	*e*P	**P**	**20 01 59.0**	**+0.6**
	5.4nm,0.7s,mb4.7						
DMN	**Daman**	**48.05**	**277**	*e*P	**P**	**20 02 00.1**	**+0.1**
GKN	**Gorkha**	**48.26**	**277**	*e*P	**P**	**20 02 02.2**	**+0.5**
	13nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**51.32**	**313**	P	**P**	**20 02 24.8**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=73,slow=7,0,SNR=3.9						
WRA	**Warramunga Arr**	**55.99**	**188**	P	**P**	**20 02 58.5**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=2.2,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**59.72**	**188**	P	**P**	**20 03 25.3**	**-0.1**
	0.4nm,0.8s,mb3.5,baz=19,slow=8.8,SNR=4.3						

GUC 18 19:54:52.1±0.8,3227S×7167W,h7km±7km,MD3.6,ML2.5, 3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.63**	**89⇑**	*i*P	Pg	19 55 05.0	+0.7
PTCH				*i* S	Sg	19 55 14.7	+2.2
PTCH				AML	AML	19 55 15.3	
	comp=N,765nm,0.3s						
PEL	**Peldehue**	**1.20**	**136**	*e*P	Pg	19 55 13.9	-1.2
PEL				*i* S	Sg	19 55 31.1	+0.4
PEL				AML	AML	19 55 33.1	
	comp=N,236nm,0.3s						
FCH	**Farellones**	**1.57**	**132⇑**	*i*P	Pn	19 55 20.2	-0.1
FCH				*i* S	Sn	19 55 41.5	+0.6
FCH				AML	AML	19 55 42.5	
	comp=E,65nm,0.2s						
LNV	**Longovilo**	**1.69**	**173⇑**	*i*P	Pn	19 55 21.9	-0.2
LNV				*i* S	Sn	19 55 44.0	0.0
TLL	**Tololo Astrono**	**2.23**	**20**	*e*S	Sn	19 56 00.1	+2.9
TLL				AML	AML	19 56 03.0	
	comp=N,49nm,0.3s						
SFDO	**San Fernando**	**2.40**	**167**	*e*P	Pn	19 55 33.0	+1.2

*THE **18** 19:57:46.2,4031N×2031E,h10km,ML2.1*
*ISCJB **18** 19:57:46.9±0.6,4023N±003×2042E±004,h5km,Error ellipse: s-maj=5.2km s-min=3.1km az=75.5*
*SKO **18** 19:57:47.3,4028N×2035E,h6km*
*ATH **18** 19:57:47.3,4024N×2040E,h17km±6km,MD3.2/4*
*NEIC **18** 19:57:47.3,4024N×2040E,h17km,MD3.2(ATH),After ATH.*
*CSEM **18** 19:57:47.1±0.2,4026N×2034E,h5km,MD3.2,Error ellipse: s-maj=4.5km s-min=2.1km az=127.0*
ISC 18 19:57:47.4±0.6,4023N±003×2042E±004,h1km±7km,n19, σ0°89/32,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.16**	**121**	*i* Pg	**Pg**	**19 57 49.5**	**-1.0**
LSK				*i* Sg	**Sg**	**19 57 52.0**	**-0.6**
SRN	**Sarande**	**0.48**	**223**	*i* Pg	**Pg**	**19 57 56.2**	**-0.4**
SRN				*i* Sg	**Sg**	**19 58 03.8**	**+1.0**
JAN	**Janina**	**0.66**	**150**	*e*PB	**Pg**	**19 57 59.6**	**-0.5**
JAN				*e*SN	**Sg**	**19 58 09.7**	**+1.0**
IGT	**Igoumenitsa**	**0.70**	**186**	*e*Pg	**Pg**	**19 58 00.3**	**-0.5**
IGT	**Igoumenitsa**	**0.70**	**186**	*e*Pg	**Pg**	**19 58 00.3**	**-0.6**
KEK	**Kerkira**	**0.71**	**223**	*e*PB	**Pg**	**19 58 00.3**	**-0.6**
KEK				*e*SN	**Sg**	**19 58 11.0**	**+0.9**
MEV	**Metsovon**	**0.77**	**126**	*e*Pg	**Pg**	**19 58 01.7**	**-0.3**
FNA	**Florina**	**0.91**	**53**	*e*Pg	**Pg**	**19 58 04.6**	**-0.3**
FNA				*e*Sg	**Sg**	**19 58 17.7**	**+0.9**
KZN	**Kozani**	**1.03**	**85**	*e*PN	**Pg**	**19 58 08.2**	**+0.9**
BIA	**Bitola**	**1.04**	**41**	*e*Pg	**Pg**	**19 58 04.8**	**-2.6**
BIA				*e*Sg	**Sg**	**19 58 21.7**	**+0.7**
BIA	**Bitola**	**1.04**	**41**	*e*Pg	**Pg**	**19 58 04.8**	**-2.6**
BIA				*e*Sg	**Sg**	**19 58 21.7**	**+0.7**
BIA	**Bitola**	**1.04**	**41**	*e*Pg	**Pg**	**19 58 04.8**	**-2.6**
BIA				*e*Sg	**Sg**	**19 58 21.6**	**+0.7**
KRUS	**Krusevo**	**1.30**	**29**	*e*Pg	**Pg**	**19 58 11.4**	**-0.9**
KRUS				*e*Sg	**Sg**	**19 58 30.7**	**+1.6**
THL	**Klokotos Trika**	**1.40**	**118**	*e*PN	**Pn**	**19 58 13.9**	**-0.1**
LIT	**Litokhoron**	**1.59**	**94**	*e*Pb	**Pb**	**19 58 16.5**	**-1.0**
LIT				*e*Sb	**Sb**	**19 58 39.6**	**+1.5**
GRG	**Griva**	**1.67**	**64**	*e*Pb	**Pn**	**19 58 17.4**	**-0.4**
GRG				*e*Sb	**Sb**	**19 58 39.8**	**-0.7**
EVR	**Evrytania**	**1.70**	**140**	*e*PN	**Pn**	**19 58 18.6**	**+0.5**
AGG	**Agios Georgios**	**1.91**	**129**	*e*Pn	**Pn**	**19 58 20.9**	**-0.1**
AGG				*e*Sn	**Sg**	**19 58 48.9**	**+0.2**
AGG	**Agios Georgios**	**1.91**	**129**	*e*Pn	**Pn**	**19 58 20.9**	**-0.1**
AGG				*e*Sn	**Sg**	**19 58 48.8**	**+0.1**

*ISCJB **18** 20:18:00.8±0.5,4028N±003×2039E±004,h10km,Error ellipse: s-maj=4.4km s-min=3.7km az=63.3*
*NEIC **18** 20:18:00.1,4032N×2040E,h11km,MD3.2(ATH),After ATH.*
*CSEM **18** 20:18:00.6±0.2,4032N×2036E,h5km,MD3.2,Error ellipse: s-maj=5.3km s-min=4.0km az=131.0*
*ATH **18** 20:18:00.1,4032N×2040E,h11km,MD3.2/3*
*SKO **18** 20:18:02.0,4028N×2043E,h3km*
ISC 18 20:18:01.2±0.5,4027N±003×2040E±004,h10km,n15, σ1°08/28,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.19**	**127**	*i* Pg	**Pg**	**20 18 03.6**	**-1.6**
LSK				*i* Sg	**Sg**	**20 18 06.5**	**-1.4**
TPE	**Tepelena**	**0.30**	**276**	*i* Pg	**Pg**	**20 18 06.1**	**-1.1**
TPE				*i* Sg	**Sg**	**20 18 11.8**	**+0.6**
SRN	**Sarande**	**0.49**	**219**	*i* Pg	**Pg**	**20 18 10.1**	**-0.7**
SRN				*i* Sg	**Sg**	**20 18 18.1**	**+0.9**
JAN	**Janina**	**0.70**	**150**	*e*PB	**Pg**	**20 18 14.3**	**-0.4**
JAN				*e*SG	**Sg**	**20 18 24.4**	**+0.6**
KEK	**Kerkira**	**0.72**	**220**	*e*PB	**Pg**	**20 18 14.6**	**-0.5**
OHR	**Ohrid**	**0.90**	**20**	*e*Pg	**Pg**	**20 18 18.0**	**-0.4**
OHR				*e*Sg	**Sg**	**20 18 30.5**	**+0.4**
BIA	**Bitola**	**1.03**	**43**	*e*Pg	**Pg**	**20 18 20.4**	**-0.6**
BIA				*e*Sg	**Sg**	**20 18 34.2**	**-0.2**
BIA	**Bitola**	**1.03**	**43**	*e*Pg	**Pg**	**20 18 20.4**	**-0.6**
BIA				*e*Sg	**Sg**	**20 18 34.2**	**-0.2**
BIA	**Bitola**	**1.03**	**43**	*e*Pg	**Pg**	**20 18 20.3**	**-0.7**
BIA				*e*Sg	**Sg**	**20 18 34.1**	**-0.3**
KZN	**Kozani**	**1.05**	**87**	*e*PB	**Pg**	**20 18 19.9**	**-1.4**
KRUS	**Krusevo**	**1.28**	**30**	*e*Pn	**Pn**	**20 18 25.4**	**+0.3**
KRUS				*e*Sn	**Sn**	**20 18 44.2**	**+2.0**
KRUS	**Krusevo**	**1.28**	**30**	*e*Pn	**Pn**	**20 18 25.4**	**+0.3**
KRUS				*e*Sn	**Sn**	**20 18 44.2**	**+2.0**
KRUS	**Krusevo**	**1.28**	**30**	*e*Pn	**Pn**	**20 18 25.3**	**+0.3**
KRUS				*e*Sn	**Sn**	**20 18 44.2**	**+2.0**
THL	**Klokotos Trika**	**1.43**	**119**	*e*PB	**Pb**	**20 18 27.5**	**-0.3**
THL				*e*SB	**Sb**	**20 18 47.9**	**+1.9**
EVR	**Evrytania**	**1.73**	**141**	*e*PN	**Pn**	**20 18 32.7**	**+1.4**
EVR				*e*SN	**Sn**	**20 18 56.7**	**+3.3**

*ISCJB **18** 20:30:51.0±5.7,59S±01×1453E±01,h25km±40km, mb4.3/8,Error ellipse: s-maj=25.2km s-min=11.6km az=94.7*
*NEIC **18** 20:30:50.5±1.0,578S×14528E,h10km,Error ellipse: s-maj=16.3km s-min=11.4km az=67.0*
*IDC **18** 20:30:54.1±4.9,586S×14541E,h41km±52km,mb3.6/5, mb1 3.9/8,mb1mx3.8/16,mbtmp3.8/8,ML3.5/3,Error ellipse: s-maj=32.1km s-min=29.5km az=88.0*
ISC 18 20:30:52.7±5.6,59S±01×1453E±01,h20km±39km,n22, σ0°89/22,mb4.3/8,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93**	**153**	P	**Pn**	**20 31 51.4**	**-0.5**
	3.3nm,0.3s,baz=288,slow=4.2,SNR=11						
PMG				S	**Sn**	**20 32 37.1**	**-0.3**
	12nm,0.3s,baz=293,slow=23,SNR=9.8						
PMG	**Port Moresby**	**3.93**	**153**	*e*Pn	**Pn**	**20 31 51.4**	**-0.5**
PMG				S	**Sn**	**20 32 37.1**	**-0.3**
CTA	**Charters Tower**	**14.14**	**176**	P	**Pn**	**20 34 13.3**	**+1.5**
	0.7nm,0.3s,baz=12,slow=11,SNR=5.1						
CTAO	**Charters Tower**	**14.14**	**176**	*e*P	**Pn**	**20 34 13.8**	**+2.0**
KAKA	**Kakadu**	**14.41**	**241**	*e*P	**Pn**	**20 34 14.8**	**-0.7**
WB2	**Warramunga Arr**	**17.58**	**216**	*e*P	**Pn**	**20 34 56.6**	**+0.1**
WRA	**Warramunga Arr**	**17.59**	**216**	P	**Pn**	**20 34 55.6**	**-0.9**
	0.2nm,0.3s,baz=42,slow=12,SNR=14						
ASAR	**Alice Springs**	**20.82**	**211**	P	**P**	**20 35 33.5**	**+0.6**
	8.8nm,0.9s,baz=36,slow=12,SNR=25						
FITZ	**Fitzroy Crossi**	**22.74**	**236**	*e*P	**P**	**20 35 53.4**	**0.0**
FITZ	**Fitzroy Crossi**	**22.74**	**236**	P	**P**	**20 35 53.5**	**+0.1**
	2.7nm,0.8s,mb3.7,baz=56,slow=7.6,SNR=7.1						
STKA	**Stephens Creek**	**26.09**	**187**	*e*P	**P**	**20 36 24.6**	**-0.4**
STKA	**Stephens Creek**	**26.09**	**187**	P	**P**	**20 36 24.8**	**-0.2**
	2.7nm,0.8s,mb3.9,baz=4.8,slow=6.4,SNR=6.3						
SONM	**Songino Array**	**63.52**	**332**	P	**P**	**20 41 21.0**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=149,slow=3.4,SNR=3.5						
GUN	**Gumba**	**66.43**	**304**	*e*P	**P**	**20 41 41.5**	**+1.1**
	11nm,0.7s,mb5.0						
PKI	**Pulchoki**	**66.70**	**303**	*e*P	**P**	**20 41 43.0**	**+0.8**
KKN	**Kakani**	**66.88**	**303**	*e*P	**P**	**20 41 44.3**	**+1.0**
DMN	**Daman**	**66.97**	**303**	*e*P	**P**	**20 41 44.8**	**+0.9**
	12nm,0.9s,mb5.0						
GKN	**Gorkha**	**67.49**	**303**	*e*P	**P**	**20 41 47.1**	**-0.1**
	3.6nm,0.4s,mb4.8						
KOLN	**Koldanda**	**68.28**	**303**	*e*P	**P**	**20 41 50.6**	**-1.5**
	7.9nm,0.7s,mb4.8						
MKAR	**Makanchi Array**	**76.37**	**321**	P	**P**	**20 42 38.9**	**-1.5**
	0.4nm,0.4s,mb3.7,baz=101,slow=8.2,SNR=15						
TORD	**Torodi Ar. Bea**	**143.46**	**284**	PKP	PKPdf	20 50 22.8	-3.0
	0.2nm,0.4s,baz=124,slow=1.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**143.46**	**284**	PKP	PKPdf	20 50 22.8	-3.0

*ISCJB **18** 20:37:31.8±4.3,61S±02×1501E±03,h68km±32km, mb3.7/4,Error ellipse: s-maj=47.6km s-min=27.5km az=32.9*
*NEIC **18** 20:37:33.5±3.5,620S×15024E,h74km±24km,Error ellipse: s-maj=38.9km s-min=22.0km az=95.0*
*IDC **18** 20:37:34.8±6.4,6.12S×15000E,h74km±47km,mb3.6/5, mb1 3.8/6,mb1mx3.7/15,mbtmp3.7/6,ML3.2/1,MS3.3/2, Ms1 3.3/2,ms1mx2.9/19,Error ellipse: s-maj=59.6km s-min=31.9km az=97.0*
ISC 18 20:37:33.4±4.3,61S±02×1502E±03,h64km±31km,n14, σ0°54/13,mb3.8/4,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.41**	**222**	P	**Pn**	**20 38 37.1**	**-0.7**
	10.0nm,0.3s,baz=49,slow=6.1,SNR=26						
PMG				S	**Sn**	**20 39 27.9**	**+0.1**
	22nm,0.3s,baz

LFRS	**El Faro**	**0.73**	**73**⇑	*e*P	x	20 40 34.5	
LFRS				*e*S	x	20 40 45.1	
LBRS	**Las Brisas**	**0.79**	**65**⇑	*e*P	x	20 40 35.9	
LBRS				*e*S	x	20 40 47.0	
LCBS	**La Ceiba**	**0.82**	**73**⇑	*e*P	x	20 40 35.9	
LCBS				*e*S	x	20 40 47.5	
MTO2	**Montecristo 2**	**1.07**	**23**⇑	*e*P	x	20 40 40.1	
TER	**Terranova**	**1.25**	**316**	*e*P	Pn	20 40 19.2	+0.4
TER				*e*S	Sn	20 40 34.8	+0.3
FUG	**Fuego 3**	**1.46**	**315**⇓	*e*P	Pn	20 40 22.2	+0.5
FUG				*e*S	Sn	20 40 41.3	+1.7
VSM	**San Miguel**	**1.47**	**89**	*e*P	x	20 40 44.8	
VSM				*e*S	x	20 41 04.7	
BLLM	**Bellamira**	**1.50**	**89**	*e*P	x	20 40 45.4	
CNCH	**Conchagua**	**1.90**	**94**	*e*P	x	20 40 51.1	
CNCH				*e*S	x	20 41 14.4	
JAT	**Jato**	**2.01**	**297**⇑	*e*P	Pn	20 40 29.8	+0.5

*ISCJB **18** 20:52:29.9±0.7, 68N±02×730W±02, h175km±10km, mb3.6/4, Error ellipse: s-maj=34.0km s-min=9.5km az=91.5*
*IDC **18** 20:52:30.4±0.7, 672N×7292W, h166km±7km, mb3.5/4, mb1 3.7/7, mb1mx3.4/21, mbtmp3.7/7, Error ellipse: s-maj=26.4km s-min=8.0km az=132.0*
*NEIC **18** 20:52:30.8±0.7, 670N×7295W, h172km±8km, Error ellipse: s-maj=21.7km s-min=10.6km az=138.0*
ISC 18 20:52:31.1±0.7,**68N**±02×**730W**±01,**h167**km±10km,**n11,**
σ0=46/13, mb3.6/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.36**	**214**	P	**Pn**	**20 53 11.4**	**0.0**
92nm,0.3s,baz=284,slow=10,SNR=60							
ROSC				S	**Sn**	**20 53 42.0**	**-0.5**
97nm,0.3s,baz=72,slow=21,SNR=6.3							
ROSC	**El Rosal**	**2.36**	**214**	*e*Pn	**Pn**	**20 53 11.2**	**-0.1**
ROSC				*e*Sn	**Sn**	**20 53 43.0**	**+0.5**
SDV	**Santo Domingo**	**3.12**	**49**	P	**Pn**	**20 53 21.1**	**+0.5**
77nm,0.3s,baz=242,slow=3.9,SNR=152							
SDV				S	**Sn**	**20 53 58.9**	**-0.1**
31nm,0.3s,baz=290,slow=21,SNR=9.3							
SDV	**Santo Domingo**	**3.12**	**49**	*e*Pn	**Pn**	**20 53 20.9**	**+0.3**
SDV				*e*Sn	**Sn**	**20 53 58.2**	**-0.8**
PCRV	**Puerto La Cruz**	**8.92**	**67**	P	**Pn**	**20 54 36.8**	**+0.3**
1.2nm,0.3s,baz=356,slow=14,SNR=6.2							
ULM	**Lac du Bonnet**	**47.33**	**340**	P	**P**	**21 00 47.6**	**-0.4**
0.4nm,0.2s,mb3.6,baz=134,slow=7.5,SNR=4.0							
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**21 00 55.0**	**+0.9**
3.7nm,0.9s,mb4.0,baz=180,slow=10,SNR=4.8							
YKA	**Yellowknife Ar**	**63.31**	**340**	P	**P**	**21 02 41.8**	**-0.3**
0.6nm,0.5s,mb3.7,baz=132,slow=6.5,SNR=11							
TORD	**Torodi Ar. Bea**	**73.62**	**78**	P	**P**	**21 03 45.7**	**-0.4**
0.7nm,1.1s,mb3.3,baz=283,slow=7.4,SNR=2.5							
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	PKPbc	21 11 59.8	-0.1
0.8nm,0.7s,baz=114,slow=3.4,SNR=9.1							
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	21 12 02.9	+0.1
0.6nm,0.4s,baz=109,slow=2.5,SNR=29							

*IDC **18** 21:06:43.3±1.2, 054N×9993E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/23, mbtmp3.9/10, ML4.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/29, Error ellipse: s-maj=62.4km s-min=16.0km az=54.0*
*ISCJB **18** 21:06:45.9±0.7, 043N±009×998E±01, h35km, mb4.1/12, MS3.3/3, Error ellipse: s-maj=17.2km s-min=9.3km az=108.0*
*NEIC **18** 21:06:47.7±0.7, 058N×10001E, h30km, Error ellipse: s-maj=27.0km s-min=10.9km az=58.0*
ISC 18 21:06:48.3±0.8,**048N**±009×**998E**±01,**h35**km,**n20,**
σ0=85/22, mb4.1/12, MS3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.48**	**339**	Pn	**Pn**	**21 07 24.1**	**-2.1**
44nm,0.3s,baz=158,slow=6.3,SNR=112							
PSI				Sn	**Sn**	**21 07 55.6**	**+0.5**
122nm,0.3s,baz=264,slow=23,SNR=14							
PSI				LR	LR	21 08 34.5	
comp=Z,326nm,20.5s,baz=143,slow=47							
KGM	**Kluang**	**3.82**	**66**	P	**Pn**	**21 07 45.4**	**+0.9**
IPM	**Ipoh**	**4.15**	**17**	P	**Pn**	**21 07 49.4**	**+0.2**
KULM	**Kulim**	**4.85**	**10**	*e*Pn	**Pn**	**21 07 56.5**	**-2.3**
KULM				*e*Pg	**Pn**	**21 08 14.2**	**+15**
KULM				Sn	**Sn**	**21 08 48.0**	**-5.7**
GUN	**Gumba**	**30.37**	**335**	*e*P	**P**	**21 12 57.6**	**+0.7**
9.0nm,0.5s,mb4.7							
KKN	**Kakani**	**30.53**	**334**	*e*P	**P**	**21 12 58.9**	**+0.7**
4.2nm,0.5s,mb4.5							
GKN	**Gorkha**	**31.00**	**333**	*e*P	**P**	**21 13 03.1**	**+0.8**
8.8nm,1.0s,mb4.5							
KOLN	**Koldanda**	**31.28**	**332**	*e*P	**P**	**21 13 04.0**	**-0.8**
WRA	**Warramunga Arr**	**39.44**	**123**	P	**P**	**21 14 15.4**	**+0.4**
0.4nm,0.7s,mb3.3,baz=303,slow=9.0,SNR=2.8							
ASAR	**Alice Springs**	**40.88**	**128**	P	**P**	**21 14 25.5**	**-1.4**
0.3nm,0.8s,mb3.0,baz=292,slow=9.7,SNR=3.1							
ASAR				PcP	PcP	21 16 30.4	+3.3
0.4nm,0.8s,baz=306,slow=2.8,SNR=3.8							
KSRS	**Korea Array**	**45.01**	**32**	LR	LR	21 33 09.3	
comp=Z,11nm,20.7s,MS2.8,baz=25,slow=35							
SONM	**Songino Array**	**47.51**	**6**	P	**P**	**21 15 19.8**	**-0.2**
1.1nm,0.7s,mb4.0,baz=187,slow=10,SNR=9.8							
MK31	**Makanchi Array**	**48.61**	**344**	*e*P	**P**	**21 15 28.6**	**+0.1**
MKAR	**Makanchi Array**	**48.61**	**344**	P	**P**	**21 15 28.5**	**0.0**
1.1nm,0.6s,mb4.0,baz=161,slow=8.1,SNR=14							
MKAR				LR	LR	21 38 40.0	
comp=Z,24nm,19.5s,MS3.2,baz=174,slow=40							
ZAL	**Zalesovo**	**54.71**	**349**	P	**P**	**21 16 13.8**	**-0.2**
2.5nm,0.6s,mb4.4,baz=281,slow=4.0,SNR=4.6							
BVAR	**Borovoye Array**	**57.81**	**339**	P	**P**	**21 16 35.3**	**-0.8**
0.8nm,0.5s,mb4.0,baz=153,slow=9.0,SNR=5.6							
AKTK	**Aktyubinsk**	**61.12**	**331**	P	**P**	**21 16 58.8**	**-0.1**
AKTO	**Aktyubinsk**	**61.12**	**331**	P	**P**	**21 16 58.8**	**-0.1**
0.7nm,0.4s,mb4.1,baz=108,slow=6.4,SNR=2.7							
BRTR	**Keskin Array B**	**71.54**	**312**	P	**P**	**21 18 06.5**	**+0.9**
0.6nm,0.6s,mb3.7,baz=122,slow=6.1,SNR=5.2							
ARCES	**ARCESS Array B**	**84.10**	**340**	P	**P**	**21 19 16.7**	**+1.2**
3.9nm,0.9s,mb4.6,baz=128,slow=5.8,SNR=3.8							
ARCES				LR	LR	21 59 31.2	
comp=Z,42nm,19.8s,MS3.8,baz=355,slow=38							

*STR **18** 21:17:55.7±0.5, 4452N×724E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 21:17:55.4±0.1,**4452N×727E, h2**km,**Md1.6**/1,**Ml1.5**/6,
Error ellipse: s-maj=1.2km s-min=0.6km az=74.0,
Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.33**	**263**	Pg	Pg	21 18 01.9	+0.2
SURF				Sg	Sg	21 18 06.7	+0.7
OG22	**Abries**	**0.38**	**323**	Pg	Pg	21 18 02.9	+0.2
OG22				Sg	Sg	21 18 08.1	+0.4
MBDF	**Montbardon**	**0.41**	**300**	*e*Pg	Pg	21 18 03.6	+0.3
MBDF				*e*Sg	Sg	21 18 08.8	+0.2
7.5nm,0.2s							
AUTN	**L'Aution**	**0.54**	**168**	Pg	Pg	21 18 07.2	+1.5
AUTN				Sg	Sg	21 18 12.9	+0.2
SBF	**Sospel**	**0.67**	**170**	*e*Pg	Pg	21 18 08.0	-0.2
SBF				*e*Sg	Sg	21 18 16.7	-0.2
6.2nm,0.3s							
LPG	**La Plagne**	**1.04**	**340**	*e*Pg	Pg	21 18 15.2	-0.2
LPG				*e*Sg	Sg	21 18 28.8	-0.2
0.8nm,0.3s							
FRF	**La Foret Royal**	**1.06**	**205**	*e*Pg	Pg	21 18 14.9	-0.8
FRF				*e*Sg	Sg	21 18 29.0	-0.4
2.0nm,0.2s							
LPL	**La Plagne**	**1.07**	**339**	*e*Pg	Pg	21 18 15.6	-0.2
LPL				*e*Sg	Sg	21 18 29.4	-0.3
0.8nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.07**	**292**	*e*Pg	Pg	21 18 15.3	-0.6
ORIF				*e*Sg	Sg	21 18 29.2	-0.5
1.1nm,0.2s							
LMR	**La Mourre**	**1.31**	**205**	*e*Pg	Pg	21 18 19.8	-0.7
LMR				*e*Sg	Sg	21 18 36.6	-0.8
0.6nm,0.2s							
SMRF	**Simiane la Rot**	**1.33**	**247**	*e*Pg	Pg	21 18 20.5	-0.5
SMRF				*e*Sg	Sg	21 18 37.3	-1.0
1.7nm,0.3s							

*ATH **18** 21:28:19.6, 4046N×2031E, h9km±5km, MD3.3/3*
*CSEM **18** 21:28:21.8±0.1, 4027N×2039E, h2km, ML2.5, Error ellipse: s-maj=1.7km s-min=1.1km az=143.0*
*ISCJB **18** 21:28:21.8±0.4, 4025N±002×2045E±003, h1km±4km, Error ellipse: s-maj=4.7km s-min=3.1km az=78.2*
*SKO **18** 21:28:22.8, 4021N×2047E, h22km*
*THE **18** 21:28:23.0, 4025N×2047E, h10km, ML2.5*
*NEIC **18** 21:28:23.0, 4025N×2047E, h0km, MD3.3(ATH), ML2.9(THE), After THE.*
ISC 18 21:28:22.4±0.4,**4023N**±002×**2044E**±003,**h3**km±4km,**n35,**
σ0=91/58, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.15**	**124**	*i* Pg	**Pg**	**21 28 25.0**	**-0.3**
LSK				*i* Sg	**Sg**	**21 28 27.1**	**-0.2**
TPE	**Tepelena**	**0.33**	**281**	*i* Pg	**Pg**	**21 28 27.9**	**-0.9**
TPE				*i* Sg	**Sg**	**21 28 33.6**	**+0.5**
SRN	**Sarande**	**0.49**	**224**	*i* Pg	**Pg**	**21 28 31.6**	**-0.2**
SRN				*i* Sg	**Sg**	**21 28 39.4**	**+1.3**
JAN	**Janina**	**0.66**	**151**	*e*PB	**Pg**	**21 28 35.7**	**+0.7**
IGT	**Igoumenitsa**	**0.71**	**187**	*e*Pg	**Pg**	**21 28 35.6**	**-0.3**
IGT				*e*Sg	**Sg**	**21 28 47.3**	**+2.2**
KEK	**Kerkira**	**0.72**	**224**	*e*PB	**Pb**	**21 28 35.6**	**-1.9**
KEK				*e*SB	**Sb**	**21 28 47.3**	**-0.5**
MEV	**Metsovon**	**0.76**	**126**	*e*Pg	**Pg**	**21 28 36.3**	**-0.6**
FNA	**Florina**	**0.90**	**52**	*e*Pg	**Pg**	**21 28 38.8**	**-0.8**
FNA				*e*Sg	**Sg**	**21 28 52.4**	**+1.0**
FNA	**Florina**	**0.90**	**52**	*e*Pg	**Pg**	**21 28 38.8**	**-0.9**
FNA				*e*Sg	**Sg**	**21 28 52.3**	**+0.9**
OHR	**Ohrid**	**0.92**	**17**	*e*Pg	**Pg**	**21 28 39.4**	**-0.6**
OHR	**Ohrid**	**0.92**	**17**	*e*Pg	**Pg**	**21 28 39.4**	**-0.6**
OHR				*e*Sg	**Sg**	**21 28 53.6**	**+1.7**
OHR	**Ohrid**	**0.92**	**17**	*e*Pg	**Pg**	**21 28 39.4**	**-0.6**
OHR				*e*Sg	**Sg**	**21 28 53.6**	**+1.7**
OHR	**Ohrid**	**0.92**	**17**	*e*Pg	**Pg**	**21 28 39.3**	**-0.7**
OHR				*e*Sg	**Sg**	**21 28 53.6**	**+1.7**
KZN	**Kozani**	**1.02**	**86**	*e*PB	**Pb**	**21 28 41.2**	**-1.6**
BIA	**Bitola**	**1.03**	**40**	*e*Pg	**Pg**	**21 28 41.4**	**-0.8**
BIA				*e*Sg	**Sg**	**21 28 57.3**	**+1.7**
BIA	**Bitola**	**1.03**	**40**	*e*Pg	**Pg**	**21 28 41.6**	**-0.6**
BIA				*e*Sg	**Sg**	**21 28 56.2**	**+0.6**
BIA	**Bitola**	**1.03**	**40**	*e*Pg	**Pg**	**21 28 41.6**	**-0.6**
BIA				*e*Sg	**Sg**	**21 28 56.2**	**+0.6**
TIR	**Tirane**	**1.19**	**339**	*e*Pg	**Pg**	**21 28 45.8**	**+0.5**
KRUS	**Krusevo**	**1.29**	**28**	*e*Pg	**Pg**	**21 28 47.2**	**+0.1**
KRUS				*e*Sg	**Sg**	**21 29 04.3**	**+0.5**
KRUS	**Krusevo**	**1.29**	**28**	*e*Pg	**Pg**	**21 28 47.2**	**+0.1**
KRUS				*e*Sg	**Sg**	**21 29 04.3**	**+0.5**
KRUS	**Krusevo**	**1.29**	**28**	*e*Pg	**Pg**	**21 28 47.1**	**0.0**
KRUS				*e*Sg	**Sg**	**21 29 04.3**	**+0.5**
THL	**Klokotos Trika**	**1.39**	**118**	*e*PG	**Pg**	**21 28 48.8**	**-0.1**
THL				*e*SB	**Sg**	**21 29 11.6**	**+4.7**
LIT	**Litokhoron**	**1.58**	**94**	*e*Pg	**Pg**	**21 28 51.8**	**-0.8**
GRG	**Griva**	**1.66**	**64**	*e*Pb	**Pb**	**21 28 52.7**	**-1.0**
GRG				*e*Sb	**Sb**	**21 29 15.5**	**+0.5**
EVR	**Evrytania**	**1.69**	**141**	*e*PN	**Pn**	**21 28 54.6**	**+1.8**
AGG	**Agios Georgios**	**1.90**	**129**	*e*Pb	**Pb**	**21 28 57.3**	**-0.4**
VAY	**Valandovo**	**1.95**	**55**	*e*Pb	**Pb**	**21 28 57.4**	**-1.2**
VAY				*e*Sb	**Sb**	**21 29 21.6**	**-1.7**
HORT	**Hortiatis**	**2.06**	**79**	*e*Pn	**Pn**	**21 28 57.7**	**-0.3**
HORT				*e*Sn	**Sn**	**21 29 25.3**	**+1.0**
KNT	**Kendrikon**	**2.09**	**63**	*e*Pn	**Pn**	**21 28 58.8**	**+0.4**
KNT				*e*Sn	**Sn**	**21 29 24.8**	**0.0**
XOR	**Xorichti**	**2.29**	**111**	*e*Pn	**Pn**	**21 29 01.4**	**+0.3**
SOH	**Sokhos**	**2.30**	**74**	*e*Pn	**Pn**	**21 29 01.8**	**+0.6**
SOH				*e*Sn	**Sn**	**21 29 31.2**	**+1.1**
PLG	**Polygyros**	**2.30**	**86**	*e*Pn	**Pn**	**21 29 00.1**	**-1.2**
PLG				*e*Sn	**Sn**	**21 29 30.8**	**+0.7**
PAIG	**Paliouri**	**2.51**	**96**	*e*Pn	**Pn**	**21 29 04.4**	**+0.3**
OUR	**Ouranopolis**	**2.71**	**87**	*e*Pn	**Pn**	**21 29 06.5**	**-0.4**
ALN	**Alexandroupoli**	**4.32**	**79**	*e*Pn	**Pn**	**21 29 28.9**	**-0.1**

*ISCJB **18** 21:38:58.4±0.6, 4058N±003×2361E±006, h15km±5km, Error ellipse: s-maj=7.6km s-min=4.2km az=146.0*
*CSEM **18** 21:38:59.6±0.1, 4058N×2359E, h8km, ML2.2, Error ellipse: s-maj=1.8km s-min=1.2km az=74.0*
*THE **18** 21:38:59.4, 4058N×2359E, h8km, ML2.2*
*ATH **18** 21:38:59.6, 4059N×2357E, h16km, MD3.2/3*
ISC 18 21:38:58.6±0.6,**4058N**±004×**2361E**±008,**h19**km±8km,**n13,**
σ0=54/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.24**	**212**	*e*Pg	**Pg**	**21 39 04.3**	**0.0**
PLG				*e*Sg	**Sg**	**21 39 07.7**	**-0.5**
PLG	**Polygyros**	**0.24**	**212**	*e*Pb	**Pg**	**21 39 04.6**	**+0.3**
PLG				*e*Sg	**Sg**	**21 39 07.7**	**-0.4**
PLG				*e*Sb	**Sg**	**21 39 08.0**	**-0.1**
SOH	**Sokhos**	**0.31**	**321**	*e*Pg	**Pg**	**21 39 05.4**	**0.0**
SOH				*e*Sg	**Sg**	**21 39 10.0**	**-0.1**
OUR	**Ouranopolis**	**0.37**	**131**	*e*Pg	**Pg**	**21 39 06.7**	**+0.2**
HORT	**Hortiatis**	**0.39**	**273**	*e*Pg	**Pg**	**21 39 06.8**	**-0.1**
HORT				*e*Sg	**Sg**	**21 39 11.7**	**-0.6**
THE	**Thessaloniki**	**0.50**	**276**	*e*Pg	**Pg**	**21 39 08.4**	**-0.3**
PAIG	**Paliouri**	**0.65**	**175**	*e*Pg	**Pg**	**21 39 11.7**	**+0.2**
PAIG				*e*Sg	**Sg**	**21 39 20.8**	**+0.5**
NVR	**Nevrokopi**	**0.79**	**14**	*e*PN	**Pn**	**21 39 14.8**	**0.0**
NVR				*e*SN	**Sn**	**21 39 25.6**	**-0.5**
KNT	**Kendrikon**	**0.80**	**317**	*e*Pg	**Pg**	**21 39 14.0**	**-0.2**
KNT				*e*Sg	**Sg**	**21 39 25.3**	**+0.5**
GRG	**Griva**	**0.99**	**293**	*e*Pg	**Pg**	**21 39 17.9**	**-0.1**
GRG				*e*Sg	**Sg**	**21 39 32.4**	**+1.3**
VAY	**Valandovo**	**1.08**	**314**	*e*Pg	**Pg**	**21 39 19.4**	**-0.2**
XOR	**Xorichti**	**1.25**	**195**	*e*Pg	**Pg**	**21 39 22.2**	**-0.7**
RDO	**Rodhopi**	**1.57**	**68**	*e*PN	**Pn**	**21 39 29.2**	**+3.8**

*IDC **18** 21:50:39.4±1.8, 2327S×17994W, h537km±18km, mb3.8/11, mb1 4.0/11, mb1mx3.7/17, mbtmp3.8/11, Error ellipse: s-maj=19.3km s-min=15.2km az=171.0*
*ISCJB **18** 21:50:42.2±2.1, 233S±02×1798E±01, h584km±26km, mb4.3/13, Error ellipse: s-maj=24.1km s-min=13.1km az=150.9*
*NEIC **18** 21:50:44.8±2.3, 2327S×17985E, h603km±26km, mb4.1/3, Error ellipse: s-maj=17.0km s-min=14.1km az=128.0*
ISC 18 21:50:43.0±2.1,**234S**±02×**17992E**±010,**h580**km±26km,
n39,σ0=56/26, mb4.3/13, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**23.59**	**303**	*e*P	**P**	**21 55 09.2**	**-0.5**
36nm,0.4s,mb5.3							
CTA	**Charters Tower**	**31.40**	**269**	‖ *i*P	**P**	**21 56 18.4**	**+0.7**
CTA	**Charters Tower**	**31.40**	**269**	P	**P**	**21 56 18.5**	**+0.8**
36nm,0.5s,mb5.3,baz=97,slow=10,SNR=52							
CTAO	**Charters Tower**	**31.40**	**269**	*e*P	**P**	**21 56 18.4**	**+0.7**
PMG	**Port Moresby**	**34.25**	**288**	P	**P**	**21 56 42.0**	**+0.4**
17nm,0.5s,mb4.9,baz=83,slow=9.4,SNR=7.8							
PMG	**Port Moresby**	**34.25**	**288**	*e*P	**P**	**21 56 42.0**	**+0.3**
18nm,0.7s,mb4.8							
STKA	**Stephens Creek**	**34.85**	**247**	*e*P	**P**	**21 56 45.8**	**-0.9**
STKA	**Stephens Creek**	**34.85**	**247**	P	**P**	**21 56 47.2**	**+0.5**
4.1nm,0.4s,mb4.4,baz=93,slow=9.5,SNR=15							
ASAR	**Alice Springs**	**42.05**	**260**	P	**P**	**21 57 45.0**	**+0.3**
8.5nm,0.5s,mb4.5,baz=100,slow=6.9,SNR=104							
ASAR				ScP	ScP	22 02 26.4	+4.9
2.3nm,0.9s,baz=113,slow=4.2,SNR=9.5							
ASAR				S	**S**	**22 03 24.1**	**+1.3**
1.0nm,0.7s,baz=98,slow=14,SNR=12							
WB2	**Warramunga Arr**	**42.36**	**266**	‖ *i*P	**P**	**21 57 47.0**	**-0.2**
WB2				*e*S	**S**	**22 03 26.7**	**-0.5**
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**21 57 47.1**	**-0.2**
6.5nm,0.3s,mb4.7,baz=90,slow=5.8,SNR=342							
WRA				ScP	ScP	22 02 29.7	+7.0
1.4nm,0.9s,baz=93,slow=3.9,SNR=9.0							
WRA				S	**S**	**22 03 26.7**	**-0.7**
1.0nm,0.8s,baz=101,slow=14,SNR=4.2							
KAKA	**Kakadu**	**46.19**	**275**	‖ *i*P	**P**	**21 58 16.4**	**-0.2**
FORT	**Forrest**	**46.43**	**249**	‖ *i*P	**P**	**21 58 17.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**50.79**	**265**	*e*P	**P**	**21 58 51.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**50.79**	**265**	P	**P**	**21 58 51.4**	**+0.7**
3.4nm,0.4s,mb4.1,baz=98,slow=6.3,SNR=16							
VNDA	**Vanda**	**54.91**	**185**	P	**P**	**21 59 20.0**	**+0.1**
1.0nm,0.5s,mb3.4,baz=2.8,slow=6.6,SNR=9.6							
VNDA				PcP	PcP	22 00 12.8	-0.1
1.4nm,0.8s,baz=8.5,slow=6.0,SNR=5.6							
VNDA	**Vanda**	**54.91**	**185**	*e*P	**P**	**21 59 20.0**	**+0.1**
1.0nm,0.5s,mb3.4							
VNDA				PcP	PcP	22 00 12.8	-0.1
KLBR	**Kellerberrin**	**55.13**	**247**	*e*P	**P**	**21 59 21.2**	**-0.2**
MAW	**Mawson**	**78.23**	**200**	P	**P**	**22 01 43.2**	**-0.3**
1.1nm,0.4s,mb3.6,baz=127,slow=8.6,SNR=6.4							
NVAR	**Mina Array Bea**	**84.42**	**44**	P	**P**	**22 02 14.6**	**-0.5**
1.4nm,0.8s,mb3.5,baz=243,slow=6.5,SNR=6.0							
TXAR	**Lajitas Array**	**90.21**	**58**	P	**P**	**22 02 43.6**	**+1.2**
2.2nm,0.8s,mb4.1,baz=214,slow=6.2,SNR=21							
BW06	**Boulder Array**	**92.36**	**44**	*e*P	**P**	**22 02 52.1**	**-0.2**
1.0nm,0.6s,mb4.0							
PDAR	**Pinedale Array**	**92.36**	**44**	P	**P**	**22 02 52.0**	**-0.3**
1.1nm,0.7s,mb4.0,baz=208,slow=4.6,SNR=9.6							
MKAR	**Makanchi Array**	**111.73**	**313**	PKiKP	PKiKP	22 08 11.8	-0.7
0.3nm,0.5s,baz=216,slow=1.7,SNR=7.1							
ARCES	**ARCESS Array B**	**131.34**	**348**	PKP	PKPdf	22 08 48.7	-1.3
15nm,1.2s,baz=52,slow=2.2,SNR=5.1							
ARCES	**ARCESS Array B**	**131.34**	**348**	PKP	PKPdf	22 08 48.7	-1.3
FINES	**FINESS Array B**	**137.91**	**342**	PKhKP		22 08 52.2	
1.8nm,0.7s,baz=17,slow=2.6,SNR=4.4							
FINES				SKP		22 11 45.2	
0.7nm,0.5s,baz=75,slow=1.6,SNR=7.0							
FINES	**FINESS Array B**	**137.91**	**342**	PKP		22 08 52.2	
FINES				SKP		22 11 45.2	
NB2	**NORSAR Subarra**	**141.54**	**351**	PKP	PKPdf	22 09 03.4	-5.4
comp=Z,0.7nm,0.5s,baz=13,slow=3.1							
NOA	**NORSAR Array B**	**141.54**	**351**	PKhKP		22 09 03.8	
comp=Z,0.9nm,0.7s,baz=17,slow=2.3,SNR=4.5							
AKASG	**Malin Array Be**	**144.48**	**328**	PKP	PKPdf	22 09 13.5	-0.4
comp=Z,2.9nm,0.5s,baz=43,slow=3.8,SNR=14							
AKASG				SKPbc	SKPbc	22 12 02.4	+3.6
comp=Z,0.3nm,0.2s,baz=38,slow=2.1,SNR=4.4							
AKASG	**Malin Array Be**	**144.48**	**328**	PKP	PKPdf	22 09 13.5	-0.4
AKASG				SKPbc	SKPbc	22 12 02.4	+3.6
BR131	**Keskin Array S**	**147.19**	**308**	*e*PKPbc	PKPbc	22 09 22.4	+0.6
BRTR	**Keskin Array B**	**147.19**	**308**	PKP	PKPdf	22 09 17.5	-1.0
comp=Z,0.3nm,0.6s,baz=243,slow=36,SNR=3.6							
BRTR				PKPbc	PKPbc	22 09 22.1	+0.4
comp=Z,0.9nm,0.7s,baz=145,slow=5.3,SNR=5.3							
BRTR				PKPab	PKPab	22 09 26.4	+0.9
comp=Z,0.7nm,0.6s,baz=123,slow=6.1,SNR=4.1							
NIE	**Niedzica**	**149.44**	**333**	*e*PX	PKPbc	22 09 28.3	+1.0
CLL	**Collm**	**150.32**	**343**	*e*PKPbc	PKPbc	22 09 30.0	+0.6
comp=Z,10.0nm,0.7s							
CLL				*i* PKPab	PKPab	22 09 38.7	+0.3
BRG	**Berggiesshubel**	**150.45**	**342**	*i* P	PKPbc	22 09 29.6	-0.1
comp=Z,3.2nm,0.6s							
GERES	**GERESS Array B**	**152.32**	**340**	PKPbc	PKPbc	22 09 33.0	-0.9
comp=Z,0.2nm,0.4s,baz=349,slow=2.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**169.70**	**190**	PKP	PKPdf	22 09 44.4	-0.2
comp=Z,2.0nm,1.2s,baz=221,slow=1.4,SNR=4.8							

*CSEM **18** 22:36:59.5±1.3, 3812N×2669W, h3km±4km, ML3.1, Error ellipse: s-maj=4.0km s-min=2.9km az=38.0, After PDA*
*PDA **18** 22:36:59.5±1.3, 3812N×2669W, h3km±4km, MD3.1, ML3.1, Error ellipse: s-maj=4.0km s-min=2.9km az=38.0*
SVSA 18 22:36:59.5±1.3,**3812N×2669W, h3**km±4km,**MD3.1, ML3.1,**
Error ellipse: s-maj=4.0km s-min=2.9km az=38.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.67**	**333**	*e*P	Pg	22 37 10.8	-1.5
PFAV				*e*S	Sg	22 37 19.3	-1.6
RIB2	**Ribeirinha**	**0.67**	**326**	*e*P	Pg	22 37 10.9	-1.4
RIB2				*e*S	Sg	22 37 19.9	-1.1
RIB2							
170nm,0.2s							
RIB2	**Ribeirinha**	**0.67**	**326**	*e*P	Pg	22 37 10.9	-1.4
RIB2				*e*S	Sg	22 37 19.9	-1.1
ADH	**Angra Heroismo**	**0.68**

PCED	**Cedros**	**1.66**	**288**	*e*S	Sn	22 37 42.9	-8.4
PCED							
	26nm,0.3s						
PSMN	**Pico do Norte,**	**1.71**	**130**	*e*P	Pn	22 37 26.1	-4.0
PSMN				*e*S	Sn	22 37 45.6	-6.8

IDC ***18*** *23:05:60.0±0.8,2152S×17450W,h0km,mb4.3/10, mb1 4.6/11,mb1mx4.4/18,mbtmp4.3/11,ML4.3/1,MS3.7/4, Ms1 3.7/4,ms1mx3.3/20,Error ellipse: s-maj=33.1km s-min=18.2km az=136.0*

ISCJB ***18*** *23:06:04.2±0.4,2153S±008×17461W±009,h35km, mb4.4/17,MS3.9/2,Error ellipse: s-maj=13.3km s-min=10.5km az=75.6*

NEIC ***18*** *23:06:05.7±0.3,2153S×17452W,h35km,mb4.6/7,Error ellipse: s-maj=13.0km s-min=8.8km az=121.0*

ISC 18 23:06:05.9±0.4,2154S±008×17453W±009,h35km,n71, σ0:89/34,mb4.4/17,MS3.9/2,2C-5D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.03**	**20**	Pn	**Pn**	**23 07 53.9**	**-6.1**
	2.7nm,0.3s,baz=346,slow=22,SNR=2.6						
AFI				Sn	**Sn**	**23 09 11.4**	**-18**
	5.2nm,0.3s,baz=52,slow=20,SNR=2.3						
AFI				LR	LR	23 10 01.6	
	comp=Z,127nm,18.4s,baz=245,slow=30						
AFI	**Afiamalu**	**8.03**	**20**	*e*Pn	**Pn**	**23 07 54.5**	**-5.4**
AFI				*e*Sn	**Sn**	**23 09 09.6**	**-20**
RAO	**Raoul Island**	**8.27**	**201**	Sn	**Sn**	**23 09 21.3**	**-14**
	58nm,0.3s,baz=286,slow=21,SNR=2.2						
RAR	**Rarotonga**	**13.75**	**91**	Pn	**Pn**	**23 09 04.9**	**-13**
	12nm,0.3s,baz=248,slow=9.6,SNR=5.4						
RAR				LR	LR	23 13 35.6	
	comp=Z,422nm,19.0s,baz=171,slow=33						
DZM	**Mont Dzumac**	**17.68**	**265**	P	**Pn**	**23 10 13.8**	**+4.6**
	0.7nm,0.3s,baz=76,slow=18,SNR=9.6						
URZ	**Urewera**	**18.16**	**202**	P	**Pn**	**23 10 14.3**	**-0.8**
	0.9nm,0.3s,baz=264,slow=1.5,SNR=5.9						
URZ				S	S	23 13 16.3	-25
	0.5nm,0.3s,baz=355,slow=8.7,SNR=3.3						
SNZO	**South Karori**	**21.71**	**202**	*e*P	**P**	**23 10 54.6**	**+0.8**
	23nm,0.8s,mb4.7						
PPT	**Papeete**	**23.84**	**85**	LR	LR	23 18 33.2	
	comp=Z,419nm,21.8s,MS3.9,baz=272,slow=32						
RPZ	**Rata Peaks**	**25.15**	**205**	P	**P**	**23 11 27.8**	**+0.1**
	12nm,0.5s,mb4.7,baz=272,slow=1.3,SNR=8.2						
CTAO	**Charters Tower**	**36.62**	**265**	*e*P	**P**	**23 13 08.5**	**-0.3**
	6.6nm,0.5s,mb4.7						
PMG	**Port Moresby**	**38.73**	**282**	*e*P	**P**	**23 13 28.1**	**+1.5**
STKA	**Stephens Creek**	**40.29**	**246**	P	**P**	**23 13 38.2**	**-1.3**
	2.4nm,0.5s,mb4.2,baz=126,slow=11,SNR=7.5						
STKA				LR	LR	23 28 55.5	
	comp=Z,147nm,19.6s,MS3.8,baz=26,slow=34						
ASAR	**Alice Springs**	**47.44**	**257**	P	**P**	**23 14 37.0**	**0.0**
	8.9nm,0.8s,mb4.8,baz=93,slow=8.2,SNR=70						
ASAR				PcP	PcP	23 16 08.0	+1.0
	1.3nm,0.7s,baz=109,slow=3.8,SNR=4.7						
WB2	**Warramunga Arr**	**47.66**	**262**	*e*P	**P**	**23 14 38.1**	**-0.6**
WRA	**Warramunga Arr**	**47.67**	**262**	P	**P**	**23 14 38.5**	**-0.3**
	12nm,0.9s,mb4.9,baz=99,slow=7.9,SNR=49						
FITZ	**Fitzroy Crossi**	**56.10**	**262**	*e*P	**P**	**23 15 41.8**	**+0.2**
VNDA	**Vanda**	**57.19**	**186**	P	**P**	**23 15 49.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**60.80**	**243**	*e*P	**P**	**23 16 15.6**	**+1.2**
QSPA	**South Pole Quí**	**68.54**	**180**	*e*P	**P**	**23 17 05.1**	**+0.3**
	10nm,1.2s,mb4.6						
MJAR	**Matsushiro Arr**	**72.99**	**322**	P	**P**	**23 17 32.7**	**+0.8**
	6.0nm,0.6s,mb4.7,baz=156,slow=6.2,SNR=17						
MJAR	**Matsushiro Arr**	**72.99**	**322**	P	**P**	**23 17 32.7**	**+0.8**
MAT	**Matsushiro**	**73.00**	**322**	P	**P**	**23 17 32.5**	**+0.6**
NVAR	**Mina Array Bea**	**79.60**	**42**	P	**P**	**23 18 09.7**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=230,slow=8.7,SNR=4.4						
KSRS	**Korea Array**	**79.83**	**317**	P	**P**	**23 18 09.3**	**-1.4**
	3.1nm,0.9s,mb4.2,baz=136,slow=5.7,SNR=6.6						
MAW	**Mawson**	**81.67**	**199**	*e*P	**P**	**23 18 21.0**	**+0.5**
	2.0nm,0.6s,mb4.2						
TXAR	**Lajitas Array**	**84.92**	**56**	P	**P**	**23 18 36.2**	**-1.0**
	0.6nm,0.9s,mb3.7,baz=215,slow=5.8,SNR=4.2						
SNAA	**Sanae**	**86.86**	**177**	*e*P	**P**	**23 18 45.7**	**-1.2**
	1.7nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**87.53**	**42**	P	**P**	**23 18 49.4**	**-0.7**
	0.9nm,0.9s,mb4.0,baz=197,slow=3.1,SNR=6.0						
BILL	**Bilibino**	**90.43**	**353**	P	**P**	**23 19 03.6**	**-0.1**
NNA	**Nana**	**92.67**	**104**	P	**P**	**23 19 16.6**	**+2.5**
TEIG	**Tepich**	**93.92**	**70**	*e*P	**P**	**23 19 21.1**	**+1.2**
	2.2nm,0.4s,mb4.9						
YKA	**Yellowknife Ar**	**96.12**	**24**	P	**P**	**23 19 28.8**	**-1.2**
	0.3nm,0.7s,mb3.9,baz=236,slow=4.6,SNR=6.2						
LPAZ	**La Paz**	**98.67**	**111**	*e*P	**P**	**23 19 41.2**	**-0.2**
	0.3nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**114.27**	**313**	PKP	PKiKP	23 24 40.7	-1.0
	0.2nm,0.6s,baz=61,slow=1.1,SNR=2.7						
ARCES	**ARCESS Array B**	**130.49**	**351**	PKP	PKPdf	23 25 12.3	-0.5
	9.6nm,1.1s,baz=331,slow=1.1,SNR=3.3						
KMBO	**Kilima Mbogo**	**141.64**	**238**	PKP	PKPdf	23 25 33.0	-0.4
	0.4nm,0.3s,baz=104,slow=4.2,SNR=3.2						
SUW	**Suwalki**	**144.89**	**342**	*e*PKP	PKPdf	23 25 38.6	-0.5
AKASG	**Malin Array Be**	**145.44**	**333**	PKPbc	PKPbc	23 25 39.4	-0.8
	2.0nm,0.4s,baz=37,slow=3.8,SNR=15						
KIEV	**Kiev**	**145.46**	**333**	*e*PKPdf	PKPdf	23 25 39.4	-0.7
ELZG	**Elazig**	**146.65**	**308**	*i* P	PKPbc	23 25 46.2	+2.4
GZT	**Gaziantep**	**148.10**	**307**	*i* P	PKPdf	23 25 47.2	+2.6
BOYT	**Boyabat**	**148.25**	**315**	*i* P	PKPbc	23 25 50.0	+1.9
STHS	**Stebnicka Huta**	**149.49**	**340**	*e*PKP	PKPbc	23 25 53.0	+1.7
BURAR	**Bucovina Array**	**149.50**	**333**	⇑*i*P	PKPbc	23 25 52.6	+1.3
AVNT	**Avonos**	**149.51**	**311**	*i* P	PKPbc	23 25 52.3	+1.0
KOLS	**Kolonicke sedl**	**149.56**	**338**	*e*PKP	PKPbc	23 25 52.1	+0.6
CLL	**Collm**	**149.71**	**351**	⇓*i*P	PKPbc	23 25 52.3	+0.4
CLL				*e*		23 25 57.0	
CLL	**Collm**	**149.71**	**351**	⇓*i*PKPbc	PKPbc	23 25 52.3	+0.4
	comp=Z,38nm,1.8s						
CLL				*e*PKPab	PKPab	23 25 57.0	-0.2
CRVS	**Cervenica-Dubn**	**149.86**	**339**	*e*PKP	PKPbc	23 25 52.9	+0.7
BR131	**Keskin Array S**	**149.92**	**313**	PKPdf	PKPdf	23 25 47.5	0.0
BR131				*e*PKPbc	PKPbc	23 25 53.0	+0.7
BRTR	**Keskin Array B**	**149.92**	**313**	PKPbc	PKPbc	23 25 52.2	-0.2
	comp=Z,2.0nm,1.0s,baz=155,slow=4.1,SNR=11						
UPC	**Upice**	**149.92**	**347**	*e*PKPbc	PKPbc	23 25 53.8	+1.4
BRG	**Berggiesshubel**	**149.98**	**349**	*e*P	PKPbc	23 25 52.8	+0.3
	comp=Z,3.8nm,1.0s						
DPC	**Dobruska-Polom**	**150.00**	**346**	*e*PKPbc	PKPbc	23 25 53.4	+0.8
DPC				*e*pPKP	pPKPdf	23 26 04.9	+5.8
OKC	**Ostrava-Krasne**	**150.03**	**343**	*e*PKPab	PKPab	23 25 59.5	+1.0
PVCC	**Panska Ves**	**150.20**	**348**	*e*PKPbc	PKPbc	23 25 53.7	+0.7
MORC	**Moravsky Berou**	**150.24**	**344**	⇑*i*P	PKPbc	23 25 52.6	-0.6
ANTO	**Ankara**	**150.42**	**314**	⇓*i*P	PKPbc	23 25 55.1	+1.5
SGKT	**Sivrigoynuk**	**150.54**	**316**	*i* P	PKPdf	23 25 45.7	-2.7
KECS	**Kecovo**	**150.55**	**339**	*e*PKP	PKPbc	23 25 52.5	-1.4
PRU	**Pruhonice**	**150.72**	**348**	*e*PKPbc	PKPbc	23 25 54.4	+0.1
MLR	**Muntele Rosu**	**150.80**	**330**	⇓*i*P	PKPbc	23 25 55.0	+0.5
NKC	**Novy Kostel**	**150.84**	**351**	*e*PKPbc	PKPbc	23 25 53.6	-1.0
VYHS	**Vyhne**	**151.05**	**341**	*e*PKP	PKPbc	23 25 55.8	+0.7
TREC	**Trest**	**151.18**	**346**	*e*PKPbc	PKPbc	23 25 55.7	+0.3
GIVF	**Givet**	**151.49**	**1**	*e*PKP1	PKPbc	23 25 55.6	-0.5
BAIF	**Baives**	**151.52**	**2**	*e*PKP1	PKPbc	23 25 55.8	-0.4
	comp=Z,14nm,1.0s						
KHC	**Kasperske Hory**	**151.72**	**349**	*e*PKPbc	PKPbc	23 25 56.7	+0.1
GERES	**GERESS Array B**	**151.97**	**348**	PKPbc	PKPbc	23 25 57.3	+0.1
	comp=Z,0.7nm,0.6s,baz=45,slow=2.1,SNR=6.5						
BZS	**Buzias**	**152.58**	**335**	⇓*i*P	PKPbc	23 25 58.5	0.0
GRR	**Gorron**	**152.74**	**9**	*e*PKP1	PKPbc	23 25 57.2	-1.7
	comp=Z,13nm,0.7s						

ISCJB ***18*** *23:46:12.6±1.3,676S±005×15454E±005,h39km±11km, mb4.9/54,MS4.7/30,Error ellipse: s-maj=8.4km s-min=7.9km az=163.3*

MOS ***18*** *23:46:13.4±1.5,670S×15450E,h37km,mb5.0/17, MS4.7/6,Error ellipse: s-maj=9.9km s-min=9.1km az=112.7*

BJI ***18*** *23:46:13.9,627S×15520E,h60km,mB5.4,mb5.0,Ms5.0, Msz4.6*

IDC ***18*** *23:46:16.6±2.4,680S×15432E,h61km±19km,mb4.3/12, mb1 4.5/14,mb1mx4.4/16,mbtmp4.3/14,MS4.6/21, Ms1 4.6/21,ms1mx4.5/27,Error ellipse: s-maj=14.0km s-min=10.8km az=87.0*

GCMT ***18*** *23:46:16.8±0.2,699S×15460E,h16km,MW5.3/90, Moment Tensor Solution. s78,c113; s90,c155; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.90±.02; Mθθ-0.47±.01; Mφφ-0.43±.02; Mrθ0.60±.05; Mθφ0.46±.01; Mφr-0.42±.05; Best double couple:*

M0 1.16900×1017 NP1:φ1319.00000°,δ26.00000°, λ100.00000°. NP2:φ2128.00000°,δ64.00000°,λ85.00000°. Principal axes: T 1.1680, Plg70.0000°, Azm28.0000°; N 0.0030, Plg4.0000°, Azm130.0000°; P -1.1710, Plg19.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC ***18*** *23:46:16.8±1.2,681S×15458E,h62km±11km,mb4.8/16 Error ellipse: s-maj=9.1km s-min=8.2km az=187.0*

ISC 18 23:46:16.0±1.1,682S±005×15459E±005,h54km±10km, h53km±6.1km:pP-P,n158,σ1:11/122,mb4.9/54,MS4.7/30, 9C-4D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.90**	**116**	LR	LR	23 49 59.0	
	comp=Z,5μm,21.3s,baz=355,slow=36						
HNR	**Honiara**	**5.90**	**116**	*e*P	**Pn**	**23 47 41.4**	**+0.6**
HNR				*e*		23 48 41.8	
HNR				pmax	pmax		
	comp=Z,358nm,1.0s						
HNR	**Honiara**	**5.90**	**116**	*e*Pn	**Pn**	**23 47 41.4**	**+0.6**
	comp=Z,358nm,1.0s						
HNR				*e*Sn	**Sn**	**23 48 41.8**	**-5.3**
PMG	**Port Moresby**	**7.79**	**250**	P	**Pn**	**23 48 05.3**	**-1.5**
	comp=Z,3.9nm,0.3s,baz=104,slow=6.7,SNR=10						
PMG				S	**Sn**	**23 49 34.7**	**+1.1**
	comp=Z,5.2nm,0.3s,baz=64,slow=19,SNR=14						
PMG	**Port Moresby**	**7.79**	**250**	*e*P	**Pn**	**23 48 07.4**	**+0.7**
PMG				*e*		23 49 31.4	
PMG				pmax	pmax		
	comp=Z,212nm,1.1s						
PMG	**Port Moresby**	**7.79**	**250**	*e*Pn	**Pn**	**23 48 07.4**	**+0.7**
	comp=Z,212nm,1.1s						
PMG				*e*Sn	**Sn**	**23 49 31.4**	**-2.1**
CTA	**Charters Tower**	**15.47**	**211**	P	**Pn**	**23 49 53.7**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=43,slow=15,SNR=12						
CTA	**Charters Tower**	**15.47**	**211**	P	**Pn**	**23 49 53.7**	**+3.0**
CTAO	**Charters Tower**	**15.47**	**211**	*e*P	**Pn**	**23 49 52.2**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,45nm,0.9s						
CTAO	**Charters Tower**	**15.47**	**211**	*e*Pn	**Pn**	**23 49 52.2**	**+1.5**
	comp=Z,45nm,0.9s						
NOUC	**Port Laguerre**	**18.93**	**145**	*e*P	**Pn**	**23 50 33.7**	**+0.1**
DZM	**Mont Dzumac**	**18.99**	**144**	*e*P	**Pn**	**23 50 34.6**	**+0.3**
DZM	**Mont Dzumac**	**18.99**	**144**	P	**Pn**	**23 50 33.9**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=335,slow=9.6,SNR=27						
DZM				S	**S**	**23 54 11.6**	**+5.8**
	comp=Z,0.1nm,0.3s,baz=46,slow=21,SNR=1.8						
DZM				LR	LR	23 56 55.8	
	comp=Z,2μm,19.1s,baz=259,slow=33						
GUMO	**Guam**	**22.46**	**335**	S	**S**	**23 55 15.7**	**+2.0**
	comp=Z,65nm,0.8s,baz=187,slow=24,SNR=2.1						
WB2	**Warramunga Arr**	**23.58**	**234**	*e*P	**P**	**23 51 20.7**	**-1.0**
WRA	**Warramunga Arr**	**23.59**	**234**	P	**P**	**23 51 20.0**	**-1.8**
	comp=Z,21nm,0.9s,mb4.5,baz=57,slow=9.2,SNR=48						
WRA				PcP	PcP	23 55 05.1	-0.3
	comp=Z,2.6nm,1.1s,baz=57,slow=2.4,SNR=3.9						
WRA				S	**S**	**23 55 28.9**	**-3.2**
	comp=Z,0.9nm,0.7s,baz=16,slow=1.3,SNR=2.8						
ASAR	**Alice Springs**	**25.99**	**228**	P	**P**	**23 51 42.5**	**-1.1**
	comp=Z,3.0nm,0.5s,mb4.1,baz=58,slow=9.7,SNR=35						
STKA	**Stephens Creek**	**27.72**	**204**	*e*P	**P**	**23 51 57.8**	**-1.4**
STKA	**Stephens Creek**	**27.72**	**204**	P	**P**	**23 51 57.5**	**-1.7**
	comp=Z,3.0nm,0.5s,mb4.2,baz=7.3,slow=10,SNR=9.4						
STKA				S	**S**	**23 56 37.0**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=64,slow=23,SNR=1.9						
STKA				LR	LR	00 03 47.9	
	comp=Z,3μm,18.7s,MS4.8,baz=30,slow=38						
FITZ	**Fitzroy Crossi**	**30.36**	**246**	*e*P	**P**	**23 52 21.9**	**-0.7**
AFI	**Afiamalu**	**33.79**	**105**	LR	LR	00 05 43.4	
	comp=Z,625nm,18.2s,MS4.4,baz=301,slow=34						
RAO	**Raoul Island**	**34.19**	**134**	LR	LR	00 04 56.4	
	comp=Z,511nm,18.2s,MS4.3,baz=28,slow=32						
RAO	**Raoul Island**	**34.19**	**134**	P	**P**	**23 52 56.5**	**+0.3**
URZ	**Urewera**	**37.35**	**150**	LR	LR	00 07 31.6	
	comp=Z,1μm,18.1s,MS4.8,baz=317,slow=34						
NWAO	**Narrogin (SRO)**	**43.31**	**228**	LR	LR	00 12 43.9	
	comp=Z,2μm,18.0s,MS5.1,baz=237,slow=37						
NWAO	**Narrogin (SRO)**	**43.31**	**228**	P	**P**	**23 54 13.9**	**+1.4**
NACB	**Ninganchiao**	**44.55**	**315**	*e*P	**P**	**23 54 22.9**	**+0.5**
KSM	**Kuching**	**44.96**	**279**	*e*P	**P**	**23 54 26.2**	**+0.6**
YHNB	**Yeheng**	**45.02**	**315**	*e*P	**P**	**23 54 26.6**	**+0.4**
YHNB				*e*PcP	PcP	23 56 05.9	-0.4
MJAR	**Matsushiro Arr**	**45.79**	**342**	LR	LR	00 10 53.3	
	comp=Z,319nm,20.4s,MS4.2,baz=210,slow=32						
RAR	**Rarotonga**	**46.35**	**113**	LR	LR	00 10 43.1	
	comp=Z,324nm,19.9s,MS4.3,baz=250,slow=32						
KSRS	**Korea Array**	**50.60**	**332**	P	**P**	**23 55 07.3**	**-2.0**
	comp=Z,2.8nm,0.8s,mb4.3,baz=152,slow=8.4,SNR=10						
KSRS				LR	LR	00 15 16.6	
	comp=Z,192nm,18.2s,MS4.2,baz=23,slow=34						
QIZ	**Qiongzhong**	**51.03**	**301**	P	**P**	**23 55 12.0**	**-0.5**
QIZ				AMB	AMB		
	comp=Z,29nm,1.9s,mb4.9						
QIZ				LR	LR		
	comp=Z,728nm,18.1s,MS4.7						
WHN	**Wuhan**	**53.54**	**316**	⇓P	**P**	**23 55 32.4**	**+1.3**
WHN				LR	LR		
	comp=Z,1μm,18.8s,MS5.0						
PPT	**Papeete**	**55.43**	**107**	*e*S	**S**	**00 03 37.6**	**+12**
	comp=Z,190nm,27.2s						
PPT				*e*LR	LR	00 12 02.4	
	comp=Z,262nm,21.0s						
PPT	**Papeete**	**55.43**	**107**	LR	LR	00 14 26.9	
	comp=Z,357nm,19.4s,MS4.5,baz=94,slow=30						
MDJ	**Mudanjiang**	**55.93**	**339**	P	**P**	**23 55 47.0**	**-1.4**
TBI	**Tubuai**	**56.11**	**113**	*e*LR	LR	00 12 37.8	
	comp=Z,554nm,39.2s						
CN2	**Changchun**	**56.87**	**335**	*e*P	**P**	**23 55 53.3**	**-1.8**
CN2				LR	LR		
	comp=N,400nm,12.0s,MS4.8						
CN2				LR	LR		
	comp=E,200nm,12.0s,MS4.8						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.5						
NST	**Nakhon Sawan**	**58.37**	**293**	P	**P**	**23 56 09.0**	**+3.3**
	comp=Z,72nm,1.3s,mb5.5						
BJT	**Baijiatuan**	**58.54**	**326**	P	**P**	**23 56 08.3**	**+1.4**
BJI	**Beijing**	**58.55**	**326**	P	**P**	**23 56 03.6**	**-3.3**
BJI				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb4.2						
BJI				AMB	AMB		
	comp=Z,324nm,5.9s						
BJI	**Beijing**	**58.55**	**326**	P	**P**	**23 56 03.6**	**-3.3**
	comp=Z,5.0nm,1.8s,mb4.2						
NANT	**Nan**	**58.90**	**297**	⇑P	**P**	**23 56 08.9**	**-0.4**
	comp=Z,64nm,1.1s,mb5.6						
XAN	**Xi'an**	**59.30**	**316**	P	**P**	**23 56 11.3**	**-0.9**
XAN				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.1						
XAN				AMB	AMB		
	comp=Z,180nm,7.1s						
XAN				LR	LR		
	comp=N,130nm,18.3s,MS4.5						
XAN				LR	LR		
	comp=E,295nm,20.0s,MS4.5						
XAN				LR	LR		
	comp=Z,513nm,21.8s,MS4.6						
KMI	**Kunming**	**59.59**	**304**	P	**P**	**23 56 15.8**	**+1.7**
KMI				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
KMI	**Kunming**	**59.59**	**304**	P	**P**	**23 56 15.7**	**+1.6**
KMI				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
KMI	**Kunming**	**59.59**	**304**	P	**P**	**23 56 15.7**	**+1.6**
	comp=Z,12nm,1.4s,mb4.7						
CHG	**Chiang Mai**	**60.47**	**296**	⇓P	**P**	**23 56 21.7**	**+1.6**
CHTO	**Chiang Mai**	**60.47**	**296**	*e*P	**P**	**23 56 21.8**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.2						
CHTO	**Chiang Mai**	**60.47**	**296**	*e*P	**P**	**23 56 21.8**	**+1.7**
	comp=Z,38nm,1.4s,mb5.2						
CD2	**Chengdu**	**61.40**	**311**	P	**P**	**23 56 26.9**	**+0.5**
CD2				AP	pP	23 56 41.1	-0.2
CD2				PP	PP	23 58 45.0	+3.0
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.6						
CD2				AMB	AMB		
	comp=Z,400nm,6.4s						
CD2				LR	LR		
	comp=N,470nm,14.4s,MS5.0						
CD2				LR	LR		
	comp=E,500nm,12.9s,MS5.0						
CD2				LR	LR		
	comp=Z,600nm,15.5s,MS4.9						
HHC	**Hu-ho-hao-te**	**61.72**	**324**	*e*P	**P**	**23 56 32.1**	**+3.5**
HHC				AP	pP	23 56 47.9	+4.4
HHC				XP	sP	23 56 55.6	+5.9
HHC				PP	PP	23 58 50.4	+5.5
HHC				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,258nm,6.3s						
HHC				LR	LR		
	comp=N,269nm,20.8s,MS4.6						
HHC				LR	LR		
	comp=E,319nm,20.8s,MS4.6						
HHC				LR	LR		
	comp=Z,419nm,19.0s,MS4.6						
BTO	**Baotou**	**62.48**	**323**	*e*P	**P**	**23 56 33.5**	**-0.2**
HIA	**Hailar**	**63.60**	**335**	*e*P	**P**	**23 56 40.2**	**-0.9**
HIA				pmax	pmax		
	comp=Z,13nm,0.8s						
HIA	**Hailar**	**63.60**	**335**	*e*P	**P**	**23 56 40.2**	**-1.0**
	comp=Z,13nm,0.8s,mb5.0						
LZH	**Lanzhou**	**63.91**	**316**	⇑P	**P**	**23 56 44.3**	**+1.1**
LZH				AP	pP	23 56 56.5	-1.7
LZH				PP	PP	23 59 06.3	+2.1
LZH				AMB	AMB		
	comp=Z,78nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,190nm,4.0s						
LZH				LR	LR		
	comp=E,690nm,17.4s						
LZH				LR	LR		
	comp=Z,880nm,17.7s,MS5.0						
LZH	**Lanzhou**	**63.91**	**316**	⇑P	**P**	**23 56 44.2**	**+1.0**
LZH				*SP	sP	23 56 56.5	-7.8
LZH						23 59 06.2	
LZH				S	**S**	**00 05 16.0**	**+1.2**
LZH				*SS	sS	00 05 31.1	-8.9
LZH				SS	SS	00 09 27.0	+3.1
LZH				pmax	pmax		
	comp=Z,78nm,1.5s,mb5.5						
LZH				MLR	MLR		
	comp=Z,880nm,17.7s,MS5.0						
LZH	**Lanzhou**	**63.91**	**316**	⇑P	**P**	**23 56 44.2**	**+1.0**
	comp=Z,78nm,1.5s,mb5.5						
LZH				pP	pP	23 56 52.0	-6.2
LZH				sP	sP	23 56 56.5	-7.8
LZH				PP	PP	23 59 06.2	+2.0
LZH				S	**S**	**00 05 16.0**	**+1.2**
LZH				sS	sS	00 05 31.1	-8.9
LZH				SS	SS	00 09 27.0	+3.1
LZH				LR	LR		
	comp=Z,880nm,17.7s,MS5.0						
TAOE	**Nuku Hiva Isla**	**64.61**	**97**	*e*LR	LR	00 16 49.5	
	comp=Z,620nm,21.6s						
CIT	**Chita**	**68.28**	**334**	*e*P	**P**	**23 57 08.8**	**-2.4**
GTA	**Gaotai**	**68.34**	**317**	*e*P	**P**	**23 57 12.3**	**+0.7**
GTA				AP	pP	23 57 23.0	-3.7
GTA				AMB	AMB		
	comp=Z,19nm,2.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,265nm,5.7s						
GTA				LR	LR		
	comp=N,248nm,15.7s,MS4.7						
GTA				LR	LR		
	comp=E,234nm,17.2s,MS4.7						
GTA				LR	LR		
	comp=Z,288nm,16.8s,MS4.6						
SHL	**Shillong**	**68.86**	**301**	*e*P	**P**	**23 57 16.0**	**+1.2**
SHL				*e*S	S	00 06 19.0	+4.2
SONM	**Songino Array**	**68.97**	**327**	P	**P**	**23 57 14.8**	**-0.7**
	comp=Z,3.0nm,0.6s,mb4.4,baz=137,slow=5.2,SNR=22						
SONM				LR	LR	00 29 42.1	
	comp=Z,312nm,18.2s,MS4.6,baz=156,slow=38						
VNDA	**Vanda**	**70.76**	**178**	P	**P**	**23 57 27.1**	**+0.6**
	comp=Z,4.9nm,1.0s,mb4.4,baz=351,slow=5.9,SNR=6.8						
VNDA				LR	LR	00 26 33.8	
	comp=Z,395nm,18.9s,MS4.7,baz=356,slow=34						
VNDA	**Vanda**	**70.76**	**178**	*e*P	**P**	**23 57 27.3**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**70.76**	**178**	*e*P	**P**	**23 57 27.2**	**+0.7**
	comp=Z,15nm,1.4s,mb4.7						
VNDA				LR	LR	00 26 33.8	
LSA	**Lhasa**	**70.84**	**305**	P	**P**	**23 57 29.0**	**+2.0**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LSA	**Lhasa**	**70.84**	**305**	*e*P	**P**	**23 57 28.4**	**+1.4**
LSA				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
LSA	**Lhasa**	**70.84**	**305**	*e*P	**P**	**23 57 28.4**	**+1.3**
	comp=Z,25nm,1.3s,mb5.0						
YAK	**Yakutsk**	**71.30**	**348**	⇑*e*P	**P**	**23 57 29.0**	**-0.8**
YA

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
DGAR	**Diego Garcia**	81.38	264	*e*P	**P**	**23 58 26.7**	**-0.2**
IMA2	**Indian Mountai**	81.77	19	*e*P	**P**	**23 58 27.6**	**-1.3**
KAD	**Karad**	82.92	288	*e*P	**P**	**23 58 35.3**	**+0.3**
KAD				AMb	AMB	23 58 39.7	
	comp=Z,41nm,1.2s,mb5.3						
MK31	**Makanchi Array**	83.01	319	*e*P	**P**	**23 58 35.6**	**+0.2**
MKAR	**Makanchi Array**	83.01	319	P	**P**	**23 58 35.6**	**+0.2**
	comp=Z,6.3nm,0.7s,mb4.7,baz=93,slow=8.2,SNR=48						
MKAR				LR	LR	00 35 03.1	
	comp=Z,246nm,19.7s,MS4.6,baz=90,slow=35						
COLA	**College**	83.06	21	⇓*e*P	**P**	**23 58 36.5**	**+0.8**
COLA	**College**	83.06	21	*e*P	**P**	**23 58 35.2**	**-0.5**
	comp=Z,2.4nm,0.4s,mb4.6						
QSPA	**South Pole Qui**	83.15	180	*e*P	**P**	**23 58 36.4**	**+0.2**
	comp=Z,36nm,0.6s,mb5.6						
POO	**Poona**	83.44	290	*e*P	**P**	**23 58 37.8**	**+0.2**
POO				AMb	AMB	23 58 54.8	
	comp=Z,31nm,1.0s,mb5.3						
ZAL	**Zalesovo**	83.82	326	P	**P**	**23 58 39.9**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.3,baz=323,slow=11,SNR=4.2						
ZAL				LR	LR	00 37 24.6	
	comp=Z,202nm,18.8s,MS4.5,baz=88,slow=37						
ZAL	**Zalesovo**	83.82	326	*i* P	**P**	**23 58 42.2**	**+2.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	83.82	326	P	**P**	**23 58 39.9**	**+0.4**
ZAL				LR	LR	00 37 24.6	
AJM	**Ajmer**	84.09	297	*e*P	**P**	**23 58 40.8**	**-0.1**
AJM				AMb	AMB	23 58 45.4	
	comp=Z,35nm,1.5s,mb5.3						
MAW	**Mawson**	84.40	203	P	**P**	**23 58 42.5**	**0.0**
	comp=Z,10nm,0.9s,mb5.0,baz=105,slow=8.0,SNR=8.5						
MAW				LR	LR	00 30 32.0	
	comp=Z,256nm,20.2s,MS4.6,baz=70,slow=32						
NVS	**Novosibirsk**	84.99	327	⇑*i*P	**P**	**23 58 43.4**	**-2.1**
NVS				pmax	pmax		
	comp=N,13nm,1.9s						
NVS				pmax	pmax		
	comp=E,14nm,1.9s						
NVS				pmax	pmax		
	comp=Z,29nm,1.9s,mb5.1						
KURK	**Kurchatov**	86.45	322	*e*P	**P**	**23 58 52.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
KURK	**Kurchatov**	86.45	322	*e*P	**P**	**23 58 52.5**	**-0.2**
	comp=Z,7.4nm,0.9s,mb4.9						
FRU	**Bishkek**	87.29	314	*e*P	**P**	**23 58 56.0**	**-0.8**
AAK	**Ala-Archa**	87.34	313	*e*P	**P**	**23 58 56.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
AAK	**Ala-Archa**	87.34	313	*e*P	**P**	**23 58 56.6**	**-0.4**
	comp=Z,5.4nm,1.0s,mb4.7						
BHJ	**Bhuj**	88.04	294	*e*P	**P**	**23 59 00.6**	**+0.3**
BHJ				AMb	AMB	23 59 05.7	
	comp=Z,36nm,1.3s,mb5.5						
YBH	**Yreka Blue Hor**	89.07	48	LR	LR	00 39 19.2	
	comp=Z,882nm,18.2s,MS5.2,baz=245,slow=36						
NVAR	**Mina Array Bea**	91.93	52	P	**P**	**23 59 19.1**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.7,baz=261,slow=3.1,SNR=11						
BRVK	**Borovoye**	91.98	323	*e*P	**P**	**23 59 17.8**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.7						
BRVK	**Borovoye**	91.98	323	*e*P	**P**	**23 59 17.8**	**-1.0**
	comp=Z,4.6nm,1.2s,mb4.7						
SYO	**Syowa Base**	92.36	199	⇓*e*P	**P**	**23 59 20.5**	**0.0**
NEW	**Newport**	93.90	42	LR	LR	00 35 10.5	
	comp=Z,799nm,19.9s,MS5.2,baz=322,slow=31						
CCUT	**Cedar City**	95.73	53	*e*P	**P**	**23 59 37.2**	**+1.2**
YKA	**Yellowknife Ar**	96.37	28	P	**P**	**23 59 37.9**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.3,baz=269,slow=4.9,SNR=11						
YKA				LR	LR	00 45 45.5	
	comp=Z,375nm,18.0s,MS4.9,baz=305,slow=37						
YKA	**Yellowknife Ar**	96.37	28	P	**P**	**23 59 37.9**	**-1.0**
YKA				LR	LR	00 45 45.5	
MSU	**Marysvale**	96.72	52	*e*P	**P**	**23 59 41.9**	**+1.4**
LPIG	**La Paz**	97.39	67	LR	LR	00 36 33.0	
	comp=Z,591nm,19.4s,MS5.1,baz=190,slow=31						
PDAR	**Pinedale Array**	98.88	48	P	**P**	**23 59 49.4**	**-0.8**
	comp=Z,0.5nm,0.8s,mb4.1,baz=273,slow=2.5,SNR=3.7						
PDAR				LR	LR	00 46 45.5	
	comp=Z,382nm,18.0s,MS4.9,baz=292,slow=37						
ARU	**Arti**	98.98	326	⇓*e*P	**P**	**23 59 50.5**	**-0.2**
ARU	**Arti**	98.98	326	*e*PcP	PcP	23 59 50.5	-0.1
OBN	**Obninsk**	111.38	327	P	Pdif	00 00 45.1	-0.7
OBN				SS	SS	00 21 09.7	+15
AKASG	**Malin Array Be**	117.17	324	PKP	PKPdf	00 04 53.9	-1.1
	comp=Z,1.4nm,0.5s,baz=55,slow=2.7,SNR=6.9						
BRTR	**Keskin Array B**	117.97	312	PKP	PKPdf	00 04 56.2	-0.3
	comp=Z,0.9nm,0.7s,baz=45,slow=3.7,SNR=7.0						
BRTR	**Keskin Array B**	117.97	312	⇑*i*PKIKP	PKPdf	00 04 58.4	+1.9
NOA	**NORSAR Array B**	119.40	341	PKP	PKPdf	00 04 59.6	+0.3
	comp=Z,2.2nm,1.0s,baz=46,slow=2.3,SNR=3.3						
KOLS	**Kolonicke sedl**	121.98	325	*e*PKIKP	PKPdf	00 05 05.7	+1.5
STHS	**Stebnicka Huta**	122.31	326	*e*PKIKP	PKPdf	00 05 07.3	+2.4
OKC	**Ostrava-Krasne**	123.77	328	*e*PKP	PKPdf	00 05 09.9	+2.2
VYHS	**Vyhne**	124.15	326	*e*PKIKP	PKPdf	00 05 08.9	+0.5
DPC	**Dobruska-Polom**	124.43	329	*e*PKP	PKPdf	00 05 10.7	+1.8
DPC				AMS	AMS	01 10 10.0	
	comp=Z,200nm,19.2s						
PVCC	**Panska Ves**	125.20	330	*e*PKP	PKPdf	00 05 11.9	+1.5
BRG	**Berggiesshubel**	125.30	331	*e*PKP	PKPdf	00 05 10.5	-0.1
	comp=Z,23nm,1.8s						
BRG							
	comp=N,121nm,20.5s						
BRG							
	comp=E,95nm,18.4s						
BRG							
	comp=Z,123nm,14.2s						
BRG	**Berggiesshubel**	125.30	331	*e*PKIKP	PKPdf	00 05 10.5	-0.1
BRG				pmax	pmax		
	comp=Z,3.0nm,1.8s						
BRG				MLR	MLR		
	comp=N,23μm,20.5s						
BRG				MLR	MLR		
	comp=E,121nm,18.5s						
BRG				MLR	MLR		
	comp=Z,95nm,14.3s						
CLL	**Collm**	125.47	331	*e*PKIKP	PKPdf	00 05 11.0	+0.1
CLL				pmax	pmax		
	comp=Z,38nm,2.0s						
CLL	**Collm**	125.47	331	*e*PKP	PKPdf	00 05 10.0	-0.9
CLL				*e*PKP	PKPdf	00 05 11.0	+0.1
CLL				*i*		00 05 13.4	
CLL				LR	LR		
	comp=Z,300nm,15.0s,MS5.1						
CLL	**Collm**	125.47	331	*e*PKPdf	PKPdf	00 05 10.0	-0.9
	comp=Z,8.0nm,1.4s						
CLL				*i* (PKiKP)		00 05 13.4	
	comp=Z,40nm,2.0s						
PRU	**Pruhonice**	125.56	329	*e*PKP	PKPdf	00 05 13.2	+2.1
PRU				AMS	AMS	00 59 10.0	
	comp=Z,200nm,22.7s						
KHC	**Kasperske Hory**	126.58	329	*e*PKP	PKPdf	00 05 13.3	+0.2
KHC				AMS	AMS	01 03 20.0	
	comp=Z,200nm,12.6s						
GEC2	**GERESS Array S**	126.70	329	*e*PKIKP	PKPdf	00 05 13.6	+0.3
GERES	**GERESS Array B**	126.70	329	PKP	PKPdf	00 05 13.0	-0.3
	comp=Z,1.5nm,0.7s,baz=72,slow=4.3,SNR=10.0						
GRA1	**Grafenberg Arr**	127.39	331	*e*PKP	PKPdf	00 05 15.7	+1.1
GRF	**Grafenberg Arr**	127.39	331	*e*PKIKP	PKPdf	00 05 15.7	+1.1
MEM	**Membach**	129.12	335	PKP	PKPdf	00 05 20.8	+2.9
BCLA	**Clavier**	129.56	335	PKP	PKPdf	00 05 20.2	+1.4
MDT	**Midelt**	147.71	326	PKPbc	PKPbc	00 05 54.6	0.0
	comp=Z,15nm,1.3s,baz=31,slow=5.9,SNR=9.9						
TOA0	**Torodi Ar. Sit**	152.59	285	*e*PKPdf	PKPdf	00 05 59.5	+0.2
TOA0				*e*PKPbc	PKPbc	00 06 06.8	+0.5
TORD	**Torodi Ar. Bea**	152.59	285	PKP	PKPdf	00 05 59.4	+0.1
	comp=Z,0.5nm,0.7s,baz=60,slow=0.4,SNR=5.2						
TORD				PKPbc	PKPbc	00 06 06.8	+0.5
	comp=Z,6.8nm,0.8s,baz=97,slow=1.7,SNR=36						
TORD	**Torodi Ar. Bea**	152.59	285	PKP	PKPdf	00 05 59.4	+0.1
TORD				PKPbc	PKPbc	00 06 06.8	+0.5

IDC ***19*** *00:06:18.8±1.1, 24.12N×109.13W, h0km, mb4.1/6, mb1 4.4/9, mb1mx4.2/21, mbtmp4.1/9, ML4.2/3, MS3.9/13, Ms1 3.9/13, ms1mx3.7/30, Error ellipse: s-maj=19.6km s-min=10.3km az=167.0*

ISCJB ***19*** *00:06:19.9±0.6, 24.15N±005×10896W±005, h10km, mb4.1/12, MS4.0/8, Error ellipse: s-maj=7.6km s-min=6.4km az=22.4*

NEIC ***19*** *00:06:20.6±0.7, 2.407N×109.10W, h10km, mb4.2/25, Error ellipse: s-maj=10.5km s-min=7.8km az=210.0*

ISC 19 00:06:19.9±1.4, 2410N±005×10906W±004, h1km±8km, n72, σ1°38′71, mb4.2/12, MS4.0/8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
LPIG	**La Paz**	1.15	270	Pg	**Pg**	**00 06 39.7**	**-2.1**
	656nm,0.3s,baz=142,slow=1.4,SNR=116						
LPIG				LR	LR	00 06 52.6	
	comp=Z,4μm,20.6s,baz=83,slow=31						
LPIG				Lg		00 06 54.0	
LTX	**Lajitas**	7.10	42	*e*Pn	**Pn**	**00 08 03.6**	**-1.3**
	21nm,0.8s						
LTX				*e*Pg	**Pg**	**00 08 38.5**	**+2.7**
LTX				*e*Sn	**Sn**	**00 09 24.8**	**-1.3**
LTX				*e*Sg	**Sg**	**00 10 07.0**	**-0.8**
TXAR	**Lajitas Array**	7.10	42	Pn	**Pn**	**00 08 03.4**	**-1.5**
	1.5nm,0.3s,baz=210,slow=14,SNR=102						
TXAR				Sn	**Sn**	**00 09 25.6**	**-0.6**
	4.0nm,0.3s,baz=214,slow=19,SNR=7.3						
TXAR				Lg		00 10 04.3	
	1.1nm,0.3s,baz=227,slow=29,SNR=3.4						
TXAR				LR	LR	00 10 31.9	
	comp=Z,452nm,20.6s,baz=5.0,slow=36						
TXAR	**Lajitas Array**	7.10	42	Pn	**Pn**	**00 08 03.4**	**-1.5**
TXAR				Sn	**Sn**	**00 09 25.6**	**-0.6**
TXAR				Lg		00 10 04.3	
TXAR				LR	LR	00 10 31.9	
JCT	**Junction City**	10.39	50	*e*Pn	**Pn**	**00 08 51.1**	**+1.0**
	6.7nm,0.7s						
JCT				*e*Sn	**Sn**	**00 10 48.8**	**+1.6**
ANMO	**Albuquerque**	11.05	11	Pn	**Pn**	**00 09 01.6**	**+2.7**
	0.1nm,0.3s,baz=197,slow=12,SNR=8.0						
ANMO				Lg		00 12 12.8	
	0.1nm,0.3s,baz=291,slow=19,SNR=3.8						
ANMO				LR	LR	00 13 26.4	
	comp=Z,689nm,18.1s,baz=194,slow=39						
ANMO	**Albuquerque**	11.05	11	*e*Pn	**Pn**	**00 08 57.2**	**-1.8**
	4.3nm,0.9s						
ANMO				Lg		00 12 12.8	
ANMO				LR	LR	00 13 26.4	
WUAZ	**Wupatki**	11.56	351	*e*Pn	**Pn**	**00 09 09.8**	**+3.8**
	19nm,1.3s						
WUAZ				Sn	**Sn**	**00 11 21.3**	**+5.6**
MVCO	**Mesa Verde**	13.08	2	*e*Pn	**Pn**	**00 09 26.3**	**-0.5**
	24nm,1.3s						
WMOK	**Wichita Mounta**	13.87	38	*e*Pn	**Pn**	**00 09 37.8**	**+0.3**
	3.2nm,0.6s						
CCUT	**Cedar City**	13.91	346	*e*Pn	**Pn**	**00 09 43.0**	**+4.9**
SDCO	**Great Sand Dun**	13.94	12	*e*Pn	**Pn**	**00 09 44.0**	**+5.4**
	33nm,1.3s						
PV01	**Paradox Valley**	14.00	2	*e*Pn	**Pn**	**00 09 37.8**	**-1.5**
PV10	**Paradox Valley**	14.23	0	*e*Pn	**Pn**	**00 09 43.8**	**+1.2**
MSU	**Marysvale**	14.61	350	*e*Pn	**Pn**	**00 09 48.5**	**+0.8**
NATX	**Nacogdoches**	14.83	56	*e*Pn	**Pn**	**00 09 50.4**	**-0.2**
CMIG	**Matias Romero**	14.98	115	LR	LR	00 15 33.3	
	comp=Z,764nm,19.4s,baz=279,slow=37						
TPH	**Tonopah**	15.58	335	*e*P	**Pn**	**00 10 04.5**	**+3.8**
ISCO	**Idaho Springs**	15.92	10	*e*Pn	**Pn**	**00 10 07.8**	**+2.7**
	32nm,1.4s						
NVAR	**Mina Array Bea**	16.31	333	Pn	**Pn**	**00 10 13.5**	**+3.4**
	0.1nm,0.3s,baz=149,slow=11,SNR=26						
NVAR	**Mina Array Bea**	16.31	333	Pn	**Pn**	**00 10 13.5**	**+3.4**
DUG	**Dugway**	16.36	350	*e*Pn	**Pn**	**00 10 11.6**	**+0.9**
	33nm,1.4s						
DAU	**Daniels Canyon**	16.37	354	*e*Pn	**Pn**	**00 10 13.4**	**+2.5**
CBKS	**Cedar Bluff**	16.67	26	Pn	**Pn**	**00 10 14.4**	**-0.3**
	6.5nm,0.5s						
CTU	**Camp Tracy**	16.70	353	*e*Pn	**Pn**	**00 10 17.6**	**+2.5**
	26nm,1.2s						
CMB	**Columbia Colle**	16.93	328	Pn	**Pn**	**00 10 16.5**	**-1.4**
MIAR	**Mount Ida**	17.03	49	*e*Pn	**Pn**	**00 10 19.8**	**+0.6**
	8.5nm,1.0s						
HWUT	**Hardware Ranch**	17.59	354	*e*Pn	**Pn**	**00 10 26.0**	**-0.2**
	29nm,1.2s						
RWWY	**Rawlins**	17.61	5	*e*Pn	**Pn**	**00 10 28.1**	**+1.6**
	41nm,1.2s						
HVU	**Hansel Valley**	17.90	351	*e*Pn	**Pn**	**00 10 31.9**	**+1.7**
	20nm,1.0s						
PDAR	**Pinedale Array**	18.62	359	P	**Pn**	**00 10 39.1**	**+0.1**
	0.2nm,0.3s,baz=165,slow=12,SNR=65						
PDAR				LR	LR	00 18 03.2	
	comp=Z,256nm,21.6s,baz=182,slow=38						
PDAR	**Pinedale Array**	18.62	359	P	**Pn**	**00 10 39.1**	**+0.1**
PDAR				LR	LR	00 18 03.2	
AHID	**Auburn Hatcher**	18.70	355	*e*Pn	**Pn**	**00 10 34.8**	**-5.1**
	31nm,1.5s						
REDW	**Red Top Meadow**	19.27	356	*e*P	**Pn**	**00 10 44.0**	**-2.8**
	19nm,1.3s						
SNOW	**Snow King Moun**	19.37	356	*e*P	**Pn**	**00 10 46.8**	**-1.2**
	4.2nm,0.7s						
TPAW	**Teton Pass**	19.41	356	*e*P	**Pn**	**00 10 49.3**	**+0.9**
	19nm,1.1s						
TEIG	**Tepich**	19.62	97	LR	LR	00 21 17.3	
	comp=Z,137nm,18.1s,baz=59,slow=46						
HLID	**Hailey**	19.91	348	*e*P	**Pn**	**00 10 52.5**	**-1.9**
	9.5nm,1.2s						
WVOR	**Wild Horse Val**	19.94	339	*e*P	**Pn**	**00 10 52.2**	**-2.6**
	32nm,1.5s						
OXF	**Oxford**	20.00	54	*e*P	**Pn**	**00 10 54.4**	**-1.1**
	9.0nm,1.1s						
MOD	**Modoc**	20.07	335	*e*P	**P**	**00 10 56.0**	**+1.4**
	8.2nm,1.1s						
RSSD	**Black Hills**	20.39	10	*e*P	**P**	**00 10 58.1**	**+0.1**
	33nm,1.7s						
LKWY	**Lake**	20.45	357	*e*P	**P**	**00 10 58.3**	**-0.4**
	32nm,1.2s						
QLMT	**Earthquake Lak**	20.77	355	P	**P**	**00 11 01.4**	**-0.8**
MCMT	**McKenzie Canyo**	20.91	352	*e*P	**P**	**00 11 05.4**	**+1.7**
YBH	**Yreka Blue Hor**	20.94	330	LR	LR	00 19 47.7	
	comp=Z,221nm,18.8s,MS3.6,baz=326,slow=39						
WVT	**Waverly**	21.88	52	*e*P	**P**	**00 11 14.5**	**+0.4**
	7.6nm,0.9s,mb4.1						
LAO	**LASA Array**	22.66	5	*e*P	**P**	**00 11 22.3**	**-0.1**
	30nm,1.0s,mb4.8						
CHMT	**Chamberlain Mo**	23.02	353	*e*P	**P**	**00 11 27.6**	**+1.4**
WCI	**Wyandotte Cave**	23.95	49	*e*P	**P**	**00 11 34.1**	**-1.5**
	5.6nm,0.6s,mb4.3						
TKL	**Tuckaleechee C**	24.69	56	P	**P**	**00 11 42.2**	**-0.1**
	7.3nm,0.9s,mb4.4,baz=217,slow=2.0,SNR=5.8						
TKL				LR	LR	00 22 14.0	
	comp=Z,427nm,19.9s,MS3.9,baz=241,slow=39						
TKL	**Tuckaleechee C**	24.69	56	P	**P**	**00 11 42.2**	**-0.1**
TKL				LR	LR	00 22 13.9	
NEW	**Newport**	24.95	347	P	**P**	**00 11 43.2**	**-1.5**
	3.1nm,0.6s,mb4.2,baz=158,slow=5.4,SNR=3.6						
NEW				LR	LR	00 20 27.8	
	comp=Z,333nm,21.6s,MS3.8,baz=254,slow=34						
NEW	**Newport**	24.95	347	P	**P**	**00 11 41.7**	**-3.0**
	1.8nm,0.6s,mb4.0						
NEW				LR	LR	00 20 27.8	
DWPF	**Disney**	25.10	75	P	**P**	**00 11 44.6**	**-1.5**
WALA	**Waterton Lakes**	25.20	352	P	**P**	**00 11 45.2**	**-1.8**
ULM	**Lac du Bonnet**	28.05	18	P	**P**	**00 12 11.8**	**-0.9**
	0.7nm,0.4s,mb3.8,baz=211,slow=9.5,SNR=3.6						
ULM	**Lac du Bonnet**	28.05	18	P	**P**	**00 12 11.8**	**-0.9**
BRNJ	**Basking Ridge**	33.23	52	P	**P**	**00 12 57.6**	**-0.8**
FCC	**Fort Churchill**	36.23	13	*e*P	**P**	**00 13 23.4**	**-0.9**
	8.3nm,1.0s,mb4.5						
OTAV	**Otavalo**	37.98	124	*e*P	**P**	**00 13 41.0**	**+1.8**
	2.4nm,0.7s,mb4.0						
ROSC	**El Rosal**	38.50	114	LR	LR	00 28 46.4	
	comp=Z,73nm,21.6s,MS3.5,baz=354,slow=35						
YKA	**Yellowknife Ar**	38.56	356	P	**P**	**00 13 42.1**	**-2.0**
	1.9nm,1.0s,mb3.7,baz=169,slow=7.6,SNR=16						
SDV	**Santo Domingo**	39.66	106	*e*P	**P**	**00 13 54.7**	**+1.4**
	9.6nm,0.9s,mb4.4						
SCHQ	**Schefferville**	43.72	34	P	**P**	**00 14 26.2**	**-0.4**
INK	**Inuvik**	46.67	348	*e*P	**P**	**00 14 51.9**	**+1.8**
	157nm,0.9s						
LPAZ	**La Paz**	56.63	131	P	**P**	**00 16 05.0**	**+0.5**
	0.7nm,0.7s,mb3.8,baz=312,slow=9.6,SNR=4.0						
PPT	**Papeete**	57.26	227	LR	LR	00 34 24.9	
	comp=Z,100nm,19.9s,MS3.9,baz=72,slow=30						
PLCA	**Paso Flores**	73.77	150	P	**P**	**00 17 55.9**	**+0.1**
	2.5nm,0.9s,mb4.2,baz=260,slow=6.9,SNR=2.9						
ARCES	**ARCESS Array B**	81.11	15	LR	LR	00 56 47.2	
	comp=Z,222nm,21.5s,MS4.5,baz=179,slow=37						
GERES	**GERESS Array B**	91.25	34	LR	LR	01 03 10.9	
	comp=Z,219nm,20.2s,MS4.6,baz=276,slow=37						
DZM	**Mont Dzumac**	94.04	248	LR	LR	00 53 02.8	
	comp=Z,114nm,19.8s,MS4.3,baz=202,slow=30						

IDC 19 00:06:36.3±3.5, 671S×15426E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=124.4km s-min=34.8km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
WRA	**Warramunga Arr**	23.39	234	P	**P**	**00 11 47.0**	**+0.3**
	1.2nm,0.7s,baz=55,slow=9.6,SNR=10						
ASAR	**Alice Springs**	25.83	227	P	**P**	**00 12 09.2**	**0.0**
	0.8nm,0.9s,baz=57,slow=9.8,SNR=6.4						
MKAR	**Makanchi Array**	82.71	319	P	**P**	**00 19 02.9**	**+1.1**
	0.4nm,0.6s,baz=106,slow=5.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	152.25	285	PKPbc	PKPbc	00 26 33.7	-0.2
	0.5nm,0.7s,baz=87,slow=1.8,SNR=5.7						
TORD				PKPab	PKPab	00 26 45.3	+1.6
	0.4nm,0.8s,baz=69,slow=2.4,SNR=3.8						

NEIC ***19*** *00:06:42.9±1.4, 3103S×17847W, h35km, mb4.1/2, Error ellipse: s-maj=32.5km s-min=21.9km az=70.0*

IDC ***19*** *00:06:52.0±8.1, 3158S×17896W, h102km±64km, mb3.8/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=59.0km s-min=36.4km az=44.0*

ISCJB ***19*** *00:06:53.5±3.7, 316S±0.1×1792W±0.2, h111km±28km, mb4.0/4, Error ellipse: s-maj=35.1km s-min=22.7km az=157.9*

ISC 19 00:06:54.4±3.4, 316S±01×1791W±03, h108km±24km, n15, σ0°79′16, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PUZ	**Puketiti**	6.80	198	PN	**Pn**	**00 08 31.7**	**+0.3**
PUZ				SN	**Sn**	**00 09 47.2**	**-0.1**
MWZ	**Matawai**	7.25	201	SN	**Sn**	**00 09 58.5**	**+0.1**
URZ	**Urewera**	7.32	204	P	**Pn**	**00 08 38.3**	**-0.3**
	0.4nm,0.3s,baz=143,slow=23,SNR=6.3						
URZ				S	**Sn**	**00 09 58.7**	**-1.4**
	3.4nm,0.3s,baz=136,slow=21,SNR=9.6						
URZ	**Urewera**	7.32	204	PN	**Pn**	**00 08 39.0**	**+0.4**
URZ				SN	**Sn**	**00 10 00.8**	**+0.8**
MRZ	**Mangatainoka R**	9.99	204	PN	**Pn**	**00 09 10.1**	**-4.8**
THZ	**Tophouse**	11.98	210	PN	**Pn**	**00 09 36.7**	**-4.8**
KHZ	**Kahutara**	12.27	206	PN	**Pn**	**00 09 40.0**	**-5.3**
ASAR	**Alice Springs**	42.10	269	P	**P**	**00 14 35.5**	**-0.2**
	1.2nm,0.4s,mb4.0,baz=105,slow=7.5,SNR=21						
WRA	**Warramunga Arr**	43.20	274	P	**P**	**00 14 44.1**	**-0.5**
	2.7nm,0.5s,mb4.2,baz=113,slow=7.9,SNR=58						
NWAO	**Narrogin (SRO)**	53.07	251	*e*P	**P**	**00 16 01.1**	**+0.5**
QSPA	**South Pole Qui**	58.51	180	*e*P	**P**	**00 16 39.6**	**+0.4**
	1.5nm,0.7s,mb4.1						
MAW	**Mawson**	70.84	201	*e*P	**P**	**00 18 00.8**	**+1.4**
SNAA	**Sanae**	76.97	179	*e*P	**P**	**00 18 33.4**	**-1.7**
	1.1nm,0.8s,mb3.6						
FINES	**FINESS Array B**	145.93	339	PKPbc	PKPbc	00 26 17.5	-3.8
	1.5nm,0.9s,baz=90,slow=7.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	161.61	183	PKPab	PKPab	00 27 26.6	-1.3
	0.4nm,0.8s,baz=165,slow=3.4,SNR=4.8						

JMA 19 00:12:30.7±0.1, 4337N×14551E, h70km±1km, M3.6, 5C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
NEM2	**Nemuro 2**	0.17	92	⇓P	Pn	00 12 41.2	0.0
NEM2				*e*S	Sn	00 12 48.2	-0.6
JNK	**Nakash**	0.61	291	⇑P	Pn	00 12 44.3	-0.4
JNK				*e*S	Sn	00 12 54.3	-0.6
JRA	**Rausu**	0.63	334	⇑P	Pn	00 12 45.0	+0.1
JRA				*e*S	Sn	00 12 55.8	+0.5
JAK	**Akkeshi**	0.70	238	⇑P	Pn	00 12 45.6	0.0
JAK				*e*S	Sn	00 12 56.8	+0.2
JAR	**Ashorobuto**	1.27	267	P	Pn	00 12 52.8	+0.2
JAR				*e*S	Sn	00 13 08.8	-0.3
JTKR	**Abashiri--Toko**	1.31	298	⇑P	Pn	00 12 53.4	+0.3
JTKR				*e*S	Sn	00 13 09.6	-0.3
JOB	**Onbets**	1.31	250	⇑P	Pn	00 12 53.6	+0.4
JOB				*e*S	Sn	00 13 10.4	+0.4

MOS ***19*** *00:13:16.3±0.8, 681S×12677E, h386km, mb4.4/8, Error ellipse: s-maj=16.8km s-min=10.7km az=108.2*

BJI ***19*** *00:13:17.1, 680S×12680E, h402km, mB4.5, mb3.9*

ISCJB ***19*** *00:13:18.4±0.7, 690S±004×12691E±007, h412km±8km, mb4.1/23, Error ellipse: s-maj=10.6km s-min=5.7km az=144.5*

IDC ***19*** *00:13:19.8±0.8, 690S×12685E, h408km±9km, mb3.9/12, mb1 4.0/15, mb1mx

MAJO Matsushiro 44.51 13 *e*P **P 00 20 51.5 -1.1**
comp=Z,7.3nm,0.8s,mb4.1
MAJO pP pP 00 22 11.7 -1.3
MAT Matsushiro 44.51 13 P **P 00 20 51.5 -1.2**
LSA Lhasa 50.05 318 *e*P **P 00 21 34.5 -0.2**
comp=Z,1.4nm,0.3s,mb3.8
GTA Gaotai 52.47 334 P **P 00 21 52.9 +0.5**
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb3.9
RPZ Rata Peaks 53.22 141 P **P 00 21 59.3 +1.5**
comp=Z,18nm,0.6s,mb4.5,baz=239,slow=3.6,SNR=7.6
SONM Songino Array 57.44 344 P **P 00 22 27.8 +0.3**
comp=Z,2.7nm,0.8s,mb3.6,baz=164,slow=8.4,SNR=20
SONM ScP ScP 00 26 35.2 0.0
comp=Z,0.6nm,0.8s,baz=129,slow=3.6,SNR=3.9
BOD Bodaibo 65.36 352 *e*P **P 00 23 12.9 -6.9**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
MKAR Makanchi Array 66.50 328 P **P 00 23 26.9 -0.1**
comp=Z,0.3nm,0.5s,mb3.2,baz=114,slow=8.5,SNR=8.2
MKAR pP pP 00 24 54.1 -1.4
comp=Z,0.9nm,1.0s,baz=113,slow=9.7,SNR=2.5
YAK Yakutsk 68.77 1⇑ *i*P **P 00 23 40.4 -0.6**
YAK pmax pmax
comp=Z,20nm,0.8s,mb4.8
ZAL Zalesovo 70.17 335 P **P 00 23 48.6 -0.8**
comp=Z,1.1nm,0.4s,mb3.8,baz=357,slow=8.8,SNR=5.3
KURK Kurchatov 70.86 330⇑ *i*P **P 00 23 53.5 -0.1**
KURK *i* *e*PP pP 00 25 21.7 -1.8
KURK Kurchatov 70.86 330 *e*P **P 00 23 53.1 -0.5**
comp=Z,2.8nm,0.8s,mb3.8
KURK *e*pP pP 00 25 22.4 -1.0
SEY Seymchan 72.32 12⇑ *e*P **P 00 24 02.3 +0.2**
VNDA Vanda 72.92 173 P **P 00 24 05.3 -0.3**
comp=Z,2.1nm,0.7s,mb3.8,baz=320,slow=7.1,SNR=14
VNDA Vanda 72.92 173 *e*P **P 00 24 05.4 -0.2**
VNDA *e* 00 24 18.2
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA Vanda 72.92 173 *e*P **P 00 24 05.4 -0.2**
comp=Z,1.7nm,0.6s,mb3.8
VNDA *e*PcP PcP 00 24 18.2 -1.9
MAW Mawson 73.92 201 P **P 00 24 11.7 +0.4**
comp=Z,5.2nm,0.8s,mb4.2,baz=41,slow=6.0,SNR=6.2
MAW Mawson 73.92 201 *e*P **P 00 24 12.0 +0.7**
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 73.92 201 *e*P **P 00 24 12.0 +0.7**
comp=Z,8.3nm,0.8s,mb4.4
BRVK Borovoye 76.44 329 *e*P **P 00 24 25.0 -0.6**
comp=Z,1.0nm,0.6s,mb3.6
OPO Ambohidratompo 78.11 253 P **P 00 24 35.8 +1.1**
comp=Z,1.1nm,0.8s,mb3.5,baz=318,slow=15,SNR=3.8
TIXI Tiksi 78.41 1⇓ *i*P **P 00 24 34.9 -1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
QSPA South Pole Qui 83.06 180 *e*P **P 00 25 00.3 -0.3**
comp=Z,5.7nm,0.6s,mb4.5
PMR Palmer 93.16 28 P **P 00 25 48.5 0.0**
SNAA Sanae 95.01 194 *e*P **P 00 25 57.4 +0.5**
SNAA pmax pmax
comp=Z,4.0nm,1.1s
SNAA Sanae 95.01 194 *e*P **P 00 25 57.4 +0.4**
comp=Z,4.1nm,1.1s,mb4.4
EIL Elat 95.06 299 P **P 00 25 58.0 +0.9**
ANMO Albuquerque 123.71 52⇓ *i*PKIKP PKPdf 00 31 25.7 -3.7
TORD Torodi Ar. Bea 125.77 281 PKP PKPdf 00 31 34.5 +1.1
comp=Z,0.7nm,0.7s,baz=72,slow=2.1,SNR=9.2
LPAZ La Paz 152.57 147 PKPbc PKPbc 00 32 30.7 +2.4
comp=Z,1.1nm,0.9s,baz=246,slow=11,SNR=3.6
LPAZ PKPab PKPab 00 32 43.2 +2.5
comp=Z,1.3nm,0.6s,baz=208,slow=4.2,SNR=7.6
LPAZ La Paz 152.57 147 PKPbc PKPbc 00 32 30.7 +2.4
LPAZ PKPab PKPab 00 32 43.2 +2.5

IDC 19 00:14:39.4±2.0, 797S×12591E, h0km, mb3.8/1, mb1 4.4/4, mb1mx3.9/15, mbtmp4.2/4, ML4.3/3, Error ellipse: s-maj=106.2km s-min=28.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.08**	**181**	Pn	Pn	00 17 05.6	+0.3
	1.9nm,0.3s,baz=44,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**14.44**	**146**	Pn	Pn	00 18 03.1	-1.8
	1.3nm,0.3s,baz=319,slow=13,SNR=5.8						
ASAR	**Alice Springs**	**17.39**	**155**	P	Pn	00 18 45.0	+1.6
	0.9nm,0.3s,baz=321,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**66.88**	**329**	P	P	00 25 33.4	+0.1
	0.5nm,0.7s,baz=134,slow=6.9,SNR=4.4						

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*CSEM **19** 00:19:35.9, 6784N×2020E, h18km, ML3.0, Mining explosion. After UPP*
*HEL **19** 00:19:41.7±0.8, 6807N×2005E, h0km, ML2.0(UPP), Explosion*
UPP 19 00:19:35.9, 6784N×2020E, h18km, ML3.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	00 19 45.6	+5.8
KUA				*i* S	Sg	00 19 47.5	+5.1
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 19 50.2	+5.3
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	00 19 44.1	-0.8
LANU	**Lannavaara**	**0.71**	**72**	P	Pb	00 19 49.0	-0.8
	baz=308						
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pb	00 19 56.5	+6.4
DUNU	**Dundret**	**0.73**	**169**	P	Pb	00 19 49.4	-0.8
	baz=81						
SALU	**Saltoluokta**	**0.79**	**235**	P	Pb	00 19 50.6	-0.6
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pn	00 19 59.0	+1.3
KIF				*e*S	Sb	00 20 14.0	+0.9
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 20 08.2	+7.8
PAJU	**Pajala**	**1.39**	**125**	P	Pn	00 20 01.0	+0.5

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*IDC **19** 00:36:57.1±1.4, 5328N×13631W, h0km, mb3.5/3, mb1 3.9/8, mb1mx3.7/24, mbtmp3.7/8, ML3.3/5, Error ellipse: s-maj=33.8km s-min=18.4km az=48.0*
*ISCJB **19** 00:36:59.2±0.7, 5351N±004×13540W±009, h10km, mb3.5/2, Error ellipse: s-maj=7.8km s-min=5.3km az=136.0*
*PGC **19** 00:36:59.2±0.1, 5308N×13524W, h10km, ML3.6/4, 228km southwest of Sandspit, Bc West Of Vancouver Island*
*NEIC **19** 00:37:04.0±0.9, 5353N×13550W, h35km, mb3.8/1, Error ellipse: s-maj=16.8km s-min=6.5km az=65.0*
ISC 19 00:37:01.0±0.7, 5350N±004×13534W±009, h10km, n30, σ1§51/36, mb3.5/2, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDB	**Naden**	**1.49**	**71**	Trac			
NDB	**Naden**	**1.49**	**71**	Pn	**Pn**	**00 37 27.8**	**0.0**
NDB				Sg	**Sg**	**00 37 49.2**	**+0.2**
VIB	**Van Inlet**	**1.69**	**97**	Trac			
VIB	**Van Inlet**	**1.69**	**97**	Pn	**Pn**	**00 37 27.9**	**-2.7**
VIB				Sg	**Sg**	**00 37 50.6**	**-4.7**
DIB	**Dawson Inlet,**	**1.74**	**99**	Trac			
DIB	**Dawson Inlet,**	**1.74**	**99**	Pn	**Pn**	**00 37 28.2**	**-3.0**
DIB				Sg	**Sg**	**00 37 51.1**	**-5.8**
MOBC	**Moresby Island**	**2.08**	**97**	Trac			
MOBC	**Moresby Island**	**2.08**	**97**	Pn	**Pn**	**00 37 33.0**	**-2.9**
MOBC				Sg	**Sg**	**00 37 60.0**	**-7.9**
CRAG	**Craig**	**2.36**	**32**	P	**Pn**	**00 37 40.5**	**+0.8**
CRAG				S	**Sn**	**00 38 09.9**	**+1.3**
WRAK	**Wrangell Islan**	**3.39**	**29**	P	**Pn**	**00 37 54.6**	**+0.6**
WRAK				S	**Sn**	**00 38 34.9**	**+0.7**
SIT	**Sitka**	**3.56**	**0**	P	**Pn**	**00 37 55.2**	**-1.1**
SIT				S	**Sn**	**00 38 36.8**	**-1.7**
BBB	**Bella Bella**	**4.57**	**104**	P	**Pn**	**00 38 09.8**	**-0.4**
BBB				S	**Sn**	**00 39 00.7**	**-2.7**
DLBC	**Dease Lake**	**5.77**	**29**	P	**Pn**	**00 38 26.7**	**+0.1**
WHY	**Whitehorse**	**7.18**	**2**	P	**Pn**	**00 38 45.5**	**-0.5**
KDAK	**Kodiak Island**	**10.64**	**301**	Pn	**Pn**	**00 39 26.9**	**-6.6**
	0.4nm,0.3s,baz=112,slow=11,SNR=5.1						
KDAK				Sn	**Sn**	**00 41 18.0**	**-15**
	0.4nm,0.3s,baz=312,slow=18,SNR=5.0						
KDAK	**Kodiak Island**	**10.64**	**301**	Pn	**Pn**	**00 39 26.9**	**-6.5**
KDAK				Sn	**Sn**	**00 41 18.0**	**-15**
DAWY	**Dawson**	**10.80**	**350**	*e*Pn	**Pn**	**00 39 36.4**	**+0.8**
YKA	**Yellowknife Ar**	**14.14**	**42**	Pn	**Pn**	**00 40 22.7**	**+1.4**
	0.1nm,0.3s,baz=234,slow=12,SNR=11						
YKA	**Yellowknife Ar**	**14.14**	**42**	Pn	**Pn**	**00 40 22.7**	**+1.4**
YBH	**Yreka Blue Hor**	**14.50**	**139**	Pn	**Pn**	**00 40 26.9**	**+0.8**
	0.0nm,0.3s,baz=324,slow=14,SNR=3.7						
INK	**Inuvik**	**14.88**	**3**	Pn	**Pn**	**00 40 33.3**	**+1.9**
	0.1nm,0.3s,baz=179,slow=12,SNR=7.1						
IMA2	**Indian Mountai**	**15.53**	**331**	*e*Pn	**Pn**	**00 40 38.5**	**-1.4**
WVOR	**Wild Horse Val**	**15.69**	**128**	*e*Pn	**Pn**	**00 40 44.6**	**+2.6**
	7.6nm,1.0s						
QLMT	**Earthquake Lak**	**17.81**	**109**	Pn	**Pn**	**00 41 10.2**	**+1.4**
NVAR	**Mina Array Bea**	**19.09**	**135**	P	**Pn**	**00 41 25.2**	**+0.7**
	0.1nm,0.3s,baz=322,slow=9.7,SNR=5.5						
PDAR	**Pinedale Array**	**20.17**	**112**	P	**P**	**00 41 37.5**	**+2.0**
	1.6nm,0.8s,baz=323,slow=9.5,SNR=13						
MSU	**Marysvale**	**21.84**	**124**	*e*P	**P**	**00 41 54.5**	**+1.0**
TXAR	**Lajitas Array**	**33.40**	**124**	P	**P**	**00 43 40.7**	**+1.1**
	0.3nm,0.9s,mb3.2,baz=316,slow=7.6,SNR=3.2						
TXAR	**Lajitas Array**	**33.40**	**124**	P	**P**	**00 43 40.7**	**+1.1**
MKAR	**Makanchi Array**	**75.07**	**334**	P	**P**	**00 48 40.1**	**-2.9**
	0.7nm,0.7s,mb3.7,baz=15,slow=5.0,SNR=5.4						

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*MOS **19** 00:44:48.1±0.8, 5575N×110.13E, h10km, mb4.2/1, Error ellipse: s-maj=17.4km s-min=11.0km az=56.1*
BYKL 19 00:44:49.5±0.4, 5572N×11013E, h6km±7km, 3C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**280**	*e*PG	Pg	00 44 56.8	+0.7
NIZ				*e*		00 45 02.4	
NIZ				pmax	pmax		
	comp=Z,190nm,0.2s						
NIZ				smax			
	comp=N,884nm,0.2s						
NIZ	**Nizh Angarsk**	**0.34**	**280**	*e*Sg	Sg	00 45 01.1	+0.6
NIZ				*e*		00 45 02.9	
NIZ				max			
	comp=N,884nm,0.2s						
KMO	**Kumora**	**0.63**	**74**	*e*PG	Pg	00 45 00.0	-1.6
KMO				*e*		00 45 08.1	
KMO				pmax	pmax		
	comp=Z,138nm,0.5s						
KMO				smax			
	comp=N,698nm,0.8s						
KMO	**Kumora**	**0.63**	**74**	*e*Pg	Pg	00 45 00.0	-1.6
KMO				*e*Sg	Sg	00 45 08.4	-1.3
KMO				Pmax			
	comp=N,144nm,0.3s						
KMO				Smax			
	comp=N,699nm,1.0s						
YOA	**Uoyan**	**0.99**	**65**	*e*PG	Pg	00 45 07.2	-1.3
YOA				*e*		00 45 20.7	
YOA				pmax	pmax		
	comp=Z,237nm,0.2s						
YOA				smax			
	comp=N,778nm,0.4s						
YOA	**Uoyan**	**0.99**	**65**	*e*Sg	Sg	00 45 21.2	-0.1
YOA				Smax			
	comp=N,782nm,0.4s						
YLYR	**Ulyunkhan**	**1.03**	**145**	*e*PG	Pg	00 45 08.6	-0.7
YLYR				*e*		00 45 21.9	
YLYR				pmax	pmax		
	comp=Z,83nm,0.2s						
YLYR				smax			
	comp=E,388nm,0.2s						
YLYR	**Ulyunkhan**	**1.03**	**145**	*e*Sg	Sg	00 45 21.9	-0.8
YLYR				*e*		00 45 27.5	
YLYR				*e*L		00 45 30.8	
YLYR				max			
	comp=E,347nm,0.2s						
SVKR	**Severomuysk**	**1.97**	**77**	*e*PN	Pn	00 45 24.0	+0.6
SVKR				*e*		00 45 24.9	
SVKR				*e*		00 45 51.1	
SVKR				pmax	pmax		
	comp=Z,162nm,0.4s						
SVKR				smax			
	comp=N,822nm,1.0s						
SVKR	**Severomuysk**	**1.97**	**77**	*e*Pg	Pg	00 45 24.2	-3.1
SVKR				*i* Sg	Sg	00 45 52.3	-0.5
SVKR				Pmax			
	comp=N,169nm,0.4s						
SVKR				Smax			
	comp=N,816nm,0.5s						
SYVR	**Suvo**	**2.07**	**182**	*e*PN	Pn	00 45 25.9	+1.2
SYVR				*e*		00 45 54.6	
SYVR				pmax	pmax		
	comp=Z,48nm,0.5s						
SYVR				smax			
	comp=E,647nm,0.6s						
SYVR	**Suvo**	**2.07**	**182**	*i*Pg	Pg	00 45 26.2	-2.9
SYVR				*i* Sg	Sg	00 45 54.5	-1.4
SYVR				Pmax			
	comp=E,53nm,0.5s						
SYVR				Smax			
	comp=E,763nm,0.7s						
OGRR	**Ongureny**	**2.55**	**216**	*e*PN	Pn	00 45 30.6	-0.8
OGRR				*e*		00 45 34.8	
OGRR				*e*		00 46 08.0	
OGRR				pmax	pmax		
	comp=Z,17nm,0.3s						
OGRR				smax			
	comp=E,119nm,0.4s						
OGRR	**Ongureny**	**2.55**	**216**	*e*Pn	Pn	00 45 32.2	+0.8
OGRR				*e*Pg	Pg	00 45 34.7	-3.6
OGRR				*e*Sg	Sg	00 46 08.1	-3.3
OGRR				Pmax			
	comp=E,14nm,0.4s						
OGRR				Smax			
	comp=E,118nm,0.4s						
BOD	**Bodaibo**	**3.00**	**44**	*e*Pn	Pn	00 45 37.2	-0.3
BOD				*e*		00 45 44.2	
BOD				*e*Sg	Sg	00 46 20.9	-4.8
BOD				max			
	comp=E,11nm,0.5s						
BOD				Smax			
	comp=E,86nm,0.4s						
NLYR	**Nelyaty**	**3.22**	**74**	*e*Pn	Pn	00 45 39.1	-1.4
NLYR				*e*		00 45 48.8	
NLYR				*e*Sg	Sg	00 46 29.6	-3.2
ZRHB	**Zarechye**	**3.62**	**210**	*e*Sg	Sg	00 46 41.5	-4.4
ZRHB				Smax			
	comp=E,181nm,1.2s						
TRG	**Tyrgan**	**3.70**	**218**	*e*Pn	Pn	00 45 48.2	+1.0
TRG				*e*Sg	Sg	00 46 43.5	-5.0
TRG				max			
	comp=E,23nm,0.4s						
TRG				Smax			
	comp=E,52nm,0.7s						
TRTB	**Turuntaevo**	**3.80**	**204**	*e*Sg	Sg	00 46 45.6	-5.8
TRTB				Smax			
	comp=E,46nm,1.0s						
UUDB	**Ulan-Yde**	**4.13**	**202**	*e*Sg	Sg	00 46 56.7	-5.4
UUDB				Smax			
	comp=E,66nm,2.0s						
CIT	**Chita**	**4.22**	**150**	*e*Sg	Sg	00 47 00.6	-4.5
CIT				Smax			
	comp=E,53nm,0.8s						
HRMR	**Khuramsha**	**4.51**	**206**	*e*Pn	Pn	00 45 59.7	+1.3
HRMR				*e*		00 46 51.9	
HRMR				*e*Sg	Sg	00 47 08.2	-6.2
HRMR				max			
	comp=E,13nm,0.5s						
HRMR				Smax			
	comp=E,120nm,0.6s						
CRS	**Chara**	**4.68**	**72**	*e*PN	Pn	00 46 12.8	+12
CRS				*e*		00 47 16.0	
CRS				pmax	pmax		
	comp=Z,36nm,1.0s						
CRS				smax			
	comp=E,36nm,1.2s						
CRS	**Chara**	**4.68**	**72**	*e*Pn	Pn	00 45 59.9	-0.8
CRS				*e*Pg	Pg	00 46 12.3	-6.9
CRS				*e*Sn	Sn	00 46 54.5	-0.9
CRS				*e*Sg	Sg	00 47 14.3	-5.6
CRS				Pmax			
	comp=E,36nm,0.9s						
CRS				Smax			
	comp=E,40nm,1.4s						
IRK	**Irkutsk**	**4.91**	**227**	*e*Sg	Sg	00 47 21.8	-5.3
IRK				*e*		00 47 32.2	
IRK				Smax			
	comp=E,340nm,0.4s						
LSTR	**Listvyanka**	**4.97**	**221**	*e*Sg	Sg	00 47 22.2	-7.1
LSTR				Smax			
	comp=E,32nm,0.7s						
TLY	**Talaya**	**5.59**	**226**	*e*PN	Pn	00 46 11.7	-1.4
TLY				*e*		00 46 28.3	
TLY				*e*S	Sn	00 47 14.7	-2.9
TLY				*e*		00 47 40.5	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.2s						
TLY				smax			
	comp=E,29nm,1.0s						
TLY	**Talaya**	**5.59**	**226**	*e*Sg	Sg	00 47 41.7	-7.2
TLY				Smax			
	comp=E,29nm,1.1s						
TUP	**Tupik**	**5.79**	**99**	*e*PN	Pn	00 46 15.2	-0.7
TUP				*e*S	Sn	00 47 20.7	-2.0
TUP				*e*S	Sn	00 47 47.9	+25
TUP				smax			
	comp=N,56nm,1.1s						
TUP	**Tupik**	**5.79**	**99**	*e*Sg	Sg	00 47 49.3	-6.2
TUP				Smax			
	comp=N,55nm,0.8s						
ARS	**Arshan**	**5.94**	**233**	*e*PN	Pn	00 46 18.1	+0.1
ARS	**Arshan**	**5.94**	**233**	*e*Pn	Pn	00 46 18.0	0.0
ARS				*e*Sn	Sn	00 47 25.2	-1.2
ARS				*e*Sg	Sg	00 47 55.0	-5.3
ARS				max			
	comp=N,15nm,0.6s						
ARS				Smax			
	comp=N,111nm,0.8s						
KPC	**Khapcheranga**	**6.18**	**166**	*e*	Pb	00 47 39.2	+62
KPC				*e*Sg	Sg	00 47 59.9	-8.0
KPC				Smax			
	comp=N,31nm,1.2s						
ZAK	**Zakamensk**	**6.75**	**220**	*e*Sg	Sg	00 48 20.1	-6.2
MOY	**Mondy**	**6.78**	**237**	*e*PN	Pn	00 46 31.3	+1.9
MOY				*e*		00 46 52.1	
MOY				*e*		00 48 17.2	
MOY				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MOY				smax			
	comp=E,35nm,0.8s						
MOY	**Mondy**	**6.78**	**237**⇑ *i*Pn		Pn	00 46 31.3	+1.9
MOY				*e*Sn	Sn	00 47 45.7	-1.2
MOY				*e*Sg	Sg	00 48 16.8	-10
MOY				max			
	comp=E,25nm,0.6s						
MOY				Smax			
	comp=E,37nm,1.8s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	Pn	00 46 31.1	+0.6
ORL				*e*S	Sn	00 48 21.4	+33
ORL				smax			
	comp=N,36nm,1.1s						
ORL	**Orlik**	**6.85**	**247**⇑ *i*Pn		Pn	00 46 31.9	+1.4
ORL				*e*Sn	Sn	00 47 47.0	-1.7
ORL				*e*Sg	Sg	00 48 23.3	-6.1
ORL				max			
	comp=N,8.0nm,1.0s						
ORL				Smax			
	comp=N,37nm,1.0s						

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*CSEM **19** 01:07:01.6, 6720N×2067E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **19** 01:07:01.6, 6720N×2067E, h0km, ML3.0, Mining explosion.*
HEL 19 01:07:02.4±0.1, 6718N×2067E, h0km, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**211**	*i* P	Pg	01 07 03.6	-0.2
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	01 07 15.7	-1.7
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	01 07 18.1	-0.8
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	01 07 19.3	-0.9
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	01 07 20.2	-0.8
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	01 07 33.1	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	01 07 35.9	+0.9
KIF				*e*S	Sn	01 08 00.9	+1.9
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	01 07 42.1	-2.4
SGF				*e*SG	Sg	01 08 12.9	-3.0
MSF	**Maaselka**	**3.58**	**107**	*e*SG	Sg	01 08 52.0	-5.6
KU6	**Riekki**	**3.86**	**103**	*e*SG	Sg	01 09 02.7	-3.7

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*IDC **19** 01:23:03.1±6.5, 6248N×15329W, h116km±32km, mb2.8/2, mb1 3.1/5, mb1mx2.9/24, mbtmp2.8/5, Error ellipse: s-maj=127.1km s-min=21.6km az=103.0*
*ISCJB **19** 01:23:05.3±0.4, 6239N±003×15152W±008, h91km±7km, mb3.1/2, Error ellipse: s-maj=6.0km s-min=5.0km az=10.9*
*NEIC **19** 01:23:07.1, 6237N×15149W, h86km, MG3.1(AEIC), After AEIC.*
ISC 19 01:23:06.4±0.4, 6239N±003×15153W±008, h83km±8km, n28, σ0§85/39, mb3.1/2, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**1.21**	**13**	P	**Pn**	**01 23 28.5**	**+0.4**
KTH				S	**Sn**	**01 23 43.9**	**-0.5**
TRF	**Thorofare Moun**	**1.21**	**27**	P	**Pn**	**01 23 28.6**	**+0.4**
TRF				S	**Sn**	**01 23 45.8**	**+1.2**
GHO	**Glory Hole Cre**	**1.37**	**116**	P	**Pn**	**01 23 30.4**	**+0.2**
FIB	**Fire Island**	**1.38**	**152**	P	**Pn**	**01 23 31.5**	**+1.2**
PMR	**Palmer**	**1.38**	**124**	P	**Pn**	**01 23 30.1**	**-0.2**
PMR				*e*S	**Sn**	**01 23 49.0**	**+0.6**
RC01	**Rabbit Creek A**	**1.55**	**146**	P	**Pn**	**01 23 32.1**	**-0.4**
SML	**Sawmill**	**1.61**	**110**	P	**Pn**	**01 23 32.9**	**-0.3**
KNK	**Knik Glacier**	**1.75**	**123**	P	**Pn**	**01 23 34.5**	**-0.5**
MCK	**McKinley**	**1.79**	**40**	P	**Pn**	**01 23 35.9**	**+0.2**
SLKM	**Skilak Lake**	**1.98**	**161**	P	**Pn**	**01 23 38.4**	**+0.2**
SLKM				*e*Sn	**Sn**	**01 23 58.0**	**-4.4**
TT01	**Tatalina**	**2.14**	**286**	P	**Pn**	**01 23 40.4**	**+0.2**
SVW2	**Sparrevohn**	**2.32**	**238**	P	**Pn**	**01 23 42.7**	**+0.1**
SVW2				*e*Sn	**Sn**	**01 24 10.8**	**+0.4**
SEW	**Seward**	**2.50**	**155**	P	**Pn**	**01 23 45.0**	**0.0**
PAX	**Paxson**	**2.85**	**75**	P	**Pn**	**01 23 50.0**	**+0.1**
COLA	**College**	**2.99**	**32**	P	**Pn**	**01 23 51.4**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.33**	**121**	*e*Pn	**Pn**	**01 23 55.7**	**-0.5**
EYAK				*e*Pg	**Pn**	**01 24 02.4**	**+6.1**
EYAK				*e*Sn	**Sn**	**01 24 35.0**	**+0.3**
GCSA	**Galena City Sc**	**3.37**	**317**	P	**Pn**	**01 23 57.3**	**+0.6**
DOT	**Dot Lake**	**3.63**	**66**	P	**Pn**	**01 23 59.7**	**-0.6**
MENT	**Mentasta**	**3.64**	**78**	*e*P	**Pn**	**01 24 00.9**	**+0.4**
IMA2	**Indian Mountai**	**3.82**	**347**	P	**Pn**	**01 24 03.1**	**+0.3**
IMA2				*e*Sn	**Sn**	**01 24 44.5**	**-2.1**
KDAK	**Kodiak Island**	**4.65**	**187**	P	**Pn**	**01 24 12.1**	**-2.0**
	0.5nm,0.3s,baz=337,slow=13,SNR=15						
KDAK				S	**Sn**	**01 25 06.3**	**-0.5**
	2.2nm,0.3s,baz=112,slow=24,SNR=8.3						
EGAK	**Eagle**	**5.21**	**58**	P	**Pn**	**01 24 20.9**	**-0.9**
EGAK				Sn	**Sn**	**01 25 15.2**	**-5.4**
DAWY	**Dawson**	**5.74**	**68**	*e*Pn	**Pn**	**01 24 27.9**	**-1.2**
DAWY				*e*Sn	**Sn**	**01 25 31.8**	**-1.7**
INK	**Inuvik**	**9.55**	**44**	P	**Pn**	**01 25 23.3**	**+2.3**
	0.1nm,0.3s,baz=246,slow=12,SNR=5.3						
YKA	**Yellowknife Ar**	**16.94**	**73**	P	**Pn**	**01 26 59.5**	**+1.5**
	0.1nm,0.3s,baz=285,slow=9.2,SNR=4.3						
YKA	**Yellowknife Ar**	**16.94**	**73**	P	**Pn**	**01 26 59.5**	**+1.5**
PDAR	**Pinedale Array**	**31.38**	**109**	P	**P**	**01 29 19.8**	**+0.5**
	0.2nm,0.4s,mb3.2,baz=334,slow=4.8,SNR=3.7						
TXAR	**Lajitas Array**	**45.23**	**114**	P	**P**	**01 31 15.5**	**+0.2**
	0.2nm,0.7s,mb3.0,baz=358,slow=9.9,SNR=2.7						

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*NEIC **19** 01:41:37.6±1.3, 5.91S×149.25E, h10km, mb4.3/1, Error ellipse: s-maj=35.7km s-min=13.2km az=97.0*
*IDC **19** 01:41:43.7±8.6, 5.99S×149.03E, h49km±61km, mb3.3/2, mb1 3.6/4, mb1mx3.4/14, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=84.4km s-min=61.5km az=109.0*
*ISCJB **19** 01:41:44.2±4.1, 6.1S±0.1×149.0E±0.3, h66km±30km, mb3.7/4, Error ellipse: s-maj=50.0km s-min=23.3km az=1.9*
ISC 19 01:41:45.8±4.3, 61S±02×1490E±03, h66km±32km, n11, σ1§11/13, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**

WRA	**Warramunga Arr**	**19.81**	**225**	P	**Pn**	**01 46 10.9**	**-2.0**
	0.2nm,0.3s,baz=51,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.72**	**218**	P	**P**	**01 46 42.4**	**+0.4**
	0.3nm,0.5s,mb2.9,baz=57,slow=8.6,SNR=7.1						
STKA	**Stephens Creek**	**26.58**	**194**	P	**P**	**01 47 18.6**	**+1.0**
	2.7nm,1.0s,mb3.7,baz=7.6,slow=10,SNR=3.0						
KKM	**Kota Kinabalu**	**34.84**	**290**	*e*P	**P**	**01 48 32.0**	**+1.6**
LSA	**Lhasa**	**65.86**	**306**	*e*P	**P**	**01 52 25.2**	**+0.9**
	2.3nm,0.4s,mb4.4						
KURK	**Kurchatov**	**82.45**	**323**	P	**P**	**01 54 00.3**	**-0.6**
MAW	**Mawson**	**82.93**	**203**	P	**P**	**01 54 03.5**	**+0.1**
BRVK	**Borovoye**	**88.06**	**324**	*e*P	**P**	**01 54 28.1**	**-0.7**
	0.9nm,0.6s,mb4.0						

*ISCJB **19** 01:41:52.7±2.1,369S±02×1790W±0.1,h47km±22km, mb3.7/2,Error ellipse: s-maj=35.0km s-min=16.4km az=154.5*
*IDC **19** 01:41:52.5±1.6,3643S×17958W,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.8/13,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=45.8km s-min=30.7km az=144.0*
*WEL **19** 01:41:52.3±0.4,3618S×17937W,h33km,ML4.2/6,Error ellipse: s-maj=9.4km s-min=8.2km az=90.0*
ISC 19 01:41:52.7±3.4,367S±02×1792W±03,h19km±36km,n18, σ0§84/21,mb3.7/2,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.19**	**246**	*e*PN	**Pn**	**01 42 27.6**	**-0.5**
MXZ				SN	**Sn**	**01 42 53.4**	**-1.3**
PUZ	**Puketiti**	**2.47**	**235**	*e*PN	**Pn**	**01 42 32.7**	**+0.8**
PUZ				SN	**Sn**	**01 43 02.8**	**+1.4**
MWZ	**Matawai**	**3.09**	**237**	PN	**Pn**	**01 42 40.8**	**+0.4**
MWZ				SN	**Sn**	**01 43 17.2**	**+0.3**
URZ	**Urewera**	**3.34**	**241**	Pn	**Pn**	**01 42 44.5**	**+0.6**
	11nm,0.3s,baz=280,slow=4.1,SNR=57						
URZ				Sn	**Sn**	**01 43 22.8**	**-0.3**
	26nm,0.3s,baz=153,slow=22,SNR=17						
URZ	**Urewera**	**3.34**	**241**	PN	**Pn**	**01 42 44.4**	**+0.5**
URZ				SN	**Sn**	**01 43 22.6**	**-0.5**
KNZ	**Kokohu**	**3.41**	**226**	PN	**Pn**	**01 42 45.6**	**+0.8**
BKZ	**Black Stump Fm**	**4.22**	**233**	PN	**Pn**	**01 42 56.2**	**+0.2**
MOVZ	**Moawhango**	**4.83**	**234**	PN	**Pn**	**01 43 05.0**	**+0.6**
WNVZ	**Wahianoa**	**4.89**	**236**	PN	**Pn**	**01 43 05.6**	**+0.3**
TSZ	**Takapari Road**	**5.09**	**227**	PN	**Pn**	**01 43 07.0**	**-1.0**
TIWZ	**Tintock**	**5.62**	**222**	PN	**Pn**	**01 43 16.4**	**+1.2**
MRZ	**Mangatainoka R**	**5.70**	**224**	PN	**Pn**	**01 43 15.2**	**-1.1**
MTW	**Mount Morrison**	**6.09**	**221**	PN	**Pn**	**01 43 19.9**	**-1.8**
KIW	**Kapiti Island**	**6.22**	**226**	PN	**Pn**	**01 43 22.6**	**-0.8**
ASAR	**Alice Springs**	**42.20**	**274**	P	**P**	**01 49 44.2**	**-0.1**
	0.9nm,0.7s,mb3.5,baz=111,slow=7.2,SNR=9.7						
WRA	**Warramunga Arr**	**43.75**	**279**	P	**P**	**01 49 57.0**	**+0.2**
	1.0nm,0.4s,mb3.9,baz=120,slow=7.6,SNR=8.5						
FINES	**FINESS Array B**	**150.58**	**335**	PKPbc	PKPbc	02 01 44.9	+1.7
	0.9nm,0.5s,baz=0.0,slow=5.7,SNR=9.1						
FINES				PKPab	PKPab	02 01 49.8	-0.2
	3.2nm,1.0s,baz=59,slow=3.6,SNR=9.1						
TORD	**Torodi Ar. Bea**	**156.54**	**182**	PKPab	PKPab	02 02 18.7	+3.5
	0.3nm,0.6s,baz=188,slow=3.1,SNR=2.8						

IDC 19 01:45:05.5±2.1,832S×11868E,h0km,mb3.9/3,mb1 4.0/5, mb1mx3.7/18,mbtmp3.8/5,ML3.3/1,Error ellipse: s-maj=203.3km s-min=23.4km az=54.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.85**	**146**	Pn	Pn	01 47 55.5	-0.1
	0.1nm,0.3s,baz=342,slow=11,SNR=2.8						
FITZ				Sn	Sn	01 50 04.1	-4.4
	0.6nm,0.3s,baz=184,slow=18,SNR=11						
WRA	**Warramunga Arr**	**19.06**	**129**	P	Pn	01 49 29.3	-0.7
	0.3nm,0.3s,baz=301,slow=13,SNR=11						
WRA				S	Sn	01 52 52.8	-11
	0.1nm,0.3s,baz=311,slow=20,SNR=2.6						
ASAR	**Alice Springs**	**21.11**	**138**	P	P	01 49 52.3	+0.7
	4.8nm,0.6s,baz=317,slow=9.6,SNR=56						
STKA	**Stephens Creek**	**31.68**	**141**	P	P	01 51 30.8	+0.3
	1.3nm,0.7s,baz=326,slow=7.1,SNR=3.5						
MKAR	**Makanchi Array**	**63.71**	**333**	P	P	01 55 38.8	0.0
	0.7nm,0.6s,baz=137,slow=8.5,SNR=5.9						

*IDC **19** 02:08:27.3±2.4,306N×9658E,h0km,mb3.9/3,mb1 4.0/4, mb1mx3.6/22,mbtmp3.8/4,ML2.7/1,MS3.1/1,Ms1 3.1/1, ms1mx2.5/34,Error ellipse: s-maj=81.7km s-min=28.6km az=49.0*
NEIC 19 02:08:31.0±1.2,288N×9643E,h30km,Error ellipse: s-maj=26.2km s-min=16.4km az=45.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.50**	**92**	Pn	Pn	02 09 07.8	-1.7
	1.7nm,0.3s,baz=270,slow=8.1,SNR=8.6						
PSI				Sn	Sn	02 09 43.3	+4.3
	3.5nm,0.3s,baz=340,slow=17,SNR=5.7						
KULM	**Kulim**	**4.85**	**60**	*e*Pn	Pn	02 09 43.4	+1.5
WRA	**Warramunga Arr**	**43.58**	**123**	P	P	02 16 33.4	+1.1
	1.4nm,1.0s,baz=302,slow=9.0,SNR=4.3						
WB2	**Warramunga Arr**	**43.59**	**123**	P	P	02 16 33.2	+0.8
KSRS	**Korea Array**	**44.93**	**36**	LR	LR	02 38 22.9	
	comp=Z,20nm,18.5s,baz=5.0,slow=40						
ASAR	**Alice Springs**	**45.02**	**128**	P	P	02 16 44.7	+0.9
	0.5nm,0.6s,baz=310,slow=7.5,SNR=6.1						
MK31	**Makanchi Array**	**45.44**	**346**	P	P	02 16 46.8	-0.3
MKAR	**Makanchi Array**	**45.44**	**346**	P	P	02 16 46.8	-0.3
	1.3nm,0.6s,baz=148,slow=7.8,SNR=3.9						

*BJI **19** 02:09:38.8,5602N×11003E,h16km,mb4.0*
*MOS **19** 02:09:39.8±0.9,5575N×110.15E,h9km,mb4.6/10,Error ellipse: s-maj=8.3km s-min=5.9km az=74.2*
*ISCJB **19** 02:09:39.9±0.2,5565N±002×110.16E±003,h10km, mb4.2/30,MS3.3/9,Error ellipse: s-maj=3.1km s-min=2.1km az=114.4*
*IDC **19** 02:09:40.3±0.6,5575N×110.11E,h0km,mb4.1/16, mb1 4.3/18,mb1mx4.2/25,mbtmp4.1/18,ML4.5/2,MS3.3/10, Ms1 3.3/10,ms1mx3.1/36,Error ellipse: s-maj=17.7km s-min=14.1km az=65.0*
*NEIC **19** 02:09:41.5±0.3,5572N×110.17E,h10km,mb4.4/6,Error ellipse: s-maj=7.3km s-min=6.9km az=179.0*
*BYKL **19** 02:09:41.4±0.2,5569N×110.13E,h3km±4km*
ISC 19 02:09:41.5±0.2,5569N±002×11018E±003,h10km,n119, σ1§29/170,mb4.2/30,MS3.3/9,17C-13D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**283**	*e*PG	**Pg**	**02 09 48.0**	**-0.7**
NIZ				*e*		02 09 52.7	
NIZ				pmax	pmax		
	comp=Z,5μm,0.5s						
NIZ				smax			
	comp=N,20μm,0.3s						
NIZ	**Nizh Angarsk**	**0.37**	**283**	⇑*i*Pg	**Pg**	**02 09 48.1**	**-0.6**
NIZ				Pmax		02 09 49.1	
	comp=N,2μm,0.4s						
NIZ				*e*Sg	**Sg**	**02 09 53.0**	**-0.7**
NIZ				Smax		02 09 55.1	
	comp=N,22μm,0.3s						
KMO	**Kumora**	**0.61**	**71**	⇑*i*PG	**Pg**	**02 09 52.3**	**-1.0**
KMO				*e*		02 10 00.2	
KMO				pmax	pmax		
	comp=Z,4μm,0.3s						
KMO				smax			
	comp=N,12μm,0.8s						
KMO	**Kumora**	**0.61**	**71**	⇑*i*Pg	**Pg**	**02 09 52.3**	**-1.0**
KMO				Pmax		02 09 52.7	
	comp=N,4μm,0.3s						
KMO				*i* Sg	**Sg**	**02 10 00.7**	**-0.6**
KMO				Smax		02 10 03.1	
	comp=N,12μm,1.1s						
YOA	**Uoyan**	**0.97**	**63**	⇓*i*PG	**Pg**	**02 09 59.2**	**-1.0**
YOA				*i*		02 10 13.7	
YOA				pmax	pmax		
	comp=Z,2μm,0.2s						
YOA				smax			
	comp=N,11μm,0.4s						
YOA	**Uoyan**	**0.97**	**63**	⇓*i*Pg	**Pg**	**02 09 59.1**	**-1.1**
YOA				Pmax		02 10 00.9	
	comp=N,1μm,0.3s						
YOA				*e*Sg	**Sg**	**02 10 12.8**	**-0.1**
YOA				Smax		02 10 23.9	
	comp=N,12μm,0.8s						
YLYR	**Ulyunkhan**	**0.99**	**145**	⇑*i*PG	**Pg**	**02 09 59.3**	**-1.3**
YLYR				*e*		02 10 12.3	
YLYR				pmax	pmax		
	comp=Z,1μm,0.4s						
YLYR				smax			
	comp=E,3μm,0.5s						
YLYR	**Ulyunkhan**	**0.99**	**145**	⇓*i*Pg	**Pg**	**02 09 59.3**	**-1.3**
	comp=E,1μm,0.6s						
YLYR				⇑*i*Pg	**Pg**	**02 09 59.3**	**-1.3**
	comp=E,990nm,0.6s						
YLYR				⇑*i*Pg	**Pg**	**02 09 59.3**	**-1.3**
	comp=E,1μm,0.6s						
YLYR				Pmax		02 10 01.1	
	comp=E,1μm,0.9s						
YLYR				*i* Sg	**Sg**	**02 10 12.7**	**-0.8**
YLYR				Smax		02 10 18.7	
	comp=E,4μm,0.8s						
YLYR				*e*		02 10 21.8	
SVKR	**Severomuysk**	**1.95**	**76**	*e*PN	**Pn**	**02 10 16.1**	**+1.5**
SVKR				*e*		02 10 17.0	
SVKR				*e*S	**Sn**	**02 10 38.5**	**-0.6**
SVKR				*e*		02 10 42.2	
SVKR				pmax	pmax		
	comp=Z,2μm,0.6s						
SVKR				smax			
	comp=N,14μm,1.3s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*Pn	**Pn**	**02 10 16.2**	**+1.6**
SVKR				⇓*i*Pg	**Pg**	**02 10 17.2**	**-1.7**
SVKR				Pmax		02 10 17.6	
	comp=N,2μm,0.5s						
SVKR				*e*Sg	**Sg**	**02 10 44.5**	**+0.3**
SVKR				Smax		02 10 46.2	
	comp=N,14μm,1.0s						
SYVR	**Suvo**	**2.04**	**183**	*e*PN	**Pn**	**02 10 17.8**	**+1.9**
SYVR				*e*		02 10 46.1	
SYVR				pmax	pmax		
	comp=Z,1μm,0.4s						
SYVR				smax			
	comp=E,8μm,0.8s						
SYVR	**Suvo**	**2.04**	**183**	*e*Pn	**Pn**	**02 10 16.9**	**+1.0**
SYVR				⇑*i*Pg	**Pg**	**02 10 17.9**	**-2.7**
SYVR				Pmax		02 10 21.0	
	comp=E,1μm,0.4s						
SYVR				*i* Sg	**Sg**	**02 10 45.1**	**-2.0**
SYVR				*i*		02 10 47.5	
SYVR				max		02 10 47.9	
	comp=E,10μm,0.8s						
OGRR	**Ongureny**	**2.54**	**217**	*e*PN	**Pn**	**02 10 24.1**	**+1.3**
OGRR				*e*		02 10 28.0	
OGRR				*e*		02 11 00.3	
OGRR				pmax	pmax		
	comp=Z,303nm,0.5s						
OGRR				smax			
	comp=E,2μm,0.5s						
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn	**Pn**	**02 10 23.9**	**+1.1**
OGRR				⇓*i*Pg	**Pg**	**02 10 26.6**	**-3.6**
OGRR				Pmax		02 10 29.7	
	comp=E,371nm,0.6s						
OGRR				*e*Sn	**Sn**	**02 10 55.8**	**+2.0**
OGRR				*i* Sg	**Sg**	**02 11 00.1**	**-3.1**
OGRR				Smax		02 11 04.5	
	comp=E,2μm,0.5s						
MXMB	**Maximikha**	**2.58**	**200**	*e*Pn	**Pn**	**02 10 25.8**	**+2.6**
MXMB				*e*Pg	**Pg**	**02 10 28.6**	**-2.2**
MXMB				Pmax		02 10 33.8	
	comp=E,519nm,0.6s						
MXMB				*e*Sg	**Sg**	**02 11 02.4**	**-1.8**
MXMB				Smax		02 11 04.7	
	comp=E,3μm,0.8s						
BOD	**Bodaibo**	**3.00**	**43**	*e*PN	**Pn**	**02 10 29.6**	**+0.6**
BOD				*e*		02 10 35.0	
BOD				*e*		02 11 13.3	
BOD				pmax	pmax		
	comp=Z,123nm,0.3s						
BOD				smax			
	comp=N,1μm,0.8s						
BOD	**Bodaibo**	**3.00**	**43**	⇑*i*Pn	**Pn**	**02 10 30.2**	**+1.2**
BOD				*e*		02 10 38.3	
BOD				max		02 10 42.5	
	comp=N,123nm,0.4s						
BOD				*e*Sn	**Sn**	**02 11 07.3**	**+2.4**
BOD				*i* Sg	**Sg**	**02 11 13.5**	**-4.2**
BOD				Smax		02 11 20.2	
	comp=N,1μm,1.1s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*PN	**Pn**	**02 10 32.6**	**+0.8**
NLYR				*e*		02 10 40.8	
NLYR				*e*		02 11 19.5	
NLYR				pmax	pmax		
	comp=Z,108nm,0.7s						
NLYR				smax			
	comp=E,266nm,0.9s						
NLYR	**Nelyaty**	**3.20**	**73**	*e*Pn	**Pn**	**02 10 32.9**	**+1.1**
NLYR				*e*Pg	**Pg**	**02 10 38.6**	**-4.1**
NLYR				*e*PgPg		02 10 41.2	
NLYR				*e*Sg	**Sg**	**02 11 21.3**	**-2.9**
NLYR				*e*SgSg		02 11 29.5	
TRG	**Tyrgan**	**3.70**	**219**	*e*PN	**Pn**	**02 10 47.0**	**+8.3**
TRG				*e*		02 11 35.2	
TRG				pmax	pmax		
	comp=Z,174nm,0.5s						
TRG				smax			
	comp=N,935nm,0.6s						
TRG	**Tyrgan**	**3.70**	**219**	*e*Pn	**Pn**	**02 10 39.9**	**+1.2**
TRG				max		02 10 42.2	
	comp=N,20nm,0.5s						
TRG				*e*Sn	**Sn**	**02 11 23.4**	**+1.1**
TRG				*e*Sg	**Sg**	**02 11 35.2**	**-5.1**
TRG				Smax		02 11 43.4	
	comp=N,937nm,0.6s						
TRTB	**Turuntaevo**	**3.78**	**204**	*e*Pn	**Pn**	**02 10 41.0**	**+1.2**
TRTB				*e*		02 10 50.2	
TRTB				max		02 11 00.7	
	comp=N,121nm,0.9s						
TRTB				*e*Sn	**Sn**	**02 11 23.1**	**-1.3**
TRTB				*e*Sg	**Sg**	**02 11 37.3**	**-5.7**
TRTB				Smax		02 11 45.1	
	comp=N,900nm,1.1s						
UUDB	**Ulan-Yde**	**4.11**	**202**	*e*Pn	**Pn**	**02 10 46.9**	**+2.5**
UUDB				*e*Pg	**Pg**	**02 10 54.9**	**-5.4**
UUDB				Pmax		02 10 58.4	
	comp=N,117nm,0.6s						
UUDB				*e*		02 11 28.0	
UUDB				*e*Sg	**Sg**	**02 11 48.3**	**-5.3**
UUDB				*e*		02 12 04.5	
UUDB				max		02 12 07.0	
	comp=N,2μm,1.1s						
CIT	**Chita**	**4.19**	**150**	*e*PN	**Pn**	**02 10 45.8**	**+0.4**
CIT				*e*		02 10 56.3	
CIT				*e*		02 11 50.2	
CIT				pmax	pmax		
	comp=Z,524nm,1.3s						
CIT				smax			
	comp=E,862nm,1.1s						
CRS	**Chara**	**4.67**	**72**	*e*PN	**Pg**	**02 11 06.5**	**-4.4**
CRS				*e*		02 12 08.1	
CRS				pmax	pmax		
	comp=Z,865nm,1.0s						
CRS				smax			
	comp=E,1μm,1.5s						
CRS	**Chara**	**4.67**	**72**	*e*Pn	**Pn**	**02 10 53.1**	**+1.1**
CRS				*e*Pg	**Pg**	**02 11 06.2**	**-4.7**
CRS				Pmax		02 11 08.4	
	comp=E,865nm,1.0s						
CRS				*e*Sg	**Sg**	**02 12 07.0**	**-4.3**
CRS				Smax		02 12 22.9	
	comp=E,1μm,1.5s						
IRK	**Irkutsk**	**4.91**	**228**	*e*PN	**Pn**	**02 10 55.7**	**+0.4**
IRK				*e*S	**Sn**	**02 11 50.9**	**-1.3**
IRK				*e*		02 12 13.3	
IRK				smax			
	comp=N,164nm,0.6s						
IRK	**Irkutsk**	**4.91**	**228**	*e*Pn	**Pn**	**02 10 56.1**	**+0.8**
IRK				max		02 11 00.6	
	comp=N,235nm,0.6s						
IRK				*i*		02 11 53.0	
IRK				*e*Sg	**Sg**	**02 12 13.6**	**-5.5**
IRK				Smax		02 12 25.4	
	comp=N,2μm,0.8s						
LSTR	**Listvyanka**	**4.97**	**222**	⇓*i*Pn	**Pn**	**02 10 57.5**	**+1.3**
LSTR				max		02 11 14.7	
	comp=N,119nm,0.6s						
LSTR				*e*Sn	**Sn**	**02 11 51.9**	**-1.8**
LSTR				*e*Sg	**Sg**	**02 12 15.4**	**-5.7**
LSTR				Smax		02 12 17.2	
	comp=N,573nm,0.7s						
TLY	**Talaya**	**5.59**	**227**	*e*PN	**Pn**	**02 11 04.5**	**-0.1**
TLY				*e*		02 11 20.8	
TLY				*e*S	**Sn**	**02 12 07.3**	**-1.6**
TLY				*e*		02 12 31.4	
TLY				pmax	pmax		
	comp=Z,69nm,0.7s						
TLY				smax			
	comp=E,461nm,1.0s						
TLY	**Talaya**	**5.59**	**227**	*e*Pn	**Pn**	**02 11 04.3**	**-0.3**
	comp=E,61nm,0.4s						
TLY				*e*Sn	**Sn**	**02 12 08.0**	**-0.8**
TLY	**Talaya**	**5.59**	**227**	*e*Pn	**Pn**	**02 11 04.4**	**-0.2**
TLY				*e*		02 11 22.5	
TLY				max		02 11 27.8	
	comp=E,73nm,0.6s						
TLY				*e*Sn	**Sn**	**02 12 07.8**	**-1.1**
TLY				*e*Sg	**Sg**	**02 12 31.6**	**-9.3**
TLY				Smax		02 12 42.7	
	comp=E,465nm,1.1s						
TUP	**Tupik**	**5.76**	**99**	*e*PN	**Pn**	**02 11 07.2**	**+0.2**
TUP				*e*		02 11 24.7	
TUP				*e*S	**Sn**	**02 12 12.8**	**-0.3**
TUP				*e*		02 12 40.5	
TUP				pmax	pmax		
	comp=Z,168nm,0.9s						
TUP				smax			
	comp=N,851nm,1.1s						
TUP	**Tupik**	**5.76**	**99**	*e*Pn	**Pn**	**02 11 07.3**	**+0.3**
TUP				*e*Pg	**Pg**	**02 11 24.7**	**-7.1**
TUP				Pmax		02 11 34.3	
	comp=N,168nm,1.4s						
TUP				*e*Sn	**Sn**	**02 12 13.6**	**+0.5**
TUP				*e*Sg	**Sg**	**02 12 41.7**	**-4.7**
TUP				Smax		02 12 45.3	
	comp=N,873nm,1.0s						
ARS	**Arshan**	**5.95**	**234**	*e*PN	**Pn**	**02 11 09.8**	**+0.2**
ARS				*e*S	**Sn**	**02 12 16.3**	**-1.4**
ARS				*e*S	**Sg**	**02 12 46.4**	**-6.0**
ARS				smax			
	comp=E,2μm,0.8s						
KPC	**Khapcheranga**	**6.15**	**167**	*e*PN	**Pn**	**02 11 12.6**	**+0.3**
KPC				*e*		02 11 32.3	
KPC				*e*		02 12 52.0	
KPC				pmax	pmax		
	comp=Z,93nm,1.0s						
KPC				smax			
	comp=E,571nm,1.5s						
KPC	**Khapcheranga**	**6.15**	**167**	*e*Pn	**Pn**	**02 11 12.4**	**+0.1**
KPC				*e*Pg	**Pg**	**02 11 32.0**	**-7.2**
KPC				Pmax		02 11 33.8	
	comp=E,94nm,1.0s						
KPC				*e*Sg	**Sg**	**02 12 51.6**	**-7.2**
KPC				Smax		02 13 04.2	
	comp=E,569nm,1.4s						
ZAK	**Zakamensk**	**6.75**	**221**	*e*PN	**Pn**	**02 11 21.7**	**+1.1**
ZAK				*e*		02 11 40.1	
ZAK				*e*S	**Sn**	**02 12 38.6**	**+1.1**
ZAK				*e*		02 13 07.4	
ZAK				pmax	pmax		
	comp=Z,27nm,0.8s						
ZAK				smax			
	comp=N,340nm,1.3s						
MOY	**Mondy**	**6.78**	**237**	*e*PN	**Pn**	**02 11 23.1**	**+2.1**
MOY				*e*		02 11 44.4	
MOY				*e*		02 13 09.8	
MOY				pmax	pmax		
	comp=Z,87nm,0.2s						
MOY				smax			
	comp=E,690nm,1.2s						
MOY	**Mondy**	**6.78**	**237**	*e*Pn	**Pn**	**02 11 22.6**	**+1.6**
MOY				max		02 11 33.0	
	comp=E,207nm,0.9s						
MOY				*e*Sn	**Sn**	**02 12 38.7**	**+0.4**
MOY				*e*Sg	**Sg**	**02 13 10.0**	**-9.2**
MOY				Smax		02 13 13.6	
	comp=E,634nm,1.1s						
ORL	**Orlik**	**6.87**	**247**	*e*PN	**Pn**	**02 11 23.6**	**+1.5**
ORL				*e*S	**Sg**	**02 13 12.7**	**-9.1**
ORL				smax			
	comp=N,1μm,1.1s						
ORL	**Orlik**	**6.87**	**247**	⇓*i*Pn	**Pn**	**02 11 23.6**	**+1.5**
ORL				max		02 11 27.3	
	comp=N,87nm,1.0s						
ORL				*i* Sn	**Sn**	**02 12 40.0**	**-0.3**
ORL				*e*Sg	**Sg**	**02 13 12.7**	**-9.1**
ORL				Smax		02 13 17.6	
	comp=N,1μm,1.0s						
SONM	**Songino Array**	**8.21**	**198**	Pn	**Pn**	**02 11 42.5**	**+1.9**
	comp=N,2.9nm,0.3s,baz=6.0,slow=14,SNR=32						
SONM				Sn	**Sn**	**02 13 16.6**	**+3.1**
	comp=N,1.6nm,0.3s,baz=14,slow=31,SNR=3.9						
SONM				Lg		02 14 01.2	
	comp=N,7.6nm,0.3s,baz=13,slow=29,SNR=5.5						
SONM	**Songino Array**	**8.21**	**198**	PN	**Pn**	**02 11 42.5**	**+1.9**
SONM						02 13 16.6	
CLNS	**Chul'man**	**8.27**	**76**	*e*PN	**Pn**	**02 11 52.3**	**+11**
CLNS				pmax	pmax		
	comp=Z,20nm,0.7s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,23nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,400nm,11.0s						
TNDR	**Tynda**	**8.29**	**88**	*e*Sg	Sx	02 13 58.6	
HIA	**Hailar**	**8.68**	**134**	*e*PN	**Pn**	**02 11 45.9**	**-1.2**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
HIA	**Hailar**	**8.68**	**134**	*e*Pn	**Pn**	**02 11 45.9**	**-1.3**
	comp=Z,10nm,0.4s						
HIA	**Hailar**	**8.68**	**134**	*e*Sg	Sx	02 14 11.9	
TDJR	**Todzha**	**8.91**	**254**	*e*Pn	**Pn**	**02 11 51.7**	**+1.4**
TDJR				*e*Sg	Sn	02 14 14.4	+44
KRAR	**Krasnoyarsk**	**9.74**	**279**	⇓*e*P	**Pn**	**02 11 59.7**	**-1.9**
YAK	**Yakutsk**	**11.89**	**50**	*e*P	**Pn**	**02 12 30.3**	**-0.8**
YAK				*e*		02 14 36.3	
YAK				pmax	pmax		
	comp=N,3.0nm,0.4s						
YAK				pmax	pmax		
	comp=Z,17nm,0.4s						
YAK				pmax	pmax		
	comp=E,7.0nm,0.5s						
YAK				smax			
	comp=N,24nm,0.6s						
YAK				smax			
	comp=E,34nm,0.6s						
YAK				smax			
	comp=Z,65nm,0.4s						
ZAL	**Zalesovo**	**14.71**	**274**	Pn	**Pn**	**02 13 09.9**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=49,slow=8.0,SNR=9.3						
ZAL				Lg		02 17 21.9	
	comp=Z,0.5nm,0.3s,baz=124,slow=21,SNR=1.9						
ZAL				LR	LR	02 19 40.2	
	comp=Z,99nm,21.6s,baz=86,slow=41						
NVS	**Novosibirsk**	**15.35**	**278**	*e*P	**Pn**	**02 13 20.7**	**+2.6**
GTA	**Gaotai**	**17.70**	**207**	*e*P	**Pn**	**02 13 52.8**	**+4.8**
GTA				AP	pP	02 13 56.8	+5.1
GTA				XP	sP	02 13 59.1	+6.1
GTA				AMB	AMB		
	comp=Z,5.0nm,2.0s						
TIXI	**Tiksi**	**17.88**	**19**	*c i*P	**Pn**	**02 13 49.4**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,13nm,0.5s						
TIXI	**Tiksi**	**17.88**	**19**	*e*Pn	**Pn**	**02 13 45.2**	**-5.0**
	comp=Z,14nm,0.5s						
TIXI				*e*Sn	**Sn**	**02 16 54.8**	**-15**
KURK	**Kurchatov**	**19.44**	**268**	*d i*P	**Pn**	**02 14 08.0**	**-1.2**
KURK	**Kurchatov**	**19.44**	**268**	⇓*e*P	**Pn**	**02 14 07.9**	**-1.3**
	comp=Z,22nm,0.8s						
MK31	**Makanchi Array**	**19.48**	**254**	*i* P	**Pn**	**02 14 08.4**	**-1.3**
MK31				pmax	pmax		
	comp=Z,12nm,0.6s						
MK31	**Makanchi Array**	**19.48**	**254**	*e*P	**Pn**	**02 14 07.

MKAR pmax pmax
comp=Z,7.0nm,0.6s
KSRS Korea Array 21.83 139 P P 02 14 36.0 +2.1
comp=Z,0.5nm,0.3s,mb3.4,baz=297,slow=25,SNR=2.7
KSRS LR LR 02 22 06.7
comp=Z,42nm,18.2s,MS2.9,baz=305,slow=34
YSS Yuzh-Sakhalins 21.98 100⇓eP P 02 14 36.3 +0.8
YSS pmax pmax
comp=Z,58nm,2.5s,mb4.6
SEY Seymchan 22.36 54⇑eP P 02 14 42.6 +3.0
BVA0 Borovoye Array 23.12 280 iP P 02 14 46.7 -0.9
BVAR Borovoye Array 23.12 280 P P 02 14 47.1 -0.5
comp=Z,5.0nm,0.5s,mb4.2,baz=69,slow=12,SNR=32
BVAR LR LR 02 24 39.4
comp=Z,79nm,21.2s,MS3.1,baz=138,slow=39
BRVK Borovoye 23.16 280 eP P 02 14 47.1 -1.0
BRVK eS S 02 18 58.4 -1.1
BRVK pmax pmax
comp=Z,33nm,1.2s,mb4.6
BRVK Borovoye 23.16 280 eP P 02 14 47.1 -1.0
comp=Z,33nm,1.2s,mb4.6
BRVK eS S 02 18 58.4 -1.1
ASAJ Asahikawa 23.64 106 LR LR 02 25 13.2
comp=Z,58nm,20.9s,MS3.0,baz=98,slow=39
TKM2 Tokmak 2 25.61 255 P P 02 15 12.9 +1.9
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
AAK Ala-Archa 26.41 255⇑eP P 02 15 19.4 +1.2
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.0
AAK Ala-Archa 26.41 255 eP P 02 15 17.8 -0.3
comp=Z,2.4nm,0.6s,mb3.9
ARU Arti 28.27 293⇓iP P 02 15 36.1 +1.2
ARU e 02 16 25.7
ARU ePPP 02 16 35.2
ARU eS S 02 20 26.1 +5.1
ARU eSS 02 21 46.3
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
KKAR Karatay Array 28.31 260 P P 02 15 41.7 +6.5
AB31 Akbulak array 30.68 279 P P 02 15 55.8 -0.5
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
AKTO Aktyubinsk 31.15 282 P P 02 15 59.7 -0.7
ORR Orenburg 32.35 286 eP P 02 16 10.2 -0.7
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
GUN Gumba 32.81 222 eP P 02 16 18.0 +3.1
JIRN Jiri 32.92 222 eP P 02 16 17.8 +1.9
comp=Z,11nm,0.8s,mb4.8
KKN Kakani 33.15 223 eP P 02 16 20.1 +2.2
comp=Z,26nm,0.7s,mb5.3
GKN Gorkha 33.21 224 eP P 02 16 20.4 +2.0
DMN Daman 33.38 223 eP P 02 16 21.1 +1.2
KOLN Koldanda 33.83 225 eP P 02 16 25.7 +1.9
ARCES ARCESS Array B 37.81 325 P P 02 16 57.1 -0.8
comp=Z,2.3nm,0.6s,mb4.1,baz=68,slow=9.3,SNR=15
ARCES LR LR 02 38 20.1
comp=Z,47nm,18.1s,MS3.3,baz=288,slow=46
JOF Joensuu 38.47 314 ep P 02 17 01.8 -1.8
comp=Z,2.4nm,0.5s,mb4.2
OBN Obninsk 39.97 301 ⇑P P 02 17 15.0 -1.0
OBN 02 18 47.0
OBN 02 19 19.0
OBN S S 02 23 27.0 +5.7
OBN pmax pmax
comp=Z,12nm,1.6s,mb4.4
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.8
KAF Kangasniemi 40.90 314 ep P 02 17 22.4 -1.4
comp=Z,2.8nm,0.4s,mb4.2,baz=60,slow=7.9
KAF Kangasniemi 40.90 314 eP P 02 17 22.4 -1.4
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
FINES FINESS Array B 41.34 314 P P 02 17 26.7 -0.7
comp=Z,5.6nm,0.7s,mb4.3,baz=67,slow=8.9,SNR=27
FINES LR LR 02 36 03.5
comp=Z,37nm,18.1s,MS3.3,baz=155,slow=38
IMA2 Indian Mountai 43.29 36 eP P 02 17 42.4 -0.9
KIV Kislovodsk 43.39 284 d iP P 02 17 44.9 +0.8
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
KIV Kislovodsk 43.39 284 eP P 02 17 42.5 -1.6
comp=Z,6.0nm,0.8s,mb4.4
COLA College 45.96 36⇑eP P 02 18 04.3 -0.3
AKASG Malin Array Be 46.15 299 P P 02 18 05.4 -0.7
comp=Z,2.6nm,0.6s,mb4.3,baz=44,slow=8.8,SNR=16
NB2 NORSAR Subarra 47.38 319 P P 02 18 15.0 -0.7
comp=Z,3.1nm,0.6s,mb4.4,baz=52,slow=7.9
NOA NORSAR Array B 47.38 319 P P 02 18 14.9 -0.8
comp=Z,2.7nm,0.6s,mb4.4,baz=47,slow=7.3,SNR=13
INK Inuvik 47.79 27 P P 02 18 18.5 -0.4
comp=Z,2.5nm,0.9s,mb4.3,baz=4.1,slow=11,SNR=3.9
BURAR Bucovina Array 50.16 299⇑iP P 02 18 37.1 0.0
BRTR Keskin Array B 51.22 286 P P 02 18 45.6 +0.5
comp=Z,2.4nm,0.8s,mb4.2,baz=71,slow=5.4,SNR=13
BRTR Keskin Array B 51.22 286⇑eP P 02 18 48.7 +3.6
MLR Muntele Rosu 51.25 296 LR LR 02 42 44.2
comp=Z,48nm,19.4s,MS3.5,baz=310,slow=39
DRGR 51.97 299⇑iP P 02 18 50.7 0.0
BRG Berggiesshubel 53.22 308 eP P 02 19 00.0 +0.1
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 53.22 308 eP P 02 19 00.0 0.0
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CLL Collm 53.33 309 eP P 02 19 02.0 +1.3
CLL e pP 02 19 05.0 +1.1
BZS Buzias 53.34 299⇑iP P 02 18 59.8 -1.0
KHC Kasperske Hory 54.64 307 eP P 02 19 10.5 +0.2
GERES GERESS Array B 54.79 307 P P 02 19 11.4 0.0
comp=Z,0.7nm,0.7s,mb3.8,baz=32,slow=7.8,SNR=4.9
GERES LR LR 02 44 31.8
comp=Z,43nm,19.8s,MS3.3,baz=22,slow=38
MMAI Mount Meron Ar 55.12 279 LR LR 02 45 56.9
comp=Z,22nm,18.8s,MS3.3,baz=140,slow=40
YKA Yellowknife Ar 57.08 23 P P 02 19 26.5 -1.4
comp=Z,1.1nm,0.6s,mb4.0,baz=333,slow=7.1,SNR=16
ESDC Sonseca Array 69.79 311 P P 02 20 51.8 -0.2
comp=Z,1.9nm,0.8s,mb4.1,baz=26,slow=6.1,SNR=6.4
NVAR Mina Array Bea 77.56 37 P P 02 21 39.0 +1.4
comp=Z,0.5nm,0.6s,mb3.6,baz=347,slow=3.7,SNR=5.1
WRA Warramunga Arr 78.08 157 P P 02 21 40.5 0.0
comp=Z,2.2nm,0.8s,mb4.1,baz=349,slow=6.0,SNR=13
KMBO Kilima Mbogo 81.37 255 P P 02 21 58.5 +0.2
comp=Z,0.5nm,0.4s,mb3.8,baz=90,slow=3.0,SNR=3.6
KMBO Kilima Mbogo 81.37 255 P P 02 21 58.5 +0.2
ASAR Alice Springs 81.59 158 P P 02 21 59.9 +0.4
comp=Z,1.1nm,0.8s,mb3.9,baz=2.2,slow=4.6,SNR=11
TORD Torodi Ar. Bea 89.34 292 P P 02 22 38.5 +0.3
comp=Z,1.5nm,0.9s,mb4.3,baz=29,slow=5.0,SNR=8.7

CSEM 19 02:20:54.4±0.1, 5031N×450W, h2km, ML2.9/12, Error ellipse: s-maj=2.5km s-min=1.6km az=17.0
NEIC 19 02:20:55.0, 5035N×451W, h8km, ML1.8(BGS), ML2.8(LDG), After BGS.
NEIC Felt [III] at Herodsfoot.
LDG 19 02:20:56.2±0.2, 5027N×444W, h10km, Ml2.8/14, Error ellipse: s-maj=3.0km s-min=2.4km az=107.0
BGS 19 02:20:55.0±0.5, 5035N×451W, h8km±166km, ML1.8, 8C-1D, United Kingdom

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CSA1 St Austell 0.24 272⇓iP Pg 02 21 00.0 +0.1
87nm,0.1s
DYA Yadsworthy 0.38 76⇑iP Pg 02 21 02.5 +0.1
DYA eS Sg 02 21 07.5 0.0
DYA AML AML 02 21 07.9
comp=N,157nm,0.1s
DYA AML AML 02 21 09.6
comp=E,87nm,0.1s
DYA Yadsworthy 0.38 76⇑iP Pg 02 21 02.5 +0.1
DYA eS Sg 02 21 07.5 0.0
DYA AML AML 02 21 07.9
comp=N,157nm,0.1s
DYA AML AML 02 21 09.6
comp=E,87nm,0.1s
DYA Yadsworthy 0.38 76⇑iP Pg 02 21 02.5 +0.1
DYA eS Sg 02 21 07.5 0.0
DYA AML AML 02 21 07.9
comp=N,157nm,0.1s
DYA AML AML 02 21 09.6
comp=E,87nm,0.1s
DYA Yadsworthy 0.38 76 P Pg 02 21 02.5 +0.1
DYA S Sg 02 21 07.5 0.0
CRQ2 Rosemanowes 2 0.46 247⇑iP Pg 02 21 03.8 -0.1
CRQ2 eS Sg 02 21 09.5 -0.4
CCA1 Carnmenellis 0.49 251⇑iP Pg 02 21 04.3 -0.1
HTL Hartland 0.65 2⇑iP Pg 02 21 07.3 -0.2
HTL eS Sg 02 21 15.5 -0.5
HTL AML AML 02 21 16.3
comp=N,53nm,0.2s
HTL AML AML 02 21 16.7
comp=E,38nm,0.1s
HTL Hartland 0.65 2⇑iP Pg 02 21 07.3 -0.2
HTL eS Sg 02 21 15.5 -0.5
HTL AML AML 02 21 16.3
comp=N,53nm,0.2s
HTL AML AML 02 21 16.7
comp=E,38nm,0.1s
HTL Hartland 0.65 2⇑iP Pg 02 21 07.3 -0.2
HTL eS Sg 02 21 15.5 -0.5
HTL AML AML 02 21 16.3
comp=N,53nm,0.2s
HTL AML AML 02 21 16.7
comp=E,38nm,0.1s
HTL Hartland 0.65 2 P Pg 02 21 07.3 -0.2
HTL S Sg 02 21 15.5 -0.5
HEX Exmoor 0.85 32 eP Pg 02 21 10.9 -0.5
MCH1 Michaelchurch 1.91 29 eP Pn 02 21 26.6 -1.2
MCH1 AML AML 02 21 54.2
comp=E,6.4nm,0.2s
MCH1 AML AML 02 21 56.3
comp=N,5.8nm,0.3s
SWN1 Swindon 2.08 55 eSg Sg 02 21 59.5 -2.3
SWN1 AML AML 02 22 04.6
comp=E,15nm,0.8s
SWN1 AML AML 02 22 05.0
comp=N,16nm,0.6s
SWN1 Swindon 2.08 55 eSg Sg 02 21 59.5 -2.3
SWN1 AML AML 02 22 04.6
comp=E,15nm,0.8s
SWN1 AML AML 02 22 05.0
comp=N,16nm,0.6s
SWN1 Swindon 2.08 55 eSg Sg 02 21 59.5 -2.3
SWN1 AML AML 02 22 04.6
comp=E,15nm,0.8s
SWN1 AML AML 02 22 05.0
comp=N,16nm,0.6s
ROSF Rostrenen 2.17 158 ePg Pg 02 21 35.3 -1.3
ROSF eSn Sn 02 21 54.3 -4.1
ROSF eSg Sg 02 22 01.7 -3.0
comp=N,18nm,0.3s,SNR=1.0
ROSF Rostrenen 2.17 158 ePn Pn 02 21 29.7 -1.7
ROSF ePg Pg 02 21 35.3 -1.3
ROSF eSn Sn 02 21 54.3 -4.1
ROSF eSg Sg 02 22 01.7 -3.0
ROSF Rostrenen 2.17 158 ePg Pg 02 21 35.3 -1.3
ROSF eSn Sn 02 21 54.3 -4.1
ROSF eSg Sg 02 22 01.7 -3.0
comp=N,8.9nm,0.3s,SNR=1.0
WOL Wolverton 2.30 64 eSg Sg 02 22 05.6 -3.3
WOL AML AML 02 22 08.6
comp=N,9.3nm,0.7s
WOL AML AML 02 22 11.5
comp=E,11nm,0.4s
SGMF Saint Gilles 2.45 148 ePg Pg 02 21 40.2 -1.8
SGMF eSn Sn 02 22 00.7 -4.8
SGMF eSg Sg 02 22 10.3 -3.5
comp=E,10nm,0.3s,SNR=1.0
SGMF Saint Gilles 2.45 148 ePn Pn 02 21 33.4 -1.9
SGMF ePg Pg 02 21 40.2 -1.8
SGMF eSn Sn 02 22 00.7 -4.8
SGMF eSg Sg 02 22 10.3 -3.5
SGMF Saint Gilles 2.45 148 ePg Pg 02 21 40.2 -1.8
SGMF eSn Sn 02 22 00.7 -4.8
SGMF eSg Sg 02 22 10.3 -3.5
comp=E,5.2nm,0.3s,SNR=1.0
QUIF Quistinic 2.59 160 ePg Pg 02 21 42.9 -1.7
QUIF eSn Sn 02 22 04.0 -4.8
QUIF eSg Sg 02 22 14.5 -3.6
comp=E,12nm,0.2s,SNR=1.0
QUIF Quistinic 2.59 160 ePn Pn 02 21 35.2 -1.9
QUIF ePg Pg 02 21 42.9 -1.7
QUIF eSn Sn 02 22 04.0 -4.8
QUIF eSg Sg 02 22 14.5 -3.6
QUIF Quistinic 2.59 160 ePg Pg 02 21 42.9 -1.7
QUIF eSn Sn 02 22 04.0 -4.8
QUIF eSg Sg 02 22 14.5 -3.6
comp=E,5.8nm,0.2s,SNR=1.0
FLN La Foliniere 3.07 120 ePn Pn 02 21 41.9 -1.8
baz=299,SNR=1.0
FLN La Foliniere 3.07 120 ePg Pg 02 21 51.2 -2.5
baz=302,SNR=1.0
FLN eSn Sn 02 22 15.6 -5.0
FLN eSg Sg 02 22 30.2 -3.3
comp=E,5.1nm,0.2s,SNR=1.0
FLN La Foliniere 3.07 120 ePn Pn 02 21 41.9 -1.8
FLN ePg Pg 02 21 51.2 -2.5
FLN eSn Sn 02 22 15.6 -5.0
FLN eSg Sg 02 22 30.2 -3.3
FLN La Foliniere 3.07 120 ePg Pg 02 21 51.2 -2.5
SNR=1.0
FLN eSn Sn 02 22 15.6 -5.0
FLN eSg Sg 02 22 30.2 -3.3
comp=E,2.5nm,0.2s,SNR=1.0
GRR Gorron 3.09 128 ePg Pg 02 21 52.0 -2.2
GRR eSn Sn 02 22 16.6 -4.5
GRR eSg Sg 02 22 30.9 -3.3
comp=E,8.8nm,0.3s,SNR=1.0
GRR Gorron 3.09 128 ePn Pn 02 21 42.3 -1.7
GRR ePg Pg 02 21 52.0 -2.2
GRR eSn Sn 02 22 16.6 -4.5
GRR eSg Sg 02 22 30.9 -3.3
GRR Gorron 3.09 128 ePg Pg 02 21 52.0 -2.2
GRR eSn Sn 02 22 16.6 -4.5
GRR eSg Sg 02 22 30.9 -3.3
comp=E,4.4nm,0.3s,SNR=1.0
LDF La Druitiere 3.36 120 ePg Pg 02 21 56.9 -2.4
SNR=1.0
LDF eSn Sn 02 22 23.2 -4.6
LDF eSg Sg 02 22 38.6 -4.2
comp=E,4.3nm,0.3s,SNR=1.0
LDF La Druitiere 3.36 120 ePn Pn 02 21 46.0 -1.7
LDF ePg Pg 02 21 56.9 -2.4
LDF eSn Sn 02 22 23.2 -4.6
LDF eSg Sg 02 22 38.6 -4.2
LDF La Druitiere 3.36 120 ePg Pg 02 21 56.9 -2.4
SNR=1.0
LDF eSn Sn 02 22 23.2 -4.6
LDF eSg Sg 02 22 38.6 -4.2
comp=E,2.2nm,0.3s,SNR=1.0
MFF Saint Martin d 4.74 141 ePn Pn 02 22 04.3 -2.4
MFF eSn Sn 02 22 55.1 -6.8
MFF eSg Sg 02 23 20.6 -6.6
comp=E,2.9nm,0.4s
MFF Saint Martin d 4.74 141 ePn Pn 02 22 04.3 -2.4
MFF eSn Sn 02 22 55.1 -6.8
MFF eSg Sg 02 23 20.6 -6.6
comp=E,1.5nm,0.4s
BAIF Baives 5.61 90 ePn Pn 02 22 16.1 -2.6
SNR=1.0
BAIF eSn Sn 02 23 17.2 -6.1
comp=E,1.6nm,0.4s,SNR=1.0
BAIF Baives 5.61 90 ePn Pn 02 22 16.1 -2.6
SNR=1.0
BAIF eSn Sn 02 23 17.2 -6.1
comp=E,0.8nm,0.4s,SNR=1.0
GIVF Givet 6.00 89 ePn Pn 02 22 22.2 -1.8
SNR=1.0
GIVF eSn Sn 02 23 26.5 -6.4
TCF Toulx Ste Croi 6.05 130 ePn Pn 02 22 22.5 -2.2
TCF eSn Sn 02 23 26.9 -7.2
comp=E,1.2nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 6.05 130 ePn Pn 02 22 22.5 -2.2
TCF eSn Sn 02 23 26.9 -7.2
comp=E,0.6nm,0.3s,SNR=1.0
BGF Bois d'Agland 6.19 125 ePn Pn 02 22 23.9 -2.8
BGF eSn Sn 02 23 30.9 -6.7
SSF Saint Saulge 6.24 119 ePn Pn 02 22 24.7 -2.7
SNR=1.0
SSF eSn Sn 02 23 32.1 -6.8
AVF Avril sur Loir 6.32 121 ePn Pn 02 22 25.9 -2.5
SNR=1.0
AVF eSn Sn 02 23 33.9 -6.8
comp=E,0.8nm,0.3s,SNR=1.0
AVF Avril sur Loir 6.32 121 ePn Pn 02 22 25.9 -2.5
SNR=1.0
AVF eSn Sn 02 23 33.9 -6.8
comp=E,0.4nm,0.3s,SNR=1.0
LOR Lormes 6.33 116 ePn Pn 02 22 26.6 -2.0
baz=293,SNR=1.0
LOR eSn Sn 02 23 34.3 -6.7
LFF La Frestale 6.47 145 ePn Pn 02 22 27.6 -2.9
LFF eSn Sn 02 23 36.2 -8.3
comp=E,1.3nm,0.3s,SNR=1.0
LFF La Frestale 6.47 145 ePn Pn 02 22 27.6 -2.9
LFF eSn Sn 02 23 36.2 -8.3
comp=E,0.6nm,0.3s,SNR=1.0
RJF Les Rejaudoux 6.47 139 ePn Pn 02 22 28.1 -2.4
SNR=1.0
RJF eSn Sn 02 23 36.3 -8.3
comp=E,2.0nm,0.3s,SNR=1.0
RJF Les Rejaudoux 6.47 139 ePn Pn 02 22 28.1 -2.4
SNR=1.0
RJF eSn Sn 02 23 36.3 -8.3
comp=E,1.0nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 6.51 103 ePn Pn 02 22 28.8 -2.2
baz=286
SMF Signal de Mont 6.67 121 ePn Pn 02 22 31.0 -2.3
SMF eSn Sn 02 23 41.9 -7.6
CAF Calviac 7.01 138 ePn Pn 02 22 35.5 -2.4
SNR=1.0
CAF eSn Sn 02 23 46.9 -11
comp=E,0.8nm,0.2s
SJPF Ste Jean 7.58 161 ePn Pn 02 22 43.2 -2.5
SJPF eSn Sn 02 24 03.0 -8.8
comp=E,1.1nm,0.2s
ETSF Etsaut 7.93 158 eSn Sn 02 24 10.3 -10
CABF La Chapelle 7.97 114 ePn Pn 02 22 48.8 -2.3
EPF Esparros 8.04 154 eSn Sn 02 24 10.8 -12

LDG 19 02:22:26.7±0.3, 4288N×003E, h2km, Md1.3/2, Ml1.2/1, Error ellipse: s-maj=12.8km s-min=1.7km az=167.0
STR 19 02:22:27.2±0.0, 4299N×003E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
CSEM 19 02:22:27.0±0.0, 4300N×000W, h3km, ML1.2/1, Error ellipse: s-maj=1.7km s-min=0.9km az=156.0
MDD 19 02:22:27.4±0.3, 4300N×000E, h0km, mbLg0.2/1, Error ellipse: s-maj=3.0km s-min=2.2km az=145.0, PRXIMO, Pyrenees

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LABF Labassere 0.07 45 Pg Pg 02 22 28.7 -0.1
LABF Sg Sg 02 22 29.9 +0.1
LABF Labassere 0.07 45 P Pg 02 22 28.8 0.0
LABF S Sg 02 22 29.9 +0.2
VIEF Viey 0.11 172 Pg Pg 02 22 29.4 -0.2
VIEF Sg Sg 02 22 31.1 +0.1
VIEF Viey 0.11 172 P Pg 02 22 29.5 -0.1
VIEF S Sg 02 22 31.2 +0.2
EPF Esparros 0.25 82 ePg Pg 02 22 32.0 -0.2
EPF eSg Sg 02 22 35.2 -0.2
3.1nm,0.3s
EPF Esparros 0.25 82 ePg Pg 02 22 32.0 -0.2
EPF eSg Sg 02 22 35.2 -0.2
1.5nm,0.3s
EBIE Bielsa 0.33 162 Pg Pg 02 22 33.4 -0.3
0.3nm,0.0s,SNR=7.4
EBIE Lg 02 22 37.9
0.4nm,0.0s,SNR=7.8
ETSF Etsaut 0.42 257 ePg Pg 02 22 35.1 -0.4
ETSF eSg Sg 02 22 40.7 -0.3
1.5nm,0.3s
ETSF Etsaut 0.42 257 ePg Pg 02 22 35.1 -0.4
ETSF eSg Sg 02 22 40.7 -0.3
0.8nm,0.3s
SJPF Ste Jean 0.91 278 eSg Sg 02 22 57.1 +0.5
0.6nm,0.2s
SJPF Ste Jean 0.91 278 Lg 02 22 57.1
0.3nm,0.2s

VIE 19 02:35:10.8±0.6, 50.14N×18.33E, h0km, mb2.7/5, ML3.2/5, Error ellipse: s-maj=5.4km s-min=3.5km az=146.0 34 km N of Ostrava Suspected Mining induced.
IDC 19 02:35:11.8±0.9, 4994N×1845E, h0km, mb3.2/2, mb1 3.5/8, mb1mx3.4/19, mbtmp3.4/8, ML3.2/6, MS3.3/1, Ms1 3.3/1, ms1mx2.3/16, Error ellipse: s-maj=15.6km s-min=7.1km az=140.0
BGR 19 02:35:11.7±0.3, 5008N×1846E, h1km, ML3.4/7, Error ellipse: s-maj=5.6km s-min=3.3km az=0.0
NEIC 19 02:35:11.5±0.3, 5008N×1842E, h5km, ML3.0(BUC), ML3.5(SZGRF), Error ellipse: s-maj=4.6km s-min=2.7km az=192.0
MOS 19 02:35:11.3±1.8, 50.13N×18.36E, h9km, mb3.9/1, Error ellipse: s-maj=6.4km s-min=5.2km az=111.4
CSEM 19 02:35:11.7±0.1, 50.10N×18.40E, h1km, ML3.8/6, Error ellipse: s-maj=2.2km s-min=1.1km az=179.0
IPEC 19 02:35:11.2±0.2, 5007N×1846E, h0km, Ml2.9/4, Error ellipse: s-maj=2.0km s-min=1.1km az=161.0
PRU 19 02:35:12.4, 5006N×1838E, h0km
WAR 19 02:35:12.2, 5006N×1845E, ML3.1, 4C-16D, Mining Induced, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAC Raciborz 0.17 278⇓iPg Pg 02 35 16.0 +0.6
RAC eSg Sg 02 35 18.9 +1.4
OKC Ostrava-Krasne 0.29 221 ePg Pg 02 35 18.1 +0.2
OKC Ostrava-Krasne 0.29 221 ePG Pg 02 35 17.9 0.0
OKC eSG Sg 02 35 21.6 -0.1
1μm,0.7s
OKC Ostrava-Krasne 0.29 221 ePg Pg 02 35 17.8 -0.1
OKC eSg Sg 02 35 21.6 -0.1
1μm,0.7s
MORC Moravsky Berou 0.65 244 ePg Pg 02 35 24.2 -0.5
MORC eSg Sg 02 35 33.8 +0.8
MORC Moravsky Berou 0.65 244 ⇓P Pg 02 35 24.0 -0.6
MORC Moravsky Berou 0.65 244⇓iP Pg 02 35 24.0 -0.7
MORC Moravsky Berou 0.65 244 ePg Pg 02 35 24.0 -0.7
MORC eSg Sg 02 35 32.1 -1.0
228nm,0.3s
OJC Ojcow 0.88 79 i Pg Pg 02 35 28.3 -0.8
OJC eSg Sg 02 35 40.2 -0.4
OJC Ojcow 0.88 79 ePg Pg 02 35 28.5 -0.6
OJC eSg Sg 02 35 41.1 +0.5
OJC Ojcow 0.88 79 i Pg Pg 02 35 28.3 -0.8
OJC eSg Sg 02 35 40.2 -0.4
OJC Ojcow 0.88 79 Pg Pg 02 35 28.5 -0.6
OJC eSg Sg 02 35 40.2 -0.4
LIKS Likavka 1.10 157 ePN Pn 02 35 33.5 -1.3
LIKS eSN Sn 02 35 49.9 -0.8
JAVC Velka Javorina 1.30 203 eSg Sg 02 35 53.5 -0.6
203nm,0.7s
NIE Niedzica 1.37 117 ePn Pn 02 35 37.3 -1.3
NIE i Pg Pg 02 35 38.3 -0.2
NIE eSg Sg 02 35 58.0 +1.8
NIE Niedzica 1.37 117 ePn Pn 02 35 37.3 -1.3
NIE ePg Pg 02 35 38.3 -0.2
NIE eSg Sg 02 35 58.0 +1.8
DPC Dobruska-Polom 1.40 283 ePg Pn 02 35 37.6 -1.3
DPC eSg Sg 02 35 56.3 -0.8
DPC Dobruska-Polom 1.40 283 ePG Pn 02 35 37.3 -1.6
DPC eSG Sg 02 35 56.2 -0.9
463nm,0.5s
DPC Dobruska-Polom 1.40 283 ePg Pn 02 35 37.6 -1.3
DPC eSg Sg 02 35 55.6 -1.5
VRAC Vranov 1.42 239 Pg Pn 02 35 37.7 -1.6
34nm,0.3s,baz=58,slow=14,SNR=215
VRAC Lg 02 35 56.8
52nm,0.3s,baz=140,slow=18,SNR=15
VRAC Vranov 1.42 239 ⇓P Pn 02 35 37.6 -1.6
VRAC Vranov 1.42 239⇓iP Pn 02 35 37.7 -1.5
VRAC Vranov 1.42 239 ePg Pn 02 35 37.6 -1.6
VRAC eSg Sg 02 35 56.3 -1.5
144nm,0.3s
KSP Ksiaz 1.58 300 ePn Pn 02 35 39.7 -1.8
KSP ePg Pg 02 35 43.0 +0.4
KSP eSg Sg 02 36 02.1 -1.0
KSP Ksiaz 1.58 300 ePg Pn 02 35 39.6 -1.6
KSP eSg Sn 02 36 02.2 -0.9
KSP Ksiaz 1.58 300 Pg Pn 02 35 39.6 -1.6
KSP eSg Sn 02 36 02.1 -0.6
VYHS Vyhne 1.59 171 ePN Pn 02 35 40.0 -1.6
VYHS eSN Sn 02 36 02.9 +0.1

UPC	**Upice**	**1.62 287**	*e*PG	Pn	02 35 40.8	-1.3
UPC			*e*SG	Sn	02 36 03.1	-0.6
KRUC	**Moravsky**	**1.67 234**	*e*Pn	Pn	02 35 40.6	-2.1
KRUC			*e*Sg	Sn	02 36 03.6	-1.2
	77nm,0.2s					
SMOL	**Smolenice**	**1.69 204**	*i* PN	Pn	02 35 41.8	-1.1
SMOL			*e*SN	Sn	02 36 04.4	-0.8
STHS	**Stebnicka Huta**	**1.93 108**	*e*PN	Pn	02 35 45.4	-0.8
STHS			*e*		02 36 15.8	
ZST	**Bratislava**	**2.06 206**	*e*PN	Pn	02 35 47.2	-0.9
ZST			*e*SN	Sn	02 36 12.9	-1.6
KECS	**Kecovo**	**2.07 139**	*i* PN	Pn	02 35 46.9	-1.3
KECS			*e*SN	Sn	02 36 15.8	+1.2
TREC	**Trest**	**2.07 249**	*e*PN	Pn	02 35 46.5	-1.7
TREC			*e*PG	Pb	02 35 48.6	-2.0
CRVS	**Cervenica-Dubn**	**2.28 119**	*e*PN	Pn	02 35 50.7	-0.4
CRVS			*e*SG	Sg	02 36 25.9	+0.4
PENC	**Penc**	**2.34 166**⇓	*e*P	Pn	02 35 51.3	-0.6
PSZ	**Piszkesteto**	**2.35 155**⇓	*i*P	Pn	02 35 51.0	-1.0
PSZ	**Piszkesteto**	**2.35 155**⇓	*e*Pn	Pn	02 35 50.9	-1.1
PSZ			*e*SB	Sg	02 36 28.5	+0.9
PRU	**Pruhonice**	**2.52 270**	*e*PN	Pn	02 35 51.9	-2.5
PRU			*e*PG	Pb	02 35 56.6	-1.7
PRU			*e*SG	Sb	02 36 29.6	-0.2
	48nm,0.5s					
PVCC	**Panska Ves**	**2.53 282**	*e*PN	Pn	02 35 53.5	-1.0
PVCC			*e*PG	Pb	02 35 57.7	-0.8
PVCC			*e*SG	Sg	02 36 31.6	-1.9
BUD	**Budapest**	**2.61 171**⇓	*e*PB	Pb	02 36 00.8	+1.0
BUD			*e*Sg	Sg	02 36 36.5	+0.5
PKSG		**2.67 181**⇓	*e*P	Pn	02 35 55.6	-0.9
SOP	**Sopron**	**2.69 208**⇑	*e*Pn	Pn	02 35 50.8	-5.9
SOP			*e*Sg	Sg	02 36 44.5	+6.0
CONA	**Conrad Observa**	**2.73 220**⇓	*e*Pn	Pn	02 35 55.8	-1.4
	SNR=12					
CONA		⇓	*i*Sg	Sg	02 36 41.5	+1.6
	21nm,0.5s					
KOLS	**Kolonicke sedl**	**2.74 113**	*e*PN	Pn	02 35 55.9	-1.5
KWP	**Kalwaria**	**2.79 97**	*e*Pn	Pn	02 35 57.3	-0.8
KWP			*e*Pg	Pg	02 36 04.9	-0.8
UZH	**Uzhgorod**	**2.89 118**	*e*P	Pn	02 35 59.0	-0.5
UZH			*e*S	Sn	02 36 35.0	0.0
UZH			smax			
	comp=N,60nm,0.8s					
UZH			smax			
	comp=E,50nm,0.8s					
UZH			MLR	MLR		
	comp=Z,42nm,1.2s					
BRG	**Berggiesshubel**	**2.99 288**	*e*Pg	Pg	02 36 06.8	-2.8
BRG			*e*Sg	Sg	02 36 47.0	-1.3
BRG	**Berggiesshubel**	**2.99 288**	PN	Pn	02 36 05.3	+4.4
BRG			PG	Pg	02 36 06.8	-2.7
BRG			SG	Sg	02 36 45.4	-2.9
	comp=Z,21nm,0.4s					
KHC	**Kasperske Hory**	**3.30 255**	*e*PN	Pn	02 36 03.4	-1.7
KHC			*e*PG	Pg	02 36 11.9	-3.6
KHC			*e*SG	Sg	02 36 54.6	-3.7
	comp=Z,48nm,0.6s					
GKP	**Gorka Klasztor**	**3.30 347**	*e*Pn	Pn	02 36 04.8	-0.3
GKP			*e*Pg	Pg	02 36 19.5	+4.0
GEC2	**GERESS Array S**	**3.33 250**	*e*Pn	Pn	02 36 03.4	-2.1
GEC2			*e*Sn	Sn	02 36 43.1	-2.6
GEC2	**GERESS Array S**	**3.33 250**	*e*Pn	Pn	02 36 03.3	-2.2
GEC2			*e*Sn	Sn	02 36 43.1	-2.6
GERES	**GERESS Array B**	**3.33 250**	Pn	Pn	02 36 03.5	-1.9
	comp=Z,0.9nm,0.3s,baz=59,slow=14,SNR=22					
GERES			Pg	Pb	02 36 12.3	+0.2
	comp=Z,6.8nm,0.3s,baz=69,slow=17,SNR=32					
GERES			Lg		02 36 56.2	
	comp=Z,15nm,0.3s,baz=66,slow=27,SNR=17					
GERES	**GERESS Array B**	**3.33 250**	Pg	Pb	02 36 12.3	+0.2
FBE	**Freiberg**	**3.37 287**	*e*Pn	Pn	02 36 04.5	-1.4
ARSA	**Arzberg**	**3.42 216**	*i* Pn	Pn	02 36 06.1	-0.6
	SNR=12					
ARSA	**Arzberg**	**3.42 216**	Pn	Pn	02 36 06.1	-0.6
	comp=Z,11nm,7.0s					
MOA	**Molln**	**3.53 233**⇓	*i*Pn	Pn	02 36 06.7	-1.6
MOA		⇑	*i*Sg	Sg	02 37 06.9	+1.1
	comp=Z,28nm,0.4s					
LVV	**L'vov**	**3.62 92**	*e*P	Pg	02 36 21.0	-0.5
CLL	**Collm**	**3.68 292**	Pn	Pn	02 36 10.0	-0.3
CLL			*e*Pg	Pg	02 36 20.0	-2.8
CLL			*e*Sg	Sg	02 37 10.0	-0.5
CLL	**Collm**	**3.68 292**	*e*(Pn)	Pn	02 36 10.0	-0.3
CLL			*e*Pg	Pg	02 36 20.0	-2.8
CLL			*i* Pgmax		02 36 21.9	
CLL			*e*Sg	Sg	02 37 10.0	-0.5
	comp=Z,111nm,1.4s					
CLL	**Collm**	**3.68 292**	*e*Pg	Pg	02 36 20.0	-2.8
CLL			Sg	Sg	02 37 09.5	-1.0
PKSM	**Moragy**	**3.85 178**⇓	*e*Pn	Pn	02 36 11.6	-1.1
TANN	**Tannenbergstha**	**3.86 278**	*e*Pn	Pn	02 36 10.7	-2.1
TANN			*e*Sg	Sg	02 37 13.6	-2.6
NKC	**Novy Kostel**	**3.86 275**	*e*PN	Pn	02 36 11.7	-1.1
NKC			*e*PN	Pg	02 36 22.6	-3.6
NKC			*e*SG	Sg	02 37 13.4	-2.9
	comp=Z,62nm,0.7s					
WERD	**Werda**	**3.96 278**	*e*Pg	Pg	02 36 24.2	-3.9
ROTZ	**Rotzenmuhle**	**4.04 268**	*e*Pn	Pn	02 36 12.7	-2.6
MANZ	**Manzenberg**	**4.09 271**	*e*Pn	Pn	02 36 14.1	-1.9
DRGR		**4.33 137**⇓	*i*P	Pn	02 36 18.6	-0.7
MOX	**Moxa**	**4.41 280**	*e*Pn	Pn	02 36 18.9	-1.5
MOX	**Moxa**	**4.41 280**	*e*PN	Pn	02 36 18.7	-1.7
MOX			*e*PG	Pg	02 36 33.5	-3.3
MOX			*e*SG	Sg	02 37 32.8	-1.2
GRA1	**Grafenberg Arr**	**4.69 268**	Sg	Sg	02 37 39.1	-3.7
GRF	**Grafenberg Arr**	**4.69 268**	*e*Sg	Sg	02 37 39.1	-3.7
SUW	**Suwalki**	**4.92 35**	*e*Pn	Pn	02 36 26.2	-1.2
BZS	**Buzias**	**4.93 153**⇑	*i*P	Pn	02 36 26.8	-0.7
BURAR	**Bucovina Array**	**5.10 116**⇓	*i*P	Pn	02 36 29.4	-0.4
BSD	**Bornholm Skovb**	**5.50 338**	*i* P	Pn	02 36 33.1	-2.3
BSD			*i* S	Sn	02 37 32.9	-6.4
GZR	**Gura Zlata**	**5.51 146**⇑	*i*P	Pn	02 36 35.7	+0.3
AKASG	**Malin Array Be**	**6.92 81**	Pn	Pn	02 36 52.1	-2.8
	comp=Z,1.3nm,0.3s,baz=270,slow=11,SNR=4.8					
AKASG			Lg		02 38 50.4	
	comp=Z,1.2nm,0.3s,baz=266,slow=26,SNR=5.0					
HFS	**Hagfors**	**10.45 347**	Pn	Pn	02 37 39.5	-3.8
	comp=Z,0.1nm,0.3s,baz=149,slow=15,SNR=3.4					
NOA	**NORSAR Array B**	**11.73 342**	Pn	Pn	02 37 56.5	-4.3
	comp=Z,0.3nm,0.3s,baz=158,slow=11,SNR=2.8					
FINES	**FINESS Array B**	**12.18 18**	Pn	Pn	02 38 02.4	-4.6
	comp=Z,0.4nm,0.3s,baz=189,slow=12,SNR=16					
FINES			Sn	Sn	02 40 12.7	-11
	comp=Z,0.2nm,0.3s,baz=191,slow=21,SNR=4.1					
KAF	**Kangasniemi**	**12.84 17**	*e*p	Pn	02 38 09.2	-6.7
JOF	**Joensuu**	**14.67 24**	*e*p	Pn	02 38 34.0	-7.0
	comp=Z,2.1nm,0.5s					
ARCES	**ARCESS Array B**	**19.83 7**	Pn	Pn	02 39 40.5	-5.4
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=4.5					
TORD	**Torodi Ar. Bea**	**39.28 206**	P	P	02 42 41.8	-0.9
	comp=Z,0.1nm,0.4s,baz=16,slow=7.9,SNR=5.1					
KMBO	**Kilima Mbogo**	**53.48 156**	LR	LR	03 10 33.8	
	comp=Z,28nm,21.4s,baz=92,slow=40					
YKA	**Yellowknife Ar**	**61.78 337**	P	P	02 45 31.7	-0.9
	comp=Z,0.1nm,0.5s,baz=27,slow=7.4,SNR=3.7					

*STR **19** 02:41:07.8±0.7, 4301N×101W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **19** 02:41:08.2±0.1, 4329N×088W, h12km, ML2.5/13, Error ellipse: s-maj=1.3km s-min=1.1km az=140.0*
*LDG **19** 02:41:08.3±0.1, 4329N×093W, h17km, Md2.7/2, Ml2.5/9, Error ellipse: s-maj=2.0km s-min=1.2km az=130.0*
*NEIC **19** 02:41:08.3, 4329N×093W, h17km, ML2.4(STR), ML2.5(LDG), After LDG.*

MDD 19 02:41:08.5±0.2, 4326N×091W, h19km±2km, mbLg1.9/18, 3C, Error ellipse: s-maj=3.0km s-min=1.5km az=13.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.05**	**205**	P	Pg	02 41 12.3	+0.4
ORDF				S	Sg	02 41 14.9	+0.7
LARF	**Larrau**	**0.23**	**195**	P	Pg	02 41 13.9	0.0
LARF				S	Sg	02 41 17.6	-0.1
ATE	**Arette**	**0.23**	**139**	Pg	Pg	02 41 13.6	-0.4
ATE				Sg	Sg	02 41 17.3	-0.4
ATE	**Arette**	**0.23**	**139**	P	Pg	02 41 13.6	-0.4
ATE				S	Sg	02 41 17.2	-0.6
OSSF	**Osses**	**0.26**	**270**	Pg	Pg	02 41 14.2	-0.3
OSSF				Sg	Sg	02 41 18.0	-0.5
OSSF	**Osses**	**0.26**	**270**	P	Pg	02 41 14.2	-0.2
OSSF				S	Sg	02 41 18.0	-0.5
SJPF	**Ste Jean**	**0.27**	**238**	*e*Pg	Pg	02 41 14.5	-0.2
SJPF				*e*Sg	Sg	02 41 18.4	-0.5
	74nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**0.27**	**238**	*e*Pg	Pg	02 41 14.5	-0.2
SJPF				*e*Sg	Sg	02 41 18.4	-0.5
	37nm,0.2s,SNR=1.0						
REYF	**Montagne du Re**	**0.42**	**116**	Pg	Pg	02 41 16.3	-0.9
REYF				Sg	Sg	02 41 22.2	-0.9
REYF	**Montagne du Re**	**0.42**	**116**	P	Pg	02 41 16.4	-0.9
REYF				S	Sg	02 41 22.0	-1.1
EALK	**Alkurruntz**	**0.44**	**265**	⇑Pg	Pg	02 41 17.0	-0.6
	7.6nm,0.1s,SNR=18						
EALK				Lg		02 41 22.6	
	42nm,0.1s,SNR=4.9						
ETSF	**Etsaut**	**0.44**	**144**	*e*Pg	Pg	02 41 16.8	-0.8
ETSF				*e*Sg	Sg	02 41 22.0	-1.7
	22nm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**0.44**	**144**	*e*Pg	Pg	02 41 16.8	-0.8
ETSF				*e*Sg	Sg	02 41 22.0	-1.7
	11nm,0.2s,SNR=1.0						
ELIZ	**Elizondo**	**0.46**	**259**	⇑Pg	Pg	02 41 17.3	-0.7
	8.4nm,0.2s,SNR=18						
ELIZ				Lg		02 41 23.4	
	11nm,0.1s,SNR=14						
FDAF	**Les Forges d'A**	**0.51**	**150**	P	Pg	02 41 18.0	-0.7
FDAF				S	Sg	02 41 24.3	-1.3
EARA	**Aranguren**	**0.69**	**226**	Pg	Pg	02 41 21.9	-0.2
	4.6nm,0.1s,SNR=7.9						
EARA				Lg		02 41 31.0	
	17nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.69**	**226**	Pg	Pg	02 41 21.3	-0.9
	4.6nm,0.1s,SNR=7.9						
VIEF	**Viey**	**0.78**	**118**	Pg	Pg	02 41 22.7	-1.1
VIEF				Sg	Sg	02 41 32.9	-1.2
VIEF	**Viey**	**0.78**	**118**	P	Pb	02 41 22.8	-0.6
VIEF				S	Sb	02 41 32.9	-0.6
EPF	**Esparros**	**0.94**	**104**	*e*Pg	Pg	02 41 26.8	-0.1
EPF				*e*Sg	Sg	02 41 39.4	+0.1
	6.6nm,0.2s,SNR=1.0						
EPF	**Esparros**	**0.94**	**104**	*e*Pg	Pg	02 41 26.8	-0.1
EPF				*e*Sg	Sg	02 41 39.4	+0.1
	3.3nm,0.2s,SNR=1.0						
EBIE	**Bielsa**	**0.96**	**126**	Pg	Pg	02 41 25.8	-1.4
EBIE				Lg		02 41 38.0	
EBIE	**Bielsa**	**0.96**	**126**	⇑Pg	Pg	02 41 25.8	-1.4
	2.5nm,0.1s,SNR=18						
EBIE				Lg		02 41 38.0	
	3.9nm,0.1s,SNR=11						
EBIE	**Bielsa**	**0.96**	**126**	Pg	Pg	02 41 25.8	-1.4
	2.5nm,0.1s,SNR=38						
RESF	**Ens**	**1.02**	**116**	S	Sb	02 41 40.1	-0.4
ECRI	**Cripan**	**1.34**	**242**	Pg	Pg	02 41 33.8	-0.7
	1.8nm,0.1s,SNR=7.9						
ECRI				Lg		02 41 51.1	
	7.7nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.39**	**139**	Pg	Pg	02 41 34.4	-1.0
EGRA				Lg		02 41 49.6	
EGRA	**Graus**	**1.39**	**139**	Pg	Pg	02 41 35.0	-0.4
	0.1nm,0.1s,SNR=7.9						
EGRA				Lg		02 41 49.6	
	0.7nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.39**	**139**	Pg	Pg	02 41 34.4	-1.0
	0.1nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.57**	**168**	Pg	Pg	02 41 37.7	-1.1
ESAC				Lg		02 41 57.0	
ESAC	**San Caprasio**	**1.57**	**168**	Pg	Pg	02 41 37.5	-1.2
	23nm,0.3s,SNR=9.3						
ESAC				Lg		02 41 56.9	
	26nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.57**	**168**	Pg	Pg	02 41 37.7	-1.1
	23nm,0.3s,SNR=9.3						
ELAN	**Lanestosa**	**1.85**	**270**	Pg	Pg	02 41 41.7	-2.3
ELAN				Sn	Sn	02 42 03.6	+1.7
ELAN	**Lanestosa**	**1.85**	**270**	Pg	Pg	02 41 42.9	-1.1
	0.6nm,0.2s,SNR=7.9						
ELAN				Lg		02 42 04.3	
	2.4nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**1.85**	**270**	Pg	Pg	02 41 41.7	-2.3
	0.6nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	02 42 03.6	+1.6
	2.4nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**2.06**	**35**	*e*Pg	Pg	02 41 46.4	-1.7
LFF				*e*Sg	Sg	02 42 13.0	-1.8
	10nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**2.06**	**35**	*e*Pn	Pn	02 41 40.3	-1.8
LFF				*e*Pg	Pg	02 41 46.4	-1.7
LFF				*e*Sg	Sg	02 42 13.0	-1.8
LFF	**La Frestale**	**2.06**	**35**	Pn	Pn	02 41 40.3	-1.8
LFF				Pg	Pg	02 41 46.4	-1.7
LFF				Lg		02 42 13.0	
	5.2nm,0.4s						
LFF	**La Frestale**	**2.06**	**35**	*e*Pg	Pg	02 41 46.4	-1.7
LFF				*e*Sg	Sg	02 42 13.0	-1.8
	5.2nm,0.4s,SNR=1.0						
EMIR	**Miracle**	**2.24**	**126**	Pg	Pg	02 41 46.4	-5.2
	0.8nm,0.3s,SNR=7.9						
EMIR				Sn	Sn	02 42 13.1	+1.4
	1.2nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.24**	**126**	Pn	Pn	02 41 46.3	+1.7
EMIR				Sn	Sn	02 42 13.1	+1.4
	1.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.28**	**87**	*e*Pn	Pn	02 41 43.8	-1.3
	SNR=1.0						
MTLF				*e*Sn	Sn	02 42 09.7	-3.0
	2.1nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**2.28**	**87**	*e*Pn	Pn	02 41 43.8	-1.3
	SNR=1.0						
MTLF				*e*Sn	Sn	02 42 09.7	-3.0
	1.0nm,0.2s,SNR=1.0						
EPOB	**Poblet**	**2.41**	**142**	Pg	Pg	02 41 52.3	-2.4
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	02 42 15.5	-0.3
	0.7nm,0.2s,SNR=7.9						
EPOB				Lg		02 42 21.9	
	1.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.41**	**142**	Pg	Pg	02 41 52.3	-2.4
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	02 42 15.5	-0.3
	0.7nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.48**	**158**	Pg	Pg	02 41 53.6	-2.5
	0.6nm,0.2s,SNR=7.9						
ERTA				Sn	Sn	02 42 16.7	-0.9
	2.3nm,0.3s,SNR=7.9						
ERTA				Lg		02 42 26.4	
	5.2nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.48**	**158**	Pg	Pg	02 41 53.6	-2.5
	0.6nm,0.2s,SNR=7.9						
ERTA				Sn	Sn	02 42 16.7	-0.8
	2.3nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.58**	**200**	Pn	Pn	02 41 50.1	+0.8
	1.2nm,0.4s,SNR=7.9						
ETOR				Pg	Pg	02 41 55.7	-2.3
	1.5nm,0.2s,SNR=6.8						
ETOR				Sn	Sn	02 42 19.1	-1.0
	4.2nm,0.2s,SNR=7.9						
ETOR				Lg		02 42 29.1	
	5.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.58**	**200**	Pg	Pg	02 41 55.7	-2.4
	1.5nm,0.2s,SNR=6.8						
ETOR				Sn	Sn	02 42 19.1	-1.0
	4.2nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.69**	**40**	*e*Pg	Pg	02 41 57.8	-2.3
RJF				*e*Sn	Sn	02 42 18.7	-4.0
	SNR=1.0						
RJF				*e*Sg	Sg	02 42 31.7	-3.2
	4.1nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.69**	**40**	*e*Pn	Pn	02 41 48.9	-1.8
RJF				*e*Pg	Pg	02 41 57.8	-2.3
RJF				*e*Sn	Sn	02 42 18.7	-4.0
RJF				*e*Sg	Sg	02 42 31.7	-3.2
RJF	**Les Rejaudoux**	**2.69**	**40**	Pn	Pn	02 41 48.9	-1.8
RJF				Pg	Pg	02 41 57.8	-2.3
RJF				Sn	Sn	02 42 18.7	-4.0
RJF				Lg		02 42 31.7	
	2.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.69**	**40**	*e*Pn	Pn	02 41 48.9	-1.8
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.69**	**40**	*e*Pg	Pg	02 41 57.8	-2.3
RJF				*e*Sn	Sn	02 42 18.7	-4.0
	SNR=1.0						
RJF				*e*Sg	Sg	02 42 31.7	-3.2
	2.0nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.71**	**51**	*e*Pg	Pg	02 41 58.4	-2.2
CAF				*e*Sn	Sn	02 42 19.4	-4.0
	SNR=1.0						
CAF				*e*Sg	Sg	02 42 34.2	-1.6
	2.0nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.71**	**51**	*e*Pn	Pn	02 41 49.0	-2.1
CAF				*e*Pg	Pg	02 41 58.4	-2.2
CAF				*e*Sn	Sn	02 42 19.4	-4.0
CAF				*e*Sg	Sg	02 42 34.2	-1.6
CAF	**Calviac**	**2.71**	**51**	Pn	Pn	02 41 49.0	-2.1
CAF				Pg	Pg	02 41 58.4	-2.2
CAF				Sn	Sn	02 42 19.4	-4.0
CAF				Lg		02 42 34.2	
	0.0nm,0.2s						
CAF	**Calviac**	**2.71**	**51**	*e*Pn	Pn	02 41 49.0	-2.1
	SNR=1.0						
CAF	**Calviac**	**2.71**	**51**	*e*Pg	Pg	02 41 58.4	-2.2
CAF				*e*Sn	Sn	02 42 19.4	-4.0
	SNR=1.0						
CAF				*e*Sg	Sg	02 42 34.2	-1.6
	1.0nm,0.2s,SNR=1.0						
EMOS	**Mosqueruela**	**2.91**	**173**	Pg	Pg	02 42 00.4	-3.9
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	02 42 27.2	-1.0
	1.8nm,0.4s,SNR=7.9						
EMOS				Lg		02 42 39.1	
	1.0nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.91**	**173**	Pg	Pg	02 42 00.4	-3.9
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	02 42 27.2	-1.0
MFF	**Saint Martin d**	**3.39**	**9**	*e*Pn	Pn	02 41 58.3	-2.0
MFF				*e*Sn	Sn	02 42 35.2	-4.8
	SNR=1.0						
MFF				*e*Sg	Sg	02 42 53.8	-3.6
	1.6nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**3.39**	**9**	*e*Pn	Pn	02 41 58.3	-2.0
MFF				*e*Sn	Sn	02 42 35.2	-4.8
	SNR=1.0						
MFF				*e*Sg	Sg	02 42 53.8	-3.6
	0.8nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**3.55**	**75**	*e*Pn	Pn	02 42 00.7	-1.9
TCF	**Toulx Ste Croi**	**3.76**	**35**	*e*Pn	Pn	02 42 02.8	-2.6
TCF				*e*Sn	Sn	02 42 44.1	-5.0
	SNR=1.0						
TCF				*e*Sg	Sg	02 43 05.6	-3.6
	2.4nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.76**	**35**	*e*Pn	Pn	02 42 02.8	-2.6
TCF				*e*Sn	Sn	02 42 44.1	-5.0
	SNR=1.0						
TCF				*e*Sg	Sg	02 43 05.6	-3.6
	1.2nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**4.24**	**38**	*e*Pn	Pn	02 42 09.9	-2.2
BGF				*e*Sg	Sg	02 43 20.3	-4.4
	7.9nm,0.4s						
BGF	**Bois d'Agland**	**4.24**	**38**	*e*Pn	Pn	02 42 09.9	-2.2
BGF				*e*Sg	Sg	02 43 20.3	-4.4
	4.0nm,0.4s						
VIVF	**Saint-Julien-l**	**4.33**	**66**	*e*Pn	Pn	02 42 11.6	-1.7

*MOS **19** 02:54:12.5±1.9, 5568N×110.11E, h10km, mb4.3/1, Error ellipse: s-maj=27.5km s-min=14.2km az=65.4*

BYKL 19 02:54:13.2±0.3, 5571N×11013E, h4km±5km, 5C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**281**	*e*Pg	Pg	02 54 20.5	+0.8
NIZ				*e*		02 54 24.9	
NIZ				*e*Sg	Sg	02 54 26.2	+2.0
NIZ				Pmax			
	41nm,0.1s						
NIZ				Smax			
	742nm,0.2s						
KMO	**Kumora**	**0.63**	**73**⇑	*i*Pg	Pg	02 54 24.0	-1.3
KMO				*i* Sg	Sg	02 54 32.0	-1.5
KMO				Pmax			
	100nm,0.3s						
KMO				Smax			
	512nm,1.2s						
YOA	**Uoyan**	**0.99**	**64**	*e*PG	Pg	02 54 31.2	-1.0
YOA				*e*		02 54 44.4	
YOA				pmax	pmax		
	comp=Z,94nm,0.2s						
YOA				smax			
	comp=N,875nm,0.3s						
YOA	**Uoyan**	**0.99**	**64**	*i* Sg	Sg	02 54 44.8	-0.3
YOA				*e*		02 54 50.6	
YOA				max			
	comp=N,866nm,0.3s						
YLYR	**Ulyunkhan**	**1.02**	**144**	*e*PG	Pg	02 54 31.1	-1.7
YLYR				*e*		02 54 44.2	
YLYR				pmax	pmax		
	comp=Z,55nm,0.2s						
YLYR				smax			
	comp=N,254nm,0.1s						
YLYR	**Ulyunkhan**	**1.02**	**144**	*e*Pg	Pg	02 54 31.0	-1.8
YLYR				*e*		02 54 31.9	
YLYR				*e*Sg	Sg	02 54 44.1	-2.0
YLYR				max			
	comp=N,81nm,0.2s						
YLYR				Smax			
	comp=N,437nm,0.4s						
SVKR	**Severomuysk**	**1.97**	**77**	*e*PN	Pn	02 54 48.4	+1.0
SVKR				*e*		02 54 50.9	
SVKR				*e*		02 55 13.5	
SVKR				pmax	pmax		
	comp=Z,101nm,0.7s						
SVKR				smax			
	comp=N,447nm,0.7s						
SVKR	**Severomuysk**	**1.97**	**77**	*e*Pn	Pn	02 54 47.8	+0.

UUDB	**Ulan-Yde**	**4.12 202**	*e*Sg	Sg	02 56 20.9	-4.6
UUDB			Smax			
	comp=E,67nm,1.3s					
CIT	**Chita**	**4.21 150**	⇑*i*Pg	Pg	02 55 28.1	-5.9
CIT			*e*Sg	Sg	02 56 24.6	-4.0
CIT			*e*		02 56 26.1	
CIT			Pmax			
	comp=E,31nm,0.9s					
CIT			max			
	comp=E,63nm,0.8s					
HRMR	**Khuramsha**	**4.50 206**	*e*Pn	Pn	02 55 23.2	+1.0
HRMR			*e*Pg	Pg	02 55 32.9	-6.6
HRMR			*e*Sg	Sg	02 56 31.5	-6.4
HRMR			Pmax			
	comp=E,27nm,0.5s					
HRMR			Smax			
	comp=E,172nm,0.5s					
CRS	**Chara**	**4.69 72**	*e*Pg	Pg	02 55 37.6	-5.4
CRS			*e*Sg	Sg	02 56 39.5	-4.3
CRS			Pmax			
	comp=E,18nm,0.8s					
CRS			Smax			
	comp=E,57nm,1.4s					
LSTR	**Listvyanka**	**4.97 221**	*e*Sn	Sn	02 56 23.5	-2.9
LSTR			*e*Sg	Sg	02 56 46.4	-6.3
LSTR			Smax			
	comp=E,68nm,1.2s					
TLY	**Talaya**	**5.58 226**	*e*PN	Pn	02 55 38.6	+1.6
TLY			*e*		02 55 55.0	
TLY			*e*S	Sn	02 56 40.1	-1.4
TLY			*e*		02 57 06.3	
TLY			pmax	pmax		
	comp=Z,10.0nm,0.7s					
TLY			smax			
	comp=E,46nm,1.0s					
TLY	**Talaya**	**5.58 226**	*e*Sn	Sn	02 56 38.3	-3.2
TLY			*e*Sg	Sg	02 57 05.2	-7.2
TLY			Smax			
	comp=E,48nm,1.0s					
TUP	**Tupik**	**5.79 99**	⇑*i*Pn	Pn	02 55 38.8	-1.1
TUP			*e*Sn	Sn	02 56 42.5	-4.2
TUP			*i* Sg	Sg	02 57 13.1	-6.1
TUP			Smax			
	comp=E,39nm,1.6s					
KPC	**Khapcheranga**	**6.17 166**	*e*	Pn	02 55 50.6	+5.5
KPC			*e*Pg	Pg	02 56 03.5	-7.9
KPC			*e*Sg	Sg	02 57 24.0	-7.3
KPC			Pmax			
	comp=E,7.0nm,0.6s					
KPC			Smax			
	comp=E,30nm,1.1s					
ZAK	**Zakamensk**	**6.75 221**	*e*PN	Pn	02 55 50.0	-3.0
ZAK			*e*		02 56 11.2	
ZAK			*e*S	Sn	02 57 07.1	-3.1
ZAK			*e*		02 57 38.7	
ZAK			pmax	pmax		
	comp=Z,2.0nm,0.3s					
ZAK			smax			
	comp=N,46nm,1.3s					
ZAK	**Zakamensk**	**6.75 221**	*e*Sg	Sg	02 57 42.2	-7.6
ZAK			Smax			
	comp=N,45nm,1.3s					
MOY	**Mondy**	**6.77 237**	*e*PN	Pn	02 55 55.2	+1.9
MOY			*e*		02 56 15.5	
MOY			*e*		02 57 43.9	
MOY			pmax	pmax		
	comp=Z,3.0nm,0.2s					
MOY			smax			
	comp=E,43nm,1.4s					
MOY	**Mondy**	**6.77 237**	*e*Sn	Sn	02 57 08.5	-2.3
MOY			*e*Sg	Sg	02 57 41.4	-9.2
MOY			Smax			
	comp=E,45nm,1.6s					
ORL	**Orlik**	**6.85 247**	*e*PN	Pn	02 55 55.1	+0.7
ORL			*e*S	Sn	02 57 09.0	-3.7
ORL			*e*S	Sn	02 57 44.9	+32
ORL			smax			
	comp=N,33nm,0.8s					
ORL	**Orlik**	**6.85 247**	*e*Pn	Pn	02 55 54.7	+0.3
ORL			*e*Sn	Sn	02 57 11.4	-1.3
ORL			*e*Sg	Sg	02 57 44.5	-8.5
ORL			Smax			
	comp=N,34nm,1.2s					

IDC ***19*** *02:55:22.6*±*1.7,2152S*×*17452W,h0km,mb4.0/6, mb1 4.3/6,mb1mx4.1/16,mbtmp4.0/6,MS3.5/4,Ms1 3.5/4, ms1mx3.3/27,Error ellipse: s-maj=70.6km s-min=25.9km az=156.0*

NEIC 19 02:55:29.4±1.0**,2072S**×**17484W,h35**km**,Error ellipse: s-maj=43.5km s-min=15.4km az=142.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.38**	**24**	LR	LR	03 00 04.1	
	comp=Z,338nm,19.4s,baz=45,slow=35						
AFI	**Afiamalu**	**7.38**	**24**	*e*Pn	Pn	02 57 13.5	-1.1
	21nm,0.3s						
AFI				*e*Sn	Sn	02 58 25.6	-11
DZM	**Mont Dzumac**	**17.48**	**262**	LR	LR	03 05 03.8	
	comp=Z,122nm,19.6s,baz=57,slow=33						
TBI	**Tubuai**	**23.66**	**101**	*e*LR	LR	03 05 56.1	
	298nm,30.5s						
PPT	**Papeete**	**24.06**	**87**	*e*LQ		03 05 08.6	
	336nm,29.5s						
PPT				*e*LR	LR	03 06 06.0	
	254nm,27.5s,baz=266						
PPT	**Papeete**	**24.06**	**87**	LR	LR	03 08 10.4	
	comp=Z,174nm,20.9s,baz=261,slow=32						
HNR	**Honiara**	**26.76**	**291**	LR	LR	03 09 59.0	
	comp=Z,86nm,18.2s,baz=180,slow=32						
ASAR	**Alice Springs**	**47.35**	**256**	P	P	03 03 59.8	-0.1
	3.1nm,0.8s,baz=89,slow=8.5,SNR=26						
WB2	**Warramunga Arr**	**47.49**	**262**	*e*P	P	03 04 00.8	-0.2
WRA	**Warramunga Arr**	**47.50**	**262**	P	P	03 04 00.8	-0.2
	3.2nm,0.9s,baz=95,slow=8.0,SNR=32						
MJAR	**Matsushiro Arr**	**72.17**	**322**	P	P	03 06 53.3	+2.7
	2.7nm,1.0s,baz=147,slow=4.7,SNR=4.3						
KSRS	**Korea Array**	**79.04**	**317**	P	P	03 07 34.0	+4.1
	3.1nm,1.0s,baz=131,slow=4.2,SNR=5.9						
NVAR	**Mina Array Bea**	**79.18**	**42**	P	P	03 07 30.9	+0.2
	0.9nm,0.8s,baz=203,slow=6.4,SNR=3.7						
TXAR	**Lajitas Array**	**84.70**	**56**	P	P	03 08 00.8	+1.1
	0.4nm,0.9s,baz=213,slow=6.0,SNR=3.9						
TXAR	**Lajitas Array**	**84.70**	**56**	P	P	03 08 00.8	+1.1
AKASG	**Malin Array Be**	**144.59**	**333**	PKPbc	PKPdf	03 15 01.0	-1.2
	0.8nm,0.5s,baz=34,slow=3.3,SNR=13						
CLL	**Collm**	**148.86**	**350**	*e*P	PKPdf	03 15 10.0	+0.7
CLL	**Collm**	**148.86**	**350**	*e*(PKP)		03 15 10.0	
BRG	**Berggiesshubel**	**149.12**	**349**	*e*P	PKPdf	03 15 12.6	+2.8
	4.9nm,1.3s						
BRG				*e*		03 15 19.7	
	5.2nm,1.4s						
BRTR	**Keskin Array B**	**149.15**	**314**	PKPbc	PKPbc	03 15 14.7	+0.6
	1.6nm,1.0s,baz=132,slow=1.8,SNR=8.8						
BRTR				PKPab	PKPab	03 15 20.1	+1.7
	2.2nm,0.9s,baz=30,slow=3.5,SNR=8.5						
GERES	**GERESS Array B**	**151.11**	**348**	PKPbc	PKPbc	03 15 19.5	+0.7
	0.5nm,0.7s,baz=309,slow=2.8,SNR=4.2						
GERES				PKPab	PKPab	03 15 29.9	+3.4
	0.3nm,0.5s,baz=117,slow=0.3,SNR=3.6						

ISCJB ***19*** *03:11:08.5*±*0.3,5563N*±*002*×*110.14E*±*003,h10km, mb3.7/8,MS2.9/2,Error ellipse: s-maj=3.7km s-min=2.4km az=121.8*

IDC ***19*** *03:11:08.7*±*1.2,5570N*×*110.10E,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.6/24,mbtmp3.7/8,ML3.7/2,MS3.0/2, Ms1 3.0/2,ms1mx2.6/28,Error ellipse: s-maj=28.7km s-min=19.7km az=95.0*

NEIC ***19*** *03:11:09.6*±*0.7,5579N*×*110.19E,h10km,mb4.0/3,Error ellipse: s-maj=14.6km s-min=10.1km az=124.0*

MOS ***19*** *03:11:09.0*±*1.2,5571N*×*110.07E,h13km,mb4.5/3,Error ellipse: s-maj=9.8km s-min=6.4km az=71.5*

BYKL ***19*** *03:11:10.1*±*0.3,5566N*×*110.12E,h1km*±*4km*

ISC 19 03:11:10.1±**0.3,5569N**±**002**×**11015E**±**003,h10**km**,n68,** σ**1**$**30/114,mb3.7/8,MS2.9/2,7C-2D,Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**285**	*e*PG	**Pg**	**03 11 16.4**	**-0.7**
NIZ				*e*		03 11 21.8	
NIZ				pmax	pmax		
	comp=Z,845nm,0.4s						
NIZ				smax			
	comp=N,3μm,0.6s						
NIZ	**Nizh Angarsk**	**0.36**	**285**	*e*Pg	**Pg**	**03 11 16.6**	**-0.5**
NIZ				*e*		03 11 17.1	
NIZ				max		03 11 18.4	
	comp=N,165nm,0.1s						
NIZ				*e*		03 11 20.5	
NIZ				*e*Sg	**Sg**	**03 11 21.1**	**-0.8**
NIZ				max		03 11 23.6	
	comp=N,3μm,0.3s						
KMO	**Kumora**	**0.63**	**71**	*e*PG	**Pg**	**03 11 21.2**	**-1.0**
KMO				*e*		03 11 29.3	
KMO				pmax	pmax		
	comp=Z,281nm,0.2s						
KMO				smax			
	comp=E,572nm,0.4s						
KMO	**Kumora**	**0.63**	**71**	⇓*i*Pg	**Pg**	**03 11 21.2**	**-1.0**
KMO				Pmax		03 11 22.1	
	comp=E,288nm,0.3s						
KMO				*i* Sg	**Sg**	**03 11 29.7**	**-0.8**
KMO				Smax		03 11 42.2	
	comp=E,1μm,0.9s						
YOA	**Uoyan**	**0.99**	**63**	*e*PG	**Pg**	**03 11 28.4**	**-0.8**
YOA				*e*		03 11 42.9	
YOA				pmax	pmax		
	comp=Z,436nm,0.2s						
YOA				smax			
	comp=N,3μm,0.3s						
YOA	**Uoyan**	**0.99**	**63**	*e*Pg	**Pg**	**03 11 28.6**	**-0.6**
YOA				Pmax		03 11 33.8	
	comp=N,548nm,0.2s						
YOA				*e*Sg	**Sg**	**03 11 43.0**	**+0.9**
YOA				*e*		03 11 49.8	
YOA				max		03 11 50.6	
	comp=N,4μm,0.6s						
YLYR	**Ulyunkhan**	**1.00**	**144**	*e*PG	**Pg**	**03 11 27.6**	**-1.7**
YLYR				*e*		03 11 41.0	
YLYR				pmax	pmax		
	comp=Z,221nm,0.1s						
YLYR				smax			
	comp=E,2μm,0.3s						
YLYR	**Ulyunkhan**	**1.00**	**144**	*e*Pg	**Pg**	**03 11 27.6**	**-1.7**
YLYR				Pmax		03 11 32.8	
	comp=E,369nm,0.7s						
YLYR				*e*Sg	**Sg**	**03 11 41.4**	**-0.9**
YLYR				*e*		03 11 47.5	
YLYR				max		03 11 48.3	
	comp=E,1μm,0.2s						
YLYR				*e*L		03 11 50.7	
SVKR	**Severomuysk**	**1.97**	**76**	*e*PN	**Pn**	**03 11 45.0**	**+1.5**
SVKR				*e*		03 11 46.3	
SVKR				*e*		03 12 11.1	
SVKR				pmax	pmax		
	comp=Z,394nm,0.8s						
SVKR				smax			
	comp=N,3μm,1.0s						
SVKR	**Severomuysk**	**1.97**	**76**	*e*Pn	**Pn**	**03 11 45.0**	**+1.5**
SVKR				⇓*i*Pg	**Pg**	**03 11 46.3**	**-1.5**
SVKR				Pmax		03 11 48.9	
	comp=N,503nm,1.4s						
SVKR				*e*Sg	**Sg**	**03 12 12.6**	**-0.8**
SVKR				Smax		03 12 14.9	
	comp=N,3μm,1.1s						
SYVR	**Suvo**	**2.03**	**183**	*e*PN	**Pn**	**03 11 46.4**	**+2.0**
SYVR				*e*		03 12 15.2	
SYVR				pmax	pmax		
	comp=Z,491nm,0.5s						
SYVR				smax			
	comp=N,1μm,0.8s						
SYVR	**Suvo**	**2.03**	**183**	*e*Pn	**Pn**	**03 11 45.6**	**+1.2**
SYVR				⇑*i*Pg	**Pg**	**03 11 46.3**	**-2.8**
SYVR				Pmax		03 11 46.9	
	comp=N,609nm,0.8s						
SYVR				*e*Sg	**Sg**	**03 12 14.1**	**-1.4**
SYVR				Smax		03 12 18.7	
	comp=N,2μm,1.1s						
OGRR	**Ongureny**	**2.53**	**217**	*e*PN	**Pn**	**03 11 51.9**	**+0.7**
OGRR				*e*		03 11 55.4	
OGRR				*e*		03 12 28.2	
OGRR				pmax	pmax		
	comp=Z,81nm,0.6s						
OGRR				smax			
	comp=N,580nm,1.0s						
OGRR	**Ongureny**	**2.53**	**217**	*e*Pn	**Pn**	**03 11 52.5**	**+1.3**
OGRR				*e*Pg	**Pg**	**03 11 54.3**	**-4.3**
OGRR				Pmax		03 11 56.8	
	comp=N,60nm,0.4s						
OGRR				*e*Sn	**Sn**	**03 12 23.7**	**+1.7**
OGRR				*e*Sg	**Sg**	**03 12 28.0**	**-3.3**
OGRR				Smax		03 12 29.8	
	comp=N,574nm,0.4s						
BOD	**Bodaibo**	**3.01**	**43**	*e*PN	**Pn**	**03 11 58.6**	**+0.7**
BOD				*e*		03 12 04.0	
BOD				*e*		03 12 41.4	
BOD				pmax	pmax		
	comp=Z,79nm,0.7s						
BOD				smax			
	comp=N,465nm,0.5s						
ZRHB	**Zarechye**	**3.60**	**211**	*e*Pn	**Pn**	**03 12 07.9**	**+2.0**
ZRHB				max		03 12 21.4	
	comp=N,124nm,1.0s						
ZRHB				*e*Sg	**Sg**	**03 13 00.9**	**-4.8**
ZRHB				Smax		03 13 11.0	
	comp=N,1μm,0.9s						
TRG	**Tyrgan**	**3.68**	**219**	*e*PN	**Pn**	**03 12 08.2**	**+1.1**
TRG				*e*		03 12 17.0	
TRG				*e*S	**Sn**	**03 12 51.7**	**+1.1**
TRG				*e*		03 13 05.1	
TRG				pmax	pmax		
	comp=Z,26nm,0.2s						
TRG				smax			
	comp=E,211nm,0.4s						
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	**Pn**	**03 12 08.6**	**+1.5**
TRG				max		03 12 12.0	
	comp=E,47nm,0.4s						
TRG				*e*Sn	**Sn**	**03 12 53.1**	**+2.5**
TRG				*e*Sg	**Sg**	**03 13 03.1**	**-5.3**
TRG				Smax		03 13 12.1	
	comp=E,215nm,0.9s						
TRTB	**Turuntaevo**	**3.77**	**204**	*e*Pn	**Pn**	**03 12 09.4**	**+1.1**
TRTB				*e*Pg	**Pg**	**03 12 16.8**	**-5.5**
TRTB				Pmax		03 12 22.3	
	comp=E,62nm,0.8s						
TRTB				*e*Sn	**Sn**	**03 12 53.0**	**+0.3**
TRTB				*e*Sg	**Sg**	**03 13 05.5**	**-5.6**
TRTB				Smax		03 13 08.2	
	comp=E,407nm,1.1s						
UUDB	**Ulan-Yde**	**4.10**	**202**	*e*Pn	**Pn**	**03 12 15.0**	**+2.2**
UUDB				*e*Pg	**Pg**	**03 12 22.7**	**-6.0**
UUDB				Pmax		03 12 28.1	
	comp=E,66nm,1.3s						
UUDB				*e*Sg	**Sg**	**03 13 15.1**	**-6.7**
UUDB				Smax		03 13 28.0	
	comp=E,403nm,1.3s						
CIT	**Chita**	**4.19**	**150**	*e*PN	**Pn**	**03 12 14.6**	**+0.6**
CIT				*e*		03 12 25.0	
CIT				*e*		03 13 19.2	
CIT				pmax	pmax		
	comp=Z,163nm,1.3s						
CIT				smax			
	comp=E,239nm,1.2s						
CIT	**Chita**	**4.19**	**150**	*e*Pn	**Pn**	**03 12 14.4**	**+0.4**
CIT				*e*Pg	**Pg**	**03 12 25.0**	**-5.3**
CIT				Pmax		03 12 26.3	
	comp=E,162nm,1.2s						
CIT				*i* Sg	**Sg**	**03 13 19.1**	**-5.5**
CIT				Smax		03 13 28.4	
	comp=E,235nm,1.3s						
KAB	**Kabansk**	**4.19**	**211**	*e*Sg	**Sg**	**03 13 19.7**	**-4.9**
KAB				Smax		03 13 25.4	
	comp=E,965nm,0.8s						
HRMR	**Khuramsha**	**4.49**	**206**	*e*Pn	**Pn**	**03 12 19.5**	**+1.4**
HRMR				*e*Pg	**Pg**	**03 12 29.9**	**-6.2**
HRMR				Pmax		03 12 34.4	
	comp=E,104nm,0.7s						
HRMR				*e*		03 13 12.0	
HRMR				*e*Sg	**Sg**	**03 13 27.2**	**-7.0**
HRMR				Smax		03 13 38.9	
	comp=E,679nm,1.0s						
CRS	**Chara**	**4.68**	**72**	*e*PN	**Pn**	**03 12 22.2**	**+1.4**
CRS				*e*		03 12 35.3	
CRS				*e*		03 13 36.1	
CRS				pmax	pmax		
	comp=Z,107nm,1.1s						
CRS				smax			
	comp=E,268nm,1.5s						
CRS	**Chara**	**4.68**	**72**	*e*Pn	**Pn**	**03 12 21.9**	**+1.1**
CRS				*e*Pg	**Pg**	**03 12 35.2**	**-4.6**
CRS				Pmax		03 12 39.1	
	comp=E,107nm,1.2s						
CRS				*e*Sg	**Sg**	**03 13 36.0**	**-4.5**
CRS				Smax		03 13 42.1	
	comp=E,272nm,1.5s						
IRK	**Irkutsk**	**4.89**	**228**	*e*PN	**Pn**	**03 12 23.3**	**-0.4**
IRK				*e*S	**Sn**	**03 13 19.7**	**-0.7**
IRK				*e*		03 13 42.2	
IRK				smax			
	comp=N,680nm,0.8s						
IRK	**Irkutsk**	**4.89**	**228**	*e*	**Sn**	**03 13 21.2**	**+0.8**
IRK				*e*Sg	**Sg**	**03 13 41.5**	**-5.7**
IRK				Smax		03 13 52.6	
	comp=N,694nm,1.0s						
LSTR	**Listvyanka**	**4.96**	**222**	*e*Pn	**Pn**	**03 12 25.9**	**+1.3**
LSTR				max		03 12 36.6	
	comp=N,39nm,1.2s						
LSTR				*e*Sn	**Sn**	**03 13 22.2**	**+0.3**
LSTR				*e*Sg	**Sg**	**03 13 42.6**	**-6.6**
LSTR				Smax		03 13 47.5	
	comp=N,316nm,1.3s						
TLY	**Talaya**	**5.57**	**227**	*e*PN	**Pn**	**03 12 33.2**	**+0.2**
TLY				*e*		03 12 49.4	
TLY				*e*S	**Sn**	**03 13 35.2**	**-1.9**
TLY				*e*		03 13 59.9	
TLY				pmax	pmax		
	comp=Z,17nm,0.5s						
TLY				smax			
	comp=E,152nm,0.9s						
TLY	**Talaya**	**5.57**	**227**	*e*Pn	**Pn**	**03 12 31.9**	**-1.1**
	comp=E,17nm,0.6s						
TLY	**Talaya**	**5.57**	**227**	*e*Pn	**Pn**	**03 12 33.2**	**+0.2**
TLY				*e*Sn	**Sn**	**03 13 36.3**	**-0.8**
TLY				*e*Sg	**Sg**	**03 13 59.9**	**-9.0**
TLY				Smax		03 14 06.6	
	comp=E,149nm,0.7s						
TUP	**Tupik**	**5.78**	**99**	*e*PN	**Pn**	**03 12 36.2**	**+0.4**
TUP				*e*		03 12 54.2	
TUP				*e*S	**Sn**	**03 13 41.1**	**-1.0**
TUP				*e*		03 14 09.0	
TUP				pmax	pmax		
	comp=Z,30nm,1.1s						
TUP				smax			
	comp=N,187nm,1.4s						
TUP	**Tupik**	**5.78**	**99**	*e*Pn	**Pn**	**03 12 36.1**	**+0.3**
TUP				*e*Pg	**Pg**	**03 12 54.7**	**-6.0**
TUP				Pmax		03 13 00.5	
	comp=N,18nm,1.4s						
TUP				*e*Sn	**Sn**	**03 13 41.0**	**-1.1**
TUP				*e*Sg	**Sg**	**03 14 09.6**	**-5.9**
TUP				Smax		03 14 24.5	
	comp=N,191nm,0.8s						
ARS	**Arshan**	**5.93**	**234**	*e*PN	**Pn**	**03 12 38.7**	**+0.7**
ARS				*e*S	**Sn**	**03 13 44.6**	**-1.3**
ARS				*e*S	**Sg**	**03 14 13.4**	**-7.1**
ARS				smax			
	comp=E,898nm,0.8s						
KPC	**Khapcheranga**	**6.14**	**166**	*e*PN	**Pn**	**03 12 41.1**	**+0.2**
KPC				*e*		03 13 00.3	
KPC				*e*		03 14 20.6	
KPC				pmax	pmax		
	comp=Z,32nm,1.1s						
KPC				smax			
	comp=E,142nm,1.2s						
KPC	**Khapcheranga**	**6.14**	**166**	*e*Pn	**Pn**	**03 12 41.8**	**+0.9**
KPC				*e*Pg	**Pg**	**03 13 00.2**	**-7.5**
KPC				Pmax		03 13 02.2	
	comp=E,30nm,1.1s						
KPC				*e*Sg	**Sg**	**03 14 20.4**	**-6.9**
KPC				Smax		03 14 30.4	
	comp=E,142nm,1.0s						
ZAK	**Zakamensk**	**6.74**	**221**	*e*PN	**Pn**	**03 12 50.5**	**+1.5**
ZAK				*e*		03 13 08.2	
ZAK				*e*S	**Sn**	**03 14 06.0**	**+0.2**
ZAK				*e*		03 14 35.8	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZAK				smax			
	comp=N,170nm,1.3s						
MOY	**Mondy**	**6.77**	**237**	⇑*i*PN	**Pn**	**03 12 51.7**	**+2.3**
MOY				*e*		03 13 12.8	
MOY				*e*		03 14 38.5	
MOY				pmax	pmax		
	comp=Z,29nm,0.4s						
MOY				smax			
	comp=E,195nm,1.6s						
MOY	**Mondy**	**6.77**	**237**	⇑*i*Pn	**Pn**	**03 12 51.6**	**+2.2**
MOY				max		03 13 00.9	
	comp=E,45nm,1.0s						
MOY				*e*Sn	**Sn**	**03 14 05.2**	**-1.3**
MOY				*e*Sg	**Sg**	**03 14 38.2**	**-9.1**
MOY				Smax		03 14 54.2	
	comp=E,182nm,1.8s						
ORL	**Orlik**	**6.85**	**247**	*e*PN	**Pn**	**03 12 52.2**	**+1.7**
ORL				*e*S	**Sg**	**03 14 42.5**	**-7.4**
ORL				smax			
	comp=N,240nm,1.1s						
ORL	**Orlik**	**6.85**	**247**	*e*Pn	**Pn**	**03 12 51.9**	**+1.4**
ORL				max		03 12 55.6	
	comp=N,26nm,1.0s						
ORL				*e*Sn	**Sn**	**03 14 08.6**	**+0.1**
ORL				*e*Sg	**Sg**	**03 14 42.6**	**-7.3**
ORL				Smax		03 14 45.2	
	comp=N,239nm,1.0s						
SONM	**Songino Array**	**8.20**	**198**	Pn	**Pn**	**03 13 10.6**	**+1.5**
	comp=N,0.4nm,0.3s,baz=7.6,slow=13,SNR=13						
SONM				Sn	**Sn**	**03 14 41.1**	**-0.7**
	comp=N,0.4nm,0.3s,baz=20,slow=26,SNR=3.8						
SONM				Lg		03 15 28.5	
	comp=N,1.3nm,0.3s,baz=20,slow=27,SNR=9.3						
SONM				LR	LR	03 16 28.1	
	comp=N,120nm,18.3s,baz=202,slow=39						
SONM	**Songino Array**	**8.20**	**198**	PN	**Pn**	**03 13 10.6**	**+1.5**
SONM						03 14 41.1	
HIA	**Hailar**	**8.69**	**134**	⇑*e*PN	**Pn**	**03 13 17.8**	**+2.0**
HIA	**Hailar**	**8.69**	**134**	*e*Sg	Sx	03 15 38.3	
KRAR	**Krasnoyarsk**	**9.72**	**279**	⇑*e*P	**Pn**	**03 13 28.6**	**-1.4**
ZAL	**Zalesovo**	**14.70**	**274**	Pn	**Pn**	**03 14 38.0**	**0.0**
	baz=37,slow=12,SNR=5.1						
ZAL				Lg		03 18 52.0	
	baz=122,slow=19,SNR=2.4						
ZAL	**Zalesovo**	**14.70**	**274**	Pn	**Pn**	**03 14 38.0**	**0.0**
ZAL				Lg		03 18 52.0	
TIXI	**Tiksi**	**17.89**	**19**	⇑*e*P	**Pn**	**03 15 21.3**	**+2.3**
TIXI	**Tiksi**	**17.89**	**19**	*e*Pn	**Pn**	**03 15 14.8**	**-4.2**
	comp=N,9.7nm,1.1s						
KURK	**Kurchatov**	**19.43**	**268**	*c i*P	**Pn**	**03 15 36.7**	**-1.0**
KURK	**Kurchatov**	**19.43**	**268**	*e*P	**Pn**	**03 15 36.4**	**-1.3**
	comp=N,9.0nm,0.8s						
MK31	**Makanchi Array**	**19.46**	**254**	*e*P	**Pn**	**03 15 36.6**	**-1.5**
MKAR	**Makanchi Array**	**19.46**	**254**	P	**Pn**	**03 15 37.2**	**-1.0**
	comp=N,0.4nm,0.3s,baz=58,slow=9.3,SNR=25						
MKAR	**Makanchi Array**	**19.46**	**254**	P	**Pn**	**03 15 37.2**	**-1.0**
KSRS	**Korea Array**	**21.84**	**139**	LR	LR	03 25 26.1	
	comp=N,24nm,19.3s,MS2.6,baz=15,slow=39						
BVAR	**Borovoye Array**	**23.10**	**280**	P	**P**	**03 16 14.8**	**-1.3**
	comp=N,1.4nm,0.5s,mb3.6,baz=67,slow=11,SNR=9.6						
BRVK	**Borovoye**	**23.15**	**280**	*e*P	**P**	**03 16 15.5**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**23.15**	**280**	*e*P	**P**	**03 16 15.5**	**-1.1**
	comp=Z,4.8nm,0.9s,mb3.9						
FINES	**FINESS Array B**	**41.33**	**314**	P	**P**	**03 18 54.8**	**-1.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=72,slow=8.2,SNR=4.4						
FINES	**FINESS Array B**	**41.33**	**314**	*i* P	**P**	**03 18 55.5**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIV	**Kislovodsk**	**43.38**	**284**	*e*P	**P**	**03 19 14.4**	**+1.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
KIV				MLR	MLR		
	comp=Z,21nm,16.0s,MS3.1						
NOA	**NORSAR Array B**	**47.38**	**319**	P	**P**	**03 19 43.9**	**-0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=49,slow=7.4,SNR=3.0						
YKA	**Yellowknife Ar**	**57.10**	**23**	P	**P**	**03 20 55.9**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.4,baz=332,slow=6.9,SNR=5.3						
WRA	**Warramunga Arr**	**78.08**	**157**	P	**P**	**03 23 09.1**	**0

comp=Z,0.5nm,0.9s,mb3.9,baz=84,slow=4.5,SNR=2.7

*ISCJB **19** 03:17:22.4±0.3,4833N±002×658E±002,h15km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=0.7*
*CSEM **19** 03:17:24.1±0.1,4835N×665E,h10km,ML2.4/14,Error ellipse: s-maj=1.0km s-min=0.8km az=24.0*
*LDG **19** 03:17:24.3±0.0,4834N×664E,h12km,Md2.7/4,Ml2.5/15, Error ellipse: s-maj=1.0km s-min=0.7km az=161.0*
*NEIC **19** 03:17:24.3,4834N×664E,h12km,ML2.1(STR), ML2.5(LDG),After LDG.*
*STR **19** 03:17:24.4±0.1,4833N×667E,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **19** 03:17:25.8±1.0,4842N×680E,h5km,ML1.8/3,Error ellipse: s-maj=11.1km s-min=4.4km az=33.0*

ISC 19 03:17:23.2±0.3,4834N±002×664E±002,h19km±3km,n59, σ0=93/118,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.37**	**109**	Pg	**Pg**	**03 17 31.3**	**+0.3**
ECH				Sg	**Sg**	**03 17 35.9**	**-0.4**
HAU	**Haudompre**	**0.39**	**210**	*e*Pg	**Pg**	**03 17 32.0**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 17 37.4**	**+0.6**
	69nm,0.3s						
HAU	**Haudompre**	**0.39**	**210**	*e*Pg	**Pg**	**03 17 32.0**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 17 37.4**	**+0.6**
	35nm,0.3s						
CDF	**Champ du Feu**	**0.43**	**80**	*e*Pg	**Pg**	**03 17 32.3**	**+0.2**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 17 37.8**	**-0.3**
	25nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**03 17 41.5**	**+3.4**
	SNR=1.0						
CDF	**Champ du Feu**	**0.43**	**80**	*e*Pg	**Pg**	**03 17 32.3**	**+0.2**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 17 37.8**	**-0.3**
	12nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sg**	**03 17 41.5**	**+3.4**
	SNR=1.0						
THEF	**They Montfort**	**0.45**	**256**	Pg	**Pg**	**03 17 33.0**	**+0.6**
THEF				Sg	**Sg**	**03 17 39.8**	**+1.2**
HINF	**Hinteralfeld**	**0.54**	**164**	*e*Pg	**Pg**	**03 17 34.5**	**+0.4**
HINF				*e*Sg	**Sg**	**03 17 41.5**	**0.0**
	43nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**03 17 44.3**	**+2.8**
	SNR=1.0						
HINF	**Hinteralfeld**	**0.54**	**164**	*e*Pg	**Pg**	**03 17 34.5**	**+0.4**
HINF				*e*Sg	**Sg**	**03 17 41.5**	**0.0**
	21nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**03 17 44.3**	**+2.8**
	SNR=1.0						
MOF	**Molkenrain**	**0.59**	**146**	Pg	**Pg**	**03 17 35.4**	**+0.4**
RFYF	**Reffroy**	**0.82**	**291**	*e*Pn	**Pn**	**03 17 40.3**	**+0.5**
RFYF				*e*Sg	**Sg**	**03 17 51.2**	**+0.9**
	41nm,0.2s						
RFYF	**Reffroy**	**0.82**	**291**	*e*Pn	**Pn**	**03 17 40.3**	**+0.5**
RFYF				*e*Sg	**Sg**	**03 17 51.2**	**+0.9**
	20nm,0.2s						
LOMF	**Lomont**	**1.00**	**173**	Pg	**Pg**	**03 17 43.4**	**+0.8**
LOMF				Sg	**Sg**	**03 17 56.8**	**+1.0**
LANF	**Langenberg**	**1.01**	**50**	Pg	**Pg**	**03 17 43.6**	**+0.8**
LANF				Sg	**Sg**	**03 17 57.0**	**+1.0**
BBS	**Basel-Blauen**	**1.05**	**146**	Pg	**Pg**	**03 17 44.3**	**+0.6**
BBS				Sg	**Sg**	**03 17 58.4**	**+0.8**
MEZF	**Maizieres J'vi**	**1.07**	**279**	*e*Pg	**Pg**	**03 17 44.4**	**+0.4**
	baz=101						
MEZF	**Maizieres J'vi**	**1.07**	**279**	*e*P	**Pb**	**03 17 45.3**	**+2.2**
MEZF				*e*Sg	**Sg**	**03 17 57.7**	**-0.3**
	18nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.07**	**279**	*e*Pg	**Pg**	**03 17 44.4**	**+0.4**
MEZF				*e*P		03 17 45.3	
MEZF				*e*Sg	**Sg**	**03 17 57.7**	**-0.3**
MEZF	**Maizieres J'vi**	**1.07**	**279**	*e*P	**Pb**	**03 17 45.3**	**+2.2**
MEZF				*e*Sg	**Sg**	**03 17 57.7**	**-0.3**
	8.9nm,0.3s,SNR=1.0						
SFTF	**Sexfontaines**	**1.08**	**263**	*e*Pn	**Pn**	**03 17 43.8**	**+0.5**
	baz=92						
SFTF	**Sexfontaines**	**1.08**	**263**	*e*Pg	**Pg**	**03 17 44.5**	**+0.4**
SFTF				*e*Sg	**Sg**	**03 17 58.7**	**+0.5**
	13nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**263**	*e*Pn	**Pn**	**03 17 43.8**	**+0.5**
SFTF				*e*Pg	**Pg**	**03 17 44.5**	**+0.4**
SFTF				*e*Sg	**Sg**	**03 17 58.7**	**+0.5**
SFTF	**Sexfontaines**	**1.08**	**263**	*e*Pg	**Pg**	**03 17 44.5**	**+0.4**
SFTF				*e*Sg	**Sg**	**03 17 58.7**	**+0.5**
	6.5nm,0.2s						
BFO	**Black Forest**	**1.13**	**90**	*e*Pg	**Pg**	**03 17 45.4**	**+0.2**
	SNR=5.5						
BFO				*e*Sg	**Sg**	**03 17 58.4**	**-1.6**
	SNR=12						
BFO	**Black Forest**	**1.13**	**90**	*e*Pg	**Pg**	**03 17 45.4**	**+0.3**
BFO				*e*Sg	**Sg**	**03 17 57.8**	**-2.2**
WLF	**Walferdange**	**1.36**	**347**	*e*Pg	**Pg**	**03 17 50.6**	**+1.0**
	SNR=1.4						
WLF				*e*Sg	**Sg**	**03 18 07.4**	**0.0**
	SNR=2.6						
STU	**Stuttgart**	**1.75**	**75**	*e*Sg	**Sg**	**03 18 17.6**	**-2.2**
	SNR=2.3						
CABF	**La Chapelle**	**1.77**	**192**	*e*Pg	**Pg**	**03 17 57.7**	**+0.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**03 18 19.8**	**-0.5**
	11nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**1.77**	**192**	*e*Pn	**Pn**	**03 17 53.7**	**+0.9**
CABF				*e*Pg	**Pg**	**03 17 57.7**	**+0.4**
CABF				*e*Sg	**Sg**	**03 18 19.8**	**-0.5**
CABF	**La Chapelle**	**1.77**	**192**	*e*Pg	**Pg**	**03 17 57.7**	**+0.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**03 18 19.8**	**-0.5**
	5.3nm,0.5s,SNR=1.0						
GIVF	**Givet**	**2.13**	**327**	*e*Pg	**Pg**	**03 18 03.9**	**-0.2**
GIVF				*e*Sg	**Sg**	**03 18 30.4**	**-1.3**
	2.2nm,0.2s,SNR=1.0						
GIVF	**Givet**	**2.13**	**327**	*e*P	**Pn**	**03 18 00.4**	**+2.7**
GIVF				*e*Pg	**Pg**	**03 18 03.9**	**-0.2**
GIVF				*e*Sg	**Sg**	**03 18 30.4**	**-1.3**
GIVF	**Givet**	**2.13**	**327**	*e*Pg	**Pg**	**03 18 03.9**	**-0.2**
GIVF				*e*Sg	**Sg**	**03 18 30.4**	**-1.3**
	1.1nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.16**	**241**	*e*Pn	**Pn**	**03 17 58.4**	**+0.2**
	baz=61,SNR=1.0						
LOR	**Lormes**	**2.16**	**241**	*e*Pg	**Pg**	**03 18 04.5**	**-0.2**
	baz=60,SNR=1.0						
LOR				*e*Sg	**Sg**	**03 18 32.8**	**+0.1**
	7.8nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.16**	**241**	*e*Pn	**Pn**	**03 17 58.4**	**+0.2**
LOR				*e*Pg	**Pg**	**03 18 04.5**	**-0.2**
LOR				*e*Sg	**Sg**	**03 18 32.8**	**+0.1**
LOR	**Lormes**	**2.16**	**241**	*e*Pg	**Pg**	**03 18 04.5**	**-0.2**
	baz=60,SNR=1.0						
LOR				*e*Sg	**Sg**	**03 18 32.8**	**+0.1**
	3.9nm,0.2s,SNR=1.0						
TNS	**Taunus Mts**	**2.23**	**32**	*e*Sg	**Sg**	**03 18 32.9**	**-2.0**
	SNR=3.6						
BAIF	**Baives**	**2.34**	**318**	*e*Pg	**Pg**	**03 18 08.0**	**-0.2**
BAIF				*e*Sg	**Sg**	**03 18 37.5**	**-1.2**
	2.9nm,0.4s,SNR=1.0						
BAIF	**Baives**	**2.34**	**318**	*e*Pg	**Pg**	**03 18 08.0**	**-0.2**
BAIF				*e*Sg	**Sg**	**03 18 37.5**	**-1.2**
	1.5nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**03 18 10.1**	**-0.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**03 18 42.4**	**-0.3**
	4.1nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pn	**Pn**	**03 18 02.9**	**+0.4**
SSF				*e*Pg	**Pg**	**03 18 10.1**	**-0.5**
SSF				*e*Sg	**Sg**	**03 18 42.4**	**-0.3**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**03 18 10.1**	**-0.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**03 18 42.4**	**-0.3**
	2.0nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**03 18 12.1**	**+0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**03 18 32.3**	**-1.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**03 18 44.5**	**-0.5**
	4.0nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pn	**Pn**	**03 18 03.1**	**-0.4**
SMF				*e*Pg	**Pg**	**03 18 12.1**	**+0.1**
SMF				*e*Sn	**Sn**	**03 18 32.3**	**-1.6**
SMF				*e*Sg	**Sg**	**03 18 44.5**	**-0.5**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**03 18 12.1**	**+0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**03 18 32.3**	**-1.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**03 18 44.5**	**-0.5**
	2.0nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**03 18 14.7**	**-0.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**03 18 49.4**	**-1.0**
	1.6nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pn	**Pn**	**03 18 05.9**	**+0.1**
AVF				*e*Pg	**Pg**	**03 18 14.7**	**-0.5**
AVF				*e*Sg	**Sg**	**03 18 49.4**	**-1.0**
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**03 18 14.7**	**-0.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**03 18 49.4**	**-1.0**
	0.8nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**2.84**	**178**	*e*Sg	**Sg**	**03 18 54.2**	**-0.5**
	1.2nm,0.3s						
LPG	**La Plagne**	**2.84**	**178**	*e*Sg	**Sg**	**03 18 54.2**	**-0.5**
	0.6nm,0.3s						
HYF	**Humbligny**	**2.90**	**250**	*e*Pg	**Pg**	**03 18 18.0**	**-0.8**
HYF				*e*Sg	**Sg**	**03 18 55.8**	**-0.6**
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pn	**Pn**	**03 18 11.6**	**+0.1**
BGF				*e*Sg	**Sg**	**03 19 02.5**	**-1.3**
	7.9nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pn	**Pn**	**03 18 11.6**	**+0.1**
BGF				*e*Sg	**Sg**	**03 19 02.5**	**-1.3**
	4.0nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Sg	**Sg**	**03 19 13.1**	**-1.4**
	1.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Sg	**Sg**	**03 19 13.1**	**-1.4**
	0.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.64**	**237**	*e*Pn	**Pn**	**03 18 18.7**	**+0.1**
VIVF	**Saint-Julien-l**	**3.74**	**202**	*e*Sg	**Sg**	**03 19 21.5**	**-1.8**
	1.9nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.74**	**202**	*e*Sg	**Sg**	**03 19 21.5**	**-1.8**
	0.9nm,0.3s,SNR=1.0						
WERD	**Werda**	**4.26**	**58**	*e*Sg	**Sg**	**03 19 36.3**	**-3.7**
	SNR=1.6						

IDC 19 03:24:31.5±1.8,508N×12212E,h0km,mb3.5/3,mb1 3.6/3, mb1mx3.4/19,mbtmp3.5/3,Error ellipse: s-maj=257.2km s-min=25.1km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.61**	**155**	P	P	03 30 20.3	-0.3
	0.2nm,0.6s,baz=332,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**30.80**	**159**	P	P	03 30 50.0	+1.2
	0.1nm,0.3s,baz=343,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**53.88**	**327**	P	P	03 33 56.5	+0.1
	0.4nm,0.4s,baz=117,slow=7.9,SNR=12						

*ISCJB **19** 03:25:32.8±0.8,2498S±003×6905W±0.10,h89km±9km, mb4.1/11,Error ellipse: s-maj=15.1km s-min=5.5km az=168.5*
*NEIC **19** 03:25:34.7,2501S×6928W,h100km,mb4.3/9,After GUC.*
*GUC **19** 03:25:34.7±0.9,2501S×6928W,h100km,ML4.4*
*IDC **19** 03:25:36.0±0.8,2494S×6909W,h100km±6km,mb3.7/8, mb1 3.8/11,mb1mx3.8/18,mbtmp3.7/11,MS2.9/2, Ms1 3.0/2,ms1mx2.8/24,Error ellipse: s-maj=29.8km s-min=14.8km az=76.0*

ISC 19 03:25:33.9±0.7,2497S±003×6906W±009,h82km±8km, h101km±1.1km:pP-P,n39,σ0=95/44,mb4.1/11,1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.27**	**285⇑**	*i*P	**Pn**	**03 25 57.6**	**+1.2**
CPN1				*i* S	**Sn**	**03 26 14.4**	**+1.2**
CPN1				AML	AML	03 26 19.5	
	comp=E,11μm,0.5s						
CEN1	**Los Morros**	**1.89**	**326⇓**	*i*P	**Pn**	**03 26 04.5**	**+0.2**
CEN1				*i* S	**Sn**	**03 26 26.4**	**-1.1**
CEN1				AML	AML	03 26 29.8	
	comp=E,2μm,0.7s						
CDCH	**Caldera**	**2.63**	**217**	*e*P	**Pn**	**03 26 14.0**	**-0.3**
CDCH				*i* S	**Sn**	**03 26 44.5**	**-0.8**
CDCH				AML	AML	03 26 50.8	
	comp=E,2μm,0.5s						
CDCH	**Caldera**	**2.63**	**217**	*e*P	**Pn**	**03 26 14.0**	**-0.3**
CDCH				*i* S	**Sn**	**03 26 44.5**	**-0.8**
CPCH	**Copiapo**	**2.65**	**206**	*e*P	**Pn**	**03 26 15.2**	**+0.7**
CPCH				*i* S	**Sn**	**03 26 45.6**	**-0.1**
CPCH				AML	AML	03 26 59.2	
	comp=E,4μm,0.2s						
CPCH	**Copiapo**	**2.65**	**206**	*e*P	**Pn**	**03 26 15.2**	**+0.7**
CPCH				*i* S	**Sn**	**03 26 45.6**	**-0.1**
VACH	**Vallenar**	**3.90**	**203**	*e*P	**Pn**	**03 26 30.7**	**-0.7**
LCO	**Las Campanas**	**4.29**	**200**	*e*Pn	**Pn**	**03 26 36.6**	**-0.1**
LCO				*e*Sn	**Sn**	**03 27 25.5**	**0.0**
CFAA	**Coronel Fontan**	**6.65**	**174**	P	**Pn**	**03 27 10.1**	**+1.1**
	comp=E,0.6nm,0.3s,baz=350,slow=13,SNR=44						
CFAA				S	**Sn**	**03 28 21.5**	**-1.7**
	comp=E,0.9nm,0.3s,baz=192,slow=14,SNR=3.9						
CFAA	**Coronel Fontan**	**6.65**	**174**	P	**Pn**	**03 27 10.1**	**+1.1**
CFAA				S	**Sn**	**03 28 21.5**	**-1.7**
LPAZ	**La Paz**	**8.68**	**6**	P	**Pn**	**03 27 37.4**	**+0.8**
	comp=E,1.6nm,0.3s,baz=190,slow=5.6,SNR=30						
LPAZ				LR	LR	03 31 22.4	
	comp=E,62nm,19.6s,baz=238,slow=40						
LPAZ	**La Paz**	**8.68**	**6**	*e*Pn	**Pn**	**03 27 36.2**	**-0.4**
	comp=E,4.9nm,0.6s						
SIV	**San Ignacio**	**11.65**	**41**	P	**Pn**	**03 28 13.2**	**-3.8**
	comp=E,7.8nm,0.3s,baz=230,slow=11,SNR=185						
SIV				S	**Sn**	**03 30 18.9**	**-6.2**
	comp=E,0.4nm,0.3s,baz=128,slow=23,SNR=2.7						
TRQA	**Tornquist**	**14.37**	**157**	*e*Pn	**Pn**	**03 28 53.1**	**-0.1**
	comp=E,4.5nm,0.5s						
NNA	**Nana**	**14.87**	**329**	*e*Pn	**Pn**	**03 28 58.4**	**-1.2**
	comp=E,28nm,1.3s						
PLCA	**Paso Flores**	**15.77**	**184**	P	**Pn**	**03 29 14.4**	**+3.3**
	comp=E,0.2nm,0.3s,baz=14,slow=16,SNR=6.5						
PLCA				LR	LR	03 35 35.3	
	comp=E,63nm,19.8s,baz=181,slow=38						
PLCA	**Paso Flores**	**15.77**	**184**	*e*Pn	**Pn**	**03 29 13.6**	**+2.5**
	comp=E,3.8nm,0.7s						
RCBR	**Riachuelo**	**37.03**	**65**	*e*P	**P**	**03 32 35.8**	**+0.2**
	comp=E,7.1nm,0.6s,mb4.8						
SNAA	**Sanae**	**59.07**	**160**	P	**P**	**03 35 25.3**	**-0.1**
	comp=E,0.6nm,0.8s,mb3.7,baz=280,slow=5.1,SNR=14						
SNAA	**Sanae**	**59.07**	**160**	*e*P	**P**	**03 35 24.0**	**-1.4**
	comp=E,1.3nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**63.40**	**326**	P	**P**	**03 35 55.2**	**+0.5**
	comp=E,0.2nm,0.5s,mb3.4,baz=154,slow=8.2,SNR=5.3						
TXAR	**Lajitas Array**	**63.40**	**326**	P	**P**	**03 35 55.2**	**+0.5**
PDAR	**Pinedale Array**	**77.04**	**331**	P	**P**	**03 37 18.0**	**+0.1**
	comp=E,0.2nm,0.4s,mb3.2,baz=130,slow=6.5,SNR=3.0						
PDAR	**Pinedale Array**	**77.04**	**331**	P	**P**	**03 37 18.0**	**+0.1**
ULM	**Lac du Bonnet**	**78.57**	**343**	P	**P**	**03 37 25.4**	**-1.0**
	comp=E,1.1nm,0.7s,mb3.8,baz=139,slow=11,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**78.66**	**70**	*e*P	**P**	**03 37 27.1**	**+0.2**
TOA0				*e*pP	pP	03 37 53.1	+4.5
TORD	**Torodi Ar. Bea**	**78.66**	**70**	P	**P**	**03 37 27.3**	**+0.4**
	comp=E,5.4nm,0.7s,mb4.5,baz=262,slow=5.2,SNR=93						
TORD				pP	pP	03 37 53.6	+5.0
	comp=E,3.6nm,0.6s,baz=253,slow=5.0,SNR=7.8						
MAW	**Mawson**	**81.06**	**163**	P	**P**	**03 37 39.9**	**+0.1**
	comp=E,5.3nm,0.6s,mb4.6,baz=215,slow=5.2,SNR=13						
MAW	**Mawson**	**81.06**	**163**	*e*P	**P**	**03 37 39.8**	**-0.1**
	comp=E,5.8nm,0.6s,mb4.6						
BOSA	**Boshof**	**81.95**	**118**	P	**P**	**03 37 45.5**	**+0.9**
	comp=E,1.6nm,0.8s,mb3.9,baz=202,slow=11,SNR=3.1						
LBTB	**Lobatse**	**83.70**	**115**	*e*P	**P**	**03 37 55.0**	**+1.3**
	comp=E,1.2nm,0.6s,mb3.9						
COR	**Corvallis**	**85.11**	**324**	*e*P	**P**	**03 37 56.7**	**-4.0**
	comp=E,16nm,0.6s,mb5.1						
YKA	**Yellowknife Ar**	**94.40**	**341**	P	**P**	**03 38 43.4**	**-1.1**
	comp=E,0.4nm,0.7s,mb3.9,baz=134,slow=4.6,SNR=9.7						
YKA				pP	pP	03 39 09.7	+3.0
	comp=E,0.2nm,0.6s,baz=134,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**94.40**	**341**	P	**P**	**03 38 43.4**	**-1.1**
YKA				pP	pP	03 39 09.7	+3.0
ASAR	**Alice Springs**	**126.78**	**207**	PKP	PKPdf	03 44 28.1	+0.2
	comp=E,1.1nm,0.6s,baz=132,slow=2.0,SNR=14						
WRA	**Warramunga Arr**	**129.89**	**209**	PKP	PKPdf	03 44 33.9	+0.1
	comp=E,0.9nm,0.6s,baz=153,slow=1.7,SNR=12						
ZAL	**Zalesovo**	**145.11**	**27**	PKPbc	PKPbc	03 45 01.7	+0.3
	comp=E,1.1nm,0.4s,baz=258,slow=18,SNR=3.4						
MKAR	**Makanchi Array**	**148.46**	**39**	PKPbc	PKPbc	03 45 11.1	+0.1
	comp=E,0.8nm,0.5s,baz=331,slow=2.6,SNR=14						
MKAR				pPKPbc	pPKPbc	03 45 38.1	+4.2
	comp=E,1.2nm,0.8s,baz=302,slow=3.6,SNR=3.8						
MKAR	**Makanchi Array**	**148.46**	**39**	PKPbc	PKPbc	03 45 11.1	+0.1
MKAR				pPKPbc	pPKPbc	03 45 38.1	+4.2

*ISCJB **19** 03:49:36.7±0.7,4023N±003×2045E±006,h10km,Error ellipse: s-maj=7.3km s-min=4.2km az=32.6*
*CSEM **19** 03:49:37.3±0.1,4036N×2030E,h20km,MD3.1,Error ellipse: s-maj=3.6km s-min=1.8km az=114.0*
*ATH **19** 03:49:37.3,4025N×2041E,h10km±2km,MD3.1/4*
*NEIC **19** 03:49:37.3,4025N×2041E,h10km,MD3.1(ATH),After ATH.*
*SKO **19** 03:49:37.9,4026N×2040E,h4km*

ISC 19 03:49:37.4±0.7,4024N±003×2042E±006,h10km,n12, σ0=79/21,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.67**	**150**	*e*PB	**Pg**	**03 49 50.4**	**+0.1**
KEK	**Kerkira**	**0.71**	**223**	*e*PB	**Pg**	**03 49 51.0**	**-0.1**
KEK				*e*SB	**Sg**	**03 50 00.6**	**+0.2**
OHR	**Ohrid**	**0.92**	**18**	*e*Pg	**Pg**	**03 49 53.7**	**-1.3**
OHR				*e*Sg	**Sg**	**03 50 06.9**	**-0.1**
OHR	**Ohrid**	**0.92**	**18**	*e*Pg	**Pg**	**03 49 53.7**	**-1.3**
OHR				*e*Sg	**Sg**	**03 50 06.9**	**-0.1**
OHR	**Ohrid**	**0.92**	**18**	*e*Pg	**Pg**	**03 49 53.6**	**-1.4**
OHR				*e*Sg	**Sg**	**03 50 06.8**	**-0.2**
KZN	**Kozani**	**1.03**	**86**	*e*PB	**Pg**	**03 49 57.2**	**0.0**
BIA	**Bitola**	**1.04**	**41**	*e*Pg	**Pg**	**03 49 57.0**	**-0.3**
BIA				*e*Sg	**Sg**	**03 50 10.5**	**-0.3**
KRUS	**Krusevo**	**1.29**	**29**	*e*Pn	**Pn**	**03 50 02.2**	**+0.7**
KRUS				*e*Sn	**Sn**	**03 50 20.9**	**+2.2**
KRUS	**Krusevo**	**1.29**	**29**	*e*Pn	**Pn**	**03 50 02.2**	**+0.7**
KRUS				*e*Sn	**Sn**	**03 50 20.9**	**+2.2**
KRUS	**Krusevo**	**1.29**	**29**	*e*Pn	**Pn**	**03 50 02.1**	**+0.7**
KRUS				*e*Sn	**Sn**	**03 50 20.9**	**+2.1**
THL	**Klokotos Trika**	**1.40**	**118**	*e*PG	**Pg**	**03 50 03.7**	**-0.5**
EVR	**Evrytania**	**1.70**	**141**	*e*PG	**Pg**	**03 50 09.1**	**-0.9**
EVR				*e*SN	**Sg**	**03 50 32.8**	**+0.8**

IDC 19 05:00:02.5±3.6,2999S×13840E,h0km,mb1 3.0/3, mb1mx2.9/13,mbtmp2.7/3,ML2.7/3,Error ellipse: s-maj=101.1km s-min=21.7km az=48.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.33**	**125**	Pn	Pn	05 00 56.6	+0.7
	0.8nm,0.3s,baz=302,slow=14,SNR=3.9						
STKA				Sn	Sn	05 01 35.7	-0.4
	1.7nm,0.3s,baz=221,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**7.46**	**326**	Pn	Pn	05 01 53.5	+0.8
	0.1nm,0.3s,baz=150,slow=11,SNR=5.1						
ASAR				Sn	Sn	05 03 18.8	+0.7
	0.1nm,0.3s,baz=152,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**10.65**	**339**	Pn	Pn	05 02 35.2	-1.1
	0.1nm,0.3s,baz=162,slow=12,SNR=4.5						
WRA				Sn	Sn	05 04 39.3	+2.9
	0.0nm,0.3s,baz=159,slow=24,SNR=3.3						

*ISCJB **19** 05:04:56.5±0.9,4023N±003×2033E±006,h2km±6km, Error ellipse: s-maj=7.1km s-min=5.8km az=15.5*
*CSEM **19** 05:04:58.0±0.2,4030N×2040E,h5km,MD3.1,Error ellipse: s-maj=3.8km s-min=3.0km az=132.0*
*ATH **19** 05:04:58.5,4023N×2035E,h22km±1km,MD3.1/4*
*NEIC **19** 05:04:58.5,4023N×2035E,h22km,MD3.1(ATH),After ATH.*
*SKO **19** 05:04:59.1,4026N×2044E,h2km*

ISC 19 05:04:58.3±0.6,4026N±003×2042E±004,h1km±7km,n12, σ0=78/22,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.17**	**129**	*i* Pg	**Pg**	**05 05 00.8**	**-0.9**
LSK				*i* Sg	**Sg**	**05 05 03.8**	**-0.1**
TPE	**Tepelena**	**0.32**	**277**	*i* Pg	**Pg**	**05 05 03.8**	**-0.6**
TPE				*i* Sg	**Sg**	**05 05 10.7**	**+2.1**
JAN	**Janina**	**0.69**	**151**	*e*PB	**Pg**	**05 05 11.4**	**-0.1**
JAN				*e*SN	**Sg**	**05 05 21.9**	**+1.5**
KEK	**Kerkira**	**0.73**	**222**	*e*PN	**Pg**	**05 05 11.8**	**-0.5**
KEK				*e*SN	**Sg**	**05 05 21.0**	**-0.7**
OHR	**Ohrid**	**0.90**	**18**	*e*Pg	**Pg**	**05 05 14.7**	**-0.9**
OHR				*e*Sg	**Sg**	**05 05 27.9**	**+0.7**
BIA	**Bitola**	**1.02**	**42**	*e*Pg	**Pg**	**05 05 17.5**	**-0.4**
BIA				*e*Sg	**Sg**	**05 05 31.9**	**+0.6**
BIA	**Bitola**	**1.02**	**42**	*e*Pg	**Pg**	**05 05 17.5**	**-0.4**
BIA				*e*Sg	**Sg**	**05 05 31.9**

comp=E,62nm,26.3s,MS3.6
MDJ LR LR
comp=Z,251nm,22.9s,MS3.8
MDJ Mudanjiang 30.02 335 *e*P **P 05 11 13.5 +1.3**
comp=Z,3.0nm,0.4s,mb4.4
HNR Honiara 30.37 154 LR LR 05 22 25.0
comp=Z,333nm,20.5s,MS4.0,baz=181,slow=34
CN2 Changchun 31.24 329 *e*P **P 05 11 25.4 +2.5**
CN2 *e*XP sP 05 11 38.9 +3.2
CN2 *e*S **S 05 16 29.1 +1.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 LR LR
comp=N,500nm,15.0s,MS4.4
CN2 LR LR
comp=E,300nm,15.0s,MS4.4
CN2 LR LR
comp=Z,300nm,19.0s,MS4.0
BJT Baijiatuau 34.28 316 *e*P **P 05 11 49.3 -0.2**
BJT pmax pmax
comp=Z,7.0nm,0.5s
BJT Baijiatuau 34.28 316 *e*P **P 05 11 49.3 -0.2**
comp=Z,7.4nm,0.5s,mb4.9
BJI Beiging 34.28 316 *e*P **P 05 11 49.3 -0.2**
BJI AMB AMB
comp=Z,11nm,1.3s,mb4.6
BJI LR LR
comp=N,276nm,18.7s,MS4.2
BJI LR LR
comp=E,276nm,20.7s,MS4.2
BJI LR LR
comp=Z,305nm,21.9s,MS4.0
BJI Beiging 34.28 316 *e*P **P 05 11 49.2 -0.3**
BJI pmax pmax
comp=Z,11nm,1.3s,mb4.6
BJI MLR MLR
comp=Z,310nm,21.9s,MS4.0
BJI Beiging 34.28 316 *e*P **P 05 11 49.2 -0.3**
comp=Z,11nm,1.3s,mb4.6
BJI S **S 05 17 25.5 +11**
BJI LR LR
comp=Z,310nm,21.9s,MS4.0
HHC Hu-ho-hao-te 37.77 314 *e*P **P 05 12 21.1 +1.7**
HHC AP pP 05 12 30.8 +2.3
HHC XP sP 05 12 34.3 +2.1
HHC PP PP 05 13 51.1 +5.2
HHC S **S 05 18 09.8 +1.8**
HHC PCS PcS 05 18 26.4 +1.9
HHC SS SS 05 20 43.1 -11
HHC AMB AMB
comp=Z,22nm,0.6s,mb5.1
HHC AMB AMB
comp=Z,141nm,5.9s
HHC LR LR
comp=N,259nm,19.0s,MS4.2
HHC LR LR
comp=E,263nm,18.4s,MS4.2
HHC LR LR
comp=Z,307nm,17.8s,MS4.2
HIA Hailar 37.91 331 *e*P **P 05 12 20.8 +0.3**
HIA pmax pmax
comp=Z,16nm,1.0s
HIA Hailar 37.91 331 *e*P **P 05 12 20.8 +0.2**
comp=Z,16nm,1.0s,mb4.7
GYA Guiyang 38.06 290⇑*i*P **P 05 12 22.3 +0.5**
GYA AP pP 05 12 32.6 +1.7
GYA XP sP 05 12 36.8 +2.1
GYA PP PP 05 13 52.9 +3.8
GYA PCP PcP 05 14 38.0 +1.3
GYA S **S 05 18 12.3 -0.1**
GYA SCP ScP 05 18 21.8 -0.2
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.3s
GYA LR LR
comp=N,430nm,16.4s,MS4.5
GYA LR LR
comp=E,470nm,15.9s,MS4.5
GYA LR LR
comp=Z,480nm,16.0s,MS4.4
CTAO Charters Tower 38.16 181 P **P 05 12 20.8 -1.8**
CTAO pmax pmax
comp=Z,20nm,0.5s,mb5.1
CTAO Charters Tower 38.16 181 P **P 05 12 20.8 -1.9**
comp=Z,20nm,0.5s,mb5.1
WB2 Warramunga Arr 39.98 199 *e*P **P 05 12 37.2 -0.7**
WRA Warramunga Arr 39.99 199 P **P 05 12 37.6 -0.3**
comp=Z,12nm,0.8s,mb4.7,baz=24,slow=8.5,SNR=59
WRA PcP PcP 05 14 42.6 -0.1
comp=Z,1.5nm,0.7s,baz=16,slow=3.3,SNR=3.3
WRA ScP ScP 05 18 28.1 -1.3
comp=Z,3.3nm,1.0s,baz=13,slow=3.7,SNR=8.2
WRA LR LR 05 29 18.4
comp=Z,233nm,20.4s,MS4.0,baz=15,slow=36
WRA Warramunga Arr 39.99 199 P **P 05 12 37.6 -0.3**
WRA 05 14 42.6
CD2 Chengdu 41.04 296 P **P 05 12 47.5 +0.9**
CD2 AP pP 05 12 57.3 +1.5
CD2 XP sP 05 13 01.3 +1.7
CD2 PP PP 05 14 25.8 +4.2
CD2 S **S 05 18 57.8 +0.7**
CD2 XS sS 05 19 13.5 +1.3
CD2 SS SS 05 21 55.6 -4.3
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,150nm,4.9s
CD2 LR LR
comp=N,340nm,9.4s
CD2 LR LR
comp=E,400nm,14.3s
CD2 LR LR
comp=Z,530nm,17.8s,MS4.5
MA2 Magadan 41.31 3 *e*P **P 05 12 49.5 +0.6**
MA2 pmax pmax
comp=Z,17nm,0.9s,mb4.7
MA2 Magadan 41.31 3 *e*P **P 05 12 49.5 +0.6**
comp=Z,17nm,0.9s,mb4.7
KMI Kunming 41.55 287 P **P 05 12 51.0 +0.2**
KMI S **S 05 19 04.8 +0.2**
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.4
KMI LR LR
comp=Z,141nm,24.1s,MS3.8
KMI Kunming 41.55 287 P **P 05 12 51.0 +0.2**
comp=Z,7.0nm,0.7s,mb4.4
KMI S **S 05 19 04.8 +0.2**
KMI LR LR
comp=Z,140nm,24.1s,MS3.8
FITZ Fitzroy Crossi 41.84 211 P **P 05 12 53.0 -0.1**
comp=Z,1.5nm,0.3s,mb4.1,baz=42,slow=10,SNR=20
CLNS Chul'man 41.89 342 *e*P **P 05 12 52.1 -1.5**
CLNS pmax pmax
comp=Z,17nm,1.1s,mb4.6
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,0.7s
LZH Lanzhou 41.90 304 *e*P **P 05 13 02.7 +9.0**
LZH *PP pP 05 13 14.5 +12
LZH *SP sP 05 13 18.4 +12
LZH pmax pmax
comp=Z,16nm,1.0s,mb4.6
LZH Lanzhou 41.90 304 *e*P **P 05 13 02.7 +9.0**
comp=Z,16nm,1.0s,mb4.6
LZH pP pP 05 13 14.5 +12
LZH sP sP 05 13 18.4 +12
CIT Chita 42.68 330 *e*P **P 05 13 00.0 0.0**
CIT pmax pmax
comp=Z,50nm,1.9s,mb4.9
ASAR Alice Springs 43.63 198 P **P 05 13 07.5 -0.2**
comp=Z,6.0nm,0.7s,mb4.4,baz=21,slow=8.7,SNR=64
ASAR ScP ScP 05 18 43.2 -0.7
comp=Z,1.9nm,0.9s,baz=8.6,slow=3.1,SNR=8.2
ASAR S **S 05 19 32.3 -3.0**
comp=Z,1.0nm,0.9s,baz=16,slow=17,SNR=4.3
SONM Songino Array 44.23 321 P **P 05 13 13.0 +0.5**
comp=Z,2.1nm,0.5s,mb4.1,baz=136,slow=9.3,SNR=21
SONM PcP PcP 05 14 57.2 +0.4
comp=Z,1.4nm,0.8s,baz=135,slow=2.6,SNR=3.5
SONM ScP ScP 05 18 43.7 -2.7
comp=Z,1.0nm,0.8s,baz=141,slow=3.0,SNR=5.0
SONM LR LR 05 33 30.1
comp=Z,327nm,18.7s,MS4.3,baz=148,slow=38
SONM Songino Array 44.23 321 P **P 05 13 13.0 +0.4**
SONM 05 14 57.2
DZM Mont Dzumac 44.40 154 P **P 05 13 13.5 -0.4**
comp=Z,18nm,0.8s,mb4.8,baz=345,slow=8.2,SNR=10
DZM LR LR 05 29 28.4
comp=Z,410nm,19.9s,MS4.3,baz=9.5,slow=33
YAK Yakutsk 45.35 349⇓*e*P **P 05 13 23.0 +1.6**
YAK pmax pmax
comp=Z,30nm,0.8s,mb5.2
YAK Yakutsk 45.35 349 *e*P **P 05 13 23.2 +1.8**
comp=Z,28nm,0.8s,mb5.1
GTA Gaotai 45.78 308 P **P 05 13 25.6 +0.8**
GTA AP pP 05 13 36.0 +1.9
GTA XP sP 05 13 40.3 +2.5
GTA PCP PcP 05 15 01.4 -0.7
GTA PP PP 05 15 14.1 +1.8
GTA S **S 05 20 08.4 +2.0**
GTA XS sS 05 20 24.3 +2.6
GTA SS SS 05 23 26.1 -4.9
GTA AMB AMB
comp=Z,4.0nm,1.6s,mb4.1
GTA AMB AMB
comp=Z,89nm,7.6s
GTA LR LR
comp=N,161nm,19.4s,MS4.3
GTA LR LR
comp=E,297nm,19.8s,MS4.3
GTA LR LR
comp=Z,347nm,20.1s,MS4.3
ZAK Zakamensk 47.22 323 *e*P **P 05 13 35.7 -0.4**
ZAK *e* 05 15 05.6
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
TLY Talaya 47.61 325 *e*P **P 05 13 39.5 +0.3**
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
TLY Talaya 47.61 325 *e*P **P 05 13 39.5 +0.4**
comp=Z,5.5nm,0.7s,mb4.7
STKA Stephens Creek 50.16 186 P **P 05 13 57.4 -1.3**
comp=Z,2.5nm,0.5s,mb4.5,baz=19,slow=12,SNR=3.4
STKA LR LR 05 34 38.7
comp=Z,274nm,20.6s,MS4.2,baz=23,slow=35
STKA Stephens Creek 50.16 186 *e*P **P 05 14 00.1 +1.3**
BILL Biiibino 51.20 9 *de*P **P 05 14 06.5 -0.1**
BILL *e*SP sP 05 14 18.2 -1.5
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,100nm,17.0s,MS3.9
BILL Biiibino 51.20 9 *e*P **P 05 14 06.6 0.0**
comp=Z,5.9nm,0.9s,mb4.5
AFI Afiamalu 51.72 125 LR LR 05 33 34.8
comp=Z,88nm,19.2s,MS3.8,baz=223,slow=33
LSA Lhasa 51.85 294 *e*P **P 05 14 13.4 +2.0**
LSA pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LSA Lhasa 51.85 294 *e*P **P 05 14 13.4 +2.0**
comp=Z,4.7nm,0.5s,mb4.7
TIXI Tiksi 54.41 353⇓*e*P **P 05 14 30.4 +0.1**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
WMQ Urumqi 55.51 311 P **P 05 14 38.8 +0.6**
WMQ XP sP 05 14 54.8 +3.4
WMQ PCP PcP 05 15 39.0 +1.0
WMQ PP PP 05 16 44.1 +1.7
WMQ PPP 05 17 59.5
WMQ S **S 05 22 20.0 -1.4**
WMQ XS sS 05 22 36.6 -0.4
WMQ SCS ScS 05 24 21.8 -3.3
WMQ SS SS 05 26 04.0 -2.5
WMQ AMB AMB
comp=Z,15nm,1.5s,mb4.8
WMQ LR LR
comp=N,76nm,23.0s,MS4.1
WMQ LR LR
comp=E,159nm,23.0s,MS4.1
WMQ LR LR
comp=Z,102nm,19.0s,MS3.9
JIRN Jiri 56.29 291 *e*P **P 05 14 43.7 -0.2**
comp=Z,26nm,1.1s,mb5.2
GUN Gumba 56.55 292 *e*P **P 05 14 44.7 -1.0**
PKI Pulchoki 56.99 291 *e*P **P 05 14 49.0 +0.2**
KKN Kakani 57.09 292 *e*P **P 05 14 48.8 -0.7**
DMN Daman 57.26 291 *e*P **P 05 14 50.9 +0.2**
GKN Gorkha 57.64 292 *e*P **P 05 14 53.2 -0.2**
comp=Z,37nm,1.1s,mb5.3
SVW2 Sparrevohn 58.57 29 *e*P **P 05 14 59.6 -0.3**
KOLN Koldanda 58.57 292 *e*P **P 05 15 00.0 +0.1**
KDAK Kodiak Island 59.01 33 P **P 05 15 01.7 -1.2**
comp=Z,4.9nm,0.8s,mb4.6,baz=281,slow=10,SNR=4.1
ZAL Zalesovo 59.10 322 P **P 05 15 02.7 -0.9**
comp=Z,4.1nm,0.8s,mb4.5,baz=2.4,slow=7.3,SNR=18
ZAL Zalesovo 59.10 322 P **P 05 15 02.7 -0.9**
MK31 Makanchi Array 59.64 314 *e*P **P 05 15 06.9 -0.4**
MKAR Makanchi Array 59.64 314 P **P 05 15 07.2 -0.1**
comp=Z,1.4nm,0.6s,mb4.2,baz=87,slow=8.6,SNR=21
MKAR ScP ScP 05 19 51.3 -1.5
comp=Z,1.2nm,0.9s,baz=64,slow=3.4,SNR=3.8
MKAR LR LR 05 41 36.2
comp=Z,108nm,18.7s,MS4.0,baz=227,slow=37
NVS Novosibirsk 60.17 323 *i*P **P 05 15 10.1 -0.9**
NVS pmax pmax
comp=Z,31nm,1.8s,mb5.0
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,24nm,1.5s
IMA2 Indian Mountai 61.13 24 *e*P **P 05 15 18.2 +0.7**
KURK Kurchatov 62.40 318 P **P 05 15 25.4 -0.6**
comp=E,82nm,1.1s,mb5.8,SNR=8.8
KURK Kurchatov 62.40 318 *c i*P **P 05 15 24.9 -1.1**
KURK Kurchatov 62.40 318 *e*P **P 05 15 24.6 -1.4**
COLA College 63.08 26⇑*e*P **P 05 15 30.8 +0.3**
AAK Ala-Archa 65.09 309⇑*e*P **P 05 15 42.6 -1.1**
AAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
RAR Rarotonga 65.25 125 LR LR 05 42 45.3
comp=Z,184nm,18.3s,MS4.3,baz=286,slow=35
RPZ Rata Peaks 65.53 161 LR LR 05 38 55.3
comp=Z,41nm,21.1s,MS3.6,baz=290,slow=31
DAWY Dawson 66.53 27 *e*P **P 05 15 53.2 +0.2**
BVA0 Borovoye Array 67.57 321 *i*P **P 05 16 00.2 +0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BVAR Borovoye Array 67.57 321 LR LR 05 47 54.1
comp=Z,147nm,18.4s,MS4.2,baz=139,slow=38
BRVK Borovoye 67.64 321 P **P 05 15 59.9 -0.2**
comp=Z,78nm,0.9s,mb5.7,SNR=5.9
BRVK Borovoye 67.64 321 *e*P **P 05 15 59.3 -0.8**
BRVK pmax pmax
comp=Z,25nm,1.2s,mb5.1
BRVK Borovoye 67.64 321 *e*P **P 05 15 59.3 -0.7**
comp=Z,25nm,1.2s,mb5.1
INK Inuvik 69.25 23 *e*P **P 05 16 07.3 -2.9**
comp=Z,303nm,1.1s
PPT Papeete 71.82 116 *e*LR LR 05 37 55.3
comp=Z,290nm,21.8s,baz=298
PPT Papeete 71.82 116 LR LR 05 42 45.6
comp=Z,387nm,18.8s,MS4.7,baz=276,slow=32
AB31 Akbulak array 74.48 317 P **P 05 16 40.1 -1.4**
F03A Seaside 76.69 46⇑P **P 05 16 54.7 +0.5**
baz=77
C04A Brinnon 76.70 44⇓P **P 05 16 53.8 -0.5**
baz=77
TAOE Nuku Hiva Isla 76.74 104 *e*LR LR 05 39 54.0
comp=Z,538nm,24.5s,baz=299
A05A Maple Falls 77.00 43⇑P **P 05 16 56.4 +0.5**
baz=77
E04A Onalaska 77.11 45⇑P **P 05 16 55.8 -0.8**
baz=77
B05A Bryant 77.15 43⇑P **P 05 16 55.7 -1.1**
baz=77
H03A Soap Creek Ran 77.16 47⇑P **P 05 16 56.7 -0.1**
baz=77
JCW Jim Creek 77.28 43 P **P 05 16 58.0 +0.5**
I03A Eugene 77.32 48⇑P **P 05 16 58.3 +0.5**
baz=77
K02A Glendale 77.45 49⇑P **P 05 16 58.0 -0.4**
baz=77
D05A Enumclaw 77.47 44⇑P **P 05 16 58.4 -0.2**
baz=77
F04A Amboy 77.47 46⇑P **P 05 16 59.0 +0.5**
baz=77
B06A Marblemount 77.49 43⇓P **P 05 16 58.8 +0.2**
baz=77
L02A Cave Junction 77.51 50⇑P **P 05 16 58.4 -0.4**
baz=77
C05A Tolt Reservoir 77.55 44⇓P **P 05 16 59.2 +0.2**
baz=78
J03A Ideyld Park 77.68 48⇑P **P 05 16 59.6 -0.1**
baz=78
YKW3 Yellowknife Ar 77.73 28 *e*P **P 05 16 59.1 -0.9**
YKA Yellowknife Ar 77.75 28 P **P 05 16 59.1 -1.1**
comp=Z,8.1nm,0.8s,mb4.7,baz=288,slow=5.5,SNR=77
YKA LR LR 05 52 43.5
comp=Z,184nm,20.7s,MS4.4,baz=250,slow=37
E05A Randle 77.77 45⇑P **P 05 17 00.1 -0.2**
baz=78
HUMO Hull Mountain 77.87 49 P **P 05 17 01.6 +0.9**
baz=78,SNR=5.3
H04A Detroit Lake 77.92 47⇑P **P 05 17 00.6 -0.5**
baz=78
N02C Big Bar 78.04 51⇓P **P 05 17 01.9 +0.2**
baz=78
A07A Ashnola River, 78.07 42⇓P **P 05 17 01.8 -0.2**
baz=78
F05A White Salmon 78.13 46⇑P **P 05 17 01.8 -0.5**
baz=78
D06A Cle Elum 78.23 44⇑P **P 05 17 02.6 -0.2**
baz=78
M02C Callahan 78.23 50⇓P **P 05 17 03.0 +0.2**
baz=78
YBH Yreka Blue Hor 78.25 50 LR LR 05 43 56.2
comp=Z,253nm,20.5s,MS4.5,baz=12,slow=30
YBH Yreka Blue Hor 78.25 50 *e*P **P 05 17 03.9 +1.0**
YBH pmax pmax
comp=Z,14nm,1.3s
YBH Yreka Blue Hor 78.25 50 *e*P **P 05 17 03.9 +0.9**
comp=Z,14nm,1.3s,mb4.7
YBH Yreka Blue Hor 78.25 50 P **P 05 17 03.6 +0.7**
baz=78,SNR=5.4
E06A Yakima 78.30 45⇓P **P 05 17 03.6 +0.5**
baz=78
J04A Umpqua Nationa 78.32 48⇓P **P 05 17 03.2 -0.1**
baz=78
P01C Double 8 Ranch 78.34 52⇓P **P 05 17 03.3 -0.1**
baz=78
G05A Wamic 78.39 46⇓P **P 05 17 03.5 -0.2**
baz=78
TBM Table Mountain 78.39 44 P **P 05 17 04.0 +0.3**
O02C Red Bluff 78.58 51⇓P **P 05 17 04.9 +0.2**
baz=78
H05A Madras 78.59 47⇑P **P 05 17 05.0 +0.2**
baz=78
C07A Waterville 78.62 43⇓P **P 05 17 04.5 -0.5**
baz=78
F06A Goldendale 78.62 46⇓P **P 05 17 04.8 -0.2**
baz=78
WDC Whiskeytown Da 78.66 51⇓P **P 05 17 04.7 -0.4**
baz=79
WTV Waterville 78.69 43 P **P 05 17 05.1 -0.2**
L04A Klamath Falls 78.74 49⇑P **P 05 17 05.2 -0.4**
baz=79
GASB Alder Springs 78.76 52⇑P **P 05 17 06.2 +0.5**
baz=79
M03C McCloud 78.80 50⇑P **P 05 17 05.8 -0.1**
baz=79
D07A Quincy 78.80 44⇓P **P 05 17 06.1 +0.1**
baz=79
A08A Turner Farm, O 78.81 42 P **P 05 17 06.4 +0.5**
baz=79,SNR=5.0
G06A Carlson Farm, 78.85 46⇓P **P 05 17 05.8 -0.5**
baz=79
M04C Macdoel 78.87 50⇓P **P 05 17 06.5 +0.2**
baz=79
B08A Colville Reser 78.92 43 P **P 05 17 06.5 -0.1**
baz=79,SNR=8.0
J05A Fort Rock 78.93 48 P **P 05 17 07.3 +0.7**
baz=79,SNR=6.8
E07A Sunnyside 79.04 45 P **P 05 17 07.8 +0.6**
baz=79,SNR=5.0
MNRC McLaughlin Nat 79.16 53⇓P **P 05 17 07.8 -0.1**
baz=79
H06A Lindquist Farm 79.19 46⇑P **P 05 17 07.9 -0.2**
baz=79
A09A Danville 79.24 42⇓P **P 05 17 08.4 +0.1**
baz=79
C08A Higginbotham F 79.26 43 P **P 05 17 08.6 +0.1**
baz=79,SNR=8.5
CVS Carmenet Viney 79.28 53⇑P **P 05 17 08.5 -0.1**
baz=79
GBL Gable Mountain 79.30 44 P **P 05 17 08.8 +0.1**
K05A Summer Lake 79.31 49 P **P 05 17 09.6 +0.8**
baz=79,SNR=5.4
HATC Hat Creek Radi 79.39 51⇑P **P 05 17 09.1 -0.1**
baz=79
I06A Prineville 79.48 47 P **P 05 17 10.0 +0.3**
baz=79,SNR=5.4
M05C Lookout 79.48 50⇓P **P 05 17 09.6 -0.1**
baz=79
G07A Ruggs Ranch, H 79.50 46⇓P **P 05 17 09.0 -0.8**
baz=79
D08A Wollman Farm, 79.53 44 P **P 05 17 10.1 +0.1**
baz=79,SNR=6.0
L05A Lakeview 79.53 49 P **P 05 17 10.9 +0.9**
baz=80,SNR=5.3
OD2 Odessa Site #2 79.58 44 P **P 05 17 10.0 -0.2**
E08A Dider Farm, El 79.59 44⇓P **P 05 17 09.8 -0.5**
baz=80
B09A Rice 79.66 42 P **P 05 17 11.1 +0.4**
baz=80,SNR=5.2
ORV Oroville 79.69 52 P **P 05 17 10.5 -0.3**
baz=80,SNR=7.0
J06A Christmas Vall 79.70 48⇑P **P 05 17 10.1 -0.8**
baz=80
K06A Valley Falls 79.75 48⇓P **P 05 17 11.0 -0.2**
baz=80
C09A Chrisman Ranch 79.75 43⇑P **P 05 17 10.3 -0.8**
baz=80
H07A Lands Inn, Kim 79.75 46⇓P **P 05 17 10.7 -0.5**
baz=80
O04C Chester 79.80 51⇓P **P 05 17 11.9 +0.5**
baz=80
D09A Jones Farm, Ri 79.93 44 P **P 05 17 11.9 -0.2**
baz=80,SNR=6.3
I07A Izee 79.93 47⇑P **P 05 17 12.3 +0.1**
baz=80
MOD Modoc 79.95 49 *e*P **P 05 17 12.6 +0.4**
MOD Modoc 79.95 49⇓P **P 05 17 11.8 -0.5**
baz=80
F08A Pendleton 79.97 45 P **P 05 17 12.7 +0.4**
baz=80,SNR=6.7
G08A Pilot Rock 79.98 46 P **P 05 17 12.7 +0.3**
baz=80,SNR=6.0
ELFS Eagle Lake Fie 79.98 51⇓P **P 05 17 11.9 -0.5**
baz=80
M06C Likely Place G 80.01 50 P **P 05 17 13.3 +0.8**
baz=80,SNR=5.1
O05C Quincy 80.02 51⇓P **P 05 17 12.8 +0.2**
baz=80
E09A Wood Farm, Sta 80.19 44 P **P 05 17 13.6 +0.1**
baz=80,SNR=6.7
NEW Newport 80.37 42 LR LR 05 44 38.1
comp=Z,340nm,21.8s,MS4.7,baz=284,slow=30
S04C Ingram Canyon, 80.37 54⇓P **P 05 17 14.3 -0.1**
baz=80
C10A Spilker Farm, 80.37 43⇓P **P 05 17 13.7 -0.8**
baz=80
H08A Prairie City 80.39 46⇑P **P 05 17 14.7 +0.1**
baz=80
P05C Yuba Gap, Truc 80.43 52⇑P **P 05 17 15.0 +0.2**
baz=80
BEKR Beckwourth 80.46 51 P **P 05 17 15.3 +0.4**
baz=80,SNR=8.9
LAVA Lava Cap Winer 80.48 52⇑P **P 05 17 14.0 -1.1**
baz=80
HAST UC Hastings Re 80.49 55⇓P **P 05 17 15.3 +0.2**
baz=80
K07A Rock Creek Ran 80.49 48 P **P 05 17 15.4 +0.3**
baz=80,SNR=7.6
PACP Pacheco Peak 80.53 54⇑P **P 05 17 15.2 -0.1**
baz=80
F09A S2 Ranch, Elgi 80.57 45⇓P **P 05 17 15.7 +0.1**
baz=80
N06A Buffalo Meadow 80.60 50 P **P 05 17 16.2 +0.5**
baz=80,SNR=5.9
D10A Wagner Farm, O 80.61 44⇑P **P 05 17 14.6 -1.2**
baz=80
L07A Adell 80.61 49 P **P 05 17 16.5 +0.7**
baz=80,SNR=9.2
I08A Drewsey 80.63 47 P **P 05 17 16.0 +0.2**
baz=80,SNR=5.0
A11A Hall Mountain, 80.65 42⇓P **P 05 17 16.4 +0.4**
baz=81
O06A Flanigan 80.77 51 P **P 05 17 16.9 +0.3**

baz=81,SNR=9.2
B11A Sandpoint 80.80 42 ⇓P P 05 17 16.2 -0.5
baz=81
V03C Hunter Liggett 80.84 55 ⇓P P 05 17 16.6 -0.4
baz=81
J08A Circle Bar Ran 80.85 47 P P 05 17 17.4 +0.3
baz=81,SNR=12
P06A Stead Airport, 80.85 51 ⇓P P 05 17 17.5 +0.5
baz=81
E10A Myers Farm, Un 80.89 44 ⇑P P 05 17 16.7 -0.5
baz=81
M07A Soldier Meadow 80.91 49 P P 05 17 18.1 +0.8
baz=81,SNR=5.2
CMB Columbia Colle 80.94 53 P P 05 17 17.6 +0.1
baz=81,SNR=6.5
WVOR Wild Horse Val 81.00 48 *eP* **P 05 17 17.7 -0.1**
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WVOR Wild Horse Val 81.00 48 *eP* **P 05 17 17.7 -0.1**
comp=Z,10nm,1.0s,mb4.7
K08A Mann Creek Ran 81.02 48 P P 05 17 18.1 +0.2
baz=81,SNR=16
H09A Durkee 81.04 46 ⇑P P 05 17 18.2 +0.1
baz=81
WCN Washoe City 81.06 52 ⇓P P 05 17 18.0 -0.1
baz=81
U04C Hernandez Rese 81.10 55 ⇓P P 05 17 17.9 -0.4
baz=81
A12A Yaak River Ran 81.10 41 ⇓P P 05 17 18.5 +0.1
baz=81
S05C Merced 81.17 54 ⇓P P 05 17 19.0 +0.2
baz=81
I09A Lost Marbles R 81.19 47 ⇓P P 05 17 18.3 -0.5
baz=81
PAHR Pah Rah Range 81.22 51 *eP* **P 05 17 19.2 +0.2**
comp=Z,4.1nm,1.0s,mb4.3
BMO Blue Mountains 81.23 46 *eP* **P 05 17 18.9 -0.2**
BMO pmax pmax
comp=Z,11nm,1.1s,mb4.7
BMO Blue Mountains 81.23 46 *eP* **P 05 17 18.9 -0.1**
comp=Z,11nm,1.1s,mb4.7
L08A Fields 81.28 49 P P 05 17 19.8 +0.4
baz=81,SNR=14
B12A Libby 81.28 42 ⇑P P 05 17 19.4 +0.1
baz=81
J09A Fry Pan Ranch, 81.36 47 P P 05 17 19.9 +0.2
baz=81,SNR=12
S06C San Francisco 81.39 53 ⇑P P 05 17 19.8 -0.1
baz=81
PKD Parkfield 81.40 55 ⇓P P 05 17 20.2 +0.2
baz=81
M08A Happy Creek Ra 81.46 49 ⇓P P 05 17 20.1 -0.2
baz=81
O07A Toulon 81.47 51 ⇓P P 05 17 20.5 +0.2
baz=81
R06C Coleville 81.51 52 ⇓P P 05 17 21.0 +0.5
baz=81
E11A Bogner Ranch, 81.52 44 P P 05 17 20.2 -0.4
baz=81,SNR=5.9
K09A Rome 81.57 48 P P 05 17 20.9 0.0
baz=82,SNR=7.9
U05C Westside ANR, 81.62 55 ⇓P P 05 17 21.9 +0.8
baz=82
H10A Noah's Angus R 81.69 46 P P 05 17 20.7 -0.8
baz=82,SNR=8.1
F11A Grangeville 81.70 44 ⇓P P 05 17 20.4 -1.2
baz=82
T06C Millerton Lake 81.75 54 P P 05 17 21.7 -0.1
baz=82,SNR=9.9
L09A Wilkinson Ranc 81.81 49 P P 05 17 22.7 +0.6
baz=82,SNR=5.2
N08A GE Springer Mi 81.83 50 P P 05 17 22.6 +0.3
baz=82,SNR=10
A13A Flathead Natio 81.88 41 P P 05 17 23.1 +0.6
baz=82,SNR=6.3
KCC Kaiser Creek 81.95 53 ⇓P P 05 17 23.1 +0.2
baz=82
BSMT Bassoo Peak 81.98 42 *eP* **P 05 17 23.3 +0.2**
SMMC Simmler 82.00 56 ⇑P P 05 17 23.7 +0.5
baz=82
J10A Berg Farm, Mel 82.02 47 ⇓P P 05 17 23.0 -0.2
baz=82
B13A Whitefish 82.02 42 P P 05 17 23.6 +0.4
baz=82,SNR=7.1
M09A Marrel Ranch, 82.14 49 P P 05 17 24.4 +0.5
baz=82,SNR=5.5
H11A Donnelly 82.15 46 ⇑P P 05 17 22.8 -1.2
baz=82
C13A Hot Springs 82.17 42 P P 05 17 24.0 -0.1
baz=82,SNR=7.0
N09A Rock Creek Ran 82.25 50 ⇑P P 05 17 24.6 +0.1
baz=82
PKM Peak Mountain 82.27 56 ⇓P P 05 17 25.1 +0.5
baz=82
F12A Elk City 82.33 44 ⇑P P 05 17 25.6 +0.7
baz=82,SNR=6.6
HELL Mitchell Peak, 82.37 54 ⇑P P 05 17 24.9 -0.1
baz=82
KLMR Klimovskoe 82.39 332 *eP* **P 05 17 26.4 +1.2**
KLMR pmax pmax
comp=Z,35nm,1.8s,mb5.0
NVAR Mina Array Bea 82.40 52 P P 05 17 25.6 +0.4
comp=Z,6.3nm,0.9s,mb4.5,baz=273,slow=6.0,SNR=27
I11A Placerville 82.43 46 P P 05 17 25.2 -0.2
baz=82,SNR=6.9
D13A Huson 82.44 43 ⇓P P 05 17 24.5 -0.9
baz=82
Q08A Gabbs 82.55 52 P P 05 17 26.5 +0.5
baz=82,SNR=7.7
VES Vestal, Richgr 82.57 55 ⇓P P 05 17 25.0 -1.1
baz=82
C14A Swan Lake 82.67 42 P P 05 17 26.5 -0.1
baz=83,SNR=5.0
MFID Camas Ranch 82.68 47 ⇓P P 05 17 27.1 +0.4
baz=83
O09A Fish Creek Ran 82.70 50 P P 05 17 27.6 +0.8
baz=83,SNR=5.8
S08C White Mtn Res 82.78 53 P P 05 17 28.1 +1.0
baz=83,SNR=5.0
P09A Austin 82.93 51 ⇑P P 05 17 27.8 -0.2
baz=83
F13A Darby 82.94 44 ⇑P P 05 17 27.8 -0.2
baz=83
ARVC Arvin 82.97 55 ⇑P P 05 17 28.1 -0.1
baz=83
H12A Diamond D Ranc 82.98 45 ⇓P P 05 17 27.4 -0.9
baz=83
ISA Isabella 83.09 55 ⇑P P 05 17 29.0 +0.2
baz=83
O10A Cortez Mining, 83.17 50 ⇑P P 05 17 30.0 +0.7
baz=83
G13A Cobalt 83.23 45 P P 05 17 29.1 -0.4
baz=83,SNR=15
J12A Stokes Ranch, 83.23 47 ⇓P P 05 17 29.0 -0.5
baz=83
ARCES ARCESS Array B 83.25 342 P P 05 17 32.0 +2.3
comp=Z,3.6nm,0.8s,mb4.5,baz=76,slow=8.7,SNR=10
ARCES LR LR 05 57 08.7
comp=Z,103nm,21.1s,MS4.2,baz=245,slow=38
E14A Clinton 83.28 43 ⇑P P 05 17 28.9 -0.9
baz=83
M11A Holland Ranch, 83.32 49 ⇓P P 05 17 30.1 +0.1
baz=83
R09A Tonopah 83.38 52 P P 05 17 30.5 +0.2
baz=83,SNR=9.3
P10A Eureka 83.40 51 ⇓P P 05 17 30.9 +0.4
baz=83
S09A Goldfield 83.42 53 P P 05 17 30.9 +0.3
baz=83,SNR=6.9
N11A Elko Archery C 83.56 49 ⇓P P 05 17 31.3 +0.1
baz=84
F14A Wisdom 83.56 44 ⇓P P 05 17 31.3 0.0
baz=84
K12A Draper Farm, C 83.57 47 ⇑P P 05 17 31.0 -0.2
baz=84
HLID Hailey 83.61 46 P P 05 17 31.6 +0.1
baz=84,SNR=6.5
D15A Lincoln 83.70 43 ⇓P P 05 17 31.4 -0.6
baz=84
MPMC Manual Prospec 83.73 54 P P 05 17 32.4 +0.3
baz=84,SNR=5.6
J13A Cove Ranch, Pi 83.82 46 ⇑P P 05 17 32.7 +0.1
baz=84
O11A Cowboy Ranch, 83.83 50 ⇑P P 05 17 33.4 +0.7
baz=84
E15A Deer Lodge 83.84 43 ⇓P P 05 17 32.4 -0.3
baz=84
ELK Elko 83.94 49 *eP* **P 05 17 33.5 +0.3**
ELK pmax pmax
comp=Z,12nm,1.0s
ELK Elko 83.94 49 *eP* **P 05 17 33.5 +0.4**
comp=Z,12nm,1.0s,mb5.0
M12A Wells 83.95 48 P P 05 17 33.8 +0.6
baz=84,SNR=6.7
N12A Clover Valley, 84.05 49 ⇑P P 05 17 34.1 +0.4
baz=84
FURC Furnace Creek, 84.09 54 ⇓P P 05 17 33.8 -0.2
baz=84
F15A Butte 84.13 44 P P 05 17 34.1 -0.1
baz=84,SNR=8.5
Q11A Duckwater 84.24 51 ⇓P P 05 17 34.5 -0.2
baz=84
G15A Dillon 84.37 44 ⇑P P 05 17 34.8 -0.6
baz=84
O12A Currie 84.45 50 P P 05 17 36.0 +0.2
baz=84,SNR=6.0
GSC Goldstone 84.50 55 ⇓P P 05 17 35.9 -0.2
baz=84
M13A Montello 84.50 48 P P 05 17 36.4 +0.3
baz=84,SNR=8.4
P12A McGill 84.59 50 P P 05 17 37.1 +0.6
baz=84,SNR=5.2
BOZ Bozeman (W) 84.77 44 P P 05 17 37.5 +0.1
baz=85,SNR=7.0
Q12A Willow Creek R 84.79 51 ⇓P P 05 17 37.0 -0.5
baz=85
JOF Joensuu 84.90 336 *ep* **P 05 17 36.4 -1.6**
comp=Z,3.4nm,0.3s,mb5.0
EGMT Eagleton 85.10 41 ⇑P P 05 17 38.4 -0.6
baz=85
TUQ Turquoise Mtn. 85.14 54 ⇑P P 05 17 38.7 -0.5
baz=85
QLMT Earthquake Lak 85.19 44 *eP* **P 05 17 40.5 +1.0**
V11A Goodsprings 85.39 54 ⇓P P 05 17 40.3 -0.2
baz=85
GMRC Granite Mounta 85.56 55 ⇓P P 05 17 41.4 +0.1
baz=86
YMR Madison River 85.56 44 *eP* **P 05 17 42.2 +0.9**
comp=Z,16nm,0.9s,mb5.2
MONP Monument Peak 85.57 57 ⇑P P 05 17 41.8 +0.5
baz=86
YFT Old Faithful 85.72 45 *eP* **P 05 17 44.7 +2.6**
DUG Dugway 85.86 49 *eP* **P 05 17 42.6 -0.3**
DUG pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
DUG Dugway 85.86 49 *eP* **P 05 17 42.6 -0.3**
comp=Z,9.8nm,1.2s,mb4.9
DUG Dugway 85.86 49 P P 05 17 43.1 +0.2
baz=86,SNR=8.8
V12A Nelson 85.87 54 ⇑P P 05 17 42.7 -0.2
baz=86
MOOW Moose Ponds 86.04 45 *eP* **P 05 17 44.0 +0.3**
BC3 Big Chuckw Mtn 86.08 56 ⇑P P 05 17 43.8 -0.2
baz=86
IRM Iron Mountain 86.16 55 ⇓P P 05 17 43.5 -0.8
baz=86
HWUT Hardware Ranch 86.25 47 *eP* **P 05 17 44.8 +0.1**
comp=Z,8.7nm,0.8s,mb5.0
OBN Obninsk 86.28 327 ⇓P P 05 17 46.0 +1.1
OBN pmax pmax
comp=Z,23nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.3
JLU Jordanelle 86.69 48 *eP* **P 05 17 47.2 +0.2**
FFC Flin Flon 86.75 33 P P 05 17 46.4 -0.8
comp=Z,121nm,0.9s,SNR=7.8
GLA Glamis 86.78 56 ⇓P P 05 17 47.2 -0.2
baz=87
Y12C Blythe 86.78 56 ⇓P P 05 17 46.9 -0.5
baz=87
W13A Hualapai Mount 86.82 54 ⇓P P 05 17 47.4 -0.2
baz=87
PDMCI Parker Dam,Lak 86.90 55 ⇓P P 05 17 48.0 +0.1
baz=87
DAU Daniels Canyon 86.90 48 *eP* **P 05 17 48.6 +0.7**
MSU Marysvale 86.92 51 *eP* **P 05 17 48.9 +0.9**
ZEI Tsey 87.00 314 *eP* **P 05 17 47.0 -1.4**
ZEI pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
X13A Yucca 87.04 55 ⇓P P 05 17 47.8 -0.8
baz=87
PDAR Pinedale Array 87.21 46 P P 05 17 48.9 -0.6
comp=Z,1.3nm,0.7s,mb4.2,baz=251,slow=2.3,SNR=12
PDAR LR LR 05 54 21.0
comp=Z,87nm,21.0s,MS4.1,baz=287,slow=34
KAF Kangasniemi 87.29 336 *ep* **P 05 17 49.8 0.0**
comp=Z,1.3nm,0.4s,mb4.5
KAF Kangasniemi 87.29 336 *eP* **P 05 17 49.8 0.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.4
Y13A Salome 87.31 55 ⇑P P 05 17 49.4 -0.5
baz=87
TMUT Trail Mountain 87.34 50 *eP* **P 05 17 51.2 +1.1**
KIV Kislovodsk 87.36 316 *eP* **P 05 17 52.9 +2.7**
KIV *e* 05 28 17.1
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
KIV MLR MLR
comp=Z,190nm,20.0s,MS4.5
W14A Seligman 87.40 54 ⇑P P 05 17 49.8 -0.5
baz=87
FIA1 FINESS Array S 87.76 336 *eP* **P 05 17 50.7 -1.4**
FINES FINESS Array B 87.76 336 P P 05 17 50.4 -1.7
comp=Z,1.8nm,0.3s,mb4.7,baz=67,slow=4.3,SNR=24
FINES FINESS Array B 87.76 336 *i P* **P 05 17 50.5 -1.6**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 87.76 336 P P 05 17 50.4 -1.7
X14A Yava 87.81 54 ⇓P P 05 17 52.4 +0.1
baz=88
LAO LASA Array 87.84 41 *eP* **P 05 17 52.2 -0.3**
comp=Z,8.9nm,0.8s,mb5.0
SRU San Rafael 87.90 49 *eP* **P 05 17 53.1 +0.3**
Y14A Wickenburg 87.91 55 P P 05 17 53.4 +0.6
baz=88,SNR=6.2
W15A Williams 88.04 54 ⇓P P 05 17 53.8 +0.4
baz=88
Z14A Wintersburg 88.15 56 ⇓P P 05 17 54.1 +0.1
baz=88
X15A Humboldt 88.31 54 P P 05 17 55.7 +1.0
baz=88,SNR=7.0
WUAZ Wupatki 88.60 53 *eP* **P 05 17 56.6 +0.6**
comp=Z,16nm,1.2s,mb5.2
WUAZ Wupatki 88.60 53 P P 05 17 57.0 +1.0
baz=88,SNR=10.0
115A Sonoran Desert 88.95 56 ⇑P P 05 17 58.1 +0.4
baz=89
PV10 Paradox Valley 89.26 50 *eP* **P 05 17 59.6 +0.4**
116A Eloy 89.41 56 ⇓P P 05 18 00.3 +0.4
baz=89
PV01 Paradox Valley 89.69 50 *eP* **P 05 18 01.3 +0.2**
ULM Lac du Bonnet 92.22 35 P P 05 18 11.6 -1.3
comp=Z,4.7nm,0.8s,mb4.9,baz=292,slow=4.5,SNR=9.4
ULM LR LR 05 59 12.8
comp=Z,157nm,20.3s,MS4.5,baz=36,slow=35
ULM Lac du Bonnet 92.22 35 P P 05 18 11.6 -1.3
ULM LR LR 05 59 12.8
AKASG Malin Array Be 92.34 326 P P 05 18 11.6 -1.9
comp=Z,0.3nm,0.5s,mb3.9,baz=41,slow=4.6,SNR=2.3
AKASG LR LR 06 03 43.9
comp=Z,106nm,19.2s,MS4.3,baz=70,slow=38
ANMO Albuquerque 92.52 52 *i P* **P 05 18 14.8 +0.5**
NOA NORSAR Array B 93.37 340 LR LR 06 04 31.4
comp=Z,54nm,20.4s,MS4.0,baz=90,slow=38
SUW Suwalki 93.45 331 *eP* **P 05 18 15.8 -2.8**
comp=Z,21nm,1.0s,mb5.5
BRTR Keskin Array B 95.28 315 P P 05 18 25.4 -1.7
comp=Z,1.3nm,0.8s,mb4.4,baz=99,slow=4.0,SNR=5.0
BRTR LR LR 06 04 15.8
comp=Z,45nm,19.1s,MS4.0,baz=322,slow=37
BRTR Keskin Array B 95.28 315 *i P* **P 05 18 27.7 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 96.02 177 LR LR 06 00 53.9
comp=Z,76nm,18.2s,MS4.2,baz=232,slow=35
TXAR Lajitas Array 97.03 56 P P 05 18 34.1 -0.8
comp=Z,0.6nm,1.0s,mb4.0,baz=296,slow=4.9,SNR=3.9
TXAR LR LR 05 57 26.8
comp=Z,96nm,19.1s,MS4.3,baz=185,slow=32
TORD Torodi Ar. Bea 133.67 310 PKP PKPdf 05 24 19.4 -0.3
comp=Z,0.2nm,0.3s,baz=63,slow=1.0,SNR=16
TORD SKPbc SKPbc 05 27 44.1 -2.0
comp=Z,2.1nm,0.9s,baz=48,slow=2.1,SNR=10
PLCA Paso Flores 140.82 133 PKP PKPdf 05 24 32.4 -0.5
comp=Z,3.1nm,0.8s,baz=204,slow=4.2,SNR=4.6
LPAZ La Paz 146.41 92 PKPbc PKPbc 05 24 44.9 +0.8
comp=Z,6.7nm,0.8s,baz=315,slow=3.3,SNR=30

IGQ 19 05:34:53.4, 096S×7921W, h118km±3km, Mb4.0, Ms3.8, 5C-13D, Error ellipse: s-maj=2.1km s-min=1.3km az=7.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMI	**Rancho Maria**	**0.76**	**68**	⇓P	Pn	05 35 14.2	+1.1
CAMI				S	Sn	05 35 30.0	+2.2
IGUA	**Igualata**	**0.78**	**133**	⇓P	Pn	05 35 14.2	+1.0
PISA	**Pisayambo**	**0.83**	**97**	⇑P	Pn	05 35 14.4	+0.8
BILB	**Tungurahua vol**	**0.85**	**124**	⇓P	Pn	05 35 14.6	+0.7
VC1	**Cotopaxi 1**	**0.87**	**69**	⇓P	Pn	05 35 15.0	+1.1
JUIV	**Juive**	**0.88**	**122**	⇓P	Pn	05 35 14.6	+0.6
TAMB	**Tambo**	**0.88**	**73**	⇓P	Pn	05 35 15.2	+1.1
RETU	**Refugio**	**0.91**	**123**	⇓P	Pn	05 35 15.3	+1.0
RUN5	**Runtun**	**0.91**	**120**	⇓P	Pn	05 35 15.0	+0.7
ARRY	**Arrayan**	**0.93**	**126**	⇓P	Pn	05 35 15.1	+0.6
ULBA	**Ulba**	**0.94**	**121**	⇑P	Pn	05 35 14.6	0.0
JUA2	**San Juan 2**	**0.96**	**39**	P	Pn	05 35 15.8	+1.0
JUA2				S	Sn	05 35 31.6	+0.6
TERV	**Terraza Guagua**	**0.99**	**38**	⇓P	Pn	05 35 16.2	+1.1
TERV				S	Sn	05 35 32.9	+1.3
GGP	**Refugio Guagua**	**0.99**	**38**	⇑P	Pn	05 35 16.1	+0.9
PINO	**Pino**	**1.00**	**37**	⇑P	Pn	05 35 16.1	+0.9
PINO				S	Sn	05 35 32.3	+0.6
YANA	**Yana**	**1.05**	**37**	P	Pn	05 35 16.4	+0.7
ANTI	**Antisana**	**1.17**	**64**	⇓P	Pn	05 35 18.1	+1.1
CHIS	**Cerro-Chispas-**	**1.52**	**267**	P	Pn	05 35 21.4	+0.5
CAYR	**Refugio Cayamb**	**1.54**	**51**	P	Pn	05 35 22.7	+1.5
COTA	**Cotacachi**	**1.55**	**34**	⇓P	Pn	05 35 23.0	+1.7
CAYA	**Cayambe**	**1.59**	**50**	P	Pn	05 35 23.1	+1.3
LAV3	**Lava3-Reventad**	**1.80**	**61**	⇓P	Pn	05 35 25.3	+1.1
CONE	**Cono NE Rev Vo**	**1.80**	**61**	⇑P	Pn	05 35 25.7	+1.5

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*NEIC **19** 05:49:06.0, 1599N×9750W, h23km, MD3.7(MEX), After MEX.*

MEX 19 05:49:06.3±0.6, 1600N×9751W, h23km±18km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**303**	*i* P	Pb	05 49 17.6	-2.5
PNIG				*i* S	Sb	05 49 27.0	-2.4
VHO	**Vista Hermosa**	**1.30**	**35**	*i* P	Pn	05 49 26.1	-3.0
VHO				*i* S	Sn	05 49 41.9	-3.8
OXX	**Oaxaca**	**1.31**	**35**	*i* P	Pn	05 49 26.0	-3.2
OXX				*i* S	Sn	05 49 43.0	-3.0
HUIG	**Huatulco**	**1.37**	**100**	*eP*	Pn	05 49 27.9	-2.0
HUIG				*i* S	Sn	05 49 43.5	-3.8
UTMO	**Huajuapan**	**1.84**	**351**	*eP*	Pn	05 49 35.5	-1.0
UTMO				*i* S	Sn	05 49 57.0	-2.0
TPIG	**Tehuac#an**	**2.41**	**3**	*i* P	Pn	05 49 42.7	-1.6
TPIG				*i* S	Sn	05 50 10.2	-2.9
ACX	**Acapulco**	**2.47**	**291**	*i* P	Pn	05 49 45.0	-0.1
ACX				*i* S	Sn	05 50 18.0	+3.5
CMIG	**Matias Romero**	**2.74**	**66**	*i* P	Pn	05 49 46.6	-2.2
CMIG				*i* S	Sn	05 50 16.9	-4.3
MEIG	**Mezcala**	**2.79**	**314**	*eP*	Pn	05 49 47.5	-1.9
MEIG				*i* S	Sn	05 50 20.0	-2.3

IDC 19 06:21:08.8±0.7, 674N×7293W, h169km±7km, mb2.8/3, mb1 3.3/5, mb1mx3.1/18, mbtmp3.1/5, MS3.3/1, Ms1 3.3/1, ms1mx2.4/10, Error ellipse: s-maj=26.7km s-min=7.8km az=133.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**217**	P	Pn	06 21 49.7	+0.9
	51nm,0.3s,baz=71,slow=10.0,SNR=196						
ROSC				S	Sn	06 22 20.9	+1.1
	66nm,0.3s,baz=86,slow=22,SNR=8.0						
SDV	**Santo Domingo**	**3.12**	**47**	P	Pn	06 21 59.5	+1.2
	14nm,0.3s,baz=244,slow=22,SNR=31						
SDV				S	Sn	06 22 37.6	+0.7
	33nm,0.3s,baz=224,slow=20,SNR=17						
SDV				LR	LR	06 23 09.3	
	comp=Z,550nm,21.0s,baz=289,slow=39						
LPAZ	**La Paz**	**23.36**	**168**	pP	pP	06 26 36.6	+2.8
	0.8nm,0.7s,baz=356,slow=10,SNR=4.8						
TXAR	**Lajitas Array**	**36.66**	**312**	P	P	06 27 59.3	+0.2
	0.1nm,0.5s,baz=136,slow=12,SNR=5.3						
YKA	**Yellowknife Ar**	**63.41**	**340**	P	P	06 31 19.7	-0.5
	0.2nm,0.6s,baz=126,slow=7.2,SNR=6.1						
YKA				pP	pP	06 31 57.9	-1.9
	0.2nm,0.5s,baz=133,slow=6.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**73.57**	**78**	P	P	06 32 23.6	+0.4
	0.3nm,0.7s,baz=252,slow=5.7,SNR=2.8						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	PKPbc	06 40 38.1	+0.9
	1.3nm,0.7s,baz=118,slow=3.5,SNR=20						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	06 40 41.3	+1.1
	0.9nm,0.5s,baz=109,slow=2.5,SNR=25						

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*MOS **19** 06:24:48.9±3.4, 4782N×154.18E, h33km, mb4.1/6, Error ellipse: s-maj=24.6km s-min=12.4km az=59.1*
*ISCJB **19** 06:24:50.6±0.6, 479N±0.1×1542E±0.1, h53km, mb3.9/10, MS3.1/2, Error ellipse: s-maj=20.1km s-min=8.6km az=107.9*
*IDC **19** 06:24:52.1±0.7, 4804N×15386E, h52km±6km, mb3.6/10, mb1 3.9/11, mb1mx3.7/23, mbtmp3.6/11, MS3.1/2, Ms1 3.1/2, ms1mx2.6/28, Error ellipse: s-maj=22.5km s-min=15.0km az=139.0*

ISC 19 06:24:52.5±0.6, 480N±01×1541E±02, h55km, h55km±5.1km: pP-P, n24, σ1s32/24, mb3.9/10, MS3.1/2, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.01**	**26**	*e*PN	**Pn**	**06 25 38.0**	**+0.3**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**5.08**	**239**	*e*PN	**Pn**	**06 26 04.0**	**-2.0**
KUR				*e*S	**Sn**	**06 27 13.0**	**+10**
KUR				pmax	pmax		
	comp=Z,140nm,0.6s						
KUR				smax			
	comp=N,240nm,0.7s						
KUR				smax			
	comp=E,40nm,0.7s						
PET	**Petropavlovsk**	**5.83**	**28**	*e*PN	**Pn**	**06 26 23.1**	**+6.8**
PET				pmax	pmax		
	comp=Z,37nm,1.2s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.73**	**266**	*i*PN	**Pn**	**06 26 45.2**	**+2.8**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
ASAJ	**Asahikawa**	**8.86**	**248**	P	**Pn**	**06 27 01.1**	**+3.2**
	comp=Z,1.1nm,0.3s,baz=77,slow=18,SNR=6.7						
ASAJ	**Asahikawa**	**8.86**	**248**	PN	**Pn**	**06 27 01.1**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.35**	**231**	P	**Pn**	**06 28 38.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=29,slow=6.5,SNR=3.6						
KSRS	**Korea Array**	**21.80**	**251**	P	**P**	**06 29 40.3**	**+0.4**
	comp=Z,3.9nm,0.8s,mb3.9,baz=54,slow=10,SNR=10						
SONM	**Songino Array**	**31.55**	**288**	LR	LR	06 42 56.9	
	comp=Z,27nm,21.0s,MS2.9,baz=121,slow=34						
MKAR	**Makanchi Array**	**46.95**	**297**	P	**P**	**06 33 16.8**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=70,slow=8.4,SNR=11						
MKAR				pP	pP	06 33 29.2	-3.0
	comp=Z,0.6nm,0.8s,baz=69,slow=8.9,SNR=2.5						
MKAR				LR	LR	06 54 18.7	
	comp=Z,28nm,18.2s,MS3.3,baz=140,slow=38						
MKAR	**Makanchi Array**	**46.95**	**297**	P	**P**	**06 33 16.8**	**-1.0**
MKAR				*PP	pP	06 33 29.2	-3.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,28nm,18.2s						
YKA	**Yellowknife Ar**	**49.55**	**38**	P	**P**	**06 33 37.8**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=295,slow=7.0,SNR=7.8						
YKA				pP	pP	06 33 51.9	-0.4
	comp=Z,0.4nm,0.7s,baz=296,slow=7.2,SNR=5.6						
YKA	**Yellowknife Ar**	**49.55**	**38**	P	**P**	**06 33 37.8**	**+0.1**

YKA			*PP	pP	06 33 51.9	-0.4
YKA			pmax	pmax		
comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**61.29 63**	P	**P**	**06 35 03.0**	**+0.8**
comp=Z,0.8nm,0.6s,mb4.0,baz=302,slow=8.4,SNR=4.8						
FINES	**FINESS Array B**	**63.19 335**	P	**P**	**06 35 11.9**	**-3.0**
comp=Z,1.5nm,0.8s,mb4.2,baz=64,slow=11,SNR=3.4						
FINES	**FINESS Array B**	**63.19 335**	P	**P**	**06 35 11.9**	**-3.0**
FINES			pmax	pmax		
comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**63.50 55**	P	**P**	**06 35 17.8**	**+0.9**
comp=Z,1.0nm,0.7s,mb4.0,baz=245,slow=1.7,SNR=9.1						
NOA	**NORSAR Array B**	**67.26 341**	P	**P**	**06 35 39.8**	**-1.4**
comp=Z,0.3nm,0.5s,mb3.6,baz=30,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**69.90 200**	P	**P**	**06 35 56.2**	**-1.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=15,slow=6.2,SNR=6.1						
WRA			pP	pP	06 36 12.6	-0.3
comp=Z,0.5nm,1.0s,baz=17,slow=6.5,SNR=2.2						
WRA			sP	sP	06 36 17.8	-1.2
comp=Z,0.6nm,0.6s,baz=17,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**69.90 200**	P	**P**	**06 35 56.2**	**-1.4**
WRA			*PP	pP	06 36 12.6	-0.3
WRA			*SP	sP	06 36 17.8	-1.2
WRA			pmax	pmax		
comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**73.59 199**	P	**P**	**06 36 19.7**	**-0.1**
comp=Z,0.7nm,0.7s,mb3.7,baz=10,slow=5.2,SNR=7.8						
ASAR	**Alice Springs**	**73.59 199**	P	**P**	**06 36 19.7**	**-0.1**
ASAR			pmax	pmax		
comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.33 61**	P	**P**	**06 36 36.1**	**+0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=302,slow=4.2,SNR=22						
TXAR	**Lajitas Array**	**76.33 61**	P	**P**	**06 36 36.1**	**+0.5**
TXAR			pmax	pmax		
comp=Z,1.0nm,0.6s						

BJI ***19*** *06:43:29.5, 46.37N×152.44E, h29km, mB4.8, mb4.6, Ms4.2, Msz3.6*
NEIC ***19*** *06:43:30.9±0.4, 46.23N×151.95E, h10km, mb4.7/24, Error ellipse: s-maj=10.6km s-min=6.7km az=147.0*
SZGRF ***19*** *06:43:32.9, 45.83N×152.17E, h33km, mb4.9, East of Kuril Islands, Russia*
JMA ***19*** *06:43:33.0±0.7, 46.06N×152.30E, h30km, M5.1*
ISCJB ***19*** *06:43:33.9±0.7, 46.08N±0.05×151.95E±0.06, h48km±6km, mb4.6/64, MS3.6/12, Error ellipse: s-maj=9.9km s-min=4.8km az=120.5*
MOS ***19*** *06:43:35.0±0.9, 46.19N×151.94E, h56km, mb4.8/23, Error ellipse: s-maj=9.3km s-min=7.6km az=89.2*
SKHL ***19*** *06:43:35.4±3.2, 45.90N×152.10E, h56km±14km, mb5.1/3, msh5.4/1*
IDC ***19*** *06:43:38.7±3.5, 46.19N×151.85E, h77km±31km, mb4.0/18, mb1 4.1/20, mb1mx4.1/24, mbtmp4.0/20, MS3.5/9, Ms1 3.5/9, ms1mx3.4/25, Error ellipse: s-maj=16.5km s-min=13.3km az=150.0*
ISC 19 06:43:36.0±0.6, 4612N±005×15196E±005, h53km±5km, n183, σ1°30/204, mb4.6/64, MS3.6/12, 9C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.00**	**254**	∥ *i* PN	**Pn**	**06 44 18.6**	**-2.5**
KUR				*i* S	**Sn**	**06 44 55.0**	**-0.8**
KUR				pmax	pmax		
comp=N,150nm,0.6s							
KUR				pmax	pmax		
comp=E,180nm,0.6s							
KUR				pmax	pmax		
comp=Z,660nm,0.6s							
KUR				smax			
comp=N,1μm,0.6s							
KUR				smax			
comp=E,2μm,0.6s							
KUR				smax			
comp=N,5μm,3.0s							
KUR				smax			
comp=E,5μm,3.0s							
KUR	**Kuril'sk**	**3.00**	**254**	*i* P	**Pn**	**06 44 18.6**	**-2.5**
KUR				AMB	AMB	06 44 19.6	
comp=E,150nm,0.6s							
KUR				AMB	AMB	06 44 19.6	
comp=E,180nm,0.6s							
KUR				AMB	AMB	06 44 19.6	
comp=E,660nm,0.6s							
KUR				*i* S	**Sn**	**06 44 55.0**	**-0.8**
KUR				A		06 45 03.0	
comp=E,1μm,0.6s							
KUR				A		06 45 03.0	
comp=E,2μm,0.6s							
KUR				A		06 45 03.0	
comp=E,5μm,3.0s							
YUK	**Yuzh-Kuril'sk**	**4.79**	**246**	*e*PN	**Pn**	**06 44 48.0**	**+2.3**
YUK				*e*S	**Sn**	**06 45 41.0**	**+1.1**
YUK				pmax	pmax		
comp=Z,380μm,0.5s							
YUK				smax			
comp=N,3μm,1.0s							
YUK				smax			
comp=E,2μm,1.0s							
YUK				smax			
comp=N,2μm,0.5s							
YUK				smax			
comp=E,490nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.79**	**246**	*e*P	**Pn**	**06 44 48.0**	**+2.3**
YUK				AMB	AMB	06 44 48.3	
comp=E,380nm,0.5s							
YUK				*e*S	**Sn**	**06 45 41.0**	**+1.1**
YUK				A		06 45 49.4	
comp=E,3μm,1.0s							
YUK				A		06 45 49.4	
comp=E,2μm,1.0s							
YUK				A		06 46 03.0	
comp=E,2μm,0.5s							
YUK				A		06 46 03.0	
comp=E,490nm,0.5s							
NEM2	**Nemuro 2**	**5.21**	**240**	P	**Pn**	**06 44 50.7**	**-0.7**
NEM2				*e*S	**Sn**	**06 45 48.0**	**-2.2**
JRA	**Rausu**	**5.31**	**248**	P	**Pn**	**06 44 54.8**	**+2.0**
SKR	**Severo-Kuril's**	**5.34**	**30**	*e*PN	**Pn**	**06 44 53.0**	**-0.1**
SKR				pmax	pmax		
comp=Z,60nm,0.5s							
JNK	**Nakash**	**5.74**	**246**	P	**Pn**	**06 44 59.9**	**+1.3**
JAK	**Akkeshi**	**6.05**	**242**	P	**Pn**	**06 45 02.0**	**-0.9**
JAK				*e*S	**Sn**	**06 46 08.1**	**-2.8**
JTKR	**Abashiri--Toko**	**6.09**	**252**	P	**Pn**	**06 45 05.9**	**+2.4**
YSS	**Yuzh-Sakhalins**	**6.40**	**281**	*e*PN	**Pn**	**06 45 10.1**	**+2.4**
YSS				pmax	pmax		
comp=Z,32nm,0.6s							
YSS	**Yuzh-Sakhalins**	**6.40**	**281**	*e*Pn	**Pn**	**06 45 10.0**	**+2.3**
YSS	**Yuzh-Sakhalins**	**6.40**	**281**	*i* P	**Pn**	**06 45 10.0**	**+2.3**
YSS				AMB	AMB	06 45 11.0	
comp=Z,60nm,1.0s							
YSS				*e*S	**Sn**	**06 46 19.0**	**-0.4**
YSS				A		06 46 24.0	
comp=Z,30nm,0.9s							
JMP	**Maruseppu**	**6.45**	**254**	P	**Pn**	**06 45 10.9**	**+2.6**
JAR	**Ashorobuto**	**6.48**	**247**	P	**Pn**	**06 45 10.1**	**+1.3**
JAR				*e*S	**Sn**	**06 46 21.7**	**+0.3**
JOB	**Onbets**	**6.64**	**244**	P	**Pn**	**06 45 11.2**	**+0.3**
JOB				*e*S	**Sn**	**06 46 23.2**	**-2.0**
JSE	**Soyaes**	**6.69**	**263**	P	**Pn**	**06 45 15.7**	**+4.1**
JKK2	**Kamakawa 2**	**6.91**	**254**	P	**Pn**	**06 45 17.3**	**+2.7**
ASAJ	**Asahikawa**	**6.92**	**257**	P	**Pn**	**06 45 18.0**	**+3.2**
comp=Z,6.2nm,0.3s,baz=85,slow=16,SNR=20							
ASAJ				LR	LR	06 47 52.6	
comp=Z,282nm,20.0s,baz=37,slow=37							
ASAJ	**Asahikawa**	**6.92**	**257**	P	**Pn**	**06 45 18.4**	**+3.6**
ASAJ	**Asahikawa**	**6.92**	**257**	PN	**Pn**	**06 45 18.0**	**+3.2**
ASAJ				pmax	pmax		
comp=Z,6.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,282nm,20.0s							
JCH	**Churui**	**7.09**	**243**	P	**Pn**	**06 45 16.4**	**-0.7**
JCH				*e*S	**Sn**	**06 46 34.4**	**-1.8**
JWK2	**Keihoku**	**7.09**	**267**	P	**Pn**	**06 45 22.2**	**+5.1**
JAB	**Ashibetsu**	**7.40**	**253**	P	**Pn**	**06 45 24.5**	**+3.1**
ERM	**Erimo**	**7.55**	**240**	*e*PN	**Pn**	**06 45 24.8**	**+1.4**
JEM	**Erimo**	**7.55**	**240**	P	**Pn**	**06 45 24.3**	**+0.9**
JEM				*e*S	**Sn**	**06 46 45.9**	**-1.7**
JNBK	**Urakawa-nobuka**	**7.65**	**243**	P	**Pn**	**06 45 23.7**	**-1.0**
JNBK				*e*S	**Sn**	**06 46 46.4**	**-3.6**
PET	**Petropavlovsk**	**8.16**	**30**	*e*PN	**Pn**	**06 45 36.8**	**+5.0**
PET				MLR	MLR		
comp=Z,100nm,17.0s							
PET	**Petropavlovsk**	**8.16**	**30**	*e*Pn	**Pn**	**06 45 32.6**	**+0.8**
JEW	**Eniwo**	**8.20**	**250**	P	**Pn**	**06 45 33.9**	**+1.6**
JKB	**Kayabe**	**8.94**	**246**	P	**Pn**	**06 45 41.8**	**-0.6**
JSH	**Shimam**	**9.21**	**252**	P	**Pn**	**06 45 47.3**	**+1.1**
JYM2	**Yakumo 2**	**9.24**	**248**	P	**Pn**	**06 45 46.3**	**-0.3**
JSR	**Shiriuchi**	**9.52**	**245**	P	**Pn**	**06 45 50.3**	**-0.1**
JTM	**Tenmabayashi**	**9.54**	**240**	P	**Pn**	**06 45 48.9**	**-1.8**
JTM				*e*S	**Sn**	**06 47 28.3**	**-8.2**
JTH	**Tanohata**	**9.63**	**234**	P	**Pn**	**06 45 47.8**	**-4.1**
JTH				*e*S	**Sn**	**06 47 28.0**	**-11**
OFUJ	**Ofunato**	**10.34**	**231**	P	**Pn**	**06 45 57.9**	**-3.7**
OFUJ				*e*S	**Sn**	**06 47 47.2**	**-8.8**
JRG	**Rokugo**	**10.69**	**235**	P	**Pn**	**06 46 03.6**	**-2.8**
JRG				*e*S	**Sn**	**06 47 55.5**	**-9.1**
JIO	**Ouri**	**10.97**	**229**	P	**Pn**	**06 46 06.8**	**-3.4**
JIO				*e*S	**Sn**	**06 48 00.6**	**-11**
HABR	**Khabarovsk**	**11.72**	**288**	*e*PN	**Pn**	**06 46 19.9**	**-0.6**
MA2	**Magadan**	**13.50**	**357**	*e*PN	**Pn**	**06 46 44.8**	**+0.1**
MA2				pmax	pmax		
comp=Z,10.0nm,0.6s							
MA2				MLR	MLR		
comp=Z,1μm,19.0s							
MA2	**Magadan**	**13.50**	**357**	*e*Pn	**Pn**	**06 46 43.0**	**-1.7**
MAJO	**Matsushiro**	**14.06**	**232**	*e*P	**Pn**	**06 46 59.8**	**+7.4**
MJAR	**Matsushiro Arr**	**14.06**	**232**	P	**Pn**	**06 46 49.6**	**-2.8**
comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=7.8							
MJAR				LR	LR	06 52 38.0	
comp=Z,151nm,20.2s,baz=40,slow=38							
MDJ	**Mudanjiang**	**15.79**	**273**	P	**Pn**	**06 47 16.3**	**+1.5**
MDJ				AMB	AMB		
comp=Z,11nm,0.8s							
MDJ				AMB	AMB		
comp=Z,66nm,5.1s							
MDJ	**Mudanjiang**	**15.79**	**273**	*e*P	**Pn**	**06 47 18.8**	**+4.0**
comp=Z,8.0nm,0.7s							
CN2	**Changchun**	**18.88**	**273**	*e*P	**Pn**	**06 47 52.8**	**-0.1**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,200nm,15.0s							
CN2				LR	LR		
comp=E,200nm,15.0s							
CN2				LR	LR		
comp=Z,200nm,18.0s							
CLNS	**Chul'man**	**19.84**	**313**	*e*P	**Pn**	**06 48 06.8**	**+2.4**
CLNS				pmax	pmax		
comp=Z,12nm,0.8s							
CLNS				pmax	pmax		
comp=N,9.0nm,1.0s							
CLNS				pmax	pmax		
comp=E,12nm,1.0s							
CLNS				MLR	MLR		
comp=Z,100nm,18.0s							
CLNS				MLR	MLR		
comp=N,100nm,14.0s							
KSRS	**Korea Array**	**19.85**	**253**	P	**Pn**	**06 48 02.5**	**-2.0**
baz=55,slow=12,SNR=19							
KSRS				LR	LR	06 55 20.1	
comp=N,60nm,18.5s,baz=60,slow=35							
YAK	**Yakutsk**	**20.44**	**329**	*e*P	**P**	**06 48 13.1**	**+4.2**
YAK				*e*PP		06 48 29.2	
YAK				*e*S	**S**	**06 51 57.5**	**+2.7**
YAK				*e*		06 52 14.1	
YAK				*e*SS	sS	06 52 29.2	+15
YAK				*e*		06 59 32.3	
YAK				pmax	pmax		
comp=Z,111nm,0.9s							
YAK				pmax	pmax		
comp=N,45nm,1.2s							
YAK				pmax	pmax		
comp=E,40nm,1.2s							
YAK				smax			
comp=E,26nm,1.7s							
YAK				smax			
comp=N,32nm,2.1s							
YAK	**Yakutsk**	**20.44**	**329**	*e*P	**P**	**06 48 09.2**	**+0.3**
comp=N,98nm,0.7s							
JNU	**Nakatsue**	**20.71**	**239**	LR	LR	06 56 32.0	
comp=N,150nm,19.5s,MS3.4,baz=89,slow=37							
SNY	**Shenyang**	**20.82**	**268**	⇑P	**P**	**06 48 15.1**	**+2.1**
SNY				S	**S**	**06 52 10.4**	**+8.1**
SNY				AMB	AMB		
comp=Z,12nm,0.6s							
SNY				AMB	AMB		
comp=Z,127nm,4.9s							
SNY				LR	LR		
comp=N,307nm,15.0s							
SNY				LR	LR		
comp=Z,157nm,20.8s							
HIA	**Hailar**	**21.82**	**290**	*e*P	**P**	**06 48 24.5**	**+0.7**
BILL	**Bilibino**	**23.19**	**14**	*e*P	**P**	**06 48 38.0**	**-0.3**
BILL				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.1							
BILL	**Bilibino**	**23.19**	**14**	*e*P	**P**	**06 48 38.0**	**-0.3**
comp=Z,5.1nm,0.6s,mb4.1							
BJI	**Beijing**	**26.67**	**270**	*e*P	**P**	**06 49 14.9**	**+4.9**
BJI				AMB	AMB		
comp=Z,11nm,0.8s,mb4.4							
BJI				LR	LR		
comp=Z,96nm,16.8s,MS3.4							
HHC	**Hu-ho-hao-te**	**29.54**	**274**	*e*P	**P**	**06 49 38.6**	**+3.0**
HHC				XP	sP	06 49 44.8	-10
HHC				PP	PP	06 50 34.1	-8.8
HHC				S	**S**	**06 54 32.6**	**+5.9**
HHC				SS	SS	06 56 06.0	-28
HHC				AMB	AMB		
comp=Z,22nm,0.8s,mb4.9							
HHC				AMB	AMB		
comp=Z,168nm,7.7s							
HHC				LR	LR		
comp=N,253nm,18.4s,MS4.1							
HHC				LR	LR		
comp=E,286nm,17.8s,MS4.1							
HHC				LR	LR		
comp=Z,270nm,20.2s,MS3.9							
SONM	**Songino Array**	**30.79**	**290**	P	**P**	**06 49 47.0**	**+0.4**
comp=Z,0.5nm,0.4s,mb3.7,baz=84,slow=8.0,SNR=6.9							
SONM				PcP	PcP	06 52 41.8	-1.0
comp=Z,1.0nm,0.9s,baz=104,slow=2.6,SNR=4.6							
SONM				LR	LR	07 02 52.6	
comp=Z,72nm,19.1s,MS3.4,baz=29,slow=38							
SONM	**Songino Array**	**30.79**	**290**	P	**P**	**06 49 47.0**	**+0.4**
SONM						06 52 41.8	
ZAK	**Zakamensk**	**32.23**	**296**	*e*P	**P**	**06 49 59.0**	**-0.2**
IMA2	**Indian Mountai**	**34.78**	**36**	*e*P	**P**	**06 50 20.6**	**-0.9**
LZH	**Lanzhou**	**37.11**	**272**	*e*P	**P**	**06 50 42.9**	**+1.6**
LZH				AMB	AMB		
comp=Z,25nm,1.0s,mb5.0							
LZH				AMB	AMB		
comp=Z,80nm,4.0s							
LZH	**Lanzhou**	**37.11**	**272**	*e*P	**P**	**06 50 42.9**	**+1.6**
comp=Z,25nm,1.0s,mb5.0							
LZH				pP	pP	06 51 01.3	+6.4
LZH				sP	sP	06 51 12.8	+12
COLA	**College**	**37.13**	**38**	*e*P	**P**	**06 50 40.6**	**-0.9**
COLA				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.4							
COLA	**College**	**37.13**	**38**	*e*P	**P**	**06 50 40.6**	**-0.8**
comp=Z,4.5nm,0.8s,mb4.3							
GTA	**Gaotai**	**38.28**	**279**	*e*P	**P**	**06 50 53.1**	**+1.9**
GTA				PP	PP	06 52 26.8	+7.3
GTA				PCP	PcP	06 53 06.3	+1.9
GTA				S	**S**	**06 56 40.6**	**-1.0**
GTA				SS	SS	06 59 25.3	-6.2
GTA				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.5							
GTA				AMB	AMB		
comp=Z,44nm,5.7s							
GTA				LR	LR		
comp=N,140nm,17.5s,MS4.2							
GTA				LR	LR		
comp=E,263nm,16.7s,MS4.2							
GTA				LR	LR		
comp=Z,103nm,13.3s,MS3.8							
CD2	**Chengdu**	**40.03**	**265**	P	**P**	**06 51 07.0**	**+1.2**
CD2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.2							
GYA	**Guiyang**	**40.80**	**257**	P	**P**	**06 51 13.8**	**+1.6**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.5							
ZAL	**Zalesovo**	**42.35**	**306**	PcP	PcP	06 53 16.1	-1.4
comp=Z,1.7nm,0.8s,baz=296,slow=0.8,SNR=6.4							
ZAL				LR	LR	07 10 41.6	
comp=Z,160nm,18.0s,MS4.0,baz=89,slow=38							
INK	**Inuvik**	**42.61**	**32**	P	**P**	**06 51 26.6**	**-0.4**
comp=Z,3.1nm,0.8s,mb4.1,baz=269,slow=8.3,SNR=24							
INK	**Inuvik**	**42.61**	**32**	*e*P	**P**	**06 51 26.3**	**-0.7**
comp=Z,69nm,0.4s,mb5.7							
KMI	**Kunming**	**44.34**	**259**	P	**P**	**06 51 42.3**	**+1.4**
KMI				PP	PP	06 53 27.3	+2.3
KMI				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.5							
KMI				LR	LR		
comp=Z,32nm,24.1s,MS3.2							
KMI	**Kunming**	**44.34**	**259**	P	**P**	**06 51 42.2**	**+1.3**
KMI				*PP	pP	06 52 02.8	+8.0
KMI						06 53 27.3	
KMI				S	**S**	**06 58 06.7**	**-4.7**
KMI				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.5							
KMI	**Kunming**	**44.34**	**259**	P	**P**	**06 51 42.2**	**+1.3**
comp=Z,9.0nm,0.9s,mb4.5							
KMI				pP	pP	06 52 02.8	+8.0
KMI				sP	sP	06 52 14.1	+13
KMI				PP	PP	06 53 27.3	+2.3
KMI				S	**S**	**06 58 06.7**	**-4.7**
KMI				LR	LR		
comp=Z,30nm,24.1s,MS3.1							
WMQ	**Urumqi**	**44.41**	**291**	*e*P	**P**	**06 51 43.8**	**+2.3**
WMQ				AP	pP	06 51 50.1	-5.3
WMQ				PCP	PcP	06 53 27.5	+3.0
WMQ				*e*S	**S**	**06 58 18.1**	**+5.7**
WMQ				AMB	AMB		
comp=Z,5.0nm,1.0s,mb4.2							
WMQ				AMB	AMB		
comp=Z,98nm,5.0s							
WMQ				LR	LR		
comp=N,64nm,24.0s							
WMQ				LR	LR		
comp=E,198nm,18.0s							
WMQ				LR	LR		
comp=Z,40nm,21.0s,MS3.3							
MK31	**Makanchi Array**	**46.52**	**297**	*e*P	**P**	**06 51 57.5**	**-0.7**
MKAR	**Makanchi Array**	**46.52**	**297**	P	**P**	**06 51 56.5**	**-1.7**
comp=Z,2.8nm,0.8s,mb4.3,baz=52,slow=4.3,SNR=17							
MKAR				PcP	PcP	06 53 31.6	-0.2
comp=Z,1.3nm,0.6s,baz=180,slow=0.9,SNR=9.2							
MKAR				LR	LR	07 12 40.1	
comp=Z,81nm,18.3s,MS3.7,baz=112,slow=38							
MKAR	**Makanchi Array**	**46.52**	**297**	P	**P**	**06 51 56.5**	**-1.7**
MKAR						06 53 31.6	
KURK	**Kurchatov**	**47.05**	**304**	*e*P	**P**	**06 52 00.2**	**-2.1**
KURK				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.6							
KURK	**Kurchatov**	**47.05**	**304**	*e*P	**P**	**06 52 00.2**	**-2.1**
comp=Z,3.8nm,0.5s,mb4.6							
LSA	**Lhasa**	**49.51**	**273**	P	**P**	**06 52 23.3**	**+2.1**
LSA				AMB	AMB		
comp=Z,20nm,0.9s,mb5.2							
LSA	**Lhasa**	**49.51**	**273**	*e*P	**P**	**06 52 23.2**	**+2.0**
LSA				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.9							
LSA	**Lhasa**	**49.51**	**273**	*e*P	**P**	**06 52 23.2**	**+2.0**
comp=Z,8.4nm,0.7s,mb4.9							
BVAR	**Borovoye Array**	**50.64**	**309**	P	**P**	**06 52 28.3**	**-1.5**
comp=Z,2.2nm,0.5s,mb4.4,baz=47,slow=7.1,SNR=12							
BVAR				PcP	PcP	06 53 46.3	-0.4
comp=Z,1.9nm,0.7s,baz=72,slow=4.8,SNR=5.8							
CHTO	**Chiang Mai**	**51.19**	**256**	*e*P	**P**	**06 52 35.4**	**+1.4**
CHTO				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.7							
CHTO	**Chiang Mai**	**51.19**	**256**	*e*P	**P**	**06 52 35.4**	**+1.4**
comp=Z,8.1nm,0.8s,mb4.7							
RES	**Resolute Bay**	**51.69**	**18**	*e*P	**P**	**06 52 36.5**	**-1.1**
comp=Z,59nm,0.6s,mb5.7							
YKA	**Yellowknife Ar**	**51.91**	**36**	P	**P**	**06 52 38.8**	**-0.4**
comp=Z,2.5nm,0.7s,mb4.3,baz=296,slow=7.0,SNR=33							
YKA				pP	pP	06 52 52.1	-1.3
comp=Z,0.3nm,0.5s,baz=303,slow=6.7,SNR=4.1							
YKA				PcP	PcP	06 53 50.7	-0.7
comp=Z,0.7nm,0.8s,baz=299,slow=3.9,SNR=4.8							
YKA	**Yellowknife Ar**	**51.91**	**36**	P	**P**	**06 52 38.9**	**-0.4**
YKA				pP	pP	06 52 52.1	-1.3
YKA				PcP	PcP	06 53 50.7	-0.7
AAK	**Ala-Archa**	**53.40**	**296**	*e*P	**P**	**06 52 50.2**	**-0.1**
AAK				pmax	pmax		
comp=Z,6.0nm,1.8s,mb4.2							
JIRN	**Jiri**	**54.20**	**274**	*e*P	**P**	**06 52 57.5**	**+1.3**
comp=Z,35nm,0.8s,mb5.4							
GUN	**Gumba**	**54.26**	**275**	*e*P	**P**	**06 52 57.6**	**+1.0**
comp=Z,17nm,0.4s,mb5.3							
KKN	**Kakani**	**54.75**	**275**	*e*P	**P**	**06 53 01.5**	**+1.4**
PKI	**Pulchoki**	**54.80**	**275**	*e*P	**P**	**06 53 01.4**	**+0.9**
ARU	**Arti**	**54.94**	**317**	*e*P	**P**	**06 53 02.1**	**+0.6**
ARU				*e*		06 55 01.5	
ARU				*e*PPP		06 56 15.5	
ARU				*e*S	**S**	**07 00 38.9**	**-0.4**
ARU	**Arti**	**54.94**	**317**	*e*P	**P**	**06 52 59.6**	**-1.9**
comp=Z,3.6nm,0.4s,mb4.8							
DMN	**Daman**	**54.98**	**275**	*e*P	**P**	**06 53 03.1**	**+1.3**
comp=Z,37nm,0.8s,mb5.5							
GKN	**Gorkha**	**55.06**	**276**	*e*P	**P**	**06 53 03.2**	**+0.8**
comp=Z,28nm,0.5s,mb5.5							
DANN	**Dangsing**	**55.45**	**277**	*e*P	**P**	**06 53 06.7**	**+1.5**
KOLN	**Koldanda**	**55.92**	**276**	*e*P	**P**	**06 53 09.7**	**+1.1**
comp=Z,49nm,0.8s,mb5.6							
ARCES	**ARCESS Array B**	**58.18**	**341**	P	**P**	**06 53 23.8**	**-0.8**
comp=Z,0.9nm,0.3s,mb4.2,baz=41,slow=6.3,SNR=15							
ARCES				LR	LR	07 19 13.9	
comp=Z,40nm,21.1s,MS3.5,baz=14,slow=37							
JOF	**Joensuu**	**61.54**	**333**	*e*p	**P**	**06 53 44.7**	**-2.9**
comp=Z,0.8nm,0.3s,mb4.3							
HRY	**Holter Researc**	**62.00**	**51**	*e*P	**P**	**06 53 50.8**	**+0.1**
FCC	**Fort Churchill**	**62.23**	**33**	*e*P	**P**	**06 53 50.9**	**-1.3**
FCC				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.7							
FCC	**Fort Churchill**	**62.23**	**33**	*e*P	**P**	**06 53 50.9**	**-1.3**
comp=Z,3.5nm,0.5s,mb4.8							
NVAR	**Mina Array Bea**	**63.44**	**61**	P	**P**	**06 54 00.5**	**+0.2**
comp=Z,1.5nm,0.7s,mb4.2,baz=292,slow=8.0,SNR=7.7							
NVAR	**Mina Array Bea**	**63.44**	**61**	P	**P**	**06 54 00.5**	**+0.2**
KAF	**Kangasniemi**	**63.67**	**335**	*e*p	**P**	**06 53 57.2**	**-4.6**
comp=Z,2.3nm,0.4s,mb4.6,baz=38,slow=6.1							
KAF	**Kangasniemi**	**63.67**	**335**	*e*P	**P**	**06 53 57.2**	**-4.6**
KAF				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.5							
FINES	**FINESS Array B**	**64.27**	**334**	P	**P**	**06 54 03.5**	**-2.3**
comp=Z,2.0nm,0.4s,mb4.5,baz=49,slow=6.3,SNR=24							
FINES	**FINESS Array B**	**64.27**	**334**	*i* P	**P**	**06 54 03.7**	**-2.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.4s							
REDW	**Red Top Meadow**	**64.66**	**53**	*e*P	**P**	**06 54 09.1**	**+0.8**
comp=Z,3.1nm,0.9s,mb4.3							
BW06

comp=Z,6.0nm,0.9s,mb4.5
KIEV Kiev 71.63 326 *e*P **P** 06 54 50.3 -1.6
comp=Z,6.1nm,0.9s,mb4.5
SOC Sochi 72.41 315 *e*P **P** 06 54 59.4 +2.8
SOC *e* 07 08 51.7
ANMO Albuquerque 72.84 57 *e*P **P** 06 55 00.2 +1.0
SCHQ Schefferville 74.20 22 P **P** 06 55 06.2 -0.9
comp=Z,3.4nm,0.8s,mb4.3,baz=333,slow=5.3,SNR=6.9
SCHQ Schefferville 74.20 22 P **P** 06 55 06.2 -0.9
STHS Stebnicka Huta 75.65 329 *e*P **P** 06 55 15.9 +0.3
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
STHS Stebnicka Huta 75.65 329 *e*P **P** 06 55 15.9 +0.3
comp=Z,5.0nm,0.7s,mb4.5
KOLS Kolonicke sedl 75.69 328 *e*P **P** 06 55 15.5 -0.2
CRVS Cervenica-Dubn 76.01 329 *e*P **P** 06 55 16.6 -1.0
UPC Upice 76.48 333 *e*P **P** 06 55 20.0 -0.3
DPC Dobruska-Polom 76.52 333 *e*P **P** 06 55 20.6 +0.1
MORC Moravsky Berou 76.62 332⇑*i*P **P** 06 55 21.0 0.0
CLL Collm 76.70 335 *i* P **P** 06 55 20.6 -0.9
CLL *e* pP 06 55 31.0 -5.4
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL Collm 76.70 335 *i* P **P** 06 55 20.6 -0.9
comp=Z,14nm,1.2s,mb4.8
CLL *e*(PcP) PcP 06 55 31.0 -1.7
KECS Kecovo 76.71 329 *e*P **P** 06 55 20.3 -1.2
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 76.71 329 *e*P **P** 06 55 20.3 -1.2
comp=Z,2.4nm,0.8s,mb4.2
MLR Muntele Rosu 77.12 324⇑*i*P **P** 06 55 24.4 +0.6
VYHS Vyhne 77.28 330 *e*P **P** 06 55 24.6 -0.2
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VYHS Vyhne 77.28 330 *e*P **P** 06 55 24.6 -0.2
comp=Z,2.7nm,1.0s,mb4.1
PRU Pruhonice 77.40 333 *e*P **P** 06 55 25.2 -0.2
VOIR 77.52 325⇑*i*P **P** 06 55 25.9 -0.2
TREC Trest 77.71 333 *e*P **P** 06 55 27.0 -0.1
BRTR Keskin Array B 78.30 316 P **P** 06 55 30.9 +0.6
comp=Z,4.6nm,0.8s,mb4.4,baz=68,slow=4.3,SNR=23
KHC Kasperske Hory 78.45 334 *e*P **P** 06 55 31.3 0.0
LTX Lajitas 78.50 60 *e*P **P** 06 55 32.2 +0.7
LTX pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LTX Lajitas 78.50 60 *e*P **P** 06 55 32.2 +0.6
comp=Z,2.8nm,0.8s,mb4.2
TXAR Lajitas Array 78.50 60 P **P** 06 55 31.9 +0.4
comp=Z,2.1nm,0.7s,mb4.2,baz=293,slow=4.5,SNR=23
TXAR Lajitas Array 78.50 60 P **P** 06 55 31.9 +0.4
GRA1 Grafenberg Arr 78.66 335 *e*P **P** 06 55 32.0 -0.4
comp=Z,11nm,0.9s,mb4.8
GRF Grafenberg Arr 78.66 335 *e*P **P** 06 55 32.0 -0.4
comp=Z,11nm,0.9s,mb4.8
GRF Grafenberg Arr 78.66 335 *e*P **P** 06 55 32.0 -0.4
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.8
GRF Grafenberg Arr 78.66 335 *e*P **P** 06 55 32.0 -0.4
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 78.67 333 *e*P **P** 06 55 31.2 -1.2
GERES GERESS Array B 78.67 333 P **P** 06 55 32.1 -0.3
comp=Z,3.8nm,0.7s,mb4.4,baz=32,slow=5.3,SNR=15
GERES LR LR 07 34 47.1
comp=Z,38nm,18.4s,MS3.8,baz=78,slow=39
BZS Buzias 78.71 327⇑*i*P **P** 06 55 30.4 -2.3
MEM Membach 79.25 339 P **P** 06 55 35.8 +0.1
comp=Z,6.8nm,0.9s,mb4.6
DOU Dourbes 80.08 339 P **P** 06 55 39.9 -0.2
WLF Walferdange 80.08 338 P **P** 06 55 39.7 -0.4
WATA Walderalm 80.66 334⇑*i*P **P** 06 55 43.4 +0.2
comp=Z,12nm,1.1s,mb4.7
WTTA Wattenberg 80.71 334⇑*i*P **P** 06 55 43.9 +0.3
comp=Z,14nm,0.5s,mb5.2
MOTA Moosalm 80.80 334⇑*i*P **P** 06 55 44.0 +0.1
comp=Z,11nm,0.9s,mb4.8
SQTA Sankt Quirin 80.88 334⇓*i*P **P** 06 55 44.6 +0.2
comp=Z,8.3nm,1.0s,mb4.6
CDF Champ du Feu 80.93 337 *e*P **P** 06 55 43.4 -1.3
comp=Z,20nm,0.9s,mb4.8
DAVA Damuels 81.22 335⇑*i*P **P** 06 55 46.6 +0.4
comp=Z,6.8nm,0.7s,mb4.7
GRR Gorron 82.93 342 *e*P **P** 06 55 52.9 -2.3
SMF Signal de Mont 83.46 339 *e*P **P** 06 55 56.9 -1.0
comp=Z,53nm,1.1s,mb5.2
LPG La Piagne 83.74 336 *e*P **P** 06 55 59.1 -0.3
comp=Z,16nm,0.9s,mb4.8
NWAO Narrogin (SRO) 84.71 209 *e*P **P** 06 56 07.2 +2.9
NWAO pmax pmax
comp=Z,9.0nm,1.0s
NWAO Narrogin (SRO) 84.71 209 *e*P **P** 06 56 07.2 +2.9
comp=Z,8.5nm,1.0s,mb4.8
CBN Corbin 85.10 37 *e*P **P** 06 56 06.8 +0.5
CAF Calviac 85.52 339 *e*P **P** 06 56 06.3 -2.0
comp=Z,8.9nm,0.7s,mb4.8
TORD Torodi Ar. Bea 115.21 328 PKP PKiKP 07 02 10.8 -0.7
comp=Z,0.3nm,0.5s,baz=26,slow=1.6,SNR=5.1
PLCA Paso Flores 148.94 96 PKPbc PKPbc 07 03 17.1 -0.9

*MOS **19** 07:38:44.0±1.0,5571N×110.14E,h4km,mb4.4/1,Error ellipse: s-maj=17.2km s-min=8.8km az=71.2*
BYKL 19 07:38:45.0±0.3,5569N×11013E,h1km±5km,4C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**285**		*e*Pg	Pg	07 38 51.8	+0.2
NIZ					*e*		07 38 52.4	
NIZ					*e*Sg	Sg	07 38 56.8	+0.7
NIZ					max			
	152nm,0.3s							
NIZ					Smax			
	866nm,0.3s							
KMO	**Kumora**	**0.64**	**71**	⇑*i*Pg		Pg	07 38 56.0	-1.2
KMO					*e*Sg	Sg	07 39 04.5	-0.9
KMO					Pmax			
	133nm,0.3s							
KMO					Smax			
	485nm,1.0s							
YOA	**Uoyan**	**1.00**	**63**	*e*PG		Pg	07 39 02.4	-1.8
YOA					*i*		07 39 15.4	
YOA					pmax	pmax		
	comp=Z,232nm,0.2s							
YOA					smax			
	comp=N,955nm,0.3s							
YOA	**Uoyan**	**1.00**	**63**	*e*Sg		Sg	07 39 16.7	-0.5
YOA					*e*		07 39 25.2	
YOA					max			
	comp=N,1μm,0.8s							
YLYR	**Ulyunkhan**	**1.01**	**144**	*e*PG		Pg	07 39 02.8	-1.5
YLYR					*e*		07 39 15.9	
YLYR					pmax	pmax		
	comp=Z,129nm,0.4s							
YLYR					smax			
	comp=N,366nm,0.2s							
YLYR	**Ulyunkhan**	**1.01**	**144**	⇑*i*Pg		Pg	07 39 02.8	-1.5
YLYR					*e*		07 39 03.7	
YLYR					*e*Sg	Sg	07 39 16.2	-1.2
YLYR					*e*		07 39 22.5	
YLYR					max			
	comp=N,112nm,0.4s							
YLYR					max			
	comp=N,706nm,0.3s							
SVKR	**Severomuysk**	**1.98**	**76**	*e*PN		Pn	07 39 20.5	+0.9
SVKR					*e*		07 39 46.7	
SVKR					pmax	pmax		
	comp=Z,272nm,1.2s							
SVKR					smax			
	comp=N,873nm,0.9s							
SVKR	**Severomuysk**	**1.98**	**76**	*e*Pn		Pn	07 39 20.5	+0.9
SVKR					*e*Pg	Pg	07 39 21.5	-1.4
SVKR					*e*Sg	Sg	07 39 48.3	-0.3
SVKR					Pmax			
	comp=N,160nm,0.3s							
SVKR					Smax			
	comp=N,868nm,1.0s							
SYVR	**Suvo**	**2.04**	**182**	*e*PN		Pn	07 39 21.4	+1.0
SYVR					*e*		07 39 49.8	
SYVR					pmax	pmax		
	comp=Z,313nm,0.6s							
SYVR					smax			
	comp=N,591nm,0.6s							
SYVR	**Suvo**	**2.04**	**182**	⇑*i*Pg		Pg	07 39 21.4	-2.7
SYVR					*i* Sg	Sg	07 39 49.6	-0.9
SYVR					Pmax			
	comp=N,336nm,0.7s							
SYVR					Smax			
	comp=N,725nm,0.9s							
OGRR	**Ongureny**	**2.52**	**217**	*e*PN		Pn	07 39 27.6	+0.5
OGRR					*e*		07 39 31.3	
OGRR					*e*		07 40 03.0	
OGRR					pmax	pmax		
	comp=Z,72nm,0.5s							
OGRR					smax			
	comp=E,453nm,0.4s							
OGRR	**Ongureny**	**2.52**	**217**	*e*Pn		Pn	07 39 27.6	+0.5
OGRR					*e*Pg	Pg	07 39 30.4	-3.0
OGRR					*e*Sn	Sn	07 39 59.6	+1.1
OGRR					*e*Sg	Sg	07 40 03.0	-3.1
OGRR					Pmax			
	comp=E,71nm,0.3s							
OGRR					Smax			
	comp=E,447nm,0.4s							
MXMB	**Maximikha**	**2.56**	**199**	⇓*i*Pg		Pg	07 39 30.6	-3.5
MXMB					*i* Sg	Sg	07 40 06.3	-1.1
MXMB					Pmax			
	comp=E,128nm,0.8s							
MXMB					Smax			
	comp=E,586nm,0.9s							
BOD	**Bodaibo**	**3.02**	**43**	*e*PN		Pn	07 39 33.8	-0.1
BOD					*e*		07 39 39.3	
BOD					*e*		07 40 16.2	
BOD					pmax	pmax		
	comp=Z,28nm,0.7s							
BOD					smax			
	comp=N,193nm,0.9s							
BOD	**Bodaibo**	**3.02**	**43**	*e*Pn		Pn	07 39 33.8	-0.1
BOD					*e*		07 39 35.7	
BOD					*e*Sn	Sn	07 40 11.2	+0.5
BOD					*e*Sg	Sg	07 40 17.5	-4.5
BOD					max			
	comp=N,29nm,0.8s							
BOD					Smax			
	comp=N,193nm,0.9s							
ZRHB	**Zarechye**	**3.60**	**210**	*e*Pg		Pg	07 39 48.8	-5.2
ZRHB					*e*Sg	Sg	07 40 37.1	-3.5
ZRHB					Pmax			
	comp=N,66nm,0.6s							
ZRHB					Smax			
	comp=N,427nm,1.2s							
TRG	**Tyrgan**	**3.68**	**219**	*e*PN		Pn	07 39 42.2	-0.8
TRG					*e*		07 39 50.3	
TRG					*e*S	Sn	07 40 25.2	-1.8
TRG					*e*		07 40 38.7	
TRG					pmax	pmax		
	comp=Z,19nm,0.4s							
TRG					smax			
	comp=N,119nm,0.4s							
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn		Pn	07 39 43.6	+0.6
TRG					*i* Sn	Sn	07 40 28.4	+1.4
TRG					*e*Sg	Sg	07 40 38.2	-5.0
TRG					max			
	comp=N,37nm,0.4s							
TRG					Smax			
	comp=N,139nm,0.6s							
TRTB	**Turuntaevo**	**3.77**	**204**	*e*Pn		Pn	07 39 44.4	+0.2
TRTB					*e*Pg	Pg	07 39 51.4	-5.8
TRTB					*e*Sn	Sn	07 40 30.8	+1.6
TRTB					*e*Sg	Sg	07 40 40.7	-5.4
TRTB					Pmax			
	comp=N,39nm,1.1s							
TRTB					Smax			
	comp=N,161nm,1.1s							
UUDB	**Ulan-Yde**	**4.10**	**202**	*e*Pg		Pg	07 39 58.0	-5.6
UUDB					*e*Sg	Sg	07 40 51.4	-5.3
UUDB					Pmax			
	comp=N,46nm,1.4s							
UUDB					Smax			
	comp=N,168nm,1.3s							
CIT	**Chita**	**4.20**	**150**	*e*PN		Pn	07 40 00.1	+10
CIT					*e*		07 40 53.2	
CIT					pmax	pmax		
	comp=Z,48nm,1.0s							
CIT					smax			
	comp=E,114nm,1.1s							
CIT	**Chita**	**4.20**	**150**	*e*Pg		Pg	07 39 59.0	-6.4
CIT					*e*Sg	Sg	07 40 53.6	-6.2
CIT					Pmax			
	comp=E,47nm,1.2s							
CIT					Smax			
	comp=E,108nm,0.7s							
HRMR	**Khuramsha**	**4.49**	**206**	*e*Pn		Pn	07 39 54.3	+0.2
HRMR					*e*Pg	Pg	07 40 05.7	-5.3
HRMR					*e*		07 40 48.3	
HRMR					*e*Sg	Sg	07 41 02.9	-6.2
HRMR					Pmax			
	comp=E,63nm,0.8s							
HRMR					Smax			
	comp=E,324nm,0.6s							
CRS	**Chara**	**4.69**	**72**	*e*Pg		Pg	07 40 09.5	-5.5
CRS					*e*		07 40 12.3	
CRS					*e*Sg	Sg	07 41 10.0	-5.8
CRS					max			
	comp=E,49nm,1.0s							
CRS					Smax			
	comp=E,107nm,1.7s							
LSTR	**Listvyanka**	**4.95**	**222**	*e*Pn		Pn	07 40 01.1	+0.6
LSTR					*e*Pg	Pg	07 40 13.0	-6.9
LSTR					*e*Sn	Sn	07 40 57.8	-0.6
LSTR					*e*Sg	Sg	07 41 17.1	-7.0
LSTR					Pmax			
	comp=E,24nm,1.0s							
LSTR					Smax			
	comp=E,134nm,0.9s							
TLY	**Talaya**	**5.56**	**226**	*e*PN		Pn	07 40 08.2	-0.7
TLY					*e*		07 40 25.6	
TLY					*e*		07 41 35.1	
TLY					pmax	pmax		
	comp=Z,11nm,0.6s							
TLY					smax			
	comp=E,72nm,0.6s							
TLY	**Talaya**	**5.56**	**226**	*e*Pn		Pn	07 40 08.1	-0.8
TLY					*e*Pg	Pg	07 40 24.6	-7.0
TLY					*e*Sn	Sn	07 41 09.7	-3.8
TLY					*e*Sg	Sg	07 41 35.4	-8.4
TLY					Pmax			
	comp=E,9.0nm,0.6s							
TLY					Smax			
	comp=E,71nm,0.6s							
TUP	**Tupik**	**5.79**	**99**	*e*PN		Pn	07 40 12.0	0.0
TUP					*e*		07 40 29.4	
TUP					*e*S	Sn	07 41 17.0	-2.0
TUP					*e*		07 41 43.8	
TUP					pmax	pmax		
	comp=Z,15nm,0.7s							
TUP					smax			
	comp=N,64nm,0.9s							
TUP	**Tupik**	**5.79**	**99**	*e*Pn		Pn	07 40 11.8	-0.2
TUP					*e*Pg	Pg	07 40 29.2	-6.7
TUP					*e*Sg	Sg	07 41 44.7	-6.2
TUP					Pmax			
	comp=N,11nm,1.6s							
TUP					Smax			
	comp=N,58nm,1.4s							
ARS	**Arshan**	**5.92**	**234**	*e*PN		Pn	07 40 32.0	+18
ARS					*e*S	Sn	07 41 17.4	-5.0
ARS					*e*		07 41 48.2	
ARS					pmax	pmax		
	comp=Z,31nm,0.4s							
ARS					smax			
	comp=E,393nm,0.7s							
KPC	**Khapcheranga**	**6.15**	**166**	*e*PN		Pg	07 40 35.7	-7.1
KPC					*e*		07 41 55.8	
KPC					pmax	pmax		
	comp=Z,14nm,1.1s							
KPC					smax			
	comp=E,59nm,1.2s							
KPC	**Khapcheranga**	**6.15**	**166**	*e*Pn		Pn	07 40 15.8	-1.2
KPC					*e*Pg	Pg	07 40 35.5	-7.3
KPC					*e*Sg	Sg	07 41 55.3	-7.2
KPC					Pmax			
	comp=E,13nm,1.1s							
KPC					Smax			
	comp=E,60nm,1.0s							
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN		Pn	07 40 24.5	-0.4
ZAK					*e*		07 40 44.1	
ZAK					*e*S	Sn	07 41 41.5	-0.7
ZAK					*e*		07 42 11.7	
ZAK					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ZAK					smax			
	comp=N,75nm,1.3s							
ZAK	**Zakamensk**	**6.73**	**221**	*e*Sg		Sg	07 42 13.5	-7.7
ZAK					Smax			
	comp=N,74nm,1.2s							
MOY	**Mondy**	**6.76**	**237**	*e*PN		Pn	07 40 26.6	+1.3
MOY					*e*S	Sn	07 42 11.2	+28
MOY					smax			
	comp=N,84nm,2.0s							
MOY	**Mondy**	**6.76**	**237**	⇓*i*Pn		Pn	07 40 27.0	+1.7
MOY					*e*Sn	Sn	07 41 41.6	-1.3
MOY					*e*Sg	Sg	07 42 13.4	-8.7
MOY					max			
	comp=N,16nm,0.6s							
MOY					Smax			
	comp=N,84nm,1.8s							
ORL	**Orlik**	**6.84**	**247**	*e*PN		Pn	07 40 27.4	+1.0
ORL					*e*S	Sn	07 42 17.9	+33
ORL					smax			
	comp=N,103nm,1.0s							
ORL	**Orlik**	**6.84**	**247**	⇑*i*Pn		Pn	07 40 27.5	+1.1
ORL					*e*Sn	Sn	07 41 42.9	-2.0
ORL					*e*Sg	Sg	07 42 18.0	-6.6
ORL					max			
	comp=N,7.0nm,1.1s							
ORL					Smax			
	comp=N,103nm,1.2s							
TDJR	**Todzha**	**8.89**	**254**	*e*Sg		Sg	07 43 20.2	-10

IDC 19 07:54:22.6±1.4,924N×7707W,h0km,mb3.0/1,mb1 3.7/4, mb1mx3.5/20,mbtmp3.6/4,ML2.6/2,Error ellipse: s-maj=40.6km s-min=23.0km az=31.0,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**5.14**	**148**		Pn	Pn	07 55 42.0	+1.2
	1.6nm,0.3s,baz=266,slow=19,SNR=5.4							
ROSC					Sn	Sn	07 56 41.3	+0.6
	2.5nm,0.3s,baz=227,slow=23,SNR=3.6							
SDV	**Santo Domingo**	**6.37**	**93**		Pn	Pn	07 55 58.5	+0.8
	0.8nm,0.3s,baz=243,slow=22,SNR=3.5							
SDV					Sn	Sn	07 57 12.0	+0.8
	7.6nm,0.3s,baz=45,slow=19,SNR=9.8							
JTS	**JuntasAbangare**	**7.84**	**278**		Pn	Pn	07 56 18.1	+0.3
	2.5nm,0.3s,baz=288,slow=19,SNR=8.9							
YKA	**Yellowknife Ar**	**59.68**	**341**	P		P	08 04 28.4	-0.3
	0.1nm,0.6s,baz=131,slow=7.2,SNR=4.2							
WRA	**Warramunga Arr**	**147.85**	**247**	PKPbc		PKPbc	08 14 09.8	+0.3
	0.6nm,0.9s,baz=98,slow=3.9,SNR=4.7							

*ISCJB **19** 08:16:06.0±1.1,3850N×005×2164E±006,h7km±8km, Error ellipse: s-maj=9.8km s-min=5.5km az=83.6*
*CSEM **19** 08:16:07.6±0.1,3855N×2160E,h8km,MD3.3,Error ellipse: s-maj=4.4km s-min=2.5km az=131.0*
*NEIC **19** 08:16:07.0,3855N×2162E,h19km,MD3.3(ATH),After ATH.*
*ATH **19** 08:16:07.0,3855N×2162E,h19km±3km,MD3.3/3*
*THE **19** 08:16:08.9,3860N×2162E,h9km,ML3.0*
ISC 19 08:16:07.6±0.6,3856N±004×2161E±006,h11km±6km,n15, σ0°90/21,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.39**	**24**	*e*PB		**Pg**	**08 16 14.6**	**-0.6**
EVR				*e*SB		**Sg**	**08 16 21.3**	**+0.9**
RLS	**Riolos of Patr**	**0.52**	**193**	*e*PN		**Pg**	**08 16 17.0**	**-0.7**
RLS				*e*SN		**Sg**	**08 16 25.0**	**+0.5**
AGG	**Agios Georgios**	**0.73**	**51**	*e*Pg		**Pg**	**08 16 21.0**	**-0.7**
AGG				*e*Sg		**Sg**	**08 16 32.7**	**+1.6**
VLS	**Valsamata**	**0.89**	**245**	*e*PB		**Pg**	**08 16 23.3**	**-1.5**
VLS				*e*SN		**Sg**	**08 16 37.5**	**+1.1**
THL	**Klokotos Trika**	**1.05**	**17**	*e*PN		**Pn**	**08 16 26.9**	**-1.3**
LKR	**Lokris**	**1.09**	**85**	*e*PN		**Pn**	**08 16 27.7**	**-1.1**
JAN	**Janina**	**1.24**	**332**	*e*PN		**Pn**	**08 16 31.9**	**+1.0**
MEV	**Metsovon**	**1.25**	**346**	*e*Pg		**Pg**	**08 16 31.3**	**-0.4**
NEO	**Neokhori**	**1.46**	**59**	*e*PN		**Pn**	**08 16 34.6**	**+0.7**
XOR	**Xorichti**	**1.47**	**56**	*e*Pg		**Pn**	**08 16 34.6**	**+0.6**
XOR				*e*Sg		**Sg**	**08 16 54.3**	**-0.6**
LIT	**Litokhoron**	**1.68**	**24**	*e*Pb		**Pb**	**08 16 37.8**	**-0.7**
LIT				*e*Sb		**Sb**	**08 16 58.5**	**-1.1**
AOS	**Alonnisos**	**1.87**	**70**	*e*Pb		**Pn**	**08 16 39.8**	**+0.3**
PAIG	**Paliouri**	**2.11**	**49**	*e*Pn		**Pn**	**08 16 43.2**	**+0.4**
PLG	**Polygyros**	**2.30**	**38**	*e*Pn		**Pn**	**08 16 45.9**	**+0.5**
SOH	**Sokhos**	**2.63**	**30**	*e*Pn		**Pn**	**08 16 51.1**	**+1.1**

IDC 19 08:23:25.6±7.4,6217S×16593E,h0km,mb4.1/4, mb1 4.4/5,mb1mx4.3/9,mbtmp4.3/5,ML4.8/1,MS4.1/13, Ms1 4.0/13,ms1mx4.0/17,1C,Error ellipse: s-maj=215.3km s-min=26.2km az=84.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.48**	**183**		Pn	Pn	08 27 05.5	+0.3
	3.6nm,0.3s,baz=359,slow=14,SNR=146							
VNDA					LR	LR	08 31 58.3	
	comp=Z,1μm,21.6s,baz=5.7,slow=33							
RPZ	**Rata Peaks**	**18.73**	**12**	LR		LR	08 33 59.4	
	comp=Z,1μm,18.6s,baz=180,slow=34							
URZ	**Urewera**	**24.91**	**21**	LR		LR	08 37 17.3	
	comp=Z,697nm,20.4s,baz=244,slow=33							
STKA	**Stephens Creek**	**34.12**	**321**	P		P	08 30 13.1	+1.0
	2.0nm,0.7s,baz=145,slow=12,SNR=4.6							
STKA					LR	LR	08 42 28.0	
	comp=Z,245nm,18.0s,baz=162,slow=34							
MAW	**Mawson**	**39.20**	**216**	P		P	08 30 54.4	-0.9
	3.7nm,0.6s,baz=119,slow=10,SNR=8.9							
MAW					LR	LR	08 47 01.6	
	comp=Z,428nm,19.0s,baz=121,slow=36							
DZM	**Mont Dzumac**	**40.07**	**1**	LR		LR	08 45 20.7	
	comp=Z,137nm,18.6s,baz=203,slow=33							
NWAO	**Narrogin (SRO)**	**42.42**	**291**	LR		LR	08 44 54.6	
	comp=Z,73nm,18.4s,baz=259,slow=30							
SYO	**Syowa Base**	**43.66**	**205**⇑	*e*P		P	08 31 31.4	-0.5
ASAR	**Alice Springs**	**44.17**	**316**	P		P	08 31 35.4	-0.7
	1.9nm,0.8s,baz=161,slow=8.0,SNR=18							
CTA	**Charters Tower**	**44.20**	**333**	LR		LR	08 46 55.7	
	comp=Z,239nm,19.3s,baz=44,slow=32							
WRA	**Warramunga Arr**	**47.51**	**318**	P		P	08 32 01.5	-0.9
	1.6nm,1.1s,baz=158,slow=6.7,SNR=5.2							
TBI	**Tubuai**	**49.08**	**59**	*e*LQ			08 43 43.0	
	463nm,26.5s							
TBI				*e*LR		LR	08 45 56.9	
	186nm,24.0s							
TBI	**Tubuai**	**49.08**	**59**	*e*T			09 24 34.6	
	57nm,0.3s							
AFI	**Afiamalu**	**50.76**	**28**	LR		LR	08 49 18.4	
	comp=Z,119nm,18.9s,baz=171,slow=31							
FITZ	**Fitzroy Crossi**	**52.18**	**309**	LR		LR	08 51 58.5	
	comp=Z,99nm,18.3s,baz=162,slow=33							
HNR	**Honiara**	**52.82**	**353**	LR		LR	08 53 15.5	
	comp=Z,127nm,18.3s,baz=359,slow=34							
PAE	**Paea**	**54.16**	**56**	*e*T			09 30 55.1	
	39nm,0.2s							
TVO	**Taravao**	**54.18**	**56**	*e*T			09 30 54.5	
	18nm,0.3s							
PPT	**Papeete**	**54.25**	**55**	*e*LQ			08 45 55.0	
	341nm,24.0s							
PPT				*e*LR		LR	08 48 21.9	
	121nm,22.8s							
PPT	**Papeete**	**54.25**	**55**	*e*T			09 31 01.2	
	12nm,0.3s							
PMG	**Port Moresby**	**54.42**	**337**	LR		LR	08 52 46.9	
	comp=Z,148nm,18.7s,baz=113,slow=32							
RKT	**Rikitea**	**55.48**	**73**	*e*T			09 32 37.8	
	12nm,0.3s							
TAOE	**Nuku Hiva Isla**	**65.91**	**61**	*e*LR		LR	08 53 37.5	
	313nm,26.7s							
BOSA	**Boshof**	**84.17**	**214**	LR		LR	09 09 07.9	
	comp=Z,75nm,20.6s,baz=327,slow=33							

*IDC **19** 08:26:36.4±1.3,2549N×12629E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/21,mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=30.4km s-min=24.2km az=105.0*
*ISCJB **19** 08:26:41.9±0.5,2559N±009×12648E±008,h66km±9km,*

mb3.2/3, Error ellipse: s-maj=18.9km s-min=4.4km az=102.3

JMA ***19*** *08:26:42.3±0.1, 2558N×12653E, h65km, M3.3*

ISC 19 08:26:42.8±0.5,**2556N**±008×**12651E**±008,**h53**km±11km, **n20**,σ0°**71**/28,**mb3.3**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.80**	**18**	P	**Pn**	**08 26 58.0**	**+0.1**
JKE				*e*S	**Sn**	08 27 09.5	+0.5
JAGN	**Aguni-jima**	**1.22**	**33**	P	**Pn**	08 27 03.7	+0.2
JAGN				*e*S	**Sn**	08 27 19.5	+0.6
NAH1	**Naha**	**1.24**	**59**	P	**Pn**	08 27 03.3	-0.5
JJT2	**Tamagusuku 2**	**1.26**	**63**	P	**Pn**	08 27 04.2	+0.2
JOGS	**Gusukube**	**1.28**	**231**	P	**Pn**	08 27 05.1	+0.8
JOGS				*e*S	**Sn**	08 27 20.6	+0.2
JMJ	**Miyako jima 2**	**1.33**	**236**	P	**Pn**	08 27 05.8	+0.8
JTJ	**Tarama**	**1.88**	**241**	P	**Pn**	08 27 12.6	+0.2
JTJ				*e*S	**Sn**	08 27 35.5	+0.5
JIH	**Iheya**	**1.97**	**41**	P	**Pn**	08 27 13.2	-0.5
JOW	**Kunigami**	**2.03**	**51**	Pn	**Pn**	08 27 14.1	-0.5
	9.8nm,0.3s,baz=226,slow=14,SNR=11						
JOW				Sn	**Sn**	08 27 45.4	+6.7
	23nm,0.3s,baz=104,slow=28,SNR=5.7						
JOW	**Kunigami**	**2.03**	**51**	P	**Pn**	08 27 14.5	0.0
JIJ	**Ishigaki jima**	**2.46**	**241**	P	**Pn**	08 27 20.1	-0.3
JIJ				*e*S	**Sn**	08 27 48.4	-0.8
JKRS	**Kuro-shima**	**2.62**	**240**	P	**Pn**	08 27 23.2	+0.5
IRIF	**Iriomote-Funau**	**2.80**	**245**	P	**Pn**	08 27 25.1	0.0
IRIF				*e*S	**Sn**	08 27 55.4	-2.3
JTK	**Tokunoshima**	**3.11**	**44**	P	**Pn**	08 27 29.1	-0.2
JAM	**Amami Oshima**	**3.96**	**44**	P	**Pn**	08 27 40.4	-0.6
JZK	**Kikaishima**	**4.13**	**48**	P	**Pn**	08 27 43.1	-0.2
JMZ	**Minamidaito 2**	**4.26**	**86**	P	**Pn**	08 27 41.3	-3.8
JMZ				*e*S	**Sn**	08 28 24.3	-9.2
MKAR	**Makanchi Array**	**40.84**	**313**	P	**P**	08 34 19.0	-0.2
	0.1nm,0.4s,mb2.8,baz=115,slow=9.9,SNR=2.7						
WRA	**Warramunga Arr**	**45.87**	**170**	P	**P**	08 34 59.9	+0.1
	0.5nm,0.5s,mb3.7,baz=351,slow=8.9,SNR=7.9						
ASAR	**Alice Springs**	**49.46**	**171**	P	**P**	08 35 28.5	+0.9
	0.2nm,0.6s,mb3.4,baz=352,slow=15,SNR=5.1						

IDC ***19*** *08:38:02.3±0.8, 237N×12738E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/17, mbtmp4.1/8, Error ellipse: s-maj=75.0km s-min=14.8km az=74.0*

ISCJB ***19*** *08:38:05.5±0.7, 24N±01×1273E±02, h35km, mb4.4/10, Error ellipse: s-maj=32.0km s-min=10.4km az=132.4*

ISC 19 08:38:07.7±0.7,**24N**±01×**1274E**±02,**h35**km,**n15**,σ0°**47**/15, **mb4.4**/10,**Northern Moluccca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.41**	**185**	P	**P**	**08 42 42.6**	**+1.0**
	3.3nm,0.9s,baz=20,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**23.21**	**163**	P	**P**	**08 43 11.7**	**+0.1**
	6.0nm,0.6s,mb4.2,baz=341,slow=11,SNR=66						
ASAR	**Alice Springs**	**26.66**	**167**	P	**P**	**08 43 42.0**	**-1.1**
	1.0nm,0.5s,mb3.6,baz=349,slow=7.4,SNR=25						
ASAR				PcP	PcP	08 47 05.8	-0.4
	0.4nm,0.6s,baz=349,slow=2.0,SNR=4.5						
KSRS	**Korea Array**	**34.91**	**1**	P	**P**	**08 44 56.1**	**+0.2**
	1.7nm,0.5s,mb4.2,baz=179,slow=9.4,SNR=7.7						
STKA	**Stephens Creek**	**36.65**	**159**	P	**P**	**08 45 10.8**	**0.0**
	0.6nm,0.3s,mb3.9,baz=4.6,slow=8.1,SNR=6.7						
JIRN	**Jiri**	**46.67**	**307**	*e*P	**P**	**08 46 32.6**	**-0.1**
	9.5nm,0.7s,mb4.8						
GUN	**Gumba**	**47.02**	**307**	*e*P	**P**	**08 46 35.2**	**-0.3**
	10nm,0.6s,mb5.0						
PKI	**Pulchoki**	**47.26**	**306**	*e*P	**P**	**08 46 36.8**	**-0.5**
KKN	**Kakani**	**47.45**	**306**	*e*P	**P**	**08 46 38.9**	**0.0**
DMN	**Daman**	**47.52**	**306**	*e*P	**P**	**08 46 39.6**	**+0.2**
GKN	**Gorkha**	**48.06**	**306**	*e*P	**P**	**08 46 43.6**	**0.0**
SONM	**Songino Array**	**48.77**	**341**	P	**P**	**08 46 49.7**	**+0.6**
	2.1nm,0.8s,mb4.2,baz=159,slow=8.8,SNR=15						
KOLN	**Koldanda**	**48.80**	**305**	*e*P	**P**	**08 46 49.4**	**+0.1**
	14nm,0.7s,mb5.1						
MKAR	**Makanchi Array**	**59.01**	**325**	P	**P**	**08 48 04.0**	**+0.2**
	2.7nm,0.6s,mb4.5,baz=116,slow=8.2,SNR=40						
ZAL	**Zalesovo**	**62.07**	**333**	P	**P**	**08 48 24.2**	**-0.5**
	0.9nm,0.4s,mb4.2,baz=334,slow=2.2,SNR=4.1						

BJI ***19*** *08:56:58.9, 3494N×5830E, h3km, mB4.8, mb4.7, Ms4.2, Msz4.1*

IDC ***19*** *08:57:07.7±1.2, 3570N×5901E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.8/23, mbtmp3.8/11, ML4.1/2, MS3.3/10, Ms1 3.3/10, ms1mx3.0/42, Error ellipse: s-maj=23.7km s-min=19.4km az=161.0*

NEIC ***19*** *08:57:10.8, 3558N×5912E, h3km, mb4.2/5, ML4.4(THR), MN4.4(TEH), After TEH.*

TEH ***19*** *08:57:10.8, 3558N×5912E, h3km, Mn4.4*

CSEM ***19*** *08:57:10.5±0.1, 3564N×5912E, h27km, mb4.2/5, Error ellipse: s-maj=1.7km s-min=1.2km az=126.0*

MOS ***19*** *08:57:11.2±1.5, 3578N×5917E, h29km, mb4.3/6, Error ellipse: s-maj=10.6km s-min=8.7km az=84.1*

ISCJB ***19*** *08:57:11.4±0.4, 3563N±003×5911E±003, h41km±5km, mb4.0/16, MS3.4/11, Error ellipse: s-maj=5.1km s-min=3.6km az=94.5*

THR ***19*** *08:57:15.4±0.4, 3547N×5862E, h30km±10km, ML4.4*

ISC 19 08:57:11.9±0.6,**3565N**±003×**5915E**±003,**h26**km±5km, **n118**,σ1°**13**/166,**mb4.0**/16,**MS3.4**/11,**1D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**0.48**	**18**	*e*Pg	**Pb**	**08 57 20.9**	**-1.0**
IMOG				*e*Pg	**Pb**	08 57 20.9	-1.0
IMOG				*e*Pg	**Pb**	08 57 20.9	-1.0
IMOG				*e*Sg	**Sb**	08 57 28.2	-0.4
IMOG	**Moghan**	**0.48**	**18**	Pg	**Pb**	08 57 20.8	-1.1
IMOG				Sg	**Sb**	08 57 28.1	-0.5
MHI	**Mashhad**	**0.71**	**21**	*e*Pg	**Pb**	08 57 25.4	-0.2
MHI				*e*Pg	**Pb**	08 57 25.5	-0.1
MHI				*e*Sg	**Sb**	08 57 35.7	+0.7
MHI	**Mashhad**	**0.71**	**21**	Pg	**Pb**	08 57 25.3	-0.3
MHI				Sg	**Sb**	08 57 35.7	+0.7
IPAY	**Payeh**	**0.81**	**351**	*e*Pg	**Pb**	08 57 25.9	-1.5
IPAY				*e*Pg	**Pb**	08 57 25.9	-1.5
IPAY				*e*Pg	**Pb**	08 57 26.1	-1.3
IPAY				*e*Sg	**Sb**	08 57 37.6	-0.3
IPAY	**Payeh**	**0.81**	**351**	Pg	**Pb**	08 57 25.8	-1.6
IPAY	**Payeh**	**0.81**	**351**	*e*Pg	**Pb**	08 57 26.1	-1.3
IPAY				*e*Sg	**Sb**	08 57 37.6	-0.3
IMYA	**Miamay**	**1.03**	**48**	*e*Pg	**Pn**	08 57 30.5	-0.2
IMYA				*e*Pg	**Pn**	08 57 30.6	-0.1
IMYA				*e*Pg	**Pn**	08 57 30.6	-0.1
IMYA				*e*Sg	**Sb**	08 57 45.1	+0.8
IMYA	**Miamay**	**1.03**	**48**	Pg	**Pn**	08 57 30.5	-0.2
IMYA				Sg	**Sb**	08 57 45.0	+0.7
IKRD	**Kardeh**	**1.23**	**336**	*e*Pg	**Pn**	08 57 32.3	-1.1
IKRD				*e*Pg	**Pn**	08 57 32.4	-1.1
IKRD				*e*Pg	**Pn**	08 57 32.4	-1.1
IKRD				*e*Sg	**Sn**	08 57 49.6	+0.4
IKRD	**Kardeh**	**1.23**	**336**	Pg	**Pn**	08 57 32.2	-1.2
IKRD				Sg	**Sn**	08 57 49.5	+0.3
ASH	**Ashkhabad**	**2.39**	**345**	*e*P	**Pn**	08 57 51.0	+1.7
ASH				*e*		08 58 56.0	
VAN	**Vannovskaya**	**2.44**	**340**	*e*P	**Pn**	08 57 50.9	+0.8
VAN				*e*		08 58 26.1	
IMON		**2.49**	**170**	*e*Pn	**Pn**	08 57 50.7	**0.0**
ITEG		**2.77**	**187**	*e*Pn	**Pn**	08 57 54.7	+0.2
IDAH		**2.96**	**168**	*e*Pn	**Pn**	08 57 57.4	+0.2
MRVT	**Maraveh tapeh**	**3.18**	**310**	*e*Pn	**Pn**	08 58 02.9	+2.7
MRVT				Sn	**Sn**	08 58 37.6	+0.4
MRVT				AML	AML	08 59 08.5	
	comp=E,2μm,0.5s						
MRVT	**Maraveh tapeh**	**3.18**	**310**	*e*Pn	**Pn**	**08 58 02.9**	**+2.7**
	SNR=54						
MRVT				Sn	**Sn**	08 58 37.6	+0.4
	SNR=54						
IKOO		**3.22**	**182**	*e*Pn	**Pn**	**08 58 01.0**	**+0.2**
IANJ	**Anjiloo**	**4.28**	**269**	*e*Pn	**Pn**	**08 58 15.7**	**+0.4**
IANJ	**Anjiloo**	**4.28**	**269**	Pn	**Pn**	**08 58 15.6**	**+0.3**
ISHM	**Shahmirzad**	**4.77**	**274**	*e*Pn	**Pn**	**08 58 23.6**	**+1.5**
IBAF	**Bafgh**	**5.03**	**217**	*e*Pn	**Pn**	**08 58 26.0**	**+0.3**
IBAF				*e*Pn	**Pn**	**08 58 26.2**	**+0.5**
IBAF				*e*Pn	**Pn**	**08 58 26.2**	**+0.5**
IBAF	**Bafgh**	**5.03**	**217**	Pn	**Pn**	**08 58 26.1**	**+0.4**
ILAS	**Lasjerd**	**5.06**	**269**	*e*Pn	**Pn**	**08 58 26.4**	**+0.3**
ILAS				*e*Pn	**Pn**	**08 58 26.5**	**+0.4**
ILAS				*e*Pn	**Pn**	**08 58 26.7**	**+0.6**
ILAS				*e*Sn	**Sn**	**08 59 22.8**	**-0.9**
ICHK	**Chekchek**	**5.20**	**231**	*e*Pn	**Pn**	**08 58 28.6**	**+0.5**
ICHK				*e*Pn	**Pn**	**08 58 29.1**	**+1.0**
ICHK	**Chekchek**	**5.20**	**231**	Pn	**Pn**	**08 58 29.1**	**+1.0**
IFIR	**Firoozkooh**	**5.21**	**272**	*e*Pn	**Pn**	**08 58 28.0**	**-0.2**
IFIR				*e*Pn	**Pn**	**08 58 28.3**	**+0.1**
IFIR				*e*Pn	**Pn**	**08 58 28.5**	**+0.3**
IFIR	**Firoozkooh**	**5.21**	**272**	Pn	**Pn**	**08 58 28.4**	**+0.2**
IFIR	**Firoozkooh**	**5.21**	**272**	*e*Pn	**Pn**	**08 58 28.5**	**+0.3**
IMEH	**Mehriz**	**5.69**	**223**	*e*Pn	**Pn**	**08 58 34.7**	**-0.1**
IDMV	**Damavand**	**5.80**	**271**	*e*Pn	**Pn**	**08 58 37.3**	**+1.0**
IDMV				*e*Pn	**Pn**	**08 58 37.4**	**+1.1**
IDMV	**Damavand**	**5.80**	**271**	Pn	**Pn**	**08 58 37.2**	**+0.9**
ISFB	**Sefidab**	**5.82**	**259**	*e*Pn	**Pn**	**08 58 37.0**	**+0.5**
ISFB				*e*Pn	**Pn**	**08 58 39.9**	**+3.4**
ISFB				*e*Pn	**Pn**	**08 58 41.9**	**+5.3**
ISFB	**Sefidab**	**5.82**	**259**	Pn	**Pn**	**08 58 39.8**	**+3.2**
ISFB				Pn	**Pn**	**08 58 41.9**	**+5.3**
DAMV	**Damavand**	**5.85**	**272**	*e*Pn	**Pn**	**08 58 36.7**	**-0.2**
DAMV	**Damavand**	**5.85**	**272**	Pn	**Pn**	**08 58 36.0**	**-0.9**
ISAD	**Sadrabad**	**5.88**	**232**	*e*Pn	**Pn**	**08 58 37.3**	**-0.1**
ISAD				*e*Pn	**Pn**	**08 58 37.3**	**-0.1**
NASN	**Na'in**	**5.97**	**243**	*e*Pn	**Pn**	**08 58 37.9**	**-0.7**
NASN	**Na'in**	**5.97**	**243**	Pn	**Pn**	**08 58 37.0**	**-1.7**
KRBR	**Kerman**	**6.00**	**200**	*e*Pn	**Pn**	**08 58 40.3**	**+1.4**
KRBR				AML	AML	09 00 35.5	
	comp=N,100nm,0.8s						
KRBR	**Kerman**	**6.00**	**200**	P	**Pn**	**08 58 40.0**	**+1.0**
ZHSF	**Zahedan**	**6.17**	**167**	*e*Pn	**Pn**	**08 58 46.4**	**+5.0**
IZEF	**Zefreh**	**6.28**	**246**	*e*Pn	**Pn**	**08 58 42.9**	**0.0**
IZEF				*e*Pn	**Pn**	**08 58 43.6**	**+0.7**
IZEF				*e*Pn	**Pn**	**08 58 43.9**	**+1.0**
IZEF				*e*Sn	**Sn**	**08 59 51.3**	**-2.5**
IZEF	**Zefreh**	**6.28**	**246**	Pn	**Pn**	**08 58 43.6**	**+0.7**
IZEF				Sn	**Sn**	**08 59 51.3**	**-2.5**
CHTH	**Charan**	**6.53**	**275**	*e*Pn	**Pn**	**08 58 46.2**	**-0.1**
CHTH	**Charan**	**6.53**	**275**	Pn	**Pn**	**08 58 46.0**	**-0.3**
IKLH	**Kalahroud**	**6.67**	**252**	*e*Pn	**Pn**	**08 58 47.1**	**-1.1**
IKLH				*e*Pn	**Pn**	**08 58 48.3**	**+0.1**
IKLH				*e*Pn	**Pn**	**08 58 54.5**	**+6.3**
IKLH				*e*Sn	**Sn**	**08 59 59.6**	**-3.8**
IKLH	**Kalahroud**	**6.67**	**252**	Pn	**Pn**	**08 58 54.4**	**+6.2**
IKLH				Sn	**Sn**	**08 59 59.5**	**-3.9**
IKLH	**Kalahroud**	**6.67**	**252**	*e*Pn	**Pn**	**08 58 48.3**	**+0.1**
IKLH				*e*Sn	**Sn**	**08 59 59.6**	**-3.8**
THKV	**Tehran--Karaj**	**6.73**	**275**	*e*Pn	**Pn**	**08 58 48.9**	**-0.1**
THKV	**Tehran--Karaj**	**6.73**	**275**	Pn	**Pn**	**08 58 48.0**	**-1.0**
IPIR	**Pirpir**	**7.46**	**249**	*e*Pn	**Pn**	**08 59 00.1**	**+1.1**
IPIR				*e*Pn	**Pn**	**08 59 02.6**	**+3.6**
IPIR	**Pirpir**	**7.46**	**249**	Pn	**Pn**	**08 59 02.6**	**+3.6**
IRAZ	**Razeghan**	**7.53**	**271**	*e*Pn	**Pn**	**08 59 00.2**	**+0.3**
ASAO	**Ashtian**	**7.56**	**264**	*e*Pn	**Pn**	**08 59 00.6**	**+0.2**
ASAO	**Ashtian**	**7.56**	**264**	P	**Pn**	**08 59 00.0**	**-0.4**
GNI	**Garni**	**12.24**	**296**	*e*P	**Pn**	**09 00 07.7**	**+3.2**
GNI				pmax	pmax		
	comp=Z,12nm,0.8s						
GNI	**Garni**	**12.24**	**296**	*e*Pn	**Pn**	**09 00 07.7**	**+3.3**
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**13.79**	**55**	*e*P	**Pn**	**09 00 24.0**	**-1.7**
AAK				*e*		09 02 59.7	
AAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AAK	**Ala-Archa**	**13.79**	**55**	*e*Pn	**Pn**	**09 00 24.0**	**-1.7**
	comp=Z,7.5nm,0.6s						
AAK				*e*Sn	**Sn**	**09 02 59.7**	**+1.8**
AAK	**Ala-Archa**	**13.79**	**55**	*e*Pn	**Pn**	**09 00 24.0**	**-1.7**
	comp=Z,7.5nm,0.6s						
AAK				*e*Sn	**Sn**	**09 02 59.7**	**+1.8**
ZEI	**Tsey**	**13.79**	**306**	*e*P	**Pn**	**09 00 26.8**	**+1.1**
FRU	**Bishkek**	**13.96**	**54**	*e*P	**Pn**	**09 00 26.0**	**-1.9**
FRU				*e*		09 03 00.0	
AKTK	**Aktyubinsk**	**14.80**	**357**	Pn	**Pn**	**09 00 35.8**	**-3.7**
AKTK				Sn	**Sn**	**09 03 16.7**	**-5.9**
AKTK				LR	LR	09 07 26.1	
AKTK	**Aktyubinsk**	**14.80**	**357**	Pn	**Pn**	**09 00 35.8**	**-3.7**
AKTO	**Aktyubinsk**	**14.80**	**357**	Pn	**Pn**	**09 00 35.8**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=182,slow=12,SNR=9.1						
AKTO				Sn	**Sn**	**09 03 16.7**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=90,slow=19,SNR=3.9						
AKTO				LR	LR	09 07 26.1	
	comp=Z,85nm,18.6s,baz=282,slow=42						
AKTO	**Aktyubinsk**	**14.80**	**357**	P	**Pn**	**09 00 35.8**	**-3.7**
AKTO						09 03 16.7	
KIV	**Kislovodsk**	**15.11**	**308**	*e*P	**Pn**	**09 00 43.0**	**-0.6**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIV	**Kislovodsk**	**15.11**	**308**	*e*P	**Pn**	**09 00 43.0**	**-0.6**
	comp=Z,4.0nm,0.4s						
SOC	**Sochi**	**16.92**	**304**	*e*P	**Pn**	**09 00 59.9**	**-6.9**
SOC				*e*		09 04 10.7	
SOC				pmax	pmax		
	comp=Z,20nm,0.9s						
ANN	**Anapa**	**18.89**	**306**	*e*P	**Pn**	**09 01 30.9**	**-0.2**
ANN				*e*S	**Sn**	**09 05 07.9**	**+6.1**
ANN				pmax	pmax		
	comp=Z,34nm,1.3s						
ANN				MLR	MLR		
	comp=Z,106nm,12.0s						
ANN	**Anapa**	**18.89**	**306**	*e*P	**Pn**	**09 01 30.9**	**-0.2**
	comp=Z,34nm,1.3s						
BVAR	**Borovoye Array**	**19.10**	**21**	P	**Pn**	**09 01 32.7**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=195,slow=11,SNR=12						
BVAR				LR	LR	09 09 60.0	
	comp=Z,68nm,20.9s,baz=141,slow=40						
BRTR	**Keskin Array B**	**20.57**	**289**	P	**P**	**09 01 48.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=110,slow=13,SNR=2.0						
MK31	**Makanchi Array**	**20.58**	**50**	*e*P	**P**	**09 01 51.3**	**+2.5**
MKAR	**Makanchi Array**	**20.58**	**50**	P	**P**	**09 01 49.6**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=239,slow=13,SNR=11						
KURK	**Kurchatov**	**20.60**	**37**	*e*P	**P**	**09 01 49.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**20.60**	**37**	*e*P	**P**	**09 01 49.6**	**+0.6**
	comp=Z,6.4nm,1.0s						
KURK	**Kurchatov**	**20.60**	**37**	*e*P	**P**	**09 01 49.6**	**+0.6**
	comp=Z,6.0nm,1.0s						
ARU	**Arti**	**20.79**	**359**	⇓*i*P	**P**	**09 01 51.3**	**+0.3**
ARU				*e*		09 02 09.7	
ARU				*e*SS		09 06 05.4	
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARU	**Arti**	**20.79**	**359**	*e*P	**P**	**09 01 52.0**	**+1.0**
	comp=Z,12nm,1.1s						
ARU	**Arti**	**20.79**	**359**	*i* P	**P**	**09 01 51.3**	**+0.3**
	comp=Z,8.0nm,0.8s						
WMQ	**Urumqi**	**23.33**	**61**	*e*P	**P**	**09 02 20.6**	**+2.4**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.8						
WMQ				AMB	AMB		
	comp=Z,72nm,4.0s						
WMQ				LR	LR		
	comp=N,93nm,24.0s,MS3.6						
WMQ				LR	LR		
	comp=E,212nm,23.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,64nm,20.0s,MS3.1						
OBN	**Obninsk**	**24.91**	**328**	P	**P**	**09 02 32.0**	**-0.7**
OBN				*e*		09 02 37.2	
OBN				*e*		09 03 06.7	
OBN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
OBN	**Obninsk**	**24.91**	**328**	P	**P**	**09 02 32.0**	**-0.7**
	comp=Z,11nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**25.57**	**36**	P	**P**	**09 02 38.0**	**-0.8**
	comp=Z,1.0nm,0.4s,mb3.7,baz=256,slow=6.0,SNR=3.2						
ZAL				LR	LR	09 12 09.1	
	comp=Z,26nm,18.3s,MS2.8,baz=87,slow=35						
AKASG	**Malin Array Be**	**26.28**	**314**	P	**P**	**09 02 44.4**	**-0.7**
	comp=Z,3.5nm,0.9s,mb3.9,baz=124,slow=9.0,SNR=7.2						
KIEV	**Kiev**	**26.29**	**314**	*e*P	**P**	**09 02 47.2**	**+2.0**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
KIEV	**Kiev**	**26.29**	**314**	*e*P	**P**	**09 02 47.2**	**+2.0**
	comp=Z,4.2nm,0.8s,mb4.0						
KIEV	**Kiev**	**26.29**	**314**	*e*P	**P**	**09 02 47.2**	**+2.0**
	comp=Z,4.0nm,0.8s,mb4.0						
MLR	**Muntele Rosu**	**26.91**	**302**	LR	LR	09 16 33.8	
	comp=Z,46nm,18.1s,MS3.1,baz=73,slow=44						
FINES	**FINESS Array B**	**33.20**	**331**	P	**P**	**09 03 45.2**	**-1.3**
	comp=Z,2.1nm,0.9s,mb4.1,baz=124,slow=7.5,SNR=3.3						
FINES				LR	LR	09 18 25.6	
	comp=Z,48nm,21.7s,MS3.2,baz=164,slow=39						
FINES	**FINESS Array B**	**33.20**	**331**	P	**P**	**09 03 45.2**	**-1.3**
FINES				LR	LR	09 18 25.6	
VRAC	**Vranov**	**33.77**	**307**	LR	LR	09 20 21.9	
	comp=Z,52nm,18.8s,MS3.3,baz=278,slow=41						
LZH	**Lanzhou**	**35.98**	**76**	*e*P	**P**	**09 04 10.0**	**-0.5**
LZH				AP	pP	09 04 19.0	+0.7
LZH				XP	sP	09 04 23.0	+1.5
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,50nm,4.2s						
LZH	**Lanzhou**	**35.98**	**76**	*e*P	**P**	**09 04 10.0**	**-0.5**
LZH				*PP	pP	09 04 19.0	+0.7
LZH				*SP	sP	09 04 23.0	+1.5
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
LZH	**Lanzhou**	**35.98**	**76**	*e*P	**P**	**09 04 10.0**	**-0.5**
	comp=Z,13nm,1.0s,mb4.8						
LZH				pP	pP	09 04 19.0	+0.7
LZH				sP	sP	09 04 23.0	+1.5
LZH	**Lanzhou**	**35.98**	**76**	*e*P	**P**	**09 04 10.0**	**-0.5**
	comp=Z,13nm,1.0s,mb4.8						
LZH				pP	pP	09 04 19.0	+0.7
SONM	**Songino Array**	**36.74**	**56**	P	**P**	**09 04 18.2**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=280,slow=8.6,SNR=2.3						
CD2	**Chengdu**	**37.35**	**84**	P	**P**	**09 04 20.6**	**-1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
ARCES	**ARCESS Array B**	**38.59**	**342**	LR	LR	09 22 04.2	
	comp=Z,43nm,21.6s,MS3.2,baz=70,slow=39						
KMI	**Kunming**	**38.76**	**93**	P	**P**	**09 04 33.8**	**-0.3**
KMI				AP	pP	09 04 41.3	-0.6
KMI				XP	sP	09 04 45.3	+0.2
KMI				S	**S**	**09 10 29.0**	**-0.8**
KMI				XS	sS	09 10 43.8	+1.1
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
KMI				LR	LR		
	comp=Z,172nm,10.4s,MS4.2						
KMI	**Kunming**	**38.76**	**93**	P	**P**	**09 04 33.8**	**-0.3**
KMI				*PP	pP	09 04 41.3	-0.6
KMI				*SP	sP	09 04 45.3	+0.2
KMI						09 06 00.6	
KMI				PPP		09 06 24.4	
KMI				S	**S**	**09 10 29.0**	**-0.8**
KMI				*SS	sS	09 10 43.8	+1.1
KMI				SS	SS	09 13 11.3	-10
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
KMI				MLR	MLR		
	comp=Z,170nm,10.4s,MS4.2						
KMI	**Kunming**	**38.76**	**93**	P	**P**	**09 04 33.8**	**-0.3**
	comp=Z,7.0nm,1.1s,mb4.3						
KMI				pP	pP	09 04 41.3	-0.6
KMI				sP	sP	09 04 45.3	+0.2
KMI				PP	PP	09 06 00.6	-2.5
KMI				PPP		09 06 24.4	
KMI				S	**S**	**09 10 29.0**	**-0.8**
KMI				sS	sS	09 10 43.8	+1.1
KMI				SS	SS	09 13 11.3	-10
KMI				LR	LR		
	comp=Z,170nm,10.4s,MS4.2						
NOA	**NORSAR Array B**	**39.43**	**325**	LR	LR	09 24 55.5	
	comp=Z,15nm,21.2s,MS2.8,baz=300,slow=42						
HHC	**Hu-ho-hao-te**	**40.98**	**66**	*e*P	**P**	**09 04 56.3**	**+3.8**
HHC				PP	PP	09 06 34.3	+7.1
HHC				S	**S**	**09 11 10.1**	**+7.1**
HHC				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.5						
HHC				AMB	AMB		
	comp=Z,110nm,6.2s						
HHC				LR	LR		
	comp=N,153nm,18.4s,MS4.0						
HHC				LR	LR		
	comp=E,113nm,16.7s,MS4.0						
HHC				LR	LR		
	comp=Z,109nm,18.4s,MS3.8						
GYA	**Guiyang**	**41.38**	**89**	P	**P**	**09 04 53.8**	**-2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
BOD	**Bodaibo**	**42.18**	**41**	*e*P	**P**	**09 05 02.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.6						
BOD	**Bodaibo**	**42.18**

282nm,0.2s,SNR=1.0
FRF La Foret Royal 0.65 200 *e*Pg **Pg 09 14 34.3 -0.1**
SNR=1.0
FRF *e*Sg **Sg 09 14 42.7 -0.3**
141nm,0.2s,SNR=1.0
OG22 Abries 0.65 360 Pg **Pg 09 14 34.3 -0.2**
OG22 Sg **Sg 09 14 42.9 -0.2**
OG25 Le Caire 0.66 288 Pg **Pg 09 14 34.9 +0.2**
ROB Roburent 0.67 79 P **Pg 09 14 35.0 +0.2**
IMI Imperia 0.72 111 Pg **Pg 09 14 35.8 0.0**
30nm,0.1s
RRL Cesana Torines 0.76 351 P **Pg 09 14 36.4 -0.1**
RORO 0.80 94 P **Pg 09 14 37.5 +0.2**
LMR La Mourre 0.90 201 *e*Pg **Pg 09 14 38.7 -0.4**
LMR *e*Sg **Sg 09 14 49.9 -0.9**
156nm,0.2s,SNR=1.0
LMR La Mourre 0.90 201 *e*Pg **Pg 09 14 38.7 -0.4**
LMR *e*Sg **Sg 09 14 49.9 -0.9**
78nm,0.2s,SNR=1.0
FIN Finale Ligure 0.90 87⇑*i*Pg **Pg 09 14 39.0 -0.2**
26nm,0.1s
RSP Reno Superiore 1.00 12 Pg **Pg 09 14 40.1 -1.1**
SMRF Simiane la Rot 1.01 259 *e*Pg **Pg 09 14 41.7 +0.4**
SNR=1.0
SMRF *e*Sn **Sn 09 14 56.2 +0.8**
43nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.01 259 *e*Pg **Pg 09 14 41.7 +0.4**
SNR=1.0
SMRF *e*Sn **Sn 09 14 56.2 +0.8**
22nm,0.2s,SNR=1.0
QLNO Quiliano 1.01 81⇑*i*Pg **Pg 09 14 41.1 -0.2**
137nm,1.3s
ORIF Oris-en-Rattie 1.07 315 *e*Pg **Pg 09 14 41.7 -0.7**
SNR=1.0
ORIF *e*Sg **Sg 09 14 56.2 -0.2**
61nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 1.07 315 *e*Pg **Pg 09 14 41.7 -0.7**
SNR=1.0
ORIF *e*Sg **Sg 09 14 56.2 -0.2**
31nm,0.4s,SNR=1.0
GDM Grand'Maison 1.19 330 Pn **Pn 09 14 44.7 +0.8**
GDM Sg **Sg 09 15 01.5 +1.2**
PCP Pian Castagno 1.20 71 P **Pn 09 14 44.1 +0.1**
LSD Ceresole Reale 1.30 6 P **Pn 09 14 46.0 +0.7**
LPG La Plagne 1.33 354 *e*Pg **Pg 09 14 46.8 -0.6**
SNR=1.0
LPG *e*Sg **Sg 09 15 04.6 -0.2**
12nm,0.2s,SNR=1.0
LPG La Plagne 1.33 354 *e*Pg **Pg 09 14 46.8 -0.6**
SNR=1.0
LPG *e*Sg **Sg 09 15 04.6 -0.2**
6.2nm,0.2s,SNR=1.0
LPL La Plagne 1.35 353 *e*Pg **Pg 09 14 47.1 -0.7**
SNR=1.0
LPL *e*Sg **Sg 09 15 05.3 -0.2**
17nm,0.3s,SNR=1.0
LPL La Plagne 1.35 353 *e*Pg **Pg 09 14 47.1 -0.7**
SNR=1.0
LPL *e*Sg **Sg 09 15 05.3 -0.2**
8.7nm,0.3s,SNR=1.0
TRAV 1.46 23 P **Pn 09 14 47.3 -0.2**
VIVF Saint-Julien-l 1.77 294 *e*Pn **Pn 09 14 52.4 +0.6**
SNR=1.0
VIVF *e*Sn **Sn 09 15 14.1 0.0**
8.0nm,0.2s
VIVF Saint-Julien-l 1.77 294 *e*Pn **Pn 09 14 52.4 +0.6**
SNR=1.0
VIVF *e*Sn **Sn 09 15 14.1 0.0**
4.0nm,0.2s
PGF Pioggiola 2.20 137 *e*Pn **Pn 09 14 57.5 -0.3**
SNR=1.0
PGF *e*Sn **Sn 09 15 23.1 -1.7**
11nm,0.2s,SNR=1.0
PGF Pioggiola 2.20 137 *e*Pn **Pn 09 14 57.5 -0.3**
SNR=1.0
PGF *e*Sn **Sn 09 15 23.1 -1.7**
5.6nm,0.2s,SNR=1.0
LASF Ste Croix 2.23 269 *e*Pn **Pn 09 14 57.9 -0.3**
SNR=1.0
LASF *e*Sn **Sn 09 15 25.3 -0.2**
9.4nm,0.4s
LASF Ste Croix 2.23 269 *e*Pn **Pn 09 14 57.9 -0.3**
SNR=1.0
LASF *e*Sn **Sn 09 15 25.3 -0.2**
4.7nm,0.4s
SMF Signal de Mont 3.31 320 *e*Pn **Pn 09 15 14.1 +1.1**
MTLF Montolieu 3.53 258 *e*Pn **Pn 09 15 16.0 0.0**
SNR=1.0
MTLF *e*Sn **Sn 09 15 56.9 -0.6**
2.1nm,0.3s,SNR=1.0
MTLF Montolieu 3.53 258 *e*Pn **Pn 09 15 16.0 0.0**
SNR=1.0
MTLF *e*Sn **Sn 09 15 56.9 -0.6**
1.0nm,0.3s,SNR=1.0
AVF Avril sur Loir 3.64 317 *e*Pn **Pn 09 15 18.5 +0.9**
SNR=1.0

MOS ***19*** *09:24:40.5±1.9, 55.71N×110.15E, h9km, mb4.3/1, Error ellipse: s-maj=15.7km s-min=8.4km az=69.8*

BYKL 19 09:24:40.4±0.3, 55.65N×110.16E, h2km±4km, 8C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.37**	**290**	*e*PG	Pg	09 24 46.9	-0.6
NIZ				*e*		09 24 52.3	
NIZ	comp=Z,359nm,0.3s			pmax	pmax		
NIZ	comp=N,2μm,0.3s			smax			
NIZ	**Nizh Angarsk**	**0.37**	**290**	*e*Pg	Pg	09 24 47.0	-0.5
NIZ				*e*		09 24 50.9	
NIZ				*i* Sg	Sg	09 24 52.7	+0.3
NIZ	comp=N,210nm,0.2s			Pmax			
NIZ	comp=N,2μm,0.3s			Smax			
KMO	**Kumora**	**0.63**	**68**⇑*i*Pg		Pg	09 24 51.3	-1.3
KMO				*e*Sg	Sg	09 24 59.7	-1.1
KMO	comp=N,161nm,0.3s			Pmax			
KMO	comp=N,439nm,1.0s			Smax			
YLYR	**Ulyunkhan**	**0.96**	**143**⇑*i*PG		Pg	09 24 57.9	-1.0
YLYR				*e*		09 25 11.1	
YLYR	comp=Z,140nm,0.4s			pmax	pmax		
YLYR	comp=E,902nm,0.3s			smax			
YLYR	**Ulyunkhan**	**0.96**	**143**⇑*i*Pg		Pg	09 24 57.9	-1.0
YLYR				*e*Sg	Sg	09 25 11.5	+0.1
YLYR				*e*		09 25 18.0	
YLYR	comp=E,138nm,0.4s			Pmax			
YLYR	comp=E,889nm,0.3s			max			
YOA	**Uoyan**	**1.00**	**61**	*e*PG	Pg	09 24 59.1	-0.6
YOA				*e*		09 25 11.8	
YOA	comp=Z,131nm,0.2s			pmax	pmax		
YOA	comp=N,1μm,0.4s			smax			
YOA	**Uoyan**	**1.00**	**61**	*e*Pg	Pg	09 24 59.6	-0.1
YOA				*e*Sg	Sg	09 25 11.9	-0.8
YOA	comp=N,227nm,0.3s			Pmax			
YOA	comp=N,1μm,0.7s			Smax			
SVKR	**Severomuysk**	**1.97**	**75**	*e*PN	Pn	09 25 12.2	-2.6
SVKR				*e*		09 25 16.9	
SVKR				*e*S	Sn	09 25 38.1	-2.0
SVKR				*e*		09 25 42.0	
SVKR	comp=Z,223nm,1.3s			pmax	pmax		
SVKR	comp=N,752nm,0.6s			smax			
SVKR	**Severomuysk**	**1.97**	**75**	*e*Pn	Pn	09 25 15.1	+0.3
SVKR				*e*Pg	Pg	09 25 16.9	-1.3
SVKR				*e*Sg	Sg	09 25 43.0	-0.7
SVKR	comp=N,180nm,0.3s			Pmax			
SVKR	comp=N,761nm,0.7s			Smax			
SYVR	**Suvo**	**2.00**	**183**	*e*PN	Pn	09 25 16.5	+1.3
SYVR				*e*		09 25 45.2	
SYVR	comp=Z,188nm,0.2s			pmax	pmax		
SYVR	comp=E,670nm,0.4s			smax			
SYVR	**Suvo**	**2.00**	**183**	*e*Pn	Pn	09 25 15.8	+0.6
SYVR				⇑*i*Pg	Pg	09 25 16.6	-2.1
SYVR				*e*Sg	Sg	09 25 44.7	+0.1
SYVR	comp=E,276nm,0.8s			Pmax			
SYVR	comp=E,694nm,0.5s			Smax			
OGRR	**Ongureny**	**2.50**	**218**	*e*PN	Pn	09 25 22.7	+0.6
OGRR				*e*		09 25 26.3	
OGRR				*e*		09 25 58.1	
OGRR	comp=Z,46nm,0.3s			pmax	pmax		
OGRR	comp=E,376nm,0.4s			smax			
OGRR	**Ongureny**	**2.50**	**218**	*e*Pn	Pn	09 25 23.0	+0.9
OGRR				*e*Pg	Pg	09 25 24.7	-3.7
OGRR				*e*		09 25 28.6	
OGRR				*e*Sn	Sn	09 25 55.0	+1.8
OGRR				*e*Sg	Sg	09 25 58.1	-2.7
OGRR	comp=E,43nm,0.3s			Pmax			
OGRR	comp=E,376nm,0.4s			Smax			
MXMB	**Maximikha**	**2.53**	**200**	*i* Sg	Sg	09 25 59.9	-1.8
MXMB				Smax			
BOD	**Bodaibo**	**3.04**	**43**	*e*PN	Pn	09 25 28.6	-0.8
BOD				*e*		09 25 33.5	
BOD				*e*		09 26 11.5	
BOD	comp=Z,22nm,0.3s			pmax	pmax		
BOD	comp=N,215nm,0.5s			smax			
BOD	**Bodaibo**	**3.04**	**43**⇑*i*Pn		Pn	09 25 29.5	+0.1
BOD				*e*		09 25 35.0	
BOD				*e*Sn	Sn	09 26 05.7	-0.6
BOD				*i* Sg	Sg	09 26 12.8	-5.1
BOD	comp=N,29nm,0.6s			max			
BOD	comp=N,243nm,1.1s			Smax			
ZRHB	**Zarechye**	**3.57**	**211**	*e*Pg	Pg	09 25 44.4	-4.5
ZRHB				*e*Sg	Sg	09 26 31.4	-3.8
ZRHB	comp=N,66nm,0.6s			Pmax			
ZRHB	comp=N,405nm,1.4s			Smax			
TRG	**Tyrgan**	**3.66**	**219**	*e*PN	Pn	09 25 38.2	+0.2
TRG				*e*		09 25 46.9	
TRG				*e*		09 26 35.2	
TRG	comp=Z,15nm,0.4s			pmax	pmax		
TRG	comp=E,125nm,0.4s			smax			
TRG	**Tyrgan**	**3.66**	**219**	*e*Pn	Pn	09 25 39.0	+1.0
TRG				*e*Sn	Sn	09 26 22.5	+0.8
TRG				*e*Sg	Sg	09 26 34.0	-4.0
TRG	comp=E,23nm,0.3s			max			
TRG	comp=E,126nm,0.4s			Smax			
TRTB	**Turuntaevo**	**3.74**	**205**	*e*Pn	Pn	09 25 39.4	+0.3
TRTB				*e*Pg	Pg	09 25 46.4	-5.7
TRTB				*e*		09 26 15.5	
TRTB				*i* Sg	Sg	09 26 35.8	-4.7
TRTB	comp=E,29nm,0.7s			Pmax			
TRTB	comp=E,126nm,1.0s			Smax			
UUDB	**Ulan-Yde**	**4.07**	**202**	*e*Pg	Pg	09 25 53.2	-5.2
UUDB				*e*Sg	Sg	09 26 46.5	-4.6
UUDB	comp=E,27nm,1.0s			Pmax			
UUDB	comp=E,105nm,1.3s			Smax			
FFNB	**Fofonovo**	**4.13**	**211**	*e*Sn	Sn	09 26 32.5	-0.9
FFNB				*e*Sg	Sg	09 26 47.7	-5.4
FFNB	comp=E,319nm,0.5s			Smax			
CIT	**Chita**	**4.15**	**150**	*e*PN	Pn	09 25 54.8	+10
CIT				*e*		09 26 48.6	
CIT	comp=Z,49nm,1.5s			pmax	pmax		
CIT	comp=E,92nm,0.9s			smax			
CIT	**Chita**	**4.15**	**150**	*e*Pg	Pg	09 25 54.5	-5.5
CIT				*i* Sg	Sg	09 26 47.9	-5.9
CIT	comp=E,49nm,1.3s			Pmax			
CIT	comp=E,93nm,1.0s			Smax			
HRMR	**Khuramsha**	**4.46**	**207**	*e*Pn	Pn	09 25 49.7	+0.7
HRMR				*e*Pg	Pg	09 25 59.6	-6.2
HRMR				*e*Sn	Sn	09 26 37.7	-3.7
HRMR				*e*Sg	Sg	09 26 58.0	-5.6
HRMR	comp=E,38nm,0.6s			Pmax			
HRMR	comp=E,333nm,0.5s			Smax			
CRS	**Chara**	**4.69**	**71**	*e*PN	Pn	09 26 06.0	+14
CRS				*e*		09 27 06.2	
CRS	comp=Z,53nm,0.9s			pmax	pmax		
CRS	comp=E,91nm,1.2s			smax			
CRS	**Chara**	**4.69**	**71**	*e*Pn	Pn	09 25 52.2	0.0
CRS				*e*Pg	Pg	09 26 05.6	-4.7
CRS				*e*Sg	Sg	09 27 06.3	-4.8
CRS	comp=E,51nm,0.9s			Pmax			
CRS	comp=E,92nm,1.4s			Smax			
IRK	**Irkutsk**	**4.87**	**228**	*e*Sn	Sn	09 26 51.7	0.0
IRK				*e*Sg	Sg	09 27 11.8	-5.1
IRK	comp=E,404nm,0.8s			Smax			
LSTR	**Listvyanka**	**4.93**	**222**	*e*Sn	Sn	09 26 50.5	-2.7
LSTR				*e*Sg	Sg	09 27 11.5	-7.4
LSTR	comp=E,101nm,1.1s			Smax			
TLY	**Talaya**	**5.55**	**227**	*e*PN	Pn	09 26 02.5	-1.5
TLY				*e*		09 26 18.6	
TLY				*e*S	Sn	09 27 04.9	-3.5
TLY				*e*		09 27 30.3	
TLY	comp=Z,3.0nm,0.3s			pmax	pmax		
TLY	comp=E,64nm,0.8s			smax			
TLY	**Talaya**	**5.55**	**227**	*e*Pn	Pn	09 26 03.3	-0.7
TLY				*e*Pg	Pg	09 26 19.7	-7.0
TLY				*e*Sn	Sn	09 27 05.3	-3.1
TLY				*e*Sg	Sg	09 27 30.5	-8.2
TLY	comp=E,9.0nm,1.1s			Pmax			
TLY	comp=E,66nm,0.8s			Smax			
TUP	**Tupik**	**5.76**	**98**	*e*Pn	Pn	09 26 06.5	-0.4
TUP				*e*Sn	Sn	09 27 11.1	-2.5
TUP				*e*Sg	Sg	09 27 38.8	-6.8
TUP	comp=E,8.0nm,1.4s			max			
TUP	comp=E,57nm,1.4s			Smax			
ARS	**Arshan**	**5.91**	**234**	*e*PN	Pn	09 26 08.5	-0.5
ARS				*e*		09 26 27.0	
ARS				*e*S	Sn	09 27 13.2	-4.1
ARS				*e*		09 27 41.9	
ARS	comp=Z,18nm,0.4s			pmax	pmax		
ARS	comp=E,282nm,0.7s			smax			
ARS	**Arshan**	**5.91**	**234**⇑*i*Pn		Pn	09 26 08.9	-0.1
ARS				*e*Sn	Sn	09 27 13.8	-3.5
ARS				*e*Sg	Sg	09 27 43.1	-7.2
ARS	comp=E,20nm,0.3s			max			
ARS	comp=E,285nm,0.7s			Smax			
KPC	**Khapcheranga**	**6.11**	**166**	*e*PN	Pn	09 26 11.3	-0.3
KPC				*e*		09 26 31.2	
KPC				*e*		09 27 51.2	
KPC	comp=Z,9.0nm,0.6s			pmax	pmax		
KPC	comp=E,44nm,0.9s			smax			
KPC	**Khapcheranga**	**6.11**	**166**	*e*Pn	Pn	09 26 11.4	-0.2
KPC				*e*Pg	Pg	09 26 28.9	-8.5
KPC				*e*Sg	Sg	09 27 49.7	-6.8
KPC	comp=E,10.0nm,0.5s			Pmax			
KPC	comp=E,45nm,0.7s			Smax			
ZAK	**Zakamensk**	**6.71**	**221**	*e*PN	Pn	09 26 20.8	+0.9
ZAK				*e*		09 26 40.8	
ZAK				*e*S	Sn	09 27 36.5	-0.5
ZAK				*e*		09 28 08.1	
ZAK	comp=Z,4.0nm,0.4s			pmax	pmax		
ZAK	comp=N,61nm,1.2s			smax			
MOY	**Mondy**	**6.75**	**238**	*e*PN	Pn	09 26 21.8	+1.3
MOY				*e*		09 26 39.4	
MOY	**Mondy**	**6.75**	**238**⇑*i*Pn		Pn	09 26 21.9	+1.4
MOY				*e*Sg	Sg	09 28 07.7	-10
MOY	comp=N,14nm,0.6s			max			
MOY	comp=N,64nm,1.4s			Smax			
ORL	**Orlik**	**6.84**	**247**	*e*PN	Pn	09 26 22.3	+0.6
ORL				*e*S	Sn	09 28 12.8	+33
ORL	comp=N,93nm,1.2s			smax			
ORL	**Orlik**	**6.84**	**247**⇑*i*Pn		Pn	09 26 22.4	+0.7
ORL				*e*Sn	Sn	09 27 37.8	-2.3
ORL				*e*Sg	Sg	09 28 13.0	-7.0
ORL	comp=N,7.0nm,0.6s			max			
ORL	comp=N,95nm,1.2s			Smax			
TDJR	**Todzha**	**8.89**	**254**	*e*Sg	Sn	09 29 14.5	+44

NIED ***19*** *09:33:00, 35.30N×137.20E, h23km, Mw4.1 Best double couple: M0 1.66000×10^15 NP1:φs320.00000°, δ86.00000°, λ20.00000°. NP2:φs228.00000°, δ70.00000°, λ175.00000°.*

IDC ***19*** *09:33:01.9±0.9, 35.09N×137.57E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML3.9/2, MS3.5/2, Ms1 3.5/2, ms1mx2.6/43, Error ellipse: s-maj=24.7km s-min=12.2km az=108.0*

ISCJB ***19*** *09:33:03.6±1.5, 35.21N±0.03×137.30E±0.04, h14km±10km, mb3.8/8, Error ellipse: s-maj=6.0km s-min=5.5km az=70.0*

NEIC ***19*** *09:33:03.3±0.8, 35.12N×137.59E, h10km, mb4.6/1, MW4.1(NIED), Error ellipse: s-maj=19.7km s-min=10.9km az=121.0*

NEIC Recorded [3 JMA] in Gifu and Nagano; [2 JMA] in Aichi, Mie and Shiga; [1 JMA] in Kyoto and Nara Prefectures.

JMA ***19*** *09:33:03.4, 35.26N×137.26E, h15km, M4.4 Broadband fault plane solution: P waves. NP1:φs228.00000°, δ63.00000°, λ175.00000°. NP2:φs320.00000°, δ85.00000°, λ27.00000°. Principal axes: T Plg22.0000°, Azm187.0000°; N Plg63.0000°, Azm329.0000°; P Plg15.0000°, Azm91.0000°;*

JMA Felt III J1.

MOS ***19*** *09:33:04.9±0.9, 35.05N×137.50E, h33km, mb4.9/1 Error ellipse: s-maj=28.6km s-min=15.5km az=85.9*

ISC 19 09:33:03.5±0.6, 35.23N±0.04×137.38E±0.04, h5km±4km, n23, σ1ŝ25/27, mb3.8/8, 4C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.10**	**292**	⇑P	**Pg**	**09 33 06.0**	**+0.3**
JAO				S	**Sg**	**09 33 07.9**	**+0.7**
SHZ3	**Shizuoka 3**	**0.70**	**103**	⇓P	**Pg**	**09 33 18.5**	**+1.5**
JGM	**Miyama**	**0.71**	**311**	⇓P	**Pg**	**09 33 15.5**	**-1.7**
TK04	**Tokai 4**	**0.94**	**154**	⇑P	**Pg**	**09 33 23.6**	**+2.1**
TSUJ	**Tsu 2**	**0.94**	**237**	⇑P	**Pg**	**09 33 19.6**	**-2.0**
JYN	**Shimob**	**0.99**	**74**	⇓P	**Pg**	**09 33 23.4**	**+0.8**
JIE	**Ise**	**1.00**	**214**	⇑P	**Pg**	**09 33 21.1**	**-1.6**
MAJO	**Matsushiro**	**1.48**	**27**	*e*Pn	**Pn**	**09 33 30.7**	**0.0**
MAJO				*e*Sn	**Sn**	**09 33 49.0**	**-1.4**
MAT	**Matsushiro**	**1.48**	**27**	P	**Pn**	**09 33 30.4**	**-0.3**
MAT				S	**Sn**	**09 33 50.0**	**-0.4**
MJAR	**Matsushiro Arr**	**1.48**	**27**	Pg	**Pg**	**09 33 30.5**	**-1.3**
	233nm,0.3s,baz=221,slow=15,SNR=990						
MJAR				Lg		09 33 49.6	
	371nm,0.3s,baz=223,slow=30,SNR=22						
JHJ	**Hachijo jima 2**	**2.90**	**136**	Pn	**Pn**	**09 33 50.7**	**+0.4**
	17nm,0.3s,baz=342,slow=20,SNR=4.8						
JHJ				Sn	**Sn**	**09 34 25.0**	**-0.5**
	18nm,0.3s,baz=71,slow=21,SNR=3.5						
JNU	**Nakatsue**	**5.78**	**251**	Pn	**Pn**	**09 34 29.9**	**0.0**
	5.8nm,0.3s,baz=264,slow=23,SNR=17						
JNU				Lg		09 35 57.8	
	2.3nm,0.3s,baz=164,slow=29,SNR=4.5						
JNU				LR	LR	09 36 33.5	
	comp=Z,1μm,20.6s,baz=292,slow=36						
KSRS	**Korea Array**	**7.95**	**289**	Pn	**Pn**	**09 35 00.9**	**+1.3**
	baz=105,slow=14,SNR=6.2						
KSRS				Sn	**Sn**	**09 36 30.6**	**+0.7**
	baz=101,slow=25,SNR=4.1						
ASAJ	**Asahikawa**	**9.74**	**23**	LR	LR	09 39 00.9	
	comp=Z,114nm,20.1s,baz=321,slow=37						
SONM	**Songino Array**	**26.20**	**308**	P	**P**	**09 38 40.0**	**+1.0**
	0.6nm,0.7s,mb3.2,baz=118,slow=10,SNR=4.3						
LZH	**Lanzhou**	**27.19**	**282**	*e*P	**P**	**09 38 49.1**	**+1.2**
LZH				*SP	sP	09 38 59.0	+8.8
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
LZH	**Lanzhou**	**27.19**	**282**	*e*P	**P**	**09 38 49.1**	**+1.2**
	comp=Z,13nm,1.0s,mb4.4						
LZH				pP	pP	09 38 55.5	+6.0
LZH				sP	sP	09 38 59.0	+8.8
MKAR	**Makanchi Array**	**42.34**	**303**	P	**P**	**09 41 00.4**	**+2.0**
	comp=Z,0.1nm,0.5s,mb2.7,baz=94,slow=8.7,SNR=2.6						
WRA	**Warramunga Arr**	**54.94**	**183**	P	**P**	**09 42 33.3**	**-2.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=358,slow=7.6,SNR=37						
ASAR	**Alice Springs**	**58.66**	**184**	P	**P**	**09 42 59.9**	**-1.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=13,slow=13,SNR=20						
FINES	**FINESS Array B**	**68.86**	**331**	P	**P**	**09 44 07.8**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=96,slow=12,SNR=4.6						
NOA	**NORSAR Array B**	**74.54**	**336**	P	**P**	**09 44 45.1**	**+1.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=46,slow=9.6,SNR=2.8						
TXAR	**Lajitas Array**	**93.80**	**50**	P	**P**	**09 46 22.0**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.8,baz=318,slow=3.0,SNR=4.8						

TEH 19 09:39:40.6, 35.63N×59.05E, h8km, Mn3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**0.53**	**26**	*e*Pg	Pg	09 39 49.9	-1.0
IMOG	**Moghan**	**0.53**	**26**	*e*Pg	Pg	09 39 49.9	-1.0
IMOG	**Moghan**	**0.53**	**26**	*e*Pg	Pg	09 39 49.9	-1.0
IMOG				*e*Sg	Sg	09 39 57.2	-0.7
MHI	**Mashhad**	**0.76**	**27**	*e*Pg	Pg	09 39 54.4	-0.8
MHI	**Mashhad**	**0.76**	**27**	*e*Pg	Pg	09 39 54.5	-0.7
MHI				*e*Sg	Sg	09 40 04.6	-0.5
IPAY	**Payeh**	**0.82**	**357**	*e*Pg	Pg	09 39 56.0	-0.4
IPAY	**Payeh**	**0.82**	**357**	*e*Pn	Pn	09 39 56.0	-2.4
IPAY	**Payeh**	**0.82**	**357**	*e*Pg	Pg	09 39 56.1	-0.3
IPAY				*e*Sg	Sg	09 40 06.7	-0.4
IAKL	**Akhlamad**	**0.99**	**344**	*e*Pg	Pg	09 39 57.9	-1.7
IMYA	**Miamay**	**1.11**	**50**	*e*Pg	Pg	09 40 00.7	-1.2
IMYA	**Miamay**	**1.11**	**50**	*e*Pg	Pg	09 40 00.7	-1.2
IMYA	**Miamay**	**1.11**	**50**	*e*Pg	Pg	09 40 00.7	-1.2
IMYA				*e*Sg	Sg	09 40 15.3	-1.1
ISFR	**Esferayen**	**1.65**	**329**	*e*Pn	Pn	09 40 09.7	-0.1
ISFR				*e*Sg	Sg	09 40 31.8	-1.8
IEMG	**Emamqoli**	**1.81**	**350**	*e*Pn	Pn	09 40 12.4	+0.4
IEMG	**Emamqoli**	**1.81**	**350**	*e*Pg	Pg	09 40 12.9	-2.3
IEMG	**Emamqoli**	**1.81**	**350**	*e*Pg	Pg	09 40 13.1	-2.1
IEMG				*e*Sg	Sg	09 40 36.9	-1.8
ISHV	**Shirvan**	**2.19**	**331**	*e*Pn	Pn	09 40 17.8	+0.5
ISHV	**Shirvan**	**2.19**	**331**	*e*Pn	Pn	09 40 18.6	+1.3
ISHV	**Shirvan**	**2.19**	**331**	*e*Pn	Pn	09 40 20.0	+2.7
ISHV				*e*Sn	Sn	09 40 44.6	0.0
IMON		**2.48**	**168**	*e*Pn	Pn	09 40 21.1	-0.2
IMON		**2.48**	**168**	*e*Pn	Pn	09 40 21.6	+0.3
ITEG		**2.74**	**185**	*e*Pn	Pn	09 40 24.6	-0.1
ITEG		**2.74**	**185**	*e*Pn	Pn	09 40 25.2	+0.5

ITEG	**2.74**	**185**	*e*Pn	Pn	09 40 27.9 +3.2
IDAH	**2.96**	**167**	*e*Pn	Pn	09 40 27.6 -0.2
IDAH	**2.96**	**167**	*e*Pn	Pn	09 40 29.0 +1.2
IDAH	**2.96**	**167**	*e*Pn	Pn	09 40 32.8 +5.0
IKOO	**3.20**	**181**	*e*Pn	Pn	09 40 30.7 -0.4
IKOO	**3.20**	**181**	*e*Pn	Pn	09 40 31.5 +0.4
IKOO	**3.20**	**181**	*e*Pn	Pn	09 40 32.0 +0.9

NIED ***19*** *09:45:00, 36.30N×137.00E, h260km, Mw4.3 Best double couple: M=3.37000×10^15 NP1:φs=127.00000°, δ57.00000°, λ-63.00000°. NP2:φs=263.00000°, δ42.00000°, λ-126.00000°.*

ISCJB ***19*** *09:45:03.9±0.3, 36.33N±004×137.00E±0.05, h275km±2km, mb3.7/18, Error ellipse: s-maj=7.2km s-min=5.3km az=58.1*

MOS ***19*** *09:45:03.2±1.0, 36.41N×136.85E, h268km, mb4.2/3, Error ellipse: s-maj=20.0km s-min=12.3km az=78.1*

NEIC ***19*** *09:45:04.8±0.5, 36.35N×136.93E, h269km±4km, mb4.2/6, Error ellipse: s-maj=9.1km s-min=8.1km az=127.0*

IDC ***19*** *09:45:04.4±0.4, 36.31N×136.97E, h266km±3km, mb3.4/15, mb1 3.7/19, mb1mx3.6/30, mbtmp3.5/19, Error ellipse: s-maj=11.6km s-min=8.8km az=88.0*

JMA ***19*** *09:45:04.1±0.1, 36.30N×137.04E, h276km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs264.00000°, δ43.00000°, λ-135.00000°. NP2: φs138.00000°, δ61.00000°, λ-56.00000°. Principal axes: T Plg10.0000°, Azm205.0000°; N Plg29.0000°, Azm301.0000°; P Plg59.0000°, Azm98.0000°;*

ISC 19 09:45:04.7±0.3, 36.33N±004×137.01E±005, h270km±2km, n56, σ0.975/74, mb3.7/18, 1C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.27**	**112**	⇓P	**Pn**	**09 45 39.4**	**0.0**
JGN				S	**S**	**09 46 06.7**	**-0.1**
JKG	**Kaga**	**0.55**	**265**	⇓P	**Pn**	**09 45 40.3**	**+0.3**
JGM	**Miyama**	**0.67**	**201**	⇓P	**Pn**	**09 45 40.5**	**+0.1**
JGM				S	**S**	**09 46 08.8**	**+0.2**
MAJO	**Matsushiro**	**0.99**	**77**	*e*P	**Pn**	**09 45 41.9**	**+0.1**
MAT	**Matsushiro**	**0.99**	**77**	P	**Pn**	**09 45 41.9**	**+0.1**
MAT				S	**S**	**09 46 11.0**	**-0.1**
MAT	**Matsushiro**	**0.99**	**77**	P	**Pn**	**09 45 41.9**	**+0.1**
MAT				S	**S**	**09 46 11.3**	**+0.2**
MJAR	**Matsushiro Arr**	**0.99**	**77**	P	**Pn**	**09 45 42.2**	**+0.4**
	20nm,0.3s,baz=256,slow=6.9,SNR=213						
MJAR				S	**S**	**09 46 10.9**	**-0.2**
	3.3nm,0.3s,baz=263,slow=16,SNR=20						
JSZ	**Suzu**	**1.16**	**14**	P	**Pn**	**09 45 42.8**	**+0.1**
JSZ				S	**S**	**09 46 12.8**	**0.0**
JYN	**Shimob**	**1.50**	**123**	P	**Pn**	**09 45 44.7**	**-0.2**
JHG	**Hegura jima**	**1.52**	**357**	P	**Pn**	**09 45 45.7**	**+0.6**
JHG				*e*S	**S**	**09 46 18.6**	**+1.6**
JRY	**Ryogami san**	**1.56**	**101**	P	**Pn**	**09 45 45.3**	**-0.1**
JRY				*e*S	**S**	**09 46 17.8**	**+0.2**
JWT	**Wachi**	**1.67**	**232**	⇓P	**Pn**	**09 45 46.0**	**-0.1**
JWT				*e*S	**S**	**09 46 18.2**	**-0.8**
JIE	**Ise**	**1.94**	**187**	⇓P	**Pn**	**09 45 48.8**	**+0.4**
JIE				S	**S**	**09 46 22.8**	**-0.1**
JAG	**Ashikaga**	**1.98**	**86**	P	**Pn**	**09 45 48.1**	**-0.5**
JSD	**Sado**	**1.98**	**30**	P	**Pn**	**09 45 48.8**	**+0.1**
JSD				S	**S**	**09 46 23.4**	**-0.1**
JOD2	**Odawara 2**	**2.00**	**121**	⇓P	**Pn**	**09 45 49.0**	**+0.2**
JOD2				*e*S	**S**	**09 46 24.4**	**+0.6**
JNS	**Sasagawa**	**2.38**	**50**	P	**Pn**	**09 45 52.3**	**+0.1**
JNS				*e*S	**S**	**09 46 29.6**	**-0.3**
JWY	**Kouya**	**2.40**	**209**	⇓P	**Pn**	**09 45 53.1**	**+0.7**
JWY				S	**S**	**09 46 30.0**	**-0.3**
JAW	**Awa shima**	**2.78**	**39**	P	**Pn**	**09 45 56.3**	**+0.2**
SAI	**Saigo**	**2.97**	**269**	P	**Pn**	**09 45 58.2**	**+0.1**
JWZ	**Kozaga**	**2.98**	**201**	⇑P	**Pn**	**09 45 58.0**	**-0.2**
JWZ				S	**S**	**09 46 39.7**	**-1.1**
JHJ	**Hachijo jima 2**	**3.93**	**144**	P	**Pn**	**09 46 08.3**	**-0.3**
	7.5nm,0.3s,baz=233,slow=20,SNR=3.1						
JHJ				S	**S**	**09 46 59.0**	**-0.5**
	39nm,0.3s,baz=65,slow=23,SNR=11						
JNU	**Nakatsue**	**5.97**	**239**	P	**Pn**	**09 46 33.4**	**+0.5**
	2.2nm,0.3s,baz=268,slow=23,SNR=5.1						
KSRS	**Korea Array**	**7.37**	**281**	P	**Pn**	**09 46 51.6**	**+1.6**
	baz=100,slow=13,SNR=12						
ASAJ	**Asahikawa**	**8.88**	**27**	P	**Pn**	**09 47 07.0**	**-2.0**
	28nm,0.3s,baz=194,slow=12,SNR=113						
ASAJ				S	**S**	**09 48 40.8**	**-8.9**
	0.9nm,0.3s,baz=286,slow=20,SNR=3.9						
ASAJ	**Asahikawa**	**8.88**	**27**	P	**Pn**	**09 47 07.0**	**-2.0**
ASAJ				S	**S**	**09 48 40.8**	**-8.9**
ASAJ				pmax	pmax		
	comp=Z,28nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
MDJ	**Mudanjiang**	**10.02**	**328**	*e*Pn	**Pn**	**09 47 23.4**	**+0.2**
	comp=N,16nm,0.8s						
CBIJ	**Chichi jima**	**10.20**	**153**	S	**S**	**09 49 06.8**	**-13**
	comp=N,29nm,0.3s,baz=302,slow=22,SNR=9.6						
YUK	**Yuzh-Kuril'sk**	**10.25**	**39**	P	**Pn**	**09 47 24.0**	**-2.1**
YUK				S	**S**	**09 49 11.5**	**-10**
YUK				smax			
	comp=E,250μm,0.5s						
YUK				smax			
	comp=N,190nm,0.5s						
YSS	**Yuzh-Sakhalins**	**11.45**	**20**	*e*P	**Pn**	**09 47 39.0**	**-2.0**
YSS				pmax	pmax		
	comp=Z,79nm,0.4s						
YSS	**Yuzh-Sakhalins**	**11.45**	**20**	*e*Pn	**Pn**	**09 47 39.0**	**-2.0**
	comp=Z,79nm,0.4s						
SONM	**Songino Array**	**25.30**	**307**	P	**P**	**09 50 06.2**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.0,baz=99,slow=9.3,SNR=2.9						
SONM				pP	pP	09 51 02.2	+4.9
	comp=Z,0.9nm,0.8s,baz=108,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**41.49**	**302**	P	**P**	**09 52 25.6**	**-0.1**
	comp=Z,0.3nm,0.4s,mb2.9,baz=84,slow=10.0,SNR=7.4						
KURK	**Kurchatov**	**43.58**	**308**	*e*P	**P**	**09 52 40.9**	**-1.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.7						
KURK	**Kurchatov**	**43.58**	**308**	*e*P	**P**	**09 52 40.9**	**-1.5**
	comp=Z,2.6nm,0.6s,mb3.6						
BVAR	**Borovoye Array**	**48.42**	**312**	P	**P**	**09 53 19.2**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.2,baz=102,slow=6.7,SNR=3.7						
BVAR				PcP	PcP	09 54 41.3	-0.4
	comp=Z,0.9nm,0.4s,baz=114,slow=3.5,SNR=7.2						
IMA2	**Indian Mountai**	**49.09**	**30**	*e*P	**P**	**09 53 30.1**	**+5.1**
KDAK	**Kodiak Island**	**49.98**	**41**	P	**P**	**09 53 31.6**	**0.0**
	comp=Z,5.1nm,0.7s,mb4.0,baz=288,slow=9.6,SNR=3.9						
FITZ	**Fitzroy Crossi**	**55.19**	**193**	P	**P**	**09 54 09.5**	**-0.2**
	comp=Z,1.6nm,0.8s,mb3.5,baz=355,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**56.02**	**183**	P	**P**	**09 54 15.1**	**-0.4**
	comp=Z,3.7nm,0.5s,mb4.1,baz=359,slow=7.6,SNR=84						
INK	**Inuvik**	**56.62**	**26**	P	**P**	**09 54 19.4**	**-0.3**
	comp=Z,1.2nm,0.5s,mb3.6,baz=323,slow=6.2,SNR=26						
INK	**Inuvik**	**56.62**	**26**	*e*P	**P**	**09 54 20.4**	**+0.7**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**56.62**	**26**	*e*P	**P**	**09 54 20.4**	**+0.6**
	comp=Z,37nm,0.5s,mb5.1						
ASAR	**Alice Springs**	**59.74**	**183**	P	**P**	**09 54 41.5**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.5,baz=14,slow=10,SNR=17						
ARCES	**ARCESS Array B**	**63.38**	**339**	P	**P**	**09 55 04.7**	**-0.9**
	comp=Z,9.4nm,1.2s,mb4.3,baz=51,slow=7.0,SNR=8.5						
YKA	**Yellowknife Ar**	**66.17**	**29**	P	**P**	**09 55 23.2**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.2,baz=316,slow=6.1,SNR=10						
FINES	**FINESS Array B**	**67.75**	**331**	P	**P**	**09 55 32.9**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=86,slow=5.4,SNR=10						
CMB	**Columbia Colle**	**77.14**	**52**	*e*P	**P**	**09 56 29.7**	**+1.2**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
CMB	**Columbia Colle**	**77.14**	**52**	*e*P	**P**	**09 56 29.7**	**+1.2**
	comp=Z,1.9nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**78.22**	**51**	P	**P**	**09 56 35.7**	**+1.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=287,slow=5.2,SNR=9.0						
NVAR	**Mina Array Bea**	**78.22**	**51**	P	**P**	**09 56 35.7**	**+1.2**
BW06	**Boulder Array**	**80.65**	**43**	*e*P	**P**	**09 56 48.7**	**+1.2**
	comp=Z,1.2nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**80.65**	**43**	P	**P**	**09 56 48.8**	**+1.2**
	comp=Z,1.4nm,0.7s,mb3.8,baz=294,slow=1.9,SNR=14						
ULM	**Lac du Bonnet**	**81.99**	**31**	P	**P**	**09 56 54.6**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.8,baz=243,slow=6.5,SNR=3.8						
TXAR	**Lajitas Array**	**93.32**	**50**	P	**P**	**09 57 50.6**	**+1.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=291,slow=3.1,SNR=20						
LPAZ	**La Paz**	**150.06**	**55**	PKPbc	PKPbc	10 04 25.1	+1.8
	comp=Z,0.9nm,0.5s,baz=221,slow=1.2,SNR=4.2						

IDC 19 10:11:12.5±1.0, 952S×15932E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=35.8km s-min=13.7km az=169.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.63**	**82**	Pn	Pg	10 11 29.3	+4.7
	125nm,0.3s,baz=260,slow=2.0,SNR=80						
HNR				Sn	Sg	10 11 38.4	+5.7
	534nm,0.3s,baz=94,slow=20,SNR=83						
WRA	**Warramunga Arr**	**26.25**	**244**	P	P	10 16 48.4	-0.8
	0.3nm,0.8s,baz=71,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**27.66**	**214**	P	P	10 17 02.9	+0.9
	1.5nm,0.7s,baz=2.7,slow=1.9,SNR=2.4						
ASAR	**Alice Springs**	**28.05**	**237**	P	P	10 17 11.3	+5.9
	0.2nm,0.6s,baz=65,slow=10,SNR=4.6						
SONM	**Songino Array**	**73.78**	**326**	P	P	10 22 49.3	+0.7
	0.2nm,0.6s,baz=132,slow=6.8,SNR=3.8						
MKAR	**Makanchi Array**	**88.12**	**318**	P	P	10 24 05.0	0.0
	0.6nm,0.6s,baz=86,slow=6.7,SNR=6.3						

STR ***19*** *10:12:20.9±0.2, 47.58N×7.59E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***19*** *10:12:21.2±0.2, 47.58N×7.55E, h11km, Md2.0/1, Ml2.3/10, Error ellipse: s-maj=3.4km s-min=2.1km az=107.0*

ZUR 19 10:12:21.1, 47.58N×7.60E, h4km±1km, ML1.5, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**166**	⇓*i*Pg	Pg	10 12 26.4	+0.3
	232nm,0.3s						
BALST				*i* Sg	Sg	10 12 30.1	+0.7
	232nm,0.3s						
BOURR	**Bourrignon**	**0.32**	**233**	⇑*i*Pg	Pg	10 12 27.5	+0.3
	40nm,0.4s						
MOF	**Molkenrain**	**0.41**	**311**	Pg	Pg	10 12 28.9	-0.2
MOF				Sg	Sg	10 12 34.7	+0.2
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pg	Pg	10 12 31.4	-0.4
HINF	**Hinteralfeld**	**0.56**	**295**	*e*Pn	Pg	10 12 32.6	+0.8
HINF				*e*Sg	Sg	10 12 38.6	-0.4
HINF				*e*Sn	Sg	10 12 42.2	+3.2
	12nm,0.2s						
LOMF	**Lomont**	**0.57**	**246**	Pg	Pg	10 12 32.2	+0.1
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg	Pg	10 12 32.9	-0.3
	116nm,0.5s						
SLE				*e*Sg	Sg	10 12 41.6	+0.2
	116nm,0.5s						
ECH	**Echery**	**0.70**	**335**	Pg	Pg	10 12 34.7	+0.2
ECH				Sg	Sg	10 12 43.4	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg	Pg	10 12 37.4	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pn	Pn	10 12 37.9	-2.0
CDF				*e*Sg	Sg	10 12 47.6	-1.1
CDF				*e*Sn	Sn	10 12 49.9	-2.9
	15nm,0.2s						
HASLI	**Hasliberg**	**0.91**	**155**	*e*P	Pg	10 12 39.4	+0.9
	27nm,0.2s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pg	Pg	10 12 38.6	-0.6
HAU				*e*Sg	Sg	10 12 51.3	-0.2
	15nm,0.2s						
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg	Pg	10 12 48.2	-0.1
CABF				*e*Sg	Sg	10 13 05.3	-1.4
	5.6nm,0.3s						
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Sg	Sg	10 13 18.6	-1.4
	3.4nm,0.2s						
LPL	**La Plagne**	**2.15**	**196**	*e*Sg	Sg	10 13 29.3	-1.0
	0.3nm,0.2s						
LPG	**La Plagne**	**2.17**	**196**	*e*Sg	Sg	10 13 29.4	-1.3
	1.4nm,0.2s						
LOR	**Lormes**	**2.56**	**264**	*e*Pg	Pg	10 13 08.1	-2.1
LOR				*e*Sg	Sg	10 13 40.2	-3.1
	5.3nm,0.3s						
SMF	**Signal de Mont**	**2.73**	**251**	*e*Sg	Sg	10 13 45.2	-3.7
	3.3nm,0.3s						
AVF	**Avril sur Loir**	**3.00**	**256**	*e*Sg	Sg	10 13 53.3	-4.3
	2.7nm,0.4s						

IDC ***19*** *10:18:10.7±0.6, 055N×999.7E, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.2/26, mbtmp4.1/19, ML4.3/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/34, Error ellipse: s-maj=24.7km s-min=13.0km az=53.0*

ISCJB ***19*** *10:18:15.2±1.7, 057N±008×100.00E±0.10, h43km±14km, mb4.3/24, MS3.8/12, Error ellipse: s-maj=18.7km s-min=9.7km az=103.7*

NEIC ***19*** *10:18:15.9±1.9, 057N×100.09E, h36km±16km, mb4.4/2, Error ellipse: s-maj=23.9km s-min=11.2km az=52.0*

NEIC Felt [V] at Muarasipongi, [IV] in Pasaman and [II] at Padang.

ISC 19 10:18:16.3±3.8, 052N±006×999.9E±009, h34km±27km, n45, σ1.9/14/39, mb4.3/24, MS3.8/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.50**	**335**	Pn	**Pn**	**10 18 52.1**	**-2.4**
	67nm,0.3s,baz=149,slow=10,SNR=98						
PSI				Sn	**Sn**	**10 19 26.0**	**+2.2**
	199nm,0.3s,baz=248,slow=21,SNR=11						
KGM	**Kluang**	**3.65**	**66**	P	**Pn**	**10 19 12.0**	**+1.8**
IPM	**Ipoh**	**4.06**	**15**	P	**Pn**	**10 19 17.1**	**+1.1**
IPM	**Ipoh**	**4.06**	**15**	P	**Pn**	**10 19 17.1**	**+1.1**
KULM	**Kulim**	**4.78**	**8**	*e*Pn	**Pn**	**10 19 25.4**	**-0.4**
KULM				*e*Sn	**Sn**	**10 20 19.1**	**-0.9**
JIRN	**Jiri**	**30.05**	**335**	*e*P	**P**	**10 24 22.3**	**+0.2**
	24nm,0.8s,mb5.0						
PKI	**Pulchoki**	**30.31**	**334**	*e*P	**P**	**10 24 25.3**	**+0.9**
GUN	**Gumba**	**30.40**	**335**	*e*P	**P**	**10 24 25.2**	**0.0**
	38nm,0.6s,mb5.3						
DMN	**Daman**	**30.48**	**333**	*e*P	**P**	**10 24 26.2**	**+0.3**
KKN	**Kakani**	**30.56**	**334**	*e*P	**P**	**10 24 26.3**	**-0.3**
GKN	**Gorkha**	**31.03**	**333**	*e*P	**P**	**10 24 30.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**31.29**	**128**	P	**P**	**10 24 32.0**	**-1.0**
	1.0nm,0.7s,mb3.7,baz=56,slow=15,SNR=3.0						
KOLN	**Koldanda**	**31.32**	**331**	*e*P	**P**	**10 24 32.8**	**-0.5**
	17nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**39.32**	**123**	P	**P**	**10 25 40.9**	**-1.2**
	0.4nm,0.4s,mb3.5,baz=303,slow=9.0,SNR=5.1						
WRA				PcP	PcP	10 27 51.6	+1.3
	0.6nm,0.7s,baz=315,slow=2.4,SNR=5.5						
WRA				LR	LR	10 42 40.3	
	comp=Z,101nm,21.9s,MS3.6,baz=270,slow=37						
ASAR	**Alice Springs**	**40.78**	**128**	P	**P**	**10 25 53.8**	**-0.4**
	0.8nm,0.8s,mb3.4,baz=294,slow=7.7,SNR=9.6						
ASAR				PcP	PcP	10 27 56.1	+1.3
	0.8nm,0.7s,baz=305,slow=2.3,SNR=6.4						
JNU	**Nakatsue**	**43.53**	**39**	LR	LR	10 44 15.9	
	comp=Z,136nm,18.1s,MS3.9,baz=100,slow=36						
KSRS	**Korea Array**	**44.88**	**32**	P	**P**	**10 26 28.4**	**+1.1**
	1.3nm,0.8s,mb3.8,baz=215,slow=9.1,SNR=5.0						
KSRS				LR	LR	10 45 41.7	
	comp=Z,60nm,19.9s,MS3.5,baz=68,slow=37						
SONM	**Songino Array**	**47.45**	**6**	P	**P**	**10 26 48.0**	**+0.4**
	2.4nm,0.8s,mb4.2,baz=188,slow=9.6,SNR=13						
SONM				LR	LR	10 49 39.3	
	comp=Z,115nm,18.3s,MS3.9,baz=191,slow=40						
AAK	**Ala-Archa**	**47.76**	**335**	*e*P	**P**	**10 26 51.7**	**+1.7**
	3.2nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**48.61**	**344**	*e*P	**P**	**10 26 56.3**	**-0.3**
MKAR	**Makanchi Array**	**48.61**	**344**	P	**P**	**10 26 55.7**	**-0.9**
	3.8nm,0.6s,mb4.6,baz=153,slow=8.9,SNR=33						
MKAR				LR	LR	10 52 47.1	
	comp=Z,56nm,18.5s,MS3.6,baz=163,slow=43						
MKAR	**Makanchi Array**	**48.61**	**344**	P	**P**	**10 26 55.7**	**-0.9**
MKAR				LR	LR	10 52 47.1	
STKA	**Stephens Creek**	**50.85**	**133**	P	**P**	**10 27 14.3**	**+0.7**
	2.1nm,0.7s,mb4.2,baz=141,slow=21,SNR=4.2						
STKA				LR	LR	10 47 26.0	
	comp=Z,137nm,20.7s,MS4.0,baz=258,slow=34						
STKA	**Stephens Creek**	**50.85**	**133**	P	**P**	**10 27 14.3**	**+0.7**
STKA				LR	LR	10 47 26.0	
KURK	**Kurchatov**	**53.20**	**343**	*e*P	**P**	**10 27 34.6**	**+3.5**
	3.9nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**54.70**	**349**	P	**P**	**10 27 40.8**	**-1.3**
	6.2nm,0.4s,mb5.0,baz=310,slow=4.4,SNR=10						
BVAR	**Borovoye Array**	**57.83**	**339**	P	**P**	**10 28 02.5**	**-1.8**
	2.8nm,0.6s,mb4.5,baz=139,slow=9.6,SNR=12						
AKTK	**Aktyubinsk**	**61.16**	**331**	P	**P**	**10 28 26.2**	**-1.1**
AKTO	**Aktyubinsk**	**61.16**	**331**	P	**P**	**10 28 26.2**	**-1.1**
	1.1nm,0.5s,mb4.2,baz=117,slow=9.0,SNR=3.7						
BRTR	**Keskin Array B**	**71.63**	**312**	P	**P**	**10 29 33.0**	**-1.3**
	3.8nm,0.7s,mb4.4,baz=129,slow=7.2,SNR=21						
MAW	**Mawson**	**72.71**	**194**	LR	LR	10 59 19.2	
	comp=Z,118nm,18.0s,MS4.2,baz=247,slow=34						

MATP	**Matopo**	**72.86**	**249**	P	**P**	**10 29 43.0**	**+1.3**
	3.8nm,0.7s,mb4.4,baz=86,slow=3.8,SNR=6.4					
BOSA	**Boshof**	**76.87**	**241**	P	**P**	**10 30 06.6**	**+1.8**
	1.3nm,0.5s,mb4.1,baz=152,slow=3.1,SNR=4.2					
AKASG	**Malin Array Be**	**77.50**	**322**	P	**P**	**10 30 06.8**	**-1.6**
	0.4nm,0.4s,mb3.7,baz=86,slow=5.1,SNR=4.5					
IDI	**Anoyia**	**77.55**	**306**	LR	LR	11 08 43.1	
	comp=Z,20nm,19.5s,MS3.4,baz=82,slow=39					
MLR	**Muntele Rosu**	**78.47**	**316**	P	**P**	**10 30 14.5**	**+0.7**
	4.2nm,1.0s,mb4.3,baz=96,slow=3.6,SNR=4.3					
FINES	**FINESS Array B**	**81.89**	**332**	P	**P**	**10 30 31.8**	**-0.4**
	1.7nm,0.8s,mb4.0,baz=99,slow=8.3,SNR=4.7					
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**	**10 30 45.4**	**+1.7**
	2.6nm,0.7s,mb4.5,baz=73,slow=4.1,SNR=9.3					
ARCES				LR	LR	11 09 00.7	
	comp=Z,66nm,21.2s,MS4.0,baz=42,slow=36					
VRAC	**Vranov**	**85.29**	**319**	LR	LR	11 14 03.5	
	comp=Z,32nm,19.6s,MS3.7,baz=266,slow=39					
GERES	**GERESS Array B**	**87.16**	**319**	P	**P**	**10 30 59.0**	**+0.2**
	0.5nm,0.8s,mb3.8,baz=88,slow=6.8,SNR=3.6					
GERES				LR	LR	11 15 33.3	
	comp=Z,24nm,18.5s,MS3.6,baz=81,slow=40					
HFS	**Hagfors**	**87.69**	**330**	P	**P**	**10 31 02.1**	**+0.7**
	0.9nm,0.4s,mb4.3,baz=120,slow=10,SNR=4.4					
NOA	**NORSAR Array B**	**88.95**	**331**	LR	LR	11 14 20.7	
	comp=Z,34nm,21.8s,MS3.7,baz=0.0,slow=38					
LTX	**Lajitas**	**142.69**	**35**	*e*PKPdf	PKPdf	10 37 45.1	-0.7
TXAR	**Lajitas Array**	**142.69**	**35**	PKhKP		10 37 43.7	
	0.1nm,0.3s,baz=336,slow=2.7,SNR=3.3						
TXAR	**Lajitas Array**	**142.69**	**35**	PKP	PKPdf	10 37 43.7	-2.2

ISCJB ***19*** *10:41:33.3±2.8, 374N±02×714E±02, h150km, Error ellipse: s-maj=29.3km s-min=18.4km az=59.5*

NNC ***19*** *10:41:35.1±18.0, 37.52N×71.54E, h165km±331km, mb2.2, mpv2.9, Error ellipse: s-maj=218.8km s-min=104.8km az=20.0*

ISC 19 10:41:33.9±2.8, 374N±02×714E±02, h150km, n11, σ0.927/12, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.03**	**20**	P	**Pn**	**10 42 47.9**	**+0.2**
	SNR=38						
UCH	**Uchtor**	**5.37**	**25**	P	**Pn**	**10 42 52.4**	**+0.2**
	SNR=10						
KZA	**Kyzart**	**5.52**	**31**	P	**Pn**	**10 42 53.8**	**-0.4**
	SNR=12						
EKS2	**Erkin-Say**	**5.55**	**18**	P	**Pn**	**10 42 55.0**	**+0.5**
	SNR=6.9						
AAK	**Ala-Archa**	**5.72**	**23**	P	**Pn**	**10 42 57.2**	**+0.3**
	SNR=20						
KK31	**Karatay Array**	**5.73**	**353**	⇑P	**Pn**	**10 42 57.0**	**0.0**
	0.6nm,0.2s,baz=177,slow=13						
KK31				⇑S	**Sn**	**10 44 01.8**	**-0.1**
	3.9nm,0.3s,baz=169,slow=22						
CHMS	**Chumysh**	**6.13**	**24**	P	**Pn**	**10 43 02.3**	**-0.1**
	SNR=7.0						
USP	**Ospenovka**	**6.30**	**21**	P	**Pn**	**10 43 04.2**	**-0.4**
	SNR=6.6						
TKM2	**Tokmak 2**	**6.36**	**29**	P	**Pn**	**10 43 05.4**	**0.0**
	SNR=10						
TKM2	**Tokmak 2**	**6.36**	**29**	⇑P	**Pn**	**10 43 05.1**	**-0.4**
	0.3nm,0.5s						
AB31	**Akbulak array**	**14.47**	**329**	P	**Pn**	**10 44 51.5**	**-0.1**
	0.2nm,0.3s,baz=156,slow=11,SNR=11						

NEIC ***19*** *11:03:02.8, 36.87S×177.32E, h230km, MG4.4(WEL), After WEL.*

WEL 19 11:03:00.0±0.4, 36.73S×177.36E, h250km±3km, ML4.4/23, Error ellipse: s-maj=5.4km s-min=4.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.12**	**138**	P	Pn	11 03 35.7	-0.1
MXZ	**Matakaoa Point**	**1.12**	**138**	PN	Pn	11 03 35.7	-0.1
MXZ				SN	S	11 04 03.4	-0.5
PUZ	**Puketiti**	**1.52**	**152**	P	Pn	11 03 38.8	+0.3
PUZ	**Puketiti**	**1.52**	**152**	PN	Pn	11 03 38.8	+0.3
PUZ				SN	S	11 04 08.4	-0.3
URZ	**Urewera**	**1.54**	**187**	PN	Pn

FOZ			S	S	11 06 37.5	-10
FOZ	**Fox Glacier**	**9.00 218**	PN	Pn	11 05 01.1	-4.8
FOZ			SN	S	11 06 37.5	-10
LBZ	**Lake Benmore**	**9.39 213**	*e*P	Pn	11 05 07.4	-3.5
LBZ	**Lake Benmore**	**9.39 213**	PN	Pn	11 05 07.9	-3.0
ODZ	**Otahua Downs**	**9.73 209**	*e*P	Pn	11 05 12.7	-2.5
ODZ	**Otahua Downs**	**9.73 209**	PN	Pn	11 05 12.7	-2.4
JCZ	**Jackson Bay**	**9.84 219**	*e*P	Pn	11 05 12.5	-4.0
JCZ	**Jackson Bay**	**9.84 219**	PN	Pn	11 05 13.0	-3.5
WKZ	**Wanaka**	**10.26 215**	*e*P	Pn	11 05 17.8	-4.0
WKZ	**Wanaka**	**10.26 215**	PN	Pn	11 05 18.3	-3.5

CSEM ***19*** *11:04:02.3±0.5, 3675N×1326W, h10km, ML2.3, Error ellipse: s-maj=10.5km s-min=8.1km az=168.0*
MDD ***19*** *11:04:11.2±3.4, 3708N×1275W, h0km, mb4.0/1, Error ellipse: s-maj=29.0km s-min=24.9km az=28.0, PRXIMO SOLUCIN POBRE*

INMG 19 11:04:13.3±0.7, 3681N×1304W, h10km, ML2.3, Error ellipse: s-maj=7.8km s-min=6.0km az=137.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.52**	**77**	*e*Sn	Sn	11 05 39.2	-11
PMAFR	**Mafra**	**3.66**	**53**	*e*Pn	Pn	11 05 04.5	-5.5
PMAFR				*e*Sn	Sn	11 05 42.0	-11
PLOU	**Loures**	**3.71**	**55**	*e*Sn	Sn	11 05 43.6	-11
MOE	**Montemor**	**4.09**	**64**	*e*Sn	Sn	11 05 52.3	-12
EGRO	**El Granado**	**4.50**	**79**	P	Pn	11 05 15.6	-5.9
	0.8nm,0.1s,SNR=7.9						
EGRO				S	Sn	11 06 03.3	-10
	3.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.50**	**79**	P	Pn	11 05 15.6	-5.9
	0.8nm,0.1s,SNR=7.9						
EGRO				S	Sn	11 06 03.3	-11
	3.2nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**4.78**	**63**	*e*Pn	Pn	11 05 19.1	-6.2
PESTR				*e*Sn	Sn	11 06 08.4	-12
EBAD	**Badajoz**	**5.15**	**66**	P	Pn	11 05 24.6	-5.9
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	11 06 16.7	-13
	2.5nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.15**	**66**	P	Pn	11 05 24.6	-5.9
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	11 06 16.7	-13
	2.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.17**	**77**	P	Pn	11 05 24.1	-6.6
	0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	11 06 17.8	-13
	0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.17**	**77**	P	Pn	11 05 24.1	-6.6
	0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	11 06 17.8	-13
	0.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.35**	**36**	P	Pn	11 05 40.7	-6.3
	0.0nm,0.2s,SNR=7.9						
ELOB				S	Sn	11 06 44.1	-15
	1.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.35**	**36**	P	Pn	11 05 40.7	-6.3
	SNR=7.9						
ELOB				S	Sn	11 06 44.1	-15
	1.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.87**	**76**	P	Pn	11 05 47.8	-6.1
	0.9nm,0.2s,SNR=7.9						
EADA				S	Sn	11 07 00.4	-12
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.87**	**76**	P	Pn	11 05 47.8	-6.2
	0.9nm,0.2s,SNR=7.9						
EADA				S	Sn	11 07 00.4	-12
	0.7nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**7.08**	**42**	P	Pn	11 05 49.3	-7.6
	0.6nm,0.1s,SNR=7.9						
ECAL				S	Sn	11 07 02.0	-15
	3.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.08**	**42**	P	Pn	11 05 49.3	-7.6
	0.6nm,0.1s,SNR=7.9						
ECAL				S	Sn	11 07 02.0	-15
	3.1nm,0.3s,SNR=7.9						

ISCJB ***19*** *11:15:39.1±0.5, 3404N±003×3591E±006, h12km±5km, Error ellipse: s-maj=8.7km s-min=3.9km az=40.1*
CSEM ***19*** *11:15:39.1±0.1, 3403N×3594E, h8km, ML3.2, Error ellipse: s-maj=2.6km s-min=1.2km az=109.0*
GRAL ***19*** *11:15:39.6±1.4, 3407N×3588E, h14km±13km, MD3.2*
NSSC ***19*** *11:15:39, 3404N×3590E, h7km±5km*

ISC 19 11:15:39.3±0.5, 3404N±003×3590E±006, h13km±5km, n16, σ0°50/25, 6D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.24**	**9**	*i* Pg	**Pg**	**11 15 44.1**	**-0.2**
HWQ				*i* Sg	**Sg**	**11 15 47.5**	**-0.3**
BHL	**Bhannes**	**0.25**	**236**	*i* Pg	**Pg**	**11 15 44.1**	**-0.5**
BHL				*i* Sg	**Sg**	**11 15 49.1**	**+0.9**
FKH	**Fakeheh**	**0.46**	**65**	*i* Pg	**Pg**	**11 15 47.9**	**-0.5**
FKH				*i* Sg	**Sg**	**11 15 55.4**	**+0.9**
FKH	**Fakeheh**	**0.46**	**65**	*i* Pg	**Pg**	**11 15 47.8**	**-0.6**
FKH				*i* Sg	**Sg**	**11 15 55.4**	**+0.9**
RCY	**Rachaya**	**0.56**	**187**	*i* Pg	**Pg**	**11 15 49.8**	**-0.5**
RCY				*i* Sg	**Sg**	**11 15 57.8**	**0.0**
BRBR	**Barbar**	**0.63**	**176**	⇑P	**Pg**	**11 15 51.0**	**-0.6**
BRBR				⇑S	**Sg**	**11 16 00.0**	**0.0**
BRBR	**Barbar**	**0.63**	**176**	⇑*i*P	**Pg**	**11 15 51.4**	**-0.2**
HAWK	**Haweek**	**0.63**	**41**	⇑P	**Pg**	**11 15 52.0**	**+0.3**
HAWK	**Haweek**	**0.63**	**41**	⇑*i*P	**Pg**	**11 15 52.1**	**+0.4**
MATL	**Matirih**	**0.73**	**221**	*i* Pg	**Pg**	**11 15 53.7**	**+0.2**
BIDA	**Albida**	**1.03**	**20**	⇑P	**Pb**	**11 15 58.0**	**-0.9**
BIDA				⇑S	**Sb**	**11 16 12.0**	**-0.3**
BIDA	**Albida**	**1.03**	**20**	⇑*i*P	**Pb**	**11 15 58.4**	**-0.5**
WRDH	**Warideh**	**1.52**	**16**	⇓P	**Pn**	**11 16 06.0**	**-0.1**
WRDH				⇓S	**Sn**	**11 16 26.0**	**+0.2**
WRDH	**Warideh**	**1.52**	**16**	⇓*i*P	**Pn**	**11 16 07.0**	**+0.9**
SLNF	**Slenfeh**	**1.57**	**10**	⇓P	**Pn**	**11 16 07.0**	**+0.2**
SLNF				⇓S	**Sn**	**11 16 27.0**	**0.0**
SLNF	**Slenfeh**	**1.57**	**10**	⇓*i*P	**Pn**	**11 16 07.7**	**+0.9**

NEIC ***19*** *11:17:51.9, 1747N×9480W, h145km, MD3.9(MEX), After MEX.*

MEX 19 11:17:52.0±0.8, 1746N×9479W, h145km±8km, MD3.9, 1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.38**	**194**	⇓*i*P	Pn	11 18 11.2	-1.0
CMIG				*i* S	Sn	11 18 25.4	-2.1
TUIG	**Tuzandepetl**	**0.67**	**31**	*i* P	Pn	11 18 12.6	-1.1
TUIG				*i* S	Sn	11 18 27.7	-2.6
OXX	**Oaxaca**	**1.89**	**259**	*i* P	Pn	11 18 24.5	-1.0
OXX				*i* S	Sn	11 18 50.0	-1.1
VHO	**Vista Hermosa**	**1.90**	**259**	*i* P	Pn	11 18 24.5	-1.1
VHO				*i* S	Sn	11 18 50.5	-0.9
HUIG	**Huatulco**	**2.10**	**217**	*i* P	Pn	11 18 25.6	-2.4
HUIG				*i* S	Sn	11 18 53.8	-1.9
TPIG	**Tehuac#an**	**2.63**	**292**	*e*P	Pn	11 18 32.9	-1.5
TPIG				*i* S	Sn	11 19 04.8	-2.4
CCIG	**Comitan**	**2.79**	**114**	*e*P	Pn	11 18 37.1	+0.6
CCIG				*i* S	Sn	11 19 08.9	-2.0
UTMO	**Huajuapan**	**2.90**	**278**	*i* P	Pn	11 18 36.4	-1.4
UTMO				*i* S	Sn	11 19 11.3	-2.0

ISCJB ***19*** *11:24:39.5±0.5, 3198S±005×1798W±0.1, h238km±9km, mb4.2/8, Error ellipse: s-maj=20.0km s-min=5.3km az=38.2*
NEIC ***19*** *11:24:40.3±1.0, 3190S×17973W, h237km±9km, Error ellipse: s-maj=16.6km s-min=11.3km az=132.0*
IDC ***19*** *11:24:41.4±1.1, 3182S×17979W, h243km±9km, mb3.9/7, mb1 4.1/11, mb1mx3.9/18, mbtmp4.0/11, Error ellipse: s-maj=19.1km s-min=11.4km az=146.0*

ISC 19 11:24:40.4±0.5, 3198S±005×1798W±0.1, h228km±7km, n55, σ1°27/56, mb4.2/8, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.18**	**32**	P	**Pn**	**11 25 32.1**	**-1.4**
	115nm,0.3s,baz=244,slow=20,SNR=3.7						
RAO				S	**S**	**11 26 15.7**	**+0.3**
	294nm,0.3s,baz=83,slow=20,SNR=6.2						
MXZ	**Matakaoa Point**	**5.78**	**195**	PN	**Pn**	**11 26 06.6**	**+1.4**
MXZ				SN	**S**	**11 27 14.2**	**+1.5**
PUZ	**Puketiti**	**6.28**	**194**	PN	**Pn**	**11 26 12.6**	**+1.0**
PUZ				*e*SN	**S**	**11 27 25.9**	**+1.6**
MWZ	**Matawai**	**6.70**	**198**	PN	**Pn**	**11 26 17.9**	**+0.9**
URZ	**Urewera**	**6.75**	**201**	P	**Pn**	**11 26 19.6**	**+2.0**
	4.6nm,0.3s,baz=311,slow=1.1,SNR=26						
URZ				S	**S**	**11 27 35.4**	**+0.2**
	35nm,0.3s,baz=348,slow=8.0,SNR=12						
URZ	**Urewera**	**6.75**	**201**	PN	**Pn**	**11 26 18.9**	**+1.3**
URZ				*e*SN	**S**	**11 27 35.3**	**+0.1**
KNZ	**Kokohu**	**7.32**	**195**	PN	**Pn**	**11 26 26.2**	**+1.4**
KNZ				*e*SN	**S**	**11 27 46.2**	**-2.2**
BKZ	**Black Stump Fm**	**7.77**	**202**	PN	**Pn**	**11 26 33.0**	**+2.4**
BKZ				SN	**S**	**11 27 59.0**	**0.0**
HIZ	**Hauiti**	**7.83**	**212**	*e*PN	**Pn**	**11 26 35.8**	**+4.4**
PXZ	**Pawanui**	**8.47**	**197**	PN	**Pn**	**11 26 38.9**	**-0.6**
PXZ				SN	**S**	**11 28 11.1**	**-4.3**
TSZ	**Takapari Road**	**8.75**	**202**	PN	**Pn**	**11 26 43.7**	**+0.5**
TSZ				*e*SN	**S**	**11 28 18.1**	**-3.9**
WAZ	**Wanganui**	**8.83**	**207**	PN	**Pn**	**11 26 46.4**	**+2.3**
BFZ	**Birch Farm**	**9.24**	**199**	PN	**Pn**	**11 26 48.1**	**-1.4**
MRZ	**Mangatainoka R**	**9.42**	**202**	*e*PN	**Pn**	**11 26 48.9**	**-2.8**
TIWZ	**Tintock**	**9.43**	**200**	PN	**Pn**	**11 26 53.2**	**+1.3**
KIW	**Kapiti Island**	**9.82**	**204**	PN	**Pn**	**11 26 55.7**	**-1.2**
MTW	**Mount Morrison**	**9.90**	**201**	PN	**Pn**	**11 26 57.0**	**-0.8**
CAW	**Cannon Point**	**9.99**	**203**	PN	**Pn**	**11 26 56.5**	**-2.5**
MSWZ	**Moikau Station**	**10.21**	**201**	PN	**Pn**	**11 27 01.6**	**-0.2**
BHW	**Baring Head**	**10.32**	**203**	PN	**Pn**	**11 27 02.5**	**-0.8**
NNZ	**Nelson**	**10.71**	**209**	*e*PN	**Pn**	**11 27 07.5**	**-0.7**
NNZ				*e*SN	**S**	**11 29 00.6**	**-7.4**
THZ	**Tophouse**	**11.36**	**209**	*e*PN	**Pn**	**11 27 14.5**	**-1.9**
THZ				*e*SN	**S**	**11 29 16.4**	**-6.9**
KHZ	**Kahutara**	**11.68**	**205**	*e*PN	**Pn**	**11 27 18.9**	**-1.4**
KHZ				*e*SN	**S**	**11 29 23.7**	**-7.1**
MQZ	**McQueen's Vall**	**13.12**	**205**	*e*PN	**Pn**	**11 27 37.8**	**-0.6**
MQZ				*e*SN	**S**	**11 29 53.5**	**-11**
RPZ	**Rata Peaks**	**13.74**	**209**	P	**Pn**	**11 27 45.2**	**-0.8**
	2.8nm,0.3s,baz=29,slow=2.7,SNR=14						
RPZ				S	**S**	**11 30 08.0**	**-11**
	5.6nm,0.3s,baz=288,slow=23,SNR=13						
DZM	**Mont Dzumac**	**15.70**	**306**	P	**Pn**	**11 28 10.4**	**+0.7**
	0.7nm,0.3s,baz=114,slow=17,SNR=11						
AFI	**Afiamalu**	**19.44**	**24**	P	**P**	**11 28 48.7**	**-1.1**
	2.5nm,0.3s,baz=302,slow=12,SNR=6.4						
AFI				S	**S**	**11 32 01.6**	**-15**
	0.8nm,0.3s,baz=72,slow=20,SNR=2.0						
CTA	**Charters Tower**	**32.56**	**283**	*e*P	**P**	**11 30 51.5**	**+1.4**
CTA	**Charters Tower**	**32.56**	**283**	P	**P**	**11 30 50.5**	**+0.4**
	8.6nm,0.6s,mb4.4,baz=126,slow=8.2,SNR=11						
STKA	**Stephens Creek**	**32.62**	**260**	⇑*i*P	**P**	**11 30 52.5**	**+1.8**
STKA	**Stephens Creek**	**32.62**	**260**	P	**P**	**11 30 52.2**	**+1.6**
	7.2nm,0.7s,mb4.3,baz=99,slow=10,SNR=14						
ASAR	**Alice Springs**	**41.49**	**270**	P	**P**	**11 32 05.5**	**+0.3**
	11nm,0.5s,mb4.6,baz=105,slow=7.7,SNR=315						
WB2	**Warramunga Arr**	**42.62**	**275**	⇑*i*P	**P**	**11 32 14.2**	**0.0**
WB2				*e*S	**S**	**11 38 12.3**	**-7.3**
WRA	**Warramunga Arr**	**42.63**	**275**	P	**P**	**11 32 13.6**	**-0.7**
	24nm,0.3s,mb5.1,baz=112,slow=7.9,SNR=683						
KAKA	**Kakadu**	**47.70**	**283**	*e*P	**P**	**11 32 53.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.82**	**272**	*e*P	**P**	**11 33 17.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.82**	**272**	P	**P**	**11 33 17.8**	**+0.1**
	1.4nm,0.4s,mb3.7,baz=119,slow=9.0,SNR=5.9						
PLCA	**Paso Flores**	**82.57**	**134**	P	**P**	**11 36 39.6**	**+1.8**
	7.8nm,1.2s,mb4.3,baz=274,slow=5.7,SNR=4.4						
KSRS	**Korea Array**	**84.55**	**321**	P	**P**	**11 36 48.0**	**+0.1**
	1.0nm,0.7s,mb3.6,baz=130,slow=6.0,SNR=4.4						
NVAR	**Mina Array Bea**	**90.46**	**44**	P	**P**	**11 37 16.6**	**+0.5**
	0.3nm,0.6s,mb3.3,baz=233,slow=14,SNR=3.7						
YKA	**Yellowknife Ar**	**107.54**	**26**	PKiKP	PKiKP	11 42 37.3	-2.6
	0.1nm,0.4s,baz=231,slow=1.6,SNR=6.3						
YKA	**Yellowknife Ar**	**107.54**	**26**	PKPdf	PKiKP	11 42 37.3	-2.6
MKAR	**Makanchi Array**	**117.58**	**310**	PKP	PKPdf	11 42 56.5	-2.5
	0.2nm,0.6s,baz=102,slow=1.3,SNR=4.9						
ARCES	**ARCESS Array B**	**139.77**	**347**	PKhKP		11 43 30.9	
	2.9nm,0.8s,baz=58,slow=2.0,SNR=8.0						
ARCES				PKP	PKPdf	11 43 39.4	-1.7
	5.0nm,1.1s,baz=74,slow=2.9,SNR=6.4						
JOF	**Joensuu**	**143.27**	**337**	*e*pkp	PKPdf	11 43 41.6	-5.7
KAF	**Kangasniemi**	**145.47**	**339**	*e*pkp	PKPdf	11 43 48.8	-2.3
FINES	**FINESS Array B**	**146.05**	**338**	PKPbc	PKPbc	11 43 50.9	-2.5
	8.0nm,0.3s,baz=63,slow=4.2,SNR=65						
NB2	**NORSAR Subarra**	**150.04**	**349**	PKP	PKPdf	11 44 01.7	+3.1
	comp=Z,1.2nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.04**	**349**	PKPbc	PKPbc	11 44 01.4	-2.5
	comp=Z,1.8nm,0.5s,baz=17,slow=4.2,SNR=7.0						
HFS	**Hagfors**	**150.44**	**346**	PKPbc	PKPbc	11 44 01.9	-2.8
	comp=Z,1.4nm,0.3s,baz=105,slow=2.3,SNR=15						
HFS				PKPab	PKPab	11 44 09.7	-2.4
	comp=Z,2.2nm,0.4s,baz=84,slow=5.2,SNR=7.5						
AKASG	**Malin Array Be**	**151.54**	**320**	PKPbc	PKPbc	11 44 05.0	-2.4
	comp=Z,1.3nm,0.5s,baz=55,slow=2.2,SNR=5.7						
AKASG				PKPab	PKPab	11 44 14.7	-2.0
	comp=Z,0.9nm,0.4s,baz=49,slow=4.5,SNR=5.3						
BRTR	**Keskin Array B**	**151.91**	**295**	PKPbc	PKPbc	11 44 06.8	-1.3
	comp=Z,0.8nm,0.7s,baz=99,slow=1.9,SNR=5.5						
CLL	**Collm**	**158.50**	**338**	*e*PKPab	PKPab	11 44 44.0	-2.4
GERES	**GERESS Array B**	**160.30**	**333**	PKPab	PKPab	11 44 52.0	-2.3
	comp=Z,0.4nm,0.4s,baz=38,slow=6.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**161.21**	**185**	PKPab	PKPab	11 44 58.4	+0.1
	comp=Z,1.4nm,0.9s,baz=187,slow=3.3,SNR=7.3						

IDC 19 11:47:52.6±1.1, 119S×12370E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/18, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=134.2km s-min=20.6km az=67.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.92**	**174**	Pn	Pn	11 51 52.1	+1.4
	0.1nm,0.3s,baz=12,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**21.35**	**152**	P	P	11 52 40.9	-0.4
	3.8nm,0.9s,baz=324,slow=12,SNR=24						
WB2	**Warramunga Arr**	**21.36**	**151**	*e*P	P	11 52 41.8	+0.4
ASAR	**Alice Springs**	**24.44**	**157**	P	P	11 53 13.4	+0.5
	1.6nm,0.6s,baz=334,slow=7.2,SNR=35						
ASAR				PcP	PcP	11 56 52.5	+0.6
	0.6nm,0.6s,baz=351,slow=1.7,SNR=9.6						
SONM	**Songino Array**	**51.10**	**345**	P	P	11 56 57.7	+0.8
	0.6nm,0.8s,baz=161,slow=7.5,SNR=5.4						
MKAR	**Makanchi Array**	**59.98**	**328**	P	P	11 58 00.2	-0.6
	0.2nm,0.4s,baz=113,slow=9.6,SNR=4.7						

IDC 19 12:11:48.6±1.5, 103N×12528E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/30, Error ellipse: s-maj=169.5km s-min=22.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.65**	**157**	P	P	12 16 52.3	+1.1
	1.7nm,0.5s,baz=336,slow=10,SNR=29						
ASAR	**Alice Springs**	**25.93**	**162**	P	P	12 17 22.0	-0.5
	0.4nm,0.5s,baz=335,slow=8.9,SNR=14						
ASAR				PcP	PcP	12 20 50.9	-0.3
	0.3nm,0.6s,baz=358,slow=2.4,SNR=5.8						
STKA	**Stephens Creek**	**36.19**	**156**	P	P	12 18 53.4	+0.5
	0.8nm,0.4s,baz=325,slow=8.7,SNR=8.3						
MJAR	**Matsushiro Arr**	**37.31**	**17**	LR	LR	12 34 27.9	
	comp=Z,50nm,19.3s,baz=65,slow=36						
MKAR	**Makanchi Array**	**58.98**	**327**	P	P	12 21 50.4	+0.5
	0.5nm,0.5s,baz=124,slow=8.3,SNR=7.4						

MOS ***19*** *12:22:48.6±2.3, 4823N×15480E, h40km, mb4.2/3, Error ellipse: s-maj=40.5km s-min=16.7km az=68.3*
ISCJB ***19*** *12:22:49.5±2.0, 484N±0.1×1548E±03, h52km±22km, mb3.8/8, Error ellipse: s-maj=34.8km s-min=13.2km az=81.0*
IDC ***19*** *12:22:59.3±9.0, 4798N×15364E, h87km±82km, mb3.4/7, mb1 3.7/8, mb1mx3.4/23, mbtmp3.4/8, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/29, Error ellipse: s-maj=31.8km s-min=19.5km az=114.0*

ISC 19 12:22:52.3±1.7, 485N±02×1548E±03, h64km±19km, n17, σ0°31/18, mb3.8/8, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.38**	**21**	*e*PN	**Pn**	**12 23 28.9**	**-0.1**
SKR				*e*S	**Sn**	**12 23 56.9**	**-0.1**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,360nm,0.2s						
SKR				smax			
	comp=E,620nm,0.2s						
PET	**Petropavlovsk**	**5.18**	**27**	⇑*i*PN	**Pn**	**12 24 07.5**	**+0.3**
PET				pmax	pmax		
	comp=Z,27nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
ASAJ	**Asahikawa**	**9.48**	**247**	P	**Pn**	**12 25 06.1**	**0.0**
	comp=Z,2.0nm,0.3s,baz=95,slow=7.2,SNR=16						
ASAJ				LR	LR	12 28 10.2	
	comp=Z,84nm,21.8s,baz=143,slow=36						
ASAJ	**Asahikawa**	**9.48**	**247**	PN	**Pn**	**12 25 06.1**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,84nm,21.8s						
MJAR	**Matsushiro Arr**	**17.02**	**232**	P	**Pn**	**12 26 41.3**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=5.6						
KSRS	**Korea Array**	**22.41**	**251**	P	**P**	**12 27 45.4**	**0.0**
	comp=Z,1.9nm,0.8s,mb3.6,baz=54,slow=9.8,SNR=8.5						
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**12 31 18.3**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=60,slow=6.6,SNR=7.6						
YKA	**Yellowknife Ar**	**48.87**	**38**	P	**P**	**12 31 41.8**	**+10**
	comp=Z,0.3nm,0.7s,mb3.4,baz=298,slow=7.2,SNR=4.1						
YKA	**Yellowknife Ar**	**48.87**	**38**	P	**P**	**12 31 41.8**	**+10**
NVAR	**Mina Array Bea**	**60.66**	**64**	P	**P**	**12 33 07.3**	**+11**
	comp=Z,0.6nm,0.7s,mb3.9,baz=289,slow=6.0,SNR=3.6						
FINES	**FINESS Array B**	**62.96**	**335**	P	**P**	**12 33 17.7**	**+5.6**
	comp=Z,0.5nm,0.7s,mb3.8,baz=58,slow=6.8,SNR=4.0						
FINES	**FINESS Array B**	**62.96**	**335**	P	**P**	**12 33 17.7**	**+5.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**70.51**	**200**	P	**P**	**12 33 59.5**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=15,slow=6.3,SNR=15						
WRA	**Warramunga Arr**	**70.51**	**200**	P	**P**	**12 33 59.5**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**71.19**	**209**	P	**P**	**12 34 04.6**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.1,baz=16,slow=7.6,SNR=5.1						
ASAR	**Alice Springs**	**74.20**	**200**	P	**P**	**12 34 22.4**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=16,slow=5.2,SNR=8.9						
ASAR	**Alice Springs**	**74.20**	**200**	P	**P**	**12 34 22.5**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 19 12:28:11.5±19.0, 1829S×17766W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/17, mbtmp4.2/5, Error ellipse: s-maj=350.4km s-min=131.7km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.09**	**261**	P	P	12 34 58.6	+0.9
	4.4nm,0.6s,baz=81,slow=8.7,SNR=5.6						
STKA	**Stephens Creek**	**39.08**	**242**	P	P	12 35 40.7	+0.5
	0.9nm,0.6s,baz=82,slow=7.1,SNR=3.0						
WB2	**Warramunga Arr**	**45.26**	**260**	*e*P	P	12 36 30.6	0.0
WRA	**Warramunga Arr**	**45.27**	**260**	P	P	12 36 30.5	-0.3
	1.1nm,0.3s,baz=96,slow=7.5,SNR=44						
ASAR	**Alice Springs**	**45.38**	**255**	P	P	12 36 31.5	-0.1
	4.0nm,0.5s,baz=93,slow=8.3,SNR=87						
FITZ	**Fitzroy Crossi**	**53.67**	**261**	P	P	12 37 35.8	+0.9
	1.2nm,0.9s,baz=22,slow=11,SNR=3.8						

ISCJB ***19*** *12:34:10.7±0.8, 342N±0.1×136.1E±02, h397km±6km, mb3.1/3, Error ellipse: s-maj=21.0km s-min=17.3km az=53.8*
IDC ***19*** *12:34:11.2±1.6, 3409N×13597E, h378km±27km, mb2.9/3, mb1 2.9/5, mb1mx2.8/24, mbtmp2.8/5, Error ellipse: s-maj=54.1km s-min=18.3km az=54.0*
JMA ***19*** *12:34:12.3±0.1, 3439N×13603E, h387km±2km, M3.3*

ISC 19 12:34:11.9±0.8, 343N±01×1361E±02, h389km±6km, n15, σ0°51/19, mb3.1/3, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**0.14**	**97**	P	**Pn**	**12 35 00.4**	**+0.4**
JKN2				S	**S**	**12 35 38.2**	**-0.5**
JWY	**Kouya**	**0.43**	**265**	P	**Pn**	**12 35 00.8**	**+0.5**
JIE	**Ise**	**0.51**	**74**	P	**Pn**	**12 35 01.0**	**+0.6**
JIE				*e*S	**S**	**12 35 39.5**	**-0.1**
JWZ	**Kozaga**	**0.80**	**205**	P	**Pn**	**12 35 01.6**	**+0.5**
JWZ				*e*S	**S**	**12 35 40.0

103nm,0.1s
STGR Santa Cruz 0.27 102 *e*P Pg 12 40 52.0 -0.4
STGR *e*S Sg 12 40 55.5 -0.5
PGRA Graciosa 0.30 111 *e*P Pg 12 40 51.9 -1.1
PGRA *e*S Sg 12 40 56.2 -0.8
PGRA
73nm,0.2s
PGRA Graciosa 0.30 111 *e*P Pg 12 40 51.9 -1.1
PGRA *e*S Sg 12 40 56.2 -0.8
ROSA Rosais 0.42 170 *i* P Pg 12 40 53.8 -1.5
ROSA *e*S Sg 12 40 59.5 -1.4
ROSA Rosais 0.42 170 *e*S Sg 12 40 59.5 -1.4
PAMA Santo Amaro 0.47 165 *e*S Sg 12 41 01.1 -1.3
PAMA
28nm,0.1s
PLUZ Luz 0.51 257 *e*P Pg 12 40 52.3 -4.7
PLUZ *e*S Sg 12 40 56.7 -7.0
PLUZ
107nm,0.2s
PMAN Manadas 0.54 159 *e*P Pg 12 40 55.7 -1.7
PMAN *e*S Sg 12 41 02.5 -2.0
PMAN
89nm,0.2s
PMAN Manadas 0.54 159 *e*P Pg 12 40 55.7 -1.7
PMAN *e*S Sg 12 41 02.5 -2.0
PCED Cedros 0.58 209 *i* P Pg 12 40 56.4 -1.8
PCED *i* S Sg 12 41 04.0 -1.9
PCED
73nm,0.2s
PCED Cedros 0.58 209 *i* S Sg 12 41 04.0 -1.9
CALA Caldeira 0.62 207 *i* P Pg 12 40 57.3 -1.7
CALA *e*S Sg 12 41 04.8 -2.4
CALA Caldeira 0.62 207 *e*S Sg 12 41 04.8 -2.4
PICO Pico 0.64 186 *e*P Pg 12 40 57.2 -2.1
PICO *e*S Sg 12 41 05.0 -2.7
PCND Candelaria 0.67 188 *e*P Pg 12 41 05.2 +5.2
PID Ribeirinha 0.71 166 *e*S Sg 12 41 07.0 -3.1
ASBA Santa Barbara 0.89 117 *e*P Pg 12 41 01.0 -3.2

MOS ***19*** *12:48:11.7±0.8, 262N×98.12E, h33km, mb5.3/31, MS4.2/5, Error ellipse: s-maj=16.6km s-min=6.0km az=117.7*
BJI ***19*** *12:48:14.4, 231N×97.99E, h80km, mB4.9, mb4.9, Ms4.6, Msz4.4*
ISCJB ***19*** *12:48:15.1±0.2, 249N±003×98.03E±003, h65km, mb5.0/131, Error ellipse: s-maj=4.7km s-min=4.0km az=103.3*
NEIC ***19*** *12:48:16.6±0.1, 246N×98.00E, mb5.2/83, Error ellipse: s-maj=5.1km s-min=3.8km az=48.0*
NEIC Felt [III] at Sidikalang and Singkil.
GCMT ***19*** *12:48:16.6±0.4, 242N×97.94E, h62km±1km, MW5.0/58, Moment Tensor Solution. s45,c60; s58,c83; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.33±.16; Mθθ1.96±.14; Mφφ1.37±.17; Mrθ1.25±.09; Mφθ-1.91±.12; Mφr-0.74±.10; Best double couple: M0:3.75800×1016 NP1:φs135.00000°, δ34.00000°, λ-83.00000°. NP2: φs307.00000°, δ56.00000°, λ-95.00000°. Principal axes: T 3.8830, Plg11.0000°, Azm40.0000°; N -0.2510, Plg4.0000°, Azm309.0000°; P -3.6330, Plg78.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***19*** *12:48:16.1, 167N×97.65E, h64km, mb5.0, Northern Sumatera, Indonesia*
IDC ***19*** *12:48:19.7±0.7, 250N×98.20E, h94km±5km, mb4.8/24, mb1 4.9/24, mb1mx4.8/26, mbtmp4.8/24, MS3.4/1, Ms1 3.4/1, ms1mx2.7/9, Error ellipse: s-maj=12.6km s-min=7.8km az=58.0*
ISC 19 12:48:17.2±0.2, 249N±003×9801E±003, h67km, h67km±.6km:pP-P, n384, σ0.93/381, mb5.0/131, 35C-32D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.97**	**71**	P	**Pn**	**12 48 36.7**	**+1.7**
	406nm,0.3s,baz=262,slow=7.9,SNR=1757						
PSI				S	**Sn**	**12 48 51.4**	**+3.1**
	732nm,0.3s,baz=68,slow=18,SNR=46						
PSI	**Prapat**	**0.97**	**71**	P	**Pn**	**12 48 36.7**	**+1.6**
PSI				S	**Sn**	**12 48 51.4**	**+3.1**
IPM	**Ipoh**	**3.60**	**57**	P	**Pn**	**12 49 13.5**	**+3.0**
KULM	**Kulim**	**3.83**	**43**	⇑*i*Pn	**Pn**	**12 49 16.2**	**+2.5**
KULM				*e*Sn	**Sn**	**12 49 45.2**	**-12**
KGM	**Kluang**	**5.33**	**95**	P	**Pn**	**12 49 36.2**	**+2.0**
SNG	**Songkhla**	**5.33**	**29**	P	**Pn**	**12 49 35.0**	**+0.8**
	810nm,1.0s						
NNT	**Nongplab**	**10.18**	**10**	P	**Pn**	**12 50 44.0**	**+3.6**
KSM	**Kuching**	**12.34**	**94**	*e*Pn	**Pn**	**12 51 13.7**	**+3.9**
CBJI	**Citeko**	**12.50**	**135**	P	**Pn**	**12 51 12.2**	**+0.1**
	123nm,0.7s						
NST	**Nakhon Sawan**	**13.27**	**9**	P	**Pn**	**12 51 24.0**	**+1.5**
	57nm,0.7s						
KKTK	**Khon Kaen**	**14.55**	**19**	P	**Pn**	**12 51 44.0**	**+4.5**
	617nm,0.8s						
CM31	**Chiang Mai Arr**	**15.90**	**3**	*e*Pn	**Pn**	**12 51 57.5**	**+0.8**
	48nm,0.9s						
CHG	**Chiang Mai**	**16.25**	**3**	PG	**Pn**	**12 52 02.1**	**+1.0**
	34nm,0.9s						
CHTO	**Chiang Mai**	**16.25**	**3**	P	**Pn**	**12 52 03.0**	**+1.8**
	SNR=10						
CHTO	**Chiang Mai**	**16.25**	**3**	⇑*e*Pn	**Pn**	**12 52 01.1**	**0.0**
	29nm,0.9s						
NANT	**Nan**	**16.42**	**9**	⇑P	**Pn**	**12 52 04.6**	**+1.3**
	298nm,1.0s						
PALK	**Pallekele**	**17.88**	**286**	⇓*e*P	**Pn**	**12 52 23.8**	**+2.6**
	33nm,0.7s						
PALK				*e*Pn	**Pn**	**12 52 24.3**	**+3.1**
PALK				*e*		12 52 53.8	
KKM	**Kota Kinabalu**	**18.50**	**78**	P	**Pn**	**12 52 29.7**	**+1.0**
KKM	**Kota Kinabalu**	**18.50**	**78**	*e*P	**Pn**	**12 52 29.7**	**+1.0**
KMMI	**Kalianget**	**18.54**	**121**	P	**Pn**	**12 52 31.7**	**+2.6**
	156nm,0.9s						
TSM	**Tawau**	**19.91**	**84**	P	**Pn**	**12 52 39.5**	**-6.0**
QIZ	**Qiongzhong**	**20.11**	**34**	P	**P**	**12 52 47.3**	**+1.9**
QIZ				S	**S**	**12 56 24.6**	**-3.0**
QIZ				AMB	AMB		
	comp=Z,26nm,0.8s						
QIZ	**Qiongzhong**	**20.11**	**34**	*e*P	**P**	**12 52 46.8**	**+1.4**
	comp=Z,166nm,1.5s						
PCI	**Palu**	**22.09**	**99**	P	**P**	**12 53 07.1**	**+0.5**
	comp=Z,172nm,0.9s,mb5.4						
KMI	**Kunming**	**22.96**	**11**	P	**P**	**12 53 16.6**	**+0.7**
KMI				AP		12 53 32.1	
KMI				XP	sP	12 53 41.8	+3.2
KMI				PP		12 53 50.0	
KMI				PPP		12 54 00.3	
KMI				PCP	PcP	12 57 05.4	+1.7
KMI				S	**S**	**12 57 19.4**	**-1.5**
KMI				XS	sS	12 57 46.9	-0.1
KMI				AMB	AMB		
	comp=Z,67nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,193nm,4.0s						
KMI				LR	LR		
	comp=N,710nm,15.5s						
KMI				LR	LR		
	comp=E,501nm,12.6s						
KMI				LR	LR		
	comp=Z,746nm,14.9s						
KMI	**Kunming**	**22.96**	**11**	P	**P**	**12 53 16.6**	**+0.7**
	comp=Z,67nm,1.1s,mb4.9						
KMI				pP		12 53 32.1	
KMI				sP	sP	12 53 41.7	+3.1
KMI				PP		12 53 50.0	
KMI				PPP		12 54 00.2	
KMI				PcP	PcP	12 57 05.4	+1.7
KMI				S	**S**	**12 57 19.4**	**-1.5**
KMI				sS	sS	12 57 46.9	-0.1
KMI				LR	LR		
	comp=Z,750nm,14.9s						
KAPI	**Kappang**	**22.97**	**109**	P	**P**	**12 53 15.6**	**-0.3**
	comp=Z,315nm,0.9s,mb5.6,SNR=12						
SHL	**Shillong**	**23.69**	**346**	*i* P	**P**	**12 53 21.5**	**-1.2**
SHL				*ex*	x	12 57 28.0	
HYB	**Hyderabad**	**24.19**	**309**	⇑*i*P	**P**	**12 53 29.5**	**+2.3**
	comp=Z,38nm,0.8s,mb4.8						
HYB				*e*pP		12 53 44.0	
HYB				*e*S	**S**	**12 57 40.0**	**-0.7**
HYB	**Hyderabad**	**24.19**	**309**	⇑*e*P	**P**	**12 53 29.5**	**+2.3**
	comp=Z,38nm,0.8s,mb4.8						
HYB				*e*		12 53 44.0	
GYA	**Guiyang**	**25.24**	**18**	⇓*i*P	**P**	**12 53 36.6**	**-0.2**
GYA				AP	pP	12 53 52.6	-0.1
GYA				XP	sP	12 54 01.3	+0.7
GYA				PP		12 54 19.5	
GYA				PCP	PcP	12 57 11.3	+2.7
GYA				XS	sS	12 58 24.8	-0.1
GYA				SCP	ScP	13 00 42.8	+0.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,140nm,4.6s						
GYA				LR	LR		
	comp=N,840nm,15.4s						
GYA				LR	LR		
	comp=E,690nm,15.0s						
GYA				LR	LR		
	comp=Z,890nm,15.2s						
TGY	**Tagaytay City**	**25.42**	**62**	P	**P**	**12 53 39.1**	**+0.6**
	comp=Z,90nm,0.4s,baz=70,slow=12,SNR=2.6						
JIRN	**Jiri**	**27.46**	**337**	*e*P	**P**	**12 53 56.8**	**0.0**
ALBI	**Allahabad**	**27.54**	**327**	*e*P	**P**	**12 53 56.0**	**-1.5**
PKI	**Pulchoki**	**27.70**	**335**	*e*P	**P**	**12 53 58.5**	**-0.5**
GUN	**Gumba**	**27.81**	**337**	*e*P	**P**	**12 54 00.1**	**+0.2**
	comp=Z,97nm,0.8s,mb5.4						
LSA	**Lhasa**	**27.83**	**347**	P	**P**	**12 54 01.0**	**+0.8**
LSA	**Lhasa**	**27.83**	**347**	⇑*i*P	**P**	**12 54 00.2**	**+0.1**
	comp=Z,34nm,0.9s,mb4.9						
LSA				*e*PcP	PcP	12 57 16.7	+2.0
DMN	**Daman**	**27.86**	**335**	*e*P	**P**	**12 54 00.7**	**+0.3**
	comp=Z,45nm,0.8s,mb5.0						
KKN	**Kakani**	**27.95**	**335**	*e*P	**P**	**12 54 01.0**	**-0.2**
	comp=Z,69nm,1.0s,mb5.2						
GKN	**Gorkha**	**28.40**	**335**	*e*P	**P**	**12 54 05.0**	**-0.2**
POO	**Poona**	**28.53**	**306**	⇑*i*P	**P**	**12 54 04.0**	**-2.4**
	comp=Z,50nm,1.0s,mb5.1						
KOLN	**Koldanda**	**28.66**	**333**	*e*P	**P**	**12 54 07.8**	**+0.3**
	comp=Z,96nm,0.9s,mb5.4						
CD2	**Chengdu**	**28.79**	**10**	P	**P**	**12 54 07.6**	**-1.0**
CD2				AP	pP	12 54 23.0	-1.7
CD2				PP	PP	12 55 02.8	-12
CD2				S	**S**	**12 58 50.1**	**-3.4**
CD2				SS	SS	13 00 22.6	-35
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,140nm,4.4s						
CD2				LR	LR		
	comp=N,690nm,13.7s						
CD2				LR	LR		
	comp=E,660nm,14.2s						
CD2				LR	LR		
	comp=Z,930nm,19.0s						
ENH	**Enshi**	**29.70**	**20**	P	**P**	**12 54 14.7**	**-2.0**
AAI	**Ambon**	**30.79**	**101**	P	**P**	**12 54 25.7**	**-0.7**
	comp=Z,48nm,0.9s,mb5.2						
LGTI	**Lohaghat**	**31.68**	**330**	*i* P	**P**	**12 54 34.0**	**-0.2**
WHN	**Wuhan**	**31.91**	**27**	⇑P	**P**	**12 54 36.8**	**+0.6**
WHN				*e*S	**S**	**12 59 35.0**	**-7.3**
WHN				LR	LR		
	comp=Z,2μm,16.9s						
NDI	**New Delhi**	**32.73**	**325**	*e*P	**P**	**12 54 45.0**	**+1.7**
XAN	**Xi'an**	**33.00**	**17**	P	**P**	**12 54 44.6**	**-1.2**
XAN				AMB	AMB		
	comp=Z,38nm,1.2s,mb5.1						
XAN				AMB	AMB		
	comp=Z,77nm,4.4s						
XAN				LR	LR		
	comp=N,200nm,11.6s						
XAN				LR	LR		
	comp=E,256nm,14.1s						
XAN				LR	LR		
	comp=Z,392nm,17.4s						
LZH	**Lanzhou**	**33.87**	**9**	*e*P	**P**	**12 54 52.6**	**-0.7**
LZH				AP	pP	12 55 09.1	-0.4
LZH				XP	sP	12 55 20.0	+2.7
LZH				PP	PP	12 56 08.3	-2.7
LZH				PCP	PcP	12 57 32.1	+1.4
LZH				*e*S	**S**	**13 00 11.5**	**-1.2**
LZH				XS	sS	13 00 42.0	+1.5
LZH				SCP	ScP	13 01 08.9	-0.7
LZH				PCS	PcS	13 01 17.0	+0.3
LZH				SS	SS	13 02 21.3	-20
LZH				SCS	ScS	13 05 10.0	-1.4
LZH				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,150nm,4.9s						
LZH				LR	LR		
	comp=N,395nm,12.8s						
LZH				LR	LR		
	comp=Z,620nm,13.5s						
LZH	**Lanzhou**	**33.87**	**9**	*e*P	**P**	**12 54 52.6**	**-0.7**
	comp=Z,52nm,1.2s,mb5.2						
LZH				pP	pP	12 55 09.1	-0.4
LZH				sP	sP	12 55 20.0	+2.7
LZH				PP	PP	12 56 08.2	-2.8
LZH				PcP	PcP	12 57 32.1	+1.4
LZH				*e*S	**S**	**13 00 11.5**	**-1.2**
LZH				sS	sS	13 00 42.0	+1.5
LZH				ScP	ScP	13 01 08.9	-0.7
LZH				PcS	PcS	13 01 17.0	+0.3
LZH				SS	SS	13 02 21.3	-20
LZH				ScS	ScS	13 05 10.0	-1.4
LZH				LR	LR		
	comp=Z,620nm,13.5s						
FITZ	**Fitzroy Crossi**	**34.05**	**128**	⇓*i*P	**P**	**12 54 52.6**	**-2.3**
FITZ				*e*PCP	PcP	12 57 31.6	+0.4
FITZ	**Fitzroy Crossi**	**34.05**	**128**	P	**P**	**12 54 52.8**	**-2.1**
	comp=Z,29nm,0.8s,mb5.2,baz=303,slow=6.2,SNR=56						
FITZ				PcP	PcP	12 57 31.8	+0.6
	comp=Z,9.7nm,0.7s,baz=120,slow=0.4,SNR=6.6						
SSE	**Sheshan**	**35.90**	**35**	P	**P**	**12 55 09.5**	**-1.3**
SSE				AP	pP	12 55 25.9	-1.2
SSE				PP	PP	12 56 32.0	-1.5
SSE				S	**S**	**13 00 43.0**	**-1.1**
SSE				SCS	ScS	13 05 20.3	-2.0
SSE				AMB	AMB		
	comp=Z,82nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,173nm,4.5s						
SSE				LR	LR		
	comp=N,132nm,25.0s						
SSE				LR	LR		
	comp=E,135nm,25.0s						
SSE				LR	LR		
	comp=Z,322nm,14.0s						
SSE	**Sheshan**	**35.90**	**35**	P	**P**	**12 55 09.5**	**-1.3**
	comp=Z,82nm,0.7s,mb5.8						
SSE				pP	pP	12 55 25.9	-1.2
SSE				PP	PP	12 56 32.0	-1.5
SSE				S	**S**	**13 00 43.0**	**-1.1**
SSE				ScS	ScS	13 05 20.3	-2.0
SSE				LR	LR		
	comp=Z,320nm,14.0s						
THN	**Thein Dam**	**36.41**	**327**	*ex*	x	12 55 30.8	
GTA	**Gaotai**	**36.79**	**2**	⇑P	**P**	**12 55 17.8**	**-0.5**
GTA				AP	pP	12 55 34.6	-0.1
GTA				XP	sP	12 55 43.6	+1.1
GTA				PP	PP	12 56 45.8	+2.6
GTA				PCP	PcP	12 57 39.8	+0.6
GTA				S	**S**	**13 00 56.4**	**-1.1**
GTA				SCP	ScP	13 01 19.5	-0.6
GTA				PCS	PcS	13 01 25.9	-1.4
GTA				XS	sS	13 01 27.3	+1.9
GTA				SS	SS	13 03 27.3	-13
GTA				SCS	ScS	13 05 23.5	-3.7
GTA				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.2						
GTA				AMB	AMB		
	comp=Z,75nm,6.1s						
GTA				LR	LR		
	comp=N,172nm,19.1s						
GTA				LR	LR		
	comp=E,175nm,21.4s						
GTA				LR	LR		
	comp=Z,154nm,22.9s						
KAKA	**Kakadu**	**37.38**	**115**	*e*P	**P**	**12 55 21.0**	**-2.4**
KAKA				*e*PCP	PcP	12 57 41.5	+0.5
MUN	**Mundaring**	**38.39**	**155**	*e*P	**P**	**12 55 33.3**	**+1.4**
MUN				*e*		12 55 56.6	
KLBR	**Kellerberrin**	**38.74**	**153**	*e*P	**P**	**12 55 35.6**	**+0.7**
NWAO	**Narrogin (SRO)**	**39.64**	**154**	P	**P**	**12 55 43.2**	**+0.9**
	comp=Z,88nm,0.8s,mb5.6,baz=321,slow=8.5,SNR=39						
NWAO	**Narrogin (SRO)**	**39.64**	**154**	*e*P	**P**	**12 55 42.8**	**+0.5**
	comp=Z,90nm,0.9s,mb5.6						
NWAO				pP	pP	12 55 58.9	0.0
HHC	**Hu-ho-hao-te**	**40.10**	**16**	*e*P	**P**	**12 55 46.8**	**+0.6**
HHC				AP	pP	12 56 02.4	-0.3
HHC				PP	PP	12 57 23.3	+3.8
HHC				S	**S**	**13 01 47.9**	**+0.3**
HHC				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,96nm,4.9s						
HHC				LR	LR		
	comp=N,479nm,15.5s						
HHC				LR	LR		
	comp=E,464nm,17.8s						
HHC				LR	LR		
	comp=Z,427nm,16.1s						
BJT	**Baijiatuau**	**40.83**	**21**	*e*P	**P**	**12 55 52.3**	**+0.1**
	comp=Z,40nm,0.8s,mb5.3						
BJT				*e*pP	pP	12 56 07.3	-1.4
BJI	**Beijing**	**40.85**	**21**	*e*P	**P**	**12 55 52.5**	**+0.2**
BJI				S	**S**	**13 01 51.3**	**-7.4**
BJI				AMB	AMB		
	comp=Z,45nm,0.8s,mb5.3						
BJI				LR	LR		
	comp=N,290nm,12.4s						
BJI				LR	LR		
	comp=E,185nm,9.8s						
BJI				LR	LR		
	comp=Z,214nm,31.0s						
BJI	**Beijing**	**40.85**	**21**	*e*P	**P**	**12 55 52.5**	**+0.2**
	comp=Z,45nm,0.8s,mb5.3						
BJI				S	**S**	**13 01 51.3**	**-7.4**
BJI				LR	LR		
	comp=Z,210nm,31.0s						
WRA	**Warramunga Arr**	**42.05**	**124**	P	**P**	**12 56 00.9**	**-1.2**
	comp=Z,105nm,0.7s,mb5.7,baz=302,slow=9.2,SNR=582						
WRA				PcP	PcP	12 57 56.0	+0.1
	comp=Z,12nm,0.8s,baz=314,slow=2.6,SNR=7.4						
WRA				S	**S**	**13 02 08.8**	**-7.6**
	comp=Z,16nm,1.1s,baz=294,slow=17,SNR=22						
WRA	**Warramunga Arr**	**42.05**	**124**	P	**P**	**12 56 00.9**	**-1.2**
WRA				PcP	PcP	12 57 56.0	+0.1
WRA				S	**S**	**13 02 08.8**	**-7.6**
WB2	**Warramunga Arr**	**42.06**	**124**	⇓*i*P	**P**	**12 56 01.0**	**-1.2**
WB2				*e*PCP	PcP	12 57 56.1	+0.1
WB2				*e*		13 02 08.8	
WMQ	**Urumqi**	**42.16**	**349**	P	**P**	**12 56 03.4**	**+0.3**
WMQ				AP	pP	12 56 20.3	+0.6
WMQ				PP	PP	12 57 47.3	+5.6
WMQ				PPP		12 58 16.3	
WMQ				S	**S**	**13 02 18.3**	**+0.2**
WMQ				XS	sS	13 02 48.4	+2.0
WMQ				SS	SS	13 05 21.4	-6.6
WMQ				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,114nm,3.8s						
WMQ				LR	LR		
	comp=N,173nm,31.0s						
WMQ				LR	LR		
	comp=E,30nm,33.0s						
WMQ				LR	LR		
	comp=Z,165nm,32.0s						
ASAR	**Alice Springs**	**43.55**	**129**	P	**P**	**12 56 12.9**	**-1.3**
	comp=Z,26nm,0.9s,mb5.0,baz=305,slow=7.9,SNR=256						
ASAR				PcP	PcP	12 58 01.6	+0.6
	comp=Z,11nm,0.8s,baz=310,slow=3.3,SNR=15						
ASAR				S	**S**	**13 02 31.1**	**-7.3**
	comp=Z,2.0nm,0.8s,baz=287,slow=15,SNR=8.9						
ASAR	**Alice Springs**	**43.55**	**129**	P	**P**	**12 56 12.9**	**-1.3**
ASAR				PcP	PcP	12 58 01.6	+0.6
ASAR				S	**S**	**13 02 31.1**	**-7.3**
FORT	**Forrest**	**43.76**	**141**	*e*P	**P**	**12 56 16.2**	**+0.3**
ULHL	**Ulahol**	**44.12**	**337**	P	**P**	**12 56 19.3**	**+0.4**
	SNR=9.9						
KSRS	**Korea Array**	**44.34**	**35**	P	**P**	**12 56 19.9**	**-0.7**
	comp=Z,6.0nm,0.9s,mb4.3,baz=219,slow=9.2,SNR=24						
KZA	**Kyzart**	**44.38**	**336**	P	**P**	**12 56 22.1**	**+1.1**
	SNR=13						
UCH	**Uchtor**	**44.81**	**335**	P	**P**	**12 56 25.6**	**+1.3**
	SNR=37						
TKM2	**Tokmak 2**	**44.95**	**337**	P	**P**	**12 56 26.2**	**+0.7**
	SNR=12						
TKM2	**Tokmak 2**	**44.95**	**337**	P	**P**	**12 56 22.8**	**-2.6**
TKM2				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
TKM2	**Tokmak 2**	**44.95**	**337**	P	**P**	**12 56 22.8**	**-2.6**
	comp=Z,27nm,1.3s,mb4.8						
KBK	**Karagaybulak**	**44.99**	**336**	P	**P**	**12 56 27.0**	**+1.3**
	SNR=28						
AML	**Almayashu**	**45.08**	**334**	P	**P**	**12 56 27.8**	**+1.3**
	SNR=21						
AAK	**Ala-Archa**	**45.16**	**335**	P	**P**	**12 56 28.6**	**+1.5**
	SNR=13						
AAK	**Ala-Archa**	**45.16**	**335**	P	**P**	**12 56 27.8**	**+0.7**
	comp=Z,86nm,1.3s,mb5.3,SNR=11						
AAK	**Ala-Archa**	**45.16**	**335**	P	**P**	**12 56 27.9**	**+0.8**
	SNR=9.7						
AAK	**Ala-Archa**	**45.16**	**335**	*c i* P	**P**	**12 56 27.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,26nm,1.8s,mb4.7						
AAK				MLR	MLR		
	comp=Z,200nm,23.0s						
AAK	**Ala-Archa**	**45.16**	**335**	⇑*i*P	**P**	**12 56 27.0**	**-0.1**
	comp=Z,26nm,1.8s,mb4.7						
AAK				LR	LR		
	comp=Z,200nm,23.0s						
FRU	**Bishkek**	**45.27**	**336**	*e*P	**P**	**12 56 28.0**	**0.0**
FRU				*e*	pP	12 56 44.0	-0.8
CHMS	**Chumysh**	**45.35**	**336**	P	**P**	**12 56 29.2**	**+0.5**
	SNR=8.8						
EKS2	**Erkin-Say**	**45.48**	**335**	P	**P**	**12 56 30.7**	**+1.1**
	SNR=14						
USP	**Ospenovka**	**45.68**	**336**	P	**P**	**12 56 31.8**	**+0.5**
	SNR=45						
SONM	**Songino Array**	**45.75**	**8**	P	**P**	**12 56 31.7**	**-0.1**
	comp=Z,13nm,0.8s,mb4.7,baz=187,slow=9.4,SNR=105						
SONM				PcP	PcP	12 58 08.7	+0.1
	comp=Z,8.5nm,0.7s,baz=190,slow=3.4,SNR=7.9						
SONM				ScP	ScP	13 01 49.8	-5.8
	comp=Z,2.4nm,1.0s,baz=197,slow=4.5,SNR=2.9						
SONM	**Songino Array**	**45.75**	**8**	P	**P**	**12 56 31.7**	**-0.1**
SONM				PcP	PcP	12 58 08.7	+0.1
SONM				ScP	ScP	13 01 49.8	-5.8
WHFO	**Wadi Hawf**	**45.99**	**293**	P	**P**	**12 56 35.2**	**+1.5**
	SNR=8.8						
MK31	**Makanchi Array**	**46.20**	**345**	*i* P	**P**	**12 56 35.0**	**-0.3**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.8						
MK31	**Makanchi Array**	**46.20**	**345**	*i* P	**P**	**12 56 35.0**	**-0.3**
	comp=Z,6.0nm,0.3s,mb4.8						
MKAR	**Makanchi Array**	**46.20**	**345**	P	**P**	**12 56 35.2**	**-0.1**
	comp=Z,24nm,0.8s,mb5.0,baz=159,slow=8.2,SNR=190						
MKAR	**Makanchi Array**	**46.20**	**345**	*i* P	**P**	**12 56 35.0**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ABTO	**Aybut**	**46.30**	**292**	P	**P**	**12 56 37.8**	**+1.7**
	SNR=6.2						
KK31	**Karatay Array**	**47.28**	**333**	*i* P	**P**	**12 56 44.8**	**+1.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
KK31	**Karatay Array**	**47.28**	**333**	*i* P	**P**	**12 56 44.8**	**+1.1**
	comp=Z,3.0nm,0.5s,mb4.3						
KKAR	**Karatay Array**	**47.28**	**333**	P	**P**	**12 56 44.8**	**+1.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
KKAR	**Karatay Array**	**47.28**	**333**	P	**P**	**12 56 44.8**	**+1.1**
	comp=Z,2.0nm,0.5s,mb4.1						
CN2	**Changchun**	**47.80**	**27**	⇑P	**P**	**12 56 47.0**	**-0.8**
CN2				*e*S	**S**	**13 03 38.3**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s						
CN2				LR	LR		
	comp=E,200nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
ZAK	**Zakamensk**	**47.93**	**5**	*e*	**P**	**12 56 47.6**	**-1.2**
ZAK				*e*		12 58 16.0	
ZAK				*e*		12 58 33.9	
TLY	**Talaya**	**49.25**	**5**	*e*P	**P**	**12 56 59.3**	**+0.4**
TLY				*e*S	**S**	**13 04 01.2**	**+1.3**
TLY		

comp=Z,8.0nm,1.0s,mb4.6
TLY MLR MLR
comp=Z,312nm,20.0s
TLY Talaya 49.25 5 *e*P **P 12 56 59.3 +0.4**
TLY *ep*P pP 12 57 19.4 +3.4
TLY *e*S **S 13 04 01.2 +1.3**
HIA Hailar 50.17 18 *e*P **P 12 57 05.2 -0.7**
comp=Z,10nm,0.8s,mb4.8
MDJ Mudanjiang 50.36 29 P **P 12 57 07.9 +0.6**
MDJ S **S 13 04 16.8 +1.4**
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,95nm,4.6s
MDJ LR LR
comp=N,105nm,26.2s
MDJ LR LR
comp=E,61nm,25.2s
MDJ LR LR
comp=Z,149nm,23.3s
PMG Port Moresby 50.38 104⇓*e*P **P 12 57 06.9 -0.5**
comp=Z,64nm,0.7s,mb5.7
VLA Vladivostok 50.46 32 P **P 12 57 10.0 +1.9**
VLA pmax pmax
comp=Z,18nm,1.3s,mb4.8
VLA MLR MLR
comp=Z,300nm,14.2s
VLA Vladivostok 50.46 32 P **P 12 57 10.0 +1.9**
comp=Z,18nm,1.3s,mb4.8
VLA LR LR
comp=Z,300nm,14.2s
KURK Kurchatov 50.77 344 P **P 12 57 10.5 +0.1**
comp=Z,411nm,0.9s,SNR=51
KURK Kurchatov 50.77 344 P **P 12 57 10.8 +0.4**
SNR=22
KURK Kurchatov 50.77 344⇑*i*P **P 12 57 10.4 0.0**
CIT Chita 51.05 12 *e*P **P 12 57 13.2 +0.7**
CTA Charters Tower 52.37 118 *e*P **P 12 57 22.3 -0.1**
CTAO Charters Tower 52.37 118 *e*P **P 12 57 21.9 -0.5**
comp=Z,14nm,0.9s,mb5.0
ZAL Zalesovo 52.42 350 P **P 12 57 22.2 -0.5**
comp=Z,28nm,0.6s,mb5.5,baz=315,slow=5.5,SNR=94
ZAL S **S 13 04 42.5 -1.3**
comp=Z,1.7nm,0.8s,baz=197,slow=22,SNR=20
ZAL Zalesovo 52.42 350 P **P 12 57 22.2 -0.5**
ZAL S **S 13 04 42.5 -1.3**
KRAR Krasnoyarsk 53.52 356 *e*P **P 12 57 30.4 -0.4**
KRAR pmax pmax
comp=Z,60nm,1.0s,mb5.6
KRAR Krasnoyarsk 53.52 356 *e*P **P 12 57 30.4 -0.4**
comp=Z,60nm,1.0s,mb5.6
NVS Novosibirsk 53.56 349⇑*i*P **P 12 57 30.2 -0.9**
NVS *e* pP 12 57 45.2 -3.1
NVS *e*PS 13 05 23.6
NVS pmax pmax
comp=Z,33nm,1.0s,mb5.3
NVS pmax pmax
comp=N,36nm,1.6s
NVS pmax pmax
comp=E,23nm,1.4s
NVS Novosibirsk 53.56 349⇑*i*P **P 12 57 30.2 -0.9**
comp=E,33nm,1.0s,mb5.3
NVS *e* pP 12 57 45.2 -3.1
NVS *e*PS 13 05 23.6
STKA Stephens Creek 53.63 133⇓*i*P **P 12 57 30.9 -0.8**
STKA Stephens Creek 53.63 133 P **P 12 57 31.0 -0.6**
comp=E,29nm,0.7s,mb5.4,baz=307,slow=7.4,SNR=83
BVA0 Borovoye Array 55.31 340 *i* P **P 12 57 43.3 -0.5**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BVA0 Borovoye Array 55.31 340 *i* P **P 12 57 43.3 -0.5**
comp=Z,7.0nm,0.9s,mb4.7
BVAR Borovoye Array 55.31 340 P **P 12 57 43.5 -0.3**
comp=Z,34nm,0.7s,mb5.5,baz=138,slow=9.0,SNR=138
BVAR S **S 13 05 21.2 -1.7**
comp=Z,1.5nm,0.9s,baz=146,slow=22,SNR=7.3
BVAR Borovoye Array 55.31 340 P **P 12 57 43.5 -0.3**
BVAR S **S 13 05 21.2 -1.7**
BRVK Borovoye 55.38 340 P **P 12 57 44.7 +0.4**
comp=Z,306nm,0.8s,SNR=23
BRVK Borovoye 55.38 340 P **P 12 57 44.5 +0.2**
SNR=14
BRVK Borovoye 55.38 340⇑*i*P **P 12 57 43.8 -0.5**
comp=Z,36nm,0.8s,mb5.5
BRVK *ep*P pP 12 57 59.2 -2.4
BOD Bodaibo 56.60 10 *e*P **P 12 57 52.2 -0.9**
BOD pmax pmax
comp=Z,22nm,0.9s,mb5.2
BOD Bodaibo 56.60 10 *e*P **P 12 57 52.2 -0.9**
comp=Z,22nm,0.9s,mb5.2
AB31 Akbulak array 56.77 331 *i* P **P 12 57 53.7 -0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
AB31 Akbulak array 56.77 331 *i* P **P 12 57 53.7 -0.6**
comp=Z,1.0nm,0.3s,mb4.3
YSS Yuzh-Sakhalins 58.84 34 P **P 12 58 08.4 -0.3**
ARMA Armidale 60.65 127 *e*P **P 12 58 22.2 +1.0**
ORR Orenburg 60.83 331 *e*P **P 12 58 21.9 -0.5**
ORR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
KMBO Kilima Mbogo 60.84 267 P **P 12 58 24.4 +1.9**
comp=Z,5.2nm,0.8s,mb4.6,baz=60,slow=13,SNR=13
KMBO Kilima Mbogo 60.84 267 *e*P **P 12 58 23.9 +1.5**
KMBO *ep*P pP 12 58 38.7 -1.3
GNI Garni 60.94 315 P **P 12 58 24.1 +1.0**
SNR=7.0
GNI Garni 60.94 315 *d*iP **P 12 58 23.4 +0.3**
GNI pmax pmax
comp=Z,47nm,1.6s
GNI Garni 60.94 315 *i* P **P 12 58 23.4 +0.3**
comp=Z,47nm,1.6s,mb5.3
SVE Sverdlovsk 61.80 338⇑*e*P **P 12 58 29.0 0.0**
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.6
SVE Sverdlovsk 61.80 338⇑*e*P **P 12 58 29.0 0.0**
comp=Z,100nm,1.5s,mb5.6
ARU Arti 62.32 337 P **P 12 58 31.5 -1.0**
comp=Z,168nm,1.0s,mb6.0,SNR=6.0
ARU Arti 62.32 337⇓*i*P **P 12 58 31.4 -1.1**
ARU *e* 12 59 08.4
ARU *e* 13 00 47.5
ARU *e*S **S 13 06 56.9 +3.2**
ARU *e*SS SS 13 11 00.3 +2.2
ARU pmax pmax
comp=Z,28nm,0.9s,mb5.3
ARU Arti 62.32 337⇓*i*P **P 12 58 31.4 -1.1**
comp=Z,28nm,0.9s,mb5.3
ARU *e* 12 59 08.4
ARU *e* 13 00 47.5
ARU *e*S **S 13 06 56.9 +3.2**
ARU *e*SS SS 13 11 00.3 +2.2
ZEI Tsey 62.58 318 *e*P **P 12 58 34.6 +0.4**
ZEI *i* 12 58 42.7
ZEI *e* 12 59 11.6
ZEI pmax pmax
comp=Z,27nm,0.9s,mb5.2
ZEI Tsey 62.58 318 *e*P **P 12 58 34.6 +0.4**
ZEI *i* 12 58 42.7
ZEI *e* 12 59 11.6
HNR Honiara 62.83 102 *e*P **P 12 58 34.7 -1.1**
comp=Z,56nm,0.8s,mb5.5
ERZM Erzurum 63.25 314 *i* P **P 12 58 39.4 +0.9**
KIV Kislovodsk 63.87 319 P **P 12 58 43.3 +0.6**
SNR=7.2
KIV Kislovodsk 63.87 319 *e*P **P 12 58 42.7 0.0**
KIV *e* 12 59 18.2
KIV *e*S **S 13 07 17.0 +4.0**
KIV pmax pmax
comp=Z,61nm,1.0s,mb5.4
KIV pmax pmax
comp=Z,173nm,2.8s,mb5.4
KIV MLR MLR
comp=Z,24nm,18.0s
KIV Kislovodsk 63.87 319 *e*P **P 12 58 42.7 0.0**
comp=Z,61nm,1.0s,mb5.4
KIV *e* 12 59 18.2
KIV *e*S **S 13 07 17.0 +4.0**
KIV LR LR
comp=Z,20nm,18.0s
YAK Yakutsk 63.97 16 *e*P **P 12 58 42.4 -0.9**
YAK pmax pmax
comp=Z,24nm,1.2s,mb4.9
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax

comp=E,11nm,1.4s
ELZG Elazig 64.52 312 *i* P **P 12 58 47.4 +0.5**
KELT Kelkit 64.85 314 *i* P **P 12 58 49.6 +0.5**
SOKR Solikamsk 65.18 338 *e*P **P 12 58 50.0 -1.3**
SOKR *e* pP 12 59 07.5 -1.5
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.2
SOKR Solikamsk 65.18 338 *e*P **P 12 58 50.0 -1.3**
comp=Z,30nm,0.8s,mb5.2
SOKR *e* pP 12 59 07.5 -1.5
GZT Gaziantep 65.24 310 *i* P **P 12 58 52.0 +0.3**
SOC Sochi 65.72 317⇓*i*P **P 12 58 53.0 -1.7**
SOC *e* 12 59 23.7
SOC *e*PPP 13 02 59.3
SOC *e*S S 13 07 41.0 +5.3
GRSN GIRESUNGRSN 65.82 314 *i* P **P 12 58 52.9 -2.4**
COBT Iskenderun 66.02 309 *i* P **P 12 58 57.4 +0.7**
VRHR Novokhopersk 67.53 325 *e*P **P 12 59 05.3 -0.9**
VRHR pmax pmax
comp=Z,50nm,0.9s,mb5.3
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.3s
CTKT Corum 68.24 313 *i* P **P 12 59 09.9 -0.8**
BOYT Boyabat 68.39 314 *i* P **P 12 59 09.7 -1.9**
BR131 Keskin Array S 68.85 312 *e*P **P 12 59 13.9 -0.6**
comp=E,13nm,0.7s,mb4.9
BR131 *e* pP 12 59 31.4 -1.0
BRTR Keskin Array B 68.85 312 P **P 12 59 13.9 -0.6**
comp=E,16nm,0.7s,mb4.9,baz=128,slow=7.0,SNR=58
BRTR Keskin Array B 68.85 312 P **P 12 59 13.9 -0.6**
ELDT Eldivan 69.21 313 *i* P **P 12 59 16.2 -0.6**
BALT Daday 69.51 314 *i* P **P 12 59 18.6 -0.1**
ANTO Ankara 69.52 312 *e*P **P 12 59 17.9 -0.8**
comp=E,14nm,0.7s,mb4.9
MA2 Magadan 69.83 26 *e*P **P 12 59 20.5 -0.1**
MA2 *e*S S 13 08 22.5 -2.4
MA2 *e*PS 13 08 44.5
MA2 *e* 13 09 10.6
SIM Simferopol' 69.97 317 *de*P **P 12 59 23.0 +1.6**
SIM *e* pP 12 59 40.3 +1.0
SIM pmax pmax
comp=Z,30nm,0.8s,mb5.2
SIM Simferopol' 69.97 317 *e*P **P 12 59 23.0 +1.6**
comp=Z,30nm,0.8s,mb5.2
SIM *e* pP 12 59 40.3 +1.0
SGKT Sivrigoynuk 70.24 312 *i* P **P 12 59 22.1 -1.0**
PET Petropavlovsk 70.72 34 *e*P **P 12 59 25.7 -0.3**
comp=Z,14nm,0.4s,mb5.1
DZM Mont Dzumac 71.07 114 P **P 12 59 27.9 -0.2**
comp=Z,8.6nm,0.9s,mb4.6,baz=119,slow=23,SNR=3.9
LSZ Lusaka 71.25 253 *e*P **P 12 59 28.7 -0.5**
comp=Z,29nm,1.5s,mb4.9
LSZ *ep*P pP 12 59 47.9 +0.7
MOS Moscow 71.65 329 *e*P **P 12 59 29.6 -2.0**
MOS *e* pP 12 59 47.9 -1.7
MOS *e* 13 08 43.1
MOS pmax pmax
comp=Z,97nm,0.8s,mb5.7
MOS Moscow 71.65 329 *e*P **P 12 59 29.6 -2.0**
comp=Z,97nm,0.8s,mb5.7
MOS *e* pP 12 59 47.9 -1.7
MOS *e* 13 08 43.1
TIXI Tiksi 71.79 10⇑*i*P **P 12 59 30.8 -1.6**
TIXI pmax pmax
comp=Z,22nm,1.9s,mb4.7
TIXI Tiksi 71.79 10⇑*i*P **P 12 59 30.8 -1.6**
comp=Z,22nm,1.9s,mb4.7
OBN Obninsk 71.96 328 *de*P **P 12 59 32.7 -0.8**
OBN *e* pP 12 59 50.0 -1.4
OBN pmax pmax
comp=Z,101nm,2.0s,mb5.3
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 71.96 328 *e*P **P 12 59 32.7 -0.8**
comp=Z,101nm,2.0s,mb5.3
OBN *e* pP 12 59 50.0 -1.4
OBN LR LR
comp=Z,100nm,19.0s
SEY Seymchan 72.27 23 *e*P **P 12 59 35.0 -0.3**
KLMR Klimovskoe 72.95 334 P **P 12 59 37.8 -1.5**
KLMR pmax pmax
comp=Z,61nm,1.5s,mb5.2
TIRR Tirgusor 73.77 316 ⇓P **P 12 59 44.1 -0.1**
TIRR Tirgusor 73.77 316⇓*i*P **P 12 59 44.0 -0.2**
MAW Mawson 74.14 193 P **P 12 59 45.8 -0.5**
comp=Z,9.8nm,0.9s,mb4.5,baz=24,slow=5.4,SNR=14
MAW Mawson 74.14 193 *e*P **P 12 59 46.6 +0.2**
AKASG Malin Array Be 74.74 322 P **P 12 59 48.6 -1.2**
comp=Z,14nm,0.7s,mb4.8,baz=89,slow=4.6,SNR=58
AKASG LR LR 13 40 11.5
comp=Z,22nm,18.2s,baz=350,slow=42
AKASG Malin Array Be 74.74 322 P **P 12 59 48.6 -1.2**
AKASG LR LR 13 40 11.5
AKBB Malin Array Si 74.74 322 *e*P **P 12 59 48.5 -1.3**
AKBB *e* pP 13 00 05.2 -2.7
KIEV Kiev 74.75 322 *e*P **P 12 59 48.6 -1.2**
comp=Z,12nm,0.6s,mb4.8
KIEV *e* pP 13 00 05.2 -2.7
LBTB Lobatse 75.18 243⇓*i*P **P 12 59 53.0 +0.7**
comp=Z,67nm,1.4s,mb5.2
LBTB *ep*P pP 13 00 11.0 +0.5
VRI Vrincioaia 75.23 317⇑*i*P **P 12 59 53.5 +0.8**
MLR Muntele Rosu 75.69 316⇑*i*P **P 12 59 55.7 +0.4**
BOSA Boshof 76.12 240 P **P 12 59 58.5 +0.8**
comp=Z,26nm,0.8s,mb5.0,baz=89,slow=5.6,SNR=50
BOSA Boshof 76.12 240⇓*e*P **P 12 59 58.3 +0.6**
comp=Z,26nm,0.8s,mb5.0
BOSA *ep*P pP 13 00 15.9 +0.1
VOIR 76.30 316⇑*i*P **P 12 59 58.5 -0.3**
BURAR Bucovina Array 76.60 318⇓*i*P **P 13 00 01.5 +1.1**
VTS Vitosha 77.14 313⇑*i*P **P 13 00 03.5 0.0**
JOF Joensuu 77.33 334 *ep* **P 13 00 03.1 -1.5**
comp=Z,19nm,0.8s,mb4.9
JOF Joensuu 77.33 334 *e*P **P 13 00 03.1 -1.5**
JOF pmax pmax
comp=Z,19nm,0.8s,mb4.9
LVZ Lovozero 77.91 340 P **P 13 00 07.1 -0.7**
DRGR 78.14 317 ⇓P **P 13 00 10.0 +1.0**
DRGR 78.14 317⇓*i*P **P 13 00 09.9 +0.9**
KWP Kalwaria 78.60 320 *e*P **P 13 00 11.9 +0.3**
UZH Uzhgorod 78.71 319 *e*P **P 13 00 13.0 +0.8**
BZS Buzias 78.71 316⇓*i*P **P 13 00 12.7 +0.5**
KOLS Kolonicke sedl 78.77 319 *e*P **P 13 00 13.4 +0.9**
SUW Suwalki 79.09 325 *e*P **P 13 00 13.6 -0.7**
FIA1 FINESS Array S 79.24 332 *e*P **P 13 00 14.0 -1.1**
FIA1 *ep*P pP 13 00 30.4 -2.9
FINES FINESS Array B 79.24 332 P **P 13 00 14.6 -0.5**
comp=Z,10.0nm,0.6s,mb4.8,baz=99,slow=6.6,SNR=38
FINES FINESS Array B 79.24 332 P **P 13 00 14.6 -0.5**
CRVS Cervenica-Dubn 79.29 319 *e*P **P 13 00 16.1 +0.7**
KAF Kangasniemi 79.31 333 *ep* **P 13 00 14.5 -0.9**
comp=Z,29nm,0.7s,mb5.2,baz=102,slow=5.1
KAF Kangasniemi 79.31 333 *e*P **P 13 00 14.5 -0.9**
KAF pmax pmax
comp=Z,29nm,0.7s,mb5.2
STHS Stebnicka Huta 79.51 320 *e*P **P 13 00 17.9 +1.3**
STHS *e* pP 13 00 35.2 +0.4
STHS pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
STHS Stebnicka Huta 79.51 320 *e*P **P 13 00 17.9 +1.3**
comp=Z,9.7nm,0.9s,mb4.6
STHS *e* pP 13 00 35.2 +0.4
DIVS Divcibare 79.67 314⇑*i*P **P 13 00 16.6 -0.8**
BILL Bilibino 79.68 21 P **P 13 00 17.0 -0.5**
BILL *e* 13 00 24.2
BILL MLR MLR
comp=Z,100nm,15.0s
KECS Kecovo 79.87 319 *e*P **P 13 00 18.8 +0.3**
KECS *e* pP 13 00 36.4 -0.4
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
KECS Kecovo 79.87 319 *e*P **P 13 00 18.8 +0.3**
comp=Z,4.0nm,0.8s,mb4.3
KECS *e* pP 13 00 36.4 -0.4
PSZ Piszkesteto 80.19 318⇑*i*P **P 13 00 20.6 +0.4**
SUR Sutherland 80.54 237⇓*e*P **P 13 00 23.9 +1.8**
SUR *ep*P pP 13 00 38.7 -1.7
VYHS Vyhne 80.96 319 *e*P **P 13 00 24.2 -0.2**
VYHS *e* pP 13 00 41.0 -1.7
VYHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
VYHS Vyhne 80.96 319 *e*P **P 13 00 24.2 -0.2**

comp=Z,4.1nm,1.0s,mb4.2
VYHS *e* pP 13 00 41.0 -1.7
SYO Syowa Base 81.47 198⇑*e*P **P 13 00 26.0 -1.1**
OKC Ostrava-Krasne 81.56 320 *e*P **P 13 00 27.9 +0.4**
OKC *ep*P pP 13 00 45.7 -0.1
ARCES ARCESS Array B 81.60 340 P **P 13 00 26.3 -1.4**
comp=Z,5.2nm,0.5s,mb4.6,baz=96,slow=5.0,SNR=49
ARCES ARCESS Array B 81.60 340 P **P 13 00 26.3 -1.4**
TSUM Tsumeb 81.78 250 *e*P **P 13 00 29.9 +1.3**
TSUM *ep*P pP 13 00 48.6 +1.6
MORC Moravsky Berou 81.94 320⇓*i*P **P 13 00 29.9 +0.4**
ZST Bratislava 82.08 318 *e*P **P 13 00 30.4 +0.1**
ZST pmax pmax
comp=Z,18nm,0.9s,mb4.9
ZST Bratislava 82.08 318 *e*P **P 13 00 30.4 +0.1**
comp=Z,18nm,0.9s,mb4.9
KOGS Kog 82.52 316 *i* P **P 13 00 32.9 +0.3**
KOGS *ep*P pP 13 00 50.9 0.0
DPC Dobruska-Polom 82.78 320 *e*P **P 13 00 34.5 +0.6**
DPC *ep*P pP 13 00 52.6 +0.3
KSP Ksiaz 82.84 321 *e*P **P 13 00 34.6 +0.4**
KSP Ksiaz 82.84 321 *e*P **P 13 00 34.5 +0.3**
KSP *ep*P pP 13 00 52.6 0.0
UPC Upice 82.99 320 *e*P **P 13 00 35.6 +0.6**
UPC *ep*P pP 13 00 53.2 -0.2
BOJS Bojanci 83.15 315 *e*P **P 13 00 35.8 0.0**
BOJS *ep*P pP 13 00 54.6 +0.4
PERS Pernice 83.31 316 *e*P **P 13 00 36.9 +0.3**
LJU Ljubljana 83.69 316 *i* P **P 13 00 39.0 +0.5**
LJU *i* pP pP 13 00 57.1 +0.1
PRU Pruhonice 83.89 320 *e*P **P 13 00 40.0 +0.4**
PRU *ep*P pP 13 00 58.1 +0.1
BRG Berggiesshubel 84.33 321 *e*P **P 13 00 42.2 +0.4**
comp=Z,5.1nm,1.0s,mb4.3
BRG *e* pP 13 01 00.1 -0.1
comp=Z,4.5nm,0.8s
BRG Berggiesshubel 84.33 321 *e*P **P 13 00 42.2 +0.4**
BRG *e* pP 13 01 00.1 -0.1
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
GEC2 GERESS Array S 84.38 319 *e*P **P 13 00 42.4 +0.3**
comp=Z,18nm,1.1s,mb4.8
GEC2 GERESS Array S 84.38 319 *e*P **P 13 00 42.4 +0.3**
GEC2 pmax pmax
comp=Z,18nm,1.1s,mb4.8
GERES GERESS Array B 84.38 319 P **P 13 00 42.5 +0.4**
comp=Z,6.6nm,0.9s,mb4.5,baz=101,slow=6.9,SNR=27
GERES GERESS Array B 84.38 319 P **P 13 00 42.5 +0.4**
KHC Kasperske Hory 84.48 319 *e*P **P 13 00 42.9 +0.3**
KHC *ep*P pP 13 01 00.4 -0.6
FBE Freiberg 84.70 321 *e*P **P 13 00 44.2 +0.5**
comp=Z,20nm,1.3s,mb4.9
CLL Collm 84.94 321 *e*P **P 13 00 44.5 -0.4**
comp=Z,7.0nm,0.8s,mb4.6
CLL Collm 84.94 321⇓*i*P **P 13 00 44.5 -0.4**
CLL *i* 13 00 51.3
CLL *i* pP 13 01 02.8 -0.5
CLL pmax pmax
comp=Z,14nm,1.1s,mb4.8
CLL Collm 84.94 321⇓*i*P **P 13 00 44.5 -0.4**
comp=Z,11nm,1.1s,mb4.7
CLL *i* pP pP 13 01 02.8 -0.5
TANN Tannenbergstha 85.25 320 *e*P **P 13 00 46.6 +0.1**
comp=Z,8.0nm,1.2s,mb4.5
NKC Novy Kostel 85.25 320 *e*P **P 13 00 41.7 -4.8**
WERN Wernitzgruen 85.30 320 *e*P **P 13 00 47.2 +0.5**
comp=Z,19nm,1.5s,mb4.8
GUNZ Gunzen 85.33 320 *e*P **P 13 00 47.2 +0.3**
comp=Z,9.0nm,1.1s,mb4.6
WERD Werda 85.35 320 *e*P **P 13 00 47.1 +0.1**
comp=Z,8.0nm,1.2s,mb4.5
ROTZ Rotzenmuhle 85.39 320 *e*P **P 13 00 47.4 +0.2**
comp=Z,7.0nm,0.8s,mb4.6
MANZ Manzenberg 85.46 320 *e*P **P 13 00 48.3 +0.8**
comp=Z,14nm,1.0s,mb4.8
WTTA Wattenberg 85.72 317⇓*i* pP 13 01 06.8 -0.4
comp=Z,21nm,1.4s
WTTA Wattenberg 85.72 317⇑*i*P **P 13 00 48.6 -0.2**
comp=Z,12nm,0.7s,mb4.9
WTTA ⇓*i*pP pP 13 01 06.8 -0.4
comp=Z,21nm,1.4s
MOX Moxa 85.80 320 *e*P **P 13 00 49.3 +0.1**
comp=Z,13nm,1.6s,mb4.6
MOX Moxa 85.80 320 *e*P **P 13 00 49.5 +0.3**
SQTA Sankt Quirin 86.01 317⇑*i* pP 13 01 08.1 -0.6
comp=Z,6.4nm,0.7s
SQTA Sankt Quirin 86.01 317⇑*i*P **P 13 00 50.1 -0.1**
comp=Z,10.0nm,0.7s,mb4.9
SQTA ⇑*i*pP pP 13 01 08.1 -0.6
comp=Z,6.4nm,0.7s
GRA1 Grafenberg Arr 86.03 319 *e*P **P 13 00 50.8 +0.4**
comp=Z,13nm,0.9s,mb4.9
GRA1 *ep*P pP 13 01 08.7 -0.1
GRF Grafenberg Arr 86.03 319 *e*P **P 13 00 50.8 +0.4**
comp=Z,13nm,0.9s,mb4.9
GRF *ep*P pP 13 01 08.7 -0.1
GRF Grafenberg Arr 86.03 319 *e*P **P 13 00 50.8 +0.4**
GRF *e**PP pP 13 01 08.7 -0.1
GRF pmax pmax
comp=Z,13nm,0.9s,mb4.9
MOTA Moosalm 86.08 317⇑*i* pP 13 01 09.0 -0.1
comp=Z,15nm,0.9s
MOTA Moosalm 86.08 317⇑*i*P **P 13 00 50.3 -0.3**
comp=Z,13nm,0.8s,mb4.9
MOTA ⇓*i*pP pP 13 01 08.3 -0.8
comp=Z,15nm,0.9s
MOTA Moosalm 86.08 317⇑*i*P **P 13 00 50.3 -0.3**
comp=Z,13nm,0.8s,mb4.9
NB2 NORSAR Subarra 86.28 331 P **P 13 00 50.9 -0.7**
comp=Z,16nm,0.8s,mb5.0,baz=95,slow=4.6
NOA NORSAR Array B 86.28 331 P **P 13 00 50.9 -0.6**
comp=Z,13nm,0.8s,mb4.9,baz=93,slow=4.9,SNR=27
NOA PP PP 13 04 11.9 -1.2
comp=Z,1.9nm,0.9s,baz=111,slow=7.4,SNR=2.4
NOA NORSAR Array B 86.28 331 P **P 13 00 50.9 -0.6**
NOA PP PP 13 04 11.9 -1.2
CLZ Clausthal 86.59 322 *e*P **P 13 00 53.5 +0.4**
comp=Z,14nm,1.0s,mb4.8
CLZ Clausthal 86.59 322 *e*P **P 13 00 53.5 +0.4**
CLZ pmax pmax
comp=Z,14nm,1.0s,mb4.8
BSEG Bad Segeberg 86.64 324 *e*P **P 13 00 53.7 +0.4**
comp=Z,23nm,1.1s,mb5.0
BSEG Bad Segeberg 86.64 324 *e*P **P 13 00 53.7 +0.4**
BSEG pmax pmax
comp=Z,23nm,1.1s,mb5.0
DAVA Damuels 86.91 317⇑*i* pP 13 01 14.0 +0.8
comp=Z,22nm,1.2s
DAVA Damuels 86.91 317⇓*i*PcP PcP 13 00 55.4 -1.5
comp=Z,30nm,1.1s
DAVA ⇓*i*pP pP 13 01 13.5 +0.4
comp=Z,22nm,1.2s
DAVA Damuels 86.91 317⇓*i*P **P 13 00 55.4 +0.7**
comp=Z,30nm,1.1s,mb5.1
VNDA Vanda 86.92 169 P **P 13 00 54.5 -0.2**
comp=Z,5.7nm,0.7s,mb4.6,baz=297,slow=5.1,SNR=27
VNDA Vanda 86.92 169 *e*P **P 13 00 54.1 -0.6**
comp=Z,4.0nm,0.6s,mb4.5
KONO Kongsberg 87.06 329 *e*P **P 13 00 54.5 -0.9**
KONO Kongsberg 87.06 329 *e*P **P 13 00 54.0 -1.4**
comp=Z,20nm,0.7s,mb5.1
KONO *ep*P pP 13 01 13.0 -0.9
KEST Kesra 87.47 305 P **P 13 00 58.4 +1.0**
comp=Z,8.6nm,0.9s,mb4.7,baz=166,slow=0.6,SNR=14
TNS Taunus Mts 87.82 320 *e*P **P 13 00 59.0 0.0**
comp=Z,14nm,1.2s,mb4.9
TNS Taunus Mts 87.82 320 *e*P **P 13 00 59.0 0.0**
TNS pmax pmax
comp=Z,14nm,1.2s,mb4.9
BFO Black Forest 87.94 318 *e*P **P 13 00 59.4 -0.2**
comp=Z,10.0nm,1.0s,mb4.8
BFO Black Forest 87.94 318 *e*P **P 13 00 59.4 -0.2**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
IBBN Ibbenburen 88.20 322 *e*P **P 13 01 01.6 +0.8**
comp=Z,39nm,1.0s,mb5.4
BUG Bochum--Univer 88.53 321 *e*P **P 13 01 03.1 +0.7**
comp=Z,32nm,0.9s,mb5.3
CDF Champ du Feu 88.64 318 *e*P **P 13 01 02.4 -0.5**
comp=Z,5.4nm,0.6s,mb4.5
CDF Champ du Feu 88.64 318 *e*P **P 13 01 02.4 -0.5**
comp=Z,2.7nm,0.6s,mb4.5
SBF Sospel 88.71 314 *e*P **P 13 01 02.8 -0.4**
comp=Z,77nm,1.0s,mb5.4
SBF Sospel 88.71 314 *e*P **P 13 01 02.8 -0.4**
comp=Z,38nm,1.0s,mb5.4

LPG	**La Plagne**	**89.12**	**315**	*eP*	**P**	**13 01 05.1**	**-0.1**
	comp=Z,45nm,1.1s,mb5.1						
LPG	**La Plagne**	**89.12**	**315**	*eP*	**P**	**13 01 05.1**	**-0.1**
	comp=Z,22nm,1.1s,mb5.1						
LPL	**La Plagne**	**89.14**	**315**	*eP*	**P**	**13 01 05.2**	**0.0**
	comp=Z,34nm,1.0s,mb5.0						
LPL				*ep*P	pP	13 01 24.3	+0.5
LPL	**La Plagne**	**89.14**	**315**	*eP*	**P**	**13 01 05.2**	**0.0**
	comp=Z,17nm,1.0s,mb5.0						
LPL				*ep*P	pP	13 01 24.3	+0.5
MBDF	**Montbardon**	**89.15**	**315**	*eP*	**P**	**13 01 04.5**	**-0.8**
MBDF				*ep*P	pP	13 01 23.5	-0.3
HAU	**Haudompre**	**89.28**	**318**	*eP*	**P**	**13 01 05.3**	**-0.6**
	comp=Z,46nm,1.0s,mb5.1						
HAU				*ep*P	pP	13 01 24.5	0.0
HAU				*e*MLR			
	comp=Z,40nm,22.0s						
HAU	**Haudompre**	**89.28**	**318**	*eP*	**P**	**13 01 05.3**	**-0.6**
	comp=Z,23nm,1.0s,mb5.2						
HAU				*ep*P	pP	13 01 24.5	0.0
HAU				LR	LR		
	comp=Z,40nm,22.0s						
WLF	**Walferdange**	**89.32**	**319**	P	**P**	**13 01 06.2**	**+0.1**
WLF				AP	pP	13 01 25.5	+0.8
MEM	**Membach**	**89.37**	**320**	P	**P**	**13 01 06.7**	**+0.4**
	comp=Z,9.2nm,1.1s,mb4.7						
MEM				AP	pP	13 01 24.8	0.0
CABF	**La Chapelle**	**89.53**	**316**	*eP*	**P**	**13 01 07.0**	**-0.1**
	comp=Z,39nm,1.1s,mb5.1						
CABF				*ep*P	pP	13 01 26.0	+0.4
CABF	**La Chapelle**	**89.53**	**316**	*eP*	**P**	**13 01 07.0**	**-0.1**
	comp=Z,20nm,1.1s,mb5.2						
CABF				*ep*P	pP	13 01 26.0	+0.4
ORIF	**Oris-en-Rattie**	**89.77**	**315**	*eP*	**P**	**13 01 07.0**	**-1.2**
	comp=Z,43nm,1.2s,mb5.2						
ORIF				*e*MLR			
	comp=Z,60nm,20.8s						
ORIF	**Oris-en-Rattie**	**89.77**	**315**	*eP*	**P**	**13 01 07.0**	**-1.2**
	comp=Z,21nm,1.2s,mb5.2						
BCLA	**Clavier**	**89.83**	**320**	P	**P**	**13 01 09.0**	**+0.6**
	comp=Z,7.1nm,1.1s,mb4.7						
BCLA				AP	pP	13 01 27.8	+0.8
GIVF	**Givet**	**90.16**	**320**	*eP*	**P**	**13 01 09.7**	**-0.3**
	comp=Z,25nm,0.9s,mb5.1						
GIVF	**Givet**	**90.16**	**320**	*eP*	**P**	**13 01 09.7**	**-0.3**
	comp=Z,13nm,0.9s,mb5.0						
DOU	**Dourbes**	**90.30**	**320**	P	**P**	**13 01 11.0**	**+0.3**
	comp=Z,10nm,1.5s,mb4.7						
DOU				AP	pP	13 01 29.4	+0.1
DOU				XP	sP	13 01 37.8	+1.3
SNF	**Seneffe**	**90.47**	**320**	P	**P**	**13 01 12.2**	**+0.7**
	comp=Z,12nm,1.5s,mb4.8						
SNF				AP	pP	13 01 30.4	+0.4
BAIF	**Baives**	**90.55**	**320**	*eP*	**P**	**13 01 11.9**	**0.0**
	comp=Z,50nm,0.9s,mb5.3						
BAIF				*ep*P	pP	13 01 31.0	+0.6
BAIF	**Baives**	**90.55**	**320**	*eP*	**P**	**13 01 11.9**	**0.0**
	comp=Z,25nm,0.9s,mb5.3						
BAIF				*ep*P	pP	13 01 31.0	+0.6
VIVF	**Saint-Julien-l**	**90.63**	**315**	*eP*	**P**	**13 01 12.0**	**-0.2**
	comp=Z,31nm,1.0s,mb5.1						
VIVF				*ep*P	pP	13 01 31.2	+0.4
VIVF	**Saint-Julien-l**	**90.63**	**315**	*eP*	**P**	**13 01 12.0**	**-0.2**
	comp=Z,16nm,1.0s,mb5.1						
VIVF				*ep*P	pP	13 01 31.2	+0.4
LOR	**Lormes**	**91.01**	**317**	*eP*	**P**	**13 01 13.7**	**-0.3**
	comp=Z,38nm,0.9s,mb5.2						
LOR				*ep*P	pP	13 01 32.9	+0.4
LOR				*e*MLR			
	comp=Z,46nm,18.5s						
LOR	**Lormes**	**91.01**	**317**	*eP*	**P**	**13 01 13.7**	**-0.3**
	comp=Z,19nm,0.9s,mb5.2						
LOR				*ep*P	pP	13 01 32.9	+0.4
LOR				LR	LR		
	comp=Z,50nm,18.5s						
SMF	**Signal de Mont**	**91.07**	**317**	*eP*	**P**	**13 01 13.9**	**-0.4**
	comp=Z,39nm,1.0s,mb5.2						
SMF				*ep*P	pP	13 01 33.0	+0.2
SMF	**Signal de Mont**	**91.07**	**317**	*eP*	**P**	**13 01 13.9**	**-0.4**
	comp=Z,20nm,1.0s,mb5.2						
SMF				*ep*P	pP	13 01 33.0	+0.2
SSF	**Saint Saulge**	**91.27**	**317**	*eP*	**P**	**13 01 14.8**	**-0.4**
LASF	**Ste Croix**	**91.27**	**314**	*eP*	**P**	**13 01 15.3**	**+0.1**
AVF	**Avril sur Loir**	**91.39**	**317**	*eP*	**P**	**13 01 15.4**	**-0.4**
	comp=Z,38nm,1.0s,mb5.2						
AVF				*ep*P	pP	13 01 34.6	+0.3
AVF	**Avril sur Loir**	**91.39**	**317**	*eP*	**P**	**13 01 15.4**	**-0.4**
	comp=Z,19nm,1.0s,mb5.2						
AVF				*ep*P	pP	13 01 34.6	+0.3
BGF	**Bois d'Agland**	**91.76**	**317**	*eP*	**P**	**13 01 17.6**	**+0.1**
	comp=Z,32nm,0.8s,mb5.3						
BGF				*ep*P	pP	13 01 36.8	+0.8
BGF	**Bois d'Agland**	**91.76**	**317**	*eP*	**P**	**13 01 17.6**	**+0.1**
	comp=Z,16nm,0.8s,mb5.3						
BGF				*ep*P	pP	13 01 36.8	+0.8
TCF	**Toulx Ste Croi**	**92.23**	**316**	*eP*	**P**	**13 01 19.7**	**+0.1**
TCF				*ep*P	pP	13 01 38.9	+0.7
CAF	**Calviac**	**92.47**	**315**	*eP*	**P**	**13 01 21.0**	**+0.3**
CAF				*ep*P	pP	13 01 40.2	+0.9
MTLF	**Montolieu**	**92.52**	**313**	*eP*	**P**	**13 01 21.0**	**0.0**
	comp=Z,15nm,0.9s,mb5.0						
MTLF				*ep*P	pP	13 01 40.4	+0.8
MTLF	**Montolieu**	**92.52**	**313**	*eP*	**P**	**13 01 21.0**	**0.0**
	comp=Z,7.6nm,0.9s,mb5.0						
MTLF				*ep*P	pP	13 01 40.4	+0.8
RJF	**Les Rejaudoux**	**92.82**	**315**	*eP*	**P**	**13 01 22.6**	**+0.3**
RJF				*e*MLR			
	comp=Z,64nm,20.7s						
RJF	**Les Rejaudoux**	**92.82**	**315**	*eP*	**P**	**13 01 22.6**	**+0.3**
RJF				LR	LR		
	comp=Z,60nm,20.7s						
DAG	**Danmarks Havn**	**93.51**	**348**	‖*iP*	**P**	**13 01 24.3**	**-1.2**
	comp=Z,6.0nm,0.8s,mb5.0						
DAG	**Danmarks Havn**	**93.51**	**348**	‖*eP*	**P**	**13 01 24.3**	**-1.2**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
FLN	**La Foliniere**	**93.74**	**319**	*eP*	**P**	**13 01 26.0**	**-0.6**
	comp=Z,16nm,0.8s,mb5.1						
FLN				*e*MLR			
	comp=Z,25nm,20.2s						
FLN	**La Foliniere**	**93.74**	**319**	*eP*	**P**	**13 01 26.0**	**-0.6**
	comp=Z,7.9nm,0.8s,mb5.1						
FLN				LR	LR		
	comp=Z,20nm,20.3s						
MFF	**Saint Martin d**	**93.81**	**317**	*eP*	**P**	**13 01 26.6**	**-0.3**
IMA2	**Indian Mountai**	**95.08**	**23**	*eP*	**P**	**13 01 32.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**95.58**	**283**	P	**P**	**13 01 35.0**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.5,baz=90,slow=5.6,SNR=11						
TORD				PP	PP	13 05 27.7	+1.0
	comp=Z,0.8nm,0.9s,baz=74,slow=7.8,SNR=4.5						
TORD				PKKPbc	PKKPbc	13 18 26.2	+0.7
	comp=Z,1.4nm,0.7s,baz=292,slow=2.9,SNR=8.4						
TORD	**Torodi Ar. Bea**	**95.58**	**283**	P	**P**	**13 01 35.0**	**-0.1**
TORD				PP	PP	13 05 27.7	+1.0
TORD				PKKPbc	PKKPbc	13 18 26.2	+0.7
SNAA	**Sanae**	**95.76**	**198**	P	**P**	**13 01 34.6**	**-1.2**
INK	**Inuvik**	**101.02**	**17**	P	Pdif	13 01 58.3	-1.1
	comp=Z,1.0nm,0.9s,baz=180,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**110.64**	**16**	PP	PP	13 07 15.6	-3.7
	comp=Z,0.4nm,0.8s,baz=337,slow=7.9,SNR=3.9						
YKA				PKKPbc	PKKPbc	13 17 37.8	-3.1
	comp=Z,0.8nm,0.7s,baz=146,slow=3.0,SNR=14						
YKA	**Yellowknife Ar**	**110.64**	**16**	P	PKiKP	13 06 38.9	-3.2
	comp=Z,0.3nm,0.6s,baz=355,slow=2.7,SNR=8.5						
YKA	**Yellowknife Ar**	**110.64**	**16**	P	PKiKP	13 06 38.9	-3.2
EDM	**Edmonton**	**118.59**	**21**	*eP*	PKPdf	13 06 56.1	-1.2
SCHQ	**Schefferville**	**121.52**	**350**	PKP	PKPdf	13 07 01.8	-1.2
	comp=Z,4.7nm,0.9s,baz=284,slow=2.3,SNR=5.2						
MCMT	**McKenzie Canyo**	**125.45**	**27**	*eP*	PKPdf	13 07 10.8	+0.3
QLMT	**Earthquake Lak**	**126.07**	**26**	*eP*	PKPdf	13 07 12.5	+0.8
ULM	**Lac du Bonnet**	**126.13**	**11**	PKP	PKPdf	13 07 11.0	-0.8
	comp=Z,7.5nm,0.7s,baz=346,slow=2.1,SNR=21						
ULM	**Lac du Bonnet**	**126.13**	**11**	PKP	PKPdf	13 07 11.0	-0.8
LAO	**LASA Array**	**126.58**	**21**	*eP*	PKPdf	13 07 13.3	+0.6
LAO				*ep*P		13 07 32.0	
NVAR	**Mina Array Bea**	**127.27**	**36**	PKP	PKPdf	13 07 15.2	+1.2
	comp=Z,3.5nm,0.8s,baz=285,slow=1.8						
SNOW	**Snow King Moun**	**127.46**	**26**	*eP*	PKPdf	13 07 15.4	+1.0
PDAR	**Pinedale Array**	**128.54**	**26**	PKP	PKPdf	13 07 16.9	+0.5
	comp=Z,2.3nm,0.8s,baz=198,slow=1.4,SNR=20						
RSSD	**Black Hills**	**129.57**	**21**	*e*PKPdf	PKPdf	13 07 18.3	-0.1
RSSD				*ep*PKPdf	pPKPdf	13 07 35.8	-1.8
DAU	**Daniels Canyon**	**129.62**	**29**	*eP*	PKPdf	13 07 20.0	+1.5
MSU	**Marysvale**	**130.60**	**31**	*e*PKPdf	PKPdf	13 07 22.0	+1.7
SRU	**San Rafael**	**130.98**	**29**	*e*PKPdf	PKPdf	13 07 22.3	+1.3
PV10	**Paradox Valley**	**132.28**	**29**	*e*PKPdf	PKPdf	13 07 24.2	+0.8
PV10				*ep*PKPdf	pPKPdf	13 07 45.2	+2.4
PV10				*e*SKP		13 10 44.4	
WVT	**Waverly**	**141.20**	**8**	*e*PKPpre		13 07 35.1	
MIAR	**Mount Ida**	**141.59**	**15**	*e*PKPpre		13 07 34.8	
LTX	**Lajitas**	**142.16**	**32**	*e*PKPpre		13 07 38.2	
TXAR	**Lajitas Array**	**142.16**	**32**	PKhKP		13 07 37.6	
	comp=Z,3.6nm,0.9s,baz=267,slow=1.2,SNR=22						
TXAR				SKPbc	SKPbc	13 11 10.5	-3.0
	comp=Z,1.0nm,0.9s,baz=328,slow=4.4,SNR=3.6						
TXAR	**Lajitas Array**	**142.16**	**32**	PKP	PKPdf	13 07 37.6	-4.1
TXAR				SKPbc	SKPbc	13 11 10.5	-3.0
PLAL	**Pickwick Lake**	**142.29**	**8**	*e*PKPpre		13 07 37.9	
PLAL				*e*PP	PP	13 10 33.3	-16
JCT	**Junction City**	**143.07**	**26**	*e*PKPpre		13 07 39.9	
JCT				*e*PKPdf	PKPdf	13 07 43.9	+0.6
GOGA	**Godfrey**	**144.27**	**2**	*e*PKPdf	PKPdf	13 07 44.1	-1.3
LRAL	**Lakeview Retre**	**144.35**	**7**	*e*PKPdf	PKPdf	13 07 43.1	-2.5
BRAL	**Brewton**	**146.34**	**8**	*e*PKPdf	PKPdf	13 07 50.5	+1.5
LCO	**Las Campanas**	**151.52**	**201**	*e*PKPbc	PKPbc	13 08 04.0	+0.5
LPAZ	**La Paz**	**160.66**	**224**	PKP	PKPdf	13 08 11.0	+1.7
	comp=Z,3.4nm,0.8s,baz=30,slow=1.5,SNR=14						
LPAZ				PKPab	PKPab	13 08 53.5	+2.2
	comp=Z,2.8nm,0.7s,baz=111,slow=5.9,SNR=7.1						
LPAZ	**La Paz**	**160.66**	**224**	*e*PKPdf	PKPdf	13 08 11.0	+1.7
LPAZ				*e*PKPab	PKPab	13 08 53.0	+1.7

*ISCJB **19** 12:48:26.2±0.5, 28N±0.1×980E±0.1, h10km, mb4.8/20, Error ellipse: s-maj=16.6km s-min=13.5km az=95.1*
*IDC **19** 12:48:26.1±0.6, 275N×9802E, h0km, mb4.9/19, mb1 4.9/19, mb1mx4.9/22, mbtmp4.8/19, Error ellipse: s-maj=21.2km s-min=16.0km az=60.0*

ISC 19 12:48:28.5±6.9, 28N±01×980E±01, h12km±42km, n25, σ0§86/22, mb4.8/20, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRD	**Trivandrum**	**21.69**	**286**‖	*eP*	**P**	**12 53 18.4**	**-0.8**
TRD				*eS*	**S**	**12 57 18.4**	**-0.6**
WRA	**Warramunga Arr**	**42.23**	**124**	P	**P**	**12 56 20.5**	**-0.8**
	14nm,0.7s,mb4.7,baz=305,slow=9.0,SNR=4.8						
WRA				PcP	PcP	12 58 13.5	-1.8
	6.3nm,1.0s,baz=307,slow=2.5,SNR=4.4						
ASAR	**Alice Springs**	**43.74**	**129**	P	**P**	**12 56 34.4**	**+0.8**
	2.2nm,0.5s,mb4.1,baz=316,slow=7.0,SNR=5.9						
ASAR				PcP	PcP	12 58 18.8	-1.6
	12nm,1.0s,baz=304,slow=3.7,SNR=8.2						
KSRS	**Korea Array**	**44.07**	**35**	P	**P**	**12 56 36.7**	**+0.5**
	6.0nm,1.0s,mb4.3,baz=221,slow=9.4,SNR=7.7						
SONM	**Songino Array**	**45.43**	**8**	P	**P**	**12 56 47.1**	**0.0**
	8.6nm,0.8s,mb4.6,baz=187,slow=8.3,SNR=8.6						
SONM				PcP	PcP	12 58 26.4	+0.3
	5.0nm,0.7s,baz=184,slow=2.7,SNR=4.5						
MKAR	**Makanchi Array**	**45.89**	**345**	P	**P**	**12 56 51.1**	**+0.4**
	13nm,0.7s,mb5.0,baz=156,slow=6.6,SNR=8.8						
ZAL	**Zalesovo**	**52.10**	**350**	P	**P**	**12 57 37.6**	**-0.7**
	14nm,0.5s,mb5.2,baz=304,slow=6.3,SNR=7.6						
BVAR	**Borovoye Array**	**55.01**	**340**	P	**P**	**12 57 59.2**	**-0.5**
	20nm,0.6s,mb5.3,baz=130,slow=10,SNR=5.2						
KMBO	**Kilima Mbogo**	**60.87**	**267**	P	**P**	**12 58 42.7**	**+1.9**
	9.4nm,0.9s,mb4.9,baz=51,slow=8.0,SNR=11						
BRTR	**Keskin Array B**	**68.64**	**312**	P	**P**	**12 59 31.6**	**+0.2**
	14nm,0.9s,mb4.9,baz=122,slow=6.7,SNR=10						
MAW	**Mawson**	**74.46**	**193**	P	**P**	**13 00 05.1**	**-1.5**
	4.6nm,0.8s,mb4.4,baz=1.2,slow=2.9,SNR=4.2						
AKASG	**Malin Array Be**	**74.49**	**322**	P	**P**	**13 00 05.8**	**-0.9**
	12nm,0.6s,mb5.0,baz=88,slow=5.0,SNR=15						
BOSA	**Boshof**	**76.28**	**240**	P	**P**	**13 00 16.7**	**-0.4**
	12nm,0.8s,mb4.9,baz=103,slow=5.2,SNR=7.4						
APA	**Apatity**	**77.91**	**339**‖	*iP*	**P**	**13 00 26.0**	**-0.2**
APA				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
FINES	**FINESS Array B**	**78.96**	**332**	P	**P**	**13 00 31.9**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0,baz=104,slow=6.2,SNR=13						
ARCES	**ARCESS Array B**	**81.30**	**340**	P	**P**	**13 00 43.4**	**-1.2**
	comp=Z,20nm,1.0s,mb5.0,baz=98,slow=6.2,SNR=10						
GERES	**GERESS Array B**	**84.15**	**319**	P	**P**	**13 00 59.9**	**+0.5**
	comp=Z,8.3nm,0.9s,mb4.8,baz=98,slow=5.5,SNR=12						
NOA	**NORSAR Array B**	**86.00**	**331**	P	**P**	**13 01 08.6**	**-0.2**
	comp=Z,10nm,0.7s,mb5.2,baz=91,slow=5.1,SNR=14						
KEST	**Kesra**	**87.29**	**305**	P	**P**	**13 01 16.3**	**+1.2**
	comp=Z,6.5nm,0.8s,mb4.9,baz=142,slow=1.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**95.51**	**283**	P	**P**	**13 01 54.0**	**+0.7**
	comp=Z,3.8nm,1.1s,mb4.8,baz=90,slow=3.5,SNR=11						
ESDC	**Sonseca Array**	**97.41**	**310**	P	**P**	**13 02 03.5**	**+1.6**
	comp=Z,0.3nm,0.3s,mb4.1,baz=33,slow=6.0,SNR=4.1						
ULM	**Lac du Bonnet**	**125.81**	**11**	PKP	PKPdf	13 07 30.3	+0.2
	comp=Z,2.5nm,0.7s,baz=46,slow=4.1,SNR=3.3						
NVAR	**Mina Array Bea**	**127.01**	**36**	PKP	PKPdf	13 07 34.2	+1.9
	comp=Z,1.7nm,0.7s,baz=297,slow=2.0,SNR=2.8						
PDAR	**Pinedale Array**	**128.25**	**26**	PKP	PKPdf	13 07 36.7	+2.0
	comp=Z,1.0nm,0.9s,baz=141,slow=0.9,SNR=3.9						
TXAR	**Lajitas Array**	**141.88**	**32**	PKhKP		13 07 56.4	
	comp=Z,2.2nm,0.8s,baz=319,slow=0.5,SNR=5.4						

*NIED **19** 12:56:00, 3730N×142.10E, h20km, Mw3.6 Best double couple: M0 2.97000×10^14 NP1:φs 312.00000°, δ79.00000°, λ44.00000°. NP2:φs 212.00000°, δ47.00000°, λ165.00000°.*
*ISCJB **19** 12:56:04.0±0.9, 3726N±004×142.19E±007, h35km, mb3.7/3, Error ellipse: s-maj=8.3km s-min=5.7km az=156.5*
*JMA **19** 12:56:04.2±0.2, 3730N×142.12E, h32km, M3.7*
*IDC **19** 12:56:14.9±3.4, 3680N×141143E, h85km±30km, mb3.3/4, mb1 3.5/6, mb1mx3.4/23, mbtmp3.4/6, MS2.5/1, Ms1 2.5/1, ms1mx1.9/16, Error ellipse: s-maj=40.3km s-min=21.6km az=89.0*

ISC 19 12:56:05.7±0.8, 3729N±004×14213E±008, h35km, n17, σ1§19/27, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.00**	**275**	P	**Pn**	**12 56 22.1**	**-1.1**
JFK				*eS*	**Sn**	**12 56 34.2**	**-1.9**
ONAJ	**Iwakimizuishiy**	**1.08**	**260**	P	**Pn**	**12 56 22.9**	**-1.4**
JMM	**Marumori**	**1.21**	**299**	P	**Pn**	**12 56 25.1**	**-1.0**
JMM				S	**Sn**	**12 56 39.7**	**-1.5**
JIO	**Ouri**	**1.32**	**332**	P	**Pn**	**12 56 26.6**	**-1.0**
JIO				*eS*	**Sn**	**12 56 42.1**	**-1.8**
JFT	**Otama**	**1.44**	**280**	P	**Pn**	**12 56 29.5**	**+0.2**
JFT				S	**Sn**	**12 56 46.9**	**-0.1**
JOU	**Okura**	**1.58**	**313**	P	**Pn**	**12 56 31.6**	**+0.4**
JOU				*eS*	**Sn**	**12 56 50.4**	**0.0**
JYS	**Shiratake**	**1.88**	**300**	P	**Pn**	**12 56 36.1**	**+0.8**
JYS				S	**Sn**	**12 56 59.3**	**+1.5**
JFY	**Yanaizu**	**1.93**	**274**	P	**Pn**	**12 56 36.5**	**+0.4**
JYK	**Kaneyama**	**2.14**	**320**	P	**Pn**	**12 56 39.1**	**+0.2**
JYK				*eS*	**Sn**	**12 57 05.3**	**+1.0**
JOM	**Ohasama**	**2.28**	**344**	P	**Pn**	**12 56 41.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.23**	**258**	P	**Pn**	**12 56 54.9**	**+1.1**
	3.9nm,0.3s,baz=84,slow=15,SNR=18						
MJAR				S	**Sn**	**12 57 34.9**	**+3.9**
	2.4nm,0.3s,baz=25,slow=8.7,SNR=5.8						
MAT	**Matsushiro**	**3.23**	**258**	P	**Pn**	**12 56 55.3**	**+1.4**
MAT				*eS*	**Sn**	**12 57 33.3**	**+2.2**
JHJ	**Hachijo jima 2**	**4.58**	**205**	P	**Pn**	**12 57 12.2**	**-0.2**
	66nm,0.3s,baz=95,slow=5.1,SNR=29						
JHJ				S	**Sn**	**12 58 02.9**	**-1.6**
	31nm,0.3s,baz=116,slow=22,SNR=3.9						
ASAJ	**Asahikawa**	**6.83**	**3**	P	**Pn**	**12 57 49.4**	**+6.0**
	1.0nm,0.3s,baz=162,slow=33,SNR=7.8						
ASAJ				LR	LR	13 00 28.9	
	comp=Z,43nm,22.0s,baz=204,slow=34						
MKAR	**Makanchi Array**	**44.47**	**302**	P	**P**	**13 04 15.2**	**+1.9**
	0.4nm,0.7s,mb3.2,baz=82,slow=8.9,SNR=4.1						
WRA	**Warramunga Arr**	**57.39**	**189**	P	**P**	**13 05 49.5**	**-1.1**
	0.5nm,0.5s,mb3.9,baz=7.7,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**61.12**	**189**	P	**P**	**13 06 17.8**	**+1.5**
	0.5nm,0.6s,mb3.8,baz=12,slow=6.5,SNR=5.3						

CSEM 19 12:56:32.8±0.5, 4293N×624W, h0km, mb3.6/1, Error ellipse: s-maj=5.5km s-min=3.5km az=156.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.77**	**301**	Pg	Pg	12 56 46.6	-1.0
	16nm,0.3s,SNR=49						
EPON				Lg		12 56 58.9	
	15nm,0.4s,SNR=6.2						
EARI	**Arriondas**	**0.84**	**64**	Pg	Pg	12 56 48.5	-0.4
	6.7nm,0.3s,SNR=37						
EARI				Lg		12 56 59.9	
	SNR=7.9						
ERUA	**La Rua**	**0.85**	**231**	Pg	Pg	12 56 48.2	-1.0
	134nm,0.2s,SNR=25						
ERUA				Lg		12 57 01.1	
	16nm,0.3s,SNR=6.3						
ECAL	**Calabor**	**1.05**	**200**	Pg	Pg	12 56 52.8	-0.2
	20nm,0.3s,SNR=26						
ECAL				Lg		12 57 06.5	
	SNR=7.9						
ELOB	**Lobios**	**1.72**	**232**	Pg	Pg	12 57 03.7	-2.0
	3.5nm,0.3s,SNR=9.1						
ELOB				Lg		12 57 26.7	
	SNR=7.9						
EMAZ	**Mazaricos**	**2.01**	**271**	Pn	Pn	12 57 05.6	-2.3
	SNR=7.9						
EMAZ				Lg		12 57 35.8	
	6.1nm,0.3s,SNR=4.8						
ELAN	**Lanestosa**	**2.08**	**81**	Pn	Pn	12 57 06.9	-2.0
	8.8nm,0.6s,SNR=15						
ELAN				Lg		12 57 38.2	
	SNR=7.9						

*ISCJB **19** 13:05:55.0±0.3, 3440N±002×5266E±002, h10km, Error ellipse: s-maj=2.8km s-min=2.4km az=176.1*
*CSEM **19** 13:05:56.5±0.0, 3438N×5265E, h20km, ML4.0, Error ellipse: s-maj=1.2km s-min=0.9km az=70.0*
*THR **19** 13:05:56.1±0.6, 3436N×5254E, h14km±6km, ML4.0*
*TEH **19** 13:05:57.2, 3436N×5263E, h4km, Mn4.1*
*NEIC **19** 13:05:57.0, 3440N×5260E, h4km, MN4.1(TEH), After TEH.*

ISC 19 13:05:56.5±0.3, 3441N±002×5266E±002, h10km, n82, σ1§48/263, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISFB	**Sefidab**	**0.36**	**261**	*eP*g	**Pg**	**13 06 02.7**	**-0.8**
ISFB				*eP*g	**Pg**	**13 06 02.8**	**-0.7**
ISFB				*eP*g	**Pg**	**13 06 02.9**	**-0.6**
ISFB				*eS*g	**Sg**	**13 06 07.9**	**-0.4**
ISFB				*eS*g	**Sg**	**13 06 08.0**	**-0.3**
ISFB	**Sefidab**	**0.36**	**261**	Pg	**Pg**	**13 06 02.7**	**-0.8**
ISFB				Sg	**Sg**	**13 06 07.9**	**-0.4**
ISFB	**Sefidab**	**0.36**	**261**	*eP*g	**Pg**	**13 06 02.9**	**-0.6**
ISFB				*eS*g	**Sg**	**13 06 08.0**	**-0.3**
IVRN	**Varamin**	**0.97**	**308**	*eP*g	**Pg**	**13 06 14.6**	**-0.5**
IVRN				*eP*g	**Pg**	**13 06 14.6**	**-0.5**
IVRN				*eP*g	**Pg**	**13 06 14.6**	**-0.5**
IVRN				*eS*g	**Sg**	**13 06 28.6**	**+0.9**
IVRN				*eS*g	**Sg**	**13 06 29.0**	**+1.3**
IVRN	**Varamin**	**0.97**	**308**	Pg	**Pg**	**13 06 14.5**	**-0.6**
IVRN				Sg	**Sg**	**13 06 28.5**	**+0.8**
IVRN				Sg	**Sg**	**13 06 28.9**	**+1.2**
IVRN	**Varamin**	**0.97**	**308**	*eP*g	**Pg**	**13 06 14.6**	**-0.5**
IVRN				*eS*g	**Sg**	**13 06 28.6**	**+0.9**
ILAS	**Lasjerd**	**1.00**	**14**	*eP*g	**Pg**	**13 06 15.3**	**-0.5**
ILAS				*eP*g	**Pg**	**13 06 15.8**	**0.0**
ILAS				*eP*g	**Pg**	**13 06 15.9**	**+0.1**
ILAS				*eS*g	**Sg**	**13 06 29.4**	**+0.6**
ILAS				*eS*g	**Sg**	**13 06 31.2**	**+2.4**
ILAS	**Lasjerd**	**1.00**	**14**	Pg	**Pg**	**13 06 15.2**	**-0.6**
ILAS				Pg	**Pg**	**13 06 15.7**	**-0.1**
ILAS				Pg	**Pg**	**13 06 15.9**	**+0.1**
ILAS				Sg	**Sg**	**13 06 29.3**	**+0.5**
ILAS				Sg	**Sg**	**13 06 31.2**	**+2.4**
ILAS	**Lasjerd**	**1.00**	**14**	*eP*g	**Pg**	**13 06 15.9**	**+0.1**
ILAS				*eS*g	**Sg**	**13 06 29.4**	**+0.6**
IFIR	**Firoozkooh**	**1.23**	**3**	*eP*g	**Pg**	**13 06 18.9**	**-1.3**
IFIR				*eP*g	**Pg**	**13 06 19.1**	**-1.1**
IFIR				*e

CHTH	**Charan**	**1.96 320**	*e*Pg	**Pg**	**13 06 31.2**	**-2.8**
	SNR=90					
CHTH			*e*Sg	**Sg**	**13 06 57.5**	**-1.8**
	SNR=90					
IMHD	**Mahdasht**	**2.08 308**	*e*Pn	**Pn**	**13 06 32.3**	**+1.0**
IMHD			*e*Pn	**Pn**	**13 06 32.6**	**+1.3**
IMHD			*e*Pn	**Pn**	**13 06 32.7**	**+1.4**
IMHD			*e*Sn	**Sn**	**13 07 00.5**	**+3.3**
IMHD			*e*Sn	**Sn**	**13 07 01.0**	**+3.8**
IMHD	**Mahdasht**	**2.08 308**	Pn	**Pn**	**13 06 32.2**	**+0.9**
IMHD			Pn	**Pn**	**13 06 32.5**	**+1.2**
IMHD			Sn	**Sn**	**13 07 00.5**	**+3.3**
IMHD			Sn	**Sn**	**13 07 00.9**	**+3.7**
IMHD	**Mahdasht**	**2.08 308**	*e*Pn	**Pn**	**13 06 32.6**	**+1.3**
IMHD			*e*Sn	**Sn**	**13 07 00.5**	**+3.3**
THKV	**Tehran--Karaj**	**2.10 316**	*e*Pg	**Pg**	**13 06 33.6**	**-3.0**
THKV			AML	AML	13 07 05.7	
	comp=E,3μm,0.2s					
THKV			AML	AML	13 07 05.7	
	comp=N,2μm,0.4s					
ASAO	**Ashtian**	**2.18 274**	*e*Pg	**Pg**	**13 06 34.3**	**-4.0**
IGAR	**Garneh**	**2.19 190**	*e*Pn	**Pn**	**13 06 32.5**	**-0.5**
IGAR			*e*Pn	**Pn**	**13 06 32.5**	**-0.5**
IGAR			*e*Pn	**Pn**	**13 06 33.2**	**+0.2**
IGAR			*e*Sn	**Sn**	**13 06 57.7**	**-2.4**
IGAR			*e*Sn	**Sn**	**13 06 58.1**	**-2.0**
IGAR	**Garneh**	**2.19 190**	*e*Pn	**Pn**	**13 06 33.2**	**+0.2**
IPIR	**Pirpir**	**2.27 221**	*e*Pn	**Pn**	**13 06 36.2**	**+2.2**
IPIR			*e*Pn	**Pn**	**13 06 36.3**	**+2.3**
IPIR			*e*Pn	**Pn**	**13 06 36.3**	**+2.3**
IPIR			*e*Sn	**Sn**	**13 07 04.9**	**+2.9**
IPIR			*e*Sn	**Sn**	**13 07 05.1**	**+3.1**
IPIR	**Pirpir**	**2.27 221**	Pn	**Pn**	**13 06 36.2**	**+2.2**
IPIR			Sn	**Sn**	**13 07 04.8**	**+2.8**
IPIR			Sn	**Sn**	**13 07 05.1**	**+3.1**
IRAZ	**Razeghan**	**2.46 295**	*e*Pn	**Pn**	**13 06 36.8**	**+0.2**
IRAZ			*e*Pn	**Pn**	**13 06 37.4**	**+0.8**
IRAZ			*e*Pn	**Pn**	**13 06 37.6**	**+1.0**
IRAZ			*e*Sn	**Sn**	**13 07 08.3**	**+1.6**
IRAZ			*e*Sn	**Sn**	**13 07 08.8**	**+2.1**
IRAZ	**Razeghan**	**2.46 295**	Pn	**Pn**	**13 06 36.8**	**+0.2**
IRAZ			Pn	**Pn**	**13 06 37.4**	**+0.8**
IRAZ			Pn	**Pn**	**13 06 37.6**	**+1.0**
IRAZ			Sn	**Sn**	**13 07 08.2**	**+1.5**
IRAZ			Sn	**Sn**	**13 07 08.7**	**+2.0**
IRAZ	**Razeghan**	**2.46 295**	*e*Pn	**Pn**	**13 06 37.6**	**+1.0**
IRAZ			*e*Sn	**Sn**	**13 07 08.3**	**+1.6**
ICHK	**Chekchek**	**2.61 145**	*e*Pn	**Pn**	**13 06 41.0**	**+2.4**
ICHK			*e*Pn	**Pn**	**13 06 41.0**	**+2.4**
ICHK			*e*Pn	**Pn**	**13 06 41.0**	**+2.4**
ICHK			*e*Sn	**Sn**	**13 07 15.9**	**+5.6**
ICHK			*e*Sn	**Sn**	**13 07 16.0**	**+5.7**
ICHK	**Chekchek**	**2.61 145**	Pn	**Pn**	**13 06 41.0**	**+2.4**
ICHK			Sn	**Sn**	**13 07 15.9**	**+5.6**
ISAD	**Sadrabad**	**2.63 161**	*e*Pn	**Pn**	**13 06 39.9**	**+0.9**
ISAD			*e*Pn	**Pn**	**13 06 40.2**	**+1.2**
ISAD			*e*Sn	**Sn**	**13 07 15.1**	**+4.1**
ISAD			*e*Sn	**Sn**	**13 07 15.3**	**+4.3**
ISAD	**Sadrabad**	**2.63 161**	Pn	**Pn**	**13 06 39.9**	**+0.9**
ISAD			Pn	**Pn**	**13 06 40.1**	**+1.1**
ISAD			Sn	**Sn**	**13 07 15.0**	**+4.0**
ISAD			Sn	**Sn**	**13 07 15.3**	**+4.3**
IMEH	**Mehriz**	**3.43 151**	*e*Pn	**Pn**	**13 06 49.6**	**-0.3**
IMEH			*e*Pn	**Pn**	**13 06 50.5**	**+0.6**
IMEH			*e*Sn	**Sg**	**13 07 42.0**	**-4.6**
IMEH	**Mehriz**	**3.43 151**	Pn	**Pn**	**13 06 49.5**	**-0.4**
IMEH			Pn	**Pn**	**13 06 50.4**	**+0.5**
IMEH			Sn	**Sg**	**13 07 41.9**	**-4.7**
IMEH	**Mehriz**	**3.43 151**	*e*Pn	**Pn**	**13 06 50.5**	**+0.6**
IBAF	**Bafgh**	**3.72 138**	*e*Pn	**Pn**	**13 06 54.3**	**+0.3**
IBAF			*e*Pn	**Pn**	**13 06 54.5**	**+0.5**
IBAF			*e*Pn	**Pn**	**13 06 54.7**	**+0.7**
IBAF			*e*Sn	**Sg**	**13 07 50.0**	**-6.0**
IBAF			*e*Sn	**Sg**	**13 07 50.1**	**-5.9**
IBAF	**Bafgh**	**3.72 138**	Pn	**Pn**	**13 06 54.2**	**+0.2**
IBAF			Pn	**Pn**	**13 06 54.4**	**+0.4**
IBAF			Pn	**Pn**	**13 06 54.6**	**+0.6**
IBAF			Sn	**Sg**	**13 07 49.9**	**-6.1**
IBAF			Sn	**Sg**	**13 07 50.1**	**-5.9**
IBAF	**Bafgh**	**3.72 138**	*e*Pn	**Pn**	**13 06 54.7**	**+0.7**
MRVT	**Maraveh tapeh**	**4.27 40**	*e*Pn	**Pn**	**13 07 04.4**	**+2.9**
SNGE	**Sanandaj**	**4.43 280**	*e*Pn	**Pn**	**13 07 03.7**	**0.0**
IPAR	**Pars**	**4.56 176**	*e*Pn	**Pn**	**13 07 05.7**	**+0.1**
IPAR			*e*Pn	**Pn**	**13 07 05.7**	**+0.1**
IPAR			*e*Pn	**Pn**	**13 07 05.7**	**+0.1**
IPAR			*e*Sn	**Sg**	**13 08 26.3**	**+3.3**
IPAR			*e*Sn	**Sg**	**13 08 27.4**	**+4.4**
IPAR	**Pars**	**4.56 176**	Pn	**Pn**	**13 07 05.7**	**+0.1**
IPAR			Sn	**Sg**	**13 08 26.2**	**+3.2**
IPAR			Sn	**Sg**	**13 08 27.3**	**+4.3**
ILIN	**Laeen**	**4.73 278**	*e*Pn	**Pn**	**13 07 08.3**	**+0.5**
ILIN			*e*Pn	**Pn**	**13 07 08.4**	**+0.6**
ILIN			*e*Pn	**Pn**	**13 07 09.1**	**+1.3**
ILIN			*e*Sn	**Sg**	**13 08 31.6**	**+3.4**
ILIN			*e*Sn	**Sg**	**13 08 33.3**	**+5.1**
ILIN	**Laeen**	**4.73 278**	Pn	**Pn**	**13 07 08.2**	**+0.4**
ILIN			Pn	**Pn**	**13 07 08.4**	**+0.6**
ILIN			Pn	**Pn**	**13 07 09.1**	**+1.3**
ILIN			Sn	**Sg**	**13 08 31.6**	**+3.4**
ILIN			Sn	**Sg**	**13 08 33.3**	**+5.1**
ILIN	**Laeen**	**4.73 278**	*e*Pn	**Pn**	**13 07 09.1**	**+1.3**
IGHG	**Ghaleghazi**	**5.04 271**	*e*Pn	**Pn**	**13 07 13.3**	**+1.2**
IGHG			*e*Pn	**Pn**	**13 07 13.4**	**+1.3**
IGHG			*e*Pn	**Pn**	**13 07 13.4**	**+1.3**
ISFR	**Esferayen**	**5.08 57**	*e*Pn	**Pn**	**13 07 13.9**	**+1.3**
ITEG		**5.29 105**	*e*Pn	**Pn**	**13 07 16.5**	**+0.9**
IKRD	**Kardeh**	**5.32 62**	*e*Pn	**Pb**	**13 07 27.8**	**-1.8**
IKRD			*e*Pn	**Pb**	**13 07 28.3**	**-1.3**
IKRD			*e*Pn	**Pb**	**13 07 28.4**	**-1.2**
IKRD			*e*Sn	**Sg**	**13 08 36.7**	**-11**
IKRD			*e*Sn	**Sg**	**13 08 37.6**	**-10**
IMOK	**Mook**	**5.35 180**	*e*Pn	**Pn**	**13 07 16.8**	**+0.5**
IMOK	**Mook**	**5.35 180**	Pn	**Pn**	**13 07 16.7**	**+0.4**
IBST	**Bostanabad**	**5.71 307**	*e*Pn	**Pn**	**13 07 21.9**	**+0.6**
IBST			*e*Pn	**Pn**	**13 07 22.5**	**+1.1**
IBST			*e*Pn	**Pn**	**13 07 22.7**	**+1.4**
IBST			*e*Sn	**Sn**	**13 08 29.5**	**+2.5**
IBST			*e*Sn	**Sn**	**13 08 29.9**	**+2.9**
IBST	**Bostanabad**	**5.71 307**	Pn	**Pn**	**13 07 21.8**	**+0.5**
IBST			Pn	**Pn**	**13 07 22.5**	**+1.1**
IBST			Pn	**Pn**	**13 07 22.7**	**+1.4**
IBST			Sn	**Sn**	**13 08 29.5**	**+2.5**
IBST			Sn	**Sn**	**13 08 29.9**	**+2.9**
IMOG	**Moghan**	**5.72 71**	*e*Pn	**Pn**	**13 07 21.9**	**+0.5**
IMOG			*e*Pn	**Pn**	**13 07 22.7**	**+1.3**
IMOG			*e*Pn	**Pn**	**13 07 23.2**	**+1.8**
IMOG			*e*Sn	**Sb**	**13 08 45.3**	**+0.4**
IMOG			*e*Sn	**Sb**	**13 08 45.5**	**+0.6**
IMOG	**Moghan**	**5.72 71**	Pn	**Pn**	**13 07 21.8**	**+0.4**
IMOG			Pn	**Pn**	**13 07 22.7**	**+1.3**
IMOG			Pn	**Pn**	**13 07 23.1**	**+1.7**
IMOG			Sn	**Sb**	**13 08 45.2**	**+0.3**
IMOG			Sn	**Sb**	**13 08 45.5**	**+0.6**
IMOG	**Moghan**	**5.72 71**	*e*Pn	**Pn**	**13 07 22.7**	**+1.3**
IDAH		**6.24 103**	*e*Pn	**Pn**	**13 07 29.5**	**+0.9**
IMYA	**Miamay**	**6.38 70**	*e*Pn	**Pn**	**13 07 30.4**	**-0.1**
IMYA			*e*Pn	**Pn**	**13 07 31.2**	**+0.7**
IMYA			*e*Pn	**Pn**	**13 07 32.0**	**+1.5**
IMYA			*e*Sn	**Sg**	**13 09 09.9**	**-11**
IMYA			*e*Sn	**Sg**	**13 09 10.5**	**-11**
IMYA	**Miamay**	**6.38 70**	Pn	**Pn**	**13 07 30.3**	**-0.2**
IMYA			Pn	**Pn**	**13 07 31.2**	**+0.7**
IMYA			Pn	**Pn**	**13 07 31.9**	**+1.4**
IMYA			Sn	**Sg**	**13 09 09.9**	**-11**
IMYA			Sn	**Sg**	**13 09 10.5**	**-11**
IMYA	**Miamay**	**6.38 70**	*e*Pn	**Pn**	**13 07 32.0**	**+1.5**
ISHB	**Shabestar**	**6.88 306**	*e*Pn	**Pn**	**13 07 37.8**	**+0.5**
ISHB			*e*Pn	**Pn**	**13 07 38.0**	**+0.7**
ISHB			*e*Pn	**Pn**	**13 07 38.0**	**+0.7**
ISHB			*e*Sn	**Sg**	**13 09 28.6**	**-8.6**
ISHB			*e*Sn	**Sg**	**13 09 28.7**	**-8.5**
ISHB	**Shabestar**	**6.88 306**	Pn	**Pn**	**13 07 37.7**	**+0.4**
ISHB			Pn	**Pn**	**13 07 38.0**	**+0.7**
ISHB			Sn	**Sg**	**13 09 28.6**	**-8.6**

*NEIC **19** 13:32:08.0, 4032S×17345E, h183km, MG3.7(WEL), After WEL.*
WEL 19 13:32:08.8±0.3, 4033S×17349E, h176km±2km, ML3.6/14,

Error ellipse: s-maj=1.8km s-min=1.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.58**	**145**	PN	Pn	13 32 33.7	+0.3
DUWZ				SN	Sn	13 32 52.1	-0.2
QRZ	**Quartz Range**	**0.88**	**236**	P	Pn	13 32 34.8	-0.4
QRZ				S	Sn	13 32 54.7	-0.8
QRZ	**Quartz Range**	**0.88**	**236**	PN	Pn	13 32 34.8	-0.4
QRZ				SN	Sn	13 32 54.7	-0.8
NNZ	**Nelson**	**0.89**	**185**	P	Pn	13 32 35.1	-0.2
NNZ				S	Sn	13 32 55.8	+0.2
NNZ	**Nelson**	**0.89**	**185**	PN	Pn	13 32 35.1	-0.2
NNZ				SN	Sn	13 32 55.8	+0.2
TCW	**Tory Channel**	**1.06**	**146**	P	Pn	13 32 36.9	+0.4
TCW	**Tory Channel**	**1.06**	**146**	PN	Pn	13 32 36.9	+0.4
TCW				SN	Sn	13 32 56.7	-1.2
TUWZ	**Tuamarina**	**1.15**	**163**	PN	Pn	13 32 37.2	0.0
KIW	**Kapiti Island**	**1.21**	**117**	P	Pn	13 32 37.8	+0.1
KIW	**Kapiti Island**	**1.21**	**117**	PN	Pn	13 32 37.8	+0.1
KIW				SN	Sn	13 32 58.4	-1.5
WAZ	**Wanganui**	**1.28**	**64**	P	Pn	13 32 39.1	+0.7
WAZ	**Wanganui**	**1.28**	**64**	PN	Pn	13 32 39.1	+0.7
MRW	**Makara Radio**	**1.28**	**135**	P	Pn	13 32 38.5	+0.1
MRW	**Makara Radio**	**1.28**	**135**	PN	Pn	13 32 38.5	+0.1
MRW				SN	Sn	13 33 00.2	-0.9
SNZO	**South Karori**	**1.34**	**137**	P	Pn	13 32 38.9	0.0
SNZO	**South Karori**	**1.34**	**137**	PN	Pn	13 32 38.9	0.0
WEL	**Wellington**	**1.36**	**135**	P	Pn	13 32 39.1	0.0
WEL	**Wellington**	**1.36**	**135**	PN	Pn	13 32 39.1	0.0
BSWZ	**Blackbirch Sta**	**1.41**	**168**	P	Pn	13 32 39.6	+0.1
BSWZ	**Blackbirch Sta**	**1.41**	**168**	PN	Pn	13 32 39.6	+0.1
CAW	**Cannon Point**	**1.43**	**123**	P	Pn	13 32 39.8	+0.1
CAW	**Cannon Point**	**1.43**	**123**	PN	Pn	13 32 39.8	+0.1
CAW				SN	Sn	13 33 02.8	-0.7
BHW	**Baring Head**	**1.50**	**136**	P	Pn	13 32 40.1	-0.3
BHW	**Baring Head**	**1.50**	**136**	PN	Pn	13 32 40.1	-0.2
VRZ	**Vera Road**	**1.55**	**40**	P	Pn	13 32 40.4	-0.4
VRZ	**Vera Road**	**1.55**	**40**	PN	Pn	13 32 40.4	-0.5
MRZ	**Mangatainoka R**	**1.63**	**102**	P	Pn	13 32 41.5	-0.1
MRZ	**Mangatainoka R**	**1.63**	**102**	PN	Pn	13 32 41.5	-0.1
MSWZ	**Moikau Station**	**1.72**	**130**	P	Pn	13 32 42.3	-0.2
MSWZ	**Moikau Station**	**1.72**	**130**	PN	Pn	13 32 42.3	-0.2
MTW	**Mount Morrison**	**1.74**	**119**	P	Pn	13 32 42.5	-0.2
MTW	**Mount Morrison**	**1.74**	**119**	PN	Pn	13 32 42.5	-0.2
MTVZ	**Mangateitei**	**1.79**	**59**	PN	Pn	13 32 42.9	-0.4
PAWZ	**Paruwai Farm**	**1.81**	**126**	P	Pn	13 32 43.3	-0.1
PAWZ	**Paruwai Farm**	**1.81**	**126**	PN	Pn	13 32 43.3	-0.1
TIWZ	**Tintock**	**1.88**	**105**	PN	Pn	13 32 44.2	-0.1
DSZ	**Denniston Nort**	**1.91**	**221**	P	Pn	13 32 43.6	-0.9
DSZ	**Denniston Nort**	**1.91**	**221**	PN	Pn	13 32 43.6	-0.9
WNVZ	**Wahianoa**	**1.91**	**59**	P	Pn	13 32 44.1	-0.4
WNVZ	**Wahianoa**	**1.91**	**59**	PN	Pn	13 32 44.1	-0.4
TSZ	**Takapari Road**	**1.91**	**83**	P	Pn	13 32 44.2	-0.4
TSZ	**Takapari Road**	**1.91**	**83**	PN	Pn	13 32 44.2	-0.3
TRWZ	**Traveller**	**1.98**	**123**	PN	Pn	13 32 45.1	-0.2
KHZ	**Kahutara**	**2.09**	**179**	PN	Pn	13 32 45.6	-0.9
HIZ	**Hauiti**	**2.10**	**31**	P	Pn	13 32 45.7	-0.9
HIZ	**Hauiti**	**2.10**	**31**	PN	Pn	13 32 45.7	-0.9
BFZ	**Birch Farm**	**2.13**	**100**	P	Pn	13 32 46.8	-0.2
BFZ	**Birch Farm**	**2.13**	**100**	PN	Pn	13 32 46.8	-0.1
BFZ				SN	Sn	13 33 14.4	-2.1
BKZ	**Black Stump Fm**	**2.59**	**64**	P	Pn	13 32 51.1	-1.2
BKZ	**Black Stump Fm**	**2.59**	**64**	PN	Pn	13 32 51.1	-1.2
PXZ	**Pawanui**	**2.60**	**85**	PN	Pn	13 32 51.8	-0.6
LTZ	**Lake Taylor**	**2.62**	**200**	P	Pn	13 32 51.2	-1.4
LTZ	**Lake Taylor**	**2.62**	**200**	PN	Pn	13 32 51.2	-1.3
MKRZ	**Makatiti**	**3.18**	**48**	P	Pn	13 32 55.5	-3.9
MKRZ	**Makatiti**	**3.18**	**48**	PN	Pn	13 32 55.5	-4.0
CRLZ	**Canterbury Las**	**3.31**	**191**	*e*P	Pn	13 32 58.4	-2.6
CRLZ	**Canterbury Las**	**3.31**	**191**	PN	Pn	13 32 58.4	-2.6
MQZ	**McQueen's Vall**	**3.43**	**190**	*e*P	Pn	13 32 59.8	-2.7
MQZ	**McQueen's Vall**	**3.43**	**190**	PN	Pn	13 32 59.8	-2.8
KNZ	**Kokohu**	**3.48**	**69**	*e*P	Pn	13 33 01.5	-1.7
KNZ	**Kokohu**	**3.48**	**69**	PN	Pn	13 33 01.5	-1.6
URZ	**Urewera**	**3.49**	**55**	P	Pn	13 33 00.8	-2.4
MWZ	**Matawai**	**3.71**	**59**	P	Pn	13 33 04.0	-2.0
MWZ	**Matawai**	**3.71**	**59**	PN	Pn	13 33 04.0	-2.1

*NEIC **19** 13:58:02.6, 3397S×7248W, h33km, ML2.9(GUC), After GUC.*
GUC 19 13:58:02.6±0.8, 3397S×7248W, h33km±3km, MD3.6, ML2.9, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.89**	**90**	*e*P	Pn	13 58 18.6	-0.1
LNV				*i* S	Sn	13 58 31.5	+1.0
LCCH	**Las Cruces**	**0.90**	**57**	*e*P	Pn	13 58 19.0	+0.1
LCCH				*i* S	Sn	13 58 31.3	+0.4
TACH	**Talagante**	**1.32**	**77**	↑*i*P	Pn	13 58 25.7	+1.0
TACH				*i* S	Sn	13 58 43.1	+1.9
SFDO	**San Fernando**	**1.37**	**118**	*e*P	Pn	13 58 26.6	+1.2
SFDO				*i* S	Sn	13 58 45.0	+2.5
CHCH	**Chadas Angostu**	**1.52**	**89**	↑*i*P	Pn	13 58 28.7	+1.2
CHCH				*i* S	Sn	13 58 48.5	+2.4
CACH	**El Canelo**	**1.57**	**96**	↑*i*P	Pn	13 58 29.9	+1.8
CACH				*e*S	Sn	13 58 50.8	+3.5
PCH	**Pirque**	**1.67**	**79**	*e*P	Pn	13 58 31.2	+1.7
PEL	**Peldehue**	**1.71**	**62**	↑*i*P	Pn	13 58 31.9	+1.8
PEL				*i* S	Sn	13 58 54.2	+3.5
PEL				AML	AML	13 59 05.1	
	comp=N,307nm,0.6s						
CICH	**Cipreses**	**1.74**	**102**	*e*P	Pn	13 58 32.3	+1.8
FCH	**Farellones**	**1.93**	**71**	↑*i*P	Pn	13 58 35.0	+1.9
FCH				*i* S	Sn	13 58 59.8	+3.5
FCH				AML	AML	13 59 11.4	
	comp=E,103nm,0.6s						

*ISCJB **19** 14:06:44.5±0.4, 701N±006×7877W±005, h10km, mb4.4/26, MS4.1/17, Error ellipse: s-maj=10.0km s-min=6.1km az=62.5*
*IDC **19** 14:06:44.2±0.8, 693N×7890W, h0km, mb4.2/10, mb1 4.5/15, mb1mx4.4/22, mbtmp4.3/15, ML4.0/5, MS3.9/18, Ms1 4.0/18, ms1mx3.8/35, Error ellipse: s-maj=24.1km s-min=15.6km az=38.0*
*NEIC **19** 14:06:45.8±0.5, 696N×7890W, h10km, mb4.5/17, Error ellipse: s-maj=13.1km s-min=6.5km az=207.0*
*BJI **19** 14:06:45.8, 700N×7890W, h10km, Ms4.8, Msz4.6*
ISC 19 14:06:46.9±0.4, 705N±006×7880W±005, h10km, n168, σ0=67/157, mb4.4/26, MS4.1/17, 58C-44D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**2.35**	**334**	*e*P	**Pn**	**14 07 23.2**	**-2.2**
BCIP				*e*S	**Sn**	**14 07 55.3**	**+1.0**
ROSC	**El Rosal**	**4.95**	**116**	Pn	**Pn**	**14 08 02.7**	**+1.5**
	15nm,0.3s,baz=277,slow=4.2,SNR=22						
ROSC				Sn	**Sn**	**14 09 01.9**	**+3.4**
	5.6nm,0.3s,baz=297,slow=21,SNR=3.8						
ROSC				LR	LR	14 09 22.3	
	comp=Z,572nm,18.5s,baz=193,slow=32						
ROSC	**El Rosal**	**4.95**	**116**	*e*P	**Pn**	**14 08 03.5**	**+2.3**
JTS	**JuntasAbangare**	**6.89**	**298**	Pn	**Pn**	**14 08 26.9**	**-1.0**
	2.3nm,0.3s,baz=103,slow=9.5,SNR=12						
JTS				Sn	**Sn**	**14 09 55.1**	**+8.8**
	1.4nm,0.3s,baz=263,slow=19,SNR=1.8						
JTS	**JuntasAbangare**	**6.89**	**298**	*e*P	**Pn**	**14 08 26.2**	**-1.7**
	31nm,0.6s						
SDV	**Santo Domingo**	**8.29**	**77**	Pn	**Pn**	**14 08 47.9**	**+0.8**
	16nm,0.3s,baz=253,slow=10.0,SNR=57						
SDV				Sn	**Sn**	**14 10 19.1**	**-1.7**
	23nm,0.3s,baz=47,slow=22,SNR=8.7						
SDV	**Santo Domingo**	**8.29**	**77**	*e*P	**Pn**	**14 08 47.5**	**+0.4**
	72nm,0.6s						
SDV				*e*S	**Sn**	**14 10 16.0**	**-4.8**
TGUH	**Tegucigalpa,Un**	**10.86**	**311**	P	**Pn**	**14 09 17.5**	**-4.9**
ATAH	**Atahualpa**	**13.96**	**178**	Pn	**Pn**	**14 10 03.9**	**-0.8**
	0.5nm,0.3s,baz=324,slow=19,SNR=2.3						
ATAH				LR	LR	14 15 16.2	
	comp=Z,680nm,18.4s,baz=355,slow=37						
PCRV	**Puerto La Cruz**	**14.34**	**76**	Pn	**Pn**	**14 10 09.1**	**-0.8**
	2.5nm,0.3s,baz=296,slow=5.6,SNR=6.6						
TEIG	**Tepich**	**16.00**	**326**	LR	LR	14 16 28.0	
	comp=Z,535nm,20.2s,baz=144,slow=36						
LPAZ	**La Paz**	**25.47**	**156**	LR	LR	14 23 43.8	
	comp=Z,296nm,21.2s,MS3.8,baz=145,slow=40						
GOGA	**Godfrey**	**26.59**	**351**	*e*P	**P**	**14 12 28.1**	**+2.9**
	9.1nm,0.9s,mb4.3						

ELN	**Prospectdale**	**30.10**	**357**	P	**P**	**14 12 57.4**	**+0.9**
WVT	**Waverly**	**30.11**	**345**	*e*P	**P**	**14 12 56.9**	**+0.3**
	22nm,0.8s,mb4.9						
MIAR	**Mount Ida**	**30.57**	**336**	*e*P	**P**	**14 12 58.8**	**-1.9**
	11nm,1.3s,mb4.5						
LTX	**Lajitas**	**32.25**	**317**	*e*P	**P**	**14 13 14.8**	**-0.7**
	4.8nm,1.0s,mb4.3						
TXAR	**Lajitas Array**	**32.25**	**317**	P	**P**	**14 13 14.8**	**-0.7**
	2.2nm,0.8s,mb4.1,baz=133,slow=8.2,SNR=20						
TXAR				LR	LR	14 27 12.8	
	comp=Z,130nm,18.6s,MS3.6,baz=300,slow=38						
TXAR	**Lajitas Array**	**32.25**	**317**	P	**P**	**14 13 14.8**	**-0.7**
TXAR				LR	LR	14 27 12.8	
MNTX	**Cornudas Mount**	**34.88**	**318**	*e*P	**P**	**14 13 37.0**	**-1.4**
	12nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**37.66**	**321**	*e*P	**P**	**14 14 01.8**	**-0.3**
	6.0nm,0.7s,mb4.4						
TUC	**Tucson**	**38.95**	**314**	*e*P	**P**	**14 14 13.0**	**0.0**
	5.2nm,0.8s,mb4.3						
SDCO	**Great Sand Dun**	**39.00**	**326**	*e*P	**P**	**14 14 13.6**	**+0.2**
	11nm,1.2s,mb4.5						
116A	**Eloy**	**39.74**	**314**	⇓P	**P**	**14 14 19.9**	**+0.3**
	baz=40						
115A	**Sonoran Desert**	**40.19**	**314**	⇑P	**P**	**14 14 23.5**	**+0.2**
	baz=40						
MVCO	**Mesa Verde**	**40.39**	**322**	⇓P	**P**	**14 14 25.2**	**+0.3**
	baz=40						
Z14A	**Wintersburg**	**41.05**	**314**	⇑P	**P**	**14 14 30.6**	**+0.2**
	baz=41						
X15A	**Humboldt**	**41.16**	**316**	⇓P	**P**	**14 14 31.6**	**+0.2**
	baz=41,SNR=5.3						
WUAZ	**Wupatki**	**41.17**	**318**	*e*P	**P**	**14 14 30.9**	**-0.5**
	8.4nm,0.9s,mb4.4						
WUAZ	**Wupatki**	**41.17**	**318**	⇓P	**P**	**14 14 31.7**	**+0.3**
	baz=41						
Y14A	**Wickenburg**	**41.40**	**315**	⇑P	**P**	**14 14 33.6**	**+0.3**
	baz=41						
PV10	**Paradox Valley**	**41.47**	**323**	*e*P	**P**	**14 14 33.6**	**-0.3**
W15A	**Williams**	**41.57**	**317**	⇑P	**P**	**14 14 35.2**	**+0.5**
	baz=42						
X14A	**Yava**	**41.60**	**316**	⇑P	**P**	**14 14 35.6**	**+0.6**
	baz=42,SNR=5.8						
Y13A	**Salome**	**41.91**	**314**	⇑P	**P**	**14 14 38.1**	**+0.5**
	baz=42						
W14A	**Seligman**	**42.15**	**317**	⇓P	**P**	**14 14 40.1**	**+0.7**
	baz=42,SNR=10						
GLA	**Glamis**	**42.25**	**313**	⇑P	**P**	**14 14 40.6**	**+0.4**
	baz=42						
X13A	**Yucca**	**42.33**	**315**	⇑P	**P**	**14 14 41.1**	**+0.3**
	baz=42						
Y12C	**Blythe**	**42.38**	**314**	⇑P	**P**	**14 14 41.7**	**+0.4**
	baz=42,SNR=5.1						
PDMCI	**Parker Dam,Lak**	**42.39**	**315**	⇑P	**P**	**14 14 41.8**	**+0.4**
	baz=42						
W13A	**Hualapai Mount**	**42.63**	**316**	⇑P	**P**	**14 14 44.0**	**+0.6**
	baz=43,SNR=8.8						
RWWY	**Rawlins**	**42.73**	**328**	*e*P	**P**	**14 14 44.4**	**+0.2**
	8.6nm,0.8s,mb4.5						
SRU	**San Rafael**	**42.83**	**323**	*e*P	**P**	**14 14 44.4**	**-0.6**
	6.8nm,0.9s,mb4.4						
DVTC	**Desert V Tower**	**42.99**	**311**	⇑P	**P**	**14 14 46.5**	**+0.2**
	baz=43						
BC3	**Big Chuckw Mtn**	**43.00**	**313**	⇓P	**P**	**14 14 46.5**	**+0.1**
	baz=43						
IRM	**Iron Mountain**	**43.03**	**314**	P	**P**	**14 14 47.3**	**+0.6**
	baz=43,SNR=8.3						
MONP	**Monument Peak**	**43.34**	**312**	⇓P	**P**	**14 14 49.6**	**+0.4**
	baz=43						
W12A	**Cal Nev Ari**	**43.42**	**316**	⇑P	**P**	**14 14 50.3**	**+0.5**
	baz=43						
MSU	**

	baz=47					
NVAR	Mina Array Bea	47.40	317	P	P	14 15 21.8 +0.5
	2.7nm,0.7s,mb4.3,baz=116,slow=8.4,SNR=16					
O09A	Fish Creek Ran	47.59	320	P	P	14 15 23.1 +0.3
	baz=48,SNR=7.0					
K12A	Draper Farm, C	47.62	324	⇑P	P	14 15 22.9 -0.2
	baz=48					
T06C	Millerton Lake	47.66	315	⇑P	P	14 15 23.0 -0.4
	baz=48					
J13A	Cove Ranch, Pi	47.68	325	⇓P	P	14 15 23.6 +0.2
	baz=48					
BOZ	Bozeman (W)	47.79	329	eP	P	14 15 23.9 -0.4
	3.7nm,0.6s,mb4.6					
BOZ	Bozeman (W)	47.79	329	⇓P	P	14 15 24.4 +0.1
	baz=48					
MCMT	McKenzie Canyo	47.87	328	eP	P	14 15 25.6 +0.6
G15A	Dillon	47.91	328	⇓P	P	14 15 25.1 -0.1
	baz=48					
HLID	Hailey	47.92	325	⇑P	P	14 15 25.0 -0.3
	baz=48					
J12A	Stokes Ranch,	48.11	324	⇑P	P	14 15 26.3 -0.5
	baz=48					
PLCA	Paso Flores	48.14	172	P	P	14 15 25.9 -1.2
	3.6nm,0.7s,mb4.5,baz=341,slow=10.0,SNR=4.1					
N09A	Rock Creek Ran	48.18	320	⇑P	P	14 15 26.8 -0.6
	baz=48					
S06C	San Francisco	48.18	316	⇑P	P	14 15 26.9 -0.5
	baz=48					
R06C	Coleville	48.22	317	⇓P	P	14 15 27.5 -0.2
	baz=48					
S05C	Merced	48.26	315	⇓P	P	14 15 27.6 -0.4
	baz=48					
F15A	Butte	48.36	329	⇑P	P	14 15 28.8 +0.1
	baz=48					
SCHQ	Schefferville	48.61	9	P	P	14 15 30.6 -0.1
	6.8nm,0.8s,mb4.8,baz=166,slow=12,SNR=7.3					
SCHQ				LR	LR	14 35 33.1
	comp=Z,212nm,19.0s,MS4.2,baz=86,slow=36					
MFID	Camas Ranch	48.64	324	⇑P	P	14 15 30.5 -0.4
	baz=49					
H12A	Diamond D Ranc	48.78	326	⇓P	P	14 15 32.0 0.0
	baz=49					
G13A	Cobalt	48.79	327	⇑P	P	14 15 32.2 +0.2
	baz=49					
F14A	Wisdom	48.80	328	⇓P	P	14 15 32.2 +0.1
	baz=49					
E15A	Deer Lodge	48.83	329	⇑P	P	14 15 32.6 +0.2
	baz=49					
L09A	Wilkinson Ranc	48.92	322	⇑P	P	14 15 32.8 -0.2
	baz=49					
I11A	Placerville	49.01	325	⇑P	P	14 15 33.9 +0.1
	baz=49					
D15A	Lincoln	49.20	330	⇓P	P	14 15 35.4 +0.3
	baz=49					
LAVA	Lava Cap Winer	49.22	316	⇓P	P	14 15 35.2 -0.2
	baz=49					
F13A	Darby	49.29	328	⇑P	P	14 15 35.5 -0.5
	baz=49					
K09A	Rome	49.34	322	P	P	14 15 36.3 0.0
	baz=49,SNR=8.3					
P05C	Yuba Gap, Truc	49.39	317	⇓P	P	14 15 36.7 0.0
	baz=49					
L08A	Fields	49.44	321	⇓P	P	14 15 37.3 +0.2
	baz=49					
M07A	Soldier Meadow	49.52	320	⇓P	P	14 15 36.9 -0.8
	baz=50					
H11A	Donnelly	49.53	325	⇑P	P	14 15 37.7 0.0
	baz=50					
E13A	Victor	49.64	328	⇓P	P	14 15 38.6 +0.1
	baz=50					
D14A	Greenough	49.72	329	⇓P	P	14 15 38.7 -0.4
	baz=50					
J09A	Fry Pan Ranch,	49.73	323	⇑P	P	14 15 39.0 -0.2
	baz=50					
F12A	Elk City	49.77	327	P	P	14 15 39.2 -0.3
	baz=50,SNR=5.5					
K08A	Mann Creek Ran	49.82	322	⇑P	P	14 15 39.2 -0.7
	baz=50					
L07A	Adell	49.96	321	⇓P	P	14 15 39.9 -1.1
	baz=50					
I09A	Lost Marbles R	50.08	324	⇑P	P	14 15 40.9 -1.0
	baz=50					
ORV	Oroville	50.12	317	⇑P	P	14 15 42.2 0.0
	baz=50					
K07A	Rock Creek Ran	50.27	322	⇑P	P	14 15 41.9 -1.4
	baz=50					
F11A	Grangeville	50.34	327	⇓P	P	14 15 43.6 -0.3
	baz=50					
E11A	Bogner Ranch,	50.66	327	⇓P	P	14 15 45.2 -1.1
	baz=51					
F09A	S2 Ranch, Elgi	51.20	325	⇑P	P	14 15 49.9 -0.5
	baz=51					
M04C	Macdoel	51.43	319	⇑P	P	14 15 51.3 -0.8
	baz=51					
I06A	Prineville	51.54	322	⇑P	P	14 15 52.2 -0.7
	baz=52					
G08A	Pilot Rock	51.56	324	⇓P	P	14 15 53.0 0.0
	baz=52					
L04A	Klamath Falls	51.66	320	⇑P	P	14 15 52.9 -1.0
	baz=52					
D10A	Wagner Farm, O	51.67	327	⇓P	P	14 15 53.6 -0.3
	baz=52					
F08A	Pendleton	51.74	325	⇓P	P	14 15 52.6 -1.9
	baz=52					
J04A	Umpqua Nationa	52.34	321	⇓P	P	14 15 58.3 -0.6
	baz=51					
YKA	Yellowknife Ar	61.21	342	P	P	14 17 00.7 -1.1
	1.7nm,0.7s,mb4.3,baz=131,slow=7.2,SNR=46					
SFJD	Kangerlussuaq	62.88	12	LR	LR	14 44 58.1
	comp=Z,214nm,18.1s,MS4.4,baz=220,slow=36					
MDT	Midelt	72.93	58	LR	LR	14 44 19.7
	comp=Z,90nm,20.8s,MS4.0,baz=336,slow=31					
ESDC	Sonseca Array	73.86	51	P	P	14 18 22.4 +0.5
	0.4nm,0.4s,mb3.7,baz=259,slow=4.7,SNR=4.5					
ESDC				LR	LR	14 45 54.1
	comp=Z,50nm,21.0s,MS3.8,baz=220,slow=32					
PPT	Papeete	74.03	250	LR	LR	14 44 03.8
	comp=Z,47nm,20.0s,MS3.8,baz=100,slow=30					
JMIC	Jan Mayen	77.00	18	LR	LR	14 51 32.2
	comp=Z,101nm,20.6s,MS4.1,baz=271,slow=35					
TORD	Torodi Ar. Bea	79.21	78	P	P	14 18 52.1 0.0
	0.6nm,0.8s,mb3.6,baz=258,slow=5.1,SNR=4.0					
TORD				LR	LR	14 52 57.8
	comp=Z,66nm,18.5s,MS4.0,baz=320,slow=35					
NOA	NORSAR Array B	83.89	29	LR	LR	14 53 55.0
	comp=Z,99nm,19.6s,MS4.2,baz=265,slow=34					
GERES	GERESS Array B	86.39	41	P	P	14 19 30.1 +0.6
	0.5nm,0.6s,mb3.9,baz=306,slow=3.1,SNR=3.6					
GERES				LR	LR	14 56 08.6
	comp=Z,77nm,19.3s,MS4.1,baz=87,slow=34					
ARCES	ARCESS Array B	88.41	20	LR	LR	14 54 42.7
	comp=Z,66nm,19.4s,MS4.1,baz=72,slow=32					
FINES	FINESS Array B	90.89	28	LR	LR	14 56 15.2
	comp=Z,48nm,20.1s,MS3.9,baz=158,slow=33					
AKASG	Malin Array Be	95.81	37	LR	LR	15 01 50.6
	comp=Z,71nm,18.1s,MS4.2,baz=300,slow=34					
CN2	Changchun	124.84	339	ePKP	PKPdf	14 25 46.8 -0.2
WMQ	Urumqi	127.92	12	ePKP	PKPdf	14 25 53.8 +0.9
WMQ				LR	LR	
	comp=N,72nm,30.0s,MS4.5					
WMQ				LR	LR	
	comp=E,124nm,27.0s,MS4.5					
WMQ				LR	LR	
	comp=Z,65nm,26.0s,MS4.2					
HHC	Hu-ho-hao-te	131.40	350	ePKP	PKPdf	14 26 02.0 +2.5
HHC				PP	PP	14 28 22.9 +5.0
HHC				SS	SS	14 45 47.8 -3.2
HHC				LR	LR	
	comp=N,131nm,22.6s,MS4.8					
HHC				LR	LR	
	comp=E,132nm,19.6s,MS4.8					
HHC				LR	LR	
	comp=Z,158nm,22.6s,MS4.7					
CD2	Chengdu	142.18	356	PKP	PKPdf	14 26 20.6 +1.2
ASAR	Alice Springs	144.53	239	PKP	PKPdf	14 26 20.5 -3.0
	comp=Z,2.6nm,0.8s,baz=115,slow=3.8,SNR=28					
WRA	Warramunga Arr	145.41	245	PKPbc	PKPbc	14 26 23.4 -1.6
	comp=Z,1.7nm,0.8s,baz=104,slow=3.0,SNR=18					

*ISCJB **19** 14:08:45.6±0.9, 2219S$_{\pm}$005×6840W$_{\pm}$009, h103$^{km}_{\pm}$9^{km}, mb4.5/23, Error ellipse: s-maj=13.2km s-min=8.1km az=168.4*
*NEIC **19** 14:08:49.6±0.4, 2234S×6854W, mb4.7/14, Error ellipse: s-maj=16.5km s-min=6.6km az=86.0*
*GUC **19** 14:08:50.5±0.7, 2253S×7224W, h20$^{km}_{\pm}$11^{km}, ML4.7*
*IDC **19** 14:08:50.6±0.5, 2207S×6831W, h131$^{km}_{\pm}$4^{km}, mb4.0/11, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, Error ellipse: s-maj=21.7km s-min=12.0km az=64.0*

ISC 19 14:08:47.0±0.8, 2222S$_{\pm}$005×6841W$_{\pm}$008, h99$^{km}_{\pm}$8^{km}, h131$^{km}_{\pm}$3^{km}: pP-P, n53, σ1§07/58, mb4.5/23, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	2.02	234	⇓iP	Pn	14 09 25.0	+5.2
CEN1				i S	Sn	14 09 51.5	+6.6
CEN1				AML	AML	14 09 56.8	
	comp=N,6μm,0.8s						
CPN1	Cerro Paranal	3.02	217	eP	Pn	14 09 35.2	+2.2
CPN1				i S	Sn	14 10 09.1	+0.7
CPN1				AML	AML	14 10 41.5	
	comp=E,4μm,0.5s						
CDCH	Caldera	5.31	204	⇓iP	Pn	14 10 02.9	-1.1
CDCH				i S	Sn	14 10 58.5	-5.3
CPCH	Copiapo	5.42	199	i P	Pn	14 10 04.8	-0.5
CPCH				i S	Sn	14 11 04.2	-2.2
LPAZ	La Paz	5.90	3	P	Pn	14 10 15.9	+3.9
	comp=E,14nm,0.3s,baz=188,slow=5.2,SNR=279						
LPAZ	La Paz	5.90	3	ePn	Pn	14 10 15.2	+3.3
ARE	Arequipa	6.42	333	eP	Pn	14 10 19.0	+0.1
ARE				eS	Sn	14 11 23.0	-7.7
VACH	Vallenar	6.68	198	eP	Pn	14 10 23.9	+1.4
VACH				i S	Sn	14 11 34.0	-3.1
LCO	Las Campanas	7.08	196	ePn	Pn	14 10 27.1	-0.8
	comp=E,139nm,0.6s						
SIV	San Ignacio	9.30	50	P	Pn	14 10 57.5	-0.6
	comp=E,12nm,0.3s,baz=250,slow=11,SNR=320						
SIV				S	Sn	14 12 30.2	-11
	comp=E,0.5nm,0.3s,baz=242,slow=17,SNR=2.9						
CFAA	Coronel Fontan	9.35	179	P	Pn	14 10 58.5	-0.4
	comp=E,0.4nm,0.3s,baz=355,slow=13,SNR=13						
CFAA				S	Sn	14 12 38.0	-4.2
	comp=E,0.5nm,0.3s,baz=198,slow=23,SNR=3.2						
NNA	Nana	12.97	320	P	Pn	14 11 53.4	+5.9
	comp=E,1.9nm,0.3s,baz=155,slow=12,SNR=9.2						
NNA				S	Sn	14 14 03.7	-6.3
	comp=E,2.9nm,0.3s,baz=209,slow=17,SNR=3.8						
NNA	Nana	12.97	320	eP	Pn	14 11 53.3	+5.8
NNA				S	Sn	14 14 03.8	-6.3
TRQA	Tornquist	16.73	162	eP	Pn	14 12 37.4	+2.1
ATAH	Atahualpa	17.93	326	P	Pn	14 12 50.2	+0.3
	comp=E,0.5nm,0.3s,baz=11,slow=23,SNR=5.4						
PLCA	Paso Flores	18.55	185	P	Pn	14 12 58.7	+1.4
	comp=E,0.1nm,0.3s,baz=333,slow=4.5,SNR=3.0						
PLCA	Paso Flores	18.55	185	eP	Pn	14 12 59.2	+2.0
OTAV	Otavalo	24.37	335	eP	P	14 13 57.1	+1.3
	comp=E,12nm,0.9s,mb4.2						
TEIG	Tepich	46.43	334	P	P	14 17 03.3	-0.4
	comp=E,4.3nm,0.5s,mb4.4,baz=167,slow=20,SNR=6.0						
CMIG	Matias Romero	46.88	324	P	P	14 17 07.5	+0.3
	comp=E,7.6nm,0.9s,mb4.4,baz=168,slow=5.9,SNR=7.8						
TKL	Tuckaleechee C	59.37	345	P	P	14 18 37.4	-1.4
	comp=E,2.7nm,0.3s,mb4.7,baz=96,slow=18,SNR=4.9						
TKL	Tuckaleechee C	59.37	345	P	P	14 18 37.4	-1.4
JCT	Junction City	60.45	329	eP	P	14 18 45.5	-0.8
	comp=E,18nm,0.8s,mb5.1						
WVT	Waverly	60.87	342	eP	P	14 18 47.2	-1.9
	comp=E,7.9nm,0.8s,mb4.8						
MIAR	Mount Ida	61.30	336	eP	P	14 18 50.8	-1.3
	comp=E,7.4nm,1.0s,mb4.7						
SNAA	Sanae	61.46	161	P	P	14 18 53.4	+0.3
	comp=E,1.6nm,0.8s,mb4.1,baz=296,slow=5.1,SNR=12						
SNAA				pP	pP	14 19 24.6	+7.1
	comp=E,0.9nm,0.8s,baz=316,slow=6.5,SNR=3.1						
SNAA	Sanae	61.46	161	eP	P	14 18 53.2	+0.1
	comp=E,5.0nm,0.8s,mb4.6						
SNAA				pP	pP	14 19 24.6	+7.1
TXAR	Lajitas Array	61.48	325	P	P	14 18 52.6	-0.5
	comp=E,1.6nm,0.6s,mb4.2,baz=148,slow=8.3,SNR=17						
TXAR				pP	pP	14 19 23.7	+6.0
	comp=E,0.6nm,0.7s,baz=152,slow=5.7,SNR=3.1						
CBKS	Cedar Bluff	67.43	334	eP	P	14 19 31.4	-0.5
	comp=E,26nm,0.9s,mb5.1						
TUC	Tucson	67.68	322	eP	P	14 19 33.9	+0.4
	comp=E,6.3nm,1.3s,mb4.3						
MVCO	Mesa Verde	70.14	327	eP	P	14 19 49.0	+0.2
	comp=E,28nm,1.3s,mb4.9						
MVCO				e		14 20 21.2	
WUAZ	Wupatki	70.38	324	eP	P	14 19 51.1	+0.9
	comp=E,11nm,0.9s,mb4.7						
PV01	Paradox Valley	70.89	327	eP	P	14 19 54.0	+0.7
SRU	San Rafael	72.62	327	eP	P	14 20 04.0	+0.2
	comp=E,12nm,1.0s,mb4.7						
SRU				epP	pP	14 20 36.0	+7.1
CCUT	Cedar City	72.95	324	eP	P	14 20 07.0	+1.4
DUG	Dugway	74.60	326	eP	P	14 20 15.8	+0.5
	comp=E,2.0nm,0.8s,mb3.9						
DUG				epP	pP	14 20 48.1	+7.5
PDAR	Pinedale Array	74.95	330	P	P	14 20 17.0	-0.3
	comp=E,0.9nm,0.7s,mb3.6,baz=144,slow=5.5,SNR=6.7						
PDAR				pP	pP	14 20 49.4	+6.7
	comp=E,1.3nm,0.9s,baz=138,slow=9.1,SNR=4.7						
ULM	Lac du Bonnet	76.13	342	P	P	14 20 22.5	-1.5
	comp=E,2.8nm,0.5s,mb4.2,baz=158,slow=5.4,SNR=8.1						
ULM	Lac du Bonnet	76.13	342	P	P	14 20 22.5	-1.5
NVAR	Mina Array Bea	76.34	322	P	P	14 20 25.9	+0.7
	comp=E,0.8nm,0.6s,mb3.6,baz=174,slow=6.9,SNR=7.2						
NVAR				pP	pP	14 20 58.2	+7.6
	comp=E,2.0nm,0.8s,baz=139,slow=5.7,SNR=7.1						
NVAR	Mina Array Bea	76.34	322	P	P	14 20 25.9	+0.7
NVAR				pP	pP	14 20 58.2	+7.6
RLMT	Red Lodge	76.66	332	eP	P	14 20 27.2	+0.2
	comp=E,9.3nm,1.3s,mb4.3						
TOA0	Torodi Ar. Sit	77.16	70	eP	P	14 20 29.0	-0.8
TORD	Torodi Ar. Bea	77.16	70	P	P	14 20 29.4	-0.4
	comp=E,6.1nm,0.7s,mb4.4,baz=251,slow=5.2,SNR=35						
MCMT	McKenzie Canyo	78.07	329	eP	P	14 20 35.4	+0.5
TSUM	Tsumeb	79.40	106	eP	P	14 20 43.4	+1.3
	comp=E,21nm,1.1s,mb4.9						
BOSA	Boshof	82.71	118	P	P	14 21 00.3	+0.6
	comp=E,7.5nm,1.0s,mb4.5,baz=223,slow=4.5,SNR=9.1						
YKA	Yellowknife Ar	92.01	340	P	P	14 21 43.3	-1.4
	comp=E,2.4nm,0.6s,mb4.6,baz=134,slow=4.4,SNR=74						
YKA				pP	pP	14 22 16.8	+6.0
	comp=E,2.6nm,0.7s,baz=134,slow=4.5,SNR=11						
YKA				sP	sP	14 22 32.0	+11
	comp=E,1.3nm,0.6s,baz=135,slow=4.4,SNR=5.9						
ASAR	Alice Springs	129.49	207	PKP	PKPdf	14 27 45.0	+0.8
	comp=E,0.7nm,0.8s,baz=148,slow=2.6,SNR=3.1						
ASAR				pPKP	pPKPdf	14 28 18.9	+7.6
	comp=E,1.0nm,0.8s,baz=119,slow=1.9,SNR=5.1						
WRA	Warramunga Arr	132.57	210	PKP	PKPdf	14 27 50.3	+0.3
	comp=E,0.7nm,0.8s,baz=166,slow=2.0,SNR=5.2						
WRA				pPKP	pPKPdf	14 28 25.6	+8.4
	comp=E,0.7nm,0.6s,baz=155,slow=1.8,SNR=4.1						
MKAR	Makanchi Array	145.93	37	PKPbc	PKPbc	14 28 14.8	-0.2
	comp=E,2.6nm,0.9s,baz=336,slow=2.7,SNR=16						
MKAR				pPKPbc	pPKPbc	14 28 49.5	+7.6
	comp=E,2.2nm,0.9s,baz=307,slow=3.4,SNR=4.1						
MKAR	Makanchi Array	145.93	37	PKPbc	PKPbc	14 28 14.8	-0.2
MKAR				pPKPbc	pPKPbc	14 28 49.5	+7.6
MJAR	Matsushiro Arr	152.87	308	PKPbc	PKPbc	14 28 32.6	+0.1
	comp=E,1.4nm,0.9s,baz=13,slow=12,SNR=4.2						
MJAR				pPKPbc	pPKPbc	14 29 07.5	+7.9
	comp=E,2.4nm,0.9s,baz=73,slow=2.5,SNR=3.3						

*ISCJB **19** 14:16:41.3±5.0, 68S$_{\pm}$02×1543E$_{\pm}$02, h50$^{km}_{\pm}$41^{km}, mb3.6/6, Error ellipse: s-maj=36.7km s-min=25.0km az=57.7*
*IDC **19** 14:16:42.7±7.3, 690S×15440E, h52$^{km}_{\pm}$58^{km}, mb3.6/6, mb1 3.7/7, mb1mx3.6/15, mbtmp3.6/7, ML2.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/19, Error ellipse: s-maj=49.1km s-min=28.5km az=96.0*
*NEIC **19** 14:16:42.9±5.0, 688S×15445E, h57$^{km}_{\pm}$37^{km}, Error ellipse: s-maj=52.2km s-min=21.7km az=105.0*

ISC 19 14:16:43.1±4.4, 69S$_{\pm}$02×1544E$_{\pm}$02, h55$^{km}_{\pm}$36^{km}, n13, σ0§90/13, mb3.6/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.60	250	P	Pn	14 18 31.5	+0.3
	0.6nm,0.3s,baz=127,slow=20,SNR=3.0						
PMG				S	Sn	14 19 55.5	-0.4
	0.2nm,0.3s,baz=352,slow=19,SNR=1.7						
PMG	Port Moresby	7.60	250	ePn	Pn	14 18 31.4	+0.2
PMG				S	Sn	14 19 55.5	-0.4
CTA	Charters Tower	15.34	210	LR	LR	14 25 06.0	
	comp=Z,60nm,18.1s,baz=231,slow=33						
WB2	Warramunga Arr	23.40	234	ePn	P	14 21 48.2	+1.1
WRA	Warramunga Arr	23.41	234	P	P	14 21 46.0	-1.3
	1.0nm,0.8s,mb3.3,baz=54,slow=9.4,SNR=10						
ASAR	Alice Springs	25.82	227	P	P	14 22 08.9	-0.3
	0.5nm,0.8s,mb3.1,baz=59,slow=8.8,SNR=6.5						
STKA	Stephens Creek	27.61	204	P	P	14 22 26.1	+0.8
	1.3nm,0.7s,mb3.7,baz=32,slow=9.5,SNR=3.5						
SONM	Songino Array	68.90	328	P	P	14 27 43.6	+1.4
	0.4nm,0.6s,mb3.5,baz=135,slow=5.4,SNR=6.2						
MKAR	Makanchi Array	82.91	319	P	P	14 29 01.8	-0.2
	1.2nm,0.7s,mb4.1,baz=94,slow=5.1,SNR=5.7						
MKAR	Makanchi Array	82.91	319	P	P	14 29 01.8	-0.2
YKA	Yellowknife Ar	96.49	28	P	P	14 30 05.2	-1.3
	0.4nm,0.8s,mb3.9,baz=265,slow=4.7,SNR=7.6						
YKA	Yellowknife Ar	96.49	28	P	P	14 30 05.2	-1.3
TORD	Torodi Ar. Bea	152.41	285	PKPbc	PKPbc	14 36 33.1	+0.1
	1.0nm,0.8s,baz=57,slow=2.5,SNR=5.4						
TORD				PKPab	PKPab	14 36 45.3	+2.0
	1.4nm,0.9s,baz=88,slow=1.9,SNR=7.3						

MAN 19 14:16:51.8, 1011N×12497E, h62^{km}, mb3.4, ML4.6, MS4.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.11	284	eP	Pn	14 17 02.3	+1.2
MSLP				eS	Sn	14 17 09.3	+1.5
SCPH	Surigao	0.60	122	⇓eP	Pn	14 17 06.7	+1.7
SCPH				eS	Sn	14 17 18.2	+3.5
OCLP	Ormoc	1.00	339	eP	Pn	14 17 11.4	+1.5
OCLP				eS	Sn	14 17 25.1	+1.7

*GRAL **19** 14:30:52.3±1.7, 3457N×3690E, h0$^{km}_{\pm}$493^{km}, MD3.0*
*ISCJB **19** 14:30:53.6±1.8, 3442N$_{\pm}$006×368E$_{\pm}$01, h10^{km}, Error ellipse: s-maj=13.7km s-min=5.8km az=60.0*
*CSEM **19** 14:30:53.6±0.6, 3447N×3683E, h2^{km}, ML3.0, Error ellipse: s-maj=16.5km s-min=3.6km az=125.0*
*NSSC **19** 14:30:59, 3458N×3641E, h15$^{km}_{\pm}$2^{km}*

ISC 19 14:30:53.7±2.0, 3444N$_{\pm}$006×368E$_{\pm}$01, h10^{km}, n10, σ0§82/16, 2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	Haweek	0.37	282	⇓P	Pg	14 31 01.0	0.0
HAWK				⇑S	Sg	14 31 05.0	-0.9
HAWK	Haweek	0.37	282	⇓iP	Pg	14 31 01.6	+0.6
FKH	Fakeheh	0.42	241	ePg	Pg	14 31 00.5	-1.5
FKH				eSg	Sg	14 31 08.8	+1.3
FKH	Fakeheh	0.42	241	ePg	Pg	14 31 00.4	-1.5
FKH				eSg	Sg	14 31 08.8	+1.3
BIDA	Albida	0.71	323	⇑P	Pg	14 31 08.0	+0.5
BIDA	Albida	0.71	323	⇑iP	Pg	14 31 08.3	+0.8
HWQ	Hawqa	0.76	258	ePg	Pg	14 31 08.0	-0.4
HWQ				eSg	Sg	14 31 17.9	-0.4
WRDH	Warideh	1.12	342	⇑P	Pb	14 31 15.0	-0.2
WRDH				⇑S	Sb	14 31 30.0	+0.2
WRDH	Warideh	1.12	342	⇑iP	Pb	14 31 15.8	+0.6
BHL	Bhannes	1.12	242	ePg	Pg	14 31 14.7	-0.6
BHL				eSg	Sg	14 31 31.0	+1.1

*ISCJB **19** 14:41:44.2±0.3, 4836N$_{\pm}$002×660E$_{\pm}$002, h14$^{km}_{\pm}$3^{km}, Error ellipse: s-maj=3.3km s-min=2.5km az=21.0*
*STR **19** 14:41:46.0±0.1, 4834N×668E, h8$^{km}_{\pm}$1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **19** 14:41:46.2±0.1, 4834N×666E, h15^{km}, ML2.5/14, Error ellipse: s-maj=1.2km s-min=0.9km az=18.0*
*LDG **19** 14:41:46.4±0.1, 4834N×664E, h12^{km}, Md2.7/4, Ml2.5/14, Error ellipse: s-maj=1.2km s-min=0.9km az=175.0*
*NEIC **19** 14:41:46.4, 4834N×664E, h12^{km}, ML2.2(STR), ML2.5(LDG), After LDG.*

ISC 19 14:41:45.4±0.3, 4835N$_{\pm}$002×663E$_{\pm}$002, h18$^{km}_{\pm}$4^{km}, n50, σ0§79/101, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	Echery	0.38	110	Pg	Pg	14 41 53.4	+0.2
ECH				Sg	Sg	14 41 58.1	-0.4
HAU	Haudompre	0.39	209	ePg	Pg	14 41 54.2	+0.8
HAU				eSg	Sg	14 41 59.4	+0.6
	45nm,0.2s						
HAU	Haudompre	0.39	209	ePg	Pg	14 41 54.2	+0.8
HAU				eSg	Sg	14 41 59.4	+0.6
	22nm,0.2s						
CDF	Champ du Feu	0.44	81	ePg	Pg	14 41 54.5	+0.2
CDF				eSg	Sg	14 42 00.0	-0.3
	23nm,0.2s						
CDF				eSn	Sg	14 42 03.3	+3.0
CDF	Champ du Feu	0.44	81	ePg	Pg	14 41 54.5	+0.2
CDF				eSg	Sg	14 42 00.0	-0.3
	12nm,0.2s						
CDF				eSn	Sg	14 42 03.3	+3.0
THEF	They Montfort	0.45	255	Pg	Pg	14 41 55.1	+0.7
THEF				Sg	Sg	14 42 01.9	+1.4
HINF	Hinteralfeld	0.55	164	ePg	Pg	14 41 56.7	+0.3
HINF				eSg	Sg	14 42 03.6	-0.2
	46nm,0.2s						
HINF				eSn	Sg	14 42 06.4	+2.6
HINF	Hinteralfeld	0.55	164	ePg	Pg	14 41 56.7	+0.3
HINF				eSg	Sg	14 42 03.6	-0.2
	23nm,0.2s						
HINF				eSn	Sg	14 42 06.4	+2.6
MOF	Molkenrain	0.60	145	Pg	Pg	14 41 57.5	+0.2
MOF				Sg	Sg	14 42 05.3	0.0
RFYF	Reffroy	0.82	291	eSg	Sg	14 42 13.3	+1.1
	63nm,0.2s		

LOR *e*Sg **Sg** **14 42 54.8 0.0**
3.2nm,0.2s
TNS **Taunus Mts** **2.23 32** *e*Pg **Pg** **14 42 28.0 -0.1**
TNS *e*Sg **Sg** **14 42 55.9 -1.1**
BAIF **Baives** **2.34 318** *e*Pg **Pg** **14 42 30.1 -0.1**
BAIF *e*Sg **Sg** **14 42 59.4 -1.2**
2.9nm,0.2s
BAIF **Baives** **2.34 318** *e*Pg **Pg** **14 42 30.1 -0.1**
BAIF *e*Sg **Sg** **14 42 59.4 -1.2**
1.5nm,0.2s
SSF **Saint Saulge** **2.47 240** *e*Pg **Pg** **14 42 32.2 -0.6**
SSF *e*Sg **Sg** **14 43 04.6 -0.2**
3.0nm,0.3s
SSF **Saint Saulge** **2.47 240** *e*Pn **Pn** **14 42 24.8 +0.1**
SSF *e*Pg **Pg** **14 42 32.2 -0.6**
SSF *e*Sg **Sg** **14 43 04.6 -0.2**
SSF **Saint Saulge** **2.47 240** *e*Pg **Pg** **14 42 32.2 -0.6**
SSF *e*Sg **Sg** **14 43 04.6 -0.2**
1.5nm,0.3s
SMF **Signal de Mont** **2.54 229** *e*Pg **Pg** **14 42 34.5 +0.3**
SMF *e*Sg **Sg** **14 43 06.6 -0.5**
3.6nm,0.2s
SMF **Signal de Mont** **2.54 229** *e*Pn **Pn** **14 42 25.2 -0.5**
SMF *e*Pg **Pg** **14 42 34.5 +0.3**
SMF *e*Sg **Sg** **14 43 06.6 -0.5**
SMF **Signal de Mont** **2.54 229** *e*Pg **Pg** **14 42 34.5 +0.3**
SMF *e*Sg **Sg** **14 43 06.6 -0.5**
1.8nm,0.2s
AVF **Avril sur Loir** **2.71 236** *e*Pg **Pg** **14 42 37.0 -0.3**
AVF *e*Sg **Sg** **14 43 11.5 -1.0**
1.0nm,0.2s
AVF **Avril sur Loir** **2.71 236** *e*Pn **Pn** **14 42 28.0 0.0**
AVF *e*Pg **Pg** **14 42 37.0 -0.3**
AVF *e*Sg **Sg** **14 43 11.5 -1.0**
AVF **Avril sur Loir** **2.71 236** *e*Pg **Pg** **14 42 37.0 -0.3**
AVF *e*Sg **Sg** **14 43 11.5 -1.0**
0.5nm,0.2s
LPG **La Plagne** **2.85 178** *e*Sg **Sg** **14 43 16.4 -0.6**
1.2nm,0.2s
LPG **La Plagne** **2.85 178** *e*Sg **Sg** **14 43 16.4 -0.6**
0.6nm,0.2s
BGF **Bois d'Agland** **3.13 237** *e*Pn **Pn** **14 42 33.7 -0.1**
BGF *e*Sg **Sg** **14 43 24.6 -1.3**
17nm,0.4s
BGF **Bois d'Agland** **3.13 237** *e*Pn **Pn** **14 42 33.7 -0.1**
BGF *e*Sg **Sg** **14 43 24.6 -1.3**
8.3nm,0.4s
ORIF **Oris-en-Rattie** **3.47 189** *e*Sg **Sg** **14 43 35.3 -1.4**
0.9nm,0.2s
ORIF **Oris-en-Rattie** **3.47 189** *e*Sg **Sg** **14 43 35.3 -1.4**
0.4nm,0.2s
VIVF **Saint-Julien-l** **3.74 202** *e*Sg **Sg** **14 43 43.7 -1.8**
1.8nm,0.3s
VIVF **Saint-Julien-l** **3.74 202** *e*Sg **Sg** **14 43 43.7 -1.8**
0.9nm,0.3s

IDC 19 14:44:54.4±9.1, 545S×14662E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/13, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=295.4km s-min=35.3km az=102.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.72 219**		P	Pn	14 49 12.9	-1.8
	0.1nm,0.3s,baz=38,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**21.86 213**		P	P	14 49 49.8	+1.1
	0.2nm,0.7s,baz=30,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**76.84 321**		P	P	14 56 48.6	+0.5
	0.1nm,0.6s,baz=93,slow=5.5,SNR=3.8						

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*IDC **19** 14:58:05.2±1.2, 3773N×15.13E, h0km, mb3.7/3, mb1 3.8/9, mb1mx3.6/26, mbtmp3.6/9, ML3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=28.0km s-min=7.9km az=149.0*
*PDG **19** 14:58:06.3±1.2, 3778N×1496E, h21km±2km*
*ROM **19** 14:58:06.5±0.1, 3778N×1491E, h24km±2km, Md3.5/9, Ml4.1/35, Error ellipse: s-maj=1.9km s-min=1.4km az=89.0*
*ISCJB **19** 14:58:06.3±0.2, 3781N±001×1501E±003, h24km, mb3.8/3, Error ellipse: s-maj=3.2km s-min=1.8km az=53.8*
*NEIC **19** 14:58:06.5, 3778N×1491E, h24km, MD4.1(PDG), ML4.1(ROM), After ROM.*
*CSEM **19** 14:58:07.2±0.1, 3769N×1495E, h12km, ML5.2/2, Error ellipse: s-maj=4.6km s-min=2.4km az=114.0*
ISC 19 14:58:07.2±0.2, 3778N±002×1496E±003, h22km±3km, n104, σ0§98/138, mb3.8/3, 22C-12D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.09 171**		⇓*i*Pg	**Pb**	**14 58 11.2**	**-0.1**
ESLN				Sg	**Sb**	**14 58 15.2**	**+1.1**
38μm,0.3s							
MNO	**Monte Soro**	**0.26 306**		⇓*i*Pg	**Pb**	**14 58 12.2**	**-1.1**
MMME	**Mongiuffi-Meli**	**0.28 57**		⇑*i*Pg	**Pb**	**14 58 13.9**	**+0.2**
MMME				Sg	**Sb**	**14 58 20.4**	**+2.3**
27μm,0.4s							
GALF	**Gagliano Caste**	**0.32 257**		⇑*e*Pg	**Pb**	**14 58 13.0**	**-1.3**
GALF				Sg	**Sb**	**14 58 19.6**	**+0.6**
HAGA	**Augusta**	**0.52 162**		⇓*i*Pg	**Pb**	**14 58 16.8**	**-0.8**
HAGA				Sg	**Sb**	**14 58 25.2**	**+0.5**
12μm,0.6s							
VAE	**Valguarnera**	**0.53 235**	Pg		**Pb**	**14 58 18.0**	**+0.3**
166nm,0.3s,baz=16,slow=0.7,SNR=170							
VAE			Lg			14 58 27.9	
358nm,0.3s,baz=30,slow=14,SNR=18							
VAE	**Valguarnera**	**0.53 235**	Pg		**Pb**	**14 58 18.0**	**+0.3**
VAE			Lg			14 58 27.9	
AGST	**Augusta-Monte**	**0.56 158**		⇓*e*Pg	**Pb**	**14 58 17.7**	**-0.7**
AGST				Sg	**Sb**	**14 58 26.6**	**+0.6**
14μm,0.7s							
VPL	**Vulcano Piano**	**0.60 2**	Pg		**Pb**	**14 58 18.1**	**-0.9**
VPL				Sg	**Sb**	**14 58 27.6**	**+0.6**
15μm,0.5s							
MTTG	**Motta San Giov**	**0.62 69**		⇑*i*Pg	**Pb**	**14 58 19.7**	**+0.3**
HVZN	**Vizzini**	**0.63 198**		⇓*e*Pg	**Pb**	**14 58 18.2**	**-1.3**
HVZN				Sg	**Sb**	**14 58 28.0**	**+0.1**
19μm,0.4s							
SSY	**Sortino**	**0.63 172**		⇓*e*Pg	**Pb**	**14 58 18.6**	**-0.9**
SSY				Sg	**Sb**	**14 58 28.7**	**+0.8**
15μm,0.3s							
MSI	**Messina ING**	**0.64 48**		⇑*i*Pg	**Pb**	**14 58 19.6**	**0.0**
MSRU	**Castanea**	**0.65 42**		⇑*i*Pg	**Pb**	**14 58 19.6**	**-0.3**
MSRU				Sg	**Sb**	**14 58 30.5**	**+2.0**
9μm,0.6s							
LLI	**Lipari**	**0.66 359**	Pg		**Pb**	**14 58 19.8**	**-0.3**
39μm,0.9s							
PZI	**Palazzolo**	**0.72 181**	Pg		**Pb**	**14 58 20.1**	**-1.0**
CSLB	**Castelbuono**	**0.73 283**	Pg		**Pb**	**14 58 19.5**	**-1.7**
1μm,0.6s							
RAFF	**Raffo Rosso**	**0.73 220**		⇑*i*Pg	**Pb**	**14 58 20.1**	**-1.1**
RAFF				Sg	**Sb**	**14 58 32.3**	**+1.5**
11μm,0.6s							
GIB	**Gibilmanna**	**0.77 286**	Pg		**Pb**	**14 58 20.3**	**-1.5**
16μm,0.9s							
SCLL	**Scilla**	**0.77 51**		⇑*i*Pg	**Pb**	**14 58 21.6**	**-0.2**
SLNA	**Salina**	**0.79 353**	Pg		**Pb**	**14 58 21.4**	**-0.8**
HAVL	**Avola**	**0.83 171**	Pg		**Pb**	**14 58 21.4**	**-1.5**
HAVL				Sg	**Sb**	**14 58 34.1**	**+0.5**
9μm,0.3s							
HMDC	**Modica**	**0.83 190**	Pg		**Pb**	**14 58 21.6**	**-1.3**
HMDC				Sg	**Sb**	**14 58 34.1**	**+0.4**
16μm,0.5s							
IFIL	**Filicudi I Eol**	**0.84 339**	Pg		**Pb**	**14 58 21.2**	**-1.9**
30μm,0.7s							
MPAZ	**Palizzi**	**0.85 78**		⇑*i*Pg	**Pb**	**14 58 23.5**	**+0.3**
12μm,0.6s							
SOI	**Samo**	**0.92 71**		⇑*i*Pg	**Pb**	**14 58 24.4**	**0.0**
MCT	**Mte Cammarata**	**1.06 262**	Pg		**Pn**	**14 58 27.9**	**+1.2**
1μm,0.9s							
JOPP	**Joppolo**	**1.10 41**		⇑*i*Pg	**Pn**	**14 58 26.4**	**-0.9**
2μm,0.5s							
FAVR	**Favara**	**1.15 244**	Pg		**Pn**	**14 58 28.3**	**+0.4**
1μm,0.6s							
CORL	**Corleone**	**1.31 275**	Pg		**Pn**	**14 58 30.2**	**0.0**
4μm,0.9s							
PLAC	**Placanica**	**1.35 60**		⇑*e*Pg	**Pn**	**14 58 31.7**	**+1.1**
1μm,0.7s							
CLTB	**Caltabellotta**	**1.40 262**	Pg		**Pn**	**14 58 31.5**	**+0.2**
567nm,0.4s							
GRI	**Girifalco**	**1.55 47**	Pg		**Pn**	**14 58 33.4**	**-0.1**
3μm,0.7s							
USI	**Ustica**	**1.68 304**	Pg		**Pn**	**14 58 33.1**	**-2.1**
1μm,0.5s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARO	**Carolei**	**1.77 34**		⇑*e*Pg	**Pn**	**14 58 35.6**	**-0.9**
4μm,0.9s							
SERS	**Sersale**	**1.85 47**	Pg		**Pn**	**14 58 38.1**	**+0.5**
632nm,0.6s							
ERC	**Erice**	**1.89 279**	Pg		**Pn**	**14 58 39.7**	**+1.6**
2μm,0.7s							
WDD	**Wield Dalam**	**1.94 190**	Pg		**Pn**	**14 58 39.7**	**+0.9**
TIP	**Timpagrande**	**1.99 45**	Pg		**Pn**	**14 58 40.5**	**+1.1**
637nm,0.7s							
BULG	**Bulgheria - Ca**	**2.32 8**	Pg		**Pn**	**14 58 42.9**	**-1.1**
381nm,0.4s							
SIRI	**Monte Sirino -**	**2.50 16**	Pg		**Pn**	**14 58 46.4**	**-0.1**
863nm,0.9s							
CMPR	**Campora**	**2.55 6**	Pg		**Pn**	**14 58 46.1**	**-1.1**
169nm,0.6s							
MTSN	**Montesano sull**	**2.56 14**	Pg		**Pn**	**14 58 47.4**	**+0.1**
418nm,0.5s							
ORI	**Oriolo Calabro**	**2.56 27**	Pg		**Pn**	**14 58 48.0**	**+0.7**
934nm,0.5s							
SCHR	**S. Chirico Rap**	**2.57 20**	Pg		**Pn**	**14 58 47.3**	**-0.1**
508nm,1.1s							
MCEL	**Monticello**	**2.62 14**	Pg		**Pn**	**14 58 48.8**	**+0.6**
280nm,0.5s							
CDRU	**Civita di Ruta**	**2.72 6**	Pg		**Pn**	**14 58 49.8**	**+0.3**
SGO	**Sicignano**	**2.79 6**	Pg		**Pn**	**14 58 50.6**	**+0.1**
42nm,0.4s							
CRAC	**Craco**	**2.83 24**	Pg		**Pn**	**14 58 52.9**	**+1.9**
871nm,0.8s							
MRLC	**Muro Lucano**	**3.00 8**	Pg		**Pn**	**14 58 55.8**	**+2.4**
143nm,0.7s							
MCRV	**Calabrutti - M**	**3.00 3**	Pg		**Pn**	**14 58 54.6**	**+1.2**
88nm,0.5s							
PALZ	**Palazzo San Ge**	**3.25 14**	Pg		**Pn**	**14 58 58.7**	**+1.8**
SG1	**Sgolgore (BA)**	**3.33 23**		⇓*i*Pn	**Pn**	**14 58 58.3**	**+0.3**
SGTA	**Sant Agata di**	**3.37 5**	Pg		**Pn**	**14 59 01.1**	**+2.7**
AMUR	**Altamura**	**3.37 22**	Pg		**Pn**	**14 58 58.8**	**+0.3**
509nm,1.4s							
NOCI	**Noci**	**3.42 28**	Pg		**Pn**	**14 58 59.6**	**+0.4**
215nm,0.7s							
LCI	**Lecce**	**3.54 43**	Pg		**Pn**	**14 59 00.3**	**-0.5**
84nm,0.6s							
PE1	**Pezze di Greco**	**3.58 32**	*e*Pn		**Pn**	**14 59 01.1**	**-0.2**
BAI	**Bari**	**3.64 24**	*e*Pn		**Pn**	**14 59 02.1**	**-0.1**
RGNG	**Rignano Grg**	**3.92 7**	Pg		**Pn**	**14 59 07.4**	**+1.4**
KEK	**Kerkira**	**4.25 61**	*e*P		**Pn**	**14 59 10.5**	**0.0**
VLS	**Valsamata**	**4.47 83**	*e*P		**Pn**	**14 59 12.0**	**-1.6**
KEST	**Kesra**	**4.95 247**	Pn		**Pn**	**14 59 20.3**	**+0.2**
0.9nm,0.3s,baz=351,slow=0.8,SNR=10							
KEST			Sn		**Sn**	**15 00 17.2**	**+0.5**
0.3nm,0.3s,baz=24,slow=19,SNR=2.9							
JAN	**Janina**	**4.98 66**	*e*P		**Pn**	**14 59 20.5**	**0.0**
ULC	**Ulcinj**	**5.33 37**		⇑*i*Pn	**Pn**	**14 59 25.4**	**0.0**
ULC			*e*Sn		**Sn**	**15 00 25.9**	**-0.1**
HCY	**Herceg Novi**	**5.39 29**		⇓*i*Pn	**Pn**	**14 59 26.2**	**-0.1**
HCY			*e*Sn		**Sn**	**15 00 28.2**	**+0.5**
BUM	**Brajici-Budva**	**5.43 33**		⇑*i*Pn	**Pn**	**14 59 26.8**	**-0.1**
BUM			*e*Sn		**Sn**	**15 00 28.6**	**-0.1**
BUM	**Brajici-Budva**	**5.43 33**		⇑*i*Pn	**Pn**	**14 59 26.8**	**0.0**
BUM			*e*Sn		**Sn**	**15 00 28.5**	**-0.2**
EVR	**Evrytania**	**5.50 76**	*e*P		**Pn**	**14 59 28.8**	**+1.0**
ITM	**Ithomi**	**5.58 94**	*e*P		**Pn**	**14 59 28.0**	**-0.8**
OHR	**Ohrid**	**5.61 52**	*e*Pn		**Pn**	**14 59 26.1**	**-3.1**
OHR			*e*Sn		**Sn**	**15 00 30.9**	**-2.2**
OHR	**Ohrid**	**5.61 52**	*e*Pn		**Pn**	**14 59 26.1**	**-3.1**
OHR			*e*Sn		**Sn**	**15 00 30.9**	**-2.2**
TTG	**Podgorica**	**5.70 34**		⇓*i*Pn	**Pn**	**14 59 30.1**	**-0.3**
TTG			*e*Sn		**Sn**	**15 00 34.6**	**-0.5**
BRY	**Bratogost**	**5.80 27**		⇑*i*Pn	**Pn**	**14 59 31.7**	**-0.2**
BRY			*e*Sn		**Sn**	**15 00 37.0**	**-0.8**
BIA	**Bitola**	**5.90 55**	*e*Pn		**Pn**	**14 59 32.5**	**-0.7**
BIA			*e*Sn		**Sn**	**15 00 38.7**	**-1.4**
BIA	**Bitola**	**5.90 55**	*e*Pn		**Pn**	**14 59 32.5**	**-0.7**
BIA			*e*Sn		**Sn**	**15 00 38.7**	**-1.4**
BIA	**Bitola**	**5.90 55**	*e*Pn		**Pn**	**14 59 32.5**	**-0.7**
BIA			*e*Sn		**Sn**	**15 00 38.6**	**-1.5**
NKY	**Niksic**	**5.90 30**		⇑*i*Pn	**Pn**	**14 59 33.3**	**0.0**
NKY			*e*Sn		**Sn**	**15 00 39.9**	**-0.2**
KRUS	**Krusevo**	**6.04 52**	*e*Pn		**Pn**	**14 59 35.0**	**-0.2**
KRUS			*e*Sn		**Sn**	**15 00 41.1**	**-2.5**
KRUS	**Krusevo**	**6.04 52**	*e*Pn		**Pn**	**14 59 35.0**	**-0.2**
KRUS			*e*Sn		**Sn**	**15 00 41.1**	**-2.5**
KRUS	**Krusevo**	**6.04 52**	*e*Pn		**Pn**	**14 59 34.9**	**-0.2**
KRUS			*e*Sn		**Sn**	**15 00 41.0**	**-2.6**
PVY	**Plav**	**6.15 37**		⇑*i*Pn	**Pn**	**14 59 37.0**	**+0.3**
PVY			*e*Sn		**Sn**	**15 00 46.3**	**-0.1**
UPM	**Unac-Piva**	**6.20 28**		⇓*i*Pn	**Pn**	**14 59 37.8**	**+0.5**
UPM			*e*Sn		**Sn**	**15 00 46.8**	**-0.7**
IVA	**Berane**	**6.33 35**		⇓*i*Pn	**Pn**	**14 59 40.1**	**+1.0**
IVA			*e*Sn		**Sn**	**15 00 50.1**	**-0.7**
VLI	**Veliai**	**6.45 97**	*e*P		**Pn**	**14 59 41.5**	**+0.7**
PLE	**Pljevlja**	**6.49 30**		⇓*i*Pn	**Pn**	**14 59 42.3**	**+0.9**
PLE			*e*Sn		**Sn**	**15 00 54.0**	**-0.7**
VAY	**Valandovo**	**6.86 57**	*e*Pn		**Pn**	**14 59 46.0**	**-0.4**
VAY			*e*Sn		**Sn**	**15 00 59.4**	**-4.4**
VAY	**Valandovo**	**6.86 57**	*e*Pn		**Pn**	**14 59 46.0**	**-0.4**
VAY			*e*Sn		**Sn**	**15 00 59.4**	**-4.4**
IDI	**Anoyia**	**8.37 104**	Pn		**Pn**	**15 00 06.7**	**-0.5**
0.7nm,0.3s,baz=214,slow=16,SNR=4.4							
IDI			Sn		**Sn**	**15 01 35.2**	**-5.8**
2.1nm,0.3s,baz=313,slow=15,SNR=4.3							
BZS	**Buzias**	**9.28 30**		⇑*i*P	**Pn**	**15 00 17.7**	**-1.9**
GZR	**Gura Zlata**	**9.60 35**		⇑*i*P	**Pn**	**15 00 23.8**	**-0.1**
VOIR		**10.75 41**		⇑*i*P	**Pn**	**15 00 41.0**	**+1.3**
GERES	**GERESS Array B**	**11.10 356**	Pn		**Pn**	**15 00 46.1**	**+1.6**
0.2nm,0.3s,baz=167,slow=12,SNR=5.9							
MLR	**Muntele Rosu**	**11.26 43**	Pn		**Pn**	**15 00 48.5**	**+1.8**
0.3nm,0.3s,baz=145,slow=14,SNR=6.3							
MLR	**Muntele Rosu**	**11.26 43**		⇑*i*P	**Pn**	**15 00 48.5**	**+1.8**
BRTR	**Keskin Array B**	**14.71 77**	Pn		**Pn**	**15 01 34.6**	**+0.8**
0.0nm,0.3s,baz=265,slow=11,SNR=2.9							
BRTR	**Keskin Array B**	**14.71 77**	Pn		**Pn**	**15 01 34.6**	**+0.8**
AKASG	**Malin Array Be**	**16.43 34**	Pn		**Pn**	**15 01 56.5**	**+0.2**
0.3nm,0.3s,baz=228,slow=9.8,SNR=2.1							
AKASG	**Malin Array Be**	**16.43 34**	Pn		**Pn**	**15 01 56.5**	**+0.2**
MDT	**Midelt**	**16.72 259**	LR		LR	15 08 45.0	
comp=Z,45nm,18.9s,baz=43,slow=38							
HFS	**Hagfors**	**22.39 358**	P		**P**	**15 03 03.8**	**-0.1**
3.8nm,0.9s,mb3.8,baz=172,slow=12,SNR=4.6							
FINES	**FINESS Array B**	**24.69 13**	P		**P**	**15 03 29.4**	**+2.9**
1.9nm,0.7s,mb3.7,baz=189,slow=7.0,SNR=5.6							
MKAR	**Makanchi Array**	**49.23 57**	P		**P**	**15 06 52.9**	**-0.9**
0.4nm,0.5s,mb3.7,baz=281,slow=7.0,SNR=12							
MKAR	**Makanchi Array**	**49.23 57**	P		**P**	**15 06 52.9**	**-0.9**

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*ISCJB **19** 15:08:07.0±1.9, 561S±008×1502E±01, h69km±17km, mb4.1/10, Error ellipse: s-maj=17.6km s-min=11.6km az=46.9*
*IDC **19** 15:08:11.0±1.7, 569S×150.10E, h90km±13km, mb3.9/10, mb1 4.1/11, mb1mx4.0/16, mbtmp4.0/11, MS3.1/3, Ms1 3.1/3, ms1mx2.8/18, Error ellipse: s-maj=21.3km s-min=9.8km az=111.0*
*NEIC **19** 15:08:14.3±2.7, 563S×149.94E, h118km±23km, mb4.2/3, Error ellipse: s-maj=26.7km s-min=15.8km az=81.0*
ISC 19 15:08:11.2±1.5, 570S±008×15015E±010, h90km±13km, n24, σ0§89/26, mb4.1/10, 3C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.73 219**		P	**Pn**	**15 09 21.1**	**+1.1**
30nm,0.3s,baz=45,slow=7.2,SNR=15							
PMG				S	**Sn**	**15 10 13.1**	**-0.4**
20nm,0.3s,baz=315,slow=6.1,SNR=14							
PMG	**Port Moresby**	**4.73 219**		⇑*i*Pn	**Pn**	**15 09 20.7**	**+0.7**
CTA	**Charters Tower**	**14.80 194**		⇑*i*P	**Pn**	**15 11 40.7**	**+5.1**
CTA	**Charters Tower**	**14.80 194**		P	**Pn**	**15 11 38.0**	**+2.4**
0.4nm,0.3s,baz=17,slow=11,SNR=7.1							
CTA				LR	LR	15 17 07.9	
comp=Z,20nm,18.4s,baz=52,slow=36							
CTAO	**Charters Tower**	**14.80 194**		P	**Pn**	**15 11 39.4**	**+3.8**
15nm,1.0s							
KAKA	**Kakadu**	**18.81 247**		⇑*i*P	**Pn**	**15 12 23.3**	**-1.6**
WB2	**Warramunga Arr**	**20.89 226**		*e*P	**P**	**15 12 46.1**	**+0.1**
WB2				*e*S	**S**	**15 16 33.0**	**-0.8**
WRA	**Warramunga Arr**	**20.90 226**		P	**P**	**15 12 46.4**	**+0.3**
3.9nm,0.4s,baz=50,slow=11,SNR=85							
WRA				S	**S**	**15 16 33.7**	**-0.3**
1.2nm,0.8s,baz=57,slow=18,SNR=4.3							
WRA			ScP	ScP		15 20 19.1	-0.2
1.7nm,0.8s,baz=53,slow=2.4,SNR=12							
DZM	**Mont Dzumac**	**22.66 137**		*e*P	**P**	**15 13 03.8**	**-1.0**
DZM	**Mont Dzumac**	**22.66 137**	LR		LR	15 20 10.4	
comp=Z,85nm,19.1s,baz=207,slow=32							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**23.74 220**		P	**P**	**15 13 15.8**	**+0.8**
1.9nm,0.4s,mb3.8,baz=52,slow=9.0,SNR=83							
ASAR				S	**S**	**15 17 26.2**	**+2.6**
1.9nm,1.2s,baz=25,slow=22,SNR=3.3							
ASAR			ScP	ScP		15 20 27.1	+0.6
0.3nm,0.9s,baz=72,slow=3.0,SNR=4.2							
FITZ	**Fitzroy Crossi**	**26.91 241**		⇓*i*P	**P**	**15 13 43.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**26.91 241**		P	**P**	**15 13 43.8**	**+0.1**
8.6nm,0.4s,mb4.7,baz=51,slow=8.3,SNR=78							
FITZ			LR	LR		15 26 05.7	
comp=Z,72nm,19.7s,baz=107,slow=40							
STKA	**Stephens Creek**	**27.25 196**		*e*P	**P**	**15 13 46.7**	**0.0**
STKA	**Stephens Creek**	**27.25 196**		P	**P**	**15 13 46.1**	**-0.6**
2.5nm,0.7s,mb3.8,baz=33,slow=15,SNR=8.7							
RPZ	**Rata Peaks**	**42.10 157**		P	**P**	**15 15 54.6**	**+0.4**
6.8nm,0.7s,mb4.5,baz=256,slow=2.7,SNR=3.2							
MJAR	**Matsushiro Arr**	**43.48 346**		P	**P**	**15 16 04.6**	**-0.8**
2.2nm,0.7s,mb4.0,baz=165,slow=7.8,SNR=8.1							
KSRS	**Korea Array**	**47.67 336**		P	**P**	**15 16 39.4**	**+1.0**
3.2nm,0.6s,mb4.3,baz=153,slow=8.1,SNR=17							
HIA	**Hailar**	**60.81 338**		*e*P	**P**	**15 18 14.6**	**+0.9**
3.9nm,0.6s,mb4.6							
SONM	**Songino Array**	**65.70 329**		P	**P**	**15 18 46.4**	**+0.4**
2.2nm,0.5s,mb4.3,baz=143,slow=5.3,SNR=37							
VNDA	**Vanda**	**72.05 177**		P	**P**	**15 19 24.9**	**-0.5**
1.1nm,0.7s,mb3.8,baz=11,slow=9.3,SNR=8.7							
VNDA	**Vanda**	**72.05 177**		*e*P	**P**	**15 19 25.1**	**-0.3**
0.6nm,0.4s,mb3.8							
MKAR	**Makanchi Array**	**79.28 320**		P	**P**	**15 20 05.4**	**-1.2**
0.2nm,0.5s,mb3.2,baz=101,slow=7.5,SNR=6.1							
TORD	**Torodi Ar. Bea**	**148.03 286**		PKPbc	PKPbc	15 27 45.3	-0.9
0.8nm,0.5s,baz=91,slow=2.6,SNR=16							

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*ISCJB **19** 15:21:42.9±0.2, 3750N±001×118.17W±002, h10km, mb3.1/1, MS3.3/2, Error ellipse: s-maj=2.1km s-min=2.0km az=81.2*
*NEIC **19** 15:21:42.4, 3750N×118.19W, h6km, MW3.7(BRK), After NCEDC.*
NEIC Felt [III] at Bishop. Felt at Arnold, Benton, Big Pine, Clovis and Visalia.
*IDC **19** 15:21:42.6±0.9, 3749N×11828W, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.4/24, mbtmp3.3/6, ML3.4/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/24, Error ellipse: s-maj=15.6km s-min=6.3km az=76.0*
ISC 19 15:21:43.3±0.2, 3750N±001×11817W±002, h10km, n86, σ1§14/121, mb3.1/1, MS3.3/2, 29C-30D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S08C	**White Mtn Res**	**0.01 201**		⇓P	**Pg**	**15 21 43.7**	**-1.3**
baz=0.0,SNR=1000							
S08C				⇓S	**Sg**	**15 21 44.5**	**-1.7**
baz=0.0							
TIN	**Tinemaha**	**0.45 186**		P	**Pg**	**15 21 51.4**	**-0.7**
baz=0.4,SNR=170							
TIN				⇓S	**Sg**	**15 21 58.0**	**-0.1**
baz=0.4							
MLAC	**Mammoth Lakes**	**0.55 284**		P	**Pg**	**15 21 53.0**	**-0.9**
baz=0.5,SNR=284							
MLAC				⇓S	**Sg**	**15 22 00.7**	**-0.3**
baz=0.5							
S09A	**Goldfield**	**0.78 73**		⇓P	**Pg**	**15 21 58.0**	**-0.3**
baz=0.8,SNR=1000							
S09A				⇓S	**Sg**	**15 22 08.9**	**+0.4**
baz=0.8							
GRAC	**Grapevine Rang**	**0.81 128**		⇑S	**Sg**	**15 22 09.8**	**+0.3**
baz=0.8							
R08A	**Mina**	**0.84 3**		P	**Pg**	**15 21 58.9**	**-0.6**
baz=0.9,SNR=173							
R08A				⇑S	**Sg**	**15 22 11.1**	**+0.5**
baz=0.9							
R07C	**Lee Vining**	**0.91 310**		P	**Pg**	**15 21 59.7**	**-1.0**
baz=0.9,SNR=273							
R07C				⇑S	**Sg**	**15 22 11.7**	**-0.9**
baz=0.9							
NVAR	**Mina Array Bea**	**0.93 353**	Pg		**Pg**	**15 22 00.4**	**-0.7**
142nm,0.3s,baz=183,slow=20,SNR=21							
NVAR			Lg			15 22 13.2	
433nm,0.3s,baz=188,slow=26,SNR=34							
KCC	**Kaiser Creek**	**0.93 259**		⇑P	**Pg**	**15 21 59.6**	**-1.7**
baz=0.9,SNR=418							
KCC				⇑S	**Sg**	**15 22 11.8**	**-1.6**
baz=0.9							
TPH	**Tonopah**	**0.94 52**		*e*Pg	**Pg**	**15 22 00.9**	**-0.5**
TPH				*e*S	**Sg**	**15 22 13.9**	**

	baz=2.6,SNR=15						
O07A	**Toulon**	**2.71**	**348**	⇓P	**Pn**	**15 22 27.5**	**+0.6**
	baz=2.7,SNR=12						
SAO	**San Andreas Ge**	**2.72**	**255**	*e*Pn	**Pn**	**15 22 29.0**	**+2.0**
SAO				*e*Sn	**Sn**	**15 23 03.8**	**+3.8**
TUQ	**Turquoise Mtn.**	**2.75**	**138**	P	**Pn**	**15 22 27.5**	**+0.2**
	baz=2.8,SNR=26						
V11A	**Goodsprings**	**2.76**	**126**	⇑P	**Pn**	**15 22 28.2**	**+0.6**
	baz=2.8						
O09A	**Fish Creek Ran**	**2.77**	**16**	⇓P	**Pn**	**15 22 28.4**	**+0.7**
	baz=2.8						
BEKR	**Beckwourth**	**2.92**	**325**	P	**Pn**	**15 22 30.6**	**+1.0**
	baz=2.9,SNR=19						
BMN	**Battle Mountai**	**3.02**	**14**	*e*Pn	**Pn**	**15 22 32.1**	**+1.0**
BMN				*e*Pg	**Pg**	**15 22 39.6**	**-1.4**
BMN				*e*Sn	**Sn**	**15 23 16.6**	**+9.4**
Q12A	**Willow Creek R**	**3.04**	**59**	⇓P	**Pn**	**15 22 32.2**	**+0.8**
	baz=3.1						
HEC	**Hector,Ludlow**	**3.06**	**150**	⇑P	**Pn**	**15 22 31.6**	**0.0**
	baz=3.1,SNR=25						
O10A	**Cortez Mining,**	**3.07**	**25**	⇓P	**Pn**	**15 22 32.7**	**+0.9**
	baz=3.1,SNR=19						
OHCM	**Honcut**	**3.18**	**306**	*e*Pn	**Pn**	**15 22 34.1**	**+0.8**
OHCM				*e*Pg	**Pg**	**15 22 39.6**	**-4.6**
V12A	**Nelson**	**3.21**	**123**	⇑P	**Pn**	**15 22 34.2**	**+0.5**
	baz=3.2,SNR=12						
P12A	**McGill**	**3.23**	**51**	⇑P	**Pn**	**15 22 35.0**	**+1.0**
	baz=3.2,SNR=8.6						
GMRC	**Granite Mounta**	**3.39**	**142**	⇑P	**Pn**	**15 22 35.8**	**-0.5**
	baz=3.4,SNR=9.6						
NSHM	**Saint Helena R**	**3.65**	**287**	*e*Pg	**Pg**	**15 22 43.5**	**-10**
CCUT	**Cedar City**	**3.82**	**88**	*e*Pn	**Pn**	**15 22 42.8**	**+0.7**
CCUT				*e*Pg	**Pg**	**15 22 55.3**	**-1.1**
CCUT				*e*Sn	**Sn**	**15 23 26.7**	**-0.4**
CCUT				*e*Sg	**Sg**	**15 23 44.8**	**-1.2**
BELC	**Belle Mtn.**	**3.92**	**153**	P	**Pn**	**15 22 44.1**	**+0.7**
	baz=3.9,SNR=100						
ELK	**Elko**	**3.96**	**34**	*e*Pn	**Pn**	**15 22 44.8**	**+0.8**
ELK				*e*Sg	**Sg**	**15 23 47.2**	**-3.2**
PFO	**Pinyon Flat Ob**	**4.13**	**160**	Pn	**Pn**	**15 22 47.1**	**+0.8**
	1.8nm,0.3s,baz=352,slow=11,SNR=13						
PFO				Lg		15 23 54.7	
	3.0nm,0.3s,baz=80,slow=19,SNR=6.2						
PFO	**Pinyon Flat Ob**	**4.13**	**160**	*e*Pn	**Pn**	**15 22 47.1**	**+0.7**
PFO				*e*Pg	**Pg**	**15 22 59.1**	**-3.2**
PFO	**Pinyon Flat Ob**	**4.13**	**160**	⇓P	**Pn**	**15 22 46.8**	**+0.4**
	baz=4.1,SNR=10						
N12A	**Clover Valley,**	**4.13**	**35**	⇓P	**Pn**	**15 22 47.3**	**+0.9**
	baz=4.1						
HOPS	**Hopland**	**4.14**	**293**	Pn	**Pn**	**15 22 45.9**	**-0.6**
HOPS				*e*Pg	**Pg**	**15 22 54.8**	**-7.8**
IRM	**Iron Mountain**	**4.14**	**143**	⇓P	**Pn**	**15 22 46.6**	**+0.1**
	baz=4.2,SNR=11						
X13A	**Yucca**	**4.56**	**128**	⇑P	**Pn**	**15 22 53.0**	**+0.7**
	baz=4.6						
WDC	**Whiskeytown Da**	**4.58**	**313**	Pn	**Pn**	**15 22 52.7**	**+0.1**
MOD	**Modoc**	**4.69**	**340**	*e*Pn	**Pn**	**15 22 52.5**	**-1.6**
KIPM	**Iron Peak**	**4.75**	**301**	*e*Pg	**Pg**	**15 23 05.1**	**-9.2**
Y12C	**Blythe**	**4.78**	**141**	⇓P	**Pn**	**15 22 55.5**	**+0.2**
	baz=4.8						
MSU	**Marysvale**	**4.84**	**76**	*e*Pg	**Pg**	**15 23 12.9**	**-3.0**
DUG	**Dugway**	**4.97**	**56**	*e*Pg	**Pg**	**15 23 15.5**	**-2.9**
DUG				*e*Sg	**Sg**	**15 24 18.6**	**-4.2**
BGU	**Big Grassy Mou**	**5.25**	**48**	Pn	**Pn**	**15 23 03.6**	**+1.8**
BGU				*e*Pg	**Pg**	**15 23 18.5**	**-5.3**
BGU				*e*Sg	**Sg**	**15 24 25.9**	**-6.0**
NLU	**North Lily Min**	**5.36**	**61**	*e*Pg	**Pg**	**15 23 22.6**	**-3.3**
YBH	**Yreka Blue Hor**	**5.49**	**322**	Pn	**Pn**	**15 23 05.9**	**+0.9**
YBH				Lg		15 24 35.2	
TMUT	**Trail Mountain**	**5.75**	**70**	Pg	**Pg**	**15 23 30.4**	**-3.1**
WUAZ	**Wupatki**	**5.82**	**108**	*e*Pg	**Pg**	**15 23 31.6**	**-3.2**
	19nm,0.6s						
CTU	**Camp Tracy**	**5.92**	**55**	*e*Pg	**Pg**	**15 23 35.5**	**-1.1**
	9.1nm,0.5s						
JLU	**Jordanelle**	**6.08**	**57**	*e*Pg	**Pg**	**15 23 36.2**	**-3.4**
DAU	**Daniels Canyon**	**6.12**	**60**	*e*Pg	**Pg**	**15 23 38.1**	**-2.4**
SRU	**San Rafael**	**6.22**	**73**	Pn	**Pn**	**15 23 14.9**	**-0.2**
	9.8nm,0.5s						
SRU				*e*Pg	**Pg**	**15 23 41.1**	**-1.3**
HWUT	**Hardware Ranch**	**6.54**	**49**	*e*Pn	**Pn**	**15 23 18.7**	**-0.9**
	6.9nm,0.8s						
MVCO	**Mesa Verde**	**7.71**	**89**	*e*Pg	**Pg**	**15 24 06.2**	**-4.6**
	21nm,0.7s						
PDAR	**Pinedale Array**	**8.43**	**49**	Pn	**Pn**	**15 23 50.9**	**+5.4**
	0.1nm,0.3s,baz=224,slow=8.3,SNR=4.2						
PDAR				Lg		15 26 05.9	
	0.1nm,0.3s,baz=224,slow=26,SNR=3.1						
ANMO	**Albuquerque**	**9.80**	**102**	LR	LR	15 28 04.6	
	comp=Z,90nm,21.3s,baz=179,slow=39						
TXAR	**Lajitas Array**	**14.58**	**120**	Pn	**Pn**	**15 25 14.0**	**+4.4**
	0.0nm,0.3s,baz=307,slow=17,SNR=3.3						
ULM	**Lac du Bonnet**	**20.41**	**44**	P	**P**	**15 26 22.6**	**+2.2**
	1.8nm,0.6s,baz=245,slow=9.9,SNR=4.2						
YKA	**Yellowknife Ar**	**25.11**	**4**	P	**P**	**15 27 10.5**	**+2.2**
	0.5nm,0.8s,mb3.1,baz=183,slow=9.6,SNR=11						
NNA	**Nana**	**62.66**	**133**	LR	LR	15 57 45.4	
	comp=Z,48nm,18.6s,MS3.7,baz=315,slow=34						
RPN	**Rapa Nui**	**64.82**	**171**	LR	LR	15 54 42.0	
	comp=Z,8.0nm,20.6s,MS2.9,baz=47,slow=30						

MAN 19 15:37:51.7,746N×12480E,h7km,mb4.0,ML5.0,MS1.6, 4C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.49**	**31**	*e*P		Pg	15 38 01.9 +0.7
BUKP				*e*S		Sg	15 38 02.1 -5.5
KCP	**Kidapawan**	**0.53**	**147**	⇑*e*P		Pg	15 38 01.8 -0.1
KCP				*i* S		Sg	15 38 09.5 +0.7
CTBH	**Cotabato--PC H**	**0.60**	**247**	⇑*i*P		Pg	15 38 03.7 +0.4
CTBH				*i* S		Sg	15 38 12.3 +1.2
DMPH	**Davao City--Mi**	**0.79**	**118**	⇓*i*P		Pg	15 38 07.2 +0.2
DMPH				*i* S		Sg	15 38 19.1 +1.9
CGP	**Cagayan de Oro**	**1.00**	**354**	⇑*i*P		Pg	15 38 09.9 -0.9
CGP				*i* S		Sg	15 38 23.8 0.0
MATI	**Mati**	**1.53**	**109**	*e*P		Pn	15 38 19.1 -0.3
MATI				*e*S		Sn	15 38 39.9 +0.4
DCPH	**Dipolog City**	**1.82**	**308**	⇑*e*P		Pn	15 38 24.4 +1.0
MSLP	**Maasin**	**2.66**	**1**	*e*P		Pn	15 38 29.4 -5.6

*ISCJB **19** 15:49:18.2±2.1,473S±03×1047E±07,h10km,mb3.9/4, MS3.3/3,Error ellipse: s-maj=76.1km s-min=19.6km az=61.4*
*IDC **19** 15:49:19.0±1.5,4740S×10493E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/14,mbtmp3.9/4,MS3.4/4,Ms1 3.3/4, ms1mx3.0/19,Error ellipse: s-maj=68.2km s-min=22.9km az=118.0*
*NEIC **19** 15:49:19.9±1.4,4731S×10471E,h10km,mb4.0/1,Error ellipse: s-maj=61.4km s-min=19.8km az=120.0*
ISC 19 15:49:20.0±2.1,473S±03×1047E±07,h10km,n11,σ0§25/5, mb3.9/4,MS3.3/3,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.26**	**38**	LR	LR	15 58 00.5	
	comp=Z,103nm,20.4s,baz=22,slow=30						
MAW	**Mawson**	**29.39**	**211**	LR	LR	16 05 28.2	
	comp=Z,65nm,19.6s,MS3.3,baz=238,slow=33						
STKA	**Stephens Creek**	**32.01**	**75**	LR	LR	16 07 10.6	
	comp=Z,50nm,18.3s,MS3.2,baz=25,slow=34						
ASAR	**Alice Springs**	**33.19**	**55**	P	**P**	**15 55 56.5**	**-0.2**
	1.2nm,1.1s,mb3.8,baz=212,slow=9.0,SNR=6.1						
WRA	**Warramunga Arr**	**36.42**	**52**	P	**P**	**15 56 25.0**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=216,slow=9.4,SNR=5.4						
VNDA	**Vanda**	**37.28**	**162**	P	**P**	**15 56 32.1**	**+0.1**
	2.5nm,0.8s,mb4.1,baz=283,slow=10,SNR=6.9						
VNDA				LR	LR	16 09 07.6	
	comp=Z,71nm,18.7s,MS3.5,baz=114,slow=32						
VNDA	**Vanda**	**37.28**	**162**	*e*P	**P**	**15 56 32.0**	**0.0**
	2.7nm,0.8s,mb4.1						
VNDA				LR	LR	16 09 07.6	
SNAA	**Sanae**	**50.91**	**203**	P	**P**	**15 58 21.3**	**0.0**
	1.7nm,0.9s,mb4.0,baz=136,slow=7.5,SNR=12						
TXAR	**Lajitas Array**	**151.64**	**119**	PKPbc	PKPbc	16 09 12.5	-2.1
	0.5nm,0.8s,baz=205,slow=4.0,SNR=5.2						
YKA	**Yellowknife Ar**	**153.33**	**41**	PKPbc	PKPbc	16 09 17.8	-0.5
	0.2nm,0.6s,baz=272,slow=1.6,SNR=3.4						
YKA				PKPab	PKPab	16 09 30.1	-0.2
	0.3nm,0.8s,baz=268,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**153.33**	**41**	PKPbc	PKPbc	16 09 17.8	-0.5
YKA				PKPab	PKPab	16 09 30.1	-0.2

IDC 19 16:05:39.3±4.0,1943S×17565W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.6/15,mbtmp3.9/2,Error ellipse: s-maj=245.9km s-min=51.8km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.92**	**255**	P	P	16 14 12.9	+1.4
	3.2nm,0.5s,baz=90,slow=7.8,SNR=176						
ASAR				PcP	PcP	16 15 43.6	-0.6
	0.3nm,0.6s,baz=102,slow=4.1,SNR=4.6						
WRA	**Warramunga Arr**	**46.95**	**261**	P	P	16 14 11.2	-0.6
	0.5nm,0.5s,baz=96,slow=6.9,SNR=7.9						
GERES	**GERESS Array B**	**149.71**	**348**	PKPbc	PKPbc	16 25 31.2	+0.2
	0.4nm,0.5s,baz=15,slow=4.1,SNR=4.0						

MAN 19 16:07:17.9,998N×12488E,h62km,mb3.2,ML4.5,MS2.3, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.15**	**352**	*e*P	Pn	16 07 28.2	+0.9
MSLP				*e*S	Sn	16 07 35.7	+1.6
SCPH	**Surigao**	**0.63**	**108**	⇓*e*P	Pn	16 07 33.5	+2.0
SCPH				*i* S	Sn	16 07 44.6	+3.2
OCLP	**Ormoc**	**1.09**	**346**	*e*P	Pn	16 07 37.7	+0.5
OCLP				*e*S	Sn	16 07 53.5	+2.0

*NEIC **19** 16:11:43.0,1550N×9679W,h16km,MD3.7(MEX),After MEX.*
MEX 19 16:11:43.0±0.7,1550N×9680W,h18km±458km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.71**	**68**	*i* P	Pb	16 11 54.0	-2.9
HUIG				*i* S	Sb	16 12 03.6	-2.8
VHO	**Vista Hermosa**	**1.56**	**2**	*i* P	Pn	16 12 07.2	-2.6
VHO				*i* S	Sn	16 12 24.7	-4.9
OXX	**Oaxaca**	**1.57**	**3**	*i* P	Pn	16 12 07.0	-3.0
OXX				*i* S	Sn	16 12 25.0	-4.9
CMIG	**Matias Romero**	**2.42**	**49**	*i* P	Pn	16 12 19.4	-2.3
CMIG				*i* S	Sn	16 12 48.8	-2.1

*ISCJB **19** 16:15:24.9±0.5,3382N±007×13667E±008,h381km±3km, mb3.4/9,Error ellipse: s-maj=13.1km s-min=9.0km az=104.8*
*NEIC **19** 16:15:25.5±0.7,3379N×13668E,h374km±7km,mb4.0/2, Error ellipse: s-maj=15.1km s-min=11.6km az=131.0*
*JMA **19** 16:15:25.5±0.2,3381N×13670E,h378km±2km,M3.1*
*IDC **19** 16:15:26.0±0.7,3380N×13662E,h377km±7km,mb3.0/7, mb1 3.2/11,mb1mx3.1/26,mbtmp3.0/11,Error ellipse: s-maj=14.3km s-min=11.4km az=64.0*
ISC 19 16:15:26.0±0.5,3386N±007×13664E±007,h375km±3km, n28,σ0§77/38,mb3.4/9,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**0.48**	**321**	P	**Pn**	**16 16 13.3**	**+0.4**
JKN2				S	**S**	**16 16 50.2**	**-0.5**
JIE	**Ise**	**0.53**	**6**	P	**Pn**	**16 16 13.5**	**+0.5**
JIE				S	**S**	**16 16 50.6**	**-0.2**
JWZ	**Kozaga**	**0.84**	**247**	P	**Pn**	**16 16 13.6**	**-0.2**
JWZ				S	**S**	**16 16 51.6**	**-0.7**
JWY	**Kouya**	**0.94**	**292**	P	**Pn**	**16 16 14.8**	**+0.7**
JWY				S	**S**	**16 16 52.7**	**-0.2**
JWT	**Wachi**	**1.75**	**325**	P	**Pn**	**16 16 18.4**	**+0.4**
JWT				S	**S**	**16 16 59.3**	**-0.5**
JAI	**Aioi**	**1.82**	**268**	P	**Pn**	**16 16 18.8**	**+0.4**
JAI				S	**S**	**16 16 59.8**	**-0.8**
JGM	**Miyama**	**1.83**	**2**	P	**Pn**	**16 16 19.2**	**+0.7**
JGM				S	**S**	**16 17 01.1**	**+0.4**
JMN	**Monobe**	**2.30**	**267**	P	**Pn**	**16 16 22.3**	**+0.7**
JOD2	**Odawara 2**	**2.46**	**55**	P	**Pn**	**16 16 22.5**	**-0.3**
JHJ	**Hachijo jima 2**	**2.73**	**105**	P	**Pn**	**16 16 24.9**	**-0.1**
	17nm,0.3s,baz=204,slow=20,SNR=4.1						
JHJ				S	**S**	**16 17 15.2**	**+2.7**
	4.1nm,0.3s,baz=66,slow=20,SNR=2.1						
JRY	**Ryogami san**	**2.84**	**40**	P	**Pn**	**16 16 25.8**	**0.0**
MAJO	**Matsushiro**	**2.97**	**25**	*e*Pn	**Pn**	**16 16 26.7**	**-0.2**
MAT	**Matsushiro**	**2.97**	**25**	P	**Pn**	**16 16 26.6**	**-0.3**
MAT				S	**S**	**16 17 14.8**	**-1.2**
MJAR	**Matsushiro Arr**	**2.97**	**25**	P	**Pn**	**16 16 26.7**	**-0.2**
	4.3nm,0.3s,baz=193,slow=8.4,SNR=74						
MJAR				S	**S**	**16 17 16.1**	**0.0**
	0.3nm,0.3s,baz=179,slow=10.0,SNR=5.2						
JNU	**Nakatsue**	**4.87**	**263**	P	**Pn**	**16 16 45.5**	**+0.2**
	7.0nm,0.3s,baz=291,slow=31,SNR=26						
KSRS	**Korea Array**	**7.95**	**299**	P	**Pn**	**16 17 21.1**	**+1.3**
	baz=119,slow=11,SNR=14						
YSS	**Yuzh-Sakhalins**	**13.87**	**18**	*e*P	**P**	**16 18 27.7**	**+0.5**
SONM	**Songino Array**	**26.60**	**311**	P	**P**	**16 20 33.0**	**+1.4**
	0.9nm,0.6s,mb3.2,baz=124,slow=12,SNR=6.9						
YAK	**Yakutsk**	**28.53**	**353**	*e*P	**P**	**16 20 46.6**	**-2.1**
	4.7nm,0.5s,mb4.0						
MK31	**Makanchi Array**	**42.59**	**304**	*e*P	**P**	**16 22 46.5**	**-0.2**
MKAR	**Makanchi Array**	**42.59**	**304**	P	**P**	**16 22 46.7**	**-0.1**
	0.4nm,0.5s,mb2.6,baz=87,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**42.59**	**304**	P	**P**	**16 22 46.7**	**-0.1**
WRA	**Warramunga Arr**	**53.55**	**183**	P	**P**	**16 24 08.3**	**-1.3**
	0.8nm,0.4s,mb3.4,baz=357,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**57.27**	**183**	P	**P**	**16 24 34.8**	**-1.0**
	0.1nm,0.3s,mb2.6,baz=358,slow=6.0,SNR=16						
YKA	**Yellowknife Ar**	**68.47**	**28**	P	**P**	**16 25 48.3**	**-0.5**
	0.2nm,0.3s,mb3.3,baz=298,slow=6.9,SNR=4.6						
NVAR	**Mina Array Bea**	**80.01**	**50**	P	**P**	**16 26 56.0**	**+1.3**
	0.6nm,0.5s,mb3.6,baz=302,slow=5.2,SNR=2.7						
BW06	**Boulder Array**	**82.65**	**43**	P	**P**	**16 27 08.1**	**-0.3**
	2.5nm,1.1s,mb4.0						
PDAR	**Pinedale Array**	**82.65**	**43**	P	**P**	**16 27 08.8**	**+0.4**
	1.0nm,0.9s,mb3.7,baz=296,slow=2.2,SNR=7.6						

*MOS **19** 16:44:27.2±2.7,5592N×10997E,h12km,mb4.4/1,Error ellipse: s-maj=15.3km s-min=9.4km az=65.0*
BYKL 19 16:44:28.4±0.3,5569N×11013E,h3km±5km,7C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**285**	*e*PG	Pg	16 44 35.3	+0.3
NIZ				*e*		16 44 40.4	
NIZ				pmax	pmax		
	comp=Z,494nm,0.6s						
NIZ				smax			
	comp=N,2μm,0.3s						
NIZ	**Nizh Angarsk**	**0.34**	**285**	⇑*i*Pg	Pg	16 44 35.4	+0.4
NIZ				*e*Sg	Sg	16 44 40.2	+0.7
NIZ				Pmax			
	comp=N,166nm,0.3s						
NIZ				Smax			
	comp=N,2μm,0.3s						
KMO	**Kumora**	**0.64**	**71**	*e*PG	Pg	16 44 39.6	-1.0
KMO				*e*		16 44 47.7	
KMO				pmax	pmax		
	comp=Z,454nm,0.3s						
KMO				smax			
	comp=N,1μm,0.8s						
KMO	**Kumora**	**0.64**	**71**	⇑*i*Pg	Pg	16 44 39.6	-1.0
KMO				*e*Sg	Sg	16 44 47.8	-1.1
KMO				Pmax			
	comp=N,453nm,0.3s						
KMO				Smax			
	comp=N,1μm,1.0s						
YOA	**Uoyan**	**1.00**	**63**	⇑*i*PG	Pg	16 44 46.5	-1.1
YOA				*e*		16 45 01.1	
YOA				pmax	pmax		
	comp=Z,181nm,0.2s						
YOA				smax			
	comp=E,1μm,0.4s						
YOA	**Uoyan**	**1.00**	**63**	*e*Pg	Pg	16 44 46.5	-1.1
YOA				*e*Sg	Sg	16 45 01.0	+0.4
YOA				Pmax			
	comp=E,160nm,0.2s						
YOA				Smax			
	comp=E,2μm,0.6s						
YLYR	**Ulyunkhan**	**1.01**	**144**	⇑*i*Pg	Pg	16 44 46.5	-1.2
YLYR				*e*Sg	Sg	16 45 00.4	-0.4
YLYR				*e*		16 45 05.7	
YLYR				Pmax			
	comp=E,100nm,0.4s						
YLYR				max			
	comp=E,640nm,0.3s						
SVKR	**Severomuysk**	**1.98**	**76**	*e*PN	Pn	16 45 04.2	+1.4
SVKR				*e*		16 45 29.8	
SVKR				pmax	pmax		
	comp=Z,317nm,0.5s						
SVKR				smax			
	comp=N,2μm,1.0s						
SVKR	**Severomuysk**	**1.98**	**76**	*e*Pg	Pg	16 45 04.2	-2.1
SVKR				*e*Sg	Sg	16 45 30.4	-1.5
SVKR				Pmax			
	comp=N,328nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.6s						
SYVR	**Suvo**	**2.04**	**182**	*e*PN	Pn	16 45 04.9	+1.3
SYVR				*e*		16 45 33.3	
SYVR				pmax	pmax		
	comp=Z,77nm,0.6s						
SYVR				smax			
	comp=E,836nm,0.7s						
SYVR	**Suvo**	**2.04**	**182**	⇑*i*Pg	Pg	16 45 05.1	-2.4
SYVR				*e*Sg	Sg	16 45 33.2	-0.7
SYVR				Pmax			
	comp=E,80nm,0.6s						
SYVR				Smax			
	comp=E,971nm,0.7s						
OGRR	**Ongureny**	**2.52**	**217**	*e*PN	Pn	16 45 12.5	+2.2
OGRR				*e*		16 45 46.7	
OGRR				pmax	pmax		
	comp=Z,33nm,0.3s						
OGRR				smax			
	comp=E,177nm,0.6s						
OGRR	**Ongureny**	**2.52**	**217**	*e*Pn	Pn	16 45 08.3	-2.0
OGRR				*e*Pg	Pg	16 45 12.8	-4.0
OGRR				*e*Sn	Sn	16 45 44.0	+2.5
OGRR				*e*Sg	Sg	16 45 46.8	-2.7
OGRR				Pmax			
	comp=E,19nm,0.5s						
OGRR				Smax			
	comp=E,171nm,0.5s						
MXMB	**Maximikha**	**2.56**	**199**	*e*Sg	Sg	16 45 48.4	-2.3
MXMB				Smax			
	comp=E,440nm,0.6s						
BOD	**Bodaibo**	**3.02**	**43**	*e*Pn	Pn	16 45 17.3	+0.2
BOD				*e*Pg	Pg	16 45 20.6	-5.6
BOD				*e*Sn	Sn	16 45 54.5	+0.8
BOD				*e*Sg	Sg	16 46 01.2	-4.1
BOD				Pmax			
	comp=E,15nm,0.4s						
BOD				Smax			
	comp=E,161nm,0.9s						
NLYR	**Nelyaty**	**3.22**	**73**	*e*Pg	Pg	16 45 26.0	-4.2
NLYR				*e*Sg	Sg	16 46 08.6	-3.4
NLYR				*e*		16 46 16.3	
ZRHB	**Zarechye**	**3.60**	**210**	*e*Sg	Sg	16 46 19.2	-4.8
ZRHB				Smax			
	comp=E,283nm,1.3s						
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	Pn	16 45 27.0	+0.8
TRG				*e*Sn	Sn	16 46 11.2	+1.1
TRG				*e*Sg	Sg	16 46 22.0	-4.6
TRG				max			
	comp=E,20nm,0.4s						
TRG				Smax			
	comp=E,109nm,0.7s						
TRTB	**Turuntaevo**	**3.77**	**204**	*e*Pn	Pn	16 45 28.1	+0.7
TRTB				*e*		16 45 38.5	
TRTB				*e*Sn	Sn	16 46 11.3	-0.9
TRTB				*e*Sg	Sg	16 46 25.0	-4.5
TRTB				max			
	comp=E,11nm,0.5s						
TRTB				Smax			
	comp=E,58nm,1.1s						
UUDB	**Ulan-Yde**	**4.10**	**202**	*e*Sg	Sg	16 46 36.7	-3.4
UUDB				Smax			
	comp=E,130nm,1.2s						
FFNB	**Fofonovo**	**4.16**	**210**	*e*Sg	Sg	16 46 36.6	-5.4
FFNB				Smax			
	comp=E,154nm,0.5s						
CIT	**Chita**	**4.20**	**150**	*e*PN	Pn	16 45 43.5	+10
CIT				*e*S	Sn	16 46 21.6	-1.2
CIT				pmax	pmax		
	comp=Z,40nm,1.4s						
CIT				smax			
	comp=E,116nm,0.7s						
CIT	**Chita**	**4.20**	**150**	*e*Pn	Pn	16 45 32.7	-0.6
CIT				*e*Pg	Pg	16 45 43.4	-5.4
CIT				*e*Sg	Sg	16 46 37.9	-5.3
CIT				Pmax			
	comp=E,43nm,1.1s						
CIT				Smax			
	comp=E,116nm,0.7s						
HRMR	**Khuramsha**	**4.49**	**206**	*e*Pn	Pn	16 45 38.7	+1.4
HRMR				*e*Pg	Pg	16 45 49.8	-4.6
HRMR				*e*Sg	Sg	16 46 46.8	-5.7
HRMR				Pmax			
	comp=E,21nm,0.7s						
HRMR				Smax			
	comp=E,206nm,0.8s						
CRS	**Chara**	**4.69**	**72**	*e*PN	Pn	16 45 40.7	+0.6
CRS				*e*		16 45 53.6	
CRS				*e*		16 46 54.9	
CRS				pmax	pmax		
	comp=Z,101nm,0.9s						
CRS				smax			
	comp=E,86nm,1.6s						
CRS	**Chara**	**4.69**	**72**	*e*Pg	Pg	16 45 52.4	-5.9
CRS				*e*Sg	Sg	16 46 54.1	-5.1
CRS				Pmax			
	comp=E,102nm,0.9s						
CRS				Smax			
	comp=E,86nm,1.5s						
IRK	**Irkutsk**	**4.89**	**227**	*e*Sn	Sn	16 46 39.1	-0.7
IRK				*e*Sg	Sg	16 47 00.5	-4.9
IRK				Smax			
	comp=E,193nm,0.5s						
LSTR	**Listvyanka**	**4.95**	**222**	*e*Sn	Sn	16 46 40.6	-0.8
LSTR				*e*Sg	Sg	16 47 00.0	-7.5
LSTR				Smax			
	comp=E,61nm,1.0s						
TLY	**Talaya**	**5.56**	**226**	*e*PN	Pn	16 45 51.1	-1.0
TLY				*e*		16 46 07.7	
TLY				*e*S	Sn	16 46 53.8	-2.7
TLY				*e*		16 47 18.9	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY				smax			
	comp=E,51nm,1.1s						
**TL

KPC	**Khapcheranga**	**6.15 166**	*e*Pn	Pn	16 46 00.7	+0.6
KPC			*e*Pg	Pg	16 46 19.3	-6.9
KPC			*i* Sg	Sg	16 47 39.1	-6.8
KPC			Pmax			
	comp=N,6.0nm,0.7s					
KPC			Smax			
	comp=N,62nm,1.3s					
ZAK	**Zakamensk**	**6.73 221**	*e*PN	Pn	16 46 08.5	+0.4
ZAK			*e*		16 46 28.4	
ZAK			*e*S	Sn	16 47 26.0	+0.8
ZAK			*e*		16 47 55.8	
ZAK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ZAK			smax			
	comp=N,44nm,1.3s					
ZAK	**Zakamensk**	**6.73 221**	*e*	Pb	16 47 29.6	+64
ZAK			*e*Sg	Sg	16 47 56.6	-7.9
ZAK			Smax			
	comp=N,44nm,1.6s					
MOY	**Mondy**	**6.76 237**	*e*PN	Pn	16 46 10.3	+1.8
MOY			*e*		16 46 31.0	
MOY			*e*		16 47 58.4	
MOY			pmax	pmax		
	comp=Z,7.0nm,0.6s					
MOY			smax			
	comp=E,75nm,1.3s					
MOY	**Mondy**	**6.76 237** ⇑	*i*Pn	Pn	16 46 10.4	+1.9
MOY			*e*Sn	Sn	16 47 24.7	-1.2
MOY			*e*Sg	Sg	16 47 56.8	-8.6
MOY			max			
	comp=E,18nm,1.1s					
MOY			Smax			
	comp=E,76nm,1.4s					
ORL	**Orlik**	**6.84 247**	*e*PN	Pn	16 46 10.6	+1.0
ORL			*e*		16 46 32.3	
ORL			*e*		16 47 59.9	
ORL			pmax	pmax		
	comp=Z,14nm,1.2s					
ORL			smax			
	comp=N,120nm,1.3s					
ORL	**Orlik**	**6.84 247**	*e*Pn	Pn	16 46 10.7	+1.1
ORL			*e*Sn	Sn	16 47 27.3	-0.6
ORL			*e*Sg	Sg	16 47 59.8	-8.2
ORL			max			
	comp=N,6.0nm,1.3s					
ORL			Smax			
	comp=N,120nm,1.0s					
TDJR	**Todzha**	**8.89 254**	*e*Pn	Pn	16 46 40.6	+2.9
TDJR			*e*Sg	Sn	16 49 04.0	+46

*ISCJB **19** 16:59:02.5±2.2, 68S×02×15442E±007, h95km±23km, mb4.2/11, Error ellipse: s-maj=28.1km s-min=12.0km az=176.4*
*NEIC **19** 16:59:03.3±1.5, 685S×15452E, h100km±15km, mb4.6/2, Error ellipse: s-maj=22.6km s-min=12.2km az=167.0*
*IDC **19** 16:59:04.3±5.6, 679S×15440E, h105km±58km, mb3.5/5, mb1 3.7/6, mb1mx3.5/15, mbtmp3.5/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/15, Error ellipse: s-maj=46.1km s-min=22.5km az=147.0*

ISC 19 16:59:05.0±1.8, 69S±02×15438E±008, h99km±19km, n21, σ1$01/20, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.06 115**		P	**Pn**	**17 00 32.1**	**0.0**
	3.4nm,0.3s,baz=100,slow=1.8,SNR=3.9						
HNR				S	**Sn**	**17 01 40.9**	**+0.8**
	1.0nm,0.3s,baz=90,slow=20,SNR=3.3						
HNR				LR	LR	17 02 48.1	
	comp=Z,500nm,18.2s,baz=180,slow=37						
HNR	**Honiara**	**6.06 115**		*e*Pn	**Pn**	**17 00 29.3**	**-2.8**
	89nm,1.0s						
HNR				S	**Sn**	**17 01 40.9**	**+0.8**
HNR				LR	LR	17 02 48.1	
PMG	**Port Moresby**	**7.57 250**		LR	LR	17 03 44.5	
	comp=Z,190nm,19.1s,baz=61,slow=37						
PMG	**Port Moresby**	**7.57 250**		*e*Pn	**Pn**	**17 00 52.8**	**+0.2**
WB2	**Warramunga Arr**	**23.37 234**		*e*P	**P**	**17 04 04.6**	**-0.1**
WRA	**Warramunga Arr**	**23.38 234**		P	**P**	**17 04 04.4**	**-0.4**
	2.5nm,0.8s,mb3.6,baz=58,slow=9.6,SNR=9.7						
WRA				LR	LR	17 13 13.9	
	comp=Z,64nm,21.0s,baz=80,slow=36						
ASAR	**Alice Springs**	**25.79 227**		P	**P**	**17 04 25.9**	**-0.7**
	0.9nm,0.8s,mb3.2,baz=59,slow=8.6,SNR=8.3						
STKA	**Stephens Creek**	**27.58 204**		LR	LR	17 15 56.4	
	comp=Z,78nm,18.2s,baz=206,slow=37						
SONM	**Songino Array**	**68.92 328**		P	**P**	**17 09 57.0**	**-2.2**
	0.3nm,0.5s,mb3.4,baz=143,slow=6.5,SNR=3.6						
LSA	**Lhasa**	**70.71 305**		*e*P	**P**	**17 10 11.5**	**+1.3**
	5.0nm,0.8s,mb4.4						
GUN	**Gumba**	**74.54 301**		*e*P	**P**	**17 10 33.9**	**+1.0**
	21nm,0.8s,mb5.0						
PKI	**Pulchoki**	**74.84 301**		*e*P	**P**	**17 10 35.2**	**+0.5**
KKN	**Kakani**	**75.02 301**		*e*P	**P**	**17 10 36.3**	**+0.6**
	11nm,0.8s,mb4.7						
DMN	**Daman**	**75.11 301**		*e*P	**P**	**17 10 37.1**	**+0.9**
	21nm,0.8s,mb4.9						
GKN	**Gorkha**	**75.62 301**		*e*P	**P**	**17 10 39.6**	**+0.5**
	21nm,0.9s,mb4.9						
KOLN	**Koldanda**	**76.44 301**		*e*P	**P**	**17 10 44.2**	**+0.4**
	14nm,0.8s,mb4.8						
MK31	**Makanchi Array**	**82.92 319**		*e*P	**P**	**17 11 17.2**	**-1.6**
MKAR	**Makanchi Array**	**82.92 319**		P	**P**	**17 11 18.3**	**-0.5**
	1.5nm,0.8s,mb3.9,baz=104,slow=5.2,SNR=13						
YKA	**Yellowknife Ar**	**96.53 28**		P	**P**	**17 12 19.7**	**-3.7**
	0.2nm,0.7s,mb3.6,baz=267,slow=5.1,SNR=4.0						
YKA	**Yellowknife Ar**	**96.53 28**		P	**P**	**17 12 19.7**	**-3.7**
TORD	**Torodi Ar. Bea**	**152.41 285**		PKPbc	PKPbc	17 18 49.8	+0.3
	3.8nm,0.8s,baz=67,slow=2.2,SNR=26						

*IDC **19** 17:08:22.9±8.2, 647S×15053E, h65km±59km, mb3.8/4, mb1 4.0/5, mb1mx3.5/15, mbtmp3.8/5, ML3.0/1, Error ellipse: s-maj=56.3km s-min=52.6km az=92.0*

NEIC 19 17:08:21.2±4.5, 642S×15064E, h57km±29km, Error ellipse: s-maj=49.0km s-min=32.2km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.55 229**		P	Pn	17 09 28.0	+0.5
	5.8nm,0.3s,baz=36,slow=7.2,SNR=27						
PMG				S	Sn	17 10 18.6	-0.4
	2.9nm,0.3s,baz=133,slow=18,SNR=4.6						
PMG	**Port Moresby**	**4.55 229**		*e*P	Pn	17 09 27.6	+0.1
PMG				*e*Sn	Sn	17 10 20.1	+1.1
WB2	**Warramunga Arr**	**20.76 228**		*e*P	P	17 12 57.5	+0.3
WRA	**Warramunga Arr**	**20.77 228**		P	P	17 12 57.8	+0.4
	5.0nm,0.5s,baz=53,slow=11,SNR=70						
ASAR	**Alice Springs**	**23.51 221**		P	P	17 13 26.9	+0.8
	1.6nm,0.6s,baz=57,slow=9.3,SNR=64						
STKA	**Stephens Creek**	**26.70 197**		P	P	17 13 54.8	-0.2
	1.1nm,0.5s,baz=13,slow=8.9,SNR=6.1						
STKA	**Stephens Creek**	**26.70 197**		*e*P	P	17 13 54.9	-0.1
FITZ	**Fitzroy Crossi**	**27.00 242**		*e*P	P	17 13 57.7	0.0
FITZ	**Fitzroy Crossi**	**27.00 242**		P	P	17 13 57.8	+0.1
	1.4nm,0.4s,baz=69,slow=9.0,SNR=11						
TOA0	**Torodi Ar. Sit**	**148.70 285**		*e*PKPbc	PKPbc	17 28 04.2	+2.2
TORD	**Torodi Ar. Bea**	**148.70 285**		PKPbc	PKPbc	17 28 03.0	+0.9
	0.5nm,0.6s,baz=65,slow=3.4,SNR=4.6						

IDC 19 17:17:22.4±3.5, 694S×15525E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/20, Error ellipse: s-maj=130.4km s-min=37.3km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.72 213**		LR	LR	17 25 42.7	
	comp=Z,59nm,18.7s,baz=30,slow=32						
WRA	**Warramunga Arr**	**24.06 235**		P	P	17 22 39.6	+0.4
	1.6nm,0.7s,baz=59,slow=9.3,SNR=7.0						
ASAR	**Alice Springs**	**26.40 229**		P	P	17 23 00.8	+0.3
	1.0nm,1.0s,baz=60,slow=9.0,SNR=8.7						
STKA	**Stephens Creek**	**27.89 205**		LR	LR	17 34 44.5	
	comp=Z,47nm,18.6s,baz=26,slow=37						
FITZ	**Fitzroy Crossi**	**30.91 246**		LR	LR	17 35 56.2	
	comp=Z,39nm,20.4s,baz=321,slow=36						
JIRN	**Jiri**	**74.97 301**		*e*P	P	17 29 05.7	+0.3
GUN	**Gumba**	**75.31 301**		*e*P	P	17 29 07.7	+0.3
PKI	**Pulchoki**	**75.61 301**		*e*P	P	17 29 09.9	+0.8
KKN	**Kakani**	**75.78 301**		*e*P	P	17 29 09.9	-0.2
DMN	**Daman**	**75.88 301**		*e*P	P	17 29 11.4	+0.7
GKN	**Gorkha**	**76.39 301**		*e*P	P	17 29 13.1	-0.4
KOLN	**Koldanda**	**77.21 300**		*e*P	P	17 29 17.8	-0.4
	8.9nm,0.9s						
MKAR	**Makanchi Array**	**83.53 319**		P	P	17 29 52.8	+0.6
	0.6nm,0.7s,baz=114,slow=6.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**153.26 285**		PKPbc	PKPbc	17 37 23.1	+0.9
	1.7nm,0.8s,baz=67,slow=2.6,SNR=11						

IDC 19 17:31:56.3±9.2, 008N×12336E, h117km±89km, mb3.3/5, mb1 3.5/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=99.8km s-min=20.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.21 173**		*e*P	P	17 36 00.2	+0.1
FITZ	**Fitzroy Crossi**	**18.21 173**		P	P	17 36 00.5	+0.4
	0.7nm,0.3s,baz=14,slow=8.3,SNR=19						
WRA	**Warramunga Arr**	**22.62 152**		P	P	17 36 47.2	-0.2
	2.7nm,0.5s,baz=330,slow=10,SNR=22						
WB2	**Warramunga Arr**	**22.63 152**		*e*P	P	17 36 47.3	-0.2
ASAR	**Alice Springs**	**25.73 157**		P	P	17 37 16.0	+0.3
	0.3nm,0.4s,baz=333,slow=8.8,SNR=16						
ASAR				PcP	PcP	17 40 42.7	0.0
	0.1nm,0.3s,baz=344,slow=2.2,SNR=4.2						
STKA	**Stephens Creek**	**36.17 153**		P	P	17 38 47.8	+0.5
	1.3nm,0.8s,baz=326,slow=7.3,SNR=3.5						
SONM	**Songino Array**	**49.80 345**		P	P	17 40 37.4	+0.4
	0.1nm,0.5s,baz=162,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**58.73 328**		P	P	17 41 41.6	-0.1
	0.2nm,0.3s,baz=122,slow=8.0,SNR=7.3						

IDC 19 17:55:36.9±4.5, 2110N×12070E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=375.8km s-min=25.6km az=60.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.29 319**		P	P	18 03 15.7	0.0
	0.3nm,0.7s,baz=108,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**42.92 161**		P	P	18 03 37.1	-0.1
	0.7nm,0.6s,baz=342,slow=9.0,SNR=8.4						
ASAR	**Alice Springs**	**46.32 163**		P	P	18 04 04.9	+0.5
	0.6nm,0.9s,baz=345,slow=6.9,SNR=12						

*CSEM **19** 17:58:24.2±0.1, 4159N×262E, h15km, ML2.8/14, Error ellipse: s-maj=2.3km s-min=1.4km az=132.0*
*LDG **19** 17:58:24.1±0.1, 4158N×260E, h7km, Md2.7/1, Ml2.8/14, Error ellipse: s-maj=1.7km s-min=1.2km az=165.0*
*NEIC **19** 17:58:24.1, 4158N×260E, h7km, ML2.8(LDG), ML2.8(STR), MN2.4(MDD), After LDG.*
*STR **19** 17:58:24.9±0.8, 4164N×255E, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 17:58:23.8±0.5, 4155N×263E, h11km, mbLg2.2/24, Error ellipse: s-maj=4.3km s-min=2.8km az=128.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.26 326**		P	Pg	17 58 28.4	-0.7
CFON				S	Sg	17 58 31.8	-0.8
	152nm,0.3s						
CBRU	**Bruguera**	**0.81 336**		P	Pg	17 58 38.4	-1.0
CBRU				S	Sg	17 58 49.3	-0.6
	18nm,0.2s						
EMIR	**Miracle**	**0.90 294**		Pg	Pg	17 58 40.6	-0.5
	21nm,0.3s,SNR=63						
EMIR				Lg		17 58 52.1	
	40nm,0.3s,SNR=9.6						
EMIR	**Miracle**	**0.90 294**		Pg	Pg	17 58 40.6	-0.5
	21nm,0.3s,SNR=63						
EJON	**La Jonquera**	**0.92 12**		Pg	Pg	17 58 40.7	-0.8
	5.9nm,0.3s,SNR=31						
EJON				Lg		17 58 52.5	
	33nm,0.3s,SNR=5.0						
EJON	**La Jonquera**	**0.92 12**		Pg	Pg	17 58 40.7	-0.8
	5.9nm,0.3s,SNR=31						
SJAF	**Saint Jean de**	**0.96 332**		Pg	Pg	17 58 41.2	-1.0
SJAF				Sg	Sg	17 58 53.7	-0.9
VALF	**Valcebollere**	**0.96 332**		Pg	Pg	17 58 41.1	-1.3
VALF				Sg	Sg	17 58 54.3	-0.6
FILF	**Fillols**	**1.01 357**		Pn	Pn	17 58 42.2	-1.7
FILF				Sg	Sg	17 58 55.8	-0.6
EPOB	**Poblet**	**1.18 261**		Pn	Pn	17 58 44.6	-1.6
	0.2nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	17 58 45.3	-1.2
	6.5nm,0.3s,SNR=45						
EPOB				Lg		17 59 00.9	
	15nm,0.3s,SNR=27						
EPOB	**Poblet**	**1.18 261**		Pn	Pn	17 58 44.6	-1.6
	0.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.18 261**		Pg	Pg	17 58 45.3	-1.2
	6.5nm,0.3s,SNR=45						
CARF	**Carcanieres**	**1.23 342**		Pg	Pg	17 58 46.2	-1.2
CARF				Sg	Sg	17 59 02.1	-1.2
SALF	**Salau**	**1.61 319**		Pg	Pg	17 58 53.0	-1.8
SALF				Sg	Sg	17 59 12.7	-3.0
SALF	**Salau**	**1.61 319**		Pn	Pn	17 58 52.1	-0.1
SALF				Pg	Pg	17 58 53.0	-1.8
SALF				Sg	Sg	17 59 12.7	-3.0
SALF	**Salau**	**1.61 319**		Pg	Pg	17 58 53.0	-1.8
SALF				Sg	Sg	17 59 12.7	-3.0
ETOS	**Mallorca**	**1.79 175**		Pn	Pn	17 58 52.5	-2.0
	11nm,0.8s,SNR=7.1						
ETOS				Sn	Sn	17 59 12.6	-4.6
	2.0nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**1.79 175**		Pn	Pn	17 58 52.5	-2.0
	11nm,0.8s,SNR=7.1						
MTLF	**Montolieu**	**1.81 351**		*e*Pg	Pg	17 58 56.9	-1.7
	SNR=1.0						
MTLF				*e*Sg	Sg	17 59 19.5	-2.7
	20nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.81 351**		*e*Pn	Pn	17 58 53.8	-1.1
MTLF				*e*Pg	Pg	17 58 56.9	-1.7
MTLF				*e*Sg	Sg	17 59 19.5	-2.7
MTLF	**Montolieu**	**1.81 351**		Pn	Pn	17 58 53.8	-1.1
MTLF				Pg	Pg	17 58 56.9	-1.7
MTLF				Lg		17 59 19.5	
	10nm,0.2s						
MTLF	**Montolieu**	**1.81 351**		*e*Pg	Pg	17 58 56.9	-1.7
	SNR=1.0						
MTLF				*e*Sg	Sg	17 59 19.5	-2.7
	10nm,0.2s,SNR=1.0						
ERTA	**Horta de San J**	**1.83 252**		Pn	Pn	17 58 53.4	-1.6
	3.8nm,0.4s,SNR=14						
ERTA				Pg	Pg	17 58 56.5	-2.3
	1.2nm,0.2s,SNR=7.9						
ERTA				Lg		17 59 21.6	
	7.3nm,0.3s,SNR=5.0						
ERTA	**Horta de San J**	**1.83 252**		Pn	Pn	17 58 53.4	-1.7
	3.8nm,0.4s,SNR=14						
ERTA	**Horta de San J**	**1.83 252**		Pg	Pg	17 58 56.5	-2.3
	1.2nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.17 302**		Pn	Pn	17 58 58.6	-1.2
	0.2nm,0.1s,SNR=7.9						
EBIE				Pg	Pg	17 59 02.6	-2.7
	2.1nm,0.3s,SNR=14						
EBIE				Lg		17 59 30.5	
	6.9nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**2.17 302**		Pn	Pn	17 58 58.6	-1.2
	0.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**2.17 302**		Pg	Pg	17 59 02.6	-2.8
	2.1nm,0.3s,SNR=14						
EPF	**Esparros**	**2.25 312**		*e*P	Pn	17 59 01.7	+0.8
EPF	**Esparros**	**2.25 312**		*e*Pg	Pg	17 59 04.5	-2.4
EPF				*e*Sn	Sn	17 59 25.9	-2.8
	SNR=1.0						
EPF				*e*Sg	Sg	17 59 34.5	-1.6
	16nm,0.3s						
EPF	**Esparros**	**2.25 312**		*e*Pn	Pn	17 58 59.8	-1.1
EPF				*e*Pg	Pg	17 59 04.5	-2.4
EPF				*e*Sn	Sn	17 59 25.9	-2.8
EPF				*e*Sg	Sg	17 59 34.5	-1.6
EPF	**Esparros**	**2.25 312**		Pn	Pn	17 58 59.8	-1.1
EPF				P		17 59 01.7	
EPF				Pg	Pg	17 59 04.5	-2.4
EPF				Sn	Sn	17 59 25.9	-2.8
EPF				Lg		17 59 34.5	
	8.1nm,0.3s						
EPF	**Esparros**	**2.25 312**		*e*Pn	Pn	17 58 59.8	-1.1
	SNR=1.0						
EPF	**Esparros**	**2.25 312**		*e*P	Pn	17 59 01.7	+0.8
EPF	**Esparros**	**2.25 312**		*e*Pg	Pg	17 59 04.5	-2.4
EPF				*e*Sn	Sn	17 59 25.9	-2.8
	SNR=1.0						
EPF				*e*Sg	Sg	17 59 34.5	-1.6
	8.1nm,0.3s						
ESAC	**San Caprasio**	**2.33 275**		Pn	Pn	17 59 00.8	-1.2
	22nm,0.3s,SNR=10						
ESAC				Pg	Pg	17 59 05.6	-2.8
	2.7nm,0.1s,SNR=7.9						
ESAC				Lg		17 59 35.9	
	17nm,0.1s,SNR=12						
ESAC	**San Caprasio**	**2.33 275**		Pn	Pn	17 59 00.8	-1.2
	22nm,0.3s,SNR=10						
ESAC	**San Caprasio**	**2.33 275**		Pg	Pg	17 59 05.6	-2.8
	2.7nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.63 244**		Pn	Pn	17 59 05.8	-0.3
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.63 244**		Pg	Pg	17 59 13.0	-1.2
	2.7nm,0.4s,SNR=7.1						
EMOS				Lg		17 59 45.0	
	13nm,0.8s						
EMOS	**Mosqueruela**	**2.63 244**		Pn	Pn	17 59 05.8	-0.3
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.63 244**		Pg	Pg	17 59 13.0	-1.2
	2.7nm,0.4s,SNR=7.1						
LASF	**Ste Croix**	**2.68 19**		*e*Pn	Pn	17 59 05.6	-1.3
LASF				*e*Sn	Sn	17 59 36.0	-3.3
LASF				*e*Sg	Sg	17 59 47.6	-2.4
	6.3nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.68 19**		*e*Pn	Pn	17 59 05.6	-1.3
LASF				*e*Sn	Sn	17 59 36.0	-3.3
LASF				*e*Sg	Sg	17 59 47.6	-2.4
	3.2nm,0.4s,SNR=1.0						
EIBI	**Ibiza**	**2.70 202**		Pn	Pn	17 59 03.8	-3.4
	0.8nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	17 59 35.1	-4.8
	2.0nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.70 202**		Pn	Pn	17 59 03.8	-3.4
	0.8nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	17 59 35.1	-4.7
	2.0nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.72 301**		*e*Pg	Pg	17 59 14.1	-1.9
	SNR=1.0						
ETSF				*e*Sn	Sn	17 59 37.1	-3.2
	SNR=1.0						
ETSF				*e*Sg	Sg	17 59 47.4	-3.9
	14nm,0.4s,SNR=1.0						
ETSF	**Etsaut**	**2.72 301**		*e*Pn	Pn	17 59 05.6	-1.8
ETSF				*e*Pg	Pg	17 59 14.1	-1.9
ETSF				*e*Sn	Sn	17 59 37.1	-3.2
ETSF				*e*Sg	Sg	17 59 47.4	-3.9
ETSF	**Etsaut**	**2.72 301**		Pn	Pn	17 59 05.6	-1.8
ETSF				Pg	Pg	17 59 14.1	-1.9
ETSF				Sn	Sn	17 59 37.1	-3.2
ETSF				Lg		17 59 47.4	
	6.9nm,0.4s						
ETSF	**Etsaut**	**2.72 301**		*e*Pn	Pn	17 59 05.6	-1.8
ETSF	**Etsaut**	**2.72 301**		*e*Pg	Pg	17 59 14.1	-1.9
	SNR=1.0						
ETSF				*e*Sn	Sn	17 59 37.1	-3.2
	SNR=1.0						
ETSF				*e*Sg	Sg	17 59 47.4	-3.9
	6.9nm,0.4s,SNR=1.0						
SJPF	**Ste Jean**	**3.25 300**		*e*Pn	Pn	17 59 13.4	-1.3
	SNR=1.0						
SJPF				*e*Sg	Sg	18 00 05.7	-2.6
	10nm,0.4s,SNR=1.0						
SJPF	**Ste Jean**	**3.25 300**		*e*Pn	Pn	17 59 13.4	-1.3
	SNR=1.0						
SJPF				*e*Sg	Sg	18 00 05.7	-2.6
	5.2nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**3.25 41**		*e*Pn	Pn	17 59 13.8	-0.9
SMRF				*e*Sg	Sg	18 00 05.8	-2.5
	3.7nm,0.4s						
SMRF	**Simiane la Rot**	**3.25 41**		*e*Pn	Pn	17 59 13.8	-0.9
SMRF				*e*Sg	Sg	18 00 05.8	-2.5
	1.9nm,0.4s						
LMR	**La Mourre**	**3.38 57**		*e*Pn	Pn	17 59 16.0	-0.5
LMR				*e*Sn	Sn	17 59 53.1	-3.5
	13nm,0.9s,SNR=1.0						
LMR	**La Mourre**	**3.38 57**		*e*Pn	Pn	17 59 16.0	-0.5
LMR				*e*Sn	Sn	17 59 53.1	-3.5
	6.6nm,0.9s,SNR=1.0						
CAF	**Calviac**	**3.40 353**		*e*Pn	Pn	17 59 15.7	-1.0
CAF				*e*Sg	Sg	18 00 07.7	-5.3
	7.9nm,0.3s,SNR=1.0						
CAF	**Calviac**	**3.40 353**		*e*Pn	Pn	17 59 15.7	-1.0
CAF				*e*Sg	Sg	18 00 07.7	-5.3
	4.0nm,0.3s,SNR=1.0						
EALK	**Alkurruntz**	**3.49 300**		Pn	Pn	17 59 17.9	0.0
	0.8nm,0.1s,SNR=7.9						
EALK				Sn	Sn	17 59 56.3	-2.9
	1.0nm,0.2s,SNR=6.2						
EALK				Lg		18 00 12.1	
	3.2nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**3.49 300**		Pn	Pn	17 59 17.9	0.0
	0.8nm,0.1s,SNR=7.9						
EALK				Sn	Sn	17 59 56.3	-2.9
	1.0nm,0.2s,SNR=6.2						
FRF	**La Foret Royal**	**3.59 55**		*e*Pn	Pn	17 59 18.0	-1.3
FRF				*e*Sn	Sn	17 59 58.7	-2.9
ETOR	**Torete**	**3.61 260**		Pg	Pg	17 59 27.6	-5.3
	6.6nm,0.3s,SNR=6.0						
ETOR				Lg		18 00 15.3	
	9.7nm,0.3s,SNR=6.0						
VIVF	**Saint-Julien-l**	**3.63 24**		*e*Pn	Pn	17 59 18.7	-1.2
VIVF				*e*Sn	Sn	17 59 59.2	-3.4
	SNR=1.0						
VIVF				*e*Sg	Sg	18 00 16.8	-3.5
	2.4nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.63 24**		*e*Pn	Pn	17 59 18.7	-1.2
VIVF				*e*Sn	Sn	17 59 59.2	-3.4
	SNR=1.0						
VIVF				*e*Sg	Sg	18 00 16.8	-3.5
	1.2nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**3.66 339**		*e*Sg	Sg	18 00 17.4	-3.8
	13nm,0.4s						
LFF	**La Frestale**	**3.66 339**		*e*Sg	Sg	18 00 17.4	-3.8
	6.6nm,0.4s						
RJF	**Les Rejaudoux**	**3.84 348**		*e*Pn	Pn	17 59 21.3	-1.5
RJF				*e*Sg	Sg	18 00 23.3	-3.8
	2.8nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.84

64nm,0.3s,baz=66,slow=20,SNR=39
ULM Lac du Bonnet 47.38 341 P P 18 11 24.0 -0.2
1.0nm,0.5s,baz=144,slow=8.7,SNR=3.0
YKA Yellowknife Ar 63.34 340 P P 18 13 18.0 -0.3
0.7nm,0.4s,baz=134,slow=6.5,SNR=19
ASAR Alice Springs 147.65 235 PKPbc PKPbc 18 22 32.5 +0.4
0.8nm,0.9s,baz=113,slow=3.7,SNR=9.3
WRA Warramunga Arr 148.84 241 PKPbc PKPbc 18 22 35.8 +0.6
0.6nm,0.5s,baz=108,slow=2.7,SNR=9.4
WRA pPKPbc pPKPbc 18 23 09.9 -2.8
0.3nm,0.5s,baz=110,slow=2.5,SNR=2.6

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*LDG **19** 18:05:38.2±0.2,4156N×261E,h5km,Ml2.1/9,Error ellipse: s-maj=3.6km s-min=2.0km az=170.0*
MDD 19 18:05:39.5±1.0,4160N×260E,h11km,mbLg1.6/10,Error ellipse: s-maj=7.9km s-min=4.8km az=139.0,PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.20**	**322**	P	Pg	18 05 43.2	-0.7
CFON				S	Sg	18 05 46.7	-0.1
46nm,0.2s							
CBRU	**Bruguera**	**0.75**	**335**	P	Pg	18 05 53.4	-0.7
CBRU				S	Sg	18 06 04.2	+0.2
1.8nm,0.2s							
EMIR	**Miracle**	**0.86**	**292**	Pg	Pg	18 05 55.4	-0.8
3.7nm,0.3s,SNR=13							
EMIR				Lg		18 06 07.2	
14nm,0.3s,SNR=20							
EJON	**La Jonquera**	**0.88**	**14**	Pg	Pg	18 05 55.8	-0.6
7.8nm,1.0s,SNR=6.3							
EJON				Lg		18 06 07.2	
6.9nm,0.3s							
CLLI	**Llivia**	**1.00**	**332**	P	Pg	18 05 57.5	-1.2
CLLI				S	Sg	18 06 11.9	+0.3
1.8nm,0.2s							
EPOB	**Poblet**	**1.17**	**258**	Pg	Pg	18 06 00.3	-1.7
3.2nm,0.7s,SNR=12							
EPOB				Lg		18 06 15.8	
2.6nm,0.3s,SNR=15							
MTLF	**Montolieu**	**1.76**	**351**	*e*Pn	Pn	18 06 08.4	-1.5
MTLF	**Montolieu**	**1.76**	**351**	*e*Pg	Pg	18 06 11.6	-1.7
MTLF				*e*Sg	Sg	18 06 34.2	-2.0
4.3nm,0.3s							
MTLF	**Montolieu**	**1.76**	**351**	Pn	Pn	18 06 08.4	-1.5
MTLF				Pg	Pg	18 06 11.6	-1.7
MTLF				Lg		18 06 34.2	
2.2nm,0.3s							
EBIE	**Bielsa**	**2.13**	**302**	Pg	Pg	18 06 18.4	-1.9
0.1nm,0.2s,SNR=7.9							
EBIE				Lg		18 06 45.2	
1.1nm,0.1s,SNR=7.9							
EPF	**Esparros**	**2.21**	**311**	*e*P	Pn	18 06 16.4	+0.4
EPF	**Esparros**	**2.21**	**311**	*e*Pg	Pg	18 06 19.3	-2.5
EPF				*e*Sn	Sn	18 06 40.6	-2.7
EPF				*e*Sg	Sg	18 06 49.3	-1.1
2.3nm,0.2s							
EPF	**Esparros**	**2.21**	**311**	P	Pn	18 06 16.4	+0.4
EPF				Pg	Pg	18 06 19.3	-2.5
EPF				Sn	Sn	18 06 40.6	-2.7
EPF				Lg		18 06 49.3	
1.1nm,0.2s							
ESAC	**San Caprasio**	**2.31**	**274**	Pg	Pg	18 06 21.3	-2.4
90nm,0.3s							
ESAC				Lg		18 06 51.2	
5.8nm,0.2s,SNR=6.8							
LASF	**Ste Croix**	**2.64**	**20**	*e*Sn	Sn	18 06 50.7	-3.3
LASF				*e*Sg	Sg	18 07 02.0	-2.4
1.1nm,0.3s							
LASF	**Ste Croix**	**2.64**	**20**	Sn	Sn	18 06 50.7	-3.3
LASF				Lg		18 07 02.0	
0.6nm,0.3s							
ETSF	**Etsaut**	**2.68**	**300**	*e*Pg	Pg	18 06 28.6	-2.3
ETSF				*e*Sg	Sg	18 07 02.1	-3.6
1.7nm,0.3s							
ETSF	**Etsaut**	**2.68**	**300**	Pg	Pg	18 06 28.6	-2.3
ETSF				Lg		18 07 02.1	
0.9nm,0.3s							
SJPF	**Ste Jean**	**3.21**	**299**	*e*Sg	Sg	18 07 20.5	-2.3
1.0nm,0.3s							
SJPF	**Ste Jean**	**3.21**	**299**	Lg		18 07 20.5	
0.0nm,0.3s							
CAF	**Calviac**	**3.35**	**353**	*e*Sg	Sg	18 07 22.5	-4.5
1.5nm,0.3s							
CAF	**Calviac**	**3.35**	**353**	Lg		18 07 22.5	
0.8nm,0.3s							
VIVF	**Saint-Julien-l**	**3.59**	**24**	*e*Pn	Pn	18 06 33.3	-1.7
VIVF				*e*Sg	Sg	18 07 31.4	-3.4
1.0nm,0.3s							
VIVF	**Saint-Julien-l**	**3.59**	**24**	Pn	Pn	18 06 33.3	-1.7
VIVF				Lg		18 07 31.4	
0.0nm,0.3s							
LFF	**La Frestale**	**3.60**	**338**	*e*Sg	Sg	18 07 32.1	-3.2
1.6nm,0.3s							
LFF	**La Frestale**	**3.60**	**338**	Lg		18 07 32.1	
0.8nm,0.3s							
RJF	**Les Rejaudoux**	**3.79**	**348**	*e*Sg	Sg	18 07 38.0	-3.1
1.1nm,0.3s							
RJF	**Les Rejaudoux**	**3.79**	**348**	Lg		18 07 38.0	
0.6nm,0.3s							

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*ISCJB **19** 18:13:35.1±0.4,4320N±003×104W±003,h12km±2km, Error ellipse: s-maj=4.2km s-min=3.2km az=168.2*
*STR **19** 18:13:35.6±0.5,4312N×109W,h10km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **19** 18:13:35.6±0.1,4309N×110W,h15km,Md2.6/2,Ml2.4/4, Error ellipse: s-maj=2.0km s-min=1.1km az=22.0*
*MDD **19** 18:13:36.8±0.2,4314N×104W,h6km±3km,mbLg1.7/18, Error ellipse: s-maj=2.0km s-min=1.0km az=13.0,PRXIMO*
ISC 19 18:13:35.8±0.4,4315N±002×106W±002,h13km±3km,n41, σ0°97/67,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.11**	**56**	P	**Pg**	**18 13 39.3**	**+0.5**
ORDF				S	**Sg**	**18 13 41.6**	**+0.5**
LARF	**Larrau**	**0.13**	**156**	P	**Pg**	**18 13 38.3**	**-0.8**
LARF				S	**Sg**	**18 13 40.0**	**-1.4**
SJPF	**Ste Jean**	**0.13**	**252**	*e*Pg	**Pg**	**18 13 39.0**	**-0.1**
SJPF				*e*Sg	**Sg**	**18 13 40.9**	**-0.6**
171nm,0.2s							
SJPF	**Ste Jean**	**0.13**	**252**	Pg	**Pg**	**18 13 39.0**	**-0.1**
SJPF				Lg		18 13 40.9	
86nm,0.2s							
OSSF	**Osses**	**0.18**	**304**	Pg	**Pg**	**18 13 40.5**	**+0.6**
OSSF				Sg	**Sg**	**18 13 43.7**	**+0.9**
OSSF	**Osses**	**0.18**	**304**	P	**Pg**	**18 13 40.5**	**+0.5**
OSSF				S	**Sg**	**18 13 43.8**	**+1.0**
ATE	**Arette**	**0.27**	**104**	Pg	**Pg**	**18 13 41.7**	**+0.3**
ATE				Sg	**Sg**	**18 13 45.8**	**+0.6**
ATE	**Arette**	**0.27**	**104**	P	**Pg**	**18 13 41.8**	**+0.3**
ATE				S	**Sg**	**18 13 45.9**	**+0.7**
EALK	**Alkurruntz**	**0.34**	**282**	Pg	**Pg**	**18 13 43.2**	**+0.6**
31nm,0.4s,SNR=54							
EALK				Lg		18 13 48.2	
48nm,0.3s,SNR=20							
ELIZ	**Elizondo**	**0.34**	**272**	Pg	**Pg**	**18 13 43.2**	**+0.4**
12nm,0.3s,SNR=26							
ELIZ				Lg		18 13 48.7	
27nm,0.2s,SNR=17							
IPRE	**Itoiz**	**0.41**	**212**	Pg	**Pg**	**18 13 44.1**	**+0.1**
10nm,0.3s,SNR=11							
IPRE				Lg		18 13 50.6	
19nm,0.3s,SNR=8.9							
IUSE	**Utxeti**	**0.41**	**240**	Pg	**Pg**	**18 13 44.7**	**+0.6**
7.2nm,0.3s,SNR=14							
IUSE				Lg		18 13 50.5	
8.9nm,0.3s,SNR=5.0							
ETSF	**Etsaut**	**0.45**	**125**	*e*Pg	**Pg**	**18 13 44.4**	**-0.2**
ETSF				*e*Sg	**Sg**	**18 13 51.0**	**+0.4**
97nm,0.3s							
ETSF	**Etsaut**	**0.45**	**125**	Pg	**Pg**	**18 13 44.4**	**-0.2**
ETSF				Lg		18 13 51.0	
48nm,0.3s							
FDAF	**Les Forges d'A**	**0.49**	**133**	P	**Pg**	**18 13 45.6**	**+0.1**
FDAF				S	**Sg**	**18 13 52.5**	**+0.4**
REYF	**Montagne du Re**	**0.49**	**100**	Pg	**Pg**	**18 13 45.7**	**+0.2**
REYF				Sg	**Sg**	**18 13 53.3**	**+1.2**
REYF	**Montagne du Re**	**0.49**	**100**	P	**Pg**	**18 13 45.9**	**+0.3**
REYF				S	**Sg**	**18 13 52.0**	**-0.1**
EARA	**Aranguren**	**0.54**	**225**	Pg	**Pg**	**18 13 47.2**	**+0.8**
3.3nm,0.1s,SNR=7.9							
EARA				Lg		18 13 55.5	
18nm,0.3s,SNR=7.9							
LABF	**Labassere**	**0.83**	**97**	S	**Sg**	**18 14 04.3**	**+1.4**
VIEF	**Viey**	**0.84**	**108**	Pg	**Pg**	**18 13 51.7**	**-0.3**
VIEF				Sg	**Sg**	**18 14 04.0**	**+1.0**
VIEF	**Viey**	**0.84**	**108**	P	**Pg**	**18 13 51.9**	**-0.1**
VIEF				S	**Sg**	**18 14 03.6**	**+0.6**
EBIE	**Bielsa**	**1.00**	**118**	Pg	**Pg**	**18 13 54.6**	**-0.4**
2.1nm,0.3s,SNR=18							
EBIE				Lg		18 14 08.6	
9.3nm,0.4s,SNR=7.2							
EPF	**Esparros**	**1.03**	**96**	*e*Pn	**Pn**	**18 13 54.3**	**-1.6**
EPF	**Esparros**	**1.03**	**96**	*e*Pg	**Pg**	**18 13 55.8**	**+0.1**
EPF				*e*Sg	**Sg**	**18 14 09.8**	**+0.7**
8.4nm,0.3s							
EPF	**Esparros**	**1.03**	**96**	Pn	**Pn**	**18 13 54.3**	**-1.6**
EPF				Pg	**Pg**	**18 13 55.8**	**+0.1**
EPF				Lg		18 14 09.8	
4.2nm,0.3s							
ECRI	**Cripan**	**1.20**	**244**	Pg	**Pg**	**18 13 60.0**	**+1.1**
7.3nm,0.2s,SNR=7.9							
ECRI				Lg		18 14 17.0	
4.7nm,0.2s,SNR=7.9							
MELF	**Melles**	**1.36**	**101**	S	**Sn**	**18 14 19.8**	**+1.4**
ESAC	**San Caprasio**	**1.50**	**163**	Pg	**Pg**	**18 14 04.8**	**+0.3**
4.2nm,0.2s,SNR=9.3							
ESAC				Lg		18 14 25.4	
30nm,0.3s,SNR=4.9							
ELAN	**Lanestosa**	**1.74**	**273**	Pg	**Pg**	**18 14 07.8**	**-1.4**
0.6nm,0.2s,SNR=4.0							
ELAN				Lg		18 14 32.4	
1.9nm,0.3s,SNR=7.9							
LFF	**La Frestale**	**2.21**	**35**	*e*Pg	**Pg**	**18 14 17.9**	**-0.2**
LFF				*e*Sg	**Sg**	**18 14 47.4**	**+0.7**
7.5nm,0.3s							
LFF	**La Frestale**	**2.21**	**35**	Pg	**Pg**	**18 14 17.9**	**-0.2**
LFF				Lg		18 14 47.4	
3.8nm,0.3s							
EMIR	**Miracle**	**2.27**	**122**	Pg	**Pg**	**18 14 17.9**	**-1.5**
1.2nm,0.1s,SNR=7.9							
EMIR				Lg		18 14 48.9	
2.7nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**2.40**	**138**	Pg	**Pg**	**18 14 19.4**	**-2.4**
0.5nm,0.1s,SNR=7.9							
EPOB				Sn	**Sn**	**18 14 44.6**	**+0.7**
0.5nm,0.2s,SNR=7.9							
EPOB				Lg		18 14 52.2	
0.4nm,0.3s,SNR=7.9							
MTLF	**Montolieu**	**2.40**	**84**	*e*P	**Pn**	**18 14 15.6**	**+0.8**
MTLF	**Montolieu**	**2.40**	**84**	*e*Pg	**Pg**	**18 14 20.9**	**-0.9**
MTLF				*e*Sg	**Sg**	**18 14 52.3**	**-0.6**
2.1nm,0.3s							
MTLF	**Montolieu**	**2.40**	**84**	P	**Pn**	**18 14 15.6**	**+0.8**
MTLF				Pg	**Pg**	**18 14 20.9**	**-0.9**
MTLF				Lg		18 14 52.3	
1.1nm,0.3s							
ERTA	**Horta de San J**	**2.43**	**154**	Pn	**Pn**	**18 14 16.0**	**+0.9**
0.3nm,0.1s,SNR=7.9							
ERTA				Pg	**Pg**	**18 14 20.5**	**-1.8**
0.3nm,0.1s,SNR=7.9							
ERTA				Sn	**Sn**	**18 14 45.2**	**+0.6**
7.8nm,0.7s,SNR=4.0							
ERTA				Lg		18 14 53.9	
2.5nm,0.2s,SNR=7.9							
ETOR	**Torete**	**2.45**	**198**	Pn	**Pn**	**18 14 18.3**	**+2.9**
1.0nm,0.1s,SNR=4.0							
ETOR				Pg	**Pg**	**18 14 21.2**	**-1.5**
1.9nm,0.2s,SNR=7.9							
ETOR				Lg		18 14 54.5	
4.7nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.87**	**51**	*e*Pn	**Pn**	**18 14 20.1**	**-1.1**
CAF	**Calviac**	**2.87**	**51**	*e*Pg	**Pg**	**18 14 29.9**	**-0.8**
CAF				*e*Sn	**Sn**	**18 14 53.0**	**-2.5**
CAF				*e*Sg	**Sg**	**18 15 07.6**	**-0.2**
2.5nm,0.2s							
CAF	**Calviac**	**2.87**	**51**	Pn	**Pn**	**18 14 20.1**	**-1.1**
CAF				Pg	**Pg**	**18 14 29.9**	**-0.8**
CAF				Sn	**Sn**	**18 14 53.0**	**-2.5**
CAF				Lg		18 15 07.6	
1.2nm,0.2s							

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*NIED **19** 18:20:00,3830N×14340E,h23km,Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φs=21.00000°,δ60.00000°, λ87.00000°. NP2:φs=206.00000°,δ30.00000°,λ94.00000°.*
*IDC **19** 18:20:33.7±0.9,3838N×14331E,h0km,mb4.0/9, mb1 4.0/13,mb1mx3.9/26,mbtmp4.0/13,ML3.6/4,MS3.3/4, Ms1 3.3/4,ms1mx2.9/32,Error ellipse: s-maj=27.2km s-min=16.7km az=91.0*
*ISCJB **19** 18:20:33.4±1.8,3838N±005×14341E±007,h15km±12km, mb4.2/20,Error ellipse: s-maj=10.1km s-min=8.0km az=74.7*
*JMA **19** 18:20:34.1±0.1,3834N×14340E,h28km,M4.3*
*MOS **19** 18:20:36.6±1.2,3849N×14318E,h33km,mb4.5/6,Error ellipse: s-maj=14.9km s-min=9.9km az=115.3*
*BJI **19** 18:20:38.3,3850N×14320E,h38km,mB4.8,mb4.2*
*NEIC **19** 18:20:39.3±2.5,3849N×14316E,h38km±21km,mb4.2/6, Error ellipse: s-maj=22.0km s-min=14.3km az=81.0*
ISC 19 18:20:34.5±2.0,3844N±005×14334E±006,h9km±13km, n51,σ0°98/55,mb4.2/20,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.45**	**297**	P	**Pn**	**18 21 00.6**	**-0.3**
OFUJ				*e*S	**Sn**	**18 21 20.0**	**-0.1**
JIO	**Ouri**	**1.56**	**271**	P	**Pn**	**18 21 01.7**	**-0.7**
JMK	**Ichinoseki**	**1.73**	**288**	P	**Pn**	**18 21 04.5**	**-0.3**
JMK				*e*S	**Sn**	**18 21 27.1**	**+0.1**
JOM	**Ohasama**	**1.90**	**304**	P	**Pn**	**18 21 07.3**	**+0.2**
JMM	**Marumori**	**2.08**	**255**	P	**Pn**	**18 21 08.5**	**-1.1**
JOU	**Okura**	**2.10**	**269**	P	**Pn**	**18 21 09.6**	**-0.2**
JOU				*e*S	**Sn**	**18 21 35.8**	**-0.3**
JFK	**Kawauchi**	**2.22**	**242**	P	**Pn**	**18 21 10.1**	**-1.4**
JYK	**Kaneyama**	**2.38**	**283**	P	**Pn**	**18 21 13.7**	**0.0**
JANG	**Nango**	**2.39**	**324**	P	**Pn**	**18 21 13.9**	**0.0**
JAW	**Awa shima**	**3.21**	**272**	P	**Pn**	**18 21 25.8**	**+0.7**
MJAR	**Matsushiro Arr**	**4.50**	**247**	Pn	**Pn**	**18 21 44.0**	**+1.2**
8.7nm,0.3s,baz=57,slow=11,SNR=66							
MAJO	**Matsushiro**	**4.50**	**247**	*e*P	**Pn**	**18 21 43.7**	**+0.9**
MAT	**Matsushiro**	**4.50**	**247**	P	**Pn**	**18 21 43.6**	**+0.8**
MAT				S	**Sn**	**18 22 35.6**	**+0.4**
ASAJ	**Asahikawa**	**5.70**	**355**	Pn	**Pn**	**18 22 00.8**	**+1.5**
1.1nm,0.3s,baz=55,slow=30,SNR=10							
ASAJ				LR	LR	18 24 52.0	
comp=Z,146nm,19.8s,baz=93,slow=45							
JHJ	**Hachijo jima 2**	**6.04**	**210**	Pn	**Pn**	**18 22 02.2**	**-1.7**
6.6nm,0.3s,baz=47,slow=19,SNR=2.6							
JHJ				Sn	**Sn**	**18 23 06.0**	**-7.3**
14nm,0.3s,baz=49,slow=19,SNR=3.7							
VLA	**Vladivostok**	**9.86**	**302**	*e*P	**Pn**	**18 22 56.0**	**-0.3**
VLA				pmax	pmax		
comp=Z,31nm,1.7s							
JNU	**Nakatsue**	**11.42**	**246**	LR	LR	18 27 15.0	
comp=Z,274nm,19.2s,baz=94,slow=35							
KSRS	**Korea Array**	**12.21**	**270**	Pn	**Pn**	**18 23 30.5**	**+1.9**
baz=79,slow=14,SNR=3.9							
KSRS				LR	LR	18 27 41.8	
comp=Z,75nm,18.1s,baz=354,slow=35							
HIA	**Hailar**	**20.08**	**310**	*e*P	**P**	**18 25 06.0**	**-2.2**
HIA				pmax	pmax		
comp=Z,6.0nm,0.8s							
HIA	**Hailar**	**20.08**	**310**	*e*P	**P**	**18 25 06.0**	**-2.2**
comp=Z,6.3nm,0.8s							
YAK	**Yakutsk**	**25.08**	**345**	P	**P**	**18 25 58.5**	**-0.8**
YAK				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.3							
YAK	**Yakutsk**	**25.08**	**345**	P	**P**	**18 25 58.5**	**-0.8**
comp=Z,8.6nm,0.8s,mb4.3							
BOD	**Bodaibo**	**27.21**	**325**	*e*P	**P**	**18 26 17.1**	**-1.4**
BOD				pmax	pmax		
comp=Z,3.0nm,0.7s,mb3.9							
SONM	**Songino Array**	**28.31**	**301**	P	**P**	**18 26 28.5**	**+0.1**
comp=Z,1.5nm,0.9s,mb3.6,baz=102,slow=9.1,SNR=7.1							
TLY	**Talaya**	**30.61**	**309**	*e*P	**P**	**18 26 46.0**	**-2.8**
TLY				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.4							
TLY	**Talaya**	**30.61**	**309**	*e*P	**P**	**18 26 46.0**	**-2.8**
comp=Z,5.2nm,0.8s,mb4.4							
GTA	**Gaotai**	**33.63**	**286**	*e*P	**P**	**18 27 17.0**	**+1.7**
GTA				AMB	AMB		
comp=Z,2.0nm,1.4s,mb3.9							
ZAL	**Zalesovo**	**42.13**	**311**	P	**P**	**18 28 27.2**	**+0.2**
comp=Z,1.0nm,0.8s,mb3.5,baz=357,slow=6.4,SNR=5.5							
ZAL				LR	LR	18 47 19.3	
comp=Z,75nm,19.2s,baz=87,slow=38							
LSA	**Lhasa**	**43.61**	**275**	P	**P**	**18 28 43.0**	**+4.0**
LSA				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.1							
LSA	**Lhasa**	**43.61**	**275**	P	**P**	**18 28 43.0**	**+3.9**
comp=Z,1.8nm,0.5s,mb4.1							
MK31	**Makanchi Array**	**44.68**	**301**	*e*P	**P**	**18 28 47.2**	**-0.5**
MKAR	**Makanchi Array**	**44.68**	**301**	P	**P**	**18 28 48.4**	**+0.7**
comp=Z,1.0nm,0.5s,mb3.9,baz=77,slow=9.5,SNR=14							
KURK	**Kurchatov**	**46.28**	**307**	*e*P	**P**	**18 29 00.5**	**+0.2**
KURK				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**46.28**	**307**	*e*P	**P**	**18 29 00.5**	**+0.2**
comp=Z,6.4nm,0.8s,mb4.6							
JIRN	**Jiri**	**48.41**	**275**	*e*P	**P**	**18 29 21.7**	**+4.8**
comp=Z,6.9nm,0.7s,mb4.8							
GUN	**Gumba**	**48.54**	**275**	*e*P	**P**	**18 29 24.3**	**+6.4**
comp=Z,9.4nm,0.4s,mb5.2							
KKN	**Kakani**	**49.06**	**276**	*e*P	**P**	**18 29 27.0**	**+5.1**
comp=Z,9.1nm,0.5s,mb5.1							
PKI	**Pulchoki**	**49.06**	**275**	*e*P	**P**	**18 29 25.3**	**+3.3**
GKN	**Gorkha**	**49.47**	**276**	*e*P	**P**	**18 29 31.8**	**+6.8**
comp=Z,6.8nm,0.5s,mb5.0							
KOLN	**Koldanda**	**50.38**	**277**	*e*P	**P**	**18 29 38.8**	**+6.8**
BRVK	**Borovoye**	**50.82**	**312**	P	**P**	**18 29 35.1**	**-0.2**
BRVK				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.0							
BRVK	**Borovoye**	**50.82**	**312**	P	**P**	**18 29 35.1**	**-0.2**
comp=Z,2.3nm,1.0s,mb4.1							
INK	**Inuvik**	**52.44**	**28**	P	**P**	**18 29 48.8**	**+1.4**
comp=Z,0.5nm,0.5s,mb3.7,baz=252,slow=6.4,SNR=2.6							
KBL	**Kabul**	**58.34**	**291**	P	**P**	**18 30 29.5**	**-0.4**
WB2	**Warramunga Arr**	**58.68**	**190**	P	**P**	**18 30 27.7**	**-4.6**
WRA	**Warramunga Arr**	**58.68**	**190**	P	**P**	**18 30 32.2**	**0.0**
comp=Z,2.3nm,0.7s,mb4.3,baz=8.4,slow=7.1,SNR=13							
RES	**Resolute Bay**	**60.86**	**15**	P	**P**	**18 30 46.2**	**-1.1**
comp=Z,51nm,0.8s							
ASAR	**Alice Springs**	**62.41**	**190**	P	**P**	**18 30 58.0**	**+0.3**
comp=Z,0.8nm,0.7s,mb4.0,baz=3.6,slow=6.5,SNR=11							
FINES	**FINESS Array B**	**68.28**	**333**	P	**P**	**18 31 35.8**	**0.0**
comp=Z,0.7nm,0.3s,mb4.2,baz=69,slow=24,SNR=14							
NOA	**NORSAR Array B**	**73.47**	**338**	P	**P**	**18 32 07.6**	**+0.2**
comp=Z,0.8nm,0.9s,mb3.6,baz=48,slow=5.4,SNR=2.6							
AKASG	**Malin Array Be**	**74.11**	**323**	P	**P**	**18 32 11.8**	**+0.8**
comp=Z,1.8nm,0.7s,mb4.1,baz=45,slow=6.0,SNR=7.9							

IDC 19 18:57:17.7±2.8,535S×13163E,h0km,mb3.3/1,mb1 3.4/4, mb1mx3.3/14,mbtmp3.2/4,ML3.2/3,Error ellipse: s-maj=122.3km s-min=29.7km az=79.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.36**	**174**	*e*P	Pn	18 59 09.5	+3.1
KAKA				*e*S	Sn	19 00 28.3	-2.4
FITZ	**Fitzroy Crossi**	**13.96**	**204**	*e*P	Pn	19 00 39.3	+2.5
FITZ				*e*S	Sn	19 02 58.6	-14
FITZ	**Fitzroy Crossi**	**13.96**	**204**	Pn	Pn	19 00 35.8	-1.0
0.1nm,0.3s,baz=52,slow=17,SNR=4.2							
FITZ				Sn	Sn	19 02 58.1	-14
0.1nm,0.3s,baz=169,slow=16,SNR=3.1							
WRA	**Warramunga Arr**	**14.75**	**170**	Pn	Pn	19 00 47.5	0.0
0.2nm,0.3s,baz=356,slow=13,SNR=12							
WRA				Sn	Sn	19 03 24.0	-7.7
0.3nm,0.3s,baz=0.5,slow=23,SNR=7.7							
WB2	**Warramunga Arr**	**14.75**	**170**	*e*P	Pn	19 00 48.2	+0.7
WB2				*e*S	Sn	19 03 22.9	-8.8
ASAR	**Alice Springs**	**18.35**	**173**	P	Pn	19 01 34.3	+0.8
0.1nm,0.3s,baz=350,slow=10,SNR=9.2							
MKAR	**Makanchi Array**	**67.76**	**326**	P	P	19 08 17.4	+0.2
0.2nm,0.7s,baz=128,slow=6.6,SNR=4.5							

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*IDC **19** 19:00:14.8±0.9,298N×12905E,h0km,mb4.0/8,mb1 4.1/8, mb1mx3.9/18,mbtmp4.0/8,Error ellipse: s-maj=51.4km s-min=15.6km az=81.0*
*NEIC **19** 19:00:16.4±0.4,295N×129.11E,h10km,mb4.5/6,Error ellipse: s-maj=19.0km s-min=7.0km az=75.0*
*ISCJB **19** 19:00:18.1±0.6,297N±008×129.1E±0.1,h35km,mb4.5/19, Error ellipse: s-maj=21.4km s-min=8.5km az=139.4*
*BJI **19** 19:00:23.8,363N×12865E,h22km,mb4.5*
ISC 19 19:00:20.2±0.6,296N±007×1292E±01,h35km,n31, σ0°72/29,mb4.5/19,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.21**	**189**	P	**P**	**19 05 02.1**	**-0.7**
1.1nm,0.6s,mb3.4,baz=24,slow=11,SNR=3.6							
WRA	**Warramunga Arr**	**23.31**	**168**	P	**P**	**19 05 25.9**	**+0.8**
5.1nm,0.6s,mb4.2,baz=348,slow=11,SNR=30							
WB2	**Warramunga Arr**	**23.32**	**168**	*e*P	**P**	**19 05 25.9**	**+0.8**
WB2	**Warramunga Arr**	**23.32**	**168**	*e*P	**P**	**19 05 25.1**	**0.0**
ASAR	**Alice Springs**	**26.86**	**170**	P	**P**	**19 05 58.6**	**+1.2**
0.9nm,0.5s,mb3.6,baz=353,slow=7.4,SNR=24							
CHTO	**Chiang Mai**	**33.52**	**300**	*e*P	**P**	**19 06 57.7**	**+1.4**
5.2nm,0.6s,mb4.6							
MJAR	**Matsushiro Arr**	**34.44**	**13**	P	**P**	**19 07 03.7**	**-0.6**
2.4nm,1.0s,mb4.1,baz=183,slow=10,SNR=4.0							
STKA	**Stephens Creek**	**36.59**	**162**	P	**P**	**19 07 22.5**	**-0.3**
2.5nm,0.6s,mb4.2,baz=351,slow=10,SNR=6.8							
NWAO	**Narrogin (SRO)**	**37.44**	**197**	P	**P**	**19 07 28.6**	**-1.4**
7.9nm,0.9s,mb4.5,baz=292,slow=22,SNR=3.1							
BJT	**Baijiatuan**	**38.73**	**344**	P	**P**	**19 07 41.6**	**+0.7**
14nm,1.2s,

BNT Bandirma 0.30 265 *i* PG **Pg 19 15 44.1 +0.3**
EDC Edincik 0.34 264 *i* PG **Pg 19 15 44.5 -0.1**
MRMT Marmara Adasi 0.59 292 PG **Pg 19 15 48.4 -0.8**
MRMT SG **Sg 19 15 57.2 +0.3**
GEMT Gemlik 0.67 85 PG **Pg 19 15 50.4 -0.4**
GEMT SG **Sg 19 16 00.8 +1.2**
ULDT Uludag 0.68 111 *i* P **Pg 19 15 49.9 -1.0**
ULDT *i* S **Sg 19 16 04.0 +4.2**
CTT Catalca 0.77 7 PG **Pg 19 15 52.7 +0.1**
ELBA Catalca 0.77 7 *i* P **Pg 19 15 52.5 -0.1**
ELBA *i* S **Sg 19 16 02.8 +0.2**
BADT Buyukada 0.77 53 PG **Pg 19 15 52.7 0.0**
DST Dursunbey 0.82 163 PG **Pg 19 15 53.3 -0.2**
YLV Yalova 0.83 77 PG **Pg 19 15 53.2 -0.6**
ISK Istanbul-Kandi 0.89 40 PG **Pg 19 15 54.6 -0.3**
ISK Istanbul-Kandi 0.89 40 *e*Pg **Pg 19 15 54.2 -0.6**
ISK *e*Sg **Sg 19 16 06.4 0.0**
ISK Istanbul-Kandi 0.89 40 *e*Pg **Pg 19 15 54.6 -0.3**
ISK *e*Sg **Sg 19 16 06.4 0.0**
IZI Iznik 0.89 93 PG **Pg 19 15 54.2 -0.7**
SART Tekirdag 0.91 290 *i* P **Pg 19 15 55.0 -0.4**
SART *i* S **Sg 19 16 08.0 +0.7**
RKY Sarkoy-Tekirda 0.92 290 PG **Sg 19 15 54.9 -0.5**
KLYT Kilyos 1.03 32 PG **Pg 19 15 57.2 -0.4**
KLYT SG **Sg 19 16 11.4 +0.4**
ADVT Abdulvahap 1.09 87 PN **Pn 19 15 57.9 -1.2**
HRT Hereke 1.12 67 PN **Pn 19 15 57.9 -1.7**
LPK Lapseki 1.19 270 PN **Pn 19 15 59.8 -0.6**
GPA Golpazari 1.53 93 PN **Pn 19 16 04.9 -0.3**
AKS Akhisar 1.55 195 PN **Pn 19 16 05.0 -0.5**
EZN Ezine 1.62 250 PN **Pn 19 16 06.3 -0.1**
ENEZ Enez 1.68 283 PN **Pn 19 16 07.6 +0.3**
ALN Alexandroupoli 1.80 287 *e*Pn **Pn 19 16 08.4 -0.5**
ALN *e*Sb **Sb 19 16 34.1 +0.6**
EDRB Edirne 1.88 321 PN **Pn 19 16 10.2 +0.2**
ALT Altintas 1.92 133 PN **Pn 19 16 10.8 +0.2**
PRK Paraskevi 1.94 235 *e*PN **Pn 19 16 10.6 -0.2**
PRK *e*SN **Sn 19 16 40.2 +5.0**
ESKT Eskisehir 2.13 113 PN **Pn 19 16 13.4 -0.1**
ESKT Eskisehir 2.13 113 *i* P **Pn 19 16 13.1 -0.4**
ESKT *i* S **Sg 19 16 46.3 -0.1**
SEYT Eskypehyr 2.13 113 *i* P **Pn 19 16 13.1 -0.4**
MDU Mudurnu 2.22 87 PN **Pn 19 16 15.1 +0.5**
BLCB Balcova 2.23 207 PN **Pn 19 16 15.4 +0.6**
BLCB Balcova 2.23 207 *e*Pn **Pn 19 16 13.3 -1.4**
BLCB *e*Sn **Sn 19 16 39.2 -3.1**
BLCB Balcova 2.23 207 *e*Pn **Pn 19 16 15.4 +0.6**
BLCB *e*Sn **Sn 19 16 39.2 -3.1**
RDO Rodhopi 2.24 291 *e*PN **Pn 19 16 14.9 0.0**
KHL Karahalli 2.26 155 PN **Pn 19 16 15.5 +0.2**
LIA Limnos Island 2.45 260 *e*PN **Pn 19 16 18.3 +0.5**
JMB Yambol 2.45 329 *e*Pn **Pn 19 16 18.2 +0.3**
JMB Yambol 2.45 329 P **Pn 19 16 18.8 +0.9**
LOS Limnos 2.52 261 *e*Pn **Pn 19 16 18.7 -0.1**
SHUT Suhut-Afyon 2.52 136 PN **Pn 19 16 19.3 +0.5**
KDZ Kurdzhali 2.53 301 P **Pn 19 16 19.0 +0.1**
KDZ Pg **Pg 19 16 25.9 -0.4**
KDZE Karadeniz Ereo 2.55 68 PN **Pn 19 16 19.1 -0.1**
DIM Dimitrovgrad 2.67 309 P **Pn 19 16 21.1 +0.2**
DENT Denizli 2.69 168 PN **Pn 19 16 21.4 +0.3**
PRD Provadia 2.89 347 *e*P **Pb 19 16 30.4 +0.9**
RZN Rozhen 3.02 297 P **Pn 19 16 25.6 0.0**
RZN Pg **Pg 19 16 35.8 +0.2**
ISP Isparta 3.06 145 PN **Pn 19 16 27.8 +1.6**
MLSB Milas 3.11 188 PN **Pn 19 16 27.9 +0.9**
KIZT Kizilcal 3.14 117 PN **Pn 19 16 27.3 0.0**
PLD Plovdiv 3.22 303 *e*Pn **Pn 19 16 28.8 +0.4**
OUR Ouranopolis 3.31 271 *e*Pn **Pn 19 16 28.6 -1.1**
SAFT Safranbolu 3.43 74 PN **Pn 19 16 31.6 +0.3**
ANTO Ankara 3.48 97 PN **Pn 19 16 32.3 +0.4**
ANTO Ankara 3.48 97 *e*Pn **Pn 19 16 30.4 -1.5**
ANTO *e*Pg **Pg 19 16 41.1 -3.3**
ANTO *e*Sg **Sg 19 17 30.2 +0.8**
ANTO Ankara 3.48 97 ⇓*i*P **Pg 19 16 41.8 -2.6**
ANTO Ankara 3.48 97 *e*P **Pn 19 16 30.4 -1.5**
ANTO Ankara 3.48 97 *e*Pn **Pn 19 16 32.3 +0.4**
ANTO Ankara 3.48 97 *e*Pg **Pb 19 16 41.1 +1.7**
NVR Nevrokopi 3.51 287 *e*PN **Pn 19 16 32.5 +0.1**
PAIG Paliouri 3.58 264 *e*Pn **Pn 19 16 32.5 -0.9**
PVL Pavlikeni 3.60 323 P **Pn 19 16 34.5 +0.9**
DALT Dalyan (Mudla) 3.62 176 *e*PN **Pn 19 16 35.3 +1.4**
AOS Alonnisos 3.62 252 *e*Pn **Pn 19 16 33.8 -0.2**
SRS Serrai 3.66 283 *e*Pn **Pn 19 16 34.1 -0.3**
MMB Musomiste 3.67 291 P **Pn 19 16 34.5 -0.1**
DAT Datca 3.70 189 *e*PN **Pn 19 16 35.7 +0.7**
PLG Polygyros 3.72 271 *e*PN **Pn 19 16 34.0 -1.2**
PGB Panagyurishte 3.79 306 P **Pn 19 16 36.7 +0.4**
FETY Fethiye 3.79 171 *e*PN **Pn 19 16 37.0 +0.7**
ELL Elmali 3.84 160 *e*PN **Pn 19 16 38.9 +1.9**
APE Apeiranthos 3.96 214 *e*Pn **Pn 19 16 37.5 -1.1**
APE *e*Sn **Sn 19 17 22.5 -2.6**
APE Apeiranthos 3.96 214 *e*Pn **Pn 19 16 38.0 -0.6**
APE *e*Sn **Sn 19 17 22.5 -2.6**
CANT Cankiri 4.05 85 *e*PN **Pn 19 16 40.4 +0.5**
NEO Neokhori 4.06 256 *e*PN **Pn 19 16 39.7 -0.3**
XOR Xorichti 4.07 257 *e*Pn **Pn 19 16 39.8 -0.3**
TIRR Tirgusor 4.07 1 ⇓*i*P **Pn 19 16 40.8 +0.7**
BR131 Keskin Array S 4.14 97 *e*Pn **Pn 19 16 40.7 -0.3**
BR131 *e*Pg **Pg 19 16 54.8 -2.3**
BR131 Keskin Array S 4.14 97 *e*Pn **Pn 19 16 40.7 -0.4**
BR131 Keskin Array S 4.14 97 *e*Pg **Pg 19 16 54.8 -2.3**
BRTR Keskin Array B 4.14 97 Pn **Pn 19 16 40.6 -0.5**
2.5nm,0.3s,baz=265,slow=11,SNR=66
BRTR Pg **Pb 19 16 52.3 +1.5**
3.2nm,0.3s,baz=277,slow=15,SNR=41
BRTR Sn **Sn 19 17 27.9 -1.6**
4.6nm,0.3s,baz=71,slow=13,SNR=8.2
BRTR Lg 19 17 50.8
2.7nm,0.3s,baz=275,slow=18,SNR=5.5
BRTR Keskin Array B 4.14 97 P **Pn 19 16 40.6 -0.5**
BRTR 19 17 28.0
BRTR Keskin Array B 4.14 97 Pg **Pg 19 16 52.3 -4.8**
ARG Arkhangelos 4.17 182 *e*PN **Pn 19 16 42.0 +0.6**
KNT Kendrikon 4.18 282 *e*Pn **Pn 19 16 41.8 +0.2**
VTS Vitosha 4.42 302 *e*Pn **Pn 19 16 45.7 +0.7**
VTS Vitosha 4.42 302 *i* P **Pn 19 16 45.4 +0.5**
VTS Vitosha 4.42 302 P **Pn 19 16 46.1 +1.2**
VTS Vitosha 4.42 302 ⇑*i*P **Pn 19 16 45.1 +0.2**
VAY Valandovo 4.45 284 *e*Pn **Pn 19 16 45.4 0.0**
VAY Valandovo 4.45 284 *e*Pn **Pn 19 16 45.4 0.0**
VAY Valandovo 4.45 284 *e*Pn **Pn 19 16 45.3 -0.1**
GRG Griva 4.53 279 *e*Pn **Pn 19 16 47.1 +0.7**
BZK Bozkurt 4.58 68 *e*PN **Pn 19 16 48.2 +1.2**
AGG Agios Georgios 4.81 255 *e*Pn **Pn 19 16 50.5 +0.2**
CORM Corum 4.84 90 *e*PN **Pn 19 16 51.8 +1.1**
KARP Karpathos 4.92 191 *e*PN **Pn 19 16 52.6 +0.9**
MLR Muntele Rosu 5.39 342 Pn **Pn 19 17 00.4 +2.2**
2.7nm,0.3s,baz=168,slow=5.0,SNR=20
MLR Sn **Sn 19 18 02.1 +1.7**
2.4nm,0.3s,baz=189,slow=17,SNR=4.7
MLR Lg 19 18 30.0
3.0nm,0.3s,baz=104,slow=22,SNR=3.9
MLR Muntele Rosu 5.39 342 ⇑*i*P **Pn 19 16 59.9 +1.7**
MLR Muntele Rosu 5.39 342 Pn **Pn 19 17 00.4 +2.2**
MLR Sn **Sn 19 18 02.1 +1.8**
BARS Barje 5.44 299 ⇑*i*Pn **Pn 19 17 00.4 +1.5**
BARS Sn **Sn 19 18 03.0 +1.5**
KRUS Krusevo 5.44 283 *e*Pn **Pn 19 17 00.1 +1.2**
VLI Veliai 5.58 231 *e*PN **Pn 19 17 01.3 +0.4**
VOIR Plostina 5.59 336 ⇑*i*P **Pn 19 17 01.8 +0.8**
PLOR Plostina 5.60 348 ⇓*i*P **Pn 19 17 02.6 +1.5**
SEV Sevastopol' 5.74 42 *e*P **Pn 19 17 01.9 -1.2**
SEV *e*S **Sn 19 18 03.5 -5.5**
SEV pmax pmax
comp=Z,12nm,0.3s
SEV smax
comp=N,10.0nm,0.0s
SEV Sevastopol' 5.74 42 *e*P **Pn 19 17 01.9 -1.2**
comp=N,12nm,0.3s
IDI Anoyia 5.76 209 Pn **Pn 19 17 02.7 -0.7**
comp=N,0.1nm,0.3s,baz=45,slow=8.6,SNR=2.3
IDI Sn **Sn 19 18 05.1 -4.5**
comp=N,0.5nm,0.3s,baz=256,slow=19,SNR=2.1
IKL Isikli 5.92 133 *e*PN **Pn 19 17 07.1 +1.6**
YAL Yalta 5.96 45 ⇓*e*P **Pn 19 17 05.8 -0.2**
YAL *e*S **Sn 19 18 09.1 -5.2**
YAL pmax pmax
comp=Z,40nm,0.4s
YAL smax
comp=N,37nm,0.5s
YAL smax
comp=E,31nm,0.5s
YAL Yalta 5.96 45 *e*P **Pn 19 17 05.8 -0.2**
comp=E,40nm,0.4s
ALU Alushta 6.22 44 ⇑*i*P **Pn 19 17 09.7 +0.1**
ALU pmax pmax
comp=Z,4.0nm,0.2s
ALU Alushta 6.22 44 *i* P **Pn 19 17 09.7 +0.1**
comp=Z,4.0nm,0.2s
SIM Simferopol' 6.25 41 ⇓*e*P **Pn 19 17 12.1 +2.0**
SIM *e*S **Sn 19 18 19.1 -2.5**
SIM pmax pmax
comp=Z,10.0nm,0.7s
SIM pmax pmax
comp=Z,650nm,0.3s
SIM smax
comp=N,270nm,0.7s
SIM smax
comp=E,200nm,0.7s
SIM smax
comp=N,150nm,0.7s
SIM smax
comp=E,360nm,0.7s
SIM MLR MLR
comp=Z,90nm,16.1s
SIM Simferopol' 6.25 41 *e*P **Pn 19 17 12.1 +2.0**
comp=Z,650nm,0.3s
GZR Gura Zlata 6.45 323 ⇑*i*P **Pn 19 17 12.5 -0.3**
SVIS Svilajnac 6.55 309 ⇑*i*Pn **Pn 19 17 12.6 -1.5**
KIS Kishinev 6.62 3 *e*P **Sn 19 18 30.0 -0.7**
SUDU Sudak 6.68 45 *e*P **Pn 19 17 15.5 -0.4**
SUDU *e*S **Sn 19 18 25.5 -6.5**
SUDU pmax pmax
comp=Z,40nm,0.5s
SUDU smax
comp=E,60nm,0.6s
SUDU Sudak 6.68 45 *e*P **Pn 19 17 15.5 -0.4**
comp=E,40nm,0.5s
BZS Buzias 7.17 319 ⇑*i*P **Pn 19 17 22.2 -0.5**
DIVS Divcibare 7.20 304 ⇑*i*Pn **Pn 19 17 22.5 -0.6**
BURAR Bucovina Array 7.56 344 ⇑*i*P **Pn 19 17 29.3 +1.2**
DRGR 7.58 329 ⇑*i*P **Pn 19 17 26.8 -1.6**
FGSL Fruska Gora 7.86 310 Pn **Pn 19 17 31.8 -0.4**
MMAI Mount Meron Ar 9.30 140 Pn **Pn 19 17 51.2 -0.7**
comp=E,0.8nm,0.3s,baz=327,slow=10,SNR=3.4
AKASG Malin Array Be 10.34 3 Pn **Pn 19 18 03.7 -2.4**
comp=E,1.0nm,0.3s,baz=185,slow=11,SNR=6.2
AKASG Sn **Sn 19 19 55.9 -6.1**
comp=E,0.7nm,0.3s,baz=189,slow=23,SNR=3.1
AKASG Malin Array Be 10.34 3 Pn **Pn 19 18 03.7 -2.4**
AKASG Sn **Sn 19 19 55.9 -6.1**
VRAC Vranov 12.18 321 LR LR 19 22 56.1
comp=E,24nm,18.3s,baz=138,slow=36
GERES GERESS Array B 13.39 314 Pn **Pn 19 18 45.4 -2.5**
comp=E,0.1nm,0.3s,baz=94,slow=8.0,SNR=2.0
OBN Obninsk 15.73 18 P **Pn 19 19 22.0 +2.6**
FINES FINESS Array B 21.13 357 P **P 19 20 21.0 -1.8**
comp=E,2.1nm,0.9s,mb3.5,baz=185,slow=12,SNR=2.5
ORR Orenburg 21.41 50 *e*P **P 19 20 25.3 -0.4**
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
ORR Orenburg 21.41 50 *e*P **P 19 20 25.3 -0.4**
comp=Z,10.0nm,0.8s,mb4.2
KLMR Klimovskoe 21.63 15 *e*P **P 19 20 26.2 -1.9**
KLMR pmax pmax
comp=Z,55nm,2.7s,mb4.5
KLMR Klimovskoe 21.63 15 *e*P **P 19 20 26.2 -1.9**
comp=Z,55nm,2.7s,mb4.5
HFS Hagfors 21.77 340 P **P 19 20 28.9 -0.7**
comp=E,6.5nm,1.1s,mb4.0,baz=180,slow=8.6,SNR=3.0
AKTK Aktyubinsk 23.01 54 P **P 19 20 43.0 +0.2**
AKTK Aktyubinsk 23.01 54 P **P 19 20 43.0 +0.2**
AKTO Aktyubinsk 23.01 54 P **P 19 20 43.0 +0.2**
comp=Z,0.9nm,0.7s,mb3.3,baz=247,slow=12,SNR=5.0
NAO01 NORSAR Array S 23.13 338 P **P 19 20 39.6 -4.5**
comp=Z,21nm,1.2s,mb4.4
EKA Eskdalemuir Ar 25.59 316 P **P 19 21 05.0 -2.0**
comp=Z,1.3nm,0.8s,mb3.5,baz=112,slow=13,SNR=4.4
TORD Torodi Ar. Bea 35.80 228 P **P 19 22 36.8 -0.4**
comp=Z,0.2nm,0.5s,mb3.3,baz=34,slow=8.3,SNR=2.7
MKAR Makanchi Array 38.96 62 P **P 19 23 04.4 +0.4**
comp=Z,0.7nm,0.5s,mb3.6,baz=268,slow=8.0,SNR=8.6

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*IDC **19** 19:28:39.6±1.3,288N×12881E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, MS4.3/1, Ms1 4.3/1, ms1mx2.8/28, Error ellipse: s-maj=83.3km s-min=17.3km az=72.0*
*NEIC **19** 19:28:41.4±0.9,273N×128.18E, h10km, mb4.5/4, Error ellipse: s-maj=54.2km s-min=11.7km az=69.0*
*ISCJB **19** 19:28:42.5±1.0,30N±01×129OE±03, h35km, mb4.3/14, MS4.4/1, Error ellipse: s-maj=44.3km s-min=9.7km az=128.5*
ISC 19 19:28:44.5±1.0,29N±01×1291E±03, h35km, n20, σ0°69/19, mb4.3/14, MS4.4/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.19**	**189**	P	**P**	**19 33 25.3**	**-1.5**
0.9nm,0.5s,mb3.3,baz=23,slow=9.0,SNR=4.1							
WRA	**Warramunga Arr**	**23.32**	**167**	P	**P**	**19 33 49.8**	**+0.3**
3.7nm,0.6s,mb4.0,baz=347,slow=11,SNR=33							
WB2	**Warramunga Arr**	**23.32**	**167**	*e*P	**P**	**19 33 50.3**	**+0.8**
WB2	**Warramunga Arr**	**23.32**	**167**	*e*P	**P**	**19 33 50.0**	**+0.4**
ASAR	**Alice Springs**	**26.86**	**170**	P	**P**	**19 34 22.5**	**+0.7**
0.5nm,0.5s,mb3.3,baz=355,slow=8.0,SNR=14							
CM31	**Chiang Mai Arr**	**33.31**	**300**	P	**P**	**19 35 11.6**	**-7.2**
3.3nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**36.61**	**162**	P	**P**	**19 35 47.1**	**-0.1**
3.7nm,1.0s,mb4.2,baz=323,slow=9.0,SNR=7.3							
LSA	**Lhasa**	**44.73**	**311**	*e*P	**P**	**19 36 55.6**	**+1.3**
2.5nm,0.7s,mb4.2							
JIRN	**Jiri**	**47.75**	**305**	*e*P	**P**	**19 37 18.5**	**+0.5**
14nm,0.8s,mb5.0							
GUN	**Gumba**	**48.10**	**305**	*e*P	**P**	**19 37 21.2**	**+0.5**
19nm,0.8s,mb5.2							
PKI	**Pulchoki**	**48.35**	**305**	*e*P	**P**	**19 37 22.4**	**-0.3**
KKN	**Kakani**	**48.54**	**305**	*e*P	**P**	**19 37 24.0**	**-0.1**
DMN	**Daman**	**48.61**	**305**	*e*P	**P**	**19 37 24.8**	**+0.1**
SONM	**Songino Array**	**48.82**	**340**	P	**P**	**19 37 26.4**	**+0.2**
0.5nm,0.7s,mb3.7,baz=141,slow=7.1,SNR=2.8							
GKN	**Gorkha**	**49.15**	**305**	*e*P	**P**	**19 37 28.5**	**-0.3**
7.5nm,0.8s,mb4.8							
KOLN	**Koldanda**	**49.91**	**304**	*e*P	**P**	**19 37 34.9**	**+0.3**
24nm,0.8s,mb5.3							
MKAR	**Makanchi Array**	**59.55**	**324**	P	**P**	**19 38 44.3**	**-0.1**
1.0nm,0.5s,mb4.1,baz=115,slow=8.3,SNR=40							
KURK	**Kurchatov**	**63.68**	**327**	*e*P	**P**	**19 39 11.2**	**-1.1**
1.7nm,0.6s,mb4.2							
BRVK	**Borovoye**	**69.34**	**327**	*e*P	**P**	**19 39 47.2**	**-1.2**
3.5nm,0.8s,mb4.3							
KMBO	**Kilima Mbogo**	**91.90**	**269**	LR	LR	20 18 32.1	
comp=Z,139nm,20.0s,MS4.4,baz=85,slow=33							

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*ISCJB **19** 19:36:53.5±0.4, 4756N±005×15582E±007, h10km, mb4.5/48, MS4.1/7, Error ellipse: s-maj=8.0km s-min=5.2km az=89.6*
*SZGRF **19** 19:36:53.8, 4653N×15544E, h33km, mb4.5, East of Kuril Islands, Russia*
*IDC **19** 19:36:53.8±0.5, 4752N×15584E, h0km, mb4.4/27, mb1 4.5/29, mb1mx4.5/32, mbtmp4.3/29, ML3.8/2, Error ellipse: s-maj=16.9km s-min=12.1km az=157.0*
*BJI **19** 19:36:54.6, 4773N×15569E, h4km, mB4.7, mb4.4, Ms4.7, Msz4.6*
*NEIC **19** 19:36:55.0±0.3, 4749N×15583E, h10km, mb4.6/16, Error ellipse: s-maj=9.9km s-min=6.3km az=145.0*
*SKHL **19** 19:36:57.3±3.8, 4760N×15580E, h54km±23km, mb4.9/2, ms4.3/2*
*MOS **19** 19:36:58.3±1.1, 4767N×15591E, h41km, mb4.8/16, Error ellipse: s-maj=12.6km s-min=7.0km az=105.2*
ISC 19 19:36:55.3±0.4, 4757N±005×15582E±007, h10km, n109, σ1°15/113, mb4.5/48, MS4.1/7, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.12**	**4**	*e*PN	**Pn**	**19 37 43.0**	**-1.5**
SKR				*e*S	**Sn**	**19 38 19.5**	**-2.4**
SKR				pmax	pmax		
SKR				pmax	pmax		
comp=N,80nm,0.5s							
SKR				pmax	pmax		
comp=Z,90nm,0.5s							
SKR				smax			
comp=N,410nm,0.4s							
SKR				smax			
comp=E,460nm,0.5s							
SKR				MLR	MLR		
comp=Z,3μm,10.0s							
PET	**Petropavlovsk**	**5.75**	**17**	*e*PN	**Pn**	**19 38 19.9**	**-0.8**
PET				pmax	pmax		
comp=Z,30nm,0.3s							
PET				MLR	MLR		
comp=Z,100nm,17.0s							
PET	**Petropavlovsk**	**5.75**	**17**	*e*Pn	**Pn**	**19 38 19.5**	**-1.2**
comp=Z,29nm,0.3s							
PET				*e*Sn	**Sn**	**19 39 22.0**	**-4.8**
KUR	**Kuril'sk**	**5.97**	**250**	*e*PN	**Pn**	**19 38 21.0**	**-2.7**
KUR				pmax	pmax		
comp=N,90nm,0.9s							
KUR				pmax	pmax		
comp=E,140nm,0.9s							
KUR				pmax	pmax		
comp=Z,280nm,0.9s							
KUR	**Kuril'sk**	**5.97**	**250**	*e*P	**Pn**	**19 38 21.0**	**-2.7**
KUR				AMB	AMB	19 38 39.0	
comp=Z,90nm,0.9s							
KUR				AMB	AMB	19 38 39.0	
comp=Z,140nm,0.9s							
KUR				AMB	AMB	19 38 39.0	
comp=Z,280nm,0.9s							
KUR				*i* S	**Sn**	**19 39 26.6**	**-5.6**
KUR				A		19 39 33.0	
comp=Z,150nm,0.6s							
KUR				A		19 39 33.0	
comp=Z,280nm,0.6s							
YSS	**Yuzh-Sakhalins**	**8.91**	**271**	⇓*e*PN	**Pn**	**19 39 08.0**	**+4.0**
YSS				pmax	pmax		
comp=Z,20nm,0.7s							
YSS				MLR	MLR		
comp=Z,500nm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.91**	**271**	*e*Pn	**Pn**	**19 39 08.1**	**+4.1**
comp=Z,32nm,0.6s							
YSS	**Yuzh-Sakhalins**	**8.91**	**271**	*e*P	**Pn**	**19 39 08.0**	**+4.0**
YSS				AMB	AMB	19 39 10.5	
comp=Z,20nm,0.7s							
YSS				*e*S	**Sn**	**19 40 43.2**	**-1.1**
YSS				AMS	AMS	19 43 48.0	
comp=Z,500nm,15.0s							
UGL	**Uglegorsk**	**9.29**	**284**	*e*rx	rx	19 39 24.5	
UGL				AMS	AMS	19 44 08.0	
comp=Z,400nm,15.0s							
UGL				AMS	AMS	19 44 08.0	
comp=Z,700nm,15.0s							
UGL				AMS	AMS	19 44 08.0	
comp=Z,550nm,15.0s							
ASAJ	**Asahikawa**	**9.85**	**254**	Pn	**Pn**	**19 39 17.7**	**+0.8**
comp=Z,1.0nm,0.3s,baz=98,slow=15,SNR=3.0							
ASAJ	**Asahikawa**	**9.85**	**254**	PN	**Pn**	**19 39 17.7**	**+0.8**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
OKH	**Okha**	**10.14**	**311**	*e*PN	**Pn**	**19 39 27.0**	**+6.1**
OKH				MLR	MLR		
comp=Z,700nm,11.0s							
OKH	**Okha**	**10.14**	**311**	*e*rx	rx	19 39 27.0	
OKH				AMS	AMS	19 45 40.2	
comp=Z,1μm,10.0s							
OKH				AMS	AMS	19 45 40.2	
comp=Z,700nm,10.0s							
ERM	**Erimo**	**10.57**	**243**	*e*PN	**Pn**	**19 39 25.8**	**-0.9**
SEY	**Seymchan**	**15.52**	**354**	*e*P	**Pn**	**19 40 33.7**	**-0.4**
MAJO	**Matsushiro**	**17.06**	**236**	*e*P	**Pn**	**19 40 50.7**	**-3.1**
MAJO				pmax	pmax		
comp=Z,12nm,0.8s							
MAJO	**Matsushiro**	**17.06**	**236**	*e*Pn	**Pn**	**19 40 50.7**	**-3.1**
comp=Z,12nm,0.8s							
MAT	**Matsushiro**	**17.06**	**236**	P	**Pn**	**19 40 51.2**	**-2.6**
MJAR	**Matsushiro Arr**	**17.06**	**236**	P	**Pn**	**19 40 51.4**	**-2.5**
comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=7.7							
VLA	**Vladivostok**	**17.37**	**264**	P	**Pn**	**19 40 56.0**	**-1.7**
VLA				pmax	pmax		
comp=Z,42nm,1.8s							
VLA				MLR	MLR		
comp=Z,200nm,13.8s							
MDJ	**Mudanjiang**	**18.40**	**270**	*e*Pn	**Pn**	**19 41 11.2**	**+0.8**
comp=Z,5.2nm,0.7s							
YAK	**Yakutsk**	**20.68**	**324**	*e*P	**P**	**19 41 35.3**	**-0.1**
YAK				*e*PP		19 41 52.5	
YAK				*e*S	**S**	**19 45 21.2**	**-5.2**
YAK				*e*		19 45 39.3	
YAK				*e*SS	sS	19 45 52.5	+22
YAK				pmax	pmax		
comp=N,3.0nm,0.9s							
YAK				pmax	pmax		
comp=E,11nm,0.9s							
YAK				pmax	pmax		
comp=Z,26nm,0.9s							
YAK				smax			
comp=N,106nm,3.5s							
YAK				smax			
comp=E,210nm,5.6s							
YAK	**Yakutsk**	**20.68**	**324**	*e*Pn	**P**	**19 41 34.2**	**-1.2**
comp=E,26nm,0.7s							
CLNS	**Chul'man**	**20.93**	**308**	*e*P	**P**	**19 41 39.9**	**+1.8**
CLNS				pmax	pmax		
comp=Z,13nm,0.5s							
CLNS				pmax	pmax		
comp=N,8.0nm,0.7s							
CLNS				pmax	pmax		
comp=E,12nm,0.7s							
CLNS				MLR	MLR		
comp=Z,200nm,15.0s,MS3.6							
CLNS				MLR	MLR		
comp=N,100nm,13.0s							
BILL	**Bilibino**	**21.21**	**11**	⇑*e*P	**P**	**19 41 42.8**	**+1.8**
BILL				*e*		19 41 54.7	
BILL				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.0							
BILL				MLR	MLR		
comp=Z,100nm,12.0s,MS3.4							
BILL	**Bilibino**	**21.21**	**11**	*e*Pn	**P**	**19 41 40.4**	**-0.6**
comp=Z,6.3nm,0.6s,mb4.1							
KSRS	**Korea Array**	**22.80**	**254**	P	**P**	**19 41 59.7**	**+1.6**
comp=Z,4.5nm,0.8s,mb3.9,baz=57,slow=9.6,SNR=12							
BOD	**Bodaibo**	**26.91**	**308**	*e*P	**P**	**19 42 35.1**	**-1.4**
TIXI	**Tiksi**	**27.23**	**342**	*e*P	**P**	**19 42 36.5**	**-2.9**
TIXI				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.0							
TIXI				MLR	MLR		
comp=Z,104nm,14.0s,MS3.5							
TIXI	**Tiksi**	**27.23**	**342**	*e*P	**P**	**19 42 39.6**	**+0.2**
comp=Z,3.1nm,0.6s,mb4.0							
HHC	**Hu-ho-hao-te**	**32.07**	**274**	*e*P	**P**	**19 43 23.8**	**+1.5**
HHC				XP	sP	19 43 29.8	+3.2
HHC				PP	PP	19 44 30.5	-4.2
HHC				AMB	AMB		
comp=Z,13nm,1.1s,mb4.7							
HHC				AMB	AMB		
comp=Z,128nm,5.0s							
HHC				LR	LR		
comp=N,788nm,16.7s,MS4.7							
HHC				LR	LR		
comp=E,1μm,18.4s,MS4.7							
HHC				LR	LR		
comp=Z,1μm,15.0s,MS4.7							
SONM	**Songino Array**	**32.80**	**289**	P	**P**	**19 43 28.3**	**-0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=71,slow=8.8,SNR=11							
COLA	**College**	**34.34**	**39**	*e*P	**P**	**19 43 41.4**	**-0.7**
COLA				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.7							
COLA	**College**	**34.34**	**39**	*e*P	**P**	**19 43 41.4**	**-0.7**
comp=Z,10nm,1.1s,mb4.7							
INK	**Inuvik**	**39.97**	**33**	P	**P**	**19 44 29.4**	**-0.4**
comp=Z,4.7nm,0.6s,mb4.4,baz=298,slow=6.6,SNR=47							
INK	**Inuvik**	**39.97**	**33**	P	**P**	**19 44 29.5**	**-0.3**
INK				pmax	pmax		
comp=Z,5.0nm,0.6s							
INK	**Inuvik**	**39.97**	**33**	*e*P	**P**	**19 44 29.9**	**+0.1**
comp=Z,133nm,0.8s							
GTA	**Gaotai**	**40.66**	**280**	P	**P**	**19 44 37.4**	**+1.8**
GTA				AP	pP	19 44 41.8	+3.1
GTA				XP	sP	19 44 44.5	+4.6
GTA				AMB	AMB		
comp=Z,4.0nm,1.1s,mb4.0							
GTA				AMB	AMB		
comp=Z,80nm,7.2s						

GTA LR LR
comp=Z,958nm,17.9s,MS4.7
ZAL Zalesovo 43.64 306 P **P 19 44 59.2 -0.7**
comp=Z,1.5nm,0.5s,mb4.0,baz=68,slow=7.2,SNR=6.9
NVS Novosibirsk 44.15 308 *eP* **P 19 45 04.6 +0.6**
WMQ Urumqi 46.34 292 P **P 19 45 24.3 +2.9**
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,136nm,5.0s
WMQ LR LR
comp=N,495nm,21.0s,MS4.5
WMQ LR LR
comp=E,285nm,25.0s,MS4.5
WMQ LR LR
comp=Z,247nm,21.0s,MS4.1
KMI Kunming 47.20 261 P **P 19 45 30.5 +2.4**
KMI AP pP 19 45 35.8 +4.5
KMI XP sP 19 45 39.0 +6.5
KMI AMB AMB
comp=Z,5.0nm,1.5s,mb4.2
KMI Kunming 47.20 261 P **P 19 45 30.5 +2.4**
comp=Z,5.0nm,1.5s,mb4.2
KMI pP pP 19 45 35.7 +4.4
KMI sP sP 19 45 39.0 +6.5
MK31 Makanchi Array 48.20 298 *eP* **P 19 45 36.3 +0.4**
MKAR Makanchi Array 48.20 298 P **P 19 45 36.2 +0.3**
comp=Z,7.1nm,0.8s,mb4.8,baz=65,slow=6.7,SNR=40
MKAR Makanchi Array 48.20 298 P **P 19 45 36.2 +0.3**
KURK Kurchatov 48.44 304 *eP* **P 19 45 38.7 +1.0**
KURK Kurchatov 48.44 304 *eP* **P 19 45 38.5 +0.8**
comp=Z,1.1nm,0.7s,mb5.0
YKA Yellowknife Ar 49.16 38 P **P 19 45 43.2 0.0**
comp=Z,2.8nm,0.7s,mb4.4,baz=294,slow=7.2,SNR=26
YKA PcP PcP 19 47 05.9 -0.6
comp=Z,0.7nm,0.6s,baz=305,slow=3.7,SNR=7.6
YKA Yellowknife Ar 49.16 38 P **P 19 45 43.2 -0.1**
YKA PcP PcP 19 47 05.9 -0.6
RES Resolute Bay 49.46 19 *eP* **P 19 45 45.7 +0.1**
comp=Z,98nm,0.6s
RES *e* 19 45 58.4
BVAR Borovoye Array 51.76 310 P **P 19 46 03.5 +0.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=56,slow=7.6,SNR=21
BVAR PcP PcP 19 47 16.0 -0.1
comp=Z,1.9nm,0.6s,baz=56,slow=2.7,SNR=4.2
BRVK Borovoye 51.79 310 *eP* **P 19 46 03.1 -0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 51.79 310 *eP* **P 19 46 03.1 -0.1**
comp=Z,7.7nm,0.6s,mb4.8
LSA Lhasa 52.06 274 *eP* **P 19 46 08.2 +3.0**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LSA Lhasa 52.06 274 *eP* **P 19 46 08.2 +3.0**
comp=Z,9.4nm,0.7s,mb4.8
FRU Bishkek 54.92 297 *eP* **P 19 46 27.0 +0.8**
FRU *e* 19 48 33.0
FRU *e* 19 49 50.0
AAK Ala-Archa 55.11 297 *eP* **P 19 46 27.3 -0.3**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
AAK Ala-Archa 55.11 297 *eP* **P 19 46 27.3 -0.3**
comp=Z,7.8nm,0.8s,mb4.8
ARU Arti 55.64 318⇑ *iP* **P 19 46 31.7 +0.3**
ARU *e* 19 47 34.5
ARU *e* 19 48 31.3
ARU *eS* **S 19 54 19.1 +1.7**
ARU pmax pmax
comp=Z,12nm,0.7s,mb5.0
YBH Yreka Blue Hor 55.73 64 P **P 19 46 32.7 +0.7**
comp=Z,8.0nm,1.1s,mb4.6,baz=46,slow=0.5,SNR=8.2
ARCES ARCESS Array B 57.67 341 P **P 19 46 45.6 -0.2**
comp=Z,2.8nm,0.9s,mb4.3,baz=38,slow=8.5,SNR=5.6
AKTK Aktyubinsk 59.54 313 P **P 19 46 58.6 -0.2**
AKTK PcP PcP 19 47 45.9 -0.4
AKTO Aktyubinsk 59.54 313 P **P 19 46 58.6 -0.2**
comp=Z,2.4nm,0.5s,mb4.5,baz=59,slow=6.9,SNR=8.2
AKTO PcP PcP 19 47 45.9 -0.4
comp=Z,1.8nm,0.7s,baz=38,slow=5.5,SNR=3.8
FCC Fort Churchill 59.55 35 *eP* **P 19 46 58.8 -0.1**
FCC pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
FCC Fort Churchill 59.55 35 *eP* **P 19 46 58.8 -0.1**
comp=Z,4.5nm,0.9s,mb4.5
KLMR Klimovskoe 60.35 330 *eP* **P 19 47 04.7 +0.3**
KLMR pmax pmax
comp=Z,28nm,1.5s,mb5.1
QLMT Earthquake Lak 60.41 55 *eP* **P 19 47 05.8 +1.0**
NVAR Mina Array Bea 60.42 64 P **P 19 47 05.3 +0.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=300,slow=7.6,SNR=10
NVAR Mina Array Bea 60.42 64 P **P 19 47 05.3 +0.5**
KSM Kuching 60.45 235 *eP* **P 19 47 07.0 +1.9**
PDAR Pinedale Array 62.77 56 P **P 19 47 21.1 +0.4**
comp=Z,3.1nm,0.9s,mb4.4,baz=287,slow=2.3,SNR=16
KBL Kabul 63.46 293 *eP* **P 19 47 25.5 +0.2**
FINES FINESS Array B 64.07 336 P **P 19 47 29.2 -0.1**
comp=Z,4.0nm,0.7s,mb4.6,baz=44,slow=7.6,SNR=16
ULM Lac du Bonnet 64.69 42 P **P 19 47 32.2 -1.2**
comp=Z,1.9nm,0.5s,mb4.4,baz=318,slow=5.9,SNR=4.5
OBN Obninsk 65.66 327⇑ *eP* **P 19 47 40.9 +1.2**
OBN pmax pmax
comp=Z,24nm,1.4s,mb5.0
NB2 NORSAR Subarra 68.03 342 P **P 19 47 55.3 +0.5**
comp=Z,10nm,1.1s,mb4.8,baz=29,slow=6.5
NOA NORSAR Array B 68.03 342 P **P 19 47 55.3 +0.5**
comp=Z,2.2nm,0.8s,mb4.3,baz=25,slow=6.3,SNR=5.2
WRA Warramunga Arr 69.92 202 P **P 19 48 05.9 -0.6**
comp=Z,3.2nm,0.7s,mb4.4,baz=20,slow=6.6,SNR=5.3
FITZ Fitzroy Crossi 70.76 210 P **P 19 48 10.9 -0.8**
comp=Z,4.7nm,0.9s,mb4.4,baz=37,slow=7.7,SNR=3.7
KIV Kislovodsk 71.53 316 *eP* **P 19 48 17.5 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,233nm,16.0s,MS4.5
SCHQ Schefferville 71.82 24 P **P 19 48 18.2 +0.1**
comp=Z,3.8nm,0.9s,mb4.3,baz=94,slow=19,SNR=3.7
AKASG Malin Array Be 71.87 328 P **P 19 48 17.7 -0.7**
comp=Z,1.1nm,0.5s,mb4.0,baz=33,slow=6.1,SNR=5.3
ASAR Alice Springs 73.60 201 P **P 19 48 29.0 +0.3**
comp=Z,4.6nm,0.8s,mb4.5,baz=11,slow=5.8,SNR=8.4
TXAR Lajitas Array 75.48 62 P **P 19 48 40.1 +0.5**
comp=Z,2.6nm,0.6s,mb4.3,baz=301,slow=4.4,SNR=33
CLL Collm 76.46 337 *eP* **P 19 48 45.0 -0.2**
CLL *e*sPcP 19 49 02.0
KHC Kasperske Hory 78.28 336 *eP* **P 19 48 54.5 -0.9**
KHC *x* *x* 19 49 12.0
KHC Kasperske Hory 78.28 336 *eP* **P 19 48 54.5 -0.9**
KHC *e* 19 49 12.0
KHC Kasperske Hory 78.28 336 *eP* **P 19 48 54.5 -0.9**
KHC *e* 19 49 12.0
GRA1 Grafenberg Arr 78.40 337 *eP* **P 19 48 54.4 -1.6**
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 78.40 337 *eP* **P 19 48 54.4 -1.6**
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 78.40 337 *eP* **P 19 48 54.4 -1.6**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 78.40 337 *eP* **P 19 48 54.4 -1.6**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GERES GERESS Array B 78.50 336 P **P 19 48 56.5 -0.1**
comp=Z,1.2nm,0.7s,mb3.9,baz=30,slow=6.2,SNR=8.0
BR131 Keskin Array S 79.03 318 *eP* **P 19 49 00.4 +0.8**
comp=Z,1.3nm,0.6s,mb4.0
BRTR Keskin Array B 79.03 318 P **P 19 49 00.3 +0.8**
comp=Z,1.3nm,0.8s,mb3.9,baz=67,slow=3.2,SNR=8.8
ACCN Adirondack Com 79.46 34 *eP* **P 19 48 55.0 -6.9**
STKA Stephens Creek 80.11 192 P **P 19 49 03.6 -1.8**
CDF Champ du Feu 80.57 339 *eP* **P 19 49 02.7 -5.2**
comp=Z,26nm,1.4s,mb4.7
GRR Gorron 82.30 345 *eP* **P 19 49 13.1 -3.9**
comp=Z,168nm,1.9s,mb5.3
SMF Signal de Mont 83.02 341 *eP* **P 19 49 15.7 -5.1**
comp=Z,20nm,1.0s,mb4.8
LPG La Plagne 83.42 339 *eP* **P 19 49 18.6 -4.3**
comp=Z,15nm,0.9s,mb4.7
ASF Jabal al Asfar 83.56 312 P **P 19 49 24.7 +1.1**
comp=Z,3.2nm,0.9s,mb4.5,baz=274,slow=1.2,SNR=4.1
MMAI Mount Meron Ar 83.63 313 P **P 19 49 25.0 +1.1**
comp=Z,1.6nm,0.5s,mb4.4,baz=38,slow=7.4,SNR=10
CAF Calviac 85.04 342 *eP* **P 19 49 27.2 -3.9**
EIL Elat 86.56 312 P **P 19 49 38.6 0.0**
NWAO Narrogin (SRO) 87.30 212 P **P 19 49 41.5 -0.8**
comp=Z,3.1nm,0.6s,mb4.7,baz=72,slow=4.7,SNR=6.3
NWAO Narrogin (SRO) 87.30 212 *eP* **P 19 49 40.9 -1.3**
KEST Kesra 91.80 333 P **P 19 50 04.1 +0.8**
comp=Z,1.4nm,0.8s,mb4.3,baz=72,slow=3.2,SNR=3.5

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*MOS **19** 19:39:17.7±1.1, 17.13N×120.20E, h33km, mb5.0/31, MS4.7/4, Error ellipse: s-maj=10.0km s-min=5.4km az=113.4*
*BJI **19** 19:39:17.5, 17.21N×120.10E, h23km, mB4.8, mb4.5, Ms4.4, Msz4.3*
*MAN **19** 19:39:18.5, 17.24N×119.86E, h9km, mb4.8, ML5.5, MS1.3*
*NEIC **19** 19:39:19.2±0.2, 17.07N×120.17E, mb4.8/32, Error ellipse: s-maj=6.8km s-min=4.8km az=92.0*
*ISCJB **19** 19:39:19.2±0.2, 17.31N±0.02×119.91E±0.03, h33km, mb4.7/72, MS4.1/23, Error ellipse: s-maj=4.1km s-min=2.8km az=155.2*
*IDC **19** 19:39:19.0±0.5, 17.11N×120.13E, h32km±3km, mb4.4/27, mb1 4.5/28, mb1mx4.5/32, mbtmp4.4/28, ML4.7/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/36, Error ellipse: s-maj=15.4km s-min=9.9km az=73.0*
ISC 19 19:39:20.9±0.2, 17.26N±0.02×119.98E±0.03, h35km, h35km±.6km: pP-P, n220, σ1.9s/39/231, mb4.7/72, MS4.1/24, 8C-10D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.80**	**61**	*eP*	**Pn**	**19 39 35.5**	**-0.1**
ABRA				*eS*	**Sn**	**19 39 48.1**	**+1.9**
BOLP	**Bolinao**	**0.88**	**184**	*eP*	**Pn**	**19 39 35.0**	**-1.7**
BOLP				*eS*	**Sn**	**19 39 46.4**	**-1.9**
BCPH	**Baguio City Da**	**1.05**	**147**	‖ *iP*	**Pn**	**19 39 38.2**	**-0.9**
BCPH				*i* S	**Sn**	**19 39 53.7**	**+1.2**
SCZP	**Santa Cruz**	**1.48**	**183**	*eP*	**Pn**	**19 39 43.4**	**-1.6**
SCZP				*eS*	**Sn**	**19 40 04.5**	**+1.4**
CAUP	**Cauayan**	**1.79**	**100**	*eP*	**Pn**	**19 39 52.8**	**+3.5**
CVP	**Callao Caves**	**1.81**	**76**	‖ *iP*	**Pn**	**19 39 51.0**	**+1.4**
CVP				*i* S	**Sn**	**19 40 25.0**	**+14**
PCPH	**Palayan**	**2.00**	**148**	‖ *eP*	**Pn**	**19 39 53.5**	**+1.3**
BALP	**Baler**	**2.15**	**134**	*eP*	**Pn**	**19 39 55.8**	**+1.6**
BALP				*eS*	**Sn**	**19 40 27.8**	**+8.1**
SGCP	**Mt. Cagua**	**2.19**	**63**	*eP*	**Pn**	**19 39 57.0**	**+2.1**
PALP	**Palanan**	**2.34**	**94**	‖ *eP*	**Pn**	**19 39 59.2**	**+2.3**
PALP	**Palanan**	**2.34**	**94**	*eP*	**Pn**	**19 39 58.7**	**+1.8**
POLP	**Polilio Island**	**3.14**	**143**	*eP*	**Pn**	**19 40 09.5**	**+1.6**
TGY	**Tagaytay City**	**3.27**	**164**	Pn	**Pn**	**19 40 11.3**	**+1.6**
	244nm,0.3s,baz=305,slow=0.8,SNR=45						
TGY				Sn	**Sn**	**19 40 50.3**	**+2.9**
	237nm,0.3s,baz=270,slow=19,SNR=2.9						
TGY	**Tagaytay City**	**3.27**	**164**	‖ *eP*	**Pn**	**19 40 13.7**	**+4.0**
TGY				*eS*	**Sn**	**19 40 53.8**	**+6.4**
LUBP	**Lubang**	**3.52**	**176**	*eP*	**Pn**	**19 40 15.4**	**+2.3**
LUBP				*eS*	**Sn**	**19 41 02.6**	**+9.2**
BBP	**Basco**	**3.68**	**30**	‖ *eP*	**Pn**	**19 40 18.1**	**+2.8**
GQP	**Guinayangan**	**4.10**	**144**		**Pn**	**19 40 22.9**	**+1.9**
BOAC	**Boac**	**4.18**	**154**	*eP*	**Pn**	**19 40 24.7**	**+2.5**
BUSP	**Coron**	**5.23**	**178**	*eP*	**Pn**	**19 40 36.2**	**-0.4**
OTRP	**Odiongan**	**5.25**	**158**	*eP*	**Pn**	**19 40 39.8**	**+2.9**
ENPP	**El Nido**	**6.04**	**185**	*eP*	**Pn**	**19 40 46.4**	**-1.4**
NACB	**Ninganchiao**	**7.04**	**12**	*e*Pn	**Pn**	**19 41 03.8**	**+2.4**
NACB				*e*Sn	**Sn**	**19 42 17.9**	**-2.3**
GUIM	**Jordan**	**7.07**	**159**	*eP*	**Pn**	**19 41 05.7**	**+4.0**
YHNB	**Yeheng**	**7.49**	**10**	*e*Pn	**Pn**	**19 41 11.1**	**+3.6**
YHNB				*e*Sn	**Sn**	**19 42 31.5**	**+0.3**
QIZ	**Qiongzhong**	**9.80**	**282**	P	**Pn**	**19 41 37.4**	**-1.9**
QIZ				S	**Sn**	**19 43 33.3**	**+5.3**
QIZ				AMB	AMB		
	comp=Z,46nm,0.8s						
QIZ				LR	LR		
	comp=E,1μm,18.9s						
QIZ				LR	LR		
	comp=Z,2μm,18.7s						
QIZ	**Qiongzhong**	**9.80**	**282**	*e*Pn	**Pn**	**19 41 36.0**	**-3.3**
	comp=Z,70nm,1.0s						
QIZ				*e*Sn	**Sn**	**19 43 22.8**	**-5.3**
KKM	**Kota Kinabalu**	**11.74**	**199**	*e*Pn	**Pn**	**19 42 07.1**	**+1.2**
JOW	**Kunigami**	**12.23**	**37**	Pn	**Pn**	**19 42 14.2**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=175,slow=12,SNR=2.9						
JOW				LR	LR	19 46 47.8	
	comp=Z,620nm,20.9s,baz=76,slow=36						
SSE	**Sheshan**	**13.82**	**4**	P	**Pn**	**19 42 32.8**	**-1.4**
SSE				S	**Sn**	**19 45 04.6**	**-1.7**
SSE				AMB	AMB		
	comp=Z,44nm,0.6s						
SSE				AMB	AMB		
	comp=Z,119nm,6.6s						
SSE				LR	LR		
	comp=N,416nm,19.5s						
SSE				LR	LR		
	comp=E,332nm,19.5s						
SSE				LR	LR		
	comp=Z,685nm,16.0s						
SSE	**Sheshan**	**13.82**	**4**	P	**Pn**	**19 42 32.7**	**-1.5**
	comp=Z,44nm,0.6s						
SSE				S	**Sn**	**19 45 04.6**	**-1.7**
WHN	**Wuhan**	**14.19**	**340**	*eP*	**Pn**	**19 42 44.6**	**+5.4**
WHN				LR	LR		
	comp=Z,3μm,19.9s						
GYA	**Guiyang**	**15.37**	**309**	P	**Pn**	**19 42 53.8**	**-1.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,570nm,15.6s						
GYA				LR	LR		
	comp=E,1μm,15.4s						
GYA				LR	LR		
	comp=Z,1μm,15.4s						
KMI	**Kunming**	**17.87**	**299**	P	**Pn**	**19 43 29.4**	**+2.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s						
KMI	**Kunming**	**17.87**	**299**	P	**Pn**	**19 43 29.4**	**+2.8**
	comp=Z,10.0nm,1.1s						
KMI				pP	pP	19 43 40.7	+4.6
KSM	**Kuching**	**18.35**	**212**	*eP*	**Pn**	**19 43 30.8**	**-1.7**
JNU	**Nakatsue**	**18.59**	**30**	P	**Pn**	**19 43 35.7**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=198,slow=21,SNR=15						
JNU				LR	LR	19 51 08.0	
	comp=Z,1μm,19.3s,baz=109,slow=38						
XAN	**Xi'an**	**19.43**	**331**	P	**Pn**	**19 43 45.8**	**+0.2**
XAN				S	**Sn**	**19 47 21.0**	**-1.5**
XAN				AMB	AMB		
	comp=Z,38nm,1.2s						
XAN				AMB	AMB		
	comp=Z,90nm,4.4s						
XAN				LR	LR		
	comp=N,514nm,15.7s						
XAN				LR	LR		
	comp=E,628nm,14.2s						
XAN				LR	LR		
	comp=Z,1μm,15.0s						
CM31	**Chiang Mai Arr**	**20.06**	**277**	*eP*	**P**	**19 43 53.0**	**+1.9**
	comp=Z,22nm,1.1s						
CD2	**Chengdu**	**20.07**	**316**	P	**P**	**19 43 53.3**	**+2.2**
CD2				PP		19 44 16.8	
CD2				S	**S**	**19 47 33.4**	**-1.3**
CD2				SS		19 48 06.5	
CD2				AMB	AMB		
	comp=Z,20nm,0.7s						
CD2				AMB	AMB		
	comp=Z,60nm,4.8s						
CD2				LR	LR		
	comp=N,180nm,14.2s,MS3.7						
CD2				LR	LR		
	comp=E,160nm,16.2s,MS3.7						
CD2				LR	LR		
	comp=Z,160nm,18.2s,MS3.4						
CHTO	**Chiang Mai**	**20.07**	**278**	*eP*	**P**	**19 43 52.1**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	**Chiang Mai**	**20.07**	**278**	*eP*	**P**	**19 43 52.0**	**+0.9**
	comp=Z,9.0nm,0.9s						
INCN	**Inchon**	**20.98**	**15**	*eP*	**P**	**19 44 01.1**	**+0.1**
	comp=Z,22nm,0.6s						
KSRS	**Korea Array**	**21.30**	**18**	P	**P**	**19 44 04.4**	**-0.1**
	comp=Z,19nm,0.7s,mb4.5,baz=201,slow=11,SNR=56						
KSRS				LR	LR	19 53 06.5	
	comp=Z,343nm,18.8s,MS3.8,baz=192,slow=39						
DL2	**Dalian**	**21.61**	**3**	*eP*	**P**	**19 44 09.3**	**+1.5**
DL2				S	**S**	**19 48 10.3**	**+5.1**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
DL2				AMB	AMB		
	comp=Z,100nm,4.8s						
DL2				LR	LR		
	comp=N,270nm,15.6s,MS3.9						
DL2				LR	LR		
	comp=E,190nm,15.0s,MS3.9						
DL2				LR	LR		
	comp=Z,360nm,16.9s,MS3.8						
KULM	**Kulim 22.35 240**			*eP*	**P**	**19 44 14.4**	**-1.3**
CBIJ	**Chichi jima 22.74 61**			P	**P**	**19 44 18.3**	**-1.5**
	comp=Z,99nm,0.8s,mb5.3,baz=260,slow=12,SNR=3.0						
CBIJ				LR	LR	19 51 50.3	
	comp=Z,395nm,18.0s,MS3.9,baz=92,slow=33						
BJT	**Baijiatuau 22.92 352**			*eP*	**P**	**19 44 23.2**	**+1.5**
BJT				pmax	pmax		
	comp=Z,17nm,0.8s						
BJT	**Baijiatuau 22.92 352**			*eP*	**P**	**19 44 23.2**	**+1.5**
	comp=Z,17nm,0.8s,mb4.5						
BJI	**Beijing 22.94 352**			*eP*	**P**	**19 44 23.6**	**+1.7**
BJI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=N,722nm,16.0s,MS4.3						
BJI				LR	LR		
	comp=E,504nm,15.6s,MS4.3						
BJI				LR	LR		
	comp=Z,370nm,17.6s,MS3.9						
BJI	**Beijing 22.94 352**			*eP*	**P**	**19 44 23.6**	**+1.7**
	comp=Z,20nm,1.0s,mb4.5						
BJI				S	**S**	**19 48 36.1**	**+6.5**
BJI				LR	LR		
	comp=Z,370nm,17.6s,MS3.9						
LZH	**Lanzhou 23.59 326**			*eP*	**P**	**19 44 29.8**	**+1.3**
LZH				AP		19 44 35.0	
LZH				XP	sP	19 44 37.9	-4.5
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,150nm,5.2s						
LZH				LR	LR		
	comp=N,2μm,15.1s						
LZH				LR	LR		
	comp=Z,2μm,15.8s,MS4.6						
LZH	**Lanzhou 23.59 326**			*eP*	**P**	**19 44 29.8**	**+1.3**
	comp=Z,42nm,1.5s,mb4.7						
LZH				pP		19 44 35.0	
LZH				sP	sP	19 44 37.9	-4.5
LZH				PP		19 45 04.5	
LZH				S	**S**	**19 48 45.0**	**+4.7**
LZH				sS	sS	19 48 53.5	-3.0
LZH				SS		19 49 37.0	
LZH				LR	LR		
	comp=Z,2μm,15.8s,MS4.6						
JHJ	**Hachijo jima 2 23.82 45**			LR	LR	19 52 18.7	
	comp=Z,180nm,20.5s,MS3.5,baz=315,slow=33						
GUMO	**Guam 24.26 95**			LR	LR	19 51 47.5	
	comp=Z,540nm,20.3s,MS4.0,baz=270,slow=31						
HHC	**Hu-ho-hao-te 24.60 345**			*eP*	**P**	**19 44 41.3**	**+3.5**
HHC				S	**S**	**19 48 56.3**	**-0.3**
HHC				PCS	PcS	19 51 57.1	+2.2
HHC				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,182nm,5.9s						
HHC				LR	LR		
	comp=N,788nm,16.1s,MS4.5						
HHC				LR	LR		
	comp=E,1μm,19.0s,MS4.5						
HHC				LR	LR		
	comp=Z,679nm,16.1s,MS4.2						
BTO	**Baotou 24.80 342**			*eP*	**P**	**19 44 42.3**	**+2.7**
MAJO	**Matsushiro 25.08 36**			*eP*	**P**	**19 44 41.1**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
MAJO	**Matsushiro 25.08 36**			*eP*	**P**	**19 44 41.1**	**-0.9**
	comp=Z,12nm,0.8s,mb4.5						
MAT	**Matsushiro 25.08 36**			P	**P**	**19 44 40.4**	**-1.7**
MJAR	**Matsushiro Arr 25.08 36**			P	**P**	**19 44 40.5**	**-1.5**
	comp=Z,5.7nm,0.7s,mb4.2,baz=220,slow=8.9,SNR=18						
MJAR				PcP	PcP	19 48 14.6	-1.4
	comp=Z,2.4nm,0.9s,baz=203,slow=1.8,SNR=4.6						
MJAR				LR	LR	19 54 06.2	
	comp=Z,146nm,21.9s,MS3.5,baz=240,slow=35						
MJAR	**Matsushiro Arr 25.08 36**			P	**P**	**19 44 40.5**	**-1.6**
MJAR						19 48 14.6	
PSI	**Prapat 25.18 238**			P	**P**	**19 44 44.1**	**+1.1**
	comp=Z,3.7nm,0.5s,mb4.2,baz=0.0,slow=6.1,SNR=2.7						
PSI				LR	LR	19 54 33.1	
	comp=Z,440nm,18.6s,MS4.0,baz=9.4,slow=36						
CN2	**Changchun 26.86 9**			*eP*	**P**	**19 44 57.5**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
VLA	**Vladivostok 27.69 19**			P	**P**	**19 45 05.0**	**-0.7**
VLA				pmax	pmax		
	comp=Z,33nm,2.1s,mb4.6						
VLA				MLR	MLR		
	comp=Z,300nm,17.3s,MS3.9						
LSA	**Lhasa 29.11 300**			P	**P**	**19 45 20.8**	**+2.5**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
LSA	**Lhasa 29.11 300**			*eP*	**P**	**19 45 20.2**	**+1.9**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
LSA	**Lhasa 29.11 300**			*eP*	**P**	**19 45 20.2**	**+1.9**
	comp=Z,7.0nm,0.6s,mb4.6						
HIA	**Hailar 31.92 360**			*eP*	**P**	**19 45 42.8**	**-0.3**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HIA	**Hailar 31.92 360**			*eP*	**P**	**19 45 42.8**	**-0.3**
	comp=Z,4.7nm,0.7s,mb4.4						
SONM	**Songino Array 32.47 343**			P	**P**	**19 45 48.9**	**+1.0**
	comp=Z,2.7nm,0.6s,mb4.2,baz=162,slow=9.7,SNR=20						
SONM				PcP	PcP	19 48 33.8	-0.6
	comp=Z,0.7nm,0.6s,baz=169,slow=3.7,SNR=4.7						
SONM				LR	LR	19 59 44.1	
	comp=Z,411nm,18.1s,MS4.2,baz=10,slow=38						
SONM	**Songino Array 32.47 343**			P	**P**	**19 45 48.9**	**+1.0**
SONM						19 48 33.8	
JIRN	**Jiri 32.80 294**			*eP*	**P**	**19 45 52.5**	**+1.7**
	comp=Z,24nm,0.7s,mb5.2						
ASAJ	**Asahikawa 32.87 31**			LR	LR	19 59 58.8	
	comp=Z,234nm,19.4s,MS3.9,baz=235,slow=38						
GUN	**Gumba 33.12 295**			*eP*	**P**	**19 45 55.2**	**+1.6**
	comp=Z,71nm,0.9s,mb5.6						
PKI	**Pulchoki 33.47 294**			*eP*	**P**	**19 45 58.3**	**+1.7**
HABR	**Khabarovsk 33.47 18**			*eP*	**P**	**19 45 54.0**	**-2.7**
HABR				S	**S**	**19 51 13.4**	**-2.6**
KKN	**Kakani 33.62 294**			*eP*	**P**	**19 45 58.8**	**+0.9**
	comp=Z,25nm,0.9s,mb5.2						
DMN	**Daman 33.74 294**			*eP*	**P**	**19 45 59.8**	**+0.8**
	comp=Z,75nm,1.3s,mb5.5						
GKN	**Gorkha 34.22 295**			*eP*	**P**	**19 46 03.8**	**+0.7**
	comp=Z,39nm,0.8s,mb5.4						
YSS	**Yuzh-Sakhalins 35.08 27**			*eP*	**P**	**19 46 09.1**	**-1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
YSS	**Yuzh-Sakhalins 35.08 27**			*eP*	**P**	**19 46 07.3**	**-3.3**
	comp=Z,19nm,1.0s,mb5.0						
KOLN	**Koldanda 35.08 294**			*eP*	**P**	**19 46 10.9**	**+0.3**
	comp=Z,40nm,1.3s,mb5.2						
FITZ	**Fitzroy Crossi 35.58 171**			*eP*	**P**	**19 46 11.5**	**-3.4**
FITZ				*e*		19 48 12.5	
FITZ	**Fitzroy Crossi 35.58 171**			P	**P**	**19 46 11.6**	**-3.3**
	comp=Z,6.1nm,0.8s,mb4.6,baz=5.3,slow=8.0,SNR=11						
ZAK	**Zakamensk 35.66 342⇑**			*iP*	**P**	**19 46 16.8**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
TLY	**Talaya 36.71 343**			*eP*	**P**	**19 46 26.1**	**+1.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
TLY	**Talaya 36.71 343**			*eP*	**P**	**19 46 26.1**	**+1.5**
	comp=Z,4.4nm,0.5s,mb4.5						
WMQ	**Urumqi 37.98 321**			*eP*	**P**	**19 46 38.3**	**+2.9**
WMQ				PCP	PcP	19 48 50.6	+

HYB Hyderabad 39.49 277 *eP* **P 19 46 49.0 +1.0**
WRA Warramunga Arr 39.57 159 P **P 19 46 44.6 -4.1**
comp=Z,7.8nm,0.7s,mb4.6,baz=340,slow=9.1,SNR=58
WRA PcP PcP 19 48 54.8 -0.7
comp=Z,2.7nm,0.8s,baz=339,slow=3.8,SNR=6.1
WRA pPcP 19 49 06.4
comp=Z,2.1nm,0.6s,baz=342,slow=3.2,SNR=6.2
WRA LR LR 20 01 52.4
comp=Z,67nm,21.7s,MS3.4,baz=85,slow=34
WRA Warramunga Arr 39.57 159 P **P 19 46 44.6 -4.0**
WRA 19 48 54.8
WB2 Warramunga Arr 39.57 159 *eP* **P 19 46 44.7 -4.0**
WB2 Warramunga Arr 39.57 159 *eP* **P 19 46 44.6 -4.1**
BOD Bodaibo 40.74 355 *eP* **P 19 46 57.9 -0.4**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
MK31 Makanchi Array 42.80 322 *eP* **P 19 47 17.1 +2.0**
MKAR Makanchi Array 42.80 322 P **P 19 47 15.5 +0.3**
comp=Z,4.2nm,0.9s,mb4.2,baz=121,slow=8.7,SNR=8.9
MKAR PcP PcP 19 49 05.7 -0.4
comp=Z,5.1nm,0.7s,baz=94,slow=4.7,SNR=6.9
MKAR pPcP 19 49 16.4
comp=Z,6.4nm,0.7s,baz=186,slow=2.2,SNR=10
MKAR Makanchi Array 42.80 322 P **P 19 47 15.5 +0.4**
MKAR 19 49 05.7
ASAR Alice Springs 42.89 161 P **P 19 47 12.9 -3.0**
comp=Z,8.3nm,0.7s,mb4.6,baz=341,slow=6.8,SNR=71
CTA Charters Tower 45.20 144 *eP* **P 19 47 32.3 -2.1**
CTA Charters Tower 45.20 144 P **P 19 47 31.7 -2.7**
comp=Z,9.5nm,0.8s,mb4.7,baz=316,slow=9.9,SNR=9.2
CTAO Charters Tower 45.20 144 *eP* **P 19 47 31.4 -3.0**
CTAO pmax pmax
comp=Z,12nm,0.8s,mb4.8
CTAO Charters Tower 45.20 144 *eP* **P 19 47 31.4 -3.1**
comp=Z,12nm,0.8s,mb4.8
YAK Yakutsk 45.24 6 *i P* **P 19 47 34.2 -0.6**
YAK pmax pmax
comp=Z,22nm,0.7s,mb5.1
YAK Yakutsk 45.24 6 *eP* **P 19 47 33.9 -0.9**
comp=Z,24nm,0.8s,mb5.1
ZAL Zalesovo 45.60 332 P **P 19 47 37.5 -0.1**
comp=Z,2.3nm,0.9s,mb4.1,baz=343,slow=8.1,SNR=7.8
ZAL LR LR 20 08 08.5
comp=Z,242nm,20.9s,MS4.1,baz=180,slow=38
AAK Ala-Archa 46.10 313 *eP* **P 19 47 44.2 +2.6**
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
AAK Ala-Archa 46.10 313 *eP* **P 19 47 44.2 +2.6**
comp=Z,5.8nm,1.0s,mb4.5
KURK Kurchatov 46.88 325 *eP* **P 19 47 48.2 +0.6**
KURK Kurchatov 46.88 325 *eP* **P 19 47 48.0 +0.4**
comp=Z,19nm,0.8s,mb5.1
NVS Novosibirsk 46.89 332⇑ *i P* **P 19 47 47.4 -0.3**
NVS *eS* **S 19 54 35.6 -0.5**
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS smax
comp=N,22nm,2.6s
NVS smax
comp=E,20nm,2.5s
MA2 Magadan 47.81 21 *eP* **P 19 47 54.4 -0.5**
MA2 *eS* **S 19 54 47.5 -1.7**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MA2 MLR MLR
comp=Z,2μm,19.2s,MS5.0
MA2 Magadan 47.81 21 *eP* **P 19 47 54.1 -0.8**
comp=Z,13nm,0.8s,mb5.0
FORT Forrest 48.39 171 *eP* **P 19 47 56.5 -2.9**
KLBR Kellerberrin 48.62 183 *eP* **P 19 47 58.8 -2.3**
MUN Mundaring 49.09 184 *eP* **P 19 48 02.7 -2.1**
NWAO Narrogin (SRO) 49.97 183 P **P 19 48 09.1 -2.4**
comp=Z,22nm,0.8s,mb5.3,baz=360,slow=7.2,SNR=11
NWAO Narrogin (SRO) 49.97 183 *eP* **P 19 48 09.6 -1.9**
NWAO pmax pmax
comp=Z,18nm,0.7s
NWAO Narrogin (SRO) 49.97 183 *eP* **P 19 48 09.6 -1.9**
comp=Z,18nm,0.7s,mb5.2
BVAR Borovoye Array 52.47 325 P **P 19 48 30.5 +0.3**
comp=Z,1.9nm,0.6s,mb4.2,baz=99,slow=9.2,SNR=5.3
BVAR pP pP 19 48 40.7 +0.1
comp=Z,3.8nm,0.7s,baz=136,slow=8.1,SNR=9.0
BVAR PcP PcP 19 49 38.1 -2.4
comp=Z,3.5nm,0.7s,baz=79,slow=3.2,SNR=5.8
BVAR pPcP 19 49 50.4
comp=Z,5.1nm,0.7s,baz=130,slow=4.6,SNR=6.3
BVAR Borovoye Array 52.47 325 P **P 19 48 30.5 +0.3**
BVAR *PP pP 19 48 40.7 +0.1
BVAR 19 49 38.1
BRVK Borovoye 52.54 325 *eP* **P 19 48 31.3 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRVK Borovoye 52.54 325 *eP* **P 19 48 31.3 +0.6**
comp=Z,6.7nm,0.8s,mb4.6
STKA Stephens Creek 53.07 157 *eP* **P 19 48 32.4 -2.3**
STKA Stephens Creek 53.07 157 P **P 19 48 32.1 -2.6**
comp=Z,12nm,0.9s,mb4.8,baz=337,slow=7.8,SNR=18
STKA Stephens Creek 53.07 157 *eP* **P 19 48 31.7 -3.0**
TIXI Tiksi 54.64 3⇑ *i P* **P 19 48 44.7 -1.4**
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
TIXI Tiksi 54.64 3 *eP* **P 19 48 44.2 -1.9**
comp=Z,5.3nm,0.6s,mb4.8
BILL Bilibino 58.56 19*α i P* **P 19 49 13.5 -0.5**
BILL *e* pP 19 49 24.5 0.0
BILL *e* 19 49 31.0
BILL pmax pmax
comp=Z,32nm,0.7s,mb5.5
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.1
BILL Bilibino 58.56 19 *eP* **P 19 49 13.3 -0.6**
comp=Z,27nm,0.5s,mb5.5
SVE Sverdlovsk 59.06 327 *eP* **P 19 49 17.0 -0.4**
AKTK Aktyubinsk 59.07 319 P **P 19 49 18.2 +0.6**
AKTK pP pP 19 49 27.6 -0.5
AKTO Aktyubinsk 59.07 319 P **P 19 49 18.2 +0.6**
comp=Z,3.8nm,0.6s,mb4.6,baz=90,slow=9.0,SNR=8.4
AKTO pP pP 19 49 27.6 -0.5
comp=Z,11nm,0.6s,baz=94,slow=8.5,SNR=14
ARU Arti 60.05 326 *eP* **P 19 49 23.6 -0.7**
ARU Arti 60.05 326 *eP* **P 19 49 23.6 -0.7**
ORR Orenburg 61.30 320 *eP* **P 19 49 33.3 +0.5**
ORR pmax pmax
comp=Z,30nm,2.0s,mb5.1
ORR MLR MLR
comp=Z,270nm,20.0s,MS4.4
ZEI Tsey 68.36 310 *eP* **P 19 50 19.3 +0.5**
ZEI *e*PP pP 19 50 29.0 -0.5
ZEI *e* 19 50 44.1
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KIV Kislovodsk 69.16 311 *eP* **P 19 50 24.1 +0.4**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.0
KIV Kislovodsk 69.16 311 *eP* **P 19 50 24.0 +0.3**
comp=Z,28nm,0.7s,mb5.3
KIV *e* pP 19 50 34.9 +0.5
VRHR Novokhopersk 69.48 319 *eP* **P 19 50 25.0 -0.7**
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
KLMR Klimovskoe 70.45 329 *eP* **P 19 50 30.4 -1.3**
KLMR pmax pmax
comp=Z,63nm,2.2s,mb5.2
KLMR MLR MLR
comp=Z,603nm,15.0s,MS5.0
MOS Moscow 71.63 324 *eP* **P 19 50 46.9 +8.1**
MOS *e* 19 51 05.8
OBN Obninsk 72.28 323*κeP* **P 19 50 42.1 -0.6**
OBN *e* pP 19 50 52.4 -1.1
OBN pmax pmax
comp=Z,45nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
OBN Obninsk 72.28 323 *eP* **P 19 50 41.5 -1.2**
comp=Z,14nm,0.6s,mb5.1
JOF Joensuu 74.19 332 *ep* **P 19 50 52.3 -1.7**
comp=Z,11nm,0.6s,mb5.0
ASF Jabal al Asfar 75.30 299 P **P 19 51 01.8 +1.4**
comp=Z,0.9nm,0.5s,mb4.0,baz=358,slow=21,SNR=3.0
COLA College 75.45 26 *eP* **P 19 51 01.2 -0.1**
ARCES ARCESS Array B 75.53 339 P **P 19 51 00.9 -0.8**
comp=Z,7.3nm,0.9s,mb4.6,baz=68,slow=8.0,SNR=11
BRTR Keskin Array B 76.42 308 P **P 19 51 06.8 0.0**
comp=Z,0.6nm,0.6s,baz=72,slow=4.7,SNR=4.1
BRTR pP pP 19 51 16.6 -1.1
comp=Z,1.6nm,0.6s,baz=132,slow=4.3,SNR=7.4
KAF Kangasniemi 76.62 331 *ep* **P 19 51 05.9 -2.0**
comp=Z,12nm,0.7s,mb4.9,baz=75,slow=5.2
KAF Kangasniemi 76.62 331 *eP* **P 19 51 05.9 -2.0**
KAF pmax pmax
comp=Z,12nm,0.7s,mb4.9
FINES FINESS Array B 76.86 331 P **P 19 51 08.4 -0.9**
comp=Z,5.2nm,0.7s,mb4.6,baz=56,slow=6.3,SNR=22
AKASG Malin Array Be 77.32 319 P **P 19 51 10.4 -1.4**
comp=Z,1.4nm,0.6s,mb4.1,baz=64,slow=5.6,SNR=26
AKASG pP pP 19 51 21.3 -1.4
comp=Z,5.8nm,0.7s,baz=63,slow=5.5,SNR=8.6
AKASG Malin Array Be 77.32 319 P **P 19 51 10.4 -1.4**
AKASG pP pP 19 51 21.3 -1.4
VRI Vrincioaia 80.03 315⇑ *i P* **P 19 51 28.1 +1.3**
INK Inuvik 80.04 21 P **P 19 51 25.2 -1.7**
comp=Z,4.5nm,0.8s,mb4.5,baz=288,slow=6.3,SNR=17
INK Inuvik 80.04 21 *eP* **P 19 51 25.5 -1.3**
comp=Z,119nm,0.8s
SUW Suwalki 80.14 323 *eP* **P 19 51 26.8 -0.6**
SUW Suwalki 80.14 323 *eP* **P 19 51 26.1 -1.3**
comp=Z,42nm,1.0s,mb5.3
BURAR Bucovina Array 80.59 317⇑ *i P* **P 19 51 29.8 0.0**
MLR Muntele Rosu 80.66 315⇓ *i P* **P 19 51 30.9 +0.7**
KWP Kalwaria 81.64 319 *eP* **P 19 51 35.8 +0.4**
DRGR 82.46 317 ⇓P **P 19 51 39.9 +0.2**
DRGR 82.46 317 ⇓ *i P* **P 19 51 39.8 +0.1**
STHS Stebnicka Huta 82.61 319 *eP* **P 19 51 41.1 +0.6**
STHS *e* pP 19 51 50.6 -0.8
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
STHS Stebnicka Huta 82.61 319 *eP* **P 19 51 41.1 +0.6**
comp=Z,3.8nm,0.8s,mb4.5
STHS *e* pP 19 51 50.6 -0.8
CRVS Cervenica-Dubn 82.64 319 *eP* **P 19 51 41.8 +1.2**
OJC Ojcow 83.25 320 *eP* **P 19 51 43.8 0.0**
KECS Kecovo 83.38 319 *eP* **P 19 51 44.4 0.0**
KECS *e* pP 19 51 55.2 -0.2
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
KECS Kecovo 83.38 319 *eP* **P 19 51 44.4 0.0**
comp=Z,3.1nm,0.7s,mb4.5
KECS *e* pP 19 51 55.2 -0.2
KMBO Kilima Mbogo 83.39 267 P **P 19 51 45.3 +0.8**
comp=Z,1.4nm,0.2s,mb4.7,baz=50,slow=20,SNR=5.2
KMBO Kilima Mbogo 83.39 267 *eP* **P 19 51 46.5 +2.0**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 83.39 267 *eP* **P 19 51 46.5 +2.0**
comp=Z,4.5nm,1.0s,mb4.5
NB2 NORSAR Subarra 83.80 332 P **P 19 51 45.1 -1.5**
comp=Z,1.7nm,0.6s,mb4.3,baz=69,slow=5.6
NOA NORSAR Array B 83.80 332 P **P 19 51 45.5 -1.1**
comp=Z,8.0nm,0.6s,mb5.0,baz=65,slow=4.8,SNR=38
NOA pP pP 19 51 56.3 -1.2
comp=Z,9.0nm,0.6s,baz=65,slow=4.8,SNR=13
NOA LR LR 20 31 56.1
comp=Z,219nm,18.8s,MS4.6,baz=90,slow=38
NOA NORSAR Array B 83.80 332 P **P 19 51 45.5 -1.1**
NOA *PP pP 19 51 56.3 -1.2
NOA NORSAR Array B 83.80 332 P **P 19 51 45.5 -1.1**
NOA pP pP 19 51 56.3 -1.2
NOA LR LR 20 31 56.1
IDI Anoyia 84.25 305 P **P 19 51 48.5 -0.4**
comp=Z,2.6nm,0.7s,mb4.5,baz=341,slow=14,SNR=4.2
IDI pP pP 19 51 58.9 -0.9
comp=Z,4.9nm,0.6s,baz=342,slow=13,SNR=4.5
VYHS Vyhne 84.42 319 *eP* **P 19 51 50.3 +0.6**
KSP Ksiaz 85.14 322 *eP* **P 19 51 53.9 +0.5**
KSP Ksiaz 85.14 322 *eP* **P 19 51 53.3 -0.1**
KSP *ep*P pP 19 52 04.0 -0.3
RES Resolute Bay 85.64 9 *eP* **P 19 51 54.8 -1.1**
comp=Z,254nm,0.8s
BRG Berggiesshubel 86.51 322 *e*(P) **P 19 52 00.0 -0.1**
comp=Z,2.5nm,0.8s,mb4.5
BRG *e* 20 00 52.4
comp=Z,4.0nm,1.1s
GERES GERESS Array B 87.45 321 P **P 19 52 04.2 -0.5**
comp=Z,1.0nm,0.7s,mb4.2,baz=72,slow=4.3,SNR=7.0
GERES pP pP 19 52 14.8 -1.0
comp=Z,1.0nm,0.6s,baz=70,slow=5.8,SNR=5.7
YKA Yellowknife Ar 89.76 22 P **P 19 52 15.2 -0.4**
comp=Z,3.2nm,0.7s,mb4.8,baz=311,slow=4.5,SNR=67
YKA Yellowknife Ar 89.76 22 P **P 19 52 15.2 -0.4**
MEM Membach 91.15 324 P **P 19 52 18.9 -3.3**
CDF Champ du Feu 91.48 322 *eP* **P 19 52 23.3 -0.3**
HINF Hinteralfeld 92.01 322 *eP* **P 19 52 25.5 -0.6**
comp=Z,6.8nm,0.9s,mb4.7
HINF Hinteralfeld 92.01 322 *eP* **P 19 52 25.5 -0.6**
HINF pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
HINF Hinteralfeld 92.01 322 *eP* **P 19 52 25.5 -0.6**
comp=Z,3.4nm,0.9s,mb4.7
LPG La Plagne 93.18 320 *eP* **P 19 52 31.9 +0.4**
comp=Z,13nm,0.8s,mb5.1
LPG La Plagne 93.18 320 *eP* **P 19 52 31.9 +0.4**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
LPG La Plagne 93.18 320 *eP* **P 19 52 31.9 +0.4**
comp=Z,6.3nm,0.8s,mb5.1
LPL La Plagne 93.18 320 *eP* **P 19 52 31.8 +0.3**
comp=Z,22nm,1.1s,mb5.2
LPL La Plagne 93.18 320 *eP* **P 19 52 31.8 +0.3**
LPL pmax pmax
comp=Z,11nm,1.1s,mb5.2
LPL La Plagne 93.18 320 *eP* **P 19 52 31.8 +0.3**
comp=Z,11nm,1.1s,mb5.2
MBDF Montbardon 93.53 319 *eP* **P 19 52 30.7 -2.4**
ORIF Oris-en-Rattie 94.00 319 *eP* **P 19 52 35.1 -0.2**
comp=Z,17nm,1.0s,mb5.1
ORIF Oris-en-Rattie 94.00 319 *eP* **P 19 52 35.1 -0.2**
ORIF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
ORIF Oris-en-Rattie 94.00 319 *eP* **P 19 52 35.1 -0.2**
comp=Z,8.4nm,1.0s,mb5.1
MAW Mawson 94.22 199 *eP* **P 19 52 34.9 -1.4**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 94.22 199 *eP* **P 19 52 34.9 -1.4**
comp=Z,3.0nm,0.9s,mb4.7
SMF Signal de Mont 94.38 322 *eP* **P 19 52 36.2 -0.8**
AVF Avril sur Loir 94.59 322 *eP* **P 19 52 37.2 -0.8**
BGF Bois d'Agland 95.01 322 *eP* **P 19 52 38.3 -1.6**
KEST Kesra 95.89 310 LR LR 20 40 36.7
comp=Z,46nm,18.1s,MS4.0,baz=335,slow=38
LSZ Lusaka 96.09 256 P **P 19 52 44.1 -0.7**
comp=Z,0.4nm,0.4s,mb4.2,baz=8.2,slow=2.4,SNR=3.8
LSZ Lusaka 96.09 256 P **P 19 52 44.1 -0.7**
NEW Newport 97.32 34 P **P 19 52 48.0 -2.4**
baz=336,slow=20,SNR=1.5
NVAR Mina Array Bea 102.24 43 P Pdif 19 53 12.1 -0.2
comp=Z,0.9nm,0.8s,baz=301,slow=6.1,SNR=4.8
TORD Torodi Ar. Bea 111.99 292 PKiKP PKiKP 19 57 51.0 -1.4
comp=Z,0.4nm,0.6s,baz=27,slow=2.6,SNR=2.6
TORD PP PP 19 58 36.1 0.0
comp=Z,0.9nm,0.9s,baz=57,slow=6.7,SNR=3.8
SNAA Sanae 116.33 197 PKP PKPdf 19 57 58.6 -2.1
comp=Z,0.2nm,0.3s,baz=332,slow=17,SNR=6.8
TXAR Lajitas Array 117.39 43 PKP PKPdf 19 58 02.9 +0.2
comp=Z,1.5nm,0.6s,baz=268,slow=0.6,SNR=20
TXAR pPKP pPKPdf 19 58 13.3 -0.8
comp=Z,0.8nm,0.6s,baz=172,slow=0.7,SNR=5.2
TXAR Lajitas Array 117.39 43 PKP PKPdf 19 58 02.9 +0.2
TXAR pPKP pPKPdf 19 58 13.3 -0.8
JCT Junction City 119.02 39 *e*PKIKP PKPdf 19 58 05.8 0.0
TKL Tuckaleechee C 122.76 23 PKP PKPdf 19 58 12.7 -0.3
comp=Z,2.1nm,0.4s,baz=98,slow=7.4,SNR=4.8
SDV Santo Domingo 151.98 23 *e*PKPdf PKPdf 19 59 05.6 -0.2
SDV *e*PKPbc PKPbc 19 59 12.7 +0.4
SDV *e*PKPab PKPab 19 59 22.4 +0.7
OTAV Otavalo 154.86 48 *e*PKPdf PKPdf 19 59 11.2 +1.3
LPAZ La Paz 172.17 84 *e*PKIKP PKPdf 19 59 27.7 +1.8

*JSN **19** 19:40:28.1±0.4, 1796N×8004W, h3km±748km, MD4.5*
*ISCJB **19** 19:40:38.0±1.3, 1832N±008×7941W±007, h35km, Error ellipse: s-maj=13.3km s-min=7.8km az=73.4*
*SSNC **19** 19:40:39.3, 18.16N×7949W, h36km, MD3.4, ML2.2*

ISC 19 19:40:39.0±1.3, 1826N±008×7941W±008, h35km, n9, σ0°78/14, 1C-2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.67**	**101**	*eP*	**Pn**	**19 41 04.9**	**-0.9**
MCJ				*eS*	**Sn**	**19 41 32.1**	**+6.2**
CVJ	**Coleyville**	**1.78**	**91**⇑	*eP*	**Pn**	**19 41 06.7**	**-0.5**
CVJ				*eS*	**Sn**	**19 41 36.1**	**+7.5**
BBJ	**Bamboo Saint A**	**2.04**	**86**⇓	*eP*	**Pn**	**19 41 11.0**	**+0.2**
STH	**Stony Hill**	**2.48**	**94**⇓	*eP*	**Pn**	**19 41 16.7**	**-0.2**
LMGC	**Las Mercedes**	**2.90**	**51**	*eP*	**Pn**	**19 41 23.6**	**+1.0**
LMGC				*eS*	**Sn**	**19 41 56.1**	**-0.1**
	comp=N,32nm,0.2s						
LMGC				*e*			
	comp=E,44nm,0.4s						
CCCC	**Cccc**	**3.31**	**28**	*eP*	**Pn**	**19 41 32.4**	**+4.1**
MGV	**Manicaragua**	**3.87**	**352**	*eP*	**Pn**	**19 41 36.1**	**+0.1**
MGV				*eS*	**Sn**	**19 42 19.7**	**-0.6**
	comp=N,0.8nm,0.4s						
MGV				*e*			
	comp=E,1.1nm,0.4s						
RCC	**Rio Carpintero**	**3.91**	**63**	*eP*	**Pn**	**19 41 38.5**	**+1.9**
RCC				*eS*	**Sn**	**19 42 20.6**	**-0.7**
	comp=N,0.6nm,0.3s						
RCC				*e*			
	comp=E,0.5nm,0.3s						
SOR	**Soroa**	**5.63**	**324**	*eP*	**Pn**	**19 42 00.1**	**-0.2**

MAN 19 19:43:23.1, 1733N×11970E, h11km, mb4.0, ML5.0, MS5.8, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.02**	**72**	*eP*	Pg	19 43 41.9	-0.8
ABRA				*eS*	Sg	19 43 54.3	-1.6
BCPH	**Baguio City Da**	**1.27**	**138**⇓	*i P*	Pn	19 43 45.5	-1.3
BCPH				*i S*	Sb	19 44 00.7	-2.7
CVP	**Callao Caves**	**2.06**	**79**	*i P*	Pn	19 43 57.0	-0.7
CVP				*i S*	Sn	19 44 25.0	+1.7
CAUP	**Cauayan**	**2.07**	**100**	*eP*	Pn	19 43 59.8	+2.0
CAUP				*eS*	Sn	19 44 26.5	+2.9
PCPH	**Palayan**	**2.21**	**143**⇑	*eP*	Pn	19 43 59.0	-0.8
BALP	**Baler**	**2.40**	**131**	*eP*	Pn	19 44 04.0	+1.6
BALP				*eS*	Sn	19 44 33.1	+1.5
PALP	**Palanan**	**2.62**	**96**⇑	*eP*	Pn	19 44 06.3	+0.9
PALP				*eS*	Sn	19 44 38.6	+1.5
PALP	**Palanan**	**2.62**	**96**	*eP*	Pn	19 44 05.6	+0.2
PALP				*eS*	Sn	19 44 38.1	+1.0
POLP	**Polilio Island**	**3.37**	**140**	*eP*	Pn	19 44 18.5	+2.8
LUBP	**Lubang**	**3.62**	**172**	*eP*	Pn	19 44 23.0	+3.9
BUSP	**Coron**	**5.32**	**175**	*eP*	Pn	19 44 43.3	+1.8

*MOS **19** 19:46:45.6±0.9, 3623N×7107E, h208km, mb4.0/2, Error ellipse: s-maj=25.7km s-min=10.6km az=89.2*
*IDC **19** 19:46:46.3±5.0, 3626N×7114E, h198km±46km, mb3.4/11, mb1 3.5/14, mb1mx3.3/26, mbtmp3.4/14, Error ellipse: s-maj=20.8km s-min=15.9km az=20.0*
*ISCJB **19** 19:46:48.6±0.4, 3638N±003×7132E±007, h233km±5km, mb3.6/11, Error ellipse: s-maj=9.1km s-min=4.9km az=154.7*
*NEIC **19** 19:46:49.6±1.0, 3637N×7125E, h227km±9km, mb4.9/3, Error ellipse: s-maj=15.5km s-min=10.8km az=114.0*

ISC 19 19:46:49.7±0.4, 3639N±003×7138E±007, h229km±5km, n47, σ1°22/55, mb3.6/11, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.60**	**170**	⇓P	**Pn**	**19 47 38.6**	**+2.1**
CEP				S	**S**	**19 48 10.0**	**-3.3**
KBL	**Kabul**	**2.66**	**227**	*e*Pn	**Pn**	**19 47 37.0**	**-0.1**
KBL				*e*Sn	**S**	**19 48 05.9**	**-8.5**
THW	**Thamme Wali**	**3.60**	**175**	P	**Pn**	**19 47 49.5**	**+1.7**
SBDP	**Sheikh Budin**	**4.11**	**187**	P	**Pn**	**19 47 54.3**	**+0.4**
SARP	**Sargodha**	**4.59**	**166**	P	**Pn**	**19 48 01.2**	**+1.5**
DLH	**Dalhousie**	**5.40**	**134**	*e*S	**S**	**19 49 14.0**	**+0.6**
AML	**Almayashu**	**6.00**	**17**	P	**Pn**	**19 48 17.6**	**+0.2**
	SNR=38						
UCH	**Uchtor**	**6.31**	**22**	P	**Pn**	**19 48 21.9**	**+0.6**
	SNR=78						
KZA	**Kyzart**	**6.42**	**27**	P	**Pn**	**19 48 22.9**	**+0.2**
	SNR=47						
EKS2	**Erkin-Say**	**6.53**	**16**	P	**Pn**	**19 48 24.1**	**+0.1**
	SNR=13						
AAK	**Ala-Archa**	**6.68**	**20**	P	**Pn**	**19 48 26.5**	**+0.5**
	SNR=25						
AAK	**Ala-Archa**	**6.68**	**20**	*e*PN	**Pn**	**19 48 25.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,40nm,0.3s						
AAK	**Ala-Archa**	**6.68**	**20**	*e*Pn	**Pn**	**19 48 25.4**	**-0.6**
	comp=Z,40nm,0.3s						
AAK				*e*Sn	**S**	**19 49 40.9**	**-1.9**
KK31	**Karatay Array**	**6.73**	**355**	⇑P	**Pn**	**19 48 25.0**	**-1.7**
	comp=Z,5.6nm,0.4s,baz=178,slow=13						
KK31				⇑S	**S**	**19 49 37.6**	**-6.6**
	comp=Z,8.9nm,0.4s,baz=177,slow=22						
SDNR	**Sundarnagar**	**6.74**	**135**	*e*P	**Pn**	**19 48 29.0**	**+2.3**
SDNR				*e*S	**S**	**19 49 44.8**	**+0.6**
KBK	**Karagaybulak**	**6.83**	**23**	P	**Pn**	**19 48 28.7**	**+0.8**
	SNR=13						
ULHL	**Ulahol**	**6.95**	**31**	P	**Pn**	**19 48 30.2**	**+0.7**
	SNR=11						
CHMS	**Chumysh**	**7.09**	**20**	P	**Pn**	**19 48 31.3**	**+0.1**
	SNR=9.3						
USP	**Ospenovka**	**7.27**	**18**	P	**Pn**	**19 48 34.0**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**7.28**	**25**	P	**Pn**	**19 48 34.3**	**+0.6**
	SNR=32						
TKM2	**Tokmak 2**	**7.28**	**25**	⇑P	**Pn**	**19 48 34.0**	**+0.3**
	comp=Z,12nm,1.0s						
KLP	**Kalpa**	**7.49**	**128**	*e*P	**Pn**	**19 48 33.8**	**-2.5**
KLP				*e*S	**S**	**19 49 59.4**	**-2.3**
KLP				AML	AML	19 50 16.4	
	comp=N,205nm,0.9s						
KLP				AML	AML	19 50 16.9	
	comp=E,352nm,1.1s						
JOSI	**Joshimath**	**8.97**	**128**	*e*P	**Pn**	**19 48 53.8**	**-1.6**
JOSI				*e*S	**S**	**19 50 32.7**	**-3.8**
KHET	**Khetri**	**9.10**	**154**	*e*S	**S**	**19 50 32.1**	**-7.4**
KUDL	**Kundal**	**9.29**	**151**	*e*P	**Pn**	**19 48 55.4**	**-4.0**
KUDL				*e*S	**S**	**19 50 33.6**	**-10**
MKAR	**Makanchi Array**	**13.20**	**35**	P	**Pn**	**19 49 48.4**	**-0.3**
	comp=E,0.3nm,0.3s,baz=217,slow=15,SNR=5.4						
BVAR	**Borovoye Array**	**16.64**	**358**	P	**P**	**19 50 29.6**	**+0.8**
	comp=E,0.9nm,0.3s,baz=161,slow=11,SNR=9.4						
BRVK	**Borovoye**	**16.68**	**358**	*eP*	**P**	**19 50 31.2**	**+2.0**
	comp=E,0.1nm,0.3s						
AKTK	**Aktyubinsk**	**17.02**	**330**	P	**P**	**19 50 32.5**	**-0.4**
AKTO	**Aktyubinsk**	**17.02**	**330**	P	**P**	**19 50 32.5**	**-0.4**
	comp=E,1.1nm,0.3s,baz=126,slow=12,SNR=11						
ZAL	**Zalesovo**	**19.87**	**24**	P	**P**	**19 51 03.2**	**-0.4**
	comp=E,1.8nm,0.4s,baz=253,slow=6.1,SNR=5.9						
ARU	**Arti**	**21.83**	**341**	P	**P**	**19 51 23.8**	**0.0**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.5						
ARU	**Arti**	**21.83**	**341**	P	**P**	**19 51 23.8**	**0.0**
	comp=Z,8.5nm,0.6s,mb4.5						
SONM	**Songino Array**	**28.14**	**55**	P	**P**	**19 52 23.3**	**+2.7**
	comp=Z,0.8nm,0.8s,mb3.4,baz=256,slow=9.0,SNR=4.7						
FINES	**FINESS Array B**	**37.74**	**326**	P	**P**	**19 53 42.9**	**-0.6**
	comp=Z,1.6nm,0.6s,mb3.7,baz=118,slow=12,SNR=4.8						
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**19 54 13.2**	**-0.2**
	comp=Z,3.0nm,0.8s,mb3.8,baz=119,slow=8.4,SNR=9.1						
NOA	**NORSAR Array B**	**44.65**	**323**	P	**P**	**19 54 38.3**	**-1.4**
	comp=Z,1.5nm,0.7s,mb3.4,baz=94,slow=7.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P	**P**	**19 57 09.6**	**-2.2**
	comp=Z,0.4nm,0.5s,mb3.3,baz=51,slow=6.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P	**P**	**19 57 09.6**	**-2.2**
MATP	**Matopo**	**69.54**	**223**	P	**P**	**19 57 33.8**	**+0.1**
	comp=Z,0.6nm,0.3s,mb3.7,baz=9.5,slow=6.1,SNR=3.3						
INK	**Inuvik**	**73.96**	**9**	P	**P**	**19 58 00.5**	**+0.6**
	comp=Z,0.7nm,0.4s,mb3.6,baz=287,slow=2.5,SNR=4.7						
INK	**Inuvik**	**73.96**	**9**	P	**P**	**19 58 00.5**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**73.96**	**9**	P	**P**	**19 58 00.4**	**+0.4**
	comp=Z,50nm,0.7s						
YKA	**Yellowknife Ar**	**81.34**	**3**	P	**P**	**19 58 40.7**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.3,baz=350,slow=5.4,SNR=9.2						
YKA	**Yellowknife Ar**	**81.34**	**3**	P	**P**	**19 58 40.7**	**+0.1**
WRA	**Warramunga Arr**	**81.67**	**122**	P	**P**

comp=Z,0.5nm,0.3s,mb3.5,baz=324,slow=4.9,SNR=14
ASAR Alice Springs 83.94 125 P **P 19 58 54.6 +0.6**
comp=Z,0.8nm,0.7s,mb3.5,baz=310,slow=4.8,SNR=14

ISCJB ***19*** *19:48:33.2±2.8, 258S±04×140W±04, h10km, mb4.4/16, MS3.7/5, Error ellipse: s-maj=73.9km s-min=17.4km az=92.6*

IDC ***19*** *19:48:33.0±3.5, 2580S×1406W, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.0/20, mbtmp4.2/9, MS3.8/5, Ms1 3.8/5, ms1mx3.4/30, Error ellipse: s-maj=91.8km s-min=25.5km az=48.0*

NEIC ***19*** *19:48:35.6±2.1, 2572S×1389W, h10km, mb4.8/10, Error ellipse: s-maj=54.8km s-min=12.6km az=46.0*

ISC 19 19:48:34.5±2.9, 259S±04×141W±04, h10km, n32, σ0.58/28, mb4.4/16, MS3.7/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**29.97**	**84**	LR	LR	20 04 09.6	
	comp=Z,136nm,21.8s,MS3.5,baz=323,slow=31						
SUR	**Sutherland**	**31.10**	**110**	LR	LR	20 04 47.7	
	comp=Z,173nm,18.7s,MS3.8,baz=215,slow=31						
BOSA	**Boshof**	**35.01**	**104**	P	**P**	**19 55 27.1**	**0.0**
	5.3nm,0.9s,mb4.5,baz=270,slow=6.5,SNR=6.5						
BOSA				LR	LR	20 07 35.3	
	comp=Z,134nm,21.1s,MS3.7,baz=354,slow=33						
BOSA	**Boshof**	**35.01**	**104**	*e*P	**P**	**19 55 26.7**	**-0.4**
	14nm,1.0s,mb4.8						
BOSA				*e*		19 55 33.3	
LBTB	**Lobatse**	**35.78**	**97**	P	**P**	**19 55 33.2**	**-0.5**
	8.1nm,0.9s,mb4.7,baz=267,slow=9.1,SNR=14						
LBTB	**Lobatse**	**35.78**	**97**	*e*P	**P**	**19 55 33.3**	**-0.4**
	11nm,0.9s,mb4.8						
LBTB				*e*		19 55 39.8	
MATP	**Matopo**	**39.43**	**91**	P	**P**	**19 56 04.4**	**-0.2**
	5.6nm,0.9s,mb4.3,baz=268,slow=8.3,SNR=10						
LSZ	**Lusaka**	**40.83**	**84**	P	**P**	**19 56 17.3**	**+1.1**
	2.4nm,0.9s,mb3.9,baz=251,slow=7.7,SNR=6.0						
LSZ	**Lusaka**	**40.83**	**84**	*e*P	**P**	**19 56 17.2**	**+1.0**
	2.9nm,0.8s,mb4.0						
TOA0	**Torodi Ar. Sit**	**41.72**	**24**	*e*P	**P**	**19 56 23.1**	**-0.4**
TOA0				*e*		19 56 30.2	
TORD	**Torodi Ar. Bea**	**41.72**	**24**	P	**P**	**19 56 22.9**	**-0.6**
	2.2nm,0.8s,mb3.8,baz=198,slow=7.8,SNR=11						
TORD				LR	LR	20 09 58.3	
	comp=Z,85nm,18.2s,MS3.7,baz=205,slow=31						
LPAZ	**La Paz**	**51.00**	**270**	LR	LR	20 17 19.2	
	comp=Z,132nm,19.9s,MS4.0,baz=131,slow=34						
KEST	**Kesra**	**65.15**	**21**	P	**P**	**19 59 15.9**	**+0.3**
	3.4nm,0.9s,mb4.4,baz=58,slow=2.2,SNR=6.1						
FRF	**La Foret Royal**	**71.67**	**16**	*e*P	**P**	**19 59 56.7**	**+0.3**
	46nm,1.0s,mb5.0						
FRF	**La Foret Royal**	**71.67**	**16**	*e*P	**P**	**19 59 56.7**	**+0.3**
	23nm,1.0s,mb5.1						
SMRF	**Simiane la Rot**	**71.80**	**15**	*e*P	**P**	**19 59 58.1**	**+0.9**
	42nm,1.1s,mb5.0						
SMRF	**Simiane la Rot**	**71.80**	**15**	*e*P	**P**	**19 59 58.1**	**+0.9**
	42nm,1.1s,mb5.3						
MBDF	**Montbardon**	**72.79**	**15**	*e*P	**P**	**20 00 02.7**	**-0.4**
	17nm,1.0s,mb4.6						
MBDF	**Montbardon**	**72.79**	**15**	*e*P	**P**	**20 00 02.7**	**-0.4**
	8.6nm,1.0s,mb4.6						
LPG	**La Plagne**	**73.52**	**15**	*e*P	**P**	**20 00 07.8**	**+0.4**
	19nm,1.0s,mb4.7						
LPG	**La Plagne**	**73.52**	**15**	*e*P	**P**	**20 00 07.8**	**+0.4**
	9.5nm,1.0s,mb4.7						
LPL	**La Plagne**	**73.53**	**15**	*e*P	**P**	**20 00 07.9**	**+0.5**
	12nm,0.8s,mb4.6						
LPL	**La Plagne**	**73.53**	**15**	*e*P	**P**	**20 00 07.9**	**+0.5**
	5.9nm,0.8s,mb4.6						
CABF	**La Chapelle**	**74.41**	**14**	*e*P	**P**	**20 00 13.1**	**+0.5**
	27nm,1.0s,mb4.8						
CABF	**La Chapelle**	**74.41**	**14**	*e*P	**P**	**20 00 13.1**	**+0.5**
	13nm,1.0s,mb4.8						
BAIF	**Baives**	**77.31**	**12**	*e*P	**P**	**20 00 28.7**	**-0.5**
	18nm,1.1s,mb4.6						
BAIF	**Baives**	**77.31**	**12**	*e*P	**P**	**20 00 28.7**	**-0.5**
	8.9nm,1.1s,mb4.6						
GERES	**GERESS Array B**	**78.42**	**18**	P	**P**	**20 00 34.6**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=195,slow=4.1,SNR=5.3						
BRTR	**Keskin Array B**	**78.99**	**36**	P	**P**	**20 00 38.9**	**+0.4**
	0.5nm,0.8s,mb3.5,baz=215,slow=4.1,SNR=4.7						
AKASG	**Malin Array Be**	**85.30**	**26**	P	**P**	**20 01 10.6**	**-1.0**
	1.6nm,0.7s,mb4.3,baz=221,slow=4.8,SNR=20						
AKASG	**Malin Array Pe**	**85.30**	**26**	P	**P**	**20 01 10.6**	**-1.0**
KSRS	**Korea Array**	**145.90**	**61**	PKPbc	PKPbc	20 08 14.1	0.0
	3.3nm,1.0s,baz=278,slow=3.1,SNR=9.2						

IGQ 19 19:57:51.5, 220S×7831W, h12km±3km, Mb4.2, Ms4.0, 12C-7D, Error ellipse: s-maj=7.1km s-min=3.9km az=164.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**0.70**	**350**	⇑P	Pg	19 58 05.3	+0.1
ARRY	**Arrayan**	**0.70**	**348**	⇓P	Pg	19 58 04.8	-0.3
ULBA	**Ulba**	**0.75**	**353**	⇑P	Pg	19 58 06.1	0.0
RETU	**Refugio**	**0.76**	**350**	⇑P	Pg	19 58 06.3	+0.1
RETU				S	Sg	19 58 16.4	+0.3
IGUA	**Igualata**	**0.78**	**335**	⇓P	Pg	19 58 08.0	+1.4
IGUA				S	Sg	19 58 19.5	+2.7
BILB	**Tungurahua vol**	**0.78**	**346**	⇑P	Pg	19 58 06.7	+0.1
BILB				S	Sg	19 58 16.7	-0.1
JUIV	**Juive**	**0.79**	**349**	P	Pg	19 58 06.4	-0.3
RUN5	**Runtun**	**0.79**	**352**	⇓P	Pg	19 58 06.7	-0.1
PISA	**Pisayambo**	**1.14**	**356**	⇓P	Pb	19 58 13.1	0.0
TAMB	**Tambo**	**1.50**	**358**	⇑P	Pn	19 58 19.6	+1.4
TAMB				S	Sn	19 58 40.5	+2.9
CAMI	**Rancho Maria**	**1.53**	**353**	⇑P	Pn	19 58 20.6	+2.0
CAMI				S	Sn	19 58 42.5	+4.1
VC1	**Cotopaxi 1**	**1.55**	**357**	⇑P	Pn	19 58 20.8	+1.8
ANTI	**Antisana**	**1.75**	**5**	⇑P	Pn	19 58 23.0	+1.4
JUA2	**San Juan 2**	**2.00**	**351**	⇑P	Pn	19 58 28.9	+3.8
JUA2				S	Sn	19 58 57.2	+7.3
GGP	**Refugio Guagua**	**2.03**	**352**	⇑P	Pn	19 58 29.5	+3.9
TERV	**Terraza Guagua**	**2.03**	**352**	P	Pn	19 58 29.5	+3.9
PINO	**Pino**	**2.05**	**352**	⇑P	Pn	19 58 29.8	+4.0
YANA	**Yana**	**2.08**	**353**	⇓P	Pn	19 58 30.3	+4.1
LAV3	**Lava3-Reventad**	**2.20**	**18**	⇓P	Pn	19 58 29.5	+1.7
LAV3				S	Sn	19 58 59.1	+4.2
CONE	**Cono NE Rev Vo**	**2.22**	**18**	⇑P	Pn	19 58 30.2	+2.1
CONE				S	Sn	19 58 60.0	+4.5
CAYR	**Refugio Cayamb**	**2.22**	**8**	P	Pn	19 58 31.2	+3.1
CAYR				S	Sn	19 59 02.5	+7.0
CAYA	**Cayambe**	**2.28**	**8**	P	Pn	19 58 31.8	+2.9
CAYA				S	Sn	19 59 01.8	+4.9
COTA	**Cotacachi**	**2.52**	**359**	⇓P	Pn	19 58 38.2	+6.0

IDC ***19*** *19:58:25.7±0.4, 2093S×17433W, h0km, mb4.9/20, mb1 5.0/21, mb1mx5.0/24, mbtmp4.9/21, ML4.7/1, MS4.8/18, Ms1 4.8/18, ms1mx4.4/35, Error ellipse: s-maj=17.3km s-min=14.1km az=142.0*

GCMT ***19*** *19:58:26.6±0.1, 2103S×17362W, h18km, MW5.4/90, Moment Tensor Solution. s58,c107; s90,c156; Duration: 1s2 Moment tensor: Scale 10^17 Nm; M_{rr} 1.16±.03; $M_{\theta\theta}$ -0.14±.02; $M_{\phi\phi}$ -1.03±.02; $M_{r\theta}$ 0.40±.04; $M_{\theta\phi}$ -0.49±.01; $M_{\phi r}$ 0.67±.04; Best double couple: M_0 1.43100×10^17 NP1: ϕ_s 199.00000°, δ 29.00000°, λ 83.00000°. NP2: ϕ_s 28.00000°, δ 61.00000°, λ 94.00000°. Principal axes: T 1.3910, Plg 73.0000°, Azm 307.0000°; N 0.0730, Plg 3.0000°, Azm 206.0000°; P -1.4700, Plg 16.0000°, Azm 115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BGS ***19*** *19:58:26.6, 2098S×17422W, h10km, mb5.3(NEIC)*

NEIC ***19*** *19:58:26.6±0.2, 2098S×17422W, h10km, mb5.3/49, MS5.1/4, Error ellipse: s-maj=8.6km s-min=5.4km az=147.0*

BJI ***19*** *19:58:26.6, 2100S×17420W, h10km, mB5.8, mb5.3, Ms5.3, Msz5.0*

ISCJB ***19*** *19:58:27.5±3.3, 2094S±005×17425W±005, h21km±22km, mb5.1/82, MS5.0/39, Error ellipse: s-maj=9.5km s-min=7.5km az=113.5*

MOS ***19*** *19:58:29.8±1.3, 2078S×17436W, h33km, mb5.5/42, MS5.0/19, Error ellipse: s-maj=10.8km s-min=9.4km az=139.7*

ISC 19 19:58:31.7±1.5, 2096S±005×17421W±005, h40km±13km, h10km±3.4km: pP-P, n430, σ1.14/191, mb5.2/81, MS5.0/39, 86C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.39**	**19**	Pn	**Pn**	**20 00 10.3**	**-6.7**
	24nm,0.3s,baz=167,slow=2.4,SNR=16						
AFI				Sn	**Sn**	**20 01 26.3**	**-13**
	30nm,0.3s,baz=350,slow=12,SNR=3.0						
AFI				LR	LR	20 02 47.6	
	comp=Z,4μm,20.3s,baz=195,slow=35						
AFI	**Afiamalu**	**7.39**	**19**	*e*P	**Pn**	**20 00 09.7**	**-7.2**
AFI				pmax	pmax		
	comp=Z,116nm,0.6s						
AFI	**Afiamalu**	**7.39**	**19**	*e*Pn	**Pn**	**20 00 09.7**	**-7.2**
	comp=Z,116nm,0.6s						
AFI				Sn	**Sn**	**20 01 21.9**	**-18**
RAO	**Raoul Island**	**8.91**	**201**	Sn	**Sn**	**20 02 11.6**	**-5.3**
	comp=Z,107nm,0.3s,baz=56,slow=22,SNR=6.0						
RAR	**Rarotonga**	**13.48**	**94**	Pn	**Pn**	**20 01 28.8**	**-12**
	comp=Z,20nm,0.3s,baz=245,slow=6.8,SNR=18						
FUNA	**Funafuti**	**13.90**	**332**	*e*P	**Pn**	**20 01 45.8**	**-0.3**
	comp=Z,343nm,1.3s						
DZM	**Mont Dzumac**	**18.03**	**263**	*e*P	**Pn**	**20 02 40.9**	**+1.8**
NOUC	**Port Laguerre**	**18.16**	**263**	*e*P	**Pn**	**20 02 43.1**	**+2.3**
URZ	**Urewera**	**18.80**	**202**	P	**Pn**	**20 02 47.9**	**-0.6**
	comp=Z,2.6nm,0.3s,baz=348,slow=11,SNR=11						
URZ				LR	LR	20 08 24.6	
	comp=Z,2μm,18.6s,baz=203,slow=32						
SNZO	**South Karori**	**22.36**	**202**	*e*P	**P**	**20 03 24.4**	**-1.7**
	comp=Z,117nm,1.0s,mb5.3						
TBI	**Tubuai**	**23.04**	**101**	*e*P	**P**	**20 03 23.2**	**-10**
	comp=Z,435nm,1.2s,mb5.8						
TBI				*e*LR	LR	20 08 56.0	
	comp=Z,6μm,27.5s,baz=272						
THZ	**Tophouse**	**23.42**	**205**	P*	**P**	**20 03 38.4**	**+1.1**
PAE	**Paea**	**23.47**	**86**	*e*P	**P**	**20 03 29.1**	**-8.6**
	comp=Z,179nm,1.2s,mb5.4						
PPT	**Papeete**	**23.49**	**86**	*e*P	**P**	**20 03 29.7**	**-8.2**
	comp=Z,118nm,1.4s,mb5.1						
PPT	**Papeete**	**23.49**	**86**	LR	LR	20 11 45.7	
	comp=Z,2μm,18.2s,MS4.7,baz=257,slow=34						
KHZ	**Kahutara**	**23.75**	**203**	P*	**P**	**20 03 39.7**	**-0.6**
TVO	**Taravao**	**23.75**	**87**	*e*P	**P**	**20 03 32.2**	**-8.1**
WVZ	**Waitaha Valley**	**25.40**	**206**	P*	**P**	**20 03 57.4**	**+2.1**
PMOR	**Pomariorio Ree**	**25.70**	**81**	*e*P	**P**	**20 03 52.4**	**-5.7**
	comp=Z,91nm,1.1s,mb5.2						
RPZ	**Rata Peaks**	**25.80**	**205**	P	**P**	**20 03 58.1**	**-0.8**
	comp=Z,51nm,1.0s,mb5.0,baz=34,slow=18,SNR=5.7						
RPZ				LR	LR	20 13 49.5	
	comp=Z,3μm,19.8s,MS4.8,baz=24,slow=36						
VAH	**Vaihoa**	**25.88**	**82**	*e*P	**P**	**20 03 53.6**	**-6.1**
	comp=Z,96nm,1.1s,mb5.3						
HNR	**Honiara**	**27.40**	**291**	P	**P**	**20 04 12.1**	**-1.3**
	comp=Z,22nm,0.4s,mb5.0,baz=94,slow=3.0,SNR=5.1						
HNR				LR	LR	20 13 28.0	
	comp=Z,1μm,19.5s,MS4.5,baz=180,slow=33						
HNR	**Honiara**	**27.40**	**291**	*e*P	**P**	**20 04 12.6**	**-0.7**
HNR				pmax	pmax		
	comp=Z,131nm,1.2s,mb5.3						
HNR	**Honiara**	**27.40**	**291**	*e*P	**P**	**20 04 12.6**	**-0.7**
	comp=Z,131nm,1.2s,mb5.3						
TAOE	**Nuku Hiva Isla**	**34.96**	**75**	*e*LR	LR	20 14 18.4	
	comp=Z,7μm,28.4s,baz=251						
CTA	**Charters Tower**	**36.97**	**264**	*e*P	**P**	**20 05 36.1**	**-1.0**
CTAO	**Charters Tower**	**36.97**	**264**	*e*P	**P**	**20 05 36.1**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**36.97**	**264**	*e*P	**P**	**20 05 36.0**	**-1.0**
	comp=Z,17nm,0.8s,mb4.9						
PMG	**Port Moresby**	**38.91**	**281**	*i*P	**P**	**20 05 51.9**	**-1.5**
PMG	**Port Moresby**	**38.91**	**281**	*e*P	**P**	**20 05 52.6**	**-0.8**
PMG				pmax	pmax		
	comp=Z,80nm,1.1s						
PMG	**Port Moresby**	**38.91**	**281**	*e*P	**P**	**20 05 52.6**	**-0.8**
	comp=Z,80nm,1.1s,mb5.4						
STKA	**Stephens Creek**	**40.80**	**245**	⇑*i*P	**P**	**20 06 08.1**	**-1.0**
STKA	**Stephens Creek**	**40.80**	**245**	P	**P**	**20 06 07.8**	**-1.3**
	comp=Z,19nm,1.0s,mb4.7,baz=90,slow=8.6,SNR=16						
STKA				LR	LR	20 22 15.2	
	comp=Z,2μm,18.5s,MS5.0,baz=73,slow=35						
STKA	**Stephens Creek**	**40.80**	**245**	*e*P	**P**	**20 06 07.7**	**-1.4**
ASAR	**Alice Springs**	**47.86**	**257**	P	**P**	**20 07 04.3**	**-1.2**
	comp=Z,33nm,1.0s,mb5.3,baz=88,slow=8.4,SNR=130						
ASAR				S	**S**	**20 13 55.6**	**-4.3**
	comp=Z,0.8nm,1.0s,baz=91,slow=15,SNR=4.8						
ASAR	**Alice Springs**	**47.86**	**257**	P	**P**	**20 07 04.3**	**-1.2**
ASAR				S	**S**	**20 13 55.6**	**-4.3**
WB2	**Warramunga Arr**	**48.03**	**262**	*e*P	**P**	**20 07 04.7**	**-2.2**
WB2	**Warramunga Arr**	**48.03**	**262**	*e*P	**P**	**20 07 04.3**	**-2.6**
WRA	**Warramunga Arr**	**48.05**	**262**	P	**P**	**20 07 05.1**	**-1.9**
	comp=Z,14nm,1.0s,mb5.0,baz=96,slow=7.1,SNR=60						
WRA				S	**S**	**20 14 00.7**	**-1.8**
	comp=Z,0.6nm,1.0s,baz=96,slow=15,SNR=3.0						
KAKA	**Kakadu**	**51.52**	**270**	⇑*i*P	**P**	**20 07 31.9**	**-1.5**
FORT	**Forrest**	**52.37**	**247**	*e*P	**P**	**20 07 38.7**	**-1.0**
GUMO	**Guam**	**52.87**	**307**	LR	LR	20 29 13.4	
	comp=Z,605nm,18.3s,MS4.7,baz=92,slow=35						
FITZ	**Fitzroy Crossi**	**56.48**	**262**	*e*P	**P**	**20 08 08.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**56.48**	**262**	P	**P**	**20 08 08.9**	**-0.7**
	comp=Z,8.9nm,0.9s,mb4.8,baz=93,slow=11,SNR=14						
VNDA	**Vanda**	**57.80**	**186**	P	**P**	**20 08 19.2**	**+0.3**
	comp=Z,4.4nm,0.9s,mb4.5,baz=6.7,slow=6.4,SNR=9.3						
VNDA	**Vanda**	**57.80**	**186**	*e*P	**P**	**20 08 20.6**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,29nm,1.5s						
VNDA	**Vanda**	**57.80**	**186**	*e*P	**P**	**20 08 20.6**	**+1.7**
	comp=Z,29nm,1.5s,mb5.1						
KLBR	**Kellerberrin**	**61.07**	**245**	⇑*i*P	**P**	**20 08 41.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**61.33**	**243**	P	**P**	**20 08 42.6**	**-0.6**
	comp=Z,39nm,1.0s,mb5.5,baz=79,slow=4.2,SNR=11						
NWAO				LR	LR	20 34 42.7	
	comp=Z,1μm,18.0s,MS5.1,baz=294,slow=36						
NWAO	**Narrogin (SRO)**	**61.33**	**243**	*e*P	**P**	**20 08 42.6**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,54nm,1.1s						
NWAO	**Narrogin (SRO)**	**61.33**	**243**	*e*P	**P**	**20 08 42.6**	**-0.6**
	comp=Z,54nm,1.1s,mb5.6						
MUN	**Mundaring**	**62.32**	**244**	*e*P	**P**	**20 08 50.4**	**+0.5**
CBIJ	**Chichi jima**	**63.75**	**317**	LR	LR	20 33 08.4	
	comp=Z,898nm,18.5s,MS5.0,baz=112,slow=33						
MJAR	**Matsushiro Arr**	**72.73**	**321**	P	**P**	**20 09 55.1**	**-0.5**
	comp=Z,18nm,1.0s,mb5.0,baz=159,slow=6.0,SNR=29						
MJAR				LR	LR	20 41 23.4	
	comp=Z,297nm,18.5s,MS4.6,baz=175,slow=36						
MAJO	**Matsushiro**	**72.73**	**321**	*e*P	**P**	**20 09 55.3**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
MAJO	**Matsushiro**	**72.73**	**321**	*e*P	**P**	**20 09 55.3**	**-0.3**
	comp=Z,39nm,1.2s,mb5.2						
MAT	**Matsushiro**	**72.73**	**321**	P	**P**	**20 09 55.4**	**-0.2**
MAT				S	S	20 19 19.0	+0.8
KKM	**Kota Kinabalu**	**73.31**	**283**	*e*P	**P**	**20 09 58.9**	**-0.2**
JNU	**Nakatsue**	**75.08**	**315**	P	**P**	**20 10 09.7**	**+0.3**
	comp=Z,55nm,1.2s,mb5.4,baz=195,slow=13,SNR=3.2						
SAO	**San Andreas Ge**	**75.98**	**41**	*e*P	**P**	**20 10 13.2**	**-1.3**
SAO				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
SAO	**San Andreas Ge**	**75.98**	**41**	*e*P	**P**	**20 10 13.2**	**-1.3**
	comp=Z,38nm,1.2s,mb5.2						
KSM	**Kuching**	**76.99**	**277**	*e*P	**P**	**20 10 20.6**	**+0.3**
PFO	**Pinyon Flat Ob**	**77.28**	**46**	*e*P	**P**	**20 10 20.9**	**-1.0**
PFO				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
PFO	**Pinyon Flat Ob**	**77.28**	**46**	*e*P	**P**	**20 10 20.9**	**-0.9**
	comp=Z,30nm,1.4s,mb5.0						
PET	**Petropavlovsk**	**77.35**	**344**	*e*P	**P**	**20 10 27.2**	**+5.0**
PET				*e*PPS		20 21 01.3	
PET				pmax	pmax		
	comp=Z,200nm,12.4s						
CMB	**Columbia Colle**	**77.44**	**41**	*e*P	**P**	**20 10 22.4**	**-0.4**
CMB				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
CMB	**Columbia Colle**	**77.44**	**41**	*e*P	**P**	**20 10 22.4**	**-0.4**
	comp=Z,18nm,1.1s,mb4.9						
YSS	**Yuzh-Sakhalins**	**77.94**	**331**	⇑*e*P	**P**	**20 10 23.0**	**-2.6**
YSS				S	S	20 20 18.0	+2.0
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s,MS5.0						
YSS				MLR	MLR		
	comp=N,500nm,18.0s,MS5.0						
YSS				MLR	MLR		
	comp=E,500nm,18.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**77.94**	**331**	*e*P	**P**	**20 10 26.0**	**+0.4**
	comp=E,88nm,1.3s,mb5.5						
DAC	**Darwin (Calif)**	**78.11**	**44**	*e*P	**P**	**20 10 28.5**	**+2.0**
DAC				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.1						
DAC	**Darwin (Calif)**	**78.11**	**44**	*e*P	**P**	**20 10 28.4**	**+2.0**
	comp=Z,38nm,1.6s,mb5.1						
MTUM	**Tungsten Hills**	**78.15**	**42**	*e*P	**P**	**20 10 26.5**	**-0.2**
NVAR	**Mina Array Bea**	**78.97**	**42**	P	**P**	**20 10 31.7**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=232,slow=9.8,SNR=40						
NVAR	**Mina Array Bea**	**78.97**	**42**	P	**P**	**20 10 31.7**	**+0.4**
TPH	**Tonopah**	**79.43**	**42**	P	**P**	**20 10 32.6**	**-1.1**
TPH				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.3						
TPH	**Tonopah**	**79.43**	**42**	P	**P**	**20 10 32.6**	**-1.1**
	comp=Z,54nm,1.4s,mb5.3						
KSRS	**Korea Array**	**79.61**	**317**	P	**P**	**20 10 35.9**	**+1.1**
	comp=Z,29nm,1.1s,mb5.1,baz=136,slow=5.9,SNR=58						
KSRS				LR	LR	20 42 07.2	
	comp=Z,268nm,19.5s,MS4.6,baz=165,slow=33						
QZH	**Quanzhou**	**79.65**	**302**	P	**P**	**20 10 36.3**	**+1.4**
QZH				S	S	20 20 33.8	-0.4
QZH				AMB	AMB		
	comp=Z,170nm,1.3s,mb5.8						
MOD	**Modoc**	**79.96**	**38**	*e*P	**P**	**20 10 36.4**	**-0.2**
	comp=Z,6.7nm,0.9s,mb4.6						
INCN	**Inchon**	**80.46**	**316**	*e*P	**P**	**20 10 40.6**	**+1.3**
	comp=Z,96nm,1.3s,mb5.6						
TUC	**Tucson**	**80.51**	**50**	*e*P	**P**	**20 10 40.3**	**+0.7**
TUC				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
TUC	**Tucson**	**80.51**	**50**	*e*P	**P**	**20 10 40.3**	**+0.7**
	comp=Z,24nm,1.4s,mb4.9						
SSE	**Sheshan**	**80.73**	**308**	P	**P**	**20 10 40.3**	**-0.4**
SSE				S	S	20 20 47.1	+1.5
SSE				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.3						
SSE				AMB	AMB		
	comp=Z,259nm,8.0s						
SSE				LR	LR		
	comp=N,161nm,25.0s,MS4.5						
SSE				LR	LR		
	comp=E,255nm,25.0s,MS4.5						
SSE				LR	LR		
	comp=Z,318nm,25.0s,MS4.6						
SSE	**Sheshan**	**80.73**	**308**	P	**P**	**20 10 40.2**	**-0.5**
	comp=Z,39nm,0.9s,mb5.3						
SSE				sP	sP	20 10 44.7	-13
SSE				S	S	20 20 47.1	+1.5
SSE				sS	sS	20 20 52.7	-13
SSE				ScS	ScS	20 21 06.2	+1.7
SSE				LR	LR		
	comp=Z,320nm,25.0s,MS4.6						
VLA	**Vladivostok**	**80.73**	**323**	P	**P**	**20 10 46.0**	**+5.2**
VLA				pmax	pmax		
	comp=Z,71nm,2.5s,mb5.2						
BMN	**Battle Mountai**	**80.86**	**40**	*e*P	**P**	**20 10 41.7**	**+0.3**
BMN				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
BMN	**Battle Mountai**	**80.86**	**40**	*e*P	**P**	**20 10 41.7**	**+0.2**
	comp=Z,26nm,1.3s,mb5.0						
WVOR	**Wild Horse Val**	**81.25**	**38**	*e*P	**P**	**20 10 43.1**	**-0.4**
WVOR				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
WVOR	**Wild Horse Val**	**81.25**	**38**	*e*P	**P**	**20 10 43.1**	**-0.5**
	comp=Z,24nm,1.2s,mb5.0						
ARUT	**Antelope Range**	**81.69**	**44**	*e*P	**P**	**20 10 45.8**	**0.0**
WUAZ	**Wupatki**	**81.81**	**47**	*e*P	**P**	**20 10 47.5**	**+1.0**
	comp=Z,52nm,1.8s,mb5.2						
MAW	**Mawson**	**82.31**	**199**	*e*P	**P**	**20 10 49.1**	**0.0**
MAW	**Mawson**	**82.31**	**199**	P	**P**	**20 10 49.7**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.8,baz=116,slow=6.8,SNR=13						
MAW				LR	LR	20 46 35.2	
	comp=Z,1μm,18.3s,MS5.3,baz=330,slow=35						
MAW	**Mawson**	**82.31**	**199**	*e*P	**P**	**20 10 50.0**	**+0.9**
MAW				*e*		20 10 55.6	
MAW				pmax	pmax		
	comp=Z,35nm,1.1s						
MAW	**Mawson**	**82.31**	**199**	*e*P	**P**	**20 10 50.0**	**+0.8**
	comp=Z,35nm,1.1s,mb5.2						
MAW				*e*		20 10 55.6	
HABR	**Khabarovsk**	**82.63**	**329**	⇑*i*P	**P**	**20 10 51.1**	**+0.3**
HABR				*e*S	S	20 21 05.9	+0.6
HABR				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.5						
MSU	**Marysvale**	**82.92**	**44**	*e

comp=N,527nm,17.4s,MS5.1
SNY LR LR
comp=E,433nm,17.8s,MS5.1
SNY LR LR
comp=Z,526nm,13.2s,MS5.1
PV10 Paradox Valley 84.92 46 *e*P **P 20 11 02.0 -0.5**
ANMO Albuquerque 84.96 50 *e*P **P 20 11 03.0 +0.3**
ANMO pmax pmax
comp=Z,36nm,1.5s
ANMO Albuquerque 84.96 50 *e*P **P 20 11 03.0 +0.3**
comp=Z,36nm,1.5s,mb5.3
PV01 Paradox Valley 85.11 46 *e*P **P 20 11 03.0 -0.5**
MA2 Magadan 85.21 343 P **P 20 11 01.9 -2.1**
MA2 *i* S S 20 21 25.8 -5.3
MA2 *e*SSS 20 30 36.0
MA2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MA2 MLR MLR
comp=Z,400nm,18.2s,MS4.8
MA2 Magadan 85.21 343 P **P 20 11 01.3 -2.6**
WHN Wuhan 85.59 305 P **P 20 11 07.6 +1.8**
WHN S S 20 21 34.0 -0.9
WHN AMB AMB
comp=Z,1μm,7.4s
MCMT McKenzie Canyo 86.05 39 *e*P **P 20 11 07.9 -0.2**
TIA Tai'an 86.22 311 *e*P **P 20 11 10.3 +1.3**
PLCA Paso Flores 86.36 132 P **P 20 11 12.2 +2.6**
comp=Z,12nm,1.2s,mb5.0,baz=263,slow=6.3,SNR=4.3
PLCA LR LR 20 44 43.1
comp=Z,702nm,18.0s,MS5.1,baz=195,slow=32
PLCA Paso Flores 86.36 132 *e*P **P 20 11 12.8 +3.1**
PLCA pmax pmax
comp=Z,44nm,1.8s
PLCA Paso Flores 86.36 132 *e*P **P 20 11 12.8 +3.1**
comp=Z,44nm,1.8s,mb5.4
CMIG Matias Romero 86.47 70 P **P 20 11 11.7 +1.6**
comp=Z,5.4nm,0.8s,mb4.8,baz=5.7,slow=10,SNR=5.8
IMW Indian Meadow 86.67 40 *e*P **P 20 11 10.9 -0.3**
comp=Z,6.5nm,1.0s,mb4.8
SMCO Snowmass 86.71 46 *e*P **P 20 11 11.8 +0.4**
comp=Z,10nm,1.1s,mb5.0
QLMT Earthquake Lak 86.89 39 *e*P **P 20 11 13.0 +0.8**
PDAR Pinedale Array 86.90 42 P **P 20 11 12.1 -0.2**
comp=Z,5.2nm,0.9s,mb4.8,baz=215,slow=3.0,SNR=26
SDCO Great Sand Dun 87.01 48 *e*P **P 20 11 16.4 +3.6**
comp=Z,14nm,1.6s,mb4.9
CHMT Chamberlain Mo 87.01 37 *e*P **P 20 11 11.7 -1.1**
SYO Syowa Base 87.03 192⇑*e*P **P 20 11 12.5 -0.4**
SYO Syowa Base 87.03 192⇓*e*pP pP 20 11 13.8 -11
BOZ Bozeman (W) 87.22 39 *e*P **P 20 11 13.0 -0.9**
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
BOZ Bozeman (W) 87.22 39 *e*P **P 20 11 13.0 -0.8**
comp=Z,4.0nm,0.8s,mb4.7
KULM Kulim 87.34 277 *e*P **P 20 11 14.2 -0.2**
LKWY Lake 87.36 40 *e*P **P 20 11 15.2 +0.7**
LKWY pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
LKWY Lake 87.36 40 *e*P **P 20 11 15.2 +0.7**
comp=Z,8.0nm,1.2s,mb4.8
SNAA Sanae 87.42 177 *e*P **P 20 11 14.5 -0.3**
SNAA pmax pmax
comp=Z,50nm,1.4s
SNAA Sanae 87.42 177 *e*P **P 20 11 14.5 -0.3**
comp=Z,50nm,1.4s,mb5.5
SEY Seymchan 87.67 345 *i* P **P 20 11 14.4 -1.6**
SEY Seymchan 87.67 345 *i* P **P 20 11 14.5 -1.5**
RWWY Rawlins 87.83 44 *e*P **P 20 11 15.3 -1.5**
comp=Z,18nm,1.2s,mb5.2
WALA Waterton Lakes 87.89 35 *e*P **P 20 11 16.1 -1.0**
comp=Z,28nm,1.4s,mb5.3
COLA College 87.94 11 *e*P **P 20 11 15.2 -2.1**
COLA pmax pmax
comp=Z,56nm,1.4s,mb5.6
COLA College 87.94 11 *e*P **P 20 11 15.2 -2.1**
comp=Z,56nm,1.4s,mb5.6
IMA2 Indian Mountai 88.14 8 *e*P **P 20 11 17.0 -1.2**
BJT Baijiatuau 88.73 314 *e*P **P 20 11 22.9 +1.9**
comp=Z,345nm,2.2s
BJI Beijing 88.73 314 P **P 20 11 22.6 +1.6**
BJI AMB AMB
comp=Z,35nm,2.0s,mb5.3
BJI LR LR
comp=N,340nm,15.9s,MS5.3
BJI LR LR
comp=E,748nm,13.9s,MS5.3
BJI LR LR
comp=Z,296nm,19.7s
BJI Beijing 88.73 314 P **P 20 11 22.6 +1.6**
comp=Z,35nm,2.0s,mb5.3
BJI PP PP 20 15 08.7 +19
BJI S S 20 21 52.0 -13
BJI SS SS 20 28 12.3 +15
BJI LR LR
comp=Z,300nm,19.7s,MS4.7
EFI East Falkland 88.75 146 *e*P **P 20 11 20.3 -0.8**
comp=Z,151nm,1.4s,mb6.1
DAWY Dawson 88.97 15 *e*P **P 20 11 21.4 -0.7**
BILL Bilibino 89.89 353 P **P 20 11 25.0 -1.5**
BILL *e* 20 11 32.5
BILL PS PS 20 23 29.0 +2.4
BILL pmax pmax
comp=Z,25nm,1.9s,mb5.2
BILL MLR MLR
comp=Z,400nm,19.0s,MS4.9
BILL Bilibino 89.89 353 *e*P **P 20 11 25.1 -1.4**
comp=Z,32nm,1.5s,mb5.4
GYA Guiyang 89.97 298⇑*i*P **P 20 11 28.3 +1.5**
GYA PP PP 20 15 03.0 +3.0
GYA PPP 20 17 02.8
GYA SKS 20 21 57.0
GYA S S 20 22 18.4 +1.7
GYA PS PS 20 23 27.8 +0.4
GYA SS SS 20 28 19.3 +4.2
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,130nm,6.4s
GYA LR LR
comp=N,460nm,20.9s,MS5.1
GYA LR LR
comp=E,640nm,21.4s,MS5.1
GYA LR LR
comp=Z,580nm,20.8s,MS5.0
WMOK Wichita Mounta 90.46 53 *e*P **P 20 11 31.2 +2.1**
WMOK pmax pmax
comp=Z,9.0nm,1.5s,mb4.9
WMOK Wichita Mounta 90.46 53 *e*P **P 20 11 31.1 +2.0**
comp=Z,8.7nm,1.5s,mb4.9
EDM Edmonton 90.60 32 *e*P **P 20 11 29.1 -0.7**
RSSD Black Hills 91.06 43 *e*P **P 20 11 30.4 -1.5**
RSSD pmax pmax
comp=Z,11nm,1.3s,mb5.0
RSSD Black Hills 91.06 43 *e*P **P 20 11 30.4 -1.5**
comp=Z,10nm,1.3s,mb5.0
HIA Hailar 91.15 323 *e*P **P 20 11 30.0 -2.3**
HIA Hailar 91.15 323 *e*P **P 20 11 31.6 -0.7**
XAN Xi'an 91.25 306 P **P 20 11 34.1 +1.3**
XAN AP pP 20 11 38.8 -6.2
XAN PP PP 20 15 07.6 -2.5
XAN PPP 20 17 23.6
XAN SKS 20 22 08.6
XAN S S 20 22 38.3 +10
XAN AMB AMB
comp=Z,38nm,1.2s,mb5.6
XAN AMB AMB
comp=Z,303nm,10.2s
XAN LR LR
comp=N,672nm,16.4s,MS5.2
XAN LR LR
comp=E,530nm,17.7s,MS5.2
XAN LR LR
comp=Z,883nm,11.4s
NST Nakhon Sawan 91.56 286 P **P 20 11 35.4 +1.2**
CFAA Coronel Fontan 91.95 125 P **P 20 11 35.9 -0.2**
comp=Z,4.3nm,1.4s,mb4.6,baz=210,slow=3.7,SNR=3.6
NANT Nan 92.18 289⇑P **P 20 11 36.8 -0.3**
comp=Z,250nm,1.0s
HHC Hu-ho-hao-te 92.23 313 *e*P **P 20 11 38.8 +1.5**
HHC AP pP 20 11 43.8 -5.7
HHC XP sP 20 11 45.5 -8.5
HHC PP PP 20 15 21.9 +4.0
HHC SKS 20 22 09.5
HHC S S 20 22 39.1 +1.8
HHC XS sS 20 22 47.5 -10
HHC SS SS 20 28 54.3 +6.6
HHC AMB AMB
comp=Z,22nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,209nm,6.9s
HHC LR LR
comp=N,786nm,16.1s,MS5.5
HHC LR LR
comp=E,995nm,16.1s,MS5.5
HHC LR LR
comp=Z,591nm,19.6s,MS5.0
NNA Nana 92.52 104 LR LR 20 42 25.4
comp=Z,378nm,21.7s,MS4.8,baz=316,slow=28
CLNS Chul'man 92.71 331 *e*P **P 20 11 38.9 -0.6**
CLNS pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS MLR MLR
comp=Z,300nm,17.0s,MS4.8
CLNS MLR MLR
comp=N,200nm,13.0s
KMI Kunming 92.73 296 P **P 20 11 42.3 +2.7**
KMI SKS 20 22 14.8
KMI S S 20 22 43.9 +2.2
KMI SS SS 20 29 00.3 +5.5
KMI AMB AMB
comp=Z,34nm,1.2s,mb5.7
KMI AMB AMB
comp=Z,215nm,4.4s
KMI LR LR
comp=N,468nm,14.2s,MS5.2
KMI LR LR
comp=E,613nm,18.2s,MS5.2
KMI LR LR
comp=Z,777nm,18.2s,MS5.2
KMI Kunming 92.73 296 P **P 20 11 42.2 +2.6**
KMI 20 22 14.8
KMI S S 20 22 43.9 +2.2
KMI PS PS 20 23 58.9 +0.9
KMI SS SS 20 29 00.2 +5.4
KMI SSS 20 32 34.5
KMI pmax pmax
comp=Z,34nm,1.2s,mb5.7
KMI MLR MLR
comp=Z,780nm,18.2s,MS5.2
KMI Kunming 92.73 296 P **P 20 11 42.2 +2.6**
comp=Z,34nm,1.2s,mb5.7
KMI SKS 20 22 14.8
KMI S S 20 22 43.9 +2.2
KMI PS PS 20 23 58.9 +0.9
KMI SS SS 20 29 00.2 +5.4
KMI SSS 20 32 34.5
KMI LR LR
comp=Z,780nm,18.2s,MS5.2
JTS JuntasAbangare 92.94 80 *e*P **P 20 11 41.5 +0.9**
BTO Baotou 93.19 312 *e*P **P 20 11 42.5 +0.8**
CM31 Chiang Mai Arr 93.62 288 *e*P **P 20 11 46.7 +3.0**
comp=Z,26nm,1.0s,mb5.6
CHG Chiang Mai 93.74 289⇑P **P 20 11 46.5 +2.2**
comp=Z,29nm,1.2s,mb5.6
CHTO Chiang Mai 93.74 289 *e*P **P 20 11 46.1 +1.8**
CHTO pmax pmax
comp=Z,39nm,1.3s,mb5.7
CHTO Chiang Mai 93.74 289 *e*P **P 20 11 46.1 +1.8**
comp=Z,40nm,1.3s,mb5.7
INK Inuvik 93.82 14 *e*P **P 20 11 43.4 -1.3**
comp=Z,1μm,1.7s
YAK Yakutsk 93.89 337 *e*P **P 20 11 42.6 -2.4**
YAK pmax pmax
comp=Z,19nm,1.9s,mb5.2
YAK Yakutsk 93.89 337 *e*P **P 20 11 42.7 -2.3**
CD2 Chengdu 94.04 301 P **P 20 11 45.5 -0.1**
CD2 AP pP 20 11 50.3 -7.6
CD2 XP sP 20 11 52.6 -10
CD2 PP PP 20 15 34.5 +2.5
CD2 SKS 20 22 18.3
CD2 S S 20 22 52.8 -0.4
CD2 SS SS 20 29 16.3 +2.8
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
CD2 AMB AMB
comp=Z,310nm,6.9s
CD2 LR LR
comp=N,490nm,14.3s,MS5.2
CD2 LR LR
comp=E,450nm,15.7s,MS5.2
CD2 LR LR
comp=Z,530nm,17.5s,MS5.1
YKA Yellowknife Ar 95.47 24 P **P 20 11 51.3 -0.9**
comp=Z,1.9nm,0.9s,mb4.5,baz=233,slow=4.1,SNR=16
YKA PKKP PKKPbc 20 28 46.6 +3.0
comp=Z,0.4nm,0.8s,baz=36,slow=2.5,SNR=3.9
YKA LR LR 20 48 30.6
comp=Z,281nm,20.1s,MS4.7,baz=210,slow=32
YKA Yellowknife Ar 95.47 24 P **P 20 11 51.3 -0.9**
YKA PKKP PKKPbc 20 28 46.6 +3.0
YKA LR LR 20 48 30.6
LZH Lanzhou 95.88 306 *e*P **P 20 11 56.8 +2.7**
LZH AP pP 20 11 59.0 -7.3
LZH XP sP 20 12 01.0 -10
LZH PP PP 20 15 50.9 +4.5
LZH SKS 20 22 30.5
LZH *e*S S 20 23 11.1 +1.9
LZH *e*SS SS 20 29 44.3 +4.5
LZH AMB AMB
comp=Z,35nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,103nm,5.0s
LZH LR LR
comp=N,336nm,17.1s
LZH LR LR
comp=Z,530nm,18.4s,MS5.0
LZH Lanzhou 95.88 306 *e*P **P 20 11 56.7 +2.6**
LZH 20 15 50.9
LZH 20 22 30.5
LZH *e*S S 20 23 11.1 +1.9
LZH *e*SS SS 20 29 44.2 +4.4
LZH pmax pmax
comp=Z,35nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,530nm,18.4s,MS5.0
LZH Lanzhou 95.88 306 *e*P **P 20 11 56.7 +2.6**
comp=Z,35nm,1.5s,mb5.6
LZH pP pP 20 11 59.0 -7.3
LZH sP sP 20 12 01.0 -10
LZH PP PP 20 15 50.9 +4.5
LZH SKS 20 22 30.5
LZH *e*S S 20 23 11.1 +1.9
LZH sS sS 20 23 16.2 -14
LZH *e*SS SS 20 29 44.2 +4.4
LZH LR LR
comp=Z,530nm,18.4s,MS5.0
SONM Songino Array 98.45 318 P **P 20 12 05.6 0.0**
comp=Z,1.8nm,1.2s,mb4.5,baz=101,slow=3.0,SNR=5.2
SONM PP PP 20 16 08.0 +1.8
comp=Z,1.5nm,1.1s,baz=116,slow=6.9,SNR=4.1
LPAZ La Paz 98.60 111 LR LR 20 49 49.0
comp=Z,693nm,18.3s,MS5.2,baz=317,slow=31
ULM Lac du Bonnet 98.71 39 LR LR 20 52 12.1
comp=Z,796nm,18.4s,MS5.2,baz=265,slow=33
GTA Gaotai 100.02 308 *e*P Pdif 20 12 14.8 +2.1
GTA AP 20 12 19.0
GTA XP 20 12 22.1
GTA PP PP 20 16 21.5 +3.4
GTA PPP 20 18 31.3
GTA SKS 20 22 51.9
GTA S Sdif 20 23 44.6 +0.2
GTA XS sS 20 23 52.3 -13
GTA AMB AMB
comp=Z,3.0nm,2.2s
GTA AMB AMB
comp=Z,200nm,9.2s
GTA LR LR
comp=N,575nm,18.3s,MS5.3
GTA LR LR
comp=E,486nm,16.0s,MS5.3
GTA LR LR
comp=Z,455nm,19.9s,MS5.0
TIXI Tiksi 100.12 344 *e*P Pdif 20 12 16.7 +3.6
TIXI *e* 20 22 46.2
TIXI *e* 20 23 41.0
TIXI pmax pmax
comp=Z,3.0nm,1.0s
BLA Blacksburg 105.28 56 *e*P PKiKP 20 16 40.5 -10
ZAL Zalesovo 113.09 321 PKiKP PKiKP 20 17 03.1 -1.5
comp=Z,1.5nm,0.6s,baz=4.8,slow=2.1,SNR=5.8
NVS Novosibirsk 114.05 322 *e*PKIKP PKiKP 20 17 02.2 -4.3
NVS pmax pmax
comp=Z,8.0nm,1.2s
MK31 Makanchi Array 114.10 313 *e*PKIKP PKiKP 20 17 05.3 -1.3
MKAR Makanchi Array 114.10 313 PKP PKiKP 20 17 05.6 -1.0
comp=Z,3.0nm,0.8s,baz=72,slow=4.0,SNR=18
MKAR PKKPab PKKPab 20 27 52.3 -1.8
comp=Z,1.0nm,1.0s,baz=262,slow=4.6,SNR=3.6
KURK Kurchatov 116.74 317 *e*PKIKP PKPdf 20 17 09.9 -1.7
KURK *e* 20 17 20.5
TKM2 Tokmak 2 118.57 308 P PKPdf 20 17 15.6 +0.4
SNR=6.6
KBK Karagaybulak 119.04 308 P PKPdf 20 17 16.3 +0.3
SNR=7.3
UCH Uchtor 119.34 307 P PKPdf 20 17 18.2 +1.6
SNR=10
AAK Ala-Archa 119.37 308 *e*PKIKP PKPdf 20 17 15.8 -0.9
USP Ospenovka 119.39 309 P PKPdf 20 17 17.1 +0.3
SNR=5.2
EKS2 Erkin-Say 119.90 308 P PKPdf 20 17 18.5 +0.7
SNR=6.1
AML Almayashu 119.94 307 P PKPdf 20 17 18.7 +0.8
SNR=7.7
BRVK Borovoye 121.77 320 *e*PKIKP PKPdf 20 17 20.6 -0.7
SVE Sverdlovsk 126.36 326 *e*PKIKP PKPdf 20 17 29.0 -1.1
BOSA Boshof 127.25 202 PKP PKPdf 20 17 34.1 +2.3
comp=Z,3.4nm,0.9s,baz=168,slow=7.9,SNR=5.4
SOKR Solikamsk 127.26 330 *e*PKIKP PKPdf 20 17 32.1 +0.3
SOKR *e* 20 17 42.1
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 127.58 326 *i* PKIKP PKPdf 20 17 35.6 +3.2
ARU *e* 20 19 29.5
ARU *e* 20 24 38.8
ARU *e*SP SP 20 29 39.2 +4.6
ARU *e*SS SS 20 36 44.8 +3.2
ARCES ARCESS Array B 129.97 351 PKP PKPdf 20 17 36.8 -0.2
comp=Z,5.1nm,0.8s,baz=343,slow=1.6,SNR=7.4
FINES FINESS Array B 137.15 346 PKhKP 20 17 48.5
comp=Z,3.3nm,0.8s,baz=106,slow=14,SNR=4.8
LSZ Lusaka 137.80 213 *e*PKIKP PKPdf 20 17 52.7 +1.0
TSUM Tsumeb 138.45 197 PKP PKPdf 20 17 54.6 +1.8
comp=Z,3.3nm,1.0s,baz=189,slow=3.6,SNR=4.1
OBN Obninsk 138.80 333⇑*i*PKIKP PKPdf 20 17 55.7 +2.2
OBN *e* 20 18 02.7
OBN pmax pmax
comp=Z,28nm,1.6s
OBN MLR MLR
comp=Z,300nm,17.0s,MS5.1
OBN Obninsk 138.80 333 *i* PKP PKPdf 20 17 55.5 +2.0
MAK Makhachkala 138.91 312 *e*PKIKP PKPdf 20 17 57.4 +3.7
MAK *e* 20 20 47.5
MAK pmax pmax
comp=Z,164nm,2.1s
NOA NORSAR Array B 139.77 356 PKP PKPdf 20 17 54.7 -0.6
comp=Z,3.0nm,0.9s,baz=14,slow=4.1,SNR=4.1
VOR Voronezh 139.79 328 PKIKP PKPdf 20 17 54.0 -1.3
VOR pmax pmax
comp=Z,70nm,2.0s
ZEI Tsey 141.46 313 *e*PKIKP PKPdf 20 17 54.0 -4.3
KIV Kislovodsk 141.79 315 *i* PKIKP PKPdf 20 17 59.4 +0.5
KIV *e* 20 20 59.8
KIV *e*SS SS 20 39 27.8 -4.7
KIV pmax pmax
comp=Z,12nm,1.2s
KIV Kislovodsk 141.79 315 *e*PKPdf PKPdf 20 17 59.5 +0.6
KMBO Kilima Mbogo 142.19 238 PKhKP 20 17 57.1
comp=Z,1.9nm,0.7s,baz=35,slow=23,SNR=4.5
KMBO Kilima Mbogo 142.19 238 *e*PKPdf PKPdf 20 17 57.7 -1.9
KMBO *e*PP PP 20 21 05.4 -0.6
MDO Dochfour 142.81 9 *e*P PKPdf 20 18 01.1 +0.4
CUKT Cukurca 143.46 305 *e*P PKPdf 20 17 58.4 -3.5
BHD Baghdad 143.72 298 *e*x x 20 17 58.0
SOC Sochi 143.88 317 *i* PKIKP PKPdf 20 18 01.5 -1.1
SOC *e* 20 21 12.0
SOC *e* 20 25 09.3
SOC *e*SS SS 20 39 54.3 -2.4
SOC *e*SSS 20 45 21.8
SOC pmax pmax
comp=Z,11nm,0.7s
EAB Aberfoyle 144.02 10 *e*P PKPdf 20 18 00.2 -2.6
MSL Mosul 144.12 303 *e*x x 20 18 06.0
SIRT Sirnak 144.28 306 *e*P PKPdf 20 18 03.8 +0.4
ERZM Erzurum 144.29 310 *i* P PKPdf 20 18 00.2 -3.1
EZM Erzurum 144.29 310 *e*P PKPdf 20 18 04.0 +0.6
PGBU Glenifferbraes 144.36 10 *e*P PKPdf 20 18 01.0 -2.5
PGBU AMb AMB 20 18 08.8
comp=Z,38nm,1.5s
SUW Suwalki 144.44 342 *e*PKP PKPdf 20 18 02.3 -1.3
EDI Edinburgh 144.45 9 *e*P PKPdf 20 18 01.1 -2.5
EDI AMb AMB 20 18 08.3
comp=Z,115nm,1.7s
MUD Monsted U'grnd 144.47 357 *i* P PKPdf 20 17 59.9 -3.7
comp=Z,73nm,1.2s
MUD
comp=Z,190nm,17.0s
MUD Monsted U'grnd 144.47 357 *i* PKIKP PKPdf 20 17 59.9 -3.7
MUD pmax pmax
comp=Z,73nm,1.2s
MUD MLR MLR
comp=Z,190nm,17.0s,MS4.9
EAU Auchinoon 144.49 9⇑*e*P PKPdf 20 18 01.8 -1.9
ESY Stoneypath 144.53 8⇑*e*P PKPdf 20 18 01.6 -2.2
EBL Broad Law 144.61 9⇑*e*P PKPdf 20 18 02.0 -1.8
GMK Mull of Kintyr 144.61 11 *e*P PKPdf 20 18 01.8 -2.1
ANN Anapa 144.71 320 *i* PKIKP PKPdf 20 18 02.7 -1.4
ANN pmax pmax
comp=Z,165nm,1.5s
BNGL BINGOL 144.78 309 *i* P PKPdf 20 18 02.1 -2.1
COP Copenhagen 144.97 353 *i* P pPKPdf 20 18 15.4 -1.7
comp=Z,52nm,0.8s
COP
comp=Z,100nm,18.0s
XSO Sourhope Farm 144.99 8⇑*e*P PKPdf 20 18 03.1 -1.5
MACK Trabzon 145.01 312 *i* P PKPbc 20 18 00.2 -3.8
ESK Eskdalemuir 145.03 9 *e*P PKPbc 20 18 03.0 -1.1
ESK AMb AMB 20 18 10.2
comp=Z,48nm,1.5s
ESK Eskdalemuir 145.03 9 *e*PKPdf PKPdf 20 18 02.0 -2.6
AKASG Malin Array Be 145.06 334 PKP PKPdf 20 18 03.4 -1.3
comp=Z,11nm,0.6s,baz=34,slow=4.1,SNR=102
AKBB Malin Array Si 145.06 334 *e*PKIKP PKPdf 20 18 03.0 -1.7
KIEV Kiev 145.07 334 *e*PKIKP PKPdf 20 18 03.3 -1.4
BSD Bornholm Skovb 145.21 351 *i* P PKPbc 20 18 04.5 -0.1
comp=Z,70nm,1.0s
BSD
comp=Z,210nm,19.0s
BSD Bornholm Skovb 145.21 351 *i* PKIKP PKPdf 20 18 04.5 -0.4
BSD pmax pmax
comp=Z,70nm,1.0s
BSD MLR MLR
comp=Z,220nm,19.0s,MS5.0
GAL1 Galloway 145.23 11 P PKPbc 20 18 01.9 -2.8
GAL1 AMb AMB 20 18 11.0
comp=Z,93nm,1.5s
GAL1 Galloway 145.23 11 *e*P PKPbc 20 18 01.8 -2.9
GAL1 ⇑*e*P 20 18 01.9
GAL1 AMb AMB 20 18 11.0
comp=Z,93nm,1.5s
GCD Castle Douglas 145.36 10 *e*P PKPbc 20 18 04.2 -0.9
GUMT Gumushane 145.41 312 *e*P PKPbc 20 18 06.4 +1.2
EZC Erzincan 145.45 310 *e*P PKPbc 20 18 08.1 +2.7
GMM Mts of Mourne 145.59 12 *e*P PKPdf 20 18 04.7 -0.9
MARD Mardin 145.60 306 *i* P PKPdf 20 18 03.1 -2.5
XAL Allendale 145.61 8⇑*e*P PKPdf 20 18 05.1 -0.5
KELT Kelkit 145.69 311 *i* P PKPdf 20 18 03.1 -2.7
CKE Keswick 145.75 9⇑*e*P PKPdf 20 18 05.6 -0.2
XDE Dent Fell 145.78 10 *e*P PKPdf 20 18 06.2 +0.3
GIM North Isle of 145.82 11 *e*P PKPdf 20 18 04.4 -1.6
WIM Isle of Man 145.92 11⇑*e*P PKPdf 20 18 06.2 0.0
PTK Pertek 146.08 309 *e*P PKPdf 20 18 07.4 +1.0
DCN Croghan 146.15 14⇑*i*P PKPdf 20 18 05.0 -1.5
DLF Lyons Farm 146.36 13⇑*i*P PKPdf 20 18 05.6 -1.3
ELZG Elazig 146.53 309 *i* P PKPdf 20 18 07.9 +0.7
GKP Gorka Klasztor 146.57 348 *e*PKP PKPdf 20 18 09.0 +1.8
SIM Simferopol' 146.57 322 *ce*PKIKP PKPdf 20 18 05.7 -1.6
SIM pmax pmax
comp=Z,190nm,9.6s
WCB1 Church Bay 146.68 11 *e*P PKPdf 20 18 08.1 +0.7
YRC Rhoscolyn 146.79 11 *e*P PKPdf 20 18 08.6 +1.0
LHO Holmfirth 146.95 8⇑*e*P PKPdf 20 18 09.4 +1.5
MYA Malataya 147.00 309 *e*P PKPbc 20 18 11.8 +1.8

URFA	**Urfa**	**147.03**	**307**	*e*P	PKPbc	20 18 09.9	-0.2
YRE	**Yr Eifl**	**147.08**	**11**	*e*P	PKPbc	20 18 09.4	-0.9
KBI1	**Birley Grange**	**147.28**	**8**	*e*P	PKPdf	20 18 09.3	+0.9
SBD1	**Bryn Du**	**147.36**	**10⇑**	*e*P	PKPdf	20 18 10.4	+1.9
SVSK	**Karacayir**	**147.36**	**312**	*e*P	PKPbc	20 18 10.6	-0.4
KWE	**Weaver Farm**	**147.46**	**9⇑**	*e*P	PKPbc	20 18 10.5	-0.8
KVT	**Kavak**	**147.47**	**315**	*e*P	PKPbc	20 18 12.7	+1.4
DIKM	**Dikmen**	**147.70**	**316**	*e*P	PKPbc	20 18 11.8	-0.2
LVV	**L'vov**	**147.77**	**338⇓**	*i*PKP2	PKPbc	20 18 12.2	+0.1
HLM1	**Long Mynd**	**147.79**	**10⇑**	*e*P	PKPbc	20 18 11.6	-0.6
KIS	**Kishinev**	**148.00**	**330**	*i* PKP2	PKPbc	20 18 11.0	-1.7
KIS				*e*		20 21 40.0	
KIS	**Kishinev**	**148.00**	**330**	*e*PKIKP	PKPdf	20 18 11.0	+1.4
KIS				*e*SKKS	SKKSac	20 28 30.0	+1.0
KIS				LRM		21 26 58.0	
	comp=Z,600nm,20.0s						
BOYT	**Boyabat**	**148.05**	**316**	*i* P	PKPbc	20 18 12.7	-0.2
MCH1	**Michaelchurch**	**148.28**	**10⇑**	*e*P	PKPbc	20 18 12.5	-1.0
GAZ	**Gaziantep**	**148.32**	**308**	*e*P	PKPbc	20 18 14.9	+1.3
BZK	**Bozkurt**	**148.34**	**318**	*e*P	PKPbc	20 18 15.0	+1.4
KWP	**Kalwaria**	**148.39**	**339**	*e*PKP	PKPbc	20 18 14.6	+0.8
KMRS	**Kahramanmaras**	**148.43**	**308**	*e*P	PKPbc	20 18 13.9	0.0
IAS	**Iasi**	**148.43**	**331**	PKP2	PKPbc	20 18 14.6	+0.7
SSW	**Stow on the Wo**	**148.49**	**9⇑**	*e*P	PKPbc	20 18 13.8	-0.2
CTKT	**Corum**	**148.52**	**315**	*i* P	PKPbc	20 18 12.7	-1.5
OJC	**Ojcow**	**148.77**	**343**	*e*PKP	PKPbc	20 18 14.9	+0.1
CORM	**Corum**	**148.85**	**314**	*e*P	PKPbc	20 18 14.6	-0.4
BALT	**Daday**	**148.96**	**318**	*i* P	PKPdf	20 18 12.7	+1.5
HEX	**Exmoor**	**149.02**	**12⇑**	*e*P	PKPbc	20 18 14.5	-0.9
WTSB	**Winterswijk**	**149.04**	**359**	*e*PKiKP	PKiKP	20 18 15.4	-1.3
STHS	**Stebnicka Huta**	**149.05**	**340**	*e*PKP	PKPbc	20 18 16.6	+1.1
KSP	**Ksiaz**	**149.05**	**347**	*e*PKP	PKPbc	20 18 16.5	+1.0
KSP	**Ksiaz**	**149.05**	**347**	*e*PKP	PKPbc	20 18 15.9	+0.4
KSP				*ep*PKP	pPKPdf	20 18 20.2	-3.7
KSP				*e*SS	SS	20 41 06.0	+11
BURAR	**Bucovina Array**	**149.12**	**334**	PKP2	PKPbc	20 18 17.4	+1.8
BURAR	**Bucovina Array**	**149.12**	**334⇑**	*i*P	PKPbc	20 18 16.3	+0.7
KOLS	**Kolonicke sedl**	**149.13**	**339**	*e*PKP	PKPbc	20 18 16.4	+0.7
CLL	**Collm**	**149.19**	**351⇑**	*i*PKPbc	PKPbc	20 18 15.9	+0.1
	comp=Z,55nm,1.1s						
CLL				*e*PKPab	PKPab	20 18 20.1	-0.2
CLL				*e*		20 18 26.3	
CLL				*e*L		21 41 40.1	
	comp=Z,366nm,18.0s						
CLL	**Collm**	**149.19**	**351⇑**	*i*PKP	PKPdf	20 18 15.9	+4.3
CLL				*i* PKP	PKPdf	20 18 18.9	+7.3
CLL				*i*		20 18 26.3	
CLL				LR	LR		
	comp=Z,500nm,24.1s,MS5.2						
CLL	**Collm**	**149.19**	**351⇑**	*i*PKPbc	PKPbc	20 18 15.9	+0.1
	comp=Z,54nm,1.1s						
CLL				*i* PKPab	PKPab	20 18 18.9	-1.4
	comp=Z,171nm,1.8s						
CLL				*i* sPKPab		20 18 26.3	
KOZT	**Kozan**	**149.22**	**309**	*e*P	PKPbc	20 18 15.8	-0.1
COBT	**Iskenderun**	**149.28**	**307**	*i* P	PKPbc	20 18 14.6	-1.5
CDAG	**Cicekdag**	**149.29**	**314**	*i* P	PKPdf	20 18 10.7	-1.0
NIE	**Niedzica**	**149.34**	**341**	*i* PKPc	PKPbc	20 18 17.2	+1.0
AVNT	**Avonos**	**149.35**	**312**	*i* P	PKPbc	20 18 15.5	-0.7
UZH	**Uzhgorod**	**149.38**	**338**	*d*PKP2	PKPbc	20 18 17.0	+0.7
CRVS	**Cervenica-Dubn**	**149.43**	**339**	*e*PKP	PKPbc	20 18 17.6	+1.2
UPC	**Upice**	**149.43**	**347⇑**	*e*PKP	PKPbc	20 18 17.4	+1.0
BRG	**Berggiesshubel**	**149.47**	**350**	*i* PKP	PKPbc	20 18 17.0	+0.5
	comp=Z,30nm,1.2s						
BRG				*i*		20 18 27.6	
	comp=Z,46nm,1.1s						
BRG				SS	SS	20 41 12.0	+12
BRG							
	comp=N,125nm,16.6s						
BRG							
	comp=E,116nm,22.9s						
BRG							
	comp=Z,280nm,22.7s						
BRG	**Berggiesshubel**	**149.47**	**350**	*i* PKP2	PKPbc	20 18 17.0	+0.5
BRG				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BRG				pmax	pmax		
	comp=Z,31nm,1.1s						
BRG				MLR	MLR		
	comp=N,46μm,16.6s						
BRG				MLR	MLR		
	comp=E,125nm,22.9s						
BRG				MLR	MLR		
	comp=Z,116nm,22.7s						
CEYT	**Ceyhan**	**149.47**	**308**	*e*P	PKPbc	20 18 17.5	+1.0
ELDT	**Eldivan**	**149.48**	**316**	*i* P	PKPbc	20 18 16.5	-0.1
DPC	**Dobruska-Polom**	**149.51**	**347**	*e*PKPDF	PKPdf	20 18 12.5	+0.4
DPC				⇑*e*PKP	PKPdf	20 18 17.5	+5.4
DPC				AMS	AMS	21 34 30.0	
	comp=Z,500nm,14.9s						
OKC	**Ostrava-Krasne**	**149.56**	**344⇑**	*e*PKP	PKPbc	20 18 17.2	+0.5
OKC				AMS	AMS	21 28 10.0	
	comp=Z,400nm,22.2s						
PVCC	**Panska Ves**	**149.69**	**349⇑**	*e*PKP	PKPbc	20 18 17.9	+0.8
PVCC				*ep*PKP	pPKPdf	20 18 27.9	+2.9
PVCC				AMS	AMS	21 35 10.0	
	comp=Z,500nm,15.8s						
BR131	**Keskin Array S**	**149.73**	**314**	*e*PKPdf	PKPdf	20 18 12.6	+0.2
BR131				*e*PKPbc	PKPbc	20 18 17.6	+0.5
BRTR	**Keskin Array B**	**149.73**	**314**	PKPbc	PKPbc	20 18 17.6	+0.5
	comp=Z,19nm,0.9s,baz=131,slow=2.0,SNR=75						
MORC	**Moravsky Berou**	**149.77**	**345**	PKP2	PKPbc	20 18 18.4	+1.2
MORC	**Moravsky Berou**	**149.77**	**345⇓**	*i*P	PKPbc	20 18 16.1	-1.1
VRI	**Vrincioaia**	**149.81**	**330**	PKP2	PKPbc	20 18 18.1	+0.8
VRI	**Vrincioaia**	**149.81**	**330⇓**	*i*P	PKPbc	20 18 18.2	+0.9
KARA	**Karaisali**	**149.87**	**309**	*e*P	PKPbc	20 18 17.2	-0.3
MOX	**Moxa**	**150.02**	**353**	*e*PKP	PKPbc	20 18 18.0	+0.1
	comp=Z,121nm,1.8s						
MOX				*e*		20 18 28.8	
MOX							
	comp=Z,300nm,17.0s						
KECS	**Kecovo**	**150.11**	**340**	*e*PKP	PKPbc	20 18 18.8	+0.7
ASF	**Jabal al Asfar**	**150.12**	**298**	PKPbc	PKPbc	20 18 19.5	+1.4
	comp=Z,16nm,1.0s,baz=318,slow=0.8,SNR=20						
PRA	**Prague**	**150.15**	**349**	⇑PKP	PKPbc	20 18 19.0	+0.8
PRA				*ex*	x	20 18 24.0	
UCC	**Uccle**	**150.20**	**2**	PKPbc	PKPbc	20 18 18.4	+0.1
UCC				PKPab	PKPab	20 18 29.1	+4.6
PRU	**Pruhonice**	**150.21**	**349⇑**	*e*PKP	PKPbc	20 18 19.1	+0.8
PRU				*ep*PKP	pPKPdf	20 18 29.4	+3.6
PRU				AMS	AMS	21 33 00.0	
	comp=Z,500nm,19.3s						
ANTO	**Ankara**	**150.22**	**315**	*e*PKHKP	PKPdf	20 18 14.1	+0.9
ANTO				*e*		20 18 19.2	
ANTO	**Ankara**	**150.22**	**315⇑**	*i*P	PKPbc	20 18 19.5	+1.2
HGN	**Heimansgroeve**	**150.26**	**360**	*e*PKiKP	PKiKP	20 18 17.7	-1.5
	comp=Z,30nm,1.1s						
NKC	**Novy Kostel**	**150.32**	**351⇑**	*e*PKP	PKPbc	20 18 19.1	+0.5
NKC				*ep*PKP	pPKPdf	20 18 29.8	+3.8
NKC				AMS	AMS	21 32 30.0	
	comp=Z,400nm,14.8s						
SGKT	**Sivrigoynuk**	**150.32**	**317**	*i* P	PKPdf	20 18 15.5	+2.2
MEM	**Membach**	**150.41**	**360**	PKPbc	PKPbc	20 18 18.9	+0.2
MEM				PKPab	PKPab	20 18 29.5	+4.2
MERS	**Mersin**	**150.42**	**309**	*e*P	PKPbc	20 18 18.5	-0.3
VRAC	**Vranov**	**150.43**	**346⇑**	*i*P	PKPbc	20 18 19.4	+0.6
MLR	**Muntele Rosu**	**150.45**	**331**	PKIKP	PKPbc	20 18 19.2	+0.3
MLR	**Muntele Rosu**	**150.45**	**331⇓**	*i*P	PKPbc	20 18 19.6	+0.7
SNF	**Seneffe**	**150.49**	**2**	PKPbc	PKPbc	20 18 19.6	+0.7
SNF				PKPab	PKPab	20 18 28.2	+2.6
VYHS	**Vyhne**	**150.60**	**342**	*e*PKP	PKPbc	20 18 19.8	+0.6
BHL	**Bhannes**	**150.64**	**302**	*e*P	PKPbc	20 18 20.6	+1.3
TREC	**Trest**	**150.69**	**347⇑**	*e*PKP	PKPbc	20 18 19.9	+0.5
TREC				*ep*PKP	pPKPdf	20 18 30.6	+4.1
TREC				AMS	AMS	21 34 00.0	
	comp=Z,500nm,18.5s						
DRGR		**150.78**	**336⇓**	*i*P	PKPbc	20 18 20.4	+0.7
PSZ	**Piszkesteto**	**150.79**	**340⇑**	*i*P	PKPbc	20 18 20.0	+0.3
PSZ	**Piszkesteto**	**150.79**	**340⇑**	*ep*PKP	PKPbc	20 18 20.2	+0.5
GIVF	**Givet**	**150.91**	**1⇑**	*i*PKP1	PKPbc	20 18 20.2	+0.2
	comp=Z,168nm,1.1s						
DOU	**Dourbes**	**150.91**	**2**	PKPbc	PKPbc	20 18 20.0	0.0
DOU				PKPab	PKPab	20 18 30.7	+3.4
BAIF	**Baives**	**150.94**	**2⇑**	*i*PKP1	PKPbc	20 18 20.4	+0.4
	comp=Z,240nm,1.4s						
SMOL	**Smolenice**	**150.96**	**344**	*e*PKP	PKPbc	20 18 21.4	+1.3
GRA1	**Grafenberg Arr**	**151.01**	**353**	*e*PKPbc	PKPbc	20 18 20.6	+0.4
GRF	**Grafenberg Arr**	**151.01**	**353**	*e*PKPbc	PKPbc	20 18 20.6	+0.4
GRFO	**Grafenberg**	**151.01**	**353**	*e*PKPbc	PKPbc	20 18 20.1	-0.1
KHC	**Kasperske Hory**	**151.21**	**349**	*e*PKPDF	PKPdf	20 18 15.1	+0.4
KHC				⇑*e*PKP	PKPdf	20 18 21.3	+6.6
KHC				*ep*PKP	pPKPdf	20 18 24.5	-2.8
KHC				*ex*	x	20 18 32.0	
KHC				AMS	AMS	21 35 30.0	
	comp=Z,400nm,16.0s						
KHC	**Kasperske Hory**	**151.21**	**349**	*e*PKIKP	PKPdf	20 18 15.1	+0.4
KHC				*e*		20 18 21.3	
KHC				*e*		20 18 24.5	
KHC				MLR	MLR		
	comp=Z,400nm,16.0s,MS5.3						
ZST	**Bratislava**	**151.34**	**344**	*e*PKP	PKPbc	20 18 22.1	+1.1
ZST				LR	LR		
	comp=Z,300nm,19.7s,MS5.1						
WLF	**Walferdange**	**151.36**	**360**	PKPbc	PKPbc	20 18 20.7	-0.4
WLF				PKPab	PKPab	20 18 32.1	+2.9
BUD	**Budapest**	**151.45**	**341⇓**	*ep*PKP	PKPbc	20 18 22.2	+1.0
GEC2	**GERESS Array S**	**151.46**	**349**	*e*PKPbc	PKPbc	20 18 21.1	-0.1
GERES	**GERESS Array B**	**151.46**	**349**	PKP	PKPdf	20 18 14.2	-0.9
	comp=Z,0.4nm,0.7s,baz=282,slow=2.6,SNR=4.3						
GERES				PKPbc	PKPbc	20 18 20.7	-0.5
	comp=Z,9.7nm,0.9s,baz=45,slow=2.1,SNR=44						
ROSF	**Rostrenen**	**151.73**	**13**	*e*PKP1	PKPbc	20 18 21.2	-0.7
	comp=Z,110nm,1.5s						
FLN	**La Foliniere**	**151.81**	**9⇑**	*i*PKP1	PKPbc	20 18 21.9	-0.1
	comp=Z,193nm,1.3s						
FLN				*e*MLR			
	comp=Z,396nm,20.5s						
CONA	**Conrad Observa**	**151.89**	**346⇑**	*i*PKiKP	PKiKP	20 18 23.1	+0.5
	comp=Z,26nm,0.9s,SNR=14						
SGMF	**Saint Gilles**	**151.95**	**12⇑**	*i*PKP1	PKPbc	20 18 22.0	-0.4
SOP	**Sopron**	**151.95**	**344⇑**	*ep*PKP	PKPbc	20 18 23.0	+0.6
LANF	**Langenberg**	**152.00**	**357**	PKP	PKPbc	20 18 23.1	+0.6
LDF	**La Druitiere**	**152.02**	**8⇑**	*i*PKP1	PKPbc	20 18 22.2	-0.3
	comp=Z,187nm,1.4s						
GRR	**Gorron**	**152.12**	**9⇑**	*i*PKP1	PKPbc	20 18 22.5	-0.2
	comp=Z,72nm,1.0s						
QUIF	**Quistinic**	**152.15**	**13**	*e*PKP1	PKPbc	20 18 22.4	-0.4
	comp=Z,409nm,1.8s						
EIL	**Elat**	**152.31**	**294**	*e*PKPbc	PKPbc	20 18 22.6	-0.6
MOA	**Molln**	**152.31**	**348⇑**	*i*P	PKPbc	20 18 23.4	+0.2
	comp=Z,22nm,1.0s,SNR=8.0						
ULDT	**Uludag**	**152.40**	**319**	*i* P	PKPbc	20 18 21.3	-2.1
MEZF	**Maizieres J'vi**	**152.51**	**1⇑**	*i*PKP1	PKPbc	20 18 24.1	+0.5
	comp=Z,70nm,1.0s						
CDF	**Champ du Feu**	**152.59**	**358⇑**	*i*PKP1	PKPbc	20 18 24.0	+0.2
	comp=Z,114nm,1.4s						
ARSA	**Arzberg**	**152.61**	**345⇑**	*i*P	PKPbc	20 18 24.7	+0.9
	comp=Z,15nm,1.4s						
BFO	**Black Forest**	**152.62**	**356**	*e*PKIKP	PKPdf	20 18 17.5	+0.7
BFO				*e*		20 18 23.6	
ECH	**Echery**	**152.78**	**358**	PKP	PKPbc	20 18 22.9	-1.3
THEF	**They Montfort**	**152.80**	**360**	PKP	PKPbc	20 18 24.6	+0.3
HAU	**Haudompre**	**153.01**	**359⇑**	*i*PKP1	PKPbc	20 18 24.9	+0.2
	comp=Z,36nm,1.0s						
HAU				*e*MLR			
	comp=Z,450nm,19.0s						
MOF	**Molkenrain**	**153.15**	**358**	PKP	PKPbc	20 18 25.3	+0.3
HINF	**Hinteralfeld**	**153.19**	**358**	*e*PKP1	PKPbc	20 18 25.0	-0.1
	comp=Z,53nm,1.4s						
KBA	**Koelnbreinsper**	**153.23**	**348⇑**	*i*P	PKPbc	20 18 25.9	+0.7
	comp=Z,20nm,0.9s						
KBA	**Koelnbreinsper**	**153.23**	**348⇑**	*i*P	PKPbc	20 18 25.9	+0.7
RETA	**Reutte**	**153.23**	**352⇓**	*i*PKiKP	PKiKP	20 18 25.8	+0.4
	comp=Z,8.5nm,1.3s						
RETA				⇑*i*PKPab	PKPab	20 18 36.4	-0.7
	comp=Z,35nm,1.2s						
WATA	**Walderalm**	**153.27**	**351⇑**	*i*P	PKPbc	20 18 24.8	-0.5
	comp=Z,14nm,1.0s						
PERS	**Pernice**	**153.28**	**346**	*e*PKP	PKPbc	20 18 25.6	+0.3
MOTA	**Moosalm**	**153.33**	**352⇑**	*i*	PKPab	20 18 36.6	-0.9
	comp=Z,20nm,0.9s						
MOTA	**Moosalm**	**153.33**	**352⇑**	*i*	PKPab	20 18 43.6	+6.1
	comp=Z,27nm,1.2s						
MOTA	**Moosalm**	**153.33**	**352⇑**	*i*PKPbc	PKPbc	20 18 24.5	-0.9
	comp=Z,15nm,1.0s,SNR=5.5						
MOTA				⇑*i*PKPab	PKPab	20 18 36.6	-0.9
	comp=Z,20nm,0.9s						
MOTA	**Moosalm**	**153.33**	**352⇑**	*i*P	PKPbc	20 18 24.5	-0.9
MOTA				*i*		20 18 36.6	
MOTA				*i*		20 18 43.6	
WTTA	**Wattenberg**	**153.33**	**351⇑**	*i*	PKPbc	20 18 25.9	+0.4
	comp=Z,20nm,1.1s						
WTTA	**Wattenberg**	**153.33**	**351⇑**	*i*	PKPab	20 18 36.9	-0.7
	comp=Z,46nm,1.5s						
WTTA	**Wattenberg**	**153.33**	**351⇑**	*i*PKPdf	PKPdf	20 18 18.8	+0.9
	comp=Z,17nm,2.0s						
WTTA				⇑*i*PKiKP	PKiKP	20 18 25.9	+0.3
	comp=Z,20nm,1.1s						
WTTA				⇑*i*PKPab	PKPab	20 18 36.9	-0.7
	comp=Z,46nm,1.5s						
SQTA	**Sankt Quirin**	**153.44**	**352⇑**	*i*	PKPbc	20 18 26.6	+0.9
	comp=Z,9.9nm,0.9s						
SQTA	**Sankt Quirin**	**153.44**	**352⇑**	*i*PKPdf	PKPdf	20 18 17.3	-0.7
	comp=Z,1.9nm,0.6s						
SQTA				⇑*i*PKiKP	PKiKP	20 18 26.6	+0.8
	comp=Z,9.9nm,0.9s						
DAVA	**Damuels**	**153.53**	**354⇑**	*i*	PKPab	20 18 37.3	-1.1
	comp=Z,30nm,1.1s						
DAVA	**Damuels**	**153.53**	**354⇑**	*i*PKiKP	PKiKP	20 18 27.3	+1.3
	comp=Z,12nm,1.1s						
DAVA				⇑*i*PKPab	PKPab	20 18 37.3	-1.1
	comp=Z,30nm,1.1s						
FETA	**Feichten**	**153.69**	**352⇑**	*i*PKiKP	PKiKP	20 18 27.5	+1.2
	comp=Z,27nm,1.9s						
ABTA	**Abfaltersbach**	**153.70**	**350⇑**	*i*PKPdf	PKPdf	20 18 18.9	+0.5
	comp=Z,9.5nm,1.3s						
ABTA				⇓*i*PKiKP	PKiKP	20 18 26.3	0.0
	comp=Z,14nm,1.0s						
ABTA				⇑*i*PKPab	PKPab	20 18 37.1	-2.0
	comp=Z,48nm,1.2s						
LOR	**Lormes**	**153.71**	**3⇑**	*i*PKP1	PKPbc	20 18 26.6	+0.3
	comp=Z,98nm,1.4s						
LOR				*e*MLR			
	comp=Z,564nm,20.0s						
GCIS	**Gornji Cirnik**	**153.88**	**344**	*e*PKP	PKPbc	20 18 27.4	+0.7
SSF	**Saint Saulge**	**153.90**	**4⇑**	*i*PKP1	PKPbc	20 18 26.9	+0.2
	comp=Z,70nm,1.2s						
MFF	**Saint Martin d**	**153.97**	**9**	*e*PKP1	PKPbc	20 18 26.7	-0.1
	comp=Z,113nm,1.6s						
LJU	**Ljubljana**	**153.98**	**346**	*e*PKP	PKPbc	20 18 27.5	+0.6
DIVS	**Divcibare**	**154.08**	**336⇑**	*i*PKP	PKPbc	20 18 27.7	+0.6
AVF	**Avril sur Loir**	**154.16**	**4**	*e*PKP1	PKPbc	20 18 27.1	-0.1
	comp=Z,48nm,1.4s						
SMF	**Signal de Mont**	**154.33**	**3**	*e*PKP1	PKPbc	20 18 27.6	0.0
	comp=Z,57nm,1.4s						
BGF	**Bois d'Agland**	**154.35**	**5**	*e*PKP1	PKPbc	20 18 27.7	+0.1
CABF	**La Chapelle**	**154.41**	**360**	*e*PKP1	PKPbc	20 18 28.7	+0.9
	comp=Z,72nm,1.2s						
TCF	**Toulx Ste Croi**	**154.57**	**6**	*e*PKP1	PKPbc	20 18 27.9	-0.2
	comp=Z,84nm,1.6s						
ESDC	**Sonseca Array**	**159.56**	**22**	PKP	PKPdf	20 18 23.8	-2.2
	comp=Z,0.2nm,0.4s,baz=62,slow=38,SNR=3.6						
ESDC	**Sonseca Array**	**159.56**	**22**	PKP	PKPdf	20 18 23.8	-2.2
LIC	**Lamto**	**161.99**	**143**	*e*PKIKP	PKPdf	20 18 35.3	+6.7
	comp=Z,68nm,1.6s						
LIC				*e*MLR			
	comp=Z,609nm,17.2s						
TOA0	**Torodi Ar. Sit**	**171.30**	**153**	*e*PKPdf	PKPdf	20 18 35.4	-0.3
TORD	**Torodi Ar. Bea**	**171.30**	**153**	PKP	PKPdf	20 18 35.5	-0.2
	comp=Z,1.1nm,0.9s,baz=224,slow=1.4,SNR=5.1						
TORD				PKPab	PKPab	20 19 56.6	+0.6
	comp=Z,3.8nm,0.7s,baz=213,slow=3.6,SNR=12						
TORD				PP	PP	20 23 52.0	+5.4
	comp=Z,1.0nm,0.9s,baz=172,slow=4.2,SNR=4.4						

ISCJB ***19*** *20:10:22.6±0.3, 4569N±001×696E±003, h15km±3km, Error ellipse: s-maj=3.7km s-min=2.5km az=14.1*
STR ***19*** *20:10:23.8±0.8, 4564N×702E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
GEN ***19*** *20:10:23.7, 4570N×704E, h8km, ML2.0*
LDG ***19*** *20:10:23.3±0.1, 4567N×709E, h2km, Md2.7/2, Ml2.5/13, Error ellipse: s-maj=1.8km s-min=1.1km az=107.0*
CSEM ***19*** *20:10:23.3±0.1, 4566N×709E, h8km, ML2.5/12, Error ellipse: s-maj=2.1km s-min=1.4km az=90.0*
NEIC ***19*** *20:10:23.3, 4567N×709E, h2km, ML2.4(STR), ML2.5(LDG), After LDG.*
ZUR ***19*** *20:10:24.4, 4572N×7.10E, h7km±3km, ML1.9/8*
ISC 19 20:10:23.0±0.3, 4568N±001×703E±003, h15km±3km, n51, σ0.78/97, 4C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSD	**Ceresole Reale**	**0.24**	**159**	P	**Pg**	**20 10 29.0**	**+0.8**
LPL	**La Plagne**	**0.27**	**233**	*e*Pg	**Pg**	**20 10 29.6**	**+0.9**
LPL				*e*Sg	**Sg**	**20 10 33.1**	**+0.5**
	114nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.27**	**233**	*e*Pg	**Pg**	**20 10 29.6**	**+0.9**
LPL				*e*Sg	**Sg**	**20 10 33.1**	**+0.5**
	57nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.27**	**228**	*e*Pg	**Pg**	**20 10 29.7**	**+1.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**20 10 33.3**	**+0.7**
	109nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.27**	**228**	*e*Pg	**Pg**	**20 10 29.7**	**+1.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**20 10 33.3**	**+0.7**
	54nm,0.2s,SNR=1.0						
RSL	**Roselend**	**0.29**	**272**	Pg	**Pg**	**20 10 29.7**	**+0.6**
RSL				Sg	**Sg**	**20 10 33.6**	**+0.5**
EMV	**Vieux Emosson**	**0.40**	**346⇑**	*i*Pg	**Pg**	**20 10 31.5**	**+0.5**
	232nm,0.4s						
EMV				*i* Sg	**Sg**	**20 10 36.4**	**0.0**
	232nm,0.4s						
SALAN	**Lac Salanfe**	**0.47**	**355⇑**	*i*Pg	**Pg**	**20 10 32.8**	**+0.5**
	36nm,0.2s						
SALAN				*i* Sg	**Sg**	**20 10 38.6**	**0.0**
	36nm,0.2s						
DIX	**Grande Dixence**	**0.48**	**33⇓**	*i*Pg	**Pg**	**20 10 32.8**	**+0.2**
	259nm,2.0s						
TRAV		**0.53**	**108**	P	**Pg**	**20 10 33.8**	**+0.4**
RSP	**Reno Superiore**	**0.55**	**163**	P	**Pg**	**20 10 34.6**	**+0.8**
GRYON	**Gryon**	**0.57**	**5**	*i* Pg	**Pg**	**20 10 34.8**	**+0.5**
	76nm,0.1s						
GRYON				*i* Sg	**Sg**	**20 10 41.9**	**-0.1**
	76nm,0.1s						
AIGLE	**Aigle**	**0.67**	**355⇑**	*i*Pg	**Pg**	**20 10 36.5**	**+0.5**
	94nm,0.5s						
AIGLE				*i* Sg	**Sg**	**20 10 44.8**	**-0.1**
	94nm,0.5s						
ORX	**Oropa**	**0.67**	**94**	P	**Pg**	**20 10 36.2**	**+0.2**
MMK	**Mattmark**	**0.75**	**60**	*i* Sg	**Pg**	**20 10 37.2**	**-0.4**
	76nm,0.3s						
MMK	**Mattmark**	**0.75**	**60⇑**	*i*Pg	**Sg**	**20 10 46.4**	**-1.1**
	76nm,0.3s						
RRL	**Cesana Torines**	**0.78**	**193**	P	**Pg**	**20 10 38.7**	**+0.6**
OG22	**Abries**	**0.86**	**184**	Pn	**Pn**	**20 10 40.0**	**-0.6**
OG22				Sg	**Sg**	**20 10 51.0**	**+0.1**
MBDF	**Montbardon**	**0.97**	**191**	*e*Pg	**Pg**	**20 10 41.5**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**20 10 53.5**	**-0.9**
	16nm,0.2s,SNR=1.0						
MBDF				*e*Sn	**Sn**	**20 10 55.3**	**-0.3**
	SNR=1.0						
MBDF	**Montbardon**	**0.97**	**191**	*e*Pg	**Pg**	**20 10 41.5**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**20 10 53.5**	**-0.9**
	8.2nm,0.2s,SNR=1.0						
MBDF				*e*Sn	**Sn**	**20 10 55.3**	**-0.3**
	SNR=1.0						
GIMEL	**Gimel**	**1.01**	**328⇓**	*i*P	**Pb**	**20 10 43.4**	**+1.2**
	3.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.11**	**227**	*e*Pg	**Pg**	**20 10 45.0**	**+0.5**
ORIF				*e*Sg	**Sg**	**20 10 58.5**	**-0.6**
	19nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.11**	**227**	*e*Pg	**Pg**	**20 10 45.0**	**+0.5**
ORIF				*e*Sg	**Sg**	**20 10 58.5**	**-0.6**
	9.6nm,

VHO	**Vista Hermosa**	**1.75 359**	*i* P	Pn	20 12 30.2	-1.4
VHO			*i* S	Sn	20 12 49.6	-3.5
OXX	**Oaxaca**	**1.76 360**	*i* P	Pn	20 12 30.0	-1.7
OXX			*i* S	Sn	20 12 49.5	-3.7
CMIG	**Matias Romero**	**2.50 45**	*e*P	Pn	20 12 39.2	-2.6
CMIG			*i* S	Sn	20 13 09.1	-2.3
CMIG	**Matias Romero**	**2.50 45**	*e*P	Pn	20 12 39.2	-2.6
CMIG			*i* S	Sn	20 13 10.1	-1.3
UTMO	**Huajuapan**	**2.71 338**	*i* P	Pn	20 12 44.5	-0.3
UTMO			*i* S	Sn	20 13 13.6	-3.1
TPIG	**Tehuac#an**	**3.15 349**	*i* S	Sn	20 13 25.0	-2.6

IDC 19 20:21:31.2±2.4, 672S×12974E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/15, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=98.6km s-min=29.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.00**	**199**	Pn	Pn	20 24 23.8	+0.3
	0.4nm,0.3s,baz=26,slow=13,SNR=12						
FITZ				Sn	Sn	20 26 27.0	-11
	0.2nm,0.3s,baz=114,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	Pn	20 24 48.3	-0.9
	0.1nm,0.3s,baz=335,slow=14,SNR=4.4						
WRA				Sn	Sn	20 27 09.1	-15
	0.4nm,0.3s,baz=331,slow=24,SNR=9.8						
ASAR	**Alice Springs**	**17.32**	**167**	P	Pn	20 25 35.4	+1.0
	0.1nm,0.3s,baz=340,slow=8.5,SNR=5.3						
ASAR				S	Sn	20 28 36.2	-11
	0.1nm,0.3s,baz=345,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	20 32 31.4	+0.2
	0.2nm,0.4s,baz=134,slow=6.7,SNR=4.6						

*NEIC **19** 20:34:11.7, 17.19N×95.23W, h123km, MD3.6(MEX), After MEX.*

MEX 19 20:34:11.7±0.9, 1719N×9523W, h123km±13km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.34**	**107**	*i* P	Pn	20 34 28.4	-0.8
CMIG				*i* S	Sn	20 34 40.4	-1.9
TUIG	**Tuzandepetl**	**1.14**	**42**	*e*P	Pn	20 34 33.3	-2.1
TUIG				*i* S	Sn	20 34 51.1	-2.2
VHO	**Vista Hermosa**	**1.44**	**266**	*i* P	Pn	20 34 38.2	-0.4
VHO				*i* S	Sn	20 34 57.5	-1.6
HUIG	**Huatulco**	**1.65**	**211**	*i* P	Pn	20 34 38.7	-2.3
HUIG				*i* S	Sn	20 35 00.4	-3.0
UTMO	**Huajuapan**	**2.54**	**285**	*i* P	Pn	20 34 51.7	-0.4
UTMO				*i* S	Sn	20 35 20.3	-2.8

*ISCJB **19** 20:39:54.3±0.3, 4636N±001×400W±003, h10km, Error ellipse: s-maj=2.7km s-min=2.0km az=28.4*
*CSEM **19** 20:39:54.9±0.2, 4635N×440W, h12km±1km, ML3.7/31, Error ellipse: s-maj=2.9km s-min=2.0km az=126.0*
*NEIC **19** 20:39:58.1, 4646N×426W, h15km, ML3.6(LDG), After LDG.*
*LDG **19** 20:39:58.1±0.1, 4646N×426W, h15km, Ml3.6/35, Error ellipse: s-maj=2.2km s-min=1.5km az=76.0*
*MDD **19** 20:40:00.3±1.8, 4600N×442W, h0km, mb4.0/17, Error ellipse: s-maj=18.2km s-min=8.5km az=4.0*

ISC 19 20:39:55.6±0.3, 4640N±002×415W±003, h10km, n112, σ1§45/252, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**1.66**	**23**	*e*Pg	**Pg**	**20 40 29.7**	**+2.3**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**20 40 44.0**	**-2.1**
QUIF				*e*Sg	**Sg**	**20 40 49.3**	**+0.3**
	154nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**1.66**	**23**	*e*Pn	**Pn**	**20 40 25.2**	**+0.5**
QUIF				*e*Pg	**Pg**	**20 40 29.7**	**+2.3**
QUIF				*e*Sn	**Sn**	**20 40 44.0**	**-2.1**
QUIF				*e*Sg	**Sg**	**20 40 49.3**	**+0.3**
QUIF	**Quistinic**	**1.66**	**23**	*e*Pg	**Pg**	**20 40 29.7**	**+2.3**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**20 40 44.0**	**-2.1**
QUIF				*e*Sg	**Sg**	**20 40 49.3**	**+0.3**
	77nm,0.2s,SNR=1.0						
OLEF	**Ile d'Oleron**	**2.00**	**102**	P	**Pn**	**20 40 36.7**	**+7.3**
OLEF				S	**Sn**	**20 41 04.2**	**+10**
ROSF	**Rostrenen**	**2.03**	**17**	*e*Pg	**Pg**	**20 40 34.7**	**+0.2**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**20 40 52.6**	**-2.6**
ROSF				*e*Sg	**Sg**	**20 41 01.1**	**+0.3**
	125nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**2.03**	**17**	*e*Pn	**Pn**	**20 40 29.2**	**-0.6**
ROSF				*e*Pg	**Pg**	**20 40 34.7**	**+0.2**
ROSF				*e*Sn	**Sn**	**20 40 52.6**	**-2.6**
ROSF				*e*Sg	**Sg**	**20 41 01.1**	**+0.3**
ROSF	**Rostrenen**	**2.03**	**17**	*e*Pg	**Pg**	**20 40 34.7**	**+0.2**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**20 40 52.6**	**-2.6**
ROSF				*e*Sg	**Sg**	**20 41 01.1**	**+0.3**
	62nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**2.15**	**30**	*e*Pg	**Pg**	**20 40 38.2**	**+1.4**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**20 41 04.8**	**+0.2**
	65nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**2.15**	**30**	*e*Pn	**Pn**	**20 40 30.7**	**-0.8**
SGMF				*e*Pg	**Pg**	**20 40 38.2**	**+1.4**
SGMF				*e*Sg	**Sg**	**20 41 04.8**	**+0.2**
SGMF	**Saint Gilles**	**2.15**	**30**	*e*Pg	**Pg**	**20 40 38.2**	**+1.4**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**20 41 04.8**	**+0.2**
	33nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**2.77**	**84**	*e*Pg	**Pg**	**20 40 50.3**	**+1.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**20 41 13.2**	**-0.3**
MFF				*e*Sg	**Sg**	**20 41 26.3**	**+1.7**
	53nm,0.2s						
MFF	**Saint Martin d**	**2.77**	**84**	*e*Pn	**Pn**	**20 40 40.8**	**+0.8**
MFF				*e*Pg	**Pg**	**20 40 50.3**	**+1.6**
MFF				*e*Sn	**Sn**	**20 41 13.2**	**-0.3**
MFF				*e*Sg	**Sg**	**20 41 26.3**	**+1.7**
MFF	**Saint Martin d**	**2.77**	**84**	*e*Pg	**Pg**	**20 40 50.3**	**+1.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**20 41 13.2**	**-0.3**
MFF				*e*Sg	**Sg**	**20 41 26.3**	**+1.7**
	26nm,0.2s						
GRR	**Gorron**	**2.99**	**47**	*e*Pn	**Pn**	**20 40 42.8**	**-0.3**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**20 41 17.5**	**-1.5**
GRR				*e*Sg	**Sg**	**20 41 31.9**	**+0.2**
	37nm,0.2s,SNR=1.0						
GRR	**Gorron**	**2.99**	**47**	*e*Pn	**Pn**	**20 40 42.8**	**-0.3**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**20 41 17.5**	**-1.5**
GRR				*e*Sg	**Sg**	**20 41 31.9**	**+0.2**
	18nm,0.2s,SNR=1.0						
EARI	**Arriondas**	**3.19**	**194**	P	**Pn**	**20 40 44.5**	**-1.2**
	12nm,0.9s,SNR=16						
EARI				S	**Sn**	**20 41 17.5**	**-6.3**
	19nm,0.9s,SNR=7.1						
EARI	**Arriondas**	**3.19**	**194**	P	**Pn**	**20 40 44.5**	**-1.3**
ELAN	**Lanestosa**	**3.21**	**171**	P	**Pn**	**20 40 45.9**	**-0.1**
	3.3nm,0.3s,SNR=37						
ELAN				S	**Sn**	**20 41 18.5**	**-5.8**
	6.9nm,0.3s,SNR=6.6						
ELAN	**Lanestosa**	**3.21**	**171**	P	**Pn**	**20 40 45.9**	**-0.1**
FLN	**La Foliniere**	**3.43**	**45**	*e*Pn	**Pn**	**20 40 49.4**	**+0.3**
	baz=229,SNR=1.0						
FLN	**La Foliniere**	**3.43**	**45**	*e*Pg	**Pg**	**20 41 02.0**	**+0.7**
	baz=231,SNR=1.0						
FLN				*e*Sn	**Sn**	**20 41 26.9**	**-2.8**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**20 41 45.5**	**-0.2**
	49nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**3.43**	**45**	*e*Pn	**Pn**	**20 40 49.4**	**+0.3**
FLN				*e*Pg	**Pg**	**20 41 02.0**	**+0.7**
FLN				*e*Sn	**Sn**	**20 41 26.9**	**-2.8**
FLN				*e*Sg	**Sg**	**20 41 45.5**	**-0.2**
FLN	**La Foliniere**	**3.43**	**45**	*e*Pg	**Pg**	**20 41 02.0**	**+0.7**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**20 41 26.9**	**-2.8**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**20 41 45.5**	**-0.2**
	25nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**3.50**	**50**	*e*Pn	**Pn**	**20 40 50.6**	**+0.5**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**20 41 29.2**	**-2.4**
LDF				*e*Sg	**Sg**	**20 41 49.0**	**+0.9**
	32nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**3.50**	**50**	*e*Pn	**Pn**	**20 40 50.6**	**+0.5**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**20 41 29.2**	**-2.4**
LDF				*e*Sg	**Sg**	**20 41 49.0**	**+0.9**
	16nm,0.3s,SNR=1.0						
EALK	**Alkurruntz**	**3.69**	**148**	P	**Pn**	**20 40 53.8**	**+1.1**
	9.7nm,0.9s,SNR=14						
EALK				S	**Sn**	**20 41 33.4**	**-2.9**
	6.8nm,0.3s,SNR=4.9						
LFF	**La Frestale**	**3.72**	**111**	*e*Pg	**Pg**	**20 41 08.8**	**+1.8**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**20 41 36.9**	**-0.2**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**20 41 58.0**	**+2.8**
	62nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**3.72**	**111**	*e*Pn	**Pn**	**20 40 54.8**	**+1.7**
LFF				*e*Pg	**Pg**	**20 41 08.8**	**+1.8**
LFF				*e*Sn	**Sn**	**20 41 36.9**	**-0.2**
LFF				*e*Sg	**Sg**	**20 41 58.0**	**+2.8**
LFF	**La Frestale**	**3.72**	**111**	*e*Pg	**Pg**	**20 41 08.8**	**+1.8**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**20 41 36.9**	**-0.2**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**20 41 58.0**	**+2.8**
	31nm,0.3s,SNR=1.0						
ELIZ	**Elizondo**	**3.73**	**149**	P	**Pn**	**20 40 54.1**	**+0.9**
	0.9nm,0.1s,SNR=7.9						
ELIZ				S	**Sn**	**20 41 34.4**	**-2.9**
	6.9nm,0.2s,SNR=5.0						
EPON	**Pontenova**	**3.74**	**216**	P	**Pn**	**20 40 51.7**	**-1.7**
	4.7nm,0.3s,SNR=22						
EPON				S	**Sn**	**20 41 28.8**	**-8.7**
	16nm,0.7s,SNR=5.0						
EPON	**Pontenova**	**3.74**	**216**	P	**Pn**	**20 40 51.7**	**-1.7**
SJPF	**Ste Jean**	**3.89**	**147**	*e*Pn	**Pn**	**20 40 55.7**	**+0.3**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**20 41 39.4**	**-1.7**
SJPF				*e*Sg	**Sg**	**20 42 03.8**	**+3.3**
	11nm,0.3s						
SJPF	**Ste Jean**	**3.89**	**147**	*e*Pn	**Pn**	**20 40 55.7**	**+0.3**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**20 41 39.4**	**-1.7**
IUSE	**Utxeti**	**3.92**	**151**	P	**Pn**	**20 40 57.6**	**+1.8**
	1.1nm,0.1s,SNR=7.9						
IUSE				S	**Sn**	**20 41 38.3**	**-3.5**
	0.6nm,0.1s,SNR=7.9						
ECRI	**Cripan**	**3.97**	**162**	P	**Pn**	**20 40 57.9**	**+1.5**
	1.1nm,0.1s,SNR=7.9						
ECRI				S	**Sn**	**20 41 38.4**	**-4.7**
	1.5nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**4.11**	**103**	*e*Pn	**Pn**	**20 40 59.8**	**+1.4**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**20 41 44.5**	**-2.0**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**20 42 09.5**	**+2.0**
	44nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.11**	**103**	*e*Pn	**Pn**	**20 40 59.8**	**+1.4**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**20 41 44.5**	**-2.0**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**20 42 09.5**	**+2.0**
	22nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**4.34**	**143**	*e*Pn	**Pn**	**20 41 03.1**	**+1.6**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**20 41 51.3**	**-0.8**
ETSF				*e*Sg	**Sg**	**20 42 17.8**	**+3.0**
	4.4nm,0.2s						
ETSF	**Etsaut**	**4.34**	**143**	*e*Pn	**Pn**	**20 41 03.1**	**+1.6**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**20 41 51.3**	**-0.8**
TCF	**Toulx Ste Croi**	**4.40**	**89**	*e*Pn	**Pn**	**20 41 02.8**	**+0.3**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**20 41 50.9**	**-2.9**
TCF				*e*Sg	**Sg**	**20 42 18.4**	**+1.4**
	35nm,0.4s						
TCF	**Toulx Ste Croi**	**4.40**	**89**	*e*Pn	**Pn**	**20 41 02.8**	**+0.3**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**20 41 50.9**	**-2.9**
TCF				*e*Sg	**Sg**	**20 42 18.4**	**+1.4**
	18nm,0.4s						
CAF	**Calviac**	**4.60**	**106**	*e*Pg	**Pg**	**20 41 25.9**	**+2.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**20 41 57.1**	**-1.5**
CAF				*e*Sg	**Sg**	**20 42 24.1**	**+0.9**
	20nm,0.2s,SNR=1.0						
CAF	**Calviac**	**4.60**	**106**	*e*Pn	**Pn**	**20 41 06.3**	**+1.2**
CAF				*e*Pg	**Pg**	**20 41 25.9**	**+2.2**
CAF				*e*Sn	**Sn**	**20 41 57.1**	**-1.5**
CAF				*e*Sg	**Sg**	**20 42 24.1**	**+0.9**
CAF	**Calviac**	**4.60**	**106**	*e*Pn	**Pn**	**20 41 06.3**	**+1.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**20 41 57.1**	**-1.5**
CAF				*e*Sg	**Sg**	**20 42 24.1**	**+0.9**
	9.9nm,0.2s,SNR=1.0						
EPF	**Esparros**	**4.64**	**135**	*e*Pn	**Pn**	**20 41 06.9**	**+1.1**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**20 41 57.0**	**-2.7**
EPF				*e*Sg	**Sg**	**20 42 25.6**	**+0.9**
	10nm,0.2s,SNR=1.0						
EPF	**Esparros**	**4.64**	**135**	*e*Pn	**Pn**	**20 41 06.9**	**+1.1**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**20 41 57.0**	**-2.7**
EPF				*e*Sg	**Sg**	**20 42 25.6**	**+0.9**
	5.1nm,0.2s,SNR=1.0						
STS	**Santiago**	**4.71**	**223**	P	**Pn**	**20 41 06.1**	**-0.6**
	51nm,0.2s,SNR=22						
STS				S	**Sn**	**20 41 53.2**	**-8.2**
	4.4nm,0.4s,SNR=4.0						
HYF	**Humbligny**	**4.74**	**77**	*e*Pn	**Pn**	**20 41 07.8**	**+0.7**
HYF				*e*Sg	**Sg**	**20 42 28.4**	**+0.7**
EBIE	**Bielsa**	**4.81**	**139**	P	**Pn**	**20 41 10.4**	**+2.3**
	3.8nm,0.3s,SNR=20						
EBIE				S	**Sn**	**20 42 01.8**	**-2.2**
	6.2nm,0.4s,SNR=5.0						
EBIE	**Bielsa**	**4.81**	**139**	P	**Pn**	**20 41 10.4**	**+2.3**
ECAL	**Calabor**	**4.83**	**204**	P	**Pn**	**20 41 07.0**	**-1.4**
	2.8nm,0.3s,SNR=13						
ECAL				S	**Sn**	**20 41 56.5**	**-7.8**
	4.9nm,0.5s,SNR=5.0						
ECAL	**Calabor**	**4.83**	**204**	P	**Pn**	**20 41 07.0**	**-1.3**
BGF	**Bois d'Agland**	**4.83**	**86**	*e*Pn	**Pn**	**20 41 09.4**	**+1.0**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**20 42 02.0**	**-2.4**
BGF				*e*Sg	**Sg**	**20 42 32.1**	**+1.3**
	85nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.83**	**86**	*e*Pn	**Pn**	**20 41 09.4**	**+1.0**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**20 42 02.0**	**-2.4**
BGF				*e*Sg	**Sg**	**20 42 32.1**	**+1.3**
	42nm,0.4s,SNR=1.0						
EMAZ	**Mazaricos**	**4.87**	**227**	P	**Pn**	**20 41 07.9**	**-1.1**
	4.2nm,0.3s,SNR=29						
EMAZ				S	**Sn**	**20 41 57.2**	**-8.2**
	2.5nm,0.1s,SNR=5.0						
EMAZ	**Mazaricos**	**4.87**	**227**	P	**Pn**	**20 41 07.9**	**-1.0**
AVF	**Avril sur Loir**	**5.18**	**83**	*e*Pn	**Pn**	**20 41 12.9**	**-0.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**20 42 43.7**	**+1.6**
	11nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**5.18**	**83**	*e*Pn	**Pn**	**20 41 12.9**	**-0.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**20 42 43.7**	**+1.6**
	5.4nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**5.30**	**80**	*e*Pn	**Pn**	**20 41 16.4**	**+1.6**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 42 12.6**	**-3.4**
SSF				*e*Sg	**Sg**	**20 42 45.8**	**-0.1**
	19nm,0.4s						
SSF	**Saint Saulge**	**5.30**	**80**	*e*Pn	**Pn**	**20 41 16.4**	**+1.6**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 42 12.6**	**-3.4**
SSF				*e*Sg	**Sg**	**20 42 45.8**	**-0.1**
	9.7nm,0.4s						
ELOB	**Lobios**	**5.33**	**213**	P	**Pn**	**20 41 13.6**	**-1.7**
	1.8nm,0.3s,SNR=20						
ELOB				S	**Sn**	**20 42 08.0**	**-8.8**
	8.4nm,0.8s,SNR=5.0						
ESAC	**San Caprasio**	**5.37**	**149**	P	**Pn**	**20 41 17.7**	**+1.9**
	12nm,0.3s,SNR=4.8						
ESAC				S	**Sn**	**20 42 14.1**	**-3.6**
	1.1nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**5.37**	**149**	P	**Pn**	**20 41 17.7**	**+1.9**
MTLF	**Montolieu**	**5.46**	**122**	*e*Pn	**Pn**	**20 41 17.5**	**+0.5**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**20 42 17.5**	**-2.3**
MTLF				*e*Sg	**Sg**	**20 42 52.0**	**+1.1**
	8.8nm,0.4s						
MTLF	**Montolieu**	**5.46**	**122**	*e*Pn	**Pn**	**20 41 17.5**	**+0.5**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**20 42 17.5**	**-2.3**
MTLF				*e*Sg	**Sg**	**20 42 52.0**	**+1.1**
	4.4nm,0.4s						
SMF	**Signal de Mont**	**5.52**	**85**	*e*Pn	**Pn**	**20 41 19.4**	**+1.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**20 42 18.7**	**-2.6**
SMF				*e*Sg	**Sg**	**20 42 53.2**	**+0.4**
	16nm,0.4s						
SMF	**Signal de Mont**	**5.52**	**85**	*e*Pn	**Pn**	**20 41 19.4**	**+1.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**20 42 18.7**	**-2.6**
SMF				*e*Sg	**Sg**	**20 42 53.2**	**+0.4**
	8.1nm,0.4s						
LOR	**Lormes**	**5.56**	**78**	*e*Pn	**Pn**	**20 41 19.5**	**+1.1**
	baz=256,SNR=1.0						
LOR				*e*Sn	**Sn**	**20 42 19.6**	**-2.8**
LOR				*e*Sg	**Sg**	**20 42 54.8**	**+0.6**
	14nm,0.3s						
LOR	**Lormes**	**5.56**	**78**	*e*Pn	**Pn**	**20 41 19.5**	**+1.1**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**20 42 19.6**	**-2.8**
LOR				*e*Sg	**Sg**	**20 42 54.8**	**+0.6**
	7.2nm,0.3s						
GUD	**Guadarrama**	**5.75**	**180**	P	**Pn**	**20 41 20.9**	**-0.2**
	1.4nm,0.3s,SNR=7.9						
GUD				S	**Sn**	**20 42 21.6**	**-5.5**
	0.5nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.78**	**164**	P	**Pn**	**20 41 22.5**	**+1.1**
	3.1nm,0.8s,SNR=10						
ETOR				S	**Sn**	**20 42 23.6**	**-4.2**
	1.3nm,0.1s,SNR=5.0						
LASF	**Ste Croix**	**6.11**	**109**	*e*Pn	**Pn**	**20 41 26.9**	**+1.0**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**20 43 12.4**	**+0.7**
	13nm,0.5s						
LASF	**Ste Croix**	**6.11**	**109**	*e*Pn	**Pn**	**20 41 26.9**	**+1.0**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**20 43 12.4**	**+0.7**
	6.7nm,0.5s						
EPOB	**Poblet**	**6.30**	**141**	S	**Sn**	**20 42 37.0**	**-3.5**
	0.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**6.33**	**148**	P	**Pn**	**20 41 30.1**	**+1.1**
	0.4nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**20 42 37.1**	**-4.3**
	0.8nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**6.33**	**148**	P	**Pn**	**20 41 30.1**	**+1.1**
VIVF	**Saint-Julien-l**	**6.38**	**101**	*e*Pn	**Pn**	**20 41 30.6**	**+1.0**
VIVF				*e*Sn	**Sn**	**20 42 39.4**	**-3.0**
VIVF				*e*Sg	**Sg**	**20 43 20.3**	**+0.1**
	13nm,0.5s						
VIVF	**Saint-Julien-l**	**6.38**	**101**	*e*Pn	**Pn**	**20 41 30.6**	**+1.0**
VIVF				*e*Sn	**Sn**	**20 42 39.4**	**-3.0**
VIVF				*e*Sg	**Sg**	**20 43 20.3**	**+0.1**
	6.6nm,0.5s						
SFTF	**Sexfontaines**	**6.50**	**71**	*e*Pn	**Pn**	**20 41 31.6**	**+0.3**
	baz=250						
SFTF				*e*Sn	**Sn**	**20 42 41.8**	**-3.8**
SFTF				*e*Sg	**Sg**	**20 43 23.3**	**-1.0**
	10nm,0.4s						
SFTF	**Sexfontaines**	**6.50**	**71**	*e*Pn	**Pn**	**20 41 31.6**	**+0.3**
SFTF				*e*Sn	**Sn**	**20 42 41.8**	**-3.8**
SFTF				*e*Sg	**Sg**	**20 43 23.3**	**-1.0**
	5.1nm,0.4s						
MEZF	**Maizieres J'vi**	**6.58**	**68**	*e*Pn	**Pn**	**20 41 34.4**	**+2.0**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**20 43 25.7**	**-1.2**
	21nm,0.6s						
EMOS	**Mosqueruela**	**6.60**	**155**	P	**Pn**	**20 41 34.2**	**+1.5**
	0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**20 42 42.6**	**-5.3**
	0.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**6.60**	**155**	P	**Pn**	**20 41 34.2**	**+1.6**
BAIF	**Baives**	**6.67**	**54**	*e*Pn	**Pn**	**20 41 33.9**	**+0.2**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**20 42 44.3**	**-5.5**
BAIF				*e*Sg	**Sg**	**20 43 27.4**	**-2.4**
	4.0nm,0.4s						
BAIF	**Baives**	**6.67**	**54**	*e*Pn	**Pn**	**20 41 33.9**	**+0.2**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**20 42 44.3**	**-5.5**
BAIF				*e*Sg	**Sg**	**20 43 27.4**	**-2.4**
	2.0nm,0.4s						
ESDC	**Sonseca Array**	**6.72**	**179**	P	**Pn**	**20 41 33.9**	**-0.5**
	1.1nm,0.2s,baz=358,slow=12,SNR=11						
ESDC				S	**Sn**	**20 42 43.6**	**-7.4**
	0.8nm,0.2s,baz=2.1,slow=23,SNR=15						
ESDC	**Sonseca Array**	**6.72**	**179**	P	**Pn**	**20 41 33.9**	**-0.4**
GIVF	**Givet**	**7.04**	**55**	*e*Pn	**Pn**	**20 41 38.4**	**-0.3**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**20 42 53.8**	**-5.0**
GIVF				*e*Sg	**Sg**	**20 43 39.6**	**-2.0**
	10nm,0.5s						
GIVF	**Givet**	**7.04**	**55**	*e*Pn	**Pn**	**20 41 38.4**	**-0.3**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**20 42 53.8**	**-5.0**
GIVF				*e*Sg	**Sg**	**20 43 39.6**	**-2.0**
	5.2nm,0.5s						
CABF	**La Chapelle**	**7.07**	**85**	*e*Sn	**Sn**	**20 42 56.0**	**-3.5**
CABF				*e*Sg	**Sg**	**20 43 42.4**	**0.0**
	17nm,0.7s						
CABF	**La Chapelle**	**7.07**	**85**	*e*Sn	**Sn**	**20 42 56.0**	**-3.5**
CABF				*e*Sg	**Sg

*NEIC **19** 20:44:34.1±3.1, 2480N×12245E, h13km±20km, mb4.5/21, ML4.9(TAP), Error ellipse: s-maj=8.1km s-min=6.7km az=106.0*
NEIC Recorded [4 TAP] in I-lan; [2 TAP] in Hua-lien and T'ai-pei; [1 TAP] in Nan-t'ou and T'ai-chung Counties.
*ISCJB **19** 20:44:35.9±0.4, 2474N±003×12232E±002, h34km±5km, mb4.5/50, MS3.8/8, Error ellipse: s-maj=5.9km s-min=3.5km az=15.4*
*JMA **19** 20:44:35.5±0.3, 2495N×12243E, h37km, M4.7*
*MOS **19** 20:44:36.0±1.1, 2478N×12221E, h33km, mb4.9/17, Error ellipse: s-maj=11.7km s-min=6.4km az=105.2*

ISC 19 20:44:36.6±0.9, 2473N±003×12233E±002, h28km±7km, n125, σ1§23/134, mb4.5/50, MS3.8/8, 2C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.68**	**114**	P	**Pb**	**20 44 49.1**	**-0.7**
YOJ				S	**Sb**	**20 44 59.0**	**+0.2**
TATO	**Taipei**	**0.80**	**288**	*e*Pn	**Pn**	**20 44 50.5**	**-1.5**
TATO				*e*Sn	**Sn**	**20 45 01.0**	**-2.1**
YHNB	**Yeheng**	**0.87**	**266**	*e*Pn	**Pn**	**20 44 51.8**	**-1.1**
YHNB				*e*Sn	**Sn**	**20 45 02.9**	**-1.8**
NACB	**Ninganchiao**	**0.87**	**230**	*e*Pn	**Pn**	**20 44 52.3**	**-0.7**
NACB				*e*Sn	**Sn**	**20 45 03.6**	**-1.2**
IRIF	**Iriomote-Funau**	**1.33**	**107**	P	**Pn**	**20 44 58.1**	**-1.2**
IRIF				*e*S	**Sn**	**20 45 14.9**	**-1.3**
HATJ	**Hateruma jima**	**1.50**	**116**	P	**Pn**	**20 45 01.4**	**-0.3**
JKRS	**Kuro-shima**	**1.61**	**108**	P	**Pn**	**20 45 02.5**	**-0.6**
JKRS				*e*S	**Sn**	**20 45 22.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.69**	**102**	P	**Pn**	**20 45 02.9**	**-1.3**
JIJ				*e*S	**Sn**	**20 45 23.0**	**-1.9**
JTJ	**Tarama**	**2.16**	**92**	P	**Pn**	**20 45 10.7**	**0.0**
QZH	**Quanzhou**	**3.40**	**274**	P	**Pn**	**20 45 27.0**	**-0.8**
QZH				S	**Sn**	**20 46 05.3**	**-1.9**
QZH				Smax			
	comp=N,1μm,0.8s						
QZH				Smax			
	comp=E,640nm,0.7s						
QZH				LR	LR		
	comp=N,4μm,6.4s						
QZH				LR	LR		
	comp=E,5μm,5.5s						
QZH				LR	LR		
	comp=Z,9μm,8.8s						
JOW	**Kunigami**	**5.75**	**67**	Pn	**Pn**	**20 45 56.5**	**-3.5**
	comp=Z,1.8nm,0.3s,baz=290,slow=16,SNR=2.9						
JNU	**Nakatsue**	**11.21**	**40**	LR	LR	20 51 53.1	
	comp=Z,1000nm,18.9s,baz=92,slow=40						
QIZ	**Qiongzhong**	**12.90**	**246**	P	**Pn**	**20 47 37.9**	**-0.2**
QIZ				S	**Sn**	**20 49 56.4**	**-4.3**
QIZ				AMB	AMB		
	comp=Z,27nm,2.7s						
QIZ				LR	LR		
	comp=N,867nm,11.4s						
QIZ				LR	LR		
	comp=Z,747nm,9.2s						
INCN	**Inchon**	**13.23**	**15**	*e*Pn	**Pn**	**20 47 51.4**	**+8.9**
KSRS	**Korea Array**	**13.55**	**19**	Pn	**Pn**	**20 47 40.0**	**-6.8**
	baz=195,slow=11,SNR=3.0						
KSRS				LR	LR	20 52 55.1	
	comp=Z,387nm,20.2s,baz=189,slow=38						
BJT	**Baijiatuan**	**16.10**	**343**	*e*P	**Pn**	**20 48 21.1**	**+0.2**
BJT				pmax	pmax		
	comp=Z,14nm,1.1s						
BJT	**Baijiatuan**	**16.10**	**343**	*e*P	**Pn**	**20 48 21.1**	**+0.3**
	comp=Z,14nm,1.1s						
BJI	**Beijing**	**16.11**	**343**	*e*P	**Pn**	**20 48 21.6**	**+0.5**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.4s						
BJI				LR	LR		
	comp=Z,190nm,15.1s						
BJI	**Beijing**	**16.11**	**343**	*e*P	**Pn**	**20 48 21.6**	**+0.5**
	comp=Z,8.0nm,1.4s						
CD2	**Chengdu**	**17.54**	**295**	P	**Pn**	**20 48 39.4**	**+0.5**
CD2				AP	pP	20 48 47.3	-0.1
CD2				XP	sP	20 48 51.8	+0.9
CD2				PP		20 48 54.1	
CD2				S	**Sn**	**20 51 48.8**	**-4.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s						
CD2				AMB	AMB		
	comp=Z,210nm,5.4s						
CD2				LR	LR		
	comp=N,860nm,10.3s						
CD2				LR	LR		
	comp=E,730nm,8.3s						
CD2				LR	LR		
	comp=Z,950nm,10.3s						
KMI	**Kunming**	**17.78**	**275**	P	**Pn**	**20 48 45.8**	**+3.9**
KMI				AP	pP	20 48 53.4	+3.4
KMI				XP	sP	20 48 55.9	+2.3
KMI				PP		20 49 00.9	
KMI				PPP		20 49 09.1	
KMI				S	**Sn**	**20 51 57.3**	**-1.9**
KMI				SS		20 52 20.5	
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s						
KMI				AMB	AMB		
	comp=Z,239nm,5.0s						
KMI				LR	LR		
	comp=N,864nm,10.2s						
KMI				LR	LR		
	comp=E,866nm,11.1s						
KMI				LR	LR		
	comp=Z,976nm,10.5s						
KMI	**Kunming**	**17.78**	**275**	P	**Pn**	**20 48 45.7**	**+3.8**
KMI				S	**Sn**	**20 51 57.3**	**-1.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KMI	**Kunming**	**17.78**	**275**	P	**Pn**	**20 48 45.7**	**+3.8**
	comp=Z,5.0nm,1.2s						
KMI				pP	pP	20 48 53.4	+3.4
KMI				sP	sP	20 48 55.9	+2.3
KMI				PP		20 49 00.9	
KMI				PPP		20 49 09.1	
KMI				S	**Sn**	**20 51 57.3**	**-1.9**
KMI				SS		20 52 20.5	
MAJO	**Matsushiro**	**18.00**	**45**	P	**Pn**	**20 48 46.6**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**18.00**	**45**	P	**Pn**	**20 48 46.6**	**+1.9**
	comp=Z,9.9nm,0.9s						
MAT	**Matsushiro**	**18.00**	**45**	P	**Pn**	**20 48 46.1**	**+1.4**
MJAR	**Matsushiro Arr**	**18.00**	**45**	P	**Pn**	**20 48 41.6**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=239,slow=9.4,SNR=2.8						
HHC	**Hu-ho-hao-te**	**18.42**	**333**	*e*P	**Pn**	**20 48 51.9**	**+2.1**
HHC				AP	pP	20 48 59.5	+2.4
HHC				XP	sP	20 49 04.3	+3.6
HHC				PP		20 49 07.3	
HHC				S	**Sn**	**20 52 12.8**	**-1.9**
HHC				SS		20 52 37.5	
HHC				AMB	AMB		
	comp=Z,12nm,0.5s						
HHC				AMB	AMB		
	comp=Z,335nm,7.1s						
HHC				LR	LR		
	comp=N,786nm,14.3s						
HHC				LR	LR		
	comp=E,995nm,16.1s						
HHC				LR	LR		
	comp=Z,626nm,16.1s						
CN2	**Changchun**	**19.19**	**7**	*e*P	**Pn**	**20 48 59.8**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,12.0s						
CN2				LR	LR		
	comp=E,600nm,12.0s						
CN2				LR	LR		
	comp=Z,500nm,12.0s						
KKM	**Kota Kinabalu**	**19.49**	**199**	*e*P	**Pn**	**20 49 02.7**	**0.0**
LZH	**Lanzhou**	**19.52**	**310**	*e*P	**Pn**	**20 49 05.1**	**+2.1**
LZH				AP	pP	20 49 10.4	+1.2
LZH				XP	sP	20 49 14.6	+1.9
LZH				AMB	AMB		
	comp=Z,22nm,1.2s						
LZH				AMB	AMB		
	comp=Z,130nm,6.0s						
LZH				LR	LR		
	comp=N,750nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,14.0s						
LZH	**Lanzhou**	**19.52**	**310**	*e*P	**Pn**	**20 49 05.1**	**+2.1**
	comp=Z,22nm,1.2s						
LZH				pP	pP	20 49 10.4	+1.2
LZH				sP	sP	20 49 14.6	+1.9
VLA	**Vladivostok**	**19.95**	**21**	*d*P	**Pn**	**20 49 09.3**	**+1.1**
VLA				pmax	pmax		
	comp=Z,92nm,1.3s						
MDJ	**Mudanjiang**	**20.70**	**15**	P	**P**	**20 49 15.8**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,11nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,282nm,10.2s						
MDJ				LR	LR		
	comp=N,154nm,22.4s,MS3.7						
MDJ				LR	LR		
	comp=E,308nm,17.5s,MS3.7						
MDJ				LR	LR		
	comp=Z,275nm,22.4s,MS3.6						
MDJ	**Mudanjiang**	**20.70**	**15**	*e*P	**P**	**20 49 16.0**	**+1.5**
	comp=Z,29nm,1.2s						
CHTO	**Chiang Mai**	**22.49**	**259**	*e*P	**P**	**20 49 35.3**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,44nm,1.6s,mb4.6						
CHTO	**Chiang Mai**	**22.49**	**259**	*e*P	**P**	**20 49 35.3**	**+1.6**
	comp=Z,44nm,1.6s,mb4.6						
CM31	**Chiang Mai Arr**	**22.61**	**259**	*e*P	**P**	**20 49 36.2**	**+1.3**
	comp=Z,15nm,1.1s,mb4.3						
GTA	**Gaotai**	**23.96**	**313**	⇓P	**P**	**20 49 48.9**	**+0.5**
GTA				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.0						
GTA				AMB	AMB		
	comp=Z,181nm,8.0s						
GTA				LR	LR		
	comp=N,155nm,19.5s,MS3.7						
GTA				LR	LR		
	comp=E,195nm,18.3s,MS3.7						
GTA				LR	LR		
	comp=Z,207nm,16.8s,MS3.7						
GUMO	**Guam**	**23.96**	**113**	LR	LR	20 58 35.9	
	comp=Z,190nm,19.1s,MS3.6,baz=54,slow=35						
HIA	**Hailar**	**24.57**	**356**	*e*P	**P**	**20 49 54.7**	**+0.7**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HIA	**Hailar**	**24.57**	**356**	*e*P	**P**	**20 49 54.7**	**+0.7**
	comp=Z,7.0nm,0.9s,mb4.2						
ASAJ	**Asahikawa**	**25.44**	**36**	LR	LR	21 00 31.1	
	comp=Z,279nm,18.6s,MS3.8,baz=256,slow=38						
HABR	**Khabarovsk**	**25.73**	**20**	*e*P	**P**	**20 50 05.2**	**+0.6**
HABR				pmax	pmax		
	comp=Z,35nm,1.7s,mb4.6						
KSM	**Kuching**	**25.88**	**208**	*e*P	**P**	**20 50 06.2**	**+0.3**
SONM	**Songino Array**	**26.29**	**335**	P	**P**	**20 50 10.3**	**+0.6**
	comp=Z,23nm,1.0s,mb4.7,baz=154,slow=9.0,SNR=75						
SONM				PcP	PcP	20 53 35.3	-0.1
	comp=Z,0.9nm,0.9s,baz=107,slow=2.0,SNR=3.6						
SONM				LR	LR	21 02 24.6	
	comp=Z,373nm,18.6s,MS4.0,baz=349,slow=41						
SONM	**Songino Array**	**26.29**	**335**	P	**P**	**20 50 10.3**	**+0.7**
SONM						20 53 35.3	
YSS	**Yuzh-Sakhalins**	**27.52**	**31**	*e*P	**P**	**20 50 23.0**	**+2.3**
YSS				*e*	pP	20 50 30.0	+1.2
YSS	**Yuzh-Sakhalins**	**27.52**	**31**	*e*P	**P**	**20 50 22.9**	**+2.3**
	comp=Z,35nm,0.9s,mb5.0						
SHL	**Shillong**	**27.55**	**278**	*e*P	**P**	**20 50 24.0**	**+3.0**
LSA	**Lhasa**	**28.12**	**287**	P	**P**	**20 50 28.3**	**+2.2**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
LSA	**Lhasa**	**28.12**	**287**	*e*P	**P**	**20 50 28.0**	**+1.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**28.12**	**287**	*e*P	**P**	**20 50 28.0**	**+1.9**
	comp=Z,5.5nm,0.8s,mb4.2						
ZAK	**Zakamensk**	**29.55**	**335**	⇓*e*P	**P**	**20 50 38.8**	**0.0**
TLY	**Talaya**	**30.47**	**337**	*e*P	**P**	**20 50 47.6**	**+0.7**
TLY				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
TLY	**Talaya**	**30.47**	**337**	*e*P	**P**	**20 50 47.5**	**+0.6**
	comp=Z,19nm,0.8s,mb4.9						
PSI	**Prapat**	**31.38**	**230**	P	**P**	**20 50 56.1**	**+1.1**
	comp=Z,3.3nm,0.6s,mb4.3,baz=48,slow=3.3,SNR=4.4						
JIRN	**Jiri**	**32.49**	**283**	*e*P	**P**	**20 51 06.5**	**+1.8**
	comp=Z,28nm,0.9s,mb5.1						
GUN	**Gumba**	**32.75**	**284**	*e*P	**P**	**20 51 08.5**	**+1.5**
	comp=Z,25nm,0.9s,mb5.1						
PKI	**Pulchoki**	**33.19**	**283**	*e*P	**P**	**20 51 12.0**	**+1.2**
KKN	**Kakani**	**33.29**	**283**	*e*P	**P**	**20 51 12.9**	**+1.2**
	comp=Z,33nm,1.0s,mb5.2						
DMN	**Daman**	**33.45**	**283**	*e*P	**P**	**20 51 14.3**	**+1.2**
	comp=Z,33nm,1.1s,mb5.2						
GKN	**Gorkha**	**33.84**	**284**	*e*P	**P**	**20 51 17.3**	**+0.8**
	comp=Z,41nm,1.2s,mb5.2						
WMQ	**Urumqi**	**34.04**	**313**	*e*P	**P**	**20 51 21.1**	**+2.9**
WMQ				PP	PP	20 52 34.8	-0.7
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.1						
WMQ				LR	LR		
	comp=N,143nm,20.0s,MS3.7						
WMQ				LR	LR		
	comp=E,38nm,20.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,86nm,20.0s,MS3.5						
KOLN	**Koldanda**	**34.77**	**284**	*e*P	**P**	**20 51 25.6**	**+1.0**
	comp=Z,26nm,1.0s,mb5.1						
YAK	**Yakutsk**	**37.62**	**6**	*e*P	**P**	**20 51 49.4**	**+0.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
YAK	**Yakutsk**	**37.62**	**6**	P	**P**	**20 51 48.5**	**-0.4**
	comp=Z,24nm,1.2s,mb4.8						
KRAR	**Krasnoyarsk**	**37.91**	**333**	*e*P	**P**	**20 51 51.0**	**-0.4**
KRAR				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8						
MK31	**Makanchi Array**	**38.68**	**315**	*e*P	**P**	**20 51 57.7**	**-0.1**
MKAR	**Makanchi Array**	**38.68**	**315**	P	**P**	**20 51 58.0**	**+0.2**
	comp=Z,4.3nm,0.8s,mb4.2,baz=100,slow=10,SNR=31						
ZAL	**Zalesovo**	**40.37**	**326**	P	**P**	**20 52 10.8**	**-1.1**
	comp=Z,3.6nm,0.9s,mb4.1,baz=358,slow=8.5,SNR=18						
MDRS	**Chennai**	**41.31**	**262**	*ex*	x	20 52 04.7	
NVS	**Novosibirsk**	**41.61**	**327**	*e*P	**P**	**20 52 20.3**	**-1.8**
NVS				pmax	pmax		
	comp=Z,18nm,2.0s,mb4.3						
NVS				pmax	pmax		
	comp=N,10.0nm,1.8s						
KURK	**Kurchatov**	**42.35**	**319**	*e*P	**P**	**20 52 27.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.4						
KURK	**Kurchatov**	**42.35**	**319**	*e*P	**P**	**20 52 27.6**	**-0.6**
	comp=Z,12nm,1.2s,mb4.4						
AAK	**Ala-Archa**	**43.01**	**307**	P	**P**	**20 52 33.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
AAK	**Ala-Archa**	**43.01**	**307**	P	**P**	**20 52 33.3**	**-0.2**
	comp=Z,2.2nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**45.92**	**164**	P	**P**	**20 52 57.9**	**+1.1**
	comp=Z,35nm,0.8s,mb5.4,baz=346,slow=8.6,SNR=192						
WB2	**Warramunga Arr**	**45.92**	**164**	*e*P	**P**	**20 52 57.9**	**+1.1**
WB2	**Warramunga Arr**	**45.92**	**164**	*e*P	**P**	**20 52 57.7**	**+1.0**
WB2				*e*		20 53 02.5	
TIXI	**Tiksi**	**47.09**	**3**	⇑*e*P	**P**	**20 53 04.9**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
TIXI	**Tiksi**	**47.09**	**3**	*e*P	**P**	**20 53 04.3**	**-1.7**
	comp=Z,8.4nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**47.92**	**320**	P	**P**	**20 53 11.8**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.3,baz=113,slow=11,SNR=19						
BVAR				PcP	PcP	20 54 40.0	-0.5
	comp=Z,1.1nm,0.6s,baz=102,slow=6.1,SNR=3.4						
BVAR	**Borovoye Array**	**47.92**	**320**	P	**P**	**20 53 11.8**	**-0.6**
BVAR				PcP	PcP	20 54 40.0	-0.5
BRVK	**Borovoye**	**47.99**	**320**	*e*P	**P**	**20 53 12.7**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**47.99**	**320**	*e*P	**P**	**20 53 12.7**	**-0.2**
	comp=Z,9.7nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**49.40**	**166**	P	**P**	**20 53 25.3**	**+1.5**
	comp=Z,11nm,0.8s,mb5.0,baz=344,slow=7.1,SNR=113						
CTAO	**Charters Tower**	**50.27**	**150**	*e*P	**P**	**20 53 33.8**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**50.27**	**150**	*e*P	**P**	**20 53 33.8**	**+3.4**
	comp=Z,7.0nm,0.8s,mb4.7						
BILL	**Bilibino**	**50.81**	**20**	P	**P**	**20 53 34.0**	**-0.5**
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.9						
AKTK	**Aktyubinsk**	**55.12**	**315**	P	**P**	**20 54 06.1**	**-0.1**
AKTO	**Aktyubinsk**	**55.12**	**315**	P	**P**	**20 54 06.1**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.1,baz=91,slow=9.9,SNR=4.8						
ARU	**Arti**	**55.30**	**323**	⇓*i*P	**P**	**20 54 06.5**	**-1.1**
ARU				*e*		20 55 04.6	
ARU				*e*		20 56 08.4	
ARU				*e*PPP		20 57 21.5	
ARU				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
FORT	**Forrest**	**55.47**	**174**	*e*P	**P**	**20 54 09.6**	**+0.8**
ORR	**Orenburg**	**57.21**	**317**	*e*P	**P**	**20 54 21.6**	**+0.4**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
STKA	**Stephens Creek**	**59.23**	**161**	*e*P	**P**	**20 54 36.9**	**+1.6**
STKA	**Stephens Creek**	**59.23**	**161**	P	**P**	**20 54 35.5**	**+0.2**
	comp=Z,3.1nm,0.9s,mb4.4,baz=328,slow=7.7,SNR=4.9						
STKA	**Stephens Creek**	**59.23**	**161**	*e*P	**P**	**20 54 35.0**	**-0.2**
ZEI	**Tsey**	**65.43**	**308**	*e*P	**P**	**20 55 16.8**	**0.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KIV	**Kislovodsk**	**66.06**	**309**	*e*P	**P**	**20 55 21.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**66.06**	**309**	*e*P	**P**	**20 55 21.4**	**+0.6**
	comp=Z,25nm,1.3s,mb5.1						
OBN	**Obninsk**	**67.72**	**322**	⇑*e*P	**P**	**20 55 30.2**	**-1.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.5						
ARCES	**ARCESS Array B**	**69.42**	**338**	P	**P**	**20 55 39.0**	**-3.0**
	comp=Z,2.8nm,0.9s,mb4.2,baz=58,slow=12,SNR=5.0						
ARCES	**ARCESS Array B**	**69.42**	**338**	P	**P**	**20 55 39.0**	**-3.1**
FINES	**FINESS Array B**	**71.50**	**330**	P	**P**	**20 55 53.9**	**-0.8**
	comp=Z,2.2nm,0.8s,mb4.2,baz=193,slow=7.8,SNR=4.3						
INK	**Inuvik**	**72.33**	**22**	P	**P**	**20 55 57.6**	**-2.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=302,slow=5.8,SNR=8.0						
INK	**Inuvik**	**72.33**	**22**	*e*P	**P**	**20 55 58.6**	**-1.1**
	comp=Z,236nm,1.2s						
AKASG	**Malin Array Be**	**73.16**	**318**	P	**P**	**20 56 02.9**	**-1.7**
	comp=Z,1.2nm,0.7s,mb3.9,baz=56,slow=6.3,SNR=5.2						
AKASG	**Malin Array Be**	**73.16**	**318**	P	**P**	**20 56 02.9**	**-1.7**
BR131	**Keskin Array S**	**73.69**	**307**	*e*P	**P**	**20 56 07.8**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**73.69**	**307**	P	**P**	**20 56 08.2**	**+0.5**
	comp=Z,3.4nm,0.9s,mb4.3,baz=113,slow=5.9,SNR=18						
RES	**Resolute Bay**	**77.95**	**9**	*e*P	**P**	**20 56 30.1**	**-1.9**
	comp=Z,185nm,1.2s						
NB2	**NORSAR Subarra**	**78.23**	**332**	P	**P**	**20 56 33.4**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.8,baz=61,slow=5.6						
NOA	**NORSAR Array B**	**78.23**	**332**	P	**P**	**20 56 32.2**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.1,baz=60,slow=5.6,SNR=4.1						
YKA	**Yellowknife Ar**	**82.06**	**23**	P	**P**	**20 56 52.4**	**-1.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=314,slow=4.8,SNR=32						
GERES	**GERESS Array B**	**83.08**	**321**	P	**P**	**20 57 00.0**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=48,slow=7.9,SNR=4.8						
OPO	**Ambohidratompo**	**84.87**	**247**	P	**P**	**20 57 09.7**	**+1.0**
	comp=Z,7.9nm,0.9s,mb4.9,baz=50,slow=3.8,SNR=13						
KMBO	**Kilima Mbogo**	**85.99**	**267**	P	**P**	**20 57 15.8**	**+1.5**
	comp=Z,3.5nm,0.9s,mb4.6,baz=230,slow=24,SNR=10						
KMBO	**Kilima Mbogo**	**85.99**	**267**	*e*P	**P**	**20 57 16.4**	**+2.1**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	**Kilima Mbogo**	**85.99**	**267**	*e*P	**P**	**20 57 16.4**	**+2.1**
	comp=Z,3.9nm,0.9s,mb4.6						
NEW	**Newport**	**89.96**	**35**	P	**P**	**20 57 31.8**	**-1.5**
	comp=Z,1.9nm,0.4s,mb4.8,baz=339,slow=8.6,SNR=3.5						
FCC	**Fort Churchill**	**91.50**	**18**	P	**P**	**20 57 38.8**	**-1.7**
FCC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3						
FCC	**Fort Churchill**	**91.50**	**18**	P	**P**	**20 57 38.8**	**-1.6**
	comp=Z,0.7nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**95.32**	**43**	P	**P**	**20 57 58.4**	**+0.3**
	comp=Z,0.8nm,0.6s,mb4.3,baz=60,slow=33,SNR=6.1						
SDV	**Santo Domingo**	**144.27**	**22**	*e*P	PKPdf	21 04 08.1	-1.8

*ISCJB **19** 21:05:22.2±1.3, 483N±0.1×1543E±02, h73km±12km, mb3.6/10, Error ellipse: s-maj=22.9km s-min=7.8km az=86.6*
*MOS **19** 21:05:23.8±1.9, 4832N×154.11E, h88km, mb4.1/1, Error ellipse: s-maj=22.1km s-min=11.2km az=66.4*
*NEIC **19** 21:05:27.4±1.1, 4836N×15398E, h105km±9km, Error ellipse: s-maj=15.2km s-min=8.0km az=134.0*
*IDC **19** 21:05:29.1±3.9, 4830N×15401E, h121km±35km, mb3.3/10, mb1 3.6/12, mb1mx3.4/24, mbtmp3.4/12, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=21.7km s-min=16.5km az=122.0*

ISC 19 21:05:23.9±1.2, 484N±01×1543E±02, h75km±10km, n21, σ1§15/23, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**27**	*e*PN	**Pn**	**21 06 02.9**	**-1.1**
SKR				*e*S	**Sn**	**21 06 34.3**	**-0.6**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,330nm,0.4s						
SKR				smax			
	comp=E,160nm,0.4s						
KUR	**Kuril'sk**	**5.39**	**237**	PN	**Pn**	**21 06 39.0**	**-2.8**
KUR				pmax	pmax		
	comp=N,180nm,0.9s						
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
PET	**Petropavlovsk**	**5.44**	**29**	*e*PN	**Pn**	**21 06 48.3**	**+5.9**
PET				*e*S	**Sn**	**21 07 44.9**	**+1.2**
PET				pmax	pmax		
	comp=Z,17nm,0.5s						
PET				smax			
	comp=E,85nm,0.6s						
PET				smax			
	comp=N,72nm,0.6s						
PET	**Petropavlovsk**	**5.44**	**29**	Pn	**Pn**	**21 06 47.9**	**+5.4**
PET				*e*Sn	**Sn**	**21 07 42.0**	**-1.7**
YSS	**Yuzh-Sakhalins**	**7.90**	**264**	*e*PN	**Pn**	**21 07 17.1**	**+1.1**
ASAJ	**Asahikawa**	**9.13**	**247**	P	**Pn**	**21 07 35.8**	**+3.0**
	comp=N,1.7nm,0.3s,baz=63,slow=14,SNR=8.4						
ASAJ				LR	LR	21 10 46.9	
	comp=N,100nm,19.8s,baz=214,slow=36						
ASAJ	**Asahikawa**	**9.13**	**247**	PN	**Pn**	**21 07 35.8**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,100nm,19.8s		

*ISCJB **19** 21:10:50.6±0.7, 42.30N±0.03×47.94E±0.04, h5km±6km, Error ellipse: s-maj=6.6km s-min=4.2km az=89.9*
*TIF **19** 21:10:50.6, 42.36N×47.87E, h1km±2km*
*CSEM **19** 21:10:50.0, 42.29N×47.90E, h10km, mb3.9, Error ellipse: s-maj=17.2km s-min=9.4km az=331.0, After OBN*
*MOS **19** 21:10:50.1±0.9, 42.29N×47.90E, h10km, mb3.9/1, Error ellipse: s-maj=17.2km s-min=9.4km az=123.1*

ISC 19 21:10:50.7±0.7, 4233N±003×4802E±005, h18km±6km, n15, σ1§43/29, 1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.38**	**142**	*e*Pg	**Pg**	**21 10 59.3**	**+0.8**
DRN				*i* S	**Sg**	**21 11 05.3**	**+1.5**
KMKR	**Kumukh**	**0.71**	**254**	*i* PG	**Pg**	**21 11 04.0**	**-0.6**
KMKR				*i* S	**Sg**	**21 11 16.0**	**+1.9**
KSMR	**Kasumkent**	**0.73**	**174**	*i* Pg	**Pg**	**21 11 04.5**	**-0.5**
KSMR				*i* Sg	**Sg**	**21 11 19.0**	**+4.3**
MAK	**Makhachkala**	**0.74**	**329**	*i* PG	**Pg**	**21 11 06.9**	**+1.8**
MAK				*e*		21 11 17.1	
MAK				pmax	pmax		
	comp=Z,42nm,0.7s						
MAK				smax			
	comp=N,283nm,0.8s						
MAK	**Makhachkala**	**0.74**	**329**	*i* Pg	**Pg**	**21 11 06.9**	**+1.8**
	comp=N,42nm,0.7s						
MAK				*e*Sg	**Sg**	**21 11 17.1**	**+2.2**
	comp=N,283nm,0.8s						
GNBR	**Gunib**	**0.79**	**275**	*i* Pg	**Pg**	**21 11 04.2**	**-1.8**
GNBR				*i* Sg	**Sg**	**21 11 16.0**	**-0.4**
AKT	**Akhty**	**0.88**	**194**	*i* PG	**Pg**	**21 11 06.5**	**-1.2**
AKT				*i* S	**Sb**	**21 11 18.5**	**-0.2**
KRNR	**Karanay**	**0.96**	**302**	⇓*i*PG	**Pg**	**21 11 06.9**	**-2.4**
KRNR				*i* S	**Sb**	**21 11 20.6**	**-0.6**
DBC	**Dubki**	**1.12**	**309**	*e*PG	**Pg**	**21 11 10.5**	**-1.8**
DBC				*i* S	**Sb**	**21 11 26.0**	**+0.4**
DLMR	**Dylym**	**1.26**	**306**	*e*PG	**Pg**	**21 11 11.0**	**-4.1**
DLMR				*i* S	**Sb**	**21 11 30.0**	**+0.1**
BTLR	**Botlikh**	**1.37**	**285**	*e*PG	**Pg**	**21 11 14.7**	**-2.4**
BTLR				*i* S	**Sn**	**21 11 33.7**	**+1.1**
DGRG	**David-gareji**	**2.16**	**247**	P	**Pg**	**21 11 31.5**	**-0.7**
DGRG				S	**Sg**	**21 12 02.6**	**+2.3**
DUS	**Dusheti**	**2.48**	**266**	P	**Pg**	**21 11 37.5**	**-0.6**
DUS				S	**Sg**	**21 12 12.2**	**+1.9**
MTA	**Mtatsminda**	**2.49**	**256**	P	**Pg**	**21 11 36.9**	**-1.5**
MTA				S	**Sg**	**21 12 10.1**	**-0.5**
ZEI	**Tsey**	**3.08**	**280**	*e*Pn	**Pg**	**21 11 51.3**	**+1.7**
ZEI				*i* Sg	**Sg**	**21 12 32.6**	**+3.1**

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*NEIC **19** 21:16:12.2±1.7, 1053S×1618E, h10km, Error ellipse: s-maj=32.7km s-min=18.0km az=103.0*
*ISCJB **19** 21:16:21.9±5.6, 103S±02×1612E±04, h77km±33km, mb4.0/5, Error ellipse: s-maj=65.5km s-min=23.5km az=39.4*
*IDC **19** 21:16:23.3±6.2, 1032S×1615E, h70km±40km, mb3.8/5, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, MS3.6/4, Ms1 3.6/4, ms1mx3.1/27, Error ellipse: s-maj=56.8km s-min=23.3km az=104.0*

ISC 19 21:16:22.6±5.3, 103S±02×1612E±03, h63km±34km, n13, σ0§54/9, mb4.1/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.53**	**304**	P	**Pn**	**21 16 48.0**	**+0.2**
	224nm,0.3s,baz=127,slow=1.9,SNR=61						
HNR				S	**Sn**	**21 17 06.6**	**-0.1**
	800nm,0.3s,baz=94,slow=15,SNR=22						
PMG	**Port Moresby**	**13.89**	**272**	LR	LR	21 24 33.3	
	comp=Z,132nm,19.5s,baz=344,slow=35						
AFI	**Afiamalu**	**26.63**	**100**	LR	LR	21 30 12.5	
	comp=Z,101nm,20.4s,baz=43,slow=31						
WB2	**Warramunga Arr**	**27.62**	**247**	*e*P	**P**	**21 22 04.2**	**+0.1**
WRA	**Warramunga Arr**	**27.63**	**247**	P	**P**	**21 22 04.6**	**+0.5**
	2.4nm,0.7s,mb3.9,baz=75,slow=9.2,SNR=23						
WRA				pP	pP	21 22 23.5	+4.0
	1.8nm,0.6s,baz=75,slow=9.3,SNR=8.7						
GUMO	**Guam**	**28.76**	**325**	LR	LR	21 31 55.4	
	comp=Z,100nm,20.1s,baz=100,slow=32						
ASAR	**Alice Springs**	**29.25**	**239**	P	**P**	**21 22 17.6**	**-1.0**
	1.7nm,1.1s,mb3.7,baz=66,slow=9.4,SNR=9.4						
FITZ	**Fitzroy Crossi**	**35.31**	**253**	*e*P	**P**	**21 23 11.8**	**+0.2**
MJAR	**Matsushiro Arr**	**51.38**	**336**	P	**P**	**21 25 19.9**	**-1.0**
	2.2nm,0.6s,mb4.3,baz=171,slow=9.0,SNR=8.1						
KSRS	**Korea Array**	**56.84**	**329**	P	**P**	**21 26 01.0**	**+0.4**
	2.0nm,0.7s,mb4.2,baz=140,slow=7.1,SNR=9.3						
SONM	**Songino Array**	**75.49**	**325**	P	**P**	**21 28 00.5**	**+0.5**
	2.1nm,0.7s,mb4.2,baz=140,slow=5.6,SNR=15						
MAW	**Mawson**	**83.73**	**202**	LR	LR	22 02 47.9	
	comp=Z,72nm,18.9s,baz=61,slow=33						
TORD	**Torodi Ar. Bea**	**159.76**	**280**	PKPab	PKPab	21 36 53.3	0.0
	0.5nm,1.0s,baz=75,slow=4.0,SNR=6.4						

IDC 19 22:09:48.7±41.0, 1663S×16630E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, Error ellipse: s-maj=698.9km s-min=97.3km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.07**	**231**	P	P	22 15 33.8	+1.0
	2.1nm,0.5s,baz=58,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**30.50**	**259**	P	P	22 16 03.5	+0.1
	0.2nm,0.3s,baz=93,slow=7.8,SNR=7.9						
ASAR	**Alice Springs**	**31.16**	**252**	P	P	22 16 09.9	+0.8
	3.8nm,0.5s,baz=77,slow=9.3,SNR=62						
FITZ	**Fitzroy Crossi**	**38.78**	**262**	P	P	22 17 14.5	-0.5
	1.1nm,0.4s,baz=85,slow=9.3,SNR=6.0						

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*ISCJB **19** 22:23:50.1±1.1, 1079N×006×6270W±004, h91km±9km, Error ellipse: s-maj=9.3km s-min=6.9km az=173.8*
*TRN **19** 22:23:50.4, 1080N×6276W, h80km, MD3.5*
*FUNV **19** 22:23:51.4, 1079N×6275W, h89km, MW3.1*

ISC 19 22:23:50.7±1.2, 1080N±005×6270W±004, h89km±10km, n11, σ0§72/21, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.49**	**107**	*e*P	**Pn**	**22 24 06.2**	**+0.9**
GUIV				*e*S	**Sn**	**22 24 17.0**	**+1.0**
CRUV	**Carupano**	**0.54**	**257**	*e*P	**Pn**	**22 24 05.9**	**+0.3**
CRUV				*e*S	**Sn**	**22 24 15.8**	**-1.0**
GUNV	**Guanoco**	**0.67**	**201**	*e*P	**Pn**	**22 24 07.6**	**+0.7**
GUNV				*e*S	**Sn**	**22 24 18.9**	**+0.1**
ITEV	**Isla Los Testi**	**0.70**	**323**	*e*P	**Pn**	**22 24 07.4**	**+0.3**
ITEV				*e*S	**Sn**	**22 24 19.0**	**-0.3**
TCE	**Chacachacare**	**0.93**	**96**	*e*P	**Pn**	**22 24 09.9**	**+0.4**
TCE				*e*S	**Sn**	**22 24 23.4**	**-0.2**
TRN	**Trinidad (W)**	**1.28**	**96**	*e*P	**Pn**	**22 24 13.9**	**+0.3**
TRN				*e*S	**Sn**	**22 24 30.2**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.31**	**111**	*e*P	**Pn**	**22 24 13.7**	**-0.3**
TPP				*e*S	**Sn**	**22 24 29.4**	**-2.3**
TBH	**Brigand Hill**	**1.63**	**101**	*e*P	**Pn**	**22 24 19.1**	**+1.0**
TBH				*e*S	**Sn**	**22 24 39.4**	**+0.6**
GRW	**Mount Saint Ca**	**1.69**	**37**	*e*P	**Pn**	**22 24 18.8**	**-0.1**
GRW				*e*S	**Sn**	**22 24 39.9**	**-0.3**
TPR	**Prospect**	**1.93**	**78**	*e*P	**Pn**	**22 24 21.5**	**-0.4**
TPR				*e*S	**Sn**	**22 24 45.8**	**+0.2**
GURV	**El Guri**	**3.04**	**187**	*e*P	**Pn**	**22 24 36.0**	**-0.7**

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*IDC **19** 22:27:18.9±1.5, 295N×12898E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=148.9km s-min=17.7km az=70.0*
*ISCJB **19** 22:27:22.7±0.8, 28N±01×1286E±02, h35km, mb3.8/9, MS2.9/1, Error ellipse: s-maj=32.1km s-min=10.7km az=121.1*
*NEIC **19** 22:27:24.4±0.5, 280N×12867E, h35km, mb4.2/2, Error ellipse: s-maj=22.7km s-min=7.5km az=61.0*

ISC 19 22:27:24.6±0.8, 28N±01×1287E±02, h35km, n14, σ0§64/13, mb3.8/9, MS2.9/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.85**	**285**	Pn	**Pn**	**22 30 24.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.99**	**188**	LR	LR	22 40 22.8	
	comp=Z,48nm,19.6s,MS2.9,baz=95,slow=37						
WRA	**Warramunga Arr**	**23.28**	**166**	P	**P**	**22 32 29.0**	**-0.2**
	1.1nm,0.6s,mb3.5,baz=346,slow=10,SNR=6.8						
WB2	**Warramunga Arr**	**23.28**	**166**	*e*P	**P**	**22 32 29.3**	**+0.1**
QIZ	**Qiongzhong**	**24.50**	**313**	P	**P**	**22 32 40.5**	**+0.1**
ASAR	**Alice Springs**	**26.80**	**169**	P	**P**	**22 33 02.1**	**+0.8**
	0.4nm,0.7s,mb3.0,baz=355,slow=7.9,SNR=3.8						
STKA	**Stephens Creek**	**36.61**	**161**	P	**P**	**22 34 26.6**	**-0.7**
	0.5nm,0.4s,mb3.7,baz=336,slow=10.0,SNR=3.0						
LSA	**Lhasa**	**44.52**	**311**	P	**P**	**22 35 34.3**	**+1.6**
	1.2nm,0.4s,mb4.1						
SONM	**Songino Array**	**48.81**	**340**	P	**P**	**22 36 05.7**	**-0.6**
	0.2nm,0.6s,mb3.3,baz=144,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**59.43**	**325**	P	**P**	**22 37 23.8**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=116,slow=8.0,SNR=17						
MKAR	**Makanchi Array**	**59.43**	**325**	P	**P**	**22 37 23.8**	**+0.1**
KURK	**Kurchatov**	**63.57**	**327**	*e*P	**P**	**22 37 51.3**	**-0.3**
	1.3nm,0.2s,mb4.6						
BVAR	**Borovoye Array**	**69.16**	**327**	P	**P**	**22 38 27.8**	**+0.4**
	0.3nm,0.4s,mb3.6,baz=53,slow=4.5,SNR=3.8						
BRVK	**Borovoye**	**69.23**	**327**	*e*P	**P**	**22 38 27.2**	**-0.6**
	1.5nm,0.4s,mb4.3						

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*ISCJB **19** 22:30:25.9±3.3, 51N±01×1257E±02, h89km±31km, mb3.8/1, Error ellipse: s-maj=31.8km s-min=11.0km az=104.9*
*NEIC **19** 22:30:28.0±1.9, 509N×12565E, h92km±17km, mb4.3/3, Error ellipse: s-maj=19.9km s-min=7.1km az=54.0*
*IDC **19** 22:30:31.3±7.5, 499N×12548E, h120km±72km, mb3.4/8, mb1 3.5/8, mb1mx3.4/19, mbtmp3.4/8, Error ellipse: s-maj=81.5km s-min=14.6km az=72.0*

ISC 19 22:30:28.1±2.6, 51N±01×1257E±02, h92km±24km, n22, σ0§86/21, mb3.8/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.44**	**276**	Pn	**Pn**	**22 32 41.4**	**+0.2**
KAKA	**Kakadu**	**18.91**	**159**	*e*P	**Pn**	**22 34 40.9**	**-2.2**
FITZ	**Fitzroy Crossi**	**23.02**	**180**	*e*P	**P**	**22 35 27.3**	**+2.0**
FITZ	**Fitzroy Crossi**	**23.02**	**180**	P	**P**	**22 35 27.2**	**+1.9**
	1.3nm,0.3s,mb3.7,baz=18,slow=11,SNR=9.7						
KULM	**Kulim**	**24.90**	**272**	*e*P	**P**	**22 35 41.8**	**-0.5**
PMG	**Port Moresby**	**25.81**	**124**	P	**P**	**22 35 50.7**	**+0.1**
WRA	**Warramunga Arr**	**26.28**	**161**	P	**P**	**22 35 55.8**	**+0.9**
	0.7nm,0.4s,mb3.5,baz=343,slow=10,SNR=7.0						
WB2	**Warramunga Arr**	**26.29**	**161**	*e*P	**P**	**22 35 55.6**	**+0.7**
ASAR	**Alice Springs**	**29.67**	**165**	P	**P**	**22 36 25.4**	**+0.4**
	0.4nm,0.5s,mb3.3,baz=347,slow=6.6,SNR=7.2						
CTAO	**Charters Tower**	**32.18**	**142**	*e*P	**P**	**22 36 46.9**	**-0.2**
	5.2nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**39.76**	**159**	P	**P**	**22 37 51.3**	**-0.5**
	0.7nm,0.3s,mb3.9,baz=5.7,slow=7.6,SNR=3.4						
STKA	**Stephens Creek**	**39.76**	**159**	*e*P	**P**	**22 37 51.8**	**0.0**
SONM	**Songino Array**	**45.70**	**342**	P	**P**	**22 38 40.0**	**+0.2**
	0.1nm,0.4s,mb2.9,baz=161,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**22 39 56.4**	**+0.4**
	0.6nm,0.5s,mb3.9,baz=121,slow=7.9,SNR=13						
MKAR				PcP	PcP	22 40 54.1	+0.3
	0.5nm,0.7s,baz=109,slow=5.5,SNR=3.5						
KURK	**Kurchatov**	**60.04**	**328**	*e*P	**P**	**22 40 25.3**	**0.0**
	0.8nm,0.5s,mb4.0						
AKTK	**Aktyubinsk**	**71.95**	**322**	P	**P**	**22 41 41.4**	**-0.2**
AKTO	**Aktyubinsk**	**71.95**	**322**	P	**P**	**22 41 41.4**	**-0.2**
	0.7nm,0.5s,mb3.7,baz=95,slow=12,SNR=5.3						
MAW	**Mawson**	**84.63**	**200**	P	**P**	**22 42 48.8**	**-2.6**
	3.0nm,0.2s,mb4.8,baz=42,slow=14,SNR=16						
MAW	**Mawson**	**84.63**	**200**	P	**P**	**22 42 50.1**	**-1.4**
	4.5nm,0.6s,mb4.6						
VNDA	**Vanda**	**84.88**	**173**	P	**P**	**22 42 52.7**	**0.0**
	0.9nm,0.8s,mb3.8,baz=309,slow=7.0,SNR=4.1						
VNDA	**Vanda**	**84.88**	**173**	P	**P**	**22 42 52.7**	**0.0**
TORD	**Torodi Ar. Bea**	**121.47**	**289**	PKP	PKPdf	22 49 12.2	+1.5
	0.8nm,1.1s,baz=51,slow=1.8,SNR=5.4						

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*IDC **19** 22:32:24.4±3.3, 499S×102.12E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=148.8km s-min=21.3km az=52.0*
*ISCJB **19** 22:32:27.2±1.1, 50S±02×102.1E±03, h35km, mb3.9/9, Error ellipse: s-maj=49.1km s-min=13.2km az=113.0*
*NEIC **19** 22:32:28.9±0.8, 497S×102.15E, h30km, mb4.2/3, Error ellipse: s-maj=36.7km s-min=9.8km az=56.0*

ISC 19 22:32:29.6±1.1, 50S±02×1021E±03, h35km, n11, σ0§61/10, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**31.19**	**155**	*e*P	**P**	**22 38 45.0**	**-0.4**
	1.5nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**34.72**	**118**	P	**P**	**22 39 16.0**	**-0.2**
	0.4nm,0.4s,mb3.7,baz=299,slow=8.9,SNR=2.7						
ASAR	**Alice Springs**	**35.84**	**124**	P	**P**	**22 39 25.9**	**0.0**
	0.3nm,0.6s,mb3.4,baz=297,slow=7.2,SNR=4.6						
PMG	**Port Moresby**	**44.91**	**98**	*e*P	**P**	**22 40 40.5**	**-0.3**
	6.9nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**45.63**	**131**	P	**P**	**22 40 47.5**	**+0.9**
SONM	**Songino Array**	**52.73**	**4**	P	**P**	**22 41 41.2**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=179,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**54.46**	**343**	P	**P**	**22 41 54.3**	**+0.8**
	1.0nm,0.6s,mb3.9,baz=156,slow=8.9,SNR=9.5						
KURK	**Kurchatov**	**59.05**	**343**	*e*P	**P**	**22 42 25.9**	**-0.2**
	0.6nm,0.4s,mb4.0						
ZAL	**Zalesovo**	**60.47**	**348**	P	**P**	**22 42 34.6**	**-1.3**
	0.9nm,0.5s,mb4.1,baz=263,slow=1.9,SNR=4.5						
BVAR	**Borovoye Array**	**63.69**	**339**	P	**P**	**22 42 57.8**	**+0.3**
	0.5nm,0.4s,mb3.9,baz=146,slow=8.3,SNR=4.4						
TXAR	**Lajitas Array**	**145.65**	**42**	PKPbc	PKPbc	22 52 05.5	+1.0
	0.5nm,0.5s,baz=273,slow=1.3,SNR=5.9						

IDC 19 23:05:05.1±1.4, 2855S×6253E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/23, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=59.1km s-min=22.4km az=27.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.20**	**302**	P	Pn	23 09 07.4	+0.6
	0.3nm,0.3s,baz=108,slow=18,SNR=4.8						
FITZ	**Fitzroy Crossi**	**58.31**	**95**	P	P	23 15 02.8	+1.0
	1.9nm,1.1s,baz=226,slow=3.4,SNR=3.9						
ASAR	**Alice Springs**	**63.42**	**104**	P	P	23 15 37.1	+0.5
	0.5nm,0.4s,baz=239,slow=7.3,SNR=7.8						
WRA	**Warramunga Arr**	**65.19**	**100**	P	P	23 15 48.3	+0.1
	1.9nm,0.9s,baz=249,slow=5.7,SNR=8.8						
TORD	**Torodi Ar. Bea**	**71.93**	**297**	P	P	23 16 30.8	+0.6
	0.6nm,1.1s,baz=126,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**77.09**	**14**	P	P	23 17 00.5	+0.3
	0.3nm,0.7s,baz=202,slow=7.0,SNR=2.3						
ZAL	**Zalesovo**	**84.38**	**13**	P	P	23 17 38.5	-0.8
	0.8nm,0.7s,baz=270,slow=4.7,SNR=5.2						
SONM	**Songino Array**	**85.64**	**28**	P	P	23 17 45.2	-0.4
	1.0nm,0.9s,baz=220,slow=4.3,SNR=4.7						
YKA	**Yellowknife Ar**	**146.00**	**358**	PKPbc	PKPbc	23 24 45.0	-1.7
	1.6nm,0.7s,baz=348,slow=3.4,SNR=25						

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*IDC **19** 23:08:02.9±2.1, 1692N×11823E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.5/4, ML4.7/1, Error ellipse: s-maj=73.3km s-min=23.1km az=80.0*
*MAN **19** 23:08:10.5, 1735N×11958E, h24km, mb3.6, ML4.7, MS3.5*
*ISCJB **19** 23:08:11.1±1.0, 1731N±004×11956E±007, h33km, mb3.4/4, Error ellipse: s-maj=9.8km s-min=5.6km az=23.5*

ISC 19 23:08:09.0±1.5, 1733N±004×11958E±008, h8km±9km, n15, σ1§02/23, mb3.4/4, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.00**	**161**	*e*P	**Pg**	**23 08 28.7**	**+0.5**
BOLP				*e*S	**Sg**	**23 08 41.6**	**+0.4**
BCPH	**Baguio City Da**	**1.35**	**134**	⇓*e*P	**Pn**	**23 08 31.7**	**-2.5**
BCPH				*e*S	**Sb**	**23 08 47.9**	**-4.1**
PIP	**Pasuquin**	**1.40**	**45**	⇑*i*P	**Pn**	**23 08 34.7**	**-0.2**
PIP				*e*S	**Sb**	**23 08 52.9**	**-0.5**
SCZP	**Santa Cruz**	**1.58**	**168**	*e*P	**Pn**	**23 08 37.8**	**+0.4**
SCZP				*e*S	**Sn**	**23 08 57.8**	**-0.2**
CVP	**Callao Caves**	**2.17**	**80**	⇑*i*P	**Pn**	**23 08 44.0**	**-1.5**
CVP				*i* S	**Sn**	**23 09 13.0**	**+0.4**
CAUP	**Cauayan**	**2.18**	**100**	*e*P	**Pn**	**23 08 46.5**	**+0.9**
CAUP				*e*S	**Sn**	**23 09 13.2**	**+0.4**
PCPH	**Palayan**	**2.29**	**140**	⇑*e*P	**Pn**	**23 08 46.0**	**-1.0**
BALP	**Baler**	**2.49**	**129**	*e*P	**Pn**	**23 08 50.0**	**+0.2**
BALP				*e*S	**Sn**	**23 09 21.3**	**+1.0**
PALP	**Palanan**	**2.73**	**95**	*e*P	**Pn**	**23 08 52.6**	**-0.6**
TGY	**Tagaytay City**	**3.47**	**158**	Pn	**Pn**	**23 09 03.6**	**+0.3**
	50nm,0.3s,baz=190,slow=10,SNR=3.0						
TGY				Sn	**Sn**	**23 09 50.0**	**+5.4**
	28nm,0.3s,baz=114,slow=18,SNR=3.3						
LUBP	**Lubang**	**3.64**	**170**	*e*P	**Pn**	**23 09 11.9**	**+6.3**
KSRS	**Korea Array**	**21.35**	**18**	P	**P**	**23 12 58.6**	**+2.0**
	0.6nm,0.5s,mb3.2,baz=203,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**39.78**	**158**	P	**P**	**23 15 37.4**	**-5.0**
	0.3nm,0.3s,mb3.5,baz=328,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**43.09**	**161**	P	**P**	**23 16 06.4**	**-3.1**
	0.5nm,0.6s,mb3.5,baz=340,slow=7.2,SNR=6.9						
YKA	**Yellowknife Ar**	**89.84**	**22**	P	**P**	**23 21 08.9**	**+0.5**
	0.2nm,0.6s,mb3.6,baz=312,slow=4.6,SNR=4.4						

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*ISCJB **19** 23:09:40.3±1.2, 521N±0.1×1710.4W±0.09, h51km±10km, mb3.8/11, Error ellipse: s-maj=25.9km s-min=6.2km az=147.2*
*NEIC **19** 23:09:40.8±0.9, 52.13N×171.03W, h41km±8km, ML3.6(AEIC), Error ellipse: s-maj=20.5km s-min=6.8km az=165.0*
*IDC **19** 23:09:42.7±5.6, 5216N×171.11W, h55km±50km, mb3.6/11, mb1 3.8/12, mb1mx3.6/26, mbtmp3.6/12, ML3.8/1, Error ellipse: s-maj=28.3km s-min=18.0km az=178.0*

ISC 19 23:09:41.5±1.1, 521N±02×17106W±009, h49km±9km, n21, σ0§88/24, mb3.8/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.93**	**275**	P	**Pn**	**23 10 11.3**	**-0.6**
ATKA				S	**Sn**	**23 10 35.7**	**+0.7**
UNV	**Unalaska Valle**	**3.27**	**56**	P	**Pn**	**23 10 29.8**	**-0.4**
UNV				S	**Sn**	**23 11 09.0**	**+1.1**
ADK	**Adak**	**3.48**	**269**	P	**Pn**	**23 10 33.1**	**0.0**
AKGG	**Akutan Green G**	**3.71**	**53**	P	**Pn**	**23 10 36.2**	**-0.1**
AKUT	**Akutan**	**3.79**	**55**	*e*Pn	**Pn**	**23 10 35.0**	**-2.4**
AKUT				Sn	**Sn**	**23 11 21.7**	**+1.0**
KDAK	**Kodiak Island**	**12.04**	**54**	*e*Pn	**Pn**	**23 12 31.1**	**+0.7**
	0.6nm,0.3s,baz=131,slow=18,SNR=5.2						
KDAK	**Kodiak Island**	**12.04**	**54**	*e*Pn	**Pn**	**23 12 27.1**	**-3.3**
INK	**Inuvik**	**24.16**	**34**	P	**P**	**23 14 52.6**	**-0.3**
	1.7nm,0.4s,mb3.8,baz=236,slow=6.5,SNR=18						
YKA	**Yellowknife Ar**	**31.21**	**48**	P	**P**	**23 15 56.1**	**+0.1**
	0.3nm,0.3s,mb3.5,baz=274,slow=7.9,SNR=14						
YKA				PcP	PcP	23 18 50.8	+1.0
	0.3nm,0.8s,baz=274,slow=2.0,SNR=4.1						
YKA	**Yellowknife Ar**	**31.21**	**48**	P	**P**	**23 15 56.1**	**+0.1**
YKA				PcP	PcP	23 18 50.8	+1.0
MCMT	**McKenzie Canyo**	**38.36**	**77**	*e*P	**P**	**23 16 56.7**	**-0.9**
PDAR	**Pinedale Array**	**41.48**	**78**	P	**P**	**23 17 24.7**	**+1.1**
	0.5nm,0.6s,mb3.3,baz=298,slow=5.5,SNR=5.7						
KSRS	**Korea Array**	**44.40**	**276**	P	**P**	**23 17 48.8**	**+1.6**
	1.2nm,0.5s,mb3.9,baz=48,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**50.55**	**300**	P	**P**	**23 18 35.1**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=52,slow=9.3,SNR=2.8						
TXAR	**Lajitas Array**	**53.80**	**87**	P	**P**	**23 18 59.4**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=291,slow=4.8,SNR=4.9						
TXAR	**Lajitas Array**	**53.80**	**87**	P	**P**	**23 18 59.4**	**+0.4**
ARCES	**ARCESS Array B**	**58.09**	**353**	P	**P**	**23 19 28.7**	**-1.0**
	3.6nm,0.8s,mb4.5,baz=32,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**63.23**	**312**	P	**P**	**23 20 04.0**	**-0.7**
	0.2nm,0.4s,mb3.6,baz=47,slow=6.0,SNR=8.7						
BVAR	**Borovoye Array**	**63.32**	**324**	P	**P**	**23 20 05.1**	**-0.2**
	1.0nm,0.5s,mb4.2,baz=68,slow=8.2,SNR=6.7						
WRA	**Warramunga Arr**	**86.02**	**230**	P	**P**	**23 22 16.3**	**-0.3**
	0.3nm,0.7s,mb3.7,baz=35,slow=6.0,SNR=3.0						
ASAR	**Alice Springs**	**89.42**	**229**	P	**P**	**23 22 33.3**	**+0.4**
	1.2nm,0.6s,mb4.4,baz=27,slow=4.9,SNR=18						

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*ISCJB **19** 23:50:06.0±0.3, 4756N±002×750E±003, h10km±4km, Error ellipse: s-maj=3.5km s-min=2.8km az=56.8*
*STR **19** 23:50:06.7±0.4, 4757N×760E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **19** 23:50:07.0±0.1, 4758N×760E, h8km, ML2.4/14, Error ellipse: s-maj=1.2km s-min=1.0km az=17.0*
*LDG **19** 23:50:07.3±0.1, 4758N×757E, h10km, Md2.6/2, Ml2.3/11, Error ellipse: s-maj=1.6km s-min=1.2km az=152.0*
*ZUR **19** 23:50:07.2, 4758N×760E, h4km±1km, ML1.8*
*VIE **19** 23:50:11.1±1.2, 4761N×788E, h8km, ML2.6/1, Error ellipse: s-maj=11.4km s-min=5.9km az=3.0 22 km ENE of Basel*

**ISC 19 23:

1.0nm,0.2s
LPL La Plagne 2.13 195 *e*Pg **Pg 23 50 47.6 0.0**
LPL *e*Sg **Sg 23 51 15.4 +0.2**
0.5nm,0.2s
LPG La Plagne 2.15 195 *e*Pg **Pg 23 50 47.9 0.0**
LPG *e*Sg **Sg 23 51 15.6 -0.1**
2.2nm,0.3s
LPG La Plagne 2.15 195 *e*Pg **Pg 23 50 47.9 0.0**
LPG *e*Sg **Sg 23 51 15.6 -0.1**
1.1nm,0.3s
RETA Reutte 2.18 91⇑*e*Pg **Pg 23 50 48.8 +0.2**
0.2nm,0.1s
RETA ⇑*i*Sg **Sg 23 51 15.4 -1.5**
1.7nm,0.2s
FETA Feichten 2.24 103⇓*i*Sg **Sg 23 51 17.7 -1.0**
0.7nm,0.3s
LOR Lormes 2.52 264 *e*Pg **Pg 23 50 54.2 -0.8**
LOR *e*Sg **Sg 23 51 26.4 -1.2**
7.0nm,0.3s
LOR Lormes 2.52 264 *e*Pg **Pg 23 50 54.2 -0.8**
LOR *e*Sg **Sg 23 51 26.4 -1.2**
3.5nm,0.3s
SMF Signal de Mont 2.69 251 *e*Pg **Pg 23 50 57.1 -1.2**
SMF *e*Sg **Sg 23 51 31.5 -1.7**
4.8nm,0.3s
SMF Signal de Mont 2.69 251 *e*Pg **Pg 23 50 57.1 -1.2**
SMF *e*Sg **Sg 23 51 31.5 -1.7**
2.4nm,0.3s
SSF Saint Saulge 2.79 261 *e*Pg **Pg 23 50 59.6 -0.6**
SSF *e*Sg **Sg 23 51 35.8 -0.6**
3.1nm,0.3s
SSF Saint Saulge 2.79 261 *e*Pg **Pg 23 50 59.6 -0.6**
SSF *e*Sg **Sg 23 51 35.8 -0.6**
1.5nm,0.3s
AVF Avril sur Loir 2.96 256 *e*Sg **Sg 23 51 40.0 -1.9**
0.6nm,0.3s
AVF Avril sur Loir 2.96 256 *e*Sg **Sg 23 51 40.0 -1.9**
0.3nm,0.3s

MEX 19 23:50:34.8±0.5, 1788N×9962W, h5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.05**	**1**	*i* P	Pg	23 50 35.4	-0.7
MEIG				*i* S	Sg	23 50 36.6	-0.4
UTMO	**Huajuapan**	**1.73**	**91**	*e*P	Pn	23 51 02.3	-3.2
UTMO				*i* S	Sn	23 51 23.2	-4.8

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*ISCJB **19** 23:55:56.1±2.1, 1333N±007×12585E±008, h35km±16km, mb5.3/13, MS4.9/3, Error ellipse: s-maj=13.8km s-min=11.6km az=56.2*
*MOS **19** 23:56:02.0±1.1, 1343N×12592E, h85km, mb5.4/13, Error ellipse: s-maj=14.2km s-min=7.8km az=110.2*
*NEIC **19** 23:56:05.5±1.3, 1359N×12574E, h91km±10km, mb4.9/6, Error ellipse: s-maj=10.4km s-min=8.2km az=185.0*
ISC 19 23:56:00.7±1.6, 1335N±007×12586E±008, h61km±12km, n78, σ0°89/81, mb5.3/13, 9C-10D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**12.03**	**340**	Pn	**Pn**	**23 58 51.1**	**+1.7**
TATO	**Taipei**	**12.28**	**341**	Pn	**Pn**	**23 58 52.8**	**0.0**
KKTK	**Khon Kaen**	**22.47**	**280**	⇑P	**P**	**00 00 53.5**	**-1.2**
INCN	**Inchon**	**24.05**	**2**	P	**P**	**00 01 09.6**	**-0.5**
NANT	**Nan**	**24.77**	**286**	⇑P	**P**	**00 01 14.0**	**-2.6**
MAJO	**Matsushiro**	**25.62**	**23**	*e*P	**P**	**00 01 22.6**	**-1.8**
BJT	**Baijiatuan**	**27.91**	**344**	P	**P**	**00 01 44.6**	**-0.3**
VLA	**Vladivostok**	**30.12**	**9**	*e*P	**P**	**00 02 03.6**	**-1.0**
VLA				*i* S	**S**	**00 07 03.0**	**+4.0**
VLA	comp=Z,90nm,1.9s,mb5.2			pmax	pmax		
VLA	comp=Z,1μm,12.3s			MLR	MLR		
PMG	**Port Moresby**	**30.95**	**136**	*e*P	**P**	**00 02 16.5**	**+4.6**
HABR	**Khabarovsk**	**35.84**	**10**	*e*P	**P**	**00 02 53.8**	**-0.7**
HABR				*e*S	**S**	**00 08 28.8**	**+1.0**
HABR	comp=Z,69nm,1.2s,mb5.5			pmax	pmax		
HABR	comp=Z,2μm,15.2s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**36.38**	**20**⇑	*e*P	**P**	**00 02 59.3**	**+0.3**
CTAO	**Charters Tower**	**38.81**	**148**	*e*P	**P**	**00 03 18.9**	**-0.7**
TLY	**Talaya**	**42.23**	**339**	*e*P	**P**	**00 03 48.0**	**+0.2**
TLY	**Talaya**	**42.23**	**339**	*i* P	**P**	**00 03 47.8**	**0.0**
HYB	**Hyderabad**	**45.71**	**281**	*e*P	**P**	**00 04 16.0**	**+0.4**
HYB				*e*S	**S**	**00 11 00.0**	**+5.6**
HYB	comp=Z,42nm,0.8s,mb5.4			pmax	pmax		
HYB	**Hyderabad**	**45.71**	**281**	*e*P	**P**	**00 04 16.0**	**+0.4**
HYB	comp=Z,42nm,0.8s,mb5.4			*e*S	**S**	**00 11 00.0**	**+5.6**
PET	**Petropavlovsk**	**47.38**	**26**⇓	*e*P	**P**	**00 04 29.7**	**+0.9**
YAK	**Yakutsk**	**48.69**	**2**	*e*P	**P**	**00 04 37.9**	**-0.9**
YAK				*e*S	**S**	**00 11 34.0**	**-2.8**
MK31	**Makanchi Array**	**49.37**	**321**	*i* P	**P**	**00 04 44.4**	**+0.4**
MKAR	**Makanchi Array**	**49.37**	**321**⇑	*e*P	**P**	**00 04 44.3**	**+0.3**
MA2	**Magadan**	**49.70**	**16**	*e*P	**P**	**00 04 46.9**	**+0.3**
MA2	comp=Z,61nm,1.2s,mb5.5			pmax	pmax		
MA2	**Magadan**	**49.70**	**16**	P	**P**	**00 04 46.1**	**-0.4**
AAK	**Ala-Archa**	**52.90**	**314**	*i* P	**P**	**00 05 10.4**	**-0.1**
AAK	**Ala-Archa**	**52.90**	**314**	*i* P	**P**	**00 05 10.4**	**-0.1**
SEY	**Seymchan**	**52.96**	**15**⇓	*e*P	**P**	**00 05 11.8**	**+0.9**
KURK	**Kurchatov**	**53.34**	**324**	*i* P	**P**	**00 05 13.9**	**+0.2**
KURK	**Kurchatov**	**53.34**	**324**	*i* P	**P**	**00 05 13.9**	**+0.2**
KK31	**Karatay Array**	**55.84**	**313**	*i* P	**P**	**00 05 31.8**	**-0.1**
TIXI	**Tiksi**	**58.30**	**1**	*e*P	**P**	**00 05 52.3**	**+3.1**
TIXI	**Tiksi**	**58.30**	**1**	*i* P	**P**	**00 05 48.2**	**-1.0**
BRVK	**Borovoye**	**59.01**	**324**	*e*P	**P**	**00 05 54.1**	**0.0**
BRVK	comp=Z,68nm,0.9s,mb5.7			pmax	pmax		
BRVK	**Borovoye**	**59.01**	**324**	*i* P	**P**	**00 05 53.7**	**-0.4**
CHKZ	**Chkalovo**	**59.04**	**325**	*i* P	**P**	**00 05 53.0**	**-1.4**
TAU	**Tasmania Unive**	**59.34**	**162**	*e*P	**P**	**00 05 57.3**	**+0.9**
BILL	**Bilibino**	**60.57**	**16**	*i* P	**P**	**00 06 04.8**	**-0.1**
BILL	**Bilibino**	**60.57**	**16**	*i* P	**P**	**00 06 04.8**	**-0.1**
AB31	**Akbulak array**	**64.31**	**318**⇑	*e*P	**P**	**00 06 29.7**	**-0.1**
AKTK	**Aktyubinsk**	**65.73**	**319**	*i* P	**P**	**00 06 38.4**	**-0.6**
AKTO	**Aktyubinsk**	**65.73**	**319**	*i* P	**P**	**00 06 38.4**	**-0.6**
ARU	**Arti**	**66.46**	**326**	*i* P	**P**	**00 06 43.1**	**-0.6**
ARU	**Arti**	**66.46**	**326**	*i* P	**P**	**00 06 43.1**	**-0.6**
KIV	**Kislovodsk**	**75.99**	**312**	*e*P	**P**	**00 07 42.0**	**+0.8**
KIV	comp=Z,38nm,0.7s,mb5.4			pmax	pmax		
KIV	**Kislovodsk**	**75.99**	**312**	*i* P	**P**	**00 07 41.6**	**+0.4**
PMR	**Palmer**	**76.00**	**29**	*e*P	**P**	**00 07 40.4**	**-0.9**
PMR	comp=Z,12nm,0.6s,mb5.0			pmax	pmax		
PMR	**Palmer**	**76.00**	**29**	*e*P	**P**	**00 07 40.4**	**-0.9**
COLA	**College**	**76.45**	**26**⇓	*e*P	**P**	**00 07 44.4**	**+0.6**
OBN	**Obninsk**	**78.78**	**324**	*i* P	**P**	**00 07 56.3**	**-0.5**
OBN	comp=Z,500nm,15.0s			LR	LR		
INK	**Inuvik**	**81.59**	**22**	*e*P	**P**	**00 08 12.1**	**+0.1**
ANTO	**Ankara**	**83.90**	**309**	P	**P**	**00 08 24.7**	**+0.8**
ANTO	comp=Z,85nm,1.7s,mb5.6			pmax	pmax		
ANTO	**Ankara**	**83.90**	**309**	⇓P	**P**	**00 08 24.2**	**+0.3**
AKBB	**Malin Array Si**	**83.95**	**321**	P	**P**	**00 08 23.8**	**-0.4**
KIEV	**Kiev**	**83.96**	**321**	P	**P**	**00 08 23.8**	**-0.4**
KIEV	comp=Z,33nm,1.0s,mb5.4			pmax	pmax		
TIRR	**Tirgusor**	**86.00**	**315**	⇓P	**P**	**00 08 34.5**	**0.0**
SUW	**Suwalki**	**86.62**	**325**	P	**P**	**00 08 37.1**	**-0.4**
SUW	comp=Z,69nm,0.9s,mb5.9			pmax	pmax		
VRI	**Vrincioaia**	**86.78**	**316**	⇓P	**P**	**00 08 39.0**	**+0.7**
BURAR	**Bucovina Array**	**87.29**	**318**	⇓P	**P**	**00 08 40.9**	**+0.1**
MLR	**Muntele Rosu**	**87.42**	**316**	⇓P	**P**	**00 08 41.7**	**+0.3**
RES	**Resolute Bay**	**88.56**	**10**	*e*P	**P**	**00 08 46.9**	**+0.1**
KOLS	**Kolonicke sedl**	**88.76**	**320**	*e*P	**P**	**00 08 48.3**	**+0.5**
KOLS				*e*	pP	00 09 01.9	-3.0
KMBO	**Kilima Mbogo**	**88.91**	**269**	*e*P	**P**	**00 08 50.3**	**+1.9**
KMBO	comp=Z,27nm,1.5s			pmax	pmax		
DRGR		**89.17**	**318**	⇑P	**P**	**00 08 50.2**	**+0.5**
STHS	**Stebnicka Huta**	**89.24**	**321**	*e*P	**P**	**00 08 50.6**	**+0.6**
STHS	comp=Z,10.0nm,1.2s,mb5.0			pmax	pmax		
STHS	**Stebnicka Huta**	**89.24**	**321**	*e*P	**P**	**00 08 50.6**	**+0.6**
STHS	comp=Z,10nm,1.2s,mb5.0			*e*		00 08 58.8	
CRVS	**Cervenica-Dubn**	**89.28**	**320**	*e*P	**P**	**00 08 51.1**	**+0.9**
CRVS				*e*PCP	PcP	00 08 54.0	+2.4
CRVS				*e*	pP	00 09 03.2	-4.2
CRVS	**Cervenica-Dubn**	**89.28**	**320**	*e*P	**P**	**00 08 51.1**	**+0.9**
CRVS				*e*		00 08 54.1	
CRVS				*e*	pP	00 09 03.2	-4.2
KECS	**Kecovo**	**90.03**	**320**	*e*P	**P**	**00 08 54.2**	**+0.5**
KECS	comp=Z,7.0nm,1.0s,mb5.0			pmax	pmax		
KECS	**Kecovo**	**90.03**	**320**	*e*P	**P**	**00 08 54.2**	**+0.5**
VTS	**Vitosha**	**90.16**	**314**	⇓P	**P**	**00 08 54.7**	**+0.4**
BZS	**Buzias**	**90.27**	**317**	⇓P	**P**	**00 08 54.5**	**-0.3**
VYHS	**Vyhne**	**91.05**	**320**	*e*P	**P**	**00 08 58.9**	**+0.5**
VYHS	comp=Z,5.9nm,1.2s,mb4.8			*e*		00 09 02.6	
MORC	**Moravsky Berou**	**91.36**	**322**	⇑P	**P**	**00 09 00.1**	**+0.2**
VRAC	**Vranov**	**92.11**	**322**	⇑P	**P**	**00 09 03.7**	**+0.4**
MAW	**Mawson**	**92.43**	**200**	P	**P**	**00 09 03.0**	**-1.8**
MAW	comp=Z,35nm,1.2s			pmax	pmax		
KHC	**Kasperske Hory**	**93.99**	**322**	*i* P	**P**	**00 09 13.6**	**+1.6**
EDM	**Edmonton**	**96.68**	**31**	P	**P**	**00 09 22.8**	**-1.5**
BMO	**Blue Mountains**	**98.70**	**40**	*e*P	**P**	**00 09 36.2**	**+2.8**
LSZ	**Lusaka**	**100.69**	**257**	*e*P	Pdif	00 09 43.0	+0.8
SYO	**Syowa Base**	**101.02**	**201**⇑	*e*P	Pdif	00 09 42.4	-1.3

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*ISCJB **20** 00:14:29.9±0.6, 3436N±004×27.19E±007, h10km, Error ellipse: s-maj=8.9km s-min=6.2km az=150.4*
*CSEM **20** 00:14:33.1±0.1, 3458N×2758E, h30km, ML3.0, Error ellipse: s-maj=4.9km s-min=2.7km az=50.0*
*ATH **20** 00:14:39.3, 3501N×2674E, h14km, MD3.5/4*
*HLW **20** 00:14:40.1, 3419N×2770E, h33km, Mb3.0*
ISC 20 00:14:31.1±0.6, 3441N±004×2710E±007, h10km, n12, σ0°64/14, 2C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.14**	**3**	*e*PB	**Pb**	**00 14 51.5**	**-1.3**
ARG	**Arkhangelos**	**1.99**	**25**	*e*PG	**Pg**	**00 15 10.0**	**+0.8**
GVD	**Gavdhos**	**2.52**	**281**	*e*PB	**Pb**	**00 15 16.8**	**+0.4**
VAM	**Vamos**	**2.58**	**293**	*e*PN	**Pb**	**00 15 17.5**	**0.0**
HMAT	**Matruh**	**3.31**	**180**	⇑P	**Pn**	**00 15 27.2**	**+4.4**
HMAT				S	**Sn**	**00 16 01.2**	**-1.0**
SWA1		**5.26**	**193**	⇑P	**Pn**	**00 15 55.5**	**+5.7**
SWA1				S	**Sn**	**00 16 50.9**	**+0.3**
HNAT	**Natroun**	**5.62**	**147**	⇓P	**Pn**	**00 15 55.2**	**+0.5**
GLL	**Jalalah**	**6.21**	**140**	⇓P	**Pn**	**00 16 03.2**	**+0.5**
GLL	**Jalalah**	**6.21**	**140**	P	**Pn**	**00 16 03.2**	**+0.5**
AMAG	**Maghara**	**6.38**	**124**	P	**Pn**	**00 16 04.7**	**-0.4**
SUZ		**6.66**	**132**	⇓P	**Pn**	**00 16 09.0**	**+0.1**
HNKL	**Nakhl**	**7.34**	**126**	⇓P	**Pn**	**00 16 18.3**	**-0.1**

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*IDC **20** 00:16:31.5±3.6, 4616N×15447E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, MS3.1/4, Ms1 3.1/4, ms1mx2.8/33, Error ellipse: s-maj=105.6km s-min=30.5km az=3.0*
*MOS **20** 00:16:32.9±1.1, 4581N×15426E, h33km, mb4.3/3, Error ellipse: s-maj=54.3km s-min=28.3km az=94.8*
*ISCJB **20** 00:16:35.0±3.4, 458N±03×1542E±02, h48km±33km, mb3.7/7, MS3.2/3, Error ellipse: s-maj=58.0km s-min=22.4km az=156.3*
ISC 20 00:16:36.3±3.1, 460N±03×1543E±02, h39km±28km, n13, σ0°88/11, mb3.7/7, MS3.2/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.54**	**263**	*e*P	**Pn**	**00 17 43.0**	**+0.6**
KUR				*e*S	**Sn**	**00 18 33.0**	**-0.9**
KUR	comp=Z,150nm,0.5s			pmax	pmax		
KUR	comp=N,110nm,0.6s			smax			
KUR	comp=E,80nm,0.6s			smax			
ASAJ	**Asahikawa**	**8.46**	**262**	LR	LR	00 21 54.7	
BILL	comp=E,44nm,20.4s,baz=73,slow=37 **Bilibino**	**23.00**	**12**	*e*P	**P**	**00 21 37.8**	**+0.2**
BILL	comp=Z,6.0nm,1.1s,mb3.9			pmax	pmax		
SONM	**Songino Array**	**32.34**	**291**	LR	LR	00 36 35.3	
ZAL	comp=Z,27nm,18.0s,MS3.0,baz=345,slow=37 **Zalesovo**	**43.73**	**307**	LR	LR	00 44 27.0	
MKAR	comp=Z,40nm,20.3s,MS3.3,baz=180,slow=38 **Makanchi Array**	**48.01**	**298**	P	**P**	**00 25 13.2**	**+1.8**
MKAR	comp=Z,0.2nm,0.4s,mb3.5,baz=63,slow=6.6,SNR=5.2			LR	LR	00 45 13.0	
YKA	comp=Z,24nm,18.7s,MS3.2,baz=169,slow=36 **Yellowknife Ar**	**51.09**	**37**	P	**P**	**00 25 34.4**	**-0.4**
BVAR	comp=Z,0.2nm,0.6s,mb3.2,baz=294,slow=7.3,SNR=5.3 **Borovoye Array**	**51.97**	**310**	P	**P**	**00 25 42.0**	**+0.6**
FINES	comp=Z,0.3nm,0.3s,mb3.6,baz=54,slow=7.7,SNR=6.1 **FINESS Array B**	**65.09**	**335**	P	**P**	**00 27 11.3**	**-1.5**
FINES	comp=Z,5.5nm,1.1s,mb4.5,baz=35,slow=7.0,SNR=4.6			pmax	pmax		
FINES	**FINESS Array B**	**65.09**	**335**	P	**P**	**00 27 11.3**	**-1.5**
NOA	comp=Z,6.0nm,1.1s **NORSAR Array B**	**69.23**	**342**	P	**P**	**00 27 38.8**	**-0.3**
NOA	comp=Z,1.0nm,0.8s,mb3.8,baz=56,slow=15,SNR=2.9 **NORSAR Array B**	**69.23**	**342**	P	**P**	**00 27 38.8**	**-0.3**
NOA	comp=Z,1.0nm,0.8s			pmax	pmax		
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**00 28 25.9**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=293,slow=4.1,SNR=5.4						

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*ZUR **20** 00:19:43.4, 4577N×1138E, h2km, ML1.5/2*
*CSEM **20** 00:19:43.8±0.1, 4580N×1137E, h20km, ML2.8/6, Error ellipse: s-maj=2.1km s-min=1.9km az=94.0*
*ISCJB **20** 00:19:44.4±0.5, 4584N±002×1137E±004, h10km, Error ellipse: s-maj=3.9km s-min=3.5km az=164.1*
*ROM **20** 00:19:44.7±0.3, 4581N×1138E, h10km, Md2.3/5, MI1.9/4, Error ellipse: s-maj=4.4km s-min=1.9km az=156.0*
*VIE **20** 00:19:44.7±0.8, 4585N×1138E, h8km, ML2.4/5, Error ellipse: s-maj=5.0km s-min=3.1km az=18.0 24 km SSW of Borgo*
ISC 20 00:19:45.0±0.5, 4582N±003×1138E±004, h10km, n15, σ0°68/28, 10C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTI	**Castel Tesino**	**0.30**	**40**⇑	*i* Pg	**Pg**	**00 19 51.4**	**+0.4**
CTI				Sg	**Sg**	**00 19 55.8**	**+0.8**
CGRP	142nm,0.2s **Cima Grappa**	**0.30**	**78**	*e*Pg	**Pg**	**00 19 51.3**	**+0.2**
TEOL	**Teolo**	**0.50**	**156**⇓	*i* Pg	**Pg**	**00 19 54.2**	**-0.6**
TEOL				*i* Sg	**Sg**	**00 20 01.0**	**-0.5**
MAGA	**Magasa**	**0.53**	**265**	Pg	**Pg**	**00 19 55.2**	**0.0**
MAGA				Sg	**Sg**	**00 20 02.7**	**+0.6**
MABI	136nm,0.5s **Malga Bissina**	**0.65**	**292**	Pg	**Pg**	**00 19 57.6**	**+0.1**
MABI				Sg	**Sg**	**00 20 06.3**	**+0.3**
APPI	**Appiano**	**0.67**	**351**	Pg	**Pg**	**00 19 58.3**	**+0.4**
APPI				Sg	**Sg**	**00 20 07.2**	**+0.6**
BRMO	37nm,0.2s **Bormio**	**0.96**	**314**	Pg	**Pg**	**00 20 03.5**	**+0.1**
BRMO				Sg	**Sg**	**00 20 15.9**	**0.0**
SCE	18nm,0.3s **Schlegeis**	**1.24**	**11**⇓	*i* Pg	**Pg**	**00 20 08.5**	**-0.3**
SCE				*i* Sg	**Sg**	**00 20 24.9**	**-0.1**
SQTA	**Sankt Quirin**	**1.41**	**355**⇑	*i* Pg	**Pg**	**00 20 11.1**	**-0.9**
SQTA	1.9nm,0.1s			⇓*i* Sg	**Sg**	**00 20 30.2**	**0.0**
DAVOX	28nm,0.3s **Davos**	**1.41**	**313**⇑	*i* Pn	**Pn**	**00 20 02.6**	**-8.2**
WTTA	2.5nm,0.2s **Wattenberg**	**1.46**	**7**⇑	*i* Pg	**Pg**	**00 20 12.2**	**-0.8**
WTTA	1.0nm,0.1s			⇑*i* Sg	**Sg**	**00 20 31.6**	**-0.2**
WATA	6.9nm,0.2s **Walderalm**	**1.52**	**5**⇑	*i* Pg	**Pg**	**00 20 13.3**	**-0.9**
WATA	2.0nm,0.2s			⇑*i* Sg	**Sg**	**00 20 33.8**	**-0.2**
MOTA	7.0nm,0.2s **Moosalm**	**1.54**	**353**⇓	*i* Pg	**Pg**	**00 20 13.6**	**-0.9**
MOTA	0.8nm,0.1s			⇑*i* Sg	**Sg**	**00 20 34.0**	**-0.5**
CADS	3.2nm,0.2s **Cadrg**	**1.69**	**75**	*i* Pn	**Pn**	**00 20 16.5**	**+1.9**
CADS				*i* Sn	**Sn**	**00 20 40.0**	**+3.7**
DAVA	**Damuels**	**1.79**	**325**⇑	Pg	**Pg**	**00 20 18.8**	**-0.7**
DAVA	0.5nm,0.2s			⇑*i* Sg	**Sg**	**00 20 43.6**	**+0.9**
	0.9nm,0.2s						

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*ISCJB **20** 00:20:11.9±1.6, 2428S±007×668W±03, h202km±19km, mb3.5/3, Error ellipse: s-maj=39.0km s-min=11.0km az=169.0*
*IDC **20** 00:20:11.8±2.4, 2426S×6670W, h183km±29km, mb3.2/2, mb1 3.3/3, mb1mx3.1/14, mbtmp3.0/3, Error ellipse: s-maj=62.4km s-min=20.3km az=89.0*
*NEIC **20** 00:20:12.7±1.3, 2418S×6665W, h193km±14km, mb4.1/1, Error ellipse: s-maj=27.4km s-min=9.7km az=81.0*
ISC 20 00:20:12.7±1.5, 2430S±007×668W±03, h194km±18km, n11, σ1°08/12, mb3.5/3, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.39**	**190**	P	**Pn**	**00 21 59.7**	**+1.7**
CFAA	0.1nm,0.3s,baz=3.6,slow=16,SNR=4.5			S	**Sn**	**00 23 19.9**	**-1.6**
CFAA	0.1nm,0.3s,baz=182,slow=21,SNR=4.1 **Coronel Fontan**	**7.39**	**190**	P	**Pn**	**00 21 59.7**	**+1.7**
CFAA				S	**Sn**	**00 23 19.9**	**-1.6**
LPAZ	**La Paz**	**8.07**	**351**	P	**Pn**	**00 22 06.2**	**-0.6**
NNA	0.2nm,0.3s,baz=196,slow=7.4,SNR=3.9 **Nana**	**15.52**	**320**	*e*Pn	**Pn**	**00 23 42.0**	**+0.6**
PLCA	3.5nm,0.5s **Paso Flores**	**16.69**	**190**	P	**Pn**	**00 23 56.3**	**+0.8**
OTAV	**Otavalo**	**26.89**	**333**	P	**P**	**00 25 36.7**	**+1.2**
JTS	**JuntasAbangare**	**38.69**	**331**	P	**P**	**00 27 16.2**	**-1.4**
TORD	4.1nm,0.6s,mb4.1 **Torodi Ar. Bea**	**76.49**	**69**	P	**P**	**00 31 41.2**	**+0.1**
YKA	0.2nm,0.4s,mb3.1,baz=251,slow=5.5,SNR=4.2 **Yellowknife Ar**	**94.47**	**340**	P	**P**	**00 33 10.0**	**-0.7**
YKA	0.2nm,0.5s,mb3.5,baz=136,slow=4.4,SNR=4.7 **Yellowknife Ar**	**94.47**	**340**	P	**P**	**00 33 10.0**	**-0.8**
MKAR	**Makanchi Array**	**146.62**	**40**	PKPbc	PKPbc	00 39 31.4	+0.1
	0.3nm,0.5s,baz=297,slow=3.2,SNR=6.0						

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*ISCJB **20** 00:38:44.8±2.0, 2183N±007×1432E±01, h53km±18km, mb4.3/20, Error ellipse: s-maj=19.7km s-min=10.7km az=147.6*
*IDC **20** 00:38:47.3±3.7, 2187N×14322E, h63km±33km, mb3.6/9, mb1 3.8/11, mb1mx3.7/23, mbtmp3.7/11, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/27, Error ellipse: s-maj=33.5km s-min=16.0km az=81.0*
*MOS **20** 00:38:49.5±0.9, 2190N×14300E, h92km, mb4.6/7, Error ellipse: s-maj=21.1km s-min=8.4km az=109.1*
*NEIC **20** 00:38:51.2±1.1, 2190N×14308E, h94km±10km, mb4.6/10, Error ellipse: s-maj=13.4km s-min=6.3km az=77.0*
ISC 20 00:38:47.4±1.7, 2187N±007×1432E±01, h60km±16km, n46, σ0°80/43, mb4.3/20, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.29**	**350**	P	**Pn**	**00 40 02.5**	**-1.3**
GUMO	24nm,0.3s,baz=263,slow=22,SNR=9.9 **Guam**	**8.38**	**169**	P	**Pn**	**00 40 51.6**	**+5.4**
JHJ	**Hachijo jima 2**	**11.61**	**346**	LR	LR	00 45 59.5	
MJAR	comp=Z,81nm,18.9s,baz=185,slow=37 **Matsushiro Arr**	**15.26**	**344**	P	**Pn**	**00 42 18.5**	**-0.5**
MJAR	0.3nm,0.3s,baz=170,slow=11,SNR=4.3			LR	LR	00 47 45.6	
MAJO	comp=Z,123nm,19.2s,baz=150,slow=35 **Matsushiro**	**15.26**	**344**	*e*P	**Pn**	**00 42 21.0**	**+2.0**
KSRS	**Korea Array**	**20.40**	**323**	P	**P**	**00 43 20.8**	**+1.5**
INCN	5.2nm,0.8s,baz=138,slow=12,SNR=13 **Inchon**	**21.16**	**321**	P	**P**	**00 43 27.8**	**+0.4**
YSS	16nm,0.4s,mb4.7 **Yuzh-Sakhalins**	**25.03**	**359**	*e*P	**P**	**00 44 06.1**	**+0.4**
YSS				pmax	pmax		
YSS	comp=Z,10.0nm,0.3s,mb4.8 **Yuzh-Sakhalins**	**25.03**	**359**	*e*P	**P**	**00 44 06.1**	**+0.4**
MDJ	comp=Z,10nm,0.3s,mb4.8 **Mudanjiang**	**25.32**	**337**	*e*P	**P**	**00 44 08.5**	**+0.1**
BJT	comp=Z,2.6nm,0.3s,mb4.2 **Baijiatuan**	**29.25**	**314**	*e*P	**P**	**00 44 43.5**	**-0.1**
BJT				pmax	pmax		
BJT	comp=Z,4.0nm,0.3s **Baijiatuan**	**29.25**	**314**	*e*P	**P**	**00 44 43.5**	**-0.1**
HIA	comp=Z,4.1nm,0.3s,mb4.6 **Hailar**	**33.08**	**331**	P	**P**	**00 45 16.2**	**-1.1**
SONM	**Songino Array**	**39.23**	**320**	P	**P**	**00 46 09.6**	**-0.2**
ZAK	comp=Z,2.2nm,0.7s,mb4.0,baz=127,slow=7.4,SNR=17 **Zakamensk**	**42.23**	**322**	*e*P	**P**	**00 46 33.7**	**-0.8**
ZAK				pmax	pmax		
WB2	comp=Z,3.0nm,1.2s,mb3.8 **Warramunga Arr**	**42.45**	**192**	*e*P	**P**	**00 46 38.2**	**+1.9**
WRA	**Warramunga Arr**	**42.45**	**192**	P	**P**	**00 46 36.7**	**+0.4**
TLY	comp=Z,1.6nm,1.1s,mb3.6,baz=17,slow=9.4,SNR=8.1 **Talaya**	**42.64**	**324**	P	**P**	**00 46 38.5**	**+0.6**
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**00 47 05.3**	**-0.6**
LSA	comp=Z,0.6nm,0.7s,mb3.6,baz=3.3,slow=7.4,SNR=8.2 **Lhasa**	**47.21**	**291**	*e*P	**P**	**00 47 14.7**	**+0.6**
LSA				pmax	pmax		
LSA	comp=Z,2.0nm,0.3s,mb4.5 **Lhasa**	**47.21**	**291**	*e*P	**P**	**00 47 14.7**	**+0.5**
NOUC	comp=Z,1.8nm,0.3s,mb4.5 **Port Laguerre**	**49.16**	**151**	*e*P	**P**	**00 47 29.3**	**+0.1**
DZM	**Mont Dzumac**	**49.20**	**151**	*e*P	**P**	**00 47 27.7**	**-1.8**
STKA	**Stephens Creek**	**53.46**	**182**	P	**P**	**00 48 01.4**	**0.0**
ZAL	comp=Z,2.1nm,0.7s,mb4.2,baz=4.5,slow=12,SNR=3.7 **Zalesovo**	**54.11**	**322**	P	**P**	**00 48 05.2**	**-0.9**
MKAR	comp=Z,2.1nm,0.9s,mb4.1,baz=19,slow=7.2,SNR=12 **Makanchi Array**	**54.61**	**313**	P	**P**	**00 48 09.7**	**0.0**
NVS	comp=Z,0.6nm,0.6s,mb3.8,baz=84,slow=10,SNR=8.0 **Novosibirsk**	**55.19**	**322**⇑	*i* P	**P**	**00 48 12.6**	**-1.3**
NVS				pmax	pmax		
KURK	comp=Z,23nm,2.7s,mb4.7 **Kurchatov**	**57.37**	**317**	*e*P	**P**	**00 48 28.6**	**-0.8**
KURK				pmax	pmax		
KURK	comp=Z,10.0nm,1.4s,mb4.7 **Kurchatov**	**57.37**	**317**	*e*P	**P**	**00 48 28.6**	**-0.9**
AAK	comp=Z,9.6nm,1.4s,mb4.6 **Ala-Archa**	**60.09**	**308**	*e*P	**P**	**00 48 48.0**	**-0.3**
COLA	**College**	**61.48**	**27**	*e*P	**P**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**0.22**	**94**	*e*P	Pg	00 40 06.4	+0.2
PVIA				*e*S	Sg	00 40 09.6	+0.6
PVIA							
	26nm,0.3s						
SRBC	**Serra Branca**	**0.23**	**102**	*e*P	Pg	00 40 06.4	0.0
SRBC				*e*S	Sg	00 40 09.9	+0.5
STGR	**Santa Cruz**	**0.26**	**91**	*e*P	Pg	00 40 06.7	-0.2
STGR				*e*S	Sg	00 40 10.6	+0.4
STGR							
	79nm,0.2s						
STGR	**Santa Cruz**	**0.26**	**91**	*e*P	Pg	00 40 06.7	-0.2
STGR				*e*S	Sg	00 40 10.6	+0.4
ROSA	**Rosais**	**0.37**	**169**	*i* P	Pg	00 40 08.7	-0.3
PAMA	**Santo Amaro**	**0.42**	**163**	*e*S	Sg	00 40 16.0	+0.5
PAMA							
	22nm,0.1s						
PMAN	**Manadas**	**0.49**	**157**	*e*S	Sg	00 40 17.2	-0.5
PMAN							
	64nm,0.3s						
PLUZ	**Luz**	**0.51**	**262**	*e*P	Pg	00 40 07.2	-4.4
PLUZ				*e*S	Sg	00 40 11.5	-6.6
PLUZ							
	92nm,0.3s						
PCED	**Cedros**	**0.54**	**212**	*i* P	Pg	00 40 11.3	-0.9
PCED				*e*S	Sg	00 40 18.8	-0.4
PCED							
	105nm,0.3s						
PCED	**Cedros**	**0.54**	**212**	*e*S	Sg	00 40 18.8	-0.4
CALA	**Caldeira**	**0.58**	**210**	*i* P	Pg	00 40 12.2	-0.8
CALA				*e*S	Sg	00 40 20.3	-0.2
CALA	**Caldeira**	**0.58**	**210**	*e*S	Sg	00 40 20.3	-0.2
PICO	**Pico**	**0.59**	**187**	*e*P	Pg	00 40 12.5	-0.7
PTCA	**Ponta do Capel**	**0.62**	**216**	*i* P	Pg	00 40 13.4	-0.3
PTCA				*e*S	Sg	00 40 21.0	-0.7
PTCA							
	35nm,0.2s						
PTCA	**Ponta do Capel**	**0.62**	**216**	*e*S	Sg	00 40 21.0	-0.7
PSBA	**Serra de Santa**	**0.85**	**112**	*e*P	Pg	00 40 26.1	+7.9
ASBA	**Santa Barbara**	**0.87**	**114**	*e*P	Sg	00 40 29.6	-0.2

*NEIC **20** 00:44:01.6, 3782S×17628E, h193km, MG4.3(WEL), After WEL.*

WEL 20 00:44:01.7±0.2, 3782S×17630E, h192km±2km, ML4.2/21, 1C-3D, Error ellipse: s-maj=1.8km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.78**	**124**	P	Pn	00 44 29.1	-0.1
URZ	**Urewera**	**0.78**	**124**	⇓P	Pn	00 44 29.1	-0.1
URZ				SN	Sn	00 44 50.3	-0.1
MWZ	**Matawai**	**1.10**	**118**	P	Pn	00 44 31.5	+0.2
MWZ	**Matawai**	**1.10**	**118**	PN	Pn	00 44 31.2	-0.2
HIZ	**Hauiti**	**1.33**	**238**	P	Pn	00 44 33.3	+0.1
HIZ	**Hauiti**	**1.33**	**238**	⇑PN	Pn	00 44 33.3	+0.1
BKZ	**Black Stump Fm**	**1.35**	**174**	⇓PN	Pn	00 44 33.4	+0.1
BKZ				SN	Sn	00 44 58.0	+0.1
TWVZ	**Taurewa**	**1.42**	**208**	P	Pn	00 44 34.2	+0.3
TWVZ	**Taurewa**	**1.42**	**208**	PN	Pn	00 44 34.3	+0.4
WPVZ	**Whakapapa**	**1.50**	**203**	P	Pn	00 44 35.0	+0.3
WPVZ	**Whakapapa**	**1.50**	**203**	PN	Pn	00 44 34.9	+0.3
TUVZ	**Tukino**	**1.53**	**199**	P	Pn	00 44 35.2	+0.3
TUVZ	**Tukino**	**1.53**	**199**	PN	Pn	00 44 35.1	+0.2
PUZ	**Puketiti**	**1.57**	**100**	*e*P	Pn	00 44 35.1	-0.2
PUZ	**Puketiti**	**1.57**	**100**	PN	Pn	00 44 34.6	-0.7
TRVZ	**Turoa**	**1.59**	**201**	*e*PN	Pn	00 44 35.8	+0.3
WNVZ	**Wahianoa**	**1.60**	**200**	P	Pn	00 44 35.8	+0.2
WNVZ	**Wahianoa**	**1.60**	**200**	PN	Pn	00 44 35.8	+0.2
KNZ	**Kokohu**	**1.61**	**138**	P	Pn	00 44 36.1	+0.4
KNZ				S	Sn	00 45 03.0	+0.9
KNZ	**Kokohu**	**1.61**	**138**	⇓PN	Pn	00 44 36.1	+0.4
KNZ				SN	Sn	00 45 01.7	-0.4
MOVZ	**Moawhango**	**1.64**	**195**	P	Pn	00 44 35.6	-0.4
MOVZ	**Moawhango**	**1.64**	**195**	PN	Pn	00 44 35.6	-0.3
PKVZ	**Pokaka**	**1.64**	**207**	PN	Pn	00 44 36.1	+0.1
MTVZ	**Mangateitei**	**1.69**	**202**	PN	Pn	00 44 36.6	+0.2
WAZ	**Wanganui**	**2.19**	**208**	*e*P	Pn	00 44 41.1	-0.5
WAZ	**Wanganui**	**2.19**	**208**	PN	Pn	00 44 40.8	-0.7
TSZ	**Takapari Road**	**2.25**	**187**	P	Pn	00 44 41.6	-0.7
TSZ	**Takapari Road**	**2.25**	**187**	PN	Pn	00 44 41.5	-0.7
PXZ	**Pawanui**	**2.25**	**169**	PN	Pn	00 44 41.7	-0.5
BFZ	**Birch Farm**	**2.85**	**181**	P	Pn	00 44 47.9	-1.3
MRZ	**Mangatainoka R**	**2.89**	**191**	P	Pn	00 44 47.8	-1.8
MRZ	**Mangatainoka R**	**2.89**	**191**	PN	Pn	00 44 47.7	-1.8
MRZ				SN	Sn	00 45 23.9	-3.0
TIWZ	**Tintock**	**2.97**	**186**	SN	Sn	00 45 25.5	-3.1
KIW	**Kapiti Island**	**3.22**	**199**	PN	Pn	00 44 51.1	-2.4
MTW	**Mount Morrison**	**3.39**	**190**	P	Pn	00 44 52.9	-2.7
MTW	**Mount Morrison**	**3.39**	**190**	PN	Pn	00 44 52.9	-2.6
CAW	**Cannon Point**	**3.42**	**196**	PN	Pn	00 44 53.4	-2.5
DUWZ	**D'Urville Isla**	**3.50**	**211**	PN	Pn	00 44 54.2	-2.7
TRWZ	**Traveller**	**3.60**	**187**	PN	Pn	00 44 55.7	-2.5
PAWZ	**Paruwai Farm**	**3.62**	**190**	P	Pn	00 44 55.6	-2.8
PAWZ	**Paruwai Farm**	**3.62**	**190**	PN	Pn	00 44 55.6	-2.8
MRW	**Makara Radio**	**3.62**	**199**	P	Pn	00 44 55.8	-2.6
MRW	**Makara Radio**	**3.62**	**199**	PN	Pn	00 44 55.8	-2.6
MSWZ	**Moikau Station**	**3.68**	**192**	PN	Pn	00 44 56.2	-2.9
SNZO	**South Karori**	**3.69**	**199**	P	Pn	00 44 56.3	-3.0
SNZO	**South Karori**	**3.69**	**199**	PN	Pn	00 44 56.3	-3.0
TCW	**Tory Channel**	**3.73**	**204**	P	Pn	00 44 56.9	-2.9
TCW	**Tory Channel**	**3.73**	**204**	PN	Pn	00 44 56.9	-2.8
BHW	**Baring Head**	**3.75**	**197**	P	Pn	00 44 56.9	-3.1
BHW	**Baring Head**	**3.75**	**197**	PN	Pn	00 44 56.9	-3.1
TUWZ	**Tuamarina**	**4.04**	**206**	PN	Pn	00 45 00.6	-2.9
NNZ	**Nelson**	**4.07**	**213**	*e*PN	Pn	00 44 59.9	-4.1
QRZ	**Quartz Range**	**4.19**	**223**	*e*P	Pn	00 45 02.5	-3.0
BSWZ	**Blackbirch Sta**	**4.31**	**205**	PN	Pn	00 45 04.4	-2.7
THZ	**Tophouse**	**4.72**	**213**	*e*P	Pn	00 45 09.8	-2.5
THZ	**Tophouse**	**4.72**	**213**	*e*PN	Pn	00 45 08.9	-3.4
KHZ	**Kahutara**	**5.05**	**204**	*e*P	Pn	00 45 13.1	-3.4
KHZ	**Kahutara**	**5.05**	**204**	PN	Pn	00 45 13.1	-3.5
DSZ	**Denniston Nort**	**5.23**	**220**	*e*P	Pn	00 45 14.9	-3.9
LTZ	**Lake Taylor**	**5.83**	**211**	*e*P	Pn	00 45 22.5	-4.1
LTZ	**Lake Taylor**	**5.83**	**211**	PN	Pn	00 45 22.5	-4.0
MQZ	**McQueen's Vall**	**6.50**	**204**	*e*P	Pn	00 45 30.0	-5.2
MQZ	**McQueen's Vall**	**6.50**	**204**	PN	Pn	00 45 30.0	-5.3
ODZ	**Otahua Downs**	**8.37**	**209**	*e*PN	Pn	00 45 54.9	-4.8
JCZ	**Jackson Bay**	**8.45**	**220**	*e*PN	Pn	00 45 55.7	-5.1
JCZ				SN	Sn	00 47 22.8	-13

IDC 20 00:47:16.7±46.0, 4704N×15285E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=1055.0km s-min=88.3km az=153.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.65**	**297**	P	P	00 55 46.5	-0.3
	0.2nm,0.5s,baz=70,slow=6.3,SNR=3.6						
PMG	**Port Moresby**	**56.42**	**187**	LR	LR	01 16 57.1	
	comp=Z,42nm,21.1s,baz=29,slow=32						
FINES	**FINESS Array B**	**63.70**	**335**	P	P	00 57 49.4	-0.5
	2.0nm,1.0s,baz=48,slow=8.5,SNR=4.6						
NOA	**NORSAR Array B**	**67.89**	**341**	P	P	00 58 16.6	-0.4
	0.8nm,0.6s,baz=28,slow=6.4,SNR=3.5						

JSN 20 00:51:25.1±0.5, 1872N×7959W, h0km±999km, MD3.9, 1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.97**	**113**	*e*P	Pn	00 51 58.7	-1.1
MCJ				*e*S	Sn	00 52 23.3	-1.9
BBJ	**Bamboo Saint A**	**2.23**	**98**	⇓*e*P	Pn	00 52 02.0	-1.2
BBJ				*e*S	Sn	00 52 30.1	-1.4
STH	**Stony Hill**	**2.72**	**103**	*e*P	Pn	00 52 08.4	-1.6

*IDC **20** 00:52:24.9±6.2, 226N×12820E, h149km±55km, mb3.8/9, mb1 3.9/9, mb1mx3.7/18, mbtmp3.8/9, Error ellipse: s-maj=72.3km s-min=13.5km az=67.0*
*ISCJB **20** 00:52:25.9±2.6, 22N±0.1×1282E±0.1, h174km±25km, mb4.2/14, Error ellipse: s-maj=27.5km s-min=9.8km az=117.9*
*NEIC **20** 00:52:25.6±1.4, 224N×12822E, h157km±13km, mb4.2/6, Error ellipse: s-maj=13.1km s-min=4.8km az=59.0*

ISC 20 00:52:26.5±2.9, 22N±0.1×1282E±0.2, h165km±28km, n31, σ0§54/26, mb4.2/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.55**	**288**	*e*Pn	**Pn**	**00 55 18.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.38**	**187**	P	**P**	**00 56 50.1**	**-0.1**
	1.6nm,0.9s,baz=24,slow=13,SNR=5.2						
PMG	**Port Moresby**	**22.14**	**122**	*e*P	**P**	**00 57 08.7**	**-0.2**
	8.2nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**22.85**	**165**	P	**P**	**00 57 15.5**	**+0.1**
	4.6nm,0.4s,mb4.2,baz=342,slow=10,SNR=47						
WRA				PcP	PcP	01 01 01.3	+0.5
	0.3nm,0.4s,baz=346,slow=2.2,SNR=5.1						
WB2	**Warramunga Arr**	**22.85**	**165**	*e*P	**P**	**00 57 15.7**	**+0.2**
WB2				*e*		00 57 24.2	
YHNB	**Yeheng**	**23.25**	**344**	P	**P**	**00 57 19.0**	**-0.1**
ASAR	**Alice Springs**	**26.34**	**168**	P	**P**	**00 57 47.0**	**0.0**
	0.9nm,0.5s,mb3.7,baz=350,slow=7.8,SNR=18						
ASAR				PcP	PcP	01 01 09.3	+0.8
	1.7nm,0.4s,baz=355,slow=2.2,SNR=20						
CTAO	**Charters Tower**	**28.39**	**142**	P	**P**	**00 58 05.3**	**+0.1**
STKA	**Stephens Creek**	**36.23**	**161**	*e*P	**P**	**00 59 13.5**	**0.0**
STKA	**Stephens Creek**	**36.23**	**161**	P	**P**	**00 59 13.8**	**+0.3**
	4.1nm,0.4s,mb4.4,baz=337,slow=9.0,SNR=19						
STKA				PcP	PcP	01 01 35.6	+0.6
	1.2nm,0.4s,baz=353,slow=5.5,SNR=4.4						
LSA	**Lhasa**	**44.53**	**312**	*e*P	**P**	**01 00 22.4**	**+0.8**
	1.8nm,0.3s,mb4.2						
SONM	**Songino Array**	**49.18**	**341**	P	**P**	**01 00 57.6**	**0.0**
	0.7nm,0.5s,mb3.5,baz=152,slow=8.0,SNR=6.6						
SONM				PcP	PcP	01 02 18.6	+0.3
	0.8nm,0.7s,baz=138,slow=2.8,SNR=5.9						
MK31	**Makanchi Array**	**59.62**	**325**	*e*P	**P**	**01 02 13.2**	**+0.3**
MK31				*e*	pP	01 02 47.0	-4.4
MKAR	**Makanchi Array**	**59.62**	**325**	P	**P**	**01 02 13.4**	**+0.5**
	2.0nm,0.4s,mb4.3,baz=116,slow=8.0,SNR=40						
MKAR				pP	pP	01 02 48.0	-3.4
	1.1nm,0.6s,baz=125,slow=8.1,SNR=5.6						
AAK	**Ala-Archa**	**62.45**	**318**	P	**P**	**01 02 33.7**	**+1.7**
KURK	**Kurchatov**	**63.78**	**327**	*e*P	**P**	**01 02 41.1**	**+0.2**
	2.9nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**69.37**	**327**	P	**P**	**01 03 16.2**	**0.0**
	3.6nm,0.8s,mb4.2,baz=126,slow=7.5,SNR=18						
BRVK	**Borovoye**	**69.44**	**327**	*e*P	**P**	**01 03 16.4**	**-0.3**
	3.7nm,0.7s,mb4.2						
ARU	**Arti**	**76.98**	**328**	P	**P**	**01 03 59.9**	**-0.9**
MAW	**Mawson**	**82.89**	**201**	*e*P	**P**	**01 04 32.3**	**-0.2**
	1.2nm,0.6s,mb3.8						
COLA	**College**	**85.40**	**25**	*e*P	**P**	**01 04 45.6**	**+0.4**
OBN	**Obninsk**	**89.12**	**325**	P	**P**	**01 05 02.6**	**-0.5**
ARCES	**ARCESS Array B**	**92.35**	**340**	P	**P**	**01 05 17.2**	**-0.9**
	2.3nm,0.7s,mb4.3,baz=72,slow=7.8,SNR=10						
ARCES	**ARCESS Array B**	**92.35**	**340**	P	**P**	**01 05 17.2**	**-0.9**
FINES	**FINESS Array B**	**93.83**	**332**	P	**P**	**01 05 24.0**	**-0.9**
	4.4nm,1.1s,mb4.5,baz=104,slow=8.0,SNR=4.4						
KIEV	**Kiev**	**93.99**	**321**	*e*P	**P**	**01 05 25.7**	**+0.1**
	3.3nm,0.5s,mb4.7						
NOA	**NORSAR Array B**	**100.77**	**334**	P	Pdif	01 05 54.8	-1.3
	1.2nm,0.9s,baz=298,slow=1.0,SNR=3.4						
LBTB	**Lobatse**	**102.38**	**245**	*e*Pdif	Pdif	01 06 04.9	+1.6
ESLA	**Sonseca Array**	**119.55**	**319**	*e*PKPdf	PKPdf	01 10 57.6	+1.1
TXAR	**Lajitas Array**	**121.31**	**54**	PKP	PKPdf	01 11 01.2	+1.4
	0.1nm,0.5s,baz=188,slow=2.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**124.79**	**288**	PKP	PKPdf	01 11 07.7	+1.1
	0.4nm,0.3s,baz=85,slow=1.8,SNR=18						

*ISCJB **20** 01:12:31.8±0.8, 3677N±004×226E±005, h32km±10km, Error ellipse: s-maj=7.5km s-min=5.8km az=128.6*
*CSEM **20** 01:12:32.1±0.1, 3666N×239E, h25km, ML2.8/8, Error ellipse: s-maj=2.8km s-min=2.5km az=160.0*
*MDD **20** 01:12:33.1±0.9, 3669N×242E, h28km±12km, mb3.7/4, Error ellipse: s-maj=7.9km s-min=6.2km az=69.0, PRXIMO*
*CRAAG **20** 01:12:33.3, 3649N×262E, Ml3.0*
*NEIC **20** 01:12:34.1, 3695N×220E, h0km, MG3.5(MDD), After MDD.*

ISC 20 01:12:32.3±1.0, 3674N±004×229E±005, h26km±12km, n32, σ1§11/52, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.60**	**84**	P	**Pb**	**01 12 44.0**	**-0.2**
EMHD	**Djebel Mahouad**	**0.76**	**135**	P	**Pb**	**01 12 43.0**	**-3.9**
EBNR	**Beni Rached**	**0.76**	**234**	P	**Sb**	**01 12 54.9**	**-1.9**
ADJB	**Djebel Djouab**	**1.09**	**122**	P	**Pn**	**01 12 49.4**	**-2.5**
EANR	**´Ain N'Sour**	**1.24**	**231**	P	**Pn**	**01 12 56.0**	**+2.0**
AKET	**Djebel Ketaf**	**1.46**	**118**	P	**Pn**	**01 12 57.0**	**0.0**
ETRT	**Tiaret**	**1.57**	**211**	P	**Pn**	**01 12 58.3**	**-0.2**
EIBI	**Ibiza**	**2.40**	**342**	Pn	**Pn**	**01 13 10.6**	**+0.6**
	2.9nm,0.1s,SNR=25						
EIBI				Sn	**Sn**	**01 13 37.7**	**-0.8**
	22nm,0.6s,SNR=7.3						
EIBI	**Ibiza**	**2.40**	**342**	Pn	**Pn**	**01 13 10.6**	**+0.7**
	2.9nm,0.1s,SNR=25						
EIBI				Sn	**Sn**	**01 13 37.7**	**-0.8**
	22nm,0.6s,SNR=7.3						
EBEN	**Beniarda**	**2.80**	**315**	Pn	**Pn**	**01 13 15.6**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EBEN				Sn	**Sn**	**01 13 46.1**	**-2.2**
	2.1nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.80**	**315**	Pn	**Pn**	**01 13 15.6**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
EBEN				Sn	**Sn**	**01 13 46.1**	**-2.1**
	2.1nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.02**	**292**	Pn	**Pn**	**01 13 19.0**	**+0.5**
	2.8nm,0.5s,SNR=4.0						
EMUR				Sn	**Sn**	**01 13 54.1**	**+0.2**
	4.5nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.02**	**292**	Pn	**Pn**	**01 13 19.0**	**+0.5**
	2.8nm,0.5s,SNR=4.0						
EMUR				Sn	**Sn**	**01 13 54.1**	**+0.3**
	4.5nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.05**	**8**	Pn	**Pn**	**01 13 18.8**	**0.0**
	0.5nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**01 13 53.9**	**-0.5**
	5.0nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.05**	**8**	Pn	**Pn**	**01 13 18.8**	**0.0**
	0.5nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**01 13 53.9**	**-0.6**
	5.0nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.59**	**303**	Pn	**Pn**	**01 13 27.0**	**+0.8**
	1.3nm,0.4s,SNR=17						
ETOB				Sn	**Sn**	**01 14 07.8**	**0.0**
	3.1nm,0.8s,SNR=5.0						
ETOB	**Tobarra**	**3.59**	**303**	Pn	**Pn**	**01 13 27.0**	**+0.7**
	1.3nm,0.4s,SNR=17						
ETOB				Sn	**Sn**	**01 14 07.8**	**0.0**
	3.1nm,0.8s,SNR=5.0						
ECHE	**Chera**	**3.83**	**319**	Pn	**Pn**	**01 13 30.7**	**+1.1**
	0.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.16**	**274**	Pn	**Pn**	**01 13 33.5**	**-0.6**
EBER				Sn	**Sn**	**01 14 17.8**	**-4.0**
EBER	**Berja**	**4.16**	**274**	Sn	**Sn**	**01 14 17.8**	**-4.0**
	0.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.16**	**274**	Pn	**Pn**	**01 13 33.5**	**-0.6**
EMOS	**Mosqueruela**	**4.22**	**330**	Pn	**Pn**	**01 13 35.8**	**+1.0**
	3.5nm,0.4s,SNR=30						
EMOS				Sn	**Sn**	**01 14 22.5**	**-0.7**
	2.1nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**4.22**	**330**	Pn	**Pn**	**01 13 35.8**	**+0.9**
	3.5nm,0.4s,SNR=30						
EMOS				Sn	**Sn**	**01 14 22.5**	**-0.8**
	2.1nm,0.2s,SNR=5.0						
EQES	**Quesada**	**4.41**	**286**	Pn	**Pn**	**01 13 38.5**	**+1.0**
	0.4nm,0.1s,SNR=7.3						
EQES				Sn	**Sn**	**01 14 28.1**	**+0.2**
	4.2nm,0.4s,SNR=6.2						
EQES	**Quesada**	**4.41**	**286**	Pn	**Pn**	**01 13 38.5**	**+1.0**
	0.4nm,0.1s,SNR=7.3						
EQES				Sn	**Sn**	**01 14 28.1**	**+0.1**
	4.2nm,0.4s,SNR=6.2						
ERTA	**Horta de San J**	**4.48**	**341**	Pn	**Pn**	**01 13 39.9**	**+1.4**
	0.4nm,0.2s,SNR=8.1						
ERTA				Sn	**Sn**	**01 14 28.6**	**-1.1**
	1.0nm,0.5s,SNR=5.0						
ERTA	**Horta de San J**	**4.48**	**341**	Pn	**Pn**	**01 13 39.9**	**+1.4**
	0.4nm,0.2s,SNR=8.1						
ERTA				Sn	**Sn**	**01 14 28.6**	**-1.1**
	1.0nm,0.5s,SNR=5.0						
EQUE	**Quentar**	**4.61**	**277**	Pn	**Pn**	**01 13 43.9**	**+3.6**
	0.1nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**01 14 32.1**	**-1.0**
	4.9nm,0.7s,SNR=7.9						
EMIR	**Miracle**	**5.20**	**354**	Pn	**Pn**	**01 13 50.3**	**+1.9**
	0.6nm,0.2s,SNR=7.9						
EMIR				Sn	**Sn**	**01 14 46.7**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.20**	**354**	Pn	**Pn**	**01 13 50.3**	**+1.9**
	0.6nm,0.2s,SNR=7.9						
EMIR				Sn	**Sn**	**01 14 46.7**	**-0.8**
ESDC	**Sonseca Array**	**5.73**	**303**	Pn	**Pn**	**01 13 56.5**	**+0.8**
	0.2nm,0.3s,baz=116,slow=13,SNR=7.2						
ESDC	**Sonseca Array**	**5.73**	**303**	Pn	**Pn**	**01 13 56.5**	**+0.8**

IDC 20 01:31:38.1±0.8, 2174S×6858W, h106km±6km, mb3.5/8, mb1 3.8/9, mb1mx3.7/16, mbtmp3.6/9, Error ellipse: s-maj=27.1km s-min=14.4km az=71.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.44**	**5**	P	Pn	01 32 57.8	+1.0
	6.2nm,0.3s,baz=196,slow=6.9,SNR=109						
CFAA	**Coronel Fontan**	**9.83**	**178**	P	Pn	01 33 55.4	-1.0
	0.1nm,0.3s,baz=5.5,slow=14,SNR=5.9						
CFAA				S	Sn	01 35 42.2	-2.6
	0.1nm,0.3s,baz=244,slow=8.6,SNR=3.5						
TXAR	**Lajitas Array**	**61.00**	**325**	P	P	01 41 40.1	-0.2
	0.5nm,0.6s,baz=154,slow=8.7,SNR=8.1						
SNAA	**Sanae**	**61.95**	**161**	P	P	01 41 47.3	+0.5
	0.2nm,0.4s,baz=281,slow=5.5,SNR=4.0						
PDAR	**Pinedale Array**	**74.47**	**330**	P	P	01 43 05.2	+0.3
	0.2nm,0.5s,baz=130,slow=8.4,SNR=3.7						
NVAR	**Mina Array Bea**	**75.87**	**322**	P	P	01 43 13.2	+0.3
	0.3nm,0.6s,baz=142,slow=4.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	P	01 43 19.9	-0.3
	1.3nm,0.6s,baz=255,slow=5.6,SNR=27						
TORD				pP	pP	01 43 47.4	+0.3
	1.8nm,0.9s,baz=252,slow=5.2,SNR=4.5						
BOSA	**Boshof**	**83.06**	**118**	P	P	01 43 51.9	0.0
	1.0nm,0.8s,baz=288,slow=11,SNR=3.3						
MAW	**Mawson**	**84.01**	**163**	P	P	01 43 57.5	+0.8
	1.5nm,0.9s,baz=280,slow=6.1,SNR=3.2						
YKA	**Yellowknife Ar**	**91.51**	**340**	P	P	01 44 31.9	-0.9
	1.4nm,0.5s,baz=135,slow=4.5,SNR=52						
YKA				pP	pP	01 44 58.2	-2.2
	0.5nm,0.9s,baz=135,slow=4.6,SNR=3.1						
ASAR	**Alice Springs**	**129.84**	**207**	PKP	PKPdf	01 50 36.2	+1.1
	0.5nm,0.6s,baz=147,slow=3.5,SNR=4.7						
WRA	**Warramunga Arr**	**132.91**	**210**	PKP	PKPdf	01 50 42.2	+1.3
	1.2nm,1.1s,baz=148,slow=1.7,SNR=6.7						
MKAR	**Makanchi Array**	**145.64**	**36**	PKPbc	PKPbc	01 51 05.1	+0.6
	1.6nm,0.6s,baz=318,slow=4.9,SNR=13						
MKAR				pPKPbc	pPKPbc	01 51 33.6	+0.7
	1.6nm,0.9s,baz=328,slow=4.3,SNR=5.0						
SONM	**Songino Array**	**153.65**	**8**	PKPbc	PKPbc	01 51 24.7	+0.2
	0.3nm,0.7s,baz=337,slow=4.5,SNR=2.9						

*ISCJB **20** 02:00:44.7±0.9, 700N±008×7887W±006, h10km, mb3.5/4, Error ellipse: s-maj=11.5km s-min=7.6km az=46.3*
*IDC **20** 02:00:45.1±1.5, 699N×7878W, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/18, Error ellipse: s-maj=51.3km s-min=25.2km az=26.0*
*CASC **20** 02:00:46.8±1.2, 696N×7889W, h35km±999km, MW3.6, mb3.9(NEIC)*
*NEIC **20** 02:00:47.7±7.7, 704N×7885W, h17km±47km, mb3.9/1, Error ellipse: s-maj=39.5km s-min=13.3km az=219.0*

ISC 20 02:00:47.4±1.0, 710N±008×7879W±008, h10km, n16, σ1§11/15, mb3.5/4, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**1.63**	**295**	*e*P	**Pn**	**02 01 12.4**	**-3.7**
AZU				*e*S	**Sn**	**02 01 32.4**	**-4.7**
UPD1	**Univ de Panama**	**1.64**	**28**	*e*P	**Pn**	**02 01 15.3**	**-0.9**
UPD1				*e*S	**Sn**	**02 01 37.2**	**-0.1**
BCIP	**Isla Barro Col**	**2.30**	**333**	*e*Pn	**Pn**	**02 01 24.1**	**-1.4**
BCIP				*e*Sn	**Sn**	**02 01 55.5**	**+1.7**
CNI	**Changuinola**	**4.35**	**302**	*e*S	**Sn**	**02 02 48.6**	**+4.3**
ROSC	**El Rosal**	**4.96**	**116**	Pn	**Pn**	**02 02 02.8**	**+0.9**
	1.5nm,0

Broadband fault plane solution: P waves. NP1: ϕ_s140.00000°, δ8.00000°, λ33.00000°. NP2:ϕ_s17.00000°, δ85.00000°, λ97.00000°. Principal axes: T Plg49.0000°, Azm295.0000°; N Plg7.0000°, Azm197.0000°; P Plg40.0000°, Azm101.0000°;
JMA Felt II J1.
MOS ***20*** *02:46:34.0±1.3, 41.82N×142.01E, h62km, mb4.6/6 Error ellipse: s-maj=15.5km s-min=10.2km az=75.7*
NEIC ***20*** *02:46:35.5±0.9, 41.66N×142.15E, h76km±10km, mb4.4/5, Error ellipse: s-maj=15.5km s-min=9.1km az=129.0*
NEIC Recorded [2 JMA] in Aomori Prefecture, Honshu. Recorded [1 JMA] in southwestern Hokkaido.
IDC ***20*** *02:46:36.2±2.1, 41.58N×142.10E, h84km±19km, mb3.7/12, mb1 3.8/16, mb1mx3.7/27, mbtmp3.7/16, MS2.6/1, Ms1 2.6/1, ms1mx2.1/31, Error ellipse: s-maj=19.9km s-min=13.7km az=105.0*

ISC 20 02:46:33.8±0.3, 41.54N±0.03×142.08E±0.04, h64km±3km, n64, σ1.91/81, mb4.1/21, 2C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.79**	**259**	⇓P	**Pn**	**02 46 48.9**	**-0.5**
JOT				S	**Sn**	**02 47 00.8**	**-0.1**
JKB	**Kayabe**	**0.86**	**294**	⇓P	**Pn**	**02 46 49.4**	**-0.8**
JKB				*e*S	**Sn**	**02 47 02.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.89**	**34**	⇑P	**Pn**	**02 46 49.8**	**-0.8**
JNBK				*e*S	**Sn**	**02 47 03.8**	**+0.8**
ERM	**Erimo**	**0.93**	**59**	*e*Pn	**Pn**	**02 46 50.6**	**-0.5**
ERM				*e*Sn	**Sn**	**02 46 56.1**	**-7.9**
JEM	**Erimo**	**0.93**	**59**	⇑P	**Pn**	**02 46 50.8**	**-0.3**
JEM				S	**Sn**	**02 47 03.6**	**-0.4**
JTM	**Tenmabayashi**	**1.07**	**226**	⇓P	**Pn**	**02 46 53.0**	**+0.1**
JTM				*e*S	**Sn**	**02 47 07.1**	**-0.1**
JNB	**Noboribetsu**	**1.21**	**320**	⇓P	**Pn**	**02 46 53.8**	**-0.9**
JANG	**Nango**	**1.24**	**200**	P	**Pn**	**02 46 54.2**	**-1.0**
JANG				*e*S	**Sn**	**02 47 10.6**	**-0.5**
JSR	**Shiriuchi**	**1.25**	**270**	⇓P	**Pn**	**02 46 55.0**	**-0.2**
JSR				*e*S	**Sn**	**02 47 12.4**	**+1.2**
JBT2	**Biratori 2**	**1.25**	**10**	⇓P	**Pn**	**02 46 55.2**	**-0.1**
JBT2				*e*S	**Sn**	**02 47 12.8**	**+1.5**
JEW	**Eniwo**	**1.38**	**340**	⇓P	**Pn**	**02 46 56.9**	**0.0**
JEW				*e*S	**Sn**	**02 47 13.3**	**-1.0**
JCH	**Churui**	**1.43**	**41**	P	**Pn**	**02 46 58.3**	**+0.6**
JCH				*e*S	**Sn**	**02 47 17.4**	**+1.8**
JFR	**Furan**	**1.66**	**13**	P	**Pn**	**02 47 00.7**	**0.0**
JFR				*e*S	**Sn**	**02 47 23.0**	**+1.9**
JOSM	**Okushiri--Mats**	**2.02**	**286**	P	**Pn**	**02 47 05.0**	**-0.6**
JOSM				*e*S	**Sn**	**02 47 28.8**	**-1.0**
JAR	**Ashorobuto**	**2.15**	**35**	P	**Pn**	**02 47 07.5**	**+0.1**
JAR				S	**Sn**	**02 47 32.5**	**-0.5**
ASAJ	**Asahikawa**	**2.60**	**8**	P	**Pn**	**02 47 14.4**	**+1.0**
	12nm,0.3s,baz=212,slow=14,SNR=24						
ASAJ	**Asahikawa**	**2.60**	**8**	P	**Pn**	**02 47 14.4**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.73**	**47**	⇓*i*P	**Pn**	**02 47 28.4**	**-0.5**
YUK				*i* S	**Sn**	**02 48 09.0**	**-2.6**
YUK				pmax	pmax		
	comp=Z,370nm,0.3s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,740nm,0.5s						
MAJO	**Matsushiro**	**5.83**	**212**	*e*P	**Pn**	**02 48 03.6**	**+6.0**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAJO	**Matsushiro**	**5.83**	**212**	*e*Pn	**Pn**	**02 48 03.6**	**+6.0**
	comp=Z,7.9nm,0.5s						
MAT	**Matsushiro**	**5.83**	**212**	P	**Pn**	**02 47 59.6**	**+2.0**
MAT				S	**Sn**	**02 49 07.0**	**+3.9**
MJAR	**Matsushiro Arr**	**5.83**	**212**	P	**Pn**	**02 48 01.5**	**+3.9**
	comp=Z,1.0nm,0.3s,baz=31,slow=12,SNR=7.1						
MJAR	**Matsushiro Arr**	**5.83**	**212**	P	**Pn**	**02 48 01.5**	**+3.9**
MDJ	**Mudanjiang**	**9.64**	**293**	P	**Pn**	**02 48 46.3**	**-3.4**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,122nm,4.6s						
KSRS	**Korea Array**	**11.67**	**254**	P	**Pn**	**02 49 22.1**	**+4.7**
	baz=64,slow=14,SNR=8.1						
KSRS				LR	LR	02 53 31.3	
	comp=Z,26nm,18.4s,baz=80,slow=35						
JOW	**Kunigami**	**18.56**	**222**	P	**Pn**	**02 50 45.9**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=137,slow=29,SNR=7.8						
HHC	**Hu-ho-hao-te**	**22.92**	**278**	*e*P	**P**	**02 51 34.1**	**+1.8**
HHC				AP		02 51 43.6	
HHC				XP	sP	02 51 47.3	-6.9
HHC				PP		02 52 02.6	
HHC				S	**S**	**02 55 34.3**	**-3.0**
HHC				SS		02 56 18.3	
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,96nm,7.7s						
HHC				LR	LR		
	comp=N,253nm,17.8s						
HHC				LR	LR		
	comp=E,399nm,20.8s						
HHC				LR	LR		
	comp=Z,259nm,19.0s						
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**02 52 01.4**	**+1.1**
	comp=Z,1.3nm,0.5s,mb3.7,baz=84,slow=8.2,SNR=11						
KMI	**Kunming**	**36.37**	**256**	P	**P**	**02 53 36.1**	**+4.4**
KMI				AP	pP	02 53 45.8	-1.7
KMI				XP	sP	02 53 50.5	-4.5
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
KMI				LR	LR		
	comp=Z,24nm,25.5s						
KMI	**Kunming**	**36.37**	**256**	P	**P**	**02 53 36.1**	**+4.4**
	comp=Z,7.0nm,0.6s,mb4.8						
KMI				pP	pP	02 53 45.7	-1.8
KMI				sP	sP	02 53 50.5	-4.5
KMI				sS	sS	02 59 31.3	-3.9
KMI				LR	LR		
	comp=Z,20nm,25.5s						
ZAL	**Zalesovo**	**39.40**	**308**	P	**P**	**02 53 57.0**	**-0.2**
	comp=Z,2.0nm,0.4s,mb4.2,baz=18,slow=5.1,SNR=8.9						
WMQ	**Urumqi**	**39.44**	**292**	*e*P	**P**	**02 53 58.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
MK31	**Makanchi Array**	**42.31**	**298**	*e*P	**P**	**02 54 21.3**	**+0.2**
MKAR	**Makanchi Array**	**42.31**	**298**	P	**P**	**02 54 21.2**	**+0.1**
	comp=Z,2.9nm,0.9s,mb3.9,baz=82,slow=9.6,SNR=11						
CHTO	**Chiang Mai**	**43.06**	**252**	*e*P	**P**	**02 54 32.3**	**+5.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
CHTO	**Chiang Mai**	**43.06**	**252**	*e*P	**P**	**02 54 32.3**	**+5.1**
	comp=Z,2.2nm,0.3s,mb4.4						
KURK	**Kurchatov**	**43.68**	**305**	*e*P	**P**	**02 54 31.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**43.68**	**305**	*e*P	**P**	**02 54 31.8**	**-0.4**
	comp=Z,5.9nm,0.9s,mb4.3						
COLA	**College**	**45.03**	**35**	*e*P	**P**	**02 54 43.9**	**+0.9**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
COLA	**College**	**45.03**	**35**	*e*P	**P**	**02 54 43.9**	**+0.9**
	comp=Z,4.8nm,0.9s,mb4.3						
JIRN	**Jiri**	**47.27**	**271**	*e*P	**P**	**02 55 03.3**	**+2.7**
GUN	**Gumba**	**47.38**	**272**	*e*P	**P**	**02 55 02.9**	**+1.5**
KKN	**Kakani**	**47.89**	**272**	*e*P	**P**	**02 55 06.4**	**+1.0**
PKI	**Pulchoki**	**47.91**	**272**	*e*P	**P**	**02 55 06.0**	**+0.5**
BRVK	**Borovoye**	**48.06**	**310**	*e*P	**P**	**02 55 06.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**48.06**	**310**	*e*P	**P**	**02 55 06.6**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.2						
GKN	**Gorkha**	**48.26**	**273**	*e*P	**P**	**02 55 06.0**	**-2.2**
KOLN	**Koldanda**	**49.16**	**273**	*e*P	**P**	**02 55 10.7**	**-4.4**
INK	**Inuvik**	**50.17**	**29**	P	**P**	**02 55 23.4**	**+0.6**
	comp=Z,2.1nm,0.5s,mb4.4,baz=304,slow=7.1,SNR=30						
INK	**Inuvik**	**50.17**	**29**	P	**P**	**02 55 23.4**	**+0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**50.17**	**29**	*e*P	**P**	**02 55 22.9**	**+0.1**
	comp=Z,67nm,0.5s						
RES	**Resolute Bay**	**58.12**	**15**	*e*P	**P**	**02 56 19.9**	**-0.7**
	comp=Z,112nm,0.6s						
YKA	**Yellowknife Ar**	**59.68**	**32**	P	**P**	**02 56 31.1**	**-0.3**
	comp=Z,0.2nm,0.7s,mb3.3,baz=306,slow=6.3,SNR=5.9						
YKA	**Yellowknife Ar**	**59.68**	**32**	P	**P**	**02 56 31.1**	**-0.3**
ARCES	**ARCESS Array B**	**59.98**	**339**	P	**P**	**02 56 31.8**	**-1.6**
	comp=Z,6.0nm,1.0s,mb4.6,baz=24,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**61.59**	**188**	P	**P**	**02 56 44.2**	**-0.2**
	comp=Z,0.6nm,0.5s,mb4.0,baz=7.8,slow=7.7,SNR=8.8						
JOF	**Joensuu**	**62.25**	**331**	*e*p	**P**	**02 56 47.0**	**-1.9**
	comp=Z,3.8nm,0.5s,mb4.8						
KAF	**Kangasniemi**	**64.56**	**332**	*e*p	**P**	**02 56 59.9**	**-4.2**
FINES	**FINESS Array B**	**65.08**	**332**	P	**P**	**02 57 06.9**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=42,slow=7.9,SNR=13						
ASAR	**Alice Springs**	**65.32**	**188**	P	**P**	**02 57 09.6**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=13,slow=14,SNR=7.6						
HFS	**Hagfors**	**70.20**	**335**	P	**P**	**02 57 39.6**	**-0.2**
	comp=Z,1.2nm,0.3s,mb4.2,baz=36,slow=5.9,SNR=15						
NB2	**NORSAR Subarra**	**70.24**	**337**	P	**P**	**02 57 39.3**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=38,slow=6.2						
PDAR	**Pinedale Array**	**74.17**	**47**	P	**P**	**02 58 03.5**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=280,slow=4.2,SNR=3.5						
BRTR	**Keskin Array B**	**76.27**	**311**	P	**P**	**02 58 15.9**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=58,slow=5.5,SNR=3.6						

NIED ***20*** *02:56:00, 40.40N×141.70E, h107km, Mw3.8 Best double couple: M0=5.56000×10^14 NP1:ϕ_s164.00000°, δ72.00000°, λ-77.00000°. NP2:ϕ_s307.00000°, δ23.00000°, λ-125.00000°.*
BJI ***20*** *02:56:35.7, 40.36N×141.62E, h102km, mB4.9, mb4.4*
IDC ***20*** *02:56:35.8±1.8, 40.29N×141.64E, h105km±16km, mb3.4/9, mb1 3.6/12, mb1mx3.5/25, mbtmp3.3/12, Error ellipse: s-maj=19.9km s-min=11.3km az=121.0*
ISCJB ***20*** *02:56:36.1±0.4, 40.37N±0.04×141.74E±0.06, h114km±3km, mb3.9/13, Error ellipse: s-maj=8.4km s-min=5.0km az=63.0*
MOS ***20*** *02:56:36.3±1.1, 40.43N×141.55E, h112km, mb4.2/2, Error ellipse: s-maj=22.6km s-min=10.7km az=72.8*
NEIC ***20*** *02:56:37.0±0.8, 40.29N×141.68E, h117km±8km, mb4.5/2, MW3.8(NIED), Error ellipse: s-maj=16.3km s-min=9.6km az=125.0*
JMA ***20*** *02:56:37.3±0.1, 40.38N×141.65E, h114km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕ_s312.00000°, δ22.00000°, λ-124.00000°. NP2: ϕ_s168.00000°, δ72.00000°, λ-78.00000°. Principal axes: T Plg26.0000°, Azm248.0000°; N Plg12.0000°, Azm344.0000°; P Plg61.0000°, Azm96.0000°;*
JMA Felt II J1.

ISC 20 02:56:37.1±0.4, 40.37N±0.04×141.73E±0.06, h111km±3km, n37, σ0.90/51, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.16**	**271**	P	**Pn**	**02 56 53.1**	**+0.6**
JANG				S	**Sn**	**02 57 04.7**	**+0.6**
JTM	**Tenmabayashi**	**0.65**	**310**	P	**Pn**	**02 56 55.1**	**0.0**
JTM				S	**Sn**	**02 57 08.6**	**-0.1**
JAH	**Hinai**	**0.85**	**258**	P	**Pn**	**02 56 57.1**	**+0.2**
JAH				*e*S	**Sn**	**02 57 11.7**	**-0.1**
JOM	**Ohasama**	**0.96**	**200**	P	**Pn**	**02 56 58.3**	**+0.4**
JOM				S	**Sn**	**02 57 13.8**	**+0.2**
JOT	**Ohata**	**1.13**	**333**	P	**Pn**	**02 56 59.5**	**-0.2**
JOT				*e*S	**Sn**	**02 57 16.2**	**-0.7**
JIW	**Iwasaki**	**1.33**	**280**	P	**Pn**	**02 57 01.9**	**0.0**
JIW				*e*S	**Sn**	**02 57 20.7**	**-0.1**
JMK	**Ichinoseki**	**1.47**	**196**	P	**Pn**	**02 57 03.7**	**+0.1**
JYK	**Kaneyama**	**1.79**	**216**	P	**Pn**	**02 57 07.4**	**-0.1**
ERM	**Erimo**	**1.97**	**33**	*e*Pn	**Pn**	**02 57 10.0**	**+0.4**
ERM				*e*Sn	**Sn**	**02 57 34.2**	**-0.3**
ASAJ	**Asahikawa**	**3.80**	**10**	P	**Pn**	**02 57 34.5**	**+0.9**
	11nm,0.3s,baz=216,slow=10,SNR=40						
ASAJ				S	**Sn**	**02 58 16.9**	**-0.7**
	4.3nm,0.3s,baz=284,slow=30,SNR=6.1						
ASAJ	**Asahikawa**	**3.80**	**10**	P	**Pn**	**02 57 34.6**	**+0.9**
ASAJ				S	**Sn**	**02 58 16.9**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
MAJO	**Matsushiro**	**4.71**	**217**	*e*P	**Pn**	**02 57 46.1**	**+0.1**
MAT	**Matsushiro**	**4.71**	**217**	P	**Pn**	**02 57 45.2**	**-0.8**
MAT				S	**Sn**	**02 58 39.0**	**-0.6**
MJAR	**Matsushiro Arr**	**4.71**	**217**	P	**Pn**	**02 57 45.2**	**-0.8**
	comp=N,2.3nm,0.3s,baz=27,slow=12,SNR=18						
MDJ	**Mudanjiang**	**9.91**	**299**	P	**Pn**	**02 58 56.5**	**0.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,80nm,4.0s						
KSRS	**Korea Array**	**11.14**	**259**	P	**Pn**	**02 59 12.1**	**-0.9**
	baz=65,slow=14,SNR=3.7						
KSRS				S	**Sn**	**03 01 16.8**	**+1.3**
	baz=94,slow=26,SNR=6.4						
HHC	**Hu-ho-hao-te**	**22.85**	**281**	*e*P	**P**	**03 01 30.8**	**-0.1**
HHC				AP		03 01 51.5	
HHC				XP	sP	03 02 03.4	-2.9
HHC				S	**S**	**03 05 29.1**	**-2.6**
HHC				XS	sS	03 06 02.0	-8.7
HHC				SS		03 06 16.8	
HHC				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.2						
HHC				LR	LR		
	comp=N,243nm,15.5s						
HHC				LR	LR		
	comp=E,312nm,16.6s						
HHC				LR	LR		
	comp=Z,233nm,16.1s						
SONM	**Songino Array**	**26.27**	**298**	P	**P**	**03 02 00.9**	**-0.9**
	comp=Z,1.2nm,1.0s,mb3.3,baz=80,slow=6.5,SNR=5.1						
CD2	**Chengdu**	**32.06**	**265**	*e*P	**P**	**03 02 54.1**	**+0.9**
CD2				XP	sP	03 03 27.9	-2.7
CD2				PP	PP	03 04 04.0	-3.7
CD2				S	**S**	**03 07 57.5**	**+0.5**
CD2				SS	SS	03 09 56.0	-23
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				LR	LR		
	comp=N,120nm,12.4s						
CD2				LR	LR		
	comp=Z,110nm,14.2s						
KMI	**Kunming**	**35.83**	**257**	P	**P**	**03 03 28.0**	**+2.2**
KMI				AP	pP	03 03 51.6	+0.9
KMI				S	**S**	**03 08 56.3**	**+1.2**
KMI				SS	SS	03 11 16.0	-20
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=Z,22nm,26.5s						
KMI	**Kunming**	**35.83**	**257**	P	**P**	**03 03 28.0**	**+2.2**
	comp=Z,6.0nm,0.9s,mb4.5						
KMI				pP	pP	03 03 51.6	+0.9
KMI				S	**S**	**03 08 56.3**	**+1.2**
KMI				SS	SS	03 11 16.0	-20
KMI				LR	LR		
	comp=Z,20nm,26.5s						
WMQ	**Urumqi**	**39.65**	**293**	*e*P	**P**	**03 04 00.0**	**+2.1**
ZAL	**Zalesovo**	**39.93**	**309**	P	**P**	**03 03 59.1**	**-1.1**
	comp=Z,0.7nm,0.3s,mb3.9,baz=16,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**42.63**	**299**	P	**P**	**03 04 21.0**	**-1.3**
	comp=Z,1.2nm,0.9s,mb3.6,baz=88,slow=9.7,SNR=6.8						
KURK	**Kurchatov**	**44.13**	**305**	*e*P	**P**	**03 04 35.1**	**+0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**44.13**	**305**	*e*P	**P**	**03 04 35.1**	**+0.7**
	comp=Z,5.4nm,0.6s,mb4.5						
INK	**Inuvik**	**51.32**	**28**	P	**P**	**03 05 30.3**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.2,baz=296,slow=3.6,SNR=12						
INK	**Inuvik**	**51.32**	**28**	P	**P**	**03 05 30.3**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**51.32**	**28**	*e*P	**P**	**03 05 30.1**	**+0.2**
	comp=Z,32nm,0.6s						
RES	**Resolute Bay**	**59.32**	**15**	*e*P	**P**	**03 06 26.1**	**-1.0**
	comp=Z,17nm,0.5s						
WRA	**Warramunga Arr**	**60.39**	**188**	P	**P**	**03 06 33.1**	**-1.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=5.6,slow=6.7,SNR=9.1						
YKA	**Yellowknife Ar**	**60.82**	**31**	P	**P**	**03 06 37.2**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=300,slow=6.5,SNR=8.7						
YKA	**Yellowknife Ar**	**60.82**	**31**	P	**P**	**03 06 37.2**	**-0.2**
ASAR	**Alice Springs**	**64.12**	**188**	P	**P**	**03 06 56.3**	**-3.0**
	comp=Z,0.2nm,0.7s,mb3.1,baz=156,slow=40,SNR=3.9						
NVAR	**Mina Array Bea**	**72.81**	**54**	P	**P**	**03 07 54.9**	**+1.4**
	comp=Z,0.5nm,0.8s,mb3.4,baz=337,slow=3.7,SNR=3.8						
PDAR	**Pinedale Array**	**75.17**	**46**	P	**P**	**03 08 08.1**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.6,baz=322,slow=0.6,SNR=7.6						
LPAZ	**La Paz**	**144.71**	**56**	PKP	PKPdf	03 16 00.0	-0.6
	comp=Z,0.6nm,0.5s,baz=57,slow=5.7,SNR=5.3						

NEIC ***20*** *03:10:57.4, 38.98S×173.99E, h4km, ML3.8(WEL), After WEL.*
NEIC Felt at New Plymouth.

WEL 20 03:10:56.8±0.2, 38.95S×173.94E, h5km, ML3.8/31, 2C, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKE	**Pukeiti**	**0.24**	**171**	PG	Pg	03 11 01.8	+0.2
PKE				SG	Sg	03 11 05.2	+0.4
NWEZ	**Newall Road**	**0.33**	**190**	P	Pg	03 11 03.6	+0.5
NWEZ	**Newall Road**	**0.33**	**190**	PG	Pg	03 11 03.6	+0.5
NEZ	**North Egmont**	**0.34**	**159**	P	Pg	03 11 03.7	+0.3
NEZ	**North Egmont**	**0.34**	**159**	PG	Pg	03 11 03.7	+0.3
NRZ	**Ngariki Road**	**0.38**	**181**	P	Pg	03 11 04.5	+0.3
NRZ				S	Sg	03 11 09.6	+0.4
NRZ	**Ngariki Road**	**0.38**	**181**	⇑PG	Pg	03 11 04.5	+0.3
NRZ				SG	Sg	03 11 09.6	+0.4
RAEZ	**Rainy Point**	**0.49**	**133**	P	Pg	03 11 07.0	+0.8
RAEZ	**Rainy Point**	**0.49**	**133**	PG	Pg	03 11 06.9	+0.7
VRZ	**Vera Road**	**0.66**	**105**	P	Pg	03 11 09.9	+0.4
VRZ				S	Sg	03 11 17.0	-1.1
VRZ	**Vera Road**	**0.66**	**105**	⇑P*	Pb	03 11 09.8	-1.0
HIZ	**Hauiti**	**0.84**	**59**	P	Pg	03 11 13.2	+0.3
HIZ	**Hauiti**	**0.84**	**59**	P*	Pb	03 11 12.8	-1.0
WAZ	**Wanganui**	**1.14**	**135**	P	Pg	03 11 18.2	-0.5
WAZ	**Wanganui**	**1.14**	**135**	P*	Pb	03 11 17.8	-1.2
PKVZ	**Pokaka**	**1.15**	**108**	P*	Pb	03 11 17.8	-1.2
TWVZ	**Taurewa**	**1.17**	**96**	P	Pg	03 11 18.4	-0.9
TWVZ				S	Sg	03 11 34.9	+0.4
TWVZ	**Taurewa**	**1.17**	**96**	P*	Pb	03 11 18.4	-1.1
TWVZ				S*	Sb	03 11 34.9	-0.1
MTVZ	**Mangateitei**	**1.27**	**110**	P*	Pb	03 11 19.8	-1.3
WPVZ	**Whakapapa**	**1.28**	**102**	P	Pn	03 11 20.3	-1.0
WPVZ	**Whakapapa**	**1.28**	**102**	P*	Pb	03 11 20.3	-1.0
FWVZ	**Far West T-bar**	**1.29**	**104**	P	Pn	03 11 20.9	-0.6
FWVZ	**Far West T-bar**	**1.29**	**104**	P*	Pb	03 11 20.9	-0.7
WTVZ	**West Tongariro**	**1.30**	**98**	P	Pn	03 11 20.6	-0.9
WTVZ	**West Tongariro**	**1.30**	**98**	P*	Pb	03 11 20.6	-1.0
TRVZ	**Turoa**	**1.30**	**106**	P*	Pb	03 11 20.7	-1.0
DRZ	**Dome Shelter**	**1.31**	**105**	P	Pn	03 11 21.5	-0.2
DRZ	**Dome Shelter**	**1.31**	**105**	P*	Pb	03 11 21.5	-0.3
NGZ	**Ngauruhoe**	**1.31**	**100**	P	Pn	03 11 20.9	-0.9
KRVZ	**Karewarewa**	**1.33**	**97**	P*	Pb	03 11 21.7	-0.6
WNVZ	**Wahianoa**	**1.34**	**107**	P	Pn	03 11 21.7	-0.5
WNVZ	**Wahianoa**	**1.34**	**107**	PN	Pn	03 11 21.6	-0.6
OTVZ	**Oturere**	**1.36**	**99**	PN	Pn	03 11 22.0	-0.4
KATZ	**Kakaramea**	**1.37**	**91**	P	Pn	03 11 22.2	-0.3
KATZ	**Kakaramea**	**1.37**	**91**	PN	Pn	03 11 22.2	-0.3
TUVZ	**Tukino**	**1.37**	**104**	P	Pn	03 11 22.1	-0.5
TUVZ	**Tukino**	**1.37**	**104**	PN	Pn	03 11 22.5	-0.1
WATZ	**Wairara**	**1.42**	**81**	P	Pn	03 11 23.4	+0.1
WATZ	**Wairara**	**1.42**	**81**	PN	Pn	03 11 23.3	+0.1
RATZ	**Rangitukua**	**1.43**	**87**	P	Pn	03 11 23.4	0.0
RATZ	**Rangitukua**	**1.43**	**87**	PN	Pn	03 11 23.4	0.0
MOVZ	**Moawhango**	**1.48**	**108**	P	Pn	03 11 23.3	-0.8
MOVZ	**Moawhango**	**1.48**	**108**	PN	Pn	03 11 23.3	-0.8
TOZ	**Tahuroa Road**	**1.73**	**46**	P	Pn	03 11 26.7	-0.8
TOZ	**Tahuroa Road**	**1.73**	**46**	PN	Pn	03 11 26.4	-1.2
DUWZ	**D'Urville Isla**	**1.85**	**186**	*e*PN	Pn	03 11 27.6	-1.5
TSZ	**Takapari Road**	**1.92**	**126**	P	Pn	03 11 31.3	+1.2
KIW	**Kapiti Island**	**2.05**	**159**	P	Pn	03 11 31.9	0.0
KIW	**Kapiti Island**	**2.05**	**159**	*e*PN	Pn	03 11 31.6	-0.3
MRZ	**Mangatainoka R**	**2.12**	**144**	P	Pn	03 11 34.6	+1.7
MRZ	**Mangatainoka R**	**2.12**	**144**	PN	Pn	03 11 34.6	+1.6
QRZ	**Quartz Range**	**2.16**	**210**	P	Pn	03 11 31.1	-2.4
QRZ	**Quartz Range**	**2.16**	**210**	PN	Pn	03 11 31.0	-2.5
TCW	**Tory Channel**	**2.27**	**174**	P	Pn	03 11 34.5	-0.5
TCW	**Tory Channel**	**2.27**	**174**	PN	Pn	03 11 34.2	-0.7
NNZ	**Nelson**	**2.30**	**191**	*e*P	Pn	03 11 34.0	-1.4
MTW	**Mount Morrison**	**2.51**	**152**	P	Pn	03 11 40.6	+2.4
MTW	**Mount Morrison**	**2.51**	**152**	*e*PN	Pn	03 11 40.1	+1.8
THZ	**Tophouse**	**2.92**	**195**	P	Pn	03 11 43.0	-0.8
THZ	**Tophouse**	**2.92**	**195**	PN	Pn	03 11 42.9	-0.9
KHZ	**Kahutara**	**3.47**	**185**	*e*P	Pn	03 11 51.4	-0.1
FOZ	**Fox Glacier**	**5.61**	**213**	*e*P	Pn	03 12 18.7	-2.1
JCZ	**Jackson Bay**	**6.42**	**216**	*e*P	Pn	03 12 30.7	-1.3

MAN 20 03:17:55.8, 16.93N×119.72E, h23km, mb2.8, ML4.2, MS2.2, 1C, Luzon

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

VAY				*e*Sg	**Sg**	**03 23 45.2**	**+0.4**
VAY	**Valandovo**	**1.99**	**256**	*e*Pn	**Pg**	**03 23 18.5**	**-0.5**
VAY				*e*Sg	**Sg**	**03 23 45.2**	**+0.4**
VAY	**Valandovo**	**1.99**	**256**	*e*Pn	**Pg**	**03 23 18.5**	**-0.5**
VAY				*e*Sn	**Sg**	**03 23 45.3**	**+0.4**

*ISCJB **20** 03:28:28.5±0.4, 6624N±002×1379E±005, h0km, Error ellipse: s-maj=3.6km s-min=2.9km az=71.7*
*UPP **20** 03:28:29.6, 6613N×1321E, h0km, ML2.8, Suspected Mining explosion.*
*CSEM **20** 03:28:30.1±0.2, 6625N×1332E, h1km, ML2.2, Error ellipse: s-maj=6.8km s-min=3.5km az=2.0, Suspected Mining explosion.*
*IDC **20** 03:28:31.1±1.4, 6624N×1339E, h0km, mb1 3.2/4, mb1mx3.0/22, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=17.7km s-min=7.6km az=116.0*
*NAO **20** 03:28:31.5±1.6, 6624N×1360E, ML2.4*
*BER **20** 03:28:31.9±3.0, 6627N×1333E, h0km±9km, MD2.3, ML2.2, ML2.4(NAO)*
*HEL **20** 03:28:31.1±0.1, 6627N×1328E, h10km, ML2.4, ML2.8(UPP), ML2.2(BER)*

ISC 20 03:28:30.4±0.4, 6625N±002×1365E±005, h0km, n54, σ1§44/94, 1C-2D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK2	**Flostrand**	**0.15**	**309**	⇓*i*P	**Pg**	**03 28 32.8**	**-0.5**
STOK2	**Flostrand**	**0.15**	**309**	*e*S	**Sg**	**03 28 34.4**	**-0.9**
STOK2				AML	AML	03 28 35.1	
	comp=Z,1μm,0.2s						
STOK2	**Flostrand**	**0.15**	**309**	*i* S	**Sg**	**03 28 34.4**	**-0.9**
STOK2				AML	AML	03 28 35.1	
	comp=Z,1μm,0.2s						
STOK	**Stokkvaagen**	**0.27**	**289**	*e*S	**Sg**	**03 28 35.6**	**-3.5**
STOK				AML	AML	03 28 35.9	
	comp=Z,870nm,0.1s						
STOK	**Stokkvaagen**	**0.27**	**289**	*i* S	**Sg**	**03 28 35.6**	**-3.5**
STOK				AML	AML	03 28 35.9	
	comp=Z,870nm,0.1s						
STOK	**Stokkvaagen**	**0.27**	**289**	⇑*i*P	**Pg**	**03 28 33.6**	**-2.0**
	SNR=90						
MOR8	**Moi Rana**	**0.33**	**103**	*e*P	**Pg**	**03 28 40.6**	**+4.0**
MOR8				*e*S	**Sg**	**03 28 48.8**	**+7.9**
MOR8				AML	AML	03 28 50.1	
	comp=Z,239nm,0.2s						
MOR8	**Moi Rana**	**0.33**	**103**	*i* P	**Pg**	**03 28 40.6**	**+4.0**
MOR8				*i* S	**Sg**	**03 28 48.8**	**+7.9**
MOR8				AML	AML	03 28 50.1	
	comp=Z,239nm,0.2s						
STOK1	**Konsvik**	**0.33**	**320**	⇓*i*P	**Pg**	**03 28 35.5**	**-1.4**
STOK1	**Konsvik**	**0.33**	**320**	*e*S	**Sg**	**03 28 39.5**	**-1.7**
STOK1				AML	AML	03 28 39.9	
	comp=Z,336nm,0.2s						
STOK1	**Konsvik**	**0.33**	**320**	*i* S	**Sg**	**03 28 39.5**	**-1.7**
STOK1				AML	AML	03 28 39.9	
	comp=Z,336nm,0.2s						
LOF	**Lofoten**	**1.90**	**359**	*e*P	**Pn**	**03 29 03.6**	**-0.4**
LOF				*e*S	**Sn**	**03 29 27.5**	**-1.0**
LOF				AML	AML	03 29 34.7	
	comp=Z,13nm,0.5s						
SALU	**Saltoluokta**	**2.23**	**57**	*e*P	**Pn**	**03 29 10.7**	**+2.1**
SALU				*e*S	**Sn**	**03 29 44.1**	**+7.2**
NIKU	**Nikkaluokta**	**2.67**	**50**	*e*P	**Pn**	**03 29 16.5**	**+2.0**
LILU	**Lilltraesk**	**2.73**	**108**	*e*P	**Pn**	**03 29 16.7**	**+1.2**
DUNU	**Dundret**	**2.89**	**69**	*e*P	**Pn**	**03 29 19.9**	**+2.2**
HARU	**Harads**	**2.97**	**88**	*e*P	**Pn**	**03 29 19.8**	**+1.0**
SVAU	**Svanoeiden**	**3.04**	**123**	*e*P	**Pn**	**03 29 20.5**	**+0.8**
KUA	**Kurravaara**	**3.13**	**54**	*e*P	**Pn**	**03 29 23.0**	**+2.1**
SJUU	**Sjulsmark**	**3.35**	**99**	*e*P	**Pn**	**03 29 24.8**	**+0.8**
MASU	**Masugnsbyn**	**3.51**	**66**	*e*P	**Pn**	**03 29 28.1**	**+1.9**
LANU	**Lannavaara**	**3.72**	**57**	*e*P	**Pn**	**03 29 31.6**	**+2.5**
PAJU	**Pajala**	**3.85**	**74**	*e*P	**Pn**	**03 29 32.5**	**+1.7**
KIF	**Kilpisjarvi**	**3.89**	**41**	*e*P	**Pn**	**03 29 33.0**	**+1.6**
KIF				*e*S	**Sn**	**03 30 17.7**	**-0.1**
KIF				*e*SG	**Sg**	**03 30 35.0**	**-0.4**
KIF				MSG		03 30 42.4	
	comp=Z,15nm,0.3s						
TRO	**Tromso**	**3.94**	**28**	*e*Sg	**Sg**	**03 30 34.8**	**-2.3**
MOL	**Molde**	**4.54**	**218**	*e*S	**Sn**	**03 30 28.8**	**-5.0**
KTK1	**Kautokeino**	**4.59**	**48**	*e*P	**Pn**	**03 29 43.5**	**+2.4**
KTK1				AML	AML	03 30 59.0	
	comp=Z,7.5nm,0.5s						
KTK1				*e*Sg	**Sg**	**03 30 59.2**	**+1.2**
KTK1	**Kautokeino**	**4.59**	**48**	*e*P	**Pn**	**03 29 43.5**	**+2.4**
	SNR=49						
VAF	**Ylistaro**	**5.03**	**125**	*e*P	**Pn**	**03 29 49.3**	**+2.1**
VAF				*e*S	**Sn**	**03 30 46.2**	**+0.2**
VAF				*e*SG	**Sg**	**03 31 09.4**	**-2.8**
VAF				MSG		03 31 14.2	
	comp=Z,4.9nm,0.3s						
OUL	**Oulu**	**5.20**	**97**	*e*S	**Sn**	**03 30 49.6**	**-0.4**
OUL				*e*SG	**Sg**	**03 31 16.3**	**-1.0**
OUL				MSG		03 31 21.8	
	comp=Z,3.0nm,0.3s						
SGF	**Sodankyl**	**5.22**	**71**	*e*P	**Pn**	**03 29 50.2**	**+0.5**
SGF				*e*S	**Sn**	**03 30 50.8**	**+0.2**
SGF				*e*SG	**Sg**	**03 31 16.5**	**-1.6**
SGF				MSG		03 31 22.4	
	comp=Z,7.4nm,0.3s						
NB2	**NORSAR Subarra**	**5.34**	**193**	Pn	**Pn**	**03 29 51.6**	**+0.3**
	baz=8.0,slow=14						
NB2				Sn	**Sn**	**03 30 53.8**	**+0.3**
	baz=8.8,slow=22						
NB2				Lg		03 31 20.5	
NB2	**NORSAR Subarra**	**5.34**	**193**	*e*P	**Pn**	**03 29 51.6**	**+0.3**
NB2				*e*		03 30 53.8	
NB2				*e*		03 31 20.5	
NB2	**NORSAR Subarra**	**5.34**	**193**	Pn	**Pn**	**03 29 51.6**	**+0.3**
	SNR=50						
NB2				Sn	**Sn**	**03 30 53.8**	**+0.3**
	SNR=3.6						
NOA	**NORSAR Array B**	**5.34**	**193**	Pn	**Pn**	**03 29 50.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=9.0,slow=14,SNR=2.6						
NOA				Sn	**Sn**	**03 30 49.6**	**-3.8**
	comp=Z,0.7nm,0.3s,baz=330,slow=13,SNR=3.8						
ARA0	**ARCESS Array S**	**5.56**	**48**	Pn	**Pn**	**03 29 54.5**	**+0.2**
	baz=234,slow=14						
ARA0				Sn	**Sn**	**03 30 57.5**	**-1.4**
	baz=236,slow=22						
ARA0				Lg		03 31 24.9	
	baz=231,slow=28						
ARA0	**ARCESS Array S**	**5.56**	**48**	*e*P	**Pn**	**03 29 54.5**	**+0.2**
ARA0				*e*S	**Sn**	**03 30 57.5**	**-1.4**
ARA0				*e*SG	**Sg**	**03 31 24.9**	**-4.0**
ARA0	**ARCESS Array S**	**5.56**	**48**	Pn	**Pn**	**03 29 54.5**	**+0.2**
	SNR=50						
ARA0				Sn	**Sn**	**03 30 57.5**	**-1.4**
	SNR=50						
ARCES	**ARCESS Array B**	**5.56**	**48**	Pn	**Pn**	**03 29 55.2**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=26						
ARCES				Sn	**Sn**	**03 30 58.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=235,slow=23,SNR=7.1						
ARCES				Lg		03 31 26.4	
	comp=Z,1.4nm,0.3s,baz=226,slow=26,SNR=7.4						
HFS	**Hagfors**	**6.13**	**180**	Pn	**Pn**	**03 30 02.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=360,slow=11,SNR=6.7						
HFS				Sn	**Sn**	**03 31 11.6**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=4.9,slow=24,SNR=5.1						
HFS				Lg		03 31 42.9	
	comp=Z,0.8nm,0.3s,baz=16,slow=28,SNR=5.1						
HFS	**Hagfors**	**6.13**	**180**	Pn	**Pn**	**03 30 02.0**	**-0.2**
	baz=4.2,slow=10						
HFS				Sn	**Sn**	**03 31 12.3**	**-0.8**
	baz=8.7,slow=28						
HFS				Lg		03 31 41.4	
	baz=3.8,slow=37						
HFS	**Hagfors**	**6.13**	**180**	*e*P	**Pn**	**03 30 02.0**	**-0.2**
HFS				*e*S	**Sn**	**03 31 12.3**	**-0.8**
HFS				*e*SG	**Sg**	**03 31 41.4**	**-6.0**
HFS	**Hagfors**	**6.13**	**180**	Pn	**Pn**	**03 30 02.0**	**-0.3**
	SNR=50						
MSF	**Maaselka**	**6.27**	**86**	*e*P	**Pn**	**03 30 06.0**	**+1.9**
MSF				*e*S	**Sn**	**03 31 15.3**	**-1.1**
MSF				*e*SG	**Sg**	**03 31 48.0**	**-3.8**
MSF				MSG		03 31 50.8	
	comp=Z,2.6nm,0.3s						
KJN	**Kajaani**	**6.30**	**104**	*e*P	**Pn**	**03 30 05.2**	**+0.6**
KJN				*e*S	**Sn**	**03 31 14.9**	**-2.4**
KJN				*e*SG	**Sg**	**03 31 49.5**	**-3.4**
KJN				MSG		03 31 55.0	
	comp=Z,2.8nm,0.3s						
KEF	**Keuruu**	**6.38**	**125**	*e*P	**Pn**	**03 30 07.0**	**+1.5**
KEF				*e*S	**Sn**	**03 31 18.3**	**-0.8**
KEF				*e*SG	**Sg**	**03 31 51.1**	**-4.1**
KEF				MSG		03 31 54.8	
	comp=Z,1.7nm,0.2s						
KU4	**Liikasenvaara**	**6.42**	**82**	*e*S	**Sn**	**03 31 19.2**	**-1.0**
KU4				*e*SG	**Sg**	**03 31 52.4**	**-4.2**
KU4				MSG		03 31 57.5	
	comp=Z,1.8nm,0.3s						
SUF	**Sumiainen**	**6.45**	**117**	*e*P	**Pn**	**03 30 07.3**	**+0.7**
SUF				*e*S	**Sn**	**03 31 19.5**	**-1.5**
SUF				*e*SG	**Sg**	**03 31 54.4**	**-3.2**
SUF				MSG		03 31 58.0	
	comp=Z,2.8nm,0.2s						
KU6	**Riekki**	**6.59**	**84**	*e*S	**Sn**	**03 31 23.3**	**-1.1**
KAF	**Kangasniemi**	**6.90**	**121**	*e*P	**Pn**	**03 30 14.3**	**+1.5**
KAF				*e*S	**Sn**	**03 31 29.5**	**-2.6**
KAF				*e*SG	**Sg**	**03 32 07.8**	**-4.3**
KAF				MSG		03 32 13.0	
	comp=Z,2.2nm,0.2s						
FIA0	**FINESS Array S**	**7.30**	**126**	Pn	**Pn**	**03 30 18.9**	**+0.7**
	baz=318,slow=14						
FIA0				Sn	**Sn**	**03 31 40.2**	**-1.5**
	baz=329,slow=28						
FIA0				Lg		03 32 17.8	
	baz=320,slow=28						
FIA0	**FINESS Array S**	**7.30**	**126**	*e*P	**Pn**	**03 30 19.6**	**+1.4**
FIA0				*e*S	**Sn**	**03 31 40.6**	**-1.1**
FIA0				*e*SG	**Sg**	**03 32 19.4**	**-5.3**
FIA0	**FINESS Array S**	**7.30**	**126**	Pn	**Pn**	**03 30 19.0**	**+0.8**
	SNR=50						
FIA0				Sn	**Sn**	**03 31 40.2**	**-1.5**
	SNR=50						
FINES	**FINES Array B**	**7.30**	**126**	Pn	**Pn**	**03 30 18.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=321,slow=13,SNR=3.7						
FINES				Sn	**Sn**	**03 31 40.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=326,slow=24,SNR=5.5						
FINES				Lg		03 32 21.0	
	comp=Z,0.9nm,0.3s,baz=320,slow=26,SNR=10						

IDC 20 03:31:55.1±6.0, 1406S×6975W, h133km±96km, mb3.5/3, mb1 3.6/4, mb1mx3.3/17, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=184.1km s-min=33.0km az=30.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.71**	**145**	P	Pn	03 32 38.4	+0.3
	1.5nm,0.3s,baz=282,slow=9.3,SNR=29						
LPAZ				S	Sn	03 33 12.9	+1.7
	0.7nm,0.3s,baz=186,slow=24,SNR=19						
ULM	**Lac du Bonnet**	**68.02**	**342**	P	P	03 42 40.2	+0.3
	1.0nm,0.4s,baz=150,slow=8.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**75.75**	**72**	P	P	03 43 26.8	+0.7
	0.9nm,0.6s,baz=265,slow=4.6,SNR=19						
YKA	**Yellowknife Ar**	**83.94**	**341**	P	P	03 44 09.6	-0.5
	0.3nm,0.5s,baz=132,slow=5.2,SNR=12						

*CSEM **20** 03:54:28.9, 4268N×4621E, h15km, mb4.1, After OBN*
*TIF **20** 03:54:28.4, 4276N×4614E, h10km±3km*

ISC 20 03:54:29.6±0.4, 4278N±004×4614E±003, h2km±6km, n19, σ1§16/32, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.13**	**152**	⇑*i*PG	**Pg**	**03 54 30.5**	**-1.6**
DLMR	**Dylym**	**0.46**	**51**	*e*PG	**Pg**	**03 54 37.2**	**-1.2**
DLMR				*i* S	**Sg**	**03 54 45.6**	**+1.2**
UNCR	**Uncukul**	**0.49**	**98**	*i* Pg	**Pg**	**03 54 37.4**	**-1.5**
UNCR				*i* Sg	**Sg**	**03 54 46.4**	**+1.1**
DBC	**Dubki**	**0.56**	**65**	*e*PG	**Pg**	**03 54 40.0**	**-0.3**
DBC				*i* S	**Sg**	**03 54 49.8**	**+2.2**
KMKR	**Kumukh**	**0.96**	**132**	*e*PG	**Pg**	**03 54 46.0**	**-2.0**
KMKR				*i* S	**Sg**	**03 55 01.0**	**+0.5**
SNJR	**Sundja**	**1.01**	**287**	*i* Pg	**Pg**	**03 54 49.0**	**0.0**
SNJR				*e*Sg	**Sg**	**03 55 03.1**	**+0.9**
MAK	**Makhachkala**	**1.02**	**79**	*e*Pg	**Pg**	**03 54 54.1**	**+5.0**
VLKR	**Vladikavkaz**	**1.10**	**284**	*i* Pg	**Pg**	**03 54 50.5**	**-0.2**
VLKR				*e*Sg	**Sg**	**03 55 05.8**	**+0.7**
DUS	**Dusheti**	**1.27**	**237**	P	**Pg**	**03 54 54.0**	**+0.1**
DUS				S	**Sg**	**03 55 12.3**	**+2.0**
LACR	**Lac**	**1.36**	**272**	*i* Pg	**Pg**	**03 54 54.7**	**-0.9**
LACR				*i* Sg	**Sg**	**03 55 13.3**	**+0.2**
ARNR	**Ardon**	**1.42**	**287**	*i* Pg	**Pg**	**03 54 55.9**	**-0.9**
ARNR				*e*Sg	**Sg**	**03 55 15.2**	**-0.1**
DGRG	**David-gareji**	**1.45**	**203**	P	**Pg**	**03 54 59.2**	**+1.9**
DGRG				S	**Sg**	**03 55 21.8**	**+5.8**
MTA	**Mtatsminda**	**1.48**	**223**	P	**Pn**	**03 54 58.8**	**+1.6**
ZEI	**Tsey**	**1.65**	**270**	*e*PN	**Pn**	**03 54 58.8**	**-0.7**
ZEI				*e*		03 55 21.3	
ZEI				pmax	pmax		
	comp=Z,21nm,0.2s						
ZEI				smax			
	comp=N,127nm,0.3s						
ZEI	**Tsey**	**1.65**	**270**	*e*Pn	**Pn**	**03 54 58.8**	**-0.7**
	comp=N,21nm,0.2s						
ZEI				*e*Sg	**Sg**	**03 55 21.3**	**-1.2**
	comp=N,127nm,0.3s						
PRTR	**Priterechnaya**	**1.67**	**306**	*e*Pn	**Pn**	**03 54 59.8**	**0.0**
GOR	**Gori**	**1.70**	**243**	P	**Pn**	**03 54 59.3**	**-1.0**
GOR				S	**Sn**	**03 55 22.5**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.88**	**274**	*i* Pn	**Pn**	**03 55 02.9**	**+0.1**
ONI	**Oni**	**1.99**	**265**	P	**Pg**	**03 55 05.5**	**-2.3**
ONI				S	**Sg**	**03 55 34.9**	**+1.3**

*NEIC **20** 04:17:01.6±2.2, 3180S×6692W, h134km±40km, mb3.4/1, Error ellipse: s-maj=39.4km s-min=14.4km az=88.0*
*ISCJB **20** 04:17:02.3±1.4, 3175S±006×6711W±02, h143km±38km, Error ellipse: s-maj=24.0km s-min=9.8km az=163.8*
*GUC **20** 04:17:02.0±0.7, 3175S×6711W, h150km, ML4.3*

ISC 20 04:17:02.9±1.3, 3175S±006×6719W±02, h131km±39km, n14, σ0§49/25, 6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.89**	**233**	*e*P	**Pn**	**04 17 35.2**	**-0.4**
PTCH	**Petorca**	**3.33**	**260**	⇓*i*P	**Pn**	**04 17 54.0**	**+0.2**
PTCH				*i* S	**Sn**	**04 18 33.0**	**-0.1**
PTCH				AML	AML	04 18 40.0	
	comp=E,250nm,0.3s						
PTCH	**Petorca**	**3.33**	**260**	⇓*i*P	**Pn**	**04 17 54.0**	**+0.2**
PTCH				*i* S	**Sn**	**04 18 33.0**	**-0.1**
CLCH	**Cerro Calan**	**3.36**	**240**	*e*P	**Pn**	**04 17 54.4**	**+0.1**
CLCH				*i* S	**Sn**	**04 18 34.2**	**+0.3**
CLCH				AML	AML	04 18 38.0	
	comp=E,301nm,0.4s						
PEL	**Peldehue**	**3.37**	**245**	⇓*i*P	**Pn**	**04 17 53.9**	**-0.4**
PEL				*i* S	**Sn**	**04 18 34.2**	**+0.2**
PEL				AML	AML	04 18 37.2	
	comp=N,279nm,0.6s						
CMCH	**Combarbala**	**3.42**	**279**	⇓*i*P	**Pn**	**04 17 55.0**	**0.0**
CMCH				*i* S	**Sn**	**04 18 34.9**	**-0.4**
CMCH				AML	AML	04 18 36.8	
	comp=E,593nm,0.7s						
CMCH	**Combarbala**	**3.42**	**279**	⇓*i*P	**Pn**	**04 17 55.0**	**0.0**
CMCH				*i* S	**Sn**	**04 18 34.9**	**-0.4**
PCH	**Pirque**	**3.46**	**236**	*e*P	**Pn**	**04 17 55.6**	**+0.1**
TLL	**Tololo Astrono**	**3.58**	**295**	*i* P	**Pn**	**04 17 58.1**	**+1.0**
TLL				*i* S	**Sn**	**04 18 39.9**	**+0.7**
TLL				AML	AML	04 18 43.2	
	comp=N,256nm,0.5s						
TLL	**Tololo Astrono**	**3.58**	**295**	*i* P	**Pn**	**04 17 58.1**	**+1.0**
TLL				*i* S	**Sn**	**04 18 39.9**	**+0.7**
RCDM	**Rinconada Maip**	**3.60**	**240**	⇓*i*P	**Pn**	**04 17 57.6**	**+0.1**
RCDM				*i* S	**Sn**	**04 18 40.2**	**+0.5**
TACH	**Talagante**	**3.78**	**239**	*e*P	**Pn**	**04 17 59.1**	**-0.6**
TACH				*i* S	**Sn**	**04 18 43.2**	**-0.6**
LCO	**Las Campanas**	**4.17**	**310**	*e*Pn	**Pn**	**04 18 05.4**	**+0.5**
LCO				*e*Sn	**Sn**	**04 18 51.9**	**-1.1**
LPAZ	**La Paz**	**15.43**	**356**	*e*P	**Pn**	**04 20 33.3**	**-0.1**
	comp=N,1.5nm,0.6s						

*ZUR **20** 04:19:46.1, 4548N×1082E, h-4km±9km, ML1.9/4*
*ISCJB **20** 04:19:48.4±0.5, 4559N±002×1093E±003, h10km, Error ellipse: s-maj=3.6km s-min=2.5km az=36.3*
*CSEM **20** 04:19:48.1±0.1, 4555N×1091E, h20km, ML2.8/7, Error ellipse: s-maj=1.9km s-min=1.1km az=7.0*
*ROM **20** 04:19:49.9±0.3, 4559N×1086E, h10km, Md2.6/10, Ml2.2/7, Error ellipse: s-maj=3.8km s-min=2.0km az=167.0*
*VIE **20** 04:19:49.1±0.7, 4561N×1096E, h8km, ML2.7/5, Error ellipse: s-maj=4.1km s-min=2.6km az=23.0 52 km SSW of Trento*

ISC 20 04:19:48.8±0.5, 4555N±003×1090E±003, h10km, n36, σ0§94/61, 9C-12D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALO	**Salr**	**0.27**	**285**	⇑*i*Pg	**Pg**	**04 19 55.3**	**+1.0**
SALO				Sg	**Sg**	**04 19 59.8**	**+1.8**
	461nm,0.3s						
MAGA	**Magasa**	**0.30**	**320**	Pg	**Pg**	**04 19 55.3**	**+0.6**
MAGA				Sg	**Sg**	**04 19 59.6**	**+0.9**
	4μm,0.3s						
MABI	**Malga Bissina**	**0.57**	**332**	Pg	**Pg**	**04 19 59.9**	**0.0**
MABI				Sg	**Sg**	**04 20 07.7**	**+0.2**
	16nm,0.1s						
TEOL	**Teolo**	**0.57**	**109**	⇓*i*Pg	**Pg**	**04 20 00.7**	**+0.8**
TEOL				*i* Sg	**Sg**	**04 20 08.8**	**+1.3**
CGRP	**Cima Grappa**	**0.71**	**62**	⇓*i*Pg	**Pg**	**04 20 02.9**	**+0.4**
CGRP				*i* Sg	**Sg**	**04 20 12.7**	**+0.9**
CTI	**Castel Tesino**	**0.72**	**46**	Pg	**Pg**	**04 20 02.8**	**0.0**
	80nm,0.1s						
MDI	**Monti di Nese**	**0.86**	**286**	Pg	**Pg**	**04 20 05.8**	**+0.4**
	62nm,0.2s						
APPI	**Appiano**	**0.96**	**14**	Pg	**Pg**	**04 20 07.4**	**+0.2**
APPI				Sg	**Sg**	**04 20 20.3**	**+0.6**
	95nm,0.4s						
BRMO	**Bormio**	**1.00**	**339**	Pg	**Pg**	**04 20 08.1**	**+0.1**
	7.0nm,0.2s						
BERNI	**Berninapass**	**1.06**	**325**	*i* P	**Pg**	**04 20 08.6**	**-0.5**
	62nm,0.2s						
FUORN	**Ofenpass**	**1.16**	**338**	*i* P	**Pb**	**04 20 09.0**	**-1.9**
	36nm,0.5s						
CAE	**Caneva**	**1.17**	**66**	*e*Pg	**Pg**	**04 20 11.5**	**+0.3**
CAE				*e*Sg	**Sg**	**04 20 28.1**	**+1.6**
CSO	**Casso**	**1.23**	**53**	*e*Pg	**Pg**	**04 20 11.7**	**-0.7**
CSO				*e*Sg	**Sg**	**04 20 30.4**	**+2.0**
MLNI	**Malnisio**	**1.34**	**63**	⇓*i*Pg	**Pg**	**04 20 14.2**	**-0.2**
MLNI				*i* Sg	**Sg**	**04 20 33.5**	**+1.7**
VDL	**Val di Lei**	**1.37**	**314**	⇑*i*P	**Pn**	**04 20 10.3**	**-3.6**
	49nm,0.9s						
DAVOX	**Davos**	**1.42**	**330**	*e*P	**Pn**	**04 20 11.4**	**-3.2**
	37nm,1.6s						
TUE	**Stuetta**	**1.42**	**311**	Pg	**Pg**	**04 20 15.6**	**-0.5**
	30nm,0.8s						
FETA	**Feichten**	**1.48**	**355**	⇑*i*Pg	**Pg**	**04 20 16.8**	**-0.3**
	0.9nm,0.1s						
FETA				⇑*i*Sg	**Sg**	**04 20 36.1**	**-0.2**
	3.1nm,0.2s						
FETA	**Feichten**	**1.48**	**355**	Pg	**Pg**	**04 20 16.8**	**-0.3**
	0.9nm,0.1s						
FETA				Sg	**Sg**	**04 20 36.1**	**-0.2**
	3.1nm,0.2s						
SEST	**Monte Rota**	**1.51**	**37**	Pg	**Pg**	**04 20 17.6**	**-0.1**
SEST				Sg	**Sg**	**04 20 37.2**	**-0.1**
	26nm,0.4s						
ABTA	**Abfaltersbach**	**1.64**	**42**	⇑*i*Pg	**Pg**	**04 20 19.7**	**-0.6**
	3.3nm,0.1s						
ABTA				⇓*i*Sg	**Sg**	**04 20 42.3**	**+0.7**
	4.8nm,0.2s						
FVI	**Forni Avoltri**	**1.68**	**51**	Pg	**Pg**	**04 20 20.0**	**-0.9**
	7.0nm,0.2s						
SQTA	**Sankt Quirin**	**1.69**	**7**	⇓*i*Pg	**Pg**	**04 20 20.9**	**-0.2**
	5.4nm,0.2s						
SQTA				⇓*i*Sg	**Sg**	**04 20 43.0**	**0.0**
	15nm,0.3s						
WTTA	**Wattenberg**	**1.79**	**16**	⇓*e*Pg	**Pg**	**04 20 23.1**	**0.0**
WTTA				⇓*i*Sg	**Sg**	**04 20 45.0**	**-1.3**
	12nm,0.2s						
WTTA	**Wattenberg**	**1.79**	**16**	Pg	**Pg**	**04 20 23.1**	**0.0**
WTTA				Sg	**Sg**	**04 20 45.0**	**-1.3**
	12nm,0.2s						
MOTA	**Moosalm**	**1.80**	**4**	⇓*e*Pg	**Pg**	**04 20 22.5**	**-0.8**
	1.7nm,0.3s						
MOTA				⇓*i*Sg	**Sg**	**04 20 46.8**	**+0.1**
	5.1nm,0.2s						
WATA	**Walderalm**	**1.85**	**14**	⇑Pg	**Pg**	**04 20 23.4**	**-0.8**
	2.2nm,0.2s						
WATA				⇓*i*Sg	**Sg**	**04 20 47.3**	**-0.8**
	6.9nm,0.1s						
DAVA	**Damuels**	**1.88**	**338**	⇑*i*Pg	**Pg**	**04 20 24.1**	**-0.7**
	1.3nm,0.1s						
DAVA				⇑*i*Sg	**Sg**	**04 20 50.7**	**+1.6**
	3.6nm,0.3s						
PTCC	**Patocco-Chiusa**	**1.91**	**63**	Pg	**Pg**	**04 20 23.1**	**-2.4**
	7.0nm,0.2s						
RETA	**Reutte**	**1.94**	**357**	⇓*i*Pg	**Pg**	**04 20 25.9**	**-0.1**
	0.5nm,0.2s						
RETA				⇑*i*Sg	**Sg**	**04 20 51.3**	**+0.1**
	2.6nm,0.3s						
VOY	**Vojsko**	**2.15**	**76**	*e*Pn	**Pn**	**04 20 29.4**	**+4.7**
VOY				*e*Sn	**Sn**	**04 20 57.5**	**+6.1**
SKDS	**Skadanscina**	**2.19**	**89**	*i* Pn	**Pn**	**04 20 24.7**	**-0.5**
SKDS				*i* Sn	**Sn**	**04 20 50.9**	**-1.4**
JAVS	**Javornik**	**2.24**	**80**	*i* Sn	**Sn**	**04 21 00.4**	**+6.7**
GORS	**Gorjuse**	**2.29**	**69**	*i* Pn	**Pn**	**04 20 27.5**	**+0.8**
GORS				*i* Sg	**Sg**	**04 21 02.1**	**-0.3**
NVLJ	**Novalja**	**2.98**	**108**	*i* Pn	**Pn**	**04 20 36.2**	**+0.1**
NVLJ				*i* Sn	**Sn**	**04 21 10.4**	**-1.4**
NVLJ	**Novalja**	**2.98**	**108**	*i* Pn	**Pn**	**04 20 36.1**	**0.0**
NVLJ

MK31 Makanchi Array 81.30 319 *eP* **P 04 36 46.9 -1.4**
MCK McKinley 82.75 23 *eP* **P 04 36 54.9 -1.0**
comp=Z,3.3nm,1.0s,mb4.3
QSPA South Pole Qui 83.36 180 *eP* **P 04 37 00.1 +1.0**
YKA Yellowknife Ar 97.30 28 P **P 04 38 04.1 -1.0**
comp=Z,0.3nm,0.7s,mb3.8,baz=271,slow=4.8,SNR=4.2
YKA Yellowknife Ar 97.30 28 P **P 04 38 04.1 -1.0**
TOA0 Torodi Ar. Sit 150.25 285 *e*PKPbc PKPbc 04 44 23.1 0.0
TORD Torodi Ar. Bea 150.25 285 PKPbc PKPbc 04 44 21.9 -1.2
comp=Z,1.6nm,0.6s,baz=56,slow=2.0,SNR=28
TORD PKPab PKPab 04 44 26.6 -2.6
comp=Z,0.8nm,0.6s,baz=66,slow=3.4,SNR=4.4
TORD pPKPbc pPKPbc 04 44 34.0 +8.0
comp=Z,1.1nm,0.6s,baz=118,slow=3.7,SNR=6.1

IDC 20 04:31:13.4±1.8, 2229S×14797E, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.6/12, mbtmp3.5/5, ML3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx2.2/17, Error ellipse: s-maj=30.2km s-min=20.4km az=62.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.71**	**324**	Pn	Pn	04 31 58.6	+0.4
	4.6nm,0.3s,baz=126,slow=17,SNR=19						
CTA				Lg		04 32 39.6	
	23nm,0.3s,baz=55,slow=20,SNR=15						
STKA	**Stephens Creek**	**11.10**	**209**	Pn	Pn	04 33 51.8	-1.6
	0.3nm,0.3s,baz=21,slow=13,SNR=6.7						
STKA				Sn	Sn	04 35 50.9	-7.4
	0.1nm,0.3s,baz=86,slow=23,SNR=2.5						
STKA				Lg		04 37 11.3	
	0.2nm,0.3s,baz=130,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**12.93**	**278**	Pn	Pn	04 34 18.1	-0.3
	0.3nm,0.3s,baz=96,slow=12,SNR=6.7						
WRA				Sn	Sn	04 36 41.6	-1.3
	0.1nm,0.3s,baz=86,slow=22,SNR=2.9						
WRA				Lg		04 38 06.4	
	0.3nm,0.3s,baz=109,slow=28,SNR=7.1						
ASAR	**Alice Springs**	**13.03**	**261**	Pn	Pn	04 34 21.0	+1.3
	0.1nm,0.3s,baz=73,slow=14,SNR=5.7						
ASAR				Sn	Sn	04 36 46.4	+1.1
	0.1nm,0.3s,baz=81,slow=24,SNR=6.1						
ASAR				Lg		04 38 10.9	
	0.1nm,0.3s,baz=63,slow=28,SNR=4.4						
AFI	**Afiamalu**	**39.07**	**85**	LR	LR	04 51 00.9	
	comp=Z,76nm,18.5s,baz=84,slow=30						
SONM	**Songino Array**	**79.15**	**333**	P	P	04 43 20.6	+0.6
	0.3nm,0.5s,baz=154,slow=6.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**146.67**	**260**	PKPbc	PKPbc	04 50 56.7	-0.4
	0.7nm,0.9s,baz=107,slow=4.1,SNR=8.2						

JMA 20 04:33:51.0±0.2, 2751N×14093E, h336km, M4.1, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.19**	**110**	P	Pn	04 34 36.2	+0.1
CBIJ				*e*S	S	04 35 11.5	-0.6
JHHJ	**Haha-jima-NKT**	**1.42**	**128**	P	Pn	04 34 37.5	+0.3
JHHJ				S	S	04 35 14.2	0.0
BSO1	**Boso 1**	**7.12**	**0**	P	Pn	04 35 36.0	+1.6
BSO3	**Boso 3**	**7.28**	**357**	P	Pn	04 35 37.5	+1.2
JAG	**Ashikaga**	**8.98**	**352**	P	Pn	04 35 57.6	+1.0
JAG				*e*S	S	04 37 33.3	-5.9

*ISCJB **20** 04:39:20.0±0.5, 3579N±003×5193E±003, h4km±4km, Error ellipse: s-maj=5.3km s-min=3.6km az=49.8*
*CSEM **20** 04:39:19.8±0.1, 3579N×5192E, h16km, ML4.1, Error ellipse: s-maj=1.6km s-min=1.1km az=16.0*
*NEIC **20** 04:39:20.4, 3574N×5188E, h14km, ML4.1(THR), MN4.2(TEH), After THR.*
*THR **20** 04:39:20.4±0.9, 3574N×5189E, h14km±3km, ML4.1*
*TEH **20** 04:39:21.1, 3579N×5193E, h10km, Mn4.2*
ISC 20 04:39:20.5±0.5, 3579N±003×5193E±003, h3km±5km, n39, σ0°73/87, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMV	**Damavand**	**0.17**	**168**	*e*Pg	**Pg**	**04 39 24.2**	**+0.5**
DAMV				*e*Sg	**Sg**	**04 39 27.1**	**+1.2**
DAMV	**Damavand**	**0.17**	**168**	Pg	**Pg**	**04 39 24.0**	**+0.3**
DAMV				Sg	**Sg**	**04 39 27.0**	**+1.1**
IAFJ	**Afjeh**	**0.19**	**290**	*e*Pg	**Pg**	**04 39 24.3**	**+0.1**
IAFJ				*e*Pg	**Pg**	**04 39 24.4**	**+0.2**
IAFJ				*e*Pg	**Pg**	**04 39 24.4**	**+0.2**
IAFJ				*e*Sg	**Sg**	**04 39 27.9**	**+1.2**
IAFJ	**Afjeh**	**0.19**	**290**	Pg	**Pg**	**04 39 24.2**	**0.0**
IAFJ				Pg	**Pg**	**04 39 24.4**	**+0.2**
IAFJ				Sg	**Sg**	**04 39 27.8**	**+1.1**
IAFJ	**Afjeh**	**0.19**	**290**	*e*Pg	**Pg**	**04 39 24.4**	**+0.2**
IAFJ				*e*Sg	**Sg**	**04 39 27.9**	**+1.2**
IDMV	**Damavand**	**0.23**	**159**	*e*Pg	**Pg**	**04 39 25.3**	**+0.3**
IDMV				*e*Pg	**Pg**	**04 39 25.3**	**+0.3**
IDMV				*e*Pg	**Pg**	**04 39 25.4**	**+0.4**
IDMV				*e*Sg	**Sg**	**04 39 29.2**	**+1.2**
IDMV	**Damavand**	**0.23**	**159**	Pg	**Pg**	**04 39 25.3**	**+0.3**
IDMV				Sg	**Sg**	**04 39 29.1**	**+1.1**
IDMV	**Damavand**	**0.23**	**159**	*e*Pg	**Pg**	**04 39 25.4**	**+0.4**
IDMV				*e*Sg	**Sg**	**04 39 29.2**	**+1.2**
IPRN	**Paran-Amol**	**0.52**	**29**	*e*Pg	**Pg**	**04 39 31.2**	**+0.8**
IPRN				*e*Pg	**Pg**	**04 39 31.2**	**+0.8**
IPRN				*e*Pg	**Pg**	**04 39 31.3**	**+0.9**
CHTH	**Charan**	**0.66**	**280**	*e*Pg	**Pg**	**04 39 32.5**	**-0.8**
CHTH				AML	AML	04 39 42.2	
	comp=N,6μm,0.2s						
CHTH	**Charan**	**0.66**	**280**	Pg	**Pg**	**04 39 32.0**	**-1.3**
IFIR	**Firoozkooh**	**0.69**	**102**	*e*Pg	**Pg**	**04 39 33.1**	**-0.6**
IFIR				*e*Pg	**Pg**	**04 39 33.3**	**-0.4**
IFIR				*e*Pg	**Pg**	**04 39 33.5**	**-0.2**
IFIR				*e*Sg	**Sg**	**04 39 43.2**	**+0.6**
IFIR	**Firoozkooh**	**0.69**	**102**	*e*Pg	**Pg**	**04 39 33.5**	**-0.2**
IFIR				*e*Sg	**Sg**	**04 39 43.2**	**+0.6**
IVRN	**Varamin**	**0.81**	**192**	*e*Pg	**Pg**	**04 39 35.9**	**-0.2**
IVRN				*e*Pg	**Pg**	**04 39 35.9**	**-0.2**
IVRN				*e*Pg	**Pg**	**04 39 35.9**	**-0.2**
IVRN				*e*Sg	**Sg**	**04 39 47.0**	**+0.4**
IVRN	**Varamin**	**0.81**	**192**	Pg	**Pg**	**04 39 35.8**	**-0.3**
IVRN				Sg	**Sg**	**04 39 47.0**	**+0.4**
THKV	**Tehran--Karaj**	**0.86**	**279**	*e*Pg	**Pg**	**04 39 36.6**	**-0.5**
THKV				*e*Sg	**Sg**	**04 39 48.2**	**-0.1**
THKV				AML	AML	04 39 51.4	
	comp=N,8μm,0.5s						
THKV	**Tehran--Karaj**	**0.86**	**279**	Pg	**Pg**	**04 39 36.0**	**-1.1**
THKV				*e*Sg	**Sg**	**04 39 48.2**	**-0.1**
	SNR=90						
ILAS	**Lasjerd**	**0.93**	**116**	*e*Pg	**Pg**	**04 39 37.9**	**-0.5**
ILAS				*e*Pg	**Pg**	**04 39 37.9**	**-0.5**
ILAS				*e*Pg	**Pg**	**04 39 37.9**	**-0.5**
IMHD	**Mahdasht**	**1.03**	**264**	*e*Pg	**Pg**	**04 39 39.4**	**-1.0**
IMHD				*e*Pg	**Pg**	**04 39 39.5**	**-0.9**
IMHD				*e*Pg	**Pg**	**04 39 39.7**	**-0.7**
IMHD	**Mahdasht**	**1.03**	**264**	Pg	**Pg**	**04 39 39.4**	**-1.0**
IMHD				Pg	**Pg**	**04 39 39.6**	**-0.8**
ISHM	**Shahmirzad**	**1.11**	**89**	*e*Pg	**Pg**	**04 39 40.8**	**-1.0**
ISHM				*e*Pg	**Pg**	**04 39 41.1**	**-0.7**
ISHM				*e*Pg	**Pg**	**04 39 41.5**	**-0.3**
ISHM	**Shahmirzad**	**1.11**	**89**	Pg	**Pg**	**04 39 40.8**	**-1.0**
ISHM				Pg	**Pg**	**04 39 41.0**	**-0.8**
ISHM				Pg	**Pg**	**04 39 41.5**	**-0.3**
ISHM	**Shahmirzad**	**1.11**	**89**	*e*Pg	**Pg**	**04 39 41.1**	**-0.7**
ISFB	**Sefidab**	**1.46**	**170**	*e*Pg	**Pn**	**04 39 47.0**	**-0.8**
ISFB				*e*Pg	**Pn**	**04 39 47.0**	**-0.8**
ISFB				*e*Pg	**Pg**	**04 39 47.2**	**-1.3**
ISFB				*e*Sg	**Sg**	**04 40 06.0**	**-1.3**
ISFB	**Sefidab**	**1.46**	**170**	Pg	**Pn**	**04 39 46.9**	**-0.9**
ISFB				Pg	**Pg**	**04 39 47.2**	**-1.3**
ISFB				Sg	**Sg**	**04 40 06.0**	**-1.3**
IANJ	**Anjiloo**	**1.65**	**101**	*e*Pg	**Pn**	**04 39 50.4**	**0.0**
IANJ				*e*Pn	**Pn**	**04 39 50.5**	**+0.1**
IANJ				*e*Sn	**Sn**	**04 40 12.0**	**-0.1**
IANJ	**Anjiloo**	**1.65**	**101**	Pg	**Pn**	**04 39 50.4**	**0.0**
IANJ				Sn	**Sn**	**04 40 11.9**	**-0.2**
IANJ	**Anjiloo**	**1.65**	**101**	*e*Pn	**Pn**	**04 39 50.5**	**+0.1**
IANJ				*e*Sn	**Sn**	**04 40 12.0**	**-0.1**
IRAZ	**Razeghan**	**1.68**	**257**	*e*Pn	**Pn**	**04 39 50.4**	**-0.4**
IRAZ				*e*Pn	**Pn**	**04 39 50.5**	**-0.3**
IRAZ	**Razeghan**	**1.68**	**257**	Pn	**Pn**	**04 39 50.5**	**-0.3**
IRAZ				Pn	**Pn**	**04 39 50.5**	**-0.3**
IRAZ	**Razeghan**	**1.68**	**257**	*e*Pn	**Pn**	**04 39 50.5**	**-0.3**
ASAO	**Ashtian**	**1.99**	**232**	*e*Pg	**Pn**	**04 39 55.4**	**+0.2**
ASAO				*e*Sg	**Sn**	**04 40 21.8**	**+1.1**
ASAO				AML	AML	04 40 24.4	
	comp=N,2μm,0.3s						
ASAO				AML	AML	04 40 24.7	
	comp=E,2μm,0.3s						
ASAO	**Ashtian**	**1.99**	**232**	Pg	**Pn**	**04 39 55.0**	**-0.2**
ASAO				Sg	**Sn**	**04 40 21.0**	**+0.4**
NASN	**Na'in**	**3.07**	**166**	*e*Pn	**Pn**	**04 40 10.6**	**+0.6**
NASN	**Na'in**	**3.07**	**166**	Pn	**Pn**	**04 40 10.0**	**0.0**
SNGE	**Sanandaj**	**3.81**	**261**	*e*Pn	**Pn**	**04 40 20.7**	**+0.6**
SNGE	**Sanandaj**	**3.81**	**261**	Pn	**Pn**	**04 40 20.0**	**-0.1**
GRMI	**Germi**	**4.41**	**314**	*e*Pn	**Pn**	**04 40 29.3**	**+1.0**
GRMI	**Germi**	**4.41**	**314**	Pn	**Pn**	**04 40 29.0**	**+0.6**

*CSEM **20** 04:45:15.0, 3542N×2143E, h10km, MD3.5/4, After ATH*
ATH 20 04:45:15.0, 3542N×2143E, h10km, MD3.5/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.56**	**56**	*e*PB	Pb	04 45 44.5	+0.5
VLI	**Veliai**	**1.78**	**43**	*e*PN	Pn	04 45 47.5	+1.7
ITM	**Ithomi**	**1.80**	**13**	*e*PG	Pg	04 45 48.5	-1.0
VAM	**Vamos**	**2.26**	**90**	*e*PN	Pn	04 45 55.0	+2.6

*CSEM **20** 05:00:34.9±0.1, 3617N×5384E, h2km, ML3.9, Error ellipse: s-maj=2.0km s-min=1.8km az=121.0*
*NEIC **20** 05:00:36.0, 3620N×5380E, h12km, mb4.2/4, ML4.1(THR), MN4.2(TEH), After TEH.*
*ISCJB **20** 05:00:36.1±0.4, 3617N±004×5381E±005, h10km, mb4.0/3, MS3.3/1, Error ellipse: s-maj=6.3km s-min=4.7km az=75.7*
*TEH **20** 05:00:36.2, 3619N×5384E, h12km, Mn4.2*
*THR **20** 05:00:38.4±0.5, 3595N×5382E, h15km, ML3.9*
*MOS **20** 05:00:47.9±2.0, 3711N×5412E, h33km, mb4.2/2, Error ellipse: s-maj=16.9km s-min=13.5km az=72.3*
ISC 20 05:00:38.5±0.4, 3610N±004×5375E±005, h10km, n70, σ1°58/122, mb4.0/3, MS3.3/1, 1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.47**	**232**	*e*Pg	**Pg**	**05 00 47.1**	**-0.6**
ISHM				*e*Pg	**Pg**	**05 00 47.2**	**-0.5**
ISHM				*e*Pg	**Pg**	**05 00 47.3**	**-0.4**
ISHM				*e*Sg	**Sg**	**05 00 55.0**	**+1.1**
ISHM	**Shahmirzad**	**0.47**	**232**	Pg	**Pg**	**05 00 47.0**	**-0.7**
ISHM				Pg	**Pg**	**05 00 47.2**	**-0.5**
ISHM				Sg	**Sg**	**05 00 55.0**	**+1.1**
ISHM	**Shahmirzad**	**0.47**	**232**	Pg	**Pg**	**05 00 47.0**	**-0.7**
ISHM				*e*Sg	**Sg**	**05 00 55.0**	**+1.1**
IANJ	**Anjiloo**	**0.64**	**168**	*e*Pg	**Pg**	**05 00 49.2**	**-1.7**
IANJ				*e*Pg	**Pg**	**05 00 49.3**	**-1.6**
IANJ	**Anjiloo**	**0.64**	**168**	Pg	**Pg**	**05 00 49.1**	**-1.8**
IANJ				Pg	**Pg**	**05 00 49.3**	**-1.6**
IFIR	**Firoozkooh**	**0.93**	**241**	*e*Pg	**Pg**	**05 00 54.8**	**-1.6**
IFIR				*e*Pg	**Pg**	**05 00 54.9**	**-1.5**
IFIR				*e*Pg	**Pg**	**05 00 55.2**	**-1.2**
IFIR	**Firoozkooh**	**0.93**	**241**	Pg	**Pg**	**05 00 54.8**	**-1.6**
IFIR				Pg	**Pg**	**05 00 55.1**	**-1.3**
IFIR	**Firoozkooh**	**0.93**	**241**	Pg	**Pg**	**05 00 55.1**	**-1.3**
ILAS	**Lasjerd**	**0.96**	**222**	*e*Pg	**Pg**	**05 00 55.4**	**-1.6**
ILAS				*e*Pn	**Pn**	**05 00 55.6**	**-2.4**
ILAS				*e*Pn	**Pn**	**05 00 55.8**	**-2.2**
ILAS	**Lasjerd**	**0.96**	**222**	Pg	**Pg**	**05 00 55.3**	**-1.7**
ILAS				Pn	**Pn**	**05 00 55.6**	**-2.4**
ILAS	**Lasjerd**	**0.96**	**222**	*e*Pn	**Pn**	**05 00 55.6**	**-2.4**
IPRN	**Paran-Amol**	**1.23**	**277**	*e*Pg	**Pg**	**05 00 58.9**	**-3.2**
IPRN				*e*Pg	**Pg**	**05 00 59.1**	**-3.0**
IPRN				*e*Pg	**Pg**	**05 00 59.5**	**-2.6**
IDMV	**Damavand**	**1.49**	**250**	*e*Pg	**Pg**	**05 01 05.0**	**-2.1**
IDMV				*e*Pg	**Pg**	**05 01 05.2**	**-1.9**
IDMV				*e*Pg	**Pg**	**05 01 05.2**	**-1.9**
IDMV	**Damavand**	**1.49**	**250**	Pg	**Pg**	**05 01 05.2**	**-1.9**
IAFJ	**Afjeh**	**1.67**	**262**	*e*Pg	**Pg**	**05 01 07.9**	**-2.6**
IAFJ				*e*Pg	**Pg**	**05 01 08.1**	**-2.4**
IAFJ				*e*Pg	**Pg**	**05 01 08.1**	**-2.4**
IVRN	**Varamin**	**1.98**	**237**	*e*Pg	**Pg**	**05 01 13.3**	**-3.2**
IVRN				*e*Pg	**Pg**	**05 01 13.9**	**-2.6**
IVRN				*e*Pg	**Pg**	**05 01 14.1**	**-2.4**
IVRN	**Varamin**	**1.98**	**237**	Pg	**Pg**	**05 01 13.3**	**-3.2**
IVRN				Pg	**Pg**	**05 01 13.8**	**-2.7**
IVRN				Pg	**Pg**	**05 01 14.1**	**-2.4**
IVRN	**Varamin**	**1.98**	**237**	Pg	**Pg**	**05 01 13.8**	**-2.7**
ISFB	**Sefidab**	**2.14**	**216**	*e*Pn	**Pn**	**05 01 14.7**	**+0.5**
ISFB				*e*Pg	**Pg**	**05 01 14.9**	**-4.5**
ISFB				*e*Pg	**Pg**	**05 01 15.0**	**-4.4**
ISFB	**Sefidab**	**2.14**	**216**	Pn	**Pn**	**05 01 14.7**	**+0.5**
ISFB				Pg	**Pg**	**05 01 14.9**	**-4.5**
CHTH	**Charan**	**2.14**	**266**	*e*Pn	**Pn**	**05 01 16.2**	**+2.0**
CHTH				AML	AML	05 02 14.1	
	comp=N,490nm,0.8s						
CHTH	**Charan**	**2.14**	**266**	Pn	**Pn**	**05 01 16.0**	**+1.8**
THKV	**Tehran--Karaj**	**2.34**	**266**	*e*Pn	**Pn**	**05 01 19.5**	**+2.6**
THKV	**Tehran--Karaj**	**2.34**	**266**	Pn	**Pn**	**05 01 19.0**	**+2.1**
MRVT	**Maraveh tapeh**	**2.44**	**50**	*e*Pn	**Pn**	**05 01 20.5**	**+2.2**
IMHD	**Mahdasht**	**2.54**	**262**	*e*Pn	**Pn**	**05 01 21.5**	**+1.8**
IMHD				*e*Pn	**Pn**	**05 01 22.0**	**+2.3**
IMHD				*e*Pn	**Pn**	**05 01 22.2**	**+2.5**
IMHD	**Mahdasht**	**2.54**	**262**	Pn	**Pn**	**05 01 21.4**	**+1.7**
IMHD				Pn	**Pn**	**05 01 22.0**	**+2.3**
IRAZ	**Razeghan**	**3.19**	**259**	*e*Pn	**Pn**	**05 01 30.1**	**+1.5**
IRAZ				*e*Pn	**Pn**	**05 01 30.6**	**+2.0**
IRAZ				*e*Pn	**Pn**	**05 01 30.9**	**+2.3**
IRAZ	**Razeghan**	**3.19**	**259**	Pn	**Pn**	**05 01 30.0**	**+1.4**
IRAZ				Pn	**Pn**	**05 01 30.6**	**+2.0**
IRAZ				Pn	**Pn**	**05 01 30.9**	**+2.3**
IKLH	**Kalahroud**	**3.30**	**213**	*e*Pn	**Pn**	**05 01 30.6**	**+0.4**
IKLH				*e*Pn	**Pn**	**05 01 31.1**	**+0.9**
IKLH				*e*Pn	**Pn**	**05 01 31.5**	**+1.3**
IKLH	**Kalahroud**	**3.30**	**213**	Pn	**Pn**	**05 01 30.5**	**+0.3**
IKLH				Pn	**Pn**	**05 01 31.0**	**+0.8**
IKLH				Pn	**Pn**	**05 01 31.5**	**+1.3**
NASN	**Na'in**	**3.38**	**194**	*e*Pn	**Pn**	**05 01 31.4**	**+1.1**
NASN	**Na'in**	**3.38**	**194**	Pn	**Pn**	**05 01 31.0**	**-0.3**
IZEF	**Zefreh**	**3.40**	**201**	*e*Pn	**Pn**	**05 01 31.0**	**-0.6**
IZEF				*e*Pn	**Pn**	**05 01 31.9**	**+0.3**
IZEF				*e*Pn	**Pn**	**05 01 32.1**	**+0.5**
IZEF	**Zefreh**	**3.40**	**201**	Pn	**Pn**	**05 01 31.0**	**-0.6**
IZEF				Pn	**Pn**	**05 01 31.8**	**+0.2**
IZEF				Pn	**Pn**	**05 01 32.1**	**+0.5**
IZEF	**Zefreh**	**3.40**	**201**	Pn	**Pn**	**05 01 31.8**	**+0.2**
ASAO	**Ashtian**	**3.42**	**244**	*e*Pn	**Pn**	**05 01 33.3**	**+1.5**
ASAO				AML	AML	05 02 49.8	
	comp=N,320nm,0.4s						
ASAO	**Ashtian**	**3.42**	**244**	Pn	**Pn**	**05 01 33.0**	**+1.2**
ICHK	**Chekchek**	**3.88**	**172**	*e*Pn	**Pn**	**05 01 38.5**	**+0.3**
ICHK				*e*Pn	**Pn**	**05 01 38.6**	**+0.4**
ICHK				*e*Pn	**Pn**	**05 01 40.3**	**+2.1**
VAN	**Vannovskaya**	**3.94**	**61**	*e*P	**Pn**	**05 01 38.9**	**-0.1**
IGAR	**Garneh**	**4.05**	**199**	*e*Pn	**Pn**	**05 01 40.1**	**-0.4**
IGAR				*e*Pn	**Pn**	**05 01 40.6**	**+0.1**
IGAR				*e*Pn	**Pn**	**05 01 40.7**	**+0.2**
IPIR	**Pirpir**	**4.15**	**216**	*e*Pn	**Pn**	**05 01 44.1**	**+2.3**
IPIR				*e*Pn	**Pn**	**05 01 44.3**	**+2.5**
IPIR				*e*Pn	**Pn**	**05 01 44.4**	**+2.6**
IPIR	**Pirpir**	**4.15**	**216**	Pn	**Pn**	**05 01 44.0**	**+2.2**
IPIR				Pn	**Pn**	**05 01 44.2**	**+2.4**
ISAD	**Sadrabad**	**4.17**	**181**	*e*Pg	**Pn**	**05 01 42.4**	**+0.2**
ISAD				*e*Pg		05 01 43.0	
ISAD	**Sadrabad**	**4.17**	**181**	Pg	**Pn**	**05 01 42.3**	**+0.1**
ISAD				Pg		05 01 43.0	
IBAF	**Bafgh**	**4.74**	**161**	*e*Pn	**Pn**	**05 01 50.0**	**0.0**
IBAF				*e*Pn	**Pn**	**05 01 50.2**	**+0.2**
IBAF				*e*Pn	**Pn**	**05 01 50.6**	**+0.6**
IMEH	**Mehriz**	**4.75**	**171**	*e*Pn	**Pn**	**05 01 50.7**	**+0.6**
IMEH	**Mehriz**	**4.75**	**171**	Pn	**Pn**	**05 01 50.6**	**+0.5**
SNGE	**Sanandaj**	**5.32**	**261**	*e*Pn	**Pn**	**05 02 00.3**	**+2.4**
DGRG	**David-gareji**	**8.45**	**312**	P	**Pn**	**05 02 40.2**	**-0.6**
DGRG	**David-gareji**	**8.45**	**312**	P	**Sn**	**05 04 11.5**	**-4.7**
ZEI	**Tsey**	**10.12**	**314**	*e*P	**Pn**	**05 03 05.4**	**+1.6**
ZEI				*e*		05 04 56.2	
KIV	**Kislovodsk**	**11.55**	**316**	*e*P	**Pn**	**05 03 27.5**	**+4.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SOC	**Sochi**	**13.11**	**309**	*e*P	**Pn**	**05 03 50.1**	**+5.4**
SOC				*e*		05 06 15.0	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AB31	**Akbulak array**	**13.91**	**17**	P	**Pn**	**05 03 50.6**	**-5.0**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK	**Ala-Archa**	**17.30**	**62**	*e*P	**Pn**	**05 04 35.8**	**-4.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**17.30**	**62**	*e*Pn	**Pn**	**05 04 35.8**	**-4.2**
	comp=Z,5.2nm,0.9s						
AAK	**Ala-Archa**	**17.30**	**62**	*e*P	**Pn**	**05 04 35.8**	**-4.2**
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**20.56**	**29**	*e*P	**P**	**05 05 13.8**	**-3.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRVK	**Borovoye**	**20.56**	**29**	*e*P	**P**	**05 05 13.8**	**-3.4**
	comp=Z,10nm,0.8s						
BRVK	**Borovoye**	**20.56**	**29**	*e*P	**P**	**05 05 13.8**	**-3.4**
	comp=Z,10.0nm,0.8s						
BVA0	**Borovoye Array**	**20.57**	**29**	P	**P**	**05 05 16.6**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVA0	**Borovoye Array**	**20.57**	**29**	P	**P**	**05 05 16.6**	**-0.8**
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**20.60**	**8**	*i*P	**P**	**05 05 16.8**	**-0.8**
ARU				*e*S	**S**	**05 08 57.2**	**-11**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	**20.60**	**8**	*e*P	**P**	**05 05 15.3**	**-2.3**
	comp=Z,6.6nm,0.4s						
ARU	**Arti**	**20.60**	**8**	*i*P	**P**	**05 05 16.8**	**-0.8**
	comp=Z,9.0nm,0.9s						
CHKZ	**Chkalovo**	**21.16**	**29**	P	**P**	**05 05 22.1**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
OBN	**Obninsk**	**22.39**	**334**	*e*P	**P**	**05 05 40.0**	**+3.2**
OBN				*e*		05 06 00.3	
OBN				*e*		05 09 37.9	
OBN				*e*SS		05 10 01.0	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
KURK	**Kurchatov**	**23.09**	**43**	*i*P	**P**	**05 05 45.2**	**+0.9**
KURK	**Kurchatov**	**23.09**	**43**	*e*P	**P**	**05 05 48.0**	**+3.7**
	comp=Z,7.1nm,1.1s,mb4.0						

*ISCJB **20** 05:03:37.4±0.5, 5144N±002×16.13E±003, h0km, Error ellipse: s-maj=3.4km s-min=2.3km az=24.9*
*NEIC **20** 05:03:38.4±0.4, 5155N×1613E, h5km, ML2.8(BRA), ML2.9(SZGRF), Error ellipse: s-maj=5.0km s-min=4.8km az=53.0*
*IPEC **20** 05:03:38.6±0.3, 5151N×1623E, h3km±1km, ML2.1/3, Error ellipse: s-maj=2.2km s-min=0.8km az=23.0*
*IDC **20** 05:03:39.9±0.7, 5147N×1593E, h0km, mb1 3.5/7, mb1mx3.3/22, mbtmp3.4/7, ML2.9/7, Error ellipse: s-maj=14.0km s-min=6.8km az=98.0*
*PRU **20** 05:03:40.9, 5142N×16.10E, h0km, Felt In Harrachov*
*CSEM **20** 05:03:40.0±0.1, 5145N×1616E, h1km, ML3.2/8, Error ellipse: s-maj=2.3km s-min=1.5km az=17.0*
*WAR **20** 05:03:40, 5147N×1614E, ML2.7, Mining Induced*
*VIE **20** 05:03:41.6±0.5, 5130N×1617E, h0km, mb2.5/4, ML2.8/5, Error ellipse: s-maj=3.4km s-min=3.2km az=113.0 63 km WNW of Breslau Suspected Mining induced.*
ISC 20 05:03:38.2±0.4, 5151N±002×1616E±003, h0km, n50, σ1°05/91, 4C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**173**	*i*Pg	**Pg**	**05 03 51.8**	**+0.8**
KSP				*e*Sg	**Sg**	**05 03 59.3**	**-0.4**
KSP				*e*L		05 04 03.5	
KSP	**Ksiaz**	**0.67**	**173**	*e*Pg	**Pg**	**05 03 51.7**	**+0.7**
KSP				*e*Sg	**Sg**	**05 03 58.9**	**-0.8**
UPC	**Upice**	**1.00**	**185**	*e*PG	**Pg**	**05 03 57.8**	**+0.4**
DPC	**Dobruska-Polom**	**1.16**	**175**	*e*PG	**Pg**	**05 04 00.6**	**+0.1**
DPC				*e*SG	**Sg**	**05 04 15.2**	**-0.3**
	68nm,0.8s						
DPC	**Dobruska-Polom**	**1.16**	**175**	*e*Pg	**Pg**	**05 04 00.6**	**+0.1**
DPC				*e*Sg	**Sg**	**05 04 15.1**	**-0.4**
PVCC	**Panska Ves**	**1.40**	**226**	*e*PG	**Pg**	**05 04 05.0**	**-0.1**
PVCC				*e*SG	**

BSD	**Bornholm Skovb**	**3.69 349**	*i* P	**Pn**	**05 04 36.4**	**0.0**
BSD			*i* S	**Sn**	**05 05 19.5**	**-1.1**
MOA	**Molln**	**3.86 199**	⇑ *i* Pn	**Pn**	**05 04 39.7**	**+0.9**
MOA			⇑ *i* Sg	**Sg**	**05 05 43.0**	**+0.8**
	comp=Z,13nm,0.5s					
STHS	**Stebnicka Huta**	**3.87 121**	*e*PN	**Pn**	**05 04 41.0**	**+2.2**
STHS			*e*PG	**Pg**	**05 04 53.1**	**+0.8**
STHS			*e*SG	**Sg**	**05 05 46.0**	**+3.6**
KECS	**Kecovo**	**4.12 136**	*e*PG	**Pg**	**05 04 58.6**	**+1.5**
ARSA	**Arzberg**	**4.28 186**	⇑ *i* Pn	**Pn**	**05 04 45.8**	**+1.3**
ARSA			⇑ *i* Sg	**Sg**	**05 05 56.6**	**+0.9**
	comp=Z,15nm,0.7s					
CRVS	**Cervenica-Dubn**	**4.29 125**	*e*PG	**Pg**	**05 05 02.1**	**+1.7**
KWP	**Kalwaria**	**4.58 112**	*e*Pn	**Pg**	**05 05 03.6**	**-2.3**
KWP			*e*Sg	**Sg**	**05 06 22.5**	**+17**
AKASG	**Malin Array Be**	**8.27 90**	Pn	**Pn**	**05 05 40.4**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=4.6					
AKASG	**Malin Array Be**	**8.27 90**	Pn	**Pn**	**05 05 40.3**	**+1.0**
HFS	**Hagfors**	**8.76 352**	Pn	**Pn**	**05 05 44.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=102,slow=25,SNR=4.4					
HFS			Sn	**Sn**	**05 07 21.5**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=204,slow=28,SNR=3.2					
HFS	**Hagfors**	**8.76 352**	Sn	**Sn**	**05 07 21.5**	**-3.9**
NOA	**NORSAR Array B**	**9.94 346**	Pn	**Pn**	**05 06 01.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=79,slow=7.4,SNR=3.4					
NOA	**NORSAR Array B**	**9.94 346**	Pn	**Pn**	**05 06 01.8**	**-0.5**
FINES	**FINESS Array B**	**11.35 25**	Pn	**Pn**	**05 06 20.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=4.1					
ARCES	**ARCESS Array B**	**18.62 10**	Pn	**Pn**	**05 07 53.9**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=194,slow=8.5,SNR=7.3					

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*ISCJB **20** 05:18:18.6±0.7,5140N±004×16.13E±003,h0km, Error ellipse: s-maj=5.3km s-min=2.7km az=17.8*
*NEIC **20** 05:18:19.8±1.3,5147N×1616E,h5km,ML2.5(BRA), ML2.6(SZGRF), Error ellipse: s-maj=14.7km s-min=5.6km az=200.0*
*IPEC **20** 05:18:19.2±0.2,5148N×1623E,h0km,ML2.0/3, Error ellipse: s-maj=1.5km s-min=0.8km az=29.0*
*CSEM **20** 05:18:20.5±0.2,5143N×1614E,h0km,ML3.0/3, Error ellipse: s-maj=3.2km s-min=1.5km az=15.0*
*WAR **20** 05:18:20.4,5147N×1614E,ML2.6, Mining Induced*
*PRU **20** 05:18:21.9,5136N×1611E,h0km, Felt In Harrachov*
*VIE **20** 05:18:22.3±0.4,5124N×1620E,h0km,mb2.0/2,ML2.8/3, Error ellipse: s-maj=2.5km s-min=2.0km az=179.0 59 km WNW of Breslau Suspected Mining induced.*

ISC 20 05:18:19.9±0.7,5143N±004×1613E±003,h0km,n25, σ0:83/56,2C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**170**	*e*Pg	**Pg**	**05 18 32.0**	**+0.6**
KSP				*e*Sg	**Sg**	**05 18 40.5**	**+1.3**
KSP	**Ksiaz**	**0.60**	**170**	*e*Pg	**Pg**	**05 18 31.9**	**+0.5**
KSP				*e*Sg	**Sg**	**05 18 40.3**	**+1.1**
UPC	**Upice**	**0.93**	**185**	*e*PG	**Pg**	**05 18 38.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.09**	**174**	*e*PG	**Pg**	**05 18 41.0**	**+0.1**
DPC				*e*SG	**Sg**	**05 18 55.4**	**+0.4**
	46nm,0.7s						
DPC	**Dobruska-Polom**	**1.09**	**174**	*e*Pg	**Pg**	**05 18 41.0**	**+0.1**
DPC				*e*Sg	**Sg**	**05 18 55.5**	**+0.5**
PVCC	**Panska Ves**	**1.34**	**228**	*e*Pg	**Pg**	**05 18 46.0**	**+0.4**
PVCC				*e*Sg	**Sg**	**05 19 03.7**	**+0.7**
BRG	**Berggiesshubel**	**1.49**	**249**	*e*Pn	**Pn**	**05 18 48.0**	**+0.1**
BRG				*e*Sg	**Sg**	**05 19 07.9**	**+0.1**
PRU	**Pruhonice**	**1.77**	**216**	*e*PN	**Pn**	**05 18 52.5**	**+0.8**
PRU				*e*PG	**Pg**	**05 18 53.5**	**-0.3**
PRU				*e*SG	**Sg**	**05 19 16.4**	**-0.3**
	15nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pn	**Pn**	**05 18 52.8**	**-0.6**
MORC				*e*Sg	**Sg**	**05 19 16.6**	**-4.0**
CLL	**Collm**	**1.96**	**268**	*i* Pg	**Pg**	**05 18 57.1**	**-0.5**
CLL				*i* Sg	**Sg**	**05 19 23.1**	**0.0**
	comp=Z,19nm,0.3s						
CLL	**Collm**	**1.96**	**268**	*i* Pg	**Pg**	**05 18 57.1**	**-0.5**
CLL				*e*Sg	**Sg**	**05 19 22.2**	**-0.9**
OKC	**Ostrava-Krasne**	**2.05**	**140**	*e*PG	**Pg**	**05 18 58.4**	**-0.8**
OKC				*e*SG	**Sg**	**05 19 25.0**	**-0.8**
	comp=Z,21nm,0.6s						
VRAC	**Vranov**	**2.15**	**172**	*e*Pn	**Pn**	**05 18 56.6**	**-0.4**
VRAC				*e*Sg	**Sg**	**05 19 27.6**	**-1.4**
	comp=Z,11nm,0.3s						
KRUC	**Moravsky**	**2.38**	**176**	*e*Pn	**Pn**	**05 19 00.9**	**+0.7**
KRUC				*e*Sg	**Sg**	**05 19 35.9**	**-0.5**
	comp=Z,5.8nm,0.2s						
OJC	**Ojcow**	**2.62**	**116**	*e*Pn	**Pn**	**05 19 01.1**	**-2.4**
OJC				*e*Pg	**Pg**	**05 19 10.2**	**0.0**
OJC				*e*Sg	**Sg**	**05 19 45.2**	**+0.9**
OJC	**Ojcow**	**2.62**	**116**	*e*Pg	**Pg**	**05 19 10.2**	**0.0**
OJC				*e*Sg	**Sg**	**05 19 45.2**	**+0.9**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**05 19 04.3**	**+0.7**
NKC				*e*PG	**Pg**	**05 19 09.9**	**-0.4**
NKC				*e*SG	**Sg**	**05 19 45.9**	**+1.6**
	comp=Z,27nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	*e*Pn	**Pn**	**05 19 04.3**	**+0.7**
NKC				*e*Pg	**Pg**	**05 19 09.9**	**-0.4**
NKC				*e*Sg	**Sg**	**05 19 45.8**	**+1.5**
NKC	**Novy Kostel**	**2.63**	**244**	*e*Pg	**Pg**	**05 19 09.9**	**-0.4**
NKC				*e*Sg	**Sg**	**05 19 43.8**	**-0.5**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	**Pn**	**05 19 06.7**	**+0.4**
KHC				*e*PG	**Pg**	**05 19 12.4**	**-1.7**
KHC				*e*SN	**Sn**	**05 19 40.5**	**-0.6**
KHC				*e*SG	**Sg**	**05 19 50.2**	**-0.6**
	comp=Z,11nm,0.4s						
KHC	**Kasperske Hory**	**2.83**	**216**	*e*Pn	**Pn**	**05 19 06.7**	**+0.4**
KHC				*e*Pg	**Pg**	**05 19 12.4**	**-1.7**
KHC				*e*Sn	**Sn**	**05 19 40.5**	**-0.6**
KHC				*e*Sg	**Sg**	**05 19 50.1**	**-0.7**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*Pn	**Pn**	**05 19 06.6**	**+0.3**
MOX	**Moxa**	**2.96**	**256**	*e*Pg	**Pg**	**05 19 16.2**	**-0.4**
MOX				*e*Sg	**Sg**	**05 19 56.1**	**+1.1**
MOA	**Molln**	**3.79**	**199**	⇑ *i* Pn	**Pn**	**05 19 19.8**	**+0.3**
MOA				⇑ *i* Sg	**Sg**	**05 20 22.0**	**+0.4**
	comp=Z,4.1nm,0.3s						
STHS	**Stebnicka Huta**	**3.84**	**120**	*e*PG	**Pg**	**05 19 33.7**	**+0.1**
STHS				*e*SG	**Sg**	**05 20 25.4**	**+2.0**

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*GCG **20** 05:29:58.4,1446N×8940W,h38km,MD4.2*

CASC 20 05:29:58.7±2.4,1400N×8972W,h1km±6km,MD3.9,ML3.8, 9C-5D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.12**	**15**	⇑ *e*P	x	05 30 02.4	
RTR	**El Retiro**	**0.12**	**144**	⇑ *i*P	x	05 30 02.6	
SNJE	**San Jose**	**0.17**	**139**	⇑ *i*P	x	05 30 03.5	
SBLS	**San Blas**	**0.18**	**149**	⇓ *i*P	x	05 30 03.4	
SBLS				*e*S	x	05 30 06.8	
BOQS	**Boqueron**	**0.50**	**121**	⇓ *i*P	x	05 30 09.8	
MTO2	**Montecristo 2**	**0.53**	**41**	⇑ *i*P	x	05 30 09.8	
MTO2				*e*S	x	05 30 17.8	
SNET	**Serv Nac Est T**	**0.56**	**123**	*e*P	x	05 30 10.1	
SNET				*e*S	x	05 30 19.3	
SNET				*i*		05 30 31.8	
	comp=Z,2μm,0.9s						
LFU	**La Fuente**	**0.64**	**113**	⇓ *e*P	x	05 30 12.1	
LBRS	**Las Brisas**	**0.70**	**111**	⇑ *e*P	x	05 30 13.2	
LFRS	**El Faro**	**0.74**	**120**	⇑ *i*P	x	05 30 13.8	
LCBS	**La Ceiba**	**0.80**	**115**	⇑ *e*P	x	05 30 14.7	
PCG	**Pacaya**	**0.95**	**295**	⇑ *e*P	Pg	05 30 17.0	+0.1
FUG	**Fuego 3**	**1.18**	**293**	⇑ *e*P	Pg	05 30 20.5	-0.8
FUG				*e*S	Sg	05 30 38.0	+1.4
VSM	**San Miguel**	**1.51**	**112**	⇓ *e*P	x	05 30 28.1	
JAT	**Jato**	**1.89**	**280**	⇓ *e*P	Pn	05 30 33.7	+1.7
JAT				*e*S	Sn	05 30 59.4	+2.9

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*ISCJB **20** 06:11:29.0±0.6,463N±0.1×1544E±0.1,h10km,mb4.2/21, Error ellipse: s-maj=16.8km s-min=8.2km az=131.0*
*IDC **20** 06:11:28.9±0.7,4622N×15438E,h0km,mb4.0/11, mb1 4.3/13,mb1mx4.1/25,mbtmp4.0/13,ML3.7/2,MS2.8/3, Ms1 2.8/3,ms1mx2.7/25, Error ellipse: s-maj=25.1km s-min=15.2km az=148.0*
*NEIC **20** 06:11:30.5±0.5,4628N×15430E,h10km,mb4.4/4, Error ellipse: s-maj=17.5km s-min=9.8km az=158.0*
*BJI **20** 06:11:30.2,4680N×15424E,h6km,mB4.6,mb4.4*
*MOS **20** 06:11:32.2±0.8,4629N×154.11E,h36km,mb4.5/6, Error ellipse: s-maj=17.6km s-min=14.5km az=52.6*

ISC 20 06:11:30.9±0.6,463N±01×1544E±01,h10km, (h18km±5.2km:pP-P),n34,σ1:06/34,mb4.2/21,1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.69**	**259**	⇓ *i*PN	**Pn**	**06 12 38.0**	**-3.7**
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
ASAJ	**Asahikawa**	**8.62**	**259**	Pn	**Pn**	**06 13 35.3**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=310,slow=29,SNR=3.0						
ASAJ				LR	LR	06 16 49.2	
	comp=Z,49nm,21.6s,baz=325,slow=37						
MJAR	**Matsushiro Arr**	**15.55**	**237**	Pn	**Pn**	**06 15 09.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=7.2						
MDJ	**Mudanjiang**	**17.47**	**273**	P	**Pn**	**06 15 33.5**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,19nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,106nm,4.0s						
MDJ	**Mudanjiang**	**17.47**	**273**	*e*P	**Pn**	**06 15 33.9**	**-0.6**
	comp=Z,23nm,1.1s						
KSRS	**Korea Array**	**21.53**	**255**	P	**P**	**06 16 20.8**	**+0.7**
	comp=Z,3.6nm,0.6s,mb4.0,baz=57,slow=9.6,SNR=12						
KSRS				LR	LR	06 24 20.6	
	comp=Z,18nm,18.2s,baz=15,slow=36						
BILL	**Bilibino**	**22.63**	**12**	*e*P	**P**	**06 16 31.5**	**-0.4**
BILL				*e*PP		06 16 40.0	
BILL				*e*		06 16 55.7	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
SONM	**Songino Array**	**32.31**	**291**	P	**P**	**06 17 56.6**	**-3.4**
	comp=Z,0.6nm,0.9s,mb3.4,baz=64,slow=10,SNR=4.7						
ZAK	**Zakamensk**	**33.67**	**296**	*e*P	**P**	**06 18 09.6**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
LZH	**Lanzhou**	**38.79**	**273**	*e*P	**P**	**06 18 57.0**	**+1.3**
LZH				AP	pP	06 19 01.5	+2.7
LZH				XP	sP	06 19 04.6	+4.6
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.6						
LZH	**Lanzhou**	**38.79**	**273**	*e*P	**P**	**06 18 57.0**	**+1.3**
	comp=Z,19nm,1.4s,mb4.6						
LZH				pP	pP	06 19 01.5	+2.7
LZH				sP	sP	06 19 04.6	+4.6
GTA	**Gaotai**	**39.92**	**280**	*e*P	**P**	**06 19 06.3**	**+1.3**
GTA				AP	pP	06 19 10.3	+2.2
GTA				XP	sP	06 19 13.3	+3.9
GTA				PCP	PcP	06 21 11.4	+0.9
GTA				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.3						
INK	**Inuvik**	**41.55**	**32**	P	**P**	**06 19 18.4**	**-0.1**
	comp=Z,2.2nm,0.7s,mb3.9,baz=295,slow=4.5,SNR=15						
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**06 20 08.4**	**-1.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=61,slow=7.5,SNR=12						
MKAR				LR	LR	06 39 36.6	
	comp=Z,21nm,19.4s,baz=166,slow=35						
YKA	**Yellowknife Ar**	**50.74**	**37**	P	**P**	**06 20 30.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=294,slow=7.1,SNR=18						
BVAR	**Borovoye Array**	**51.82**	**310**	P	**P**	**06 20 38.3**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=53,slow=7.6,SNR=3.9						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**06 21 00.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.82**	**297**	*e*P	**P**	**06 20 60.0**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.2						
JIRN	**Jiri**	**55.87**	**276**	*e*P	**P**	**06 21 09.8**	**+1.2**
	comp=Z,20nm,1.2s,mb5.0						
GUN	**Gumba**	**55.92**	**276**	*e*P	**P**	**06 21 10.9**	**+1.9**
KKN	**Kakani**	**56.41**	**276**	*e*P	**P**	**06 21 13.6**	**+1.1**
PKI	**Pulchoki**	**56.46**	**276**	*e*P	**P**	**06 21 13.6**	**+0.8**
DMN	**Daman**	**56.65**	**276**	*e*P	**P**	**06 21 15.3**	**+1.1**
GKN	**Gorkha**	**56.72**	**277**	*e*P	**P**	**06 21 15.5**	**+0.8**
KOLN	**Koldanda**	**57.58**	**278**	*e*P	**P**	**06 21 21.8**	**+1.0**
	comp=Z,8.0nm,0.8s,mb4.8						
NVAR	**Mina Array Bea**	**61.85**	**63**	P	**P**	**06 21 50.9**	**+0.7**
	comp=Z,1.1nm,0.7s,mb4.1,baz=297,slow=6.0,SNR=5.0						
PDAR	**Pinedale Array**	**64.29**	**54**	P	**P**	**06 22 07.0**	**+0.6**
	comp=Z,1.8nm,0.9s,mb4.1,baz=294,slow=2.5,SNR=12						
FINES	**FINESS Array B**	**64.81**	**335**	P	**P**	**06 22 09.2**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=35,slow=7.0,SNR=5.8						
SRU	**San Rafael**	**66.10**	**58**	*e*P	**P**	**06 22 18.5**	**+0.3**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
SRU	**San Rafael**	**66.10**	**58**	*e*P	**P**	**06 22 18.5**	**+0.3**
	comp=Z,3.2nm,0.9s,mb4.3						
OBN	**Obninsk**	**66.17**	**326**	*e*P	**P**	**06 22 17.7**	**-0.9**
OBN				*e*PP	pP	06 22 28.0	+6.2
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**68.40**	**200**	P	**P**	**06 22 31.2**	**-1.5**
	comp=Z,1.5nm,1.0s,mb4.0,baz=20,slow=6.3,SNR=5.0						
ASAR	**Alice Springs**	**72.08**	**200**	P	**P**	**06 22 54.4**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.0,baz=11,slow=5.5,SNR=11						
TXAR	**Lajitas Array**	**76.93**	**61**	P	**P**	**06 23 22.9**	**-0.6**
	comp=Z,3.6nm,0.7s,mb4.4,baz=302,slow=3.9,SNR=37						

CASC 20 06:28:51.9±2.1,1407N×8971W,h1km±12km,MD3.9, ML2.5,6C-6D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.05**	**24**	⇑ *e*P	x	06 28 30.1	
RTR	**El Retiro**	**0.18**	**161**	*e*P	x	06 28 30.4	
RTR				*e*S	x	06 28 33.7	
SNJE	**San Jose**	**0.22**	**154**	*e*P	x	06 28 31.4	
SNJE				*e*S	x	06 28 35.5	
MTO2	**Montecristo 2**	**0.47**	**46**	⇑ *e*P	x	06 29 02.4	
MTO2				*e*S	x	06 29 10.3	
BOQS	**Boqueron**	**0.53**	**129**	⇓ *e*P	x	06 29 02.6	
LFU	**La Fuente**	**0.66**	**119**	⇓ *e*P	x	06 29 05.1	
LFU				*e*S	x	06 29 16.3	
LBRS	**Las Brisas**	**0.72**	**117**	⇓ *e*P	x	06 29 06.3	
LFRS	**El Faro**	**0.77**	**125**	⇑ *e*P	x	06 29 06.7	
LCBS	**La Ceiba**	**0.82**	**120**	⇑ *e*P	x	06 29 07.6	
PCG	**Pacaya**	**0.93**	**290**	⇑ *e*P	Pg	06 29 09.8	0.0
FUG	**Fuego 3**	**1.16**	**289**	⇓ *e*P	Pg	06 29 13.4	-0.8
BLLM	**Bellamira**	**1.56**	**113**	⇓ *e*P	x	06 29 20.8	
JAT	**Jato**	**1.89**	**278**	⇓ *e*P	Pn	06 29 26.5	+1.2
CNCH	**Conchagua**	**1.98**	**113**	⇑ *e*P	x	06 29 27.5	

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*NEIC **20** 07:14:03.5,3738S×7156W,h127km,MG4.0(GUC), After GUC.*

GUC 20 07:14:03.5±1.2,3738S×7156W,h127km±12km,ML4.0, 3C-3D,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.88**	**332**	⇑ *i*P	Pn	07 14 25.4	+0.4
CCHI				*i* S	Sn	07 14 41.7	+0.3
LNCH	**Linares**	**1.53**	**359**	⇓ *i*P	Pn	07 14 32.2	+0.4
LNCH				*i* S	Sn	07 14 54.3	+1.0
LNCH				AML	AML	07 14 56.4	
	comp=N,1μm,0.4s						
LNCH	**Linares**	**1.53**	**359**	⇓ *i*P	Pn	07 14 32.2	+0.4
LNCH				*i* S	Sn	07 14 54.3	+1.0
TMU	**Temuco**	**1.58**	**211**	⇑ *i*P	Pn	07 14 32.5	+0.1
TMU				*i* S	Sn	07 14 54.4	0.0
COCH	**Cobquecura**	**1.59**	**321**	*e*P	Pn	07 14 33.0	+0.6
COCH				*i* S	Sn	07 14 54.3	-0.2
COCH				AML	AML	07 14 59.0	
	comp=N,744nm,0.5s						
COCH	**Cobquecura**	**1.59**	**321**	*e*P	Pn	07 14 33.0	+0.6
COCH				*i* S	Sn	07 14 54.3	-0.2
CNCO	**Chanco**	**1.82**	**334**	*e*P	Pn	07 14 35.6	+0.4
CNCO				*i* S	Sn	07 14 59.6	+0.3
CNCO				AML	AML	07 15 04.9	
	comp=E,1μm,0.4s						
CNCO	**Chanco**	**1.82**	**334**	*e*P	Pn	07 14 35.6	+0.4
CNCO				*i* S	Sn	07 14 59.6	+0.3
TALC	**Talca**	**1.98**	**358**	*e*P	Pn	07 14 36.4	-0.6
TALC				*i* S	Sn	07 15 01.3	-1.4
TALC				AML	AML	07 15 04.5	
	comp=N,4μm,0.5s						
TALC	**Talca**	**1.98**	**358**	*e*P	Pn	07 14 36.4	-0.6
TALC				*i* S	Sn	07 15 01.3	-1.4
NICH	**Los Niches**	**2.39**	**6**	⇓ *i*P	Pn	07 14 42.3	+0.2
NICH				*i* S	Sn	07 15 12.0	+0.2
PLCA	**Paso Flores**	**3.44**	**167**	*e*Pn	Pn	07 14 55.1	-0.6
PEL	**Peldehue**	**4.29**	**10**	⇑ *i*P	Pn	07 15 05.3	-1.7
PEL				*i* S	Sn	07 15 53.5	-2.8

TRQA	**Tornquist**	**7.62**	**98**	*e*Pn	Pn	07 15 50.0	-1.8
LPAZ	**La Paz**	**21.23**	**9**	*e*P	P	07 18 40.6	+1.5
TEIG	**Tepich**	**59.42**	**342**	*e*P	P	07 23 52.2	-0.5

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*CASC **20** 07:20:24.3±2.2,1398N×8977W,h0km±6km,MD4.4,ML4.1, mb4.2(NEIC)*
*ISCJB **20** 07:20:25.8±0.4,1417N±005×8972W±004,h10km,mb3.9/3, MS3.6/6,Error ellipse: s-maj=8.4km s-min=3.7km az=72.6*
*NEIC **20** 07:20:29.5±1.1,1426N×8954W,mb4.2/2,MD4.3(SNET), Error ellipse: s-maj=25.2km s-min=12.0km az=30.0*
NEIC Felt [VI] at Atiquizaya and Turin, El Salvador.
*IDC **20** 07:20:30.9±4.3,1418N×8966W,h35km±42km,mb3.6/3, mb1 4.0/7,mb1mx3.7/21,mbtmp3.8/7,ML3.5/3,MS3.6/10, Ms1 3.6/10,ms1mx3.4/25, Error ellipse: s-maj=50.6km s-min=29.6km az=38.0*

ISC 20 07:20:27.3±0.4,1414N±005×8974W±004,h10km,n45, σ1:26/31,mb3.9/3,MS3.6/6,5C-7D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.06**	**122**	⇑ *i*P	x	07 20 28.0	
RTR	**El Retiro**	**0.26**	**160**	⇓ *i*P	x	07 20 28.4	
SNJE	**San Jose**	**0.30**	**155**	⇓ *e*P	x	07 20 29.3	
SBLS	**San Blas**	**0.32**	**160**	⇓ *e*P	x	07 20 29.2	
MTO2	**Montecristo 2**	**0.44**	**55**	⇑ *i*P	x	07 20 35.4	
MTO2				*e*S	x	07 20 48.1	
BOQS	**Boqueron**	**0.60**	**132**	*e*P	x	07 20 35.6	
SNET	**Serv Nac Est T**	**0.67**	**133**	*e*P	x	07 20 36.0	
SNET				*e*S	x	07 20 45.7	
SNET				*i*		07 20 59.7	
	comp=Z,20μm,1.3s						
LFU	**La Fuente**	**0.72**	**123**	⇓ *e*P	x	07 20 37.9	
LBRS	**Las Brisas**	**0.79**	**121**	⇑ *e*P	x	07 20 38.9	
LFRS	**El Faro**	**0.84**	**128**	⇑ *i*P	x	07 20 39.6	
PCG	**Pacaya**	**0.88**	**286**	⇓ *e*P	**Pg**	**07 20 42.4**	**-1.8**
LCBS	**La Ceiba**	**0.88**	**123**	⇑ *e*P	x	07 20 40.4	
FUG	**Fuego 3**	**1.11**	**286**	⇓ *e*P	**Pb**	**07 20 46.2**	**-2.4**
VSM	**San Miguel**	**1.59**	**116**	*e*P	x	07 20 53.3	
BLLM	**Bellamira**	**1.61**	**115**	*e*P	x	07 20 53.8	
JAT	**Jato**	**1.85**	**276**	⇓ *e*P	**Pn**	**07 20 59.4**	**+0.2**
CNCH	**Conchagua**	**2.04**	**115**	*e*P	x	07 20 59.1	
TGUH	**Tegucigalpa,Un**	**2.39**	**92**	*e*Pn	**Pn**	**07 21 04.0**	**-2.6**
CCIG	**Comitan**	**3.14**	**313**	*i* P	**Pn**	**07 21 17.0**	**+0.1**
CCIG				*i* S	**Sg**	**07 22 08.7**	**+0.4**
CNGN	**Cerro Negro**	**3.38**	**119**	*e*P	**Pn**	**07 21 19.6**	**-0.5**
CNGN				*e*S	**Sn**	**07 22 01.0**	**+0.8**
MOMJ	**Momotombo**	**3.56**	**119**	*e*P	**Pn**	**07 21 22.4**	**-0.2**
XAVN	**Gruta Xavier**	**3.87**	**120**	*e*P	**Pn**	**07 21 23.8**	**-3.1**
MGAN	**Managua**	**3.94**	**120**	*e*P	**Pn**	**07 21 27.6**	**-0.2**
MGAN				*e*S	**Sn**	**07 22 15.4**	**+1.3**
MGAN				*i*		07 22 23.1	
	comp=E,141nm,0.6s						
TICN	**Ticuantepe**	**4.01**	**121**	*e*P	**Pn**	**07 21 29.2**	**+0.4**
BOAB	**BOACO BROADBAN**	**4.31**	**113**	*e*P	**Pn**	**07 21 30.6**	**-2.2**
CMIG	**Matias Romero**	**5.76**	**301**	Pn	**Pn**	**07 21 53.4**	**+0.6**
	comp=E,1.1nm,0.3s,baz=106,slow=9.0,SNR=14						
CMIG				LR	LR	07 24 21.1	
	comp=E,835nm,20.6s,baz=122,slow=40						
CMIG	**Matias Romero**	**5.76**	**301**	*i* P	**Pn**	**07 21 53.0**	**+0.2**
CMIG				*i* S	**Sb**	**07 23 10.3**	**-6.6**
CMIG				LR	LR	07 24 21.1	
JTS	**JuntasAbangare**	**6.04**	**129**	Pn	**Pn**	**07 21 57.8**	**+1.0**
	comp=E,0.6nm,0.3s,baz=300,slow=15,SNR=4.5						
JTS				LR	LR	07 24 29.4	
	comp=E,459nm,21.4s,baz=312,slow=40						
TEIG	**Tepich**	**6.21**	**13**	Pn	**Pn**	**07 21 59.5**	**+0.5**
	comp=E,3.4nm,0.3s,baz=149,slow=5.3,SNR=64						
TEIG				LR	LR	07 25 02.3	
	comp=E,128nm,19.2s,baz=184,slow=44						
TEIG	**Tepich**	**6.21**	**13**	*i* P	**Pn**	**07 21 59.1**	**+0.1**
TEIG				*i* S	**Sb**	**07 23 28.7**	**-1.1**
TEIG				LR	LR	07 25 02.3	
OXX	**Oaxaca**	**7.34**	**294**	*e*P	**Pn**	**07 22 21.0**	**+6.5**
JCT	**Junction City**	**18.72**	**332**	*e*P	**Pn**	**07 24 46.5**	**+0.1**
	comp=E,14nm,1.1s						
TXAR	**Lajitas Array**	**19.87**	**322**	P	**Pn**	**07 25 00.3**	**+0.1**
	comp=E,0.1nm,0.3s,baz=137,slow=7.4,SNR=20						
TXAR				LR	LR

7.1nm,0.3s,mb4.8,baz=311,slow=4.4,SNR=13
ZAL pP pP 07 34 19.3 +0.7
2.2nm,0.6s,baz=292,slow=5.7,SNR=1.9
ZAL Zalesovo 53.03 350 P **P 07 33 48.5 0.0**
ZAL pP pP 07 34 19.3 +0.7
BRTR Keskin Array B 69.80 312 P **P 07 35 41.4 +0.2**
0.7nm,0.6s,mb3.5,baz=136,slow=7.0,SNR=4.2
BRTR pP pP 07 36 12.5 -0.3
1.1nm,0.8s,baz=106,slow=4.0,SNR=4.1
AKASG Malin Array Be 75.63 322 pP pP 07 36 46.5 -1.2
1.3nm,0.4s,baz=91,slow=5.0,SNR=5.6
FINES FINESS Array B 80.05 332 P **P 07 36 40.4 +0.2**
1.0nm,0.3s,mb3.9,baz=110,slow=5.9,SNR=15
FINES pP pP 07 37 11.9 -0.5
3.7nm,0.9s,baz=123,slow=6.3,SNR=3.4
ARCES ARCESS Array B 82.33 340 P **P 07 36 51.7 -0.5**
1.8nm,0.8s,mb3.7,baz=83,slow=3.8,SNR=7.4
ARCES pP pP 07 37 24.9 +0.2
6.7nm,1.1s,baz=94,slow=4.9,SNR=1.8
ARCES ARCESS Array B 82.33 340 P **P 07 36 51.7 -0.5**
ARCES pP pP 07 37 24.9 +0.2
NB2 NORSAR Subarra 87.10 331 P pP 07 37 49.1 +0.2
comp=Z,0.9nm,0.6s,baz=94,slow=4.6
NOA NORSAR Array B 87.10 331 P **P 07 37 16.0 -0.1**
comp=Z,1.0nm,0.9s,mb3.6,baz=99,slow=5.4,SNR=2.2
NOA pP pP 07 37 49.4 +0.4
comp=Z,0.9nm,0.6s,baz=90,slow=5.0,SNR=2.6
PDAR Pinedale Array 128.59 27 PKP PKPdf 07 43 37.1 +0.6
comp=Z,0.4nm,0.6s,baz=106,slow=3.3,SNR=4.1
TXAR Lajitas Array 142.11 33 PKhKP 07 43 58.4
comp=Z,0.3nm,0.5s,baz=274,slow=0.8,SNR=5.8

*ISCJB **20** 07:29:35.6±0.4,3834N±003×2783E±004,h5km, Error ellipse: s-maj=4.5km s-min=3.7km az=35.4*
*ISK **20** 07:29:35.4,3837N×2779E,h9km,MD3.1*
*CSEM **20** 07:29:35.0±0.1,3836N×2785E,h5km,MD3.1, Error ellipse: s-maj=2.9km s-min=1.7km az=98.0*
*NEIC **20** 07:29:35.4,3837N×2779E,h9km,MD3.2(ATH), MD3.2(ISK), After ISK.*
*ATH **20** 07:29:37.2,3832N×2774E,h5km±3km,MD3.2/3*
ISC 20 07:29:35.8±0.8,3834N±003×2782E±005,h4km±7km,n31, σ§85/41,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.54**	**359**	PG	**Pg**	**07 29 45.9**	**-0.2**
AKS				SG	**Sg**	**07 29 53.1**	**+0.1**
AKS	**Akhisar**	**0.54**	**359**	*e*Pg	**Pg**	**07 29 46.0**	**-0.1**
AKS	**Akhisar**	**0.54**	**359**	*e*Pg	**Pg**	**07 29 46.0**	**-0.1**
AKS				*e*Sg	**Sg**	**07 29 53.1**	**+0.1**
BLCB	**Balcova**	**0.61**	**274**	PG	**Pg**	**07 29 47.4**	**-0.1**
BLCB				SG	**Sg**	**07 29 56.0**	**+0.5**
BLCB	**Balcova**	**0.61**	**274**	*e*Pg	**Pg**	**07 29 47.9**	**+0.4**
BLCB	**Balcova**	**0.61**	**274**	*e*Pg	**Pg**	**07 29 47.9**	**+0.4**
BLCB				*e*Sg	**Sg**	**07 29 56.0**	**+0.5**
SMG	**Samos**	**1.00**	**231**	⇑*i*PB	**Pb**	**07 29 55.0**	**-0.6**
SMG				*e*SB	**Sb**	**07 30 08.5**	**-0.7**
MLSB	**Milas**	**1.05**	**182**	PG	**Pg**	**07 29 56.3**	**+0.5**
MLSB	**Milas**	**1.05**	**182**	*e*Pg	**Pg**	**07 29 56.1**	**+0.3**
DNZL	**Cakiroluk**	**1.17**	**124**	*i* P	**Pg**	**07 30 04.3**	**+6.2**
DNZL				*i* S	**Sg**	**07 30 23.6**	**+10**
YER	**Yerkesik**	**1.26**	**163**	PN	**Pn**	**07 30 00.1**	**0.0**
YER	**Yerkesik**	**1.26**	**163**	Pn	**Pn**	**07 30 00.1**	**0.0**
AYVA	**Ayvalik**	**1.31**	**318**	*i* P	**Pg**	**07 30 01.1**	**+0.3**
AYVA				*i* S	**Sg**	**07 30 18.4**	**+0.6**
DST	**Dursunbey**	**1.41**	**26**	*e*PN	**Pn**	**07 30 01.9**	**-0.3**
DST	**Dursunbey**	**1.41**	**26**	Pn	**Pn**	**07 30 01.9**	**-0.2**
BTOK	**Tokmak**	**1.43**	**7**	*i* P	**Pn**	**07 30 00.8**	**-1.6**
BTOK				*i* S	**Sb**	**07 30 20.1**	**-1.3**
GDZ	**Gediz**	**1.50**	**60**	*i* P	**Pn**	**07 30 03.6**	**+0.2**
GDZ				*i* S	**Sn**	**07 30 25.5**	**+2.1**
PRK	**Paraskevi**	**1.51**	**307**	*e*PB	**Pb**	**07 30 05.1**	**+0.8**
PRK				*e*SB	**Sb**	**07 30 25.5**	**+1.7**
DAT	**Datca**	**1.62**	**187**	*e*PN	**Pn**	**07 30 05.3**	**+0.2**
DALT	**Dalyan (Mudla)**	**1.70**	**157**	*e*PN	**Pn**	**07 30 07.4**	**+1.2**
DALT	**Dalyan (Mudla)**	**1.70**	**157**	Pn	**Pn**	**07 30 07.4**	**+1.3**
EZN	**Ezine**	**1.88**	**322**	*e*PN	**Pn**	**07 30 08.6**	**-0.1**
KCT	**Karacabey**	**1.96**	**12**	*e*PN	**Pn**	**07 30 08.5**	**-1.3**
FETY	**Fethiye**	**1.98**	**149**	*e*PN	**Pn**	**07 30 09.8**	**-0.2**
EDC	**Edincik**	**2.00**	**1**	*e*PN	**Pn**	**07 30 09.0**	**-1.3**
BNT	**Bandirma**	**2.01**	**2**	*e*PN	**Pn**	**07 30 10.0**	**-0.5**
APE	**Apeiranthos**	**2.22**	**236**	*e*PG	**Pg**	**07 30 17.0**	**-1.2**
GEMT	**Gemlik**	**2.34**	**26**	*e*PN	**Pn**	**07 30 15.3**	**+0.3**
IZI	**Iznik**	**2.37**	**32**	*e*PN	**Pn**	**07 30 16.1**	**+0.7**
YLV	**Yalova**	**2.53**	**28**	*e*PN	**Pn**	**07 30 17.6**	**+0.1**
ENEZ	**Enez**	**2.72**	**332**	*e*PN	**Pn**	**07 30 20.1**	**0.0**

*ISCJB **20** 07:41:58.8±0.7,48N±01×95.10E±007,h53km,mb4.3/21, MS3.3/2, Error ellipse: s-maj=16.8km s-min=7.1km az=52.9*
*NEIC **20** 07:42:00.5±0.6,490N×95.09E,mb4.5/3, Error ellipse: s-maj=22.1km s-min=7.8km az=41.0*
NEIC Felt [III] at Calang and [II] at Banda Aceh.
*IDC **20** 07:42:00.4±0.9,474N×9487E,h56km±6km,mb3.9/14, mb1 4.1/15,mb1mx3.9/24,mbtmp3.9/15,MS3.1/3, Ms1 3.2/3,ms1mx2.9/27, Error ellipse: s-maj=31.4km s-min=10.5km az=40.0*
ISC 20 07:42:01.2±0.7,48N±01×9508E±007,h55km, h55km±.9km:pP-P,n37,σ§01/37,mb4.3/21,MS3.3/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.34**	**118**	P	**Pn**	**07 43 06.9**	**+2.3**
5.1nm,0.3s,baz=307,slow=12,SNR=17							
PSI				S	**Sn**	**07 43 60.0**	**+6.2**
5.0nm,0.3s,baz=334,slow=18,SNR=5.4							
PSI				LR	LR	07 45 08.5	
comp=Z,127nm,19.7s,baz=164,slow=42							
PSI	**Prapat**	**4.34**	**118**	P	**Pn**	**07 43 06.9**	**+2.4**
PSI				S	**Sn**	**07 43 60.0**	**+6.2**
PSI				LR	LR	07 45 08.4	
KULM	**Kulim**	**5.57**	**85**	*e*Pn	**Pn**	**07 43 19.2**	**-2.2**
KULM				*e*Sn	**Sn**	**07 44 24.1**	**+0.1**
JIRN	**Jiri**	**24.22**	**340**	*e*P	**P**	**07 47 12.7**	**+0.1**
9.1nm,0.3s,mb4.7							
DMN	**Daman**	**24.55**	**338**	*e*P	**P**	**07 47 15.5**	**-0.2**
GUN	**Gumba**	**24.56**	**340**	*e*P	**P**	**07 47 15.9**	**+0.2**
12nm,0.5s,mb4.7							
GKN	**Gorkha**	**25.09**	**338**	*e*P	**P**	**07 47 21.1**	**+0.6**
KOLN	**Koldanda**	**25.29**	**336**	*e*P	**P**	**07 47 22.8**	**+0.5**
23nm,0.7s,mb4.8							
UCH	**Uchtor**	**41.49**	**337**	P	**P**	**07 49 44.4**	**+1.7**
SNR=7.9							
TKM2	**Tokmak 2**	**41.67**	**338**	P	**P**	**07 49 45.7**	**+1.4**
SNR=5.8							
KBK	**Karagaybulak**	**41.69**	**338**	P	**P**	**07 49 46.1**	**+1.8**
SNR=9.5							
AML	**Almayashu**	**41.73**	**336**	P	**P**	**07 49 46.3**	**+1.5**
SNR=9.1							
AAK	**Ala-Archa**	**41.84**	**337**	*e*P	**P**	**07 49 45.8**	**+0.2**
2.3nm,0.6s,mb4.0							
AAK				*e*pP	pP	07 49 59.6	-0.3
USP	**Ospenovka**	**42.38**	**338**	P	**P**	**07 49 51.1**	**+1.1**
SNR=8.8							
MK31	**Makanchi Array**	**43.23**	**347**	*e*P	**P**	**07 49 56.8**	**-0.1**
MKAR	**Makanchi Array**	**43.23**	**347**	P	**P**	**07 49 56.7**	**-0.2**
3.1nm,0.3s,mb4.5,baz=166,slow=8.0,SNR=87							
MKAR	**Makanchi Array**	**43.23**	**347**	P	**P**	**07 49 56.7**	**-0.2**
SONM	**Songino Array**	**43.92**	**11**	P	**P**	**07 50 01.8**	**-0.7**
0.8nm,0.5s,mb3.7,baz=192,slow=9.0,SNR=9.1							
SONM				PcP	PcP	07 51 47.9	+0.3
0.9nm,0.5s,baz=198,slow=4.1,SNR=6.6							
KSRS	**Korea Array**	**44.19**	**38**	P	**P**	**07 50 05.2**	**+0.6**
1.0nm,0.4s,mb3.9,baz=218,slow=8.7,SNR=6.2							
KSRS				LR	LR	08 08 07.3	
comp=Z,6.8nm,19.7s,MS2.6,baz=35,slow=35							
WRA	**Warramunga Arr**	**45.78**	**124**	P	**P**	**07 50 17.3**	**+0.1**
2.9nm,0.5s,mb4.5,baz=301,slow=9.4,SNR=26							
WB2	**Warramunga Arr**	**45.79**	**124**	*e*P	**P**	**07 50 17.2**	**-0.1**
7.4nm,0.8s,mb4.7							
WB2				*e*pP	pP	07 50 30.9	-0.8
ASAR	**Alice Springs**	**47.28**	**129**	P	**P**	**07 50 28.9**	**-0.1**
1.2nm,0.5s,mb4.1,baz=302,slow=8.1,SNR=28							
ASAR				pP	pP	07 50 43.2	-0.3
3.3nm,0.5s,baz=300,slow=7.4,SNR=9.3							
KURK	**Kurchatov**	**47.76**	**346**	*e*P	**P**	**07 50 30.9**	**-1.8**
4.1nm,0.7s,mb4.6							
ZAL	**Zalesovo**	**49.66**	**352**	P	**P**	**07 50 46.4**	**-0.8**
2.8nm,0.3s,mb4.7,baz=318,slow=6.1,SNR=6.8							

BVAR	**Borovoye Array**	**52.14**	**341**	P	**P**	**07 51 05.8**	**-0.1**
7.4nm,0.7s,mb4.8,baz=146,slow=8.8,SNR=39							
AKTK	**Aktyubinsk**	**55.04**	**332**	P	**P**	**07 51 26.5**	**-0.6**
AKTO	**Aktyubinsk**	**55.04**	**332**	P	**P**	**07 51 26.5**	**-0.6**
0.6nm,0.3s,mb4.1,baz=130,slow=7.4,SNR=5.1							
BRTR	**Keskin Array B**	**65.12**	**312**	P	**P**	**07 52 34.8**	**-1.4**
1.5nm,0.8s,mb4.1,baz=132,slow=6.1,SNR=7.1							
AKASG	**Malin Array Be**	**71.10**	**322**	P	**P**	**07 53 11.6**	**-2.0**
0.8nm,0.3s,mb4.1,baz=89,slow=5.1,SNR=6.9							
FINES	**FINESS Array B**	**75.81**	**332**	P	**P**	**07 53 40.6**	**-0.7**
1.5nm,0.4s,mb4.3,baz=104,slow=5.1,SNR=20							
FINES				pP	pP	07 53 55.2	-1.5
0.8nm,0.5s,baz=92,slow=4.8,SNR=1.3							
KAF	**Kangasniemi**	**75.90**	**333**	*e*p	**P**	**07 53 34.8**	**-7.0**
1.5nm,0.4s,mb4.3							
ARCES	**ARCESS Array B**	**78.42**	**340**	P	**P**	**07 53 55.6**	**-0.3**
2.1nm,0.4s,mb4.4,baz=94,slow=6.0,SNR=31							
GERES	**GERESS Array B**	**80.70**	**319**	P	**P**	**07 54 08.7**	**+0.4**
1.8nm,0.6s,mb4.2,baz=102,slow=5.6,SNR=13							
GERES				pP	pP	07 54 24.6	+0.7
1.1nm,0.8s,baz=94,slow=4.0,SNR=3.2							
NOA	**NORSAR Array B**	**82.81**	**331**	P	**P**	**07 54 18.6**	**-0.9**
0.8nm,0.8s,mb3.8,baz=132,slow=4.2,SNR=3.1							
ESDC	**Sonseca Array**	**93.88**	**310**	LR	LR	08 38 13.6	
comp=Z,61nm,18.4s,MS4.1,baz=165,slow=36							
PDAR	**Pinedale Array**	**127.61**	**23**	PKP	PKPdf	08 00 59.4	-0.7
0.3nm,0.4s,baz=92,slow=2.1,SNR=4.7							
TXAR	**Lajitas Array**	**141.54**	**27**	PKhKP		08 01 21.6	
0.2nm,0.7s,baz=246,slow=2.2,SNR=2.8							

*ISCJB **20** 07:52:22.5±0.5, 1410N±006×8970W±004,h4km,mb3.9/4, Error ellipse: s-maj=9.0km s-min=5.0km az=27.3*
*CASC **20** 07:52:22.8±2.1, 1398N×8973W,h4km±5km,MD4.1,ML4.3, mb4.1(NEIC)*
*NEIC **20** 07:52:24.4±1.0, 1403N×8979W,h10km,mb4.1/2, MD4.0(SNET), Error ellipse: s-maj=25.4km s-min=10.9km az=214.0*
NEIC Felt [VI] at Atiquizaya and Turin.
*IDC **20** 07:52:28.3±3.7, 1409N×8970W,h35km±31km,mb3.7/4, mb1 4.0/8,mb1mx3.7/21,mbtmp3.9/8,ML3.9/4, Error ellipse: s-maj=34.6km s-min=14.4km az=58.0*
ISC 20 07:52:23.9±1.2,1408N±007×8975W±005,h5km±9km,n31, σ§18/27,mb3.9/4,8C-5D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.07**	**62**	⇓*e*P	x	07 52 26.2	
RTR	**El Retiro**	**0.21**	**150**	⇓*e*P	x	07 52 26.4	
SNJE	**San Jose**	**0.25**	**146**	⇓*e*P	x	07 52 27.3	
SBLS	**San Blas**	**0.27**	**152**	⇓*e*P	x	07 52 27.3	
MTO2	**Montecristo 2**	**0.50**	**50**	⇑*e*P	x	07 52 33.6	
MTO2				*e*S	x	07 52 42.2	
BOQS	**Boqueron**	**0.57**	**127**	⇓*e*P	x	07 52 33.5	
LFU	**La Fuente**	**0.70**	**118**	⇓*e*P	x	07 52 35.9	
LBRS	**Las Brisas**	**0.77**	**116**	⇑*e*P	x	07 52 37.0	
LCBS	**La Ceiba**	**0.86**	**119**	⇑*e*P	x	07 52 38.6	
PCG	**Pacaya**	**0.89**	**291**	⇓*e*P	**Pg**	**07 52 40.9**	**0.0**
PCG				*e*P		07 52 40.9	
TER	**Terranova**	**0.93**	**284**	*e*P	**Pg**	**07 52 40.9**	**-0.8**
TER				*e*P		07 52 40.9	
FUG	**Fuego 3**	**1.12**	**289**	*e*P	**Pg**	**07 52 44.4**	**-1.0**
FUG				⇑*e*P		07 52 44.4	
VSM	**San Miguel**	**1.58**	**114**	⇓*e*P	x	07 52 51.5	
BLLM	**Bellamira**	**1.60**	**113**	*e*P	x	07 52 50.9	
JAT	**Jato**	**1.84**	**278**	⇑*e*P	**Pn**	**07 52 57.7**	**+1.6**
JAT				*e*S	**Sn**	**07 53 18.0**	**-1.8**
TGUH	**Tegucigalpa,Un**	**2.41**	**90**	*e*Pn	**Pn**	**07 53 02.3**	**-1.6**
TGUH				*e*Sn	**Sn**	**07 53 32.7**	**-1.0**
CCIG	**Comitan**	**3.18**	**314**	*e*P	**Pn**	**07 53 14.9**	**+0.5**
CCIG				*i* S	**Sn**	**07 54 01.5**	**+8.8**
CMIG	**Matias Romero**	**5.78**	**302**	Pn	**Pn**	**07 53 52.1**	**+1.8**
1.3nm,0.3s,baz=94,slow=11,SNR=11							
CMIG				Sn	**Sn**	**07 55 04.9**	**+8.0**
1.4nm,0.3s,baz=13,slow=7.6,SNR=4.9							
CMIG				Lg		07 55 22.7	
4.6nm,0.3s,baz=256,slow=16,SNR=3.7							
JTS	**JuntasAbangare**	**6.02**	**128**	Pn	**Pn**	**07 53 55.4**	**+1.9**
1.1nm,0.3s,baz=306,slow=15,SNR=3.9							
TEIG	**Tepich**	**6.27**	**13**	Pn	**Pn**	**07 53 57.5**	**+0.4**
5.1nm,0.3s,baz=164,slow=5.2,SNR=52							
TEIG				Sn	**Sn**	**07 55 09.2**	**+0.1**
2.8nm,0.3s,baz=67,slow=13,SNR=2.4							
TEIG				Lg		07 55 45.8	
2.8nm,0.3s,baz=86,slow=21,SNR=5.7							
OXX	**Oaxaca**	**7.35**	**295**	*i* P	**Pn**	**07 54 08.0**	**-3.8**
SDV	**Santo Domingo**	**19.43**	**103**	*e*P	**Pn**	**07 56 51.8**	**-0.4**
6.0nm,0.8s							
TXAR	**Lajitas Array**	**19.91**	**322**	P	**Pn**	**07 56 58.6**	**+0.7**
0.2nm,0.3s,baz=144,slow=11,SNR=20							
TXAR				S	**Sn**	**08 00 39.7**	**-2.2**
0.0nm,0.3s,baz=57,slow=17,SNR=2.4							
TXAR	**Lajitas Array**	**19.91**	**322**	P	**Pn**	**07 56 58.6**	**+0.7**
TXAR				S	**Sn**	**08 00 39.7**	**-2.2**
MIAR	**Mount Ida**	**20.67**	**351**	*e*P	**P**	**07 57 05.0**	**+0.5**
13nm,1.0s							
ANMO	**Albuquerque**	**25.67**	**327**	P	**P**	**07 57 56.5**	**+1.8**
0.5nm,0.5s,mb3.3,baz=169,slow=11,SNR=4.7							
ANMO	**Albuquerque**	**25.67**	**327**	P	**P**	**07 57 56.5**	**+1.8**
MCMT	**McKenzie Canyo**	**36.39**	**332**	*e*P	**P**	**07 59 29.0**	**-0.1**
ULM	**Lac du Bonnet**	**36.42**	**353**	P	**P**	**07 59 30.5**	**+1.2**
3.8nm,0.8s,mb4.4,baz=57,slow=2.1,SNR=6.8							
SIV	**San Ignacio**	**41.19**	**135**	P	**P**	**08 00 08.7**	**-0.6**
1.8nm,0.9s,mb3.7,baz=311,slow=12,SNR=7.3							
YKA	**Yellowknife Ar**	**51.47**	**346**	P	**P**	**08 01 29.0**	**-1.2**
1.9nm,0.8s,mb4.1,baz=145,slow=7.7,SNR=22							

*ISCJB **20** 07:58:53.5±0.5, 1406N±006×8968W±004,h10km,mb3.7/6, MS3.7/11, Error ellipse: s-maj=8.4km s-min=4.4km az=36.3*
*IDC **20** 07:58:53.4±1.1, 1404N×8960W,h0km,mb3.8/6, mb1 4.1/10,mb1mx3.9/22,mbtmp3.9/10,ML4.0/3,MS3.7/17, Ms1 3.7/17,ms1mx3.7/28, Error ellipse: s-maj=29.7km s-min=16.3km az=56.0*
*CASC **20** 07:58:53.1±2.1, 1397N×8975W,h0km±5km,MD4.1,ML4.3, mb4.4(NEIC)*
*NEIC **20** 07:58:54.9±0.6, 1395N×8970W,h10km,mb4.4/2, MD4.1(SNET), Error ellipse: s-maj=15.5km s-min=7.0km az=218.0*
NEIC Felt [VI] at Atiquizaya and Turin.
ISC 20 07:58:54.8±0.5,1397N±006×8971W±004,h10km,n47, σ§13/32,mb3.7/6,MS3.7/12,7C-4D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.10**	**141**	⇑*i*P	x	07 58 57.0	
RBDL	**Robledal**	**0.14**	**8**	⇑*e*P	x	07 58 56.9	
SNJE	**San Jose**	**0.14**	**136**	⇑*i*P	x	07 58 57.9	
SBLS	**San Blas**	**0.15**	**148**	⇓*e*P	x	07 58 57.8	
BOQS	**Boqueron**	**0.48**	**120**	⇓*e*P	x	07 59 04.2	
MTO2	**Montecristo 2**	**0.54**	**38**	⇑*e*P	x	07 59 04.4	
LFU	**La Fuente**	**0.62**	**111**	*e*P	x	07 59 06.6	
LBRS	**Las Brisas**	**0.69**	**110**	⇑*e*P	x	07 59 07.7	
LCBS	**La Ceiba**	**0.78**	**114**	⇑*e*P	x	07 59 09.1	
PCG	**Pacaya**	**0.97**	**296**	*e*P	**Pg**	**07 59 11.6**	**-1.8**
TER	**Terranova**	**1.00**	**289**	⇓*e*P	**Pg**	**07 59 11.6**	**-2.5**
FUG	**Fuego 3**	**1.20**	**293**	⇓*e*P	**Pb**	**07 59 15.0**	**-2.6**
VSM	**San Miguel**	**1.49**	**111**	*e*P	x	07 59 22.4	
BLLM	**Bellamira**	**1.52**	**110**	⇑*e*P	x	07 59 22.8	
JAT	**Jato**	**1.90**	**281**	*e*P	**Pn**	**07 59 28.1**	**+0.8**
JAT				*e*S	**Sn**	**07 59 51.9**	**+0.6**
CNCH	**Conchagua**	**1.95**	**111**	*e*P	x	07 59 28.5	
TGUH	**Tegucigalpa,Un**	**2.36**	**88**	*e*Pn	**Pn**	**07 59 33.2**	**-0.4**
TGUH				*e*Sn	**Sn**	**08 00 01.4**	**-1.3**
CCIG	**Comitan**	**3.28**	**315**	*i* P	**Pn**	**07 59 45.9**	**-0.4**
CCIG				*i* S	**Sg**	**08 00 39.8**	**-0.5**
CMIG	**Matias Romero**	**5.88**	**303**	Pn	**Pn**	**08 00 22.8**	**+0.9**
1.5nm,0.3s,baz=110,slow=8.4,SNR=6.6							
CMIG				Sn	**Sn**	**08 01 37.2**	**+7.9**
1.5nm,0.3s,baz=228,slow=18,SNR=2.5							
CMIG				LR	LR	08 02 49.3	
comp=Z,1μm,18.3s,baz=119,slow=40							
CMIG	**Matias Romero**	**5.88**	**303**	Pn	**Pn**	**08 00 22.8**	**+0.9**
CMIG				Sn	**Sn**	**08 01 37.2**	**+7.9**
CMIG				LR	LR	08 02 49.3	
JTS	**JuntasAbangare**	**5.92**	**128**	Pn	**Pn**	**08 00 23.0**	**+0.6**
baz=319,slow=20,SNR=1.9							
JTS				Sn	**Sn**	**08 01 36.5**	**+6.2**
0.3nm,0.3s,baz=317,slow=20,SNR=2.4							
JTS				LR	LR	08 02 58.1	
comp=Z,754nm,21.4s,baz=76,slow=42							
TEIG	**Tepich**	**6.37**	**12**	Pn	**Pn**	**08 00 28.4**	**-0.3**
8.3nm,0.3s,baz=180,slow=4.6,SNR=38							
TEIG				Sn	**Sn**	**08 01 40.9**	**-0.5**
6.7nm,0.3s,baz=231,slow=18,SNR=3.0							
TEIG				Lg		08 02 12.4	
8.9nm,0.3s,baz=100,slow=21,SNR=3.6							
TEIG				LR	LR	08 03 22.1	
comp=Z,373nm,20.5s,baz=48,slow=43							
ROSC	**El Rosal**	**17.66**	**119**	LR	LR	08 09 46.3	
comp=Z,149nm,18.1s,baz=42,slow=37							
JCT	**Junction City**	**18.88**	**332**	*e*P	**Pn**	**08 03 16.6**	**+0.8**
13nm,0.9s							
SDV	**Santo Domingo**	**19.36**	**103**	P	**Pn**	**08 03 21.7**	**+0.1**
0.5nm,0.3s,baz=224,slow=23,SNR=3.1							
SDV				LR	LR	08 11 14.3	
comp=Z,169nm,21.2s,baz=84,slow=38							
LTX	**Lajitas**	**20.02**	**322**	*e*P	**P**	**08 03 27.5**	**-0.2**
TXAR	**Lajitas Array**	**20.02**	**322**	P	**P**	**08 03 29.6**	**+1.9**
3.6nm,0.8s,baz=147,slow=11,SNR=38							
TXAR				LR	LR	08 12 44.4	
comp=Z,140nm,20.7s,MS3.3,baz=115,slow=42							
MIAR	**Mount Ida**	**20.78**	**351**	*e*P	**P**	**08 03 36.7**	**+0.7**
29nm,1.0s							
LPIG	**La Paz**	**21.90**	**300**	LR	LR	08 12 19.7	
comp=Z,456nm,19.2s,MS3.9,baz=355,slow=37							
TKL	**Tuckaleechee C**	**22.24**	**13**	P	**P**	**08 03 53.9**	**+2.2**
3.3nm,0.8s,mb3.8,baz=270,slow=6.5,SNR=2.2							
TKL				LR	LR	08 13 56.3	
comp=Z,148nm,19.6s,MS3.4,baz=225,slow=41							
TKL	**Tuckaleechee C**	**22.24**	**13**	P	**P**	**08 03 53.9**	**+2.2**
TKL				LR	LR	08 13 56.3	
SJG	**San Juan**	**23.00**	**77**	LR	LR	08 12 48.6	
comp=Z,195nm,18.6s,MS3.6,baz=277,slow=36							
PCRV	**Puerto La Cruz**	**24.80**	**96**	LR	LR	08 13 33.2	
comp=Z,132nm,18.5s,MS3.5,baz=282,slow=36							
ANMO	**Albuquerque**	**25.79**	**327**	LR	LR	08 17 25.8	
comp=Z,104nm,20.6s,MS3.4,baz=283,slow=43							
PDAR	**Pinedale Array**	**33.41**	**333**	P	**P**	**08 05 34.0**	**+0.4**
0.2nm,0.4s,mb3.4,baz=154,slow=13,SNR=3.1							
PDAR				LR	LR	08 21 30.3	
comp=Z,119nm,18.2s,MS3.6,baz=4.2,slow=41							
NVAR	**Mina Array Bea**	**35.12**	**319**	P	**P**	**08 05 49.4**	**+1.0**
0.5nm,0.8s,mb3.5,baz=91,slow=7.2,SNR=2.8							
MCMT	**McKenzie Canyo**	**36.51**	**332**	*e*P	**P**	**08 06 02.1**	**+1.9**
ULM	**Lac du Bonnet**	**36.53**	**353**	P	**P**	**08 05 59.3**	**-1.1**
2.9nm,1.0s,mb4.1,baz=176,slow=12,SNR=3.8							
LPAZ	**La Paz**	**36.86**	**144**	LR	LR	08 21 53.3	
comp=Z,105nm,20.9s,MS3.6,baz=64,slow=37							
SIV	**San Ignacio**	**41.08**	**135**	P	**P**	**08 06 37.7**	**-0.9**
0.9nm,0.9s,mb3.4,baz=310,slow=10,SNR=4.5							
EDM	**Edmonton**	**43.41**	**339**	*e*P	**P**	**08 06 57.7**	**+0.1**
YKA	**Yellowknife Ar**	**51.59**	**346**	P	**P**	**08 08 00.1**	**-1.0**
2.0nm,0.9s,mb4.0,baz=144,slow=7.7,SNR=21							
YKA				LR	LR	08 32 10.2	
comp=Z,114nm,18.9s,MS3.9,baz=295,slow=39							
YKA	**Yellowknife Ar**	**51.59**	**346**	P	**P**	**08 08 00.1**	**-1.0**
YKA				LR	LR	08 32 10.2	
PLCA	**Paso Flores**	**57.25**	**163**	LR	LR	08 28 17.5	
comp=Z,74nm,20.3s,MS3.8,baz=129,slow=31							
PPT	**Papeete**	**66.86**	**244**	LR	LR	08 31 35.0	
comp=Z,186nm,20.8s,MS4.3,baz=100,slow=29							
TORD	**Torodi Ar. Bea**	**88.22**	**77**	LR	LR	08 49 04.3	
comp=Z,59nm,18.3s,MS4.0,baz=180,slow=34							
WRA	**Warramunga Arr**	**137.54**	**256**	PKP	PKPdf	08 18 20.4	+1.5
0.3nm,0.6s,baz=87,slow=2.0,SNR=5.4							

CASC 20 08:05:32.9±1.5,1401N×8975W,h1km±4km,MD3.8,3C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.15**	**139**	*e*P	x	08 05 36.7	
SNJE	**San Jose**	**0.19**	**136**	*e*P	x	08 05 37.6	
SNJE				*e*S	x	08 05 41.4	
SBLS	**San Blas**	**0.20**	**145**	*e*P	x	08 05 37.6	
BOQS	**Boqueron**	**0.53**	**121**	*e*P	x	08 05 44.1	

h67km±.6km**:pP-P,n360,**σ0.95/367**,mb4.5**/64**,76C-92D,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**243**	*i* P	**Pn**	**08 29 23.2**	**-2.0**
KUR				AMB	AMB	08 29 24.5	
	230nm,0.7s						
KUR				*i* S	**Sn**	**08 30 11.0**	**+1.1**
KUR				A		08 30 19.5	
	570nm,0.9s						
KUR				A		08 30 19.5	
	850nm,0.9s						
KUR				A		08 30 33.0	
	5μm,3.0s						
SKR	**Severo-Kuril's**	**4.17**	**30**	*e*PN	**Pn**	**08 29 27.9**	**-0.8**
SKR				*e*S	**Sn**	**08 30 11.5**	**-4.7**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,360nm,0.5s						
SKR				smax			
	comp=E,460nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.77**	**240**	*e*PN	**Pn**	**08 29 51.4**	**+0.9**
YUK				*e*S	**Sn**	**08 31 04.0**	**+8.6**
YUK				smax			
	comp=N,750nm,0.8s						
YUK				smax			
	comp=E,750nm,0.8s						
NEM2	**Nemuro 2**	**6.25**	**236**	P	**Pn**	**08 29 55.2**	**-1.8**
NEM2				*e*S	**Sn**	**08 31 01.7**	**-5.3**
JRA	**Rausu**	**6.27**	**242**	P	**Pn**	**08 29 58.8**	**+1.5**
JNK	**Nakash**	**6.71**	**241**	P	**Pn**	**08 30 03.8**	**+0.5**
JNK				*e*S	**Sn**	**08 31 18.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**6.87**	**272⇑**	*e*Pn	**Pn**	**08 30 08.8**	**+3.2**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s						
YSS				MLR	MLR		
	comp=E,400nm,19.0s						
YSS	**Yuzh-Sakhalins**	**6.87**	**272**	*e*Pn	**Pn**	**08 30 07.2**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.87**	**272**	*e*P	**Pn**	**08 30 08.8**	**+3.2**
YSS				AMB	AMB	08 30 09.8	
	comp=E,60nm,0.9s						
YSS				AMB	AMB	08 30 09.8	
	comp=E,50nm,0.9s						
YSS				*e*S	**Sn**	**08 31 24.0**	**+1.7**
YSS				A		08 31 27.0	
	comp=E,60nm,0.6s						
PET	**Petropavlovsk**	**7.00**	**30**	*e*PN	**Pn**	**08 30 11.9**	**+4.6**
PET				pmax	pmax		
	comp=Z,41nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
JTKR	**Abashiri--Toko**	**7.00**	**246**	P	**Pn**	**08 30 08.8**	**+1.5**
JAK	**Akkeshi**	**7.07**	**237**	P	**Pn**	**08 30 06.7**	**-1.6**
JAK				*e*S	**Sn**	**08 31 21.8**	**-5.4**
JMP	**Maruseppu**	**7.33**	**248**	P	**Pn**	**08 30 14.1**	**+2.3**
JAR	**Ashorobuto**	**7.44**	**242**	P	**Pn**	**08 30 13.8**	**+0.4**
JAR				*e*S	**Sn**	**08 31 33.3**	**-3.0**
UGL	**Uglegorsk**	**7.45**	**289⇑**	*i*PN	**Pn**	**08 30 17.2**	**+3.7**
UGL				pmax	pmax		
	comp=Z,164nm,0.9s						
UGL				MLR	MLR		
	comp=N,500nm,18.0s						
UGL				MLR	MLR		
	comp=E,500nm,18.0s						
UGL				MLR	MLR		
	comp=Z,500nm,18.0s						
JOB	**Onbets**	**7.63**	**240**	P	**Pn**	**08 30 15.3**	**-0.6**
JOB				*e*S	**Sn**	**08 31 37.0**	**-3.9**
ASAJ	**Asahikawa**	**7.76**	**251**	P	**Pn**	**08 30 20.9**	**+3.2**
	comp=Z,1.6nm,0.3s,baz=75,slow=15,SNR=14						
ASAJ	**Asahikawa**	**7.76**	**251**	P	**Pn**	**08 30 21.2**	**+3.4**
ASAJ	**Asahikawa**	**7.76**	**251**	PN	**Pn**	**08 30 21.0**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.78**	**249**	P	**Pn**	**08 30 20.1**	**+2.1**
JWK2	**Keihoku**	**7.78**	**261**	P	**Pn**	**08 30 22.4**	**+4.4**
JCH	**Churui**	**8.08**	**239**	P	**Pn**	**08 30 20.9**	**-1.2**
JCH				*e*S	**Sn**	**08 31 46.3**	**-5.7**
JFR	**Furan**	**8.23**	**245**	P	**Pn**	**08 30 26.8**	**+2.6**
JEM	**Erimo**	**8.57**	**237**	P	**Pn**	**08 30 28.7**	**-0.1**
JEM				*e*S	**Sn**	**08 31 59.0**	**-5.0**
ERM	**Erimo**	**8.57**	**237**	*e*PN	**Pn**	**08 30 31.3**	**+2.5**
ERM				pmax	pmax		
	comp=Z,34nm,0.6s						
ERM	**Erimo**	**8.57**	**237**	*e*Pn	**Pn**	**08 30 31.3**	**+2.5**
	comp=Z,34nm,0.6s						
ERM				*e*Sn	**Sn**	**08 32 04.3**	**+0.3**
JBT2	**Biratori 2**	**8.59**	**243**	P	**Pn**	**08 30 28.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**8.64**	**240**	P	**Pn**	**08 30 28.0**	**-1.8**
JNB	**Noboribetsu**	**9.57**	**245**	P	**Pn**	**08 30 42.0**	**-0.5**
JKB	**Kayabe**	**9.91**	**242**	P	**Pn**	**08 30 44.8**	**-2.2**
JKB				*e*S	**Sn**	**08 32 29.4**	**-7.1**
JYM2	**Yakumo 2**	**10.18**	**245**	P	**Pn**	**08 30 49.7**	**-1.1**
JOT	**Ohata**	**10.20**	**240**	P	**Pn**	**08 30 47.9**	**-3.1**
JOT				*e*S	**Sn**	**08 32 34.4**	**-9.4**
JTM	**Tenmabayashi**	**10.57**	**237**	P	**Pn**	**08 30 52.8**	**-3.2**
JANG	**Nango**	**10.59**	**234**	P	**Pn**	**08 30 51.9**	**-4.5**
JANG				*e*S	**Sn**	**08 32 41.7**	**-12**
JOSM	**Okushiri--Mats**	**10.76**	**247**	P	**Pn**	**08 30 57.6**	**-1.0**
JOM	**Ohasama**	**11.35**	**232**	P	**Pn**	**08 31 03.9**	**-2.8**
JRG	**Rokugo**	**11.76**	**233**	P	**Pn**	**08 31 08.7**	**-3.6**
MA2	**Magadan**	**12.53**	**355**	*e*PN	**Pn**	**08 31 23.7**	**+0.9**
MJAR	**Matsushiro Arr**	**15.15**	**231**	P	**Pn**	**08 31 54.6**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=8.3						
MJAR				LR	LR	08 37 44.1	
	comp=Z,80nm,21.9s,baz=65,slow=37						
MAJO	**Matsushiro**	**15.15**	**231**	*e*P	**Pn**	**08 32 01.9**	**+4.4**
MAT	**Matsushiro**	**15.15**	**231**	P	**Pn**	**08 32 01.6**	**+4.1**
MAT	**Matsushiro**	**15.15**	**231**	P	**Pn**	**08 32 02.3**	**+4.8**
SEY	**Seymchan**	**15.84**	**359**	*i* P	**Pn**	**08 32 08.2**	**+1.9**
MDJ	**Mudanjiang**	**16.35**	**270**	P	**Pn**	**08 32 13.4**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,139nm,4.9s						
CLNS	**Chul'man**	**19.61**	**310**	*e*P	**Pn**	**08 32 56.1**	**+3.8**
CLNS				pmax	pmax		
	comp=Z,17nm,0.8s						
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,14nm,0.7s						
YAK	**Yakutsk**	**19.89**	**327**	*e*P	**Pn**	**08 32 57.5**	**+2.0**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK				pmax	pmax		
	comp=E,12nm,1.3s						
KSRS	**Korea Array**	**20.72**	**251**	P	**P**	**08 33 03.0**	**+0.7**
	comp=E,7.0nm,0.8s,baz=56,slow=11,SNR=18						
KSRS				LR	LR	08 40 06.6	
	comp=E,37nm,20.4s,baz=1.0,slow=34						
KS15	**Wonju Array Si**	**20.75**	**251**	*e*P	**P**	**08 33 05.3**	**+2.7**
SNY	**Shenyang**	**21.45**	**266**	⇓P	**P**	**08 33 08.9**	**-1.2**
SNY				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.6						
SNY				AMB	AMB		
	comp=Z,161nm,6.3s						
SNY				LR	LR		
	comp=N,161nm,7.2s						
SNY				LR	LR		
	comp=E,182nm,15.9s						
SNY				LR	LR		
	comp=Z,161nm,22.5s						
CBIJ	**Chichi jima**	**21.68**	**206**	LR	LR	08 40 55.6	
	comp=Z,79nm,19.6s,baz=74,slow=34						
JNU	**Nakatsue**	**21.74**	**238**	LR	LR	08 41 15.1	
	comp=Z,129nm,21.5s,baz=88,slow=35						
BILL	**Bilibino**	**22.07**	**13**	*i* P	**P**	**08 33 15.1**	**-1.7**
BOD	**Bodaibo**	**25.59**	**309**	*e*P	**P**	**08 33 49.7**	**-0.6**
BOD				*e*	pP	08 34 05.0	-1.2
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.7						
HHC	**Hu-ho-hao-te**	**30.06**	**273**	*e*P	**P**	**08 34 32.3**	**+2.1**
HHC				S	**S**	**08 39 29.4**	**+5.6**
HHC				PCS	PcS	08 41 10.5	-3.6
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.7						
HHC				LR	LR		
	comp=N,194nm,13.6s						
HHC				LR	LR		
	comp=E,288nm,15.6s						
HHC				LR	LR		
	comp=Z,205nm,14.9s						
SONM	**Songino Array**	**31.01**	**289**	P	**P**	**08 34 37.6**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.5,baz=72,slow=7.2,SNR=7.8						
SONM				PcP	PcP	08 37 32.0	-1.1
	comp=Z,1.6nm,1.0s,baz=109,slow=1.0,SNR=5.4						
SONM				LR	LR	08 48 02.4	
	comp=Z,89nm,19.0s,baz=28,slow=38						
SONM	**Songino Array**	**31.01**	**289**	P	**P**	**08 34 37.6**	**-1.0**
SONM						08 37 32.0	
KDAK	**Kodiak Island**	**34.03**	**51**	P	**P**	**08 35 03.9**	**-1.1**
	comp=Z,16nm,0.8s,mb4.9,baz=242,slow=3.6,SNR=5.6						
KDAK	**Kodiak Island**	**34.03**	**51**	P	**P**	**08 35 03.9**	**-1.1**
MCK	**McKinley**	**35.50**	**41**	*e*P	**P**	**08 35 17.4**	**-0.3**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
MCK	**McKinley**	**35.50**	**41**	*e*P	**P**	**08 35 17.4**	**-0.3**
	comp=Z,7.5nm,1.0s,mb4.5						
SML	**Sawmill**	**35.84**	**44**	*e*P	**P**	**08 35 20.1**	**-0.5**
SML				*e**PP	pP	08 35 36.7	-0.3
COLA	**College**	**35.97**	**39**	*e*P	**P**	**08 35 21.9**	**+0.2**
COLA				*e**PP	pP	08 35 38.4	+0.3
COLA				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
COLA	**College**	**35.97**	**39**	*e*P	**P**	**08 35 21.9**	**+0.2**
	comp=Z,22nm,0.9s,mb5.1						
COLA				*e*pP	pP	08 35 38.4	+0.3
LZH	**Lanzhou**	**37.67**	**271**	*e*P	**P**	**08 35 37.5**	**+1.4**
LZH				PP	PP	08 37 07.6	+4.4
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,49nm,5.2s						
LZH				LR	LR		
	comp=N,395nm,13.6s						
LZH				LR	LR		
	comp=Z,512nm,17.7s						
LZH	**Lanzhou**	**37.67**	**271**	*e*P	**P**	**08 35 37.5**	**+1.4**
	comp=Z,20nm,1.3s,mb4.8						
LZH				pP	pP	08 35 53.4	+0.8
LZH				sP	sP	08 36 00.7	+0.3
LZH				PP	PP	08 37 07.6	+4.4
LZH				LR	LR		
	comp=Z,510nm,17.7s						
GTA	**Gaotai**	**38.71**	**278**	*e*P	**P**	**08 35 46.4**	**+1.6**
GTA				PP	PP	08 37 19.3	+4.8
GTA				PCP	PcP	08 37 55.9	+0.4
GTA				S	**S**	**08 41 38.1**	**+1.2**
GTA				SS	SS	08 44 21.6	-8.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,52nm,6.1s						
GTA				LR	LR		
	comp=N,114nm,10.3s						
GTA				LR	LR		
	comp=E,167nm,11.8s						
GTA				LR	LR		
	comp=Z,117nm,11.0s						
CD2	**Chengdu**	**40.70**	**264**	P	**P**	**08 36 02.0**	**+0.6**
CD2				PP	PP	08 37 40.6	+4.3
CD2				S	**S**	**08 42 06.6**	**-0.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
CD2				AMB	AMB		
	comp=Z,170nm,4.9s						
CD2				LR	LR		
	comp=N,140nm,7.2s						
CD2				LR	LR		
	comp=E,220nm,12.0s						
CD2				LR	LR		
	comp=Z,170nm,6.0s						
INK	**Inuvik**	**41.45**	**33**	P	**P**	**08 36 07.7**	**+0.2**
	comp=Z,11nm,0.9s,mb4.7,baz=285,slow=7.3,SNR=42						
INK	**Inuvik**	**41.45**	**33**	*e*P	**P**	**08 36 07.8**	**+0.2**
	comp=Z,346nm,0.8s						
GYA	**Guiyang**	**41.59**	**257**	P	**P**	**08 36 10.8**	**+2.1**
GYA				PP	PP	08 37 51.0	+5.1
GYA				PCP	PcP	08 38 07.6	+2.9
GYA				S	**S**	**08 42 22.0**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,80nm,4.2s						
GYA				LR	LR		
	comp=N,340nm,16.4s						
GYA				LR	LR		
	comp=E,290nm,16.0s						
GYA				LR	LR		
	comp=Z,270nm,15.8s						
ZAL	**Zalesovo**	**42.24**	**305**	PcP	PcP	08 38 05.9	-0.9
	comp=Z,3.6nm,0.6s,baz=58,slow=3.5,SNR=8.8						
WMQ	**Urumqi**	**44.59**	**291**	*e*P	**P**	**08 36 35.6**	**+2.6**
WMQ				LR	LR		
	comp=N,69nm,23.0s						
WMQ				LR	LR		
	comp=E,26nm,22.0s						
WMQ				LR	LR		
	comp=Z,91nm,22.0s						
KMI	**Kunming**	**45.11**	**259**	P	**P**	**08 36 39.4**	**+2.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.7						
KMI	**Kunming**	**45.11**	**259**	P	**P**	**08 36 39.4**	**+2.4**
	comp=Z,7.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**46.58**	**297**	P	**P**	**08 36 46.9**	**-1.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=66,slow=7.6,SNR=6.4						
MKAR				pP	pP	08 37 03.4	-2.2
	comp=Z,0.7nm,0.6s,baz=66,slow=6.0,SNR=3.8						
MKAR				PcP	PcP	08 38 21.1	-0.6
	comp=Z,2.6nm,0.6s,baz=76,slow=1.7,SNR=20						
MKAR				LR	LR	08 57 34.1	
	comp=Z,100nm,19.1s,baz=248,slow=38						
MKAR	**Makanchi Array**	**46.58**	**297**	P	**P**	**08 36 46.9**	**-1.7**
MKAR				*PP	pP	08 37 03.4	-2.2
MKAR						08 38 21.1	
MKAR	**Makanchi Array**	**46.58**	**297**	P	**P**	**08 36 46.9**	**-1.7**
MKAR				pP	pP	08 37 03.4	-2.2
MKAR				PcP	PcP	08 38 21.1	-0.6
MKAR				LR	LR	08 57 34.1	
KURK	**Kurchatov**	**46.98**	**303**	*e*P	**P**	**08 36 50.1**	**-1.6**
KURK				*e*		08 38 22.3	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**46.98**	**303**	*e*P	**P**	**08 36 50.1**	**-1.7**
	comp=Z,2.1nm,0.8s,mb3.9						
KURK				*e*PcP	PcP	08 38 22.3	-0.9
BVAR	**Borovoye Array**	**50.46**	**309**	P	**P**	**08 37 16.3**	**-2.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=65,slow=7.0,SNR=8.7						
BVAR				PcP	PcP	08 38 34.8	-0.9
	comp=Z,2.6nm,0.5s,baz=75,slow=1.8,SNR=11						
RES	**Resolute Bay**	**50.55**	**19**	*e*P	**P**	**08 37 18.3**	**-0.7**
	comp=Z,190nm,1.1s						
YKW3	**Yellowknife Ar**	**50.71**	**37**	*e*P	**P**	**08 37 20.0**	**-0.3**
YKA	**Yellowknife Ar**	**50.75**	**37**	P	**P**	**08 37 20.2**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.4,baz=299,slow=7.1,SNR=41						
YKA				pP	pP	08 37 36.9	-0.8
	comp=Z,5.8nm,0.7s,baz=295,slow=7.0,SNR=22						
YKA				PcP	PcP	08 38 35.7	-1.1
	comp=Z,0.7nm,0.5s,baz=306,slow=3.7,SNR=6.7						
YKA	**Yellowknife Ar**	**50.75**	**37**	P	**P**	**08 37 20.2**	**-0.4**
YKA				pP	pP	08 37 36.9	-0.8
YKA				PcP	PcP	08 38 35.7	-1.1
CHTO	**Chiang Mai**	**52.00**	**256**	*e*P	**P**	**08 37 30.9**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**52.00**	**256**	*e*P	**P**	**08 37 30.9**	**+1.0**
	comp=Z,8.6nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**53.48**	**296**	*i* P	**P**	**08 37 41.4**	**+0.5**
AAK				MLR	MLR		
	comp=Z,100nm,28.0s						
C04A	**Brinnon**	**54.18**	**56**	⇓P	**P**	**08 37 43.5**	**-2.4**
	baz=54						
E03A	**Lebam**	**54.48**	**57**	⇓P	**P**	**08 37 44.6**	**-3.6**
	baz=54						
JIRN	**Jiri**	**54.71**	**274**	*e*P	**P**	**08 37 50.8**	**+1.0**
	comp=Z,18nm,0.6s,mb5.3						
GUN	**Gumba**	**54.76**	**275**	*e*P	**P**	**08 37 50.7**	**+0.5**
	comp=Z,13nm,0.6s,mb5.2						
A07A	**Ashnola River,**	**54.89**	**53**	⇓P	**P**	**08 37 50.3**	**-0.8**
	baz=55						
KKN	**Kakani**	**55.24**	**275**	*e*P	**P**	**08 37 54.7**	**+1.0**
	comp=Z,11nm,0.5s,mb5.1						
PKI	**Pulchoki**	**55.30**	**275**	*e*P	**P**	**08 37 54.3**	**+0.3**
	comp=Z,9.5nm,0.5s,mb5.1						
B07A	**Winthrop**	**55.36**	**54**	⇓P	**P**	**08 37 54.0**	**-0.5**
	baz=55						
DMN	**Daman**	**55.48**	**275**	*e*P	**P**	**08 37 55.8**	**+0.4**
	comp=Z,28nm,0.8s,mb5.3						
GKN	**Gorkha**	**55.55**	**275**	*e*P	**P**	**08 37 56.0**	**+0.2**
	comp=Z,12nm,0.5s,mb5.2						
A08A	**Turner Farm, O**	**55.55**	**53**	⇑P	**P**	**08 37 55.2**	**-0.7**
	baz=55						
D06A	**Cle Elum**	**55.67**	**56**	⇓P	**P**	**08 37 55.7**	**-1.0**
	baz=55						
C07A	**Waterville**	**55.83**	**55**	⇓P	**P**	**08 37 56.2**	**-1.6**
	baz=56						
B08A	**Colville Reser**	**55.85**	**54**	⇓P	**P**	**08 37 57.5**	**-0.5**
	baz=56						
A09A	**Danville**	**55.91**	**53**	⇓P	**P**	**08 37 58.5**	**+0.1**
	baz=56						
I03A	**Eugene**	**56.10**	**60**	⇓P	**P**	**08 37 56.6**	**-3.2**
	baz=56						
EDM	**Edmonton**	**56.20**	**46**	*e*pP	pP	08 38 17.4	-0.5
J02A	**Umpqua**	**56.27**	**61**	⇑P	**P**	**08 38 00.7**	**-0.4**
	baz=56						
H04A	**Detroit Lake**	**56.33**	**59**	⇓P	**P**	**08 37 59.5**	**-2.0**
	baz=56						
C08A	**Higginbotham F**	**56.34**	**54**	⇑P	**P**	**08 38 00.6**	**-0.8**
	baz=56						
KOLN	**Koldanda**	**56.40**	**276**	*e*P	**P**	**08 38 02.6**	**+0.7**
	comp=Z,10nm,0.7s,mb5.0						
E07A	**Sunnyside**	**56.59**	**56**	⇑P	**P**	**08 38 02.8**	**-0.4**
	baz=56						
I04A	**Tendick Farm,**	**56.72**	**60**	⇓P	**P**	**08 38 03.3**	**-0.9**
	baz=56						
C09A	**Chrisman Ranch**	**56.75**	**54**	⇑P	**P**	**08 38 04.1**	**-0.3**
	baz=56						
D08A	**Wollman Farm,**	**56.82**	**55**	⇓P	**P**	**08 38 04.0**	**-0.9**
	baz=56						
H05A	**Madras**	**56.91**	**58**	⇑P	**P**	**08 38 05.4**	**-0.1**
	baz=57						
F07A	**Phinny Hill Vi**	**56.93**	**56**	⇓P	**P**	**08 38 05.1**	**-0.6**
	baz=57						
A11A	**Hall Mountain,**	**57.12**	**52**	⇑P	**P**	**08 38 07.5**	**+0.5**
	baz=57						
J04A	**Umpqua Nationa**	**57.22**	**60**	⇓P	**P**	**08 38 05.4**	**-2.3**
	baz=57						
H06A	**Lindquist Farm**	**57.38**	**58**	⇓P	**P**	**08 38 08.6**	**-0.2**
	baz=57						
B11A	**Sandpoint**	**57.42**	**52**	⇓P	**P**	**08 38 09.5**	**+0.4**
	baz=57						
ARCES	**ARCESS Array B**	**57.43**	**341**	P	**P**	**08 38 07.6**	**-1.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=29,slow=5.5,SNR=5.4						
A12A	**Yaak River Ran**	**57.51**	**51**	⇑P	**P**	**08 38 09.3**	**-0.5**
	baz=57						
E09A	**Wood Farm, Sta**	**57.57**	**55**	⇓P	**P**	**08 38 09.8**	**-0.4**
	baz=57						
J05A	**Fort Rock**	**57.71**	**60**	⇑P	**P**	**08 38 11.4**	**+0.2**
	baz=57						
D10A	**Wagner Farm, O**	**57.74**	**54**	⇑P	**P**	**08 38 10.8**	**-0.6**
	baz=57						
YBH	**Yreka Blue Hor**	**57.75**	**62**	⇓P	**P**	**08 38 12.2**	**+0.8**
	baz=58						
G08A	**Pilot Rock**	**57.84**	**56**	⇑P	**P**	**08 38 12.8**	**+0.7**
	baz=58						
M02C	**Callahan**	**57.87**	**62**	⇓P	**P**	**08 38 12.3**	**+0.1**
	baz=58						
I06A	**Prineville**	**57.91**	**58**	⇑P	**P**	**08 38 12.0**	**-0.6**
	baz=58						
E10A	**Myers Farm, Un**	**58.17**	**54**	⇓P	**P**	**08 38 14.1**	**-0.3**
	baz=58						
F09A	**S2 Ranch, Elgi**	**58.18**	**56**	⇑P	**P**	**08 38 15.1**	**+0.6**
	baz=58						
K05A	**Summer Lake**	**58.24**	**60**	⇑P	**P**	**08 38 15.8**	**+1.0**
	baz=58						
I07A	**Izee**	**58.24**	**58**	⇓P	**P**	**08 38 14.6**	**-0.3**
	baz=58						
M04C	**Macdoel**	**58.24**	**61**	⇓P	**P**	**08 38 14.4**	**-0.5**
	baz=58						
J06A	**Christmas Vall**	**58.36**	**59**	⇑P	**P**	**08 38 16.1**	**+0.3**
	baz=58						
WALA	**Waterton Lakes**	**58.36**	**50**	*e*P	**P**	**08 38 15.9**	**+0.1**
WALA				*e*pP	pP	08 38 33.3	0.0
H08A	**Prairie City**	**58.46**	**57**	⇓P	**P**	**08 38 16.5**	**+0.1**
	baz=58						
B13A	**Whitefish**	**58.48**	**51**	P	**P**	**08 38 17.3**	**+0.8**
	baz=58,SNR=8.8						
WDC	**Whiskeytown Da**	**58.54**	**63**	⇓P	**P**	**08 38 15.6**	**-1.4**
	baz=58						
K06A	**Valley Falls**	**58.58**	**59**	⇑P	**P**	**08 38 17.8**	**+0.6**
	baz=58						
L05A	**Lakeview**	**58.68**	**60**	⇓P	**P**	**08 38 18.6**	**+0.6**
	baz=58						
J07A	**Hines**	**58.78**	**58**	⇑P	**P**	**08 38 18.0**	**-0.6**
	baz=58						
C13A	**Hot Springs**	**58.84**	**52**	⇓P	**P**	**08 38 19.0**	**0.0**
	baz=58						
I08A	**Drewsey**	**58.88**	**58**	⇓P	**P**	**08 38 19.1**	**-0.2**
	baz=59						
M05C	**Lookout**	**58.91**	**61**	⇓P	**P**	**08 38 18.7**	**-0.8**
	baz=59						
H09A	**Durkee**	**58.95**	**56**	⇑P	**P**	**08 38 20.7**	**+0.9**
	baz=59						
BMO	**Blue Mountains**	**59.04**	**56**	*e*P	**P**	**08 38 21.1**	**+0.7**
BMO				*e**PP	pP	08 38 38.3	+0.4
BMO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BMO	**Blue Mountains**	**59.04**	**56**	*e*P	**P**	**08 38 21.1**	**+0.7**
	comp=Z,4.3nm,0.8s,mb4.5						
BMO				*e*pP	pP	08 38 38.3	+0.3
MOD	**Modoc**	**59.09**	**60**	*e*P	**P**	**08 38 21.4**	**+0.6**
	comp=Z,4.1nm,0.8s,mb4.5						
MOD				*e*pP	pP	08 38 38.8	+0.5
MOD	**Modoc**	**59.09**	**60**	⇑P	**P**	**08 38 20.9**	**+0.2**
	baz=59						
K07A	**Rock Creek Ran**	**59.23**	**59**	⇑P	**P**	**08 38 22.4**	**+0.7**
	baz=59						
D13A	**Huson**	**59.26**	**53**	⇓P	**P**	**08 38 21.2**	**-0.7**
	baz=59						
J08A	**Circle Bar Ran**	**59.27**	**58**	⇓P	**P**	**08 38 22.8**	**+0.7**
	baz=59						
I09A	**Lost Marbles R**	**59.32**	**57**	⇓P	**P**	**08 38 22.5**	**+0.1**
	baz=59						
M06C	**Likely Place G**	**59.41**	**61**	⇓P	**P**	**08 38 22.4**	**-0.6**
	baz=59						
H10A	**Noah's Angus R**	**59.51**	**56**	⇑P	**P**	**08 38 23.7**	**-0.1**
	baz=59						
O04C	**Chester**	**59.58**	**62**	⇓P	**P**	**08 38 23.4**	**-0.8**
	baz=59						
L07A	**Adell**	**59.58**	**60**	⇓P	**P**	**08 38 24.8**	**+0

baz=60
M08A Happy Creek Ra 60.50 60 ⇓P P 08 38 30.5 0.0
baz=60
K10A MacKenzie Ranc 60.56 58 ⇑P P 08 38 31.6 +0.7
baz=60
L09A Wilkinson Ranc 60.57 59 ⇓P P 08 38 31.3 +0.3
baz=60
G13A Cobalt 60.61 54 ⇑P P 08 38 31.0 -0.2
baz=60
F14A Wisdom 60.64 53 ⇓P P 08 38 31.3 -0.1
baz=60
LAVA Lava Cap Winer 60.76 63 ⇓P P 08 38 30.9 -1.3
baz=60
MFID Camas Ranch 60.76 57 ⇓P P 08 38 31.2 -1.1
baz=60
HRY Holter Researc 60.91 52 *e*P **P 08 38 33.0 -0.3**
HRY *e*pP pP 08 38 51.8 +0.9
O07A Toulon 61.01 61 ⇑P P 08 38 34.0 +0.1
baz=61
WCN Washoe City 61.02 62 ⇑P P 08 38 34.0 +0.1
baz=61
FCC Fort Churchill 61.06 33 *e*P **P 08 38 33.4 -0.9**
N08A GE Springer Mi 61.06 60 ⇓P P 08 38 35.0 +0.7
baz=61
M09A Marrel Ranch, 61.06 59 ⇑P P 08 38 33.7 -0.6
baz=61
F15A Butte 61.10 53 P P 08 38 34.9 +0.3
baz=61,SNR=8.8
LRM Limekiln Ridge 61.13 53 *e*P **P 08 38 35.5 +0.8**
LRM *e*pP pP 08 38 53.0 +0.6
EGMT Eagleton 61.17 49 ⇓P P 08 38 35.8 +0.7
baz=61
R05C Kirkwood Meado 61.20 63 ⇑P P 08 38 35.5 +0.3
baz=61
J12A Stokes Ranch, 61.28 56 ⇓P P 08 38 36.3 +0.5
baz=61
O08A Rochester Mine 61.36 61 ⇓P P 08 38 36.4 +0.1
baz=61
N09A Rock Creek Ran 61.38 60 ⇑P P 08 38 37.1 +0.7
baz=61
CMB Columbia Colle 61.43 64 ⇑P P 08 38 36.6 -0.2
baz=61
HLID Hailey 61.47 56 *e*P **P 08 38 37.6 +0.6**
comp=Z,4.3nm,1.0s,mb4.4
HLID Hailey 61.47 56 ⇓P P 08 38 37.5 +0.5
baz=61
PACP Pacheco Peak 61.52 65 ⇓P P 08 38 38.5 +1.1
baz=61
G15A Dillon 61.53 53 P P 08 38 37.9 +0.5
baz=61,SNR=6.5
M10A I.L. Ranch, Tu 61.53 59 ⇑P P 08 38 37.3 -0.2
baz=61
BOZ Bozeman (W) 61.69 52 *e*P **P 08 38 39.3 +0.8**
BOZ *e**PP pP 08 38 56.9 +0.7
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BOZ Bozeman (W) 61.69 52 *e*P **P 08 38 39.3 +0.8**
comp=Z,6.1nm,0.8s,mb4.7
BOZ *e*pP pP 08 38 56.9 +0.7
BOZ Bozeman (W) 61.69 52 P P 08 38 39.4 +0.8
baz=61,SNR=9.0
R06C Coleville 61.69 63 ⇓P P 08 38 38.4 -0.1
baz=61
J13A Cove Ranch, Pi 61.71 56 ⇑P P 08 38 38.6 0.0
baz=61
HAST UC Hastings Re 61.74 66 ⇓P P 08 38 38.0 -0.9
baz=62
K12A Draper Farm, C 61.78 57 ⇑P P 08 38 38.7 -0.4
baz=62
BMN Battle Mountai 61.82 60 *e*P **P 08 38 40.4 +1.0**
BMN *e**PP pP 08 38 57.7 +0.7
S06C San Francisco 61.85 64 ⇓P P 08 38 39.0 -0.6
baz=62
S05C Merced 61.90 64 ⇑P P 08 38 39.8 -0.1
baz=62
O09A Fish Creek Ran 62.01 60 ⇓P P 08 38 41.5 +0.8
baz=62
M11A Holland Ranch, 62.03 58 ⇑P P 08 38 42.5 +1.8
baz=62
N10A Dunphy 62.06 59 ⇑P P 08 38 41.8 +0.8
baz=62
R07C Lee Vining 62.21 63 ⇑P P 08 38 41.5 -0.5
baz=62
QLMT Earthquake Lak 62.32 53 *e*Pn **P 08 38 43.6 +0.9**
QLMT *e*pP pP 08 39 00.9 +0.5
O10A Cortez Mining, 62.34 60 ⇓P P 08 38 44.0 +1.1
baz=62
Q08A Gabbs 62.39 62 ⇓P P 08 38 43.4 +0.2
baz=62
NVAR Mina Array Bea 62.44 62 P P 08 38 44.4 +0.8
comp=Z,2.5nm,0.6s,mb4.4,baz=298,slow=7.4,SNR=6.3
NVAR pP pP 08 39 01.6 +0.4
comp=Z,2.4nm,0.6s,baz=298,slow=7.2,SNR=7.1
T06C Millerton Lake 62.49 64 ⇓P P 08 38 43.4 -0.5
baz=62
KCC Kaiser Creek 62.53 64 ⇓P P 08 38 44.5 +0.3
baz=62
M12A Wells 62.55 58 ⇑P P 08 38 45.1 +0.8
baz=62
L13A Double Diamond 62.67 57 ⇑P P 08 38 46.0 +0.9
baz=62
P10A Eureka 62.79 60 ⇑P P 08 38 46.3 +0.5
baz=62
N12A Clover Valley, 62.83 58 ⇑P P 08 38 47.3 +1.1
baz=62
O11A Cowboy Ranch, 62.94 59 ⇑P P 08 38 47.3 +0.5
baz=63
M13A Montello 63.01 58 ⇓P P 08 38 47.9 +0.5
baz=63
S08C White Mtn Res 63.12 63 ⇑P P 08 38 47.6 -0.5
baz=63
HELL Mitchell Peak, 63.12 64 ⇓P P 08 38 47.9 -0.2
baz=63
IMW Indian Meadow 63.19 54 *e*P **P 08 38 50.0 +1.5**
comp=Z,5.9nm,1.0s,mb4.5
IMW *e*pP pP 08 39 07.7 +1.4
P11A Circle Ranch, 63.25 60 ⇑P P 08 38 49.1 +0.1
baz=63
R09A Tonopah 63.31 62 ⇑P P 08 38 49.9 +0.6
baz=63
N13A Wendover, West 63.32 58 ⇓P P 08 38 50.5 +1.1
baz=63
O12A Currie 63.38 59 ⇑P P 08 38 50.3 +0.6
baz=63
MOOW Moose Ponds 63.40 54 *e*P **P 08 38 50.8 +0.9**
MOOW *e*pP pP 08 39 08.5 +1.0
SMMC Simmler 63.40 66 ⇓P P 08 38 50.1 +0.2
baz=63
TPAW Teton Pass 63.45 54 *e*P **P 08 38 51.9 +1.6**
TPAW *e*pP pP 08 39 08.9 +1.0
S09A Goldfield 63.55 62 ⇑P P 08 38 52.1 +1.2
baz=63
SNOW Snow King Moun 63.58 54 *e*P **P 08 38 52.6 +1.5**
comp=Z,7.5nm,0.9s,mb4.5
SNOW *e*pP pP 08 39 09.5 +0.7
REDW Red Top Meadow 63.59 54 *e*P **P 08 38 52.1 +1.0**
REDW *e*pP pP 08 39 09.7 +0.9
FINES FINESS Array B 63.61 335 P P 08 38 49.2 -2.1
comp=Z,4.1nm,0.6s,mb4.4,baz=44,slow=7.0,SNR=21
FINES FINESS Array B 63.61 335 *e*P **P 08 38 49.3 -2.0**
R10A Warm Springs 63.74 61 ⇑P P 08 38 51.8 -0.4
baz=63
Q11A Duckwater 63.77 60 ⇓P P 08 38 51.9 -0.5
baz=64
P12A McGill 63.80 60 ⇓P P 08 38 52.7 +0.2
baz=64
ISA Isabella 64.12 65 ⇓P P 08 38 53.2 -1.5
baz=64
Q12A Willow Creek R 64.13 60 ⇓P P 08 38 54.3 -0.4
baz=64
HWUT Hardware Ranch 64.34 56 *e*P **P 08 38 56.7 +0.6**
comp=Z,2.9nm,0.7s,mb4.2
HWUT *e*pP pP 08 39 14.2 +0.4
MPMC Manual Prospec 64.47 64 P P 08 38 57.5 +0.6
baz=64,SNR=5.8
DUG Dugway 64.55 58 P P 08 38 58.1 +0.7
baz=64,SNR=7.7
FURC Furnace Creek, 64.58 63 P P 08 38 58.0 +0.4
baz=64,SNR=6.5
BW06 Boulder Array 64.69 54 *e*P **P 08 38 58.5 +0.2**
comp=Z,6.1nm,0.9s,mb4.4
BW06 *e*pP pP 08 39 16.1 -0.1
PDAR Pinedale Array 64.69 54 P P 08 38 58.5 +0.1
comp=Z,4.0nm,0.7s,mb4.3,baz=301,slow=1.4,SNR=35
PDAR pP pP 08 39 16.1 0.0
comp=Z,3.8nm,0.8s,baz=294,slow=1.4,SNR=11
LRMC Laurel Mountai 64.73 64 ⇑P P 08 38 57.2 -1.4
baz=64
OBN Obninsk 64.88 325 *e*P **P 08 38 58.9 -0.7**
OBN *e* 08 39 32.2
OBN *e* 08 41 19.3
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
EDW2 Edwards Air Fo 64.93 65 P P 08 39 00.4 +0.5
baz=65,SNR=7.0
U10A Ash Meadows, A 64.94 63 ⇓P P 08 39 00.3 +0.3
baz=65
JLU Jordanelle 65.06 57 *e*P **P 08 39 02.2 +1.4**
DECC Green Verdugo 65.13 66 ⇓P P 08 39 00.9 -0.3
baz=65
GSC Goldstone 65.39 64 ⇑P P 08 39 02.8 -0.1
baz=65
ARUT Antelope Range 65.77 60 *e*P **P 08 39 04.4 -0.9**
ARUT *e*pP pP 08 39 23.5 +0.3
TUQ Turquoise Mtn. 65.84 63 ⇓P P 08 39 05.7 -0.1
baz=66
V11A Goodsprings 65.87 63 ⇑P P 08 39 06.3 +0.3
baz=66
HEC Hector,Ludlow 65.99 64 ⇑P P 08 39 07.1 +0.3
baz=66
BBRC Big Bear Sol-O 66.00 65 ⇓P P 08 39 07.2 +0.4
baz=66
MURC Murrieta 66.27 66 ⇓P P 08 39 08.4 -0.1
baz=66
V12A Nelson 66.30 63 ⇑P P 08 39 09.6 +0.8
baz=66
ULM Lac du Bonnet 66.37 41 P P 08 39 08.2 -1.0
comp=Z,1.9nm,0.7s,mb4.0,baz=315,slow=11,SNR=4.2
GMRC Granite Mounta 66.43 64 P P 08 39 09.5 -0.1
baz=66
W12A Cal Nev Ari 66.57 63 ⇓P P 08 39 10.5 +0.1
baz=66
SRU San Rafael 66.59 57 *e*P **P 08 39 10.9 +0.3**
SRU *e**PP pP 08 39 28.4 0.0
109C Camp Elliot, M 66.80 66 ⇓P P 08 39 12.2 +0.3
baz=66
IRM Iron Mountain 67.16 64 P P 08 39 14.4 +0.2
baz=67,SNR=5.1
W13A Hualapai Mount 67.30 63 ⇑P P 08 39 14.6 -0.5
baz=67
BC3 Big Chuckw Mtn 67.31 65 ⇑P P 08 39 13.9 -1.3
baz=67
DVTC Desert V Tower 67.58 66 ⇓P P 08 39 16.5 -0.4
baz=67
X13A Yucca 67.67 63 ⇓P P 08 39 17.1 -0.4
baz=67
PDMCI Parker Dam,Lak 67.69 63 ⇑P P 08 39 17.6 +0.1
baz=67
W14A Seligman 67.71 62 P P 08 39 18.8 +1.1
baz=67,SNR=8.7
NB2 NORSAR Subarra 67.80 341 P P 08 39 17.2 -1.1
comp=Z,1.3nm,0.6s,mb3.9,baz=26,slow=6.5
NOA NORSAR Array B 67.80 341 P P 08 39 17.3 -1.0
comp=Z,2.0nm,0.5s,mb4.2,baz=28,slow=6.0,SNR=8.4
NOA sP sP 08 39 40.5 -3.1
comp=Z,1.2nm,0.6s,baz=27,slow=6.5,SNR=2.4
NOA NORSAR Array B 67.80 341 P P 08 39 17.3 -1.0
NOA sP sP 08 39 40.5 -3.1
Y12C Blythe 67.82 64 ⇓P P 08 39 18.2 -0.2
baz=68
GLA Glamis 68.11 65 ⇑P P 08 39 20.3 +0.1
baz=68
Y13A Salome 68.20 64 ⇑P P 08 39 21.8 +1.0
baz=68
X14A Yava 68.33 62 ⇑P P 08 39 22.1 +0.6
baz=68
WUAZ Wupatki 68.53 61 ⇓P P 08 39 24.2 +1.3
baz=68
SMCO Snowmass 68.56 55 *e*P **P 08 39 23.4 +0.3**
comp=Z,5.9nm,0.7s,mb4.5
SMCO *e*pP pP 08 39 41.0 0.0
Y14A Wickenburg 68.62 63 ⇑P P 08 39 24.1 +0.7
baz=68
X15A Humboldt 68.71 62 P P 08 39 25.1 +1.2
baz=68,SNR=7.6
WRA Warramunga Arr 68.80 199 P P 08 39 23.5 -1.0
comp=Z,0.8nm,0.7s,mb3.7,baz=17,slow=6.8,SNR=12
ISCO Idaho Springs 68.89 54 *e*P **P 08 39 25.7 +0.6**
ISCO *e**PP pP 08 39 43.3 +0.3
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ISCO Idaho Springs 68.89 54 *e*P **P 08 39 25.7 +0.7**
comp=Z,5.0nm,0.8s,mb4.4
ISCO *e*pP pP 08 39 43.3 +0.3
Z14A Wintersburg 69.05 63 ⇑P P 08 39 26.4 +0.4
baz=69
MVCO Mesa Verde 69.05 58 ⇓P P 08 39 26.6 +0.5
baz=69
115A Sonoran Desert 69.94 63 ⇑P P 08 39 30.7 -0.9
baz=70
116A Eloy 70.36 63 ⇑P P 08 39 35.0 +0.9
baz=70
SDCO Great Sand Dun 70.39 55 *e*P **P 08 39 34.6 +0.3**
SDCO *e*pP pP 08 39 52.8 +0.5
AKASG Malin Array Be 71.12 326 P P 08 39 36.7 -2.0
comp=Z,1.5nm,0.4s,mb4.2,baz=34,slow=6.2,SNR=18
AKASG pP pP 08 39 54.4 -2.3
comp=Z,0.4nm,0.3s,baz=33,slow=6.0,SNR=2.3
AKASG sP sP 08 40 01.1 -3.1
comp=Z,1.0nm,0.5s,baz=34,slow=6.1,SNR=2.7
AKASG Malin Array Be 71.12 326 P P 08 39 36.7 -2.0
AKASG pP pP 08 39 54.4 -2.3
AKASG sP sP 08 40 01.1 -3.1
KIEV Kiev 71.13 326 *e*P **P 08 39 36.9 -1.9**
KIEV pmax pmax
comp=Z,13nm,1.3s,mb4.6
KIEV Kiev 71.13 326 *e*P **P 08 39 36.9 -1.9**
comp=Z,13nm,1.3s,mb4.6
ANMO Albuquerque 71.81 58 P P 08 39 43.5 +0.6
comp=Z,3.1nm,0.8s,mb4.2,baz=310,slow=6.6,SNR=15
ANMO Albuquerque 71.81 58 ⇓*e*P **P 08 39 43.6 +0.7**
ANMO Albuquerque 71.81 58 P P 08 39 43.5 +0.6
Y22C IRIS PASSCAL I 72.16 59 ⇓P pP 08 39 53.1 -10
baz=72
ASAR Alice Springs 72.50 198 P P 08 39 47.3 +0.3
comp=Z,3.0nm,0.7s,mb4.2,baz=12,slow=5.3,SNR=32
ASAR pP pP 08 40 04.0 -1.1
comp=Z,0.8nm,0.7s,baz=9.4,slow=6.0,SNR=2.9
SCHQ Schefferville 73.04 23 P P 08 39 49.9 -0.4
comp=Z,7.4nm,1.0s,mb4.5,baz=350,slow=4.4,SNR=6.6
MNTX Cornudas Mount 74.76 60 *e*P **P 08 40 00.2 0.0**
STHS Stebnicka Huta 75.08 330 *e*P **P 08 40 02.3 +0.2**
STHS *e* 08 40 12.9
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
STHS Stebnicka Huta 75.08 330 *e*P **P 08 40 02.3 +0.2**
comp=Z,4.8nm,0.8s,mb4.3
STHS *e* 08 40 12.9
KOLS Kolonicke sedl 75.13 329 *e*P **P 08 40 01.6 -0.8**
BURAR Bucovina Array 75.16 326 ⇓*i*P **P 08 40 02.2 -0.3**
DPC Dobruska-Polom 75.89 333 *e*P **P 08 40 06.9 +0.2**
MORC Moravsky Berou 76.01 332 ⇑*i*P **P 08 40 07.3 -0.1**
CLL Collm 76.03 335 ⇓*i*P **P 08 40 06.4 -1.2**
comp=Z,11nm,1.1s,mb4.5
KECS Kecovo 76.14 330 *e* **P 08 40 08.0 -0.2**
KECS *e* pP 08 40 22.2 -4.2
KECS Kecovo 76.14 330 *e*P **P 08 40 08.0 -0.2**
KECS *e*PCP PcP 08 40 22.2 +2.2
WMOK Wichita Mounta 76.30 54 *e*P **P 08 40 08.5 -0.6**
MLR Muntele Rosu 76.64 325 ⇓*i*P **P 08 40 10.7 -0.3**
VYHS Vyhne 76.69 331 *e*P **P 08 40 10.7 -0.6**
VOIR 77.03 325 ⇓*i*P **P 08 40 13.5 +0.3**
LTX Lajitas 77.49 60 *e*P **P 08 40 15.9 +0.2**
LTX *e**PP pP 08 40 33.7 -0.3
TXAR Lajitas Array 77.49 60 P P 08 40 15.8 0.0
comp=Z,11nm,0.6s,mb4.8,baz=298,slow=4.8,SNR=212
TXAR pP pP 08 40 33.3 -0.7
comp=Z,5.4nm,0.7s,baz=300,slow=4.0,SNR=9.0
TXAR Lajitas Array 77.49 60 P P 08 40 15.8 0.0
TXAR pP pP 08 40 33.3 -0.6
KHC Kasperske Hory 77.81 334 *e*P **P 08 40 17.1 -0.4**
BRTR Keskin Array B 77.97 316 P P 08 40 18.6 +0.1
comp=Z,1.5nm,0.7s,mb3.8,baz=70,slow=4.6,SNR=9.0
GERES GERESS Array B 78.03 334 P P 08 40 17.9 -0.9
comp=Z,1.7nm,0.6s,mb4.0,baz=42,slow=5.4,SNR=14
BZS Buzias 78.18 327 ⇓*i*P **P 08 40 18.0 -1.6**
MEM Membach 78.52 339 P P 08 40 20.5 -1.0
comp=Z,6.7nm,1.0s,mb4.4
BCLA Clavier 78.86 339 P P 08 40 22.9 -0.4
JCT Junction City 78.90 57 *e*P **P 08 40 22.6 -0.9**
JCT *e**PP pP 08 40 41.0 -0.8
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
JCT Junction City 78.90 57 *e*P **P 08 40 22.6 -0.9**
comp=Z,8.7nm,0.8s,mb4.6
JCT *e*pP pP 08 40 41.0 -0.9
STKA Stephens Creek 79.29 190 P P 08 40 25.9 +0.2
comp=Z,1.9nm,0.9s,mb3.9,baz=295,slow=4.8,SNR=3.7
KBA Koelnbreinsper 79.71 333 ⇑*i*P **P 08 40 28.0 +0.1**
comp=Z,15nm,0.6s,mb5.0
KBA Koelnbreinsper 79.71 333 ⇑*i*P **P 08 40 28.0 +0.1**
KBA pmax pmax
comp=Z,15nm,0.6s,mb5.0
WTTA Wattenberg 80.06 334 ⇑*i*P **P 08 40 29.7 -0.1**
comp=Z,14nm,0.6s,mb5.0
WTTA Wattenberg 80.06 334 ⇑*i*P **P 08 40 29.7 -0.1**
WTTA pmax pmax
comp=Z,14nm,0.6s,mb5.0
VTS Vitosha 80.14 325 ⇓*i*P **P 08 40 28.9 -1.4**
CDF Champ du Feu 80.23 338 *e*P **P 08 40 30.0 -0.7**
comp=Z,8.2nm,0.7s,mb4.4
CDF Champ du Feu 80.23 338 *e*P **P 08 40 30.0 -0.7**
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
CDF Champ du Feu 80.23 338 *e*P **P 08 40 30.0 -0.7**
comp=Z,4.1nm,0.7s,mb4.4
DAVA Damuels 80.55 335 ⇑*i*P **P 08 40 32.5 0.0**
comp=Z,8.5nm,0.9s,mb4.5
PMOR Pomariorio Ree 81.43 123 *e*T 10 10 00.2
comp=Z,8.3nm,0.2s
GRR Gorron 82.14 343 *e*P **P 08 40 40.1 -0.8**
comp=Z,27nm,1.0s,mb4.7
GRR Gorron 82.14 343 *e*P **P 08 40 40.1 -0.8**
GRR pmax pmax
comp=Z,13nm,1.0s,mb4.7
GRR Gorron 82.14 343 *e*P **P 08 40 40.1 -0.8**
comp=Z,13nm,1.0s,mb4.7
PPT Papeete 82.55 126 *e*LR LR 09 06 16.9
comp=Z,68nm,25.8s
AVF Avril sur Loir 82.72 339 *e*P **P 08 40 43.2 -0.7**
LPG La Plagne 83.05 337 *e*P **P 08 40 46.0 +0.4**
TKL Tuckaleechee C 83.24 43 P P 08 40 45.5 -1.1
comp=Z,2.9nm,0.8s,mb4.1,baz=225,slow=3.8,SNR=3.4
SBF Sospel 84.37 336 *e*P **P 08 40 51.4 -1.0**
comp=Z,90nm,1.1s,mb5.2
SBF Sospel 84.37 336 *e*P **P 08 40 51.4 -1.0**
SBF pmax pmax
comp=Z,45nm,1.1s,mb5.2
SBF Sospel 84.37 336 *e*P **P 08 40 51.4 -1.0**
comp=Z,45nm,1.1s,mb5.2
EIL Elat 85.29 309 *e*P **P 08 40 57.3 +0.3**
TBI Tubuai 87.30 129 *e*T 10 17 22.2
comp=Z,10nm,0.3s
TORD Torodi Ar. Bea 114.66 329 PKP PKiKP 08 46 59.1 -1.0
comp=Z,0.4nm,0.6s,baz=20,slow=2.4,SNR=3.3
TORD pPKP 08 47 17.2
comp=Z,0.6nm,0.5s,baz=22,slow=1.8,SNR=4.7
MAW Mawson 132.42 211 PKP PKPdf 08 47 31.1 -3.0
comp=Z,1.6nm,0.8s,baz=162,slow=3.2,SNR=3.8
MAW pPKP pPKPdf 08 47 51.3 -2.1
comp=Z,2.1nm,0.9s,baz=100,slow=6.1,SNR=3.3
CFAA Coronel Fontan 145.13 78 PKPbc PKPbc 08 47 55.8 -1.0
comp=Z,1.0nm,0.8s,baz=275,slow=2.8,SNR=15
CFAA pPKPbc pPKPbc 08 48 14.0 -1.9
comp=Z,1.1nm,0.8s,baz=286,slow=2.7,SNR=7.7
PLCA Paso Flores 148.45 94 PKPbc PKPbc 08 48 06.0 -0.4
comp=Z,3.1nm,0.7s,baz=195,slow=1.4,SNR=8.1
PLCA pPKPbc pPKPbc 08 48 23.2 -2.4
comp=Z,4.1nm,0.8s,baz=267,slow=3.9,SNR=6.0

CASC 20 08:49:44.8±2.3, 1402N×8973W, h0km±6km, MD3.8, ML4.1, 3C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.14**	**146**	*e*P		x	08 49 48.8	
SNJE	**San Jose**	**0.19**	**141**	⇓*e*P		x	08 49 49.3	
SBLS	**San Blas**	**0.20**	**150**	⇓*e*P		x	08 49 49.5	
BOQS	**Boqueron**	**0.52**	**123**	*e*P		x	08 49 56.0	
BOQS				*e*S		x	08 50 05.0	
MTO2	**Montecristo 2**	**0.52**	**43**	⇑*e*P		x	08 49 56.1	
MTO2				*e*S		x	08 50 05.1	
LFU	**La Fuente**	**0.66**	**114**	*e*P		x	08 49 58.3	
LBRS	**Las Brisas**	**0.72**	**113**	⇓*e*P		x	08 49 59.7	
LFRS	**El Faro**	**0.76**	**121**	⇑*e*P		x	08 50 00.2	
LCBS	**La Ceiba**	**0.81**	**116**	*e*P		x	08 50 01.1	
PCG	**Pacaya**	**0.93**	**294**	*e*P		Pg	08 50 02.4	-0.2
PCG				*e*S		Sg	08 50 19.0	+4.3
TER	**Terranova**	**0.97**	**287**	*e*P		Pg	08 50 03.6	+0.3
FUG	**Fuego 3**	**1.16**	**292**	*e*P		Pg	08 50 06.9	-0.2
VSM	**San Miguel**	**1.53**	**112**	⇑*e*P		x	08 50 14.5	
BLLM	**Bellamira**	**1.56**	**111**	*e*P		x	08 50 14.4	
JAT	**Jato**	**1.87**	**279**	*e*P		Pn	08 50 19.6	+1.5
JAT				*e*S		Sn	08 50 45.7	+3.2

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*IDC **20** 09:03:05.3±4.8, 1888S×16902E, h141km±40km, mb3.7/6, mb1 3.9/7, mb1mx3.7/16, mbtmp3.8/7, Error ellipse: s-maj=44.6km s-min=23.2km az=9.0*
*ISCJB **20** 09:03:07.0±2.9, 19.1S±02×1690E±02, h169km±21km, mb3.9/5, Error ellipse: s-maj=35.4km s-min=22.9km az=27.5*
*NEIC **20** 09:03:06.5±3.3, 1899S×16906E, h156km±26km, Error ellipse: s-maj=36.6km s-min=19.6km az=200.0*
ISC 20 09:03:07.5±2.9, 191S±02×1690E±02, h158km±22km, n13, σ0§85/13, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.84**	**219**	*e*P		**Pn**	**09 04 05.4**	**-0.4**
DZM				*e*S		**Sn**	**09 04 50.9**	**-0.2**
DZM	**Mont Dzumac**	**3.84**	**219**	P		**Pn**	**09 04 05.4**	**-0.4**
52nm,0.3s,baz=47,slow=18,SNR=487								
DZM				S		**Sn**	**09 04 52.1**	**+0.9**
28nm,0.3s,baz=295,slow=22,SNR=9.5								
NOUC	**Port Laguerre**	**3.94**	**220**	*e*P		**Pn**	**09 04 06.9**	**-0.3**
URZ	**Urewera**	**20.36**	**161**	P		**P**	**09 07 32.3**	**+0.7**
11nm,0.7s,baz=329,slow=8.9,SNR=5.9								
CTA	**Charters Tower**	**21.49**	**264**	P		**P**	**09 07 44.7**	**+1.1**
4.1nm,0.7s,mb3.9,baz=100,slow=12,SNR=5.6								
STKA	**Stephens Creek**	**27.77**	**237**	P		**P**	**09 08 42.4**	**+1.0**
1.6nm,0.6s,mb3.9,baz=56,slow=7.3,SNR=7.1								
STKA	**Stephens Creek**	**27.77**	**237**	P		**P**	**09 08 42.4**	**+1.0**
WRA	**Warramunga Arr**	**32.68**	**263**	P		**P**	**09 09 23.4**	**-1.2**
0.9nm,0.7s,mb3.6,baz=89,slow=8.3,SNR=7.2								
ASAR	**Alice Springs**	**32.98**	**256**	P		**P**	**09 09 26.9**	**-0.3**
4.2nm,0.5s,mb4.5,baz=84,slow=8.8,SNR=97								
QSPA	**South Pole Qui**	**70.97**	**180**	*e*P		**P**	**09 14 06.4**	**-1.4**
TXAR	**Lajitas Array**	**96.86**	**61**	P		**P**	**09 16 21.0**	**+0.5**
0.4nm,1.0s,mb3.7,baz=232,slow=4.4,SNR=3.0								
CLL	**Collm**	**142.70**	**335**	*e*PKPdf		PKPdf	09 22 23.0	+1.2
GERES	**GERESS Array B**	**144.26**	**332**	PKP		PKPdf	09 22 22.4	-2.2
0.9nm,0.7s,baz=8.7,slow=1.3,SNR=4.9								

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*IDC **20** 09:10:35.3±2.3, 2130S×17464W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/16, mbtmp4.1/5, MS3.5/8, Ms1 3.6/8, ms1mx3.4/21, Error ellipse: s-maj=102.2km s-min=28.4km az=146.0*
*ISCJB **20** 09:10:39.3±2.0, 213S±05×1747W±04, h35km, mb4.0/5, MS3.5/6, Error ellipse: s-maj=85.0km s-min=24.4km az=113.7*
*NEIC **20** 09:10:43.8±2.1, 2050S×1756W, h50km, Error ellipse: s-maj=145.0km s-min=20.3km az=150.0*
ISC 20 09:10:41.2±2.0, 213S±05×1747W±04, h35km, n17, σ1§03/6, mb4.0/5, MS3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.90**	**92**	LR		LR	09 17 06.0	
202nm,19.3s,baz=150,slow=28								
DZM	**Mont Dzumac**	**17.56**	**264**	LR		LR	09 19 27.3	
100nm,20.4s,baz=20,slow=30								
TBI	**Tubuai**	**23.41**	**100**	*e*LR		LR	09 20 45.8	
142nm,32.0s								
PPT	**Papeete**	**23.96**	**85**	*e*LQ			09 19 58.8	
260nm,23.2s								
PPT				*e*LR		LR	09 20 59.0	
169nm,29.0s								
PPT	**Papeete**	**23.96**	**85**	LR		LR	09 21 58.7	
152nm,19.5s,MS3.5,baz=272,slow=29								
RPZ	**Rata Peaks**	**25.30**	**205**	LR		LR	09 23 38.8	
127nm,19.9s,MS3.4,baz=21,slow=31								
HNR	**Honiara**	**27.12**	**292**	LR		LR	09 25 37.7	
64nm,19.9s,MS3.2,baz=180,slow=33								
STKA	**Stephens Creek**	**40.25**	**246**	P		**P**	**09 18 15.1**	**+0.5**

2.9nm,0.8s,mb4.0,baz=120,slow=12,SNR=6.3
ASAR Alice Springs 47.35 257 P **P 09 19 12.2 +0.5**
4.5nm,0.9s,mb4.4,baz=90,slow=8.3,SNR=38
WRA Warramunga Arr 47.56 262 P **P 09 19 11.9 -1.4**
3.4nm,1.0s,mb4.3,baz=98,slow=7.5,SNR=15
NVAR Mina Array Bea 79.53 42 P **P 09 22 44.2 -0.2**
0.5nm,0.8s,mb3.5,baz=231,slow=9.2,SNR=3.1
NVAR Mina Array Bea 79.53 42 P **P 09 22 44.2 -0.2**
KSRS Korea Array 79.57 317 P **P 09 22 45.1 +0.5**
0.8nm,0.5s,mb3.9,baz=142,slow=4.3,SNR=4.5
KSRS LR LR 09 56 30.1
comp=Z,14nm,19.0s,MS3.3,baz=135,slow=35
TXAR Lajitas Array 84.91 56 LR LR 09 54 50.7
comp=Z,50nm,21.3s,MS3.9,baz=235,slow=31
LPAZ La Paz 98.88 111 LR LR 10 02 15.6
comp=Z,44nm,19.3s,MS4.0,baz=81,slow=31
AKASG Malin Array Be 145.18 333 PKPbc PKPbc 09 30 14.2 -0.5
0.5nm,0.4s,baz=37,slow=4.2,SNR=4.6
BRTR Keskin Array B 149.66 314 PKPbc PKPbc 09 30 25.6 -1.5
0.9nm,0.8s,baz=34,slow=4.6,SNR=3.7

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*CSEM **20** 09:27:42.9±0.1, 4305N×035W, h0km, ML2.2, Error ellipse: s-maj=2.2km s-min=0.8km az=13.0*
*LDG **20** 09:27:42.8±0.1, 4304N×035W, h2km, Md2.5/3, Ml2.5/1, Error ellipse: s-maj=2.3km s-min=0.9km az=8.0*
*NEIC **20** 09:27:42.8, 4304N×035W, h2km, ML2.2(STR), ML2.5(LDG), After LDG.*
*STR **20** 09:27:42.5±0.1, 4302N×037W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 20 09:27:43.2±0.2, 4306N×034W, h0km, mbLg1.9/15, 1C, Error ellipse: s-maj=2.8km s-min=1.2km az=14.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.04**	**291**	Pg	Pg	09 27 43.8	-0.2
REYF	**Montagne du Re**	**0.04**	**291**	P	Pg	09 27 43.8	-0.2
REYF				S	Sg	09 27 44.6	+0.1
ETSF	**Etsaut**	**0.22**	**226**	*e*Pg	Pg	09 27 47.3	-0.2
ETSF				*e*Sg	Sg	09 27 50.0	-0.4
79nm,0.3s							
ETSF	**Etsaut**	**0.22**	**226**	*e*Pg	Pg	09 27 47.3	-0.2
ETSF				*e*Sg	Sg	09 27 50.0	-0.4
39nm,0.3s							
ATE	**Arette**	**0.27**	**277**	Pg	Pg	09 27 47.7	-0.6
ATE				Sg	Sg	09 27 51.3	-0.4
ATE	**Arette**	**0.27**	**277**	P	Pg	09 27 47.6	-0.7
ATE				S	Sg	09 27 51.4	-0.3
FDAF	**Les Forges d'A**	**0.29**	**215**	P	Pg	09 27 48.5	-0.3
FDAF				S	Sg	09 27 53.1	+0.6
LABF	**Labassere**	**0.30**	**91**	P	Pg	09 27 48.5	-0.6
LABF				S	Sg	09 27 53.2	+0.2
VIEF	**Viey**	**0.32**	**123**	Pg	Pg	09 27 49.0	-0.3
VIEF				Sg	Sg	09 27 53.2	-0.2
VIEF	**Viey**	**0.32**	**123**	P	Pg	09 27 49.0	-0.3
VIEF				S	Sg	09 27 53.2	-0.2
ORDF	**Ordiarp**	**0.46**	**290**	Pg	Pg	09 27 51.7	-0.4
ORDF				Sg	Sg	09 27 58.3	+0.2
ORDF	**Ordiarp**	**0.46**	**290**	P	Pg	09 27 51.6	-0.5
ORDF				S	Sg	09 27 58.3	+0.2
LARF	**Larrau**	**0.47**	**268**	P	Pg	09 27 51.7	-0.6
LARF				S	Sg	09 27 58.5	+0.1
EPF	**Esparros**	**0.50**	**93**	*e*Pg	Pg	09 27 52.6	-0.2
EPF				*e*Sg	Sg	09 27 59.4	+0.1
23nm,0.2s							
EPF	**Esparros**	**0.50**	**93**	*e*Pg	Pg	09 27 52.6	-0.2
EPF				*e*Sg	Sg	09 27 59.4	+0.1
11nm,0.2s							
EBIE	**Bielsa**	**0.51**	**136**	⇑Pg	Pg	09 27 52.7	-0.4
2.6nm,0.1s,SNR=18							
EBIE				Lg		09 27 59.3	
17nm,0.1s,SNR=15							
EBIE	**Bielsa**	**0.51**	**136**	Pg	Pg	09 27 52.7	-0.4
2.6nm,0.1s,SNR=18							
RESF	**Ens**	**0.56**	**116**	Pg	Pg	09 27 53.4	-0.5
RESF				Sg	Sg	09 28 00.9	-0.2
RESF	**Ens**	**0.56**	**116**	P	Pg	09 27 53.5	-0.4
RESF				S	Sg	09 28 00.8	-0.3
SJPF	**Ste Jean**	**0.65**	**275**	*e*Pg	Pg	09 27 54.8	-0.9
SJPF				*e*Sg	Sg	09 28 04.0	-0.1
7.1nm,0.2s							
SJPF	**Ste Jean**	**0.65**	**275**	*e*Pg	Pg	09 27 54.8	-0.9
SJPF				*e*Sg	Sg	09 28 04.0	-0.1
3.5nm,0.2s							
IPRE	**Itoiz**	**0.79**	**252**	Pg	Pg	09 27 57.4	-0.9
1.0nm,0.1s,SNR=7.9							
IPRE				Lg		09 28 08.5	
3.2nm,0.2s,SNR=7.9							
IPRE	**Itoiz**	**0.79**	**252**	Pg	Pg	09 27 57.4	-0.9
1.0nm,0.1s,SNR=7.9							
MELF	**Melles**	**0.83**	**102**	S	Sg	09 28 09.6	-0.2
EALK	**Alkurruntz**	**0.87**	**281**	Pg	Pg	09 27 58.7	-1.2
1.6nm,0.1s,SNR=6.0							
EALK				Lg		09 28 11.2	
6.1nm,0.2s,SNR=8.0							
ELIZ	**Elizondo**	**0.88**	**278**	Pg	Pg	09 27 59.5	-0.6
1.3nm,0.1s,SNR=7.9							
ELIZ				Lg		09 28 10.7	
2.9nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.89**	**263**	Pg	Pg	09 28 00.7	+0.4
2.1nm,0.1s,SNR=7.9							
IUSE				Lg		09 28 11.1	
8.3nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.89**	**263**	Pg	Pg	09 28 00.7	+0.4
2.1nm,0.1s,SNR=7.9							
SALF	**Salau**	**1.16**	**104**	S	Sg	09 28 20.1	-0.5
ESAC	**San Caprasio**	**1.34**	**184**	Pg	Pg	09 28 09.2	+0.4
20nm,0.2s,SNR=7.7							
ESAC				Lg		09 28 26.6	
26nm,0.1s,SNR=6.0							
ESAC	**San Caprasio**	**1.34**	**184**	Pg	Pg	09 28 09.2	+0.4
20nm,0.2s,SNR=7.7							
ECRI	**Cripan**	**1.66**	**255**	Pg	Pg	09 28 14.0	-0.9
1.8nm,0.1s,SNR=7.9							
ECRI				Lg		09 28 36.6	
4.3nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**1.79**	**129**	Pg	Pg	09 28 17.2	-0.3
4.1nm,0.2s,SNR=7.9							
EMIR				Lg		09 28 41.6	
9.0nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**1.79**	**129**	Pg	Pg	09 28 17.2	-0.4
4.1nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**1.89**	**80**	*e*Pg	Pg	09 28 18.3	-1.2
MTLF				*e*Sg	Sg	09 28 43.2	-0.9
5.5nm,0.3s							
MTLF	**Montolieu**	**1.89**	**80**	Pg	Pg	09 28 18.3	-1.2
MTLF				Lg		09 28 43.2	
2.8nm,0.3s							
EPOB	**Poblet**	**2.00**	**148**	Pg	Pg	09 28 20.5	-1.1
0.2nm,0.1s,SNR=7.9							
EPOB				Lg		09 28 46.2	
1.3nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**2.00**	**148**	Pg	Pg	09 28 20.5	-1.1
0.2nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.16**	**166**	Lg		09 28 51.4	
6.9nm,0.2s,SNR=7.9							
ETOR	**Torete**	**2.57**	**210**	Pn	Pn	09 28 25.8	-0.4
4.0nm,0.2s,SNR=7.9							
ETOR				Sn	Sn	09 28 57.9	-0.2
4.8nm,0.2s,SNR=7.9							
ETOR				Lg		09 29 05.3	
10nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**2.69**	**182**	Pn	Pn	09 28 28.4	+0.6
0.2nm,0.1s,SNR=7.9							
EMOS				Lg		09 29 07.4	
0.5nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.69**	**182**	Pn	Pn	09 28 28.4	+0.6
0.2nm,0.1s,SNR=7.9							

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*NEIC **20** 09:43:35.6, 18.17N×100.46W, h66km, MD3.9(MEX), After MEX.*
MEX 20 09:43:35.4±0.7, 1814N×10037W, h85km±10km, MD4.0, 4C-1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.74**	**107**	⇓*i*P	Pn	09 43 50.9	-1.0
MEIG				*i* S	Sn	09 44 02.7	-1.5
PLIG	**Platanillo**	**0.86**	**73**	⇑*i*P	Pn	09 43 52.0	-1.1
PLIG				*i* S	Sn	09 44 04.6	-1.7
PLIG	**Platanillo**	**0.86**	**73**	⇑*i*P	Pn	09 43 52.0	-1.1
PLIG				*i* S	Sn	09 44 03.7	-2.6
CAIG	**El Cayaco**	**1.09**	**175**	⇑*i*P	Pn	09 43 54.3	-1.6
CAIG				*i* S	Sn	09 44 10.0	-1.2
CAIG	**El Cayaco**	**1.09**	**175**	⇑*i*P	Pn	09 43 54.3	-1.6
CAIG				*i* S	Sn	09 44 09.3	-1.9
ACX	**Acapulco**	**1.34**	**161**	*i* P	Pn	09 43 57.5	-1.4
ACX				*i* S	Sn	09 44 15.0	-1.6
ACX	**Acapulco**	**1.34**	**161**	*i* P	Pn	09 43 57.5	-1.4
ACX				*i* S	Sn	09 44 12.0	-4.6
SZVM	**Salazar**	**1.50**	**38**	*e*P	Pn	09 43 59.9	-1.0
SZVM				*i* S	Sn	09 44 19.8	-0.4
MOIG	**Morelia**	**1.71**	**333**	*e*P	Pn	09 44 01.7	-2.0
MOIG				*i* S	Sn	09 44 23.8	-1.3
MOIG	**Morelia**	**1.71**	**333**	*i* P	Pn	09 44 01.1	-2.5
MOIG				*i* S	Sn	09 44 20.9	-4.2
PTVM	**Pico Tres Padr**	**1.87**	**39**	*i* P	Pn	09 44 04.7	-1.0
PTVM				*i* S	Sn	09 44 26.7	-2.0
PTVM	**Pico Tres Padr**	**1.87**	**39**	*i* P	Pn	09 44 05.3	-0.4
IIO	**Organos**	**2.12**	**47**	*i* P	Pn	09 44 09.0	0.0
UTMO	**Huajuapan**	**2.46**	**97**	*i* P	Pn	09 44 15.4	+1.9
UTMO				*i* S	Sn	09 44 43.1	+0.4
MMIG	**Aquila**	**2.83**	**273**	*i* P	Pn	09 44 18.5	-0.1
MMIG				*i* S	Sn	09 44 50.5	-1.3
TPIG	**Tehuac#an**	**2.87**	**84**	*i* P	Pn	09 44 20.2	+1.2
TPIG				*i* S	Sn	09 44 53.6	+1.0

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*ISCJB **20** 10:11:54.9±0.6, 4425N±004×1029E±005, h10km, Error ellipse: s-maj=6.6km s-min=4.7km az=60.8*
*GEN **20** 10:11:54.9, 4429N×1034E, h0km, ML2.0*
*CSEM **20** 10:11:54.1±0.1, 4427N×1032E, h10km, ML2.0, Error ellipse: s-maj=2.8km s-min=2.5km az=48.0*
*ROM **20** 10:11:55.2±0.4, 4427N×1034E, h6km±4km, Md2.5/7, Ml2.1/4, Error ellipse: s-maj=6.0km s-min=3.9km az=7.0*
ISC 20 10:11:55.2±0.6, 4425N±004×1028E±005, h10km, n13, σ0°65/17, 3C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALM		**0.10**	**347**	P	**Pg**	**10 11 57.1**	**-0.6**
SARO	**Sassorosso**	**0.11**	**127**	P	**Pg**	**10 11 57.4**	**-0.5**
VLC	**Villacollemand**	**0.12**	**140**	⇑*i*Pg	**Pg**	**10 11 57.9**	**-0.2**
VLC				Sg	**Sg**	**10 11 59.9**	**-0.2**
2μm,0.3s							
BACM		**0.15**	**280**	P	**Pg**	**10 11 59.2**	**+0.7**
ERBM	**Eremo**	**0.19**	**30**	⇑*i*Pg	**Pg**	**10 11 58.7**	**-0.5**
ERBM				Sg	**Sg**	**10 12 01.6**	**-0.4**
1μm,0.4s							
GSCL	**Gusciola**	**0.24**	**66**	⇑*i*Pg	**Pg**	**10 11 59.5**	**-0.6**
GRAM		**0.28**	**328**	P	**Pg**	**10 12 01.1**	**+0.2**
CODM		**0.34**	**294**	P	**Pg**	**10 12 02.3**	**+0.5**
ZCCA	**Zocca**	**0.51**	**79**	Pg	**Pg**	**10 12 06.0**	**+0.9**
ZCCA				Sg	**Sg**	**10 12 13.7**	**+1.8**
13nm,0.4s							
FNVD	**Fontana Vidola**	**0.61**	**98**	Pg	**Pg**	**10 12 06.6**	**-0.5**
FNVD				Sg	**Sg**	**10 12 15.2**	**+0.1**
SEI	**Scarperia**	**0.80**	**104**	Pg	**Pg**	**10 12 09.9**	**-0.7**
202nm,0.2s							
CSNT	**Castellina Chi**	**1.07**	**136**	Pg	**Pg**	**10 12 16.3**	**+0.5**
38nm,0.5s							
SFI	**Santa Sofia**	**1.18**	**107**	Pg	**Pg**	**10 12 17.8**	**-0.1**
36nm,0.8s							

CASC 20 10:17:23.1±1.4, 1397N×8977W, h4km±3km, ML3.7, 4C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.14**	**120**	*e*P	x	10 17 27.1	
RTR				⇓*e*P	x	10 17 27.1	
RTR				*e*S	x	10 17 29.9	
RBDL	**Robledal**	**0.17**	**29**	⇑*i*P	x	10 17 27.2	
RBDL				⇑*e*P	x	10 17 27.2	
SNJE	**San Jose**	**0.19**	**122**	*e*P	x	10 17 27.9	
SNJE				⇓*e*P	x	10 17 28.0	
SNJE				*e*S	x	10 17 31.2	
SBLS	**San Blas**	**0.19**	**132**	⇓*e*P	x	10 17 27.9	
SBLS				⇓*e*P	x	10 17 27.9	
SBLS				*e*S	x	10 17 31.1	
BOQS	**Boqueron**	**0.53**	**116**	*e*P	x	10 17 34.4	
BOQS				⇑*e*P	x	10 17 34.4	
BOQS				*e*S	x	10 17 42.4	
MTO2	**Montecristo 2**	**0.58**	**43**	⇑*e*P	x	10 17 34.5	
LFU	**La Fuente**	**0.67**	**109**	*e*P	x	10 17 37.0	
LBRS	**Las Brisas**	**0.74**	**108**	*e*P	x	10 17 37.8	
LFRS	**El Faro**	**0.77**	**116**	⇓*e*P	x	10 17 38.5	
LCBS	**La Ceiba**	**0.83**	**112**	⇓*e*P	x	10 17 39.5	
FUG	**Fuego 3**	**1.14**	**295**	*e*P	Pg	10 17 45.8	+0.7
FUG				*e*S	Sg	10 18 00.7	+0.8

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*ISCJB **20** 10:30:23.0±0.7, 2543N±006×9008E±004, h48km±8km, mb4.2/10, Error ellipse: s-maj=10.2km s-min=5.6km az=12.6*
*IDC **20** 10:30:24.9±0.9, 2631N×8983E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.0/25, mbtmp4.2/11, Error ellipse: s-maj=74.0km s-min=17.2km az=52.0*
*DMN **20** 10:30:24.6±0.7, 2567N×8972E, h10km, Ml4.7/7, Error ellipse: s-maj=48.5km s-min=12.4km az=29.0*
ISC 20 10:30:24.0±0.7, 2530N±006×9008E±004, h46km±8km, n37, σ1°32/47, mb4.2/10, 1D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.65**	**80**	*e*P	**Pn**	**10 30 49.0**	**-1.5**
SHL				*e*S	**Sn**	**10 31 08.7**	**-1.8**
SHL				AML	AML	10 31 09.3	
comp=N,50μm,0.3s							
SHL				AML	AML	10 31 09.7	
comp=E,31μm,0.2s							
AGT	**Agartala**	**1.76**	**143**	*i* S	**Sn**	**10 31 06.0**	**-7.3**
SLGI	**Shiliguri**	**2.05**	**313**	*e*P	**Pn**	**10 30 58.0**	**+2.0**
IMP	**Imphal**	**3.53**	**98**	*e*PG	**Pn**	**10 31 21.0**	**+4.7**
IMP				*ex*	x	10 32 19.0	
BOK	**Bokaro**	**4.11**	**249**	*e*P	**Pn**	**10 31 25.7**	**+1.4**
BOK				*e*S	**Sn**	**10 32 10.9**	**0.0**
BOK				AML	AML	10 32 53.8	
comp=E,387nm,0.4s							
BOK				AML	AML	10 32 54.8	
comp=N,348nm,0.4s							
JIRN	**Jiri**	**4.21**	**305**	*e*Pn	**Pn**	**10 31 27.0**	**+1.4**
JIRN				*e*Sn	**Sn**	**10 32 13.1**	**-0.4**
comp=N,733nm,0.4s							
GUN	**Gumba**	**4.58**	**306**	*e*Pn	**Pn**	**10 31 31.7**	**+1.0**
GUN				*e*Sn	**Sn**	**10 32 21.6**	**-0.9**
comp=N,1μm,0.6s							
PKI	**Pulchoki**	**4.76**	**299**	*e*Pn	**Pn**	**10 31 34.6**	**+1.3**
PKI				*e*Sn	**Sn**	**10 32 26.6**	**-0.6**
comp=N,364nm,0.6s							
KKN	**Kakani**	**4.97**	**301**	*e*Pn	**Pn**	**10 31 36.9**	**+0.8**
KKN				*e*Sn	**Sn**	**10 32 31.0**	**-1.2**
comp=N,424nm,0.5s							
DMN	**Daman**	**5.02**	**298**	*e*Pn	**Pn**	**10 31 38.1**	**+1.3**
DMN				*e*Sn	**Sn**	**10 32 33.3**	**-0.2**
comp=N,464nm,0.7s							
GKN	**Gorkha**	**5.57**	**300**	*e*Pn	**Pn**	**10 31 45.6**	**+1.3**
GKN				*e*Sn	**Sn**	**10 32 45.6**	**-1.4**
comp=N,382nm,0.3s							
KOLN	**Koldanda**	**6.31**	**294**	*e*Pn	**Pn**	**10 31 55.8**	**+1.4**
KOLN				*e*Sn	**Sn**	**10 33 03.7**	**-1.5**
comp=N,105nm,0.3s							
DANN	**Dangsing**	**6.42**	**300**	*e*Pn	**Pn**	**10 31 56.9**	**+1.0**
ALBI	**Allahabad**	**7.49**	**272**	*e*P	**Pn**	**10 32 13.0**	**+2.3**
BLSP	**Bilaspur**	**7.94**	**248**	*ex*	x	10 35 34.1	
JBP	**Jabalpur**	**9.46**	**259**	⇓*i*P	**Pn**	**10 32 37.7**	**0.0**
JBP				*ex*	**Sn**	**10 34 27.8**	**+5.2**
LGTI	**Lohaghat**	**9.67**	**297**	*e*P	**Pn**	**10 32 41.0**	**+0.5**
LGTI				*e*S	**Sn**	**10 34 25.3**	**-2.5**
NGP	**Nagpur**	**10.95**	**250**	*e*P	**Pn**	**10 32 55.6**	**-2.5**
NGP				*e*S	**Sn**	**10 34 52.4**	**-6.7**
NGP				AML	AML	10 36 27.6	
comp=N,75nm,0.5s							
NGP				AML	AML	10 36 28.4	
comp=E,58nm,0.3s							
NDI	**New Delhi**	**11.96**	**289**	*ex*	x	10 34 13.0	
NDI				*e*S	**Sn**	**10 35 18.5**	**-5.3**
AKL	**Akola**	**12.87**	**252**	*e*P	**Pn**	**10 33 21.7**	**-2.6**
HYB	**Hyderabad**	**13.29**	**236**	*e*P	**Pn**	**10 33 39.0**	**+9.0**
HYB				*e*S	**Sn**	**10 36 12.0**	**+16**
AJM	**Ajmer**	**13.95**	**278**	*e*P	**Pn**	**10 33 39.1**	**+0.1**
AJM				*ex*	x	10 36 00.9	
AJM				AML	AML	10 36 08.8	
comp=E,20nm,0.6s							
AJM				AML	AML	10 36 09.8	
comp=N,23nm,0.3s							
LATR	**Latur**	**14.30**	**244**	*ex*	**Sn**	**10 36 19.0**	**-1.8**
KAD	**Karad**	**16.80**	**245**	*e*S	**S**	**10 37 24.0**	**-6.5**
KAD				AML	AML	10 39 23.6	
comp=E,14nm,0.8s							
KAD				AML	AML	10 39 29.1	
comp=N,15nm,0.9s							
MKAR	**Makanchi Array**	**22.33**	**346**	P	**P**	**10 35 14.1**	**-3.7**
comp=N,7.3nm,0.6s,mb4.3,baz=157,slow=12,SNR=35							
BVAR	**Borovoye Array**	**31.41**	**337**	P	**P**	**10 36 39.6**	**-1.0**
comp=N,0.7nm,0.5s,mb3.7,baz=128,slow=11,SNR=4.5							
MLR	**Muntele Rosu**	**54.56**	**309**	P	**P**	**10 39 50.7**	**+3.1**
comp=N,2.9nm,0.3s,mb4.8,baz=136,slow=9.6,SNR=6.1							
FINES	**FINESS Array B**	**55.71**	**328**	P	**P**	**10 39 55.1**	**-0.7**
comp=N,2.0nm,0.8s,mb4.2,baz=111,slow=10,SNR=3.3							
ARCES	**ARCESS Array B**	**57.69**	**338**	P	**P**	**10 40 09.4**	**-0.4**
comp=N,3.6nm,0.9s,mb4.4,baz=94,slow=7.4,SNR=3.1							
HFS	**Hagfors**	**61.67**	**326**	P	**P**	**10 40 37.4**	**+0.1**
comp=N,2.6nm,0.4s,mb4.7,baz=97,slow=7.8,SNR=12							
WRA	**Warramunga Arr**	**62.23**	**132**	P	pP	10 40 54.1	0.0
comp=N,1.0nm,0.4s,baz=324,slow=7.1,SNR=5.9							
GERES	**GERESS Array B**	**62.62**	**314**	P	**P**	**10 40 45.4**	**+1.8**
comp=N,1.1nm,0.6s,mb4.2,baz=76,slow=5.6,SNR=8.2							
NB2	**NORSAR Subarra**	**62.85**	**328**	P	**P**	**10 40 44.9**	**-0.2**
comp=Z,3.1nm,0.8s,mb4.5,baz=86,slow=6.9							
NOA	**NORSAR Array B**	**62.85**	**328**	P	**P**	**10 40 45.0**	**-0.2**
comp=Z,1.9nm,0.7s,mb4.3,baz=87,slow=6.8,SNR=5.6							
ASAR	**Alice Springs**	**64.58**	**135**	P	pP	10 41 10.5	+0.9
comp=Z,0.9nm,0.7s,baz=319,slow=6.2,SNR=13							
EKA	**Eskdalemuir Ar**	**71.37**	**323**	P	**P**	**10 41 39.7**	**+0.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=69,slow=5.3,SNR=3.4							
YKA	**Yellowknife Ar**	**90.31**	**11**	P	**P**	**10 43 28.5**	**+8.4**
comp=Z,0.1nm,0.5s,mb3.4,baz=334,slow=4.8,SNR=2.9							

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*MOS **20** 10:31:09.5±0.9, 5568N×110.16E, h8km, mb4.4/1, Error ellipse: s-maj=14.1km s-min=8.2km az=63.4*
BYKL 20 10:31:10.3±0.3, 5568N×11014E, h2km±5km, 5C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.35**	**286**	*e*PG	Pg	10 31 17.2	+0.1
NIZ				*e*		10 31 22.8	
NIZ				pmax	pmax		
comp=Z,395nm,0.2s							
NIZ				smax			
comp=N,1μm,0.3s							
NIZ	**Nizh Angarsk**	**0.35**	**286**	*e*Pg	Pg	10 31 17.2	+0.1
NIZ				*e*Sg	Sg	10 31 22.3	+0.7
NIZ				Pmax			
comp=N,217nm,0.2s							
NIZ				Smax			
comp=N,1μm,0.3s							
KMO	**Kumora**	**0.63**	**70**	*e*PG	Pg	10 31 21.4	-1.1
KMO				*e*		10 31 29.6	
KMO				pmax	pmax		
comp=Z,144nm,0.1s							
KMO				smax			
comp=E,604nm,0.5s							
KMO	**Kumora**	**0.63**	**70**	⇑*i*Pg	Pg	10 31 21.4	-1.1
KMO				*i* Sg	Sg	10 31 29.8	-0.9
KMO				Pmax			
comp=E,286nm,0.4s							
KMO				Smax			
comp=E,699nm,1.3s							
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑*i*PG	Pg	10 31 28.1	-1.3
YLYR				*e*		10 31 41.0	
YLYR				pmax	pmax		
comp=Z,199nm,0.2s							
YLYR				smax			
comp=E,1μm,0.3s							
YLYR	**Ulyunkhan**	**0.99**	**144**	⇓*i*Pg	Pg	10 31 28.1	-1.3
comp=E,244nm,0.3s							
YLYR				⇑*i*Pg	Pg	10 31 28.1	-1.3
comp=E,157nm,0.3s							
YLYR				⇑*i*Pg	Pg	10 31 28.1	-1.3
comp=E,244nm,0.3s							
YLYR				*i* Sg	Sg	10 31 41.6	-0.7
YLYR				*e*		10 31 48.8	
YLYR				Pmax			
comp=E,212nm,0.5s							
YLYR				max			
comp=E,1μm,0.5s							
YOA	**Uoyan**	**1.00**	**62**	⇓*i*PG	Pg	10 31 29.9	+0.4
YOA				*e*		10 31 39.7	
YOA				pmax	pmax		
comp=Z,223nm,0.2s							
YOA				smax			
comp=N,2μm,0.3s							
YOA	**Uoyan**	**1.00**	**62**	*e*Pg	Pg	10 31 28.3	-1.2
YOA				*e*Sg	Sg	10 31 42.1	-0.4
YOA				Pmax			
comp=N,272nm,0.2s							
YOA				Smax			
comp=N,2μm,0.3s							
SVKR	**Severomuysk**	**1.98**	**76**	*e*PN	Pn	10 31 45.3	+0.6
SVKR				*e*		10 31 46.4	
SVKR				*e*S	Sn	10 32 08.6	-1.5
SVKR				*e*		10 32 12.3	
SVKR				pmax	pmax		
comp=Z,319nm,0.6s							
SVKR				smax			
comp=N,1μm,0.9s							
SVKR	**Severomuysk**	**1.98**	**76**	*e*Pg	Pg	10 31 46.5	-1.7
SVKR				*e*		10 31 48.6	
SVKR				*e*Sg	Sg	10 32 13.4	-0.3
SVKR				*e*		10 32 15.1	
SVKR				max			
comp=N,322nm,0.4s							
SVKR				max			
comp=N,2μm,1.0s							
UKT	**Uakit**	**1.99**	**94**	*e*Pg	Pg	10 31 45.6	-2.8
UKT				*e*Sg	Sg	10 32 12.4	-1.8
SYVR	**Suvo**	**2.03**	**182**	*e*PN	Pn	10 31 46.6	+1.1
SYVR				*e*		10 32 15.5	
SYVR				pmax	pmax		
comp=Z,278nm,0.4s							
SYVR				smax			
comp=E,907nm,0.4s							
SYVR	**Suvo**	**2.03**	**182**	*e*	Pn	10 31 45.6	+0.1
SYVR				⇓*i*Pg	Pg	10 31 46.8	-2.4
comp=E,161nm,0.4s							
SYVR				⇓*i*Pg	Pg	10 31 46.8	-2.4
comp=E,95nm,0.4s							
SYVR				⇑*i*Pg	Pg	10 31 46.8	-2.

BOD				Smax			
	comp=E,295nm,0.5s						
NLYR	**Nelyaty**	**3.22**	**73**	*e*Pn	Pn	10 32 01.9	0.0
NLYR				*e*		10 32 10.8	
NLYR				*e*Sg	Sg	10 32 49.4	-4.4
TRG	**Tyrgan**	**3.68**	**219**	*e*PN	Pn	10 32 09.2	+1.1
TRG				*e*		10 32 18.2	
TRG				*e*S	Sn	10 32 52.8	+0.8
TRG				*e*		10 33 06.0	
TRG				pmax	pmax		
	comp=Z,15nm,0.3s						
TRG				smax			
	comp=E,130nm,0.6s						
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn	Pn	10 32 09.3	+1.2
TRG				*e*Sn	Sn	10 32 52.6	+0.6
TRG				*e*Sg	Sg	10 33 02.7	-5.7
TRG				*e*		10 33 08.4	
TRG				max			
	comp=E,37nm,0.4s						
TRG				max			
	comp=E,131nm,0.8s						
TRTB	**Turuntaevo**	**3.76**	**204**	*e*Pn	Pn	10 32 10.0	+0.7
TRTB				*e*		10 32 18.1	
TRTB				*e*Sg	Sg	10 33 06.3	-4.8
TRTB				max			
	comp=E,41nm,1.0s						
TRTB				Smax			
	comp=E,139nm,1.4s						
UUDB	**Ulan-Yde**	**4.09**	**202**	*e*Pg	Pg	10 32 22.7	-6.0
UUDB				*e*Sg	Sg	10 33 16.7	-5.1
UUDB				Pmax			
	comp=E,44nm,0.7s						
UUDB				Smax			
	comp=E,190nm,1.3s						
FFNB	**Fofonovo**	**4.15**	**210**	*e*Sg	Sg	10 33 17.2	-6.5
FFNB				Smax			
	comp=E,305nm,0.6s						
KAB	**Kabansk**	**4.18**	**211**	*e*Sg	Sg	10 33 20.8	-3.8
KAB				Smax			
	comp=E,519nm,1.4s						
CIT	**Chita**	**4.19**	**150**	*e*PN	Pn	10 32 14.7	-0.4
CIT				*e*		10 32 23.6	
CIT				*e*S	Sn	10 33 00.6	-4.0
CIT				*e*		10 33 18.5	
CIT				pmax	pmax		
	comp=Z,63nm,1.3s						
CIT				smax			
	comp=E,125nm,0.9s						
CIT	**Chita**	**4.19**	**150**	*e*Pn	Pn	10 32 14.6	-0.5
CIT				*e*		10 32 17.1	
CIT				*e*Pg	Pg	10 32 24.0	-6.5
CIT				*e*Sg	Sg	10 33 18.9	-5.9
CIT				Pmax			
	comp=E,63nm,1.2s						
CIT				Smax			
	comp=E,130nm,1.1s						
CRS	**Chara**	**4.69**	**72**	*e*PN	Pn	10 32 22.6	+0.5
CRS				*e*		10 32 36.7	
CRS				*e*		10 33 36.2	
CRS				pmax	pmax		
	comp=Z,68nm,1.0s						
CRS				smax			
	comp=E,154nm,1.5s						
CRS	**Chara**	**4.69**	**72**	*e*Pn	Pn	10 32 22.3	+0.2
CRS				*e*		10 32 36.7	
CRS				*e*Sg	Sg	10 33 35.9	-5.1
CRS				max			
	comp=E,68nm,1.2s						
CRS				max			
	comp=E,154nm,1.4s						
LSTR	**Listvyanka**	**4.95**	**222**	*e*Pn	Pn	10 32 26.1	+0.5
LSTR				*e*Sn	Sn	10 33 22.0	-1.4
LSTR				*e*Sg	Sg	10 33 42.1	-7.2
LSTR				max			
	comp=E,19nm,1.0s						
LSTR				Smax			
	comp=E,121nm,0.8s						
TLY	**Talaya**	**5.56**	**227**	*e*PN	Pn	10 32 33.8	-0.3
TLY				*e*		10 32 50.7	
TLY				*e*S	Sn	10 33 36.7	-1.9
TLY				*e*		10 34 02.2	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TLY				smax			
	comp=E,70nm,0.6s						
TLY	**Talaya**	**5.56**	**227**	*e*Pn	Pn	10 32 33.8	-0.3
TLY				*e*		10 32 51.1	
TLY				*e*Sn	Sn	10 33 37.5	-1.1
TLY				*e*Sg	Sg	10 34 02.3	-6.7
TLY				max			
	comp=E,9.0nm,0.8s						
TLY				Smax			
	comp=E,70nm,0.7s						
TUP	**Tupik**	**5.78**	**99**	*e*PN	Pn	10 32 36.4	-0.7
TUP				*e*		10 32 54.0	
TUP				*e*S	Sn	10 33 41.0	-2.9
TUP				*e*		10 34 09.3	
TUP				pmax	pmax		
	comp=Z,30nm,0.9s						
TUP				smax			
	comp=N,87nm,1.2s						
TUP	**Tupik**	**5.78**	**99**	*e*Pn	Pn	10 32 36.5	-0.6
TUP				*e*		10 32 39.2	
TUP				*e*Sn	Sn	10 33 40.8	-3.1
TUP				*e*Sg	Sg	10 34 10.3	-5.7
TUP				max			
	comp=N,39nm,1.5s						
TUP				Smax			
	comp=N,90nm,1.4s						
ARS	**Arshan**	**5.92**	**234**	*e*PN	Pn	10 32 39.0	0.0
ARS				*e*S	Sn	10 33 43.9	-3.5
ARS	**Arshan**	**5.92**	**234**	*e*Pn	Pn	10 32 39.6	+0.6
ARS				*e*Sn	Sn	10 33 44.3	-3.1
ARS				*e*Sg	Sg	10 34 11.8	-8.7
ARS				max			
	comp=N,29nm,0.5s						
ARS				Smax			
	comp=N,262nm,0.8s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN	Pn	10 32 50.9	+0.8
ZAK				*e*		10 33 09.3	
ZAK				*e*S	Sn	10 34 04.7	-2.5
ZAK				*e*		10 34 36.9	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAK				smax			
	comp=N,62nm,1.1s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*Pn	Pn	10 32 51.4	+1.3
ZAK				*e*		10 34 07.8	
ZAK				*e*Sg	Sg	10 34 39.0	-7.3
ZAK				max			
	comp=N,3.0nm,0.5s						
ZAK				Smax			
	comp=N,62nm,1.3s						
MOY	**Mondy**	**6.76**	**237**	*e*PN	Pn	10 32 52.8	+2.3
MOY				*e*		10 33 14.0	
MOY				*e*S	Sn	10 34 07.1	-0.9
MOY				*e*		10 34 40.9	
MOY				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MOY				smax			
	comp=E,72nm,1.1s						
MOY	**Mondy**	**6.76**	**237**	*e*Pn	Pn	10 32 52.2	+1.7
MOY				*e*Sn	Sn	10 34 07.2	-0.8
MOY				*e*Sg	Sg	10 34 40.7	-6.6
MOY				max			
	comp=E,25nm,1.0s						
MOY				Smax			
	comp=E,73nm,1.6s						
ORL	**Orlik**	**6.84**	**247**	*e*PN	Pn	10 32 52.8	+1.2
ORL				*e*S	Sg	10 34 43.4	-6.5
ORL				smax			
	comp=N,66nm,0.8s						
ORL	**Orlik**	**6.84**	**247**	*e*Pn	Pn	10 32 52.9	+1.3
ORL				*e*Sn	Sn	10 34 09.0	-1.0
ORL				*e*Sg	Sg	10 34 43.3	-6.6
ORL				max			
	comp=N,8.0nm,0.9s						
ORL				Smax			
	comp=N,67nm,1.2s						

IDC 20 10:45:28.5±1.6, 2233S×11434W, h0km, mb3.8/5, mb1 4.2/5, mb1mx4.1/14, mbtmp3.8/5, MS3.6/6, Ms1 3.6/6, ms1mx3.5/15, Error ellipse: s-maj=58.2km s-min=33.6km az=44.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.59**	**137**	T		10 54 00.7	
	20nm,0.3s,baz=65,slow=14,SNR=7.1						
PPT	**Papeete**	**33.41**	**272**	LR	LR	11 01 55.0	
	comp=Z,11nm,18.9s,baz=226,slow=30						
PLCA	**Paso Flores**	**41.11**	**127**	LR	LR	11 06 32.7	
	comp=Z,120nm,20.1s,baz=64,slow=31						
LPAZ	**La Paz**	**43.89**	**91**	P	P	10 53 37.7	+1.0
	3.4nm,0.9s,baz=265,slow=5.3,SNR=11						
LPAZ				LR	LR	11 07 47.5	
	comp=Z,67nm,22.0s,baz=86,slow=30						
TXAR	**Lajitas Array**	**52.38**	**12**	P	P	10 54 42.9	+0.5
	0.5nm,1.0s,baz=198,slow=6.6,SNR=3.6						
TXAR				LR	LR	11 12 49.5	
	comp=Z,72nm,20.2s,baz=0.0,slow=31						
NVAR	**Mina Array Bea**	**60.55**	**356**	P	P	10 55 41.7	+1.2
	0.8nm,0.9s,baz=195,slow=11,SNR=4.4						
PDAR	**Pinedale Array**	**64.92**	**4**	P	P	10 56 08.9	-0.8
	0.5nm,0.8s,baz=174,slow=5.7,SNR=3.8						
PDAR				LR	LR	11 19 01.7	
	comp=Z,64nm,21.4s,baz=121,slow=31						
YKA	**Yellowknife Ar**	**84.53**	**360**	P	P	10 58 02.6	-0.8
	1.2nm,1.0s,baz=178,slow=5.4,SNR=14						
CTA	**Charters Tower**	**90.76**	**248**	LR	LR	11 30 46.9	
	comp=Z,73nm,19.6s,baz=230,slow=30						
TORD	**Torodi Ar. Bea**	**118.76**	**87**	PKP	PKPdf	11 04 19.3	+0.7
	0.3nm,0.8s,baz=236,slow=2.0,SNR=2.0						
KMBO	**Kilima Mbogo**	**143.79**	**126**	PKP	PKPdf	11 05 06.7	+1.1
	0.6nm,0.3s,baz=328,slow=4.1,SNR=3.3						
ZAL	**Zalesovo**	**145.27**	**340**	PKPbc	PKPbc	11 05 06.8	-1.1
	1.3nm,0.8s,baz=83,slow=3.8,SNR=8.2						
BRTR	**Keskin Array B**	**147.76**	**50**	PKPbc	PKPbc	11 05 15.2	0.0
	1.9nm,1.0s,baz=316,slow=4.0,SNR=5.4						
BVAR	**Borovoye Array**	**149.14**	**354**	PKPbc	PKPbc	11 05 18.4	-0.3
	1.3nm,0.8s,baz=352,slow=2.1,SNR=5.9						
MKAR	**Makanchi Array**	**152.13**	**335**	PKPbc	PKPbc	11 05 25.5	-0.4
	1.6nm,0.9s,baz=38,slow=2.2,SNR=5.9						

IDC 20 11:29:19.2±18.0, 2340S×17430W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.3/5, 1D, Error ellipse: s-maj=334.0km s-min=145.8km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.71**	**267**	*e*P	P	11 36 29.0	+1.1
CTA	**Charters Tower**	**36.71**	**267**	P	P	11 36 29.0	+1.1
	4.8nm,0.3s,baz=90,slow=10,SNR=8.9						
STKA	**Stephens Creek**	**39.75**	**248**	P	P	11 36 52.5	-1.0
	1.2nm,0.4s,baz=85,slow=13,SNR=4.7						
ASAR	**Alice Springs**	**47.26**	**259**	P	P	11 37 53.8	-0.4
	0.6nm,0.3s,baz=92,slow=7.2,SNR=51						
WB2	**Warramunga Arr**	**47.64**	**264**	⇓*i*P	P	11 37 56.7	-0.4
WRA	**Warramunga Arr**	**47.65**	**264**	P	P	11 37 57.2	+0.1
	2.2nm,0.3s,baz=100,slow=6.9,SNR=114						
FITZ	**Fitzroy Crossi**	**56.08**	**263**	P	P	11 39 01.7	+1.7
	2.1nm,0.7s,baz=103,slow=7.5,SNR=5.4						

*IDC **20** 11:36:14.5±4.7, 3725N×7184E, h94km±41km, mb3.7/15, mb1 4.0/19, mb1mx3.9/27, mbtmp3.8/19, Error ellipse: s-maj=25.5km s-min=14.5km az=10.0*
*MOS **20** 11:36:14.9±1.1, 3735N×7165E, h110km, mb4.6/5, Error ellipse: s-maj=10.4km s-min=5.6km az=95.7*
*ISCJB **20** 11:36:15.1±0.5, 3724N±002×7184E±006, h124km±6km, mb4.2/22, Error ellipse: s-maj=7.7km s-min=3.6km az=152.2*
*BJI **20** 11:36:15.7, 3743N×7176E, h113km, mB5.1, mb4.4*
*NEIC **20** 11:36:16.8±2.3, 3743N×7178E, h107km±20km, mb4.4/6, Error ellipse: s-maj=19.1km s-min=9.2km az=203.0*

ISC 20 11:36:16.9±0.4, 3727N±002×7201E±006, h130km±5km, n97,σ1§31/119, mb4.1/22, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.44**	**181**	⇓P	**Pn**	**11 37 11.4**	**+2.1**
CHCP	**Chirah Chowk**	**3.75**	**164**	⇑P	**Pn**	**11 37 16.5**	**+3.2**
KSH	**Kashi**	**3.83**	**53**	P	**Pn**	**11 37 18.4**	**+3.9**
KSH				S	**Sn**	**11 38 03.3**	**+4.2**
KSH				Smax			
	comp=N,3μm,0.4s						
KSH				Smax			
	comp=E,2μm,0.4s						
THW	**Thamme Wali**	**4.47**	**183**	P	**Pn**	**11 37 24.2**	**+1.2**
AML	**Almayashu**	**5.02**	**14**	P	**Pn**	**11 37 30.9**	**+0.6**
	SNR=214						
SBDP	**Sheikh Budin**	**5.06**	**192**	P	**Pn**	**11 37 31.1**	**+0.3**
UCH	**Uchtor**	**5.31**	**20**	P	**Pn**	**11 37 35.2**	**+1.0**
	SNR=99						
SARP	**Sargodha**	**5.37**	**174**	P	**Pn**	**11 37 35.5**	**+0.6**
KZA	**Kyzart**	**5.41**	**26**	P	**Pn**	**11 37 36.5**	**+1.0**
	SNR=75						
EKS2	**Erkin-Say**	**5.55**	**14**	P	**Pn**	**11 37 38.0**	**+0.6**
	SNR=85						
AAK	**Ala-Archa**	**5.68**	**19**	P	**Pn**	**11 37 40.3**	**+1.1**
	SNR=177						
AAK	**Ala-Archa**	**5.68**	**19**	*e*PN	**Pn**	**11 37 39.3**	**+0.1**
AAK				pmax	pmax		
	comp=Z,97nm,0.5s						
AAK	**Ala-Archa**	**5.68**	**19**	*e*Pn	**Pn**	**11 37 39.2**	**+0.1**
	comp=Z,97nm,0.5s						
AAK				*e*Sn	**Sn**	**11 38 40.7**	**-2.6**
DLH	**Dalhousie**	**5.73**	**144**	*e*P	**Pn**	**11 37 40.0**	**+0.2**
DLH				*e*S	**Sn**	**11 38 45.0**	**+0.6**
KBK	**Karagaybulak**	**5.83**	**22**	P	**Pn**	**11 37 42.9**	**+1.8**
	SNR=7.8						
FRU	**Bishkek**	**5.90**	**19**	*e*PN	**Pn**	**11 37 42.8**	**+0.7**
FRU				pmax	pmax		
	comp=Z,55nm,1.4s						
KK31	**Karatay Array**	**5.94**	**349**	⇓P	**Pn**	**11 37 41.2**	**-1.3**
	comp=Z,98nm,0.3s,baz=175,slow=12						
KK31				⇑S	**Sn**	**11 38 43.9**	**-5.5**
	comp=Z,214nm,0.5s,baz=176,slow=24						
KK31	**Karatay Array**	**5.94**	**349**	*i* PN	**Pn**	**11 37 41.2**	**-1.4**
KK31				pmax	pmax		
	comp=Z,140nm,0.2s						
KKAR	**Karatay Array**	**5.94**	**349**	PN	**Pn**	**11 37 41.2**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,35nm,0.3s						
ULHL	**Ulahol**	**5.94**	**32**	P	**Pn**	**11 37 44.0**	**+1.3**
	SNR=27						
CHMS	**Chumysh**	**6.09**	**19**	P	**Pn**	**11 37 45.4**	**+0.7**
	SNR=66						
PONG	**Pong**	**6.22**	**147**	*ex*	**Pn**	**11 37 42.0**	**-4.4**
PONG				*e*S	**Sn**	**11 38 52.0**	**-4.2**
TKM2	**Tokmak 2**	**6.28**	**25**	P	**Pn**	**11 37 48.5**	**+1.3**
	SNR=83						
TKM2	**Tokmak 2**	**6.28**	**25**	PN	**Pn**	**11 37 48.6**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,71nm,1.1s						
USP	**Ospenovka**	**6.28**	**17**	P	**Pn**	**11 37 47.5**	**+0.3**
	SNR=18						
BHK	**Bhakra**	**6.88**	**147**	*e*P	**Pn**	**11 37 57.0**	**+1.7**
SDNR	**Sundarnagar**	**7.07**	**143**	*e*P	**Pn**	**11 37 58.2**	**+0.4**
SDNR				*e*S	**Sn**	**11 39 12.5**	**-4.1**
DDI	**Dehra Dun**	**8.56**	**142**	*e*P	**Pn**	**11 38 18.5**	**+0.6**
JOSI	**Joshimath**	**9.17**	**135**	*e*P	**Pn**	**11 38 26.5**	**+0.3**
JOSI				*e*S	**Sn**	**11 40 02.4**	**-5.2**
JOSI				AML	AML	11 40 07.8	
	comp=N,352nm,0.6s						
JOSI				AML	AML	11 40 09.0	
	comp=E,415nm,0.7s						
BHGR	**Bahadurgarh**	**9.51**	**153**	*e*P	**Pn**	**11 38 31.9**	**+1.3**
BHGR				*e*S	**Sn**	**11 40 12.9**	**-2.7**
NDI	**New Delhi**	**9.61**	**151**	*e*P	**Pn**	**11 38 31.9**	**-0.2**
NDI				*e*S	**Sn**	**11 40 14.3**	**-3.9**
NDI				AML	AML	11 40 18.1	
	comp=E,76nm,0.3s						
NDI				AML	AML	11 40 18.9	
	comp=N,63nm,0.4s						
KHET	**Khetri**	**9.71**	**160**	*e*P	**Pn**	**11 38 32.9**	**-0.5**
KHET				*e*S	**Sn**	**11 40 13.7**	**-6.9**
KHET				AML	AML	11 40 17.2	
	comp=E,105nm,0.3s						
KHET				AML	AML	11 40 17.2	
	comp=N,60nm,0.5s						
AYAN	**Aya Nagar**	**9.76**	**152**	*e*P	**Pn**	**11 38 34.1**	**+0.1**
AYAN				*e*S	**Sn**	**11 40 15.2**	**-6.5**
AYAN				AML	AML	11 40 20.6	
	comp=Z,76nm,0.5s						
KUDL	**Kundal**	**9.85**	**156**	*e*P	**Pn**	**11 38 29.4**	**-5.8**
KUDL				*e*S	**Sn**	**11 40 14.4**	**-10**
KUDL				AML	AML	11 40 17.1	
	comp=E,60nm,0.6s						
KUDL				AML	AML	11 40 19.3	
	comp=N,51nm,0.5s						
LGTI	**Lohaghat**	**10.40**	**136**	*e*P	**Pn**	**11 38 40.5**	**-2.0**
LGTI				*e*S	**Sn**	**11 40 33.0**	**-4.2**
AJM	**Ajmer**	**10.99**	**168**	*e*P	**Pn**	**11 38 49.2**	**-1.2**
AJM				*e*S	**Sn**	**11 40 43.2**	**-8.4**
VAN	**Vannovskaya**	**11.05**	**278**	*e*P	**Pn**	**11 38 45.0**	**-6.2**
VAN				*e*S	**Sn**	**11 40 37.7**	**-15**
AGRA	**Agra**	**11.20**	**152**	*e*P	**Pn**	**11 38 52.8**	**-0.3**
AGRA				*e*S	**Sn**	**11 40 50.1**	**-6.4**
AGRA				AML	AML	11 40 50.8	
	comp=E,82nm,0.5s						
AGRA				AML	AML	11 40 51.3	
	comp=N,96nm,0.1s						
MK31	**Makanchi Array**	**12.19**	**35**	*i* P	**Pn**	**11 39 06.9**	**+0.7**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK31	**Makanchi Array**	**12.19**	**35**	*e*Pn	**Pn**	**11 39 07.1**	**+0.9**
MKAR	**Makanchi Array**	**12.19**	**35**	P	**Pn**	**11 39 06.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=225,slow=16,SNR=27						
MKAR	**Makanchi Array**	**12.19**	**35**	P	**Pn**	**11 39 06.2**	**0.0**
KOLN	**Koldanda**	**13.60**	**131**	*e*P	**Pn**	**11 39 23.4**	**-1.1**
	comp=Z,96nm,0.5s						
GKN	**Gorkha**	**14.08**	**127**	*e*P	**Pn**	**11 39 29.3**	**-1.3**
	comp=Z,78nm,0.3s						
KURK	**Kurchatov**	**14.25**	**17**	P	**Pn**	**11 39 29.6**	**-3.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**14.25**	**17**	*e*Pn	**Pn**	**11 39 29.4**	**-3.3**
	comp=Z,18nm,1.0s						
KKN	**Kakani**	**14.63**	**126**	*e*P	**Pn**	**11 39 35.9**	**-1.7**
	comp=Z,122nm,0.7s						
DMN	**Daman**	**14.65**	**127**	*e*P	**Pn**	**11 39 36.9**	**-0.9**
	comp=Z,68nm,0.6s						
BHPL	**Bhopal**	**14.74**	**160**	*e*P	**Pn**	**11 39 40.4**	**+1.5**
BHPL				*ex*	x	11 42 13.7	
AB31	**Akbulak array**	**14.83**	**328**	*i* P	**Pn**	**11 39 36.1**	**-4.0**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PKI	**Pulchoki**	**14.87**	**127**	*e*P	**Pn**	**11 39 39.0**	**-1.5**
	comp=Z,52nm,0.4s						
GUN	**Gumba**	**14.94**	**125**	*e*P	**Pn**	**11 39 40.1**	**-1.4**
	comp=Z,86nm,0.6s						
JIRN	**Jiri**	**15.31**	**125**	*e*P	**Pn**	**11 39 45.5**	**-0.6**
BVA0	**Borovoye Array**	**15.79**	**356**	*e*P	**Pn**	**11 39 49.7**	**-2.3**
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BVAR	**Borovoye Array**	**15.79**	**356**	P	**Pn**	**11 39 50.1**	**-2.0**
	comp=Z,2.8nm,0.3s,baz=159,slow=12,SNR=31						
BVAR				S	**S**	**11 42 39.8**	**-13**
	comp=Z,0.5nm,0.3s,baz=176,slow=23,SNR=5.3						
BRVK	**Borovoye**	**15.83**	**356**	*e*P	**Pn**	**11 39 49.9**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,21nm,0.8s						
BRVK	**Borovoye**	**15.83**	**356**	*e*P	**Pn**	**11 39 49.9**	**-2.6**
	comp=Z,21nm,0.8s						
CHKZ	**Chkalovo**	**16.43**	**357**	P	**Pn**	**11 39 57.4**	**-2.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKTK	**Aktyubinsk**	**16.55**	**327**	P	**Pn**	**11 39 59.0**	**-2.3**
AKTK				S	**S**	**11 42 52.1**	**-14**
AKTO	**Aktyubinsk**	**16.55**	**327**	P	**Pn**	**11 39 59.0**	**-2.3**
	comp=Z,6.2nm,0.3s,baz=130,slow=12,SNR=39						
AKTO				S	**S**	**11 42 52.1**	**-14**
	comp=Z,0.8nm,0.3s,baz=17,slow=22,SNR=4.7						
LSA	**Lhasa**	**17.64**	**110**	P	**Pn**	**11 40 16.8**	**+2.3**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s						
LSA	**Lhasa**	**17.64**	**110**	*e*P	**Pn**	**11 40 18.3**	**+3.8**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**17.64**	**110**	*e*P	**Pn**	**11 40 18.3**	**+3.8**
	comp=Z,13nm,0.8s						
ORR	**Orenburg**	**18.84**	**325**	*e*P	**P**	**11 40 26.2**	**-0.5**
ORR				pmax	pmax		
	comp=Z,60nm,1.3s						
ZAL	**Zalesovo**	**18.86**	**24**	P	**P**	**11 40 27.5**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=242,slow=8.8,SNR=20						
NVS	**Novosibirsk**	**19.18**	**20**	*e*P	**P**	**11 40 30.3**	**0.0**
NVS				*e*S	**S**	**11 43 59.3**	**-1.4**
NVS				pmax	pmax		
	comp=N,12nm,0.8s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,13nm,0.8s						
NVS				smax			
	comp=N,18nm,1.6s						
NVS				smax			
	comp=E,10.0nm,1.6s						
ARU	**Arti**	**21.19**	**339**	⇑*i* P	**P**	**11 40 51.8**	**-0.1**
ARU				*e*S	**S**	**11 44 41.0**	**+0.9**
ARU				*e*SS		11 45 10.0	
ARU				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.5						
ARU	**Arti**	**21.19**	**339**	*e*P	**P**	**11 40 51.9**	**0.0**
	comp=Z,18nm,0.8s,mb4.4						
GTA	**Gaotai**	**21.88**	**76**	P	**P**	**11 41 04.8**	**+5.5**
GTA				AP		11 41 23.3	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
ZEI	**Tsey**	**22.17**	**293**	*e*P	**P**	**11 40 57.9**	**-4.4**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
LZH	**Lanzhou**	**25.50**	**83**	*e*P	**P**	**11 41 39.3**	**+6.2**
LZH				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
LZH	**Lanzhou**	**25.50**	**83**	*e*P	**P**	**11 41 39.2**	**+6.1**
LZH				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.5						
LZH	**Lanzhou**	**25.50**	**83**	*e*P	**P**	**11 41 39.2**	**+6.1**
	comp=Z,17nm,1.2s,mb4.5						
LZH				pP	pP	11 41 45.0	-16
LZH				sP	sP	11 41 49.2	-27
ANN	**Anapa**	**26.99**	**297**	*e*P	**P**	**11 41 53.9**	**+7.4**
ANN				*e**PP	pP	11 42 16.3	+2.0
ANN				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
SONM	**Songino Array**	**27.23**	**56**	P	**P**	**11 41 52.0**	**+3.4**
	comp=Z,0.5nm,0.7s,baz=268,slow=8.3,SNR=5.0						
OBN	**Obninsk**	**29.89**	**318**	*i* P	**P**	**11 42 11.3**	**-1.0**
OBN				*e**SP	sP	11 42 49.1	-6.2
OBN				*e*S	**S**	**11 46 59.3**	**-0.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**29.98**	**287**	P	**P**	**11 42 14.6**	**+1.5**
	comp=Z,0.6nm,0.5s,mb3.6,baz=119,slow=10,SNR=4.0						
AKASG	**Malin Array Be**	**33.11**	**308**	P	**P**	**11 42 40.6**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.1,baz=79,slow=7.1,SNR=11						
MLR	**Muntele Rosu**	**35.12**	**298**	P	**P**	**11 42 57.5**	**-0.3**
	comp=Z,4.7nm,0.8s,mb4.2,baz=170,slow=5.9,SNR=5.6						
JOF	**Joensuu**	**35.62**	**329**	*ep*	**P**	**11 43 01.8**	**-0.2**
	comp=Z,12nm,0.4s,mb4.9						
FINES	**FINESS Array B**	**37.30**	**325**	P	**P**	**11 43 16.9**	**+0.5**
	comp=Z,4.4nm,0.3s,mb4.5,baz=122,slow=9.6,SNR=52						
FINES	**FINESS Array B**	**37.30**	**325**	*i* P	**P**	**11 43 16.8**	**+0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ARCES	**ARCESS Array B**	**40.75**	**337**	P	**P**	**11 43 45.8**	**+0.8**
	comp=Z,16nm,0.9s,mb4.

comp=Z,1.3nm,0.6s,mb3.8,baz=350,slow=5.5,SNR=28
YKA Yellowknife Ar 80.44 3 P P 11 48 15.2 +1.1
WRA Warramunga Arr 81.71 123 P P 11 48 24.0 +3.1
comp=Z,0.3nm,0.8s,mb3.0,baz=321,slow=4.5,SNR=3.0
ASAR Alice Springs 84.03 126 P P 11 48 34.4 +1.5
comp=Z,0.2nm,1.0s,baz=318,slow=5.4,SNR=2.9

*NEIC **20** 11:38:07.7, 3854N×1426E, h25km, ML3.3(ROM), After ROM.*
*CSEM **20** 11:38:07.7±0.2, 3854N×1426E, h25km±4km, MD3.4/9, ML3.5/2, Error ellipse: s-maj=4.4km s-min=2.6km az=52.0, After ROM*
ROM 20 11:38:07.7±0.2, 3854N×1426E, h25km±3km, Md3.4/9, Ml3.3/10, 1C-1D, Error ellipse: s-maj=4.4km s-min=2.6km az=52.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLNA	**Salina**	**0.45**	**87**	Pg	Pb	11 38 17.9	+0.8
GIB	**Gibilmanna**	**0.58**	**198**	Pg	Pb	11 38 19.0	-0.2
GIB				Sg	Sb	11 38 27.8	+0.8
	19μm,0.5s						
CSLB	**Castelbuono**	**0.62**	**195**	Pg	Pb	11 38 19.5	-0.4
MNO	**Monte Soro**	**0.70**	**150**	‖iPg	Pb	11 38 21.6	+0.4
USI	**Ustica**	**0.86**	**282**	‖iPg	Pb	11 38 23.4	-0.6
MCT	**Mte Cammarata**	**1.03**	**209**	Pg	Pn	11 38 28.6	+2.1
	450nm,0.4s						
MSI	**Messina ING**	**1.07**	**108**	Pg	Pn	11 38 27.7	+0.6
SCLL	**Scilla**	**1.18**	**103**	Pg	Pn	11 38 27.9	-0.7
	174nm,0.4s						
MTTG	**Motta San Giov**	**1.25**	**115**	Pg	Pn	11 38 30.3	+0.7
	831nm,0.6s						
CLTB	**Caltabellotta**	**1.26**	**221**	Pg	Pn	11 38 31.5	+1.8
JOPP	**Joppolo**	**1.28**	**86**	Pg	Pn	11 38 29.9	0.0
	298nm,0.4s						
FAVR	**Favara**	**1.35**	**200**	Pg	Pn	11 38 34.3	+3.3
	424nm,0.5s						
ERC	**Erice**	**1.41**	**250**	Pg	Pn	11 38 31.3	-0.4
SOI	**Samo**	**1.49**	**108**	Pg	Pn	11 38 32.9	+0.1
AGST	**Augusta-Monte**	**1.49**	**149**	Pg	Pn	11 38 33.5	+0.6
	204nm,0.3s						
PZI	**Palazzolo**	**1.58**	**159**	Pg	Pn	11 38 35.3	+1.3
	309nm,0.2s						
CARO	**Carolei**	**1.69**	**64**	Pg	Pn	11 38 36.0	+0.4
CARO				Sg	Sn	11 38 56.3	-0.1
	442nm,0.6s						
GRI	**Girifalco**	**1.72**	**80**	Pg	Pn	11 38 36.6	+0.6
	371nm,1.0s						
BULG	**Bulgheria - Ca**	**1.77**	**29**	Pg	Pn	11 38 37.2	+0.6
	138nm,0.4s						
TIP	**Timpagrande**	**2.06**	**71**	Pg	Pn	11 38 42.0	+1.4
	148nm,1.0s						
SIRI	**Monte Sirino -**	**2.06**	**37**	Pg	Pn	11 38 42.0	+1.3
SIRI				Sg	Sn	11 39 06.9	+1.3
	299nm,0.6s						
MTSN	**Montesano sull**	**2.08**	**33**	Pg	Pn	11 38 42.2	+1.3
	118nm,0.4s						
MCEL	**Monticello**	**2.15**	**33**	Pg	Pn	11 38 43.4	+1.5
SGO	**Scignano**	**2.18**	**22**	Pg	Pn	11 38 43.9	+1.6
	21nm,0.4s						
SCHR	**S. Chirico Rap**	**2.18**	**40**	Pg	Pn	11 38 43.8	+1.5
	64nm,0.6s						
CRAC	**Craco**	**2.48**	**42**	Pg	Pn	11 38 49.8	+3.3
PTS	**Pantelleria**	**2.49**	**227**	Pg	Pn	11 38 48.2	+1.6
	52nm,0.3s						
VSL	**Villasalto**	**3.92**	**286**	Pg	Pn	11 39 05.4	-0.8
	55nm,0.2s						

*MOS **20** 11:44:40.7±1.6, 4796N×155.15E, h43km, mb4.3/10, Error ellipse: s-maj=15.7km s-min=11.3km az=77.3*
*ISCJB **20** 11:44:44.2±1.4, 4824N±009×1550E±01, h57km±10km, mb3.9/19, Error ellipse: s-maj=19.1km s-min=7.1km az=92.1*
*IDC **20** 11:44:47.8±3.7, 4816N×15490E, h75km±34km, mb3.5/18, mb1 3.7/20, mb1mx3.7/29, mbtmp3.6/20, Error ellipse: s-maj=19.3km s-min=15.4km az=137.0*
ISC 20 11:44:46.2±1.2, 4827N±009×1550E±01, h61km±9km, n40, σ1§07/44, mb3.9/19, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52**	**16**	*e*PN	**Pn**	**11 45 25.4**	**+0.7**
SKR				*e*S	**Sn**	**11 45 54.0**	**-0.2**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,180nm,0.5s						
SKR				smax			
	comp=E,230nm,0.5s						
PET	**Petropavlovsk**	**5.29**	**24**	*e*PN	**Pn**	**11 46 00.6**	**-1.9**
KUR	**Kuril'sk**	**5.79**	**241**	*e*PN	**Pn**	**11 46 02.0**	**-7.4**
KUR				*e*S	**Sn**	**11 47 21.0**	**+6.6**
KUR				pmax	pmax		
	comp=Z,130nm,0.8s						
KUR				smax			
	comp=N,150nm,0.7s						
KUR				smax			
	comp=E,90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.41**	**266**	‖*e*PN	**Pn**	**11 46 46.7**	**+1.5**
YSS				MLR	MLR		
	comp=Z,300nm,19.0s						
ASAJ	**Asahikawa**	**9.57**	**249**	P	**Pn**	**11 47 00.7**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=78,slow=12,SNR=13						
ASAJ				S	**Sn**	**11 48 48.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=170,slow=30,SNR=1.7						
ASAJ	**Asahikawa**	**9.57**	**249**	PN	**Pn**	**11 47 00.7**	**-0.5**
ASAJ				S	**Sn**	**11 48 48.8**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.46**	**238**	*c i*PN	**Pn**	**11 47 08.7**	**-4.6**
MJAR	**Matsushiro Arr**	**17.04**	**233**	P	**Pn**	**11 48 39.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=26,slow=10.0,SNR=3.8						
BILL	**Bilibino**	**20.63**	**12**	*e*P	**P**	**11 49 11.6**	**-8.9**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.5s						
KSRS	**Korea Array**	**22.51**	**251**	P	**P**	**11 49 39.9**	**-0.7**
	comp=Z,2.8nm,0.7s,mb3.8,baz=51,slow=10,SNR=14						
SONM	**Songino Array**	**32.09**	**288**	P	**P**	**11 51 06.2**	**-1.1**
	comp=Z,0.6nm,0.9s,mb3.4,baz=65,slow=8.5,SNR=4.0						
SONM	**Songino Array**	**32.09**	**288**	P	**P**	**11 51 06.2**	**-1.1**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK	**Inuvik**	**39.67**	**34**	P	**P**	**11 52 12.9**	**+0.8**
	comp=Z,1.3nm,1.0s,mb3.6,baz=274,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	**47.41**	**297**	P	**P**	**11 53 13.8**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=66,slow=8.9,SNR=15						
MKAR	**Makanchi Array**	**47.41**	**297**	P	**P**	**11 53 13.8**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.62**	**303**	‖*e*P	**P**	**11 53 15.7**	**-0.3**
YKA	**Yellowknife Ar**	**48.93**	**38**	P	**P**	**11 53 26.5**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=294,slow=7.2,SNR=5.9						
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**	**11 53 40.7**	**-0.4**
	comp=Z,0.9nm,0.4s,mb4.0,baz=64,slow=6.8,SNR=5.2						
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**	**11 53 40.7**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**62.80**	**56**	P	**P**	**11 55 07.2**	**+2.0**
	comp=Z,0.8nm,1.1s,mb3.8,baz=342,slow=2.3,SNR=2.9						
FINES	**FINESS Array B**	**63.22**	**335**	P	**P**	**11 55 07.9**	**-0.1**
	comp=Z,2.4nm,1.0s,mb4.3,baz=36,slow=7.5,SNR=3.9						
FINES	**FINESS Array B**	**63.22**	**335**	P	**P**	**11 55 07.9**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**64.79**	**326**	*e*P	**P**	**11 55 16.4**	**-1.9**
OBN				*e*		11 57 41.7	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
NB2	**NORSAR Subarra**	**67.21**	**342**	P	**P**	**11 55 34.4**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=26,slow=6.2						
NOA	**NORSAR Array B**	**67.21**	**342**	P	**P**	**11 55 34.4**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=25,slow=6.2,SNR=3.8						
NOA	**NORSAR Array B**	**67.21**	**342**	P	**P**	**11 55 34.4**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**67.48**	**340**	P	**P**	**11 55 36.4**	**+0.8**
	comp=Z,2.1nm,0.4s,mb4.5,baz=55,slow=5.6,SNR=17						
HFS	**Hagfors**	**67.48**	**340**	P	**P**	**11 55 36.4**	**+0.8**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**70.38**	**201**	P	**P**	**11 55 52.8**	**-0.8**
	comp=Z,0.3nm,0.8s,mb3.2,baz=15,slow=6.5,SNR=2.6						
AKASG	**Malin Array Be**	**71.00**	**327**	P	**P**	**11 55 56.1**	**-1.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=34,slow=6.5,SNR=5.1						
ASAR	**Alice Springs**	**74.07**	**200**	P	**P**	**11 56 14.7**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=10,slow=5.5,SNR=9.2						
EKA	**Eskdalemuir Ar**	**75.16**	**347**	P	**P**	**11 56 20.4**	**-1.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=24,slow=4.9,SNR=5.1						
EKA	**Eskdalemuir Ar**	**75.16**	**347**	P	**P**	**11 56 20.4**	**-1.5**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.62**	**62**	P	**P**	**11 56 25.2**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=327,slow=2.8,SNR=7.5						
KHC	**Kasperske Hory**	**77.43**	**335**	*e*P	**P**	**11 56 35.5**	**+0.8**
GERES	**GERESS Array B**	**77.65**	**335**	P	**P**	**11 56 37.3**	**+1.3**
	comp=Z,0.7nm,0.6s,mb3.7,baz=46,slow=9.5,SNR=5.0						
GERES	**GERESS Array B**	**77.65**	**335**	P	**P**	**11 56 37.3**	**+1.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.17**	**318**	P	**P**	**11 56 39.0**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=151,slow=11,SNR=3.7						
BRTR	**Keskin Array B**	**78.17**	**318**	P	**P**	**11 56 39.1**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MMAI	**Mount Meron Ar**	**82.77**	**313**	P	**P**	**11 57 05.4**	**+1.9**
	comp=Z,0.5nm,0.3s,mb4.0,baz=28,slow=6.5,SNR=3.3						

*NEIC **20** 11:45:22.7, 3852N×1423E, h26km, ML3.5(ROM), After ROM.*
*CSEM **20** 11:45:22.7±0.3, 3852N×1423E, h26km±5km, MD2.9/10, Error ellipse: s-maj=4.8km s-min=3.7km az=160.0, After ROM*
ROM 20 11:45:22.7±0.3, 3852N×1423E, h26km±5km, Md2.9/10, Ml3.5/1, Error ellipse: s-maj=4.8km s-min=3.7km az=160.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLNA	**Salina**	**0.48**	**85**	Pg	Pb	11 45 32.9	+0.4
GIB	**Gibilmanna**	**0.55**	**197**	Pg	Pb	11 45 33.4	-0.4
GIB				Sg	Sb	11 45 42.5	+1.1
	2μm,0.5s						
CSLB	**Castelbuono**	**0.60**	**193**	Pg	Pb	11 45 34.6	+0.1
	1μm,0.3s						
MNO	**Monte Soro**	**0.69**	**148**	Pg	Pb	11 45 36.2	+0.1
	440nm,0.2s						
USI	**Ustica**	**0.84**	**283**	Pg	Pb	11 45 38.8	+0.1
	459nm,0.2s						
SCLL	**Scilla**	**1.20**	**102**	Pg	Pn	11 45 43.1	-0.7
	32nm,0.2s						
MTTG	**Motta San Giov**	**1.27**	**114**	Pg	Pn	11 45 45.7	+1.0
	178nm,0.7s						
FAVR	**Favara**	**1.33**	**200**	Pg	Pn	11 45 49.6	+4.0
AGST	**Augusta-Monte**	**1.49**	**148**	Pg	Pn	11 45 48.5	+0.7
	62nm,0.3s						
SOI	**Samo**	**1.50**	**107**	Pg	Pn	11 45 49.0	+1.0
	138nm,0.8s						
PZI	**Palazzolo**	**1.57**	**158**	Pg	Pn	11 45 50.4	+1.5
	71nm,0.1s						

CASC 20 12:10:55.1±2.2, 1402N×8975W, h1km±6km, MD4.2, ML4.3, 4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.11**	**35**	*e*P	x	12 10 58.8	
RTR	**El Retiro**	**0.16**	**141**	‖*i*P	x	12 10 59.3	
SNJE	**San Jose**	**0.21**	**138**	*e*P	x	12 11 00.1	
SBLS	**San Blas**	**0.22**	**146**	*e*P	x	12 11 00.2	
MTO2	**Montecristo 2**	**0.53**	**45**	‖*e*P	x	12 11 05.9	
MTO2				*e*S	x	12 11 14.6	
BOQS	**Boqueron**	**0.54**	**122**	*e*P	x	12 11 06.5	
LBRS	**Las Brisas**	**0.74**	**112**	*e*P	x	12 11 09.9	
LFRS	**El Faro**	**0.78**	**121**	‖*e*P	x	12 11 10.5	
LCBS	**La Ceiba**	**0.83**	**116**	*e*P	x	12 11 11.5	
PCG	**Pacaya**	**0.91**	**294**	*e*P	Pg	12 11 12.4	-0.1
PCG				*e*S	Sg	12 11 29.0	+4.7
TER	**Terranova**	**0.95**	**287**	*e*P	Pg	12 11 13.5	+0.3
TER				*e*S	Sg	12 11 27.1	+1.6
FUG	**Fuego 3**	**1.14**	**292**	*e*P	Pg	12 11 17.0	+0.1
FUG				*e*S	Sg	12 11 32.3	+0.6
VSM	**San Miguel**	**1.55**	**112**	*e*P	x	12 11 24.5	
BLLM	**Bellamira**	**1.58**	**111**	‖*e*P	x	12 11 24.5	
JAT	**Jato**	**1.85**	**279**	*e*P	Pn	12 11 27.9	0.0
JAT				*e*S	Sn	12 11 52.5	+0.5
CNCH	**Conchagua**	**2.01**	**112**	*e*P	x	12 11 31.5	

*MAN **20** 12:19:20.4, 944N×127.14E, h7km, mb3.9, ML4.9, MS6.0*
*ISCJB **20** 12:19:22.0±2.3, 953N±005×12701E±007, h12km±15km, mb3.5/6, Error ellipse: s-maj=11.6km s-min=8.3km az=135.9*
*IDC **20** 12:19:22.4±1.0, 940N×12644E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/30, Error ellipse: s-maj=85.5km s-min=20.4km az=72.0*
ISC 20 12:19:22.5±2.8, 954N±005×12695E±007, h2km±18km, n14, σ1§03/19, mb3.5/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.46**	**279**	‖*e*P	**Pn**	**12 19 48.6**	**-1.2**
SCPH				*e*S	**Sb**	**12 20 02.0**	**-7.3**
MSLP	**Maasin**	**2.14**	**286**	*e*P	**Pn**	**12 19 59.8**	**+0.6**
MSLP				*e*S	**Sn**	**12 20 27.9**	**+1.4**
BUKP	**Musuan**	**2.49**	**229**	*e*P	**Pn**	**12 20 03.6**	**-0.5**
BUKP				*e*S	**Sn**	**12 20 35.3**	**+0.2**
PLP	**Palo**	**2.52**	**310**	*e*P	**Pn**	**12 20 05.5**	**+1.0**
PLP				*e*S	**Sn**	**12 20 35.1**	**-0.7**
MATI	**Mati**	**2.67**	**195**	*e*P	**Pn**	**12 20 03.4**	**-3.2**
OCLP	**Ormoc**	**2.75**	**303**	*e*P	**Pn**	**12 20 06.7**	**-0.9**
SNPH	**Sibulan**	**3.67**	**267**	*e*P	**Pn**	**12 20 21.0**	**+0.7**
CNP	**Catarman**	**3.71**	**323**	*e*P	**Pn**	**12 20 22.2**	**+1.4**
CNP				*e*S	**Sn**	**12 21 03.7**	**-1.3**
WRA	**Warramunga Arr**	**30.19**	**166**	P	**P**	**12 25 35.1**	**+0.9**
	0.1nm,0.4s,mb2.9,baz=346,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	**33.70**	**168**	P	**P**	**12 26 04.4**	**-0.6**
	0.1nm,0.5s,mb3.0,baz=354,slow=6.6,SNR=5.5						
SONM	**Songino Array**	**41.93**	**339**	P	**P**	**12 27 14.3**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=149,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**53.01**	**323**	P	**P**	**12 28 39.6**	**-1.1**
	0.5nm,0.5s,mb3.7,baz=127,slow=7.3,SNR=13						
MKAR				LR	LR	12 49 55.5	
	comp=Z,46nm,21.3s,baz=264,slow=35						
ARCES	**ARCESS Array B**	**85.10**	**340**	P	**P**	**12 31 59.9**	**-0.1**
	6.5nm,1.0s,mb4.7,baz=79,slow=6.3,SNR=6.0						
YKA	**Yellowknife Ar**	**94.14**	**24**	P	**P**	**12 32 44.2**	**+1.5**
	0.1nm,0.6s,mb3.4,baz=299,slow=4.2,SNR=3.1						

*BJI **20** 12:21:14.5, 279N×96.17E, h30km, mB5.1, mb4.8*
*NEIC **20** 12:21:17.3±0.4, 284N×96.10E, h30km, mb4.5/6, Error ellipse: s-maj=13.0km s-min=6.3km az=224.0*
*ISCJB **20** 12:21:18.1±0.6, 292N±010×9622E±009, h51km, mb4.2/20, Error ellipse: s-maj=17.6km s-min=8.2km az=87.0*
*IDC **20** 12:21:19.9±0.8, 290N×9620E, h51km±5km, mb3.8/13, mb1 3.9/14, mb1mx3.8/24, mbtmp3.8/14, MS3.4/2, Ms1 3.4/2, ms1mx2.8/34, Error ellipse: s-maj=32.9km s-min=11.0km az=50.0*
ISC 20 12:21:20.6±0.6, 295N±010×9626E±010, h53km, h53km±2.8km: pP-P, n31, σ0§59/30, mb4.2/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.67**	**93**	P	**Pn**	**12 22 01.1**	**+0.1**
	8.8nm,0.3s,baz=300,slow=7.8,SNR=37						
PSI				LR	LR	12 23 13.3	
	comp=Z,525nm,19.1s,baz=299,slow=42						
KULM	**Kulim**	**4.96**	**62**	*e*Pn	**Pn**	**12 22 32.4**	**0.0**
GUN	**Gumba**	**26.73**	**339**	*e*P	**P**	**12 26 55.4**	**+0.4**
KKN	**Kakani**	**26.83**	**338**	*e*P	**P**	**12 26 56.2**	**+0.2**
LSA	**Lhasa**	**27.04**	**350**	*e*P	**P**	**12 26 58.1**	**+0.3**
LSA	**Lhasa**	**27.04**	**350**	*e*P	**P**	**12 26 58.5**	**+0.7**
	6.6nm,0.7s,mb4.3						
GKN	**Gorkha**	**27.27**	**337**	*e*P	**P**	**12 26 59.6**	**-0.3**
KOLN	**Koldanda**	**27.48**	**335**	*e*P	**P**	**12 27 02.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**35.72**	**127**	P	**P**	**12 28 14.0**	**0.0**
	1.5nm,0.9s,mb3.9,baz=322,slow=12,SNR=3.0						
FITZ				pP	pP	12 28 26.8	-0.9
	3.1nm,0.8s,baz=220,slow=3.2,SNR=4.5						
GTA	**Gaotai**	**36.43**	**5**	*e*P	**P**	**12 28 20.3**	**+0.2**
GTA				AP	pP	12 28 30.5	-3.3
GTA				XP	sP	12 28 34.6	-5.4
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**43.76**	**123**	P	**P**	**12 29 20.7**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.1,baz=301,slow=9.1,SNR=18						
WRA				pP	pP	12 29 34.7	-0.1
	comp=Z,3.4nm,0.5s,baz=303,slow=9.1,SNR=8.9						
WB2	**Warramunga Arr**	**43.77**	**123**	*e*P	**P**	**12 29 21.2**	**+0.3**
AAK	**Ala-Archa**	**44.03**	**337**	*e*P	**P**	**12 29 24.0**	**+1.0**
	comp=Z,2.8nm,0.7s,mb4.1						
KSRS	**Korea Array**	**44.97**	**36**	P	**P**	**12 29 29.3**	**-1.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=240,slow=10.0,SNR=4.2						
KSRS				LR	LR	12 49 19.3	
	comp=Z,60nm,18.8s,baz=331,slow=37						
ASAR	**Alice Springs**	**45.20**	**128**	P	**P**	**12 29 32.5**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.6,baz=298,slow=7.8,SNR=15						
MK31	**Makanchi Array**	**45.33**	**347**	*e*P	**P**	**12 29 33.4**	**+0.1**
MKAR	**Makanchi Array**	**45.33**	**347**	P	**P**	**12 29 33.4**	**+0.1**
	comp=Z,5.0nm,0.3s,mb4.8,baz=160,slow=9.1,SNR=122						
MKAR				pP	pP	12 29 47.5	+0.2
	comp=Z,2.5nm,0.4s,baz=154,slow=9.2,SNR=5.8						
SONM	**Songino Array**	**45.56**	**10**	P	**P**	**12 29 35.3**	**+0.2**
	comp=Z,2.6nm,0.4s,mb4.5,baz=189,slow=9.1,SNR=25						
SONM				PcP	PcP	12 31 14.4	+1.4
	comp=Z,1.6nm,0.6s,baz=192,slow=3.9,SNR=3.5						
TLY	**Talaya**	**48.95**	**6**	*e*P	**P**	**12 30 01.9**	**+0.4**
	comp=Z,3.6nm,0.6s,mb4.6						
KURK	**Kurchatov**	**49.87**	**345**	*e*P	**P**	**12 30 08.7**	**+0.2**
	comp=Z,5.5nm,0.9s,mb4.6						
HIA	**Hailar**	**50.31**	**20**	*e*P	**P**	**12 30 12.1**	**+0.2**
	comp=Z,5.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**51.69**	**351**	P	**P**	**12 30 20.6**	**-1.6**
	comp=Z,2.8nm,0.6s,mb4.4,baz=308,slow=6.4,SNR=15						
ZAL				pP	pP	12 30 36.6	+0.2
	comp=Z,1.9nm,0.6s,baz=298,slow=6.8,SNR=4.0						
BVAR	**Borovoye Array**	**54.30**	**341**	P	**P**	**12 30 41.3**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.4,baz=140,slow=8.7,SNR=14						
BVAR				pP	pP	12 30 55.6	-0.2
	comp=Z,2.0nm,0.5s,baz=142,slow=10,SNR=5.5						
BRVK	**Borovoye**	**54.36**	**341**	*e*P	**P**	**12 30 41.6**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**55.22**	**133**	P	**P**	**12 30 48.1**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.2,baz=314,slow=12,SNR=4.0						
BRTR	**Keskin Array B**	**67.25**	**312**	P	**P**	**12 32 09.6**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=139,slow=4.4,SNR=3.6						
AKASG	**Malin Array Be**	**73.31**	**322**	P	**P**	**12 32 44.5**	**-2.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=89,slow=5.0,SNR=4.7						
AKASG				pP	pP	12 32 58.7	-2.7
	comp=Z,0.6nm,0.4s,baz=89,slow=5.4,SNR=3.2						
AKASG	**Malin Array Be**	**73.31**	**322**	P	**P**	**12 32 44.5**	**-2.0**
AKASG				pP	pP	12 32 58.7	-2.7
FINES	**FINESS Array B**	**78.02**	**332**	P	**P**	**12 33 13.3**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=122,slow=6.9,SNR=3.7						
ARCES	**ARCESS Array B**	**80.58**	**340**	P	**P**	**12 33 27.6**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=99,slow=6.7,SNR=9.9						
TXAR	**Lajitas Array**	**142.65**	**29**	PKP	PKPdf	12 40 45.3	-2.4
	comp=Z,0.2nm,0.5s,baz=222,slow=1.0,SNR=5.4						

*SKO **20** 12:27:13.9, 3994N×2176E, h0km*
*ATH **20** 12:27:17.8, 4067N×2176E, h5km, MD3.4/3*
*CSEM **20** 12:27:21.3±0.4, 4053N×2187E, h2km, MD3.4, Error ellipse: s-maj=15.0km s-min=7.8km az=88.0*
*ISCJB **20** 12:27:23.2±1.0, 4031N±008×218E±0.1, h26km±7km, Error ellipse: s-maj=16.8km s-min=10.2km az=112.3*
ISC 20 12:27:23.4±1.0, 4031N±008×218E±01, h24km±7km, n10, σ1§60/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.02**	**90**	*e*PB	**Pb**	**12 27 25.0**	**-2.5**
KZN				*e*SB	**Sb**	**12 27 31.0**	**+0.8**
THL	**Klokotos Trika**	**0.77**	**164**	*e*PB	**Pb**	**12 27 39.3**	**+1.2**
OHR	**Ohrid**	**1.08**	**318**	*e*Pn	**Pn**	**12 27 39.1**	**-3.9**
OHR				*e*Sg	**Sb**	**12 27 57.8**	**+0.8**
OHR	**Ohrid**	**1.08**	**318**	*e*Pn	**Pn**	**12 27 39.1**	**-3.9**
OHR				*e*Sg	**Sb**	**12 27 57.8**	**+0.8**
KRUS	**Krusevo**	**1.13**	**341**	*e*Pn	**Pn**	**12 27 42.1**	**-1.5**
KRUS				*e*Sg	**Sn**	**12 28 01.6**	**+3.3**
KRUS	**Krusevo**	**1.13**	**341**	*e*Pn	**Pn**	**12 27 42.1**	**-1.5**
KRUS				*e*Sg	**Sn**	**12 28 01.6**	**+3.3**
VAY	**Valandovo**	**1.19**	**31**	*e*Pn	**Pn**	**12 27 42.8**	**-1.7**
VAY				*e*Sg	**Sn**	**12 28 01.4**	**+1.5**
VAY	**Valandovo**	**1.19**	**31**	*e*Pn	**Pn**	**12 27 42.8**	**-1.7**
VAY				*e*Sg	**Sn**	**12 28 01.4**	**+1.5**
VAY	**Valandovo**	**1.19**	**31**	*e*Pn	**Pn**	**12 27 42.7**	**-1.8**
VAY				*e*Sg	**Sn**	**12 28 01.3**	**+1.4**
EVR	**Evrytania**	**1.39**	**178**	*e*PN	**Pn**	**12 27 51.5**	**+4.3**

**IDC 20 12:54:23.7±70.0, 2221S×17855W, h0km, mb3.7/3, mb

*CSEM **20** 13:04:55.2±0.5, 6088N×2876E, h2km, ML2.2, Error ellipse: s-maj=11.7km s-min=4.4km az=130.0*

ISC 20 13:04:52.9±1.3, 6082N±006×289E±01, h0km, n20, σ0:84/33, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.73**	**248**	*e*P	**Pg**	**13 05 07.4**	**+0.5**
VJF				*e*S	**Sg**	**13 05 17.8**	**+1.4**
FIA0	**FINESS Array S**	**1.52**	**296**	Pg	**Pg**	**13 05 20.7**	**-1.3**
FIA0	baz=118,slow=18			Lg		13 05 41.3	
FIA0	baz=110,slow=37			Rg		13 05 49.0	
FIA0	**FINESS Array S**	**1.52**	**296**	*e*P	**Pn**	**13 05 20.6**	**-0.7**
FIA0				*e*S	**Sg**	**13 05 41.6**	**-0.1**
FIA0	**FINESS Array S**	**1.52**	**296**	Pg	**Pg**	**13 05 20.7**	**-1.3**
FINES	baz=118,slow=18,SNR=167 **FINESS Array B**	**1.52**	**296**	Pg	**Pg**	**13 05 20.5**	**-1.5**
FINES	3.7nm,0.3s,baz=119,slow=16,SNR=118			Lg		13 05 41.2	
FINES	7.9nm,0.3s,baz=116,slow=33,SNR=52			Rg		13 05 48.9	
PVF	**Pernaja**	**1.53**	**261**	*e*P	**Pn**	**13 05 20.8**	**-0.7**
PVF				*e*S	**Sn**	**13 05 42.2**	**0.0**
KAF	**Kangasniemi**	**1.81**	**317**	*e*P	**Pn**	**13 05 26.3**	**+1.0**
KAF				*e*S	**Sn**	**13 05 49.6**	**+0.7**
KAF	comp=Z,9.5nm,0.1s			MSG		13 05 52.8	
KEF	**Keuruu**	**2.37**	**307**	*e*SB	**Sb**	**13 06 06.6**	**+0.4**
HFS	**Hagfors**	**7.56**	**271**	Pn	**Pn**	**13 06 43.9**	**-0.4**
HFS	comp=Z,0.2nm,0.3s,baz=79,slow=18,SNR=8.7			Sn	**Sn**	**13 08 07.0**	**-3.7**
HFS	comp=Z,0.3nm,0.3s,baz=79,slow=24,SNR=3.8 **Hagfors**	**7.56**	**271**	Pn	**Pn**	**13 06 44.8**	**+0.5**
HFS	baz=99,slow=14			Sn	**Sn**	**13 08 08.8**	**-1.9**
HFS	baz=81,slow=28			Lg		13 08 47.1	
HFS	baz=70,slow=37 **Hagfors**	**7.56**	**271**	*e*P	**Pn**	**13 06 44.8**	**+0.5**
HFS				*e*S	**Sn**	**13 08 08.8**	**-1.9**
HFS				*e*SG	**Sg**	**13 08 47.1**	**-8.6**
HFS	**Hagfors**	**7.56**	**271**	Pn	**Pn**	**13 06 44.8**	**+0.5**
NB2	baz=99,slow=14,SNR=0.8 **NORSAR Subarra**	**8.63**	**279**	Pn	**Pn**	**13 06 58.5**	**-0.5**
NB2	baz=89,slow=12 **NORSAR Subarra**	**8.63**	**279**	*e*P	**Pn**	**13 06 58.5**	**-0.5**
NB2	**NORSAR Subarra**	**8.63**	**279**	Pn	**Pn**	**13 06 58.5**	**-0.5**
NOA	baz=89,slow=12,SNR=0.4 **NORSAR Array B**	**8.63**	**279**	Pn	**Pn**	**13 06 57.8**	**-1.2**
NOA	comp=Z,0.6nm,0.3s,baz=82,slow=13,SNR=3.4			Sn	**Sn**	**13 08 30.6**	**-6.4**
ARA0	comp=Z,0.3nm,0.3s,baz=118,slow=14,SNR=2.8 **ARCESS Array S**	**8.87**	**352**	Pn	**Pn**	**13 07 02.4**	**+0.1**
ARA0	baz=164,slow=12			Sn	**Sn**	**13 08 36.0**	**-6.9**
ARA0	baz=168,slow=22			Lg		13 09 18.1	
ARA0	baz=166,slow=37 **ARCESS Array S**	**8.87**	**352**	*e*P	**Pn**	**13 07 02.4**	**+0.1**
ARA0				*e*S	**Sn**	**13 08 36.0**	**-6.9**
ARA0				*e*		13 09 18.1	
ARA0	**ARCESS Array S**	**8.87**	**352**	Pn	**Pn**	**13 07 02.4**	**+0.1**
ARA0	baz=164,slow=12,SNR=9.8			Sn	**Sn**	**13 08 36.0**	**-6.9**
ARCES	baz=168,slow=21,SNR=4.8 **ARCESS Array B**	**8.87**	**352**	Pn	**Pn**	**13 07 02.8**	**+0.5**
ARCES	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=6.5			Sn	**Sn**	**13 08 38.1**	**-4.8**
ARCES	comp=Z,0.2nm,0.3s,baz=167,slow=24,SNR=2.9			Lg		13 09 28.5	
ARCES	comp=Z,0.7nm,0.3s,baz=171,slow=33,SNR=5.3						

*NIED **20** 13:15:00, 27.00N×127.40E, h83km, Mw4.1 Best double couple: M0:1.36000×10^15 NP1:φs=128.00000°, δ=55.00000°, λ=89.00000°. NP2:φs=310.00000°, δ=35.00000°, λ=92.00000°.*

*ISCJB **20** 13:15:19.8±0.3, 2696N±004×12739E±004, h93km±3km, mb4.1/21, Error ellipse: s-maj=8.5km s-min=3.7km az=94.2*

*IDC **20** 13:15:20.6±0.6, 2698N×12750E, h86km±6km, mb3.9/18, mb1 4.0/21, mb1mx3.9/28, mbtmp3.9/21, MS3.3/3, Ms1 3.3/3, ms1mx2.8/37, Error ellipse: s-maj=18.4km s-min=9.3km az=56.0*

*MOS **20** 13:15:20.2±0.8, 2695N×12729E, h97km, mb4.2/5, Error ellipse: s-maj=24.3km s-min=12.4km az=116.0*

*JMA **20** 13:15:21.1±0.2, 2701N×12736E, h79km±2km, M4.0*

JMA Felt I J1.

*NEIC **20** 13:15:21.2±0.7, 2695N×12737E, h89km±7km, mb4.4/2, Error ellipse: s-maj=9.7km s-min=7.4km az=83.0*

NEIC Felt on Okinawa. Recorded [1 JMA] on Kume-jima.

ISC 20 13:15:20.9±0.3, 2696N±004×12740E±004, h87km±3km, h88km±3.8km: pP-P, n54, σ0:78/67, mb4.1/21, 1C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.40**	**201**	P	**Pn**	**13 15 34.1**	**-0.5**
JAGN				S	**Sn**	**13 15 43.8**	**-0.9**
JIH	**Iheya**	**0.51**	**82**	P	**Pn**	**13 15 35.4**	**0.0**
JIH				S	**Sn**	**13 15 45.6**	**-0.6**
JOW	**Kunigami**	**0.79**	**99**	P	**Pn**	**13 15 38.1**	**+0.1**
JOW	835nm,0.3s,baz=284,slow=7.2,SNR=1376			S	**Sn**	**13 15 50.3**	**-0.6**
JOW	941nm,0.3s,baz=120,slow=25,SNR=12 **Kunigami**	**0.79**	**99**	P	**Pn**	**13 15 38.1**	**0.0**
JOW				S	**Sn**	**13 15 50.2**	**-0.7**
NAH1	**Naha**	**0.80**	**161**	P	**Pn**	**13 15 38.4**	**+0.3**
NAH1				S	**Sn**	**13 15 50.9**	**-0.1**
JKE	**Kume jima 2**	**0.84**	**221**	P	**Pn**	**13 15 38.4**	**-0.2**
JKE				S	**Sn**	**13 15 51.2**	**-0.6**
JJT2	**Tamagusuku 2**	**0.88**	**159**	P	**Pn**	**13 15 39.7**	**+0.7**
JJT2				S	**Sn**	**13 15 53.3**	**+0.8**
JTK	**Tokunoshima**	**1.60**	**59**	P	**Pn**	**13 15 47.9**	**+0.1**
JTK				S	**Sn**	**13 16 07.8**	**-0.4**
JAM	**Amami Oshima**	**2.43**	**53**	P	**Pn**	**13 15 58.6**	**-0.1**
JAM				S	**Sn**	**13 16 26.5**	**-1.1**
JZK	**Kikaishima**	**2.65**	**59**	P	**Pn**	**13 16 02.1**	**+0.5**
JZK				S	**Sn**	**13 16 33.6**	**+0.7**
JOGS	**Gusukube**	**2.83**	**220**	P	**Pn**	**13 16 04.2**	**+0.1**
JMJ	**Miyako jima 2**	**2.86**	**222**	P	**Pn**	**13 16 06.2**	**+1.8**
JTJ	**Tarama**	**3.36**	**227**	P	**Pn**	**13 16 11.1**	**0.0**
JNN	**Nakanoshima**	**3.60**	**37**	P	**Pn**	**13 16 15.3**	**+0.8**
JNN				*e*S	**Sn**	**13 16 57.1**	**+1.2**
JMZ	**Minamidaito 2**	**3.61**	**108**	P	**Pn**	**13 16 13.1**	**-1.5**
JMZ				S	**Sn**	**13 16 50.8**	**-5.3**
JIJ	**Ishigaki jima**	**3.92**	**229**	P	**Pn**	**13 16 17.8**	**-0.9**
JIJ				*e*S	**Sn**	**13 17 04.8**	**+1.3**
JKRS	**Kuro-shima**	**4.09**	**229**	P	**Pn**	**13 16 20.4**	**-0.7**
JKRS				*e*S	**Sn**	**13 17 09.3**	**+1.5**
IRIF	**Iriomote-Funau**	**4.22**	**233**	P	**Pn**	**13 16 22.0**	**-0.8**
YOJ	**Yonaguni jima**	**4.68**	**239**	P	**Pn**	**13 16 28.0**	**-1.0**
YHNB	**Yeheng**	**5.89**	**249**	*e*Pn	**Pn**	**13 16 46.1**	**+0.6**
JNU	**Nakatsue**	**6.84**	**25**	P	**Pn**	**13 16 59.5**	**+1.0**
JNU	16nm,0.3s,baz=226,slow=19,SNR=95			LR	LR	13 19 32.8	
KSRS	comp=Z,186nm,20.8s,baz=312,slow=37 **Korea Array**	**10.47**	**2**	P	**Pn**	**13 17 48.9**	**+0.9**
CBIJ	baz=182,slow=14,SNR=13 **Chichi jima**	**13.18**	**86**	LR	LR	13 22 21.7	
MJAR	comp=Z,165nm,20.8s,baz=206,slow=32 **Matsushiro Arr**	**13.25**	**41**	P	**Pn**	**13 18 26.3**	**+1.0**
SONM	1.3nm,0.3s,baz=246,slow=14,SNR=9.1 **Songino Array**	**26.54**	**327**	P	**P**	**13 20 52.2**	**+1.9**
SONM	2.1nm,0.4s,mb4.0,baz=142,slow=10,SNR=30			pP	pP	13 21 11.3	+1.2
MK31	1.6nm,0.8s,baz=143,slow=10,SNR=4.9 **Makanchi Array**	**40.50**	**311**	*e*P	**P**	**13 22 50.4**	**-0.7**
MKAR	**Makanchi Array**	**40.50**	**311**	P	**P**	**13 22 50.4**	**-0.7**
MKAR	1.4nm,0.5s,mb4.0,baz=98,slow=10,SNR=25			pP	pP	13 23 12.7	+1.0
MKAR	0.8nm,0.8s,baz=96,slow=9.0,SNR=2.9			PcP	PcP	13 24 52.5	+0.4
ZAL	0.6nm,0.6s,baz=79,slow=5.1,SNR=5.9 **Zalesovo**	**41.22**	**323**	P	**P**	**13 22 56.4**	**-0.7**
ZAL	1.0nm,0.5s,mb4.0,baz=22,slow=4.6,SNR=4.3			LR	LR	13 39 56.5	
KURK	comp=Z,44nm,18.2s,baz=87,slow=36 **Kurchatov**	**43.78**	**316**	*e*P	**P**	**13 23 17.0**	**-0.8**
KURK				pmax	pmax		

2006 DEC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	comp=Z,2.0nm,0.4s,mb4.2 **Kurchatov**	**43.78**	**316**	*e*P	**P**	**13 23 17.0**	**-0.8**
FITZ	comp=Z,2.2nm,0.4s,mb4.2 **Fitzroy Crossi**	**44.83**	**182**	P	**P**	**13 23 26.6**	**+0.4**
WRA	comp=Z,4.3nm,1.1s,mb4.1,baz=118,slow=15,SNR=5.1 **Warramunga Arr**	**47.11**	**171**	P	**P**	**13 23 44.5**	**+0.5**
WB2	comp=Z,6.6nm,0.7s,mb4.5,baz=352,slow=8.4,SNR=29 **Warramunga Art**	**47.11**	**171**	⇑*i*P	**P**	**13 23 44.3**	**+0.2**
BVAR	**Borovoye Array**	**49.24**	**318**	P	**P**	**13 24 00.8**	**+0.4**
BVAR	comp=Z,1.8nm,0.5s,mb4.3,baz=86,slow=8.8,SNR=13			PcP	PcP	13 25 22.3	0.0
BRVK	comp=Z,0.4nm,0.3s,baz=105,slow=3.5,SNR=3.7 **Borovoye**	**49.30**	**318**	*e*P	**P**	**13 24 01.3**	**+0.3**
BRVK				pmax	pmax		
BRVK	comp=Z,2.0nm,0.5s,mb4.3 **Borovoye**	**49.30**	**318**	*e*P	**P**	**13 24 01.3**	**+0.3**
ASAR	comp=Z,2.5nm,0.5s,mb4.4 **Alice Springs**	**50.72**	**172**	P	**P**	**13 24 12.8**	**+1.1**
ASAR	comp=Z,2.1nm,0.5s,mb4.4,baz=0.7,slow=14,SNR=53			PcP	PcP	13 25 28.3	+0.6
AKTK	comp=Z,1.0nm,0.8s,baz=349,slow=3.2,SNR=6.2 **Aktyubinsk**	**56.79**	**314**	P	**P**	**13 24 55.6**	**-0.3**
AKTO	**Aktyubinsk**	**56.79**	**314**	P	**P**	**13 24 55.6**	**-0.3**
STKA	comp=Z,0.6nm,0.5s,mb3.9,baz=70,slow=10,SNR=3.2 **Stephens Creek**	**60.05**	**166**	P	**P**	**13 25 17.8**	**-0.9**
INK	comp=Z,2.1nm,0.7s,mb4.3,baz=26,slow=7.2,SNR=5.6 **Inuvik**	**68.51**	**23**	*e*P	**P**	**13 26 14.4**	**+0.5**
ARCES	comp=Z,44nm,0.5s,mb5.5 **ARCESS Array B**	**69.06**	**338**	P	**P**	**13 26 16.4**	**-0.9**
FINES	comp=Z,2.0nm,0.8s,mb4.0,baz=78,slow=8.4,SNR=4.2 **FINESS Array B**	**71.86**	**330**	P	**P**	**13 26 33.7**	**-0.6**
FINES	comp=Z,0.8nm,0.4s,mb4.0,baz=76,slow=5.9,SNR=8.5 **FINESS Array B**	**71.86**	**330**	P	**P**	**13 26 33.7**	**-0.6**
FINES	comp=Z,1.0nm,0.4s			pmax	pmax		
AKASG	**Malin Array Be**	**74.50**	**319**	P	**P**	**13 26 49.0**	**-0.9**
AKASG	comp=Z,1.0nm,0.4s,mb3.9,baz=61,slow=6.5,SNR=3.0 **Malin Array Be**	**74.50**	**319**	P	**P**	**13 26 49.0**	**-0.8**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
BRTR	**Keskin Array B**	**76.00**	**308**	P	**P**	**13 26 58.7**	**+0.2**
BRTR	comp=Z,2.5nm,0.7s,mb4.0,baz=91,slow=5.2,SNR=9.1 **Keskin Array B**	**76.00**	**308**	P	**P**	**13 26 58.7**	**+0.2**
BRTR	comp=Z,3.0nm,0.7s			pmax	pmax		
HFS	**Hagfors**	**77.83**	**332**	P	**P**	**13 27 07.8**	**-0.9**
YKA	comp=Z,1.4nm,0.7s,mb3.8,baz=108,slow=4.8,SNR=5.1 **Yellowknife Ar**	**78.18**	**25**	P	**P**	**13 27 10.9**	**+0.3**
YKA	comp=Z,1.1nm,0.6s,mb3.8,baz=301,slow=5.6,SNR=21			pP	pP	13 27 32.3	-1.2
NB2	comp=Z,0.8nm,1.0s,baz=298,slow=5.4,SNR=3.2 **NORSAR Subarra**	**78.33**	**334**	P	**P**	**13 27 10.7**	**-0.8**
NOA	comp=Z,1.4nm,0.6s,mb3.9,baz=53,slow=5.9 **NORSAR Array B**	**78.33**	**334**	P	**P**	**13 27 10.4**	**-1.1**
GERES	comp=Z,1.3nm,0.7s,mb3.7,baz=53,slow=5.7,SNR=4.0 **GERESS Array B**	**84.17**	**323**	P	**P**	**13 27 42.6**	**+0.2**
PDAR	comp=Z,0.6nm,0.4s,mb3.8,baz=56,slow=5.0,SNR=8.8 **Pinedale Array**	**93.05**	**38**	P	**P**	**13 28 24.5**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.8,baz=31,slow=3.5,SNR=4.0						

*HLW **20** 13:17:11.4, 31.11N×35.30E, h5km, Mb3.3*

*ISCJB **20** 13:17:15.9±0.4, 3085N±002×3502E±004, h6km±5km, Error ellipse: s-maj=6.4km s-min=3.7km az=24.6*

*GII **20** 13:17:15.2±0.1, 3085N×3500E, h0km, ML2.6/10*

ISC 20 13:17:16.3±0.4, 3085N±002×3501E±004, h7km±4km, n26, σ0:90/31, 1C-1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.24**	**307**	Pg	**Pg**	**13 17 20.9**	**-0.2**
RMNI	**Mount Ramon**	**0.33**	**220**	Pg	**Pg**	**13 17 22.6**	**-0.1**
ZFRI	**Zfri**	**0.33**	**153**	Pg	**Pg**	**13 17 22.7**	**-0.1**
RTMI	**Retamim**	**0.34**	**307**	Pg	**Pg**	**13 17 22.7**	**-0.3**
SVTA	**Shivta**	**0.34**	**284**	Pg	**Pg**	**13 17 22.7**	**-0.3**
PRNI	**Paran**	**0.50**	**180**	Pg	**Pg**	**13 17 25.9**	**0.0**
PRNI				Sg	**Sg**	**13 17 33.6**	**+1.2**
YTIR	**Yattir**	**0.52**	**10**	Pg	**Pg**	**13 17 25.8**	**-0.5**
KZIT	**Kziot**	**0.53**	**276**	Pg	**Pg**	**13 17 26.1**	**-0.4**
KZIT				Sg	**Sg**	**13 17 35.8**	**+2.4**
MZDA	**Masada**	**0.55**	**34**	Pg	**Pg**	**13 17 26.4**	**-0.6**
MZDA				Sg	**Sg**	**13 17 35.2**	**+1.0**
DSI	**Dead Sea**	**0.79**	**24**	Pg	**Pg**	**13 17 32.6**	**+1.2**
DRGI	**Dragot**	**0.81**	**24**	Pg	**Pg**	**13 17 32.2**	**+0.3**
HRFI	**Mount Harif**	**0.81**	**178**	Pg	**Pg**	**13 17 31.5**	**-0.4**
AQBJ	**Aqaba**	**1.12**	**178**	Pg	**Pg**	**13 17 37.5**	**-0.3**
EIL	**Elat**	**1.18**	**182**	Pg	**Pg**	**13 17 38.2**	**-0.7**
HNKL	**Nakhl**	**1.28**	**224**	P	**Pn**	**13 17 39.6**	**-1.0**
HNKL	**Nakhl**	**1.28**	**224**	⇓P	**Pn**	**13 17 39.6**	**-1.0**
SLTI	**Sal'it**	**1.39**	**1**	Pn	**Pn**	**13 17 42.1**	**0.0**
HMDT	**Nahal Hemdat**	**1.47**	**17**	Pn	**Pn**	**13 17 42.5**	**-0.7**
AMAG	**Maghara**	**1.56**	**263**	P	**Pn**	**13 17 43.4**	**-1.2**
AMAG	**Maghara**	**1.56**	**263**	⇑P	**Pn**	**13 17 43.5**	**-1.1**
MMLI	**Mount Malkishu**	**1.62**	**13**	Pn	**Pn**	**13 17 45.2**	**-0.1**
HBST	**Basata**	**1.65**	**188**	P	**Pn**	**13 17 44.4**	**-1.2**
HBST				S	**Sn**	**13 18 09.0**	**+1.9**
OFRI	**'Ofer**	**1.77**	**359**	Pn	**Pn**	**13 17 47.7**	**+0.4**
HDHB	**Dhahab**	**2.15**	**189**	P	**Pn**	**13 17 51.3**	**-1.3**
MMA0	**Mount Meron ar**	**2.18**	**9**	Pn	**Pn**	**13 17 53.9**	**+0.8**
HKAT	**Jabal Katrina**	**2.48**	**201**	P	**Pn**	**13 17 56.8**	**-0.4**
HKAT				S	**Sn**	**13 18 29.7**	**+2.0**

IDC 20 13:38:32.6±1.9, 281N×9546E, h24km±5km, mb3.9/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.9/5, ML3.0/1, Error ellipse: s-maj=65.7km s-min=19.3km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.46**	**90**	Pn	Pn	13 39 26.0	+1.1
MKAR	1.5nm,0.3s,baz=279,slow=12,SNR=18 **Makanchi Array**	**45.28**	**347**	P	P	13 46 48.4	+0.2
MKAR	2.9nm,0.6s,baz=165,slow=7.6,SNR=24			pP	pP	13 46 56.0	+0.4
ASAR	2.1nm,0.5s,baz=158,slow=8.7,SNR=7.6 **Alice Springs**	**45.75**	**127**	P	P	13 46 51.8	-0.1
ASAR	0.4nm,0.8s,baz=303,slow=8.4,SNR=4.7			pP	pP	13 46 59.8	+0.5
SONM	0.3nm,0.5s,baz=298,slow=8.1,SNR=3.5 **Songino Array**	**45.83**	**10**	P	P	13 46 52.0	-0.6
SONM	2.0nm,0.7s,baz=189,slow=8.8,SNR=17			PcP	PcP	13 48 30.4	+0.6
ZAL	0.4nm,0.5s,baz=179,slow=4.0,SNR=3.7 **Zalesovo**	**51.71**	**352**	P	P	13 47 37.6	-0.1
ZAL	3.4nm,0.5s,baz=319,slow=5.6,SNR=15			pP	pP	13 47 44.6	-0.5
ARCES	3.2nm,0.5s,baz=300,slow=5.9,SNR=7.4 **ARCESS Array B**	**80.44**	**340**	pP	pP	13 50 50.0	-0.1
	3.6nm,0.8s,baz=104,slow=5.9,SNR=2.1						

*MOS **20** 13:40:41.7±1.2, 6042S×50.10W, h10km, mb4.9/8, Error ellipse: s-maj=42.3km s-min=12.0km az=102.3*

*ISCJB **20** 13:40:42.8±4.3, 6058S±007×504W±02, h14km±27km, mb4.8/23, MS4.0/9, Error ellipse: s-maj=15.4km s-min=11.2km az=126.1*

*IDC **20** 13:40:42.0±0.5, 6057S×5043W, h0km, mb4.8/15, mb1 4.9/16, mb1mx4.8/20, mbtmp4.8/16, ML3.9/1, MS4.1/10, Ms1 4.1/10, ms1mx3.9/19, Error ellipse: s-maj=18.7km s-min=16.0km az=53.0*

*NEIC **20** 13:40:43.1±0.3, 6071S×5061W, h10km, mb4.9/13, Error ellipse: s-maj=11.4km s-min=8.5km az=48.0*

*BJI **20** 13:40:44.0, 6070S×5060W, h10km, mB5.2*

ISC 20 13:40:44.9±5.7, 6061S±007×504W±02, h18km±36km, n73, σ0:94/51, mb4.8/22, MS4.0/9, 2C-2D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**7.53**	**230**	Pn	**Pn**	**13 42 27.9**	**-5.9**
PMSA	1.1nm,0.3s,baz=211,slow=4.7,SNR=4.8			LR	LR	13 45 10.6	
EFI	comp=Z,1μm,18.3s,baz=59,slow=36 **East Falkland**	**9.91**	**331**	*e*Pn	**Pn**	**13 43 05.3**	**-1.2**
EFI				*e*Sn	**Sn**	**13 44 50.9**	**-6.3**
USHA	**Ushuaia**	**11.22**	**293**	Pn	**Pn**	**13 43 24.2**	**-0.2**
USHA	0.8nm,0.3s,baz=119,slow=11,SNR=5.6			LR	LR	13 46 38.8	
SNAA	comp=Z,2μm,21.7s,baz=51,slow=32 **Sanae**	**21.49**	**140**	P	**P**	**13 45 33.6**	**+1.0**
SNAA	5.2nm,0.9s,mb3.9,baz=286,slow=8.6,SNR=76			S	**S**	**13 49 24.1**	**-6.1**
SNAA	0.5nm,0.7s,baz=276,slow=18,SNR=2.5			LR	LR	13 52 02.1	
SNAA	comp=Z,127nm,20.9s,MS3.3,baz=222,slow=32						
SNAA	**Sanae**	**21.49**	**140**	*e*P	**P**	**13 45 33.3**	**+0.7**
SNAA				S	**S**	**13 49 24.1**	**-6.1**
SNAA	comp=Z,32nm,0.9s			pmax	pmax		
SNAA	**Sanae**	**21.49**	**140**	*e*P	**P**	**13 45 33.3**	**+0.7**
SNAA	comp=Z,32nm,0.9s,mb4.7			S	**S**	**13 49 24.1**	**-6.1**
PLCA	**Paso Flores**	**23.46**	**319**	P	**P**	**13 45 53.1**	**-0.4**
PLCA	comp=Z,23nm,1.0s,mb4.5,baz=157,slow=9.5,SNR=17			LR	LR	13 53 25.7	
PLCA	comp=Z,345nm,19.6s,MS3.8,baz=149,slow=33 **Paso Flores**	**23.46**	**319**	*e*P	**P**	**13 45 52.6**	**-0.9**
PLCA				pmax	pmax		
PLCA	comp=Z,37nm,1.1s **Paso Flores**	**23.46**	**319**	*e*P	**P**	**13 45 52.6**	**-0.9**
TRQA	comp=Z,37nm,1.1s,mb4.7 **Tornquist**	**23.73**	**337**	*e*P	**P**	**13 45 56.7**	**+0.7**
NVL	comp=Z,76nm,1.3s,mb5.0 **N'lazarevskaya**	**26.25**	**138**	*e*P	**P**	**13 46 17.5**	**-1.5**
NVL				pmax	pmax		
SBA	comp=Z,15nm,1.2s,mb4.4 **Scott Base**	**39.93**	**192**	*e*P	**P**	**13 48 19.4**	**+1.4**
VNDA	comp=Z,57nm,0.8s,mb5.3 **Vanda**	**40.69**	**190**	P	**P**	**13 48 25.2**	**+1.0**
VNDA	comp=Z,7.8nm,0.8s,mb4.4,baz=184,slow=7.3,SNR=17			LR	LR	14 06 32.4	
VNDA	comp=Z,317nm,18.3s,MS4.2,baz=39,slow=38 **Vanda**	**40.69**	**190**	*e*P	**P**	**13 48 25.6**	**+1.3**
VNDA				pmax	pmax		
VNDA	comp=Z,10.0nm,0.9s **Vanda**	**40.69**	**190**	*e*P	**P**	**13 48 25.6**	**+1.3**
MAW	comp=Z,10.0nm,0.9s,mb4.5 **Mawson**	**43.22**	**149**	*e*P	**P**	**13 48 46.0**	**+1.1**
MAW	**Mawson**	**43.22**	**149**	P	**P**	**13 48 46.1**	**+1.1**
MAW	comp=Z,24nm,0.9s,mb5.0,baz=221,slow=9.1,SNR=44			LR	LR	14 05 18.0	
LPAZ	comp=Z,431nm,21.5s,MS4.3,baz=233,slow=34 **La Paz**	**46.07**	**336**	P	**P**	**13 49 08.9**	**+1.2**
LPAZ	comp=Z,2.3nm,0.6s,mb4.3,baz=163,slow=6.1,SNR=10			PcP	PcP	13 50 44.7	+0.8
LPAZ	comp=Z,4.2nm,1.0s,baz=191,slow=5.0,SNR=4.4			LR	LR	14 08 32.6	
LPAZ	comp=Z,158nm,21.6s,MS3.9,baz=123,slow=36 **La Paz**	**46.07**	**336**	*e*P	**P**	**13 49 08.4**	**+0.7**
LPAZ						13 50 44.7	
LPAZ				pmax	pmax		
LPAZ	comp=Z,3.0nm,0.6s **La Paz**	**46.07**	**336**	*e*P	**P**	**13 49 08.4**	**+0.7**
LPAZ	comp=Z,2.8nm,0.6s,mb4.4			PcP	PcP	13 50 44.7	+0.8
MIR	**Mirnyy**	**50.31**	**162**	*c i*P	**P**	**13 49 42.0**	**+1.5**
MIR				pmax	pmax		
SUR	comp=Z,20nm,1.0s,mb5.1 **Sutherland**	**53.28**	**92**	P	**P**	**13 50 02.5**	**0.0**
BOSA	comp=Z,5.0nm,0.8s,mb4.5,baz=203,slow=11,SNR=4.9 **Boshof**	**58.55**	**93**	P	**P**	**13 50 40.4**	**0.0**
BOSA	comp=Z,8.0nm,0.9s,mb4.8,baz=207,slow=4.5,SNR=12			LR	LR	14 10 37.3	
BOSA	comp=Z,252nm,20.7s,MS4.3,baz=194,slow=31 **Boshof**	**58.55**	**93**	*e*P	**P**	**13 50 39.3**	**-1.0**
BOSA				pmax	pmax		
BOSA	comp=Z,9.0nm,0.9s,mb4.8 **Boshof**	**58.55**	**93**	*e*P	**P**	**13 50 39.3**	**-1.1**
LBTB	comp=Z,9.4nm,0.9s,mb4.8 **Lobatse**	**61.70**	**91**	*e*P	**P**	**13 51 01.8**	**-0.2**
LBTB				pmax	pmax		
LBTB	comp=Z,19nm,0.9s,mb5.2 **Lobatse**	**61.70**	**91**	*e*P	**P**	**13 51 01.8**	**-0.2**
TSUM	comp=Z,19nm,0.9s,mb5.2 **Tsumeb**	**62.67**	**80**	*e*P	**P**	**13 51 09.0**	**+0.5**
OTAV	comp=Z,2.9nm,0.8s,mb4.5 **Otavalo**	**64.42**	**329**	*e*P	**P**	**13 51 21.4**	**+1.4**
MATP	comp=Z,19nm,0.7s,mb5.2 **Matopo**	**67.00**	**91**	P	**P**	**13 51 36.5**	**-0.2**
MATP	comp=Z,14nm,0.8s,mb5.0,baz=210,slow=6.4,SNR=38 **Matopo**	**67.00**	**91**	P	**P**	**13 51 36.5**	**-0.2**
SDV	**Santo Domingo**	**71.10**	**339**	*e*P	**P**	**13 52 03.4**	**+1.2**
LSZ	comp=Z,6.3nm,0.9s,mb4.5 **Lusaka**	**71.22**	**88**	P	**P**	**13 52 03.5**	**+0.6**
LSZ	comp=Z,8.8nm,0.8s,mb4.8,baz=204,slow=7.3,SNR=7.5 **Lusaka**	**71.22**	**88**	*e*P	**P**	**13 52 03.4**	**+0.5**
LSZ				pmax	pmax		
LSZ	comp=Z,3.0nm,0.8s,mb4.3 **Lusaka**	**71.22**	**88**	*e*P	**P**	**13 52 03.4**	**+0.5**
URZ	comp=Z,3.3nm,0.8s,mb4.3 **Urewera**	**74.09**	**217**	P	**P**	**13 52 19.8**	**-0.1**
TOA0	comp=Z,9.3nm,0.7s,mb4.8,baz=198,slow=1.9,SNR=3.7 **Torodi Ar. Sit**	**84.34**	**51**	*e*P	**P**	**13 53 15.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**84.34**	**51**	P	**P**	**13 53 15.9**	**0.0**
NWAO	comp=Z,7.6nm,0.9s,mb4.8,baz=213,slow=5.0,SNR=31 **Narrogin (SRO)**	**86.26**	**170**	P	**P**	**13 53 24.3**	**-1.2**
NWAO	comp=Z,26nm,0.9s,mb5.5,baz=178,slow=5.2,SNR=8.6 **Narrogin (SRO)**	**86.26**	**170**	*e*P	**P**	**13 53 24.2**	**-1.3**
NWAO	comp=Z,24nm,0.9s			pmax	pmax		
NWAO	comp=Z,24nm,0.9s,mb5.4 **Narrogin (SRO)**	**86.26**	**170**	*e*P	**P**	**13 53 24.2**	**-1.2**
MUN	comp=Z,24nm,0.9s,mb5.4 **Mundaring**	**87.10**	**169**	*e*P	**P**	**13 53 28.8**	**-0.8**
STKA	**Stephens Creek**	**87.33**	**190**	*e*P	**P**	**13 53 29.5**	**-1.

CLCH	**Cerro Calan**	**1.73 264**	*e*P	Pn	13 49 30.7	+1.2
CLCH			AML	AML	13 50 00.8	
comp=E,188nm,0.6s						
PCH	**Pirque**	**1.75 256**	⇓*i*P	Pn	13 49 30.3	+0.5
PCH			*i* S	Sn	13 49 55.7	+3.1
TACH	**Talagante**	**2.10 257**	⇓*i*P	Pn	13 49 36.4	+1.8
TACH			*i* S	Sn	13 50 05.8	+4.4
SFDO	**San Fernando**	**2.52 236**	*e*P	Pn	13 49 44.1	+3.6
SFDO			*i* S	Sn	13 50 18.0	+6.2

ISCJB ***20*** *13:53:53.6±0.7, 3774S±005×17622E±0.10, h318km±5km, mb3.3/3, Error ellipse: s-maj=12.6km s-min=7.9km az=6.5*
IDC ***20*** *13:53:53.3±0.9, 3803S×17662E, h324km±11km, mb3.1/3, mb1 3.4/4, mb1mx3.2/13, mbtmp3.3/4, Error ellipse: s-maj=38.1km s-min=20.2km az=140.0*
WEL ***20*** *13:53:55.4±0.4, 3771S×17648E, h300km±2km, ML4.8/25, Error ellipse: s-maj=4.0km s-min=3.6km az=90.0*

ISC 20 13:53:54.5±0.7, 3775S±005×1762E±01, h312km±5km, n83, σ0§81/85, mb3.3/3, 23C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.05**	**71**	⇑PN	**Pn**	**13 54 33.3**	**-0.6**
TGRZ				SN	**S**	**13 55 03.7**	**-1.5**
KARZ	**Kaharoa**	**0.28 174**		⇑PN	**Pn**	**13 54 33.7**	**-0.3**
KARZ				SN	**S**	**13 55 04.5**	**-1.0**
EDRZ	**Edgecumbe**	**0.56 131**		PN	**Pn**	**13 54 34.1**	**-0.5**
URZ	**Urewera**	**0.88 126**		P	**Pn**	**13 54 34.6**	**-1.0**
344nm,0.3s,baz=271,slow=2.4,SNR=2001							
URZ				S	**S**	**13 55 03.7**	**-4.7**
331nm,0.3s,baz=116,slow=21,SNR=29							
URZ	**Urewera**	**0.88 126**		⇑PN	**Pn**	**13 54 34.6**	**-1.0**
URZ				SN	**S**	**13 55 03.9**	**-4.5**
WHTZ	**Whakaora**	**0.94 192**		PN	**Pn**	**13 54 36.4**	**+0.5**
WATZ	**Wairara**	**1.03 201**		⇑PN	**Pn**	**13 54 36.8**	**+0.5**
KUZ	**Kuaotunu**	**1.07 339**		⇑PN	**Pn**	**13 54 35.6**	**-0.8**
HATZ	**Hinemaiaia**	**1.15 184**		PN	**Pn**	**13 54 36.9**	**+0.1**
RATZ	**Rangitukua**	**1.17 197**		⇑PN	**Pn**	**13 54 37.3**	**+0.4**
MWZ	**Matawai**	**1.20 120**		⇑PN	**Pn**	**13 54 36.3**	**-0.7**
RITZ	**Rihia Road**	**1.26 192**		PN	**Pn**	**13 54 38.1**	**+0.6**
KATZ	**Kakaramea**	**1.29 198**		PN	**Pn**	**13 54 38.2**	**+0.6**
HIZ	**Hauiti**	**1.31 234**		⇑PN	**Pn**	**13 54 38.8**	**+1.1**
KRVZ	**Karewarewa**	**1.42 198**		PN	**Pn**	**13 54 38.7**	**+0.4**
BKZ	**Black Stump Fm**	**1.44 171**		⇑PN	**Pn**	**13 54 38.6**	**+0.2**
WTVZ	**West Tongariro**	**1.45 199**		⇑PN	**Pn**	**13 54 39.0**	**+0.5**
TWVZ	**Taurewa**	**1.46 204**		⇑PN	**Pn**	**13 54 39.1**	**+0.6**
OTVZ	**Oturere**	**1.48 196**		PN	**Pn**	**13 54 39.2**	**+0.5**
NGZ	**Ngauruhoe**	**1.50 198**		PN	**Pn**	**13 54 39.3**	**+0.4**
WPVZ	**Whakapapa**	**1.55 199**		PN	**Pn**	**13 54 39.8**	**+0.7**
TUVZ	**Tukino**	**1.58 196**		PN	**Pn**	**13 54 40.1**	**+0.7**
FWVZ	**Far West T-bar**	**1.59 199**		PN	**Pn**	**13 54 39.9**	**+0.5**
TRVZ	**Turoa**	**1.64 198**		PN	**Pn**	**13 54 40.3**	**+0.7**
WNVZ	**Wahianoa**	**1.65 197**		⇑PN	**Pn**	**13 54 40.5**	**+0.8**
PUZ	**Puketiti**	**1.66 102**		⇑PN	**Pn**	**13 54 38.4**	**-1.4**
MXZ	**Matakaoa Point**	**1.68 84**		PN	**Pn**	**13 54 38.7**	**-1.3**
PKVZ	**Pokaka**	**1.68 203**		⇑PN	**Pn**	**13 54 40.6**	**+0.6**
MOVZ	**Moawhango**	**1.70 192**		⇑PN	**Pn**	**13 54 40.4**	**+0.3**
KNZ	**Kokohu**	**1.72 138**		PN	**Pn**	**13 54 39.9**	**-0.3**
MTVZ	**Mangateitei**	**1.74 199**		⇑PN	**Pn**	**13 54 41.0**	**+0.6**
VRZ	**Vera Road**	**1.79 219**		⇑PN	**Pn**	**13 54 41.7**	**+1.0**
RAEZ	**Rainy Point**	**2.10 222**		PN	**Pn**	**13 54 44.4**	**+1.4**
WAZ	**Wanganui**	**2.22 205**		PN	**Pn**	**13 54 44.8**	**+0.8**
NEZ	**North Egmont**	**2.25 227**		PN	**Pn**	**13 54 46.1**	**+1.9**
TSZ	**Takapari Road**	**2.32 185**		⇑PN	**Pn**	**13 54 45.2**	**+0.3**
PXZ	**Pawanui**	**2.34 168**		⇑PN	**Pn**	**13 54 45.6**	**+0.5**
WCZ	**Waipu Caves**	**2.34 320**		⇓PN	**Pn**	**13 54 45.0**	**-0.1**
WCZ				SN	**S**	**13 55 24.3**	**-1.1**
NRZ	**Ngariki Road**	**2.39 228**		PN	**Pn**	**13 54 47.0**	**+1.6**
BFZ	**Birch Farm**	**2.93 179**		⇑PN	**Pn**	**13 54 50.9**	**+0.5**
MRZ	**Mangatainoka R**	**2.95 189**		⇑PN	**Pn**	**13 54 50.7**	**+0.1**
TIWZ	**Tintock**	**3.04 185**		PN	**Pn**	**13 54 51.7**	**+0.3**
KIW	**Kapiti Island**	**3.27 197**		PN	**Pn**	**13 54 53.8**	**+0.1**
MTW	**Mount Morrison**	**3.45 189**		⇑PN	**Pn**	**13 54 55.5**	**-0.1**
CAW	**Cannon Point**	**3.47 194**		PN	**Pn**	**13 54 55.8**	**+0.1**
DUWZ	**D'Urville Isla**	**3.53 209**		PN	**Pn**	**13 54 56.3**	**0.0**
MRW	**Makara Radio**	**3.67 198**		PN	**Pn**	**13 54 57.8**	**0.0**
TRWZ	**Traveller**	**3.67 186**		PN	**Pn**	**13 54 58.1**	**+0.3**
PAWZ	**Paruwai Farm**	**3.68 189**		PN	**Pn**	**13 54 58.0**	**+0.1**
WEL	**Wellington**	**3.71 197**		PN	**Pn**	**13 54 58.3**	**+0.1**
MSWZ	**Moikau Station**	**3.74 191**		PN	**Pn**	**13 54 58.5**	**0.0**
SNZO	**South Karori**	**3.74 198**		PN	**Pn**	**13 54 58.5**	**-0.1**
TCW	**Tory Channel**	**3.77 203**		PN	**Pn**	**13 54 59.1**	**+0.2**
BHW	**Baring Head**	**3.80 195**		PN	**Pn**	**13 54 59.2**	**0.0**
TUWZ	**Tuamarina**	**4.07 205**		PN	**Pn**	**13 55 02.2**	**+0.1**
NNZ	**Nelson**	**4.10 211**		⇑PN	**Pn**	**13 55 02.0**	**-0.4**
QRZ	**Quartz Range**	**4.20 222**		PN	**Pn**	**13 55 02.6**	**-0.9**
CMWZ	**Cape Campbell**	**4.28 200**		PN	**Pn**	**13 55 05.2**	**+0.8**
BSWZ	**Blackbirch Sta**	**4.35 204**		PN	**Pn**	**13 55 05.3**	**+0.2**
THZ	**Tophouse**	**4.75 211**		PN	**Pn**	**13 55 09.1**	**-0.5**
KHZ	**Kahutara**	**5.09 203**		PN	**Pn**	**13 55 13.8**	**+0.2**
DSZ	**Denniston Nort**	**5.24 219**		PN	**Pn**	**13 55 14.2**	**-1.0**
LTZ	**Lake Taylor**	**5.86 210**		PN	**Pn**	**13 55 22.1**	**-0.4**
CRLZ	**Canterbury Las**	**6.43 204**		PN	**Pn**	**13 55 28.9**	**-0.3**
MQZ	**McQueen's Vall**	**6.54 203**		PN	**Pn**	**13 55 29.8**	**-0.7**
WVZ	**Waitaha Valley**	**6.76 216**		PN	**Pn**	**13 55 32.5**	**-0.7**
RPZ	**Rata Peaks**	**7.13 212**		P	**Pn**	**13 55 36.9**	**-0.7**
26nm,0.3s,baz=170,slow=0.9,SNR=99							
RPZ				S	**S**	**13 56 58.2**	**-3.0**
18nm,0.3s,baz=315,slow=23,SNR=14							
RPZ	**Rata Peaks**	**7.13 212**		PN	**Pn**	**13 55 36.8**	**-0.8**
FOZ	**Fox Glacier**	**7.63 218**		PN	**Pn**	**13 55 41.2**	**-2.5**
LBZ	**Lake Benmore**	**8.04 213**		PN	**Pn**	**13 55 48.0**	**-0.7**
ODZ	**Otahua Downs**	**8.40 208**		PN	**Pn**	**13 55 53.7**	**+0.6**
JCZ	**Jackson Bay**	**8.47 219**		PN	**Pn**	**13 55 52.3**	**-1.5**
WKZ	**Wanaka**	**8.90 215**		PN	**Pn**	**13 55 57.1**	**-2.0**
EAZ	**Earnscleugh**	**9.09 212**		PN	**Pn**	**13 56 00.5**	**-0.9**
MSZ	**Milford Sound**	**9.31 219**		PN	**Pn**	**13 56 03.0**	**-1.1**
APZ	**The Paps**	**10.92 211**		PN	**Pn**	**13 56 24.0**	**+0.3**
ASAR	**Alice Springs**	**38.66 279**		P	**P**	**14 00 49.0**	**+0.3**
0.4nm,0.3s,mb3.3,baz=115,slow=6.2,SNR=19							
WRA	**Warramunga Arr**	**40.35 284**		P	**P**	**14 01 03.1**	**+0.6**
0.5nm,0.3s,mb3.3,baz=122,slow=8.7,SNR=10							
FITZ	**Fitzroy Crossi**	**48.15 280**		P	**P**	**14 02 05.8**	**+1.9**
0.5nm,0.3s,mb3.3,baz=114,slow=3.9,SNR=4.4							
ARCES	**ARCESS Array B**	**144.47 343**		PKP	PKPdf	14 12 50.3	-3.5
3.4nm,0.7s,baz=60,slow=2.4,SNR=18							
JOF	**Joensuu**	**147.01 331**		*e*p	PKPdf	14 12 56.3	-1.8
KAF	**Kangasniemi**	**149.37 332**		*e*p	PKPdf	14 13 02.7	+0.8
FINES	**FINESS Array B**	**149.87 332**		PKPbc	PKPbc	14 13 04.7	-3.2
0.9nm,0.3s,baz=67,slow=3.0,SNR=13							

ISCJB ***20*** *14:10:29.1±6.0, 202S±07×174W±, h35km, mb3.9/5, Error ellipse: s-maj=169.7km s-min=16.2km az=73.4*
IDC ***20*** *14:10:31.5±2.1, 1969S×17469W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, ML1.9/1, Error ellipse: s-maj=88.7km s-min=25.7km az=138.0*
NEIC ***20*** *14:10:35.6±1.6, 1946S×17476W, h25km, mb4.4/1, Error ellipse: s-maj=73.4km s-min=14.2km az=138.0*

ISC 20 14:10:31.0±5.9, 203S±07×1737W±10, h35km, n12, σ0§67/9, mb3.9/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.60**	**16**	Pn	**Pn**	**14 12 04.9**	**-0.6**
1.6nm,0.3s,baz=180,slow=4.0,SNR=3.6							
AFI				Sn	**Sn**	**14 13 10.3**	**-9.2**
2.2nm,0.3s,baz=45,slow=19,SNR=3.6							
AFI	**Afiamalu**	**6.60**	**16**	*e*Pn	**Pn**	**14 12 05.3**	**-0.2**
AFI				Sn	**Sn**	**14 13 10.3**	**-9.2**
TBI	**Tubuai**	**22.66 102**		*e*LR	LR	14 15 02.8	
204nm,29.2s							
CTAO	**Charters Tower**	**37.56 263**		*e*P	**P**	**14 17 41.9**	**0.0**
2.2nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**41.55 245**		P	**P**	**14 18 15.4**	**+0.3**
1.4nm,0.8s,mb3.6,baz=58,slow=9.5,SNR=3.4							
ASAR	**Alice Springs**	**48.52 256**		P	**P**	**14 19 09.9**	**-0.6**
0.6nm,0.4s,mb4.0,baz=86,slow=8.8,SNR=24							
ASAR				PcP	PcP	14 20 40.6	+4.6
0.3nm,0.5s,baz=111,slow=4.0,SNR=4.1							
WRA	**Warramunga Arr**	**48.66 261**		P	**P**	**14 19 10.9**	**-0.7**
0.6nm,0.3s,mb4.1,baz=96,slow=7.6,SNR=8.9							
KSRS	**Korea Array**	**79.49 316**		P	**P**	**14 22 35.2**	**+1.3**
0.9nm,0.8s,mb3.7,baz=140,slow=6.0,SNR=4.1							
ARCES	**ARCESS Array B**	**129.39 351**		PKP	PKPdf	14 29 39.7	+3.9
6.7nm,1.0s,baz=25,slow=4.0,SNR=6.2							
FINES	**FINESS Array B**	**136.63 346**		PKP	PKPdf	14 29 54.2	+4.8
2.0nm,0.9s,baz=9.5,slow=2.3,SNR=4.3							
BRTR	**Keskin Array B**	**149.63 316**		PKPbc	PKPbc	14 30 19.4	+2.6
0.9nm,0.8s,baz=76,slow=1.5,SNR=4.7							
GERES	**GERESS Array B**	**150.91 350**		PKPbc	PKPbc	14 30 24.2	+4.4
0.8nm,0.7s,baz=98,slow=2.0,SNR=6.1							

NEIC ***20*** *14:17:03.9±2.5, 2434S×17974E, h516km±24km, mb4.4/2, Error ellipse: s-maj=30.3km s-min=16.0km az=55.0*
ISCJB ***20*** *14:17:04.4±3.2, 244S±02×1796E±03, h524km±34km, mb3.9/9, Error ellipse: s-maj=42.7km s-min=19.3km az=123.5*
IDC ***20*** *14:17:05.0±4.2, 2434S×17951E, h511km±42km, mb3.3/7, mb1 3.3/9, mb1mx3.2/16, mbtmp3.3/9, Error ellipse: s-maj=35.3km s-min=18.9km az=70.0*

ISC 20 14:17:04.7±2.8, 244S±02×1796E±03, h514km±28km, n22, σ0§57/15, mb3.9/9, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.34 278**		P	**P**	**14 19 47.6**	**+0.8**
0.6nm,0.3s,baz=90,slow=15,SNR=6.0							
URZ	**Urewera**	**13.96 188**		P	**P**	**14 20 03.2**	**-0.6**
1.8nm,0.3s,baz=332,slow=2.5,SNR=7.1							
HNR	**Honiara**	**23.96 305**		P	**P**	**14 21 37.1**	**-1.0**
23nm,0.8s,mb4.9,baz=74,slow=2.8,SNR=3.8							
HNR	**Honiara**	**23.96 305**		P	**P**	**14 21 37.6**	**-0.5**
CTA	**Charters Tower**	**31.14 271**		⇑*i*P	**P**	**14 22 41.6**	**+0.6**
CTAO	**Charters Tower**	**31.14 271**		*e*P	**P**	**14 22 41.5**	**+0.6**
4.6nm,0.4s,mb4.4							
STKA	**Stephens Creek**	**34.21 249**		P	**P**	**14 23 07.3**	**+0.3**
2.0nm,0.5s,mb3.9,baz=82,slow=11,SNR=8.8							
STKA	**Stephens Creek**	**34.21 249**		*e*P	**P**	**14 23 07.2**	**+0.2**
PMG	**Port Moresby**	**34.34 290**		*e*P	**P**	**14 23 08.2**	**0.0**
9.6nm,0.8s,mb4.4							
ASAR	**Alice Springs**	**41.61 261**		P	**P**	**14 24 07.2**	**-0.2**
0.4nm,0.4s,mb3.3,baz=96,slow=7.1,SNR=16							
WB2	**Warramunga Arr**	**42.02 267**		*e*P	**P**	**14 24 10.1**	**-0.6**
WRA	**Warramunga Arr**	**42.03 267**		P	**P**	**14 24 10.2**	**-0.6**
0.7nm,0.3s,mb3.6,baz=102,slow=8.2,SNR=8.4							
VNDA	**Vanda**	**53.83 185**		P	**P**	**14 25 39.8**	**+0.7**
1.0nm,0.9s,mb3.1,baz=21,slow=6.0,SNR=3.5							
MJAR	**Matsushiro Arr**	**72.13 326**		P	**P**	**14 27 36.6**	**-0.3**
3.4nm,0.7s,mb3.9,baz=150,slow=6.1,SNR=9.5							
KSRS	**Korea Array**	**78.43 320**		P	**P**	**14 28 12.8**	**+0.7**
1.4nm,0.7s,mb3.4,baz=137,slow=6.0,SNR=10							
ARCES	**ARCESS Array B**	**132.32 348**		PKP	PKPdf	14 35 19.1	-1.1
4.1nm,0.8s,baz=342,slow=6.9,SNR=3.5							
NB2	**NORSAR Subarra**	**142.54 351**		PKP		14 35 34.9	
comp=Z,0.2nm,0.7s,baz=23,slow=3.4							
NOA	**NORSAR Array B**	**142.54 351**		PKhKP		14 35 34.6	
comp=Z,1.9nm,0.8s,baz=7.6,slow=2.3,SNR=4.4							
AKASG	**Malin Array Be**	**145.22 327**		PKPbc	PKPbc	14 35 42.8	-1.7
comp=Z,0.5nm,0.3s,baz=45,slow=4.0,SNR=5.3							
BR131	**Keskin Array S**	**147.61 306**		*e*PKPab	PKPab	14 35 55.4	+0.3
BRTR	**Keskin Array B**	**147.61 306**		PKPbc	PKPbc	14 35 50.9	-0.2
comp=Z,1.9nm,0.6s,baz=123,slow=3.6,SNR=3.0							
CLL	**Collm**	**151.25 342**		⇑*i*PKPbc	PKPbc	14 35 59.8	0.0
comp=Z,8.0nm,0.8s							

NEIC ***20*** *14:39:53.1, 3781N×21.13E, h5km, MD3.6(ATH), After ATH.*
CSEM ***20*** *14:39:53.1, 3781N×21.13E, h5km, MD3.7/10, After ATH*

ATH 20 14:39:53.1, 3781N×2113E, h5km±3km, MD3.6/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.36**	**47**	*e*PB	Pg	14 40 00.4	+0.3
RLS				*e*SB	Sg	14 40 06.0	+1.1
ITM	**Ithomi**	**0.89**	**135**	*e*PG	Pg	14 40 09.8	-0.4
ITM				*e*SB	Sb	14 40 22.8	-0.5
EVR	**Evrytania**	**1.23**	**26**	*e*PN	Pn	14 40 15.4	-1.5
LKR	**Lokris**	**1.69**	**60**	*e*PG	Pg	14 40 24.6	-1.0
VLI	**Veliai**	**1.81**	**127**	*e*PN	Pn	14 40 27.3	+2.4
JAN	**Janina**	**1.86**	**353**	*e*PG	Pg	14 40 28.0	-0.7
NAIG	**Nisos Aigina**	**1.87**	**91**	*e*PN	Pn	14 40 27.0	+1.3
THL	**Klokotos Trika**	**1.88**	**21**	*e*PN	Pn	14 40 27.8	+1.9
ATH	**Athens Observa**	**2.05**	**85**	*e*PN	Pn	14 40 30.0	+1.7
KVR	**Kavouri**	**2.09**	**89**	*e*PN	Pn	14 40 31.0	+2.2
KYTH	**Kithira**	**2.16**	**134**	*e*PN	Pn	14 40 32.0	+2.3
KEK	**Kerkira**	**2.17**	**332**	*e*PN	Pn	14 40 32.5	+2.7
PTL	**Penteli**	**2.18**	**83**	*e*PN	Pn	14 40 32.0	+2.1

NIED ***20*** *14:47:00, 4670N×153.10E, h35km, Mw4.1 Best double couple: M0 1.34000×10^15 NP1:φs 310.00000°, δ87.00000°; λ26.00000°. NP2:φs 219.00000°, δ64.00000°, λ177.00000°.*
BJI ***20*** *14:47:43.4, 4728N×153.70E, h82km, mB4.8, mb4.4*
JMA ***20*** *14:47:45.3±0.8, 4667N×153.13E, h30km, M4.6*
ISCJB ***20*** *14:47:46.4±0.8, 4674N±006×15274E±008, h60km±7km, mb4.3/23, Error ellipse: s-maj=12.7km s-min=5.8km az=103.7*
SKHL ***20*** *14:47:46.5±2.6, 4650N×153.10E, h69km±10km, mb5.0/3*
MOS ***20*** *14:47:47.5±1.2, 4685N×15268E, h69km, mb4.4/4, Error ellipse: s-maj=11.4km s-min=8.9km az=72.3*
NEIC ***20*** *14:47:50.9±0.9, 4689N×15268E, h82km±7km, mb4.4/4, Error ellipse: s-maj=11.8km s-min=6.8km az=149.0*
IDC ***20*** *14:47:51.9±3.6, 4693N×15266E, h88km±33km, mb3.7/15, mb1 4.0/16, mb1mx3.8/25, mbtmp3.8/16, MS3.1/1, Ms1 3.1/1, ms1mx2.4/34, Error ellipse: s-maj=22.3km s-min=15.1km az=165.0*

ISC 20 14:47:48.1±0.7, 4677N±006×15278E±008, h60km±6km, n94, σ1§42/113, mb4.3/23, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.75**	**248**	⇓*i*PN	**Pn**	**14 48 43.0**	**-0.5**
KUR				*i* S	**Sn**	**14 49 24.0**	**-2.4**
KUR				pmax	pmax		
comp=N,80nm,0.5s							
KUR				pmax	pmax		
comp=Z,150nm,0.5s							
KUR				smax			
comp=N,340nm,0.6s							
KUR				smax			
comp=E,110nm,0.6s							
KUR	**Kuril'sk**	**3.75**	**248**	*i* P	**Pn**	**14 48 43.0**	**-0.5**
KUR				AMB	AMB	14 48 43.6	
comp=E,80nm,0.5s							
KUR				AMB	AMB	14 48 43.6	
comp=E,150nm,0.5s							
KUR				*i* S	**Sn**	**14 49 24.0**	**-2.4**
KUR				A		14 49 37.5	
comp=E,340nm,0.6s							
KUR				A		14 49 37.5	
comp=E,110nm,0.6s							
SKR	**Severo-Kuril's**	**4.50**	**28**	*e*PN	**Pn**	**14 48 52.9**	**-0.8**
SKR				*e*S	**Sn**	**14 49 40.0**	**-4.7**
SKR				pmax	pmax		
comp=Z,80nm,0.5s							
SKR				smax			
comp=N,140nm,0.2s							
SKR				smax			
comp=E,200nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**5.58**	**243**	*e*PN	**Pn**	**14 49 10.0**	**+1.4**
YUK				*i* S	**Sn**	**14 50 15.9**	**+4.5**
YUK				pmax	pmax		
comp=Z,280nm,0.3s							
YUK				smax			
comp=N,370nm,0.5s							
YUK				smax			
comp=E,370nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.58**	**243**	*e*P	**Pn**	**14 49 10.0**	**+1.4**
YUK				AMB	AMB	14 49 11.0	
comp=E,280nm,0.3s							
YUK				*e*S	**Sn**	**14 50 15.9**	**+4.5**
YUK				A		14 50 32.0	
comp=E,370nm,0.5s							
NEM2	**Nemuro 2**	**6.03**	**238**	P	**Pn**	**14 49 13.7**	**-1.0**
NEM2				*e*S	**Sn**	**14 50 18.3**	**-4.1**
JNK	**Nakash**	**6.52**	**244**	P	**Pn**	**14 49 22.8**	**+1.3**
JTKR	**Abashiri--Toko**	**6.84**	**249**	P	**Pn**	**14 49 28.0**	**+2.2**
JAK	**Akkeshi**	**6.87**	**240**	P	**Pn**	**14 49 25.5**	**-0.7**
JAK				*e*S	**Sn**	**14 50 39.8**	**-3.1**
YSS	**Yuzh-Sakhalins**	**6.87**	**275**	⇑*e*PN	**Pn**	**14 49 29.3**	**+3.0**
YSS				*e*S	**Sn**	**14 50 45.0**	**+1.9**
YSS				pmax	pmax		
comp=Z,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**6.87**	**275**	*e*Pn	**Pn**	**14 49 29.4**	**+3.1**
comp=Z,16nm,0.3s							
YSS	**Yuzh-Sakhalins**	**6.87**	**275**	*e*P	**Pn**	**14 49 29.3**	**+3.0**
YSS				AMB	AMB	14 49 31.3	
comp=Z,40nm,1.0s							
YSS				*e*S	**Sn**	**14 50 45.0**	**+1.9**
JMP	**Maruseppu**	**7.18**	**251**	P	**Pn**	**14 49 33.3**	**+2.8**
JAR	**Ashorobuto**	**7.26**	**245**	P	**Pn**	**14 49 32.8**	**+1.2**
JAR				*e*S	**Sn**	**14 50 54.2**	**+1.6**
PET	**Petropavlovsk**	**7.32**	**29**	*e*PN	**Pn**	**14 49 39.1**	**+6.8**
PET				MLR	MLR		
comp=Z,100nm,14.0s							
PET	**Petropavlovsk**	**7.32**	**29**	*e*Pn	**Pn**	**14 49 33.9**	**+1.6**
JOB	**Onbets**	**7.44**	**242**	P	**Pn**	**14 49 34.3**	**+0.3**
JOB				*e*S	**Sn**	**14 50 54.7**	**-2.2**
ASAJ	**Asahikawa**	**7.63**	**253**	P	**Pn**	**14 49 40.1**	**+3.4**
comp=Z,2.0nm,0.3s,baz=76,slow=19,SNR=19							
ASAJ				LR	LR	14 52 24.6	
comp=Z,122nm,19.2s,baz=326,slow=36							
ASAJ	**Asahikawa**	**7.63**	**253**	P	**Pn**	**14 49 40.0**	**+3.3**
ASAJ	**Asahikawa**	**7.63**	**253**	PN	**Pn**	**14 49 40.1**	**+3.4**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,122nm,19.2s							
JKK2	**Kamakawa 2**	**7.64**	**251**	P	**Pn**	**14 49 39.2**	**+2.5**
JWK2	**Keihoku**	**7.71**	**263**	P	**Pn**	**14 49 43.4**	**+5.7**
JCH	**Churui**	**7.89**	**242**	P	**Pn**	**14 49 39.8**	**-0.3**
JCH				*e*S	**Sn**	**14 51 04.1**	**-3.8**
JFR	**Furan**	**8.07**	**247**	P	**Pn**	**14 49 44.5**	**+1.9**
JAB	**Ashibetsu**	**8.14**	**250**	P	**Pn**	**14 49 47.1**	**+3.5**
ERM	**Erimo**	**8.37**	**239**	*e*PN	**Pn**	**14 49 48.1**	**+1.4**
ERM				pmax	pmax		
comp=Z,49nm,0.6s							
ERM	**Erimo**	**8.37**	**239**	*e*Pn	**Pn**	**14 49 48.1**	**+1.4**
comp=Z,49nm,0.6s							
ERM				*e*Sn	**Sn**	**14 51 20.4**	**+0.8**
JEM	**Erimo**	**8.37**	**239**	P	**Pn**	**14 49 47.0**	**+0.3**
JBT2	**Biratori 2**	**8.41**	**245**	P	**Pn**	**14 49 48.1**	**+0.8**
JNBK	**Urakawa-nobuka**	**8.45**	**242**	P	**Pn**	**14 49 46.6**	**-1.2**
JEW	**Eniwo**	**8.96**	**248**	P	**Pn**	**14 49 56.8**	**+2.0**
JNB	**Noboribetsu**	**9.41**	**247**	P	**Pn**	**14 50 01.0**	**+0.1**
JNB				*e*S	**Sn**	**14 51 43.2**	**-2.0**
JKB	**Kayabe**	**9.73**	**244**	P	**Pn**	**14 50 03.8**	**-1.5**
JKB				*e*S	**Sn**	**14 51 46.7**	**-6.2**
JSH	**Shimam**	**9.96**	**250**	P	**Pn**	**14 50 10.0**	**+1.6**
JYM2	**Yakumo 2**	**10.02**	**247**	P	**Pn**	**14 50 09.1**	**-0.1**
JSR	**Shiriuchi**	**10.31**	**244**	P	**Pn**	**14 50 11.5**	**-1.7**
JTM	**Tenmabayashi**	**10.36**	**239**	P	**Pn**	**14 50 10.7**	**-3.2**
JANG	**Nango**	**10.37**	**236**	P	**Pn**	**14 50 10.6**	**-3.5**
JANG				*e*S	**Sn**	**14 51 59.1**	**-10**
JTH	**Tanohata**	**10.47**	**233**	P	**Pn**	**14 50 12.0**	**-3.4**
JTH				*e*S	**Sn**	**14 51 59.8**	**-11**
JOSM	**Okushiri--Mats**	**10.60**	**249**	P	**Pn**	**14 50 16.7**	**-0.5**
OFUJ	**Ofunato**	**11.19**	**231**	P	**Pn**	**14 50 21.3**	**-3.9**
JRG	**Rokugo**	**11.53**	**235**	P	**Pn**	**14 50 27.6**	**-2.3**
JRG				*e*S	**Sn**	**14 52 28.6**	**-8.4**
JIO	**Ouri**	**11.82**	**229**	P	**Pn**	**14 50 30.3**	**-3.5**
JIO				*e*S	**Sn**	**14 52 32.3**	**-12**
HABR	**Khabarovsk**	**12.08**	**285**	*e*PN	**Pn**	**14 50 35.2**	**-2.2**
MA2	**Magadan**	**12.88**	**355**	*e*PN	**Pn**	**14 50 48.2**	**-0.2**
MA2				pmax	pmax		
comp=Z,7.0nm,0.4s							
MA2	**Magadan**	**12.88**	**355**	*e*P	**Pn**	**14 50 48.2**	**-0.1**
comp=Z,7.2nm,0.4s							
MJAR	**Matsushiro Arr**	**14.91**	**232**	P	**Pn**	**14 51 13.3**	**-2.0**
comp=Z

*IDC **20** 14:52:15.4±4.2,336S×14653E,h0km,mb4.0/4,mb1 4.3/6, mb1mx3.9/16,mbtmp4.2/6,ML3.4/2,MS3.0/2,Ms1 3.0/2, ms1mx2.6/23,Error ellipse: s-maj=71.1km s-min=46.4km az=54.0*

NEIC 20 14:52:19.7±2.0,337S×14662E,h35km,mb4.1/1,1C-1D, Error ellipse: s-maj=32.9km s-min=21.5km az=52.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.02**	**175**	Pn	Pn	14 53 44.1	-2.1
	2.9nm,0.3s,baz=5.2,slow=11,SNR=16						
PMG				LR	LR	14 56 08.3	
	comp=Z,94nm,21.4s,baz=7.6,slow=38						
PMG	**Port Moresby**	**6.02**	**175**	*e*Pn	Pn	14 53 43.8	-2.4
PMG				LR	LR	14 56 08.3	
CTA	**Charters Tower**	**16.62**	**181**	Pn	Pn	14 56 10.8	+1.0
	0.2nm,0.3s,baz=7.2,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**16.62**	**181**	P	Pn	14 56 11.3	+1.4
	15nm,1.0s						
KAKA	**Kakadu**	**16.82**	**236**	*e*P	Pn	14 56 13.1	+0.7
WB2	**Warramunga Arr**	**20.36**	**215**	⇑P	P	14 56 53.1	0.0
WRA	**Warramunga Arr**	**20.37**	**215**	P	P	14 56 53.3	+0.1
	8.4nm,0.7s,baz=41,slow=11,SNR=51						
ASAR	**Alice Springs**	**23.62**	**210**	P	P	14 57 27.6	-0.1
	2.4nm,0.7s,baz=46,slow=7.1,SNR=18						
FITZ	**Fitzroy Crossi**	**25.23**	**233**	⇓*i*P	P	14 57 42.5	+0.2
FITZ	**Fitzroy Crossi**	**25.23**	**233**	P	P	14 57 42.6	+0.3
	3.9nm,0.6s,baz=39,slow=7.2,SNR=13						
FITZ				LR	LR	15 09 02.9	
	comp=Z,52nm,18.6s,baz=56,slow=40						
STKA	**Stephens Creek**	**28.74**	**189**	P	P	14 58 16.0	+2.2
	1.5nm,1.0s,baz=23,slow=13,SNR=2.2						
STKA	**Stephens Creek**	**28.74**	**189**	P	P	14 58 16.0	+2.2
TORD	**Torodi Ar. Bea**	**144.01**	**288**	PKP	PKPdf	15 11 52.6	+1.1
	0.3nm,0.5s,baz=84,slow=2.5,SNR=4.0						

*ISCJB **20** 15:10:55.5±1.0,479S×005×7535W±005,h52km±9km, mb4.6/29,MS4.1/11,Error ellipse: s-maj=8.3km s-min=7.6km az=129.4*

*IDC **20** 15:10:57.7±0.6,486S×7546W,h58km±5km,mb4.2/12, mb1 4.4/20,mb1mx4.3/28,mbtmp4.3/20,MS3.6/12, Ms1 3.6/12,ms1mx3.4/36,Error ellipse: s-maj=13.0km s-min=9.3km az=111.0*

*NEIC **20** 15:10:57.7±0.3,479S×7537W,mb4.8/21,Error ellipse: s-maj=9.4km s-min=5.2km az=69.0*

*BJI **20** 15:10:57.6,480S×7540W,h58km,mB5.1,Ms5.2,Msz4.7*

ISC 20 15:10:57.2±0.8,481S±004×7529W±005,h47km±8km, h60km±3km:pP-P,n237,σ0°68/212,mb4.6/29,MS4.1/11, 55C-58D,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.78**	**235**	P	**Pn**	**15 11 53.7**	**+0.8**
	48nm,0.3s,baz=356,slow=3.7,SNR=90						
ATAH				S	**Sn**	**15 12 34.4**	**-1.7**
	37nm,0.3s,baz=49,slow=18,SNR=10						
NNA	**Nana**	**7.30**	**192**	P	**Pn**	**15 12 41.6**	**+0.5**
	29nm,0.3s,baz=2.9,slow=9.8,SNR=43						
NNA				S	**Sn**	**15 13 59.3**	**-3.3**
	64nm,0.3s,baz=128,slow=24,SNR=17						
NNA	**Nana**	**7.30**	**192**	*e*Pn	**Pn**	**15 12 41.0**	**-0.1**
	102nm,0.4s						
NNA				*e*Sn	**Sn**	**15 13 58.3**	**-4.3**
ROSC	**El Rosal**	**9.65**	**6**	P	**Pn**	**15 13 15.2**	**+1.8**
	1.3nm,0.3s,baz=97,slow=22,SNR=7.1						
ROSC				LR	LR	15 17 42.4	
	comp=Z,249nm,21.7s,baz=225,slow=42						
ROSC	**El Rosal**	**9.65**	**6**	*e*Pn	**Pn**	**15 13 15.2**	**+1.9**
LPAZ	**La Paz**	**13.40**	**149**	P	**Pn**	**15 14 05.2**	**+0.7**
	2.0nm,0.3s,baz=339,slow=13,SNR=58						
LPAZ				S	**Sn**	**15 16 29.9**	**-2.1**
	0.7nm,0.3s,baz=176,slow=20,SNR=5.6						
LPAZ				LR	LR	15 20 20.7	
	comp=Z,155nm,21.9s,baz=313,slow=42						
LPAZ	**La Paz**	**13.40**	**149**	*e*Pn	**Pn**	**15 14 04.8**	**+0.3**
	17nm,0.6s						
LPAZ				*e*Sn	**Sn**	**15 16 28.7**	**-3.3**
SDV	**Santo Domingo**	**14.37**	**19**	P	**Pn**	**15 14 18.1**	**+0.3**
	5.1nm,0.3s,baz=230,slow=23,SNR=12						
SDV	**Santo Domingo**	**14.37**	**19**	*e*Pn	**Pn**	**15 14 16.7**	**-1.1**
	37nm,0.9s						
JTS	**JuntasAbangare**	**17.82**	**327**	P	**Pn**	**15 15 01.2**	**-0.4**
	0.6nm,0.3s,baz=203,slow=23,SNR=3.1						
JTS	**JuntasAbangare**	**17.82**	**327**	*e*Pn	**Pn**	**15 15 00.8**	**-0.9**
	17nm,0.8s						
JTS				*e*		15 15 12.8	
SIV	**San Ignacio**	**17.84**	**130**	P	**Pn**	**15 15 02.3**	**+0.4**
	2.9nm,0.3s,baz=302,slow=12,SNR=30						
PCRV	**Puerto La Cruz**	**18.28**	**35**	P	**Pn**	**15 15 09.3**	**+2.0**
	2.0nm,0.3s,baz=172,slow=11,SNR=4.6						
PCRV				LR	LR	15 23 18.9	
	comp=Z,170nm,19.9s,baz=60,slow=40						
TGUH	**Tegucigalpa,Un**	**22.20**	**328**	*e*P	**P**	**15 15 49.6**	**+0.2**
SJG	**San Juan**	**24.49**	**21**	P	**P**	**15 16 11.7**	**-0.2**
	29nm,0.6s,mb4.9,baz=330,slow=23,SNR=12						
SJG	**San Juan**	**24.49**	**21**	*e*P	**P**	**15 16 11.4**	**-0.5**
	27nm,0.7s,mb4.8						
CFAA	**Coronel Fontan**	**27.46**	**167**	P	**P**	**15 16 40.1**	**+1.4**
	0.2nm,0.4s,baz=345,slow=6.7,SNR=4.4						
CFAA				pP	pP	15 16 54.3	+3.3
	0.7nm,0.7s,baz=350,slow=7.3,SNR=3.6						
CFAA				LR	LR	15 28 20.6	
	comp=Z,8.1nm,18.7s,baz=302,slow=38						
TEIG	**Tepich**	**27.96**	**333**	LR	LR	15 28 51.0	
	comp=Z,95nm,18.3s,MS3.4,baz=184,slow=38						
CMIG	**Matias Romero**	**29.13**	**319**	P	**P**	**15 16 53.5**	**0.0**
	6.0nm,1.1s,mb4.3,baz=93,slow=3.8,SNR=4.4						
CMIG				LR	LR	15 27 00.8	
	comp=Z,87nm,20.9s,MS3.4,baz=336,slow=33						
TRQA	**Tornquist**	**35.25**	**162**	*e*P	**P**	**15 17 47.1**	**0.0**
PLCA	**Paso Flores**	**36.02**	**174**	pP	pP	15 18 08.8	+2.6
	4.3nm,0.9s,baz=353,slow=7.5,SNR=6.1						
PLCA				LR	LR	15 33 26.6	
	comp=Z,74nm,19.5s,MS3.5,baz=5.0,slow=38						
OXF	**Oxford**	**41.32**	**342**	*e*P	**P**	**15 18 36.4**	**-1.7**
	46nm,1.3s,mb5.0						
PLAL	**Pickwick Lake**	**41.37**	**344**	*e*P	**P**	**15 18 36.4**	**-2.2**
	14nm,0.9s,mb4.6						
TZTN	**Tazewell**	**41.86**	**350**	*e*P	**P**	**15 18 41.6**	**-1.0**
	6.3nm,0.6s,mb4.4						
ELN	**Prospectdale**	**42.13**	**353**	*e*P	**P**	**15 18 44.9**	**+0.1**
WVT	**Waverly**	**42.39**	**345**	*e*P	**P**	**15 18 44.5**	**-2.4**
LTX	**Lajitas**	**43.53**	**323**	*e*P	**P**	**15 18 55.7**	**-0.5**
TXAR	**Lajitas Array**	**43.53**	**323**	P	**P**	**15 18 56.2**	**+0.1**
	1.5nm,0.7s,mb3.8,baz=144,slow=8.6,SNR=9.5						
TXAR				pP	pP	15 19 11.2	+2.3
	1.2nm,0.7s,baz=165,slow=6.5,SNR=4.8						
TXAR				PcP	PcP	15 20 43.5	+0.2
	1.6nm,0.9s,baz=131,slow=5.1,SNR=5.3						
TXAR				LR	LR	15 38 23.6	
	comp=Z,81nm,20.0s,MS3.6,baz=5.0,slow=38						
TXAR	**Lajitas Array**	**43.53**	**323**	P	**P**	**15 18 56.2**	**+0.1**
TXAR				pP	pP	15 19 11.2	+2.3
TXAR				PcP	PcP	15 20 43.5	+0.2
TXAR				LR	LR	15 38 23.6	
SIUC	**Southern Illin**	**44.25**	**344**	*e*P	**P**	**15 18 59.8**	**-2.1**
	26nm,0.7s,mb5.1						
SIUC				*e*		15 19 03.8	
FVM	**French Village**	**44.84**	**343**	*e*P	**P**	**15 19 04.6**	**-2.0**
	20nm,0.9s,mb4.9						
FVM				*e*		15 19 08.8	
WMOK	**Wichita Mounta**	**45.14**	**332**	*e*P	**P**	**15 19 07.7**	**-1.3**
	6.7nm,0.8s,mb4.5						
SSPA	**Standing Stone**	**45.28**	**357**	*e*P	**P**	**15 19 10.4**	**+0.3**
	18nm,0.9s,mb4.9						
ACSO	**Alum Creek Sta**	**45.37**	**352**	P	**P**	**15 19 09.6**	**-1.2**
KSU1	**Kansas State U**	**47.93**	**338**	*e*P	**P**	**15 19 28.3**	**-2.5**
ANMO	**Albuquerque**	**49.24**	**326**	*e*P	**P**	**15 19 40.7**	**-0.2**
	21nm,1.1s,mb5.1						
SCIA	**State Center**	**49.28**	**342**	P	**P**	**15 19 39.1**	**-2.1**
	18nm,0.7s,mb5.2						
116A	**Eloy**	**50.76**	**320**	⇓P	**P**	**15 19 53.0**	**+0.5**
	baz=51						
SDCO	**Great Sand Dun**	**50.81**	**329**	*e*P	**P**	**15 19 52.6**	**-0.3**
	26nm,1.7s,mb4.9						
115A	**Sonoran Desert**	**51.19**	**319**	⇑P	**P**	**15 19 55.7**	**+0.1**
	baz=51						
MVCO	**Mesa Verde**	**52.01**	**326**	⇑P	**P**	**15 20 02.2**	**+0.4**
	baz=52						
Z14A	**Wintersburg**	**52.07**	**320**	⇑P	**P**	**15 20 02.7**	**+0.4**
	baz=52						
X15A	**Humboldt**	**52.35**	**321**	P	**P**	**15 20 05.0**	**+0.8**
	baz=52,SNR=6.4						
Y14A	**Wickenburg**	**52.48**	**320**	P	**P**	**15 20 05.4**	**+0.1**
	baz=53,SNR=8.5						
WUAZ	**Wupatki**	**52.50**	**323**	*e*P	**P**	**15 20 05.7**	**+0.3**
	22nm,1.0s,mb5.0						
WUAZ	**Wupatki**	**52.50**	**323**	⇑P	**P**	**15 20 06.0**	**+0.6**
	baz=53						
X14A	**Yava**	**52.74**	**321**	P	**P**	**15 20 07.7**	**+0.5**
	baz=53,SNR=11						
W15A	**Williams**	**52.82**	**322**	⇑P	**P**	**15 20 08.5**	**+0.7**
	baz=53						
Y13A	**Salome**	**52.93**	**319**	⇓P	**P**	**15 20 09.1**	**+0.5**
	baz=53						
GLA	**Glamis**	**53.12**	**318**	⇑P	**P**	**15 20 10.2**	**+0.2**
	baz=53						
Y12C	**Blythe**	**53.34**	**319**	⇓P	**P**	**15 20 11.9**	**+0.3**
	baz=53						
W14A	**Seligman**	**53.35**	**321**	⇓P	**P**	**15 20 11.9**	**+0.2**
	baz=54						
X13A	**Yucca**	**53.42**	**320**	⇓P	**P**	**15 20 12.5**	**+0.3**
	baz=54						
PDMCI	**Parker Dam,Lak**	**53.43**	**320**	⇓P	**P**	**15 20 12.5**	**+0.2**
	baz=54						
W13A	**Hualapai Mount**	**53.78**	**321**	P	**P**	**15 20 15.8**	**+0.9**
	baz=54,SNR=8.9						
BC3	**Big Chuckw Mtn**	**53.90**	**318**	⇓P	**P**	**15 20 16.2**	**+0.5**
	baz=54						
IRM	**Iron Mountain**	**54.00**	**319**	P	**P**	**15 20 17.0**	**+0.5**
	baz=54,SNR=8.0						
BELC	**Belle Mtn.**	**54.47**	**318**	⇓P	**P**	**15 20 20.1**	**+0.2**
	baz=55						
PFO	**Pinyon Flat Ob**	**54.54**	**318**	⇓P	**P**	**15 20 20.6**	**+0.3**
	baz=55						
GMRC	**Granite Mounta**	**54.72**	**319**	P	**P**	**15 20 22.2**	**+0.6**
	baz=55,SNR=7.6						
V12A	**Nelson**	**54.78**	**321**	P	**P**	**15 20 22.6**	**+0.5**
	baz=55,SNR=9.4						
U12A	**Valley of Fire**	**55.03**	**321**	⇓P	**P**	**15 20 24.3**	**+0.4**
	baz=55						
RSSD	**Black Hills**	**55.15**	**335**	*e*P	**P**	**15 20 24.2**	**-0.5**
	1.9nm,0.6s,mb4.3						
RSSD				*e*		15 20 31.7	
HEC	**Hector,Ludlow**	**55.18**	**319**	P	**P**	**15 20 25.9**	**+0.8**
	baz=55,SNR=6.9						
V11A	**Goodsprings**	**55.22**	**320**	⇑P	**P**	**15 20 25.7**	**+0.4**
	baz=55						
BBRC	**Big Bear Sol-O**	**55.24**	**318**	⇑P	**P**	**15 20 25.7**	**+0.3**
	baz=55						
TUQ	**Turquoise Mtn.**	**55.29**	**320**	⇑P	**P**	**15 20 26.3**	**+0.6**
	baz=55						
BFSC	**Mount Baldy St**	**55.72**	**317**	⇑P	**P**	**15 20 29.3**	**+0.4**
	baz=56						
GSC	**Goldstone**	**55.78**	**319**	P	**P**	**15 20 29.9**	**+0.6**
	baz=56,SNR=6.2						
SHOC	**Shoshone**	**55.80**	**320**	⇑P	**P**	**15 20 30.1**	**+0.6**
	baz=56						
U10A	**Ash Meadows, A**	**56.15**	**320**	⇑P	**P**	**15 20 32.2**	**+0.2**
	baz=56						
EDW2	**Edwards Air Fo**	**56.31**	**318**	⇑P	**P**	**15 20 32.8**	**-0.3**
	baz=56,SNR=5.0						
LRMC	**Laurel Mountai**	**56.46**	**319**	⇓P	**P**	**15 20 34.4**	**+0.2**
	baz=57						
DUG	**Dugway**	**56.51**	**326**	P	**P**	**15 20 35.0**	**+0.5**
	baz=57,SNR=5.3						
FURC	**Furnace Creek,**	**56.52**	**320**	P	**P**	**15 20 35.1**	**+0.5**
	baz=57,SNR=5.4						
PDAR	**Pinedale Array**	**56.63**	**330**	P	**P**	**15 20 34.2**	**-1.1**
	1.8nm,0.8s,mb4.1,baz=140,slow=9.3,SNR=12						
PDAR				PcP	PcP	15 21 30.4	-0.9
	1.3nm,0.8s,baz=139,slow=7.0,SNR=5.9						
MPMC	**Manual Prospec**	**56.68**	**319**	⇓P	**P**	**15 20 35.8**	**+0.1**
	baz=57						
HWUT	**Hardware Ranch**	**56.81**	**328**	*e*P	**P**	**15 20 35.8**	**-0.9**
	4.1nm,0.5s,mb4.7						
Q12A	**Willow Creek R**	**56.89**	**324**	⇑P	**P**	**15 20 37.7**	**+0.4**
	baz=57						
ARVC	**Arvin**	**57.02**	**318**	⇑P	**P**	**15 20 38.4**	**+0.2**
	baz=57						
ISA	**Isabella**	**57.09**	**318**	⇓P	**P**	**15 20 38.8**	**+0.2**
	baz=57						
P12A	**McGill**	**57.22**	**324**	P	**P**	**15 20 39.9**	**+0.3**
	baz=57,SNR=8.4						
Q11A	**Duckwater**	**57.26**	**323**	P	**P**	**15 20 40.1**	**+0.3**
	baz=57,SNR=11						
CWC	**Cottonwood Cre**	**57.29**	**319**	⇑P	**P**	**15 20 40.1**	**+0.1**
	baz=57						
R10A	**Warm Springs**	**57.30**	**322**	⇑P	**P**	**15 20 40.8**	**+0.7**
	baz=57						
S09A	**Goldfield**	**57.52**	**321**	P	**P**	**15 20 41.9**	**+0.2**
	baz=58,SNR=5.5						
PKM	**Peak Mountain**	**57.55**	**317**	⇓P	**P**	**15 20 42.0**	**+0.1**
	baz=58						
VES	**Vestal, Richgr**	**57.59**	**318**	⇑P	**P**	**15 20 42.4**	**+0.2**
	baz=58						
O12A	**Currie**	**57.65**	**325**	⇑P	**P**	**15 20 42.7**	**+0.2**
	baz=58						
ULM	**Lac du Bonnet**	**57.65**	**344**	P	**P**	**15 20 40.5**	**-2.1**
	10nm,0.8s,mb4.9,baz=161,slow=7.2,SNR=21						
ULM				pP	pP	15 20 56.3	+0.5
	3.0nm,0.7s,baz=159,slow=9.4,SNR=3.0						
N13A	**Wendover, West**	**57.73**	**326**	⇓P	**P**	**15 20 43.4**	**+0.2**
	baz=58						
R09A	**Tonopah**	**57.74**	**322**	⇓P	**P**	**15 20 43.5**	**+0.3**
	baz=58						
SMMC	**Simmler**	**57.91**	**317**	⇓P	**P**	**15 20 44.4**	**0.0**
	baz=58						
S08C	**White Mtn Res**	**57.98**	**320**	P	**P**	**15 20 45.5**	**+0.6**
	baz=58,SNR=12						
HELL	**Mitchell Peak,**	**58.04**	**319**	P	**P**	**15 20 45.2**	**-0.2**
	baz=58,SNR=8.2						
O11A	**Cowboy Ranch,**	**58.09**	**324**	P	**P**	**15 20 46.1**	**+0.4**
	baz=58,SNR=5.8						
P10A	**Eureka**	**58.23**	**323**	⇑P	**P**	**15 20 47.6**	**+0.9**
	baz=58						
L13A	**Double Diamond**	**58.42**	**327**	⇑P	**P**	**15 20 48.3**	**+0.3**
	baz=58						
R08A	**Mina**	**58.45**	**321**	⇑P	**P**	**15 20 48.4**	**+0.2**
	baz=58						
M12A	**Wells**	**58.51**	**326**	⇓P	**P**	**15 20 48.3**	**-0.3**
	baz=59						
KCC	**Kaiser Creek**	**58.61**	**320**	⇑P	**P**	**15 20 48.9**	**-0.4**
	baz=59						
NVAR	**Mina Array Bea**	**58.62**	**321**	P	**P**	**15 20 49.7**	**+0.4**
	6.3nm,0.9s,mb4.7,baz=131,slow=5.9,SNR=30						
NVAR				pP	pP	15 21 05.5	+2.9
	1.2nm,0.7s,baz=127,slow=7.5,SNR=3.6						
NVAR				PcP	PcP	15 21 38.5	-0.6
	1.1nm,0.6s,baz=139,slow=3.6,SNR=4.1						
NVAR	**Mina Array Bea**	**58.62**	**321**	P	**P**	**15 20 49.7**	**+0.4**
NVAR				pP	pP	15 21 05.5	+2.9
NVAR				PcP	PcP	15 21 38.5	-0.6
PKD	**Parkfield**	**58.63**	**318**	⇓P	**P**	**15 20 49.0**	**-0.4**
	baz=59						
Q08A	**Gabbs**	**58.65**	**322**	P	**P**	**15 20 49.6**	**0.0**
	baz=59,SNR=7.7						
O10A	**Cortez Mining,**	**58.68**	**324**	P	**P**	**15 20 50.2**	**+0.4**
	baz=59,SNR=7.5						
R07C	**Lee Vining**	**58.88**	**320**	⇓P	**P**	**15 20 51.9**	**+0.7**
	baz=59						
M11A	**Holland Ranch,**	**59.01**	**325**	⇑P	**P**	**15 20 51.9**	**-0.2**
	baz=59						
O09A	**Fish Creek Ran**	**59.01**	**323**	⇑P	**P**	**15 20 52.5**	**+0.4**
	baz=59						
U04C	**Hernandez Rese**	**59.02**	**318**	P	**P**	**15 20 51.9**	**-0.2**
	baz=59,SNR=6.2						
V03C	**Hunter Liggett**	**59.14**	**317**	⇓P	**P**	**15 20 53.5**	**+0.5**
	baz=59						
LRV	**Little Rabbit**	**59.22**	**318**	*e*P	**P**	**15 20 53.5**	**0.0**
P08A	**Dixie Valley**	**59.25**	**322**	⇑P	**P**	**15 20 54.1**	**+0.3**
	baz=59						
S06C	**San Francisco**	**59.28**	**320**	P	**P**	**15 20 53.9**	**0.0**
	baz=59,SNR=11						
S05C	**Merced**	**59.28**	**319**	⇑P	**P**	**15 20 54.0**	**+0.1**
	baz=59						
K12A	**Draper Farm, C**	**59.32**	**327**	⇑P	**P**	**15 20 54.5**	**+0.3**
	baz=59						
R06C	**Coleville**	**59.40**	**321**	⇑P	**P**	**15 20 55.3**	**+0.6**
	baz=60						
HAST	**UC Hastings Re**	**59.55**	**317**	P	**P**	**15 20 55.9**	**+0.1**
	baz=60,SNR=6.2						
N09A	**Rock Creek Ran**	**59.64**	**324**	⇓P	**P**	**15 20 56.2**	**-0.2**
	baz=60						
HLID	**Hailey**	**59.68**	**328**	*e*P	**P**	**15 20 56.4**	**-0.3**
HLID	**Hailey**	**59.68**	**328**	⇑P	**P**	**15 20 56.8**	**+0.1**
	baz=60						
CMB	**Columbia Colle**	**59.71**	**320**	*e*P	**P**	**15 20 56.1**	**-0.8**
	1.7nm,0.6s,mb4.2						
CMB	**Columbia Colle**	**59.71**	**320**	⇑P	**P**	**15 20 56.7**	**-0.2**
	baz=60						
PACP	**Pacheco Peak**	**59.72**	**318**	⇑P	**P**	**15 20 56.9**	**0.0**
	baz=60						
BOZ	**Bozeman (W)**	**59.75**	**331**	⇓P	**P**	**15 20 56.8**	**-0.4**
	baz=60						
MCMT	**McKenzie Canyo**	**59.76**	**330**	*e*P	**P**	**15 20 57.1**	**-0.1**
J12A	**Stokes Ranch,**	**59.84**	**327**	⇓P	**P**	**15 20 57.6**	**-0.2**
	baz=60						
SCHQ	**Schefferville**	**59.84**	**6**	P	**P**	**15 20 56.7**	**-1.1**
	8.4nm,0.9s,mb4.8,baz=168,slow=5.6,SNR=7.0						
SCHQ	**Schefferville**	**59.84**	**6**	*e*P	**P**	**15 20 56.8**	**-1.0**
	7.7nm,0.7s,mb4.8						
R05C	**Kirkwood Meado**	**59.90**	**320**	⇑P	**P**	**15 20 58.9**	**+0.7**
	baz=60						
S04C	**Ingram Canyon,**	**60.02**	**319**	⇓P	**P**	**15 20 58.9**	**-0.1**
	baz=60						
WCN	**Washoe City**	**60.05**	**321**	⇑P	**P**	**15 20 59.7**	**+0.5**
	baz=60						
R04C	**Big Horse Ranc**	**60.19**	**320**	⇓P	**P**	**15 21 01.1**	**+0.9**
	baz=60						
MFID	**Camas Ranch**	**60.34**	**327**	P	**P**	**15 21 01.2**	**0.0**
	baz=60,SNR=11						
LAVA	**Lava Cap Winer**	**60.35**	**320**	⇑P	**P**	**15 21 01.0**	**-0.3**
	baz=60						
L09A	**Wilkinson Ranc**	**60.46**	**325**	⇓P	**P**	**15 21 01.9**	**-0.1**
	baz=61						
K10A	**MacKenzie Ranc**	**60.50**	**326**	⇑P	**P**	**15 21 02.2**	**-0.1**
	baz=61						
P05C	**Yuba Gap, Truc**	**60.59**	**321**	⇑P	**P**	**15 21 03.0**	**+0.1**
	baz=61						
G13A	**Cobalt**	**60.65**	**329**	⇑P	**P**	**15 21 02.7**	**-0.6**
	baz=61						
EGMT	**Eagleton**	**60.67**	**334**	⇑P	**P**	**15 21 02.8**	**-0.6**
	baz=61						
F14A	**Wisdom**	**60.72**	**330**	⇓P	**P**	**15 21 03.9**	**+0.1**
	baz=61						
I11A	**Placerville**	**60.74**	**327**	P	**P**	**15 21 03.9**	**-0.1**
	baz=61,SNR=5.8						
BEKR	**Beckwourth**	**60.76**	**321**	P	**P**	**15 21 04.5**	**+0.4**
	baz=61,SNR=6.3						
Q04C	**Lincoln**	**60.81**	**320**	⇓P	**P**	**15 21 05.1**	**+0.7**
	baz=61						
K09A	**Rome**	**60.93**	**325**	P	**P**	**15 21 05.2**	**-0.1**
	baz=61,SNR=10						
N06A	**Buffalo Meadow**	**60.96**	**322**	P	**P**	**15 21 05.5**	**+0.1**
	baz=61,SNR=5.5						
L08A	**Fields**	**60.96**	**325**	P	**P**	**15 21 05.3**	**-0.1**
	baz=61,SNR=10						
OHCM	**Honcut**	**61.16**	**320**	*e*P	**P**	**15 21 06.1**	**-0.7**
O05C	**Quincy**	**61.16**	**321**	⇓P	**P**	**15 21 07.2**	**+0.4**
	baz=61						
F13A	**Darby**	**61.18**	**330**	⇑P	**P**	**15 21 06.7**	**-0.2**
	baz=61						
SUTB	**Sutter Butte**	**61.29**	**320**	⇑P	**P**	**15 21 08.0**	**+0.3**
	baz=61						
ORV	**Oroville**	**61.30**	**320**	P	**P**	**15 21 08.3**	**+0.6**
	baz=61,SNR=7.5						
J09A	**Fry Pan Ranch,**	**61.36**	**326**	⇓P	**P**	**15 21 08.2**	**+0.1**
	baz=62						
K08A	**Mann Creek Ran**	**61.38**	**325**	⇓P	**P**	**15 21 08.7**	**+0.4**
	baz=62						
ELFS	**Eagle Lake Fie**	**61.43**	**322**	⇓P	**P**	**15 21 08.9**	**+0.3**
	baz=62						
L07A	**Adell**	**61.44**	**324**	⇓P	**P**	**15 21 08.8**	**+0.2**
	baz=62						
O04C	**Chester**	**61.48**	**321**	⇓P	**P**	**15 21 09.1**	**+0.2**
	baz=62						
E13A	**Victor**	**61.57**	**330**	⇓P	**P**	**15 21 09.5**	**0.0**
	baz=62						
F12A	**Elk City**	**61.62**	**329**	P	**P**	**15 21 09.8**	**-0.1**
	baz=62,SNR=6.2						
I09A	**Lost Marbles R**	**61.76**	**326**	⇓P	**P**	**15 21 10.5**	**-0.3**
	baz=62						
J08A	**Circle Bar Ran**	**61.77**	**325**	⇑P	**P**	**15 21 10.6**	**-0.3**
	baz=62						
HATC	**Hat Creek Radi**	**62.00**	**322**	⇑P	**P**	**15 21 12.5**	**0.0**
	baz=62						
M05C	**Lookout**	**62.12**	**322**	⇓P	**P**	**15 21 13.2**	**-0.1**
	baz=62						
GASB	**Alder Springs**	**62.13**	**320**	⇓P	**P**	**15 21 14.0**	**+0.7**
	baz=62						
D13A	**Huson**	**62.16**	**331**	⇓P	**P**	**15 21 13.3**	**-0.2**
	baz=62						
F11A	**Grangeville**	**62.18**	**329**	⇑P	**P**	**15 21 13.0**	**-0.6**
	baz=62						
E11A	**Bogner Ranch,**	**62.52**	**329**	⇓P	**P**	**15 21 15.0**	**-0.9**
	baz=63						
C13A	**Hot Springs**	**62.62**	**331**	⇓P	**P**	**15 21 16.3**	**-0.3**
	baz=63						
J06A	**Christmas Vall**	**62.66**	**325**	⇓P	**P**	**15 21 17.2**	**+0.3**
	baz=63						
K05A	**Summer Lake**	**62.78**	**324**	⇓P	**P**	**15 21 17.8**	**+0.2**
	baz=63						
F10A	**Beach Ranch, E**	**62.79**	**328**	⇑P	**P**	**15 21 18.1**	**+0.4**
	baz=63						
M04C	**Macdoel**	**62.79**	**322**	⇓P	**P**	**15 21 18.0**	**+0.2**
	baz=63						
I07A	**Izee**	**62.81**	**326**

KDAK Kodiak Island 87.30 328 LR LR 16 05 21.4
comp=Z,322nm,20.7s,MS4.7,baz=145,slow=37
TSUM Tsumeb 91.14 109 LR LR 15 59 19.0
comp=Z,98nm,20.3s,MS4.2,slow=32
AFI Afiamalu 95.14 256 LR LR 15 58 38.2
comp=Z,7.8nm,20.0s,MS3.2,baz=332,slow=30
BOSA Boshof 96.93 119 LR LR 16 03 56.4
comp=Z,93nm,20.7s,MS4.2,baz=87,slow=33
ZAL Zalesovo 128.40 15 PKP PKPdf 15 29 57.3 -1.3
3.6nm,0.9s,baz=190,slow=3.4,SNR=10
ZAL pPKP pPKPdf 15 30 13.9 +0.9
2.0nm,0.8s,baz=196,slow=3.7,SNR=4.4
STKA Stephens Creek 129.38 221 PKP PKPdf 15 30 01.1 +0.6
1.4nm,0.7s,baz=30,slow=2.5,SNR=3.6
STKA pPKP pPKPdf 15 30 16.5 +1.6
3.5nm,0.9s,baz=74,slow=4.9,SNR=4.0
MKAR Makanchi Array 133.90 21 PKP PKPdf 15 30 09.2 +0.2
0.5nm,0.5s,baz=297,slow=2.9,SNR=8.1
MKAR pPKP pPKPdf 15 30 25.9 +2.4
0.5nm,0.6s,baz=287,slow=3.4,SNR=1.9
MJAR Matsushiro Arr 135.94 320 PKP PKPdf 15 30 12.7 -0.2
0.9nm,0.6s,baz=136,slow=0.8,SNR=4.1
SONM Songino Array 137.11 358 PKP PKPdf 15 30 15.5 +0.5
0.8nm,0.7s,baz=321,slow=2.6,SNR=4.9
WMQ Urumqi 138.35 19 *e*PKP PKPdf 15 30 17.3 0.0
ASAR Alice Springs 139.86 224 PKP PKPdf 15 30 18.8 -1.2
1.3nm,0.8s,baz=135,slow=2.3,SNR=12
ASAR pPKP pPKPdf 15 30 36.1 +1.7
1.2nm,0.5s,baz=135,slow=2.0,SNR=6.5
KSRS Korea Array 141.20 330 PKhKP 15 30 14.4
0.8nm,0.8s,baz=60,slow=3.4,SNR=5.3
KSRS PKP PKPdf 15 30 21.9 -0.5
2.9nm,0.8s,baz=3.6,slow=1.4,SNR=11
KSRS pPKP pPKPdf 15 30 39.1 +2.3
1.6nm,0.8s,baz=353,slow=0.9,SNR=3.9
WB2 Warramunga Arr 141.87 229 *e*P PKPdf 15 30 23.3 -0.3
WRA Warramunga Arr 141.88 229 PKhKP 15 30 17.7
1.5nm,0.8s,baz=122,slow=3.1,SNR=6.6
WRA PKP PKPdf 15 30 23.5 -0.2
1.7nm,0.8s,baz=129,slow=2.0,SNR=12
HHC Hu-ho-hao-te 143.59 351 *e*PKP PKPdf 15 30 28.8 +2.1
HHC PP PP 15 33 43.8 +4.7
HHC SS SS 15 52 15.8 -1.6
HHC LR LR
comp=N,159nm,19.0s,MS5.3
HHC LR LR
comp=E,491nm,19.4s,MS5.3
HHC LR LR
comp=Z,128nm,22.2s,MS4.6
GTA Gaotai 145.27 7 PKP PKPdf 15 30 30.0 +0.4
GTA PP PP 15 33 53.0 +3.9
GTA PKS 15 34 04.8
GTA SKS SKSdf 15 37 33.5 -1.4
GTA SKKS SKKSac 15 40 38.8 +1.2
GTA SS SS 15 52 39.3 +2.7
GTA PP PP
comp=Z,85nm,6.5s
GTA LR LR
comp=N,130nm,14.4s,MS5.0
GTA LR LR
comp=E,141nm,15.2s,MS5.0
GTA LR LR
comp=Z,87nm,16.4s,MS4.6
KAKA Kakadu 147.41 237 *e*P PKPdf 15 30 34.5 +1.3
KAKA *e* 15 30 51.0
LZH Lanzhou 148.86 1 *e*PKP PKPdf 15 30 37.6 +2.0
LZH APKP 15 30 53.4
LZH XPKP 15 30 59.5
LZH SKS SKSdf 15 37 38.5 -1.5
LZH *e*SS SS 15 53 17.3 +0.1
LZH PP PP
comp=Z,78nm,8.9s
LZH LR LR
comp=N,127nm,18.3s
LZH LR LR
comp=Z,189nm,20.1s,MS4.9
FITZ Fitzroy Crossi 149.27 222 *e*P PKPbc 15 30 40.4 -0.2
FITZ *e* 15 30 56.8
KOLN Koldanda 149.58 39 *e*P PKPbc 15 30 42.5 +1.1
comp=Z,14nm,0.8s
GKN Gorkha 150.06 37 *e*P PKPbc 15 30 43.9 +1.4
comp=Z,51nm,1.0s
KKN Kakani 150.60 37 *e*P PKPbc 15 30 45.1 +1.3
comp=Z,26nm,0.8s
DMN Daman 150.63 37 *e*P PKPbc 15 30 45.1 +1.2
comp=Z,12nm,0.6s
PKI Pulchoki 150.84 37 *e*P PKPbc 15 30 45.4 +1.0
GUN Gumba 150.86 36 *e*P PKPbc 15 30 45.9 +1.4
comp=Z,46nm,1.1s
JIRN Jiri 151.23 36 *e*P PKPbc 15 30 46.4 +1.1
comp=Z,30nm,1.3s
GYA Guiyang 158.39 355 *e*PKP PKPdf 15 30 48.9 -0.3
GYA APKP 15 31 02.3
GYA XPKP 15 31 07.6
GYA PKP2 PKPab 15 31 25.4 +1.6
GYA PKS 15 34 21.6
GYA PP PP 15 35 06.3 +2.4
GYA PP PP
comp=Z,110nm,7.8s
KMI Kunming 159.71 5 PKP PKPdf 15 30 50.4 -0.3

*ISCJB **20** 15:19:11.9±2.8, 2174N±007×143.1E±0.1, h9km±17km, mb4.2/18, MS3.6/6, Error ellipse: s-maj=22.8km s-min=11.1km az=166.0*
*MOS **20** 15:19:15.3±0.9, 2179N×14306E, h33km, mb4.6/8, Error ellipse: s-maj=25.2km s-min=11.0km az=107.2*
*IDC **20** 15:19:19.4±3.8, 2182N×143.16E, h49km±36km, mb3.7/10, mb1 3.9/11, mb1mx3.8/23, mbtmp3.8/11, ML4.3/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/32, Error ellipse: s-maj=28.9km s-min=15.8km az=88.0*
*NEIC **20** 15:19:24.8±0.5, 2180N×14302E, h100km, mb4.9/2, Error ellipse: s-maj=18.9km s-min=10.7km az=82.0*
ISC 20 15:19:16.0±2.9, 2178N±007×1432E±01, h23km±20km, n32, σ0=93/28, mb4.2/18, MS3.6/6, 1C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.37**	**351**	P		**Pn**	**15 20 35.6**	**+1.0**
	24nm,0.3s,baz=293,slow=22,SNR=12							
GUMO	**Guam**	**8.31**	**168**	LR		LR	15 24 10.0	
	comp=Z,130nm,18.8s,baz=34,slow=35							
JHJ	**Hachijo jima 2**	**11.68**	**346**	LR		LR	15 26 05.3	
	comp=Z,160nm,21.0s,baz=266,slow=35							
MJAR	**Matsushiro Arr**	**15.33**	**345**	LR		LR	15 28 07.6	
	comp=Z,251nm,21.5s,baz=75,slow=35							
KSRS	**Korea Array**	**20.43**	**323**	P		**P**	**15 23 54.0**	**+2.4**
	4.6nm,0.8s,baz=141,slow=8.5,SNR=20							
KSRS				LR		LR	15 30 37.2	
	comp=Z,109nm,18.8s,MS3.2,baz=328,slow=33							
ASAJ	**Asahikawa**	**22.28**	**359**	LR		LR	15 30 53.4	
	comp=Z,88nm,21.9s,MS3.1,baz=238,slow=31							
HABR	**Khabarovsk**	**27.41**	**348**	*e*P		**P**	**15 24 59.9**	**+0.1**
HABR				S		**S**	**15 29 39.4**	**+0.6**
PMG	**Port Moresby**	**31.24**	**172**	*i* P		**P**	**15 25 33.0**	**-0.8**
SONM	**Songino Array**	**39.26**	**320**	P		**P**	**15 26 43.0**	**+0.2**
	1.9nm,0.6s,mb4.0,baz=129,slow=8.0,SNR=15							
SONM				LR		LR	15 43 58.4	
	comp=Z,67nm,19.2s,MS3.5,baz=166,slow=38							
YAK	**Yakutsk**	**41.28**	**350**	*e*P		**P**	**15 26 58.5**	**-1.0**
YAK				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.3							
SEY	**Seymchan**	**41.61**	**6**	*i* P		**P**	**15 27 00.8**	**-1.4**
ZAK	**Zakamensk**	**42.26**	**322**	⇓*i*P		**P**	**15 27 07.4**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.1							
WRA	**Warramunga Arr**	**42.35**	**192**	P		**P**	**15 27 08.8**	**+0.6**
	comp=Z,1.9nm,0.7s,mb3.8,baz=13,slow=8.4,SNR=8.0							
ASAR	**Alice Springs**	**46.06**	**192**	P		**P**	**15 27 39.2**	**+1.3**
	comp=Z,1.1nm,0.6s,mb3.9,baz=15,slow=11,SNR=16							
BILL	**Bilibino**	**48.45**	**11**	*e*P		**P**	**15 27 56.6**	**0.0**
BILL				*e*			15 29 47.8	
BILL				*e*S		**S**	**15 34 57.4**	**+1.3**
BILL				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.1							
TIXI	**Tiksi**	**50.57**	**354**	*i* P		**P**	**15 28 13.6**	**+0.9**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.1							
STKA	**Stephens Creek**	**53.37**	**182**	P		**P**	**15 28 33.8**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=337,slow=12,SNR=3.2							
ZAL	**Zalesovo**	**54.14**	**322**	P		**P**	**15 28 38.0**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=6.7,slow=7.9,SNR=9.6							
ZAL				LR		LR	15 50 16.9	
	comp=Z,34nm,22.0s,MS3.4,baz=87,slow=34							
MKAR	**Makanchi Array**	**54.62**	**313**	P		**P**	**15 28 43.0**	**+0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=81,slow=9.1,SNR=10							
NVS	**Novosibirsk**	**55.22**	**322**	*e*P		**P**	**15 28 44.9**	**-2.2**
NVS				pmax		pmax		
	comp=N,10.0nm,1.8s							
NVS				pmax		pmax		
	comp=E,14nm,1.8s							
NVS				pmax		pmax		
	comp=Z,13nm,1.8s,mb4.7							
KURK	**Kurchatov**	**57.40**	**317**	⇑*e*P		**P**	**15 29 02.5**	**-0.1**
KURK	**Kurchatov**	**57.40**	**317**	*e*P		**P**	**15 29 02.3**	**-0.3**
	comp=Z,31nm,1.6s,mb5.1							
FRU	**Bishkek**	**59.99**	**308**	*e*P		**P**	**15 29 21.0**	**+0.3**
AAK	**Ala-Archa**	**60.09**	**308**	*i* P		**P**	**15 29 20.9**	**-0.5**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.6s,mb4.3							
BRVK	**Borovoye**	**62.65**	**320**	*e*P		**P**	**15 29 37.7**	**-1.0**
BRVK				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.9							
BRVK	**Borovoye**	**62.65**	**320**	*e*P		**P**	**15 29 37.7**	**-1.0**
	comp=Z,14nm,1.3s,mb5.0							
INK	**Inuvik**	**67.51**	**24**	P		**P**	**15 30 09.8**	**-0.4**
	comp=Z,2.2nm,1.0s,mb4.1,baz=253,slow=3.7,SNR=4.7							
ARU	**Arti**	**69.18**	**324**	⇓*i*P		**P**	**15 30 20.9**	**+0.2**
ARU				*e*			15 30 41.1	
ARU				*e*			15 32 50.1	
ARU				*e*S		S	15 39 25.2	0.0
ARU				*e*SS		SS	15 43 50.0	-1.6
ARU				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
YKA	**Yellowknife Ar**	**76.40**	**28**	P		**P**	**15 31 02.8**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.9,baz=293,slow=5.9,SNR=19							
PPT	**Papeete**	**76.59**	**115**	LR		LR	15 59 41.8	
	comp=Z,201nm,20.9s,MS4.4,baz=288,slow=32							
NVAR	**Mina Array Bea**	**83.12**	**51**	P		**P**	**15 31 41.1**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=280,slow=5.8,SNR=6.0							
PDAR	**Pinedale Array**	**87.36**	**45**	LR		LR	16 08 22.8	
	comp=Z,69nm,20.0s,MS4.1,baz=180,slow=34							

CASC 20 15:21:08.4±1.8, 1447N×9086W, h2km±6km, MD4.1, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.03**	**142**	*e*P		Pg	15 21 09.8	+0.8
RBDL	**Robledal**	**1.19**	**107**	*e*P		x	15 21 31.7	
RTR	**El Retiro**	**1.31**	**116**	*e*P		x	15 21 31.8	
SBLS	**San Blas**	**1.35**	**117**	*e*P		x	15 21 32.8	
SNJE	**San Jose**	**1.36**	**116**	⇑*e*P		x	15 21 32.6	
BOQS	**Boqueron**	**1.70**	**115**	*e*P		x	15 21 39.1	
LFU	**La Fuente**	**1.84**	**113**	*e*P		x	15 21 41.7	
LFRS	**El Faro**	**1.94**	**116**	⇓*e*P		x	15 21 43.0	

*NEIC **20** 15:27:54.2, 1764N×10135W, h40km, MD3.8(MEX), After MEX.*
MEX 20 15:27:54.2±0.8, 1765N×10134W, h40km±7km, MD3.8, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.12**	**251**	⇓*i*P		Pn	15 27 59.4	-1.6
ZIIG				*i* S		Sn	15 28 04.1	-1.5
CAIG	**El Cayaco**	**1.19**	**120**	*i* P		Pn	15 28 12.6	-1.7
CAIG				*i* S		Sn	15 28 26.8	-2.5
ACX	**Acapulco**	**1.57**	**119**	*i* P		Pn	15 28 18.0	-1.5
ACX				*i* S		Sn	15 28 37.0	-1.6
MEIG	**Mezcala**	**1.66**	**80**	*i* P		Pn	15 28 20.0	-0.9
MEIG				*i* S		Sn	15 28 38.8	-2.1
PLIG	**Platanillo**	**1.90**	**67**	*i* P		Pn	15 28 23.5	-0.6
PLIG				*i* S		Sn	15 28 43.9	-2.9
MMIG	**Aquila**	**2.01**	**289**	*i* P		Pn	15 28 23.9	-1.7
MMIG				*i* S		Sn	15 28 47.1	-2.4
SZVM	**Salazar**	**2.50**	**48**	*e*P		Pn	15 28 31.6	-0.7
SZVM				*i* S		Sn	15 28 59.0	-2.6
IIO	**Organos**	**3.15**	**52**	*i* P		Pn	15 28 43.9	+2.6
IIO				*i* S		Sn	15 29 21.2	+3.6
UTMO	**Huajuapan**	**3.38**	**86**	*i* P		Pn	15 28 43.1	-1.3

*IDC **20** 15:39:12.4±0.9, 1021N×8583W, h0km, mb4.2/8, mb1 4.6/8, mb1mx4.2/20, mbtmp4.2/8, MS3.7/8, Ms1 3.7/8, ms1mx3.4/29, Error ellipse: s-maj=25.5km s-min=9.3km az=9.0*
*CASC **20** 15:39:15.8±1.9, 1016N×8573W, h15km±5km, MD3.9, ML4.0, mb4.5(NEIC)*
*ISCJB **20** 15:39:16.8±0.7, 1016N±006×8570W±006, h46km±6km, mb4.2/12, MS3.8/5, Error ellipse: s-maj=13.0km s-min=5.1km az=82.2*
*NEIC **20** 15:39:18.7±0.9, 1046N×8542W, h52km±8km, mb4.5/3, MD4.3(HDC), Error ellipse: s-maj=24.3km s-min=9.0km az=222.0*
NEIC Felt at Liberia, Santa Cruz and Tamarindo.
ISC 20 15:39:16.3±0.7, 1015N±005×8571W±004, h25km±5km, n131, σ1=23/126, mb4.2/12, MS3.8/5, 36C-42D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.08**	**105**	⇑*i*P		**Pb**	**15 39 20.4**	**-0.2**
JCR	**Jicaral**	**0.66**	**117**	⇓*i*P		**Pb**	**15 39 29.2**	**+0.2**
JTS	**JuntasAbangare**	**0.76**	**79**	Pg		**Pb**	**15 39 29.3**	**-1.4**
	485nm,0.3s,baz=277,slow=7.5,SNR=2139							
JTS				Lg			15 39 40.8	
	640nm,0.3s,baz=205,slow=19,SNR=57							
JTS	**JuntasAbangare**	**0.76**	**79**	⇓*i*Pg		**Pb**	**15 39 29.3**	**-1.5**
JTS				*e*Sg		**Sb**	**15 39 40.6**	**-0.1**
JTS	**JuntasAbangare**	**0.76**	**79**	⇓*e*P		**Pb**	**15 39 29.3**	**-1.5**
JTS				*e*S		**Sb**	**15 39 40.0**	**-0.6**
FORC	**Fortuna**	**1.07**	**72**	⇓*i*P		**Pn**	**15 39 36.0**	**+0.3**
FORC				*e*S		**Sn**	**15 39 51.1**	**+1.3**
SSNN	**San Juan del S**	**1.14**	**353**	*e*P		**Pn**	**15 39 36.3**	**-0.3**
CGA2	**Cerro Gallo 2**	**1.23**	**96**	⇑*e*P		**Pn**	**15 39 37.9**	**0.0**
MADN	**Villa Maderas**	**1.27**	**8**	*e*P		**Pn**	**15 39 38.4**	**0.0**
PRS1	**Puriscal**	**1.38**	**97**	*e*P		**Pn**	**15 39 39.8**	**-0.2**
CONN	**Concepcion**	**1.41**	**3**	*e*P		**Pn**	**15 39 40.2**	**-0.1**
LAJ	**Bijagual**	**1.59**	**100**	*e*P		**Pn**	**15 39 37.2**	**-5.6**
SJS	**Escuela Geolog**	**1.64**	**97**	*e*P		**Pn**	**15 39 43.9**	**+0.4**
LCR2	**La Lucha 2**	**1.73**	**103**	*e*P		**Pn**	**15 39 45.5**	**+0.8**
ICR	**Volcan Irazu**	**1.85**	**95**	*e*P		**Pn**	**15 39 47.5**	**+1.1**
MASN	**Masaya**	**1.88**	**347**	⇑*e*P		**Pn**	**15 39 46.3**	**-0.5**
MASN				*i*			15 40 26.9	
	comp=E,4μm,0.6s							
TICN	**Ticuantepe**	**1.94**	**345**	*e*P		**Pn**	**15 39 47.8**	**+0.1**
BUS	**Buena Vista**	**2.01**	**107**	*e*P		**Pn**	**15 39 50.0**	**+1.4**
MGAN	**Managua**	**2.06**	**345**	*e*P		**Pn**	**15 39 49.3**	**0.0**
MGAN				*e*S		**Sn**	**15 40 16.7**	**+2.6**
MGAN				*i*			15 40 20.7	
	comp=E,1μm,0.8s							
XAVN	**Gruta Xavier**	**2.08**	**343**	*e*P		**Pn**	**15 39 49.6**	**0.0**
BOAB	**BOACO BROADBAN**	**2.29**	**1**	⇑*i*P		**Pn**	**15 39 52.0**	**-0.4**
BOAB				*e*S		**Sn**	**15 40 22.8**	**+3.0**
MOMJ	**Momotombo**	**2.39**	**340**	⇑*e*P		**Pn**	**15 39 53.5**	**-0.3**
CNGN	**Cerro Negro**	**2.53**	**338**	*e*P		**Pn**	**15 39 55.3**	**-0.5**
CNGN				*e*S		**Sn**	**15 40 27.8**	**+1.9**
TELN	**Telica**	**2.68**	**336**	*e*P		**Pn**	**15 39 59.5**	**+1.7**
TGUH	**Tegucigalpa,Un**	**4.18**	**339**	*e*Pn		**Pn**	**15 40 18.4**	**0.0**
TGUH				*e*			15 40 27.5	
TEIG	**Tepich**	**10.32**	**346**	LR		LR	15 45 55.7	
	comp=E,348nm,19.4s,baz=140,slow=39							
CMIG	**Matias Romero**	**11.28**	**309**	Pn		**Pn**	**15 41 57.6**	**+1.8**
	comp=E,0.7nm,0.3s,baz=105,slow=10,SNR=5.5							
ROSC	**El Rosal**	**12.44**	**114**	LR		LR	15 47 17.4	
	comp=E,164nm,18.7s,baz=212,slow=38							
IIO	**Organos**	**15.69**	**308**	*i* P		**Pn**	**15 42 57.2**	**+1.6**
ATAH	**Atahualpa**	**18.52**	**157**	LR		LR	15 49 54.0	
	comp=E,304nm,21.3s,baz=353,slow=34							
JCT	**Junction City**	**24.12**	**329**	*e*P		**P**	**15 44 28.6**	**-1.4**
	comp=E,8.6nm,0.6s,mb4.4							
MIAR	**Mount Ida**	**25.33**	**345**	*e*P		**P**	**15 44 37.8**	**-3.2**
	comp=E,14nm,0.8s,mb4.5							
LTX	**Lajitas**	**25.43**	**321**	*e*P		**P**	**15 44 41.5**	**-0.5**
	comp=E,13nm,0.8s,mb4.5							
TXAR	**Lajitas Array**	**25.43**	**321**	P		**P**	**15 44 41.9**	**-0.1**
	comp=E,6.2nm,0.7s,mb4.3,baz=146,slow=9.7,SNR=29							
TKL	**Tuckaleechee C**	**25.46**	**4**	P		**P**	**15 44 43.2**	**+1.0**
	comp=E,7.9nm,0.6s,mb4.4,baz=180,slow=12,SNR=9.3							
PDMCI	**Parker Dam,Lak**	**35.42**	**317**	⇓P		**P**	**15 46 10.8**	**+0.6**
	baz=36							
SIV	**San Ignacio**	**35.62**	**137**	P		**P**	**15 46 14.1**	**+2.1**
	comp=E,0.5nm,0.5s,mb3.7,baz=336,slow=13,SNR=4.0							
SIV				PcP		PcP	15 48 41.2	+0.9
	comp=E,1.6nm,0.8s,baz=281,slow=5.2,SNR=5.3							
BC3	**Big Chuckw Mtn**	**35.95**	**315**	⇓P		**P**	**15 46 15.9**	**+1.1**
	baz=36							
IRM	**Iron Mountain**	**36.02**	**316**	⇓P		**P**	**15 46 16.8**	**+1.4**
	baz=36							
MONP	**Monument Peak**	**36.22**	**313**	⇑P		**P**	**15 46 19.7**	**+2.6**
	baz=36							
PFO	**Pinyon Flat Ob**	**36.62**	**314**	P		**P**	**15 46 19.9**	**-0.7**
	comp=E,2.6nm,0.3s,mb4.5,baz=313,slow=8.4,SNR=4.2							
HEC	**Hector,Ludlow**	**37.20**	**316**	⇑P		**P**	**15 46 26.1**	**+0.6**
	baz=38							
FURC	**Furnace Creek,**	**38.49**	**318**	⇑P		**P**	**15 46 37.3**	**+1.0**
	baz=39							
LRMC	**Laurel Mountai**	**38.49**	**316**	⇓P		**P**	**15 46 38.7**	**+2.3**
	baz=39							
PDAR	**Pinedale Array**	**38.60**	**331**	P		**P**	**15 46 35.5**	**-1.8**
	comp=E,1.5nm,0.8s,mb3.8,baz=126,slow=10.0,SNR=12							
PDAR				PcP		PcP	15 48 49.0	-0.4
	comp=E,0.8nm,0.9s,baz=142,slow=5.1,SNR=4.3							
MPMC	**Manual Prospec**	**38.67**	**317**	⇓P		**P**	**15 46 38.2**	**+0.3**
	baz=39							
P12A	**McGill**	**39.10**	**323**	⇑P		**P**	**15 46 41.5**	**+0.1**
	baz=40							
ISA	**Isabella**	**39.13**	**316**	⇓P		**P**	**15 46 43.4**	**+1.7**
	baz=40							
Q11A	**Duckwater**	**39.15**	**322**	⇓P		**P**	**15 46 42.7**	**+0.8**
	baz=40							
R10A	**Warm Springs**	**39.20**	**321**	⇑P		**P**	**15 46 43.3**	**+1.0**
	baz=40							
S09A	**Goldfield**	**39.45**	**319**	⇓P		**P**	**15 46 44.6**	**+0.2**
	baz=40							
O12A	**Currie**	**39.52**	**324**	⇑P		**P**	**15 46 44.6**	**-0.4**
	baz=40							
N13A	**Wendover, West**	**39.61**	**325**	⇑P		**P**	**15 46 46.2**	**+0.5**
	baz=40							
R09A	**Tonopah**	**39.66**	**320**	⇑P		**P**	**15 46 47.2**	**+1.1**
	baz=40							
S08C	**White Mtn Res**	**39.93**	**318**	P		**P**	**15 46 50.6**	**+2.2**
	baz=40,SNR=6.0							
O11A	**Cowboy Ranch,**	**39.97**	**323**	⇑P		**P**	**15 46 48.7**	**0.0**
	baz=40							
HELL	**Mitchell Peak,**	**40.05**	**317**	P		**P**	**15 46 50.9**	**+1.5**
	baz=40,SNR=6.9							
N12A	**Clover Valley,**	**40.08**	**325**	⇓P		**P**	**15 46 49.7**	**+0.1**
	baz=40							
M12A	**Wells**	**40.38**	**325**	⇓P		**P**	**15 46 50.7**	**-1.5**
	baz=41							
N11A	**Elko Archery C**	**40.45**	**324**	⇓P		**P**	**15 46 51.0**	**-1.7**
	baz=41							
NVAR	**Mina Array Bea**	**40.55**	**319**	P		**P**	**15 46 54.5**	**+0.9**
	comp=E,8.2nm,0.6s,mb4.5,baz=128,slow=6.5,SNR=66							
NVAR				PcP		PcP	15 48 55.9	+0.4
	comp=E,0.7nm,0.6s,baz=139,slow=3.3,SNR=4.3							
NVAR	**Mina Array Bea**	**40.55**	**319**	P		**P**	**15 46 54.5**	**+0.9**
NVAR				PcP		PcP	15 48 55.9	+0.4
O10A	**Cortez Mining,**	**40.56**	**323**	⇑P		**P**	**15 46 54.4**	**+0.8**
	baz=41							
Q08A	**Gabbs**	**40.57**	**320**	P		**P**	**15 46 54.8**	**+1.1**
	baz=41,SNR=7.2							
T06C	**Millerton Lake**	**40.69**	**317**	⇓P		**P**	**15 46 54.9**	**+0.3**
	baz=41							
O09A	**Fish Creek Ran**	**40.90**	**322**	P		**P**	**15 46 57.0**	**+0.6**
	baz=41,SNR=5.1							
K12A	**Draper Farm, C**	**41.20**	**327**	⇑P		**P**	**15 46 57.8**	**-1.1**
	baz=42							
S06C	**San Francisco**	**41.25**	**318**	P		**P**	**15 47 00.7**	**+1.4**
	baz=42,SNR=5.5							
R06C	**Coleville**	**41.34**	**319**	P		**P**	**15 47 01.8**	**+1.8**
	baz=42,SNR=7.5							
J13A	**Cove Ranch, Pi**	**41.35**	**328**	⇓P		**P**	**15 46 58.9**	**-1.1**
	baz=42							
N09A	**Rock Creek Ran**	**41.52**	**323**	⇑P		**P**	**15 47 01.4**	**-0.2**
	baz=42							
HLID	**Hailey**	**41.59**	**328**	⇓P		**P**	**15 47 01.4**	**-0.7**
	baz=42							
CMB	**Columbia Colle**	**41.69**	**318**	⇓P		**P**	**15 47 05.0**	**+2.1**
	baz=42							
J12A	**Stokes Ranch,**	**41.73**	**327**	⇓P		**P**	**15 47 01.3**	**-1.9**
	baz=42							
BOZ	**Bozeman (W)**	**41.76**	**333**	⇓P		**P**	**15 47 01.2**	**-2.3**
	baz=42							
PACP	**Pacheco Peak**	**41.76**	**316**	⇑P		**P**	**15 47 05.0**	**+1.5**
	baz=42							
G15A	**Dillon**	**41.80**	**331**	⇓P		**P**	**15 47 02.4**	**-1.4**
	baz=42							
R05C	**Kirkwood Meado**	**41.85**	**319**	⇑P		**P**	**15 47 05.0**	**+0.8**
	baz=42							
N07B	**Gerlach**	**42.35**	**322**	⇑P		**P**	**15 47 09.0**	**+0.7**
	baz=43							
K10A	**MacKenzie Ranc**	**42.38**	**326**	⇑P		**P**	**15 47 07.7**	**-0.8**
	baz=43							
O06A	**Flanigan**	**42.52**	**321**	⇑P		**P**	**15 47 10.0**	**+0.3**
	baz=43							
P05C	**Yuba Gap, Truc**	**42.53**	**319**	P		**P**	**15 47 11.3**	**+1.6**
	baz=43,SNR=5.2							
G13A	**Cobalt**	**42.58**	**330**	⇓P		**P**	**15 47 07.7**	**-2.5**
	baz=43							
BEKR	**Beckwourth**	**42.68**	**320**	⇑P		**P**	**15 47 11.9**	**+0.9**
	baz=43							
K09A	**Rome**	**42.81**	**325**	⇓P		**P**	**15 47 11.3**	**-0.7**
	baz=43,SNR=6.5							
M07A	**Soldier Meadow**	**42.84**	**322**	⇑P		**P**	**15 47 11.7**	**-0.5**
	baz=43							
L08A	**Fields**	**42.84**	**324**	⇓P		**P**	**15 47 12.0**	**-0.2**
	baz=43							
N06A	**Buffalo Meadow**	**42.86**	**321**	⇓P		**P**	**15 47 12.1**	**-0.3**
	baz=43							
F13A	**Darby**	**43.13**	**331**	⇓P		**P**	**15 47 12.8**	**-1.9**
	baz=44							
D15A	**Lincoln**	**43.23**	**333**	⇑P		**P**	**15 47 13.5**	**-1.9**
	baz=44							
J09A	**Fry Pan Ranch,**	**43.24**	**326**	⇑P		**P**	**15 47 13.7**	**-1.8**
	baz=44							
ORV	**Oroville**	**43.24**	**319**	⇑P		**P**	**15 47 17.2**	**+1.7**
	baz=44							
SUTB	**Sutter Butte**	**43.26**	**318**	⇑P		**P**	**15 47 17.0**	**+1.4**
	baz=44							
**K08A

F05A **White Salmon** **46.89 326** ⇑P **P** **15 47 44.3 -0.3**
baz=47
SCHQ **Schefferville** **47.02 15** P **P** **15 47 41.9 -3.6**
comp=E,1.4nm,0.4s,mb4.2,baz=234,slow=9.0,SNR=11
SCHQ LR LR 16 08 30.7
comp=E,151nm,18.1s,MS4.0,baz=223,slow=37
C07A **Waterville** **47.30 329** ⇓P **P** **15 47 45.9 -1.8**
baz=48
YKA **Yellowknife Ar** **56.27 344** P **P** **15 48 51.7 -2.9**
comp=E,1.0nm,0.6s,mb4.0,baz=143,slow=6.8,SNR=17
YKA **Yellowknife Ar** **56.27 344** P **P** **15 48 51.7 -2.9**
JMIC **Jan Mayen** **76.30 19** LR LR 16 24 55.6
comp=E,59nm,20.4s,MS3.9,baz=65,slow=36
NOA **NORSAR Array B** **84.54 29** LR LR 16 30 52.8
comp=E,24nm,19.4s,MS3.6,baz=300,slow=37
FINES **FINESS Array B** **91.27 27** LR LR 16 30 42.5
comp=E,48nm,19.1s,MS4.0,baz=321,slow=34
SNAA **Sanae** **97.32 162** LR LR 16 29 36.3
comp=E,23nm,20.3s,MS3.7,baz=31,slow=31
SONM **Songino Array** **121.28 350** PKP PKPdf 15 58 06.3 -0.8
comp=E,0.8nm,0.7s,baz=346,slow=1.4,SNR=7.9
KSRS **Korea Array** **123.12 328** PKP PKPdf 15 58 11.3 +0.7
comp=E,1.1nm,0.7s,baz=28,slow=1.5,SNR=7.8
ASAR **Alice Springs** **139.94 245** PKP PKPdf 15 58 41.3 -1.0
comp=E,0.3nm,0.8s,baz=119,slow=2.3,SNR=4.1
WRA **Warramunga Arr** **140.21 251** PKP PKPdf 15 58 42.3 -0.5
comp=E,0.5nm,0.7s,baz=100,slow=2.6,SNR=6.8

IDC 20 15:56:20.6±3.5, 2010S×17548W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=206.1km s-min=55.8km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.91**	**256**	P	P	16 04 53.9	+1.1
	0.4nm,0.5s,baz=88,slow=8.6,SNR=14						
ASAR				PcP	PcP	16 06 24.6	-1.0
	0.5nm,0.7s,baz=104,slow=3.5,SNR=6.7						
WRA	**Warramunga Arr**	**47.00**	**261**	P	P	16 04 53.5	0.0
	0.4nm,0.3s,baz=97,slow=7.7,SNR=11						
AKASG	**Malin Array Be**	**143.76**	**333**	PKP	PKPdf	16 15 56.2	-1.5
	2.4nm,0.6s,baz=36,slow=3.5,SNR=6.7						
BRTR	**Keskin Array B**	**148.28**	**314**	PKPbc	PKPbc	16 16 09.8	+1.1
	0.7nm,0.6s,baz=129,slow=4.9,SNR=3.7						

NEIC 20 16:02:46.1, 4554S×16626E, h3km, ML4.5(WEL), After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.63**	**85**	*e*P	Pg	16 02 58.9	+0.7
DCZ				S	Sg	16 03 06.6	+0.2
WHZ	**Wether Hill Ro**	**1.23**	**107**	*e*P	Pg	16 03 09.5	-0.3
MLZ	**Mavora Lakes**	**1.36**	**83**	*e*P	Pn	16 03 10.8	-1.2
MLZ				S	Sg	16 03 28.1	-1.7
EAZ	**Earnscleugh**	**2.17**	**83**	*e*P	Pn	16 03 24.9	+1.8

BJI ***20*** *16:12:02.8, 7.14S×125.42E, h518km, mB4.6, mb4.3*
ISCJB ***20*** *16:12:03.1±1.3, 697S±006×125.24E±009, h496km±19km, mb4.3/28, Error ellipse: s-maj=14.9km s-min=8.8km az=142.5*
MOS ***20*** *16:12:04.6±0.8, 699S×125.28E, h520km, mb4.3/9, Error ellipse: s-maj=23.0km s-min=9.4km az=108.0*
NEIC ***20*** *16:12:04.8±0.9, 701S×125.27E, h504km±13km, mb4.3/6, Error ellipse: s-maj=13.0km s-min=7.5km az=73.0*
IDC ***20*** *16:12:05.4±1.6, 703S×125.21E, h511km±20km, mb3.8/10, mb1 4.0/13, mb1mx3.8/20, mbtmp3.8/13, Error ellipse: s-maj=22.9km s-min=8.5km az=74.0*
ISC 20 16:12:04.5±1.0, 701S±006×12529E±009, h498km±14km, n56, σ0°80/58, mb4.3/28, 7C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.04**	**129**	⇑*i*P	**P**	**16 14 12.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.03**	**178**	⇑*i*P	**P**	**16 14 33.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.03**	**178**	P	**P**	**16 14 33.6**	**+0.8**
	7.0nm,0.3s,baz=21,slow=2.3,SNR=345						
FITZ				S	**S**	**16 16 32.8**	**-2.0**
	2.0nm,0.3s,baz=180,slow=22,SNR=13						
WRA	**Warramunga Arr**	**15.57**	**147**	P	**P**	**16 15 20.2**	**-0.4**
	10nm,0.3s,baz=212,slow=9.0,SNR=362						
WB2	**Warramunga Arr**	**15.58**	**146**	⇑*i*P	**P**	**16 15 20.2**	**-0.5**
ASAR	**Alice Springs**	**18.51**	**154**	P	**P**	**16 15 50.2**	**+0.6**
	7.0nm,0.3s,baz=331,slow=7.8,SNR=786						
ASAR				S	**S**	**16 18 53.9**	**+0.7**
	baz=345,slow=24,SNR=8.7						
ASAR				ScP	ScP	16 22 38.9	-2.4
	0.1nm,0.3s,baz=310,slow=2.1,SNR=5.8						
ASAR	**Alice Springs**	**18.51**	**154**	P	**P**	**16 15 50.2**	**+0.6**
ASAR				S	**S**	**16 18 53.9**	**+0.8**
FORT	**Forrest**	**23.79**	**174**	*e*P	**P**	**16 16 37.0**	**-0.3**
CTA	**Charters Tower**	**24.13**	**125**	P	**P**	**16 16 40.8**	**+0.5**
	4.5nm,0.5s,mb4.2,baz=328,slow=9.1,SNR=5.8						
CTAO	**Charters Tower**	**24.13**	**125**	*e*P	**P**	**16 16 40.7**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
CTAO	**Charters Tower**	**24.13**	**125**	*e*P	**P**	**16 16 40.7**	**+0.3**
	comp=Z,4.4nm,0.6s,mb4.1						
KLBR	**Kellerberrin**	**25.45**	**195**	*e*P	**P**	**16 16 51.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**26.85**	**195**	P	**P**	**16 17 04.2**	**-0.2**
	comp=Z,5.0nm,0.3s,mb4.4,baz=42,slow=5.0,SNR=27						
NWAO	**Narrogin (SRO)**	**26.85**	**195**	P	**P**	**16 17 04.2**	**-0.2**
STKA	**Stephens Creek**	**29.04**	**151**	⇑*i*P	**P**	**16 17 24.1**	**+0.5**
STKA	**Stephens Creek**	**29.04**	**151**	P	**P**	**16 17 24.2**	**+0.6**
	comp=Z,14nm,0.3s,mb4.8,baz=324,slow=8.8,SNR=114						
ARMA	**Armidale**	**33.95**	**137**	*e*P	**P**	**16 18 07.5**	**+1.9**
KSRS	**Korea Array**	**44.30**	**3**	P	**P**	**16 19 29.9**	**+0.5**
	comp=Z,2.5nm,0.7s,mb3.7,baz=180,slow=9.2,SNR=13						
MJAR	**Matsushiro Arr**	**44.99**	**15**	P	**P**	**16 19 34.3**	**-0.4**
	comp=Z,4.4nm,0.6s,mb4.1,baz=189,slow=8.8,SNR=18						
MAJO	**Matsushiro**	**44.99**	**15**	*e*P	**P**	**16 19 34.2**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
MAJO	**Matsushiro**	**44.99**	**15**	*e*P	**P**	**16 19 34.2**	**-0.5**
	comp=Z,7.3nm,0.7s,mb4.2						
MAT	**Matsushiro**	**44.99**	**15**	P	**P**	**16 19 34.2**	**-0.5**
LZH	**Lanzhou**	**47.37**	**336**	*e*P	**P**	**16 19 53.1**	**+0.3**
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.4						
LSA	**Lhasa**	**49.08**	**320**	*e*P	**P**	**16 20 07.2**	**+1.6**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**49.08**	**320**	*e*P	**P**	**16 20 07.2**	**+1.6**
	comp=Z,7.2nm,0.6s,mb4.2						
JIRN	**Jiri**	**51.15**	**314**	*e*P	**P**	**16 20 21.4**	**+0.6**
	comp=Z,6.8nm,0.4s,mb4.3						
GUN	**Gumba**	**51.52**	**314**	*e*P	**P**	**16 20 24.1**	**+0.6**
	comp=Z,21nm,0.4s,mb4.8						
PKI	**Pulchoki**	**51.66**	**313**	*e*P	**P**	**16 20 24.7**	**+0.2**
	comp=Z,14nm,0.4s,mb4.6						
GTA	**Gaotai**	**51.86**	**335**	*e*P	**P**	**16 20 26.8**	**+0.9**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.1						
KKN	**Kakani**	**51.88**	**314**	*e*P	**P**	**16 20 26.5**	**+0.4**
	comp=Z,9.4nm,0.5s,mb4.4						
DMN	**Daman**	**51.90**	**313**	*e*P	**P**	**16 20 26.7**	**+0.5**
	comp=Z,9.1nm,0.5s,mb4.4						
GKN	**Gorkha**	**52.46**	**313**	*e*P	**P**	**16 20 30.7**	**+0.4**
	comp=Z,24nm,0.3s,mb4.9						
KOLN	**Koldanda**	**53.08**	**313**	*e*P	**P**	**16 20 35.2**	**+0.5**
	comp=Z,14nm,0.5s,mb4.5						
RPZ	**Rata Peaks**	**54.16**	**140**	P	**P**	**16 20 43.0**	**+0.6**
	comp=Z,28nm,0.9s,mb4.6,baz=326,slow=3.6,SNR=6.6						
HABR	**Khabarovsk**	**55.91**	**8**	*e*P	**P**	**16 20 53.3**	**-1.3**
HIA	**Hailar**	**56.25**	**356**	*i* P	**P**	**16 20 57.3**	**+0.3**
SONM	**Songino Array**	**57.10**	**345**	P	**P**	**16 21 03.3**	**+0.4**
	comp=Z,2.8nm,0.6s,mb3.7,baz=155,slow=9.6,SNR=3.7						
BOD	**Bodaibo**	**65.26**	**353**	*e*P	**P**	**16 21 56.3**	**-0.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**65.75**	**329**	*e*P	**P**	**16 21 59.6**	**+0.1**
MKAR	**Makanchi Array**	**65.75**	**329**	P	**P**	**16 21 59.5**	**0.0**
	comp=Z,3.4nm,0.5s,mb4.2,baz=124,slow=7.2,SNR=106						
KBL	**Kabul**	**67.24**	**312**	*e*P	**P**	**16 22 09.4**	**+0.6**
AAK	**Ala-Archa**	**67.59**	**322**	⇓*e*P	**P**	**16 22 10.5**	**-0.4**
KRAR	**Krasnoyarsk**	**68.27**	**341**	*i* P	**P**	**16 22 14.5**	**-0.6**
KRAR				pmax	pmax		
	comp=Z,13nm,0.3s,mb5.0						
YAK	**Yakutsk**	**68.92**	**2***d*	*i*P	**P**	**16 22 18.1**	**-0.9**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
MA2	**Magadan**	**69.41**	**14**	*i* P	**P**	**16 22 22.5**	**+0.5**
MA2				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.5						
ZAL	**Zalesovo**	**69.60**	**336**	P	**P**	**16 22 21.8**	**-1.4**
	comp=Z,5.0nm,0.4s,mb4.4,baz=344,slow=5.0,SNR=14						
KURK	**Kurchatov**	**70.16**	**331**	⇑*e*P	**P**	**16 22 26.4**	**0.0**
NVS	**Novosibirsk**	**70.89**	**336**	*e*P	**P**	**16 22 28.5**	**-2.3**
NVS				pmax	pmax		
	comp=N,3.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
SEY	**Seymchan**	**72.76**	**13**	⇑*e*P	**P**	**16 22 41.8**	**+0.1**
VNDA	**Vanda**	**73.03**	**172**	P	**P**	**16 22 42.4**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.6,baz=355,slow=10,SNR=8.0						
BRVK	**Borovoye**	**75.70**	**329**	*e*P	**P**	**16 22 57.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
BRVK	**Borovoye**	**75.70**	**329**	*e*P	**P**	**16 22 57.9**	**-0.5**
	comp=Z,6.9nm,1.1s,mb4.1						
TIXI	**Tiksi**	**78.53**	**1**	⇑*e*P	**P**	**16 23 12.3**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
TIXI	**Tiksi**	**78.53**	**1**	*e*P	**P**	**16 23 12.1**	**-1.7**
	comp=Z,7.3nm,0.5s,mb4.5						
BILL	**Bilibino**	**80.24**	**14**	*i* P	**P**	**16 23 28.1**	**+5.3**
TORD	**Torodi Ar. Bea**	**124.22**	**281**	PKP	PKPdf	16 30 06.5	+0.3
	comp=Z,0.8nm,0.7s,baz=80,slow=2.6,SNR=5.5						

CSEM ***20*** *16:24:41.0, 1496N×43.19E, h12km, ML3.5, After DHMR*
DHMR 20 16:24:41.0±2.0, 1496N×4319E, h12km±16km, ML3.5, 6D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAJJ	**Hajjah**	**0.83**	**28**	⇓*i*P	Pg	16 24 56.7	-0.3
HAJJ				*i* S	Sg	16 25 07.7	-0.2
HAJJ				AML	AML	16 25 08.3	
	comp=E,957nm,0.3s						
HAJJ				AML	AML	16 25 09.0	
	comp=Z,2μm,0.2s						
HAJJ	**Hajjah**	**0.83**	**28**	⇓*i*P	Pg	16 24 56.7	-0.3
HAJJ				*i* S	Sg	16 25 07.7	-0.2
	comp=Z,1μm,0.2s						
DHBB	**Dhamar BB**	**1.22**	**108**	⇓*i*P	Pn	16 25 04.2	+0.3
DHBB				*i* S	Sb	16 25 20.8	+0.9
DHBB	**Dhamar BB**	**1.22**	**108**	⇓*i*P	Pn	16 25 04.2	+0.3
DHBB				*i* S	Sb	16 25 20.8	+1.0
UDYN	**Al 'Udayn**	**1.24**	**143**	⇓*i*P	Pn	16 25 04.8	+0.6
UDYN				*i* S	Sb	16 25 21.5	+1.1
TRBA	**At Turbah**	**1.94**	**152**	*i* P	Pn	16 25 14.1	+0.3
TRBA				*i* S	Sn	16 25 41.5	+3.4
LBOS		**2.27**	**118**	⇓*i*P	Pn	16 25 21.4	+3.1
LBOS				*i* S	Sn	16 25 51.9	+5.7
BDHA	**Al Bayda'**	**2.50**	**113**	*i* P	Pn	16 25 25.0	+3.5
BDHA				*i* S	Sn	16 25 58.1	+6.1

IDC 20 16:25:07.1±2.0, 250N×12723E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=147.1km s-min=25.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.37**	**163**	P	P	16 30 17.9	+0.5
	0.5nm,0.4s,baz=342,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.81**	**166**	P	P	16 30 48.5	-0.4
	0.4nm,0.3s,baz=351,slow=7.0,SNR=23						
MKAR	**Makanchi Array**	**58.84**	**325**	P	P	16 35 08.0	+0.6
	0.4nm,0.6s,baz=116,slow=8.9,SNR=5.9						

MOS ***20*** *16:37:32.7±1.2, 55.79N×110.13E, h17km, mb4.3/1, Error ellipse: s-maj=18.2km s-min=11.2km az=57.2*
BYKL 20 16:37:33.8±0.3, 5570N×11018E, h4km±5km, 6C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.37**	**282**	*e*PG	Pg	16 37 40.3	-0.6
NIZ				*e*		16 37 45.9	
NIZ				pmax	pmax		
	comp=Z,628nm,0.3s						
NIZ				smax			
	comp=N,2μm,0.3s						
NIZ	**Nizh Angarsk**	**0.37**	**282**	⇑*i*Pg	Pg	16 37 40.4	-0.5
NIZ				*e*		16 37 41.2	
NIZ				*i* Sg	Sg	16 37 45.9	+0.2
NIZ				max			
	comp=N,249nm,0.5s						
NIZ				Smax			
	comp=N,2μm,0.3s						
KMO	**Kumora**	**0.61**	**72**	*e*PG	Pg	16 37 44.4	-1.0
KMO				*e*		16 37 52.3	
KMO				pmax	pmax		
	comp=Z,434nm,0.3s						
KMO				smax			
	comp=N,959nm,0.8s						
KMO	**Kumora**	**0.61**	**72**	⇑*i*Pg	Pg	16 37 44.4	-1.0
KMO				*i* Sg	Sg	16 37 52.6	-0.7
KMO				Pmax			
	comp=N,435nm,0.4s						
KMO				Smax			
	comp=N,959nm,0.9s						
YOA	**Uoyan**	**0.97**	**63**	*e*PG	Pg	16 37 51.1	-1.3
YOA				*i*		16 38 04.7	
YOA				pmax	pmax		
	comp=Z,235nm,0.2s						
YOA				smax			
	comp=E,1μm,0.4s						
YOA	**Uoyan**	**0.97**	**63**	*e*Pg	Pg	16 37 51.7	-0.7
YOA				*e*Sg	Sg	16 38 05.3	+0.3
YOA				Pmax			
	comp=E,196nm,0.4s						
YOA				Smax			
	comp=E,1μm,0.4s						
YLYR	**Ulyunkhan**	**1.00**	**145**	⇑*i*PG	Pg	16 37 51.5	-1.5
YLYR				*e*		16 38 04.7	
YLYR				pmax	pmax		
	comp=Z,103nm,0.2s						
YLYR				smax			
	comp=N,445nm,0.2s						
YLYR	**Ulyunkhan**	**1.00**	**145**	⇑*i*Pg	Pg	16 37 51.5	-1.5
YLYR				*i* Sg	Sg	16 38 04.6	-1.3
YLYR				Smax		16 38 13.4	
YLYR				Pmax			
	comp=N,136nm,0.5s						
YLYR				Smax			
	comp=N,270nm,0.2s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*PN	Pn	16 38 08.3	+0.7
SVKR				*e*		16 38 09.0	
SVKR				*e*S	Sn	16 38 33.5	+1.0
SVKR				*e*		16 38 34.8	
SVKR				pmax	pmax		
	comp=Z,282nm,0.4s						
SVKR				smax			
	comp=N,2μm,0.8s						
SVKR	**Severomuysk**	**1.95**	**76**	*e*Pg	Pg	16 38 08.3	-2.8
SVKR				*e*		16 38 09.2	
SVKR				*e*Sg	Sg	16 38 35.2	-1.2
SVKR				max			
	comp=N,292nm,0.6s						
SVKR				Smax			
	comp=N,2μm,0.5s						
UKT	**Uakit**	**1.97**	**95**	⇑*i*Pg	Pg	16 38 08.6	-2.9
UKT				*i* Sg	Sg	16 38 35.1	-1.9
UKT				Pmax			
	comp=N,219nm,1.0s						
UKT				Smax			
	comp=N,324nm,0.9s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	16 38 10.1	+1.1
SYVR				*e*		16 38 38.4	
SYVR				pmax	pmax		
	comp=Z,78nm,0.4s						
SYVR				smax			
	comp=E,724nm,0.7s						
SYVR	**Suvo**	**2.05**	**183**	⇑*i*Pg	Pg	16 38 10.2	-2.9
SYVR				*e*		16 38 14.0	
SYVR				*i* Sg	Sg	16 38 38.4	-1.2
SYVR				*e*		16 38 39.8	
SYVR				max			
	comp=E,79nm,0.6s						
SYVR				max			
	comp=E,821nm,0.8s						
OGRR	**Ongureny**	**2.55**	**217**	*e*PN	Pn	16 38 16.3	+0.4
OGRR				*e*		16 38 20.1	
OGRR				*e*		16 38 52.4	
OGRR				pmax	pmax		
	comp=Z,22nm,0.3s						
OGRR				smax			
	comp=E,134nm,0.4s						
OGRR	**Ongureny**	**2.55**	**217**	*e*Pn	Pn	16 38 16.5	+0.6
OGRR				*e*Pg	Pg	16 38 18.2	-4.5
OGRR				*e*		16 38 19.4	
OGRR				*e*Sn	Sn	16 38 48.8	+1.4
OGRR				*e*Sg	Sg	16 38 52.4	-3.3
OGRR				max			
	comp=E,27nm,0.7s						
OGRR				Smax			
	comp=E,135nm,0.4s						
MXMB	**Maximikha**	**2.58**	**200**	*e*Pg	Pg	16 38 20.8	-2.5
MXMB				*e*Sg	Sg	16 38 56.3	-0.4
MXMB				Pmax			
	comp=E,40nm,0.6s						
MXMB				Smax			
	comp=E,419nm,0.8s						
BOD	**Bodaibo**	**2.99**	**43**	*e*Pn	Pn	16 38 22.5	+0.5
BOD				*e*Pg	Pg	16 38 26.1	-5.0
BOD				*e*Sn	Sn	16 38 59.2	+0.9
BOD				*e*Sg	Sg	16 39 06.0	-3.9
BOD				Pmax			
	comp=E,18nm,0.5s						
BOD				Smax			
	comp=E,130nm,1.3s						
NLYR	**Nelyaty**	**3.19**	**73**	*e*Pg	Pg	16 38 30.5	-4.5
NLYR				*e*		16 38 34.6	
NLYR				*e*Sg	Sg	16 39 13.9	-2.5
NLYR				*e*		16 39 20.9	
ZRHB	**Zarechye**	**3.62**	**211**	*e*	Pn	16 38 36.1	+5.5
ZRHB				*e*Pg	Pg	16 38 37.4	-5.8
ZRHB				*e*Sg	Sg	16 39 25.2	-4.9
ZRHB				Pmax			
	comp=E,46nm,1.4s						
ZRHB				Smax			
	comp=E,273nm,1.6s						
TRG	**Tyrgan**	**3.71**	**219**	*e*Pn	Pn	16 38 32.3	+0.5
TRG				*e*Sn	Sn	16 39 16.7	+0.8
TRG				*e*Sg	Sg	16 39 28.6	-4.2
TRG				max			
	comp=E,23nm,0.3s						
TRG				Smax			
	comp=E,93nm,0.6s						
TRTB	**Turuntaevo**	**3.79**	**204**	*e*Pn	Pn	16 38 33.2	+0.3
TRTB				*e*		16 38 34.8	
TRTB				*e*Sn	Sn	16 39 18.9	+0.9
TRTB				*e*Sg	Sg	16 39 31.5	-4.0
TRTB				max			
	comp=E,17nm,0.7s						
TRTB				Smax			
	comp=E,51nm,1.1s						
UUDB	**Ulan-Yde**	**4.12**	**202**	*e*Pg	Pg	16 38 47.7	-5.1
UUDB				*e*Sg	Sg	16 39 41.4	-4.7
UUDB				Pmax			
	comp=E,24nm,1.8s						
UUDB				Smax			
	comp=E,108nm,1.3s						
FFNB	**Fofonovo**	**4.18**	**210**	*e*Sg	Sg	16 39 42.1	-6.0
FFNB				Smax			
	comp=E,123nm,0.6s						
CIT	**Chita**	**4.19**	**150**	*e*PN	Pn	16 38 47.8	+9.3
CIT				*e*		16 39 41.7	
CIT				pmax	pmax		
	comp=Z,52nm,1.1s						
CIT				smax			
	comp=N,73nm,1.1s						
CIT	**Chita**	**4.19**	**150**	*e*Pg	Pg	16 38 47.9	-6.2
CIT				*e*Sg	Sg	16 39 41.8	-6.6
CIT				Pmax			
	comp=N,51nm,1.4s						
CIT				Smax			
	comp=N,73nm,0.8s						
KAB	**Kabansk**	**4.21**	**211**	*e*Sg	Sg	16 39 44.2	-4.8
KAB				Smax			
	comp=N,275nm,0.8s						
HRMR	**Khuramsha**	**4.51**	**206**	*e*Pn	Pn	16 38 44.6	+1.8
HRMR				*e*		16 38 56.9	
HRMR				*e*Sg	Sg	16 39 53.7	-4.9
HRMR				max			
	comp=N,32nm,0.5s						
HRMR				Smax			
	comp=N,186nm,1.0s						
CRS	**Chara**	**4.66**	**72**	*e*PN	Pn	16 38 58.3	+13
CRS				*e*		16 40 00.2	
CRS				pmax	pmax		
	comp=Z,63nm,0.8s						
CRS				smax			
	comp=E,86nm,1.3s						
CRS	**Chara**	**4.66**	**72**	*e*Pg	Pg	16 38 58.2	-5.0
CRS				*e*		16 39 12.5	
CRS				*e*Sg	Sg	16 39 59.7	-3.9
CRS				max			
	comp=E,63nm,1.1s						
CRS				Smax			
	comp=E,92nm,1.5s						
LSTR	**Listvyanka**	**4.98**	**222**	*e*Pn	Pn	16 38 50.4	+1.1
LSTR				*e*Sn	Sn	16 39 46.4	-0.9
LSTR				*e*Sg	Sg	16 40 07.9	-5.8
LSTR				max			
	comp=E,6.0nm,0.5s						
LSTR				Smax			
	comp=E,56nm,1.0s						
TLY	**Talaya**	**5.59**	**227**	*e*PN	Pn	16 38 57.2	-0.5
TLY				*e*		16 39 13.9	
TLY				*e*S	Sn	16 39 59.8	-2.6
TLY				*e*		16 40 24.4	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TLY				smax			
	comp=E,40nm,1.0s						
TLY	**Talaya**	**5.59**	**227**	*e*Pn	Pn	16 38 57.2	-0.5
TLY				*e*Sn	Sn	16 40 00.1	-2.3
TLY				*e*Sg	Sg	16 40 25.4	-8.0
TLY				max			
	comp=E,4.0nm,0.3s						
TLY				Smax			
	comp=E,37nm,1.2s						
TUP	**Tupik**	**5.76**	**99**	*e*PN	Pn	16 38 59.3	-0.7
TUP				*e*		16 39 16.8	
TUP				*e*S	Sn	16 40 04.9	-1.7
TUP				*e*		16 40 32.1	
TUP				pmax	pmax		
	comp=Z,21nm,1.0s						
TUP				smax			
	comp=N,67nm,1.0s						
TUP	**Tupik**	**5.76**	**99**	*e*Pn	Pn	16 38 59.6	-0.4
TUP				*e*Pg	Pg	16 39 15.9	-8.3
TUP				*e*Sg	Sg	16 40 31.3	-7.5
TUP				Pmax			
	comp=N,29nm,1.8s						
TUP				Smax			
	comp=N,67nm,1.0s						
ARS	**Arshan**	**5.95**	**234**	*e*PN	Pn	16 39 02.4	-0.3
ARS				*e*S	Sn	16 40 06.3	-5.0
ARS	**Arshan**	**5.95**	**234**	*e*Pn	Pn	16 39 02.3	-0.4
ARS				*e*		16 39 05.4	
ARS				*e*Sn	Sn	16 40 09.7	-1.6
ARS				*e*Sg	Sg	16 40 38.1	-6.9
ARS				max			
	comp=N,21nm,0.4s						
ARS				Smax			
	comp=N,193nm,0.9s						
KPC	**Khapcheranga**	**6.15**	**167**	*e*Pg	Pg	16 39 23.6	-8.1
KPC				*e*		16 40 32.4	
KPC				*e*Sg	Sg	16 40 43.

ZAK Smax
comp=N,29nm,1.8s
MOY Mondy 6.79 237 *e*PN Pn 16 39 15.4 +1.2
MOY *e* 16 39 36.4
MOY *e* 16 41 02.8
MOY pmax pmax
comp=Z,12nm,0.6s
MOY smax
comp=E,57nm,1.3s
MOY Mondy 6.79 237 *e*Pn Pn 16 39 15.5 +1.3
MOY *e*Sn Sn 16 40 30.8 -1.1
MOY *e*Sg Sg 16 41 03.7 -8.0
MOY max
comp=E,21nm,1.0s
MOY Smax
comp=E,57nm,1.3s
ORL Orlik 6.87 247 *e*PN Pn 16 39 15.8 +0.5
ORL *e*S Sn 16 40 31.7 -2.2
ORL *e*S Sn 16 41 05.4 +32
ORL smax
comp=N,65nm,0.8s
ORL Orlik 6.87 247 *e*Pn Pn 16 39 15.9 +0.6
ORL *e* 16 39 19.7
ORL *e*Sn Sn 16 40 32.8 -1.1
ORL *e*Sg Sg 16 41 07.2 -7.1
ORL max
comp=N,8.0nm,0.4s
ORL Smax
comp=N,71nm,1.3s
TDJR Todzha 8.92 254 *e*Pn Pn 16 39 45.2 +1.8
TDJR *e* 16 41 30.8
TDJR *e*Sg Sn 16 42 09.8 +46

*IDC **20** 16:48:11.6±1.7, 103N×12622E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=106.3km s-min=23.2km az=67.0*
NEIC 20 16:48:12.7±1.1, 110N×12648E, h10km, Error ellipse: s-maj=64.4km s-min=15.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.10**	**182**	P	Pn	16 52 35.7	-0.7
	0.1nm,0.3s,baz=14,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**22.29**	**160**	P	P	16 53 10.3	+0.2
	3.5nm,0.6s,baz=337,slow=11,SNR=55						
WB2	**Warramunga Arr**	**22.30**	**160**	*e*P	P	16 53 09.9	-0.2
ASAR	**Alice Springs**	**25.66**	**164**	P	P	16 53 43.8	+1.2
	1.2nm,0.3s,baz=343,slow=9.5,SNR=25						
STKA	**Stephens Creek**	**35.80**	**158**	P	P	16 55 12.7	+0.7
	3.0nm,0.8s,baz=334,slow=9.4,SNR=5.5						
STKA	**Stephens Creek**	**35.80**	**158**	*e*P	P	16 55 12.2	+0.1
MKAR	**Makanchi Array**	**59.57**	**326**	P	P	16 58 16.6	+0.1
	0.4nm,0.5s,baz=111,slow=8.1,SNR=6.1						

*ISCJB **20** 17:06:55.7±0.3, 1419N±004×8971W±003, h10km, mb4.2/13, MS4.3/18, Error ellipse: s-maj=5.8km s-min=3.3km az=55.8*
*CASC **20** 17:06:56.3±4.1, 1399N×8986W, h2km±9km, MD4.2, ML4.3, mb4.7(NEIC)*
*NEIC **20** 17:06:57.5±0.6, 1424N×8950W, h10km, mb4.7/9, MD4.6(SNET), Error ellipse: s-maj=14.2km s-min=7.5km az=219.0*
NEIC Felt [VII] at Atiquizaya and Turin.
*GCMT **20** 17:06:57.5±0.3, 1409N×8990W, h15km±2km, MW5.0/67, Moment Tensor Solution. s23,c28; s67,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.20±.13; $M_{\theta\theta}$-2.51±.13; $M_{\phi\phi}$2.70±.14; $M_{r\theta}$-0.65±.29; $M_{\theta\phi}$-2.31±.12; $M_{\phi r}$-0.22±.27; Best double couple: $M_0$3.55200×10^{16} NP1:ϕ_s24.00000°, δ82.00000°, λ-8.00000°. NP2: ϕ_s115.00000°, δ82.00000°, λ-171.00000°. Principal axes: T 3.5770, Plg0.0000°, Azm249.0000°; N -0.0580, Plg78.0000°, Azm157.0000°; P -3.5270, Plg12.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **20** 17:07:04.6±2.7, 1438N×8939W, h74km±25km, mb3.8/10, mb1 4.1/14, mb1mx4.0/22, mbtmp4.0/14, MS4.3/22, Ms1 4.3/22, ms1mx4.2/29 Error ellipse: s-maj=29.9km s-min=12.5km az=60.0*
ISC 20 17:06:57.2±0.3, 1413N±004×8980W±003, h10km, n79, σ1§40/60, mb4.2/13, MS4.3/18, 3C-9D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.28**	**148**	⇑*i*P	x	17 07 39.0	
RTR				*e*S	x	17 07 44.0	
SNJE	**San Jose**	**0.32**	**145**	⇓*e*P	x	17 07 39.7	
SNJE				*e*S	x	17 07 44.5	
SBLS	**San Blas**	**0.34**	**150**	⇓*e*P	x	17 07 39.5	
SBLS				*e*S	x	17 07 45.0	
MTO2	**Montecristo 2**	**0.50**	**58**	⇑*e*P	x	17 07 46.2	
MTO2				*e*S	x	17 07 56.5	
BOQS	**Boqueron**	**0.64**	**128**	⇓*e*P	x	17 07 46.1	
BOQS				*e*S	x	17 07 56.4	
SNET	**Serv Nac Est T**	**0.71**	**129**	*e*P	x	17 07 06.1	
SNET				*e*S	x	17 07 15.9	
SNET				*e*		17 07 31.0	
	comp=Z,43μm,1.1s						
PCG	**Pacaya**	**0.83**	**288**	*e*P	**Pg**	**17 07 11.9**	**-1.2**
LBRS	**Las Brisas**	**0.83**	**118**	⇓*e*P	x	17 07 49.8	
LBRS				*e*S	x	17 08 02.7	
TER	**Terranova**	**0.88**	**281**	*e*P	**Pg**	**17 07 12.2**	**-1.9**
LFRS	**El Faro**	**0.88**	**125**	⇓*e*P	x	17 07 50.2	
LFRS				*e*S	x	17 08 04.4	
LCBS	**La Ceiba**	**0.93**	**121**	⇓*e*P	x	17 07 51.5	
LCBS				*e*S	x	17 08 03.1	
FUG	**Fuego 3**	**1.06**	**287**	*e*P	**Pg**	**17 07 15.6**	**-2.0**
VSM	**San Miguel**	**1.64**	**115**	⇓*e*P	x	17 08 05.0	
VSM				*e*S	x	17 08 28.1	
BLLM	**Bellamira**	**1.66**	**114**	⇓*e*P	x	17 08 04.5	
BLLM				*e*S	x	17 08 29.8	
JAT	**Jato**	**1.79**	**276**	*e*P	**Pn**	**17 07 28.8**	**+0.6**
JAT				*e*S	**Sn**	**17 07 52.7**	**+1.8**
CNCH	**Conchagua**	**2.09**	**114**	⇑*e*P	x	17 08 11.1	
CNCH				*e*S	x	17 08 33.7	
TGUH	**Tegucigalpa,Un**	**2.45**	**91**	*e*Pn	**Pn**	**17 07 33.6**	**-3.6**
TGUH				*e*P		17 07 37.0	
TGUH				Sn	**Sn**	**17 08 12.7**	**+5.5**
CCIG	**Comitan**	**3.11**	**314**	*i* P	**Pn**	**17 07 48.2**	**+2.0**
CCIG				*i* S	**Sg**	**17 08 35.1**	**-1.9**
CNGN	**Cerro Negro**	**3.43**	**118**	⇓*e*P	**Pn**	**17 07 50.8**	**+0.2**
CNGN				*e*S	**Sn**	**17 08 35.8**	**+4.5**
CNGN				*i*		17 08 55.8	
	comp=E,598nm,0.6s						
MOMJ	**Momotombo**	**3.61**	**118**	*e*P	**Pn**	**17 07 53.1**	**0.0**
XAVN	**Gruta Xavier**	**3.92**	**120**	*e*P	**Pn**	**17 07 56.2**	**-1.2**
MGAN	**Managua**	**3.98**	**119**	*e*P	**Pn**	**17 07 57.2**	**-1.1**
TICN	**Ticuantepe**	**4.05**	**121**	*e*P	**Pn**	**17 07 57.7**	**-1.6**
BOAB	**BOACO BROADBAN**	**4.36**	**112**	*e*P	**Pn**	**17 08 03.3**	**-0.1**
BOAB				*e*S	**Sn**	**17 08 55.3**	**+1.1**
CMIG	**Matias Romero**	**5.71**	**302**	P	**Pn**	**17 08 22.4**	**+0.3**
	comp=E,3.9nm,0.3s,baz=96,slow=10,SNR=13						
CMIG				S	**Sn**	**17 09 32.8**	**+5.1**
	comp=E,2.4nm,0.3s,baz=78,slow=14,SNR=3.6						
CMIG				LR	LR	17 10 51.4	
	comp=E,5μm,19.4s,baz=117,slow=38						
CMIG	**Matias Romero**	**5.71**	**302**	*i* P	**Pn**	**17 08 23.1**	**+1.0**
CMIG				S	**Sb**	**17 09 32.8**	**-13**
CMIG				*i* S	Sg	17 09 39.4	-21
CMIG				LR	LR	17 10 51.4	
JTS	**JuntasAbangare**	**6.08**	**128**	P	**Pn**	**17 08 29.7**	**+2.5**
	comp=E,2.3nm,0.3s,baz=322,slow=8.7,SNR=14						
JTS	**JuntasAbangare**	**6.08**	**128**	P	**Pn**	**17 08 25.9**	**-1.3**
TEIG	**Tepich**	**6.23**	**13**	P	**Pn**	**17 08 29.0**	**-0.2**
	comp=E,11nm,0.3s,baz=184,slow=8.5,SNR=48						
TEIG				S	**Sn**	**17 09 41.8**	**+1.4**
	comp=E,12nm,0.3s,baz=250,slow=22,SNR=3.7						
TEIG				LR	LR	17 11 22.9	
	comp=E,2μm,21.3s,baz=210,slow=44						
JCR	**Jicaral**	**6.26**	**132**	*e*P	**Pn**	**17 08 30.6**	**+1.1**
HUIG	**Huatulco**	**6.31**	**286**	*e*P	**Pn**	**17 08 35.1**	**+4.8**
HUIG				*i* S	**Sb**	**17 10 04.3**	**+1.7**
PRS1	**Puriscal**	**6.77**	**127**	*e*P	**Pn**	**17 08 39.3**	**+2.8**
LCR2	**La Lucha 2**	**7.16**	**127**	*e*P	**Pn**	**17 08 42.9**	**+1.0**
OXX	**Oaxaca**	**7.29**	**295**	*e*P	**Pn**	**17 08 50.0**	**+6.3**
SOR	**Soroa**	**10.75**	**36**	*e*P	**Pn**	**17 09 36.2**	**+5.1**
	baz=224						
SOR				*e*S	**Sn**	**17 11 31.7**	**+0.2**
	comp=N,0.7nm,0.1s						
SOR				*e*			
	comp=E,0.7nm,0.1s						
OTAV	**Otavalo**	**17.80**	**140**	*e*P	**Pn**	**17 11 06.1**	**+1.2**
	comp=E,20nm,1.5s						
ROSC	**El Rosal**	**17.81**	**120**	LR	LR	17 18 36.0	
	comp=E,747nm,18.4s,baz=18,slow=39						
NATX	**Nacogdoches**	**18.10**	**347**	P	**Pn**	**17 11 08.1**	**-0.6**
	comp=E,20nm,0.6s						
JCT	**Junction City**	**18.70**	**332**	*e*P	**Pn**	**17 11 16.6**	**+0.7**
	comp=E,32nm,1.1s						
SDV	**Santo Domingo**	**19.48**	**103**	P	**Pn**	**17 11 23.8**	**-1.6**
	comp=E,0.8nm,0.3s,baz=227,slow=20,SNR=13						
SDV	**Santo Domingo**	**19.48**	**103**	*e*P	**Pn**	**17 11 22.9**	**-2.6**
LTX	**Lajitas**	**19.84**	**322**	*e*P	**Pn**	**17 11 30.1**	**+0.4**
	comp=E,39nm,1.1s						
TXAR	**Lajitas Array**	**19.84**	**322**	P	**Pn**	**17 11 30.0**	**+0.3**
	comp=E,0.4nm,0.3s,baz=147,slow=7.5,SNR=24						
TXAR				LR	LR	17 20 35.8	
	comp=E,357nm,20.7s,baz=245,slow=41						
OXF	**Oxford**	**20.29**	**1**	*e*P	**P**	**17 11 34.6**	**+1.6**
	comp=E,53nm,1.1s						
MIAR	**Mount Ida**	**20.61**	**351**	*e*P	**P**	**17 11 38.0**	**+1.5**
	comp=E,95nm,1.3s						
UALR	**University of**	**20.68**	**354**	P	**P**	**17 11 37.0**	**-0.2**
	comp=E,119nm,1.6s						
WMOK	**Wichita Mounta**	**22.06**	**340**	*e*P	**P**	**17 11 52.0**	**-0.1**
	comp=E,24nm,1.2s,mb4.5						
TKL	**Tuckaleechee C**	**22.11**	**13**	P	**P**	**17 11 45.6**	**-7.0**
	comp=E,4.4nm,0.5s,mb4.1,baz=312,slow=20,SNR=6.5						
TKL				LR	LR	17 21 50.0	
	comp=E,675nm,18.7s,MS4.1,baz=194,slow=41						
SIUC	**Southern Illin**	**23.49**	**1**	*e*P	**P**	**17 12 07.5**	**+0.3**
	comp=E,72nm,1.2s,mb5.0						
MTP	**Monte Pirata**	**23.62**	**77**	*e*P	**P**	**17 12 07.4**	**-1.0**
ATAH	**Atahualpa**	**23.85**	**151**	P	**P**	**17 12 13.9**	**+3.2**
	comp=E,2.8nm,0.3s,mb4.2,baz=355,slow=9.6,SNR=4.4						
ATAH				LR	LR	17 20 42.2	
	comp=E,764nm,18.9s,MS4.2,baz=354,slow=34						
PCRV	**Puerto La Cruz**	**24.90**	**96**	LR	LR	17 23 00.9	
	comp=E,665nm,18.9s,MS4.2,baz=119,slow=39						
NNA	**Nana**	**28.95**	**153**	LR	LR	17 22 12.9	
	comp=E,266nm,19.7s,MS3.9,baz=333,slow=31						
PDAR	**Pinedale Array**	**33.23**	**333**	P	**P**	**17 13 35.4**	**+1.1**
	comp=E,0.6nm,0.8s,mb3.6,baz=140,slow=7.8,SNR=4.3						
PDAR				LR	LR	17 27 41.4	
	comp=E,428nm,20.3s,MS4.2,baz=6.4,slow=37						
NVAR	**Mina Array Bea**	**34.94**	**319**	P	**P**	**17 13 51.5**	**+2.3**
	comp=E,1.3nm,0.7s,mb4.0,baz=129,slow=8.4,SNR=11						
ULM	**Lac du Bonnet**	**36.36**	**353**	P	**P**	**17 13 58.7**	**-2.6**
	comp=E,4.1nm,0.8s,mb4.4,baz=178,slow=12,SNR=4.7						
LPAZ	**La Paz**	**37.04**	**144**	LR	LR	17 29 54.8	
	comp=E,343nm,20.5s,MS4.1,baz=195,slow=37						
SIV	**San Ignacio**	**41.26**	**135**	P	**P**	**17 14 41.3**	**-1.1**
	comp=E,5.2nm,0.9s,mb4.2,baz=316,slow=9.2,SNR=15						
SCHQ	**Schefferville**	**44.38**	**19**	P	**P**	**17 15 04.0**	**-3.7**
	comp=E,5.7nm,0.7s,mb4.4,baz=273,slow=9.8,SNR=4.8						
YKA	**Yellowknife Ar**	**51.41**	**346**	P	**P**	**17 16 00.1**	**-2.1**
	comp=E,2.1nm,0.8s,mb4.1,baz=144,slow=7.7,SNR=27						
YKA	**Yellowknife Ar**	**51.41**	**346**	P	**P**	**17 16 00.1**	**-2.1**
TAOE	**Nuku Hiva Isla**	**54.93**	**248**	*e*S	**S**	**17 24 06.8**	**-2.9**
	comp=E,458nm,24.7s						
TAOE				*e*LR	LR	17 32 17.5	
	comp=E,1μm,27.8s						
PLCA	**Paso Flores**	**57.43**	**163**	P	**P**	**17 16 46.1**	**+0.1**
	comp=E,3.5nm,1.1s,mb4.3,baz=356,slow=12,SNR=3.7						
PLCA				LR	LR	17 35 51.0	
	comp=E,237nm,21.2s,MS4.3,baz=3.0,slow=30						
PPT	**Papeete**	**66.86**	**244**	*e*S	S	17 26 39.3	-2.7
	comp=E,285nm,31.2s						
PPT				*e*LR	LR	17 37 53.1	
	comp=E,614nm,27.2s,baz=56						
PPT	**Papeete**	**66.86**	**244**	LR	LR	17 38 44.6	
	comp=E,312nm,19.1s,MS4.5,baz=55,slow=28						
TBI	**Tubuai**	**69.22**	**238**	*e*S	S	17 27 08.4	-1.8
	comp=E,79nm,24.2s						
TBI				*e*LR	LR	17 39 14.3	
	comp=E,397nm,29.5s,baz=70						
USHA	**Ushuaia**	**71.05**	**167**	LR	LR	17 43 07.4	
	comp=E,273nm,21.8s,MS4.5,baz=288,slow=30						
RAR	**Rarotonga**	**77.13**	**244**	LR	LR	17 46 36.3	
	comp=E,161nm,18.5s,MS4.4,baz=112,slow=31						
ESDC	**Sonseca Array**	**77.95**	**52**	P	**P**	**17 18 53.0**	**-2.5**
	comp=E,4.1nm,0.9s,mb4.4,baz=293,slow=4.8,SNR=5.1						
ESDC				LR	LR	17 49 32.4	
	comp=E,186nm,18.3s,MS4.5,baz=275,slow=33						
NB2	**NORSAR Subarra**	**83.00**	**29**	P	**P**	**17 19 22.0**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=288,slow=5.1						
NOA	**NORSAR Array B**	**83.00**	**29**	P	**P**	**17 19 20.1**	**-2.5**
	comp=Z,1.9nm,0.9s,mb4.1,baz=289,slow=5.0,SNR=3.9						
NOA				LR	LR	17 53 14.0	
	comp=Z,148nm,20.2s,MS4.3,baz=290,slow=34						
ARCES	**ARCESS Array B**	**85.34**	**19**	LR	LR	18 03 01.0	
	comp=Z,108nm,18.7s,MS4.3,baz=294,slow=40						
AFI	**Afiamalu**	**85.79**	**255**	LR	LR	17 48 23.2	
	comp=Z,124nm,20.5s,MS4.3,baz=81,slow=29						
GERES	**GERESS Array B**	**88.13**	**40**	LR	LR	17 53 56.3	
	comp=Z,254nm,21.4s,MS4.6,baz=284,slow=32						
TORD	**Torodi Ar. Bea**	**88.27**	**77**	LR	LR	17 56 22.3	
	comp=Z,192nm,21.8s,MS4.5,baz=280,slow=34						
RAO	**Raoul Island**	**95.17**	**241**	LR	LR	17 52 04.3	
	comp=Z,176nm,19.4s,MS4.5,baz=351,slow=28						
AKASG	**Malin Array Be**	**96.43**	**34**	LR	LR	18 01 34.7	
	comp=Z,162nm,19.0s,MS4.5,baz=295,slow=34						
WRA	**Warramunga Arr**	**137.50**	**256**	PKP	PKPdf	17 26 18.9	-2.3
	comp=Z,0.7nm,0.6s,baz=89,slow=2.1,SNR=13						
ASAR	**Alice Springs**	**137.72**	**250**	PKhKP		17 26 12.1	
	comp=Z,0.2nm,0.6s,baz=112,slow=4.0,SNR=4.5						
ASAR				PKP	PKPdf	17 26 20.2	-1.4
	comp=Z,0.7nm,0.9s,baz=98,slow=2.2,SNR=8.0						

*GCG **20** 17:17:37.1, 1409N×8988W, h0km, MD3.9*
*SSS **20** 17:17:58.4, 1403N×8977W, h10km, MD3.4, ML2.5*
CASC 20 17:17:35.1±2.2, 1401N×8974W, h2km±6km, MD3.8, ML3.8, 1C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**0.52**	**121**	⇓*e*P	x	17 18 27.8	
BOQS				*e*S	x	17 18 37.3	
LFU	**La Fuente**	**0.66**	**113**	*e*P	x	17 18 30.2	
LFU				*e*S	x	17 18 36.8	
LBRS	**Las Brisas**	**0.73**	**111**	*e*P	x	17 18 30.2	
LBRS				*e*S	x	17 18 42.5	
LFRS	**El Faro**	**0.76**	**120**	*e*P	x	17 18 31.9	
LFRS				*e*S	x	17 18 42.4	
LCBS	**La Ceiba**	**0.82**	**115**	⇓*i*P	x	17 18 32.9	
LCBS				*e*S	x	17 18 45.4	
PCG	**Pacaya**	**0.92**	**295**	*e*P	Pg	17 17 53.5	+0.7
TER	**Terranova**	**0.96**	**288**	*e*P	Pg	17 17 53.1	-0.4
FUG	**Fuego 3**	**1.15**	**293**	⇑*e*P	Pg	17 17 57.1	-0.1
FUG				*e*S	Sg	17 18 13.0	+0.9
JAT	**Jato**	**1.86**	**280**	⇓*e*P	Pn	17 18 10.3	+2.3

WEL 20 17:23:48.9±0.3, 3698S×17747E, h196km±2km, ML3.6/4, Error ellipse: s-maj=4.8km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.26**	**150**	PN	Pn	17 24 20.0	-0.2
PUZ				SN	Sn	17 24 43.9	-0.6
URZ	**Urewera**	**1.31**	**192**	PN	Pn	17 24 20.7	+0.1
URZ				SN	Sn	17 24 45.4	+0.1
MWZ	**Matawai**	**1.36**	**178**	PN	Pn	17 24 21.2	+0.2
MWZ				SN	Sn	17 24 45.8	-0.1
KNZ	**Kokohu**	**2.05**	**176**	PN	Pn	17 24 27.9	+0.3
PXZ	**Pawanui**	**3.09**	**189**	PN	Pn	17 24 39.4	0.0
PXZ				SN	Sn	17 25 17.8	-1.1

*UCR **20** 17:33:08.6, 893N×8352W, h6km, MD3.8*
*UPA **20** 17:33:09.0, 894N×8343W, h21km, MW4.4*
CASC 20 17:33:08.2±2.9, 895N×8345W, h12km±12km, MD3.9, 4C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.68**	**333**	*e*P	Pg	17 33 21.7	+0.4
BUS				*e*S	Sg	17 33 32.6	+2.4
CTCR	**Cotoan**	**0.68**	**94**	⇑*e*P	Pg	17 33 21.1	-0.4
CTCR				*e*S	Sg	17 33 31.2	+0.8
BRU2	**Volcan**	**0.77**	**102**	⇑*i*P	Pg	17 33 22.4	-0.6
BRU2				*e*S	Sg	17 33 33.6	+0.5
BRU	**Baru**	**0.89**	**99**	*e*P	Pg	17 33 24.5	-0.9
BRU				*e*S	Sg	17 33 36.7	-0.3
LCR2	**La Lucha 2**	**0.96**	**325**	⇑*e*P	Pg	17 33 25.6	-1.1
LCR2				*e*S	Sg	17 33 39.0	-0.2
CNI	**Changuinola**	**1.03**	**63**	*e*P	Pb	17 33 27.2	-0.8
OCM	**Ochomogo**	**1.07**	**332**	⇑*e*P	Pb	17 33 27.9	-0.7
OCM				*e*S	Sb	17 33 42.8	+0.3
ICR	**Volcan Irazu**	**1.09**	**340**	*e*P	Pb	17 33 29.1	0.0
ICR				*e*S	Sb	17 33 43.8	+0.6
FIBO	**Fila Bonilla**	**1.09**	**347**	*e*P	Pb	17 33 28.1	-1.0
IRZ2	**Volcan Irazu 2**	**1.10**	**336**	*e*P	Pb	17 33 28.3	-1.0
IRZ2				*e*S	Sb	17 33 43.4	-0.2
VTU	**Volcan Turrial**	**1.11**	**344**	*e*P	Pb	17 33 28.3	-1.0
VTU				*e*S	Sb	17 33 44.3	+0.7
LAJ	**Bijagual**	**1.12**	**324**	*e*P	Pb	17 33 31.0	+1.4
LAJ				*e*S	Sb	17 33 48.9	+4.7
PRS1	**Puriscal**	**1.33**	**321**	⇓*e*P	Pn	17 33 31.1	-1.6
PRS1				*e*S	Sb	17 33 48.0	-2.2
POA2	**Poas 2**	**1.45**	**327**	*e*P	Pn	17 33 33.5	-0.7
POA2				*e*S	Sn	17 33 56.2	+2.9
CGA2	**Cerro Gallo 2**	**1.46**	**317**	*e*P	Pn	17 33 33.5	-0.9
CGA2				*e*S	Sn	17 33 52.3	-1.1
CAO	**Cobano**	**1.79**	**295**	*e*P	Pn	17 33 37.4	-1.6
JCR	**Jicaral**	**1.87**	**299**	*e*P	Pn	17 33 40.6	+0.6
JCR				*e*S	Sn	17 34 03.6	+0.1
VACR	**Volcan Arenal**	**1.94**	**321**	*e*P	Pn	17 33 41.9	+0.9
VACR				*e*S	Sn	17 34 07.7	+2.5
AZU	**Azuero**	**3.35**	**110**	*e*P	Pn	17 34 00.9	+0.6
PTP	**Ponta Puerca**	**19.62**	**60**	*e*P		17 33 25.0	
PTP				*e*S		17 33 38.0	

*CSEM **20** 17:36:22.0±0.2, 6707N×2092E, h0km, ML2.5, Error ellipse: s-maj=7.3km s-min=3.8km az=77.0, Mining explosion. After UPP*
*UPP **20** 17:36:22.0, 6707N×2092E, h0km, ML2.5, Mining explosion.*
HEL 20 17:36:22.8±0.1, 6708N×2092E, h0km, ML2.0, ML2.5(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.56**	**47**	*i* P	Pg	17 36 32.9	-0.7
PAJU	**Pajala**	**0.86**	**93**	*i* P	Pg	17 36 37.9	-1.4
PAJU	**Pajala**	**0.86**	**93**	P	Pg	17 36 37.9	-1.4
	baz=124						
KUA	**Kurravaara**	**0.91**	**346**	*e*P	Pg	17 36 38.9	-1.3
HARU	**Harads**	**0.92**	**179**	*e*P	Pg	17 36 39.0	-1.4
HARU	**Harads**	**0.92**	**179**	P	Pg	17 36 39.0	-1.5
	baz=354						
SALU	**Saltoluokta**	**0.99**	**289**	*e*P	Pg	17 36 40.5	-1.2
SALU	**Saltoluokta**	**0.99**	**289**	P	Pg	17 36 40.5	-1.2
	baz=117						
LANU	**Lannavaara**	**1.05**	**22**	*e*P	Pg	17 36 41.6	-1.4
NIKU	**Nikkaluokta**	**1.07**	**318**	*e*P	Pg	17 36 42.0	-1.3
SJUU	**Sjulsmark**	**1.60**	**170**	*e*P	Pn	17 36 51.3	-1.1
LILU	**Lilltraesk**	**1.86**	**194**	*e*P	Pn	17 36 55.3	-0.5
LILU	**Lilltraesk**	**1.86**	**194**	P	Pn	17 36 55.3	-0.6
	baz=9.1						
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	Pn	17 36 57.4	+0.5
KIF				*e*S	Sn	17 37 23.5	+1.6
KIF				MSG		17 37 27.7	
	comp=Z,11nm,0.1s						
SGF	**Sodankyl**	**2.21**	**78**	*e*P	Pn	17 37 01.0	+0.3
SGF				*e*S	Sn	17 37 29.2	+0.5
SGF				MSG		17 37 37.9	
	comp=Z,9.0nm,0.1s						
BURU	**Burvik**	**2.52**	**176**	*e*P	Pn	17 37 05.2	+0.3
OUL	**Oulu**	**2.85**	**132**	*e*P	Pn	17 37 09.9	+0.4
OUL				*e*SB	Sb	17 37 48.2	-1.8
OUL				MSG		17 37 54.5	
	comp=Z,3.7nm,0.2s						
UMAU	**Umeaa**	**3.21**	**182**	*e*P	Pn	17 37 14.5	0.0
MSF	**Maaselka**	**3.46**	**106**	*e*P	Pn	17 37 17.8	-0.1
KU4	**Liikasenvaara**	**3.51**	**98**	*e*P	Pn	17 37 19.6	+1.0
KU6	**Riekki**	**3.74**	**102**	*e*P	Pn	17 37 21.3	-0.4
KU6				*e*S	Sn	17 38 05.6	-0.9
KJN	**Kajaani**	**4.12**	**134**	*e*P	Pn	17 37 28.0	+1.0
KJN				*e*S	Sn	17 38 13.6	-2.3
VAF	**Ylistaro**	**4.12**	**169**	*e*P	Pn	17 37 26.9	-0.2
SUF	**Sumiainen**	**4.91**	**151**	*e*P	Pn	17 37 38.0	+0.2
KEF	**Keuruu**	**5.22**	**159**	*e*P	Pn	17 37 42.4	+0.3

*IDC **20** 17:44:40.8±1.9, 1657S×17386W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, ML2.3/1, Error ellipse: s-maj=55.0km s-min=29.2km az=128.0*
NEIC 20 17:44:42.7±0.9, 1656S×17381W, h15km, Error ellipse: s-maj=35.6km s-min=12.9km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.29**	**37**	Pn	Pn	17 45 34.1	+0.5
	20nm,0.3s,baz=223,slow=1.3,SNR=8.1						
AFI				Sn	Sn	17 46 08.4	-4.1
	93nm,0.3s,baz=44,slow=22,SNR=20						
AFI	**Afiamalu**	**3.29**	**37**	*e*Pn	Pn	17 45 33.8	+0.2
AFI				*e*Sn	Sn	17 46 06.4	-6.1
URZ	**Urewera**	**23.04**	**199**	P	P	17 49 47.3	0.0
	5.4nm,0.5s,baz=0.0,slow=18,SNR=5.4						
STKA	**Stephens Creek**	**43.12**	**241**	P	P	17 52 43.4	+1.0
	1.1nm,0.5s,baz=99,slow=8.8,SNR=5.3						
STKA	**Stephens Creek**	**43.12**	**241**	*e*P	P	17 52 43.1	+0.8
WRA	**Warramunga Arr**	**49.20**	**258**	P	P	17 53 30.3	0.0
	0.3nm,0.4s,baz=95,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**49.38**	**253**	P	P	17 53 32.2	+0.7

ellipse: s-maj=5.0km s-min=3.0km az=2.4
CSEM ***20*** *18:53:53.8±0.1, 4240N×2158E, h5km, ML2.0, Error ellipse: s-maj=3.2km s-min=1.8km az=85.0*
BEO ***20*** *18:53:54.5±0.1, 4240N×2163E, h16km*
SOF ***20*** *18:53:55.6, 4249N×2174E, h10km, MD2.6*
SKO ***20*** *18:53:56.3, 4222N×2171E, h21km, M1.6, ML2.0*
THE ***20*** *18:53:56.6, 4232N×2171E, h5km*

ISC 20 18:53:54.3±0.4, 4240N±002×2158E±005, h10km, n31, σ1°31/54, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.44**	**194**	*e*Pg	**Pg**	**18 54 03.7**	**+0.8**
SKO				*e*Sg	**Sg**	**18 54 09.7**	**+0.9**
SKO				*e*Lg		18 54 10.1	
	comp=E,128nm,0.4s						
SKO				*e*Lg		18 54 10.1	
	comp=N,186nm,0.3s						
SKO	**Skopje**	**0.44**	**194**	*e*Pg	**Pg**	**18 54 03.7**	**+0.8**
SKO				*e*Sg	**Sg**	**18 54 09.8**	**+1.0**
BARS	**Barje**	**0.46**	**23**	⇑*i*Pg	**Pg**	**18 54 03.1**	**0.0**
BARS				Sg	**Sg**	**18 54 09.0**	**-0.2**
STIP	**Stip**	**0.84**	**147**	*e*Pg	**Pg**	**18 54 09.3**	**-1.2**
STIP				*e*Lg		18 54 19.1	
	comp=E,18nm,0.6s						
STIP				*e*Sg	**Sg**	**18 54 20.1**	**-1.3**
STIP				*e*Lg		18 54 20.8	
	comp=N,26nm,0.3s						
STIP	**Stip**	**0.84**	**147**	*e*Pg	**Pg**	**18 54 09.3**	**-1.2**
STIP				*e*Lg		18 54 19.1	
	comp=E,18nm,0.6s						
STIP				*e*Sg	**Sg**	**18 54 20.1**	**-1.3**
STIP				*e*Lg		18 54 20.8	
	comp=N,26nm,0.3s						
STIP	**Stip**	**0.84**	**147**	*e*Pg	**Pg**	**18 54 09.3**	**-1.1**
STIP				*e*Sg	**Sg**	**18 54 20.2**	**-1.1**
KRUS	**Krusevo**	**1.06**	**194**	*e*Pg	**Pg**	**18 54 14.8**	**+0.1**
KRUS				*e*Sg	**Sg**	**18 54 29.0**	**+0.5**
KRUS	**Krusevo**	**1.06**	**194**	*e*Pg	**Pg**	**18 54 14.8**	**+0.1**
KRUS				*e*Sg	**Sg**	**18 54 29.0**	**+0.5**
KRUS	**Krusevo**	**1.06**	**194**	*e*Pg	**Pg**	**18 54 14.8**	**+0.1**
KRUS				*e*Sg	**Sg**	**18 54 28.9**	**+0.4**
VTS	**Vitosha**	**1.22**	**80**	*e*Pg	**Pg**	**18 54 17.9**	**+0.2**
VTS				*e*Sg	**Sg**	**18 54 34.6**	**+1.1**
VTS	**Vitosha**	**1.22**	**80**	*i*Pg	**Pg**	**18 54 17.8**	**+0.1**
KKB	**Krupnik**	**1.24**	**115**	*i*P	**Pn**	**18 54 18.9**	**+1.3**
VAY	**Valandovo**	**1.31**	**145**	*e*Pg	**Pg**	**18 54 18.4**	**-1.0**
VAY				*e*Sg	**Sg**	**18 54 36.5**	**+0.1**
VAY	**Valandovo**	**1.31**	**145**	*e*Pg	**Pg**	**18 54 18.1**	**-1.2**
VAY				*e*Sg	**Sg**	**18 54 36.3**	**-0.1**
VAY				*e*Lg		18 54 36.5	
	comp=N,20nm,0.6s						
VAY				*e*Lg		18 54 37.1	
	comp=E,15nm,0.6s						
VAY	**Valandovo**	**1.31**	**145**	*e*Pg	**Pg**	**18 54 18.1**	**-1.2**
VAY				*e*Sg	**Sg**	**18 54 36.3**	**-0.1**
VAY				*e*Lg		18 54 36.5	
	comp=N,20nm,0.6s						
VAY				*e*Lg		18 54 37.1	
	comp=E,15nm,0.6s						
VAY	**Valandovo**	**1.31**	**145**	*e*Pg	**Pg**	**18 54 18.1**	**-1.3**
VAY				*e*Sg	**Sg**	**18 54 36.5**	**+0.1**
BIA	**Bitola**	**1.39**	**188**	*e*Pg	**Pg**	**18 54 20.3**	**-0.8**
BIA				*e*Sg	**Sg**	**18 54 39.7**	**+0.6**
BIA	**Bitola**	**1.39**	**188**	*e*Pg	**Pg**	**18 54 20.1**	**-1.0**
BIA				*e*Sg	**Sg**	**18 54 39.4**	**+0.3**
BIA				*e*Lg		18 54 39.8	
	comp=N,9.7nm,0.3s						
BIA				*e*Lg		18 54 40.0	
	comp=E,16nm,0.3s						
BIA	**Bitola**	**1.39**	**188**	*e*Pg	**Pg**	**18 54 20.1**	**-1.0**
BIA				*e*Sg	**Sg**	**18 54 39.4**	**+0.3**
BIA				*e*Lg		18 54 39.8	
	comp=N,9.7nm,0.3s						
BIA				*e*Lg		18 54 40.0	
	comp=E,16nm,0.3s						
BIA	**Bitola**	**1.39**	**188**	*e*Pg	**Pg**	**18 54 20.0**	**-1.1**
BIA				*e*Sg	**Sg**	**18 54 39.7**	**+0.6**
GRG	**Griva**	**1.57**	**157**	*e*Pg	**Pg**	**18 54 23.2**	**-1.2**
KNT	**Kendrikon**	**1.58**	**141**	*e*Pg	**Pg**	**18 54 23.1**	**-1.5**
GRUS	**Gruza**	**1.62**	**337**	⇑*i*Pn	**Pn**	**18 54 24.5**	**+1.7**
GRUS				Sg	**Sg**	**18 54 47.7**	**+1.4**
MMB	**Musomiste**	**1.79**	**116**	*i*P	**Pn**	**18 54 28.2**	**+2.9**
SVIS	**Svilajnac**	**1.91**	**352**	⇑*i*Pg	**Pg**	**18 54 28.7**	**-2.3**
SVIS				Sg	**Sg**	**18 54 54.0**	**-1.8**
SRS	**Serrai**	**1.98**	**130**	*e*Pb	**Pb**	**18 54 28.4**	**-1.9**
DIVS	**Divcibare**	**2.06**	**326**	⇑*i*Pn	**Pn**	**18 54 30.7**	**+1.8**
DIVS				Sg	**Sg**	**18 54 57.7**	**-2.7**
DJES	**Djerdap**	**2.33**	**17**	*e*Pn	**Pn**	**18 54 34.1**	**+1.4**
DJES				Sg	**Sg**	**18 55 04.0**	**-5.3**
RZN	**Rozhen**	**2.44**	**106**	P	**Pn**	**18 54 35.8**	**+1.6**
OUR	**Ouranopolis**	**2.74**	**138**	*e*Pn	**Pn**	**18 54 38.9**	**+0.6**

IDC 20 18:54:25.2±5.1, 149S×13863E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=216.0km s-min=26.5km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**193**	P	Pn	18 58 46.2	-0.6
	0.1nm,0.3s,baz=17,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**22.51**	**191**	P	P	18 59 27.5	+1.1
	0.2nm,0.4s,baz=16,slow=9.9,SNR=15						
MKAR	**Makanchi Array**	**68.78**	**322**	P	P	19 05 31.1	0.0
	0.4nm,0.4s,baz=120,slow=7.6,SNR=16						

ISCJB ***20*** *19:04:58.0±0.5, 4375N±004×105.18W±006, h0km, mb4.1/5, Error ellipse: s-maj=6.9km s-min=5.3km az=38.1*
NEIC ***20*** *19:04:60.0±0.3, 4376N×10523W, h0km, ML3.4, Error ellipse: s-maj=5.0km s-min=3.8km az=122.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
IDC ***20*** *19:05:00.1±0.8, 4390N×10564W, h0km, mb4.0/5, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, ML3.2/4, Error ellipse: s-maj=21.7km s-min=7.9km az=145.0*

ISC 20 19:04:59.7±0.5, 4376N±004×10519W±006, h0km, n48, σ0°96/48, mb4.1/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**66**	*e*P	**Pg**	**19 05 19.4**	**+2.2**
PHWY	**Pilot Hill**	**2.47**	**185**	*e*Pn	**Pn**	**19 05 41.1**	**-0.1**
RWWY	**Rawlins**	**2.55**	**216**	*e*Pn	**Pn**	**19 05 42.7**	**+0.4**
LAO	**LASA Array**	**3.02**	**346**	*e*Pn	**Pn**	**19 05 48.5**	**-0.2**
RLMT	**Red Lodge**	**3.22**	**296**	*e*Pn	**Pn**	**19 05 51.4**	**-0.1**
BW06	**Boulder Array**	**3.34**	**254**	*e*Pn	**Pn**	**19 05 52.6**	**-0.6**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**19 05 53.1**	**-0.1**
	3.7nm,0.3s,baz=72,slow=16,SNR=81						
PDAR				Lg		19 06 37.3	
	8.3nm,0.3s,baz=69,slow=33,SNR=6.0						
GCMT	**Greycliff**	**3.78**	**304**	*e*Pn	**Pn**	**19 05 59.4**	**+0.2**
LKWY	**Lake**	**3.83**	**284**	*e*Pn	**Pn**	**19 06 01.0**	**+1.0**
ISCO	**Idaho Springs**	**3.97**	**185**	*e*Pn	**Pn**	**19 06 02.4**	**+0.5**
MOOW	**Moose Ponds**	**4.02**	**272**	*e*Pn	**Pn**	**19 06 03.3**	**+0.7**
SNOW	**Snow King Moun**	**4.05**	**268**	Pn	**Pn**	**19 06 04.4**	**+1.5**
YFT	**Old Faithful**	**4.12**	**282**	Pn	**Pn**	**19 06 05.2**	**+1.2**
REDW	**Red Top Meadow**	**4.13**	**266**	*e*Pn	**Pn**	**19 06 03.7**	**-0.4**
IMW	**Indian Meadow**	**4.16**	**274**	*e*Pn	**Pn**	**19 06 06.2**	**+1.7**
YMR	**Madison River**	**4.25**	**284**	Pn	**Pn**	**19 06 06.0**	**+0.4**
QLMT	**Earthquake Lak**	**4.60**	**286**	*e*Pn	**Pn**	**19 06 12.0**	**+1.4**
SMCO	**Snowmass**	**4.77**	**197**	*e*Pg	**Pg**	**19 06 25.3**	**-5.9**
BOZ	**Bozeman (W)**	**4.96**	**295**	*e*Pn	**Pn**	**19 06 15.4**	**-0.1**
HWUT	**Hardware Ranch**	**5.17**	**248**	*e*Pn	**Pn**	**19 06 18.1**	**-0.2**
	20nm,0.6s						
EGMT	**Eagleton**	**5.32**	**325**	*e*Pn	**Pn**	**19 06 20.4**	**-0.1**
	33nm,0.5s						
DLMT	**Dillon**	**5.53**	**289**	Pn	**Pn**	**19 06 25.2**	**+1.9**
	10nm,0.7s						
HRY	**Holter Researc**	**5.54**	**304**	*e*Pn	**Pn**	**19 06 22.0**	**-1.4**
MCMT	**McKenzie Canyo**	**5.60**	**284**	Pn	**Pn**	**19 06 28.8**	**+4.6**
DAU	**Daniels Canyon**	**5.62**	**235**	*e*Pn	**Pn**	**19 06 25.0**	**+0.5**
JLU	**Jordanelle**	**5.62**	**238**	*e*Pn	**Pn**	**19 06 23.8**	**-0.7**
CTU	**Camp Tracy**	**5.75**	**240**	Pn	**Pn**	**19 06 25.1**	**-1.3**
	10nm,0.5s						
SPUT	**South Promonto**	**5.89**	**248**	*e*Pn	**Pn**	**19 06 22.8**	**-5.5**
HVU	**Hansel Valley**	**5.92**	**253**	*e*Pn	**Pn**	**19 06 28.4**	**-0.3**
	9.3nm,0.7s						
SDCO	**Great Sand Dun**	**6.02**	**182**	*e*Pn	**Pn**	**19 06 30.8**	**+0.8**
	3.6nm,0.6s						
MPU	**Maple Canyon**	**6.09**	**234**	Pg	**Pg**	**19 06 54.1**	**-2.4**
	19nm,0.7s						
SRU	**San Rafael**	**6.13**	**223**	*e*Pn	**Pn**	**19 06 30.8**	**-0.8**
	18nm,0.6s						
TMUT	**Trail Mountain**	**6.35**	**227**	*e*Pn	**Pn**	**19 06 35.0**	**+0.5**
BGU	**Big Grassy Mou**	**6.46**	**247**	*e*Pn	**Pn**	**19 06 36.1**	**0.0**
CHMT	**Chamberlain Mo**	**6.50**	**302**	*e*Pn	**Pn**	**19 06 36.6**	**+0.1**
DUG	**Dugway**	**6.70**	**240**	*e*Pn	**Pn**	**19 06 38.6**	**-0.9**
	6.7nm,0.7s						
MSU	**Marysvale**	**7.43**	**227**	*e*Pn	**Pn**	**19 06 49.7**	**+0.3**
CCUT	**Cedar City**	**8.78**	**228**	*e*Pn	**Pn**	**19 07 08.7**	**+0.9**
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**19 07 11.9**	**-0.2**
	0.7nm,0.3s,baz=236,slow=10.0,SNR=11						
ULM				Lg		19 09 44.1	
	0.6nm,0.3s,baz=135,slow=16,SNR=3.4						
WUAZ	**Wupatki**	**9.51**	**212**	*e*Pn	**Pn**	**19 07 18.3**	**+0.3**
	6.2nm,0.6s						
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn	**Pn**	**19 07 39.9**	**-1.6**
	0.2nm,0.3s,baz=53,slow=9.3,SNR=4.7						
TXAR	**Lajitas Array**	**14.45**	**175**	Pn	**Pn**	**19 08 30.3**	**+4.8**
	baz=19,slow=5.7,SNR=2.6						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**19 09 28.3**	**-1.9**
	0.1nm,0.3s,baz=164,slow=13,SNR=3.8						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 15 16.6**	**-0.9**
	4.1nm,1.0s,mb4.5,baz=316,slow=7.5,SNR=4.5						
FINES	**FINESS Array B**	**67.99**	**23**	P	**P**	**19 16 00.1**	**-0.6**
	2.0nm,0.9s,mb4.4,baz=29,slow=4.4,SNR=3.5						
ZAL	**Zalesovo**	**82.30**	**354**	P	**P**	**19 17 21.4**	**-1.8**
	0.8nm,0.5s,mb4.1,baz=113,slow=1.9,SNR=4.0						
SONM	**Songino Array**	**84.64**	**339**	P	**P**	**19 17 35.2**	**0.0**
	0.3nm,0.6s,mb3.7,baz=10,slow=3.2,SNR=4.0						
MKAR	**Makanchi Array**	**89.59**	**355**	P	**P**	**19 17 59.1**	**-0.1**
	0.5nm,0.7s,mb3.9,baz=3.7,slow=5.0,SNR=4.6						

ISCJB ***20*** *19:27:30.6±1.2, 3448N±005×2386E±005, h4km±6km, mb3.8/10, Error ellipse: s-maj=8.5km s-min=7.1km az=179.1*
IDC ***20*** *19:27:31.6±1.1, 3461N×2392E, h0km, mb4.0/10, mb1 3.9/13, mb1mx3.8/23, mbtmp3.8/13, ML3.7/3, Error ellipse: s-maj=24.6km s-min=12.2km az=149.0*
ATH ***20*** *19:27:32.5, 3460N×2379E, h11km±2km, MD3.8/8*
NEIC ***20*** *19:27:32.5, 3460N×2379E, h11km, MD3.8(ATH), After ATH.*
CSEM ***20*** *19:27:33.3±0.3, 3457N×2386E, h5km, MD3.8, Error ellipse: s-maj=5.4km s-min=2.9km az=1.0*
THE ***20*** *19:27:36.1, 3469N×2396E, h10km*
MOS ***20*** *19:27:36.8±1.8, 3476N×2396E, h41km, mb3.9/1, Error ellipse: s-maj=20.1km s-min=9.8km az=80.6*
NAO ***20*** *19:27:43.0, 3575N×2549E, h33km, mb3.8*

ISC 20 19:27:32.2±1.3, 3452N±005×2389E±005, h4km±6km, n42, σ1°25/49, mb3.8/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.36**	**27**	*e*Pg	**Pg**	**19 27 39.4**	**+0.3**
GVD				*e*Sg	**Sg**	**19 27 43.5**	**-0.4**
GVD	**Gavdhos**	**0.36**	**27**	*e*Pb	**Pg**	**19 27 39.2**	**+0.1**
GVD	**Gavdhos**	**0.36**	**27**	*e*Pg	**Pg**	**19 27 39.4**	**+0.3**
GVD				*e*Sg	**Sg**	**19 27 43.5**	**-0.3**
KARN	**Karanos**	**0.88**	**2**	*e*Pg	**Pg**	**19 27 48.9**	**-0.2**
KARN				*e*Sg	**Sg**	**19 28 00.7**	**+0.2**
SIVA	**Sivas**	**0.91**	**56**	*e*Pg	**Pg**	**19 27 49.4**	**-0.3**
SIVA				*e*Sg	**Sg**	**19 28 02.1**	**+0.7**
VAM	**Vamos**	**0.92**	**16**	*e*PG	**Pg**	**19 27 49.0**	**-0.9**
VAM				*e*SB	**Sb**	**19 28 01.5**	**-1.9**
IDI	**Anoyia**	**1.13**	**47**	P	**Pg**	**19 27 51.9**	**-1.9**
	16nm,0.3s,baz=227,slow=13,SNR=79						
IDI				Lg		19 28 07.2	
	113nm,0.3s,baz=316,slow=18,SNR=22						
NPS	**Neapolis**	**1.60**	**62**	*e*PG	**Pg**	**19 28 03.1**	**+0.2**
KYTH	**Kithira**	**1.89**	**339**	*e*PN	**Pn**	**19 28 05.2**	**-0.1**
ZKR	**Zakros**	**2.01**	**72**	*e*Pb	**Pb**	**19 28 10.0**	**+0.7**
ZKR				*e*Sb	**Sb**	**19 28 34.7**	**+0.1**
THR6	**Thira Island,**	**2.21**	**33**	*e*Pn	**Pn**	**19 28 11.3**	**+1.6**
THR6				*e*Sn	**Sn**	**19 28 38.6**	**+1.1**
THR5	**Thira Island,**	**2.24**	**32**	*e*Pn	**Pn**	**19 28 12.1**	**+2.0**
SANT	**Santorini**	**2.25**	**34**	*e*Pn	**Pn**	**19 28 11.7**	**+1.4**
SANT	**Santorini**	**2.25**	**34**	*e*Pn	**Pn**	**19 28 11.6**	**+1.4**
THR1	**Thera Island**	**2.25**	**34**	*e*Pn	**Pn**	**19 28 11.0**	**+0.8**
THR3	**Thira Island,**	**2.26**	**33**	*e*Pn	**Pn**	**19 28 11.5**	**+1.2**
THR4	**Thira Island,**	**2.30**	**32**	*e*Pn	**Pn**	**19 28 12.0**	**+1.1**
VLI	**Veliai**	**2.33**	**341**	*e*PN	**Pn**	**19 28 12.0**	**+0.7**
APE	**Apeiranthos**	**2.88**	**27**	*e*Pn	**Pn**	**19 28 18.8**	**0.0**
APE	**Apeiranthos**	**2.88**	**27**	*e*Pb	**Pb**	**19 28 20.0**	**-4.1**
KARP	**Karpathos**	**2.88**	**68**	*e*PN	**Pn**	**19 28 21.3**	**+2.5**
NAIG	**Nisos Aigina**	**3.25**	**354**	*e*PN	**Pn**	**19 28 25.0**	**+1.0**
MMAI	**Mount Meron Ar**	**9.70**	**96**	Pn	**Pn**	**19 29 51.4**	**-1.2**
	0.4nm,0.3s,baz=309,slow=9.1,SNR=2.9						
GERES	**GERESS Array B**	**16.19**	**335**	Pn	**Pn**	**19 31 22.3**	**+1.8**
	0.1nm,0.3s,baz=152,slow=12,SNR=8.0						
KHC	**Kasperske Hory**	**16.48**	**336**	*e*P	**Pn**	**19 31 25.5**	**+1.3**
KHC				epP	pP	19 31 30.0	+2.0
KHC	**Kasperske Hory**	**16.48**	**336**	*e*P	**Pn**	**19 31 25.5**	**+1.3**
KHC				*e*		19 31 30.0	
AKASG	**Malin Array Be**	**16.64**	**12**	Pn	**Pn**	**19 31 24.9**	**-1.3**
	0.5nm,0.3s,baz=204,slow=10,SNR=6.7						
AKASG	**Malin Array Be**	**16.64**	**12**	Pn	**Pn**	**19 31 24.9**	**-1.3**
HFS	**Hagfors**	**26.48**	**349**	P	**P**	**19 33 08.6**	**-1.8**
	1.7nm,0.5s,mb3.9,baz=158,slow=12,SNR=13						
FINES	**FINESS Array B**	**26.98**	**2**	P	**P**	**19 33 12.4**	**-2.6**
	3.0nm,1.0s,mb3.8,baz=194,slow=9.7,SNR=3.0						
NB2	**NORSAR Subarra**	**27.77**	**347**	P	**P**	**19 33 20.4**	**-1.7**
	comp=Z,0.7nm,0.5s,mb3.5,baz=154,slow=9.3						
NOA	**NORSAR Array B**	**27.77**	**347**	P	**P**	**19 33 20.3**	**-1.7**
	comp=Z,0.6nm,0.4s,mb3.5,baz=148,slow=9.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.28**	**229**	P	**P**	**19 33 37.8**	**+2.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=36,slow=8.6,SNR=6.5						
AKTK	**Aktyubinsk**	**29.45**	**47**	P	**P**	**19 33 35.8**	**-1.2**
AKTK	**Aktyubinsk**	**29.45**	**47**	P	**P**	**19 33 35.8**	**-1.3**
AKTO	**Aktyubinsk**	**29.45**	**47**	P	**P**	**19 33 35.8**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=44,slow=5.0,SNR=4.2						
ARCES	**ARCESS Array B**	**35.08**	**1**	P	**P**	**19 34 26.8**	**+0.4**
	comp=Z,7.8nm,1.1s,mb4.5,baz=265,slow=5.6,SNR=3.8						
MKAR	**Makanchi Array**	**45.00**	**56**	P	**P**	**19 35 47.5**	**-1.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=272,slow=7.6,SNR=31						
ZAL	**Zalesovo**	**46.19**	**46**	P	**P**	**19 35 56.0**	**-2.1**
	comp=Z,2.1nm,0.4s,mb4.4,baz=207,slow=3.9,SNR=3.7						
SONM	**Songino Array**	**60.70**	**50**	P	**P**	**19 37 44.3**	**-0.4**
	comp=Z,0.5nm,0.4s,mb4.0,baz=283,slow=6.8,SNR=6.7						
YKA	**Yellowknife Ar**	**77.73**	**342**	P	**P**	**19 39 29.8**	**-0.5**
	comp=Z,0.1nm,0.5s,mb3.0,baz=30,slow=5.2,SNR=4.0						
LQP	**Lukban**	**88.28**	**74**	*e*P	**P**	**19 40 20.5**	**-4.4**

GCG ***20*** *19:36:08.8, 1402N×8988W, h0km, MD3.8*

CASC 20 19:36:07.0±2.3, 1403N×8975W, h2km±4km, MD3.6, ML3.8, 7C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.11**	**37**	⇓*i*P	x	19 36 10.8	
RTR	**El Retiro**	**0.17**	**140**	⇓*i*P	x	19 36 11.2	
RTR				*e*S	x	19 36 15.9	
SNJE	**San Jose**	**0.21**	**137**	⇓*i*P	x	19 36 12.1	
SBLS	**San Blas**	**0.22**	**145**	⇓*i*P	x	19 36 12.1	
MTO2	**Montecristo 2**	**0.53**	**46**	⇑*e*P	x	19 36 17.7	
MTO2				*e*S	x	19 36 26.0	
BOQS	**Boqueron**	**0.54**	**122**	⇓*i*P	x	19 36 18.3	
BOQS				*e*S	x	19 36 28.6	
LFU	**La Fuente**	**0.68**	**114**	*e*P	x	19 36 20.8	
LFU				*e*S	x	19 36 31.4	
LBRS	**Las Brisas**	**0.75**	**112**	⇓*e*P	x	19 36 21.7	
LBRS				*e*S	x	19 36 32.8	
LFRS	**El Faro**	**0.78**	**121**	⇑*e*P	x	19 36 22.3	
LFRS				*e*P	x	19 36 22.3	
LCBS	**La Ceiba**	**0.84**	**116**	*e*P	x	19 36 23.4	
PCG	**Pacaya**	**0.91**	**294**	⇑*i*P	Pg	19 36 25.5	+1.2
PCG				⇑*e*S	Sg	19 36 36.9	+0.8
TER	**Terranova**	**0.94**	**287**	⇓*e*P	Pg	19 36 25.3	+0.2
TER				*e*S	Sg	19 36 38.4	+1.1
FUG	**Fuego 3**	**1.14**	**292**	⇓*e*P	Pg	19 36 29.0	+0.2
FUG				*e*S	Sg	19 36 45.0	+1.5
VSM	**San Miguel**	**1.56**	**112**	⇑*i*P	x	19 36 36.6	
BLLM	**Bellamira**	**1.58**	**111**	*e*P	x	19 36 36.0	

NEIC ***20*** *19:40:33.2±0.5, 2187N×143.16E, h10km, mb4.5/2, Error ellipse: s-maj=18.4km s-min=10.2km az=76.0*
ISCJB ***20*** *19:40:35.0±2.5, 2186N±010×1432E±02, h36km±22km, mb4.1/15, MS3.2/2, Error ellipse: s-maj=30.2km s-min=15.4km az=157.1*
MOS ***20*** *19:40:35.0±0.6, 2184N×14309E, h33km, mb4.4/4, Error ellipse: s-maj=27.1km s-min=14.5km az=114.9*
IDC ***20*** *19:40:37.8±3.3, 2187N×143.14E, h42km±30km, mb3.7/12, mb1 3.9/13, mb1mx3.8/25, mbtmp3.8/13, ML4.4/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/31, Error ellipse: s-maj=30.8km s-min=15.0km az=81.0*

ISC 20 19:40:37.2±2.0, 2189N±010×1433E±02, h38km±17km, n27, σ0°82/25, mb4.1/15, MS3.2/2, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.28**	**350**	P	**Pn**	**19 41 54.4**	**+0.9**
	20nm,0.3s,baz=262,slow=15,SNR=8.4						
GUMO	**Guam**	**8.39**	**169**	LR	LR	19 45 21.6	
	comp=Z,181nm,18.6s,baz=241,slow=34						
JHJ	**Hachijo jima 2**	**11.60**	**345**	P	**Pn**	**19 43 18.5**	**-1.7**
	24nm,0.3s,baz=207,slow=2.3,SNR=3.1						
JHJ				LR	LR	19 47 33.8	
	comp=Z,262nm,19.6s,baz=113,slow=36						
KSRS	**Korea Array**	**20.40**	**323**	P	**P**	**19 45 12.2**	**+1.4**
	3.8nm,0.8s,baz=140,slow=9.5,SNR=14						
KSRS				LR	LR	19 52 25.5	
	comp=Z,82nm,20.5s,MS3.1,baz=153,slow=35						
SONM	**Songino Array**	**39.23**	**320**	P	**P**	**19 48 02.1**	**+0.2**
	2.3nm,0.7s,mb4.0,baz=125,slow=6.9,SNR=19						
ZAK	**Zakamensk**	**42.24**	**322**	*e*P	**P**	**19 48 22.5**	**-4.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
WRA	**Warramunga Arr**	**42.48**	**192**	P	**P**	**19 48 28.6**	**+0.1**
	comp=Z,1.9nm,0.7s,mb3.8,baz=16,slow=9.4,SNR=14						
WRA				LR	LR	20 03 32.1	
	comp=Z,43nm,21.9s,MS3.3,baz=145,slow=32						
ASAR	**Alice Springs**	**46.19**	**192**	P	**P**	**19 48 58.0**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=15,slow=13,SNR=26						
LSA	**Lhasa**	**47.23**	**291**	P	**P**	**19 49 06.5**	**+0.1**
TIXI	**Tiksi**	**50.47**	**354**	*i*P	**P**	**19 49 25.5**	**-5.7**
STKA	**Stephens Creek**	**53.48**	**182**	P	**P**	**19 49 53.8**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=32,slow=7.0,SNR=3.6						
ZAL	**Zalesovo**	**54.11**	**322**	P	**P**	**19 49 57.8**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.3,baz=26,slow=5.4,SNR=7.4						
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**19 50 01.8**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=96,slow=8.9,SNR=8.1						
MKAR	**Makanchi Array**	**54.62**	**313**	⇑*e*P	**P**	**19 50 03.0**	**+1.1**
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**19 50 01.8**	**-0.2**
KURK	**Kurchatov**	**57.38**	**317**	*i*P	**P**	**19 50 22.6**	**+0.9**
KURK	**Kurchatov**	**57.38**	**317**	*e*P	**P**	**19 50 22.1**	**+0.4**
	comp=Z,3.3nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**60.11**	**307**	*i*P	**P**	**19 50 41.4**	**+0.8**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.7s,mb4.3						
BVAR	**Borovoye Array**	**62.57**	**319**	P	**P**	**19 50 57.1**	**-0.1**
	comp=Z,4.6nm,0.9s,mb4.6,baz=87,slow=7.1,SNR=20						
BRVK	**Borovoye**	**62.63**	**319**	*e*P	**P**	**19 50 57.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**62.63**	**319**	*e*P	**P**	**19 50 57.6**	**-0.1**
	comp=Z,3.8nm,0.9s,mb4.5						
INK	**Inuvik**	**67.37**	**24**	P	**P**	**19 51 29.6**	**+1.2**
	comp=Z,1.5nm,1.1s,mb4.0,baz=280,slow=17,SNR=3.9						
AKTK	**Aktyubinsk**	**70.47**	**317**	P	**P**	**19

YSS	**Yuzh-Sakhalins**	**8.49 233**	*e*PN	**P**		**19 47 48.8**	**+1.0**
YSS	**Yuzh-Sakhalins**	**8.49 233**	*e*P	**P**		**19 47 48.2**	**+0.4**
SEY	**Seymchan**	**10.47 359⇑**	*e*P	**P**		**19 48 11.4**	**+2.6**
SEY	**Seymchan**	**10.47 359⇑**	*e*PN	**P**		**19 48 11.4**	**+2.6**
ASAJ	**Asahikawa**	**10.73 223**	P	**P**		**19 48 11.4**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=266,slow=24,SNR=7.4						
ASAJ	**Asahikawa**	**10.73 223**	PN	**P**		**19 48 11.5**	**-0.1**
ASAJ			pmax	pmax			
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**12.31 215⇑**	*e*PN	**P**		**19 48 26.3**	**-2.0**
BILL	**Biiibino**	**16.92 18**	*i P*	**P**		**19 49 16.3**	**-0.5**
BILL			pmax	pmax			
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**16.92 18**	*i* P	**P**		**19 49 16.3**	**-0.5**
BILL			pmax	pmax			
	comp=Z,3.0nm,0.6s						
MAT	**Matsushiro**	**18.94 218**	P	**P**		**19 49 35.8**	**-0.1**
MJAR	**Matsushiro Arr**	**18.94 218**	P	**P**		**19 49 36.1**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=19,slow=10.0,SNR=42						
SONM	**Songino Array**	**29.62 280**	P	**P**		**19 51 11.5**	**+0.4**
	comp=Z,0.2nm,0.6s,mb2.8,baz=73,slow=8.4,SNR=2.5						
KURK	**Kurchatov**	**44.16 299***d*	*i* P	**P**		**19 53 10.8**	**0.0**
KURK	**Kurchatov**	**44.16 299**	*e*P	**P**		**19 53 10.6**	**-0.2**
	comp=Z,3.5nm,0.4s,mb4.1						
MK31	**Makanchi Array**	**44.29 292**	*e*P	**P**		**19 53 10.9**	**-0.9**
MKAR	**Makanchi Array**	**44.29 292**	P	**P**		**19 53 11.8**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.5,baz=61,slow=7.0,SNR=21						
YKA	**Yellowknife Ar**	**46.57 40**	P	**P**		**19 53 28.5**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.4,baz=313,slow=7.6,SNR=5.3						
BVAR	**Borovoye Array**	**47.15 305**	P	**P**		**19 53 33.9**	**+0.2**
	comp=Z,2.1nm,0.5s,mb3.8,baz=64,slow=8.0,SNR=12						
BVAR			PcP	PcP		19 54 54.7	-1.1
	comp=Z,0.6nm,0.4s,baz=57,slow=1.9,SNR=7.5						
BRVK	**Borovoye**	**47.19 305**	*e*P	**P**		**19 53 34.0**	**0.0**
BRVK			pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**47.19 305**	*e*P	**P**		**19 53 34.0**	**0.0**
	comp=Z,2.7nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**51.23 292**	*i* P	**P**		**19 54 04.1**	**+0.2**
ARCES	**ARCESS Array B**	**52.36 339**	P	**P**		**19 54 11.5**	**-0.6**
	comp=Z,6.3nm,0.9s,mb3.9,baz=22,slow=7.2,SNR=5.0						
JIRN	**Jiri**	**54.44 270**	*e*P	**P**		**19 54 27.8**	**+0.9**
	comp=Z,7.2nm,0.7s,mb4.1						
GUN	**Gumba**	**54.45 271**	*e*P	**P**		**19 54 27.6**	**+0.6**
	comp=Z,7.4nm,0.4s,mb4.3						
AKTK	**Aktyubinsk**	**54.80 309**	P	**P**		**19 54 28.9**	**-0.5**
AKTO	**Aktyubinsk**	**54.80 309**	P	**P**		**19 54 28.9**	**-0.5**
	comp=Z,1.1nm,0.4s,mb3.6,baz=50,slow=11,SNR=5.8						
KKN	**Kakani**	**54.90 271**	*e*P	**P**		**19 54 30.9**	**+0.7**
	comp=Z,16nm,0.5s,mb4.6						
DMN	**Daman**	**55.14 271**	*e*P	**P**		**19 54 32.8**	**+1.0**
	comp=Z,15nm,0.5s,mb4.5						
KOLN	**Koldanda**	**55.94 272**	*e*P	**P**		**19 54 37.7**	**+0.3**
	comp=Z,5.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**58.76 333**	P	**P**		**19 54 56.0**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.5,baz=44,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**58.76 333**	*e*P	**P**		**19 54 56.2**	**-0.5**
PDAR	**Pinedale Array**	**61.66 56**	P	**P**		**19 55 16.8**	**+0.8**
	comp=Z,0.4nm,0.5s,mb3.1,baz=335,slow=4.0,SNR=4.4						
NB2	**NORSAR Subarra**	**62.72 340**	P	**P**		**19 55 22.4**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**62.72 340**	P	**P**		**19 55 22.4**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.4,baz=26,slow=6.4,SNR=4.0						
NOA	**NORSAR Array B**	**62.72 340**	P	**P**		**19 55 22.4**	**-0.5**
HFS	**Hagfors**	**63.00 338**	P	**P**		**19 55 24.0**	**-0.7**
	comp=Z,0.6nm,0.3s,mb3.6,baz=45,slow=2.3,SNR=6.7						
AKASG	**Malin Array Be**	**66.66 325**	P	**P**		**19 55 45.8**	**-2.1**
	comp=Z,0.5nm,0.3s,mb3.5,baz=32,slow=6.3,SNR=3.1						
EKA	**Eskdalemuir Ar**	**70.70 346**	P	**P**		**19 56 11.8**	**-0.5**
	comp=Z,1.5nm,0.5s,mb3.8,baz=16,slow=4.8,SNR=12						
GERES	**GERESS Array B**	**73.19 333**	P	**P**		**19 56 26.0**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.3,baz=28,slow=4.9,SNR=5.5						
WRA	**Warramunga Arr**	**73.88 198**	P	**P**		**19 56 33.2**	**+2.4**
	comp=Z,0.5nm,1.1s,mb3.0,baz=10,slow=5.8,SNR=3.0						
TXAR	**Lajitas Array**	**74.94 61**	P	**P**		**19 56 38.3**	**+1.5**
	comp=Z,0.4nm,0.5s,mb3.2,baz=292,slow=4.8,SNR=4.3						
ASAR	**Alice Springs**	**77.59 198**	P	**P**		**19 56 51.6**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.1,baz=11,slow=5.2,SNR=9.4						
PLCA	**Paso Flores**	**148.52 86**	PKPbc	PKPbc		20 04 37.2	-0.3
	comp=Z,1.7nm,0.8s,baz=243,slow=7.0,SNR=3.2						
PLCA	**Paso Flores**	**148.52 86**	PKPbc	PKPbc		20 04 37.2	-0.3

SVSA 20 19:57:56.5±0.7, 3914N×3002W, h0km, MD3.5, ML2.2, Error ellipse: s-maj=9.1km s-min=6.9km az=42.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.10**	**120**	*e*S	Sg	19 58 27.6	-4.4
PTCA							
	11nm,0.2s						
CALA	**Caldeira**	**1.17**	**118**	*e*P	Pg	19 58 15.3	-3.6
CALA				*e*S	Sg	19 58 29.4	-4.7
PCND	**Candelaria**	**1.39**	**119**	*e*P	Pn	19 58 18.7	-4.4
PCND				*e*S	Sg	19 58 34.9	-6.2
PCND							
	15nm,0.2s						
PICO	**Pico**	**1.40**	**117**	*e*P	Pn	19 58 18.2	-5.1
PICO				*e*S	Sg	19 58 34.9	-6.6
PTEI	**Pico do Teixo**	**1.45**	**116**	*e*P	Pn	19 58 37.0	+13
PBOI	**Pico dos Bois**	**1.47**	**118**	*e*S	Sg	19 58 36.5	-7.1
PBOI							
	16nm,0.1s						
SRBC	**Serra Branca**	**1.54**	**93**	*e*S	Sn	19 58 38.4	-7.5

ISCJB ***20*** *20:03:26.4±3.2, 2194N×007×143.1E±0.1, h113km±29km, mb4.2/26, Error ellipse: s-maj=18.5km s-min=11.0km az=163.5*
MOS ***20*** *20:03:28.0±0.9, 2196N×14289E, h128km, mb4.0/9, Error ellipse: s-maj=27.3km s-min=11.3km az=107.8*
BJI ***20*** *20:03:29.4, 22.11N×14339E, h154km, mB4.9, mb4.5*
NEIC ***20*** *20:03:30.2±2.6, 2201N×14291E, h136km±24km, mb4.5/4, Error ellipse: s-maj=17.5km s-min=7.9km az=81.0*
IDC ***20*** *20:03:32.5±5.3, 2197N×14279E, h158km±49km, mb3.6/15, mb1 3.8/16, mb1mx3.7/24, mbtmp3.6/16, MS3.7/18, Ms1 3.7/18, ms1mx3.6/35, Error ellipse: s-maj=26.0km s-min=11.3km az=82.0*

ISC 20 20:03:27.3±3.1, 2197N±007×1432E±01, h106km±28km, n57, σ1§23/44, mb4.2/26, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.19 350**		LR	LR	20 06 17.0	
	comp=Z,530nm,18.9s,baz=120,slow=32						
GUMO	**Guam**	**8.48 169**		LR	LR	20 08 12.7	
	comp=Z,176nm,19.4s,baz=22,slow=33						
JHJ	**Hachijo jima 2**	**11.52 345**		LR	LR	20 09 52.3	
	comp=Z,274nm,19.6s,baz=147,slow=33						
MJAR	**Matsushiro Arr**	**15.16 344**		P	**Pn**	**20 06 55.6**	**-0.2**
	0.2nm,0.3s,baz=184,slow=13,SNR=3.4						
KSRS	**Korea Array**	**20.33 323**		P	**P**	**20 07 55.0**	**+0.1**
	3.4nm,0.7s,baz=143,slow=8.0,SNR=13						
KSRS				LR	LR	20 14 48.1	
	comp=Z,96nm,19.9s,baz=352,slow=34						
ASAJ	**Asahikawa**	**22.09 359**		LR	LR	20 17 07.6	
	comp=Z,126nm,18.2s,baz=82,slow=37						
HNR	**Honiara**	**35.25 151**		LR	LR	20 25 05.6	
	comp=Z,57nm,18.1s,baz=180,slow=36						
SONM	**Songino Array**	**39.16 320**		P	**P**	**20 10 43.0**	**-1.6**
	2.0nm,0.5s,mb4.2,baz=132,slow=7.7,SNR=16						
SONM				LR	LR	20 28 12.7	
	comp=Z,85nm,20.7s,baz=146,slow=38						
GTA	**Gaotai**	**40.76 305**		*e*P	**P**	**20 11 00.3**	**+2.5**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
CTA	**Charters Tower**	**41.91 176**		P	**P**	**20 11 08.8**	**+1.6**
	comp=Z,6.4nm,0.8s,mb4.4,baz=357,slow=7.9,SNR=4.3						
CTA				LR	LR	20 27 34.6	
	comp=Z,52nm,19.9s,baz=44,slow=34						
CTA	**Charters Tower**	**41.91 176**		P	**P**	**20 11 08.8**	**+1.6**
CTA				LR	LR	20 27 34.6	
CTAO	**Charters Tower**	**41.91 176**		*e*P	**P**	**20 11 08.0**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
CTAO	**Charters Tower**	**41.91 176**		*e*P	**P**	**20 11 08.0**	**+0.8**
	comp=Z,16nm,1.2s,mb4.6						
ZAK	**Zakamensk**	**42.16 322**		*e*P	**P**	**20 11 08.1**	**-1.2**
ZAK				*e*		20 11 54.6	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.1						
WB2	**Warramunga Arr**	**42.55 192**		*e*P	**P**	**20 11 12.7**	**+0.2**
WRA	**Warramunga Arr**	**42.56 192**		P	**P**	**20 11 11.5**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.2,baz=14,slow=9.2,SNR=26						
FITZ	**Fitzroy Crossi**	**43.39 205**		*e*P	**P**	**20 11 19.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**43.39 205**		P	**P**	**20 11 18.0**	**-1.2**
	comp=Z,2.0nm,0.8s,mb3.9,baz=355,slow=2.9,SNR=5.1						
FITZ				LR	LR	20 28 34.4	
	comp=Z,48nm,18.4s,baz=72,slow=35						
ASAR	**Alice Springs**	**46.26 192**		P	**P**	**20 11 40.8**	**-1.3**
	comp=Z,0.9nm,0.8s,mb3.5,baz=18,slow=13,SNR=9.1						
LSA	**Lhasa**	**47.19 291**		*e*P	**P**	**20 11 48.3**	**-0.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
LSA	**Lhasa**	**47.19 291**		*e*P	**P**	**20 11 48.3**	**-0.9**
	comp=Z,3.2nm,0.9s,mb4.0						
BILL	**Bilibino**	**48.24 11**		*e*P	**P**	**20 11 58.0**	**+0.7**
BILL				*e*		20 12 28.6	
BILL				*e*		20 13 20.0	
BILL				*e*		20 13 46.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
DZM	**Mont Dzumac**	**49.27 151**		LR	LR	20 30 01.8	
	comp=Z,186nm,20.8s,baz=300,slow=32						
TIXI	**Tiksi**	**50.38 354**		*e*P	**P**	**20 12 13.7**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
JIRN	**Jiri**	**51.72 289**		*e*P	**P**	**20 12 24.7**	**+1.1**
	comp=Z,9.6nm,0.8s,mb4.9						
GUN	**Gumba**	**51.96 289**		*e*P	**P**	**20 12 27.4**	**+2.0**
KKN	**Kakani**	**52.50 289**		*e*P	**P**	**20 12 30.7**	**+1.3**
DMN	**Daman**	**52.67 289**		*e*P	**P**	**20 12 31.9**	**+1.2**
GKN	**Gorkha**	**53.04 289**		*e*P	**P**	**20 12 33.7**	**+0.3**
	comp=Z,39nm,1.5s,mb5.2						
STKA	**Stephens Creek**	**53.56 182**		P	**P**	**20 12 37.2**	**0.0**
	comp=Z,3.2nm,0.9s,mb4.3,baz=326,slow=12,SNR=3.8						
STKA				LR	LR	20 33 26.7	
	comp=Z,56nm,21.3s,baz=23,slow=34						
STKA	**Stephens Creek**	**53.56 182**		*e*P	**P**	**20 12 36.5**	**-0.7**
STKA				LR	LR	20 33 26.7	
KOLN	**Koldanda**	**53.98 289**		*e*P	**P**	**20 12 40.6**	**+0.4**
	comp=Z,59nm,2.1s,mb5.2						
ZAL	**Zalesovo**	**54.04 322**		P	**P**	**20 12 37.5**	**-3.2**
	comp=Z,1.8nm,0.9s,mb4.1,baz=2.2,slow=8.4,SNR=9.2						
ZAL	**Zalesovo**	**54.04 322**		P	**P**	**20 12 37.5**	**-3.2**
MKAR	**Makanchi Array**	**54.55 312**		P	**P**	**20 12 42.3**	**-2.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=89,slow=8.2,SNR=5.9						
MKAR				LR	LR	20 37 02.4	
	comp=Z,50nm,18.4s,baz=228,slow=37						
MKAR	**Makanchi Array**	**54.55 312**		*i* P	**P**	**20 12 44.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**57.31 317⇓**		*e*P	**P**	**20 13 03.5**	**-0.6**
KURK	**Kurchatov**	**57.31 317**		*e*P	**P**	**20 13 02.7**	**-1.4**
	comp=Z,4.2nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**60.04 307**		*i* P	**P**	**20 13 24.9**	**+1.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
BRVK	**Borovoye**	**62.56 319**		*e*P	**P**	**20 13 39.3**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
BRVK	**Borovoye**	**62.56 319**		*e*P	**P**	**20 13 39.3**	**-0.7**
	comp=Z,12nm,1.1s,mb4.7						
YKA	**Yellowknife Ar**	**76.19 28**		P	**P**	**20 15 03.8**	**0.0**
	comp=Z,0.9nm,0.4s,mb3.8,baz=293,slow=5.9,SNR=25						
YKA				LR	LR	20 48 24.4	
	comp=Z,145nm,19.5s,baz=260,slow=35						
PPT	**Papeete**	**76.60 115**		*e*LR	LR	20 15 54.9	
	comp=Z,153nm,30.0s						
ARCES	**ARCESS Array B**	**78.68 341**		LR	LR	20 54 20.7	
	comp=Z,49nm,19.9s,baz=229,slow=39						
OBN	**Obninsk**	**81.29 326**		*e*P	**P**	**20 15 38.3**	**+6.5**
OBN				*e*		20 18 42.2	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**82.93 52**		P	**P**	**20 15 41.7**	**+1.3**
	comp=Z,1.5nm,0.7s,mb3.9,baz=280,slow=5.4,SNR=8.9						
FINES	**FINESS Array B**	**82.96 334**		P	**P**	**20 15 37.8**	**-2.7**
	comp=Z,1.3nm,0.8s,mb3.8,baz=90,slow=7.6,SNR=4.9						
FINES	**FINESS Array B**	**82.96 334**		*i* P	**P**	**20 15 39.5**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**87.16 45**		P	**P**	**20 16 02.6**	**+1.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=305,slow=5.2,SNR=3.5						
PDAR				LR	LR	20 47 58.0	
	comp=Z,164nm,20.7s,baz=308,slow=30						
AKASG	**Malin Array Be**	**87.32 324**		P	**P**	**20 15 59.6**	**-2.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=49,slow=4.8,SNR=4.2						
NOA	**NORSAR Array B**	**88.71 339**		LR	LR	21 00 41.8	
	comp=Z,50nm,19.4s,baz=285,slow=39						
BRTR	**Keskin Array B**	**90.19 313**		P	**P**	**20 16 14.3**	**-1.5**
	comp=Z,1.3nm,0.9s,mb4.1,baz=75,slow=6.5,SNR=5.6						
BRTR	**Keskin Array B**	**90.19 313**		*i* P	**P**	**20 16 15.5**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULM	**Lac du Bonnet**	**91.19 33**		LR	LR	20 54 30.9	
	comp=Z,74nm,21.9s,baz=350,slow=34						
TXAR	**Lajitas Array**	**97.85 54**		LR	LR	20 52 32.9	
	comp=Z,58nm,21.0s,baz=185,slow=30						
LPAZ	**La Paz**	**149.86 85**		PKPbc	PKPbc	20 23 07.2	+2.2
	comp=Z,4.6nm,1.0s,baz=346,slow=2.8,SNR=8.0						
LPAZ	**La Paz**	**149.86 85**		PKPbc	PKPbc	20 23 07.2	+2.2

KRSC 20 20:36:25.0±1.5, 5160N×15382E, h574km±53km, ML4.2, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**3.02**	**72**	*e*P	P	20 37 44.0	+2.0
RUS				*i* S	S	20 38 42.9	-2.0
GNL	**Ganaly**	**3.27**	**48**	*e*P	P	20 37 45.6	+2.0
AVH	**Avacha**	**3.44**	**59**	*e*P	P	20 37 47.4	+2.7
SPN	**Mys Shipunski**	**4.09**	**66**	*e*P	P	20 37 51.2	+2.1
SPN				*i* S	S	20 38 52.5	-5.3
MKZ	**Mys Kozlova**	**5.61**	**55**	*e*P	P	20 38 03.1	+1.8
MKZ				*i* S	S	20 39 14.8	-5.3
KBTR	**Krutoberegovo**	**7.04**	**46**	*e*P	P	20 38 16.5	+2.3
KBTR				*e*S	S	20 39 39.0	-4.7

BJI ***20*** *20:47:13.5, 46.10N×15450E, h10km, mB4.6, mb4.3*
IDC ***20*** *20:47:14.9±0.7, 4611N×15453E, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/25, mbtmp3.9/17, ML3.4/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/50, Error ellipse: s-maj=21.3km s-min=15.7km az=160.0*
NEIC ***20*** *20:47:16.6±0.7, 4612N×15448E, h10km, mb4.3/5, Error ellipse: s-maj=18.9km s-min=10.8km az=164.0*
ISCJB ***20*** *20:47:18.8±0.6, 463N±0.1×15439E±0.10, h33km, mb4.2/30, MS3.5/3, Error ellipse: s-maj=15.9km s-min=7.4km az=124.7*
MOS ***20*** *20:47:19.3±1.3, 4624N×15425E, h44km, mb4.4/6, Error ellipse: s-maj=13.2km s-min=10.5km az=90.0*

ISC 20 20:47:20.1±3.0, 464N±01×1544E±01, h25km±21km, n51, σ1§15/52, mb4.2/30, MS3.5/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.40**	**15**	*e*PN	**Pn**	**20 48 24.9**	**-0.4**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR	**Kuril'sk**	**4.71**	**257**	*e*PN	**Pn**	**20 48 25.0**	**-4.5**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
ASAJ	**Asahikawa**	**8.63**	**259**	Pn	**Pn**	**20 49 22.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=83,slow=16,SNR=4.3						
ASAJ				LR	LR	20 52 33.5	
	comp=Z,48nm,19.9s,baz=184,slow=37						
ERM	**Erimo**	**9.19**	**245**	*i* PN	**Pn**	**20 49 32.1**	**+1.1**
MDJ	**Mudanjiang**	**17.45**	**273**	P	**Pn**	**20 51 21.3**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,126nm,5.2s						
MDJ	**Mudanjiang**	**17.45**	**273**	*e*P	**Pn**	**20 51 21.4**	**-0.3**
	comp=Z,9.0nm,0.8s						
KSRS	**Korea Array**	**21.55**	**255**	P	**P**	**20 52 08.1**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.4,baz=64,slow=11,SNR=4.3						
BILL	**Bilibino**	**22.51**	**12**	*e*P	**P**	**20 52 20.4**	**+2.7**
BILL				*e*S	**S**	**20 56 23.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
BOD	**Bodaibo**	**26.86**	**310**	*e*P	**P**	**20 52 56.3**	**-2.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**32.26 290**		P	**P**	**20 53 45.8**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.4,baz=75,slow=10,SNR=3.1						
SONM				LR	LR	21 05 47.4	
	comp=Z,44nm,20.9s,MS3.1,baz=30,slow=34						
IMA2	**Indian Mountai**	**33.55 36**		*e*P	**P**	**20 53 58.4**	**+0.5**
ZAK	**Zakamensk**	**33.60 296**		*e*P	**P**	**20 53 56.9**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
COLA	**College**	**35.84 38**		P	**P**	**20 54 18.0**	**+0.4**
LZH	**Lanzhou**	**38.77 273**		*e*P	**P**	**20 54 46.5**	**+4.0**
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
GTA	**Gaotai**	**39.88 280**		*e*P	**P**	**20 54 53.9**	**+2.1**
GTA				AP	pP	20 55 02.0	+2.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.8						
INK	**Inuvik**	**41.45 32**		P	**P**	**20 55 05.2**	**+0.5**
	comp=Z,1.8nm,0.5s,mb3.9,baz=310,slow=6.9,SNR=6.5						
INK	**Inuvik**	**41.45 32**		P	**P**	**20 55 05.2**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**41.45 32**		*e*P	**P**	**20 55 05.1**	**+0.4**
	comp=Z,65nm,0.6s						
ZAL	**Zalesovo**	**43.51 306**		P	**P**	**20 55 20.1**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=73,slow=6.4,SNR=3.6						
ZAL				LR	LR	21 14 36.5	
	comp=Z,51nm,21.4s,MS3.4,baz=88,slow=38						
MK31	**Makanchi Array**	**47.86 298**		*e*P	**P**	**20 55 54.8**	**-1.0**
MKAR	**Makanchi Array**	**47.86 298**		P	**P**	**20 55 55.1**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=67,slow=7.4,SNR=22						
KURK	**Kurchatov**	**48.26 304**		*i* P	**P**	**20 55 57.4**	**-1.5**
YKA	**Yellowknife Ar**	**50.65 37**		P	**P**	**20 56 17.1**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=294,slow=7.1,SNR=5.8						
RES	**Resolute Bay**	**50.85 19**		*e*P	**P**	**20 56 19.2**	**+0.5**
	comp=Z,66nm,0.6s						
LSA	**Lhasa**	**51.16 274**		*e*P	**P**	**20 56 25.0**	**+4.0**
LSA	**Lhasa**	**51.16 274**		*e*P	**P**	**20 56 24.0**	**+3.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**51.16 274**		*e*P	**P**	**20 56 24.0**	**+2.9**
	comp=Z,5.7nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**51.73 310**		P	**P**	**20 56 25.0**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=60,slow=9.0,SNR=9.5						
BRVK	**Borovoye**	**51.77 310**		*e*P	**P**	**20 56 25.0**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.77 310**		*e*P	**P**	**20 56 25.0**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.75 297**		*e*P	**P**	**20 56 47.9**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**54.75 297**		*e*P	**P**	**20 56 47.9**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.2						
ARU	**Arti**	**55.83 318**		*e*P	**P**	**20 56 54.4**	**-0.8**
JIRN	**Jiri**	**55.84 276**		*e*P	**P**	**20 56 56.0**	**+0.6**
	comp=Z,30nm,1.1s,mb5.2						
GUN	**Gumba**	**55.90 276**		*e*P	**P**	**20 56 56.2**	**+0.4**
	comp=Z,43nm,1.5s,mb5.3						
KKN	**Kakani**	**56.39 276**		*e*P	**P**	**20 57 00.2**	**+1.0**
	comp=Z,5.6nm,0.6s,mb4.8						
DMN	**Daman**	**56.62 276**		*e*P	**P**	**20 57 01.5**	**+0.6**
	comp=Z,26nm,1.0s,mb5.2						
GKN	**Gorkha**	**56.70 277**		*e*P	**P**	**20 57 02.3**	**+0.9**
	comp=Z,17nm,0.8s,mb5.1						
KOLN	**Koldanda**	**57.55 277**		*e*P	**P**	**20 57 08.1**	**+0.6**
	comp=Z,9.5nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**61.80 63**		P	**P**	**20 57 36.7**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.9,baz=293,slow=7.4,SNR=5.6						
NVAR	**Mina Array Bea**	**61.80 63**		P	**P**	**20 57 36.7**	**-0.1**
PDAR	**Pinedale Array**	**64.22 54**		P	**P**	**20 57 52.1**	**-0.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=225,slow=0.8,SNR=5.4						
FINES	**FINESS Array B**	**64.69 335**		P	**P**	**20 57 56.5**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=29,slow=7.4,SNR=8.8				

11nm,0.3s,mb4.8,baz=285,slow=6.2,SNR=14
HNR Honiara 27.12 279 LR LR 21 10 20.7
comp=Z,96nm,21.4s,MS3.3,baz=178,slow=29
CTA Charters Tower 39.06 257 LR LR 21 17 42.1
comp=Z,135nm,22.0s,MS3.7,baz=63,slow=31
PMG Port Moresby 39.37 274 P **P 21 04 51.3 -0.7**
20nm,0.6s,mb5.0,baz=165,slow=23,SNR=7.0
PMG LR LR 21 18 46.6
comp=Z,140nm,20.4s,MS3.8,baz=111,slow=33
STKA Stephens Creek 44.41 240 P **P 21 05 33.0 -0.1**
2.9nm,0.6s,mb4.2,baz=75,slow=8.5,SNR=7.2
STKA LR LR 21 22 09.2
comp=Z,204nm,18.5s,MS4.1,baz=300,slow=34
STKA Stephens Creek 44.41 240 *e*P **P 21 05 33.0 -0.1**
STKA LR LR 21 22 09.2
WB2 Warramunga Arr 50.26 257 *e*P **P 21 06 18.0 -0.6**
WRA Warramunga Arr 50.27 257 P **P 21 06 18.9 +0.2**
2.0nm,0.7s,mb4.3,baz=93,slow=6.8,SNR=20
WRA PcP PcP 21 07 39.6 +2.3
1.7nm,0.9s,baz=91,slow=3.9,SNR=4.5
ASAR Alice Springs 50.52 252 P **P 21 06 21.1 +0.5**
8.4nm,0.7s,mb4.8,baz=87,slow=7.6,SNR=67
GUMO Guam 50.71 302 LR LR 21 25 17.9
comp=Z,74nm,20.1s,MS3.7,baz=81,slow=33
FITZ Fitzroy Crossi 58.63 258 LR LR 21 29 50.6
comp=Z,129nm,18.9s,MS4.1,baz=265,slow=33
VNDA Vanda 63.40 186 P **P 21 07 52.0 +0.2**
4.2nm,1.1s,mb4.5,baz=0.6,slow=12,SNR=8.2
VNDA LR LR 21 31 40.3
comp=Z,94nm,18.8s,MS4.0,baz=2.1,slow=32
PFO Pinyon Flat Ob 72.61 47 LR LR 21 34 08.7
comp=Z,151nm,21.9s,MS4.2,baz=203,slow=30
YBH Yreka Blue Hor 73.35 37 LR LR 21 32 55.8
comp=Z,324nm,20.0s,MS4.6,baz=320,slow=29
NVAR Mina Array Bea 74.05 42 P **P 21 08 57.7 -0.5**
0.5nm,0.7s,mb3.6,baz=234,slow=8.8
KSRS Korea Array 76.48 315 P **P 21 09 15.0 +2.9**
4.0nm,1.0s,mb4.3,baz=133,slow=7.0,SNR=9.5
KSRS LR LR 21 37 21.8
comp=Z,61nm,20.6s,MS3.9,baz=342,slow=31
TXAR Lajitas Array 80.26 56 P **P 21 09 33.3 +0.3**
2.1nm,1.0s,mb4.0,baz=235,slow=4.4,SNR=3.7
NEW Newport 80.48 34 LR LR 21 36 42.6
comp=Z,242nm,21.7s,MS4.5,baz=291,slow=29
ANMO Albuquerque 80.48 50 LR LR 21 39 20.6
comp=Z,86nm,21.4s,MS4.1,baz=189,slow=31
COLA College 82.30 11 P **P 21 09 43.4 -0.4**
4.4nm,0.8s,mb4.4
MAW Mawson 87.91 198 P **P 21 10 11.0 -0.9**
8.9nm,1.0s,mb5.0,baz=109,slow=5.4,SNR=13
MAW LR LR 21 45 21.6
comp=Z,179nm,19.0s,MS4.5,baz=114,slow=33
INK Inuvik 88.18 14 P **P 21 10 15.0 +1.8**
2.1nm,1.1s,mb4.3,baz=171,slow=10,SNR=3.7
INK LR LR 21 43 36.5
comp=Z,166nm,21.0s,MS4.4,baz=306,slow=32
INK Inuvik 88.18 14 P **P 21 10 15.0 +1.8**
INK LR LR 21 43 36.5
PLCA Paso Flores 89.17 132 LR LR 21 41 32.7
comp=Z,91nm,20.5s,MS4.2,baz=185,slow=30
YKA Yellowknife Ar 89.94 23 P **P 21 10 20.2 -1.2**
0.5nm,0.7s,mb4.0,baz=240,slow=4.6,SNR=9.4
YKA LR LR 21 43 52.4
comp=Z,163nm,18.8s,MS4.5,baz=125,slow=31
TEIG Tepich 90.38 69 LR LR 21 46 33.9
comp=Z,57nm,19.3s,MS4.0,baz=47,slow=33
SONM Songino Array 95.15 318 LR LR 21 46 48.6
comp=Z,100nm,20.2s,MS4.3,baz=143,slow=31
CLL Collm 143.88 354 *e*(pPKP) 21 17 08.0
UPC Upice 144.26 350 *e*PKP PKPdf 21 17 00.2 +2.1
DPC Dobruska-Polom 144.36 350 *e*PKP PKPdf 21 16 59.6 +1.3
OKC Ostrava-Krasne 144.51 348 *e*pPKP pPKPdf 21 17 07.1 -2.9
BURAR Bucovina Array 144.55 339 ⇑*i*P PKPdf 21 16 59.8 +1.2
CRVS Cervenica-Dubn 144.58 344 *e*PKP PKPdf 21 16 59.0 +0.4
CRVS *e* 21 17 08.8
PRU Pruhonice 144.99 352 *e*P PKPdf 21 16 59.7 +0.4
NKC Novy Kostel 145.00 354 *e*pPKP pPKPdf 21 17 07.8 -3.0
KECS Kecovo 145.22 344 *e*PKP PKPdf 21 17 00.8 +1.0
KECS *e* 21 17 04.5
KECS *e* 21 17 13.3
VRAC Vranov 145.31 349 ⇓*i*P PKPbc 21 17 00.0 +0.2
GIVF Givet 145.36 3 *e*PKP1 PKPbc 21 17 00.1 +0.2
BAIF Baives 145.38 3 *e*PKP1 PKPbc 21 17 00.2 +0.3
58nm,1.4s
TREC Trest 145.52 350 *e*PKP PKPdf 21 17 01.2 +0.9
VYHS Vyhne 145.62 346 *e*PKP PKPdf 21 17 00.9 +0.5
VYHS *e* 21 17 13.9
GRA1 Grafenberg Arr 145.65 355 *e*PKP PKPdf 21 17 02.4 +1.9
KMBO Kilima Mbogo 145.92 244 PKPbc PKPbc 21 17 04.8 +3.2
2.9nm,0.9s,baz=60,slow=5.0,SNR=6.3
KHC Kasperske Hory 145.96 352 *e*PKP PKPdf 21 17 02.8 +1.8
KHC *e*pPKP pPKPdf 21 17 06.0 -6.5
KHC *ex* x 21 17 14.9
KHC Kasperske Hory 145.96 352 *e*P PKPdf 21 17 02.8 +1.8
KHC *e* 21 17 06.0
KHC *e* 21 17 14.9
FLN La Foliniere 146.18 9 *e*PKP1 PKPbc 21 17 02.3 -0.1
61nm,1.1s
GERES GERESS Array B 146.22 352 PKPbc PKPbc 21 17 03.3 +0.8
1.3nm,0.8s,baz=8.1,slow=2.8,SNR=9.9
SGMF Saint Gilles 146.31 12 *e*PKP1 PKPbc 21 17 02.3 -0.5
32nm,0.9s
BR131 Keskin Array S 146.45 321 *e*PKPbc PKPbc 21 17 05.5 +2.3
BRTR Keskin Array B 146.45 321 PKPbc PKPbc 21 17 05.3 +2.1
2.0nm,0.8s,baz=131,slow=2.4,SNR=9.4
QUIF Quistinic 146.51 12 *e*PKP1 PKPbc 21 17 02.9 -0.5
69nm,1.2s
CDF Champ du Feu 147.10 360 *e*PKP1 PKPbc 21 17 05.7 +0.6
28nm,1.1s
MOA Molln 147.12 351 ⇑*i*P PKPbc 21 17 07.9 +2.8
comp=Z,10nm,1.1s
BZS Buzias 147.50 341 ⇓*i*P PKPbc 21 17 07.0 +0.8
HAU Haudompre 147.50 1 *e*PKP1 PKPbc 21 17 06.7 +0.5
27nm,1.0s
LOR Lormes 148.13 4 *e*PKP1 PKPbc 21 17 08.4 +0.5
45nm,1.4s
SSF Saint Saulge 148.31 5 *e*PKP1 PKPbc 21 17 08.9 +0.5
14nm,1.0s
CABF La Chapelle 148.89 1 *e*PKP1 PKPbc 21 17 11.1 +1.2
37nm,1.1s
LFF La Frestale 150.09 9 *e*PKP1 PKPbc 21 17 13.4 +0.6
32nm,1.0s
TORD Torodi Ar. Bea 174.34 113 PKP PKPdf 21 17 34.4 +2.6
1.6nm,1.1s,baz=314,slow=1.2,SNR=4.2

*ISCJB **20** 21:02:57.2±1.8, 189S±0.1×707W±0.1, h75km±18km, mb4.1/4, Error ellipse: s-maj=25.0km s-min=13.3km az=79.3*
*NEIC **20** 21:02:58.0±1.2, 1894S×7062W, h73km±12km, mb3.9/1, Error ellipse: s-maj=18.4km s-min=12.4km az=68.0*
*IDC **20** 21:02:58.7±2.7, 1889S×7070W, h73km±23km, mb3.9/4, mb1 4.2/6, mb1mx3.9/16, mbtmp4.0/6, MS3.5/3, Ms1 3.6/3, ms1mx3.2/28, Error ellipse: s-maj=28.6km s-min=21.2km az=52.0*

ISC 20 21:02:58.1±1.4, 190S±01×707W±01, h67km±16km, n14, σ0°85/12, mb4.1/4, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.62**	**342**	*e*P	**Pn**	**21 03 38.0**	**0.0**
ARE				*e*S	**Sn**	**21 04 01.0**	**-7.7**
LPAZ	**La Paz**	**3.60**	**42**	P	**Pn**	**21 03 51.3**	**-0.1**
LPAZ				LR	LR	21 05 24.0	
NNA	**Nana**	**9.15**	**319**	P	**Pn**	**21 05 07.4**	**+0.2**
NNA				S	**Sn**	**21 06 48.7**	**+0.1**
SIV	**San Ignacio**	**9.62**	**74**	P	**Pn**	**21 05 08.2**	**-5.5**
TRQA	**Tornquist**	**20.47**	**160**	*e*P	**P**	**21 07 28.6**	**-1.6**
PLCA	**Paso Flores**	**21.69**	**180**	P	**P**	**21 07 44.6**	**+1.3**
PCRV	**Puerto La Cruz**	**29.57**	**12**	LR	LR	21 21 45.2	
TXAR	**Lajitas Array**	**57.62**	**326**	P	**P**	**21 12 40.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**78.09**	**72**	P	**P**	**21 14 51.0**	**+1.3**
TORD				LR	LR	21 46 45.9	
YKA	**Yellowknife Ar**	**88.27**	**341**	P	**P**	**21 15 41.3**	**-0.7**
WRA	**Warramunga Arr**	**134.21**	**214**	PKP	PKPdf	21 22 08.2	+0.2
MKAR	**Makanchi Array**	**144.48**	**33**	PKP	PKPdf	21 22 24.6	-2.1
SONM	**Songino Array**	**151.11**	**4**	PKPbc	PKPbc	21 22 42.6	-0.9

*IDC **20** 21:06:40.5±2.2, 4318N×105.12W, h0km, mb2.7/1, mb1 3.9/4, mb1mx3.6/22, mbtmp3.7/4, ML3.9/3, MS4.0/1, Ms1 4.0/1, ms1mx2.6/45, Error ellipse: s-maj=40.5km s-min=8.0km az=155.0*
*ISCJB **20** 21:06:41.7±0.6, 4376N±004×10509W±007, h0km, Error ellipse: s-maj=7.8km s-min=5.7km az=56.8*
*NEIC **20** 21:06:44.3±0.4, 4372N×10521W, h0km, ML3.2, Error ellipse: s-maj=5.9km s-min=4.9km az=126.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 20 21:06:44.0±0.5, 4374N±004×10517W±006, h0km, n34, σ0°85/35, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**65**	*e*P	**Pg**	**21 07 03.2**	**+1.9**
PHWY	**Pilot Hill**	**2.45**	**185**	*e*P	**Pn**	**21 07 25.0**	**-0.3**
RWWY	**Rawlins**	**2.54**	**217**	*e*Pn	**Pn**	**21 07 26.8**	**+0.2**
LAO	**LASA Array**	**3.04**	**346**	*e*Pn	**Pn**	**21 07 34.0**	**+0.7**
RLMT	**Red Lodge**	**3.24**	**297**	*e*Pn	**Pn**	**21 07 35.8**	**-0.3**
BW06	**Boulder Array**	**3.35**	**255**	*e*Pn	**Pn**	**21 07 36.8**	**-0.8**
PDAR	**Pinedale Array**	**3.35**	**255**	Pn	**Pn**	**21 07 36.8**	**-0.8**
	7.6nm,0.3s,baz=70,slow=14,SNR=114						
PDAR				Lg		21 08 21.5	
	24nm,0.3s,baz=76,slow=32,SNR=12						
GCMT	**Greycliff**	**3.80**	**304**	*e*Pn	**Pn**	**21 07 43.6**	**-0.2**
LKWY	**Lake**	**3.85**	**284**	*e*Pn	**Pn**	**21 07 45.3**	**+0.7**
ISCO	**Idaho Springs**	**3.96**	**185**	*e*Pn	**Pn**	**21 07 46.2**	**+0.3**
MOOW	**Moose Ponds**	**4.04**	**272**	*e*Pn	**Pn**	**21 07 47.2**	**+0.1**
SNOW	**Snow King Moun**	**4.07**	**268**	*e*Pn	**Pn**	**21 07 49.0**	**+1.6**
YFT	**Old Faithful**	**4.14**	**282**	Pn	**Pn**	**21 07 48.1**	**-0.4**
REDW	**Red Top Meadow**	**4.15**	**267**	*e*Pn	**Pn**	**21 07 48.6**	**0.0**
IMW	**Indian Meadow**	**4.18**	**274**	*e*Pn	**Pn**	**21 07 48.9**	**-0.1**
TPAW	**Teton Pass**	**4.21**	**269**	*e*Pn	**Pn**	**21 07 49.6**	**+0.2**
YMR	**Madison River**	**4.27**	**285**	*e*Pn	**Pn**	**21 07 50.2**	**-0.1**
BOZ	**Bozeman (W)**	**4.98**	**295**	*e*Pn	**Pn**	**21 07 58.6**	**-1.4**
HWUT	**Hardware Ranch**	**5.17**	**248**	*e*Pn	**Pn**	**21 08 01.7**	**-1.1**
	11nm,0.3s						
EGMT	**Eagleton**	**5.34**	**325**	*e*Pn	**Pn**	**21 08 04.6**	**-0.4**
	27nm,1.1s						
DLMT	**Dillon**	**5.55**	**290**	*e*Pn	**Pn**	**21 08 08.9**	**+1.0**
HRY	**Holter Researc**	**5.56**	**305**	*e*Pn	**Pn**	**21 08 08.1**	**+0.1**
MCMT	**McKenzie Canyo**	**5.62**	**284**	Pn	**Pn**	**21 08 08.2**	**-0.6**
DAU	**Daniels Canyon**	**5.62**	**236**	*e*Pn	**Pn**	**21 08 09.9**	**+1.1**
BGU	**Big Grassy Mou**	**6.47**	**247**	*e*Pn	**Pn**	**21 08 20.5**	**0.0**
CHMT	**Chamberlain Mo**	**6.52**	**302**	*e*Pn	**Pn**	**21 08 20.8**	**-0.4**
DUG	**Dugway**	**6.71**	**241**	*e*Pn	**Pn**	**21 08 22.5**	**-1.3**
	3.9nm,0.3s						
HLID	**Hailey**	**6.71**	**272**	*e*Pn	**Pn**	**21 08 25.3**	**+1.5**
MSU	**Marysvale**	**7.43**	**228**	*e*Pn	**Pn**	**21 08 33.6**	**-0.1**
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**21 08 56.1**	**-0.4**
	3.6nm,0.3s,baz=231,slow=11,SNR=30						
ULM				Sn	**Sn**	**21 10 38.4**	**-1.1**
	0.4nm,0.3s,baz=0.7,slow=3.1,SNR=4.7						
ULM				Lg		21 11 32.1	
	0.2nm,0.3s,baz=150,slow=20,SNR=2.2						
NEW	**Newport**	**9.46**	**303**	Pn	**Pn**	**21 09 03.8**	**+2.2**
	0.6nm,0.3s,baz=107,slow=20,SNR=2.3						
WUAZ	**Wupatki**	**9.50**	**212**	*e*Pn	**Pn**	**21 09 02.2**	**+0.1**
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**21 11 14.6**	**-0.1**
	0.2nm,0.3s,baz=154,slow=11,SNR=7.1						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**21 17 00.8**	**-1.1**
	10nm,1.0s,baz=350,slow=6.6,SNR=3.5						

MAN 20 21:07:17.4, 1767N×12250E, h1km, mb3.3, ML4.5, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.64**	**273**	*e*P	Pg	21 07 30.8	+1.0
CVP				*i* S	Sg	21 07 40.1	+2.0
CAUP	**Cauayan**	**0.96**	**222**	*e*P	Pg	21 07 37.8	+1.8
CAUP				*e*S	Sg	21 08 00.8	+12
ABRA	**Dolores**	**1.70**	**270**	*e*P	Pn	21 07 48.2	-0.1
ABRA				*e*S	Sn	21 08 11.6	+1.0

*IDC **20** 21:13:38.8±1.9, 491S×14555E, h0km, mb3.7/4, mb1 4.2/8, mb1mx3.9/16, mbtmp4.2/8, ML3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx3.0/16, Error ellipse: s-maj=36.9km s-min=27.9km az=77.0*
*ISCJB **20** 21:13:39.1±1.2, 50S±0.1×1456E±0.1, h10km, mb3.6/4, MS3.9/1, Error ellipse: s-maj=19.6km s-min=15.4km az=173.0*
*NEIC **20** 21:13:41.2±1.3, 501S×14560E, h10km, mb4.0/2, Error ellipse: s-maj=22.1km s-min=17.3km az=176.0*

ISC 20 21:13:44.8±4.5, 50S±02×1456E±02, h40km±47km, n12, σ1°23/12, mb3.6/4, MS3.9/1, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**161**	Pn	**Pn**	**21 14 49.9**	**-2.8**
	3.4nm,0.3s,baz=348,slow=4.0,SNR=9.3						
HNR	**Honiara**	**14.92**	**108**	Pn	**Pn**	**21 17 13.2**	**+0.3**
	24nm,0.3s,baz=305,slow=18,SNR=8.8						
HNR				LR	LR	21 21 50.3	
	comp=Z,64nm,21.4s,baz=181,slow=33						
CTA	**Charters Tower**	**15.03**	**178**	*e*P	**Pn**	**21 17 18.0**	**+3.6**
	3.7nm,1.1s						
CTA	**Charters Tower**	**15.03**	**178**	Pn	**Pn**	**21 17 15.5**	**+1.1**
	0.4nm,0.3s,baz=2.2,slow=16,SNR=5.2						
CTAO	**Charters Tower**	**15.03**	**178**	*e*P	**Pn**	**21 17 17.9**	**+3.6**
	9.0nm,0.8s						
WB2	**Warramunga Arr**	**18.46**	**215**	*e*P	**Pn**	**21 17 58.6**	**+1.1**
WRA	**Warramunga Arr**	**18.47**	**215**	P	**Pn**	**21 17 57.8**	**+0.2**
	0.4nm,0.3s,baz=42,slow=10,SNR=43						
ASAR	**Alice Springs**	**21.72**	**210**	P	**P**	**21 18 32.9**	**+0.3**
	3.1nm,0.7s,mb3.8,baz=44,slow=8.0,SNR=38						
FITZ	**Fitzroy Crossi**	**23.45**	**235**	P	**P**	**21 18 48.3**	**-2.4**
	1.9nm,0.8s,mb3.6,baz=58,slow=1.3,SNR=5.7						
STKA	**Stephens Creek**	**27.02**	**187**	P	**P**	**21 19 23.5**	**+0.5**
	1.3nm,0.5s,mb3.7,baz=317,slow=18,SNR=2.8						
STKA	**Stephens Creek**	**27.02**	**187**	*e*P	**P**	**21 19 22.1**	**-0.9**
MKAR	**Makanchi Array**	**75.82**	**321**	P	**P**	**21 25 27.1**	**+0.4**
	0.3nm,0.8s,mb3.2,baz=104,slow=5.1,SNR=3.7						
MKAR				LR	LR	21 59 28.9	
	comp=Z,50nm,18.0s,MS3.9,baz=260,slow=36						

IDC 20 21:24:31.5±3.6, 242S×13999E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/13, mbtmp3.5/4, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=112.4km s-min=28.8km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.27**	**197**	P	Pn	21 28 45.9	-0.6
	0.2nm,0.3s,baz=18,slow=12,SNR=10						
CTA	**Charters Tower**	**18.60**	**161**	LR	LR	21 35 33.5	
	comp=Z,50nm,18.5s,baz=231,slow=36						
FITZ	**Fitzroy Crossi**	**21.00**	**221**	P	P	21 29 17.3	+0.8
	1.9nm,0.9s,baz=46,slow=5.8,SNR=3.0						
ASAR	**Alice Springs**	**21.93**	**195**	P	P	21 29 26.9	+0.5
	1.3nm,0.8s,baz=26,slow=9.7,SNR=13						
MKAR	**Makanchi Array**	**70.34**	**322**	P	P	21 35 47.0	+0.1
	0.7nm,1.0s,baz=100,slow=9.6,SNR=3.9						

CASC 20 21:30:28.9±1.4, 1407N×8973W, h5km, MD4.2, 1C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**0.55**	**127**	*e*P	x	21 30 39.6	
LBRS	**Las Brisas**	**0.75**	**116**	⇓*i*P	x	21 30 43.2	
LFRS	**El Faro**	**0.79**	**124**	*e*P	x	21 30 43.6	
LCBS	**La Ceiba**	**0.84**	**119**	⇑*e*P	x	21 30 44.2	
LCBS				⇓*i*P	x	21 30 44.8	
PCG	**Pacaya**	**0.91**	**291**	*e*P	Pg	21 30 46.4	+0.1
TER	**Terranova**	**0.95**	**284**	*e*P	Pg	21 30 46.5	-0.6
TER				*e*S	Sg	21 30 59.7	+0.2
FUG	**Fuego 3**	**1.14**	**289**	⇓*e*P	Pg	21 30 50.1	-0.6
BLLM	**Bellamira**	**1.58**	**113**	*e*P	x	21 30 57.6	
CNCH	**Conchagua**	**2.01**	**113**	*e*P	x	21 31 04.1	

*IDC **20** 21:43:23.1±1.4, 3256N×13923E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/21, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=42.7km s-min=15.1km az=115.0*
*ISCJB **20** 21:43:24.3±1.2, 3309N±006×1409E±0.1, h63km±13km, mb3.6/2, Error ellipse: s-maj=17.5km s-min=9.4km az=12.3*
*JMA **20** 21:43:24.4±0.2, 3314N×14094E, h52km, M3.3*

ISC 20 21:43:25.1±1.5, 3307N±007×1409E±01, h47km±19km, n12, σ1°03/17, mb3.6/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.89**	**273**	P	**Pn**	**21 43 41.8**	**+0.5**
JHJ	**Hachijo jima 2**	**0.92**	**273**	Pn	**Pn**	**21 43 41.5**	**-0.2**
	109nm,0.3s,baz=71,slow=22,SNR=15						
JHJ				Sn	**Sn**	**21 43 52.6**	**-1.2**
	140nm,0.3s,baz=94,slow=22,SNR=8.6						
BSO1	**Boso 1**	**1.58**	**3**	P	**Pn**	**21 43 49.6**	**-1.1**
BSO3	**Boso 3**	**1.75**	**350**	P	**Pn**	**21 43 52.3**	**-0.7**
BSO3				*e*S	**Sn**	**21 44 12.8**	**-1.4**
JIM2	**Oshima 3**	**2.04**	**324**	P	**Pn**	**21 43 56.8**	**-0.1**
JIM2				*e*S	**Sn**	**21 44 20.2**	**-0.9**
JIZS	**Izushimoda**	**2.34**	**315**	P	**Pn**	**21 44 01.9**	**+0.9**
JOD2	**Odawara 2**	**2.64**	**326**	P	**Pn**	**21 44 05.4**	**+0.2**
JRY	**Ryogami san**	**3.36**	**332**	P	**Pn**	**21 44 16.1**	**+1.0**
MJAR	**Matsushiro Arr**	**4.10**	**328**	Pn	**Pn**	**21 44 26.9**	**+1.7**
	1.4nm,0.3s,baz=155,slow=12,SNR=10						
MJAR				Sn	**Sn**	**21 45 13.4**	**+1.5**
	0.8nm,0.3s,baz=358,slow=30,SNR=4.1						
MAT	**Matsushiro**	**4.10**	**328**	P	**Pn**	**21 44 27.4**	**+2.1**
MAT				S	**Sn**	**21 45 11.0**	**-1.0**
WRA	**Warramunga Arr**	**53.08**	**188**	P	**P**	**21 52 37.1**	**-0.6**
	0.5nm,0.4s,mb3.8,baz=4.2,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**56.81**	**188**	P	**P**	**21 53 04.4**	**-0.2**
	0.3nm,0.8s,mb3.4,baz=10.0,slow=13,SNR=4.2						

*CSEM **20** 22:25:36.9±0.1, 3365N×3197E, h10km, Mw3.2, Error ellipse: s-maj=3.1km s-min=1.7km az=115.0*
*HLW **20** 22:25:38.0, 3387N×3210E, h44km, Mb3.7*
*NEIC **20** 22:25:38.5, 3354N×3185E, h25km, ML3.3(NIC), After NIC.*
*NIC **20** 22:25:38.5±0.4, 3354N×3185E, h25km, ML3.3, MW3.2*
*ISCJB **20** 22:25:39.6±0.6, 3364N±005×3206E±004, h80km±30km, Error ellipse: s-maj=7.9km s-min=5.7km az=37.6*
*GRAL **20** 22:25:42.1±1.2, 3365N×3225E, h7km±403km, MD3.5*
*GII **20** 22:25:43.1±1.8, 3362N×3206E, h31km±4km, ML3.1/9, Mw2.9/5*

ISC 20 22:25:41.0±0.7, 3365N±004×3204E±004, h57km±44km, n49, σ0°78/67, 5C-7D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**1.26**	**11**	P	**Pn**	**22 26 00.3**	**-2.0**
SZAC	**Souni-Zanaja**	**1.31**	**32**	P	**Pn**	**22 26 02.2**	**-0.8**
	21nm,0.3s						
SZAC				S	**Sn**	**22 26 20.7**	**+1.3**
AKMC	**Akamas**	**1.40**	**10**	P	**Pn**	**22 26 03.2**	**-1.0**
ALFC	**Alevga**	**1.57**	**17**	P	**Pn**	**22 26 05.3**	**-1.3**
	9.2nm,0.3s						
ALFC				S	**Sn**	**22 26 26.6**	**+0.7**
CSS	**Prodhromos**	**1.69**	**39**	P	**Pn**	**22 26 07.1**	**-1.0**
	5.6nm,0.3s						
CSS				S	**Sn**	**22 26 29.9**	**+1.2**
MAMC	**Mammari**	**1.80**	**32**	P	**Pn**	**22 26 09.7**	**0.0**
OFRI	**'Ofer**	**2.67**	**112**	Pn	**Pn**	**22 26 21.5**	**-0.1**
HNTI	**Hanita**	**2.68**	**101**	Pn	**Pn**	**22 26 22.1**	**+0.4**
MATL	**Matirih**	**2.75**	**92**	*e*P	**Pn**	**22 26 22.6**	**0.0**
MMA0	**Mount Meron ar**	**2.88**	**102**	Pn	**Pn**	**22 26 24.5**	**+0.1**
SLTI	**Sal'it**	**2.88**	**118**	Pn	**Pn**	**22 26 24.1**	**-0.3**
SLTI				Sn	**Sn**	**22 26 57.2**	**-0.7**
BHL	**Bhannes**	**3.02**	**84**	*e*P	**Pn**	**22 26 27.2**	**+1.0**
BHL				*e*S	**Sn**	**22 26 59.4**	**-1.8**
BHL	**Bhannes**	**3.02**	**84**	*e*P	**Pn**	**22 26 27.2**	**+0.9**
BHL				*e*S	**Sn**	**22 26 59.4**	**-1.8**
KSDI	**Kefar Szold**	**3.06**	**98**	Pn	**Pn**	**22 26 26.7**	**-0.1**
MMLI	**Mount Malkishu**	**3.08**	**112**	Pn	**Pn**	**22 26 26.6**	**-0.5**
MMLI				Sn	**Sn**	**22 27 02.4**	**-0.4**
HRI	**Mount Hermon**	**3.11**	**96**	Pn	**Pn**	**22 26 27.8**	**+0.3**
AMAG	**Maghara**	**3.15**	**161**	⇓P	**Pn**	**22 26 28.3**	**+0.2**
RCY	**Rachaya**	**3.16**	**92**	*e*P	**Pn**	**22 26 28.4**	**+0.3**
RCY				*e*S	**Sn**	**22 27 03.5**	**-1.1**
GLH	**Golan-Tel Qazi**	**3.17**	**106**	Pn	**Pn**	**22 26 29.4**	**+1.1**
AMAZ	**Amatzia**	**3.21**	**130**	Pn	**Pn**	**22 26 29.3**	**+0.4**
AMAZ				Sn	**Sn**	**22 27 06.3**	**+0.3**
KSHT	**Keshet**	**3.23**	**101**	Pn	**Pn**	**22 26 30.2**	**+1.1**
HMDT	**Nahal Hemdat**	**3.24**	**114**	Pn	**Pn**	**22 26 29.8**	**+0.5**
HWQ	**Hawqa**	**3.31**	**78**	*e*P	**Pn**	**22 26 30.7**	**+0.5**
HWQ				*e*S	**Sn**	**22 27 07.0**	**-1.3**
HWQ	**Hawqa**	**3.31**	**78**	*e*P	**Pn**	**22 26 30.7**	**+0.5**
HWQ				*e*S	**Sn**	**22 27 06.9**	**-1.3**
KZIT	**Kziot**	**3.38**	**143**	Pn	**Pn**	**22 26 31.3**	**+0.1**
KZIT				Sn	**Sn**	**22 27 09.0**	**-1.1**
RTMI	**Retamim**	**3.42**	**138**	Pn	**Pn**	**22 26 32.0**	**+0.2**
YTIR	**Yattir**	**3.45**	**130**	Pn	**Pn**	**22 26 32.9**	**+0.7**
DRGI	**Dragot**	**3.49**	**125**	Pn	**Pn**	**22 26 33.3**	**+0.6**
DSI	**Dead Sea**	**3.50**	**125**	Pn	**Pn**	**22 26 33.4**	**+0.6**
MASH	**Mash'abbe Sade**	**3.52**	**138**	Pn	**Pn**	**22 26 33.9**	**+0.8**
MZDA	**Masada**	**3.65**	**129**	Pn	**Pn**	**22 26 35.7**	**+0.8**
SUZ		**3.85**	**170**	⇑P	**Pn**	**22 26 38.1**	**+0.4**
AYT	**Al 'Ayyat**	**4.00**	**191**	⇓P	**Pn**	**22 26 40.1**	**+0.3**
HSAF	**As Saff**	**4.04**	**186**	⇓P	**Pn**	**22 26 40.7**	**+0.5**
HNKL	**Nakhl**	**4.06**	**155**	⇑P	**Pn**	**22 26 40.4**	**-0.1**
HNKL				S	**Sn**	**22 27 26.0**	**-0.7**
GLL	**Jalalah**	**4.07**	**184**	⇑P	**Pn**	**22 26 41.0**	**+0.4**
ZFRI	**Zfri**	**4.07**	**138**	Pn	**Pn**	**22 26 41.2**	**+0.5**
PRNI	**Paran**	**4.14**	**142**	Pn	**Pn**	**22 26 41.8**	**+0.1**
PRNI				Sn	**Sn**	**22 27 29.0**	**+0.3**
ZNM		**4.32**	**170**	⇓P	**Pn**	**22 26 44.6**	**+0.5**
HRFI	**Mount Harif**	**4.41**	**144**	Pn	**Pn**	**22 26 45.5**	**+0.2**
HRFI				Sn	**Sn**	**22 27 34.8**	**-0.6**
AQBJ	**Aqaba**	**4.67**	**146**	Pn	**Pn**	**22 26 49.8**	**+0.8**
**EI

BLLM eS x 22 54 01.7
JAT Jato 1.82 279 eP Pn 22 53 43.2 +2.1
CNCH Conchagua 2.04 112⇓eP x 22 53 45.4
CNCH eS x 22 54 14.7

*ISCJB **20** 23:08:50.9±0.7, 2942S×7180W±008, h51km±8km, mb4.0/3, Error ellipse: s-maj=12.1km s-min=4.0km az=16.8*
*NEIC **20** 23:08:51.9, 2941S×7170W, h51km, MD4.5(GUC), After GUC.*
*GUC **20** 23:08:51.9±0.9, 2941S×7170W, h51km±37km, MD4.5, ML4.3*
*IDC **20** 23:08:55.5±4.3, 2960S×7192W, h68km±37km, mb3.8/3, mb1 4.0/5, mb1mx3.6/16, mbtmp3.8/5, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=31.8km s-min=28.9km az=167.0*
ISC 20 23:08:52.0±0.7, 2939S±003×7180W±007, h37km±10km, n38, σ1§03/50, mb4.0/3, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.03**	**69**	ePn	**Pn**	**23 09 09.6**	**-0.4**
LCO				eS	**Sn**	**23 09 22.1**	**-1.0**
TLL	**Tololo Astrono**	**1.16 132**		⇑iP	**Pn**	**23 09 12.4**	**+0.7**
TLL				i S	**Sn**	**23 09 27.4**	**+1.0**
TLL				AML	AML	23 09 30.1	
	comp=N,19μm,0.6s						
TLL	**Tololo Astrono**	**1.16 132**		⇑iP	**Pn**	**23 09 12.4**	**+0.7**
TLL				i S	**Sn**	**23 09 27.4**	**+1.0**
VACH	**Vallenar**	**1.22**	**49**	⇓iP	**Pn**	**23 09 12.3**	**-0.2**
VACH				i S	**Sn**	**23 09 27.6**	**-0.2**
OVCH	**Ovalle**	**1.32 157**		eP	**Pn**	**23 09 13.4**	**-0.4**
OVCH				i S	**Sn**	**23 09 30.0**	**-0.3**
OVCH				AML	AML	23 09 40.4	
	comp=N,6μm,0.6s						
OVCH	**Ovalle**	**1.32 157**		eP	**Pn**	**23 09 13.4**	**-0.4**
OVCH				i S	**Sn**	**23 09 30.0**	**-0.3**
CMCH	**Combarbala**	**1.91 159**		⇓iP	**Pn**	**23 09 22.1**	**+0.2**
CMCH				i S	**Sn**	**23 09 44.7**	**-0.1**
CPCH	**Copiapo**	**2.39**	**33**	eP	**Pn**	**23 09 28.6**	**-0.1**
CPCH				i S	**Sn**	**23 09 56.9**	**+0.2**
CDCH	**Caldera**	**2.46**	**21**	eP	**Pn**	**23 09 27.4**	**-2.2**
PTCH	**Petorca**	**2.96 166**		i P	**Pn**	**23 09 37.0**	**+0.5**
PTCH				i S	**Sn**	**23 10 10.0**	**-0.7**
CFAA	**Coronel Fontan**	**3.79 127**		P	**Pn**	**23 09 50.5**	**+2.8**
	comp=N,3.1nm,0.3s,baz=320,slow=12,SNR=104						
CFAA				S	**Sn**	**23 10 34.8**	**+3.8**
	comp=N,4.8nm,0.3s,baz=52,slow=23,SNR=5.3						
PEL	**Peldehue**	**3.86 166**		⇓eP	**Pn**	**23 09 48.9**	**+0.1**
PEL				i S	**Sn**	**23 10 32.2**	**-0.7**
FCH	**Farellones**	**4.13 162**		eP	**Pn**	**23 09 53.4**	**+0.9**
FCH				i S	**Sn**	**23 10 39.9**	**+0.3**
CLCH	**Cerro Calan**	**4.14 165**		eP	**Pn**	**23 09 53.0**	**+0.3**
CLCH				i S	**Sn**	**23 10 38.9**	**-0.9**
RCDM	**Rinconada Maip**	**4.17 169**		eP	**Pn**	**23 09 53.3**	**+0.2**
RCDM				i S	**Sn**	**23 10 38.2**	**-2.4**
MDZ	**Mendoza**	**4.30 145**		eP	**Pn**	**23 09 59.6**	**+4.7**
MDZ				eS	Sn	23 10 18.5	-25
TACH	**Talagante**	**4.31 170**		eP	**Pn**	**23 09 54.8**	**-0.2**
PCH	**Pirque**	**4.36 166**		eP	**Pn**	**23 09 56.2**	**+0.5**
LNV	**Longovilo**	**4.56 176**		i P	**Pn**	**23 09 57.2**	**-1.2**
CHCH	**Chadas Angostu**	**4.63 168**		⇑iP	**Pn**	**23 09 60.0**	**+0.6**
LMEL	**Las Melosas**	**4.65 163**		eP	**Pn**	**23 10 00.7**	**+1.1**
CACH	**El Canelo**	**4.82 168**		⇑iP	**Pn**	**23 10 02.7**	**+0.7**
CICH	**Cipreses**	**5.05 167**		eP	**Pn**	**23 10 06.1**	**+0.9**
PLCA	**Paso Flores**	**11.36 175**		P	**Pn**	**23 11 30.7**	**-1.0**
	comp=N,0.6nm,0.3s,baz=342,slow=9.7,SNR=13						
PLCA				LR	LR	23 16 04.7	
	comp=N,144nm,21.9s,baz=178,slow=38						
PLCA	**Paso Flores**	**11.36 175**		P	**Pn**	**23 11 30.7**	**-1.0**
PLCA				LR	LR	23 16 04.7	
TRQA	**Tornquist**	**11.89 139**		ePn	**Pn**	**23 11 39.6**	**+0.7**
	comp=N,8.1nm,0.6s						
TRQA				eSn	**Sn**	**23 13 49.8**	**-0.4**
LPAZ	**La Paz**	**13.47**	**15**	P	**Pn**	**23 12 02.5**	**+2.0**
	comp=N,0.3nm,0.3s,baz=195,slow=6.4,SNR=8.3						
LPAZ	**La Paz**	**13.47**	**15**	P	**Pn**	**23 12 02.5**	**+2.0**
SIV	**San Ignacio**	**16.59**	**39**	P	**Pn**	**23 12 39.8**	**-1.9**
	comp=N,0.3nm,0.3s,baz=232,slow=15,SNR=8.9						
USHA	**Ushuaia**	**25.54 175**		P	**P**	**23 14 16.2**	**-0.9**
	comp=N,9.1nm,1.0s,mb4.3,baz=329,slow=13,SNR=3.2						
ACX	**Acapulco**	**53.40 326**		i P	**P**	**23 18 16.0**	**+8.1**
TXAR	**Lajitas Array**	**65.84 330**		P	**P**	**23 19 35.5**	**+1.9**
	comp=N,0.4nm,0.8s,mb3.5,baz=161,slow=9.3,SNR=3.6						
HWUT	**Hardware Ranch**	**79.62 331**		eP	**P**	**23 20 53.1**	**-2.3**
HWUT				ePcP	PcP	23 21 04.2	+1.0
TOA0	**Torodi Ar. Sit**	**82.46**	**70**	eP	**P**	**23 21 11.3**	**+0.9**
TOA0				e	pP	23 21 21.9	-0.1
TORD	**Torodi Ar. Bea**	**82.46**	**70**	P	**P**	**23 21 11.2**	**+0.7**
	comp=N,3.5nm,0.8s,mb4.4,baz=256,slow=4.7,SNR=24						
WRA	**Warramunga Arr 124.86 210**			PKP	PKPdf	23 27 47.6	-0.2
	comp=N,0.2nm,0.5s,baz=158,slow=1.7,SNR=8.1						
WRA	**Warramunga Arr 124.86 210**			PKP	PKPdf	23 27 47.6	-0.2
MKAR	**Makanchi Array 153.39**		**42**	PKPbc	PKPbc	23 28 46.0	-0.1
	comp=N,0.7nm,0.6s,baz=304,slow=2.2,SNR=3.8						

*IDC **20** 23:12:00.8±1.2, 4225N×7802E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/25, mbtmp3.8/8, ML3.8/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/29, Error ellipse: s-maj=17.1km s-min=15.6km az=144.0*
*ISCJB **20** 23:12:00.6±1.0, 4234N±004×7811E±003, h1km±6km, mb4.1/7, Error ellipse: s-maj=6.7km s-min=3.7km az=2.3*
*NNC **20** 23:12:02.3±3.3, 4238N×7808E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=25.6km s-min=21.1km az=13.0*
*KNET **20** 23:12:04.5±0.7, 4229N×7769E, h12km±3km, ml4.3, Error ellipse: s-maj=7.3km s-min=5.2km az=11.0*
*MOS **20** 23:12:04.5±1.2, 4237N×7799E, h31km, mb4.7/4, Error ellipse: s-maj=11.7km s-min=8.0km az=107.9*
*NEIC **20** 23:12:05.6±0.4, 4226N×7792E, h35km, mb4.5/2, Error ellipse: s-maj=8.6km s-min=6.3km az=220.0*
*BJI **20** 23:12:07.1, 4220N×7850E, h30km, mB4.7, mb4.0, ML3.8, Ms3.8, Msz3.5*
ISC 20 23:12:03.8±1.0, 4241N±004×7805E±003, h11km±6km, n63, σ1§41/85, mb4.0/7, 23C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.14 316**		⇑P	**Pb**	**23 12 24.2**	**-1.2**
	150nm,0.3s						
KNDC				⇑S	**Sg**	**23 12 41.8**	**+1.4**
	724nm,0.3s						
AAA	**Alma-Ata**	**1.18 317**		ePG	**Pg**	**23 12 24.9**	**-1.6**
AAA				eS	**Sb**	**23 12 42.0**	**+0.4**
AAA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAA				smax			
	comp=E,3.0nm,0.2s						
ULHL	**Ulahol**	**1.35 264**		⇑P	**Pn**	**23 12 24.8**	**-3.7**
	comp=E,449nm,0.2s,SNR=106						
ULHL				⇑S	**Sb**	**23 12 41.5**	**-4.9**
	comp=E,2μm,0.2s						
TKM2	**Tokmak 2**	**1.88 287**		P	**Pn**	**23 12 35.5**	**-0.4**
	comp=E,676nm,0.2s,SNR=1158						
TKM2				⇓S	**Sn**	**23 13 00.3**	**+0.7**
	comp=E,2μm,0.2s						
TKM2	**Tokmak 2**	**1.88 287**		⇑P	**Pn**	**23 12 35.4**	**-0.5**
	comp=E,26nm,0.4s						
TKM2				⇓S	**Sn**	**23 13 01.0**	**+1.5**
	comp=E,216nm,0.7s						
TKM2	**Tokmak 2**	**1.88 287**		PN	**Pn**	**23 12 35.3**	**-0.6**
TKM2				S	**Sn**	**23 13 01.0**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,220nm,0.3s						
TKM2				smax			
	comp=Z,183nm,0.2s						
KZA	**Kyzart**	**2.10 262**		⇑P	**Pn**	**23 12 38.2**	**-0.8**
	comp=Z,208nm,0.2s,SNR=413						
KBK	**Karagaybulak**	**2.31 277**		P	**Pn**	**23 12 42.1**	**+0.4**
	comp=Z,402nm,0.3s,SNR=675						
CHMS	**Chumysh**	**2.50 285**		⇑P	**Pn**	**23 12 44.9**	**+0.5**
	comp=Z,269nm,0.3s,SNR=231						
FRU	**Bishkek**	**2.57 281**		⇑iPN	**Pn**	**23 12 45.8**	**+0.5**
FRU				i		23 12 51.5	
FRU				i S	**Sn**	**23 13 20.0**	**+3.4**
FRU				pmax	pmax		
	comp=Z,1μm,0.5s						
FRU				smax			
	comp=N,3μm,1.2s						
UCH	**Uchtor**	**2.63 267**		P	**Pn**	**23 12 46.9**	**+0.8**
	comp=N,114nm,0.3s,SNR=220						
UCH				S	**Sn**	**23 13 19.5**	**+1.5**
	comp=N,110nm,0.4s						
AAK	**Ala-Archa**	**2.64 276**		⇑P	**Pn**	**23 12 46.9**	**+0.6**
	comp=N,297nm,0.3s,SNR=556						
AAK				⇑S	**Sn**	**23 13 19.2**	**+0.9**
	comp=N,2μm,0.5s						
AAK	**Ala-Archa**	**2.64 276**		ePn	**Pn**	**23 12 45.7**	**-0.6**
AAK				eSn	**Sn**	**23 13 18.2**	**-0.1**
USP	**Ospenovka**	**2.75 289**		⇑P	**Pn**	**23 12 48.3**	**+0.5**
	comp=N,100nm,0.2s,SNR=258						
USP				⇑S	**Sn**	**23 13 21.9**	**+0.9**
	comp=N,598nm,0.3s						
EKS2	**Erkin-Say**	**3.17 276**		⇑P	**Pn**	**23 12 53.8**	**+0.2**
	comp=N,57nm,0.2s,SNR=124						
EKS2				⇑S	**Sn**	**23 13 31.9**	**+0.5**
	comp=N,175nm,0.3s						
AML	**Almayashu**	**3.24 267**		⇑P	**Pn**	**23 12 55.6**	**+1.0**
	comp=N,123nm,0.3s,SNR=235						
KSH	**Kashi**	**3.29 209**		⇓P	**Pn**	**23 12 58.5**	**+3.3**
KSH				S	**Sn**	**23 13 43.1**	**+8.8**
KSH				Smax			
	comp=N,766nm,0.6s						
KSH				Smax			
	comp=E,1μm,0.7s						
MK31	**Makanchi Array**	**5.33**	**33**	Pn	**Pn**	**23 13 25.5**	**+2.3**
	comp=E,7.9nm,0.2s,baz=213,slow=13,SNR=370						
MK31				⇑Lg		23 14 50.5	
	comp=E,45nm,0.6s,baz=213,slow=29						
MK31	**Makanchi Array**	**5.33**	**33**	ePn	**Pn**	**23 13 25.6**	**+2.3**
MK31				eSn	**Sn**	**23 14 28.5**	**+3.9**
MKAR	**Makanchi Array**	**5.33**	**33**	Pn	**Pn**	**23 13 25.8**	**+2.5**
	comp=E,6.3nm,0.3s,baz=151,slow=28,SNR=215						
MKAR				Sn	**Sn**	**23 14 27.5**	**+2.8**
	comp=E,4.0nm,0.3s,baz=212,slow=23,SNR=5.8						
MKAR				LR	LR	23 15 45.1	
	comp=E,123nm,19.7s,baz=178,slow=41						
MKAR	**Makanchi Array**	**5.33**	**33**	PN	**Pn**	**23 13 25.8**	**+2.5**
MKAR						23 14 27.5	
KK31	**Karatay Array**	**5.59 280**		⇑Pn	**Pn**	**23 13 29.1**	**+2.2**
	comp=E,2.5nm,0.4s,baz=88,slow=13,SNR=211						
KK31				⇑Pg	**Pg**	**23 13 43.7**	**-7.2**
	comp=E,17nm,0.4s,baz=90,slow=16,SNR=133						
KK31				⇑Lg		23 14 56.2	
	comp=E,50nm,0.5s,baz=84,slow=29						
KKAR	**Karatay Array**	**5.59 280**		PN	**Pg**	**23 13 43.3**	**-7.6**
KKAR						23 14 54.3	
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KKAR				pmax	pmax		
	comp=Z,31nm,0.4s						
WMQ	**Urumqi**	**7.20**	**75**	eP	**Pn**	**23 13 50.8**	**+1.8**
WMQ				S	**Sn**	**23 15 12.3**	**+1.6**
WMQ				Smax			
	comp=N,36nm,1.1s						
WMQ				Smax			
	comp=E,68nm,1.0s						
WMQ				LR	LR		
	comp=N,361nm,6.0s						
WMQ				LR	LR		
	comp=E,158nm,6.0s						
KURK	**Kurchatov**	**8.32**	**3**	⇓Pn	**Pn**	**23 14 04.4**	**+0.1**
	comp=E,2.0nm,0.8s						
KURK				⇑Lg		23 16 26.3	
	comp=E,74nm,1.2s						
KURK	**Kurchatov**	**8.32**	**3**	eP	**Pn**	**23 14 04.9**	**+0.6**
KURK				e		23 15 37.4	
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**8.32**	**3**	ePn	**Pn**	**23 14 04.9**	**+0.6**
	comp=Z,4.8nm,0.6s						
KURK				eSn	**Sn**	**23 15 37.4**	**-0.9**
BVA0	**Borovoye Array**	**11.80 337**		⇑Sn	**Sn**	**23 16 59.7**	**-4.0**
	comp=Z,1.1nm,0.7s,baz=159,slow=29,SNR=4.8						
BVA0				⇑Lg		23 18 16.6	
	comp=Z,4.3nm,0.9s,baz=135,slow=29,SNR=4.3						
BVAR	**Borovoye Array**	**11.80 337**		Pn	**Pn**	**23 14 52.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=143,slow=14,SNR=11						
BVAR				Sn	**Sn**	**23 16 59.5**	**-4.2**
	comp=Z,0.9nm,0.3s,baz=147,slow=22,SNR=6.6						
BVAR				Lg		23 18 13.1	
	comp=Z,0.9nm,0.3s,baz=156,slow=23,SNR=3.8						
BVAR				LR	LR	23 19 54.4	
	comp=Z,32nm,20.1s,baz=319,slow=40						
BVAR	**Borovoye Array**	**11.80 337**		P	**Pn**	**23 14 52.0**	**0.0**
BVAR						23 16 59.5	
BRVK	**Borovoye**	**11.86 337**		eP	**Pn**	**23 14 48.3**	**-4.5**
BRVK				e		23 17 02.1	
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**11.86 337**		ePn	**Pn**	**23 14 48.3**	**-4.5**
	comp=Z,3.3nm,0.6s						
BRVK				eSn	**Sn**	**23 17 02.1**	**-3.0**
CHKZ	**Chkalovo**	**12.31 339**		⇑Pn	**Pn**	**23 14 56.9**	**-2.1**
	comp=Z,2.5nm,0.9s						
CHKZ				⇓Sn	**Sn**	**23 17 12.7**	**-3.5**
	comp=Z,5.5nm,0.6s						
CHKZ				⇓Lg		23 18 34.6	
	comp=Z,22nm,0.8s						
NVS	**Novosibirsk**	**12.90**	**14**	eP	**Pn**	**23 15 07.5**	**+0.4**
NVS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.5s						
AKTK	**Aktyubinsk**	**15.94 307**		Pn	**Pn**	**23 15 46.1**	**-1.9**
AKTO	**Aktyubinsk**	**15.94 307**		Pn	**Pn**	**23 15 46.1**	**-1.9**
	comp=E,0.2nm,0.3s,baz=114,slow=14,SNR=4.7						
LSA	**Lhasa**	**16.50 136**		eP	**Pn**	**23 15 54.0**	**-1.2**
GTA	**Gaotai**	**16.72**	**93**	eP	**Pn**	**23 16 00.5**	**+2.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,141nm,4.9s						
GTA				LR	LR		
	comp=N,173nm,9.5s						
GTA				LR	LR		
	comp=E,159nm,8.7s						
GTA				LR	LR		
	comp=Z,128nm,9.9s						
ARU	**Arti**	**18.81 325**		⇓iP	**Pn**	**23 16 23.9**	**0.0**
ARU				eS	**Sn**	**23 19 53.8**	**-0.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	**Arti**	**18.81 325**		eP	**Pn**	**23 16 22.9**	**-1.0**
	comp=Z,3.6nm,0.4s						
ZAK	**Zakamensk**	**19.08**	**57**	eP	**Pn**	**23 16 28.6**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**20.66**	**65**	P	**P**	**23 16 43.6**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=270,slow=11,SNR=22						
LZH	**Lanzhou**	**20.91**	**99**	eP	**P**	**23 16 48.1**	**+1.9**
SOC	**Sochi**	**27.90 286**		eP	**P**	**23 17 57.4**	**+3.7**
SOC				ePPP		23 18 50.8	
SOC				eS	**S**	**23 22 38.5**	**+1.3**
SOC				e*SS	sS	23 22 54.2	+12
SOC				eSS		23 23 49.3	
SOC				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.0						
ENH	**Enshi**	**27.91 105**		P	**P**	**23 17 52.1**	**-1.8**
OBN	**Obninsk**	**29.69 310**		eP	**P**	**23 18 10.2**	**+0.6**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
PALK	**Pallekele**	**35.07 175**		P	**P**	**23 18 53.4**	**-3.3**
YAK	**Yakutsk**	**35.97**	**39**	P	**P**	**23 19 03.8**	**-0.7**
SUW	**Suwalki**	**37.44 307**		P	**P**	**23 19 16.2**	**-0.9**
KEV	**Kevo**	**37.63 334**		eP	**P**	**23 19 17.8**	**-0.8**
KEV				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
KEV	**Kevo**	**37.63 334**		eP	**P**	**23 19 17.8**	**-0.9**
	comp=Z,18nm,0.8s,mb4.9						
ARCES	**ARCESS Array B**	**38.06 333**		P	**P**	**23 19 20.3**	**-1.9**
	comp=Z,4.4nm,0.8s,mb4.2,baz=110,slow=10,SNR=5.0						
YHNB	**Yeheng**	**39.73 102**		eP	**P**	**23 19 34.3**	**-2.0**
NACB	**Ninganchiao**	**40.19 103**		eP	**P**	**23 19 39.3**	**-0.8**
NAO01	**NORSAR Array S**	**43.40 319**		P	**P**	**23 20 04.7**	**-1.6**
ASAJ	**Asahikawa**	**45.94**	**65**	P	**P**	**23 20 36.2**	**+10**
TORD	**Torodi Ar. Bea**	**71.21 271**		P	**P**	**23 23 19.9**	**-2.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=47,slow=6.2,SNR=4.6						
YKA	**Yellowknife Ar**	**74.95**	**6**	P	**P**	**23 23 44.9**	**0.0**
	comp=Z,0.2nm,0.7s,mb3.1,baz=341,slow=5.8,SNR=5.1						
YKA	**Yellowknife Ar**	**74.95**	**6**	P	**P**	**23 23 44.9**	**0.0**
WRA	**Warramunga Arr**	**80.86 128**		P	**P**	**23 24 16.9**	**-0.9**
	comp=Z,0.2nm,0.7s,mb3.1,baz=323,slow=4.8,SNR=4.5						
WB2	**Warramunga Arr**	**80.87 128**		eP	**P**	**23 24 17.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**83.15 148**		eP	**P**	**23 24 27.5**	**-2.3**
SBA	**Scott Base**	**130.78 164**		eP	Pdif	23 28 03.4	-2.4

*NIED **20** 23:18:00, 4730N×15480E, h8km, Mw4.6 Best double couple: M0 9.02000×10^15 NP1:φ=32.00000°, δ=56.00000°, λ=49.00000°. NP2:φ=269.00000°, δ=51.00000°, λ=134.00000°.*
*NEIC **20** 23:18:22.3±0.2, 4779N×15405E, h10km, mb4.7/39, Error ellipse: s-maj=6.6km s-min=3.8km az=151.0*
*SKHL **20** 23:18:23.3±1.7, 4740N×15470E, h51km±18km, mb5.1/4, ms4.3/5*
*BJI **20** 23:18:24.3, 4780N×15400E, h10km, mB4.7, mb4.5, Ms4.1, Msz3.8*
*ISCJB **20** 23:18:24.3±0.6, 4773N±003×154.11E±004, h37km±5km, mb4.7/75, MS3.9/17, Error ellipse: s-maj=6.4km s-min=3.5km az=100.5*
*MOS **20** 23:18:25.0±1.1, 4774N×154.14E, h43km, mb4.9/22, Error ellipse: s-maj=8.3km s-min=5.8km az=81.0*
*SZGRF **20** 23:18:27.3, 4837N×15635E, h33km, mb4.8, East of Kuril Islands, Russia*
*IDC **20** 23:18:30.9±3.5, 4778N×15397E, h80km±32km, mb4.1/22, mb1 4.2/23, mb1mx4.2/26, mbtmp4.1/23, MS3.9/14, Ms1 3.9/14, ms1mx3.7/35, Error ellipse: s-maj=15.2km s-min=11.8km az=154.0*
ISC 20 23:18:26.9±0.5, 4775N±003×15408E±005, h45km±4km, n210, σ1§16/229, mb4.7/75, MS3.9/17, 9C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.23**	**24**	ePN	**Pn**	**23 19 14.0**	**-1.1**
SKR				i S	**Sn**	**23 19 50.7**	**-1.5**
SKR				pmax	pmax		
	comp=N,240nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,390nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,1.0s						
SKR				pmax	pmax		
	comp=E,2μm,0.0s						
SKR				smax			
	comp=N,1μm,0.5s						
SKR				smax			
	comp=E,690nm,0.5s						
SKR				MLR	MLR		
	comp=Z,4μm,16.0s						
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR				MLR	MLR		
	comp=E,4μm,14.0s						
SKR	**Severo-Kuril's**	**3.23**	**24**	eP	**Pn**	**23 19 14.0**	**-1.1**
SKR				AMB	AMB	23 19 16.4	
	comp=E,240nm,0.5s						
SKR				AMB	AMB	23 19 16.4	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	23 19 16.4	
	comp=E,390nm,0.5s						
SKR				AMB	AMB	23 19 17.0	
	comp=E,2μm,1.0s						
SKR				AMB	AMB	23 19 17.0	
	comp=E,2μm,1.0s						
SKR				i S	**Sn**	**23 19 50.7**	**-1.5**
SKR				A		23 20 03.9	
	comp=E,1μm,0.5s						
SKR				A		23 20 03.9	
	comp=E,690nm,0.5s						
SKR				AMS	AMS	23 20 32.0	
	comp=E,3μm,16.0s						
SKR				AMS	AMS	23 20 32.0	
	comp=E,4μm,16.0s						
SKR				AMS	AMS	23 20 32.0	
	comp=E,4μm,16.0s						
KUR	**Kuril'sk**	**4.97 242**		PN	**Pn**	**23 19 39.5**	**+0.5**
KUR				S	**Sn**	**23 20 37.8**	**+2.6**
KUR				pmax	pmax		
	comp=Z,540nm,0.8s						
KUR				smax			
	comp=N,6μm,1.6s						
KUR				smax			
	comp=E,5μm,1.6s						
KUR				smax			
	comp=N,1μm,0.8s						
KUR				smax			
	comp=E,2μm,0.8s						
KUR	**Kuril'sk**	**4.97 242**		eP	**Pn**	**23 19 39.5**	**+0.5**
KUR				AMB	AMB	23 19 41.6	
	comp=E,540nm,0.8s						
KUR				eS	**Sn**	**23 20 37.8**	**+2.6**
KUR				A		23 20 53.6	
	comp=E,6μm,1.6s						
KUR				A		23 20 53.6	
	comp=E,5μm,1.6s						
KUR				A		23 21 03.5	
	comp=E,1μm,0.8s						
KUR				A		23 21 03.5	
	comp=E,2μm,0.8s						
PET	**Petropavlovsk**	**6.04**	**27**	⇑ePN	**Pn**	**23 19 52.3**	**-1.3**
PET				pmax	pmax		
	comp=Z,59nm,0.9s						
PET				MLR	MLR		
	comp=Z,1μm,20.0s						
PET				MLR	MLR		
	comp=Z,1μm,20.0s						
PET	**Petropavlovsk**	**6.04**	**27**	ePn	**Pn**	**23 19 52.5**	**-1.1**
	comp=Z,48nm,0.6s						
PET				eSn	**Sn**	**23 20 53.1**	**-8.3**
YUK	**Yuzh-Kuril'sk**	**6.83 240**		ePN	**Pn**	**23 20 06.8**	**+2.3**
YUK				i S	**Sn**	**23 21 24.5**	**+3.5**
YUK				smax			
	comp=N,3μm,0.9s						
YUK				smax			
	comp=E,5μm,0.9s						
YUK				smax			
	comp=N,580nm,0.5s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				MLR	MLR		
	comp=N,2μm,17.0s						
YUK				MLR	MLR		
	comp=Z,2μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**6.83 240**		eP	**Pn**	**23 20 06.8**	**+2.3**
YUK				i S	**Sn**	**23 21 24.5**	**+3.5**
YUK				A		23 21 46.0	
	comp=Z,3μm,0.9s						
YUK				A		23 21 46.0	
	comp=Z,5μm,0.9s						
YUK				A		23 21 59.0	
	comp=Z,580nm,0.5s						
YUK				A		23 21 59.0	
	comp=Z,1μm,0.5s						
YUK				AMS	AMS	23 22 40.0	
	comp=Z,2μm,17.0s						
NEM2	**Nemuro 2**	**7.31 236**		P	**Pn**	**23 20 10.1**	**-1.0**
NEM2				eS	**Sn**	**23 21 29.5**	**-3.2**
YSS	**Yuzh-Sakhalins**	**7.74 268**		⇑iPN	**Pn**	**23 20 21.5**	**+4.6**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,900nm,20.0s						
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS				MLR	MLR		
	comp=E,800nm,18.0s						

comp=E,900nm,18.0s
JNK Nakash 7.76 241 P **Pn 23 20 18.6 +1.3**
JNK eS Sn 23 21 44.5 +0.6
JTKR Abashiri--Toko 8.04 246 P **Pn 23 20 23.5 +2.4**
UGL Uglegorsk 8.11 284 eP **Pn 23 20 27.0 +5.0**
UGL AMB AMB 23 20 28.0
comp=E,50nm,0.7s
UGL AMS AMS 23 23 54.0
comp=E,600nm,15.0s
UGL AMS AMS 23 23 54.0
comp=E,900nm,15.0s
JAK Akkeshi 8.13 238 P **Pn 23 20 21.1 -1.3**
JAK eS Sn 23 21 49.6 -3.4
JAR Ashorobuto 8.50 242 P **Pn 23 20 29.5 +2.1**
JAR eS Sn 23 22 03.4 +1.5
JOB Onbets 8.69 240 P **Pn 23 20 30.8 +0.8**
JOB eS Sn 23 22 03.5 -3.1
JWK2 Keihoku 8.74 258 P **Pn 23 20 38.6 +7.8**
ASAJ Asahikawa 8.79 250 P **Pn 23 20 35.0 +3.6**
comp=E,1.7nm,0.3s,baz=113,slow=11,SNR=8.0
ASAJ S Sn 23 22 33.4 +24
comp=E,1.2nm,0.3s,baz=246,slow=20,SNR=2.2
ASAJ LR LR 23 23 44.7
comp=E,799nm,18.9s,baz=158,slow=36
JKK2 Kamakawa 2 8.81 248 P **Pn 23 20 35.0 +3.3**
JCH Churui 9.14 240 P **Pn 23 20 36.4 +0.2**
JCH eS Sn 23 22 14.1 -3.6
OKH Okha 9.15 314 eP **Pn 23 20 36.0 -0.4**
OKH eS Sn 23 22 20.0 +2.0
OKH AMS AMS 23 25 48.0
comp=E,900nm,11.0s
OKH AMS AMS 23 25 48.0
comp=E,1µm,11.0s
ERM Erimo 9.64 238 ePn **Pn 23 20 43.7 +0.7**
comp=E,30nm,0.5s
ERM eSn Sn 23 22 29.5 -0.3
JEM Erimo 9.64 238 P **Pn 23 20 43.7 +0.7**
JEM eS Sn 23 22 26.6 -3.2
JNBK Urakawa-nobuka 9.70 240 P **Pn 23 20 43.0 -0.9**
JNB Noboribetsu 10.62 245 eS Sn 23 22 51.8 -2.1
JKB Kayabe 10.96 242 P **Pn 23 20 59.3 -1.8**
JKB eS Sn 23 22 55.9 -6.3
JSH Shimam 11.14 248 P **Pn 23 21 06.8 +3.3**
JYM2 Yakumo 2 11.22 245 P **Pn 23 21 04.7 0.0**
JTM Tenmabayashi 11.63 238 P **Pn 23 21 07.8 -2.4**
JTM eS Sn 23 23 08.2 -10
MA2 Magadan 12.01 352 ePN **Pn 23 21 17.0 +1.6**
MA2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 MLR MLR
comp=Z,600nm,16.3s
MA2 Magadan 12.01 352 ePn **Pn 23 21 16.6 +1.1**
comp=Z,18nm,0.7s
OFUJ Ofunato 12.50 231 P **Pn 23 21 18.3 -3.8**
OFUJ eS Sn 23 23 28.0 -12
HABR Khabarovsk 12.74 280 ePN **Pn 23 21 31.2 +5.8**
HABR eS Sn 23 23 59.0 +13
HABR pmax pmax
comp=Z,65nm,1.6s
JRG Rokugo 12.82 234 P **Pn 23 21 23.4 -3.1**
JRG eS Sn 23 23 40.8 -6.9
JIO Ouri 13.13 230 eS Sn 23 23 41.5 -14
SEY Seymchan 15.25 357 *i* P **Pn 23 22 01.0 +1.9**
MAJO Matsushiro 16.21 232 eP **Pn 23 22 10.0 -1.5**
MAJO 23 25 07.6
MAJO pmax pmax
comp=Z,15nm,0.8s
MAJO Matsushiro 16.21 232 ePn **Pn 23 22 10.0 -1.4**
comp=Z,16nm,0.8s
MAJO Sn Sn 23 25 07.6 -2.6
MAT Matsushiro 16.21 232 P **Pn 23 22 11.0 -0.5**
MAT S S 23 25 12.2 -9.3
MJAR Matsushiro Arr 16.21 232 P **Pn 23 22 09.5 -1.9**
comp=Z,0.3nm,0.3s,baz=30,slow=12,SNR=7.9
MJAR LR LR 23 29 54.4
comp=Z,154nm,18.1s,baz=25,slow=42
MJAR Matsushiro Arr 16.21 232 P **Pn 23 22 09.5 -1.9**
MJAR LR LR 23 29 54.4
VLA Vladivostok 16.23 262 eP **Pn 23 22 13.0 +1.3**
VLA pmax pmax
comp=Z,23nm,0.5s
VLA MLR MLR
comp=Z,300nm,16.2s
MDJ Mudanjiang 17.23 269 ePn **Pn 23 22 23.8 -0.4**
comp=Z,4.2nm,0.4s
YAK Yakutsk 19.86 325 eP **Pn 23 22 57.6 +1.6**
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,26nm,1.3s
YAK MLR MLR
comp=Z,254nm,12.0s
YAK Yakutsk 19.86 325 eP **Pn 23 22 53.6 -2.4**
comp=Z,37nm,0.6s
CLNS Chul'man 19.90 308 eP **Pn 23 22 57.4 +0.9**
CLNS eS S 23 26 33.6 -2.4
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=Z,19nm,1.1s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS smax
comp=Z,2.0nm,0.7s
CLNS smax
comp=N,7.0nm,1.0s
CLNS smax
comp=E,13nm,1.2s
CLNS MLR MLR
comp=Z,300nm,16.0s
CLNS MLR MLR
comp=N,200nm,13.0s
CLNS MLR MLR
comp=E,1µm,15.0s
BILL Bilibino 21.27 13 *i* P **P 23 23 07.3 -2.1**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
BILL Bilibino 21.27 13 eP **P 23 23 07.2 -2.2**
comp=Z,4.4nm,0.5s,mb4.0
KSRS Korea Array 21.73 251 P **P 23 23 16.1 +1.8**
comp=Z,11nm,0.8s,mb4.3,baz=59,slow=10.0,SNR=17
KSRS LR LR 23 32 06.1
comp=Z,190nm,18.3s,MS3.5,baz=21,slow=38
INCN Inchon 22.55 253 eP **P 23 23 23.3 +0.3**
comp=Z,16nm,0.5s,mb4.7
HIA Hailar 22.69 287 eP **P 23 23 25.6 +1.1**
HIA pmax pmax
comp=Z,5.0nm,0.8s
HIA Hailar 22.69 287 eP **P 23 23 25.6 +1.1**
comp=Z,5.2nm,0.8s,mb4.0
BOD Bodaibo 25.88 308 eP **P 23 23 53.3 -1.1**
TIXI Tiksi 26.70 343 eP **P 23 24 01.4 -0.5**
TIXI *e* 23 24 21.7
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
TIXI MLR MLR
comp=Z,308nm,15.0s,MS4.0
TIXI Tiksi 26.70 343 eP **P 23 24 00.9 -1.0**
comp=Z,7.8nm,1.3s,mb4.1
BJI Beijing 28.16 268 eP **P 23 24 20.0 +5.1**
BJI AMB AMB
comp=Z,6.0nm,1.1s,mb4.1
BJI LR LR
comp=N,344nm,16.5s,MS4.1
BJI LR LR
comp=E,229nm,17.9s,MS4.1
BJI LR LR
comp=Z,229nm,22.1s,MS3.7
BJI Beijing 28.16 268 eP **P 23 24 20.0 +5.1**
comp=Z,6.0nm,1.1s,mb4.1
BJI LR LR
comp=Z,230nm,22.1s,MS3.7
SSE Sheshan 30.08 248 P **P 23 24 30.6 -1.3**
comp=Z,64nm,0.7s,mb5.5
SSE sP sP 23 24 49.7 +0.5
SSE S **S 23 29 24.9 -2.4**
SSE sS sS 23 29 46.8 -0.5
SSE LR LR
comp=Z,130nm,25.8s,MS3.5
SONM Songino Array 31.64 288 P **P 23 24 44.6 -1.1**
comp=Z,1.1nm,0.7s,mb3.8,baz=68,slow=9.2,SNR=8.9
SONM LR LR 23 38 11.0
comp=Z,253nm,18.8s,MS3.9,baz=59,slow=37
TLY Talaya 32.32 296 eP **P 23 24 51.1 -0.6**
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TLY Talaya 32.32 296 eP **P 23 24 51.1 -0.6**
comp=Z,3.9nm,0.9s,mb4.2
IMA2 Indian Mountai 32.61 37 eP **P 23 24 53.7 -0.5**
IMA2 ePcP PcP 23 27 40.0 +0.4
ZAK Zakamensk 32.87 294 eP **P 23 24 56.3 -0.1**
TATO Taipei 34.32 240 eP **P 23 25 09.7 +0.6**
MCK McKinley 34.47 41 eP **P 23 25 10.0 -0.3**
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MCK McKinley 34.47 41 eP **P 23 25 09.9 -0.4**
comp=Z,7.4nm,0.8s,mb4.7
YHNB Yeheng 34.62 240 P **P 23 25 11.5 -0.2**
SML Sawmill 34.80 45 eP **P 23 25 12.8 -0.4**
SML *e* 23 26 31.2
SML *e* 23 27 45.5
NACB Ninganchiao 34.87 239 P **P 23 25 13.3 -0.6**
COLA College 34.95 39 eP **P 23 25 14.5 0.0**
COLA *e* 23 26 33.1
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
COLA College 34.95 39 eP **P 23 25 14.5 0.0**
comp=Z,5.8nm,0.8s,mb4.6
COLA ePP PP 23 26 33.1 -1.2
LZH Lanzhou 38.52 271 ⇓P **P 23 25 49.4 +4.5**
LZH *PP pP 23 26 10.5 +13
LZH pmax pmax
comp=Z,20nm,1.0s,mb4.8
LZH Lanzhou 38.52 271 ⇓P **P 23 25 49.4 +4.5**
comp=Z,20nm,1.0s,mb4.8
LZH pP pP 23 26 10.5 +13
LZH sP sP 23 26 21.7 +19
GTA Gaotai 39.47 278 eP **P 23 25 54.4 +1.6**
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.2
INK Inuvik 40.46 33 P **P 23 26 00.8 -0.3**
comp=Z,5.1nm,0.5s,mb4.5,baz=272,slow=6.3,SNR=47
INK Inuvik 40.46 33 eP **P 23 26 01.3 +0.3**
comp=Z,421nm,0.9s
GYA Guiyang 42.58 257 P **P 23 26 19.0 +0.6**
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
DLBC Dease Lake 44.43 47 eP **P 23 26 34.5 +1.2**
KMI Kunming 46.07 259 P **P 23 26 47.4 +1.1**
KMI AP pP 23 26 57.1 -1.6
KMI XP sP 23 27 01.4 -2.6
KMI AMB AMB
comp=Z,15nm,1.0s,mb4.9
KMI AMB AMB
comp=Z,95nm,4.4s
KMI LR LR
comp=Z,79nm,24.1s,MS3.6
KMI Kunming 46.07 259 P **P 23 26 47.4 +1.1**
KMI *SP sP 23 27 01.4 -2.6
KMI S **S 23 33 37.6 +8.9**
KMI *SS sS 23 33 55.8 +6.4
KMI pmax pmax
comp=Z,15nm,1.0s,mb4.9
KMI MLR MLR
comp=Z,80nm,24.1s,MS3.6
KMI Kunming 46.07 259 P **P 23 26 47.4 +1.1**
comp=Z,15nm,1.0s,mb4.9
KMI pP pP 23 26 57.1 -1.6
KMI sP sP 23 27 01.4 -2.6
KMI PP PP 23 28 44.2 +9.3
KMI S **S 23 33 37.6 +8.9**
KMI sS sS 23 33 55.8 +6.4
KMI SS SS 23 36 58.5 +4.5
KMI LR LR
comp=Z,80nm,24.1s,MS3.6
MK31 Makanchi Array 47.07 297 eP **P 23 26 54.4 +0.2**
MKAR Makanchi Array 47.07 297 P **P 23 26 54.0 -0.1**
comp=Z,8.1nm,0.7s,mb4.8,baz=64,slow=8.2,SNR=33
MKAR LR LR 23 48 02.8
comp=Z,82nm,20.1s,MS3.7,baz=155,slow=38
MKAR Makanchi Array 47.07 297⇑ eP **P 23 26 55.7 +1.5**
KURK Kurchatov 47.37 303 eP **P 23 26 55.6 -0.8**
KURK *e* 23 28 26.6
KURK *e* 23 28 49.3
KURK pmax pmax
comp=Z,18nm,0.8s,mb5.0
KURK Kurchatov 47.37 303 eP **P 23 26 55.6 -0.8**
comp=Z,18nm,0.8s,mb5.0
KURK ePcP PcP 23 28 26.6 0.0
KURK ePP PP 23 28 49.3 +1.5
RES Resolute Bay 49.68 19 eP **P 23 27 13.4 -0.9**
comp=Z,104nm,0.8s
YKA Yellowknife Ar 49.73 37 P **P 23 27 14.6 0.0**
comp=Z,4.4nm,0.7s,mb4.6,baz=296,slow=7.2,SNR=44
YKA PcP PcP 23 28 34.8 -0.3
comp=Z,1.0nm,0.6s,baz=302,slow=3.7,SNR=7.6
YKA LR LR 23 47 02.3
comp=Z,172nm,22.0s,MS4.0,baz=255,slow=34
YKA Yellowknife Ar 49.73 37 P **P 23 27 14.6 0.0**
YKA 23 28 34.9
BVAR Borovoye Array 50.74 309 P **P 23 27 21.1 -1.1**
comp=Z,3.5nm,0.7s,mb4.4,baz=57,slow=8.1,SNR=13
BRVK Borovoye 50.78 309 eP **P 23 27 21.1 -1.4**
BRVK *e* 23 28 39.9
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 50.78 309 eP **P 23 27 21.1 -1.4**
comp=Z,4.3nm,0.6s,mb4.6
BRVK ePcP PcP 23 28 39.9 +0.9
LSA Lhasa 50.88 273 eP **P 23 27 26.2 +2.9**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LSA Lhasa 50.88 273 eP **P 23 27 26.1 +2.8**
comp=Z,5.1nm,0.6s,mb4.6
CHTO Chiang Mai 52.99 257 eP **P 23 27 40.3 +1.3**
CHTO pmax pmax
comp=Z,20nm,1.2s,mb4.9
CHTO Chiang Mai 52.99 257 eP **P 23 27 40.2 +1.2**
comp=Z,20nm,1.2s,mb4.9
AAK Ala-Archa 53.98 296 *c i* P **P 23 27 46.0 -0.3**
AAK *i* 23 29 48.3
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AAK MLR MLR
comp=Z,200nm,29.0s,MS4.0
AAK Ala-Archa 53.98 296 eP **P 23 27 45.4 -0.9**
comp=Z,5.6nm,0.8s,mb4.5
ARU Arti 54.72 317 eP **P 23 27 51.3 -0.4**
ARU pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ARU Arti 54.72 317 eP **P 23 27 51.3 -0.4**
comp=Z,1.8nm,0.5s,mb4.4
EDM Edmonton 55.15 47 eP **P 23 27 54.8 0.0**
JIRN Jiri 55.52 275 eP **P 23 27 59.1 +1.6**
comp=Z,29nm,0.9s,mb5.3
GUN Gumba 55.57 275 eP **P 23 27 58.0 +0.2**
comp=Z,17nm,0.6s,mb5.3
KKN Kakani 56.05 275 eP **P 23 28 02.6 +1.4**
comp=Z,13nm,0.6s,mb5.2
PKI Pulchoki 56.11 275 eP **P 23 28 03.0 +1.4**
comp=Z,13nm,0.6s,mb5.1
DMN Daman 56.29 275 eP **P 23 28 04.4 +1.5**
comp=Z,22nm,0.7s,mb5.3
GKN Gorkha 56.34 276 eP **P 23 28 04.6 +1.3**
comp=Z,40nm,0.9s,mb5.5
YBH Yreka Blue Hor 56.70 63 P **P 23 28 06.2 +0.4**
comp=Z,4.9nm,0.6s,mb4.7,baz=334,slow=3.4,SNR=8.7
ARCES ARCESS Array B 57.13 341 LR LR 23 55 28.8
comp=Z,151nm,21.8s,MS4.1,baz=30,slow=39
KOLN Koldanda 57.19 276 eP **P 23 28 10.8 +1.5**
comp=Z,33nm,0.8s,mb5.4
PMG Port Moresby 57.23 188 eP **P 23 28 09.7 +0.1**
WALA Waterton Lakes 57.30 51 eP **P 23 28 10.0 -0.1**
MOD Modoc 58.03 61 eP **P 23 28 15.7 +0.4**
comp=Z,2.7nm,0.5s,mb4.5
BOK Bokaro 58.29 271 eP **P 23 28 18.6 +1.5**
BOK AMb AMB 23 28 25.3
comp=Z,10nm,0.8s,mb4.9
AKTK Aktyubinsk 58.55 312 P **P 23 28 18.2 -0.7**
AKTK PcP PcP 23 29 08.8 0.0
AKTO Aktyubinsk 58.55 312 P **P 23 28 18.2 -0.7**
comp=Z,0.8nm,0.4s,mb4.1,baz=58,slow=11,SNR=3.8
AKTO PcP PcP 23 29 08.8 0.0
comp=Z,0.9nm,0.5s,baz=55,slow=4.3,SNR=6.2
OHCM Honcut 58.90 64 P **P 23 28 21.0 -0.3**
FCC Fort Churchill 60.07 34 eP **P 23 28 28.7 -0.6**
CMB Columbia Colle 60.38 65 eP **P 23 28 31.8 +0.3**
CMB pmax pmax
comp=Z,22nm,1.6s,mb4.9
CMB Columbia Colle 60.38 65 eP **P 23 28 31.8 +0.3**
comp=Z,22nm,1.6s,mb4.9
JOF Joensuu 60.73 334 ep **P 23 28 30.7 -3.2**
comp=Z,0.9nm,0.3s,mb4.4
BMN Battle Mountai 60.76 61 eP **P 23 28 34.7 +0.6**
BMN pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
BMN Battle Mountai 60.76 61 eP **P 23 28 34.7 +0.6**
comp=Z,5.5nm,0.6s,mb4.9
NDI New Delhi 60.85 282 eP **P 23 28 35.4 +0.7**
NDI AMb AMB 23 28 36.1
comp=Z,13nm,0.9s,mb5.1
QLMT Earthquake Lak 61.26 54 eP **P 23 28 38.1 +0.7**
NVAR Mina Array Bea 61.39 63 P **P 23 28 39.0 +0.7**
comp=Z,4.7nm,0.7s,mb4.7,baz=295,slow=7.7,SNR=32
NVAR PcP PcP 23 29 21.7 +1.5
comp=Z,0.5nm,0.6s,baz=323,slow=3.7,SNR=4.5
BLSP Bilaspur 61.95 273 *ex* x 23 30 22.1
BLSP AMb AMB 23 30 26.7
comp=Z,15nm,2.0s,mb4.8
TPH Tonopah 62.27 63 eP **P 23 28 44.2 -0.1**
TPAW Teton Pass 62.39 55 eP **P 23 28 46.3 +1.3**
comp=Z,34nm,1.4s,mb5.3
HWUT Hardware Ranch 63.27 57 eP **P 23 28 51.6 +0.7**
comp=Z,5.1nm,0.9s,mb4.7
FINES FINESS Array B 63.42 335 P **P 23 28 50.7 -1.2**
comp=Z,2.5nm,0.6s,mb4.5,baz=36,slow=7.5,SNR=12
FINES LR LR 23 57 05.0
comp=Z,131nm,19.5s,MS4.1,baz=158,slow=36
FINES FINESS Array B 63.42 335 P **P 23 28 50.7 -1.2**
FINES LR LR 23 57 05.0
BW06 Boulder Array 63.63 55 eP **P 23 28 53.5 +0.3**
comp=Z,29nm,1.6s,mb5.1
PDAR Pinedale Array 63.63 55 P **P 23 28 53.7 +0.4**
comp=Z,4.4nm,0.8s,mb4.5,baz=290,slow=2.3,SNR=34
AJM Ajmer 64.02 281 eP **P 23 28 53.3 -2.5**
AJM AMb AMB 23 28 57.4
comp=Z,13nm,1.4s,mb4.8
BHPL Bhopal 64.35 277 eP **P 23 28 58.9 +0.9**
BHPL AMb AMB 23 29 00.4
comp=Z,24nm,0.9s,mb5.2
NGP Nagpur 64.70 274 eP **P 23 28 59.6 -0.6**
NGP AMb AMB 23 29 00.9
comp=Z,22nm,1.7s,mb4.9
OBN Obninsk 64.86 326 eP **P 23 29 02.4 +1.1**
OBN pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
MSU Marysvale 64.97 60 eP **P 23 29 02.8 +0.7**
ULM Lac du Bonnet 65.34 42 P **P 23 29 03.8 -0.7**
comp=Z,5.2nm,0.8s,mb4.6,baz=312,slow=5.8,SNR=12
SRU San Rafael 65.53 58 eP **P 23 29 06.0 +0.3**
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
SRU San Rafael 65.53 58 eP **P 23 29 06.0 +0.3**
comp=Z,5.8nm,0.7s,mb4.7
NB2 NORSAR Subarra 67.50 341 P **P 23 29 17.4 -0.8**
comp=Z,1.0nm,0.8s,mb3.9,baz=26,slow=6.5
NOA NORSAR Array B 67.50 341 P **P 23 29 16.9 -1.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=26,slow=6.3,SNR=4.5
NOA LR LR 00 03 26.5
comp=Z,77nm,19.4s,MS3.9,baz=90,slow=40
NOA NORSAR Array B 67.50 341 P **P 23 29 16.9 -1.3**
SMCO Snowmass 67.50 56 eP **P 23 29 18.1 -0.1**
comp=Z,3.8nm,0.7s,mb4.5
HYB Hyderabad 67.63 272 *i* P **P 23 29 19.0 -0.1**
HYB Hyderabad 67.63 272 eP **P 23 29 23.5 +4.4**
HFS Hagfors 67.75 340 LR LR 00 01 13.8
comp=Z,154nm,19.5s,MS4.2,baz=70,slow=38
ISCO Idaho Springs 67.82 55 eP **P 23 29 21.3 +1.0**
ISCO pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ISCO Idaho Springs 67.82 55 eP **P 23 29 21.3 +1.0**
comp=Z,3.3nm,0.7s,mb4.5
CTAO Charters Tower 67.89 188 P **P 23 29 20.2 -0.5**
SDCO Great Sand Dun 69.33 56 eP **P 23 29 30.4 +0.8**
comp=Z,15nm,1.5s,mb4.7
WB2 Warramunga Arr 69.67 200 eP **P 23 29 31.3 -0.5**
WB2 Warramunga Arr 69.67 200 eP **P 23 29 31.4 -0.3**
WRA Warramunga Arr 69.67 200 P **P 23 29 31.0 -0.8**
comp=Z,5.0nm,1.0s,mb4.4,baz=16,slow=6.4,SNR=16
POO Poona 70.02 276 *ex* x 23 29 02.9
FITZ Fitzroy Crossi 70.33 209 eP **P 23 29 36.4 +0.5**
comp=Z,3.8nm,0.6s,mb4.5
SUW Suwalki 70.43 332 P **P 23 29 37.1 +0.6**
KIV Kislovodsk 70.57 315 eP **P 23 29 36.9 -0.4**
KIV Kislovodsk 70.57 315 eP **P 23 29 36.9 -0.4**
KAD Karad 70.65 275 eP **P 23 29 38.8 +1.0**
KAD AMb AMB 23 29 44.2
comp=Z,20nm,0.8s,mb5.1
ANMO Albuquerque 70.75 59 eP **P 23 29 38.8 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 70.75 59 eP **P 23 29 38.8 +0.4**
comp=Z,1.3nm,0.6s,mb4.0
AKASG Malin Array Be 71.08 327 P **P 23 29 39.0 -1.5**
comp=Z,1.6nm,0.4s,mb4.3,baz=33,slow=6.3,SNR=9.2
AKASG LR LR 00 02 45.6
comp=Z,113nm,18.7s,MS4.2,baz=290,slow=37
AKASG Malin Array Be 71.08 327 *i* P **P 23 29 39.5 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
SCHQ Schefferville 72.13 23 P **P 23 29 46.8 +0.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=15,slow=12,SNR=5.6
SCHQ LR LR 00 03 13.8
comp=Z,66nm,21.8s,MS3.9,baz=211,slow=37
SCIA State Center 72.75 46 eP **P 23 29 50.2 -0.2**
comp=Z,11nm,0.5s,mb5.1
ASAR Alice Springs 73.36 199 P **P 23 29 54.6 +0.6**
comp=Z,4.9nm,0.9s,mb4.4,baz=11,slow=5.2,SNR=33
BURAR Bucovina Array 75.12 327⇑ *i* P **P 23 30 04.2 0.0**
UPC Upice 75.68 334 eP **P 23 30 12.0 +4.5**
DPC Dobruska-Polom 75.73 334 eP **P 23 30 08.0 +0.3**
CLL Collm 75.83 336⇑ *i* P **P 23 30 07.8 -0.5**
CLL *i* pP 23 30 21.5 0.0
CLL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CLL Collm 75.83 336⇑ *i* P **P 23 30 07.8 -0.5**
comp=Z,7.0nm,0.8s,mb4.6
CLL *i* pP 23 30 21.5 0.0
CLL Collm 75.83 336⇑ *i* P **P 23 30 07.8 -0.5**
comp=Z,7.0nm,0.8s,mb4.6
CLL *i* PcP PcP 23 30 21.5 +0.8
CLL *i x* x 23 30 38.0
PVCC Panska Ves 76.08 335 ePCP PcP 23 30 21.8 0.0
TXAR Lajitas Array 76.43 61 P **P 23 30 12.1 +0.3**
comp=Z,6.8nm,0.6s,mb4.8,baz=300,slow=4.6,SNR=86
MLR Muntele Rosu 76.62 325 ⇓ *i* P **P 23 30 14.1 +1.3**
DRGR 76.72 328⇑ *i* P **P 23 30 13.9 +0.5**
VOIR 77.01 326 ⇓ *i* P **P 23 30 15.6 +0.6**
KHC Kasperske Hory 77.62 335 eP **P 23 30 18.4 0.0**
GRA1 Grafenberg Arr 77.78 336 eP **P 23 30 19.7 +0.4**
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 77.78 336 eP **P 23 30 19.7 +0.4**
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 77.78 336 eP **P 23 30 19.7 +0.4**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 77.78 336 eP **P 23 30 19.7 +0.4**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GERES GERESS Array B 77.84 334 P **P 23 30 19.7 0.0**
comp=Z,1.5nm,0.7s,mb4.1,baz=39,slow=4.7,SNR=14
GERES LR LR 00 09 34.4
comp=Z,144nm,18.1s,MS4.3,baz=156,slow=39
BRTR Keskin Array B 78.11 317 P **P 23 30 20.9 -0.3**
comp=Z,2.4nm,1.0s,mb4.1,baz=56,slow=6.0,SNR=7.9
BZS Buzias 78.12 328 ⇓ *i* P **P 23 30 20.7 -0.5**
CDF Champ du Feu 79.98 338 eP **P 23 30 29.7 -1.7**
STKA Stephens Creek 80.05 191 P **P 23 30 30.7 -1.1**
comp=Z,0.5nm,0.3s,mb3.9,baz=322,slow=13,SNR=3.3
STKA Stephens Creek 80.05 191 P **P 23 30 31.3 -0.5**
VTS Vitosha 80.13 325 ⇓ *i* P **P 23 30 31.6 -0.6**
GRR Gorron 81.80 343 eP **P 23 30 39.6 -1.5**
TKL Tuckaleechee C 82.19 44 LR LR 00 06 31.2
comp=Z,125nm,20.1s,MS4.3,baz=7.1,slow=35
SMF Signal de Mont 82.46 340 eP **P 23 30 43.1 -1.4**
comp=Z,24nm,1.0s,mb4.8
SMF Signal de Mont 82.46 340 eP **P 23 30 43.1 -1.4**
SMF pmax pmax
comp=Z,12nm,1.0s,mb4.8
SMF Signal de Mont 82.46 340 eP **P 23 30 43.1 -1.4**
comp=Z,12nm,1.0s,mb4.8
LPG La Plagne 82.82 338 eP **P 23 30 45.5 -0.9**
comp=Z,28nm,1.2s,mb4.9
LPG La Plagne 82.82 338 eP **P 23 30 45.5 -0.9**

LPG pmax pmax
comp=Z,14nm,1.2s,mb4.9
LPG La Plagne 82.82 338 *e*P **P 23 30 45.5 -0.9**
comp=Z,14nm,1.2s,mb4.9
CAF Calviac 84.49 340 *e*P **P 23 30 53.6 -1.4**
comp=Z,23nm,1.1s,mb4.9
CAF Calviac 84.49 340 *e*P **P 23 30 53.6 -1.4**
CAF pmax pmax
comp=Z,11nm,1.1s,mb4.9
CAF Calviac 84.49 340 *e*P **P 23 30 53.6 -1.4**
comp=Z,11nm,1.1s,mb4.9
KEST Kesra 91.11 332 P **P 23 31 27.4 +0.6**
comp=Z,1.6nm,0.9s,mb4.3,baz=353,slow=16,SNR=5.5
TORD Torodi Ar. Bea 114.57 330 PKP PKiKP 23 37 01.5 -0.5
comp=Z,0.3nm,0.4s,baz=17,slow=1.9,SNR=11
TORD Torodi Ar. Bea 114.57 330 PKP PKiKP 23 37 01.5 -0.5
CFAA Coronel Fontan 144.16 79 PKP PKPdf 23 37 54.5 -3.2
comp=Z,1.0nm,0.6s,baz=270,slow=3.4,SNR=14
PLCA Paso Flores 147.63 94 PKPbc PKPbc 23 38 05.6 -0.7
comp=Z,6.2nm,0.9s,baz=286,slow=1.2,SNR=2.9

CASC 20 23:50:41.8±1.4, 1366N×9014W, h80km±8km, MD3.5, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.53**	**70**	⇓*e*P	x	23 50 56.0	
SBLS				*e*S	x	23 51 06.8	
RTR	**El Retiro**	**0.53**	**64**	*e*P	x	23 50 56.2	
RTR				*e*S	x	23 51 07.7	
SNJE	**San Jose**	**0.56**	**68**	*e*P	x	23 50 56.0	
SNJE				*e*S	x	23 51 07.3	
RBDL	**Robledal**	**0.63**	**44**	⇓*e*P	x	23 50 57.3	
RBDL				*e*S	x	23 51 09.5	
TER	**Terranova**	**0.83**	**320**	⇑*e*P	Pn	23 50 58.5	-0.3
TER				*e*S	Sn	23 51 12.4	+0.9
BOQS	**Boqueron**	**0.84**	**85**	*e*P	x	23 50 59.5	
BOQS				*e*S	x	23 51 12.7	
PCG	**Pacaya**	**0.86**	**328**	*e*P	Pn	23 50 59.7	+0.6
PCG				*e*S	Sn	23 51 15.1	+2.9
FUG	**Fuego 3**	**1.04**	**319**	*e*P	Pn	23 51 01.3	0.0
FUG				*e*S	Sn	23 51 16.5	+0.6
LFRS	**El Faro**	**1.05**	**92**	*e*P	x	23 51 01.4	
LFRS				*e*S	x	23 51 17.1	
MTO2	**Montecristo 2**	**1.05**	**46**	*e*P	x	23 51 02.1	
MTO2				*e*S	x	23 51 17.3	
LCBS	**La Ceiba**	**1.13**	**90**	*e*P	x	23 51 04.0	
LCBS				*e*S	x	23 51 19.1	
JAT	**Jato**	**1.60**	**294**	*e*P	Pn	23 51 08.8	+0.5

*IDC **20** 23:55:52.3±0.4, 1332N×12564E, h0km, mb5.2/25, mb1 5.3/26, mb1mx5.3/27, mbtmp5.2/26, ML5.0/1, MS4.9/22, Ms1 4.9/22, ms1mx4.8/27, Error ellipse: s-maj=18.2km s-min=9.1km az=81.0*
*ISCJB **20** 23:55:52.1±0.7, 1334N×002×12586E±002, h8km±4km, mb5.4/130, MS5.1/169, Error ellipse: s-maj=4.0km s-min=3.2km az=18.6*
*MAN **20** 23:55:54.2, 1341N×12581E, h21km, mb5.6, ML6.0, MS4.1*
*BJI **20** 23:55:54.1, 1332N×12600E, h28km, mB5.6, mb5.2, Ms5.3, Msz4.9*
*MOS **20** 23:55:55.7±0.9, 1333N×12587E, h33km, mb5.6/47, MS4.9/40, Error ellipse: s-maj=9.2km s-min=5.0km az=114.9*
*GCMT **20** 23:55:55.9±0.1, 1337N×12586E, h12km, MW5.6/97, Moment Tensor Solution. s76,c137; s97,c232; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr=2.41±.04; Mθθ1.72±.03; Mφφ0.69±.04; Mrθ0.68±.09; Mθφ-1.87±.03; Mφr0.10±.11; Best double couple: M0=2.88300×10^17 NP1:φs142.00000°, δ42.00000°, λ-68.00000°. NP2:φs293.00000°, δ52.00000°, λ-109.00000°. Principal axes: T 3.1870, Plg5.0000°, Azm37.0000°; N -0.6070, Plg15.0000°, Azm305.0000°; P -2.5790, Plg75.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **20** 23:55:55.9±1.5, 1327N×12581E, h25km±10km, mb5.4/61, MS5.2/130, MW5.5 Error ellipse: s-maj=5.7km s-min=3.9km az=74.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^17Nm; Mrr=2.05; Mθθ0.90; Mφφ1.15; Mrθ-0.29; Mθφ-1.14; Mφr0.44; Best double couple: M0=2.20000×10^17 NP1:φs140.00000°, δ52.00000°, λ-87.00000°. NP2:φs316.00000°, δ38.00000°, λ-93.00000°. Principal axes: T 2.2400, Plg7.0000°, Azm228.0000°; N -0.1200, Plg2.0000°, Azm319.0000°; P -2.1200, Plg83.0000°, Azm66.0000°;*
NEIC Felt [III PIVS] at Legaspi, Luzon.
*SZGRF **20** 23:55:57.8, 1257N×12450E, h33km, mb5.4, MS5.1, Samar, Philippine Islands*

ISC 20 23:55:55.2±0.8, 1332N±002×12588E±003, h17km±5km, h26km±1.8km: pP-P, n562, σ0999/459, mb5.4/130, MS5.1/169, 26C-42D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.43**	**236**	*e*P	**Pn**	**23 56 19.2**	**-1.1**
CNP				*e*S	**Sn**	**23 56 38.1**	**-0.7**
CNP	**Catarman**	**1.43**	**236**	*e*P	**Pn**	**23 56 19.2**	**-1.1**
CNP				*e*S	**Sn**	**23 56 38.1**	**-0.7**
BESP	**Borongan**	**1.76**	**194**	*e*P	**Pn**	**23 56 24.3**	**-0.6**
BESP	**Borongan**	**1.76**	**194**	*e*P	**Pn**	**23 56 24.3**	**-0.6**
PLP	**Palo**	**2.32**	**202**	*e*P	**Pn**	**23 56 32.9**	**+0.3**
PLP				*i* S	**Sn**	**23 57 01.4**	**+0.8**
OCLP	**Ormoc**	**2.58**	**209**	*e*P	**Pn**	**23 56 36.8**	**+0.7**
OCLP	**Ormoc**	**2.58**	**209**	*e*P	**Pn**	**23 56 36.8**	**+0.7**
MSLP	**Maasin**	**3.32**	**198**	*e*P	**Pn**	**23 56 46.5**	**+0.2**
MSLP				*e*S	**Sn**	**23 57 24.5**	**-0.9**
MSLP	**Maasin**	**3.32**	**198**	*e*P	**Pn**	**23 56 46.5**	**+0.2**
MSLP				*e*S	**Sn**	**23 57 24.5**	**-0.9**
LLP	**Lapu-Lapu**	**3.52**	**212**	⇑*i*P	**Pn**	**23 56 48.4**	**-0.7**
LLP				*i* S	**Sn**	**23 57 23.0**	**-7.4**
RCP	**Roxas**	**3.52**	**241**	⇑*e*P	**Pn**	**23 56 49.1**	**0.0**
SCPH	**Surigao**	**3.54**	**186**	⇑*e*P	**Pn**	**23 56 48.0**	**-1.3**
SCPH				*e*S	**Sn**	**23 57 25.0**	**-5.7**
KALP	**Kalibo**	**3.82**	**245**	⇑*e*P	**Pn**	**23 56 55.4**	**+2.1**
OTRP	**Odiongan**	**3.88**	**256**	*e*P	**Pn**	**23 56 54.1**	**+0.1**
OTRP	**Odiongan**	**3.88**	**256**	*e*P	**Pn**	**23 56 54.1**	**+0.1**
BOAC	**Boac**	**3.93**	**272**	*e*P	**Pn**	**23 56 53.3**	**-1.3**
BOAC	**Boac**	**3.93**	**272**	*e*P	**Pn**	**23 56 53.3**	**-1.3**
POLP	**Polilio Island**	**4.07**	**291**	*e*P	**Pn**	**23 56 55.3**	**-1.3**
POLP				*e*S	**Sn**	**23 57 42.5**	**-1.3**
POLP	**Polilio Island**	**4.07**	**291**	*e*P	**Pn**	**23 56 55.3**	**-1.3**
POLP				*e*S	**Sn**	**23 57 42.5**	**-1.3**
TBP	**Tagbilaran**	**4.11**	**209**	*e*P	**Pn**	**23 56 58.6**	**+1.3**
TBP				*e*S	**Sn**	**23 57 43.1**	**-1.8**
GUIM	**Jordan**	**4.19**	**231**	*e*P	**Pn**	**23 56 58.0**	**-0.2**
GUIM	**Jordan**	**4.19**	**231**	*e*P	**Pn**	**23 56 58.0**	**-0.2**
BALP	**Baler**	**4.81**	**301**	*e*P	**Pn**	**23 57 03.7**	**-3.1**
BALP	**Baler**	**4.81**	**301**	*e*P	**Pn**	**23 57 03.7**	**-3.1**
TGY	**Tagaytay City**	**4.86**	**280**	Pn	**Pn**	**23 57 07.8**	**+0.3**
	309nm,0.3s,baz=328,slow=5.8,SNR=9.8						
TGY				Sn	**Sn**	**23 58 06.0**	**+2.6**
	156nm,0.3s,baz=19,slow=24,SNR=2.8						
PALP	**Palanan**	**4.99**	**319**	*e*P	**Pn**	**23 57 07.5**	**-1.8**
PALP				*e*S	**Sn**	**23 57 57.8**	**-8.9**
PALP	**Palanan**	**4.99**	**319**	*e*P	**Pn**	**23 57 07.5**	**-1.8**
PCPH	**Palayan**	**5.14**	**296**		**Pn**	**23 57 08.3**	**-3.0**
PCPH				*i* S	**Sn**	**23 58 03.4**	**-6.9**
CAUP	**Cauayan**	**5.32**	**313**	*e*P	**Pn**	**23 57 12.9**	**-0.8**
CAUP	**Cauayan**	**5.32**	**313**	*e*P	**Pn**	**23 57 12.9**	**-0.8**
CUYO	**Cuyo Island**	**5.35**	**243**	*e*P	**Pn**	**23 57 14.3**	**+0.1**
CUYO	**Cuyo Island**	**5.35**	**243**	*e*P	**Pn**	**23 57 14.3**	**+0.1**
BUKP	**Musuan**	**5.47**	**189**	*e*P	**Pn**	**23 57 17.9**	**+2.0**
BUKP	**Musuan**	**5.47**	**189**	*e*P	**Pn**	**23 57 17.9**	**+2.0**
LUBP	**Lubang**	**5.49**	**275**	*e*P	**Pn**	**23 57 15.9**	**-0.2**
LUBP	**Lubang**	**5.49**	**275**	*e*P	**Pn**	**23 57 15.9**	**-0.2**
BUSP	**Coron**	**5.70**	**257**	*e*P	**Pn**	**23 57 19.1**	**+0.2**
BUSP	**Coron**	**5.70**	**257**	*e*P	**Pn**	**23 57 19.1**	**+0.2**
CVP	**Callao Caves**	**5.85**	**319**	⇑*e*P	**Pn**	**23 57 19.8**	**-1.3**
CVP				*i* S	**Sn**	**23 58 20.2**	**-7.6**
SGCP	**Mt. Cagua**	**6.13**	**323**	*e*P	**Pn**	**23 57 24.7**	**-0.2**
SGCP	**Mt. Cagua**	**6.13**	**323**	*e*P	**Pn**	**23 57 24.7**	**-0.2**
DAV	**Davao City (W)**	**6.22**	**183**	⇑*e*P	**Pn**	**23 57 28.0**	**+1.9**
MATI	**Mati**	**6.35**	**177**	*e*P	**Pn**	**23 57 30.9**	**+3.0**
MATI	**Mati**	**6.35**	**177**	*e*P	**Pn**	**23 57 30.9**	**+3.0**
BOLP	**Bolinao**	**6.52**	**299**	*e*P	**Pn**	**23 57 28.6**	**-1.7**
BOLP	**Bolinao**	**6.52**	**299**	*e*P	**Pn**	**23 57 28.6**	**-1.7**
ABRA	**Dolores**	**6.58**	**311**	*e*P	**Pn**	**23 57 30.9**	**-0.2**
ABRA	**Dolores**	**6.58**	**311**	*e*P	**Pn**	**23 57 30.9**	**-0.2**
ENPP	**El Nido**	**6.65**	**252**	*e*P	**Pn**	**23 57 33.2**	**+1.2**
ENPP	**El Nido**	**6.65**	**252**	*e*P	**Pn**	**23 57 33.2**	**+1.2**
NACB	**Ninganchiao**	**11.53**	**340**	*e*Pn	**Pn**	**23 58 38.4**	**-0.6**
YHNB	**Yeheng**	**12.06**	**340**	*e*Pn	**Pn**	**23 58 45.1**	**-1.2**
YHNB				*e*Sn	**Sn**	**00 00 49.5**	**-11**
TATO	**Taipei**	**12.31**	**341**	Pn	**Pn**	**23 58 50.0**	**+0.4**
	572nm,1.7s						
JOW	**Kunigami**	**13.63**	**9**	Pn	**Pn**	**23 59 08.2**	**+0.6**
	15nm,0.3s,baz=180,slow=15,SNR=25						
JOW				Sn	**Sn**	**00 01 29.5**	**-9.1**
	5.1nm,0.3s,baz=118,slow=26,SNR=5.3						
JOW				LR	LR	00 03 31.6	
	comp=Z,5μm,19.2s,baz=16,slow=34						
HKC	**Hong Kong**	**14.28**	**310**	P	**Pn**	**23 59 24.0**	**+7.5**
QIZ	**Qiongzhong**	**16.41**	**292**	*e*Pn	**Pn**	**23 59 44.4**	**-0.3**
	28nm,0.8s						
SSE	**Sheshan**	**18.21**	**347**	⇓P	**Pn**	**00 00 09.3**	**+2.2**
SSE				XP	sP	00 00 17.8	+3.6
SSE				S	**Sn**	**00 03 27.9**	**-2.0**
SSE				AMB	AMB		
	comp=Z,223nm,1.5s						
SSE				AMB	AMB		
	comp=Z,2μm,6.2s						
SSE				LR	LR		
	comp=N,1μm,20.3s						
SSE				LR	LR		
	comp=E,5μm,20.4s						
SSE				LR	LR		
	comp=Z,2μm,20.3s						
SSE	**Sheshan**	**18.21**	**347**	⇓P	**Pn**	**00 00 09.2**	**+2.1**
	comp=Z,223nm,1.5s						
SSE				sP	sP	00 00 17.7	+3.5
SSE				S	**Sn**	**00 03 27.9**	**-2.0**
SSE				sS	sS	00 03 44.8	+2.1
GUMO	**Guam**	**18.47**	**87**	S	**Sn**	**00 03 44.0**	**+7.6**
	comp=Z,10nm,0.3s,baz=9.5,slow=21,SNR=2.1						
GUMO				LR	LR	00 07 04.9	
	comp=Z,3μm,18.4s,baz=264,slow=36						
GUMO	**Guam**	**18.47**	**87**	P	**Pn**	**00 00 10.0**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,189nm,0.9s						
GUMO	**Guam**	**18.47**	**87**	P	**Pn**	**00 00 10.0**	**-0.3**
	comp=Z,189nm,0.9s						
WHN	**Wuhan**	**20.17**	**330**	P	**P**	**00 00 30.1**	**+1.4**
WHN				S	**S**	**00 04 18.0**	**+3.4**
WHN				LR	LR		
	comp=Z,7μm,12.1s,MS5.2						
JNU	**Nakatsue**	**20.23**	**12**	P	**P**	**00 00 31.4**	**+2.0**
	comp=Z,159nm,1.0s,baz=204,slow=20,SNR=16						
JNU				S	**S**	**00 04 14.0**	**-1.7**
	comp=Z,5.0nm,0.4s,baz=251,slow=20,SNR=1.9						
JNU				LR	LR	00 07 34.4	
	comp=Z,10μm,18.9s,MS5.2,baz=73,slow=35						
CBIJ	**Chichi jima**	**20.51**	**46**	P	**P**	**00 00 33.8**	**+1.4**
	comp=Z,425nm,0.7s,baz=299,slow=7.6,SNR=14						
CBIJ				LR	LR	00 06 55.5	
	comp=Z,4μm,20.2s,MS4.8,baz=48,slow=32						
GYA	**Guiyang**	**22.26**	**309**	⇑*i*P	**P**	**00 00 50.5**	**-0.7**
GYA				AP		00 00 56.8	
GYA				XP	sP	00 00 59.9	+1.6
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,1μm,6.9s						
GYA				LR	LR		
	comp=N,3μm,17.1s,MS4.9						
GYA				LR	LR		
	comp=E,2μm,13.5s,MS4.9						
GYA				LR	LR		
	comp=Z,5μm,17.3s,MS5.0						
JHJ	**Hachijo jima 2**	**23.44**	**30**	LR	LR	00 08 11.7	
	comp=Z,4μm,20.4s,MS4.9,baz=143,slow=31						
INCN	**Inchon**	**24.07**	**1**	P	**P**	**00 01 09.6**	**+0.1**
	SNR=11						
INCN	**Inchon**	**24.07**	**1**	*e*P	**P**	**00 01 10.1**	**+0.6**
	comp=Z,210nm,1.0s,mb5.5						
INCN				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
KS15	**Wonju Array Si**	**24.09**	**4**	*e*P	**P**	**00 01 10.7**	**+1.0**
KSRS	**Korea Array**	**24.10**	**4**	P	**P**	**00 01 10.2**	**+0.4**
	comp=Z,120nm,0.9s,mb5.3,baz=183,slow=10,SNR=198						
KSRS				PcP	PcP	00 04 51.6	+0.8
	comp=Z,5.0nm,0.8s,baz=210,slow=2.6,SNR=5.5						
KSRS				LR	LR	00 09 18.8	
	comp=Z,3μm,21.2s,MS4.8,baz=190,slow=34						
TIA	**Tai'an**	**24.11**	**342**	⇑P	**P**	**00 01 10.0**	**+0.1**
TIA				S	**S**	**00 05 28.5**	**+1.6**
TIA				AMB	AMB		
	comp=Z,1μm,7.0s						
TIA				LR	LR		
	comp=N,1μm,10.0s,MS5.2						
TIA				LR	LR		
	comp=E,4μm,11.0s,MS5.2						
KMI	**Kunming**	**24.75**	**302**	⇓P	**P**	**00 01 16.9**	**+1.1**
KMI				AP		00 01 22.8	
KMI				XP	sP	00 01 25.4	+2.3
KMI				PP		00 01 53.0	
KMI				PPP		00 02 04.4	
KMI				PCP	PcP	00 04 55.0	+2.7
KMI				S	**S**	**00 05 33.5**	**-3.7**
KMI				XS	sS	00 05 46.5	+0.7
KMI				SS		00 06 31.8	
KMI				SSS		00 06 49.0	
KMI				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
KMI				AMB	AMB		
	comp=Z,2μm,5.7s						
KMI				LR	LR		
	comp=N,3μm,16.0s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,13.3s,MS5.0						
KMI				LR	LR		
	comp=Z,2μm,15.3s,MS4.8						
KMI	**Kunming**	**24.75**	**302**	⇓P	**P**	**00 01 16.9**	**+1.1**
KMI				*SP	sP	00 01 25.4	+2.3
KMI						00 01 53.0	
KMI				PPP		00 02 04.4	
KMI						00 04 55.0	
KMI				S	**S**	**00 05 33.5**	**-3.7**
KMI				*SS	sS	00 05 46.5	+0.7
KMI				SS		00 06 31.7	
KMI				SSS		00 06 49.0	
KMI				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9						
KMI				MLR	MLR		
	comp=Z,2μm,15.3s,MS4.8						
KMI	**Kunming**	**24.75**	**302**	⇓P	**P**	**00 01 16.9**	**+1.1**
	comp=Z,30nm,0.8s,mb4.9						
KMI				pP		00 01 22.8	
KMI				sP	sP	00 01 25.4	+2.3
KMI				PP		00 01 53.0	
KMI				PPP		00 02 04.4	
KMI				PcP	PcP	00 04 55.0	+2.7
KMI				S	**S**	**00 05 33.5**	**-3.7**
KMI				sS	sS	00 05 46.5	+0.7
KMI				SS		00 06 31.7	
KMI				SSS		00 06 49.0	
KMI				LR	LR		
	comp=Z,2μm,15.3s,MS4.8						
MAJO	**Matsushiro**	**25.63**	**23**	*e*P	**P**	**00 01 22.6**	**-1.2**
MAJO				MLR	MLR		
	comp=Z,6μm,22.0s,MS5.1						
MAT	**Matsushiro**	**25.63**	**23**	P	**P**	**00 01 23.0**	**-0.8**
MAT				S	**S**	**00 05 51.0**	**-0.2**
MJAR	**Matsushiro Arr**	**25.63**	**23**	P	**P**	**00 01 22.7**	**-1.1**
	comp=Z,31nm,1.1s,mb4.8,baz=197,slow=8.6,SNR=24						
MJAR				PcP	PcP	00 04 54.4	+0.1
	comp=Z,3.6nm,0.6s,baz=178,slow=2.8,SNR=5.9						
MJAR				LR	LR	00 09 45.5	
	comp=Z,5μm,21.2s,MS5.0,baz=200,slow=32						
MJAR	**Matsushiro Arr**	**25.63**	**23**	P	**P**	**00 01 22.7**	**-1.1**
MJAR						00 04 54.4	
MJAR	**Matsushiro Arr**	**25.63**	**23**	P	**P**	**00 01 22.7**	**-1.1**
MJAR				PcP	PcP	00 04 54.4	+0.2
MJAR				LR	LR	00 09 45.5	
XAN	**Xi'an**	**25.74**	**326**	P	**P**	**00 01 24.3**	**-0.4**
XAN				AP	pP	00 01 33.8	+3.9
XAN				S	**S**	**00 05 51.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,223nm,1.0s,mb5.7						
XAN				AMB	AMB		
	comp=Z,936nm,9.0s						
XAN				LR	LR		
	comp=N,2μm,13.8s,MS4.9						
XAN				LR	LR		
	comp=E,1μm,10.7s,MS4.9						
XAN				LR	LR		
	comp=Z,3μm,14.6s,MS4.9						
CM31	**Chiang Mai Arr**	**26.39**	**285**	*e*P	**P**	**00 01 30.8**	**+0.2**
	comp=Z,316nm,1.5s,mb5.6						
CM31				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
CHTO	**Chiang Mai**	**26.43**	**285**	PFAKE		00 01 40.0	+9.0
CHTO				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
KAKA	**Kakadu**	**26.67**	**166**	*e*P	**P**	**00 01 32.0**	**-1.1**
	comp=Z,69nm,0.6s,mb5.4						
KAKA				*e*S	**S**	**00 06 17.0**	**+9.4**
BJT	**Baijiatuau**	**27.93**	**344**	*e*P	**P**	**00 01 44.9**	**+0.4**
BJT				pmax	pmax		
	comp=Z,70nm,1.0s						
BJT				MLR	MLR		
	comp=Z,2μm,21.0s						
BJT	**Baijiatuau**	**27.93**	**344**	*e*P	**P**	**00 01 44.9**	**+0.4**
	comp=Z,70nm,1.0s,mb5.2						
BJT				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
BJI	**Beijing**	**27.95**	**344**	P	**P**	**00 01 44.1**	**-0.5**
BJI				S	**S**	**00 06 24.8**	**-3.0**
BJI				AMB	AMB		
	comp=Z,67nm,0.9s,mb5.3						
BJI				AMB	AMB		
	comp=Z,744nm,5.6s						
BJI				LR	LR		
	comp=N,2μm,13.6s,MS5.2						
BJI				LR	LR		
	comp=E,4μm,15.3s,MS5.2						
BJI				LR	LR		
	comp=Z,2μm,22.5s						
BJI	**Beijing**	**27.95**	**344**	P	**P**	**00 01 44.1**	**-0.5**
	comp=Z,67nm,0.9s,mb5.3						
BJI				S	**S**	**00 06 24.8**	**-3.0**
BJI				LR	LR		
	comp=Z,2μm,22.5s,MS4.6						
SNY	**Shenyang**	**28.47**	**356**	⇓P	**P**	**00 01 49.5**	**+0.2**
SNY				AP	pP	00 01 55.8	+1.3
SNY				XP	sP	00 02 00.3	+3.7
SNY				S	**S**	**00 06 29.4**	**-6.6**
SNY				AMB	AMB		
	comp=Z,60nm,1.3s,mb5.1						
SNY				AMB	AMB		
	comp=Z,835nm,6.0s						
SNY				LR	LR		
	comp=E,4μm,14.5s						
SNY				LR	LR		
	comp=Z,2μm,13.8s,MS4.9						
PSI	**Prapat**	**28.62**	**251**	P	**P**	**00 01 48.5**	**-2.1**
	comp=Z,44nm,0.8s,mb5.2,baz=62,slow=4.1,SNR=28						
PSI				PcP	PcP	00 05 01.7	+0.3
	comp=Z,4.8nm,0.7s,baz=57,slow=5.1,SNR=3.7						
PSI				LR	LR	00 12 12.9	
	comp=Z,2μm,21.8s,MS4.8,baz=258,slow=34						
PSI	**Prapat**	**28.62**	**251**	P	**P**	**00 01 48.5**	**-2.1**
PSI						00 05 01.7	
VLA	**Vladivostok**	**30.14**	**9**	*e*P	**P**	**00 02 03.6**	**-0.5**
VLA				*i* S	**S**	**00 07 03.0**	**+0.7**
VLA				pmax	pmax		
	comp=Z,90nm,1.9s,mb5.2						
VLA				MLR	MLR		
	comp=Z,1μm,12.3s,MS4.7						
HHC	**Hu-ho-hao-te**	**30.15**	**338**	*e*P	**P**	**00 02 04.9**	**+0.7**
HHC				PP	PP	00 03 03.5	-8.8
HHC				PCP	PcP	00 05 06.6	+1.4
HHC				S	**S**	**00 07 05.5**	**+3.1**
HHC				PCS	PcS	00 08 48.5	-0.2
HHC				SCS	ScS	00 12 41.3	-1.0
HHC				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,603nm,7.1s						
HHC				LR	LR		
	comp=N,2μm,14.3s,MS5.2						
HHC				LR	LR		
	comp=E,3μm,14.3s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,17.2s,MS4.9						
CN2	**Changchun**	**30.38**	**359**	⇓P	**P**	**00 02 06.3**	**+0.1**
CN2				eXP	sP	00 02 16.3	+2.8
CN2				*e*S	**S**	**00 07 05.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,600nm,8.0s						
CN2				LR	LR		
	comp=N,2μm,12.0s,MS5.2						
CN2				LR	LR		
	comp=E,2μm,12.0s,MS5.2						
CN2				LR	LR		
	comp=Z,2μm,13.0s,MS5.0						
BTO	**Baotou**	**30.53**	**336**	*e*P	**P**	**00 02 07.1**	**-0.4**
BTO				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
BTO				LR	LR		
	comp=N,770nm,13.0s,MS4.7						
BTO				LR	LR		
	comp=E,943nm,13.3s,MS4.7						
PMG	**Port Moresby**	**30.92**	**136**	*e*P	**P**	**00 02 11.1**	**+0.1**
PMG				pmax	pmax		
	comp=Z,13nm,0.7s						
PMG				MLR	MLR		
	comp=Z,1μm,19.0s						
PMG	**Port Moresby**	**30.92**	**136**	*e*P	**P**	**00 02 11.1**	**+0.1**
	comp=Z,14nm,0.7s,mb4.9						
PMG				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
FITZ	**Fitzroy Crossi**	**31.22**	**180**	*e*P	**P**	**00 02 12.7**	**-0.9**
	comp=Z,111nm,0.7s,mb5.8						
FITZ				*e*S	**S**	**00 07 14.1**	**-5.1**
MDJ	**Mudanjiang**	**31.35**	**5**	P	**P**	**00 02 15.6**	**+0.8**
MDJ				AP	pP	00 02 21.4	+1.4
MDJ				XP	sP	00 02 25.1	+3.0
MDJ				PCP	PcP	00 05 06.9	-1.5
MDJ				S	**S**	**00 07 24.8**	**+3.6**
MDJ				SCP	ScP	00 08 50.5	-0.2
MDJ				PCS	PcS	00 08 52.9	+0.2
MDJ				AMB	AMB		
	comp=Z,36nm,1.1s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,484nm,6.4s						
MDJ				LR	LR		
	comp=N,1μm,13.7s,MS5.1						
MDJ				LR	LR		
	comp=E,3μm,14.5s,MS5.1						
MDJ				LR	LR		
	comp=Z,3μm,28.2s						
MDJ	**Mudanjiang**	**31.35**	**5**	*e*P	**P**	**00 02 14.8**	**+0.1**
	comp=Z,58nm,1.2s,mb5.3						
MDJ				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
ERM	**Erimo**	**32.29**	**24**	PFAKE		00 02 40.0	+17
ERM				LR	LR		
	comp=Z,674nm,21.0s,MS4.3						
ASAJ	**Asahikawa**	**33.87**	**22**	LR	LR	00 15 55.6	
	comp=Z,2μm,18.7s,MS4.8,baz=53,slow=35						
WRA	**Warramunga Arr**	**34.09**	**166**	P	**P**	**00 02 37.3**	**-1.4**
	comp=Z,29nm,0.8s,mb5.2,baz=343,slow=9.8,SNR=90						
WRA				PcP	PcP	00 05 16.3	+0.3

GTA SCP ScP 00 09 02.8 +0.5
GTA SS SS 00 10 27.4 -16
GTA AMB AMB
comp=Z,41nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,751nm,6.1s
GTA LR LR
comp=N,2μm,14.4s,MS5.1
GTA LR LR
comp=E,2μm,14.1s,MS5.1
GTA LR LR
comp=Z,2μm,14.4s,MS5.0
LSA Lhasa 36.01 303 P **P 00 02 57.0 +1.7**
LSA AP pP 00 03 04.8 +4.3
LSA XP sP 00 03 09.4 +6.8
LSA PP PP 00 04 19.6 +2.4
LSA PCP PcP 00 05 20.8 -0.8
LSA S **S 00 08 33.0 -0.3**
LSA XS sS 00 08 51.3 +9.4
LSA AMB AMB
comp=Z,30nm,0.6s,mb5.4
LSA AMB AMB
comp=Z,600nm,6.8s
LSA LR LR
comp=N,580nm,17.4s,MS4.6
LSA LR LR
comp=E,780nm,19.9s,MS4.6
LSA LR LR
comp=Z,1μm,17.4s,MS4.7
LSA Lhasa 36.01 303 *eP* **P 00 02 56.3 +1.0**
LSA pmax pmax
comp=Z,78nm,1.0s,mb5.6
LSA MLR MLR
comp=Z,1μm,20.0s,MS4.7
LSA Lhasa 36.01 303 *eP* **P 00 02 56.3 +1.0**
comp=Z,78nm,1.0s,mb5.6
LSA LR LR
comp=Z,1μm,20.0s,MS4.7
HIA Hailar 36.20 353 *eP* **P 00 02 56.7 -0.2**
HIA pmax pmax
comp=Z,19nm,0.9s
HIA MLR MLR
comp=Z,2μm,22.0s
HIA Hailar 36.20 353 *eP* **P 00 02 56.7 -0.1**
comp=Z,18nm,0.9s,mb5.0
HIA LR LR
comp=Z,2μm,22.0s,MS4.8
YSS Yuzh-Sakhalins 36.40 20 *eP* **P 00 02 59.1 +0.5**
YSS MLR MLR
comp=Z,2μm,22.0s,MS4.9
CAL Calcutta 36.79 290⇑ *iP* **P 00 03 02.9 +0.9**
CAL *eS* **S 00 08 44.8 -0.5**
ASAR Alice Springs 37.59 168 P **P 00 03 08.3 -0.4**
comp=Z,31nm,0.8s,mb5.1,baz=328,slow=6.6,SNR=98
ASAR S **S 00 09 03.5 +6.1**
comp=Z,2.1nm,0.8s,baz=335,slow=11,SNR=5.4
SONM Songino Array 38.05 339 P **P 00 03 13.1 +0.5**
comp=Z,61nm,0.9s,mb5.3,baz=152,slow=6.9,SNR=294
SONM PcP PcP 00 05 28.5 +0.7
comp=Z,5.1nm,1.0s,baz=122,slow=2.5,SNR=4.3
SONM LR LR 00 21 00.9
comp=Z,2μm,18.2s,MS4.9,baz=151,slow=40
SONM Songino Array 38.05 339 P **P 00 03 13.1 +0.5**
SONM 00 05 28.5
CTA Charters Tower 38.78 149 *eP* **P 00 03 18.4 -0.4**
comp=Z,17nm,1.0s,mb4.7
CTA *eS* **S 00 09 07.2 -8.3**
CTA *eSS* SS 00 12 00.0 -6.5
CTA Charters Tower 38.78 149 *eP* **P 00 03 18.4 -0.4**
CTA *eS* **S 00 09 07.2 -8.3**
CTA *eSS* SS 00 12 00.0 -6.5
CTA pmax pmax
comp=Z,17nm,1.0s
CTAO Charters Tower 38.78 149 *eP* **P 00 03 18.9 +0.1**
CTAO MLR MLR
comp=Z,2μm,19.0s,MS5.0
BOK Bokaro 39.20 291 *eP* **P 00 03 23.0 +0.8**
BOK AMb AMB 00 03 27.0
comp=Z,38nm,0.8s,mb5.2
JIRN Jiri 39.63 297 *eP* **P 00 03 26.8 +0.9**
comp=Z,114nm,0.6s,mb5.8
GUN Gumba 39.95 298 *eP* **P 00 03 29.2 +0.6**
comp=Z,245nm,0.7s,mb6.0
PKI Pulchoki 40.29 297 *eP* **P 00 03 31.6 +0.3**
comp=Z,66nm,0.7s,mb5.5
KKN Kakani 40.45 297 *eP* **P 00 03 32.9 +0.3**
comp=Z,104nm,0.8s,mb5.6
DMN Daman 40.56 297 *eP* **P 00 03 33.7 +0.1**
comp=Z,133nm,0.9s,mb5.6
HNR Honiara 40.68 122 PFAKE 00 03 50.0 +15
HNR LR LR
comp=Z,1μm,21.0s,MS4.8
GKN Gorkha 41.05 297 *eP* **P 00 03 37.6 0.0**
comp=Z,112nm,0.8s,mb5.6
VIS Vishakhapatnam 41.17 282 *eP* **P 00 03 38.4 -0.2**
VIS AMb AMB 00 03 46.7
comp=Z,96nm,2.2s,mb5.0
KOLN Koldanda 41.90 297 *eP* **P 00 03 44.7 +0.1**
comp=Z,172nm,0.8s,mb5.7
TLY Talaya 42.25 339 P **P 00 03 48.6 +1.1**
comp=Z,271nm,1.0s,mb5.8,SNR=8.6
TLY Talaya 42.25 339⇓ P **P 00 03 47.6 +0.1**
SNR=15
TLY Talaya 42.25 339 *eP* **P 00 03 47.8 +0.3**
TLY *eS* **S 00 10 05.8 -1.4**
TLY pmax pmax
comp=Z,44nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.8
TLY Talaya 42.25 339 *eP* **P 00 03 48.0 +0.5**
TLY LR LR
comp=Z,311nm,19.0s,MS4.2
BLSP Bilaspur 42.46 288 *ex* x 00 05 29.4
BLSP AMb AMB 00 05 34.4
comp=Z,43nm,1.0s,mb5.0
FORT Forrest 43.90 177 *eP* **P 00 04 00.2 -0.6**
comp=Z,322nm,0.7s,mb6.2
MDRS Chennai 44.38 275 *eP* **P 00 04 04.7 +0.1**
MDRS *eP* 00 04 07.2
MDRS AMb AMB 00 04 08.4
comp=Z,118nm,1.8s,mb5.3
MDRS *eS* **S 00 10 39.7 +1.3**
JBP Jabalpur 44.52 290⇓ *iP* **P 00 04 06.7 +0.9**
JBP *ex* x 00 04 08.2
comp=Z,46nm,0.8s
JBP *eS* **S 00 10 41.1 +0.8**
WMQ Urumqi 44.62 320 P **P 00 04 08.5 +2.0**
WMQ PP PP 00 05 53.5 +2.8
WMQ S **S 00 10 43.0 +1.2**
WMQ XS sS 00 10 54.0 +3.4
WMQ SS SS 00 13 54.0 -7.8
WMQ SCS ScS 00 14 02.9 -0.8
WMQ AMB AMB
comp=Z,801nm,5.0s
WMQ LR LR
comp=N,2μm,15.0s,MS5.3
WMQ LR LR
comp=E,2μm,16.0s,MS5.3
WMQ LR LR
comp=Z,1μm,16.0s,MS4.9
PALK Pallekele 44.80 267 *eP* **P 00 04 08.5 +0.5**
comp=Z,15nm,0.7s,mb4.9
PALK LR LR
comp=Z,186nm,19.0s,MS4.0
NGP Nagpur 45.27 287 *eP* **P 00 04 11.4 -0.3**
NGP AMb AMB 00 04 13.8
comp=Z,56nm,1.4s,mb5.2
KLBR Kellerberrin 45.33 190 *eP* **P 00 04 10.7 -1.5**
comp=Z,16nm,0.5s,mb5.1
MUN Mundaring 45.98 191 *eP* **P 00 04 16.2 -1.2**
MUN *eS* **S 00 10 42.9 -19**
NWAO Narrogin (SRO) 46.72 190 *eP* **P 00 04 22.4 -0.8**
NWAO pmax pmax
comp=Z,49nm,0.8s
NWAO MLR MLR
comp=Z,602nm,21.0s
NWAO Narrogin (SRO) 46.72 190 *eP* **P 00 04 22.4 -0.8**
comp=Z,49nm,0.8s,mb5.5
NWAO LR LR
comp=Z,602nm,21.0s,MS4.5
BHPL Bhopal 46.87 289 *eP* **P 00 04 23.8 -0.6**
BHPL AMb AMB 00 04 26.1
comp=Z,20nm,0.6s,mb5.2
AKL Akola 47.16 286 *eP* **P 00 04 25.6 -1.0**
AKL *ex* x 00 04 32.2
comp=Z,75nm,1.8s

AKL *iS* **S 00 11 20.0 +1.7**
STKA Stephens Creek 47.40 162 P **P 00 04 28.3 -0.2**
comp=Z,104nm,0.8s,mb5.8,baz=337,slow=7.6,SNR=135
STKA Stephens Creek 47.40 162 *eP* **P 00 04 28.4 -0.1**
PET Petropavlovsk 47.40 26⇓ *eP* **P 00 04 29.6 +1.1**
PET pmax pmax
comp=Z,125nm,1.4s,mb5.7
PET Petropavlovsk 47.40 26 *eP* **P 00 04 29.5 +1.0**
PET LR LR
comp=Z,2μm,20.0s,MS5.1
LATR Latur 47.60 283 *ex* x 00 04 25.2
NDI New Delhi 47.60 297 *eP* **P 00 04 29.0 -1.1**
NDI *eS* **S 00 11 26.0 +1.3**
TRD Trivandrum 48.21 270 *eP* **P 00 04 34.0 -0.8**
TRD AMb AMB 00 04 38.1
comp=Z,74nm,1.6s,mb5.5
YAK Yakutsk 48.71 2 *eP* **P 00 04 38.5 -0.1**
YAK MLR MLR
comp=Z,789nm,19.0s,MS4.7
MK31 Makanchi Array 49.40 321 *eP* **P 00 04 44.4 +0.5**
MKAR Makanchi Array 49.40 321 P **P 00 04 44.3 +0.4**
comp=Z,76nm,0.8s,mb5.8,baz=113,slow=8.4,SNR=619
MKAR LR LR 00 28 12.1
comp=Z,778nm,19.5s,MS4.7,baz=107,slow=39
AJM Ajmer 49.62 293 *eP* **P 00 04 45.9 +0.3**
AJM AMb AMB 00 04 47.5
comp=Z,91nm,0.7s,mb6.0
MNGI Mangalore 49.65 276 *eP* **P 00 04 46.5 +0.7**
MNGI AMb AMB 00 04 48.8
comp=Z,118nm,1.1s,mb5.8
MA2 Magadan 49.72 16 *dP* **P 00 04 46.4 0.0**
MA2 pmax pmax
comp=Z,29nm,0.8s,mb5.4
MA2 Magadan 49.72 16 *eP* **P 00 04 46.9 +0.5**
comp=Z,61nm,1.2s,mb5.5
MA2 LR LR
comp=Z,2μm,22.0s,MS5.0
KAD Karad 49.90 281 *eP* **P 00 04 47.9 +0.2**
KAD AMb AMB 00 04 53.4
comp=Z,58nm,1.0s,mb5.5
ARMA Armidale 50.06 151 *eP* **P 00 04 50.4 +1.5**
POO Poona 50.16 283 *eP* **P 00 04 50.5 +0.8**
POO AMb AMB 00 04 52.8
comp=Z,41nm,1.0s,mb5.4
KSH Kashi 50.95 310 P **P 00 04 58.3 +2.7**
KSH AP pP 00 05 05.6 +4.6
KSH XP sP 00 05 08.6 +5.5
KSH PCP PcP 00 06 14.6 +2.8
KSH PP PP 00 06 55.4 +3.4
KSH PPP 00 07 54.4
KSH SCP ScP 00 10 07.5 +0.2
KSH PCS PcS 00 10 10.0 +0.7
KSH S **S 00 12 12.3 +0.7**
KSH XS sS 00 12 24.3 +3.8
KSH SCS ScS 00 14 43.8 -1.8
KSH SS SS 00 15 45.8 -0.7
KSH AMB AMB
comp=Z,46nm,0.6s,mb5.6
KSH AMB AMB
comp=Z,2μm,6.1s
KSH LR LR
comp=N,5μm,14.6s,MS5.8
KSH LR LR
comp=E,4μm,12.6s,MS5.8
KSH LR LR
comp=Z,3μm,14.3s,MS5.5
ULHL Ulahol 51.58 314 P **P 00 05 02.0 +1.6**
SNR=14
ZAL Zalesovo 51.79 330 P **P 00 05 00.7 -1.3**
comp=Z,12nm,0.8s,mb4.9
ZAL LR LR 00 29 11.8
comp=Z,784nm,18.4s,MS4.8,baz=341,slow=39
KZA Kyzart 52.22 313 P **P 00 05 07.0 +1.8**
SNR=86
TKM2 Tokmak 2 52.24 314 P **P 00 05 06.7 +1.4**
SNR=29
KBK Karagaybulak 52.62 314 P **P 00 05 09.8 +1.7**
SNR=49
UCH Uchtor 52.79 313 P **P 00 05 11.2 +1.8**
SNR=110
CHMS Chumysh 52.86 314 P **P 00 05 10.8 +0.9**
SNR=24
AAK Ala-Archa 52.93 314 P **P 00 05 11.7 +1.3**
SNR=15
AAK Ala-Archa 52.93 314 P **P 00 05 10.7 +0.3**
comp=Z,110nm,0.6s,mb6.0,SNR=14
AAK Ala-Archa 52.93 314⇓ *P* **P 00 05 10.8 +0.4**
SNR=9.0
AAK Ala-Archa 52.93 314 *eP* **P 00 05 10.2 -0.1**
AAK LR LR
comp=Z,345nm,19.0s,MS4.4
SEY Seymchan 52.98 15⇓ *eP* **P 00 05 11.7 +0.9**
DZM Mont Dzumac 53.10 131 *eP* **P 00 05 13.2 +1.6**
USP Ospenovka 53.12 314 P **P 00 05 12.7 +0.9**
SNR=49
CNB Canberra Magne 53.24 156 *eP* **P 00 05 13.9 +1.2**
comp=Z,48nm,1.0s,mb5.4
AML Almayashu 53.35 313 P **P 00 05 15.4 +1.9**
SNR=42
KURK Kurchatov 53.36 324 P **P 00 05 13.0 -0.6**
comp=Z,1μm,0.7s
KURK Kurchatov 53.36 324 P **P 00 05 14.1 +0.5**
SNR=71
KURK Kurchatov 53.36 324 *dP* **P 00 05 13.8 +0.2**
KURK Kurchatov 53.36 324 *eP* **P 00 05 13.7 +0.1**
KURK LR LR
comp=Z,201nm,20.0s,MS4.2
EKS2 Erkin-Say 53.44 314 P **P 00 05 15.2 +1.0**
SNR=37
BHJ Bhuj 54.01 289 *eP* **P 00 05 16.7 -1.7**
MIDW Midway 54.64 65 P **P 00 05 26.9 +3.9**
SMY Shemya 54.82 34 *eP* **P 00 05 31.9 +7.7**
KK31 Karatay Array 55.87 313 *iP* **P 00 05 31.7 -0.1**
KK31 pmax pmax
comp=Z,29nm,0.6s,mb5.5
DGAR Diego Garcia 56.91 252 *eP* **P 00 05 42.8 +3.6**
DGAR MLR MLR
comp=Z,393nm,21.0s,MS4.5
TIXI Tiksi 58.33 1 *dP* **P 00 05 48.1 -1.1**
TIXI pmax pmax
comp=Z,70nm,1.4s,mb5.5
TIXI Tiksi 58.33 1 *eP* **P 00 05 52.3 +3.2**
TIXI LR LR
comp=Z,1μm,20.0s,MS5.0
BRVK Borovoye 59.03 324 P **P 00 05 54.2 +0.1**
comp=Z,462nm,0.9s,mb6.5,SNR=59
BRVK Borovoye 59.03 324⇓ *P* **P 00 05 54.3 +0.2**
SNR=38
BRVK Borovoye 59.03 324 *eP* **P 00 05 54.1 0.0**
BRVK pmax pmax
comp=Z,68nm,0.9s,mb5.7
BRVK MLR MLR
comp=Z,182nm,20.0s,MS4.2
BRVK Borovoye 59.03 324 *eP* **P 00 05 54.1 0.0**
comp=Z,68nm,0.9s,mb5.7
BRVK LR LR
comp=Z,182nm,20.0s,MS4.2
CHKZ Chkalovo 59.07 325 *iP* **P 00 05 53.9 -0.4**
CHKZ pmax pmax
comp=Z,74nm,1.6s,mb5.5
TAU Tasmania Unive 59.31 162 P **P 00 05 57.3 +1.3**
comp=Z,350nm,1.0s,mb6.3,SNR=5.8
TAU Tasmania Unive 59.31 162 *eP* **P 00 05 57.3 +1.3**
TAU LR LR
comp=Z,262nm,19.0s,MS4.4
BILL Bilibino 60.59 16 *dP* **P 00 06 04.7 -0.1**
BILL pmax pmax
comp=Z,52nm,1.1s,mb5.6
BILL Bilibino 60.59 16 *eP* **P 00 06 05.2 +0.4**
comp=Z,70nm,1.3s,mb5.6
BILL LR LR
comp=Z,934nm,22.0s,MS4.9
WBK Wadi Bani Khal 63.88 289⇑ *P* **P 00 06 27.4 +0.5**
JMDO Jabal Madar 64.69 289⇑ *P* **P 00 06 32.3 +0.1**
HOQ Hoqain 65.33 290⇓ *P* **P 00 06 36.8 +0.5**
SVE Sverdlovsk 65.46 327⇓ *eP* **P 00 06 37.0 -0.1**
SVE pmax pmax
comp=Z,170nm,2.0s,mb5.7
SVE MLR MLR
comp=E,1μm,16.0s
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.2
BSY Bisya 65.50 289⇑ *P* **P 00 06 37.8 +0.4**
AKTO Aktyubinsk 65.76 319 *iP* **P 00 06 38.4 -0.7**
ARQ Araqi 66.07 290⇑ *P* **P 00 06 41.7 +0.6**
SNR=6.1

BANOM **Banah 66.08 293**⇓ *P* **P 00 06 42.4 +1.2**
UNV Unalaska Valle 66.17 37 *eP* **P 00 06 34.8 -6.9**
UNV LR LR
comp=Z,6μm,20.0s,MS5.8
HATD Hatta, Dubai 66.31 291⇓ *P* **P 00 06 43.6 +1.0**
SNR=7.0
ASHO Ashiyiah 66.39 291⇑ *P* **P 00 06 44.0 +0.9**
SNR=8.9
ARU Arti 66.49 326 P **P 00 06 43.5 -0.3**
comp=Z,237nm,0.7s,mb6.3,SNR=11
ARU Arti 66.49 326 *dP* **P 00 06 43.0 -0.8**
ARU pmax pmax
comp=Z,24nm,0.7s,mb5.3
ARU MLR MLR
comp=Z,800nm,22.0s,MS4.9
ARU Arti 66.49 326 *eP* **P 00 06 40.8 -3.0**
comp=Z,23nm,0.6s,mb5.4
ARU LR LR
comp=Z,138nm,20.0s,MS4.2
AFI Afiamalu 67.42 111 LR LR 00 35 10.8
comp=Z,751nm,18.9s,MS4.9,baz=58,slow=35
TNA Tin City 68.18 24 *eP* **P 00 06 55.9 +1.3**
comp=Z,43nm,1.5s,mb5.3
TNA LR LR
comp=Z,688nm,20.0s,MS4.9
RBK Rabkut 68.87 284⇑ *P* **P 00 07 00.0 +1.2**
SNR=5.2
WHFO Wadi Hawf 69.22 284 P **P 00 07 01.6 +0.7**
SNR=9.0
ABTO Aybut 69.75 284⇓ *P* **P 00 07 05.1 +0.9**
SNR=5.2
SNZO South Karori 70.60 143 P **P 00 07 12.4 +3.0**
SNZO LR LR
comp=Z,618nm,16.0s,MS5.0
MSEY Mahe Island 72.12 261 PFAKE 00 07 30.0 +11
MSEY LR LR
comp=Z,145nm,23.8s,MS4.2
IMA2 Indian Mountai 74.04 25 *eP* **P 00 07 30.8 +0.8**
DGRG David-gareji 74.23 310 P **P 00 07 30.8 -0.4**
KDAK Kodiak Island 74.33 33 P **P 00 07 31.4 -0.3**
comp=Z,36nm,0.9s,mb5.3,baz=135,slow=9.3,SNR=8.9
MTA Mtatsminda 74.65 310 P **P 00 07 33.9 +0.3**
DUS Dusheti 74.69 310 P **P 00 07 35.8 +2.0**
KZR Kazreti 74.96 310 P **P 00 07 36.5 +1.2**
POHA Pohakuloa 75.03 73 P **P 00 07 36.5 +0.7**
ZEI Tsey 75.23 311 *eP* **P 00 07 37.8 +0.9**
ZEI pmax pmax
comp=Z,58nm,1.0s,mb5.5
ONI Oni 75.58 311 P **P 00 07 37.8 -1.1**
BHD Baghdad 75.78 301 *ex* x 00 07 38.0
BHD *ex* x 00 17 15.0
BHD *ex* x 00 17 52.0
DIGO Kars 75.83 309 *iP* **P 00 07 40.7 +0.3**
HAKT HAKKARI 75.86 306 *iP* **P 00 07 41.4 +0.9**
PMR Palmer 76.01 29 PFAKE 00 07 50.0 +8.6
PMR LR LR
comp=Z,1μm,20.0s,MS5.1
KIV Kislovodsk 76.01 312 P **P 00 07 41.5 +0.1**
comp=Z,352nm,0.6s,mb6.5,SNR=13
KIV Kislovodsk 76.01 312⇓ *P* **P 00 07 42.9 +1.5**
SNR=12
KIV Kislovodsk 76.01 312 *dP* **P 00 07 41.5 +0.1**
KIV pmax pmax
comp=Z,28nm,0.5s,mb5.5
KIV MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIV Kislovodsk 76.01 312 *eP* **P 00 07 42.0 +0.6**
comp=Z,38nm,0.7s,mb5.4
KIV LR LR
comp=Z,87nm,22.0s,MS4.0
MCK McKinley 76.03 27 *eP* **P 00 07 41.7 +0.2**
MCK pmax pmax
comp=Z,43nm,1.1s,mb5.3
MCK McKinley 76.03 27 *eP* **P 00 07 41.7 +0.2**
comp=Z,43nm,1.1s,mb5.3
COLA College 76.46 26⇓ *eP* **P 00 07 44.4 +0.4**
COLA College 76.46 26 *eP* **P 00 07 43.6 -0.3**
comp=Z,17nm,1.0s,mb4.9
MSL Mosul 76.49 304 *ex* x 00 07 44.0
ARTV Artvin 76.84 310 *iP* **P 00 07 46.9 +0.8**
ERZM Erzurum 77.41 308 *iP* **P 00 07 50.4 +1.1**
BNGL BINGOL 77.70 307 *iP* **P 00 07 52.4 +1.5**
MARD Mardin 78.20 306 *iP* **P 00 07 54.5 +0.8**
MACK Trabzon 78.49 310 *iP* **P 00 07 55.3 0.0**
APA Apatity 78.74 337⇑ *iP* **P 00 07 54.8 -1.9**
APA pmax pmax
comp=Z,40nm,1.2s,mb5.2
OBN Obninsk 78.81 324 P **P 00 07 56.5 -0.5**
comp=Z,506nm,0.7s,SNR=6.0
OBN Obninsk 78.81 324 *dP* **P 00 07 56.3 -0.7**
OBN *e* 00 10 52.5
OBN *eSS* SS 00 22 55.0 -3.8
OBN pmax pmax
comp=Z,45nm,0.6s,mb5.6
OBN MLR MLR
comp=Z,500nm,15.0s,MS5.0
OBN Obninsk 78.81 324 *eP* **P 00 07 56.4 -0.6**
comp=Z,66nm,0.8s,mb5.6
OBN LR LR
comp=Z,170nm,20.0s,MS4.4
KELT Kelkit 78.99 309 *iP* **P 00 07 58.8 +0.7**
EGAK Eagle 79.32 26 *eP* **P 00 07 60.0 +0.1**
comp=Z,20nm,1.0s,mb5.0
EGAK *ePP* PP 00 10 57.8 -1.9
EGAK LR LR
comp=Z,764nm,19.0s,MS5.1
ELZG Elazig 79.44 307 *iP* **P 00 08 02.1 +1.6**
CASY Casey 80.19 186 *eP* **P 00 08 03.5 -1.1**
DAWY Dawson 80.19 26 *eP* **P 00 08 05.6 +1.0**
JOF Joensuu 80.32 332 *ep* **P 00 08 03.8 -1.5**
comp=Z,16nm,0.6s,mb5.1
RAR Rarotonga 80.64 114 PFAKE 00 08 20.0 +13
RAR LR LR
comp=Z,2.0nm,21.0s
GZT Gaziantep 80.73 306 *iP* **P 00 08 08.4 +1.0**
ARCES **ARCESS Array B 81.22 340** P **P 00 08 09.3 -0.8**
comp=Z,29nm,0.9s,mb5.2,baz=79,slow=7.1,SNR=30
ARCES LR LR 00 49 29.7
comp=Z,774nm,19.4s,MS5.1,baz=69,slow=40
ARCES **ARCESS Array B 81.22 340** P **P 00 08 09.3 -0.8**
ARCES LR LR 00 49 29.7
ARE0 ARCESS Array S 81.22 340 *eP* **P 00 08 12.5 +2.4**
KBS Kingsbay 81.47 350 PFAKE 00 08 20.0 +8.6
KBS LR LR
comp=Z,1μm,20.0s,MS5.3
INK Inuvik 81.61 22 P **P 00 08 12.0 -0.2**
comp=Z,34nm,0.8s,mb5.3,baz=285,slow=5.0,SNR=59
INK Inuvik 81.61 22 *eP* **P 00 08 12.1 -0.1**
comp=Z,1μm,0.9s
COBT Iskenderun 81.90 306 *iP* **P 00 08 14.6 +0.9**
CTKT Corum 82.28 310 *iP* **P 00 08 15.9 +0.3**
AVNT Avonos 82.58 308 *iP* **P 00 08 17.0 -0.2**
KAF Kangasniemi 82.76 332 *ep* **P 00 08 16.2 -2.0**
comp=Z,17nm,0.7s,mb5.2,baz=74,slow=4.9
BHL Bhannes 82.88 303 *eP* **P 00 08 19.5 +0.7**
FIA1 FINESS Array S 83.04 332 *eP* **P 00 08 19.2 -0.4**
FIA1 *ePP* PP 00 11 29.6 -0.9
FINES FINESS Array B 83.04 332 P **P 00 08 18.9 -0.8**
comp=Z,9.8nm,0.7s,mb5.0,baz=67,slow=5.8,SNR=46
FINES LR LR 00 46 46.7
comp=Z,442nm,18.3s,MS4.9,baz=255,slow=37
FINES FINESS Array B 83.04 332 *iP* **P 00 08 19.2 -0.4**
FINES pmax pmax
comp=Z,10.0nm,0.7s
BALT Daday 83.14 311 *iP* **P 00 08 20.4 +0.3**
BRTR Keskin Array B 83.31 309 P **P 00 08 20.7 -0.3**
comp=Z,5.8nm,0.7s,mb4.7,baz=106,slow=3.9,SNR=32
ANTO Ankara 83.92 309⇑ *P* **P 00 08 24.6 +0.4**
SNR=6.5
ANTO Ankara 83.92 309 *eP* **P 00 08 24.6 +0.4**
ANTO *e* 00 11 37.9
ANTO pmax pmax
comp=Z,85nm,1.7s,mb5.6
ANTO MLR MLR
comp=Z,252nm,21.0s,MS4.6
ANTO Ankara 83.92 309 *eP* **P 00 08 24.6 +0.5**
comp=Z,85nm,1.7s,mb5.6
ANTO *ePP* PP 00 11 37.9 +0.2
ANTO LR LR
comp=Z,252nm,21.0s,MS4.6
ANTO Ankara 83.92 309⇓ *iP* **P 00 08 24.2 0.0**
AKASG **Malin Array Be 83.97 321** P **P 00 08 23.4 -1.1**
comp=Z,15nm,0.8s,mb5.2,baz=64,slow=4.5,SNR=59
AKBB Malin Array Si 83.97 321 *eP* **P 00 08 23.7 -0.7**
KIEV Kiev 83.99 321 *eP* **P 00 08 23.6 -0.9**

KIEV pmax pmax
comp=Z,33nm,1.0s,mb5.4
KIEV MLR MLR
comp=Z,506nm,19.0s,MS4.9
KIEV Kiev 83.99 321 *e*P **P 00 08 23.6 -0.9**
comp=Z,33nm,1.0s,mb5.4
KIEV LR LR
comp=Z,506nm,19.0s,MS4.9
ALE Alert 84.24 1 P **P 00 08 26.0 +0.2**
comp=Z,83nm,1.3s,mb5.7,SNR=8.1
IDID Didziasalis 84.29 325 *e*P **P 00 08 25.8 -0.3**
IDID AMb AMB 00 08 26.8
comp=Z,1μm,0.8s
EIL Elat 84.31 299 *e*P **P 00 08 26.8 +0.6**
comp=Z,3μm,1.9s
SGKT Sivrigoynuk 84.32 310 *i* P **P 00 08 26.0 -0.2**
IZAR Zarasai 84.45 326 *e*P **P 00 08 26.6 -0.3**
IZAR AMb AMB 00 08 27.5
comp=Z,1μm,0.7s
IIGN Ignalina 84.57 326 *e*P **P 00 08 27.1 -0.3**
IIGN AMb AMB 00 08 28.1
comp=Z,726nm,0.8s
KIS Kishinev 85.12 317 *e*P **P 00 08 27.0 -3.2**
KIS *e*S S 00 18 50.0 -9.2
ESKT Eskisehir 85.46 309 *i* P **P 00 08 31.3 -0.6**
DLBC Dease Lake 85.98 31 *e*P **P 00 08 33.7 -0.9**
TIRR Tirgusor 86.03 315 *e*P **P 00 08 34.0 -0.7**
TIRR *e* 00 11 57.2
TIRR pmax pmax
comp=Z,180nm,1.9s,mb6.0
TIRR Tirgusor 86.03 315 *e*P **P 00 08 34.0 -0.7**
comp=Z,180nm,1.9s,mb6.0
TIRR *e*PP PP 00 11 57.2 +2.4
TIRR Tirgusor 86.03 315 ⇓*i*P **P 00 08 34.5 -0.2**
TKTP Tekketepe 86.21 308 *i* P **P 00 08 35.0 -0.7**
SUW Suwalki 86.64 325 *e*P **P 00 08 37.4 -0.4**
VRI Vrincioaia 86.81 316 ⇓*i*P **P 00 08 39.0 +0.4**
PLOR Plostina 86.87 316 ⇓*i*P **P 00 08 39.1 +0.2**
BURAR Bucovina Array 87.32 318 ⇓*i*P **P 00 08 40.9 -0.2**
MLR Muntele Rosu 87.44 316 ⇓*i*P **P 00 08 41.7 0.0**
DAG Danmarks Havn 87.70 352 *i* P **P 00 08 40.0 -2.9**
comp=Z,10nm,1.1s,mb5.0
KWP Kalwaria 88.30 321 *e*P **P 00 08 45.8 +0.1**
RES Resolute Bay 88.58 10 *e*P **P 00 08 46.9 -0.1**
comp=Z,879nm,1.0s
PPT Papeete 88.88 108 *e*S S 00 19 35.7 +0.3
PPT
comp=Z,352nm,26.0s
PPT *e*LQ 00 33 14.2
comp=Z,2μm,31.8s
PPT *e*LR LR 00 36 53.6
comp=Z,944nm,31.5s
PPT Papeete 88.88 108 LR LR 00 43 25.6
comp=Z,651nm,18.9s,MS5.1,baz=14,slow=32
KMBO Kilima Mbogo 88.92 269 P **P 00 08 49.1 +0.4**
comp=Z,5.4nm,1.0s,mb4.8,baz=54,slow=8.1,SNR=13
KMBO LR LR 00 49 07.8
comp=Z,553nm,18.7s,MS5.0,baz=77,slow=36
KMBO Kilima Mbogo 88.92 269 *e*P **P 00 08 50.3 +1.6**
KMBO pmax pmax
comp=Z,27nm,1.5s
KMBO MLR MLR
comp=Z,564nm,19.0s
KMBO Kilima Mbogo 88.92 269 *e*P **P 00 08 50.3 +1.6**
comp=Z,27nm,1.5s,mb5.3
KMBO LR LR
comp=Z,564nm,19.0s,MS5.0
HFS Hagfors 89.18 332 P **P 00 08 48.6 -1.3**
comp=Z,8.8nm,0.6s,mb5.3,baz=90,slow=3.7,SNR=26
DRGR 89.20 318 ⇑*i*P **P 00 08 50.2 +0.2**
NIE Niedzica 89.84 321 *e*P **P 00 08 53.5 +0.5**
NB2 NORSAR Subarra 89.87 334 P **P 00 08 51.4 -1.7**
comp=Z,6.4nm,0.8s,mb5.0,baz=62,slow=4.6
NOA NORSAR Array B 89.87 334 P **P 00 08 51.1 -2.0**
comp=Z,5.2nm,0.7s,mb5.0,baz=62,slow=4.7,SNR=21
NOA LR LR 00 52 11.9
comp=Z,1μm,19.7s,MS5.3,baz=70,slow=38
OJC Ojcow 89.87 322 *e*P **P 00 08 52.6 -0.5**
VTS Vitosha 90.19 314 ⇓*i*P **P 00 08 54.7 +0.1**
BZS Buzias 90.30 317 ⇓*i*P **P 00 08 54.5 -0.6**
TBI Tubuai 90.40 114 *e*LR LR 00 37 36.4
comp=Z,354nm,26.8s
BSD Bornholm Skovb 90.73 328 *i* P **P 00 08 56.0 -1.1**
comp=Z,31nm,1.1s,mb5.6
OKC Ostrava-Krasne 91.00 322 *e*P **P 00 08 57.8 -0.6**
VAY Valandovo 91.04 313 *e*P **P 00 08 57.1 -1.4**
VAY Valandovo 91.04 313 *e*P **P 00 08 57.1 -1.4**
YKW3 Yellowknife Ar 91.10 24 *e*P **P 00 08 58.3 -0.6**
YKA Yellowknife Ar 91.14 24 P **P 00 08 59.1 +0.1**
comp=Z,3.0nm,0.7s,mb4.7,baz=299,slow=4.6,SNR=40
YKA PP PP 00 12 35.2 -0.5
comp=Z,0.1nm,0.5s,baz=230,slow=43,SNR=3.3
YKA PKiKP PKiKP 00 13 51.1 -0.7
comp=Z,0.5nm,0.8s,baz=313,slow=1.8,SNR=5.9
YKA PKKPbc PKKPbc 00 26 19.9 -1.8
comp=Z,0.7nm,0.7s,baz=120,slow=2.4,SNR=15
YKA Yellowknife Ar 91.14 24 P **P 00 08 59.1 +0.1**
YKA PP PP 00 12 35.2 -0.5
KONO Kongsberg 91.24 333 PFAKE 00 09 10.0 +11
KONO LR LR
comp=Z,1μm,20.0s,MS5.4
MORC Moravsky Berou 91.39 322 ⇑*i*P **P 00 09 00.1 -0.1**
GRUS Gruza 91.49 316 *e*P **P 00 09 01.0 +0.4**
SKO Skopje 91.63 314 *e*P **P 00 09 01.6 +0.3**
SKO Skopje 91.63 314 *e*P **P 00 09 01.6 +0.3**
KSP Ksiaz 91.71 323 *e*P **P 00 09 01.6 -0.1**
KSP Ksiaz 91.71 323 *e*P **P 00 09 01.4 -0.3**
RGN Rugen 91.80 327 *e*P **P 00 09 00.9 -1.2**
comp=Z,93nm,1.3s,mb6.0
DPC Dobruska-Polom 91.89 323 *e*P **P 00 09 02.4 -0.1**
DPC AMS AMS 01 01 30.0
comp=Z,600nm,17.5s
DIVS Divcibare 91.90 316 ⇓*i*P **P 00 09 01.6 -0.9**
KRUS Krusevo 91.97 313 *e*P **P 00 09 02.0 -0.9**
KRUS Krusevo 91.97 313 *e*P **P 00 09 02.0 -0.9**
UPC Upice 92.01 323 *e*P **P 00 09 04.8 +1.8**
VRAC Vranov 92.14 322 ⇑*i*P **P 00 09 03.7 0.0**
MAW Mawson 92.42 200 *e*P **P 00 09 03.0 -1.9**
comp=Z,14nm,1.3s,mb5.1
MAW Mawson 92.42 200 P **P 00 09 02.7 -2.2**
comp=Z,11nm,0.8s,mb5.2,baz=53,slow=6.3,SNR=15
MAW LR LR 00 47 48.3
comp=Z,316nm,18.1s,MS4.8,baz=59,slow=34
MAW Mawson 92.42 200 *e*P **P 00 09 03.0 -1.9**
MAW pmax pmax
comp=Z,14nm,1.3s
RUE Ruedersdorf 92.45 325 *e*P **P 00 09 05.0 -0.1**
comp=Z,29nm,0.9s,mb5.6
TREC Trest 92.81 322 *e*P **P 00 09 06.5 -0.2**
PVCC Panska Ves 92.84 323 *e*P **P 00 09 06.8 -0.1**
PVCC AMS AMS 00 54 30.0
comp=Z,700nm,17.8s
VNDA Vanda 92.99 173 P **P 00 09 06.5 -1.1**
comp=Z,7.6nm,1.0s,mb5.1,baz=329,slow=5.7,SNR=8.9
VNDA LR LR 00 51 45.2
comp=Z,464nm,18.3s,MS5.0,baz=337,slow=36
BRG Berggiesshubel 93.05 324 *e*P **P 00 09 07.4 -0.5**
comp=Z,12nm,1.1s,mb5.2
BRG Berggiesshubel 93.05 324 *e*P **P 00 09 07.8 -0.1**
comp=Z,5.6nm,0.9s,mb5.0
BRG Berggiesshubel 93.05 324 *e*P **P 00 09 07.8 -0.1**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
PRU Pruhonice 93.08 323 *e*P **P 00 09 07.7 -0.3**
PRU AMS AMS 00 59 20.0
comp=Z,700nm,16.0s
FBE Freiberg 93.37 324 *e*P **P 00 09 08.6 -0.7**
comp=Z,21nm,1.1s,mb5.5
CLL Collm 93.40 325 *e*P **P 00 09 08.5 -1.0**
comp=Z,20nm,1.3s,mb5.4
CLL Collm 93.40 325 ⇓*i*P **P 00 09 08.6 -0.9**
CLL *i* 00 09 26.5
CLL pmax pmax
comp=Z,22nm,1.4s,mb5.4
CLL MLR MLR
comp=Z,800nm,20.6s,MS5.2
CLL Collm 93.40 325 ⇓*i*P **P 00 09 08.6 -0.9**
comp=Z,22nm,1.4s,mb5.4
CLL *i* 00 09 26.5
CLL LR LR
comp=Z,800nm,20.6s,MS5.2
CLL Collm 93.40 325 ⇓*i*P **P 00 09 08.6 -0.9**
comp=Z,22nm,1.4s,mb5.4
CLL *i* x x 00 09 26.5
CLL LmV 00 56 00.0
comp=Z,800nm,20.6s

BSEG Bad Segeberg 93.65 328 *e*P **P 00 09 10.4 -0.2**
comp=Z,27nm,1.4s,mb5.5
BSEG Bad Segeberg 93.65 328 *e*P **P 00 09 10.4 -0.2**
SBA Scott Base 93.89 172 *e*P **P 00 09 12.8 +1.1**
SBA pmax pmax
comp=Z,12nm,0.9s,mb5.3
SBA Scott Base 93.89 172 *e*P **P 00 09 12.8 +1.1**
comp=Z,12nm,0.9s,mb5.3
KHC Kasperske Hory 94.01 322 *e*P **P 00 09 12.1 -0.2**
KHC AMS AMS 00 57 30.0
comp=Z,600nm,9.9s
GOLS Golise 94.05 319 *e*P **P 00 09 12.3 -0.2**
GEC2 GERESS Array S 94.06 322 *e*P **P 00 09 12.4 -0.1**
comp=Z,41nm,2.4s,mb5.4
GEC2 GERESS Array S 94.06 322 *e*P **P 00 09 12.4 -0.1**
GEC2 pmax pmax
comp=Z,41nm,2.4s,mb5.4
GEC2 GERESS Array S 94.06 322 *e*P **P 00 09 12.4 -0.1**
comp=Z,41nm,2.4s,mb5.4
GERES GERESS Array B 94.06 322 P **P 00 09 11.7 -0.8**
comp=Z,1.4nm,0.8s,mb4.4,baz=72,slow=4.3,SNR=12
GERES LR LR 00 58 56.3
comp=Z,504nm,19.5s,MS5.0,baz=254,slow=40
GERES GERESS Array B 94.06 322 P **P 00 09 11.7 -0.8**
GERES LR LR 00 58 56.3
TANN Tannenbergstha 94.10 324 *e*P **P 00 09 12.8 +0.1**
comp=Z,10.0nm,1.5s,mb5.0
MOA Molln 94.14 321 ⇑*i*P **P 00 09 11.9 -1.0**
comp=Z,9.7nm,1.2s,mb5.1
WERD Werda 94.18 324 *e*P **P 00 09 12.6 -0.4**
comp=Z,16nm,1.7s,mb5.2
NKC Novy Kostel 94.19 324 *e*P **P 00 09 12.5 -0.6**
GUNZ Gunzen 94.20 324 *e*P **P 00 09 12.6 -0.5**
comp=Z,13nm,1.2s,mb5.2
WERN Wernitzgruen 94.21 324 *e*P **P 00 09 12.0 -1.2**
comp=Z,14nm,1.2s,mb5.3
WET Wettzell 94.42 323 *e*P **P 00 09 13.7 -0.5**
comp=Z,18nm,1.7s,mb5.2
WET Wettzell 94.42 323 *e*P **P 00 09 13.7 -0.5**
WET pmax pmax
comp=Z,18nm,1.7s,mb5.2
WET Wettzell 94.42 323 *e*P **P 00 09 13.7 -0.5**
comp=Z,18nm,1.7s,mb5.2
MOX Moxa 94.48 324 *e*P **P 00 09 14.0 -0.4**
comp=Z,12nm,1.3s,mb5.2
MOX Moxa 94.48 324 *e*P **P 00 09 14.3 -0.1**
comp=Z,30nm,2.0s,mb5.4
MOX
comp=Z,500nm,19.0s
MOX Moxa 94.48 324 *e*P **P 00 09 14.3 -0.1**
MOX pmax pmax
comp=Z,30nm,2.0s,mb5.4
MOX MLR MLR
comp=Z,500nm,19.0s,MS5.0
MANZ Manzenberg 94.50 324 *e*P **P 00 09 13.5 -1.0**
comp=Z,44nm,2.1s,mb5.5
ROTZ Rotzenmuhle 94.54 323 *e*P **P 00 09 14.7 0.0**
comp=Z,16nm,1.6s,mb5.2
CLZ Clausthal 94.62 326 *e*P **P 00 09 14.7 -0.4**
comp=Z,31nm,1.4s,mb5.5
CLZ Clausthal 94.62 326 *e*P **P 00 09 14.7 -0.4**
CLZ pmax pmax
comp=Z,31nm,1.4s,mb5.5
CLZ Clausthal 94.62 326 *e*P **P 00 09 14.7 -0.4**
comp=Z,31nm,1.4s,mb5.5
LJU Ljubljana 94.74 319 *e*P **P 00 09 15.3 -0.3**
GTTG Gvttingen 94.98 326 *e*P **P 00 09 16.5 -0.2**
comp=Z,110nm,2.3s,mb5.9
COR Corvallis 95.00 42 PFAKE 00 09 30.0 +13
COR LR LR
comp=Z,2μm,19.0s,MS5.6
GRA1 Grafenberg Arr 95.14 324 *e*P **P 00 09 16.4 -1.1**
comp=Z,20nm,1.5s,mb5.3
GRA1 LR LR
comp=Z,500nm,18.4s,MS5.0
GRF Grafenberg Arr 95.14 324 *e*P **P 00 09 16.4 -1.1**
comp=Z,20nm,1.5s,mb5.3
GRF *e*L 00 56 19.2
comp=Z,549nm,18.4s
GRF Grafenberg Arr 95.14 324 *e*P **P 00 09 16.4 -1.1**
GRF pmax pmax
comp=Z,20nm,1.5s,mb5.3
GRF MLR MLR
comp=Z,500nm,18.4s,MS5.0
GRF Grafenberg Arr 95.14 324 *e*P **P 00 09 16.4 -1.1**
GRF pmax pmax
comp=Z,20nm,1.5s,mb5.3
GRF MLR MLR
comp=Z,500nm,18.4s,MS5.0
GRF Grafenberg Arr 95.14 324 *e*P **P 00 09 16.4 -1.1**
comp=Z,20nm,1.5s,mb5.3
GRF LR LR
comp=Z,500nm,18.4s,MS5.0
GRFO Grafenberg 95.14 324 PFAKE 00 09 30.0 +13
GRFO LR LR
comp=Z,594nm,20.0s,MS5.1
UBBA Unterbreizbach 95.31 325 *e*P **P 00 09 17.5 -0.7**
comp=Z,71nm,2.2s,mb5.7
FUR Furstenfeldbru 95.81 322 *e*P **P 00 09 20.7 +0.2**
comp=Z,30nm,1.3s,mb5.6
FUR Furstenfeldbru 95.81 322 *e*P **P 00 09 20.7 +0.2**
FUR pmax pmax
comp=Z,30nm,1.3s,mb5.6
FUR Furstenfeldbru 95.81 322 *e*P **P 00 09 20.7 +0.2**
comp=Z,30nm,1.3s,mb5.6
TAOE Nuku Hiva Isla 95.84 98 *e*S S 00 20 37.1 -0.8
comp=Z,598nm,27.2s
TAOE *e*LR LR 00 40 16.8
comp=Z,2μm,28.1s
WTTA Wattenberg 96.00 321 ⇑*i*P **P 00 09 21.3 -0.1**
comp=Z,15nm,1.2s,mb5.3
WTTA Wattenberg 96.00 321 ⇑*i*P **P 00 09 21.3 -0.1**
WTTA pmax pmax
comp=Z,15nm,1.2s,mb5.3
WTTA Wattenberg 96.00 321 ⇑*i*P **P 00 09 21.3 -0.1**
comp=Z,15nm,1.2s,mb5.3
HUMO Hull Mountain 96.03 44 PFAKE 00 09 30.0 +8.5
HUMO LR LR
comp=Z,1μm,20.0s,MS5.4
SQTA Sankt Quirin 96.28 321 ⇓*i*P **P 00 09 22.4 -0.3**
comp=Z,9.4nm,1.1s,mb5.1
SQTA Sankt Quirin 96.28 321 ⇓*i*P **P 00 09 22.4 -0.3**
SQTA pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
MOTA Moosalm 96.29 322 ⇑*i*P **P 00 09 22.3 -0.4**
comp=Z,4.7nm,1.0s,mb4.9
MOTA Moosalm 96.29 322 ⇑*i*P **P 00 09 22.3 -0.4**
MOTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
TNS Taunus Mts 96.46 325 *e*P **P 00 09 23.6 +0.1**
comp=Z,10.0nm,1.0s,mb5.2
TNS Taunus Mts 96.46 325 *e*P **P 00 09 23.6 +0.1**
TNS pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
TNS Taunus Mts 96.46 325 *e*P **P 00 09 23.6 +0.1**
comp=Z,10.0nm,1.0s,mb5.2
YBH Yreka Blue Hor 96.56 45 PFAKE 00 09 40.0 +16
YBH LR LR
comp=Z,837nm,19.0s,MS5.2
HAWA Hanford 96.61 39 PFAKE 00 09 40.0 +16
HAWA LR LR
comp=Z,1μm,22.0s,MS5.4
EDM Edmonton 96.69 31 *e*P **P 00 09 22.5 -2.0**
STU Stuttgart 96.75 323 *e*P **P 00 09 24.6 -0.2**
comp=Z,15nm,0.6s,mb5.6
WDC Whiskeytown Da 97.14 46 PFAKE 00 09 40.0 +13
WDC LR LR
comp=Z,1μm,20.0s,MS5.5
HOPS Hopland 97.41 47 PFAKE 00 09 40.0 +12
HOPS LR LR
comp=Z,1μm,21.0s,MS5.4
BFO Black Forest 97.47 323 *e*P **P 00 09 27.0 -1.0**
comp=Z,80nm,2.6s,mb5.7
BFO Black Forest 97.47 323 *e*P **P 00 09 27.0 -1.0**
BFO pmax pmax
comp=Z,80nm,2.6s,mb5.7
BFO MLR MLR
comp=Z,88nm,19.0s,MS4.3
BFO Black Forest 97.47 323 *e*P **P 00 09 27.0 -1.0**
comp=Z,80nm,2.6s,mb5.7
BFO LR LR
comp=Z,88nm,19.0s,MS4.3
MCCM Marconi Confer 97.89 48 PFAKE 00 09 40.0 +10
MCCM LR LR
comp=Z,2μm,21.0s,MS5.5
WLF Walferdange 98.03 325 *e*P **P 00 09 30.9 +0.4**
comp=Z,26nm,1.2s,mb5.6

CDF Champ du Feu 98.03 324 *e*P **P 00 09 28.9 -1.7**
comp=Z,35nm,1.2s,mb5.5
CDF Champ du Feu 98.03 324 *e*P **P 00 09 28.9 -1.7**
CDF pmax pmax
comp=Z,17nm,1.2s,mb5.5
CDF Champ du Feu 98.03 324 *e*P **P 00 09 28.9 -1.7**
comp=Z,18nm,1.2s,mb5.5
MOD Modoc 98.11 44 PFAKE 00 09 40.0 +9.1
MOD LR LR
comp=Z,765nm,21.0s,MS5.2
GIVF Givet 98.52 326 *e*P **P 00 09 31.6 -1.2**
HINF Hinteralfeld 98.58 323 *e*P **P 00 09 32.6 -0.4**
WALA Waterton Lakes 98.61 35 *e*PcP PcP 00 09 33.1 -0.1
BMO Blue Mountains 98.71 40 *e*P **P 00 09 36.2 +2.6**
BMO MLR MLR
comp=Z,1μm,20.0s,MS5.3
HAU Haudompre 98.78 324 *e*P **P 00 09 33.5 -0.4**
comp=Z,16nm,1.1s,mb5.2
HAU *e*MLR
comp=Z,529nm,18.8s
HAU Haudompre 98.78 324 *e*P **P 00 09 33.5 -0.4**
HAU pmax pmax
comp=Z,8.0nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,530nm,18.8s,MS5.1
HAU Haudompre 98.78 324 *e*P **P 00 09 33.5 -0.4**
comp=Z,8.1nm,1.1s,mb5.2
HAU LR LR
comp=Z,530nm,18.8s,MS5.1
BAIF Baives 98.88 326 *e*P **P 00 09 33.0 -1.4**
WVOR Wild Horse Val 98.98 43 PFAKE 00 09 50.0 +15
WVOR LR LR
comp=Z,2μm,22.0s,MS5.5
MEZF Maizieres J'vi 99.25 325 *e*P **P 00 09 34.5 -1.5**
comp=Z,66nm,1.3s,mb5.7
MEZF Maizieres J'vi 99.25 325 *e*P **P 00 09 34.5 -1.5**
comp=Z,66nm,1.3s,mb6.0
EKA Eskdalemuir Ar 99.35 333 P **P 00 09 36.0 -0.4**
comp=Z,11nm,1.1s,mb5.3,baz=24,slow=2.3,SNR=12
SAO San Andreas Ge 99.49 49 PFAKE 00 09 50.0 +13
SAO LR LR
comp=Z,1μm,22.0s,MS5.4
CMB Columbia Colle 99.73 47 *e*P Pdif 00 09 38.4 +0.3
CMB MLR MLR
comp=Z,2μm,22.0s,MS5.5
LPG La Plagne 99.82 321 *e*P Pdif 00 09 38.7 +0.2
comp=Z,26nm,1.2s
LPG La Plagne 99.82 321 *e*P Pdif 00 09 38.7 +0.2
LPG pmax pmax
comp=Z,13nm,1.2s,mb5.2
LPG La Plagne 99.82 321 *e*P Pdif 00 09 38.7 +0.2
comp=Z,13nm,1.2s
LPL La Plagne 99.82 321 *e*P Pdif 00 09 38.5 -0.1
comp=Z,71nm,1.7s
LPL La Plagne 99.82 321 *e*P Pdif 00 09 38.5 -0.1
LPL pmax pmax
comp=Z,36nm,1.7s,mb5.5
LPL La Plagne 99.82 321 *e*P Pdif 00 09 38.5 -0.1
comp=Z,36nm,1.7s
PGF Pioggiola 99.84 318 *e*P Pdif 00 09 37.2 -1.5
comp=Z,41nm,1.0s
PGF Pioggiola 99.84 318 *e*P Pdif 00 09 37.2 -1.5
PGF pmax pmax
comp=Z,21nm,1.0s,mb5.5
PGF Pioggiola 99.84 318 *e*P Pdif 00 09 37.2 -1.5
comp=Z,20nm,1.0s
LOR Lormes 100.59 324 *e*P Pdif 00 09 41.2 -0.8
comp=Z,29nm,1.4s
LOR *e*MLR
comp=Z,458nm,18.8s
LOR Lormes 100.59 324 *e*P Pdif 00 09 41.2 -0.8
LOR pmax pmax
comp=Z,15nm,1.4s
LOR MLR MLR
comp=Z,460nm,18.8s,MS5.0
LOR Lormes 100.59 324 *e*P Pdif 00 09 41.2 -0.8
comp=Z,15nm,1.4s
LOR LR LR
comp=Z,460nm,18.8s,MS5.0
LSZ Lusaka 100.70 257 *e*P Pdif 00 09 43.0 +0.5
LSZ MLR MLR
comp=Z,566nm,21.0s,MS5.1
BMN Battle Mountai 100.85 44 PFAKE 00 10 00.0 +17
BMN LR LR
comp=Z,1μm,22.0s,MS5.3
SSF Saint Saulge 100.91 324 *e*P Pdif 00 09 42.6 -0.8
comp=Z,14nm,1.1s
SSF Saint Saulge 100.91 324 *e*P Pdif 00 09 42.6 -0.8
SSF pmax pmax
comp=Z,7.0nm,1.1s
SSF Saint Saulge 100.91 324 *e*P Pdif 00 09 42.6 -0.8
comp=Z,7.2nm,1.1s
SMF Signal de Mont 100.94 323 *e*P Pdif 00 09 42.7 -0.8
comp=Z,26nm,1.3s
SMF Signal de Mont 100.94 323 *e*P Pdif 00 09 42.7 -0.8
SMF pmax pmax
comp=Z,13nm,1.3s
SMF Signal de Mont 100.94 323 *e*P Pdif 00 09 42.7 -0.8
comp=Z,13nm,1.3s
AVF Avril sur Loir 101.14 324 *e*P Pdif 00 09 43.6 -0.8
comp=Z,13nm,1.1s
AVF Avril sur Loir 101.14 324 *e*P Pdif 00 09 43.6 -0.8
AVF pmax pmax
comp=Z,6.0nm,1.1s
AVF Avril sur Loir 101.14 324 *e*P Pdif 00 09 43.6 -0.8
comp=Z,6.3nm,1.1s
FCC Fort Churchill 101.15 20 *e*P Pdif 00 09 44.3 -0.2
HLID Hailey 101.16 40 *e*Pdif Pdif 00 09 47.1 +2.6
HLID LR LR
comp=Z,1μm,22.0s,MS5.3
EGMT Eagleton 101.49 34 PFAKE 00 10 00.0 +14
EGMT LR LR
comp=Z,648nm,20.0s,MS5.1
BGF Bois d'Agland 101.56 324 *e*P Pdif 00 09 45.7 -0.6
BOZ Bozeman (W) 101.75 37 PFAKE 00 10 00.0 +13
BOZ LR LR
comp=Z,495nm,19.0s,MS5.0
TPH Tonopah 101.95 46 PFAKE 00 10 00.0 +12
TPH LR LR
comp=Z,1μm,22.0s,MS5.3
ELK Elko 102.03 43 PFAKE 00 10 00.0 +12
ELK LR LR
comp=Z,986nm,21.0s,MS5.3
DAC Darwin (Calif) 102.50 48 PFAKE 00 10 00.0 +10
DAC LR LR
comp=Z,1μm,19.0s,MS5.5
YMR Madison River 102.68 38 PFAKE 00 10 00.0 +8.7
YMR LR LR
comp=Z,2μm,22.0s,MS5.6
LKWY Lake 103.07 38 PFAKE 00 10 00.0 +7.0
LKWY LR LR
comp=Z,521nm,19.0s,MS5.1
QSPA South Pole Qui 103.17 180 *e*Pdif Pdif 00 09 56.1 +2.6
comp=Z,3.7nm,0.8s
QSPA LR LR
comp=Z,638nm,22.0s,MS5.1
AHID Auburn Hatcher 103.64 39 PFAKE 00 10 10.0 +14
AHID LR LR
comp=Z,840nm,20.0s,MS5.3
DUG Dugway 103.90 42 P Pdif 00 09 57.7 +1.0
DUG MLR MLR
comp=Z,764nm,20.0s,MS5.2
HWUT Hardware Ranch 103.97 41 PFAKE 00 10 10.0 +13
HWUT LR LR
comp=Z,1μm,20.0s,MS5.4
LAO LASA Array 104.22 34 PFAKE 00 10 10.0 +12
LAO LR LR
comp=Z,1μm,20.0s,MS5.4
PFO Pinyon Flat Ob 104.54 50 PFAKE 00 10 10.0 +10
PFO LR LR
comp=Z,307nm,22.0s,MS4.8
BW06 Boulder Array 104.58 39 *e*Pdif Pdif 00 10 00.5 +0.8
BW06 LR LR
comp=Z,1μm,20.0s,MS5.4
PDAR Pinedale Array 104.58 39 PP PP 00 14 17.8 -1.1
comp=Z,1.2nm,0.9s,baz=291,slow=4.6,SNR=6.3
PDAR PKKPbc PKKPbc 00 25 44.0 -0.6
comp=Z,0.5nm,0.8s,baz=131,slow=4.5,SNR=4.2
LBTB Lobatse 104.71 247 PFAKE 00 10 10.0 +10
LBTB LR LR
comp=Z,503nm,22.0s,MS5.0
MPU Maple Canyon 104.77 42 PFAKE 00 10 10.0 +9.4
MPU LR LR
comp=Z,1μm,19.0s,MS5.5
MVU Marysvale 105.17 44 PFAKE 00 14 30.0 +13
MVU LR LR

comp=Z,889nm,20.0s,MS5.3
BOSA Boshof 105.48 244 PFAKE 00 14 30.0 +13
BOSA LR LR
comp=Z,514nm,21.0s,MS5.0
RSSD Black Hills 107.02 35 PFAKE 00 14 30.0 +10
RSSD LR LR
comp=Z,1μm,21.0s,MS5.4
WUAZ Wupatki 107.29 46 PFAKE 00 14 30.0 +9.4
WUAZ LR LR
comp=Z,916nm,20.0s,MS5.3
PTCN Pitcairn Islan 108.09 112 PFAKE 00 14 30.0 +7.9
PTCN LR LR
comp=Z,2μm,20.0s,MS5.7
MVCO Mesa Verde 108.35 43 PFAKE 00 14 30.0 +7.5
MVCO LR LR
comp=Z,1μm,22.0s,MS5.5
ISCO Idaho Springs 108.72 40 PFAKE 00 14 40.0 +17
ISCO LR LR
comp=Z,839nm,21.0s,MS5.3
TUC Tucson 109.34 49 PFAKE 00 14 40.0 +16
TUC LR LR
comp=Z,988nm,22.0s,MS5.3
ESDC Sonseca Array 109.62 321 PP PP 00 14 55.1 -0.7
comp=Z,1.9nm,1.0s,baz=50,slow=6.8,SNR=4.8
SUR Sutherland 109.64 240 PFAKE 00 14 40.0 +15
SUR LR LR
comp=Z,284nm,22.0s,MS4.8
SDCO Great Sand Dun 110.00 41 PKiKP PKiKP 00 14 26.3 +0.7
SDCO LR LR
comp=Z,922nm,22.0s,MS5.3
EYMN Ely 110.53 26 PFAKE 00 14 40.0 +13
EYMN LR LR
comp=Z,384nm,19.0s,MS5.0
ANMO Albuquerque 110.98 44 *e*PKIKP PKiKP 00 14 28.1 +0.6
ANMO MLR MLR
comp=Z,833nm,22.0s
SCHQ Schefferville 111.26 8 PFAKE 00 14 40.0 +12
SCHQ LR LR
comp=Z,2μm,22.0s,MS5.5
TSUM Tsumeb 111.32 254 PFAKE 00 14 40.0 +12
TSUM LR LR
comp=Z,387nm,20.0s,MS5.0
MSKU Masuku 112.04 274 PFAKE 00 14 40.0 +10
MSKU LR LR
comp=Z,35nm,20.0s
CBKS Cedar Bluff 112.89 37 PFAKE 00 14 40.0 +8.9
CBKS LR LR
comp=Z,522nm,22.0s,MS5.1
MNTX Cornudas Mount 113.55 46 PFAKE 00 14 40.0 +7.6
MNTX LR LR
comp=Z,712nm,21.0s,MS5.2
AMTX Amarillo 114.19 42 PFAKE 00 14 50.0 +16
AMTX LR LR
comp=Z,1μm,19.0s,MS5.6
SCIA State Center 114.31 31 PFAKE 00 14 50.0 +16
SCIA LR LR
comp=Z,924nm,22.0s,MS5.3
KSU1 Kansas State U 114.50 35 PFAKE 00 14 50.0 +16
KSU1 LR LR
comp=Z,613nm,20.0s,MS5.2
GLMI Grayling 115.85 24 PFAKE 00 15 10.0 +33
GLMI LR LR
comp=Z,631nm,20.0s,MS5.2
LTX Lajitas 116.10 48 *e*PKIKP PKPdf 00 14 36.1 -1.2
LTX MLR MLR
comp=Z,908nm,19.0s,MS5.4
TXAR Lajitas Array 116.10 48 PKP PKPdf 00 14 38.4 +1.1
comp=Z,1.9nm,0.7s,baz=226,slow=0.3,SNR=24
TXAR PP PP 00 15 40.5 -1.6
comp=Z,1.7nm,1.1s,baz=122,slow=4.5,SNR=2.1
TXAR PKKPab PKKPab 00 25 12.2 +0.1
comp=Z,1.9nm,1.0s,baz=112,slow=5.9,SNR=11
WMOK Wichita Mounta 116.13 40 *e*PKIKP PKPdf 00 14 37.3 0.0
WMOK MLR MLR
comp=Z,1μm,22.0s,MS5.5
JCT Junction City 118.14 44 *e*PKIKP PKPdf 00 14 42.3 +1.1
JCT MLR MLR
comp=Z,616nm,21.0s,MS5.2
AAM Ann Arbor 118.35 25 PFAKE 00 14 50.0 +8.4
AAM LR LR
comp=Z,839nm,21.0s,MS5.3
FVM French Village 118.66 32 *e*PKIKP PKPdf 00 14 45.7 +3.5
TOA0 Torodi Ar. Sit 118.75 293 *e*PKPdf PKPdf 00 14 42.8 +0.4
TORD Torodi Ar. Bea 118.75 293 PKP PKPdf 00 14 42.2 -0.2
comp=Z,1.8nm,0.8s,baz=85,slow=3.4,SNR=14
TORD PP PP 00 15 46.2 -14
comp=Z,1.5nm,0.8s,baz=64,slow=6.3,SNR=6.1
TORD PKKPbc PKKPbc 00 24 59.5 +1.7
comp=Z,4.5nm,0.9s,baz=276,slow=3.0,SNR=24
TORD Torodi Ar. Bea 118.75 293 PKP PKPdf 00 14 42.2 -0.2
TORD PP PP 00 15 46.2 -14
TORD PKKPbc PKKPbc 00 24 59.5 +1.7
LONY Lake Ozonia 119.41 17 PFAKE 00 15 00.0 +16
LONY LR LR
comp=Z,841nm,19.0s,MS5.4
MIAR Mount Ida 119.42 37 *e*PKIKP PKPdf 00 14 44.7 +1.0
MIAR MLR MLR
comp=Z,754nm,21.0s,MS5.3
PKME Peaks-Kenny Pk 120.09 12 PFAKE 00 15 00.0 +15
PKME LR LR
comp=Z,558nm,19.0s,MS5.2
NCB Newcomb 120.11 17 PFAKE 00 15 00.0 +15
NCB LR LR
comp=Z,741nm,21.0s,MS5.3
LBNH Lisbon 120.46 15 PFAKE 00 15 00.0 +14
LBNH LR LR
comp=Z,660nm,22.0s,MS5.2
WCI Wyandotte Cave 120.52 29 *e*PKIKP PKPdf 00 14 45.0 -0.8
WCI MLR MLR
comp=Z,1μm,20.0s,MS5.5
NATX Nacogdoches 120.68 40 PFAKE 00 15 00.0 +14
NATX LR LR
comp=Z,2μm,22.0s,MS5.7
BINY Binghamton 121.20 19 PFAKE 00 15 00.0 +13
BINY LR LR
comp=Z,636nm,19.0s,MS5.3
WVT Waverly 121.41 32 *e*PKIKP PKPdf 00 14 47.7 +0.2
WVT MLR MLR
comp=Z,603nm,20.0s,MS5.2
OXF Oxford 121.81 34 PFAKE 00 15 00.0 +12
OXF LR LR
comp=Z,807nm,20.0s,MS5.4
SSPA Standing Stone 121.97 21 PFAKE 00 15 00.0 +11
SSPA LR LR
comp=Z,585nm,20.0s,MS5.2
MCWV Mont Chateau 122.11 23 PFAKE 00 15 00.0 +11
MCWV LR LR
comp=Z,705nm,22.0s,MS5.3
PLAL Pickwick Lake 122.17 33 *e*PKPdf PKPdf 00 14 47.4 -1.6
PLAL LR LR
comp=Z,833nm,22.0s,MS5.3
HRV Harvard--Oak R 122.18 15 PFAKE 00 15 00.0 +11
HRV LR LR
comp=Z,363nm,19.0s,MS5.0
WES Weston 122.36 15 PFAKE 00 15 00.0 +11
WES LR LR
comp=Z,2μm,20.0s,MS5.7
TZTN Tazewell 123.17 28 PFAKE 00 15 00.0 +9.1
TZTN LR LR
comp=Z,1μm,22.0s,MS5.4
ELN Prospectdale 123.83 26 *e*PKPdf PKPdf 00 14 51.2 -1.0
BLA Blacksburg 123.98 25 PFAKE 00 15 00.0 +7.6
BLA LR LR
comp=Z,946nm,20.0s,MS5.5
CBN Corbin 124.31 22 PFAKE 00 15 00.0 +7.0
CBN LR LR
comp=Z,800nm,20.0s,MS5.4
BRAL Brewton 125.74 35 PFAKE 00 15 10.0 +14
BRAL LR LR
comp=Z,985nm,19.0s,MS5.5
GOGA Godfrey 125.75 30 PFAKE 00 15 10.0 +14
GOGA LR LR
comp=Z,863nm,22.0s,MS5.4
CNNC Cliffs of the 126.71 24 PFAKE 00 15 10.0 +12
CNNC LR LR
comp=Z,625nm,19.0s,MS5.3
LIC Lamto 127.52 289 *e*PKIKP PKPdf 00 15 00.1 +0.9
comp=Z,23nm,1.0s
LIC *e*MLR
comp=Z,391nm,23.0s
LIC Lamto 127.52 289 *e*PKPdf PKPdf 00 15 00.1 +0.9
LIC LR LR
comp=Z,200nm,23.0s,MS4.7
NHSC New Hope 127.56 28 PFAKE 00 15 10.0 +11
NHSC LR LR
comp=Z,668nm,20.0s,MS5.3
DWPF Disney 131.05 33 PFAKE 00 15 20.0 +14
DWPF LR LR
comp=Z,1μm,20.0s,MS5.6
TEIG Tepich 132.67 46 PFAKE 00 15 20.0 +11
TEIG LR LR
comp=Z,431nm,19.0s,MS5.2
BBSR BB Station 133.45 12 PFAKE 00 15 20.0 +10
BBSR LR LR
comp=Z,463nm,20.0s,MS5.2
HOPE Hope Point 136.84 195 PFAKE 00 15 30.0 +13
HOPE LR LR
comp=Z,1.0nm,20.0s
TGUH Tegucigalpa,Un 137.36 52 PFAKE 00 15 30.0 +12
TGUH LR LR
comp=Z,518nm,21.0s,MS5.2
JTS JuntasAbangare 141.44 54 PFAKE 00 15 40.0 +15
JTS LR LR
comp=Z,108nm,20.0s,MS4.6
EFI East Falkland 141.62 176 PFAKE 00 15 40.0 +15
EFI LR LR
comp=Z,169nm,19.0s,MS4.8
BCIP Isla Barro Col 146.07 50 *e*PKPdf PKPdf 00 15 34.4 +1.1
MPR Mayaguez 146.14 23 *e*PKPab PKPab 00 15 35.6 +0.6
CBYP Canovanas 146.54 21 *e*PKPab PKPab 00 15 37.1 +0.5
SJG San Juan 146.59 21 PKPbc PKPbc 00 15 35.9 +0.2
comp=Z,12nm,0.3s,baz=295,slow=24,SNR=6.8
SJG San Juan 146.59 21 *e*PKPdf PKPdf 00 15 36.0 +1.8
SJG LR LR
comp=Z,375nm,22.0s,MS5.1
HUMP Col San Antoni 146.66 21 *e*PKPab PKPab 00 15 36.8 -0.2
CPD Cerro la Pandu 146.74 21 *e*PKP2 PKPab 00 15 37.0 -0.3
MTP Monte Pirata 146.81 20 *e*PKPdf PKPdf 00 15 36.2 +1.7
PLCA Paso Flores 149.13 155 PKP PKPdf 00 15 39.8 +1.4
comp=Z,13nm,0.8s,baz=48,slow=3.8,SNR=14
PLCA PKPbc PKPbc 00 15 43.2 +0.7
comp=Z,13nm,0.8s,baz=226,slow=2.1,SNR=15
PLCA Paso Flores 149.13 155 *e*PKPdf PKPdf 00 15 38.4 +0.1
PLCA *e*PKPbc PKPbc 00 15 43.0 +0.4
PLCA LR LR
comp=Z,451nm,19.0s,MS5.3
OTAV Otavalo 152.38 63 *e*PKPdf PKPdf 00 15 47.2 +3.8
OTAV LR LR
comp=Z,406nm,22.0s,MS5.2
SDV Santo Domingo 152.51 37 PKP PKPdf 00 15 45.6 +2.0
comp=Z,27nm,1.0s,baz=241,slow=23,SNR=13
SDV PKPbc PKPbc 00 15 51.8 +1.3
comp=Z,68nm,0.8s,baz=39,slow=22,SNR=14
SDV Santo Domingo 152.51 37 *e*PKPdf PKPdf 00 15 46.0 +2.4
SDV LR LR
comp=Z,221nm,19.0s,MS5.0
ROSC El Rosal 153.00 49 PKP PKPdf 00 15 47.4 +3.1
comp=Z,11nm,0.8s,baz=98,slow=22,SNR=5.2
ROSC PKPbc PKPbc 00 15 54.1 +2.5
comp=Z,12nm,0.7s,baz=123,slow=14,SNR=8.3
NNA Nana 157.79 89 *e*PKPdf PKPdf 00 15 51.9 +1.2
NNA LR LR
comp=Z,95nm,20.0s,MS4.6
RCBR Riachuelo 160.56 291 PFAKE 00 16 10.0 +16
RCBR LR LR
comp=Z,510nm,21.0s
LPAZ La Paz 166.14 104 PKP PKPdf 00 16 01.4 +2.1
comp=Z,7.3nm,0.9s,baz=276,slow=1.0,SNR=23
LPAZ PKPab PKPab 00 17 04.2 +4.3
comp=Z,5.8nm,0.9s,baz=320,slow=3.6,SNR=8.0

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*CSEM **21** 00:18:23.6, 6786N×20.19E, h5km, ML3.3, Mining explosion. After UPP*
*UPP **21** 00:18:23.6, 6786N×20.19E, h5km, ML3.3, Mining explosion.*
HEL 21 00:18:14.9±2.0, 6730N×1941E, h0km, ML0.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALU	**Saltoluokta**	**0.36**	**283**	P	Pg	00 18 38.7	+17
NIKU	**Nikkaluokta**	**0.58**	**346**	P	Pg	00 18 31.8	+5.7
KUA	**Kurravaara**	**0.74**	**28**	*i* P	Pg	00 18 36.6	+7.5
KUA				*i* S	Sg	00 18 38.5	-0.4
MASU	**Masugnsbyn**	**1.01**	**80**	P	Pg	00 18 38.5	+4.2
LANU	**Lannavaara**	**1.24**	**52**	P	Pg	00 18 36.6	-2.0
HARU	**Harads**	**1.30**	**151**	P	Pg	00 18 54.8	+15
	baz=331						
PAJU	**Pajala**	**1.47**	**99**	P	Pn	00 18 48.9	+6.2
KIF	**Kilpisjarvi**	**1.79**	**16**	*e*P	Pn	00 18 46.0	-1.0
SGF	**Sodankyl**	**2.75**	**84**	*e*PG	Pg	00 19 05.1	-2.6
SGF				*e*SB	Sb	00 19 36.4	-2.9
KEV	**Kevo**	**3.72**	**45**	*e*P	Pn	00 19 14.9	+1.3
KEV				*e*S	Sn	00 19 52.1	-6.0

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*IGIL **21** 00:19:27.2, 3845N×792W, h2km, ML1.8*
*MDD **21** 00:19:27.0±0.3, 3845N×793W, h0km, mbLg1.6/7, Error ellipse: s-maj=3.2km s-min=2.5km az=40.0, PRXIMO SOLUCIN POBRE*
INMG 21 00:19:27.1±0.9, 3845N×793W, h2km±4km, ML1.8, Error ellipse: s-maj=1.5km s-min=1.2km az=80.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOE	**Montemor**	**0.34**	**282**	*e*Pg	Pg	00 19 33.3	-0.3
MOE				*e*Sg	Sg	00 19 37.8	-0.3
PBEJ	**Beja**	**0.43**	**174**	*e*Pg	Pg	00 19 34.8	-0.5
PBEJ				*e*Sg	Sg	00 19 40.6	-0.2
PBEJ				A		00 19 40.9	
	53nm,0.1s						
PESTR	**Estremoz**	**0.49**	**32**	*i* Pg	Pg	00 19 36.1	-0.4
PESTR				*e*Sg	Sg	00 19 42.6	-0.3
PESTR				A		00 19 42.9	
	13nm,0.2s						
EBAD	**Badajoz**	**0.78**	**67**	Pg	Pg	00 19 41.7	-0.3
	1.5nm,0.3s,SNR=43						
EBAD				Lg		00 19 52.0	
	5.5nm,0.5s,SNR=11						
ALMR	**Almeirim**	**0.87**	**324**	*e*P	Pg	00 19 42.7	-1.0
ALMR				*e*S	Sg	00 19 54.2	-0.8
ALMR				*e*S	Sg	00 19 54.2	-0.7
ALMR				AML	AML	00 19 59.1	
	comp=N,24nm,0.2s						
ALMR	**Almeirim**	**0.87**	**324**	P	Pg	00 19 42.7	-1.0
	SNR=7.9						
ALMR				S	Sg	00 19 54.2	-0.8
	SNR=7.9						
EGRO	**El Granado**	**0.98**	**159**	Pg	Pg	00 19 45.2	-0.7
	comp=N,2.6nm,0.4s,SNR=18						
EGRO				Lg		00 19 58.2	
	comp=N,6.9nm,0.3s,SNR=17						
PLOU	**Loures**	**1.05**	**295**	*e*S	Sg	00 20 01.0	+0.1
PLOU				A		00 20 04.3	
	comp=N,14nm,0.2s						
PLOU	**Loures**	**1.05**	**295**	S	Sg	00 20 01.0	+0.1
	comp=N,6.8nm,0.2s						
PTEO	**Sao Teotonio**	**1.10**	**215**	*e*P	Pg	00 19 47.5	-0.7
PTEO				*e*S	Sg	00 20 02.3	-0.2
PTEO				A		00 20 04.8	
	comp=N,11nm,0.2s						
PTEO	**Sao Teotonio**	**1.10**	**215**	P	Pg	00 19 47.5	-0.7
PTEO				S	Sg	00 20 02.3	-0.2
	comp=N,5.7nm,0.2s						
PMAFR	**Mafra**	**1.18**	**296**	*e*P	Pg	00 19 48.7	-0.9
PMAFR				*e*S	Sg	00 20 04.6	-0.3
PMAFR				A		00 20 10.1	
	comp=N,15nm,0.2s						
EMIN	**Mina Concepcio**	**1.20**	**124**	Pg	Pg	00 19 48.7	-1.4
	comp=N,4.0nm,0.8s,SNR=22						
EMIN				Lg		00 20 05.7	
	comp=N,5.1nm,0.3s,SNR=18						
PCBR	**Castelo Branco**	**1.43**	**14**	*e*Pg	Pg	00 19 53.2	-1.3
PCBR				*e*Sn	Sn	00 20 11.7	-1.7
PCBR				A		00 20 13.6	
	comp=N,17nm,0.3s						
PCBR	**Castelo Branco**	**1.43**	**14**	Pg	Pg	00 19 53.2	-1.3
PCBR				Sn	Sn	00 20 11.7	-1.7
	comp=N,8.4nm,0.3s						
MTE	**Manteigas**	**1.97**	**9**	*e*Sn	Sn	00 20 25.9	-0.8
ESPR	**Espera**	**2.28**	**133**	Lg		00 20 40.9	
	comp=N,2.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.65**	**95**	Pg	Pg	00 20 14.5	-3.4
	comp=N,3.1nm,0.4s,SNR=4.0						
EADA				Sn	Sn	00 20 41.4	-2.1
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Lg		00 20 50.7	
	comp=N,2.4nm,0.4s,SNR=4.6						
ESDC	**Sonseca Array**	**3.32**	**67**	Lg		00 21 09.5	
	baz=257,slow=29,SNR=7.9						

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*CSEM **21** 00:20:02.9, 6784N×20.19E, h0km, ML2.7, Mining explosion. After UPP*
*UPP **21** 00:20:02.9, 6784N×20.19E, h0km, ML2.7, Mining explosion.*
HEL 21 00:20:03.4±0.1, 6784N×2020E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	00 20 05.6	-0.3
KUA				*i* S	Sg	00 20 07.5	0.0
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 20 11.2	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	00 20 16.1	-0.9
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 20 17.7	-0.8
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	00 20 17.9	-0.8
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	00 20 25.7	-0.5
KIF				*e*S	Sg	00 20 41.6	-0.1
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 20 45.7	-2.7
SGF				*e*S	Sn	00 21 15.8	+0.5

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*IDC **21** 00:28:21.6±0.9, 3110N×14259E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.8/20, mbtmp3.7/8, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/25, Error ellipse: s-maj=33.6km s-min=18.3km az=85.0*
*ISCJB **21** 00:28:25.0±0.8, 3117N±004×142.1E±0.1, h52km±9km, mb3.7/7, Error ellipse: s-maj=16.0km s-min=5.5km az=152.7*
*JMA **21** 00:28:24.0±0.2, 3121N×14236E, h45km, M4.1*
*NEIC **21** 00:28:26.9±2.4, 3130N×14209E, h48km±22km, mb3.8/2, Error ellipse: s-maj=23.2km s-min=15.1km az=124.0*
ISC 21 00:28:26.4±0.8, 3117N±004×1422E±01, h47km±9km, n31, σ1°35/40, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.77**	**315**	P	**Pn**	**00 29 08.8**	**+0.6**
JHJ2				S	**Sn**	**00 29 41.5**	**+1.2**
BSO1	**Boso 1**	**3.61**	**345**	P	**Pn**	**00 29 18.6**	**-1.2**
BSO2	**Boso 2**	**3.76**	**342**	S	**Sn**	**00 30 05.9**	**+1.2**
BSO3	**Boso 3**	**3.87**	**340**	P	**Pn**	**00 29 23.2**	**-0.2**
BSO3				S	**Sn**	**00 30 05.0**	**-2.6**
CBIJ	**Chichi jima**	**4.06**	**180**	Pn	**Pn**	**00 29 25.8**	**-0.2**
	4.4nm,0.3s,baz=284,slow=19,SNR=7.1						
CBIJ				Sn	**Sn**	**00 30 11.6**	**-0.7**
	11nm,0.3s,baz=298,slow=23,SNR=5.9						
CBIJ				LR	LR	00 30 17.1	
	comp=Z,330nm,19.9s,baz=289,slow=29						
CBIJ	**Chichi jima**	**4.06**	**180**	P	**Pn**	**00 29 25.7**	**-0.3**
BSO4	**Boso 4**	**4.10**	**339**	P	**Pn**	**00 29 27.7**	**+1.2**
BSO4				*e*S	**Sn**	**00 30 13.8**	**+0.6**
JOD2	**Odawara 2**	**4.82**	**329**	P	**Pn**	**00 29 37.8**	**+1.4**
JOD2				*e*S	**Sn**	**00 30 31.1**	**+0.2**
JHU	**Hanno**	**5.25**	**334**	S	**Sn**	**00 30 40.9**	**-0.5**
JRY	**Ryogami san**	**5.54**	**332**	P	**Pn**	**00 29 48.1**	**+1.9**
JRY				S	**Sn**	**00 30 49.6**	**+1.0**
JHO	**Hitachi**	**5.58**	**347**	P	**Pn**	**00 29 46.7**	**-0.1**
JHO				S	**Sn**	**00 30 46.0**	**-3.6**
JAG	**Ashikaga**	**5.70**	**338**	P	**Pn**	**00 29 48.6**	**+0.2**
MJAR	**Matsushiro Arr**	**6.28**	**330**	Pn	**Pn**	**00 29 58.3**	**+2.0**
	2.0nm,0.3s,baz=150,slow=11,SNR=7.8						
MAJO	**Matsushiro**	**6.28**	**330**	*e*Pn	**Pn**	**00 29 54.9**	**-1.5**
MAJO				*e*Sn	**Sn**	**00 31 05.5**	**-1.3**
MAT	**Matsushiro**	**6.28**	**330**	P	**Pn**	**00 29 57.7**	**+1.3**
MAT				S	**Sn**	**00 31 07.3**	**+0.5**
JMK	**Ichinoseki**	**7.80**	**355**	S	**Sn**	**00 31 35.7**	**-8.5**
ERM	**Erimo**	**10.85**	**4**	Pn	**Pn**	**00 30 55.8**	**-3.3**
YSS	**Yuzh-Sakhalins**	**15.77**	**2**	Pn	**Pn**	**00 32 02.8**	**-2.4**
MDJ	**Mudanjiang**	**16.66**	**327**	*e*Pn	**Pn**	**00 32 15.6**	**-0.8**
	2.4nm,0.3s						
TATO	**Taipei**	**19.23**	**256**	P	**Pn**	**00 32 46.3**	**-1.6**
NACB	**Ninganchiao**	**19.48**	**254**	P	**Pn**	**00 32 49.3**	**-1.5**
SONM	**Songino Array**	**31.87**	**312**	P	**P**	**00 34 51.9**	**+5.0**
	0.5nm,0.6s,mb3.5,baz=111,slow=8.3,SNR=6.8						
TLY	**Talaya**	**34.85**	**317**	P	**P**	**00 35 11.9**	**-0.9**
MKAR	**Makanchi Array**	**47.94**	**307**	P	**P**	**00 37 04.0**	**+3.9**
	0.4nm,0.4s,mb3.6,baz=91,slow=8.5,SNR=6.8						
MKAR	**Makanchi Array**	**47.94**	**307**	P	**P**	**00 37 04.0**	**+3.9**
KURK	**Kurchatov**	**50.17**	**312**	*e*P	**P**	**00 37 16.4**	**-0.8**
	0.6nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**51.37**	**189**	P	**P**	**00 37 27.6**	**+1.4**
	2.4nm,0.7s,mb4.2,baz=8.4,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**55.09**	**189**	P	**P**	**00 37 55.2**	**+1.7**
	0.2nm,0.4s,mb3.5,baz=8.0,slow=7.0,SNR=4.6						
BRVK	**Borovoye**	**55.13**	**316**	P	**P**	**00 37 52.3**	**-1.5**
YKA	**Yellowknife Ar**	**68.59**	**29**	P	**P**	**00 39 25.1**	**+0.8**
	0.2nm,0.7s,mb3.2,baz=292,slow=6.3,SNR=3.5						
TXAR	**Lajitas Array**	**93.19**	**53**	P	**P**	**00 41 37.2**	**+1.7**
	0.5nm,0.9s,mb4.0,baz=308,slow=4.5,SNR=5.3						

IDC 21 01:09:56.3±39.0, 1328S×17151E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=694.2km s-min=121.6km az=71.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.08**	**231**	P	P	01 16 33.7	0.0
	0.8nm,0.3s,baz=85,slow=9.0,SNR=4.3						
WRA	**Warramunga Arr**	**36.17**	**254**	P	P	01 17 01.1	+0.7
	0.4nm,0.4s,baz=86,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**37.03**	**248**	P	P	01 17 07.8	+0.2
	0.8nm,0.3s,baz=76,slow=9.6,SNR=16						
FITZ	**Fitzroy Crossi**	**44.33**	**258**	P	P	01 18 08.4	+0.4
	1.4nm,0.8s,baz=93,slow=8.1,SNR=3.2						

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*ISCJB **21** 01:12:08.1±0.4, 1329N±004×12587E±006, h35km, mb4.0/13, Error ellipse: s-maj=8.8km s-min=6.2km az=29.2*
*NEIC **21** 01:12:12.6±1.1, 1337N×12595E, h59km±10km, mb4.5/4, Error ellipse: s-maj=11.5km s-min=5.8km az=66.0*
*IDC **21** 01:12:14.3±8.2, 1337N×12599E, h75km±78km, mb3.6/9, mb1 3.7/9, mb1mx3.6/20, mbtmp3.6/9, Error ellipse: s-maj=54.0km s-min=14.5km az=75.0*
ISC 21 01:12:10.0±0.4, 1328N±005×12583E±006, h35km, n34, σ0°99/34, mb4.0/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**1.37**	**236**	*e*P	**Pn**	**01 12 31.7**	**-0.9**
CNP				*e*S	**Sn**	**01 12 50.0**	**+0.6**
MSLP	**Maasin**	**3.27**	**197**	*e*P	**Pn**	**01 12 57.4**	**-1.2**
GUIM	**Jordan**	**4.12**	**231**	*e*P	**Pn**	**01 13 08.3**	**-2.1**
NACB	**Ninganchiao**	**11.55**	**340**	*e*Pn	**Pn**	**01 14 53.0**	**+0.8**
TATO	**Taipei**	**12.33**	**341**	Pn	**Pn**	**01 15 05.9**	**+3.0**
GUMO	**Guam**	**18.52**	**87**	Pn	**Pn**	**01 16 23.4**	**-0.3**
ENH	**Enshi**	**22.67**	**321**	P	**P**	**01 17 09.7**	**+1.6**
INCN	**Inchon**	**24.11**	**2**	*e*P	**P**	**01 17 21.9**	**-0.4**
KSRS	**Korea Array**	**24.14**	**4**	P	**P**	**01 17 22.9**	**+0.3**
	3.5nm,1.0s,mb3.8,baz=179,slow=11,SNR=7.5						
MAJO	**Matsushiro**	**25.69**	**23**	P	**P**	**01 17 37.1**	**+0.4**
BJT	**Baijiatuau**	**27.96**	**344**	*e*P	**P**	**01 17 55.8**	**-1.2**
PMG	**Port Moresby**	**30.93**	**136**	*e*P	**P**	**01 18 24.0**	**+0.6**
	12nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.18**	**180**	P	**P**	**01 18 28.6**	**+2.9**
	1.7nm,0.6s,mb4.1,baz=18,slow=8.5,SNR=5.4						
MDJ	**Mudanjiang**	**31.39**	**5**	P	**P**	**01 18 27.2**	**-0.2**
WRA	**Warramunga Arr**	**34.06**	**166**	P	**P**	**01 18 51.5**	**+0.6**
	0.8nm,0.8s,mb3.7,baz=346,slow=9.4,SNR=4.6						
WB2	**Warramunga Arr**	**34.06**	**166**	P	**P**	**01 18 51.9**	**+1.0**
ASAR	**Alice Springs**	**37.56**	**168**	P	**P**	**01 19 22.0**	**+1.2**
	0.5nm,0.4s,mb3.6,baz=339,slow=6.4,SNR=5.3						
SONM	**Songino Array**	**38.07**	**339**	P	**P**	**01 19 24.8**	**-0.2**
	1.5nm,0.8s,mb3.8,baz=154,slow=8.2,SNR=12						
STKA	**Stephens Creek**	**47.38**	**162**	P	**P**	**01 20 40.5**	**-0.1**
	1.4nm,0.3s,mb4.3,baz=356,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**47.38**	**162**	P	**P**	**01 20 40.5**	**-0.1**
MK31	**Makanchi Array**	**49.40**	**321**	*e*P	**P**	**01 20 57.1**	**+1.0**
MKAR	**Makanchi Array**	**49.40**	**321**	P	**P**	**01 20 56.7**	**+0.5**
	2.3nm,0.8s,mb4.3,baz=111,slow=9.0,SNR=25						
MKAR	**Makanchi Array**	**49.40**	**321**	P	**P**	**01 20 56.7**	**+0.5**
MA2	**Magadan**	**49.77**	**16**	P	**P**	**01 20 57.5**	**-1.5**
AAK	**Ala-Archa**	**52.92**	**314**	*e*P	**P**	**01 21 22.4**	**-0.2**
KURK	**Kurchatov**	**53.37**	**324**	*e*P	**P**	**01 21 27.0**	**+1.1**
	6.3nm,0.9s,mb4.5						
BRVK	**Borovoye**	**59.04**	**325**	*e*P	**P**	**01 22 05.8**	**-0.5**

1.7nm,0.7s,mb4.2
BILL Bilibino 60.64 16 P **P 01 22 16.4 -0.9**
ARU Arti 66.49 326 *e*P **P 01 22 55.3 -0.7**
2.4nm,0.9s,mb4.2
INK Inuvik 81.66 22 *e*P **P 01 24 23.9 -0.6**
55nm,0.8s
FINES FINESS Array B 83.05 332 P **P 01 24 31.3 -0.4**
0.8nm,0.7s,mb3.8,baz=84,slow=5.7,SNR=4.4
RES Resolute Bay 88.62 10 P **P 01 24 59.0 -0.3**
YKA Yellowknife Ar 91.19 24 P **P 01 25 10.4 -0.9**
0.2nm,0.7s,mb3.5,baz=300,slow=4.1,SNR=5.0
TXAR Lajitas Array 116.16 48 PKP PKPdf 01 30 49.3 0.0
0.1nm,0.6s,baz=243,slow=4.0,SNR=2.5

*ISCJB **21** 01:12:51.7±0.9,2625S±007×17932E±008,h508km±11km, mb4.1/13,Error ellipse: s-maj=12.1km s-min=10.7km az=103.2*
*IDC **21** 01:12:52.4±1.4,2628S×17943E,h508km±16km,mb3.4/7, mb1 3.7/9,mb1mx3.5/17,mbtmp3.5/9,Error ellipse: s-maj=24.4km s-min=14.5km az=5.0*
*NEIC **21** 01:12:52.4±0.6,2624S×17935E,h507km±7km,mb4.4/5, Error ellipse: s-maj=9.5km s-min=7.8km az=169.0*
ISC 21 01:12:52.4±0.8,2629S±007×17940E±008,h506km±10km, n34,σ0§73/34,mb4.1/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.79**	**142**	P	**P**	**01 14 10.4**	**+1.0**
271nm,0.3s,baz=68,slow=22,SNR=7.5							
RAO	**Raoul Island**	**3.79**	**142**	*e*Pn	**P**	**01 14 10.3**	**+0.9**
URZ	**Urewera**	**12.09**	**189**	P	**P**	**01 15 30.6**	**-1.1**
3.4nm,0.3s,baz=346,slow=4.2,SNR=14							
URZ				S	**S**	**01 17 42.5**	**-0.6**
0.9nm,0.3s,baz=246,slow=20,SNR=5.5							
DZM	**Mont Dzumac**	**12.55**	**287**	P	**P**	**01 15 36.9**	**+0.3**
1.4nm,0.3s,baz=128,slow=12,SNR=11							
AFI	**Afiamalu**	**14.84**	**36**	*e*P	**P**	**01 16 01.1**	**+0.3**
40nm,0.8s							
TAU	**Tasmania Unive**	**30.93**	**229**	P	**P**	**01 18 27.5**	**+0.2**
CTA	**Charters Tower**	**31.03**	**274**	P	**P**	**01 18 28.6**	**+0.5**
4.3nm,0.4s,mb4.2,baz=93,slow=10,SNR=13							
CTAO	**Charters Tower**	**31.03**	**274**	*e*P	**P**	**01 18 28.4**	**+0.2**
4.4nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**33.38**	**251**	*e*P	**P**	**01 18 47.9**	**-0.3**
PMG	**Port Moresby**	**34.84**	**293**	*e*P	**P**	**01 19 00.9**	**+0.5**
10nm,0.7s,mb4.4							
ASAR	**Alice Springs**	**41.16**	**263**	P	**P**	**01 19 52.1**	**+0.1**
2.8nm,0.5s,mb4.0,baz=88,slow=7.0,SNR=44							
ASAR				S	**S**	**01 25 30.0**	**+1.6**
0.9nm,0.9s,baz=97,slow=16,SNR=5.0							
WB2	**Warramunga Arr**	**41.75**	**269**	*e*P	**P**	**01 19 56.4**	**-0.3**
WRA	**Warramunga Arr**	**41.76**	**269**	P	**P**	**01 19 56.3**	**-0.5**
3.5nm,0.6s,mb4.0,baz=100,slow=7.5,SNR=36							
WRA				S	**S**	**01 25 38.2**	**+1.2**
0.5nm,0.7s,baz=105,slow=14,SNR=4.9							
KAKA	**Kakadu**	**46.03**	**278**	*e*P	**P**	**01 20 29.1**	**-0.9**
11nm,0.3s,mb4.8							
FITZ	**Fitzroy Crossi**	**50.15**	**268**	*e*P	**P**	**01 21 01.0**	**+0.3**
8.2nm,0.6s,mb4.2							
FITZ	**Fitzroy Crossi**	**50.15**	**268**	P	**P**	**01 21 01.7**	**+1.0**
4.3nm,0.5s,mb4.0,baz=125,slow=7.5,SNR=19							
GUMO	**Guam**	**51.95**	**316**	*e*P	**P**	**01 21 11.8**	**-2.1**
119nm,1.0s,mb5.2							
VNDA	**Vanda**	**51.96**	**185**	*e*P	**P**	**01 21 14.8**	**+0.9**
0.5nm,0.6s,mb3.0							
NWAO	**Narrogin (SRO)**	**53.78**	**247**	P	**P**	**01 21 27.3**	**+0.4**
MAW	**Mawson**	**75.33**	**201**	P	**P**	**01 23 43.0**	**-0.4**
1.7nm,0.5s,mb3.8,baz=147,slow=7.5,SNR=7.3							
SNAA	**Sanae**	**82.29**	**179**	*e*P	**P**	**01 24 20.3**	**-0.2**
2.6nm,0.6s,mb3.9							
MDJ	**Mudanjiang**	**83.95**	**327**	P	**P**	**01 24 28.4**	**-0.5**
NVAR	**Mina Array Bea**	**86.84**	**44**	P	**P**	**01 24 42.2**	**-0.6**
0.7nm,0.6s,mb3.5,baz=225,slow=8.8,SNR=5.8							
NVAR	**Mina Array Bea**	**86.84**	**44**	P	**P**	**01 24 42.2**	**-0.6**
ENH	**Enshi**	**87.38**	**306**	P	**P**	**01 24 45.5**	**+0.2**
BJT	**Baijiatuan**	**88.38**	**317**	P	**P**	**01 24 49.5**	**-0.5**
TXAR	**Lajitas Array**	**92.15**	**58**	P	**P**	**01 25 07.5**	**0.0**
0.4nm,0.8s,mb3.4,baz=207,slow=7.8,SNR=4.8							
TXAR	**Lajitas Array**	**92.15**	**58**	P	**P**	**01 25 07.5**	**0.0**
NEW	**Newport**	**93.44**	**37**	*e*P	**P**	**01 25 13.9**	**+0.6**
WALA	**Waterton Lakes**	**95.64**	**37**	*e*P	**P**	**01 25 22.6**	**-0.7**
NNA	**Nana**	**96.78**	**107**	*e*P	**P**	**01 25 29.8**	**+1.3**
11nm,0.8s,mb5.1							
LSA	**Lhasa**	**101.14**	**298**	*e*Pdif	Pdif	01 25 48.5	+0.6
LPAZ	**La Paz**	**101.93**	**115**	*e*Pdif	Pdif	01 25 52.5	+1.1
TORD	**Torodi Ar. Bea**	**166.74**	**190**	PKPab	PKPab	01 33 06.2	+0.2
0.9nm,0.6s,baz=166,slow=3.9,SNR=12							

*NIED **21** 01:51:00,3570N×138.10E,h23km,Mw3.6 Best double couple: M0:3.13000×10^14 NP1:φs37.00000°,δ85.00000°, λ158.00000°. NP2:φs129.00000°,δ69.00000°,λ5.00000°.*
*ISCJB **21** 01:51:48.5±0.5,3575N±003×138.11E±005,h25km±5km, mb3.5/1,Error ellipse: s-maj=6.5km s-min=5.0km az=172.6*
*JMA **21** 01:51:48.9,3575N×138.12E,h21km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs121.00000°,δ68.00000°,λ13.00000°. NP2:φs26.00000°, δ78.00000°,λ158.00000°. Principal axes: T Plg24.0000°, Azm342.0000°; N Plg65.0000°, Azm180.0000°; P Plg7.0000°, Azm75.0000°;*
JMA Felt II J1.
*NEIC **21** 01:51:49.6±3.4,3579N×13829E,h35km,mb3.5/1 Error ellipse: s-maj=65.5km s-min=16.5km az=107.0*
ISC 21 01:51:48.8±0.5,3575N±003×13812E±004,h20km±6km, n13,σ0§37/21,mb3.5/1,3C-3D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.12**	**5**	⇑P	**Pb**	**01 51 53.1**	**+0.1**
JNT				S	**Sb**	**01 51 56.0**	**+0.1**
JYN	**Shimob**	**0.43**	**126**	⇑P	**Pb**	**01 51 57.6**	**0.0**
JYN				S	**Sb**	**01 52 04.2**	**+0.6**
JNY	**Yasuok**	**0.45**	**209**	⇓P	**Pb**	**01 51 57.6**	**-0.4**
JNY				S	**Sb**	**01 52 03.7**	**-0.5**
JRY	**Ryogami san**	**0.68**	**67**	⇓P	**Pb**	**01 52 01.7**	**-0.3**
JRY				S	**Sb**	**01 52 10.7**	**-0.3**
SHZ3	**Shizuoka 3**	**0.69**	**174**	⇑P	**Pb**	**01 52 01.4**	**-0.7**
MAJO	**Matsushiro**	**0.79**	**5**	*e*P	**Pb**	**01 52 03.6**	**-0.2**
MAJO				*e*S	**Sb**	**01 52 14.2**	**0.0**
MAT	**Matsushiro**	**0.79**	**5**	P	**Pb**	**01 52 03.5**	**-0.3**
MAT				S	**Sb**	**01 52 14.2**	**+0.1**
JOD2	**Odawara 2**	**0.93**	**122**	P	**Pb**	**01 52 06.1**	**0.0**
JOD2				S	**Sb**	**01 52 18.6**	**+0.6**
JTT	**Ttatey**	**1.06**	**323**	P	**Pn**	**01 52 08.9**	**+0.4**
JGM	**Miyama**	**1.15**	**268**	⇓P	**Pn**	**01 52 09.6**	**0.0**
JGM				S	**Sb**	**01 52 25.0**	**+0.7**
MDJ	**Mudanjiang**	**10.99**	**326**	Pn	**Pn**	**01 54 24.7**	**-0.1**
NACB	**Ninganchiao**	**18.36**	**236**	P	**Pn**	**01 56 02.4**	**+0.3**
KURK	**Kurchatov**	**44.65**	**309**	*e*P	**P**	**01 59 59.7**	**-0.1**
0.7nm,0.8s,mb3.5							

*IDC **21** 01:54:34.3±3.2,783N×12680E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/19,mbtmp3.4/3,Error ellipse: s-maj=280.4km s-min=25.4km az=66.0*
*ISCJB **21** 01:54:37.4±1.2,785N±009×1273E±01,h35km,mb3.4/3, Error ellipse: s-maj=14.8km s-min=12.6km az=27.3*
ISC 21 01:54:39.8±1.2,785N±009×1272E±01,h35km,n7,σ0§91/8, mb3.4/3,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.26**	**225**	*e*P	**Pn**	**01 54 59.4**	**-1.6**
MATI				*e*S	**Sn**	**01 55 16.9**	**+0.2**
BUKP	**Musuan**	**2.07**	**271**	*e*P	**Pn**	**01 55 13.0**	**+1.0**
BUKP				*e*S	**Sn**	**01 55 42.6**	**+6.0**
SCPH	**Surigao**	**2.52**	**320**	⇓*e*P	**Pn**	**01 55 18.6**	**+0.4**
WRA	**Warramunga Arr**	**28.51**	**166**	P	**P**	**02 00 31.9**	**0.0**
0.2nm,0.3s,mb3.3,baz=345,slow=10,SNR=2.4							
ASAR	**Alice Springs**	**32.02**	**168**	P	**P**	**02 01 03.8**	**+1.0**
0.2nm,0.5s,mb3.2,baz=342,slow=7.2,SNR=2.6							
MKAR	**Makanchi Array**	**54.47**	**323**	P	**P**	**02 04 02.7**	**-1.1**
0.3nm,0.5s,mb3.5,baz=112,slow=6.5,SNR=6.9							
TORD	**Torodi Ar. Bea**	**121.95**	**291**	PKP	PKPdf	02 13 30.2	-0.1
0.3nm,1.1s,baz=62,slow=1.3,SNR=5.4							

CASC 21 02:16:03.7±2.7,1092N×8681W,h21km±11km,MD3.7, ML2.6,1C-1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.01**	**69**	⇑*i*P	Pb	02 16 21.9	-0.6
SSNN				*e*S	Sb	02 16 36.1	+0.9
TICN	**Ticuantepe**	**1.24**	**27**	⇓*e*P	Pn	02 16 25.1	-0.7
XAVN	**Gruta Xavier**	**1.31**	**21**	*e*P	Pn	02 16 26.2	-0.5
CONN	**Concepcion**	**1.32**	**61**	*e*P	Pn	02 16 26.0	-0.9
MGAN	**Managua**	**1.33**	**24**	*e*P	Pn	02 16 26.5	-0.6
MGAN				*e*S	Sn	02 16 45.9	+1.7
MADN	**Villa Maderas**	**1.34**	**69**	*e*P	Pn	02 16 26.5	-0.7
MOMJ	**Momotombo**	**1.50**	**10**	*e*P	Pn	02 16 28.8	-0.5
MOMJ				*e*S	Sn	02 16 47.8	-0.4
LIM1	**Limonal**	**1.54**	**98**	*e*P	Pn	02 16 29.9	-0.1
LIM1				*e*S	Sn	02 16 49.0	-0.4
CNGN	**Cerro Negro**	**1.57**	**4**	*e*P	Pn	02 16 29.7	-0.5
CNGN				*e*S	Sn	02 16 51.7	+1.7
JCR	**Jicaral**	**1.98**	**122**	*e*P	Pn	02 16 35.6	-0.3
CGA2	**Cerro Gallo 2**	**2.48**	**111**	*e*P	Pn	02 16 45.5	+2.8
LAJ	**Bijagual**	**2.85**	**111**	*e*P	Pn	02 16 45.2	-2.6

IDC 21 02:33:13.3±6.0,476S×15051E,h140km±46km,mb3.3/3, mb1 3.5/4,mb1mx3.1/14,mbtmp3.3/4,Error ellipse: s-maj=100.6km s-min=43.9km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.68**	**216**	P	Pn	02 34 35.7	+0.1
3.5nm,0.3s,baz=28,slow=3.3,SNR=5.9							
PMG				S	Sn	02 35 41.0	+1.0
11nm,0.3s,baz=167,slow=19,SNR=9.8							
WRA	**Warramunga Arr**	**21.81**	**225**	P	P	02 37 54.2	0.0
0.9nm,0.5s,baz=49,slow=10.0,SNR=6.9							
ASAR	**Alice Springs**	**24.69**	**219**	P	P	02 38 21.1	-0.2
0.9nm,0.7s,baz=57,slow=9.5,SNR=6.3							
FITZ	**Fitzroy Crossi**	**27.69**	**239**	P	P	02 38 48.8	+0.6
0.8nm,0.3s,baz=58,slow=8.8,SNR=9.7							
TORD	**Torodi Ar. Bea**	**148.12**	**287**	PKPbc	PKPbc	02 52 43.3	+0.8
0.3nm,0.7s,baz=77,slow=2.4,SNR=5.1							

*IDC **21** 03:02:09.6±0.8,4703N×15498E,h0km,mb3.8/13, mb1 4.0/14,mb1mx3.9/24,mbtmp3.9/14,ML4.0/1,MS3.1/2, Ms1 3.1/2,ms1mx2.7/27,Error ellipse: s-maj=23.3km s-min=17.9km az=139.0*
*NEIC **21** 03:02:11.6±0.6,4717N×15499E,h10km,mb4.3/8,Error ellipse: s-maj=15.9km s-min=9.5km az=130.0*
*ISCJB **21** 03:02:14.1±0.6,4727N±008×1548E±01,h33km,mb4.3/35, MS3.4/5,Error ellipse: s-maj=13.9km s-min=7.0km az=106.0*
*MOS **21** 03:02:14.8±1.2,4728N×15470E,h40km,mb4.2/13,Error ellipse: s-maj=15.8km s-min=10.8km az=84.1*
*BJI **21** 03:02:14.5,4730N×154.19E,h10km,mB4.5,mb4.1,Ms3.8, Msz3.7*
ISC 21 03:02:11.3±2.8,4731N±009×1548E±01,h0km±17km,n66, σ1§03/67,mb4.4/35,MS3.4/5,3C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.48**	**14**	*e*PN	**Pn**	**03 03 07.6**	**+1.0**
KUR	**Kuril'sk**	**5.26**	**249**	PN	**Pn**	**03 03 31.0**	**-0.1**
KUR				pmax	pmax		
comp=N,60nm,0.7s							
KUR				pmax	pmax		
comp=Z,170nm,0.7s							
ASAJ	**Asahikawa**	**9.14**	**254**	Pn	**Pn**	**03 04 23.7**	**-0.7**
comp=Z,1.9nm,0.3s,baz=98,slow=17,SNR=6.3							
ASAJ	**Asahikawa**	**9.14**	**254**	PN	**Pn**	**03 04 23.7**	**-0.7**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ERM	**Erimo**	**9.86**	**242**	⇑*e*PN	**Pn**	**03 04 29.7**	**-4.5**
MAJO	**Matsushiro**	**16.36**	**235**	*e*P	**Pn**	**03 06 03.0**	**+0.7**
comp=Z,14nm,1.0s							
MJAR	**Matsushiro Arr**	**16.36**	**235**	Pn	**Pn**	**03 06 03.0**	**+0.7**
comp=Z,0.3nm,0.3s,baz=36,slow=9.4,SNR=8.6							
MDJ	**Mudanjiang**	**17.73**	**271**	P	**Pn**	**03 06 18.3**	**-1.2**
MDJ				AP	pP	03 06 22.4	+1.9
MDJ				XP	sP	03 06 23.8	+3.2
MDJ				S	**Sn**	**03 09 33.9**	**-3.8**
MDJ				AMB	AMB		
comp=Z,5.0nm,0.9s							
MDJ				AMB	AMB		
comp=Z,82nm,5.9s							
BILL	**Bilibino**	**21.59**	**12**	⇑*i*P	**P**	**03 07 02.5**	**-0.1**
BILL	**Bilibino**	**21.59**	**12**	*e*P	**P**	**03 07 02.4**	**-0.2**
comp=Z,7.8nm,0.9s,mb4.1							
KSRS	**Korea Array**	**22.09**	**253**	P	**P**	**03 07 07.7**	**-0.3**
comp=Z,2.1nm,0.7s,mb3.7,baz=51,slow=8.6,SNR=6.4							
KSRS				LR	LR	03 14 21.1	
comp=Z,22nm,21.6s,MS2.5,baz=175,slow=33							
JNU	**Nakatsue**	**23.02**	**241**	LR	LR	03 15 56.9	
comp=Z,96nm,19.4s,MS3.3,baz=268,slow=36							
BOD	**Bodaibo**	**26.55**	**308**	*e*P	**P**	**03 07 49.1**	**-1.6**
BOD				pmax	pmax		
comp=Z,3.0nm,1.7s,mb3.8							
TIXI	**Tiksi**	**27.27**	**342**	⇓*e*P	**P**	**03 07 55.1**	**-2.2**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.6s,mb4.2							
TIXI				MLR	MLR		
comp=Z,100nm,24.0s,MS3.3							
TIXI	**Tiksi**	**27.27**	**342**	*e*P	**P**	**03 07 56.7**	**-0.5**
comp=Z,4.5nm,0.8s,mb4.2							
HHC	**Hu-ho-hao-te**	**31.43**	**274**	*e*P	**P**	**03 08 35.3**	**+1.2**
HHC				AMB	AMB		
comp=Z,17nm,0.8s,mb5.0							
HHC				AMB	AMB		
comp=Z,175nm,5.9s							
SONM	**Songino Array**	**32.26**	**289**	P	**P**	**03 08 40.5**	**-1.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=74,slow=8.6,SNR=3.6							
LZH	**Lanzhou**	**39.04**	**272**	*e*P	**P**	**03 09 39.5**	**-0.2**
LZH				AP		03 09 42.8	
LZH				XP	sP	03 09 44.3	+4.5
LZH				AMB	AMB		
comp=Z,17nm,1.3s,mb4.5							
LZH				AMB	AMB		
comp=Z,45nm,5.0s							
LZH				LR	LR		
comp=N,237nm,13.1s							
LZH				LR	LR		
comp=Z,312nm,17.5s,MS4.2							
LZH	**Lanzhou**	**39.04**	**272**	*e*P	**P**	**03 09 39.5**	**-0.2**
comp=Z,17nm,1.3s,mb4.5							
LZH				pP		03 09 42.8	
LZH				sP	sP	03 09 44.2	+4.4
LZH				*e*PP	PP	03 11 02.6	-6.4
LZH				LR	LR		
comp=Z,310nm,17.5s,MS4.2							
INK	**Inuvik**	**40.54**	**33**	P	**P**	**03 09 52.1**	**-0.1**
comp=Z,0.8nm,0.5s,mb3.7,baz=295,slow=5.5,SNR=11							
INK	**Inuvik**	**40.54**	**33**	P	**P**	**03 09 52.1**	**-0.1**
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**40.54**	**33**	*e*P	**P**	**03 09 52.8**	**+0.6**
comp=Z,26nm,0.6s,mb5.2							
WMQ	**Urumqi**	**45.82**	**292**	*e*P	**P**	**03 10 35.5**	**+0.7**
WMQ				AMB	AMB		
comp=Z,2.0nm,1.2s,mb4.0							
WMQ				AMB	AMB		
comp=Z,118nm,5.0s							
WMQ				LR	LR		
comp=N,51nm,17.0s,MS3.6							
WMQ				LR	LR		
comp=E,24nm,14.0s,MS3.6							
WMQ				LR	LR		
comp=Z,25nm,16.0s,MS3.2							
MK31	**Makanchi Array**	**47.73**	**298**	*e*P	**P**	**03 10 49.5**	**-0.3**
MKAR	**Makanchi Array**	**47.73**	**298**	P	**P**	**03 10 49.1**	**-0.7**
comp=Z,0.5nm,0.5s,mb3.9,baz=67,slow=8.2,SNR=13							
KURK	**Kurchatov**	**48.03**	**304**	⇓*e*P	**P**	**03 10 51.7**	**-0.5**
KURK	**Kurchatov**	**48.03**	**304**	*e*P	**P**	**03 10 51.6**	**-0.5**
comp=Z,3.7nm,0.8s,mb4.6							
YKA	**Yellowknife Ar**	**49.77**	**37**	P	**P**	**03 11 04.3**	**-1.2**
comp=Z,0.3nm,0.7s,mb3.3,baz=298,slow=7.5,SNR=5.4							
YKA	**Yellowknife Ar**	**49.77**	**37**	P	**P**	**03 11 05.0**	**-0.5**
BRVK	**Borovoye**	**51.45**	**310**	*e*P	**P**	**03 11 17.6**	**-0.5**
comp=Z,4.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.64**	**297**	*i*P	**P**	**03 11 41.5**	**-0.2**
AAK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
AAK	**Ala-Archa**	**54.64**	**297**	*e*P	**P**	**03 11 41.0**	**-0.7**
comp=Z,1.9nm,0.8s,mb4.2							
ARU	**Arti**	**55.39**	**318**	⇑*i*P	**P**	**03 11 47.6**	**+0.4**
ARU				*e*		03 13 48.2	
ARU				*e*S	**S**	**03 19 32.5**	**-0.1**
ARU				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
JIRN	**Jiri**	**56.07**	**275**	*e*P	**P**	**03 11 52.6**	**+0.6**
comp=Z,7.5nm,0.7s,mb4.8							
GUN	**Gumba**	**56.12**	**276**	*e*P	**P**	**03 11 53.1**	**+0.7**
comp=Z,5.6nm,0.5s,mb4.8							
KKN	**Kakani**	**56.60**	**276**	*e*P	**P**	**03 11 56.4**	**+0.5**
comp=Z,5.4nm,0.3s,mb5.0							
PKI	**Pulchoki**	**56.66**	**276**	*e*P	**P**	**03 11 56.5**	**+0.3**
comp=Z,4.0nm,0.3s,mb5.0							
DMN	**Daman**	**56.84**	**276**	*e*P	**P**	**03 11 58.6**	**+1.1**
comp=Z,13nm,0.7s,mb5.0							
GKN	**Gorkha**	**56.90**	**277**	*e*P	**P**	**03 11 59.3**	**+1.3**
comp=Z,10nm,0.7s,mb5.0							
KOLN	**Koldanda**	**57.75**	**277**	*e*P	**P**	**03 12 05.6**	**+1.6**
comp=Z,9.5nm,0.9s,mb4.8							
AKTK	**Aktyubinsk**	**59.22**	**312**	P	**P**	**03 12 14.0**	**-0.3**
AKTO	**Aktyubinsk**	**59.22**	**312**	P	**P**	**03 12 14.0**	**-0.3**
comp=Z,1.7nm,0.7s,mb4.2,baz=57,slow=11,SNR=5.7							
AKTO	**Aktyubinsk**	**59.22**	**312**	P	**P**	**03 12 14.0**	**-0.3**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**03 12 47.0**	**+0.3**
comp=Z,2.2nm,0.6s,mb4.6,baz=39,slow=6.8,SNR=18							
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**03 12 47.0**	**+0.3**
FINES				pmax	pmax		
comp=Z,2.0nm,0.6s							
OBN	**Obninsk**	**65.50**	**326**	⇓*e*P	**P**	**03 12 56.5**	**+0.2**
OBN				*e*		03 15 18.8	
OBN				*e*S	S	03 21 30.3	-12
OBN				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.8							
WRA	**Warramunga Arr**	**69.44**	**201**	P	**P**	**03 13 18.6**	**-2.6**
comp=Z,0.4nm,0.7s,mb3.8,baz=29,slow=8.0,SNR=7.2							
WRA	**Warramunga Arr**	**69.44**	**201**	*i*P	**P**	**03 13 20.3**	**-0.9**
AKASG	**Malin Array Be**	**71.73**	**327**	P	**P**	**03 13 33.7**	**-1.4**
comp=Z,0.7nm,0.4s,mb4.1,baz=33,slow=6.2,SNR=7.0							
AKASG	**Malin Array Be**	**71.73**	**327**	*e*P	**P**	**03 13 35.8**	**+0.6**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.73**	**327**	P	**P**	**03 13 33.7**	**-1.4**
ASAR	**Alice Springs**	**73.13**	**200**	P	**P**	**03 13 39.5**	**-4.0**
comp=Z,0.4nm,0.7s,mb3.7,baz=22,slow=5.7,SNR=6.8							
ASAR	**Alice Springs**	**73.13**	**200**	P	**P**	**03 13 42.4**	**-1.1**
TXAR	**Lajitas Array**	**76.19**	**62**	P	**P**	**03 13 59.9**	**-1.5**
comp=Z,1.0nm,0.7s,mb4.1,baz=300,slow=4.5,SNR=13							
TXAR	**Lajitas Array**	**76.19**	**62**	P	**P**	**03 13 59.9**	**-1.4**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
DPC	**Dobruska-Polom**	**76.34**	**334**	*e*P	**P**	**03 14 06.7**	**+4.5**
CLL	**Collm**	**76.43**	**336**	*e*P	**P**	**03 14 02.0**	**-0.7**
CLL				*e*pP		03 14 06.0	
KHC	**Kasperske Hory**	**78.23**	**335**	*e*P	**P**	**03 14 15.6**	**+2.8**
GERES	**GERESS Array B**	**78.46**	**335**	P	**P**	**03 14 13.5**	**-0.5**
comp=Z,0.4nm,0.4s,mb3.9,baz=33,slow=5.9,SNR=4.9							
BRTR	**Keskin Array B**	**78.78**	**318**	P	**P**	**03 14 16.6**	**+0.8**
comp=Z,0.7nm,0.9s,mb3.7,baz=49,slow=14,SNR=2.7							
BRTR	**Keskin Array B**	**78.78**	**318**	P	**P**	**03 14 16.6**	**+0.8**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.9s							
CDF	**Champ du Feu**	**80.57**	**339**	*e*P	**P**	**03 14 28.9**	**+3.4**
GRR	**Gorron**	**82.36**	**344**	*e*P	**P**	**03 14 39.1**	**+4.1**
comp=Z,61nm,1.5s,mb5.2							
SMF	**Signal de Mont**	**83.04**	**340**	*e*P	**P**	**03 14 41.9**	**+3.3**
comp=Z,46nm,1.4s,mb5.2							
LPG	**La Plagne**	**83.42**	**338**	*e*P	**P**	**03 14 44.7**	**+4.2**
comp=Z,10nm,0.9s,mb4.8							
CAF	**Calviac**	**85.07**	**341**	*e*P	**P**	**03 14 52.7**	**+3.8**
comp=Z,25nm,1.3s,mb5.0							

*ISCJB **21** 03:12:27.7±0.3,3789N±001×12220W±002,h10km,Error ellipse: s-maj=2.6km s-min=2.1km az=146.5*
*NEIC **21** 03:12:28.8,3786N×12225W,h9km,MW3.6(BRK),After NCEDC.*
NEIC Felt [IV] at Albany, Berkeley, El Sobrante, Emeryville, Oakland and Orinda; [III] at Alameda, Belvedere, Benicia, Castro Valley, Concord, Cupertino, Daly City, Hercules, Lafayette, Martinez, Moraga, Pinole, Pittsburg, Rodeo, San Anselmo, San Francisco, San Leandro, San Lorenzo, San Mateo, San Pablo, San Rafael, San Ramon, Sausalito, Tiburon, Vallejo and Walnut Creek. Felt as far north as Santa Rosa, as far east as Stockton and as far south as San Jose.
ISC 21 03:12:28.0±0.3,3790N±001×12220W±002,h10km,n46, σ1§18/73,26C-18D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDM	**Black Diamond**	**0.27**	**78**	⇑P	**Pg**	**03 12 35.8**	**+2.4**
baz=0.3,SNR=1000							
BDM				⇓S	**Sg**	**03 12 41.3**	**+4.3**
baz=0.3							
SAC	**San Andreas**	**0.36**	**209**	*e*Pg	**Pg**	**03 12 35.1**	**0.0**
SAC				*e*Sg	**Sg**	**03 12 40.1**	**+0.2**
WENL	**Wente Brothers**	**0.45**	**128**	⇑P	**Pg**	**03 12 38.4**	**+1.8**
baz=0.4,SNR=143							
WENL				⇑S	**Sg**	**03 12 45.4**	**+2.8**
baz=0.4							
CVS	**Carmenet Viney**	**0.49**	**335**	P	**Pg**	**03 12 38.8**	**+1.2**
baz=0.5,SNR=1000							
CVS				⇑S	**Sg**	**03 12 47.0**

OHCM *e*Sn **Sn** **03 13 13.6 -1.9**
T05C Eagle Field, D 1.57 129 ⇓P **Pn** **03 12 55.8 -0.2**
baz=1.6,SNR=24
S05C Merced 1.58 110 P **Pn** **03 12 55.4 -0.7**
S05C ⇑S **Sn** **03 13 15.3 -1.3**
baz=1.6
HAST UC Hastings Re 1.59 161 ⇓P **Pn** **03 12 54.6 -1.6**
baz=1.6,SNR=202
ORV Oroville 1.74 18 ⇓P **Pn** **03 12 57.5 -0.8**
ORV ⇑S **Sn** **03 13 19.6 -0.9**
baz=1.8
GASB Alder Springs 1.80 347 ⇑P **Pn** **03 12 59.4 +0.4**
baz=1.8
R05C Kirkwood Meado 1.85 64 ⇓S **Sn** **03 13 25.1 +1.9**
baz=1.9
S06C San Francisco 1.86 90 ⇓S **Sn** **03 13 23.7 +0.3**
baz=1.9
P05C Yuba Gap, Truc 1.87 41 ⇓S **Sn** **03 13 25.5 +1.7**
baz=1.9
U04C Hernandez Rese 1.91 143 ⇑P **Pn** **03 13 00.1 -0.4**
baz=1.9,SNR=37
V03C Hunter Liggett 2.03 157 ⇑P **Pn** **03 13 00.9 -1.3**
baz=2.0
O03C Acorn Hollow, 2.10 3 ⇓S **Sn** **03 13 28.9 -0.4**
baz=2.1
T06C Milleton Lake 2.17 113 ⇑P **Pn** **03 13 04.0 -0.2**
baz=2.2,SNR=30
T06C ⇑S **Sn** **03 13 30.5 -0.6**
baz=2.2
WAKR Walker 2.26 74 *e*Pb **Pb** **03 13 08.4 -0.4**
WAKR *e*Sg **Sg** **03 13 39.9 -0.6**
KCC Kaiser Creek 2.36 103 ⇓S **Sn** **03 13 35.2 -0.5**
baz=2.4
PKD Parkfield 2.36 145 ⇑P **Pn** **03 13 06.2 -0.6**
baz=2.3,SNR=64
V04C Ramage Ranch, 2.50 154 ⇑P **Pn** **03 13 07.7 -1.0**
baz=2.5
WDC Whiskeytown Da 2.69 354 *e*Pn **Pn** **03 13 10.6 -0.8**
WDC *e*Sn **Sn** **03 13 41.8 -2.2**
PAHR Pah Rah Range 2.84 50 *e*Pn **Pn** **03 13 15.5 +2.1**
MTUM Tungsten Hills 2.94 100 *e*Pn **Pn** **03 13 17.2 +2.5**
MTUM *e*Sn **Sn** **03 13 49.8 -0.1**
VES Vestal, Richgr 3.23 128 ⇑S **Sn** **03 13 56.9 -0.4**
baz=3.2
TPH Tonopah 3.93 86 *e*Pg **Pg** **03 13 40.8 -2.5**
DAC Darwin (Calif) 4.02 112 *e*Pn **Pn** **03 13 31.1 +1.6**
MOD Modoc 4.25 19 *e*Pn **Pb** **03 13 41.5 -1.4**

*CSEM **21** 03:21:00.4±1.1,3866N×2926W,h0km±7km,ML1.5,Error ellipse: s-maj=13.7km s-min=8.8km az=28.0,After PDA*
*PDA **21** 03:21:00.4±1.1,3866N×2926W,h0km±7km,MD3.2,ML1.5, Error ellipse: s-maj=13.7km s-min=8.8km az=28.0*
SVSA 21 03:21:00.4±1.1,3866N×2926W,h0km±7km,MD3.2,ML1.5, Error ellipse: s-maj=13.7km s-min=8.8km az=28.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.37**	**101**	*e*P		Pg	03 21 07.5	+0.1
PTCA				*e*S		Sg	03 21 12.9	+0.7
PTCA	15nm,0.1s							
PTCA	**Ponta do Capel**	**0.37**	**101**	*e*P		Pg	03 21 07.5	+0.1
PTCA				*e*S		Sg	03 21 12.9	+0.7
PCED	**Cedros**	**0.43**	**93**	*i*P		Pg	03 21 08.5	-0.2
PCED				*e*S		Sg	03 21 14.4	0.0
PCED	23nm,0.2s							
PCED	**Cedros**	**0.43**	**93**	*e*S		Sg	03 21 14.4	0.0
CALA	**Caldeira**	**0.44**	**100**	*e*P		Pg	03 21 08.8	0.0
CALA				*e*S		Sg	03 21 14.3	-0.3
HOR	**Horta**	**0.51**	**105**	*e*S		Sg	03 21 16.2	-0.5
PCND	**Candelaria**	**0.65**	**106**	*e*S		Sg	03 21 20.6	-0.7
PCND	6.2nm,0.1s							
PICO	**Pico**	**0.67**	**103**	*e*P		Pg	03 21 12.0	-1.2
PICO				*e*S		Sg	03 21 21.2	-0.7
PTEI	**Pico do Teixo**	**0.72**	**103**	*e*S		Sg	03 21 22.4	-1.2
PTEI	10nm,0.1s							
PBOI	**Pico dos Bois**	**0.72**	**107**	*e*S		Sg	03 21 22.5	-1.2
PBOI	10nm,0.2s							
ROSA	**Rosais**	**0.80**	**85**	*e*P		Pg	03 21 13.8	-1.9
ROSA				*e*S		Sg	03 21 24.1	-1.9
PMAN	**Manadas**	**0.91**	**91**	*e*P		Pg	03 21 25.3	+7.4
SRBC	**Serra Branca**	**1.02**	**68**	*e*P		Pg	03 21 25.5	+5.5
PGRA	**Graciosa**	**1.06**	**69**	*e*P		Pg	03 21 26.9	+6.1

*IDC **21** 03:54:51.7±1.8,8.15S×12595E,h0km,mb3.9/2,mb1 4.1/4, mb1mx3.8/14,mbtmp4.0/4,ML3.9/2,MS3.4/2,Ms1 3.4/2, ms1mx2.6/19,Error ellipse: s-maj=131.2km s-min=27.4km az=75.0*
*NEIC **21** 03:54:56.9±3.1,821S×12605E,h40km±37km,mb4.0/3, Error ellipse: s-maj=27.1km s-min=22.2km az=143.0*
*ISCJB **21** 03:55:00.8±2.5,856S±0.10×1264E±0.1,h116km±28km, mb4.3/8,Error ellipse: s-maj=21.1km s-min=15.1km az=140.2*
ISC 21 03:55:01.5±1.5,851S±008×1264E±01,h100km±16km,n18, σ1§08/21,mb4.3/8,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.22**	**126**	*e*P		**Pn**	**03 56 46.2**	**+1.9**
	17nm,0.6s							
FITZ	**Fitzroy Crossi**	**9.56**	**185**	*e*P		**Pn**	**03 57 16.0**	**-0.2**
	25nm,0.9s							
FITZ				*e*S		**Sn**	**03 59 01.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**9.56**	**185**	Pn		**Pn**	**03 57 15.7**	**-0.4**
	0.8nm,0.3s,baz=27,slow=11,SNR=14							
FITZ				Sn		**Sn**	**03 59 02.4**	**+0.6**
	1.3nm,0.3s,baz=115,slow=16,SNR=8.1							
FITZ				LR		LR	04 01 55.3	
	comp=Z,79nm,19.5s,baz=50,slow=43							
WRA	**Warramunga Arr**	**13.69**	**147**	Pn		**Pn**	**03 58 09.7**	**-1.6**
	0.5nm,0.3s,baz=318,slow=13,SNR=25							
WRA				Sn		**Sn**	**04 00 41.0**	**-0.9**
	0.5nm,0.3s,baz=323,slow=23,SNR=5.5							
ASAR	**Alice Springs**	**16.68**	**155**	P		**Pn**	**03 58 53.4**	**+4.4**
	0.3nm,0.3s,baz=321,slow=11,SNR=15							
ASAR				S		**S**	**04 01 59.7**	**+1.0**
	0.2nm,0.3s,baz=344,slow=25,SNR=5.3							
DZM	**Mont Dzumac**	**40.73**	**114**	LR		LR	04 16 26.2	
	comp=Z,142nm,20.5s,baz=71,slow=31							
JIRN	**Jiri**	**53.01**	**314**	*e*P		**P**	**04 04 10.4**	**+2.5**
GUN	**Gumba**	**53.38**	**314**	*e*P		**P**	**04 04 10.8**	**+0.2**
	12nm,0.8s,mb5.0							
PKI	**Pulchoki**	**53.51**	**314**	*e*P		**P**	**04 04 14.3**	**+2.7**
	3.6nm,0.2s,mb5.0							
GKN	**Gorkha**	**54.32**	**313**	*e*P		**P**	**04 04 17.3**	**-0.2**
KOLN	**Koldanda**	**54.94**	**313**	*e*P		**P**	**04 04 21.9**	**0.0**
	54nm,1.6s,mb5.3							
SONM	**Songino Array**	**58.84**	**344**	P		**P**	**04 04 49.0**	**-0.5**
	0.6nm,0.8s,mb3.7,baz=160,slow=8.1,SNR=5.1							
MK31	**Makanchi Array**	**67.62**	**329**	*e*P		**P**	**04 05 47.0**	**-0.5**
MKAR	**Makanchi Array**	**67.62**	**329**	P		**P**	**04 05 46.7**	**-0.7**
	1.6nm,0.7s,mb4.0,baz=127,slow=7.3,SNR=19							
MKAR	**Makanchi Array**	**67.62**	**329**	P		**P**	**04 05 46.7**	**-0.7**
AAK	**Ala-Archa**	**69.47**	**322**	*e*P		**P**	**04 05 58.6**	**-0.4**
	0.7nm,0.5s,mb3.8							
KURK	**Kurchatov**	**72.02**	**330**	*e*P		**P**	**04 06 13.5**	**-0.9**
	1.8nm,0.7s,mb4.0							
BRVK	**Borovoye**	**77.57**	**329**	*e*P		**P**	**04 06 46.1**	**-0.4**
	1.0nm,0.6s,mb3.7							

*CSEM **21** 04:12:12.3,1203N×4373E,h12km,ML3.7,After DHMR*
DHMR 21 04:12:12.3±1.4,1203N×4373E,h13km±7km,ML3.7,4C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.25**	**17**	⇑*i*P		Pn	04 12 36.0	+0.5
TRBA				*i*S		Sb	04 12 52.8	+0.9
TRBA				AML		AML	04 12 58.3	
	comp=E,910nm,0.5s							
ADEN	**Aden**	**1.43**	**59**	⇑*i*P		Pn	04 12 38.6	+0.5
ADEN				*i*S		Sn	04 12 57.7	+1.0
ADEN				AML		AML	04 13 02.9	
	comp=E,2μm,0.3s							

ADEN	**Aden**	**1.43**	**59**	⇑*i*P		Pn	04 12 38.6	+0.6
ADEN				*i*S		Sn	04 12 57.7	+1.0
	comp=E,1μm,0.3s							
UDYN	**Al 'Udayn**	**1.94**	**7**	*i*P		Pn	04 12 46.8	+1.7
UDYN				*i*S		Sn	04 13 13.3	+4.0
UDYN				AML		AML	04 13 19.8	
	comp=N,975nm,0.5s							
UDYN	**Al 'Udayn**	**1.94**	**7**	*i*P		Pn	04 12 46.8	+1.8
UDYN				*i*S		Sn	04 13 13.3	+4.0
	comp=N,487nm,0.5s							
LBOS		**2.36**	**39**	⇑*i*P		Pn	04 12 52.8	+2.0
LBOS				*i*S		Sn	04 13 25.5	+6.0
DHBB	**Dhamar BB**	**2.61**	**14**	*i*P		Pn	04 12 57.5	+3.3
DHBB				*i*S		Sn	04 13 32.5	+6.7
BDHA	**Al Bayda'**	**2.64**	**43**	*i*P		Pn	04 12 57.2	+2.6
BDHA				*i*S		Sn	04 13 33.6	+7.1
BDHA				AML		AML	04 13 39.5	
	comp=E,400nm,0.4s							
BDHA	**Al Bayda'**	**2.64**	**43**	*i*P		Pn	04 12 57.2	+2.6
BDHA				*i*S		Sn	04 13 33.6	+7.1
	comp=E,200nm,0.4s							
HAJJ	**Hajjah**	**3.65**	**358**	*i*P		Pn	04 13 11.1	+2.5
HAJJ				*i*S		Sn	04 13 57.0	+5.5

*MOS **21** 04:39:00.6±0.8,4661N×15276E,h33km,mb4.1/5,Error ellipse: s-maj=28.9km s-min=20.0km az=52.1*
*ISCJB **21** 04:39:02.9±2.8,463N±03×1529E±02,h69km±35km, mb3.7/9,Error ellipse: s-maj=57.6km s-min=19.8km az=163.9*
*IDC **21** 04:39:04.0±1.3,4761N×15240E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.7/21,mbtmp3.8/7,MS3.7/1,Ms1 3.7/1, ms1mx2.4/39,Error ellipse: s-maj=37.0km s-min=27.9km az=122.0*
*NEIC **21** 04:39:05.5±1.0,4763N×15230E,h10km,mb4.1/2,Error ellipse: s-maj=26.6km s-min=19.9km az=153.0*
ISC 21 04:39:00.7±5.4,467N±02×1529E±02,h19km±36km,n22, σ0§50/20,mb3.8/9,MS3.8/1,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**249**	⇓*i*PN		**Pn**	**04 39 58.0**	**+0.5**
KUR				S		**Sn**	**04 40 41.6**	**+0.4**
KUR				pmax		pmax		
	comp=Z,110nm,0.7s							
KUR				smax				
	comp=N,150nm,0.8s							
KUR				smax				
	comp=E,200nm,0.8s							
ERM	**Erimo**	**8.36**	**240**	*i*PN		**Pn**	**04 41 00.4**	**-0.3**
INK	**Inuvik**	**41.82**	**32**	P		**P**	**04 46 50.1**	**+1.0**
	comp=E,0.6nm,0.6s,mb3.4,baz=296,slow=6.9,SNR=6.1							
INK	**Inuvik**	**41.82**	**32**	P		**P**	**04 46 50.1**	**+1.0**
INK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**46.82**	**297**	*e*P		**P**	**04 47 28.6**	**-0.4**
MKAR	**Makanchi Array**	**46.82**	**297**	P		**P**	**04 47 28.6**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=72,slow=7.8,SNR=6.3							
MKAR	**Makanchi Array**	**46.82**	**297**	P		**P**	**04 47 28.6**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**50.81**	**309**	*e*P		**P**	**04 47 59.5**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2							
YKA	**Yellowknife Ar**	**51.10**	**37**	P		**P**	**04 48 02.1**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=299,slow=7.1,SNR=5.7							
AAK	**Ala-Archa**	**53.71**	**296**	*e*P		**P**	**04 48 20.9**	**-0.4**
AAK				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.9							
AAK	**Ala-Archa**	**53.71**	**296**	*e*P		**P**	**04 48 20.7**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.0							
AKTO	**Aktyubinsk**	**58.65**	**312**	LR		LR	05 17 00.9	
	comp=Z,60nm,18.2s,MS3.8,baz=116,slow=39							
FINES	**FINESS Array B**	**64.04**	**335**	P		**P**	**04 49 32.9**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.2,baz=101,slow=1.9,SNR=4.6							
FINES	**FINESS Array B**	**64.04**	**335**	P		**P**	**04 49 32.9**	**-0.1**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**64.04**	**335**	P		**P**	**04 49 32.9**	**-0.1**
NB2	**NORSAR Subarra**	**68.25**	**341**	P		**P**	**04 50 00.7**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.7,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.25**	**341**	P		**P**	**04 50 01.0**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.7,baz=28,slow=6.4,SNR=2.6							
WRA	**Warramunga Arr**	**68.37**	**199**	P		pP	04 50 12.5	+5.4
	comp=Z,0.2nm,0.6s,baz=17,slow=6.7,SNR=5.0							
WRA	**Warramunga Arr**	**68.37**	**199**	P		pP	04 50 14.0	+6.8
AKASG	**Malin Array Be**	**71.51**	**326**	P		**P**	**04 50 20.0**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=30,slow=5.8,SNR=3.4							
AKASG	**Malin Array Be**	**71.51**	**326**	P		**P**	**04 50 20.0**	**-0.1**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
TXAR	**Lajitas Array**	**77.69**	**60**	P		**P**	**04 50 55.3**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=284,slow=3.3,SNR=4.9							

RSPR 21 04:41:40.5,1809N×6577W,h14km,MD2.1/6,MD2.1/6, 9C-1D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**0.09**	**305**	⇑*e*P		Pg	04 41 43.8	+0.3
HUMP	**Col San Antoni**	**0.09**	**305**	*e*S		Sg	04 41 45.9	+0.3
HUMP	**Col San Antoni**	**0.09**	**305**	⇑*e*P		Pg	04 41 43.9	+0.5
HUMP	**Col San Antoni**	**0.09**	**305**	*e*S		Sg	04 41 46.0	+0.4
CPD	**Cerro la Pandu**	**0.15**	**249**	⇑*e*P		Pg	04 41 44.6	+0.4
CPD	**Cerro la Pandu**	**0.15**	**249**	*e*S		Sg	04 41 47.3	+0.5
CPD	**Cerro la Pandu**	**0.15**	**249**	⇑*e*P		Pg	04 41 44.6	+0.4
CPD				*e*S		Sg	04 41 47.4	+0.5
CBYP	**Canovanas**	**0.20**	**336**	⇑*e*P		Pg	04 41 45.5	+0.5
CBYP	**Canovanas**	**0.20**	**336**	*e*S		Sg	04 41 48.7	+0.6
CBYP	**Canovanas**	**0.20**	**336**	⇑*e*P		Pg	04 41 45.7	+0.7
CBYP	**Canovanas**	**0.20**	**336**	*e*S		Sg	04 41 48.7	+0.6
MTP	**Monte Pirata**	**0.21**	**88**	⇑*e*P		Pg	04 41 45.4	+0.3
MTP	**Monte Pirata**	**0.21**	**88**	*e*S		Sg	04 41 48.8	+0.4
MTP	**Monte Pirata**	**0.21**	**88**	⇓*e*P		Pg	04 41 45.5	+0.3
MTP	**Monte Pirata**	**0.21**	**88**	*e*S		Sg	04 41 48.8	+0.4
SJG	**San Juan**	**0.36**	**274**	⇑*e*P		Pg	04 41 48.0	+0.2
SJG	**San Juan**	**0.36**	**274**	*e*S		Sg	04 41 52.9	+0.2
SJG	**San Juan**	**0.36**	**274**	⇑*e*P		Pg	04 41 48.1	+0.3
SJG				*e*S		Sg	04 41 53.2	+0.5
STVI	**Saint Thomas**	**0.82**	**71**	*e*S		Sg	04 42 05.8	-1.4

IDC 21 05:11:12.7±7.0,1042S×16188E,h58km±50km,mb3.6/4, mb1 3.8/5,mb1mx3.6/16,mbtmp3.7/5,ML4.6/1,MS3.3/2, Ms1 3.3/2,ms1mx2.8/19,Error ellipse: s-maj=52.9km s-min=28.3km az=89.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.14**	**297**	P		Pn	05 11 45.5	-0.5
	208nm,0.3s,baz=124,slow=1.4,SNR=33							
HNR				S		Sn	05 12 12.3	+0.8
	355nm,0.3s,baz=269,slow=23,SNR=11							
PMG	**Port Moresby**	**14.54**	**273**	LR		LR	05 19 25.8	
	comp=Z,106nm,20.4s,baz=226,slow=34							
AFI	**Afiamalu**	**25.98**	**100**	LR		LR	05 23 56.2	
	comp=Z,63nm,19.9s,baz=247,slow=29							
WRA	**Warramunga Arr**	**28.18**	**247**	P		P	05 16 59.6	0.0
	1.6nm,0.7s,baz=76,slow=9.3,SNR=9.6							
STKA	**Stephens Creek**	**28.43**	**218**	P		P	05 17 03.4	+1.6
	1.9nm,0.8s,baz=60,slow=14,SNR=3.9							
ASAR	**Alice Springs**	**29.74**	**240**	P		P	05 17 13.2	-0.3
	1.0nm,0.7s,baz=72,slow=9.7,SNR=9.5							
SONM	**Songino Array**	**75.95**	**325**	P		P	05 22 53.7	+0.4
	0.4nm,0.7s,baz=134,slow=4.2,SNR=2.7							

*ISCJB **21** 05:44:31.8±0.4,3332N±003×1167W±003,h10km,Error ellipse: s-maj=4.6km s-min=2.8km az=86.9*
*MDD **21** 05:44:36.6±0.6,3312N×1176W,h0km,mb4.3/13,Error ellipse: s-maj=10.6km s-min=5.1km az=132.0,PRXIMO*
*CSEM **21** 05:44:36.2±0.1,3334N×1201W,h40km,MD3.6,Error ellipse: s-maj=3.8km s-min=1.5km az=131.0*
*CNRM **21** 05:44:44.9,3315N×1150W,h30km,MD3.6*
*INMG **21** 05:44:44.2±2.1,3310N×1166W,h30km±19km,ML2.9, Error ellipse: s-maj=7.9km s-min=2.9km az=123.0*
ISC 21 05:44:34.0±0.4,3330N±003×1166W±003,h10km,n64, σ1§34/109,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CIA	**Chichaoua**	**3.00**	**124**	*e*P		**Pb**	**05 45 26.5**	**-1.1**
CIA				*i*S		**Sn**	**05 45 58.0**	**+0.3**
PMPS	**Porto Santo**	**3.92**	**268**	*e*P		**Pn**	**05 45 39.1**	**+4.9**
PMPS				*e*S		**Sn**	**05 46 20.8**	**+0.5**
PMAR	**Madeira**	**4.45**	**264**	*e*P		**Pn**	**05 45 46.1**	**+4.6**
PMAR				*e*S		**Sn**	**05 46 32.2**	**-1.1**
PMAR				A			05 46 39.0	
	33nm,0.2s							
PMAR	**Madeira**	**4.45**	**264**	S		**Sn**	**05 46 32.2**	**-1.1**
	16nm,0.2s							
PMAR	**Madeira**	**4.45**	**264**	*e*P		**Pn**	**05 45 46.1**	**+4.6**
PMAR				*e*S		**Sn**	**05 46 32.2**	**-1.1**
	33nm,0.2s							
EFAM	**Famara**	**4.46**	**202**	P		**Pn**	**05 45 41.9**	**+0.3**
	17nm,0.6s,SNR=12							
EFAM				S		**Sn**	**05 46 27.5**	**-6.0**
	23nm,0.3s,SNR=10							
EFAM	**Famara**	**4.46**	**202**	P		**Pn**	**05 45 41.9**	**+0.3**
	17nm,0.6s,SNR=12							
EFAM				S		**Sn**	**05 46 27.5**	**-6.0**
	23nm,0.3s,SNR=10							
TZC	**Tazercounte**	**4.51**	**103**	*e*P		**Pn**	**05 45 49.0**	**+6.7**
TZC				*i*S		**Sn**	**05 46 35.0**	**+0.2**
KIB	**El Ksiba**	**4.78**	**97**	*i*P		**Pn**	**05 45 52.0**	**+5.9**
KIB				*i*S		**Sn**	**05 46 42.0**	**+0.4**
PTEO	**Sao Teotonio**	**4.87**	**29**	*e*P		**Pn**	**05 45 54.1**	**+6.9**
PTEO				*e*S		**Sn**	**05 46 45.8**	**+2.2**
PTEO				A			05 46 50.2	
	25nm,0.3s							
PTEO	**Sao Teotonio**	**4.87**	**29**	*e*P		**Pn**	**05 45 54.1**	**+6.9**
PTEO				*e*S		**Sn**	**05 46 45.8**	**+2.2**
	25nm,0.3s							
CFUE	**Fuerteventura**	**5.03**	**203**	P		**Pn**	**05 45 49.6**	**+0.2**
	4.6nm,0.1s,SNR=7.9							
CFUE				S		**Sn**	**05 46 41.4**	**-6.3**
	30nm,0.1s,SNR=7.9							
CFTV	**Fuerteventura**	**5.30**	**204**	P		**Pn**	**05 45 54.7**	**+1.6**
	1.4nm,0.1s,SNR=7.9							
CFTV				S		**Sn**	**05 46 48.2**	**-6.0**
	5.9nm,0.4s,SNR=11							
EGRO	**El Granado**	**5.43**	**38**	P		**Pn**	**05 46 01.0**	**+6.0**
	1.2nm,0.3s,SNR=16							
EGRO				S		**Sn**	**05 46 57.9**	**+0.4**
	9.1nm,0.3s,SNR=8.8							
EGRO	**El Granado**	**5.43**	**38**	P		**Pn**	**05 46 01.0**	**+6.1**
	1.2nm,0.3s,SNR=16							
EGRO				S		**Sn**	**05 46 57.9**	**+0.4**
	9.1nm,0.3s,SNR=8.8							
CZD	**Col de Zad**	**5.56**	**91**	*e*P		**Pn**	**05 46 03.0**	**+6.3**
CZD				*i*S		**Sn**	**05 47 01.0**	**+0.4**
PBEJ	**Beja**	**5.64**	**32**	*e*P		**Pn**	**05 46 04.0**	**+6.2**
PBEJ				*e*S		**Sn**	**05 47 03.9**	**+1.3**
PBEJ				A			05 47 06.3	
	10nm,0.2s							
PBEJ	**Beja**	**5.64**	**32**	*e*P		**Pn**	**05 46 04.0**	**+6.2**
PBEJ				*e*S		**Sn**	**05 47 03.9**	**+1.3**
	10nm,0.2s							
MOE	**Montemor**	**5.86**	**26**	*e*S		**Sn**	**05 47 10.4**	**+2.3**
PLOU	**Loures**	**5.93**	**19**	*e*S		**Sn**	**05 47 13.2**	**+3.4**
PLOU				A			05 47 15.3	
	22nm,0.2s							
PLOU	**Loures**	**5.93**	**19**	*e*S		**Sn**	**05 47 13.2**	**+3.4**
	22nm,0.2s							
ESPR	**Espera**	**5.94**	**52**	P		**Pn**	**05 46 06.5**	**+4.5**
	3.2nm,0.3s,SNR=8.7							
ESPR				S		**Sn**	**05 47 11.0**	**+0.8**
	2.4nm,0.5s							
ESPR	**Espera**	**5.94**	**52**	P		**Pn**	**05 46 06.5**	**+4.5**
	3.2nm,0.3s,SNR=8.7							
ESPR				S		**Sn**	**05 47 11.0**	**+0.9**
	2.4nm,0.5s							
PMAFR	**Mafra**	**5.96**	**18**	*e*S		**Sn**	**05 47 13.6**	**+3.0**
PMAFR				A			05 47 19.9	
	27nm,0.3s							
PMAFR	**Mafra**	**5.96**	**18**	*e*S		**Sn**	**05 47 13.6**	**+3.0**
	27nm,0.3s							
EJIF	**Jimena Fronter**	**5.98**	**57**	P		**Pn**	**05 46 08.7**	**+6.1**
	1.6nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.03**	**41**	P		**Pn**	**05 46 08.7**	**+5.5**
	0.6nm,0.1s,SNR=10							
EMIN				S		**Sn**	**05 47 11.4**	**-1.0**
	2.3nm,0.5s							
EMIN	**Mina Concepcio**	**6.03**	**41**	P		**Pn**	**05 46 08.7**	**+5.5**
	0.6nm,0.1s,SNR=10							
EMIN				S		**Sn**	**05 47 11.4**	**-1.0**
	2.3nm,0.5s							
EOSO	**Osorio**	**6.20**	**214**	P		**Pn**	**05 46 05.9**	**+0.4**
	0.9nm,0.1s,SNR=7.9							
EOSO				S		**Sn**	**05 47 07.7**	**-8.6**
	2.8nm,0.2s,SNR=7.9							
EOSO	**Osorio**	**6.20**	**214**	P		**Pn**	**05 46 05.9**	**+0.4**
	0.9nm,0.1s,SNR=7.9							
EOSO				S		**Sn**	**05 47 07.7**	**-8.6**
	2.8nm,0.2s,SNR=7.9							
EBAJ	**Bajamar**	**6.22**	**222**	P		**Pn**	**05 46 05.7**	**-0.1**
	23nm,1.1s,SNR=7.0							
EBAJ				S		**Sn**	**05 47 09.1**	**-7.9**
	1.3nm,0.2s,SNR=7.9							
EBAJ	**Bajamar**	**6.22**	**222**	P		**Pn**	**05 46 05.7**	**-0.1**
	23nm,1.1s,SNR=7.0							
EBAJ				S		**Sn**	**05 47 09.1**	**-7.8**
	1.3nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**6.46**	**30**	*e*P		**Pn**	**05 46 16.0**	**+6.9**
PESTR				*e*S		**Sn**	**05 47 23.8**	**+1.0**
PESTR				A			05 47 26.7	
	7.5nm,0.6s							
PESTR	**Estremoz**	**6.46**	**30**	*e*P		**Pn**	**05 46 16.0**	**+6.9**
PESTR				*e*S		**Sn**	**05 47 23.8**	**+1.0**
	7.5nm,0.6s							
EMIJ	**Mijas**	**6.53**	**58**	P		**Pn**	**05 46 15.2**	**+5.1**
	0.4nm,0.2s,SNR=7.9							
EMIJ				S		**Sn**	**05 47 24.5**	**0.0**
	0.4nm,0.1s,SNR=7.9							
CCAN	**Las Canadas**	**6.61**	**221**	P		**Pn**	**05 46 10.5**	**-0.7**
	0.3nm,0.1s,SNR=7.9							
CCAN				S		**Sn**	**05 47 17.7**	**-8.9**

EQES	**Quesada**	**8.32**	**55**	P	**Pn**	**05 46 40.2**	**+5.7**
	3.7nm,0.9s,SNR=8.6						
EQES				S	**Sn**	**05 48 07.1**	**-1.5**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**8.32**	**55**	P	**Pn**	**05 46 40.2**	**+5.6**
	3.7nm,0.9s,SNR=8.6						
EQES				S	**Sn**	**05 48 07.1**	**-1.5**
	0.5nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**8.56**	**20**	*e*S	**Sn**	**05 48 12.4**	**-2.1**
PVRL				A		05 48 17.3	
	6.2nm,0.3s						
PVRL	**Vila Real**	**8.56**	**20**	*e*S	**Sn**	**05 48 12.4**	**-2.1**
	6.2nm,0.3s						
ELOB	**Lobios**	**9.02**	**17**	S	**Sn**	**05 48 23.6**	**-2.2**
	1.4nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**9.02**	**17**	S	**Sn**	**05 48 23.6**	**-2.1**
	1.4nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**9.34**	**23**	*e*S	**Sn**	**05 48 32.5**	**-1.3**
PBRG				A		05 48 35.3	
	2.2nm,0.4s						
PBRG	**Braganca**	**9.34**	**23**	*e*S	**Sn**	**05 48 32.5**	**-1.3**
	2.2nm,0.4s						
ECAL	**Calabor**	**9.47**	**23**	S	**Sn**	**05 48 35.2**	**-1.6**
	1.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**9.47**	**23**	S	**Sn**	**05 48 35.2**	**-1.6**
	1.0nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**9.47**	**37**	P	**Pn**	**05 46 56.1**	**+5.7**
	0.3nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**05 48 35.0**	**-1.9**
	0.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**9.78**	**54**	P	**Pn**	**05 46 58.7**	**+4.1**
	0.6nm,0.1s,SNR=8.1						
ETOB				S	**Sn**	**05 48 40.1**	**-4.4**
	0.9nm,0.2s,SNR=6.4						
ETOB	**Tobarra**	**9.78**	**54**	P	**Pn**	**05 46 58.7**	**+4.1**
	0.6nm,0.1s,SNR=8.1						
ETOR	**Torete**	**10.73**	**43**	P	**Pn**	**05 47 13.9**	**+6.3**
	1.4nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**05 49 05.0**	**-2.8**
	0.8nm,0.2s,SNR=7.9						

MAN 21 06:09:03.5,1771N×12247E,h0km,mb2.7,ML4.1,MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.62**	**270**	*e*P	Pg	06 09 16.0	+0.6
CVP				*i* S	Sg	06 09 27.0	+3.6
PALP	**Palanan**	**0.64**	**184**	*e*P	Pg	06 09 16.7	+0.9
PALP				*e*S	Sg	06 09 27.0	+2.9
SGCP	**Mt. Cagua**	**0.67**	**323**	*e*P	Pg	06 09 17.3	+1.0
SGCP				*e*S	Sg	06 09 30.2	+5.2
CAUP	**Cauayan**	**0.98**	**219**	*e*P	Pg	06 09 23.8	+1.5
ABRA	**Dolores**	**1.68**	**268**	*e*P	Pn	06 09 34.1	0.0
ABRA				*e*S	Sn	06 09 57.1	+0.8
BALP	**Baler**	**2.13**	**204**	*e*P	Pn	06 09 39.9	-0.4

MAN 21 06:10:05.2,1312N×12554E,h36km,mb4.2,ML5.1,MS3.3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataram**	**1.04**	**235**	*e*P	Pn	06 10 23.6	+0.3
CNP				*e*S	Sn	06 10 42.0	+5.4
BESP	**Borongan**	**1.51**	**184**	*e*P	Pn	06 10 30.1	+0.4
BESP				*e*S	Sn	06 10 49.1	+0.9
OCLP	**Ormoc**	**2.25**	**204**	*e*P	Pn	06 10 41.4	+1.5

*IDC **21** 06:15:48.4±3.0,421S×14496E,h0km,mb3.6/4,mb1 3.9/5, mb1mx3.6/13,mbtmp3.6/5,ML3.8/1,Error ellipse: s-maj=90.2km s-min=24.7km az=103.0*

NEIC 21 06:15:52.7±1.6,432S×14516E,h35km,mb4.6/1,Error ellipse: s-maj=54.6km s-min=14.7km az=100.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.77**	**213**	*e*P	Pn	06 20 09.1	-0.3
WRA	**Warramunga Arr**	**18.77**	**213**	P	Pn	06 20 09.6	+0.2
	0.3nm,0.3s,baz=34,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.09**	**208**	P	P	06 20 45.0	+0.2
	0.5nm,0.4s,baz=42,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**23.51**	**233**	P	P	06 20 59.3	-0.2
	1.6nm,0.6s,baz=41,slow=11,SNR=7.4						
CASY	**Casey**	**66.40**	**195**	*e*P	P	06 26 37.7	-0.4
	3.6nm,0.7s						
MKAR	**Makanchi Array**	**75.04**	**321**	P	P	06 27 31.5	+0.8
	0.1nm,0.4s,baz=105,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**75.04**	**321**	P	P	06 27 31.5	+0.8
ZAL	**Zalesovo**	**76.63**	**328**	P	P	06 27 39.3	-0.4
	0.8nm,0.3s,baz=45,slow=1.4,SNR=2.8						

SKHL 21 06:28:01.2±0.0,5310N×14270E,h10km,mb3.9/3,1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.47**	**17**	*i* Pg	Pg	06 28 12.0	+1.6
OKH				AMB	AMB	06 28 12.8	
	200nm,0.7s						
OKH				⇓*i*Sg	Sg	06 28 19.5	+2.8
OKH				A		06 28 20.8	
	1μm,0.7s						
OKH				A		06 28 20.8	
	1μm,0.5s						
NKL	**Nikolayevsk**	**1.22**	**273**	*e*Pg	Pg	06 28 25.2	+0.6
NKL				AMB	AMB	06 28 26.2	
	130nm,0.5s						
NKL				AMB	AMB	06 28 26.2	
	140nm,0.3s						
NKL				*e*Sg	Sg	06 28 42.0	+1.6
NKL				A		06 28 45.0	
	130nm,0.4s						
NKL				A		06 28 45.0	
	310nm,0.4s						
TYV	**Tymovskoe**	**2.24**	**181**	*e*Pg	Pg	06 28 46.5	+2.3
TYV				*e*Sg	Sg	06 29 17.7	+4.5
EKMR	**Ekimchan**	**5.88**	**274**	*e*Pg	Pg	06 29 57.0	+3.3
EKMR				AMB	AMB	06 30 35.3	
	1.0nm,0.2s						
EKMR				*e*Sg	Sg	06 31 14.4	+4.5
EKMR				A		06 31 16.2	
	15nm,0.6s						

*MOS **21** 06:37:16.0±0.7,645N×12368E,h33km,mb4.8/4,Error ellipse: s-maj=58.3km s-min=14.1km az=117.2*
*ISCJB **21** 06:37:17.3±0.9,650N±005×12376E±005,h39km±9km, mb4.4/18,MS3.1/3,Error ellipse: s-maj=9.5km s-min=7.5km az=112.9*
*NEIC **21** 06:37:19.6±0.8,652N×12380E,h47km±8km,mb4.8/5, Error ellipse: s-maj=8.9km s-min=6.4km az=49.0*
*IDC **21** 06:37:21.8±6.3,650N×12378E,h66km±59km,mb4.1/10, mb1 4.2/10,mb1mx4.0/20,mbtmp4.1/10,MS3.1/3, Ms1 3.1/3,ms1mx2.7/29,Error ellipse: s-maj=56.9km s-min=13.1km az=73.0*

ISC 21 06:37:19.1±0.8,652N±005×12381E±005,h37km±8km,n41, σ1§02/41,mb4.4/18,MS3.1/3,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**1.77**	**71**	⇓*i*P	**Pn**	**06 37 47.1**	**-0.2**
DMPH				*i* S	**Sn**	**06 38 16.1**	**+7.4**
BUKP	**Musuan**	**1.83**	**42**	*e*P	**Pn**	**06 37 46.9**	**-1.2**
BUKP				*e*S	**Sn**	**06 38 11.2**	**+1.2**
DAV	**Davao City (W)**	**1.84**	**73**	*e*Pn	**Pn**	**06 37 48.8**	**+0.6**
SCPH	**Surigao**	**3.64**	**27**	⇑*e*P	**Pn**	**06 38 18.5**	**+5.5**
MSLP	**Maasin**	**3.74**	**16**	*e*P	**Pn**	**06 38 17.5**	**+3.2**
GUIM	**Jordan**	**4.26**	**344**	*e*P	**Pn**	**06 38 19.9**	**-1.6**
GUIM				*e*S	**Sn**	**06 39 10.2**	**+0.4**
ENPP	**El Nido**	**6.36**	**317**	*e*P	**Pn**	**06 38 48.2**	**-2.1**
KKM	**Kota Kinabalu**	**7.57**	**267**	*e*Pn	**Pn**	**06 39 06.7**	**-0.2**
KSM	**Kuching**	**14.37**	**250**	*e*Pn	**Pn**	**06 40 40.8**	**+0.8**
KAKA	**Kakadu**	**20.94**	**156**	*e*P	**P**	**06 41 58.8**	**+0.1**
	43nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.53**	**176**	*e*P	**P**	**06 42 35.3**	**+0.1**
	8.5nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.53**	**176**	P	**P**	**06 42 35.1**	**0.0**
	3.0nm,0.6s,mb4.0,baz=354,slow=6.3,SNR=13						
PMG	**Port Moresby**	**28.13**	**124**	LR	LR	06 54 53.5	
	comp=Z,18nm,19.8s,MS2.6,baz=199,slow=37						
PMG	**Port Moresby**	**28.13**	**124**	*e*P	**P**	**06 43 07.7**	**0.0**
PMG				pmax	pmax		
	comp=Z,25nm,1.2s						
PMG	**Port Moresby**	**28.13**	**124**	*e*P	**P**	**06 43 07.7**	**0.0**
	comp=Z,25nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**28.26**	**159**	P	**P**	**06 43 08.1**	**-0.7**
	comp=Z,5.4nm,0.7s,mb4.3,baz=338,slow=9.9,SNR=40						
WB2	**Warramunga Arr**	**28.27**	**159**	*e*P	**P**	**06 43 08.2**	**-0.6**
KSRS	**Korea Array**	**31.02**	**6**	P	**P**	**06 43 33.0**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.2,baz=185,slow=9.4,SNR=9.7						
KSRS				LR	LR	06 56 43.7	
	comp=Z,31nm,18.2s,MS3.0,baz=195,slow=38						
ASAR	**Alice Springs**	**31.58**	**162**	P	**P**	**06 43 38.1**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.2,baz=339,slow=7.1,SNR=52						
ASAR				PcP	PcP	06 46 29.6	-0.4
	comp=Z,0.5nm,0.5s,baz=346,slow=2.2,SNR=6.1						
JIRN	**Jiri**	**41.40**	**305**	*e*P	**P**	**06 45 03.3**	**+1.5**
	comp=Z,5.6nm,0.4s,mb4.5						
GUN	**Gumba**	**41.75**	**305**	*e*P	**P**	**06 45 06.2**	**+1.5**
	comp=Z,13nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**41.78**	**157**	P	**P**	**06 45 05.8**	**+0.8**
	comp=Z,14nm,0.7s,mb4.7,baz=329,slow=8.3,SNR=33						
PKI	**Pulchoki**	**42.00**	**304**	*e*P	**P**	**06 45 07.1**	**+0.4**
GKN	**Gorkha**	**42.80**	**305**	*e*P	**P**	**06 45 15.4**	**+2.2**
	comp=Z,2.9nm,0.2s,mb4.6						
KOLN	**Koldanda**	**43.56**	**304**	*e*P	**P**	**06 45 20.5**	**+1.1**
	comp=Z,5.9nm,0.7s,mb4.5						
SONM	**Songino Array**	**43.77**	**343**	P	**P**	**06 45 21.1**	**0.0**
	comp=Z,1.8nm,0.7s,mb3.9,baz=158,slow=9.9,SNR=15						
BOD	**Bodaibo**	**51.74**	**353**	*e*P	**P**	**06 46 21.8**	**-1.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
MK31	**Makanchi Array**	**53.62**	**326**	*e*P	**P**	**06 46 36.9**	**+0.1**
MKAR	**Makanchi Array**	**53.62**	**326**	P	**P**	**06 46 37.0**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=125,slow=8.1,SNR=28						
MKAR				LR	LR	07 11 02.4	
	comp=Z,42nm,18.1s,MS3.5,baz=350,slow=38						
MKAR	**Makanchi Array**	**53.62**	**326**	P	**P**	**06 46 37.0**	**+0.3**
MKAR				LR	LR	07 11 02.4	
ZAL	**Zalesovo**	**56.81**	**334**	P	**P**	**06 46 58.7**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=67,slow=4.4,SNR=5.1						
ZAL	**Zalesovo**	**56.81**	**334**	P	**P**	**06 46 58.7**	**-1.0**
KURK	**Kurchatov**	**57.84**	**328**	*e*P	**P**	**06 47 06.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KURK	**Kurchatov**	**57.84**	**328**	*e*P	**P**	**06 47 06.4**	**-0.6**
	comp=Z,6.1nm,0.7s,mb4.7						
BRVK	**Borovoye**	**63.49**	**327**	*e*P	**P**	**06 47 45.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**63.49**	**327**	*e*P	**P**	**06 47 45.3**	**-0.2**
	comp=Z,6.1nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**86.84**	**340**	P	**P**	**06 49 59.0**	**-0.8**
	comp=Z,8.2nm,1.1s,mb4.9,baz=89,slow=6.6,SNR=4.1						
ARCES	**ARCESS Array B**	**86.84**	**340**	P	**P**	**06 49 59.0**	**-0.8**
FINES	**FINESS Array B**	**88.02**	**332**	P	**P**	**06 50 03.2**	**-2.2**
	comp=Z,1.9nm,1.0s,mb4.3,baz=73,slow=4.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**119.28**	**289**	PKP	PKPdf	06 56 04.0	-0.4
	comp=Z,0.3nm,0.7s,baz=43,slow=2.7,SNR=2.9						
TXAR	**Lajitas Array**	**122.10**	**49**	PKP	PKPdf	06 56 09.9	+0.1
	comp=Z,0.2nm,0.7s,baz=204,slow=2.0,SNR=2.8						

*THE **21** 06:51:33.6,4050N×2359E,h8km,ML2.7*
*CSEM **21** 06:51:33.5±0.1,4051N×2361E,h10km,ML2.7,Error ellipse: s-maj=2.1km s-min=1.6km az=65.0*
*NEIC **21** 06:51:33.3,4050N×2362E,h24km,MD3.4(ATH),After ATH.*
*ISCJB **21** 06:51:33.1±0.4,4050N±002×2359E±003,h5km±5km, Error ellipse: s-maj=4.3km s-min=3.0km az=143.0*
*ATH **21** 06:51:33.3,4050N×2362E,h24km±1km,MD3.4/4*
*SKO **21** 06:51:35.8,4064N×2362E,h8km*

ISC 21 06:51:33.6±0.4,4049N±002×2360E±003,h9km±5km,n28, σ0§66/50,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.17**	**224**	*e*Pg	**Pg**	**06 51 37.1**	**-0.1**
PLG				*e*Sg	**Sg**	**06 51 39.6**	**0.0**
PLG	**Polygyros**	**0.17**	**224**	*e*Pb	**Pg**	**06 51 38.0**	**+0.8**
PLG				*e*Sg	**Sg**	**06 51 39.6**	**0.0**
PLG				*e*Sb	**Sg**	**06 51 41.6**	**+2.0**
OUR	**Ouranopolis**	**0.34**	**118**	*e*Pg	**Pg**	**06 51 40.0**	**-0.2**
OUR				*e*Sg	**Sg**	**06 51 45.4**	**+0.7**
OUR	**Ouranopolis**	**0.34**	**118**	*e*Pg	**Pg**	**06 51 40.0**	**-0.2**
OUR				*e*Sg	**Sg**	**06 51 45.4**	**+0.7**
SOH	**Sokhos**	**0.38**	**331**	*e*Pg	**Pg**	**06 51 41.0**	**-0.1**
SOH				*e*Sg	**Sg**	**06 51 46.8**	**+0.8**
HORT	**Hortiatis**	**0.39**	**286**	*e*Pg	**Pg**	**06 51 40.9**	**-0.4**
HORT				*e*Sg	**Sg**	**06 51 46.6**	**0.0**
THE	**Thessaloniki**	**0.50**	**286**	*e*Pg	**Pg**	**06 51 43.0**	**-0.3**
THE				*e*Sg	**Sg**	**06 51 49.7**	**-0.3**
THE	**Thessaloniki**	**0.50**	**286**	*e*Pg	**Pg**	**06 51 43.0**	**-0.3**
THE				*e*Sg	**Sg**	**06 51 49.7**	**-0.2**
PAIG	**Paliouri**	**0.57**	**173**	*e*Pg	**Pg**	**06 51 44.2**	**-0.4**
PAIG				*e*Sg	**Sg**	**06 51 52.0**	**-0.1**
SRS	**Serrai**	**0.62**	**360**	*e*Pg	**Pg**	**06 51 45.6**	**-0.1**
SRS				*e*Sg	**Sg**	**06 51 54.8**	**+1.0**
KNT	**Kendrikon**	**0.85**	**322**	*e*Pg	**Pg**	**06 51 49.4**	**-0.6**
KNT				*e*Sg	**Sg**	**06 52 00.8**	**-0.3**
NVR	**Nevrokopi**	**0.88**	**13**	*e*PN	**Pg**	**06 51 50.2**	**-0.3**
NVR				*e*SN	**Sg**	**06 52 02.6**	**+0.6**
LIT	**Litokhoron**	**0.93**	**245**	*e*Pg	**Pg**	**06 51 51.7**	**+0.1**
LIT				*e*Sg	**Sg**	**06 52 05.4**	**+1.7**
GRG	**Griva**	**1.02**	**297**	*e*Pg	**Pg**	**06 51 53.1**	**-0.1**
VAY	**Valandovo**	**1.14**	**317**	*e*Pg	**Pg**	**06 51 54.6**	**-0.8**
VAY				*e*Sg	**Sg**	**06 52 10.7**	**+0.5**
VAY	**Valandovo**	**1.14**	**317**	*e*Pg	**Pg**	**06 51 54.4**	**-1.0**
VAY				*e*Sg	**Sg**	**06 52 08.9**	**-1.2**
VAY	**Valandovo**	**1.14**	**317**	*e*Pg	**Pg**	**06 51 54.4**	**-1.0**
VAY				*e*Sg	**Sg**	**06 52 08.9**	**-1.2**
XOR	**Xorichti**	**1.17**	**196**	*e*Pg	**Pg**	**06 51 55.9**	**-0.2**
XOR	**Xorichti**	**1.17**	**196**	*e*Pg	**Pg**	**06 51 55.8**	**-0.2**
NEO	**Neokhori**	**1.22**	**194**	*e*PN	**Pn**	**06 51 57.0**	**+0.2**
AOS	**Alonnisos**	**1.34**	**170**	*e*Pg	**Pn**	**06 51 57.4**	**-1.0**
AOS				*e*Sg	**Sg**	**06 52 15.9**	**-0.8**
THL	**Klokotos Trika**	**1.53**	**233**	*e*PN	**Pn**	**06 52 01.3**	**+0.3**
STIP	**Stip**	**1.60**	**319**	*e*Pg	**Pn**	**06 52 02.9**	**+0.8**
STIP				*e*Sg	**Sg**	**06 52 24.3**	**-0.9**
RDO	**Rodhopi**	**1.61**	**66**	*e*PN	**Pn**	**06 52 02.0**	**-0.2**
AGG	**Agios Georgios**	**1.76**	**214**	*e*Pb	**Pn**	**06 52 04.3**	**0.0**
KRUS	**Krusevo**	**1.98**	**297**	*e*Pn	**Pn**	**06 52 08.5**	**+1.2**
KRUS				*e*Sg	**Sg**	**06 52 36.8**	**-0.5**
KRUS	**Krusevo**	**1.98**	**297**	*e*Pn	**Pn**	**06 52 08.5**	**+1.2**
KRUS				*e*Sg	**Sg**	**06 52 36.8**	**-0.5**
KRUS	**Krusevo**	**1.98**	**297**	*e*Pn	**Pn**	**06 52 08.4**	**+1.1**
KRUS				*e*Sg	**Sg**	**06 52 36.8**	**-0.5**

*IDC **21** 07:06:52.8±0.9,4679N×15599E,h0km,mb3.8/12, mb1 4.0/13,mb1mx3.9/23,mbtmp3.9/13,ML3.7/1,MS3.1/2, Ms1 3.1/2,ms1mx2.9/24,Error ellipse: s-maj=23.6km s-min=19.5km az=132.0*
*ISCJB **21** 07:06:53.5±2.4,47.1N±0.1×1558E±0.1,h15km±16km, mb3.9/18,MS3.3/1,Error ellipse: s-maj=20.5km s-min=9.1km az=108.8*
*NEIC **21** 07:06:54.4±1.7,4684N×15590E,h10km,mb4.3/1,Error ellipse: s-maj=36.4km s-min=11.2km az=144.0*
*MOS **21** 07:07:00.4±2.2,4739N×15557E,h61km,mb4.1/7,Error ellipse: s-maj=15.1km s-min=11.2km az=82.8*

ISC 21 07:06:57.3±2.4,4728N±008×1558E±01,h20km±17km,n37, σ1§29/40,mb3.9/18,MS3.3/1,2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.41**	**4**	*e*PN	**Pn**	**07 07 49.5**	**+0.1**
SKR				*e*S	**Sn**	**07 08 27.5**	**-1.7**
SKR				smax			
	comp=N,280nm,0.3s						
SKR				smax			
	comp=E,180nm,0.3s						
SKR				smax			
	comp=Z,80nm,0.4s						
KUR	**Kuril'sk**	**5.86**	**252**	PN	**Pn**	**07 08 26.0**	**+3.0**
KUR				*e*S	**Sn**	**07 09 28.5**	**-1.0**
KUR				smax			
	comp=N,140nm,0.7s						
KUR				smax			
	comp=E,100nm,0.7s						
PET	**Petropavlovsk**	**6.04**	**17**	*e*PN	**Pn**	**07 08 23.6**	**-1.9**
PET	**Petropavlovsk**	**6.04**	**17**	Pn	**Pn**	**07 08 29.1**	**+3.6**
YSS	**Yuzh-Sakhalins**	**8.89**	**273**	*e*PN	**Pn**	**07 09 04.2**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.89**	**273**	*e*Pn	**Pn**	**07 09 04.8**	**+0.2**
ASAJ	**Asahikawa**	**9.75**	**256**	Pn	**Pn**	**07 09 16.1**	**-0.3**
	comp=E,0.9nm,0.3s,baz=128,slow=17,SNR=4.3						
ASAJ				LR	LR	07 12 43.7	
	comp=E,67nm,18.3s,baz=116,slow=36						
ERM	**Erimo**	**10.42**	**244**	*e*PN	**Pn**	**07 09 25.1**	**-0.4**
ERM	**Erimo**	**10.42**	**244**	*e*Pn	**Pn**	**07 09 22.6**	**-3.0**
BILL	**Biiibino**	**21.50**	**11**	*e*P	**P**	**07 11 44.1**	**-0.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.5						
KSRS	**Korea Array**	**22.70**	**255**	P	**P**	**07 11 57.5**	**-0.1**
	comp=Z,2.3nm,0.7s,mb3.7,baz=56,slow=10,SNR=5.8						
HIA	**Hailar**	**23.93**	**288**	*e*P	**P**	**07 12 09.8**	**-0.1**
TIXI	**Tiksi**	**27.50**	**342**	*e*P	**P**	**07 12 38.9**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
SONM	**Songino Array**	**32.88**	**290**	P	**P**	**07 13 29.4**	**-0.5**
	comp=Z,0.6nm,0.9s,mb3.5,baz=38,slow=7.5,SNR=3.6						
SONM				LR	LR	07 26 55.3	
	comp=Z,51nm,18.4s,MS3.3,baz=253,slow=36						
SONM	**Songino Array**	**32.88**	**290**	P	**P**	**07 13 29.4**	**-0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,51nm,18.5s						
ZAL	**Zalesovo**	**43.79**	**306**	P	**P**	**07 15 01.4**	**-0.2**
	comp=Z,0.8nm,0.3s,mb3.9,baz=2.8,slow=9.5,SNR=4.1						
ZAL	**Zalesovo**	**43.79**	**306**	P	**P**	**07 15 01.4**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**48.31**	**298**	*e*P	**P**	**07 15 37.9**	**+0.7**
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**07 15 37.4**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=70,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**48.31**	**298**	P	**P**	**07 15 39.0**	**+1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**48.58**	**304**	*e*P	**P**	**07 15 39.3**	**0.0**
KURK	**Kurchatov**	**48.58**	**304**	*e*P	**P**	**07 15 39.9**	**+0.6**
	comp=Z,6.1nm,0.6s,mb4.8						
YKA	**Yellowknife Ar**	**49.40**	**38**	P	**P**	**07 15 45.4**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=294,slow=7.1,SNR=12						
YKA	**Yellowknife Ar**	**49.40**	**38**	P	**P**	**07 15 45.4**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**51.96**	**310**	*e*P	**P**	**07 16 05.8**	**+0.9**
	comp=Z,2.3nm,0.6s,mb4.3						
ARU	**Arti**	**55.84**	**318**	⇓*i*P	**P**	**07 16 33.1**	**-0.2**
ARU				*e*		07 18 35.3	
ARU				*e*PPP		07 19 47.9	
ARU				*e*S	**S**	**07 24 18.1**	**-1.4**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**57.94**	**342**	P	**P**	**07 16 50.7**	**+2.6**
	comp=Z,3.6nm,1.0s,mb4.3,baz=32,slow=8.6,SNR=3.4						
ARCES	**ARCESS Array B**	**57.94**	**342**	P	**P**	**07 16 50.7**	**+2.6**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	**FINESS Array B**	**64.32**	**336**	P	**P**	**07 17 34.0**	**+2.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=44,slow=11,SNR=6.7						
FINES	**FINESS Array B**	**64.32**	**336**	P	**P**	**07 17 32.2**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OBN	**Obninsk**	**65.89**	**327**	⇓*e*P	**P**	**07 17 34.4**	**-7.2**
OBN				*e*PP	pP	07 17 59.3	+11
OBN				*e*S	S	07 26 35.3	+7.7
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
NOA	**NORSAR Array B**	**68.30**	**342**	P	**P**	**07 17 58.9**	**+2.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=34,slow=8.6,SNR=3.5						
NOA	**NORSAR Array B**	**68.30**	**342**	P	**P**	**07 17 58.9**	**+2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**69.64**	**202**	P	**P**	**07 18 00.4**	**-4.9**
	comp=Z,0.5nm,1.0s,mb3.4,baz=14,slow=6.9,SNR=2.5						
AKASG	**Malin Array Be**	**72.10**	**328**	P	**P**	**07 18 22.5**	**+2.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=29,slow=6.2,SNR=2.3						
ASAR	**Alice Springs**	**73.32**	**201**	P	**P**	**07 18 25.2**	**-2.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=17,slow=5.6,SNR=5.2						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**07 18 40.0**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=298,slow=2.7,SNR=6.2						

*STR **21** 07:40:44.2±0.7,4756N×762E,h5km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 07:40:45.0±0.2,4760N×757E,h8km,Md2.1/1,Ml2.2/6, Error ellipse: s-maj=3.0km s-min=2.0km az=108.0*

ZUR 21 07:40:45.0,4759N×760E,h4km±1km,ML1.4,2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	*i* Sg	Pg	07 40 50.4	+0.4
	165nm,0.3s						
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg	Sg	07 40 54.3	+0.8
	165nm,0.3s						
BOURR	**Bourrignon**	**0.

PCND
110nm,0.2s
STGR Santa Cruz 1.37 105 *e*S Sb 07 41 53.0 -6.6
STGR
17nm,0.1s
PGRA Graciosa 1.40 106 *e*S Sb 07 41 52.8 -7.7
PGRA
98nm,0.4s
PAMA Santo Amaro 1.41 122 *e*S Sb 07 41 53.7 -7.0
PAMA
45nm,0.2s
PTEI Pico do Teixo 1.42 131 *e*S Sb 07 41 54.7 -6.1
PTEI
119nm,0.4s
PBOI Pico dos Bois 1.45 134 *e*P Pn 07 41 38.8 -3.6
PBOI *e*S Sb 07 41 55.5 -6.2
PBOI
52nm,0.3s
PMAN Manadas 1.50 122 *e*S Sn 07 41 55.6 -7.4
PMAN
151nm,0.4s
PID Ribeirinha 1.59 128 *e*P Pn 07 41 39.7 -4.7
PID *e*S Sn 07 41 57.6 -7.7

ISCJB ***21*** *07:44:36.2±0.4, 3929N×002×2362E±004, h10km±5km, Error ellipse: s-maj=4.7km s-min=3.4km az=163.0*
NEIC ***21*** *07:44:36.9, 3927N×2359E, h3km, MD3.2(ATH), After ATH.*
ATH ***21*** *07:44:36.9, 3927N×2359E, h3km, MD3.2/10*
CSEM ***21*** *07:44:37.1±0.1, 3927N×2358E, h5km, ML2.7, Error ellipse: s-maj=1.4km s-min=1.0km az=82.0*
THE ***21*** *07:44:37.3, 3927N×2360E, h6km, ML2.7*
ISC 21 07:44:36.5±0.4, 3928N±002×2362E±004, h15km±4km, n23, σ1°01/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.23**	**118**	*e*Pg	**Pg**	**07 44 42.0**	**+0.4**
AOS				*e*Sg	**Sg**	**07 44 45.5**	**+0.5**
NEO	**Neokhori**	**0.31**	**275**	*e*PG	**Pg**	**07 44 42.4**	**-0.6**
NEO				*e*SG	**Sg**	**07 44 46.4**	**-1.0**
XOR	**Xorichti**	**0.34**	**285**	*e*Pg	**Pg**	**07 44 43.1**	**-0.5**
XOR				*e*Sg	**Sg**	**07 44 48.5**	**+0.1**
PAIG	**Paliouri**	**0.65**	**4**	*e*Pg	**Pg**	**07 44 50.4**	**+1.1**
PAIG				*e*Sg	**Sg**	**07 45 00.7**	**+2.8**
LKR	**Lokris**	**0.79**	**218**	*e*PG	**Pg**	**07 44 51.6**	**-0.4**
LKR				*e*SG	**Sg**	**07 45 02.5**	**+0.1**
AGG	**Agios Georgios**	**1.04**	**256**	*e*Pg	**Pg**	**07 44 55.4**	**-1.2**
AGG				*e*Sg	**Sg**	**07 45 11.8**	**+1.7**
OUR	**Ouranopolis**	**1.09**	**15**	*e*Pg	**Pg**	**07 44 57.6**	**0.0**
PLG	**Polygyros**	**1.10**	**353**	*e*Pg	**Pg**	**07 44 57.5**	**-0.4**
PLG				*e*Sg	**Sg**	**07 45 12.6**	**+0.4**
PLG	**Polygyros**	**1.10**	**353**	*i* Pb	**Pb**	**07 44 57.3**	**0.0**
PLG	**Polygyros**	**1.10**	**353**	*e*Pg	**Pg**	**07 44 57.5**	**-0.3**
PLG				*e*Sg	**Sg**	**07 45 12.6**	**+0.4**
LIT	**Litokhoron**	**1.20**	**314**	*e*Pg	**Pg**	**07 45 00.3**	**+0.6**
LIT				*e*Sg	**Sg**	**07 45 17.5**	**+2.2**
PTL	**Penteli**	**1.24**	**171**	*e*PG	**Pg**	**07 45 00.0**	**-0.5**
THL	**Klokotos Trika**	**1.28**	**283**	*e*PN	**Pn**	**07 45 01.3**	**+1.5**
ATH	**Athens Observa**	**1.31**	**177**	*e*PN	**Pn**	**07 45 02.2**	**+2.0**
MGER	**Gerania Oros**	**1.32**	**192**	*e*PB	**Pb**	**07 45 00.5**	**-0.5**
HORT	**Hortiatis**	**1.38**	**343**	*e*Pg	**Pg**	**07 45 02.0**	**-1.0**
HORT				*e*Sg	**Sg**	**07 45 21.4**	**+0.4**
THE	**Thessaloniki**	**1.44**	**340**	*e*Pg	**Pg**	**07 45 03.1**	**-1.2**
THE				*e*Sg	**Sg**	**07 45 22.5**	**-0.6**
KVR	**Kavouri**	**1.45**	**175**	*e*PB	**Pb**	**07 45 02.7**	**-0.6**
EVR	**Evrytania**	**1.46**	**256**	*e*PN	**Pn**	**07 45 03.9**	**+1.6**
NAIG	**Nisos Aigina**	**1.52**	**184**	*e*PB	**Pb**	**07 45 03.9**	**-0.5**
SRS	**Serrai**	**1.84**	**359**	*e*Pb	**Pb**	**07 45 09.0**	**-0.8**
GRG	**Griva**	**1.92**	**331**	*e*Pb	**Pb**	**07 45 09.9**	**-1.3**
GRG				*e*Sb	**Sb**	**07 45 34.2**	**-0.8**
KNT	**Kendrikon**	**1.96**	**344**	*e*Pb	**Pb**	**07 45 10.7**	**-1.2**

IDC ***21*** *08:22:11.5±1.7, 904S×11053E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, Error ellipse: s-maj=72.3km s-min=17.5km az=53.0*
ISCJB ***21*** *08:22:15.0±1.0, 89S±0.1×1106E±02, h35km, mb4.1/9, Error ellipse: s-maj=29.8km s-min=10.9km az=108.1*
NEIC ***21*** *08:22:17.0±0.7, 892S×11061E, h35km, mb4.5/1, Error ellipse: s-maj=22.7km s-min=8.4km az=54.0*
ISC 21 08:22:17.2±1.0, 89S±01×1106E±02, h35km, n13, σ0°69/13, mb4.1/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**15.89**	**21**	*e*Pn	**Pn**	**08 25 57.5**	**-0.6**
KULM	**Kulim**	**17.24**	**325**	*e*Pn	**Pn**	**08 26 14.8**	**-0.4**
WRA	**Warramunga Arr**	**25.44**	**118**	P	**P**	**08 27 41.1**	**-0.6**
	2.6nm,0.7s,mb3.9,baz=292,slow=11,SNR=16						
WB2	**Warramunga Arr**	**25.45**	**118**	*e*P	**P**	**08 27 42.0**	**+0.2**
ASAR	**Alice Springs**	**26.69**	**126**	P	**P**	**08 27 52.6**	**-0.4**
	1.0nm,0.6s,mb3.5,baz=302,slow=9.0,SNR=16						
QIZ	**Qiongzhong**	**27.78**	**358**	P	**P**	**08 28 01.7**	**-1.0**
	10nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**36.73**	**133**	P	**P**	**08 29 20.4**	**-0.6**
	1.5nm,0.6s,mb4.0,baz=297,slow=8.7,SNR=7.0						
HNR	**Honiara**	**48.70**	**95**	P	**P**	**08 30 58.6**	**+0.5**
	9.2nm,0.4s,mb5.2						
MJAR	**Matsushiro Arr**	**52.14**	**28**	P	**P**	**08 31 24.4**	**+0.3**
	1.4nm,0.6s,mb4.1,baz=209,slow=7.5,SNR=4.2						
SONM	**Songino Array**	**56.63**	**357**	P	**P**	**08 31 58.1**	**+1.4**
	0.9nm,0.6s,mb4.0,baz=177,slow=8.0,SNR=10.0						
MKAR	**Makanchi Array**	**60.93**	**338**	P	**P**	**08 32 26.9**	**+0.3**
	1.1nm,0.5s,mb4.2,baz=150,slow=7.7,SNR=15						
BVAR	**Borovoye Array**	**70.54**	**336**	P	**P**	**08 33 28.4**	**-0.2**
	0.7nm,0.5s,mb3.8,baz=132,slow=6.0,SNR=3.8						
POHA	**Pohakuloa**	**96.59**	**71**	*e*P	**P**	**08 35 44.5**	**+1.2**
	30nm,0.9s						

GCG ***21*** *08:24:24.5, 1409N×8985W, h0km, MD3.9*
SSS ***21*** *08:24:27.0, 1400N×8977W, h8km, MD3.2*
CASC 21 08:24:26.5±2.9, 1404N×8985W, h6km±11km, MD3.8, 5C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.18**	**65⇑**	*e*P	x	08 24 31.5	
RTR	**El Retiro**	**0.24**	**125⇓**	*i*P	x	08 24 31.3	
SNJE	**San Jose**	**0.29**	**125⇓**	*i*P	x	08 24 32.0	
SBLS	**San Blas**	**0.30**	**132⇓**	*e*P	x	08 24 32.0	
MTO2	**Montecristo 2**	**0.60**	**53⇑**	*i*P	x	08 24 38.8	
MTO2				*e*S	x	08 24 47.2	
BOQS	**Boqueron**	**0.63**	**118**	*e*P	x	08 24 38.4	
BOQS				*e*S	x	08 24 47.7	
LFU	**La Fuente**	**0.77**	**112**	*e*P	x	08 24 40.9	
PCG	**Pacaya**	**0.81**	**296**	*e*P	Pg	08 24 40.4	-1.7
LBRS	**Las Brisas**	**0.84**	**111⇑**	*e*P	x	08 24 41.9	
LBRS				*e*S	x	08 24 57.1	
TER	**Terranova**	**0.85**	**288**	*e*P	Pg	08 24 41.6	-1.2
TER				*e*S	Sg	08 24 54.3	+0.5
LFRS	**El Faro**	**0.87**	**118**	*e*P	x	08 24 42.6	
LFRS				*e*S	x	08 24 53.8	
LCBS	**La Ceiba**	**0.93**	**114⇑**	*e*P	x	08 24 43.5	
FUG	**Fuego 3**	**1.04**	**293⇑**	*e*P	Pg	08 24 45.0	-1.5
FUG				*e*S	Sg	08 25 01.0	+0.9
VSM	**San Miguel**	**1.65**	**111**	*e*P	x	08 24 56.7	
JAT	**Jato**	**1.75**	**279**	*e*P	Pn	08 24 57.8	+0.4
CNCH	**Conchagua**	**2.10**	**111**	*e*P	x	08 25 03.8	

BJI ***21*** *08:33:50.6, 2819N×9521E, h15km, ML3.5*
ISCJB ***21*** *08:33:56.4±0.9, 2871N±009×95.1E±0.1, h10km, mb3.6/3, Error ellipse: s-maj=15.1km s-min=11.0km az=79.3*
IDC ***21*** *08:33:57.5±1.9, 2871N×9518E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=79.5km s-min=25.4km az=70.0*
ISC 21 08:33:58.6±0.9, 2871N±008×949E±01, h10km, n6, σ1°19/7, mb3.6/3, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.46**	**287**	PG	**Pb**	**08 34 59.0**	**-0.9**
SHL	**Shillong**	**4.16**	**222**	*e*P	**Pg**	**08 35 16.0**	**-2.2**
SHL				*e*S	**Sn**	**08 35 52.5**	**+1.9**
SHL				*e*x	x	08 36 10.5	
MKAR	**Makanchi Array**	**20.59**	**335**	P	**P**	**08 38 39.0**	**+1.3**
	0.7nm,0.5s,baz=145,slow=13,SNR=7.5						
SONM	**Songino Array**	**21.06**	**22**	P	**P**	**08 38 42.6**	**-0.2**
	1.7nm,0.7s,mb3.5,baz=213,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**61.54**	**137**	P	**P**	**08 44 15.6**	**-0.2**
	0.5nm,0.7s,mb3.7,baz=327,slow=7.5,SNR=8.0						
ASAR	**Alice Springs**	**64.18**	**140**	P	**P**	**08 44 33.4**	**0.0**
	0.4nm,0.6s,mb3.6,baz=325,slow=6.3,SNR=5.4						

CASC 21 08:40:43.0±2.4, 1272N×8774W, h80km±28km, MD3.6, ML3.4, 6C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.56**	**350**	*e*P	x	08 41 03.6	
CNCH				*e*S	x	08 41 15.6	
CRIN	**San Cristobal**	**0.67**	**92**	*e*P	Pn	08 40 59.2	+0.8
CRIN				*e*S	Sn	08 41 12.5	+2.8
BLLM	**Bellamira**	**0.87**	**326⇑**	*e*P	x	08 41 06.4	
BLLM				*e*S	x	08 41 20.3	
TELN	**Telica**	**0.89**	**97**	*e*P	Pn	08 41 01.0	+0.2
TELN				*e*S	Sn	08 41 14.7	+0.7
CNGN	**Cerro Negro**	**1.04**	**102⇓**	*e*P	Pn	08 41 02.4	-0.1
CNGN				*e*S	Sn	08 41 17.4	+0.3
MOMJ	**Momotombo**	**1.21**	**105⇑**	*e*P	Pn	08 41 04.7	+0.1
MOMJ				*e*S	Sn	08 41 21.5	+0.7
SNVI	**San Vicente**	**1.39**	**310**	*e*P	x	08 41 06.6	
XAVN	**Gruta Xavier**	**1.49**	**112⇑**	*e*P	Pn	08 41 08.3	+0.1
XAVN				*e*S	Sn	08 41 27.1	-0.1
XAVN				*i*		08 41 28.7	
	comp=Z,344nm,0.2s						
LCBS	**La Ceiba**	**1.52**	**308**	*e*P	x	08 41 14.0	
LCBS				*e*S	x	08 41 33.5	
MGAN	**Managua**	**1.56**	**111⇑**	*i*P	Pn	08 41 09.0	-0.1
MGAN				*e*S	Sn	08 41 29.8	+0.9
MGAN				*i*		08 41 30.3	
	comp=N,367nm,0.2s						
LFRS	**El Faro**	**1.57**	**305⇓**	*e*P	x	08 41 14.4	
LFRS				*e*S	x	08 41 33.9	
TICN	**Ticuantepe**	**1.62**	**115⇓**	*e*P	Pn	08 41 10.0	+0.1
TICN				*e*S	Sn	08 41 30.5	+0.3
TICN				*i*		08 41 34.2	
	comp=Z,773nm,0.2s						
LBRS	**Las Brisas**	**1.62**	**309⇑**	*e*P	x	08 41 15.9	
LBRS				*e*S	x	08 41 36.8	
LFU	**La Fuente**	**1.69**	**307**	*e*P	x	08 41 16.4	
LFU				*e*S	x	08 41 38.8	
BOQS	**Boqueron**	**1.81**	**304**	*e*P	x	08 41 18.0	
BOQS				*e*S	x	08 41 40.9	
SBLS	**San Blas**	**2.15**	**301⇑**	*e*P	x	08 41 22.7	
SBLS				*e*S	x	08 41 49.6	
SNJE	**San Jose**	**2.15**	**302**	*e*P	x	08 41 22.3	
SNJE				*e*S	x	08 41 51.4	
JCR	**Jicaral**	**3.84**	**138**	*e*P	Pn	08 41 39.4	-0.4
CGA2	**Cerro Gallo 2**	**4.19**	**130**	*e*P	Pn	08 41 47.1	+2.7
PRS1	**Puriscal**	**4.32**	**129**	*e*P	Pn	08 41 48.1	+1.8
LAJ	**Bijagual**	**4.54**	**128**	*e*P	Pn	08 41 47.4	-1.9
LCR2	**La Lucha 2**	**4.71**	**129**	*e*P	Pn	08 41 53.6	+2.0

IDC 21 08:42:40.5±71.0, 1449S×16846E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=1207.0km s-min=111.2km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.03**	**230**	P	P	08 48 51.0	+0.1
	2.0nm,0.4s,baz=53,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**33.00**	**256**	P	P	08 49 17.9	+0.8
	0.5nm,0.3s,baz=87,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**33.83**	**249**	P	P	08 49 24.6	+0.1
	1.5nm,0.5s,baz=74,slow=9.3,SNR=29						

IDC ***21*** *08:50:15.4±72.0, 1779S×17535E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/14, mbtmp4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=1257.0km s-min=136.7km az=76.0*
NEIC ***21*** *08:51:06.5±2.3, 1837S×17486E, h517km±37km, mb3.8/1, Error ellipse: s-maj=27.0km s-min=19.2km az=174.0*
ISCJB ***21*** *08:51:07.4±2.6, 185S±02×1749E±02, h543km±43km, mb3.6/4, Error ellipse: s-maj=36.5km s-min=25.9km az=49.3*
ISC 21 08:51:06.7±3.2, 184S±03×1749E±02, h524km±52km, n7, σ0°16/7, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.66**	**150**	P	**P**	**08 53 52.1**	**0.0**
	253nm,0.5s						
HNR	**Honiara**	**17.02**	**299**	*e*P	**P**	**08 54 36.9**	**0.0**
	59nm,0.9s						
STKA	**Stephens Creek**	**32.90**	**239**	P	**P**	**08 56 57.5**	**+0.1**
	0.8nm,0.3s,mb3.7,baz=88,slow=10,SNR=7.7						
STKA	**Stephens Creek**	**32.90**	**239**	P	**P**	**08 56 57.5**	**+0.1**
WRA	**Warramunga Arr**	**38.31**	**261**	P	**P**	**08 57 42.1**	**-0.2**
	0.3nm,0.5s,mb3.1,baz=95,slow=7.9,SNR=6.9						
WRA				LR	LR	09 12 05.4	
	comp=Z,57nm,22.0s,baz=80,slow=34						
ASAR	**Alice Springs**	**38.56**	**255**	P	**P**	**08 57 44.5**	**+0.1**
	2.1nm,0.4s,mb4.1,baz=89,slow=7.8,SNR=49						
TNA	**Tin City**	**84.67**	**7**	*e*P	**P**	**09 02 45.1**	**0.0**
	3.5nm,1.4s,mb3.7						

IGQ 21 08:52:21.5, 197S×7798W, h191km±9km, Mb4.0, Ms3.8, 3C-11D, Error ellipse: s-maj=8.0km s-min=4.6km az=59.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.67**	**320**	⇓P	Pn	08 52 49.1	+0.8
RETU	**Refugio**	**0.69**	**318**	⇓P	Pn	08 52 49.5	+1.1
RUN5	**Runtun**	**0.71**	**321**	⇓P	Pn	08 52 49.2	+0.7
JUIV	**Juive**	**0.73**	**318**	⇑P	Pn	08 52 49.4	+0.8
BILB	**Tungurahua vol**	**0.74**	**316**	P	Pn	08 52 48.3	-0.4
IGUA	**Igualata**	**0.81**	**306**	⇓P	Pn	08 52 50.0	+0.9
PISA	**Pisayambo**	**0.99**	**336**	⇓P	Pn	08 52 51.1	+0.9
TAMB	**Tambo**	**1.32**	**343**	⇓P	Pn	08 52 54.0	+1.2
VC1	**Cotopaxi 1**	**1.39**	**342**	⇓P	Pn	08 52 54.6	+1.2
CAMI	**Rancho Maria**	**1.39**	**338**	P	Pn	08 52 54.6	+1.3
ANTI	**Antisana**	**1.52**	**353**	⇓P	Pn	08 52 56.2	+1.6
ANTI				S	Sn	08 53 19.6	-0.6
JUA2	**San Juan 2**	**1.85**	**340**	⇓P	Pn	08 52 58.5	+0.8
GGP	**Refugio Guagua**	**1.89**	**341**	⇑P	Pn	08 52 58.8	+0.6
TERV	**Terraza Guagua**	**1.89**	**341**	P	Pn	08 52 58.8	+0.7
LAV3	**Lava3-Reventad**	**1.89**	**11**	P	Pn	08 53 01.4	+3.2
PINO	**Pino**	**1.91**	**341**	⇓P	Pn	08 52 59.3	+0.9
CONE	**Cono NE Rev Vo**	**1.92**	**10**	P	Pn	08 53 01.1	+2.7
YANA	**Yana**	**1.93**	**342**	⇓P	Pn	08 52 59.3	+0.7
CAYR	**Refugio Cayamb**	**1.97**	**359**	P	Pn	08 53 00.6	+1.6
CAYA	**Cayambe**	**2.03**	**360**	⇑P	Pn	08 53 01.9	+2.3
COTA	**Cotacachi**	**2.32**	**351**	P	Pn	08 53 04.6	+1.9
MAG1	**Magdalena**	**2.60**	**316**	P	Pn	08 53 05.5	-0.4
CHIS	**Cerro-Chispas-**	**2.89**	**288**	P	Pn	08 53 09.1	-0.3
CHIS				S	Sn	08 53 47.1	+0.4

CSEM ***21*** *08:58:46.6±1.6, 3935N×2973W, h0km, ML2.7, Error ellipse: s-maj=36.2km s-min=10.1km az=50.0, After PDA*
PDA ***21*** *08:58:46.6±1.6, 3935N×2973W, h0km, MD3.5, ML2.7, Error ellipse: s-maj=36.2km s-min=10.1km az=50.0*
SVSA 21 08:58:46.6±1.6, 3935N×2973W, h0km, MD3.5, ML2.7, Error ellipse: s-maj=36.2km s-min=10.1km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.05**	**136**	*e*P	Pg	08 59 04.1	-2.7
PTCA				*e*S	Sg	08 59 17.0	-3.5
PTCA							
	22nm,0.2s						
PTCA	**Ponta do Capel**	**1.05**	**136**	*e*P	Pg	08 59 04.1	-2.7
PTCA				*e*S	Sg	08 59 17.0	-3.5
PCED	**Cedros**	**1.08**	**132**	*e*S	Sg	08 59 16.7	-4.5
PCED							
	61nm,0.3s						
CALA	**Caldeira**	**1.11**	**134**	*e*P	Pg	08 59 05.0	-2.9
CALA				*e*S	Sg	08 59 17.6	-4.7
HOR	**Horta**	**1.19**	**134**	*e*S	Sg	08 59 19.9	-4.9
ROSA	**Rosais**	**1.32**	**118**	*e*P	Sg	08 59 23.2	-5.8
PCND	**Candelaria**	**1.32**	**131**	*e*P	Pg	08 59 08.3	-3.7
PCND				*e*S	Sg	08 59 24.2	-4.9
PCND							
	79nm,0.3s						
PICO	**Pico**	**1.32**	**130**	*e*P	Pg	08 59 07.5	-4.5
PICO				*e*S	Sg	08 59 23.6	-5.5
SRBC	**Serra Branca**	**1.35**	**103**	*e*P	Pg	08 59 21.4	+9.0
PTEI	**Pico do Teixo**	**1.37**	**128**	*e*S	Sg	08 59 25.0	-5.6
PTEI							
	94nm,0.3s						
PAMA	**Santo Amaro**	**1.38**	**119**	*e*P	Sg	08 59 24.5	-6.4
PGRA	**Graciosa**	**1.39**	**103**	*e*P	Sg	08 59 23.7	-7.7
PBOI	**Pico dos Bois**	**1.40**	**131**	*e*S	Sg	08 59 26.1	-5.4
PBOI							
	24nm,0.2s						
PMAN	**Manadas**	**1.46**	**119**	*e*S	Sg	08 59 26.5	-7.2
PMAN							
	47nm,0.3s						

BJI ***21*** *08:58:58.9, 47.10N×15376E, h35km, mB4.6, mb4.3*
NIED ***21*** *08:59:00, 4670N×15320E, h32km, Mw4.3 Best double couple: M0:2.72000×10^15 NP1:φs:129.00000°, δ90.00000°, λ-18.00000°. NP2:φs:220.00000°, δ72.00000°, λ-180.00000°.*
NEIC ***21*** *08:59:01.8±0.5, 4681N×15307E, h10km, mb4.5/3, Error ellipse: s-maj=13.7km s-min=7.8km az=141.0*
SKHL ***21*** *08:59:04.9±2.2, 4650N×15340E, h68km±11km, mb5.1/4, ms3.8/1*
ISCJB ***21*** *08:59:04.7±0.8, 4676N±005×15290E±007, h45km±7km, mb4.5/45, MS3.7/4, Error ellipse: s-maj=10.7km s-min=6.0km az=96.2*
JMA ***21*** *08:59:04.8±0.7, 4672N×153.15E, h30km, M4.9*
MOS ***21*** *08:59:06.5±1.3, 4684N×15282E, h61km, mb4.5/23, Error ellipse: s-maj=9.9km s-min=7.7km az=100.3*
IDC ***21*** *08:59:10.7±3.3, 4686N×15282E, h81km±29km, mb4.0/25, mb1 4.2/26, mb1mx4.1/30, mbtmp4.0/26, MS3.4/3, Ms1 3.4/3, ms1mx3.1/36, Error ellipse: s-maj=14.7km s-min=11.3km az=142.0*
ISC 21 08:59:07.0±0.7, 4683N±005×15289E±007, h49km±5km, n147, σ1°39/167, mb4.5/45, MS3.7/4, 7C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**247⇑**	*i*PN	**Pn**	**09 00 05.7**	**+2.1**
KUR				*i* S	**Sn**	**09 00 49.0**	**+1.5**
KUR				pmax	pmax		
	comp=N,150nm,0.7s						
KUR				pmax	pmax		
	comp=E,120nm,0.7s						
KUR				pmax	pmax		
	comp=Z,260nm,0.7s						
KUR				smax			
	comp=N,4μm,1.6s						
KUR				smax			
	comp=N,1μm,0.7s						
KUR				smax			
	comp=E,340nm,0.7s						
KUR	**Kuril'sk**	**3.84**	**247**	*i* P	**Pn**	**09 00 05.7**	**+2.1**
KUR				AMB	AMB	09 00 11.4	
	comp=E,150nm,0.7s						
KUR				AMB	AMB	09 00 11.4	
	comp=E,120nm,0.7s						
KUR				AMB	AMB	09 00 11.4	
	comp=E,260nm,0.7s						
KUR				*i* S	**Sn**	**09 00 49.0**	**+1.5**
KUR				A		09 01 07.0	
	comp=E,4μm,1.6s						
KUR				A		09 01 11.5	
	comp=E,1μm,0.7s						
KUR				A		09 01 11.5	
	comp=E,340nm,0.7s						
SKR	**Severo-Kuril's**	**4.41**	**28**	*e*PN	**Pn**	**09 00 11.5**	**+0.1**
SKR				*e*S	**Sn**	**09 00 59.0**	**-2.4**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,170nm,0.5s						
SKR				smax			
	comp=E,170nm,0.5s						
SKR				smax			
	comp=Z,110nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.68**	**243**	*e*PN	**Pn**	**09 00 29.8**	**+1.0**
YUK				*e*S	**Sn**	**09 01 34.0**	**+1.3**
YUK				pmax	pmax		
	comp=Z,320nm,0.3s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,3μm,0.8s						
YUK				smax			
	comp=N,1μm,0.6s						
YUK				smax			
	comp=E,960nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.68**	**243**	*e*P	**Pn**	**09 00 29.8**	**+1.0**
YUK				AMB	AMB	09 00 32.3	
	comp=E,320nm,0.3s						
YUK				*e*S	**Sn**	**09 01 34.0**	**+1.3**
YUK				A		09 01 53.0	
	comp=E,3μm,0.8s						
YUK				A		09 01 58.5	
	comp=E,1μm,0.6s						
YUK				A		09 01 58.5	
	comp=E,960nm,0.6s						
NEM2	**Nemuro 2**	**6.13**	**238**	P	**Pn**	**09 00 33.4**	**-1.6**
NEM2				*e*S	**Sn**	**09 01 39.8**	**-3.9**
JRA	**Rausu**	**6.19**	**245**	P	**Pn**	**09 00 37.4**	**+1.7**
JRA				*e*S	**Sn**	**09 01 47.8**	**+2.7**
JNK	**Nakash**	**6.62**	**244**	P	**Pn**	**09 00 42.6**	**+0.9**
JNK				*e*S	**Sn**	**09 01 55.8**	**0.0**
JTKR	**Abashiri--Toko**	**6.94**	**249**	P	**Pn**	**09 00 47.9**	**+1.9**
YSS	**Yuzh-Sakhalins**	**6.95**	**275**	*e*PN	**Pn**	**09 00 49.0**	**+2.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.95**	**275**	Pn	**Pn**	**09 00 48.3**	**+2.2**
	comp=Z,58nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.95**	**275**	*e*P	**Pn**	**09 00 49.0**	**+2.8**
YSS				AMB	AMB	09 00 51.2	
	comp=Z,40nm,1.0s						
YSS				*e*S	**Sn**	**09 02 02.2**	**-1.6**
YSS				AMS	AMS	09 03 21.0	
	comp=Z,500nm,17.0s						
JAK	**Akkeshi**	**6.96**	**240**	P	**Pn**	**09 00 45.0**	**-1.4**
JAK				*e*S	**Sn**	**09 01 59.7**	**-4.5**
PET	**Petropavlovsk**	**7.23**	**29**	*e*PN	**Pn**	**09 00 44.9**	**-5.2**
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	**7.23**	**29**	Pn	**Pn**	**09 00 44.9**	**-5.2**
JMP	**Maruseppu**	**7.28**	**251**	P	**Pn**	**09 00 53.1**	**+2.4**
JAR	**Ashorobuto**	**7.36**	**245**	P	**Pn**	**09 00 52.6**	**+0.8**
JAR				*e*S	**Sn**	**09 02 13.8**	**-0.1**
JSE	**Soyaes**	**7.43**	**259**	P	**Pn**	**09 00 56.9**	**+4.1**
JOB	**Onbets**	**7.53**	**242**	P	**Pn**	**09 00 54.4**	**+0.2**
JOB				*e*S	**Sn**	**09 02 14.7**	**-3.5**
UGL	**Uglegorsk**	**7.61**	**291**	*e*P	**Pn**	**

JKB Kayabe 9.82 244 P **Pn 09 01 23.8 -1.7**
JKB eS **Sn 09 03 07.2 -7.1**
JSH Shimam 10.05 250 P **Pn 09 01 29.7 +1.0**
JYM2 Yakumo 2 10.11 247 P **Pn 09 01 28.8 -0.7**
JSR Shiriuchi 10.40 244 P **Pn 09 01 32.1 -1.4**
JSR eS **Sn 09 03 20.9 -7.7**
JTM Tenmabayashi 10.46 239 P **Pn 09 01 31.2 -3.0**
JTM eS **Sn 09 03 19.7 -10**
JANG Nango 10.47 236 P **Pn 09 01 30.2 -4.2**
JANG eS **Sn 09 03 18.7 -11**
JTH Tanohata 10.57 233 eS **Sn 09 03 20.6 -12**
JOSM Okushiri--Mats 10.70 249 P **Pn 09 01 36.7 -0.8**
OFUJ Ofunato 11.29 231 P **Pn 09 01 42.3 -3.2**
OFUJ eS **Sn 09 03 37.2 -13**
JRG Rokugo 11.63 235 P **Pn 09 01 47.2 -3.0**
JRG eS **Sn 09 03 46.3 -12**
JIO Ouri 11.91 230 P **Pn 09 01 50.0 -4.2**
JIO eS **Sn 09 03 52.9 -13**
MA2 Magadan 12.83 355⇑ ePN **Pn 09 02 07.8 +1.1**
MA2 Magadan 12.83 355 ePn **Pn 09 02 07.1 +0.4**
comp=Z,8.3nm,0.4s
JFK Kawauchi 12.98 228 eS **Sn 09 04 19.3 -12**
KLR Kul'dur 14.34 287 eP **Pn 09 02 28.0 +0.8**
MJAR Matsushiro Arr 15.01 232 P **Pn 09 02 33.1 -2.8**
comp=Z,0.3nm,0.3s,baz=32,slow=10,SNR=6.4
MJAR LR LR 09 08 21.0
comp=Z,115nm,21.2s,baz=70,slow=37
MAT Matsushiro 15.01 232 P **Pn 09 02 37.6 +1.7**
MDJ Mudanjiang 16.41 271 P **Pn 09 02 56.9 +3.0**
MDJ AMB AMB
comp=Z,11nm,0.8s
MDJ AMB AMB
comp=Z,61nm,5.9s
MDJ Mudanjiang 16.41 271 ePn **Pn 09 02 54.7 +0.8**
comp=Z,6.8nm,0.5s
CN2 Changchun 19.50 271 eP **Pn 09 03 28.8 -2.8**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CLNS Chul'man 19.85 311 eP **Pn 09 03 31.8 -4.0**
CLNS pmax pmax
comp=Z,11nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS MLR MLR
comp=Z,200nm,14.0s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,700nm,12.0s
YAK Yakutsk 20.17 327 eP **P 09 03 38.3 +0.9**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.1s
KSRS Korea Array 20.67 252 P **P 09 03 43.7 +0.9**
comp=E,5.6nm,0.7s,baz=56,slow=11,SNR=19
SNY Shenyang 21.49 267 ⇑P **P 09 03 52.8 +1.3**
SNY AMB AMB
comp=Z,15nm,0.9s,mb4.3
JNU Nakatsue 21.63 239 P **P 09 03 54.0 +1.0**
comp=Z,16nm,0.8s,mb4.5,baz=237,slow=12,SNR=5.2
HIA Hailar 22.20 289 eP **P 09 03 56.7 -2.4**
BILL Bilibino 22.35 13⇓ eP **P 09 04 04.2 +3.5**
BILL eS **S 09 07 59.9 -3.9**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.4
BOD Bodaibo 25.82 310 eP **P 09 04 34.5 +0.9**
BOD pmax pmax
comp=Z,3.0nm,1.6s,mb3.6
SONM Songino Array 31.16 289 P **P 09 05 22.2 +1.0**
comp=Z,0.7nm,0.4s,mb3.9,baz=63,slow=8.5,SNR=3.2
SONM LR LR 09 18 57.0
comp=Z,113nm,19.8s,MS3.5,baz=69,slow=38
SONM Songino Array 31.16 289 P **P 09 05 22.2 +1.0**
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM MLR MLR
comp=Z,113nm,19.8s
TLY Talaya 32.01 297 eP **P 09 05 26.0 -2.7**
TLY MLR MLR
comp=Z,120nm,21.0s,MS3.6
GTA Gaotai 38.81 279 eP **P 09 06 28.8 +1.8**
GTA AP pP 09 06 34.5 -5.4
GTA XP sP 09 06 36.9 -8.7
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.2
CD2 Chengdu 40.73 265 P **P 09 06 43.6 +0.6**
INK Inuvik 41.67 32 P **P 09 06 51.2 +0.5**
comp=Z,5.5nm,0.7s,mb4.3,baz=288,slow=6.7,SNR=56
INK Inuvik 41.67 32 P **P 09 06 51.2 +0.5**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 41.67 32 P **P 09 06 51.2 +0.5**
ZAL Zalesovo 42.46 306 PcP PcP 09 08 48.9 -0.5
comp=Z,1.2nm,0.7s,baz=70,slow=4.6,SNR=7.8
MK31 Makanchi Array 46.77 297 eP **P 09 07 30.6 -0.9**
MKAR Makanchi Array 46.77 297 P **P 09 07 30.5 -1.0**
comp=Z,1.4nm,0.5s,mb4.1,baz=71,slow=7.3,SNR=16
MKAR PcP PcP 09 09 03.4 -0.8
comp=Z,1.5nm,0.8s,baz=55,slow=4.4,SNR=6.3
MKAR Makanchi Array 46.77 297 P **P 09 07 30.5 -1.0**
MKAR 09 09 03.4
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 46.77 297 P **P 09 07 30.5 -1.0**
MKAR PcP PcP 09 09 03.4 -0.8
KURK Kurchatov 47.20 303⇑ eP **P 09 07 33.9 -0.9**
LSA Lhasa 50.12 273 eP **P 09 07 59.3 +2.1**
comp=Z,6.9nm,0.6s,mb4.9
BVAR Borovoye Array 50.69 309 P **P 09 08 00.6 -1.0**
comp=Z,0.7nm,0.4s,mb4.0,baz=50,slow=8.3,SNR=5.4
BVAR PcP PcP 09 09 17.8 -0.6
comp=Z,1.4nm,0.6s,baz=65,slow=3.7,SNR=5.1
BVAR Borovoye Array 50.69 309 P **P 09 08 00.6 -1.0**
BVAR 09 09 17.8
BVAR pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 50.95 37 P **P 09 08 03.4 -0.2**
comp=Z,2.7nm,0.8s,mb4.2,baz=297,slow=7.2,SNR=34
YKA PcP PcP 09 09 18.4 -0.9
comp=Z,0.6nm,0.7s,baz=301,slow=3.7,SNR=4.7
YKA Yellowknife Ar 50.95 37 P **P 09 08 03.4 -0.2**
YKA 09 09 18.4
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 50.95 37 P **P 09 08 03.4 -0.2**
YKA PcP PcP 09 09 18.4 -0.9
CHTO Chiang Mai 51.99 256 eP **P 09 08 12.4 +1.1**
comp=Z,5.1nm,0.8s,mb4.5
AAK Ala-Archa 53.66 296 eP **P 09 08 21.8 -1.9**
AAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
JIRN Jiri 54.79 274 eP **P 09 08 33.0 +1.2**
comp=Z,23nm,0.5s,mb5.5
GUN Gumba 54.84 275 eP **P 09 08 33.2 +1.0**
comp=Z,14nm,0.4s,mb5.3
KKN Kakani 55.33 275 eP **P 09 08 37.1 +1.4**
comp=Z,26nm,0.7s,mb5.4
PKI Pulchoki 55.38 275 eP **P 09 08 36.9 +0.8**
comp=Z,16nm,0.6s,mb5.2
DMN Daman 55.56 275 eP **P 09 08 38.5 +1.1**
comp=Z,18nm,0.4s,mb5.4
GKN Gorkha 55.63 276 eP **P 09 08 38.8 +0.9**
KOLN Koldanda 56.49 276 eP **P 09 08 45.0 +1.0**
comp=Z,28nm,1.0s,mb5.3
ARCES ARCESS Array B 57.73 341 P **P 09 08 51.1 -1.7**
comp=Z,4.0nm,0.9s,mb4.5,baz=39,slow=8.5,SNR=6.2
ARCES ARCESS Array B 57.73 341 P **P 09 08 51.2 -1.6**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
JOF Joensuu 61.20 334 ep **P 09 09 14.5 -2.2**
comp=Z,6.3nm,0.6s,mb4.9
JOF Joensuu 61.20 334 eP **P 09 09 14.5 -2.2**
JOF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
NVAR Mina Array Bea 62.53 62 P **P 09 09 26.5 +0.8**
comp=Z,0.8nm,0.7s,mb4.0,baz=297,slow=6.7,SNR=8.0
NVAR Mina Array Bea 62.53 62 P **P 09 09 26.5 +0.8**
KAF Kangasniemi 63.31 335 ep **P 09 09 29.0 -1.8**
comp=Z,2.6nm,0.5s,mb4.6,baz=37,slow=6.1
KAF Kangasniemi 63.31 335 eP **P 09 09 29.0 -1.8**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
FINES FINESS Array B 63.91 335 P **P 09 09 33.7 -1.1**
comp=Z,4.8nm,0.4s,mb4.9,baz=39,slow=7.3,SNR=44
FINES FINESS Array B 63.91 335 P **P 09 09 33.7 -1.1**
FINES pmax pmax
comp=Z,5.0nm,0.4s
PSI Prapat 63.98 244 P **P 09 09 36.8 +1.5**
comp=Z,2.9nm,0.6s,mb4.5,baz=136,slow=5.2,SNR=4.5
PSI Prapat 63.98 244 P **P 09 09 36.8 +1.6**
PSI pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
PDAR Pinedale Array 64.83 54 P **P 09 09 41.2 +0.5**
comp=Z,1.9nm,0.8s,mb4.2,baz=288,slow=1.9,SNR=15
OBN Obninsk 65.16 325⇓ eP **P 09 09 39.9 -3.1**
OBN e*PP pP 09 09 54.1 -2.6
OBN eS S 09 18 21.3 -1.0
OBN pmax pmax
comp=Z,12nm,1.3s,mb4.8
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
ULM Lac du Bonnet 66.56 41 P **P 09 09 51.3 -0.7**
comp=Z,2.0nm,0.7s,mb4.2,baz=331,slow=8.3,SNR=4.8
PFO Pinyon Flat Ob 66.80 65 P **P 09 09 54.0 +0.5**
comp=Z,2.4nm,0.6s,mb4.4,baz=326,slow=11,SNR=3.7
PFO Pinyon Flat Ob 66.80 65 P **P 09 09 54.0 +0.5**
PFO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
PFO Pinyon Flat Ob 66.80 65 P **P 09 09 54.0 +0.5**
NB2 NORSAR Subarra 68.11 341 P **P 09 10 00.7 -1.0**
comp=Z,9.2nm,0.7s,mb4.9,baz=28,slow=6.5
NOA NORSAR Array B 68.11 341 P **P 09 10 01.1 -0.7**
comp=Z,7.9nm,0.7s,mb4.9,baz=28,slow=6.3,SNR=27
NOA NORSAR Array B 68.11 341 P **P 09 10 01.1 -0.6**
NOA pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 68.53 199 P **P 09 10 03.5 -0.9**
comp=Z,1.3nm,0.9s,mb3.9,baz=7.7,slow=6.7,SNR=8.0
WRA Warramunga Arr 68.53 199 P **P 09 10 03.5 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s
FITZ Fitzroy Crossi 69.14 208 P **P 09 10 08.1 0.0**
comp=Z,1.0nm,0.7s,mb3.9,baz=328,slow=9.8,SNR=3.8
KIV Kislovodsk 70.64 314⇑ eP **P 09 10 17.5 +0.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AKASG Malin Array Be 71.40 326 P **P 09 10 20.8 -1.2**
comp=Z,7.6nm,0.4s,mb5.0,baz=33,slow=6.2,SNR=38
AKASG Malin Array Be 71.40 326 P **P 09 10 20.8 -1.2**
AKASG pmax pmax
comp=Z,8.0nm,0.4s
ASAR Alice Springs 72.23 198 P **P 09 10 27.3 +0.3**
comp=Z,1.2nm,0.7s,mb3.9,baz=12,slow=4.9,SNR=18
ASAR Alice Springs 72.23 198 P **P 09 10 27.3 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
SCHQ Schefferville 73.30 23 P **P 09 10 32.6 -0.7**
comp=Z,4.0nm,0.8s,mb4.2,baz=270,slow=6.1,SNR=3.2
STHS Stebnicka Huta 75.37 330 eP **P 09 10 46.0 +0.6**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KOLS Kolonicke sedl 75.42 329 eP **P 09 10 45.2 -0.5**
BURAR Bucovina Array 75.44 326 ⇓iP **P 09 10 45.5 -0.3**
CRVS Cervenica-Dubn 75.73 329 eP **P 09 10 47.1 -0.3**
MORC Moravsky Berou 76.30 332 ⇓iP **P 09 10 41.4 -9.3**
CLL Collm 76.33 335 i P **P 09 10 50.1 -0.8**
comp=Z,12nm,1.1s,mb4.7
KECS Kecovo 76.43 330 eP **P 09 10 51.4 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MLR Muntele Rosu 76.92 325 ⇓iP **P 09 10 54.8 +0.7**
VYHS Vyhne 76.98 331 eP **P 09 10 54.4 -0.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MALT Malatya 76.99 313 ⇓iP **P 09 10 55.9 +1.3**
VOIR 77.31 325 ⇑iP **P 09 10 56.8 +0.4**
TXAR Lajitas Array 77.59 60 P **P 09 10 58.2 +0.3**
comp=Z,1.3nm,0.5s,mb4.1,baz=299,slow=4.7,SNR=47
TXAR Lajitas Array 77.59 60 P **P 09 10 58.2 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 77.59 60 P **P 09 10 58.2 +0.3**
KHC Kasperske Hory 78.10 334 eP **P 09 11 00.0 -0.8**
KHC epP pP 09 11 04.5 -10
GZR Gura Zlata 78.22 327 ⇑iP **P 09 11 00.7 -0.7**
BRTR Keskin Array B 78.23 317 P **P 09 11 01.9 +0.4**
comp=Z,2.7nm,0.9s,mb4.2,baz=64,slow=4.7,SNR=7.8
BRTR Keskin Array B 78.23 317 P **P 09 11 01.9 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 78.32 334 P **P 09 11 01.3 -0.7**
comp=Z,1.5nm,0.8s,mb4.0,baz=32,slow=5.3,SNR=8.1
GERES GERESS Array B 78.32 334 P **P 09 11 01.3 -0.7**
GERES pmax pmax
comp=Z,2.0nm,0.8s
ASF Jabal al Asfar 82.53 310 P **P 09 11 25.0 +0.4**
comp=Z,3.9nm,0.9s,mb4.5,baz=224,slow=7.5,SNR=4.9
ASF Jabal al Asfar 82.53 310 P **P 09 11 25.0 +0.4**
ASF pmax pmax
comp=Z,4.0nm,0.9s
MMAI Mount Meron Ar 82.65 311 P **P 09 11 25.9 +0.7**
comp=Z,4.6nm,0.5s,mb4.7,baz=51,slow=6.6,SNR=10.0
CFAA Coronel Fontan 145.13 79 PKPbc PKPbc 09 18 37.1 -1.5
comp=Z,0.4nm,0.8s,baz=308,slow=3.6,SNR=6.2
PLCA Paso Flores 148.37 95 PKPbc PKPbc 09 18 47.4 -0.5
comp=Z,3.4nm,0.9s,baz=311,slow=11,SNR=3.6
SNAA Sanae 152.58 196 PKPbc PKPbc 09 18 56.0 -2.0
comp=Z,1.0nm,0.6s,baz=246,slow=4.7,SNR=9.6

*IDC **21** 09:06:38.9±0.7, 1327N×12583E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, MS3.4/4, Ms1 3.4/4, ms1mx3.1/25, Error ellipse: s-maj=46.8km s-min=13.8km az=74.0*
*ISCJB **21** 09:06:42.7±0.5, 1327N±005×12592E±008, h35km, mb4.3/17, MS3.2/4, Error ellipse: s-maj=11.6km s-min=5.8km az=33.5*
*NEIC **21** 09:06:44.8±0.5, 13.30N×126.10E, h40km, mb4.6/3, Error ellipse: s-maj=36.1km s-min=11.0km az=73.0*
ISC 21 09:06:44.4±0.5, 1328N±005×12587E±008, h35km, n29, σ1$06/28, mb4.3/17, MS3.2/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.41**	**237**	eP	**Pn**	**09 07 06.2**	**-1.3**
CNP				eS	**Sn**	**09 07 24.8**	**0.0**
BESP	**Borongan**	**1.72**	**194**	eP	**Pn**	**09 07 06.4**	**-5.4**
BESP				eS	**Sn**	**09 07 31.7**	**-0.8**
MSLP	**Maasin**	**3.28**	**198**	eP	**Pn**	**09 07 32.5**	**-0.7**
MSLP				eS	**Sn**	**09 08 13.0**	**+2.0**
GUIM	**Jordan**	**4.16**	**231**	eP	**Pn**	**09 07 44.9**	**-0.4**
JNU	**Nakatsue**	**20.27**	**12**	LR	LR	09 18 38.5	
comp=Z,162nm,21.3s,MS3.4,baz=289,slow=36							
KSRS	**Korea Array**	**24.15**	**4**	P	**P**	**09 11 57.0**	**-0.1**
5.5nm,1.0s,mb3.9,baz=182,slow=11,SNR=19							
KSRS				LR	LR	09 20 13.8	
comp=Z,31nm,21.4s,MS2.8,baz=190,slow=34							
MJAR	**Matsushiro Arr**	**25.67**	**23**	LR	LR	09 20 17.7	
comp=Z,125nm,18.2s,MS3.5,baz=240,slow=32							
KAKA	**Kakadu**	**26.63**	**166**	eP	**P**	**09 12 22.9**	**+3.3**
4.5nm,0.4s,mb4.3							
PSI	**Prapat**	**28.61**	**251**	LR	LR	09 23 27.2	
comp=Z,69nm,18.7s,MS3.3,baz=156,slow=35							
FITZ	**Fitzroy Crossi**	**31.18**	**180**	eP	**P**	**09 13 00.2**	**+0.2**
3.2nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**31.18**	**180**	P	**P**	**09 13 00.2**	**+0.2**
1.1nm,0.3s,mb4.2,baz=36,slow=11,SNR=9.9							
WRA	**Warramunga Arr**	**34.05**	**166**	P	**P**	**09 13 23.3**	**-1.8**
0.7nm,0.6s,mb3.8,baz=344,slow=9.9,SNR=6.2							
ASAR	**Alice Springs**	**37.55**	**168**	P	**P**	**09 13 56.3**	**+1.2**
0.8nm,0.4s,mb3.8,baz=352,slow=6.9,SNR=12							
ASAR				PcP	PcP	09 16 12.3	-0.3
0.7nm,0.8s,baz=2.9,slow=5.0,SNR=4.2							
SONM	**Songino Array**	**38.09**	**339**	P	**P**	**09 13 59.8**	**+0.1**
3.0nm,1.0s,mb4.0,baz=153,slow=9.0,SNR=10							
FORT	**Forrest**	**43.85**	**177**	eP	**P**	**09 14 51.7**	**+4.6**
16nm,0.6s,mb4.9							
KMBL	**Kambalda**	**44.55**	**185**	eP	**P**	**09 14 52.4**	**-0.3**
23nm,0.4s,mb5.4							
STKA	**Stephens Creek**	**47.36**	**162**	P	**P**	**09 15 14.7**	**-0.2**
2.7nm,0.6s,mb4.3,baz=349,slow=9.6,SNR=10							
STKA	**Stephens Creek**	**47.36**	**162**	P	**P**	**09 15 14.7**	**-0.2**
STKA				eP		09 15 14.8	
MKAR	**Makanchi Array**	**49.43**	**321**	P	**P**	**09 15 31.2**	**+0.4**
2.6nm,0.8s,mb4.3,baz=111,slow=8.6,SNR=22							
ZAL	**Zalesovo**	**51.83**	**330**	P	**P**	**09 15 48.1**	**-0.7**
0.8nm,0.6s,mb3.8,baz=329,slow=6.1,SNR=3.7							
DAWY	**Dawson**	**80.23**	**26**	eP	**P**	**09 18 49.8**	**-1.6**
ARCES	**ARCESS Array B**	**81.26**	**340**	P	**P**	**09 18 56.6**	**-0.2**
3.5nm,0.8s,mb4.3,baz=82,slow=6.7,SNR=4.3							
FINES	**FINESS Array B**	**83.08**	**332**	P	**P**	**09 19 05.6**	**-0.7**
1.0nm,0.5s,mb4.1,baz=33,slow=4.5,SNR=5.5							
MMAI	**Mount Meron Ar**	**83.28**	**302**	P	**P**	**09 19 06.9**	**-0.4**
0.8nm,0.3s,mb4.2,baz=324,slow=36,SNR=3.6							
KOLS	**Kolonicke sedl**	**88.82**	**320**	eP	**P**	**09 19 37.0**	**+2.3**
CRVS	**Cervenica-Dubn**	**89.34**	**320**	eP	**P**	**09 19 38.5**	**+1.4**
8.5nm,0.2s,mb5.7							
YKA	**Yellowknife Ar**	**91.18**	**24**	P	**P**	**09 19 45.6**	**-0.1**
0.3nm,0.5s,mb3.8,baz=301,slow=4.8,SNR=12							
BFO	**Black Forest**	**97.50**	**323**	eP	**P**	**09 20 16.1**	**+1.5**
1.3nm,0.6s,mb4.5							
TXAR	**Lajitas Array**	**116.13**	**48**	PKP	PKPdf	09 25 24.7	+1.0
0.2nm,0.5s,baz=192,slow=1.4,SNR=4.7							

*DHMR **21** 09:07:40.0±1.9, 1196N×4377E, h3km±8km, ML5.1*
*CSEM **21** 09:07:44.1±0.1, 1218N×4383E, h2km, mb4.8/8, Mw5.0, Error ellipse: s-maj=4.8km s-min=3.4km az=109.0*
*MOS **21** 09:07:45.3±1.9, 1190N×4366E, h10km, mb5.1/12, Error ellipse: s-maj=15.5km s-min=7.1km az=85.2*
*IDC **21** 09:07:45.0±0.6, 1210N×4358E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, MS4.2/4, Ms1 4.2/4, ms1mx3.7/32, Error ellipse: s-maj=17.5km s-min=8.6km az=130.0*
*ISCJB **21** 09:07:46.1±0.3, 1207N±004×4358E±005, h10km, mb4.7/39, MS4.1/6, Error ellipse: s-maj=7.6km s-min=4.1km az=56.0*
*GCMT **21** 09:07:46.3±0.4, 1196N×4382E, h15km±1km, MW5.0/59, Moment Tensor Solution. s15,c18; s59,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.82±.28; $M_{\theta\theta}$2.73±.17; $M_{\phi\phi}$0.09±.18; $M_{r\theta}$-0.47±.30; $M_{\theta\phi}$-1.21±.12; $M_{\phi r}$1.63±.54; Best double couple: $M_0$3.46700×10^{16} NP1:ϕ_s270.00000°, δ40.00000°, λ-126.00000°. NP2: ϕ_s133.00000°, δ59.00000°, λ-64.00000°. Principal axes: T 3.3840, Plg10.0000°, Azm205.0000°; N 0.1680, Plg22.0000°, Azm299.0000°; P -3.5500, Plg66.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 09:07:46.3±0.5, 1204N×4355E, h10km, mb5.0/3 Error ellipse: s-maj=15.0km s-min=9.3km az=115.0*
*BJI **21** 09:07:48.3, 12.16N×4351E, h24km, mB5.2, mb4.8, Ms4.7, Msz4.5*
ISC 21 09:07:48.2±0.3, 1209N±004×4357E±004, h10km, (h30km±7.4km:pP-P), n96, σ1$52/110, mb4.7/39, MS4.1/6, 14C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**0.90**	**232**	Pg	**Pg**	**09 08 01.5**	**-4.0**
276nm,0.3s,baz=66,slow=1.9,SNR=1683							
ATD				Lg		09 08 15.5	
2μm,0.3s,baz=270,slow=20,SNR=63							
TRBA	**At Turbah**	**1.25**	**25⇑**	eP	**Pn**	**09 08 05.5**	**-6.3**
TRBA				i S	**Sb**	**09 08 23.3**	**-4.7**
TRBA				AML	AML	09 08 23.7	
comp=E,27μm,0.5s							
ADEN	**Aden**	**1.54**	**63⇑**	eP	**Pn**	**09 08 06.9**	**-8.7**
ADEN				i S	**Sn**	**09 08 27.1**	**-8.6**
ADEN				AML	AML	09 08 34.2	
comp=E,63μm,0.6s							
ADEN	**Aden**	**1.54**	**63⇑**	eP	**Pn**	**09 08 06.9**	**-8.7**
ADEN				i S	**Sn**	**09 08 27.1**	**-8.5**
UDYN	**Al 'Udayn**	**1.91**	**12⇑**	eP	**Pn**	**09 08 15.9**	**-4.8**
UDYN				i S	**Sn**	**09 08 44.5**	**-0.3**
UDYN				AML	AML	09 08 51.0	
comp=N,26μm,0.6s							
UDYN	**Al 'Udayn**	**1.91**	**12⇑**	eP	**Pn**	**09 08 15.9**	**-4.8**
UDYN				i S	**Sn**	**09 08 44.5**	**-0.3**
LBOS		**2.41**	**42**	⇓iP	**Pn**	**09 08 20.9**	**-6.7**
LBOS				i S	**Sn**	**09 08 54.7**	**-2.5**
DHBB	**Dhamar BB**	**2.59**	**18**	i P	**Pn**	**09 08 26.8**	**-3.4**
DHBB				i S	**Sn**	**09 09 02.5**	**+0.8**
BDHA	**Al Bayda'**	**2.70**	**46**	i P	**Pn**	**09 08 25.0**	**-6.6**
BDHA				i S	**Sn**	**09 09 03.5**	**-0.9**
HAJJ	**Hajjah**	**3.59**	**0**	i P	**Pn**	**09 08 41.1**	**-2.8**
HAJJ				i S	**Sn**	**09 09 28.3**	**+2.0**
HAJJ				AML	AML	09 09 46.8	
comp=Z,10μm,1.0s							
HAJJ	**Hajjah**	**3.59**	**0**	i P	**Pn**	**09 08 41.1**	**-2.8**
HAJJ				i S	**Sn**	**09 09 28.3**	**+2.0**
DESE	**Dese**	**3.98**	**256**	eP	**Pn**	**09 08 50.9**	**+1.7**
DESE				S	**Sg**	**09 09 54.3**	**-1.6**
MUKL	**Al Mukalla**	**5.82**	**65**	i P	**Pn**	**09 09 08.0**	**-6.6**
MUKL				i S	**Sn**	**09 10 15.9**	**-5.5**
KMBO	**Kilima Mbogo**	**14.55**	**206**	Pn	**Pn**	**09 11 10.3**	**-3.8**
comp=Z,0.1nm,0.3s,baz=31,slow=15,SNR=6.9							
KMBO				Sn	**Sn**	**09 13 56.6**	**+1.2**
comp=Z,0.1nm,0.3s,baz=143,slow=18,SNR=3.1							
KMBO				Lg		09 15 25.2	
comp=Z,0.8nm,0.3s,baz=102,slow=20,SNR=6.4							
KMBO	**Kilima Mbogo**	**14.55**	**206**	P	**Pn**	**09 11 10.3**	**-3.8**
KMBO						09 13 56.7	
KMBO	**Kilima Mbogo**	**14.55**	**206**	Sn	**Sn**	**09 13 56.7**	**+1.2**
ASF	**Jabal al Asfar**	**20.91**	**344**	P	**P**	**09 12 30.6**	**-0.2**
comp=Z,5.4nm,0.9s,baz=213,slow=7.4,SNR=4.9							
BHD	**Baghdad**	**21.10**	**2**	ex	x	09 12 30.0	
BHD				ex	x	09 18 58.0	
MMAI	**Mount Meron Ar**	**22.14**	**342**	P	**P**	**09 12 42.4**	**-1.5**
comp=Z,0.4nm,0.3s,baz=140,slow=5.3,SNR=5.8							
BRTR	**Keskin Array B**	**28.90**	**344**	P	**P**	**09 13 47.6**	**+0.5**
comp=Z,5.7nm,1.0s,mb4.3,baz=144,slow=7.3,SNR=9.5							
LSZ	**Lusaka**	**31.16**	**210**	LR	LR	09 26 11.5	
comp=Z,472nm,18.9s,MS4.2,baz=8.5,slow=36							
KIV	**Kislovodsk**	**31.76**	**359**	eP	**P**	**09 14 11.6**	**-0.9**
KIV				eS	**S**	**09 19 19.2**	**-3.2**
KIV				pmax	pmax		
comp=Z,41nm,1.1s,mb5.2							
KIV	**Kislovodsk**	**31.76**	**359**	eP	**P**	**09 14 11.6**	**-0.9**
comp=Z,41nm,1.1s,mb5.2							
MATP	**Matopo**	**35.55**	**205**	P	**P**	**09 14 44.7**	**-0.7**
comp=Z,3.1nm,0.8s,mb4.3,baz=38,slow=7.5,SNR=8.9							
MATP				LR	LR	09 29 06.1	
comp=Z,517nm,20.9s,MS4.3,baz=32,slow=36							
MLR	**Muntele Rosu**	**36.52**	**339**	⇓iP	**P**	**09 14 54.2**	**+0.4**
VRI	**Vrincioaia**	**36.59**	**340**	⇑iP	**P**	**09 14 58.5**	**+4.2**
PLOR	**Plostina**	**36.60**	**340**	⇑iP	**P**	**09 14 55.2**	**+0.8**
VOIR		**36.80**	**338**	⇓iP	**P**	**09 14 55.7**	**-0.4**
GZR	**Gura Zlata**	**37.63**	**336**	⇓iP	**P**	**09 14 59.9**	**-3.3**
AML	**Almayashu**	**39.79**	**36**	P	**P**	**09 15 20.0**	**-1.3**
SNR=38							
EKS2	**Erkin-Say**	**40.18**	**35**	P	**P**	**09 15 26.9**	**+2.4**
SNR=13							
AKASG	**Malin Array Be**	**40.26**	**346**	P	**P**	**09 15 23.3**	**-1.8**
comp=Z,7.8nm,1.0s,mb4.4,baz=164,slow=7.0,SNR=12							
UCH	**Uchtor**	**40.32**	**36**	P	**P**	**09 15 28.5**	**+2.8**
SNR=20							
ORR	**Orenburg**	**40.45**	**11**	eP	**P**	**09 15 29.6**	**+2.8**
ORR				pmax	pmax		
comp=Z,30nm,1.1s,mb4.9							
KOLN	**Koldanda**	**40.52**	**61**	eP	**P**	**09 15 27.5**	**+0.1**
comp=Z,30nm,0.9s,mb5.0							
AAK	**Ala-Archa**	**40.57**	**36**	P	**P**	**09 15 30.6**	**+2.9**
SNR=13							
AAK	**Ala-Archa**	**40.57**	**36**	eP	**P**	**09 15 25.9**	**-1.8**
AAK				pmax	pmax		
comp=Z,22nm,1.1s,mb4.7							
AAK	**Ala-Archa**	**40.57**	**36**	eP	**P**	**09 15 25.9**	**-1.8**
comp=Z,22nm,1.1s,mb4.7							
KZA	**Kyzart**	**40.66**	**37**	P	**P**	**09 15 31.0**	**+2.5**
SNR=8.2							
FRU	**Bishkek**	**40.76**	**36**	P	**P**	**09 15 31.0**	**+1.6**
KBK	**Karagaybulak**	**40.84**	**36**	P	**P**	**09 15 33.0**	**+3.0**
SNR=13							
TORD	**Torodi Ar. Bea**	**40.85**	**276**	P	**P**	**09 15 29.0**	**-1.1**
comp=Z,4.7nm,1.0s,mb4.1,baz=93,slow=8.4,SNR=24							
CHMS	**Chumysh**	**40.95**	**35**	P	**P**	**09 15 32.8**	**+2.0**
SNR=6.4							
USP	**Ospenovka**	**

comp=Z,24nm,0.9s,mb4.8
DMN Daman 41.78 62 *e*P **P 09 15 37.8 +0.1**
comp=Z,29nm,0.9s,mb4.9
KKN Kakani 41.97 62 *e*P **P 09 15 39.3 0.0**
comp=Z,51nm,0.8s,mb5.2
PKI Pulchoki 42.04 62 *e*P **P 09 15 39.6 -0.2**
comp=Z,24nm,0.8s,mb4.9
GUN Gumba 42.52 62 *e*P **P 09 15 43.9 +0.2**
comp=Z,51nm,0.8s,mb5.3
JIRN Jiri 42.73 62 *e*P **P 09 15 45.2 -0.3**
comp=Z,21nm,0.9s,mb4.9
OBN Obninsk 43.28 354⇑*e*P **P 09 15 50.9 +1.0**
OBN *e*S **S 09 22 12.8 -4.3**
OBN *e*SS SS 09 25 49.8 +19
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.5
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.0
OBN Obninsk 43.28 354 *e*P **P 09 15 50.9 +1.0**
comp=Z,11nm,1.1s,mb4.5
MOS Moscow 43.80 355 *e*P **P 09 15 55.8 +1.7**
MOS pmax pmax
comp=Z,38nm,1.2s,mb5.0
BOSA Boshof 44.17 203 P **P 09 15 57.5 +0.4**
comp=Z,3.2nm,1.0s,mb4.0,baz=48,slow=7.6,SNR=3.7
GERES GERESS Array B 44.23 332 P **P 09 15 55.6 -1.9**
comp=Z,4.4nm,1.0s,mb4.2,baz=126,slow=6.8,SNR=9.5
KHC Kasperske Hory 44.50 332 *e*P **P 09 16 00.9 +1.2**
ARU Arti 45.74 12⇓*i*P **P 09 16 11.0 +1.4**
ARU *e* 09 17 49.4
ARU *e*S **S 09 22 56.4 +3.5**
ARU *e*SS SS 09 26 17.3 +0.1
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BVAR Borovoye Array 46.12 22 P **P 09 16 10.3 -2.3**
comp=Z,11nm,1.1s,mb4.7,baz=206,slow=6.4,SNR=14
MK31 Makanchi Array 47.50 36 *e*P **P 09 16 21.6 -1.8**
MKAR Makanchi Array 47.50 36 P **P 09 16 20.9 -2.5**
comp=Z,19nm,0.9s,mb5.1,baz=224,slow=6.7,SNR=44
MKAR LR LR 09 39 52.5
comp=Z,293nm,18.5s,MS4.3,baz=101,slow=41
MKAR Makanchi Array 47.50 36⇑*e*P **P 09 16 24.2 +0.8**
KURK Kurchatov 47.96 29⇑*e*P **P 09 16 28.2 +1.3**
KURK Kurchatov 47.96 29 *e*P **P 09 16 24.2 -2.7**
comp=Z,8.7nm,1.0s,mb4.7
KURK Kurchatov 47.96 29 *e*P **P 09 16 24.2 -2.7**
comp=Z,8.7nm,1.0s,mb4.7
KLMR Klimovskoe 48.77 357 *e*P **P 09 16 33.8 +0.6**
KLMR pmax pmax
comp=Z,35nm,1.1s,mb5.3
KLMR Klimovskoe 48.77 357 *e*P **P 09 16 33.8 +0.6**
comp=Z,35nm,1.1s,mb5.3
WMQ Urumqi 49.32 42 *e*P **P 09 16 37.3 -0.1**
WMQ S **S 09 23 48.6 +4.8**
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,145nm,5.2s
WMQ LR LR
comp=N,193nm,21.0s,MS4.3
WMQ LR LR
comp=E,276nm,26.0s,MS4.3
WMQ LR LR
comp=Z,230nm,23.0s,MS4.1
FINES FINESS Array B 50.90 349 P **P 09 16 46.7 -2.7**
comp=Z,3.3nm,0.8s,mb4.3,baz=145,slow=9.9,SNR=3.9
FINES FINESS Array B 50.90 349 *i*P **P 09 16 52.5 +3.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
ZAL Zalesovo 52.93 29 P **P 09 17 01.3 -3.3**
comp=Z,5.9nm,1.0s,mb4.5,baz=242,slow=7.4,SNR=22
ZAL Zalesovo 52.93 29 P **P 09 17 01.3 -3.3**
NOA NORSAR Array B 54.28 341 P **P 09 17 16.2 +1.8**
comp=Z,4.2nm,1.0s,mb4.3,baz=139,slow=7.2,SNR=3.3
NOA NORSAR Array B 54.28 341 P **P 09 17 16.2 +1.8**
GTA Gaotai 56.45 51 *e*P **P 09 17 31.1 +1.0**
GTA AP pP 09 17 42.0 +8.7
GTA XP sP 09 17 46.3 +12
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
LZH Lanzhou 59.01 55 *e*P **P 09 17 49.3 +1.2**
LZH AP pP 09 17 59.0 +7.7
LZH XP sP 09 18 03.3 +11
LZH AMB AMB
comp=Z,23nm,1.5s,mb5.0
LZH Lanzhou 59.01 55 *e*P **P 09 17 49.3 +1.2**
comp=Z,23nm,1.5s,mb5.0
LZH pP pP 09 17 59.0 +7.7
LZH sP sP 09 18 03.2 +11
SONM Songino Array 62.95 42 P **P 09 18 14.7 -0.1**
comp=Z,7.4nm,1.0s,mb4.8,baz=243,slow=6.5,SNR=3.5
BOD Bodaibo 69.45 33 *e*P **P 09 18 51.1 -5.4**
HIA Hailar 71.92 42 *e*P **P 09 19 11.9 +0.3**
TIXI Tiksi 77.13 19⇑*e*P **P 09 19 42.3 +0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
TIXI Tiksi 77.13 19 *e*P **P 09 19 42.3 +0.4**
comp=Z,6.0nm,1.1s,mb4.4
YAK Yakutsk 77.60 29⇑*e*P **P 09 19 45.4 +0.9**
YAK pmax pmax
comp=Z,26nm,1.0s,mb5.1
KSRS Korea Array 78.31 54 P **P 09 19 48.0 -0.4**
comp=Z,3.9nm,1.2s,mb4.2,baz=271,slow=7.2,SNR=5.2
MAW Mawson 80.70 173 P **P 09 20 00.7 -0.8**
comp=Z,2.3nm,0.9s,mb4.1,baz=350,slow=4.1,SNR=4.9
NWAO Narrogin (SRO) 83.17 126 P **P 09 20 13.1 -1.4**
comp=Z,18nm,1.1s,mb5.0,baz=346,slow=6.1,SNR=4.3
FITZ Fitzroy Crossi 86.32 109 *e*P **P 09 20 25.5 -4.8**
comp=Z,15nm,1.1s,mb5.2
FITZ Fitzroy Crossi 86.32 109 P **P 09 20 29.0 -1.4**
comp=Z,8.1nm,1.0s,mb4.9,baz=268,slow=3.9,SNR=6.6
FITZ LR LR 09 51 09.7
comp=Z,52nm,20.2s,MS3.9,baz=255,slow=30
FITZ Fitzroy Crossi 86.32 109 *e*P **P 09 20 25.5 -4.8**
FITZ P pP 09 20 29.0 -4.7
SEY Seymchan 87.67 26⇑*e*P **P 09 20 38.0 +1.1**
BILL Bilibino 90.34 18⇑*e*P **P 09 20 47.2 -2.3**
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
BILL Bilibino 90.34 18 *e*P **P 09 20 47.2 -2.3**
comp=Z,3.0nm,1.1s,mb4.5
WRA Warramunga Arr 94.75 109 P **P 09 21 06.8 -3.1**
comp=Z,1.2nm,0.8s,mb4.4,baz=296,slow=3.2,SNR=4.5
ASAR Alice Springs 95.06 113 P **P 09 21 05.8 -5.4**
comp=Z,0.9nm,0.8s,mb4.2,baz=297,slow=3.7,SNR=4.4
TXAR Lajitas Array 128.09 323 PKP PKPdf 09 26 53.1 -1.3
comp=Z,0.9nm,0.8s,baz=56,slow=3.2,SNR=3.9

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*DHMR **21** 09:11:43.3±1.8, 1194N×4371E, h12km±13km, ML5.1*
*IDC **21** 09:11:47.2±0.8, 1191N×4374E, h0km, mb4.4/15, mb1 4.5/15, mb1mx4.4/20, mbtmp4.4/15, MS4.1/9, Ms1 4.1/9, ms1mx3.9/28, Error ellipse: s-maj=20.7km s-min=9.5km az=150.0*
*CSEM **21** 09:11:47.4±0.1, 1206N×4401E, h2km, mb5.0/7, Error ellipse: s-maj=3.7km s-min=3.0km az=73.0*
*MOS **21** 09:11:48.0±2.1, 1177N×4393E, h10km, mb4.8/15, Error ellipse: s-maj=15.3km s-min=6.6km az=95.4*
*ISCJB **21** 09:11:48.8±0.3, 1203N±003°×4399E±004, h10km, mb4.6/47, MS4.1/12, Error ellipse: s-maj=5.9km s-min=4.5km az=43.6*
*NEIC **21** 09:11:50.3±0.6, 1197N×4423E, h10km, mb4.5/7, Error ellipse: s-maj=18.1km s-min=11.4km az=86.0*
*BJI **21** 09:11:50.3, 1200N×4420E, h10km, mB4.7, mb4.7, Ms4.6, Msz4.3*
*SZGRF **21** 09:11:53.8, 1170N×4352E, h33km, mb4.7, Ethiopia*
ISC 21 09:11:51.0±0.3, 1205N±003°×4400E±004, h10km, (h17km±1.5km:pP-P), n126, σ1§46/130, mb4.6/47, MS4.1/12, 11C-8D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.18**	**5**⇑	*e*P	**Pb**	**09 12 09.2**	**-4.4**
TRBA				*i* S	**Sb**	**09 12 26.7**	**-2.2**
TRBA				AML	AML	09 12 31.8	
	comp=E,33μm,0.5s						
ADEN	**Aden**	**1.20**	**53**⇑	*e*P	**Pn**	**09 12 10.6**	**-3.3**
ADEN				*i* S	**Sb**	**09 12 30.9**	**+1.4**
ADEN				AML	AML	09 12 37.5	
	comp=N,76μm,0.5s						
ADEN	**Aden**	**1.20**	**53**⇑	*e*P	**Pn**	**09 12 10.6**	**-3.3**
ADEN				*i* S	**Sb**	**09 12 30.9**	**+1.4**
	comp=N,38μm,0.5s						
ATD	**Arta Tunnel**	**1.24**	**246**	Pg	**Pg**	**09 12 05.1**	**-10**
	comp=N,1μm,0.3s,baz=273,slow=22,SNR=63						
ATD				Lg		09 12 18.9	
	comp=N,4μm,0.3s,baz=270,slow=20,SNR=61						
UDYN	**Al 'Udayn**	**1.91**	**359**⇓	*i*P	**Pn**	**09 12 19.7**	**-3.9**
UDYN				*i* S	**Sn**	**09 12 46.5**	**-1.2**
UDYN				AML	AML	09 12 54.7	
	comp=Z,17μm,0.7s						
UDYN	**Al 'Udayn**	**1.91**	**359**⇓	*i*P	**Pn**	**09 12 19.7**	**-3.9**
UDYN				*i* S	**Sn**	**09 12 46.5**	**-1.2**
	comp=Z,9μm,0.7s						
LBOS		**2.18**	**34**⇓	*i*P	**Pn**	**09 12 24.6**	**-2.8**
LBOS				*i* S	**Sn**	**09 12 58.3**	**+3.9**
BDHA	**Al Bayda'**	**2.45**	**38**⇑	*i*P	**Pn**	**09 12 28.4**	**-2.7**
BDHA				*i* S	**Sn**	**09 13 06.3**	**+5.3**
DHBB	**Dhamar BB**	**2.54**	**9**	*i* P	**Pn**	**09 12 29.7**	**-2.5**
DHBB				*i* S	**Sn**	**09 13 05.9**	**+2.7**
HAJJ	**Hajjah**	**3.65**	**354**	*i* P	**Pn**	**09 12 42.8**	**-4.7**
HAJJ				*i* S	**Sn**	**09 13 30.3**	**-0.4**
MUKL	**Al Mukalla**	**5.47**	**63**	*i* P	**Pn**	**09 13 10.4**	**-2.1**
MUKL				*i* S	**Sn**	**09 14 18.9**	**+3.5**
KMBO	**Kilima Mbogo**	**14.70**	**208**	Pn	**Pn**	**09 15 10.8**	**-8.2**
	comp=Z,0.5nm,0.3s,baz=280,slow=22,SNR=5.3						
KMBO				Sn	**Sn**	**09 18 03.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=47,slow=19,SNR=2.9						
KMBO				Lg		09 19 26.4	
	comp=Z,2.1nm,0.3s,baz=71,slow=17,SNR=7.8						
KMBO				LR	LR	09 20 42.2	
	comp=Z,1μm,21.7s,baz=69,slow=37						
KMBO	**Kilima Mbogo**	**14.70**	**208**	P	**Pn**	**09 15 10.8**	**-8.2**
KMBO						09 18 03.2	
KMBO	**Kilima Mbogo**	**14.70**	**208**	Pn	**Pn**	**09 15 10.8**	**-8.2**
KMBO				Sn	**Sn**	**09 18 03.1**	**+1.2**
KMBO				Lg		09 19 26.4	
KMBO				LR	LR	09 20 42.2	
SMDO	**Samad**	**17.29**	**49**	P	**Pn**	**09 15 52.4**	**0.0**
SNR=14							
BANOM	**Banah**	**18.03**	**38**	P	**Pn**	**09 16 02.1**	**+0.5**
SNR=6.4							
EIL	**Elat**	**19.45**	**336**	*e*P	**Pn**	**09 16 17.2**	**-1.6**
	comp=Z,191nm,0.9s						
EIL	**Elat**	**19.45**	**336**	*e*P	**Pn**	**09 16 17.2**	**-1.7**
	comp=Z,191nm,0.9s						
ASF	**Jabal al Asfar**	**21.07**	**343**	P	**P**	**09 16 34.7**	**-0.6**
	comp=Z,5.6nm,0.8s,mb3.9,baz=60,slow=8.1,SNR=10						
ASF				LR	LR	09 23 57.2	
	comp=Z,722nm,21.7s,MS4.0,baz=212,slow=35						
BHD	**Baghdad**	**21.13**	**1**	*ex*	x	09 16 34.0	
BHD				*ex*	x	09 23 07.0	
BHD				*ex*	x	09 23 15.0	
MMAI	**Mount Meron Ar**	**22.31**	**341**	P	**P**	**09 16 47.9**	**-0.7**
	comp=Z,1.0nm,0.4s,mb3.6,baz=140,slow=9.2,SNR=8.1						
MMAI				LR	LR	09 24 09.5	
	comp=Z,568nm,19.4s,MS4.0,baz=200,slow=33						
IDI	**Anoyia**	**26.90**	**326**	LR	LR	09 30 35.3	
	comp=Z,294nm,20.0s,MS3.9,baz=104,slow=39						
BRTR	**Keskin Array B**	**29.05**	**343**	P	**P**	**09 17 51.4**	**0.0**
	comp=Z,12nm,1.0s,mb4.6,baz=156,slow=10,SNR=12						
LSZ	**Lusaka**	**31.34**	**210**	P	**P**	**09 18 11.6**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.3,baz=48,slow=9.3,SNR=3.6						
SOC	**Sochi**	**31.64**	**354**	*e*P	**P**	**09 18 17.7**	**+3.5**
SOC				*e*		09 19 26.6	
SOC				*e*S	**S**	**09 23 30.7**	**+7.4**
SOC				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2						
SOC				MLR	MLR		
	comp=Z,871nm,19.0s,MS4.5						
KIV	**Kislovodsk**	**31.81**	**358**	P	**P**	**09 18 16.2**	**+0.4**
SNR=9.2							
KIV	**Kislovodsk**	**31.81**	**358**	*e*P	**P**	**09 18 15.7**	**-0.1**
KIV				pmax	pmax		
	comp=Z,32nm,1.5s,mb4.9						
KIV	**Kislovodsk**	**31.81**	**358**	*e*P	**P**	**09 18 15.9**	**+0.1**
	comp=Z,57nm,0.9s,mb5.4						
KIV	**Kislovodsk**	**31.81**	**358**	*e*P	**P**	**09 18 15.9**	**+0.1**
	comp=Z,57nm,0.9s,mb5.4						
ANN	**Anapa**	**33.12**	**351**	*e*P	**P**	**09 18 28.5**	**+1.3**
ANN				MLR	MLR		
	comp=Z,473nm,16.0s,MS4.3						
ANN	**Anapa**	**33.12**	**351**	*e*P	**P**	**09 18 28.5**	**+1.3**
	comp=Z,473nm,16.0s						
TIRR	**Tirgusor**	**34.96**	**340**⇑	*i*P	**P**	**09 18 42.6**	**-0.6**
MATP	**Matopo**	**35.69**	**205**	P	**P**	**09 18 48.6**	**-0.9**
	comp=Z,3.7nm,0.8s,mb4.3,baz=35,slow=10,SNR=7.5						
MLR	**Muntele Rosu**	**36.71**	**339**⇓	*i*P	**P**	**09 18 58.2**	**0.0**
VRI	**Vrincioaia**	**36.77**	**340**⇑	*i*P	**P**	**09 18 58.3**	**-0.4**
PLOR	**Plostina**	**36.78**	**340**⇑	*i*P	**P**	**09 18 59.4**	**+0.6**
VOIR		**36.99**	**338**⇑	*i*P	**P**	**09 18 59.8**	**-0.8**
KIS	**Kishinev**	**37.12**	**343**	*e*P	**P**	**09 19 04.0**	**+2.3**
GZR	**Gura Zlata**	**37.84**	**335**⇓	*i*P	**P**	**09 19 07.5**	**-0.3**
BZS	**Buzias**	**38.50**	**335**⇑	*i*P	**P**	**09 19 06.3**	**-7.1**
BURAR	**Bucovina Array**	**38.80**	**340**⇓	*i*P	**P**	**09 19 19.1**	**+3.2**
DRGR		**39.02**	**337**⇓	*i*P	**P**	**09 19 14.4**	**-3.3**
KEST	**Kesra**	**39.17**	**313**	P	**P**	**09 19 20.5**	**+1.5**
	comp=Z,3.0nm,0.7s,mb4.1,baz=27,slow=6.1,SNR=5.8						
AML	**Almayashu**	**39.58**	**35**	P	**P**	**09 19 23.5**	**+1.1**
SNR=30							
EKS2	**Erkin-Say**	**39.97**	**35**	P	**P**	**09 19 26.6**	**+1.0**
SNR=7.6							
UCH	**Uchtor**	**40.11**	**36**	P	**P**	**09 19 27.8**	**+1.0**
SNR=12							
KOLN	**Koldanda**	**40.18**	**61**	*e*P	**P**	**09 19 26.9**	**-0.5**
	comp=Z,23nm,0.9s,mb4.9						
AAK	**Ala-Archa**	**40.36**	**35**	P	**P**	**09 19 29.9**	**+1.1**
SNR=11							
AAK	**Ala-Archa**	**40.36**	**35**	P	**P**	**09 19 29.4**	**+0.5**
SNR=10							
AAK	**Ala-Archa**	**40.36**	**35**	*e*P	**P**	**09 19 28.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**40.36**	**35**	*e*P	**P**	**09 19 28.6**	**-0.3**
	comp=Z,20nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**40.36**	**35**	*e*P	**P**	**09 19 28.6**	**-0.3**
	comp=Z,20nm,1.0s,mb4.8						
AKASG	**Malin Array Be**	**40.40**	**346**	P	**P**	**09 19 27.0**	**-2.2**
	comp=Z,7.2nm,0.9s,mb4.4,baz=164,slow=6.9,SNR=6.9						
AKASG				PcP	PcP	09 21 33.7	+1.5
	comp=Z,0.3nm,0.4s,baz=174,slow=3.1,SNR=4.3						
AKASG				LR	LR	09 37 18.1	
	comp=Z,230nm,19.7s,MS4.0,baz=145,slow=38						
AKASG	**Malin Array Be**	**40.40**	**346**	P	**P**	**09 19 27.0**	**-2.2**
AKASG				PcP	PcP	09 21 33.7	+1.5
AKASG				LR	LR	09 37 18.1	
ORR	**Orenburg**	**40.42**	**10**	*e*P	**P**	**09 19 33.9**	**+4.5**
ORR				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.1						
KBK	**Karagaybulak**	**40.63**	**36**	P	**P**	**09 19 32.3**	**+1.2**
SNR=7.2							
CHMS	**Chumysh**	**40.74**	**35**	P	**P**	**09 19 36.6**	**+4.6**
SNR=5.6							
USP	**Ospennovka**	**40.77**	**35**	P	**P**	**09 19 32.6**	**+0.3**
SNR=13							
ULHL	**Ulahol**	**41.12**	**37**	P	**P**	**09 19 36.2**	**+1.0**
SNR=10							
GKN	**Gorkha**	**41.13**	**61**	*e*P	**P**	**09 19 34.2**	**-1.0**
KECS	**Kecovo**	**41.27**	**336**	*e*P	**P**	**09 19 39.0**	**+2.6**
KECS				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
KECS	**Kecovo**	**41.27**	**336**	*e*P	**P**	**09 19 39.0**	**+2.6**
	comp=Z,4.6nm,1.2s,mb4.0						
TOA0	**Torodi Ar. Sit**	**41.27**	**276**	*e*P	**P**	**09 19 32.3**	**-4.1**
TORD	**Torodi Ar. Bea**	**41.27**	**276**	P	**P**	**09 19 32.9**	**-3.5**
	comp=Z,5.8nm,0.7s,mb4.3,baz=90,slow=7.5,SNR=41						
TORD				PcP	PcP	09 21 33.2	-1.9
	comp=Z,0.8nm,0.8s,baz=79,slow=3.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**41.27**	**276**	P	**P**	**09 19 32.9**	**-3.5**
TORD				PcP	PcP	09 21 33.1	-1.9
DMN	**Daman**	**41.44**	**62**	*e*P	**P**	**09 19 37.2**	**-0.5**
	comp=Z,23nm,0.8s,mb4.8						
KKN	**Kakani**	**41.63**	**62**	*e*P	**P**	**09 19 38.6**	**-0.7**
	comp=Z,35nm,0.7s,mb5.1						
PKI	**Pulchoki**	**41.69**	**62**	*e*P	**P**	**09 19 39.5**	**-0.3**
	comp=Z,27nm,0.9s,mb4.9						
STHS	**Stebnicka Huta**	**41.74**	**338**	*e*P	**P**	**09 19 42.8**	**+2.6**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
STHS	**Stebnicka Huta**	**41.74**	**338**	*e*P	**P**	**09 19 42.8**	**+2.6**
	comp=Z,4.9nm,1.0s,mb4.1						
VYHS	**Vyhne**	**41.94**	**335**	*e*P	**P**	**09 19 44.1**	**+2.2**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
VYHS	**Vyhne**	**41.94**	**335**	*e*P	**P**	**09 19 44.1**	**+2.2**
	comp=Z,5.5nm,1.0s,mb4.1						
GUN	**Gumba**	**42.17**	**62**	*e*P	**P**	**09 19 43.1**	**-0.7**
	comp=Z,39nm,0.8s,mb5.1						
JIRN	**Jiri**	**42.38**	**62**	*e*P	**P**	**09 19 44.6**	**-0.9**
	comp=Z,24nm,0.9s,mb4.8						
OBN	**Obninsk**	**43.36**	**354**⇓	*e*P	**P**	**09 19 55.5**	**+2.1**
OBN				*e*		09 21 32.6	
OBN				*e*SS	SS	09 29 48.5	+14
OBN				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.9						
VRAC	**Vranov**	**43.51**	**334**	P	**P**	**09 19 55.9**	**+1.2**
	comp=Z,8.0nm,1.0s,mb4.4,baz=149,slow=8.7,SNR=4.3						
BOSA	**Boshof**	**44.30**	**204**	LR	LR	09 38 56.7	
	comp=Z,470nm,20.1s,MS4.4,baz=39,slow=37						
GERES	**GERESS Array B**	**44.47**	**332**	P	**P**	**09 19 60.0**	**-2.3**
	comp=Z,4.8nm,0.9s,mb4.2,baz=148,slow=5.8,SNR=4.6						
GERES				LR	LR	09 38 54.5	
	comp=Z,127nm,21.2s,MS3.8,baz=50,slow=37						
KHC	**Kasperske Hory**	**44.73**	**332**	*e*P	**P**	**09 20 05.5**	**+1.1**
SUW	**Suwalki**	**45.00**	**343**	*e*P	**P**	**09 20 08.4**	**+1.8**
SUW				pmax	pmax		
	comp=Z,92nm,1.0s,mb5.6						
SUW	**Suwalki**	**45.00**	**343**	*e*P	**P**	**09 20 08.4**	**+1.9**
	comp=Z,92nm,1.0s,mb5.6						
SUW	**Suwalki**	**45.00**	**343**	*e*P	**P**	**09 20 08.4**	**+1.8**
	comp=Z,92nm,1.0s,mb5.6						
ARU	**Arti**	**45.70**	**11**⇑	*i*P	**P**	**09 20 13.1**	**+1.0**
ARU				*e*		09 21 56.8	
ARU				*e*S	**S**	**09 26 59.4**	**+4.3**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BRG	**Berggiesshubel**	**45.82**	**334**	*e*(P)	**P**	**09 20 07.8**	**-5.3**
	comp=Z,6.9nm,1.1s,mb4.5						
BRG				*e*	pP	09 20 11.6	-4.6
	comp=Z,6.9nm,1.1s						
GRA1	**Grafenberg Arr**	**46.22**	**331**	*e*P	**P**	**09 20 17.2**	**+1.0**
	comp=Z,10.0nm,1.4s,mb4.5						
GRF	**Grafenberg Arr**	**46.22**	**331**	*e*P	**P**	**09 20 17.2**	**+1.0**
	comp=Z,10.0nm,1.4s,mb4.5						
GRF	**Grafenberg Arr**	**46.22**	**331**	*e*P	**P**	**09 20 17.2**	**+1.0**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
GRF	**Grafenberg Arr**	**46.22**	**331**	*e*P	**P**	**09 20 17.2**	**+1.0**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
CLL	**Collm**	**46.54**	**334**	*e*P	**P**	**09 20 20.0**	**+1.2**
MKAR	**Makanchi Array**	**47.30**	**35**	P	**P**	**09 20 24.0**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9,baz=224,slow=6.8,SNR=19						
KURK	**Kurchatov**	**47.79**	**29**	*e*P	**P**	**09 20 28.2**	**-0.3**
KLMR	**Klimovskoe**	**48.83**	**357**	*e*P	**P**	**09 20 39.0**	**+2.5**
KLMR				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
SUR	**Sutherland**	**49.43**	**206**	P	**P**	**09 20 41.6**	**+0.5**
	comp=Z,4.6nm,0.9s,mb4.5,baz=356,slow=2.7,SNR=3.9						
ESDC	**Sonseca Array**	**50.40**	**312**	P	**P**	**09 20 50.4**	**+2.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=106,slow=7.3,SNR=5.5						
FINES	**FINESS Array B**	**51.02**	**349**	P	**P**	**09 20 50.8**	**-2.3**
	comp=Z,4.8nm,0.9s,mb4.4,baz=152,slow=8.6,SNR=6.1						
FINES	**FINESS Array B**	**51.02**	**349**	*i* P	**P**	**09 20 51.2**	**-1.9**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KAF	**Kangasniemi**	**51.59**	**349**	*e*p	**P**	**09 20 57.0**	**-0.5**
	comp=Z,7.7nm,0.9s,mb4.6,baz=157,slow=7.7						
KAF	**Kangasniemi**	**51.59**	**349**	*e*P	**P**	**09 20 57.0**	**-0.5**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
NVS	**Novosibirsk**	**52.59**	**27**	*e*P	**P**	**09 20 58.2**	**-6.7**
NVS				*e*		09 22 13.1	
NVS	**Novosibirsk**	**52.59**	**27**	*e*PcP	PcP	09 22 13.1	-1.9
ZAL	**Zalesovo**	**52.76**	**29**	P	**P**	**09 21 04.1**	**-2.1**
	comp=Z,5.4nm,0.8s,mb4.5,baz=242,slow=7.9,SNR=6.9						
ZAL	**Zalesovo**	**52.76**	**29**	*i* P	**P**	**09 21 07.3**	**+1.1**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAL	**Zalesovo**	**52.76**	**29**	*i* P	**P**	**09 21 07.3**	**+1.1**
	comp=Z,5.0nm,0.9s,mb4.4						
HFS	**Hagfors**	**52.97**	**342**	P	**P**	**09 21 04.8**	**-2.9**
	comp=Z,3.9nm,0.9s,mb4.4,baz=45,slow=6.3,SNR=2.9						
NB2	**NORSAR Subarra**	**54.45**	**341**	P	**P**	**09 21 15.5**	**-3.0**
	comp=Z,6.6nm,1.0s,mb4.5,baz=138,slow=7.4						
NOA	**NORSAR Array B**	**54.45**	**341**	P	**P**	**09 21 15.7**	**-2.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=151,slow=6.0,SNR=3.9						
NOA				LR	LR	09 45 54.2	
	comp=Z,153nm,20.3s,MS4.1,baz=125,slow=38						
GTA	**Gaotai**	**56.16**	**50**	*e*P	**P**	**09 21 30.8**	**0.0**
GTA				AP	pP	09 21 36.3	+2.3
GTA				XP	sP	09 21 39.1	+3.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,135nm,6.1s						
GTA				LR	LR		
	comp=N,132nm,16.3s,MS4.3						
GTA				LR	LR		
	comp=E,146nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=Z,263nm,19.4s,MS4.3						
ARCES	**ARCESS Array B**	**58.64**	**352**	LR	LR	09 47 12.7	
	comp=Z,182nm,19.0s,MS4.2,baz=336,slow=36						
LZH	**Lanzhou**	**58.69**	**55**	*e*P	**P**	**09 21 53.5**	**+4.8**
LZH				AP	pP	09 21 58.6	+6.7
LZH				XP	sP	09 22 01.3	+8.2
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
LZH	**Lanzhou**	**58.69**	**55**	*e*P	**P**	**09 21 53.5**	**+4.8**
	comp=Z,20nm,1.3s,mb5.0						
LZH				pP	pP	09 21 58.6	+6.7
LZH				sP	sP	09 22 01.3	+8.2
SONM	**Songino Array**	**62.70**	**42**	P	**P**	**09 22 15.7**	**-0.3**
	comp=Z,5.7nm,0.9s,mb4.7,baz=251,slow=8.3,SNR=5.7						
HIA	**Hailar**	**71.67**	**42**	*e*P	**P**	**09 23 12.9**	**-0.1**
CN2	**Changchun**	**75.62**	**48**	*e*P	**P**	**09 23 34.1**	**-2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
TIXI	**Tiksi**	**77.03**	**19**	*e*P	**P**	**09 23 40.5**	**-3.7**
TIXI

TRBA *i* S Sb 09 25 31.1 +1.1
TRBA AML AML 09 25 32.7
comp=N,2μm,0.3s
ADEN Aden 1.38 57 ⇓ *i* P Pn 09 25 15.9 +0.3
ADEN *i* S Sn 09 25 35.0 +1.2
ADEN AML AML 09 25 41.4
comp=E,2μm,0.9s
ADEN Aden 1.38 57 ⇓ *i* P Pn 09 25 15.9 +0.2
ADEN *i* S Sn 09 25 35.0 +1.2
comp=E,922nm,0.9s
UDYN Al 'Udayn 1.94 5 ⇑ *i* P Pn 09 25 25.3 +1.8
UDYN *i* S Sn 09 25 52.1 +4.4
UDYN AML AML 09 25 58.5
comp=N,1μm,0.6s
UDYN Al 'Udayn 1.94 5 ⇑ *i* P Pn 09 25 25.3 +1.8
UDYN *i* S Sn 09 25 52.2 +4.5
comp=N,519nm,0.6s
LBOS 2.32 37 ⇑ *i* P Pn 09 25 30.7 +2.1
LBOS *i* S Sn 09 26 02.8 +5.7
BDHA Al Bayda' 2.60 41 ⇑ *i* P Pn 09 25 35.1 +2.6
BDHA *i* S Sn 09 26 10.0 +6.2
BDHA AML AML 09 26 20.6
comp=N,404nm,0.3s
BDHA Al Bayda' 2.60 41 ⇑ *i* P Pn 09 25 35.1 +2.7
BDHA *i* S Sn 09 26 10.0 +6.1
comp=N,202nm,0.3s
DHBB Dhamar BB 2.60 13 *i* S Sn 09 26 09.8 +5.8
HAJJ Hajjah 3.66 357 *i* P Pn 09 25 49.3 +2.2
HAJJ *i* S Sn 09 26 36.0 +5.8

CSEM ***21*** *09:26:19.3, 1209N×4377E, h2km, ML3.9, After DHMR*
DHMR 21 09:26:19.3±1.5, 1209N×4377E, h2km±7km, ML3.9, 2C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.18**	**16**	⇓ *i* P		Pg	09 26 41.8	0.0
TRBA				*i* S		Sg	09 26 58.6	+1.4
TRBA				AML		AML	09 27 00.1	
comp=N,2μm,0.3s								
ADEN	**Aden**	**1.36**	**60**	⇑ *i* P		Pn	09 26 44.0	-1.2
ADEN				*i* S		Sg	09 27 03.4	+0.4
ADEN				AML		AML	09 27 08.6	
comp=E,3μm,0.3s								
ADEN	**Aden**	**1.36**	**60**	⇑ *i* P		Pn	09 26 44.0	-1.3
ADEN				*i* S		Sg	09 27 03.4	+0.3
comp=E,1μm,0.3s								
UDYN	**Al 'Udayn**	**1.87**	**6**	*i* P		Pn	09 26 52.4	+0.2
UDYN				*i* S		Sn	09 27 19.2	+2.8
UDYN				AML		AML	09 27 25.5	
comp=N,2μm,0.6s								
UDYN	**Al 'Udayn**	**1.87**	**6**	*i* P		Pn	09 26 52.4	+0.1
UDYN				*i* S		Sn	09 27 19.2	+2.8
comp=N,960nm,0.6s								
LBOS		**2.28**	**39**	*i* P		Pn	09 26 59.9	+2.0
LBOS				*i* S		Sn	09 27 32.1	+5.6
DHBB	**Dhamar BB**	**2.53**	**14**	*i* P		Pn	09 27 04.1	+2.7
DHBB				*i* S		Sn	09 27 38.1	+5.3
BDHA	**Al Bayda'**	**2.56**	**43**	*i* P		Pn	09 27 04.6	+2.9
BDHA				*i* S		Sn	09 27 39.7	+6.3
BDHA				AML		AML	09 27 49.5	
comp=N,988nm,0.6s								
BDHA	**Al Bayda'**	**2.56**	**43**	*i* P		Pn	09 27 04.6	+2.9
BDHA				*i* S		Sn	09 27 39.7	+6.3
comp=N,494nm,0.6s								
HAJJ	**Hajjah**	**3.59**	**357**	*i* P		Pn	09 27 18.7	+2.8
HAJJ				*i* S		Sn	09 28 04.8	+6.0

ISCJB ***21*** *09:29:16.8±2.5, 4677N±007×15520E±008, h6km±16km, mb4.1/29, MS4.0/2, Error ellipse: s-maj=12.9km s-min=7.7km az=117.4*
IDC ***21*** *09:29:17.3±0.7, 4661N×15528E, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.1/26, mbtmp4.0/19, ML3.7/1, MS4.0/2, Ms1 4.0/2, ms1mx3.0/27, Error ellipse: s-maj=19.8km s-min=15.9km az=170.0*
NEIC ***21*** *09:29:20.0±0.6, 4688N×15532E, h10km, mb4.4/5, Error ellipse: s-maj=16.1km s-min=8.1km az=139.0*
MOS ***21*** *09:29:25.0±2.2, 4680N×15490E, h68km, mb4.3/16, Error ellipse: s-maj=11.6km s-min=9.2km az=89.9*
ISC 21 09:29:18.6±2.8, 4682N±006×15529E±008, h5km±18km, n63, σ1§15/65, mb4.1/29, MS4.0/2, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.91**	**8**	*e*PN		**Pn**	**09 30 21.0**	**+1.7**
SKR				*e*S		**Sn**	**09 31 04.5**	**-1.0**
SKR				pmax		pmax		
comp=Z,60nm,0.5s								
SKR				smax				
comp=N,80nm,0.6s								
SKR				smax				
comp=E,80nm,0.6s								
SKR				smax				
comp=Z,60nm,0.6s								
KUR	**Kuril'sk**	**5.40**	**256**	*e*PN		**Pn**	**09 30 40.0**	**+0.2**
KUR				*e*S		**Sn**	**09 31 37.8**	**-4.6**
KUR				pmax		pmax		
comp=N,80nm,0.6s								
KUR				pmax		pmax		
comp=E,80nm,0.6s								
KUR				pmax		pmax		
comp=Z,150nm,0.6s								
KUR				smax				
comp=N,170nm,0.7s								
KUR				smax				
comp=E,90nm,0.7s								
PET	**Petropavlovsk**	**6.58**	**18**	*e*PN		**Pn**	**09 30 55.1**	**-0.9**
PET	**Petropavlovsk**	**6.58**	**18**	*e*Pn		**Pn**	**09 30 54.6**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**7.19**	**251**	PN		**Pn**	**09 31 02.9**	**-1.4**
ASAJ	**Asahikawa**	**9.32**	**258**	Pn		**Pn**	**09 31 33.5**	**0.0**
comp=E,0.8nm,0.3s,baz=107,slow=24,SNR=4.4								
ASAJ	**Asahikawa**	**9.32**	**258**	PN		**Pn**	**09 31 33.5**	**0.0**
ASAJ				pmax		pmax		
comp=Z,1.0nm,0.3s								
ERM	**Erimo**	**9.91**	**245**	*e*PN		**Pn**	**09 31 39.9**	**-1.8**
ERM	**Erimo**	**9.91**	**245**	*e*Pn		**Pn**	**09 31 41.5**	**-0.2**
HABR	**Khabarovsk**	**13.74**	**284**	*e*PN		**Pn**	**09 32 32.3**	**-1.8**
HABR				*e*S		**Sn**	**09 35 07.5**	**+0.4**
MAJO	**Matsushiro**	**16.34**	**237**	Pn		**Pn**	**09 33 11.3**	**+2.6**
comp=Z,4.6nm,0.7s								
MJAR	**Matsushiro Arr**	**16.34**	**237**	Pn		**Pn**	**09 33 12.1**	**+3.4**
comp=Z,0.3nm,0.3s,baz=37,slow=9.7,SNR=5.2								
YAK	**Yakutsk**	**21.09**	**326**	*e*P		**P**	**09 34 04.9**	**+1.1**
YAK				pmax		pmax		
comp=Z,8.0nm,0.5s,mb4.3								
BILL	**Bilibino**	**22.02**	**11**	*e*P		**P**	**09 34 14.5**	**+0.7**
BILL				pmax		pmax		
comp=Z,7.0nm,1.0s,mb4.0								
BILL	**Bilibino**	**22.02**	**11**	*e*P		**P**	**09 34 14.1**	**+0.4**
comp=Z,4.5nm,0.7s,mb4.0								
KSRS	**Korea Array**	**22.25**	**255**	P		**P**	**09 34 18.4**	**+2.1**
comp=Z,1.7nm,0.8s,mb3.5,baz=52,slow=12,SNR=6.8								
HIA	**Hailar**	**23.76**	**289**	*e*P		**P**	**09 34 33.4**	**+1.5**
TIXI	**Tiksi**	**27.84**	**342**	*e*P		**P**	**09 35 05.0**	**-3.9**
TIXI				pmax		pmax		
comp=Z,8.0nm,1.6s,mb4.1								
JOW	**Kunigami**	**29.18**	**236**	LR		LR	09 46 49.8	
comp=Z,228nm,19.7s,MS3.8,baz=61,slow=36								
SONM	**Songino Array**	**32.72**	**290**	P		**P**	**09 35 51.3**	**-0.7**
comp=Z,0.1nm,0.4s,mb3.1,baz=64,slow=9.9,SNR=2.8								
INK	**Inuvik**	**40.80**	**33**	P		**P**	**09 36 59.9**	**-0.9**
comp=Z,1.5nm,0.8s,mb3.7,baz=296,slow=8.1,SNR=7.1								
INK	**Inuvik**	**40.80**	**33**	P		**P**	**09 36 59.9**	**-0.9**
INK				pmax		pmax		
comp=Z,2.0nm,0.8s								
ZAL	**Zalesovo**	**43.80**	**306**	P		**P**	**09 37 25.4**	**+0.1**
comp=Z,1.8nm,0.4s,mb4.1,baz=30,slow=5.3,SNR=5.6								
ZAL	**Zalesovo**	**43.80**	**306**	P		**P**	**09 37 25.4**	**+0.1**
ZAL				pmax		pmax		
comp=Z,2.0nm,0.4s								
MKAR	**Makanchi Array**	**48.23**	**298**	P		**P**	**09 37 59.6**	**-0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=67,slow=7.0,SNR=13								
MKAR	**Makanchi Array**	**48.23**	**298**	P		**P**	**09 37 59.7**	**-0.6**
MKAR				pmax		pmax		
comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**48.57**	**304**	*e*P		**P**	**09 38 03.1**	**+0.3**
KURK	**Kurchatov**	**48.57**	**304**	*e*P		**P**	**09 38 02.7**	**-0.1**
comp=Z,3.8nm,0.8s,mb4.5								
YKA	**Yellowknife Ar**	**49.97**	**37**	P		**P**	**09 38 13.7**	**+0.1**
comp=Z,0.5nm,0.7s,mb3.7,baz=295,slow=7.2,SNR=7.3								
YKA				PcP		PcP	09 39 33.2	-0.5
comp=Z,0.3nm,0.6s,baz=306,slow=3.6,SNR=6.4								
YKA	**Yellowknife Ar**	**49.97**	**37**	P		**P**	**09 38 13.7**	**+0.1**
YKA				PcP		PcP	09 39 33.2	-0.5
BVAR	**Borovoye Array**	**51.96**	**310**	P		**P**	**09 38 28.8**	**+0.2**
comp=Z,2.5nm,0.5s,mb4.4,baz=50,slow=7.2,SNR=11								
BVAR	**Borovoye Array**	**51.96**	**310**	P		**P**	**09 38 28.8**	**+0.2**
BVAR				pmax		pmax		
comp=Z,3.0nm,0.5s								
BRVK	**Borovoye**	**52.00**	**310**	*e*P		**P**	**09 38 26.0**	**-2.9**
comp=Z,5.1nm,0.8s,mb4.5								
AAK	**Ala-Archa**	**55.14**	**297**	*e*P		**P**	**09 38 50.7**	**-1.2**
AAK				pmax		pmax		
comp=Z,1.0nm,0.7s,mb4.0								
ARU	**Arti**	**55.97**	**318**	*e*P		**P**	**09 38 59.0**	**+1.2**
ARU				*e*			09 41 00.6	
ARU				*e*S		**S**	**09 46 50.2**	**+3.9**
ARCES	**ARCESS Array B**	**58.27**	**341**	P		**P**	**09 39 14.3**	**+0.2**
comp=Z,4.9nm,0.9s,mb4.5,baz=36,slow=8.5,SNR=5.4								
ARCES	**ARCESS Array B**	**58.27**	**341**	P		**P**	**09 39 14.4**	**+0.2**
ARCES				pmax		pmax		
comp=Z,5.0nm,0.9s								
AKTK	**Aktyubinsk**	**59.79**	**313**	P		**P**	**09 39 24.8**	**+0.1**
AKTO	**Aktyubinsk**	**59.79**	**313**	P		**P**	**09 39 24.8**	**+0.1**
comp=Z,1.0nm,0.4s,mb4.2,baz=45,slow=7.1,SNR=4.7								
AKTO	**Aktyubinsk**	**59.79**	**313**	P		**P**	**09 39 24.8**	**+0.1**
AKTO				pmax		pmax		
comp=Z,1.0nm,0.4s,mb4.2								
NVAR	**Mina Array Bea**	**61.08**	**64**	P		**P**	**09 39 33.9**	**+0.4**
comp=Z,0.9nm,0.7s,mb4.0,baz=297,slow=8.6,SNR=7.5								
LKWY	**Lake**	**61.88**	**54**	*e*P		**P**	**09 39 48.5**	**+10**
comp=Z,2.6nm,0.4s,mb4.7								
JOF	**Joensuu**	**61.93**	**335**	*e*p		**P**	**09 39 39.3**	**+0.1**
comp=Z,4.7nm,0.4s,mb5.0								
JOF	**Joensuu**	**61.93**	**335**	*e*P		**P**	**09 39 39.3**	**+0.1**
JOF				pmax		pmax		
comp=Z,5.0nm,0.4s,mb5.0								
PDAR	**Pinedale Array**	**63.49**	**55**	P		**P**	**09 39 50.5**	**+0.9**
comp=Z,1.1nm,0.9s,mb4.0,baz=299,slow=2.0,SNR=7.4								
FINES	**FINESS Array B**	**64.61**	**336**	P		**P**	**09 39 56.9**	**-0.1**
comp=Z,3.4nm,0.4s,mb4.7,baz=36,slow=7.2,SNR=29								
FINES	**FINESS Array B**	**64.61**	**336**	*i* P		**P**	**09 39 56.2**	**-0.8**
FINES				pmax		pmax		
comp=Z,3.0nm,0.4s								
OBN	**Obninsk**	**66.09**	**327**	⇓ *e*P		**P**	**09 40 04.1**	**-2.5**
OBN				*e*			09 42 30.0	
OBN				*e*S		S	09 49 04.6	+9.2
OBN				pmax		pmax		
comp=Z,12nm,0.9s,mb4.9								
NOA	**NORSAR Array B**	**68.64**	**342**	P		**P**	**09 40 22.4**	**-0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=24,slow=6.4,SNR=3.2								
NOA	**NORSAR Array B**	**68.64**	**342**	P		**P**	**09 40 22.5**	**-0.2**
NOA				pmax		pmax		
comp=Z,1.0nm,0.6s								
HFS	**Hagfors**	**68.91**	**341**	P		**P**	**09 40 26.1**	**+1.7**
comp=Z,2.4nm,0.6s,mb4.3,baz=74,slow=6.3,SNR=12								
HFS	**Hagfors**	**68.91**	**341**	P		**P**	**09 40 26.1**	**+1.7**
HFS				pmax		pmax		
comp=Z,2.0nm,0.6s								
WRA	**Warramunga Arr**	**69.08**	**201**	P		**P**	**09 40 22.8**	**-2.7**
comp=Z,1.1nm,0.8s,mb3.9,baz=20,slow=6.0,SNR=5.3								
WRA	**Warramunga Arr**	**69.08**	**201**	*i* P		**P**	**09 40 24.0**	**-1.5**
WRA				pmax		pmax		
comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**72.31**	**327**	P		**P**	**09 40 46.2**	**+1.0**
comp=Z,0.6nm,0.3s,mb4.0,baz=32,slow=6.3,SNR=4.7								
AKASG	**Malin Array Be**	**72.31**	**327**	P		**P**	**09 40 46.2**	**+1.0**
AKASG				pmax		pmax		
comp=Z,1.0nm,0.3s								
ASAR	**Alice Springs**	**72.77**	**200**	P		**P**	**09 40 46.8**	**-1.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=16,slow=5.0,SNR=13								
ASAR	**Alice Springs**	**72.77**	**200**	P		**P**	**09 40 46.8**	**-1.1**
ASAR				pmax		pmax		
comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**76.15**	**62**	P		**P**	**09 41 08.1**	**+0.5**
comp=Z,3.8nm,0.7s,mb4.4,baz=302,slow=4.5,SNR=43								
EKA	**Eskdalemuir Ar**	**76.61**	**348**	P		**P**	**09 41 15.8**	**+5.5**
comp=Z,1.6nm,0.9s,mb4.0,baz=7.1,slow=5.2,SNR=4.1								
EKA	**Eskdalemuir Ar**	**76.61**	**348**	P		**P**	**09 41 15.8**	**+5.6**
EKA				pmax		pmax		
comp=Z,2.0nm,0.9s								
GERES	**GERESS Array B**	**79.04**	**335**	P		**P**	**09 41 23.8**	**+0.1**
comp=Z,82nm,20.6s,MS4.2,baz=218,slow=34								
CMIG	**Matias Romero**	**90.60**	**64**	LR		LR	10 20 04.0	

IDC ***21*** *09:37:16.7±0.5, 1334N×12583E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, MS3.5/6, Ms1 3.5/6, ms1mx3.3/22, Error ellipse: s-maj=25.4km s-min=10.7km az=75.0*
BJI ***21*** *09:37:17.6, 1295N×126.12E, h41km, mB5.0, mb4.7*
ISCJB ***21*** *09:37:19.6±1.7, 1333N±003×12584E±004, h30km±12km, mb4.5/42, MS3.4/5, Error ellipse: s-maj=6.7km s-min=4.9km az=177.6*
MOS ***21*** *09:37:19.1±1.0, 1330N×12608E, h33km, mb4.8/13, Error ellipse: s-maj=14.7km s-min=8.3km az=112.1*
NEIC ***21*** *09:37:24.1±2.0, 1327N×12595E, h58km±17km, mb4.6/7, Error ellipse: s-maj=17.0km s-min=7.2km az=71.0*
ISC 21 09:37:20.8±1.8, 1332N±003×12583E±004, h26km±12km, n98, σ1§19/98, mb4.5/42, MS3.4/5, 7C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNP	**Cataram**	**1.40**	**235**	*e*P		**Pn**	**09 37 44.2**	**-0.4**
CNP				*e*S		**Sn**	**09 38 02.3**	**0.0**
BESP	**Borongan**	**1.75**	**193**	*e*P		**Pn**	**09 37 48.8**	**-0.8**
BESP				*e*S		**Sn**	**09 38 09.8**	**-1.3**
OCLP	**Ormoc**	**2.56**	**208**	*e*P		**Pn**	**09 38 01.2**	**+0.6**
MSLP	**Maasin**	**3.31**	**197**	*e*P		**Pn**	**09 38 11.6**	**+0.6**
MSLP				*e*S		**Sn**	**09 38 50.7**	**+1.2**
GQP	**Guinayangan**	**3.34**	**280**	⇓ *i* P		**Pn**	**09 38 10.9**	**-0.5**
GQP				*i* S		**Sn**	**09 38 48.7**	**-1.6**
OTRP	**Odiongan**	**3.84**	**256**	*e*P		**Pn**	**09 38 18.8**	**+0.5**
BOAC	**Boac**	**3.88**	**272**	*e*P		**Pn**	**09 38 17.1**	**-1.8**
BOAC				*e*S		**Sn**	**09 39 02.7**	**-0.9**
POLP	**Polilio Island**	**4.03**	**291**	*e*P		**Pn**	**09 38 21.5**	**+0.6**
POLP				*e*S		**Sn**	**09 39 05.8**	**-1.4**
GUIM	**Jordan**	**4.16**	**230**	*e*P		**Pn**	**09 38 22.9**	**+0.3**
GUIM				*e*S		**Sn**	**09 39 10.2**	**-0.1**
BALP	**Baler**	**4.77**	**301**	*e*P		**Pn**	**09 38 31.6**	**+0.6**
BALP				*e*S		**Sn**	**09 39 19.3**	**-6.2**
TGY	**Tagaytay City**	**4.82**	**280**	Pn		**Pn**	**09 38 36.4**	**+4.7**
44nm,0.3s,baz=197,slow=8.4,SNR=2.5								
PALP	**Palanan**	**4.96**	**319**	*e*P		**Pn**	**09 38 33.4**	**-0.3**
PALP				*e*S		**Sn**	**09 39 23.9**	**-6.3**
PCPH	**Palayan**	**5.10**	**296**	⇑ *e*P		**Pn**	**09 38 32.7**	**-2.9**
PCPH				*e*S		**Sn**	**09 39 27.0**	**-6.6**
CAUP	**Cauayan**	**5.29**	**313**	*e*P		**Pn**	**09 38 37.5**	**-0.6**
CAUP				*e*S		**Sn**	**09 39 35.3**	**-2.9**
GUMO	**Guam**	**18.52**	**87**	LR		LR	09 48 28.5	
comp=Z,186nm,18.6s,baz=355,slow=36								
CBIJ	**Chichi jima**	**20.54**	**46**	LR		LR	09 47 56.6	
comp=Z,201nm,18.9s,MS3.5,baz=234,slow=31								
JHJ	**Hachijo jima 2**	**23.46**	**31**	LR		LR	09 50 24.9	
comp=Z,103nm,20.7s,MS3.3,baz=239,slow=34								
KSRS	**Korea Array**	**24.10**	**4**	P		**P**	**09 42 34.8**	**+0.4**
9.1nm,0.9s,mb4.2,baz=182,slow=11,SNR=31								
KSRS				PcP		PcP	09 46 14.2	-1.0
1.3nm,0.7s,baz=171,slow=2.2,SNR=5.0								
KSRS				LR		LR	09 52 31.6	
comp=Z,48nm,18.8s,MS3.0,baz=59,slow=38								
MJAR	**Matsushiro Arr**	**25.65**	**24**	P		**P**	**09 42 47.2**	**-1.2**
1.2nm,0.7s,mb3.5,baz=199,slow=9.1,SNR=4.4								
MJAR				LR		LR	09 51 08.4	
comp=Z,135nm,20.5s,MS3.5,baz=210,slow=32								
XAN	**Xi'an**	**25.71**	**326**	P		**P**	**09 42 49.0**	**0.0**
XAN				AMB		AMB		
comp=Z,26nm,1.0s,mb4.7								
DL2	**Dalian**	**25.75**	**352**	P		**P**	**09 42 52.4**	**+3.1**
DL2				AMB		AMB		
comp=Z,30nm,0.9s,mb4.8								
PSI	**Prapat**	**28.58**	**251**	P		**P**	**09 43 15.4**	**+0.7**
comp=Z,6.6nm,0.6s,mb4.5,baz=63,slow=8.0,SNR=6.8								
PSI				LR		LR	09 53 49.2	
comp=Z,145nm,20.4s,MS3.6,baz=54,slow=35								
LZH	**Lanzhou**	**30.07**	**323**	*e*P		**P**	**09 43 30.1**	**+2.2**
LZH				AP		pP	09 43 37.3	+1.8
LZH				XP		sP	09 43 41.5	+2.8
LZH				AMB		AMB		
comp=Z,17nm,1.2s,mb4.7								
LZH	**Lanzhou**	**30.07**	**323**	*e*P		**P**	**09 43 30.1**	**+2.2**
comp=Z,17nm,1.2s,mb4.7								
LZH				pP		pP	09 43 37.2	+1.7
LZH				sP		sP	09 43 41.5	+2.8
FITZ	**Fitzroy Crossi**	**31.23**	**180**	*e*P		**P**	**09 43 38.0**	**-0.1**
comp=Z,9.1nm,1.1s,mb4.5								
FITZ	**Fitzroy Crossi**	**31.23**	**180**	P		**P**	**09 43 37.9**	**-0.3**
comp=Z,3.7nm,0.8s,mb4.3,baz=15,slow=11,SNR=7.9								
WRA	**Warramunga Arr**	**34.10**	**166**	P		**P**	**09 44 01.6**	**-1.7**
comp=Z,3.2nm,0.8s,mb4.3,baz=342,slow=10.0,SNR=7.7								
WRA				PcP		PcP	09 46 40.1	-0.2
comp=Z,1.7nm,0.7s,baz=339,slow=3.3,SNR=5.0								
WRA	**Warramunga Arr**	**34.10**	**166**	P		**P**	**09 44 01.6**	**-1.7**
WRA				PcP		PcP	09 46 40.1	-0.2
WB2	**Warramunga Arr**	**34.10**	**166**	*e*P		**P**	**09 44 01.8**	**-1.5**
GTA	**Gaotai**	**34.66**	**323**	*e*P		**P**	**09 44 09.6**	**+1.4**
GTA				AP		pP	09 44 16.8	+1.0
GTA				XP		sP	09 44 20.1	+1.1
GTA				AMB		AMB		
comp=Z,5.0nm,1.0s,mb4.4								
HABR	**Khabarovsk**	**35.87**	**10**	*e*P		**P**	**09 44 16.6**	**-1.9**
HABR				*e*S		**S**	**09 49 53.1**	**-1.8**
LSA	**Lhasa**	**35.97**	**303**	P		**P**	**09 44 22.4**	**+3.0**
LSA	**Lhasa**	**35.97**	**303**	*e*P		**P**	**09 44 21.6**	**+2.2**
LSA				pmax		pmax		
comp=Z,5.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**35.97**	**303**	*e*P		**P**	**09 44 21.6**	**+2.2**
comp=Z,4.9nm,0.8s,mb4.5								
KLR	**Kul'dur**	**36.13**	**7**	*e*P		**P**	**09 44 17.3**	**-3.5**
HIA	**Hailar**	**36.19**	**353**	*e*P		**P**	**09 44 20.7**	**-0.6**
ASAR	**Alice Springs**	**37.60**	**168**	P		**P**	**09 44 32.6**	**-0.6**
comp=Z,2.5nm,0.7s,mb4.1,baz=353,slow=6.9,SNR=29								
ASAR				PP		PP	09 46 04.0	+4.7
comp=Z,1.6nm,0.8s,baz=358,slow=11,SNR=4.3								
ASAR				PcP		PcP	09 46 50.8	+0.1
comp=Z,1.1nm,0.7s,baz=359,slow=2.9,SNR=5.9								
ASAR				S		**S**	**09 50 27.6**	**+6.4**
comp=Z,0.3nm,0.6s,baz=335,slow=12,SNR=5.1								
SONM	**Songino Array**	**38.03**	**339**	P		**P**	**09 44 37.7**	**+0.8**
comp=Z,9.3nm,1.0s,mb4.5,baz=151,slow=7.5,SNR=27								
SONM				PcP		PcP	09 46 50.9	-1.1
comp=Z,0.7nm,0.6s,baz=163,slow=3.4,SNR=3.1								
JIRN	**Jiri**	**39.59**	**297**	*e*P		**P**	**09 44 51.4**	**+1.4**
comp=Z,13nm,0.8s,mb4.7								
GUN	**Gumba**	**39.92**	**298**	*e*P		**P**	**09 44 54.0**	**+1.3**
comp=Z,26nm,0.7s,mb5.1								
KKN	**Kakani**	**40.41**	**297**	*e*P		**P**	**09 44 57.5**	**+0.7**
DMN	**Daman**	**40.52**	**297**	*e*P		**P**	**09 44 58.4**	**+0.7**
comp=Z,9.5nm,0.6s,mb4.6								
GKN	**Gorkha**	**41.01**	**297**	*e*P		**P**	**09 45 02.1**	**+0.4**
comp=Z,13nm,0.8s,mb4.6								
KOLN	**Koldanda**	**41.86**	**297**	*e*P		**P**	**09 45 09.6**	**+0.9**
comp=Z,19nm,0.9s,mb4.7								
FORT	**Forrest**	**43.90**	**177**	*e*P		**P**	**09 45 25.6**	**+0.4**
comp=Z,24nm,0.7s,mb5.0								
BOD	**Bodaibo**	**45.31**	**351**	*e*P		**P**	**09 45 36.3**	**-0.2**
BOD				pmax		pmax		
comp=Z,3.0nm,1.0s,mb4.1								
KLBR	**Kellerberrin**	**45.33**	**190**	*e*P		**P**	**09 45 36.9**	**+0.3**
comp=Z,4.3nm,0.4s,mb4.6								
MUN	**Mundaring**	**45.98**	**191**	*e*P		**P**	**09 45 41.2**	**-0.6**
STKA	**Stephens Creek**	**47.41**	**162**	P		**P**	**09 45 53.3**	**+0.3**
comp=Z,9.9nm,0.7s,mb4.8,baz=339,slow=8.0,SNR=24								
YAK	**Yakutsk**	**48.71**	**2**	⇑ *e*P		**P**	**09 46 02.6**	**-0.5**
YAK				pmax		pmax		
comp=Z,14nm,1.0s,mb5.0								
MKAR	**Makanchi Array**	**49.37**	**321**	P		**P**	**09 46 09.2**	**+1.1**
comp=Z,8.8nm,0.8s,mb4.8,baz=113,slow=9.3,SNR=34								
MA2	**Magadan**	**49.73**	**16**	⇑ *e*P		**P**	**09 46 10.1**	**-0.8**
MA2				pmax		pmax		
comp=Z,6.0nm,1.0s,mb4.6								
ULHL	**Ulahol**	**51.54**	**314**	P		**P**	**09 46 26.4**	**+1.9**
SNR=6.0								
KZA	**Kyzart**	**52.19**	**313**	P		**P**	**09 46 31.4**	**+2.0**
SNR=8.5								
KBK	**Karagaybulak**	**52.58**	**314**	P		**P**	**09 46 34.5**	**+2.3**
SNR=5.1								
UCH	**Uchtor**	**52.76**	**313**	P		**P**	**09 46 36.2**	**+2.7**
SNR=14								
AAK	**Ala-Archa**	**52.89**	**314**	*e*P		**P**	**09 46 35.4**	**+0.8**
AAK				pmax		pmax		
comp=Z,3.0nm,0.9s,mb4.2								
AAK	**Ala-Archa**	**52.89**	**314**	*e*P		**P**	**09 46 35.4**	**+0.8**
comp=Z,2.7nm,0.9s,mb4.2								
NVS	**Novosibirsk**	**53.04**	**331**	*e*P		**P**	**09 46 35.7**	**+0.1**
USP	**Ospenovka**	**53.08**	**314**	P		**P**	**09 46 37.5**	**+1.6**
SNR=6.0								
AML	**Almayashu**	**53.31**	**313**	P		**P**	**09 46 40.0**	**+2.3**
SNR=5.7								
KURK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**152.54**	**37**	*e*PKPdf	PKPdf	09 57 09.1	+1.2
SDV				*e*PKPbc	PKPbc	09 57 15.7	+0.8
LPAZ	**La Paz**	**166.18**	**104**	PKP	PKPdf	09 57 26.3	+2.8
	comp=Z,0.7nm,0.8s,baz=349,slow=6.0,SNR=3.6						
LPAZ				PKPab	PKPab	09 58 27.0	+2.6
	comp=Z,0.8nm,0.7s,baz=292,slow=5.8,SNR=3.1						

*CSEM **21** 09:40:02.6, 1197N×4382E, h4km, ML4.1, After DHMR*

DHMR 21 09:40:02.6±1.1, 1197N×4382E, h4km±7km, ML4.1, 6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.28**	**13**	⇓*i*P	Pg	09 40 26.8	-0.4
TRBA				AML	AML	09 40 33.0	
	comp=N,2μm,0.5s						
TRBA				*i* S	Sg	09 40 44.7	+0.9
ADEN	**Aden**	**1.39**	**55**	⇓*i*P	Pn	09 40 28.3	-0.4
ADEN				*i* S	Sb	09 40 48.4	+1.2
ADEN				AML	AML	09 40 55.1	
	comp=E,9μm,0.3s						
ADEN	**Aden**	**1.39**	**55**	⇓*i*P	Pn	09 40 28.3	-0.5
ADEN				*i* S	Sb	09 40 48.4	+1.2
	comp=E,4μm,0.3s						
UDYN	**Al 'Udayn**	**1.99**	**4**	⇓*i*P	Pn	09 40 38.3	+1.4
UDYN				*i* S	Sn	09 41 06.6	+4.4
UDYN				AML	AML	09 41 10.8	
	comp=N,2μm,0.5s						
UDYN	**Al 'Udayn**	**1.99**	**4**	⇓*i*P	Pn	09 40 38.3	+1.4
UDYN				*i* S	Sn	09 41 06.6	+4.3
	comp=N,1μm,0.5s						
LBOS		**2.35**	**36**	⇓*i*P	Pn	09 40 44.6	+2.7
LBOS				*i* S	Sn	09 41 16.1	+5.0
BDHA	**Al Bayda'**	**2.62**	**40**	*i* P	Pn	09 40 48.3	+2.6
BDHA				*i* S	Sn	09 41 24.0	+6.1
BDHA				AML	AML	09 41 35.7	
	comp=E,1μm,0.6s						
DHBB	**Dhamar BB**	**2.64**	**12**	*i* P	Pn	09 40 49.0	+3.0
DHBB				*i* S	Sn	09 41 25.1	+6.6
HAJJ	**Hajjah**	**3.71**	**357**	*i* P	Pn	09 41 02.6	+2.0
HAJJ				*i* S	Sn	09 41 50.6	+5.9

*CSEM **21** 09:52:25.3, 1202N×4382E, h3km, ML3.6, After DHMR*

DHMR 21 09:52:25.3±1.2, 1202N×4382E, h4km±5km, ML3.6, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.24**	**14**	⇓*i*P	Pg	09 52 48.9	-0.2
TRBA				*i* S	Sg	09 53 06.5	+1.2
TRBA				AML	AML	09 53 15.8	
	comp=N,525nm,0.7s						
ADEN	**Aden**	**1.37**	**56**	*i* P	Pn	09 52 50.2	-0.9
ADEN				*i* S	Sg	09 53 10.5	+1.2
ADEN				AML	AML	09 53 15.6	
	comp=E,3μm,0.3s						
ADEN	**Aden**	**1.37**	**56**	*i* P	Pn	09 52 50.2	-1.0
ADEN				*i* S	Sg	09 53 10.5	+1.2
	comp=E,2μm,0.3s						
UDYN	**Al 'Udayn**	**1.95**	**4**	*i* P	Pn	09 53 00.1	+1.0
UDYN				*i* S	Sn	09 53 27.8	+3.8
UDYN				AML	AML	09 53 39.5	
	comp=N,482nm,0.5s						
UDYN	**Al 'Udayn**	**1.95**	**4**	*i* P	Pn	09 53 00.1	+1.0
UDYN				*i* S	Sn	09 53 27.8	+3.8
	comp=N,241nm,0.5s						
LBOS		**2.31**	**37**	*i* P	Pn	09 53 06.4	+2.2
LBOS				*i* S	Sn	09 53 37.5	+4.4
BDHA	**Al Bayda'**	**2.59**	**41**	*i* P	Pn	09 53 10.3	+2.3
BDHA				*i* S	Sn	09 53 46.8	+6.9
BDHA				AML	AML	09 53 52.1	
	comp=E,514nm,0.4s						
BDHA	**Al Bayda'**	**2.59**	**41**	*i* P	Pn	09 53 10.3	+2.3
BDHA				*i* S	Sn	09 53 46.8	+6.9
	comp=E,257nm,0.4s						
DHBB	**Dhamar BB**	**2.60**	**12**	*i* P	Pn	09 53 11.2	+3.1
DHBB				*i* S	Sn	09 53 46.2	+6.1
HAJJ	**Hajjah**	**3.67**	**357**	*i* S	Sn	09 54 12.4	+5.9

CASC 21 09:55:54.2±2.6, 1113N×8682W, h35km±38km, MD3.8, ML2.9, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.96**	**81**	*e*P	Pn	09 56 11.8	+0.6
TICN	**Ticuantepe**	**1.06**	**33**	*e*P	Pn	09 56 13.3	+0.8
XAVN	**Gruta Xavier**	**1.12**	**25**	*e*P	Pn	09 56 12.8	-0.5
XAVN				*e*S	Sn	09 56 28.5	+1.1
MGAN	**Managua**	**1.15**	**29**	⇑*e*P	Pn	09 56 14.2	+0.4
MGAN				*e*S	Sn	09 56 27.0	-1.3
MGAN				*i*		09 56 36.5	
	comp=E,200nm,0.6s						
CONN	**Concepcion**	**1.24**	**70**	*e*P	Pn	09 56 15.7	+0.6
MOMJ	**Momotombo**	**1.29**	**12**	⇓*e*P	Pn	09 56 15.9	+0.1
MOMJ				*e*S	Sn	09 56 35.0	+3.2
CNGN	**Cerro Negro**	**1.36**	**5**	*e*P	Pn	09 56 16.1	-0.6
JCR	**Jicaral**	**2.11**	**127**	*e*P	Pn	09 56 25.3	-1.7
PRS1	**Puriscal**	**2.71**	**115**	*e*P	Pn	09 56 35.7	+0.4
LAJ	**Bijagual**	**2.94**	**115**	*e*P	Pn	09 56 34.6	-3.7
LCR2	**La Lucha 2**	**3.09**	**116**	*e*P	Pn	09 56 41.4	+0.9

CASC 21 10:08:59.4±2.0, 1010N×8445W, h65km±4km, MD3.8, ML3.2, 13C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.08**	**188**	⇓*e*P	Pn	10 09 09.2	+0.2
CGA2				*e*S	Sn	10 09 17.0	+1.0
EPA	**Esparza**	**0.18**	**232**	⇑*e*P	Pn	10 09 09.2	-0.1
PRS1	**Puriscal**	**0.18**	**129**	⇑*i*P	Pn	10 09 09.7	+0.4
POA2	**Poas 2**	**0.21**	**68**	*e*P	Pn	10 09 09.9	+0.3
LAJ	**Bijagual**	**0.40**	**125**	⇑*e*P	Pn	10 09 11.3	+0.4
LAJ				*e*S	Sn	10 09 22.2	+3.0
SJS	**Escuela Geolog**	**0.42**	**112**	⇑*e*P	Pn	10 09 11.6	+0.5
SJS				*e*S	Sn	10 09 20.3	+0.7
FORC	**Fortuna**	**0.43**	**330**	⇑*i*P	Pn	10 09 11.5	+0.4
FORC				*e*S	Sn	10 09 21.1	+1.5
VACR	**Volcan Arenal**	**0.43**	**330**	*e*P	Pn	10 09 11.4	+0.3
VACR				*e*S	Sn	10 09 20.8	+1.1
OCM	**Ochomogo**	**0.53**	**112**	⇑*i*P	Pn	10 09 12.3	+0.3
OCM				*e*S	Sn	10 09 22.4	+1.1
JTS	**JuntasAbangare**	**0.53**	**291**	⇓*e*P	Pn	10 09 11.1	-1.0
JTS				*e*S	Sn	10 09 20.8	-0.5
IRZ2	**Volcan Irazu 2**	**0.56**	**103**	⇑*e*P	Pn	10 09 13.1	+0.6
IRZ2				*e*S	Sn	10 09 23.5	+1.5
LCR2	**La Lucha 2**	**0.57**	**128**	⇑*i*P	Pn	10 09 12.7	+0.2
ICR	**Volcan Irazu**	**0.62**	**101**	*e*P	Pn	10 09 14.4	+1.3
ICR				*e*S	Sn	10 09 25.0	+1.9
VTU	**Volcan Turrial**	**0.69**	**96**	*e*P	Pn	10 09 15.4	+1.6
VTU				*e*S	Sn	10 09 27.8	+3.3
JCR	**Jicaral**	**0.69**	**249**	⇓*e*P	Pn	10 09 13.6	-0.3
JCR				*e*S	Sn	10 09 25.1	+0.6
CAO	**Cobano**	**0.75**	**238**	⇑*i*P	Pn	10 09 13.9	-0.7
BUS	**Buena Vista**	**0.87**	**128**	⇑*i*P	Pn	10 09 16.4	+0.3
BUS				*e*S	Sn	10 09 30.2	+1.9
LIM1	**Limonal**	**0.99**	**307**	⇓*e*P	Pn	10 09 17.5	0.0
LIM1				*e*S	Sn	10 09 31.6	+0.7
RIN3	**Volcan Rincon**	**1.14**	**307**	*e*P	Pn	10 09 19.4	0.0
RIN3				*e*S	Sn	10 09 36.8	+2.4
VCR	**Vista de Mar**	**1.16**	**272**	⇓*e*P	Pn	10 09 19.5	-0.2
VCR				*e*S	Sn	10 09 34.6	-0.3
MADN	**Villa Maderas**	**1.68**	**321**	⇑*e*P	Pn	10 09 27.6	+0.9
SSNN	**San Juan del S**	**1.81**	**311**	⇑*e*P	Pn	10 09 29.7	+1.3
SSNN				*e*S	Sn	10 09 52.2	+1.9
CONN	**Concepcion**	**1.86**	**322**	⇓*i*P	Pn	10 09 29.6	+0.6
CNI	**Changuinola**	**2.03**	**109**	*e*P	Pn	10 09 30.8	-0.4
CTCR	**Cotoan**	**2.05**	**125**	*e*P	Pn	10 09 31.9	+0.2
CTCR				*e*S	Sn	10 09 57.7	+1.5
BRU	**Baru**	**2.27**	**124**	*e*P	Pn	10 09 34.4	-0.1
TICN	**Ticuantepe**	**2.60**	**318**	*e*P	Pn	10 09 40.9	+1.9
BOAB	**BOACO BROADBAN**	**2.62**	**333**	⇑*e*P	Pn	10 09 39.4	0.0
MGAN	**Managua**	**2.69**	**319**	*e*P	Pn	10 09 41.5	+1.2
MGAN				*e*S	Sn	10 10 13.6	+1.8
PTP	**Ponta Puerca**	**19.96**	**64**	*e*P		10 09 37.9	

CASC 21 10:19:18.2±3.0, 1398N×8974W, h3km±10km, MD3.6, ML4.0, 2C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	**San Jose**	**0.17**	**132**	⇓*i*P	x	10 19 28.7	
SNJE				*e*S	x	10 19 34.0	
MTO2	**Montecristo 2**	**0.55**	**41**	⇑*i*P	x	10 19 35.4	
MTO2				*e*S	x	10 19 43.7	
LCBS	**La Ceiba**	**0.80**	**114**	*e*P	x	10 19 40.0	
LCBS				*e*S	x	10 19 52.4	
PCG	**Pacaya**	**0.94**	**296**	⇑*e*P	Pg	10 19 36.8	+0.6
PCG				*e*S	Sg	10 19 49.4	+1.0
TER	**Terranova**	**0.97**	**289**	*e*P	Pg	10 19 36.8	-0.1
FUG	**Fuego 3**	**1.17**	**293**	*e*P	Pg	10 19 40.3	-0.3
FUG				*e*S	Sg	10 19 56.9	+1.1
BLLM	**Bellamira**	**1.55**	**110**	⇓*e*P	x	10 19 53.2	
BLLM				*e*S	x	10 20 14.8	
JAT	**Jato**	**1.88**	**280**	*e*P	Pn	10 19 53.0	+1.8
JAT				*e*S	Sn	10 20 17.1	+1.7

*CSEM **21** 10:32:33.6, 1197N×4380E, h3km, ML4.4, After DHMR*

DHMR 21 10:32:33.6±1.5, 1197N×4380E, h4km±10km, ML4.4, 3C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.29**	**14**	⇑*i*P	Pg	10 32 58.1	-0.3
TRBA				*i* S	Sg	10 33 15.9	+0.8
TRBA				AML	AML	10 33 20.2	
	comp=E,7μm,0.5s						
ADEN	**Aden**	**1.41**	**55**	⇓*i*P	Pn	10 32 59.3	-0.7
ADEN				*i* S	Sb	10 33 19.6	+1.0
ADEN				AML	AML	10 33 25.3	
	comp=E,11μm,0.9s						
ADEN	**Aden**	**1.41**	**55**	⇓*i*P	Pn	10 32 59.3	-0.7
ADEN				*i* S	Sb	10 33 19.6	+0.9
	comp=E,6μm,0.9s						
UDYN	**Al 'Udayn**	**1.99**	**5**	⇑*i*P	Pn	10 33 09.4	+1.4
UDYN				*i* S	Sn	10 33 36.8	+3.4
UDYN				AML	AML	10 33 41.7	
	comp=N,5μm,0.5s						
UDYN	**Al 'Udayn**	**1.99**	**5**	⇑*i*P	Pn	10 33 09.4	+1.4
UDYN				*i* S	Sn	10 33 36.8	+3.4
	comp=N,2μm,0.5s						
LBOS		**2.36**	**37**	*i* P	Pn	10 33 15.5	+2.5
LBOS				*i* S	Sn	10 33 47.3	+4.9
BDHA	**Al Bayda'**	**2.63**	**41**	*i* P	Pn	10 33 19.1	+2.2
BDHA				*i* S	Sn	10 33 55.9	+6.7
BDHA				AML	AML	10 34 04.8	
	comp=N,3μm,0.5s						
BDHA	**Al Bayda'**	**2.63**	**41**	*i* P	Pn	10 33 19.1	+2.2
BDHA				*i* S	Sn	10 33 55.9	+6.7
	comp=N,2μm,0.5s						
DHBB	**Dhamar BB**	**2.65**	**12**	*i* P	Pn	10 33 20.6	+3.6
DHBB				*i* S	Sn	10 33 56.8	+7.2
HAJJ	**Hajjah**	**3.71**	**357**	⇓*i*P	Pn	10 33 33.7	+2.0
HAJJ				*i* S	Sn	10 34 21.6	+5.7
DESE	**Dese**	**4.17**	**259**	*e*P	Pn	10 33 46.4	+8.4
DESE				S	Sn	10 34 45.8	+19

IDC 21 11:01:10.1±4.0, 772N×9210E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=150.8km s-min=30.9km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRS	**Chennai**	**12.81**	**295**	*ex*	x	11 03 20.7	
MDRS				*ex*	x	11 06 58.7	
MKAR	**Makanchi Array**	**39.83**	**349**	P	P	11 08 45.1	0.0
	1.0nm,0.7s,baz=167,slow=8.2,SNR=7.6						
SONM	**Songino Array**	**41.78**	**14**	P	P	11 09 01.3	+0.1
	0.8nm,0.7s,baz=203,slow=7.6,SNR=8.2						
ASAR	**Alice Springs**	**51.38**	**129**	P	P	11 10 16.9	+0.4
	0.6nm,1.1s,baz=306,slow=8.2,SNR=4.7						

*CSEM **21** 11:03:50.1, 1202N×4378E, h10km, ML3.7, After DHMR*

DHMR 21 11:03:50.1±1.6, 1202N×4378E, h11km±11km, ML3.7, 2C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.25**	**15**	⇓*i*P	Pn	11 04 13.9	+0.4
TRBA				*i* S	Sb	11 04 30.9	+1.1
TRBA				AML	AML	11 04 32.1	
	comp=N,1μm,0.3s						
ADEN	**Aden**	**1.40**	**57**	⇑*i*P	Pn	11 04 16.0	+0.4
ADEN				*i* S	Sn	11 04 35.0	+1.0
ADEN				AML	AML	11 04 40.2	
	comp=E,1μm,0.3s						
ADEN	**Aden**	**1.40**	**57**	⇑*i*P	Pn	11 04 16.0	+0.4
ADEN				*i* S	Sn	11 04 35.0	+1.0
UDYN	**Al 'Udayn**	**1.94**	**5**	*i* P	Pn	11 04 24.1	+1.0
UDYN				*i* S	Sn	11 04 50.6	+3.1
UDYN				AML	AML	11 04 53.9	
	comp=N,1μm,0.4s						
UDYN	**Al 'Udayn**	**1.94**	**5**	*i* P	Pn	11 04 24.1	+1.0
UDYN				*i* S	Sn	11 04 50.6	+3.1
LBOS		**2.33**	**38**	*i* P	Pn	11 04 30.0	+1.5
LBOS				*i* S	Sn	11 05 02.6	+5.6
DHBB	**Dhamar BB**	**2.60**	**13**	*i* P	Pn	11 04 35.5	+3.3
DHBB				*i* S	Sn	11 05 10.5	+6.7
BDHA	**Al Bayda'**	**2.61**	**42**	*i* P	Pn	11 04 34.4	+2.1
BDHA				*i* S	Sn	11 05 11.1	+7.1
BDHA				AML	AML	11 05 25.4	
	comp=N,481nm,0.5s						
BDHA	**Al Bayda'**	**2.61**	**42**	*i* P	Pn	11 04 34.4	+2.1
BDHA				*i* S	Sn	11 05 11.1	+7.1
HAJJ	**Hajjah**	**3.66**	**357**	*i* P	Pn	11 04 49.9	+3.2
HAJJ				*i* S	Sn	11 05 35.8	+5.9

CASC 21 11:08:26.9±3.6, 1339N×9019W, h42km±65km, MD3.5, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.70**	**51**	⇓*e*P	x	11 08 45.5	
SBLS				*e*S	x	11 08 57.2	
RTR	**El Retiro**	**0.72**	**46**	⇓*e*P	x	11 08 45.8	
RTR				*e*S	x	11 08 58.0	
SNJE	**San Jose**	**0.73**	**50**	⇓*e*P	x	11 08 45.8	
SNJE				*e*S	x	11 08 55.9	
BOQS	**Boqueron**	**0.94**	**69**	⇑*e*P	x	11 08 48.1	
BOQS				*e*S	x	11 09 01.9	
TER	**Terranova**	**1.02**	**332**	*e*P	Pn	11 08 44.9	+0.1
TER				*e*S	Sn	11 08 59.2	+1.3
PCG	**Pacaya**	**1.07**	**338**	*e*P	Pn	11 08 46.1	+0.6
PCG				*e*S	Sn	11 09 00.3	+1.1
LFU	**La Fuente**	**1.10**	**71**	*e*P	x	11 08 49.8	
LFU				*e*S	x	11 09 07.0	
LFRS	**El Faro**	**1.12**	**78**	⇓*e*P	x	11 08 50.6	
LFRS				*e*S	x	11 09 04.6	
LBRS	**Las Brisas**	**1.16**	**73**	*e*P	x	11 08 51.2	
LBRS				*e*S	x	11 09 05.3	
LCBS	**La Ceiba**	**1.20**	**77**	*e*P	x	11 08 52.2	
LCBS				*e*S	x	11 09 07.1	
FUG	**Fuego 3**	**1.23**	**329**	⇓*e*P	Pn	11 08 47.6	0.0
FUG				*e*S	Sn	11 09 04.5	+1.6
MTO2	**Montecristo 2**	**1.28**	**39**	*e*P	x	11 08 51.8	
MTO2				*e*S	x	11 09 07.3	
JAT	**Jato**	**1.68**	**303**	⇑*e*P	Pn	11 08 55.1	+1.3
JAT				*e*S	Sn	11 09 12.9	-1.3
CNCH	**Conchagua**	**2.29**	**93**	*e*P	x	11 09 06.1	
CNCH				*e*S	x	11 09 32.9	

*CSEM **21** 11:15:19.7, 1205N×4380E, h3km, ML3.7, After DHMR*

DHMR 21 11:15:19.7±1.1, 1205N×4380E, h4km±5km, ML3.7, 2C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.22**	**15**	⇓*i*P	Pg	11 15 43.0	-0.1
TRBA				*i* S	Sg	11 15 59.7	+0.9
TRBA				AML	AML	11 16 05.8	
	comp=E,1μm,0.5s						
ADEN	**Aden**	**1.37**	**58**	⇑*i*P	Pn	11 15 45.5	-0.1
ADEN				*i* S	Sg	11 16 04.7	+1.0
ADEN				AML	AML	11 16 10.8	
	comp=E,2μm,0.5s						
ADEN	**Aden**	**1.37**	**58**	⇑*i*P	Pn	11 15 45.5	-0.1
ADEN				*i* S	Sg	11 16 04.7	+1.1
	comp=E,882nm,0.5s						
UDYN	**Al 'Udayn**	**1.92**	**5**	*i* P	Pn	11 15 54.0	+0.9
UDYN				*i* S	Sn	11 16 21.7	+4.0
UDYN				AML	AML	11 16 28.0	
	comp=N,918nm,0.5s						
UDYN	**Al 'Udayn**	**1.92**	**5**	*i* P	Pn	11 15 54.0	+0.9
UDYN				*i* S	Sn	11 16 21.7	+4.0
	comp=N,459nm,0.5s						
LBOS		**2.30**	**38**	*i* P	Pn	11 16 00.7	+2.3
LBOS				*i* S	Sn	11 16 32.2	+5.0
DHBB	**Dhamar BB**	**2.58**	**13**	*i* P	Pn	11 16 04.7	+2.5
DHBB				*i* S	Sn	11 16 40.2	+6.3
BDHA	**Al Bayda'**	**2.58**	**42**	*i* P	Pn	11 16 04.2	+2.0
BDHA				*i* S	Sn	11 16 39.9	+5.8
BDHA				AML	AML	11 16 46.3	
	comp=E,454nm,0.4s						
BDHA	**Al Bayda'**	**2.58**	**42**	*i* P	Pn	11 16 04.2	+2.0
	comp=E,227nm,0.4s						
BDHA				*i* S	Sn	11 16 39.9	+5.8
HAJJ	**Hajjah**	**3.64**	**357**	*i* P	Pn	11 16 19.2	+2.4
HAJJ				*i* S	Sn	11 17 06.1	+6.0

*CSEM **21** 11:22:36.2, 1193N×4375E, h10km, ML4.5, After DHMR*

DHMR 21 11:22:36.2±1.4, 1193N×4375E, h10km±10km, ML4.5, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.34**	**16**	*i* P	Pn	11 23 01.5	+0.5
TRBA				*i* S	Sb	11 23 19.6	+1.0
TRBA				AML	AML	11 23 20.1	
	comp=N,8μm,0.3s						
ADEN	**Aden**	**1.47**	**55**	⇓*i*P	Pn	11 23 03.4	+0.7
ADEN				*i* S	Sn	11 23 23.6	+1.6
ADEN				AML	AML	11 23 29.3	
	comp=E,8μm,0.3s						
ADEN	**Aden**	**1.47**	**55**	⇓*i*P	Pn	11 23 03.4	+0.7
ADEN				*i* S	Sn	11 23 23.6	+1.6
	comp=E,4μm,0.3s						
UDYN	**Al 'Udayn**	**2.03**	**6**	*i* P	Pn	11 23 11.7	+1.2
UDYN				*i* S	Sn	11 23 40.7	+4.8
UDYN				AML	AML	11 23 46.8	
	comp=N,6μm,0.4s						
UDYN	**Al 'Udayn**	**2.03**	**6**	*i* P	Pn	11 23 11.7	+1.2
UDYN				*i* S	Sn	11 23 40.7	+4.8
	comp=N,3μm,0.4s						
LBOS		**2.42**	**37**	*i* P	Pn	11 23 17.5	+1.7
LBOS				*i* S	Sn	11 23 51.2	+5.8
DHBB	**Dhamar BB**	**2.69**	**13**	*i* P	Pn	11 23 22.8	+3.2
DHBB				*i* S	Sn	11 23 59.4	+7.1
HAJJ	**Hajjah**	**3.75**	**358**	*i* P	Pn	11 23 36.8	+2.8
HAJJ				*i* S	Sn	11 24 23.5	+5.3

*STR **21** 11:31:20.8±0.1, 4303N×001W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 11:31:20.5±0.1, 4303N×002W, h12km, Md2.1/2, Ml2.0/5, Error ellipse: s-maj=2.7km s-min=1.4km az=159.0*

MDD 21 11:31:21.3±0.3, 4302N×002W, h8km±3km, mbLg1.7/10, 1C, Error ellipse: s-maj=2.6km s-min=1.7km az=14.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**65**	P	Pg	11 31 23.4	+0.1
LABF				S	Sg	11 31 25.2	+0.4
VIEF	**Viey**	**0.14**	**167**	Pg	Pg	11 31 24.3	+0.1
VIEF				Sg	Sg	11 31 26.6	+0.3
VIEF	**Viey**	**0.14**	**167**	P	Pg	11 31 24.3	+0.1
VIEF				S	Sg	11 31 26.7	+0.5
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	11 31 26.1	-0.4
EPF				*e*Sg	Sg	11 31 30.1	0.0
	40nm,0.2s						
EPF	**Esparros**	**0.26**	**87**	Pg	Pg	11 31 26.1	-0.4
EPF				Lg		11 31 30.1	
	20nm,0.2s						
REYF	**Montagne du Re**	**0.28**	**281**	Pg	Pg	11 31 26.3	-0.5
REYF				Sg	Sg	11 31 30.6	0.0
REYF	**Montagne du Re**	**0.28**	**281**	P	Pg	11 31 26.4	-0.5
REYF				S	Sg	11 31 30.6	+0.1
RESF	**Ens**	**0.34**	**128**	Pg	Pg	11 31 27.4	-0.5
RESF				Sg	Sg	11 31 32.4	+0.1
RESF	**Ens**	**0.34**	**128**	P	Pg	11 31 27.5	-0.4
RESF				S	Sg	11 31 32.4	+0.1
EBIE	**Bielsa**	**0.35**	**160**	⇑Pg	Pg	11 31 27.9	-0.3
	1.2nm,0.1s,SNR=18						
EBIE				Lg		11 31 32.7	
	10nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.41**	**254**	*e*Pg	Pg	11 31 28.9	-0.4
ETSF				*e*Sg	Sg	11 31 34.6	-0.2
	59nm,0.3s						
ETSF	**Etsaut**	**0.41**	**254**	Pg	Pg	11 31 28.9	-0.4
ETSF				Lg		11 31 34.6	
	29nm,0.3s						
ATE	**Arette**	**0.50**	**278**	Pg	Pg	11 31 30.7	-0.4
ATE				Sg	Sg	11 31 38.2	+0.5
ATE	**Arette**	**0.50**	**278**	P	Pg	11 31 30.6	-0.5
ATE				S	Sg	11 31 37.1	-0.6
SJPF	**Ste Jean**	**0.89**	**277**	*e*Pg	Pg	11 31 37.0	-1.4
SJPF				*e*Sg	Sg	11 31 49.5	-0.4
	1.9nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	11 31 37.0	-1.4
SJPF				Lg		11 31 49.5	
	0.9nm,0.2s						
SALF	**Salau**	**0.92**	**106**	Pg	Pg	11 31 38.2	-0.9
SALF				Sg	Sg	11 31 51.2	+0.1
SALF	**Salau**	**0.92**	**106**	P	Pg	11 31 38.3	-0.8
SALF				S	Sg	11 31 50.1	-1.0
CSOR	**Sort**	**1.06**	**127**	S	Sg	11 31 56.3	+0.8
	4.0nm,0.3s						
EALK	**Alkurruntz**	**1.11**	**281**	Pg	Pg	11 31 44.8	+2.2
	0.4nm,0.1s,SNR=7.9						
EALK				Lg		11 31 59.2	
	2.4nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**1.12**	**278**	Pg	Pg	11 31 44.6	+1.9
	0.9nm,0.2s,SNR=7.9						
ELIZ				Lg		11 31 58.4	
	3.5nm,0.2s,SNR=7.7						
IUSE	**Utxeti**	**1.12**	**267**	Pg	Pg	11 31 45.3	+2.4
	0.4nm,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.08**	**137**	*e*S	Sg	11 43 56.6	-4.4
PTCA							
	17nm,0.2s						
PCED	**Cedros**	**1.11**	**132**	*e*P	Pg	11 43 43.8	-3.5
PCED				*e*S	Sg	11 43 57.0	-4.7
PCED							
	75nm,0.3s						
PCED	**Cedros**	**1.11**	**132**	*e*P	Pg	11 43 43.8	-3.5
PCED				*e*S	Sg	11 43 57.0	-4.7
CALA	**Caldeira**	**1.14**	**134**	*e*P	Pg	11 43 44.6	-3.3
CALA				*e*S	Sg	11 43 58.0	-4.7
HOR	**Horta**	**1.22**	**134**	*e*S	Sg	11 44 00.0	-5.2
ROSA	**Rosais**	**1.34**	**119**	*e*S	Sg	11 44 03.1	-6.2
PCND	**Candelaria**	**1.35**	**132**	*e*S	Sg	11 44 03.5	-6.1
PCND							
	95nm,0.3s						
PICO	**Pico**	**1.35**	**130**	*e*P	Pg	11 43 47.6	-4.4
PICO				*e*S	Sg	11 44 04.0	-5.6
SRBC	**Serra Branca**	**1.37**	**104**	*e*P	Pg	11 43 58.8	+6.5
PTEI	**Pico do Teixo**	**1.40**	**129**	*e*S	Sg	11 44 04.6	-6.4
PTEI							
	35nm,0.2s						
PBOI	**Pico dos Bois**	**1.43**	**131**	*e*S	Sg	11 44 06.7	-5.2
PBOI							
	76nm,0.2s						
PMAN	**Manadas**	**1.49**	**120**	*i* S	Sg	11 44 06.4	-7.6
PMAN							
	72nm,0.3s						
PID	**Ribeirinha**	**1.58**	**126**	*e*P	Pn	11 43 50.3	-5.0

*ISCJB **21** 11:58:55.1±0.8,2789S±004×6673W±009,h158km±9km, mb4.0/13,Error ellipse: s-maj=12.8km s-min=5.9km az=174.7*
*IDC **21** 11:58:55.4±1.6,2787S×6671W,h147km±15km,mb3.8/9, mb1 3.9/12,mb1mx3.8/20,mbtmp3.8/12,Error ellipse: s-maj=23.6km s-min=11.5km az=87.0*
*NEIC **21** 11:58:55.3±0.7,2787S×6664W,h146km±7km,mb4.2/6, Error ellipse: s-maj=11.9km s-min=6.7km az=92.0*
*GUC **21** 11:58:55.5±0.8,2793S×6675W,h157km,ML5.1*

ISC 21 11:58:56.1±0.8,2788S±004×6672W±009,h151km±9km, n37,σ0°82/41,mb4.0/13,3C-2D,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**3.63**	**258**	*e*P	**Pn**	**11 59 51.7**	**+0.2**
VACH				*i* S	**Sn**	**12 00 34.1**	**-0.4**
VACH				AML	AML	12 00 38.1	
	comp=E,3μm,0.1s						
VACH	**Vallenar**	**3.63**	**258**	*e*P	**Pn**	**11 59 51.7**	**+0.2**
VACH				*i* S	**Sn**	**12 00 34.1**	**-0.4**
LCO	**Las Campanas**	**3.68**	**251**	*e*Pn	**Pn**	**11 59 53.0**	**+0.8**
LCO				*e*Sn	**Sn**	**12 00 35.7**	**0.0**
CFAA	**Coronel Fontan**	**3.94**	**199**	P	**Pn**	**11 59 56.6**	**+1.1**
	comp=E,12nm,0.3s,baz=19,slow=13,SNR=250						
CFAA				S	**Sn**	**12 00 41.6**	**-0.1**
	comp=E,6.8nm,0.3s,baz=22,slow=18,SNR=28						
TLL	**Tololo Astrono**	**4.24**	**237**	⇑*i*P	**Pn**	**12 00 00.3**	**+0.8**
TLL				*i* S	**Sn**	**12 00 48.6**	**-0.2**
TLL				AML	AML	12 00 55.9	
	comp=E,437nm,0.5s						
TLL	**Tololo Astrono**	**4.24**	**237**	⇑*i*P	**Pn**	**12 00 00.3**	**+0.8**
TLL				*i* S	**Sn**	**12 00 48.6**	**-0.2**
CPN1	**Cerro Paranal**	**4.64**	**314**	*e*P	**Pn**	**12 00 05.7**	**+1.1**
CPN1				*i* S	**Sn**	**12 00 57.4**	**-0.7**
MDZ	**Mendoza**	**5.31**	**200**	*e*P	**Pn**	**12 00 11.1**	**-2.5**
JACH	**Jahuel**	**5.84**	**214**	*e*P	**Pn**	**12 00 20.9**	**+0.3**
FCH	**Farellones**	**6.24**	**209**	⇑*e*P	**Pn**	**12 00 27.2**	**+1.3**
FCH				*e*S	**Sn**	**12 01 36.2**	**0.0**
PCH	**Pirque**	**6.58**	**209**	⇓*i*P	**Pn**	**12 00 30.5**	**0.0**
TACH	**Talagante**	**6.80**	**211**	*e*P	**Pn**	**12 00 31.9**	**-1.5**
LPAZ	**La Paz**	**11.62**	**353**	P	**Pn**	**12 01 37.6**	**+0.4**
	comp=E,0.8nm,0.3s,baz=162,slow=13,SNR=17						
LPAZ				S	**Sn**	**12 03 41.9**	**-3.6**
	comp=E,0.2nm,0.3s,baz=330,slow=10,SNR=2.9						
LPAZ	**La Paz**	**11.62**	**353**	*e*Pn	**Pn**	**12 01 36.4**	**-0.8**
LPAZ				*e*Sn	**Sn**	**12 03 45.8**	**+0.2**
SIV	**San Ignacio**	**12.94**	**25**	P	**Pn**	**12 01 53.8**	**-0.5**
	comp=E,0.4nm,0.3s,baz=212,slow=14,SNR=30						
PMSA	**Palmer Station**	**36.94**	**178**	P	**P**	**12 05 48.5**	**-1.8**
	comp=E,6.5nm,0.6s,mb4.5,baz=229,slow=16,SNR=5.8						
SNAA	**Sanae**	**55.62**	**160**	P	**P**	**12 08 16.0**	**-0.1**
	comp=E,1.1nm,0.6s,mb3.9,baz=272,slow=7.4,SNR=12						
SNAA	**Sanae**	**55.62**	**160**	*e*P	**P**	**12 08 15.8**	**-0.2**
	comp=E,2.9nm,0.6s,mb4.3						
QSPA	**South Pole Qui**	**62.34**	**180**	*e*P	**P**	**12 09 03.0**	**+0.6**
	comp=E,4.1nm,0.6s,mb4.4						
TXAR	**Lajitas Array**	**66.99**	**325**	P	**P**	**12 09 32.9**	**+0.5**
	comp=E,0.5nm,0.7s,mb3.5,baz=151,slow=7.7,SNR=7.5						
SYO	**Syowa Base**	**69.86**	**158**	⇓*e*P	**P**	**12 09 50.0**	**-0.3**
ANMO	**Albuquerque**	**72.91**	**327**	*e*P	**P**	**12 10 09.1**	**+0.5**
	comp=E,1.1nm,0.6s,mb3.8						
SUR	**Sutherland**	**73.72**	**118**	P	**P**	**12 10 14.3**	**+0.9**
	comp=E,3.0nm,0.7s,mb4.2,baz=221,slow=20,SNR=3.1						
MAW	**Mawson**	**77.67**	**162**	P	**P**	**12 10 35.2**	**-0.6**
	comp=E,4.2nm,0.8s,mb4.1,baz=251,slow=5.4,SNR=7.3						
MAW	**Mawson**	**77.67**	**162**	*e*P	**P**	**12 10 36.0**	**+0.2**
	comp=E,2.9nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**77.75**	**68**	P	**P**	**12 10 36.0**	**-0.2**
	comp=E,1.0nm,0.5s,mb3.7,baz=269,slow=6.4,SNR=8.6						
BOSA	**Boshof**	**78.76**	**116**	P	**P**	**12 10 42.4**	**+0.6**
	comp=E,2.3nm,0.6s,mb4.0,baz=240,slow=7.4,SNR=6.7						
PDAR	**Pinedale Array**	**80.61**	**330**	P	**P**	**12 10 51.8**	**+0.1**
	comp=E,0.7nm,0.6s,mb3.5,baz=120,slow=6.4,SNR=6.4						
LBTB	**Lobatse**	**80.61**	**113**	*e*P	**P**	**12 10 51.9**	**+0.1**
	comp=E,2.5nm,0.5s,mb4.1						
HLID	**Hailey**	**83.48**	**327**	*e*P	**P**	**12 11 07.3**	**+0.6**
	comp=E,1.5nm,0.6s,mb3.9						
YKA	**Yellowknife Ar**	**97.84**	**340**	P	**P**	**12 12 12.9**	**-1.4**
	comp=E,0.2nm,0.6s,mb3.8,baz=131,slow=4.8,SNR=7.4						
ASAR	**Alice Springs**	**125.03**	**203**	PKP	PKPdf	12 17 38.0	-0.2
	comp=E,1.3nm,0.7s,baz=142,slow=1.8,SNR=8.9						
WRA	**Warramunga Arr**	**128.27**	**206**	PKP	PKPdf	12 17 44.7	+0.2
	comp=E,1.3nm,0.5s,baz=159,slow=1.7,SNR=9.8						
AAK	**Ala-Archa**	**145.40**	**55**	*e*PKPab	PKPab	12 18 16.1	-0.3
ZAL	**Zalesovo**	**146.64**	**31**	PKPbc	PKPbc	12 18 19.2	-0.6
	comp=E,2.6nm,0.5s,baz=159,slow=2.6,SNR=11						
MKAR	**Makanchi Array**	**149.25**	**44**	PKPbc	PKPbc	12 18 26.5	-0.2
	comp=E,3.5nm,0.7s,baz=304,slow=2.9,SNR=25						
SONM	**Songino Array**	**159.37**	**13**	PKP	PKPdf	12 18 36.0	-0.3
	comp=E,0.1nm,0.5s,baz=170,slow=1.8,SNR=4.0						

JMA 21 12:10:07.5±0.1,3642N×14110E,h62km±1km,M3.6,3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.47**	**294**	⇓P	Pn	12 10 19.3	0.0
JHO				S	Sn	12 10 27.8	-0.1
ONAJ	**Iwakimizuishiy**	**0.72**	**340**	⇑P	Pn	12 10 21.7	-0.4
ONAJ				S	Sn	12 10 32.1	-0.7
JYT	**Yasato**	**0.76**	**256**	⇓P	Pn	12 10 22.5	0.0
JYT				S	Sn	12 10 33.2	-0.4
JFK	**Kawauchi**	**0.96**	**349**	⇑P	Pn	12 10 24.6	-0.5
JFT	**Otama**	**1.25**	**331**	⇓P	Pn	12 10 29.8	+0.9
JFT				S	Sn	12 10 46.0	+1.0
JAG	**Ashikaga**	**1.33**	**271**	⇓P	Pn	12 10 30.4	+0.5
JAG				S	Sn	12 10 47.2	+0.5
JMM	**Marumori**	**1.46**	**350**	⇑P	Pn	12 10 31.6	-0.1
JMM				S	Sn	12 10 49.7	-0.3
JFY	**Yanaizu**	**1.49**	**312**	P	Pn	12 10 32.8	+0.7
JKT	**Katashina**	**1.53**	**284**	⇓P	Pn	12 10 33.9	+1.3
MAT	**Matsushiro**	**2.33**	**274**	P	Pn	12 10 45.1	+1.6
MAT				S	Sn	12 11 12.7	+1.6

*MOS **21** 12:27:30.2±0.9,5585N×11022E,h10km,mb4.4/1,Error ellipse: s-maj=18.5km s-min=10.0km az=56.5*

BYKL 21 12:27:31.6±0.3,5578N×11026E,h6km±4km,5C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.41**	**270**	*e*PG	Pg	12 27 39.3	-0.2
NIZ				*e*		12 27 45.3	
NIZ				pmax	pmax		
	comp=Z,144nm,0.1s						
NIZ				smax			
	comp=N,1μm,0.4s						
NIZ	**Nizh Angarsk**	**0.41**	**270**	⇑*i*Pg	Pg	12 27 39.3	-0.2
NIZ				*i* Sg	Sg	12 27 45.3	+0.5
NIZ				Pmax			
	comp=N,161nm,0.3s						
NIZ				Smax			
	comp=N,1μm,0.4s						
KMO	**Kumora**	**0.54**	**78**	*e*PG	Pg	12 27 40.9	-1.1
KMO				*e*		12 27 48.0	
KMO				pmax	pmax		
	comp=Z,247nm,0.3s						
KMO				smax			
	comp=E,935nm,0.5s						
KMO	**Kumora**	**0.54**	**78**	⇑*i*Pg	Pg	12 27 41.0	-1.0
KMO				*i* Sg	Sg	12 27 48.2	-0.9
KMO				Pmax			
	comp=E,400nm,0.4s						
KMO				Smax			
	comp=E,1μm,0.7s						
YOA	**Uoyan**	**0.90**	**66**	⇓*i*PG	Pg	12 27 47.6	-1.2
YOA				*i*		12 28 00.8	
YOA				pmax	pmax		
	comp=Z,310nm,0.3s						
YOA				smax			
	comp=E,805nm,0.4s						
YOA	**Uoyan**	**0.90**	**66**	*e*Pg	Pg	12 27 47.6	-1.2
YOA				*e*Sg	Sg	12 28 00.8	+0.4
YOA				Pmax			
	comp=E,287nm,0.3s						
YOA				Smax			
	comp=E,913nm,0.8s						
YLYR	**Ulyunkhan**	**1.04**	**150**	*e*PG	Pg	12 27 50.3	-1.3
YLYR				*e*		12 28 03.3	
YLYR				smax			
	comp=E,1.0nm,0.1s						
YLYR	**Ulyunkhan**	**1.04**	**150**	⇑*i*Pg	Pg	12 27 50.2	-1.4
YLYR				*e*Pb	Pb	12 27 50.8	-1.2
YLYR				*i* Sg	Sg	12 28 04.8	-0.3
YLYR				max			
	comp=E,85nm,0.2s						
YLYR				Smax			
	comp=E,573nm,0.1s						
SVKR	**Severomuysk**	**1.89**	**78**	*e*PN	Pn	12 28 04.7	+0.4
SVKR				*e*		12 28 05.7	
SVKR				*e*		12 28 30.1	
SVKR				smax			
	comp=N,1.0nm,0.7s						
SVKR	**Severomuysk**	**1.89**	**78**	*e*Pg	Pg	12 28 05.0	-2.8
SVKR				*e*		12 28 05.9	
SVKR				*e*Sg	Sg	12 28 30.9	-1.3
SVKR				max			
	comp=N,431nm,0.5s						
SVKR				Smax			
	comp=N,1μm,0.7s						
UKT	**Uakit**	**1.93**	**97**	⇑*i*Pg	Pg	12 28 05.7	-2.9
	comp=N,26nm,0.3s						
UKT				⇑*i*Pg	Pg	12 28 05.7	-2.9
	comp=N,142nm,0.3s						
UKT				⇓*i*Pg	Pg	12 28 05.7	-2.9
	comp=N,62nm,0.3s						
UKT				*i* Sg	Sg	12 28 31.6	-2.1
UKT				Pmax			
	comp=N,237nm,0.8s						
UKT				Smax			
	comp=N,159nm,0.4s						
SYVR	**Suvo**	**2.13**	**184**	*e*PN	Pn	12 28 09.8	+2.1
SYVR				*e*		12 28 39.4	
SYVR	**Suvo**	**2.13**	**184**	*e*Pn	Pn	12 28 07.9	+0.2
SYVR				*e*Pg	Pg	12 28 10.1	-2.4
SYVR				*e*Sg	Sg	12 28 39.4	-0.7
SYVR				Pmax			
	comp=N,46nm,0.7s						
SYVR				Smax			
	comp=N,351nm,0.8s						
OGRR	**Ongureny**	**2.64**	**217**	*e*PN	Pn	12 28 15.5	+0.8
OGRR				*e*		12 28 19.5	
OGRR				*e*		12 28 52.7	
OGRR	**Ongureny**	**2.64**	**217**	*e*Pn	Pn	12 28 15.4	+0.7
OGRR				*e*Pg	Pg	12 28 18.6	-3.6
OGRR				*e*		12 28 21.7	
OGRR				*e*Sn	Sn	12 28 49.2	+2.1
OGRR				*e*Sg	Sg	12 28 53.5	-2.9
OGRR				max			
	comp=N,17nm,0.2s						
OGRR				Smax			
	comp=N,156nm,0.5s						
MXMB	**Maximikha**	**2.67**	**200**	*e*Pg	Pg	12 28 18.8	-4.0
MXMB				*e*Sg	Sg	12 28 54.2	-3.3
MXMB				Pmax			
	comp=N,27nm,0.4s						
MXMB				Smax			
	comp=N,292nm,0.9s						
BOD	**Bodaibo**	**2.90**	**44**	*e*Pn	Pn	12 28 18.2	-0.1
BOD				*e*Pg	Pg	12 28 22.3	-4.9
BOD				*e*		12 28 24.3	
BOD				*e*Sn	Sn	12 28 54.0	+0.5
BOD				*e*Sg	Sg	12 29 00.8	-4.0
BOD				max			
	comp=N,25nm,0.2s						
BOD				Smax			
	comp=N,105nm,0.3s						
NLYR	**Nelyaty**	**3.13**	**75**	*e*Pn	Pn	12 28 21.5	+0.1
NLYR				*e*Pg	Pg	12 28 27.1	-4.5
NLYR				*e*Sg	Sg	12 29 09.0	-3.1
NLYR				*e*		12 29 14.6	
ZRHB	**Zarechye**	**3.71**	**211**	*e*Pg	Pg	12 28 37.6	-5.1
ZRHB				*e*Sg	Sg	12 29 27.5	-3.4
ZRHB				Pmax			
	comp=N,10.0nm,0.3s						
ZRHB				Smax			
	comp=N,170nm,1.0s						
TRG	**Tyrgan**	**3.80**	**219**	*e*Pn	Pn	12 28 31.4	+0.8
TRG				*e*Sn	Sn	12 29 16.2	+0.6
TRG				*e*Sg	Sg	12 29 29.3	-4.2
TRG				max			
	comp=N,11nm,0.4s						
TRG				Smax			
	comp=N,63nm,0.4s						
TRTB	**Turuntaevo**	**3.88**	**205**	*e*Pn	Pn	12 28 32.3	+0.5
TRTB				*e*Sg	Sg	12 29 32.0	-4.2
TRTB				max			
	comp=N,5.0nm,0.6s						
TRTB				Smax			
	comp=N,46nm,1.4s						
UUDB	**Ulan-Yde**	**4.21**	**202**	*e*Pg	Pg	12 28 46.8	-5.5
UUDB				*e*Sg	Sg	12 29 42.4	-4.5
UUDB				Pmax			
	comp=N,10.0nm,0.8s						
UUDB				Smax			
	comp=N,39nm,1.2s						
CIT	**Chita**	**4.24**	**151**	*e*Pg	Pg	12 28 45.9	-6.9
CIT				*e*Sg	Sg	12 29 40.4	-7.4
CIT				Pmax			
	comp=N,8.0nm,0.4s						
CIT				Smax			
	comp=N,71nm,0.7s						
FFNB	**Fofonovo**	**4.27**	**210**	*e*Sg	Sg	12 29 43.2	-5.6
FFNB				Smax			
	comp=N,144nm,0.6s						
CRS	**Chara**	**4.60**	**73**	*e*PN	Pn	12 28 41.9	+0.3
CRS				*e*		12 28 53.7	
CRS				*e*		12 29 54.4	
CRS				pmax	pmax		
	comp=Z,45nm,1.0s						
CRS				smax			
	comp=E,68nm,1.7s						
CRS	**Chara**	**4.60**	**73**	*e*Pn	Pn	12 28 41.9	+0.3
CRS				*e*Pg	Pg	12 28 54.8	-4.9
CRS				*e*Sg	Sg	12 29 54.1	-5.1
CRS				Pmax			
	comp=E,45nm,1.1s						
CRS				Smax			
	comp=E,68nm,1.8s						
HRMR	**Khuramsha**	**4.60**	**207**	*e*Pn	Pn	12 28 42.4	+0.7
HRMR				*e*Sg	Sg	12 29 53.2	-6.1
HRMR				max			
	comp=E,11nm,0.5s						
HRMR				Smax			
	comp=E,128nm,0.9s						
LSTR	**Listvyanka**	**5.07**	**222**	*e*Pn	Pn	12 28 48.2	+0.1
LSTR				*e*Sn	Sn	12 29 44.9	-2.0
LSTR				*e*Sg	Sg	12 30 06.6	-7.8
LSTR				max			
	comp=E,5.0nm,0.7s						
LSTR				Smax			
	comp=E,66nm,1.0s						
TLY	**Talaya**	**5.68**	**226**	*e*PN	Pn	12 28 56.0	-0.5
TLY				*e*		12 29 13.8	
TLY				*e*S	Sn	12 29 59.7	-2.3
TLY				*e*		12 30 26.0	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.4s						
TLY				smax			
	comp=E,31nm,0.5s						
TLY	**Talaya**	**5.68**	**226**	*e*Pn	Pn	12 28 58.8	+2.3
TLY				*e*Sn	Sn	12 30 01.2	-0.8
TLY				*e*Sg	Sg	12 30 26.6	-7.4
TLY				max			
	comp=E,5.0nm,0.6s						
TLY				Smax			
	comp=E,36nm,1.0s						
TUP	**Tupik**	**5.73**	**100**	*e*Pn	Pn	12 28 56.7	-0.5
TUP				*e*Pg	Pg	12 29 15.0	-6.3
TUP				*e*Sg	Sg	12 30 29.6	-6.0
TUP				Pmax			
	comp=E,9.0nm,0.6s						
TUP				Smax			
	comp=E,36nm,0.6s						
ARS	**Arshan**	**6.04**	**233**	*e*PN	Pn	12 29 01.3	-0.1
ARS				*e*S	Sn	12 30 07.9	-2.9
ARS				*e*S	Sn	12 30 36.8	+26
ARS				smax			
	comp=E,167nm,0.8s						
ARS	**Arshan**	**6.04**	**233**	*e*Pn	Pn	12 29 01.3	-0.1
ARS				*e*Sn	Sn	12 30 08.7	-2.1
ARS				*e*Sg	Sg	12 30 37.1	-8.3
ARS				max			
	comp=E,12nm,0.6s						
ARS				Smax			
	comp=E,168nm,0.8s						
KPC	**Khapcheranga**	**6.22**	**167**	*e*Pn	Pn	12 29 04.1	+0.2
KPC				*e*Pg	Pg	12 29 24.6	-6.2
KPC				*e*Sg	Sg	12 30 45.4	-5.9
KPC				Pmax			
	comp=E,1.0nm,0.4s						
KPC				Smax			
	comp=E,30nm,1.4s						
ZAK	**Zakamensk**	**6.85**	**221**	*e*PN	Pn	12 29 13.8	+1.3
ZAK				*e*		12 29 35.8	
ZAK	**Zakamensk**	**6.85**	**221**	*e*Pn	Pn	12 29 14.0	+1.5
ZAK				*e*Sg	Sg	12 31 04.9	-6.5
ZAK				max			
	comp=E,1.0nm,0.1s						
ZAK				Smax			
	comp=E,33nm,1.4s						
MOY	**Mondy**	**6.87**	**237**	*e*PN	Pn	12 29 14.2	+1.4
MOY				*e*		12 29 36.4	
MOY				*e*S	Sn	12 30 29.2	-2.1
MOY				*e*		12 31 04.0	
MOY				pmax	pmax		
	comp=Z,3.0nm,0.2s						
MOY				smax			
	comp=E,66nm,1.5s						
MOY	**Mondy**	**6.87**	**237**	*e*Pn	Pn	12 29 13.8	+1.0
MOY				*e*Sn	Sn	12 30 29.3	-2.0
MOY				*e*Sg	Sg	12 31 04.0	-8.1
MOY				max			
	comp=E,18nm,1.1s						
MOY				Smax			
	comp=E,66nm,1.5s						
ORL	**Orlik**	**6.94**	**246**	*e*PN	Pn	12 29 14.8	+1.0
ORL				*e*S	Sn	12 30 31.4	-1.7
ORL				*e*S	Sn	12 31 06.8	+34
ORL				smax			
	comp=N,43nm,1.1s						
ORL	**Orlik**	**6.94**	**246**	*e*Pn	Pn	12 29 15.0	+1.2
ORL				*e*Sn	Sn	12 30 31.3	-1.8
ORL				*e*Sg	Sg	12 31 07.1	-7.3
ORL				max			
	comp=N,6.0nm,1.3s						
ORL				Smax			
	comp=N,44nm,1.1s						
TDJR	**Todzha**	**8.98**	**254**	*e*Pn	Pn	12 29 44.1	+2.3
TDJR				*e*		12 31 29.2	
TDJR				*e*Sg	Sn	12 32 10.7	+47

*ISCJB **21** 12:31:19.9±1.0,3668N±005×257E±02,h11km±13km, Error ellipse: s-maj=21.4km s-min=7.2km az=13.8*
*CSEM **21** 12:31:19.9±0.1,3667N×2574E,h2km,MD3.5,Error ellipse: s-maj=3.5km s-min=2.8km az=108.0*
*ATH **21** 12:31:19.7,3666N×2568E,h20km,MD3.5/4*
*THE **21** 12:31:20.2,3670N×2564E,h2km*

ISC 21 12:31:20.0±1.5,3666N±006×257E±02,h8km±22km,n12, σ0°66/14,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR4	**Thira Island,**	**0.33**	**234**	*e*Pg	**Pg**	**12 31 27.0**	**+0.5**
SANT	**Santorini**	**0.36**	**218**	*e*Pg	**Pg**	**12 31 26.9**	**-0.1**
SANT				*e*Sg	**Sg**	**12 31 32.2**	**+0.5**
THR3	**Thira Island,**	**0.36**	**227**	*e*Pg	**Pg**	**12 31 26.9**	**-0.2**
THR5	**Thira Island,**	**0.39**	**232**	*e*Pg	**Pg**	**12 31 27.1**	**-0.5**
THR6	**Thira Island,**	**0.40**	**222**	*e*Pg	**Pg**	**12 31 27.8**	**-0.1**
THR6				*e*Sg	**Sg**	**12 31 34.0**	**+0.9**
APE	**Apeiranthos**	**0.44**	**339**	*e*Pg	**Pg**	**12 31 27.4**	**-1.1**
APE	**Apeiranthos**	**0.44**	**339**	*e*Pb	**Pg**	**12 31 28.5**	**-0.1**
SMG	**Samos**	**1.37**	**40**	*e*PN	**Pn**	**12 31 46.5**	**+1.1**
NPS	**Neapolis**	**1.40**	**184**	*e*PN	**Pn**	**12 31 46.0**	**+0.3**
ZKR	**Zakros**	**1.59**	**165**	*e*Pb	**Pb**	**12 31 48.8**	**-0.8**
KARP	**Karpathos**	**1.60**	**133**	*e*PN	**Pn**	**12 31 49.0**	**+0.4**
SIVA	**Sivas**	**1.80**	**205**	*e*Pb	**Pb**	**12 31 51.9**	**-1.3**

*CSEM **21** 12:58:03.8,3458N×2620E,h5km,MD3.5/4,After ATH*

ATH 21 12:58:03.8,3458N×2620E,h5km,MD3.5/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.83**	**325**	*e*PG	Pg	12 58 19.5	-0.3
KARP	**Karpathos**	**1.25**	**39**	*e*PB	Pb	12 58 27.5	-0.3
GVD	**Gavdhos**	**1.76**	**279**	*e*PN	Pn	12 58 37.0	+2.1
VAM	**Vamos**	**1.84**	**297**	*e*PN	Pn	12 58 39.0	+3.0

*IDC **21** 13:03:45.9±1.3,1125N×12545E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.5/18,mbtmp3.6/4,MS3.3/1,Ms1 3.3/1, ms1mx2.7/27,Error ellipse: s-maj=88.9km s-min=25.5km az=71.0*
*ISCJB **21** 13:04:05.8±0.7,11.16N±007×125.1E±02,h189km±5km, mb3.4/4,Error ellipse: s-maj=30.9km s-min=10.3km az=163.4*

ISC 21 13:04:06.9±0.7,1116N±007×1251E±02,h185km±5km,n10, σ0°58/13,mb3.4/4,1C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.47**	**256**	*e*P	**Pn**	**13 04 32.0**	**-0.1**
BESP	**Borongan**	**0.56**	**39**	*e*P	**Pn**	**13 04 32.8**	**+0.4**
BESP				*e*S	**Sn**	**13 04 51.5**	**-0.7**
MSLP	**Maasin**	**1.04**	**192**	*e*P	**Pn**	**13 04 35.2**	**-0.2**
MSLP				*e*S	**Sn**	**13 04 57.1**	**-0.3**
CNP	**Catarman**	**1.40**	**343**	*e*P	**Pn**	**13 04 38.7**	**+0.5**
CNP				*e*S	**Sn**	**13 05 02.3**	**-0.3**
SCPH	**Surigao**	**1.43**	**163**	⇑*e*P	**Pn**	**13 04 38.2**	**-0.3**
SCPH				*e*S	**Sn**	**13 05 04.4**	**+1.3**
PMG	**Port Moresby**	**30.00**	**132**	LR	LR	13 23 07.3	
	comp=Z,52nm,18.5s,baz=9.7,slow=39						
ASAR	**Alice Springs**	**35.68**	**166**	P	**P**	**13 10 46.2**	**-1.1**
	0.2nm,0.3s,mb3.2,baz=345,slow=7.4,SNR=9.3						
SONM	**Songino Array**	**39.78**	**340**	P	**P**	**13 11 22.3**	**+0.6**
	0.2nm,0.4s,mb3.1,baz=151,slow=9.5,SNR=5.6						
MKAR	**Makanchi Array**	**50.61**	**323**	P	**P**	**13

UTMO	**Huajuapan**	**1.42**	**45**	*i* P	Pn	13 29 49.6	-4.8
UTMO				*i* S	Sn	13 30 06.8	-6.0
OXX	**Oaxaca**	**2.06**	**82**	*e*P	Pn	13 30 00.0	-3.1

*ISCJB **21** 13:49:15.7±0.8, 362N±01×1374E±02, h261km±5km, mb3.1/2, Error ellipse: s-maj=27.3km s-min=9.3km az=72.6*
*IDC **21** 13:49:15.8±1.6, 3627N×13701E, h249km±12km, mb3.1/2, mb1 3.4/3, mb1mx2.8/23, mbtmp3.2/3, Error ellipse: s-maj=54.9km s-min=27.5km az=103.0*
*JMA **21** 13:49:17.0±0.2, 36.14N×13734E, h252km±2km, M2.9*
ISC 21 13:49:16.7±0.8, 362N±01×1374E±02, h255km±5km, n16, σ0§47/21, mb3.2/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.05**	**319**	P	**Pn**	**13 49 49.4**	**+0.1**
JNG	**Nsakai**	**0.64**	**70**	P	**Pn**	**13 49 51.2**	**+0.7**
JGM	**Miyama**	**0.71**	**227**	P	**Pn**	**13 49 50.8**	**0.0**
JGM				*e*S	**S**	**13 50 16.9**	**-0.7**
MAT	**Matsushiro**	**0.78**	**63**	P	**Pn**	**13 49 51.3**	**+0.2**
MAT				S	**S**	**13 50 18.1**	**0.0**
MAT	**Matsushiro**	**0.78**	**63**	P	**Pn**	**13 49 51.4**	**+0.3**
MJAR	**Matsushiro Arr**	**0.78**	**63**	P	**Pn**	**13 49 51.7**	**+0.6**
	4.3nm,0.3s,baz=248,slow=6.7,SNR=47						
MJAR				S	**S**	**13 50 18.8**	**+0.7**
	0.3nm,0.3s,baz=253,slow=8.5,SNR=7.0						
JKG	**Kaga**	**0.83**	**276**	P	**Pn**	**13 49 51.7**	**+0.4**
JNY	**Yasuok**	**0.93**	**153**	P	**Pn**	**13 49 51.2**	**-0.6**
JIE	**Ise**	**1.87**	**197**	P	**Pn**	**13 49 58.6**	**+0.3**
JIE				S	**S**	**13 50 31.0**	**-0.2**
JKN2	**Miekihoku**	**2.14**	**205**	P	**Pn**	**13 50 00.8**	**+0.1**
JKN2				*e*S	**S**	**13 50 35.0**	**-0.5**
JWY	**Kouya**	**2.44**	**217**	P	**Pn**	**13 50 03.9**	**+0.3**
JHO	**Hitachi**	**2.63**	**80**	P	**Pn**	**13 50 05.1**	**-0.4**
JFK	**Kawauchi**	**3.06**	**66**	P	**Pn**	**13 50 09.8**	**-0.3**
ASAJ	**Asahikawa**	**8.88**	**25**	P	**Pn**	**13 51 19.9**	**-1.1**
	1.2nm,0.3s,baz=225,slow=14,SNR=15						
WRA	**Warramunga Arr**	**55.90**	**183**	P	**P**	**13 58 28.2**	**0.0**
	0.7nm,0.4s,mb3.5,baz=360,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**59.62**	**184**	P	**P**	**13 58 54.5**	**+0.5**
	0.2nm,0.6s,mb3.0,baz=14,slow=12,SNR=6.5						

DHMR 21 14:08:23.6±1.2, 1188N×4373E, h2km±48km, ML3.6, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.52**	**54**	*i* P	Pn	14 08 52.1	+0.4
ADEN				*i* S	Sn	14 09 13.0	+1.0
ADEN				AML	AML	14 09 18.3	
	comp=E,2μm,0.3s						
ADEN	**Aden**	**1.52**	**54**	*i* P	Pn	14 08 52.1	+0.4
ADEN				*i* S	Sn	14 09 13.0	+1.0
UDYN	**Al 'Udayn**	**2.09**	**6**	*i* P	Pn	14 09 00.2	+0.7
UDYN				*i* S	Sn	14 09 30.1	+3.9
UDYN				AML	AML	14 09 34.8	
	comp=N,408nm,0.4s						
UDYN	**Al 'Udayn**	**2.09**	**6**	*i* P	Pn	14 09 00.2	+0.6
UDYN				*i* S	Sn	14 09 30.1	+4.0
LBOS		**2.47**	**37**	⇓*i* P	Pn	14 09 07.7	+2.8
LBOS				*i* S	Sn	14 09 41.2	+5.6
BDHA	**Al Bayda'**	**2.75**	**41**	*i* P	Pn	14 09 11.4	+2.8
BDHA				*i* S	Sn	14 09 48.8	+6.4
BDHA				AML	AML	14 09 54.8	
	comp=E,288nm,0.3s						
BDHA	**Al Bayda'**	**2.75**	**41**	*i* P	Pn	14 09 11.4	+2.7
BDHA				*i* S	Sn	14 09 48.8	+6.4
DHBB	**Dhamar BB**	**2.75**	**13**	*i* P	Pn	14 09 11.5	+2.8
DHBB				*i* S	Sn	14 09 49.7	+7.2

*BJI **21** 14:09:21.3, 1047N×14279E, h25km, mB4.9, mb4.2*
*ISCJB **21** 14:09:25.2±4.9, 1166N±007×14266E±008, h10km±31km, mb4.5/21, MS3.8/9, Error ellipse: s-maj=14.0km s-min=10.2km az=63.8*
*IDC **21** 14:09:25.4±0.6, 1170N×14266E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.3/22, mbtmp4.2/15, ML4.7/1, MS3.8/11, Ms1 3.8/11, ms1mx3.5/25, Error ellipse: s-maj=23.7km s-min=13.7km az=86.0*
*MOS **21** 14:09:28.1±0.8, 1160N×14261E, h33km, mb5.0/8, Error ellipse: s-maj=28.0km s-min=11.2km az=100.2*
*NEIC **21** 14:09:30.4±0.4, 1166N×14275E, h35km, mb4.7/7, Error ellipse: s-maj=14.2km s-min=9.1km az=89.0*
ISC 21 14:09:27.3±5.8, 1169N±007×14268E±008, h12km±36km, n49, σ0§97/45, mb4.5/21, MS3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.85**	**48**	Pn	**Pn**	**14 10 12.8**	**+0.3**
	110nm,0.3s,baz=351,slow=1.4,SNR=23						
GUMO				Sn	**Sn**	**14 10 47.2**	**+0.6**
	66nm,0.3s,baz=4.4,slow=23,SNR=8.6						
GUMO	**Guam**	**2.85**	**48**	*e*Pn	**Pn**	**14 10 10.9**	**-1.6**
GUMO				*e*Sn	**Sn**	**14 10 46.0**	**-0.6**
CBIJ	**Chichi jima**	**15.33**	**358**	LR	LR	14 18 24.4	
	comp=Z,130nm,18.8s,baz=135,slow=35						
PMG	**Port Moresby**	**21.43**	**168**	P	**P**	**14 14 15.5**	**+0.5**
	9.2nm,0.8s,mb4.2,baz=354,slow=16,SNR=3.5						
PMG				LR	LR	14 22 09.7	
	comp=Z,183nm,18.1s,MS3.5,baz=151,slow=36						
PMG	**Port Moresby**	**21.43**	**168**	P	**P**	**14 14 14.1**	**-1.0**
PMG				pmax	pmax		
	comp=Z,46nm,1.2s						
PMG	**Port Moresby**	**21.43**	**168**	P	**P**	**14 14 14.1**	**-0.9**
	comp=Z,46nm,1.2s,mb4.7						
PMG				LR	LR	14 22 09.7	
JHJ	**Hachijo jima 2**	**21.49**	**353**	LR	LR	14 21 09.2	
	comp=Z,210nm,18.3s,MS3.6,baz=219,slow=33						
MJAR	**Matsushiro Arr**	**25.07**	**351**	P	**P**	**14 14 50.7**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=156,slow=9.9,SNR=2.8						
MJAR				LR	LR	14 24 09.3	
	comp=Z,142nm,18.0s,baz=180,slow=35						
KSRS	**Korea Array**	**28.87**	**335**	LR	LR	14 24 44.3	
	comp=Z,80nm,20.2s,MS3.3,baz=325,slow=32						
WRA	**Warramunga Arr**	**32.49**	**195**	P	**P**	**14 15 57.0**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.0,baz=17,slow=9.6,SNR=20						
WRA				LR	LR	14 29 14.8	
	comp=Z,166nm,18.9s,MS3.8,baz=35,slow=37						
ASAR	**Alice Springs**	**36.17**	**194**	P	**P**	**14 16 29.6**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=19,slow=12,SNR=18						
DZM	**Mont Dzumac**	**40.85**	**145**	P	**P**	**14 17 10.0**	**+1.2**
	comp=Z,11nm,0.9s,mb4.5,baz=22,slow=5.4						
STKA	**Stephens Creek**	**43.33**	**181**	P	**P**	**14 17 29.9**	**+0.8**
	comp=Z,1.1nm,0.4s,mb3.9,baz=292,slow=16,SNR=3.8						
STKA				LR	LR	14 37 01.7	
	comp=Z,127nm,18.5s,MS3.9,baz=24,slow=38						
STKA	**Stephens Creek**	**43.33**	**181**	P	**P**	**14 17 25.4**	**-3.6**
STKA				LR	LR	14 37 01.7	
GTA	**Gaotai**	**46.88**	**314**	*e*P	**P**	**14 18 00.8**	**+3.5**
GTA				AP	pP	14 18 05.9	+4.8
GTA				XP	sP	14 18 09.1	+6.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**47.10**	**327**	P	**P**	**14 18 00.6**	**+1.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=148,slow=6.7,SNR=8.3						
SONM				PcP	PcP	14 19 31.2	+0.4
	comp=Z,0.5nm,0.6s,baz=146,slow=3.9,SNR=3.5						
SONM				LR	LR	14 36 08.9	
	comp=Z,57nm,19.0s,MS3.5,baz=155,slow=34						
SONM	**Songino Array**	**47.10**	**327**	P	**P**	**14 18 00.6**	**+1.6**
SONM						14 19 31.2	
MA2	**Magadan**	**48.17**	**6**	P	**P**	**14 18 08.1**	**+0.8**
MA2				pmax	pmax		
	comp=Z,58nm,1.8s,mb5.3						
MA2	**Magadan**	**48.17**	**6**	P	**P**	**14 18 08.1**	**+0.7**
	comp=Z,58nm,1.8s,mb5.3						
ZAK	**Zakamensk**	**50.27**	**328**	*e*P	**P**	**14 18 23.9**	**+0.6**
TLY	**Talaya**	**50.86**	**330**	P	**P**	**14 18 24.1**	**-3.7**
TLY				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
TLY	**Talaya**	**50.86**	**330**	P	**P**	**14 18 24.1**	**-3.7**
	comp=Z,12nm,1.2s,mb4.7						
BILL	**Bilibino**	**58.38**	**10**	*e*P	**P**	**14 19 22.4**	**0.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
BILL	**Bilibino**	**58.38**	**10**	*e*P	**P**	**14 19 22.4**	**-0.1**
	comp=Z,6.5nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**61.39**	**317**	P	**P**	**14 19 44.1**	**+1.0**
	comp=Z,1.2nm,0.5s,mb4.3,baz=97,slow=8.3,SNR=10						
ZAL	**Zalesovo**	**61.95**	**325**	P	**P**	**14 19 47.1**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.4,baz=18,slow=6.7,SNR=4.7						
KURK	**Kurchatov**	**64.67**	**321**	*e*P	**P**	**14 20 05.0**	**+0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
KURK	**Kurchatov**	**64.67**	**321**	*e*P	**P**	**14 20 05.0**	**+0.1**
	comp=Z,3.9nm,0.5s,mb4.7						
SLKM	**Skilak Lake**	**68.68**	**29**	P	**P**	**14 20 31.8**	**+1.3**
BRVK	**Borovoye**	**70.17**	**322**	*e*P	**P**	**14 20 39.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
BRVK	**Borovoye**	**70.17**	**322**	*e*P	**P**	**14 20 39.9**	**+0.2**
	comp=Z,4.6nm,0.5s,mb4.7						
DAWY	**Dawson**	**74.28**	**27**	*e*P	**P**	**14 21 04.3**	**+0.1**
INK	**Inuvik**	**76.92**	**22**	*e*P	**P**	**14 21 18.9**	**-0.6**
	comp=Z,144nm,0.9s						
ARU	**Arti**	**77.11**	**325**	*e*P	**P**	**14 21 20.3**	**-0.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.7						
ARU	**Arti**	**77.11**	**325**	*e*P	**P**	**14 21 20.3**	**-0.2**
	comp=Z,2.8nm,0.3s,mb4.7						
YKA	**Yellowknife Ar**	**85.51**	**27**	P	**P**	**14 22 05.1**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.5,baz=288,slow=5.0,SNR=36						
YKA				LR	LR	15 00 01.6	
	comp=Z,111nm,18.4s,MS4.3,baz=335,slow=36						
YKA	**Yellowknife Ar**	**85.51**	**27**	P	**P**	**14 22 05.1**	**0.0**
YKA				LR	LR	15 00 01.6	
RES	**Resolute Bay**	**86.87**	**13**	*e*P	**P**	**14 22 11.4**	**-0.4**
	comp=Z,268nm,1.0s						
ARCES	**ARCESS Array B**	**88.22**	**342**	P	**P**	**14 22 17.4**	**-0.8**
	comp=Z,3.0nm,0.5s,mb4.8,baz=65,slow=7.2,SNR=24						
ARCES				LR	LR	15 07 54.0	
	comp=Z,132nm,18.3s,MS4.4,baz=72,slow=40						
ARCES	**ARCESS Array B**	**88.22**	**342**	P	**P**	**14 22 17.4**	**-0.8**
ARCES				LR	LR	15 07 54.0	
JOF	**Joensuu**	**89.10**	**335**	*e*p	**P**	**14 22 21.1**	**-1.3**
	comp=Z,5.3nm,0.5s,mb5.1						
JOF	**Joensuu**	**89.10**	**335**	*e*P	**P**	**14 22 21.1**	**-1.3**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb5.1						
NVAR	**Mina Array Bea**	**89.76**	**51**	P	**P**	**14 22 26.9**	**+1.4**
	comp=Z,1.6nm,0.7s,mb4.5,baz=275,slow=6.8,SNR=9.4						
FINES	**FINESS Array B**	**91.96**	**335**	P	**P**	**14 22 34.2**	**-1.5**
	comp=Z,2.4nm,0.6s,mb4.7,baz=63,slow=5.3,SNR=19						
FINES	**FINESS Array B**	**91.96**	**335**	P	**P**	**14 22 34.2**	**-1.5**
AKASG	**Malin Array Be**	**95.31**	**324**	LR	LR	15 08 26.7	
	comp=Z,68nm,18.2s,MS4.2,baz=25,slow=37						
NOA	**NORSAR Array B**	**98.04**	**338**	P	**P**	**14 23 01.8**	**-1.7**
	comp=Z,0.8nm,0.6s,mb4.4,baz=50,slow=4.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**134.10**	**301**	PKP	PKPdf	14 28 45.8	+1.3
	comp=Z,0.2nm,0.6s,baz=34,slow=1.9,SNR=2.5						
LPAZ	**La Paz**	**149.77**	**102**	PKPbc	PKPbc	14 29 18.6	+1.6
	comp=Z,1.2nm,0.6s,baz=70,slow=3.1,SNR=6.4						

IDC 21 14:49:08.3±3.5, 577S×14985E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/17, Error ellipse: s-maj=107.7km s-min=41.9km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.50**	**216**	Pn	Pn	14 50 18.9	+1.2
	13nm,0.3s,baz=357,slow=5.6,SNR=46						
PMG				Sn	Sn	14 51 07.0	-3.7
	32nm,0.3s,baz=209,slow=13,SNR=11						
PMG				LR	LR	14 52 16.6	
	comp=Z,92nm,19.8s,baz=62,slow=42						
WRA	**Warramunga Arr**	**20.64**	**226**	P	P	14 53 49.4	-0.1
	1.9nm,0.6s,baz=52,slow=11,SNR=23						
ASAR	**Alice Springs**	**23.51**	**219**	P	P	14 54 19.9	-0.2
	0.5nm,0.5s,baz=51,slow=9.3,SNR=12						
FITZ	**Fitzroy Crossi**	**26.63**	**240**	P	P	14 54 49.1	+0.6
	0.6nm,0.4s,baz=69,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**147.78**	**285**	PKPbc	PKPbc	15 08 55.5	+0.5
	0.3nm,0.3s,baz=67,slow=2.2,SNR=6.6						

MEX 21 14:56:10.6±0.6, 1644N×9606W, h68km±248km, MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**2.23**	**44**	*e*P	Pn	14 56 44.8	-0.4
TUIG				*i* S	Sn	14 57 09.6	-2.1
CCIG	**Comitan**	**3.77**	**92**	*i* P	Pn	14 57 05.0	-1.3
CCIG				*i* S	Sn	14 57 49.1	-0.3
TEIG	**Tepich**	**8.29**	**62**	*e*P	Pn	14 58 08.3	+0.2
TEIG				*i* S	Sn	14 59 39.0	-1.2

CASC 21 14:56:11.1±2.3, 1396N×8973W, h2km±5km, MD4.0, ML3.8, 9C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.10**	**127**	⇑*i* P	x	14 56 22.8	
RTR				*e*S	x	14 56 25.1	
SNJE	**San Jose**	**0.15**	**127**	⇑*i* P	x	14 56 23.7	
SNJE				*e*S	x	14 56 26.8	
SBLS	**San Blas**	**0.16**	**139**	⇓*i* P	x	14 56 23.6	
SBLS				*e*S	x	14 56 27.0	
RBDL	**Robledal**	**0.16**	**15**	⇑*i* P	x	14 56 23.2	
RBDL				*e*S	x	14 56 26.4	
BOQS	**Boqueron**	**0.49**	**117**	⇑*e*	Pg	14 56 30.1	+10
BOQS				⇓*i* P	x	14 56 30.1	
BOQS				*e*S	x	14 56 38.8	
SNET	**Serv Nac Est T**	**0.55**	**119**	*i* P	x	14 56 22.6	
SNET				*e*S	x	14 56 31.7	
SNET				*e*		14 56 51.6	
	comp=Z,2μm,1.4s						
MTO2	**Montecristo 2**	**0.57**	**39**	⇑*i* P	x	14 56 30.6	
MTO2				*e*S	x	14 56 39.2	
LFU	**La Fuente**	**0.63**	**109**	⇑*e*P	x	14 56 32.6	
LFU				*e*S	x	14 56 43.2	
LBRS	**Las Brisas**	**0.70**	**108**	⇑*e*P	x	14 56 33.6	
LBRS				*e*S	x	14 56 43.3	
LFRS	**El Faro**	**0.73**	**117**	⇑*i* P	x	14 56 34.2	
LFRS				*e*S	x	14 56 45.7	
LCBS	**La Ceiba**	**0.79**	**112**	⇓*e*P	x	14 56 35.4	
LCBS				*e*S	x	14 56 47.2	
PCG	**Pacaya**	**0.96**	**297**	⇑*e*P	Pg	14 56 29.4	0.0
PCG				*e*P		14 56 29.5	
TER	**Terranova**	**0.99**	**290**	⇓*e*P	Pg	14 56 29.4	-0.6
TER				*e*S	Sg	14 56 44.3	+1.4
FUG	**Fuego 3**	**1.18**	**294**	⇓*e*P	Pg	14 56 32.9	-0.9
FUG				*e*S	Sg	14 56 51.1	+1.9
VSM	**San Miguel**	**1.51**	**110**	*e*P	x	14 56 47.3	
VSM				*e*S	x	14 57 09.5	
JAT	**Jato**	**1.89**	**281**	⇓*e*P	Pn	14 56 46.0	+1.7
JAT				*e*S	Sn	14 57 09.8	+1.1

*NEIC **21** 14:58:12.1, 28.10S×7029W, h73km, MG3.5(GUC), After GUC.*
GUC 21 14:58:12.1±0.7, 2810S×7029W, h73km±8km, ML3.5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.63**	**220**	*e*P	Pn	14 58 27.1	+0.6
VACH				*i* S	Sn	14 58 37.7	+0.7
VACH				AML	AML	14 58 38.8	
	comp=N,3μm,0.1s						
VACH	**Vallenar**	**0.63**	**220**	*e*P	Pn	14 58 27.1	+0.6
VACH				*i* S	Sn	14 58 37.7	+0.7
CPCH	**Copiapo**	**0.74**	**356**	*e*P	Pn	14 58 27.8	+0.2
CPCH				*i* S	Sn	14 58 39.7	+0.7
CPCH				AML	AML	14 58 41.1	
	comp=E,14μm,0.1s						
CPCH	**Copiapo**	**0.74**	**356**	*e*P	Pn	14 58 27.8	+0.2
CPCH				*i* S	Sn	14 58 39.7	+0.7
LCO	**Las Campanas**	**0.98**	**201**	*e*Pn	Pn	14 58 31.6	+1.1
LCO				*e*Sn	Sn	14 58 45.3	+1.1
CDCH	**Caldera**	**1.12**	**335**	*e*P	Pn	14 58 32.8	+0.6
CDCH				*i* S	Sn	14 58 47.7	+0.3
TLL	**Tololo Astrono**	**2.11**	**192**	*e*P	Pn	14 58 46.3	+1.0
TLL				*i* S	Sn	14 59 12.2	+1.6
TLL				AML	AML	14 59 19.6	
	comp=E,64nm,0.6s						
TLL	**Tololo Astrono**	**2.11**	**192**	*e*P	Pn	14 58 46.3	+1.0
TLL				*i* S	Sn	14 59 12.2	+1.6

*IDC **21** 15:06:00.1±2.4, 2784N×5659E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, MS3.5/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=53.9km s-min=25.3km az=150.0*
*ISCJB **21** 15:06:02.9±0.5, 28.12N±003×5673E±009, h10km, mb3.6/7, MS3.4/2, Error ellipse: s-maj=12.2km s-min=4.2km az=27.3*
*NEIC **21** 15:06:03.0±1.1, 2804N×5668E, h10km, ML3.5(THR), Error ellipse: s-maj=21.4km s-min=11.0km az=123.0*
*THR **21** 15:06:04.5±0.3, 2798N×5680E, h44km±2km, ML3.5*
*CSEM **21** 15:06:05.5±0.1, 2804N×5669E, h40km, ML3.5, Error ellipse: s-maj=4.3km s-min=2.6km az=124.0*
ISC 21 15:06:05.4±0.9, 2812N±004×566E±01, h20km±6km, n28, σ1§08/33, mb3.6/7, MS3.4/2, 1C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.82**	**209**	*e*Pg	**Pg**	**15 06 20.7**	**-0.8**
BNDS				*e*Sg	**Sg**	**15 06 32.4**	**0.0**
BNDS				AML	AML	15 06 33.2	
	comp=N,1μm,0.5s						
BNDS	**Bandar-Abbas**	**0.82**	**209**	Pg	**Pg**	**15 06 20.0**	**-1.4**
BNDS				Sg	**Sg**	**15 06 32.0**	**-0.3**
BNDS	**Bandar-Abbas**	**0.82**	**209**	*e*Pg	**Pg**	**15 06 20.7**	**-0.7**
	SNR=113						
BNDS				*e*Sg	**Sg**	**15 06 32.4**	**+0.1**
	SNR=113						
KRBR	**Kerman**	**1.86**	**4**	*e*Pg	**Pg**	**15 06 40.4**	**-0.8**
KRBR				*e*Sg	**Sg**	**15 07 06.7**	**+1.3**
KRBR				AML	AML	15 07 09.4	
	comp=N,552nm,0.4s						
KRBR				AML	AML	15 07 15.3	
	comp=E,283nm,0.3s						
KRBR	**Kerman**	**1.86**	**4**	Pg	**Pg**	**15 06 40.0**	**-1.2**
KRBR				Sg	**Sg**	**15 07 06.0**	**+0.6**
KRBR	**Kerman**	**1.86**	**4**	*e*Pg	**Pg**	**15 06 40.4**	**-0.8**
	SNR=98						
KRBR				Sg	**Sg**	**15 07 06.0**	**+0.6**
BANOM	**Banah**	**2.21**	**187**	⇑P	**Pn**	**15 06 41.2**	**+0.3**
	SNR=58						
BANOM				⇓S	**Sn**	**15 07 08.2**	**+0.6**
GHIR	**Ghir-Karzin**	**3.21**	**274**	*e*Pn	**Pn**	**15 06 56.2**	**+1.5**
GHIR				AML	AML	15 07 54.3	
	comp=E,59nm,0.5s						
GHIR	**Ghir-Karzin**	**3.21**	**274**	Pn	**Pn**	**15 06 56.0**	**+1.3**
HATD	**Hatta, Dubai**	**3.31**	**188**	⇓P	**Pn**	**15 06 57.3**	**+1.3**
	SNR=13						
ASHO	**Ashiyiah**	**3.46**	**188**	⇓P	**Pn**	**15 06 58.7**	**+0.6**
	SNR=61						
NASN	**Na'in**	**5.71**	**326**	*e*Pn	**Pn**	**15 07 31.2**	**+2.2**
NASN	**Na'in**	**5.71**	**326**	Pn	**Pn**	**15 07 31.0**	**+2.0**
ATD	**Arta Tunnel**	**20.95**	**221**	LR	LR	15 19 31.6	
	comp=E,42nm,21.5s,MS2.8,baz=321,slow=39						
BRTR	**Keskin Array B**	**22.24**	**307**	P	**P**	**15 11 00.7**	**-0.2**
	comp=E,0.3nm,0.5s,mb3.0,baz=110,slow=11,SNR=2.2						
AKTK	**Aktyubinsk**	**22.31**	**2**	P	**P**	**15 11 02.3**	**+0.6**
AKTK	**Aktyubinsk**	**22.31**	**2**	P	**P**	**15 11 02.3**	**+0.7**
AKTO	**Aktyubinsk**	**22.31**	**2**	P	**P**	**15 11 02.3**	**+0.6**
	comp=E,2.1nm,0.7s,mb3.7,baz=168,slow=10,SNR=8.1						
BVAR	**Borovoye Array**	**26.89**	**19**	P	**P**	**15 11 44.6**	**-0.4**
	comp=E,0.8nm,0.5s,mb3.5,baz=195,slow=9.4,SNR=9.7						
MK31	**Makanchi Array**	**27.43**	**40**	*e*P	**P**	**15 11 49.5**	**-0.3**
MK31	**Makanchi Array**	**27.43**	**40**	*e*P	**P**	**15 11 49.5**	**-0.3**
MKAR	**Makanchi Array**	**27.43**	**40**	P	**P**	**15 11 49.8**	**0.0**
	comp=E,1.0nm,0.6s,mb3.5,baz=225,slow=8.4,SNR=13						
FINES	**FINESS Array B**	**39.04**	**337**	P	**P**	**15 13 29.6**	**-1.2**
	comp=E,1.9nm,1.0s,mb3.8,baz=131,slow=7.6,SNR=3.4						
TOA0	**Torodi Ar. Sit**	**53.10**	**265**	*e*P	**P**	**15 15 18.7**	**-2.8**
TORD	**Torodi Ar. Bea**	**53.10**	**265**	P	**P**	**15 15 19.1**	**-2.3**
	comp=E,0.9nm,0.4s,mb4.1,baz=65,slow=7.5,SNR=9.6						
CBIJ	**Chichi jima**	**74.14**	**68**	LR	LR	15 54 44.7	
	comp=E,76nm,19.1s,MS4.0,baz=126,slow=39						
YKA	**Yellowknife Ar**	**89.43**	**356**	P	**P**	**15 19 00.1**	**-0.8**
	comp=E,0.2nm,0.7s,mb3.6,baz=0.6,slow=4.5,SNR=6.6						
YKA	**Yellowknife Ar**	**89.43**	**356**	P	**P**	**15 19 00.1**	**-0.8**

*IDC **21** 15:34:23.4±2.0, 2945S×17804W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=45.0km s-min=38.7km az=75.0*
*ISCJB **21** 15:34:31.7±3.3, 2989S±008×1787W±05, h35km, mb3.6/3, Error ellipse: s-maj=58.9km s-min=9.7km az=10.9*
ISC 21 15:34:33.7±3.2, 2982S±008×1787W±05, h35km, n13, σ1§30/12, mb3.6/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**9.06**	**199**	SN	**Sn**	**15 38 29.8**	**+7.2**
URZ	**Urewera**	**9.11**	**201**	Pn	**Pn**	**15 36 43.4**	**+0.7**
	0.7nm,0.3s,baz=353,slow=18,SNR=9.9						
URZ				Sn	**Sn**	**15 38 32.5**	**+8.5**
	1.6nm,0.3s,baz=162,slow=23,SNR=12						
TSZ	**Takapari Road**	**11.12**	**202**	SN	**Sn**	**15 39 16.5**	**+3.3**
MRZ	**Mangatainoka R**	**11.79**	**202**	SN	**Sn**	**15 39 29.2**	**-0.4**
KIW	**Kapiti Island**	**12.19**	**204**	SN	**Sn**	**15 39 38.9**	**-0.5**
TCW	**Tory Channel**	**12.73**	**205**	SN	**Sn**	**15 39 51.4**	**-1.2**
TUWZ	**Tuamarina**	**13.04**	**205**	SN	**Sn**	**15 39 58.8**	**-1.3**
QRZ	**Quartz Range**	**13.11**	**211**	SN	**Sn**	**15 40 03.6**	**+1.7**

0.7nm,0.3s,baz=227,slow=9.9,SNR=9.8
MKAR Makanchi Array 45.47 305 P **P 15 58 42.0 +1.1**
0.2nm,0.4s,mb3.3,baz=80,slow=11,SNR=4.2
WRA Warramunga Arr 53.65 187 P **P 15 59 42.5 -0.7**
1.0nm,0.4s,mb4.1,baz=3.6,slow=7.5,SNR=29
ASAR Alice Springs 57.38 187 P **P 16 00 09.5 -0.5**
0.3nm,0.4s,mb3.7,baz=9.8,slow=7.5,SNR=15

IDC 21 15:54:28.7±1.1,5529S×2796W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.8/13,mbtmp3.8/3,Error ellipse: s-maj=43.4km s-min=31.1km az=90.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.32**	**183**	P	P	16 03 03.2	-0.8
	1.5nm,1.1s,baz=172,slow=2.8,SNR=3.3						
LPAZ	**La Paz**	**49.58**	**306**	P	P	16 03 22.1	+0.6
	0.5nm,0.5s,baz=170,slow=6.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**72.61**	**30**	P	P	16 05 57.8	-0.1
	0.8nm,0.5s,baz=202,slow=6.7,SNR=16						
YKA	**Yellowknife Ar**	**135.31**	**319**	PKP	PKPdf	16 13 48.1	-2.3
	0.2nm,0.4s,baz=134,slow=1.8,SNR=5.2						
SONM	**Songino Array**	**151.11**	**86**	PKPbc	PKPbc	16 14 22.5	-1.2
	0.4nm,0.5s,baz=224,slow=4.1,SNR=5.9						

CASC 21 15:54:48.2±2.5,1157N×8693W,h81km±58km,MD4.1, ML3.1,2C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**0.82**	**56**	⇑*e*P	Pn	15 55 06.1	+0.9
MGAN	**Managua**	**0.88**	**49**	⇑*e*P	Pn	15 55 06.3	+0.4
MGAN				*e*S	Sn	15 55 19.9	+0.9
MGAN				*i*		15 55 29.1	
	comp=E,392nm,0.2s						
MOMJ	**Momotombo**	**0.91**	**24**	*e*P	Pn	15 55 06.2	-0.1
CONN	**Concepcion**	**1.27**	**90**	⇑*e*P	Pn	15 55 10.3	-0.3
LIM1	**Limonal**	**1.86**	**118**	*i* P	Pn	15 55 17.2	-0.9
VCR	**Vista de Mar**	**1.92**	**138**	*e*P	Pn	15 55 20.9	+1.9
JCR	**Jicaral**	**2.47**	**134**	*e*P	Pn	15 55 26.2	-0.2
CGA2	**Cerro Gallo 2**	**2.87**	**122**	*e*P	Pn	15 55 33.2	+1.4
CGA2				*e*S	Sn	15 56 06.0	+0.7
PRS1	**Puriscal**	**3.02**	**121**	*e*P	Pn	15 55 36.3	+2.5
PRS1				*e*S	Sn	15 56 11.6	+2.8
LCR2	**La Lucha 2**	**3.40**	**122**	*e*P	Pn	15 55 39.4	+0.5

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*CSEM **21** 16:18:08.9±0.2,3643N×966W,h10km,ML4.0/8,Error ellipse: s-maj=4.6km s-min=1.5km az=94.0*
*ISCJB **21** 16:18:09.6±0.5,3655N±002×944W±004,h10km,Error ellipse: s-maj=4.8km s-min=3.2km az=138.9*
*MDD **21** 16:18:10.6±0.8,3653N×958W,h0km,mb4.3/15,Error ellipse: s-maj=8.8km s-min=4.9km az=82.0,PRXIMO*
*CNRM **21** 16:18:12.0,3653N×970W,h30km,MD3.2*
*NEIC **21** 16:18:13.9,3674N×947W,h0km,MN3.1(MDD),After MDD.*
*INMG **21** 16:18:14.3±0.9,3667N×957W,h8km±5km,ML2.6,Error ellipse: s-maj=5.1km s-min=2.4km az=56.0*

ISC 21 16:18:11.5±0.5,3659N±002×944W±004,h10km,n76, σ1°45/126,1C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.12**	**31**	*e*P	**Pb**	**16 18 34.0**	**+1.1**
PTEO				*e*S	**Sg**	**16 18 49.4**	**+2.0**
PTEO				A		16 18 50.5	
	70nm,0.1s						
PTEO	**Sao Teotonio**	**1.12**	**31**	P	**Pb**	**16 18 34.0**	**+1.1**
PTEO				S	**Sg**	**16 18 49.4**	**+2.0**
	35nm,0.1s						
EGRO	**El Granado**	**1.83**	**58**	⇑P	**Pn**	**16 18 44.8**	**+1.8**
	2.7nm,0.4s,SNR=18						
EGRO				S	**Sn**	**16 19 06.6**	**+0.4**
	32nm,0.1s,SNR=16						
EGRO	**El Granado**	**1.83**	**58**	P	**Pn**	**16 18 44.8**	**+1.8**
	2.7nm,0.4s,SNR=18						
PBEJ	**Beja**	**1.91**	**41**	*e*Pn	**Pn**	**16 18 45.1**	**+1.0**
PBEJ				*e*Sn	**Sn**	**16 19 08.5**	**+0.4**
PBEJ				A		16 19 10.5	
	17nm,0.1s						
PBEJ	**Beja**	**1.91**	**41**	*e*Pn	**Pn**	**16 18 45.1**	**+1.0**
PBEJ				*e*Sn	**Sn**	**16 19 08.5**	**+0.4**
	17nm,0.1s						
ERIP	**Rio Piedras**	**1.92**	**65**	P	**Pn**	**16 18 46.2**	**+2.0**
	4.1nm,0.1s,SNR=7.9						
ERIP				S	**Sn**	**16 19 09.7**	**+1.3**
	34nm,0.1s,SNR=7.9						
MOE	**Montemor**	**2.12**	**24**	*e*Sn	**Sn**	**16 19 12.9**	**-0.4**
PLOU	**Loures**	**2.31**	**6**	*e*Pn	**Pn**	**16 18 49.8**	**+0.3**
PLOU				*e*Sn	**Sn**	**16 19 16.4**	**-1.5**
PLOU				A		16 19 19.9	
	37nm,0.1s						
PLOU	**Loures**	**2.31**	**6**	*e*Pn	**Pn**	**16 18 49.8**	**+0.3**
PLOU				*e*Sn	**Sn**	**16 19 16.4**	**-1.5**
	37nm,0.1s						
PMAFR	**Mafra**	**2.37**	**3**	*e*Pn	**Pn**	**16 18 50.4**	**0.0**
PMAFR				*e*Sn	**Sn**	**16 19 18.0**	**-1.4**
PMAFR				A		16 19 19.9	
	109nm,0.2s						
PMAFR	**Mafra**	**2.37**	**3**	*e*Pn	**Pn**	**16 18 50.4**	**0.0**
PMAFR				*e*Sn	**Sn**	**16 19 18.0**	**-1.4**
	109nm,0.2s						
EMIN	**Mina Concepcio**	**2.51**	**61**	P	**Pn**	**16 18 53.8**	**+1.5**
	0.9nm,0.1s,SNR=9.4						
EMIN				S	**Sn**	**16 19 22.7**	**-0.2**
	11nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**2.51**	**61**	P	**Pn**	**16 18 53.8**	**+1.5**
	0.9nm,0.1s,SNR=9.4						
PESTR	**Estremoz**	**2.71**	**32**	*e*Pn	**Pn**	**16 18 55.9**	**+0.8**
PESTR				*e*Sn	**Sn**	**16 19 27.5**	**-0.4**
PESTR				A		16 19 28.8	
	8.7nm,0.1s						
PESTR	**Estremoz**	**2.71**	**32**	*e*Pn	**Pn**	**16 18 55.9**	**+0.8**
PESTR				*e*Sn	**Sn**	**16 19 27.5**	**-0.4**
	8.7nm,0.1s						
ESPR	**Espera**	**2.90**	**83**	P	**Pn**	**16 18 59.7**	**+2.0**
	4.0nm,0.1s,SNR=7.3						
ESPR				S	**Sn**	**16 19 33.4**	**+0.9**
	154nm,0.3s						
ESPR	**Espera**	**2.90**	**83**	P	**Pn**	**16 18 59.7**	**+2.1**
	4.0nm,0.1s,SNR=7.3						
EBAD	**Badajoz**	**2.90**	**41**	P	**Pn**	**16 18 58.8**	**+1.1**
	2.2nm,0.1s,SNR=15						
EBAD				S	**Sn**	**16 19 32.4**	**-0.2**
	21nm,0.1s,SNR=12						
EBAD	**Badajoz**	**2.90**	**41**	P	**Pn**	**16 18 58.8**	**+1.1**
	2.2nm,0.1s,SNR=15						
TSY	**Tnine Yamani**	**3.07**	**112**	P	**Pn**	**16 18 58.0**	**-2.0**
TSY				S	**Sn**	**16 19 36.0**	**-0.7**
TSY	**Tnine Yamani**	**3.07**	**112**	*e*P	**Pn**	**16 18 58.0**	**-2.0**
PCBR	**Castelo Branco**	**3.60**	**25**	*e*Pn	**Pn**	**16 19 08.3**	**+1.0**
PCBR				*e*Sn	**Sn**	**16 19 47.8**	**-2.0**
PCBR				A		16 19 50.2	
	7.8nm,0.1s						
PCBR	**Castelo Branco**	**3.60**	**25**	*e*Pn	**Pn**	**16 19 08.3**	**+1.0**
PCBR				*e*Sn	**Sn**	**16 19 47.8**	**-2.0**
	7.8nm,0.1s						
EMIJ	**Mijas**	**3.76**	**89**	P	**Pn**	**16 19 14.9**	**+5.4**
EMIJ				S	**Sn**	**16 19 54.1**	**+0.3**
EMIJ	**Mijas**	**3.76**	**89**	S	**Sn**	**16 19 54.1**	**+0.3**
	5.0nm,0.3s,SNR=4.0						
MTE	**Manteigas**	**4.09**	**21**	*e*Pn	**Pn**	**16 19 14.8**	**+0.8**
MTE				*e*Sn	**Sn**	**16 19 59.5**	**-2.4**
MTE				A		16 20 02.7	
	13nm,0.2s						
MTE	**Manteigas**	**4.09**	**21**	*e*Pn	**Pn**	**16 19 14.8**	**+0.8**
MTE				*e*Sn	**Sn**	**16 19 59.5**	**-2.4**
	13nm,0.2s						
EADA	**Adamuz**	**4.18**	**66**	P	**Pn**	**16 19 17.4**	**+2.0**
EADA				S	**Sn**	**16 20 02.9**	**-1.4**
EADA	**Adamuz**	**4.18**	**66**	P	**Pn**	**16 19 17.4**	**+2.0**
	1.1nm,0.1s,SNR=11						
EADA				S	**Sn**	**16 20 02.9**	**-1.4**
	7.0nm,0.1s						
EADA	**Adamuz**	**4.18**	**66**	P	**Pn**	**16 19 17.4**	**+2.1**
	1.1nm,0.1s,SNR=11						
PVIS	**Viseu**	**4.30**	**16**	*e*Pn	**Pn**	**16 19 17.3**	**+0.4**
PVIS				*e*Sn	**Sn**	**16 20 04.2**	**-2.8**
PVIS				A		16 20 07.5	
	15nm,0.1s						
PVIS	**Viseu**	**4.30**	**16**	Pn	**Pn**	**16 19 17.3**	**+0.4**
PVIS				Sn	**Sn**	**16 20 04.2**	**-2.8**
	7.3nm,0.1s						
TGT	**Taghat**	**4.38**	**124**	P	**Pn**	**16 19 18.0**	**0.0**
TGT				S	**Sn**	**16 20 07.0**	**-2.1**
TGT	**Taghat**	**4.38**	**124**	*i* P	**Pn**	**16 19 18.0**	**0.0**
MIF	**Mishlifen**	**4.69**	**131**	P	**Pn**	**16 19 23.0**	**+0.7**
MIF				S	**Sn**	**16 20 15.0**	**-1.8**
MIF	**Mishlifen**	**4.69**	**131**	*i* P	**Pn**	**16 19 23.0**	**+0.7**
EGUA	**Guajares**	**4.73**	**85**	P	**Pn**	**16 19 25.0**	**+2.2**
	0.5nm,0.1s,SNR=4.0						
EGUA				S	**Sn**	**16 20 18.1**	**+0.3**
	1.2nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**4.77**	**69**	P	**Pn**	**16 19 25.1**	**+1.7**
	1.7nm,0.1s,SNR=4.0						
EBAN				S	**Sn**	**16 20 16.7**	**-2.1**
	3.1nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**4.85**	**81**	P	**Pn**	**16 19 27.3**	**+2.8**
	SNR=4.0						
EQUE				S	**Sn**	**16 20 20.9**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.87**	**16**	*e*Pn	**Pn**	**16 19 25.2**	**+0.4**
PVRL				*e*Sn	**Sn**	**16 20 17.6**	**-3.6**
PVRL				A		16 20 21.1	
	20nm,0.1s						
PVRL	**Vila Real**	**4.87**	**16**	Pn	**Pn**	**16 19 25.2**	**+0.4**
PVRL				Sn	**Sn**	**16 20 17.6**	**-3.6**
	10.0nm,0.1s						
KIB	**El Ksiba**	**4.89**	**144**	P	**Pn**	**16 19 24.0**	**-1.0**
KIB				S	**Sn**	**16 20 17.0**	**-4.7**
KIB	**El Ksiba**	**4.89**	**144**	*i* P	**Pn**	**16 19 24.0**	**-1.0**
TZK	**Tazeka**	**4.97**	**119**	P	**Pn**	**16 19 26.0**	**-0.1**
TZK				S	**Sn**	**16 20 20.5**	**-3.1**
TZK	**Tazeka**	**4.97**	**119**	*i* P	**Pn**	**16 19 26.0**	**-0.1**
CIA	**Chichaoua**	**5.04**	**173**	*i* P	**Pn**	**16 19 25.0**	**-2.1**
TZC	**Tazercounte**	**5.06**	**150**	*i* P	**Pn**	**16 19 24.5**	**-2.8**
CZD	**Col de Zad**	**5.07**	**133**	P	**Pn**	**16 19 28.0**	**+0.5**
CZD				S	**Sn**	**16 20 22.0**	**-4.1**
CZD	**Col de Zad**	**5.07**	**133**	*i* P	**Pn**	**16 19 28.0**	**+0.5**
EQES	**Quesada**	**5.23**	**75**	S	**Sn**	**16 20 30.0**	**-0.1**
	4.9nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.23**	**12**	*e*Pn	**Pn**	**16 19 29.9**	**+0.2**
PCAB				*e*Sn	**Sn**	**16 20 26.0**	**-4.1**
PCAB				A		16 20 27.9	
	10nm,0.1s						
PCAB	**Cabril**	**5.23**	**12**	Pn	**Pn**	**16 19 29.9**	**+0.2**
PCAB				Sn	**Sn**	**16 20 26.0**	**-4.1**
	5.1nm,0.1s						
EBER	**Berja**	**5.27**	**85**	S	**Sn**	**16 20 31.6**	**+0.4**
	1.8nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**5.31**	**53**	P	**Pn**	**16 19 32.4**	**+1.6**
	1.7nm,0.1s,baz=239,slow=14,SNR=5.8						
ESDC				S	**Sn**	**16 20 30.3**	**-1.7**
	6.0nm,0.2s,baz=242,slow=23,SNR=17						
ESDC	**Sonseca Array**	**5.31**	**53**	P	**Pn**	**16 19 32.4**	**+1.6**
	1.7nm,0.1s,SNR=5.8						
ELOB	**Lobios**	**5.38**	**11**	P	**Pn**	**16 19 31.7**	**0.0**
	2.6nm,0.1s,SNR=15						
ELOB				S	**Sn**	**16 20 28.9**	**-4.8**
	5.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.38**	**11**	P	**Pn**	**16 19 31.8**	**0.0**
OUK	**Oukaimeden**	**5.52**	**166**	P	**Pn**	**16 19 32.0**	**-1.7**
OUK				S	**Sn**	**16 20 31.0**	**-6.3**
OUK	**Oukaimeden**	**5.52**	**166**	*i* P	**Pn**	**16 19 32.0**	**-1.7**
EZAM	**Zamans**	**5.58**	**6**	P	**Pn**	**16 19 34.7**	**+0.1**
	6.1nm,0.2s,SNR=4.0						
EHUE	**Huescar**	**5.61**	**75**	P	**Pn**	**16 19 38.5**	**+3.7**
	0.6nm,0.1s,SNR=4.0						
EHUE				S	**Sn**	**16 20 38.8**	**-0.5**
	0.9nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.62**	**21**	*e*Pn	**Pn**	**16 19 36.0**	**+1.0**
PBRG				*e*Sn	**Sn**	**16 20 36.2**	**-3.4**
PBRG				A		16 20 39.6	
	5.2nm,0.1s						
PBRG	**Braganca**	**5.62**	**21**	Pn	**Pn**	**16 19 36.0**	**+1.0**
PBRG				Sn	**Sn**	**16 20 36.2**	**-3.4**
	2.6nm,0.1s						
ECAL	**Calabor**	**5.74**	**21**	P	**Pn**	**16 19 36.8**	**+0.1**
	2.9nm,0.1s,SNR=13						
ECAL				S	**Sn**	**16 20 40.3**	**-2.4**
	2.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.74**	**21**	P	**Pn**	**16 19 36.8**	**0.0**
	2.9nm,0.1s,SNR=13						
GUD	**Guadarrama**	**5.79**	**44**	P	**Pn**	**16 19 39.3**	**+1.8**
	1.8nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**16 20 41.7**	**-2.2**
	5.4nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**5.82**	**84**	P	**Pn**	**16 19 40.0**	**+2.1**
	2.2nm,0.2s,SNR=4.0						
EVIA	**Vianos**	**5.88**	**68**	P	**Pn**	**16 19 40.1**	**+1.5**
	1.3nm,0.1s,SNR=4.0						
EVIA				S	**Sn**	**16 20 41.7**	**-4.3**
	1.5nm,0.2s,SNR=4.0						
ERUA	**La Rua**	**6.06**	**16**	P	**Pn**	**16 19 39.1**	**-2.1**
	7.6nm,0.3s,SNR=4.0						
EMAZ	**Mazaricos**	**6.36**	**3**	P	**Pn**	**16 19 44.1**	**-1.2**
	3.0nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**16 20 51.6**	**-6.4**
	6.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**6.59**	**69**	S	**Sn**	**16 21 02.3**	**-1.4**
	1.2nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**6.96**	**14**	P	**Pn**	**16 19 53.4**	**0.0**
	0.7nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**16 21 07.7**	**-4.9**
	0.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**7.16**	**52**	P	**Pn**	**16 19 58.2**	**+2.0**
	3.3nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**16 21 14.1**	**-3.4**
	11nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.45**	**25**	P	**Pn**	**16 20 02.5**	**+2.3**
	0.2nm,0.1s,SNR=7.9						
EARI				S	**Sn**	**16 21 21.0**	**-3.8**
	SNR=4.0						
EARI	**Arriondas**	**7.45**	**25**	P	**Pn**	**16 20 02.5**	**+2.3**

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*ISCJB **21** 16:30:08.6±4.9,92S±03×662E±09,h10km,mb4.3/10, MS3.7/6,Error ellipse: s-maj=136.5km s-min=23.0km az=147.5*
*IDC **21** 16:30:16.4±3.7,858S×6762E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.6/20,mbtmp3.8/4,MS3.7/6,Ms1 3.7/6, ms1mx3.3/42,Error ellipse: s-maj=120.9km s-min=33.6km az=64.0*

ISC 21 16:30:12.4±4.9,90S±03×664E±09,h10km,n17,σ0°26/10, mb4.3/10,MS3.7/6,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**30.07**	**284**	LR	LR	16 46 12.7	
	comp=Z,70nm,19.4s,MS3.3,baz=89,slow=31						
PSI	**Prapat**	**34.47**	**72**	LR	LR	16 48 14.7	
	comp=Z,102nm,18.6s,MS3.6,baz=88,slow=32						
KOLN	**Koldanda**	**40.20**	**24**	*e*P	**P**	**16 37 49.1**	**+0.2**
	6.6nm,0.8s,mb4.4						
DMN	**Daman**	**40.68**	**26**	*e*P	**P**	**16 37 52.5**	**-0.4**
	9.6nm,0.6s,mb4.6						
GKN	**Gorkha**	**40.83**	**25**	*e*P	**P**	**16 37 54.2**	**+0.1**
	14nm,0.9s,mb4.6						
KKN	**Kakani**	**40.91**	**26**	*e*P	**P**	**16 37 55.1**	**+0.3**
	23nm,1.3s,mb4.6						
JIRN	**Jiri**	**41.20**	**27**	*e*P	**P**	**16 37 57.3**	**+0.1**
	6.6nm,0.7s,mb4.3						
GUN	**Gumba**	**41.28**	**27**	*e*P	**P**	**16 37 57.6**	**-0.2**
	21nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**57.36**	**13**	P	**P**	**16 40 00.6**	**-0.2**
	1.1nm,0.7s,mb4.0,baz=198,slow=7.7,SNR=6.2						
FITZ	**Fitzroy Crossi**	**58.06**	**106**	LR	LR	16 59 14.3	
	comp=Z,58nm,19.5s,MS3.7,baz=281,slow=30						
ASAR	**Alice Springs**	**65.85**	**112**	P	**P**	**16 40 58.4**	**+0.3**
	0.4nm,0.7s,mb3.6,baz=274,slow=6.6,SNR=5.7						
WRA	**Warramunga Arr**	**66.28**	**108**	P	**P**	**16 41 00.5**	**-0.3**
	0.5nm,0.8s,mb3.6,baz=280,slow=5.6,SNR=2.9						
SONM	**Songino Array**	**66.76**	**28**	P	**P**	**16 41 04.2**	**+0.3**
	1.9nm,0.8s,mb4.2,baz=217,slow=7.2,SNR=13						
VAE	**Valguarnera**	**67.10**	**317**	LR	LR	17 13 39.5	
	comp=Z,99nm,18.0s,MS4.1,baz=295,slow=38						
VRAC	**Vranov**	**72.60**	**328**	LR	LR	17 10 17.8	
	comp=Z,67nm,20.7s,MS3.9,baz=152,slow=33						
MDT	**Midelt**	**79.27**	**306**	LR	LR	17 17 15.0	
	comp=Z,48nm,21.7s,MS3.8,baz=326,slow=35						
NVAR	**Mina Array Bea**	**150.43**	**8**	PKPbc	PKPbc	16 50 09.0	+4.9
	0.3nm,0.7s,baz=270,slow=1.8,SNR=3.9						

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*MAN **21** 16:32:35.8,1775N×12299E,h11km,mb4.0,ML5.0,MS2.0*
*ISCJB **21** 16:32:39.6±1.8,1769N±004×12258E±007,h9km±13km, mb3.6/5,Error ellipse: s-maj=10.7km s-min=6.9km az=148.3*
*IDC **21** 16:32:48.2±3.6,1729N×12234E,h84km±36km,mb3.3/6, mb1 3.5/7,mb1mx3.3/20,mbtmp3.4/7,Error ellipse: s-maj=49.5km s-min=16.8km az=75.0*

ISC 21 16:32:40.5±1.2,1769N±004×12259E±006,h13km±6km, n19,σ1°30/28,mb3.6/5,5C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.65**	**194**	⇑*e*P	**Pg**	**16 32 52.1**	**-0.9**
PALP				*i* S	**Sg**	**16 33 04.5**	**+3.0**
PALP	**Palanan**	**0.65**	**194**	*e*P	**Pg**	**16 32 52.1**	**-1.0**
PALP				*e*S	**Sg**	**16 33 03.3**	**+1.8**
CVP	**Callao Caves**	**0.73**	**271**	⇑*i*P	**Pg**	**16 32 52.0**	**-2.7**
CVP				*i* S	**Sg**	**16 33 05.0**	**+0.7**
SGCP	**Mt. Cagua**	**0.75**	**317**	*e*P	**Pg**	**16 32 55.0**	**-0.1**
CAUP	**Cauayan**	**1.04**	**225**	*e*P	**Pb**	**16 32 59.5**	**-0.9**
CAUP				*e*S	**Sb**	**16 33 20.4**	**+6.3**
ABRA	**Dolores**	**1.79**	**269**	*e*P	**Pn**	**16 33 10.6**	**-0.6**
ABRA				*e*S	**Sn**	**16 33 33.6**	**-0.2**
BALP	**Baler**	**2.17**	**207**	*e*P	**Pn**	**16 33 16.3**	**-0.1**
BCPH	**Baguio City Da**	**2.32**	**236**	⇑*e*P	**Pn**	**16 33 18.4**	**0.0**
BCPH				*i* S	**Sn**	**16 33 51.8**	**+4.9**
PCPH	**Palayan**	**2.56**	**214**	⇑*e*P	**Pn**	**16 33 21.9**	**+0.2**
PCPH				*e*S	**Sn**	**16 33 51.8**	**-0.9**
POLP	**Polilio Island**	**3.01**	**192**	*e*P	**Pn**	**16 33 29.4**	**+1.5**
POLP				*e*S	**Sn**	**16 34 06.1**	**+2.1**
SCZP	**Santa Cruz**	**3.20**	**234**	*e*P	**Pn**	**16 33 31.8**	**+1.3**
GQP	**Guinayangan**	**3.77**	**182**	⇑*e*P	**Pn**	**16 33 38.7**	**+0.4**
GQP				*e*S	**Sn**	**16 34 20.3**	**-2.2**
TGY	**Tagaytay City**	**3.91**	**204**	P	**Pn**	**16 33 40.1**	**-0.1**
	11nm,0.3s,baz=180,slow=5.1,SNR=2.1						
KSRS	**Korea Array**	**20.24**	**12**	P	**P**	**16 37 21.1**	**+5.7**
	0.7nm,0.7s,baz=199,slow=12,SNR=3.7						
SONM	**Songino Array**	**32.86**	**340**	P	**P**	**16 39 16.8**	**+2.8**
	0.7nm,0.9s,mb3.6,baz=142,slow=5.6,SNR=3.9						
WRA	**Warramunga Arr**	**39.14**	**162**	P	**P**	**16 40 05.3**	**-2.5**
	1.5nm,0.5s,mb4.0,baz=343,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**42.56**	**165**	P	**P**	**16 40 32.8**	**-3.3**
	0.6nm,0.8s,mb3.4,baz=345,slow=7.7,SNR=9.2						
MKAR	**Makanchi Array**	**44.03**	**320**	P	**P**	**16 40 47.8**	**-0.1**
	0.4nm,0.7s,mb3.3,baz=114,slow=9.6,SNR=4.2						
NOA	**NORSAR Array B**	**84.56**	**333**	P	**P**	**16 45 14.3**	**+0.8**
	0.6nm,0.8s,mb3.8,baz=66,slow=4.6,SNR=2.7						

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*SZGRF **21** 16:34:24.5,2031S×17820W,h33km,Fiji Islands region*
*BJI **21** 16:35:13.9,2069S×17722W,h508km,mB4.9,mb4.3*
*ISCJB **21** 16:35:17.0±1.1,2047S±008×178.19W±009,h496km±13km, mb4.4/25,Error ellipse: s-maj=16.2km s-min=9.5km az=88.8*
*NEIC **21** 16:35:19.5±1.0,2049S×178.10W,h522km±10km,mb4.6/12, Error ellipse: s-maj=13.2km s-min=8.3km az=142.0*
*IDC **21** 16:35:22.9±2.0,2052S×17828W,h554km±22km,mb3.6/10, mb1 3.8/12,mb1mx3.7/17,mbtmp3.6/12,Error ellipse: s-maj=18.6km s-min=11.2km az=155.0*

ISC 21 16:35:19.5±1.2,2053S±009×17813W±009,h514km±14km, n107,σ0°97/50,mb4.4/25,10C-8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.95**	**44**	P	**P**	**16 37 25.8**	**-0.1**
	20nm,0.3s,baz=56,slow=2.4,SNR=18						
AFI				S	**S**	**16 39 04.5**	**-5.3**
	9.2nm,0.3s,baz=20,slow=23,SNR=10						
AFI	**Afiamalu**	**8.95**	**44**	*e*Pn	**P**	**16 37 25.2**	**-0.7**
	119nm,0.8s						
DZM	**Mont Dzumac**	**14.46**	**261**	P	**P**	**16 38 25.0**	**+1.3**
	1.2nm,0.3s,baz=93,slow=18,SNR=12						
URZ	**Urewera**	**18.14**	**192**	P	**P**	**16 38 59.7**	**-0.6**
	1.9nm,0.3s,baz=287,slow=3.6,SNR=7.5						
HNR	**Honiara**	**23.85**	**294**	*e*P	**P**	**16 39 45.6**	**-6.3**
	82nm,1.0s,mb5.3						
ARMA	**Armidale**	**28.94**	**244**	*e*P	**P**	**16 40 38.6**	**+1.9**
CTA	**Charters Tower**	**33.37**	**264**	⇓*i*P	**P**	**16 41 15.2**	**+0.6**
	16nm,0.5s,mb4.8						
CTA	**Charters Tower**	**33.37**	**264**	P	**P**	**16 41 14.8**	**+0.2**
	18nm,0.4s,mb4.9,baz=90,slow=12,SNR=21						
CTAO	**Charters Tower**	**33.37**	**264**	*e*P	**P**	**16 41 15.1**	**+0.4**
	19nm,0.5s,mb4.9						
PMG	**Port Moresby**	**35.23**	**283**	*e*P	**P**	**16 41 29.3**	**-1.0**
	18nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**37.66**	**244**	P	**P**	**16 41 50.7**	**+0.3**
	1.4nm,0.4s,mb3.8,baz=74,slow=6.9,SNR=6.6						
STKA				PcP	PcP	16 43 54.3	0.0
	5.6nm,1.2s,baz=193,slow=17,SNR=3.1						
STKA	**Stephens Creek**	**37.66**	**244**	*e*P	**P**	**16 41 48.9**	**-1.5**
ASAR	**Alice Springs**	**44.39**	**257**	P	**P**	**16 42 43.8**	**-0.1**
	11nm,0.5s,mb4.7,baz=88,slow=8.4,SNR=293						
ASAR				PcP	PcP	16 44 16.3	-0.3
	1.5nm,0.4s,baz=99,slow=4.6,SNR=8.9						
ASAR				S	**S**	**16 48 37.5**

KMI				SS	SS	17 03 45.8	+10
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.4						
KMI				AMB	AMB		
	comp=Z,149nm,4.9s						
KMI	**Kunming**	**89.26**	**297**	P	**P**	**16 47 22.0**	**+1.6**
	comp=Z,9.0nm,1.3s,mb4.4						
KMI				S	S	16 57 26.8	+0.7
KMI				sS	sS	17 00 47.0	-2.2
KMI				SS	SS	17 03 45.8	+10
KMI				LR	LR		
	comp=Z,30nm,21.2s						
HHC	**Hu-ho-hao-te**	**89.29**	**314**	*e*P	**P**	**16 47 22.3**	**+1.8**
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,132nm,6.5s						
CD2	**Chengdu**	**90.70**	**303**	*e*P	**P**	**16 47 27.3**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,6.4s						
LZH	**Lanzhou**	**92.69**	**308**	⇑P	**P**	**16 47 37.0**	**+0.8**
LZH				AP	pP	16 49 31.3	+0.9
LZH				XP	sP	16 50 21.9	-0.4
LZH				PP	PP	16 51 31.5	+4.7
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,54nm,7.6s						
LZH	**Lanzhou**	**92.69**	**308**	⇑P	**P**	**16 47 37.0**	**+0.8**
	comp=Z,23nm,1.4s,mb5.0						
LZH				pP	pP	16 49 31.2	+0.8
LZH				sP	sP	16 50 21.9	-0.4
LZH				PP	PP	16 51 31.5	+4.7
MKAR	**Makanchi Array**	**111.13**	**313**	PKiKP	PKiKP	16 52 52.1	-2.2
	comp=Z,0.6nm,0.4s,baz=185,slow=1.0,SNR=13						
ARCES	**ARCESS Array B**	**128.93**	**350**	PKP	PKPdf	16 53 25.8	-2.7
	comp=Z,3.6nm,0.9s,baz=90,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**135.77**	**344**	PKhKP		16 53 30.7	
	comp=Z,0.6nm,0.6s,baz=57,slow=5.1,SNR=2.5						
FINES				PKP	PKPdf	16 53 37.7	-3.6
	comp=Z,0.6nm,0.4s,baz=70,slow=1.8,SNR=4.7						
NB2	**NORSAR Subarra**	**139.00**	**353**	PKP		16 53 36.4	
	comp=Z,0.5nm,0.5s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**139.00**	**353**	PKhKP		16 53 39.0	
	comp=Z,1.6nm,0.8s,baz=6.0,slow=4.1,SNR=4.0						
HFS	**Hagfors**	**139.55**	**351**	PKhKP		16 53 38.8	
	comp=Z,2.6nm,0.3s,baz=57,slow=5.7,SNR=31						
AKASG	**Malin Array Be**	**142.98**	**331**	PKhKP		16 53 49.9	
	comp=Z,6.0nm,0.5s,baz=42,slow=4.2,SNR=36						
MALT	**Malatya**	**143.85**	**307**	⇑P	PKPdf	16 53 55.4	-0.5
MALT	**Malatya**	**143.85**	**307**	⇑*i*P	PKPdf	16 53 55.4	-0.5
EKA	**Eskdalemuir Ar**	**145.05**	**5**	PKPbc	PKPbc	16 53 56.8	-1.9
	comp=Z,1.5nm,0.4s,baz=323,slow=3.0,SNR=12						
BSEG	**Bad Segeberg**	**146.03**	**351**	*e*PKPbc	PKPbc	16 54 00.2	-1.3
ASF	**Jabal al Asfar**	**146.68**	**298**	PKPbc	PKPbc	16 54 02.6	-0.7
	comp=Z,2.3nm,0.5s,baz=346,slow=1.1,SNR=4.3						
BR131	**Keskin Array S**	**146.77**	**312**	*e*PKPbc	PKPbc	16 54 02.5	-1.0
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc	PKPbc	16 54 02.7	-0.9
	comp=Z,1.7nm,0.4s,baz=137,slow=4.0,SNR=14						
BURAR	**Bucovina Array**	**147.03**	**330**	⇑P	PKPbc	16 54 05.1	+0.8
BURAR	**Bucovina Array**	**147.03**	**330**	⇑*i*P	PKPbc	16 54 05.1	+0.8
STHS	**Stebnicka Huta**	**147.30**	**336**	*e*PKP	PKPbc	16 54 04.6	-0.4
PLOR	**Plostina**	**147.58**	**327**	⇓*i*P	PKPab	16 54 11.5	+1.9
CRVS	**Cervenica-Dubn**	**147.63**	**336**	*e*PKP	PKPbc	16 54 06.0	+0.2
MMAI	**Mount Meron Ar**	**147.72**	**300**	PKPbc	PKPbc	16 54 06.1	+0.1
	comp=Z,5.9nm,0.4s,baz=76,slow=7.0,SNR=30						
MMAI				PKPbc	PKPab	16 54 10.2	0.0
	comp=Z,3.2nm,0.5s,baz=63,slow=7.6,SNR=7.0						
CLZ	**Clausthal**	**148.05**	**350**	*e*PKPbc	PKPbc	16 54 05.9	-1.0
CLL	**Collm**	**148.07**	**347**	*e*PKPbc	PKPbc	16 54 05.6	-1.3
CLL				*e*PKPab	PKPab	16 54 10.8	-0.8
CLL	**Collm**	**148.07**	**347**	⇓*i*PKPbc	PKPbc	16 54 05.6	-1.3
	comp=Z,9.0nm,0.6s						
CLL				*i* PKPab	PKPab	16 54 10.4	-1.2
	comp=Z,10.0nm,0.8s						
UPC	**Upice**	**148.07**	**343**	*e*PKPbc	PKPbc	16 54 05.8	-1.1
UPC				*e*PKPab	PKPab	16 54 11.3	-0.3
DPC	**Dobruska-Polom**	**148.12**	**342**	*e*PKPbc	PKPbc	16 54 06.1	-1.0
DPC				*e*PKPab	PKPab	16 54 11.0	-0.8
MLR	**Muntele Rosu**	**148.19**	**327**	PKPbc	PKPbc	16 54 06.2	-1.0
	comp=Z,2.4nm,0.4s,baz=302,slow=8.1,SNR=4.9						
MLR	**Muntele Rosu**	**148.19**	**327**	⇑P	PKPbc	16 54 05.8	-1.5
MLR	**Muntele Rosu**	**148.19**	**327**	⇑*i*P	PKPbc	16 54 05.8	-1.4
BRG	**Berggiesshubel**	**148.26**	**345**	*e*PKPbc	PKPbc	16 54 06.2	-1.2
BRG				*e*PKPab	PKPab	16 54 11.9	-0.5
BRG	**Berggiesshubel**	**148.26**	**345**	*i* PKP	PKPbc	16 54 06.6	-0.8
	comp=Z,11nm,1.3s						
BRG				*i*		16 54 11.5	
	comp=Z,1.5nm,0.6s						
KECS	**Kecovo**	**148.35**	**336**	*e*PKP	PKPbc	16 54 07.2	-0.4
FBE	**Freiberg**	**148.35**	**346**	*e*PKPbc	PKPbc	16 54 06.7	-0.9
FBE				*e*PKPab	PKPab	16 54 12.2	-0.6
GTTG	**Gvttingen**	**148.41**	**350**	*e*PKPbc	PKPbc	16 54 06.7	-1.1
PVCC	**Panska Ves**	**148.43**	**344**	*e*PKPbc	PKPbc	16 54 07.1	-0.7
PRU	**Pruhonice**	**148.93**	**344**	*e*PKPbc	PKPbc	16 54 06.6	-2.5
VYHS	**Vyhne**	**148.94**	**338**	*e*PKP	PKPbc	16 54 08.4	-0.7
MOX	**Moxa**	**148.98**	**348**	*e*PKPbc	PKPbc	16 54 08.1	-1.1
MOX	**Moxa**	**148.98**	**348**	*e*P	PKPbc	16 54 08.7	-0.5
	comp=Z,25nm,1.7s						
MOX				*e*		16 54 14.6	
WERD	**Werda**	**149.03**	**347**	*e*PKPab	PKPab	16 54 14.5	-1.1
GUNZ	**Gunzen**	**149.10**	**347**	*e*PKPbc	PKPbc	16 54 08.4	-1.1
GUNZ				*e*PKPab	PKPab	16 54 14.9	-1.0
WERN	**Wernitzgruen**	**149.16**	**347**	*e*PKPbc	PKPbc	16 54 08.2	-1.4
WERN				*e*PKPab	PKPab	16 54 15.6	-0.5
NKC	**Novy Kostel**	**149.20**	**347**	*e*PKPbc	PKPbc	16 54 09.4	-0.3
NKC				*e*PKPab	PKPab	16 54 15.8	-0.5
TREC	**Trest**	**149.31**	**342**	*e*PKPbc	PKPbc	16 54 06.2	-3.8
MANZ	**Manzenberg**	**149.50**	**347**	*e*PKPbc	PKPbc	16 54 09.4	-1.0
ROTZ	**Rotzenmuhle**	**149.69**	**347**	*e*PKPbc	PKPbc	16 54 10.0	-0.9
GZR	**Gura Zlata**	**149.81**	**330**	⇓P	PKPbc	16 54 10.2	-1.0
GZR	**Gura Zlata**	**149.81**	**330**	⇓*i*P	PKPbc	16 54 10.2	-1.0
TNS	**Taunus Mts**	**149.92**	**352**	*e*PKPbc	PKPbc	16 54 10.4	-1.0
GRA1	**Grafenberg Arr**	**149.97**	**348**	*e*PKPbc	PKPbc	16 54 10.7	-0.8
GRF	**Grafenberg Arr**	**149.97**	**348**	*e*PKPbc	PKPbc	16 54 10.7	-0.8
KHC	**Kasperske Hory**	**149.97**	**345**	*e*PKPbc	PKPbc	16 54 10.6	-0.9
KHC				*e*PKPab	PKPab	16 54 18.7	-0.8
WET	**Wettzell**	**150.12**	**345**	*e*PKPab	PKPab	16 54 19.6	-0.5
BZS	**Buzias**	**150.17**	**332**	⇓P	PKPbc	16 54 10.8	-1.2
BZS	**Buzias**	**150.17**	**332**	⇓*i*P	PKPbc	16 54 10.8	-1.2
GEC2	**GERESS Array S**	**150.20**	**344**	*e*PKPbc	PKPbc	16 54 11.0	-1.1
GERES	**GERESS Array B**	**150.20**	**344**	PKPbc	PKPbc	16 54 11.0	-1.1
	comp=Z,1.6nm,0.5s,baz=33,slow=2.4,SNR=13						
GERES				PKPab	PKPab	16 54 19.6	-0.8
	comp=Z,0.6nm,0.4s,baz=72,slow=4.3,SNR=5.5						
CONA	**Conrad Observa**	**150.42**	**341**	⇑*i*PKiKP	PKiKP	16 54 12.0	-1.1
	comp=Z,2.3nm,0.5s						
BFO	**Black Forest**	**151.78**	**351**	*e*PKPab	PKPab	16 54 26.2	-0.9
WTTA	**Wattenberg**	**152.18**	**346**	⇑*i*P	PKPbc	16 54 15.6	-0.9
	comp=Z,4.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**172.65**	**179**	PKP	PKPdf	16 54 28.0	-1.1
	comp=Z,1.7nm,1.1s,baz=250,slow=1.1,SNR=6.0						

*MOS **21** 16:43:17.5±0.5,5504N×11155E,h11km,mb4.2/1,Error ellipse: s-maj=45.5km s-min=20.3km az=84.9*

BYKL 21 16:43:18.6±0.2,5505N×11157E,h19km±3km,6C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.29**	**234**	⇓*i*PG	Pg	16 43 24.6	-0.5
YLYR				*i*		16 43 29.3	
YLYR				pmax	pmax		
	comp=Z,1.0nm,0.1s						
YLYR				smax			
	comp=E,5.0nm,0.2s						
YLYR	**Ulyunkhan**	**0.29**	**234**	⇑*i*Pg	Pg	16 43 24.6	-0.5
	comp=E,890nm,0.1s						
YLYR				⇑*i*Pg	Pg	16 43 24.6	-0.5
	comp=E,731nm,0.1s						
YLYR				⇓*i*Pg	Pg	16 43 24.6	-0.5
	comp=E,841nm,0.1s						
YLYR				*i* Sg	Sg	16 43 29.3	-0.2
YLYR				Pmax			
	comp=E,867nm,0.1s						
YLYR				Smax			
	comp=E,5μm,0.1s						
KMO	**Kumora**	**0.86**	**346**	⇑*i*PG	Pg	16 43 34.1	-1.4
KMO				*e*		16 43 45.7	
KMO				pmax	pmax		
	comp=Z,261nm,0.3s						
KMO				smax			
	comp=N,366nm,0.6s						
KMO	**Kumora**	**0.86**	**346**	⇑*i*Pg	Pg	16 43 34.1	-1.4
KMO				*i* Sg	Sg	16 43 45.9	-1.0
KMO				Pmax			
	comp=N,259nm,0.4s						
KMO				Smax			
	comp=N,403nm,1.2s						
YOA	**Uoyan**	**1.09**	**5**	⇓*i*PG	Pg	16 43 38.6	-1.1
YOA				*i*		16 43 54.1	
YOA				pmax	pmax		
	comp=Z,281nm,0.2s						
YOA				smax			
	comp=N,1μm,0.5s						
YOA	**Uoyan**	**1.09**	**5**	*e*Pg	Pg	16 43 38.5	-1.2
YOA				*e*Sg	Sg	16 43 54.1	+0.1
YOA				*e*Sb	Sb	16 43 58.2	+5.6
YOA				Pmax			
	comp=N,265nm,0.1s						
YOA				max			
	comp=N,1μm,0.5s						
UKT	**Uakit**	**1.26**	**69**	⇑*i*Pg	Pg	16 43 41.1	-1.8
UKT				*e*Pb	Pb	16 43 42.3	+0.6
UKT				*i* Sg	Sg	16 43 58.1	-1.3
UKT				*e*Sb	Sb	16 44 00.6	+3.1
UKT				max			
	comp=N,59nm,0.4s						
UKT				max			
	comp=N,292nm,0.3s						
NIZ	**Nizh Angarsk**	**1.37**	**303**	*e*PG	Pg	16 43 42.8	-2.2
NIZ				*e*		16 44 01.4	
NIZ				pmax	pmax		
	comp=Z,35nm,0.4s						
NIZ				smax			
	comp=N,211nm,0.5s						
NIZ	**Nizh Angarsk**	**1.37**	**303**	⇑*i*Pg	Pg	16 43 42.8	-2.2
NIZ				*i* Sg	Sg	16 44 01.5	-1.3
NIZ				Pmax			
	comp=N,69nm,0.2s						
NIZ				Smax			
	comp=N,216nm,0.4s						
SVKR	**Severomuysk**	**1.56**	**46**	*e*PN	Pn	16 43 45.8	+0.6
SVKR				*e*		16 44 08.0	
SVKR				smax			
	comp=N,1.0nm,0.4s						
SVKR	**Severomuysk**	**1.56**	**46**	*e*Pg	Pg	16 43 47.2	-1.4
SVKR				*e*Sg	Sg	16 44 09.0	+0.1
SVKR				Pmax			
	comp=N,181nm,0.4s						
SVKR				Smax			
	comp=N,545nm,0.4s						
SYVR	**Suvo**	**1.67**	**214**	*e*Pg	Pg	16 43 48.0	-2.8
SYVR				*e*Sg	Sg	16 44 10.6	-1.9
SYVR				Pmax			
	comp=N,18nm,0.5s						
SYVR				Smax			
	comp=N,95nm,0.8s						
MXMB	**Maximikha**	**2.44**	**224**	*e*Pg	Pg	16 44 02.8	-2.7
MXMB				*e*Sg	Sg	16 44 35.6	-1.6
MXMB				Pmax			
	comp=N,8.0nm,0.2s						
MXMB				Smax			
	comp=N,88nm,0.6s						
OGRR	**Ongureny**	**2.72**	**240**	*e*Pn	Pn	16 44 03.0	+1.7
OGRR				*e*Pg	Pg	16 44 06.7	-4.1
OGRR				*e*Sn	Sn	16 44 35.8	+2.2
OGRR				*e*Sg	Sg	16 44 42.4	-3.7
OGRR				Pmax			
	comp=N,13nm,0.6s						
OGRR				Smax			
	comp=N,35nm,0.4s						
NLYR	**Nelyaty**	**2.75**	**57**	*e*Pn	Pn	16 44 02.3	+0.7
NLYR				*e*Pg	Pg	16 44 08.0	-3.3
NLYR				*e*Sg	Sg	16 44 43.2	-3.7
BOD	**Bodaibo**	**3.09**	**25**	*e*Pn	Pn	16 44 06.7	+0.4
BOD				*e*Pg	Pg	16 44 13.1	-4.7
BOD				*e*Sn	Sn	16 44 44.3	+1.6
BOD				*e*Sg	Sg	16 44 52.6	-5.2
BOD				Pmax			
	comp=N,9.0nm,0.7s						
BOD				Smax			
	comp=N,39nm,0.6s						
CIT	**Chita**	**3.26**	**158**	*e*Pg	Pg	16 44 15.8	-5.2
CIT				*e*Sg	Sg	16 44 58.7	-4.5
CIT				Pmax			
	comp=N,25nm,1.3s						
CIT				Smax			
	comp=N,65nm,1.0s						
TRTB	**Turuntaevo**	**3.67**	**221**	*e*Pg	Pg	16 44 24.2	-4.7
TRTB				*e*Sg	Sg	16 45 12.4	-4.1
TRTB				Pmax			
	comp=N,4.0nm,0.4s						
TRTB				Smax			
	comp=N,16nm,1.1s						
TRG	**Tyrgan**	**3.85**	**236**	*e*	Pn	16 44 23.2	+6.5
TRG				*e*Sg	Sg	16 45 17.2	-5.0
TRG				Smax			
	comp=N,15nm,0.4s						
UUDB	**Ulan-Yde**	**3.95**	**218**	*e*Sg	Sg	16 45 21.6	-3.9
UUDB				Smax			
	comp=N,31nm,1.6s						
FFNB	**Fofonovo**	**4.16**	**226**	*e*Sg	Sg	16 45 28.0	-4.0
FFNB				Smax			
	comp=N,40nm,0.6s						
CRS	**Chara**	**4.20**	**61**	*e*Pn	Pn	16 44 22.6	+1.1
CRS				*e*Sg	Sg	16 45 28.6	-4.7
CRS				max			
	comp=N,10.0nm,1.1s						
CRS				Smax			
	comp=N,42nm,1.1s						
HRMR	**Khuramsha**	**4.40**	**221**	*e*Pg	Pg	16 44 37.7	-5.3
HRMR				*e*Sg	Sg	16 45 36.1	-3.9
HRMR				Pmax			
	comp=N,9.0nm,0.8s						
HRMR				Smax			
	comp=N,60nm,0.6s						
TUP	**Tupik**	**4.90**	**94**	*e*Pn	Pn	16 44 31.5	+0.3
TUP				*e*Pg	Pg	16 44 47.4	-5.0
TUP				*e*Sg	Sg	16 45 51.0	-4.9
TUP				Pmax			
	comp=N,2.0nm,0.3s						
TUP				Smax			
	comp=N,51nm,0.9s						
KPC	**Khapcheranga**	**5.38**	**174**	*e*Pn	Pn	16 44 38.5	+0.7
KPC				*e*Pg	Pg	16 44 53.9	-7.7
KPC				*e*Sg	Sg	16 46 04.9	-6.3
KPC				Pmax			
	comp=N,2.0nm,0.8s						
KPC				Smax			
	comp=N,20nm,0.9s						
TLY	**Talaya**	**5.82**	**238**	*e*Sg	Sn	16 46 19.1	+29
TLY				Smax			
	comp=N,12nm,1.1s						
ZAK	**Zakamensk**	**6.87**	**231**	*e*Sg	Sn	16 46 50.8	+35
ZAK				Smax			
	comp=N,2.0nm,0.5s						
MOY	**Mondy**	**7.18**	**246**	*e*Pn	Pn	16 45 04.2	+1.7
MOY				*e*Sg	Sn	16 47 00.6	+37
MOY				max			
	comp=N,2.0nm,0.8s						
MOY				Smax			
	comp=N,14nm,1.9s						
ORL	**Orlik**	**7.41**	**255**	*e*Pn	Pn	16 45 06.7	+1.1
ORL				*e*		16 46 29.9	
ORL				*e*Sg	Sn	16 47 07.8	+39
ORL				max			
	comp=N,2.0nm,0.9s						
ORL				Smax			
	comp=N,16nm,1.7s						

IDC 21 16:53:49.3±27.0,522S×10475E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/19,mbtmp3.9/4,Error ellipse: s-maj=473.9km s-min=214.7km az=144.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.10**	**124**	P	P	16 59 07.4	+0.9
	2.0nm,0.7s,baz=320,slow=7.6,SNR=3.6						
WRA	**Warramunga Arr**	**32.29**	**120**	P	P	17 00 19.6	-0.2
	0.7nm,0.3s,baz=290,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**33.54**	**126**	P	P	17 00 30.9	+0.2
	0.5nm,0.4s,baz=298,slow=7.8,SNR=40						
STKA	**Stephens Creek**	**43.49**	**132**	P	P	17 01 54.9	+0.6
	2.5nm,0.9s,baz=310,slow=8.3,SNR=4.2						

*NEIC **21** 17:01:47.1,18.11N×6804W,h93km,MD3.6(RSPR),After RSPR.*

RSPR 21 17:01:47.1,1811N×6804W,h93km±1km,MD3.6/13, MD3.6/13,18C,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.89**	**96**	⇑*e*P	Pn	17 02 05.0	-0.9
CRPR				*e*S	Sn	17 02 19.1	-0.7
LSP	**Las Mesas**	**0.91**	**85**	⇑*e*P	Pn	17 02 05.7	-0.3
LSP				*e*S	Sn	17 02 20.2	0.0
AGPR	**Aguadilla, PR**	**0.95**	**68**	⇑*e*P	Pn	17 02 05.6	-0.9
AGPR				*e*S	Sn	17 02 20.7	-0.3
GBPR	**Guanica, Bosqu**	**1.11**	**96**	*e*S	Sn	17 02 24.0	-0.2
GBPR	**Guanica, Bosqu**	**1.11**	**96**	⇑*e*P	Pn	17 02 08.2	-0.1
LRS	**Lares**	**1.15**	**81**	⇑*e*P	Pn	17 02 08.7	0.0
LRS				*e*S	Sn	17 02 24.8	-0.2
AOPR	**Arecibo Observ**	**1.24**	**79**	⇑*e*P	Pn	17 02 09.7	-0.2
AOPR				*e*S	Sn	17 02 27.1	+0.1
OBIP	**Obispado Ponce**	**1.36**	**92**	⇑*e*P	Pn	17 02 10.8	-0.5
OBIP				*e*S	Sn	17 02 29.7	+0.1
CELP	**Cerrillos**	**1.39**	**91**	⇑*e*P	Pn	17 02 11.1	-0.6
CELP				*e*S	Sn	17 02 29.6	-0.5
ICM	**Isla Caja Muer**	**1.46**	**98**	⇑*e*P	Pn	17 02 11.8	-0.7
ICM				*e*S	Sn	17 02 31.3	-0.4
SJG	**San Juan**	**1.79**	**89**	⇑*e*P	Pn	17 02 16.2	-0.5
SJG				*e*S	Sn	17 02 39.4	+0.1
SJG	**San Juan**	**1.79**	**89**	⇑*e*P	Pn	17 02 16.8	0.0
SJG	**San Juan**	**1.79**	**89**	⇑*e*P	Pn	17 02 16.8	0.0
SJG				*e*S	Sn	17 02 39.5	+0.2
CPD	**Cerro la Pandu**	**2.02**	**92**	⇑*e*P	Pn	17 02 19.7	0.0
CPD				*e*S	Sn	17 02 44.8	+0.3
CBYP	**Canovanas**	**2.08**	**85**	⇑*e*P	Pn	17 02 19.8	-0.7
CBYP				*e*S	Sn	17 02 45.5	-0.4
HUMP	**Col San Antoni**	**2.08**	**89**	⇑*e*P	Pn	17 02 20.4	-0.1
HUMP				*e*S	Sn	17 02 46.0	0.0
MTP	**Monte Pirata**	**2.36**	**90**	⇑*e*P	Pn	17 02 24.1	-0.1
MTP				*e*S	Sn	17 02 52.6	0.0
STVI	**Saint Thomas**	**2.94**	**85**	⇑*e*P	Pn	17 02 31.6	-0.4
STVI				*e*S	Sn	17 03 06.4	0.0
TBVI	**Tortola**	**3.26**	**84**	⇑*e*P	Pn	17 02 36.1	-0.1
TBVI				*e*S	Sn	17 03 14.1	-0.1

*ISCJB **21** 17:03:07.0±0.5,3935N±002×2360E±003,h1km±4km, mb3.5/5,MS3.3/1,Error ellipse: s-maj=4.1km s-min=2.6km az=173.0*

*IDC **21** 17:03:08.0±1.1,3932N×2360E,h0km,mb3.5/5, mb1 3.6/11,mb1mx3.5/23,mbtmp3.5/11,ML3.8/4,MS3.5/1, Ms1 3.5/1,ms1mx2.6/24,Error ellipse: s-maj=21.2km s-min=16.0km az=85.0*

*ATH **21** 17:03:07.5,3930N×2360E,h11km±2km,MD3.9/22,ML3.8*

*NEIC **21** 17:03:07.5,3930N×2360E,h11km,ML3.7(THE), ML3.8(ATH),After ATH.*

*CSEM **21** 17:03:08.8±0.1,3936N×2352E,h15km,mb3.9/4,Error ellipse: s-maj=1.7km s-min=1.1km az=82.0*

*THE **21** 17:03:08.8,3938N×2356E,h1km,ML3.6*

*MOS **21** 17:03:08.2±1.1,3937N×2361E,h10km,mb3.6/4,Error ellipse: s-maj=10.5km s-min=4.4km az=96.4*

*SKO **21** 17:03:11.3,3970N×2376E,h0km*

*NAO **21** 17:03:37.6,4190N×2387E,h33km,mb3.8*

ISC 21 17:03:08.0±0.5,3933N±002×2358E±003,h2km±4km,n94, σ1§09/111,mb3.5/5,MS3.3/1,10C-4D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.28**	**264**	⇓*i*PG	**Pg**	**17 03 13.3**	**-0.1**
NEO				*e*SG	**Sg**	**17 03 17.5**	**+0.4**
AOS	**Alonnisos**	**0.28**	**125**	*e*Pg	**Pg**	**17 03 15.5**	**+2.0**
XOR	**Xorichti**	**0.31**	**276**	*e*Pg	**Pg**	**17 03 14.3**	**+0.4**
LKR	**Lokris**	**0.82**	**214**	⇑*i*PG	**Pg**	**17 03 22.5**	**-1.3**
LKR				*e*SB	**Sg**	**17 03 33.5**	**-0.9**
AGG	**Agios Georgios**	**1.02**	**253**	*e*Pg	**Pg**	**17 03 27.4**	**-0.3**
AGG				*e*Sg	**Sg**	**17 03 41.9**	**+0.9**
PLG	**Polygyros**	**1.04**	**354**	*e*Pg	**Pg**	**17 03 28.4**	**+0.3**
PLG				*e*Sg	**Sg**	**17 03 41.5**	**-0.1**
PLG	**Polygyros**	**1.04**	**354**	⇑*i*PN	**Pn**	**17 03 28.0**	**-1.7**
PLG				*e*SB	**Sb**	**17 03 42.0**	**-1.0**
PLG	**Polygyros**	**1.04**	**354**	*e*Pg	**Pg**	**17 03 28.4**	**+0.3**
PLG				*e*Sg	**Sg**	**17 03 41.5**	**-0.1**
PLG				*e*Sb	**Sb**	**17 03 42.0**	**-1.0**
OUR	**Ouranopolis**	**1.04**	**17**	*e*Pg	**Pg**	**17 03 28.4**	**+0.3**
LIT	**Litokhoron**	**1.14**	**313**	*e*Pg	**Pg**	**17 03 29.5**	**-0.4**
LIT				*e*Sg	**Sg**	**17 03 45.5**	**+0.8**
THL	**Klokotos Trika**	**1.24**	**281**	*e*PG	**Pg**	**17 03 30.9**	**-0.9**
THL				*e*SB	**Sb**	**17 03 48.3**	**-0.2**
PTL	**Penteli**	**1.30**	**170**	*e*PG	**Pg**	**17 03 31.5**	**-1.5**
HORT	**Hortiatis**	**1.32**	**344**	*e*Pg	**Pg**	**17 03 32.4**	**-0.8**
HORT				*e*Sg	**Sg**	**17 03 50.4**	**0.0**
LIA	**Limnos Island**	**1.36**	**65**	*e*PB	**Pn**	**17 03 33.5**	**-0.5**
ATH	**Athens Observa**	**1.36**	**176**	*i* PB	**Pn**	**17 03 32.7**	**-1.4**
ATH				*e*SB	**Sb**	**17 03 50.6**	**-1.6**
MGER	**Gerania Oros**	**1.37**	**191**	*e*PB	**Pn**	**17 03 33.0**	**-1.2**
THE	**Thessaloniki**	**1.38**	**340**	*e*Pg	**Pn**	**17 03 33.1**	**-1.3**
EVR	**Evrytania**	**1.44**	**254**	*e*PG	**Pn**	**17 03 34.5**	**-0.7**
SOH	**Sokhos**	**1.50**	**353**	*e*Pg	**Pn**	**17 03 35.4**	**-0.6**
KVR	**Kavouri**	**1.51**	**174**	*e*PB	**Pn**	**17 03 35.5**	**-0.6**
NAIG	**Nisos Aigina**	**1.57**	**183**	*e*PB	**Pn**	**17 03 36.5**	**-0.5**
KZN	**Kozani**	**1.70**	**305**	*e*PN	**Pg**	**17 03 39.7**	**-0.9**
KZN				*e*SN	**Sg**	**17 04 03.8**	**+1.1**
SRS	**Serrai**	**1.78**	**0**	*e*Pb	**

VRI	Vrincioaia	6.93	19⇑	*i*P		Pn	17 04 52.9	+2.3
BRTR	Keskin Array B	7.78	84	Pn		Pn	17 05 04.2	+1.9
	0.1nm,0.3s,baz=277,slow=9.2,SNR=2.9							
BURAR	Bucovina Array	8.36	8⇑	*i*P		Pn	17 05 10.6	+0.3
KECS	Kecovo	9.41	347	*e*PN		Pn	17 05 24.4	-0.3
KOLS	Kolonicke sedl	9.64	355	*e*PN		Pn	17 05 27.4	-0.4
VYHS	Vyhne	9.77	341	*e*PN		Pn	17 05 29.5	-0.1
STHS	Stebnicka Huta	10.22	351	*e*PN		Pn	17 05 37.5	+1.8
MMAI	Mount Meron Ar	11.44	120	Pn		Pn	17 05 53.0	+0.6
	0.6nm,0.3s,baz=308,slow=7.1,SNR=3.8							
GERES	GERESS Array B	11.86	327	Pn		Pn	17 06 00.9	+2.8
	0.1nm,0.3s,baz=152,slow=13,SNR=2.6							
AKASG	Malin Array Be	12.04	17	Pn		Pn	17 05 58.3	-2.4
	baz=203,slow=13,SNR=3.3							
KHC	Kasperske Hory	12.13	327	*e*P		Pn	17 06 06.8	+4.9
OBN	Obninsk	18.03	25⇑	*e*P		Pn	17 07 21.7	+1.9
OBN				*e*S		Sn	17 10 39.0	-2.4
OBN				pmax	pmax			
	comp=Z,8.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s							
OBN	Obninsk	18.03	25	*e*P		Pn	17 07 21.7	+1.9
	comp=Z,8.0nm,0.5s							
FINES	FINESS Array B	22.19	3	P		P	17 08 04.3	-1.2
	comp=Z,2.2nm,1.0s,mb3.6,baz=196,slow=13,SNR=3.4							
FINES				LR	LR		17 16 53.3	
	comp=Z,106nm,19.2s,MS3.3,baz=340,slow=37							
FINES	FINESS Array B	22.19	3	P		P	17 08 04.3	-1.2
FINES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
FINES				MLR	MLR			
	comp=Z,106nm,19.2s							
NB2	NORSAR Subarra	23.05	345	P		P	17 08 14.1	-0.5
	comp=Z,5.8nm,0.9s,mb4.0,baz=152,slow=11							
NOA	NORSAR Array B	23.05	345	P		P	17 08 14.2	-0.4
	comp=Z,1.9nm,0.8s,mb3.5,baz=153,slow=11,SNR=3.6							
NOA	NORSAR Array B	23.05	345	P		P	17 08 14.2	-0.4
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TORD	Torodi Ar. Bea	32.47	223	P		P	17 09 39.3	-0.4
	comp=Z,0.7nm,0.7s,mb3.6,baz=25,slow=8.7,SNR=4.5							
MKAR	Makanchi Array	42.65	60	P		P	17 11 06.8	+0.8
	comp=Z,0.5nm,0.5s,mb3.5,baz=274,slow=7.3,SNR=13							
MKAR	Makanchi Array	42.65	60	P		P	17 11 06.8	+0.8
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	Yellowknife Ar	73.10	341	P		P	17 14 39.1	-0.7
	comp=Z,0.1nm,0.6s,mb2.9,baz=34,slow=5.5,SNR=4.1							
YKA	Yellowknife Ar	73.10	341	*i* P		P	17 14 40.9	+1.1

*CSEM **21** 17:14:39.5±1.3, 38.64N×28.51W, h0km±5km, ML1.7, Error ellipse: s-maj=2.4km s-min=2.3km az=163.0, After PDA*
*PDA **21** 17:14:39.5±1.3, 38.64N×28.51W, h0km±5km, MD2.8, ML1.7, Error ellipse: s-maj=2.4km s-min=2.3km az=163.0*

SVSA 21 17:14:39.5±1.3, 38.64N×28.51W, h0km±5km, MD2.8, ML1.7, Error ellipse: s-maj=2.4km s-min=2.3km az=163.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOR	Horta	0.15	220	*e*P		Pg	17 14 42.2	-0.2
HOR				*e*S		Sg	17 14 44.8	+0.5
PCED	Cedros	0.15	265	*e*P		Pg	17 14 42.3	-0.1
PCED				*e*S		Sg	17 14 45.1	+0.7
PCED								
	65nm,0.1s							
PCED	Cedros	0.15	265	*e*P		Pg	17 14 42.3	-0.1
PCED				*e*S		Sg	17 14 45.1	+0.7
PICO	Pico	0.15	156	*e*P		Pg	17 14 42.5	0.0
PICO				*e*S		Sg	17 14 44.8	+0.3
CALA	Caldeira	0.16	248	*e*P		Pg	17 14 42.7	+0.1
CALA				*e*S		Sg	17 14 45.2	+0.4
PCND	Candelaria	0.18	169	*e*S		Sg	17 14 45.9	+0.7
PCND								
	87nm,0.2s							
PTEI	Pico do Teixo	0.19	141	*e*S		Sg	17 14 46.6	+1.0
PTEI								
	31nm,0.1s							
ROSA	Rosais	0.22	69	*e*P		Pg	17 14 44.0	+0.2
ROSA				*e*S		Sg	17 14 47.3	+0.7
PBOI	Pico dos Bois	0.23	153	*e*S		Sg	17 14 47.7	+0.8
PBOI								
	26nm,0.1s							
PTCA	Ponta do Capel	0.23	256	*e*S		Sg	17 14 47.5	+0.5
PTCA								
	21nm,0.1s							
PAMA	Santo Amaro	0.26	82	*e*S		Sg	17 14 48.5	+0.7
PAMA								
	79nm,0.1s							
PMAN	Manadas	0.33	92	*e*S		Sg	17 14 49.9	-0.1
PMAN								
	94nm,0.1s							
PID	Ribeirinha	0.36	123	*e*P		Pg	17 14 46.2	-0.3
PID				*e*S		Sg	17 14 50.9	-0.3
SRBC	Serra Branca	0.54	43	*e*P		Pg	17 14 55.1	+5.3

*ISCJB **21** 17:14:39.5±3.4, 12.5S±01×1462E±02, h33km±31km, mb4.2/13, MS4.0/4, Error ellipse: s-maj=26.5km s-min=17.3km az=0.4*
*BJI **21** 17:14:39.4, 084S×146.16E, h14km, mB5.2, mb4.5*
*NEIC **21** 17:14:41.4±5.9, 123S×146.24E, h35km±42km, mb4.3/4, Error ellipse: s-maj=17.4km s-min=14.8km az=61.0*
*IDC **21** 17:14:43.1±4.5, 120S×146.13E, h46km±44km, mb3.8/9, mb1 4.0/10, mb1mx3.9/14, mbtmp3.8/10, ML2.7/1, MS3.7/6, Ms1 3.7/6, ms1mx3.2/26, Error ellipse: s-maj=36.4km s-min=20.3km az=89.0*

ISC 21 17:14:42.7±2.7, 13.5S±01×1463E±02, h46km±27km, n26, σ0=73/19, mb4.2/13, MS4.0/4, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	8.13	174	P		Pn	17 16 40.0	+1.9
	0.5nm,0.3s,baz=323,slow=15,SNR=3.0							
PMG				LR	LR		17 19 28.0	
	comp=Z,177nm,20.1s,baz=199,slow=35							
PMG	Port Moresby	8.13	174	Pn		Pn	17 16 37.9	-0.2
PMG				LR	LR		17 19 28.0	
KAKA	Kakadu	17.82	230	*e*P		Pn	17 18 47.2	0.0
	7.6nm,0.6s							
CTA	Charters Tower	18.71	180	LR	LR		17 25 07.0	
	comp=Z,91nm,21.9s,baz=135,slow=33							
CTAO	Charters Tower	18.71	180	*e*P		Pn	17 18 56.0	-2.0
	27nm,1.4s							
WB2	Warramunga Arr	21.93	211	*e*P		P	17 19 32.3	+0.2
WRA	Warramunga Arr	21.93	211	P		P	17 19 32.0	-0.1
	7.9nm,1.0s,mb4.1,baz=33,slow=11,SNR=22							
ASAR	Alice Springs	25.30	207	P		P	17 20 06.0	+1.2
	7.6nm,1.1s,mb4.2,baz=44,slow=7.2,SNR=53							
FITZ	Fitzroy Crossi	26.29	229	*e*P		P	17 20 12.9	-0.8
	8.0nm,0.9s,mb4.2							
FITZ	Fitzroy Crossi	26.29	229	P		P	17 20 13.5	-0.2
	3.8nm,0.8s,mb4.0,baz=36,slow=11,SNR=5.1							
CBIJ	Chichi jima	28.47	352	LR	LR		17 30 33.3	
	comp=Z,170nm,18.7s,MS3.7,baz=142,slow=34							
STKA	Stephens Creek	30.77	188	LR	LR		17 32 31.3	
	comp=Z,138nm,21.6s,MS3.6,baz=24,slow=35							
KSRS	Korea Array	42.11	338	P		P	17 22 29.5	-0.7
	1.1nm,0.7s,mb3.6,baz=141,slow=10,SNR=5.7							
PSI	Prapat	47.52	275	P		P	17 23 12.9	-0.3
	2.8nm,0.5s,mb4.6,baz=124,slow=9.5,SNR=4.1							
RPZ	Rata Peaks	47.67	156	LR	LR		17 40 39.1	
	comp=Z,156nm,18.2s,MS4.0,baz=199,slow=33							
CN2	Changchun	48.59	340	*e*P		P	17 23 21.6	+0.1
CN2				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.8							
GTA	Gaotai	58.70	319	*e*P		P	17 24 36.6	+1.1
GTA				AP	pP		17 24 42.9	-5.6
GTA				XP	sP		17 24 45.8	-8.0
GTA				AMB	AMB			
	comp=Z,5.0nm,0.9s,mb4.5							
SONM	Songino Array	59.96	330	P		P	17 24 43.8	-0.3
	comp=Z,0.8nm,0.6s,mb3.9,baz=147,slow=6.9,SNR=5.6							
MKAR	Makanchi Array	73.43	320	P		P	17 26 10.1	+0.1
	comp=Z,0.9nm,0.8s,mb3.8,baz=88,slow=8.6,SNR=6.2							
VNDA	Vanda	76.65	177	P		P	17 26 28.9	+0.3
	comp=Z,0.6nm,0.7s,mb3.6,baz=340,slow=8.4,SNR=3.6							
KURK	Kurchatov	77.02	323	*e*P		P	17 26 30.7	0.0
	comp=Z,3.4nm,0.9s,mb4.3							
BRVK	Borovoye	82.62	324	*e*P		P	17 27 00.6	-0.3
	comp=Z,4.2nm,0.9s,mb4.5							
INK	Inuvik	87.54	22	LR	LR		18 01 02.9	
	comp=Z,212nm,20.3s,MS4.5,baz=246,slow=32							
YKA	Yellowknife Ar	95.33	27	P		P	17 28 02.0	+0.2
	comp=Z,0.6nm,0.7s,mb4.1,baz=280,slow=4.6,SNR=8.3							
TORD	Torodi Ar. Bea	143.01	290	PKhKP			17 34 08.9	
	comp=Z,0.6nm,0.8s,baz=79,slow=2.2,SNR=3.2							
TORD	Torodi Ar. Bea	143.01	290	PKP	PKPdf		17 34 08.8	-2.4

*ISCJB **21** 17:19:21.9±0.5, 39.35N±002×23.59E±003, h4km±4km, Error ellipse: s-maj=4.0km s-min=3.1km az=175.4*
*CSEM **21** 17:19:22.7±0.1, 39.36N×23.58E, h10km, ML3.4, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0*
*NEIC **21** 17:19:22.0, 39.34N×23.61E, h22km, ML3.3(ATH), After ATH.*
*ATH **21** 17:19:22.0, 39.34N×23.61E, h22km±1km, MD3.6/22, ML3.5*
*THE **21** 17:19:23.5, 39.34N×23.52E, h9km, ML3.4*
*SKO **21** 17:19:27.1, 39.63N×23.68E, h12km*

ISC 21 17:19:22.8±0.5, 39.34N±002×23.59E±003, h7km±3km, n66, σ0=88/82, 14C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	Alonnisos	0.28	128	*e*Pg		Pg	17 19 29.8	+1.5
NEO	Neokhori	0.29	263	*i*PB		Pg	17 19 28.6	+0.2
NEO				*e*SB		Sg	17 19 33.3	+1.0
XOR	Xorichti	0.31	274	*e*Pg		Pg	17 19 28.7	-0.2
LKR	Lokris	0.83	214	⇑*i*PN		Pg	17 19 38.4	-0.4
AGG	Agios Georgios	1.03	252	*e*Pg		Pg	17 19 41.8	-0.8
AGG				*e*Sg		Sg	17 19 55.6	-0.4
OUR	Ouranopolis	1.03	17	*e*Pg		Pg	17 19 42.9	+0.3
PLG	Polygyros	1.03	354	*e*Pg		Pg	17 19 42.8	+0.1
PLG	Polygyros	1.03	354	⇑*i*PN		Pg	17 19 41.8	-0.8
PLG				*e*SN		Sg	17 19 56.0	-0.1
PLG	Polygyros	1.03	354	*e*Pg		Pg	17 19 42.8	+0.2
PLG				*e*Sn		Sg	17 19 56.0	-0.1
LIT	Litokhoron	1.14	312	*e*Pg		Pg	17 19 44.3	-0.3
LIT				*e*Sg		Sg	17 20 00.3	+1.0
LIT	Litokhoron	1.14	312	*e*Pg		Pg	17 19 44.3	-0.3
LIT				*e*Sg		Sg	17 20 00.3	+0.9
THL	Klokotos Trika	1.24	281	*i*PN		Pn	17 19 45.8	-0.8
THL				*e*SN		Sn	17 20 03.0	-0.6
HORT	Hortiatis	1.31	343	*e*Pg		Pg	17 19 46.8	-1.1
HORT				*e*Sg		Sg	17 20 04.6	-0.2
PTL	Penteli	1.31	171	*e*PN		Pn	17 19 46.0	-1.5
LIA	Limnos Island	1.35	65	*e*PN		Pn	17 19 47.8	-0.2
ATH	Athens Observa	1.37	176	*e*PN		Pn	17 19 48.1	-0.3
ATH				*e*SN		Sn	17 20 06.0	-0.8
THE	Thessaloniki	1.37	340	*e*Pg		Pg	17 19 47.9	-1.2
THE				*e*Sg		Sg	17 20 07.0	0.0
THE	Thessaloniki	1.37	340	*e*Pg		Pg	17 19 47.9	-1.2
THE				*e*Sg		Sg	17 20 06.9	0.0
MGER	Gerania Oros	1.38	191	*e*PN		Pn	17 19 48.0	-0.5
EVR	Evrytania	1.45	253	*e*PN		Pn	17 19 49.6	+0.1
EVR				*e*SN		Sn	17 20 09.2	+0.4
SOH	Sokhos	1.49	353	*e*Pg		Pn	17 19 49.8	-0.2
KVR	Kavouri	1.52	175	*e*PN		Pn	17 19 50.5	+0.1
NAIG	Nisos Aigina	1.59	183	*e*PN		Pn	17 19 51.0	-0.3
KZN	Kozani	1.70	305	*e*Pb		Pn	17 19 52.0	-0.9
KZN				P			17 19 57.0	
KZN				*e*Sn		Sb	17 20 16.0	0.0
KZN	Kozani	1.70	305	P		Pg	17 19 57.0	+1.6
KZN				*e*Sn		Sb	17 20 16.0	0.0
SRS	Serrai	1.77	360	*e*Pb		Pn	17 19 53.5	-0.3
GRG	Griva	1.85	331	*e*Pb		Pn	17 19 54.6	-0.4
GRG				*e*Sb		Sn	17 20 17.9	-0.7
KNT	Kendrikon	1.89	344	*e*Pb		Pn	17 19 55.7	+0.1
KNT				*e*Sb		Sn	17 20 19.7	+0.1
NVR	Nevrokopi	2.01	6	*e*PB		Pn	17 19 56.8	-0.4
PRK	Paraskevi	2.08	92	*e*PB		Pn	17 19 57.1	-1.0
RLS	Riolos of Patr	2.10	233	*e*PN		Pn	17 19 58.6	+0.2
VAY	Valandovo	2.12	339	*e*Pn		Pn	17 19 58.6	-0.2
VAY	Valandovo	2.12	339	*e*Pn		Pn	17 19 58.6	-0.2
VAY	Valandovo	2.12	339	*e*Pn		Pn	17 19 58.5	-0.2
JAN	Janina	2.14	279	*e*Pb		Pn	17 19 59.2	+0.2
JAN				P			17 20 03.3	
FNA	Florina	2.23	311	*e*Pn		Pn	17 20 00.1	0.0
MMB	Musomiste	2.25	3	*i* P		Pn	17 19 59.0	-1.4
RDO	Rodhopi	2.33	39	*e*PN		Pn	17 20 01.1	-0.5
BIA	Bitola	2.41	315	*e*Pn		Pn	17 20 04.1	+1.4
RZN	Rozhen	2.49	20	*i* P		Pn	17 20 04.0	+0.2
ITM	Ithomi	2.53	212	*e*PB		Pn	17 20 05.1	+0.8
KKB	Krupnik	2.55	351	*i* P		Pn	17 20 04.8	+0.2
VLI	Veliai	2.67	191	*e*PN		Pn	17 20 05.7	-0.6
KRUS	Krusevo	2.70	319	*e*Pn		Pn	17 20 07.7	+1.0
KRUS	Krusevo	2.70	319	*e*Pn		Pn	17 20 07.7	+1.0
KRUS	Krusevo	2.70	319	*e*Pn		Pn	17 20 07.6	+0.9
APE	Apeiranthos	2.74	146	*e*PN		Pn	17 20 07.3	+0.2
OHR	Ohrid	2.77	310	*e*Pn		Pb	17 20 11.3	-1.4
KEK	Kerkira	2.96	278	*e*PB		Pn	17 20 12.1	+1.9
SMG	Samos	3.02	122	P		Pn	17 20 12.4	+1.3
KYTH	Kithira	3.09	188	*e*PN		Pn	17 20 12.5	+0.5
PGB	Panagyurishte	3.23	8	*i* P		Pg	17 20 22.7	-2.0
VTS	Vitosha	3.26	355	*i* P		Pn	17 20 15.0	+0.7
VTS	Vitosha	3.26	355	P		Pn	17 20 15.9	+1.6
GZR	Gura Zlata	6.08	355	⇑P		Pn	17 20 52.5	-0.5
GZR	Gura Zlata	6.08	355	⇑*i*P		Pn	17 20 52.5	-0.5
VOIR		6.18	10	⇑P		Pn	17 20 55.5	+1.0
VOIR		6.18	10	⇑*i*P		Pn	17 20 55.5	+1.0
MLR	Muntele Rosu	6.38	15	⇑P		Pn	17 21 00.0	+2.8
MLR	Muntele Rosu	6.38	15	⇑*i*P		Pn	17 21 00.0	+2.7
BZS	Buzias	6.44	348	⇑P		Pn	17 20 57.2	-0.8
BZS	Buzias	6.44	348	⇑*i*P		Pn	17 20 57.2	-0.8
VRI	Vrincioaia	6.92	19	⇑P		Pn	17 21 06.8	+2.2
VRI	Vrincioaia	6.92	19	⇑*i*P		Pn	17 21 06.8	+2.2
BURAR	Bucovina Array	8.35	8	⇑P		Pn	17 21 25.7	+1.5
BURAR	Bucovina Array	8.35	8	⇑*i*P		Pn	17 21 25.7	+1.4

*IDC **21** 17:20:32.3±1.1, 897S×110.60E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/30, Error ellipse: s-maj=53.2km s-min=16.1km az=50.0*
*ISCJB **21** 17:20:36.6±6.9, 89.5S±02×110.8E±02, h42km±64km, mb4.1/10, Error ellipse: s-maj=38.1km s-min=21.2km az=102.0*
*NEIC **21** 17:20:37.8±5.1, 890S×110.74E, h38km±49km, mb4.5/2, Error ellipse: s-maj=29.6km s-min=16.0km az=50.0*

ISC 21 17:20:38.5±5.8, 89.5S±02×110.8E±02, h41km±56km, n16, σ0=82/15, mb4.1/10, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	16.55	314	LR	LR	17 31 15.4	
	comp=Z,79nm,19.6s,baz=34,slow=39						
FITZ	Fitzroy Crossi	17.11	124	P		Pn	17 24 34.1	-0.5
	0.1nm,0.3s,baz=304,slow=11,SNR=5.1							
WRA	Warramunga Arr	25.30	118	P		P	17 26 01.8	+0.7
	4.1nm,0.7s,mb4.1,baz=291,slow=11,SNR=17							
ASAR	Alice Springs	26.57	126	P		P	17 26 13.0	+0.3
	1.9nm,0.7s,mb3.8,baz=300,slow=8.9,SNR=23							
ASAR				PcP	PcP		17 29 37.2	+1.0
	0.4nm,0.6s,baz=311,slow=1.4,SNR=6.2							
STKA	Stephens Creek	36.63	133	P		P	17 27 41.3	+0.4
	2.5nm,0.6s,mb4.2,baz=315,slow=9.0,SNR=8.1							
STKA	Stephens Creek	36.63	133	*e*P		P	17 27 41.0	+0.1
GUMO	Guam	40.55	57	P		P	17 28 12.8	-1.0
LSA	Lhasa	42.76	335	*e*P		P	17 28 33.3	+1.5
	1.9nm,0.5s,mb4.1							
MJAR	Matsushiro Arr	52.03	28	P		P	17 29 43.8	-0.1
	1.3nm,0.6s,mb4.1,baz=204,slow=8.1,SNR=4.9							
SONM	Songino Array	56.60	356	P		P	17 30 19.0	+1.8
	1.1nm,0.6s,mb4.1,baz=177,slow=8.6,SNR=12							
SONM				PcP	PcP		17 31 12.8	-0.4
	0.7nm,0.7s,baz=152,slow=2.5,SNR=4.2							
KBL	Kabul	58.51	320	*e*P		P	17 30 29.2	-1.4
MKAR	Makanchi Array	60.96	338	P		P	17 30 47.3	-0.1
	1.4nm,0.5s,mb4.3,baz=149,slow=7.2,SNR=24							
YAK	Yakutsk	72.22	9	P		P	17 31 58.9	-0.4
	5.3nm,0.4s,mb4.8							
AKTK	Aktyubinsk	74.66	328	P		P	17 32 13.4	-0.2
AKTO	Aktyubinsk	74.66	328	P		P	17 32 13.4	-0.3
	1.0nm,0.5s,mb4.0,baz=74,slow=2.9,SNR=6.1							
BRTR	Keskin Array B	85.86	311	P		P	17 33 13.6	-0.3
	0.6nm,0.7s,mb3.9,baz=134,slow=5.3,SNR=4.3							

*IDC **21** 17:23:39.3±1.0, 1765N×148.14E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.9/21, mbtmp3.8/10, ML4.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/33, Error ellipse: s-maj=30.5km s-min=21.8km az=103.0*
*NEIC **21** 17:23:40.8±0.7, 1762N×148.10E, h10km, mb4.4/1, Error ellipse: s-maj=20.9km s-min=11.5km az=108.0*
*ISCJB **21** 17:23:42.8±0.8, 1758N±009×1479E±02, h35km, mb3.8/9, MS2.9/2, Error ellipse: s-maj=23.2km s-min=9.7km az=45.7*

ISC 21 17:23:44.5±0.8, 1757N±009×1480E±02, h35km, n16, σ0=91/18, mb3.8/9, MS2.9/2, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	4.97	218	Pn		Pn	17 24 56.3	-0.3
	6.8nm,0.3s,baz=150,slow=20,SNR=3.0							
GUMO				Sn		Sn	17 25 51.9	-1.0
	15nm,0.3s,baz=215,slow=23,SNR=6.4							
GUMO	Guam	4.97	218	Pn		Pn	17 24 56.3	-0.3
GUMO				*e*Sn		Sn	17 25 47.0	-5.9
GUMO				Sn		Sn	17 25 51.9	-1.0
MJAR	Matsushiro Arr	20.79	337	P		P	17 28 22.4	-0.1
	1.9nm,0.9s,baz=165,slow=9.7,SNR=4.5							
MJAR				LR	LR		17 34 50.2	
	comp=Z,17nm,19.3s,MS2.4,baz=230,slow=32							
KSRS	Korea Array	26.53	322	P		P	17 29 18.8	-0.1
	1.7nm,0.7s,mb3.7,baz=134,slow=8.4,SNR=7.5							
HNR	Honiara	29.31	155	LR	LR		17 39 22.0	
	comp=Z,63nm,18.2s,MS3.3,baz=0.5,slow=32							
WRA	Warramunga Arr	39.61	200	P		P	17 31 14.2	+1.6
	0.3nm,0.3s,mb3.5,baz=26,slow=8.7,SNR=5.8							
SONM	Songino Array	45.39	321	P		P	17 31 59.7	+0.2
	1.5nm,0.8s,mb3.9,baz=137,slow=8.2,SNR=7.7							
MKAR	Makanchi Array	60.81	314	P		P	17 33 54.7	+1.6
	0.5nm,0.6s,mb3.8,baz=91,slow=7.6,SNR=4.6							
MKAR	Makanchi Array	60.81	314	P		P	17 33 54.7	+1.6
KURK	Kurchatov	63.56	318	*e*P		P	17 34 11.7	+0.2
	2.2nm,0.8s,mb4.2							
BRVK	Borovoye	68.80	321	P		P	17 34 45.3	+0.2
INK	Inuvik	69.56	23	P		P	17 34 48.4	-1.4
	0.9nm,0.6s,mb3.9,baz=271,slow=7.4,SNR=5.2							
YKA	Yellowknife Ar	77.96	28	P		P	17 35 38.5	-0.5
	0.5nm,0.5s,mb3.7,baz=286,slow=5.8,SNR=9.2							
YKA	Yellowknife Ar	77.96	28	P		P	17 35 38.5	-0.5
NVAR	Mina Array Bea	82.11	52	P		P	17 36 02.1	+0.7
	0.2nm,0.6s,mb3.3,baz=270,slow=7.9,SNR=4.4							
FINES	FINESS Array B	88.81	336	P		P	17 36 33.4	-1.4
	0.5nm,0.5s,mb4.1,baz=79,slow=4.9,SNR=7.1							

IDC 21 17:28:24.5±70.0, 1578S×17528W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=1317.0km s-min=189.0km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	42.28	240	P		P	17 36 19.6	-0.2
	1.1nm,0.6s,baz=95,slow=8.8,SNR=3.5							
WRA	Warramunga Arr	48.00	257	P		P	17 37 05.9	+0.8
	0.2nm,0.4s,baz=91,slow=7.2,SNR=7.1							
ASAR	Alice Springs	48.27	252	P		P	17 37 07.7	+0.3
	2.4nm,0.6s,baz=88,slow=8.3,SNR=53							

*ISCJB **21** 17:32:53.4±2.1, 607N±0.1×1662E±0.1, h5km±12km, mb4.1/22, MS4.2/6, Error ellipse: s-maj=18.8km s-min=8.0km az=156.0*
*IDC **21** 17:32:53.5±0.8, 6062N×166.12E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.9/25, mbtmp3.8/12, Error ellipse: s-maj=26.8km s-min=16.3km az=170.0*
*BJI **21** 17:32:53.4, 6060N×166.20E, h10km, mB4.9, mb4.6, Ms4.6, Msz4.2*
*MOS **21** 17:32:54.0±1.5, 6065N×166.24E, h13km, mb4.6/6, Error ellipse: s-maj=20.6km s-min=15.1km az=95.0*
*NEIC **21** 17:32:55.4±0.5, 6061N×166.22E, h10km, mb4.6/5, MS4.7/1, Error ellipse: s-maj=14.8km s-min=7.9km az=161.0*

ISC 21 17:32:56.3±2.4, 606N±01×1663E±01, h15km±14km, h15km±1.3km: pP-P, n42, σ1=24/48, mb4.2/22, MS4.2/6, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	Bilibino	7.44	360	*ce*PN		Pn	17 34 46.3	+2.0
BILL				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BILL	Bilibino	7.44	360	*e*Pn		Pn	17 34 44.7	+0.4
MA2	Magadan	7.83	269	*e*PN		Pn	17 34 49.2	-0.4
MA2				pmax	pmax			
	comp=E,10.0nm,0.4s							
MA2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
MA2	Magadan	7.83	269	*e*Pn		Pn	17 34 48.7	-0.8
MA2				*e*Sn		Sn	17 36 18.0	+0.1
YAK	Yakutsk

LZH				*PP	pP	17 41 21.9	-1.7
LZH				*SP	sP	17 41 23.2	-2.3
LZH						17 43 05.6	
LZH				*SS	sS	17 48 07.4	-3.6
LZH				eSS	SS	17 51 16.5	-11
LZH				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
LZH				MLR	MLR		
	comp=Z,840nm,18.2s,MS4.7						
KURK	**Kurchatov**	**46.82**	**299**	*eP*	**P**	**17 41 24.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**46.82**	**299**	*eP*	**P**	**17 41 24.8**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.4						
WMQ	**Urumqi**	**47.87**	**287**	*eP*	**P**	**17 41 35.9**	**+2.4**
WMQ				AMB	AMB		
	comp=Z,1.0nm,1.1s,mb3.8						
WMQ				LR	LR		
	comp=N,43nm,16.0s,MS3.6						
WMQ				LR	LR		
	comp=E,42nm,17.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,45nm,14.0s,MS3.6						
MKAR	**Makanchi Array**	**48.12**	**293**	P	**P**	**17 41 33.6**	**-1.9**
	comp=Z,0.2nm,0.6s,mb3.3,baz=32,slow=6.0,SNR=5.3						
BVAR	**Borovoye Array**	**48.49**	**307**	P	**P**	**17 41 37.9**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.5,baz=49,slow=7.3,SNR=18						
BVAR				PcP	PcP	17 43 02.5	-1.7
	comp=Z,0.4nm,0.5s,baz=57,slow=5.3,SNR=2.8						
BVAR	**Borovoye Array**	**48.49**	**307**	P	**P**	**17 41 37.9**	**-0.4**
BVAR						17 43 02.5	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CD2	**Chengdu**	**50.20**	**263**	*eP*	**P**	**17 41 51.4**	**+0.1**
CD2				AP	pP	17 41 55.9	-0.3
CD2				XP	sP	17 41 58.5	+0.4
CD2				PP	PP	17 43 47.4	+0.8
CD2				S	**S**	**17 49 00.5**	**-2.2**
CD2				XS	sS	17 49 08.1	-2.7
CD2				SS	SS	17 52 30.0	-6.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,250nm,13.2s,MS4.7						
CD2				LR	LR		
	comp=E,460nm,12.0s,MS4.7						
CD2				LR	LR		
	comp=Z,250nm,12.0s,MS4.4						
NVAR	**Mina Array Bea**	**50.50**	**80**	P	**P**	**17 41 53.4**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=322,slow=6.7,SNR=3.7						
PDAR	**Pinedale Array**	**51.27**	**70**	P	**P**	**17 41 59.1**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=331,slow=2.6,SNR=9.4						
GYA	**Guiyang**	**52.48**	**257**	*eP*	**P**	**17 42 11.3**	**+2.8**
GYA				AP	pP	17 42 15.4	+2.0
GYA				XP	sP	17 42 18.6	+3.3
GYA				PCP	PcP	17 43 22.4	+3.5
GYA				SCP	ScP	17 47 18.0	+2.5
GYA				S	**S**	**17 49 35.3**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,110nm,5.6s						
GYA				LR	LR		
	comp=N,290nm,18.7s,MS4.5						
GYA				LR	LR		
	comp=E,310nm,19.0s,MS4.5						
GYA				LR	LR		
	comp=Z,280nm,18.6s,MS4.3						
KMI	**Kunming**	**55.50**	**260**	P	**P**	**17 42 33.1**	**+2.6**
KMI				AP	pP	17 42 37.1	+1.6
KMI				PP	PP	17 44 40.6	+6.1
KMI				S	**S**	**17 50 16.5**	**+1.4**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=Z,28nm,16.3s,MS3.4						
KMI	**Kunming**	**55.50**	**260**	P	**P**	**17 42 33.1**	**+2.6**
KMI				*PP	pP	17 42 37.1	+1.6
KMI				*SP	sP	17 42 38.9	+1.6
KMI						17 44 40.6	
KMI				S	**S**	**17 50 16.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
KMI				MLR	MLR		
	comp=Z,30nm,16.3s,MS3.5						
KMI	**Kunming**	**55.50**	**260**	P	**P**	**17 42 33.1**	**+2.6**
	comp=Z,4.0nm,1.3s,mb4.3						
KMI				pP	pP	17 42 37.1	+1.6
KMI				sP	sP	17 42 38.9	+1.6
KMI				PP	PP	17 44 40.6	+6.1
KMI				S	**S**	**17 50 16.5**	**+1.4**
KMI				LR	LR		
	comp=Z,30nm,16.3s,MS3.5						
NOA	**NORSAR Array B**	**57.15**	**346**	P	**P**	**17 42 40.4**	**-1.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=14,slow=7.3,SNR=3.1						
AKASG	**Malin Array Be**	**63.77**	**331**	P	**P**	**17 43 26.1**	**-1.5**
	comp=Z,0.4nm,0.4s,mb3.9,baz=24,slow=6.4,SNR=4.7						
TXAR	**Lajitas Array**	**64.93**	**75**	P	**P**	**17 43 36.0**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=349,slow=1.3,SNR=4.5						
TXAR	**Lajitas Array**	**64.93**	**75**	P	**P**	**17 43 36.0**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**84.34**	**210**	P	**P**	**17 45 25.6**	**-2.0**
	comp=Z,0.3nm,0.3s,mb4.0,baz=14,slow=5.8,SNR=3.0						
ASAR	**Alice Springs**	**88.02**	**209**	P	**P**	**17 45 45.9**	**+0.1**
	comp=Z,0.3nm,0.8s,mb3.5,baz=19,slow=4.9,SNR=4.1						
QSPA	**South Pole Qui**	**150.39**	**180**	*e*PKPbc	PKPbc	17 52 44.2	-2.8

*ATH **21** 17:35:51.3, 3933N×2359E, h21km±1km, MD3.5/16, ML3.3*
*NEIC **21** 17:35:51.3, 3933N×2359E, h21km, ML3.3(ATH), After ATH.*
*CSEM **21** 17:35:52.4±0.1, 3935N×2354E, h15km, ML3.1, Error ellipse: s-maj=1.6km s-min=1.2km az=85.0*
*ISCJB **21** 17:35:52.3±0.5, 3933N±002×2357E±003, h16km±5km, Error ellipse: s-maj=4.2km s-min=3.5km az=169.7*
*THE **21** 17:35:52.5, 3934N×2352E, h10km, ML3.1*
*SKO **21** 17:35:56.2, 3975N×2367E, h3km*
ISC 21 17:35:52.3±0.4, 3934N±002×2355E±003, h11km±3km, n54, σ0§81/66, 9C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**262**	⇓*i*	pPB	**Pg**	**17 35 57.5**	**-0.1**
NEO					*e*SB	**Sg**	**17 36 02.2**	**+1.1**
XOR	**Xorichti**	**0.28**	**275**		*e*Pg	**Pg**	**17 35 57.4**	**-0.6**
XOR					*e*Sg	**Sg**	**17 36 01.4**	**-0.3**
AOS	**Alonnisos**	**0.31**	**124**		*e*Pg	**Pg**	**17 35 58.6**	**+0.2**
AOS					*e*Sg	**Sg**	**17 36 03.6**	**+1.0**
PAIG	**Paliouri**	**0.59**	**10**		*e*Pg	**Pg**	**17 36 04.7**	**+0.9**
PAIG					*e*Sg	**Sg**	**17 36 12.5**	**+0.9**
LKR	**Lokris**	**0.81**	**212**	⇑*i*	pPN	**Pg**	**17 36 07.2**	**-0.8**
AGG	**Agios Georgios**	**1.00**	**252**		*e*Pg	**Pg**	**17 36 10.9**	**-0.7**
AGG					*e*Sg	**Sg**	**17 36 24.5**	**-0.1**
PLG	**Polygyros**	**1.03**	**355**		*e*Pg	**Pg**	**17 36 11.5**	**-0.7**
PLG	**Polygyros**	**1.03**	**355**	⇑*i*	pPN	**Pg**	**17 36 11.0**	**-1.2**
PLG					*e*SN	**Sg**	**17 36 25.2**	**-0.4**
PLG	**Polygyros**	**1.03**	**355**		*e*Pg	**Pg**	**17 36 11.5**	**-0.7**
PLG					*e*Sn	**Sg**	**17 36 25.2**	**-0.4**
OUR	**Ouranopolis**	**1.04**	**18**		*e*Pg	**Pg**	**17 36 11.6**	**-0.8**
LIT	**Litokhoron**	**1.12**	**313**		*e*Pg	**Pg**	**17 36 13.3**	**-0.4**
LIT					*e*Sg	**Sg**	**17 36 29.9**	**+1.6**
THL	**Klokotos Trika**	**1.21**	**281**		*e*PN	**Pn**	**17 36 14.8**	**-0.4**
THL					*e*SN	**Sn**	**17 36 32.4**	**+0.8**
HORT	**Hortiatis**	**1.30**	**345**		*e*Pg	**Pg**	**17 36 16.7**	**-0.6**
HORT					*e*Sg	**Sg**	**17 36 33.4**	**-0.8**
PTL	**Penteli**	**1.31**	**169**		*e*PN	**Pn**	**17 36 16.0**	**-0.6**
THE	**Thessaloniki**	**1.36**	**341**		*e*Pg	**Pn**	**17 36 16.6**	**-0.7**
THE					*e*Sg	**Sb**	**17 36 35.0**	**-0.4**
MGER	**Gerania Oros**	**1.37**	**190**		*e*PN	**Pn**	**17 36 17.0**	**-0.4**
ATH	**Athens Observa**	**1.37**	**175**		*e*PN	**Pn**	**17 36 17.3**	**-0.1**
LIA	**Limnos Island**	**1.38**	**66**		*e*PN	**Pn**	**17 36 16.6**	**-0.9**
EVR	**Evrytania**	**1.42**	**253**		*e*PN	**Pn**	**17 36 18.2**	**+0.1**
SOH	**Sokhos**	**1.49**	**354**		*e*Pg	**Pn**	**17 36 18.6**	**-0.3**
KVR	**Kavouri**	**1.52**	**173**		*e*PN	**Pn**	**17 36 19.5**	**0.0**
NAIG	**Nisos Aigina**	**1.58**	**182**		*e*PN	**Pn**	**17 36 20.5**	**+0.2**
KZN	**Kozani**	**1.68**	**306**		*e*PN	**Pn**	**17 36 22.5**	**+0.9**
SRS	**Serrai**	**1.77**	**1**		*e*Pb	**Pn**	**17 36 22.1**	**-0.9**
GRG	**Griva**	**1.84**	**332**		*e*Pb	**Pn**	**17 36 23.6**	**-0.2**
GRG					*e*Sb	**Sn**	**17 36 46.0**	**-1.1**
KNT	**Kendrikon**	**1.89**	**345**		*e*Pb	**Pn**	**17 36 24.5**	**0.0**
NVR	**Nevrokopi**	**2.02**	**7**		*e*PB	**Pn**	**17 36 25.8**	**-0.5**
PRK	**Paraskevi**	**2.11**	**92**		*e*PN	**Pn**	**17 36 27.7**	**+0.1**
VAY	**Valandovo**	**2.11**	**340**		*e*Pn	**Pn**	**17 36 27.2**	**-0.4**
FNA	**Florina**	**2.21**	**311**		*e*Pn	**Pn**	**17 36 29.6**	**+0.7**
RDO	**Rodhopi**	**2.36**	**40**		*e*PN	**Pn**	**17 36 30.8**	**-0.2**
ITM	**Ithomi**	**2.51**	**211**		*e*PN	**Pn**	**17 36 33.0**	**-0.1**
STIP	**Stip**	**2.57**	**337**		*e*Pn	**Pn**	**17 36 34.3**	**+0.4**
VLI	**Veliai**	**2.66**	**191**		*e*PN	**Pn**	**17 36 34.9**	**-0.3**
KRUS	**Krusevo**	**2.68**	**320**		*e*Pn	**Pn**	**17 36 36.6**	**+1.1**
KRUS	**Krusevo**	**2.68**	**320**		*e*Pn	**Pn**	**17 36 36.6**	**+1.1**
KRUS	**Krusevo**	**2.68**	**320**		*e*Pn	**Pn**	**17 36 36.5**	**+1.1**
OHR	**Ohrid**	**2.75**	**311**		*e*Pn	**Pb**	**17 36 39.5**	**-2.0**
OHR	**Ohrid**	**2.75**	**311**		*e*Pn	**Pb**	**17 36 39.5**	**-2.0**
OHR	**Ohrid**	**2.75**	**311**		*e*Pn	**Pb**	**17 36 39.4**	**-2.1**
APE	**Apeiranthos**	**2.75**	**145**		*e*PN	**Pn**	**17 36 36.2**	**-0.2**
KEK	**Kerkira**	**2.93**	**278**		*e*PB	**Pn**	**17 36 40.9**	**+2.1**
VTS	**Vitosha**	**3.26**	**356**	⇓*i*	P	**Pn**	**17 36 44.9**	**+1.5**
VTS	**Vitosha**	**3.26**	**356**	⇓*i*	P	**Pn**	**17 36 44.8**	**+1.5**
GZR	**Gura Zlata**	**6.07**	**355**	⇑*i*	P	**Pn**	**17 37 21.7**	**-0.4**
VOIR		**6.19**	**10**	⇑	P	**Pn**	**17 37 24.6**	**+0.9**
VOIR		**6.19**	**10**	⇑*i*	P	**Pn**	**17 37 24.6**	**+0.9**
MLR	**Muntele Rosu**	**6.39**	**15**	⇑	P	**Pn**	**17 37 31.2**	**+4.8**
MLR	**Muntele Rosu**	**6.39**	**15**	⇑*i*	P	**Pn**	**17 37 31.2**	**+4.7**
BZS	**Buzias**	**6.43**	**348**	⇓	P	**Pn**	**17 37 26.6**	**-0.4**
BZS	**Buzias**	**6.43**	**348**	⇓*i*	P	**Pn**	**17 37 26.6**	**-0.4**
PLOR	**Plostina**	**6.89**	**18**	⇓*i*	P	**Pn**	**17 37 35.8**	**+2.5**
BURAR	**Bucovina Array**	**8.36**	**8**	⇑	P	**Pn**	**17 37 54.2**	**+0.8**
BURAR	**Bucovina Array**	**8.36**	**8**	⇑*i*	P	**Pn**	**17 37 54.2**	**+0.8**

*CSEM **21** 17:54:28.1, 1206N×4385E, h9km, ML3.7, After DHMR*
DHMR 21 17:54:28.1±0.5, 1206N×4385E, h10km±8km, ML3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.32**	**57**	*i*	P	Pn	17 54 52.0	-0.5
ADEN				*i*	S	Sb	17 55 11.0	+1.2
ADEN					AML	AML	17 55 16.6	
	comp=E,1μm,0.3s							
ADEN	**Aden**	**1.32**	**57**	*i*	P	Pn	17 54 52.0	-0.5
ADEN				*i*	S	Sb	17 55 11.0	+1.2
	comp=E,624nm,0.3s							
UDYN	**Al 'Udayn**	**1.90**	**3**	*i*	P	Pn	17 55 01.9	+1.3
UDYN				*i*	S	Sn	17 55 27.8	+3.2
UDYN					AML	AML	17 55 33.2	
	comp=N,758nm,0.5s							
UDYN	**Al 'Udayn**	**1.90**	**3**	*i*	P	Pn	17 55 01.9	+1.3
UDYN				*i*	S	Sn	17 55 27.8	+3.2
	comp=N,379nm,0.5s							
DHBB	**Dhamar BB**	**2.55**	**12**	*i*	P	Pn	17 55 12.6	+3.0
DHBB				*i*	S	Sn	17 55 47.0	+6.3
HAJJ	**Hajjah**	**3.63**	**356**	*i*	P	Pn	17 55 26.9	+2.6
HAJJ				*i*	S	Sn	17 56 13.2	+6.0

IDC 21 17:56:55.9±6.9, 2247N×9424E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.5/3, Error ellipse: s-maj=573.2km s-min=27.8km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**26.12**	**341**		P	P	18 02 31.6	+0.1
	0.5nm,0.7s,baz=156,slow=8.2,SNR=5.6							
WRA	**Warramunga Arr**	**57.53**	**134**		P	P	18 06 47.5	+0.4
	0.5nm,0.7s,baz=322,slow=7.2,SNR=5.0							
ASAR	**Alice Springs**	**59.92**	**137**		P	P	18 07 04.0	+0.3
	0.4nm,0.6s,baz=315,slow=6.7,SNR=15							

*ISCJB **21** 18:02:31.7±1.2, 470N±0.1×1529E±02, h77km±12km, mb3.4/7, Error ellipse: s-maj=25.4km s-min=8.4km az=100.0*
*IDC **21** 18:02:32.6±0.8, 4723N×15287E, h66km±7km, mb3.3/8, mb1 3.6/10, mb1mx3.5/23, mbtmp3.4/10, Error ellipse: s-maj=27.6km s-min=15.8km az=142.0*
*MOS **21** 18:02:33.2±1.3, 4717N×15278E, h90km, mb4.0/3, Error ellipse: s-maj=26.5km s-min=12.2km az=47.2*
ISC 21 18:02:33.4±1.0, 470N±01×1529E±02, h75km±11km, h64km±.7km: pP-P, n37, σ1§43/49, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**245**		*e*PN	**Pn**	**18 03 33.0**	**+2.0**
KUR					*e*S	**Sn**	**18 04 20.5**	**+4.9**
KUR					pmax	pmax		
	comp=Z,110nm,0.8s							
KUR					smax			
	comp=N,350nm,0.8s							
KUR					smax			
	comp=E,240nm,0.8s							
SKR	**Severo-Kuril's**	**4.28**	**29**		*e*PN	**Pn**	**18 03 35.0**	**-1.0**
SKR					*e*S	**Sn**	**18 04 17.0**	**-7.7**
SKR					pmax	pmax		
	comp=Z,80nm,0.5s							
SKR					smax			
	comp=N,90nm,0.5s							
SKR					smax			
	comp=E,80nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.75**	**242**		*e*PN	**Pn**	**18 03 57.3**	**+1.2**
YUK					*e*S	**Sn**	**18 05 06.0**	**+5.3**
YUK					pmax	pmax		
	comp=Z,110nm,0.4s							
YUK					smax			
	comp=N,230nm,0.5s							
YUK					smax			
	comp=E,110nm,0.5s							
NEM2	**Nemuro 2**	**6.21**	**237**		P	**Pn**	**18 04 00.9**	**-1.5**
NEM2					*e*S	**Sn**	**18 05 08.6**	**-3.4**
JRA	**Rausu**	**6.25**	**244**		P	**Pn**	**18 04 04.1**	**+1.1**
JNK	**Nakash**	**6.69**	**243**		P	**Pn**	**18 04 09.2**	**+0.3**
JNK					*e*S	**Sn**	**18 05 24.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**6.94**	**274**		*e*PN	**Pn**	**18 04 13.9**	**+1.5**
JTKR	**Abashiri--Toko**	**7.00**	**248**		P	**Pn**	**18 04 14.5**	**+1.4**
JAK	**Akkeshi**	**7.04**	**239**		P	**Pn**	**18 04 12.1**	**-1.7**
JAK					*e*S	**Sn**	**18 05 28.5**	**-3.8**
JMP	**Maruseppu**	**7.33**	**250**		P	**Pn**	**18 04 19.4**	**+1.7**
JAR	**Ashorobuto**	**7.43**	**244**		P	**Pn**	**18 04 19.5**	**+0.5**
JAR					*e*S	**Sn**	**18 05 42.0**	**+0.3**
JOB	**Onbets**	**7.61**	**241**		P	**Pn**	**18 04 21.6**	**+0.1**
JOB					*e*S	**Sn**	**18 05 44.0**	**-2.1**
ASAJ	**Asahikawa**	**7.78**	**252**		P	**Pn**	**18 04 25.6**	**+1.9**
	comp=E,0.8nm,0.3s,baz=76,slow=16,SNR=9.3							
ASAJ	**Asahikawa**	**7.78**	**252**		P	**Pn**	**18 04 27.1**	**+3.3**
ASAJ	**Asahikawa**	**7.78**	**252**		PN	**Pn**	**18 04 25.7**	**+1.9**
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
JKK2	**Kamakawa 2**	**7.78**	**250**		P	**Pn**	**18 04 25.7**	**+1.8**
JCH	**Churui**	**8.06**	**241**		P	**Pn**	**18 04 26.9**	**-0.7**
JCH					*e*S	**Sn**	**18 05 53.8**	**-3.4**
JEM	**Erimo**	**8.54**	**238**		P	**Pn**	**18 04 33.6**	**-0.6**
ERM	**Erimo**	**8.54**	**238**		*e*PN	**Pn**	**18 04 33.6**	**-0.7**
JNBK	**Urakawa-nobuka**	**8.62**	**241**		P	**Pn**	**18 04 33.5**	**-1.8**
JNBK					*e*S	**Sn**	**18 06 06.6**	**-4.3**
JKB	**Kayabe**	**9.89**	**243**		P	**Pn**	**18 04 50.4**	**-2.2**
JKB					*e*S	**Sn**	**18 06 35.8**	**-6.1**
JANG	**Nango**	**10.55**	**235**		P	**Pn**	**18 04 57.1**	**-4.6**
JANG					*e*S	**Sn**	**18 06 47.3**	**-11**
JIO	**Ouri**	**12.01**	**229**		*e*S	**Sn**	**18 07 23.2**	**-11**
MJAR	**Matsushiro Arr**	**15.10**	**232**		P	**Pn**	**18 06 05.6**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=48,slow=9.5,SNR=6.1							
MJAR	**Matsushiro Arr**	**15.10**	**232**		P	**Pn**	**18 06 05.6**	**+3.2**
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.73**	**252**		P	**P**	**18 07 09.9**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=56,slow=11,SNR=5.9							
MKAR	**Makanchi Array**	**46.71**	**297**		P	**P**	**18 10 53.4**	**-1.3**
	comp=Z,0.1nm,0.5s,mb2.8,baz=65,slow=5.1,SNR=2.6							
MKAR					PcP	PcP	18 12 26.6	-0.5
	comp=Z,0.4nm,0.4s,baz=68,slow=4.1,SNR=9.1							
YKA	**Yellowknife Ar**	**50.84**	**37**		P	**P**	**18 11 25.5**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=299,slow=7.0,SNR=9.0							
YKA					pP	pP	18 11 41.9	-3.1
	comp=Z,0.7nm,0.6s,baz=295,slow=7.0,SNR=9.3							
YKA	**Yellowknife Ar**	**50.84**	**37**		P	**P**	**18 11 25.5**	**-0.8**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**63.78**	**335**		P	**P**	**18 12 53.7**	**-3.7**
	comp=Z,0.8nm,0.6s,mb3.7,baz=34,slow=7.1,SNR=5.7							
FINES	**FINESS Array B**	**63.78**	**335**	*i*	P	**P**	**18 12 56.0**	**-1.4**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**64.73**	**54**		P	**P**	**18 13 03.5**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=267,slow=1.2,SNR=3.7							
PDAR					pP	pP	18 13 20.0	-3.2
	comp=Z,0.8nm,0.8s,baz=354,slow=1.5,SNR=4.6							
WRA	**Warramunga Arr**	**68.67**	**199**		P	**P**	**18 13 29.2**	**+0.5**
	comp=Z,0.3nm,0.8s,mb3.2,baz=16,slow=6.5,SNR=2.8							
ASAR	**Alice Springs**	**72.37**	**198**		P	**P**	**18 13 52.5**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.5,baz=13,slow=6.6,SNR=12							
ASAR	**Alice Springs**	**72.37**	**198**		P	**P**	**18 13 52.5**	**+1.3**
ASAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**77.51**	**60**		P	**P**	**18 14 21.1**	**+0.2**
	comp=Z,1.6nm,0.7s,mb3.9,baz=295,slow=4.0,SNR=19							
TXAR					pP	pP	18 14 38.2	-2.7
	comp=Z,0.5nm,0.5s,baz=294,slow=4.6,SNR=4.6							
TXAR	**Lajitas Array**	**77.51**	**60**		P	**P**	**18 14 21.1**	**+0.3**
TXAR					*PP	pP	18 14 38.2	-2.7
TXAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							

*NEIC **21** 18:23:02.5, 16.12N×9640W, h67km, MD3.6(MEX), After MEX.*
MEX 21 18:23:03.5±0.5, 1618N×9631W, h59km±8km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.45**	**155**	*i*	P	Pn	18 23 13.5	-1.3
HUIG				*i*	S	Sn	18 23 21.4	-1.7
VHO	**Vista Hermosa**	**0.98**	**335**	*i*	P	Pn	18 23 19.9	-1.2
VHO				*i*	S	Sn	18 23 32.4	-1.8
VHO	**Vista Hermosa**	**0.98**	**335**	*i*	P	Pn	18 23 19.9	-1.2
VHO				*i*	S	Sn	18 23 32.4	-1.8
OXX	**Oaxaca**	**0.98**	**336**	*i*	P	Pn	18 23 20.5	-0.7
OXX				*i*	S	Sn	18 23 33.2	-1.1
CMIG	**Matias Romero**	**1.64**	**56**	*i*	P	Pn	18 23 28.4	-1.6
CMIG				*i*	S	Sn	18 23 48.4	-1.6
CMIG	**Matias Romero**	**1.64**	**56**	*i*	P	Pn	18 23 28.4	-1.6
CMIG				*i*	S	Sn	18 23 51.0	+1.1
UTMO	**Huajuapan**	**2.18**	**319**	*i*	P	Pn	18 23 36.6	-0.7
UTMO				*i*	S	Sn	18 24 01.0	-2.1

*BJI **21** 18:30:45.7, 3902N×2256E, h8km, mB5.2, mb4.8, Ms5.2, Msz4.7*
*NEIC **21** 18:30:52.9, 3932N×2360E, h23km, mb4.6/58, MS4.6/4, ML4.8(ATH), ML4.9(BUC), ML5.0(PDG), ML5.4(THE), After ATH.*
NEIC Felt at Amarousion, Psikhikon, Skiathos, Skopelos and Volos, Greece.
*IDC **21** 18:30:52.8±0.5, 3940N×2349E, h0km, mb4.5/22, mb1 4.6/30, mb1mx4.6/31, mbtmp4.5/30, ML4.1/9, MS4.5/24, Ms1 4.5/24, ms1mx4.4/32, Error ellipse: s-maj=10.9km s-min=8.7km az=89.0*
*GCMT **21** 18:30:52.9±0.3, 3929N×2358E, h24km±1km, MW5.2/76, Moment Tensor Solution. s31,c38; s76,c120; Duration: 0 Moment tensor: Scale 10^16Nm; Mr=-1.4 1±.26; Mθθ6.47±.21; Mϕϕ-5.06±.20; Mrθ0.23±.28; Mϕϕ-2.41±.17; Mϕr1.76±.32; Best double couple: M0=6.57700×10^16 NP1:ϕs238.00000°, δ75.00000°, λ-166.00000°. NP2: ϕs144.00000°, δ76.00000°, λ-15.00000°. Principal axes: T 6.9550, Plg1.0000°, Azm191.0000°; N -0.7560, Plg70.0000°, Azm284.0000°; P -6.1990, Plg20.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **21** 18:30:52.4±1.0, 3939N×2347E, h10km, mb4.8/36, MS4.5/35 Error ellipse: s-maj=3.5km s-min=2.0km az=108.3*
*ATH **21** 18:30:52.9, 3932N×2360E, h23km±1km, ML4.8*
*ISCJB **21** 18:30:53.4±0.3, 3938N±001×2353E±001, h19km±2km, mb4.7/93, MS4.7/37, Error ellipse: s-maj=2.1km s-min=1.4km az=56.4*
*PDG **21** 18:30:53.0±0.6, 3938N×2360E, h12km±1km*
*THE **21** 18:30:54.7, 3936N×2359E, h15km, ML5.2*
*CSEM **21** 18:30:54.6±0.0, 3941N×2354E, h30km, mb4.7/44, Ms4.4, Mw5.1, Error ellipse: s-maj=1.1km s-min=0.7km az=31.0*
*SKO **21** 18:30:55.4, 3968N×2376E, h0km*
*PRU **21** 18:30:58.0, 3974N×2330E, h0km, M4.6*
*NAO **21** 18:31:19.5, 4175N×2413E, h33km, mb5.2*
ISC 21 18:30:53.7±0.3, 3938N±001×2355E±001, h7km±1km, h15km±.8km: pP-P, n733, σ1§18/825, mb4.7/93, MS4.7/37, 56C-58D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**255**	⇓*i*	pPB	**Pg**	**18 30 59.6**	**+0.8**
NEO					*e*SB	**Sg**	**18 31 04.7**	**+2.4**
XOR	**Xorichti**	**0.28**	**268**		*e*Pg	**Pg**	**18 30 59.0**	**-0.1**
AOS	**Alonnisos**	**0.33**	**128**		*e*Pg	**Pg**	**18 31 00.3**	**+0.2**
PAIG	**Paliouri**	**0.56**	**10**		*e*Pg	**Pg**	**18 31 06.5**	**+2.0**
PAIG					*e*Sg	**Sg**	**18 31 16.2**	**+4.5**
LKR	**Lokris**	**0.84**	**211**	⇑*i*	pPN	**Pg**	**18 31 08.9**	**-0.9**
L

STIP Stip 2.54 336 *i* Pn **Pn 18 31 35.8 +0.5**
URLA Izmir 2.59 112 *i* P **Pn 18 31 36.7 +0.8**
URLA *i* S **Sg 18 32 19.6 +2.8**
KRUS Krusevo 2.65 319 *e*Pn **Pn 18 31 37.8 +0.9**
KRUS Krusevo 2.65 319 *e*Pn **Pn 18 31 37.8 +0.9**
KRUS Krusevo 2.65 319 *e*Pn **Pn 18 31 37.7 +0.8**
LPK Lapseki 2.67 67 PN **Pn 18 31 36.2 -0.8**
KDZ Kurdzhali 2.68 32 P **Pn 18 31 35.7 -1.5**
VLI Veliai 2.70 190⇑*i*PN **Pn 18 31 36.1 -1.4**
OHR Ohrid 2.73 310 *e*Pn **Pn 18 31 38.0 +0.2**
OHR Ohrid 2.73 310 *e*Pn **Pn 18 31 40.5 +2.7**
OHR Ohrid 2.73 310 *e*Pn **Pn 18 31 40.5 +2.7**
OHR Ohrid 2.73 310 P **Pn 18 31 38.0 +0.2**
OHR P 18 31 41.6
APE Apeiranthos 2.78 145 *e*Pn **Pn 18 31 37.7 -1.0**
APE Apeiranthos 2.78 145⇓*i*PN **Pn 18 31 37.7 -1.0**
APE *e*SN **Sn 18 32 10.0 -2.5**
SRN Sarande 2.79 282 *i* Pn **Pn 18 31 41.0 +2.3**
SRN *i* Sn **Sn 18 32 11.0 -1.5**
PLD Plovdiv 2.86 17 *e*Pn **Pn 18 31 40.4 +0.6**
PLD Plovdiv 2.86 17 *e*Pn **Pn 18 31 40.3 +0.5**
BLCB Balcova 2.90 109 PN **Pn 18 31 38.6 -1.7**
BLCB Balcova 2.90 109 *e*Pn **Pn 18 31 39.6 -0.7**
KEK Kerkira 2.92 278⇓*i*PN **Pn 18 31 41.4 +0.9**
SKO Skopje 3.05 329 *e*Pn **Pn 18 31 43.0 +0.8**
SKO Skopje 3.05 329 *e*Pn **Pn 18 31 43.0 +0.7**
IZM Izmir 3.06 107 PN **Pn 18 31 42.2 -0.2**
KDAG Bornova 3.06 107 *i* P **Pn 18 31 42.7 +0.2**
KDAG *i* S **Sb 18 32 30.7 +4.7**
DIM Dimitrovgrad 3.07 29 P **Pn 18 31 42.2 -0.4**
SMG Samos 3.07 122⇓*i*PN **Pn 18 31 42.1 -0.5**
SART Tekirdag 3.08 64 *i* P **Pn 18 31 40.9 -1.9**
SART *i* S **Sg 18 32 40.0 +7.3**
PGB Panagyurishte 3.21 8 P **Pn 18 31 43.7 -0.7**
VTS Vitosha 3.22 356 *e*Pn **Pn 18 31 45.5 +0.8**
VTS Vitosha 3.22 356⇓*i*P **Pn 18 31 46.0 +1.3**
THR4 Thira Island, 3.26 153 *e*Pn **Pn 18 31 45.0 -0.2**
THR5 Thira Island, 3.28 154 *e*Pn **Pn 18 31 44.7 -0.8**
THR3 Thira Island, 3.31 153 *e*Pn **Pn 18 31 45.4 -0.4**
THR6 Thira Island, 3.35 154 *e*Pn **Pn 18 31 46.1 -0.4**
AKS Akhisar 3.35 97 PN **Pn 18 31 46.9 +0.4**
SANT Santorini 3.36 153 *e*Pn **Pn 18 31 46.0 -0.6**
THR1 Thera Island 3.36 153 *e*Pn **Pn 18 31 46.0 -0.6**
TIR Tirane 3.43 306 *e*Pn **Pb 18 31 51.0 -3.9**
EDC Edincik 3.46 72 PN **Pn 18 31 47.1 -0.9**
EDRB Edirne 3.46 44 PN **Pn 18 31 47.1 -0.9**
BTOK Tokmak 3.49 82 *i* P **Pn 18 31 48.4 +0.1**
BTOK *i* S **Sg 18 32 44.3 -1.3**
BNT Bandirma 3.50 72 PN **Pn 18 31 48.6 0.0**
BARS Barje 3.68 340⇓*i*Pn **Pn 18 31 52.0 +1.1**
BARS Barje 3.68 340 P **Pn 18 31 51.6 +0.6**
KCT Karacabey 3.81 75 PN **Pn 18 31 51.8 -0.9**
BDRM Kayabasi 3.84 126 *i* P **Pn 18 31 53.3 +0.1**
BDRM *i* S **Sn 18 32 40.1 +1.5**
PUK Puka 3.85 315 *i* Pn **Pn 18 31 55.6 +2.3**
PUK *i* Sn **Sg 18 33 01.6 +4.3**
JMB Yambol 3.85 36 *e*Pn **Pn 18 31 52.1 -1.2**
DST Dursunbey 3.94 85 PN **Pn 18 31 53.7 -0.8**
VAM Vamos 4.00 172 *e*PN **Pn 18 31 55.6 +0.3**
PVL Pavlikeni 4.07 19 P **Pn 18 31 54.6 -1.7**
CTT Catalca 4.13 63 *e*PN **Pn 18 31 57.1 -0.1**
ELBA Catalca 4.13 63 *i* P **Pg 18 32 12.4 -0.5**
ELBA *i* S **Sg 18 33 05.6 -0.8**
DAT Datca 4.14 128 PN **Pn 18 31 56.1 -1.1**
ULC Ulcinj 4.17 310⇓*i*Pn **Pn 18 31 58.3 +0.6**
ULC *e*Sn **Sn 18 32 48.2 +1.6**
PVY Plav 4.20 321⇑*i*Pn **Pn 18 31 59.3 +1.2**
PVY *e*Sn **Sn 18 32 48.4 +0.9**
PVY Plav 4.20 321⇑*i*Pn **Pn 18 31 59.3 +1.1**
PVY *e*Sn **Sn 18 32 48.3 +0.8**
IDI Anoyia 4.22 165 Pn **Pn 18 31 58.3 -0.1**
63nm,0.3s,baz=342,slow=11,SNR=104
IDI Sn **Sn 18 32 50.8 +2.9**
36nm,0.3s,baz=355,slow=10,SNR=3.1
IDI Lg 18 33 10.1
32nm,0.3s,baz=263,slow=24,SNR=5.6
IDI LR LR 18 33 35.7
comp=Z,6µm,19.1s,baz=337,slow=38
IDI Anoyia 4.22 165 Pn **Pn 18 31 58.2 -0.2**
IDI Sn **Sn 18 32 50.8 +2.9**
ULDT Uludag 4.38 78 *i* P **Pn 18 32 01.2 +0.7**
ULDT *i* S **Sb 18 32 59.5 -4.3**
NPS Neapolis 4.42 158 *e*PN **Pn 18 32 00.7 -0.5**
IVA Berane 4.45 323⇑*i*Pn **Pn 18 32 02.2 +0.6**
IVA *e*Sn **Sn 18 32 53.9 +0.3**
TTG Podgorica 4.46 315⇓*i*Pn **Pn 18 32 02.9 +1.3**
TTG *e*Sn **Sn 18 32 54.2 +0.5**
GEMT Gemlik 4.47 75 *e*PN **Pn 18 32 01.5 -0.3**
ZIMR 4.49 17 P **Pn 18 32 02.2 +0.1**
ZIMR 4.49 17⇑P **Pn 18 32 02.1 0.0**
ZIMR 4.49 17⇑*i*P **Pn 18 32 02.1 0.0**
BUM Brajici-Budva 4.58 311⇑*i*Pn **Pn 18 32 04.7 +1.4**
BUM *e*Sn **Sn 18 32 57.6 +0.8**
DENT Denizli 4.59 109 *e*PN **Pn 18 32 04.3 +0.8**
KLYT Kilyos 4.60 64 *e*PN **Pn 18 32 03.7 +0.1**
BOLS Boljevac 4.61 346⇓*i*Pn **Pn 18 32 04.1 +0.4**
BOLS *e*Sn **Sn 18 33 00.8 +3.3**
GDZ Gediz 4.62 92 *i* P **Pn 18 32 04.1 +0.2**
GDZ *i* S **Sg 18 33 21.1 -0.8**
GDZ Gediz 4.62 92 *i* P **Pn 18 32 04.1 +0.2**
GDZ *i* S **Sg 18 33 21.1 -0.8**
DNZL Cakiroluk 4.63 110 *i* P **Pb 18 32 11.7 -3.5**
DNZL *i* S **Sg 18 33 29.6 +7.2**
IZI Iznik 4.66 76 *e*PN **Pn 18 32 04.6 +0.1**
SJES Sjenica 4.74 326 Pn **Pn 18 32 05.9 +0.3**
KARP Karpathos 4.78 142⇓*i*PN **Pn 18 32 06.2 +0.1**
KHL Karahalli 4.78 101 *e*PN **Pn 18 32 07.1 +1.0**
DALT Dalyan (Mudla) 4.79 121 *e*PN **Pn 18 32 05.8 -0.4**
ARG Arkhangelos 4.81 130 *e*PN **Pn 18 32 06.8 +0.3**
NKY Niksic 4.86 316⇓*i*Pn **Pn 18 32 08.0 +0.8**
NKY *e*Sn **Sn 18 33 04.1 +0.4**
ADVT Abdulvahap 4.88 76 *e*PN **Pn 18 32 06.7 -0.7**
HCY Herceg Novi 4.90 310⇑*i*Pn **Pn 18 32 08.2 +0.4**
HCY *e*Sn **Sn 18 33 08.7 -0.1**
PE1 Pezze di Greco 4.91 289 *e*Pn **Pn 18 32 08.3 +0.4**
CRAR CRAIOVA 4.95 2⇑*i*P **Pn 18 32 08.6 +0.2**
GRUS Gruza 4.98 336⇑*i*Pn **Pn 18 32 08.7 -0.2**
PLE Pljevlja 5.04 323⇓*i*Pn **Pn 18 32 10.2 +0.6**
PLE *e*Sn **Sn 18 33 07.5 -0.6**
PLE Pljevlja 5.04 323⇓*i*Pn **Pn 18 32 10.2 +0.6**
PLE *e*Sn **Sn 18 33 07.5 -0.6**
ALT Altintas 5.11 92 *e*PN **Pn 18 32 11.6 +1.0**
TREB Trebinje 5.16 312 P **Pn 18 32 11.8 +0.5**
FETY Fethiye 5.16 120 *e*PN **Pn 18 32 12.4 +1.1**
BRY Bratogost 5.16 315⇓*i*Pn **Pn 18 32 12.3 +0.9**
BRY *e*Sn **Sn 18 33 11.3 +0.1**
UPM Unac-Piva 5.18 319⇓*i*Pn **Pn 18 32 12.8 +1.3**
UPM *e*Sn **Sn 18 33 11.7 +0.1**
GOLH Golhisar 5.19 112 *i* P **Pn 18 32 15.0 +3.2**
GOLH *i* S **Sg 18 33 44.7 +4.4**
SVIS Svilajnac 5.21 341⇑*i*Pn **Pn 18 32 10.9 -1.1**
SVIS Svilajnac 5.21 341 P **Pn 18 32 11.0 -1.1**
GPA Golpazari 5.29 78 *e*PN **Pn 18 32 13.6 +0.6**
BUC1 Bucharest 5.30 20⇑*i*P **Pn 18 32 13.7 +0.4**
BORA Eskisehir 5.36 82 *i* P **Pn 18 32 14.8 +0.8**
BORA *i* S **Sg 18 33 43.8 -1.9**
BAI Bari 5.39 291 *e*Pn **Pn 18 32 15.0 +0.5**
DIVS Divcibare 5.42 332⇑*i*Pn **Pn 18 32 15.2 +0.3**
DIVS Sn **Sg 18 33 38.8 -8.7**
DIVS Divcibare 5.42 332 *e*Pn **Pn 18 32 15.0 +0.2**
BBLS Bajina Basta - 5.45 327⇑*i*Pn **Pn 18 32 16.8 +1.5**
TKTP Tekketepe 5.46 102 *i* P **Pn 18 32 17.0 +1.5**
TKTP *i* S **Sg 18 33 49.7 +0.6**
ORI Oriolo Calabro 5.52 279 P **Pn 18 32 17.5 +1.3**
ORI pmax pmax
comp=Z,382nm,0.5s
ORI Oriolo Calabro 5.52 279 P **Pn 18 32 17.5 +1.3**
comp=Z,382nm,0.5s
GRI Girifalco 5.57 267 P **Pn 18 32 18.1 +1.1**
GRI pmax pmax
comp=Z,172nm,0.6s
GRI Girifalco 5.57 267 P **Pn 18 32 18.1 +1.1**
comp=Z,172nm,0.6s
STON Ston 5.63 310 *i* Pn **Pn 18 32 18.4 +0.6**
STON *i* Sn **Sg 18 33 57.5 +3.1**
STON Ston 5.63 310 *i* Pn **Pn 18 32 18.3 +0.5**
ESKT Eskisehir 5.66 86 *i* P **Pn 18 32 19.1 +1.0**
ESKT *i* S **Sb 18 33 37.7 -3.0**
ESKT Eskisehir 5.66 86 *e*Pn **Pn 18 32 19.6 +1.5**
SEYT Eskypehyr 5.66 86 *i* P **Pn 18 32 19.1 +1.0**

ELL Elmali 5.66 116 *e*PN **Pn 18 32 19.0 +0.8**
ISP Isparta 5.66 103 *e*PN **Pn 18 32 19.3 +1.1**
ISP Isparta 5.66 103 *e*P **Pn 18 32 21.3 +3.1**
AKAS Kas 5.73 121 *i* P **Pn 18 32 21.3 +2.1**
AKAS *i* S **Sg 18 34 00.2 +2.5**
HENT Hendek 5.82 73 *i* P **Pn 18 32 20.2 -0.2**
HENT *i* S **Sg 18 34 00.5 0.0**
CDT Castel del Mon 5.82 289 *e*Pn **Pn 18 32 20.7 +0.3**
BEO Belgrade 5.91 338⇑*i*Pn **Pn 18 32 20.2 -1.4**
SOI Samo 6.00 260 P **Pn 18 32 23.5 +0.6**
SOI pmax pmax
comp=Z,108nm,0.8s
SOI Samo 6.00 260 P **Pn 18 32 23.5 +0.6**
comp=Z,108nm,0.8s
GZR Gura Zlata 6.04 355⇓*i*P **Pn 18 32 22.9 -0.5**
ANTB Antalya 6.12 112 *e*PN **Pn 18 32 24.9 +0.4**
VOIR 6.16 10⇓*i*P **Pn 18 32 25.9 +0.9**
FGMS Monte Sant'Ang 6.24 294 Pn **Pn 18 32 25.8 -0.3**
comp=Z,309nm,0.5s
TIRR Tirgusor 6.24 34 P **Pn 18 32 26.1 -0.1**
TIRR Tirgusor 6.24 34 *e*Pn **Pn 18 32 25.8 -0.3**
comp=Z,414nm,1.1s
TIRR Tirgusor 6.24 34⇑*i*P **Pn 18 32 26.5 +0.3**
TIRR Tirgusor 6.24 34 *e*Pn **Pn 18 32 25.8 -0.4**
comp=Z,414nm,1.1s
MS1 Monte Sant'Ang 6.24 294 *e*Pn **Pn 18 32 25.9 -0.3**
MRLC Muro Lucano 6.33 285 Pn **Pn 18 32 28.5 +1.1**
comp=Z,434nm,1.0s
MLR Muntele Rosu 6.36 15 Pn **Pn 18 32 28.8 +0.9**
comp=Z,8.0nm,0.3s,baz=208,slow=5.5,SNR=119
MLR Sn **Sn 18 33 42.7 +2.0**
comp=Z,42nm,0.3s,baz=276,slow=20,SNR=5.9
MLR Lg 18 34 22.8
comp=Z,13nm,0.3s,baz=108,slow=13,SNR=3.2
MLR Muntele Rosu 6.36 15 P **Pn 18 32 28.8 +1.0**
MLR 18 33 42.7
MLR pmax pmax
comp=Z,8.0nm,0.3s
MLR smax
comp=N,42nm,0.3s
MLR Muntele Rosu 6.36 15⇓*i*P **Pn 18 32 29.3 +1.5**
FG4 Candela 6.39 288 P **Pn 18 32 28.9 +0.7**
FG4 pmax pmax
comp=Z,691nm,0.8s
FG4 Candela 6.39 288 P **Pn 18 32 28.9 +0.7**
comp=Z,691nm,0.8s
BZS Buzias 6.40 348⇓P **Pn 18 32 27.8 -0.5**
BZS Buzias 6.40 348⇓*i*P **Pn 18 32 27.8 -0.5**
BZS Buzias 6.40 348 P **Pn 18 32 27.9 -0.4**
FGSL Fruska Gora 6.41 336 Pn **Pn 18 32 28.1 -0.3**
SGO Sicignano 6.44 283 P **Pn 18 32 29.6 +0.7**
SGO pmax pmax
comp=Z,124nm,0.4s
SGO Sicignano 6.44 283 P **Pn 18 32 29.6 +0.7**
comp=Z,124nm,0.4s
RGNG Rignano Grg 6.49 293 Pn **Pn 18 32 29.1 -0.4**
KIZT Kizilcal 6.50 92 *e*PN **Pn 18 32 30.5 +0.8**
FG5 Orsara di Pugl 6.61 289 P **Pn 18 32 32.3 +1.1**
FG5 pmax pmax
comp=Z,563nm,1.0s
FG5 Orsara di Pugl 6.61 289 P **Pn 18 32 32.3 +1.1**
comp=Z,563nm,1.0s
SGKT Sivrigoynuk 6.64 77 *i* P **Pn 18 32 32.6 +0.9**
SGKT *i* S **Sn 18 34 01.3 +14**
CFR Carcaliu 6.72 29 P **Pn 18 32 36.3 +3.5**
CFR Carcaliu 6.72 29 P **Pn 18 32 36.2 +3.4**
PLOR Plostina 6.86 18⇑*i*P **Pn 18 32 36.4 +1.7**
VRI Vrincioaia 6.90 19⇓*i*P **Pn 18 32 36.7 +1.5**
KONT Konya--Tatoy 7.04 99 *e*PN **Pn 18 32 37.9 +0.7**
ANTO Ankara 7.16 83⇓*i*P **Pn 18 32 39.9 +1.2**
PZI Palazzolo 7.16 254 P **Pn 18 32 36.5 -2.2**
SGG Gregorio Mates 7.28 289 Pn **Pn 18 32 41.6 +1.1**
comp=Z,285nm,0.7s
HVZN Vizzini 7.29 255 Pn **Pn 18 32 39.5 -1.0**
comp=Z,288nm,0.5s
VAE Valguarnera 7.42 258 Pn **Pn 18 32 47.1 +4.8**
comp=Z,4.4nm,0.3s,baz=84,slow=16,SNR=6.4
VAE Sn **Sn 18 34 09.4 +2.7**
comp=Z,8.6nm,0.3s,baz=128,slow=20,SNR=4.6
VAE Valguarnera 7.42 258 Pn **Pn 18 32 47.1 +4.7**
VAE Sn **Sn 18 34 09.4 +2.7**
DRGR 7.44 356⇑*i*P **Pn 18 32 42.5 -0.1**
HDMB Hadim 7.44 106 *e*PN **Pn 18 32 42.2 -0.5**
RHK3 Tenkes 7.59 331⇑*i*P **Pn 18 32 45.5 +0.8**
ELDT Eldivan 7.67 79 *i* P **Pn 18 32 46.6 +0.8**
ELDT *i* S **Sg 18 35 00.4 +0.4**
PKSM Moragy 7.72 334 P **Pn 18 32 45.4 -1.1**
BALT Daday 7.80 71 *i* P **Pn 18 32 46.4 -1.3**
BALT *i* S **Sb 18 34 42.8 +0.3**
BR131 Keskin Array S 7.81 84 *e*Pn **Pn 18 32 48.9 +1.3**
comp=Z,43nm,0.9s
BR131 Keskin Array S 7.81 84 *e*Pn **Pn 18 32 48.9 +1.2**
comp=Z,43nm,0.9s
BRTR Keskin Array B 7.81 84 Pn **Pn 18 32 48.8 +1.1**
comp=Z,1.7nm,0.3s,baz=259,slow=11,SNR=45
BRTR Pg **Pg 18 33 16.9 -6.3**
comp=Z,2.1nm,0.3s,baz=265,slow=13,SNR=6.2
BRTR Sn **Sn 18 34 12.5 -3.8**
comp=Z,0.8nm,0.3s,baz=276,slow=19,SNR=2.9
BRTR Lg 18 35 04.0
baz=261,slow=22,SNR=6.2
BRTR Keskin Array B 7.81 84 P **Pn 18 32 48.8 +1.1**
BRTR 18 34 12.5
BRTR pmax pmax
comp=Z,2.0nm,0.3s
BRTR smax
comp=N,1.0nm,0.3s
CANT Cankiri 7.83 78 *e*PN **Pn 18 32 47.6 -0.4**
KAMT Kaman 7.88 87 *e*PN **Pn 18 32 49.1 +0.5**
WDD Wield Dalam 7.97 247 P **Pn 18 32 49.5 -0.4**
PKSN Nyarlorinc 7.98 342⇓*e*P **Pn 18 32 50.9 +0.8**
AQU L'Aquila 8.24 294 P **Pn 18 32 58.2 +4.5**
AQU L'Aquila 8.24 294⇓*i*P **Pn 18 33 00.8 +7.1**
NVLJ Novalja 8.28 312 *i* Pn **Pn 18 32 54.5 +0.3**
NVLJ *i* Sn **Sn 18 34 23.2 -4.8**
BURAR Bucovina Array 8.32 8⇓*i*P **Pn 18 32 55.6 +0.8**
KIS Kishinev 8.53 25⇓*i*P **Pn 18 32 55.0 -2.6**
KIS *e*S **Sn 18 34 34.0 -0.2**
KIS pmax pmax
comp=Z,200nm,1.0s
KIS MLR MLR
comp=Z,5µm,12.0s
KIS Kishinev 8.53 25⇓*i*P **Pn 18 32 55.0 -2.6**
comp=Z,200nm,1.0s
KIS *e*S **Sn 18 34 34.0 -0.2**
KIS *i* Li 18 35 30.0
KIS *i* LQ 18 35 54.0
KIS LRM 18 37 45.0
comp=Z,5µm,12.0s
IKL Isikli 8.61 108 *e*PN **Pn 18 32 58.3 -0.4**
BUD Budapest 8.74 339⇓*e*Pn **Pn 18 33 01.1 +0.6**
BUD Budapest 8.74 339 P **Pn 18 32 59.9 -0.6**
CRES Cresnjev 8.78 320 *e*Pn **Pn 18 33 01.8 +0.7**
PKSG 8.85 337⇓*i*P **Pn 18 33 02.9 +1.0**
KOGS Kog 8.86 325 *e*Pn **Pn 18 33 02.5 +0.4**
PSZ Piszkesteto 8.94 344⇓*i*P **Pn 18 33 02.2 -1.0**
PSZ Piszkesteto 8.94 344⇓*e*Pn **Pn 18 33 02.3 -0.9**
PENC Penc 8.96 341⇓*e*P **Pn 18 33 03.4 -0.1**
SEV Sevastopol' 9.13 52 *e*P **Pn 18 33 03.0 -2.9**
SEV pmax pmax
comp=Z,3.0nm,0.3s
SEV pmax pmax
comp=Z,8.0nm,0.9s
GROS Grobnik 9.21 323 *e*Pn **Pn 18 33 07.3 +0.3**
UZH Uzhgorod 9.30 355 *e*P **Pn 18 33 08.6 +0.5**
UZH *e*S **Sn 18 34 54.8 +1.9**
KECS Kecovo 9.37 347 *e*PN **Pn 18 33 09.4 +0.3**
KOLS Kolonicke sedl 9.60 355 *e*Pn **Pn 18 33 12.4 +0.2**
KOLS P 18 33 17.5
KOLS *e*Sg 18 36 15.8
SIM Simferopol' 9.62 51 *e*P **Pn 18 33 16.1 +3.6**
CRVS Cervenica-Dubn 9.64 352 *e*PN **Pn 18 33 13.8 +1.0**
ALU Alushta 9.66 53 *e*P **Pn 18 33 17.6 +4.5**
OBKA Obir 9.71 320⇑*i*Pn **Pn 18 33 14.1 +0.4**
OBKA ⇑*i*Sn **Sn 18 35 02.3 -0.8**
OBKA Obir 9.71 320 Pn **Pn 18 33 14.1 +0.4**
VYHS Vyhne 9.72 341 *e*PN **Pn 18 33 15.0 +1.0**
VYHS *e*SN **Sn 18 34 51.9 -12**
SOP Sopron 9.73 331⇓*e*Pn **Pn 18 33 15.8 +1.8**
SOP Sopron 9.73 331 P **Pn 18 33 15.4 +1.4**
VOY Vojsko 9.73 316 *e*Pn **Pn 18 33 14.5 +0.5**
VOY *e* 18 33 17.2
VOY *e*Sn **Sn 18 35 00.2 -3.3**

ARSA Arzberg 9.80 326⇓*i*Sn **Sn 18 35 02.8 -2.4**
ARSA Arzberg 9.80 326⇓*i*Pn **Pn 18 33 15.6 +0.6**
SNR=19
ARSA ⇓*i*Sn **Sn 18 35 02.8 -2.4**
ARSA Arzberg 9.80 326 Pn **Pn 18 33 15.6 +0.6**
comp=Z,18nm,7.0s
ZST Bratislava 9.97 334 *e*PN **Pn 18 33 19.1 +1.8**
SUDU Sudak 10.13 53 *e*P **Pn 18 33 17.8 -1.7**
SUDU pmax pmax
comp=Z,7.0nm,0.7s
SUDU pmax pmax
comp=Z,6.0nm,0.7s
SMOL Smolenice 10.14 336 *e*PN **Pn 18 33 21.7 +2.0**
SMOL *e*SN **Sn 18 35 09.4 -4.2**
STHS Stebnicka Huta 10.17 351 *e*PN **Pn 18 33 21.5 +1.4**
STHS *e*SG 18 36 29.6
CONA Conrad Observa 10.20 329⇑*i*Pn **Pn 18 33 20.8 +0.3**
SNR=17
CONA ⇓*i*Sn **Sn 18 35 14.4 -0.6**
KWP Kalwaria 10.27 357 *e*P **Pn 18 33 24.0 +2.5**
NIE Niedzica 10.30 348 *e*P **Pn 18 33 22.9 +1.0**
NIE *e* 18 33 36.0
JAVC Velka Javorina 10.38 338 P **Pn 18 33 21.0 -1.9**
KBA Koelnbreinsper 10.70 319 P **Pn 18 33 27.6 +0.3**
MOA Molln 10.81 325⇑*i*Sn **Sn 18 35 29.2 -0.9**
MOA Molln 10.81 325⇓*i*Pn **Pn 18 33 29.5 +0.7**
SNR=24
MOA ⇑*i*Sn **Sn 18 35 29.2 -0.9**
MOA Molln 10.81 325⇓*i*Pn **Pn 18 33 29.5 +0.7**
MOA *i* Sn **Sn 18 35 29.2 -0.9**
MOA Molln 10.81 325 Pn **Pn 18 33 29.5 +0.7**
comp=Z,24nm,4.0s
ABTA Abfaltersbach 10.92 316⇑*i*Pn **Pn 18 33 29.9 -0.4**
KRUC Moravsky 10.95 334 P **Pn 18 33 31.9 +1.1**
VRAC Vranov 11.10 336 Pn **Pn 18 33 33.2 +0.4**
comp=Z,0.3nm,0.3s,baz=162,slow=12,SNR=10
VRAC Sn **Sn 18 35 37.8 +0.6**
comp=Z,1.6nm,0.3s,baz=86,slow=8.3,SNR=5.5
VRAC Vranov 11.10 336 P **Pn 18 33 33.2 +0.4**
VRAC 18 35 37.8
VRAC smax
comp=N,2.0nm,0.3s
VRAC Vranov 11.10 336⇓P **Pn 18 33 33.3 +0.5**
VRAC Vranov 11.10 336⇓*i*P **Pn 18 33 33.3 +0.5**
OKC Ostrava-Krasne 11.14 342 *e*P **Pn 18 33 34.7 +1.3**
OKC AMS AMS 18 38 40.0
comp=N,5µm,11.4s
OKC Ostrava-Krasne 11.14 342 *e*P **Pn 18 33 34.7 +1.3**
comp=N,5µm,11.4s
OJC Ojcow 11.16 347 *i* P **Pn 18 33 34.1 +0.4**
OJC *e*S **Sn 18 35 38.9 +0.2**
MORC Moravsky Berou 11.24 340⇑P **Pn 18 33 34.4 -0.3**
MORC Moravsky Berou 11.24 340⇑*i*P **Pn 18 33 34.4 -0.3**
MORC Moravsky Berou 11.24 340 P **Pn 18 33 36.1 +1.4**
PGF Pioggiola 11.45 291 *e*P **Pn 18 33 36.3 -1.3**
comp=N,271nm,1.5s
PGF Pioggiola 11.45 291 *e*P **Pn 18 33 36.3 -1.3**
PGF pmax pmax
comp=Z,136nm,1.5s
PGF Pioggiola 11.45 291 *e*P **Pn 18 33 36.3 -1.3**
comp=Z,136nm,1.5s
TREC Trest 11.46 332 *e*P **Pn 18 33 38.4 +0.6**
MMAI Mount Meron Ar 11.48 120 Pn **Pn 18 33 37.7 -0.3**
comp=Z,5.2nm,0.3s,baz=308,slow=12,SNR=30
MMAI LR LR 18 38 23.5
comp=Z,1µm,21.4s,baz=20,slow=39
ANN Anapa 11.65 58 *e*P **Pn 18 33 36.8 -3.5**
ANN *e*S **Sn 18 35 47.2 -3.4**
ANN pmax pmax
comp=Z,94nm,1.5s
ANN MLR MLR
comp=Z,2µm,12.0s
MALT Malatya 11.65 91 P **Pn 18 33 44.4 +4.0**
WTTA Wattenberg 11.71 316⇓*i*Pn **Pn 18 33 41.5 +0.3**
WTTA ⇓*i*Sn **Sn 18 35 51.0 -1.2**
WATA Walderalm 11.79 316⇑*i*Pn **Pn 18 33 42.3 +0.1**
WATA ⇑*i*Sn **Sn 18 35 50.7 -3.3**
GEC2 GERESS Array S 11.81 326 *e*Pn **Pn 18 33 44.0 +1.5**
GERES GERESS Array B 11.81 326 Pn **Pn 18 33 42.6 +0.1**
comp=Z,0.2nm,0.3s,baz=144,slow=14,SNR=35
GERES Sn **Sn 18 35 56.2 +1.7**
comp=Z,0.3nm,0.3s,baz=161,slow=19,SNR=2.9
GERES LR LR 18 37 55.4
comp=Z,794nm,18.6s,baz=134,slow=36
KEST Kesra 11.84 257 Pn **Pn 18 33 44.1 +1.1**
comp=Z,0.3nm,0.3s,baz=306,slow=0.2,SNR=11
SQTA Sankt Quirin 11.92 315⇑*i*Pn **Pn 18 33 44.6 +0.6**
SQTA ⇓*i*Sn **Sn 18 35 56.2 -1.0**
KIEV Kiev 12.00 18 *e*P **Pn 18 33 43.1 -2.0**
KIEV pmax pmax
comp=Z,26nm,0.8s
KIEV Kiev 12.00 18 *e*P **Pn 18 33 43.1 -2.0**
comp=Z,26nm,0.8s
AKASG Malin Array Be 12.01 18 Pn **Pn 18 33 42.5 -2.7**
comp=Z,2.0nm,0.3s,baz=202,slow=13,SNR=45
AKASG Sn **Sn 18 35 54.2 -5.2**
comp=Z,4.3nm,0.3s,baz=200,slow=21,SNR=5.6
AKASG LR LR 18 39 03.6
comp=Z,2µm,18.1s,baz=205,slow=41
AKASG Malin Array Be 12.01 18 P **Pn 18 33 42.6 -2.6**
AKASG 18 35 54.2
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG smax
comp=N,4.0nm,0.3s
AKASG MLR MLR
comp=Z,2µm,18.1s
AKASG Malin Array Be 12.01 18 Pn **Pn 18 33 42.5 -2.7**
AKASG Sn **Sn 18 35 54.2 -5.2**
AKBB Malin Array Si 12.01 18 *e*P **Pn 18 33 43.5 -1.7**
MOTA Moosalm 12.05 315⇑*i*Pn **Pn 18 33 45.9 +0.1**
MOTA ⇓*i*Sn **Sn 18 35 59.5 -0.9**
FETA Feichten 12.07 313⇓*i*Pn **Pn 18 33 46.4 +0.3**
FETA ⇑*i*Sn **Sn 18 35 57.8 -3.1**
KHC Kasperske Hory 12.08 327 *e*P **Pn 18 33 46.7 +0.5**
KHC *ex* x 18 33 51.0
KHC *ex* x 18 33 59.0
KHC AMS AMS 18 38 30.0
comp=Z,4µm,13.8s
KHC Kasperske Hory 12.08 327 *e*P **Pn 18 33 46.7 +0.5**
KHC *e* 18 33 51.0
KHC *e* 18 33 59.0
KHC Kasperske Hory 12.08 327 *e*P **Pn 18 33 46.7 +0.5**
comp=Z,4µm,13.8s
DPC Dobruska-Polom 12.10 337 *e*P **Pn 18 33 47.4 +0.9**
DPC AMS AMS 18 39 10.0
comp=Z,4µm,12.8s
DPC Dobruska-Polom 12.10 337 *e*P **Pn 18 33 47.4 +0.9**
comp=Z,4µm,12.8s
UPC Upice 12.34 337 *e*P **Pn 18 33 50.6 +0.9**
PRU Pruhonice 12.38 332 *e*P **Pn 18 33 49.9 -0.5**
PRU AMS AMS 18 39 20.0
comp=Z,4µm,12.1s
PRU Pruhonice 12.38 332 *e*P **Pn 18 33 49.9 -0.5**
comp=Z,4µm,12.1s
WET Wettzell 12.39 325 *e*Pn **Pn 18 33 51.0 +0.6**
FUR Furstenfeldbru 12.47 319 *e*Pn **Pn 18 33 58.3 +6.8**
KSP Ksiaz 12.55 338 *e*P **Pn 18 33 55.2 +2.6**
KSP Ksiaz 12.55 338 *e*P **Pn 18 33 54.5 +1.9**
KSP *e*PP 18 34 03.7
DAVA Damuels 12.70 313⇑*i*Pn **Pn 18 33 54.8 +0.2**
DAVA ⇑*i*Sn **Sn 18 36 15.2 -1.0**
PVCC Panska Ves 12.82 333 *e*P **Pn 18 33 56.2 -0.2**
PVCC AMS AMS 18 40 50.0
comp=Z,4µm,8.1s
PVCC Panska Ves 12.82 333 *e*P **Pn 18 33 56.2 -0.2**
comp=Z,4µm,8.1s
SOC Sochi 12.83 66 *e*P **Pn 18 33 53.7 -2.8**
SOC *e* 18 36 17.7
SOC pmax pmax
comp=Z,12nm,0.8s
SOC MLR MLR
comp=Z,976nm,13.0s
ASF Jabal al Asfar 13.00 119 Pn **Pn 18 34 01.3 +2.6**
comp=Z,0.3nm,0.3s,baz=169,slow=3.9,SNR=31
ASF LR LR 18 39 10.5
comp=Z,1µm,21.3s,baz=170,slow=38
ROTZ Rotzenmuhle 13.15 326 *e*Pn **Pn 18 34 01.4 +0.6**
BRG Berggiesshubel 13.33 333 *e*Pn **Pn 18 34 03.2 -0.1**
BRG Berggiesshubel 13.33 333 *e*P **Pn 18 34 03.3 0.0**
comp=Z,28nm,2.0s
BRG *e* 18 34 22.2
comp=Z,59nm,1.8s
BRG

	comp=N,2µm,12.6s					
BRG						
	comp=E,2µm,12.5s					
BRG						
	comp=Z,2µm,12.0s					
FRF	**La Foret Royal**	**13.34 294**	*e*P	**Pn**	**18 34 02.6 -0.9**	
	comp=Z,91nm,1.3s					
FRF	**La Foret Royal**	**13.34 294**	*e*P	**Pn**	**18 34 02.6 -0.9**	
FRF			pmax	pmax		
	comp=Z,46nm,1.3s					
FRF	**La Foret Royal**	**13.34 294**	*e*P	**Pn**	**18 34 02.6 -0.9**	
	comp=Z,46nm,1.3s					
MANZ	**Manzenberg**	**13.35 326**	*e*Pn	**Pn**	**18 34 04.5 +0.9**	
NKC	**Novy Kostel**	**13.40 328**	*e*P	**Pn**	**18 34 03.5 -0.7**	
NKC			AMS	AMS	18 39 30.0	
	comp=Z,4µm,18.8s					
NKC	**Novy Kostel**	**13.40 328**	*e*P	**Pn**	**18 34 03.5 -0.7**	
	comp=Z,4µm,18.8s					
WERN	**Wernitzgruen**	**13.47 328**	*e*Pn	**Pn**	**18 34 05.3 +0.1**	
EIL	**Elat**	**13.48 132**	*e*P	**Pn**	**18 34 03.4 -2.0**	
	comp=Z,416nm,0.9s					
TANN	**Tannenbergstha**	**13.53 328**	*e*Pn	**Pn**	**18 34 04.5 -1.5**	
GRA1	**Grafenberg Arr**	**13.53 324**	*e*P	**Pn**	**18 34 04.9 -1.2**	
	comp=Z,3µm,15.7s					
GRF	**Grafenberg Arr**	**13.53 324**	*e*Pn	**Pn**	**18 34 04.9 -1.2**	
GRF			*e*L		18 40 16.3	
	comp=Z,3µm,15.7s					
GRFO	**Grafenberg**	**13.53 324**	P	**Pn**	**18 34 06.7 +0.6**	
GRFO			pmax	pmax		
	comp=Z,33nm,1.2s					
GRFO	**Grafenberg**	**13.53 324**	P	**Pn**	**18 34 06.7 +0.6**	
	comp=Z,33nm,1.2s					
GUNZ	**Gunzen**	**13.54 328**	*e*Pn	**Pn**	**18 34 04.9 -1.3**	
MBDF	**Montbardon**	**13.56 299**	*e*P	**Pn**	**18 34 06.3 -0.1**	
	comp=Z,56nm,0.9s					
MBDF	**Montbardon**	**13.56 299**	*e*P	**Pn**	**18 34 06.3 -0.1**	
MBDF			pmax	pmax		
	comp=Z,28nm,0.9s					
MBDF	**Montbardon**	**13.56 299**	*e*P	**Pn**	**18 34 06.3 -0.1**	
	comp=Z,28nm,0.9s					
WERD	**Werda**	**13.62 328**	*e*Pn	**Pn**	**18 34 06.5 -0.7**	
LPG	**La Plagne**	**13.82 302**	*e*P	**Pn**	**18 34 09.1 -0.9**	
	comp=Z,38nm,0.7s					
LPG	**La Plagne**	**13.82 302**	*e*P	**Pn**	**18 34 09.1 -0.9**	
LPG			pmax	pmax		
	comp=Z,19nm,0.7s					
LPG	**La Plagne**	**13.82 302**	*e*P	**Pn**	**18 34 09.1 -0.9**	
	comp=Z,19nm,0.7s					
LPL	**La Plagne**	**13.84 302**	*e*P	**Pn**	**18 34 09.2 -1.0**	
	comp=Z,57nm,1.0s					
LPL	**La Plagne**	**13.84 302**	*e*P	**Pn**	**18 34 09.2 -1.0**	
LPL			pmax	pmax		
	comp=Z,29nm,1.0s					
LPL	**La Plagne**	**13.84 302**	*e*P	**Pn**	**18 34 09.2 -1.0**	
	comp=Z,29nm,1.0s					
STU	**Stuttgart**	**13.93 317**	*e*Pn	**Pn**	**18 34 13.4 +1.9**	
CLL	**Collm**	**14.03 332**	*e*Pn	**Pn**	**18 34 11.7 -1.1**	
CLL	**Collm**	**14.03 332**	*i* P	**Pn**	**18 34 11.7 -1.1**	
CLL			pmax	pmax		
	comp=Z,6.0nm,1.0s					
CLL			MLR	MLR		
	comp=Z,6µm,10.3s					
CLL	**Collm**	**14.03 332**	*i* P	**Pn**	**18 34 11.7 -1.1**	
	comp=Z,6.0nm,1.0s					
CLL			*i*		18 34 15.7	
CLL			*i*		18 34 21.1	
CLL	**Collm**	**14.03 332**	*i* P	**Pn**	**18 34 11.7 -1.1**	
	comp=Z,6.0nm,1.0s					
CLL			*i* pP		18 34 15.7	
CLL			*i* PP		18 34 21.1	
	comp=Z,34nm,1.1s					
CLL			*i* x	x	18 34 29.9	
MOX	**Moxa**	**14.05 327**	*e*Pn	**Pn**	**18 34 13.2 0.0**	
MOX	**Moxa**	**14.05 327**	*e*P	**Pn**	**18 34 13.0 -0.2**	
	comp=Z,72nm,1.8s					
MOX						
	comp=Z,3µm,17.0s					
MOX	**Moxa**	**14.05 327**	*e*P	**Pn**	**18 34 13.0 -0.2**	
MOX			pmax	pmax		
	comp=Z,25nm,1.8s					
MOX			MLR	MLR		
	comp=Z,72µm,17.0s					
FELD	**Feldberg im Sc**	**14.08 312**	P	**Pn**	**18 34 14.3 +0.7**	
FELD	**Feldberg im Sc**	**14.08 312**	*e*P	**Pn**	**18 34 14.2 +0.6**	
BFO	**Black Forest**	**14.14 314**	*e*Pn	**Pn**	**18 34 15.2 +0.8**	
BBS	**Basel-Blauen**	**14.17 310**	P	**Pn**	**18 34 11.4 -3.3**	
SMRF	**Simiane la Rot**	**14.19 295**	*e*P	**Pn**	**18 34 14.4 -0.7**	
	comp=Z,194nm,1.6s					
SMRF	**Simiane la Rot**	**14.19 295**	*e*P	**Pn**	**18 34 14.4 -0.7**	
	comp=Z,97nm,1.6s					
ORIF	**Oris-en-Rattie**	**14.22 299**	*e*P	**Pn**	**18 34 13.8 -1.6**	
	comp=Z,47nm,1.0s					
ORIF			*e*MLR			
	comp=Z,4µm,21.5s					
ORIF	**Oris-en-Rattie**	**14.22 299**	*e*P	**Pn**	**18 34 13.8 -1.6**	
ORIF			pmax	pmax		
	comp=Z,24nm,1.0s					
ORIF	**Oris-en-Rattie**	**14.22 299**	*e*P	**Pn**	**18 34 13.8 -1.6**	
	comp=Z,24nm,1.0s					
LOMF	**Lomont**	**14.52 309**	*e*P	**Pn**	**18 34 20.3 +0.8**	
LOMF	**Lomont**	**14.52 309**	P	**Pn**	**18 34 20.7 +1.2**	
GKP	**Gorka Klasztor**	**14.55 345**	*e*P	**Pn**	**18 34 28.2 +8.2**	
MOF	**Molkenrain**	**14.58 311**	P	**Pn**	**18 34 28.2 +7.9**	
SUW	**Suwalki**	**14.64 359**	*e*P	**Pn**	**18 34 21.4 +0.2**	
SUW	**Suwalki**	**14.64 359**	*e*P	**Pn**	**18 34 20.6 -0.7**	
TOD	**Tromm**	**14.65 319**	P	**Pn**	**18 34 26.9 +5.7**	
CABF	**La Chapelle**	**14.66 305**	*e*P	**Pn**	**18 34 20.6 -0.9**	
	comp=Z,313nm,1.6s					
CABF	**La Chapelle**	**14.66 305**	*e*P	**Pn**	**18 34 20.6 -0.9**	
CABF			pmax	pmax		
	comp=Z,156nm,1.6s					
CABF	**La Chapelle**	**14.66 305**	*e*P	**Pn**	**18 34 20.6 -0.9**	
	comp=Z,156nm,1.6s					
HINF	**Hinteralfeld**	**14.72 310**	*e*P	**Pn**	**18 34 21.2 -1.1**	
	comp=Z,114nm,1.5s					
HINF	**Hinteralfeld**	**14.72 310**	*e*P	**Pn**	**18 34 21.2 -1.1**	
HINF			pmax	pmax		
	comp=Z,57nm,1.5s					
HINF	**Hinteralfeld**	**14.72 310**	*e*P	**Pn**	**18 34 21.2 -1.1**	
	comp=Z,57nm,1.5s					
ECH	**Echery**	**14.74 312**	*e*P	**Pn**	**18 34 23.1 +0.5**	
ECH	**Echery**	**14.74 312**	P	**Pn**	**18 34 29.0 +6.4**	
CDF	**Champ du Feu**	**14.78 313**	*e*P	**Pn**	**18 34 21.3 -1.8**	
	comp=Z,42nm,1.2s					
CDF	**Champ du Feu**	**14.78 313**	*e*P	**Pn**	**18 34 21.3 -1.8**	
CDF			pmax	pmax		
	comp=Z,21nm,1.2s					
CDF	**Champ du Feu**	**14.78 313**	*e*P	**Pn**	**18 34 21.3 -1.8**	
	comp=Z,21nm,1.2s					
LANF	**Langenberg**	**14.80 316**	P	**Pn**	**18 34 28.2 +4.9**	
UBBA	**Unterbreizbach**	**14.88 325**	*e*Pn	**Pn**	**18 34 26.8 +2.3**	
KIV	**Kislovodsk**	**15.01 66⇑**	*e*P	**Pn**	**18 34 27.5 +1.3**	
KIV			pmax	pmax		
	comp=Z,30nm,1.5s					
KIV			MLR	MLR		
	comp=Z,800nm,17.0s					
KIV	**Kislovodsk**	**15.01 66**	*e*P	**Pn**	**18 34 27.6 +1.3**	
	comp=Z,100nm,1.1s					
KIV	**Kislovodsk**	**15.01 66**	*e*P	**Pn**	**18 34 27.5 +1.3**	
	comp=Z,800nm,17.0s					
VIVF	**Saint-Julien-l**	**15.03 297**	*e*P	**Pn**	**18 34 23.7 -2.8**	
	comp=Z,59nm,1.2s					
VIVF	**Saint-Julien-l**	**15.03 297**	*e*P	**Pn**	**18 34 23.7 -2.8**	
VIVF			pmax	pmax		
	comp=Z,30nm,1.2s					
VIVF	**Saint-Julien-l**	**15.03 297**	*e*P	**Pn**	**18 34 23.7 -2.8**	
	comp=Z,30nm,1.2s					
HAU	**Haudompre**	**15.11 310**	*e*P	**Pn**	**18 34 26.3 -1.3**	
	comp=Z,55nm,1.1s					
HAU			*e*MLR			
	comp=Z,4µm,19.0s					
HAU	**Haudompre**	**15.11 310**	*e*P	**Pn**	**18 34 26.3 -1.3**	
HAU			pmax	pmax		
	comp=Z,28nm,1.1s					
HAU	**Haudompre**	**15.11 310**	*e*P	**Pn**	**18 34 26.3 -1.3**	
	comp=Z,28nm,1.1s					
TNS	**Taunus Mts**	**15.21 320**	*e*Pn	**Pn**	**18 34 33.1 +4.2**	
ONI	**Oni**	**15.37 72**	P	**Pn**	**18 34 29.6 -1.3**	
MNK	**Minsk**	**15.40 9⇑**	*e*P	**Pn**	**18 34 25.0 -6.4**	
MNK			pmax	pmax		
	comp=Z,200nm,1.0s					
GTTG	**Gvttingen**	**15.42 327**	*e*Pn	**Pn**	**18 34 32.8 +1.1**	
LASF	**Ste Croix**	**15.43 294**	*e*P	**Pn**	**18 34 29.5 -2.2**	
	comp=Z,152nm,1.6s					
LASF	**Ste Croix**	**15.43 294**	*e*P	**Pn**	**18 34 29.5 -2.2**	
	comp=Z,76nm,1.6s					
THEF	**They Montfort**	**15.43 311**	P	**Pn**	**18 34 38.4 +6.6**	
ABH	**Alteburg**	**15.46 318**	P	**Pn**	**18 34 39.3 +7.2**	
CLZ	**Clausthal**	**15.47 328**	*e*Pn	**Pn**	**18 34 34.7 +2.4**	
MSL	**Mosul**	**15.74 95**	*ex*	x	18 34 39.0	
MSL			*ex*	x	18 34 50.0	
MSL			*ex*	x	18 37 46.5	
MSL			*ex*	x	18 38 03.0	
GOR	**Gori**	**15.81 74**	P	**Pn**	**18 34 39.6 +2.9**	
VORD	**Divnogorie**	**16.01 38**	*e*P	**Pn**	**18 34 35.0 -4.3**	
VORD			pmax	pmax		
	comp=Z,10.0nm,0.7s					
VORD			pmax	pmax		
	comp=N,40nm,0.6s					
VORD			pmax	pmax		
	comp=E,70nm,0.8s					
PLDF	**La Plantade**	**16.05 301**	*e*P	**Pn**	**18 34 43.7 +3.9**	
PLDF	**La Plantade**	**16.05 301**	P	**Pn**	**18 34 42.7 +2.9**	
WLF	**Walferdange**	**16.08 315**	*e*Pn	**Pn**	**18 34 45.3 +5.1**	
WLF	**Walferdange**	**16.08 315**	P	**Pn**	**18 34 44.7 +4.5**	
	comp=Z,34nm,1.7s					
LBL	**Lubilhac**	**16.10 298**	*e*P	**Pn**	**18 34 44.5 +4.0**	
MEZF	**Maizieres J'vi**	**16.11 311**	*e*P	**Pn**	**18 34 39.4 -1.2**	
SMF	**Signal de Mont**	**16.12 303**	*e*P	**Pn**	**18 34 39.0 -1.7**	
	comp=Z,127nm,1.4s					
SMF	**Signal de Mont**	**16.12 303**	*e*P	**Pn**	**18 34 39.0 -1.7**	
SMF			pmax	pmax		
	comp=Z,63nm,1.4s					
SMF	**Signal de Mont**	**16.12 303**	*e*P	**Pn**	**18 34 39.0 -1.7**	
	comp=Z,64nm,1.4s					
MTA	**Mtatsminda**	**16.32 75**	P	**Pn**	**18 34 45.8 +2.6**	
LOR	**Lormes**	**16.33 305**	*e*P	**Pn**	**18 34 40.4 -3.0**	
	comp=Z,115nm,1.5s					
LOR			*e*MLR			
	comp=Z,3µm,20.5s					
LOR	**Lormes**	**16.33 305**	*e*P	**Pn**	**18 34 40.4 -3.0**	
LOR			pmax	pmax		
	comp=Z,57nm,1.5s					
LOR	**Lormes**	**16.33 305**	*e*P	**Pn**	**18 34 40.4 -3.0**	
	comp=Z,57nm,1.5s					
AGO	**Saint Agoulin**	**16.40 301**	*e*P	**Pn**	**18 34 47.1 +2.8**	
VOR	**Voronezh**	**16.47 36**	P	**Pn**	**18 34 44.0 -1.2**	
VOR			pmax	pmax		
	comp=N,110nm,1.7s					
VOR			pmax	pmax		
	comp=E,140nm,1.7s					
VOR			pmax	pmax		
	comp=Z,100nm,1.7s					
SSF	**Saint Saulge**	**16.48 304**	*e*P	**Pn**	**18 34 42.5 -2.8**	
	comp=Z,85nm,1.3s					
SSF	**Saint Saulge**	**16.48 304**	*e*P	**Pn**	**18 34 42.5 -2.8**	
SSF			pmax	pmax		
	comp=Z,42nm,1.3s					
SSF	**Saint Saulge**	**16.48 304**	*e*P	**Pn**	**18 34 42.5 -2.8**	
	comp=Z,42nm,1.3s					
AVF	**Avril sur Loir**	**16.48 303**	*e*P	**Pn**	**18 34 43.6 -1.8**	
	comp=Z,214nm,1.6s					
AVF	**Avril sur Loir**	**16.48 303**	*e*P	**Pn**	**18 34 43.6 -1.8**	
AVF			pmax	pmax		
	comp=Z,107nm,1.6s					
AVF	**Avril sur Loir**	**16.48 303**	*e*P	**Pn**	**18 34 43.6 -1.8**	
	comp=Z,107nm,1.6s					
MTLF	**Montolieu**	**16.49 291**	*e*P	**Pn**	**18 34 43.8 -1.6**	
	comp=Z,36nm,1.0s					
MTLF	**Montolieu**	**16.49 291**	*e*P	**Pn**	**18 34 43.8 -1.6**	
MTLF			pmax	pmax		
	comp=Z,18nm,1.0s					
MTLF	**Montolieu**	**16.49 291**	*e*P	**Pn**	**18 34 43.8 -1.6**	
	comp=Z,18nm,1.0s					
BUG	**Bochum--Univer**	**16.57 322**	*e*Pn	**Pn**	**18 34 50.6 +4.1**	
MEM	**Membach**	**16.69 318**	P	**Pn**	**18 34 49.5 +1.5**	
	comp=Z,26nm,1.3s					
MEM	**Membach**	**16.69 318**	P	**Pn**	**18 34 49.4 +1.4**	
	comp=Z,26nm,1.3s					
BGF	**Bois d'Agland**	**16.74 302**	*e*P	**Pn**	**18 34 47.1 -1.5**	
	comp=Z,171nm,1.2s					
BGF	**Bois d'Agland**	**16.74 302**	*e*P	**Pn**	**18 34 47.1 -1.5**	
BGF			pmax	pmax		
	comp=Z,86nm,1.2s					
BGF	**Bois d'Agland**	**16.74 302**	*e*P	**Pn**	**18 34 47.1 -1.5**	
	comp=Z,86nm,1.2s					
DGRG	**David-gareji**	**16.75 76**	P	**Pn**	**18 34 51.4 +2.7**	
BSD	**Bornholm Skovb**	**16.78 343**	*i* P	**Pn**	**18 34 52.5 +3.4**	
	comp=Z,35nm,1.0s					
BSD						
	comp=Z,2µm,18.0s					
BSD	**Bornholm Skovb**	**16.78 343**	*e*P	**Pn**	**18 34 52.5 +3.4**	
BSD			pmax	pmax		
	comp=Z,35nm,1.0s					
BSD			MLR	MLR		
	comp=Z,2µm,18.0s					
HGN	**Heimansgroeve**	**16.82 318**	*e*P	**Pn**	**18 34 54.1 +4.5**	
	comp=Z,72nm,1.7s					
CAF	**Calviac**	**16.85 296**	*e*P	**Pn**	**18 34 48.4 -1.6**	
	comp=Z,79nm,1.3s					
CAF	**Calviac**	**16.85 296**	*e*P	**Pn**	**18 34 48.4 -1.6**	
CAF			pmax	pmax		
	comp=Z,39nm,1.3s					
CAF	**Calviac**	**16.85 296**	*e*P	**Pn**	**18 34 48.4 -1.6**	
	comp=Z,39nm,1.3s					
BCLA	**Clavier**	**16.95 317**	P	pP	18 34 59.3 +4.1	
	comp=Z,21nm,1.9s					
GIVF	**Givet**	**17.04 315**	*e*P	**Pn**	**18 34 50.8 -1.6**	
	comp=Z,82nm,1.2s					
GIVF	**Givet**	**17.04 315**	*e*P	**Pn**	**18 34 50.8 -1.6**	
GIVF			pmax	pmax		
	comp=Z,41nm,1.2s					
GIVF	**Givet**	**17.04 315**	*e*P	**Pn**	**18 34 50.8 -1.6**	
	comp=Z,41nm,1.2s					
TCF	**Toulx Ste Croi**	**17.08 301**	*e*P	**Pn**	**18 34 53.3 +0.4**	
	comp=Z,307nm,1.8s					
TCF	**Toulx Ste Croi**	**17.08 301**	*e*P	**Pn**	**18 34 53.3 +0.4**	
TCF			pmax	pmax		
	comp=Z,153nm,1.8s					
TCF	**Toulx Ste Croi**	**17.08 301**	*e*P	**Pn**	**18 34 53.3 +0.4**	
	comp=Z,153nm,1.8s					
BSEG	**Bad Segeberg**	**17.12 333**	*e*Pn	**Pn**	**18 34 52.3 -1.1**	
WTSB	**Winterswijk**	**17.14 323**	*e*P	**Pn**	**18 34 56.3 +2.7**	
	comp=Z,62nm,2.3s					
DOU	**Dourbes**	**17.16 315**	P	pP	18 34 57.5 0.0	
	comp=Z,14nm,1.8s					
EPOB	**Poblet**	**17.23 284**	P	**Pn**	**18 34 57.4 +2.6**	
	comp=Z,3.0nm,0.9s					
RJF	**Les Rejaudoux**	**17.31 297**	*e*P	**Pn**	**18 34 55.9 +0.1**	
	comp=Z,120nm,1.6s					
RJF			*e*MLR			
	comp=Z,2µm,18.2s					
RJF	**Les Rejaudoux**	**17.31 297**	*e*P	**Pn**	**18 34 55.9 +0.1**	
RJF			pmax	pmax		
	comp=Z,60nm,1.6s					
RJF	**Les Rejaudoux**	**17.31 297**	*e*P	**Pn**	**18 34 55.9 +0.1**	
	comp=Z,60nm,1.6s					
BAIF	**Baives**	**17.35 314**	*e*P	**Pn**	**18 34 54.5 -1.8**	
	comp=Z,61nm,1.2s					
BAIF	**Baives**	**17.35 314**	*e*P	**Pn**	**18 34 54.5 -1.8**	
BAIF			pmax	pmax		
	comp=Z,30nm,1.2s					
BAIF	**Baives**	**17.35 314**	*e*P	**Pn**	**18 34 54.5 -1.8**	
	comp=Z,30nm,1.2s					
UCC	**Uccle**	**17.66 317**	P	pP	18 35 04.6 +1.5	
LFF	**La Frestale**	**17.78 296**	*e*P	**Pn**	**18 35 00.0 -1.6**	
	comp=Z,184nm,1.7s					
LFF	**La Frestale**	**17.78 296**	*e*P	**Pn**	**18 35 00.0 -1.6**	
LFF			pmax	pmax		
	comp=Z,92nm,1.7s					
LFF	**La Frestale**	**17.78 296**	*e*P	**Pn**	**18 35 00.0 -1.6**	
	comp=Z,92nm,1.7s					
EPF	**Esparros**	**17.83 289**	*e*P	**Pn**	**18 35 00.6 -1.6**	
	comp=Z,43nm,1.2s					
EPF	**Esparros**	**17.83 289**	*e*P	**Pn**	**18 35 00.6 -1.6**	
EPF			pmax	pmax		
	comp=Z,21nm,1.2s					
EPF	**Esparros**	**17.83 289**	*e*P	**Pn**	**18 35 00.6 -1.6**	
	comp=Z,21nm,1.2s					
BHD	**Baghdad**	**17.84 104**	*i* x	x	18 35 02.0	
BHD			*ex*	x	18 38 35.0	
BHD			*ex*	x	18 44 14.0	
EBIE	**Bielsa**	**17.95 288**	P	**Pn**	**18 35 03.8 0.0**	
	comp=Z,27nm,1.1s					
OBN	**Obninsk**	**18.00 25⇓**	*e*P	**Pn**	**18 35 01.4 -3.0**	
OBN			pmax	pmax		
	comp=Z,97nm,2.0s					
OBN			MLR	MLR		
	comp=Z,2µm,16.0s					
OBN	**Obninsk**	**18.00 25**	*e*P	**Pn**	**18 35 00.9 -3.6**	
	comp=Z,222nm,1.4s					
MAK	**Makhachkala**	**18.37 71**	*e*S	**Sn**	**18 38 36.3 +2.0**	
MAK			MLR	MLR		
	comp=Z,2µm,14.0s					
EMOS	**Mosqueruela**	**18.46 281**	P	**Pn**	**18 35 11.2 +1.3**	
	comp=Z,32nm,1.4s					
EMOS	**Mosqueruela**	**18.46 281**	P	**Pn**	**18 35 11.2 +1.3**	
	comp=Z,32nm,1.4s					
ETSF	**Etsaut**	**18.48 289**	*e*P	**Pn**	**18 35 08.6 -1.6**	
MFF	**Saint Martin d**	**18.73 300**	*e*P	**Pn**	**18 35 06.6 -6.7**	
	comp=Z,90nm,1.4s					
MFF	**Saint Martin d**	**18.73 300**	*e*P	**Pn**	**18 35 06.6 -6.7**	
MFF			pmax	pmax		
	comp=Z,45nm,1.4s					
MFF	**Saint Martin d**	**18.73 300**	*e*P	**Pn**	**18 35 06.6 -6.7**	
	comp=Z,45nm,1.4s					
MOS	**Moscow**	**18.86 25**	*e*P	**Pn**	**18 35 11.0 -3.9**	
MOS			*e*S	**Sn**	**18 38 44.2 -2.0**	
MOS			pmax	pmax		
	comp=Z,129nm,0.9s					
MOS			MLR	MLR		
	comp=Z,2µm,10.0s					
ECHE	**Chera**	**18.91 278**	P	**Pn**	**18 35 16.1 +0.6**	
ECHE			pmax	pmax		
	comp=Z,9.0nm,0.8s					
ECHE	**Chera**	**18.91 278**	P	**Pn**	**18 35 16.1 +0.6**	
	comp=Z,8.8nm,0.8s					
ECHE	**Chera**	**18.91 278**	P	**Pn**	**18 35 16.1 +0.6**	
	comp=Z,8.8nm,0.8s					
SJPF	**Ste Jean**	**18.98 289**	*e*P	**Pn**	**18 35 14.2 -2.1**	
ELIZ	**Elizondo**	**19.20 289**	P	**Pn**	**18 35 19.4 +0.4**	
ELIZ			pmax	pmax		
	comp=Z,6.0nm,0.6s					
ELIZ	**Elizondo**	**19.20 289**	P	**Pn**	**18 35 19.4 +0.4**	
	comp=Z,5.9nm,0.6s					
ELIZ	**Elizondo**	**19.20 289**	P	**Pn**	**18 35 19.4 +0.4**	
	comp=Z,5.9nm,0.6s					
LDF	**La Druitiere**	**19.30 306**	*e*P	**Pn**	**18 35 18.4 -1.7**	
	comp=Z,52nm,0.9s					
LDF	**La Druitiere**	**19.30 306**	*e*P	**Pn**	**18 35 18.4 -1.7**	
LDF			pmax	pmax		
	comp=Z,26nm,0.9s					
LDF	**La Druitiere**	**19.30 306**	*e*P	**Pn**	**18 35 18.4 -1.7**	
	comp=Z,26nm,0.9s					
ETOB	**Tobarra**	**19.50 276**	P	**Pn**	**18 35 31.3 +8.7**	
MUD	**Monsted U'grnd**	**19.55 336⇓**	*i* P	**Pn**	**18 35 29.7 +6.6**	
	comp=Z,46nm,1.0s					
MUD						
	comp=Z,1µm,18.0s					
MUD	**Monsted U'grnd**	**19.55 336⇓**	*i* P	**Pn**	**18 35 29.7 +6.6**	
MUD			pmax	pmax		
	comp=Z,46nm,1.0s					
MUD			MLR	MLR		
	comp=Z,1µm,18.0s					
FLN	**La Foliniere**	**19.58 306**	*e*P	**Pn**	**18 35 21.8 -1.7**	
	comp=Z,298nm,1.7s					
FLN			*e*MLR			
	comp=Z,2µm,18.0s					
FLN	**La Foliniere**	**19.58 306**	*e*P	**Pn**	**18 35 21.8 -1.7**	
FLN			pmax	pmax		
	comp=Z,149nm,1.7s					
FLN	**La Foliniere**	**19.58 306**	*e*P	**Pn**	**18 35 21.8 -1.7**	
	comp=Z,149nm,1.7s					
ETOR	**Torete**	**19.62 282**	P	**Pn**	**18 35 22.1 -1.9**	
ETOR			pmax	pmax		
	comp=Z,7.0nm,0.7s					
ETOR	**Torete**	**19.62 282**	P	**Pn**	**18 35 22.1 -2.0**	
	comp=Z,6.7nm,0.7s					
ETOR	**Torete**	**19.62 282**	P	**Pn**	**18 35 22.1 -1.9**	
	comp=Z,7.0nm,0.7s					
GRR	**Gorron**	**19.70 305**	*e*P	**Pn**	**18 35 22.4 -2.5**	
EVIA	**Vianos**	**20.24 276**	P	**P**	**18 35 28.9 -0.5**	
EVIA			pmax	pmax		
	comp=Z,19nm,0.8s					
EVIA	**Vianos**	**20.24 276**	P	**P**	**18 35 28.9 -0.5**	
	comp=Z,19nm,0.8s					
ELAN	**Lanestosa**	**20.60 290**	P	**P**	**18 35 32.1 -1.1**	
	comp=Z,40nm,1.2s					
ELAN	**Lanestosa**	**20.60 290**	P	**P**	**18 35 32.2 -1.1**	
	comp=Z,40nm,1.2s					
SGMF	**Saint Gilles**	**20.74 304**	*e*P	**P**	**18 35 34.6 -0.3**	
	comp=Z,149nm,1.3s					
SGMF	**Saint Gilles**	**20.74 304**	*e*P	**P**	**18 35 34.6 -0.3**	
SGMF			pmax	pmax		
	comp=Z,74nm,1.3s					
SGMF	**Saint Gilles**	**20.74 304**	*e*P	**P**	**18 35 34.6 -0.3**	
	comp=Z,74nm,1.3s					
EQES	**Quesada**	**20.84 274**	P	**P**	**18 35 37.9 +2.0**	
	comp=Z,9.9nm,0.8s					
EQES	**Quesada**	**20.84 274**	P	**P**	**18 35 37.9 +1.9**	
	comp=Z,9.9nm,0.8s					
EBER	**Berja**	**20.92 272**	P	**P**	**18 35 39.8 +3.0**	
EBER	**Berja**	**20.92 272**	P	**P**	**18 35 39.8 +3.0**	
QUIF	**Quistinic**	**21.05 303**	*e*P	**P**	**18 35 35.0 -3.2**	
	comp=Z,142nm,1.1s,mb4.9					
QUIF	**Quistinic**	**21.05 303**	*e*P	**P**	**18 35 35.0 -3.2**	
QUIF			pmax	pmax		
	comp=Z,71nm,1.1s,mb4.9					
QUIF	**Quistinic**	**21.05 303**	*e*P	**P**	**18 35 35.0 -3.2**	
	comp=Z,71nm,1.1s,mb4.9					
ESDC	**Sonseca Array**	**21.20 280**	P	**P**	**18 35 40.7 +0.9**	
	comp=Z,4.5nm,0.5s,mb4.0,baz=76,slow=11,SNR=17					
ESDC			LR	LR	18 44 14.3	
	comp=Z,651nm,18.1s,MS4.1,baz=75,slow=38					
ESDC	**Sonseca Array**	**21.20 280**	P	**P**	**18 35 40.3 +0.5**	
	comp=Z,2.7nm,0.7s,mb3.7					
ESDC	**Sonseca Array**	**21.20 280**	P	**P**	**18 35 40.3 +0.5**	
	comp=Z,2.7nm,0.7s,mb3.7					
ESLA	**Sonseca Array**	**21.20 280**	*e*P	**P**	**18 35 39.8 +0.1**	
	comp=Z,5.7nm,1.0s,mb3.9					
ESLA	**Sonseca Array**	**21.20 280**	*e*P	**P**	**18 35 39.8 0.0**	
	comp=Z,5.7nm,1.0s,mb3.9					
ROSF	**Rostrenen**	**21.23 304**	*e*P	**P**	**18 35 39.7 -0.4**	
	comp=Z,224nm,1.5s,mb5.0					
ROSF	**Rostrenen**	**21.23 304**	*e*P	**P**	**18 35 39.7 -0.4**	
ROSF			pmax	pmax		
	comp=Z,112nm,1.5s,mb5.0					
ROSF	**Rostrenen**	**21.23 304**	*e*P	**P**	**18 35 39.7 -0.4**	
	comp=Z,112nm,1.5s,mb5.0					
GUD	**Guadarrama**	**21.23 282**	P	**P**	**18 35 40.7 +0.6**	
GUD			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1					
GUD	**Guadarrama**	**21.23 282**	P	**P**	**18 35 40.7 +0.6**	
	comp=Z,8.3nm,0.8s,mb

FINES FINESS Array B 22.15 3 P **P 18 35 48.6 -1.3**
comp=E,27nm,0.9s,mb4.7,baz=160,slow=12,SNR=44
FINES LR LR 18 45 18.8
comp=E,2µm,18.9s,MS4.6,baz=180,slow=39
FINES FINESS Array B 22.15 3 P **P 18 35 48.7 -1.3**
FINES pmax pmax
comp=Z,27nm,0.9s
FINES MLR MLR
comp=Z,2µm,18.9s
FIA1 FINESS Array S 22.15 3 *eP* **P 18 35 48.1 -1.9**
FIA1 FINESS Array S 22.15 3 *eP* **P 18 35 48.1 -1.9**
EMIJ Mijas 22.46 272 P **P 18 35 53.7 +0.3**
comp=Z,12nm,0.6s,mb4.5
KAF Kangasniemi 22.83 3 *ep* **P 18 35 55.9 -1.3**
comp=Z,25nm,0.9s,mb4.6
KAF Kangasniemi 22.83 3 *eP* **P 18 35 55.9 -1.3**
KAF pmax pmax
comp=Z,25nm,0.9s,mb4.6
NAO01 NORSAR Array S 22.89 344 *eP* **P 18 35 57.3 -0.6**
comp=Z,51nm,0.9s,mb5.0
NAO01 NORSAR Array S 22.89 344 *eP* **P 18 35 57.3 -0.6**
comp=Z,51nm,0.9s,mb5.0
NB2 NORSAR Subarra 23.00 345 P **P 18 35 58.3 -0.7**
comp=Z,142nm,1.1s,mb5.3,baz=152,slow=11
NOA NORSAR Array B 23.00 345 P **P 18 35 58.5 -0.6**
comp=Z,37nm,0.9s,mb4.8,baz=153,slow=11,SNR=41
NOA LR LR 18 45 43.1
comp=Z,1µm,18.3s,MS4.4,baz=175,slow=39
NOA NORSAR Array B 23.00 345 P **P 18 35 58.5 -0.5**
NOA pmax pmax
comp=Z,37nm,0.9s
NOA MLR MLR
comp=Z,1µm,18.3s
NOA NORSAR Array B 23.00 345 P **P 18 35 58.5 -0.6**
NOA LR LR 18 45 43.1
ECAL Calabor 23.06 286 P **P 18 35 59.6 -0.1**
comp=Z,15nm,1.0s,mb4.4
ECAL Calabor 23.06 286 P **P 18 35 59.6 -0.1**
comp=Z,15nm,1.0s,mb4.4
PBRG Bragança 23.07 286 *eP* **P 18 36 00.6 +0.8**
EPON Pontenova 23.31 290 P **P 18 36 01.0 -1.3**
comp=Z,3.1nm,0.6s,mb3.9
EPON Pontenova 23.31 290 P **P 18 36 01.0 -1.3**
comp=Z,3.1nm,0.6s,mb3.9
MDT Midelt 23.62 263 P **P 18 36 06.3 +0.8**
comp=Z,5.4nm,0.9s,mb4.0,baz=86,slow=12,SNR=7.6
EMIN Mina Concepcio 23.63 276 P **P 18 36 04.0 -1.6**
comp=Z,6.8nm,0.5s,mb4.3
EMIN Mina Concepcio 23.63 276 P **P 18 36 04.0 -1.6**
comp=Z,6.8nm,0.5s,mb4.3
EBAD Badajoz 23.69 278 P **P 18 36 03.8 -2.3**
comp=Z,3.1nm,1.1s
EBAD Badajoz 23.69 278 P **P 18 36 03.8 -2.3**
comp=Z,3.1nm,1.1s
KLMR Klimovskoe 23.69 20 *eP* **P 18 36 05.0 -1.1**
KLMR *eS* **S 18 40 20.4 -0.6**
KLMR pmax pmax
comp=Z,199nm,1.4s,mb5.3
KLMR MLR MLR
comp=Z,1µm,13.0s,MS4.6
KLMR Klimovskoe 23.69 20 *eP* **P 18 36 05.0 -1.1**
comp=Z,1µm,13.0s
MTE Manteigas 23.82 282 *eS* **S 18 40 28.7 +5.5**
MTE *e*LR LR 18 45 15.5
comp=Z,769nm,18.0s
EKA Eskdalemuir Ar 23.91 321 P **P 18 36 07.0 -1.1**
comp=Z,19nm,0.8s,mb4.6,baz=123,slow=9.4,SNR=17
EKA Eskdalemuir Ar 23.91 321 P **P 18 36 07.0 -1.1**
EKA pmax pmax
comp=Z,19nm,0.8s
ESK Eskdalemuir 23.92 321 *eP* **P 18 36 06.2 -2.1**
ESK pmax pmax
comp=Z,76nm,1.3s,mb5.0
ESK Eskdalemuir 23.92 321 *eP* **P 18 36 06.2 -2.1**
comp=Z,76nm,1.3s,mb5.0
JOF Joensuu 24.04 9 *ep* **P 18 36 07.8 -1.5**
comp=Z,7.5nm,0.7s,mb4.2
JOF Joensuu 24.04 9 *eP* **P 18 36 07.8 -1.5**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
PVIS Viseu 24.05 283 *eP* **P 18 36 09.3 -0.1**
ELOB Lobios 24.05 286 P **P 18 36 09.9 +0.5**
comp=Z,10nm,1.5s,mb4.0
ELOB Lobios 24.05 286 P **P 18 36 09.9 +0.5**
comp=Z,10nm,1.5s,mb4.0
PESTR Estremoz 24.11 279 *eP* **P 18 36 10.9 +1.0**
PESTR *eS* **S 18 40 29.9 +2.1**
PESTR *e*LR LR 18 44 56.1
comp=Z,662nm,18.0s
EGRO El Granado 24.31 276 P **P 18 36 11.2 -0.6**
comp=Z,4.8nm,0.8s,mb4.0
EGRO El Granado 24.31 276 P **P 18 36 11.2 -0.6**
comp=Z,4.8nm,0.8s,mb4.0
PBEJ Beja 24.49 277 *eP* **P 18 36 12.7 -0.8**
DLF Lyons Farm 24.77 314 *eP* **P 18 36 12.1 -3.9**
ORR Orenburg 24.86 50⇑*iP* **P 18 36 17.8 +1.0**
ORR pmax pmax
comp=Z,80nm,0.9s,mb5.2
ORR Orenburg 24.86 50 *i* P **P 18 36 17.8 +1.0**
comp=Z,80nm,0.9s,mb5.2
DCN Croghan 25.21 314 *eP* **P 18 36 11.6 -8.4**
PMAFR Mafra 25.39 280 *eS* **S 18 40 50.3 +1.9**
PMAFR *e*LR LR 18 46 30.0
comp=Z,590nm,16.0s
AKTK Aktyubinsk 26.57 54 P **P 18 36 32.9 +0.6**
AKTK LR LR 18 49 18.7
AKTK Aktyubinsk 26.57 54 P **P 18 36 32.9 +0.6**
comp=Z,848nm,19.1s
AKTO Aktyubinsk 26.57 54 P **P 18 36 32.9 +0.6**
comp=Z,4.6nm,0.5s,mb4.3,baz=261,slow=7.2,SNR=18
AKTO LR LR 18 49 18.7
comp=Z,848nm,19.1s,MS4.3,baz=69,slow=42
AKTO Aktyubinsk 26.57 54 P **P 18 36 32.9 +0.6**
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
AKTO MLR MLR
comp=Z,848nm,19.1s,MS4.3
AB31 Akbulak array 27.61 57 *i* P **P 18 36 42.1 +0.4**
AB31 pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
AB31 Akbulak array 27.61 57 *i* P **P 18 36 42.1 +0.4**
comp=Z,10.0nm,1.1s,mb4.4
ARU Arti 28.59 42⇓*iP* **P 18 36 49.5 -0.9**
ARU *e* 18 39 58.6
ARU *eS* **S 18 41 39.0 0.0**
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.6
ARU MLR MLR
comp=N,700nm,16.0s,MS4.5
ARU MLR MLR
comp=E,600nm,16.0s,MS4.5
ARU MLR MLR
comp=Z,900nm,16.0s,MS4.5
ARU Arti 28.59 42 *eP* **P 18 36 50.7 +0.3**
comp=Z,20nm,1.1s,mb4.8
ARU Arti 28.59 42 *eP* **P 18 36 50.7 +0.3**
comp=Z,20nm,1.1s,mb4.8
ARU Arti 28.59 42 *e*PcP PcP 18 39 58.6 -2.9
APA Apatity 28.77 8⇑*eP* **P 18 36 56.0 +4.0**
APA *i* 18 37 43.0
APA *eS* **S 18 41 50.0 +8.2**
APA pmax pmax
comp=Z,12nm,0.8s,mb4.7
SOKR Solikamsk 29.09 35⇓*iP* **P 18 36 56.3 +1.4**
SOKR S **S 18 41 55.1 +8.3**
SOKR pmax pmax
comp=Z,40nm,1.3s,mb5.0
SOKR MLR MLR
comp=Z,2µm,16.0s,MS4.7
SOKR Solikamsk 29.09 35 *i* P **P 18 36 56.3 +1.4**
comp=Z,40nm,1.3s,mb5.0
LVZ Lovozero 29.23 9 *eP* **P 18 36 56.6 +0.6**
LVZ pmax pmax
comp=Z,21nm,1.3s,mb4.7
LVZ Lovozero 29.23 9 *eP* **P 18 36 56.6 +0.6**
comp=Z,21nm,1.3s,mb4.7
ARCES ARCESS Array B 30.24 1 P **P 18 37 04.0 -1.0**
comp=Z,9.7nm,0.8s,mb4.6,baz=171,slow=8.6,SNR=12
ARCES LR LR 18 50 18.8
comp=Z,2µm,18.1s,MS4.9,baz=180,slow=39
ARCES ARCESS Array B 30.24 1 P **P 18 37 04.0 -1.0**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES MLR MLR
comp=Z,2µm,18.1s
BANOM Banah 30.49 106⇓P **P 18 37 07.9 +0.7**
SNR=6.1
TOA0 Torodi Ar. Sit 32.48 222 *eP* **P 18 37 23.6 -1.1**
TOA0 Torodi Ar. Sit 32.48 222 *eP* **P 18 37 23.6 -1.1**
TORD Torodi Ar. Bea 32.48 222 P **P 18 37 23.7 -1.0**
comp=Z,6.5nm,0.6s,mb4.6,baz=35,slow=9.0,SNR=56
TORD ScP ScP 18 43 55.3 -0.6
comp=Z,1.3nm,1.1s,baz=336,slow=3.3,SNR=3.6
TORD LR LR 18 52 00.2
comp=Z,538nm,19.5s,MS4.2,baz=30,slow=39
HOQ Hoqain 32.59 109⇑P **P 18 37 26.1 +0.4**
SNR=7.9
JMDO Jabal Madar 33.91 110⇑P **P 18 37 37.5 +0.3**
SNR=10
BRVK Borovoye 34.47 51 P **P 18 37 43.2 +1.1**
comp=Z,106nm,0.7s,SNR=13
BRVK Borovoye 34.47 51⇓P **P 18 37 44.2 +2.1**
SNR=11
BRVK Borovoye 34.47 51 *eP* **P 18 37 43.7 +1.6**
BRVK pmax pmax
comp=Z,21nm,1.0s,mb5.0
BRVK Borovoye 34.47 51 *eP* **P 18 37 43.7 +1.6**
comp=Z,20nm,1.0s,mb5.0
BVA0 Borovoye Array 34.53 51 *i* P **P 18 37 44.0 +1.4**
BVA0 pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
BVA0 Borovoye Array 34.53 51 *i* P **P 18 37 44.0 +1.4**
comp=Z,8.0nm,1.6s,mb4.4
CHKZ Chkalovo 34.72 50 P **P 18 37 43.5 -0.7**
CHKZ pmax pmax
comp=Z,23nm,1.0s,mb5.1
CHKZ Chkalovo 34.72 50 P **P 18 37 43.5 -0.7**
comp=Z,23nm,1.0s,mb5.1
KKAR Karatay Array 35.15 68 *i* P **P 18 37 48.8 +0.8**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
EKS2 Erkin-Say 37.59 68 P **P 18 38 10.5 +1.7**
SNR=33
AML Almayashu 37.65 69 P **P 18 38 12.0 +2.7**
SNR=7.8
USP Ospenovka 37.98 67 P **P 18 38 12.7 +0.5**
SNR=11
AAK Ala-Archa 38.12 68 P **P 18 38 14.9 +1.6**
SNR=15
AAK Ala-Archa 38.12 68 P **P 18 38 13.0 -0.3**
comp=Z,77nm,0.6s,mb5.6,SNR=15
AAK Ala-Archa 38.12 68 P **P 18 38 14.3 +1.0**
SNR=18
AAK Ala-Archa 38.12 68 *eP* **P 18 38 13.6 +0.3**
AAK pmax pmax
comp=Z,31nm,1.3s,mb4.9
AAK Ala-Archa 38.12 68 *eP* **P 18 38 13.6 +0.4**
comp=Z,31nm,1.3s,mb4.9
AAK Ala-Archa 38.12 68 *eP* **P 18 38 13.6 +0.3**
comp=Z,31nm,1.3s,mb4.9
FRU Bishkek 38.16 68⇓*eP* **P 18 38 14.4 +0.8**
FRU pmax pmax
comp=Z,140nm,1.8s,mb5.4
FRU Bishkek 38.16 68 *eP* **P 18 38 14.4 +0.8**
comp=Z,140nm,1.8s,mb5.4
CHMS Chumysh 38.22 68 P **P 18 38 15.2 +1.1**
SNR=6.3
UCH Uchtor 38.22 69 P **P 18 38 16.4 +2.3**
SNR=8.8
KBK Karagaybulak 38.44 68 P **P 18 38 16.8 +0.8**
SNR=13
KZA Kyzart 38.79 69 P **P 18 38 21.2 +2.3**
SNR=20
KURK Kurchatov 39.66 55 P **P 18 38 27.4 +1.2**
comp=Z,99nm,1.1s,mb5.5,SNR=6.4
KURK Kurchatov 39.66 55 P **P 18 38 27.6 +1.4**
SNR=11
KURK Kurchatov 39.66 55⇑*eP* **P 18 38 27.0 +0.8**
KURK Kurchatov 39.66 55 *eP* **P 18 38 26.8 +0.6**
comp=Z,36nm,1.4s,mb4.9
KURK Kurchatov 39.66 55 *eP* **P 18 38 26.8 +0.6**
comp=Z,36nm,1.4s,mb4.9
KSH Kashi 40.00 73 P **P 18 38 31.0 +2.0**
KSH AP pP 18 38 35.3 +4.1
KSH XP sP 18 38 38.1 +6.1
KSH PP PP 18 40 07.1 +6.2
KSH PPP 18 40 32.5
KSH SCP ScP 18 44 23.5 -0.1
KSH PCS PcS 18 44 25.4 +1.0
KSH S **S 18 44 35.5 +0.7**
KSH SCS ScS 18 48 35.0 -1.7
KSH AMB AMB
comp=Z,58nm,0.6s,mb5.5
KSH AMB AMB
comp=Z,647nm,3.5s
KSH LR LR
comp=N,1µm,6.0s
KSH LR LR
comp=E,2µm,7.6s
KSH LR LR
comp=Z,846nm,7.5s
JASL Jaisalmer 41.12 93 *eP* **P 18 38 34.2 -4.1**
LIC Lamto 41.86 225 *eP* **P 18 38 43.6 -0.8**
comp=Z,36nm,0.6s,mb4.9
LIC *e*MLR
comp=Z,528nm,18.2s
LIC Lamto 41.86 225 *eP* **P 18 38 43.6 -0.8**
comp=Z,18nm,0.6s,mb4.9
LIC LR LR
comp=Z,260nm,18.3s,MS4.1
LIC Lamto 41.86 225 *eP* **P 18 38 43.6 -0.8**
comp=Z,18nm,0.6s,mb4.9
NVS Novosibirsk 42.12 48⇓*iP* **P 18 38 48.0 +1.5**
NVS *e* 18 40 24.4
NVS pmax pmax
comp=Z,47nm,1.2s,mb5.0
NVS pmax pmax
comp=N,37nm,2.0s
NVS pmax pmax
comp=E,16nm,1.1s
KMBO Kilima Mbogo 42.22 159 P **P 18 38 48.8 +1.4**
comp=E,1.0nm,0.7s,baz=29,slow=13,SNR=3.7
KMBO LR LR 18 55 52.5
comp=E,266nm,19.8s,baz=295,slow=36
KMBO Kilima Mbogo 42.22 159 *eP* **P 18 38 48.4 +1.1**
KMBO Kilima Mbogo 42.22 159 *eP* **P 18 38 48.4 +1.1**
MK31 Makanchi Array 42.66 60 *eP* **P 18 38 51.5 +0.6**
MKAR Makanchi Array 42.66 60 P **P 18 38 51.5 +0.6**
comp=E,8.9nm,0.5s,mb4.8,baz=274,slow=7.4,SNR=222
MKAR LR LR 18 59 31.5
comp=E,308nm,20.3s,MS4.2,baz=283,slow=40
MKAR Makanchi Array 42.66 60 *eP* **P 18 38 51.6 +0.7**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
KHET Khetri 44.35 88 *eP* **P 18 39 02.5 -2.0**
KHET AMb AMB 18 39 07.2
comp=Z,14nm,0.9s,mb4.7
RTK Rohtak 44.37 87 *eP* **P 18 39 04.7 0.0**
RTK AMb AMB 18 39 06.6
comp=Z,45nm,1.7s,mb4.9
NDI New Delhi 45.16 87 *eP* **P 18 39 10.9 0.0**
AYAN Aya Nagar 45.18 87 *eP* **P 18 39 08.8 -2.4**
AYAN AMb AMB 18 39 12.0
comp=Z,27nm,1.0s,mb5.0
SONA Sohna 45.26 87 *eP* **P 18 39 10.3 -1.5**
JOSI Joshimath 46.10 83 *eP* **P 18 39 18.1 -0.3**
AGRA Agra 46.42 88 *eP* **P 18 39 19.1 -1.8**
WMQ Urumqi 47.11 63 *eP* **P 18 39 28.1 +1.8**
WMQ PCP PcP 18 40 58.5 +0.4
WMQ PP PP 18 41 17.8 +0.7
WMQ PPP 18 42 04.8
WMQ S **S 18 46 19.0 +0.2**
WMQ AMB AMB
comp=Z,15nm,1.3s,mb4.8
WMQ AMB AMB
comp=Z,173nm,4.0s
WMQ LR LR
comp=N,724nm,12.0s,MS5.0
WMQ LR LR
comp=E,488nm,11.0s,MS5.0
WMQ LR LR
comp=Z,465nm,18.0s
BHPL Bhopal 48.07 93 *eP* **P 18 39 31.4 -2.4**
BHPL AMb AMB 18 39 36.4
comp=Z,42nm,1.3s,mb5.3
SFJD Kangerlussuaq 48.39 330 LR LR 19 01 40.1
comp=Z,899nm,19.7s,MS4.8,baz=67,slow=38
AKL Akola 49.16 96 *eP* **P 18 39 40.9 -1.2**
AKL AMb AMB 18 39 43.7
comp=Z,26nm,1.1s,mb5.2
NGP Nagpur 50.48 94 *eP* **P 18 39 50.5 -1.7**
NGP AMb AMB 18 39 52.7
comp=Z,23nm,1.7s,mb4.9
KOLN Koldanda 50.53 84 *eP* **P 18 39 52.8 +0.2**
comp=Z,78nm,1.4s,mb5.5
GKN Gorkha 51.21 83 *eP* **P 18 39 57.7 0.0**
comp=Z,80nm,1.1s,mb5.5
DMN Daman 51.77 83 *eP* **P 18 40 02.1 +0.2**
comp=Z,87nm,1.1s,mb5.6
KKN Kakani 51.81 83 *eP* **P 18 40 01.9 -0.3**
comp=Z,49nm,1.2s,mb5.3
PKI Pulchoki 52.02 83 *eP* **P 18 40 03.8 0.0**
comp=Z,21nm,0.7s,mb5.2
GUN Gumba 52.21 83 *eP* **P 18 40 05.4 +0.2**
comp=Z,86nm,1.2s,mb5.6
JIRN Jiri 52.58 83 *eP* **P 18 40 08.3 +0.4**
comp=Z,26nm,0.8s,mb5.2
BOK Bokaro 54.33 87 *eP* **P 18 40 19.0 -1.8**
TLY Talaya 54.73 49 *eP* **P 18 40 26.6 +2.9**
TLY *eS* **S 18 48 04.6 +0.2**
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
ZAK Zakamensk 54.98 50 *eP* **P 18 40 26.4 +0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
ZAK Zakamensk 54.98 50 *eP* **P 18 40 26.4 +0.9**
comp=Z,4.0nm,1.4s,mb4.3
LSA Lhasa 55.36 78 P **P 18 40 30.0 +1.7**
LSA Lhasa 55.36 78 *eP* **P 18 40 28.8 +0.5**
LSA pmax pmax
comp=Z,11nm,0.7s,mb5.0
LSA Lhasa 55.36 78 *eP* **P 18 40 28.8 +0.5**
comp=Z,11nm,0.7s,mb5.0
LSA Lhasa 55.36 78 *eP* **P 18 40 28.8 +0.5**
comp=Z,11nm,0.7s,mb5.0
GTA Gaotai 57.17 64 P **P 18 40 41.9 +0.7**
GTA AP pP 18 40 46.5 +3.1
GTA XP sP 18 40 48.8 +4.5
GTA PP PP 18 42 50.8 +2.7
GTA S **S 18 48 38.3 +1.3**
GTA SS SS 18 52 29.0 +3.2
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,87nm,4.9s
GTA LR LR
comp=N,533nm,17.5s,MS4.8
GTA LR LR
comp=E,378nm,16.7s,MS4.8
GTA LR LR
comp=Z,488nm,18.2s,MS4.7
TIXI Tiksi 57.69 21⇓*iP* **P 18 40 43.5 -1.4**
TIXI *e*S **S 18 48 39.8 -4.0**
TIXI *e*SS SS 18 52 36.1 +2.1
TIXI pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
TIXI MLR MLR
comp=Z,977nm,16.0s,MS5.0
TIXI Tiksi 57.69 21 *i* P **P 18 40 43.5 -1.4**
comp=Z,3.0nm,1.3s,mb4.2
SONM Songino Array 57.86 52 P **P 18 40 46.8 +0.7**
comp=Z,11nm,1.3s,mb4.7,baz=278,slow=6.5,SNR=18
SONM LR LR 19 08 20.0
comp=Z,363nm,18.9s,MS4.5,baz=318,slow=39
SONM Songino Array 57.86 52 P **P 18 40 46.8 +0.7**
SONM pmax pmax
comp=Z,11nm,1.3s
SONM MLR MLR
comp=Z,363nm,18.9s
BOD Bodaibo 57.96 39 *eP* **P 18 40 45.5 -1.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BOD Bodaibo 57.96 39 *eP* **P 18 40 45.5 -1.3**
comp=Z,7.0nm,1.1s,mb4.6
SHL Shillong 58.02 82 *eP* **P 18 40 44.0 -3.2**
SCHQ Schefferville 59.18 318 P **P 18 40 54.9 -0.3**
comp=Z,5.5nm,0.6s,mb4.8,baz=61,slow=9.1,SNR=8.6
SCHQ LR LR 19 05 27.3
comp=Z,340nm,20.8s,MS4.5,baz=89,slow=35
RES Resolute Bay 59.27 344 *eP* **P 18 40 55.3 -0.5**
comp=Z,861nm,0.2s
RES Resolute Bay 59.27 344 *eP* **P 18 40 55.3 -0.6**
comp=Z,861nm,0.2s
LZH Lanzhou 61.55 65⇑P **P 18 41 12.1 +0.6**
LZH AP pP 18 41 16.5 +2.8
LZH XP sP 18 41 18.8 +4.3
LZH PP PP 18 43 29.3 +2.4
LZH *e*S **S 18 49 30.5 -3.1**
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,116nm,7.3s
LZH LR LR
comp=Z,1µm,18.4s,MS5.0
LZH Lanzhou 61.55 65⇑P **P 18 41 12.1 +0.6**
LZH *PP pP 18 41 16.5 +2.8
LZH *SP sP 18 41 18.7 +4.2
LZH 18 43 29.2
LZH *e*S **S 18 49 30.5 -3.1**
LZH PS 18 49 48.9
LZH *e*SS SS 18 53 33.2 -1.4
LZH pmax pmax
comp=Z,25nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,1µm,18.4s,MS5.0
LZH Lanzhou 61.55 65⇑P **P 18 41 12.1 +0.6**
comp=Z,25nm,1.5s,mb5.1
LZH pP pP 18 41 16.5 +2.8
LZH sP sP 18 41 18.7 +4.2
LZH PP PP 18 43 29.2 +2.3
LZH *e*S **S 18 49 30.5 -3.1**
LZH sS sS 18 49 38.7 +1.5
LZH PS 18 49 48.9
LZH *e*SS SS 18 53 33.2 -1.4
LZH LR LR
comp=Z,1µm,18.4s,MS5.0
YAK Yakutsk 62.89 31⇑*eP* **P 18 41 18.5 -2.0**
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CD2 Chengdu 64.14 70 P **P 18 41 29.0 +0.3**
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
HHC Hu-ho-hao-te 64.40 57 *eP* **P 18 41 31.4 +1.0**
HHC AP pP 18 41 36.8 +4.1
HHC XP sP 18 41 38.9 +5.4
HHC PCP PcP 18 42 05.1 +0.3
HHC PP PP 18 43 56.3 +4.3
HHC SCP 18 46 04.9
HHC PCS 18 46 06.3
HHC S **S 18 50 11.0 +1.7**
HHC PS 18 50 33.6
HHC SCS ScS 18 51 21.0 -4.2
HHC SS SS 18 54 25.1 +6.0
HHC AMB AMB
comp=Z,15nm,0.8s,mb5.1
HHC AMB AMB
comp=Z,184nm,5.1s
HHC LR LR
comp=N,374nm,13.5s,MS4.8
HHC LR LR
comp=E,341nm,16.0s,MS4.8
HHC LR LR
comp=Z,529nm,21.3s
XAN Xi'an 66.17 65 P **P 18 41 42.3 +0.4**
XAN AMB AMB
comp=Z,13nm,1.1s,mb4.9
KMI Kunming 66.51 76 P **P 18 41 44.3 +0.2**
KMI AP pP 18 41 48.4 +2.1
KMI XP sP 18 41 49.4 +2.2
KMI PP PP 18 44 11.9 +1.4
KMI PPP 18 45 46.5
KMI S S 18 50 32.8 -2.3
KMI PS 18 50 57.6
KMI SKS 18 51 35.6
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb4.6
KMI AMB AMB
comp=Z,110nm,3.1s
KMI LR LR
comp=N,279nm,13.6s,MS4.7
KMI LR LR
comp=E,198nm,13.6s,MS4.7
KMI LR LR
comp=Z,342nm,18.9s
KMI Kunming 66.51 76 P **P 18 41 44.3 +0.2**
KMI *PP pP 18 41 48.4 +2.1
KMI *SP sP 18 41 49.4 +2.2

KMI							18 44 11.9
KMI				PPP			18 45 46.5
KMI				S	S		18 50 32.8 -2.3
KMI				PS			18 50 57.6
KMI							18 51 35.6
KMI				SS	SS		18 54 52.8 +0.8
KMI				SSS			18 57 46.1
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KMI				MLR	MLR		
	comp=Z,340nm,18.9s,MS4.6						
KMI	**Kunming**	**66.51**	**76**	P	**P**		**18 41 44.3 +0.2**
	comp=Z,5.0nm,0.8s,mb4.6						
KMI				pP	pP		18 41 48.4 +2.1
KMI				sP	sP		18 41 49.4 +2.2
KMI				PP	PP		18 44 11.9 +1.4
KMI				PPP			18 45 46.5
KMI				S	S		18 50 32.8 -2.3
KMI				sS	sS		18 50 41.3 +2.5
KMI				PS			18 50 57.6
KMI				SKS			18 51 35.6
KMI				SS	SS		18 54 52.8 +0.8
KMI				SSS			18 57 46.1
KMI				LR	LR		
	comp=Z,340nm,18.9s,MS4.6						
CHTO	**Chiang Mai**	**67.19**	**84**	*e*P	**P**		**18 41 48.0 -0.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**67.19**	**84**	*e*P	**P**		**18 41 48.0 -0.4**
	comp=Z,7.8nm,1.0s,mb4.7						
BOSA	**Boshof**	**67.66**	**178**	P	**P**		**18 41 52.7 +1.3**
	comp=Z,3.2nm,0.9s,mb4.4,baz=9.8,slow=12,SNR=3.2						
BOSA				LR	LR		19 15 24.1
	comp=Z,474nm,18.3s,MS4.8,baz=360,slow=40						
BOSA	**Boshof**	**67.66**	**178**	P	**P**		**18 41 52.7 +1.3**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BOSA				MLR	MLR		
	comp=Z,475nm,18.3s,MS4.8						
BOSA	**Boshof**	**67.66**	**178**	P	**P**		**18 41 52.7 +1.3**
BOSA				LR	LR		19 15 24.1
BJI	**Beijing**	**67.81**	**56**	P	**P**		**18 41 53.8 +1.4**
BJI				S	S		18 50 48.9 -1.9
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
BJI				AMB	AMB		
	comp=Z,229nm,4.4s						
BJI				LR	LR		
	comp=N,562nm,14.0s						
BJI				LR	LR		
	comp=E,534nm,21.2s						
BJI				LR	LR		
	comp=Z,382nm,20.2s						
BJI	**Beijing**	**67.81**	**56**	P	**P**		**18 41 53.7 +1.3**
BJI				S	S		18 50 48.9 -1.9
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
BJI				MLR	MLR		
	comp=Z,380nm,20.2s,MS4.6						
BJI	**Beijing**	**67.81**	**56**	P	**P**		**18 41 53.7 +1.3**
	comp=Z,9.0nm,0.9s,mb4.8						
BJI				S	S		18 50 48.9 -1.9
BJI				LR	LR		
	comp=Z,380nm,20.2s,MS4.6						
GYA	**Guiyang**	**68.70**	**73**	P	**P**		**18 41 59.8 +1.9**
GYA				AP	pP		18 42 03.8 +3.7
GYA				XP	sP		18 42 06.8 +5.8
GYA				PCP	PcP		18 42 25.0 +2.3
GYA				PP	PP		18 44 33.3 +3.8
GYA				S	S		18 51 00.8 -0.5
GYA				SKS			18 51 54.9
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,460nm,18.6s,MS4.9						
GYA				LR	LR		
	comp=E,470nm,19.4s,MS4.9						
GYA				LR	LR		
	comp=Z,410nm,19.0s,MS4.7						
BILL	**Bilibino**	**69.30**	**14⇑**	*e*P	**P**		**18 42 01.2 -0.5**
BILL				*e*			18 44 35.4
BILL				*e*S	S		18 51 01.5 -7.0
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
BILL				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
CN2	**Changchun**	**71.33**	**48**	*e*P	**P**		**18 42 14.8 +0.7**
CN2				*e*XP	sP		18 42 21.0 +3.8
CN2				*e*S	S		18 51 29.4 -2.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,500nm,17.0s,MS4.8						
KLR	**Kul'dur**	**71.43**	**41**	*e*P	**P**		**18 42 12.8 -1.9**
DL2	**Dalian**	**71.93**	**54**	P	**P**		**18 42 17.8 +0.1**
DL2				*e*S	S		18 51 38.3 -0.8
DL2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
DL2				AMB	AMB		
	comp=Z,110nm,4.5s						
DL2				LR	LR		
	comp=N,350nm,15.5s,MS4.9						
DL2				LR	LR		
	comp=E,300nm,13.6s,MS4.9						
DL2				LR	LR		
	comp=Z,270nm,14.4s,MS4.7						
MA2	**Magadan**	**72.22**	**25**	*e*P	**P**		**18 42 18.8 -0.6**
MA2				*e*			18 42 35.0
MA2				*e*			18 44 59.2
MA2				*e*S	S		18 51 31.2 -11
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
MA2				MLR	MLR		
	comp=Z,1μm,19.2s,MS5.2						
YKA	**Yellowknife Ar**	**73.05**	**341**	P	**P**		**18 42 23.9 -0.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=35,slow=5.5,SNR=58						
YKA				LR	LR		19 15 45.7
	comp=Z,387nm,20.4s,MS4.7,baz=20,slow=37						
YKA	**Yellowknife Ar**	**73.05**	**341**	*i* P	**P**		**18 42 23.8 -0.6**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HABR	**Khabarovsk**	**73.59**	**40**	*e*P	**P**		**18 42 24.2 -3.3**
HABR				S	S		18 51 55.8 -2.2
HABR				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
IMA2	**Indian Mountai**	**74.87**	**359**	*e*P	**P**		**18 42 35.1 +0.1**
DAWY	**Dawson**	**76.02**	**352**	*e*P	**P**		**18 42 41.7 +0.1**
ULM	**Lac du Bonnet**	**76.11**	**325**	P	**P**		**18 42 42.1 0.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=50,slow=5.5,SNR=4.0						
KSRS	**Korea Array**	**76.73**	**52**	P	**P**		**18 42 45.2 -0.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=315,slow=4.9,SNR=12						
KSRS				LR	LR		19 24 34.4
	comp=Z,198nm,18.8s,MS4.5,baz=120,slow=42						
PSI	**Prapat**	**76.93**	**97**	LR	LR		19 20 47.4
	comp=Z,186nm,18.0s,MS4.5,baz=138,slow=39						
YSS	**Yuzh-Sakhalins**	**78.39**	**38**	*e*P	**P**		**18 42 55.8 +0.9**
YSS				*e*			18 43 11.0
YSS				*e*S	S		18 52 57.0 +6.0
YSS				MLR	MLR		
	comp=Z,800nm,14.0s,MS5.2						
YSS				MLR	MLR		
	comp=N,700nm,16.0s,MS5.2						
YSS				MLR	MLR		
	comp=E,600nm,15.0s,MS5.2						
PET	**Petropavlovsk**	**80.10**	**26**	*e*P	**P**		**18 42 58.3 -6.0**
PET				*e*S	S		18 53 00.6 -8.6
PET				MLR	MLR		
	comp=Z,500nm,15.0s,MS5.0						
ASAJ	**Asahikawa**	**80.37**	**40**	P	**P**		**18 43 05.9 +0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=309,slow=6.5,SNR=4.2						
ASAJ	**Asahikawa**	**80.37**	**40**	P	**P**		**18 43 05.9 +0.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EDM	**Edmonton**	**80.53**	**335**	*e*P	**P**		**18 43 06.8 +0.2**
MJAR	**Matsushiro Art**	**83.45**	**47**	P	**P**		**18 43 25.8 +3.9**
	comp=Z,2.9nm,1.0s,mb4.2,baz=335,slow=5.4,SNR=4.3						
MJAR	**Matsushiro Arr**	**83.45**	**47**	P	**P**		**18 43 25.8 +3.9**
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RLMT	**Red Lodge**	**85.80**	**329**	*e*P	**P**		**18 43 35.1 +1.3**
	comp=Z,26nm,1.5s,mb5.2						
NEW	**Newport**	**86.02**	**335**	P	**P**		**18 43 36.0 +1.1**
	comp=Z,4.8nm,0.5s,mb5.0,baz=40,slow=7.9						
NEW	**Newport**	**86.02**	**335**	P	**P**		**18 43 36.0 +1.1**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.5s						
JHJ	**Hachijo jima 2**	**86.79**	**49**	LR	LR		19 24 12.6
	comp=Z,202nm,18.8s,MS4.5,baz=90,slow=37						
PDAR	**Pinedale Array**	**87.85**	**327**	P	**P**		**18 43 43.5 -0.4**
	comp=Z,0.8nm,0.8s,mb4.0,baz=49,slow=3.4,SNR=6.7						
PDAR				LR	LR		19 23 40.8
	comp=Z,394nm,20.2s,MS4.8,baz=44,slow=36						
NVAR	**Mina Array Bea**	**95.03**	**331**	P	**P**		**18 44 16.9 -0.2**
	comp=Z,0.4nm,0.5s,mb4.1,baz=32,slow=3.6,SNR=4.7						
TXAR	**Lajitas Array**	**95.82**	**316**	P	**P**		**18 44 20.7 -0.1**
	comp=Z,0.3nm,0.7s,mb3.9,baz=33,slow=4.8,SNR=4.9						
TXAR				LR	LR		19 25 07.5
	comp=Z,300nm,21.2s,MS4.7,baz=5.0,slow=34						
ASAR	**Alice Springs**	**119.96**	**97**	PKP	PKPdf		18 49 43.3 -1.7
	comp=Z,0.8nm,0.7s,baz=324,slow=1.4,SNR=12						
ASAR	**Alice Springs**	**119.96**	**97**	PKIKP	PKPdf		18 49 43.3 -1.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PPT	**Papeete**	**157.46**	**343**	*e*LR	LR		19 43 52.8
	comp=Z,213nm,23.0s						
TBI	**Tubuai**	**162.95**	**338**	*e*LR	LR		19 46 26.0
	comp=Z,182nm,22.2s						

*NEIC **21** 18:32:55.5, 3933N×2360E, h18km, ML4.1(ATH), After ATH.*
*ATH **21** 18:32:55.5, 3933N×2360E, h18km±1km, ML4.1*
*ISCJB **21** 18:32:56.9±0.5, 3933N±002×2357E±004, h16km±6km, Error ellipse: s-maj=5.4km s-min=4.0km az=10.3*
*CSEM **21** 18:32:56.6±0.1, 3935N×2357E, h10km, ML4.1, Error ellipse: s-maj=1.8km s-min=1.6km az=83.0*
*THE **21** 18:32:57.8, 3936N×2349E, h6km, ML4.3*
ISC 21 18:32:57.0±0.5, 3936N±002×2355E±004, h13km±4km, n37, σ0s98/47, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**258**	⇓*i*PB	**Pg**	**18 33 02.1**	**-0.3**
NEO				*e*SB	**Sg**	**18 33 06.3**	**+0.3**
XOR	**Xorichti**	**0.27**	**271**	*e*Pg	**Pg**	**18 33 02.4**	**-0.3**
XOR	**Xorichti**	**0.27**	**271**	*e*Pg	**Pg**	**18 33 02.3**	**-0.4**
AOS	**Alonnisos**	**0.32**	**126**	*e*Pg	**Pg**	**18 33 04.1**	**+0.6**
PAIG	**Paliouri**	**0.58**	**10**	*e*Pg	**Pg**	**18 33 09.3**	**+1.1**
LKR	**Lokris**	**0.83**	**211**	⇑*i*PN	**Pg**	**18 33 11.6**	**-1.4**
AGG	**Agios Georgios**	**1.00**	**251**	*e*Pg	**Pg**	**18 33 16.0**	**-0.3**
AGG				*e*Sg	**Sg**	**18 33 28.8**	**-0.6**
PLG	**Polygyros**	**1.02**	**356**	*e*Pg	**Pg**	**18 33 16.8**	**+0.3**
PLG				*e*Sg	**Sg**	**18 33 30.7**	**+0.9**
PLG	**Polygyros**	**1.02**	**356**	⇑*i*PN	**Pn**	**18 33 15.3**	**-1.6**
PLG				*e*SN	**Sn**	**18 33 29.4**	**-1.6**
PLG	**Polygyros**	**1.02**	**356**	*e*Pg	**Pg**	**18 33 16.8**	**+0.2**
PLG				*e*Sn	**Sn**	**18 33 29.4**	**-1.6**
PLG				*e*Sg	**Sg**	**18 33 30.7**	**+0.9**
OUR	**Ouranopolis**	**1.03**	**19**	*e*Pg	**Pg**	**18 33 16.8**	**0.0**
LIT	**Litokhoron**	**1.10**	**313**	*e*Pg	**Pg**	**18 33 18.4**	**+0.3**
THL	**Klokotos Trika**	**1.20**	**280**	*e*PB	**Pn**	**18 33 18.0**	**-1.5**
HORT	**Hortiatis**	**1.28**	**345**	*e*Pg	**Pg**	**18 33 20.9**	**-0.8**
HORT				*e*Sg	**Sg**	**18 33 39.0**	**+0.6**
THE	**Thessaloniki**	**1.35**	**341**	*e*Pg	**Pg**	**18 33 21.7**	**-1.2**
THE				*e*Sg	**Sg**	**18 33 40.1**	**-0.2**
LIA	**Limnos Island**	**1.38**	**66**	*e*PN	**Pn**	**18 33 20.9**	**-0.9**
ATH	**Athens Observa**	**1.39**	**174**	*e*PN	**Pn**	**18 33 20.7**	**-1.4**
EVR	**Evrytania**	**1.42**	**252**	*e*PN	**Pn**	**18 33 23.0**	**+0.5**
SOH	**Sokhos**	**1.47**	**354**	*e*Pg	**Pn**	**18 33 23.9**	**+0.8**
KZN	**Kozani**	**1.66**	**305**	*e*PB	**Pn**	**18 33 25.3**	**-0.5**
KZN				*e*SB	**Sg**	**18 33 51.2**	**+0.7**
GRG	**Griva**	**1.82**	**332**	*e*Pb	**Pb**	**18 33 28.6**	**-1.6**
GRG				*e*Sb	**Sb**	**18 33 52.1**	**-0.7**
KNT	**Kendrikon**	**1.87**	**345**	*e*Pb	**Pb**	**18 33 29.9**	**-1.0**
NVR	**Nevrokopi**	**2.00**	**7**	*e*PB	**Pn**	**18 33 30.2**	**-0.3**
RLS	**Riolos of Patr**	**2.08**	**232**	*e*PN	**Pn**	**18 33 32.0**	**+0.4**
VAY	**Valandovo**	**2.10**	**339**	*e*Pn	**Pn**	**18 33 32.3**	**+0.5**
JAN	**Janina**	**2.10**	**279**	*e*PN	**Pn**	**18 33 33.0**	**+1.1**
PRK	**Paraskevi**	**2.12**	**92**	*e*PN	**Pn**	**18 33 32.0**	**-0.1**
FNA	**Florina**	**2.19**	**311**	*e*Pn	**Pn**	**18 33 34.5**	**+1.4**
RDO	**Rodhopi**	**2.35**	**40**	*e*PB	**Pn**	**18 33 35.0**	**-0.2**
ITM	**Ithomi**	**2.52**	**211**	*e*PB	**Pn**	**18 33 38.7**	**+1.1**
STIP	**Stip**	**2.55**	**336**	*e*Pn	**Pn**	**18 33 39.7**	**+1.7**
VLI	**Velíai**	**2.68**	**191**	*e*PN	**Pn**	**18 33 39.6**	**-0.2**
APE	**Apeiranthos**	**2.77**	**145**	*e*PN	**Pn**	**18 33 40.6**	**-0.4**
KEK	**Kerkira**	**2.92**	**278**	*e*PB	**Pn**	**18 33 45.8**	**+2.7**
SMG	**Samos**	**3.06**	**122**	*e*PN	**Pn**	**18 33 45.0**	**-0.1**
VTS	**Vitosha**	**3.24**	**356**	*e*Pn	**Pn**	**18 33 49.0**	**+1.5**
KARP	**Karpathos**	**4.77**	**142**	P	**Pn**	**18 34 10.6**	**+2.1**

IDC 21 18:39:20.1±0.9, 2189N×14322E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/20, mbtmp3.8/8, MS3.1/3, Ms1 3.1/3, ms1mx2.7/31, Error ellipse: s-maj=37.0km s-min=19.5km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.40**	**169**	LR	LR	18 43 58.1	
	comp=Z,94nm,21.3s,baz=73,slow=33						
KSRS	**Korea Array**	**20.38**	**323**	P	P	18 44 02.5	+4.2
	2.6nm,0.8s,baz=138,slow=9.4,SNR=6.6						
KSRS				LR	LR	18 50 54.8	
	comp=Z,52nm,18.6s,baz=140,slow=34						
ASAJ	**Asahikawa**	**22.17**	**359**	LR	LR	18 51 00.5	
	comp=Z,67nm,22.0s,baz=135,slow=32						
SONM	**Songino Array**	**39.21**	**320**	P	P	18 46 50.1	+0.2
	1.4nm,0.8s,baz=123,slow=6.2,SNR=8.1						
WRA	**Warramunga Arr**	**42.47**	**192**	P	P	18 47 17.0	+0.2
	1.0nm,0.8s,baz=13,slow=8.1,SNR=5.9						
ASAR	**Alice Springs**	**46.18**	**192**	P	P	18 47 46.8	+0.3
	0.7nm,0.6s,baz=16,slow=10,SNR=17						
STKA	**Stephens Creek**	**53.48**	**192**	P	P	18 48 41.8	-0.3
	1.0nm,0.7s,baz=308,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**54.60**	**313**	P	P	18 48 50.0	-0.1
	0.3nm,0.7s,baz=99,slow=7.5,SNR=3.7						
INK	**Inuvik**	**67.38**	**24**	P	P	18 50 17.0	-0.1
	1.0nm,1.0s,baz=284,slow=8.3,SNR=3.1						
YKA	**Yellowknife Ar**	**76.27**	**28**	P	P	18 51 10.2	-0.3
	0.5nm,0.6s,baz=293,slow=5.9,SNR=7.5						
NVAR	**Mina Array Bea**	**83.00**	**52**	P	P	18 51 47.8	+0.7
	0.3nm,0.6s,baz=282,slow=6.8,SNR=3.6						

*NEIC **21** 18:40:41.0, 3932N×2355E, h25km, ML3.0(ATH), After ATH.*
*ISCJB **21** 18:40:41.9±0.5, 3930N±003×2353E±004, h20km±5km, Error ellipse: s-maj=5.4km s-min=5.2km az=155.8*
*SKO **21** 18:40:41.3, 3974N×2103E, h18km*
*ATH **21** 18:40:41.0, 3932N×2355E, h25km±3km, ML3.0*
*CSEM **21** 18:40:42.0±0.1, 3931N×2354E, h20km, ML3.0, Error ellipse: s-maj=2.3km s-min=2.1km az=129.0*
*THE **21** 18:40:42.1, 3933N×2351E, h11km, ML2.6*
ISC 21 18:40:41.6±0.5, 3934N±003×2353E±004, h17km±4km, n23, σ0s95/35, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.24**	**261**	⇓*i*PB	**Pg**	**18 40 47.2**	**+0.2**
NEO				*e*SB	**Sg**	**18 40 51.8**	**+1.1**
XOR	**Xorichti**	**0.26**	**275**	*e*Pg	**Pg**	**18 40 46.8**	**-0.5**
XOR				*e*Sg	**Sg**	**18 40 50.5**	**-0.8**
AOS	**Alonnisos**	**0.32**	**122**	*e*Pg	**Pg**	**18 40 48.4**	**-0.1**
AOS				*e*Sg	**Sg**	**18 40 53.5**	**+0.5**
PAIG	**Paliouri**	**0.60**	**11**	*e*Pg	**Pb**	**18 40 54.5**	**+0.9**
PAIG				*e*Sg	**Sb**	**18 41 03.9**	**+2.1**
PAIG	**Paliouri**	**0.60**	**11**	*e*Pg	**Pb**	**18 40 54.5**	**+0.9**
PAIG				*e*Sg	**Sb**	**18 41 03.9**	**+2.1**
LKR	**Lokris**	**0.80**	**211**	⇑*i*PN	**Pb**	**18 40 56.6**	**-0.6**
LKR	**Lokris**	**0.80**	**211**	*e*Pn	**Pb**	**18 40 56.6**	**-0.6**
AGG	**Agios Georgios**	**0.98**	**251**	*e*Pg	**Pg**	**18 41 00.3**	**-0.4**
AGG				*e*Sg	**Sg**	**18 41 14.9**	**+1.3**
PLG	**Polygyros**	**1.03**	**357**	*e*Pg	**Pg**	**18 41 01.2**	**-0.4**
PLG				*e*Sg	**Sg**	**18 41 16.1**	**+1.0**
PLG	**Polygyros**	**1.03**	**357**	⇑*i*PN	**Pn**	**18 41 01.0**	**-0.4**
PLG	**Polygyros**	**1.03**	**357**	*e*Pn	**Pn**	**18 41 01.0**	**-0.4**
PLG	**Polygyros**	**1.03**	**357**	*e*Pg	**Pg**	**18 41 01.2**	**-0.4**
PLG				*e*Sg	**Sg**	**18 41 16.1**	**+1.0**
OUR	**Ouranopolis**	**1.05**	**19**	*e*Pg	**Pg**	**18 41 01.7**	**-0.3**
LIT	**Litokhoron**	**1.10**	**314**	*e*Pg	**Pg**	**18 41 02.9**	**0.0**
LIT				*e*Sg	**Sg**	**18 41 18.9**	**+1.5**
THL	**Klokotos Trika**	**1.19**	**281**	*e*PN	**Pn**	**18 41 04.0**	**+0.5**
HORT	**Hortiatis**	**1.30**	**345**	*e*Pg	**Pg**	**18 41 05.6**	**-1.0**
HORT				*e*Sg	**Sg**	**18 41 23.0**	**-0.5**
THE	**Thessaloniki**	**1.36**	**342**	*e*Pg	**Pg**	**18 41 06.5**	**-1.4**
THE				*e*Sg	**Sg**	**18 41 24.8**	**-0.7**
THE	**Thessaloniki**	**1.36**	**342**	*e*Pg	**Pg**	**18 41 06.4**	**-1.4**
THE				*e*Sg	**Sg**	**18 41 24.8**	**-0.7**
ATH	**Athens Observa**	**1.38**	**174**	*e*PN	**Pn**	**18 41 06.5**	**+0.4**
LIA	**Limnos Island**	**1.39**	**66**	*e*PN	**Pn**	**18 41 06.5**	**+0.2**
EVR	**Evrytania**	**1.40**	**253**	*e*PB	**Pb**	**18 41 06.2**	**-1.2**
GRG	**Griva**	**1.83**	**332**	*e*Pb	**Pn**	**18 41 13.4**	**+1.1**
VAY	**Valandovo**	**2.11**	**340**	*e*Pn	**Pn**	**18 41 14.1**	**-2.0**

*NEIC **21** 18:41:19.8, 3934N×2361E, h23km, ML3.3(ATH), After ATH.*
*ATH **21** 18:41:19.8, 3934N×2361E, h23km±1km, MD3.4/17, ML3.3*
*ISCJB **21** 18:41:21.0±0.5, 3934N±002×2360E±004, h20km±5km, Error ellipse: s-maj=5.6km s-min=3.7km az=18.3*
*CSEM **21** 18:41:20.1±0.1, 3938N×2363E, h12km, ML3.2, Error ellipse: s-maj=2.1km s-min=1.4km az=89.0*
*THE **21** 18:41:21.1, 3933N×2359E, h18km, ML3.2*
*SKO **21** 18:41:21.8, 3948N×2363E, h9km*
ISC 21 18:41:20.7±0.5, 3935N±002×2359E±004, h13km±4km, n44, σ0s83/54, 4C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.29**	**128**	*e*Pg	**Pg**	**18 41 26.9**	**+0.2**
NEO	**Neokhori**	**0.29**	**262**	⇓*i*PB	**Pg**	**18 41 26.7**	**0.0**
NEO				*e*SB	**Sg**	**18 41 31.6**	**+0.9**
XOR	**Xorichti**	**0.31**	**273**	*e*Pg	**Pg**	**18 41 26.5**	**-0.6**
PAIG	**Paliouri**	**0.58**	**7**	*e*Pg	**Pg**	**18 41 33.1**	**+1.0**
PAIG				*e*Sg	**Sg**	**18 41 42.4**	**+2.6**
LKR	**Lokris**	**0.84**	**214**	⇑*i*PN	**Pg**	**18 41 36.0**	**-0.9**
LKR				*e*SN	**Sg**	**18 41 47.8**	**-0.1**
OUR	**Ouranopolis**	**1.03**	**17**	*e*Pg	**Pg**	**18 41 40.0**	**-0.6**
PLG	**Polygyros**	**1.03**	**354**	*e*Pg	**Pg**	**18 41 39.9**	**-0.7**
PLG				*e*Sg	**Sg**	**18 41 53.3**	**-0.7**
PLG	**Polygyros**	**1.03**	**354**	⇑*i*PN	**Pb**	**18 41 39.5**	**-0.9**
PLG				*e*SN	**Sb**	**18 41 53.5**	**-0.3**
PLG	**Polygyros**	**1.03**	**354**	*e*Pg	**Pg**	**18 41 39.9**	**-0.7**
PLG				*e*Sg	**Sg**	**18 41 53.3**	**-0.7**
PLG				*e*Sn	**Sb**	**18 41 53.5**	**-0.3**
AGG	**Agios Georgios**	**1.03**	**252**	*e*Pg	**Pg**	**18 41 39.7**	**-1.0**
AGG				*e*Sg	**Sg**	**18 41 54.5**	**+0.4**
LIT	**Litokhoron**	**1.13**	**312**	*e*Pg	**Pg**	**18 41 41.7**	**-0.9**
LIT				*e*Sg	**Sg**	**18 41 57.8**	**+0.5**
THL	**Klokotos Trika**	**1.24**	**280**	*e*PN	**Pn**	**18 41 43.5**	**-0.2**
HORT	**Hortiatis**	**1.30**	**343**	*e*Pg	**Pn**	**18 41 44.1**	**-0.5**
HORT				*e*Sg	**Sb**	**18 42 01.1**	**-0.5**
PTL	**Penteli**	**1.32**	**171**	*e*PN	**Pn**	**18 41 44.5**	**-0.3**
LIA	**Limnos Island**	**1.35**	**66**	*e*PN	**Pn**	**18 41 45.3**	**+0.1**
THE	**Thessaloniki**	**1.37**	**340**	*e*Pg	**Pn**	**18 41 44.9**	**-0.6**
ATH	**Athens Observa**	**1.38**	**176**	*e*PB	**Pn**	**18 41 44.0**	**-1.7**
MGER	**Gerania Oros**	**1.39**	**191**	*e*PN	**Pn**	**18 41 46.0**	**+0.3**
EVR	**Evrytania**	**1.45**	**253**	*e*PN	**Pn**	**18 41 47.4**	**+0.8**
SOH	**Sokhos**	**1.48**	**353**	*e*Pg	**Pn**	**18 41 46.4**	**-0.7**
KVR	**Kavouri**	**1.53**	**175**	*e*PN	**Pn**	**18 41 47.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.59**	**183**	*e*PN	**Pn**	**18 41 48.7**	**+0.1**
KZN	**Kozani**	**1.70**	**305**	*e*PB	**Pn**	**18 41 49.7**	**-0.3**
GRG	**Griva**	**1.85**	**331**	*e*Pb	**Pn**	**18 41 51.8**	**-0.3**
NVR	**Nevrokopi**	**2.01**	**6**	*e*PB	**Pn**	**18 41 54.3**	**0.0**
PRK	**Paraskevi**	**2.08**	**92**	*e*PB	**Pn**	**18 41 54.8**	**-0.5**
RLS	**Riolos of Patr**	**2.10**	**233**	*e*PN	**Pn**	**18 41 56.1**	**+0.5**
VAY	**Valandovo**	**2.12**	**339**	*e*Pn	**Pn**	**18 41 55.6**	**-0.2**
JAN	**Janina**	**2.14**	**279**	*e*PB	**Pn**	**18 41 57.0**	**+0.9**
FNA	**Florina**	**2.22**	**311**	*e*Pn	**Pn**	**18 41 56.5**	**-0.8**
ITM	**Ithomi**	**2.53**	**212**	*e*PB	**Pn**	**18 42 03.2**	**+1.7**
STIP	**Stip**	**2.58**	**336**	*e*Pn	**Pn**	**18 42 02.6**	**+0.6**
STIP	**Stip**	**2.58**	**336**	*e*Pn	**Pn**	**18 42 02.6**	**+0.6**
STIP	**Stip**	**2.58**	**336**	*e*Pn	**Pn**	**18 42 02.6**	**+0.5**
KRUS	**Krusevo**	**2.70**	**319**	*e*Pn	**Pn**	**18 42 04.5**	**+0.7**
KRUS	**Krusevo**	**2.70**	**319**	*e*Pn	**Pn**	**18 42 04.5**	**+0.7**
KRUS	**Krusevo**	**2.70**	**319**	*e*Pn	**Pn**	**18 42 04.4**	**+0.6**
APE	**Apeiranthos**	**2.74**	**146**	*e*PN	**Pn**	**18 42 04.9**	**+0.5**
VTS	**Vitosha**	**3.25**	**355**	⇓*i*P	**Pn**	**18 42 13.2**	**+1.8**
GZR	**Gura Zlata**	**6.07**	**355**	⇓*i*P	**Pn**	**18 42 49.2**	**-0.9**
VOIR		**6.18**	**10**	⇓*i*P	**Pn**	**18 42 52.8**	**+1.2**
MLR	**Muntele Rosu**	**6.38**	**15**	⇑*i*P	**Pn**	**18 42 59.3**	**+4.9**
BZS	**Buzias**	**6.43**	**348**	⇑*i*P	**Pn**	**18 42 54.7**	**-0.4**

2.2nm,0.4s,mb4.1,baz=344,slow=10,SNR=10
ASAR Alice Springs 30.36 167 P P 18 56 00.6 +0.2
1.4nm,0.3s,mb4.2,baz=341,slow=6.9,SNR=62
ASAR PcP PcP 18 59 01.2 +4.0
0.2nm,0.5s,baz=355,slow=2.6,SNR=4.4
FORT Forrest 36.70 178 *e*P P 18 56 53.4 -1.8
6.9nm,0.4s,mb4.8
NWAO Narrogin (SRO) 39.92 193 P P 18 57 23.3 +1.1
4.6nm,0.5s,mb4.4,baz=25,slow=7.6,SNR=8.8
NWAO Narrogin (SRO) 39.92 193 P P 18 57 22.8 +0.6
4.5nm,0.6s,mb4.3
STKA Stephens Creek 40.27 161 P P 18 57 25.4 +0.3
1.7nm,0.4s,mb4.0,baz=344,slow=9.2,SNR=9.8
STKA Stephens Creek 40.27 161 *e*P P 18 57 25.6 +0.5
GTA Gaotai 41.22 328 P P 18 57 33.8 +1.0
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.4
JIRN Jiri 44.23 304 *e*P P 18 57 57.4 +0.2
comp=Z,20nm,0.6s,mb4.9
GUN Gumba 44.58 304 *e*P P 18 58 00.1 +0.2
comp=Z,26nm,0.7s,mb5.0
PKI Pulchoki 44.85 303 *e*P P 18 58 01.8 -0.2
comp=Z,10nm,0.5s,mb4.7
KKN Kakani 45.03 304 *e*P P 18 58 03.3 -0.2
comp=Z,14nm,0.9s,mb4.6
DMN Daman 45.11 303 *e*P P 18 58 03.9 -0.2
SONM Songino Array 45.14 340 P P 18 58 03.8 -0.6
comp=Z,0.3nm,0.5s,mb3.2,baz=163,slow=8.7,SNR=6.2
SONM PcP PcP 18 59 43.0 +0.4
comp=Z,0.5nm,0.7s,baz=159,slow=4.5,SNR=2.8
GKN Gorkha 45.64 304 *e*P P 18 58 07.8 -0.5
comp=Z,7.2nm,0.6s,mb4.5
KOLN Koldanda 46.42 303 *e*P P 18 58 14.6 +0.2
comp=Z,26nm,0.6s,mb5.0
MK31 Makanchi Array 55.77 324 *e*P P 18 59 24.4 +0.2
MKAR Makanchi Array 55.77 324 P P 18 59 24.6 +0.4
comp=Z,5.4nm,0.5s,mb4.6,baz=123,slow=8.1,SNR=26
KURK Kurchatov 59.89 327 *e*P P 18 59 53.0 0.0
comp=Z,9.7nm,0.6s,mb4.8
BVAR Borovoye Array 65.48 326 P P 19 00 30.0 -0.1
comp=Z,6.1nm,0.6s,mb4.6,baz=133,slow=8.3,SNR=23
AKTK Aktyubinsk 71.97 321 P P 19 01 10.2 -0.1
AKTO Aktyubinsk 71.97 321 P P 19 01 10.2 -0.1
comp=Z,3.0nm,0.6s,mb4.2,baz=103,slow=7.6,SNR=12
ARCES ARCESS Array B 88.31 340 P P 19 02 36.4 -1.4
comp=Z,3.2nm,0.8s,mb4.2,baz=50,slow=3.8,SNR=6.4
FINES FINESS Array B 89.87 332 P P 19 02 44.6 -0.5
comp=Z,2.7nm,1.0s,mb4.1,baz=60,slow=7.5,SNR=4.6
TORD Torodi Ar. Bea 122.40 290 PKP PKPdf 19 08 41.3 +0.7
comp=Z,0.8nm,0.6s,baz=40,slow=1.9,SNR=6.5

*NEIC **21** 18:51:41.5, 3934N×2356E, h28km, ML3.2(ATH), After ATH.*
*ATH **21** 18:51:41.5, 3934N×2356E, h28km, MD3.3/10, ML3.2*
*THE **21** 18:51:42.4, 3930N×2353E, h14km, ML3.0*
*ISCJB **21** 18:51:42.5±0.4, 3933N±003×2358E±004, h22km±4km, Error ellipse: s-maj=5.1km s-min=4.4km az=39.6*
*CSEM **21** 18:51:42.7±0.1, 3933N×2358E, h20km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.8km az=153.0*
*SKO **21** 18:51:44.3, 3958N×2369E, h9km*
ISC 21 18:51:42.5±0.5, 3934N±003×2356E±004, h16km±3km, n29, σ0°76/37, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**263**	*e*PB		**Pg**		**18 51 48.4**	**+0.2**
NEO				*e*SB		**Sg**		**18 51 53.6**	**+1.5**
XOR	**Xorichti**	**0.29**	**276**	*e*Pg		**Pg**		**18 51 47.5**	**-1.1**
AOS	**Alonnisos**	**0.30**	**124**	*e*Pg		**Pg**		**18 51 48.6**	**-0.3**
AOS				*e*Sg		**Sg**		**18 51 53.7**	**+0.5**
PAIG	**Paliouri**	**0.60**	**9**	*e*Pg		**Pg**		**18 51 54.8**	**+0.5**
PAIG				*e*Sg		**Sg**		**18 52 04.4**	**+2.2**
LKR	**Lokris**	**0.81**	**213**	‖ *i*PN		**Pb**		**18 51 57.5**	**-0.7**
LKR				*e*SN		**Sb**		**18 52 09.0**	**+0.1**
AGG	**Agios Georgios**	**1.00**	**252**	*e*Pg		**Pg**		**18 52 00.5**	**-1.5**
AGG				*e*Sg		**Sg**		**18 52 14.9**	**-0.3**
PLG	**Polygyros**	**1.04**	**355**	*e*Pg		**Pg**		**18 52 01.6**	**-1.0**
PLG	**Polygyros**	**1.04**	**355**	*e*PN		**Pn**		**18 52 01.4**	**-0.9**
OUR	**Ouranopolis**	**1.05**	**18**	*e*Pg		**Pg**		**18 52 01.7**	**-1.1**
LIT	**Litokhoron**	**1.12**	**313**	*e*Pg		**Pg**		**18 52 03.1**	**-1.1**
LIT				*e*Sg		**Sg**		**18 52 19.4**	**+0.5**
THL	**Klokotos Trika**	**1.22**	**281**	*e*PN		**Pn**		**18 52 04.0**	**-0.8**
THL				*e*SN		**Sn**		**18 52 21.0**	**+0.1**
HORT	**Hortiatis**	**1.31**	**344**	*e*Pg		**Pn**		**18 52 05.6**	**-0.4**
ATH	**Athens Observa**	**1.37**	**175**	*e*PN		**Pn**		**18 52 06.9**	**+0.1**
ATH				*e*SN		**Sn**		**18 52 24.8**	**+0.2**
THE	**Thessaloniki**	**1.37**	**341**	*e*Pg		**Pn**		**18 52 06.5**	**-0.3**
LIA	**Limnos Island**	**1.37**	**65**	*e*PN		**Pn**		**18 52 06.8**	**-0.1**
EVR	**Evrytania**	**1.43**	**253**	*e*PN		**Pn**		**18 52 08.0**	**+0.4**
SOH	**Sokhos**	**1.49**	**354**	*e*Pg		**Pn**		**18 52 08.2**	**-0.3**
KZN	**Kozani**	**1.68**	**306**	*e*PN		**Pn**		**18 52 11.3**	**+0.1**
SRS	**Serrai**	**1.78**	**1**	*e*Pb		**Pn**		**18 52 12.1**	**-0.4**
GRG	**Griva**	**1.84**	**332**	*e*Pb		**Pn**		**18 52 13.3**	**-0.1**
KNT	**Kendrikon**	**1.89**	**345**	*e*Pb		**Pn**		**18 52 14.5**	**+0.5**
NVR	**Nevrokopi**	**2.02**	**6**	*e*PN		**Pn**		**18 52 16.1**	**+0.3**
RDO	**Rodhopi**	**2.36**	**39**	*e*PN		**Pn**		**18 52 20.2**	**-0.2**
ITM	**Ithomi**	**2.51**	**211**	*e*PB		**Pn**		**18 52 23.7**	**+1.2**
STIP	**Stip**	**2.58**	**336**	*e*Pn		**Pn**		**18 52 23.9**	**+0.5**
KRUS	**Krusevo**	**2.69**	**320**	*e*Pn		**Pn**		**18 52 26.2**	**+1.2**
KRUS	**Krusevo**	**2.69**	**320**	*e*Pn		**Pn**		**18 52 26.2**	**+1.2**
KRUS	**Krusevo**	**2.69**	**320**	*e*Pn		**Pn**		**18 52 26.1**	**+1.1**
KEK	**Kerkira**	**2.93**	**279**	*e*PN		**Pn**		**18 52 29.1**	**+0.8**

IDC 21 19:01:58.4±1.1, 1337N×12579E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, Error ellipse: s-maj=86.3km s-min=19.0km az=74.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**24.06**	**4**	P		P	P	19 07 15.4	+0.2
	2.0nm,1.0s,baz=181,slow=9.8,SNR=5.0								
WRA	**Warramunga Arr**	**34.16**	**166**	P		P		19 08 43.9	-1.2
	0.2nm,0.4s,baz=343,slow=9.4,SNR=3.2								
ASAR	**Alice Springs**	**37.65**	**168**	P		P	P	19 09 16.8	+1.6
	0.3nm,0.5s,baz=348,slow=6.7,SNR=5.5								
SONM	**Songino Array**	**37.97**	**339**	P		P	P	19 09 17.7	-0.1
	0.7nm,0.9s,baz=140,slow=7.0,SNR=4.9								
STKA	**Stephens Creek**	**47.47**	**162**	P		P	P	19 10 34.7	-0.3
	1.1nm,0.7s,baz=347,slow=14,SNR=2.8								
MKAR	**Makanchi Array**	**49.31**	**321**	P		P	P	19 10 49.2	+0.1
	0.8nm,0.7s,baz=105,slow=9.1,SNR=5.4								

*ISCJB **21** 19:03:29.3±0.5, 3938N±002×2354E±004, h13km±4km, Error ellipse: s-maj=4.6km s-min=4.0km az=158.4*
*NEIC **21** 19:03:29.4, 3939N×2353E, h27km, ML3.3(ATH), After ATH.*
*ATH **21** 19:03:29.4, 3939N×2353E, h27km±1km, MD3.3/14, ML3.3*
*CSEM **21** 19:03:30.0±0.1, 3936N×2354E, h12km, ML3.3, Error ellipse: s-maj=2.2km s-min=1.9km az=77.0*
*THE **21** 19:03:30.1, 3931N×2351E, h12km, ML2.8*
ISC 21 19:03:29.8±0.4, 3937N±002×2353E±004, h18km±3km, n27, σ0°95/35, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.25**	**255**	‖ *i*PB		**Pg**		**19 03 36.0**	**+0.5**
NEO				*e*SB		**Sg**		**19 03 40.5**	**+1.1**
XOR	**Xorichti**	**0.27**	**269**	*e*Pg		**Pg**		**19 03 35.1**	**-0.7**
XOR				*e*Sg		**Sg**		**19 03 38.9**	**-1.0**
AOS	**Alonnisos**	**0.34**	**126**	*e*Pg		**Pg**		**19 03 36.4**	**-0.5**
AOS				*e*Sg		**Sg**		**19 03 41.3**	**-0.5**
PAIG	**Paliouri**	**0.57**	**11**	*e*Pg		**Pg**		**19 03 42.6**	**+1.5**
PAIG				*e*Sg		**Sg**		**19 03 52.0**	**+3.2**
LKR	**Lokris**	**0.83**	**210**	⇑ *i*PN		**Pg**		**19 03 46.0**	**-0.5**
AGG	**Agios Georgios**	**1.00**	**250**	*e*Pg		**Pg**		**19 03 48.3**	**-0.8**
AGG				*e*Sg		**Sg**		**19 04 02.0**	**-0.3**
PLG	**Polygyros**	**1.00**	**356**	*e*Pg		**Pg**		**19 03 49.4**	**0.0**
PLG	**Polygyros**	**1.00**	**356**	*i* Pn		**Pn**		**19 03 48.3**	**-0.6**
PLG	**Polygyros**	**1.00**	**356**	*e*Pg		**Pg**		**19 03 49.3**	**0.0**
OUR	**Ouranopolis**	**1.02**	**20**	*e*Pg		**Pg**		**19 03 49.5**	**-0.2**
LIT	**Litokhoron**	**1.09**	**313**	*e*Pg		**Pg**		**19 03 50.9**	**+0.1**
LIT				*e*Sg		**Sg**		**19 04 07.1**	**+2.0**
THL	**Klokotos Trika**	**1.19**	**280**	*e*PN		**Pn**		**19 03 52.0**	**+0.5**
HORT	**Hortiatis**	**1.27**	**345**	*e*Pg		**Pg**		**19 03 53.6**	**-0.7**
HORT				*e*Sg		**Sg**		**19 04 11.3**	**+0.3**
PTL	**Penteli**	**1.34**	**169**	*e*PN		**Pn**		**19 03 54.0**	**+0.4**
LIA	**Limnos Island**	**1.38**	**67**	*e*PN		**Pn**		**19 03 54.7**	**+0.6**
MGER	**Gerania Oros**	**1.40**	**189**	*e*PN		**Pn**		**19 03 55.7**	**+1.4**
ATH	**Athens Observa**	**1.40**	**174**	*e*PN		**Pn**		**19 03 54.9**	**+0.5**
EVR	**Evrytania**	**1.42**	**252**	*e*PN		**Pn**		**19 03 55.6**	**+1.0**
KVR	**Kavouri**	**1.55**	**173**	*e*PN		**Pn**		**19 03 57.5**	**+1.1**
NAIG	**Nisos Aigina**	**1.61**	**181**	*e*PN		**Pb**		**19 03 59.0**	**+0.1**
KZN	**Kozani**	**1.65**	**305**	*e*PB		**Pn**		**19 03 57.6**	**-0.2**
SRS	**Serrai**	**1.75**	**1**	*e*Pb		**Pb**		**19 04 00.1**	**-1.1**
GRG	**Griva**	**1.81**	**332**	*e*Pb		**Pb**		**19 04 01.4**	**-0.9**
GRG				*e*Sb		**Sb**		**19 04 24.3**	**-0.3**
KNT	**Kendrikon**	**1.85**	**345**	*e*Pb		**Pb**		**19 04 02.2**	**-0.9**
NVR	**Nevrokopi**	**1.99**	**7**	*e*PB		**Pb**		**19 04 03.7**	**-1.8**
RDO	**Rodhopi**	**2.34**	**40**	*e*PN		**Pn**		**19 04 07.9**	**+0.6**
ITM	**Ithomi**	**2.53**	**211**	*e*PB		**Pb**		**19 04 12.0**	**-2.5**

*ISCJB **21** 19:04:52.8±0.5, 3933N±003×2351E±004, h13km±5km, Error ellipse: s-maj=5.5km s-min=4.9km az=143.9*
*CSEM **21** 19:04:53.9±0.1, 3933N×2351E, h10km, ML3.0, Error ellipse: s-maj=2.2km s-min=1.7km az=34.0*
*THE **21** 19:04:53.8, 3934N×2351E, h6km, ML2.7*
*NEIC **21** 19:04:53.3, 3933N×2346E, h19km, ML3.0(ATH), After ATH.*
*ATH **21** 19:04:53.3, 3933N×2346E, h19km±2km, ML3.0*
ISC 21 19:04:53.1±0.5, 3932N±003×2351E±004, h17km±4km, n17, σ0°58/24, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.22**	**267**	‖ *i*PB		**Pg**		**19 04 58.4**	**+0.2**
NEO				*e*SB		**Sg**		**19 05 01.6**	**-0.1**
XOR	**Xorichti**	**0.25**	**281**	*e*Pg		**Pg**		**19 04 58.7**	**0.0**
XOR				*e*Sg		**Sg**		**19 05 02.3**	**-0.1**
AOS	**Alonnisos**	**0.33**	**117**	*e*Pg		**Pg**		**19 04 59.9**	**-0.1**
AOS				*e*Sg		**Sg**		**19 05 05.4**	**+0.7**
PAIG	**Paliouri**	**0.62**	**12**	*e*Pg		**Pg**		**19 05 06.1**	**+0.7**
PAIG				*e*Sg		**Sg**		**19 05 14.0**	**+0.3**
LKR	**Lokris**	**0.78**	**211**	⇑ *i*PB		**Pb**		**19 05 07.4**	**-0.8**
AGG	**Agios Georgios**	**0.96**	**252**	*e*Pg		**Pg**		**19 05 12.0**	**+0.3**
PLG	**Polygyros**	**1.06**	**358**	*e*Pg		**Pg**		**19 05 12.6**	**-0.9**
PLG	**Polygyros**	**1.06**	**358**	⇑ *i*PN		**Pn**		**19 05 12.6**	**-0.6**
OUR	**Ouranopolis**	**1.08**	**20**	*e*Pg		**Pg**		**19 05 13.0**	**-1.0**
LIT	**Litokhoron**	**1.11**	**315**	*e*Pg		**Pg**		**19 05 14.3**	**-0.3**
LIT				*e*Sg		**Sg**		**19 05 30.1**	**+1.0**
THL	**Klokotos Trika**	**1.18**	**283**	*e*PN		**Pn**		**19 05 15.0**	**+0.1**
HORT	**Hortiatis**	**1.32**	**346**	*e*Pg		**Pn**		**19 05 17.0**	**+0.2**
HORT				*e*Sg		**Sg**		**19 05 35.1**	**-0.6**
ATH	**Athens Observa**	**1.35**	**173**	*e*PN		**Pg**		**19 05 19.1**	**-0.1**
SRS	**Serrai**	**1.80**	**2**	*e*Pb		**Pn**		**19 05 24.3**	**+0.9**
GRG	**Griva**	**1.84**	**333**	*e*Pb		**Pn**		**19 05 24.9**	**+0.9**
GRG				*e*Sb		**Sb**		**19 05 49.3**	**+0.1**
KNT	**Kendrikon**	**1.90**	**346**	*e*Pb		**Pb**		**19 05 26.6**	**-0.7**
KNT	**Kendrikon**	**1.90**	**346**	*e*Pb		**Pb**		**19 05 26.6**	**-0.8**

WEL 21 19:08:20.0±0.3, 3867S×17580E, h143km±2km, ML3.7/15, Error ellipse: s-maj=1.6km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.32**	**195**	PN		Pn		19 08 39.9	+0.2
KRVZ	**Karewarewa**	**0.45**	**196**	PN		Pn		19 08 40.4	+0.2
WTVZ	**West Tongariro**	**0.48**	**200**	PN		Pn		19 08 40.6	+0.2
TWVZ	**Taurewa**	**0.49**	**215**	PN		Pn		19 08 40.5	+0.1
OTVZ	**Oturere**	**0.51**	**192**	PN		Pn		19 08 40.8	+0.3
NGZ	**Ngauruhoe**	**0.53**	**197**	PN		Pn		19 08 40.7	0.0
WPVZ	**Whakapapa**	**0.57**	**200**	PN		Pn		19 08 41.1	+0.3
TUVZ	**Tukino**	**0.61**	**191**	PN		Pn		19 08 41.5	+0.4
FWVZ	**Far West T-bar**	**0.62**	**198**	PN		Pn		19 08 41.3	+0.2
TRVZ	**Turoa**	**0.66**	**197**	PN		Pn		19 08 41.8	+0.3
WNVZ	**Wahianoa**	**0.68**	**193**	PN		Pn		19 08 41.8	+0.3
PKVZ	**Pokaka**	**0.72**	**210**	PN		Pn		19 08 41.8	0.0
BKZ	**Black Stump Fm**	**0.73**	**133**	PN		Pn		19 08 42.2	+0.3
BKZ				SN		Sn		19 08 58.7	+0.1
MOVZ	**Moawhango**	**0.74**	**183**	PN		Pn		19 08 41.8	-0.1
MOVZ				SN		Sn		19 08 57.8	-0.9
HIZ	**Hauiti**	**0.76**	**281**	PN		Pn		19 08 41.9	-0.2
MTVZ	**Mangateitei**	**0.76**	**200**	PN		Pn		19 08 42.1	0.0
VRZ	**Vera Road**	**0.94**	**240**	PN		Pn		19 08 43.2	-0.3
URZ	**Urewera**	**1.10**	**69**	PN		Pn		19 08 44.8	-0.2
URZ				SN		Sn		19 09 03.7	-0.4
WAZ	**Wanganui**	**1.26**	**210**	PN		Pn		19 08 45.9	-0.6
MWZ	**Matawai**	**1.39**	**77**	PN		Pn		19 08 48.0	+0.2
TSZ	**Takapari Road**	**1.40**	**175**	PN		Pn		19 08 47.5	-0.3
PXZ	**Pawanui**	**1.59**	**149**	PN		Pn		19 08 49.9	-0.1
MRZ	**Mangatainoka R**	**2.00**	**185**	PN		Pn		19 08 53.2	-1.5
PUZ	**Puketiti**	**2.02**	**74**	PN		Pn		19 08 54.7	-0.1
PUZ				SN		Sn		19 09 20.7	-1.0
BFZ	**Birch Farm**	**2.04**	**170**	PN		Pn		19 08 54.2	-1.0
TIWZ	**Tintock**	**2.11**	**178**	PN		Pn		19 08 54.7	-1.3
KIW	**Kapiti Island**	**2.30**	**197**	PN		Pn		19 08 56.2	-2.0
MTW	**Mount Morrison**	**2.50**	**185**	PN		Pn		19 08 58.5	-2.2
CAW	**Cannon Point**	**2.50**	**193**	PN		Pn		19 08 58.6	-2.1
DUWZ	**D'Urville Isla**	**2.58**	**214**	PN		Pn		19 08 59.2	-2.5
MRW	**Makara Radio**	**2.70**	**198**	PN		Pn		19 09 00.6	-2.6
PAWZ	**Paruwai Farm**	**2.73**	**186**	PN		Pn		19 09 01.1	-2.5
TRWZ	**Traveller**	**2.73**	**182**	PN		Pn		19 09 01.4	-2.2
TCW	**Tory Channel**	**2.80**	**204**	PN		Pn		19 09 01.9	-2.6
TUWZ	**Tuamarina**	**3.11**	**207**	PN		Pn		19 09 05.2	-3.2
NNZ	**Nelson**	**3.16**	**215**	PN		Pn		19 09 05.9	-3.2
QRZ	**Quartz Range**	**3.32**	**228**	PN		Pn		19 09 07.4	-3.7
BSWZ	**Blackbirch Sta**	**3.38**	**205**	PN		Pn		19 09 09.0	-2.9
KHZ	**Kahutara**	**4.12**	**204**	PN		Pn		19 09 18.2	-3.5
MQZ	**McQueen's Vall**	**5.57**	**204**	SN		Sn		19 10 33.2	-11
ODZ	**Otahua Downs**	**7.44**	**209**	SN		Sn		19 11 18.2	-11

*ISCJB **21** 19:22:01.4±0.5, 3937N±002×2356E±004, h10km±4km, Error ellipse: s-maj=5.0km s-min=4.1km az=3.9*
*NEIC **21** 19:22:01.4, 3933N×2356E, h27km, ML3.1(ATH), After ATH.*
*ATH **21** 19:22:01.4, 3933N×2356E, h27km±2km, MD3.1/10, ML3.1*
*CSEM **21** 19:22:02.2±0.1, 3935N×2355E, h15km, ML3.1, Error ellipse: s-maj=1.6km s-min=1.4km az=87.0*
*THE **21** 19:22:02.2, 3932N×2354E, h11km, ML2.6*
*SKO **21** 19:22:04.9, 3957N×2362E, h23km*
ISC 21 19:22:01.9±0.5, 3935N±002×2356E±004, h15km±3km, n29, σ0°75/37, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.27**	**260**	*e*PB		**Pg**		**19 22 08.0**	**+0.3**
NEO				*e*SB		**Sg**		**19 22 13.0**	**+1.4**
XOR	**Xorichti**	**0.28**	**273**	*e*Pg		**Pg**		**19 22 07.7**	**-0.3**
XOR				*e*Sg		**Sg**		**19 22 11.6**	**-0.5**
AOS	**Alonnisos**	**0.31**	**126**	*e*Pg		**Pg**		**19 22 08.7**	**+0.2**
AOS				*e*Sg		**Sg**		**19 22 12.8**	**-0.1**
PAIG	**Paliouri**	**0.58**	**9**	*e*Pg		**Pg**		**19 22 14.7**	**+1.3**
LKR	**Lokris**	**0.83**	**212**	⇑ *i*PN		**Pb**		**19 22 17.4**	**-0.6**
LKR				*e*SN		**Sb**		**19 22 29.1**	**+0.2**
AGG	**Agios Georgios**	**1.01**	**251**	*e*Pg		**Pg**		**19 22 20.9**	**-0.6**
AGG				*e*Sg		**Sg**		**19 22 34.9**	**+0.2**
PLG	**Polygyros**	**1.02**	**355**	*e*Pg		**Pg**		**19 22 21.3**	**-0.4**
PLG	**Polygyros**	**1.02**	**355**	*i* Pn		**Pn**		**19 22 21.6**	**-0.1**
OUR	**Ouranopolis**	**1.03**	**18**	*e*Pg		**Pg**		**19 22 21.4**	**-0.5**
LIT	**Litokhoron**	**1.11**	**312**	*e*Pg		**Pg**		**19 22 23.1**	**-0.3**
LIT	**Litokhoron**	**1.11**	**312**	*e*Pg		**Pg**		**19 22 23.1**	**-0.3**
THL	**Klokotos Trika**	**1.21**	**280**	*e*PN		**Pn**		**19 22 24.4**	**+0.1**
HORT	**Hortiatis**	**1.29**	**344**	*e*Pg		**Pg**		**19 22 25.6**	**-1.2**
HORT				*e*Sg		**Sg**		**19 22 43.4**	**-0.3**
PTL	**Penteli**	**1.32**	**170**	*e*PN		**Pn**		**19 22 25.0**	**-0.8**
ATH	**Athens Observa**	**1.39**	**175**	*i* PN		**Pn**		**19 22 26.7**	**0.0**
MGER	**Gerania Oros**	**1.39**	**190**	*e*PN		**Pn**		**19 22 26.9**	**+0.2**
EVR	**Evrytania**	**1.43**	**253**	*e*PN		**Pn**		**19 22 27.7**	**+0.4**
SOH	**Sokhos**	**1.47**	**354**	*e*Pg		**Pn**		**19 22 28.4**	**+0.5**
KVR	**Kavouri**	**1.53**	**174**	*e*PN		**Pn**		**19 22 25.5**	**-3.2**
NAIG	**Nisos Aigina**	**1.59**	**182**	*e*PN		**Pn**		**19 22 30.0**	**+0.5**
SRS	**Serrai**	**1.76**	**1**	*e*Pb		**Pn**		**19 22 32.5**	**+0.7**
GRG	**Griva**	**1.83**	**331**	*e*Pb		**Pn**		**19 22 33.4**	**+0.6**
GRG				*e*Sb		**Sb**		**19 22 57.2**	**-0.5**
GRG	**Griva**	**1.83**	**331**	*e*Pb		**Pn**		**19 22 33.4**	**+0.6**
GRG				*e*Sb		**Sb**		**19 22 57.2**	**-0.6**
KNT	**Kendrikon**	**1.88**	**345**	*e*Pb		**Pn**		**19 22 34.2**	**+0.8**
NVR	**Nevrokopi**	**2.01**	**7**	*e*PN		**Pn**		**19 22 35.7**	**+0.5**
VAY	**Valandovo**	**2.10**	**339**	*e*Pn		**Pn**		**19 22 37.4**	**+0.9**
KRUS	**Krusevo**	**2.68**	**319**	*e*Pn		**Pn**		**19 22 42.4**	**-2.0**
KRUS	**Krusevo**	**2.68**	**319**	*e*Pn		**Pn**		**19 22 42.4**	**-2.0**
KRUS	**Krusevo**	**2.68**	**319**	*e*Pn		**Pn**		**19 22 42.3**	**-2.1**

MAN 21 19:38:47.6, 1766N×12251E, h0km, mb3.9, ML4.9, MS1.6, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.60**	**188**	⇑ *e*P		Pg		19 38 59.7	+0.6
PALP				*i* S		Sg		19 39 11.8	+5.0
PALP	**Palanan**	**0.60**	**188**	*e*P		Pg		19 38 59.6	+0.5
PALP				*e*S		Sg		19 39 10.8	+3.9
CVP	**Callao Caves**	**0.66**	**274**	⇑ *i*P		Pg		19 39 00.5	+0.4
CVP				*i* S		Sg		19 39 10.0	+1.4
SGCP	**Mt. Cagua**	**0.73**	**323**	*e*P		Pg		19 39 02.3	+0.8
SGCP				*e*S		Sg		19 39 13.4	+2.5
CAUP	**Cauayan**	**0.97**	**223**	*e*P		Pg		19 39 07.5	+1.4
CAUP				*e*S		Sg		19 39 24.0	+5.3
BALP	**Baler**	**2.11**	**205**	*e*P		Pn		19 39 23.5	-0.6
BALP				*e*S		Sn		19 39 52.1	+1.1
BCPH	**Baguio City Da**	**2.24**	**236**	‖ *e*P		Pn		19 39 26.0	+0.1
PCPH	**Palayan**	**2.49**	**213**	‖ *e*P		Pn		19 39 29.7	+0.4

*NEIC **21** 19:44:10.9, 3938N×2355E, h16km, ML3.2(ATH), After ATH.*
*ATH **21** 19:44:10.9, 3938N×2355E, h16km±1km, MD3.3/13, ML3.2*
*ISCJB **21** 19:44:11.5±0.5, 3938N±002×2352E±003, h9km±4km, Error ellipse: s-maj=4.4km s-min=3.5km az=173.0*
*CSEM **21** 19:44:11.7±0.1, 3936N×2352E, h12km, ML2.9, Error ellipse: s-maj=1.7km s-min=1.4km az=95.0*
*THE **21** 19:44:12.2, 3936N×2351E, h8km, ML2.9*
*SKO **21** 19:44:12.5, 3951N×2372E, h6km*
ISC 21 19:44:11.9±0.4, 3937N±002×2353E±004, h11km±3km, n31, σ0°77/43, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.24**	**255**	‖ *i*PB		**Pg**		**19 44 16.7**	**-0.3**
NEO				*e*SB		**Sg**		**19 44 20.5**	**+0.1**
XOR	**Xorichti**	**0.26**	**269**	*e*Pg		**Pg**		**19 44 17.1**	**-0.2**
XOR				*e*Sg		**Sg**		**19 44 20.7**	**-0.2**
AOS	**Alonnisos**	**0.34**	**126**	*e*Pg		**Pg**		**19 44 18.6**	**-0.1**
AOS				*e*Sg		**Sg**		**19 44 24.0**	**+0.7**
LKR	**Lokris**	**0.83**	**210**	⇑ *i*PN		**Pg**		**19 44 27.0**	**-0.9**
LKR				*e*SN		**Sg**		**19 44 38.5**	**-0.3**
AGG	**Agios Georgios**	**0.99**	**250**	*e*Pg		**Pg**		**19 44 30.2**	**-0.9**
AGG				*e*Sg		**Sg**		**19 44 44.5**	**+0.5**
PLG	**Polygyros**	**1.00**	**356**	*e*Pg		**Pg**		**19 44 31.1**	**-0.1**
PLG				*e*Sg		**Sg**		**19 44 45.4**	**+1.1**
PLG	**Polygyros**	**1.00**	**356**	*i* Pn		**Pg**		**19 44 29.5**	**-1.7**
PLG	**Polygyros**	**1.00**	**356**	*e*Pg		**Pg**		**19 44 31.1**	**-0.1**
PLG				*e*Sg		**Sg**		**19 44 45.4**	**+1.1**
OUR	**Ouranopolis**	**1.02**	**20**	*e*Pg		**Pg**		**19 44 31.7**	**+0.1**
LIT	**Litokhoron**	**1.08**	**313**	*e*Pg		**Pg**		**19 44 32.6**	**-0.1**
LIT				*e*Sg		**Sg**		**19 44 49.2**	**+2.4**
THL	**Klokotos Trika**	**1.19**	**280**	*e*PN		**Pb**		**19 44 33.6**	**-0.8**
THL				*e*SN		**Sn**		**19 44 50.

XOR				*e*Sg		**Sg**	**20 14 13.2**	**0.0**
AOS	**Alonnisos**	**0.32**	**124**	*e*Pg		**Pg**	**20 14 10.3**	**0.0**
AOS				*e*Sg		**Sg**	**20 14 14.4**	**-0.3**
PAIG	**Paliouri**	**0.59**	**11**	*e*Pg		**Pg**	**20 14 16.4**	**+1.1**
PAIG				*e*Sg		**Sg**	**20 14 26.3**	**+3.3**
LKR	**Lokris**	**0.82**	**211**	*e*PB		**Pg**	**20 14 18.5**	**-1.1**
AGG	**Agios Georgios**	**0.99**	**251**	*e*Pg		**Pg**	**20 14 22.2**	**-0.7**
AGG				*e*Sg		**Sg**	**20 14 35.7**	**-0.3**
PLG	**Polygyros**	**1.02**	**356**	*e*Pg		**Pg**	**20 14 23.2**	**-0.3**
PLG	**Polygyros**	**1.02**	**356**	*i* Pn		**Pb**	**20 14 22.1**	**-1.3**
PLG	**Polygyros**	**1.02**	**356**	*e*Pg		**Pg**	**20 14 23.2**	**-0.3**
OUR	**Ouranopolis**	**1.04**	**19**	*e*Pg		**Pg**	**20 14 23.5**	**-0.3**
LIT	**Litokhoron**	**1.10**	**313**	*e*Pg		**Pg**	**20 14 24.4**	**-0.6**
LIT				*e*Sg		**Sg**	**20 14 40.3**	**+0.9**
THL	**Klokotos Trika**	**1.20**	**281**	*e*PN		**Pn**	**20 14 25.8**	**-0.5**
HORT	**Hortiatis**	**1.29**	**345**	*e*Pg		**Pn**	**20 14 27.2**	**-0.3**
PTL	**Penteli**	**1.32**	**169**	*e*PN		**Pn**	**20 14 28.0**	**0.0**
MGER	**Gerania Oros**	**1.38**	**189**	*e*PN		**Pn**	**20 14 29.5**	**+0.7**
LIA	**Limnos Island**	**1.38**	**66**	*e*PN		**Pn**	**20 14 28.5**	**-0.3**
ATH	**Athens Observa**	**1.38**	**174**	*e*PN		**Pn**	**20 14 29.4**	**+0.6**
EVR	**Evrytania**	**1.41**	**253**	*e*PN		**Pn**	**20 14 30.2**	**+1.0**
SOH	**Sokhos**	**1.48**	**355**	*e*Pg		**Pn**	**20 14 30.2**	**+0.2**
KVR	**Kavouri**	**1.53**	**173**	*e*PN		**Pn**	**20 14 31.0**	**+0.2**
NAIG	**Nisos Aigina**	**1.59**	**181**	*e*PN		**Pn**	**20 14 32.0**	**+0.3**
SRS	**Serrai**	**1.77**	**1**	*e*Pb		**Pn**	**20 14 33.8**	**-0.3**
GRG	**Griva**	**1.82**	**332**	*e*Pb		**Pn**	**20 14 35.2**	**+0.3**
GRG				*e*Sb		**Sb**	**20 14 58.9**	**-0.9**
KNT	**Kendrikon**	**1.87**	**345**	*e*Pb		**Pn**	**20 14 36.1**	**+0.6**
NVR	**Nevrokopi**	**2.01**	**7**	*e*PN		**Pn**	**20 14 37.5**	**0.0**

IGQ 21 20:17:49.1, 248S×8042W, h16km±17km, Mb4.4, Ms4.2, 7C-6D, Error ellipse: s-maj=17.9km s-min=4.5km az=158.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.03**	**61**	⇓P	Pn	20 18 25.1	+2.4
BILB	**Tungurahua vol**	**2.18**	**62**	⇓P	Pn	20 18 27.6	+2.9
BILB				S	Sn	20 18 50.8	-0.6
ARRY	**Arrayan**	**2.19**	**64**	P	Pn	20 18 26.7	+1.9
PATA	**Patacocha**	**2.21**	**64**	⇑P	Pn	20 18 27.9	+2.8
JUIV	**Juive**	**2.22**	**62**	⇓P	Pn	20 18 27.9	+2.6
JUIV				S	Sn	20 18 53.2	+0.9
RETU	**Refugio**	**2.22**	**63**	⇑P	Pn	20 18 28.4	+3.1
RETU				S	Sn	20 18 53.8	+1.4
ULBA	**Ulba**	**2.26**	**63**	⇑P	Pn	20 18 28.9	+3.1
RUN5	**Runtun**	**2.26**	**62**	P	Pn	20 18 28.7	+2.9
PISA	**Pisayambo**	**2.48**	**55**	⇑P	Pn	20 18 32.2	+3.4
PISA				S	Sn	20 19 01.0	+2.3
MAG1	**Magdalena**	**2.48**	**15**	P	Pn	20 18 28.9	+0.1
CAMI	**Rancho Maria**	**2.62**	**47**	P	Pn	20 18 34.1	+3.3
TAMB	**Tambo**	**2.71**	**49**	⇓P	Pn	20 18 35.9	+3.9
VC1	**Cotopaxi 1**	**2.72**	**48**	⇓P	Pn	20 18 36.5	+4.3
JUA2	**San Juan 2**	**2.89**	**39**	⇑P	Pn	20 18 36.9	+2.4
TERV	**Terraza Guagua**	**2.92**	**38**	P	Pn	20 18 37.4	+2.4
GGP	**Refugio Guagua**	**2.93**	**39**	⇑P	Pn	20 18 36.9	+1.8
PINO	**Pino**	**2.93**	**38**	⇓P	Pn	20 18 36.8	+1.7
YANA	**Yana**	**2.99**	**38**	P	Pn	20 18 37.1	+1.3
ANTI	**Antisana**	**3.03**	**48**	P	Pn	20 18 40.5	+4.2
CAYR	**Refugio Cayamb**	**3.46**	**44**	⇑P	Pn	20 18 47.1	+4.8
CAYR				S	Sn	20 19 26.1	+3.2
COTA	**Cotacachi**	**3.49**	**37**	P	Pn	20 18 45.2	+2.5
COTA				S	Sn	20 19 23.7	+0.1
CAYA	**Cayambe**	**3.51**	**44**	P	Pn	20 18 47.2	+4.2
LAV3	**Lava3-Reventad**	**3.66**	**50**	P	Pn	20 18 50.5	+5.5
CONE	**Cono NE Rev Vo**	**3.67**	**49**	P	Pn	20 18 51.2	+6.1

*NEIC **21** 20:34:21.3, 1657N×9351W, h189km, MD4.2(MEX), After MEX.*

MEX 21 20:34:21.7±0.6, 1658N×9350W, h186km±10km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.34**	**103**	*e*P	Pn	20 34 51.4	-1.3
CCIG				*i* S	Sn	20 35 15.3	-1.4
CMIG	**Matias Romero**	**1.42**	**291**	*i* P	Pn	20 34 52.1	-1.3
CMIG				*i* S	Sn	20 35 15.5	-2.4
TUIG	**Tuzandepetl**	**1.69**	**329**	*i* P	Pn	20 34 54.0	-1.9
TUIG				*i* S	Sn	20 35 20.4	-2.1
HUIG	**Huatulco**	**2.63**	**253**	*i* P	Pn	20 35 03.7	-2.5
HUIG				*i* S	Sn	20 35 39.6	-1.2
OXX	**Oaxaca**	**3.12**	**280**	*i* P	Pn	20 35 12.2	+0.1
OXX				*i* S	Sn	20 35 48.8	-2.6
VHO	**Vista Hermosa**	**3.13**	**279**	*i* P	Pn	20 35 12.0	-0.2
VHO				*i* S	Sn	20 35 50.0	-1.6
TPIG	**Tehuac#an**	**4.11**	**297**	*i* P	Pn	20 35 24.3	-0.1
TPIG				*i* S	Sn	20 36 11.5	-1.9
UTMO	**Huajuapan**	**4.29**	**287**	*i* P	Pn	20 35 26.6	0.0
UTMO				*i* S	Sn	20 36 16.8	-0.9
MEIG	**Mezcala**	**6.00**	**284**	*i* P	Pn	20 35 49.0	+0.4
MEIG				*i* S	Sn	20 36 54.5	-2.7
PLIG	**Platanillo**	**6.00**	**288**	*i* P	Pn	20 35 49.1	+0.3
PLIG				*i* S	Sn	20 36 56.6	-0.7

*NEIC **21** 20:41:33.3, 3931N×2353E, h23km, ML3.2(ATH), After ATH.*
*ATH **21** 20:41:33.3, 3931N×2353E, h23km±2km, MD3.2/10, ML3.2*
*CSEM **21** 20:41:34.7±0.1, 3931N×2348E, h20km±1km, ML3.2, Error ellipse: s-maj=3.2km s-min=2.3km az=83.0*
*ISCJB **21** 20:41:34.5±0.4, 3930N±003×2352E±004, h21km±4km, Error ellipse: s-maj=5.8km s-min=4.2km az=150.7*
*THE **21** 20:41:35.2, 3933N×2350E, h11km, ML2.8*
*SKO **21** 20:41:36.2, 3974N×2382E, h0km*

ISC 21 20:41:34.5±0.4, 3933N±002×2351E±004, h19km±3km, n28, σ0.92/41, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**264**	⇓*i*PB	**Pg**	**20 41 39.3**	**-0.6**
NEO				*e*SB	**Sg**	**20 41 43.7**	**+0.1**
XOR	**Xorichti**	**0.25**	**278**	*e*Pg	**Pg**	**20 41 39.7**	**-0.6**
XOR				*e*Sg	**Sg**	**20 41 43.9**	**-0.4**
AOS	**Alonnisos**	**0.33**	**119**	*e*Pg	**Pg**	**20 41 41.4**	**-0.1**
AOS				*e*Sg	**Sg**	**20 41 47.5**	**+1.2**
PAIG	**Paliouri**	**0.61**	**12**	*e*Pg	**Pg**	**20 41 47.1**	**+0.6**
PAIG				*e*Sg	**Sg**	**20 41 56.6**	**+1.8**
LKR	**Lokris**	**0.79**	**211**	⇑*i*PN	**Pb**	**20 41 49.1**	**-0.4**
AGG	**Agios Georgios**	**0.97**	**252**	*e*Pg	**Pg**	**20 41 53.5**	**+0.2**
AGG				*e*Sg	**Sg**	**20 42 07.5**	**+1.4**
AGG	**Agios Georgios**	**0.97**	**252**	*e*Pg	**Pg**	**20 41 53.5**	**+0.2**
AGG				*e*Sg	**Sg**	**20 42 07.6**	**+1.5**
PLG	**Polygyros**	**1.04**	**357**	*e*Pg	**Pg**	**20 41 54.2**	**-0.5**
PLG	**Polygyros**	**1.04**	**357**	⇑*i*PN	**Pn**	**20 41 53.5**	**-0.5**
PLG				*e*SN	**Sn**	**20 42 07.6**	**-0.5**
PLG	**Polygyros**	**1.04**	**357**	*e*Pg	**Pg**	**20 41 54.2**	**-0.5**
PLG				*e*Sn	**Sn**	**20 42 07.6**	**-0.5**
OUR	**Ouranopolis**	**1.06**	**20**	*e*Pg	**Pg**	**20 41 54.4**	**-0.7**
LIT	**Litokhoron**	**1.10**	**315**	*e*Pg	**Pg**	**20 41 55.6**	**-0.2**
LIT				*e*Sg	**Sg**	**20 42 10.9**	**+0.6**
THL	**Klokotos Trika**	**1.18**	**282**	*e*PN	**Pn**	**20 41 56.3**	**+0.3**
HORT	**Hortiatis**	**1.30**	**346**	*e*Pg	**Pn**	**20 41 57.9**	**+0.3**
HORT				*e*Sg	**Sg**	**20 42 16.2**	**-0.5**
PTL	**Penteli**	**1.31**	**168**	*e*PN	**Pn**	**20 41 57.5**	**-0.2**
MGER	**Gerania Oros**	**1.36**	**188**	*e*PN	**Pn**	**20 41 58.7**	**+0.3**
ATH	**Athens Observa**	**1.37**	**173**	*e*PB	**Pn**	**20 41 57.1**	**-1.4**
THE	**Thessaloniki**	**1.37**	**342**	*e*Pg	**Pg**	**20 41 59.3**	**-1.5**
THE				*e*Sg	**Sg**	**20 42 18.1**	**-0.6**
SOH	**Sokhos**	**1.49**	**355**	*e*Pg	**Pn**	**20 42 01.2**	**+1.0**
KVR	**Kavouri**	**1.51**	**172**	*e*PN	**Pn**	**20 41 58.0**	**-2.5**
NAIG	**Nisos Aigina**	**1.57**	**181**	*e*PN	**Pn**	**20 42 02.0**	**+0.7**
KZN	**Kozani**	**1.66**	**307**	*e*PN	**Pn**	**20 42 03.7**	**+1.2**
SRS	**Serrai**	**1.79**	**2**	*e*Pb	**Pn**	**20 42 05.1**	**+0.8**
GRG	**Griva**	**1.83**	**333**	*e*Pb	**Pn**	**20 42 06.0**	**+1.0**
GRG				*e*Sb	**Sb**	**20 42 30.0**	**+0.1**
GRG	**Griva**	**1.83**	**333**	*e*Pb	**Pb**	**20 42 05.9**	**-1.5**
GRG				*e*Sb	**Sb**	**20 42 30.0**	**+0.1**
KNT	**Kendrikon**	**1.89**	**346**	*e*Pb	**Pb**	**20 42 07.1**	**-1.2**
VAY	**Valandovo**	**2.12**	**340**	*e*PN	**Pn**	**20 42 08.7**	**0.0**
KRUS	**Krusevo**	**2.67**	**320**	*e*PN	**Pn**	**20 42 18.2**	**+1.8**

MAN 21 20:47:25.0, 1778N×12259E, h1km, mb3.1, ML4.4, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.73**	**193**	*e*P	Pg	20 47 40.2	+1.2
PALP	**Palanan**	**0.73**	**193**	*e*P	Pg	20 47 40.1	+1.1
PALP				*e*S	Sg	20 47 50.4	+2.0
CVP	**Callao Caves**	**0.74**	**264**	⇑*i*P	Pg	20 47 40.0	+0.9
CVP				*i* S	Sg	20 47 50.0	+1.3
CAUP	**Cauayan**	**1.11**	**222**	*e*P	Pg	20 47 47.4	+1.2
ABRA	**Dolores**	**1.80**	**266**	*e*P	Pn	20 47 57.6	+0.5
ABRA				*e*S	Sn	20 48 21.7	+1.2
BALP	**Baler**	**2.25**	**206**	*e*P	Pn	20 48 03.2	-0.1
BALP				*e*S	Sn	20 48 32.6	+0.9

IDC 21 21:27:25.2±8.1, 760S×12824E, h122km±82km, mb3.6/5, mb1 3.7/8, mb1mx3.6/16, mbtmp3.6/8, ML4.1/3, Error ellipse: s-maj=94.9km s-min=28.8km az=57.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.74**	**193**	P	Pn	21 29 55.9	+0.4
0.9nm,0.3s,baz=34,slow=10,SNR=32							
FITZ				S	Sn	21 31 49.7	-4.2
2.7nm,0.3s,baz=79,slow=20,SNR=9.0							
WRA	**Warramunga Arr**	**13.62**	**155**	P	Pn	21 30 31.6	-1.7
1.3nm,0.3s,baz=330,slow=13,SNR=49							
WRA				S	Sn	21 32 54.0	-9.5
1.6nm,0.3s,baz=330,slow=24,SNR=6.5							
ASAR	**Alice Springs**	**16.87**	**162**	P	Pn	21 31 15.6	+1.6
0.4nm,0.3s,baz=333,slow=9.5,SNR=31							
ASAR				S	S	21 34 16.4	-5.6
0.5nm,0.3s,baz=330,slow=17,SNR=7.2							
STKA	**Stephens Creek**	**27.17**	**155**	P	P	21 32 57.4	+0.2
2.3nm,0.7s,baz=339,slow=8.6,SNR=4.0							
SONM	**Songino Array**	**58.48**	**343**	P	P	21 37 09.2	+0.8
0.7nm,0.6s,baz=163,slow=5.9,SNR=7.0							
MKAR	**Makanchi Array**	**67.78**	**328**	P	P	21 38 09.9	0.0
0.4nm,0.3s,baz=113,slow=8.7,SNR=16							
ZAL	**Zalesovo**	**71.36**	**335**	P	P	21 38 31.4	-0.4
0.7nm,0.3s,baz=322,slow=2.0,SNR=3.8							
BVAR	**Borovoye Array**	**77.65**	**328**	P	P	21 39 07.8	-0.3
0.5nm,0.5s,baz=144,slow=5.3,SNR=5.6							

*ISCJB **21** 21:41:37.1±0.5, 3941N±003×2355E±004, h9km±5km, Error ellipse: s-maj=5.8km s-min=4.2km az=143.8*
*THE **21** 21:41:37.9, 3934N×2353E, h11km, ML2.5*
*NEIC **21** 21:41:37.5, 3949N×2386E, h58km, MD3.2(ATH), After ATH.*
*ATH **21** 21:41:37.5, 3949N×2386E, h58km±33km, MD3.2/6, ML3.2*
*CSEM **21** 21:41:38.0±0.1, 3936N×2355E, h10km, ML2.5, Error ellipse: s-maj=2.2km s-min=1.6km az=71.0*

ISC 21 21:41:37.5±0.5, 3940N±003×2355E±005, h14km±5km, n20, σ0.90/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.28**	**262**	*e*Pg	**Pg**	**21 41 42.7**	**-0.7**
XOR				*e*Sg	**Sg**	**21 41 47.5**	**+0.1**
AOS	**Alonnisos**	**0.35**	**132**	*e*Pg	**Pg**	**21 41 44.3**	**-0.3**
AOS				*e*Sg	**Sg**	**21 41 49.1**	**-0.1**
PAIG	**Paliouri**	**0.53**	**11**	*e*Pg	**Pg**	**21 41 50.2**	**+2.2**
PLG	**Polygyros**	**0.97**	**355**	*e*Pg	**Pg**	**21 41 57.0**	**+0.7**
PLG	**Polygyros**	**0.97**	**355**	*e*P	**Pb**	**21 41 55.0**	**-1.2**
PLG	**Polygyros**	**0.97**	**355**	*e*Pg	**Pg**	**21 41 57.0**	**+0.7**
OUR	**Ouranopolis**	**0.99**	**20**	*e*Pg	**Pg**	**21 41 57.1**	**+0.5**
AGG	**Agios Georgios**	**1.02**	**248**	*e*Pg	**Pg**	**21 41 56.4**	**-0.9**
AGG				*e*Sg	**Sg**	**21 42 10.6**	**0.0**
LIT	**Litokhoron**	**1.07**	**311**	*e*Pg	**Pg**	**21 41 58.6**	**+0.4**
LIT				*e*Sg	**Sg**	**21 42 15.4**	**+3.1**
HORT	**Hortiatis**	**1.24**	**344**	*e*Pg	**Pg**	**21 42 01.2**	**-0.3**
HORT				*e*Sg	**Sg**	**21 42 18.3**	**+0.7**
THE	**Thessaloniki**	**1.31**	**340**	*e*Pg	**Pg**	**21 42 02.1**	**-0.6**
PTL	**Penteli**	**1.38**	**170**	*e*P	**Pn**	**21 42 02.0**	**-0.4**
SOH	**Sokhos**	**1.42**	**354**	*e*Pg	**Pg**	**21 42 03.5**	**-1.4**
SOH	**Sokhos**	**1.42**	**354**	*e*Pg	**Pg**	**21 42 03.5**	**-1.4**
MGER	**Gerania Oros**	**1.43**	**189**	*e*P	**Pn**	**21 42 04.2**	**+1.0**
ATH	**Athens Observa**	**1.44**	**175**	*e*P	**Pn**	**21 42 03.3**	**+0.1**
KVR	**Kavouri**	**1.58**	**174**	*e*P	**Pn**	**21 42 05.6**	**+0.4**
NAIG	**Nisos Aigina**	**1.64**	**182**	*e*P	**Pn**	**21 42 07.0**	**+0.9**
SRS	**Serrai**	**1.71**	**1**	*e*Pb	**Pb**	**21 42 07.7**	**-1.1**
GRG	**Griva**	**1.78**	**331**	*e*Pb	**Pb**	**21 42 08.9**	**-1.1**
GRG				*e*Sb	**Sb**	**21 42 32.6**	**+0.3**

*ATH **21** 22:00:55.6, 3933N×2348E, h27km±1km, MD3.1/9, ML3.1*
*NEIC **21** 22:00:55.6, 3933N×2348E, h27km, ML3.0(THE), ML3.1(ATH), After ATH.*
*ISCJB **21** 22:00:56.4±0.4, 3933N±002×2354E±004, h19km±5km, Error ellipse: s-maj=5.4km s-min=3.9km az=7.6*
*CSEM **21** 22:00:56.1±0.1, 3934N×2354E, h12km, ML3.1, Error ellipse: s-maj=3.5km s-min=2.5km az=92.0*
*THE **21** 22:00:56.8, 3935N×2352E, h8km, ML2.7*

ISC 21 22:00:56.3±0.5, 3934N±002×2353E±004, h17km±3km, n27, σ0.70/42, 1C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.24**	**262**	⇓*i*PB	**Pg**	**22 01 01.6**	**-0.1**
NEO				*e*SB	**Sg**	**22 01 06.0**	**+0.6**
XOR	**Xorichti**	**0.26**	**276**	*e*Pg	**Pg**	**22 01 01.6**	**-0.5**
XOR				*e*Sg	**Sg**	**22 01 05.3**	**-0.8**
XOR	**Xorichti**	**0.26**	**276**	*e*Pg	**Pg**	**22 01 01.6**	**-0.5**
XOR				*e*Sg	**Sg**	**22 01 05.3**	**-0.7**
AOS	**Alonnisos**	**0.32**	**122**	*e*Pg	**Pg**	**22 01 03.0**	**-0.1**
AOS				*e*Sg	**Sg**	**22 01 08.0**	**+0.3**
PAIG	**Paliouri**	**0.60**	**11**	*e*Pg	**Pg**	**22 01 09.2**	**+1.1**
LKR	**Lokris**	**0.80**	**211**	⇓*i*PN	**Pb**	**22 01 11.5**	**-0.3**
LKR				*e*SN	**Sb**	**22 01 22.0**	**-0.3**
AGG	**Agios Georgios**	**0.98**	**252**	*e*Pg	**Pg**	**22 01 14.6**	**-0.8**
AGG				*e*Sg	**Sg**	**22 01 29.4**	**+1.1**
PLG	**Polygyros**	**1.03**	**357**	*e*Pg	**Pg**	**22 01 15.9**	**-0.5**
PLG				*e*Sg	**Sg**	**22 01 30.0**	**+0.1**
PLG	**Polygyros**	**1.03**	**357**	⇑*i*PN	**Pn**	**22 01 15.5**	**-0.5**
PLG				*e*SN	**Sn**	**22 01 29.8**	**-0.3**
PLG	**Polygyros**	**1.03**	**357**	*e*Pg	**Pg**	**22 01 15.9**	**-0.5**
PLG				*e*Sn	**Sn**	**22 01 29.8**	**-0.3**
PLG				*e*Sg	**Sg**	**22 01 30.0**	**+0.1**
OUR	**Ouranopolis**	**1.05**	**19**	*e*Pg	**Pg**	**22 01 16.3**	**-0.4**
LIT	**Litokhoron**	**1.10**	**314**	*e*Pg	**Pg**	**22 01 17.6**	**-0.1**
LIT				*e*Sg	**Sg**	**22 01 33.4**	**+1.3**
LIT	**Litokhoron**	**1.10**	**314**	*e*Pg	**Pg**	**22 01 17.5**	**-0.2**
LIT				*e*Sg	**Sg**	**22 01 33.4**	**+1.3**
THL	**Klokotos Trika**	**1.19**	**281**	⇓*i*PN	**Pn**	**22 01 18.0**	**-0.2**
HORT	**Hortiatis**	**1.30**	**345**	*e*Pg	**Pb**	**22 01 20.2**	**0.0**
HORT				*e*Sg	**Sg**	**22 01 38.2**	**-0.1**
PTL	**Penteli**	**1.32**	**168**	*e*PN	**Pn**	**22 01 20.0**	**+0.1**
THE	**Thessaloniki**	**1.36**	**342**	*e*Pg	**Pn**	**22 01 21.0**	**+0.5**
ATH	**Athens Observa**	**1.37**	**174**	*e*PN	**Pn**	**22 01 20.5**	**-0.2**
EVR	**Evrytania**	**1.40**	**253**	*e*PN	**Pn**	**22 01 21.0**	**-0.1**
SOH	**Sokhos**	**1.49**	**355**	*e*Pg	**Pn**	**22 01 23.2**	**+0.9**
SOH				*e*Sg	**Sn**	**22 01 42.5**	**+1.3**
NAIG	**Nisos Aigina**	**1.58**	**181**	*e*PN	**Pn**	**22 01 24.0**	**+0.5**
KZN	**Kozani**	**1.66**	**306**	*e*PB	**Pn**	**22 01 24.0**	**-0.6**
SRS	**Serrai**	**1.78**	**2**	*e*Pb	**Pn**	**22 01 27.1**	**+0.9**
SRS				*e*Sb	**Sb**	**22 01 49.1**	**-1.2**
GRG	**Griva**	**1.83**	**332**	*e*Pb	**Pb**	**22 01 28.0**	**-1.4**
KNT	**Kendrikon**	**1.88**	**345**	*e*Pb	**Pb**	**22 01 28.8**	**-1.4**
NVR	**Nevrokopi**	**2.02**	**7**	*e*PN	**Pn**	**22 01 29.8**	**+0.2**
VAY	**Valandovo**	**2.11**	**340**	*e*PN	**Pn**	**22 01 31.9**	**+1.1**

*ISCJB **21** 22:03:42.5±2.0, 353S±006×13866E±007, h69km±21km, mb4.3/15, Error ellipse: s-maj=12.9km s-min=8.2km az=52.1*
*IDC **21** 22:03:43.0±4.0, 337S×13876E, h57km±41km, mb3.7/6, mb1 4.0/10, mb1mx3.9/14, mbtmp3.9/10, ML4.0/4, MS3.3/5, Ms1 3.3/5, ms1mx3.0/18, Error ellipse: s-maj=34.1km s-min=19.6km az=88.0*
*NEIC **21** 22:03:42.8±1.3, 336S×13871E, h55km±13km, mb4.4/8, Error ellipse: s-maj=9.3km s-min=7.9km az=48.0*

ISC 21 22:03:42.4±2.0, 341S±009×13869E±007, h45km±21km, n49, σ1.00/46, mb4.4/15, MS3.4/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.30**	**126**	P	**Pn**	**22 06 08.2**	**+0.6**
2.0nm,0.3s,baz=318,slow=13,SNR=6.5							
PMG				LR	LR	22 10 35.6	
comp=Z,91nm,18.7s,baz=180,slow=40							
PMG	**Port Moresby**	**10.30**	**126**	*e*Pn	**Pn**	**22 06 09.5**	**+1.9**
PMG				LR	LR	22 10 35.6	
KAKA	**Kakadu**	**11.12**	**213**	*e*P	**Pn**	**22 06 18.9**	**+0.2**
25nm,0.4s							
KAKA				*e*S	**Sn**	**22 08 19.5**	**-2.1**
WB2	**Warramunga Arr**	**16.96**	**194**	*e*Pn	**Pn**	**22 07 37.7**	**+1.2**
WB2				*e*S	**S**	**22 10 36.5**	**-16**
WRA	**Warramunga Arr**	**16.97**	**194**	P	**Pn**	**22 07 36.0**	**-0.5**
1.0nm,0.3s,baz=16,slow=13,SNR=23							
WRA				S	**S**	**22 10 35.7**	**-17**
0.6nm,0.3s,baz=13,slow=22,SNR=7.2							
CTA	**Charters Tower**	**18.14**	**157**	P	**Pn**	**22 07 52.0**	**+1.1**
0.3nm,0.3s,baz=355,slow=13,SNR=4.2							
CTA				LR	LR	22 15 12.7	
comp=Z,89nm,19.7s,baz=50,slow=38							
CTA	**Charters Tower**	**18.14**	**157**	P	**Pn**	**22 07 52.0**	**+1.1**
CTA				LR	LR	22 15 12.7	
CTAO	**Charters Tower**	**18.14**	**157**	*e*P	**Pn**	**22 07 52.0**	**+1.1**
7.3nm,0.8s							
FITZ	**Fitzroy Crossi**	**19.41**	**220**	*e*P	**Pn**	**22 08 05.2**	**-1.0**
9.5nm,0.9s							
FITZ				*e*S	**S**	**22 11 32.9**	**-8.8**
FITZ	**Fitzroy Crossi**	**19.41**	**220**	P	**Pn**	**22 08 05.5**	**-0.7**
0.3nm,0.3s,baz=47,slow=14,SNR=8.6							
FITZ				S	**S**	**22 11 34.1**	**-7.6**
0.6nm,0.3s,baz=213,slow=17,SNR=3.7							
FITZ				LR	LR	22 16 32.6	
comp=Z,81nm,18.0s,baz=71,slow=40							
ASAR	**Alice Springs**	**20.66**	**193**	P	**P**	**22 08 18.6**	**+0.3**
4.4nm,0.7s,baz=19,slow=10,SNR=38							
HNR	**Honiara**	**21.94**	**107**	P	**P**	**22 08 31.4**	**-0.7**
STKA	**Stephens Creek**	**28.44**	**175**	LR	LR	22 20 38.6	
comp=Z,74nm,18.3s,MS3.3,baz=25,slow=36							
KSM	**Kuching**	**28.78**	**279**	P	**P**	**22 09 36.1**	**+0.2**
YHNB	**Yeheng**	**32.60**	**330**	P	**P**	**22 10 09.4**	**-0.2**
MJAR	**Matsushiro Arr**	**39.75**	**359**	P	**P**	**22 11 08.5**	**-2.2**
0.6nm,0.4s,mb3.7,baz=181,slow=6.3,SNR=3.6							
MAJO	**Matsushiro**	**39.75**	**359**	*e*P	**P**	**22 11 09.8**	**-0.9**
1.6nm,0.3s,mb4.2							
KSRS	**Korea Array**	**41.87**	**347**	P	**P**	**22 11 28.1**	**0.0**
1.3nm,0.7s,mb3.7,baz=157,slow=8.7,SNR=4.3							
ENH	**Enshi**	**43.60**	**322**	P	**P**	**22 11 42.5**	**+0.4**
CM31	**Chiang Mai Arr**	**44.77**	**300**	*e*P	**P**	**22 11 52.3**	**+0.7**
14nm,0.6s,mb5.0							
RAO	**Raoul Island**	**48.49**	**127**	*e*P	**P**	**22 12 19.8**	**-0.8**
YSS	**Yuzh-Sakhalins**	**50.28**	**4**	P	**P**	**22 12 31.8**	**-2.5**
LSA	**Lhasa**	**56.14**	**309**	P	**P**	**22 13 17.7**	**+0.3**
SONM	**Songino Array**	**58.34**	**335**	P	**P**	**22 13 32.5**	**-0.5**
0.8nm,0.6s,mb3.9,baz=153,slow=8.0,SNR=7.3							
SONM				PcP	PcP	22 14 21.6	-1.9
0.6nm,0.6s,baz=144,slow=4.0,SNR=5.2							
SONM				LR	LR	22 36 54.6	
comp=Z,39nm,18.9s,MS3.5,baz=255,slow=34							
JIRN	**Jiri**	**59.22**	**305**	*e*P	**P**	**22 13 39.6**	**+0.6**
3.3nm,0.5s,mb4.7							
GUN	**Gumba**	**59.58**	**305**	*e*P	**P**	**22 13 42.8**	**+1.3**
4.3nm,0.5s,mb4.8							
KKN	**Kakani**	**60.02**	**305**	*e*P	**P**	**22 13 44.9**	**+0.4**
GKN	**Gorkha**	**60.63**	**305**	*e*P	**P**	**22 13 49.0**	**+0.3**
14nm,0.9s,mb5.1							
KOLN	**Koldanda**	**61.40**	**304**	*e*P	**P**	**22 13 53.7**	**-0.2**
5.2nm,0.8s,mb4.7							
MKAR	**Makanchi Array**	**70.33**	**323**	P	**P**	**22 14 51.4**	**0.0**
4.3nm,0.7s,mb4.5,baz=107,slow=7.6,SNR=35

MMB	Musomiste	2.25	3	*i* P	Pn	22 36 31.7	+0.8
RDO	Rodhopi	2.35	39	*e*PN	Pn	22 36 32.0	-0.2
RZN	Rozhen	2.50	20	*i* P	Pn	22 36 34.5	+0.1
RZN	Rozhen	2.50	20	*i* P	Pn	22 36 34.6	+0.2
RZN				*i* S	Sn	22 37 05.3	+0.4
ITM	Ithomi	2.51	212	*e*PB	Pn	22 36 35.9	+1.4
KKB	Krupnik	2.56	352	*i* P	Pn	22 36 35.0	-0.1
KKB	Krupnik	2.56	352	*i* P	Pn	22 36 35.1	0.0
VLI	Veliai	2.66	191	*e*PN	Pn	22 36 36.8	+0.3
KRUS	Krusevo	2.70	320	*e*Pn	Pn	22 36 37.2	+0.1
KDZ	Kurdzhali	2.70	31	*i* P	Pn	22 36 35.0	-2.1
KDZ	Kurdzhali	2.70	31	*i* P	Pn	22 36 36.1	-1.0
KDZ				*i* S	Sn	22 37 11.2	+1.4
APE	Apeiranthos	2.73	145	*e*PN	Pn	22 36 38.0	+0.5
KEK	Kerkira	2.95	279	*e*PN	Pn	22 36 40.6	+0.1
VTS	Vitosha	3.27	355	*i* P	Pn	22 36 41.7	-3.1
VTS				*i* S	Sn	22 37 23.1	-0.5
PVL	Pavlikeni	4.10	18	*i* P	Pn	22 36 54.8	-1.5
SZH	Strazhica	4.31	24	*i* P	Pn	22 37 01.1	+1.9
KARP	Karpathos	4.73	142	P	Pn	22 37 07.4	+2.4
TIP	Timpagrande	5.30	270	P	Pn	22 37 16.8	+4.0
GZR	Gura Zlata	6.08	355	⇓*i*P	Pn	22 37 23.3	-0.3
VOIR		6.20	10	⇓*i*P	Pn	22 37 26.3	+1.2
MLR	Muntele Rosu	6.40	15	⇑⇑*i*P	Pn	22 37 32.5	+4.7
BZS	Buzias	6.44	348	⇓*i*P	Pn	22 37 28.0	-0.5
VRI	Vrincioaia	6.93	19	⇑⇑*i*P	Pn	22 37 38.3	+3.1

*NEIC **21** 22:37:49.1, 1600S×73.15W, h36km, mb3.9/2, ML4.1(LIM), After LIM.*
NEIC Felt [III] at Caraveli.
*ISCJB **21** 22:37:50.6±1.2, 160S±0.1×730W±0.1, h68km±12km, mb3.6/4, Error ellipse: s-maj=27.5km s-min=8.9km az=73.5*
*IDC **21** 22:37:54.0±1.4, 1315S×7181W, h0km, mb3.6/2, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, ML4.2/3, Error ellipse: s-maj=58.5km s-min=21.1km az=27.0*

ISC 21 22:37:51.9±1.2, 160S±01×730W±01, h65km±12km, n11, σ0983/14, mb3.7/4, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.52	107	⇓*i*P	Pn	22 38 17.0	+0.1
ARE				*i* S	Sn	22 38 36.0	+0.3
LPAZ	La Paz	4.69	94	Pn	Pn	22 39 05.3	+5.2
	8.1nm,0.3s,baz=286,slow=9.7,SNR=86						
LPAZ				Sn	Sn	22 40 06.5	+13
	baz=158,slow=19,SNR=1.7						
NNA	Nana	5.48	317	Pn	Pn	22 39 12.0	+1.0
	6.9nm,0.3s,baz=140,slow=9.0,SNR=12						
NNA				Sn	Sn	22 40 12.1	-0.5
	8.7nm,0.3s,baz=215,slow=16,SNR=2.6						
NNA	Nana	5.48	317	Pn	Pn	22 39 11.9	+1.0
NNA				Sn	Sn	22 40 12.1	-0.5
SIV	San Ignacio	11.47	91	Pn	Pn	22 40 31.7	-1.2
	0.7nm,0.3s,baz=283,slow=10,SNR=10						
PLCA	Paso Flores	24.71	176	*e*P	P	22 43 06.8	-0.1
	3.4nm,0.9s,mb3.9						
SDV	Santo Domingo	24.86	6	*e*P	P	22 43 08.8	+0.4
	1.9nm,0.6s,mb3.8						
TORD	Torodi Ar. Bea	79.33	73	P	P	22 49 51.9	+1.3
	0.3nm,0.6s,mb3.4,baz=238,slow=4.9,SNR=3.0						
TORD	Torodi Ar. Bea	79.33	73	P	P	22 49 51.9	+1.3
YKA	Yellowknife Ar	84.79	342	P	P	22 50 17.9	-1.3
	0.5nm,0.8s,mb3.7,baz=136,slow=5.1,SNR=6.7						
SONM	Songino Array	148.28	1	PKPbc	PKPbc	22 57 32.1	+1.4
	0.5nm,0.6s,baz=338,slow=2.5,SNR=5.4						

*IDC **21** 22:38:44.8±7.3, 3619N×7099E, h187km±65km, mb3.2/5, mb1 3.3/8, mb1mx3.0/24, mbtmp3.1/8, Error ellipse: s-maj=50.9km s-min=34.9km az=137.0*
*NEIC **21** 22:38:44.1±2.1, 3614N×7100E, h183km±19km, mb4.0/4, Error ellipse: s-maj=19.5km s-min=11.3km az=215.0*
*ISCJB **21** 22:38:47.1±1.3, 3643N±007×708E±02, h211km±14km, mb3.4/6, Error ellipse: s-maj=20.6km s-min=10.0km az=142.7*

ISC 21 22:38:48.8±1.2, 3643N±007×710E±01, h217km±13km, n27, σ0874/30, mb3.4/6, 1C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.56	135	*e*P	Pn	22 40 15.8	+5.2
THN				*e*S	S	22 41 16.6	+1.1
AML	Almayashu	6.05	19	P	Pn	22 40 16.5	-0.4
	SNR=53						
UCH	Uchtor	6.38	24	P	Pn	22 40 21.2	+0.1
	SNR=24						
KZA	Kyzart	6.52	29	P	Pn	22 40 22.6	-0.3
	SNR=8.6						
EKS2	Erkin-Say	6.57	18	P	Pn	22 40 23.4	-0.1
	SNR=9.6						
KK31	Karatay Array	6.67	357	P	Pn	22 40 23.4	-1.5
	1.6nm,0.3s,baz=177,slow=12,SNR=43						
KK31				⇑S	S	22 41 34.7	-6.7
	1.0nm,0.3s,baz=183,slow=21,SNR=6.2						
AAK	Ala-Archa	6.74	22	P	Pn	22 40 25.5	-0.2
	SNR=25						
AAK	Ala-Archa	6.74	22	*e*P	Pn	22 40 24.5	-1.3
	15nm,0.6s						
AAK				*e*S	S	22 41 43.9	+0.9
KBK	Karagaybulak	6.91	25	P	Pn	22 40 28.4	+0.4
	SNR=8.3						
ULHL	Ulahol	7.07	33	P	Pn	22 40 30.0	+0.1
	SNR=7.5						
CHMS	Chumysh	7.16	22	P	Pn	22 40 30.9	-0.1
	SNR=5.6						
USP	Ospenovka	7.33	20	P	Pn	22 40 32.8	-0.5
	SNR=6.7						
TKM2	Tokmak 2	7.37	27	P	Pn	22 40 33.8	0.0
	SNR=8.1						
MKAR	Makanchi Array	13.33	36	P	Pn	22 41 49.2	-0.5
	0.2nm,0.3s,baz=228,slow=20,SNR=6.9						
KURK	Kurchatov	15.29	19	P	Pn	22 42 14.1	+0.5
	0.7nm,0.5s						
BVAR	Borovoye Array	16.60	359	P	P	22 42 28.6	+0.6
	0.2nm,0.3s,baz=161,slow=10,SNR=7.3						
BRVK	Borovoye	16.63	358	*e*P	P	22 42 29.2	+0.8
	0.7nm,0.4s						
AKTK	Aktyubinsk	16.85	330	P	P	22 42 31.6	+0.7
AKTO	Aktyubinsk	16.85	330	P	P	22 42 31.6	+0.7
	0.6nm,0.3s,baz=144,slow=8.3,SNR=13						
LSA	Lhasa	18.13	106	P	P	22 42 42.5	-2.2
FINES	FINESS Array B	37.56	326	P	P	22 45 42.4	+0.3
	0.5nm,0.4s,mb3.4,baz=126,slow=11,SNR=7.1						
ARCES	ARCESS Array B	41.22	338	P	P	22 46 12.9	+0.6
	3.2nm,0.8s,mb3.8,baz=86,slow=5.1,SNR=4.2						
YAK	Yakutsk	44.01	35	*e*P	P	22 46 34.9	+0.2
	7.5nm,0.5s,mb4.3						
NOA	NORSAR Array B	44.45	323	P	P	22 46 37.1	-1.1
	0.5nm,0.6s,mb0.0,baz=92,slow=8.9,SNR=2.6						
TORD	Torodi Ar. Bea	65.75	269	P	P	22 49 09.7	-0.6
	0.2nm,0.3s,mb3.2,baz=52,slow=5.9,SNR=12						
YKA	Yellowknife Ar	81.31	3	P	P	22 50 41.2	+0.4
	0.1nm,0.4s,mb2.8,baz=352,slow=4.8,SNR=4.1						
YKA	Yellowknife Ar	81.31	3	P	P	22 50 41.2	+0.4

*BJI **21** 22:56:43.0, 5060N×13040W, h10km, mB5.1, mb4.7, Ms4.7, Msz4.5*
*PGC **21** 22:56:45.6±3.1, 5057N×13040W, h10km, ML4.0/10, Mw4.6, 211km southwest of Pt. Hardy, Bc Vancouver Island Region*
*NEIC **21** 22:56:45.0, 5057N×13040W, h10km, mb4.2/17, MW4.6(PGC), After PGC.*
*IDC **21** 22:56:47.0±0.9, 5057N×13021W, h0km, mb3.9/6, mb1 4.2/12, mb1mx4.0/24, mbtmp4.0/12, ML4.0/5, MS3.8/15, Ms1 3.8/15, ms1mx3.7/26, Error ellipse: s-maj=18.5km s-min=11.9km az=38.0*
*ISCJB **21** 22:56:47.4±0.3, 5089N±003×12988W±006, h10km, mb4.2/15, MS3.9/11, Error ellipse: s-maj=6.2km s-min=3.7km az=114.2*

ISC 21 22:56:49.0±0.3, 5090N±003×12994W±006, h10km, n168, σ1920/148, mb4.2/15, MS3.9/11, 18C-23D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHC	Port Hardy	1.61	96	Pn	Pn	22 57 15.9	-1.4
PHC				Sn	Sn	22 57 37.6	-0.5
PHC	Port Hardy	1.61	96	Trac			
PHC	Port Hardy	1.61	96	Trac			
BBB	Bella Bella	1.72	41	Pn	Pn	22 57 20.2	+1.2
BBB				Sn	Sn	22 57 44.5	+3.5
BBB	Bella Bella	1.72	41	Trac			
BBB	Bella Bella	1.72	41	Trac			
EDB	Eliza Dome	2.08	119	Pn	Pn	22 57 20.6	-3.3
EDB	Eliza Dome	2.08	119	Trac			
EDB	Eliza Dome	2.08	119	Trac			
WOSB	Woss	2.28	108	Pn	Pn	22 57 24.7	-1.9
WOSB	Woss	2.28	108	Trac			
WOSB	Woss	2.28	108	Trac			
GDR	Gold River	2.75	113	Pn	Pn	22 57 30.4	-2.7
GDR	Gold River	2.75	113	Trac			
GDR	Gold River	2.75	113	Trac			
DIB	Dawson Inlet,	2.79	327	Pn	Pn	22 57 31.1	-2.5
DIB	Dawson Inlet,	2.79	327	Trac			
DIB	Dawson Inlet,	2.79	327	Trac			
BTB	Buttle Lake	3.18	115	Pn	Pn	22 57 36.4	-2.7
BTB	Buttle Lake	3.18	115	Trac			
BTB	Buttle Lake	3.18	115	Trac			
OZB	Mount Ozzard	3.47	122	Pn	Pn	22 57 40.2	-2.8
OZB	Mount Ozzard	3.47	122	Trac			
OZB	Mount Ozzard	3.47	122	Trac			
NDB	Naden	3.57	330	Pn	Pn	22 57 42.0	-2.3
NDB	Naden	3.57	330	Trac			
NDB	Naden	3.57	330	Trac			
ALB	Alberni	3.67	114	Pn	Pn	22 57 43.4	-2.4
ALB	Alberni	3.67	114	Trac			
ALB	Alberni	3.67	114	Trac			
PGC	Sidney	4.77	116	*e*Pn	Pn	22 57 59.2	-1.7
OBC	Olympics--Boni	4.78	125	P	Pn	22 57 59.3	-1.7
SNB	Saturna Island	4.87	113	P	Pn	22 58 02.5	+0.2
STW	Striped Peak	4.93	122	P	Pn	22 58 01.6	-1.4
VDB	Vedder Mountai	5.40	107	P	Pn	22 58 09.4	-0.1
MBW	Mount Baker	5.62	109	P	Pn	22 58 12.9	+0.4
JCW	Jim Creek	5.88	114	P	Pn	22 58 14.9	-1.2
RPW	Rockport	6.00	111	P	Pn	22 58 17.5	-0.2
HTW	Haystack Looko	6.17	117	P	Pn	22 58 19.8	-0.4
WRW	Wenatchee Ridg	6.65	114	P	Pn	22 58 26.6	-0.2
RCS	Mount Rainier-	6.75	123	P	Pn	22 58 28.1	+0.1
NLW	Nelson Butte	6.87	111	P	Pn	22 58 29.4	-0.3
WPW	White Pass	6.96	124	P	Pn	22 58 30.8	-0.1
ESD	East Dome	6.99	129	P	Pn	22 58 31.9	+0.5
GLK	Glacier Lake	7.01	125	P	Pn	22 58 31.8	+0.1
LTY	Liberty	7.10	117	P	Pn	22 58 32.7	-0.1
ETW	Entiat	7.10	114	P	Pn	22 58 33.1	+0.2
TBM	Table Mountain	7.19	118	P	Pn	22 58 33.5	-0.6
DHW2	Dyer Hill 2	7.25	110	P	Pn	22 58 35.0	+0.2
WTV	Waterville	7.27	112	P	Pn	22 58 34.9	-0.4
EBG	Ellensburg	7.36	119	P	Pn	22 58 35.9	-0.5
DLBC	Dease Lake	7.55	360	*e*Pn	Pn	22 58 42.6	+3.4
HOOD	Mount Hood Mea	7.87	132	*e*Pn	Pn	22 58 44.3	+0.9
OD2	Odessa Site #2	8.16	111	P	Pn	22 58 46.4	-1.0
HAWA	Hanford	8.24	119	*e*Pn	Pn	22 58 48.2	-0.3
NEW	Newport	8.74	103	Pn	Pn	22 58 55.7	+0.3
	2.0nm,0.3s,baz=303,slow=12,SNR=11						
NEW				Lg		23 01 25.0	
	0.4nm,0.3s,baz=246,slow=20,SNR=3.3						
NEW				LR	LR	23 02 18.1	
	comp=Z,920nm,19.2s,baz=286,slow=37						
NEW	Newport	8.74	103	*e*Pn	Pn	22 58 55.5	+0.1
BMO	Blue Mountains	10.42	121	*e*Pn	Pn	22 59 17.9	-0.4
YBH	Yreka Blue Hor	10.44	149	Pn	Pn	22 59 15.2	-3.4
	0.1nm,0.3s,baz=162,slow=20,SNR=2.1						
YBH				LR	LR	23 02 42.8	
	comp=Z,414nm,20.4s,baz=328,slow=35						
WALA	Waterton Lakes	10.49	94	*e*Pn	Pn	22 59 21.8	+2.4
CHMT	Chamberlain Mo	11.68	103	*e*Pn	Pn	22 59 36.1	+0.5
HLID	Hailey	12.84	119	*e*Pn	Pn	22 59 52.9	+1.4
MCMT	McKenzie Canyo	12.97	111	*e*Pn	Pn	22 59 53.0	-0.3
BOZ	Bozeman (W)	13.27	106	*e*Pn	Pn	22 59 59.4	+2.0
EGMT	Eagleton	13.44	95	*e*Pn	Pn	23 00 03.2	+3.6
DAWY	Dawson	14.12	343	*e*Pn	Pn	23 00 11.1	+2.1
YKA	Yellowknife Ar	14.30	30	Pn	Pn	23 00 12.1	+0.6
	0.9nm,0.3s,baz=222,slow=12,SNR=43						
YKA				Sn	Sn	23 02 48.0	-2.1
	0.5nm,0.3s,baz=261,slow=29,SNR=12						
YKA				LR	LR	23 06 22.8	
	comp=Z,214nm,18.1s,baz=215,slow=39						
YKA	Yellowknife Ar	14.30	30	Pn	Pn	23 00 12.1	+0.6
YKA				Sn	Sn	23 02 48.0	-2.1
YKA				LR	LR	23 06 22.8	
YKW3	Yellowknife Ar	14.35	30	*e*Pn	Pn	23 00 12.0	0.0
GCMT	Greycliff	14.40	103	*e*Pn	Pn	23 00 11.9	-0.9
LKWY	Lake	14.58	108	*e*Pn	Pn	23 00 18.5	+3.3
	9.2nm,0.6s						
IMW	Indian Meadow	14.63	111	*e*Pn	Pn	23 00 17.4	+1.5
MOOW	Moose Ponds	14.83	111	*e*Pn	Pn	23 00 20.6	+1.9
TPAW	Teton Pass	14.86	113	*e*Pn	Pn	23 00 21.7	+2.6
NVAR	Mina Array Bea	14.94	142	Pn	Pn	23 00 20.3	+0.1
	baz=323,slow=16,SNR=1.9						
SNOW	Snow King Moun	14.99	112	*e*Pn	Pn	23 00 23.7	+2.8
REDW	Red Top Meadow	14.99	113	*e*P	Pn	23 00 29.1	+8.1
AHID	Auburn Hatcher	15.22	115	*e*P	Pn	23 00 28.7	+4.8
	12nm,1.0s						
KCC	Kaiser Creek	15.54	147	⇓P	Pn	23 00 29.2	+1.0
	baz=15						
R09A	Tonopah	15.60	139	⇓P	Pn	23 00 28.3	-0.6
	baz=16						
T06C	Millerton Lake	15.70	148	⇓P	Pn	23 00 31.9	+1.7
	baz=16						
Q11A	Duckwater	15.71	135	⇓P	Pn	23 00 30.8	+0.6
	baz=16,SNR=6.7						
HWUT	Hardware Ranch	15.71	119	*e*Pn	Pn	23 00 32.9	+2.6
S08C	White Mtn Res	15.80	143	⇑P	Pn	23 00 32.3	+0.8
	baz=16,SNR=5.5						
Q12A	Willow Creek R	15.93	132	⇑P	Pn	23 00 32.8	-0.4
	baz=16						
U04C	Hernandez Rese	15.95	152	⇓P	Pn	23 00 35.6	+2.1
	baz=16						
S09A	Goldfield	15.98	141	⇓P	Pn	23 00 32.7	-1.0
	baz=16						
DUG	Dugway	16.04	125	*e*Pn	Pn	23 00 31.5	-3.0
	15nm,1.1s						
DUG	Dugway	16.04	125	⇑P	Pn	23 00 34.6	0.0
	baz=16						
PDAR	Pinedale Array	16.11	112	Pn	Pn	23 00 37.8	+2.3
	0.2nm,0.3s,baz=310,slow=12,SNR=22						
PDAR				LR	LR	23 05 46.8	
	comp=Z,208nm,21.6s,baz=97,slow=33						
PDAR	Pinedale Array	16.11	112	Pn	Pn	23 00 37.8	+2.3
PDAR				LR	LR	23 05 46.8	
V03C	Hunter Liggett	16.14	154	⇑P	Pn	23 00 37.0	+1.2
	baz=16						
LAO	LASA Array	16.16	96	*e*P	Pn	23 00 37.4	+1.2
	16nm,0.9s						
HELL	Mitchell Peak,	16.23	147	⇑P	Pn	23 00 37.8	+0.8
	baz=16						
PKD	Parkfield	16.41	152	⇓P	Pn	23 00 40.4	+1.0
	baz=16						
GRAC	Grapevine Rang	16.55	142	⇓P	Pn	23 00 42.5	+1.4
	baz=16						
V04C	Ramage Ranch,	16.60	153	⇑P	Pn	23 00 42.9	+1.1
	baz=16						
CWC	Cottonwood Cre	16.78	145	⇓P	Pn	23 00 45.0	+1.0
	baz=17,SNR=5.8						
PTRM	Twissleman Ran	16.78	152	*e*P	Pn	23 00 46.0	+2.0
COLA	College	16.84	333	*e*P	Pn	23 00 46.0	+1.2
	3.9nm,0.7s						
DAC	Darwin (Calif)	17.10	144	*e*P	Pn	23 00 50.2	+2.2
	12nm,1.4s						
MPMC	Manual Prospec	17.33	144	⇑P	Pn	23 00 52.5	+1.6
	baz=17						
ISA	Isabella	17.34	147	P	Pn	23 00 52.6	+1.6
	baz=17,SNR=6.9						
INK	Inuvik	17.55	356	P	Pn	23 00 57.7	+4.1
	0.1nm,0.3s,baz=163,slow=12,SNR=9.0						
INK				LR	LR	23 07 29.2	
	comp=Z,277nm,18.1s,baz=8.8,slow=36						
INK	Inuvik	17.55	356	*e*P	Pn	23 00 55.7	+2.0
	255nm,1.1s						
ARUT	Antelope Range	17.59	132	*e*P	Pn	23 00 56.0	+2.0
PKM	Peak Mountain	17.60	151	⇓P	Pn	23 00 54.4	+0.1
	baz=18						
MSU	Marysvale	17.63	128	*e*P	Pn	23 00 54.6	-0.1
ARVC	Arvin	17.70	149	⇑P	Pn	23 00 56.4	+0.8
	baz=18						
LRMC	Laurel Mountai	17.78	145	⇓P	Pn	23 00 56.2	-0.3
	baz=18						
SRU	San Rafael	18.03	123	*e*P	Pn	23 01 00.7	+1.1
	6.1nm,0.8s						
U12A	Valley of Fire	18.20	137	⇑P	Pn	23 01 01.5	-0.2
	baz=18						
GSC	Goldstone	18.26	144	⇑P	Pn	23 01 02.9	+0.5
	baz=18						
TUQ	Turquoise Mtn.	18.48	141	⇑P	Pn	23 01 04.4	-0.8
	baz=18						
V12A	Nelson	18.67	139	⇓P	Pn	23 01 07.0	-0.3
	baz=19						
HEC	Hector,Ludlow	18.86	143	P	Pn	23 01 09.2	-0.5
	baz=19,SNR=5.2						
BFSC	Mount Baldy St	18.91	147	⇓P	Pn	23 01 08.7	-1.6
	baz=19						
GMRC	Granite Mounta	19.16	142	⇑P	Pn	23 01 11.9	-1.4
	baz=19						
IMA2	Indian Mountai	19.42	330	*e*P	Pn	23 01 16.7	+0.2
PHWY	Pilot Hill	19.42	110	*e*P	Pn	23 01 15.6	-0.9
W13A	Hualapai Mount	19.61	137	⇑P	Pn	23 01 18.7	-0.1
	baz=20						
BELC	Belle Mtn.	19.72	144	⇓P	Pn	23 01 19.4	-0.7
	baz=20						
W14A	Seligman	19.86	136	⇓P	Pn	23 01 21.7	-0.1
	baz=20						
IRM	Iron Mountain	19.90	142	⇓P	Pn	23 01 21.6	-0.6
	baz=20						
SMCO	Snowmass	19.93	117	*e*P	Pn	23 01 22.1	-0.4
	14nm,1.2s						
SMCO				*e*Pn	Pn	23 01 22.7	+0.2
X13A	Yucca	20.07	138	P	P	23 01 22.6	+0.2
	baz=20,SNR=9.1						
PDMCI	Parker Dam,Lak	20.19	139	P	P	23 01 23.7	0.0
	baz=20,SNR=5.3						
BC3	Big Chuckw Mtn	20.23	143	⇓P	P	23 01 23.5	-0.6
	baz=20						
W15A	Williams	20.26	134	⇓P	P	23 01 25.1	+0.6
	baz=20						
WUAZ	Wupatki	20.39	132	*e*P	P	23 01 25.6	-0.4
	5.9nm,0.8s						
MVCO	Mesa Verde	20.51	124	*e*P	P	23 01 26.0	-1.2
	7.8nm,0.8s						
Y12C	Blythe	20.51	141	⇓P	P	23 01 27.0	-0.2
	baz=20						
MONP	Monument Peak	20.56	146	⇓P	P	23 01 27.6	-0.1
	baz=20						
X14A	Yava	20.58	136	P	P	23 01 28.2	+0.3
	baz=20,SNR=5.3						
Y13A	Salome	20.74	139	⇓P	P	23 01 28.9	-0.8
	baz=21						
SWSC	Sam W. Stewart	20.74	145	⇑P	P	23 01 28.6	-1.0
	baz=21						
X15A	Humboldt	20.85	135	⇓P	P	23 01 30.7	-0.2
	baz=21,SNR=8.7						
DVTC	Desert V Tower	20.88	146	⇑P	P	23 01 30.3	-1.0
	baz=21						
Y14A	Wickenburg	20.98	137	⇓P	P	23 01 31.9	-0.3
	baz=21						
GLA	Glamis	21.01	142	P	P	23 01 32.1	-0.4
	baz=21,SNR=6.0						
Z14A	Wintersburg	21.50	138	⇑P	P	23 01 37.3	-0.5
	baz=21						
ULM	Lac du Bonnet	21.54	78	P	P	23 01 38.5	+0.2
	4.1nm,0.5s,mb4.2,baz=289,slow=10,SNR=15						
ULM				LR	LR	23 10 20.8	
	comp=Z,192nm,19.6s,MS3.5,baz=247,slow=37						
ULM	Lac du Bonnet	21.54	78	*e*P	P	23 01 38.3	0.0
	10nm,0.8s,mb4.3						
SDCO	Great Sand Dun	21.75	118	*e*P	P	23 01 40.6	0.0
FCC	Fort Churchill	21.87	55	*e*P	P	23 01 45.4	+3.5
115A	Sonoran Desert	22.37	138	⇑P	P	23 01 46.4	-0.8
	baz=22						
116A	Eloy	22.72	137	⇑P	P	23 01 49.8	-1.1
	baz=23						
ANMO	Albuquerque	23.30	124	P	P	23 01 56.6	-0.4
	4.4nm,1.0s,mb3.8,baz=327,slow=10.0,SNR=7.2						
ANMO				LR	LR	23 11 53.6	
	comp=Z,149nm,20.9s,MS3.4,baz=114,slow=39						
TUC	Tucson	23.34	135	*e*P	P	23 01 56.7	-0.7
	16nm,1.5s,mb4.2						
AMTX	Amarillo	25.95	117	*e*P	P	23 02 21.1	-0.4
	6.5nm,0.6s,mb4.3						
MNTX	Cornudas Mount	26.41	127	*e*P	P	23 02 25.0	-0.6
	7.4nm,1.1s,mb4.1						
WMOK	Wichita Mounta	27.72	114	*e*P	P	23 02 35.9	-1.5
	6.4nm,0.8s,mb4.3						
LTX	Lajitas	29.19	128	*e*P	P	23 02 50.5	0.0
	2.8nm,0.6s,mb4.2						
TXAR	Lajitas Array	29.19	128	P	P	23 02 50.2	-0.3
	0.7nm,0.6s,mb3.6,baz=349,slow=10,SNR=4.3						
TXAR				LR	LR	23 15 24.6	
	comp=Z,108nm,18.5s,MS3.5,baz=5.0,slow=38						
JCT	Junction City	30.30	121	*e*P	P	23 02 59.5	-0.9
	8.4nm,0.7s,mb4.6						
OXF	Oxford	33.50	103	*e*P	P	23 03 28.1	-0.3
	16nm,0.9s,mb5.0						
SCHQ	Schefferville	37.16	59	LR	LR	23 19 02.5	
	comp=Z,205nm,18.0s,MS4.0,baz=79,slow=36						
ARCES	ARCESS Array B	58.54	10	LR	LR	23 32 35.5	
	comp=Z,273nm,18.1s,MS4.4,baz=71,slow=36						
MJAR	Matsushiro Arr	63.74	296	P	P	23 07 19.3	-1.6
	1.0nm,0.3s,mb4.3,baz=42,slow=5.8,SNR=2.7						
MJAR				LR	LR	23 31 23.1	
	comp=Z,50nm,19.9s,MS3.7,baz=205,slow=33						
FINES	FINESS Array B	66.38	12	LR	LR	23 38 14.8	
	comp=Z,190nm,18.1s,MS4.3,baz=343,slow=37						
KSRS	Korea Array	68.73	303	LR	LR	23 38 28.1	
	comp=Z,10nm,18.8s,MS3.1,baz=10.0,slow=36						
SONM	Songino Array	70.40	323	P	P	23 08 05.2	+2.0
	0.6nm,0.9s,mb3.5,baz=28,slow=6.5,SNR=3.5						
SONM				LR	LR	23 39 18.2	
	comp=Z,73nm,18.9s,MS4.0,baz=112,slow=36						
BJI	Beijing	72.59	313	P	P	23 08 12.0	-4.4
HHC	Hu-ho-hao-te	74.03	316

MTA	**Mtatsminda**	**1.38 166**	P	Pn		23 19 14.0	+3.9
MTA			S	Sn		23 19 35.3	+7.1
SHAR	**Shatzhatmas**	**1.41 301**	⇓*i*PG	Pg		23 19 11.3	-1.0
SHAR			*i* S	Sn		23 19 29.9	+1.1
BEYR	**Belyy Ugol+**	**1.48 312**	⇑*i*PG	Pg		23 19 12.5	-1.1
BEYR			*e*S	Sn		23 19 32.0	+1.6
KIV	**Kislovodsk**	**1.51 308**	⇓*i*PG	Pg		23 19 13.1	-1.2
KIV			*i* S	Sn		23 19 33.0	+1.6
DGRG	**David-gareji**	**1.76 154**	P	Pn		23 19 21.0	+5.7
DGRG			S	Sn		23 19 48.1	+11

*IDC **21** 23:46:06.0±4.2, 1765S×6964W, h134km±28km, mb3.7/2, mb1 3.8/4, mb1mx3.3/18, mbtmp3.7/4, Error ellipse: s-maj=61.4km s-min=23.3km az=7.0*
*ISCJB **21** 23:46:06.2±0.9, 177S±0.1×6956W±007, h150km±9km, mb3.5/3, Error ellipse: s-maj=18.4km s-min=10.8km az=4.4*
*NEIC **21** 23:46:06.1±0.8, 1768S×6963W, h137km±9km, mb3.9/2, Error ellipse: s-maj=14.4km s-min=11.1km az=203.0*
ISC 21 23:46:06.9±0.9, 177S±01×6957W±007, h143km±9km, n11, σ0§90/15, mb3.5/3, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.96**	**45**	*e*P	**Pn**	**23 46 41.7**	**+0.6**
	30nm,0.3s,baz=246,slow=7.2,SNR=634						
LPAZ				S	**Sn**	**23 47 07.3**	**-0.1**
	1.0nm,0.3s,baz=45,slow=17,SNR=4.5						
LPAZ	**La Paz**	**1.96**	**45**	*e*Pn	**Pn**	**23 46 41.7**	**+0.6**
LPAZ				*e*Sn	**Sn**	**23 47 07.4**	**0.0**
ARE	**Arequipa**	**2.21 303**	⇑*i*P	Pn	**Pn**	**23 46 43.1**	**-0.9**
ARE				*e*S	**Sn**	**23 47 14.0**	**+1.4**
SIV	**San Ignacio**	**8.31**	**79**	P	**Pn**	**23 48 03.8**	**-0.6**
	3.2nm,0.3s,baz=270,slow=11,SNR=82						
SIV				S	**Sn**	**23 49 31.8**	**-4.9**
	0.1nm,0.3s,baz=342,slow=20,SNR=3.5						
NNA	**Nana**	**9.03**	**308**	P	**Pn**	**23 48 11.2**	**-2.9**
	1.3nm,0.3s,baz=135,slow=19,SNR=3.1						
NNA	**Nana**	**9.03**	**308**	*e*Pn	**Pn**	**23 48 11.5**	**-2.6**
	3.7nm,0.4s						
TRQA	**Tornquist**	**21.35**	**163**	*e*P	**P**	**23 50 42.5**	**-0.2**
	1.1nm,0.6s,mb3.4						
PLCA	**Paso Flores**	**22.98**	**182**	*e*P	**P**	**23 50 59.3**	**+0.4**
SJG	**San Juan**	**35.74**	**6**	P	**P**	**23 52 51.8**	**0.0**
TORD	**Torodi Ar. Bea**	**76.70**	**71**	P	**P**	**23 57 42.9**	**+0.7**
	2.1nm,0.4s,mb4.1,baz=258,slow=4.6,SNR=40						
YKA	**Yellowknife Ar**	**87.41**	**341**	P	**P**	**23 58 38.1**	**+0.2**
	0.2nm,0.6s,mb3.1,baz=133,slow=4.9,SNR=7.3						

*ISCJB **21** 23:48:57.3±1.1, 2267S±005×687W±0.1, h79km±12km, mb4.0/11, Error ellipse: s-maj=16.9km s-min=8.3km az=7.6*
*NEIC **21** 23:48:58.9±0.8, 2267S×6869W, h81km±8km, mb4.0/3, Error ellipse: s-maj=13.1km s-min=7.3km az=90.0*
*IDC **21** 23:48:59.9±2.4, 2263S×6870W, h90km±21km, mb3.9/9, mb1 3.9/12, mb1mx3.7/20, mbtmp3.8/12, Error ellipse: s-maj=28.1km s-min=16.2km az=76.0*
ISC 21 23:48:59.0±0.8, 2263S±004×687W±01, h78km±10km, n25, σ1§02/27, mb4.0/11, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.33**	**5**	P	**Pn**	**23 50 33.1**	**+3.4**
	1.2nm,0.3s,baz=191,slow=9.8,SNR=16						
LPAZ	**La Paz**	**6.33**	**5**	*e*Pn	**Pn**	**23 50 31.5**	**+1.8**
LPAZ				Sn	**Sn**	**23 51 28.6**	**-12**
LCO	**Las Campanas**	**6.60**	**195**	*e*Pn	**Pn**	**23 50 31.1**	**-2.2**
	35nm,0.6s						
LCO				*e*Sn	**Sn**	**23 51 48.0**	**+0.9**
ARE	**Arequipa**	**6.66**	**337**	P	**Pn**	**23 50 46.0**	**+12**
ARE				*e*S	**Sn**	**23 51 47.0**	**-1.6**
CFAA	**Coronel Fontan**	**8.95**	**177**	P	**Pn**	**23 51 05.2**	**-0.2**
	0.2nm,0.3s,baz=354,slow=14,SNR=8.4						
CFAA				S	**Sn**	**23 52 35.5**	**-9.0**
	0.1nm,0.3s,baz=12,slow=19,SNR=1.9						
SIV	**San Ignacio**	**9.79**	**49**	P	**Pn**	**23 51 16.7**	**-0.2**
	1.5nm,0.3s,baz=269,slow=10,SNR=26						
SIV				S	**Sn**	**23 52 57.4**	**-7.6**
	0.2nm,0.3s,baz=151,slow=19,SNR=3.6						
NNA	**Nana**	**13.11**	**323**	*e*Pn	**Pn**	**23 52 03.0**	**+1.2**
TRQA	**Tornquist**	**16.44**	**161**	*e*Pn	**Pn**	**23 52 34.1**	**-11**
	3.9nm,0.4s						
PLCA	**Paso Flores**	**18.12**	**184**	P	**Pn**	**23 53 05.8**	**+0.6**
OTAV	**Otavalo**	**24.62**	**336**	*e*P	**P**	**23 54 14.2**	**+2.3**
	0.8nm,0.5s,mb3.4						
RCBR	**Riachuelo**	**35.81**	**67**	*e*P	**P**	**23 55 50.5**	**-0.2**
	7.2nm,0.7s,mb4.7						
TEIG	**Tepich**	**46.67**	**334**	P	**P**	**23 57 19.7**	**+0.1**
	2.3nm,0.5s,mb4.2,baz=50,slow=22,SNR=2.9						
SNAA	**Sanae**	**61.17**	**161**	P	**P**	**23 59 04.8**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=276,slow=12,SNR=5.5						
PDAR	**Pinedale Array**	**75.16**	**330**	P	**P**	**00 00 32.8**	**0.0**
	0.2nm,0.5s,mb3.1,baz=132,slow=6.6,SNR=3.9						
PPT	**Papeete**	**75.22**	**257**	*e*LR	LR	00 01 18.3	
	88nm,28.0s						
ULM	**Lac du Bonnet**	**76.44**	**342**	P	**P**	**00 00 39.1**	**-0.9**
	0.5nm,0.4s,mb3.6,baz=135,slow=5.7,SNR=3.2						
ULM				pP	pP	00 01 03.7	+2.9
	0.9nm,0.4s,baz=252,slow=1.0,SNR=2.8						
ULM	**Lac du Bonnet**	**76.44**	**342**	P	**P**	**00 00 39.1**	**-0.9**
ULM				pP	pP	00 01 03.7	+2.9
TORD	**Torodi Ar. Bea**	**77.58**	**70**	P	**P**	**00 00 46.1**	**-0.4**
	4.6nm,0.7s,mb4.3,baz=258,slow=5.4,SNR=54						
MDT	**Midelt**	**82.34**	**50**	P	**P**	**00 01 12.5**	**+0.4**
	2.0nm,0.8s,mb4.0,baz=315,slow=1.4,SNR=3.1						
BOSA	**Boshof**	**82.78**	**118**	P	**P**	**00 01 14.9**	**+0.6**
	4.6nm,0.9s,mb4.3,baz=233,slow=4.7,SNR=5.7						
MAW	**Mawson**	**83.21**	**163**	P	**P**	**00 01 16.5**	**-0.1**
	1.8nm,0.8s,mb4.0,baz=247,slow=6.9,SNR=4.0						
MAW				pP	pP	00 01 42.2	+4.5
	2.0nm,0.6s,baz=214,slow=6.8,SNR=4.2						
YKA	**Yellowknife Ar**	**92.30**	**341**	P	**P**	**00 01 59.2**	**-1.2**
	1.0nm,0.7s,mb4.1,baz=137,slow=4.5,SNR=22						
YKA	**Yellowknife Ar**	**92.30**	**341**	P	**P**	**00 01 59.2**	**-1.2**
ASAR	**Alice Springs**	**128.99**	**207**	PKP	PKPdf	00 07 57.9	+0.2
	0.6nm,0.7s,baz=147,slow=2.2,SNR=5.8						
MKAR	**Makanchi Array**	**146.44**	**37**	PKPbc	PKPbc	00 08 29.6	-1.4
	2.1nm,0.7s,baz=291,slow=1.3,SNR=17						

*ISCJB **22** 00:01:44.0±0.5, 3936N±002×2355E±003, h12km±4km, Error ellipse: s-maj=4.5km s-min=3.5km az=174.2*
*ATH **22** 00:01:43.1, 3937N×2356E, h17km±1km, MD3.2/13, ML3.2*
*CSEM **22** 00:01:44.4±0.1, 3934N×2353E, h14km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=78.0*
*THE **22** 00:01:44.8, 3932N×2354E, h12km, ML2.6*
*NEIC **22** 00:01:44.8, 3932N×2354E, h13km, ML3.0(THE), ML3.2(ATH), After THE.*
ISC 22 00:01:44.4±0.4, 3935N±002×2355E±004, h14km±3km, n27, σ0§79/39, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**262**	⇓*i*PB	**Pg**	**00 01 49.4**	**-0.5**
NEO				*e*SB	**Sg**	**00 01 53.1**	**-0.5**
XOR	**Xorichti**	**0.28**	**274**	*e*Pg	**Pg**	**00 01 49.9**	**-0.4**
XOR				*e*Sg	**Sg**	**00 01 54.7**	**+0.5**
AOS	**Alonnisos**	**0.31**	**124**	*e*Pg	**Pg**	**00 01 51.0**	**+0.2**
AOS				*e*Sg	**Sg**	**00 01 55.4**	**+0.3**
PAIG	**Paliouri**	**0.59**	**10**	*e*Pg	**Pg**	**00 01 56.7**	**+0.8**
PAIG				*e*Sg	**Sg**	**00 02 06.2**	**+2.4**
LKR	**Lokris**	**0.82**	**212**	⇑*i*PN	**Pg**	**00 01 59.7**	**-0.5**
LKR				*e*SN	**Sg**	**00 02 10.8**	**-0.1**
AGG	**Agios Georgios**	**1.00**	**252**	*e*Pg	**Pg**	**00 02 03.0**	**-0.8**
AGG				*e*Sg	**Sg**	**00 02 18.1**	**+1.3**
PLG	**Polygyros**	**1.03**	**356**	⇑*i*PN	**Pb**	**00 02 02.2**	**-1.8**
OUR	**Ouranopolis**	**1.04**	**18**	*e*Pg	**Pg**	**00 02 04.2**	**-0.3**
LIT	**Litokhoron**	**1.11**	**313**	*e*Pg	**Pg**	**00 02 05.1**	**-0.8**
LIT				*e*Sg	**Sg**	**00 02 21.8**	**+1.4**
THL	**Klokotos Trika**	**1.21**	**281**	*e*PN	**Pn**	**00 02 06.1**	**-0.7**
HORT	**Hortiatis**	**1.30**	**345**	*e*Pg	**Pg**	**00 02 08.5**	**-0.9**
HORT				*e*Sg	**Sg**	**00 02 26.1**	**-0.2**
PTL	**Penteli**	**1.32**	**169**	*e*PN	**Pn**	**00 02 08.0**	**-0.3**
THE	**Thessaloniki**	**1.36**	**341**	*e*Pg	**Pn**	**00 02 08.8**	**-0.2**
THE				*e*Sg	**Sn**	**00 02 27.5**	**+0.8**
LIA	**Limnos Island**	**1.38**	**66**	*e*PN	**Pn**	**00 02 08.6**	**-0.5**
MGER	**Gerania Oros**	**1.38**	**190**	*e*PN	**Pn**	**00 02 10.0**	**+0.9**
ATH	**Athens Observa**	**1.38**	**175**	*e*PN	**Pn**	**00 02 09.3**	**+0.2**
EVR	**Evrytania**	**1.42**	**253**	*e*PN	**Pn**	**00 02 09.7**	**0.0**
SOH	**Sokhos**	**1.48**	**354**	*e*Pg	**Pn**	**00 02 10.6**	**0.0**
SOH				*e*Sg	**Sg**	**00 02 31.3**	**-0.9**
KVR	**Kavouri**	**1.52**	**173**	*e*PB	**Pn**	**00 02 10.0**	**-1.2**
NAIG	**Nisos Aigina**	**1.58**	**182**	*e*PN	**Pn**	**00 02 13.4**	**+1.4**
KZN	**Kozani**	**1.67**	**306**	*e*PN	**Pn**	**00 02 13.8**	**+0.6**
SRS	**Serrai**	**1.77**	**1**	*e*Pb	**Pn**	**00 02 14.7**	**+0.2**
GRG	**Griva**	**1.83**	**332**	*e*Pb	**Pn**	**00 02 15.7**	**+0.2**
GRG				*e*Sb	**Sb**	**00 02 39.6**	**-0.9**
GRG	**Griva**	**1.83**	**332**	*e*Pb	**Pn**	**00 02 15.6**	**+0.2**
GRG				*e*Sb	**Sb**	**00 02 39.6**	**-0.9**
KNT	**Kendrikon**	**1.88**	**345**	*e*Pb	**Pn**	**00 02 16.6**	**+0.5**
NVR	**Nevrokopi**	**2.02**	**7**	*e*PN	**Pn**	**00 02 17.8**	**-0.1**
FNA	**Florina**	**2.20**	**311**	*e*Pn	**Pn**	**00 02 21.1**	**+0.6**

*SZGRF **22** 00:12:47.4, 2129S×17788W, h33km, Fiji Islands region*
*BJI **22** 00:13:51.5, 2000S×17830W, h589km, mB4.5, mb4.5*
*ISCJB **22** 00:13:52.1±1.1, 1996S±007×17839W±007, h587km±14km, mb4.3/36, Error ellipse: s-maj=10.4km s-min=9.4km az=157.8*
*MOS **22** 00:13:53.0±2.4, 1980S×17849W, h573km, mb4.5/13, Error ellipse: s-maj=13.1km s-min=10.7km az=117.2*
*NEIC **22** 00:13:53.1±1.0, 1996S×17830W, h589km±12km, mb4.4/23, Error ellipse: s-maj=8.4km s-min=8.2km az=56.0*
*IDC **22** 00:13:55.5±1.5, 1994S×17839W, h613km±16km, mb3.7/16, mb1 3.9/17, mb1mx3.8/19, mbtmp3.7/17, Error ellipse: s-maj=14.4km s-min=10.2km az=155.0*
ISC 22 00:13:53.0±1.0, 2000S±007×17828W±007, h586km±13km, n188, σ1§01/88, mb4.3/36, 22C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.68**	**47**	S	**S**	**00 17 33.2**	**-8.0**
	3.7nm,0.3s,baz=34,slow=21,SNR=6.8						
RAO	**Raoul Island**	**9.22**	**178**	S	**S**	**00 17 49.5**	**-1.3**
	70nm,0.3s,baz=82,slow=22,SNR=6.1						
RAO	**Raoul Island**	**9.22**	**178**	*e*P	**P**	**00 16 02.8**	**-0.8**
RAO				*e*S	**S**	**00 17 49.7**	**-1.1**
DZM	**Mont Dzumac**	**14.41**	**259**	P	**P**	**00 16 58.9**	**+2.9**
	1.2nm,0.3s,baz=88,slow=18,SNR=14						
URZ	**Urewera**	**18.63**	**191**	P	**P**	**00 17 33.0**	**-1.9**
	5.9nm,0.3s,baz=14,slow=3.8,SNR=24						
URZ				S	**S**	**00 20 28.1**	**-6.8**
	0.2nm,0.3s,baz=349,slow=23,SNR=3.1						
SNZO	**South Karori**	**22.07**	**194**	*e*P	**P**	**00 18 05.6**	**-0.2**
HNR	**Honiara**	**23.50**	**293**	*e*P	**P**	**00 18 19.0**	**+0.5**
RPZ	**Rata Peaks**	**25.28**	**198**	P	**P**	**00 18 34.5**	**+0.3**
	8.0nm,0.6s,mb4.5,baz=29,slow=18,SNR=6.5						
CTA	**Charters Tower**	**33.28**	**264**	⇓*i*P	**P**	**00 19 44.0**	**+0.8**
	31nm,0.6s,mb5.1						
CTA	**Charters Tower**	**33.28**	**264**	P	**P**	**00 19 44.1**	**+1.0**
	39nm,0.6s,mb5.2,baz=93,slow=10,SNR=44						
CTAO	**Charters Tower**	**33.28**	**264**	*e*P	**P**	**00 19 44.2**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.1						
CTAO	**Charters Tower**	**33.28**	**264**	*e*P	**P**	**00 19 44.2**	**+1.0**
	comp=Z,47nm,0.9s,mb5.1						
PMG	**Port Moresby**	**34.98**	**282**	P	**P**	**00 19 57.9**	**+0.6**
	comp=Z,64nm,0.8s,mb5.3,baz=92,slow=7.9,SNR=12						
PMG	**Port Moresby**	**34.98**	**282**	*d i*P	**P**	**00 19 57.8**	**+0.5**
PMG	**Port Moresby**	**34.98**	**282**	*e*P	**P**	**00 19 58.0**	**+0.6**
	comp=Z,65nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**37.77**	**244**	*e*P	**P**	**00 20 21.3**	**+1.1**
	comp=Z,2.2nm,1.2s,mb3.6						
STKA	**Stephens Creek**	**37.77**	**244**	P	**P**	**00 20 21.5**	**+1.2**
	comp=Z,7.3nm,1.0s,mb4.2,baz=94,slow=9.2,SNR=7.3						
ASAR	**Alice Springs**	**44.38**	**256**	P	**P**	**00 21 12.9**	**+0.5**
	comp=Z,32nm,0.8s,mb4.9,baz=86,slow=8.6,SNR=237						
ASAR				PcP	PcP	00 22 43.2	0.0
	comp=Z,3.1nm,0.8s,baz=100,slow=5.5,SNR=4.8						
ASAR				S	**S**	**00 27 03.4**	**-1.7**
	comp=Z,3.7nm,0.7s,baz=91,slow=16,SNR=17						
WB2	**Warramunga Arr**	**44.40**	**262**	*e*P	**P**	**00 21 12.2**	**-0.4**
WRA	**Warramunga Arr**	**44.41**	**262**	P	**P**	**00 21 12.5**	**-0.1**
	comp=Z,12nm,0.5s,mb4.6,baz=94,slow=7.3,SNR=47						
WRA				S	**S**	**00 27 03.5**	**-2.1**
	comp=Z,1.7nm,0.8s,baz=93,slow=13,SNR=5.8						
KAKA	**Kakadu**	**47.70**	**271**	*e*P	**P**	**00 21 37.3**	**-0.2**
	comp=Z,17nm,0.6s,mb4.8						
MIDW	**Midway**	**47.94**	**1**	P	**P**	**00 21 39.2**	**-0.1**
GUMO	**Guam**	**49.28**	**310**	*e*P	**P**	**00 21 50.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**52.84**	**262**	⇓*i*P	**P**	**00 22 15.2**	**+0.3**
	comp=Z,7.6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.84**	**262**	P	**P**	**00 22 15.4**	**+0.5**
	comp=Z,4.3nm,0.6s,mb3.9,baz=182,slow=4.7,SNR=15						
SBA	**Scott Base**	**58.35**	**184**	P	**P**	**00 22 54.9**	**+1.9**
VNDA	**Vanda**	**58.38**	**185**	P	**P**	**00 22 53.9**	**+0.7**
	comp=Z,3.3nm,0.7s,mb3.5,baz=353,slow=6.2,SNR=9.8						
VNDA	**Vanda**	**58.38**	**185**	*e*P	**P**	**00 22 54.4**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**58.38**	**185**	*e*P	**P**	**00 22 54.4**	**+1.3**
	comp=Z,11nm,1.2s,mb3.9						
CASY	**Casey**	**64.30**	**205**	*e*P	**P**	**00 23 31.6**	**-0.1**
	comp=Z,11nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**69.65**	**324**	P	**P**	**00 24 03.8**	**-0.8**
	comp=Z,7.0nm,0.8s,mb4.2,baz=156,slow=6.2,SNR=13						
MAJO	**Matsushiro**	**69.66**	**324**	*e*P	**P**	**00 24 03.9**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
MAJO	**Matsushiro**	**69.66**	**324**	*e*P	**P**	**00 24 03.9**	**-0.7**
	comp=Z,11nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**70.06**	**180**	*e*P	**P**	**00 24 07.8**	**+0.8**
	comp=Z,37nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**75.33**	**334**	⇑*e*P	**P**	**00 24 37.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,29nm,0.9s,mb4.8						
YSS	**Yuzh-Sakhalins**	**75.33**	**334**	*e*P	**P**	**00 24 36.3**	**-0.8**
	comp=Z,31nm,0.9s,mb4.8						
YSS				*e*PcP	PcP	00 24 47.3	+0.1
KSRS	**Korea Array**	**76.34**	**319**	P	**P**	**00 24 42.6**	**-0.1**
	comp=Z,2.1nm,0.7s,mb3.7,baz=145,slow=6.8,SNR=6.9						
CMB	**Columbia Colle**	**79.28**	**43**	*e*P	**P**	**00 24 58.7**	**+0.2**
CMB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
CMB	**Columbia Colle**	**79.28**	**43**	*e*P	**P**	**00 24 58.7**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.2						
HABR	**Khabarovsk**	**79.88**	**331**	*e*P	**P**	**00 25 01.7**	**+0.1**
HABR				*e*S	S	00 34 17.6	-0.1
HABR				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.6						
MDJ	**Mudanjiang**	**79.96**	**325**	P	**P**	**00 25 02.8**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,86nm,6.0s						
MDJ	**Mudanjiang**	**79.96**	**325**	*e*P	**P**	**00 25 01.8**	**-0.2**
	comp=Z,13nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**80.84**	**44**	P	**P**	**00 25 07.5**	**+0.8**
	comp=Z,4.3nm,1.1s,mb3.8,baz=230,slow=9.2,SNR=13						
TPH	**Tonopah**	**81.35**	**44**	P	**P**	**00 25 10.1**	**+0.9**
PMSA	**Palmer Station**	**81.85**	**157**	P	**P**	**00 25 11.9**	**+0.1**
MAW	**Mawson**	**81.94**	**200**	P	**P**	**00 25 12.0**	**-0.3**
	comp=Z,0.9nm,0.3s,mb3.8,baz=115,slow=7.8,SNR=9.9						
MAW	**Mawson**	**81.94**	**200**	*e*P	**P**	**00 25 11.9**	**-0.3**
MAW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAW	**Mawson**	**81.94**	**200**	*e*P	**P**	**00 25 11.9**	**-0.3**
	comp=Z,5.8nm,1.0s,mb4.1						
KLR	**Kul'dur**	**81.97**	**330**	*e*P	**P**	**00 25 09.0**	**-3.4**
BJT	**Baijiatuau**	**85.35**	**315**	*e*P	**P**	**00 25 29.1**	**+0.1**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BJT	**Baijiatuau**	**85.35**	**315**	*e*P	**P**	**00 25 29.1**	**0.0**
	comp=Z,3.7nm,0.4s,mb4.4						
ENH	**Enshi**	**85.54**	**304**	P	**P**	**00 25 30.2**	**+0.2**
TNA	**Tin City**	**85.66**	**4**	*e*P	**P**	**00 25 29.3**	**-1.2**
	comp=Z,3.8nm,0.8s,mb4.1						
SEY	**Seymchan**	**85.83**	**347**	⇑*e*P	**P**	**00 25 30.2**	**-1.2**
HLID	**Hailey**	**86.12**	**41**	*e*P	**P**	**00 25 33.6**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.0						
HWUT	**Hardware Ranch**	**86.91**	**44**	P	**P**	**00 25 36.6**	**+0.2**
TXAR	**Lajitas Array**	**87.01**	**57**	P	**P**	**00 25 38.2**	**+1.3**
	comp=Z,2.3nm,0.8s,mb4.0,baz=218,slow=6.6,SNR=21						
NEW	**Newport**	**87.12**	**36**	*e*P	**P**	**00 25 36.4**	**-1.0**
NEW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NEW	**Newport**	**87.12**	**36**	*e*P	**P**	**00 25 36.4**	**-1.0**
	comp=Z,6.6nm,1.1s,mb4.3						
ANMO	**Albuquerque**	**87.30**	**51**	⇑*e*P	**P**	**00 25 39.4**	**+1.1**
ANMO	**Albuquerque**	**87.30**	**51**	*e*P	**P**	**00 25 39.0**	**+0.7**
	comp=Z,3.0nm,1.2s,mb3.9						
COLA	**College**	**87.78**	**12**	*e*P	**P**	**00 25 38.7**	**-1.8**
COLA				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
COLA	**College**	**87.78**	**12**	*e*P	**P**	**00 25 38.6**	**-1.9**
	comp=Z,16nm,1.0s,mb4.7						
HIA	**Hailar**	**88.14**	**325**	*e*P	**P**	**00 25 39.1**	**-3.1**
IMW	**Indian Meadow**	**88.45**	**42**	*e*P	**P**	**00 25 44.3**	**+0.7**
	comp=Z,6.4nm,1.1s,mb4.3						
SNAA	**Sanae**	**88.51**	**179**	*e*P	**P**	**00 25 43.0**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SNAA	**Sanae**	**88.51**	**179**	*e*P	**P**	**00 25 43.0**	**-1.0**
	comp=Z,3.3nm,1.0s,mb4.1						
BILL	**Bilibino**	**88.52**	**354**	*e*P	**P**	**00 25 42.3**	**-1.6**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.3						
BILL	**Bilibino**	**88.52**	**354**	*e*P	**P**	**00 25 41.6**	**-2.3**
	comp=Z,12nm,1.8s,mb4.4						
QLMT	**Earthquake Lak**	**88.61**	**41**	*e*P	**P**	**00 25 45.5**	**+1.1**
PDAR	**Pinedale Array**	**88.78**	**43**	P	**P**	**00 25 45.4**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.0,baz=205,slow=4.2,SNR=13						
KMI	**Kunming**	**88.89**	**297**	P	**P**	**00 25 47.4**	**+1.7**
KMI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
KMI	**Kunming**	**88.89**	**297**	P	**P**	**00 25 47.4**	**+1.7**
	comp=Z,14nm,0.8s,mb4.8						
BOZ	**Bozeman (W)**	**88.90**	**40**	*e*P	**P**	**00 25 46.1**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
BOZ	**Bozeman (W)**	**88.90**	**40**	*e*P	**P**	**00 25 46.1**	**+0.4**
	comp=Z,5.4nm,1.4s,mb4.2						
DAWY	**Dawson**	**89.05**	**16**	*e*P	**P**	**00 25 45.5**	**-1.0**
SDCO	**Great Sand Dun**	**89.23**	**49**	*e*P	**P**	**00 25 47.9**	**+0.6**
WALA	**Waterton Lakes**	**89.34**	**36**	P	**P**	**00 25 48.3**	**+0.5**
CHTO	**Chiang Mai**	**89.83**	**290**	*e*P	**P**	**00 25 51.1**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**89.83**	**290**	*e*P	**P**	**00 25 51.1**	**+1.1**
	comp=Z,7.7nm,0.9s,mb4.5						
YAK	**Yakutsk**	**91.55**	**338**	P	**P**	**00 25 58.4**	**+0.4**
INK	**Inuvik**	**93.86**	**15**	*e*P	**P**	**00 26 06.8**	**-1.7**
SONM	**Songino Array**	**95.21**	**319**	P	**P**	**00 26 13.8**	**-0.8**
	comp=Z,0.6nm,0.9s,mb3.7,baz=128,slow=6.3,SNR=3.7						
YKA	**Yellowknife Ar**	**96.17**	**25**	P	**P**	**00 26 17.5**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.7,baz=238,slow=4.5,SNR=7.5						
TRQA	**Tornquist**	**96.90**	**135**	PcP	PcP	00 26 23.1	+0.8
OTAV	**Otavalo**	**99.32**	**93**	*e*Pdif	Pdif	00 26 34.6	+1.6
MKAR	**Makanchi Array**	**110.67**	**314**	PKiKP	PKiKP	00 31 18.0	-1.8
	comp=Z,0.8nm,0.8s,baz=17,slow=1.5,SNR=5.0						
MKAR	**Makanchi Array**	**110.67**	**314**	⇑*i*PKiKP	PKiKP	00 31 18.2	-1.6
MKAR	**Makanchi Array**	**110.67**	**314**	PKPdf	PKiKP	00 31 18.0	-1.8
KURK	**Kurchatov**	**113.45**	**318**	*e*PKiKP	PKiKP	00 31 23.2	-1.9
BRVK	**Borovoye**	**118.59**	**320**	*e*PKiKP	PKPdf	00 31 33.7	-1.3
ARU	**Arti**	**124.64**	**326**	*i* PKiKP	PKPdf	00 31 44.5	-2.1
ARU	**Arti**	**124.64**	**326**	*e*PKPdf	PKPdf	00 31 45.8	-0.8
AKTK	**Aktyubinsk**	**126.52**	**319**	PKP	PKPdf	00 31 49.5	-0.7
AKTO	**Aktyubinsk**	**126.52**	**319**	PKP	PKPdf	00 31 49.5	-0.7
	comp=Z,1.8nm,0.9s,baz=56,slow=5.9,SNR=5.7						
ARCES	**ARCESS Array B**	**128.38**

ZST	**Bratislava**	**149.25**	**340**	*e*PKP	PKPbc	00 32 37.0	+0.8
GZR	**Gura Zlata**	**149.28**	**330**	⇑*i*P	PKPbc	00 32 36.3	0.0
TNS	**Taunus Mts**	**149.37**	**352**	*e*PKPbc	PKPbc	00 32 36.4	-0.1
GRA1	**Grafenberg Arr**	**149.42**	**348**	*e*PKPbc	PKPbc	00 32 36.5	-0.2
GRA1				*e*PKPab	PKPab	00 32 43.4	-0.6
GRF	**Grafenberg Arr**	**149.42**	**348**	*e*PKPbc	PKPbc	00 32 36.5	-0.2
GRF				*e*PKPab	PKPab	00 32 43.4	-0.6
GRF	**Grafenberg Arr**	**149.42**	**348**	*e*PKP2	PKPab	00 32 43.4	-0.6
KHC	**Kasperske Hory**	**149.42**	**345**	*e*PKPDF	PKPdf	00 32 30.6	-0.9
KHC				⇑*e*PKP	PKPab	00 32 36.3	-7.7
KHC				*e*PKPAB	PKPab	00 32 43.8	-0.2
BZS	**Buzias**	**149.64**	**332**	⇓*i*PKHKP	PKPbc	00 32 36.6	-0.6
BZS	**Buzias**	**149.64**	**332**	⇓*i*P	PKPbc	00 32 36.5	-0.7
GEC2	**GERESS Array S**	**149.65**	**344**	*e*PKPbc	PKPbc	00 32 36.2	-1.0
GERES	**GERESS Array B**	**149.65**	**344**	PKPbc	PKPbc	00 32 36.4	-0.8
	comp=Z,5.8nm,0.8s,baz=43,slow=2.5,SNR=31						
GERES				PKPab	PKPab	00 32 43.8	-1.2
	comp=Z,2.3nm,1.0s,baz=25,slow=3.5,SNR=5.2						
GIVF	**Givet**	**149.86**	**356**	*e*PKP1	PKPbc	00 32 37.0	-0.7
	comp=Z,60nm,1.1s						
BAIF	**Baives**	**149.94**	**357**	*e*PKP1	PKPbc	00 32 37.3	-0.6
	comp=Z,26nm,1.0s						
STU	**Stuttgart**	**150.67**	**350**	*e*PKPbc	PKPbc	00 32 39.2	-0.4
VTS	**Vitosha**	**151.10**	**326**	⇓*i*P	PKPbc	00 32 40.3	-0.2
BFO	**Black Forest**	**151.24**	**351**	*e*PKPbc	PKPbc	00 32 40.1	-0.8
BFO				*e*PKPab	PKPab	00 32 50.5	-1.2
FLN	**La Foliniere**	**151.25**	**3**	*e*PKP1	PKPbc	00 32 39.8	-1.1
	comp=Z,33nm,1.0s						
CDF	**Champ du Feu**	**151.30**	**352**	*e*PKP1	PKPbc	00 32 40.2	-0.8
LDF	**La Druitiere**	**151.44**	**3**	*e*PKP1	PKPbc	00 32 40.0	-1.3
	comp=Z,5.1nm,0.5s						
MEZF	**Maizieres J'vi**	**151.44**	**355**	*e*PKP1	PKPbc	00 32 40.5	-0.8
	comp=Z,75nm,1.4s						
ROSF	**Rostrenen**	**151.45**	**7**	*e*PKP1	PKPbc	00 32 39.8	-1.5
	comp=Z,59nm,1.3s						
GRR	**Gorron**	**151.60**	**4**	*e*PKP1	PKPbc	00 32 40.6	-1.1
SGMF	**Saint Gilles**	**151.60**	**6**	*e*PKP1	PKPbc	00 32 40.5	-1.2
HAU	**Haudompre**	**151.81**	**353**	*e*PKP1	PKPbc	00 32 41.2	-0.9
HINF	**Hinteralfeld**	**151.94**	**353**	*e*PKP1	PKPbc	00 32 42.4	0.0
LOR	**Lormes**	**152.75**	**357**	*e*PKP1	PKPbc	00 32 45.0	+0.8
CABF	**La Chapelle**	**153.22**	**353**	*e*PKP1	PKPbc	00 32 45.9	+0.7
	comp=Z,26nm,1.3s						
AVF	**Avril sur Loir**	**153.25**	**358**	*e*PKP1	PKPbc	00 32 45.9	+0.6
	comp=Z,6.9nm,0.9s						
BGF	**Bois d'Agland**	**153.50**	**358**	*e*PKP1	PKPbc	00 32 45.9	+0.1
RJF	**Les Rejaudoux**	**154.77**	**0**	*e*PKP1	PKPdf	00 32 48.5	+9.2
	comp=Z,7.8nm,0.8s						
ESDC	**Sonseca Array**	**159.79**	**13**	PKPab	PKPab	00 33 27.7	-0.9
	comp=Z,3.1nm,1.1s,baz=348,slow=5.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**173.19**	**180**	PKP	PKPdf	00 32 55.2	-0.3
	comp=Z,0.7nm,0.8s,baz=321,slow=1.8,SNR=3.5						
TORD				PKPab	PKPab	00 34 27.8	0.0
	comp=Z,0.6nm,0.7s,baz=193,slow=3.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**173.19**	**180**	PKP	PKPdf	00 32 55.2	-0.3
TORD				PKPab	PKPab	00 34 27.8	0.0

*CSEM **22** 00:14:02.8, 1200N×4378E, h2km, ML3.6, After DHMR*

DHMR 22 00:14:02.8±1.3, 1200N×4378E, h3km±6km, ML3.6, 1C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.27**	**15**	⇓*i*P	Pg	00 14 26.8	-0.4
TRBA				*i* S	Sg	00 14 44.8	+1.2
TRBA				AML	AML	00 14 49.3	
	comp=E,1μm,0.5s						
ADEN	**Aden**	**1.41**	**56**	⇓*i*P	Pn	00 14 29.2	-0.1
ADEN				*i* S	Sg	00 14 48.3	+0.4
ADEN				AML	AML	00 14 57.3	
	comp=E,754nm,0.7s						
ADEN	**Aden**	**1.41**	**56**	⇓*i*P	Pn	00 14 29.2	-0.1
ADEN				*i* S	Sg	00 14 48.3	+0.3
	comp=E,377nm,0.7s						
UDYN	**Al 'Udayn**	**1.97**	**5**	*i* P	Pn	00 14 37.8	+0.7
UDYN				*i* S	Sn	00 15 05.7	+3.4
UDYN				AML	AML	00 15 16.1	
	comp=N,618nm,0.5s						
UDYN	**Al 'Udayn**	**1.97**	**5**	*i* P	Pn	00 14 37.8	+0.7
UDYN				*i* S	Sn	00 15 05.7	+3.4
	comp=N,309nm,0.5s						
LBOS		**2.35**	**37**	⇑*i*P	Pn	00 14 44.8	+2.5
LBOS				*i* S	Sn	00 15 17.2	+5.5
DHBB	**Dhamar BB**	**2.63**	**13**	*i* P	Pn	00 14 49.2	+3.1
DHBB				*i* S	Sn	00 15 25.2	+6.6
HAJJ	**Hajjah**	**3.69**	**357**	*i* P	Pn	00 15 02.5	+1.8
HAJJ				*i* S	Sn	00 15 50.7	+6.0

*CSEM **22** 00:15:14.8, 1213N×4383E, h4km, ML3.5, After DHMR*

DHMR 22 00:15:14.8±1.0, 1213N×4383E, h4km±4km, ML3.5, 3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.13**	**14**	⇓*i*P	Pg	00 15 36.3	-0.1
TRBA				*i* S	Sg	00 15 52.2	+1.1
TRBA				AML	AML	00 15 54.5	
	comp=N,708nm,0.3s						
ADEN	**Aden**	**1.29**	**60**	*i* P	Pn	00 15 38.4	-1.2
ADEN				*i* S	Sg	00 15 57.5	+1.1
ADEN				AML	AML	00 16 02.8	
	comp=E,1μm,0.3s						
ADEN	**Aden**	**1.29**	**60**	*i* P	Pn	00 15 38.4	-1.2
ADEN				*i* S	Sg	00 15 57.5	+1.1
	comp=E,713nm,0.3s						
UDYN	**Al 'Udayn**	**1.83**	**4**	⇓*i*P	Pn	00 15 47.5	+0.5
UDYN				*i* S	Sn	00 16 14.1	+3.5
UDYN				AML	AML	00 16 21.1	
	comp=N,589nm,0.4s						
UDYN	**Al 'Udayn**	**1.83**	**4**	⇓*i*P	Pn	00 15 47.5	+0.5
UDYN				*i* S	Sn	00 16 14.1	+3.5
	comp=N,295nm,0.4s						
LBOS		**2.21**	**38**	*i* P	Pn	00 15 54.6	+2.3
LBOS				*i* S	Sn	00 16 25.1	+5.0
DHBB	**Dhamar BB**	**2.49**	**13**	*i* S	Sn	00 16 32.2	+5.5
BDHA	**Al Bayda'**	**2.49**	**42**	*i* S	Sn	00 16 32.4	+5.4
BDHA				AML	AML	00 16 41.7	
	comp=N,277nm,0.3s						
BDHA	**Al Bayda'**	**2.49**	**42**	*i* S	Sn	00 16 32.4	+5.4
	comp=N,138nm,0.3s						
HAJJ	**Hajjah**	**3.56**	**356**	*i* S	Sn	00 16 59.2	+6.1

*ISCJB **22** 00:19:59.6±0.5, 3936N±002×2351E±003, h10km±4km, Error ellipse: s-maj=4.5km s-min=3.5km az=174.2*
*CSEM **22** 00:19:59.8±0.1, 3934N×2356E, h8km, ML3.2, Error ellipse: s-maj=2.2km s-min=1.6km az=83.0*
*ATH **22** 00:19:59.0, 3936N×2353E, h21km±1km, MD3.2/13, ML3.2*
*THE **22** 00:20:00.4, 3930N×2350E, h12km, ML2.8*
*NEIC **22** 00:20:00.4, 3930N×2350E, h12km, ML3.0(THE), ML3.2(ATH), After THE.*

ISC 22 00:20:00.1±0.4, 3934N±002×2352E±004, h12km±3km, n26, σ0⁶69/39, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**262**	⇓*i*PB	Pg	00 20 04.8	-0.3
NEO				*e*SB	Sg	00 20 08.8	+0.4
XOR	**Xorichti**	**0.26**	**276**	*e*Pg	Pg	00 20 05.2	-0.3
XOR				*e*Sg	Sg	00 20 08.9	-0.1
AOS	**Alonnisos**	**0.33**	**121**	*e*Pg	Pg	00 20 06.8	0.0
AOS				*e*Sg	Sg	00 20 11.6	+0.4
PAIG	**Paliouri**	**0.60**	**12**	*e*Pg	Pg	00 20 12.9	+1.1
PAIG				*e*Sg	Sg	00 20 22.6	+2.8
LKR	**Lokris**	**0.80**	**211**	⇑*i*PN	Pg	00 20 15.0	-0.6
LKR				*e*SB	Sg	00 20 26.0	-0.1
AGG	**Agios Georgios**	**0.98**	**251**	*e*Pg	Pg	00 20 18.2	-0.8
AGG				*e*Sg	Sg	00 20 32.6	+0.8
AGG	**Agios Georgios**	**0.98**	**251**	*e*Pg	Pg	00 20 18.2	-0.8
AGG				*e*Sg	Sg	00 20 32.6	+0.8
PLG	**Polygyros**	**1.03**	**357**	⇑*i*PN	Pb	00 20 18.4	-1.5
OUR	**Ouranopolis**	**1.05**	**20**	*e*Pg	Pg	00 20 20.0	-0.4
LIT	**Litokhoron**	**1.10**	**314**	*e*Pg	Pg	00 20 21.2	-0.1
LIT				*e*Sg	Sg	00 20 37.1	+1.5
THL	**Klokotos Trika**	**1.19**	**281**	*e*PN	Pn	00 20 21.9	-0.6
HORT	**Hortiatis**	**1.30**	**346**	*e*Pg	Pg	00 20 23.9	-1.2
HORT				*e*Sg	Sg	00 20 41.5	-0.4
PTL	**Penteli**	**1.32**	**168**	*e*PN	Pn	00 20 24.0	-0.3
THE	**Thessaloniki**	**1.36**	**342**	*e*Pg	Pn	00 20 24.6	-0.3
THE				*e*Sg	Sg	00 20 43.6	-0.3
MGER	**Gerania Oros**	**1.37**	**189**	*e*PN	Pn	00 20 25.5	+0.5
ATH	**Athens Observa**	**1.38**	**174**	*e*PN	Pn	00 20 25.1	0.0
EVR	**Evrytania**	**1.40**	**253**	*e*PN	Pn	00 20 25.0	-0.4
LIA	**Limnos Island**	**1.40**	**66**	*e*PN	Pn	00 20 25.0	-0.4
SOH	**Sokhos**	**1.48**	**355**	*e*Pg	Pn	00 20 26.7	+0.1
SOH				*e*Sg	Sg	00 20 47.1	-0.9
KVR	**Kavouri**	**1.52**	**173**	*e*PN	Pn	00 20 27.7	+0.6
NAIG	**Nisos Aigina**	**1.58**	**181**	*e*PN	Pn	00 20 28.4	+0.5
KZN	**Kozani**	**1.66**	**306**	*e*PN	Pn	00 20 29.0	0.0
SRS	**Serrai**	**1.78**	**2**	*e*Pb	Pn	00 20 30.6	0.0
GRG	**Griva**	**1.83**	**332**	*e*Pb	Pn	00 20 31.8	+0.5
GRG				*e*Sb	Sn	00 20 54.5	+0.1
KNT	**Kendrikon**	**1.88**	**346**	*e*Pb	Pn	00 20 32.7	+0.6
KNT				*e*Sb	Sn	00 20 56.6	+0.9
NVR	**Nevrokopi**	**2.02**	**7**	*e*PN	Pn	00 20 33.8	-0.2

*ISCJB **22** 00:23:24.3±0.5, 3934N±002×2351E±003, h9km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=137.6*
*THE **22** 00:23:24.9, 3930N×2350E, h12km, ML2.8*
*ATH **22** 00:23:24.0, 3933N×2351E, h24km±1km, MD3.3/14, ML3.1*
*NEIC **22** 00:23:24.0, 3933N×2351E, h24km, ML3.1(THE), ML3.1(ATH), After ATH.*
*CSEM **22** 00:23:25.0±0.1, 3932N×2354E, h20km, ML3.1, Error ellipse: s-maj=2.0km s-min=1.7km az=83.0*

ISC 22 00:23:24.9±0.4, 3932N±002×2352E±004, h13km±3km, n28, σ0⁶75/38, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**267**	⇓*i*PB	Pg	00 23 29.7	-0.1
NEO				*e*SB	Sg	00 23 34.0	+0.8
XOR	**Xorichti**	**0.26**	**280**	*e*Pg	Pg	00 23 29.8	-0.5
XOR				*e*Sg	Sg	00 23 33.5	-0.4
AOS	**Alonnisos**	**0.32**	**118**	*e*Pg	Pg	00 23 31.3	-0.1
AOS				*e*Sg	Sg	00 23 36.2	+0.5
PAIG	**Paliouri**	**0.62**	**12**	*e*Pg	Pg	00 23 37.5	+0.5
PAIG				*e*Sg	Sg	00 23 47.0	+1.9
LKR	**Lokris**	**0.78**	**211**	⇑*i*PN	Pg	00 23 39.6	-0.4
LKR				*e*SN	Sg	00 23 50.6	+0.3
AGG	**Agios Georgios**	**0.97**	**252**	*e*Pg	Pg	00 23 42.8	-0.8
PLG	**Polygyros**	**1.05**	**357**	⇑*i*PN	Pn	00 23 43.9	-1.4
OUR	**Ouranopolis**	**1.07**	**19**	*e*Pg	Pg	00 23 44.3	-1.3
LIT	**Litokhoron**	**1.11**	**315**	*e*Pg	Pg	00 23 45.8	-0.5
LIT				*e*Sg	Sg	00 24 02.0	+1.2
THL	**Klokotos Trika**	**1.19**	**282**	*e*PN	Pn	00 23 46.5	-0.7
PTL	**Penteli**	**1.30**	**168**	*e*PN	Pn	00 23 48.5	-0.2
HORT	**Hortiatis**	**1.32**	**346**	*e*Pg	Pg	00 23 48.5	-1.7
HORT				*e*Sg	Sg	00 24 06.2	-1.1
MGER	**Gerania Oros**	**1.35**	**189**	*e*PN	Pn	00 23 49.2	-0.2
ATH	**Athens Observa**	**1.35**	**173**	*e*PN	Pn	00 23 49.5	0.0
THE	**Thessaloniki**	**1.38**	**342**	*e*Pg	Pn	00 23 49.3	-0.5
EVR	**Evrytania**	**1.39**	**254**	*e*PN	Pn	00 23 50.2	+0.3
LIA	**Limnos Island**	**1.41**	**65**	*e*PN	Pn	00 23 49.8	-0.4
KVR	**Kavouri**	**1.50**	**172**	*e*PN	Pn	00 23 52.0	+0.5
SOH	**Sokhos**	**1.50**	**355**	*e*Pg	Pn	00 23 51.5	-0.1
SOH				*e*Sg	Sn	00 24 11.7	+0.7
NAIG	**Nisos Aigina**	**1.56**	**181**	*e*PN	Pn	00 23 53.0	+0.7
KZN	**Kozani**	**1.67**	**307**	*e*PN	Pn	00 23 54.0	+0.2
GRG	**Griva**	**1.84**	**333**	*e*Pb	Pn	00 23 56.3	+0.1
KNT	**Kendrikon**	**1.90**	**346**	*e*Pb	Pn	00 23 57.2	+0.2
NVR	**Nevrokopi**	**2.04**	**7**	*e*PB	Pn	00 23 58.6	-0.3
PRK	**Paraskevi**	**2.14**	**91**	*e*PB	Pn	00 24 00.8	+0.6
KRUS	**Krusevo**	**2.68**	**320**	*e*Pn	Pn	00 24 08.6	+0.9
KRUS				*e*Sn	Sg	00 24 52.2	+1.2
KRUS	**Krusevo**	**2.68**	**320**	*e*Pn	Pn	00 24 08.6	+0.9
KRUS				*e*Sn	Sg	00 24 52.2	+1.2
KRUS	**Krusevo**	**2.68**	**320**	*e*Pn	Pn	00 24 08.5	+0.8

*CSEM **22** 00:23:32.9, 6785N×2021E, h0km, ML3.5, Mining explosion. After UPP*
*UPP **22** 00:23:32.9, 6785N×2021E, h0km, ML3.5, Mining explosion.*

HEL 22 00:23:33.5±0.1, 6786N×2020E, h0km, ML1.2, ML3.5(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**28**	*i* P	Pg	00 23 35.4	-0.1
NIKU	**Nikkaluokta**	**0.44**	**271**	*i* P	Pg	00 23 41.5	-0.5
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	00 23 46.2	-0.7
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00 23 46.2	-0.7
	baz=300						
DUNU	**Dundret**	**0.76**	**169**	*i* P	Pg	00 23 46.9	-1.1
SALU	**Saltoluokta**	**0.81**	**234**	*i* P	Pg	00 23 48.1	-0.9
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*P	Pg	00 23 54.7	-1.3
KIF				*e*S	Sg	00 24 10.5	-0.6
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 23 58.5	-1.8
HARU	**Harads**	**1.73**	**170**	*e*P	Pn	00 24 04.7	-0.2
HARU	**Harads**	**1.73**	**170**	P	Pn	00 24 04.7	-0.1
	baz=354						
SGF	**Sodankyl**	**2.45**	**97**	*e*SG	Sg	00 24 49.0	-3.3
KEV	**Kevo**	**3.12**	**49**	*e*S	Sn	00 25 02.9	+1.0

IDC 22 00:25:43.0±8.1, 572S×15033E, h111km±55km, mb2.9/2, mb1 3.1/3, mb1mx2.9/14, mbtmp2.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/4, Error ellipse: s-maj=136.9km s-min=55.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.82**	**220**	P	Pn	00 26 53.2	-0.1
	0.5nm,0.3s,baz=166,slow=11,SNR=2.3						
PMG				S	Sn	00 27 49.2	+1.2
	1.2nm,0.3s,baz=180,slow=13,SNR=3.1						
PMG				LR	LR	00 28 46.5	
	comp=Z,166nm,20.7s,baz=18,slow=38						
WRA	**Warramunga Arr**	**21.01**	**226**	P	P	00 30 17.1	-0.4
	0.7nm,0.6s,baz=52,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**23.84**	**220**	P	P	00 30 46.3	+0.5
	0.7nm,0.6s,baz=56,slow=9.8,SNR=8.4						
TORD	**Torodi Ar. Bea**	**148.22**	**286**	PKPbc	PKPbc	00 45 16.6	+0.7
	0.7nm,0.6s,baz=62,slow=3.0,SNR=7.8						

*ISCJB **22** 00:58:04.0±0.6, 3935N±003×2354E±005, h13km±5km, Error ellipse: s-maj=6.5km s-min=4.8km az=20.5*
*CSEM **22** 00:58:04.3±0.1, 3933N×2358E, h12km, ML3.0, Error ellipse: s-maj=1.9km s-min=1.3km az=67.0*
*THE **22** 00:58:05.0, 3933N×2353E, h12km, ML2.5*
*ATH **22** 00:58:04.1, 3931N×2352E, h23km±3km, MD3.1/7, ML3.0*
*NEIC **22** 00:58:05.0, 3933N×2353E, h13km, ML2.8(THE), ML3.0(ATH), After THE.*

ISC 22 00:58:04.5±0.6, 3935N±003×2354E±005, h16km±5km, n20, σ0⁶76/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.25**	**261**	*e*PB	Pg	00 58 10.0	0.0
XOR	**Xorichti**	**0.27**	**274**	*e*Pg	Pg	00 58 10.2	-0.2
XOR				*e*Sg	Sg	00 58 14.4	0.0
AOS	**Alonnisos**	**0.32**	**123**	*e*Pg	Pg	00 58 11.1	-0.1
PAIG	**Paliouri**	**0.59**	**11**	*e*Pg	Pg	00 58 16.9	+0.8
PAIG				*e*Sg	Sg	00 58 26.4	+2.3
AGG	**Agios Georgios**	**0.99**	**251**	*e*Pg	Pg	00 58 23.6	-0.2
AGG				*e*Sg	Sg	00 58 38.0	+1.2
PLG	**Polygyros**	**1.03**	**356**	*e*PN	Pb	00 58 24.0	+0.1
OUR	**Ouranopolis**	**1.04**	**19**	*e*Pg	Pg	00 58 24.1	-0.7
OUR	**Ouranopolis**	**1.04**	**19**	*e*Pg	Pg	00 58 24.0	-0.7
LIT	**Litokhoron**	**1.11**	**313**	*e*Pg	Pg	00 58 25.4	-0.5
HORT	**Hortiatis**	**1.30**	**345**	*e*Pg	Pg	00 58 28.0	-1.5
HORT				*e*Sg	Sg	00 58 45.8	-0.6
PTL	**Penteli**	**1.32**	**169**	*e*PN	Pn	00 58 28.5	+0.3
THE	**Thessaloniki**	**1.36**	**341**	*e*Pg	Pn	00 58 28.9	+0.2
ATH	**Athens Observa**	**1.38**	**174**	*e*PN	Pn	00 58 29.1	+0.1
EVR	**Evrytania**	**1.41**	**253**	*e*PN	Pb	00 58 30.5	+0.1
SOH	**Sokhos**	**1.48**	**355**	*e*Pg	Pn	00 58 30.7	+0.3
KVR	**Kavouri**	**1.53**	**173**	*e*PB	Pn	00 58 30.5	-0.5
NAIG	**Nisos Aigina**	**1.58**	**181**	*e*PB	Pn	00 58 31.4	-0.5
GRG	**Griva**	**1.83**	**332**	*e*Pb	Pb	00 58 36.3	-1.3
GRG				*e*Sb	Sb	00 58 59.7	-0.5
KNT	**Kendrikon**	**1.88**	**345**	*e*Pb	Pn	00 58 36.9	+1.0
FNA	**Florina**	**2.19**	**312**	*e*Pn	Pn	00 58 41.2	+0.9

IDC 22 00:59:06.9±2.5, 660S×13006E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.4/14, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=161.9km s-min=32.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.90**	**163**	Pn	Pn	01 02 25.2	+0.1
	0.2nm,0.3s,baz=346,slow=14,SNR=2.9						
WRA				Sn	Sn	01 04 47.9	-12
	0.5nm,0.3s,baz=342,slow=22,SNR=4.8						
ASAR	**Alice Springs**	**17.36**	**168**	P	Pn	01 03 11.0	+0.4
	0.1nm,0.3s,baz=344,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**67.93**	**327**	P	P	01 10 07.6	+0.2
	0.1nm,0.3s,baz=115,slow=7.8,SNR=4.6						

KRSC 22 00:59:48.2±0.5, 5437N×16146E, h35km±25km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.24**	**40**	*e*P	Pn	00 59 54.8	-0.7
MKZ				*i* S	Sn	00 59 59.5	-0.9
TUMR	**Tumrok**	**1.19**	**321**	*e*P	Pn	01 00 08.5	+0.2
TUMR				*i* S	Sn	01 00 23.8	+0.5
KII	**Karymskiy**	**1.23**	**255**	*e*P	Pn	01 00 09.2	+0.4
KII				*i* S	Sn	01 00 24.1	-0.1
SPN	**Mys Shipunski**	**1.53**	**214**	*e*P	Pn	01 00 13.0	-0.1
SPN				*i* S	Sn	01 00 31.2	-0.6
KMNR	**Kamenistaya**	**1.56**	**334**	*e*P	Pn	01 00 14.6	+1.2
KMNR				*i* S	Sn	01 00 33.6	+1.3
ZLN	**Zelenaya**	**1.69**	**347**	*e*P	Pn	01 00 16.7	+1.5
ZLN				*i* S	Sn	01 00 37.2	+1.5
KIRR	**Kirishev**	**1.71**	**338**	*e*P	Pn	01 00 17.0	+1.5
KIRR				*i* S	Sn	01 00 37.5	+1.4
NLC	**Nalytchevo**	**1.74**	**227**	*e*P	Pn	01 00 16.6	+0.7
NLC				*i* S	Sn	01 00 37.2	+0.4
KPT	**Kopyto**	**1.75**	**337**	P	Pn	01 00 18.0	+2.0
CIRR	**Tsirk**	**1.80**	**347**	*e*P	Pn	01 00 18.0	+1.3
CIRR				*i* S	Sn	01 00 39.5	+1.3
KOZ	**Kozyrevsk**	**1.92**	**332**	*e*P	Pn	01 00 21.2	+2.8
KOZ				*i* S	Sn	01 00 44.8	+3.5
KRSR	**Krestovskiy**	**1.92**	**345**	*e*P	Pn	01 00 19.9	+1.5
KRSR				*i* S	Sn	01 00 43.0	+1.7
AVH	**Avacha**	**1.96**	**237**	*e*P	Pn	01 00 21.0	+2.1
AVH				*i* S	Sn	01 00 44.9	+2.7
KBTR	**Krutoberegovo**	**2.00**	**22**	*e*P	Pn	01 00 21.6	+2.1
KBTR				*i* S	Sn	01 00 45.9	+2.7
KLY	**Klyuchi**	**2.00**	**347**	*e*P	Pn	01 00 21.0	+1.5
KLY				*i* S	Sn	01 00 44.6	+1.3
PET	**Petropavlovsk**	**2.15**	**232**	*e*P	Pn	01 00 23.0	+1.5
PET				*i* S	Sn	01 00 48.0	+1.1
GNL	**Ganaly**	**2.18**	**253**	*e*P	Pn	01 00 24.0	+2.0
SRDR	**Sredinnyy**	**2.19**	**334**	*e*P	Pn	01 00 24.2	+2.1
SRDR				*i* S	Sn	01 00 50.4	+2.4
BDR	**Baidarnaya**	**2.21**	**356**	*e*P	Pn	01 00 24.1	+1.8
BDR				*i* S	Sn	01 00 49.7	+1.3
SMKR	**Semkarok**	**2.22**	**0**	*e*P	Pn	01 00 23.9	+1.4
SMKR				*i* S	Sn	01 00 49.6	+1.0
SRKR	**Sorokina**	**2.29**	**356**	*e*P	Pn	01 00 25.0	+1.5
SRKR				*i* S	Sn	01 00 51.8	+1.2
RUS	**Russkaya**	**2.62**	**223**	*e*P	Pn	01 00 29.0	+1.0
RUS				*i* S	Sn	01 00 58.8	+0.2
GRL	**Gorelyy**	**2.72**	**229**	*e*P	Pn	01 00 31.9	+2.5
GRL				*i* S	Sn	01 01 03.3	+2.2

*THE **22** 01:11:08.0, 3541N×2621E, h20km*
*ATH **22** 01:11:07.3, 3556N×2590E, h20km±3km, MD3.1/5*
*NEIC **22** 01:11:07.3, 3556N×2590E, h20km, MD3.1(ATH), After ATH.*
*ISCJB **22** 01:11:08.6±0.6, 3543N±004×2597E±005, h25km±6km, Error ellipse: s-maj=7.5km s-min=6.2km az=105.0*
*CSEM **22** 01:11:08.3±0.1, 3549N×2594E, h15km, MD3.1, Error ellipse: s-maj=3.7km s-min=2.4km az=78.0*

ISC 22 01:11:08.4±0.6, 3546N±003×2596E±005, h19km±4km, n14, σ0⁶79/23, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.34**	**236**	⇓*i*PB	Pg	01 11 15.1	-0.6
NPS				*e*SB	Sg	01 11 20.0	-0.6
ZKR	**Zakros**	**0.40**	**148**	*e*Pg	Pg	01 11 16.6	-0.1
ZKR				*e*Sg	Sg	01 11 23.1	+0.7
ZKR	**Zakros**	**0.40**	**148**	*e*Pg	Pg	01 11 16.6	-0.1

BUJR Buynaksk 1.30 77 Pg **Pg 01 11 43.5 +0.6**
BUJR Sg **Sg 01 12 01.5 +1.7**
KMKR Kumukh 1.33 107⇓ *i*PG **Pn 01 11 39.0 -3.9**
KMKR *i* S **Sb 01 12 00.0 -0.5**
KZR Kazreti 1.36 213 P **Pn 01 11 40.4 -2.9**
KZR S **Sb 01 11 57.6 -3.7**
DIGR Digorskoe uzhe 1.38 286 *i* Pg **Pg 01 11 41.9 -2.5**
MAK Makhachkala 1.62 74⇓ *i*PG **Pg 01 11 50.8 +1.9**
MAK *i* 01 12 15.9
MAK pmax pmax
comp=Z,2μm,0.9s
MAK smax
comp=N,11μm,0.8s
MAK smax
comp=E,7μm,0.7s
MAK Makhachkala 1.62 74 *i* Pg **Pg 01 11 50.8 +1.9**
comp=E,2μm,0.9s
MAK *i* Sg **Sg 01 12 15.9 +6.0**
comp=E,11μm,0.8s
KUBR Kubataba 1.92 312 *e*Pn **Pn 01 11 50.8 -0.2**
AKT Akhty 2.04 120 PN **Pn 01 11 50.0 -2.7**
AKT S **Sg 01 12 24.0 +0.6**
KSMR Kasumkent 2.24 114 Pn **Pg 01 12 00.0 -0.9**
KSMR Sg **Sg 01 12 35.0 +5.1**
KAPZ Kaputan 2.27 193 *e*Pn **Pn 01 11 55.1 -0.7**
AMBZ Amberd 2.31 202 *i* P **Pn 01 11 56.0 -0.3**
SHAR Shatzhatmas 2.33 302 *e*PN **Pn 01 11 55.8 -0.8**
KIV Kislovodsk 2.43 307 *e*PN **Pn 01 11 57.6 -0.5**
KIV *e* 01 12 35.9
KIV Kislovodsk 2.43 307 *e*Pn **Pn 01 11 57.6 -0.5**
KIV *e*Pg **Pg 01 12 03.8 -0.6**
KIV *e*Sg **Sg 01 12 35.9 -0.1**
KIV Kislovodsk 2.43 307 *e*Pg **Pg 01 12 03.8 -0.7**
KARS Kars 2.58 223 PN **Pn 01 11 59.8 -0.3**
KARS SN **Sn 01 12 32.0 +0.3**
AKSZ Araks 2.60 206 *i* P **Pn 01 12 00.6 +0.2**
DIGO Kars 2.60 216 *i* P **Pn 01 11 60.0 -0.4**
DIGO *i* S **Sn 01 12 26.6 -5.6**
VRNZ Vardanashen 2.64 200 *i* Pn **Pn 01 12 02.0 +1.1**
VNNZ Vanand 2.70 206 *i* Pn **Pn 01 12 02.6 +0.9**
ARTV Artvin 2.91 244 *i* P **Pn 01 12 06.3 +1.6**
ARTV *i* S **Sg 01 12 47.5 -4.0**
BCA Borcka 3.01 250 PN **Pn 01 12 06.1 +0.1**
BCA Borcka 3.01 250 Pn **Pn 01 12 07.0 +1.0**
AGRB Hanur-Agry 3.47 212 PN **Pn 01 12 14.3 +2.0**
CLDR Caldiran 3.57 199 PN **Pn 01 12 16.8 +3.1**
ERZM Erzurum 4.01 230 *i* P **Pn 01 12 20.4 +0.6**
EZM Erzurum 4.01 230 PN **Pn 01 12 20.6 +0.8**
VANB Van 4.22 202 PN **Pn 01 12 25.7 +3.1**
SOC Sochi 4.29 286 *e*PN **Pn 01 12 23.6 +0.1**
SOC *e* 01 12 35.7
SOC *e* 01 13 12.9
SOC pmax pmax
comp=Z,26nm,0.9s
SOC Sochi 4.29 286 *e*Pn **Pn 01 12 23.6 +0.1**
comp=Z,26nm,0.9s
SOC Sochi 4.29 286 *i* P **Pn 01 12 24.3 +0.8**
SOC *e*Sn **Sn 01 13 12.9 -0.9**
BNGL BINGOL 4.81 223 *i* P **Pn 01 12 31.3 +0.5**
BNGL *i* S **Sn 01 13 31.9 +5.0**
GUMT Gumushane 4.90 247 PN **Pn 01 12 32.7 +0.8**
EZC Erzincan 5.04 238 PN **Pn 01 12 38.7 +4.7**
HKR Hakkari 5.11 195 PN **Pn 01 12 37.9 +3.0**
HKR Hakkari 5.11 195 Pn **Pn 01 12 38.9 +4.0**
KELT Kelkit 5.19 245 *i* P **Pn 01 12 45.8 +10**
BINT Bingol 5.22 227 PN **Pn 01 12 36.8 +0.5**
BINT Bingol 5.22 227 Pn **Pn 01 12 37.0 +0.7**
BTMT Batman 5.26 216 PN **Pn 01 12 40.2 +3.3**
CUKT Cukurca 5.46 195 *e*PN **Pn 01 12 43.2 +3.6**
PTK Pertek 5.83 233 *e*PN **Pn 01 12 45.7 +0.9**
DIY Diyarbakir 6.09 222 *e*PN **Pn 01 12 49.0 +0.7**
ANN Anapa 6.20 294 *e*P **Pn 01 12 51.9 +2.1**
ANN *e*S **Sn 01 14 02.8 +1.9**
ANN pmax pmax
comp=Z,13nm,0.8s
ANN Anapa 6.20 294 *e*P **Pn 01 12 51.9 +2.1**
comp=Z,13nm,0.8s
MSL Mosul 6.48 197 *ex* x 01 12 54.0
MSL *ex* x 01 14 08.0
MALT Malatya 6.78 234⇑ *i*P **Pn 01 12 58.1 +0.3**
VRHR Novokhopersk 8.94 345 *e*P **Pn 01 13 25.2 -2.3**
VRHR *e*S **Sn 01 15 05.3 -3.2**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,6.0nm,0.5s
VRHR smax
comp=Z,370nm,3.6s
VRHR smax
comp=N,270nm,1.2s
VRHR smax
comp=E,530nm,2.1s
VRHR MLR MLR
comp=Z,180nm,5.0s
VRHR MLR MLR
comp=N,280nm,6.0s
VRHR MLR MLR
comp=E,200nm,7.0s
BR131 Keskin Array S 9.30 256 *e*Pn **Pn 01 13 32.5 +0.1**
BR131 *e*Sn **Sn 01 15 16.4 -0.8**
BRTR Keskin Array B 9.30 256 Pn **Pn 01 13 32.6 +0.3**
comp=E,0.1nm,0.3s,baz=63,slow=9.2,SNR=6.7
BRTR Keskin Array B 9.30 256 *i* P **Pn 01 13 34.5 +2.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 9.30 256 *i* P **Pn 01 13 34.5 +2.1**
comp=Z,1.0nm,0.7s
VORD Divnogorie 9.41 336 *e*P **Pn 01 13 30.0 -3.9**
VORD pmax pmax
comp=E,60nm,0.7s
VORD pmax pmax
comp=Z,30nm,0.7s
VORD pmax pmax
comp=N,70nm,0.9s
VOR Voronezh 10.12 338 P **Pn 01 13 51.0 +7.4**
VOR pmax pmax
comp=Z,50nm,2.0s
ORR Orenburg 11.10 32 *e*P **Pn 01 13 58.8 +1.8**
ORR S **Sn 01 15 55.3 -6.1**
ORR pmax pmax
comp=Z,10.0nm,0.5s
ORR Orenburg 11.10 32 *e*P **Pn 01 13 58.8 +1.8**
comp=Z,10.0nm,0.5s
AKTK Aktyubinsk 11.74 43 Pn **Pn 01 14 06.2 +0.3**
AKTK LR LR 01 20 09.6
AKTK Aktyubinsk 11.74 43 P **Pn 01 14 06.0 +0.1**
AKTO Aktyubinsk 11.74 43 Pn **Pn 01 14 06.2 +0.3**
comp=Z,1.5nm,0.3s,baz=234,slow=10,SNR=25
AKTO LR LR 01 20 09.6
comp=Z,162nm,19.9s,baz=282,slow=45
AKTO Aktyubinsk 11.74 43 P **Pn 01 14 06.0 +0.1**
AKTO 01 16 08.9
AB31 Akbulak array 12.15 51 *i* P **Pn 01 14 11.5 0.0**
AB31 *e* 01 16 23.2
AB31 pmax pmax
comp=Z,3.0nm,0.5s
AB31 smax
comp=Z,5.0nm,0.6s
AB31 Akbulak array 12.15 51 *e*P **Pn 01 14 11.5 0.0**
AB31 Akbulak array 12.15 51 *i* P **Pn 01 14 11.5 0.0**
comp=Z,3.0nm,0.5s
MMAI Mount Meron Ar 12.35 223 LR LR 01 18 46.4
comp=Z,44nm,21.7s,baz=0.0,slow=37
KIS Kishinev 12.59 296 *e* **Pn 01 14 26.0 +8.6**
AKASG Malin Array Be 13.77 312 Pn **Pn 01 14 32.9 -0.6**
comp=Z,0.5nm,0.3s,baz=121,slow=13,SNR=6.9
AKASG Malin Array Be 13.77 312 *i* P **Pn 01 14 33.5 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 13.77 312 *i* P **Pn 01 14 33.5 0.0**
comp=Z,1.0nm,0.5s
OBN Obninsk 13.85 338 *e*P **Pn 01 14 30.0 -4.6**
OBN pmax pmax
comp=Z,30nm,1.6s
OBN MLR MLR
comp=Z,300nm,16.0s
OBN Obninsk 13.85 338 *e*Pn **Pn 01 14 29.9 -4.7**
MOS Moscow 14.14 342 *e*P **Pn 01 14 33.9 -4.7**
MOS *e*SS 01 17 23.1
MOS pmax pmax
comp=Z,46nm,0.8s

MLR Muntele Rosu 14.30 289 Pn **Pn 01 14 39.6 -1.1**
comp=Z,0.2nm,0.3s,baz=145,slow=12,SNR=2.3
MLR LR LR 01 21 49.4
comp=Z,234nm,19.9s,baz=84,slow=45
BURAR Bucovina Array 15.12 297⇑ *i*P **Pn 01 14 58.6 +6.7**
EIL Elat 15.34 217 Pn **Pn 01 14 54.8 0.0**
comp=Z,92nm,0.8s
ARU Arti 16.29 27⇑ *i*P **Pn 01 15 03.7 -3.4**
ARU *e*S **Sn 01 17 58.0 -10**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 16.29 27 *e*Pn **Pn 01 15 03.0 -4.2**
comp=Z,12nm,0.4s
ARU *e*Sn **Sn 01 18 03.3 -4.8**
LVV L'vov 16.45 304 *e*P **Pn 01 15 12.3 +3.1**
LVV MLR MLR
comp=Z,140nm,11.9s
LVV L'vov 16.45 304 *e*P **Pn 01 15 12.3 +3.1**
comp=Z,140nm,11.9s
DRGR 16.67 293 P **Pn 01 15 13.0 +1.0**
DRGR 16.67 293⇑ *i*P **Pn 01 15 12.9 +0.9**
BZS Buzias 17.34 288⇑ *i*P **Pn 01 15 24.9 +4.5**
IDI Anoyia 17.49 252 LR LR 01 23 06.1
comp=Z,88nm,19.6s,baz=303,slow=41
CRVS Cervenica-Dubn 17.84 299 *e*P **Pn 01 15 29.3 +2.7**
STHS Stebnicka Huta 18.09 301 *e*P **Pn 01 15 30.6 +0.9**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 18.09 301 *e*P **Pn 01 15 30.6 +0.9**
comp=Z,2.0nm,0.9s
KECS Kecovo 18.40 297 *e*P **Pn 01 15 34.9 +1.4**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 18.40 297 *e*P **Pn 01 15 34.9 +1.4**
comp=Z,4.3nm,0.8s
KK31 Karatay Array 18.43 80 *i* P **Pn 01 15 32.9 -0.9**
KK31 pmax pmax
comp=Z,27nm,0.7s
KK31 Karatay Array 18.43 80 *i* P **Pn 01 15 32.0 -1.8**
KK31 Karatay Array 18.43 80 *i* P **Pn 01 15 32.9 -0.9**
comp=Z,27nm,0.7s
KKAR Karatay Array 18.43 80 *i* P **Pn 01 15 32.9 -0.9**
KKAR pmax pmax
comp=Z,19nm,0.7s
SOKR Solikamsk 18.45 19⇓ *i*P **Pn 01 15 33.4 -0.8**
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR Solikamsk 18.45 19 *i* P **Pn 01 15 33.4 -0.8**
comp=Z,20nm,0.9s
SUW Suwalki 18.63 316 *e*P **Pn 01 15 33.9 -2.4**
SUW pmax pmax
comp=Z,42nm,1.0s
SUW Suwalki 18.63 316 *e*P **Pn 01 15 33.9 -2.3**
comp=Z,42nm,1.0s
NIE Niedzica 18.68 300 P **Pn 01 15 40.8 +3.8**
KLMR Klimovskoe 18.69 351 *e*P **Pn 01 15 31.7 -5.3**
KLMR pmax pmax
comp=Z,51nm,1.9s
PSZ Piszkesteto 18.70 295⇑ *i*P **Pn 01 15 35.9 -1.3**
PSZ Piszkesteto 18.70 295 P **Pn 01 15 37.0 -0.2**
PKSM Moragy 19.43 290 P **Pn 01 15 45.8 -0.2**
VYHS Vyhne 19.48 297 *e*P **Pn 01 15 46.8 +0.2**
VYHS pmax pmax
comp=Z,8.0nm,1.4s
VYHS Vyhne 19.48 297 *e*P **Pn 01 15 46.8 +0.2**
comp=Z,7.9nm,1.4s
VYHS Vyhne 19.48 297 *e*P **Pn 01 15 46.8 +0.2**
comp=Z,8.0nm,1.4s
BRVK Borovoye 19.66 49 *e*P **Pn 01 15 47.3 -1.4**
BRVK *e*S **Sn 01 19 21.7 -8.0**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 19.66 49 *e*P **Pn 01 15 47.2 -1.5**
comp=Z,14nm,0.8s
BRVK *e*S **Sn 01 19 21.7 -8.0**
BRVK Borovoye 19.66 49 *e*P **Pn 01 15 47.3 -1.4**
comp=Z,14nm,0.8s
BVA0 Borovoye Array 19.71 49 *i* P **Pn 01 15 48.3 -1.0**
BVA0 *i* 01 19 21.8
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVA0 smax
comp=Z,2.0nm,1.0s
BVA0 Borovoye Array 19.71 49 *i* P **Pn 01 15 48.3 -1.0**
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 19.71 49 P **Pn 01 15 49.0 -0.3**
comp=Z,0.5nm,0.3s,baz=230,slow=8.9,SNR=19
BVAR LR LR 01 23 34.0
comp=Z,108nm,18.6s,baz=358,slow=37
BVAR Borovoye Array 19.71 49 P **Pn 01 15 49.0 -0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,108nm,18.6s
ANR Andizhan 20.21 86 *e*P **P 01 15 51.5 -1.8**
JAVC Velka Javorina 20.30 298 P **P 01 15 55.9 +1.6**
SMOL Smolenice 20.41 297 *e*P **P 01 15 57.4 +1.8**
MORC Moravsky Berou 20.52 300⇑ *i*P **P 01 15 47.2 -10**
MORC Moravsky Berou 20.52 300 P **P 01 15 56.2 -0.5**
ZST Bratislava 20.60 296 *e*P **P 01 15 59.5 +2.0**
ZST pmax pmax
comp=Z,41nm,1.1s
ZST Bratislava 20.60 296 *e*P **P 01 15 59.5 +2.0**
comp=Z,41nm,1.1s
VRAC Vranov 21.06 299 P **P 01 15 58.0 -4.5**
comp=Z,1.3nm,0.3s,mb3.7,baz=70,slow=15,SNR=4.3
VRAC Vranov 21.06 299 P **P 01 15 58.0 -4.5**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 21.06 299⇑ *i*P **P 01 15 57.5 -5.0**
VRAC Vranov 21.06 299 *e*P **P 01 16 03.6 +1.1**
KRUC Moravsky 21.16 298 P **P 01 16 03.9 +0.3**
AAK Ala-Archa 21.39 80 *e*P **P 01 16 06.1 0.0**
AAK pmax pmax
comp=Z,13nm,1.7s,mb4.0
AAK Ala-Archa 21.39 80 *e*P **P 01 16 05.2 -0.9**
comp=Z,15nm,0.8s,mb4.4
AAK Ala-Archa 21.39 80 *e*P **P 01 16 06.1 0.0**
comp=Z,13nm,1.7s,mb4.0
DPC Dobruska-Polom 21.40 301 *e*P **P 01 16 05.1 -1.1**
FRU Bishkek 21.45 79 P **P 01 16 12.6 +5.9**
FRU *e* 01 16 29.0
KSP Ksiaz 21.51 303 *e*P **P 01 16 05.9 -1.5**
KSP *e*PP 01 16 10.6
UPC Upice 21.62 302 *e*P **P 01 16 08.9 +0.3**
TREC Trest 21.78 298 *e*P **P 01 16 11.0 +0.7**
JOF Joensuu 22.03 343 *e*p **P 01 16 11.5 -1.4**
comp=Z,23nm,0.7s,mb4.7
JOF Joensuu 22.03 343 *e*P **P 01 16 11.5 -1.4**
JOF pmax pmax
comp=Z,23nm,0.7s,mb4.7
FINES FINESS Array B 22.20 335 P **P 01 16 13.2 -1.6**
comp=Z,3.4nm,0.6s,mb4.0,baz=138,slow=12,SNR=19
FINES FINESS Array B 22.20 335 P **P 01 16 13.2 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
LJU Ljubljana 22.30 290 P **P 01 16 19.4 +3.6**
PRU Pruhonice 22.47 300 *e*P **P 01 16 18.2 +0.5**
PRU Pruhonice 22.47 300 *e*P **P 01 16 18.2 +0.5**
PVCC Panska Ves 22.53 301 *e*P **P 01 16 18.7 +0.4**
KAF Kangasniemi 22.65 336 *e*p **P 01 16 17.3 -2.2**
comp=Z,8.6nm,0.8s,mb4.2,baz=136,slow=11
KAF Kangasniemi 22.65 336 *e*P **P 01 16 17.3 -2.2**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
GERES GERESS Array B 22.90 297 P **P 01 16 22.8 +0.5**
comp=Z,4.6nm,0.7s,mb4.0,baz=102,slow=9.1,SNR=36
GERES LR LR 01 25 54.4
comp=Z,99nm,18.0s,MS3.3,baz=87,slow=39
GERES GERESS Array B 22.90 297 P **P 01 16 22.8 +0.5**
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES MLR MLR
comp=Z,99nm,18.0s
BRG Berggiesshubel 22.98 302 *e*P **P 01 16 25.5 +2.4**
comp=Z,3.8nm,1.1s,mb3.7
BRG *i* 01 16 28.2
comp=Z,4.3nm,1.0s
BRG Berggiesshubel 22.98 302 *e*P **P 01 16 25.5 +2.4**
BRG *i* 01 16 28.2
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb3.8
KHC Kasperske Hory 23.01 298 *e*P **P 01 16 23.9 +0.6**
KHC *e*p 01 16 29.0
KHC Kasperske Hory 23.01 298 *e*P **P 01 16 23.9 +0.6**

KHC *e* 01 16 29.0
CLL Collm 23.63 303 *e*P **P 01 16 30.0 +0.2**
CLL *i* 01 16 36.0
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
CLL Collm 23.63 303 *e*P **P 01 16 30.0 +0.2**
comp=Z,4.0nm,0.9s,mb3.9
CLL *i* pP 01 16 36.0
comp=Z,17nm,1.1s
CLL *ex* x 01 16 45.0
KURK Kurchatov 24.08 59 *d* *i*P **P 01 16 34.0 +0.1**
KURK Kurchatov 24.08 59 *e*P **P 01 16 34.4 +0.4**
comp=Z,8.4nm,0.8s,mb4.2
WTTA Wattenberg 24.25 293⇑ *i*P **P 01 16 35.2 -0.3**
comp=Z,19nm,0.8s,mb4.6
WTTA Wattenberg 24.25 293⇑ *i*P **P 01 16 35.2 -0.3**
WTTA pmax pmax
comp=Z,19nm,0.8s,mb4.6
SQTA Sankt Quirin 24.54 293⇑ *i*P **P 01 16 38.3 +0.2**
comp=Z,13nm,0.8s,mb4.5
SQTA Sankt Quirin 24.54 293⇑ *i*P **P 01 16 38.3 +0.1**
SQTA pmax pmax
comp=Z,13nm,0.8s,mb4.5
GRA1 Grafenberg Arr 24.58 299 *e*P **P 01 16 39.5 +1.0**
comp=Z,12nm,1.2s,mb4.3
GRF Grafenberg Arr 24.58 299 *e*P **P 01 16 39.5 +1.0**
comp=Z,12nm,1.2s,mb4.3
GRF Grafenberg Arr 24.58 299 *e*P **P 01 16 39.5 +1.0**
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.3
MOTA Moosalm 24.61 293⇑ *i*P **P 01 16 38.5 -0.3**
comp=Z,14nm,1.0s,mb4.5,SNR=11
MOTA Moosalm 24.61 293⇑ *i*P **P 01 16 38.5 -0.3**
MOTA pmax pmax
comp=Z,14nm,1.0s,mb4.5
FETA Feichten 24.88 292⇑ *i*P **P 01 16 41.4 +0.2**
comp=Z,23nm,0.8s,mb4.8
DAVA Damuels 25.45 293⇑ *i*P **P 01 16 46.2 -0.2**
comp=Z,18nm,0.8s,mb4.6,SNR=12
BSEG Bad Segeberg 25.72 308 P **P 01 16 51.2 +2.3**
HFS Hagfors 26.12 323 P **P 01 16 50.8 -1.6**
comp=Z,11nm,0.8s,mb4.4,baz=119,slow=12,SNR=11
HFS Hagfors 26.12 323 P **P 01 16 50.8 -1.6**
HFS pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 26.43 68 *e*P **P 01 16 54.5 -0.8**
MKAR Makanchi Array 26.43 68 P **P 01 16 56.0 +0.8**
comp=Z,1.5nm,0.5s,mb3.8,baz=266,slow=9.6,SNR=16
MKAR LR LR 01 28 55.4
comp=Z,111nm,20.4s,MS3.4,baz=79,slow=40
MKAR Makanchi Array 26.43 68 *i* P **P 01 16 57.5 +2.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 27.62 324 P **P 01 17 04.7 -1.3**
comp=Z,4.8nm,0.8s,mb4.2,baz=118,slow=8.6
NOA NORSAR Array B 27.62 324 P **P 01 17 05.0 -1.0**
comp=Z,3.2nm,0.8s,mb4.0,baz=120,slow=8.3,SNR=6.0
NOA NORSAR Array B 27.62 324 P **P 01 17 05.0 -1.0**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 27.62 324 P **P 01 17 05.0 -1.0**
LPG La Plagne 27.76 289 *e*P **P 01 17 06.9 -0.4**
LPL La Plagne 27.77 290 *e*P **P 01 17 06.9 -0.5**
comp=Z,8.8nm,1.0s,mb4.0
LPL La Plagne 27.77 290 *e*P **P 01 17 06.9 -0.5**
LPL pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
LPL La Plagne 27.77 290 *e*P **P 01 17 06.9 -0.5**
comp=Z,4.4nm,1.0s,mb4.0
HAU Haudompre 27.80 295 *e*P **P 01 17 06.5 -1.1**
comp=Z,11nm,0.8s,mb4.2
HAU Haudompre 27.80 295 *e*P **P 01 17 06.5 -1.1**
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
HAU Haudompre 27.80 295 *e*P **P 01 17 06.5 -1.1**
comp=Z,5.7nm,0.8s,mb4.2
MBDF Montbardon 27.86 288 *e*P **P 01 17 08.2 0.0**
comp=Z,36nm,1.1s,mb4.6
MBDF Montbardon 27.86 288 *e*P **P 01 17 08.2 0.0**
MBDF pmax pmax
comp=Z,18nm,1.1s,mb4.6
MBDF Montbardon 27.86 288 *e*P **P 01 17 08.2 0.0**
comp=Z,18nm,1.1s,mb4.6
ZAL Zalesovo 28.25 52 P **P 01 17 12.7 +1.1**
comp=Z,0.8nm,0.3s,mb3.8,baz=174,slow=13,SNR=3.6
ZAL LR LR 01 30 04.5
comp=Z,71nm,20.5s,MS3.2,baz=329,slow=40
ZAL Zalesovo 28.25 52 P **P 01 17 12.7 +1.1**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL MLR MLR
comp=Z,71nm,20.5s
SMRF Simiane la Rot 28.84 287 *e*P **P 01 17 16.7 -0.2**
SSF Saint Saulge 29.80 293 *e*P **P 01 17 25.8 +0.4**
comp=Z,8.3nm,1.0s,mb4.1
SSF Saint Saulge 29.80 293 *e*P **P 01 17 25.8 +0.4**
SSF pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
SSF Saint Saulge 29.80 293 *e*P **P 01 17 25.8 +0.4**
comp=Z,4.2nm,1.0s,mb4.1
AVF Avril sur Loir 29.93 293 *e*P **P 01 17 25.8 -0.8**
comp=Z,5.9nm,0.8s,mb4.0
AVF Avril sur Loir 29.93 293 *e*P **P 01 17 25.8 -0.8**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
AVF Avril sur Loir 29.93 293 *e*P **P 01 17 25.8 -0.8**
comp=Z,3.0nm,0.8s,mb4.1
KOLN Koldanda 34.23 103 *e*P **P 01 18 08.2 +3.9**
comp=Z,24nm,1.0s,mb5.1
GKN Gorkha 34.84 102 *e*P **P 01 18 14.3 +4.7**
DMN Daman 35.41 102 *e*P **P 01 18 20.6 +6.1**
comp=Z,22nm,1.0s,mb5.1
KKN Kakani 35.43 101 *e*P **P 01 18 20.2 +5.5**
comp=Z,25nm,1.0s,mb5.1
PKI Pulchoki 35.65 102 *e*P **P 01 18 22.3 +5.8**
comp=Z,24nm,0.7s,mb5.2
GUN Gumba 35.80 101 *e*P **P 01 18 23.6 +5.8**
comp=Z,44nm,1.2s,mb5.3
ESDC Sonseca Array 36.88 283 P **P 01 18 23.1 -3.9**
comp=Z,0.2nm,0.4s,mb3.3,baz=69,slow=7.0,SNR=3.0
LSA Lhasa 38.68 94 P **P 01 18 42.9 +0.7**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
LSA Lhasa 38.68 94 P **P 01 18 42.9 +0.7**
comp=Z,6.4nm,0.8s,mb4.4
TLY Talaya 39.72 56 P **P 01 18 47.6 -3.3**
GTA Gaotai 40.62 75 *e*P **P 01 19 02.1 +3.7**
GTA AP pP 01 19 06.3 +5.8
GTA XP sP 01 19 09.3 +8.0
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb3.9
SONM Songino Array 42.34 61 P **P 01 19 13.6 +1.0**
comp=Z,0.5nm,0.6s,mb3.4,baz=270,slow=7.4,SNR=6.2
SONM LR LR 01 38 51.5
comp=Z,155nm,19.2s,MS3.9,baz=291,slow=39
SONM Songino Array 42.34 61 P **P 01 19 13.6 +1.0**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,155nm,19.3s
BOD Bodaibo 44.50 45 *e*P **P 01 19 28.8 -1.2**
BOD pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LZH Lanzhou 44.91 78 *e*P **P 01 19 28.1 -5.2**
LZH *SP sP 01 19 35.7 -0.4
LZH pmax pmax
comp=Z,18nm,1.4s,mb4.7
LZH Lanzhou 44.91 78 *e*P **P 01 19 28.1 -5.2**
comp=Z,18nm,1.4s,mb4.7
LZH pP pP 01 19 32.5 -2.8
LZH sP sP 01 19 35.7 -0.4
TORD Torodi Ar. Bea 47.71 245 P **P 01 19 53.6 -1.7**
comp=Z,1.4nm,0.8s,mb4.1,baz=31,slow=6.7,SNR=7.7
TIXI Tiksi 48.28 25 *e*P **P 01 19 59.3 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
HIA Hailar 50.25 55 *e*P **P 01 20 15.2 +0.5**
HIA Hailar 50.25 55 *e*P **P 01 20 15.3 +0.6**
CHTO Chiang Mai 50.82 101 P **P 01 20 16.3 -2.7**
CHTO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CHTO Chiang Mai 50.82 101 P **P 01 20 16.2 -2.8**
comp=Z,10.0nm,1.0s,mb4.7
DGAR Diego Garcia 55.50 147 P **P 01 20 51.8 -1.7**
LIC Lamto 57.26 246 *e*P **P 01 21 05.5 -0.6**
comp=Z,7.0nm,0.7s,mb4.5

LIC	**Lamto**	**57.26**	**246**	*e*P	**P**	**01 21 05.5**	**-0.6**
	comp=Z,3.5nm,0.7s,mb4.5						
KSRS	**Korea Array**	**61.03**	**64**	P	**P**	**01 21 35.0**	**+2.8**
	comp=Z,1.1nm,0.5s,mb4.2,baz=290,slow=7.3,SNR=4.4						
KSRS				LR	LR	01 50 48.6	
	comp=Z,105nm,19.0s,MS4.0,baz=315,slow=39						
YKA	**Yellowknife Ar**	**74.09**	**350**	P	**P**	**01 22 53.3**	**-1.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=13,slow=6.1,SNR=9.2						
YKA				LR	LR	01 56 20.5	
	comp=Z,92nm,18.2s,MS4.1,baz=5.0,slow=36						
YKA	**Yellowknife Ar**	**74.09**	**350**	P	**P**	**01 22 53.3**	**-1.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,92nm,18.3s						

IDC 22 01:15:48.0±4.0, 397S×14867E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/13, mbtmp3.8/3, Error ellipse: s-maj=120.8km s-min=50.4km az=111.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**195**	Sn	Sn	01 18 18.3	+0.5
	1.7nm,0.3s,baz=40,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**21.15**	**220**	P	P	01 20 34.0	-0.6
	1.2nm,0.5s,baz=45,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**24.23**	**215**	P	P	01 21 07.1	+0.7
	1.7nm,0.6s,baz=44,slow=7.6,SNR=19						
FITZ	**Fitzroy Crossi**	**26.56**	**236**	P	P	01 21 28.2	+0.6
	2.8nm,1.0s,baz=42,slow=12,SNR=12						
TORD	**Torodi Ar. Bea**	**146.13**	**288**	PKPbc	PKPbc	01 35 30.2	+0.2
	0.2nm,0.4s,baz=62,slow=7.3,SNR=4.2						

*NEIC **22** 01:36:05.2, 17.17N×95.40W, h112km, MD3.8(MEX), After MEX.*

MEX 22 01:36:05.0±0.6, 1717N×9542W, h112km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.52**	**99**	*i* P	Pn	01 36 21.0	-1.2
CMIG				*i* S	Sn	01 36 33.3	-1.8
OXX	**Oaxaca**	**1.25**	**266**	*i* P	Pn	01 36 28.2	-0.8
OXX				*i* S	Sn	01 36 46.5	-0.7
VHO	**Vista Hermosa**	**1.26**	**266**	*e*P	Pn	01 36 28.5	-0.6
VHO				*i* S	Sn	01 36 46.8	-0.6
HUIG	**Huatulco**	**1.54**	**205**	*i* P	Pn	01 36 30.8	-1.6
HUIG				*i* S	Sn	01 36 52.0	-1.3
TPIG	**Tehuac#an**	**2.23**	**304**	*i* P	Pn	01 36 40.3	-0.6
TPIG				*i* S	Sn	01 37 07.0	-1.6
UTMO	**Huajuapan**	**2.37**	**286**	*i* P	Pn	01 36 41.4	-1.4
UTMO				*i* S	Sn	01 37 08.8	-3.0
CCIG	**Comitan**	**3.27**	**105**	*i* P	Pn	01 36 55.0	+0.5
CCIG				*i* S	Sn	01 37 32.7	-0.1

*CSEM **22** 01:43:34.9±0.8, 38.15N×26.17W, h0km±5km, ML2.2, Error ellipse: s-maj=18.3km s-min=1.5km az=39.0, After PDA*
*PDA **22** 01:43:34.9±0.8, 38.15N×26.17W, h0km±5km, MD2.6, ML2.2, Error ellipse: s-maj=18.3km s-min=1.5km az=39.0*

SVSA 22 01:43:34.9±0.8, 3815N×2617W, h0km±5km, MD2.6, ML2.2, Error ellipse: s-maj=18.3km s-min=1.5km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.40**	**133**	*e*P	Pg	01 43 42.3	-0.3
SET2	**Ginetes**	**0.42**	**137**	*e*P	Pg	01 43 42.8	-0.1
PFET	**Feteiras**	**0.45**	**138**	*e*P	Pg	01 43 43.0	-0.5
PSAN	**Santo Antonio**	**0.46**	**130**	*e*P	Pg	01 43 43.2	-0.5
FAC	**Faja de Cima**	**0.56**	**132**	*e*P	Pg	01 43 45.1	-0.5
CML	**Cha da Macela**	**0.62**	**127**	*e*P	Pg	01 43 46.0	-0.8
PVER	**Pico Vermelho**	**0.63**	**124**	*e*P	Pg	01 43 46.0	-0.9
PVER				*e*S	Sg	01 43 54.3	-0.7
PVER							
	40nm,0.1s						
PVER	**Pico Vermelho**	**0.63**	**124**	*e*P	Pg	01 43 46.0	-0.9
PVER				*e*S	Sg	01 43 54.3	-0.7
PMAT	**Coroa da Mata**	**0.65**	**121**	*e*P	Pg	01 43 46.4	-0.9
PMAT				*e*S	Sg	01 43 55.0	-0.6
PMAT							
	50nm,0.1s						
PMAT	**Coroa da Mata**	**0.65**	**121**	*e*P	Pg	01 43 46.4	-0.9
PMAT				*e*S	Sg	01 43 55.0	-0.6
MESC	**Monte Escuro**	**0.67**	**122**	*e*P	Pg	01 43 46.5	-1.3
MESC				*e*S	Sg	01 43 55.5	-1.0
PFAV	**Pico das Favas**	**0.91**	**308**	*e*S	Sg	01 44 01.1	-3.1
PFAV							
	26nm,0.2s						
RIB2	**Ribeirinha**	**0.94**	**304**	*e*S	Sg	01 44 02.3	-3.0
RIB2							
	41nm,0.1s						
PVNV	**Vila Nova**	**0.99**	**309**	*e*S	Sg	01 44 03.2	-3.4
PVNV							
	17nm,0.1s						
PPAD	**Pico dos Padre**	**1.04**	**302**	*e*S	Sg	01 44 04.6	-3.6
PPAD							
	18nm,0.1s						

*CSEM **22** 02:05:41.3, 67.18N×20.63E, h0km, ML3.3, Mining explosion. After UPP*
*UPP **22** 02:05:41.3, 67.18N×20.63E, h0km, ML3.3, Mining explosion.*

HEL 22 02:05:41.9±0.0, 6717N×2065E, h0km, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**212**	*i* P	Pg	02 05 42.8	-0.3
DUNU				*i* S	Sg	02 05 43.9	0.0
DUNU	**Dundret**	**0.06**	**212**	P	Pg	02 05 42.8	-0.3
	baz=108						
DUNU				S	Sg	02 05 43.9	0.0
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	02 05 52.8	-0.5
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	02 05 56.0	-1.1
SALU	**Saltoluokta**	**0.86**	**285**	*i* P	Pg	02 05 57.4	-1.0
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	02 05 58.6	-1.2
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	02 05 59.4	-1.2
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pn	02 06 14.7	0.0
KIF				*e*S	Sn	02 06 39.8	+1.1
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	02 06 21.6	-2.5
SGF				*e*SG	Sg	02 06 52.1	-3.5
KEV	**Kevo**	**3.49**	**39**	*e*S	Sn	02 07 16.3	-3.2
KU6	**Riekki**	**3.86**	**103**	*e*S	Sn	02 07 28.5	-0.1

*IDC **22** 02:34:17.9±1.7, 1766N×122.74E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, MS2.7/1, Ms1 2.7/1, ms1mx2.5/29, Error ellipse: s-maj=166.0km s-min=22.3km az=67.0*
*ISCJB **22** 02:34:20.7±0.9, 1784N±006×122.75E±008, h33km, mb3.5/4, MS2.5/1, Error ellipse: s-maj=10.9km s-min=8.7km az=23.6*
*MAN **22** 02:34:20.0, 1786N×122.71E, h55km, mb4.0, ML5.0, MS4.4*

ISC 22 02:34:21.4±1.5, 1782N±006×12269E±008, h24km±11km, n12, σ1°21/14, mb3.5/4, MS2.5/1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.74**	**304**	*e*P	**Pb**	**02 34 35.8**	**+0.1**
PALP	**Palanan**	**0.80**	**199**	*e*P	**Pb**	**02 34 37.6**	**+1.0**
CAUP	**Cauayan**	**1.20**	**224**	*e*P	**Pn**	**02 34 41.1**	**-1.6**
CAUP				*e*S	**Sn**	**02 34 58.9**	**+0.6**
ABRA	**Dolores**	**1.90**	**265**	*e*P	**Pn**	**02 34 50.7**	**-1.5**
ABRA				*e*S	**Sn**	**02 35 14.6**	**-0.7**
BALP	**Baler**	**2.33**	**208**	*e*P	**Pn**	**02 34 57.0**	**-1.2**
BALP				*e*S	**Sn**	**02 35 28.4**	**+2.3**
PCPH	**Palayan**	**2.72**	**215**	*e*P	**Pn**	**02 35 03.2**	**-0.3**
SCZP	**Santa Cruz**	**3.35**	**233**	*e*P	**Pn**	**02 35 13.0**	**+0.8**
KSRS	**Korea Array**	**20.09**	**12**	LR	LR	02 47 34.3	
	comp=Z,21nm,21.3s,MS2.5,baz=320,slow=39						
SONM	**Songino Array**	**32.77**	**340**	P	**P**	**02 40 53.9**	**+1.4**
	0.6nm,0.9s,mb3.5,baz=156,slow=9.5,SNR=3.7						
WRA	**Warramunga Arr**	**39.23**	**163**	P	**P**	**02 41 46.2**	**-1.6**
	2.2nm,0.6s,mb4.1,baz=342,slow=9.2,SNR=9.6						
ASAR	**Alice Springs**	**42.66**	**165**	P	**P**	**02 42 15.6**	**-0.4**
	0.3nm,0.6s,mb3.2,baz=340,slow=6.5,SNR=4.8						
MKAR	**Makanchi Array**	**43.99**	**320**	P	**P**	**02 42 28.4**	**+1.6**
	0.5nm,0.8s,mb3.3,baz=120,slow=8.4,SNR=4.7						

*IDC **22** 03:40:33.9±1.1, 142S×226.9W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.8/3, MS3.3/4, Ms1 3.3/4, ms1mx3.2/26, Error ellipse: s-maj=59.1km s-min=32.2km az=156.0*

NEIC 22 03:40:34.7±0.8, 165S×2256W, h10km, mb4.1/1, Error ellipse: s-maj=47.8km s-min=18.7km az=153.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOA0	**Torodi Ar. Sit**	**28.20**	**58**	*e*P	P	03 46 28.2	+0.7
TORD	**Torodi Ar. Bea**	**28.20**	**58**	P	P	03 46 28.7	+1.2
	1.1nm,0.9s,baz=243,slow=9.6,SNR=5.5						
TORD				LR	LR	03 56 53.2	
	comp=Z,80nm,20.3s,baz=265,slow=35						
SIV	**San Ignacio**	**40.52**	**247**	LR	LR	04 03 20.7	
	comp=Z,76nm,21.7s,baz=27,slow=34						
LPAZ	**La Paz**	**47.16**	**249**	P	P	03 49 09.1	+1.8
	1.0nm,0.8s,baz=51,slow=6.5,SNR=3.9						
LPAZ				LR	LR	04 06 52.4	
	comp=Z,40nm,20.7s,baz=104,slow=34						
LPAZ	**La Paz**	**47.16**	**249**	*e*P	P	03 49 09.1	+1.8
	1.4nm,0.9s						
LPAZ				LR	LR	04 06 52.4	
CFAA	**Coronel Fontan**	**52.35**	**230**	LR	LR	04 10 34.2	
	comp=Z,9.9nm,19.1s,baz=37,slow=34						
YKA	**Yellowknife Ar**	**92.40**	**332**	P	P	03 53 45.1	-0.5
	0.4nm,0.8s,baz=93,slow=4.9,SNR=5.2						
ASAR	**Alice Springs**	**145.98**	**139**	PKP	PKPdf	04 00 13.7	-0.2
	0.5nm,0.7s,baz=219,slow=1.6,SNR=3.3						
ASAR				PKPbc	PKPbc	04 00 17.4	+2.8
	0.7nm,0.6s,baz=213,slow=1.9,SNR=8.5						
WRA	**Warramunga Arr**	**148.79**	**135**	PKPbc	PKPbc	04 00 24.2	+1.8
	0.5nm,0.7s,baz=250,slow=2.1,SNR=3.7						

*BJI **22** 03:43:47.9, 1274N×126.09E, h33km, mB4.9, mb4.5, Ms4.3, Msz3.9*
*IDC **22** 03:43:48.8±0.5, 1327N×125.96E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.3/24, mbtmp4.2/20, MS3.9/12, Ms1 3.9/12, ms1mx3.6/31, Error ellipse: s-maj=31.4km s-min=11.8km az=77.0*
*ISCJB **22** 03:43:51.6±2.0, 1334N±003×125.82E±005, h26km±14km, mb4.3/26, MS3.9/12, Error ellipse: s-maj=7.4km s-min=5.5km az=154.4*
*MAN **22** 03:43:52.4, 1332N×125.80E, h60km, mb4.5, ML5.3, MS4.8*
*NEIC **22** 03:43:53.1±5.2, 1324N×125.93E, h29km±36km, mb4.5/6, Error ellipse: s-maj=16.1km s-min=5.7km az=67.0*

ISC 22 03:43:53.0±2.1, 1332N±003×12584E±004, h25km±15km, n60, σ1°05/55, mb4.3/26, MS3.9/12, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.40**	**235**	*e*P	**Pn**	**03 44 15.8**	**-1.1**
CNP				*e*S	**Sn**	**03 44 34.6**	**0.0**
PLP	**Palo**	**2.30**	**202**	*e*P	**Pn**	**03 44 29.0**	**-0.3**
PLP				*i* S	**Sn**	**03 44 57.8**	**+0.9**
OCLP	**Ormoc**	**2.56**	**208**	*e*P	**Pn**	**03 44 35.9**	**+3.1**
MSLP	**Maasin**	**3.31**	**197**	*e*P	**Pn**	**03 44 44.0**	**+0.8**
MSLP				*e*S	**Sn**	**03 45 22.2**	**+0.5**
GQP	**Guinayangan**	**3.35**	**280**	*e*P	**Pn**	**03 44 39.5**	**-4.2**
GQP				*e*S	**Sn**	**03 45 21.0**	**-1.7**
RCP	**Roxas**	**3.49**	**240**	*e*P	**Pn**	**03 44 47.0**	**+1.3**
OTRP	**Odiongan**	**3.84**	**256**	*e*P	**Pn**	**03 44 52.9**	**+2.4**
BOAC	**Boac**	**3.89**	**272**	*e*P	**Pn**	**03 44 49.7**	**-1.5**
BOAC				*e*S	**Sn**	**03 45 36.2**	**+0.1**
POLP	**Polilio Island**	**4.04**	**291**	*e*P	**Pn**	**03 44 53.1**	**0.0**
POLP				*e*S	**Sn**	**03 45 39.2**	**-0.5**
GUIM	**Jordan**	**4.16**	**230**	*e*P	**Pn**	**03 44 54.0**	**-0.8**
BALP	**Baler**	**4.78**	**301**	*e*P	**Pn**	**03 45 04.9**	**+1.5**
PCPH	**Palayan**	**5.11**	**296**	*e*P	**Pn**	**03 45 05.6**	**-2.3**
CAUP	**Cauayan**	**5.29**	**313**	*e*P	**Pn**	**03 45 10.1**	**-0.4**
CAUP				*e*S	**Sn**	**03 46 09.7**	**-0.9**
GUMO	**Guam**	**18.51**	**87**	LR	LR	03 53 09.2	
	comp=Z,555nm,19.2s,baz=252,slow=30						
JNU	**Nakatsue**	**20.24**	**12**	LR	LR	03 55 19.5	
	comp=Z,558nm,19.0s,MS3.9,baz=302,slow=34						
KSRS	**Korea Array**	**24.11**	**4**	P	**P**	**03 49 07.2**	**+0.5**
	7.1nm,0.9s,mb4.1,baz=183,slow=11,SNR=15						
KSRS				LR	LR	03 57 24.9	
	comp=Z,184nm,21.4s,MS3.5,baz=27,slow=34						
MJAR	**Matsushiro Arr**	**25.65**	**23**	P	**P**	**03 49 19.7**	**-1.0**
	1.9nm,0.9s,mb3.6,baz=195,slow=9.2,SNR=4.1						
MJAR				LR	LR	03 57 49.6	
	comp=Z,324nm,19.0s,MS3.9,baz=205,slow=33						
XAN	**Xi'an**	**25.72**	**326**	P	**P**	**03 49 21.1**	**-0.2**
XAN				AP	pP	03 49 30.8	+2.2
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
PSI	**Prapat**	**28.59**	**251**	LR	LR	04 00 46.0	
	comp=Z,273nm,21.8s,MS3.8,baz=88,slow=35						
HHC	**Hu-ho-hao-te**	**30.14**	**338**	*e*P	**P**	**03 50 04.0**	**+3.2**
HHC				AP	pP	03 50 13.8	+5.6
HHC				XP	sP	03 50 18.8	+7.6
HHC				PP	PP	03 51 02.4	-6.6
HHC				PCP	PcP	03 53 04.8	+3.0
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,167nm,5.4s						
HHC				LR	LR		
	comp=N,190nm,12.3s						
HHC				LR	LR		
	comp=E,386nm,18.6s						
HHC				LR	LR		
	comp=Z,186nm,13.9s,MS3.9						
FITZ	**Fitzroy Crossi**	**31.22**	**180**	*e*P	**P**	**03 50 09.9**	**-0.5**
	comp=Z,6.2nm,1.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**31.22**	**180**	P	**P**	**03 50 09.7**	**-0.6**
	comp=Z,1.3nm,0.4s,mb4.1,baz=18,slow=8.0,SNR=6.2						
WRA	**Warramunga Arr**	**34.09**	**166**	P	**P**	**03 50 33.7**	**-1.8**
	comp=Z,2.1nm,0.8s,mb4.1,baz=342,slow=9.9,SNR=10						
WRA				PcP	PcP	03 53 12.3	-0.3
	comp=Z,1.1nm,0.8s,baz=344,slow=3.2,SNR=5.5						
WB2	**Warramunga Arr**	**34.10**	**166**	*e*P	**P**	**03 50 33.6**	**-1.9**
LSA	**Lhasa**	**35.98**	**303**	*e*P	**P**	**03 50 54.0**	**+2.3**
ASAR	**Alice Springs**	**37.59**	**168**	P	**P**	**03 51 04.8**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.0,baz=334,slow=7.2,SNR=24						
ASAR				PcP	PcP	03 53 22.9	0.0
	comp=Z,1.0nm,0.8s,baz=356,slow=3.6,SNR=6.3						
SONM	**Songino Array**	**38.04**	**339**	P	**P**	**03 51 10.0**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.2,baz=148,slow=8.4,SNR=26						
SONM				PcP	PcP	03 53 24.3	0.0
	comp=Z,0.6nm,0.7s,baz=186,slow=1.5,SNR=3.7						
CTA	**Charters Tower**	**38.80**	**148**	LR	LR	04 06 19.0	
	comp=Z,7.1nm,18.1s,MS3.5,baz=50,slow=35						
HNR	**Honiara**	**40.71**	**122**	LR	LR	04 06 04.7	
	comp=Z,106nm,19.4s,MS3.7,baz=360,slow=33						
NWAO	**Narrogin (SRO)**	**46.71**	**190**	P	**P**	**03 52 19.6**	**-0.2**
	comp=Z,7.9nm,0.7s,mb4.7,baz=16,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**47.41**	**162**	*e*P	**P**	**03 52 25.0**	**-0.2**
	comp=Z,6.1nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**47.41**	**162**	P	**P**	**03 52 24.9**	**-0.4**
	comp=Z,7.5nm,0.8s,mb4.7,baz=336,slow=7.6,SNR=10						
MK31	**Makanchi Array**	**49.38**	**321**	*e*P	**P**	**03 52 41.3**	**+0.9**
MKAR	**Makanchi Array**	**49.38**	**321**	P	**P**	**03 52 41.6**	**+1.2**
	comp=Z,5.7nm,0.8s,mb4.7,baz=115,slow=8.5,SNR=40						
MKAR				LR	LR	04 16 23.8	
	comp=Z,71nm,19.3s,MS3.7,baz=174,slow=40						
ZAL	**Zalesovo**	**51.78**	**330**	P	**P**	**03 52 59.0**	**+0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=339,slow=7.8,SNR=5.6						
AAK	**Ala-Archa**	**52.90**	**314**	*e*P	**P**	**03 53 07.4**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.0						
KURK	**Kurchatov**	**53.34**	**324**	*e*P	**P**	**03 53 10.6**	**+0.5**
	comp=Z,16nm,0.9s,mb4.9						
BVAR	**Borovoye Array**	**58.94**	**324**	P	**P**	**03 53 50.8**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.3,baz=108,slow=9.5,SNR=14						
BRVK	**Borovoye**	**59.01**	**325**	*e*P	**P**	**03 53 50.3**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.6						
COLA	**College**	**76.48**	**26**	*e*P	**P**	**03 55 40.2**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**81.21**	**340**	P	**P**	**03 56 06.2**	**-0.4**
	comp=Z,7.1nm,1.0s,mb4.5,baz=68,slow=7.1,SNR=3.5						
INK	**Inuvik**	**81.62**	**22**	P	**P**	**03 56 08.6**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.4,baz=293,slow=6.5,SNR=8.2						
INK	**Inuvik**	**81.62**	**22**	*e*P	**P**	**03 56 08.4**	**-0.4**
	comp=Z,138nm,1.0s						
FINES	**FINESS Array B**	**83.02**	**332**	P	**P**	**03 56 15.7**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=61,slow=3.6,SNR=10.0						
MMAI	**Mount Meron Ar**	**83.23**	**302**	P	**P**	**03 56 19.3**	**+2.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=89,slow=9.4,SNR=3.4						
BR131	**Keskin Array S**	**83.29**	**309**	*e*P	**P**	**03 56 18.1**	**+0.5**
BRTR	**Keskin Array B**	**83.29**	**309**	P	**P**	**03 56 17.8**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=108,slow=2.9,SNR=4.6						
AKASG	**Malin Array Be**	**83.95**	**321**	P	**P**	**03 56 20.3**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.9,baz=62,slow=4.6,SNR=7.7						
RES	**Resolute Bay**	**88.59**	**10**	*e*P	**P**	**03 56 43.5**	**-0.1**
	comp=Z,143nm,0.8s						
KMBO	**Kilima Mbogo**	**88.88**	**269**	LR	LR	04 34 10.4	
	comp=Z,47nm,19.4s,MS3.9,baz=102,slow=34						
PPT	**Papeete**	**88.91**	**108**	LR	LR	04 32 42.3	
	comp=Z,48nm,18.7s,MS4.0,baz=335,slow=33						
NOA	**NORSAR Array B**	**89.85**	**334**	LR	LR	04 38 03.7	
	comp=Z,134nm,20.3s,MS4.4,baz=0.0,slow=36						
YKA	**Yellowknife Ar**	**91.16**	**24**	P	**P**	**03 56 55.5**	**-0.2**
	comp=Z,0.6nm,0.8s,mb4.0,baz=303,slow=4.6,SNR=5.6						
YKA				LR	LR	04 40 08.2	
	comp=Z,123nm,20.0s,MS4.3,baz=5.0,slow=37						
YKA	**Yellowknife Ar**	**91.16**	**24**	P	**P**	**03 56 55.5**	**-0.2**
YKA				LR	LR	04 40 08.2	
MAW	**Mawson**	**92.40**	**200**	P	**P**	**03 57 00.7**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.4,baz=53,slow=5.1,SNR=3.6						
GERES	**GERESS Array B**	**94.04**	**322**	P	**P**	**03 57 09.8**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.8,baz=47,slow=1.7,SNR=2.9						
TXAR	**Lajitas Array**	**116.13**	**48**	PKP	PKPdf	04 02 34.6	+0.7
	comp=Z,0.5nm,0.8s,baz=222,slow=1.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**118.72**	**293**	PKPdf	PKPdf	04 02 39.2	+0.3
	comp=Z,0.3nm,0.8s,baz=79,slow=2.7,SNR=2.7						
PLCA	**Paso Flores**	**149.15**	**155**	PKPbc	PKPbc	04 03 39.8	+0.7
	comp=Z,2.0nm,0.8s,baz=252,slow=3.2,SNR=4.1						
SDV	**Santo Domingo**	**152.54**	**37**	*e*PKPdf	PKPdf	04 03 41.7	+1.5
SDV				*e*PKPbc	PKPbc	04 03 47.7	+0.6

*ISCJB **22** 03:46:55.4±0.4, 4675N±006×154.69E±006, h12km, mb4.5/58, MS4.0/4, Error ellipse: s-maj=10.1km s-min=4.7km az=121.8*
*NEIC **22** 03:46:55.3±0.4, 4650N×154.70E, h10km, mb4.6/16, Error ellipse: s-maj=11.3km s-min=6.8km az=170.0*
*BJI **22** 03:46:57.4, 4707N×154.22E, h5km, mB4.6, mb4.5, Ms4.2, Msz3.8*
*IDC **22** 03:46:58.4±7.2, 4645N×154.78E, h32km±53km, mb4.2/23, mb1 4.3/24, mb1mx4.2/30, mbtmp4.2/24, ML4.1/1, Error ellipse: s-maj=18.6km s-min=14.8km az=154.0*
*MOS **22** 03:47:00.5±1.6, 4665N×154.50E, h61km, mb4.7/35, Error ellipse: s-maj=10.3km s-min=7.1km az=105.1*
*SZGRF **22** 03:47:01.4, 4624N×153.27E, h33km, mb4.5, Kuril Islands, Russia*

ISC 22 03:46:57.1±1.8, 4676N±007×15465E±006, h12km±11km, h12km±.9km: pP-P, n137, σ0°99/144, mb4.5/58, MS4.0/4, 6C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.05**	**13**	*e*PN	**Pn**	**03 47 59.0**	**+0.2**
SKR				*e*S	**Sn**	**03 48 46.0**	**-0.1**
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				smax			
	comp=N,170nm,0.5s						
SKR				smax			
	comp=E,140nm,0.5s						
SKR				smax			
	comp=Z,60nm,0.6s						
KUR	**Kuril'sk**	**4.97**	**255**	*i* PN	**Pn**	**03 48 11.5**	**+0.1**
KUR				*e*S	**Sn**	**03 49 06.5**	**-2.3**
KUR				pmax	pmax		
	comp=N,100nm,0.7s						
KUR				pmax	pmax		
	comp=Z,350nm,0.7s						
KUR				smax			
	comp=N,320nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**6.76**	**249**	*e*PN	**Pn**	**03 48 33.5**	**-2.6**
YUK				pmax	pmax		
	comp=Z,240nm,0.3s						
PET	**Petropavlovsk**	**6.78**	**21**	*e*PN	**Pn**	**03 48 38.3**	**+1.9**
YSS	**Yuzh-Sakhalins**	**8.16**	**276**	*e*PN	**Pn**	**03 48 58.0**	**+2.7**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=E,400nm,14.0s						
ASAJ	**Asahikawa**	**8.88**	**257**	Pn	**Pn**	**03 49 04.3**	**-0.8**
	comp=E,2.3nm,0.3s,baz=56,slow=14,SNR=14						
ASAJ	**Asahikawa**	**8.88**	**257**	PN	**Pn**	**03 49 04.3**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**9.49**	**244**	*e*PN	**Pn**	**03 49 09.8**	**-3.8**
KLR	**Kul'dur**	**15.52**	**288**	*e*P	**Pn**	**03 50 35.3**	**-0.3**
MJAR	**Matsushiro Arr**	**15.94**	**236**	Pn	**Pn**	**03 50 35.5**	**-5.6**
	comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=6.4						
MJAR	**Matsushiro Arr**	**15.94**	**236**	P	**Pn**	**03 50 35.5**	**-5.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAT	**Matsushiro**	**15.95**	**236**	P	**Pn**	**03 50 42.9**	**+1.7**
MAT				*e*S	**Sn**	**03 53 52.6**	**+15**
MDJ	**Mudanjiang**	**17.62**	**272**	P	**Pn**	**03 51 02.3**	**-0.1**
MDJ				AP	pP	03 51 06.1	-0.7
MDJ				XP	sP	03 51 07

comp=Z,113nm,4.5s
HHC LR LR
comp=N,184nm,11.6s,MS4.2
HHC LR LR
comp=E,291nm,12.2s,MS4.2
HHC LR LR
comp=Z,151nm,15.0s,MS3.8
ZAK Zakamensk 33.63 295 *e*P **P 03 53 33.9 -3.5**
COLA College 35.48 38 *e*P **P 03 53 52.6 -0.7**
LZH Lanzhou 38.94 273 *e*P **P 03 54 24.0 +1.2**
LZH AP pP 03 54 27.3 +0.7
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,51nm,5.3s
LZH LR LR
comp=N,446nm,13.2s
LZH LR LR
comp=Z,589nm,17.4s,MS4.5
LZH Lanzhou 38.94 273 *e*P **P 03 54 24.0 +1.2**
comp=Z,20nm,1.2s,mb4.7
LZH pP pP 03 54 27.3 +0.7
LZH sP sP 03 54 28.6 +0.5
LZH PP PP 03 55 47.2 -4.8
LZH LR LR
comp=Z,590nm,17.4s,MS4.5
GTA Gaotai 40.01 280 *e*P **P 03 54 32.3 +0.6**
GTA AP pP 03 54 36.5 +1.0
GTA XP sP 03 54 40.1 +3.1
GTA AMB AMB
comp=Z,4.0nm,1.6s,mb3.9
INK Inuvik 41.08 33 P **P 03 54 40.8 +0.3**
comp=Z,4.6nm,0.8s,mb4.2,baz=280,slow=7.3,SNR=30
INK Inuvik 41.08 33 P **P 03 54 40.8 +0.3**
INK pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 41.93 266 *e*P **P 03 54 48.0 +0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
GYA Guiyang 42.75 259 P **P 03 54 57.0 +2.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
ZAL Zalesovo 43.48 306 P **P 03 54 59.6 -0.5**
comp=Z,1.7nm,0.3s,mb4.3,baz=81,slow=7.0,SNR=3.1
ZAL PcP PcP 03 56 47.6 -0.5
comp=Z,1.6nm,0.3s,baz=68,slow=6.1,SNR=3.4
ZAL Zalesovo 43.48 306 P **P 03 54 59.6 -0.5**
ZAL 03 56 47.6
ZAL pmax pmax
comp=Z,2.0nm,0.3s
NVS Novosibirsk 44.02 308 *e*P **P 03 55 03.6 -0.8**
WMQ Urumqi 45.91 292 *e*P **P 03 55 22.3 +2.9**
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,158nm,4.0s
WMQ LR LR
comp=N,102nm,14.0s
WMQ LR LR
comp=Z,81nm,16.0s,MS3.8
KMI Kunming 46.28 261 P **P 03 55 26.9 +4.5**
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
KMI Kunming 46.28 261 P **P 03 55 26.9 +4.5**
comp=Z,7.0nm,0.9s,mb4.6
MK31 Makanchi Array 47.87 298 *i*P **P 03 55 34.0 -0.8**
MK31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MK31 Makanchi Array 47.87 298 *e*P **P 03 55 33.9 -0.9**
MKAR Makanchi Array 47.87 298 P **P 03 55 34.3 -0.5**
comp=Z,3.2nm,0.7s,mb4.5,baz=67,slow=6.9,SNR=18
MKAR PcP PcP 03 57 02.0 -1.4
comp=Z,0.8nm,0.8s,baz=64,slow=3.4,SNR=3.1
MKAR Makanchi Array 47.87 298 P **P 03 55 34.3 -0.5**
MKAR 03 57 02.0
MKAR pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 48.24 304 *e*P **P 03 55 37.0 -0.6**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KURK Kurchatov 48.24 304 *e*P **P 03 55 37.0 -0.6**
comp=Z,4.3nm,0.6s,mb4.7
YKW3 Yellowknife Ar 50.25 37 *e*P **P 03 55 52.7 -0.3**
YKA Yellowknife Ar 50.28 37 P **P 03 55 53.0 -0.3**
comp=Z,1.8nm,0.5s,mb4.4,baz=295,slow=7.1,SNR=36
YKA Yellowknife Ar 50.28 37 P **P 03 55 53.0 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 50.28 37 P **P 03 55 53.0 -0.3**
RES Resolute Bay 50.49 19 *e*P **P 03 55 55.8 +0.9**
comp=Z,133nm,0.4s
CHKZ Chkalovo 51.23 311 P **P 03 56 00.1 -0.3**
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BVA0 Borovoye Array 51.67 310 *i*P **P 03 56 03.7 0.0**
BVAR Borovoye Array 51.67 310 P **P 03 56 04.1 +0.4**
comp=Z,4.0nm,0.4s,mb4.7,baz=54,slow=7.8,SNR=22
BVAR PcP PcP 03 57 16.3 -0.9
comp=Z,1.3nm,0.7s,baz=46,slow=4.3,SNR=3.9
BVAR Borovoye Array 51.67 310 P **P 03 56 04.1 +0.4**
BVAR 03 57 16.3
BVAR pmax pmax
comp=Z,4.0nm,0.4s
BRVK Borovoye 51.71 310 *e*P **P 03 56 04.2 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
BRVK Borovoye 51.71 310 *e*P **P 03 56 04.2 +0.2**
comp=Z,8.5nm,0.6s,mb4.8
AAK Ala-Archa 54.78 297 *e*P **P 03 56 25.8 -0.8**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 54.78 297 *e*P **P 03 56 25.8 -0.8**
comp=Z,4.9nm,0.9s,mb4.5
ARU Arti 55.72 318 ⇓*i*P **P 03 56 32.5 -0.9**
ARU *e* 03 58 34.0
ARU *e*S **S 04 04 21.0 +1.4**
ARU *e*SS SS 04 08 02.8 -2.1
ARU pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ARU Arti 55.72 318 *e*P **P 03 56 32.5 -0.9**
comp=Z,12nm,0.6s,mb5.1
JIRN Jiri 56.00 276 *e*P **P 03 56 36.3 +0.9**
comp=Z,21nm,0.7s,mb5.3
GUN Gumba 56.05 276 *e*P **P 03 56 36.5 +0.7**
comp=Z,34nm,1.2s,mb5.3
KKN Kakani 56.54 276 *e*P **P 03 56 40.3 +1.1**
comp=Z,28nm,0.8s,mb5.3
PKI Pulchoki 56.59 276 *e*P **P 03 56 40.3 +0.7**
DMN Daman 56.77 276 *e*P **P 03 56 41.8 +0.9**
comp=Z,22nm,0.7s,mb5.3
GKN Gorkha 56.84 277 *e*P **P 03 56 42.1 +0.7**
KOLN Koldanda 57.70 277 *e*P **P 03 56 48.2 +0.8**
comp=Z,14nm,0.7s,mb5.1
ARCES ARCESS Array B 58.19 341 P **P 03 56 51.3 +0.4**
comp=Z,7.5nm,0.8s,mb4.8,baz=27,slow=8.2,SNR=5.7
ARCES ARCESS Array B 58.19 341 P **P 03 56 51.3 +0.4**
ARCES pmax pmax
comp=Z,8.0nm,0.8s
AB31 Akbulak array 59.23 311 P **P 03 56 58.0 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AKTK Aktyubinsk 59.51 313 P **P 03 56 60.0 -0.1**
AKTO Aktyubinsk 59.51 313 P **P 03 56 60.0 -0.1**
comp=Z,3.5nm,0.6s,mb4.5,baz=68,slow=7.4,SNR=16
AKTO Aktyubinsk 59.51 313 P **P 03 57 00.0 0.0**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
JOF Joensuu 61.79 334 *e*p **P 03 57 14.4 -1.2**
comp=Z,7.7nm,0.7s,mb4.9
JOF Joensuu 61.79 334 *e*P **P 03 57 14.4 -1.2**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
IMW Indian Meadow 62.39 54 *e*P **P 03 57 20.2 +0.6**
TPAW Teton Pass 62.64 55 *e*P **P 03 57 21.8 +0.5**
comp=Z,7.7nm,1.3s,mb4.7
REDW Red Top Meadow 62.77 55 *e*P **P 03 57 22.8 +0.6**
comp=Z,3.4nm,0.8s,mb4.5
KAF Kangasniemi 63.88 336 *e*p **P 03 57 26.0 -3.5**
comp=Z,6.6nm,0.9s,mb4.7
KAF Kangasniemi 63.88 336 *e*P **P 03 57 26.0 -3.5**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
PDAR Pinedale Array 63.88 55 P **P 03 57 28.9 -0.7**
comp=Z,1.8nm,0.9s,mb4.1,baz=295,slow=2.1,SNR=13
FIA1 FINESS Array S 64.48 335 *e*P **P 03 57 34.0 +0.6**
FINES FINESS Array B 64.48 335 P **P 03 57 32.8 -0.6**
comp=Z,4.1nm,0.5s,mb4.7,baz=39,slow=7.4,SNR=27
FINES FINESS Array B 64.48 335 P **P 03 57 32.8 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.5s
SRU San Rafael 65.72 58 *e*P **P 03 57 40.8 -0.7**
SRU pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
SRU San Rafael 65.72 58 *e*P **P 03 57 40.8 -0.7**
comp=Z,2.3nm,0.8s,mb4.3
ULM Lac du Bonnet 65.82 42 P **P 03 57 40.4 -1.8**
comp=Z,1.2nm,0.5s,mb4.2,baz=330,slow=9.8,SNR=5.4
NB2 NORSAR Subarra 68.56 342 P **P 03 58 01.2 +1.7**
comp=Z,1.9nm,0.6s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 68.56 342 P **P 03 57 59.1 -0.4**
comp=Z,2.0nm,0.6s,mb4.2,baz=26,slow=6.4,SNR=8.6
NOA NORSAR Array B 68.56 342 P **P 03 57 59.1 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 68.81 340 P **P 03 58 00.7 -0.4**
comp=Z,3.6nm,0.6s,mb4.5,baz=40,slow=5.8,SNR=12
HFS Hagfors 68.81 340 P **P 03 58 00.7 -0.5**
HFS pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 68.88 200 P **P 03 57 57.6 -4.0**
comp=Z,1.4nm,1.0s,mb3.9,baz=20,slow=6.7,SNR=3.1
WRA Warramunga Arr 68.88 200 P **P 03 57 57.6 -3.9**
WRA pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 72.12 327 P **P 03 58 20.5 -0.9**
comp=Z,1.3nm,0.5s,mb4.1,baz=34,slow=6.2,SNR=7.6
AKASG Malin Array Be 72.12 327 P **P 03 58 20.5 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 72.56 200 P **P 03 58 21.0 -3.0**
comp=Z,0.9nm,0.7s,mb3.8,baz=15,slow=5.1,SNR=7.3
BURAR Bucovina Array 76.16 327 ⇓*i*P **P 03 58 44.8 -0.1**
LTX Lajitas 76.56 62 *e*P **P 03 58 46.7 -0.5**
LTX pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
LTX Lajitas 76.56 62 *e*P **P 03 58 46.7 -0.5**
comp=Z,6.6nm,1.1s,mb4.5
TXAR Lajitas Array 76.56 62 P **P 03 58 46.0 -1.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=300,slow=4.2,SNR=33
TXAR Lajitas Array 76.56 62 P **P 03 58 46.1 -1.1**
TXAR pmax pmax
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 76.57 347 P **P 03 58 51.1 +3.9**
comp=Z,1.0nm,0.5s,mb4.0,baz=15,slow=4.9,SNR=6.0
EKA Eskdalemuir Ar 76.57 347 P **P 03 58 51.2 +3.9**
EKA pmax pmax
comp=Z,1.0nm,0.5s
CLL Collm 76.89 336 *e*P **P 03 58 49.0 -0.1**
comp=Z,7.0nm,0.9s,mb4.6
CLL *e*pP pP 03 58 52.0 -1.1
TIRR Tirgusor 77.54 324 ⇑*i*P **P 03 58 51.9 -0.8**
VRAC Vranov 77.62 333 P **P 03 58 53.4 +0.2**
comp=Z,1.0nm,0.4s,mb4.1,baz=51,slow=6.5,SNR=3.2
VRAC Vranov 77.62 333 P **P 03 58 53.4 +0.2**
VRAC pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 77.66 326 P **P 03 58 53.2 -0.2**
comp=Z,5.2nm,0.6s,mb4.6,baz=294,slow=4.7,SNR=7.1
MLR Muntele Rosu 77.66 326 ⇑*i*P **P 03 58 54.0 +0.6**
VOIR 78.05 326 ⇑*i*P **P 03 58 55.9 +0.4**
KHC Kasperske Hory 78.68 335 *e*P **P 03 58 59.0 -0.1**
KHC x x 03 59 02.5
KHC Kasperske Hory 78.68 335 *e*P **P 03 58 59.0 -0.1**
KHC *e* pP 03 59 02.5 -0.6
KHC Kasperske Hory 78.68 335 *e*P **P 03 58 59.0 -0.1**
KHC *e* pP 03 59 02.5 -0.6
GRA1 Grafenberg Arr 78.84 337 *e*P **P 03 59 00.1 +0.2**
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 78.84 337 *e*P **P 03 59 00.1 +0.2**
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 78.84 337 *e*P **P 03 59 00.1 +0.2**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GERES GERESS Array B 78.91 335 P **P 03 59 00.2 -0.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=34,slow=5.0,SNR=6.2
GERES GERESS Array B 78.91 335 P **P 03 59 00.2 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 78.91 335 P **P 03 59 00.2 -0.1**
GZR Gura Zlata 78.94 328 ⇑*i*P **P 03 58 59.9 -0.6**
BR131 Keskin Array S 79.10 318 *e*P **P 03 59 01.1 -0.2**
comp=Z,1.6nm,0.8s,mb4.0
BRTR Keskin Array B 79.10 318 P **P 03 59 01.5 +0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=29,slow=6.8,SNR=6.2
BRTR Keskin Array B 79.10 318 P **P 03 59 01.5 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BZS Buzias 79.17 329 ⇓*i*P **P 03 59 01.5 -0.2**
CDF Champ du Feu 81.04 339 *e*P **P 03 59 11.9 +0.1**
VTS Vitosha 81.16 326 ⇑*i*P **P 03 59 12.5 0.0**
GRR Gorron 82.86 344 *e*P **P 03 59 22.7 +1.3**
comp=Z,26nm,1.0s,mb4.9
ASF Jabal al Asfar 83.50 311 P **P 03 59 25.4 +0.7**
comp=Z,1.1nm,0.5s,mb4.2,baz=297,slow=5.4,SNR=4.3
ASF Jabal al Asfar 83.50 311 P **P 03 59 25.4 +0.7**
ASF pmax pmax
comp=Z,1.0nm,0.5s
SMF Signal de Mont 83.52 340 *e*P **P 03 59 24.9 +0.1**
comp=Z,11nm,1.0s,mb4.7
MMAI Mount Meron Ar 83.59 312 P **P 03 59 25.9 +0.7**
comp=Z,5.0nm,0.6s,mb4.8,baz=33,slow=6.3,SNR=8.9
LPG La Plagne 83.88 338 *e*P **P 03 59 27.8 +1.1**
comp=Z,24nm,1.2s,mb4.9
CAF Calviac 85.56 341 *e*P **P 03 59 35.5 +0.4**
TORD Torodi Ar. Bea 115.62 331 PKP PKPdf 04 05 36.7 -2.4
comp=Z,0.5nm,1.0s,baz=0.7,slow=1.5,SNR=4.2

KRSC 22 03:58:29.1±0.1, 5462N×16206E, h38km±38km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.20**	**252**	*e*P	Pn	03 58 36.1	-0.1
MKZ				*i* S	Sn	03 58 41.3	+0.2
TUMR	**Tumrok**	**1.29**	**302**	*e*P	Pn	03 58 52.2	+1.6
TUMR				*i* S	Sn	03 59 09.3	+2.7
KMNR	**Kamenistaya**	**1.55**	**318**	*e*P	Pn	03 58 55.6	+1.5
KMNR				*i* S	Sn	03 59 14.0	+1.1
ZLN	**Zelenaya**	**1.57**	**333**	*e*P	Pn	03 58 56.1	+1.6
ZLN				*i* S	Sn	03 59 15.6	+2.0
KII	**Karymskiy**	**1.64**	**250**	*e*P	Pn	03 58 56.9	+1.5
KII				*i* S	Sn	03 59 18.1	+2.9
KIRR	**Kirishev**	**1.66**	**324**	*e*P	Pn	03 58 58.2	+2.5
KIRR				*i* S	Sn	03 59 19.2	+3.5
CIRR	**Tsirk**	**1.68**	**334**	*e*P	Pn	03 58 57.7	+1.8
KPT	**Kopyto**	**1.71**	**323**	P	Pn	03 58 59.1	+2.7
KRSR	**Krestovskiy**	**1.81**	**333**	*e*P	Pn	03 59 00.4	+2.6
KRSR				*i* S	Sn	03 59 23.4	+3.9
KLY	**Klyuchi**	**1.88**	**335**	*e*P	Pn	03 59 00.0	+1.3
KLY				*i* S	Sn	03 59 22.2	+1.1
KOZ	**Kozyrevsk**	**1.91**	**320**	*e*P	Pn	03 59 02.0	+2.9
KOZ				*i* S	Sn	03 59 25.3	+3.4
SPN	**Mys Shipunski**	**1.94**	**219**	*e*P	Pn	03 59 00.3	+0.7
SPN				*i* S	Sn	03 59 22.3	-0.5
SMKR	**Semkarok**	**2.00**	**351**	*e*P	Pn	03 59 01.5	+1.2
SMKR				*i* S	Sn	03 59 25.5	+1.5
BDR	**Baidarnaya**	**2.01**	**346**	*e*P	Pn	03 59 02.1	+1.6
SRKR	**Sorokina**	**2.10**	**346**	*e*P	Pn	03 59 03.2	+1.5
SRKR				*i* S	Sn	03 59 27.5	+0.9
SRDR	**Sredinnyy**	**2.16**	**323**	*e*P	Pn	03 59 04.8	+2.2
SRDR				*i* S	Sn	03 59 30.5	+2.4
NLC	**Nalytchevo**	**2.17**	**229**	*e*P	Pn	03 59 03.8	+1.2
NLC				*i* S	Sn	03 59 29.5	+1.3
AVH	**Avacha**	**2.39**	**237**	*e*P	Pn	03 59 08.4	+2.7
AVH				*i* S	Sn	03 59 36.9	+3.2
GNL	**Ganaly**	**2.59**	**251**	*e*P	Pn	03 59 11.1	+2.6
GRL	**Gorelyy**	**3.15**	**231**	*e*P	Pn	03 59 19.7	+3.5
GRL				*i* S	Sn	03 59 55.8	+3.2

KRSC 22 03:59:42.4±0.3, 5462N×16196E, h37km±37km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.15**	**245**	*e*P	Pn	03 59 48.8	-0.2
MKZ				*i* S	Sn	03 59 54.1	+0.6
TUMR	**Tumrok**	**1.24**	**303**	*e*P	Pn	04 00 04.8	+1.6
TUMR				*i* S	Sn	04 00 22.1	+3.4
KMNR	**Kamenistaya**	**1.51**	**320**	*e*P	Pn	04 00 08.6	+1.7
KMNR				*i* S	Sn	04 00 27.0	+1.7
ZLN	**Zelenaya**	**1.55**	**335**	*e*P	Pn	04 00 09.6	+2.1
KII	**Karymskiy**	**1.58**	**249**	P	Pn	04 00 08.9	+1.0
KII				*i* S	Sn	04 00 28.2	+1.0
KIRR	**Kirishev**	**1.62**	**326**	*e*P	Pn	04 00 10.6	+2.1
KIRR				*i* S	Sn	04 00 30.7	+2.5
CIRR	**Tsirk**	**1.65**	**336**	*e*P	Pn	04 00 11.2	+2.3
KPT	**Kopyto**	**1.68**	**324**	P	Pn	04 00 11.3	+2.1
KRSR	**Krestovskiy**	**1.79**	**334**	*e*P	Pn	04 00 12.9	+2.2
KRSR				*i* S	Sn	04 00 35.8	+3.6
KLY	**Klyuchi**	**1.85**	**337**	*e*P	Pn	04 00 12.8	+1.2
KLY				*i* S	Sn	04 00 34.6	+0.8
KOZ	**Kozyrevsk**	**1.87**	**321**	*e*P	Pn	04 00 14.9	+3.0
KOZ				*i* S	Sn	04 00 38.4	+4.1
SPN	**Mys Shipunski**	**1.91**	**218**	*e*P	Pn	04 00 13.6	+1.2
SPN				*i* S	Sn	04 00 35.7	+0.5
SMKR	**Semkarok**	**1.99**	**352**	*e*P	Pn	04 00 15.2	+1.7
SMKR				*i* S	Sn	04 00 38.6	+1.5
BDR	**Baidarnaya**	**2.00**	**348**	*e*P	Pn	04 00 15.1	+1.5
SRKR	**Sorokina**	**2.09**	**348**	*e*P	Pn	04 00 15.9	+1.0
NLC	**Nalytchevo**	**2.12**	**228**	*e*P	Pn	04 00 16.6	+1.3
NLC				*i* S	Sn	04 00 42.3	+1.8
SRDR	**Sredinnyy**	**2.13**	**324**	*e*P	Pn	04 00 18.0	+2.6
SRDR				*i* S	Sn	04 00 43.5	+2.9
AVH	**Avacha**	**2.34**	**236**	*e*P	Pn	04 00 21.7	+3.4
AVH				*i* S	Sn	04 00 49.6	+3.8
PET	**Petropavlovsk**	**2.53**	**232**	*e*P	Pn	04 00 22.7	+1.8
PET				*i* S	Sn	04 00 52.8	+2.3
GNL	**Ganaly**	**2.54**	**250**	*e*P	Pn	04 00 23.7	+2.6
GRL	**Gorelyy**	**3.11**	**230**	P	Pn	04 00 33.2	+4.3

*IDC **22** 04:08:14.1±2.2, 9 25N×12723E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.5/6, Error ellipse: s-maj=220.6km s-min=21.5km az=70.0*

NEIC 22 04:08:18.9±1.3, 934N×12752E, h35km, mb4.1/1, Error ellipse: s-maj=127.0km s-min=11.4km az=69.0,
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.86**	**167**	P	P	04 14 23.0	+0.1
0.2nm,0.6s,baz=350,slow=9.0,SNR=2.2							
ASAR	**Alice Springs**	**33.39**	**169**	P	P	04 14 54.7	+0.7
0.1nm,0.3s,baz=354,slow=7.1,SNR=3.0							
SONM	**Songino Array**	**42.32**	**339**	P	P	04 16 10.1	+0.8
0.2nm,0.5s,baz=155,slow=8.8,SNR=2.9							
MK31	**Makanchi Array**	**53.51**	**323**	*e*P	P	04 17 36.3	+0.5
MKAR	**Makanchi Array**	**53.51**	**323**	P	P	04 17 36.1	+0.2
0.2nm,0.5s,baz=114,slow=6.9,SNR=5.3							
ZAL	**Zalesovo**	**56.03**	**331**	P	P	04 17 53.1	-1.1
0.8nm,0.4s,baz=324,slow=7.8,SNR=3.7							
BVAR	**Borovoye Array**	**63.13**	**325**	P	P	04 18 43.2	+0.2
0.7nm,0.7s,baz=120,slow=8.8,SNR=4.0							
BRVK	**Borovoye**	**63.20**	**325**	*e*P	P	04 18 43.8	+0.3
0.7nm,0.4s							
TORD	**Torodi Ar. Bea**	**121.76**	**292**	PKP	PKPdf	04 27 10.1	+1.0
0.3nm,0.8s,baz=64,slow=1.6,SNR=4.8							

*MOS **22** 04:22:58.6±1.3, 2240N×14342E, h137km, mb4.1/5, Error ellipse: s-maj=19.7km s-min=10.9km az=97.9*
*ISCJB **22** 04:22:59.1±1.2, 2233N±005×1434E±01, h141km±10km, mb3.9/27, Error ellipse: s-maj=15.6km s-min=8.4km az=170.9*
*IDC **22** 04:22:59.6±2.1, 2235N×14350E, h134km±19km, mb3.7/17, mb1 3.9/18, mb1mx3.8/24, mbtmp3.7/18, Error ellipse: s-maj=19.3km s-min=10.9km az=94.0*
*NEIC **22** 04:23:02.5±1.4, 2227N×14351E, h160km±12km, mb4.0/10, Error ellipse: s-maj=10.9km s-min=7.0km az=85.0*

ISC 22 04:23:00.3±1.1, 2235N±005×1435E±01, h137km±10km,
n52, σ1°05/46, mb3.9/27, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.88**	**346**	P	**Pn**	**04 24 11.8**	**-0.1**
33nm,0.3s,baz=300,slow=22,SNR=19							
CBIJ				S	**Sn**	**04 25 06.3**	**-1.3**
92nm,0.3s,baz=276,slow=22,SNR=13							
GUMO	**Guam**	**8.80**	**171**	*e*P	**Pn**	**04 25 05.1**	**+0.6**
MJAR	**Matsushiro Arr**	**14.88**	**343**	P	**Pn**	**04 26 26.1**	**+2.4**
0.5nm,0.3s,baz=171,slow=11,SNR=5.4							
KSRS	**Korea Array**	**20.19**	**322**	P	**P**	**04 27 25.1**	**+1.0**
3.7nm,0.5s,baz=145,slow=9.2,SNR=11							
KLR	**Kul'dur**	**28.40**	**344**	*e*P	**P**	**04 28 39.3**	**-2.5**
SONM	**Songino Array**	**39.04**	**320**	P	**P**	**04 30 14.3**	**+0.7**
0.5nm,0.4s,mb3.5,baz=126,slow=8.1,SNR=7.0							
CTA	**Charters Tower**	**42.26**	**176**	P	**P**	**04 30 40.4**	**+0.4**
2.2nm,0.5s,mb4.1,baz=10,slow=9.7,SNR=2.0							
CTA	**Charters Tower**	**42.26**	**176**	P	**P**	**04 30 40.4**	**+0.4**
WB2	**Warramunga Arr**	**42.98**	**193**	*e*P	**P**	**04 30 45.1**	**-0.7**
WRA	**Warramunga Arr**	**42.98**	**193**	P	**P**	**04 30 45.2**	**-0.6**
1.7nm,0.3s,mb4.1,baz=14,slow=8.7,SNR=52							
FITZ	**Fitzroy Crossi**	**43.84**	**205**	*e*P	**P**	**04 30 53.2**	**+0.5**
3.8nm,0.3s,mb4.5							
ASAR	**Alice Springs**	**46.68**	**192**	P	**P**	**04 31 14.6**	**-0.5**
1.1nm,0.6s,mb3.7,baz=17,slow=9.7,SNR=28							
PSI	**Prapat**	**47.41**	**252**	P	**P**	**04 31 21.2**	**+0.5**
2.5nm,0.4s,mb4.2,baz=96,slow=10,SNR=2.7							
STKA	**Stephens Creek**	**53.95**	**182**	P	**P**	**04 32 08.1**	**-1.7**
1.7nm,0.8s,mb3.8,baz=0.0,slow=9.1,SNR=4.1							
MK31	**Makanchi Array**	**54.49**	**312**	*e*P	**P**	**04 32 15.0**	**+1.3**
MKAR	**Makanchi Array**	**54.49**	**312**	P	**P**	**04 32 14.2**	**+0.5**
0.6nm,0.5s,mb3.6,baz=86,slow=9.6,SNR=7.7							
KURK	**Kurchatov**	**57.22**	**317**	*e*P	**P**	**04 32 33.2**	**+0.1**
KURK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.0							
KURK	**Kurchatov**	**57.22**	**317**	*e*P	**P**	**04 32 33.2**	**+0.1**
comp=Z,1.0nm,0.4s,mb4.0							
AAK	**Ala-Archa**	**60.02**	**307**	*e*P	**P**	**04 32 53.8**	**+1.3**
AAK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.0							
AAK	**Ala-Archa**	**60.02**	**307**	*e*P	**P**	**04 32 53.8**	**+1.3**
comp=Z,1.0nm,0.4s,mb4.0							
BRVK	**Borovoye**	**62.45**	**319**	*e*P	**P**	**04 33 09.4**	**+0.6**
INK	**Inuvik**	**66.85**	**24**	P	**P**	**04 33 36.3**	**-1.1**
comp=Z,2.2nm,0.8s,mb4.0,baz=232,slow=5.6,SNR=11							
INK	**Inuvik**	**66.85**	**24**	*e*P	**P**	**04 33 36.9**	**-0.5**
YKA	**Yellowknife Ar**	**75.74**	**28**	P	**P**	**04 34 30.5**	**-0.3**
comp=Z,1.6nm,0.4s,mb4.0,baz=292,slow=5.9,SNR=42							
RES	**Resolute Bay**	**76.37**	**13**	*e*P	**P**	**04 34 33.9**	**-0.5**
comp=Z,41nm,0.7s,mb5.2							
ARCES	**ARCESS Array B**	**78.41**	**342**	P	**P**	**04 34 45.3**	**-0.4**
comp=Z,3.4nm,0.9s,mb4.0,baz=59,slow=7.3,SNR=4.6							
NEW	**Newport**	**79.59**	**42**	*e*P	**P**	**04 34 52.0**	**-0.2**
NEW				pmax	pmax		
comp=Z,3.0nm,0.8s							
NEW	**Newport**	**79.59**	**42**	*e*P	**P**	**04 34 52.0**	**-0.2**
comp=Z,3.3nm,0.8s,mb4.0							
WVOR	**Wild Horse Val**	**80.76**	**48**	*e*P	**P**	**04 34 59.5**	**+1.1**
WVOR				pmax	pmax		
comp=Z,2.0nm,0.7s,mb3.9							
WVOR	**Wild Horse Val**	**80.76**	**48**	*e*P	**P**	**04 34 59.5**	**+1.0**
comp=Z,1.5nm,0.7s,mb3.7							
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**04 35 08.8**	**+1.3**
comp=Z,1.6nm,0.7s,mb3.8,baz=269,slow=7.0,SNR=16							
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**04 35 08.8**	**+1.3**
FINES	**FINESS Array B**	**82.73**	**335**	P	**P**	**04 35 07.4**	**-1.3**
comp=Z,0.7nm,0.3s,mb3.8,baz=70,slow=4.1,SNR=11							
HLID	**Hailey**	**83.17**	**46**	*e*P	**P**	**04 35 11.9**	**+0.8**
comp=Z,0.9nm,0.7s,mb3.6							
BOZ	**Bozeman (W)**	**84.09**	**43**	*e*P	**P**	**04 35 16.0**	**+0.3**
BOZ				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.7							
BOZ	**Bozeman (W)**	**84.09**	**43**	*e*P	**P**	**04 35 16.0**	**+0.2**
comp=Z,0.6nm,0.6s,mb3.5							
DUG	**Dugway**	**85.67**	**48**	*e*P	**P**	**04 35 24.2**	**+0.6**
DUG				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.3							
DUG	**Dugway**	**85.67**	**48**	*e*P	**P**	**04 35 24.2**	**+0.6**
comp=Z,3.2nm,0.5s,mb4.3							
**HWUT

QSPA	**South Pole Qui**	**112.14**	**180**	*e*PKPdf	PKiKP	04 41 19.1	-0.4
SNAA	**Sanae**	**127.05**	**193**	*e*PKIKP	PKPdf	04 41 47.8	-0.3
TORD	**Torodi Ar. Bea**	**128.57**	**310**	PKP	PKPdf	04 41 51.2	+0.2
	comp=Z,0.3nm,0.8s,baz=42,slow=1.1,SNR=7.5						
TORD	**Torodi Ar. Bea**	**128.57**	**310**	PKP	PKPdf	04 41 51.2	+0.2
PMSA	**Palmer Station**	**133.89**	**164**	*e*PKPdf	PKPdf	04 41 58.7	-2.3
PLCA	**Paso Flores**	**145.94**	**131**	PKPbc	PKPbc	04 42 24.1	+0.3
	comp=Z,3.6nm,0.6s,baz=196,slow=4.9,SNR=9.3						
LPAZ	**La Paz**	**149.57**	**84**	PKPbc	PKPbc	04 42 35.6	+2.1
	comp=Z,1.2nm,0.6s,baz=307,slow=2.8,SNR=6.3						

ISCJB ***22*** *04:29:08.8±0.7, 200S±0.1×1776W±0.1, h500km, mb4.0/7, Error ellipse: s-maj=24.0km s-min=9.6km az=99.9*
IDC ***22*** *04:29:09.6±1.9, 2000S×17759W, h496km±24km, mb3.5/5, mb1 3.6/6, mb1mx3.3/16, mbtmp3.5/6, Error ellipse: s-maj=27.1km s-min=16.7km az=156.0*
NEIC ***22*** *04:29:11.1±1.1, 1997S×17763W, h513km±15km, mb4.3/6, Error ellipse: s-maj=20.1km s-min=13.3km az=160.0*

ISC 22 04:29:09.6±0.7, 200S±01×1775W±01, h500km, n17, σ0 85/14, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.16**	**43**	P	**P**	**04 31 10.3**	**+2.6**
	4.2nm,0.3s,baz=225,slow=1.4,SNR=2.4						
AFI				S	**S**	**04 32 43.4**	**-1.1**
	10nm,0.3s,baz=23,slow=23,SNR=7.1						
CTA	**Charters Tower**	**33.98**	**263**	*e*P	**P**	**04 35 11.7**	**+0.8**
	3.9nm,0.3s,mb4.3						
CTA	**Charters Tower**	**33.98**	**263**	P	**P**	**04 35 11.0**	**+0.1**
	5.5nm,0.4s,mb4.4,baz=86,slow=9.7,SNR=11						
CTAO	**Charters Tower**	**33.98**	**263**	*e*P	**P**	**04 35 11.2**	**+0.4**
	6.2nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**38.42**	**244**	*e*P	**P**	**04 35 47.8**	**+0.2**
	3.4nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**38.42**	**244**	P	**P**	**04 35 47.3**	**-0.3**
	3.8nm,0.7s,mb3.9,baz=90,slow=8.8,SNR=5.6						
ASAR	**Alice Springs**	**45.07**	**256**	P	**P**	**04 36 40.5**	**+0.2**
	4.7nm,0.7s,mb4.1,baz=92,slow=7.7,SNR=59						
ASAR				PcP	PcP	04 38 10.8	+0.2
	0.7nm,0.6s,baz=103,slow=4.5,SNR=5.1						
WB2	**Warramunga Arr**	**45.10**	**261**	*e*P	**P**	**04 36 40.2**	**-0.3**
WRA	**Warramunga Arr**	**45.11**	**261**	P	**P**	**04 36 40.2**	**-0.4**
	1.9nm,0.5s,mb3.8,baz=97,slow=7.0,SNR=56						
WRA				PcP	PcP	04 38 11.2	+0.5
	0.4nm,0.7s,baz=96,slow=3.3,SNR=2.8						
VNDA	**Vanda**	**58.47**	**185**	P	**P**	**04 38 17.1**	**-0.1**
	1.4nm,0.9s,mb3.3,baz=316,slow=8.3,SNR=6.7						
VNDA	**Vanda**	**58.47**	**185**	*e*P	**P**	**04 38 17.5**	**+0.4**
	1.2nm,0.7s,mb3.3						
CASY	**Casey**	**64.63**	**205**	*e*P	**P**	**04 38 56.5**	**-0.9**
	9.6nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**70.09**	**180**	*e*P	**P**	**04 39 31.2**	**+0.3**
	3.7nm,0.4s,mb4.3						
BRTR	**Keskin Array B**	**146.81**	**313**	PKPbc	PKPbc	04 47 56.9	+1.6
	0.7nm,0.7s,baz=132,slow=5.9,SNR=3.8						
GERES	**GERESS Array B**	**149.81**	**345**	PKPbc	PKPbc	04 48 02.5	-0.3
	0.2nm,0.6s,baz=194,slow=5.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**173.17**	**174**	PKP	PKPdf	04 48 21.8	+0.8
	0.3nm,0.9s,baz=166,slow=1.1,SNR=2.4						
TORD				PKPab	PKPab	04 49 51.9	-0.4
	0.2nm,0.6s,baz=166,slow=4.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**173.17**	**174**	PKP	PKPdf	04 48 21.8	+0.8
TORD				PKPab	PKPab	04 49 51.9	-0.4

ATH ***22*** *04:36:44.6, 3945N×2360E, h4km, MD3.0/4, ML3.1*
ISCJB ***22*** *04:36:46.0±0.5, 3933N±003×2349E±005, h11km±5km, Error ellipse: s-maj=6.3km s-min=4.4km az=122.3*
THE ***22*** *04:36:46.6, 3931N×2349E, h10km, ML2.6*
CSEM ***22*** *04:36:46.6±0.1, 3934N×2351E, h2km, ML2.6, Error ellipse: s-maj=1.9km s-min=1.4km az=49.0*

ISC 22 04:36:46.5±0.5, 3931N±003×2349E±005, h13km±5km, n17, σ0 60/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.21**	**268**	*e*PG	**Pg**	**04 36 51.0**	**-0.1**
XOR	**Xorichti**	**0.24**	**283**	*e*Pg	**Pg**	**04 36 51.3**	**-0.3**
XOR				*e*Sg	**Sg**	**04 36 55.0**	**-0.1**
AOS	**Alonnisos**	**0.33**	**115**	*e*Pg	**Pg**	**04 36 53.0**	**-0.3**
AOS				*e*Sg	**Sg**	**04 36 58.1**	**+0.4**
PAIG	**Paliouri**	**0.63**	**13**	*e*Pg	**Pg**	**04 36 59.0**	**+0.3**
PAIG				*e*Sg	**Sg**	**04 37 08.4**	**+1.3**
AGG	**Agios Georgios**	**0.95**	**253**	*e*Pg	**Pg**	**04 37 04.7**	**-0.1**
OUR	**Ouranopolis**	**1.09**	**20**	*e*Pg	**Pg**	**04 37 06.3**	**-1.1**
LIT	**Litokhoron**	**1.10**	**316**	*e*Pg	**Pg**	**04 37 07.1**	**-0.6**
LIT				*e*Sg	**Sg**	**04 37 23.5**	**+1.4**
PTL	**Penteli**	**1.29**	**167**	*e*PG	**Pg**	**04 37 11.0**	**-0.4**
HORT	**Hortiatis**	**1.32**	**347**	*e*Pg	**Pn**	**04 37 10.0**	**-0.5**
HORT				*e*Sg	**Sg**	**04 37 28.1**	**-0.8**
ATH	**Athens Observa**	**1.35**	**172**	*e*PB	**Pb**	**04 37 11.4**	**-0.2**
THE	**Thessaloniki**	**1.38**	**343**	*e*Pg	**Pn**	**04 37 11.3**	**0.0**
KVR	**Kavouri**	**1.50**	**172**	*e*PB	**Pb**	**04 37 15.0**	**+0.9**
SOH	**Sokhos**	**1.51**	**356**	*e*Pg	**Pn**	**04 37 12.8**	**-0.4**
NAIG	**Nisos Aigina**	**1.55**	**180**	*e*PB	**Pg**	**04 37 16.5**	**+0.2**
GRG	**Griva**	**1.84**	**333**	*e*Pb	**Pn**	**04 37 17.6**	**-0.2**
KNT	**Kendrikon**	**1.90**	**346**	*e*Pb	**Pn**	**04 37 18.8**	**+0.3**
FNA	**Florina**	**2.19**	**313**	*e*Pn	**Pn**	**04 37 23.1**	**+0.6**

ISCJB ***22*** *04:40:09.0±0.5, 3938N±003×2354E±004, h7km±5km, Error ellipse: s-maj=4.7km s-min=4.4km az=22.6*
CSEM ***22*** *04:40:09.6±0.1, 3937N×2353E, h10km, ML3.1, Error ellipse: s-maj=1.3km s-min=1.2km az=119.0*
THE ***22*** *04:40:09.8, 3929N×2353E, h13km, ML2.7*
SOF ***22*** *04:40:09.8, 3950N×2372E, h8km, MD2.8*
NEIC ***22*** *04:40:09.7, 3935N×2348E, h18km, ML3.1(ATH), After ATH.*
ATH ***22*** *04:40:09.7, 3935N×2348E, h18km±1km, MD3.2/8, ML3.1*

ISC 22 04:40:09.5±0.5, 3937N±003×2356E±004, h7km±5km, n29, σ0 76/38, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**257**	⇓*i*PB	**Pg**	**04 40 14.6**	**-0.1**
NEO				*e*SB	**Sg**	**04 40 18.0**	**-0.2**
XOR	**Xorichti**	**0.28**	**270**	*e*Pg	**Pg**	**04 40 14.9**	**-0.1**
XOR				*e*Sg	**Sg**	**04 40 19.2**	**+0.5**
XOR	**Xorichti**	**0.28**	**270**	*e*Pg	**Pg**	**04 40 14.9**	**-0.1**
XOR				*e*Sg	**Sg**	**04 40 19.2**	**+0.4**
AOS	**Alonnisos**	**0.32**	**128**	*e*Pg	**Pg**	**04 40 16.3**	**+0.5**
AOS				*e*Sg	**Sg**	**04 40 20.3**	**+0.3**
PAIG	**Paliouri**	**0.57**	**10**	*e*Pg	**Pg**	**04 40 22.2**	**+1.8**
PAIG				*e*Sg	**Sg**	**04 40 32.2**	**+4.3**
LKR	**Lokris**	**0.84**	**211**	⇑*i*PN	**Pg**	**04 40 24.7**	**-0.8**
PLG	**Polygyros**	**1.01**	**355**	⇑*i*PN	**Pg**	**04 40 28.9**	**0.0**
AGG	**Agios Georgios**	**1.01**	**251**	*e*Pg	**Pg**	**04 40 28.2**	**-0.7**
AGG				*e*Sg	**Sg**	**04 40 41.9**	**-0.2**
OUR	**Ouranopolis**	**1.02**	**19**	*e*Pg	**Pg**	**04 40 29.0**	**-0.1**
LIT	**Litokhoron**	**1.10**	**312**	*e*Pg	**Pg**	**04 40 30.6**	**0.0**
LIT				*e*Sg	**Sg**	**04 40 47.5**	**+2.6**
THL	**Klokotos Trika**	**1.21**	**280**	⇓*i*PN	**Pn**	**04 40 31.8**	**-1.0**
HORT	**Hortiatis**	**1.28**	**344**	*e*Pg	**Pg**	**04 40 33.2**	**-0.8**
HORT				*e*Sg	**Sg**	**04 40 50.9**	**+0.2**
HORT	**Hortiatis**	**1.28**	**344**	*e*Pg	**Pg**	**04 40 33.2**	**-0.8**
HORT				*e*Sg	**Sg**	**04 40 50.9**	**+0.3**
PTL	**Penteli**	**1.34**	**169**	*e*PN	**Pn**	**04 40 34.5**	**-0.1**
THE	**Thessaloniki**	**1.34**	**340**	*e*Pg	**Pg**	**04 40 34.5**	**-0.7**
ATH	**Athens Observa**	**1.40**	**175**	*e*PN	**Pn**	**04 40 36.0**	**+0.6**
SOH	**Sokhos**	**1.46**	**354**	*e*Pg	**Pn**	**04 40 36.0**	**-0.2**
KVR	**Kavouri**	**1.54**	**174**	*e*PN	**Pn**	**04 40 38.5**	**+1.1**
KZN	**Kozani**	**1.67**	**305**	*e*PN	**Pn**	**04 40 39.8**	**+0.7**
GRG	**Griva**	**1.82**	**331**	*e*Pb	**Pn**	**04 40 41.1**	**-0.1**
KNT	**Kendrikon**	**1.86**	**345**	*e*Pb	**Pn**	**04 40 42.0**	**+0.2**
NVR	**Nevrokopi**	**2.00**	**7**	*e*PB	**Pn**	**04 40 44.0**	**+0.4**
MMB	**Musomiste**	**2.23**	**3**	*i* P	**Pn**	**04 40 46.1**	**-0.7**
RZN	**Rozhen**	**2.48**	**20**	*i* P	**Pn**	**04 40 50.2**	**-0.1**
KKB	**Krupnik**	**2.52**	**352**	*i* P	**Pn**	**04 40 50.5**	**-0.4**
KDZ	**Kurdzhali**	**2.69**	**31**	*i* P	**Pn**	**04 40 52.0**	**-1.1**
DIM	**Dimitrovgrad**	**3.07**	**29**	*i* Pg	**Pg**	**04 41 07.2**	**-1.2**
PGB	**Panagyurishte**	**3.21**	**8**	*i* Pg	**Pg**	**04 41 10.6**	**-0.5**
VTS	**Vitosha**	**3.23**	**355**	*i* P	**Pn**	**04 41 01.8**	**+1.2**

NIED ***22*** *04:48:00, 3500N×13960E, h8km, Mw3.5 Best double couple: M0=1.72000×10^14 NP1:φs=111.00000°, δ89.00000°, λ170.00000°. NP2:φs=201.00000°, δ80.00000°, λ1.00000°.*

JMA 22 04:48:09.5, 3499N×13956E, h26km±1km, M4.0, 6C-3D

2006 DEC

Broadband fault plane solution: P waves. NP1: φs=180.00000°, δ42.00000°, λ-37.00000°. **NP2:** φs=299.00000°, δ66.00000°, λ-126.00000°. **Principal axes:** T Plg14.0000°, Azm54.0000°; N Plg32.0000°, Azm315.0000°; P Plg54.0000°, Azm164.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.25**	**20**	⇑P	Pb	04 48 15.7	-0.2
JYO				S	Sb	04 48 21.0	+0.8
TATJ	**Tateyama 2**	**0.27**	**81**	⇑P	Pb	04 48 16.4	+0.2
TATJ				S	Sb	04 48 22.2	+1.4
JIM2	**Oshima 3**	**0.29**	**201**	⇑P	Pb	04 48 16.3	-0.2
JIM2				S	Sb	04 48 21.4	+0.2
KTJJ	**Kamata 2**	**0.41**	**261**	⇑P	Pb	04 48 18.0	-0.3
KTJJ				S	Sb	04 48 24.2	-0.1
JOD2	**Odawara 2**	**0.47**	**305**	⇓P	Pb	04 48 19.1	-0.2
JOD2				S	Sb	04 48 26.0	+0.1
JIZS	**Izushimoda**	**0.62**	**244**	⇑P	Pb	04 48 21.6	-0.2
JIZS				S	Sb	04 48 30.3	+0.1
BSO4	**Boso 4**	**0.64**	**90**	P	Pb	04 48 22.4	+0.3
BSO3	**Boso 3**	**0.80**	**103**	⇓P	Pb	04 48 24.3	-0.5
JYN	**Shimob**	**0.97**	**302**	P	Pn	04 48 27.1	-0.4
JYN				S	Sb	04 48 40.0	-0.1
SHZ3	**Shizuoka 3**	**1.11**	**274**	⇑P	Pn	04 48 30.0	+0.7
SHZ3				S	Sn	04 48 45.7	+1.9
JRY	**Ryogami san**	**1.16**	**333**	⇓P	Pn	04 48 30.1	+0.1
JRY				S	Sn	04 48 45.3	+0.4
MAT	**Matsushiro**	**1.90**	**325**	P	Pn	04 48 41.8	+1.6
MAT				S	Sn	04 49 06.4	+3.1

NEIC ***22*** *04:52:28.7±0.5, 5160N×1612E, h5km, ML3.0(BRA), ML3.1(SZGRF) Error ellipse: s-maj=6.9km s-min=5.0km az=91.0*
IDC ***22*** *04:52:28.6±0.7, 5143N×1644E, h0km, mb3.1/2, mb1 3.4/6, mb1mx3.3/18, mbtmp3.2/6, ML2.8/4, Error ellipse: s-maj=13.3km s-min=7.1km az=110.0*
IPEC ***22*** *04:52:28.8±0.3, 5158N×1614E, h0km, ML2.8/4, Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
ISCJB ***22*** *04:52:28.9±0.4, 5143N±002×1601E±002, h0km, mb2.9/2, Error ellipse: s-maj=3.0km s-min=2.0km az=26.7*
BGR ***22*** *04:52:29.7±0.4, 5153N×1606E, h1km, ML3.1/12, Error ellipse: s-maj=5.6km s-min=2.2km az=11.0*
PRU ***22*** *04:52:30.8, 5149N×1601E, h0km*
WAR ***22*** *04:52:30.6, 5154N×1603E, ML2.8, Mining Induced*
CSEM ***22*** *04:52:30.8±0.1, 5148N×1601E, h0km, ML3.5/12, Error ellipse: s-maj=2.2km s-min=1.5km az=12.0*
VIE ***22*** *04:52:32.1±0.5, 5132N×1594E, h0km, mb2.6/5, ML3.0/6, Error ellipse: s-maj=3.1km s-min=2.5km az=23.0 78 km WNW of Breslau Suspected Mining induced.*

ISC 22 04:52:29.3±0.4, 5152N±002×1603E±002, h0km, n70, σ0 93/131, mb2.9/2, 3C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**166**	*i* Pg	**Pg**	**04 52 43.6**	**+0.9**
KSP				*e*		04 52 45.4	
KSP				*i* Sg	**Sg**	**04 52 53.1**	**+1.4**
KSP				*e*		04 52 57.1	
KSP	**Ksiaz**	**0.70**	**166**	*e*Pn	**Pg**	**04 52 43.5**	**+0.8**
KSP				*e*Sg	**Sg**	**04 52 53.2**	**+1.5**
KSP	**Ksiaz**	**0.70**	**166**	⇓*i*Pg	**Pg**	**04 52 43.6**	**+0.9**
KSP				*e*		04 52 45.5	
KSP				*i* Sg	**Sg**	**04 52 53.1**	**+1.4**
KSP				*e*		04 52 57.1	
KSP	**Ksiaz**	**0.70**	**166**	*e*Pg	**Pg**	**04 52 43.3**	**+0.6**
KSP				*e*Sg	**Sg**	**04 52 52.2**	**+0.5**
UPC	**Upice**	**1.01**	**181**	*e*PG	**Pg**	**04 52 49.4**	**+0.6**
DPC	**Dobruska-Polom**	**1.19**	**171**	*e*Pn	**Pn**	**04 52 52.3**	**-0.9**
DPC	**Dobruska-Polom**	**1.19**	**171**	*e*PG	**Pg**	**04 52 52.3**	**+0.2**
DPC				*e*SG	**Sg**	**04 53 07.8**	**+0.4**
	79nm,0.6s						
DPC	**Dobruska-Polom**	**1.19**	**171**	*e*Pg	**Pg**	**04 52 52.2**	**+0.1**
DPC				*e*Sg	**Sg**	**04 53 07.7**	**+0.3**
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG	**Pg**	**04 52 55.4**	**0.0**
PVCC				*e*SG	**Sg**	**04 53 14.1**	**+1.2**
	287nm,0.5s						
BRG	**Berggiesshubel**	**1.47**	**245**	*e*Pn	**Pn**	**04 52 57.5**	**+0.5**
BRG				*e*Sg	**Sg**	**04 53 17.6**	**+1.1**
BRG	**Berggiesshubel**	**1.47**	**245**	PN	**Pn**	**04 52 56.4**	**-0.6**
BRG				PG	**Pg**	**04 52 58.1**	**+0.7**
BRG				SG	**Sg**	**04 53 17.9**	**+1.4**
	56nm,0.4s						
FBE	**Freiberg**	**1.79**	**251**	*e*Pn	**Pn**	**04 53 01.9**	**+0.4**
FBE				*e*Sg	**Sg**	**04 53 27.8**	**+0.9**
PRU	**Pruhonice**	**1.80**	**212**	*e*PN	**Pn**	**04 53 01.4**	**-0.3**
PRU				*e*PG	**Pg**	**04 53 03.2**	**-0.7**
PRU				*e*SG	**Sg**	**04 53 27.1**	**-0.2**
	67nm,0.6s						
GKP	**Gorka Klasztor**	**1.90**	**22**	*e*Pn	**Pn**	**04 53 09.4**	**+6.4**
GKP				*e*Pg	**Pg**	**04 53 11.2**	**+5.4**
GKP				*e*Sg	**Sg**	**04 53 32.4**	**+1.9**
CLL	**Collm**	**1.91**	**265**	*e*Pn	**Pn**	**04 53 02.2**	**-0.9**
CLL				*e*Sg	**Sg**	**04 53 31.3**	**+0.6**
CLL	**Collm**	**1.91**	**265**	*i* Pn	**Pn**	**04 53 02.3**	**-0.8**
CLL				*i* Pg	**Pg**	**04 53 05.1**	**-0.9**
CLL				*i* Sg	**Sg**	**04 53 31.4**	**+0.7**
CLL	**Collm**	**1.91**	**265**	*i* Pn	**Pn**	**04 53 02.3**	**-0.8**
	comp=Z,25nm,0.4s						
CLL				*i* Pg	**Pg**	**04 53 05.1**	**-0.9**
CLL				*i* x	x	04 53 09.4	
CLL				*i* Sg	**Sg**	**04 53 31.4**	**+0.7**
	comp=Z,45nm,0.7s						
CLL				*ex*	x	04 53 39.0	
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn	**Pn**	**04 53 03.9**	**-0.3**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn	**Pn**	**04 53 03.9**	**-0.4**
MORC				*e*Sg	**Sg**	**04 53 32.0**	**-1.4**
	comp=Z,46nm,0.5s						
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*Pn	**Pn**	**04 53 05.9**	**-0.6**
OKC				*e*Sg	**Sg**	**04 53 37.7**	**-0.9**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PN	**Pn**	**04 53 06.0**	**-0.5**
OKC				*e*PG	**Pg**	**04 53 10.2**	**-0.5**
OKC				*e*SG	**Sg**	**04 53 37.2**	**-1.4**
	comp=Z,71nm,0.7s						
VRAC	**Vranov**	**2.24**	**171**	Pg	**Pg**	**04 53 08.2**	**-4.2**
	comp=Z,2.7nm,0.3s,baz=324,slow=14,SNR=11						
VRAC				Lg		04 53 38.9	
	comp=Z,3.7nm,0.3s,baz=76,slow=21,SNR=4.9						
VRAC	**Vranov**	**2.24**	**171**	*e*Pn	**Pn**	**04 53 07.9**	**+0.2**
VRAC	**Vranov**	**2.24**	**171**	Pg	**Pg**	**04 53 08.1**	**-4.2**
VRAC				*e*Sg	**Sg**	**04 53 40.3**	**-1.1**
	comp=Z,31nm,0.4s						
TREC	**Trest**	**2.25**	**189**	*e*PN	**Pn**	**04 53 08.3**	**+0.4**
TREC				*e*PG	**Pg**	**04 53 11.6**	**-1.0**
KRUC	**Moravsky**	**2.47**	**174**	*e*Pn	**Pn**	**04 53 11.3**	**+0.4**
KRUC				*e*Sg	**Sg**	**04 53 48.0**	**-0.8**
	comp=Z,42nm,0.7s						
TANN	**Tannenbergstha**	**2.51**	**245**	*e*Pn	**Pn**	**04 53 11.5**	**+0.1**
TANN				*e*Sg	**Sg**	**04 53 50.3**	**+0.2**
WERD	**Werda**	**2.59**	**247**	*e*Pn	**Pn**	**04 53 12.3**	**-0.1**
WERD	**Werda**	**2.59**	**247**	Pn	**Pn**	**04 53 12.3**	**-0.2**
NKC	**Novy Kostel**	**2.61**	**242**	*e*PN	**Pn**	**04 53 12.8**	**0.0**
NKC				*e*PG	**Pg**	**04 53 19.5**	**+0.1**
NKC				*e*SG	**Sg**	**04 53 53.3**	**+0.1**
	comp=Z,82nm,0.5s						
OJC	**Ojcow**	**2.72**	**117**	*e*Pg	**Pg**	**04 53 22.1**	**+0.7**
OJC				*e*Sg	**Sg**	**04 53 57.0**	**+0.3**
KHC	**Kasperske Hory**	**2.86**	**214**	*e*PN	**Pn**	**04 53 16.0**	**-0.2**
KHC				*e*PG	**Pg**	**04 53 22.5**	**-1.7**
KHC				*e*SN	**Sn**	**04 53 52.0**	**+0.6**
KHC				*e*SG	**Sg**	**04 54 00.9**	**-0.4**
	comp=Z,33nm,0.8s						
JAVC	**Velka Javorina**	**2.86**	**158**	*e*Pn	**Pn**	**04 53 17.9**	**+1.6**
JAVC				*e*Sg	**Sg**	**04 54 01.1**	**-0.3**
	comp=Z,44nm,1.1s						
MOX	**Moxa**	**2.92**	**254**	*e*Pn	**Pn**	**04 53 16.8**	**-0.2**
MOX				*e*Sg	**Sg**	**04 54 04.3**	**+1.1**
MOX	**Moxa**	**2.92**	**254**	*e*PN	**Pn**	**04 53 16.7**	**-0.3**
MOX				*e*PG	**Pg**	**04 53 24.7**	**-0.6**
MOX				*e*SG	**Sg**	**04 54 04.6**	**+1.4**
MOX	**Moxa**	**2.92**	**254**	*e*Pn	**Pn**	**04 53 16.7**	**-0.3**
MOX				*e*Pg	**Pg**	**04 53 24.7**	**-0.6**
MOX				*e*Sg	**Sg**	**04 54 04.6**	**+1.4**
MANZ	**Manzenberg**	**2.93**	**240**	*e*Pn	**Pn**	**04 53 17.5**	**+0.3**
MANZ				*e*Sg	**Sg**	**04 54 02.6**	**-0.8**
ROTZ	**Rotzenmuhle**	**3.00**	**236**	*e*Pn	**Pn**	**04 53 18.7**	**+0.6**
ROTZ				*e*Sg	**Sg**	**04 54 04.8**	**-1.0**
GEC2	**GERESS Array S**	**3.07**	**210**	*e*Pn	**Pn**	**04 53 20.1**	**+1.0**
GEC2				*e*Sg	**Sg**	**04 54 07.2**	**-0.7**
GEC2	**GERESS Array S**	**3.07**	**210**	*e*Pn	**Pn**	**04 53 20.1**	**+1.0**
GEC2				*e*Sg	**Sg**	**04 54 07.2**	**-0.7**
GERES	**GERESS Array B**	**3.07**	**210**	Pn	**Pn**	**04 53 20.1**	**+1.0**
	comp=Z,2.3nm,0.3s,baz=29,slow=13,SNR=68						
GERES				Pg	**Pg**	**04 53 26.2**	**-2.0**
	comp=Z,5.8nm,0.3s,baz=33,slow=17,SNR=34						
GERES				Sn	**Sn**	**04 53 56.8**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=28,slow=28,SNR=5.2						
GERES				Lg		04 54 05.8	
	comp=Z,6.9nm,0.3s,baz=39,slow=26,SNR=16						
GERES	**GERESS Array B**	**3.07**	**210**	Pg	**Pg**	**04 53 26.2**	**-2.0**
WET	**Wettzell**	**3.12**	**222**	*e*Pn	**Pn**	**04 53 20.2**	**+0.4**
WET				*e*Sg	**Sg**	**04 54 08.0**	**-1.7**
WET	**Wettzell**	**3.12**	**222**	*e*Pn	**Pn**	**04 53 20.2**	**+0.4**
WET				*e*Sg	**Sg**	**04 54 08.0**	**-1.6**
SMOL	**Smolenice**	**3.14**	**163**	*e*SG	**Sg**	**04 54 11.2**	**+0.9**
ZST	**Bratislava**	**3.40**	**168**	*e*SG	**Sg**	**04 54 19.7**	**+1.2**
NIE	**Niedzica**	**3.45**	**126**	*e*P	**Pg**	**04 53 34.7**	**-0.8**
NIE				*e*S	**Sg**	**04 54 19.6**	**-0.6**
VYHS	**Vyhne**	**3.53**	**148**	*e*SG	**Sg**	**04 54 25.5**	**+2.8**
GRA1	**Grafenberg Arr**	**3.57**	**241**	*e*Pn	**Pn**	**04 53 26.3**	**+0.3**
GRA1	**Grafenberg Arr**	**3.57**	**241**	Pn	**Pn**	**04 53 26.3**	**+0.3**
GRF	**Grafenberg Arr**	**3.57**	**241**	*e*Pn	**Pn**	**04 53 26.3**	**+0.3**
GRFO	**Grafenberg**	**3.57**	**241**	*e*Pn	**Pn**	**04 53 25.9**	**-0.1**
GRFO				*e*Pg	**Pg**	**04 53 38.9**	**+1.1**
GRFO				*e*Sg	**Sg**	**04 54 24.6**	**+0.6**
GRFO	**Grafenberg**	**3.57**	**241**	*e*Pn	**Pn**	**04 53 25.9**	**-0.1**
GRFO	**Grafenberg**	**3.57**	**241**	*e*Pg	**Pg**	**04 53 38.9**	**+1.1**
CONA	**Conrad Observa**	**3.60**	**182**	⇓*i*Pn	**Pn**	**04 53 27.0**	**+0.7**
CONA				⇓*i*Sg	**Sg**	**04 54 24.9**	**0.0**
	comp=Z,22nm,0.5s						
BSD	**Bornholm Skovb**	**3.66**	**350**	*i* P	**Pn**	**04 53 25.6**	**-1.6**
BSD				*i* S	**Sn**	**04 54 07.2**	**-3.9**
MOA	**Molln**	**3.85**	**198**	⇓*i*Pn	**Pn**	**04 53 30.3**	**+0.5**
	SNR=12						
MOA				⇓*i*Sg	**Sg**	**04 54 32.1**	**-1.0**
	comp=Z,13nm,0.5s						
MOA	**Molln**	**3.85**	**198**	Pn	**Pn**	**04 53 30.3**	**+0.5**
	comp=Z,11nm,6.0s						
MOA				Sg	**Sg**	**04 54 32.1**	**-0.9**
	comp=Z,13nm,0.5s						
STHS	**Stebnicka Huta**	**3.94**	**120**	*e*PN	**Pn**	**04 53 32.6**	**+1.6**
STHS				*e*PG	**Pg**	**04 53 44.9**	**+0.1**
STHS				*e*SG	**Sg**	**04 54 39.1**	**+3.2**
STHS	**Stebnicka Huta**	**3.94**	**120**	*e*Pn	**Pn**	**04 53 32.7**	**+1.7**
STHS				*e*Pg	**Pg**	**04 53 44.9**	**+0.1**
STHS				*e*Sg	**Sg**	**04 54 39.1**	**+3.2**
KECS	**Kecovo**	**4.18**	**135**	*e*SG	**Sg**	**04 54 43.2**	**-0.5**
ARSA	**Arzberg**	**4.29**	**185**	⇑*i*Pn	**Pn**	**04 53 35.7**	**-0.1**
ARSA				⇓*i*Sg	**Sg**	**04 54 47.0**	**-0.1**
	comp=Z,13nm,0.5s						
KBA	**Koelnbreinsper**	**4.78**	**203**	⇑*i*Pn	**Pn**	**04 53 43.6**	**+1.0**
KBA				⇑*i*Sg	**Sg**	**04 55 03.3**	**+0.3**
	comp=Z,14nm,0.6s						
AKASG	**Malin Array Be**	**8.34**	**90**	Pn	**Pn**	**04 54 22.0**	**-10**
	comp=Z,0.3nm,0.3s,baz=280,slow=12,SNR=2.8						
AKASG	**Malin Array Be**	**8.34**	**90**	Pn	**Pn**	**04 54 22.0**	**-10**
HFS	**Hagfors**	**8.73**	**352**	Pn

ESPR	Espera	2.41	139	Pn	Pn	05 31 40.5	+0.2
	comp=E,1.9nm,0.1s,SNR=7.9						
ESPR	Espera	2.41	139	Pg	Pn	05 31 46.9	+6.6
	comp=E,1.8nm,0.1s,SNR=7.9						
PVRL	Vila Real	2.58	2	*e*Pn	Pn	05 31 49.9	+7.2
EADA	Adamuz	2.61	101	Pn	Pn	05 31 41.8	-1.4
	comp=E,0.2nm,0.2s,SNR=7.9						
EADA				Pg	Pn	05 31 49.1	+5.9
	comp=E,1.0nm,0.1s,SNR=7.9						
EADA				Sn	Sn	05 32 13.0	-1.3
	comp=E,1.7nm,0.1s,SNR=4.0						
EADA				Lg		05 32 25.3	
	comp=E,4.4nm,0.1s,SNR=7.9						
EADA	Adamuz	2.61	101	Pn	Pn	05 31 41.8	-1.4
	comp=E,0.2nm,0.2s,SNR=7.9						
EADA	Adamuz	2.61	101	Pg	Pn	05 31 49.1	+5.9
	comp=E,1.0nm,0.1s,SNR=7.9						
EADA				Sn	Sn	05 32 13.0	-1.3
	comp=E,1.7nm,0.1s,SNR=4.0						
ESDC	Sonseca Array	3.17	71	Pn	Pn	05 31 49.9	-0.9
	baz=256,slow=13,SNR=7.9						
ESDC				Sn	Sn	05 32 26.1	-1.8
	baz=255,slow=24,SNR=7.9						
ESDC				Lg		05 32 37.1	
	comp=E,1.5nm,0.2s,baz=266,slow=28,SNR=7.9						
ESDC	Sonseca Array	3.17	71	Pn	Pn	05 31 49.9	-0.9
	SNR=7.9						
ESDC				Sn	Sn	05 32 26.1	-1.8
	SNR=7.9						
ELOB	Lobios	3.17	357	Pn	Pn	05 31 49.3	-1.6
	comp=E,0.8nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	05 32 23.4	-4.7
	comp=E,1.2nm,0.1s,SNR=7.9						
ELOB				Lg		05 32 39.4	
	comp=E,1.6nm,0.1s,SNR=7.9						
ELOB	Lobios	3.17	357	Pn	Pn	05 31 49.3	-1.6
	comp=E,0.8nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	05 32 23.4	-4.7
	comp=E,1.2nm,0.1s,SNR=7.9						
PBRG	Braganca	3.22	15	*e*Pn	Pn	05 31 49.8	-1.7
PBRG				A		05 32 49.3	
	comp=E,5.2nm,0.4s						
PBRG	Braganca	3.22	15	*e*Pn	Pn	05 31 49.8	-1.7
	comp=E,5.2nm,0.4s						
EBAN	Banos Encina	3.23	98	Sn	Sn	05 32 27.5	-1.8
	comp=E,1.8nm,0.1s,SNR=7.9						
EBAN				Lg		05 32 43.3	
	comp=E,1.8nm,0.2s,SNR=7.9						
EMIJ	Mijas	3.23	130	Pn	Pn	05 31 51.4	-0.3
	comp=E,0.5nm,0.2s,SNR=7.9						
ECAL	Calabor	3.35	14	Pn	Pn	05 31 52.1	-1.2
	comp=E,1.7nm,0.3s,SNR=15						
ECAL				Sn	Sn	05 32 28.0	-4.5
	comp=E,1.0nm,0.2s,SNR=4.0						
ECAL				Lg		05 32 46.5	
	comp=E,1.8nm,0.2s,SNR=7.9						
ECAL	Calabor	3.35	14	Pn	Pn	05 31 52.1	-1.2
	comp=E,1.7nm,0.3s,SNR=15						
ECAL				Sn	Sn	05 32 28.0	-4.4
	comp=E,1.0nm,0.2s,SNR=4.0						
GUD	Guadarrama	3.44	54	Lg		05 32 49.8	
	comp=E,2.4nm,0.2s,SNR=7.9						
EQUE	Quentar	3.78	112	Lg		05 33 03.7	
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES	Quesada	3.86	102	Pn	Pn	05 32 02.7	+2.4
	comp=E,0.5nm,0.1s,SNR=7.9						
EQES				Sn	Sn	05 32 42.7	-2.2
	comp=E,0.6nm,0.1s,SNR=7.9						
EQES				Lg		05 33 06.3	
	comp=E,0.8nm,0.1s,SNR=7.9						
EQES	Quesada	3.86	102	Pn	Pn	05 32 02.7	+2.4
	comp=E,0.5nm,0.1s,SNR=7.9						

*IDC **22** 05:31:04.0±0.8, 4632N×15431E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.7/25, mbtmp3.7/11, MS3.1/1, Ms1 3.1/1, ms1mx2.6/30, Error ellipse: s-maj=24.9km s-min=20.6km az=142.0*

*ISCJB **22** 05:31:04.0±3.5, 463N±0.1×1543E±0.1, h12km±22km, mb3.7/14, MS3.0/1, Error ellipse: s-maj=18.2km s-min=16.7km az=110.5*

*NEIC **22** 05:31:05.6±0.6, 4632N×15430E, h10km, mb4.0/1, Error ellipse: s-maj=15.7km s-min=12.9km az=163.0*

*MOS **22** 05:31:07.2±1.4, 4635N×15431E, h33km, mb4.0/8, Error ellipse: s-maj=26.9km s-min=13.1km az=93.2*

ISC 22 05:31:08.0±3.5, 464N±01×1543E±01, h26km±24km, n31, σ0§79/31, mb3.7/14, MS3.0/1, 5C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	Petropavlovsk	7.24	21⇑	*e*PN	Pn	05 32 50.6	-1.5
YAK	Yakutsk	21.11	327⇑	*e*P	P	05 35 51.2	+0.6
BILL	Bilibino	22.60	12⇑	*e*P	P	05 36 07.3	+0.8
BILL				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb3.8						
TIXI	Tiksi	28.09	343⇑	*e*P	P	05 37 00.2	+2.8
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb3.8						
SONM	Songino Array	32.26	290	P	P	05 37 33.8	-0.5
	comp=Z,0.2nm,0.5s,mb3.2,baz=75,slow=9.3,SNR=3.0						
GUMO	Guam	33.62	197	LR	LR	05 48 00.4	
	comp=Z,29nm,20.1s,MS3.0,baz=208,slow=30						
INK	Inuvik	41.54	32	P	P	05 38 53.3	+0.1
	comp=Z,0.6nm,0.5s,mb3.5,baz=309,slow=6.5,SNR=4.7						
INK	Inuvik	41.54	32	P	P	05 38 53.3	+0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	41.54	32	*e*P	P	05 38 54.0	+0.9
MKAR	Makanchi Array	47.87	298	P	P	05 39 42.6	-1.1
	comp=Z,0.7nm,0.8s,mb3.8,baz=69,slow=6.6,SNR=5.1						
MKAR	Makanchi Array	47.87	298	P	P	05 39 42.6	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	Kurchatov	48.28	304⇑	*e*P	P	05 39 47.2	+0.4
YKA	Yellowknife Ar	50.74	37	P	P	05 40 05.4	-0.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=295,slow=7.0,SNR=8.7						
YKA	Yellowknife Ar	50.74	37	P	P	05 40 05.4	-0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	50.74	37	P	P	05 40 05.4	-0.2
BVAR	Borovoye Array	51.76	310	P	P	05 40 13.4	+0.2
	comp=Z,0.3nm,0.4s,mb3.6,baz=64,slow=11,SNR=2.7						
BVAR	Borovoye Array	51.76	310	P	P	05 40 13.4	+0.2
BRVK	Borovoye	51.80	310	*e*P	P	05 40 13.7	+0.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	Borovoye	51.80	310	*e*P	P	05 40 13.7	+0.2
	comp=Z,0.8nm,0.4s,mb4.0						
ARU	Arti	55.87	318	*e*P	P	05 40 42.7	-0.6
ARU				*e*		05 42 43.0	
ARU				*e*S	S	05 48 28.4	-0.7
ARU				*e*SS	SS	05 52 14.4	-0.5
NVAR	Mina Array Bea	61.87	63	P	P	05 41 24.6	-0.4
	comp=Z,0.4nm,0.6s,mb3.7,baz=291,slow=5.7,SNR=3.1						
FINES	FINESS Array B	64.75	335	P	P	05 41 43.2	-0.8
	comp=Z,1.8nm,1.0s,mb4.1,baz=358,slow=4.2,SNR=3.6						
FINES	FINESS Array B	64.75	335	P	P	05 41 43.2	-0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	64.75	335	P	P	05 41 43.2	-0.8
WRA	Warramunga Arr	68.42	200	P	P	05 42 07.3	-0.2
	comp=Z,0.3nm,0.7s,mb3.4,baz=16,slow=6.2,SNR=3.9						
HFS	Hagfors	69.12	340	P	P	05 42 12.4	+0.6
	comp=Z,5.3nm,1.0s,mb4.4,baz=65,slow=12,SNR=5.0						
HFS	Hagfors	69.12	340	P	P	05 42 12.4	+0.6
HFS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ASAR	Alice Springs	72.11	200	P	P	05 42 30.3	+0.3
	comp=Z,0.4nm,0.7s,mb3.4,baz=10,slow=5.7,SNR=3.9						
TXAR	Lajitas Array	76.95	61	P	P	05 42 58.5	+0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=304,slow=4.6,SNR=18						
TXAR	Lajitas Array	76.95	61	P	P	05 42 58.5	+0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	76.95	61	P	P	05 42 58.5	+0.3

IDC 22 06:07:52.1±2.3, 4679N×15335E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=64.8km s-min=26.1km az=174.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	8.02	254	Pn	Pn	06 09 51.0	+1.1
	0.9nm,0.3s,baz=129,slow=26,SNR=3.8						
MKAR	Makanchi Array	47.07	297	P	P	06 16 23.9	-1.7
	0.6nm,0.8s,baz=64,slow=8.7,SNR=4.1						
YKA	Yellowknife Ar	50.80	37	P	P	06 16 52.9	-1.2
	0.2nm,0.5s,baz=295,slow=7.1,SNR=4.2						
BVAR	Borovoye Array	50.96	309	P	P	06 16 54.7	-0.7
	0.4nm,0.4s,baz=59,slow=12,SNR=3.3						
FINES	FINESS Array B	64.08	335	P	P	06 18 27.2	-0.6
	1.6nm,0.8s,baz=19,slow=8.1,SNR=6.7						
NOA	NORSAR Array B	68.25	341	P	P	06 18 55.5	+0.8
	0.6nm,0.7s,baz=78,slow=19,SNR=3.0						
AKASG	Malin Array Be	71.61	326	P	P	06 19 15.0	-0.3
	0.7nm,0.4s,baz=32,slow=5.9,SNR=4.1						
TXAR	Lajitas Array	77.33	61	P	P	06 19 48.8	+0.2
	0.1nm,0.6s,baz=258,slow=4.2,SNR=2.9						

*ISCJB **22** 06:21:52.0±0.5, 3938N±002×2352E±004, h8km±4km, Error ellipse: s-maj=4.8km s-min=3.9km az=19.5*

*THE **22** 06:21:52.7, 3932N×2351E, h13km, ML2.8*

*CSEM **22** 06:21:52.8±0.1, 3938N×2352E, h2km, MD3.2, Error ellipse: s-maj=1.4km s-min=1.2km az=124.0*

*ATH **22** 06:21:52.5, 3935N×2350E, h12km, MD3.2/5*

ISC 22 06:21:52.3±0.5, 3936N±003×2352E±004, h15km±4km, n18, σ0§87/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.24	257	*e*PG	Pg	06 21 57.3	-0.2
NEO				*e*SG	Sg	06 22 00.6	-0.4
XOR	Xorichti	0.26	272	*e*Pg	Pg	06 21 57.7	-0.1
XOR				*e*Sg	Sg	06 22 01.5	0.0
AOS	Alonnisos	0.34	124	*e*Pg	Pg	06 21 59.2	0.0
AOS				*e*Sg	Sg	06 22 04.3	+0.5
PAIG	Paliouri	0.58	12	*e*Pg	Pg	06 22 04.8	+1.1
PAIG				*e*Sg	Sg	06 22 14.4	+3.0
LKR	Lokris	0.82	210	*e*PB	Pg	06 22 07.7	-0.4
LKR				*e*SB	Sg	06 22 18.9	+0.1
AGG	Agios Georgios	0.98	250	*e*Pg	Pg	06 22 10.9	-0.4
AGG				*e*Sg	Sg	06 22 24.7	+0.5
PLG	Polygyros	1.02	357	*e*PB	Pb	06 22 11.5	0.0
PLG				*e*SB	Sb	06 22 25.2	+0.5
OUR	Ouranopolis	1.04	20	*e*Pg	Pg	06 22 11.7	-0.6
LIT	Litokhoron	1.09	313	*e*Pg	Pg	06 22 12.6	-0.7
LIT				*e*Sg	Sg	06 22 29.8	+2.3
THL	Klokotos Trika	1.19	280	*e*PB	Pb	06 22 14.6	+0.2
HORT	Hortiatis	1.28	345	*e*Pg	Pg	06 22 15.8	-1.1
HORT				*e*Sg	Sg	06 22 33.0	-0.6
THE	Thessaloniki	1.34	342	*e*Pg	Pn	06 22 16.6	+0.2
THE				*e*Sg	Sn	06 22 35.2	+1.2
THE	Thessaloniki	1.34	342	*e*Pg	Pn	06 22 16.6	+0.1
THE				*e*Sg	Sn	06 22 35.2	+1.2
EVR	Evrytania	1.40	252	*e*PB	Pb	06 22 18.5	+0.3
SOH	Sokhos	1.47	355	*e*Pg	Pn	06 22 18.7	+0.5
SOH				*e*Sg	Sg	06 22 39.0	-0.6
KZN	Kozani	1.65	306	*e*PB	Pb	06 22 23.4	+1.1
KZN				*e*SB	Sg	06 22 45.9	+0.6
GRG	Griva	1.81	332	*e*Pb	Pb	06 22 23.3	-1.9
GRG				*e*Sb	Sb	06 22 46.5	-1.1
KNT	Kendrikon	1.86	345	*e*Pb	Pb	06 22 24.5	-1.5
KNT				*e*Sb	Sb	06 22 48.8	-0.3

MAN 22 06:39:39.5, 1652N×12144E, h58km, mb2.5, ML4.0, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	0.56	41	*e*P	Pn	06 39 53.2	+1.2
CAUP				*e*S	Sn	06 40 04.6	+3.6
BALP	Baler	0.78	170	*e*P	Pn	06 39 55.7	+1.0
BALP				*e*S	Sn	06 40 08.2	+2.4
PCPH	Palayan	1.01	199⇑	*i*P	Pn	06 39 58.4	+0.9
PCPH				*i* S	Sn	06 40 13.1	+2.2
ABRA	Dolores	1.32	328	*e*P	Pn	06 40 03.3	+1.6
ABRA				*e*S	Sn	06 40 20.1	+1.6
APYP	Conner	1.35	352	*e*P	Pn	06 40 02.9	+0.8
APYP				*e*S	Sn	06 40 23.0	+4.0
BOLP	Bolinao	1.47	265	*e*P	Pn	06 40 04.8	+1.1

*ISCJB **22** 06:48:33.2±2.1, 1863N±005×6220W±005, h4km±14km, mb3.5/4, MS3.2/1, Error ellipse: s-maj=8.3km s-min=6.9km az=96.7*

*IDC **22** 06:48:33.3±1.1, 1869N×6199W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.4/4, MS3.3/1, Ms1 3.4/1, ms1mx3.1/12, Error ellipse: s-maj=37.8km s-min=18.6km az=52.0*

*NEIC **22** 06:48:37.7±0.7, 1860N×6226W, h35km, Error ellipse: s-maj=15.2km s-min=9.3km az=44.0*

*TRN **22** 06:48:37.0, 1845N×6259W, h87km, MD3.8*

ISC 22 06:48:34.8±1.9, 1857N±005×6225W±006, h5km±11km, n16, σ1§09/22, mb3.5/4, MS3.2/1, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	St. Maarten, A	0.97	237	*e*P	Pg	06 48 53.7	+0.3
STMA				*e*S	Sg	06 49 06.0	+0.1
SKI	Saint Kitts	1.31	201	*e*P	Pn	06 49 00.3	+0.5
SKI				*e*S	Sb	06 49 15.8	-1.3
SKTB	Turtle Beach	1.40	194	*e*P	Pn	06 49 01.9	+1.0
SKTB				*e*S	Sb	06 49 19.3	-0.2
NVRH	Round Hill, Ne	1.42	193	*e*P	Pn	06 49 01.9	+0.6
NVRH				*e*S	Sb	06 49 18.2	-1.9
LZG	Guadaloupe-1	2.46	169⇓	*e*P	Pn	06 49 15.9	+0.3
DEG	La Desirade	2.52	153	*e*P	Pn	06 49 15.7	-0.7
DEG				*e*S	Sn	06 49 48.8	+1.4
SCG	Saint Claude	2.59	168	*e*P	Pn	06 49 18.4	+1.0
TBG	Guadaloupe-3	2.77	168	*e*P	Pn	06 49 19.6	-0.1
BBL	Barber's Block	3.12	166	*e*P	Pn	06 49 25.4	+0.7
MTP	Monte Pirata	3.17	262	*e*Pn	Pn	06 49 24.8	-0.5
MTP				*e*Sn	Sn	06 50 06.2	+2.8
CPD	Cerro la Pandu	3.52	262	*e*Pn	Pn	06 49 29.4	-0.7
CPD				*e*Sn	Sn	06 50 15.6	+3.5
LPAZ	La Paz	35.12	190	LR	LR	07 10 47.8	
	comp=Z,41nm,18.7s,MS3.2,baz=182,slow=38						
TXAR	Lajitas Array	39.15	294	P	P	06 56 05.8	+2.4
	0.2nm,0.6s,mb3.0,baz=118,slow=7.3,SNR=2.6						
PDAR	Pinedale Array	46.54	312	P	P	06 57 02.8	-0.5
	0.6nm,0.7s,mb3.7,baz=117,slow=9.0,SNR=5.9						
YKA	Yellowknife Ar	56.67	334	P	P	06 58 17.5	-1.6
	0.4nm,0.6s,mb3.6,baz=103,slow=7.3,SNR=5.3						
TORD	Torodi Ar. Bea	61.49	85	P	P	06 58 51.1	-1.4
	0.4nm,0.8s,mb3.6,baz=290,slow=7.2,SNR=3.2						

*NIED **22** 07:07:00, 2590N×12860E, h14km, Mw4.2 Best double couple: M0:2.44000×10^15 NP1:φ=46.00000°, δ=48.00000°, λ=100.00000°. NP2:φ=212.00000°, δ=43.00000°, λ=79.00000°.*

*IDC **22** 07:07:41.2±1.1, 2606N×12845E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/41, Error ellipse: s-maj=38.4km s-min=16.4km az=84.0*

*JMA **22** 07:07:42.6±0.3, 2594N×12864E, h47km, M3.7*

*ISCJB **22** 07:07:43.1±1.1, 2600N±004×12864E±004, h32km±7km, mb3.6/8, Error ellipse: s-maj=7.2km s-min=5.9km az=146.5*

*NEIC **22** 07:07:46.2±1.1, 2607N×12848E, h35km, MG3.7(JMA), Error ellipse: s-maj=32.4km s-min=16.4km az=87.0*

ISC 22 07:07:44.1±1.0, 2603N±004×12858E±005, h25km±6km, n20, σ0§99/30, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.76	278	P	Pb	07 07 58.3	-0.3
JJT2				S	Sb	07 08 09.1	+0.6
NAH1	Naha	0.82	282	P	Pb	07 07 58.5	-1.2
NAH1				S	Sb	07 08 11.0	+0.7
JOW	Kunigami	0.84	341	Pn	Pn	07 07 59.7	-0.7
JOW				477nm,0.3s,baz=148,slow=20,SNR=188			
JOW				Sn	Sn	07 08 10.9	-1.1
	1μm,0.3s,baz=152,slow=16,SNR=37						
JOW	Kunigami	0.84	341	P	Pb	07 07 59.6	-0.5
JOW				S	Sb	07 08 12.5	+1.4
JIH	Iheya	1.14	331	P	Pn	07 08 04.2	-0.3
JIH				S	Sn	07 08 19.7	+0.4
JAGN	Aguni-jima	1.32	295	P	Pn	07 08 06.7	-0.3
JAGN				S	Sn	07 08 24.3	+0.5
JKE	Kume jima 2	1.64	281	P	Pn	07 08 10.3	-1.0
JKE				S	Sn	07 08 30.3	-1.3
JTK	Tokunoshima	1.78	11	P	Pn	07 08 13.3	0.0
JTK				S	Sn	07 08 33.4	-1.7
JMZ	Minamidaito 2	2.39	94	P	Pn	07 08 20.3	-1.3
JMZ				S	Sn	07 08 45.6	-4.4
JAM	Amami Oshima	2.54	21	P	Pn	07 08 23.6	-0.1
JAM				S	Sn	07 08 53.1	-0.8
JNU	Nakatsue	7.34	15	Pn	Pn	07 09 31.1	+1.4
	1.3nm,0.3s,baz=233,slow=12,SNR=4.7						
JNU				Sn	Sn	07 10 53.6	+1.4
	1.9nm,0.3s,baz=208,slow=12,SNR=2.9						
KSRS	Korea Array	11.40	357	LR	LR	07 15 00.7	
	comp=Z,104nm,21.3s,baz=171,slow=39						
SONM	Songino Array	27.89	327	P	P	07 13 33.9	+1.9
	0.8nm,0.5s,mb3.6,baz=144,slow=11,SNR=11						
MKAR	Makanchi Array	41.90	312	P	P	07 15 32.0	-0.4
	0.3nm,0.4s,mb3.2,baz=96,slow=11,SNR=7.8						
WRA	Warramunga Arr	46.04	172	P	P	07 16 06.7	+1.1
	0.8nm,0.6s,mb3.8,baz=352,slow=8.4,SNR=9.5						
BVAR	Borovoye Array	50.63	318	P	P	07 16 40.7	-0.3
	0.7nm,0.6s,mb3.6,baz=69,slow=9.7,SNR=3.8						
FINES	FINESS Array B	73.19	331	P	P	07 19 12.3	-0.4
	0.8nm,0.7s,mb3.8,baz=46,slow=6.0,SNR=3.9						
AKASG	Malin Array Be	75.89	320	P	P	07 19 28.1	-0.3
	0.3nm,0.3s,mb3.7,baz=59,slow=6.3,SNR=3.9						
BRTR	Keskin Array B	77.41	308	P	P	07 19 38.8	+1.8
	0.9nm,0.8s,mb3.7,baz=90,slow=4.9,SNR=3.7						
YKA	Yellowknife Ar	78.57	25	P	P	07 19 44.8	+1.4
	0.2nm,0.8s,mb3.1,baz=305,slow=5.8,SNR=4.0						

*ISCJB **22** 07:34:11.2±3.0, 3413S±01×1784W±05, h35km, mb4.1/2, MS3.2/1, Error ellipse: s-maj=57.5km s-min=13.2km az=35.1*

*IDC **22** 07:34:11.4±2.6, 3383S×17893W, h0km, mb4.2/2, mb1 4.5/3, mb1mx4.0/14, mbtmp4.3/3, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=66.8km s-min=32.5km az=123.0*

ISC 22 07:34:12.3±3.0, 3413S±02×1783W±05, h35km, n9, σ0§47/9, mb4.1/2, MS3.2/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	4.90	214	PN	Pn	07 35 22.9	-0.5
PUZ				SN	Sn	07 36 19.2	+0.4
MWZ	Matawai	5.46	217	*e*PN	Pn	07 35 30.9	-0.2
URZ	Urewera	5.62	220	Pn	Pn	07 35 34.2	+0.9
	8.2nm,0.3s,baz=317,slow=1.3,SNR=30						
URZ				Sn	Sn	07 36 36.2	-0.4
	12nm,0.3s,baz=150,slow=13,SNR=12						
URZ	Urewera	5.62	220	PN	Pn	07 35 33.8	+0.5
URZ				SN	Sn	07 36 36.2	-0.4
HNR	Honiara	31.63	316	LR	LR	07 51 31.9	
	comp=Z,45nm,18.1s,MS3.2,baz=181,slow=34						
ASAR	Alice Springs	42.81	271	P	P	07 42 07.0	+0.5
	2.0nm,0.6s,mb4.0,baz=111,slow=7.3,SNR=25						
WRA	Warramunga Arr	44.12	276	P	P	07 42 16.8	-0.4
	2.6nm,0.6s,mb4.1,baz=115,slow=7.6,SNR=17						
FINES	FINESS Array B	148.46	338	PKPbc	PKPbc	07 53 57.2	+2.1
	2.3nm,0.7s,baz=65,slow=3.7,SNR=7.3						
GERES	GERESS Array B	162.74	332	PKPab	PKPab	07 55 01.5	+2.2
	0.2nm,0.3s,baz=27,slow=9.2,SNR=3.5						

*NIED **22** 07:37:00, 4720N×15290E, h20km, Mw3.9 Best double couple: M0:6.77000×10^14 NP1:φ=119.00000°, δ=79.00000°, λ=-33.00000°. NP2:φ=216.00000°, δ=58.00000°, λ=-167.00000°.*

*IDC **22** 07:37:05.7±0.7, 4711N×15286E, h0km, mb3.9/16, mb1 4.1/16, mb1mx4.1/23, mbtmp3.9/16, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=21.4km s-min=16.0km az=158.0*

*NEIC **22** 07:37:09.4±0.7, 4752N×15298E, h10km, mb4.3/2, Error ellipse: s-maj=19.0km s-min=9.8km az=144.0*

*MOS **22** 07:37:10.2±2.8, 4722N×15308E, h33km, mb4.3/7, Error ellipse: s-maj=17.4km s-min=10.5km az=54.4*

*ISCJB **22** 07:37:11.9±0.9, 4708N±008×1529E±01, h60km±8km, mb4.0/20, Error ellipse: s-maj=17.9km s-min=6.4km az=93.2*

ISC 22 07:37:14.1±0.8, 4708N±008×1529E±01, h65km±7km, n57, σ1§16/63, mb4.0/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.96	244	*e*PN	Pn	07 38 15.0	+2.7
KUR				*e*S	Sn	07 39 03.5	+6.1
KUR				pmax	pmax		
	comp=Z,190nm,1.0s						
KUR				smax			
	comp=N,370nm,0.6s						
KUR				smax			
	comp=E,370nm,0.6s						
SKR	Severo-Kuril's	4.18	29	*e*PN	Pn	07 38 17.5	+2.0
SKR				*e*S	Sn	07 39 02.0	-1.1
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,110nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.4s						
NEM2	Nemuro 2	6.27	236	P	Pn	07 38 42.3	-1.7
NEM2				*e*S	Sn	07 39 49.4	-4.8
JNK	Nakash	6.74	242	P	Pn	07 38 51.0	+0.6
YSS	Yuzh-Sakhalins	6.94	273	*e*PN	Pn	07 38 56.0	+2.9
YSS	Yuzh-Sakhalins	6.94	273	Pn	Pn	07 38 54.5	+1.3
JTKR	Abashiri--Toko	7.04	247	P	Pn	07 38 56.1	+1.6
JAK	Akkeshi	7.10	238	P	Pn	07 38 54.0	-1.3
JAK				*e*S	Sn	07 40 10.5	-4.1
JAR	Ashorobuto	7.48	243	P	Pn	07 39 01.1	+0.6
JAR				*e*S	Sn	07 40 24.3	+0.5
JOB	Onbets	7.66	240	P	Pn	07 39 02.3	-0.7
ASAJ	Asahikawa	7.81	251	Pn	Pn	07 39 08.4	+3.4
	comp=Z,1.2nm,0.3s,baz=66,slow=15,SNR=12						
ASAJ				LR	LR	07 41 54.8	
	comp=Z,77nm,19.9s,baz=360,slow=37						
JKK2	Kamakawa 2	7.82	250	P	Pn	07 39 07.5	+2.3
JCH	Churui	8.11	240	P	Pn

YKA	**Yellowknife Ar**	**50.75**	**37**	P	**P**	**07 46 07.5**	**+0.1**
YKA				PcP	PcP	07 47 23.1	-0.7
JIRN	**Jiri**	**54.78**	**274**	*e*P	**P**	**07 46 37.6**	**+0.4**
comp=Z,6.8nm,0.5s,mb4.9							
GUN	**Gumba**	**54.83**	**275**	*e*P	**P**	**07 46 38.7**	**+1.1**
comp=Z,3.9nm,0.3s,mb4.8							
KKN	**Kakani**	**55.31**	**275**	*e*P	**P**	**07 46 42.2**	**+1.1**
comp=Z,4.4nm,0.3s,mb5.0							
DMN	**Daman**	**55.55**	**275**	*e*P	**P**	**07 46 42.7**	**-0.1**
comp=Z,5.0nm,0.4s,mb4.9							
DANN	**Dangsing**	**55.99**	**276**	*e*P	**P**	**07 46 49.6**	**+3.7**
KOLN	**Koldanda**	**56.47**	**276**	*e*P	**P**	**07 46 49.5**	**+0.2**
comp=Z,8.8nm,0.9s,mb4.8							
NVAR	**Mina Array Bea**	**62.41**	**62**	P	**P**	**07 47 31.2**	**+0.9**
comp=Z,0.5nm,0.6s,mb3.8,baz=295,slow=6.3,SNR=4.7							
NVAR	**Mina Array Bea**	**62.41**	**62**	P	**P**	**07 47 31.2**	**+0.9**
FINES	**FINESS Array B**	**63.68**	**335**	P	**P**	**07 47 37.0**	**-1.7**
comp=Z,1.2nm,0.4s,mb4.3,baz=44,slow=7.3,SNR=14							
FINES	**FINESS Array B**	**63.68**	**335**	P	**P**	**07 47 37.0**	**-1.7**
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**63.68**	**335**	P	**P**	**07 47 37.0**	**-1.7**
PDAR	**Pinedale Array**	**64.67**	**54**	P	**P**	**07 47 45.4**	**+0.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=284,slow=2.3,SNR=6.3							
NOA	**NORSAR Array B**	**67.87**	**341**	P	**P**	**07 48 04.5**	**-1.1**
comp=Z,1.0nm,0.9s,mb3.9,baz=28,slow=5.1,SNR=3.3							
NOA	**NORSAR Array B**	**67.87**	**341**	P	**P**	**07 48 04.6**	**-1.0**
NOA				pmax	pmax		
comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	**68.78**	**199**	P	**P**	**07 48 10.7**	**-0.5**
comp=Z,0.2nm,0.4s,mb3.4,baz=17,slow=6.6,SNR=3.9							
AKASG	**Malin Array Be**	**71.19**	**326**	P	**P**	**07 48 24.9**	**-1.2**
comp=Z,0.9nm,0.4s,mb4.1,baz=34,slow=6.3,SNR=6.1							
AKASG	**Malin Array Be**	**71.19**	**326**	P	**P**	**07 48 24.9**	**-1.2**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**72.47**	**198**	P	**P**	**07 48 34.4**	**+0.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=17,slow=6.2,SNR=5.4							
ASAR	**Alice Springs**	**72.47**	**198**	P	**P**	**07 48 34.4**	**+0.6**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**77.46**	**60**	P	**P**	**07 49 03.0**	**+0.5**
comp=Z,1.4nm,0.6s,mb4.1,baz=300,slow=4.8,SNR=32							
TXAR	**Lajitas Array**	**77.46**	**60**	P	**P**	**07 49 03.0**	**+0.5**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**78.05**	**317**	P	**P**	**07 49 06.7**	**+0.9**
comp=Z,1.4nm,0.9s,mb3.9,baz=32,slow=5.6,SNR=3.6							
BRTR	**Keskin Array B**	**78.05**	**317**	P	**P**	**07 49 06.7**	**+0.9**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.9s							
GERES	**GERESS Array B**	**78.10**	**334**	P	**P**	**07 49 05.3**	**-0.7**
comp=Z,0.4nm,0.6s,mb3.5,baz=57,slow=6.0,SNR=5.1							

*CSEM **22** 07:38:28.3±0.1, 4349N×458E, h20km, ML2.7/14, Error ellipse: s-maj=3.0km s-min=1.5km az=8.0*
*NEIC **22** 07:38:29.3, 4346N×462E, h5km, ML2.3(STR), ML2.7(LDG), After STR.*
*STR **22** 07:38:29.3±0.7, 4346N×462E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 22 07:38:27.3±0.1, 4345N×457E, h10km, Md2.4/2, Ml2.7/13, Error ellipse: s-maj=1.5km s-min=0.7km az=10.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAF	**Pradon**	**0.56**	**50**	Pg	Pg	07 38 39.6	+1.4
PRAF				Sg	Sg	07 38 46.9	+1.3
GELF	**Grande-Etoile**	**0.63**	**95**	Pg	Pg	07 38 40.7	+1.3
GELF				Sg	Sg	07 38 49.4	+1.8
LASF	**Ste Croix**	**0.82**	**321**	*e*Pn	Pn	07 38 43.5	-1.4
SNR=1.0							
LASF				*e*Sg	Sg	07 38 53.6	-0.1
66nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**0.82**	**321**	*e*Pg	Pg	07 38 42.3	-0.7
LASF				*e*Pn	Pn	07 38 43.5	-1.4
LASF				*e*Sg	Sg	07 38 53.6	-0.1
LASF	**Ste Croix**	**0.82**	**321**	*e*Pn	Pn	07 38 43.5	-1.4
SNR=1.0							
LASF				*e*Sg	Sg	07 38 53.6	-0.1
33nm,0.2s,SNR=1.0							
SMRF	**Simiane la Rot**	**0.90**	**54**	*e*Pg	Pg	07 38 44.4	-0.2
SMRF	**Simiane la Rot**	**0.90**	**54**	*e*P	Pg	07 38 45.9	+1.3
SNR=1.0							
SMRF				*e*Sn	Sn	07 38 56.9	-2.1
SNR=1.0							
SMRF	**Simiane la Rot**	**0.90**	**54**	*e*P	Pg	07 38 45.9	+1.3
SNR=1.0							
SMRF				*e*Sn	Sn	07 38 56.9	-2.1
SNR=1.0							
TAVF	**Tavernes**	**1.09**	**80**	Pg	Pg	07 38 48.9	+0.6
TAVF				Sg	Sg	07 39 03.6	+1.1
VIVF	**Saint-Julien-l**	**1.41**	**3**	*e*Pg	Pg	07 38 53.9	-0.5
VIVF				*e*Sg	Sg	07 39 12.3	-0.4
10nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.41**	**3**	*e*Pn	Pn	07 38 51.0	-2.0
VIVF				*e*Pg	Pg	07 38 53.9	-0.5
VIVF				*e*Sg	Sg	07 39 12.3	-0.4
VIVF	**Saint-Julien-l**	**1.41**	**3**	*e*Pg	Pg	07 38 53.9	-0.5
VIVF				*e*Sg	Sg	07 39 12.3	-0.4
5.1nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**1.42**	**94**	*e*Pg	Pg	07 38 54.1	-0.4
LMR				*e*Sn	Sn	07 39 09.3	-2.5
SNR=1.0							
LMR				*e*Sg	Sg	07 39 12.0	-0.9
27nm,0.2s,SNR=1.0							
LMR	**La Mourre**	**1.42**	**94**	*e*Pn	Pn	07 38 51.5	-1.6
LMR				*e*Pg	Pg	07 38 54.1	-0.4
LMR				*e*Sn	Sn	07 39 09.3	-2.5
LMR				*e*Sg	Sg	07 39 12.0	-0.9
LMR	**La Mourre**	**1.42**	**94**	*e*Pg	Pg	07 38 54.1	-0.4
LMR				*e*Sn	Sn	07 39 09.3	-2.5
SNR=1.0							
LMR				*e*Sg	Sg	07 39 12.0	-0.9
14nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**1.51**	**85**	*e*Pg	Pg	07 38 55.7	-0.6
FRF				*e*Sn	Sn	07 39 11.3	-2.9
SNR=1.0							
FRF				*e*Sg	Sg	07 39 15.1	-0.9
19nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**1.51**	**85**	*e*Pn	Pn	07 38 52.5	-1.9
FRF				*e*Pg	Pg	07 38 55.7	-0.6
FRF				*e*Sn	Sn	07 39 11.3	-2.9
FRF				*e*Sg	Sg	07 39 15.1	-0.9
FRF	**La Foret Royal**	**1.51**	**85**	*e*Pg	Pg	07 38 55.7	-0.6
FRF				*e*Sn	Sn	07 39 11.3	-2.9
SNR=1.0							
FRF				*e*Sg	Sg	07 39 15.1	-0.9
9.5nm,0.2s,SNR=1.0							
MTLF	**Montolieu**	**1.72**	**267**	*e*Pg	Pg	07 39 00.2	-0.1
SNR=1.0							
MTLF				*e*Sn	Sn	07 39 16.3	-3.0
MTLF				*e*Sg	Sg	07 39 22.1	-0.5
8.0nm,0.2s,SNR=1.0							
MTLF	**Montolieu**	**1.72**	**267**	*e*Pn	Pn	07 38 55.7	-1.6
MTLF				*e*Pg	Pg	07 39 00.2	-0.1
MTLF				*e*Sn	Sn	07 39 16.3	-3.0
MTLF				*e*Sg	Sg	07 39 22.1	-0.5
MTLF	**Montolieu**	**1.72**	**267**	*e*Pg	Pg	07 39 00.2	-0.1
SNR=1.0							
MTLF				*e*Sn	Sn	07 39 16.3	-3.0
MTLF				*e*Sg	Sg	07 39 22.1	-0.5
4.0nm,0.2s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.75**	**32**	*e*Sg	Sg	07 39 22.3	-1.2
4.4nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.75**	**32**	*e*Sg	Sg	07 39 22.3	-1.2
2.2nm,0.4s							
SBF	**Sospel**	**2.12**	**78**	*e*Pg	Pg	07 39 06.6	-1.3
SBF				*e*Sg	Sg	07 39 33.6	-1.8
12nm,0.2s,SNR=1.0							
SBF	**Sospel**	**2.12**	**78**	*e*Pn	Pn	07 39 01.1	-1.7
SBF				*e*Pg	Pg	07 39 06.6	-1.3
SBF				*e*Sg	Sg	07 39 33.6	-1.8
SBF	**Sospel**	**2.12**	**78**	*e*Pg	Pg	07 39 06.6	-1.3
SBF				*e*Sg	Sg	07 39 33.6	-1.8
5.8nm,0.2s,SNR=1.0							
CAF	**Calviac**	**2.33**	**310**	*e*Pg	Pg	07 39 10.7	-1.3
SNR=1.0							
CAF				*e*Sn	Sn	07 39 31.1	-3.3
SNR=1.0							
CAF				*e*Sg	Sg	07 39 40.2	-2.1
4.8nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**2.87**	**311**	*e*Pg	Pg	07 39 20.6	-1.8
RJF				*e*Sg	Sg	07 39 57.3	-2.3
9.0nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**2.87**	**311**	*e*Pg	Pg	07 39 20.6	-1.8
RJF				*e*Sg	Sg	07 39 57.3	-2.3
4.5nm,0.2s,SNR=1.0							
EPF	**Esparros**	**3.12**	**264**	*e*Pg	Pg	07 39 24.8	-2.3
SNR=1.0							
EPF				*e*Sg	Sg	07 40 05.6	-1.9
3.9nm,0.2s,SNR=1.0							
EPF	**Esparros**	**3.12**	**264**	*e*Pn	Pn	07 39 14.9	-1.6
EPF				*e*Pg	Pg	07 39 24.8	-2.3
EPF				*e*Sg	Sg	07 40 05.6	-1.9
EPF	**Esparros**	**3.12**	**264**	*e*Pg	Pg	07 39 24.8	-2.3
SNR=1.0							
EPF				*e*Sg	Sg	07 40 05.6	-1.9
2.0nm,0.2s,SNR=1.0							
LFF	**La Frestale**	**3.14**	**300**	*e*Pn	Pn	07 39 14.9	-1.8
LFF				*e*Sg	Sg	07 40 06.3	-1.7
12nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**3.14**	**300**	*e*Pn	Pn	07 39 14.9	-1.8
LFF				*e*Sg	Sg	07 40 06.3	-1.7
5.9nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**3.24**	**351**	*e*Pn	Pn	07 39 13.5	-4.7
SNR=1.0							
SMF				*e*Sg	Sg	07 40 09.4	-2.0
2.0nm,0.3s							
SMF	**Signal de Mont**	**3.24**	**351**	*e*Pn	Pn	07 39 13.5	-4.7
SNR=1.0							
SMF				*e*Sg	Sg	07 40 09.4	-2.0
1.0nm,0.3s							
TCF	**Toulx Ste Croi**	**3.30**	**330**	*e*Pg	Pg	07 39 28.3	-2.3
TCF				*e*Sg	Sg	07 40 11.5	-1.9
3.6nm,0.5s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.30**	**330**	*e*Pn	Pn	07 39 17.1	-1.9
TCF				*e*Pg	Pg	07 39 28.3	-2.3
TCF				*e*Sg	Sg	07 40 11.5	-1.9
TCF	**Toulx Ste Croi**	**3.30**	**330**	*e*Pg	Pg	07 39 28.3	-2.3
TCF				*e*Sg	Sg	07 40 11.5	-1.9
1.8nm,0.5s,SNR=1.0							
PGF	**Pioggiola**	**3.37**	**104**	*e*Pn	Pn	07 39 18.0	-1.9
PGF				*e*Sn	Sn	07 39 55.7	-4.3
ETSF	**Etsaut**	**3.79**	**263**	*e*Sg	Sg	07 40 26.5	-2.6
2.2nm,0.3s							
ETSF	**Etsaut**	**3.79**	**263**	*e*Sg	Sg	07 40 26.5	-2.6
1.1nm,0.3s							

*ISCJB **22** 07:57:30.7±0.4, 3936N±002×2351E±004, h10km±3km, Error ellipse: s-maj=4.6km s-min=3.0km az=161.2*
*SOF **22** 07:57:30.6, 3945N×2369E, h5km, MD2.7*
*ATH **22** 07:57:30.1, 3930N×2358E, h15km±1km, MD3.4/12, ML3.3*
*THE **22** 07:57:31.7, 3929N×2352E, h15km, ML3.1*
*CSEM **22** 07:57:31.5±0.1, 3934N×2351E, h12km, ML3.3, Error ellipse: s-maj=2.1km s-min=1.8km az=159.0*
*NEIC **22** 07:57:33.0, 3936N×2341E, h10km, ML3.0(ATH), After ATH.*

ISC 22 07:57:31.3±0.4, 3935N±002×2353E±004, h14km±3km, n48, σ1§02/68, 4C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.24**	**261**	⇓*i*PB	**Pg**	**07 57 36.0**	**-0.5**
NEO	**Neokhori**	**0.24**	**261**	P	**Pg**	**07 57 36.2**	**-0.3**
XOR	**Xorichti**	**0.26**	**275**	*e*Pg	**Pg**	**07 57 36.6**	**-0.3**
AOS	**Alonnisos**	**0.33**	**122**	*e*Pg	**Pg**	**07 57 38.0**	**0.0**
AOS				*e*Sg	**Sg**	**07 57 42.9**	**+0.5**
PAIG	**Paliouri**	**0.59**	**11**	*e*Pg	**Pg**	**07 57 44.2**	**+1.3**
PAIG				*e*Sg	**Sg**	**07 57 54.2**	**+3.4**
LKR	**Lokris**	**0.81**	**211**	⇑*i*PN	**Pg**	**07 57 45.6**	**-1.3**
LKR	**Lokris**	**0.81**	**211**	P	**Pg**	**07 57 46.4**	**-0.5**
AGG	**Agios Georgios**	**0.98**	**251**	*e*Pg	**Pg**	**07 57 49.5**	**-0.9**
AGG				*e*Sg	**Sg**	**07 58 03.7**	**+0.5**
PLG	**Polygyros**	**1.03**	**357**	*e*PN	**Pn**	**07 57 50.4**	**-0.9**
PLG				*e*SN	**Sn**	**07 58 04.5**	**-1.1**
PLG	**Polygyros**	**1.03**	**357**	P	**Pb**	**07 57 51.1**	**+0.2**
PLG				*e*Sn	**Sn**	**07 58 04.5**	**-1.1**
OUR	**Ouranopolis**	**1.05**	**19**	*e*Pg	**Pg**	**07 57 51.0**	**-0.5**
LIT	**Litokhoron**	**1.10**	**314**	*e*Pg	**Pg**	**07 57 52.1**	**-0.4**
LIT				*e*Sg	**Sg**	**07 58 08.4**	**+1.5**
THL	**Klokotos Trika**	**1.19**	**281**	*e*PN	**Pn**	**07 57 53.4**	**-0.2**
HORT	**Hortiatis**	**1.29**	**345**	*e*Pg	**Pg**	**07 57 55.0**	**-1.2**
HORT				*e*Sg	**Sg**	**07 58 12.8**	**-0.2**
PTL	**Penteli**	**1.32**	**168**	*e*PN	**Pn**	**07 57 54.0**	**-1.4**
THE	**Thessaloniki**	**1.36**	**342**	*e*Pg	**Pg**	**07 57 56.0**	**-1.4**
THE				*e*Sg	**Sg**	**07 58 15.3**	**+0.3**
ATH	**Athens Observa**	**1.38**	**174**	*e*PN	**Pn**	**07 57 55.0**	**-1.2**
ATH				*e*SN	**Sn**	**07 58 13.0**	**-1.2**
ATH	**Athens Observa**	**1.38**	**174**	P	**Pg**	**07 57 59.0**	**+1.2**
ATH				*e*Sn	**Sn**	**07 58 13.0**	**-1.2**
EVR	**Evrytania**	**1.40**	**253**	*e*PN	**Pn**	**07 57 57.2**	**+0.7**
EVR	**Evrytania**	**1.40**	**253**	P	**Pn**	**07 57 57.8**	**+1.3**
SOH	**Sokhos**	**1.48**	**355**	*e*Pg	**Pg**	**07 57 58.2**	**-1.6**
SOH				*e*Sg	**Sg**	**07 58 17.6**	**-1.3**
SOH	**Sokhos**	**1.48**	**355**	*e*Pg	**Pg**	**07 57 58.2**	**-1.6**
SOH				*e*Sg	**Sg**	**07 58 17.6**	**-1.4**
KVR	**Kavouri**	**1.53**	**173**	*e*PN	**Pn**	**07 57 58.2**	**0.0**
NAIG	**Nisos Aigina**	**1.58**	**181**	*e*PN	**Pn**	**07 57 59.0**	**0.0**
KZN	**Kozani**	**1.66**	**306**	*e*PN	**Pb**	**07 58 01.8**	**+0.1**
SRS	**Serrai**	**1.77**	**2**	*e*Pb	**Pn**	**07 58 01.6**	**0.0**
SRS				*e*Sb	**Sb**	**07 58 25.1**	**-0.5**
GRG	**Griva**	**1.83**	**332**	*e*Pb	**Pn**	**07 58 02.7**	**+0.4**
KNT	**Kendrikon**	**1.88**	**345**	*e*Pb	**Pb**	**07 58 03.8**	**-1.6**
VAY	**Valandovo**	**2.10**	**340**	*e*Pn	**Pn**	**07 58 06.8**	**+0.7**
VAY				*e*Sn	**Sn**	**07 58 32.3**	**+0.1**
VAY	**Valandovo**	**2.10**	**340**	*e*Pn	**Pn**	**07 58 06.8**	**+0.7**
VAY				*e*Sn	**Sn**	**07 58 32.3**	**+0.1**
VAY	**Valandovo**	**2.10**	**340**	*e*Pn	**Pn**	**07 58 06.8**	**+0.7**
VAY				*e*Sn	**Sn**	**07 58 32.2**	**+0.1**
PRK	**Paraskevi**	**2.13**	**92**	*e*PN	**Pn**	**07 58 06.5**	**0.0**
MMB	**Musomiste**	**2.25**	**4**	*i* P	**Pb**	**07 58 12.6**	**+0.9**
MMB				*i* Pg	**Pg**	**07 58 18.0**	**+3.6**
MMB	**Musomiste**	**2.25**	**4**	*i* Pg	**Pg**	**07 58 18.0**	**+3.6**
RDO	**Rodhopi**	**2.37**	**40**	*e*PN	**Pn**	**07 58 11.0**	**+1.3**
ITM	**Ithomi**	**2.50**	**211**	P	**Pn**	**07 58 14.0**	**+2.4**
KKB	**Krupnik**	**2.54**	**352**	*i* P	**Pn**	**07 58 12.3**	**+0.2**
KRUS	**Krusevo**	**2.67**	**320**	*e*Pn	**Pn**	**07 58 14.5**	**+0.6**
KRUS				*e*Sn	**Sg**	**07 58 57.8**	**+0.7**
KRUS	**Krusevo**	**2.67**	**320**	*e*Pn	**Pn**	**07 58 14.5**	**+0.6**
KRUS				*e*Sn	**Sg**	**07 58 57.8**	**+0.7**
KRUS	**Krusevo**	**2.67**	**320**	*e*Pn	**Pn**	**07 58 14.4**	**+0.5**
KDZ	**Kurdzhali**	**2.71**	**31**	*i* P	**Pn**	**07 58 13.8**	**-0.7**
APE	**Apeiranthos**	**2.77**	**145**	*e*PN	**Pn**	**07 58 15.7**	**+0.5**
APE	**Apeiranthos**	**2.77**	**145**	P	**Pn**	**07 58 18.6**	**+3.4**
VTS	**Vitosha**	**3.25**	**356**	*i* P	**Pn**	**07 58 23.5**	**+1.6**
VTS				*i* Pg	**Pg**	**07 58 33.9**	**+0.3**
VOIR		**6.19**	**10**	⇑*i*P	**Pn**	**07 59 03.8**	**+1.5**
MLR	**Muntele Rosu**	**6.40**	**15**	⇑*i*P	**Pn**	**07 59 09.4**	**+4.3**
BZS	**Buzias**	**6.42**	**348**	⇓*i*P	**Pn**	**07 59 04.0**	**-1.5**
VRI	**Vrincioaia**	**6.93**	**19**	⇑*i*P	**Pn**	**07 59 16.0**	**+3.5**

*NEIC **22** 08:23:29.3, 3636S×7279W, h42km, MD3.6(GUC), After GUC.*

GUC 22 08:23:29.3±0.6, 3636S×7279W, h42km±5km, MD3.6, ML2.7, 5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.23**	**0**	⇓*i*P	Pn	08 23 37.3	+0.2
COCH				*i* S	Sn	08 23 43.1	+0.6
COCH				AML	AML	08 23 44.5	
comp=E,1μm,0.2s							
COCH	**Cobquecura**	**0.23**	**0**	⇓*i*P	Pn	08 23 37.3	+0.2
COCH				*i* S	Sn	08 23 43.1	+0.6
CCHI	**Chillan**	**0.62**	**113**	⇓*i*P	Pn	08 23 41.8	+0.1
CCHI				*i* S	Sn	08 23 51.3	+0.7
CCHI				AML	AML	08 23 51.9	
comp=N,1μm,0.6s							
CNCO	**Chanco**	**0.66**	**18**	⇓*i*P	Pn	08 23 42.3	+0.1
CNCO				*i* S	Sn	08 23 52.1	+0.5
CNCO				AML	AML	08 23 54.5	
comp=N,663nm,0.2s							
CNCO	**Chanco**	**0.66**	**18**	⇓*i*P	Pn	08 23 42.3	+0.1
CNCO				*i* S	Sn	08 23 52.1	+0.5
LNCH	**Linares**	**1.09**	**62**	*e*P	Pn	08 23 49.1	+0.9
LNCH				*i* S	Sn	08 24 04.1	+2.0
LNCH				AML	AML	08 24 08.0	
comp=N,291nm,0.6s							
LNCH	**Linares**	**1.09**	**62**	*e*P	Pn	08 23 49.1	+0.9
LNCH				*i* S	Sn	08 24 04.1	+2.0

*IDC **22** 08:49:26.2±0.9, 1328N×12597E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, MS3.2/2, Ms1 3.2/2, ms1mx2.8/27, Error ellipse: s-maj=64.5km s-min=17.4km az=71.0*
*ISCJB **22** 08:49:29.5±0.8, 1332N±007×12595E±009, h35km, mb3.8/7, MS3.4/1, Error ellipse: s-maj=13.4km s-min=8.5km az=51.3*
*MAN **22** 08:49:31.9, 13.19N×125.79E, h71km, mb3.4, ML4.6, MS5.5*

ISC 22 08:49:31.5±0.7, 1330N±007×12589E±009, h35km, n12, σ0§88/12, mb3.8/7, MS3.4/1, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.44**	**237**	*e*P	**Pn**	**08 49 53.9**	**-1.1**
CNP				*e*S	**Sn**	**08 50 12.3**	**-0.3**
MSLP	**Maasin**	**3.31**	**198**	*e*P	**Pn**	**08 50 20.1**	**-0.7**
MSLP				*e*S	**Sn**	**08 51 01.4**	**+2.5**
RCP	**Roxas**	**3.53**	**241**	⇑*e*P	**Pn**	**08 50 24.0**	**+0.2**
GUMO	**Guam**	**18.46**	**87**	LR	LR	08 59 10.4	
comp=Z,30nm,21.9s,baz=267,slow=32							
JNU	**Nakatsue**	**20.25**	**12**	LR	LR	09 01 42.2	
comp=Z,174nm,18.9s,MS3.4,baz=273,slow=36							
WRA	**Warramunga Arr**	**34.07**	**166**	P	**P**	**08 56 11.0**	**-1.4**
0.8nm,0.9s,mb3.7,baz=345,slow=9.4,SNR=4.2							
ASAR	**Alice Springs**	**37.57**	**168**	P	**P**	**08 56 42.9**	**+0.5**
0.6nm,0.5s,mb3.6,baz=355,slow=6.7,SNR=7.2							
SONM	**Songino Array**	**38.07**	**339**	P	**P**	**08 56 46.9**	**+0.3**
0.9nm,0.8s,mb3.5,baz=131,slow=8.6,SNR=4.8							
STKA	**Stephens Creek**	**47.38**	**162**	P	**P**	**08 58 02.1**	**-0.1**
3.8nm,0.8s,mb4.4,baz=336,slow=7.3,SNR=8.6							
MKAR	**Makanchi Array**	**49.42**	**321**	P	**P**	**08 58 18.1**	**+0.3**
1.3nm,0.8s,mb4.0,baz=113,slow=8.6,SNR=12							
BVAR	**Borovoye Array**	**58.98**	**324**	P	**P**	**08 59 28.4**	**+0.9**
0.3nm,0.4s,mb3.7,baz=131,slow=6.7,SNR=3.6							
INK	**Inuvik**	**81.62**	**22**	P	**P**	**09 01 45.7**	**-0.1**
1.5nm,0.9s,mb3.9,baz=201,slow=9.2,SNR=9.1							

*MOS **22** 08:57:57.4±1.5, 5567N×110.10E, h2km, mb4.2/1, Error ellipse: s-maj=33.9km s-min=17.5km az=70.4*

BYKL 22 08:57:55.6±0.6, 5571N×11010E, h39km±7km, 1C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.32**	**282**	*e*Pg	Pn	08 58 04.5	+0.5
NIZ				*e*Sg	Sn	08 58 09.5	-0.4
NIZ				*e*		08 58 10.4	
NIZ				Pmax			
58nm,0.2s							
NIZ				max			
530nm,0.3s							
KMO	**Kumora**	**0.65**	**74**	*e*Pg	Pn	08 58 08.6	+0.3
KMO				*e*Sg	Sn	08 58 16.9	-0.4
KMO				Pmax			
76nm,0.4s							
KMO				Smax			
244nm,1.2s							
YOA	**Uoyan**	**1.01**	**64**	*e*PG	Pn	08 58 16.9	+3.7
YOA				*e*		08 58 29.5	
YOA				pmax	pmax		
comp=Z,79nm,0.2s							
YOA				smax			
comp=N,516nm,0.5s							
YOA	**Uoyan**	**1.01**	**64**	*e*Sg	Sn	08 58 29.0	+2.8
YOA				Smax			
comp=N,513nm,0.6s							
YLYR	**Ulyunkhan**	**1.03**	**144**	*e*PG	Pn	08 58 14.9	+1.3
YLYR				*e*		08 58 28.2	
YLYR	**Ulyunkhan**	**1.03**	**144**	*e*Pg	Pn	08 58 14.9	+1.3
YLYR				*e*Sg	Sn	08 58 28.5	+1.7
YLYR				*e*		08 58 34.0	
YLYR				Pmax			
comp=N,48nm,0.2s							
YLYR				max			
comp=N,411nm,0.3s							
SVKR	**Severomuysk**	**1.99**	**77**	*e*Sg	Sn	08 59 00.2	+10
SVKR				Smax			
comp=N,353nm,1.0s							
UKT	**Uakit**	**2.01**	**95**	*e*Pg	Pn	08 58 32.7	+5.6
UKT				*e*Sg	Sn	08 58 59.4	+8.4
UKT				Pmax			
comp=N,925nm,0.4s							
UKT				Smax			
comp=N,96nm,0.5s							
SYVR	**Suvo**	**2.06**	**182**	*e*PN	Pn	08 58 33.2	+5.5
SYVR				*e*		08 59 02.3	
SYVR	**Suvo**	**2.06**	**182**	⇑*i*Pg	Pn	08 58 33.4	+5.7
SYVR				*i* Sg	Sn	08 59 01.6	+10
SYVR				Pmax			
comp=N,144nm,0.9s							
SYVR				Smax			
comp=N,393nm,1.3s				

CRS				Smax			
	comp=E,43nm,1.4s						
LSTR	**Listvyanka**	**4.96**	**221**	*e*	Sn	09 00 09.6	+6.1
LSTR				*e*Sg	Sn	09 00 28.7	+25
LSTR				Smax			
	comp=E,64nm,1.0s						
TLY	**Talaya**	**5.57**	**226**	*e*PN	Pn	08 59 20.7	+4.8
TLY				*e*		08 59 36.6	
TLY				*e*S	Sn	09 00 22.8	+4.2
TLY				*e*		09 00 47.2	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TLY				smax			
	comp=E,33nm,0.6s						
TLY	**Talaya**	**5.57**	**226**	*e*	Sn	09 00 23.6	+5.0
TLY				*e*Sg	Sn	09 00 49.2	+31
TLY				Smax			
	comp=E,33nm,0.8s						
TUP	**Tupik**	**5.81**	**99**	*e*Sg	Sn	09 00 54.7	+30
TUP				Smax			
	comp=E,37nm,0.8s						
ARS	**Arshan**	**5.92**	**233**	*e*	Sn	09 00 30.2	+2.9
ARS				*e*Sg	Sn	09 00 59.9	+33
ARS				Smax			
	comp=E,190nm,0.8s						
KPC	**Khapcheranga**	**6.17**	**166**	*e*Pg	Pn	08 59 47.9	+24
KPC				*e*Sg	Sn	09 01 08.4	+35
KPC				Pmax			
	comp=E,7.0nm,1.2s						
KPC				Smax			
	comp=E,28nm,1.1s						
ZAK	**Zakamensk**	**6.74**	**220**	*e*Sn	Sn	09 00 42.8	-4.5
ZAK				*e*Sg	Sn	09 01 25.3	+38
ZAK				Smax			
	comp=E,31nm,1.2s						
ORL	**Orlik**	**6.83**	**247**	*e*PN	Pn	08 59 39.7	+6.5
ORL				*e*S	Sn	09 01 29.7	+40
ORL				smax			
	comp=N,46nm,0.9s						
ORL	**Orlik**	**6.83**	**247**	*e*Sn	Sn	09 00 48.5	-1.2
ORL				*e*Sg	Sn	09 01 28.1	+38
ORL				Smax			
	comp=N,50nm,1.3s						
TDJR	**Todzha**	**8.88**	**254**	*e*Sg	Sn	09 02 29.1	+49

NEIC ***22*** *09:14:32.4, 3267S×7305W, h28km, ML3.6(GUC), After GUC.*

GUC 22 09:14:32.4±0.6, 3267S×7305W, h28km±3km, MD4.0, ML3.6, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.48**	**123**	⇓*i*P	Pn	09 14 57.4	+0.2
ROCH	**El Roble**	**1.75**	**100**	*e*P	Pn	09 15 02.4	+1.6
ROCH				*i*S	Sn	09 15 25.6	+3.5
LNV	**Longovilo**	**1.88**	**133**	*i*P	Pn	09 15 02.8	+0.2
LACH	**Talagante**	**2.03**	**119**	⇓*i*P	Pn	09 15 05.7	+1.0
PEL	**Peldehue**	**2.05**	**104**	*e*P	Pn	09 15 06.2	+1.3
PEL				*e*S	Sn	09 15 32.3	+2.7
PEL				AML	AML	09 15 35.1	
	comp=N,1μm,0.5s						
RCDM	**Rinconada Maip**	**2.06**	**114**	*e*P	Pn	09 15 06.2	+1.1
RCDM				*i*S	Sn	09 15 32.0	+2.2
RCDM				AML	AML	09 15 34.1	
	comp=N,433nm,0.1s						
RCDM	**Rinconada Maip**	**2.06**	**114**	*e*P	Pn	09 15 06.2	+1.1
RCDM				*i*S	Sn	09 15 32.0	+2.2
JACH	**Jahuel**	**2.08**	**91**	⇓*i*P	Pn	09 15 07.1	+1.8
JACH				*i*S	Sn	09 15 33.1	+2.8
CLCH	**Cerro Calan**	**2.23**	**110**	*e*P	Pn	09 15 09.0	+1.5
CLCH				*i*S	Sn	09 15 37.0	+2.8
CLCH				AML	AML	09 15 40.0	
	comp=E,444nm,0.6s						
PCH	**Pirque**	**2.33**	**115**	*e*P	Pn	09 15 10.8	+1.9
CHCH	**Chadas Angostu**	**2.37**	**123**	⇓*i*P	Pn	09 15 10.8	+1.4
FCH	**Farellones**	**2.41**	**106**	*e*P	Pn	09 15 12.3	+2.4
FCH				*i*S	Sn	09 15 42.1	+3.5
CICH	**Cipreses**	**2.75**	**127**	*i*P	Pn	09 15 16.4	+1.8
TLL	**Tololo Astrono**	**3.15**	**38**	*e*P	Pn	09 15 22.1	+2.0
TLL				*i*S	Sn	09 15 59.5	+2.7
LCO	**Las Campanas**	**4.17**	**30**	*e*Pn	Pn	09 15 35.5	+1.3
LCO				*e*Sn	Sn	09 16 25.4	+3.4

ISCJB ***22*** *09:31:01.9±1.2, 436N±0.1×147.1E±0.1, h73km±11km, mb3.7/5, Error ellipse: s-maj=21.3km s-min=10.4km az=108.7*
JMA ***22*** *09:31:03.0±0.2, 4354N×14707E, h53km±4km, M3.7*
IDC ***22*** *09:31:05.5±1.9, 4551N×14675E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=58.1km s-min=23.6km az=154.0*
MOS ***22*** *09:31:11.0±0.9, 4553N×14644E, h59km, mb4.2/1, Error ellipse: s-maj=35.0km s-min=27.9km az=49.4*

ISC 22 09:31:02.9±1.2, 436N±0.1×1471E±0.1, h69km±11km, n24, σ0=92/30, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.02**	**258**	P	**Pn**	**09 31 20.8**	**-0.8**
NEM2				*e*S	**Sn**	**09 31 33.9**	**-1.6**
JRA	**Rausu**	**1.48**	**284**	P	**Pn**	**09 31 27.5**	**-0.1**
JRA				*e*S	**Sn**	**09 31 45.9**	**-0.3**
KUR	**Kuril'sk**	**1.73**	**18**	*e*PN	**Pn**	**09 31 30.5**	**-0.4**
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
JNK	**Nakash**	**1.74**	**271**	P	**Pn**	**09 31 30.7**	**-0.3**
JAK	**Akkeshi**	**1.86**	**252**	P	**Pn**	**09 31 32.2**	**-0.4**
JAK				*e*S	**Sn**	**09 31 54.4**	**-0.8**
JTKR	**Abashiri--Toko**	**2.35**	**280**	P	**Pn**	**09 31 40.1**	**+0.8**
JAR	**Ashorobuto**	**2.45**	**264**	P	**Pn**	**09 31 41.2**	**+0.6**
JAR				*e*S	**Sn**	**09 32 09.8**	**+0.3**
JOB	**Onbets**	**2.49**	**255**	P	**Pn**	**09 31 41.4**	**+0.3**
JOB				*e*S	**Sn**	**09 32 10.3**	**-0.1**
JMP	**Maruseppu**	**2.75**	**280**	P	**Pn**	**09 31 47.7**	**+3.0**
JCH	**Churui**	**2.91**	**252**	P	**Pn**	**09 31 46.4**	**-0.5**
JKK2	**Kamakawa 2**	**3.17**	**277**	P	**Pn**	**09 31 53.6**	**+3.1**
JEM	**Erimo**	**3.31**	**243**	P	**Pn**	**09 31 54.3**	**+2.0**
ASAJ	**Asahikawa**	**3.31**	**281**	Pn	**Pn**	**09 31 58.5**	**+6.2**
	comp=Z,1.7nm,0.3s,baz=315,slow=5.7,SNR=11						
ASAJ				Sn	**Sn**	**09 32 40.0**	**+10**
	comp=Z,1.7nm,0.3s,baz=356,slow=29,SNR=3.3						
ASAJ	**Asahikawa**	**3.31**	**281**	PN	**Pn**	**09 31 58.5**	**+6.2**
ASAJ						09 32 40.0	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**3.46**	**249**	P	**Pn**	**09 31 54.4**	**+0.1**
JSE	**Soyaes**	**3.53**	**294**	P	**Pn**	**09 31 55.9**	**+0.6**
INK	**Inuvik**	**46.56**	**30**	P	**P**	**09 39 23.9**	**+0.1**
	comp=N,1.0nm,0.4s,mb3.9,baz=289,slow=7.9,SNR=28						
INK	**Inuvik**	**46.56**	**30**	P	**P**	**09 39 23.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**55.95**	**34**	P	**P**	**09 40 34.1**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.5,baz=303,slow=7.0,SNR=7.9						
FINES	**FINESS Array B**	**65.01**	**333**	P	**P**	**09 41 34.5**	**-1.2**
	comp=Z,4.1nm,1.0s,mb4.2,baz=63,slow=5.0,SNR=5.1						
FINES	**FINESS Array B**	**65.01**	**333**	P	**P**	**09 41 34.5**	**-1.2**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	**NORSAR Array B**	**69.74**	**339**	P	**P**	**09 42 05.0**	**-0.6**
	comp=Z,1.0nm,0.9s,mb3.7,baz=31,slow=6.3,SNR=2.9						
NOA	**NORSAR Array B**	**69.74**	**339**	P	**P**	**09 42 05.0**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**82.76**	**56**	P	**P**	**09 43 26.6**	**+7.2**
	comp=Z,0.3nm,1.0s,mb3.1,baz=327,slow=6.5,SNR=2.4						

IDC ***22*** *09:41:40.1±2.0, 2.16N×96.04E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=52.6km s-min=21.9km az=55.0*
ISCJB ***22*** *09:41:46.5±4.2, 23N±02×962E±03, h58km±33km, mb4.2/11, Error ellipse: s-maj=55.2km s-min=16.1km az=97.1*

ISC 22 09:41:48.7±4.1, 23N±02×963E±03, h55km±33km, n13, σ0=36/13, mb4.2/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**79**	Pn	**Pn**	**09 42 29.1**	**0.0**
	2.7nm,0.3s,baz=272,slow=3.9,SNR=11						
JIRN	**Jiri**	**27.00**	**340**	*e*P	**P**	**09 47 26.1**	**+0.8**
	15nm,0.7s,mb4.6						
GUN	**Gumba**	**27.34**	**340**	*e*P	**P**	**09 47 27.8**	**-0.6**
	27nm,0.2s,mb5.3						
DMN	**Daman**	**27.35**	**338**	*e*P	**P**	**09 47 28.8**	**+0.4**
	10.0nm,0.7s,mb4.5						
KKN	**Kakani**	**27.45**	**338**	*e*P	**P**	**09 47 29.6**	**+0.3**
	8.5nm,0.5s,mb4.6						
GKN	**Gorkha**	**27.88**	**338**	*e*Pg	**P**	**09 47 32.8**	**-0.4**
KOLN	**Koldanda**	**28.08**	**336**	*e*P	**P**	**09 47 34.9**	**-0.1**
	7.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**43.38**	**122**	P	**P**	**09 49 45.8**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=302,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**44.77**	**127**	P	**P**	**09 49 56.6**	**-0.2**
	0.5nm,0.5s,mb3.6,baz=299,slow=7.6,SNR=5.0						
KSRS	**Korea Array**	**45.46**	**36**	P	**P**	**09 50 02.3**	**0.0**
	0.9nm,0.7s,mb3.7,baz=214,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**45.96**	**347**	P	**P**	**09 50 05.5**	**-0.6**
	1.4nm,0.4s,mb4.2,baz=160,slow=8.7,SNR=22						
SONM	**Songino Array**	**46.18**	**9**	P	**P**	**09 50 07.9**	**0.0**
	1.1nm,0.5s,mb4.1,baz=190,slow=10,SNR=11						
ZAL	**Zalesovo**	**52.33**	**351**	P	**P**	**09 50 55.0**	**+0.2**
	1.8nm,0.5s,mb4.2,baz=318,slow=5.4,SNR=3.2						

CASC 22 09:47:10.5±1.6, 1122N×8566W, h200km±7km, MD3.7, 4C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.22**	**33**	*e*P	Pn	09 47 37.6	+0.8
CONN	**Concepcion**	**0.34**	**5**	⇑*e*P	Pn	09 47 37.8	+0.7
TICN	**Ticuantepe**	**0.98**	**325**	⇓*e*P	Pn	09 47 40.8	+0.7
TICN				*e*S	Sn	09 48 04.6	+1.5
MGAN	**Managua**	**1.08**	**328**	⇑*e*P	Pn	09 47 41.5	+0.7
MGAN				*e*S	Sn	09 48 05.4	+1.0
VCR	**Vista de Mar**	**1.09**	**179**	*e*P	Pn	09 47 41.5	+0.7
VCR				*e*S	Sn	09 48 05.5	+1.1
JCR	**Jicaral**	**1.47**	**159**	⇑*e*P	Pn	09 47 44.6	+0.7
JCR				*e*S	Sn	09 48 11.6	+1.8
CGA2	**Cerro Gallo 2**	**1.68**	**136**	⇓*e*P	Pn	09 47 46.9	+1.1
CGA2				*e*S	Sn	09 48 14.2	+0.9
PRS1	**Puriscal**	**1.81**	**133**	*e*P	Pn	09 47 48.5	+1.4
LAJ	**Bijagual**	**2.02**	**132**	*e*P	Pn	09 47 48.4	-0.8
LCR2	**La Lucha 2**	**2.19**	**132**	⇑*e*P	Pn	09 47 51.8	+0.8
LCR2				*e*S	Sn	09 48 22.8	+0.2

ISCJB ***22*** *10:02:29.8±0.8, 524N±0.1×17130W±008, h51km±7km, mb3.9/19, MS3.5/4, Error ellipse: s-maj=19.0km s-min=5.8km az=147.9*
IDC ***22*** *10:02:29.7±3.9, 5250N×17138W, h33km±29km, mb3.8/19, mb1 4.0/19, mb1mx3.9/30, mbtmp3.8/19, MS3.5/4, Ms1 3.5/4, ms1mx3.3/24, Error ellipse: s-maj=21.8km s-min=11.9km az=179.0*
NEIC ***22*** *10:02:30.0, 5237N×171.18W, h26km, mb3.8/1, ML3.9(AEIC), After AEIC.*

ISC 22 10:02:31.4±0.8, 525N±01×17134W±008, h52km±7km, n37, σ0=95/36, mb3.9/19, MS3.5/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.77**	**263**	P	**Pn**	**10 02 59.0**	**-0.6**
ATKA				S	**Sn**	**10 03 20.7**	**-0.3**
UNV	**Unalaska Valle**	**3.23**	**63**	P	**Pn**	**10 03 18.9**	**-0.7**
UNV				S	**Sn**	**10 03 56.3**	**-0.4**
AKLV	**Akutan Long Va**	**3.65**	**60**	P	**Pn**	**10 03 24.9**	**-0.4**
AKUT	**Akutan**	**3.74**	**61**	P	**Pn**	**10 03 26.3**	**-0.2**
FALS	**False Pass**	**5.29**	**60**	*e*Pn	**Pn**	**10 03 48.5**	**+0.7**
AMKA	**Amchitka**	**5.89**	**263**	*e*Pn	**Pn**	**10 03 56.3**	**+0.2**
SDPT	**Sand Point**	**7.04**	**61**	P	**Pn**	**10 04 11.1**	**-0.8**
SVW2	**Sparrevohn**	**12.20**	**39**	*e*Pn	**Pn**	**10 05 24.0**	**+1.6**
TNA	**Tin City**	**13.26**	**6**	*e*P	**Pn**	**10 05 40.1**	**+3.3**
	19nm,1.5s						
BILL	**Bilibino**	**18.97**	**334**	*e*P	**Pn**	**10 06 54.9**	**+5.3**
	5.4nm,0.9s						
INK	**Inuvik**	**23.94**	**34**	P	**P**	**10 07 39.6**	**-1.0**
	1.1nm,0.6s,mb3.5,baz=241,slow=11,SNR=21						
INK				PcP	PcP	10 11 22.4	+0.5
	1.7nm,0.9s,baz=332,slow=3.5,SNR=6.0						
YKA	**Yellowknife Ar**	**31.09**	**49**	P	**P**	**10 08 43.7**	**-1.0**
	0.4nm,0.3s,mb3.7,baz=274,slow=8.9,SNR=25						
YKA				PcP	PcP	10 11 39.3	+0.3
	0.5nm,0.8s,baz=287,slow=2.5,SNR=5.6						
YKA				ScP	ScP	10 15 18.9	+1.3
	0.1nm,0.8s,baz=278,slow=3.5,SNR=4.2						
YKA				LR	LR	10 22 33.5	
	comp=Z,90nm,21.2s,MS3.4,baz=215,slow=39						
YKA	**Yellowknife Ar**	**31.09**	**49**	P	**P**	**10 08 43.7**	**-1.0**
YKA				PcP	PcP	10 11 39.4	+0.3
YKA				ScP	ScP	10 15 18.9	+1.3
YKA				LR	LR	10 22 33.5	
NEW	**Newport**	**34.15**	**75**	P	**P**	**10 09 12.3**	**+0.9**
	3.8nm,0.8s,mb4.4,baz=306,slow=4.1,SNR=8.3						
MJAR	**Matsushiro Arr**	**38.50**	**266**	P	**P**	**10 09 49.6**	**+1.1**
	1.9nm,0.5s,mb4.1,baz=38,slow=7.4,SNR=8.2						
MJAR				LR	LR	10 27 27.1	
	comp=Z,55nm,18.2s,MS3.4,baz=320,slow=39						
MAT	**Matsushiro**	**38.50**	**266**	P	**P**	**10 09 49.3**	**+0.8**
NVAR	**Mina Array Bea**	**38.87**	**90**	P	**P**	**10 09 52.2**	**+0.6**
	1.4nm,0.7s,mb3.8,baz=289,slow=9.0,SNR=9.1						
PDAR	**Pinedale Array**	**41.57**	**78**	P	**P**	**10 10 14.7**	**+0.8**
	1.9nm,0.6s,mb3.9,baz=296,slow=3.9,SNR=19						
KSRS	**Korea Array**	**44.20**	**275**	P	**P**	**10 10 36.0**	**+0.8**
	1.0nm,0.7s,mb3.6,baz=172,slow=27,SNR=3.1						
KSRS				LR	LR	10 25 55.6	
	comp=Z,38nm,21.6s,MS3.3,baz=355,slow=32						
ULM	**Lac du Bonnet**	**45.17**	**61**	P	**P**	**10 10 41.6**	**-1.4**
	0.7nm,0.4s,mb3.8,baz=152,slow=16,SNR=2.4						
ANMO	**Albuquerque**	**48.36**	**84**	P	**P**	**10 11 09.8**	**+1.9**
	0.2nm,0.4s,mb3.5,baz=324,slow=8.7,SNR=2.6						
ANMO				PcP	PcP	10 12 34.2	+0.4
	0.3nm,0.3s,baz=232,slow=5.4,SNR=4.3						
ANMO	**Albuquerque**	**48.36**	**84**	P	**P**	**10 11 09.8**	**+1.9**
ANMO				PcP	PcP	10 12 34.2	+0.3
SONM	**Songino Array**	**50.21**	**300**	P	**P**	**10 11 22.9**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=57,slow=6.4,SNR=2.5						
TXAR	**Lajitas Array**	**53.95**	**87**	P	**P**	**10 11 49.8**	**0.0**
	1.2nm,0.6s,mb4.0,baz=301,slow=5.6,SNR=17						
TXAR				PcP	PcP	10 12 55.0	+0.4
	0.4nm,0.5s,baz=178,slow=1.6,SNR=6.5						
ZAL	**Zalesovo**	**56.55**	**317**	LR	LR	10 36 15.5	
	comp=Z,104nm,18.7s,MS4.0,baz=298,slow=36						
MKAR	**Makanchi Array**	**62.86**	**312**	P	**P**	**10 12 50.8**	**-1.1**
	0.3nm,0.7s,mb3.5,baz=69,slow=9.7,SNR=3.7						
BVAR	**Borovoye Array**	**62.92**	**323**	P	**P**	**10 12 50.4**	**-1.9**
	1.1nm,0.5s,mb4.2,baz=46,slow=6.4,SNR=5.5						
FINES	**FINESS Array B**	**65.60**	**351**	P	**P**	**10 13 09.3**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=35,slow=7.0,SNR=4.5						
FINES	**FINESS Array B**	**65.60**	**351**	P	**P**	**10 13 09.3**	**-0.5**
NOA	**NORSAR Array B**	**66.83**	**359**	P	**P**	**10 13 17.9**	**+0.1**
	0.7nm,0.7s,mb3.8,baz=100,slow=17,SNR=2.6						
HFS	**Hagfors**	**67.69**	**357**	P	**P**	**10 13 22.6**	**-0.6**
	3.4nm,1.0s,mb4.3,baz=65,slow=8.1,SNR=4.0						
AKTK	**Aktyubinsk**	**69.32**	**329**	P	**P**	**10 13 34.0**	**+0.6**
AKTO	**Aktyubinsk**	**69.32**	**329**	P	**P**	**10 13 34.0**	**+0.6**
	1.5nm,0.5s,mb4.2,baz=78,slow=3.4,SNR=5.4						
WRA	**Warramunga Arr**	**86.13**	**230**	P	**P**	**10 15 05.4**	**-1.4**
	1.9nm,1.0s,mb4.3,baz=39,slow=6.2,SNR=9.0						
ASAR	**Alice Springs**	**89.54**	**228**	P	**P**	**10 15 22.7**	**-0.4**
	3.2nm,0.8s,mb4.7,baz=33,slow=4.6,SNR=11						
TORD	**Torodi Ar. Bea**	**114.39**	**7**	PKP	PKiKP	10 21 05.9	+0.6
	0.1nm,0.4s,baz=93,slow=35,SNR=2.9						
MATP	**Matopo**	**144.51**	**327**	PKP	PKPdf	10 22 01.2	-0.7
	1.7nm,0.4s,baz=8.3,slow=1.7,SNR=6.9						

MAN 22 10:29:16.7, 1309N×12000E, h31km, mb2.8, ML4.2, MS3.2, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.68**	**20**	*e*P	Pb	10 29 30.0	-0.2
LUBP				*e*S	Sb	10 29 39.7	+0.4
BUSP	**Coron**	**1.10**	**170**	*e*P	Pn	10 29 35.9	0.0
BUSP				*e*S	Sn	10 29 50.0	-0.1
TGY	**Tagaytay City**	**1.35**	**42**	⇑*e*P	Pn	10 29 42.2	+2.7
TGY				*e*S	Sn	10 29 58.4	+2.0
BOAC	**Boac**	**1.83**	**78**	*e*P	Pn	10 29 46.9	+0.9
BOAC				*e*S	Sn	10 30 08.9	+0.8
ENPP	**El Nido**	**1.96**	**197**	*e*P	Pn	10 29 48.8	+1.1
OTRP	**Odiongan**	**2.10**	**110**	*e*P	Pn	10 29 50.0	+0.3
CUYO	**Cuyo Island**	**2.44**	**156**	*e*P	Pn	10 29 53.7	-0.7

NEIC ***22*** *10:53:56.8, 1605N×9706W, h16km, MD3.8(MEX), After MEX.*

MEX 22 10:53:56.8±0.6, 1605N×9706W, h16km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.96**	**107**	*i*P	Pb	10 54 11.9	-3.1
HUIG				*i*S	Sb	10 54 23.0	-4.4
VHO	**Vista Hermosa**	**1.07**	**17**	*i*P	Pb	10 54 13.0	-3.9
VHO				*i*S	Sb	10 54 26.6	-4.0
PNIG	**Pinotepa**	**1.08**	**289**	*i*P	Pb	10 54 13.4	-3.7
PNIG				*i*S	Sb	10 54 25.9	-5.0
OXX	**Oaxaca**	**1.08**	**17**	*i*P	Pb	10 54 13.2	-3.9
OXX				*i*S	Sb	10 54 26.8	-4.2
UTMO	**Huajuapan**	**1.91**	**338**	*i*P	Pn	10 54 26.0	-2.7
UTMO				*i*S	Sn	10 54 47.5	-4.9
CMIG	**Matias Romero**	**2.33**	**63**	*i*P	Pn	10 54 32.3	-2.2
CMIG				*i*S	Sn	10 54 57.5	-5.4
TPIG	**Tehuac#an**	**2.38**	**353**	*i*P	Pn	10 54 33.8	-1.3
TPIG				*i*S	Sn	10 55 00.6	-3.3

SZGRF ***22*** *11:04:37.8, 5250N×15750E, h33km, mb5.0, Kamchatka Peninsula, Russia*
BJI ***22*** *11:04:44.3, 5300N×15870E, h85km, mB4.9, mb4.6, Ms4.6, Msz4.3*
ISCJB ***22*** *11:04:45.3±0.1, 5288N±002×15884E±003, h95km, mb4.8/146, Error ellipse: s-maj=3.4km s-min=2.5km az=164.1*
MOS ***22*** *11:04:46.1±1.0, 5298N×15875E, h100km, mb5.0/80, Error ellipse: s-maj=8.5km s-min=4.1km az=93.7*
MOS Felt (III) at Petropavlovsk-Kamchatskyi.
KRSC ***22*** *11:04:47.4±1.3, 5292N×159.15E, h94km±36km, ML4.9*
NEIC ***22*** *11:04:47.3±0.2, 5302N×15872E, h96km±2km, mb4.9/98, Error ellipse: s-maj=5.3km s-min=3.2km az=174.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
IDC ***22*** *11:04:47.2±0.5, 5311N×15871E, h96km±4km, mb4.4/25, mb1 4.5/26, mb1mx4.5/30, mbtmp4.4/26, Error ellipse: s-maj=13.3km s-min=9.2km az=155.0*

ISC 22 11:04:47.1±0.1, 5296N±002×15872E±003, h97km, h97km±1.0km: pP-P, n592, σ0=86/587, mb4.8/146, 95C-187D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.08**	**330**	α*i*PN	**Pn**	**11 05 00.7**	**+0.1**
PET				*e*S	**Sn**	**11 05 11.9**	**+1.3**
PET				pmax	pmax		
	comp=Z,18μm,0.7s						
PET				pmax	pmax		
	comp=Z,25μm,1.4s						
PET				smax			
	comp=E,55μm,0.4s						
PET				smax			
	comp=N,111μm,1.0s						
PET				smax			
	comp=N,91μm,0.5s						
PET	**Petropavlovsk**	**0.08**	**330**	*e*Pn	**Pn**	**11 05 00.8**	**+0.3**
PET				*e*Sn	**Sn**	**11 05 12.0**	**+1.4**
PET	**Petropavlovsk**	**0.08**	**330**	*i*P	**Pn**	**11 05 01.5**	**+0.9**
PET				*i*S	**Sn**	**11 05 12.1**	**+1.5**
INSR	**Institute**	**0.13**	**328**	*i*P	**Pn**	**11 05 01.9**	**+1.3**
INSR				*i*S	**Sn**	**11 05 12.8**	**+2.0**
AVH	**Avacha**	**0.31**	**2**	*i*P	**Pn**	**11 05 02.8**	**+1.5**
NLC	**Nalytchevo**	**0.44**	**60**	*e*P	**Pn**	**11 05 01.6**	**-0.4**
RUS	**Russkaya**	**0.54**	**193**	*i*P	**Pn**	**11 05 03.3**	**+0.5**
GRL	**Gorelyy**	**0.56**	**224**	*i*P	**Pn**	**11 05 05.4**	**+2.4**
GRL				*i*S	**Sn**	**11 05 18.9**	**+4.0**
SPN	**Mys Shipunski**	**0.80**	**79**	*i*P	**Pn**	**11 05 03.4**	**-1.7**
GNL	**Ganaly**	**0.87**	**328**	*i*P	**Pn**	**11 05 08.4**	**+2.5**
KII	**Karymskiy**	**1.17**	**22**	*e*P	**Pn**	**11 05 09.6**	**+0.5**
MKZ	**Mys Kozlova**	**2.40**	**47**	*e*P	**Pn**	**11 05 23.5**	**-1.3**
MKZ				*i*S	**Sn**	**11 05 49.7**	**-3.9**
TUMR	**Tumrok**	**2.48**	**19**	*i*P	**Pn**	**11 05 27.6**	**+1.8**
TUMR				*i*S	**Sn**	**11 05 57.2**	**+1.8**
SKR	**Severo-Kuril's**	**2.79**	**216**	⇑*i*PN	**Pn**	**11 05 32.0**	**+2.1**
SKR				*i*S	**Sn**	**11 06 05.5**	**+2.6**
SKR				pmax	pmax		
	comp=N,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,190nm,0.6s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				smax			
	comp=N,800nm,0.6s						
SKR				smax			
	comp=E,142nm,0.6s						
SKR				smax			
	comp=N,3μm,2.0s						
SKR				smax			
	comp=E,3μm,2.0s						
KMNR	**Kamenistaya**	**2.94**	**17**	*e*P	**Pn**	**11 05 33.9**	**+2.0**
KMNR				*i*S	**Sn**	**11 06 07.7**	**+1.2**
KPT	**Kopyto**	**3.14**	**16**	*e*P	**Pn**	**11 05 36.2**	**+1.6**
KIRR	**Kirishev**	**3.15**	**17**	*e*P	**Pn**	**11 05 36.3**	**+1.6**
KOZ	**Kozyrevsk**	**3.18**	**12**	*e*P	**Pn**	**11 05 36.8**	**+1.7**
KOZ				*i*S	**Sn**	**11 06 13.0**	**+0.8**
KOZR	**Kozyr**	**3.19**	**12**	PN	**Pn**	**11 05 36.8**	**+1.5**
KOZR				S	**Sn**	**11 06 13.0**	**+0.5**
ZLN	**Zelena

MDJ Mudanjiang 20.81 258 P **P** **11 09 20.4 -0.2**
MDJ AP 11 09 37.5
MDJ XP sP 11 09 49.5 -1.8
MDJ S **S** **11 13 05.8 -1.5**
MDJ AMB AMB
comp=Z,8.0nm,1.8s
MDJ AMB AMB
comp=Z,76nm,5.4s
TNA Tin City 20.89 40 *e*P **P** **11 09 20.7 -0.8**
comp=Z,25nm,1.0s
MAJO Matsushiro 21.82 229 *e*P **P** **11 09 32.3 +0.9**
MAT Matsushiro 21.82 229 P **P** **11 09 32.8 +1.4**
MAT *e*S **S** **11 13 20.8 -6.1**
MJAR Matsushiro Arr 21.82 229 P **P** **11 09 33.1 +1.7**
comp=Z,4.8nm,0.5s,mb4.1,baz=11,slow=12,SNR=13
MJAR Matsushiro Arr 21.82 229 P **P** **11 09 33.1 +1.7**
MJAR pmax pmax
comp=Z,5.0nm,0.5s
TIXI Tiksi 22.86 336*c i*P **P** **11 09 41.6 -0.7**
TIXI *e**PP 11 10 05.9
TIXI pmax pmax
comp=Z,22nm,0.9s,mb4.5
TIXI Tiksi 22.86 336⇑ *e*P **P** **11 09 41.6 -0.7**
HIA Hailar 24.53 277 *e*P **P** **11 09 57.2 -0.4**
HIA pmax pmax
comp=Z,19nm,0.6s
HIA Hailar 24.53 277 *e*P **P** **11 09 57.2 -0.4**
comp=Z,19nm,0.6s,mb4.7
TTA Tatalina 25.47 49 *e*P **P** **11 10 05.2 -0.9**
TTA *e**PP pP 11 10 25.4 -2.1
TTA pmax pmax
comp=Z,74nm,1.1s,mb5.0
TTA Tatalina 25.47 49 *e*P **P** **11 10 05.2 -0.9**
comp=Z,74nm,1.1s,mb5.0
TTA *e*pP pP 11 10 25.4 -2.1
BOD Bodaibo 25.48 299 *e*P **P** **11 10 06.3 +0.1**
BOD *e* pP 11 10 29.4 +1.8
BOD pmax pmax
comp=Z,14nm,0.5s,mb4.7
SVW2 Sparrevohn 25.68 53 *e*P **P** **11 10 09.0 +1.0**
KSRS Korea Array 26.40 246 P **P** **11 10 15.5 +1.1**
comp=Z,2.8nm,0.5s,mb3.9,baz=40,slow=9.3,SNR=16
IMA2 Indian Mountai 26.70 42 *e*P **P** **11 10 15.6 -1.5**
KDAK Kodiak Island 27.59 60 *e*pP pP 11 10 46.2 -0.5
JNU Nakatsue 28.12 236 P **P** **11 10 31.9 +2.1**
comp=Z,15nm,0.5s,mb4.8,baz=254,slow=21,SNR=7.0
COLA College 29.09 45⇑ *e*P **P** **11 10 37.4 -1.0**
SML Sawmill 29.09 51 *e*P **P** **11 10 37.5 -1.0**
BJI Beijing 31.52 263 P **P** **11 11 01.9 +2.0**
EGAK Eagle 31.95 45 *e*P **P** **11 11 01.6 -2.0**
comp=Z,16nm,0.6s,mb4.9
DAWY Dawson 32.81 46 *e*P **P** **11 11 10.3 -0.9**
SONM Songino Array 33.12 283 P **P** **11 11 14.6 +0.7**
comp=Z,2.1nm,0.5s,mb4.3,baz=64,slow=7.5,SNR=8.7
SONM PcP PcP 11 13 53.9 -0.9
comp=Z,1.9nm,0.5s,baz=79,slow=1.5,SNR=9.5
ZAK Zakamensk 33.76 288 *e*P **P** **11 11 19.1 -0.3**
ZAK *e* pP 11 11 44.2 +2.9
ZAK *e* 11 13 57.1
HHC Hu-ho-hao-te 33.81 268 *e*P **P** **11 11 20.4 +0.6**
HHC AP pP 11 11 41.8 0.0
HHC XP sP 11 11 53.8 +0.8
HHC PP PP 11 12 35.6 -2.5
HHC AMB AMB
comp=Z,12nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,179nm,6.8s
HHC LR LR
comp=N,675nm,22.1s
HHC LR LR
comp=E,738nm,17.1s
HHC LR LR
comp=Z,500nm,18.9s
INK Inuvik 34.48 37 P **P** **11 11 25.1 -0.6**
comp=Z,16nm,0.5s,mb5.1,baz=296,slow=6.7,SNR=368
INK pP pP 11 11 46.9 -0.8
comp=Z,16nm,0.8s,baz=280,slow=5.8,SNR=7.3
INK PcP PcP 11 13 57.8 -1.0
comp=Z,1.2nm,0.5s,baz=262,slow=2.9,SNR=3.4
INK Inuvik 34.48 37 *e*P **P** **11 11 25.0 -0.7**
DLBC Dease Lake 38.79 53 *e*pP pP 11 12 26.5 +2.0
LZH Lanzhou 41.51 269 *e*P **P** **11 12 22.8 -1.8**
LZH AP pP 11 12 45.6 -1.6
LZH XP sP 11 12 57.1 -1.1
LZH AMB AMB
comp=Z,29nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,112nm,6.5s
LZH LR LR
comp=N,406nm,14.1s
LZH LR LR
comp=Z,598nm,16.3s
LZH Lanzhou 41.51 269 *e*P **P** **11 12 22.7 -1.9**
LZH *PP pP 11 12 45.6 -1.6
LZH *SP sP 11 12 57.1 -1.1
LZH *e* 11 14 02.8
LZH *e*S **S** **11 18 30.1 -2.9**
LZH *SS sS 11 19 09.7 -2.1
LZH *e*SS SS 11 21 32.5 -8.6
LZH pmax pmax
comp=Z,29nm,1.3s,mb4.8
LZH MLR MLR
comp=Z,600nm,16.3s
LZH Lanzhou 41.51 269 *e*P **P** **11 12 22.7 -1.9**
comp=Z,29nm,1.3s,mb4.8
LZH pP pP 11 12 45.6 -1.6
LZH sP sP 11 12 57.1 -1.1
LZH *e*PP PP 11 14 02.8 +0.5
LZH *e*S **S** **11 18 30.1 -2.9**
LZH sS sS 11 19 09.7 -2.1
LZH *e*SS SS 11 21 32.5 -8.6
LZH LR LR
comp=Z,600nm,16.3s
GTA Gaotai 41.79 276 *e*P **P** **11 12 27.6 +0.6**
GTA AP pP 11 12 49.9 +0.3
GTA XP sP 11 13 01.9 +1.3
GTA AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
ZAL Zalesovo 42.16 302 PcP PcP 11 14 22.9 +0.2
comp=Z,4.0nm,0.5s,baz=48,slow=3.4,SNR=4.5
NVS Novosibirsk 42.50 304 *i* P **P** **11 12 31.9 -0.9**
NVS *i* pP 11 12 52.8 -2.6
NVS *e* 11 14 22.3
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=Z,36nm,1.3s,mb4.9
NVS pmax pmax
comp=E,25nm,1.1s
RES Resolute Bay 43.76 22 *e*P **P** **11 12 42.1 -0.8**
YKW3 Yellowknife Ar 43.79 42 *e*P **P** **11 12 42.4 -0.7**
YKA Yellowknife Ar 43.82 42 P **P** **11 12 42.5 -0.8**
comp=E,2.3nm,0.4s,mb4.2,baz=300,slow=7.2,SNR=124
YKA pP pP 11 13 05.0 -1.1
comp=E,3.6nm,0.7s,baz=297,slow=8.1,SNR=9.2
YKA ScP ScP 11 18 08.9 -2.1
comp=E,0.5nm,0.9s,baz=306,slow=4.8,SNR=4.1
YKA Yellowknife Ar 43.82 42 P **P** **11 12 42.5 -0.9**
YKA *PP pP 11 13 05.0 -1.1
YKA pmax pmax
comp=Z,2.0nm,0.4s
YKA Yellowknife Ar 43.82 42 P **P** **11 12 42.5 -0.8**
YKA pP pP 11 13 05.0 -1.1
YKA ScP ScP 11 18 08.9 -2.1
WMQ Urumqi 46.23 289 *e*P **P** **11 13 02.8 +0.4**
WMQ AP pP 11 13 27.5 +2.1
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,255nm,6.0s
WMQ LR LR
comp=N,305nm,20.0s
WMQ LR LR
comp=E,664nm,20.0s
WMQ LR LR
comp=Z,389nm,22.0s
GYA Guiyang 46.66 256 P **P** **11 13 06.4 +0.6**
GYA AP pP 11 13 30.8 +2.1
GYA XP sP 11 13 41.9 +2.2
GYA PCP PcP 11 14 39.8 +1.8
GYA PP PP 11 14 57.0 +0.3
GYA SCP ScP 11 18 22.9 +0.2
GYA S **S** **11 19 47.3 -0.5**
GYA XS sS 11 20 28.3 +1.0
GYA SCS ScS 11 22 49.0 -1.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,200nm,4.7s
GYA LR LR
comp=N,2μm,18.6s
GYA LR LR
comp=E,1μm,19.5s
GYA LR LR
comp=Z,640nm,13.8s
KURK Kurchatov 47.10 301*de*P **P** **11 13 07.9 -1.3**
KURK Kurchatov 47.10 301 *e*P **P** **11 13 07.9 -1.3**
MK31 Makanchi Array 47.46 295 *e*P **P** **11 13 10.5 -1.5**
MKAR Makanchi Array 47.46 295 P **P** **11 13 11.0 -1.0**
comp=Z,6.7nm,0.5s,mb4.6,baz=58,slow=7.3,SNR=58
MKAR pP pP 11 13 34.0 -1.1
comp=Z,1.0nm,0.4s,baz=65,slow=9.3,SNR=1.8
MKAR Makanchi Array 47.46 295 *i* P **P** **11 13 11.0 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
B05A Bryant 48.07 62⇓P **P** **11 13 15.4 -1.4**
baz=48
A07A Ashnola River, 48.50 60⇑P **P** **11 13 18.6 -1.4**
baz=48
D05A Enumclaw 48.78 63⇓P **P** **11 13 21.5 -0.7**
baz=49
B07A Winthrop 49.00 61⇓P **P** **11 13 23.4 -0.5**
baz=49
A08A Turner Farm, O 49.14 60⇓P **P** **11 13 24.7 -0.2**
baz=49
B08A Colville Reser 49.48 60⇑P **P** **11 13 26.4 -1.1**
baz=49,SNR=5.4
A09A Danville 49.49 59⇓P **P** **11 13 26.7 -0.9**
baz=49
C07A Waterville 49.50 61⇓P **P** **11 13 26.9 -0.8**
baz=49
EDM Edmonton 49.51 52 *e*P **P** **11 13 27.3 -0.4**
E06A Yakima 49.73 63⇑P **P** **11 13 29.3 -0.1**
baz=50
BVA0 Borovoye Array 49.82 308 *i* P **P** **11 13 28.3 -1.8**
BVAR Borovoye Array 49.82 308 P **P** **11 13 29.1 -1.0**
comp=Z,16nm,0.5s,mb5.2,baz=60,slow=7.2,SNR=46
BVAR Borovoye Array 49.82 308 P **P** **11 13 29.1 -1.0**
BVAR pmax pmax
comp=Z,16nm,0.5s
BRVK Borovoye 49.85 308 *e*P **P** **11 13 29.3 -1.0**
BRVK pmax pmax
comp=Z,15nm,0.5s,mb5.2
BRVK Borovoye 49.85 308 *e*P **P** **11 13 29.3 -1.0**
comp=Z,15nm,0.5s,mb5.2
KMI Kunming 49.98 259 P **P** **11 13 33.8 +2.5**
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.7
KMI Kunming 49.98 259 P **P** **11 13 33.7 +2.4**
KMI pmax pmax
comp=Z,12nm,1.3s,mb4.7
KMI Kunming 49.98 259 P **P** **11 13 33.7 +2.4**
comp=Z,12nm,1.3s,mb4.7
H04A Detroit Lake 50.24 66⇑P **P** **11 13 32.9 -0.3**
baz=50
E07A Sunnyside 50.32 62⇓P **P** **11 13 33.4 -0.4**
baz=50
J03A Ideyld Park 50.64 67⇑P **P** **11 13 36.7 +0.4**
baz=50
NEW Newport 50.69 59 *e*pP pP 11 13 58.6 -1.3
F07A Phinny Hill Vi 50.70 63⇑P **P** **11 13 36.6 -0.1**
baz=50
C10A Spilker Farm, 50.88 60⇑P **P** **11 13 38.4 +0.4**
baz=51
B11A Sandpoint 50.97 59⇓P **P** **11 13 38.5 -0.3**
baz=51
A12A Yaak River Ran 51.03 58⇓P **P** **11 13 39.8 +0.6**
baz=51
J04A Umpqua Nationa 51.20 67⇑P **P** **11 13 40.0 -0.6**
baz=51
E09A Wood Farm, Sta 51.26 62⇓P **P** **11 13 40.2 -0.8**
baz=51
D10A Wagner Farm, O 51.38 61⇓P **P** **11 13 40.7 -1.1**
baz=51
K04A Chilquin 51.82 67⇓P **P** **11 13 44.6 -0.5**
baz=52
E10A Myers Farm, Un 51.83 61⇓P **P** **11 13 44.1 -1.1**
baz=52
WALA Waterton Lakes 51.83 57 *e*P **P** **11 13 45.2 0.0**
comp=Z,12nm,0.8s,mb5.0
WALA *e*pP pP 11 14 07.6 -1.0
YBH Yreka Blue Hor 51.85 69⇑⇑P **P** **11 13 45.2 -0.2**
baz=52
F09A S2 Ranch, Elgi 51.91 62⇑P **P** **11 13 45.0 -0.7**
baz=52
B13A Whitefish 51.99 58⇓P **P** **11 13 45.4 -0.9**
baz=52,SNR=6.0
L04A Klamath Falls 52.02 68⇓P **P** **11 13 45.8 -0.8**
baz=52
I07A Izee 52.10 65⇓P **P** **11 13 47.1 0.0**
baz=52
BSMT Bassoo Peak 52.16 58 *e*P **P** **11 13 47.3 -0.3**
K05A Summer Lake 52.22 67⇑P **P** **11 13 47.8 -0.2**
baz=52
H08A Prairie City 52.27 64⇓P **P** **11 13 48.0 -0.4**
baz=52
J06A Christmas Vall 52.28 66⇑P **P** **11 13 47.6 -0.9**
baz=52
M04C Macdoel 52.31 68⇓P **P** **11 13 47.9 -0.8**
baz=52
C13A Hot Springs 52.38 58⇑P **P** **11 13 49.3 0.0**
baz=52,SNR=5.2
E11A Bogner Ranch, 52.39 61⇓P **P** **11 13 48.2 -1.1**
baz=52
M03C McCloud 52.48 69⇑P **P** **11 13 51.1 +1.1**
baz=52
K06A Valley Falls 52.52 66⇓P **P** **11 13 50.7 +0.4**
baz=52
WDC Whiskeytown Da 52.71 70⇓P **P** **11 13 51.9 +0.2**
baz=52
H09A Durkee 52.72 63⇓P **P** **11 13 51.9 +0.2**
baz=52
I08A Drewsey 52.72 64⇑P **P** **11 13 51.4 -0.3**
baz=52
BMO Blue Mountains 52.78 63 *e*P **P** **11 13 52.4 +0.1**
BMO *e*pP pP 11 14 16.1 +0.4
D13A Huson 52.82 59⇑⇑P **P** **11 13 51.7 -0.9**
baz=53
O02C Red Bluff 52.84 70⇑P **P** **11 13 52.5 -0.1**
baz=53
ARU Arti 52.93 317⇓*i*P **P** **11 13 52.1 -1.2**
ARU *e* pP 11 14 15.9 -0.8
ARU *e* 11 14 58.7
ARU *e* 11 15 50.2
ARU *e*S **S** **11 21 13.5 -1.6**
ARU *e*SS SS 11 24 53.8 -1.4
ARU pmax pmax
comp=Z,14nm,0.6s,mb5.2
ARU Arti 52.93 317 *e*P **P** **11 13 52.1 -1.2**
M05C Lookout 52.98 68⇑⇑P **P** **11 13 53.2 -0.5**
baz=53
MOD Modoc 53.09 67 *e*P **P** **11 13 55.0 +0.5**
MOD *e*pP pP 11 14 18.9 +1.0
MOD Modoc 53.09 67⇓P **P** **11 13 54.2 -0.2**
baz=53,SNR=5.3
ARCES ARCESS Array B 53.15 341 P **P** **11 13 52.8 -2.2**
comp=Z,4.5nm,0.8s,mb4.5,baz=42,slow=7.8,SNR=12
ARCES ARCESS Array B 53.15 341 P **P** **11 13 52.8 -2.1**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
MSO Missoula 53.27 59 *e*pP pP 11 14 18.4 -0.9
F12A Elk City 53.28 61⇑⇑P **P** **11 13 55.4 -0.5**
baz=53
D14A Greenough 53.32 58⇓P **P** **11 13 55.9 -0.3**
baz=53,SNR=5.2
E13A Victor 53.39 59⇓P **P** **11 13 56.5 -0.2**
baz=53
M06C Likely Place G 53.46 68⇑P **P** **11 13 57.3 +0.1**
baz=53
HOPS Hopland 53.47 72⇓P **P** **11 13 58.4 +1.2**
baz=53
J09A Fry Pan Ranch, 53.53 64⇑P **P** **11 13 57.7 0.0**
baz=53
K08A Mann Creek Ran 53.54 65⇑P **P** **11 13 57.8 0.0**
baz=53
L07A Adell 53.55 67⇑P **P** **11 13 57.9 +0.1**
baz=53
H11A Donnelly 53.58 62⇑P **P** **11 13 57.0 -1.0**
baz=53,SNR=7.4
O04C Chester 53.71 69⇑P **P** **11 13 58.8 -0.1**
baz=54,SNR=7.4
ELFS Eagle Lake Fie 53.71 69⇓⇓P **P** **11 13 59.5 +0.5**
baz=54
E14A Clinton 53.77 59⇓P **P** **11 13 58.0 -1.5**
baz=54
D15A Lincoln 53.86 58⇑⇑P **P** **11 13 59.2 -0.9**
baz=54
K09A Rome 53.98 65⇓P **P** **11 14 00.4 -0.6**
baz=54
L08A Fields 53.98 66⇑⇑P **P** **11 14 00.4 -0.6**
baz=54
ORV Oroville 53.99 70⇓P **P** **11 14 00.6 -0.4**
baz=54
J10A Berg Farm, Mel 54.02 64⇓P **P** **11 14 00.6 -0.7**
baz=54
O05C Quincy 54.04 69 P **P** **11 14 02.0 +0.6**
baz=54,SNR=5.7
SUTB Sutter Butte 54.04 71⇓P **P** **11 14 01.7 +0.2**
baz=54
M07A Soldier Meadow 54.06 67 P **P** **11 14 02.5 +0.9**
baz=54,SNR=9.5
FCC Fort Churchill 54.10 38 *e*P **P** **11 14 00.9 -1.0**
N06A Buffalo Meadow 54.12 68 P **P** **11 14 02.6 +0.6**
baz=54,SNR=8.2
I11A Placerville 54.13 63⇓P **P** **11 14 01.7 -0.4**
baz=54
OHCM Honcut 54.14 70 *e*P **P** **11 14 01.7 -0.5**
CVS Carmenet Viney 54.26 72⇑⇑P **P** **11 14 02.1 -0.9**
baz=54
G13A Cobalt 54.26 61⇓P **P** **11 14 01.9 -1.1**
baz=54
Q03C Winters 54.32 71⇑P **P** **11 14 03.4 0.0**
baz=54
AAK Ala-Archa 54.39 295 *e*P **P** **11 14 02.5 -1.5**
K10A MacKenzie Ranc 54.40 64⇑⇑P **P** **11 14 04.3 +0.3**
baz=54
BEKR Beckwourth 54.42 69 P **P** **11 14 04.3 +0.1**
baz=54,SNR=7.9
HRY Holter Researc 54.43 58 *e*P **P** **11 14 03.5 -0.7**
HRY *e*pP pP 11 14 35.9 +8.1
M08A Happy Creek Ra 54.46 66⇑⇑P **P** **11 14 05.2 +0.7**
baz=54
L09A Wilkinson Ranc 54.47 65⇑P **P** **11 14 04.3 -0.3**
baz=54
O06A Flanigan 54.52 69⇓P **P** **11 14 04.7 -0.2**
baz=54,SNR=7.4
MFID Camas Ranch 54.53 63⇓P **P** **11 14 04.9 -0.1**
baz=54
N07B Gerlach 54.59 67⇑P **P** **11 14 05.8 +0.4**
baz=54
P05C Yuba Gap, Truc 54.66 70⇓P **P** **11 14 05.8 -0.1**
baz=54
LAVA Lava Cap Winer 54.96 70⇑P **P** **11 14 08.0 -0.1**
baz=55
M09A Marrel Ranch, 54.99 66⇑P **P** **11 14 08.7 +0.4**
baz=55
J12A Stokes Ranch, 55.04 63⇑P **P** **11 14 08.9 +0.2**
baz=55
N08A GE Springer Mi 55.05 67⇑P **P** **11 14 09.4 +0.7**
baz=55
O07A Toulon 55.06 68 P **P** **11 14 09.6 +0.9**
baz=55,SNR=6.1
G15A Dillon 55.13 60⇓P **P** **11 14 09.4 +0.1**
baz=55
MCMT McKenzie Canyo 55.17 60 *e*P **P** **11 14 09.0 -0.6**
HLID Hailey 55.20 62⇑⇑P **P** **11 14 09.7 -0.1**
baz=55
BOZ Bozeman (W) 55.25 59 *e*P **P** **11 14 10.8 +0.7**
BOZ *e**PP pP 11 14 33.0 -0.8
BOZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BOZ Bozeman (W) 55.25 59 *e*P **P** **11 14 10.8 +0.6**
comp=Z,4.9nm,0.8s,mb4.6
BOZ *e*pP pP 11 14 33.0 -0.8
BOZ Bozeman (W) 55.25 59⇑⇑P **P** **11 14 10.2 +0.1**
baz=55
N09A Rock Creek Ran 55.34 66⇑P **P** **11 14 10.9 +0.1**
baz=55
R05C Kirkwood Meado 55.38 70⇓P **P** **11 14 10.7 -0.4**
baz=55
M10A I.L. Ranch, Tu 55.43 65⇑P **P** **11 14 11.5 0.0**
baz=55
J13A Cove Ranch, Pi 55.44 62⇓P **P** **11 14 11.7 +0.2**
baz=55
K12A Draper Farm, C 55.56 63⇓P **P** **11 14 13.0 +0.6**
baz=55
CMB Columbia Colle 55.66 71⇓P **P** **11 14 13.4 +0.3**
baz=56
BMN Battle Mountai 55.80 67 *e*P **P** **11 14 14.8 +0.7**
BMN *e**PP pP 11 14 39.1 +1.4
R06C Coleville 55.86 70 P **P** **11 14 15.4 +0.9**
baz=56,SNR=7.0
M11A Holland Ranch, 55.90 65⇓P **P** **11 14 15.1 +0.3**
baz=56
QLMT Earthquake Lak 55.91 59 *e*pP pP 11 14 38.8 +0.3
O09A Fish Creek Ran 55.99 67⇓P **P** **11 14 16.2 +0.7**
baz=56
N10A Dunphy 55.99 66⇑P **P** **11 14 15.9 +0.4**
baz=56
S06C San Francisco 56.07 71 P **P** **11 14 16.4 +0.4**
baz=56,SNR=7.6
HAST UC Hastings Re 56.13 73⇓P **P** **11 14 17.1 +0.7**
baz=56
O10A Cortez Mining, 56.29 66⇓P **P** **11 14 18.0 +0.4**
baz=56
N11A Elko Archery C 56.35 65⇑P **P** **11 14 18.1 0.0**
baz=56
P09A Austin 56.45 67⇑P **P** **11 14 19.1 +0.4**
baz=56
L13A Double Diamond 56.45 63⇑P **P** **11 14 19.3 +0.6**
baz=56
YFT Old Faithful 56.48 59 *e*pP pP 11 14 45.2 +2.7
Q08A Gabbs 56.48 68 P **P** **11 14 19.5 +0.5**
baz=56,SNR=5.8
NVAR Mina Array Bea 56.57 69 P **P** **11 14 20.0 +0.4**
comp=Z,3.3nm,0.6s,mb4.5,baz=294,slow=7.7,SNR=11
NVAR pP pP 11 14 43.9 +0.6
comp=Z,4.0nm,0.6s,baz=287,slow=8.8,SNR=8.2
LKWY Lake 56.62 59 *e*P **P** **11 14 25.1 +5.1**
LKWY pmax pmax
comp=Z,11nm,0.9s,mb4.9
LKWY Lake 56.62 59 *e*P **P** **11 14 25.1 +5.2**
comp=Z,11nm,0.9s,mb4.9
LKWY *e*pP pP 11 14 44.7 +1.0
N12A Clover Valley, 56.71 65⇓P **P** **11 14 21.5 +1.0**
baz=56
R08A Mina 56.74 69⇓P **P** **11 14 21.3 +0.5**
baz=56
T06C Millerton Lake 56.76 71⇓P **P** **11 14 20.9 0.0**
baz=57
KCC Kaiser Creek 56.76 71⇑P **P** **11 14 21.5 +0.6**
baz=57
P10A Eureka 56.78 67⇑P **P** **11 14 21.2 +0.1**
baz=57
IMW Indian Meadow 56.80 60 *e*P **P** **11 14 20.5 -0.7**
comp=Z,9.9nm,0.8s,mb4.9
IMW *e*pP pP 11 14 45.2 +0.2
RLMT Red Lodge 56.82 58 *e*P **P** **11 14 21.8 +0.4**
comp=Z,14nm,0.9s,mb5.0
M13A Montello 56.84 64⇓P **P** **11 14 22.1 +0.6**
baz=57
O11A Cowboy Ranch, 56.87 66⇓P **P** **11 14 21.2 -0.5**
baz=57
DCID1 Drake Creek 56.88 60 *e*P **P** **11 14 23.5 +1.7**
DCID1 *e*pP pP 11 14 46.8 +1.3
RRI2 Red Ridge 56.98 60 *e*P **P** **11 14 27.8 +5.3**
MOOW Moose Ponds 57.01 60 *e*pP pP 11 14 45.9 -0.5
TPAW Teton Pass 57.08 60 P **P** **11 14 24.2 +1.0**
SNOW Snow King Moun 57.20 60 *e*pP pP 11 14 48.1 +0.4
P11A Circle Ranch, 57.22 66⇓P **P** **11 14 24.3 +0.1**
baz=57
REDW Red Top Meadow 57.22 60 *e*P **P** **11 14 24.2 +0.1**
comp=Z,14nm,1.3s,mb4.8
REDW *e*pP pP 11 14 48.7 +0.8
AB31 Akbulak array 57.24 310 P **P** **11 14 23.0 -1.3**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
LAO LASA Array 57.26 55 *e*pP pP 11 14 47.5 -0.8
S08C White Mtn Res 57.29 70⇑⇑P **P** **11 14 24.9 +0.3**
baz=57
AKTK Aktyubinsk 57.30 312 P **P** **11 14 23.4 -1.3**
AKTO Aktyubinsk 57.30 312 P **P** **11 14 23.4 -1.3**
comp=Z,7.2nm,0.4s,mb5.0,baz=68,slow=8.5,SNR=39
AKTO Aktyubinsk 57.30 312 P **P** **11 14 23.4 -1.3**
AKTO pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
JOF Joensuu 57.34 334 *e*p **P** **11 14 23.2 -1.8**
comp=Z,12nm,0.4s,mb5.3

JOF Joensuu 57.34 334 *eP* **P 11 14 23.2 -1.8**
JOF pmax pmax
comp=Z,12nm,0.4s,mb5.3
HELL Mitchell Peak, 57.38 71 P **P 11 14 25.1 -0.2**
baz=57,SNR=9.2
R09A Tonopah 57.40 68 P **P 11 14 25.4 0.0**
baz=57,SNR=6.5
RCTC Rector, Farmer 57.52 72 ⇓P **P 11 14 26.3 0.0**
baz=57
S09A Goldfield 57.67 69 P **P 11 14 27.8 +0.5**
baz=58,SNR=6.5
P12A McGill 57.74 66 ⇑P **P 11 14 27.9 +0.1**
baz=58
Q11A Duckwater 57.77 67 ⇑P **P 11 14 26.9 -1.1**
baz=58
R10A Warm Springs 57.80 68 ⇓P **P 11 14 28.1 -0.1**
baz=58
SPUT South Promonto 57.80 63 *ep*P pP 11 14 47.4 -4.6
AGT Agartala 57.81 268 *i x* x 11 15 02.0
VES Vestal, Richgr 57.94 72 ⇓P **P 11 14 29.2 0.0**
baz=58
HWUT Hardware Ranch 58.07 62 *eP* **P 11 14 31.0 +0.9**
comp=Z,12nm,0.8s,mb5.0
HWUT *ep*P pP 11 14 54.7 +0.8
CWC Cottonwood Cre 58.09 71 ⇓P **P 11 14 30.2 0.0**
baz=58
Q12A Willow Creek R 58.09 66 ⇑P **P 11 14 30.7 +0.4**
baz=58
GRAC Grapevine Rang 58.10 70 ⇑P **P 11 14 30.0 -0.3**
baz=58
BW06 Boulder Array 58.31 60 *eP* **P 11 14 32.1 +0.3**
comp=Z,11nm,0.8s,mb5.0
BW06 *ep*P pP 11 14 55.0 -0.6
PDAR Pinedale Array 58.31 60 P **P 11 14 31.9 +0.1**
comp=Z,4.5nm,0.7s,mb4.6,baz=318,slow=2.8,SNR=36
PDAR pP pP 11 14 54.8 -0.8
comp=Z,12nm,0.8s,baz=309,slow=3.1,SNR=16
SFJD Kangerlussuaq 58.34 13 ⇑*iP* **P 11 14 30.5 -1.5**
comp=Z,18nm,0.4s,mb5.5
SFJD Kangerlussuaq 58.34 13 ⇑*iP* **P 11 14 30.5 -1.5**
SFJD pmax pmax
comp=Z,18nm,0.4s,mb5.5
DUG Dugway 58.38 64 *eP* **P 11 14 33.1 +0.8**
DUG *e**PP pP 11 14 56.2 +0.1
DUG pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
DUG Dugway 58.38 64 *eP* **P 11 14 33.1 +0.8**
comp=Z,10nm,1.1s,mb4.8
DUG *ep*P pP 11 14 56.2 +0.1
DUG Dugway 58.38 64 ⇓P **P 11 14 33.0 +0.6**
baz=58
ISA Isabella 58.41 72 ⇓P **P 11 14 33.8 +1.3**
baz=58
DAC Darwin (Calif) 58.48 70 *eP* **P 11 14 33.4 +0.4**
DAC *e**PP pP 11 14 57.7 +0.9
MPMC Manual Prospec 58.69 71 ⇑P **P 11 14 35.4 +0.9**
baz=58
FURC Furnace Creek, 58.76 70 P **P 11 14 35.3 +0.4**
baz=59,SNR=11
JLU Jordanelle 58.84 63 *ep*P pP 11 15 00.6 +1.3
LRMC Laurel Mountai 58.99 71 ⇓P **P 11 14 36.3 -0.3**
baz=59
OSI Osito Adit 59.01 73 ⇑P **P 11 14 36.8 +0.1**
baz=59
U10A Ash Meadows, A 59.10 69 ⇓P **P 11 14 37.5 +0.3**
baz=59
MPU Maple Canyon 59.15 63 *eP* **P 11 14 38.5 +0.9**
MPU *ep*P pP 11 15 01.8 +0.3
EDW2 Edwards Air Fo 59.25 72 P **P 11 14 38.5 +0.2**
baz=59,SNR=5.2
KAF Kangasniemi 59.28 336 *ep* **P 11 14 36.6 -1.9**
comp=Z,14nm,0.3s,mb5.5,baz=32,slow=6.4
KAF Kangasniemi 59.28 336 *eP* **P 11 14 36.6 -1.9**
KAF pmax pmax
comp=Z,14nm,0.3s,mb5.5
SHOC Shoshone 59.50 70 ⇓P **P 11 14 39.4 -0.6**
baz=59
DECC Green Verdugo 59.50 73 ⇓P **P 11 14 39.8 -0.2**
baz=59
ULM Lac du Bonnet 59.52 46 P **P 11 14 39.4 -0.7**
comp=Z,1.7nm,0.3s,mb4.5,baz=318,slow=7.0,SNR=17
ULM pP pP 11 15 02.0 -2.0
comp=Z,3.5nm,0.6s,baz=317,slow=6.9,SNR=5.0
ULM Lac du Bonnet 59.52 46 P **P 11 14 39.4 -0.7**
ULM pP pP 11 15 02.0 -2.0
GSC Goldstone 59.62 71 ⇑P **P 11 14 40.3 -0.6**
baz=59
ARUT Antelope Range 59.74 66 *eP* **P 11 14 41.6 -0.1**
TMUT Trail Mountain 59.89 64 *eP* **P 11 14 43.3 +0.6**
TMUT *ep*P pP 11 15 06.9 +0.2
BFSC Mount Baldy St 59.90 72 ⇑P **P 11 14 42.5 -0.2**
baz=60
FINES FINESS Array B 59.91 336 P **P 11 14 41.5 -1.3**
comp=Z,8.0nm,0.4s,mb5.1,baz=41,slow=7.6,SNR=94
FINES FINESS Array B 59.91 336 P **P 11 14 41.5 -1.3**
FINES pmax pmax
comp=Z,8.0nm,0.4s
V11A Goodsprings 60.02 69 ⇓P **P 11 14 43.9 +0.3**
baz=60
TUQ Turquoise Mtn. 60.03 70 ⇑P **P 11 14 43.4 -0.3**
baz=60
CIS Catalina Islan 60.06 73 ⇓P **P 11 14 44.9 +1.1**
baz=60
U12A Valley of Fire 60.10 68 ⇓P **P 11 14 44.4 +0.2**
baz=60
HEC Hector,Ludlow 60.23 71 ⇓P **P 11 14 44.5 -0.6**
baz=60
SRU San Rafael 60.40 63 *eP* **P 11 14 46.6 +0.4**
SRU *e**PP pP 11 15 09.6 -0.5
V12A Nelson 60.43 69 ⇓P **P 11 14 46.7 +0.3**
baz=60
MURC Murrieta 60.62 72 ⇑P **P 11 14 47.2 -0.5**
baz=60
GMRC Granite Mounta 60.65 70 ⇓P **P 11 14 48.2 +0.3**
baz=60
BELC Belle Mtn. 61.02 71 ⇑P **P 11 14 49.5 -0.8**
baz=61
109C Camp Elliot, M 61.19 73 ⇓P **P 11 14 49.8 -1.7**
baz=61
IRM Iron Mountain 61.39 70 ⇓P **P 11 14 52.7 -0.2**
baz=61
W13A Hualapai Mount 61.43 69 ⇓P **P 11 14 53.1 0.0**
baz=61
BC3 Big Chuckw Mtn 61.58 71 ⇑P **P 11 14 53.7 -0.5**
baz=61
W14A Seligman 61.80 68 ⇑P **P 11 14 56.5 +0.9**
baz=62
X13A Yucca 61.83 69 ⇑P **P 11 14 55.2 -0.6**
baz=62
PDMCI Parker Dam,Lak 61.86 70 ⇑P **P 11 14 56.4 +0.3**
baz=62
Y12C Blythe 62.04 70 ⇑P **P 11 14 57.0 -0.2**
baz=62
OBN Obninsk 62.18 327 *eP* **P 11 14 56.7 -1.5**
OBN pmax pmax
comp=Z,14nm,0.8s,mb5.0
SMCO Snowmass 62.25 61 *eP* **P 11 14 59.3 +0.7**
comp=Z,12nm,0.9s,mb4.9
W15A Williams 62.28 68 ⇑P **P 11 14 59.1 +0.3**
baz=62
GLA Glamis 62.38 71 ⇓P **P 11 14 59.3 -0.2**
baz=62
Y13A Salome 62.39 70 ⇓P **P 11 14 59.7 +0.1**
baz=62
X14A Yava 62.45 69 ⇑P **P 11 15 00.3 +0.3**
baz=62
ISCO Idaho Springs 62.51 60 *eP* **P 11 15 01.1 +0.7**
ISCO *e**PP pP 11 15 24.9 +0.4
ISCO pmax pmax
comp=Z,11nm,0.9s,mb4.8
ISCO Idaho Springs 62.51 60 *eP* **P 11 15 01.1 +0.7**
comp=Z,11nm,0.9s,mb4.8
ISCO *ep*P pP 11 15 24.9 +0.4
WUAZ Wupatki 62.53 67 *eP* **P 11 15 01.4 +0.9**
comp=Z,8.8nm,1.2s,mb4.6
WUAZ *ep*P pP 11 15 25.4 +0.8
WUAZ Wupatki 62.53 67 ⇓P **P 11 15 01.7 +1.2**
baz=62
Y14A Wickenburg 62.77 69 ⇑P **P 11 15 02.5 +0.4**
baz=63
X15A Humboldt 62.80 68 ⇑P **P 11 15 02.9 +0.6**
baz=63
PMG Port Moresby 62.90 193 P **P 11 15 03.6 +0.7**
comp=Z,13nm,0.9s,mb4.9,baz=346,slow=7.7,SNR=4.0
PMG Port Moresby 62.90 193 P **P 11 15 03.6 +0.7**
PMG pmax pmax
comp=Z,13nm,0.9s

Z14A Wintersburg 63.22 70 ⇓P **P 11 15 05.2 +0.1**
baz=63
NB2 NORSAR Subarra 63.44 343 P **P 11 15 04.9 -1.6**
comp=Z,7.0nm,0.6s,mb4.8,baz=22,slow=6.9
NOA NORSAR Array B 63.44 343 P **P 11 15 05.3 -1.2**
comp=Z,9.3nm,0.6s,mb4.9,baz=21,slow=6.7,SNR=36
NOA pP pP 11 15 29.4 -1.3
comp=Z,1.7nm,0.6s,baz=20,slow=6.6,SNR=1.6
NOA NORSAR Array B 63.44 343 P **P 11 15 05.3 -1.2**
NOA *PP pP 11 15 29.4 -1.3
NOA pmax pmax
comp=Z,9.0nm,0.6s
NOA NORSAR Array B 63.44 343 P **P 11 15 05.3 -1.2**
NOA pP pP 11 15 29.4 -1.3
SDCO Great Sand Dun 64.08 61 *eP* **P 11 15 11.6 +0.8**
SDCO *ep*P pP 11 15 34.5 -0.5
115A Sonoran Desert 64.12 70 ⇓P **P 11 15 11.1 +0.1**
baz=64
116A Eloy 64.52 69 ⇑P **P 11 15 13.7 +0.1**
baz=64
ANMO Albuquerque 65.65 64 *eP* **P 11 15 20.9 0.0**
ANMO *e**PP pP 11 15 45.2 0.0
SCHQ Schefferville 66.15 27 P **P 11 15 22.2 -1.9**
comp=Z,7.1nm,0.7s,mb4.6,baz=332,slow=6.8,SNR=13
SCHQ pP pP 11 15 45.8 -2.7
comp=Z,3.7nm,0.7s,baz=335,slow=4.9,SNR=2.0
SCIA State Center 67.06 50 *eP* **P 11 15 27.8 -2.1**
comp=Z,18nm,0.6s,mb5.1
SCIA *ep*P pP 11 15 53.3 -1.0
BSD Bornholm Skovb 68.21 339 *i P* **P 11 15 36.6 -0.6**
BSD Bornholm Skovb 68.21 339 *eP* **P 11 15 36.6 -0.6**
AKASG Malin Array Be 68.30 328 P **P 11 15 36.0 -1.7**
comp=Z,5.2nm,0.3s,mb4.8,baz=29,slow=6.5,SNR=25
AKASG Malin Array Be 68.30 328 P **P 11 15 36.0 -1.7**
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKBB Malin Array Si 68.30 328 *eP* **P 11 15 36.1 -1.6**
KIEV Kiev 68.31 328 *eP* **P 11 15 35.9 -1.8**
KIEV pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
KIEV Kiev 68.31 328 *eP* **P 11 15 35.9 -1.9**
comp=Z,8.3nm,0.5s,mb4.8
MNTX Cornudas Mount 68.70 66 *eP* **P 11 15 40.3 +0.1**
MNTX *ep*P pP 11 16 03.8 -0.9
WMOK Wichita Mounta 69.89 59 *eP* **P 11 15 47.1 -0.5**
WMOK *e**PP pP 11 16 10.8 -1.3
WMOK pmax pmax
comp=Z,12nm,0.8s,mb4.8
WMOK Wichita Mounta 69.89 59 *eP* **P 11 15 47.1 -0.5**
comp=Z,12nm,0.8s,mb4.8
WMOK *ep*P pP 11 16 10.8 -1.3
PSI Prapat 69.96 247 P **P 11 15 49.8 +1.8**
comp=Z,5.4nm,0.5s,mb4.6,baz=153,slow=6.8,SNR=7.7
PSI Prapat 69.96 247 P **P 11 15 49.8 +1.8**
PSI pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
LTX Lajitas 71.45 66 *eP* **P 11 15 57.3 +0.3**
LTX *e**PP pP 11 16 21.9 +0.2
LTX pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
LTX Lajitas 71.45 66 *eP* **P 11 15 57.2 +0.2**
comp=Z,8.5nm,0.7s,mb4.7
LTX *ep*P pP 11 16 21.9 +0.2
TXAR Lajitas Array 71.45 66 P **P 11 15 57.1 +0.1**
comp=Z,3.8nm,0.4s,mb4.6,baz=295,slow=5.2,SNR=120
TXAR pP pP 11 16 20.8 -0.9
comp=Z,8.7nm,0.7s,baz=299,slow=4.5,SNR=13
TXAR Lajitas Array 71.45 66 P **P 11 15 57.1 +0.1**
TXAR *PP pP 11 16 20.8 -0.9
TXAR pmax pmax
comp=Z,4.0nm,0.4s
FVM French Village 71.47 51 *eP* **P 11 15 59.0 +1.9**
FVM *e**PP pP 11 16 19.6 -2.2
FVM pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
FVM French Village 71.47 51 *eP* **P 11 15 59.0 +1.8**
comp=Z,9.6nm,0.6s,mb4.8
FVM *ep*P pP 11 16 19.6 -2.1
STHS Stebnicka Huta 71.83 332 *eP* **P 11 15 59.5 +0.2**
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
STHS Stebnicka Huta 71.83 332 *eP* **P 11 15 59.5 +0.2**
comp=Z,6.4nm,0.7s,mb4.6
KOLS Kolonicke sedl 71.97 331 *eP* **P 11 15 59.2 -0.9**
WIT Witteveen 72.04 343 *eP* **P 11 16 01.6 +1.1**
CLL Collm 72.18 338 *eP* **P 11 16 00.6 -0.8**
comp=Z,14nm,0.9s,mb4.8
CLL Collm 72.18 338 ⇓*iP* **P 11 16 00.5 -0.9**
CLL *i* pP 11 16 27.3 +1.3
CLL pmax pmax
comp=Z,23nm,1.1s,mb4.9
CLL Collm 72.18 338 ⇓*iP* **P 11 16 00.5 -0.9**
comp=Z,23nm,1.1s,mb4.9
CLL *i* pP pP 11 16 27.3 +1.3
UPC Upice 72.21 336 *eP* **P 11 16 00.9 -0.7**
CRVS Cervenica-Dubn 72.24 332 *ePP* PP 11 18 47.8 +4.5
CLZ Clausthal 72.24 340 *eP* **P 11 16 02.0 +0.2**
comp=Z,23nm,1.0s,mb5.0
CLZ Clausthal 72.24 340 *eP* **P 11 16 02.0 +0.2**
CLZ pmax pmax
comp=Z,23nm,1.0s,mb5.0
BURAR Bucovina Array 72.27 329 ⇓*iP* **P 11 16 01.0 -0.9**
DPC Dobruska-Polom 72.28 336 *eP* **P 11 16 01.8 -0.2**
DPC smax
comp=N,18nm,0.4s
IBBN Ibbenburen 72.32 342 *eP* **P 11 16 02.1 -0.1**
BRG Berggiesshubel 72.37 337 *eP* **P 11 16 01.8 -0.7**
comp=Z,4.0nm,0.6s,mb4.4
BRG Berggiesshubel 72.37 337 *i P* **P 11 16 01.8 -0.7**
comp=Z,2.2nm,0.6s,mb4.2
BRG Berggiesshubel 72.37 337 *i P* **P 11 16 01.8 -0.7**
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
FBE Freiberg 72.46 338 *eP* **P 11 16 02.9 -0.1**
comp=Z,25nm,1.4s,mb4.8
MORC Moravsky Berou 72.50 335 ⇑*iP* **P 11 16 03.0 -0.3**
JCT Junction City 72.67 62 *ep*P pP 11 16 28.0 -0.9
MIAR Mount Ida 72.69 55 *eP* **P 11 16 03.8 -0.6**
MIAR *e**PP pP 11 16 28.7 -0.4
MIAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
MIAR Mount Ida 72.69 55 *eP* **P 11 16 03.8 -0.6**
comp=Z,7.8nm,0.8s,mb4.6
MIAR *ep*P pP 11 16 28.7 -0.4
WTSB Winterswijk 72.83 342 *eP* **P 11 16 04.7 -0.5**
comp=Z,51nm,0.5s,mb5.6
KECS Kecovo 72.89 332 *eP* **P 11 16 04.9 -0.7**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
KECS Kecovo 72.89 332 *eP* **P 11 16 04.9 -0.7**
comp=Z,2.5nm,0.7s,mb4.2
PRU Pruhonice 73.05 337 *eP* **P 11 16 05.5 -1.0**
MOX Moxa 73.11 339 *eP* **P 11 16 06.4 -0.5**
comp=Z,5.0nm,0.6s,mb4.5
WERD Werda 73.14 338 *eP* **P 11 16 06.9 -0.2**
comp=Z,14nm,1.2s,mb4.7
VRAC Vranov 73.18 335 ⇑*iP* **P 11 16 07.4 +0.1**
GUNZ Gunzen 73.21 338 *eP* **P 11 16 07.1 -0.4**
comp=Z,8.0nm,1.1s,mb4.5
BUG Bochum--Univer 73.24 342 *eP* **P 11 16 07.4 -0.2**
comp=Z,22nm,0.7s,mb5.1
WERN Wernitzgruen 73.28 338 *eP* **P 11 16 07.5 -0.3**
comp=Z,16nm,1.1s,mb4.8
VRI Vrincioaia 73.33 327 ⇓*iP* **P 11 16 07.4 -0.8**
VYHS Vyhne 73.34 333 *eP* **P 11 16 07.6 -0.6**
CTA Charters Tower 73.54 192 P **P 11 16 09.4 0.0**
comp=Z,14nm,0.7s,mb4.8,baz=16,slow=10,SNR=4.4
CTA Charters Tower 73.54 192 P **P 11 16 09.4 0.0**
CTA pmax pmax
comp=Z,14nm,0.7s
CTA Charters Tower 73.54 192 *e* **P 11 16 09.2 -0.2**
MANZ Manzenberg 73.62 338 *eP* **P 11 16 09.7 -0.2**
comp=Z,5.0nm,0.9s,mb4.2
DRGR 73.77 330 ⇑*iP* **P 11 16 10.0 -0.8**
ROTZ Rotzenmuhle 73.80 338 *eP* **P 11 16 10.6 -0.3**
comp=Z,5.0nm,0.8s,mb4.3
MLR Muntele Rosu 73.92 327 ⇑*iP* **P 11 16 11.6 0.0**
ZST Bratislava 74.07 334 *eP* **P 11 16 10.2 -2.3**
ZST pmax pmax
comp=Z,23nm,0.6s,mb5.1
ZST Bratislava 74.07 334 *eP* **P 11 16 10.2 -2.3**
comp=Z,23nm,0.6s,mb5.1
KHC Kasperske Hory 74.08 337 *eP* **P 11 16 12.3 -0.3**
GRA1 Grafenberg Arr 74.09 339 *eP* **P 11 16 12.6 0.0**
comp=Z,22nm,1.0s,mb4.8

GRF Grafenberg Arr 74.09 339 *eP* **P 11 16 12.6 0.0**
comp=Z,22nm,1.0s,mb4.8
GRF Grafenberg Arr 74.09 339 *eP* **P 11 16 12.6 0.0**
GRF pmax pmax
comp=Z,22nm,1.0s,mb4.8
HGN Heimansgroeve 74.14 342 *eP* **P 11 16 12.5 -0.3**
comp=Z,29nm,1.0s,mb5.0
TNS Taunus Mts 74.17 341 *eP* **P 11 16 13.0 -0.1**
comp=Z,16nm,0.9s,mb4.8
TNS Taunus Mts 74.17 341 *eP* **P 11 16 13.0 -0.1**
TNS pmax pmax
comp=Z,16nm,0.9s,mb4.8
WET Wettzell 74.23 337 *eP* **P 11 16 13.4 0.0**
comp=Z,14nm,1.1s,mb4.6
WET Wettzell 74.23 337 *eP* **P 11 16 13.4 0.0**
WET pmax pmax
comp=Z,14nm,1.1s,mb4.6
VOIR 74.26 328 ⇑*iP* **P 11 16 13.4 -0.2**
MEM Membach 74.27 342 P **P 11 16 13.6 -0.1**
comp=Z,39nm,1.0s,mb5.1
GEC2 GERESS Array S 74.32 337 *eP* **P 11 16 13.1 -0.8**
comp=Z,7.0nm,0.7s,mb4.5
GEC2 GERESS Array S 74.32 337 *eP* **P 11 16 13.1 -0.8**
GEC2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
GERES GERESS Array B 74.32 337 P **P 11 16 13.6 -0.3**
comp=Z,3.2nm,0.5s,mb4.3,baz=34,slow=6.2,SNR=35
GERES GERESS Array B 74.32 337 P **P 11 16 13.6 -0.3**
GERES pmax pmax
comp=Z,3.0nm,0.5s
BCLA Clavier 74.58 343 P **P 11 16 15.4 0.0**
comp=Z,16nm,1.3s,mb4.6
SNF Seneffe 74.67 343 P **P 11 16 15.8 -0.2**
TOD Tromm 74.69 340 *eP* **P 11 16 14.7 -1.4**
GIVF Givet 74.97 343 ⇓*iP* **P 11 16 17.3 -0.4**
comp=Z,45nm,1.0s,mb4.8
GIVF Givet 74.97 343 ⇓*iP* **P 11 16 17.3 -0.4**
GIVF pmax pmax
comp=Z,23nm,1.0s,mb4.9
GIVF Givet 74.97 343 ⇓*iP* **P 11 16 17.3 -0.4**
comp=Z,23nm,1.0s,mb4.8
GZR Gura Zlata 75.01 330 ⇑*iP* **P 11 16 17.3 -0.6**
DOU Dourbes 75.02 343 P **P 11 16 17.6 -0.4**
comp=Z,7.4nm,0.9s,mb4.4
MOA Molln 75.11 336 ⇑*iP* **P 11 16 18.6 +0.1**
comp=Z,5.7nm,0.9s,mb4.3
BAIF Baives 75.12 343 ⇓*iP* **P 11 16 18.3 -0.3**
comp=Z,29nm,0.6s,mb4.9
BAIF Baives 75.12 343 ⇓*iP* **P 11 16 18.3 -0.3**
BAIF pmax pmax
comp=Z,15nm,0.6s,mb4.9
BAIF Baives 75.12 343 ⇓*iP* **P 11 16 18.3 -0.3**
comp=Z,14nm,0.6s,mb4.9
WLF Walferdange 75.15 342 P **P 11 16 18.6 -0.2**
BZS Buzias 75.16 330 ⇓*iP* **P 11 16 18.0 -0.8**
ARSA Arzberg 75.35 335 ⇑*iP* **P 11 16 20.4 +0.5**
comp=Z,14nm,1.4s,mb4.5
MALT Malatya 75.43 315 ⇑*iP* **P 11 16 20.8 +0.5**
BFO Black Forest 76.00 340 *eP* **P 11 16 23.3 -0.3**
comp=Z,14nm,0.9s,mb4.7
BFO Black Forest 76.00 340 *eP* **P 11 16 23.3 -0.3**
BFO pmax pmax
comp=Z,14nm,0.9s,mb4.7
KBA Koelnbreinsper 76.06 336 ⇓*iP* **P 11 16 24.8 +0.9**
comp=Z,38nm,0.8s,mb5.2
KBA Koelnbreinsper 76.06 336 ⇓*iP* **P 11 16 24.8 +0.9**
KBA pmax pmax
comp=Z,38nm,0.8s,mb5.2
CDF Champ du Feu 76.13 341 ⇓*iP* **P 11 16 24.2 -0.1**
comp=Z,33nm,0.7s,mb4.9
CDF Champ du Feu 76.13 341 ⇓*iP* **P 11 16 24.2 -0.1**
CDF pmax pmax
comp=Z,16nm,0.7s,mb4.9
CDF Champ du Feu 76.13 341 ⇓*iP* **P 11 16 24.2 -0.1**
comp=Z,16nm,0.7s,mb4.9
BR131 Keskin Array S 76.19 319 *eP* **P 11 16 24.3 -0.4**
comp=Z,3.3nm,0.6s,mb4.2
BRTR Keskin Array B 76.19 319 P **P 11 16 24.1 -0.6**
comp=Z,5.3nm,0.7s,mb4.4,baz=50,slow=2.8,SNR=17
BRTR Keskin Array B 76.19 319 P **P 11 16 24.1 -0.6**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
WATA Walderalm 76.23 338 ⇑*iP* **P 11 16 25.3 +0.4**
comp=Z,12nm,1.2s,mb4.5
WATA Walderalm 76.23 338 ⇑*iP* **P 11 16 25.3 +0.4**
WATA pmax pmax
comp=Z,12nm,1.2s,mb4.5
WTTA Wattenberg 76.28 338 ⇓*iP* **P 11 16 25.9 +0.7**
comp=Z,19nm,0.9s,mb4.8
WTTA Wattenberg 76.28 338 ⇓*iP* **P 11 16 25.9 +0.7**
WTTA pmax pmax
comp=Z,19nm,0.9s,mb4.8
MOTA Moosalm 76.33 338 ⇑*iP* **P 11 16 25.6 +0.1**
comp=Z,14nm,1.1s,mb4.6
MOTA Moosalm 76.33 338 ⇑*iP* **P 11 16 25.6 +0.1**
MOTA pmax pmax
comp=Z,15nm,1.1s,mb4.6
ECH Echery 76.34 341 *eP* **P 11 16 25.2 -0.3**
SQTA Sankt Quirin 76.42 338 ⇓*iP* **P 11 16 26.4 +0.4**
comp=Z,15nm,1.0s,mb4.7
SQTA Sankt Quirin 76.42 338 ⇓*iP* **P 11 16 26.4 +0.4**
SQTA pmax pmax
comp=Z,15nm,1.0s,mb4.7
MEZF Maizieres J'vi 76.47 342 ⇓*iP* **P 11 16 26.3 +0.1**
comp=Z,42nm,0.5s,mb5.1
MEZF Maizieres J'vi 76.47 342 ⇓*iP* **P 11 16 26.3 +0.1**
comp=Z,42nm,0.5s,mb5.4
FELD Feldberg im Sc 76.50 340 *eP* **P 11 16 26.1 -0.3**
THEF They Montfort 76.56 342 *eP* **P 11 16 26.7 -0.1**
ABTA Abfaltersbach 76.56 337 ⇑*iP* **P 11 16 26.9 +0.1**
comp=Z,22nm,1.0s,mb4.8
MOF Molkenrain 76.69 341 *eP* **P 11 16 27.3 -0.2**
HAU Haudompre 76.70 341 ⇓*iP* **P 11 16 27.3 -0.3**
comp=Z,33nm,0.5s,mb5.0
HAU Haudompre 76.70 341 ⇓*iP* **P 11 16 27.3 -0.3**
HAU pmax pmax
comp=Z,16nm,0.5s,mb5.0
HAU Haudompre 76.70 341 ⇓*iP* **P 11 16 27.3 -0.3**
comp=Z,16nm,0.5s,mb5.0
FETA Feichten 76.72 338 ⇑*iP* **P 11 16 28.4 +0.7**
comp=Z,20nm,0.9s,mb4.9
HINF Hinteralfeld 76.78 341 ⇓*iP* **P 11 16 27.4 -0.6**
comp=Z,21nm,0.7s,mb4.7
HINF Hinteralfeld 76.78 341 ⇓*iP* **P 11 16 27.4 -0.6**
HINF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
HINF Hinteralfeld 76.78 341 ⇓*iP* **P 11 16 27.4 -0.6**
comp=Z,10nm,0.7s,mb4.7
DIVS Divcibare 77.02 331 ⇓*iP* **P 11 16 28.8 -0.6**
FLN La Foliniere 77.13 346 ⇓*iP* **P 11 16 29.2 -0.8**
comp=Z,76nm,1.1s,mb5.0
FLN La Foliniere 77.13 346 ⇓*iP* **P 11 16 29.2 -0.8**
FLN pmax pmax
comp=Z,38nm,1.1s,mb5.0
FLN La Foliniere 77.13 346 ⇓*iP* **P 11 16 29.2 -0.8**
comp=Z,38nm,1.1s,mb5.0
LDF La Druitiere 77.24 346 ⇓*iP* **P 11 16 29.8 -0.8**
comp=Z,69nm,1.2s,mb5.0
LDF La Druitiere 77.24 346 ⇓*iP* **P 11 16 29.8 -0.8**
LDF pmax pmax
comp=Z,35nm,1.2s,mb5.0
LDF La Druitiere 77.24 346 ⇓*iP* **P 11 16 29.8 -0.8**
comp=Z,35nm,1.2s,mb5.0
VTS Vitosha 77.40 328 ⇓*iP* **P 11 16 30.5 -1.0**
GRR Gorron 77.55 346 ⇓*iP* **P 11 16 31.5 -0.8**
comp=Z,40nm,0.7s,mb4.9
GRR Gorron 77.55 346 ⇓*iP* **P 11 16 31.5 -0.8**
GRR pmax pmax
comp=Z,20nm,0.7s,mb5.0
GRR Gorron 77.55 346 ⇓*iP* **P 11 16 31.5 -0.8**
comp=Z,20nm,0.7s,mb5.0
LOR Lormes 77.88 343 ⇓*iP* **P 11 16 33.9 -0.2**
comp=Z,59nm,0.6s,mb5.2
LOR Lormes 77.88 343 ⇓*iP* **P 11 16 33.9 -0.2**
LOR pmax pmax
comp=Z,30nm,0.6s,mb5.2
LOR Lormes 77.88 343 ⇓*iP* **P 11 16 33.9 -0.2**
comp=Z,30nm,0.6s,mb5.2
SGMF Saint Gilles 77.92 347 ⇓*iP* **P 11 16 33.9 -0.4**
comp=Z,43nm,0.8s,mb5.0
SGMF Saint Gilles 77.92 347 ⇓*iP* **P 11 16 33.9 -0.4**
SGMF pmax pmax
comp=Z,21nm,0.8s,mb4.9
SGMF Saint Gilles 77.92 347 ⇓*iP* **P 11 16 33.9 -0.4**
comp=Z,21nm,0.8s,mb4.9
ROSF Rostrenen 77.93 348 ⇓*iP* **P 11 16 34.0 -0.4**

comp=Z,131nm,1.1s,mb5.3
ROSF Rostrenen 77.93 348 ⇓iP P 11 16 34.0 -0.4
ROSF pmax pmax
comp=Z,66nm,1.1s,mb5.3
ROSF Rostrenen 77.93 348 ⇓iP P 11 16 34.0 -0.4
comp=Z,66nm,1.1s,mb5.3
HYF Humbligny 78.09 344 ⇓iP P 11 16 35.5 +0.2
CABF La Chapelle 78.09 341 ⇓iP P 11 16 35.4 +0.1
comp=Z,32nm,0.6s,mb4.9
CABF La Chapelle 78.09 341 ⇓iP P 11 16 35.4 +0.1
CABF pmax pmax
comp=Z,16nm,0.6s,mb4.9
CABF La Chapelle 78.09 341 ⇓iP P 11 16 35.4 +0.1
comp=Z,16nm,0.6s,mb4.9
SSF Saint Saulge 78.14 343 ⇓iP P 11 16 35.3 -0.3
comp=Z,38nm,0.7s,mb4.9
SSF Saint Saulge 78.14 343 ⇓iP P 11 16 35.3 -0.3
SSF pmax pmax
comp=Z,19nm,0.7s,mb4.9
SSF Saint Saulge 78.14 343 ⇓iP P 11 16 35.3 -0.3
comp=Z,19nm,0.7s,mb4.9
QUIF Quistinic 78.33 348 ⇓iP P 11 16 36.1 -0.5
comp=Z,40nm,0.9s,mb4.8
QUIF Quistinic 78.33 348 ⇓iP P 11 16 36.1 -0.5
QUIF pmax pmax
comp=Z,20nm,0.9s,mb4.8
QUIF Quistinic 78.33 348 ⇓iP P 11 16 36.1 -0.5
comp=Z,20nm,0.9s,mb4.8
AVF Avril sur Loir 78.43 343 ⇓iP P 11 16 37.0 -0.2
comp=Z,72nm,0.8s,mb5.1
AVF Avril sur Loir 78.43 343 ⇓iP P 11 16 37.0 -0.2
AVF pmax pmax
comp=Z,36nm,0.8s,mb5.2
AVF Avril sur Loir 78.43 343 ⇓iP P 11 16 37.0 -0.2
comp=Z,36nm,0.8s,mb5.2
SMF Signal de Mont 78.48 343 ⇓iP P 11 16 37.2 -0.2
comp=Z,23nm,0.6s,mb4.8
SMF Signal de Mont 78.48 343 ⇓iP P 11 16 37.2 -0.2
SMF pmax pmax
comp=Z,12nm,0.6s,mb4.8
SMF Signal de Mont 78.48 343 ⇓iP P 11 16 37.2 -0.2
comp=Z,12nm,0.6s,mb4.8
BGF Bois d'Agland 78.74 343 ⇓iP P 11 16 38.8 -0.1
comp=Z,22nm,0.7s,mb4.8
BGF Bois d'Agland 78.74 343 ⇓iP P 11 16 38.8 -0.1
BGF pmax pmax
comp=Z,11nm,0.7s,mb4.8
BGF Bois d'Agland 78.74 343 ⇓iP P 11 16 38.8 -0.1
comp=Z,11nm,0.7s,mb4.8
LPL La Plagne 79.01 340 ⇓iP P 11 16 41.4 +1.1
comp=Z,56nm,0.5s,mb5.3
LPL La Plagne 79.01 340 ⇓iP P 11 16 41.4 +1.1
LPL pmax pmax
comp=Z,28nm,0.5s,mb5.3
LPL La Plagne 79.01 340 ⇓iP P 11 16 41.4 +1.1
comp=Z,28nm,0.5s,mb5.3
LPG La Plagne 79.02 340 ⇓iP P 11 16 41.6 +1.2
comp=Z,87nm,0.7s,mb5.4
LPG La Plagne 79.02 340 ⇓iP P 11 16 41.6 +1.2
LPG pmax pmax
comp=Z,43nm,0.7s,mb5.4
LPG La Plagne 79.02 340 ⇓iP P 11 16 41.6 +1.2
comp=Z,44nm,0.7s,mb5.4
TCF Toulx Ste Croi 79.11 344 ⇓iP P 11 16 40.9 0.0
comp=Z,46nm,0.8s,mb5.0
TCF Toulx Ste Croi 79.11 344 ⇓iP P 11 16 40.9 0.0
TCF pmax pmax
comp=Z,23nm,0.8s,mb5.1
TCF Toulx Ste Croi 79.11 344 ⇓iP P 11 16 40.9 0.0
comp=Z,23nm,0.8s,mb5.1
PLDF La Plantade 79.17 343 eP P 11 16 41.8 +0.6
AGO Saint Agoulin 79.18 343 eP P 11 16 41.8 +0.5
MFF Saint Martin d 79.19 345 ⇓iP P 11 16 41.4 +0.1
comp=Z,29nm,0.8s,mb4.9
MFF Saint Martin d 79.19 345 ⇓iP P 11 16 41.4 +0.1
MFF pmax pmax
comp=Z,15nm,0.8s,mb4.9
MFF Saint Martin d 79.19 345 ⇓iP P 11 16 41.4 +0.1
comp=Z,15nm,0.8s,mb4.9
PYM Petit Puy Mans 79.49 343 eP P 11 16 43.3 +0.3
COLF Collangettes 79.59 342 eP P 11 16 43.7 +0.2
ORIF Oris-en-Rattie 79.75 341 ⇓iP P 11 16 45.2 +0.8
comp=Z,44nm,0.7s,mb5.1
ORIF Oris-en-Rattie 79.75 341 ⇓iP P 11 16 45.2 +0.8
ORIF pmax pmax
comp=Z,22nm,0.7s,mb5.1
ORIF Oris-en-Rattie 79.75 341 ⇓iP P 11 16 45.2 +0.8
comp=Z,22nm,0.7s,mb5.1
MBDF Montbardon 79.76 340 eP P 11 16 44.7 +0.3
comp=Z,45nm,0.9s,mb5.0
MBDF Montbardon 79.76 340 eP P 11 16 44.7 +0.3
MBDF pmax pmax
comp=Z,22nm,0.9s,mb5.0
MBDF Montbardon 79.76 340 eP P 11 16 44.7 +0.3
comp=Z,22nm,0.9s,mb5.0
LBL Lubilhac 79.95 343 eP P 11 16 46.0 +0.5
VIVF Saint-Julien-l 80.05 342 ⇓iP P 11 16 46.6 +0.6
comp=Z,96nm,0.9s,mb5.3
VIVF Saint-Julien-l 80.05 342 ⇓iP P 11 16 46.6 +0.6
VIVF pmax pmax
comp=Z,48nm,0.9s,mb5.3
VIVF Saint-Julien-l 80.05 342 ⇓iP P 11 16 46.6 +0.6
comp=Z,48nm,0.9s,mb5.3
RJF Les Rejaudoux 80.18 344 eP P 11 16 47.1 +0.4
comp=Z,26nm,1.0s,mb4.7
RJF Les Rejaudoux 80.18 344 eP P 11 16 47.1 +0.4
RJF pmax pmax
comp=Z,13nm,1.0s,mb4.7
RJF Les Rejaudoux 80.18 344 eP P 11 16 47.1 +0.4
comp=Z,13nm,1.0s,mb4.7
SBF Sospel 80.44 339 eP P 11 16 48.8 +0.7
CAF Calviac 80.46 343 ⇓iP P 11 16 48.9 +0.7
comp=Z,54nm,0.7s,mb5.2
CAF Calviac 80.46 343 ⇓iP P 11 16 48.9 +0.7
CAF pmax pmax
comp=Z,27nm,0.7s,mb5.2
CAF Calviac 80.46 343 ⇓iP P 11 16 48.9 +0.7
comp=Z,27nm,0.7s,mb5.2
LFF La Frestale 80.67 344 ⇓iP P 11 16 49.7 +0.4
comp=Z,91nm,1.1s,mb5.2
LFF La Frestale 80.67 344 ⇓iP P 11 16 49.7 +0.4
LFF pmax pmax
comp=Z,46nm,1.1s,mb5.2
LFF La Frestale 80.67 344 ⇓iP P 11 16 49.7 +0.4
comp=Z,46nm,1.1s,mb5.2
SMRF Simiane la Rot 80.72 341 eP P 11 16 50.5 +0.9
comp=Z,53nm,1.0s,mb5.0
SMRF Simiane la Rot 80.72 341 eP P 11 16 50.5 +0.9
comp=Z,53nm,1.0s,mb5.3
FRF La Foret Royal 80.90 340 eP P 11 16 50.7 +0.2
LASF Ste Croix 80.96 342 ⇓iP P 11 16 51.7 +0.9
comp=Z,26nm,0.7s,mb4.9
LMR La Mourre 81.14 340 ⇓iP P 11 16 51.8 0.0
comp=Z,35nm,0.7s,mb5.0
LMR La Mourre 81.14 340 ⇓iP P 11 16 51.8 0.0
LMR pmax pmax
comp=Z,18nm,0.7s,mb5.0
LMR La Mourre 81.14 340 ⇓iP P 11 16 51.8 0.0
comp=Z,18nm,0.7s,mb5.0
PGF Pioggiola 81.35 338 eP P 11 16 52.6 -0.3
MTLF Montolieu 81.97 343 ⇓iP P 11 16 56.9 +0.7
comp=Z,50nm,0.9s,mb5.1
MTLF Montolieu 81.97 343 ⇓iP P 11 16 56.9 +0.7
MTLF pmax pmax
comp=Z,25nm,0.9s,mb5.0
MTLF Montolieu 81.97 343 ⇓iP P 11 16 56.9 +0.7
comp=Z,25nm,0.9s,mb5.0
EPF Esparros 82.59 344 ⇓iP P 11 16 59.6 +0.2
comp=Z,32nm,0.7s,mb5.0
EPF Esparros 82.59 344 ⇓iP P 11 16 59.6 +0.2
EPF pmax pmax
comp=Z,16nm,0.7s,mb5.0
EPF Esparros 82.59 344 ⇓iP P 11 16 59.6 +0.2
comp=Z,16nm,0.7s,mb5.0
EALK Alkurruntz 82.70 346 P P 11 17 01.2 +1.2
comp=Z,3.9nm,0.5s,mb4.5
ELIZ Elizondo 82.75 346 P P 11 17 01.1 +0.8
ELIZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
ELIZ Elizondo 82.75 346 P P 11 17 01.1 +0.9
comp=Z,4.9nm,0.6s,mb4.5
SJPF Ste Jean 82.76 345 ⇓iP P 11 17 01.4 +1.1
comp=Z,25nm,0.6s,mb4.9
SJPF Ste Jean 82.76 345 ⇓iP P 11 17 01.4 +1.1
SJPF pmax pmax
comp=Z,12nm,0.6s,mb4.9
SJPF Ste Jean 82.76 345 ⇓iP P 11 17 01.4 +1.1
comp=Z,12nm,0.6s,mb4.9
ETSF Etsaut 82.86 345 ⇓iP P 11 17 01.8 +1.0
comp=Z,39nm,0.6s,mb5.1
ETSF Etsaut 82.86 345 ⇓iP P 11 17 01.8 +1.0
ETSF pmax pmax
comp=Z,19nm,0.6s,mb5.1
ETSF Etsaut 82.86 345 ⇓iP P 11 17 01.8 +1.0
comp=Z,19nm,0.6s,mb5.1
EBIE Bielsa 82.96 344 P P 11 17 02.6 +1.3
comp=Z,3.7nm,0.5s,mb4.5
ELAN Lanestosa 82.96 347 P P 11 17 01.1 -0.2
comp=Z,5.9nm,0.6s,mb4.6
EARI Arriondas 83.12 348 P P 11 17 01.8 -0.4
comp=Z,4.1nm,0.8s,mb4.3
EPON Pontenova 83.32 350 P P 11 17 03.1 -0.1
comp=Z,8.8nm,0.5s,mb4.8
EMAZ Mazaricos 83.88 351 P P 11 17 07.0 +0.9
comp=Z,3.7nm,0.5s,mb4.5
ESAC San Caprasio 84.00 344 P P 11 17 07.1 +0.5
comp=Z,9.9nm,1.0s,mb4.6
ECAL Calabor 84.65 349 P P 11 17 09.9 0.0
comp=Z,5.8nm,0.5s,mb4.8
PBRG Braganca 84.78 349 eP P 11 17 10.7 +0.1
ELOB Lobios 84.86 350 P P 11 17 10.1 -0.9
comp=Z,2.7nm,0.6s,mb4.3
ETOR Torete 85.13 345 P P 11 17 12.8 +0.5
ETOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ETOR Torete 85.13 345 P P 11 17 12.8 +0.4
comp=Z,8.0nm,0.8s,mb4.7
PVRL Vila Real 85.41 350 eP P 11 17 14.2 +0.5
comp=Z,24nm,0.8s,mb5.2
GUD Guadarrama 85.60 347 P P 11 17 15.6 +0.9
GUD pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
GUD Guadarrama 85.60 347 P P 11 17 15.6 +0.9
comp=Z,3.3nm,0.5s,mb4.5
PVIS Viseu 85.99 350 eP P 11 17 16.9 +0.3
MTE Manteigas 86.26 350 eP P 11 17 18.4 +0.5
ESDC Sonseca Array 86.53 347 P P 11 17 18.9 -0.4
comp=Z,4.2nm,0.6s,mb4.5,baz=1.6,slow=4.9,SNR=15
ESDC pP pP 11 17 44.4 -0.3
comp=Z,2.2nm,0.6s,baz=358,slow=4.7,SNR=3.2
ESDC Sonseca Array 86.53 347 P P 11 17 18.7 -0.6
comp=Z,6.1nm,0.8s,mb4.6
PCBR Castelo Branco 86.81 349 eP P 11 17 20.2 -0.4
comp=Z,21nm,1.4s,mb4.9
EVIA Vianos 87.33 345 P P 11 17 23.5 +0.4
EVIA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EVIA Vianos 87.33 345 P P 11 17 23.5 +0.4
comp=Z,3.5nm,0.6s,mb4.5
KEST Kesra 87.74 335 P P 11 17 24.4 -0.7
comp=Z,6.3nm,0.8s,mb4.7,baz=295,slow=4.7,SNR=13
PESTR Estremoz 87.78 349 eLQ 11 42 53.6
EADA Adamuz 88.09 347 P P 11 17 28.9 +2.1
comp=Z,1.8nm,0.6s,mb4.3
EGUA Guajares 89.26 346 P P 11 17 31.5 -0.7
EGUA pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
EGUA Guajares 89.26 346 P P 11 17 31.5 -0.7
comp=Z,1.4nm,0.5s,mb4.2
VNDA Vanda 130.22 179 PKP PKPdf 11 23 43.9 -1.9
comp=Z,1.6nm,0.8s,baz=345,slow=8.3,SNR=4.3
VNDA Vanda 130.22 179 PKIKP PKPdf 11 23 43.9 -1.9
VNDA pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 138.18 287 PKP PKPdf 11 23 60.0 -0.8
comp=Z,1.0nm,0.3s,baz=28,slow=5.7,SNR=5.1
BOSA Boshof 138.18 287 PKIKP PKPdf 11 24 00.0 -0.7
BOSA pmax pmax
comp=Z,1.0nm,0.3s
QSPA South Pole Qui 142.70 180 ePKPdf PKPdf 11 24 02.7 -6.2
SUR Sutherland 143.53 287 PKP PKPdf 11 24 08.0 -2.4
comp=Z,3.3nm,0.5s,baz=135,slow=4.3,SNR=7.0
PLCA Paso Flores 144.84 90 PKP PKPdf 11 24 10.4 -2.2
comp=Z,12nm,1.0s,baz=318,slow=5.1,SNR=12
PLCA pPKP pPKPdf 11 24 37.7 -1.6
comp=Z,4.5nm,0.9s,baz=305,slow=7.0,SNR=2.0
PLCA Paso Flores 144.84 90 PKIKP PKPdf 11 24 10.4 -2.3
PLCA 11 24 37.7
PLCA pmax pmax
comp=Z,12nm,1.0s
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA Paso Flores 144.84 90 PKP PKPdf 11 24 10.4 -2.2
PLCA pPKP pPKPdf 11 24 37.7 -1.6
USHA Ushuaia 152.56 113 PKPbc PKPbc 11 24 30.6 -1.6
comp=Z,6.2nm,0.8s,baz=354,slow=4.1,SNR=3.2

BJI ***22*** *11:06:00.4,276N×12564E,h178km,mB5.1,mb5.1*
ISCJB ***22*** *11:06:05.3±0.2,324N±002×12546E±003,h177km, mb5.1/97,Error ellipse: s-maj=4.8km s-min=2.7km az=158.4*
MOS ***22*** *11:06:05.3±1.1,332N×12524E,h179km,mb5.2/38,Error ellipse: s-maj=11.4km s-min=5.5km az=108.4*
NEIC ***22*** *11:06:06.8±0.1,327N×12528E,mb5.1/31,Error ellipse: s-maj=7.2km s-min=3.7km az=74.0*
GCMT ***22*** *11:06:06.8±0.2,330N×12559E,h184km±1km,MW5.5/85, Moment Tensor Solution. s79,c122; s85,c163; Duration: 1s4 Moment tensor: Scale 1017Nm; Mrr1.53±.03; Mθθ0.12±.04; Mφφ-1.65±.05; Mrθ-1.18±.03; Mθφ-1.54±.04; Mφr0.51±.04; Best double couple: M0=2.56100×1017 NP1:φs358.00000°,δ55.00000°, λ39.00000°. NP2:φs242.00000°,δ59.00000°,λ138.00000°. Principal axes: T 2.5750, Plg51.0000°, Azm208.0000°; N -0.0280, Plg39.0000°, Azm33.0000°; P -2.5480, Plg2.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***22*** *11:06:07.5±0.5,330N×12527E,h189km±4km,mb4.7/30, mb1 4.8/31,mb1mx4.8/32,mbtmp4.7/31,MS4.4/10, Ms1 4.4/10,ms1mx4.0/38 Error ellipse: s-maj=12.2km s-min=5.6km az=72.0*

ISC 22 11:06:07.1±0.2,326N±002×12549E±003,h179km, h179km±1.7km:pP-P,n306,σ1°24/321,mb5.1/97,35C-20D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.86**	**349**	⇑eP	**Pn**	**11 06 54.8**	**+0.9**
GSPH				*i* S	**Sn**	**11 07 30.3**	**-0.1**
MATI	**Mati**	**3.74**	**12**	*e*P	**Pn**	**11 07 04.2**	**-0.7**
MATI				*e*S	**Sn**	**11 07 47.5**	**-2.4**
KCP	**Kidapawan**	**3.74**	**354**	⇑eP	**Pn**	**11 07 06.8**	**+2.0**
KCP				*i* S	**Sn**	**11 07 52.7**	**+2.7**
DAV	**Davao City (W)**	**3.79**	**1**	⇑eP	**Pn**	**11 07 06.0**	**+0.6**
DAV	**Davao City (W)**	**3.79**	**1**	*e*Pn	**Pn**	**11 07 05.5**	**+0.2**
CTBH	**Cotabato--PC H**	**4.12**	**343**	⇑eP	**Pn**	**11 07 11.1**	**+1.4**
CTBH				*i* S	**Sn**	**11 07 59.8**	**+1.2**
BUKP	**Musuan**	**4.61**	**355**	*e*P	**Pn**	**11 07 15.8**	**-0.1**
BUKP				*e*S	**Sn**	**11 08 10.2**	**+0.4**
ZMPH	**Zamboanga City**	**5.01**	**317**	⇓iP	**Pn**	**11 07 22.7**	**+1.6**
ZMPH	**Zamboanga City**	**5.01**	**317**	⇓iP	**Pn**	**11 07 22.7**	**+1.6**
CGP	**Cagayan de Oro**	**5.22**	**351**	⇓eP	**Pn**	**11 07 24.0**	**+0.2**
CGP				*e*S	**Sn**	**11 08 22.3**	**-1.7**
DCPH	**Dipolog City**	**5.70**	**338**	⇑eP	**Pn**	**11 07 32.1**	**+2.1**
SNPH	**Sibulan**	**6.44**	**340**	⇑eP	**Pn**	**11 07 42.5**	**+2.7**
TBP	**Tagbilaran**	**6.59**	**346**	*e*P	**Pn**	**11 07 42.2**	**+0.4**
MSLP	**Maasin**	**6.86**	**355**	*e*P	**Pn**	**11 07 45.1**	**-0.1**
PCI	**Palu**	**7.00**	**234**	P	**Pn**	**11 07 48.8**	**+1.6**
	0.0nm,0.0s						
LLP	**Lapu-Lapu**	**7.17**	**348**	⇑iP	**Pn**	**11 07 51.2**	**+1.8**
	912μm,1.7s						
LLP				*i* S	**Sn**	**11 09 15.0**	**+4.8**
TSM	**Tawau**	**7.67**	**278**	P	**Pn**	**11 07 57.6**	**+1.7**
OCLP	**Ormoc**	**7.79**	**354**	*e*P	**Pn**	**11 07 58.6**	**+1.1**
GUIM	**Jordan**	**7.86**	**339**	*e*P	**Pn**	**11 07 59.7**	**+1.3**
PLP	**Palo**	**7.87**	**356**	*e*P	**Pn**	**11 07 59.9**	**+1.4**
TARAI	**Tarakan**	**7.90**	**271**	P	**Pn**	**11 07 59.6**	**+0.6**
	0.0nm,0.0s						
RCP	**Roxas**	**8.68**	**342**	⇑iP	**Pn**	**11 08 11.8**	**+2.5**
CUYO	**Cuyo Island**	**8.75**	**330**	*e*P	**Pn**	**11 08 11.2**	**+1.1**
CNP	**Catarman**	**9.23**	**355**	*e*P	**Pn**	**11 08 19.0**	**+2.6**
BATP	**Bataraza**	**9.41**	**306**	*e*P	**Pn**	**11 08 22.3**	**+3.4**
KKM	**Kota Kinabalu**	**9.65**	**287**	P	**Pn**	**11 08 23.2**	**+1.3**
KKM	**Kota Kinabalu**	**9.65**	**287**	⇓ePn	**Pn**	**11 08 23.0**	**+1.1**
OTRP	**Odiongan**	**9.67**	**339**	*e*P	**Pn**	**11 08 22.8**	**+0.5**
ENPP	**El Nido**	**9.92**	**323**	*e*P	**Pn**	**11 08 26.7**	**+1.2**
BUSP	**Coron**	**10.14**	**329**	*e*P	**Pn**	**11 08 29.7**	**+1.3**
BOAC	**Boac**	**10.75**	**341**	*e*P	**Pn**	**11 08 38.6**	**+2.2**
GQP	**Guinayangan**	**10.99**	**344**	⇓iP	**Pn**	**11 08 41.1**	**+1.6**
BAKI	**Biak**	**11.50**	**112**	P	**Pn**	**11 08 47.5**	**+1.5**
	0.0nm,0.0s						
LUBP	**Lubang**	**11.62**	**334**	*e*P	**Pn**	**11 08 49.6**	**+2.0**
TGY	**Tagaytay City**	**11.67**	**338**	P	**Pn**	**11 08 48.5**	**+0.2**
	60nm,0.3s,baz=215,slow=4.6,SNR=33						
POLP	**Polillo Island**	**11.92**	**343**	*e*P	**Pn**	**11 08 52.1**	**+0.7**
BALP	**Baler**	**12.98**	**343**	*e*P	**Pn**	**11 08 59.1**	**-5.9**
SCZP	**Santa Cruz**	**13.59**	**337**	*e*P	**Pn**	**11 09 13.4**	**+0.7**
CAUP	**Cauayan**	**14.07**	**345**	*e*P	**Pn**	**11 09 18.3**	**-0.2**
BOLP	**Bolinao**	**14.14**	**338**	*e*P	**Pn**	**11 09 21.7**	**+2.2**
ABRA	**Dolores**	**15.05**	**342**	*e*P	**Pn**	**11 09 29.9**	**-0.8**
APYP	**Conner**	**15.10**	**344**	*e*P	**Pn**	**11 09 30.9**	**-0.4**
KSM	**Kuching**	**15.27**	**264**	⇑iPn	**Pn**	**11 09 36.3**	**+2.9**
DNP	**Denpasar**	**15.67**	**221**	P	**Pn**	**11 09 40.5**	**+2.2**
	919nm,1.6s						
JAY	**Jayapura**	**16.26**	**110**	P	**Pn**	**11 09 47.2**	**+1.8**
	182nm,1.2s						
KRKI	**Karangkates**	**17.25**	**229**	P	**Pn**	**11 09 56.4**	**-0.9**
	591nm,0.8s						
KAKA	**Kakadu**	**17.31**	**157**	⇓iP	**Pn**	**11 09 56.3**	**-1.6**
	194nm,0.6s						
KAKA				*e*S	**S**	**11 12 58.3**	**-9.1**
MMPI	**Merauke**	**18.88**	**128**	P	**P**	**11 10 18.0**	**+4.3**
	1μm,1.2s						
BJII	**Banjamegara**	**18.94**	**236**	P	**P**	**11 10 15.5**	**+1.1**
	405nm,1.7s						
JCJI	**Jatiwangi**	**19.73**	**241**	P	**P**	**11 10 25.6**	**+2.7**
	697nm,1.1s						
LEM	**Lembang**	**20.46**	**241**	P	**P**	**11 10 31.6**	**+0.9**
	351nm,1.9s						
CBJI	**Citeko**	**20.95**	**243**	P	**P**	**11 10 37.0**	**+1.1**
	746nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.23**	**180**	⇑iP	**P**	**11 10 38.1**	**-0.8**
	533nm,0.6s						
FITZ				*e*		11 11 21.6	
FITZ				*e*S	**S**	**11 14 20.8**	**-3.2**
FITZ	**Fitzroy Crossi**	**21.23**	**180**	P	**P**	**11 10 38.5**	**-0.3**
	215nm,0.5s,mb5.7,baz=13,slow=10,SNR=196						
FITZ				S	**S**	**11 14 20.4**	**-3.6**
	49nm,1.1s,baz=215,slow=18,SNR=6.1						
SBJI	**Serang**	**21.46**	**244**	P	**P**	**11 10 42.9**	**+1.6**
	886nm,1.8s,mb5.8						
YHNB	**Yeheng**	**21.65**	**350**	*e*P	**P**	**11 10 41.1**	**-2.2**
QIZ	**Qiongzhong**	**21.90**	**317**	P	**P**	**11 10 44.8**	**-1.1**
QIZ				PP		11 11 18.9	
QIZ				XP	sP	11 11 39.0	-0.6
QIZ				S	**S**	**11 14 31.0**	**-4.0**
QIZ				AMB	AMB		
	comp=Z,106nm,1.5s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,841nm,4.0s						
QIZ	**Qiongzhong**	**21.90**	**317**	*e*P	**P**	**11 10 45.7**	**-0.2**
	comp=Z,64nm,0.9s,mb5.1						
KGM	**Kluang**	**22.18**	**267**	P	**P**	**11 10 47.5**	**-1.0**
QZH	**Quanzhou**	**22.56**	**343**	P	**P**	**11 10 49.3**	**-2.7**
QZH				S	**S**	**11 14 42.4**	**-3.3**
QZH				AMB	AMB		
	comp=Z,220nm,1.0s,mb5.5						
QZH				AMB	AMB		
	comp=Z,2μm,3.2s						
GZH	**Guangzhou**	**22.95**	**330**	P	**P**	**11 10 57.0**	**+1.4**
GZH				S	**S**	**11 14 59.4**	**+7.4**
GZH				LR	LR		
	comp=N,835nm,24.3s						
GZH				LR	LR		
	comp=E,827nm,14.7s						
GZH				LR	LR		
	comp=Z,986nm,16.5s						
JOW	**Kunigami**	**23.59**	**6**	P	**P**	**11 11 02.9**	**+1.4**
	comp=Z,282nm,0.7s,mb5.9,baz=194,slow=8.0,SNR=23						
JOW				LR	LR	11 20 15.1	
	comp=Z,812nm,20.6s,baz=118,slow=36						
WRA	**Warramunga Arr**	**24.64**	**160**	P	**P**	**11 11 10.9**	**-0.2**
	comp=Z,64nm,0.4s,mb5.5,baz=337,slow=9.9,SNR=237						
WRA				S	**S**	**11 15 15.4**	**-3.7**
	comp=Z,28nm,1.0s,baz=332,slow=16,SNR=5.7						
WRA				ScP	ScP	11 18 04.7	-0.7
	comp=Z,17nm,0.8s,baz=335,slow=3.1,SNR=6.0						
WRA	**Warramunga Arr**	**24.64**	**160**	P	**P**	**11 11 10.9**	**-0.1**
WRA				S	**S**	**11 15 15.4**	**-3.7**
WB2	**Warramunga Arr**	**24.65**	**160**	⇑iP	**P**	**11 11 10.9**	**-0.2**
WB2				*e*S	**S**	**11 15 15.1**	**-4.1**
WB2				*e*SCS	ScS	11 21 51.4	-2.0
PMG	**Port Moresby**	**25.00**	**120**	P	**P**	**11 11 16.0**	**+1.8**
	comp=Z,23nm,0.7s,mb4.8,baz=323,slow=12,SNR=8.1						
PMG	**Port Moresby**	**25.00**	**120**	*e*P	**P**	**11 11 16.0**	**+1.8**
PMG	**Port Moresby**	**25.00**	**120**	*e*P	**P**	**11 11 16.5**	**+2.3**
	comp=Z,58nm,1.0s,mb5.1						
PSI	**Prapat**	**26.53**	**270**	P	**P**	**11 11 25.9**	**-2.1**
	comp=Z,6.0nm,0.7s,mb4.3,baz=89,slow=11,SNR=3.0						
PSI				PcP	PcP	11 14 48.1	+0.3
	comp=Z,4.6nm,0.3s,baz=311,slow=2.5,SNR=5.4						
PSI				ScP	ScP	11 18 07.8	-3.0
	comp=Z,20nm,0.9s,baz=70,slow=1.4,SNR=11						
PSI	**Prapat**	**26.53**	**270**	P	**P**	**11 11 25.9**	**-2.1**
PSI						11 14 48.1	
NST	**Nakhon Sawan**	**27.84**	**298**	P	**P**	**11 11 39.0**	**-0.6**
SSE	**Sheshan**	**27.98**	**352**	*e*P	**P**	**11 11 42.1**	**+1.2**
SSE				AP	pP	11 12 19.3	+1.5
SSE				XP	sP	11 12 37.3	-1.2
SSE				S	**S**	**11 16 13.3**	**+1.6**
SSE				XS	sS	11 17 18.3	+1.1
SSE				SCS	ScS	11 22 01.3	-6.6
SSE				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,35nm,3.5s						
SSE				LR	LR		
	comp=N,215nm,18.6s						
SSE				LR	LR		
	comp=E,1μm,18.6s						
SSE				LR	LR		
	comp=Z,634nm,18.7s						
SSE	**Sheshan**	**27.98**	**352**	*e*P	**P**	**11 11 42.1**	**+1.2**
	comp=Z,41nm,0.8s,mb5.2						
SSE				pP	pP	11 12 19.2	+1.4
SSE				sP	sP	11 12 37.2	-1.3
SSE				PP	PP	11 12 47.2	-0.5
SSE				S	**S**	**11 16 13.3**	**+1.6**
SSE				sS	sS	11 17 18.3	+1.1
SSE				ScS	ScS	11 22 01.3	-6.6
SSE				LR	LR		
	comp=Z,630nm,18.7s						
ASAR	**Alice Springs**	**27.99**	**163**	P	**P**	**11 11 40.8**	**-0.2**
	comp=Z,14nm,0.5s,mb5.0,baz=341,slow=6.8,SNR=90						
ASAR				PcP	PcP	11 14 52.1	+0.8
	comp=Z,12nm,0.3s,baz=9.0,slow=2.1,SNR=5.0						
ASAR				S	**S**	**11 16 10.3**	**-1.6**
	comp=Z,4.7nm,0.6s,baz=331,slow=13,SNR=6.4						
ASAR				ScP	ScP	11 18 13.3	-1.9
	comp=Z,20nm,1.0s,baz=3.8,slow=3.8,SNR=5.9						
ASAR	**Alice Springs**	**27.99**	**163**	P	**P**	**11 11 40.8**	**-0.2**
ASAR						11 14 52.2	
ASAR				S	**S**	**11 16 10.3**	**-1.6**
CBIJ	**Chichi jima**	**28.58**	**32**	P	**P**	**11 11 46.0**	**-0.3**
	comp=Z,74nm,0.6s,mb5.6,baz=304,slow=22,SNR=4.4						
NANT	**Nan**	**28.75**	**304**	⇑P	**P**	**11 11 46.0**	**-1.7**
	comp=Z,434nm,1.0s,mb6.1						
GYA	**Guiyang**	**29.29**	**324**	P	**P**	**11 11 55.0**	**+2.5**
GYA				AP	pP	11 12 31.6	+2.1
GYA				XP	sP	11 12 52.4	+2.2
GYA				PP	PP	11 12 57.8	-4.4
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,210nm,4.9s						
GYA				LR	LR		
	comp=N,1μm,15.4s						
GYA				LR	LR		
	comp=E,2μm,16.0s						
GYA				LR	LR		
	comp=Z,1μm,16.4s						
JNU	**Nakatsue**	**30.13**	**9**	P	**P**	**11 12 00.2**	**+0.3**
	comp=Z,48nm,0.9s,mb5.2,baz=217,slow=19,SNR=7.2						
CHG	**Chiang Mai**	**30.21**	**303**	⇓P	**P**	**11 12 00.8**	**+0.1**
	comp=Z,35nm,0.8s,mb5.1						
CHTO	**Chiang Mai**	**30.21**	**303**	⇓iP	**P**	**11 12 00.4**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,83nm,1.4s,mb5.3		

KMI AMB AMB
comp=Z,253nm,5.1s
KMI LR LR
comp=N,1μm,19.5s
KMI LR LR
comp=E,1μm,16.1s
KMI LR LR
comp=Z,968nm,16.1s
KMI Kunming 30.85 317 P **P** **11 12 07.1 +0.8**
KMI *SP sP 11 13 15.6 +12
KMI 11 14 57.3
KMI S **S** **11 16 55.9 -0.7**
KMI 11 22 22.8
KMI pmax pmax
comp=Z,42nm,1.4s,mb5.0
KMI MLR MLR
comp=Z,970nm,16.1s
KMI Kunming 30.85 317 P **P** **11 12 07.1 +0.8**
comp=Z,42nm,1.4s,mb5.0
KMI pP pP 11 12 49.6 +6.2
KMI sP sP 11 13 15.6 +12
KMI PPP 11 13 35.3
KMI PcP PcP 11 14 57.3 -1.4
KMI S **S** **11 16 55.9 -0.7**
KMI sS sS 11 18 06.9 +4.5
KMI ScP ScP 11 18 26.0 +1.6
KMI SS SS 11 19 10.8 -5.5
KMI ScS ScS 11 22 22.8 +1.3
KMI LR LR
comp=Z,970nm,16.1s
CTA Charters Tower 30.89 140 *e*P **P** **11 12 08.0 +1.4**
comp=Z,21nm,1.0s,mb4.8
CTA *e* 11 13 11.4
CTA *e*S **S** **11 16 58.0 +0.7**
CTA Charters Tower 30.89 140 P **P** **11 12 08.5 +1.9**
comp=Z,20nm,0.7s,mb5.0,baz=327,slow=9.1,SNR=21
CTA Charters Tower 30.89 140 *e*P **P** **11 12 08.0 +1.4**
CTA *e* 11 13 11.4
CTA *e*S **S** **11 16 58.0 +0.7**
CTA pmax pmax
comp=Z,21nm,1.0s
CTAO Charters Tower 30.89 140 *e*P **P** **11 12 08.6 +2.0**
CTAO pmax pmax
comp=Z,64nm,1.2s,mb5.2
CTAO Charters Tower 30.89 140 *e*P **P** **11 12 08.6 +2.0**
comp=Z,64nm,1.2s,mb5.2
FORT Forrest 33.94 176⇑ *i*P **P** **11 12 33.5 +0.4**
comp=Z,179nm,0.4s,mb6.2
INCN Inchon 34.07 2 *e*P **P** **11 12 34.1 -0.2**
comp=Z,34nm,0.8s,mb5.1
KS15 Wonju Array Si 34.09 3 *e*P **P** **11 12 35.4 +0.9**
KSRS Korea Array 34.10 3 P **P** **11 12 35.0 +0.4**
comp=Z,44nm,0.9s,mb5.2,baz=182,slow=10.0,SNR=87
KSRS pP pP 11 13 12.2 +0.1
comp=Z,7.1nm,0.7s,baz=182,slow=9.2,SNR=2.2
KSRS ScP ScP 11 18 33.0 -2.6
comp=Z,11nm,0.8s,baz=188,slow=3.8,SNR=16
KSRS LR LR 11 26 57.0
comp=Z,427nm,18.7s,baz=191,slow=37
XAN Xi'an 34.30 335 P **P** **11 12 34.6 -1.6**
XAN S **S** **11 17 45.8 -4.2**
XAN AMB AMB
comp=Z,56nm,1.1s,mb5.2
XAN AMB AMB
comp=Z,185nm,5.9s
XAN LR LR
comp=N,513nm,15.2s
XAN LR LR
comp=E,721nm,22.3s
XAN LR LR
comp=Z,621nm,21.4s
CD2 Chengdu 34.31 326 P **P** **11 12 36.1 -0.2**
CD2 AP pP 11 13 13.8 -0.1
CD2 XP sP 11 13 36.4 +2.0
CD2 PP PP 11 13 53.3 -4.5
CD2 S **S** **11 17 47.3 -2.9**
CD2 AMB AMB
comp=Z,70nm,0.9s,mb5.4
CD2 AMB AMB
comp=Z,140nm,2.6s,mb5.2
CD2 LR LR
comp=N,1μm,18.0s
CD2 LR LR
comp=E,920nm,13.1s
CD2 LR LR
comp=Z,2μm,14.2s
MAJO Matsushiro 35.13 18 *e*P **P** **11 12 43.4 0.0**
MAT Matsushiro 35.13 18 P **P** **11 12 43.1 -0.3**
MAT S **S** **11 17 59.0 -3.8**
MJAR Matsushiro Arr 35.13 18 P **P** **11 12 42.5 -0.9**
comp=Z,18nm,0.8s,mb4.8,baz=196,slow=9.3,SNR=27
MJAR pP pP 11 13 21.5 +0.4
comp=Z,13nm,0.8s,baz=194,slow=9.0,SNR=3.7
MJAR ScP ScP 11 18 38.0 -1.2
comp=Z,12nm,0.9s,baz=192,slow=3.8,SNR=11
MJAR Matsushiro Arr 35.13 18 P **P** **11 12 42.5 -0.9**
MJAR *SP pP 11 13 21.5 +0.4
KLBR Kellerberrin 35.43 191⇑ *i*P **P** **11 12 45.7 -0.2**
comp=Z,38nm,0.4s,mb5.4
DL2 Dalian 35.65 355 P **P** **11 12 47.4 -0.4**
DL2 AP pP 11 13 28.3 +2.7
DL2 S **S** **11 18 09.8 -0.9**
DL2 AMB AMB
comp=Z,60nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,140nm,4.6s
MUN Mundaring 36.14 193⇑ *i*P **P** **11 12 52.0 +0.1**
NWAO Narrogin (SRO) 36.83 192 P **P** **11 12 57.7 -0.1**
comp=Z,33nm,0.3s,mb5.4,baz=19,slow=8.1,SNR=119
NWAO Narrogin (SRO) 36.83 192⇑ *e*P **P** **11 12 57.8 0.0**
NWAO pmax pmax
comp=Z,27nm,0.4s
NWAO Narrogin (SRO) 36.83 192⇑ *e*P **P** **11 12 57.8 0.0**
comp=Z,26nm,0.4s,mb5.2
BJT Baijiatuau 37.55 348 *e*P **P** **11 13 02.3 -1.6**
BJT pmax pmax
comp=Z,101nm,1.3s
BJT Baijiatuau 37.55 348 *e*P **P** **11 13 02.3 -1.6**
comp=Z,101nm,1.3s,mb5.3
BJI Beijing 37.57 348 P **P** **11 13 03.1 -0.9**
BJI AP pP 11 13 41.1 -1.0
BJI XP sP 11 14 01.8 -0.7
BJI S **S** **11 18 33.1 -6.7**
BJI SCP ScP 11 18 48.8 +0.5
BJI AMB AMB
comp=Z,53nm,1.2s,mb5.0
BJI LR LR
comp=N,363nm,18.3s
BJI LR LR
comp=E,321nm,27.0s
BJI LR LR
comp=Z,440nm,33.0s
BJI Beijing 37.57 348 P **P** **11 13 03.1 -0.9**
BJI *PP pP 11 13 41.1 -1.0
BJI *SP sP 11 14 01.7 -0.8
BJI S **S** **11 18 33.1 -6.7**
BJI pmax pmax
comp=Z,53nm,1.2s,mb5.0
BJI MLR MLR
comp=Z,440nm,33.0s
BJI Beijing 37.57 348 P **P** **11 13 03.1 -0.9**
comp=Z,53nm,1.2s,mb5.0
BJI pP pP 11 13 41.1 -1.0
BJI sP sP 11 14 01.7 -0.8
BJI S **S** **11 18 33.1 -6.7**
BJI ScP ScP 11 18 48.7 +0.4
BJI LR LR
comp=Z,440nm,33.0s
STKA Stephens Creek 38.15 158⇑ *i*P **P** **11 13 09.8 +0.9**
comp=Z,56nm,0.9s,mb5.2
STKA *i* S **S** **11 18 45.9 -2.7**
STKA Stephens Creek 38.15 158 P **P** **11 13 09.9 +1.0**
comp=Z,42nm,0.4s,mb5.4,baz=332,slow=7.6,SNR=71
STKA PcP PcP 11 15 20.3 +0.5
comp=Z,15nm,0.4s,baz=350,slow=6.1,SNR=2.7
STKA S **S** **11 18 47.0 -1.5**
comp=Z,16nm,0.9s,baz=104,slow=22,SNR=10
LZH Lanzhou 38.29 331⇓ P **P** **11 13 09.8 -0.3**
LZH AP pP 11 13 47.5 -0.8
LZH XP sP 11 14 07.6 -1.0
LZH PP PP 11 14 45.8 +4.3
LZH PCP PcP 11 15 20.5 +0.2
LZH S **S** **11 18 50.3 -0.4**
LZH SCP ScP 11 18 51.3 +0.3
LZH PCS PcS 11 19 08.6 -1.0
LZH XS sS 11 19 57.0 -0.8
LZH SS SS 11 21 40.3 -6.6
LZH SCS ScS 11 22 59.5 -1.9
LZH AMB AMB
comp=Z,97nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,325nm,5.2s
LZH Lanzhou 38.29 331⇓ P **P** **11 13 09.8 -0.3**
LZH *PP pP 11 13 47.5 -0.8
LZH *SP sP 11 14 07.6 -1.0
LZH 11 14 45.7
LZH 11 15 20.5
LZH S **S** **11 18 50.3 -0.4**
LZH *SS sS 11 19 57.0 -0.8
LZH SS SS 11 21 40.2 -6.7
LZH 11 22 59.5
LZH pmax pmax
comp=Z,97nm,1.4s,mb5.2
LZH Lanzhou 38.29 331⇓ P **P** **11 13 09.8 -0.3**
comp=Z,97nm,1.4s,mb5.2
LZH pP pP 11 13 47.5 -0.8
LZH sP sP 11 14 07.6 -1.0
LZH PP PP 11 14 45.7 +4.2
LZH PcP PcP 11 15 20.5 +0.2
LZH S **S** **11 18 50.3 -0.4**
LZH ScP ScP 11 18 51.2 +0.2
LZH PcS PcS 11 19 08.6 -1.0
LZH sS sS 11 19 57.0 -0.8
LZH SS SS 11 21 40.2 -6.7
LZH ScS ScS 11 22 59.5 -1.9
SNY Shenyang 38.44 358⇓ P **P** **11 13 10.8 -0.5**
SNY AMB AMB
comp=Z,57nm,0.8s,mb5.2
SNY AMB AMB
comp=Z,360nm,3.7s
SNY LR LR
comp=E,870nm,20.1s
SNY LR LR
comp=Z,459nm,20.1s
SHL Shillong 39.17 308 *e*P **P** **11 13 13.0 -4.3**
SHL *ex* x 11 18 55.0
HHC Hu-ho-hao-te 39.47 343 *e*P **P** **11 13 20.5 +0.6**
HHC AP pP 11 13 58.6 +0.4
HHC XP sP 11 14 18.8 +0.3
HHC PP PP 11 14 58.6 +4.3
HHC PCS PcS 11 19 13.9 -0.2
HHC XS sS 11 20 14.9 -0.8
HHC SS SS 11 22 03.8 -6.5
HHC SCS ScS 11 23 07.1 -1.2
HHC AMB AMB
comp=Z,37nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,271nm,5.3s
HHC LR LR
comp=N,512nm,13.2s
HHC LR LR
comp=E,325nm,12.6s
HHC LR LR
comp=Z,500nm,17.2s
BTO Baotou 39.71 341 *e*P **P** **11 13 23.8 +1.9**
VLA Vladivostok 40.10 7⇑ *e*P **P** **11 13 24.7 -0.3**
VLA pmax pmax
comp=Z,59nm,1.3s,mb5.1
CN2 Changchun 40.37 360⇑ P **P** **11 13 27.3 0.0**
CN2 *e*S **S** **11 19 17.5 -4.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,300nm,14.0s
MDJ Mudanjiang 41.34 4 P **P** **11 13 36.0 +0.8**
MDJ AP pP 11 14 13.0 -0.9
MDJ XP sP 11 14 32.8 -1.3
MDJ PP PP 11 15 12.8 -1.7
MDJ S **S** **11 19 31.3 -4.8**
MDJ SS SS 11 22 44.4 -2.8
MDJ AMB AMB
comp=Z,70nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,98nm,3.2s
MDJ Mudanjiang 41.34 4 *e*P **P** **11 13 35.5 +0.3**
comp=Z,53nm,0.8s,mb5.2
ARMA Armidale 41.77 145⇑ *i*P **P** **11 13 40.2 +1.5**
LSA Lhasa 41.83 313 *e*P **P** **11 13 40.1 +0.9**
LSA *e**PP pP 11 14 18.8 +0.9
LSA pmax pmax
comp=Z,21nm,0.6s,mb4.9
LSA Lhasa 41.83 313 *e*P **P** **11 13 40.1 +0.9**
comp=Z,21nm,0.6s,mb4.9
LSA *e*pP pP 11 14 18.8 +0.9
GTA Gaotai 42.87 330 *e*P **P** **11 13 47.0 -0.6**
GTA AP pP 11 14 25.3 -1.2
GTA XP sP 11 14 45.9 -0.8
GTA PP PP 11 15 31.9 +1.1
GTA PCP PcP 11 15 37.0 +1.9
GTA SCP ScP 11 19 09.5 +0.4
GTA PCS PcS 11 19 27.1 -0.6
GTA S **S** **11 19 55.4 -3.1**
GTA SCS ScS 11 23 26.8 -2.2
GTA AMB AMB
comp=Z,11nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,186nm,5.7s
GTA LR LR
comp=N,557nm,20.5s
GTA LR LR
comp=E,709nm,21.7s
GTA LR LR
comp=Z,483nm,19.0s
ASAJ Asahikawa 43.41 18 P **P** **11 13 52.1 +0.2**
comp=Z,19nm,0.7s,mb4.9,baz=233,slow=11,SNR=21
ASAJ pP pP 11 14 30.9 +0.1
comp=Z,32nm,0.7s,baz=224,slow=7.8,SNR=4.7
CNB Canberra Magne 44.43 152 *e*P **P** **11 14 02.3 +2.3**
comp=Z,50nm,1.1s,mb5.0
JIRN Jiri 44.65 307 *e*P **P** **11 14 01.8 +0.1**
comp=Z,58nm,0.7s,mb5.3
GUN Gumba 45.01 307 *e*P **P** **11 14 04.4 -0.2**
comp=Z,70nm,0.5s,mb5.5
PKI Pulchoki 45.24 306 *e*P **P** **11 14 06.3 -0.1**
comp=Z,35nm,0.7s,mb5.1
KKN Kakani 45.43 307 *e*P **P** **11 14 07.4 -0.5**
comp=Z,38nm,0.5s,mb5.3
DMN Daman 45.50 306 *e*P **P** **11 14 08.6 +0.2**
comp=Z,70nm,1.0s,mb5.3
HABR Khabarovsk 45.78 9 *e*P **P** **11 14 12.7 +2.0**
HABR *e**PP pP 11 14 52.1 +2.1
HABR *e*S **S** **11 20 42.6 +2.0**
HABR pmax pmax
comp=Z,48nm,1.1s,mb5.0
YSS Yuzh-Sakhalins 46.03 16 *e*P **P** **11 14 12.6 0.0**
YSS *e**PP pP 11 14 51.2 -0.8
YSS pmax pmax
comp=Z,91nm,1.3s,mb5.2
YSS Yuzh-Sakhalins 46.03 16 *e*P **P** **11 14 12.6 0.0**
comp=Z,91nm,1.3s,mb5.2
YSS *e*pP pP 11 14 51.2 -0.8
GKN Gorkha 46.04 307 *e*P **P** **11 14 12.5 -0.2**
comp=Z,42nm,0.7s,mb5.2
HIA Hailar 46.10 355⇑ *e*P **P** **11 14 12.7 -0.4**
HIA Hailar 46.10 355 *e*P **P** **11 14 12.4 -0.7**
comp=Z,23nm,0.9s,mb4.8
KLR Kul'dur 46.11 6 *e*P **P** **11 14 09.2 -4.0**
KLR *e* pP 11 14 48.4 -4.2
KLR *e*S **S** **11 20 39.2 -6.0**
KLR *e* 11 24 08.0
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.0
KLR smax
comp=N,94nm,2.2s
KLR smax
comp=E,220nm,2.2s
KOLN Koldanda 46.78 306 *e*P **P** **11 14 18.1 -0.3**
comp=E,83nm,0.5s,mb5.6
DZM Mont Dzumac 47.29 124 P **P** **11 14 23.9 +1.5**
comp=E,14nm,0.9s,mb4.6,baz=318,slow=11,SNR=12
SONM Songino Array 47.36 343 P **P** **11 14 22.3 -0.6**
comp=E,29nm,0.8s,mb5.0,baz=156,slow=6.5,SNR=51
SONM pP pP 11 15 03.2 +0.7
comp=E,2.9nm,0.7s,baz=155,slow=11,SNR=1.0
SONM ScP ScP 11 19 24.8 -2.8
comp=E,4.9nm,1.0s,baz=159,slow=6.1,SNR=5.4
SONM LR LR 11 35 46.0
comp=E,584nm,20.0s,baz=345,slow=38
SONM Songino Array 47.36 343 P **P** **11 14 22.3 -0.6**
SONM *PP pP 11 15 03.2 +0.7
HYB Hyderabad 48.11 290 *i* P **P** **11 14 28.5 -0.2**
comp=E,70nm,1.0s,mb5.2
HYB *e* pP 11 15 12.5 +4.1
HYB *e*PcP PcP 11 15 54.0 +0.6
HYB *e*S **S** **11 21 12.0 -1.5**
HYB Hyderabad 48.11 290 *e*P **P** **11 14 28.5 -0.2**
HYB *e* pP 11 15 12.5 +4.1
HYB *e*S **S** **11 21 12.0 -1.5**
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.2
HYB Hyderabad 48.11 290 *e*P **P** **11 14 28.5 -0.2**
comp=Z,70nm,1.0s,mb5.2
HYB *e* pP 11 15 12.5 +4.1
HYB *e*S **S** **11 21 12.0 -1.5**
TAU Tasmania Unive 50.02 159 *e*P **P** **11 14 44.1 +1.0**
TAU pmax pmax
comp=Z,36nm,0.9s,mb5.0
TAU Tasmania Unive 50.02 159 *e*P **P** **11 14 44.1 +1.0**
comp=Z,36nm,0.9s,mb5.0
ZAK Zakamensk 50.57 342 *e*P **P** **11 14 46.2 -1.1**
TLY Talaya 51.60 343 P **P** **11 14 54.4 -0.5**
comp=Z,244nm,0.7s,mb5.9,SNR=7.5
TLY Talaya 51.60 343⇑⇑ P **P** **11 14 55.1 +0.2**
SNR=7.9
TLY Talaya 51.60 343 *e*P **P** **11 14 54.3 -0.6**
TLY *e*S **S** **11 21 59.6 -2.2**
TLY pmax pmax
comp=Z,21nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,301nm,19.0s
TLY Talaya 51.60 343 *e*P **P** **11 14 54.5 -0.4**
IRK Irkutsk 51.91 344 *e*P **P** **11 14 56.6 -0.7**
IRK *e*S **S** **11 22 06.2 +0.1**
IRK pmax pmax
comp=Z,62nm,1.1s,mb5.2
WMQ Urumqi 52.41 326 P **P** **11 15 01.0 +0.1**
WMQ AP pP 11 15 42.8 +1.5
WMQ PCP PcP 11 16 10.5 +1.3
WMQ PPP 11 18 10.5
WMQ SCP ScP 11 19 47.9 -1.3
WMQ S **S** **11 22 10.8 -2.0**
WMQ XS sS 11 23 20.5 -2.7
WMQ SCS ScS 11 24 29.4 -2.9
WMQ SS SS 11 25 49.3 -3.8
WMQ AMB AMB
comp=Z,62nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,285nm,5.5s
WMQ LR LR
comp=N,1μm,12.0s
WMQ LR LR
comp=E,923nm,10.0s
WMQ LR LR
comp=Z,388nm,22.0s
MOY Mondy 52.41 341 *e*P **P** **11 15 00.6 -0.3**
MOY pmax pmax
comp=Z,60nm,1.9s,mb4.9
NRGR Nerungri 53.24 359 *e*P **P** **11 15 08.6 +1.5**
NRGR S **S** **11 22 22.9 -1.3**
NRGR smax
comp=N,42nm,1.3s
CLNS Chul'man 53.42 360 *e*P **P** **11 15 07.6 -0.8**
CLNS *e* 11 16 13.7
CLNS *e* 11 17 05.3
CLNS *e*S **S** **11 22 25.5 -1.1**
CLNS *e* 11 24 38.9
CLNS pmax pmax
comp=Z,54nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,31nm,0.9s
CLNS pmax pmax
comp=E,27nm,1.0s
CLNS smax
comp=N,16nm,1.1s
CLNS smax
comp=E,31nm,1.1s
CLNS smax
comp=Z,5.0nm,1.1s
BOD Bodaibo 55.16 353 *e*P **P** **11 15 19.7 -1.2**
BOD pmax pmax
comp=Z,23nm,1.3s,mb4.8
PET Petropavlovsk 56.64 23 *e*P **P** **11 15 31.5 +0.1**
MKAR Makanchi Array 57.24 326 P **P** **11 15 34.7 -0.9**
comp=Z,23nm,0.8s,mb5.0,baz=123,slow=8.8,SNR=28
MKAR PcP PcP 11 16 26.4 -1.5
comp=Z,36nm,0.7s,baz=120,slow=4.0,SNR=15
MKAR ScP ScP 11 20 07.7 -2.8
comp=Z,10nm,0.7s,baz=120,slow=4.7,SNR=9.3
MKAR S **S** **11 23 12.2 -5.1**
comp=Z,3.8nm,0.9s,baz=123,slow=13,SNR=8.4
MKAR Makanchi Array 57.24 326 P **P** **11 15 34.7 -0.9**
MKAR 11 16 26.4
MKAR S **S** **11 23 12.2 -5.0**
YAK Yakutsk 58.72 2 *e*P **P** **11 15 45.5 -0.4**
YAK *e**PP pP 11 16 24.9 -2.2
YAK *e* 11 16 33.9
YAK *e* 11 17 57.1
YAK *i* S **S** **11 23 33.8 -2.6**
YAK *i* 11 25 13.3
YAK *e*SSS 11 30 11.3
YAK pmax pmax
comp=Z,195nm,1.0s,mb5.9
YAK pmax pmax
comp=N,89nm,1.5s
YAK pmax pmax
comp=E,19nm,1.3s
YAK smax
comp=E,712nm,2.0s
YAK smax
comp=N,324nm,1.5s
YAK Yakutsk 58.72 2 *e*P **P** **11 15 46.0 +0.1**
YAK *e*pP pP 11 16 26.6 -0.6
KRAR Krasnoyarsk 58.73 339 *i* P **P** **11 15 45.4 -0.6**
KZA Kyzart 59.13 318 P **P** **11 15 49.2 +0.5**
SNR=6.5
TKM2 Tokmak 2 59.28 319 P **P** **11 15 50.4 +0.7**
SNR=5.4
MA2 Magadan 59.46 15*c* *i*P **P** **11 15 51.7 +0.7**
MA2 *e**PP pP 11 16 32.0 -0.4
MA2 *e*S **S** **11 23 46.5 +0.5**
MA2 *e* 11 25 21.8
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
MA2 Magadan 59.46 15 *e*P **P** **11 15 51.5 +0.5**
UCH Uchtor 59.68 318 P **P** **11 15 53.0 +0.5**
SNR=7.8
AAK Ala-Archa 59.88 318⇓⇓ *e*P **P** **11 15 54.1 +0.3**
AAK *e**PP pP 11 16 34.3 -0.9
AAK pmax pmax
comp=Z,13nm,0.9s,mb4.8
FRU Bishkek 59.88 319 *e*P **P** **11 15 52.0 -1.9**
FRU *e* 11 16 55.0
FRU *e* 11 23 51.0
USP Ospenovka 60.15 319 P **P** **11 15 55.4 -0.3**
SNR=9.7
AML Almayashu 60.19 318 P **P** **11 15 56.2 +0.3**
SNR=10
EKS2 Erkin-Say 60.36 318 P **P** **11 15 53.2 -4.0**
SNR=7.3
ZAL Zalesovo 60.45 334 P **P** **11 15 55.9 -1.8**
comp=Z,4.1nm,0.7s,mb4.4,baz=357,slow=6.5,SNR=7.0
ZAL S **S** **11 23 52.2 -6.4**
comp=Z,1.8nm,0.8s,baz=232,slow=22,SNR=11
ZAL LR LR 11 43 32.1
comp=Z,256nm,18.1s,baz=166,slow=37
ZAL Zalesovo 60.45 334 P **P** **11 15 55.9 -1.8**
ZAL S **S** **11 23 52.2 -6.4**
ZAL Zalesovo 60.45 334 P **P** **11 15 55.9 -1.8**
ZAL S **S** **11 23 52.2 -6.4**
ZAL LR LR 11 43 32.1
KURK Kurchatov 61.47 328 P **P** **11 16 03.8 -0.8**
comp=Z,337nm,0.6s,SNR=16
KURK Kurchatov 61.47 328 P **P** **11 16 03.3 -1.3**
SNR=7.2
KURK Kurchatov 61.47 328 *e*P **P** **11 16 03.4 -1.3**
NVS Novosibirsk 61.73 334 *i* P **P** **11 16 04.3 -2.1**
NVS *e**PP pP 11 16 44.6 -3.4
NVS *i* S **S** **11 24 09.3 -5.5**

NVS pmax pmax
comp=Z,77nm,2.1s,mb5.2
NVS pmax pmax
comp=N,31nm,1.7s
NVS pmax pmax
comp=E,26nm,1.4s
NVS smax
comp=N,114nm,1.9s
NVS smax
comp=E,108nm,1.9s
RPZ Rata Peaks 62.10 144 LR LR 11 43 07.5
comp=E,349nm,18.7s,baz=329,slow=36
SEY Seymchan 62.77 13⇓*e*P **P 11 16 14.7 +1.5**
BVAR Borovoye Array 67.04 327 P **P 11 16 39.4 -1.4**
comp=E,22nm,0.9s,mb5.0,baz=140,slow=9.4,SNR=21
BVAR PcP PcP 11 17 06.9 -0.8
comp=E,11nm,0.7s,baz=137,slow=5.0,SNR=6.8
BVAR S S 11 25 14.4 -5.5
comp=E,5.4nm,1.1s,baz=121,slow=14,SNR=5.5
BVAR LR LR 11 45 42.8
comp=E,246nm,18.9s,baz=139,slow=36
BVAR Borovoye Array 67.04 327 P **P 11 16 39.4 -1.4**
BVAR 11 17 06.9
BVAR S S 11 25 14.4 -5.5
BVAR Borovoye Array 67.04 327 P **P 11 16 39.4 -1.4**
BVAR PcP PcP 11 17 06.9 -0.8
BVAR S S 11 25 14.4 -5.5
BVAR LR LR 11 45 42.8
BRVK Borovoye 67.11 327 P **P 11 16 40.9 -0.3**
comp=E,223nm,1.0s,mb6.0,SNR=13
BRVK Borovoye 67.11 327 *e*P **P 11 16 39.8 -1.4**
BRVK pmax pmax
comp=Z,37nm,0.9s,mb5.2
BRVK Borovoye 67.11 327 *e*P **P 11 16 39.8 -1.4**
comp=Z,37nm,0.9s,mb5.2
TIXI Tiksi 68.33 1 *e*P **P 11 16 43.0 -5.8**
TIXI *e* pP 11 17 28.6 -2.7
TIXI *e*S S 11 25 24.1 -11
TIXI *e* 11 26 17.4
TIXI pmax pmax
comp=Z,60nm,1.3s,mb5.2
TIXI MLR MLR
comp=Z,215nm,16.0s
TIXI Tiksi 68.33 1 *e*P **P 11 16 47.8 -1.0**
comp=Z,54nm,1.1s,mb5.2
TIXI *e*PcP PcP 11 17 12.3 -0.8
TIXI *e*pP pP 11 17 30.2 -1.1
CASY Casey 70.21 186⇑*i*P **P 11 17 00.5 +0.1**
BILL Biiibino 70.32 15⇑*e*P **P 11 17 00.3 -0.8**
BILL pmax pmax
comp=Z,16nm,1.7s,mb4.5
DRV Dumont d'Urvil 70.54 174 P **P 11 16 59.0 -3.4**
AKTK Aktyubinsk 73.26 322 P **P 11 17 16.8 -1.7**
AKTO Aktyubinsk 73.26 322 P **P 11 17 16.8 -1.7**
comp=Z,9.7nm,0.6s,mb4.7,baz=101,slow=7.9,SNR=14
MIR Mirnyy 73.42 193⇑*i*P **P 11 17 21.0 +1.5**
SVE Sverdlovsk 73.71 329 *e*P **P 11 17 19.0 -2.2**
ARU Arti 74.67 328 P **P 11 17 24.4 -2.4**
comp=Z,175nm,0.6s,mb5.9,SNR=5.0
ARU Arti 74.67 328⇑*i*P **P 11 17 24.7 -2.1**
ARU *e* 11 17 38.3
ARU *e* 11 20 09.2
ARU *e*PPP 11 22 00.3
ARU *e*S S 11 26 43.6 -4.3
ARU *e* 11 27 14.6
ARU *e*SS SS 11 31 36.2 -2.8
ARU *e*SSS 11 34 56.8
ARU pmax pmax
comp=Z,22nm,0.8s,mb4.8
ARU Arti 74.67 328 *e*P **P 11 17 24.8 -1.9**
ORR Orenburg 75.55 323 *e*P **P 11 17 31.1 -0.7**
ORR pmax pmax
comp=Z,20nm,0.9s,mb4.8
FALS False Pass 76.52 34 *e*P **P 11 17 37.1 -0.2**
SDPT Sand Point 78.28 34 *e*P **P 11 17 47.4 +0.4**
OPO Ambohidratompo 79.97 251 P **P 11 17 56.9 +0.7**
comp=Z,3.8nm,0.5s,mb4.2,baz=58,slow=3.6,SNR=8.9
BHD Baghdad 80.78 303 *e*x x 11 17 35.0
SVW2 Sparrevohn 81.81 29 *e*P **P 11 18 06.9 +0.9**
TTA Tatalina 81.88 27 *e*P **P 11 18 07.3 +1.0**
KIV Kislovodsk 82.56 314⇑*e*P **P 11 18 09.8 -0.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
MAW Mawson 82.89 200⇑*i*P **P 11 18 11.3 -0.2**
comp=Z,14nm,0.9s,mb4.7
MAW Mawson 82.89 200 P **P 11 18 11.4 -0.2**
comp=Z,14nm,0.8s,mb4.7,baz=52,slow=6.3,SNR=25
MAW Mawson 82.89 200⇑*i*P **P 11 18 11.3 -0.2**
MAW pmax pmax
comp=Z,14nm,0.9s
KDAK Kodiak Island 82.95 32 *e*P **P 11 18 12.3 +0.5**
VNDA Vanda 83.12 173 P **P 11 18 12.5 -0.3**
comp=Z,15nm,0.4s,mb5.1,baz=323,slow=4.6,SNR=229
VNDA LR LR 11 55 24.1
comp=Z,202nm,19.7s,baz=330,slow=36
VNDA Vanda 83.12 173 *e*P **P 11 18 12.3 -0.4**
VNDA pmax pmax
comp=Z,13nm,0.4s
VNDA Vanda 83.12 173 *e*P **P 11 18 12.3 -0.4**
comp=Z,13nm,0.4s,mb5.0
IMA2 Indian Mountai 83.31 24 *e*P **P 11 18 14.1 +0.4**
VRHR Novokhopersk 83.62 321 *e*P **P 11 18 13.2 -2.1**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.6s
SBA Scott Base 84.05 172 *e*P **P 11 18 17.9 +0.5**
SBA pmax pmax
comp=Z,32nm,1.2s,mb4.9
SBA Scott Base 84.05 172 *e*P **P 11 18 17.9 +0.4**
comp=Z,32nm,1.2s,mb4.9
PMR Palmer 84.95 29 *e*P **P 11 18 21.1 -0.9**
PMR *e**PP pP 11 19 03.9 -2.3
PMR pmax pmax
comp=Z,19nm,1.3s,mb4.7
PMR Palmer 84.95 29 *e*P **P 11 18 21.1 -0.8**
comp=Z,19nm,1.3s,mb4.7
PMR *e*pP pP 11 19 03.9 -2.2
VORD Divnogorie 85.08 321 *e*P **P 11 18 18.6 -4.0**
VORD pmax pmax
comp=Z,20nm,0.7s,mb5.0
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.9s
KLMR Klimovskoe 85.20 331 *e*P **P 11 18 21.9 -1.3**
KLMR *e*S S 11 28 27.1 -11
KLMR pmax pmax
comp=Z,87nm,1.5s,mb5.3
SML Sawmill 85.34 28 *e*P **P 11 18 24.4 +0.5**
COLA College 85.65 25⇑*e*P **P 11 18 25.3 -0.1**
MOS Moscow 86.12 325 *e*P **P 11 18 25.6 -2.1**
MOS *e**PP pP 11 19 08.9 -3.2
MOS *e*S S 11 28 33.2 -14
MOS pmax pmax
comp=Z,134nm,1.3s,mb5.5
PPT Papeete 86.15 108 *e*S S 11 28 49.0 +1.7
comp=Z,288nm,29.0s
PPT *e*LR LR 11 46 09.7
comp=Z,300nm,26.5s
PPT Papeete 86.15 108 LR LR 11 53 53.0
comp=Z,159nm,18.7s,baz=307,slow=33
ANN Anapa 86.34 315 *e*P **P 11 18 27.7 -1.1**
ANN *e**PP pP 11 19 10.6 -2.6
ANN *e*S S 11 28 34.5 -15
ANN pmax pmax
comp=Z,74nm,1.0s,mb5.4
OBN Obninsk 86.73 325*d*/*P* **P 11 18 29.1 -1.6**
OBN *e* pP 11 19 11.2 -3.9
OBN pmax pmax
comp=Z,133nm,1.6s,mb5.5
TBI Tubuai 86.74 113 *e*S S 11 28 54.8 +1.8
comp=Z,553nm,30.8s
TBI *e*LR LR 11 46 21.5
comp=Z,237nm,26.0s
APA Apatity 87.81 337⇓*i*P **P 11 18 34.3 -1.6**
APA pmax pmax
comp=Z,130nm,1.6s,mb5.5
KMBO Kilima Mbogo 88.30 269 P **P 11 18 39.3 +1.1**
comp=Z,4.8nm,0.9s,mb4.3,baz=64,slow=6.5,SNR=15
KMBO Kilima Mbogo 88.30 269⇑P **P 11 18 39.8 +1.6**
SNR=7.0
KMBO Kilima Mbogo 88.30 269 *e*P **P 11 18 37.9 -0.3**
KMBO pmax pmax
comp=Z,29nm,1.5s
KMBO Kilima Mbogo 88.30 269 *e*P **P 11 18 37.9 -0.3**
comp=Z,29nm,1.5s,mb4.9
SIM Simferopol' 88.69 315 *e*P **P 11 18 39.6 -0.4**
JOF Joensuu 89.03 333 *e*p **P 11 18 39.2 -2.4**
comp=Z,29nm,0.6s,mb5.4
DAWY Dawson 89.34 26 *e*P **P 11 18 43.0 0.0**
BR131 Keskin Array S 89.36 310 *e*P **P 11 18 42.0 -1.2**
comp=Z,3.9nm,0.8s,mb4.4
BRTR Keskin Array B 89.36 310 P **P 11 18 41.8 -1.4**
comp=Z,5.0nm,0.8s,mb4.5,baz=120,slow=5.2,SNR=17
ARCES ARCESS Array B 90.46 340 P **P 11 18 46.8 -1.5**
comp=Z,26nm,0.8s,mb5.2,baz=87,slow=6.2,SNR=22
INK Inuvik 91.05 21 P **P 11 18 50.5 -0.6**
comp=Z,11nm,1.1s,mb4.8,baz=270,slow=6.2,SNR=11
INK pP pP 11 19 35.5 -0.2
comp=Z,3.4nm,0.8s,baz=274,slow=8.5,SNR=3.5
INK LR LR 11 59 26.4
comp=Z,156nm,20.3s,baz=148,slow=35
INK Inuvik 91.05 21 P **P 11 18 50.5 -0.5**
INK *PP pP 11 19 35.5 -0.2
KAF Kangasniemi 91.44 332 *e*p **P 11 18 51.3 -1.5**
comp=Z,14nm,0.6s,mb5.2
KAF Kangasniemi 91.44 332 *e*P **P 11 18 51.3 -1.5**
KAF pmax pmax
comp=Z,14nm,0.6s,mb5.2
AKASG Malin Array Be 91.47 321 P **P 11 18 50.2 -2.8**
comp=Z,5.3nm,0.8s,mb4.6,baz=71,slow=4.1,SNR=19
SYO Syowa Base 91.54 201⇓*e*P **P 11 18 52.8 -0.5**
SYO Syowa Base 91.54 201⇓*e*pP pP 11 19 37.0 -1.0
FINES FINESS Array B 91.66 332 P **P 11 18 51.5 -2.3**
comp=Z,10nm,0.6s,mb5.0,baz=65,slow=5.5,SNR=30
FINES FINESS Array B 91.66 332 P **P 11 18 51.5 -2.3**
QSPA South Pole Qui 93.17 180 *e*P **P 11 19 01.1 +0.3**
comp=Z,24nm,0.8s,mb5.4
BURAR Bucovina Array 94.52 318⇓*i*P **P 11 19 06.2 -0.8**
SUW Suwalki 94.59 325 *e*P **P 11 19 06.6 -0.7**
DLBC Dease Lake 94.78 31 *e*P **P 11 19 09.6 +1.4**
KOLS Kolonicke sedl 96.20 320 *e*P **P 11 19 12.6 -2.0**
UZH Uzhgorod 96.25 319 *e*P **P 11 19 12.5 -2.4**
CRVS Cervenica-Dubn 96.73 320 *e*P **P 11 19 17.2 +0.2**
STHS Stebnicka Huta 96.76 320 *e*P **P 11 19 17.2 0.0**
KECS Kecvo 97.46 320 *e*P **P 11 19 21.2 +0.9**
DAG Danmarks Havn 97.55 352⇑*i*P **P 11 19 19.6 -1.1**
comp=Z,5.5nm,0.7s,mb5.1
DAG
comp=Z,14μm,22.0s
NB2 NORSAR Subarra 98.65 333 P **P 11 19 23.7 -2.0**
comp=Z,11nm,0.8s,mb5.3,baz=68,slow=4.6
NOA NORSAR Array B 98.65 333 P **P 11 19 23.4 -2.2**
comp=Z,8.3nm,0.7s,mb5.3,baz=68,slow=4.5,SNR=21
NOA pP pP 11 20 09.9 -0.6
comp=Z,3.4nm,0.7s,baz=67,slow=4.6,SNR=3.9
NOA LR LR 12 10 54.0
comp=Z,182nm,18.4s,baz=65,slow=40
NOA NORSAR Array B 98.65 333 P **P 11 19 23.4 -2.3**
NOA *PP pP 11 20 09.9 -0.6
NOA NORSAR Array B 98.65 333 P **P 11 19 23.4 -2.2**
NOA pP pP 11 20 09.9 -0.6
NOA LR LR 12 10 54.0
YKA Yellowknife Ar 100.43 24 P Pdif 11 19 33.0 -0.5
comp=Z,2.3nm,0.8s,baz=300,slow=4.6,SNR=22
YKA pP 11 20 18.2
comp=Z,0.5nm,0.6s,baz=298,slow=4.5,SNR=3.0
YKA PKiKP PKiKP 11 23 59.3 -0.1
comp=Z,0.2nm,0.3s,baz=298,slow=1.9,SNR=23
YKA Yellowknife Ar 100.43 24 P Pdif 11 19 33.0 -0.6
YKA pP 11 20 18.2
BOSA Boshof 100.53 242 P Pdif 11 19 33.0 -1.1
comp=Z,1.8nm,0.9s,baz=108,slow=2.0,SNR=4.3
BOSA Boshof 100.53 242 P Pdif 11 19 33.0 -1.1
CLL Collm 101.28 324 *e*Pdif Pdif 11 19 37.0 -0.4
PTCN Pitcairn Islan 104.43 115 *e*Pdif Pdif 11 19 49.8 -1.6
NVAR Mina Array Bea 108.14 48 PKiKP PKiKP 11 24 14.2 +0.6
comp=Z,1.0nm,0.7s,baz=276,slow=3.1,SNR=4.4
DCID1 Drake Creek 111.08 41 *e*Pdif Pdif 11 20 21.4 +0.5
HWUT Hardware Ranch 111.71 43 *e*PKP PKiKP 11 24 21.6 +1.3
PDAR Pinedale Array 112.52 41 PKiKP PKiKP 11 24 22.1 +0.3
comp=Z,0.8nm,0.7s,baz=161,slow=1.4,SNR=6.8
PDAR PKKPbc PKKPbc 11 35 19.6 +8.4
comp=Z,1.7nm,0.8s,baz=121,slow=5.7,SNR=11
LAO LASA Array 112.64 36 *e*PKP PKiKP 11 24 23.7 +1.6
ULM Lac du Bonnet 115.96 28 PKP PKPdf 11 24 27.6 -0.8
comp=Z,1.7nm,0.6s,baz=353,slow=1.2,SNR=4.5
ANMO Albuquerque 118.25 47 *e*PKiKP PKPdf 11 24 34.9 +2.1
MNTX Cornudas Mount 120.50 50 *e*PKPdf PKPdf 11 24 38.9 +1.7
SCHQ Schefferville 121.22 8 PKP PKPdf 11 24 37.5 -1.0
comp=Z,3.9nm,0.4s,baz=354,slow=2.7,SNR=18
TOA0 Torodi Ar. Sit 121.88 288 *e*PKPdf PKPdf 11 24 39.9 +0.1
TORD Torodi Ar. Bea 121.88 288 PKP PKPdf 11 24 39.9 +0.1
comp=Z,4.5nm,0.3s,baz=65,slow=1.7,SNR=114
TORD PKKPab PKKPab 11 34 39.0 -0.1
comp=Z,1.7nm,0.9s,baz=278,slow=3.2,SNR=5.8
TORD Torodi Ar. Bea 121.88 288 PKP PKPdf 11 24 39.9 +0.1
TORD PKKPab PKKPab 11 34 39.0 -0.1
KSU1 Kansas State U 122.75 38 *e*PKPdf PKPdf 11 24 42.3 +0.8
TXAR Lajitas Array 122.86 52 PKP PKPdf 11 24 43.5 +1.8
comp=Z,4.0nm,0.7s,baz=202,slow=1.0,SNR=50
TXAR pPKP pPKPdf 11 25 29.5 +1.0
comp=Z,1.7nm,0.8s,baz=241,slow=2.5,SNR=3.9
TXAR PKKPab PKKPab 11 34 35.0 +0.1
comp=Z,0.1nm,0.3s,baz=139,slow=5.9,SNR=8.5
TXAR Lajitas Array 122.86 52 PKIKP PKPdf 11 24 43.5 +1.8
TXAR 11 25 29.5
TXAR Lajitas Array 122.86 52 PKP PKPdf 11 24 43.5 +1.8
TXAR pPKP pPKPdf 11 25 29.5 +1.0
TXAR PKKPab PKKPab 11 34 35.0 +0.1
WMOK Wichita Mounta 123.83 44 *e*PKIKP PKPdf 11 24 44.8 +1.2
JCT Junction City 125.30 49 *e*PKIKP PKPdf 11 24 48.1 +1.7
USHA Ushuaia 127.36 170 PKP PKPdf 11 24 51.6 +1.3
comp=Z,14nm,0.7s,baz=216,slow=1.2,SNR=8.6
MIAR Mount Ida 127.45 41 *e*PKIKP PKPdf 11 24 52.0 +1.5
OXF Oxford 130.12 38 *e*PKIKP PKPdf 11 24 57.1 +1.5
PLAL Pickwick Lake 130.61 37 *e*PKPdf PKPdf 11 24 57.1 +0.6
PLCA Paso Flores 139.99 161 PKP PKPdf 11 25 15.6 +1.6
comp=Z,8.7nm,1.0s,baz=175,slow=2.9,SNR=4.1
PLCA Paso Flores 139.99 161 *e*PKPdf PKPdf 11 25 14.7 +0.7
TRQA Tornquist 144.70 170 *e*PKPab PKPdf 11 25 22.5 +0.2
JTS JuntasAbangare 146.84 66 *e*PKP2 PKPab 11 25 29.7 0.0
LCO Las Campanas 150.12 151 *e*PKPdf PKPdf 11 25 32.2 +1.0
LCO *e*PKPbc PKPbc 11 25 38.7 +2.2
SDV Santo Domingo 159.90 53 *e*PKPdf PKPdf 11 25 45.9 +1.3
LPAZ La Paz 161.38 135 PKP PKPdf 11 25 49.1 +3.0
comp=Z,9.5nm,1.0s,baz=25,slow=2.8,SNR=23
LPAZ PKPab PKPab 11 26 33.8 +2.6
comp=Z,3.5nm,0.7s,baz=163,slow=5.3,SNR=6.4
LPAZ La Paz 161.38 135 *e*PKPdf PKPdf 11 25 48.9 +2.8

WEL 22 11:19:47.5±1.1, 3546S×17775E, h33km, ML3.8/3, Error ellipse: s-maj=12.1km s-min=6.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.64**	**171**	*e*PN	Pn	11 20 27.6	-0.2
PUZ				SN	Sn	11 20 56.3	-2.4
PUZ				SN	Sn	11 20 56.6	-2.1
MWZ	**Matawai**	**2.88**	**183**	*e*P*	Pb	11 20 32.0	-6.2
MWZ				S*	Sb	11 21 05.4	-7.5
MWZ				S*	Sb	11 21 05.6	-7.4
BKZ	**Black Stump Fm**	**3.84**	**195**	*e*P*	Pb	11 20 44.1	-10
BKZ				S*	Sb	11 21 29.0	-12
MRZ	**Mangatainoka R**	**5.47**	**198**	*e*PN	Pn	11 21 02.5	-4.2

IDC 22 11:24:24.6±1.5, 533S×14418E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.9/15, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=37.4km s-min=21.5km az=83.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.01**	**144**	Pn	Pn	11 25 41.2	+0.1
4.9nm,0.3s,baz=325,slow=7.3,SNR=18							
PMG				Sn	Sn	11 26 40.2	+0.5
3.4nm,0.3s,baz=137,slow=22,SNR=9.3							
WRA	**Warramunga Arr**	**17.40**	**213**	P	Pn	11 28 27.9	-0.9
0.3nm,0.3s,baz=37,slow=12,SNR=11							
ASAR	**Alice Springs**	**20.75**	**207**	P	P	11 29 08.2	+1.3
3.9nm,0.7s,baz=34,slow=9.3,SNR=19							
FITZ	**Fitzroy Crossi**	**22.12**	**233**	P	P	11 29 21.6	0.0
2.0nm,0.7s,baz=66,slow=9.4,SNR=2.0							
KSRS	**Korea Array**	**45.18**	**342**	P	P	11 32 43.4	+0.3
0.8nm,0.8s,baz=146,slow=8.8,SNR=3.6							
MKAR	**Makanchi Array**	**75.21**	**321**	P	P	11 36 09.1	0.0
0.4nm,0.4s,baz=96,slow=6.8,SNR=5.4							

IDC 22 11:36:14.1±7.3, 1859S×17866W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.0/3, Error ellipse: s-maj=286.2km s-min=114.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.27**	**260**	P	P	11 44 26.5	+1.1
1.0nm,0.3s,baz=95,slow=7.8,SNR=27							
ASAR	**Alice Springs**	**44.38**	**255**	P	P	11 44 25.6	-0.6
1.7nm,0.6s,baz=92,slow=9.2,SNR=10							
FITZ	**Fitzroy Crossi**	**52.68**	**261**	P	P	11 45 30.8	+0.6
0.6nm,0.3s,baz=96,slow=10,SNR=4.9							
AKASG	**Malin Array Be**	**141.04**	**332**	PKP	PKPdf	11 55 45.3	-1.0
0.6nm,0.3s,baz=40,slow=3.9,SNR=6.7							

ISCJB ***22*** *11:38:36.0±1.3, 4281N±010×759E±0.1, h14km±10km, Error ellipse: s-maj=22.5km s-min=6.4km az=88.3*
KNET ***22*** *11:38:36.0±0.3, 4277N×7582E, h11km±2km, ml1.3, Error ellipse: s-maj=2.5km s-min=1.2km az=43.0*
ISC 22 11:38:36.5±1.2, 4278N±007×7583E±009, h6km±14km, n9, σ0°87/13, 8C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.22**	**309**	P	**Pg**	**11 38 41.0**	**+0.1**
38nm,0.1s,SNR=86							
TKM2				⇓S	**Sg**	**11 38 45.0**	**+1.1**
53nm,0.1s							
TKM2	**Tokmak 2**	**0.22**	**309**	⇑P	**Pg**	**11 38 41.0**	**+0.1**
0.2nm,0.2s							
TKM2				⇑S	**Sg**	**11 38 44.9**	**+0.9**
0.9nm,0.3s							
ULHL	**Ulahol**	**0.61**	**150**	⇑P	**Pg**	**11 38 47.6**	**-0.7**
5.9nm,0.2s,SNR=40							
ULHL				⇓S	**Sg**	**11 38 57.6**	**+1.3**
2.4nm,0.1s							
KBK	**Karagaybulak**	**0.66**	**260**	P	**Pg**	**11 38 48.9**	**-0.4**
12nm,0.1s,SNR=22							
KBK				⇑S	**Sg**	**11 38 58.9**	**+1.0**
14nm,0.3s							
KZA	**Kyzart**	**0.82**	**212**	⇑P	**Pg**	**11 38 51.6**	**-0.7**
4.2nm,0.1s,SNR=19							
AAK	**Ala-Archa**	**1.00**	**262**	⇑P	**Pg**	**11 38 54.7**	**-1.0**
4.0nm,0.2s,SNR=10.0							
USP	**Ospenovka**	**1.09**	**297**	⇑P	**Pg**	**11 38 56.5**	**-1.0**
3.0nm,0.1s,SNR=10							
EKS2	**Erkin-Say**	**1.52**	**266**	P	**Pn**	**11 39 04.8**	**+0.6**
3.3nm,0.2s,SNR=21							
KK31	**Karatay Array**	**3.92**	**277**	⇓Pg	**Pg**	**11 39 47.6**	**-4.0**
0.2nm,0.2s,baz=96,slow=15,SNR=17							
KK31				⇑Lg		11 40 38.8	
0.4nm,0.4s,baz=86,slow=27,SNR=5.8							

MAN 22 11:49:13.5, 1571N×12002E, h44km, mb3.4, ML4.6, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.12**	**303**	*e*P	Pn	11 49 21.4	+0.7
SCZP				*e*S	Sn	11 49 28.2	+2.5
BOLP	**Bolinao**	**0.67**	**352**	*e*P	Pn	11 49 28.1	+1.4
BOLP				*e*S	Sn	11 49 38.8	+2.6
BALP	**Baler**	**1.50**	**89**	*e*P	Pn	11 49 39.2	+1.2
BALP				*e*S	Sn	11 49 58.0	+1.6
LUBP	**Lubang**	**1.98**	**174**	*e*P	Pn	11 49 45.5	+1.0

IDC ***22*** *12:00:35.6±1.4, 535S×14403E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.8/14, mbtmp3.7/5, ML3.5/2, MS3.6/1, Ms1 3.5/1, ms1mx2.5/24, Error ellipse: s-maj=46.9km s-min=22.7km az=73.0*
ISCJB ***22*** *12:00:39.1±2.8, 55S±01×1440E±01, h38km±31km, mb3.5/2, MS3.5/1, Error ellipse: s-maj=18.9km s-min=15.7km az=97.2*
ISC 22 12:00:38.7±6.9, 54S±01×1440E±01, h18km±43km, n8, σ0°47/9, mb3.5/2, MS3.5/1, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.07**	**142**	Pn	**Pn**	**12 01 53.8**	**0.0**
5.9nm,0.3s,baz=14,slow=5.1,SNR=17							
PMG				Sn	**Sn**	**12 02 51.7**	**-0.2**
9.8nm,0.3s,baz=132,slow=22,SNR=18							
KAKA	**Kakadu**	**13.51**	**237**	*e*P	**Pn**	**12 03 49.1**	**-0.3**
5.6nm,0.4s							
WB2	**Warramunga Arr**	**17.23**	**212**	*e*P	**Pn**	**12 04 38.2**	**-0.1**
WRA	**Warramunga Arr**	**17.23**	**212**	P	**Pn**	**12 04 37.9**	**-0.5**
0.3nm,0.3s,baz=35,slow=13,SNR=20							
WRA				S	**Sn**	**12 07 44.5**	**-5.0**
0.2nm,0.3s,baz=28,slow=24,SNR=4.6							
ASAR	**Alice Springs**	**20.59**	**207**	P	**P**	**12 05 17.7**	**+1.1**
3.4nm,0.9s,baz=38,slow=10,SNR=5.0							
STKA	**Stephens Creek**	**26.43**	**185**	LR	LR	12 18 18.4	
comp=Z,120nm,19.2s,MS3.5,baz=23,slow=40							
SONM	**Songino Array**	**62.46**	**332**	P	**P**	**12 11 01.0**	**+0.3**
0.2nm,0.5s,mb3.5,baz=152,slow=6.5,SNR=2.9							
MKAR	**Makanchi Array**	**75.14**	**321**	P	**P**	**12 12 19.3**	**-0.4**
0.3nm,0.5s,mb3.5,baz=97,slow=6.3,SNR=6.0							

STR ***22*** *12:14:54.1±0.5, 4372N×053W, h5km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISCJB ***22*** *12:14:55.6±0.2, 4357N±001×060W±002, h4km±2km, Error ellipse: s-maj=2.1km s-min=1.6km az=38.2*
CSEM ***22*** *12:14:59.5±0.0, 4344N×057W, h5km, ML3.4/30, Error ellipse: s-maj=1.0km s-min=0.7km az=106.0*
LDG ***22*** *12:14:59.2±0.1, 4343N×057W, h2km, Md3.1/2, Ml3.5/20, Error ellipse: s-maj=1.4km s-min=1.1km az=128.0*
MDD ***22*** *12:14:59.1±0.3, 4346N×058W, h3km±3km, mbLg2.8/28, Error ellipse: s-maj=2.2km s-min=1.7km az=170.0, PRXIMO*
NEIC ***22*** *12:14:59.2, 4343N×057W, h2km, ML3.2(STR), ML3.5(LDG), MN2.7(MDD), After LDG.*
ISC 22 12:14:57.8±0.2, 43498N±0010×058W±002, h8km±2km, n167, σ0°96/343, 2C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORDF	**Ordiarp**	**0.39**	**223**	Pg	**Pg**	**12 15 05.5**	**+0.2**
ORDF				Sg	**Sg**	**12 15 12.3**	**+1.9**
ORDF	**Ordiarp**	**0.39**	**223**	P	**Pg**	**12 15 05.5**	**+0.2**
ORDF				S	**Sg**	**12 15 11.3**	**+0.9**
ATE	**Arette**	**0.42**	**192**	Pg	**Pg**	**12 15 05.7**	**-0.2**
ATE	**Arette**	**0.42**	**192**	P	**Pg**	**12 15 05.6**	**-0.3**
ATE				S	**Sg**	**12 15 11.3**	**-0.2**
REYF	**Montagne du Re**	**0.45**	**162**	P	**Pg**	**12 15 06.2**	**-0.3**
REYF				S	**Sg**	**12 15 11.8**	**-0.6**
LARF	**Larrau**	**0.55**	**213**	Pg	**Pg**	**12 15 08.3**	**-0.1**
LARF	**Larrau**	**0.55**	**213**	P	**Pg**	**12 15 08.2**	**-0.2**
LARF				S	**Sg**	**12 15 15.6**	**+0.1**
OSSF	**Osses**	**0.55**	**244**	Pg	**Pg**	**12 15 08.9**	**+0.4**
OSSF				Sg	**Sg**	**12 15 17.2**	**+1.5**
OSSF	**Osses**	**0.55**	**244**	P	**Pg**	**12 15 08.6**	**+0.1**
OSSF				S	**Sg**	**12 15 16.3**	**+0.6**
ETSF	**Etsaut**	**0.60**	**179**	*e*Pg	**Pg**	**12 15 08.7**	**-0.6**
SNR=1.0							
ETSF				*e*Sg	**Sg**	**12 15 16.3**	**-0.8**
450nm,0.5s							
ETSF	**Etsaut**	**0.60**	**179**	*e*Pg	**Pg**	**12 15 08.7**	**-0.6**
SNR=1.0							
ETSF				*e*Sg	**Sg**	**12 15 16.3**	**-0.8**
225nm,0.5s							
SJPF	**Ste Jean**	**0.61**	**231**	*e*Pg	**Pg**	**12 15 09.2**	**-0.3**
SNR=1.0							
SJPF				*e*Sg	**Sg**	**12 15 17.8**	**+0.3**
174nm,0.3s							
SJPF	**Ste Jean**	**0.61**	**231**	*e*Pg	**Pg**	**12 15 09.2**	**-0.3**
SNR=1.0							
SJPF				*e*Sg	**Sg**	**12 15 17.8**	**+0.3**
87nm,0.3s							
LABF	**Labassere**	**0.66**	**133**	P	**Pg**	**12 15 11.2**	**+0.8**
LABF				S	**Sg**	**12 15 20.4**	**+1.5**
EALK	**Alkurruntz**	**0.73**	**248**	Pg	**Pg**	**12 15 11.9**	**0.0**
114nm,0.3s,SNR=114							
EALK				Lg		12 15 22.5	
326nm,0.3s,SNR=25							

VIEF	**Viey**	**0.76 144**	Pg	**Pg**	**12 15 12.1**	**-0.2**
VIEF			Sg	**Sg**	**12 15 22.8**	**+0.7**
VIEF			Sg	**Sg**	**12 15 22.8**	**+0.7**
VIEF	**Viey**	**0.76 144**	Pg	**Pg**	**12 15 12.1**	**-0.2**
VIEF			Pg	**Pg**	**12 15 12.4**	**+0.1**
VIEF			Sg	**Sg**	**12 15 22.8**	**+0.7**
VIEF	**Viey**	**0.76 144**	P	**Pg**	**12 15 11.9**	**-0.4**
VIEF			S	**Sg**	**12 15 22.2**	**+0.1**
VIEF	**Viey**	**0.76 144**	Pg	**Pg**	**12 15 12.4**	**+0.1**
VIEF			Sg	**Sg**	**12 15 22.8**	**+0.7**
ELIZ	**Elizondo**	**0.77 245**	Pg	**Pg**	**12 15 12.4**	**-0.2**
	33nm,0.1s,SNR=129					
ELIZ			Lg		12 15 23.4	
	120nm,0.2s,SNR=5.0					
EPF	**Esparros**	**0.82 125**	*e*Pn	**Pn**	**12 15 15.5**	**0.0**
	SNR=1.0					
EPF			*e*Sg	**Sg**	**12 15 23.9**	**-0.2**
	330nm,0.3s,SNR=1.0					
EPF			*e*Sn	**Sn**	**12 15 27.1**	**-0.7**
	SNR=1.0					
EPF	**Esparros**	**0.82 125**	*e*Pg	**Pg**	**12 15 13.8**	**+0.3**
EPF			*e*Pn	**Pn**	**12 15 15.5**	**0.0**
EPF			*e*Sg	**Sg**	**12 15 23.9**	**-0.2**
EPF			*e*Sn	**Sn**	**12 15 27.1**	**-0.7**
EPF	**Esparros**	**0.82 125**	Pg	**Pg**	**12 15 13.8**	**+0.3**
EPF			Lg		12 15 23.9	
	165nm,0.3s					
EPF	**Esparros**	**0.82 125**	*e*Pn	**Pn**	**12 15 15.5**	**0.0**
	SNR=1.0					
EPF			*e*Sg	**Sg**	**12 15 23.9**	**-0.2**
	165nm,0.3s,SNR=1.0					
EPF			*e*Sn	**Sn**	**12 15 27.1**	**-0.7**
	SNR=1.0					
IPRE	**Itoiz**	**0.90 220**	Pg	**Pg**	**12 15 14.8**	**-0.2**
	16nm,0.2s,SNR=22					
IPRE			Lg		12 15 25.9	
	53nm,0.4s,SNR=23					
IPRE	**Itoiz**	**0.90 220**	Pg	**Pg**	**12 15 14.8**	**-0.2**
	16nm,0.2s,SNR=22					
IUSE	**Utxeti**	**0.90 233**	Pg	**Pg**	**12 15 14.8**	**-0.2**
	9.0nm,0.1s,SNR=28					
IUSE			Lg		12 15 26.9	
	31nm,0.1s,SNR=24					
IUSE	**Utxeti**	**0.90 233**	Pg	**Pg**	**12 15 14.8**	**-0.2**
	9.0nm,0.1s,SNR=28					
RESF	**Ens**	**0.96 135**	Pg	**Pg**	**12 15 16.6**	**+0.4**
RESF			Sg	**Sg**	**12 15 29.0**	**+0.3**
RESF	**Ens**	**0.96 135**	P	**Pg**	**12 15 16.0**	**-0.3**
RESF			S	**Sg**	**12 15 28.7**	**0.0**
EBIE	**Bielsa**	**0.97 147**	Pg	**Pg**	**12 15 15.7**	**-0.7**
	9.5nm,0.2s,SNR=88					
EBIE			Lg		12 15 29.3	
	49nm,0.1s,SNR=15					
EBIE	**Bielsa**	**0.97 147**	Pg	**Pg**	**12 15 15.7**	**-0.6**
	9.5nm,0.2s,SNR=88					
EARA	**Aranguren**	**1.03 226**	Pg	**Pg**	**12 15 18.1**	**+0.5**
	16nm,0.2s,SNR=6.6					
EARA			Lg		12 15 32.4	
	99nm,0.5s,SNR=14					
MELF	**Melles**	**1.16 122**	Pg	**Pg**	**12 15 19.5**	**-0.5**
MELF	**Melles**	**1.16 122**	P	**Pb**	**12 15 19.7**	**-0.3**
MELF			S	**Sg**	**12 15 34.1**	**-1.0**
MLS	**Moulis**	**1.34 113**	Pg	**Pg**	**12 15 22.6**	**-0.8**
MLS			Sg	**Sg**	**12 15 39.9**	**-0.8**
MLS	**Moulis**	**1.34 113**	P	**Pn**	**12 15 22.6**	**-0.1**
MLS			S	**Sb**	**12 15 40.0**	**-0.3**
SALF	**Salau**	**1.49 119**	Pg	**Pg**	**12 15 25.8**	**-0.5**
SALF	**Salau**	**1.49 119**	P	**Pn**	**12 15 25.1**	**+0.4**
ECRI	**Cripan**	**1.67 239**	⇑Pg	**Pg**	**12 15 29.2**	**-0.6**
	21nm,0.2s,SNR=18					
ECRI			Lg		12 15 51.9	
	33nm,0.2s,SNR=7.9					
LFF	**La Frestale**	**1.73 33**	*e*Pg	**Pg**	**12 15 32.5**	**+1.7**
LFF			*e*Sg	**Sg**	**12 15 54.8**	**+1.6**
	186nm,0.4s,SNR=1.0					
LFF	**La Frestale**	**1.73 33**	*e*Pn	**Pn**	**12 15 29.3**	**+1.3**
LFF			*e*Pg	**Pg**	**12 15 32.5**	**+1.7**
LFF			*e*Sg	**Sg**	**12 15 54.8**	**+1.6**
LFF	**La Frestale**	**1.73 33**	Pn	**Pn**	**12 15 29.3**	**+1.3**
LFF			Pg	**Pg**	**12 15 32.5**	**+1.7**
LFF			Lg		12 15 54.8	
	93nm,0.4s					
LFF	**La Frestale**	**1.73 33**	*e*Pg	**Pg**	**12 15 32.5**	**+1.7**
LFF			*e*Sg	**Sg**	**12 15 54.8**	**+1.6**
	93nm,0.4s,SNR=1.0					
ESAC	**San Caprasio**	**1.78 177**	Pg	**Pg**	**12 15 30.9**	**-0.9**
	160nm,0.2s,SNR=95					
ESAC			Lg		12 15 54.2	
	562nm,0.4s,SNR=8.8					
ESAC	**San Caprasio**	**1.78 177**	Pg	**Pg**	**12 15 30.9**	**-0.9**
	160nm,0.2s,SNR=95					
MTLF	**Montolieu**	**2.04 93**	*e*Pg	**Pg**	**12 15 36.5**	**-0.4**
MTLF			*e*Sn	**Sn**	**12 15 57.7**	**-0.3**
	SNR=1.0					
MTLF			*e*Sg	**Sg**	**12 16 03.3**	**-0.1**
	44nm,0.2s,SNR=1.0					
MTLF	**Montolieu**	**2.04 93**	*e*Pn	**Pn**	**12 15 32.8**	**+0.4**
MTLF			*e*Pg	**Pg**	**12 15 36.5**	**-0.4**
MTLF			*e*Sn	**Sn**	**12 15 57.7**	**-0.3**
MTLF			*e*Sg	**Sg**	**12 16 03.3**	**-0.1**
MTLF	**Montolieu**	**2.04 93**	Pn	**Pn**	**12 15 32.8**	**+0.4**
MTLF			Pg	**Pg**	**12 15 36.5**	**-0.4**
MTLF			Sn	**Sn**	**12 15 57.7**	**-0.3**
MTLF			Lg		12 16 03.3	
	22nm,0.2s					
MTLF	**Montolieu**	**2.04 93**	*e*Pn	**Pn**	**12 15 32.8**	**+0.4**
	SNR=1.0					
MTLF	**Montolieu**	**2.04 93**	*e*Pg	**Pg**	**12 15 36.5**	**-0.4**
MTLF			*e*Sn	**Sn**	**12 15 57.7**	**-0.3**
	SNR=1.0					
MTLF			*e*Sg	**Sg**	**12 16 03.3**	**-0.1**
	22nm,0.2s,SNR=1.0					
ELAN	**Lanestosa**	**2.10 264**	Pn	**Pn**	**12 15 30.5**	**-2.7**
	0.8nm,0.2s,SNR=7.9					
ELAN			Pg	**Pg**	**12 15 38.4**	**+0.4**
	9.9nm,0.2s,SNR=15					
ELAN			Lg		12 16 05.7	
	12nm,0.2s,SNR=5.9					
ELAN	**Lanestosa**	**2.10 264**	Pn	**Pn**	**12 15 30.5**	**-2.7**
	0.8nm,0.2s,SNR=7.9					
ELAN	**Lanestosa**	**2.10 264**	Pg	**Pg**	**12 15 38.4**	**+0.4**
	9.9nm,0.2s,SNR=15					
VALF	**Valcebollere**	**2.20 119**	Pg	**Pg**	**12 15 38.2**	**-1.7**
VALF	**Valcebollere**	**2.20 119**	Pg	**Pg**	**12 15 38.0**	**-1.9**
VALF			Pg	**Pg**	**12 15 38.2**	**-1.7**
VALF	**Valcebollere**	**2.20 119**	S	**Sn**	**12 16 04.0**	**+2.1**
EMIR	**Miracle**	**2.21 135**	Pg	**Pg**	**12 15 39.4**	**-0.8**
	6.2nm,0.1s,SNR=15					
EMIR			Lg		12 16 08.6	
	99nm,0.5s,SNR=6.4					
EMIR	**Miracle**	**2.21 135**	Pg	**Pg**	**12 15 39.4**	**-0.8**
	6.2nm,0.1s,SNR=15					
RJF	**Les Rejaudoux**	**2.35 39**	*e*Pg	**Pg**	**12 15 44.2**	**+1.4**
RJF			*e*Sg	**Sg**	**12 16 14.2**	**+1.0**
	55nm,0.2s,SNR=1.0					
RJF	**Les Rejaudoux**	**2.35 39**	*e*Pn	**Pn**	**12 15 37.7**	**+1.1**
RJF			*e*Pg	**Pg**	**12 15 44.2**	**+1.4**
RJF			*e*Sg	**Sg**	**12 16 14.2**	**+1.0**
RJF	**Les Rejaudoux**	**2.35 39**	Pn	**Pn**	**12 15 37.7**	**+1.1**
RJF			Pg	**Pg**	**12 15 44.2**	**+1.4**
RJF			Lg		12 16 14.2	
	28nm,0.2s					
RJF	**Les Rejaudoux**	**2.35 39**	*e*Pg	**Pg**	**12 15 44.2**	**+1.4**
RJF			*e*Sg	**Sg**	**12 16 14.2**	**+1.0**
	28nm,0.2s,SNR=1.0					
CAF	**Calviac**	**2.38 52**	*e*Pg	**Pg**	**12 15 44.7**	**+1.4**
CAF			*e*Sn	**Sn**	**12 16 06.0**	**-0.3**
	SNR=1.0					
CAF			*e*Sg	**Sg**	**12 16 14.8**	**+0.7**
	44nm,0.2s,SNR=1.0					
CAF	**Calviac**	**2.38 52**	*e*Pn	**Pn**	**12 15 37.8**	**+0.8**
CAF			*e*Pg	**Pg**	**12 15 44.7**	**+1.4**
CAF			*e*Sn	**Sn**	**12 16 06.0**	**-0.3**
CAF			*e*Sg	**Sg**	**12 16 14.8**	**+0.7**
	22nm,0.2s					
CAF	**Calviac**	**2.38 52**	*e*Pn	**Pn**	**12 15 37.8**	**+0.8**
	SNR=1.0					
CAF	**Calviac**	**2.38 52**	*e*Pg	**Pg**	**12 15 44.7**	**+1.4**
CAF			*e*Sn	**Sn**	**12 16 06.0**	**-0.3**
	SNR=1.0					
CAF			*e*Sg	**Sg**	**12 16 14.8**	**+0.7**
	22nm,0.2s,SNR=1.0					
ERTA	**Horta de San J**	**2.63 165**	Pn	**Pn**	**12 15 41.3**	**+0.9**
ERTA			Pg	**Pg**	**12 15 46.5**	**-1.6**
ERTA			Pg	**Pg**	**12 15 46.7**	**-1.4**
ERTA			Lg		12 16 20.4	
ERTA			Lg		12 16 22.8	
ERTA	**Horta de San J**	**2.63 165**	Pn	**Pn**	**12 15 41.3**	**+0.9**
	0.9nm,0.1s,SNR=7.9					
ERTA			Pg	**Pg**	**12 15 46.7**	**-1.4**
	11nm,0.3s,SNR=18					
ERTA			Lg		12 16 20.4	
	27nm,0.3s,SNR=7.0					
ERTA	**Horta de San J**	**2.63 165**	Pn	**Pn**	**12 15 41.3**	**+0.9**
	0.9nm,0.1s,SNR=7.9					
ERTA	**Horta de San J**	**2.63 165**	Pg	**Pg**	**12 15 46.5**	**-1.6**
EJON	**La Jonquera**	**2.75 111**	Pn	**Pn**	**12 15 44.0**	**+1.9**
EJON			Pg	**Pg**	**12 15 50.9**	**+0.4**
EJON			Sn	**Sn**	**12 16 17.8**	**+2.2**
EJON			Lg		12 16 28.6	
EJON	**La Jonquera**	**2.75 111**	Pn	**Pn**	**12 15 44.0**	**+1.9**
	1.2nm,0.1s,SNR=7.9					
EJON			Pg	**Pg**	**12 15 50.9**	**+0.4**
	1.3nm,0.1s,SNR=6.7					
EJON			Sn	**Sn**	**12 16 15.3**	**-0.3**
	4.2nm,0.3s,SNR=7.9					
EJON			Lg		12 16 28.6	
	6.5nm,0.2s,SNR=7.9					
EJON	**La Jonquera**	**2.75 111**	Pn	**Pn**	**12 15 44.0**	**+1.9**
	1.2nm,0.1s,SNR=7.9					
EJON	**La Jonquera**	**2.75 111**	Pg	**Pg**	**12 15 50.9**	**+0.4**
	1.3nm,0.1s,SNR=6.7					
EJON			Sn	**Sn**	**12 16 17.8**	**+2.3**
	4.2nm,0.3s,SNR=7.9					
ETOR	**Torete**	**2.89 203**	⇑Pn	**Pn**	**12 15 45.2**	**+1.1**
	28nm,0.1s,SNR=18					
ETOR			Pg	**Pg**	**12 15 51.7**	**-1.5**
	27nm,0.4s,SNR=4.0					
ETOR			Sn	**Sn**	**12 16 18.7**	**-0.4**
	19nm,0.2s,SNR=4.9					
ETOR			Lg		12 16 31.6	
	28nm,0.5s,SNR=5.0					
ETOR	**Torete**	**2.89 203**	Pg	**Pg**	**12 15 51.7**	**-1.5**
	27nm,0.4s,SNR=4.0					
ETOR			Sn	**Sn**	**12 16 18.7**	**-0.3**
	19nm,0.2s,SNR=4.9					
MFF	**Saint Martin d**	**3.12 5**	*e*Pg	**Pg**	**12 15 58.1**	**+0.6**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**12 16 23.9**	**-0.7**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**12 16 38.9**	**+0.9**
	25nm,0.3s,SNR=1.0					
MFF	**Saint Martin d**	**3.12 5**	*e*Pn	**Pn**	**12 15 48.3**	**+1.1**
MFF			*e*Pg	**Pg**	**12 15 58.1**	**+0.6**
MFF			*e*Sn	**Sn**	**12 16 23.9**	**-0.7**
MFF			*e*Sg	**Sg**	**12 16 38.9**	**+0.9**
MFF	**Saint Martin d**	**3.12 5**	Pn	**Pn**	**12 15 48.3**	**+1.1**
MFF			Pg	**Pg**	**12 15 58.1**	**+0.6**
MFF			Sn	**Sn**	**12 16 23.9**	**-0.7**
MFF			Lg		12 16 38.9	
	12nm,0.3s					
MFF	**Saint Martin d**	**3.12 5**	*e*Pn	**Pn**	**12 15 48.3**	**+1.1**
	SNR=1.0					
MFF	**Saint Martin d**	**3.12 5**	*e*Pg	**Pg**	**12 15 58.1**	**+0.6**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**12 16 23.9**	**-0.7**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**12 16 38.9**	**+0.9**
	12nm,0.3s,SNR=1.0					
EMOS	**Mosqueruela**	**3.13 179**	Pn	**Pn**	**12 15 49.1**	**+1.7**
	0.8nm,0.2s,SNR=9.1					
EMOS			Pg	**Pg**	**12 15 57.0**	**-0.8**
	5.7nm,0.2s,SNR=11					
EMOS			Sn	**Sn**	**12 16 24.2**	**-0.7**
	3.4nm,0.2s,SNR=7.9					
EMOS			Lg		12 16 38.0	
	18nm,0.5s,SNR=5.0					
EMOS	**Mosqueruela**	**3.13 179**	Pn	**Pn**	**12 15 49.0**	**+1.6**
EMOS	**Mosqueruela**	**3.13 179**	Pg	**Pg**	**12 15 57.0**	**-0.8**
	5.7nm,0.2s,SNR=11					
EMOS			Sn	**Sn**	**12 16 24.2**	**-0.7**
	3.4nm,0.2s,SNR=7.9					
LBL	**Lubilhac**	**3.25 56**	Pg	**Pg**	**12 15 50.9**	**-9.0**
LASF	**Ste Croix**	**3.26 78**	*e*Pg	**Pg**	**12 15 59.6**	**-0.7**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**12 16 42.9**	**+0.3**
	33nm,0.4s,SNR=1.0					
LASF	**Ste Croix**	**3.26 78**	*e*Pn	**Pn**	**12 15 49.8**	**+0.6**
LASF			*e*Pg	**Pg**	**12 15 59.6**	**-0.7**
LASF			*e*Sg	**Sg**	**12 16 42.9**	**+0.3**
LASF	**Ste Croix**	**3.26 78**	Pn	**Pn**	**12 15 49.8**	**+0.6**
LASF			Pg	**Pg**	**12 15 59.6**	**-0.7**
LASF			Lg		12 16 42.9	
	0.0nm,0.4s					
LASF	**Ste Croix**	**3.26 78**	*e*Pg	**Pg**	**12 15 59.6**	**-0.7**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**12 16 42.9**	**+0.3**
	16nm,0.4s,SNR=1.0					
EARI	**Arriondas**	**3.38 268**	Pn	**Pn**	**12 15 51.6**	**+0.7**
	1.0nm,0.1s,SNR=15					
EARI			Sn	**Sn**	**12 16 30.9**	**-0.2**
	2.5nm,0.3s,SNR=5.0					
EARI	**Arriondas**	**3.38 268**	Pn	**Pn**	**12 15 51.6**	**+0.8**
	1.0nm,0.1s,SNR=15					
EARI			Sn	**Sn**	**12 16 30.9**	**-0.2**
	2.5nm,0.3s,SNR=5.0					
PYM	**Petit Puy Mans**	**3.41 47**	Pg	**Pg**	**12 15 53.8**	**-9.3**
TCF	**Toulx Ste Croi**	**3.42 34**	*e*Pg	**Pg**	**12 16 03.8**	**+0.5**
TCF			*e*Sn	**Sn**	**12 16 30.9**	**-1.2**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**12 16 46.4**	**-1.3**
	49nm,0.4s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.42 34**	*e*Pn	**Pn**	**12 15 50.5**	**-0.9**
TCF			*e*Pg	**Pg**	**12 16 03.8**	**+0.5**
TCF			*e*Sn	**Sn**	**12 16 30.9**	**-1.2**
TCF			*e*Sg	**Sg**	**12 16 46.4**	**-1.3**
TCF	**Toulx Ste Croi**	**3.42 34**	Pn	**Pn**	**12 15 50.5**	**-0.9**
TCF			Pg	**Pg**	**12 16 03.8**	**+0.5**
TCF			Sn	**Sn**	**12 16 30.9**	**-1.2**
TCF	**Toulx Ste Croi**	**3.42 34**	*e*Pg	**Pg**	**12 16 03.8**	**+0.5**
TCF			*e*Sn	**Sn**	**12 16 30.9**	**-1.2**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**12 16 46.4**	**-1.3**
	24nm,0.4s,SNR=1.0					
AGO	**Saint Agoulin**	**3.67 45**	Pg	**Pg**	**12 15 59.0**	**-9.1**
PLDF	**La Plantade**	**3.88 49**	Pg	**Pg**	**12 16 03.3**	**-8.8**
GUD	**Guadarrama**	**3.90 224**	Pn	**Pn**	**12 15 59.0**	**+1.1**
	1.9nm,0.2s,SNR=7.9					
GUD	**Guadarrama**	**3.90 224**	Pn	**Pn**	**12 15 59.0**	**+1.1**
	1.9nm,0.2s,SNR=7.9					
BGF	**Bois d'Agland**	**3.91 37**	*e*Pg	**Pg**	**12 16 13.2**	**+0.6**
BGF			*e*Sn	**Sn**	**12 16 41.4**	**-2.6**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**12 17 04.0**	**+0.8**
	103nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	**3.91 37**	*e*Pn	**Pn**	**12 15 58.3**	**+0.3**
BGF			*e*Pg	**Pg**	**12 16 13.2**	**+0.6**
BGF			*e*Sn	**Sn**	**12 16 41.4**	**-2.6**
BGF			*e*Sg	**Sg**	**12 17 04.0**	**+0.8**
BGF	**Bois d'Agland**	**3.91 37**	Pn	**Pn**	**12 15 58.3**	**+0.3**
BGF			Lg		12 17 04.0	
	52nm,0.3s					
BGF	**Bois d'Agland**	**3.91 37**	*e*Pg	**Pg**	**12 16 13.2**	**+0.6**
BGF			*e*Sn	**Sn**	**12 16 41.4**	**-2.6**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**12 17 04.0**	**+0.8**
	52nm,0.3s,SNR=1.0					
ECHE	**Chera**	**3.91 184**	Pn	**Pn**	**12 15 59.7**	**+1.6**
	0.4nm,0.1s,SNR=7.9					
ECHE			Pg	**Pg**	**12 16 11.8**	**-0.9**
	1.5nm,0.3s,SNR=7.9					
ECHE			Lg		12 17 01.3	
	3.5nm,0.3s,SNR=7.9					
ECHE	**Chera**	**3.91 184**	Pg	**Pg**	**12 16 11.8**	**-0.9**
	1.5nm,0.3s,SNR=7.9					
VIVF	**Saint-Julien-l**	**4.01 68**	*e*Pg	**Pg**	**12 16 14.5**	**-0.1**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**12 17 04.0**	**-2.7**
	21nm,0.4s,SNR=1.0					
VIVF	**Saint-Julien-l**	**4.01 68**	*e*Pn	**Pn**	**12 16 00.4**	**+0.9**
VIVF			*e*Pg	**Pg**	**12 16 14.5**	**-0.1**
VIVF			*e*Sg	**Sg**	**12 17 04.0**	**-2.7**
VIVF	**Saint-Julien-l**	**4.01 68**	Pn	**Pn**	**12 16 00.4**	**+0.9**
VIVF			Pg	**Pg**	**12 16 14.5**	**-0.1**
VIVF	**Saint-Julien-l**	**4.01 68**	*e*Pg	**Pg**	**12 16 14.5**	**-0.1**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**12 17 04.0**	**-2.7**
	11nm,0.4s,SNR=1.0					
AVF	**Avril sur Loir**	**4.31 39**	*e*Pn	**Pn**	**12 16 04.3**	**+0.7**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**12 16 52.9**	**-1.1**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**12 17 15.7**	**-0.4**
	32nm,0.5s					
AVF	**Avril sur Loir**	**4.31 39**	*e*Pn	**Pn**	**12 16 04.3**	**+0.7**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**12 16 52.9**	**-1.1**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**12 17 15.7**	**-0.4**
	16nm,0.5s					
HYF	**Humbligny**	**4.40 30**	*e*Pn	**Pn**	**12 16 05.7**	**+0.9**
HYF			*e*Sg	**Sg**	**12 17 18.7**	**-0.3**
SMF	**Signal de Mont**	**4.44 43**	*e*Pn	**Pn**	**12 16 05.3**	**0.0**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**12 17 19.6**	**-0.7**
	17nm,0.4s,SNR=1.0					
SMF	**Signal de Mont**	**4.44 43**	*e*Pn	**Pn**	**12 16 05.3**	**0.0**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**12 17 19.6**	**-0.7**
	8.6nm,0.4s,SNR=1.0					
SMRF	**Simiane la Rot**	**4.48 82**	*e*Pn	**Pn**	**12 16 06.0**	**0.0**
SSF	**Saint Saulge**	**4.58 38**	*e*Pg	**Pg**	**12 16 24.5**	**-1.0**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**12 17 24.1**	**-0.8**
	27nm,0.6s					
SSF	**Saint Saulge**	**4.58 38**	*e*Pn	**Pn**	**12 16 06.8**	**-0.5**
SSF			*e*Pg	**Pg**	**12 16 24.5**	**-1.0**
SSF			*e*Sg	**Sg**	**12 17 24.1**	**-0.8**
SSF	**Saint Saulge**	**4.58 38**	Pn	**Pn**	**12 16 06.8**	**-0.5**
SSF			Pg	**Pg**	**12 16 24.5**	**-1.0**
SSF			Lg		12 17 24.1	
	13nm,0.6s					
SSF	**Saint Saulge**	**4.58 38**	*e*Pg	**Pg**	**12 16 24.5**	**-1.0**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**12 17 24.1**	**-0.8**
	13nm,0.6s					
ESDC	**Sonseca Array**	**4.59 215**	Pn	**Pn**	**12 16 07.2**	**-0.1**
	1.0nm,0.2s,baz=40,slow=14,SNR=4.0					
ESDC			Sn	**Sn**	**12 16 59.7**	**-1.1**
	1.7nm,0.2s,baz=36,slow=24,SNR=4.0					
ESDC	**Sonseca Array**	**4.59 215**	Pn	**Pn**	**12 16 07.2**	**-0.2**
	1.0nm,0.2s,SNR=4.0					
ESDC			Sn	**Sn**	**12 16 59.7**	**-1.1**
	1.7nm,0.2s,SNR=4.0					
QUIF	**Quistinic**	**4.78 339**	*e*Pg	**Pg**	**12 16 28.8**	**-0.5**
QUIF			*e*Sn	**Sn**	**12 17 04.0**	**-1.5**
	16nm,0.3s,SNR=1.0					
QUIF			*e*Sg	**Sg**	**12 17 31.8**	**+0.7**
QUIF	**Quistinic**	**4.78 339**	*e*Pn	**Pn**	**12 16 10.3**	**+0.3**
QUIF			*e*Pg	**Pg**	**12 16 28.8**	**-0.5**
QUIF			*e*Sn	**Sn**	**12 17 04.0**	**-1.5**
QUIF			*e*Sg	**Sg**	**12 17 31.8**	**+0.7**
QUIF	**Quistinic**	**4.78 339**	Pn	**Pn**	**12 16 10.3**	**+0.3**
QUIF			Pg	**Pg**	**12 16 28.8**	**-0.5**
QUIF			Sn	**Sn**	**12 17 04.0**	**-1.5**
	0.0nm,0.3s					
QUIF			Lg		12 17 31.8	
QUIF	**Quistinic**	**4.78 339**	*e*Pn	**Pn**	**12 16 10.3**	**+0.3**
	SNR=1.0					
QUIF	**Quistinic**	**4.78 339**	*e*Pg	**Pg**	**12 16 28.8**	**-0.5**
QUIF			*e*Sn	**Sn**	**12 17 04.0**	**-1.5**
	8.0nm,0.3s,SNR=1.0					
QUIF			*e*Sg	**Sg**	**12 17 31.8**	**+0.7**
EPON	**Pontenova**	**4.79 270**	Pn	**Pn**	**12 16 11.6**	**+1.4**
	1.3nm,0.2s,SNR=7.9					
EPON			Sn	**Sn**	**12 17 03.3**	**-2.6**
	26nm,0.6s,SNR=4.8					
EPON	**Pontenova**	**4.79 270**	Pn	**Pn**	**12 16 11.6**	**+1.4**
	1.3nm,0.2s,SNR=7.9					
EPON			Sn	**Sn**	**12 17 03.3**	**-2.6**
	26nm,0.6s,SNR=4.8					
EBEN	**Beniarda**	**4.80 177**	Pn	**Pn**	**12 16 10.9**	**+0.6**
	1.4nm,0.2s,SNR=6.9					
EBEN			Sn	**Sn**	**12 17 04.8**	**-1.2**
	1.8nm,0.4s,SNR=5.0					
EBEN			Lg		12 17 30.5	
	SNR=7.9					
EBEN	**Beniarda**	**4.80 177**	Pn	**Pn**	**12 16 10.9**	**+0.6**
	1.4nm,0.2s,SNR=6.9					
EBEN			Sn	**Sn**	**12 17 04.8**	**-1.2**
	1.8nm,0.4s,SNR=5.0					
ECAL	**Calabor**	**4.80 253**	Pn	**Pn**	**12 16 11.5**	**+1.2**
	1.4nm,0.1s,SNR=8.6					
ECAL			Sn	**Sn**	**12 17 04.8**	**-1.2**
	1.6nm,0.3s,SNR=5.0					
ECAL	**Calabor**	**4.80 253**	Pn	**Pn**	**12 16 11.5**	**+1.2**
	1.4nm,0.1s,SNR=8.6					
ECAL			Sn	**Sn**	**12 17 04.8**	**-1.2**
	1.6nm,0.3s,SNR=5.0					
PBRG	**Braganca**	**4.85 252**	*e*Pn	**Pn**	**12 16 12.0**	**+1.0**
PBRG			*e*Sn	**Sn**	**12 17 06.3**	**-1.0**
ORIF	**Oris-en-Rattie**	**4.86 71**	*e*Pn	**Pn**	**12 16 12.0**	**+0.9**
GRR	**Gorron**	**4.90 358**	*e*Pn	**Pn**	**12 16 12.8**	**+1.2**
	SNR=1.0					
GRR			*e*Sn	**Sn**	**12 17 07.5**	**-0.9**
	9.7nm,0.3s,SNR=1.0					
GRR			*e*Sg	**Sg**	**12 17 35.2**	**+0.2**
GRR	**Gorron**	**4.90 358**	*e*Pn	**Pn**	**12 16 12.8**	**+1.2**
	SNR=1.0					
GRR			*e*Sn	**Sn**	**12 17 07.5**	**-0.9**
	4.8nm,0.3s,SNR=1.0					
GRR			*e*Sg	**Sg**	**12 17 35.2**	**+0.2**
LOR	**Lormes**	**4.90 38**	*e*Pn	**Pn**	**12 16 12.2**	**+0.6**
	baz=217,SNR=1.0					
LOR	**Lormes**	**4.90 38**	*e*Pg	**Pg**	**12 16 30.4**	**-1.2**
	baz=223					

FLN	**La Foliniere**	**5.27**	**1**	*e*Pn	**Pn**	**12 16 17.4**	**+0.7**
FLN	7.2nm,0.4s			*e*Sg	**Sg**	**12 17 45.3**	**-1.6**
EADA	**Adamuz**	**6.13 211**		Pn	**Pn**	**12 16 29.4**	**+0.9**
EADA	0.4nm,0.1s,SNR=7.9			Sn	**Sn**	**12 17 34.5**	**-4.3**
EADA	**Adamuz**	**6.13 211**		Pn	**Pn**	**12 16 29.4**	**+0.9**
EADA	0.4nm,0.1s,SNR=7.9			Sn	**Sn**	**12 17 34.5**	**-4.3**
PCBR	**Castelo Branco**	**6.33 237**		*e*Sn	**Sn**	**12 17 39.5**	**-4.2**
EQUE	**Quentar**	**6.65 200**		Pn	**Pn**	**12 16 37.2**	**+1.4**
EBAD	**Badajoz**	**6.78 228**		Pn	**Pn**	**12 16 37.2**	**-0.4**
EBAD	1.2nm,0.2s,SNR=7.9			Sn	**Sn**	**12 17 50.7**	**-4.3**
EBAD	**Badajoz**	**6.78 228**		Pn	**Pn**	**12 16 37.2**	**-0.4**
EBAD	1.2nm,0.2s,SNR=7.9			Sn	**Sn**	**12 17 50.7**	**-4.3**
PESTR	**Estremoz**	**7.03 231**		*e*Pn	**Pn**	**12 16 40.7**	**-0.2**
PESTR				*e*Sn	**Sn**	**12 17 56.7**	**-4.2**
EMIN	**Mina Concepcio**	**7.36 221**		Pn	**Pn**	**12 16 45.6**	**+0.1**
EMIN	**Mina Concepcio**	**7.36 221**		Pn	**Pn**	**12 16 45.6**	**+0.1**
EGRO	**El Granado**	**7.94 224**		Pn	**Pn**	**12 16 52.8**	**-0.7**
EGRO	0.6nm,0.1s,SNR=7.9			Sn	**Sn**	**12 18 17.7**	**-5.8**
EGRO	**El Granado**	**7.94 224**		Pn	**Pn**	**12 16 52.8**	**-0.7**

*ISCJB **22** 12:17:47.9±0.8,2377S±005×667W±0.1,h180km±11km, mb3.9/6,Error ellipse: s-maj=20.1km s-min=7.5km az=19.9*
*IDC **22** 12:17:49.0±1.4,2374S×6675W,h174km±12km,mb3.7/4, mb1 3.8/8,mb1mx3.6/16,mbtmp3.6/8,Error ellipse: s-maj=20.8km s-min=12.3km az=93.0*
*NEIC **22** 12:17:49.7±0.8,2376S×6679W,h181km±8km,mb4.2/1, Error ellipse: s-maj=18.2km s-min=8.1km az=102.0*

ISC 22 12:17:49.1±0.9,2377S±005×669W±02,h173km±10km,n17, σ1°07/17,mb3.9/6,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**6.26**	**213**	*e*P	**Pn**	**12 19 19.3**	**0.0**
LPAZ	**La Paz**	**7.54**	**351**	P	**Pn**	**12 19 38.5**	**+2.3**
LPAZ	3.4nm,0.3s,baz=158,slow=10,SNR=34			S	**Sn**	**12 20 59.8**	**-1.1**
CFAA	**Coronel Fontan**	**7.90**	**189**	P	**Pn**	**12 19 42.3**	**+1.3**
CFAA	0.3nm,0.3s,baz=6.1,slow=12,SNR=20			S	**Sn**	**12 21 07.3**	**-2.2**
SIV	**San Ignacio**	**9.46**	**36**	P	**Pn**	**12 20 01.4**	**-0.1**
SIV	3.1nm,0.3s,baz=248,slow=9.4,SNR=54			S	**Sn**	**12 21 41.1**	**-5.6**
PLCA	**Paso Flores**	**17.20**	**190**	P	**Pn**	**12 21 39.8**	**+0.8**
TXAR	**Lajitas Array**	**63.57**	**324**	P	**P**	**12 28 01.7**	**+0.5**
LPIG	**La Paz**	**63.58**	**315**	P	**P**	**12 28 01.9**	**+0.6**
LPIG	**La Paz**	**63.58**	**315**	P	**P**	**12 28 01.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**12 29 19.2**	**+0.1**
PDAR	**Pinedale Array**	**77.02**	**329**	P	**P**	**12 29 23.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**12 29 19.2**	**+0.1**
ULM	**Lac du Bonnet**	**78.05**	**341**	P	**P**	**12 29 27.3**	**-1.2**
YKA	**Yellowknife Ar**	**93.95**	**340**	P	**P**	**12 30 46.2**	**-0.9**
YKA	**Yellowknife Ar**	**93.95**	**340**	P	**P**	**12 30 46.2**	**-0.9**
ASAR	**Alice Springs**	**128.72**	**205**	PKP	PKPdf	12 36 36.1	+0.4
WRA	**Warramunga Arr**	**131.89**	**207**	PKP	PKPdf	12 36 42.3	+0.6
WRA	0.7nm,1.2s,baz=155,slow=1.9,SNR=4.6			SKPbc	SKPbc	12 39 49.8	-1.8
MKAR	**Makanchi Array**	**146.26**	**39**	PKPbc	PKPbc	12 37 08.6	-0.6

*ISCJB **22** 12:20:37.9±1.2,2983N±006×3634E±008,h0km,Error ellipse: s-maj=11.1km s-min=7.6km az=46.5*
*CSEM **22** 12:20:38.8±0.3,2977N×3628E,h1km,ML1.8,Error ellipse: s-maj=6.1km s-min=3.6km az=110.0,Mining explosion.*
*GII **22** 12:20:38.2±0.0,2984N×3635E,h0km,ML1.8/1*
*HLW **22** 12:20:39.5,3081N×3495E,h20km,Mb2.7*

ISC 22 12:20:38.0±1.2,2983N±006×3638E±008,h0km,n17, σ0°76/20,5C-1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.16**	**265**	Pg	**Pg**	**12 21 00.0**	**-0.3**
HRFI	**Mount Harif**	**1.18**	**280**	Pg	**Pg**	**12 20 59.7**	**-1.0**
HRFI				Sg	**Sg**	**12 21 17.1**	**+1.1**
EIL	**Elat**	**1.25**	**263**	Pg	**Pg**	**12 21 01.1**	**-0.9**
ZFRI	**Zfri**	**1.27**	**305**	Pg	**Pg**	**12 21 00.8**	**-1.5**
MBH	**Mount Berech**	**1.27**	**269**	Pg	**Pg**	**12 21 02.9**	**+0.4**
HBST	**Basata**	**1.56**	**247**	⇑P	**Pn**	**12 21 05.6**	**-1.4**
MZDA	**Masada**	**1.72**	**330**	Pn	**Pn**	**12 21 09.2**	**+0.1**
MASH	**Mash'abbe Sade**	**1.80**	**311**	Pn	**Pn**	**12 21 10.3**	**-0.1**
SVTA	**Shivta**	**1.88**	**306**	Pn	**Pn**	**12 21 11.4**	**+0.1**
YTIR	**Yattir**	**1.88**	**325**	Pn	**Pn**	**12 21 11.7**	**+0.4**
HDHB	**Dhahab**	**1.89**	**235**	⇑P	**Pn**	**12 21 12.1**	**+0.6**
HDHB				S	**Sn**	**12 21 36.4**	**+0.2**
DRGI	**Dragot**	**1.95**	**334**	Pn	**Pn**	**12 21 12.3**	**-0.1**
KZIT	**Kziot**	**2.02**	**303**	Pn	**Pn**	**12 21 13.6**	**+0.3**
HNKL	**Nakhl**	**2.09**	**273**	⇓P	**Pn**	**12 21 15.1**	**+0.9**
HNKL				S	**Sn**	**12 21 40.4**	**-0.5**
HKAT	**Jabal Katrina**	**2.46**	**239**	⇑P	**Pn**	**12 21 19.6**	**+0.2**
TR1		**2.80**	**230**	⇑P	**Pn**	**12 21 23.9**	**-0.1**
AMAG	**Maghara**	**2.86**	**287**	⇑P	**Pn**	**12 21 26.6**	**+1.7**

*SOF **22** 12:28:51.0,3939N×2379E,h10km,MD2.7*
*ATH **22** 12:28:51.3,3934N×2359E,h24km±1km,MD3.2/10,ML3.3*
*ISCJB **22** 12:28:52.5±0.4,3934N±002×2358E±004,h22km±4km, Error ellipse: s-maj=5.3km s-min=3.9km az=11.1*
*CSEM **22** 12:28:52.2±0.1,3937N×2361E,h20km,ML2.9,Error ellipse: s-maj=2.9km s-min=1.7km az=83.0*
*THE **22** 12:28:52.5,3933N×2355E,h13km,ML2.9*

ISC 22 12:28:52.4±0.4,3935N±002×2355E±004,h16km±3km,n34, σ0°83/47,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**260**	*e*PB	**Pg**	**12 28 57.8**	**-0.2**
XOR	**Xorichti**	**0.28**	**273**	*e*Pg	**Pg**	**12 28 58.0**	**-0.4**
XOR				*e*Sg	**Sg**	**12 29 02.3**	**-0.1**
AOS	**Alonnisos**	**0.32**	**125**	*e*Pg	**Pg**	**12 28 58.6**	**-0.4**
AOS				*e*Sg	**Sg**	**12 29 03.2**	**-0.4**
PAIG	**Paliouri**	**0.58**	**10**	*e*Pg	**Pg**	**12 29 04.7**	**+0.8**
PAIG				*e*Sg	**Sg**	**12 29 13.9**	**+2.2**
LKR	**Lokris**	**0.82**	**211**	*e*PN	**Pb**	**12 29 07.7**	**-0.5**
LKR				*e*SN	**Sb**	**12 29 18.9**	**-0.1**
AGG	**Agios Georgios**	**1.00**	**251**	*e*Pg	**Pg**	**12 29 10.9**	**-0.9**
AGG				*e*Sg	**Sg**	**12 29 25.9**	**+1.0**
PLG	**Polygyros**	**1.02**	**356**	*e*PN	**Pn**	**12 29 11.0**	**-1.0**
PLG				*e*SN	**Sn**	**12 29 25.0**	**-1.0**
OUR	**Ouranopolis**	**1.04**	**19**	*e*Pg	**Pg**	**12 29 11.7**	**-0.7**
OUR				*e*Sg	**Sg**	**12 29 26.8**	**+0.8**
LIT	**Litokhoron**	**1.11**	**313**	*e*Pg	**Pg**	**12 29 13.4**	**-0.4**
LIT				*e*Sg	**Sg**	**12 29 28.8**	**+0.6**
THL	**Klokotos Trika**	**1.21**	**281**	*e*PN	**Pn**	**12 29 14.6**	**+0.1**
HORT	**Hortiatis**	**1.29**	**345**	*e*Pg	**Pn**	**12 29 15.1**	**-0.5**
HORT				*e*Sg	**Sg**	**12 29 33.1**	**-1.0**
PTL	**Penteli**	**1.32**	**169**	*e*PN	**Pn**	**12 29 15.5**	**-0.6**
THE	**Thessaloniki**	**1.35**	**341**	*e*Pg	**Pg**	**12 29 16.6**	**-1.8**
THE				*e*Sg	**Sg**	**12 29 34.9**	**-1.2**
MGER	**Gerania Oros**	**1.38**	**189**	*e*PN	**Pn**	**12 29 17.0**	**+0.1**
ATH	**Athens Observa**	**1.38**	**174**	*e*PN	**Pn**	**12 29 17.0**	**0.0**
EVR	**Evrytania**	**1.42**	**253**	*e*PN	**Pn**	**12 29 18.3**	**+0.9**
SOH	**Sokhos**	**1.48**	**354**	*e*Pg	**Pn**	**12 29 18.7**	**+0.5**
KVR	**Kavouri**	**1.53**	**173**	*e*PN	**Pn**	**12 29 19.0**	**0.0**
NAIG	**Nisos Aigina**	**1.59**	**182**	*e*PN	**Pn**	**12 29 20.5**	**+0.7**
KZN	**Kozani**	**1.67**	**305**	*e*PN	**Pn**	**12 29 21.9**	**+1.1**
SRS	**Serrai**	**1.76**	**1**	*e*Pb	**Pn**	**12 29 22.7**	**+0.6**
GRG	**Griva**	**1.83**	**332**	*e*Pb	**Pn**	**12 29 23.5**	**+0.5**
KNT	**Kendrikon**	**1.87**	**345**	*e*Pb	**Pn**	**12 29 24.3**	**+0.6**
NVR	**Nevrokopi**	**2.01**	**7**	*e*PB	**Pn**	**12 29 25.8**	**+0.2**
VAY	**Valandovo**	**2.10**	**340**	*e*Pn	**Pn**	**12 29 27.4**	**+0.6**
VAY				*e*Sn	**Sn**	**12 29 50.6**	**-2.0**
VAY	**Valandovo**	**2.10**	**340**	*e*Pn	**Pn**	**12 29 27.4**	**+0.6**
VAY				*e*Sn	**Sn**	**12 29 50.6**	**-2.0**
VAY	**Valandovo**	**2.10**	**340**	*e*Pn	**Pn**	**12 29 27.4**	**+0.6**
VAY				*e*Sn	**Sn**	**12 29 50.6**	**-2.0**
FNA	**Florina**	**2.19**	**311**	*e*Pn	**Pn**	**12 29 28.5**	**+0.4**
MMB	**Musomiste**	**2.24**	**3**	P	**Pn**	**12 29 28.8**	**+0.1**
RZN	**Rozhen**	**2.50**	**21**	P	**Pn**	**12 29 32.6**	**+0.3**
KKB	**Krupnik**	**2.54**	**352**	P	**Pn**	**12 29 33.4**	**+0.6**
KRUS	**Krusevo**	**2.67**	**320**	*e*Pn	**Pn**	**12 29 34.9**	**+0.2**
KDZ	**Kurdzhali**	**2.70**	**31**	P	**Pn**	**12 29 33.8**	**-1.3**
PGB	**Panagyurishte**	**3.23**	**8**	P	**Pg**	**12 29 55.8**	**+1.6**

*NEIC **22** 12:28:55.5±3.4,3699N×7220E,h189km±24km,mb4.5/1, Error ellipse: s-maj=39.0km s-min=22.4km az=162.0*
*ISCJB **22** 12:28:58.6±0.7,3729N±005×7221E±0.1,h222km±10km, mb3.2/2,Error ellipse: s-maj=16.2km s-min=5.1km az=129.4*
*IDC **22** 12:28:58.1±7.9,3710N×7223E,h211km±66km,mb3.0/2, mb1 3.2/6,mb1mx2.9/24,mbtmp3.1/6,Error ellipse: s-maj=74.8km s-min=30.6km az=148.0*
*NNC **22** 12:29:10.8±8.2,3838N×7274E,h264km±69km,mb1.8, mpv3.0,Error ellipse: s-maj=86.4km s-min=47.9km az=13.0*

ISC 22 12:28:59.6±0.8,3730N±005×722E±01,h219km±10km,n33, σ0°73/39,mb3.2/2,6C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.97**	**13**	P	**Pn**	**12 30 14.0**	**-0.1**
	SNR=60						
UCH	**Uchtor**	**5.25**	**20**	P	**Pn**	**12 30 17.6**	**+0.1**
	SNR=26						
KZA	**Kyzart**	**5.34**	**26**	P	**Pn**	**12 30 18.3**	**-0.4**
	SNR=19						
EKS2	**Erkin-Say**	**5.50**	**13**	P	**Pn**	**12 30 20.8**	**+0.1**
	SNR=10.0						
AAK	**Ala-Archa**	**5.63**	**18**	P	**Pn**	**12 30 22.6**	**+0.3**
	SNR=31						
AAK	**Ala-Archa**	**5.63**	**18**	*e*P	**Pn**	**12 30 21.3**	**-1.1**
	19nm,0.6s						
AAK				*e*S	**S**	**12 31 16.8**	**-11**
THN	**Thein Dam**	**5.67**	**148**	*e*P	**Pn**	**12 30 22.8**	**0.0**
THN				*e*S	**S**	**12 31 27.6**	**-1.4**
DLH	**Dalhousie**	**5.69**	**145**	*e*P	**Pn**	**12 30 25.0**	**+1.9**
KBK	**Karagaybulak**	**5.77**	**21**	P	**Pn**	**12 30 24.8**	**+0.6**
	SNR=6.1						
ULHL	**Ulahol**	**5.87**	**31**	P	**Pn**	**12 30 25.0**	**-0.4**
	SNR=14						
KK31	**Karatay Array**	**5.94**	**348**	⇑P	**Pn**	**12 30 25.5**	**-0.7**
	1.0nm,0.2s,baz=153,slow=11,SNR=5.6						
KK31				⇓S	**S**	**12 31 29.5**	**-5.6**
	16nm,0.3s,baz=145,slow=14,SNR=33						
CHMS	**Chumysh**	**6.04**	**18**	P	**Pn**	**12 30 27.8**	**+0.3**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.21**	**24**	P	**Pn**	**12 30 29.8**	**+0.1**
	SNR=5.1						
TKM2	**Tokmak 2**	**6.21**	**24**	⇑P	**Pn**	**12 30 29.6**	**-0.1**
	0.7nm,0.5s						
TKM2				⇑S	**S**	**12 31 28.3**	**-13**
	0.5nm,0.8s						
KLP	**Kalpa**	**7.64**	**137**	*e*P	**Pn**	**12 30 48.7**	**+0.5**
MKAR	**Makanchi Array**	**12.11**	**35**	P	**Pn**	**12 31 45.0**	**-0.3**
	0.0nm,0.3s,baz=221,slow=15,SNR=2.9						
KOLN	**Koldanda**	**13.54**	**131**	*e*P	**Pn**	**12 32 01.9**	**-1.1**
	4.8nm,0.3s						
GKN	**Gorkha**	**14.01**	**128**	*e*P	**Pn**	**12 32 09.0**	**+0.2**
	16nm,0.3s						
KKN	**Kakani**	**14.56**	**127**	*e*P	**Pn**	**12 32 15.5**	**-0.1**
DMN	**Daman**	**14.58**	**128**	*e*P	**Pn**	**12 32 15.8**	**0.0**
	11nm,0.4s						
PKI	**Pulchoki**	**14.80**	**127**	*e*P	**Pn**	**12 32 17.9**	**-0.6**
	7.2nm,0.3s						
GUN	**Gumba**	**14.87**	**125**	*e*P	**Pn**	**12 32 19.5**	**+0.2**
	14nm,0.4s						
AB31	**Akbulak array**	**14.87**	**327**	⇑P	**Pn**	**12 32 19.1**	**-0.3**
	0.5nm,0.4s,baz=132,slow=13,SNR=14						
AB31				⇑S	**S**	**12 34 56.8**	**-7.3**
	1.3nm,0.7s,baz=149,slow=23,SNR=3.3						
JIRN	**Jiri**	**15.24**	**125**	*e*P	**Pn**	**12 32 24.1**	**+0.3**
	15nm,0.4s						
BVAR	**Borovoye Array**	**15.78**	**356**	P	**Pn**	**12 32 30.8**	**+0.5**
	0.2nm,0.3s,baz=171,slow=8.8,SNR=4.3						
AKTK	**Aktyubinsk**	**16.58**	**327**	P	**P**	**12 32 39.5**	**+0.9**
AKTO	**Aktyubinsk**	**16.58**	**327**	⇑P	**P**	**12 32 39.8**	**+1.2**
	0.1nm,0.8s						
AKTO				⇓S	**S**	**12 35 38.6**	**-2.0**
AKTO	**Aktyubinsk**	**16.58**	**327**	P	**P**	**12 32 39.5**	**+0.9**
	0.7nm,0.3s,baz=120,slow=12,SNR=10						
ZAL	**Zalesovo**	**18.80**	**24**	P	**P**	**12 33 03.7**	**+1.0**
	1.6nm,0.3s,baz=250,slow=5.3,SNR=13						
ZAL	**Zalesovo**	**18.80**	**24**	P	**P**	**12 33 03.7**	**+1.0**
TORD	**Torodi Ar. Bea**	**66.65**	**269**	P	**P**	**12 39 26.8**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=49,slow=6.0,SNR=15						
YKA	**Yellowknife Ar**	**80.41**	**3**	P	**P**	**12 40 46.5**	**-0.2**
	0.1nm,0.5s,mb2.7,baz=350,slow=5.4,SNR=5.5						
YKA	**Yellowknife Ar**	**80.41**	**3**	P	**P**	**12 40 46.5**	**-0.2**

*ISCJB **22** 12:31:54.5±0.5,3936N±002×2354E±004,h16km±9km, Error ellipse: s-maj=5.4km s-min=4.1km az=173.9*
*CSEM **22** 12:31:54.4±0.1,3940N×2356E,h1km,ML3.1,Error ellipse: s-maj=1.8km s-min=1.3km az=84.0*
*THE **22** 12:31:54.5,3932N×2354E,h14km,ML2.7*
*ATH **22** 12:31:55.0,3940N×2330E,h23km±1km,MD3.2/8,ML3.1*

ISC 22 12:31:54.1±0.4,3938N±002×2353E±004,h18km±4km,n21, σ0°84/31,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.25**	**253**	*e*PB	**Pg**	**12 31 59.6**	**-0.2**
NEO				*e*SB	**Sg**	**12 32 03.1**	**-0.5**
XOR	**Xorichti**	**0.26**	**268**	*e*Pg	**Pg**	**12 31 60.0**	**0.0**
XOR				*e*Sg	**Sg**	**12 32 04.2**	**+0.2**
AOS	**Alonnisos**	**0.34**	**127**	*e*Pg	**Pg**	**12 32 00.6**	**-0.7**
AOS				*e*Sg	**Sg**	**12 32 05.4**	**-0.8**
PAIG	**Paliouri**	**0.56**	**12**	*e*Pg	**Pg**	**12 32 06.5**	**+1.2**
PAIG				*e*Sg	**Sg**	**12 32 15.9**	**+3.1**
LKR	**Lokris**	**0.83**	**210**	*e*PN	**Pb**	**12 32 10.0**	**-0.1**
AGG	**Agios Georgios**	**1.00**	**250**	*e*Pg	**Pg**	**12 32 13.3**	**-0.1**
AGG				*e*Sg	**Sg**	**12 32 27.2**	**+0.6**
PLG	**Polygyros**	**1.00**	**356**	*e*PN	**Pn**	**12 32 13.3**	**+0.1**
PLG				*e*SN	**Sn**	**12 32 26.8**	**0.0**
OUR	**Ouranopolis**	**1.02**	**20**	*e*Pg	**Pg**	**12 32 13.6**	**-0.2**
LIT	**Litokhoron**	**1.08**	**312**	*e*Pg	**Pg**	**12 32 14.8**	**-0.2**
LIT				*e*Sg	**Sg**	**12 32 30.7**	**+1.6**
THL	**Klokotos Trika**	**1.19**	**280**	*e*PN	**Pn**	**12 32 14.8**	**-1.0**
HORT	**Hortiatis**	**1.26**	**345**	*e*Pg	**Pg**	**12 32 17.6**	**-0.9**
HORT				*e*Sg	**Sg**	**12 32 35.1**	**+0.1**
THE	**Thessaloniki**	**1.33**	**341**	*e*Pg	**Pg**	**12 32 18.5**	**-1.2**
THE				*e*Sg	**Sg**	**12 32 36.5**	**-0.5**
LIA	**Limnos Island**	**1.38**	**67**	*e*PN	**Pg**	**12 32 23.5**	**+2.8**
ATH	**Athens Observa**	**1.41**	**174**	*e*PN	**Pg**	**12 32 21.5**	**+0.2**
EVR	**Evrytania**	**1.42**	**252**	*e*PN	**Pn**	**12 32 19.4**	**+0.5**
SOH	**Sokhos**	**1.45**	**355**	*e*Pg	**Pb**	**12 32 20.6**	**0.0**
KVR	**Kavouri**	**1.56**	**173**	*e*PB	**Pb**	**12 32 23.5**	**+1.1**
NAIG	**Nisos Aigina**	**1.62**	**181**	*e*PB	**Pb**	**12 32 24.0**	**+0.6**
SRS	**Serrai**	**1.74**	**2**	*e*Pb	**Pb**	**12 32 24.4**	**-1.1**
GRG	**Griva**	**1.80**	**332**	*e*Pb	**Pb**	**12 32 25.9**	**-0.6**
KNT	**Kendrikon**	**1.85**	**345**	*e*Pb	**Pb**	**12 32 26.5**	**-0.8**
KNT				*e*Sb	**Sb**	**12 32 50.7**	**+0.6**

*NIED **22** 12:51:00,4660N×15320E,h35km,Mw3.9 Best double couple: M0:8.15000×10^14 NP1:φ=125.00000°,δ76.00000°, λ-39.00000°. NP2:φ=225.00000°,δ52.00000°, λ-163.00000°.*
*JMA **22** 12:51:44.7±0.9,4661N×15322E,h30km,M4.4*
*SKHL **22** 12:51:46.4±2.5,4560N×15350E,h70km±9km,mb4.8/1*
*ISCJB **22** 12:51:47.7±0.9,4668N±007×15273E±009,h66km±8km, mb4.1/19,Error ellipse: s-maj=13.5km s-min=6.3km az=101.1*
*MOS **22** 12:51:49.6±1.1,4682N×15265E,h83km,mb4.1/9,Error ellipse: s-maj=13.4km s-min=9.8km az=73.2*
*NEIC **22** 12:51:53.8±1.0,4689N×15264E,h101km±8km,mb4.5/2, Error ellipse: s-maj=12.0km s-min=6.7km az=143.0*
*IDC **22** 12:51:53.7±3.7,4685N×15265E,h100km±34km,mb3.5/12, mb1 3.7/14,mb1mx3.6/25,mbtmp3.5/14,MS2.7/1, Ms1 2.7/1,ms1mx2.5/28,Error ellipse: s-maj=19.3km s-min=15.1km az=125.0*

ISC 22 12:51:49.5±0.8,4671N±007×15276E±009,h66km±7km, n71,σ1°37/84,mb4.1/19,6C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.72**	**248**	*e*P	**Pn**	**12 52 47.0**	**+2.6**
KUR				AMB	AMB	12 52 48.0	
	80nm,0.5s						
KUR				*e*S	**Sn**	**12 53 32.0**	**+5.0**
KUR				A		12 53 45.4	
	230nm,0.6s						
KUR				A		12 53 45.4	
	380nm,0.6s						
SKR	**Severo-Kuril's**	**4.56**	**28**	*e*PN	**Pn**	**12 52 56.0**	**+0.1**
SKR				*e*S	**Sn**	**12 53 41.5**	**-6.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=Z,60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.55**	**244**	*e*P	**Pn**	**12 53 09.8**	**+0.3**
YUK				*e*S	**Sn**	**12 54 15.6**	**+3.8**
YUK				A		12 54 34.2	
	comp=Z,630nm,0.7s						
YUK				A		12 54 34.2	
	comp=Z,330nm,0.7s						
YUK				A		12 54 36.6	
	comp=Z,2μm,0.8s						
YUK				A		12 54 36.6	
	comp=Z,2μm,0.8s						
NEM2	**Nemuro 2**	**5.99**	**239**	P	**Pn**	**12 53 13.7**	**-1.8**
NEM2				*e*S	**Sn**	**12 54 19.0**	**-3.7**
JRA	**Rausu**	**6.06**	**246**	P	**Pn**	**12 53 17.4**	**+1.0**
JNK	**Nakash**	**6.49**	**244**	P	**Pn**	**12 53 22.7**	**+0.4**
JNK				*e*S	**Sn**	**12 54 34.6**	**-0.3**
JTKR	**Abashiri--Toko**	**6.81**	**250**	P	**Pn**	**12 53 28.1**	**+1.3**
JAK	**Akkeshi**	**6.83**	**240**	P	**Pn**	**12 53 25.4**	**-1.6**
JAK				*e*S	**Sn**	**12 54 38.9**	**-4.3**
YSS	**Yuzh-Sakhalins**	**6.87**	**276**	*e*PN	**Pn**	**12 53 30.0**	**+2.5**
YSS				*e*S	**Sn**	**12 54 46.5**	**+2.2**
YSS				smax			
	comp=N,20nm,0.7s						
YSS				smax			
	comp=E,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.87**	**276**	*e*P	**Pn**	**12 53 29.6**	**+2.1**
	comp=E,7.0nm,0.3s						
JMP	**Maruseppu**	**7.15**	**251**	P	**Pn**	**12 53 33.3**	**+1.9**
JAR	**Ashorobuto**	**7.23**	**245**	P	**Pn**	**12 53 32.7**	**+0.3**
JAR				*e*S	**Sn**	**12 54 54.0**	**+1.0**
PET	**Petropavlovsk**	**7.38**	**29⇓**	*e*PN	**Pn**	**12 53 40.7**	**+6.2**
PET	**Petropavlovsk**	**7.38**	**29**	P	**Pn**	**12 53 37.4**	**+2.9**
	comp=E,6.9nm,0.6s						
JOB	**Onbets**	**7.40**	**242**	*e*S	**Sn**	**12 54 55.3**	**-1.9**
ASAJ	**Asahikawa**	**7.61**	**254**	P	**Pn**	**12 53 40.1**	**+2.5**
	comp=E,1.7nm,0.3s,baz=50,slow=9.0,SNR=20						
ASAJ				LR	LR	12 56 25.5	
	comp=E,49nm,19.6s,baz=0.7,slow=36						
ASAJ	**Asahikawa**	**7.61**	**254**	P	**Pn**	**12 53 40.7**	**+3.1**
JKK2	**Kamakawa 2**	**7.61**	**252**	P	**Pn**	**12 53 39.5**	**+1.8**
JWK2	**Keihoku**	**7.69**	**264**	P	**Pn**	**12 53 43.5**	**+4.7**
JCH	**Churui**	**7.85**	**242**	P	**Pn**	**12 53 39.7**	**-1.2**
JCH				*e*S	**Sn**	**12 55 04.3**	**-4.0**
ERM	**Erimo**	**8.33**	**239⇑**	*e*PN	**Pn**	**12 53 46.8**	**-0.7**
JBT2	**Biratori 2**	**8.38**	**246**	P	**Pn**	**12 53 48.2**	**0.0**
JNBK	**Urakawa-nobuka**	**8.41**	**242**	P	**Pn**	**12 53 47.0**	**-1.6**
JNBK				*e*S	**Sn**	**12 55 17.4**	**-4.6**
JNB	**Noboribetsu**	**9.38**	**247**	P	**Pn**	**12 54 01.6**	**-0.2**
JNB				*e*S	**Sn**	**12 55 42.9**	**-2.7**
JKB	**Kayabe**	**9.69**	**244**	P	**Pn**	**12 54 04.2**	**-1.9**
JKB				*e*S	**Sn**	**12 55 46.5**	**-6.8**
JSH	**Shimam**	**9.93**	**250**	P	**Pn**	**12 54 10.0**	**+0.7**
JYM2	**Yakumo 2**	**9.98**	**247**	P	**Pn**	**12 54 09.0**	**-1.1**
JANG	**Nango**	**10.33**	**236**	P	**Pn**	**12 54 10.8**	**-4.0**
JANG				*e*S	**Sn**	**12 55 58.2**	**-11**
JTH	**Tanohata**	**10.43**	**233**	*e*S	**Sn**	**12 56 00.5**	**-11**
JRG	**Rokugo**	**11.49**	**235**	P	**Pn**	**12 54 27.5**	**-3.1**
MA2	**Magadan**	**12.95**	**355***c*	*i*PN	**Pn**	**12 54 49.5**	**-1.0**
MA2				pmax	pmax		
	comp=Z,50nm,0.3s						
MJAR	**Matsushiro Arr**	**14.86**	**232**	P	**Pn**	**12 55 19.9**	**+4.1**
	comp=Z,0.5nm,0.3s,baz=39,slow=9.4,SNR=7.2						
MJAR	**Matsushiro Arr**	**14.86**	**232**	P	**Pn**	**12 55 19.9**	**+4.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**20.23**	**328⇑**	*e*P	**P**	**12 56 19.1**	**0.0**
KSRS	**Korea Array**	**20.55**	**252**	P	**P**	**12 56 24.9**	**+2.3**
	comp=Z,1.9nm,0.6s,baz=62,slow=8.5,SNR=7.5						
TIXI	**Tiksi**	**27.44**	**344⇓**	*e*P	**P**	**12 57 27.1**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.1s,mb3.7						
SONM

NOA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 68.39 199 P P 13 02 44.7 +0.6
comp=Z,0.6nm,0.6s,mb3.6,baz=18,slow=6.9,SNR=2.3
WRA Warramunga Arr 68.39 199 P P 13 02 44.7 +0.6
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.09 198 P P 13 03 07.8 +1.1
comp=Z,0.6nm,0.5s,mb3.7,baz=16,slow=5.9,SNR=12
ASAR Alice Springs 72.09 198 P P 13 03 07.8 +1.1
ASAR pmax pmax
comp=Z,1.0nm,0.5s
BURAR Bucovina Array 75.49 326 ⇓iP P 13 03 26.4 -0.2
TXAR Lajitas Array 77.72 60 P P 13 03 39.8 +0.6
comp=Z,0.3nm,0.7s,mb3.1,baz=296,slow=4.1,SNR=7.9

*IDC **22** 13:15:21.6±0.8, 5416N×16047E, h0km, mb3.7/14, mb1 4.0/15, mb1mx3.9/24, mbtmp3.8/15, ML3.3/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/43, Error ellipse: s-maj=23.7km s-min=16.7km az=143.0*
*ISCJB **22** 13:15:28.7±0.5, 5394N±003×16095E±008, h75km±4km, mb3.6/16, Error ellipse: s-maj=8.6km s-min=2.9km az=45.8*
*KRSC **22** 13:15:28.6±0.3, 5398N×16095E, h26km±26km, ML4.6*
*MOS **22** 13:15:28.5±1.7, 5402N×16069E, h72km, mb4.1/11, Error ellipse: s-maj=15.2km s-min=6.9km az=76.7*
*NEIC **22** 13:15:30.7±1.3, 5420N×16040E, h70km±13km, mb4.2/2, Error ellipse: s-maj=13.7km s-min=10.1km az=145.0*

ISC 22 13:15:29.8±0.5, 5395N±003×16090E±009, h73km±4km, n63, σ1§10/88, mb3.6/16, 2C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.78**	**38**	*i* P	**Pn**	**13 15 43.1**	**-2.8**
MKZ				*i* S	**Sn**	**13 15 53.3**	**-4.4**
KII	**Karymskiy**	**0.86**	**277**	*i* P	**Pn**	**13 15 45.9**	**-0.9**
KII				*i* S	**Sn**	**13 15 57.9**	**-1.5**
SPN	**Mys Shipunski**	**1.00**	**212**	*i* P	**Pn**	**13 15 47.1**	**-1.3**
SPN				*i* S	**Sn**	**13 16 00.5**	**-1.8**
NLC	**Nalytchevo**	**1.21**	**231**	*i* P	**Pn**	**13 15 50.5**	**-0.6**
TUMR	**Tumrok**	**1.41**	**342**	*e*P	**Pn**	**13 15 53.1**	**-0.6**
TUMR				*i* S	**Sn**	**13 16 11.1**	**-0.5**
AVH	**Avacha**	**1.46**	**243**	*e*P	**Pn**	**13 15 55.1**	**+0.8**
AVH				*i* S	**Sn**	**13 16 14.7**	**+1.9**
PET	**Petropavlovsk**	**1.63**	**236**κ	*i*PN	**Pn**	**13 15 56.8**	**+0.2**
PET				*i* S	**Sn**	**13 16 17.7**	**+0.9**
PET				pmax	pmax		
	comp=Z,800nm,0.3s						
PET				pmax	pmax		
	comp=Z,779nm,0.5s						
PET				smax			
	comp=N,3μm,0.4s						
PET				smax			
	comp=E,2μm,0.5s						
PET				smax			
	comp=N,3μm,0.5s						
PET	**Petropavlovsk**	**1.63**	**236**	*e*P	**Pn**	**13 15 56.7**	**+0.1**
PET				*e*S	**Sn**	**13 16 14.0**	**-2.8**
PET	**Petropavlovsk**	**1.63**	**236**	*i* P	**Pn**	**13 15 56.9**	**+0.3**
PET				*i* S	**Sn**	**13 16 18.0**	**+1.2**
GNL	**Ganaly**	**1.77**	**263**	*e*P	**Pn**	**13 15 59.0**	**+0.5**
GNL				*i* S	**Sn**	**13 16 20.8**	**+0.6**
KMNR	**Kamenistaya**	**1.85**	**348**	*i* P	**Pn**	**13 15 59.9**	**+0.4**
KMNR				*i* S	**Sn**	**13 16 22.0**	**-0.1**
KIRR	**Kirishev**	**2.04**	**351**	*e*P	**Pn**	**13 16 02.3**	**+0.3**
KIRR				*i* S	**Sn**	**13 16 27.0**	**+0.5**
KPT	**Kopyto**	**2.06**	**349**	*e*P	**Pn**	**13 16 02.5**	**+0.2**
KPT				*i* S	**Sn**	**13 16 27.1**	**0.0**
ZLN	**Zelenaya**	**2.08**	**359**	*e*P	**Pn**	**13 16 02.9**	**+0.4**
ZLN				*i* S	**Sn**	**13 16 28.4**	**+0.9**
RUS	**Russkaya**	**2.09**	**224**	*e*P	**Pn**	**13 16 02.6**	**-0.1**
RUS				*i* S	**Sn**	**13 16 27.7**	**-0.1**
CIRR	**Tsirk**	**2.17**	**358**	*e*P	**Pn**	**13 16 04.3**	**+0.4**
CIRR				*i* S	**Sn**	**13 16 30.6**	**+0.7**
KOZ	**Kozyrevsk**	**2.20**	**345**	*i* P	**Pn**	**13 16 04.3**	**+0.1**
KOZ				*i* S	**Sn**	**13 16 30.9**	**+0.5**
GRL	**Gorelyy**	**2.20**	**232**	*e*P	**Pn**	**13 16 05.4**	**+1.2**
GRL				*i* S	**Sn**	**13 16 32.3**	**+1.9**
KOZR	**Kozyr**	**2.20**	**345**	PN	**Pn**	**13 16 04.3**	**+0.1**
KOZR				S	**Sn**	**13 16 30.9**	**+0.4**
KRSR	**Krestovskiy**	**2.28**	**355**	*i* P	**Pn**	**13 16 05.6**	**+0.3**
KRSR				*i* S	**Sn**	**13 16 33.3**	**+0.8**
KLY	**Klyuchi**	**2.38**	**357**	*i* P	**Pn**	**13 16 06.5**	**-0.1**
KLY				*i* S	**Sn**	**13 16 34.6**	**-0.1**
SRDR	**Sredinnyy**	**2.47**	**345**	*e*P	**Pn**	**13 16 07.5**	**-0.4**
SRDR				*i* S	**Sn**	**13 16 36.4**	**-0.6**
KBTR	**Krutoberegovo**	**2.52**	**25**	*e*P	**Pn**	**13 16 07.7**	**-0.8**
KBTR				*i* S	**Sn**	**13 16 37.1**	**-1.1**
BDR	**Baidarnaya**	**2.63**	**4**	*e*P	**Pn**	**13 16 10.3**	**+0.2**
BDR				*i* S	**Sn**	**13 16 41.7**	**+0.8**
SMKR	**Semkarok**	**2.66**	**7**	*e*P	**Pn**	**13 16 10.6**	**+0.2**
SMKR				*i* S	**Sn**	**13 16 41.9**	**+0.3**
SRKR	**Sorokina**	**2.72**	**3**	*e*P	**Pn**	**13 16 11.4**	**+0.2**
SRKR				*i* S	**Sn**	**13 16 43.1**	**+0.1**
SKR	**Severo-Kuril's**	**4.39**	**224**	*e*PN	**Pn**	**13 16 34.5**	**+0.5**
SKR				*e*S	**Sn**	**13 17 24.5**	**+0.6**
SKR				pmax	pmax		
	comp=E,70nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				smax			
	comp=N,180nm,0.4s						
SKR				smax			
	comp=E,180nm,0.4s						
SKR				smax			
	comp=Z,90nm,0.5s						
MA2	**Magadan**	**7.92**	**319**	*e*PN	**Pn**	**13 17 23.9**	**+1.7**
MA2				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.49**	**246**⇑	*e*PN	**Pn**	**13 18 35.8**	**-2.1**
BILL	**Bilibino**	**14.37**	**8**	*e*P	**Pn**	**13 18 47.1**	**-2.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s						
ASAJ	**Asahikawa**	**15.47**	**238**	Pn	**Pn**	**13 18 59.3**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=333,slow=6.8,SNR=2.9						
ASAJ				LR	LR	13 24 32.4	
	comp=Z,42nm,19.6s,baz=169,slow=36						
ERM	**Erimo**	**16.78**	**232**⇓	*e*P	**Pn**	**13 19 18.9**	**-1.2**
YAK	**Yakutsk**	**18.26**	**309**⇑	*e*P	**Pn**	**13 19 37.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MJAR	**Matsushiro Arr**	**23.46**	**231**	P	**P**	**13 20 33.1**	**+0.5**
	comp=Z,1.8nm,0.7s,mb3.5,baz=19,slow=11,SNR=4.8						
MJAR	**Matsushiro Arr**	**23.46**	**231**	P	**P**	**13 20 33.1**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**32.90**	**39**	P	**P**	**13 21 57.8**	**+0.9**
	comp=Z,1.1nm,0.9s,mb3.7,baz=265,slow=8.6,SNR=3.8						
INK	**Inuvik**	**32.90**	**39**	P	**P**	**13 21 57.8**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**34.18**	**282**	P	**P**	**13 22 06.6**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.3,baz=54,slow=7.0,SNR=6.9						
YKA	**Yellowknife Ar**	**42.21**	**43**	P	**P**	**13 23 16.2**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.1,baz=298,slow=7.4,SNR=4.6						
YKA	**Yellowknife Ar**	**42.21**	**43**	*i* P	**P**	**13 23 17.5**	**+2.0**
KURK	**Kurchatov**	**47.69**	**302**	P	**P**	**13 23 55.9**	**-3.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
KURK	**Kurchatov**	**47.69**	**302**	P	**P**	**13 23 55.9**	**-3.1**
	comp=Z,1.1nm,0.5s,mb3.9						
MKAR	**Makanchi Array**	**48.22**	**295**	P	**P**	**13 24 00.4**	**-2.6**
	comp=Z,0.7nm,0.6s,mb3.7,baz=57,slow=8.2,SNR=9.6						
MKAR	**Makanchi Array**	**48.22**	**295**	*i* P	**P**	**13 24 00.8**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**56.69**	**62**	P	**P**	**13 25 07.5**	**+1.8**
	comp=Z,0.2nm,0.5s,mb3.4,baz=298,slow=4.9,SNR=4.0						
KAF	**Kangasniemi**	**58.89**	**337**	*e*p	**P**	**13 25 18.5**	**-2.6**
	comp=Z,1.2nm,0.4s,mb4.3,baz=23,slow=6.7						
KAF	**Kangasniemi**	**58.89**	**337**	*e*P	**P**	**13 25 18.5**	**-2.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**59.53**	**337**	P	**P**	**13 25 23.8**	**-1.7**
	comp=Z,0.9nm,0.4s,mb4.1,baz=29,slow=7.3,SNR=7.5						
FINES	**FINESS Array B**	**59.53**	**337**	*i* P	**P**	**13 25 24.7**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**62.86**	**344**	P	**P**	**13 25 46.8**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=12,slow=4.8,SNR=3.7						
NOA	**NORSAR Array B**	**62.86**	**344**	P	**P**	**13 25 46.8**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**68.13**	**329**	P	**P**	**13 26 20.2**	**-1.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=28,slow=7.2,SNR=3.3						
AKASG	**Malin Array Be**	**68.13**	**329**	P	**P**	**13 26 20.2**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**69.86**	**68**	P	**P**	**13 26 34.8**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.5,baz=289,slow=5.1,SNR=9.8						
TXAR	**Lajitas Array**	**69.86**	**68**	P	**P**	**13 26 34.8**	**+2.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**73.90**	**338**	P	**P**	**13 26 57.5**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.5,baz=31,slow=5.9,SNR=3.6						
GERES	**GERESS Array B**	**73.90**	**338**	P	**P**	**13 26 57.5**	**+0.6**
BRTR	**Keskin Array B**	**76.27**	**321**	P	**P**	**13 27 10.0**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=48,slow=5.7,SNR=2.6						
WRA	**Warramunga Arr**	**77.06**	**206**	P	**P**	**13 27 16.4**	**+1.5**
	comp=Z,0.7nm,0.8s,mb3.5,baz=22,slow=6.0,SNR=6.3						
WRA	**Warramunga Arr**	**77.06**	**206**	P	**P**	**13 27 16.4**	**+1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**80.73**	**205**	P	**P**	**13 27 37.0**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.6,baz=13,slow=4.8,SNR=7.2						
ASAR	**Alice Springs**	**80.73**	**205**	P	**P**	**13 27 37.0**	**+1.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
RPZ	**Rata Peaks**	**97.67**	**173**	LR	LR	14 08 41.9	
	comp=Z,158nm,18.3s,baz=205,slow=33						

MAN 22 13:34:23.9, 1782N×12268E, h5km, mb3.6, ML4.7, MS1.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.79**	**198**⇑	*e*P	Pg	13 34 39.1	+0.1
CAUP	**Cauayan**	**1.20**	**223**	*e*P	Pg	13 34 46.7	0.0
CAUP				*e*S	Sg	13 35 04.9	+2.6
APYP	**Conner**	**1.37**	**272**	*e*P	Pn	13 34 48.6	-1.0
APYP				*e*S	Sb	13 35 06.5	-1.2
BALP	**Baler**	**2.32**	**207**	*e*P	Pn	13 35 03.2	+0.5
BALP				*e*S	Sn	13 35 32.3	+0.7

*CSEM **22** 13:37:45.0±0.6, 2801N×1511W, h38km±6km, mb4.0/7, Error ellipse: s-maj=10.0km s-min=2.1km az=170.0, After MDD*

MDD 22 13:37:45.0±0.6, 2801N×1511W, h38km±6km, mbLg1.9/7, 1D, Error ellipse: s-maj=10.0km s-min=2.1km az=170.0, PRXIMO TT_MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOSO	**Osorio**	**0.40**	**280**	⇓P	Pn	13 37 53.6	-0.8
	45nm,0.1s,SNR=18						
EOSO				S	Sn	13 37 59.5	-1.4
	52nm,0.1s,SNR=11						
EOSO	**Osorio**	**0.40**	**280**	P	Pn	13 37 53.6	-0.8
	45nm,0.1s,SNR=18						
EOSO				S	Sn	13 37 59.5	-1.3
	52nm,0.1s,SNR=11						
CFTV	**Fuerteventura**	**0.99**	**66**	P	Pn	13 38 00.5	-1.9
	1.9nm,0.1s,SNR=7.9						
CFTV				S	Sn	13 38 11.9	-3.4
	1.4nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**1.21**	**296**	P	Pn	13 38 04.6	-0.9
	1.3nm,0.1s,SNR=7.9						
EBAJ				S	Sn	13 38 18.1	-2.6
	4.3nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**1.21**	**296**	P	Pn	13 38 04.6	-0.9
	1.3nm,0.1s,SNR=7.9						
EBAJ				S	Sn	13 38 18.1	-2.6
	4.3nm,0.2s,SNR=7.9						
CFUE	**Fuerteventura**	**1.21**	**58**	P	Pn	13 38 03.6	-1.9
	4.9nm,0.1s,SNR=7.9						
CFUE				S	Sn	13 38 17.5	-3.2
	51nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**1.21**	**58**	P	Pn	13 38 03.6	-1.9
	4.9nm,0.1s,SNR=7.9						
CFUE				S	Sn	13 38 17.5	-3.2
	51nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**1.34**	**280**	P	Pn	13 38 06.3	-1.0
	1.8nm,0.1s,SNR=7.9						
CCAN				S	Sn	13 38 20.9	-2.9
	1.9nm,0.2s,SNR=7.9						
EFAM	**Famara**	**1.78**	**51**	P	Pn	13 38 13.5	+0.2
	1.9nm,0.1s,SNR=4.0						
EFAM				S	Sn	13 38 32.9	-1.8
	3.7nm,0.2s,SNR=7.9						
EFAM	**Famara**	**1.78**	**51**	P	Pn	13 38 13.5	+0.2
	1.9nm,0.1s,SNR=4.0						
EFAM				S	Sn	13 38 32.9	-1.8
	3.7nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**1.86**	**275**	P	Pn	13 38 13.3	-1.1
	0.6nm,0.1s,SNR=4.0						
EGOM				S	Sn	13 38 32.7	-4.1
	2.3nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**1.86**	**275**	P	Pn	13 38 13.3	-1.1
	0.6nm,0.1s,SNR=4.0						
EGOM				S	Sn	13 38 32.7	-4.0
	2.3nm,0.1s,SNR=7.9						

*BJI **22** 13:51:51.5, 1770S×17860W, h540km, mB4.8, mb4.8*
*MOS **22** 13:51:52.6±1.0, 1753S×17861W, h543km, mb5.1/20, Error ellipse: s-maj=10.0km s-min=8.0km az=161.0*
*SZGRF **22** 13:51:53.6, 1922S×17846W, h590km, Fiji Islands region*
*ISCJB **22** 13:51:54.2±0.1, 1771S±003×17861W±003, h567km, mb5.0/61, Error ellipse: s-maj=5.2km s-min=2.9km az=98.4*
*NEIC **22** 13:51:55.5±0.1, 1766S×17858W, mb5.3/31, Error ellipse: s-maj=5.1km s-min=3.2km az=134.0*
*IDC **22** 13:51:55.4±0.5, 1763S×17860W, h569km±5km, mb4.6/24, mb1 4.7/26, mb1mx4.6/27, mbtmp4.6/26, Error ellipse: s-maj=9.4km s-min=6.7km az=166.0*
*GCMT **22** 13:51:55.5±0.3, 1749S×17858W, h598km±2km, MW5.5/74, Moment Tensor Solution. s74,c107; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.14±.04; $M_{\theta\theta}$0.20±.07; $M_{\phi\phi}$-0.34±.07; $M_{r\theta}$0.07±.07; $M_{\theta\phi}$1.18±.06; $M_{\phi r}$-1.74±.06; Best double couple: $M_0$2.11300×10^{17} NP1:ϕ_s275.00000°, δ34.00000°, λ4.00000°. NP2:ϕ_s182.00000°, δ88.00000°, λ124.00000°. Principal axes: T 1.9880, Plg38.0000°, Azm122.0000°; N 0.2510, Plg34.0000°, Azm0.0000°; P -2.2390, Plg34.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 22 13:51:55.6±0.1, 1769S±003×17859W±003, h569km, h569km±1.7km; pP-P, n584, σ0§70/470, mb5.0/61, 96C-104D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**61**	P	**P**	**13 53 46.3**	**-3.3**
	125nm,0.3s,baz=1.7,slow=0.8,SNR=162						
AFI				S	**S**	**13 55 27.2**	**+4.3**
	baz=180,slow=20,SNR=1.9						
AFI	**Afiamalu**	**7.56**	**61**	⇓*i*P	**P**	**13 53 45.8**	**-3.7**
AFI				pmax	pmax		
	comp=Z,613nm,0.6s						
AFI	**Afiamalu**	**7.56**	**61**	⇓*i*P	**P**	**13 53 45.8**	**-3.8**
	comp=Z,613nm,0.6s						
DZM	**Mont Dzumac**	**14.74**	**250**	*e*P	**P**	**13 55 01.4**	**-0.7**
DZM				*e*S	**S**	**13 57 30.8**	**-4.5**
DZM	**Mont Dzumac**	**14.74**	**250**	P	**P**	**13 55 01.8**	**-0.2**
	comp=Z,20nm,0.3s,baz=73,slow=16,SNR=90						
DZM				S	**S**	**13 57 35.2**	**-0.1**
	baz=359,slow=16,SNR=3.7						
RAR	**Rarotonga**	**18.08**	**104**	P	**P**	**13 55 31.8**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=270,slow=6.9,SNR=5.7						
OUZ	**Omahuta**	**18.79**	**200**	*e*P	**P**	**13 55 42.4**	**+2.7**
OUZ	**Omahuta**	**18.79**	**200**	PN	**P**	**13 55 42.4**	**+2.7**
	comp=Z,439nm,0.6s						
WCZ	**Waipu Caves**	**19.23**	**198**	*e*P	**P**	**13 55 46.4**	**+2.8**
WCZ	**Waipu Caves**	**19.23**	**198**	PN	**P**	**13 55 46.4**	**+2.8**
KUZ	**Kuaotunu**	**19.64**	**194**	*e*P	**P**	**13 55 48.8**	**+1.5**
KUZ	**Kuaotunu**	**19.64**	**194**	PN	**P**	**13 55 49.0**	**+1.6**
	comp=Z,184nm,0.6s						
PUZ	**Puketiti**	**20.49**	**187**	*e*P	**P**	**13 55 55.0**	**-0.1**
PUZ	**Puketiti**	**20.49**	**187**	*e*PN	**P**	**13 55 54.2**	**-0.9**
PUZ				SN	**S**	**13 59 05.3**	**-3.4**
URZ	**Urewera**	**20.83**	**190**	P	**P**	**13 55 57.1**	**-1.1**
	comp=Z,69nm,0.8s,baz=60,slow=2.2,SNR=23						
URZ				S	**S**	**13 59 09.7**	**-4.5**
	comp=Z,80nm,0.7s,baz=219,slow=17,SNR=12						
URZ	**Urewera**	**20.83**	**190**	*e*P	**P**	**13 55 56.7**	**-1.5**
URZ	**Urewera**	**20.83**	**190**	PN	**P**	**13 55 56.5**	**-1.6**
URZ				SN	**S**	**13 59 06.9**	**-7.2**
MWZ	**Matawai**	**20.84**	**189**	*e*P	**P**	**13 55 55.0**	**-3.3**
MWZ	**Matawai**	**20.84**	**189**	*e*PN	**P**	**13 55 55.4**	**-2.9**
MWZ				SN	**S**	**13 59 08.7**	**-5.6**
PATZ	**Paeroa**	**21.10**	**191**	PN	**P**	**13 56 00.6**	**+0.1**
HIZ	**Hauiti**	**21.52**	**194**	*e*P	**P**	**13 56 06.3**	**+1.9**
HIZ	**Hauiti**	**21.52**	**194**	*e*PN	**P**	**13 56 06.3**	**+2.0**
HNR	**Honiara**	**22.41**	**289**	P	**P**	**13 56 10.8**	**-1.4**
	comp=Z,190nm,0.9s,mb5.7,baz=183,slow=1.3,SNR=11						
HNR				S	**S**	**13 59 36.4**	**-2.5**
	comp=Z,17nm,0.3s,baz=262,slow=10,SNR=12						
HNR	**Honiara**	**22.41**	**289**	*e*P	**P**	**13 56 11.4**	**-0.8**
HNR				pmax	pmax		
	comp=Z,181nm,0.9s,mb5.7						
HNR	**Honiara**	**22.41**	**289**	*e*P	**P**	**13 56 11.4**	**-0.8**
	comp=Z,181nm,0.9s,mb5.7						
MRZ	**Mangatainoka R**	**23.44**	**191**	*e*P	**P**	**13 56 18.2**	**-3.2**
MRZ	**Mangatainoka R**	**23.44**	**191**	*e*PN	**P**	**13 56 18.6**	**-2.8**
QRZ	**Quartz Range**	**24.29**	**197**	*e*P	**P**	**13 56 29.4**	**+0.4**
QRZ	**Quartz Range**	**24.29**	**197**	*e*PN	**P**	**13 56 29.5**	**+0.5**
NNZ	**Nelson**	**24.44**	**195**	PN	**P**	**13 56 29.6**	**-0.7**
NNZ				SN	**S**	**14 00 08.2**	**-2.8**
THZ	**Tophouse**	**25.07**	**195**	*e*P	**P**	**13 56 35.7**	**-0.2**
THZ	**Tophouse**	**25.07**	**195**	PN	**P**	**13 56 35.3**	**-0.6**
DSZ	**Denniston Nort**	**25.35**	**197**	*e*P	**P**	**13 56 38.1**	**-0.2**
DSZ	**Denniston Nort**	**25.35**	**197**	*e*PN	**P**	**13 56 38.1**	**-0.2**
LTZ	**Lake Taylor**	**26.19**	**195**	*e*P	**P**	**13 56 44.5**	**-1.2**
LTZ	**Lake Taylor**	**26.19**	**195**	PN	**P**	**13 56 44.5**	**-1.2**
WVZ	**Waitaha Valley**	**26.88**	**197**	PN	**P**	**13 56 50.8**	**-0.9**
RPZ	**Rata Peaks**	**27.38**	**196**	P	**P**	**13 56 54.8**	**-1.4**
	comp=Z,63nm,0.7s,mb5.3,baz=341,slow=1.8,SNR=24						
PAE	**Paea**	**27.63**	**94**	*e*P	**P**	**13 56 58.0**	**-0.3**
	comp=Z,255nm,1.4s,mb5.7						
PAE				*e*pP		13 58 28.5	
	comp=Z,120nm,1.4s						
FOZ	**Fox Glacier**	**27.63**	**199**	*e*P	**P**	**13 56 57.1**	**-1.3**
FOZ	**Fox Glacier**	**27.63**	**199**	PN	**P**	**13 56 57.1**	**-1.3**
PPT	**Papeete**	**27.64**	**94**	*e*P	**P**	**13 56 58.3**	**-0.1**
	comp=Z,115nm,1.5s,mb5.3						
PPT	**Papeete**	**27.64**	**94**	P	**P**	**13 56 56.6**	**-1.8**
	comp=Z,31nm,0.5s,mb5.2,baz=227,slow=4.8,SNR=6.0						
JCZ	**Jackson Bay**	**28.38**	**199**	*e*P	**P**	**13 57 04.6**	**-0.3**
JCZ	**Jackson Bay**	**28.38**	**199**	PN	**P**	**13 57 04.2**	**-0.7**
WKZ	**Wanaka**	**28.98**	**198**	*e*P	**P**	**13 57 09.0**	**-1.1**
WKZ	**Wanaka**	**28.98**	**198**	PN	**P**	**13 57 08.7**	**-1.4**
EAZ	**Earnscleugh**	**29.26**	**198**	*e*P	**P**	**13 57 11.9**	**-0.6**
EAZ	**Earnscleugh**	**29.26**	**198**	PN	**P**	**13 57 12.1**	**-0.4**
PMOR	**Pomariorio Ree**	**29.56**	**89**	*e*P	**P**	**13 57 15.0**	**-0.1**
	comp=Z,229nm,1.3s,mb5.5						
MLZ	**Mavora Lakes**	**29.71**	**199**	*e*P	**P**	**13 57 16.9**	**+0.5**
MLZ	**Mavora Lakes**	**29.71**	**199**	PN	**P**	**13 57 16.9**	**+0.6**
VAH	**Vaihoa**	**29.77**	**90**	*e*P	**P**	**13 57 16.6**	**-0.3**
	comp=Z,162nm,1.2s,mb5.4						
ARMA	**Armidale**	**29.90**	**239**	⇓*i*P	**P**	**13 57 19.4**	**+1.4**
ARMA				*e*SCP	ScP	14 02 55.3	+4.3
DCZ	**Deep Cove**	**30.15**	**200**	*e*P	**P**	**13 57 19.8**	**-0.4**
DCZ	**Deep Cove**	**30.15**	**200**	PN	**P**	**13 57 20.1**	**-0.1**
WHZ	**Wether Hill Ro**	**30.27**	**199**	*e*P	**P**	**13 57 21.1**	**-0.1**
WHZ	**Wether Hill Ro**	**30.27**	**199**	PN	**P**	**13 57 21.6**	**+0.4**
RIV	**Riverview**	**31.48**	**233**	⇓*i*P	**P**	**13 57 32.6**	**+1.1**
CTA	**Charters Tower**	**33.31**	**260**	⇓*i*P	**P**	**13 57 47.3**	**+0.3**
	comp=Z,269nm,0.8s,mb5.8						
CTA				*e*SCP	ScP	14 03 05.1	+2.4
CTA	**Charters Tower**	**33.31**	**260**	P	**P**	**13 57 47.3**	**+0.3**
	comp=Z,234nm,0.7s,mb5.8,baz=90,slow=10,SNR=239						
CTA				ScP	ScP	14 03 05.4	+2.7
	comp=Z,46nm,1.0s,baz=103,slow=2.2,SNR=10						
CTA	**Charters Tower**	**33.31**	**260**	⇓*i*P	**P**	**13 57 47.3**	**+0.3**
CTA				pmax	pmax		
	comp=Z,269nm,0.8s						
CTAO	**Charters Tower**	**33.31**	**260**	⇓*i*P	**P**	**13 57 47.2**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.4						
CTAO	**Charters Tower**	**33.31**	**260**	⇓*i*P	**P**	**13 57 47.2**	**+0.1**
	comp=Z,110nm,0.9s,mb5.4						
CTAO				*e*ScP	ScP	14 03 05.5	+2.8
CNB	**Canberra Magne**	**33.42**	**232**	⇓*i*P	**P**	**13 57 49.3**	**+1.3**
	comp=Z,588nm,0.6s						
CNB				*e*SCP	ScP	14 03 06.3	+3.2
PMG	**Port Moresby**	**34.26**	**279**	P	**P**	**13 57 56.2**	**+1.3**
	comp=Z,827nm,0.9s,baz=77,slow=5.8,SNR=130						
PMG				S	**S**	**14 02 44.5**	**+2.3**
	comp=Z,8.4nm,0.9s,baz=15,slow=20,SNR=4.9						
PMG	**Port Moresby**	**34.26**	**279**	⇓*i*P	**P**	**13 57 56.1**	**+1.2**
**T

KSM Kuching 72.49 277 eP P 14 02 25.9 +0.8
YSS Yuzh-Sakhalins 73.15 333 eP P 14 02 28.9 0.0
MIR Mirnyy 73.29 205⇓iP P 14 02 31.5 +1.8
QZH Quanzhou 74.42 303 P P 14 02 36.8 +0.7
QZH AMB AMB
comp=Z,140nm,0.9s,mb5.4
KSRS Korea Array 74.43 318 P P 14 02 36.3 +0.2
comp=Z,7.6nm,0.8s,mb4.2,baz=127,slow=6.2,SNR=23
KSRS pP pP 14 04 35.8 +1.6
comp=Z,2.7nm,1.0s,baz=116,slow=7.1,SNR=5.1
VLA Vladivostok 75.67 325⇓eP P 14 02 42.2 -0.9
VLA pmax pmax
comp=Z,47nm,1.7s,mb4.6
HAST UC Hastings Re 76.11 44 ⇑P P 14 02 45.8 +0.4
baz=76,SNR=5.9
V04C Ramage Ranch, 76.14 45 ⇑P P 14 02 46.2 +0.5
baz=76
SAO San Andreas Ge 76.39 44 eP P 14 02 48.1 +1.1
PKM Peak Mountain 76.45 46 ⇑P P 14 02 48.0 +0.6
baz=76
PKD Parkfield 76.53 45 ⇑P P 14 02 48.5 +0.7
baz=77
SMMC Simmler 76.55 46 ⇑P P 14 02 48.7 +0.8
baz=77
PTRM Twissleman Ran 76.60 45 eP P 14 02 48.3 +0.2
U04C Hernandez Rese 76.60 45 ⇑P P 14 02 49.1 +0.9
baz=77,SNR=6.9
PACP Pacheco Peak 76.63 44 P P 14 02 48.9 +0.6
baz=77,SNR=6.5
P01C Double 8 Ranch 76.74 41 ⇓P P 14 02 49.0 +0.1
baz=77
O01C Eel River Cons 76.84 40 ⇑P P 14 02 50.0 +0.5
baz=77
S04C Ingram Canyon, 76.89 43 P P 14 02 50.4 +0.7
baz=77,SNR=8.2
V05C Boulder Hill, 76.92 45 ⇑P P 14 02 50.5 +0.6
baz=77
MNRC McLaughlin Nat 76.96 42 ⇑P P 14 02 50.8 +0.7
baz=77
T05C Eagle Field, D 76.97 44 ⇓P P 14 02 50.8 +0.6
baz=77
U05C Westside ANR, 77.03 45 ⇓P P 14 02 51.1 +0.6
baz=77
OSI Osito Adit 77.06 47 ⇓P P 14 02 50.7 0.0
baz=77
GASB Alder Springs 77.23 41 ⇓P P 14 02 52.2 +0.6
baz=77
ARVC Arvin 77.26 47 ⇓P P 14 02 51.6 -0.2
baz=77
109C Camp Elliot, M 77.31 49 ⇑P P 14 02 51.8 -0.2
baz=77
S05C Merced 77.45 44 ⇓P P 14 02 52.5 -0.3
baz=78,SNR=9.8
VES Vestal, Richgr 77.47 46 ⇓P P 14 02 52.5 -0.4
baz=78,SNR=8.2
O02C Red Bluff 77.50 40 ⇑P P 14 02 53.5 +0.5
baz=78,SNR=6.7
SUTB Sutter Butte 77.58 42 ⇓P P 14 02 53.2 -0.2
baz=78
MURC Murrieta 77.61 49 ⇓P P 14 02 53.3 -0.3
baz=78
BFSC Mount Baldy St 77.61 48 P P 14 02 53.9 +0.2
baz=78,SNR=5.5
Q04C Lincoln 77.61 42 ⇓P P 14 02 53.3 -0.4
baz=78
RCTC Rector, Farmer 77.61 45 ⇑P P 14 02 53.8 +0.2
baz=78
T06C Millerton Lake 77.68 45 P P 14 02 53.8 -0.3
baz=78,SNR=13
EDW2 Edwards Air Fo 77.71 47 ⇑P P 14 02 54.2 0.0
baz=78,SNR=8.7
HABR Khabarovsk 77.74 330⇓eP P 14 02 54.4 0.0
HABR eS S 14 11 58.5 -2.2
HABR pmax pmax
comp=Z,72nm,1.6s,mb4.8
ISA Isabella 77.79 46 P P 14 02 54.9 +0.3
baz=78,SNR=14
CMB Columbia Colle 77.80 43 eP P 14 02 54.8 +0.1
CMB e*PP pP 14 04 55.3 +1.1
CMB pmax pmax
comp=Z,37nm,1.2s,mb4.6
CMB Columbia Colle 77.80 43 eP P 14 02 54.8 +0.1
comp=Z,37nm,1.2s,mb4.6
CMB epP pP 14 04 55.3 +1.1
CMB Columbia Colle 77.80 43 ⇑P P 14 02 54.5 -0.2
baz=78,SNR=15
MONP Monument Peak 77.81 50 ⇓P P 14 02 54.8 +0.1
baz=78
OHCM Honcut 77.83 42 eP P 14 02 54.8 0.0
OHCM epP pP 14 04 54.9 +0.5
O03C Acorn Hollow, 77.86 41 ⇓P P 14 02 55.3 +0.2
baz=78
WDC Whiskeytown Da 77.89 40 eP P 14 02 55.4 +0.2
WDC Whiskeytown Da 77.89 40 ⇑P P 14 02 55.2 0.0
baz=78,SNR=7.1
MDJ Mudanjiang 77.91 325 P P 14 02 56.0 +0.7
MDJ AP pP 14 04 51.0 -3.8
MDJ XP sP 14 05 46.4 -6.6
MDJ PP PP 14 06 00.5 -1.1
MDJ S S 14 12 03.1 +0.6
MDJ AMB AMB
comp=Z,47nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,129nm,5.3s
MDJ Mudanjiang 77.91 325 eP P 14 02 55.4 +0.2
comp=Z,40nm,0.9s,mb4.8
DVTC Desert V Tower 77.92 50 ⇓P P 14 02 55.9 +0.6
baz=78
ORV Oroville 77.94 42 P P 14 02 55.5 +0.1
baz=78,SNR=12
HELL Mitchell Peak, 77.96 45 P P 14 02 55.1 -0.4
baz=78,SNR=12
LAVA Lava Cap Winer 77.97 43 P P 14 02 55.4 -0.2
baz=78,SNR=5.1
S06C San Francisco 78.07 44 P P 14 02 56.3 +0.2
baz=78,SNR=14
KCC Kaiser Creek 78.11 44 P P 14 02 56.5 +0.2
baz=78,SNR=12
PFO Pinyon Flat Ob 78.14 49 P P 14 02 56.9 +0.4
comp=Z,9.6nm,1.1s,mb4.0,baz=262,slow=5.7,SNR=7.8
PFO Pinyon Flat Ob 78.14 49 ⇓P P 14 02 56.6 +0.1
baz=78
M02C Callahan 78.18 39 P P 14 02 57.2 +0.5
baz=78,SNR=5.9
LRMC Laurel Mountai 78.23 47 P P 14 02 57.3 +0.3
baz=78,SNR=8.3
SWSC Sam W. Stewart 78.28 50 ⇓P P 14 02 57.4 +0.2
baz=78,SNR=9.3
P05C Yuba Gap, Truc 78.37 42 P P 14 02 58.0 +0.3
baz=78,SNR=13
R05C Kirkwood Meado 78.38 43 P P 14 02 57.9 +0.2
baz=78,SNR=11
YBH Yreka Blue Hor 78.47 39 P P 14 02 58.8 +0.6
comp=Z,11nm,0.9s,mb4.2,baz=216,slow=1.1,SNR=14
YBH Yreka Blue Hor 78.47 39 P P 14 02 58.6 +0.4
baz=79,SNR=7.1
CWC Cottonwood Cre 78.47 46 ⇑P P 14 02 58.5 +0.2
baz=79,SNR=6.5
O05C Quincy 78.55 42 ⇑P P 14 02 58.9 +0.2
baz=79
M03C McCloud 78.55 40 P P 14 02 59.1 +0.4
baz=79,SNR=7.3
MLAC Mammoth Lakes 78.60 44 ⇓P P 14 02 59.5 +0.5
baz=79
O04C Chester 78.64 41 P P 14 02 59.1 -0.1
baz=79,SNR=9.6
BELC Belle Mtn. 78.67 49 ⇓P P 14 02 59.4 +0.1
baz=79,SNR=7.5
MPMC Manual Prospec 78.68 46 P P 14 02 59.7 +0.4
baz=79,SNR=16
R06C Coleville 78.68 43 ⇓P P 14 02 59.8 +0.4
baz=79,SNR=14
HATC Hat Creek Radi 78.69 41 ⇓P P 14 02 59.5 0.0
baz=79,SNR=6.1
TIN Tinemaha 78.70 45 ⇑P P 14 02 59.8 +0.3
baz=79
R07C Lee Vining 78.71 44 P P 14 03 00.0 +0.5
baz=79,SNR=12
DAC Darwin (Calif) 78.72 46 eP P 14 02 59.8 +0.2
GSC Goldstone 78.76 47 ⇑P P 14 03 00.1 +0.3
baz=79,SNR=5.8
HUMO Hull Mountain 78.84 38 ⇓P P 14 03 00.5 +0.3
baz=79,SNR=5.9
BEKR Beckwourth 78.84 42 P P 14 03 00.4 +0.1
baz=79,SNR=5.3
HEC Hector,Ludlow 78.85 48 ⇑P P 14 03 00.3 0.0
baz=79,SNR=5.5

BC3 Big Chuckw Mtn 78.89 49 ⇑P P 14 03 00.7 +0.2
baz=79,SNR=6.4
WCN Washoe City 78.92 43 P P 14 03 01.0 +0.4
baz=79,SNR=11
J02A Umpqua 78.93 38 ⇓P P 14 03 00.7 0.0
baz=79
S08C White Mtn Res 78.98 45 ⇓P P 14 03 01.4 +0.5
baz=79,SNR=23
M04C Macdoel 79.02 40 ⇓P P 14 03 01.4 +0.2
baz=79
P06A Stead Airport, 79.03 42 ⇓P P 14 03 01.5 +0.3
baz=79
ELFS Eagle Lake Fie 79.04 41 ⇑P P 14 03 01.7 +0.4
baz=79
GLA Glamis 79.05 50 P P 14 03 02.1 +0.8
baz=79,SNR=13
BUOR Burton Butte 79.07 39 P P 14 03 01.6 +0.1
M05C Lookout 79.20 40 P P 14 03 02.6 +0.4
baz=79,SNR=6.8
L04A Klamath Falls 79.22 39 P P 14 03 02.7 +0.5
baz=79,SNR=5.0
GRAC Grapevine Rang 79.25 46 ⇑P P 14 03 02.6 +0.2
baz=79,SNR=7.4
KGM Kluang 79.28 276 P P 14 03 04.0 +1.5
GMRC Granite Mounta 79.30 48 P P 14 03 02.8 +0.1
baz=79,SNR=10
FURC Furnace Creek, 79.33 46 ⇓P P 14 03 02.7 -0.1
baz=79,SNR=8.2
Q07A Schurz 79.33 43 ⇑P P 14 03 03.0 +0.2
baz=79
O06A Flanigan 79.35 42 P P 14 03 03.0 +0.1
baz=80,SNR=20
IRM Iron Mountain 79.36 49 P P 14 03 03.4 +0.5
baz=79,SNR=12
NVAR Mina Array Bea 79.39 44 P P 14 03 03.4 +0.3
comp=Z,19nm,1.0s,mb4.4,baz=227,slow=9.2,SNR=46
NVAR pP pP 14 05 04.3 +1.1
comp=Z,2.4nm,0.9s,baz=233,slow=8.6,SNR=4.4
NVAR Mina Array Bea 79.39 44 P P 14 03 03.4 +0.3
NVAR pP pP 14 05 04.3 +1.1
SHOC Shoshone 79.44 47 P P 14 03 03.7 +0.3
baz=80,SNR=5.7
TUQ Turquoise Mtn. 79.45 48 ⇓P P 14 03 03.6 +0.2
baz=80,SNR=13
R08A Mina 79.47 44 ⇑P P 14 03 03.8 +0.2
baz=80
M06C Likely Place G 79.53 41 ⇑P P 14 03 03.9 +0.1
baz=80,SNR=10
K04A Chilquin 79.57 39 ⇓P P 14 03 03.8 -0.2
baz=80
P07A Fallon 79.61 43 ⇑P P 14 03 04.7 +0.4
baz=80
Y12C Blythe 79.61 50 P P 14 03 04.8 +0.5
baz=80,SNR=8.7
U10A Ash Meadows, A 79.67 47 ⇓P P 14 03 04.9 +0.3
baz=80,SNR=8.0
N06A Buffalo Meadow 79.67 41 P P 14 03 04.5 -0.1
baz=80,SNR=22
J04A Umpqua Nationa 79.72 38 ⇑P P 14 03 04.9 +0.1
baz=80,SNR=6.7
S09A Goldfield 79.73 45 ⇑P P 14 03 04.9 -0.1
baz=80
CN2 Changchun 79.75 322 ⇓P P 14 03 04.8 -0.2
CN2 AMB AMB
comp=Z,40nm,1.4s,mb4.6
CN2 AMB AMB
comp=Z,300nm,4.0s
KLR Kul'dur 79.84 329 eP P 14 03 01.8 -3.7
KLR e pP 14 05 03.4 -2.4
Q08A Gabbs 79.86 44 P P 14 03 05.7 0.0
baz=80,SNR=15
I04A Tendick Farm, 79.87 38 ⇑P P 14 03 05.4 -0.2
baz=80
H03A Soap Creek Ran 79.89 37 ⇓P P 14 03 05.8 +0.1
baz=80
O07A Toulon 79.95 42 P P 14 03 06.2 +0.1
baz=80,SNR=16
V11A Goodsprings 80.00 47 ⇓P P 14 03 06.5 +0.2
baz=80,SNR=5.4
MOD Modoc 80.03 40 eP P 14 03 06.3 -0.1
MOD Modoc 80.03 40 P P 14 03 06.4 -0.1
baz=80,SNR=17
NEE2 Needles Airpor 80.04 49 ⇑P P 14 03 06.7 +0.1
baz=80
R09A Tonopah 80.11 45 P P 14 03 07.0 +0.1
baz=80,SNR=11
W12A Cal Nev Ari 80.12 48 ⇓P P 14 03 07.5 +0.6
baz=80
K05A Summer Lake 80.14 39 ⇓P P 14 03 07.3 +0.2
baz=80,SNR=9.6
Y13A Salome 80.15 50 ⇑P P 14 03 07.5 +0.5
baz=80
PDMCI Parker Dam,Lak 80.16 49 ⇑P P 14 03 07.5 +0.3
baz=80,SNR=7.2
P08A Dixie Valley 80.22 43 ⇓P P 14 03 07.9 +0.4
baz=80
N07B Gerlach 80.23 42 P P 14 03 07.7 +0.1
baz=80,SNR=10
U11A Corn Creek 80.33 47 ⇑P P 14 03 08.3 +0.3
baz=80
WHN Wuhan 80.34 306 ⇑P P 14 03 09.0 +0.9
WHN AMB AMB
comp=Z,51nm,1.2s,mb4.7
Q09A Carvers 80.35 44 ⇑P P 14 03 08.1 -0.1
baz=80
V12A Nelson 80.35 48 ⇓P P 14 03 08.4 +0.2
baz=80,SNR=12
M07A Soldier Meadow 80.44 41 P P 14 03 09.0 +0.4
baz=80,SNR=13
O08A Rochester Mine 80.49 42 ⇑P P 14 03 08.9 0.0
baz=81
X13A Yucca 80.52 49 P P 14 03 09.3 +0.2
baz=81,SNR=15
H04A Detroit Lake 80.52 37 ⇓P P 14 03 09.3 +0.2
baz=81
K06A Valley Falls 80.57 39 P P 14 03 09.3 0.0
baz=81,SNR=15
Z14A Wintersburg 80.58 51 P P 14 03 10.2 +0.9
baz=81,SNR=7.7
R10A Warm Springs 80.65 45 P P 14 03 10.3 +0.6
baz=81,SNR=34
L07A Adell 80.69 40 P P 14 03 10.2 +0.3
baz=81,SNR=23
W13A Hualapai Mount 80.73 49 P P 14 03 10.6 +0.5
baz=81,SNR=12
I05A Bend 80.75 38 ⇑P P 14 03 10.2 0.0
baz=81
P09A Austin 80.75 43 ⇓P P 14 03 10.3 0.0
baz=81
N08A GE Springer Mi 80.77 42 P P 14 03 10.4 +0.1
baz=81,SNR=27
115A Sonoran Desert 80.80 51 ⇑P P 14 03 11.0 +0.5
baz=81,SNR=5.4
Y14A Wickenburg 80.81 50 P P 14 03 11.0 +0.5
baz=81,SNR=11
E03A Lebam 80.88 35 ⇑P P 14 03 10.6 -0.3
baz=81
J06A Christmas Vall 80.89 39 ⇑P P 14 03 10.5 -0.4
baz=81,SNR=9.0
U12A Valley of Fire 80.92 47 ⇑P P 14 03 11.5 +0.4
baz=81,SNR=15
MA2 Magadan 80.94 345 eP P 14 03 08.0 -3.2
MA2 pmax pmax
comp=Z,30nm,1.5s,mb4.5
M08A Happy Creek Ra 80.97 41 P P 14 03 11.8 +0.4
baz=81,SNR=10
O09A Fish Creek Ran 81.05 43 P P 14 03 12.0 +0.2
baz=81,SNR=13
H05A Madras 81.06 37 ⇑P P 14 03 12.1 +0.3
baz=81
K07A Rock Creek Ran 81.12 40 P P 14 03 12.4 +0.3
baz=81,SNR=14
116A Eloy 81.13 52 ⇓P P 14 03 12.7 +0.5
baz=81,SNR=10
F04A Amboy 81.14 36 ⇑P P 14 03 12.2 0.0
baz=81
X14A Yava 81.14 50 P P 14 03 13.0 +0.8
baz=81,SNR=19
BMN Battle Mountai 81.17 43 eP P 14 03 12.6 +0.2
BMN epP pP 14 05 15.4 +2.2
N09A Rock Creek Ran 81.19 42 P P 14 03 12.8 +0.3
baz=81,SNR=8.1
C03A Quillayute Air 81.20 33 ⇓P P 14 03 13.4 +0.8
baz=81
P10A Eureka 81.23 44 ⇑P P 14 03 12.7 0.0
baz=81,SNR=7.7
I06A Prineville 81.25 38 ⇑P P 14 03 13.0 +0.2
baz=81,SNR=16

VFP Flag Point 81.31 37 P P 14 03 13.0 -0.1
G05A Wamic 81.35 37 ⇑P P 14 03 13.5 +0.2
baz=82
WVOR Wild Horse Val 81.35 40 eP P 14 03 12.9 -0.4
WVOR pmax pmax
comp=Z,42nm,1.1s,mb4.8
WVOR Wild Horse Val 81.35 40 eP P 14 03 12.9 -0.4
comp=Z,42nm,1.1s,mb4.8
W14A Seligman 81.36 49 ⇓P P 14 03 13.9 +0.6
baz=81,SNR=28
E04A Onalaska 81.37 35 ⇑P P 14 03 13.4 0.0
baz=82
Q11A Duckwater 81.37 45 P P 14 03 13.6 +0.1
baz=82,SNR=29
L08A Fields 81.40 41 P P 14 03 13.8 +0.3
baz=82,SNR=33
J07A Hines 81.46 39 P P 14 03 13.8 -0.1
baz=82,SNR=8.8
M09A Marrel Ranch, 81.55 42 P P 14 03 14.8 +0.5
baz=82,SNR=6.8
O10A Cortez Mining, 81.56 43 ⇓P P 14 03 14.5 +0.1
baz=82,SNR=9.1
K08A Mann Creek Ran 81.61 40 ⇓P P 14 03 14.5 -0.1
baz=82,SNR=22
H06A Lindquist Farm 81.63 38 ⇓P P 14 03 14.4 -0.3
baz=82,SNR=15
X15A Humboldt 81.63 50 ⇓P P 14 03 15.3 +0.6
baz=82,SNR=26
F05A White Salmon 81.65 36 ⇑P P 14 03 14.3 -0.6
baz=82
P11A Circle Ranch, 81.67 44 ⇑P P 14 03 14.8 -0.2
baz=82,SNR=6.5
TUC Tucson 81.70 52 eP P 14 03 16.0 +0.9
TUC e*PP pP 14 05 18.1 +1.9
TUC pmax pmax
comp=Z,54nm,1.3s,mb4.8
TUC Tucson 81.70 52 eP P 14 03 16.0 +0.8
comp=Z,54nm,1.3s,mb4.8
TUC epP pP 14 05 18.1 +1.9
L09A Wilkinson Ranc 81.73 41 P P 14 03 15.3 +0.1
baz=82,SNR=18
G06A Carlson Farm, 81.74 37 ⇓P P 14 03 15.4 +0.1
baz=82
I07A Izee 81.75 39 P P 14 03 15.4 +0.1
baz=82,SNR=14
VTHM Trough 81.75 37 P P 14 03 15.3 -0.1
N10A Dunphy 81.78 43 ⇑P P 14 03 16.0 +0.5
baz=82
E05A Randle 81.88 36 ⇑P P 14 03 15.6 -0.4
baz=82
C04A Brinnon 81.91 34 ⇓P P 14 03 16.2 0.0
baz=82
W15A Williams 81.93 49 ⇓P P 14 03 16.8 +0.5
baz=82,SNR=9.0
J08A Circle Bar Ran 81.96 40 P P 14 03 16.4 0.0
baz=82,SNR=27
H07A Lands Inn, Kim 82.00 38 P P 14 03 16.4 -0.2
baz=82,SNR=14
Q12A Willow Creek R 82.02 45 P P 14 03 16.8 0.0
baz=82,SNR=18
O11A Cowboy Ranch, 82.03 44 P P 14 03 17.1 +0.3
baz=82,SNR=39
K09A Rome 82.06 41 P P 14 03 16.9 0.0
baz=82,SNR=35
WPW White Pass 82.08 36 P P 14 03 16.8 -0.3
D05A Enumclaw 82.12 35 ⇑P P 14 03 17.4 +0.2
baz=82
M10A I.L. Ranch, Tu 82.18 42 P P 14 03 17.8 +0.3
baz=82,SNR=21
P12A McGill 82.19 44 P P 14 03 17.8 +0.2
baz=82,SNR=25
I08A Drewsey 82.21 39 P P 14 03 17.7 0.0
baz=82,SNR=22
IPM Ipoh 82.22 277 P P 14 03 19.3 +1.5
CCUT Cedar City 82.29 47 eP P 14 03 18.5 +0.4
CCUT epP pP 14 05 10.2 -9.2
E06A Yakima 82.30 36 ⇓P P 14 03 17.8 -0.3
baz=82
G07A Ruggs Ranch, H 82.32 38 P P 14 03 17.9 -0.3
baz=82,SNR=9.6
N11A Elko Archery C 82.33 43 ⇑P P 14 03 18.3 0.0
baz=82
ARUT Antelope Range 82.35 46 eP P 14 03 18.5 +0.1
ARUT epP pP 14 05 22.2 +2.6
J09A Fry Pan Ranch, 82.40 40 P P 14 03 18.7 +0.1
baz=82,SNR=27
H08A Prairie City 82.49 39 ⇑P P 14 03 18.7 -0.4
baz=83,SNR=6.0
F07A Phinny Hill Vi 82.53 37 ⇑P P 14 03 18.7 -0.6
baz=83
M11A Holland Ranch, 82.61 42 ⇑P P 14 03 19.9 +0.2
baz=83,SNR=17
K10A MacKenzie Ranc 82.64 41 ⇑P P 14 03 19.7 -0.1
baz=83,SNR=23
B05A Bryant 82.71 34 ⇑P P 14 03 19.7 -0.5
baz=83
MXC Moxie City 82.71 36 P P 14 03 19.9 -0.3
WUAZ Wupatki 82.73 49 eP P 14 03 21.3 +1.0
WUAZ epP pP 14 05 24.1 +2.3
WUAZ Wupatki 82.73 49 P P 14 03 20.9 +0.6
baz=83,SNR=29
I09A Lost Marbles R 82.74 39 P P 14 03 20.0 -0.4
baz=83,SNR=11
G08A Pilot Rock 82.75 38 P P 14 03 20.2 -0.2
baz=83,SNR=16
D06A Cle Elum 82.76 36 ⇑P P 14 03 19.9 -0.6
baz=83
N12A Clover Valley, 82.80 43 P P 14 03 20.9 +0.2
baz=83,SNR=23
KULM Kulim 82.83 278 eP P 14 03 21.7 +0.9
E07A Sunnyside 82.95 36 ⇑P P 14 03 21.1 -0.3
baz=83,SNR=9.1
J10A Berg Farm, Mel 83.05 40 ⇑P P 14 03 21.6 -0.3
baz=83,SNR=5.2
F08A Pendleton 83.13 38 ⇑P P 14 03 21.8 -0.5
baz=83,SNR=7.5
H09A Durkee 83.17 39 ⇑P P 14 03 22.1 -0.4
baz=83,SNR=16
B06A Marblemount 83.19 34 ⇑P P 14 03 22.1 -0.5
baz=83
D07A Quincy 83.24 36 ⇑P P 14 03 22.2 -0.7
baz=83
N13A Wendover, West 83.35 44 ⇓P P 14 03 23.5 +0.1
baz=83,SNR=16
E08A Dider Farm, El 83.36 37 ⇓P P 14 03 22.8 -0.6
baz=84,SNR=6.6
C07A Waterville 83.48 35 P P 14 03 23.2 -0.8
baz=84,SNR=6.3
BMO Blue Mountains 83.48 39 eP P 14 03 23.5 -0.5
BJT Baijiatuau 83.51 315 eP P 14 03 24.1 -0.1
BJT pmax pmax
comp=Z,138nm,1.7s
BJT Baijiatuau 83.51 315 eP P 14 03 24.1 -0.1
comp=Z,138nm,1.7s,mb5.2
BJI Beijing 83.51 315 P P 14 03 24.3 +0.1
BJI AP pP 14 05 24.5 -1.5
BJI XP sP 14 06 19.9 -3.6
BJI AMB AMB
comp=Z,39nm,1.2s,mb4.8
BJI Beijing 83.51 315 P P 14 03 24.2 0.0
BJI *PP pP 14 05 24.5 -1.5
BJI *SP sP 14 06 19.9 -3.6
BJI S S 14 12 52.8 -6.4
BJI pmax pmax
comp=Z,39nm,1.2s,mb4.8
BJI Beijing 83.51 315 P P 14 03 24.2 0.0
comp=Z,39nm,1.2s,mb4.8
BJI pP pP 14 05 24.5 -1.5
BJI sP sP 14 06 19.9 -3.6
BJI S S 14 12 52.8 -6.4
SEY Seymchan 83.53 347⇓eP P 14 03 22.6 -1.7
MSU Marysvale 83.57 46 eP P 14 03 25.3 +0.8
MSU e*PP pP 14 05 27.0 +0.7
F09A S2 Ranch, Elgi 83.59 38 P P 14 03 24.2 -0.4
baz=84,SNR=6.5
MFID Camas Ranch 83.62 41 ⇓P P 14 03 24.4 -0.3
baz=84,SNR=20
M13A Montello 83.63 43 P P 14 03 24.9 +0.1
baz=84,SNR=37
H10A Noah's Angus R 83.68 39 ⇓P P 14 03 24.5 -0.5
baz=84
D08A Wollman Farm, 83.76 36 P P 14 03 25.0 -0.4
baz=84,SNR=10
K12A Draper Farm, C 83.80 42 P P 14 03 25.7 +0.1
baz=84,SNR=13
I11A Placerville 83.80 40 P P 14 03 25.4 -0.2
baz=84,SNR=17

B07A	Winthrop	83.89	35	⇓P		P	14 03 25.2	-0.8
	baz=84,SNR=7.4							
E09A	Wood Farm, Sta	83.90	37	⇓P		P	14 03 25.1	-1.0
	baz=84,SNR=6.2							
DUG	Dugway	83.95	45	⇓P		P	14 03 26.1	-0.2
	baz=84,SNR=7.6							
J12A	Stokes Ranch,	83.99	41	P		P	14 03 26.7	+0.1
	baz=84,SNR=20							
MAW	Mawson	84.00	200	⇓*i*P		P	14 03 26.6	0.0
	comp=Z,16nm,0.8s,mb4.6							
MAW				*i* S		S	14 12 58.6	-5.4
MAW	Mawson	84.00	200	P		P	14 03 26.9	+0.3
	comp=Z,17nm,0.7s,mb4.7,baz=120,slow=6.6,SNR=40							
MAW				pP		pP	14 05 29.5	+0.9
	comp=Z,12nm,1.3s,baz=46,slow=6.5,SNR=2.3							
MAW	Mawson	84.00	200	⇓*i*P		P	14 03 26.6	0.0
MAW				*i* S		S	14 12 58.6	-5.4
MAW				pmax		pmax		
	comp=Z,16nm,0.8s							
OD2	Odessa Site #2	84.06	36	P		P	14 03 26.5	-0.4
A07A	Ashnola River,	84.09	34	⇓P		P	14 03 26.5	-0.5
	baz=84							
C08A	Higginbotham F	84.10	36	⇑P		P	14 03 26.2	-0.8
	baz=84,SNR=6.4							
D09A	Jones Farm, Ri	84.11	37	P		P	14 03 26.7	-0.4
	baz=84,SNR=12							
F10A	Beach Ranch, E	84.14	38	P		P	14 03 26.4	-0.8
	baz=84,SNR=16							
L13A	Double Diamond	84.14	43	⇓P		P	14 03 27.4	+0.1
	baz=84,SNR=12							
H11A	Donnelly	84.18	40	P		P	14 03 26.9	-0.6
	baz=84,SNR=21							
B08A	Colville Reser	84.26	35	P		P	14 03 26.7	-1.2
	baz=84,SNR=6.8							
K13A	Stover Farm, H	84.33	42	⇓P		P	14 03 28.3	+0.1
	baz=84,SNR=9.9							
E10A	Myers Farm, Un	84.48	38	⇑P		P	14 03 28.8	-0.2
	baz=85							
HLID	Hailey	84.58	41	⇑P		P	14 03 29.6	+0.1
	baz=85,SNR=23							
TMUT	Trail Mountain	84.61	46	*e*P		P	14 03 33.1	+3.5
A08A	Turner Farm, O	84.63	35	P		P	14 03 29.2	-0.5
	baz=85,SNR=11							
J13A	Cove Ranch, Pi	84.65	41	⇑P		P	14 03 29.8	0.0
	baz=85,SNR=32							
MPU	Maple Canyon	84.66	45	*e*P		P	14 03 30.4	+0.6
D10A	Wagner Farm, O	84.69	37	P		P	14 03 29.0	-1.0
	baz=85,SNR=14							
F11A	Grangeville	84.72	38	P		P	14 03 28.7	-1.5
	baz=85,SNR=6.8							
SPUT	South Promonto	84.73	44	*e*P		P	14 03 24.9	-5.2
HVU	Hansel Valley	84.74	43	*e*P		P	14 03 30.5	+0.3
GYA	Guiyang	84.78	300	⇓*i*P		P	14 03 30.8	+0.4
GYA				AP		pP	14 05 30.4	-2.3
GYA				XP		sP	14 06 24.0	-6.1
GYA				PP		PP	14 06 59.8	+2.6
GYA				SKS			14 13 02.0	
GYA				S		S	14 13 13.9	+2.4
GYA				XS		sS	14 16 43.0	-6.4
GYA				AMB		AMB		
	comp=Z,40nm,1.1s,mb4.9							
GYA				AMB		AMB		
	comp=Z,140nm,6.9s							
H12A	Diamond D Ranc	84.81	40	⇓P		P	14 03 30.2	-0.4
	baz=85,SNR=28							
CTU	Camp Tracy	84.90	45	*e*P		P	14 03 31.3	+0.3
E11A	Bogner Ranch,	84.94	38	⇑P		P	14 03 29.5	-1.6
	baz=85,SNR=6.4							
SRU	San Rafael	84.99	46	*e*P		P	14 03 31.4	0.0
SRU				*ep*P		pP	14 05 35.3	+1.6
A09A	Danville	85.02	35	⇑P		P	14 03 30.5	-1.1
	baz=85,SNR=8.3							
JLU	Jordanelle	85.06	45	*e*P		P	14 03 31.7	-0.1
C10A	Spilker Farm,	85.09	36	⇓P		P	14 03 31.1	-0.9
	baz=85							
DAU	Daniels Canyon	85.10	45	*e*P		P	14 03 32.6	+0.6
F12A	Elk City	85.19	39	P		P	14 03 31.8	-0.6
	baz=85,SNR=38							
B10A	Chitwood Farm,	85.40	36	⇓P		P	14 03 32.6	-0.8
	baz=86							
NEW	Newport	85.44	36	*e*P		P	14 03 32.6	-1.0
G13A	Cobalt	85.47	40	P		P	14 03 33.5	-0.3
	baz=86,SNR=9.9							
MVCO	Mesa Verde	85.57	49	*e*P		P	14 03 34.1	-0.1
	comp=Z,7.9nm,1.3s,mb4.2							
MNTX	Cornudas Mount	85.59	55	*e*P		P	14 03 34.7	+0.4
MNTX				*ep*P		pP	14 05 40.2	+3.3
COLA	College	85.60	13	⇓*e*P		P	14 03 32.1	-2.3
DLBC	Dease Lake	85.70	23	*e*P		P	14 03 34.4	-0.4
B11A	Sandpoint	85.95	36	⇑P		P	14 03 35.2	-0.8
	baz=86,SNR=5.2							
XAN	Xi'an	85.99	307	P		P	14 03 36.8	+0.6
XAN				AMB		AMB		
	comp=Z,76nm,1.3s,mb5.2							
LTX	Lajitas	86.02	58	*e*P		P	14 03 37.4	+1.0
LTX				pmax		pmax		
	comp=Z,111nm,1.4s,mb5.3							
LTX	Lajitas	86.02	58	*e*P		P	14 03 37.4	+1.0
	comp=Z,111nm,1.4s,mb5.3							
TXAR	Lajitas Array	86.02	58	P		P	14 03 37.8	+1.4
	comp=Z,27nm,1.0s,mb4.8,baz=224,slow=5.2,SNR=142							
TXAR				pP		pP	14 05 40.1	+1.0
	comp=Z,2.7nm,1.1s,baz=211,slow=4.9,SNR=4.1							
HIA	Hailar	86.09	325	*e*P		P	14 03 35.9	-0.8
HIA				pmax		pmax		
	comp=Z,34nm,1.5s							
HIA	Hailar	86.09	325	*e*P		P	14 03 35.9	-0.8
	comp=Z,34nm,1.5s,mb4.8							
ANMO	Albuquerque	86.10	52	*e*P		P	14 03 36.8	+0.1
ANMO				*e**PP		pP	14 05 40.2	+0.7
E13A	Victor	86.18	39	P		P	14 03 36.2	-0.9
	baz=86,SNR=7.1							
MCMT	McKenzie Canyo	86.19	41	*e*P		P	14 03 37.2	0.0
MCMT				*ep*P		pP	14 05 41.8	+1.9
BILL	Bilibino	86.20	354	⇑*e*P		P	14 03 35.4	-1.8
BILL				pmax		pmax		
	comp=Z,13nm,2.5s,mb4.1							
A11A	Hall Mountain,	86.24	36	⇑P		P	14 03 36.9	-0.5
	baz=86,SNR=12							
D13A	Huson	86.35	38	⇓P		P	14 03 37.5	-0.4
	baz=86,SNR=5.7							
F14A	Wisdom	86.35	40	⇓P		P	14 03 37.3	-0.6
	baz=86,SNR=8.5							
B12A	Libby	86.41	36	⇑P		P	14 03 37.9	-0.3
	baz=86							
BSMT	Bassoo Peak	86.55	37	P		P	14 03 37.7	-1.2
G15A	Dillon	86.58	40	P		P	14 03 39.0	0.0
	baz=87,SNR=24							
E14A	Clinton	86.58	39	⇑P		P	14 03 38.9	-0.1
	baz=87							
C13A	Hot Springs	86.58	37	⇓P		P	14 03 37.8	-1.2
	baz=87							
DLMT	Dillon	86.60	40	*e*P		P	14 03 39.4	+0.3
DLMT				*ep*P		pP	14 05 43.6	+1.5
A12A	Yaak River Ran	86.62	36	⇑P		P	14 03 38.5	-0.7
	baz=87,SNR=7.3							
DCID1	Drake Creek	86.64	42	*e*P		P	14 03 40.0	+0.7
DCID1				*ep*P		pP	14 05 44.3	+2.0
TPAW	Teton Pass	86.74	42	*e*P		P	14 03 40.4	+0.7
TPAW				*ep*P		pP	14 05 44.8	+2.0
REDW	Red Top Meadow	86.75	43	*e*P		P	14 03 39.8	0.0
REDW				*ep*P		pP	14 05 43.4	+0.6
SNOW	Snow King Moun	86.86	42	*e*P		P	14 03 40.7	+0.4
D14A	Greenough	86.91	38	⇑P		P	14 03 39.1	-1.4
	baz=87,SNR=7.3							
LRM	Limekiln Ridge	86.92	40	*e*P		P	14 03 40.6	0.0
IMW	Indian Meadow	86.94	42	*ep*P		pP	14 05 44.2	+0.4
	comp=Z,23nm,1.4s							
MOOW	Moose Ponds	87.00	42	*e*P		P	14 03 40.7	-0.3
HHC	Hu-ho-hao-te	87.00	315	*e*P		P	14 03 41.6	+0.6
HHC				AP		pP	14 05 40.9	-3.2
HHC				XP		sP	14 06 33.5	-7.8
HHC				PP		PP	14 07 17.4	+2.6
HHC				SKS			14 13 15.9	
HHC				S		S	14 13 33.8	+1.3
HHC				XS		sS	14 17 04.4	-7.5
HHC				SS		SS	14 19 37.4	+4.8
HHC				AMB		AMB		
	comp=Z,35nm,1.3s,mb4.8							
HHC				AMB		AMB		
	comp=Z,212nm,5.2s							
B13A	Whitefish	87.00	37	⇑P		P	14 03 39.8	-1.2
	baz=87							
QLMT	Earthquake Lak	87.07	41	*e*P		P	14 03 42.0	+0.6
QLMT				*ep*P		pP	14 05 45.2	+0.8
NANT	Nan	87.19	291	⇓P		P	14 03 40.5	-1.4
	comp=Z,118nm,1.0s,mb5.5							
YFT	Old Faithful	87.27	42	*e*P		P	14 03 44.1	+1.9
YMR	Madison River	87.29	41	*e*P		P	14 03 42.9	+0.6
	comp=Z,59nm,1.5s,mb5.0							
YMR				*ep*P		pP	14 05 47.0	+1.4
BW06	Boulder Array	87.31	44	*e*P		P	14 03 41.9	-0.6
PDAR	Pinedale Array	87.31	44	P		P	14 03 42.1	-0.3
	comp=Z,14nm,1.1s,mb4.5,baz=216,slow=3.8,SNR=49							
PDAR				pP		pP	14 05 45.8	+0.1
	comp=Z,2.2nm,1.1s,baz=207,slow=3.0,SNR=6.3							
BOZ	Bozeman (W)	87.34	40	*e*P		P	14 03 42.1	-0.5
BOZ	Bozeman (W)	87.34	40	P		P	14 03 42.3	-0.3
	baz=87,SNR=16							
D15A	Lincoln	87.47	39	⇓P		P	14 03 42.6	-0.6
	baz=88							
SMCO	Snowmass	87.50	48	*e*P		P	14 03 43.6	+0.3
SMCO				*ep*P		pP	14 05 48.8	+2.1
KMI	Kunming	87.58	297	P		P	14 03 45.4	+1.7
KMI				PP		PP	14 07 24.8	+5.4
KMI				S		S	14 13 42.3	+4.4
KMI				SS		SS	14 19 45.1	+4.1
KMI				AMB		AMB		
	comp=Z,38nm,1.5s,mb4.9							
KMI				AMB		AMB		
	comp=Z,179nm,4.7s							
KMI	Kunming	87.58	297	P		P	14 03 45.4	+1.7
KMI							14 07 24.7	
KMI				S		S	14 13 42.3	+4.4
KMI				SS		SS	14 19 45.1	+4.1
KMI				SSS			14 23 23.7	
KMI				pmax		pmax		
	comp=Z,38nm,1.5s,mb4.9							
KMI				MLR		MLR		
	comp=Z,110nm,13.1s							
KMI	Kunming	87.58	297	P		P	14 03 45.4	+1.7
	comp=Z,38nm,1.5s,mb4.9							
KMI				pP		pP	14 05 51.0	+4.0
KMI				sP		sP	14 06 49.8	+5.6
KMI				PP		PP	14 07 24.7	+5.3
KMI				S		S	14 13 42.3	+4.4
KMI				sS		sS	14 17 22.5	+4.8
KMI				SS		SS	14 19 45.1	+4.1
KMI				SSS			14 23 23.7	
KMI				LR		LR		
	comp=Z,110nm,13.1s							
LKWY	Lake	87.59	42	*e*P		P	14 03 45.3	+1.5
LKWY				*e**PP		pP	14 05 49.2	+2.1
WALA	Waterton Lakes	87.67	37	*e*P		P	14 03 43.4	-0.7
SDCO	Great Sand Dun	87.95	49	*e*P		P	14 03 45.5	+0.1
RWWY	Rawlins	88.40	45	*e*P		P	14 03 47.3	-0.2
GCMT	Greycliff	88.62	41	*e*P		P	14 03 48.9	+0.3
GCMT				*ep*P		pP	14 05 52.9	+0.7
CHG	Chiang Mai	88.77	290	⇓P		P	14 03 50.2	+1.0
	comp=Z,33nm,0.9s,mb5.2							
CHTO	Chiang Mai	88.77	290	*e*P		P	14 03 50.0	+0.8
CHTO				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.1							
CHTO	Chiang Mai	88.77	290	*e*P		P	14 03 50.0	+0.8
	comp=Z,29nm,0.9s,mb5.1							
CHTO				*ep*P		pP	14 05 56.2	+3.3
CD2	Chengdu	88.81	303	P		P	14 03 50.0	+0.6
CD2				AP		pP	14 05 49.6	-3.5
CD2				XP		sP	14 06 42.5	-7.7
CD2				PP		PP	14 07 30.1	+1.1
CD2				S		S	14 13 49.0	-0.2
CD2				XS		sS	14 17 21.3	-8.5
CD2				SS		SS	14 20 05.0	+6.4
CD2				AMB		AMB		
	comp=Z,30nm,0.5s,mb5.4							
CD2				AMB		AMB		
	comp=Z,290nm,4.1s							
YAK	Yakutsk	89.31	338	*e*P		P	14 03 49.3	-2.5
YAK				pmax		pmax		
	comp=Z,19nm,1.7s,mb4.7							
CMIG	Matias Romero	89.33	72	P		P	14 03 52.1	+0.3
	comp=Z,13nm,1.1s,mb4.7,baz=248,slow=5.3,SNR=14							
SYO	Syowa Base	89.33	193	⇑*e*P		P	14 03 50.2	-1.6
SYO	Syowa Base	89.33	193	⇓*i*PcP		PcP	14 03 52.0	-0.7
PHWY	Pilot Hill	89.44	46	*e*P		P	14 03 52.2	-0.1
JCT	Junction City	89.56	58	*e*P		P	14 03 52.7	-0.2
JCT				pmax		pmax		
	comp=Z,19nm,1.0s,mb4.9							
JCT	Junction City	89.56	58	*e*P		P	14 03 52.7	-0.2
	comp=Z,19nm,1.0s,mb4.9							
EGMT	Eagleton	89.59	39	*e*P		P	14 03 51.6	-1.4
EDM	Edmonton	90.07	33	*e*P		P	14 03 53.8	-1.5
LZH	Lanzhou	90.62	308	⇓P		P	14 03 58.5	+0.7
LZH				AP		pP	14 05 58.3	-3.6
LZH				PP		PP	14 07 45.6	+2.4
LZH				SKS			14 13 38.0	
LZH				S		S	14 14 07.1	+1.6
LZH				PS			14 16 34.8	
LZH				XS		sS	14 17 37.5	-10
LZH				SS		SS	14 20 29.3	+4.8
LZH				AMB		AMB		
	comp=Z,83nm,1.5s,mb5.4							
LZH				AMB		AMB		
	comp=Z,395nm,8.7s							
LZH	Lanzhou	90.62	308	⇓P		P	14 03 58.5	+0.7
LZH				*PP		pP	14 05 58.3	-3.6
LZH							14 07 45.6	
LZH							14 13 38.0	
LZH				S		S	14 14 07.1	+1.6
LZH				SS		SS	14 20 29.3	+4.8
LZH				pmax		pmax		
	comp=Z,83nm,1.5s,mb5.4							
CIT	Chita	90.89	325	*e*P		P	14 03 58.6	-0.4
CIT				pmax		pmax		
	comp=Z,44nm,1.9s,mb5.1							
LAO	LASA Array	91.16	41	*e*P		P	14 03 60.0	-0.3
	comp=Z,56nm,1.3s,mb5.3							
LAO				*ep*P		pP	14 06 05.7	+1.3
RSSD	Black Hills	91.53	44	*e*P		P	14 04 01.7	-0.3
RSSD				*e**PP		pP	14 06 06.4	+0.3
RSSD				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.9							
RSSD	Black Hills	91.53	44	*e*P		P	14 04 01.6	-0.3
	comp=Z,13nm,1.1s,mb4.9							
RSSD				*ep*P		pP	14 06 06.4	+0.3
PLCA	Paso Flores	91.60	134	P		P	14 04 01.9	-0.4
	comp=Z,9.1nm,1.1s,mb4.7,baz=197,slow=6.2,SNR=4.6							
SONM	Songino Array	93.28	319	P		P	14 04 09.1	-0.9
	comp=Z,3.6nm,1.0s,mb4.4,baz=119,slow=3.8,SNR=18							
SONM				pP		pP	14 06 14.1	-0.1
	comp=Z,1.8nm,0.9s,baz=111,slow=3.0,SNR=4.2							
YKA	Yellowknife Ar	94.21	25	P		P	14 04 12.3	-1.9
	comp=Z,3.3nm,0.9s,mb4.5,baz=243,slow=4.4,SNR=36							
YKA				pP		pP	14 06 18.5	-0.1
	comp=Z,1.3nm,1.1s,baz=239,slow=4.9,SNR=5.3							
YKA				PKKPbc		PKKPbc	14 21 11.0	-0.7
	comp=Z,0.1nm,0.4s,baz=36,slow=2.3,SNR=6.5							
YKA	Yellowknife Ar	94.21	25	P		P	14 04 12.3	-1.9
YKA				pP		pP	14 06 18.6	0.0
YKA				PKKPbc		PKKPbc	14 21 11.0	-0.7
GTA	Gaotai	94.77	310	*e*P		P	14 04 16.6	-0.2
GTA				AP		pP	14 06 17.0	-4.2
GTA				XP		sP	14 07 10.3	-7.7
GTA				PP		PP	14 08 15.0	-0.1
GTA				S		S	14 14 37.5	-4.1
GTA				AMB		AMB		
	comp=Z,8.0nm,1.6s,mb4.6							
GTA				AMB		AMB		
	comp=Z,128nm,8.0s							
TIXI	Tiksi	95.91	345	⇑*e*P		P	14 04 18.0	-3.9
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.7s,mb4.4							
ZAK	Zakamensk	96.11	321	*e*P		P	14 04 17.6	-5.3
ZAK				*e*			14 08 29.9	
ZAK				*e*			14 14 01.3	
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.3							
PKI	Pulchoki	103.15	295	*e*P		PP	14 09 17.3	-0.6
KKN	Kakani	103.31	295	*e*P		PP	14 09 18.8	-0.3
	comp=Z,55nm,1.5s							
DMN	Daman	103.42	295	*e*P		PP	14 09 19.3	-0.6
	comp=Z,80nm,1.5s							
GKN	Gorkha	103.92	295	*e*P		PP	14 09 22.1	-1.4
	comp=Z,16nm,0.8s							
KOLN	Koldanda	104.76	295	*e*P		PP	14 09 28.3	-1.3
	comp=Z,107nm,1.5s							
MKAR	Makanchi Array	108.86	314	PKiKP		PKiKP	14 09 19.1	-1.6
	comp=Z,0.4nm,0.5s,baz=212,slow=0.9,SNR=4.3							
MKAR				PKKPbc		PKKPbc	14 20 30.1	+0.2
	comp=Z,1.4nm,0.9s,baz=298,slow=2.6,SNR=7.1							
KURK	Kurchatov	111.55	318	⇓*i*PKIKP		PKiKP	14 09 24.4	-1.4
POO	Poona	111.61	283	*ex*		x	14 10 09.0	
AAK	Ala-Archa	114.11	309	⇑*i*PKIKP		PKiKP	14 09 27.9	-2.8
BVAR	Borovoye Array	116.57	321	PKP		PKPdf	14 09 32.5	-2.9
	comp=Z,1.3nm,0.5s,baz=93,slow=3.0,SNR=7.9							
BVAR				PP		PP	14 10 55.3	+2.2
	comp=Z,0.5nm,0.5s,baz=90,slow=5.9,SNR=3.6							
BVAR				PKKPbc		PKKPbc	14 20 04.6	0.0
	comp=Z,0.2nm,0.4s,baz=273,slow=5.2,SNR=3.0							
BVAR				PKKPab		PKKPab	14 20 09.8	-0.9
	comp=Z,0.9nm,0.8s,baz=299,slow=6.1,SNR=3.6							
BVAR	Borovoye Array	116.57	321	PKIKP		PKPdf	14 09 32.5	-2.9
BVAR							14 10 55.3	
OPO	Ambohidratompo	122.35	234	PKP		PKPdf	14 09 47.6	+1.1
	comp=Z,2.8nm,0.8s,baz=168,slow=6.4,SNR=3.8							
ARU	Arti	122.58	326	*i* PKIKP		PKPdf	14 09 45.4	-1.5
ARU				*e*			14 11 30.0	
AKTK	Aktyubinsk	124.59	320	PKP		PKPdf	14 09 49.5	-1.3
AKTO	Aktyubinsk	124.59	320	PKP		PKPdf	14 09 49.5	-1.3
	comp=Z,2.4nm,0.8s,baz=18,slow=1.6,SNR=5.7							
ARCES	ARCESS Array B	126.07	350	PKP		PKPdf	14 09 51.6	-2.0
	comp=Z,4.5nm,1.0s,baz=353,slow=6.2,SNR=3.9							
FINES	FINESS Array B	132.94	344	SKPbc		SKPbc	14 12 40.9	-0.6
	comp=Z,4.8nm,0.8s,baz=49,slow=5.8,SNR=7.3							
NOA	NORSAR Array B	136.14	353	SKPbc		SKPbc	14 12 51.6	+0.1
	comp=Z,3.7nm,1.0s,baz=14,slow=2.4,SNR=3.7							
KIV	Kislovodsk	136.58	316	*e*PKIKP		PKPdf	14 10 11.1	-2.3
KIV				pmax		pmax		
	comp=Z,15nm,1.3s							
ATD	Arta Tunnel	139.50	267	SKPbc		SKPbc	14 13 02.6	+1.5
	comp=Z,12nm,0.7s,baz=269,slow=16,SNR=4.7							
KMBO	Kilima Mbogo	140.06	246	PKhKP			14 10 15.4	
	comp=Z,2.9nm,0.8s,baz=46,slow=8.3,SNR=8.3							
KMBO				PKP		PKPdf	14 10 21.3	+1.5
	comp=Z,3.2nm,0.8s,baz=96,slow=2.6,SNR=8.1							
KMBO				SKPbc		SKPbc	14 13 05.3	+2.8
	comp=Z,9.7nm,1.1s,baz=76,slow=4.1,SNR=11							
KMBO	Kilima Mbogo	140.06	246	PKHKP			14 10 15.5	
KMBO							14 10 21.3	
AKASG	Malin Array Be	140.29	332	PKhKP			14 10 11.3	
	comp=Z,0.6nm,0.5s,baz=47,slow=4.6,SNR=4.2							
AKASG				PKP		PKPdf	14 10 19.1	-1.1
	comp=Z,0.3nm,0.3s,baz=43,slow=2.9,SNR=5.6							
AKASG				SKPbc		SKPbc	14 13 01.1	-2.0
	comp=Z,0.3nm,0.3s,baz=39,slow=2.8,SNR=9.5							
AKASG	Malin Array Be	140.29	332	PKHKP			14 10 11.3	
AKASG							14 10 19.1	
MALT	Malatya	141.75	310	⇑*i*P		PKPdf	14 10 22.0	-0.8
KWP	Kalwaria	143.81	336	*e*PKP		PKPdf	14 10 25.0	-1.4
BURAR	Bucovina Array	144.34	332	⇑*i*P		PKPdf	14 10 27.4	+0.1
OJC	Ojcow	144.35	340	*e*PKP		PKPdf	14 10 26.3	-1.1
BR131	Keskin Array S	144.51	315	*e*P		PKPdf	14 10 27.4	-0.2
BRTR	Keskin Array B	144.51	315	PKP		PKPdf	14 10 27.4	-0.2
	comp=Z,22nm,0.9s,baz=116,slow=2.9,SNR=61							
STHS	Stebnicka Huta	144.53	338	*e*PKP		PKPdf	14 10 27.2	-0.5
STHS				*e*			14 12 50.2	
KOLS	Kolonicke sedl	144.54	336	*e*PKP		PKPdf	14 10 27.2	-0.5
UZH	Uzhgorod	144.78	336	⇑*i*PKIKP		PKPdf	14 10 28.0	-0.1
UZH				*e*			14 13 59.7	
KSP	Ksiaz	144.86	344	*e*PKP		PKPdf	14 10 28.6	+0.4
KSP	Ksiaz	144.86	344	*e*PKP		PKPdf	14 10 28.3	+0.1
CRVS	Cervenica-Dubn	144.87	337	*e*PKP		PKPdf	14 10 29.4	+1.1
CRVS				*e*			14 12 44.9	
VRI	Vrincioaia	144.91	329	⇑*i*P		PKPdf	14 10 28.9	+0.6
ASF	Jabal al Asfar	144.92	301	PKP		PKPdf	14 10 29.5	+1.2
	comp=Z,37nm,1.1s,baz=328,slow=1.9,SNR=22							
ASF				SKPbc		SKPbc	14 13 15.5	+1.1
	comp=Z,6.3nm,1.0s,baz=338,slow=3.0,SNR=4.3							
TIRR	Tirgusor	144.99	325	⇓*i*P		PKPdf	14 10 29.1	+0.6
ANTO	Ankara	145.01	316	*e*P		PKPdf	14 10 28.2	-0.3
ANTO	Ankara	145.01	316	⇓*i*P		PKPdf	14 10 29.1	+0.6
HARR	Harsova	145.10	326	⇓*i*P		PKPdf	14 10 31.0	+2.4
CLZ	Clausthal	145.20	350	*e*PKPbc		PKPbc	14 10 29.1	-0.8
OKC	Ostrava-Krasne	145.22	341	*e*PKP		PKPdf	14 10 29.3	+0.5
CLL	Collm	145.22	347	*e*PKPbc		PKPbc	14 10 28.7	-1.2
CLL	Collm	145.22	347	*i* PKIKP		PKPdf	14 10 28.6	-0.2
CLL				*i*			14 10 32.4	
CLL	Collm	145.22	347	*i* P		PKPdf	14 10 28.6	-0.2
CLL				*i*			14 10 32.4	
CLL				*i*			14 10 55.9	
CLL	Collm	145.22	347	*i* PKPbc		PKPbc	14 10 28.6	-1.3
	comp=Z,40nm,1.5s							
CLL				*i* PKiKP		PKiKP	14 10 32.4	-0.6
CLL				*i* x		x	14 10 55.9	
CLL				*ep*PKiKP			14 12 44.0	
UPC	Upice	145.24	344	*e*PKP		PKPdf	14 10 29.8	+0.9
UPC				*ep*PKP		pPKPdf	14 12 43.9	+2.4
DPC	Dobruska-Polom	145.29	343	*e*PKP		PKPdf	14 10 29.8	+0.8
DPC				*ep*PKP		pPKPdf	14 12 38.8	-2.8

comp=Z,66nm,1.2s
GRR Gorron 149.33 3 *e*PKP1 PKPbc 14 10 39.6 -1.1
WTTA Wattenberg 149.33 346⇑*i*P PKPbc 14 10 40.5 -0.2
comp=Z,11nm,0.5s
SGMF Saint Gilles 149.35 5 *e*PKP1 PKPbc 14 10 39.3 -1.4
comp=Z,23nm,0.9s
SQTA Sankt Quirin 149.47 347⇑*i*P PKPbc 14 10 40.6 -0.5
comp=Z,3.3nm,0.7s
HAU Haudompre 149.50 353 *e*PKP1 PKPbc 14 10 40.0 -1.1
HINF Hinteralfeld 149.63 353 *e*PKP1 PKPbc 14 10 40.3 -1.1
comp=Z,7.8nm,0.7s
DAVA Damuels 149.68 349⇑*i*P PKPbc 14 10 41.1 -0.4
comp=Z,16nm,1.2s
VISS Visnje 149.82 341 *i* PKPdf PKPbc 14 10 41.1 -0.8
BOJS Bojanci 149.96 340 *i* PKPdf PKPbc 14 10 42.1 -0.1
CEY Cerknica 150.01 342 *i* PKPdf PKPbc 14 10 41.7 -0.6
VAY Valandovo 150.26 327 *e*PKP PKPbc 14 10 41.7 -1.2
VAY Valandovo 150.26 327 *e*PKP PKPbc 14 10 41.7 -1.2
LOR Lormes 150.44 357 *e*PKP1 PKPbc 14 10 42.3 -1.0
comp=Z,13nm,0.5s
SSF Saint Saulge 150.66 357 *e*PKP1 PKPbc 14 10 42.9 -0.9
comp=Z,14nm,0.6s
CABF La Chapelle 150.91 353 *e*PKP1 PKPbc 14 10 44.0 -0.4
comp=Z,27nm,1.0s
KRUS Krusevo 150.91 328 *e*PKP PKPbc 14 10 43.8 -0.5
KRUS Krusevo 150.91 328 *e*PKP PKPbc 14 10 43.8 -0.5
AVF Avril sur Loir 150.94 357 *e*PKP1 PKPbc 14 10 43.1 -1.3
SMF Signal de Mont 151.06 357 *e*PKP1 PKPbc 14 10 43.6 -1.1
MFF Saint Martin d 151.14 2 *e*PKP1 PKPbc 14 10 43.7 -1.2
comp=Z,42nm,1.1s
BGF Bois d'Agland 151.19 358 *e*PKP1 PKPbc 14 10 44.0 -1.0
comp=Z,19nm,0.7s
OHR Ohrid 151.32 328 *e*PKP PKPbc 14 10 44.7 -0.6
OHR Ohrid 151.32 328 *e*PKP PKPbc 14 10 44.7 -0.6
LPL La Plagne 151.91 352 *e*PKP1 PKPbc 14 10 46.6 0.0
LPG La Plagne 151.92 352 *e*PKP1 PKPbc 14 10 46.5 -0.1
RJF Les Rejaudoux 152.47 360 *e*PKP1 PKPbc 14 10 46.7 -1.1
MBDF Montbardon 152.68 352 *e*PKP1 PKPbc 14 10 47.6 -0.7
comp=Z,9.7nm,0.8s
CAF Calviac 152.84 359 *e*PKP1 PKPbc 14 10 47.8 -0.9
comp=Z,25nm,1.0s
SBF Sospel 153.42 350 *e*PKP1 PKPbc 14 10 48.7 -1.2
comp=Z,106nm,1.2s
LIC Lamto 166.98 150 *e*PKIKP PKPdf 14 10 50.4 -6.0
comp=Z,18nm,1.0s
TORD Torodi Ar. Bea 175.47 183 PKP PKPdf 14 10 59.5 -1.1
comp=Z,2.6nm,1.1s,baz=335,slow=0.6,SNR=9.6
TORD PKPab PKPab 14 12 42.2 +0.2
comp=Z,0.9nm,1.0s,baz=184,slow=4.0,SNR=3.3
TORD PP PP 14 16 33.8 -1.4
comp=Z,4.1nm,1.3s,baz=186,slow=1.7,SNR=4.3

*IDC **22** 14:10:28.6±2.3, 3745N×14179E, h55km±26km, mb3.3/2, mb1 3.7/5, mb1mx3.3/24, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=24.6km s-min=13.1km az=115.0*
*ISCJB **22** 14:10:29.4±0.7, 3748N±004×14151E±008, h86km±6km, mb3.6/2, Error ellipse: s-maj=11.6km s-min=5.5km az=38.1*
*JMA **22** 14:10:32.0±0.1, 3754N×14132E, h82km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs=283.00000°, δ41.00000°, λ-103.00000°. NP2: φs=120.00000°, δ51.00000°, λ-79.00000°. Principal axes: T Plg5.0000°, Azm202.0000°; N Plg9.0000°, Azm293.0000°; P Plg80.0000°, Azm83.0000°;*
JMA Felt I J1.
ISC 22 14:10:30.7±0.7,**3749N**±004×**14150E**±008,**h78**km±7km,
n17,σ0§**83**/31,**mb3.6**/2,**2C-8D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**256**	⇓P	**Pn**	**14 10 45.0**	**+0.6**
JFK				S	**Sn**	**14 10 54.5**	**0.0**
JMM	**Marumori**	**0.68**	**304**	⇓P	**Pn**	**14 10 46.3**	**+0.4**
JMM				S	**Sn**	**14 10 56.8**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.68**	**235**	⇓P	**Pn**	**14 10 46.7**	**+0.7**
ONAJ				*e*S	**Sn**	**14 10 57.7**	**+0.3**
JFT	**Otama**	**0.93**	**272**	⇓P	**Pn**	**14 10 49.0**	**+0.3**
JFT				S	**Sn**	**14 11 01.4**	**-0.8**
JIO	**Ouri**	**0.97**	**353**	⇓P	**Pn**	**14 10 50.4**	**+1.2**
JIO				S	**Sn**	**14 11 03.5**	**+0.5**
JOU	**Okura**	**1.09**	**323**	⇓P	**Pn**	**14 10 50.9**	**+0.2**
JOU				S	**Sn**	**14 11 05.1**	**-0.7**
JYS	**Shiratake**	**1.35**	**303**	⇓P	**Pn**	**14 10 54.0**	**0.0**
JYS				*e*S	**Sn**	**14 11 10.9**	**-0.6**
JFY	**Yanaizu**	**1.43**	**267**	⇓P	**Pn**	**14 10 54.9**	**-0.1**
JFY				S	**Sn**	**14 11 12.1**	**-1.3**
JMK	**Ichinoseki**	**1.47**	**351**	⇑P	**Pn**	**14 10 56.2**	**+0.7**
JMK				*e*S	**Sn**	**14 11 15.0**	**+0.7**
JYK	**Kaneyama**	**1.68**	**328**	⇑P	**Pn**	**14 10 58.6**	**+0.3**
JYK				*e*S	**Sn**	**14 11 19.0**	**-0.2**
JYA	**Atsumi**	**1.79**	**308**	P	**Pn**	**14 10 59.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.80**	**251**	P	**Pn**	**14 11 13.8**	**+0.5**
	3.5nm,0.3s,baz=59,slow=11,SNR=51						
MJAR				S	**Sn**	**14 11 48.6**	**+2.6**
	4.5nm,0.3s,baz=94,slow=21,SNR=7.8						
MAT	**Matsushiro**	**2.80**	**251**	P	**Pn**	**14 11 14.0**	**+0.7**
MAT				*e*S	**Sn**	**14 11 46.2**	**+0.1**
JHJ	**Hachijo jima 2**	**4.58**	**198**	P	**Pn**	**14 11 36.1**	**-1.4**
	21nm,0.3s,baz=252,slow=20,SNR=5.1						
JHJ				S	**Sn**	**14 12 27.7**	**-1.8**
	15nm,0.3s,baz=252,slow=20,SNR=1.9						
ASAJ	**Asahikawa**	**6.67**	**7**	P	**Pn**	**14 12 04.8**	**-1.1**
	2.1nm,0.3s,baz=221,slow=11,SNR=24						
ASAJ				S	**Sn**	**14 13 18.9**	**-1.5**
	0.1nm,0.3s,baz=281,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**57.52**	**188**	P	**P**	**14 20 11.8**	**-0.1**
	0.3nm,0.4s,mb3.7,baz=5.9,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**61.25**	**188**	P	**P**	**14 20 38.4**	**+0.9**
	0.5nm,0.8s,mb3.6,baz=10,slow=6.3,SNR=4.1						

*ISCJB **22** 14:20:35.7±0.5, 3935N±002×2356E±004, h5km±4km, Error ellipse: s-maj=4.6km s-min=3.5km az=9.6*
*ATH **22** 14:20:35.7, 3934N×2358E, h16km, MD3.4/10, ML3.4*
*CSEM **22** 14:20:36.8±0.1, 3933N×2353E, h12km, ML3.4, Error ellipse: s-maj=1.7km s-min=1.4km az=80.0*
*THE **22** 14:20:37.2, 3929N×2355E, h15km, ML3.1*
*NEIC **22** 14:20:37.0, 3933N×2351E, h10km, ML3.0(ATH), After ATH.*
ISC 22 14:20:36.3±0.5,**3935N**±002×**2359E**±004,**h7**km±4km,**n40**,
σ0§**87**/52,**1D**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.29**	**262**	⇓*i*PB	**Pg**	**14 20 41.9**	**0.0**
NEO				*e*SB	**Sg**	**14 20 46.0**	**+0.3**
AOS	**Alonnisos**	**0.29**	**128**	*e*Pg	**Pg**	**14 20 43.1**	**+1.2**
XOR	**Xorichti**	**0.31**	**273**	*e*Pg	**Pg**	**14 20 42.3**	**0.0**
PAIG	**Paliouri**	**0.58**	**7**	*e*Pg	**Pg**	**14 20 49.6**	**+2.1**
PAIG				*e*Sg	**Sg**	**14 20 59.7**	**+4.6**
LKR	**Lokris**	**0.83**	**214**	*e*PN	**Pg**	**14 20 51.8**	**-0.5**
LKR				*e*SN	**Sg**	**14 21 03.3**	**+0.1**
LKR	**Lokris**	**0.83**	**214**	P	**Pg**	**14 20 52.0**	**-0.3**
OUR	**Ouranopolis**	**1.03**	**17**	*e*Pg	**Pg**	**14 20 56.5**	**+0.5**
OUR	**Ouranopolis**	**1.03**	**17**	*e*Pg	**Pg**	**14 20 56.5**	**+0.4**
PLG	**Polygyros**	**1.03**	**354**	*e*PN	**Pg**	**14 20 55.0**	**-1.1**
PLG				*e*SN	**Sg**	**14 21 09.0**	**-0.4**
PLG	**Polygyros**	**1.03**	**354**	P	**Pg**	**14 20 56.6**	**+0.6**
PLG	**Polygyros**	**1.03**	**354**	*e*Pg	**Pg**	**14 20 56.5**	**+0.5**
AGG	**Agios Georgios**	**1.03**	**252**	*e*Pg	**Pg**	**14 20 55.1**	**-0.9**
AGG				*e*Sg	**Sg**	**14 21 10.2**	**+0.7**
LIT	**Litokhoron**	**1.13**	**312**	*e*Pg	**Pg**	**14 20 58.0**	**0.0**
LIT				*e*Sg	**Sg**	**14 21 14.2**	**+1.5**
THL	**Klokotos Trika**	**1.24**	**281**	*e*PN	**Pn**	**14 20 59.1**	**-0.9**
HORT	**Hortiatis**	**1.30**	**343**	*e*Pg	**Pg**	**14 21 00.6**	**-0.7**
HORT				*e*Sg	**Sg**	**14 21 18.6**	**+0.4**
PTL	**Penteli**	**1.32**	**170**	*e*PN	**Pn**	**14 21 00.0**	**-1.1**
LIA	**Limnos Island**	**1.35**	**65**	*e*PN	**Pn**	**14 21 01.3**	**-0.2**
LIA	**Limnos Island**	**1.35**	**65**	P	**Pn**	**14 21 01.8**	**+0.3**
THE	**Thessaloniki**	**1.37**	**340**	*e*Pg	**Pg**	**14 21 01.6**	**-0.9**
THE				*e*Sg	**Sg**	**14 21 19.8**	**-0.5**
THE	**Thessaloniki**	**1.37**	**340**	*e*Pg	**Pg**	**14 21 01.6**	**-0.9**
THE				*e*Sg	**Sg**	**14 21 19.8**	**-0.5**
ATH	**Athens Observa**	**1.38**	**176**	*e*PN	**Pn**	**14 21 01.3**	**-0.6**
ATH				*e*SN	**Sn**	**14 21 20.5**	**+0.1**
ATH	**Athens Observa**	**1.38**	**176**	P	**Pn**	**14 21 02.1**	**+0.2**
ATH				*e*Sn	**Sn**	**14 21 20.5**	**+0.1**
MGER	**Gerania Oros**	**1.39**	**191**	*e*PN	**Pn**	**14 21 01.3**	**-0.7**
EVR	**Evrytania**	**1.45**	**253**	*e*PN	**Pn**	**14 21 03.0**	**+0.1**
SOH	**Sokhos**	**1.48**	**353**	*e*Pg	**Pg**	**14 21 03.8**	**-0.9**
KZN	**Kozani**	**1.70**	**305**	*e*PN	**Pn**	**14 21 06.4**	**+0.1**
KZN				*e*SN	**Sn**	**14 21 29.9**	**+1.6**
SRS	**Serrai**	**1.77**	**0**	*e*Pb	**Pb**	**14 21 07.6**	**-1.4**
GRG	**Griva**	**1.85**	**331**	*e*Pb	**Pb**	**14 21 08.6**	**-1.8**
KNT	**Kendrikon**	**1.89**	**344**	*e*Pb	**Pb**	**14 21 09.4**	**-1.7**
NVR	**Nevrokopi**	**2.01**	**6**	*e*PN	**Pn**	**14 21 11.2**	**+0.6**
PRK	**Paraskevi**	**2.08**	**92**	*e*PN	**Pn**	**14 21 12.5**	**+0.9**
VAY	**Valandovo**	**2.12**	**339**	*e*Pn	**Pn**	**14 21 12.5**	**+0.3**
VAY	**Valandovo**	**2.12**	**339**	*e*Pn	**Pn**	**14 21 12.5**	**+0.3**
VAY	**Valandovo**	**2.12**	**339**	*e*Pn	**Pn**	**14 21 12.4**	**+0.3**
JAN	**Janina**	**2.14**	**279**	*e*PN	**Pn**	**14 21 12.6**	**+0.2**
RDO	**Rodhopi**	**2.33**	**39**	*e*PN	**Pn**	**14 21 15.9**	**+0.8**
KRUS	**Krusevo**	**2.70**	**319**	*e*Pn	**Pn**	**14 21 21.3**	**+1.2**
KRUS	**Krusevo**	**2.70**	**319**	*e*Pn	**Pn**	**14 21 21.3**	**+1.2**
KRUS	**Krusevo**	**2.70**	**319**	*e*Pn	**Pn**	**14 21 21.2**	**+1.1**
APE	**Apeiranthos**	**2.74**	**145**	*e*PN	**Pn**	**14 21 20.8**	**+0.1**

*ISCJB **22** 14:26:44.9±0.5, 3935N±002×2355E±003, h1km±6km, Error ellipse: s-maj=4.3km s-min=3.5km az=179.7*
*CSEM **22** 14:26:45.7±0.1, 3933N×2354E, h2km, ML3.2, Error ellipse: s-maj=1.4km s-min=1.2km az=108.0*
*THE **22** 14:26:45.6, 3931N×2354E, h11km, ML2.9*
*ATH **22** 14:26:45.3, 3933N×2354E, h2km, MD3.3/11, ML3.2*
ISC 22 14:26:45.5±0.4,**3933N**±002×**2355E**±003,**h8**km±5km,**n28**,
σ0§**75**/38,**1D**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.26**	**265**	⇓*i*PG	**Pg**	**14 26 50.5**	**-0.1**
NEO				*e*SG	**Sg**	**14 26 53.9**	**-0.2**
XOR	**Xorichti**	**0.28**	**278**	*e*Pg	**Pg**	**14 26 51.1**	**0.0**
XOR				*e*Sg	**Sg**	**14 26 54.9**	**0.0**
AOS	**Alonnisos**	**0.30**	**122**	*e*Pg	**Pg**	**14 26 51.8**	**+0.4**
AOS				*e*Sg	**Sg**	**14 26 55.2**	**-0.1**
PAIG	**Paliouri**	**0.60**	**9**	*e*Pg	**Pg**	**14 26 58.3**	**+1.2**
PAIG				*e*Sg	**Sg**	**14 27 08.0**	**+3.0**
LKR	**Lokris**	**0.80**	**213**	*e*PG	**Pg**	**14 27 00.5**	**-0.4**
LKR				*e*SG	**Sg**	**14 27 12.0**	**+0.6**
AGG	**Agios Georgios**	**1.00**	**253**	*e*Pg	**Pg**	**14 27 03.9**	**-0.7**
AGG				*e*Sg	**Sg**	**14 27 18.9**	**+1.2**
PLG	**Polygyros**	**1.05**	**355**	*e*Pg	**Pg**	**14 27 05.1**	**-0.5**
PLG				*e*Sg	**Sg**	**14 27 19.1**	**-0.1**
OUR	**Ouranopolis**	**1.06**	**18**	*e*Pg	**Pg**	**14 27 05.5**	**-0.3**
LIT	**Litokhoron**	**1.13**	**314**	*e*Pg	**Pg**	**14 27 06.6**	**-0.4**
LIT				*e*Sg	**Sg**	**14 27 22.8**	**+1.1**
THL	**Klokotos Trika**	**1.22**	**282**	*e*PG	**Pg**	**14 27 07.7**	**-1.1**
PTL	**Penteli**	**1.30**	**169**	*e*PB	**Pb**	**14 27 09.0**	**-1.1**
HORT	**Hortiatis**	**1.31**	**345**	*e*Pg	**Pg**	**14 27 09.2**	**-1.4**
HORT				*e*Sg	**Sg**	**14 27 27.2**	**-0.5**
ATH	**Athens Observa**	**1.36**	**175**	*e*PB	**Pb**	**14 27 11.1**	**0.0**
MGER	**Gerania Oros**	**1.36**	**190**	*e*PB	**Pb**	**14 27 10.0**	**-0.7**
THE	**Thessaloniki**	**1.38**	**341**	*e*Pg	**Pg**	**14 27 10.3**	**-0.6**
THE				*e*Sg	**Sg**	**14 27 29.3**	**-0.5**
LIA	**Limnos Island**	**1.38**	**65**	*e*PB	**Pb**	**14 27 11.5**	**0.0**
EVR	**Evrytania**	**1.42**	**254**	*e*PN	**Pn**	**14 27 12.4**	**+0.9**
SOH	**Sokhos**	**1.50**	**354**	*e*Pg	**Pn**	**14 27 12.7**	**+0.1**
SOH	**Sokhos**	**1.50**	**354**	*e*Pg	**Pn**	**14 27 12.6**	**0.0**
KVR	**Kavouri**	**1.51**	**174**	*e*PB	**Pb**	**14 27 14.0**	**+0.3**
NAIG	**Nisos Aigina**	**1.57**	**182**	*e*PB	**Pb**	**14 27 15.0**	**+0.3**
KZN	**Kozani**	**1.69**	**306**	*e*PB	**Pb**	**14 27 17.2**	**+0.5**
SRS	**Serrai**	**1.79**	**1**	*e*Pb	**Pn**	**14 27 16.3**	**-0.2**
GRG	**Griva**	**1.85**	**332**	*e*Pb	**Pn**	**14 27 17.4**	**0.0**
KNT	**Kendrikon**	**1.90**	**345**	*e*Pb	**Pn**	**14 27 18.0**	**0.0**
NVR	**Nevrokopi**	**2.03**	**7**	*e*PN	**Pb**	**14 27 22.5**	**-0.1**
PRK	**Paraskevi**	**2.11**	**91**	*e*PN	**Pb**	**14 27 24.1**	**+0.2**
RDO	**Rodhopi**	**2.37**	**39**	*e*PN	**Pn**	**14 27 27.7**	**+3.2**

*IDC **22** 15:13:12.1±1.5, 5475N×14404E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/13, mbtmp4.1/5, ML3.6/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/23, Error ellipse: s-maj=46.3km s-min=23.9km az=71.0*
*ISCJB **22** 15:13:14.7±4.9, 5605±0.1×14391E±008, h21km±36km, mb4.5/9, MS3.3/3, Error ellipse: s-maj=19.7km s-min=11.1km az=54.1*
*NEIC **22** 15:13:17.8±0.7, 5585×14390E, h35km, mb4.3/3, Error ellipse: s-maj=13.5km s-min=12.2km az=167.0*
ISC 22 15:13:15.7±4.9,**5585**±009×**14394E**±008,**h12**km±30km,
n21,σ1§**17**/19,**mb4.5**/9,**MS3.3**/3,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**140**	Pn	**Pn**	**15 14 28.6**	**-1.4**
	6.6nm,0.3s,baz=346,slow=5.8,SNR=29						
PMG				Sn	**Sn**	**15 15 27.4**	**0.0**
	5.5nm,0.3s,baz=131,slow=19,SNR=4.7						
PMG				LR	LR	15 16 40.0	
	comp=Z,348nm,21.4s,baz=216,slow=42						
KAKA	**Kakadu**	**13.37**	**237**	*e*P	**Pn**	**15 16 24.4**	**-0.9**
	21nm,1.1s						
HNR	**Honiara**	**16.33**	**105**	P	**Pn**	**15 17 06.2**	**+1.4**
	46nm,1.0s						
WB2	**Warramunga Arr**	**17.05**	**212**	*e*P	**Pn**	**15 17 16.5**	**+2.6**
WB2	**Warramunga Arr**	**17.05**	**212**	*e*Pn	**Pn**	**15 17 13.9**	**0.0**
WRA	**Warramunga Arr**	**17.06**	**212**	P	**Pn**	**15 17 14.5**	**+0.5**
	0.4nm,0.3s,baz=38,slow=13,SNR=24						
ASAR	**Alice Springs**	**20.41**	**207**	P	**P**	**15 17 52.3**	**-0.3**
	3.9nm,0.8s,baz=38,slow=9.8,SNR=27						
FITZ	**Fitzroy Crossi**	**21.77**	**234**	*e*P	**P**	**15 18 12.3**	**+5.0**
	12nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**21.77**	**234**	LR	LR	15 26 18.3	
	comp=Z,62nm,19.5s,MS3.0,baz=57,slow=36						
STKA	**Stephens Creek**	**26.25**	**185**	LR	LR	15 30 53.7	
	comp=Z,152nm,18.4s,MS3.6,baz=201,slow=40						
KSRS	**Korea Array**	**45.34**	**342**	LR	LR	15 39 00.7	
	comp=Z,41nm,19.8s,MS3.4,baz=192,slow=34						
JIRN	**Jiri**	**64.75**	**304**	*e*P	**P**	**15 23 55.5**	**+1.6**
GUN	**Gumba**	**65.10**	**304**	*e*P	**P**	**15 23 56.8**	**+0.6**
	16nm,0.9s,mb5.0						
KKN	**Kakani**	**65.55**	**304**	*e*P	**P**	**15 24 00.2**	**+1.1**
	7.0nm,0.6s,mb4.8						
DMN	**Daman**	**65.63**	**304**	*e*P	**P**	**15 24 00.4**	**+0.8**
	6.4nm,0.6s,mb4.8						
GKN	**Gorkha**	**66.16**	**304**	*e*P	**P**	**15 24 04.2**	**+1.2**
	7.8nm,0.6s,mb4.9						
KOLN	**Koldanda**	**66.94**	**303**	*e*P	**P**	**15 24 07.0**	**-1.0**
	4.4nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**75.25**	**321**	P	**P**	**15 24 56.4**	**-2.0**
	1.1nm,0.8s,mb3.9,baz=104,slow=7.4,SNR=7.5						
MKAR	**Makanchi Array**	**75.25**	**321**	P	**P**	**15 24 56.4**	**-2.0**
ZAL	**Zalesovo**	**77.06**	**329**	P	**P**	**15 25 07.5**	**-1.2**
	0.9nm,0.7s,mb3.8,baz=17,slow=6.9,SNR=3.5						
KURK	**Kurchatov**	**79.06**	**324**	P	**P**	**15 18.2**	**-1.6**
	2.3nm,1.0s,mb4.1						

IDC 22 15:28:39.6±1.6,**5615S**×**12373W**,**h0**km,**mb3.8**/3,
mb1 4.1/3,**mb1mx3.8**/13,**mbtmp3.8**/3,**MS3.8**/8,**Ms1 3.7**/8,
ms1mx3.6/19,**Error ellipse: s-maj=1241.0km**
s-min=32.9km az=159.0,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**30.65**	**111**	LR	LR	15 43 37.2	
	comp=Z,136nm,20.0s,baz=88,slow=29						
RKT	**Rikitea**	**34.02**	**341**	*e*T		16 10 32.0	
	5.6nm,0.3s						
PLCA	**Paso Flores**	**37.48**	**89**	LR	LR	15 49 01.1	
	comp=Z,83nm,18.0s,baz=4.5,slow=33						
TBI	**Tubuai**	**37.83**	**319**	*e*LR	LR	15 45 49.7	
	213nm,33.0s						
TBI	**Tubuai**	**37.83**	**319**	*e*T		16 15 18.3	
	50nm,0.4s						
RPZ	**Rata Peaks**	**42.20**	**259**	LR	LR	15 49 05.1	
	comp=Z,142nm,18.5s,baz=360,slow=29						
PPT	**Papeete**	**43.20**	**323**	*e*LR	LR	15 48 33.5	
	208nm,24.0s						
PPT	**Papeete**	**43.20**	**323**	LR	LR	15 50 05.3	
	comp=Z,204nm,18.2s,baz=92,slow=30						
VAH	**Vaihoa**	**44.74**	**326**	*e*T		16 23 59.1	
	46nm,0.3s						
PMOR	**Pomariorio Ree**	**45.05**	**326**	*e*T		16 24 30.7	
	8.3nm,0.2s						
MAW	**Mawson**	**56.46**	**183**	LR	LR	16 00 42.4	
	comp=Z,91nm,19.7s,baz=60,slow=34						
LPAZ	**La Paz**	**57.68**	**70**	P	P	15 38 32.4	+0.6
	1.3nm,0.8s,baz=146,slow=7.3,SNR=4.3						
LPAZ				LR	LR	15 57 06.8	
	comp=Z,46nm,21.6s,baz=245,slow=30						
STKA	**Stephens Creek**	**66.63**	**247**	LR	LR	16 02 31.6	
	comp=Z,52nm,19.8s,baz=354,slow=30						
ASAR	**Alice Springs**	**77.24**	**247**	P	P	15 40 35.4	-0.1
	0.4nm,0.8s,baz=145,slow=6.8,SNR=5.6						
WRA	**Warramunga Arr**	**80.09**	**249**	P	P	15 40 51.4	+0.2
	1.1nm,0.8s,baz=146,slow=4.8,SNR=8.8						
WRA				LR	LR	16 11 59.1	
	comp=Z,55nm,20.1s,baz=95,slow=32						
GUN	**Gumba**	**144.73**	**229**	*e*P	PKPdf	15 48 18.5	+0.2
	16nm,0.9s						
DMN	**Daman**	**144.79**	**228**	*e*P	PKPdf	15 48 20.2	+1.8
	24nm,1.0s						
KKN	**Kakani**	**144.88**	**228**	*e*P	PKPdf	15 48 18.6	+0.1
	18nm,1.0s						
GKN	**Gorkha**	**145.33**	**228**	*e*P	PKPbc	15 48 20.5	+1.4
KOLN	**Koldanda**	**145.55**	**226**	*e*P	PKPdf	15 48 20.4	+0.7
	14nm,1.0s						

*NEIC **22** 15:57:18.8, 3490S×7107W, h108km, mb4.6/1, MD4.0(GUC), After GUC.*
GUC 22 15:57:18.8±0.7,**3490S**×**7107W**,**h108**km±3km,**MD3.6**,
ML3.6,**3C-4D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.17**	**232**	*i* P	Pn	15 57 33.8	0.0
NICH				*i* S	Sn	15 57 45.9	+0.8
SFDO	**San Fernando**	**0.29**	**9**	⇓*i*P	Pn	15 57 34.4	+0.2
SFDO				*i* S	Sn	15 57 46.2	+0.5
TALC	**Talca**	**0.68**	**223**	⇑*i*P	Pn	15 57 36.9	+0.2
TALC				*i* S	Sn	15 57 50.3	+0.1
TALC				AML	AML	15 57 51.8	
	comp=E,7μm,0.1s						
TALC	**Talca**	**0.68**	**223**	⇑*i*P	Pn	15 57 36.9	+0.2
TALC				*i* S	Sn	15 57 50.3	+0.1
CICH	**Cipreses**	**0.79**	**43**	*e*P	Pn	15 57 38.1	+0.4
CICH				*i* S	Sn	15 57 52.8	+0.9
CACH	**El Canelo**	**0.87**	**27**	*e*P	Pn	15 57 39.0	+0.5
CACH				*i* S	Sn	15 57 54.6	+1.3
TACH	**Talagante**	**1.25**	**5**	⇓*i*P	Pn	15 57 43.0	+0.5
TACH				*i* S	Sn	15 58 00.8	+0.3
PCH	**Pirque**	**1.36**	**20**	⇓*i*P	Pn	15 57 44.4	+0.7
PCH				*i* S	Sn	15 58 03.7	+1.1
RCDM	**Rinconada Maip**	**1.42**	**9**	*i* P	Pn	15 57 45.2	+0.7
RCDM				*i* S	Sn	15 58 04.5	+0.4
RCDM				AML	AML	15 58 05.8	
	comp=E,1μm,0.1s						
RCDM	**Rinconada Maip**	**1.42**	**9**	*i* P	Pn	15 57 45.2	+0.7
RCDM				*i* S	Sn	15 58 04.5	+0.4
LCCH	**Las Cruces**	**1.48**	**344**	⇑*i*P	Pn	15 57 45.8	+0.6
LCCH				*i* S	Sn	15 58 05.5	+0.3
CLCH	**Cerro Calan**	**1.56**	**17**	⇓*i*P	Pn	15 57 46.8	+0.6
CLCH				*i* S	Sn	15 58 08.2	+1.2
CLCH				AML	AML	15 58 09.8	
	comp=E,860nm,0.2s						
FCH	**Farellones**	**1.70**	**23**	*e*P	Pn	15 57 48.9	+1.0
FCH				*i* S	Sn	15 58 11.0	+1.0
FCH				AML	AML	15 58 13.3	
	comp=N,499nm,0.3s						
PEL	**Peldehue**	**1.78**	**10**	*e*P	Pn	15 57 49.0	+0.1
PEL				*i* S	Sn	15 58 12.3	+0.5
PEL				AML	AML	15 58 14.3	
	comp=N,740nm,0.5s						
LCO	**Las Campanas**	**5.88**	**3**	*e*Pn	Pn	15 58 47.5	+4.1
	comp=N,14nm,0.4s						
LCO				*e*Sn	Sn	15 59 42.7	-6.8

IDC 22 16:27:36.4±17.0,**6247S**×**15288E**,**h0**km,**mb4.0**/4,
mb1 4.1/4,**mb1mx4.0**/10,**mbtmp4.0**/4,**MS3.6**/2,**Ms1 3.6**/2,
ms1mx2.9/20,**Error ellipse: s-maj=354.3km**
s-min=43.6km az=6.0,**Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**28.40**	**43**	P	P	16 33 32.2	-0.3
	6.5nm,0.8s,baz=299,slow=19,SNR=2.8						
STKA	**Stephens Creek**	**31.45**	**341**	P	P	16 33 59.9	+0.3
	2.5nm,0.8s,baz=128,slow=19,SNR=3.2						
MAW	**Mawson**	**35.13**	**222**	LR	LR	16 50 22.0	
	comp=Z,69nm,18.1s,baz=251,slow=39						
NWAO	**Narrogin (SRO)**	**37.19**	**306**	LR	LR	16 45 24.6	
	comp=Z,130nm,19.9s,baz=268,slow=29						
ASAR	**Alice Springs**	**40.86**	**333**	P	P	16 35 19.6	-0

GIVF			*e*Sg		**Sg**	**17 12 28.2 +1.9**
GIVF	**Givet**	**1.75 219**	*e*Pn		**Pn**	**17 12 01.9 +0.3**
GIVF			*e*P			17 12 03.8
GIVF			*e*Pg		**Pg**	**17 12 05.2 +1.6**
GIVF			*e*Sn		**Sn**	**17 12 23.9 -0.7**
GIVF			*e*Sg		**Sg**	**17 12 28.2 +1.9**
GIVF	**Givet**	**1.75 219**	*e*Pg		**Pg**	**17 12 05.2 +1.6**
GIVF			*e*Sn		**Sn**	**17 12 23.9 -0.7**
	comp=N,24nm,0.3s					
GIVF			*e*Sg		**Sg**	**17 12 28.2 +1.9**
WLF	**Walferdange**	**1.82 188**	*e*Pg		**Pg**	**17 12 04.7 -0.3**
WLF			*e*Sg		**Sg**	**17 12 28.1 -0.5**
DOU	**Dourbes**	**1.85 223**	‖P		**Pn**	**17 12 03.0 +0.1**
DOU			S		**Sn**	**17 12 26.0 -1.1**
	comp=N,14nm,0.3s					
BAIF	**Baives**	**2.05 227**	*e*Pg		**Pg**	**17 12 09.9 +0.6**
BAIF			*e*Sn		**Sn**	**17 12 31.1 -0.8**
BAIF			*e*Sg		**Sg**	**17 12 37.3 +1.5**
	comp=N,16nm,0.3s					
BAIF	**Baives**	**2.05 227**	*e*Pn		**Pn**	**17 12 05.6 -0.1**
BAIF			*e*Pg		**Pg**	**17 12 09.9 +0.6**
BAIF			*e*Sn		**Sn**	**17 12 31.1 -0.8**
BAIF			*e*Sg		**Sg**	**17 12 37.3 +1.5**
BAIF	**Baives**	**2.05 227**	*e*Pg		**Pg**	**17 12 09.9 +0.6**
BAIF			*e*Sn		**Sn**	**17 12 31.1 -0.8**
BAIF			*e*Sg		**Sg**	**17 12 37.3 +1.5**
	comp=N,7.9nm,0.3s					
GTTG	**Gvttingen**	**2.14 87**	*e*Sg		**Sg**	**17 12 37.4 -1.4**
CLZ	**Clausthal**	**2.41 80**	*e*(Pn)		**Pn**	**17 12 10.4 -0.3**
CLZ			*e*Sg		**Sg**	**17 12 45.4 -2.2**
CDF	**Champ du Feu**	**3.10 171**	*e*Pn		**Pn**	**17 12 19.6 -0.5**
CDF			*e*Sn		**Sn**	**17 12 55.1 -2.7**
CDF			*e*Sg		**Sg**	**17 13 09.5 0.0**
	comp=N,6.9nm,0.4s					
CDF	**Champ du Feu**	**3.10 171**	*e*Pn		**Pn**	**17 12 19.6 -0.5**
CDF			*e*Sn		**Sn**	**17 12 55.1 -2.7**
CDF			*e*Sg		**Sg**	**17 13 09.5 0.0**
	comp=N,3.5nm,0.4s					
MEZF	**Maizieres J'vi**	**3.12 199**	*e*Sg		**Sg**	**17 13 11.0 +0.6**
	comp=N,12nm,0.4s					
MEZF	**Maizieres J'vi**	**3.12 199**	*e*Sg		**Sg**	**17 13 11.0 +0.6**
	comp=N,5.9nm,0.4s					
HAU	**Haudompre**	**3.47 182**	*e*Pn		**Pn**	**17 12 25.0 -0.2**
HAU			*e*Sg		**Sg**	**17 13 21.5 0.0**
	comp=N,5.6nm,0.3s					
HAU	**Haudompre**	**3.47 182**	*e*Pn		**Pn**	**17 12 25.0 -0.2**
HAU			*e*Sg		**Sg**	**17 13 21.5 0.0**
	comp=N,2.8nm,0.3s					
HINF	**Hinteralfeld**	**3.66 177**	*e*Pn		**Pn**	**17 12 27.2 -0.7**
HINF			*e*Sg		**Sg**	**17 13 26.3 -1.4**
	comp=N,4.3nm,0.4s					
HINF	**Hinteralfeld**	**3.66 177**	*e*Pn		**Pn**	**17 12 27.2 -0.7**
HINF			*e*Sg		**Sg**	**17 13 26.3 -1.4**
	comp=N,2.2nm,0.4s					
LOR	**Lormes**	**4.56 204**	*e*Pn		**Pn**	**17 12 39.4 -0.8**
	baz=30					
LOR			*e*Sn		**Sn**	**17 13 30.5 -3.3**
LOR			*e*Sg		**Sg**	**17 13 55.5 -0.9**
	comp=N,6.6nm,0.4s					
LOR	**Lormes**	**4.56 204**	*e*Pn		**Pn**	**17 12 39.4 -0.8**
LOR			*e*Sn		**Sn**	**17 13 30.5 -3.3**
LOR			*e*Sg		**Sg**	**17 13 55.5 -0.9**
	comp=N,3.3nm,0.4s					
SSF	**Saint Saulge**	**4.84 205**	*e*Pn		**Pn**	**17 12 43.0 -1.1**
SSF			*e*Sn		**Sn**	**17 13 37.6 -3.2**
SSF			*e*Sg		**Sg**	**17 14 04.4 -1.1**
	comp=N,6.1nm,0.4s					
SSF	**Saint Saulge**	**4.84 205**	*e*Pn		**Pn**	**17 12 43.0 -1.1**
SSF			*e*Sn		**Sn**	**17 13 37.6 -3.2**
SSF			*e*Sg		**Sg**	**17 14 04.4 -1.1**
	comp=N,3.0nm,0.4s					
AVF	**Avril sur Loir**	**5.13 205**	*e*Pn		**Pn**	**17 12 46.9 -1.2**
AVF			*e*Sn		**Sn**	**17 13 44.4 -3.6**
SMF	**Signal de Mont**	**5.14 201**	*e*Pn		**Pn**	**17 12 47.3 -1.0**
SMF			*e*Sg		**Sg**	**17 14 14.0 -1.3**
	comp=N,3.3nm,0.3s					
SMF	**Signal de Mont**	**5.14 201**	*e*Pn		**Pn**	**17 12 47.3 -1.0**
SMF			*e*Sg		**Sg**	**17 14 14.0 -1.3**
	comp=N,1.6nm,0.3s					
LDF	**La Druitiere**	**5.17 239**	*e*Pn		**Pn**	**17 12 48.2 -0.4**
LDF			*e*Sn		**Sn**	**17 13 44.0 -5.0**
FLN	**La Foliniere**	**5.27 242**	*e*Pn		**Pn**	**17 12 49.1 -0.9**
	baz=63					
FLN			*e*Sn		**Sn**	**17 13 47.5 -3.9**
BGF	**Bois d'Agland**	**5.48 208**	*e*Pn		**Pn**	**17 12 51.3 -1.6**
BGF			*e*Sn		**Sn**	**17 13 51.6 -5.1**
BGF			*e*Sg		**Sg**	**17 14 23.6 -2.6**
	comp=N,11nm,0.5s					
BGF	**Bois d'Agland**	**5.48 208**	*e*Pn		**Pn**	**17 12 51.3 -1.6**
BGF			*e*Sn		**Sn**	**17 13 51.6 -5.1**
BGF			*e*Sg		**Sg**	**17 14 23.6 -2.6**
	comp=N,5.5nm,0.5s					
GRR	**Gorron**	**5.69 240**	*e*Pn		**Pn**	**17 12 54.8 -0.9**
GRR			*e*Sn		**Sn**	**17 13 56.0 -5.7**

*CSEM **22** 17:28:14.3, 3758N×2037E, h5km, MD3.7/14, After ATH*
*ATH **22** 17:28:14.3, 3758N×2037E, h5km, MD3.7/14, ML3.9*
*ISCJB **22** 17:28:16.8±1.2, 3753N±006×2038E±009, h10km, Error ellipse: s-maj=12.0km s-min=7.4km az=111.8*
ISC 22 17:28:17.8±1.1, 3756N±006×2042E±009, h10km, n20, σ1§11/23, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.96**	**59**	*e*PB	**Pg**	**17 28 32.1**	**-4.3**
RLS				*e*SB	**Sg**	**17 28 47.6**	**-1.3**
ITM	**Ithomi**	**1.26**	**107**	*e*PG	**Pn**	**17 28 38.7**	**-2.7**
ITM				*e*SB	**Sb**	**17 28 56.9**	**-0.9**
EVR	**Evrytania**	**1.74**	**38**	*e*PN	**Pn**	**17 28 47.5**	**-0.6**
EVR				*e*SN	**Sn**	**17 29 11.5**	**+1.2**
VLI	**Veliai**	**2.18**	**112**	*e*PN	**Pn**	**17 28 54.7**	**+0.6**
KEK	**Kerkira**	**2.21**	**347**	*e*PN	**Pn**	**17 28 53.9**	**-0.6**
MGER	**Gerania Oros**	**2.29**	**78**	*e*PN	**Pn**	**17 28 56.5**	**+0.9**
LKR	**Lokris**	**2.31**	**61**	*e*PN	**Pn**	**17 28 56.5**	**+0.7**
THL	**Klokotos Trika**	**2.36**	**31**	*e*PN	**Pn**	**17 28 56.4**	**-0.2**
NAIG	**Nisos Aigina**	**2.44**	**84**	*e*PN	**Pn**	**17 28 59.0**	**+1.3**
KYTH	**Kithira**	**2.45**	**121**	*e*PB	**Pn**	**17 28 56.5**	**-1.3**
ATH	**Athens Observa**	**2.64**	**80**	*e*PN	**Pn**	**17 29 01.0**	**+0.5**
KVR	**Kavouri**	**2.67**	**83**	*e*PN	**Pn**	**17 29 01.5**	**+0.7**
PTL	**Penteli**	**2.77**	**79**	*e*PN	**Pn**	**17 29 03.0**	**+0.8**
OHR	**Ohrid**	**3.56**	**5**	*e*Pn	**Pg**	**17 29 24.0**	**-2.0**
OHR	**Ohrid**	**3.56**	**5**	*e*Pn	**Pg**	**17 29 24.0**	**-2.0**
PLG	**Polygyros**	**3.67**	**39**	*e*PB	**Pn**	**17 29 16.1**	**+1.5**
KRUS	**Krusevo**	**3.86**	**9**	*e*Pn	**Pn**	**17 29 17.2**	**0.0**
KRUS	**Krusevo**	**3.86**	**9**	*e*Pn	**Pn**	**17 29 17.2**	**0.0**
VAY	**Valandovo**	**4.11**	**23**	*e*Pn	**Pn**	**17 29 25.5**	**+4.9**
VAY	**Valandovo**	**4.11**	**23**	*e*Pn	**Pn**	**17 29 25.5**	**+4.9**

*IDC **22** 17:29:16.9±1.3, 2060N×12279E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/21, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=48.4km s-min=22.3km az=82.0*
*ISCJB **22** 17:29:21.6±2.1, 2111N±02×1225E±02, h91km±33km, mb3.6/4, Error ellipse: s-maj=38.9km s-min=21.3km az=55.4*
*JMA **22** 17:29:21.8±0.3, 2110N×12253E, h92km, M3.5*
ISC 22 17:29:22.9±2.1, 2111N±02×1225E±02, h83km±32km, n13, σ0§46/18, mb3.6/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.19**	**22**	P	**Pn**	**17 30 10.6**	**-0.2**
HATJ				*e*S	**Sn**	**17 30 48.1**	**+0.3**
YOJ	**Yonaguni jima**	**3.38**	**8**	P	**Pn**	**17 30 13.5**	**+0.1**
YOJ				*e*S	**Sn**	**17 30 52.9**	**+0.4**
IRIF	**Iriomote-Funau**	**3.42**	**20**	P	**Pn**	**17 30 13.8**	**-0.2**
IRIF				*e*S	**Sn**	**17 30 52.9**	**-0.5**
JKRS	**Kuro-shima**	**3.43**	**24**	P	**Pn**	**17 30 14.1**	**0.0**
JIJ	**Ishigaki jima**	**3.60**	**25**	P	**Pn**	**17 30 15.8**	**-0.5**
JIJ				*e*S	**Sn**	**17 30 57.4**	**-0.2**
JTJ	**Tarama**	**4.08**	**30**	P	**Pn**	**17 30 23.0**	**+0.1**
JTJ				*e*S	**Sn**	**17 31 09.2**	**-0.2**
JKE	**Kume jima 2**	**6.53**	**36**	P	**Pn**	**17 30 56.8**	**+0.5**
JOW	**Kunigami**	**7.79**	**42**	Pn	**Pn**	**17 31 14.1**	**+0.6**
	9.8nm,0.3s,baz=204,slow=10,SNR=7.9						
KSRS	**Korea Array**	**16.97**	**15**	P	**Pn**	**17 33 20.6**	**+5.7**
	baz=198,slow=15,SNR=3.5						
MKAR	**Makanchi Array**	**41.39**	**318**	P	**P**	**17 37 09.5**	**+8.6**
	0.7nm,0.7s,mb3.6,baz=99,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**42.41**	**163**	P	**P**	**17 37 08.0**	**-1.1**
	0.5nm,0.6s,mb3.4,baz=343,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**45.87**	**165**	P	**P**	**17 37 37.0**	**+0.2**
	0.4nm,0.7s,mb3.2,baz=350,slow=7.5,SNR=7.2						
STKA	**Stephens Creek**	**55.77**	**160**	P	**P**	**17 38 51.9**	**+0.7**
	2.3nm,0.9s,mb4.2,baz=331,slow=10,SNR=5.0						

*CSEM **22** 17:32:49.1, 6707N×2093E, h0km, ML2.7, Mining explosion. After UPP*
*UPP **22** 17:32:49.1, 6707N×2093E, h0km, ML2.7, Mining explosion.*
HEL 22 17:32:49.7±0.1, 6708N×2091E, h0km, ML2.2, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**289**	*i* P	**Pg**	17 32 52.2	-0.2
DUNU	**Dundret**	**0.14**	**289**	P	**Pg**	17 32 52.2	-0.2
	baz=116						
MASU	**Masugnsbyn**	**0.57**	**47**	*i* P	**Pg**	17 32 60.0	-0.7
PAJU	**Pajala**	**0.86**	**92**	*i* P	**Pg**	17 33 04.9	-1.3
KUA	**Kurravaara**	**0.91**	**346**	*e*P	**Pg**	17 33 05.9	-1.2
HARU	**Harads**	**0.92**	**178**	*e*P	**Pg**	17 33 06.0	-1.2
HARU	**Harads**	**0.92**	**178**	P	**Pg**	17 33 06.0	-1.3
	baz=358						
SALU	**Saltoluokta**	**0.99**	**289**	*e*P	**Pg**	17 33 07.6	-1.0
LANU	**Lannavaara**	**1.06**	**22**	*e*P	**Pg**	17 33 08.5	-1.6
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	17 33 08.5	-1.5
	baz=288						
NIKU	**Nikkaluokta**	**1.07**	**319**	*e*P	**Pg**	17 33 09.1	-1.2
SJUU	**Sjulsmark**	**1.60**	**170**	*e*P	**Pn**	17 33 18.1	-1.2
LILU	**Lilltraesk**	**1.85**	**194**	*e*P	**Pn**	17 33 22.1	-0.6
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pn**	17 33 24.4	+0.5
KIF				*e*S	**Sn**	17 33 49.0	0.0
KIF				MSG		17 33 54.5	
	comp=Z,19nm,0.1s						
SGF	**Sodankyl**	**2.21**	**78**	*e*PB	Pb	17 33 28.1	-2.4
SGF				*e*SG	Sg	17 33 58.0	-2.7
SGF				MSG		17 34 00.9	
	comp=Z,12nm,0.1s						
BURU	**Burvik**	**2.51**	**175**	*e*P	Pn	17 33 32.0	+0.3
SVAU	**Svanoeiden**	**2.65**	**193**	*e*P	Pn	17 33 33.7	0.0
SVAU	**Svanoeiden**	**2.65**	**193**	P	Pn	17 33 33.7	0.0
	baz=14						
OUL	**Oulu**	**2.85**	**132**	*e*PB	Pb	17 33 38.4	-3.0
OUL				*e*SG	Sg	17 34 17.8	-3.5
UMAU	**Umeaa**	**3.21**	**182**	*e*P	Pn	17 33 41.2	-0.1
BREU	**Bredtraesk**	**3.34**	**198**	*e*P	Pn	17 33 43.0	-0.2
MSF	**Maaselka**	**3.46**	**106**	*e*P	Pn	17 33 45.1	+0.3
MSF				*e*S	Sn	17 34 25.8	-0.7
KEV	**Kevo**	**3.51**	**37**	*e*P	Pn	17 33 44.9	-0.5
KEV				*e*S	Sn	17 34 26.9	-0.8
KU4	**Liikasenvaara**	**3.52**	**98**	*e*P	Pn	17 33 46.0	+0.4
KU4				*e*S	Sn	17 34 26.5	-1.3
KU6	**Riekki**	**3.74**	**102**	*e*P	Pn	17 33 48.7	0.0
KU6				*e*S	Sn	17 34 32.9	-0.5
KJN	**Kajaani**	**4.12**	**134**	*e*P	Pn	17 33 53.4	-0.5
KJN				*e*S	Sn	17 34 40.9	-1.9

*ISCJB **22** 17:35:16.2±1.0, 2103S±007×17869W±009, h571km±15km, mb4.1/15, Error ellipse: s-maj=13.9km s-min=9.7km az=69.9*
*NEIC **22** 17:35:17.5±0.9, 2094S×17868W, h581km±11km, mb4.7/3, Error ellipse: s-maj=12.9km s-min=9.7km az=144.0*
*IDC **22** 17:35:21.9±2.1, 2110S×17886W, h627km±25km, mb3.4/13, mb1 3.6/15, mb1mx3.6/20, mbtmp3.5/15, Error ellipse: s-maj=14.9km s-min=13.9km az=8.0*
ISC 22 17:35:16.8±1.0, 2109S±008×17863W±009, h564km±14km, n44, σ0§79/34, mb4.1/15, 3C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.68**	**44**	P	**P**	**17 37 32.2**	**+0.7**
	3.2nm,0.3s,baz=33,slow=11,SNR=6.2						
AFI				S	**S**	**17 39 20.3**	**-2.0**
	4.6nm,0.3s,baz=19,slow=21,SNR=7.8						
AFI	**Afiamalu**	**9.68**	**44**	*e*Pn	**P**	**17 37 31.4**	**-0.2**
AFI				*e*Sn	**S**	**17 39 18.3**	**-4.0**
DZM	**Mont Dzumac**	**13.92**	**263**	P	**P**	**17 38 15.8**	**+0.8**
	0.7nm,0.3s,baz=94,slow=20,SNR=6.1						
URZ	**Urewera**	**17.50**	**191**	P	**P**	**17 38 49.4**	**0.0**
	5.1nm,0.3s,baz=112,slow=5.4,SNR=25						
URZ				S	**S**	**17 41 40.5**	**-2.1**
	0.3nm,0.3s,baz=291,slow=6.8,SNR=3.3						
RPZ	**Rata Peaks**	**24.15**	**199**	P	**P**	**17 39 49.8**	**+0.6**
	12nm,0.8s,mb4.6,baz=294,slow=10.0,SNR=3.0						
CTA	**Charters Tower**	**32.85**	**265**	‖*i*P	**P**	**17 41 05.3**	**+0.6**
	11nm,0.4s,mb4.8						
CTA	**Charters Tower**	**32.85**	**265**	P	**P**	**17 41 04.9**	**+0.2**
	14nm,0.4s,mb4.8,baz=93,slow=10,SNR=24						
CTAO	**Charters Tower**	**32.85**	**265**	*e*P	**P**	**17 41 05.1**	**+0.4**
	15nm,0.4s,mb4.9						
PMG	**Port Moresby**	**34.91**	**284**	P	**P**	**17 41 22.0**	**+0.1**
	7.6nm,0.6s,mb4.4,baz=71,slow=16,SNR=6.3						
PMG	**Port Moresby**	**34.91**	**284**	P	**P**	**17 41 21.7**	**-0.2**
	16nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**37.01**	**245**	*e*P	**P**	**17 41 40.1**	**+0.9**
	2.4nm,1.0s,mb3.7						
STKA	**Stephens Creek**	**37.01**	**245**	P	**P**	**17 41 39.5**	**+0.3**
	2.1nm,0.5s,mb3.9,baz=98,slow=12,SNR=10.0						
STKA	**Stephens Creek**	**37.01**	**245**	*e*P	**P**	**17 41 39.3**	**+0.1**
ASAR	**Alice Springs**	**43.81**	**257**	P	**P**	**17 42 33.5**	**+0.2**
	12nm,0.6s,mb4.6,baz=91,slow=7.8,SNR=236						
ASAR				PcP	PcP	17 44 06.5	-0.7
	1.1nm,0.6s,baz=96,slow=4.0,SNR=5.0						
ASAR				S	**S**	**17 48 18.1**	**-5.6**
	1.0nm,0.7s,baz=93,slow=16,SNR=6.9						
WB2	**Warramunga Arr**	**43.93**	**263**	‖*i*P	**P**	**17 42 33.7**	**-0.6**
WB2	**Warramunga Arr**	**43.93**	**263**	*e*P	**P**	**17 42 33.5**	**-0.8**
WRA	**Warramunga Arr**	**43.94**	**263**	P	**P**	**17 42 33.8**	**-0.6**
	5.5nm,0.3s,mb4.5,baz=97,slow=7.3,SNR=372						
KAKA	**Kakadu**	**47.40**	**272**	‖*i*P	**P**	**17 43 00.2**	**-0.5**
	8.3nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.37**	**263**	*e*P	**P**	**17 43 37.0**	**0.0**
	5.9nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.37**	**263**	P	**P**	**17 43 37.3**	**+0.3**
	3.2nm,0.5s,mb3.9,baz=119,slow=5.9,SNR=24						
SBA	**Scott Base**	**57.25**	**184**	P	**P**	**17 44 10.8**	**-0.2**
VNDA	**Vanda**	**57.27**	**185**	P	**P**	**17 44 12.1**	**+0.8**
	1.2nm,0.5s,mb3.4,baz=8.1,slow=6.5,SNR=16						
VNDA	**Vanda**	**57.27**	**185**	*e*P	**P**	**17 44 12.1**	**+0.9**
	1.4nm,0.6s,mb3.4						
QSPA	**South Pole Qui**	**68.98**	**180**	*e*P	**P**	**17 45 26.6**	**+0.5**
	6.0nm,0.5s,mb4.4						
KKM	**Kota Kinabalu**	**69.34**	**285**	*e*P	**P**	**17 45 28.3**	**-0.1**
MJAR	**Matsushiro Arr**	**70.34**	**324**	P	**P**	**17 45 32.8**	**-1.5**
	2.3nm,0.6s,mb3.9,baz=154,slow=5.8,SNR=6.7						
KSRS	**Korea Array**	**76.94**	**319**	P	**P**	**17 46 11.9**	**+0.2**
	0.8nm,0.6s,mb3.3,baz=141,slow=5.8,SNR=3.8						
NVAR	**Mina Array Bea**	**81.85**	**44**	P	**P**	**17 46 38.1**	**+0.5**
	0.3nm,0.3s,mb3.2,baz=233,slow=7.8,SNR=3.6						
TXAR	**Lajitas Array**	**87.87**	**58**	P	**P**	**17 47 08.1**	**+1.4**
	0.5nm,0.8s,mb3.3,baz=217,slow=6.1,SNR=5.5						
PDAR	**Pinedale Array**	**89.79**	**43**	P	**P**	**17 47 15.6**	**-0.1**
	1.1nm,0.7s,mb3.8,baz=207,slow=3.3,SNR=9.9						
BVAR	**Borovoye Array**	**119.15**	**320**	PKP	PKPdf	17 52 59.8	-2.3
	1.2nm,0.3s,baz=115,slow=2.6,SNR=15						
AKTK	**Aktyubinsk**	**127.11**	**318**	PKP	PKPdf	17 53 15.8	-1.5
AKTO	**Aktyubinsk**	**127.11**	**318**	PKP	PKPdf	17 53 15.8	-1.5
	0.9nm,0.6s,baz=317,slow=3.4,SNR=4.4						
ARCES	**ARCESS Array B**	**129.39**	**349**	PKP	PKPdf	17 53 19.2	-2.5
	1.2nm,0.7s,baz=18,slow=1.9,SNR=6.3						
FINES	**FINESS Array B**	**136.17**	**343**	PKP	PKPdf	17 53 31.1	-3.3
	2.8nm,0.9s,baz=336,slow=4.2,SNR=5.8						
HFS	**Hagfors**	**140.02**	**350**	PKhKP		17 53 32.5	
	1.8nm,0.4s,baz=58,slow=3.7,SNR=13						
HFS				PKP	PKPdf	17 53 38.2	-3.3
	3.2nm,0.9s,baz=248,slow=7.8,SNR=1.7						
AKASG	**Malin Array Be**	**143.24**	**330**	PKP	PKPdf	17 53 43.3	-3.9
	6.7nm,0.4s,baz=42,slow=4.2,SNR=44						
BRTR	**Keskin Array B**	**146.79**	**311**	PKPbc	PKPbc	17 53 55.0	-1.1
	2.1nm,0.6s,baz=130,slow=5.4,SNR=9.4						
BURAR	**Bucovina Array**	**147.28**	**330**	‖*i*P	PKPdf	17 53 56.7	+2.6
CLL	**Collm**	**148.50**	**346**	*i* PKPbc	PKPbc	17 53 59.0	-1.4
	comp=Z,5.0nm,0.7s						
CLL				*e*PKPab	PKPab	17 54 04.0	-2.1
GZR	**Gura Zlata**	**150.05**	**329**	‖*i*P	PKPdf	17 54 02.7	+4.2
KHC	**Kasperske Hory**	**150.37**	**344**	‖*e*PKP	PKPdf	17 54 03.0	+4.0
BZS	**Buzias**	**150.43**	**331**	‖*i*P	PKPdf	17 54 03.7	+4.6
GERES	**GERESS Array B**	**150.60**	**343**	PKPbc	PKPbc	17 54 04.3	-1.2
	comp=Z,1.7nm,0.7s,baz=13,slow=1.8,SNR=10						
GERES				PKPab	PKPab	17 54 13.8	-1.0
	comp=Z,0.6nm,0.8s,baz=46,slow=2.8,SNR=2.4						

*IDC **22** 17:37:27.3±0.5, 5641N×12270E, h0km, mb4.1/21, mb1 4.3/24, mb1mx4.2/30, mbtmp4.1/24, ML3.6/3, MS3.5/7, Ms1 3.5/7, ms1mx3.3/32, Error ellipse: s-maj=16.0km s-min=12.2km az=52.0*
*MOS **22** 17:37:27.7±1.5, 5651N×12289E, h10km, mb4.5/21, Error ellipse: s-maj=10.5km s-min=8.4km az=94.9*
MOS Felt (II-III) at Chil'chi, Lopcha.
*ISCJB **22** 17:37:28.7±1.0, 5643N±004×12297E±006, h19km±8km, mb4.2/40, MS3.9/6, Error ellipse: s-maj=7.4km s-min=5.5km az=121.2*
*NEIC **22** 17:37:28.6±0.2, 5638N×12282E, h10km, mb4.5/11, Error ellipse: s-maj=6.6km s-min=5.9km az=102.0*
NEIC Felt [III] at Chil'chi and Lopcha.
*BJI **22** 17:37:32.2, 5592N×12273E, h5km, mB4.6, mb4.3, ML5.2, Ms4.4, Msz4.0*
ISC 22 17:37:28.7±1.0, 5646N±004×12300E±006, h8km±7km, h10km±.5km: pP-P, n121, σ1§24/122, mb4.2/40, MS3.9/6, 5C-6D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRGR	**Nerungri**	**0.97**	**78**	*e*P	**Pg**	**17 37 47.6**	**+0.2**
NRGR				S	**Sg**	**17 37 59.5**	**-0.6**
NRGR				smax			
	comp=N,3μm,0.2s						
CLNS	**Chul'man**	**1.11**	**70**	*e*P	**Pg**	**17 37 50.0**	**0.0**
CLNS				*e*S	**Sg**	**17 38 05.0**	**+0.5**
CLNS				pmax	pmax		
	comp=N,54nm,0.2s						
CLNS				pmax	pmax		
	comp=E,67nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,93nm,0.2s						
CLNS				smax			
	comp=N,926nm,0.3s						
CLNS				smax			
	comp=E,1μm,0.3s						
CLNS				smax			
	comp=Z,870nm,0.3s						
YAK	**Yakutsk**	**6.55**	**29**	*e*P	**Pn**	**17 39 05.6**	**+0.3**
YAK				*e*		17 40 17.6	
YAK				pmax	pmax		
	comp=Z,193nm,0.5s						
YAK				pmax	pmax		
	comp=N,42nm,0.4s						
YAK				pmax	pmax		
	comp=E,20nm,0.3s						
YAK				smax			
	comp=E,196nm,0.5s						
YAK				smax			
	comp=N,147nm,0.4s						
YAK				smax			
	comp=Z,101nm,0.4s						
YAK				MLR	MLR		
	comp=Z,712nm,12.0s						
YAK	**Yakutsk**	**6.55**	**29**	*e*Pn	**Pn**	**17 39 05.5**	**+0.2**
	comp=Z,188nm,0.6s						
YAK				*e*Sn	**Sn**	**17 40 07.7**	**-12**
HIA	**Hailar**	**7.47**	**197**	*e*P	**Pn**	**17 39 14.6**	**-3.4**
HIA				pmax	pmax		
	comp=E,42nm,0.5s						
HIA	**Hailar**	**7.47**	**197**	*e*Pn	**Pn**	**17 39 14.6**	**-3.3**
	comp=E,42nm,0.5s						
HIA				*e*Sn	**Sn**	**17 40 28.6**	**-14**
KLR	**Kul'dur**	**8.97**	**140**	*e*P	**Pn**	**17 39 35.3**	**-3.2**
KLR				*e*		17 41 20.8	
KLR				MLR	MLR		
	comp=N,900nm,12.0s						
KLR				MLR	MLR		
	comp=E,700nm,12.0s						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
OKH	**Okha**	**11.80**	**96**	*e*P	**Pn**	**17 40 18.0**	**+0.7**
MDJ	**Mudanjiang**	**12.57**	**158**	P	**Pn**	**17 40 28.1**	**+0.3**
MDJ				LG1		17 43 56.4	
MDJ				LR	LR		
	comp=E,728nm,4.9s						
MDJ	**Mudanjiang**	**12.57**	**158**	*e*Pn	**Pn**	**17 40 26.8**	**-1.0**
CN2	**Changchun**	**12.77**	**172**	*e*P	**Pn**	**17 40 30.6**	**+0.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				LR	LR		
	comp=N,1μm,8.0s						
CN2				LR	LR		
	comp=E,300nm,8.0s						
CN2				LR	LR		
	comp=Z,2μm,9.0s						
ZAK	**Zakamensk**	**13.21**	**251**	*e*P	**Pn**	**17 40 34.6**	**-2.0**
ZAK				*e*		17 42 56.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s						
SONM	**Songino Array**	**13.33**	**237**	Pn	**Pn**	**17 40 37.2**	**-1.0**
	comp=

comp=Z,16nm,1.3s,mb4.3
BILL Bilibino 22.67 42 *e*P **P 17 42 30.9 +0.5**
comp=Z,15nm,0.8s,mb4.5
GTA Gaotai 22.89 232 *e*P **P 17 42 33.3 +0.6**
GTA AP 17 42 38.8
GTA XP sP 17 42 42.3 +6.3
GTA S **S 17 46 28.4 -14**
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.0
GTA AMB AMB
comp=Z,92nm,3.8s
GTA LR LR
comp=N,411nm,12.6s,MS4.3
GTA LR LR
comp=E,567nm,11.8s,MS4.3
GTA LR LR
comp=Z,272nm,8.7s
LZH Lanzhou 24.15 221 *e*P **P 17 42 47.3 +2.2**
LZH AP 17 42 50.5
LZH XP sP 17 42 51.6 +3.0
LZH AMB AMB
comp=Z,29nm,1.3s,mb4.5
LZH AMB AMB
comp=Z,97nm,4.1s
LZH LR LR
comp=E,472nm,10.3s
LZH LR LR
comp=Z,851nm,13.5s,MS4.4
LZH Lanzhou 24.15 221 *e*P **P 17 42 47.2 +2.1**
LZH *PP 17 42 50.5
LZH *SP sP 17 42 51.6 +3.0
LZH *SS sS 17 46 27.3 -40
LZH pmax pmax
comp=Z,29nm,1.3s,mb4.5
LZH MLR MLR
comp=Z,850nm,13.5s,MS4.4
LZH Lanzhou 24.15 221 *e*P **P 17 42 47.2 +2.1**
comp=Z,29nm,1.3s,mb4.5
LZH pP 17 42 50.5
LZH sP sP 17 42 51.6 +3.0
LZH PP 17 43 05.8
LZH *e*S S 17 46 22.0 -41
LZH sS sS 17 46 27.3 -40
LZH SS 17 46 48.5
LZH LR LR
comp=Z,850nm,13.5s,MS4.4
WMQ Urumqi 25.60 255 P **P 17 43 04.4 +6.0**
WMQ AMB AMB
comp=Z,5.0nm,1.5s,mb3.8
JHJ Hachijo jima 2 26.06 147 LR LR 17 54 23.2
comp=Z,91nm,19.6s,MS3.3,baz=62,slow=39
KURK Kurchatov 26.58 276⇓ *e*P **P 17 43 08.1 +0.9**
MKAR Makanchi Array 26.69 266 P **P 17 43 06.2 -2.0**
comp=Z,0.8nm,0.8s,mb3.3,baz=38,slow=7.3,SNR=3.2
MKAR LR LR 17 54 01.5
comp=Z,194nm,18.9s,MS3.7,baz=236,slow=38
MKAR Makanchi Array 26.69 266 *i* P **P 17 43 10.8 +2.6**
BVAR Borovoye Array 29.94 286 P **P 17 43 35.5 -1.8**
comp=Z,1.7nm,0.7s,mb3.9,baz=59,slow=8.8,SNR=10.0
BVAR Borovoye Array 29.94 286 P **P 17 43 35.5 -1.7**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 33.62 267⇓ *e*P **P 17 44 11.4 +1.9**
AAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
AKTK Aktyubinsk 37.85 289 P **P 17 44 42.5 -3.4**
AKTO Aktyubinsk 37.85 289 P **P 17 44 42.5 -3.4**
comp=Z,0.9nm,0.6s,mb3.7,baz=345,slow=16,SNR=2.7
AKTO Aktyubinsk 37.85 289 P **P 17 44 42.5 -3.3**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
IMA2 Indian Mountai 38.20 41 *e*P **P 17 44 47.5 -1.3**
GUN Gumba 38.83 238 *e*P **P 17 44 55.3 +1.2**
comp=Z,12nm,0.9s,mb4.6
JIRN Jiri 38.90 238 *e*P **P 17 44 54.5 -0.1**
comp=Z,5.2nm,0.6s,mb4.4
KKN Kakani 39.22 239 *e*P **P 17 44 57.8 +0.5**
comp=Z,13nm,0.8s,mb4.7
GKN Gorkha 39.34 240 *e*P **P 17 44 59.1 +0.7**
comp=Z,27nm,1.0s,mb5.0
DMN Daman 39.45 239 *e*P **P 17 45 00.0 +0.7**
comp=Z,1.7nm,0.2s,mb4.5
KOLN Koldanda 40.04 241 *e*P **P 17 45 04.9 +0.7**
comp=Z,24nm,1.6s,mb4.7
KLMR Klimovskoe 40.87 312 *e*P **P 17 45 09.5 -1.6**
COLA College 40.91 41⇓ *e*P **P 17 45 12.4 +1.0**
COLA College 40.91 41 P **P 17 45 09.5 -1.9**
comp=Z,5.6nm,0.8s,mb4.2
ARCES ARCESS Array B 41.13 328 P **P 17 45 12.9 -0.3**
comp=Z,3.2nm,0.8s,mb4.0,baz=54,slow=9.1,SNR=3.0
ARCES ARCESS Array B 41.13 328 P **P 17 45 12.9 -0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
SML Sawmill 42.43 45 *e*P **P 17 45 23.9 +0.1**
INK Inuvik 43.61 32 P **P 17 45 33.9 +0.5**
comp=Z,2.6nm,0.6s,mb4.1,baz=321,slow=8.2,SNR=9.6
INK Inuvik 43.61 32 P **P 17 45 33.9 +0.5**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 43.61 32 *e*P **P 17 45 29.4 -4.0**
comp=Z,168nm,0.9s
OBN Obninsk 45.52 307 *e*P **P 17 45 48.8 +0.2**
OBN pmax pmax
comp=Z,37nm,2.0s,mb5.0
FINES FINESS Array B 45.78 318 P **P 17 45 49.9 -0.9**
comp=Z,3.4nm,0.7s,mb4.4,baz=54,slow=9.5,SNR=12
FINES FINESS Array B 45.78 318 P **P 17 45 49.9 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
JMIC Jan Mayen 48.29 341 P **P 17 46 08.9 -1.5**
comp=Z,64nm,0.4s,baz=203,slow=13,SNR=2.0
KIV Kislovodsk 50.00 292⇑ *e*P **P 17 46 25.5 +2.1**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.9
HFS Hagfors 51.08 323 P **P 17 46 30.2 -1.3**
comp=Z,3.8nm,0.5s,mb4.6,baz=75,slow=7.6,SNR=6.4
HFS Hagfors 51.08 323 P **P 17 46 30.2 -1.3**
HFS pmax pmax
comp=Z,4.0nm,0.5s
NB2 NORSAR Subarra 51.22 325 P **P 17 46 31.3 -1.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=40,slow=7.4
NOA NORSAR Array B 51.22 325 P **P 17 46 31.4 -1.2**
comp=Z,4.0nm,0.8s,mb4.4,baz=41,slow=7.1,SNR=7.6
NOA NORSAR Array B 51.22 325 P **P 17 46 31.4 -1.2**
NOA pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 51.78 306 P **P 17 46 35.4 -1.4**
comp=Z,3.9nm,0.6s,mb4.5,baz=41,slow=8.4,SNR=16
AKASG Malin Array Be 51.78 306 *i* P **P 17 46 38.5 +1.7**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 53.23 29 P **P 17 46 47.0 -0.6**
comp=Z,4.1nm,0.7s,mb4.5,baz=329,slow=6.7,SNR=26
YKA Yellowknife Ar 53.23 29 P **P 17 46 47.0 -0.6**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 53.23 29 P **P 17 46 47.0 -0.6**
BURAR Bucovina Array 55.83 306⇑ *i*P **P 17 47 05.7 -0.7**
MORC Moravsky Berou 57.49 312⇓ *i*P **P 17 47 20.2 +1.9**
DPC Dobruska-Polom 57.54 313 *e*P **P 17 47 18.7 +0.1**
DPC *e*pP pP 17 47 21.5 +0.3
UPC Upice 57.55 314 *e*P **P 17 47 18.4 -0.3**
UPC *e*pP pP 17 47 21.4 +0.2
UPC Upice 57.55 314 *e*P **P 17 47 18.4 -0.3**
UPC *e* pP 17 47 21.4 +0.2
DRGR 57.57 307⇑ *i*P **P 17 47 21.9 +3.1**
BRTR Keskin Array B 57.70 294 P **P 17 47 19.2 -0.5**
comp=Z,0.9nm,0.7s,mb3.9,baz=68,slow=4.2,SNR=4.1
BRTR Keskin Array B 57.70 294 *i* P **P 17 47 22.7 +2.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRG Berggiesshubel 58.08 315 *i* P **P 17 47 24.8 +2.4**
comp=Z,3.8nm,1.1s,mb4.3
BRG Berggiesshubel 58.08 315 *i* P **P 17 47 24.8 +2.4**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
CLL Collm 58.10 316 *i* P **P 17 47 21.5 -1.1**
CLL *i* pP 17 47 24.2 -0.9
CLL pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
CLL Collm 58.10 316 *i* P **P 17 47 21.5 -1.1**
comp=Z,10.0nm,1.3s,mb4.7
CLL *i* pP pP 17 47 24.2 -0.9
comp=Z,11nm,1.1s
PVCC Panska Ves 58.10 315 *e*P **P 17 47 22.2 -0.4**
PVCC *e*pP pP 17 47 24.9 -0.3
TREC Trest 58.71 313 *e*P **P 17 47 26.0 -0.8**
BZS Buzias 58.96 307⇓ *i*P **P 17 47 31.0 +2.5**
KHC Kasperske Hory 59.60 314 *e*P **P 17 47 32.1 -0.9**
KHC *e*pP pP 17 47 35.9 +0.3
GERES GERESS Array B 59.78 314 P **P 17 47 33.1 -1.1**
comp=Z,2.2nm,0.7s,mb4.3,baz=40,slow=7.1,SNR=16
GERES GERESS Array B 59.78 314 P **P 17 47 33.1 -1.1**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GRA1 Grafenberg Arr 60.08 316 *e*P **P 17 47 35.8 -0.5**
comp=Z,5.0nm,1.0s,mb4.5
GRA1 *e*pP pP 17 47 38.8 -0.1
GRF Grafenberg Arr 60.08 316 *e*P **P 17 47 35.8 -0.5**
comp=Z,5.0nm,1.0s,mb4.5
GRF *e*pP pP 17 47 38.8 -0.1
GRF Grafenberg Arr 60.08 316 *e*P **P 17 47 35.8 -0.5**
GRF *e**PP pP 17 47 38.8 -0.1
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CHMT Chamberlain Mo 66.79 38 *e*P **P 17 48 21.6 +0.9**
MCMT McKenzie Canyo 68.74 39 *e*P **P 17 48 34.4 +1.4**
PDAR Pinedale Array 71.69 38 P **P 17 48 51.5 +0.5**
comp=Z,0.5nm,0.6s,mb3.6,baz=22,slow=3.3,SNR=5.9
NVAR Mina Array Bea 72.21 46 P **P 17 48 55.9 +1.7**
comp=Z,1.6nm,0.7s,mb4.1,baz=325,slow=4.4,SNR=4.8
NVAR Mina Array Bea 72.21 46 P **P 17 48 55.9 +1.7**
NLU North Lily Min 73.28 41 *e*P **P 17 49 01.8 +1.2**
ESDC Sonseca Array 74.25 320 P **P 17 49 06.9 +0.6**
comp=Z,0.2nm,0.4s,mb3.4,baz=20,slow=7.1,SNR=4.2
FITZ Fitzroy Crossi 74.31 177 P **P 17 49 05.5 -1.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=310,slow=15,SNR=5.7
MSU Marysvale 74.51 42 *e*P **P 17 49 09.0 +1.3**
WRA Warramunga Arr 76.70 169 P **P 17 49 19.1 -1.2**
comp=Z,4.0nm,0.7s,mb4.5,baz=352,slow=6.6,SNR=45
WRA Warramunga Arr 76.70 169 P **P 17 49 19.1 -1.2**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WB2 Warramunga Arr 76.71 169 *e*P **P 17 49 18.7 -1.6**
SDCO Great Sand Dun 77.56 37 *e*P **P 17 49 25.2 +0.1**
comp=Z,3.2nm,1.2s,mb4.1
ASAR Alice Springs 80.34 170 P **P 17 49 39.5 -0.9**
comp=Z,2.0nm,0.7s,mb4.2,baz=355,slow=5.4,SNR=22
ASAR Alice Springs 80.34 170 P **P 17 49 39.5 -0.9**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 85.83 40 P **P 17 50 09.3 +0.6**
comp=Z,0.2nm,0.5s,mb3.6,baz=267,slow=2.3,SNR=4.3
AFI Afiamalu 88.44 118 LR LR 18 31 09.1
comp=Z,110nm,18.0s,MS4.3,baz=104,slow=36
STKA Stephens Creek 89.40 164 *e*P **P 17 50 23.8 -2.1**
VNDA Vanda 135.88 169 PKP PKPdf 17 56 47.8 -2.2
comp=Z,1.0nm,0.8s,baz=346,slow=3.7,SNR=5.2
VNDA Vanda 135.88 169 PKIKP PKPdf 17 56 47.8 -2.2
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 135.88 169 *e*PKPdf PKPdf 17 56 47.6 -2.4
QSPA South Pole Qui 146.22 180 *e*PKPbc PKPbc 17 57 06.7 -2.9
SNAA Sanae 153.11 215 *e*PKIKP PKPdf 17 57 23.0 +3.5

MOS ***22*** *18:15:07.2±0.8,5581N×11007E,h9km,mb4.2/1,Error ellipse: s-maj=23.5km s-min=12.7km az=135.1*
BYKL 22 18:15:08.4±0.3,5568N×11015E,h4km±4km,5C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**286**	*e*PG		Pg	18 15 14.9	-0.4
NIZ				*e*			18 15 20.1	
NIZ				pmax	pmax			
	comp=Z,290nm,0.5s							
NIZ				smax				
	comp=N,1μm,0.3s							
NIZ	**Nizh Angarsk**	**0.36**	**286**	⇑ *i*Pg		Pg	18 15 15.1	-0.2
NIZ				*i* Sg		Sg	18 15 20.1	+0.2
NIZ				Pmax				
	comp=N,162nm,0.3s							
NIZ				Smax				
	comp=N,1μm,0.3s							
KMO	**Kumora**	**0.63**	**70**	*e*PG		Pg	18 15 19.3	-1.2
KMO				*e*			18 15 27.4	
KMO				pmax	pmax			
	comp=Z,415nm,0.3s							
KMO				smax				
	comp=E,489nm,0.7s							
KMO	**Kumora**	**0.63**	**70**	⇑ *i*Pg		Pg	18 15 19.2	-1.3
KMO				*i* Sg		Sg	18 15 27.7	-0.9
KMO				Pmax				
	comp=E,418nm,0.3s							
KMO				Smax				
	comp=E,497nm,1.3s							
YLYR	**Ulyunkhan**	**0.99**	**144**	⇑ *i*Pg		Pg	18 15 26.2	-1.2
YLYR				*i* Sg		Sg	18 15 39.7	-0.6
YLYR				*e*			18 15 45.2	
YLYR				Pmax				
	comp=E,110nm,0.2s							
YLYR				max				
	comp=E,307nm,0.2s							
YOA	**Uoyan**	**1.00**	**62**	⇓ *i*PG		Pg	18 15 26.1	-1.4
YOA				*e*			18 15 40.6	
YOA				pmax	pmax			
	comp=Z,183nm,0.2s							
YOA				smax				
	comp=E,691nm,0.4s							
YOA	**Uoyan**	**1.00**	**62**	*e*Pg		Pg	18 15 26.1	-1.4
YOA				*e*			18 15 27.6	
YOA				*e*Sg		Sg	18 15 40.9	+0.5
YOA				max				
	comp=E,170nm,0.4s							
YOA				Smax				
	comp=E,695nm,0.5s							
SVKR	**Severomuysk**	**1.97**	**76**	*e*PN		Pn	18 15 43.3	+0.8
SVKR				*e*			18 15 43.9	
SVKR				*e*			18 16 09.6	
SVKR				smax				
	comp=N,1.0nm,0.8s							
SVKR	**Severomuysk**	**1.97**	**76**	*e*Pg		Pg	18 15 43.7	-2.4
SVKR				*e*Sg		Sg	18 16 10.2	-1.5
SVKR				Pmax				
	comp=N,219nm,0.6s							
SVKR				Smax				
	comp=N,602nm,0.8s							
UKT	**Uakit**	**1.98**	**94**	*e*PN		Pn	18 15 43.4	+0.7
UKT				*e*			18 16 10.3	
UKT				pmax	pmax			
	comp=Z,139nm,0.4s							
UKT				smax				
	comp=N,173nm,0.4s							
UKT	**Uakit**	**1.98**	**94**	⇑ *i*Pg		Pg	18 15 43.4	-3.0
UKT				*i* Sg		Sg	18 16 10.6	-1.5
UKT				Pmax				
	comp=N,161nm,0.8s							
UKT				Smax				
	comp=N,174nm,0.3s							
SYVR	**Suvo**	**2.03**	**183**	*e*PN		Pn	18 15 44.9	+1.6
SYVR				*e*			18 16 12.9	
SYVR	**Suvo**	**2.03**	**183**	⇑ *i*Pg		Pg	18 15 44.8	-2.5
SYVR				*e*			18 15 46.6	
SYVR				*i* Sg		Sg	18 16 13.3	-0.3
SYVR				*e*			18 16 14.4	
SYVR				max				
	comp=N,54nm,0.4s							
SYVR				max				
	comp=N,364nm,0.8s							
OGRR	**Ongureny**	**2.52**	**217**	*e*PN		Pn	18 15 50.8	+0.7
OGRR				*e*			18 15 54.7	
OGRR				*e*			18 16 26.3	
OGRR	**Ongureny**	**2.52**	**217**	*e*Pn		Pn	18 15 50.9	+0.8
OGRR				*e*Pg		Pg	18 15 53.3	-3.5
OGRR				*e*Sn		Sn	18 16 22.9	+1.6
OGRR				*e*Sg		Sg	18 16 26.3	-3.2
OGRR				Pmax				
	comp=N,29nm,0.6s							
OGRR				Smax				
	comp=N,202nm,0.2s							
MXMB	**Maximikha**	**2.56**	**199**	*e*Pg		Pg	18 15 54.6	-2.8
MXMB				*e*Sg		Sg	18 16 29.1	-1.5
MXMB				Pmax				
	comp=N,28nm,0.7s							
MXMB				Smax				
	comp=N,279nm,0.8s							
BOD	**Bodaibo**	**3.02**	**43**	*e*Pn		Pn	18 15 57.2	+0.3
BOD				*e*			18 15 59.4	
BOD				*e*			18 16 03.7	
BOD				*e*Sn		Sn	18 16 34.3	+0.8
BOD				*e*Sg		Sg	18 16 40.7	-4.6
BOD				max				
	comp=N,10.0nm,0.2s							
BOD				Smax				
	comp=N,90nm,0.9s							
NLYR	**Nelyaty**	**3.22**	**73**	*e*Pn		Pn	18 16 00.2	+0.5
NLYR				*e*Pg		Pg	18 16 05.5	-4.5
NLYR				*e*			18 16 08.4	
NLYR				*e*Sg		Sg	18 16 48.7	-3.0
NLYR				*e*			18 16 56.4	
ZRHB	**Zarechye**	**3.59**	**211**	*e*Pg		Pg	18 16 11.5	-5.8
ZRHB				*e*Sg		Sg	18 16 59.3	-4.6
ZRHB				Pmax				
	comp=N,18nm,0.7s							
ZRHB				Smax				
	comp=N,144nm,1.7s							
TRG	**Tyrgan**	**3.68**	**219**	*e*Pn		Pn	18 16 07.2	+1.2
TRG				*e*			18 16 08.9	
TRG				*e*Sn		Sn	18 16 50.9	+1.0
TRG				*e*Sg		Sg	18 17 02.9	-3.7
TRG				max				
	comp=N,21nm,0.5s							
TRG				Smax				
	comp=N,95nm,0.2s							
TRTB	**Turuntaevo**	**3.76**	**204**	*e*Pn		Pn	18 16 07.6	+0.4
TRTB				*e*Pg		Pg	18 16 15.4	-5.1
TRTB				*e*Sn		Sn	18 16 50.8	-1.1
TRTB				*e*Sg		Sg	18 17 06.0	-3.3
TRTB				Pmax				
	comp=N,10.0nm,0.3s							
TRTB				Smax				
	comp=N,38nm,0.6s							
UUDB	**Ulan-Yde**	**4.09**	**202**	*e*Sg		Sg	18 17 14.4	-5.5
UUDB				Smax				
	comp=N,53nm,1.2s							
FFNB	**Fofonovo**	**4.16**	**210**	*e*Sg		Sg	18 17 15.7	-6.2
FFNB				Smax				
	comp=N,97nm,0.7s							
CIT	**Chita**	**4.18**	**150**	*e*Pn		Pn	18 16 12.9	-0.1
CIT				*e*Pg		Pg	18 16 21.9	-6.6
CIT				*e*Sg		Sg	18 17 16.3	-6.5
CIT				Pmax				
	comp=N,25nm,1.7s							
CIT				Smax				
	comp=N,60nm,0.7s							
HRMR	**Khuramsha**	**4.48**	**206**	*e*Pn		Pn	18 16 18.5	+1.4
HRMR				*e*			18 16 20.7	
HRMR				*e*Sn		Sn	18 17 08.9	-0.8
HRMR				*e*Sg		Sg	18 17 26.7	-5.7
HRMR				max				
	comp=N,14nm,0.5s							
HRMR				Smax				
	comp=N,124nm,0.6s							
CRS	**Chara**	**4.69**	**72**	*e*PN		Pn	18 16 33.0	+13
CRS				*e*			18 17 35.5	
CRS				pmax	pmax			
	comp=Z,39nm,1.0s							
CRS				smax				
	comp=E,41nm,1.3s							
CRS	**Chara**	**4.69**	**72**	*e*Pn		Pn	18 16 20.5	+0.6
CRS				*e*Pg		Pg	18 16 32.7	-5.5
CRS				*e*			18 16 47.7	
CRS				*e*Sg		Sg	18 17 34.4	-4.5
CRS				max				
	comp=E,63nm,1.0s							
CRS				Smax				
	comp=E,48nm,1.6s							
LSTR	**Listvyanka**	**4.95**	**222**	*e*Pn		Pn	18 16 24.3	+0.8
LSTR				*e*Sn		Sn	18 17 19.1	-2.1
LSTR				*e*Sg		Sg	18 17 40.6	-6.9
LSTR				max				
	comp=E,4.0nm,0.3s							
LSTR				Smax				
	comp=E,44nm,0.9s							
TLY	**Talaya**	**5.57**	**227**	*e*PN		Pn	18 16 46.2	+14
TLY				*e*S		Sn	18 17 33.1	-3.3
TLY				*e*			18 18 00.3	
TLY				pmax	pmax			
	comp=Z,5.0nm,0.3s							
TLY				smax				
	comp=E,54nm,1.4s							
TLY	**Talaya**	**5.57**	**227**	*e*Pn		Pn	18 16 32.0	0.0
TLY				*e*Sn		Sn	18 17 33.9	-2.5
TLY				*e*Sg		Sg	18 18 00.4	-6.8
TLY				max				
	comp=E,2.0nm,0.2s							
TLY				Smax				
	comp=E,53nm,1.8s							
TUP	**Tupik**	**5.78**	**99**	*e*Pn		Pn	18 16 34.3	-0.5
TUP				*e*Pg		Pg	18 16 51.6	-7.4
TUP				*e*Sn		Sn	18 17 36.4	-5.1
TUP				*e*Sg		Sg	18 18 07.0	-6.8
TUP				Pmax				
	comp=E,8.0nm,1.0s							
TUP				Smax				
	comp=E,37nm,1.0s							
ARS	**Arshan**	**5.93**	**234**	*e*PN		Pn	18 16 36.9	0.0
ARS				*e*S		Sn	18 17 41.8	-3.5
ARS				*e*S		Sn	18 18 12.5	+27
ARS				smax				
	comp=N,151nm,0.5s							
ARS	**Arshan**	**5.93**	**234**	*e*Pn		Pn	18 16 37.0	+0.1
ARS				*e*Sn		Sn	18 17 42.8	-2.5
ARS				*e*Sg		Sg	18 18 11.5	-7.2
ARS				max				
	comp=N,13nm,0.5s							
ARS				Smax				
	comp=N,153nm,0.8s							
KPC	**Khapcheranga**	**6.14**	**166**	*e*Pn		Pn	18 16 39.8	0.0
KPC				*e*Pg		Pg	18 16 59.4	-6.6
KPC				*e*Sg		Sg	18 18 18.6	-6.9
KPC				Pmax				
	comp=N,2.0nm,0.6s							
KPC				Smax				
	comp=N,25nm,1.4s							
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN		Pn	18 16 46.4	-1.6
ZAK				*e*S		Sn	18 18 00.0	-5.1
ZAK	**Zakamensk**	**6.73**	**221**	*e*Pn		Pn	18 16 49.6	+1.6
ZAK				*e*			18 18 05.7	
ZAK				*e*Sg		Sg	18 18 39.7	-4.8
ZAK				max				
	comp=N,4.0nm,1.5s							
ZAK				Smax				
	comp=N,17nm,1.7s							
MOY	**Mondy**	**6.76**	**237**	*e*PN		Pn	18 16 50.0	+1.6
MOY				*e*			18 17 11.4	
MOY				*e*			18 18 36.5	
MOY				pmax	pmax			
	comp=Z,5.0nm,0.4s							
MOY				smax				
	comp=E,49nm,1.4s							
MOY	**Mondy**	**6.76**	**237**	*e*Pn		Pn	18 16 50.0	+1.6
MOY				*e*			18 18 06.2	
MOY				*e*Sg		Sg	18 18 38.1	-7.4
MOY				max				
	comp=E,15nm,0.8s							
MOY				Smax				
	comp=E,49nm,1.3s							
ORL	**Orlik**	**6.84**	**247**	*e*PN		Pn	18 16 50.8	+1.3
ORL				*e*S		Sn	18 18 39.5	+32
ORL				smax				
	comp=N,66nm,1.1s							
ORL	**Orlik**	**6.84**	**247**	*e*Pn		Pn	18 16 50.8	+1.3
ORL				*e*Sn		Sn	18 18 06.9	-1.0
ORL				*e*Sg		Sg	18 18 39.5	-8.7
ORL				max				
	comp=N,6.0nm,0.5s							
ORL				Smax				
	comp=N,69nm,1.4s							

IDC ***22*** *18:15:20.8±1.0,6529S×17390W,h0km,mb4.2/4, mb1 4.3/5,mb1mx4.2/10,mbtmp4.1/5,ML2.9/1,MS4.0/17, Ms1 4.0/17,ms1mx4.0/20,Error ellipse: s-maj=56.5km s-min=25.5km az=33.0*
ISCJB ***22*** *18:15:22.0±1.1,6525S±0.1×1743W±05,h10km,mb4.3/6, MS4.0/16,Error ellipse: s-maj=29.4km s-min=15.4km az=132.1*
NEIC ***22*** *18:15:22.6±0.8,6515S×17395W,h10km,mb4.7/2,Error ellipse: s-maj=26.1km s-min=14.2km az=68.0*

ISC 22 18:15:23.2±1.0, 652S±01×1742W±04, h10km, n32, σ0⅊62/8, mb4.3/6, MS4.0/16, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.34**	**201**	Pn	**Pn**	**18 18 45.6**	**-0.6**
	0.1nm,0.3s,baz=53,slow=13,SNR=3.6						
VNDA				LR	LR	18 23 13.8	
	comp=Z,524nm,18.4s,baz=32,slow=33						
RPZ	**Rata Peaks**	**23.07**	**332**	LR	LR	18 27 18.9	
	comp=Z,346nm,18.6s,MS3.8,baz=184,slow=31						
QSPA	**South Pole Qui**	**24.88**	**180**	*eP*	**P**	**18 20 47.0**	**+1.0**
	38nm,1.4s,mb4.7						
URZ	**Urewera**	**27.47**	**345**	LR	LR	18 29 49.8	
	comp=Z,581nm,18.8s,MS4.2,baz=70,slow=32						
MAW	**Mawson**	**41.44**	**209**	LR	LR	18 39 06.5	
	comp=Z,107nm,18.0s,MS3.8,baz=245,slow=34						
STKA	**Stephens Creek**	**42.82**	**299**	P	**P**	**18 23 21.4**	**+0.2**
	1.2nm,0.7s,mb3.7,baz=138,slow=11,SNR=2.8						
STKA				LR	LR	18 38 02.2	
	comp=Z,211nm,19.9s,MS4.0,baz=78,slow=32						
SNAA	**Sanae**	**43.26**	**176**	*eP*	**P**	**18 23 24.7**	**0.0**
	12nm,1.4s,mb4.4						
TBI	**Tubuai**	**44.81**	**33**	*eLR*	LR	18 35 52.1	
	134nm,22.2s						
TBI	**Tubuai**	**44.81**	**33**	*eT*		19 11 11.1	
	3.6nm,0.3s						
DZM	**Mont Dzumac**	**44.95**	**334**	LR	LR	18 39 00.6	
	comp=Z,206nm,18.5s,MS4.1,baz=214,slow=32						
RAR	**Rarotonga**	**44.99**	**19**	LR	LR	18 36 57.7	
	comp=Z,236nm,22.0s,MS4.1,baz=153,slow=29						
RKT	**Rikitea**	**49.09**	**50**	*eT*		19 16 31.2	
	1.6nm,0.3s						
PPT	**Papeete**	**50.37**	**31**	*eLR*	LR	18 38 21.4	
	176nm,27.2s						
PPT	**Papeete**	**50.37**	**31**	LR	LR	18 41 20.3	
	comp=Z,130nm,18.4s,MS4.0,baz=146,slow=31						
NWAO	**Narrogin (SRO)**	**51.69**	**274**	LR	LR	18 41 55.7	
	comp=Z,95nm,19.7s,MS3.8,baz=219,slow=31						
CTA	**Charters Tower**	**52.05**	**311**	LR	LR	18 43 51.3	
	comp=Z,216nm,18.0s,MS4.2,baz=228,slow=33						
VAH	**Vaihoa**	**53.06**	**33**	*eT*		19 21 29.0	
	15nm,0.2s						
ASAR	**Alice Springs**	**53.11**	**296**	P	**P**	**18 24 41.6**	**+0.7**
	2.1nm,1.1s,mb4.0,baz=161,slow=8.2,SNR=8.2						
WRA	**Warramunga Arr**	**56.33**	**298**	P	**P**	**18 25 03.4**	**-0.9**
	5.0nm,1.3s,mb4.4,baz=153,slow=6.4,SNR=8.3						
WRA				LR	LR	18 45 50.7	
	comp=Z,226nm,21.3s,MS4.2,baz=145,slow=32						
HNR	**Honiara**	**58.54**	**330**	LR	LR	18 46 46.9	
	comp=Z,217nm,18.8s,MS4.3,baz=2.9,slow=32						
PLCA	**Paso Flores**	**59.07**	**121**	LR	LR	18 44 01.5	
	comp=Z,113nm,20.9s,MS4.0,baz=182,slow=29						
TAOE	**Nuku Hiva Isla**	**61.05**	**39**	*eLR*	LR	18 43 27.6	
	666nm,28.3s						
FITZ	**Fitzroy Crossi**	**61.36**	**290**	LR	LR	18 50 57.4	
	comp=Z,92nm,18.0s,MS4.0,baz=147,slow=35						
PMG	**Port Moresby**	**61.84**	**316**	LR	LR	18 46 52.4	
	comp=Z,139nm,21.2s,MS4.1,baz=335,slow=30						
LPAZ	**La Paz**	**81.90**	**111**	P	**P**	**18 27 42.5**	**-0.4**
	5.1nm,1.1s,mb4.4,baz=156,slow=2.3,SNR=13						
LPAZ				LR	LR	18 55 49.9	
	comp=Z,46nm,20.4s,MS3.8,baz=3.0,slow=30						
LPAZ	**La Paz**	**81.90**	**111**	P	**P**	**18 27 42.5**	**-0.4**
LPAZ				LR	LR	18 55 49.9	
BOSA	**Boshof**	**85.28**	**197**	LR	LR	19 04 20.2	
	comp=Z,78nm,18.0s,MS4.1,baz=179,slow=34						
BVAR	**Borovoye Array**	**146.31**	**280**	PKPbc	PKPbc	18 35 02.0	-2.1
	2.5nm,1.0s,baz=151,slow=3.4,SNR=7.3						
AKTK	**Aktyubinsk**	**149.59**	**266**	PKPbc	PKPbc	18 35 09.9	-2.9
AKTO	**Aktyubinsk**	**149.59**	**266**	PKPbc	PKPbc	18 35 09.9	-2.9
	2.0nm,0.9s,baz=154,slow=5.8,SNR=4.5						
BRTR	**Keskin Array B**	**149.87**	**226**	PKPbc	PKPbc	18 35 11.3	-2.2
	8.4nm,1.1s,baz=134,slow=3.6,SNR=16						
KEST	**Kesra**	**150.41**	**186**	PKPbc	PKPbc	18 35 11.9	-2.9
	1.9nm,1.1s,baz=264,slow=21,SNR=2.5						

IDC 22 18:26:31.1±1.4, 2222N×14338E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=51.6km s-min=27.3km az=84.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.21**	**322**	P	P	18 31 09.3	+1.7
	0.7nm,0.7s,baz=166,slow=8.9,SNR=3.1						
SONM	**Songino Array**	**39.06**	**320**	P	P	18 33 58.8	-0.8
	0.7nm,0.9s,baz=125,slow=6.9,SNR=4.4						
ASAR	**Alice Springs**	**46.53**	**192**	P	P	18 35 00.6	+0.2
	0.2nm,0.3s,baz=357,slow=5.5,SNR=15						
YKA	**Yellowknife Ar**	**75.91**	**28**	P	P	18 38 19.4	-0.1
	0.3nm,0.6s,baz=293,slow=5.8,SNR=6.0						

*IDC **22** 18:28:50.4±5.6, 3804N×7486E, h106km±49km, mb3.5/8, mb1 3.6/12, mb1mx3.4/26, mbtmp3.4/12, Error ellipse: s-maj=38.0km s-min=20.3km az=32.0*
*NEIC **22** 18:28:50.6±2.0, 3805N×7486E, h108km±16km, mb4.5/1, Error ellipse: s-maj=20.1km s-min=11.2km az=210.0*
*ISCJB **22** 18:28:52.3±0.4, 3823N±002×7500E±007, h138km±6km, mb3.7/9, Error ellipse: s-maj=8.9km s-min=4.1km az=171.3*
*NNC **22** 18:28:59.9±5.1, 3878N×7451E, h181km±40km, mb2.4, mpv3.4, Error ellipse: s-maj=45.4km s-min=30.3km az=2.0*
*BJI **22** 18:29:00.1, 3844N×7575E, h108km*
ISC 22 18:28:53.3±0.3, 3823N±003×7503E±007, h135km±5km, n41, σ1⅊28/53, mb3.7/9, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.48**	**30**	⇑*iP*	**Pn**	**18 29 22.8**	**+1.2**
KSH				S	**Sn**	**18 29 43.8**	**+0.6**
KSH				Smax			
	comp=N,11μm,0.3s						
KSH				Smax			
	comp=E,10μm,0.7s						
AAK	**Ala-Archa**	**4.42**	**355**	*eP*	**Pn**	**18 29 58.2**	**-0.5**
TKM2	**Tokmak 2**	**4.71**	**5**	⇑P	**Pn**	**18 30 03.0**	**+0.4**
	comp=E,1.0nm,0.5s						
TKM2				⇓S	**Sn**	**18 30 54.7**	**-1.7**
	comp=E,6.0nm,0.7s						
CHCP	**Chirah Chowk**	**4.78**	**198**	P	**Pn**	**18 30 05.5**	**+2.0**
CEP	**Cherat**	**5.07**	**211**	⇑P	**Pn**	**18 30 09.3**	**+1.9**
CEP				S	**Sn**	**18 31 02.0**	**-3.0**
DLH	**Dalhousie**	**5.72**	**172**	*eP*	**Pn**	**18 30 18.0**	**+1.8**
DLH				*ex*	x	18 31 22.0	
THN	**Thein Dam**	**5.81**	**174**	*eP*	**Pn**	**18 30 17.9**	**+0.6**
THN				*eS*	**Sn**	**18 31 22.0**	**-0.8**
KK31	**Karatay Array**	**5.96**	**326**	⇓P	**Pn**	**18 30 17.6**	**-1.7**
	comp=E,6.8nm,0.3s						
KK31				⇑S	**Sn**	**18 31 19.3**	**-7.1**
	comp=E,22nm,0.4s						
THW	**Thamme Wali**	**6.04**	**207**	P	**Pn**	**18 30 21.7**	**+1.2**
SARP	**Sargodha**	**6.58**	**198**	P	**Pn**	**18 30 28.5**	**+0.8**
SBDP	**Sheikh Budin**	**6.84**	**212**	P	**Pn**	**18 30 31.3**	**+0.1**
SDNR	**Sundarnagar**	**6.90**	**166**	*eP*	**Pn**	**18 30 32.0**	**+0.1**
SDNR				*eS*	**Sn**	**18 31 48.4**	**-0.7**
KLP	**Kalpa**	**7.18**	**157**	*eP*	**Pn**	**18 30 37.4**	**+1.6**
KLP				*eS*	**Sn**	**18 31 52.7**	**-3.2**
KLP				AML	AML	18 32 01.5	
	comp=E,147nm,0.6s						
KLP				AML	AML	18 32 02.0	
	comp=N,130nm,0.8s						
DRP	**Derazinda**	**7.58**	**213**	P	**Pn**	**18 30 42.9**	**+1.8**
JOSI	**Joshimath**	**8.52**	**153**	*eP*	**Pn**	**18 30 54.6**	**+0.9**
JOSI				*eS*	**Sn**	**18 32 23.0**	**-5.2**
JOSI				AML	AML	18 32 30.4	
	comp=N,148nm,1.5s						
JOSI				AML	AML	18 32 30.8	
	comp=E,256nm,0.5s						
MKAR	**Makanchi Array**	**10.10**	**30**	P	**Pn**	**18 31 15.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=211,slow=14,SNR=7.1						
MKAR	**Makanchi Array**	**10.10**	**30**	P	**Pn**	**18 31 15.1**	**+0.3**
KHET	**Khetri**	**10.15**	**176**	*eP*	**Pn**	**18 31 12.5**	**-3.0**
KHET				*eS*	**Sn**	**18 32 59.3**	**-8.2**
KOLN	**Koldanda**	**12.66**	**143**	*eP*	**Pn**	**18 31 47.4**	**-1.2**
	comp=E,23nm,0.7s						
GKN	**Gorkha**	**12.98**	**139**	*eP*	**Pn**	**18 31 51.4**	**-1.3**
	comp=E,10.0nm,0.3s						
KKN	**Kakani**	**13.49**	**137**	*eP*	**Pn**	**18 31 57.5**	**-1.8**
	comp=E,17nm,0.7s						
DMN	**Daman**	**13.55**	**138**	*eP*	**Pn**	**18 31 58.6**	**-1.4**
	comp=E,9.9nm,0.4s						
GUN	**Gumba**	**13.72**	**135**	*eP*	**Pn**	**18 32 01.0**	**-1.2**
	comp=E,14nm,0.7s						
BVA0	**Borovoye Array**	**15.14**	**349**	⇑P	**Pn**	**18 32 20.1**	**0.0**
	comp=E,0.5nm,0.9s,baz=199,slow=40,SNR=12						
BVA0				S	**S**	**18 35 02.0**	**-13**
BVAR	**Borovoye Array**	**15.14**	**349**	P	**Pn**	**18 32 20.6**	**+0.5**
	comp=E,0.3nm,0.3s,baz=159,slow=13,SNR=12						
AB31	**Akbulak array**	**15.47**	**320**	⇓P	**Pn**	**18 32 20.3**	**-3.8**
	comp=E,0.9nm,0.6s,baz=122,slow=12,SNR=9.2						
AB31				⇑S	**S**	**18 35 02.3**	**-19**
	comp=E,0.9nm,0.5s,baz=163,slow=21,SNR=7.7						
ZAL	**Zalesovo**	**17.09**	**20**	P	**Pn**	**18 32 44.8**	**+0.9**
	comp=E,0.4nm,0.3s,baz=260,slow=6.8,SNR=4.6						
AKTK	**Aktyubinsk**	**17.18**	**321**	P	**Pn**	**18 32 44.2**	**-0.9**
AKTO	**Aktyubinsk**	**17.18**	**321**	⇓P	**Pn**	**18 32 42.8**	**-2.3**
	comp=E,0.5nm,1.6s						
AKTO				⇓S	**S**	**18 35 40.1**	**-16**
	comp=E,2.3nm,3.2s						
AKTO	**Aktyubinsk**	**17.18**	**321**	P	**Pn**	**18 32 44.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=138,slow=16,SNR=4.2						
GTA	**Gaotai**	**19.34**	**79**	*eP*	**P**	**18 33 12.0**	**+3.9**
BR131	**Keskin Array S**	**32.01**	**286**	*eP*	**P**	**18 35 11.1**	**+4.3**
	comp=E,12nm,1.1s,mb4.5						
FINES	**FINESS Array B**	**37.91**	**324**	P	**P**	**18 35 57.6**	**+0.2**
	comp=E,3.3nm,0.9s,mb4.0,baz=113,slow=9.1,SNR=5.1						
ARCES	**ARCESS Array B**	**40.83**	**336**	P	**P**	**18 36 21.9**	**+0.4**
	comp=E,8.1nm,1.1s,mb4.3,baz=49,slow=3.7,SNR=6.1						
ARCES	**ARCESS Array B**	**40.83**	**336**	P	**P**	**18 36 21.9**	**+0.4**
HFS	**Hagfors**	**43.73**	**321**	P	**P**	**18 36 45.8**	**+0.7**
	comp=E,3.6nm,0.9s,mb4.0,baz=87,slow=7.6,SNR=5.5						
NOA	**NORSAR Array B**	**44.97**	**322**	P	**P**	**18 36 54.9**	**+0.1**
	comp=E,1.2nm,0.8s,mb3.6,baz=107,slow=6.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**68.94**	**270**	P	**P**	**18 39 43.2**	**-0.4**
	comp=E,0.6nm,0.6s,mb3.5,baz=46,slow=5.3,SNR=9.4						
YKA	**Yellowknife Ar**	**79.33**	**5**	P	**P**	**18 40 44.6**	**+0.7**
	comp=E,0.3nm,0.5s,mb3.2,baz=346,slow=5.1,SNR=6.5						
WRA	**Warramunga Arr**	**80.26**	**125**	P	**P**	**18 40 49.4**	**+0.4**
	comp=E,0.6nm,0.7s,mb3.3,baz=326,slow=5.0,SNR=4.7						
ASAR	**Alice Springs**	**82.69**	**128**	P	**P**	**18 41 02.9**	**+1.2**
	comp=E,0.4nm,0.7s,mb3.3,baz=317,slow=5.2,SNR=4.9						

IDC 22 18:32:35.9±10.0, 231N×13032E, h295km±120km, mb3.1/8, mb1 3.3/8, mb1mx3.2/19, mbtmp3.1/8, Error ellipse: s-maj=48.3km s-min=17.9km az=90.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.80**	**193**	P	P	18 36 56.4	+1.2
	1.5nm,0.7s,baz=40,slow=7.5,SNR=7.7						
WRA	**Warramunga Arr**	**22.46**	**170**	P	P	18 37 09.3	-1.1
	2.3nm,0.7s,baz=346,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.05**	**173**	P	P	18 37 42.6	-0.1
	0.7nm,0.7s,baz=357,slow=10.0,SNR=7.1						
MJAR	**Matsushiro Arr**	**34.83**	**11**	P	P	18 39 00.1	+0.6
	1.3nm,0.7s,baz=181,slow=9.4,SNR=6.5						
STKA	**Stephens Creek**	**35.64**	**163**	P	P	18 39 07.8	+1.5
	0.6nm,0.4s,baz=335,slow=10,SNR=2.9						
SONM	**Songino Array**	**49.84**	**339**	P	P	18 40 58.8	-0.7
	0.2nm,0.5s,baz=129,slow=7.8,SNR=2.8						
MKAR	**Makanchi Array**	**60.78**	**324**	P	P	18 42 16.8	-0.2
	0.5nm,0.5s,baz=110,slow=7.9,SNR=14						
BVAR	**Borovoye Array**	**70.47**	**326**	P	P	18 43 19.5	+0.8
	0.9nm,0.6s,baz=124,slow=7.9,SNR=6.6						

IDC 22 18:55:59.3±6.1, 680N×7514W, h157km±101km, mb3.1/1, mb1 3.5/2, mb1mx3.0/18, mbtmp3.3/2, Error ellipse: s-maj=359.9km s-min=40.0km az=85.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.09**	**157**	P	Pn	18 56 36.7	+0.7
	20nm,0.3s,baz=26,slow=6.0,SNR=16						
ROSC				S	Sn	18 57 05.6	+1.5
	18nm,0.3s,baz=97,slow=19,SNR=4.3						
YKA	**Yellowknife Ar**	**62.60**	**341**	P	P	19 06 06.5	-0.2
	0.3nm,0.5s,baz=134,slow=6.6,SNR=9.5						
WRA	**Warramunga Arr**	**148.56**	**243**	PKPbc	PKPbc	19 15 28.1	+0.5
	0.3nm,0.9s,baz=107,slow=2.9,SNR=5.7						

WEL 22 19:04:19.1±0.7, 3493S×17834E, h33km, ML3.6/3, Error ellipse: s-maj=12.6km s-min=4.9km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.14**	**181**	PN	Pn	19 05 05.7	-0.5
PUZ				SN	Sn	19 05 40.3	-2.3
MWZ	**Matawai**	**3.46**	**191**	P*	Pb	19 05 10.9	-8.8
MWZ				S*	Sb	19 05 50.0	-11
URZ	**Urewera**	**3.47**	**196**	*eP**	Pb	19 05 10.9	-8.8
URZ				S*	Sb	19 05 51.7	-10

*SOF **22** 19:07:06.3, 4227N×2140E, h6km, MD3.2*
*PRU **22** 19:07:06.1, 4225N×2160E, h0km*
*LDG **22** 19:07:07.8±0.1, 4241N×2157E, h10km, Ml3.7/3, Error ellipse: s-maj=2.5km s-min=1.7km az=34.0*
*CSEM **22** 19:07:07.5±0.0, 4243N×2151E, h10km, mb4.3/8, Error ellipse: s-maj=1.2km s-min=1.0km az=34.0*
*PDG **22** 19:07:07.4±0.4, 4238N×2156E, h11km±1km*
*NEIC **22** 19:07:07.4, 4238N×2156E, h11km, ML3.3(BUC), ML3.8(PDG), After PDG.*
NEIC Felt [III] at Skopje, Macedonia.
*ISCJB **22** 19:07:07.8±0.3, 4242N±001×2151E±002, h11km±2km, mb4.0/13, MS3.8/3, Error ellipse: s-maj=2.6km s-min=1.8km az=123.3*
*BEO **22** 19:07:07.7±0.2, 4239N×2149E, h16km*
*MOS **22** 19:07:08.2±0.8, 4243N×2153E, h14km, mb4.3/11, Error ellipse: s-maj=5.0km s-min=3.8km az=106.9*
*THE **22** 19:07:08.9, 4238N×2152E, h6km, ML3.8*
*SKO **22** 19:07:09.3, 4223N×2167E, h22km, M3.5, ML3.9*
*IDC **22** 19:07:11.3±3.5, 4241N×2148E, h26km±24km, mb3.8/9, mb1 3.9/18, mb1mx3.8/25, mbtmp3.8/18, ML3.6/7, MS2.9/1, Ms1 2.9/1, ms1mx2.4/43, Error ellipse: s-maj=14.2km s-min=9.9km az=45.0*
*NAO **22** 19:07:13.3, 4241N×2155E, h33km, mb3.7*
ISC 22 19:07:08.4±0.3, 4239N±001×2155E±002, h4km±2km, n264, σ1⅊09/350, mb4.0/13, MS3.8/3, 59C-28D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.43**	**191**	*ePg*	**Pg**	**19 07 16.8**	**+0.2**
SKO				*eSg*	**Sg**	**19 07 21.9**	**-0.3**
SKO	**Skopje**	**0.43**	**191**	⇑*iPg*	**Pg**	**19 07 16.7**	**+0.1**
SKO				*eSg*	**Sg**	**19 07 22.5**	**+0.3**
SKO				*eLg*		19 07 22.6	
	comp=E,7μm,0.4s						
SKO				*eLg*		19 07 22.8	
	comp=N,7μm,0.4s						
SKO	**Skopje**	**0.43**	**191**	⇑*iPg*	**Pg**	**19 07 16.7**	**+0.1**
SKO				*eSg*	**Sg**	**19 07 22.5**	**+0.3**
SKO				*eLg*		19 07 22.6	
	comp=E,7μm,0.4s						
SKO				*eLg*		19 07 22.8	
	comp=N,7μm,0.4s						
SKO	**Skopje**	**0.43**	**191**	⇑*iPg*	**Pg**	**19 07 16.7**	**+0.1**
SKO				*eSg*	**Sg**	**19 07 22.4**	**+0.3**
BARS	**Barje**	**0.47**	**25**	⇑*iPg*	**Pg**	**19 07 17.3**	**-0.1**
BARS				Sg	**Sg**	**19 07 24.9**	**+1.3**
STIP	**Stip**	**0.84**	**146**	*eSg*	**Sg**	**19 07 37.0**	**+1.6**
STIP				*eSg*	**Sg**	**19 07 49.5**	**+14**
STIP	**Stip**	**0.84**	**146**	⇑*iPg*	**Pg**	**19 07 22.4**	**-2.1**
STIP				*eSg*	**Sg**	**19 07 36.9**	**+1.4**
STIP				*eLg*		19 07 37.0	
STIP				*eLg*		19 07 37.0	
STIP	**Stip**	**0.84**	**146**	⇑*iPg*	**Pg**	**19 07 22.4**	**-2.1**
STIP				*eSg*	**Sg**	**19 07 37.0**	**+1.6**
SELS	**Selova**	**0.87**	**339**	⇓*iPg*	**Pg**	**19 07 24.1**	**-0.9**
SELS				Sg	**Sg**	**19 07 36.4**	**+0.1**
KRUS	**Krusevo**	**1.05**	**193**	⇑*iPg*	**Pg**	**19 07 27.9**	**-0.6**
KRUS				*eSg*	**Sg**	**19 07 40.4**	**-1.6**
KRUS	**Krusevo**	**1.05**	**193**	⇑*iPg*	**Pg**	**19 07 27.9**	**-0.6**
KRUS				*eSg*	**Sg**	**19 07 40.4**	**-1.6**
KRUS	**Krusevo**	**1.05**	**193**	⇑*iPg*	**Pg**	**19 07 27.8**	**-0.6**
PVY	**Plav**	**1.19**	**280**	⇑*iPg*	**Pg**	**19 07 29.8**	**-1.3**
PVY				*eSg*	**Sg**	**19 07 47.4**	**+0.9**
VTS	**Vitosha**	**1.24**	**80**	P	**Pg**	**19 07 32.8**	**+0.7**
VTS	**Vitosha**	**1.24**	**80**	⇑P	**Pg**	**19 07 32.4**	**+0.2**
VTS	**Vitosha**	**1.24**	**80**	⇑*iP*	**Pg**	**19 07 32.4**	**+0.3**
KKB	**Krupnik**	**1.25**	**114**	P	**Pg**	**19 07 32.3**	**-0.1**
IVA	**Berane**	**1.31**	**292**	⇓*iPg*	**Pn**	**19 07 31.9**	**-1.5**
IVA				*eSg*	**Sg**	**19 07 52.1**	**+1.6**
VAY	**Valandovo**	**1.31**	**144**	*ePg*	**Pn**	**19 07 31.9**	**-1.6**
VAY				*eSg*	**Sg**	**19 07 51.4**	**+0.9**
VAY				*eLg*		19 07 52.1	
	comp=E,2μm,0.8s						
VAY				*eLg*		19 07 54.4	
	comp=N,1μm,0.6s						
VAY	**Valandovo**	**1.31**	**144**	*ePg*	**Pn**	**19 07 31.9**	**-1.6**
VAY				*eSg*	**Sg**	**19 07 51.4**	**+0.9**
VAY				*eLg*		19 07 52.1	
	comp=E,2μm,0.8s						
VAY				*eLg*		19 07 54.4	
	comp=N,1μm,0.6s						
VAY	**Valandovo**	**1.31**	**144**	*ePg*	**Pn**	**19 07 31.9**	**-1.6**
VAY				*eSg*	**Sg**	**19 07 51.4**	**+0.9**
SOF	**Sofiya**	**1.35**	**77**	P	**Pn**	**19 07 35.3**	**+1.3**
BIA	**Bitola**	**1.38**	**187**	*ePg*	**Pn**	**19 07 33.0**	**-1.5**
BIA				*eSg*	**Sb**	**19 07 51.8**	**-1.0**
BIA	**Bitola**	**1.38**	**187**	*ePg*	**Pn**	**19 07 33.0**	**-1.5**
BIA				*eSg*	**Sb**	**19 07 50.2**	**-2.6**
BIA				*eLg*		19 07 51.6	
BIA				*eLg*		19 07 51.9	
BIA	**Bitola**	**1.38**	**187**	*ePg*	**Pn**	**19 07 33.0**	**-1.5**
BIA				*eSg*	**Sb**	**19 07 50.2**	**-2.6**
BIA				*eLg*		19 07 51.6	
BIA				*eLg*		19 07 51.9	
BIA	**Bitola**	**1.38**	**187**	*ePg*	**Pn**	**19 07 32.9**	**-1.6**
BIA				*eSg*	**Sb**	**19 07 51.8**	**-1.0**
OHR	**Ohrid**	**1.40**	**204**	*ePg*	**Pn**	**19 07 32.8**	**-1.8**
OHR				*eSg*	**Sg**	**19 07 53.1**	**-0.2**
OHR	**Ohrid**	**1.40**	**204**	*ePg*	**Pn**	**19 07 32.9**	**-1.7**
OHR				*eSg*	**Sg**	**19 07 53.0**	**-0.3**
OHR				*eLg*		19 07 55.5	
	comp=N,2μm,0.9s						
OHR				*eLg*		19 07 55.5	
	comp=E,5μm,0.7s						
OHR	**Ohrid**	**1.40**	**204**	*ePg*	**Pn**	**19 07 32.9**	**-1.7**
OHR				*eSg*	**Sg**	**19 07 53.0**	**-0.3**
OHR				*eLg*		19 07 55.5	
	comp=N,2μm,0.9s						
OHR				*eLg*		19 07 55.5	
	comp=E,5μm,0.7s						
OHR	**Ohrid**	**1.40**	**204**	*ePg*	**Pn**	**19 07 32.9**	**-1.8**
OHR				*eSg*	**Sg**	**19 07 53.1**	**-0.2**
BOLS	**Boljevac**	**1.47**	**12**	⇑*iPg*	**Pg**	**19 07 35.5**	**-1.0**
BOLS				Sg	**Sg**	**19 07 55.4**	**-0.1**
SJES	**Sjenica**	**1.47**	**307**	Pg	**Pn**	**19 07 34.4**	**-1.3**
SJES				Sg	**Sg**	**19 07 54.5**	**-1.2**
GRG	**Griva**	**1.57**	**156**	*ePg*	**Pn**	**19 07 36.9**	**-0.1**
KNT	**Kendrikon**	**1.59**	**140**	*ePg*	**Pn**	**19 07 36.7**	**-0.6**
KNT				*eSg*	**Sg**	**19 07 59.6**	**+0.2**
FNA	**Florina**	**1.61**	**185**	*ePg*	**Pn**	**19 07 37.3**	**-0.3**
GRUS	**Gruza**	**1.62**	**338**	⇑*iPn*	**Pn**	**19 07 36.9**	**-0.8**
GRUS				Sg	**Sg**	**19 07 59.7**	**-0.6**
GRUS	**Gruza**	**1.62**	**338**	Pn	**Pn**	**19 07 36.8**	**-0.9**
GRUS				Sg	**Sg**	**19 07 59.7**	**-0.6**
TIR	**Tirane**	**1.64**	**231**	*ePg*	**Pn**	**19 07 38.1**	**+0.2**
TTG	**Podgorica**	**1.70**	**272**	⇑*iPn*	**Pn**	**19 07 38.7**	**-0.1**
TTG				*eSn*	**Sn**	**19 08 02.9**	**+2.0**
ULC	**Ulcinj**	**1.76**	**257**	⇑*iPn*	**Pn**	**19 07 39.9**	**+0.1**
ULC				*eSn*	**Sn**	**19 08 04.3**	**+1.7**
ULC	**Ulcinj**	**1.76**	**257**	⇑*iPn*	**Pn**	**19 07 39.8**	**+0.1**
ULC				*eSn*	**Sn**	**19 08 04.3**	**+1.7**
MMB	**Musomiste**	**1.81**	**116**	P	**Pn**	**19 07 40.7**	**+0.4**
PLE	**Pljevlja**	**1.84**	**301**	⇓*iPn*	**Pn**	**19 07 40.9**	**+0.1**
PLE				*eSn*	**Sn**	**19 08 06.4**	**+1.8**
SVIS	**Svilajnac**	**1.92**	**353**	⇑*iPn*	**Pn**	**19 07 40.9**	**-0.9**
SVIS				Sg	**Sg**	**19 08 06.1**	**-3.9**
NKY	**Niksic**	**1.93**	**283**	⇓*iPn*	**Pn**	**19 07 42.0**	**-0.1**
NKY				*eSn*	**Sn**	**19 08 08.3**	**+1.6**
BUM	**Brajici-Budva**	**1.97**	**268**	⇓*iPn*	**Pn**	**19 07 42.5**	**-0.1**
BUM				*eSn*	**Sn**	**19 08 09.2**	**+1.5**
NVR	**Nevrokopi**	**2.02**	**120**	*ePn*	**Pn**	**19 07 43.3**	**+0.1**
DIVS	**Divcibare**	**2.05**	**327**	⇑*iPn*	**Pn**	**19 07 43.2**	**-0.5**
DIVS				Sg	**Sg**	**19 08 08.6**	**-5.7**
DIVS	**Divcibare**	**2.05**	**327**	*ePn*	**Pn**	**19 07 43.0**	**-0.6**
THE	**Thessaloniki**	**2.05**	**148**	*ePn*	**Pn**	**19 07 43.2**	**-0.5**
SOH	**Sokhos**	**2.07**	**139**	*ePn*	**Pn**	**19 07 43.6**	**-0.3**
KZN	**Kozani**	**2.09**	**175**	*ePb*	**Pn**	**19 07 43.1**	**-1.1**
UPM	**Unac-Piva**	**2.11**	**294**	⇑*iPn

CRES	**Cresnjev**	**5.57 310**	*e*Pn	**Pn**	**19 08 32.0**	**0.0**
CRES			*e*Sn	**Sn**	**19 09 31.5**	**-5.0**
GOLS	**Golise**	**5.59 312**	*e*Pn	**Pn**	**19 08 32.1**	**-0.2**
GOLS			*e*Sn	**Sn**	**19 09 31.8**	**-5.1**
GOLS	comp=Z,342nm,2.4s					
GOLS	**Golise**	**5.59 312**	*e*Pn	**Pn**	**19 08 32.1**	**-0.2**
GOLS			*e*Sn	**Sn**	**19 09 31.8**	**-5.1**
PENC	**Penc**	**5.63 344⇓**	*e*P	**Pn**	**19 08 33.0**	**+0.1**
PSZ	**Piszkesteto**	**5.65 349⇓**	*i*P	**Pn**	**19 08 32.8**	**-0.3**
PSZ	**Piszkesteto**	**5.65 349⇑**	*e*Pn	**Pn**	**19 08 32.8**	**-0.3**
CESS	**Cesta pri Krsk**	**5.66 311**	*e*Pn	**Pn**	**19 08 33.4**	**+0.2**
LEGS	**Legarje**	**5.72 311**	*e*Pn	**Pn**	**19 08 34.2**	**+0.1**
DOBS	**Dobrina**	**5.76 313**	*e*Pn	**Pn**	**19 08 34.8**	**+0.1**
SDI	**San Donato**	**5.80 266**	P	**Pn**	**19 08 36.0**	**+0.8**
SDI			pmax	pmax		
	comp=Z,30nm,0.8s					
SDI	**San Donato**	**5.80 266**	P	**Pn**	**19 08 36.0**	**+0.8**
	comp=Z,30nm,0.8s					
BURAR	**Bucovina Array**	**5.83 25**	P	**Pn**	**19 08 36.9**	**+1.3**
BURAR	**Bucovina Array**	**5.83 25**	⇑P	**Pn**	**19 08 37.3**	**+1.7**
BURAR	**Bucovina Array**	**5.83 25**	⇑*i*P	**Pn**	**19 08 37.3**	**+1.7**
PDKS	**Podkum**	**5.97 310**	*e*Pn	**Pn**	**19 08 37.9**	**+0.4**
KECS	**Kecovo**	**6.14 353**	*e*PN	**Pn**	**19 08 40.1**	**+0.3**
KECS			*e*SN	**Sn**	**19 09 48.0**	**-2.5**
NRCA	**Norcia**	**6.24 277**	Pn	**Pn**	**19 08 41.7**	**+0.4**
	comp=Z,33nm,0.8s					
PERS	**Pernice**	**6.26 315**	*e*Pn	**Pn**	**19 08 41.2**	**-0.3**
PERS			*e*Sn	**Sn**	**19 09 46.3**	**-7.1**
PERS	comp=Z,42nm,0.3s					
PERS	**Pernice**	**6.26 315**	*e*Pn	**Pn**	**19 08 41.2**	**-0.3**
PERS			*e*Sn	**Sn**	**19 09 46.3**	**-7.1**
UZH	**Uzhgorod**	**6.26 5**	*e*P	**Pn**	**19 08 45.5**	**+4.0**
UZH			*e*S	**Sn**	**19 10 00.5**	**+7.0**
UZH			smax			
	comp=Z,58nm,1.0s					
SOP	**Sopron**	**6.36 328⇓**	*e*Pn	**Pn**	**19 08 43.0**	**+0.1**
SOP			*e*Sn	**Sn**	**19 09 54.2**	**-1.9**
SNTG	**Esanatoglia**	**6.39 281**	Pn	**Pn**	**19 08 42.9**	**-0.4**
	comp=Z,32nm,1.0s					
VYHS	**Vyhne**	**6.39 344**	*e*PN	**Pn**	**19 08 43.5**	**+0.2**
VYHS			*e*SN	**Sn**	**19 09 58.6**	**+1.8**
ARSA	**Arzberg**	**6.48 321⇑**	*i*Sn	**Sn**	**19 09 51.9**	**-7.0**
ARSA	**Arzberg**	**6.48 321⇑**	*i*Pn	**Pn**	**19 08 43.9**	**-0.6**
	SNR=47					
ARSA			⇓*i*Sn	**Sn**	**19 10 00.0**	**+1.2**
ARSA	**Arzberg**	**6.48 321⇑**	*i*Pn	**Pn**	**19 08 43.9**	**-0.6**
ARSA			*i* Sn	**Sn**	**19 09 51.9**	**-7.0**
ARSA	**Arzberg**	**6.48 321**	Pn	**Pn**	**19 08 43.9**	**-0.6**
	comp=Z,47nm,4.0s					
OBKA	**Obir**	**6.48 312⇑**	*i*Sn	**Sn**	**19 09 52.1**	**-7.0**
OBKA	**Obir**	**6.48 312⇑**	*i*Pn	**Pn**	**19 08 44.9**	**+0.3**
OBKA			⇑*i*Sn	**Sn**	**19 09 56.2**	**-2.8**
OBKA	**Obir**	**6.48 312⇑**	*i*Pn	**Pn**	**19 08 44.9**	**+0.3**
OBKA			*i* Sn	**Sn**	**19 09 52.1**	**-6.9**
CRVS	**Cervenica-Dubn**	**6.51 359**	*e*PN	**Pn**	**19 08 45.4**	**+0.4**
KOLS	**Kolonicke sedl**	**6.56 4**	*e*PN	**Pn**	**19 08 46.3**	**+0.7**
KOLS			*e*SG	**Sg**	**19 10 40.8**	**+1.8**
ASS	**Assisi**	**6.59 279**	P	**Pn**	**19 08 46.5**	**+0.5**
ASS			pmax	pmax		
	comp=Z,3.0nm,0.9s					
ASS	**Assisi**	**6.59 279**	P	**Pn**	**19 08 46.5**	**+0.5**
	comp=Z,3.0nm,0.9s					
ZST	**Bratislava**	**6.60 333**	*e*PN	**Pn**	**19 08 46.4**	**+0.3**
ZST			*e*SN	**Sn**	**19 09 57.8**	**-4.0**
ZST	**Bratislava**	**6.60 333**	*e*Pn	**Pn**	**19 08 46.4**	**+0.3**
ZST			*e*Sn	**Sn**	**19 09 57.9**	**-3.9**
SMOL	**Smolenice**	**6.77 336**	*e*PN	**Pn**	**19 08 49.6**	**+1.1**
SMOL			*e*SN	**Sn**	**19 10 06.0**	**-0.1**
STHS	**Stebnicka Huta**	**7.03 358**	*e*PN	**Pn**	**19 08 53.0**	**+0.9**
PTCC	**Patocco-Chiusa**	**7.11 307**	Pn	**Pn**	**19 08 54.1**	**+0.9**
	comp=Z,11nm,0.6s					
SFI	**Santa Sofia**	**7.26 285**	P	**Pn**	**19 08 56.1**	**+0.9**
SFI			pmax	pmax		
	comp=Z,12nm,0.4s					
SFI	**Santa Sofia**	**7.26 285**	P	**Pn**	**19 08 56.1**	**+0.9**
	comp=Z,12nm,0.4s					
KBA	**Koelnbreinsper**	**7.49 312⇓**	*i*Sn	**Sn**	**19 10 17.8**	**-6.0**
KBA	**Koelnbreinsper**	**7.49 312⇑**	*i*Pn	**Pn**	**19 08 58.9**	**+0.5**
KBA			⇑*i*Sn	**Sn**	**19 10 19.7**	**-4.1**
KBA	**Koelnbreinsper**	**7.49 312⇑**	*i*Pn	**Pn**	**19 08 58.9**	**+0.5**
KBA			*i* Sn	**Sn**	**19 10 17.8**	**-5.9**
MOA	**Molln**	**7.50 319⇓**	*i*Sn	**Sn**	**19 10 16.8**	**-7.3**
MOA	**Molln**	**7.50 319⇑**	*i*Pn	**Pn**	**19 08 58.4**	**-0.2**
	SNR=17					
MOA			⇑*i*Sn	**Sn**	**19 10 23.2**	**-0.9**
MOA	**Molln**	**7.50 319⇑**	*i*Pn	**Pn**	**19 08 58.4**	**-0.2**
MOA			*i* Sn	**Sn**	**19 10 16.8**	**-7.3**
MOA	**Molln**	**7.50 319**	Pn	**Pn**	**19 08 58.4**	**-0.2**
	comp=Z,17nm,2.0s					
FVI	**Forni Avoltri**	**7.55 307**	P	**Pn**	**19 09 00.7**	**+1.5**
FVI			pmax	pmax		
	comp=Z,12nm,0.4s					
FVI	**Forni Avoltri**	**7.55 307**	P	**Pn**	**19 09 00.7**	**+1.5**
	comp=Z,12nm,0.4s					
IDI	**Anoyia**	**7.56 159**	Pn	**Pn**	**19 09 01.2**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=27,slow=16,SNR=4.3					
VRAC	**Vranov**	**7.73 335**	Pn	**Pn**	**19 09 02.0**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=149,slow=13,SNR=8.7					
VRAC			Sn	**Sn**	**19 10 27.4**	**-2.4**
	comp=Z,1.1nm,0.3s,baz=103,slow=12,SNR=6.6					
VRAC	**Vranov**	**7.73 335**	P	**Pn**	**19 09 02.0**	**+0.3**
VRAC					19 10 27.4	
VRAC			pmax	pmax		
	comp=Z,1.0nm,0.3s					
VRAC			smax			
	comp=N,1.0nm,0.3s					
VRAC	**Vranov**	**7.73 335**	⇓P	**Pn**	**19 09 01.9**	**+0.1**
VRAC	**Vranov**	**7.73 335**	⇓*i*P	**Pn**	**19 09 01.9**	**+0.2**
VRAC	**Vranov**	**7.73 335**	*e*Pn	**Pn**	**19 09 01.7**	**0.0**
VRAC			*e*Sn	**Sn**	**19 10 26.9**	**-2.9**
MORC	**Moravsky Berou**	**7.89 341**	*e*Sn	**Sn**	**19 10 29.8**	**-3.9**
TREC	**Trest**	**8.10 331**	*e*PN	**Pn**	**19 09 08.1**	**+1.4**
TREC			*e*SN	**Sn**	**19 10 37.2**	**-1.5**
GEC2	**GERESS Array S**	**8.48 322**	*e*P	**Pn**	**19 09 12.1**	**+0.2**
GERES	**GERESS Array B**	**8.48 322**	Pn	**Pn**	**19 09 13.0**	**+1.1**
	comp=N,0.9nm,0.3s,baz=133,slow=13,SNR=22					
GERES			Sn	**Sn**	**19 10 45.3**	**-2.8**
	comp=N,0.2nm,0.3s,baz=126,slow=22,SNR=2.3					
GERES	**GERESS Array B**	**8.48 322**	P	**Pn**	**19 09 13.0**	**+1.1**
GERES					19 10 45.3	
GERES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
WTTA	**Wattenberg**	**8.56 308⇓**	*i*Sn	**Sn**	**19 10 44.4**	**-5.8**
WTTA	**Wattenberg**	**8.56 308⇑**	*i*Pn	**Pn**	**19 09 14.3**	**+1.1**
	SNR=20					
WTTA			⇑*i*Sn	**Sn**	**19 10 48.9**	**-1.3**
WTTA	**Wattenberg**	**8.56 308⇑**	*i*Pn	**Pn**	**19 09 14.3**	**+1.1**
WTTA			*i* Sn	**Sn**	**19 10 44.4**	**-5.8**
WTTA	**Wattenberg**	**8.56 308**	Pn	**Pn**	**19 09 14.3**	**+1.2**
	comp=Z,19nm,6.0s					
WATA	**Walderalm**	**8.64 308⇑**	*i*Sn	**Sn**	**19 10 46.9**	**-5.1**
WATA	**Walderalm**	**8.64 308⇓**	*i*Pn	**Pn**	**19 09 15.4**	**+1.3**
	SNR=29					
WATA			⇓*i*Sn	**Sn**	**19 10 50.2**	**-1.7**
WATA	**Walderalm**	**8.64 308⇓**	*i*Pn	**Pn**	**19 09 15.4**	**+1.3**
WATA			*i* Sn	**Sn**	**19 10 46.9**	**-5.1**
WATA	**Walderalm**	**8.64 308**	Pn	**Pn**	**19 09 15.4**	**+1.3**
	comp=Z,28nm,9.0s					
DPC	**Dobruska-Polom**	**8.74 337**	*e*PN	**Pn**	**19 09 16.2**	**+0.7**
DPC			*e*SN	**Sn**	**19 10 53.5**	**-1.0**
KHC	**Kasperske Hory**	**8.74 323**	*e*PN	**Pn**	**19 09 16.3**	**+0.7**
KHC			*ex*	x	19 09 58.0	
KHC			*e*SN	**Sn**	**19 10 54.7**	**+0.1**
SQTA	**Sankt Quirin**	**8.79 307⇓**	*i*Sn	**Sn**	**19 10 49.5**	**-6.3**
SQTA	**Sankt Quirin**	**8.79 307⇑**	*i*Pn	**Pn**	**19 09 16.9**	**+0.6**
SQTA			*i* Sn	**Sn**	**19 10 49.5**	**-6.3**
SQTA	**Sankt Quirin**	**8.79 307**	Pn	**Pn**	**19 09 16.9**	**+0.6**
MOTA	**Moosalm**	**8.92 307⇑**	*i*Sn	**Sn**	**19 10 53.0**	**-5.9**
MOTA	**Moosalm**	**8.92 307⇑**	*i*Pn	**Pn**	**19 09 18.4**	**+0.4**
	SNR=18					
MOTA			⇑*i*Sn	**Sn**	**19 10 55.1**	**-3.7**
MOTA	**Moosalm**	**8.92 307⇑**	*i*Pn	**Pn**	**19 09 18.4**	**+0.4**
MOTA			*i* Sn	**Sn**	**19 10 53.0**	**-5.9**
PRU	**Pruhonice**	**9.02 330**	*e*PN	**Pn**	**19 09 20.2**	**+0.9**
PRU			*e*SN	**Sn**	**19 10 59.4**	**-1.9**
SEV	**Sevastopol'**	**9.07 72**	*e*P	**Pn**	**19 09 18.7**	**-1.4**
SEV			*e*S	**Sn**	**19 10 58.8**	**-3.9**
SEV			pmax	pmax		
	comp=Z,1.0nm,0.3s					
SEV			smax			
	comp=N,5.0nm,0.4s					
SEV			smax			
	comp=E,1.0nm,0.4s					
PGF	**Pioggiola**	**9.28 275**	*e*P	**Pn**	**19 09 25.1**	**+2.1**
PGF	**Pioggiola**	**9.28 275**	*e*Pn	**Pn**	**19 09 19.2**	**-3.8**
PGF			*e*P		19 09 25.1	
PGF	**Pioggiola**	**9.28 275**	*e*P	**Pn**	**19 09 25.1**	**+2.1**
BRTR	**Keskin Array B**	**9.51 102**	Pn	**Pn**	**19 09 28.0**	**+1.9**
	comp=E,0.1nm,0.3s,baz=273,slow=11,SNR=4.2					
AKASG	**Malin Array Be**	**9.84 30**	Pn	**Pn**	**19 09 30.7**	**+0.1**
	comp=E,0.4nm,0.3s,baz=216,slow=12,SNR=6.0					
AKASG	**Malin Array Be**	**9.84 30**	*i* P	**Pn**	**19 09 32.0**	**+1.3**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.5s					
AKASG	**Malin Array Be**	**9.84 30**	*i* P	**Pn**	**19 09 32.0**	**+1.3**
	comp=Z,1.0nm,0.5s					
SUDU	**Sudak**	**10.06 71**	*e*P	**Pn**	**19 09 33.5**	**-0.2**
SUDU			*e*S	**Sn**	**19 11 21.0**	**-6.1**
SUDU			pmax	pmax		
	comp=Z,4.0nm,0.6s					
SUDU			smax			
	comp=E,3.0nm,0.3s					
SUDU	**Sudak**	**10.06 71**	*e*P	**Pn**	**19 09 33.5**	**-0.2**
	comp=E,4.0nm,0.6s					
GRA1	**Grafenberg Arr**	**10.23 319**	*e*P	**Pn**	**19 09 32.7**	**-3.3**
GRF	**Grafenberg Arr**	**10.23 319**	*e*P	**Pn**	**19 09 32.7**	**-3.3**
CLL	**Collm**	**10.66 330**	*e*Pg	**Pn**	**19 09 44.0**	**+2.1**
CLL			*e*(Sn)	Sn	19 10 59.0	-43
CLL			*e*Sg	Sn	19 12 05.0	+23
MOX	**Moxa**	**10.71 324**	(PN)	**Pn**	**19 09 42.3**	**-0.3**
MBDF	**Montbardon**	**10.98 287**	*e*Pn	**Pn**	**19 09 42.5**	**-3.7**
MBDF			*e*Sn	**Sn**	**19 11 38.4**	**-11**
	comp=E,3.9nm,0.6s					
FRF	**La Foret Royal**	**10.99 281**	*e*Pn	**Pn**	**19 09 43.5**	**-2.8**
BFO	**Black Forest**	**11.03 307**	*e*P	**Pn**	**19 09 47.0**	**+0.1**
BFO			pmax	pmax		
	comp=Z,8.0nm,0.4s					
BFO	**Black Forest**	**11.03 307**	*e*P	**Pn**	**19 09 47.0**	**+0.1**
	comp=Z,8.4nm,0.4s					
BFO	**Black Forest**	**11.03 307**	*e*P	**Pn**	**19 09 47.0**	**+0.1**
	comp=Z,8.4nm,0.4s					
LPG	**La Plagne**	**11.11 291**	*e*Pn	**Pn**	**19 09 45.4**	**-2.7**
LPL	**La Plagne**	**11.13 291**	*e*Pn	**Pn**	**19 09 45.6**	**-2.7**
LPL			*e*Sn	**Sn**	**19 11 42.8**	**-10**
	comp=Z,6.5nm,0.6s					
LPL	**La Plagne**	**11.13 291**	*e*Pn	**Pn**	**19 09 45.6**	**-2.7**
LPL			*e*Sn	**Sn**	**19 11 42.8**	**-10**
	comp=Z,3.2nm,0.6s					
ORIF	**Oris-en-Rattie**	**11.63 288**	*e*Pn	**Pn**	**19 09 51.9**	**-3.3**
CDF	**Champ du Feu**	**11.69 306**	*e*Pn	**Pn**	**19 09 54.1**	**-1.9**
HINF	**Hinteralfeld**	**11.71 303**	*e*Pn	**Pn**	**19 09 52.9**	**-3.4**
HINF			*e*Sn	**Sn**	**19 11 54.2**	**-13**
	comp=Z,1.0nm,0.4s					
ANN	**Anapa**	**11.77 73**	*e*P	**Pn**	**19 09 56.2**	**-0.8**
ANN			*e*S	**Sn**	**19 12 09.9**	**+1.1**
ANN			pmax	pmax		
	comp=Z,67nm,1.2s					
ANN	**Anapa**	**11.77 73**	*e*P	**Pn**	**19 09 56.2**	**-0.8**
	comp=Z,67nm,1.2s					
HAU	**Haudompre**	**12.10 303**	*e*Pn	**Pn**	**19 10 01.9**	**+0.4**
VIVF	**Saint-Julien-l**	**12.48 287**	*e*Pn	**Pn**	**19 10 02.7**	**-4.0**
LOR	**Lormes**	**13.46 297**	*e*Pn	**Pn**	**19 10 17.0**	**-3.2**
OBN	**Obninsk**	**16.08 33**	*e*P	**Pn**	**19 10 54.9**	**-0.4**
OBN			pmax	pmax		
	comp=Z,18nm,1.4s					
OBN			MLR	MLR		
	comp=Z,200nm,14.0s					
OBN	**Obninsk**	**16.08 33**	*e*P	**Pn**	**19 10 54.9**	**-0.4**
	comp=Z,200nm,14.0s					
HFS	**Hagfors**	**18.41 347**	P	**Pn**	**19 11 25.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=4.7					
HFS	**Hagfors**	**18.41 347**	P	**Pn**	**19 11 25.7**	**+1.2**
KONO	**Kongsberg**	**18.79 341**	*e*P	**Pn**	**19 11 30.5**	**+1.4**
FINES	**FINESS Array B**	**19.27 7**	P	**Pn**	**19 11 35.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=174,slow=11,SNR=6.0					
NB2	**NORSAR Subarra**	**19.70 345**	P	**Pn**	**19 11 37.7**	**-2.3**
	comp=Z,4.6nm,1.0s,baz=157,slow=11					
NOA	**NORSAR Array B**	**19.70 345**	P	**Pn**	**19 11 38.3**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=143,slow=11,SNR=4.5					
EKA	**Eskdalemuir Ar**	**20.64 317**	P	**P**	**19 11 48.0**	**-1.0**
	comp=Z,4.6nm,0.6s,baz=116,slow=10,SNR=22					
EKA	**Eskdalemuir Ar**	**20.64 317**	P	**P**	**19 11 48.0**	**-0.9**
EKA			pmax	pmax		
	comp=Z,5.0nm,0.6s					
JOF	**Joensuu**	**21.35 12**	*e*p	**P**	**19 11 53.9**	**-2.6**
	comp=Z,5.0nm,0.7s,mb4.0					
JOF	**Joensuu**	**21.35 12**	*e*P	**P**	**19 11 53.9**	**-2.6**
JOF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0					
KLMR	**Klimovskoe**	**21.46 24**	*e*P	**P**	**19 11 56.2**	**-1.5**
KLMR			pmax	pmax		
	comp=Z,56nm,2.3s,mb4.5					
KLMR	**Klimovskoe**	**21.46 24**	*e*P	**P**	**19 11 56.2**	**-1.5**
	comp=Z,56nm,2.3s,mb4.5					
ARU	**Arti**	**27.48 46**	⇑*i*P	**P**	**19 12 55.3**	**-0.4**
ARU			*e*		19 13 39.2	
ARU			*e*		19 16 10.3	
ARU			*e*S	**S**	**19 17 37.1**	**+0.1**
ARU			*e*SS		19 18 47.6	
ARU			pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.0					
ARU			MLR	MLR		
	comp=Z,200nm,18.0s,MS3.7					
ARU			MLR	MLR		
	comp=N,100nm,15.0s,MS3.6					
ARU			MLR	MLR		
	comp=E,70nm,16.0s,MS3.6					
ARU	**Arti**	**27.48 46**	*i* P	**P**	**19 12 55.3**	**-0.4**
	comp=E,6.0nm,1.3s,mb4.0					
ARU	**Arti**	**27.48 46**	*e*PcP	PcP	19 16 10.3	-3.7
TOA0	**Torodi Ar. Sit**	**33.84 216**	*e*P	**P**	**19 13 51.5**	**-0.4**
TOA0	**Torodi Ar. Sit**	**33.84 216**	*e*P	**P**	**19 13 51.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**33.84 216**	P	**P**	**19 13 51.8**	**-0.1**
	comp=E,2.9nm,0.5s,mb4.5,baz=22,slow=9.3,SNR=26					
AAK	**Ala-Archa**	**38.49 71**	⇑*e*P	**P**	**19 14 32.1**	**+0.5**
AAK			pmax	pmax		
	comp=Z,4.0nm,1.9s,mb3.8					
AAK	**Ala-Archa**	**38.49 71**	*e*P	**P**	**19 14 32.1**	**+0.5**
	comp=Z,4.0nm,1.9s,mb3.8					
ZAL	**Zalesovo**	**42.36 52**	P	**P**	**19 15 04.0**	**+0.4**
	comp=Z,1.9nm,0.7s,mb3.9,baz=188,slow=8.8,SNR=9.3					
ZAL	**Zalesovo**	**42.36 52**	P	**P**	**19 15 04.0**	**+0.3**
ZAL			pmax	pmax		
	comp=Z,2.0nm,0.7s					
MKAR	**Makanchi Array**	**42.54 62**	P	**P**	**19 15 05.2**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=283,slow=6.1,SNR=5.1					
MKAR			PcP	PcP	19 16 57.1	-0.6
	comp=Z,0.9nm,0.7s,baz=274,slow=4.6,SNR=6.2					
MKAR	**Makanchi Array**	**42.54 62**	*i* P	**P**	**19 15 04.3**	**-0.8**
KRAR	**Krasnoyarsk**	**46.45 47**	⇑*e*P	**P**	**19 15 34.4**	**-1.9**
KRAR			MLR	MLR		
	comp=Z,100nm,20.0s,MS3.8					
KRAR	**Krasnoyarsk**	**46.45 47**	*e*P	**P**	**19 15 34.4**	**-1.9**
	comp=Z,100nm,20.0s					
TIXI	**Tiksi**	**55.44 22**	⇓*e*P	**P**	**19 16 43.3**	**-0.7**
TIXI			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2					
TIXI			MLR	MLR		
	comp=Z,100nm,15.0s,MS4.0					
TIXI	**Tiksi**	**55.44 22**	*e*P	**P**	**19 16 43.3**	**-0.7**
	comp=Z,100nm,15.0s					
SONM	**Songino Array**	**57.23 53**	P	**P**	**19 16 56.9**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=302,slow=8.4,SNR=4.9					
HIA	**Hailar**	**64.00 46**	*e*P	**P**	**19 17 43.4**	**+0.4**
YKA	**Yellowknife Ar**	**69.71 340**	P	**P**	**19 18 16.6**	**-2.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=32,slow=5.8,SNR=5.0					
YKA	**Yellowknife Ar**	**69.71 340**	*i* P	**P**	**19 18 18.1**	**-1.3**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
YKA	**Yellowknife Ar**	**69.71 340**	*i* P	**P**	**19 18 18.1**	**-1.3**
	comp=Z,1.0nm,0.7s,mb3.9					
BOSA	**Boshof**	**70.73 177**	P	**P**	**19 18 25.0**	**-0.7**
	comp=Z,3.3nm,1.0s,mb4.2,baz=22,slow=5.4,SNR=2.9					
BOSA	**Boshof**	**70.73 177**	P	**P**	**19 18 25.0**	**-0.7**
BOSA			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2					
ULM	**Lac du Bonnet**	**72.79 323**	P	**P**	**19 18 36.7**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=50,slow=6.1,SNR=5.0					
ULM	**Lac du Bonnet**	**72.79 323**	P	**P**	**19 18 36.7**	**-1.3**
PDAR	**Pinedale Array**	**84.50 326**	P	**P**	**19 19 42.0**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.8,baz=90,slow=1.9,SNR=4.5					
WRA	**Warramunga Arr**	**119.85 90**	PKP	PKPdf	19 25 58.5	-1.5
	comp=Z,0.4nm,0.8s,baz=14,slow=1.6,SNR=3.0					
ASAR	**Alice Springs**	**121.76 94**	PKP	PKPdf	19 26 02.4	-1.3
	comp=Z,0.8nm,0.6s,baz=310,slow=1.5,SNR=13					
ASAR	**Alice Springs**	**121.76 94**	PKIKP	PKPdf	19 26 02.4	-1.3
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
STKA	**Stephens Creek**	**131.96 98**	PKP	PKPdf	19 26 22.2	-0.9
	comp=Z,1.0nm,0.7s,baz=99,slow=20,SNR=2.8					

NIED ***22*** *19:19:00, 4390N×14590E, h104km, Mw4.5 Best double couple: M0 6.19000×10^15 NP1:*ϕ_s*=213.00000°,* δ*80.00000°,* λ*102.00000°. NP2:*ϕ_s*=340.00000°,* δ*15.00000°,* λ*39.00000°.*
MOS ***22*** *19:19:13.7±0.9, 4402N×14573E, h111km, mb4.6/36, Error ellipse: s-maj=8.8km s-min=5.9km az=110.4*
BJI ***22*** *19:19:13.9, 4398N×14570E, h117km, mB5.0, mb4.6*
ISCJB ***22*** *19:19:14.4±0.3, 4393N±003×14578E±004, h121km±2km, mb4.5/72, Error ellipse: s-maj=6.3km s-min=4.5km az=102.6*
IDC ***22*** *19:19:15.6±0.6, 4401N×14572E, h114km±4km, mb4.1/28, mb1 4.2/32, mb1mx4.2/35, mbtmp4.1/32, MS3.1/2, Ms1 3.1/2, ms1mx2.7/41, Error ellipse: s-maj=11.6km s-min=7.4km az=172.0*
NEIC ***22*** *19:19:15.5±0.7, 4398N×14569E, h117km±6km, mb4.6/31, MW4.5(NIED), Error ellipse: s-maj=7.0km s-min=6.0km az=113.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
JMA ***22*** *19:19:15.9±0.2, 4389N×14587E, h109km±1km, M4.2*
JMA Felt II J1.
SKHL ***22*** *19:19:15.5±1.8, 4390N×14570E, h125km±10km, mb5.3/4, mbh5.7/1, mbv6.0/2, msh5.3/3, msha5.9/3*
ISC 22 19:19:15.3±0.3,**4395N**±004×**14580E**±004,**h117**km±2km, **h113**km±1.1km:**pP-P, n223,** σ0**s97**/239,**mb4.5**/72,**22C-16D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.10**	**28**	*i*PN	**Pn**	**19 19 30.7**	**-0.6**
YUK				*i* S	**Sn**	**19 19 42.1**	**-1.2**
YUK				pmax	pmax		
	comp=Z,14μm,1.6s						
YUK				pmax	pmax		
	comp=Z,5μm,0.4s						
YUK				pmax	pmax		
	comp=E,940nm,0.3s						
YUK				pmax	pmax		
	comp=N,4μm,0.1s						
YUK				smax			
	comp=N,43μm,2.0s						
YUK				smax			
	comp=E,150μm,1.0s						
YUK				smax			
	comp=N,26μm,0.6s						
YUK				smax			
	comp=E,16μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**0.10**	**28**	*i* P	**Pn**	**19 19 30.7**	**-0.6**
YUK				AMB	AMB	19 19 31.6	
YUK				AMB	AMB	19 19 32.2	
	comp=E,4μm,0.4s						
YUK				AMB	AMB	19 19 32.2	
	comp=E,940nm,0.4s						
YUK				AMB	AMB	19 19 32.2	
	comp=E,5μm,0.4s						
YUK				*i* S	**Sn**	**19 19 42.1**	**-1.2**
YUK				A		19 19 44.0	
YUK				A		19 19 44.0	
	comp=E,43μm,2.0s						
YUK				A		19 19 48.5	
	comp=E,150μm,2.0s						
YUK				A		19 19 48.5	
	comp=E,26μm,0.6s						
YUK				A		19 19 48.5	
	comp=E,16μm,0.6s						
JRA	**Rausu**	**0.49**	**269**	⇑P	**Pn**	**19 19 32.9**	**+0.2**
JRA				*e*S	**Sn**	**19 19 45.8**	**-0.1**
NEM2	**Nemuro 2**	**0.58**	**184**	⇓P	**Pn**	**19 19 32.9**	**-0.5**
NEM2				*e*S	**Sn**	**19 19 45.4**	**-1.6**
JNK	**Nakash**	**0.86**	**246**	⇑P	**Pn**	**19 19 36.0**	**+0.4**
JAK	**Akkeshi**	**1.24**	**220**	⇑P	**Pn**	**19 19 39.6**	**+0.1**
JAK				*e*S	**Sn**	**19 19 57.3**	**-0.6**
JTKR	**Abashiri--Toko**	**1.36**	**272**	⇑P	**Pn**	**19 19 41.6**	**+0.7**
JTKR				*e*S	**Sn**	**19 20 00.9**	**+0.6**
JAR	**Ashorobuto**	**1.61**	**247**	⇑P	**Pn**	**19 19 44.6**	**+0.9**
JMP	**Maruseppu**	**1.76**	**273**	⇑P	**Pn**	**19 19 46.5**	**+0.9**
JMP				*e*S	**Sn**	**19 20 10.0**	**+1.3**
JOB	**Onbets**	**1.77**	**235**

comp=E,2µm,4.0s
UGL A 19 21 50.0
comp=E,1µm,4.0s
UGL A 19 21 50.0
comp=E,1µm,4.0s
HABR Khabarovsk 8.72 305⇓ *i*PN **Pn 19 21 20.7 +2.3**
HABR *e*S **Sn 19 22 59.6 +4.8**
HABR pmax pmax
comp=Z,268nm,1.4s
MAJO Matsushiro 9.39 221 *e*PN **Pn 19 21 26.0 -1.6**
MAJO pmax pmax
comp=Z,14nm,0.7s
MAJO Matsushiro 9.39 221 *e*P **Pn 19 21 25.9 -1.7**
comp=Z,14nm,0.7s
MAT Matsushiro 9.39 221 P **Pn 19 21 26.8 -0.8**
MAT *e*S **Sn 19 23 14.9 +3.6**
MJAR Matsushiro Arr 9.39 221 P **Pn 19 21 26.9 -0.7**
comp=Z,1.2nm,0.3s,baz=31,slow=12,SNR=16
MJAR Matsushiro Arr 9.39 221 PN **Pn 19 21 26.9 -0.7**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
SKR Severo-Kuril's 9.72 42 *e*PN **Pn 19 21 31.6 -0.4**
VLA Vladivostok 10.13 270⇑ *e*PN **Pn 19 21 37.5 0.0**
KLR Kul'dur 11.01 304 *e*PN **Pn 19 21 48.2 -1.1**
KLR pmax pmax
comp=Z,100nm,1.8s
MDJ Mudanjiang 11.64 279 *e*P **Pn 19 21 57.6 -0.1**
comp=Z,33nm,0.9s
PET Petropavlovsk 12.44 39⇓ *e*PN **Pn 19 22 03.8 -4.4**
CN2 Changchun 14.68 277 *e*P **Pn 19 22 34.9 -2.2**
CN2 AMB AMB
comp=Z,10.0nm,1.1s
KSRS Korea Array 15.01 251 P **Pn 19 22 40.3 -1.0**
baz=59,slow=13,SNR=20
KSRS LR LR 19 27 48.4
comp=Z,37nm,19.2s,baz=160,slow=34
KSRS ScP ScP 19 31 06.0 +1.1
baz=302,slow=2.0,SNR=5.5
JNU Nakatsue 15.88 232 P **Pn 19 22 51.1 -1.0**
comp=Z,0.3nm,0.3s,baz=242,slow=20,SNR=3.5
HIA Hailar 18.63 296 *e*P **P 19 23 21.6 -2.1**
HIA pmax pmax
comp=Z,37nm,1.3s
HIA Hailar 18.63 296 *e*P **P 19 23 21.6 -2.1**
comp=Z,37nm,1.3s
SEY Seymchan 19.40 9⇓ *e*P **P 19 23 31.0 -1.1**
YAK Yakutsk 20.44 338 *e*P **P 19 23 46.5 +3.2**
YAK *e* 19 24 08.1
YAK pmax pmax
comp=Z,12nm,1.5s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,11nm,1.6s
YAK Yakutsk 20.44 338 *e*P **P 19 23 40.6 -2.7**
comp=E,9.2nm,0.8s
BJI Beijing 22.30 270 P **P 19 24 01.8 -1.3**
BJI AMB AMB
comp=Z,23nm,0.8s,mb4.6
BJI Beijing 22.30 270 P **P 19 24 01.7 -1.4**
BJI pmax pmax
comp=Z,23nm,0.8s,mb4.6
BJI Beijing 22.30 270 P **P 19 24 01.7 -1.4**
comp=Z,23nm,0.8s,mb4.6
BJT Baijiatuau 22.31 270 *e*P **P 19 24 01.9 -1.3**
BJT pmax pmax
comp=Z,18nm,0.6s
BJT Baijiatuau 22.31 270 *e*P **P 19 24 01.9 -1.3**
comp=Z,18nm,0.6s,mb4.6
BILL Biiibino 26.45 17⇓ *e*P **P 19 24 39.7 -1.5**
BILL pmax pmax
comp=Z,7.0nm,2.5s,mb3.6
BTO Baotou 26.55 275 *e*P **P 19 24 43.0 +0.9**
SONM Songino Array 27.49 292 P **P 19 24 50.8 +0.3**
comp=Z,18nm,0.8s,mb4.7,baz=85,slow=8.7,SNR=126
SONM ScP ScP 19 31 34.8 -0.8
comp=Z,0.8nm,0.9s,baz=62,slow=4.2,SNR=4.4
SONM LR LR 19 35 57.4
comp=Z,77nm,18.5s,baz=25,slow=36
SONM Songino Array 27.49 292 P **P 19 24 50.8 +0.3**
SONM pmax pmax
comp=Z,19nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.9s
SONM MLR MLR
comp=Z,77nm,18.5s
TIXI Tiksi 28.98 349⇓ *e*P **P 19 24 59.3 -4.4**
ZAK Zakamensk 29.29 298 *e*P **P 19 25 06.0 -0.5**
XAN Xi'an 30.10 263 P **P 19 25 13.4 -0.2**
XAN AMB AMB
comp=Z,6.0nm,0.9s,mb4.2
LZH Lanzhou 32.79 271 ⇓P **P 19 25 38.3 +1.1**
LZH AMB AMB
comp=Z,32nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,53nm,5.6s
LZH LR LR
comp=N,217nm,13.5s
LZH LR LR
comp=Z,324nm,17.8s
LZH Lanzhou 32.79 271 ⇓P **P 19 25 38.3 +1.1**
comp=Z,32nm,1.4s,mb5.0
LZH pP pP 19 25 46.1 -17
LZH sP sP 19 25 49.8 -27
LZH PP PP 19 26 40.2 -13
LZH LR LR
comp=Z,320nm,17.8s
GTA Gaotai 34.30 279 *e*P **P 19 25 51.3 +1.0**
GTA AMB AMB
comp=Z,8.0nm,1.6s,mb4.3
KRAR Krasnoyarsk 35.24 309⇓ *e*P **P 19 25 57.5 -0.9**
KRAR pmax pmax
comp=Z,11nm,0.5s,mb4.9
IMA2 Indian Mountai 39.07 34 *e*P **P 19 26 30.3 -0.4**
KMI Kunming 39.61 256 P **P 19 26 36.0 +0.8**
KMI AMB AMB
comp=Z,14nm,0.9s,mb4.8
KMI Kunming 39.61 256 P **P 19 26 36.0 +0.8**
comp=Z,14nm,0.9s,mb4.8
KMI pP pP 19 26 49.2 -12
ZAL Zalesovo 40.11 307 P **P 19 26 39.2 -0.2**
comp=Z,2.6nm,0.5s,mb4.3,baz=22,slow=6.0,SNR=8.6
ZAL PcP PcP 19 28 42.4 +0.8
comp=Z,2.6nm,0.7s,baz=23,slow=4.5,SNR=10
ZAL Zalesovo 40.11 307 P **P 19 26 39.2 -0.2**
ZAL 19 28 42.4
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL Zalesovo 40.11 307 P **P 19 26 39.2 -0.2**
ZAL PcP PcP 19 28 42.4 +0.7
WMQ Urumqi 41.11 291 P **P 19 26 48.4 +0.8**
WMQ AMB AMB
comp=Z,27nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,104nm,5.0s
COLA College 41.49 36⇓ *e*P **P 19 26 50.2 -0.5**
COLA *i* *PP pP 19 27 16.0 -1.3
MK31 Makanchi Array 43.62 297 *i*P **P 19 27 07.9 -0.1**
MK31 pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MK31 Makanchi Array 43.62 297 *e*P **P 19 27 07.9 -0.1**
MKAR Makanchi Array 43.62 297 P **P 19 27 07.9 -0.1**
comp=Z,5.8nm,0.7s,mb4.4,baz=78,slow=8.8,SNR=38
MKAR PcP PcP 19 28 53.8 +0.5
comp=Z,2.2nm,0.7s,baz=67,slow=5.6,SNR=5.6
MKAR ScP ScP 19 32 34.2 +0.2
comp=Z,0.8nm,0.8s,baz=56,slow=4.5,SNR=6.6
MKAR Makanchi Array 43.62 297 *i*P **P 19 27 07.9 -0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 44.61 303⇓ *e*P **P 19 27 14.9 -0.9**
KURK Kurchatov 44.61 303 *e*P **P 19 27 14.2 -1.6**
comp=Z,7.6nm,0.6s,mb4.6
LSA Lhasa 45.21 271 *e*P **P 19 27 22.5 +2.0**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
LSA Lhasa 45.21 271 *e*P **P 19 27 22.5 +1.9**
comp=Z,9.1nm,0.8s,mb4.6
INK Inuvik 46.73 30 P **P 19 27 32.6 +0.1**
comp=Z,1.9nm,0.6s,mb4.0,baz=312,slow=7.5,SNR=16
INK Inuvik 46.73 30 P **P 19 27 32.6 +0.1**
INK pmax pmax
comp=Z,2.0nm,0.6s
BVA0 Borovoye Array 48.62 309 *e*P **P 19 27 46.2 -0.9**
BVAR Borovoye Array 48.62 309 P **P 19 27 46.4 -0.6**
comp=Z,4.2nm,0.4s,mb4.7,baz=84,slow=10,SNR=46
BVAR PcP PcP 19 29 11.2 +0.4
comp=Z,3.1nm,0.6s,baz=62,slow=2.7,SNR=9.6
BVAR ScP ScP 19 32 54.2 -0.6
comp=Z,0.9nm,0.7s,baz=84,slow=4.6,SNR=4.9
BRVK Borovoye 48.67 309 *e*P **P 19 27 47.2 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 48.67 309 *e*P **P 19 27 47.2 -0.3**
comp=Z,4.7nm,0.6s,mb4.6
ULHL Ulahol 49.41 294 P **P 19 27 54.2 +1.1**
SNR=7.3
TKM2 Tokmak 2 49.53 295 P **P 19 27 55.2 +1.1**
SNR=16
JIRN Jiri 49.95 272 *e*P **P 19 27 58.5 +1.3**
comp=Z,24nm,0.6s,mb5.3
GUN Gumba 50.03 272 *e*P **P 19 27 58.8 +1.0**
comp=Z,35nm,0.5s,mb5.5
KBK Karagaybulak 50.08 295 P **P 19 27 59.2 +1.0**
SNR=17
USP Ospenovka 50.10 296 P **P 19 27 58.9 +0.6**
SNR=16
KZA Kyzart 50.15 294 P **P 19 28 00.6 +1.9**
SNR=10
AAK Ala-Archa 50.39 295 P **P 19 28 01.2 +0.7**
SNR=8.2
AAK Ala-Archa 50.39 295 *e*P **P 19 27 59.8 -0.7**
AAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
AAK Ala-Archa 50.39 295 *e*P **P 19 27 59.8 -0.7**
comp=Z,8.2nm,1.0s,mb4.6
KKN Kakani 50.53 272 *e*P **P 19 28 02.3 +0.8**
comp=Z,20nm,0.7s,mb5.3
PKI Pulchoki 50.56 272 *e*P **P 19 28 02.5 +0.7**
comp=Z,58nm,1.0s,mb5.5
DMN Daman 50.76 272 *e*P **P 19 28 04.4 +1.1**
comp=Z,15nm,0.5s,mb5.3
EKS2 Erkin-Say 50.84 295 P **P 19 28 04.6 +0.7**
SNR=10
GKN Gorkha 50.87 273 *e*P **P 19 28 04.8 +0.7**
comp=Z,19nm,0.5s,mb5.3
AML Almayashu 51.15 295 P **P 19 28 07.6 +1.4**
SNR=6.5
KOLN Koldanda 51.75 274 *e*P **P 19 28 11.6 +0.9**
comp=Z,47nm,1.1s,mb5.4
ARU Arti 53.53 316⇓ *i*P **P 19 28 22.5 -1.3**
ARU *e* pP 19 28 49.6 -1.9
ARU *e* 19 29 31.7
ARU *e* 19 30 25.9
ARU *e*S **S 19 35 39.1 -8.6**
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
YKA Yellowknife Ar 56.18 33 P **P 19 28 42.8 -0.1**
comp=Z,1.1nm,0.7s,mb4.0,baz=307,slow=6.6,SNR=16
YKA pP pP 19 29 10.1 -0.7
comp=Z,2.9nm,0.9s,baz=302,slow=7.2,SNR=8.2
YKA Yellowknife Ar 56.18 33 P **P 19 28 42.8 -0.1**
YKA *PP pP 19 29 10.1 -0.7
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 56.18 33 P **P 19 28 42.8 -0.1**
YKA pP pP 19 29 10.1 -0.7
AKTK Aktyubinsk 56.66 310 P **P 19 28 46.1 -0.1**
AKTK PcP PcP 19 29 40.8 -0.4
AKTO Aktyubinsk 56.66 310 P **P 19 28 46.1 -0.2**
comp=Z,6.8nm,0.6s,mb4.8,baz=67,slow=9.2,SNR=21
AKTO PcP PcP 19 29 40.8 -0.4
comp=Z,2.7nm,0.6s,baz=138,slow=8.7,SNR=3.9
AKTO Aktyubinsk 56.66 310 P **P 19 28 46.1 -0.2**
AKTO 19 29 40.8
AKTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ARCES ARCESS Array B 58.72 339 P **P 19 28 59.5 -1.1**
comp=Z,9.0nm,1.0s,mb4.7,baz=39,slow=5.9,SNR=2.7
JOF Joensuu 61.45 332 *e*p **P 19 29 17.9 -1.4**
comp=Z,1.5nm,0.3s,mb4.5
JOF Joensuu 61.45 332 *e*P **P 19 29 17.9 -1.4**
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
HYB Hyderabad 61.80 267 *i*P **P 19 29 20.0 -1.7**
HYB Hyderabad 61.80 267 *e*P **P 19 29 20.0 -1.7**
FINES FINESS Array B 64.25 332 P **P 19 29 36.3 -1.5**
comp=Z,2.4nm,0.5s,mb4.3,baz=56,slow=4.8,SNR=16
FINES FINESS Array B 64.25 332⇑ *e*P **P 19 29 36.5 -1.3**
WRA Warramunga Arr 64.44 192 P **P 19 29 39.2 +0.2**
comp=Z,5.9nm,0.8s,mb4.5,baz=12,slow=6.8,SNR=34
WRA Warramunga Arr 64.44 192 P **P 19 29 39.2 +0.2**
WRA pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 64.57 323 *e*P **P 19 29 38.6 -1.3**
OBN pmax pmax
comp=Z,17nm,1.2s,mb4.8
ASAR Alice Springs 68.16 192 P **P 19 30 03.7 +0.9**
comp=Z,5.1nm,0.7s,mb4.4,baz=14,slow=5.9,SNR=58
ASAR Alice Springs 68.16 192 P **P 19 30 03.7 +0.9**
ASAR pmax pmax
comp=Z,5.0nm,0.7s
NVAR Mina Array Bea 68.30 57 P **P 19 30 05.7 +2.0**
comp=Z,2.3nm,0.6s,mb4.2,baz=298,slow=5.7,SNR=7.8
NVAR pP pP 19 30 33.0 +0.5
comp=Z,2.3nm,0.7s,baz=282,slow=6.9,SNR=4.7
KIV Kislovodsk 68.90 311 *c i*P **P 19 30 08.1 +0.7**
KIV Kislovodsk 68.90 311 *e*P **P 19 30 08.1 +0.7**
comp=Z,43nm,0.6s,mb5.5
NB2 NORSAR Subarra 69.06 338 P **P 19 30 06.6 -1.8**
comp=Z,3.3nm,0.8s,mb4.2,baz=32,slow=6.5
NOA NORSAR Array B 69.06 338 P **P 19 30 07.0 -1.3**
comp=Z,1.9nm,0.8s,mb4.0,baz=32,slow=6.1,SNR=5.3
NOA NORSAR Array B 69.06 338 P **P 19 30 07.1 -1.3**
NOA pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 69.13 337 P **P 19 30 07.3 -1.5**
comp=Z,1.2nm,0.5s,mb4.0,baz=23,slow=8.0,SNR=9.7
HFS Hagfors 69.13 337 P **P 19 30 07.3 -1.5**
HFS pmax pmax
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 70.53 49 P **P 19 30 18.6 +1.3**
comp=Z,3.6nm,0.7s,mb4.3,baz=278,slow=2.4,SNR=32
PDAR pP pP 19 30 46.7 +0.3
comp=Z,1.2nm,0.8s,baz=277,slow=2.3,SNR=3.5
AKASG Malin Array Be 70.84 323 P **P 19 30 18.3 -0.9**
comp=Z,2.8nm,0.5s,mb4.3,baz=40,slow=6.2,SNR=27
AKASG Malin Array Be 70.84 323 *i*P **P 19 30 18.7 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
ULM Lac du Bonnet 71.93 36 P **P 19 30 25.2 -0.6**
comp=Z,1.1nm,0.8s,mb3.8,baz=349,slow=10,SNR=3.1
SRU San Rafael 72.45 52 *e*P **P 19 30 30.1 +1.2**
SRU pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
SRU San Rafael 72.45 52 *e*P **P 19 30 30.1 +1.2**
comp=Z,8.1nm,0.8s,mb4.6
BURAR Bucovina Array 74.89 323⇑ *i*P **P 19 30 43.6 +0.4**
KOLS Kolonicke sedl 75.12 325 *e*P **P 19 30 44.9 +0.4**
STHS Stebnicka Huta 75.16 326 *e*P **P 19 30 45.3 +0.6**
STHS pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
STHS Stebnicka Huta 75.16 326 *e*P **P 19 30 45.3 +0.6**
comp=Z,3.5nm,0.6s,mb4.3
VRI Vrincioaia 75.55 321⇓ *i*P **P 19 30 47.1 +0.1**
STKA Stephens Creek 75.55 184 P **P 19 30 47.6 +0.7**
comp=Z,2.2nm,0.7s,mb4.0,baz=345,slow=6.0,SNR=5.1
MLR Muntele Rosu 76.19 321 P **P 19 30 51.2 +0.6**
comp=Z,1.9nm,0.6s,mb4.0,baz=202,slow=5.6,SNR=4.3
MLR Muntele Rosu 76.19 321 P **P 19 30 51.2 +0.6**
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 76.19 321⇑ P **P 19 30 50.5 -0.1**
MLR Muntele Rosu 76.19 321⇑ *i*P **P 19 30 50.5 -0.1**
DPC Dobruska-Polom 76.30 329 *e*P **P 19 30 51.1 -0.1**
MORC Moravsky Berou 76.31 328⇑ *i*P **P 19 30 51.9 +0.6**
DRGR 76.61 324⇑ *i*P **P 19 30 53.0 0.0**
VOIR 76.64 322⇑ *i*P **P 19 30 54.2 +1.1**
CLL Collm 76.68 332 *i*P **P 19 30 52.8 -0.6**
comp=Z,5.0nm,0.8s,mb4.3
CLL *i* PcP PcP 19 31 01.4 -2.9
BRTR Keskin Array B 76.70 313 P **P 19 30 54.1 +0.7**
comp=Z,1.9nm,0.7s,mb4.0,baz=78,slow=3.3,SNR=11
BRTR Keskin Array B 76.70 313 P **P 19 30 54.2 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
PVCC Panska Ves 76.79 330 *e*P **P 19 30 53.5 -0.4**
PSZ Piszkesteto 76.89 326⇓ *i*P **P 19 30 48.4 -6.1**
ANTO Ankara 77.04 313⇓ *i*P **P 19 30 56.6 +1.3**
VRAC Vranov 77.05 329 P **P 19 30 55.3 -0.2**
comp=Z,2.3nm,0.6s,mb4.1,baz=85,slow=6.8,SNR=4.0
VRAC Vranov 77.05 329⇑ P **P 19 30 55.6 +0.1**
VRAC Vranov 77.05 329⇑ *i*P **P 19 30 55.6 +0.2**
EKA Eskdalemuir Ar 77.65 342 P **P 19 30 58.6 -0.1**
comp=Z,2.0nm,0.7s,mb4.0,baz=24,slow=5.0,SNR=9.2
EKA Eskdalemuir Ar 77.65 342 P **P 19 30 58.6 -0.1**
EKA pmax pmax
comp=Z,2.0nm,0.7s
ANMO Albuquerque 77.67 53⇑ *e*P **P 19 30 59.4 +0.5**
BZS Buzias 78.01 324⇑ *i*P **P 19 31 01.0 +0.3**
KHC Kasperske Hory 78.31 330 *e*P **P 19 31 02.2 -0.2**
GERES GERESS Array B 78.50 330 P **P 19 31 03.3 -0.2**
comp=Z,0.8nm,0.5s,mb3.8,baz=42,slow=5.7,SNR=10
VTS Vitosha 79.69 321⇑ *i*P **P 19 31 10.9 +1.0**
ASF Jabal al Asfar 80.33 306 P **P 19 31 14.8 +1.4**
comp=Z,0.8nm,0.4s,mb3.9,baz=313,slow=1.7,SNR=4.4
ASF Jabal al Asfar 80.33 306 P **P 19 31 14.8 +1.4**
ASF pmax pmax
comp=Z,1.0nm,0.4s
MMAI Mount Meron Ar 80.59 307 P **P 19 31 15.9 +1.1**
comp=Z,5.3nm,0.7s,mb4.5,baz=34,slow=6.1,SNR=12
CDF Champ du Feu 81.08 333 *e*P **P 19 31 16.4 -0.9**
comp=Z,13nm,1.0s,mb4.4
CDF Champ du Feu 81.08 333 *e*P **P 19 31 16.4 -0.9**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CDF Champ du Feu 81.08 333 *e*P **P 19 31 16.4 -0.9**
comp=Z,6.6nm,1.0s,mb4.4
MEZF Maizieres J'vi 81.70 335 *e*P **P 19 31 19.8 -0.8**
HAU Haudompre 81.73 334 *e*P **P 19 31 19.7 -1.1**
HINF Hinteralfeld 81.73 333 *e*P **P 19 31 20.1 -0.7**
comp=Z,4.1nm,0.7s,mb4.0
HINF Hinteralfeld 81.73 333 *e*P **P 19 31 20.1 -0.7**
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
HINF Hinteralfeld 81.73 333 *e*P **P 19 31 20.1 -0.7**
comp=Z,2.0nm,0.7s,mb4.1
FLN La Foliniere 83.05 338 *e*P **P 19 31 26.9 -0.8**
LDF La Druitiere 83.11 338 *e*P **P 19 31 27.4 -0.6**
LOR Lormes 83.16 335 *e*P **P 19 31 27.1 -1.1**
comp=Z,5.3nm,0.7s,mb4.2
LOR Lormes 83.16 335 *e*P **P 19 31 27.1 -1.1**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
LOR Lormes 83.16 335 *e*P **P 19 31 27.1 -1.1**
comp=Z,2.7nm,0.7s,mb4.2
TXAR Lajitas Array 83.35 55 P **P 19 31 30.5 +1.3**
comp=Z,2.8nm,0.7s,mb4.2,baz=300,slow=3.9,SNR=36
TXAR pP pP 19 31 58.7 -0.4
comp=Z,2.1nm,0.8s,baz=297,slow=4.0,SNR=6.5
TXAR Lajitas Array 83.35 55 P **P 19 31 30.5 +1.3**
TXAR *PP pP 19 31 58.7 -0.4
TXAR pmax pmax
comp=Z,3.0nm,0.7s
SSF Saint Saulge 83.45 335 *e*P **P 19 31 28.6 -1.1**
GRR Gorron 83.50 338 *e*P **P 19 31 29.7 -0.2**
comp=Z,18nm,0.9s,mb4.6
GRR Gorron 83.50 338 *e*P **P 19 31 29.7 -0.2**
GRR pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
GRR Gorron 83.50 338 *e*P **P 19 31 29.7 -0.2**
comp=Z,8.9nm,0.9s,mb4.6
SMF Signal de Mont 83.72 335 *e*P **P 19 31 30.3 -0.8**
comp=Z,12nm,0.9s,mb4.4
SMF Signal de Mont 83.72 335 *e*P **P 19 31 30.3 -0.8**
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
SMF Signal de Mont 83.72 335 *e*P **P 19 31 30.3 -0.8**
comp=Z,5.8nm,0.9s,mb4.4
AVF Avril sur Loir 83.74 335 *e*P **P 19 31 30.4 -0.8**
comp=Z,14nm,1.0s,mb4.4
AVF Avril sur Loir 83.74 335 *e*P **P 19 31 30.4 -0.8**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AVF Avril sur Loir 83.74 335 *e*P **P 19 31 30.4 -0.8**
comp=Z,6.9nm,1.0s,mb4.4
LPL La Plagne 83.80 332 *e*P **P 19 31 31.9 +0.4**
comp=Z,10nm,0.9s,mb4.4
LPL La Plagne 83.80 332 *e*P **P 19 31 31.9 +0.4**
LPL pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
LPL La Plagne 83.80 332 *e*P **P 19 31 31.9 +0.4**
comp=Z,5.2nm,0.9s,mb4.4
LPG La Plagne 83.81 332 *e*P **P 19 31 31.4 -0.1**
comp=Z,9.1nm,0.8s,mb4.4
LPG La Plagne 83.81 332 *e*P **P 19 31 31.4 -0.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
LPG La Plagne 83.81 332 *e*P **P 19 31 31.4 -0.1**
comp=Z,4.6nm,0.8s,mb4.4
BGF Bois d'Agland 84.11 335 *e*P **P 19 31 32.6 -0.4**
comp=Z,19nm,1.0s,mb4.6
BGF Bois d'Agland 84.11 335 *e*P **P 19 31 32.6 -0.4**
BGF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
BGF Bois d'Agland 84.11 335 *e*P **P 19 31 32.6 -0.4**
comp=Z,9.4nm,1.0s,mb4.6
ROSF Rostrenen 84.17 340 *e*P **P 19 31 33.0 -0.3**
MBDF Montbardon 84.48 332 *e*P **P 19 31 34.6 -0.3**
TCF Toulx Ste Croi 84.54 336 *e*P **P 19 31 35.2 0.0**
comp=Z,8.2nm,0.7s,mb4.5
TCF Toulx Ste Croi 84.54 336 *e*P **P 19 31 35.2 0.0**
TCF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 84.54 336 *e*P **P 19 31 35.2 0.0**
comp=Z,4.1nm,0.7s,mb4.5
ORIF Oris-en-Rattie 84.61 333 *e*P **P 19 31 34.5 -1.1**
comp=Z,20nm,1.0s,mb4.7
ORIF Oris-en-Rattie 84.61 333 *e*P **P 19 31 34.5 -1.1**
ORIF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ORIF Oris-en-Rattie 84.61 333 *e*P **P 19 31 34.5 -1.1**
comp=Z,9.8nm,1.0s,mb4.7
MFF Saint Martin d 84.94 337 *e*P **P 19 31 36.9 -0.3**
comp=Z,12nm,0.9s,mb4.5
MFF Saint Martin d 84.94 337 *e*P **P 19 31 36.9 -0.3**
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MFF Saint Martin d 84.94 337 *e*P **P 19 31 36.9 -0.3**
comp=Z,6.2nm,0.9s,mb4.5
RJF Les Rejaudoux 85.64 336 *e*P **P 19 31 40.4 -0.3**
comp=Z,22nm,1.1s,mb4.7
RJF Les Rejaudoux 85.64 336 *e*P **P 19 31 40.4 -0.3**
RJF pmax pmax
comp=Z,11nm,1.1s,mb4.7
RJF Les Rejaudoux 85.64 336 *e*P **P 19 31 40.4 -0.3**
comp=Z,11nm,1.1s,mb4.7
LMR La Mourre 85.79 331 *e*P **P 19 31 41.2 -0.3**
comp=Z,84nm,1.2s,mb5.2
LMR La Mourre 85.79 331 *e*P **P 19 31 41.2 -0.3**
LMR pmax pmax
comp=Z,42nm,1.2s,mb5.2
LMR La Mourre 85.79 331 *e*P **P 19 31 41.2 -0.3**
comp=Z,42nm,1.2s,mb5.2
CAF Calviac 85.81 335 *e*P **P 19 31 41.9 +0.3**
comp=Z,59nm,1.4s,mb5.0
CAF Calviac 85.81 335 *e*P **P 19 31 41.9 +0.3**
CAF pmax pmax
comp=Z,29nm,1.4s,mb5.0
CAF Calviac 85.81 335 *e*P **P 19 31 41.9 +0.3**
comp=Z,30nm,1.4s,mb5.0
LFF La Frestale 86.20 336 *e*P **P 19 31 43.4 -0.1**
comp=Z,50nm,1.0s,mb5.1
LFF La Frestale 86.20 336 *e*P **P 19 31 43.4 -0.1**
LFF pmax pmax
comp=Z,25nm,1.0s,mb5.1
LFF La Frestale 86.20 336 *e*P **P 19 31 43.4 -0.1**
comp=Z,25nm,1.0s,mb5.1
TKL Tuckaleechee C 88.86 38 P **P 19 31 56.7 +0.5**
comp=Z,3.9nm,0.7s,mb4.5,baz=315,slow=2.9,SNR=3.1
TKL Tuckaleechee C 88.86 38 P **P 19 31 56.7 +0.5**
TKL pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
TKL Tuckaleechee C 88.86 38 P **P 19 31 56.7 +0.5**
ESDC Sonseca Array 92.40 337 P **P 19 32 12.1 -0.5**
comp=Z,0.5nm,0.5s,mb4.0,baz=16,slow=4.2,SNR=6.1
TORD Torodi Ar. Bea 114.44 321 PKP PKiKP 19 37 41.5 +0.2
comp=Z,1.3nm,1.2s,baz=40,slow=2.1,SNR=3.7
SNAA Sanae 148.34 198 PKP PKPdf 19 38 43.1 -1.2
comp=Z,0.6nm,0.8s,baz=287,slow=8.6,SNR=2.2

SNAA				PKPbc	PKPbc	19 38 47.5	-0.3
	comp=Z,0.5nm,0.7s,baz=276,slow=5.8,SNR=5.7						
SNAA	**Sanae**	**148.34**	**198**	PKIKP	PKPdf	19 38 43.1	-1.1
SNAA						19 38 47.5	
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

ISCJB ***22*** *19:38:47.7±0.6, 43.17N±005×7692E±006, h15km±4km, mb3.9/1, Error ellipse: s-maj=11.0km s-min=4.2km az=105.4*
NNC ***22*** *19:38:47.1±13.0, 43.16N×7690E, h31km±83km, mb3.0, mpv2.7, Error ellipse: s-maj=381.5km s-min=101.5km az=151.0*
MOS ***22*** *19:38:48.5±2.2, 43.19N×7686E, h27km, mb4.2/1, Error ellipse: s-maj=30.0km s-min=15.7km az=64.8*
MOS Felt (II) at Almata.
KNET ***22*** *19:38:48.9±0.6, 43.08N×7668E, h14km±3km, ml2.8, Error ellipse: s-maj=3.9km s-min=2.5km az=71.0*
ISC 22 19:38:48.0±0.6, 43.13N±005×7685E±006, h7km±4km, n20, σ0.99/31, mb3.9/1, 15C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.12**	**44**	⇑P	**Pg**	**19 38 51.1**	**+0.5**
	366nm,0.2s						
KNDC				⇑S	**Sg**	**19 38 53.9**	**+1.6**
	2μm,0.2s						
AAA	**Alma-Ata**	**0.16**	**27**	*i* PG	**Pg**	**19 38 50.8**	**-0.4**
AAA				pmax	pmax		
	comp=Z,3.0nm,0.1s						
TKM2	**Tokmak 2**	**0.94**	**258**	P	**Pg**	**19 39 04.9**	**-1.2**
	comp=Z,35nm,0.1s,SNR=128						
TKM2				⇓S	**Sg**	**19 39 17.8**	**-0.6**
	comp=Z,170nm,0.1s						
TKM2	**Tokmak 2**	**0.94**	**258**	⇓P	**Pg**	**19 39 04.9**	**-1.2**
	comp=Z,0.5nm,0.2s						
TKM2				⇑S	**Sg**	**19 39 17.5**	**-0.9**
	comp=Z,0.6nm,0.2s						
ULHL	**Ulahol**	**0.99**	**207**	⇓P	**Pg**	**19 39 06.1**	**-1.0**
	comp=Z,27nm,0.1s,SNR=6.6						
ULHL				⇑S	**Sg**	**19 39 19.4**	**-0.5**
	comp=Z,73nm,0.1s						
KBK	**Karagaybulak**	**1.48**	**252**	P	**Pn**	**19 39 14.7**	**-0.3**
	comp=Z,52nm,0.2s,SNR=28						
KBK				⇑S	**Sn**	**19 39 34.6**	**0.0**
	comp=Z,243nm,0.3s						
CHMS	**Chumysh**	**1.54**	**266**	P	**Pn**	**19 39 15.2**	**-0.7**
	comp=Z,15nm,0.1s,SNR=24						
CHMS				⇑S	**Sn**	**19 39 35.2**	**-1.0**
	comp=Z,137nm,0.2s						
KZA	**Kyzart**	**1.58**	**229**	⇓P	**Pn**	**19 39 16.8**	**+0.3**
	comp=Z,11nm,0.2s,SNR=30						
KZA				⇑S	**Sn**	**19 39 37.8**	**+0.6**
	comp=Z,28nm,0.3s						
USP	**Ospenovka**	**1.73**	**275**	P	**Pn**	**19 39 18.2**	**-0.2**
	comp=Z,19nm,0.2s,SNR=13						
USP				⇑S	**Sn**	**19 39 40.7**	**0.0**
	comp=Z,73nm,0.2s						
AAK	**Ala-Archa**	**1.80**	**255**	⇓P	**Pn**	**19 39 19.9**	**+0.4**
	comp=Z,13nm,0.2s,SNR=32						
AAK				⇑S	**Sn**	**19 39 43.2**	**+0.6**
	comp=Z,50nm,0.3s						
AAK	**Ala-Archa**	**1.80**	**255**	⇓*e*PN	**Pn**	**19 39 18.8**	**-0.7**
UCH	**Uchtor**	**1.95**	**243**	⇓P	**Pn**	**19 39 22.7**	**+1.2**
	comp=Z,8.2nm,0.2s,SNR=17						
UCH				⇑S	**Sn**	**19 39 48.2**	**+2.1**
	comp=Z,30nm,0.2s						
EKS2	**Erkin-Say**	**2.31**	**259**	⇓P	**Pn**	**19 39 28.4**	**+2.0**
	comp=Z,9.3nm,0.2s,SNR=51						
MK31	**Makanchi Array**	**5.32**	**45**	⇓Pn	**Pn**	**19 40 08.1**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=243,slow=14,SNR=41						
MK31				⇓Sn	**Sn**	**19 41 07.8**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=224,slow=23,SNR=4.2						
MK31				⇑Lg		19 41 31.3	
	comp=Z,2.0nm,0.5s,baz=227,slow=28,SNR=7.6						
MKAR	**Makanchi Array**	**5.32**	**45**	*i* PN	**Pn**	**19 40 08.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	**7.68**	**8**	⇑Pn	**Pn**	**19 40 36.3**	**-4.0**
	comp=Z,1.0nm,1.0s						
KURK				⇓Lg		19 42 50.7	
	comp=Z,6.5nm,0.9s						
KURK	**Kurchatov**	**7.68**	**8**	⇑*e*P	**Pn**	**19 40 39.0**	**-1.3**
BRVK	**Borovoye**	**10.85**	**338**	*e*P	**Pn**	**19 41 25.1**	**+1.3**
KRAR	**Krasnoyarsk**	**16.50**	**33**	⇑*e*P	**Pn**	**19 42 39.8**	**-0.1**
KRAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
KRAR				MLR	MLR		
	comp=Z,100nm,16.0s						
TIXI	**Tiksi**	**37.92**	**24**	⇑*e*P	**P**	**19 46 04.3**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.9						

IDC 22 19:39:54.8±9.1, 025N×12208E, h204km±90km, mb3.3/4, mb1 3.4/5, mb1mx3.2/19, mbtmp3.2/5, Error ellipse: s-maj=116.9km s-min=20.8km az=59.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.57**	**169**	P	P	19 43 56.7	+0.3
	0.3nm,0.3s,baz=1.9,slow=10.0,SNR=8.5						
WRA	**Warramunga Arr**	**23.39**	**150**	P	P	19 44 45.2	0.0
	2.5nm,0.5s,baz=326,slow=11,SNR=38						
ASAR	**Alice Springs**	**26.40**	**155**	P	P	19 45 12.7	+0.3
	0.8nm,0.5s,baz=345,slow=15,SNR=22						
ASAR				PcP	PcP	19 48 32.4	+0.1
	0.6nm,1.1s,baz=350,slow=2.4,SNR=4.2						
STKA	**Stephens Creek**	**36.90**	**152**	P	P	19 46 44.2	+0.4
	2.7nm,0.8s,baz=344,slow=9.4,SNR=4.8						
MKAR	**Makanchi Array**	**57.92**	**329**	P	P	19 49 25.6	+0.1
	0.3nm,0.4s,baz=123,slow=8.7,SNR=8.3						

IDC 22 19:47:23.1±1.2, 2195N×14309E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=50.5km s-min=24.0km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.09**	**320**	P	P	19 54 51.4	-0.5
	0.5nm,0.5s,baz=122,slow=8.9,SNR=4.0						
WRA	**Warramunga Arr**	**42.51**	**192**	P	P	19 55 20.3	+0.1
	0.3nm,0.6s,baz=13,slow=7.9,SNR=5.5						
ASAR	**Alice Springs**	**46.22**	**192**	P	P	19 55 49.9	+0.1
	0.4nm,0.6s,baz=18,slow=9.2,SNR=6.8						
MKAR	**Makanchi Array**	**54.47**	**313**	P	P	19 56 53.0	+0.7
	0.3nm,0.6s,baz=106,slow=8.9,SNR=3.8						
YKA	**Yellowknife Ar**	**76.27**	**28**	P	P	19 59 13.5	-0.1
	0.2nm,0.5s,baz=292,slow=6.0,SNR=6.2						

BJI ***22*** *19:50:42.9, 1065N×9235E, h27km, mB6.4, mb5.9, Ms6.2, Msz6.0*
ISCJB ***22*** *19:50:43.7±0.1, 1064N±002×9241E±002, h29km, mb5.7/274, MS6.1/205, Error ellipse: s-maj=3.0km s-min=2.2km az=31.1*
GCMT ***22*** *19:50:44.6±0.1, 1070N×9211E, h22km, MW6.2/91, Moment Tensor Solution. s91,c172; s54,c72; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr1.00±.01; Mθθ0.05±.01; Mφφ-1.04±.01; Mrθ0.55±.03; Mφθ0.27±.01; Mφr-1.93±.07; Best double couple: M0=2.26600×10^18 NP1:φs350.00000°, δ14.00000°, λ95.00000°. NP2: φs164.00000°, δ76.00000°, λ89.00000°. Principal axes: T 2.2120, Plg59.0000°, Azm73.0000°; N 0.1120, Plg1.0000°, Azm165.0000°; P -2.3190, Plg31.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
NEIC ***22*** *19:50:44.6±0.1, 1065N×9236E, h24km, mb5.7/160, ME6.0, MS6.1/142, MW6.1 Error ellipse: s-maj=4.3km s-min=3.0km az=210.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^18Nm; Mrr0.61; Mθθ0.35; Mφφ-0.97; Mrθ0.69; Mφθ-0.32; Mφr-1.55; Best double couple: M0=1.90000×10^18 NP1:φs160.00000°, δ80.00000°, λ69.00000°. NP2:φs45.00000°, δ23.00000°, λ154.00000°. Principal axes: T 1.9300, Plg51.0000°, Azm47.0000°; N -0.0100, Plg20.0000°, Azm164.0000°; P -1.9200, Plg32.0000°, Azm267.0000°; Broadband fault plane solution: P waves. NP1:φs39.00000°, δ22.00000°, λ153.00000°. NP2:φs155.00000°, δ80.00000°, λ70.00000°. Principal axes: T Plg51.0000°, Azm42.0000°; N Plg0.0000°, Azm0.0000°; P Plg32.0000°, Azm262.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Port Blair.
SZGRF ***22*** *19:50:44.2, 1056N×9278E, h23km, mb5.6, MS6.1, Andaman Islands, India, region*
MOS ***22*** *19:50:45.2±1.9, 1086N×9236E, h33km, mb6.0/114, MS6.1/71, Error ellipse: s-maj=10.1km s-min=6.1km az=89.9*
IDC ***22*** *19:50:47.6±0.8, 1061N×9243E, h46km±6km, mb5.4/34, mb1 5.4/35, mb1mx5.4/35, mbtmp5.4/35, ML4.5/1, MS5.9/27, Ms1 5.9/27, ms1mx5.9/31, Error ellipse: s-maj=7.0km s-min=5.1km az=37.0*
BGS ***22*** *19:50:50.1, 1130N×9150E, h25km, mb5.4, MS5.8*
ISC 22 19:50:46.1±0.1, 1070N±002×9241E±002, h31km, h31km±1.5km: pP-P, n1282, σ1.07/972, mb5.7/274, MS6.1/205, 163C-124D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.01**	**19**	*e*P	**Pn**	**19 51 03.0**	**-1.1**
PBA				*e*S	**Sn**	**19 51 18.9**	**+1.6**
PBA				*e*x	x	19 51 25.5	
	comp=N,568μm,0.8s						
PBA				*e*x	x	19 51 25.8	
	comp=E,362μm,0.6s						
PKT	**Phuket**	**6.27**	**114**	P	**Pn**	**19 52 20.5**	**+4.0**
SNG	**Songkhla**	**8.83**	**113**	P	**Pn**	**19 52 56.0**	**+4.4**
	comp=E,1μm,0.5s						
KULM	**Kulim**	**9.77**	**123**	⇑*e*Pn	**Pn**	**19 53 05.2**	**+0.7**
PSI	**Prapat**	**10.17**	**140**	P	**Pn**	**19 53 09.4**	**-0.5**
	comp=E,3.6nm,0.3s,baz=339,slow=12,SNR=11						
PSI				S	**Sn**	**19 55 05.8**	**+2.9**
	baz=250,slow=17,SNR=1.7						
PSI				LR	LR	19 57 43.3	
	comp=E,126μm,21.2s,baz=304,slow=41						
PSI				ScS	ScS	20 06 20.4	-2.0
	comp=E,0.5nm,0.3s,baz=198,slow=22,SNR=13						
PSI	**Prapat**	**10.17**	**140**	P	**Pn**	**19 53 09.4**	**-0.5**
PSI				S	**Sn**	**19 55 05.8**	**+3.0**
CHG	**Chiang Mai**	**10.25**	**37**	⇑P	**Pn**	**19 53 13.4**	**+2.4**
	comp=E,150nm,1.1s						
CHTO	**Chiang Mai**	**10.25**	**37**	⇑*e*P	**Pn**	**19 53 11.5**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,340nm,0.9s						
CHTO	**Chiang Mai**	**10.25**	**37**	⇑*e*Pn	**Pn**	**19 53 11.5**	**+0.4**
	comp=Z,336nm,0.9s						
IPM	**Ipoh**	**10.54**	**125**	P	**Pn**	**19 53 15.4**	**+0.3**
VIS	**Vishakhapatnam**	**11.23**	**309**	*e*P	**Pn**	**19 53 22.0**	**-2.5**
VIS				*e*S	**Sn**	**19 55 16.3**	**-13**
NANT	**Nan**	**11.37**	**44**	⇑P	**Pn**	**19 53 27.2**	**+0.9**
PALK	**Pallekele**	**12.05**	**255**	Pn	**Pn**	**19 53 33.9**	**-1.7**
	comp=Z,870nm,0.6s,SNR=14						
PALK	**Pallekele**	**12.05**	**255**	⇓*e*Pn	**Pn**	**19 53 31.2**	**-4.5**
	comp=Z,501nm,1.0s						
MDRS	**Chennai**	**12.13**	**282**	*e*P	**Pn**	**19 53 34.1**	**-2.7**
MDRS				*e*S	**Sn**	**19 55 36.3**	**-15**
CAL	**Calcutta**	**12.41**	**342**	*e*P	**Pn**	**19 53 40.3**	**-0.2**
CAL				*e*S	**Sn**	**19 55 47.9**	**-10**
AGT	**Agartala**	**13.16**	**355**	*i* P	**Pn**	**19 53 52.0**	**+1.2**
KGM	**Kluang**	**13.85**	**128**	P	**Pn**	**19 54 00.5**	**+0.2**
SALM	**Salem**	**13.97**	**275**	*e*P	**Pn**	**19 54 02.0**	**+0.1**
SALM				*e*x	x	19 56 23.0	
BOK	**Bokaro**	**14.43**	**335**	*e*P	**Pn**	**19 54 06.5**	**-1.6**
BOK				*e*x	x	19 56 30.0	
KOD	**Kodaikanal**	**14.70**	**270**	*e*P	**Pn**	**19 54 10.8**	**-1.1**
SHL	**Shillong**	**14.80**	**358**	*e*P	**Pn**	**19 54 10.0**	**-3.2**
SHL				*e*S	**Sn**	**19 56 55.0**	**-1.0**
HYB	**Hyderabad**	**15.00**	**298**	⇓*i*P	**Pn**	**19 54 12.0**	**-3.9**
	comp=Z,285nm,0.8s						
HYB				*e*S	**Sn**	**19 57 04.0**	**+3.0**
HYB				LR	LR		
	comp=Z,104nm,16.0s						
HYB	**Hyderabad**	**15.00**	**298**	⇓*e*P	**Pn**	**19 54 12.0**	**-3.9**
HYB				*e*S	**Sn**	**19 56 58.0**	**-3.0**
HYB				pmax	pmax		
	comp=Z,264nm,0.5s						
HYB	**Hyderabad**	**15.00**	**298**	⇓*e*P	**Pn**	**19 54 12.0**	**-3.9**
	comp=Z,264nm,0.5s						
HYB				*e*S	**Sn**	**19 56 58.0**	**-3.0**
BLSP	**Bilaspur**	**15.04**	**320**	*e*x	x	19 55 53.4	
TRD	**Trivandrum**	**15.38**	**263**	*e*P	**Pn**	**19 54 18.4**	**-2.5**
TRD				AMb	AMB	19 54 28.1	
	comp=Z,592nm,1.2s						
TRD				*i* x	x	19 57 18.4	
SLGI	**Shiliguri**	**16.36**	**347**	*e*P	**Pn**	**19 54 36.3**	**+2.9**
NGP	**Nagpur**	**16.51**	**311**	⇓*i*x	x	19 54 30.2	
NGP				*e*x	x	19 54 49.2	
	comp=Z,964nm,1.4s						
NGP				*e*x	x	19 57 23.1	
GTK	**Gangtok**	**16.93**	**348**	*e*x	x	19 54 25.0	
GTK				*e*x	x	19 56 09.0	
LATR	**Latur**	**17.14**	**298**	*e*x	x	19 54 35.4	
LATR				*e*x	x	19 57 34.2	
JBP	**Jabalpur**	**17.16**	**318**	⇓*i*P	**Pn**	**19 54 40.9**	**-2.6**
JBP				*e*x	x	19 57 59.9	
MNGI	**Mangalore**	**17.35**	**279**	*e*P	**Pn**	**19 54 44.6**	**-1.3**
MNGI				AMb	AMB	19 54 59.2	
	comp=Z,2μm,1.7s						
KMI	**Kunming**	**17.38**	**33**	⇑P	**Pn**	**19 54 48.1**	**+1.9**
KMI				AP	pP	19 54 59.1	+3.6
KMI				PP		19 55 04.6	
KMI				AMB	AMB		
	comp=Z,488nm,1.1s						
KMI				AMB	AMB		
	comp=Z,16μm,13.1s						
KMI				LR	LR		
	comp=N,52μm,18.3s						
KMI				LR	LR		
	comp=E,71μm,13.8s						
KMI				LR	LR		
	comp=Z,65μm,18.1s						
KMI	**Kunming**	**17.38**	**33**	⇑P	**Pn**	**19 54 48.1**	**+1.9**
	comp=Z,488nm,1.1s						
KMI				pP	pP	19 54 59.1	+3.6
KMI				PP		19 55 04.6	
KMI				sP	sP	19 55 06.1	+6.6
KMI				PPP		19 55 12.6	
KMI				S	**Sn**	**19 58 08.2**	**+10**
KMI				sS	sS	19 58 25.2	+5.8
KMI				SS		19 58 33.4	
KMI				SSS		19 58 47.7	
AKL	**Akola**	**17.83**	**306**	⇓*i*P	**Pn**	**19 54 51.6**	**-0.2**
AKL				*e*x	x	19 55 05.5	
	comp=Z,865nm,1.4s						
AKL				*i* x	x	19 57 52.6	
JIRN	**Jiri**	**17.86**	**342**	*e*P	**Pn**	**19 54 53.0**	**+0.8**
	comp=Z,1μm,1.2s						
PKI	**Pulchoki**	**18.03**	**340**	*e*P	**Pn**	**19 54 55.6**	**+1.3**
	comp=Z,927nm,0.9s						
DMN	**Daman**	**18.17**	**339**	*e*P	**Pn**	**19 54 56.1**	**+0.1**
	comp=Z,723nm,0.8s						
GUN	**Gumba**	**18.19**	**341**	*e*P	**Pn**	**19 54 56.1**	**-0.1**
	comp=Z,873nm,0.8s						
KKN	**Kakani**	**18.28**	**339**	*e*P	**Pn**	**19 54 57.2**	**-0.1**
	comp=Z,640nm,0.9s						
GKN	**Gorkha**	**18.70**	**338**	*e*P	**Pn**	**19 55 00.0**	**-2.4**
	comp=Z,3μm,1.4s						
GOA	**Goa**	**18.71**	**287**	*e*P	**Pn**	**19 55 00.8**	**-1.7**
GOA				AMb	AMB	19 55 11.1	
	comp=Z,630nm,1.2s						
GOA				*i* S	**Sn**	**19 58 31.1**	**+0.2**
QIZ	**Qiongzhong**	**18.77**	**62**	P	**Pn**	**19 55 03.6**	**+0.4**
QIZ				AP	pP	19 55 13.4	+2.5
QIZ				XP	sP	19 55 19.4	+4.6
QIZ				S	**Sn**	**19 58 30.3**	**-2.0**
QIZ				AMB	AMB		
	comp=Z,332nm,1.2s						
QIZ				LR	LR		
	comp=N,72μm,17.2s						
QIZ				LR	LR		
	comp=E,38μm,18.4s						
QIZ				LR	LR		
	comp=Z,68μm,18.3s						
QIZ	**Qiongzhong**	**18.77**	**62**	*e*P	**Pn**	**19 55 03.3**	**0.0**
	comp=Z,238nm,0.8s						
KAD	**Karad**	**18.85**	**292**	*e*P	**Pn**	**19 55 02.4**	**-1.9**
KAD				AMb	AMB	19 55 15.3	
	comp=Z,545nm,1.8s						
KAD				*e*x	x	19 58 20.6	
KOLN	**Koldanda**	**18.89**	**335**	*e*P	**Pn**	**19 55 02.1**	**-2.7**
	comp=Z,896nm,0.8s						
LSA	**Lhasa**	**18.95**	**357**	P	**Pn**	**19 55 04.0**	**-1.4**
LSA				AP	pP	19 55 13.0	+0.2
LSA				XP	sP	19 55 18.3	+1.5
LSA				S	**Sn**	**19 58 34.0**	**-2.5**
LSA				AMB	AMB		
	comp=Z,270nm,1.8s						
LSA				AMB	AMB		
	comp=Z,10μm,6.7s						
LSA				LR	LR		
	comp=N,17μm,29.5s						
LSA				LR	LR		
	comp=E,46μm,27.5s						
LSA				LR	LR		
	comp=Z,37μm,25.5s						
LSA	**Lhasa**	**18.95**	**357**	*e*P	**Pn**	**19 55 05.3**	**-0.1**
LSA				pmax	pmax		
	comp=Z,685nm,1.0s						
LSA	**Lhasa**	**18.95**	**357**	*e*P	**Pn**	**19 55 05.3**	**-0.1**
	comp=Z,685nm,1.0s						
BHPL	**Bhopal**	**18.98**	**313**	*e*P	**Pn**	**19 55 04.3**	**-1.5**
BHPL				AMb	AMB	19 55 26.4	
	comp=Z,660nm,1.5s						
BHPL				*e*S	**Sn**	**19 58 39.9**	**+2.7**
POO	**Poona**	**19.56**	**296**	*e*P	**Pn**	**19 55 11.2**	**-1.6**
POO				AMb	AMB	19 55 21.1	
	comp=Z,817nm,3.3s						
POO				*i* PP		19 55 25.5	
POO				*i* x	x	19 58 46.0	
KSM	**Kuching**	**20.00**	**116**	⇑*e*P	**P**	**19 55 15.4**	**-0.7**
BOM	**Bombay**	**20.61**	**296**	*e*P	**P**	**19 55 23.3**	**+0.6**
BOM				*e*x	x	19 55 36.4	
	comp=Z,1μm,1.7s						
BOM				*e*x	x	19 59 15.3	
GYA	**Guiyang**	**20.67**	**39**	⇑*i*P	**P**	**19 55 22.8**	**-0.5**
GYA				AP		19 55 34.4	
GYA				XP	sP	19 55 39.6	+4.0
GYA				PP		19 55 45.8	
GYA				PPP		19 55 55.8	
GYA				S	**S**	**19 59 11.9**	**-0.7**
GYA				XS	sS	19 59 24.8	-1.0
GYA				AMB	AMB		
	comp=Z,540nm,0.9s						
GYA				AMB	AMB		
	comp=Z,3μm,4.2s						
GYA				LR	LR		
	comp=N,48μm,16.5s,MS6.2						
GYA				LR	LR		
	comp=E,67μm,15.0s,MS6.2						
GYA				LR	LR		
	comp=Z,66μm,18.0s,MS6.0						
LGTI	**Lohaghat**	**21.84**	**330**	*e*P	**P**	**19 55 37.8**	**+1.8**
LGTI				*e*S	**S**	**19 59 38.0**	**+2.3**
BHV	**Bhavnagar**	**22.32**	**302**	*e*P	**P**	**19 55 42.0**	**+1.0**
CD2	**Chengdu**	**22.71**	**26**	⇑*i*P	**P**	**19 55 44.6**	**-0.6**
CD2				AP		19 55 56.0	
CD2				XP	sP	19 56 01.5	+4.0
CD2				PP		19 56 15.0	
CD2				S	**S**	**19 59 45.6**	**-6.3**
CD2				XS	sS	20 00 05.0	-0.9
CD2				SS		20 00 32.0	
CD2				AMB	AMB		
	comp=Z,1μm,1.1s,mb6.2						
CD2				AMB	AMB		
	comp=Z,12μm,4.9s						
CD2				LR	LR		
	comp=N,43μm,17.0s,MS6.2						
CD2				LR	LR		
	comp=E,70μm,20.8s,MS6.2						
CD2				LR	LR		
	comp=Z,36μm,19.6s,MS5.8						
NDI	**New Delhi**	**22.86**	**324**	*e*P	**P**	**19 55 48.3**	**+1.6**
NDI				AMb	AMB	19 56 06.3	
	comp=Z,770nm,0.8s,mb6.2						
NDI				*e*x	x	19 59 50.0	
AJM	**Ajmer**	**22.97**	**316**	*e*P	**P**	**19 55 49.8**	**+1.9**
AJM				AMb	AMB	19 55 59.1	
	comp=Z,341nm,1.5s,mb5.5						
AJM				*e*x	x	19 59 44.5	
GZH	**Guangzhou**	**23.48**	**56**	P	**P**	**19 55 56.8**	**+3.6**
GZH				LR	LR		
	comp=N,19μm,18.1s,MS5.9						
GZH				LR	LR		
	comp=E,31μm,17.5s,MS5.9						
GZH				LR	LR		
	comp=Z,38μm,17.5s,MS5.9						
DDI	**Dehra Dun**	**23.66**	**328**	*e*P	**P**	**19 55 56.0**	**+1.2**
DDI				*e*S	**S**	**20 00 10.0**	**+2.6**
HKC	**Hong Kong**	**23.81**	**58**	⇑*i*P	**P**	**19 55 56.0**	**-0.3**
HKC				*i* S	**S**	**20 00 14.0**	**+4.1**
KKM	**Kota Kinabalu**	**24.00**	**99**	P	**P**	**19 55 58.5**	**+0.6**
KKM	**Kota Kinabalu**	**24.00**	**99**	⇑*i*P	**P**	**19 55 58.1**	**+0.1**
BHJ	**Bhuj**	**25.04**	**303**	⇓*e*P	**P**	**19 56 09.2**	**+1.7**
BHJ				*e*x	x	20 00 42.6	
BATP	**Bataraza**	**25.10**	**92**	*e*P	**P**	**19 56 07.6**	**-0.4**
SDNR	**Sundarnagar**	**25.16**	**328**	*e*P	**P**	**19 56 10.5**	**+2.0**
SDNR				*e*x	x	20 00 42.0	
BHK	**Bhakra**	**25.39**	**327**	*e*x	x	19 56 15.0	
TSM	**Tawau**	**26.02**	**102**	P	**P**	**19 56 15.9**	**-0.5**
DLH	**Dalhousie**	**26.50**	**328**	*e*P	**P**	**19 56 23.0**	**+2.3**
DLH				*e*x	x	19 57 02.0	
ENPP	**El Nido**	**26.53**	**86**	*e*P	**P**	**19 56 21.7**	**+0.7**
THN	**Thein Dam**	**26.55**	**327**	*e*P	**P**	**19 56 21.1**	**0.0**
THN				*e*x	x	20 01 28.9	
DGAR	**Diego Garcia**	**26.80**	**229**	*e*P	**P**	**19 56 22.3**	**-1.0**
	comp=Z,1μm,1.7s,mb6.1						
DGAR				LR	LR		
	comp=Z,16μm,20.0s,MS5.6						
SCZP	**Santa Cruz**	**27.23**	**76**	*e*P	**P**	**19 56 27.1**	**-0.2**
BUSP	**Coron**	**27.28**	**85**	*e*P	**P**	**19 56 27.5**	**-0.2**
LZH	**Lanzhou**	**27.32**	**20**	⇑P	**P**	**19 56 28.5**	**+0.4**
LZH				AP	pP	19 56 40.3	+3.2
LZH				XP	sP	19 56 45.8	+5.0
LZH				PP		19 57 17.5	
LZH				PPP		19 57 29.3	
LZH				PCP	PcP	19 59 46.5	-0.4
LZH				S	**S**	**20 01 04.1**	**-1.6**
LZH				XS	sS	20 01 23.8	+3.2
LZH				SS		20 02 23.3	
LZH				SCP	ScP	20 03 22.5	-2.6
LZH				PCS	PcS	20 03 27.6	-1.0
LZH				SCS	ScS	20 07 13.3	-3.2
LZH				AMB	AMB		
	comp=Z,635nm,1.3s,mb6.0						
LZH				AMB	AMB		
	comp=Z,5μm,9.6s						
LZH				LR	LR		
	comp=N,31μm,15.6s						
LZH				LR	LR		
	comp=Z,62μm,17.8s,MS6.2						
LZH	**Lanzhou**	**27.32**	**20**	⇑P	**P**	**19 56 28.5**	**+0.4**
LZH				*PP	pP	19 56 40.2	+3.1
LZH						19 57 17.5	
LZH				PPP		19 57 29.3	
LZH						19 59 46.5	
LZH				S	**S**	**20 01 04.1**	**-1.6**
LZH				*SS	sS	20 01 23.7	+3.1
LZH				SS		20 02 23.2	
LZH						20 07 13.2	
LZH				pmax	pmax		
	comp=Z,635nm,1.3s,mb6.0						
LZH				MLR	MLR		
	comp=Z,62μm,17.8s,MS6.2						
LZH	**Lanzhou**	**27.32**	**20**	⇑P	**P**	**19 56 28.5**	**+0.4**
	comp=Z,635nm,1.3s,mb6.0						
LZH				pP	pP	19 56 40.2	+3.1
LZH				sP	sP	19 56

XAN	**Xi'an**	**27.72**	**30**	P	**P**	**19 56 30.4 -1.3**
XAN				AP	pP	19 56 38.3 -2.3
XAN				PP		19 57 25.5
XAN				S	**S**	**20 01 09.6 -2.4**
XAN				AMB	AMB	
	comp=Z,208nm,1.0s,mb5.7					
XAN				AMB	AMB	
	comp=Z,4μm,13.6s					
XAN				LR	LR	
	comp=N,22μm,21.7s,MS6.0					
XAN				LR	LR	
	comp=E,32μm,21.7s,MS6.0					
XAN				LR	LR	
	comp=Z,42μm,18.6s,MS6.0					
TGY	**Tagaytay City**	**28.06**	**80**	P	**P**	**19 56 35.4 +0.7**
	comp=Z,312nm,0.7s,baz=316,slow=18,SNR=8.5					
TGY				S	**S**	**20 01 17.8 +0.4**
	comp=Z,82nm,0.3s,baz=202,slow=16,SNR=1.5					
WHN	**Wuhan**	**28.39**	**43**	⇑P	**P**	**19 56 37.5 -0.1**
WHN				AMB	AMB	
	comp=Z,196nm,1.1s,mb5.7					
WHN				LR	LR	
	comp=Z,115μm,17.5s,MS6.5					
QZH	**Quanzhou**	**28.60**	**57**	⇑*i*P	**P**	**19 56 40.3 +0.8**
QZH				AP	pP	19 56 51.9 +3.4
QZH				S	**S**	**20 01 24.6 -1.2**
QZH				XS	sS	20 01 42.0 +1.3
QZH				AMB	AMB	
	comp=Z,900nm,1.7s,mb6.2					
QZH				AMB	AMB	
	comp=Z,6μm,3.5s					
QZH				LR	LR	
	comp=Z,64μm,18.7s,MS6.2					
BALP	**Baler**	**28.82**	**77**	*e*P	**P**	**19 56 42.0 +0.6**
BOAC	**Boac**	**28.91**	**82**	*e*P	**P**	**19 56 40.4 -1.8**
OTRP	**Odiongan**	**29.06**	**84**	*e*P	**P**	**19 56 43.1 -0.4**
POLP	**Polilio Island**	**29.07**	**79**	*e*P	**P**	**19 56 43.4 -0.3**
CAUP	**Cauayan**	**29.21**	**74**	*e*P	**P**	**19 56 45.4 +0.5**
GTA	**Gaotai**	**29.35**	**12**	P	**P**	**19 56 47.3 +1.2**
GTA				AP	pP	19 56 58.3 +3.2
GTA				PP	PP	19 57 43.4 -9.2
GTA				PCP	PcP	19 59 53.0 +1.1
GTA				S	**S**	**20 01 39.3 +1.7**
GTA				SS	SS	20 03 13.5 -29
GTA				SCS	ScS	20 07 26.3 +0.5
GTA				AMB	AMB	
	comp=Z,327nm,1.4s,mb5.9					
GTA				AMB	AMB	
	comp=Z,5μm,4.2s					
GTA				LR	LR	
	comp=N,14μm,24.0s,MS5.8					
GTA				LR	LR	
	comp=E,19μm,20.9s,MS5.8					
GTA				LR	LR	
	comp=Z,19μm,17.1s,MS5.8					
GUIM	**Jordan**	**29.66**	**87**	*e*P	**P**	**19 56 48.8 -0.1**
RCP	**Roxas**	**29.78**	**85**	⇑*e*P	**P**	**19 56 50.7 +0.8**
YHNB	**Yeheng**	**30.81**	**59**	*e*P	**P**	**19 56 59.2 +0.1**
LLP	**Lapu-Lapu**	**31.03**	**88**	⇑*e*P	**P**	**19 57 01.3 +0.3**
OCLP	**Ormoc**	**31.62**	**86**	*e*P	**P**	**19 57 05.8 -0.4**
CGP	**Cagayan de Oro**	**31.91**	**91**	⇓*i*P	**P**	**19 57 08.8 0.0**
MSLP	**Maasin**	**31.92**	**88**	*e*P	**P**	**19 57 08.9 +0.1**
KSH	**Kashi**	**32.21**	**336**	P	**P**	**19 57 12.6 +1.2**
KSH				AP	pP	19 57 24.4 +4.0
KSH				XP	sP	19 57 29.6 +5.4
KSH				PP	PP	19 58 19.4 -5.0
KSH				PPP		19 58 34.8
KSH				PCP	PcP	20 00 01.3 +1.8
KSH				S	**S**	**20 02 19.9 -2.5**
KSH				XS	sS	20 02 40.8 +3.5
KSH				SCP	ScP	20 03 40.5 -0.3
KSH				PCS	PcS	20 03 45.8 +1.4
KSH				SS	SS	20 04 14.4 -27
KSH				SCS	ScS	20 07 37.3 -2.5
KSH				AMB	AMB	
	comp=Z,235nm,0.8s,mb6.1					
KSH				AMB	AMB	
	comp=Z,3μm,4.4s					
KSH				LR	LR	
	comp=N,113μm,18.0s,MS6.7					
KSH				LR	LR	
	comp=E,70μm,13.9s,MS6.7					
KSH				LR	LR	
	comp=Z,77μm,19.1s					
BUKP	**Musuan**	**32.34**	**92**	*e*P	**P**	**19 57 13.1 +0.6**
DAV	**Davao City (W)**	**32.96**	**93**	*e*P	**P**	**19 57 18.9 +0.9**
DAV				LR	LR	
	comp=Z,20μm,19.0s,MS5.8					
WMQ	**Urumqi**	**33.26**	**354**	P	**P**	**19 57 21.5 +1.0**
WMQ				XP	sP	19 57 38.0 +4.7
WMQ				PP	PP	19 58 34.1 -1.9
WMQ				PPP		19 58 52.1
WMQ				PCP	PcP	20 00 01.9 -0.5
WMQ				S	**S**	**20 02 37.4 -1.2**
WMQ				XS	sS	20 02 58.3 +4.7
WMQ				SCP	ScP	20 03 42.6 -1.8
WMQ				PCS	PcS	20 03 48.9 +0.9
WMQ				SS	SS	20 04 39.5 -23
WMQ				SCS	ScS	20 07 42.0 -3.1
WMQ				AMB	AMB	
	comp=Z,228nm,1.3s,mb5.9					
WMQ				AMB	AMB	
	comp=Z,2μm,5.0s					
WMQ				LR	LR	
	comp=N,16μm,19.0s,MS6.2					
WMQ				LR	LR	
	comp=E,40μm,20.0s,MS6.2					
WMQ				LR	LR	
	comp=Z,23μm,23.0s,MS5.8					
SSE	**Sheshan**	**33.52**	**48**	⇑P	**P**	**19 57 23.8 +1.0**
SSE				AP	pP	19 57 35.5 +3.7
SSE				S	**S**	**20 02 43.6 +0.9**
SSE				SCS	ScS	20 07 43.0 -3.5
SSE				AMB	AMB	
	comp=Z,359nm,1.3s,mb6.1					
SSE				AMB	AMB	
	comp=Z,3μm,11.7s					
SSE				LR	LR	
	comp=N,4μm,16.8s,MS6.1					
SSE				LR	LR	
	comp=E,29μm,16.8s,MS6.1					
SSE				LR	LR	
	comp=Z,28μm,17.5s,MS6.0					
SSE	**Sheshan**	**33.52**	**48**	⇑P	**P**	**19 57 23.7 +0.9**
	comp=Z,359nm,1.3s,mb6.1					
SSE				pP	pP	19 57 35.5 +3.7
SSE				sP	sP	19 57 44.1 +8.5
SSE				PP	PP	19 58 41.1 +2.2
SSE				S	**S**	**20 02 43.6 +0.9**
SSE				sS	sS	20 03 05.9 +8.3
SSE				ScS	ScS	20 07 43.0 -3.5
SSE				LR	LR	
	comp=Z,28μm,17.5s,MS6.0					
BTO	**Baotou**	**33.62**	**25**	*e*P	**P**	**19 57 23.4 -0.3**
BTO				AMB	AMB	
	comp=Z,125nm,0.9s,mb5.8					
MATI	**Mati**	**33.65**	**94**	*e*P	**P**	**19 57 21.8 -2.1**
WBK	**Wadi Bani Khal**	**34.07**	**295**	⇓P	**P**	**19 57 30.4 +2.8**
	SNR=14					
KZA	**Kyzart**	**34.69**	**337**	P	**P**	**19 57 34.3 +1.3**
	SNR=40					
JMDO	**Jabal Madar**	**34.78**	**294**	⇓P	**P**	**19 57 36.3 +2.5**
	SNR=5.9					
SMDO	**Samad**	**35.00**	**295**	⇓P	**P**	**19 57 38.3 +2.7**
	SNR=16					
BIDO	**Bidbid**	**35.05**	**296**	⇓P	**P**	**19 57 39.7 +3.6**
	SNR=15					
UCH	**Uchtor**	**35.10**	**337**	P	**P**	**19 57 38.0 +1.5**
	SNR=32					
AAA	**Alma-Ata**	**35.13**	**340**	*i*P	**P**	**19 57 38.1 +1.3**
AAA				*i*S	**S**	**20 03 09.3 +1.7**
AAA				pmax	pmax	
	comp=Z,3μm,3.4s					
TKM2	**Tokmak 2**	**35.29**	**338**	P	**P**	**19 57 39.9 +1.7**
	SNR=33					
KBK	**Karagaybulak**	**35.30**	**337**	P	**P**	**19 57 39.6 +1.4**
	SNR=44					
AML	**Almayashu**	**35.34**	**336**	P	**P**	**19 57 40.2 +1.6**
	SNR=92					
AAK	**Ala-Archa**	**35.45**	**337**	P	**P**	**19 57 41.0 +1.5**
	SNR=63					
AAK	**Ala-Archa**	**35.45**	**337**	P	**P**	**19 57 40.1 +0.6**
	comp=Z,338nm,0.9s,mb6.3,SNR=62					
AAK	**Ala-Archa**	**35.45**	**337**	P	**P**	**19 57 40.4 +0.8**
	SNR=63					
AAK	**Ala-Archa**	**35.45**	**337**	⇑*e*P	**P**	**19 57 39.9 +0.3**
	comp=Z,230nm,1.1s,mb6.0					
AAK				LR	LR	
	comp=Z,7μm,20.0s,MS5.4					
FRU	**Bishkek**	**35.58**	**337**	⇑*e*P	**P**	**19 57 41.0 +0.4**
FRU				*e*		19 59 16.0
FRU				*e*S	**S**	**20 03 18.0 +3.5**
FRU				pmax	pmax	
	comp=Z,800nm,3.1s					
FRU				pmax	pmax	
	comp=Z,810nm,2.0s,mb6.3					
FRU				MLR	MLR	
	comp=N,36μm,17.0s,MS6.4					
FRU				MLR	MLR	
	comp=E,41μm,17.0s,MS6.4					
FRU				MLR	MLR	
	comp=Z,30μm,17.0s,MS6.1					
CHMS	**Chumysh**	**35.67**	**338**	P	**P**	**19 57 42.7 +1.3**
	SNR=17					
EKS2	**Erkin-Say**	**35.76**	**336**	P	**P**	**19 57 43.7 +1.6**
	SNR=72					
HOQ	**Hoqain**	**35.79**	**296**	⇓P	**P**	**19 57 45.0 +2.6**
	SNR=6.9					
USP	**Ospenovka**	**35.99**	**338**	P	**P**	**19 57 45.0 +0.8**
	SNR=99					
BJT	**Baijiatuau**	**36.01**	**32**	*e*P	**P**	**19 57 45.3 +1.0**
BJT				pmax	pmax	
	comp=Z,351nm,0.8s					
BJT				MLR	MLR	
	comp=Z,82μm,19.0s					
BJT	**Baijiatuau**	**36.01**	**32**	*e*P	**P**	**19 57 45.3 +1.0**
	comp=Z,351nm,0.8s,mb6.3					
BJT				LR	LR	
	comp=Z,82μm,19.0s,MS6.5					
BJI	**Beijing**	**36.03**	**32**	P	**P**	**19 57 45.3 +0.8**
BJI				PP	PP	19 59 09.8 +3.1
BJI				S	**S**	**20 03 23.1 +1.7**
BJI				AMB	AMB	
	comp=Z,442nm,1.1s,mb6.3					
BJI				AMB	AMB	
	comp=Z,7μm,3.9s					
BJI				LR	LR	
	comp=N,58μm,17.7s,MS6.5					
BJI				LR	LR	
	comp=E,44μm,17.3s,MS6.5					
BJI				LR	LR	
	comp=Z,55μm,19.6s,MS6.3					
BJI	**Beijing**	**36.03**	**32**	P	**P**	**19 57 45.3 +0.8**
	comp=Z,442nm,1.1s,mb6.3					
BJI				PP	PP	19 59 09.7 +3.0
BJI				S	**S**	**20 03 23.1 +1.7**
BJI				SS	SS	20 06 10.2 +11
BJI				LR	LR	
	comp=Z,55μm,19.6s,MS6.3					
MK31	**Makanchi Array**	**36.99**	**348**	*i* P	**P**	**19 57 52.7 0.0**
MK31				pmax	pmax	
	comp=Z,157nm,0.9s,mb5.8					
MK31	**Makanchi Array**	**36.99**	**348**	⇑*i*P	**P**	**19 57 52.6 -0.1**
MKAR	**Makanchi Array**	**36.99**	**348**	P	**P**	**19 57 52.8 +0.1**
	comp=Z,145nm,0.9s,mb5.8,baz=166,slow=7.5,SNR=414					
MKAR				S	**S**	**20 03 37.6 +1.6**
	comp=Z,2.1nm,0.9s,baz=193,slow=9.9,SNR=1.9					
MKAR				ScS	ScS	20 08 03.6 -1.6
	comp=Z,0.4nm,0.9s,baz=290,slow=43,SNR=1.9					
MKAR				LR	LR	20 16 16.3
	comp=Z,10μm,20.7s,MS5.6,baz=163,slow=41					
MKAR	**Makanchi Array**	**36.99**	**348**	P	**P**	**19 57 52.8 +0.1**
MKAR				S	**S**	**20 03 37.6 +1.6**
MKAR						20 08 03.7
JOW	**Kunigami**	**37.40**	**60**	P	**P**	**19 57 56.2 +0.1**
	comp=Z,57nm,0.5s,mb5.7,baz=237,slow=7.9,SNR=16					
JOW				S	**S**	**20 03 44.5 +2.3**
	comp=Z,18nm,0.4s,baz=84,slow=26,SNR=6.5					
JOW				LR	LR	20 17 02.4
	comp=Z,31μm,18.0s,MS6.1,baz=31,slow=42					
DL2	**Dalian**	**38.32**	**38**	⇑*i*P	**P**	**19 58 04.3 +0.4**
DL2				AP	pP	19 58 15.3 +2.3
DL2				XP	sP	19 58 21.3 +4.5
DL2				PP	PP	19 59 38.9 +7.1
DL2				S	**S**	**20 03 54.3 -1.9**
DL2				SCP	ScP	20 04 03.6 +0.7
DL2				XS	sS	20 04 15.0 +3.7
DL2				SS	SS	20 06 38.4 -6.6
DL2				SCS	ScS	20 08 12.8 0.0
DL2				AMB	AMB	
	comp=Z,200nm,0.9s,mb5.8					
DL2				AMB	AMB	
	comp=Z,2μm,7.1s					
DL2				LR	LR	
	comp=N,15μm,19.4s,MS5.9					
DL2				LR	LR	
	comp=E,11μm,18.8s,MS5.9					
DL2				LR	LR	
	comp=Z,13μm,16.4s,MS5.8					
SONM	**Songino Array**	**38.85**	**15**	P	**P**	**19 58 09.0 +0.6**
	comp=Z,335nm,0.9s,mb6.0,baz=197,slow=8.0,SNR=753					
SONM				PcP	PcP	20 00 19.1 +0.1
	comp=Z,32nm,0.8s,baz=202,slow=4.0,SNR=4.9					
SONM				S	**S**	**20 04 03.7 -0.5**
	comp=Z,2.8nm,1.0s,baz=242,slow=11,SNR=2.7					
SONM				ScS	ScS	20 08 16.1 +0.2
	comp=Z,0.7nm,1.1s,baz=182,slow=10,SNR=2.2					
SONM				LR	LR	20 17 47.3
	comp=Z,11μm,19.2s,MS5.7,baz=196,slow=42					
SONM	**Songino Array**	**38.85**	**15**	P	**P**	**19 58 09.0 +0.6**
SONM						20 00 19.1
SONM				S	**S**	**20 04 03.7 -0.5**
SONM						20 08 16.1
MSEY	**Mahe Island**	**39.81**	**249**	*e*P	**P**	**19 58 18.4 +2.0**
	comp=Z,238nm,1.4s,mb5.7					
MSEY				LR	LR	
	comp=Z,7μm,19.0s,MS5.5					
ZAK	**Zakamensk**	**40.57**	**11**	⇓*i*P	pP	19 58 32.3 +0.4
ZAK				*e*		19 59 59.3
ZAK				*e*		20 00 20.4
ZAK				*e*		20 04 34.4
ZAK				pmax	pmax	
	comp=Z,65nm,1.5s,mb5.0					
INCN	**Inchon**	**40.70**	**43**	⇑*i*P	**P**	**19 58 23.3 -0.4**
	comp=Z,331nm,0.9s,mb6.0					
INCN				LR	LR	
	comp=Z,39μm,19.0s,MS6.3					
ASH	**Ashkhabad**	**40.83**	**317**	P	**P**	**19 58 27.0 +2.2**
SNY	**Shenyang**	**41.32**	**36**	⇑P	**P**	**19 58 28.3 -0.6**
SNY				PP	PP	20 00 08.8 +4.3
SNY				PCS	PcS	20 04 12.9 -5.2
SNY				SCP	ScP	20 04 15.5 +0.9
SNY				S	**S**	**20 04 45.8 +4.6**
SNY				AMB	AMB	
	comp=Z,321nm,1.1s,mb5.9					
SNY				AMB	AMB	
	comp=Z,6μm,4.1s					
SNY				LR	LR	
	comp=E,41μm,16.5s					
SNY				LR	LR	
	comp=Z,38μm,16.7s,MS6.3					
MOY	**Mondy**	**41.45**	**8**	*e*P	**P**	**19 58 30.8 +0.9**
MOY				*e*		20 04 46.5
MOY				pmax	pmax	
	comp=Z,447nm,3.1s					
KURK	**Kurchatov**	**41.48**	**347**	P	**P**	**19 58 30.0 -0.2**
	comp=Z,988nm,1.1s,mb6.3					
KURK	**Kurchatov**	**41.48**	**347**	P	**P**	**19 58 30.6 +0.4**
	SNR=101					
KURK	**Kurchatov**	**41.48**	**347**	*c i*P	**P**	**19 58 30.2 0.0**
KURK	**Kurchatov**	**41.48**	**347**	⇑*i*P	**P**	**19 58 30.2 0.0**
	comp=Z,256nm,1.2s,mb5.7					
KSRS	**Korea Array**	**41.56**	**44**	P	**P**	**19 58 30.6 -0.2**
	comp=Z,248nm,0.9s,mb5.8,baz=244,slow=8.5,SNR=340					
KSRS				ScP	ScP	20 04 16.6 +1.0
	comp=Z,9.8nm,1.0s,baz=247,slow=4.6,SNR=9.9					
KSRS				S	**S**	**20 04 43.9 -0.8**
	comp=Z,1.9nm,0.8s,baz=242,slow=6.0,SNR=3.5					
KSRS				ScS	ScS	20 08 31.0 -0.9
	comp=Z,0.9nm,0.7s,baz=292,slow=27,SNR=3.0					
KSRS				LR	LR	20 18 11.2
	comp=Z,18μm,18.4s,MS6.0,baz=240,slow=40					
JNU	**Nakatsue**	**41.75**	**52**	P	**P**	**19 58 33.5 +1.1**
	comp=Z,223nm,0.8s,mb5.9,baz=206,slow=20,SNR=34					
JNU				S	**S**	**20 04 49.8 +2.2**
	comp=Z,14nm,0.8s,baz=214,slow=19,SNR=2.4					
TLY	**Talaya**	**41.88**	**10**	P	**P**	**19 58 34.6 +1.1**
	comp=Z,715nm,1.4s,mb6.1,SNR=21					
TLY	**Talaya**	**41.88**	**10**	*c i*P	**P**	**19 58 34.9 +1.4**
TLY				pmax	pmax	
	comp=Z,147nm,2.5s,mb5.2					
TLY	**Talaya**	**41.88**	**10**	⇑*i*P	**P**	**19 58 34.0 +0.5**
MUKL	**Al Mukalla**	**42.45**	**280**	*e*P	**P**	**19 58 39.7 +1.6**
IRK	**Irkutsk**	**42.54**	**11**	*e*P	**P**	**19 58 39.3 +0.5**
IRK				*e*		20 00 22.4
IRK				*e*S	**S**	**20 04 56.6 -2.5**
IRK				pmax	pmax	
	comp=Z,620nm,2.5s,mb5.9					
FITZ	**Fitzroy Crossi**	**43.53**	**131**	⇑*i*P	**P**	**19 58 45.0 -1.9**
	comp=Z,898nm,1.0s,mb6.5					
FITZ				*i* S	**S**	**20 05 02.6 -11**
FITZ				*e*SCS	ScS	20 08 42.1 -2.1
FITZ	**Fitzroy Crossi**	**43.53**	**131**	P	**P**	**19 58 46.1 -0.7**
	comp=Z,419nm,0.9s,mb6.2,baz=326,slow=7.7,SNR=310					
FITZ				PcP	PcP	20 00 35.5 +1.2
	comp=Z,33nm,0.6s,baz=4.9,slow=5.5,SNR=4.8					
FITZ				S	**S**	**20 05 08.9 -4.9**
	comp=Z,15nm,1.1s,baz=149,slow=22,SNR=10					
FITZ				ScS	ScS	20 08 43.0 -1.2
	comp=Z,3.2nm,0.9s,baz=222,slow=20,SNR=4.3					
FITZ				PKPPKP		20 30 40.4
	comp=Z,2.7nm,1.1s,baz=137,slow=13,SNR=3.1					
ZAL	**Zalesovo**	**43.55**	**353**	P	**P**	**19 58 47.2 +0.2**
	comp=Z,77nm,0.9s,mb5.4,baz=295,slow=9.2,SNR=262					
ZAL				S	**S**	**20 05 11.9 -2.2**
	comp=Z,2.1nm,0.9s,baz=261,slow=20,SNR=2.1					
ZAL				ScS	ScS	20 08 40.1 -4.1
	comp=Z,1.0nm,0.7s,baz=326,slow=22,SNR=3.7					
ZAL				LR	LR	20 21 27.2
	comp=Z,16μm,19.5s,MS5.9,baz=292,slow=42					
ZAL	**Zalesovo**	**43.55**	**353**	P	**P**	**19 58 47.3 +0.3**
ZAL				S	**S**	**20 05 11.9 -2.2**
ZAL						20 08 40.2
CN2	**Changchun**	**43.64**	**35**	⇑P	**P**	**19 58 47.8 +0.1**
CN2				*e*S	**S**	**20 05 12.0 -3.3**
CN2				AMB	AMB	
	comp=Z,830nm,0.7s,mb6.6					
CN2				AMB	AMB	
	comp=Z,6μm,4.0s					
CN2				LR	LR	
	comp=N,17μm,16.0s,MS6.2					
CN2				LR	LR	
	comp=E,20μm,16.0s,MS6.2					
CN2				LR	LR	
	comp=Z,27μm,17.0s,MS6.2					
NVS	**Novosibirsk**	**44.63**	**352**	⇑*i*P	**P**	**19 58 54.7 -0.9**
NVS				*i* S	**S**	**20 05 22.2 -7.5**
NVS				pmax	pmax	
	comp=Z,332nm,2.1s,mb5.8					
NVS				pmax	pmax	
	comp=N,268nm,2.2s					
NVS				pmax	pmax	
	comp=E,154nm,2.2s					
NVS				smax		
	comp=N,193nm,2.3s					
NVS				smax		
	comp=E,267nm,2.6s					
CIT	**Chita**	**44.65**	**18**	*e*P	**P**	**19 58 56.1 +0.3**
CIT				*e*		19 59 07.1
CIT				*e*		20 00 37.4
CIT				*e*		20 05 28.6
CIT				*e*S	SS	20 08 52.3 +1.7
CIT				pmax	pmax	
	comp=Z,996nm,2.2s,mb6.3					
HIA	**Hailar**	**44.66**	**25**	*e*P	**P**	**19 58 55.7 -0.2**
HIA				pmax	pmax	
	comp=Z,247nm,0.9s					
HIA				MLR	MLR	
	comp=Z,23μm,20.0s					
HIA	**Hailar**	**44.66**	**25**	*e*P	**P**	**19 58 55.7 -0.2**
	comp=Z,247nm,0.9s,mb6.0					
HIA				LR	LR	
	comp=Z,23μm,20.0s,MS6.1					
KRAR	**Krasnoyarsk**	**45.21**	**0**	*c i*P	**P**	**19 59 00.5 +0.3**
KRAR				pmax	pmax	
	comp=Z,162nm,1.3s,mb5.7					
BVA0	**Borovoye Array**	**45.78**	**342**	*i* P	**P**	**19 59 04.1 -0.7**
BVA0				pmax	pmax	
	comp=Z,33nm,1.5s,mb5.0					
BVAR	**Borovoye Array**	**45.78**	**342**	P	**P**	**19 59 04.5 -0.3**
	comp=Z,50nm,0.9s,mb5.4,baz=145,slow=6.5,SNR=95					
BVAR				S	**S**	**20 05 48.2 +1.8**
	comp=Z,3.0nm,0.8s,baz=139,slow=7.0,SNR=3.8					
BVAR				ScS	ScS	20 08 57.4 -1.1
	comp=Z,0.8nm,0.6s,baz=215,slow=38,SNR=2.2					
BDHA	**Al Bayda'**	**45.82**	**279**	⇓*e*P	**P**	**19 59 06.7 +1.6**
BDHA				*i* S	**S**	**20 05 51.6 +4.7**
BRVK	**Borovoye**	**45.85**	**342**	P	**P**	**19 59 05.4 +0.1**
	SNR=31					
BRVK	**Borovoye**	**45.85**	**342**	⇑*i*P	**P**	**19 59 05.0 -0.3**
BRVK				LR	LR	
	comp=Z,4μm,22.0s,MS5.3					
KAKA	**Kakadu**	**46.05**	**119**	⇑*i*P	**P**	**19 59 05.5 -1.4**
	comp=Z,170nm,0.6s,mb6.2					
LBOS		**46.13**	**279**	⇓*e*P	**P**	**19 59 09.3 +1.7**
LBOS				AMb	AMB	19 59 12.8
	comp=Z,2μm,2.0s,mb6.7					
LBOS				*i* S	**S**	**20 05 56.3 +4.9**
ADEN	**Aden**	**46.43**	**277**	*i* P	**P**	**19 59 11.7 +1.8**
ADEN				AMb	AMB	19 59 14.3
	comp=Z,2μm,1.8s,mb6.7					
MDJ	**Mudanjiang**	**46.51**	**37**	P	**P**	**19 59 10.8 +0.3**
MDJ				AP	pP	19 59 22.6 +2.8
MDJ				XP	sP	19 59 27.3 +3.8
MDJ				PCP	PcP	20 00 46.9 +2.3
MDJ				PP	PP	20 01 04.3 +4.4
MDJ				SCP	ScP	20 04 35.3 -0.4
MDJ				PCS	PcS	20 04 37.8 -1.5
MDJ				S	**S**	**20 05 58.1 +1.3**
MDJ				SCS	ScS	20 09 03.8 +0.6
MDJ				AMB	AMB	
	comp=Z,166nm,2.3s,mb5.6					
MDJ				AMB	AMB	
	comp=Z,4μm,10.3s					
MDJ	**Mudanjiang**	**46.51**	**37**	*e*P	**P**	**19 59 10.6 +0.1**
	comp=Z,172nm,1.1s,mb5.9					
MDJ				LR	LR	
	comp=Z,29μm,19.0s,MS6.2					
DHBB	**Dhamar BB**	**46.95**	**280**	⇓*e*P	**P**	**19 59 16.3 +2.4**
DHBB				AMb	AMB	19 59 17.7
	comp=Z,3μm,2.0s					
DHBB				*i* S	**S**	**20 06 08.8 +5.7**
VLA	**Vladivostok**	**47.08**	**39**	*d i*P	**P**	**19 59 15.0 0.0**
VLA				pmax	pmax	
	comp=Z,721nm,2.5s,mb6.2					
VLA				MLR	MLR	
	comp=Z,30μm,19.0s,MS6.3					
VLA	**Vladivostok**	**47.08**	**39**	*i* P	**P**	**19 59 15.0 0.0**
TRBA	**At Turbah**	**47.25**	**278**	⇓*e*P	**P**	**19 59 17.9 +1.5**
TRBA				*i* S	**S**	**20 06 12.2 +4.7**
UDYN	**Al 'Udayn**	**47.37**	**279**	⇓*e*P	**P**	**19 59 18.9 +1.6**
UDYN				*i* S	**S**	**20 06 13.6 +4.5**
HAJJ	**Hajjah**	**47.70**	**281**	⇓*e*P	**P**	**19 59 21.3 +1.5**
HAJJ				AMb	AMB	19 59 23.3
	comp=Z,2μm,2.0s					
HAJJ				*i* S	**S**	**20 06 18.3 +4.5**
MUN	**Mundaring**	**48.16**	**153**	⇑*i*P	**P**	**19 59 22.5 -0.9**
MUN				*i* S	**S**	**20 06 14.5 -5.8**
KLBR	**Kellerberrin**	**48.56**	**151**	⇑*i*P	**P**	**19 59 25.2 -1.2**
	comp=Z,165nm,1.1s,mb6.0					
KLBR				*e*S	**S**	**20 06 21.8 -4.1**
MAJO	**Matsushiro**	**48.62**	**50**	P	**P**	**19 59 27.0 +0.1**
MAJO				pmax	pmax	
	comp=Z,190nm,1.0s,mb6.1					
MAJO	**Matsushiro**	**48.62**	**50**	*e*P	**P**	**19 59 26.8 -0.1**
	comp=Z,188nm,1.0s,mb6.1					
MAJO				LR	LR	
	comp=Z,18μm,19.0s,MS6.1					
MAT	**Matsushiro**	**48.62**	**50**	P	**P**	**19 59 26.9 0.0**
MAT				S	**S**	**20 06 30.0 +3.3**
MJAR	**Matsushiro Arr**	**48.62**	**50**	P	**P**	**19 59 27.3 +0.4**
	comp=Z,86nm,0.8s,mb5.8,baz=238,slow=7.1,SNR=151					
MJAR				PcP	PcP	20 00 52.4 +0.3
	comp=Z,33nm,0.9s,baz=248,slow=3.8,SNR=6.5					
MJAR				ScP	ScP	20 04 45.2 +0.6
	comp=Z,10.0nm,1.0s,baz=241,slow=2.7,SNR=6.7					
MJAR				S	**S**	**20 06 28.5 +1.7**
	comp=Z,0.9nm,0.7s,baz=110,slow=21,SNR=2.3					
MJAR				LR	LR	20 22 30.3
	comp=Z,14μm,18.1s,MS6.0,baz=275,slow=39					
MJAR	**Matsushiro Arr**	**48.62**	**50**	P	**P**	**

AKTO Aktyubinsk 48.67 331 P **P** **19 59 27.2 0.0**
comp=Z,39nm,0.9s,mb5.5,baz=131,slow=7.6,SNR=92
AKTO S **S** **20 06 28.6 +1.2**
comp=Z,11nm,1.3s,baz=259,slow=17,SNR=3.6
AKTO ScS ScS 20 09 15.3 -2.2
comp=Z,2.1nm,1.0s,baz=218,slow=18,SNR=4.0
AKTO Aktyubinsk 48.67 331 *i* P **P** **19 59 27.2 -0.1**
JHJ Hachijo jima 2 48.79 55 P **P** **19 59 28.1 -0.1**
comp=Z,270nm,0.8s,mb6.3,baz=64,slow=22,SNR=2.5
JHJ S **S** **20 06 28.6 -0.7**
comp=Z,161nm,0.8s,baz=238,slow=17,SNR=1.8
JHJ LR LR 20 22 01.1
comp=Z,11μm,19.0s,MS5.8,baz=76,slow=38
NWAO Narrogin (SRO) 49.42 152 S **S** **20 06 35.1 -3.0**
comp=Z,6.0nm,0.8s,baz=167,slow=18,SNR=3.8
NWAO ScS ScS 20 09 21.1 -1.4
comp=Z,4.5nm,0.8s,baz=129,slow=16,SNR=1.9
NWAO LR LR 20 19 30.2
comp=Z,24μm,21.3s,MS6.2,baz=323,slow=35
NWAO Narrogin (SRO) 49.42 152 P **P** **19 59 32.7 -0.4**
NWAO pmax pmax
comp=Z,350nm,1.3s
NWAO Narrogin (SRO) 49.42 152 *e*P **P** **19 59 32.2 -0.8**
comp=Z,346nm,1.3s,mb6.2
NWAO LR LR
comp=Z,19μm,21.0s,MS6.1
CBIJ Chichi jima 49.51 64 P **P** **19 59 31.4 -2.3**
comp=Z,191nm,0.6s,mb6.3,baz=297,slow=24,SNR=8.5
CBIJ S **S** **20 06 41.7 +2.4**
comp=Z,100nm,1.1s,baz=253,slow=20,SNR=2.1
CBIJ LR LR 20 20 32.4
comp=Z,4μm,20.9s,MS5.4,baz=278,slow=36
BOD Bodaibo 49.85 15⇓ *i*P **P** **19 59 36.9 +0.6**
BOD pmax pmax
comp=Z,372nm,1.2s,mb6.3
KLR Kul'dur 50.39 33⇓ *i*P **P** **19 59 37.0 -3.4**
KLR *e* 20 01 33.5
KLR *e*S **S** **20 06 43.5 -8.1**
KLR *e*SS ScS 20 09 21.0 -8.2
KLR pmax pmax
comp=N,260nm,2.4s
KLR pmax pmax
comp=E,1μm,2.4s
KLR pmax pmax
comp=Z,2μm,2.4s,mb6.7
KLR pmax pmax
comp=N,2μm,11.0s
KLR pmax pmax
comp=E,2μm,11.0s
KLR pmax pmax
comp=Z,6μm,11.0s
KLR smax
comp=N,4μm,9.0s
KLR smax
comp=E,3μm,9.0s
KLR MLR MLR
comp=Z,58μm,14.0s,MS6.7
MAK Makhachkala 50.48 318*c* *i*P **P** **19 59 49.8 +8.7**
MAK *i* S **S** **20 06 54.8 +1.9**
MAK *i* 20 09 28.9
MAK *i* SS SS 20 10 22.8 -4.2
MAK pmax pmax
comp=Z,5μm,6.9s
MAK pmax pmax
comp=N,3μm,6.7s
MAK pmax pmax
comp=E,1μm,3.3s
MAK smax
comp=N,11μm,7.0s
MAK smax
comp=E,6μm,7.5s
MAK MLR MLR
comp=Z,12μm,17.0s,MS6.0
MAK MLR MLR
comp=N,11μm,20.0s,MS6.0
MAK MLR MLR
comp=E,8μm,15.0s,MS6.0
ORR Orenburg 51.00 331 *i* P **P** **19 59 45.1 +0.1**
WRA Warramunga Arr 51.29 126 P **P** **19 59 46.5 -0.7**
comp=E,266nm,0.6s,mb6.4,baz=305,slow=8.6,SNR=1493
WRA ScP ScP 20 04 56.2 +0.1
comp=E,2.8nm,0.7s,baz=306,slow=4.3,SNR=5.0
WRA S **S** **20 06 58.6 -5.5**
comp=E,32nm,1.0s,baz=296,slow=16,SNR=21
WRA ScS ScS 20 09 33.1 -2.2
comp=E,3.2nm,1.1s,baz=289,slow=26,SNR=4.7
WRA LR LR 20 25 10.7
comp=E,9μm,19.3s,MS5.8,baz=285,slow=40
WRA Warramunga Arr 51.29 126 *i* P **P** **19 59 46.5 -0.7**
WRA pmax pmax
comp=Z,266nm,0.6s
GUMO Guam 51.30 81 P **P** **19 59 46.9 -0.3**
comp=Z,102nm,0.6s,mb5.9,baz=212,slow=14,SNR=4.5
GUMO S **S** **20 07 06.0 +1.8**
comp=Z,26nm,0.5s,baz=26,slow=21,SNR=2.1
GUMO LR LR 20 21 07.9
comp=Z,10μm,18.4s,MS5.9,baz=252,slow=36
GUMO Guam 51.30 81 P **P** **19 59 46.9 -0.3**
GUMO S **S** **20 07 06.0 +1.9**
WB2 Warramunga Arr 51.30 126 *e*P **P** **19 59 46.6 -0.7**
WB2 *i* S **S** **20 06 56.9 -7.3**
DGRG David-gareji 51.30 315 S **S** **20 06 56.5 -7.7**
CLDR Caldiran 51.50 312 *e*P **P** **19 59 49.5 +0.8**
VANB Van 51.71 311 *e*P **P** **19 59 53.7 +3.4**
DESE Dese 51.76 276 *e*P **P** **19 59 53.6 +2.9**
DESE S **S** **20 07 03.4 -7.1**
HABR Khabarovsk 51.78 35⇑ *i*P **P** **19 59 50.8 0.0**
HABR *e*S **S** **20 07 11.8 +1.0**
HABR pmax pmax
comp=Z,298nm,0.8s,mb6.3
HABR pmax pmax
comp=Z,5μm,4.2s
HABR MLR MLR
comp=Z,16μm,21.3s,MS6.0
MTA Mtatsminda 51.80 315 P **P** **19 59 51.9 +1.0**
MTA S **S** **20 07 13.7 +2.6**
SIRT Sirnak 52.08 309 *e*P **P** **19 59 55.2 +2.1**
SVE Sverdlovsk 52.16 339⇑ *e*P **P** **19 59 55.0 +1.3**
SVE *e* 20 01 06.0
SVE *e* 20 09 36.0
SVE pmax pmax
comp=Z,640nm,2.0s,mb6.2
SVE MLR MLR
comp=N,16μm,20.0s,MS6.2
SVE MLR MLR
comp=E,15μm,20.0s,MS6.2
SVE MLR MLR
comp=Z,22μm,20.0s,MS6.2
NRGR Nerungri 52.24 22 *e*P **P** **19 59 54.7 +0.5**
NRGR S **S** **20 07 18.3 +1.2**
NRGR smax
comp=N,63nm,1.0s
AGRB Hanur-Agry 52.32 312 *e*P **P** **19 59 55.6 +0.8**
CLNS Chul'man 52.43 22⇑ *i*P **P** **19 59 54.9 -0.8**
CLNS *e**PP pP 20 00 01.7 -3.4
CLNS *e* 20 01 05.2
CLNS *e* 20 01 52.5
CLNS *e*S **S** **20 07 19.4 -0.4**
CLNS *e* 20 09 34.9
CLNS *e*SS SS 20 10 46.6 -11
CLNS pmax pmax
comp=N,136nm,0.6s
CLNS pmax pmax
comp=Z,340nm,0.6s,mb6.5
CLNS pmax pmax
comp=E,213nm,1.0s
CLNS smax
comp=N,699nm,11.7s
CLNS smax
comp=Z,1μm,10.5s
CLNS smax
comp=E,2μm,15.3s
CLNS MLR MLR
comp=Z,25μm,17.0s,MS6.3
CLNS MLR MLR
comp=N,5μm,14.0s,MS6.2
CLNS MLR MLR
comp=E,13μm,15.0s,MS6.2
CLNS Chul'man 52.43 22 *e*P **P** **19 59 55.0 -0.7**
KARS Kars 52.60 313 *e*P **P** **19 59 57.3 +0.4**
ARU Arti 52.64 337 P **P** **19 59 57.4 +0.2**
comp=E,512nm,1.3s,mb6.3,SNR=40
ARU Arti 52.64 337⇑ *i*P **P** **19 59 57.0 -0.2**
ARU *e* 20 02 01.7
ARU *e*PPP 20 03 02.8
ARU *e*S **S** **20 07 23.0 +0.4**
ARU pmax pmax
comp=Z,115nm,0.9s,mb5.8
ARU MLR MLR
comp=N,16μm,19.0s,MS6.3
ARU MLR MLR
comp=E,20μm,19.0s,MS6.3
ARU MLR MLR
comp=Z,20μm,19.0s,MS6.2
ARU Arti 52.64 337⇑ *i*P **P** **19 59 56.9 -0.3**
ARU LR LR
comp=Z,6μm,20.0s,MS5.6
FURI Furi 52.92 273 *e*P **P** **20 00 02.7 +3.4**
FURI S **S** **20 07 32.9 +6.5**
BTMT Batman 53.00 310 *e*P **P** **20 00 00.5 +0.6**
ASAR Alice Springs 53.03 131 P **P** **19 59 59.5 -0.6**
comp=Z,327nm,0.8s,mb6.3,baz=307,slow=6.8,SNR=1456
ASAR ScP ScP 20 05 03.8 +0.2
comp=Z,9.6nm,0.9s,baz=316,slow=3.8,SNR=5.3
ASAR S **S** **20 07 23.8 -4.1**
comp=Z,34nm,1.1s,baz=300,slow=13,SNR=19
ASAR ScS ScS 20 09 47.5 +0.1
comp=Z,2.8nm,0.8s,baz=294,slow=6.9,SNR=5.4
ASAR PKPPKP 20 30 12.6
comp=Z,1.1nm,1.0s,baz=100,slow=2.8,SNR=4.1
ASAR Alice Springs 53.03 131 P **P** **19 59 59.5 -0.6**
ASAR S **S** **20 07 23.8 -4.1**
ASAR 20 09 47.6
ONI Oni 53.06 316 P **P** **20 00 01.9 +1.6**
ONI S **S** **20 07 31.6 +3.3**
FORT Forrest 53.60 141 *e*P **P** **20 00 03.4 -0.9**
comp=Z,104nm,0.6s,mb5.9
EZM Erzurum 53.62 312 *e*P **P** **20 00 06.6 +2.2**
BINT Bingol 53.95 311 *e*P **P** **20 00 06.9 +0.1**
KIV Kislovodsk 54.09 317 P **P** **20 00 09.3 +1.4**
SNR=29
KIV Kislovodsk 54.09 317*d* *i*P **P** **20 00 08.4 +0.5**
KIV pmax pmax
comp=Z,125nm,1.0s,mb5.8
KIV Kislovodsk 54.09 317 *i* P **P** **20 00 08.5 +0.6**
ERM Erimo 54.10 45 P **P** **20 00 09.7 +1.7**
comp=Z,718nm,0.6s,SNR=18
ERM Erimo 54.10 45*d* *i*P **P** **20 00 08.6 +0.6**
ERM Erimo 54.10 45 *i* P **P** **20 00 08.6 +0.6**
ERM LR LR
comp=Z,3μm,19.0s,MS5.4
ASAJ Asahikawa 54.47 43 P **P** **20 00 11.2 +0.6**
comp=Z,175nm,0.7s,mb6.1,baz=261,slow=9.2,SNR=112
ASAJ S **S** **20 07 48.5 +1.1**
comp=Z,11nm,1.2s,baz=52,slow=26,SNR=2.2
ASAJ LR LR 20 25 32.1
comp=Z,13μm,18.4s,MS6.0,baz=254,slow=38
EZC Erzincan 54.70 311 *e*P **P** **20 00 14.0 +1.7**
PTK Pertek 54.78 310 *e*P **P** **20 00 14.4 +1.5**
URFA Urfa 54.83 308 *e*P **P** **20 00 18.3 +5.0**
GUMT Gumushane 55.16 312 *e*P **P** **20 00 13.7 -1.9**
ASF Jabal al Asfar 55.27 302 P **P** **20 00 17.3 +0.9**
comp=Z,9.7nm,0.8s,mb4.9,baz=351,slow=3.8,SNR=18
ASF S **S** **20 08 00.6 +2.5**
comp=Z,0.6nm,0.3s,baz=201,slow=21,SNR=2.8
ASF ScS ScS 20 10 05.1 +1.8
comp=Z,2.0nm,0.9s,baz=171,slow=21,SNR=2.2
SOKR Solikamsk 55.57 339*c* *i*P **P** **20 00 18.5 -0.1**
SOKR S **S** **20 07 56.6 -5.5**
SOKR SS SS 20 11 51.2 +3.9
SOKR pmax pmax
comp=Z,170nm,1.0s,mb6.0
SOKR MLR MLR
comp=Z,26μm,21.0s,MS6.3
YSS Yuzh-Sakhalins 55.67 40α *i*P **P** **20 00 19.5 +0.2**
YSS *e**SP sP 20 00 30.0 -2.4
YSS *e* 20 01 18.0
YSS *e* 20 02 22.0
YSS *e*S **S** **20 08 05.0 +1.5**
YSS *e*PS 20 08 14.0
YSS *e* 20 10 03.0
YSS pmax pmax
comp=Z,510nm,0.8s,mb6.6
YSS pmax pmax
comp=Z,3μm,5.0s
YSS MLR MLR
comp=Z,16μm,19.0s,MS6.1
YSS MLR MLR
comp=E,17μm,18.0s
YSS Yuzh-Sakhalins 55.67 40⇑ *i*P **P** **20 00 19.7 +0.4**
SOC Sochi 55.97 316 *e*P **P** **20 00 22.3 +0.8**
SOC *i* 20 00 28.6
SOC *e**PP pP 20 00 34.4 +3.5
SOC *e* 20 01 21.1
SOC *e* 20 02 24.9
SOC *e*PPP 20 03 37.8
SOC *i* S **S** **20 08 06.0 -1.5**
SOC *e**SS sS 20 08 25.9 +2.8
SOC *e* 20 10 05.9
SOC pmax pmax
comp=Z,35nm,0.8s,mb5.4
SOC pmax pmax
comp=Z,298nm,3.3s
SOC MLR MLR
comp=Z,8μm,17.0s,MS5.9
GAZ Gaziantep 56.01 308 *e*P **P** **20 00 20.1 -1.7**
KMBO Kilima Mbogo 56.09 261 P **P** **20 00 23.7 +1.4**
KMBO Kilima Mbogo 56.09 261 P **P** **20 00 23.9 +1.6**
comp=Z,4.8nm,0.9s,baz=63,slow=8.2,SNR=29
KMBO S **S** **20 08 08.4 -0.7**
comp=Z,0.3nm,0.3s,baz=50,slow=19,SNR=1.9
KMBO LR LR 20 22 18.6
comp=Z,22μm,19.1s,MS6.3,baz=226,slow=34
KMBO Kilima Mbogo 56.09 261 P **P** **20 00 24.2 +1.9**
SNR=34
KMBO Kilima Mbogo 56.09 261 *e*P **P** **20 00 23.5 +1.2**
KMBO pmax pmax
comp=Z,156nm,1.8s
KMBO MLR MLR
comp=Z,21μm,20.0s
KMBO Kilima Mbogo 56.09 261 *e*P **P** **20 00 23.5 +1.2**
comp=Z,156nm,1.8s,mb5.7
KMBO LR LR
comp=Z,21μm,20.0s,MS6.2
KMRS Kahramanmaras 56.33 308 *e*P **P** **20 00 23.6 -0.4**
EIL Elat 56.56 298 *e*P **P** **20 00 25.5 -0.2**
comp=Z,1μm,1.1s
BHL Bhannes 56.59 304 *e*P **P** **20 00 27.5 +1.6**
YUK Yuzh-Kuril'sk 56.65 44⇑ *i*P **P** **20 00 26.8 +0.5**
YUK *e* 20 02 32.2
YUK *e*S **S** **20 08 18.0 +1.6**
YUK *e*PS 20 08 32.8
YUK *e* 20 10 11.5
YUK pmax pmax
comp=Z,425nm,2.0s,mb6.1
YUK MLR MLR
comp=E,16μm,21.0s,MS6.1
YUK MLR MLR
comp=Z,13μm,21.0s,MS6.0
YUK MLR MLR
comp=N,8μm,22.0s,MS6.1
SVSK Karacayir 56.84 311 *e*P **P** **20 00 30.0 +2.4**
KOZT Kozan 57.15 308 *e*P **P** **20 00 24.1 -5.8**
VRHR Novokhopersk 57.66 325 *e*P **P** **20 00 32.6 -0.8**
VRHR *e*S **S** **20 08 27.9 -1.8**
VRHR pmax pmax
comp=Z,120nm,0.6s,mb6.1
VRHR pmax pmax
comp=N,20nm,1.2s
VRHR pmax pmax
comp=E,60nm,0.9s
VRHR smax
comp=N,3μm,5.8s
VRHR smax
comp=Z,250nm,5.6s
VRHR smax
comp=E,1μm,6.1s
VRHR MLR MLR
comp=Z,11μm,21.0s,MS6.0
VRHR MLR MLR
comp=N,5μm,17.0s,MS6.0
VRHR MLR MLR
comp=E,9μm,18.0s,MS6.0
YAK Yakutsk 57.91 20*c* *i*P **P** **20 00 34.4 -0.8**
YAK *e**PP pP 20 00 42.5 -2.2
YAK *e* 20 01 27.6
YAK *e* 20 02 39.9
YAK *i* S **S** **20 08 30.1 -2.9**
YAK *i* 20 10 18.2
YAK *e*SS SS 20 12 22.3 -1.8
YAK pmax pmax
comp=Z,620nm,0.8s,mb6.7
YAK pmax pmax
comp=N,146nm,1.0s
YAK pmax pmax
comp=E,181nm,1.1s
YAK pmax pmax
comp=N,246nm,2.3s
YAK pmax pmax
comp=Z,254nm,2.3s,mb5.8
YAK pmax pmax
comp=E,199nm,2.0s
YAK smax
comp=N,4μm,7.6s
YAK smax
comp=E,814nm,2.6s
YAK MLR MLR
comp=N,8μm,19.0s,MS6.1
YAK MLR MLR
comp=Z,17μm,19.0s,MS6.2
YAK MLR MLR
comp=E,11μm,18.0s,MS6.1
YAK Yakutsk 57.91 20⇑ *i*P **P** **20 00 34.5 -0.7**
ANN Anapa 57.92 317 *e*P **P** **20 00 32.7 -2.6**
ANN *e*PPP 20 04 05.3
ANN *e*S **S** **20 08 29.9 -3.3**
ANN *e* 20 10 18.0
ANN pmax pmax
comp=Z,2μm,8.6s
ANN MLR MLR
comp=E,8μm,18.0s
ANN MLR MLR
comp=Z,8μm,18.0s,MS5.9
PMG Port Moresby 58.01 108 P **P** **20 00 36.4 +0.5**
comp=Z,279nm,0.8s,mb6.4,baz=316,slow=4.2,SNR=76
PMG S **S** **20 08 34.2 -0.2**
comp=Z,7.4nm,0.7s,baz=257,slow=22,SNR=3.4
PMG Port Moresby 58.01 108*c* *i*P **P** **20 00 36.2 +0.3**
PMG Port Moresby 58.01 108 *e*P **P** **20 00 36.4 +0.5**
comp=Z,307nm,0.8s,mb6.4
PMG LR LR
comp=Z,8μm,20.0s,MS5.8
PECR Pechory 58.85 331 *i* P **P** **20 00 40.4 -1.4**
PECR *e*S **S** **20 08 41.0 -4.3**
PECR *e* 20 10 24.0
PECR pmax pmax
comp=Z,3μm,9.0s
PECR smax
comp=N,6μm,8.0s
PECR smax
comp=E,4μm,8.0s
VORD Divnogorie 58.94 324 *e*P **P** **20 00 41.0 -1.4**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=Z,80nm,0.8s,mb5.8
VORD pmax pmax
comp=E,30nm,0.6s
VORD MLR MLR
comp=Z,10μm,17.0s,MS6.0
VORD MLR MLR
comp=N,7μm,18.0s,MS6.1
VORD MLR MLR
comp=E,11μm,19.0s,MS6.1
KAMT Kaman 59.18 310 *e*P **P** **20 00 40.0 -4.0**
VOR Voronezh 59.30 325 *e*P **P** **20 00 45.0 +0.1**
VOR *e* 20 00 52.0
VOR pmax pmax
comp=Z,270nm,1.3s,mb6.1
BR131 Keskin Array S 59.31 310 *e*P **P** **20 00 43.8 -1.1**
comp=Z,15nm,0.4s,mb5.4
BR131 LR LR
comp=Z,4μm,20.0s,MS5.6
BRTR Keskin Array B 59.31 310 P **P** **20 00 44.0 -0.9**
comp=Z,8.3nm,0.7s,mb4.9,baz=126,slow=7.6,SNR=29
BRTR LR LR 20 29 42.5
comp=Z,5μm,20.1s,MS5.6,baz=274,slow=39
BRTR Keskin Array B 59.31 310⇑ *e*P **P** **20 00 44.0 -0.9**
BZK Bozkurt 59.54 313 *e*P **P** **20 00 44.8 -1.8**
ANTO Ankara 59.98 310 P **P** **20 00 50.2 +0.7**
ANTO pmax pmax
comp=Z,100nm,1.3s,mb5.7
ANTO Ankara 59.98 310 *e*P **P** **20 00 48.7 -0.8**
comp=Z,100nm,1.4s,mb5.7
ANTO LR LR
comp=Z,6μm,20.0s,MS5.7
ANTO Ankara 59.98 310⇑ *i*P **P** **20 00 50.6 +1.1**
SIM Simferopol' 60.22 316 *e*P **P** **20 00 51.1 -0.1**
SIM *e*S **S** **20 09 01.0 -2.0**
SIM pmax pmax
comp=Z,600nm,9.2s
SIM Simferopol' 60.22 316 *i* P **P** **20 00 51.2 0.0**
SAFT Safranbolu 60.34 311 *e*P **P** **20 00 51.5 -0.5**
CTA Charters Tower 61.18 120⇑ *i*P **P** **20 00 58.1 +0.3**
comp=Z,153nm,1.2s,mb6.0
CTA *e*S **S** **20 09 07.9 -7.4**
CTA Charters Tower 61.18 120 P **P** **20 00 58.1 +0.4**
comp=Z,139nm,1.0s,mb6.0,baz=296,slow=8.1,SNR=48
CTA S **S** **20 09 15.0 -0.3**
comp=Z,3.8nm,0.8s,baz=252,slow=20,SNR=3.0
CTA ScS ScS 20 10 45.1 -1.7
comp=Z,3.2nm,0.2s,baz=98,slow=18,SNR=2.4
CTA Charters Tower 61.18 120⇑ *i*P **P** **20 00 58.1 +0.3**
CTA *e*S **S** **20 09 07.9 -7.4**
CTA pmax pmax
comp=Z,153nm,1.2s
CTAO Charters Tower 61.18 120 P **P** **20 00 58.1 +0.3**
CTAO pmax pmax
comp=Z,480nm,1.3s,mb6.5
CTAO Charters Tower 61.18 120 *e*P **P** **20 00 58.0 +0.2**
comp=Z,482nm,1.4s,mb6.4
CTAO LR LR
comp=Z,15μm,22.0s,MS6.1
MOS Moscow 61.79 328 *e*P **P** **20 01 00.1 -1.8**
MOS *e* 20 01 13.0
MOS *e*S **S** **20 09 20.9 -2.1**
MOS *e* 20 10 46.3
MOS *e*SSS 20 16 02.4
MOS pmax pmax
comp=Z,323nm,1.5s,mb6.2
MOS MLR MLR
comp=Z,12μm,17.0s,MS6.1
OBN Obninsk 62.09 327⇑ *i*P **P** **20 01 03.8 -0.1**
OBN *i* S **S** **20 09 24.5 -2.3**
OBN pmax pmax
comp=Z,206nm,1.4s,mb6.1
OBN MLR MLR
comp=Z,13μm,17.0s,MS6.2
OBN Obninsk 62.09 327⇓ *e*P **P** **20 01 03.9 0.0**
OBN LR LR
comp=Z,13μm,17.0s,MS6.2
KLMR Klimovskoe 63.19 334*c* *i*P **P** **20 01 10.5 -0.7**
KLMR *e* 20 03 30.0
KLMR *e*S **S** **20 09 39.6 -0.9**
STKA Stephens Creek 63.28 134⇑ *i*P **P** **20 01 11.9 +0.1**
comp=Z,249nm,1.3s,mb6.2
STKA *i* S **S** **20 09 38.4 -3.3**
STKA Stephens Creek 63.28 134 P **P** **20 01 11.9 +0.1**
comp=Z,138nm,0.6s,mb6.2,baz=307,slow=6.3,SNR=214
STKA S **S** **20 09 40.3 -1.4**
comp=Z,4.7nm,0.9s,baz=62,slow=19,SNR=3.7
STKA ScS ScS 20 10 58.5 -4.1
comp=Z,3.6nm,1.0s,baz=129,slow=18,SNR=1.4
STKA LR LR 20 33 18.3
comp=Z,10μm,18.9s,MS6.0,baz=293,slow=40
TIRR Tirgusor 64.07 314 P **P** **20 01 16.4 -0.6**
TIRR pmax pmax
comp=Z,130nm,1.4s,mb5.8
TIRR Tirgusor 64.07 314 *e*P **P** **20 01 16.2 -0.8**
comp=Z,135nm,1.4s,mb5.8
TIRR Tirgusor 64.07 314⇑ *i*P **P** **20 01 16.3 -0.7**
KIS Kishinev 64.30 317 *e*P **P** **20 01 18.0 -0.5**
KIS Kishinev 64.30 317 *i* PcP PcP 20 01 40.0 -13
KIS Kishinev 64.30 317 *e*PP PP 20 03 42.0 +1.9
KIS *e*S **S** **20 09 50.0 -4.4**
KIS LRM 21 02 50.0
comp=Z,6μm,20.0s
CFR Carcaliu 64.40 315 P **P** **20 01 27.0 +7.8**
HARR Harsova 64.45 314⇓ *i*P **P** **20 01 19.0 -0.5**
ZKR Zakros 64.47 304 *e*P **P** **20 01 19.7 +0.1**
TIXI Tiksi 64.83 12 *e*P **P** **20 01 13.5 -8.5**
TIXI *e**SS SKSac 20 11 05.7 -8.7
TIXI *e*SS SS 20 14 03.9 -8.6
TIXI pmax pmax
comp=N,46nm,1.0s
TIXI pmax pmax
comp=E,34nm,1.0s

TIXI pmax pmax
comp=Z,257nm,1.0s,mb6.2
TIXI pmax pmax
comp=Z,3μm,3.0s
TIXI Tiksi 64.83 12⇑ *i* P P 20 01 20.9 -1.1
PRK Paraskevi 64.85 308 *e* P P 20 01 15.0 -7.1
AKASG Malin Array Be 64.89 321 P P 20 01 21.5 -0.9
comp=Z,21nm,0.8s,mb5.2,baz=89,slow=4.9,SNR=43
AKASG PP PP 20 03 45.0 -0.3
comp=Z,5.1nm,0.8s,baz=91,slow=7.6,SNR=2.6
AKASG S **S 20 10 00.5 -1.3**
comp=Z,0.2nm,0.3s,baz=312,slow=53,SNR=2.9
AKASG LR LR 20 34 27.5
comp=Z,8μm,18.8s,MS5.9,baz=95,slow=40
AKASG Malin Array Be 64.89 321 P P 20 01 21.5 -0.9
AKASG 20 03 45.0
AKASG S **S 20 10 00.5 -1.2**
AKBB Malin Array Si 64.89 321 P P 20 01 21.7 -0.7
AKBB Malin Array Si 64.89 321 *e* P P 20 01 21.1 -1.3
KIEV Kiev 64.90 321 *e* P P 20 01 21.4 -1.1
KIEV pmax pmax
comp=Z,54nm,1.0s,mb5.5
KIEV MLR MLR
comp=Z,10μm,20.0s,MS6.0
KIEV Kiev 64.90 321 *e* P P 20 01 21.4 -1.1
comp=Z,54nm,1.0s,mb5.5
KIEV LR LR
comp=Z,10μm,20.0s,MS6.0
NPS Neapolis 64.98 304 *e* P P 20 01 25.0 +2.0
JMB Yambol 65.05 312 *e* P P 20 01 23.5 +0.1
LAST Lasithi 65.08 304 *e* P P 20 01 24.9 +1.2
MA2 Magadan 65.10 29*c* *i* P P 20 01 23.3 -0.4
MA2 pmax pmax
comp=Z,282nm,0.8s,mb6.3
MA2 MLR MLR
comp=Z,13μm,17.0s,MS6.2
MA2 Magadan 65.10 29⇑ *i* P P 20 01 23.4 -0.3
MA2 LR LR
comp=Z,13μm,20.0s,MS6.1
SKR Severo-Kuril's 65.22 39 *e* P P 20 01 22.0 -2.5
SKR *e* pP 20 01 31.5 -2.6
SKR *i* 20 01 36.0
SKR *e* 20 01 59.0
SKR *e* 20 03 50.0
SKR *e*PPP 20 05 22.0
SKR *e*S S 20 10 02.4 -3.3
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,310nm,1.0s,mb6.3
SKR pmax pmax
comp=N,1μm,8.0s
SKR pmax pmax
comp=E,1μm,8.0s
SKR pmax pmax
comp=Z,1μm,8.0s
SKR MLR MLR
comp=Z,10μm,20.0s,MS6.0
SKR MLR MLR
comp=N,7μm,18.0s,MS6.0
SKR MLR MLR
comp=E,5μm,18.0s,MS6.0
ALN Alexandroupoli 65.23 310 *e* P P 20 01 24.0 -0.5
VRI Vrincioaia 65.50 316 P P 20 01 27.4 +1.1
VRI Vrincioaia 65.50 316⇓ *i* P P 20 01 26.8 +0.5
RDO Rodhopi 65.64 310 *e* P P 20 01 27.0 -0.2
MLR Muntele Rosu 65.97 315 P P 20 01 30.1 +0.8
comp=E,64nm,0.9s,mb5.6,baz=151,slow=3.2,SNR=50
MLR S S 20 10 13.6 -1.3
comp=E,2.9nm,1.1s,baz=280,slow=24,SNR=5.2
MLR Muntele Rosu 65.97 315 P P 20 01 30.9 +1.5
MLR Muntele Rosu 65.97 315 ⇑P P 20 01 30.0 +0.7
MLR Muntele Rosu 65.97 315⇑ *i* P P 20 01 30.0 +0.6
ZIMR 66.10 313 P P 20 01 30.9 +0.7
KARN Karanos 66.37 304 *e* P P 20 01 32.1 +0.2
VOIR 66.59 315⇓ *i* P P 20 01 34.1 +0.8
PTL Penteli 66.61 307 *e* P P 20 01 31.0 -2.4
KVR Kavouri 66.66 307 *e* P P 20 01 33.0 -0.8
MNK Minsk 66.68 325⇓ *e* P P 20 01 30.0 -3.9
MNK *e*S S 20 10 15.0 -8.4
MNK *e*SS SS 20 14 34.0 -7.2
MNK *e*SSS 20 17 36.0
MNK pmax pmax
comp=Z,250nm,1.0s,mb6.2
MNK MLR MLR
comp=N,22μm,22.0s
MNK MLR MLR
comp=Z,23μm,18.0s,MS6.4
ATH Athens Observa 66.72 307 *e* P P 20 01 30.5 -3.6
BURAR Bucovina Array 66.82 317⇑ *i* P P 20 01 35.3 +0.5
PAIG Paliouri 66.91 309 *e* P P 20 01 34.8 -0.6
PUL Pulkovo 66.93 331 *e* P P 20 01 38.1 +2.6
PUL pmax pmax
comp=Z,276nm,1.0s,mb6.2
PUL pmax pmax
comp=E,657nm,0.9s
PUL Pulkovo 66.93 331⇑ *i* P P 20 01 37.2 +1.7
MGER Gerania Oros 67.08 307 *e* P P 20 01 35.0 -1.4
SRS Serrai 67.10 310 *e* P P 20 01 35.9 -0.7
SEY Seymchan 67.11 25*c* *i* P P 20 01 35.9 -0.8
PLG Polygyros 67.14 309 *e* P P 20 01 36.0 -0.8
PET Petropavlovsk 67.29 37*α* *i* P P 20 01 36.3 -1.5
PET *e* 20 04 00.4
PET *e*PPP 20 05 48.2
PET *e*S S 20 10 30.2 -0.6
PET pmax pmax
comp=Z,138nm,0.9s,mb6.0
PET pmax pmax
comp=Z,1μm,16.9s
PET pmax pmax
comp=Z,1μm,20.2s
PET smax
comp=N,3μm,24.6s
PET MLR MLR
comp=Z,21μm,18.0s,MS6.4
PET MLR MLR
comp=Z,20μm,18.0s
PET Petropavlovsk 67.29 37 *e* P P 20 01 36.0 -1.8
PET LR LR
comp=Z,18μm,19.0s,MS6.3
HORT Hortiatis 67.42 310 *e* P P 20 01 37.6 -1.0
VTS Vitosha 67.54 312 *e* P P 20 01 39.1 -0.2
VTS Vitosha 67.54 312 ⇓P P 20 01 39.2 -0.1
VTS Vitosha 67.54 312⇓ *i* P P 20 01 39.3 0.0
JOF Joensuu 67.58 334 *e*p P 20 01 38.7 -0.9
comp=Z,72nm,0.8s,mb5.8
JOF Joensuu 67.58 334 *e* P P 20 01 38.7 -0.9
JOF pmax pmax
comp=Z,72nm,0.8s,mb5.8
KNT Kendrikon 67.62 310 *e* P P 20 01 38.8 -1.1
LIT Litokhoron 67.84 309 *e* P P 20 01 40.4 -0.8
AGG Agios Georgios 67.88 308 *e* P P 20 01 39.7 -1.8
VAY Valandovo 67.88 310 *e* P P 20 01 39.8 -1.7
VAY Valandovo 67.88 310 *e* P P 20 01 39.9 -1.6
VAY Valandovo 67.88 310 *e* P P 20 01 39.9 -1.6
LVV L'vov 67.97 319 *i* P P 20 01 42.4 +0.3
LVV *e* 20 02 06.2
LVV *e* 20 04 20.2
LVV *e*S S 20 10 36.0 -3.0
GRG Griva 67.98 310 *e* P P 20 01 41.3 -0.9
ITM Ithomi 68.08 306 *e* P P 20 01 33.5 -9.3
GZR Gura Zlata 68.17 315⇑ *i* P P 20 01 45.0 +1.7
STIP Stip 68.20 311 *e* P P 20 01 42.0 -1.5
STIP Stip 68.20 311 *e* P P 20 01 42.0 -1.5
EVR Evrytania 68.28 308 *e* P P 20 01 42.5 -1.5
LVZ Lovozero 68.34 340 P P 20 01 44.5 +0.1
comp=Z,384nm,0.9s,mb6.4,SNR=9.1
LVZ Lovozero 68.34 340⇑ *e* P P 20 01 43.9 -0.5
DRGR 68.39 316 P P 20 01 45.7 +1.0
DRGR 68.39 316⇑ *i* P P 20 01 45.1 +0.4
BARS Barje 68.57 312⇑ *i* P pP 20 01 54.8 -0.7
APA Apatity 68.62 339⇓ *i* P P 20 01 45.0 -1.2
APA *i* 20 01 51.8
APA *i* S S 20 10 45.0 -1.7
APA pmax pmax
comp=Z,99nm,1.1s,mb5.7
LSZ Lusaka 68.63 249 P P 20 01 47.6 +1.4
SNR=38
LSZ Lusaka 68.63 249 P P 20 01 47.2 +1.0
LSZ pmax pmax
comp=Z,210nm,1.4s,mb5.9
LSZ Lusaka 68.63 249 *e* P P 20 01 46.9 +0.7
comp=Z,207nm,1.4s,mb5.9
LSZ LR LR
comp=Z,15μm,22.0s,MS6.2
FNA Florina 68.74 310 *e* P P 20 01 45.6 -1.3
KWP Kalwaria 68.79 319 *e* P P 20 01 47.7 +0.5
KWP *e*pP pP 20 01 53.8 -3.1
KWP *e*PcP PcP 20 02 11.1 -0.6
KWP *e*S S 20 10 46.1 -2.6
KWP L 20 37 42.5
comp=Z,7.4nm,19.3s
KWP Kalwaria 68.79 319 *e* P P 20 01 47.7 +0.5
KWP *e*pP pP 20 01 53.8 -3.1
KWP *e*PcP PcP 20 02 11.1 -0.6
KWP *e*S S 20 10 46.1 -2.6
KRUS Krusevo 68.88 310 *e* P P 20 01 46.2 -1.5
KRUS Krusevo 68.88 310 *e* P P 20 01 46.2 -1.5
UZH Uzhgorod 68.91 318 *e* P P 20 01 48.8 +0.8
UZH *i* 20 02 12.0
UZH *e* 20 04 16.0
UZH *i* S S 20 10 47.0 -3.2
UZH *e*SS SS 20 15 21.0 +5.2
KOLS Kolonicke sedl 68.97 318 *e* P P 20 01 49.8 +1.5
BZS Buzias 69.00 315⇑ *i* P P 20 01 49.7 +1.2
JAN Janina 69.07 308 *e* P P 20 01 48.0 -0.9
SVIS Svilajnac 69.15 313⇑ *i* P P 20 01 54.4 +5.0
LKD Levkas 69.17 307 *e* P P 20 01 48.9 -0.7
OHR Ohrid 69.20 310 *e* P P 20 01 46.9 -2.8
OHR Ohrid 69.20 310 *e* P P 20 01 46.9 -2.8
SUW Suwalki 69.23 324 *e* P P 20 01 48.7 -1.2
SUW *e*pP pP 20 01 55.1 -4.5
SUW *e*S S 20 10 49.6 -4.4
SUW *e*SKS 20 11 45.1
SUW L 20 37 39.9
comp=Z,8.4nm,21.3s
SUW Suwalki 69.23 324 *e* P P 20 01 48.7 -1.2
SUW *e*pP pP 20 01 55.1 -4.5
SUW *e*S S 20 10 49.6 -4.4
SUW *e*SKS 20 11 45.1
FIA1 FINESS Array S 69.43 332 *e* P P 20 01 49.6 -1.5
FINES FINESS Array B 69.43 332 P P 20 01 50.9 -0.3
comp=Z,20nm,0.7s,mb5.1,baz=111,slow=8.4,SNR=30
FINES S S 20 10 55.5 -0.8
comp=Z,2.8nm,0.8s,baz=224,slow=29,SNR=2.8
FINES LR LR 20 38 06.3
comp=Z,11μm,19.5s,MS6.1,baz=104,slow=41
FINES FINESS Array B 69.43 332 P P 20 01 50.9 -0.3
FINES S S 20 10 55.6 -0.7
FINES FINESS Array B 69.43 332 P P 20 01 50.9 -0.3
FINES S S 20 10 55.5 -0.8
FINES LR LR 20 38 06.3
GRUS Gruza 69.47 313⇑ *i* P P 20 01 50.2 -1.2
CRVS Cervenica-Dubn 69.50 318 *e* P P 20 01 53.2 +1.6
CRVS *e*pP pP 20 02 03.7 +2.4
KAF Kangasniemi 69.52 333 *e*p P 20 01 50.4 -1.3
baz=105,slow=5.8
STHS Stebnicka Huta 69.70 319 *e* P P 20 01 53.4 +0.5
STHS *e* pP 20 02 02.4 -0.1
STHS pmax pmax
comp=Z,36nm,0.9s,mb5.3
STHS Stebnicka Huta 69.70 319 *e* P P 20 01 53.3 +0.4
STHS *e*pP pP 20 02 02.4 -0.1
STHS Stebnicka Huta 69.70 319 *e* P P 20 01 53.4 +0.5
comp=Z,36nm,0.9s,mb5.3
STHS *e* pP 20 02 02.4 -0.1
DIVS Divcibare 70.01 313⇑ *i* P P 20 01 54.2 -0.5
DIVS Divcibare 70.01 313 *e* P P 20 01 54.0 -0.7
ARMA Armidale 70.03 128⇑ *i* P P 20 01 56.5 +1.6
ARMA *i* S S 20 11 07.8 +4.4
KECS Kecovo 70.09 318 *e* P P 20 01 55.6 +0.4
KECS *e* pP 20 02 04.8 -0.1
KECS pmax pmax
comp=Z,25nm,1.0s,mb5.1
KECS Kecovo 70.09 318 *e* P P 20 01 55.6 +0.4
comp=Z,24nm,1.0s,mb5.1
KECS *e* pP 20 02 04.8 -0.1
HNR Honiara 70.10 104 P P 20 01 55.7 +0.4
comp=Z,674nm,0.7s,mb6.7,baz=262,slow=1.4,SNR=62
HNR Honiara 70.10 104 P P 20 01 55.7 +0.4
HNR LR LR
comp=Z,2μm,20.0s,MS5.4
WAR Warsaw 70.22 322 *e* P P 20 01 53.9 -2.2
WAR *e*pP pP 20 02 02.9 -2.9
WAR *e*S S 20 11 06.2 +0.6
WAR L 20 34 36.2
comp=Z,9.0nm,22.7s
NIE Niedzica 70.31 319 *e* P P 20 01 57.5 +0.9
BBLS Bajina Basta - 70.41 313⇑ *i* P P 20 01 57.5 +0.3
PSZ Piszkesteto 70.42 317⇓ *i* P P 20 01 57.2 -0.1
PSZ Piszkesteto 70.42 317⇓ *e* P P 20 01 57.4 +0.1
CNB Canberra Magne 70.60 133⇑ *i* P P 20 01 58.6 +0.2
comp=Z,189nm,1.1s,mb5.9
OJC Ojcow 70.73 320 *e* P P 20 01 58.4 -0.7
OJC *e*PcP PcP 20 02 22.0 +2.1
OJC *e*S S 20 11 05.2 -6.3
OJC L 20 38 11.7
comp=Z,36nm,18.9s
OJC Ojcow 70.73 320 *e* P P 20 01 58.4 -0.7
OJC *e* 20 02 22.0
OJC *e*S S 20 11 05.2 -6.3
BUD Budapest 70.97 317⇓ *e*p P 20 02 07.4 -2.9
VYHS Vyhne 71.18 318 *e* P P 20 02 01.5 -0.4
VYHS *e* 20 02 25.2
VYHS *e* 20 04 46.0
VYHS pmax pmax
comp=Z,30nm,1.1s,mb5.1
VYHS Vyhne 71.18 318 *e* P P 20 02 01.5 -0.4
comp=Z,30nm,1.1s,mb5.1
VYHS *e* 20 02 25.2
VYHS *e*PP PP 20 04 46.0 +6.1
RIV Riverview 71.20 131⇑ *i* P P 20 02 02.9 +0.9
KEV Kevo 71.62 341 P P 20 02 03.3 -1.2
KEV pmax pmax
comp=Z,150nm,1.3s,mb5.8
KEV Kevo 71.62 341 *e* P P 20 02 02.9 -1.6
comp=Z,154nm,1.3s,mb5.8
KEV LR LR
comp=Z,16μm,21.0s,MS6.3
OKC Ostrava-Krasne 71.75 319 *e* P P 20 02 05.6 +0.3
OKC *e*x x 20 02 28.7
OKC *e*S S 20 11 21.8 -1.5
OKC AMS AMS 20 41 40.0
comp=Z,4μm,16.9s
OKC Ostrava-Krasne 71.75 319 *e* P P 20 02 05.6 +0.3
OKC *e* 20 02 28.7
OKC *e*S S 20 11 21.8 -1.5
ARCES ARCESS Array B 72.05 340 P P 20 02 06.8 -0.3
comp=Z,49nm,0.7s,mb5.5,baz=94,slow=6.6,SNR=61
ARCES LR LR 20 36 09.1
comp=Z,22μm,21.5s,MS6.4,baz=114,slow=38
ARE0 ARCESS Array S 72.05 340 *e* P P 20 02 06.8 -0.3
SMOL Smolenice 72.11 318 *e*PCP PcP 20 02 30.6 +4.8
MORC Moravsky Berou 72.14 319 P P 20 02 08.2 +0.6
MORC Moravsky Berou 72.14 319 ⇓P P 20 02 07.9 +0.3
MORC Moravsky Berou 72.14 319⇓ *i* P P 20 02 07.9 +0.3
ZST Bratislava 72.31 317 *e* P P 20 02 08.8 +0.1
ZST *e* 20 02 32.8
ZST pmax pmax
comp=Z,94nm,1.1s,mb5.6
ZST MLR MLR
comp=Z,3μm,20.8s,MS5.6
ZST Bratislava 72.31 317 *e* P P 20 02 08.8 +0.1
ZST *e*PCP PcP 20 02 32.8 +6.2
ZST *e*S S 20 11 12.6 -17
ZST Bratislava 72.31 317 *e* P P 20 02 08.8 +0.1
comp=Z,94nm,1.1s,mb5.6
ZST *e* 20 02 32.8
ZST *e*S S 20 11 12.6 -17
ZST LR LR
comp=Z,3μm,20.8s,MS5.6
GKP Gorka Klasztor 72.63 323 *e* P P 20 02 10.5 -0.1
GKP *e*pP pP 20 02 16.9 -3.4
GKP *e*PcP PcP 20 02 30.1 +2.1
GKP *e*S S 20 11 30.4 -3.0
GKP *e*SKS 20 12 08.2
GKP *e*SS SS 20 16 12.1 -0.8
GKP L 20 36 18.8
comp=Z,9.5nm,23.1s
SOP Sopron 72.64 317⇓ *e* P P 20 02 10.9 +0.2
KTK1 Kautokeino 72.67 339 *e* P P 20 02 10.5 -0.3
KTK1 AMb AMB 20 02 15.3
comp=Z,132nm,2.1s,mb5.5
KTK1 *e*pP pP 20 02 18.2 -2.4
KTK1 Kautokeino 72.67 339 *e* P P 20 02 10.5 -0.3
comp=Z,132nm,2.1s,mb5.5
VRAC Vranov 72.72 318⇓ *i* P P 20 02 12.1 +1.0
DPC Dobruska-Polom 72.96 319 *e* P P 20 02 12.8 +0.3
DPC *e*PCP PcP 20 02 29.3 -0.1
DPC *e*S S 20 11 34.3 -2.9
DPC AMS AMS 20 43 20.0
comp=Z,6μm,17.1s
KSP Ksiaz 73.01 320 *e* P P 20 02 12.6 -0.2
KSP *e*pP pP 20 02 21.1 -1.5
KSP *e*PcP PcP 20 02 27.2 -2.4
KSP *e*S S 20 11 32.1 -5.7
KSP L 20 45 28.5
comp=Z,13nm,19.6s
KSP Ksiaz 73.01 320⇑ *e* P P 20 02 12.6 -0.2
KSP *e*pP pP 20 02 34.9 +12
KSP *e*S S 20 11 32.3 -5.5
KSP *e*SS SS 20 16 23.0 +4.2
KSP *e*SSS 20 19 34.0
KSP LR LR
comp=Z,13μm,21.2s,MS6.2
CONA Conrad Observa 73.12 317⇑ *i* P P 20 02 13.5 0.0
comp=Z,25nm,1.5s,mb4.9,SNR=8.1
TAU Tasmania Unive 73.14 141 P P 20 02 14.6 +1.0
comp=Z,772nm,1.5s,mb6.4,SNR=6.6
TAU Tasmania Unive 73.14 141 PFAKE 20 02 30.0 +16
TAU LR LR
comp=Z,3μm,21.0s,MS5.5
UPC Upice 73.17 320 *e* P P 20 02 14.1 +0.3
ARSA Arzberg 73.33 316⇑ *i* P P 20 02 15.6 +0.9
comp=Z,50nm,1.5s,mb5.2,SNR=7.3
TREC Trest 73.44 318 *e* P P 20 02 15.4 0.0
TREC *e*PCP PcP 20 02 30.9 -0.5
TREC *e*S S 20 11 39.9 -2.7
TREC AMS AMS 20 42 40.0
comp=Z,6μm,16.6s
BOJS Bojanci 73.45 314 *e* P P 20 02 15.2 -0.3
BOJS *i* pP 20 02 25.1 0.0
PERS Pernice 73.58 316 *i* P P 20 02 16.3 +0.1
PERS *i* pP 20 02 26.2 +0.3
VISS Visnje 73.75 315 *i* P P 20 02 17.1 -0.1
VISS *i* pP 20 02 26.8 -0.2
PRU Pruhonice 74.08 319 *e* P P 20 02 19.6 +0.5
PRU *e*PCP PcP 20 02 35.1 +0.9
PRU *e*S S 20 11 39.9 -10
PRU AMS AMS 20 39 30.0
comp=Z,6μm,18.7s
PVCC Panska Ves 74.09 320 *e* P P 20 02 19.8 +0.6
PVCC *e*x x 20 02 42.5
PVCC *e*S S 20 11 48.5 -1.5
PVCC AMS AMS 20 42 40.0
comp=Z,6μm,17.9s
LBTB Lobatse 74.12 240 P P 20 02 20.1 +0.8
LBTB pmax pmax
comp=Z,90nm,1.0s,mb5.7
LBTB Lobatse 74.12 240 *e* P P 20 02 19.8 +0.5
comp=Z,90nm,1.0s,mb5.7
LBTB LR LR
comp=Z,16μm,19.0s,MS6.3
BILL Bilibino 74.12 22*c* *i* P P 20 02 18.6 -0.8
BILL pmax pmax
comp=Z,269nm,2.5s,mb5.7
BILL MLR MLR
comp=Z,20μm,22.0s,MS6.3
BSD Bornholm Skovb 74.14 324 *i* P P 20 02 19.9 +0.4
comp=Z,55nm,0.9s,mb5.5
BSD *i* S S 20 11 47.3 -3.3
BSD *e* 20 16 48.4
BSD
comp=Z,9μm,17.0s
BSD Bornholm Skovb 74.14 324 *e* P P 20 02 19.9 +0.4
BSD *i* S S 20 11 47.3 -3.3
BSD pmax pmax
comp=Z,55nm,0.9s,mb5.5
BSD MLR MLR
comp=Z,9μm,17.0s,MS6.1
PRA Prague 74.16 319 P P 20 02 19.0 -0.6
MOA Molln 74.20 317⇑ *i* P P 20 02 19.4 -0.4
comp=Z,35nm,1.4s,mb5.1,SNR=8.1
MOA Molln 74.20 317⇑ *i* P P 20 02 19.4 -0.4
comp=Z,35nm,1.4s,mb5.1
TRO Tromso 74.30 340 *e* P P 20 02 19.1 -1.4
TRO *e*S S 20 11 52.5 +0.1
TRO AMS AMS 20 37 41.0
comp=Z,16μm,22.3s,MS6.2
BRG Berggiesshubel 74.50 320 *e* P P 20 02 21.2 -0.4
comp=Z,85nm,1.5s,mb5.5
BRG *e*S S 20 11 52.7 -1.9
BRG Berggiesshubel 74.50 320 *i* P P 20 02 21.2 -0.3
comp=Z,50nm,1.5s,mb5.2
BRG *e* pP 20 02 29.4 -1.9
comp=Z,80nm,1.7s
BRG *i* 20 02 46.7
comp=Z,78nm,1.3s
BRG *i* 20 02 52.6
comp=Z,96nm,1.3s
BRG PP PP 20 05 08.0 -0.2
BRG S S 20 11 54.0 -0.6
BRG SS SS 20 16 54.0 +13
BRG *e* 20 20 17.0
BRG
comp=N,5μm,22.8s
BRG
comp=E,4μm,20.8s
BRG
comp=Z,5μm,21.0s
BRG Berggiesshubel 74.50 320 *i* P P 20 02 21.2 -0.4
BRG *e* pP 20 02 29.4 -1.9
BRG 20 05 08.0
BRG S S 20 11 54.0 -0.6
BRG pmax pmax
comp=Z,50nm,1.5s,mb5.2
BRG MLR MLR
comp=N,5μm,22.8s,MS5.9
BRG MLR MLR
comp=E,4μm,20.8s,MS5.9
BRG MLR MLR
comp=Z,5μm,21.0s,MS5.8
BRG Berggiesshubel 74.50 320 *i* P P 20 02 21.2 -0.3
comp=Z,50nm,1.5s,mb5.2
BRG *e* pP 20 02 29.4 -1.9
BRG *i* 20 02 46.7
BRG *i* 20 02 52.6
BRG PP PP 20 05 08.0 -0.2
BRG S S 20 11 54.0 -0.6
BRG SS SS 20 16 54.0 +13
BRG *e* 20 20 17.0
BRG LR LR
comp=Z,5μm,21.0s,MS5.8
GEC2 GERESS Array S 74.60 318 *e* P P 20 02 22.4 +0.3
comp=Z,54nm,1.1s,mb5.4
GEC2 *e*S S 20 11 53.9 -1.7
GEC2 GERESS Array S 74.60 318 *e* P P 20 02 22.4 +0.3
GEC2 *e*S S 20 11 53.9 -1.7
GEC2 pmax pmax
comp=Z,54nm,1.1s,mb5.4
GERES GERESS Array B 74.60 318 P P 20 02 22.4 +0.2
comp=Z,22nm,0.8s,mb5.1,baz=90,slow=5.3,SNR=103
GERES S S 20 11 54.2 -1.5
comp=Z,0.1nm,0.5s,baz=243,slow=7.3,SNR=2.8
GERES LR LR 20 37 26.5
comp=Z,5μm,21.9s,MS5.8,baz=266,slow=38
GERES GERESS Array B 74.60 318 P P 20 02 22.4 +0.3
GERES S S 20 11 54.2 -1.4
RUE Ruedersdorf 74.67 322 *e* P P 20 02 22.8 +0.3
comp=Z,159nm,1.4s,mb5.8
KHC Kasperske Hory 74.69 318 *e* P P 20 02 22.8 +0.2
KHC *e*PCP PcP 20 02 38.2 +1.4
KHC *e*S S 20 11 53.3 -3.3
KHC AMS AMS 20 38 50.0
comp=Z,6μm,21.5s
PTCC Patocco-Chiusa 74.80 315 P P 20 02 22.8 -0.5
comp=Z,82nm,1.0s,mb5.6
KBA Koelnbreinsper 74.81 316⇑ *i* P P 20 02 22.9 -0.5
comp=Z,39nm,1.4s,mb5.2
KBA Koelnbreinsper 74.81 316⇑ *i* P P 20 02 22.9 -0.4
KBA pmax pmax
comp=Z,39nm,1.4s,mb5.1
GMNA Gemona 74.87 315 P P 20 02 23.8 +0.1
comp=Z,254nm,0.8s,mb6.2
FBE Freiberg 74.88 320 *e* P P 20 02 24.4 +0.7
comp=Z,120nm,1.3s,mb5.7
CLL Collm 75.11 320⇑ *i* P P 20 02 24.4 -0.7
comp=Z,49nm,1.2s,mb5.3
CLL *e*pP pP 20 02 31.3 -3.5
CLL *e*PP PP 20 05 20.7 +7.3

CLL eS S 20 11 59.0 -2.3
CLL eSKSac SKSac 20 12 31.5 -0.5
CLL ePPS 20 12 54.2
CLL eSS SS 20 17 00.1 +9.4
CLL eSSS 20 20 26.8
CLL eL 20 42 01.0
comp=Z,10µm,18.0s
CLL Collm 75.11 320 i P **P 20 02 24.4 -0.7**
CLL i 20 02 31.5
CLL i S S 20 11 57.1 -4.2
CLL e 20 12 33.0
CLL pmax pmax
comp=Z,48nm,1.2s,mb5.3
CLL MLR MLR
comp=Z,9µm,17.9s,MS6.1
CLL Collm 75.11 320 i P **P 20 02 24.4 -0.7**
comp=Z,48nm,1.2s,mb5.3
CLL i 20 02 31.5
CLL i S S 20 11 57.1 -4.2
CLL eScS ScS 20 12 33.0 -2.4
CLL LR LR
comp=Z,9µm,17.9s,MS6.1
CLL Collm 75.11 320 i P **P 20 02 24.4 -0.7**
comp=Z,48nm,1.2s,mb5.3
CLL i pP pP 20 02 31.5 -3.4
CLL i PcP PcP 20 02 37.5 -1.1
CLL i sPcP 20 02 47.1
CLL ex x 20 03 00.0
CLL ePP PP 20 05 22.0 +8.6
CLL i S S 20 11 57.1 -4.2
CLL eSKSac SKSac 20 12 29.0 -3.0
CLL eScS ScS 20 12 33.0 -2.4
CLL ePPS 20 12 52.0
CLL ex x 20 13 17.0
CLL eSS SS 20 17 10.0 +19
CLL ex x 20 18 48.0
CLL eSSS 20 20 16.0
CLL ex x 20 21 36.0
CLL LmH 20 39 00.0
comp=N,9µm,21.6s
CLL LmH 20 39 00.0
comp=E,7µm,19.6s
WET Wettzell 75.14 318 eP **P 20 02 25.5 +0.2**
comp=Z,48nm,1.3s,mb5.3
WET eS S 20 12 00.2 -1.5
WET Wettzell 75.14 318 eP **P 20 02 25.5 +0.2**
WET eS S 20 12 00.2 -1.5
WET pmax pmax
comp=Z,48nm,1.3s,mb5.3
FVI Forni Avoltri 75.19 315 P **P 20 02 26.1 +0.5**
FVI pmax pmax
comp=Z,112nm,1.5s,mb5.6
FVI Forni Avoltri 75.19 315 P **P 20 02 26.1 +0.5**
comp=Z,112nm,1.5s,mb5.6
BJO Bjornoya 75.29 345 eP **P 20 02 25.9 -0.2**
BJO eS S 20 12 03.6 +0.2
BJO AMS AMS 20 39 03.9
comp=Z,8µm,16.8s,MS6.1
BJO1 Bjornoya 75.34 345 eP **P 20 02 27.3 +0.8**
BJO1 LR LR
comp=Z,8µm,16.8s,MS6.1
MOR8 Moi Rana 75.42 336 eP **P 20 02 26.0 -0.8**
MOR8 epP pP 20 02 33.8 -2.8
MOR8 AMb AMB 20 02 36.8
comp=Z,120nm,1.6s,mb5.6
TANN Tannenbergstha 75.43 319 eP **P 20 02 26.9 -0.1**
comp=Z,42nm,1.4s,mb5.2
NKC Novy Kostel 75.44 319 eP **P 20 02 27.4 +0.4**
NKC ePCP PcP 20 02 43.3 +3.3
NKC eS S 20 12 04.7 -0.3
WERN Wernitzgruen 75.49 319 eP **P 20 02 27.7 +0.4**
comp=Z,34nm,1.3s,mb5.1
GUNZ Gunzen 75.52 319 eP **P 20 02 28.0 +0.6**
comp=Z,45nm,1.3s,mb5.2
WERD Werda 75.53 319 eP **P 20 02 27.7 +0.2**
comp=Z,46nm,1.3s,mb5.2
COP Copenhagen 75.59 325 i P **P 20 02 31.9 +4.1**
comp=Z,45nm,0.8s,mb5.5
COP i S S 20 12 06.3 -0.4
COP i 20 17 35.2
COP
comp=Z,5µm,17.0s
COP Copenhagen 75.59 325 eP **P 20 02 31.9 +4.1**
COP i S S 20 12 06.3 -0.4
COP pmax pmax
comp=Z,45nm,0.8s,mb5.5
COP MLR MLR
comp=Z,5µm,17.0s,MS5.8
ROTZ Rotzenmuhle 75.59 319 eP **P 20 02 28.7 +0.9**
comp=Z,65nm,1.2s,mb5.4
ROTZ eS S 20 12 05.9 -0.8
MANZ Manzenberg 75.66 319 eP **P 20 02 29.2 +1.0**
comp=Z,84nm,1.3s,mb5.5
BOSA Boshof 75.66 237 P **P 20 02 28.8 +0.6**
comp=Z,42nm,0.8s,mb5.4,baz=75,slow=6.4,SNR=42
BOSA S S 20 12 08.9 +1.5
comp=Z,2.5nm,1.1s,baz=255,slow=17,SNR=2.1
BOSA LR LR 20 32 55.6
comp=Z,26µm,18.2s,MS6.6,baz=74,slow=33
BOSA Boshof 75.66 237 eP **P 20 02 28.5 +0.3**
BOSA pmax pmax
comp=Z,161nm,1.1s,mb5.9
BOSA MLR MLR
comp=Z,26µm,19.0s,MS6.6
BOSA Boshof 75.66 237 eP **P 20 02 28.5 +0.3**
comp=Z,161nm,1.1s,mb5.9
BOSA LR LR
comp=Z,26µm,19.0s,MS6.6
WTTA Wattenberg 75.97 316⇑ iP **P 20 02 29.5 -0.5**
comp=Z,72nm,1.2s,mb5.5,SNR=11
WTTA Wattenberg 75.97 316⇑ iP **P 20 02 29.5 -0.5**
WTTA pmax pmax
comp=Z,72nm,1.2s,mb5.5
MOX Moxa 75.97 320 eP **P 20 02 30.3 +0.2**
comp=Z,102nm,1.7s,mb5.5
MOX eS S 20 12 12.2 +1.3
MOX Moxa 75.97 320 eP **P 20 02 29.9 -0.2**
comp=Z,111nm,1.9s,mb5.5
MOX e 20 02 53.2
comp=Z,130nm,1.5s
MOX
comp=Z,6µm,19.0s
CTI Castel Tesino 75.98 315 P **P 20 02 30.2 +0.1**
CTI pmax pmax
comp=Z,80nm,0.8s,mb5.7
CTI Castel Tesino 75.98 315 P **P 20 02 30.2 +0.1**
comp=Z,80nm,0.8s,mb5.7
LOF Lofoten 75.99 338 eP **P 20 02 31.0 +0.8**
LOF AMb AMB 20 02 37.8
comp=Z,353nm,1.9s,mb6.0
LOF Lofoten 75.99 338 eP **P 20 02 31.0 +0.8**
comp=Z,353nm,1.9s,mb6.0
WATA Walderalm 76.01 316⇑ iP **P 20 02 29.4 -0.9**
comp=Z,107nm,1.8s,mb5.5,SNR=9.8
WATA Walderalm 76.01 316⇑ iP **P 20 02 29.4 -0.9**
WATA pmax pmax
comp=Z,107nm,1.8s,mb5.5
VMG Vicchio 76.10 313 P **P 20 02 32.3 +1.6**
comp=Z,101nm,0.8s,mb5.8
FUR Furstenfeldbru 76.20 317 eP **P 20 02 31.3 -0.1**
comp=Z,48nm,1.2s,mb5.3
FUR Furstenfeldbru 76.20 317 eP **P 20 02 31.3 -0.1**
FUR pmax pmax
comp=Z,48nm,1.2s,mb5.3
GRF Grafenberg Arr 76.23 319 eS S 20 12 18.3 +4.6
GRF eL 20 36 57.1
comp=Z,10µm,22.0s
GRFO Grafenberg 76.23 319 P **P 20 02 32.2 +0.7**
GRFO pmax pmax
comp=Z,180nm,1.3s,mb5.8
GRFO Grafenberg 76.23 319 eP **P 20 02 31.4 -0.1**
comp=Z,178nm,1.3s,mb5.8
GRFO LR LR
comp=Z,7µm,20.0s,MS6.0
APPI Appiano 76.26 315 P **P 20 02 31.0 -0.7**
SQTA Sankt Quirin 76.26 316⇑ iP **P 20 02 31.1 -0.6**
comp=Z,155nm,2.1s,mb5.6,SNR=18
SQTA Sankt Quirin 76.26 316⇑ iP **P 20 02 31.1 -0.6**
SQTA pmax pmax
comp=Z,155nm,2.1s,mb5.6
MOTA Moosalm 76.33 316⇑ iP **P 20 02 31.3 -0.8**
comp=Z,42nm,1.1s,mb5.3,SNR=22
MOTA Moosalm 76.33 316⇑ iP **P 20 02 31.3 -0.8**
MOTA pmax pmax
comp=Z,42nm,1.1s,mb5.3

FNVD Fontana Vidola 76.39 313 P **P 20 02 34.7 +2.3**
NB2 NORSAR Subarra 76.45 330 P **P 20 02 31.5 -1.2**
comp=Z,14nm,0.6s,mb5.1,baz=95,slow=5.3
NOA NORSAR Array B 76.45 330 P **P 20 02 31.4 -1.3**
comp=Z,27nm,0.9s,mb5.2,baz=92,slow=5.7,SNR=40
NOA S S 20 12 14.9 -1.2
comp=Z,1.1nm,0.9s,baz=54,slow=23,SNR=2.4
NOA PKKP PKKPbc 20 21 32.7 -12
comp=Z,1.5nm,0.7s,baz=288,slow=1.8,SNR=3.4
NOA LR LR 20 42 19.3
comp=Z,6µm,20.6s,MS5.9,baz=80,slow=40
NOA NORSAR Array B 76.45 330 P **P 20 02 31.4 -1.3**
NOA S S 20 12 14.9 -1.2
ZCCA Zocca 76.49 313 P **P 20 02 35.0 +2.0**
comp=Z,188nm,1.2s,mb5.9
SMY Shemya 76.54 38 P **P 20 02 33.3 0.0**
SMY Shemya 76.54 38 eP **P 20 02 32.5 -0.8**
SMY LR LR
comp=Z,5µm,21.0s,MS5.8
NAO01 NORSAR Array S 76.60 330 eP **P 20 02 32.3 -1.3**
comp=Z,40nm,0.9s,mb5.3
NAO01 LR LR
comp=Z,15µm,21.0s,MS6.3
OSL Oslo 76.65 329 eP **P 20 02 34.3 +0.4**
OSL AMb AMB 20 02 37.6
comp=Z,134nm,1.6s,mb5.6
OSL Oslo 76.65 329 eP **P 20 02 34.3 +0.4**
comp=Z,134nm,1.6s,mb5.6
SPB4 Spitsbergen Ar 76.75 348 eP **P 20 02 34.6 +0.2**
CLZ Clausthal 76.75 321 eP **P 20 02 34.8 +0.3**
comp=Z,96nm,1.4s,mb5.5
CLZ eS S 20 12 14.5 -5.0
CLZ Clausthal 76.75 321 eP **P 20 02 34.8 +0.3**
CLZ eS S 20 12 14.5 -5.0
CLZ pmax pmax
comp=Z,96nm,1.4s,mb5.5
MABI Malga Bissina 76.77 315 P **P 20 02 34.7 +0.1**
GSCL Gusciola 76.77 313 P **P 20 02 35.5 +0.9**
comp=Z,149nm,0.9s,mb5.9
BSEG Bad Segeberg 76.78 323 eP **P 20 02 35.2 +0.6**
comp=Z,100nm,1.2s,mb5.6
BSEG Bad Segeberg 76.78 323 eP **P 20 02 35.2 +0.6**
BSEG pmax pmax
comp=Z,100nm,1.2s,mb5.6
BRMO Bormio 76.86 315 P **P 20 02 35.4 +0.4**
comp=Z,27nm,0.8s,mb5.2
GTTG Gvttingen 77.01 321 eP **P 20 02 36.2 +0.3**
comp=Z,73nm,1.3s,mb5.5
MIR Mirnyy 77.04 180⇓ iP **P 20 02 38.0 +1.9**
MIR e 20 12 22.0
MIR eSSS 20 17 26.0
MIR pmax pmax
comp=Z,420nm,2.2s,mb6.0
DAVA Damuels 77.17 316 i P **P 20 02 36.8 0.0**
comp=Z,80nm,1.1s,mb5.6,SNR=28
KONO Kongsberg 77.21 329 eP **P 20 02 36.6 -0.4**
KONO eS S 20 12 24.8 +0.3
KONO Kongsberg 77.21 329⇑ iP **P 20 02 35.9 -1.1**
KONO LR LR
comp=Z,13µm,21.0s,MS6.2
MUD Monsted U'grnd 77.43 326 i P **P 20 02 39.1 +0.8**
comp=Z,67nm,0.8s,mb5.6
MUD e pP 20 02 47.1 -0.9
MUD i S S 20 12 26.7 -0.1
MUD
comp=Z,5µm,18.0s
MUD Monsted U'grnd 77.43 326 i P **P 20 02 39.1 +0.8**
MUD e pP 20 02 47.1 -0.9
MUD i S S 20 12 26.7 -0.1
MUD pmax pmax
comp=Z,67nm,0.8s,mb5.6
MUD MLR MLR
comp=Z,5µm,18.0s,MS5.9
DOMB Dombas 77.51 331 eP **P 20 02 38.6 -0.1**
DOMB epP pP 20 02 46.0 -2.4
DOMB AMb AMB 20 02 47.0
comp=Z,132nm,1.1s,mb5.8
DOMB Dombas 77.51 331 eP **P 20 02 38.6 -0.1**
comp=Z,132nm,1.1s,mb5.8
TUE Stuetta 77.56 315 P **P 20 02 39.0 0.0**
STU Stuttgart 77.58 318 eP **P 20 02 39.2 +0.1**
KBS Kingsbay 77.74 349 eP **P 20 02 39.7 -0.3**
KBS eS S 20 12 30.0 -0.2
KBS eS S 20 12 30.2 0.0
KBS eSS SS 20 17 30.7 +0.3
KBS AMS AMS 20 47 00.6
comp=Z,7µm,20.5s,MS6.0
KBS Kingsbay 77.74 349⇓ eP **P 20 02 39.4 -0.6**
KBS Kingsbay 77.74 349⇓ eP **P 20 02 39.5 -0.5**
KBS LR LR
comp=Z,12µm,19.0s,MS6.2
TOD Tromm 77.80 319 eP **P 20 02 40.0 -0.3**
SPAK Spaichingen-Ko 77.88 317 eP **P 20 02 41.6 +0.9**
CASY Casey 77.92 173 eP **P 20 02 40.2 -0.8**
comp=Z,138nm,1.5s,mb5.7
CASY LR LR
comp=Z,18µm,20.0s,MS6.4
VAI Varese 77.99 315 P **P 20 02 40.6 -0.8**
VAI pmax pmax
comp=Z,95nm,0.9s,mb5.7
VAI Varese 77.99 315 P **P 20 02 40.6 -0.8**
comp=Z,95nm,0.9s,mb5.7
TNS Taunus Mts 78.01 319 eP **P 20 02 41.9 +0.4**
comp=Z,54nm,1.4s,mb5.3
TNS Taunus Mts 78.01 319 eP **P 20 02 41.9 +0.4**
TNS pmax pmax
comp=Z,54nm,1.4s,mb5.3
PGF Pioggiola 78.02 311 eP **P 20 02 40.5 -1.0**
comp=Z,131nm,1.2s,mb5.5
PGF Pioggiola 78.02 311 eP **P 20 02 40.5 -1.0**
PGF pmax pmax
comp=Z,66nm,1.2s,mb5.4
PGF Pioggiola 78.02 311 eP **P 20 02 40.5 -1.0**
comp=Z,66nm,1.2s,mb5.4
BFO Black Forest 78.17 317 P **P 20 02 42.5 +0.1**
comp=Z,188nm,1.1s,mb5.9,SNR=16
BFO Black Forest 78.17 317 eP **P 20 02 42.3 -0.1**
comp=Z,50nm,1.3s,mb5.3
BFO eS S 20 12 33.3 -1.5
BFO Black Forest 78.17 317 eP **P 20 02 42.3 -0.1**
comp=Z,50nm,1.3s,mb5.3
BFO eS S 20 12 33.3 -1.5
BFO LR LR
comp=Z,1µm,19.0s,MS5.2
MOL Molde 78.22 332 eP **P 20 02 42.4 -0.3**
MOL AMS AMS 20 42 53.5
comp=Z,8µm,19.5s,MS6.1
KEST Kesra 78.24 304 P **P 20 02 43.3 +0.5**
comp=Z,22nm,1.0s,mb5.0,baz=194,slow=0.2,SNR=31
KEST S S 20 12 35.4 -0.1
comp=Z,3.3nm,1.2s,baz=358,slow=4.2,SNR=2.4
KEST LR LR 20 40 48.0
comp=Z,3µm,20.1s,MS5.6,baz=205,slow=38
IBBN Ibbenburen 78.36 321 eP **P 20 02 43.9 +0.5**
comp=Z,119nm,1.3s,mb5.7
FELD Feldberg im Sc 78.41 317 eP **P 20 02 44.6 +0.9**
LANF Langenberg 78.48 318 eP **P 20 02 44.9 +0.8**
LANF Langenberg 78.48 318 eP **P 20 02 44.4 +0.3**
ORO Oropa 78.56 315 P **P 20 02 43.7 -0.8**
ORO pmax pmax
comp=Z,271nm,2.1s,mb5.8
ORO Oropa 78.56 315 P **P 20 02 43.7 -0.8**
comp=Z,271nm,2.1s,mb5.8
ABH Alteburg 78.60 319 eP **P 20 02 44.5 -0.3**
BUG Bochum--Univer 78.70 321 eP **P 20 02 45.8 +0.5**
comp=Z,139nm,1.7s,mb5.6
BUG eS S 20 12 42.0 +1.5
ODD1 Odda 78.71 329 eP **P 20 02 44.7 -0.7**
ODD1 epP pP 20 02 52.5 -2.7
ODD1 esP sP 20 02 54.8 -4.0
ODD1 AMb AMB 20 02 55.1
comp=Z,97nm,2.0s,mb5.4
ODD1 Odda 78.71 329 eP **P 20 02 44.7 -0.7**
comp=Z,97nm,2.0s,mb5.4
BLS5 Blasjo 78.82 329 eP **P 20 02 47.2 +1.3**
BLS5 epP pP 20 02 55.1 -0.6
BLS5 AMb AMB 20 02 57.8
comp=Z,66nm,1.0s,mb5.5
BLS5 Blasjo 78.82 329 eP **P 20 02 47.2 +1.3**
comp=Z,66nm,1.0s,mb5.5
CDF Champ du Feu 78.87 317 eP **P 20 02 45.4 -0.8**
comp=Z,95nm,1.1s,mb5.3
CDF Champ du Feu 78.87 317 eP **P 20 02 45.4 -0.8**
CDF pmax pmax
comp=Z,47nm,1.1s,mb5.3

CDF Champ du Feu 78.87 317 eP **P 20 02 45.4 -0.8**
comp=Z,48nm,1.1s,mb5.3
HYA Hoyanger 78.89 330 eP **P 20 02 48.1 +1.7**
HYA AMb AMB 20 02 51.9
comp=Z,136nm,1.7s,mb5.6
HYA Hoyanger 78.89 330 eP **P 20 02 48.1 +1.7**
comp=Z,136nm,1.7s,mb5.6
ECH Echery 78.96 317 eP **P 20 02 47.1 +0.4**
ECH Echery 78.96 317 eP **P 20 02 45.8 -0.9**
WTSB Winterswijk 78.96 321 eP **P 20 02 45.9 -0.9**
comp=Z,140nm,2.1s,mb5.5
WIT Witteveen 79.00 322 eP **P 20 02 46.6 -0.3**
MOF Molkenrain 79.00 317 eP **P 20 02 47.1 +0.2**
MOF Molkenrain 79.00 317 eP **P 20 02 46.0 -0.9**
SBF Sospel 79.07 313 eP **P 20 02 46.5 -0.8**
comp=Z,141nm,0.9s,mb5.6
SBF Sospel 79.07 313 eP **P 20 02 46.5 -0.8**
SBF pmax pmax
comp=Z,71nm,0.9s,mb5.6
SBF Sospel 79.07 313 eP **P 20 02 46.5 -0.8**
comp=Z,71nm,0.9s,mb5.6
HINF Hinteralfeld 79.19 317 eP **P 20 02 47.0 -1.0**
comp=Z,59nm,1.0s,mb5.2
HINF Hinteralfeld 79.19 317 eP **P 20 02 47.0 -1.0**
HINF pmax pmax
comp=Z,30nm,1.0s,mb5.2
HINF Hinteralfeld 79.19 317 eP **P 20 02 47.0 -1.0**
comp=Z,30nm,1.0s,mb5.2
LOMF Lomont 79.24 316 eP **P 20 02 47.7 -0.6**
MSKU Masuku 79.30 266 PFAKE 20 03 00.0 +11
MSKU LR LR
comp=Z,52nm,20.0s
BER Bergen 79.34 330 eS S 20 12 48.7 +1.4
BER AMS AMS 20 43 02.8
comp=Z,9µm,16.3s,MS6.2
LPG La Plagne 79.43 314 eP **P 20 02 49.1 -0.2**
comp=Z,164nm,0.9s,mb5.7
LPG La Plagne 79.43 314 eP **P 20 02 49.1 -0.2**
LPG pmax pmax
comp=Z,82nm,0.9s,mb5.7
LPG La Plagne 79.43 314 eP **P 20 02 49.1 -0.2**
comp=Z,82nm,0.9s,mb5.7
LPL La Plagne 79.44 315 eP **P 20 02 49.1 -0.3**
comp=Z,423nm,1.0s,mb6.0
LPL La Plagne 79.44 315 eP **P 20 02 49.1 -0.3**
LPL pmax pmax
comp=Z,212nm,1.0s,mb6.0
LPL La Plagne 79.44 315 eP **P 20 02 49.1 -0.3**
comp=Z,212nm,1.0s,mb6.0
KMY Karmoy 79.44 328 eP **P 20 02 50.0 +0.7**
KMY AMb AMB 20 02 58.0
comp=Z,157nm,1.5s,mb5.7
KMY Karmoy 79.44 328 eP **P 20 02 50.0 +0.7**
comp=Z,157nm,1.5s,mb5.7
TSUM Tsumeb 79.46 248 eP **P 20 02 51.0 +1.5**
comp=Z,61nm,1.4s,mb5.3
TSUM LR LR
comp=Z,11µm,20.0s,MS6.2
MBDF Montbardon 79.48 314 eP **P 20 02 48.4 -1.2**
comp=Z,122nm,0.9s,mb5.5
MBDF Montbardon 79.48 314 eP **P 20 02 48.4 -1.2**
MBDF pmax pmax
comp=Z,61nm,0.9s,mb5.5
MBDF Montbardon 79.48 314 eP **P 20 02 48.4 -1.2**
comp=Z,61nm,0.9s,mb5.5
HAU Haudompre 79.51 317 eP **P 20 02 48.9 -0.9**
comp=Z,121nm,1.0s,mb5.5
HAU eMLR
comp=Z,6µm,20.0s
HAU Haudompre 79.51 317 eP **P 20 02 48.9 -0.9**
HAU pmax pmax
comp=Z,61nm,1.0s,mb5.5
HAU MLR MLR
comp=Z,6µm,20.0s,MS5.9
HAU Haudompre 79.51 317 eP **P 20 02 48.9 -0.9**
comp=Z,61nm,1.0s,mb5.5
HAU LR LR
comp=Z,6µm,20.0s,MS5.9
WLF Walferdange 79.52 319 eS S 20 12 49.2 0.0
WLF Walferdange 79.52 319 P **P 20 02 50.6 +0.8**
comp=Z,72nm,2.8s,mb5.1
DZM Mont Dzumac 79.52 115 eP **P 20 02 51.0 +1.2**
DZM Mont Dzumac 79.52 115 P **P 20 02 51.3 +1.4**
comp=Z,70nm,0.9s,mb5.6,baz=265,slow=5.4,SNR=28
DZM S S 20 12 47.4 -1.8
comp=Z,5.2nm,1.0s,baz=106,slow=21,SNR=2.0
MEM Membach 79.55 320 P **P 20 02 50.2 +0.2**
HGN Heimansgroeve 79.58 320 eP **P 20 02 49.3 -0.8**
comp=Z,64nm,2.8s,mb5.1
HGN eS S 20 12 47.7 -2.1
FRF La Foret Royal 79.66 313 eP **P 20 02 49.9 -0.7**
comp=Z,289nm,1.4s,mb5.7
FRF La Foret Royal 79.66 313 eP **P 20 02 49.9 -0.7**
FRF pmax pmax
comp=Z,145nm,1.4s,mb5.7
FRF La Foret Royal 79.66 313 eP **P 20 02 49.9 -0.7**
comp=Z,145nm,1.4s,mb5.7
CMAH Djebel Manchou 79.71 305 P **P 20 02 43.0 -7.8**
THEF They Montfort 79.74 317 eP **P 20 02 50.9 -0.1**
BEBN Eben Emael 79.74 320 P **P 20 02 50.4 -0.6**
LMR La Mourre 79.78 312 eP **P 20 02 50.5 -0.7**
comp=Z,239nm,1.4s,mb5.6
LMR La Mourre 79.78 312 eP **P 20 02 50.5 -0.7**
LMR pmax pmax
comp=Z,120nm,1.4s,mb5.6
LMR La Mourre 79.78 312 eP **P 20 02 50.5 -0.7**
comp=Z,120nm,1.4s,mb5.6
CABF La Chapelle 79.80 316 eP **P 20 02 51.1 -0.2**
comp=Z,104nm,1.0s,mb5.4
CABF La Chapelle 79.80 316 eP **P 20 02 51.1 -0.2**
CABF pmax pmax
comp=Z,52nm,1.0s,mb5.4
CABF La Chapelle 79.80 316 eP **P 20 02 51.1 -0.2**
comp=Z,52nm,1.0s,mb5.4
AMKA Amchitka 79.80 39 eP **P 20 02 50.4 -1.0**
BCLA Clavier 80.01 320 P **P 20 02 52.7 +0.3**
comp=Z,38nm,1.8s,mb5.0
ORIF Oris-en-Rattie 80.09 314 eP **P 20 02 52.0 -0.9**
comp=Z,70nm,0.8s,mb5.3
ORIF eMLR
comp=Z,5µm,21.8s
ORIF Oris-en-Rattie 80.09 314 eP **P 20 02 52.0 -0.9**
ORIF pmax pmax
comp=Z,35nm,0.8s,mb5.3
ORIF Oris-en-Rattie 80.09 314 eP **P 20 02 52.0 -0.9**
comp=Z,35nm,0.8s,mb5.3
CAEH 'Ain El Ouahch 80.15 306 P **P 20 02 45.0 -8.2**
CKFL Kef-Lekhel 80.29 305 P **P 20 02 46.0 -8.0**
MEZF Maizieres J'vi 80.34 318 eP **P 20 02 53.6 -0.6**
comp=Z,68nm,0.9s,mb5.3
MEZF Maizieres J'vi 80.34 318 eP **P 20 02 53.6 -0.6**
comp=Z,68nm,0.9s,mb5.6
GIVF Givet 80.34 319 eP **P 20 02 53.6 -0.6**
comp=Z,52nm,1.0s,mb5.1
GIVF Givet 80.34 319 eP **P 20 02 53.6 -0.6**
GIVF pmax pmax
comp=Z,26nm,1.0s,mb5.1
GIVF Givet 80.34 319 eP **P 20 02 53.6 -0.6**
comp=Z,26nm,1.0s,mb5.1
SMRF Simiane la Rot 80.40 313 eP **P 20 02 54.5 0.0**
comp=Z,229nm,1.3s,mb5.7
SMRF Simiane la Rot 80.40 313 eP **P 20 02 54.5 0.0**
comp=Z,229nm,1.3s,mb6.0
DOU Dourbes 80.49 319 P **P 20 02 54.3 -0.7**
SUR Sutherland 80.54 234 P **P 20 02 57.9 +2.6**
comp=Z,606nm,1.1s,mb6.4,SNR=11
SUR Sutherland 80.54 234 eP **P 20 02 56.9 +1.5**
comp=Z,129nm,1.1s,mb5.8
SUR LR LR
comp=Z,4µm,21.0s,MS5.8
UCC Uccle 80.57 320 P **P 20 02 55.6 +0.1**
SNF Seneffe 80.65 320 P **P 20 02 56.0 +0.1**
comp=Z,43nm,2.0s,mb5.0
BAIF Baives 80.74 319 eP **P 20 02 55.9 -0.5**
comp=Z,103nm,1.0s,mb5.4
BAIF Baives 80.74 319 eP **P 20 02 55.9 -0.5**
BAIF pmax pmax
comp=Z,52nm,1.0s,mb5.4
BAIF Baives 80.74 319 eP **P 20 02 55.9 -0.5**
comp=Z,52nm,1.0s,mb5.4
MAW Mawson 80.94 191 eS S 20 12 58.4 -5.8
MAW Mawson 80.94 191 P **P 20 02 57.4 -0.1**
comp=Z,20nm,0.8s,mb5.1,baz=20,slow=6.0,SNR=29
MAW S S 20 13 03.7 -0.5
comp=Z,1.8nm,0.8s,baz=128,slow=22,SNR=1.9
MAW LR LR 20 36 22.9

comp=Z,5µm,18.5s,MS5.9,baz=28,slow=34
MAW Mawson 80.94 191 *e*P **P 20 02 57.9 +0.4**
comp=Z,44nm,1.0s,mb5.3
MAW *e*S S 20 12 58.4 -5.8
MAW LR LR
comp=Z,8µm,20.0s,MS6.1
VIVF Saint-Julien-I 80.95 314 *e*P **P 20 02 57.1 -0.4**
comp=Z,167nm,1.1s,mb5.6
VIVF Saint-Julien-I 80.95 314 *e*P **P 20 02 57.1 -0.4**
VIVF pmax pmax
comp=Z,83nm,1.1s,mb5.6
VIVF Saint-Julien-I 80.95 314 *e*P **P 20 02 57.1 -0.4**
comp=Z,83nm,1.1s,mb5.6
DFRA Djebel Bou Aff 80.95 306 P **P 20 02 58.0 +0.5**
CMER Merouana 81.04 305 P **P 20 03 05.0 +7.0**
LOR Lormes 81.26 316 *e*P **P 20 02 58.4 -0.7**
comp=Z,166nm,1.0s,mb5.6
LOR *e*MLR
comp=Z,5µm,18.0s
LOR Lormes 81.26 316 *e*P **P 20 02 58.4 -0.7**
LOR pmax pmax
comp=Z,83nm,1.0s,mb5.6
LOR MLR MLR
comp=Z,5µm,18.0s,MS5.9
LOR Lormes 81.26 316 *e*P **P 20 02 58.4 -0.7**
comp=Z,83nm,1.0s,mb5.6
LOR LR LR
comp=Z,5µm,18.0s,MS5.9
SMF Signal de Mont 81.34 316 *e*P **P 20 02 58.7 -0.9**
comp=Z,78nm,0.8s,mb5.4
SMF Signal de Mont 81.34 316 *e*P **P 20 02 58.7 -0.9**
SMF pmax pmax
comp=Z,39nm,0.8s,mb5.4
SMF Signal de Mont 81.34 316 *e*P **P 20 02 58.7 -0.9**
comp=Z,39nm,0.8s,mb5.4
SET Setif 81.38 305 P **P 20 03 01.0 +1.2**
SSF Saint Saulge 81.52 316 *e*P **P 20 02 59.8 -0.7**
comp=Z,102nm,1.1s,mb5.4
SSF Saint Saulge 81.52 316 *e*P **P 20 02 59.8 -0.7**
SSF pmax pmax
comp=Z,51nm,1.1s,mb5.4
SSF Saint Saulge 81.52 316 *e*P **P 20 02 59.8 -0.7**
comp=Z,51nm,1.1s,mb5.4
PLDF La Plantade 81.56 315 *e*P **P 20 03 01.2 +0.4**
LASF Ste Croix 81.62 313 *e*P **P 20 03 01.0 0.0**
comp=Z,191nm,1.2s,mb5.6
AVF Avril sur Loir 81.66 316 *e*P **P 20 03 00.4 -0.8**
comp=Z,98nm,0.9s,mb5.4
AVF Avril sur Loir 81.66 316 *e*P **P 20 03 00.4 -0.8**
AVF pmax pmax
comp=Z,49nm,0.9s,mb5.4
AVF Avril sur Loir 81.66 316 *e*P **P 20 03 00.4 -0.8**
comp=Z,49nm,0.9s,mb5.4
AGO Saint Agoulin 81.89 315 *e*P **P 20 03 02.9 +0.4**
LBL Lubilhac 81.91 314 *e*P **P 20 03 02.5 -0.1**
MENF Mencas 81.99 320 *e*P **P 20 03 03.8 +0.8**
BGF Bois d'Agland 82.03 316 *e*P **P 20 03 02.8 -0.4**
comp=Z,76nm,0.8s,mb5.4
BGF Bois d'Agland 82.03 316 *e*P **P 20 03 02.8 -0.4**
BGF pmax pmax
comp=Z,38nm,0.8s,mb5.4
BGF Bois d'Agland 82.03 316 *e*P **P 20 03 02.8 -0.4**
comp=Z,38nm,0.8s,mb5.4
HYF Humbligny 82.08 317 *e*P **P 20 03 03.4 -0.1**
AEU East Anglia Un 82.30 322‖*e*P **P 20 03 04.9 +0.2**
ABA1 Baconsthorpe 82.32 322‖*e*P **P 20 03 04.9 +0.2**
TCF Toulx Ste Croi 82.50 316 *e*P **P 20 03 05.4 -0.3**
comp=Z,130nm,1.1s,mb5.5
TCF Toulx Ste Croi 82.50 316 *e*P **P 20 03 05.4 -0.3**
TCF pmax pmax
comp=Z,65nm,1.1s,mb5.5
TCF Toulx Ste Croi 82.50 316 *e*P **P 20 03 05.4 -0.3**
comp=Z,65nm,1.1s,mb5.5
LRW Lerwick 82.59 330 P **P 20 03 06.3 +0.2**
LRW AMb AMB 20 03 08.3
comp=Z,43nm,1.2s,mb5.3
LRW Lerwick 82.59 330 *e*P **P 20 03 06.3 +0.2**
LRW AMb AMB 20 03 08.3
comp=Z,43nm,1.2s,mb5.3
LRW AMS AMS 20 44 48.5
comp=Z,5µm,19.0s,MS5.9
AKET Djebel Ketaf 82.61 305 P **P 20 03 08.1 +1.8**
CAF Calviac 82.78 314 *e*P **P 20 03 07.0 -0.1**
comp=Z,107nm,1.2s,mb5.4
CAF Calviac 82.78 314 *e*P **P 20 03 07.0 -0.1**
CAF pmax pmax
comp=Z,54nm,1.2s,mb5.5
CAF Calviac 82.78 314 *e*P **P 20 03 07.0 -0.1**
comp=Z,54nm,1.2s,mb5.5
MTLF Montolieu 82.89 313 *e*P **P 20 03 07.4 -0.3**
comp=Z,81nm,0.8s,mb5.5
MTLF Montolieu 82.89 313 *e*P **P 20 03 07.4 -0.3**
MTLF pmax pmax
comp=Z,40nm,0.8s,mb5.5
MTLF Montolieu 82.89 313 *e*P **P 20 03 07.4 -0.3**
comp=Z,40nm,0.8s,mb5.5
ADJB Djebel Djouab 82.95 305 P **P 20 03 10.5 +2.5**
RJF Les Rejaudoux 83.11 315 *e*P **P 20 03 08.8 -0.1**
comp=Z,91nm,0.9s,mb5.5
RJF *e*MLR
comp=Z,7µm,22.0s
RJF Les Rejaudoux 83.11 315 *e*P **P 20 03 08.8 -0.1**
RJF pmax pmax
comp=Z,45nm,0.9s,mb5.5
RJF MLR MLR
comp=Z,7µm,22.0s,MS6.0
RJF Les Rejaudoux 83.11 315 *e*P **P 20 03 08.8 -0.1**
comp=Z,46nm,0.9s,mb5.5
RJF LR LR
comp=Z,7µm,22.0s,MS6.0
ABA Alger-Bouzarea 83.19 306 P **P 20 03 11.0 +1.8**
EMHD Djebel Mahouad 83.34 305 P **P 20 03 11.0 +1.0**
JMIC Jan Mayen 83.50 341 AMS AMS 20 42 07.8
comp=Z,5µm,20.7s,MS5.8
EMIR Miracle 83.60 311 P **P 20 03 12.2 +0.8**
comp=Z,320nm,1.8s,mb6.2
SKP1 Kophill 83.68 321‖*e*P **P 20 03 11.5 -0.3**
LFF La Frestale 83.71 314 *e*P **P 20 03 11.8 -0.1**
comp=Z,79nm,1.1s,mb5.5
LFF La Frestale 83.71 314 *e*P **P 20 03 11.8 -0.1**
LFF pmax pmax
comp=Z,40nm,1.0s,mb5.5
LFF La Frestale 83.71 314 *e*P **P 20 03 11.8 -0.1**
comp=Z,40nm,1.0s,mb5.5
LDF La Druitiere 83.74 318 *e*P **P 20 03 11.3 -0.8**
comp=Z,103nm,0.8s,mb5.7
LDF La Druitiere 83.74 318 *e*P **P 20 03 11.3 -0.8**
LDF pmax pmax
comp=Z,52nm,0.8s,mb5.7
LDF La Druitiere 83.74 318 *e*P **P 20 03 11.3 -0.8**
comp=Z,52nm,0.8s,mb5.7
KBI1 Birley Grange 83.86 323 *e*P **P 20 03 12.2 -0.5**
XSO Sourhope Farm 83.90 325‖*e*P **P 20 03 12.5 -0.5**
FLN La Foliniere 83.94 318 *e*P **P 20 03 12.3 -0.8**
comp=Z,134nm,0.8s,mb5.8
FLN *e*MLR
comp=Z,5µm,20.0s
FLN La Foliniere 83.94 318 *e*P **P 20 03 12.3 -0.8**
FLN pmax pmax
comp=Z,67nm,0.8s,mb5.8
FLN MLR MLR
comp=Z,5µm,20.0s,MS5.9
FLN La Foliniere 83.94 318 *e*P **P 20 03 12.3 -0.8**
comp=Z,67nm,0.8s,mb5.8
FLN LR LR
comp=Z,5µm,20.0s,MS5.9
MME1 Meikle Cairn 83.97 327‖*e*P **P 20 03 13.2 -0.1**
XAL Allendale 83.99 325‖*e*P **P 20 03 13.4 +0.1**
MLA1 Latheron 84.00 328 *e*P **P 20 03 12.9 -0.5**
LHO Holmfirth 84.01 323 *e*P **P 20 03 12.7 -0.8**
ESY Stoneypath 84.03 326‖*e*P **P 20 03 13.6 0.0**
MFF Saint Martin d 84.07 316 *e*P **P 20 03 13.1 -0.6**
comp=Z,106nm,0.8s,mb5.7
MFF Saint Martin d 84.07 316 *e*P **P 20 03 13.1 -0.6**
MFF pmax pmax
comp=Z,53nm,0.8s,mb5.7
MFF Saint Martin d 84.07 316 *e*P **P 20 03 13.1 -0.6**
comp=Z,53nm,0.8s,mb5.7
MCD Coleburn Disti 84.08 327 *e*P **P 20 03 13.8 0.0**
KWE Weaver Farm 84.09 323‖*e*P **P 20 03 13.8 -0.1**
GRR Gorron 84.25 318 *e*P **P 20 03 14.0 -0.7**
comp=Z,22nm,0.7s,mb5.1
GRR Gorron 84.25 318 *e*P **P 20 03 14.0 -0.7**
GRR pmax pmax
comp=Z,11nm,0.7s,mb5.1
GRR Gorron 84.25 318 *e*P **P 20 03 14.0 -0.7**
comp=Z,11nm,0.7s,mb5.1
SSW Stow on the Wo 84.28 322‖*e*P **P 20 03 14.9 +0.1**
EPF Esparros 84.30 313 *e*P **P 20 03 13.8 -1.1**
comp=Z,13nm,0.7s,mb4.8
EPF Esparros 84.30 313 *e*P **P 20 03 13.8 -1.1**
EPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
EPF Esparros 84.30 313 *e*P **P 20 03 13.8 -1.1**
comp=Z,6.3nm,0.7s,mb4.8
EBL Broad Law 84.30 326‖*e*P **P 20 03 15.2 +0.3**
TNA Tin City 84.32 24 *e*P **P 20 03 14.3 -0.8**
comp=Z,69nm,1.0s,mb5.7
SWN1 Swindon 84.32 321 *e*P **P 20 03 14.0 -1.0**
EDI Edinburgh 84.35 326 P **P 20 03 14.6 -0.6**
EDI AMb AMB 20 03 22.9
comp=Z,116nm,1.9s,mb5.7
EDI Edinburgh 84.35 326 *e*P **P 20 03 14.6 -0.6**
EDI AMb AMB 20 03 22.9
comp=Z,116nm,1.9s,mb5.7
EDI AMS AMS 20 47 27.4
comp=Z,5µm,18.9s,MS5.9
DAG Danmarks Havn 84.37 348‖*i*P **P 20 03 13.2 -2.1**
comp=Z,16nm,0.6s,mb5.3
DAG Danmarks Havn 84.37 348‖*i*P **P 20 03 13.2 -2.1**
DAG pmax pmax
comp=Z,16nm,0.6s,mb5.3
EBNR Beni Rached 84.46 306 P **P 20 03 13.4 -2.3**
ESK Eskdalemuir 84.47 325 P **P 20 03 16.0 +0.2**
comp=Z,308nm,0.7s,mb6.5,SNR=10
ESK Eskdalemuir 84.47 325 P **P 20 03 15.6 -0.2**
ESK AMb AMB 20 03 23.6
comp=Z,109nm,1.9s,mb5.7
ESK Eskdalemuir 84.47 325 *e*P **P 20 03 15.6 -0.2**
ESK AMb AMB 20 03 23.6
comp=Z,109nm,1.9s,mb5.7
ESK AMS AMS 20 49 57.6
comp=Z,8µm,18.8s,MS6.1
ESK Eskdalemuir 84.47 325 *e*P **P 20 03 14.8 -1.0**
ESK pmax pmax
comp=Z,34nm,0.6s,mb5.7
ESK MLR MLR
comp=Z,2µm,19.0s,MS5.6
ESK Eskdalemuir 84.47 325 *e*P **P 20 03 14.8 -1.0**
comp=Z,34nm,0.6s,mb5.7
ESK LR LR
comp=Z,2µm,19.0s,MS5.6
EBIE Bielsa 84.49 312 P **P 20 03 16.2 +0.3**
comp=Z,94nm,1.6s,mb5.7
EAU Auchinoon 84.51 326‖*e*P **P 20 03 16.2 +0.2**
CKE Keswick 84.55 324‖*e*P **P 20 03 16.4 +0.2**
DRV Dumont d'Urvil 84.56 163 P **P 20 03 18.0 +1.8**
DRV Dumont d'Urvil 84.56 163 PP PP 20 06 31.0 -0.9
DRV S S 20 13 43.0 +2.0
ECHA Ech Chlef 84.61 306 P **P 20 03 17.2 +0.7**
ERTA Horta de San J 84.64 311 P **P 20 03 17.5 +0.9**
comp=Z,158nm,1.3s,mb6.0
MDO Dochfour 84.69 327‖*e*P **P 20 03 16.8 -0.1**
ETRT Tiaret 84.79 305 P **P 20 03 19.5 +2.1**
HLM1 Long Mynd 84.80 322 *e*P **P 20 03 17.0 -0.4**
EANR 'Ain N'Sour 84.86 305 P **P 20 03 19.0 +1.2**
HGH Gray Hill 84.92 321‖*e*P **P 20 03 17.7 -0.3**
EAB Aberfoyle 84.93 326‖*e*P **P 20 03 18.5 +0.4**
SBD1 Bryn Du 84.95 323 *e*P **P 20 03 18.4 +0.2**
ETSF Etsaut 84.97 313 *e*P **P 20 03 19.2 +0.9**
comp=Z,73nm,0.8s,mb5.6
ETSF Etsaut 84.97 313 *e*P **P 20 03 19.2 +0.9**
ETSF pmax pmax
comp=Z,36nm,0.8s,mb5.5
ETSF Etsaut 84.97 313 *e*P **P 20 03 19.2 +0.9**
comp=Z,36nm,0.8s,mb5.6
MCH1 Michaelchurch 84.97 322 P **P 20 03 18.2 -0.1**
MCH1 AMb AMB 20 03 20.2
comp=Z,36nm,1.0s,mb5.5
MCH1 Michaelchurch 84.97 322‖*e*P **P 20 03 18.2 -0.1**
MCH1 *e*P 20 03 18.2
MCH1 AMb AMB 20 03 20.2
comp=Z,36nm,1.0s,mb5.5
MCH1 AMS AMS 20 45 47.1
comp=Z,2µm,19.8s,MS5.6
GCD Castle Douglas 84.97 325 *e*P **P 20 03 18.5 +0.2**
PGBU Glenifferbraes 85.09 326 P **P 20 03 19.3 +0.4**
PGBU AMb AMB 20 03 19.4
comp=Z,128nm,1.4s,mb5.9
PGBU Glenifferbraes 85.09 326 *e*P **P 20 03 19.3 +0.4**
PGBU AMb AMB 20 03 19.4
comp=Z,128nm,1.4s,mb5.9
PGBU AMS AMS 20 49 06.2
comp=Z,2µm,19.1s,MS5.5
ESAC San Caprasio 85.10 311 P **P 20 03 17.9 -1.0**
comp=Z,292nm,1.7s,mb6.1
MIDW Midway 85.22 62 PFAKE 20 03 30.0 +10
MIDW LR LR
comp=Z,3µm,20.0s,MS5.7
LARF Larrau 85.25 313 *e*P **P 20 03 20.6 +0.9**
LARF Larrau 85.25 313 *e*P **P 20 03 20.0 +0.3**
EMOS Mosqueruela 85.34 310 P **P 20 03 20.8 +0.6**
comp=Z,219nm,1.4s,mb6.1
GIM North Isle of 85.39 324‖*e*P **P 20 03 21.1 +0.7**
SGMF Saint Gilles 85.39 318 *e*P **P 20 03 19.8 -0.6**
comp=Z,121nm,1.0s,mb5.7
SGMF Saint Gilles 85.39 318 *e*P **P 20 03 19.8 -0.6**
SGMF pmax pmax
comp=Z,60nm,1.0s,mb5.7
SGMF Saint Gilles 85.39 318 *e*P **P 20 03 19.8 -0.6**
comp=Z,60nm,1.0s,mb5.7
GAL1 Galloway 85.41 325 P **P 20 03 20.4 -0.1**
GAL1 AMb AMB 20 03 30.0
comp=Z,112nm,2.9s,mb5.5
GAL1 Galloway 85.41 325 *e*P **P 20 03 20.4 -0.1**
GAL1 *e*P 20 03 20.4
GAL1 AMb AMB 20 03 30.0
comp=Z,112nm,2.9s,mb5.5
GAL1 AMS AMS 20 50 32.4
comp=Z,6µm,17.7s,MS6.1
SJPF Ste Jean 85.41 313 *e*P **P 20 03 21.3 +0.8**
comp=Z,77nm,0.8s,mb5.6
SJPF Ste Jean 85.41 313 *e*P **P 20 03 21.3 +0.8**
SJPF pmax pmax
comp=Z,39nm,0.8s,mb5.6
SJPF Ste Jean 85.41 313 *e*P **P 20 03 21.3 +0.8**
comp=Z,38nm,0.8s,mb5.6
WIM Isle of Man 85.53 324‖*e*P **P 20 03 21.7 +0.6**
EALK Alkurruntz 85.60 313 P **P 20 03 16.6 -4.9**
comp=Z,69nm,1.3s,mb5.7
ELIZ Elizondo 85.62 313 P **P 20 03 21.0 -0.6**
ELIZ pmax pmax
comp=Z,36nm,1.1s,mb5.5
ELIZ Elizondo 85.62 313 P **P 20 03 21.0 -0.5**
comp=Z,36nm,1.1s,mb5.5
WCB1 Church Bay 85.62 323 *e*P **P 20 03 20.7 -0.8**
YRE Yr Eifl 85.63 323‖*e*P **P 20 03 21.8 +0.2**
YRC Rhoscolyn 85.66 323 *e*P **P 20 03 21.3 -0.4**
GMK Mull of Kintyr 85.80 325 *e*P **P 20 03 22.5 0.0**
ROSF Rostrenen 85.85 318 *e*P **P 20 03 21.2 -1.5**
comp=Z,51nm,0.8s,mb5.5
ROSF Rostrenen 85.85 318 *e*P **P 20 03 21.2 -1.5**
ROSF pmax pmax
comp=Z,26nm,0.8s,mb5.5
ROSF Rostrenen 85.85 318 *e*P **P 20 03 21.2 -1.5**
comp=Z,26nm,0.8s,mb5.5
DYA Yadsworthy 85.85 320‖*e*P **P 20 03 22.9 +0.2**
ECHE Chera 85.85 309 P **P 20 03 21.7 -1.0**
ECHE pmax pmax
comp=Z,33nm,0.8s,mb5.6
ECHE Chera 85.85 309 P **P 20 03 21.7 -1.0**
comp=Z,32nm,0.8s,mb5.6
QUIF Quistinic 85.86 318 *e*P **P 20 03 21.7 -1.0**
comp=Z,46nm,0.9s,mb5.4
QUIF Quistinic 85.86 318 *e*P **P 20 03 21.7 -1.0**
QUIF pmax pmax
comp=Z,23nm,0.9s,mb5.4
QUIF Quistinic 85.86 318 *e*P **P 20 03 21.7 -1.0**
comp=Z,23nm,0.9s,mb5.4
HTL Hartland 86.08 321 P **P 20 03 24.1 +0.3**
HTL AMb AMB 20 03 25.3
comp=Z,61nm,1.3s,mb5.7
HTL Hartland 86.08 321 *e*P **P 20 03 24.1 +0.3**
HTL AMb AMB 20 03 25.3
comp=Z,61nm,1.3s,mb5.7
HTL AMS AMS 20 49 33.4
comp=Z,3µm,18.8s,MS5.7
ALE Alert 86.21 357 P **P 20 03 23.0 -1.5**
comp=Z,266nm,0.9s,mb6.5,SNR=11
GMM Mts of Mourne 86.25 324‖*e*P **P 20 03 25.0 +0.4**
EMUR La Murta 86.38 308 P **P 20 03 22.8 -2.5**
comp=Z,108nm,2.3s,mb5.7
ECRI Cripan 86.43 313 P **P 20 03 25.1 -0.5**
ECRI pmax pmax
comp=Z,11nm,0.8s,mb5.1
ECRI Cripan 86.43 313 P **P 20 03 25.1 -0.4**
comp=Z,11nm,0.8s,mb5.2
ETOR Torete 86.44 311 P **P 20 03 26.2 +0.6**
ETOR pmax pmax
comp=Z,28nm,0.8s,mb5.5
ETOR Torete 86.44 311 P **P 20 03 26.2 +0.6**
comp=Z,28nm,0.8s,mb5.5
ETOB Tobarra 86.47 308 P **P 20 03 24.9 -0.8**
comp=Z,140nm,2.1s,mb5.8
CSA1 St Austell 86.47 320 *e*P **P 20 03 25.0 -0.7**
CCA1 Carnmenellis 86.71 320 *e*P **P 20 03 27.3 +0.4**
DLF Lyons Farm 86.80 324 *e*P **P 20 03 24.2 -3.2**
EVIA Vianos 87.20 309 P **P 20 03 27.9 -1.4**
EVIA pmax pmax
comp=Z,18nm,0.8s,mb5.3
EVIA Vianos 87.20 309 P **P 20 03 27.9 -1.4**
comp=Z,18nm,0.8s,mb5.4
DCN Croghan 87.22 324 *e*P **P 20 03 26.4 -3.0**
ENIJ Nijar 87.30 307 P **P 20 03 29.4 -0.4**
ENIJ pmax pmax
comp=Z,38nm,1.1s,mb5.5
ENIJ Nijar 87.30 307 P **P 20 03 29.4 -0.4**
comp=Z,38nm,1.1s,mb5.5
EHUE Huescar 87.44 308 P **P 20 03 30.9 +0.5**
EHUE pmax pmax
comp=Z,34nm,1.0s,mb5.5
EHUE Huescar 87.44 308 P **P 20 03 30.9 +0.4**
comp=Z,34nm,1.0s,mb5.5
SYO Syowa Base 87.59 197‖*e*P **P 20 03 30.4 -0.8**
SYO Syowa Base 87.59 197‖*i*P **P 20 03 33.0 +1.8**
EQES Quesada 87.81 308 P **P 20 03 30.6 -1.6**
comp=Z,95nm,2.0s,mb5.7
EBER Berja 87.85 307 P **P 20 03 31.5 -0.9**
comp=Z,140nm,2.0s,mb5.8
UNV Unalaska Valle 87.91 36 *e*P **P 20 03 32.4 -0.3**
GUD Guadarrama 88.04 311 P **P 20 03 33.0 -0.3**
GUD pmax pmax
comp=Z,20nm,0.8s,mb5.4
GUD Guadarrama 88.04 311 P **P 20 03 33.0 -0.3**
comp=Z,20nm,0.8s,mb5.4
ESDC Sonseca Array 88.10 310 P **P 20 03 33.5 -0.1**
comp=Z,8.9nm,0.7s,mb5.1,baz=59,slow=4.4,SNR=38
ESDC S S 20 14 01.0 -14
comp=Z,0.1nm,0.3s,baz=242,slow=40,SNR=2.5
ESDC LR LR 20 49 29.5
comp=Z,4µm,18.5s,MS5.8,baz=80,slow=40
ESDC Sonseca Array 88.10 310 P **P 20 03 31.8 -1.8**
comp=Z,17nm,1.0s,mb5.2
ESLA Sonseca Array 88.10 310 *e*P **P 20 03 34.0 +0.4**
comp=Z,1.7nm,0.7s
ESLA LR LR
comp=Z,26µm,19.0s,MS6.7
AKUT Akutan 88.25 35 *e*P **P 20 03 32.6 -1.7**
comp=Z,113nm,0.8s,mb6.2
EBAN Banos Encina 88.29 308 P **P 20 03 33.6 -0.9**
EBAN pmax pmax
comp=Z,103nm,1.6s,mb5.8
EBAN Banos Encina 88.29 308 P **P 20 03 33.6 -0.9**
comp=Z,103nm,1.6s,mb5.8
TOA0 Torodi Ar. Sit 88.29 283 *e*P **P 20 03 35.4 +0.9**
TORD Torodi Ar. Bea 88.29 283 P **P 20 03 35.7 +1.1**
comp=Z,13nm,0.9s,mb5.2,baz=84,slow=4.7,SNR=54
TORD PP PP 20 07 02.8 +0.8
comp=Z,2.3nm,0.9s,baz=81,slow=6.8,SNR=4.0
TORD S S 20 13 59.0 -18
comp=Z,1.0nm,0.9s,baz=354,slow=7.4,SNR=3.0
TORD PKKPbc PKKPbc 20 21 19.0 +1.5
comp=Z,2.1nm,0.6s,baz=310,slow=3.4,SNR=14
TORD LR LR 20 45 53.4
comp=Z,10µm,18.0s,MS6.2,baz=70,slow=37
TORD Torodi Ar. Bea 88.29 283 P **P 20 03 35.7 +1.1**
TORD PP PP 20 07 02.8 +0.8
TORD S SKSac 20 13 59.0 -2.0
TORD PKKPbc PKKPbc 20 21 19.0 +1.5
TORD LR LR 20 45 53.4
ECOG Cogollos-Vega 88.30 307 P **P 20 03 32.6 -2.0**
ECOG pmax pmax
comp=Z,12nm,0.9s,mb5.1
ECOG Cogollos-Vega 88.30 307 P **P 20 03 32.6 -2.0**
comp=Z,12nm,0.9s,mb5.1
EGUA Guajares 88.39 307 P **P 20 03 34.8 -0.2**
EGUA pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
EGUA Guajares 88.39 307 P **P 20 03 34.8 -0.3**
comp=Z,7.7nm,0.7s,mb5.0
PAB San Pablo 88.42 310 *e*P **P 20 03 35.4 +0.3**
PAB pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
PAB MLR MLR
comp=Z,4µm,19.0s,MS5.9
PAB San Pablo 88.42 310 *e*P **P 20 03 35.4 +0.3**
comp=Z,10nm,0.7s,mb5.2
PAB LR LR
comp=Z,4µm,19.0s,MS5.9
ERON Agron 88.54 307 P **P 20 03 34.3 -1.4**
comp=Z,8.6nm,0.6s,mb5.3
ELOJ Sierra Loja 88.79 307 P **P 20 03 35.1 -1.8**
ELUQ Luque 88.79 308 P **P 20 03 35.1 -1.8**
ELUQ pmax pmax
comp=Z,17nm,1.0s,mb5.3
ELUQ Luque 88.79 308 P **P 20 03 35.1 -1.7**
comp=Z,17nm,1.0s,mb5.3
EADA Adamuz 88.89 309 P **P 20 03 37.3 -0.1**
comp=Z,74nm,1.3s,mb5.8
FALS False Pass 89.36 34 *e*P **P 20 03 37.8 -1.7**
EMIJ Mijas 89.40 307 P **P 20 03 37.1 -2.6**
comp=Z,38nm,0.9s,mb5.7
EPON Pontenova 89.60 314 P **P 20 03 39.0 -1.7**
comp=Z,76nm,1.3s,mb5.9
ECAL Calabor 89.64 313 P **P 20 03 37.9 -3.0**
comp=Z,78nm,1.5s,mb5.8
IMA2 Indian Mountai 89.66 22 *e*P **P 20 03 41.2 +0.2**
ERUA La Rua 89.82 313 P **P 20 03 41.8 +0.1**
ERUA pmax pmax
comp=Z,17nm,0.9s,mb5.4
ERUA La Rua 89.82 313 P **P 20 03 41.8 +0.1**
comp=Z,17nm,0.9s,mb5.4
EJIF Jimena Fronter 89.97 307 P **P 20 03 41.6 -0.8**
EJIF pmax pmax
comp=Z,133nm,1.2s,mb6.1
EJIF Jimena Fronter 89.97 307 P **P 20 03 41.6 -0.8**
comp=Z,133nm,1.2s,mb6.1
TTA Tatalina 90.08 25 *e*P **P 20 03 43.8 +0.9**
ESPR Espera 90.18 307 P **P 20 03 41.0 -2.4**
comp=Z,61nm,1.1s,mb5.8
BORG Borgarnes 90.18 337 PFAKE 20 03 50.0 +6.6
BORG LR LR
comp=Z,2µm,19.0s,MS5.5
EMIN Mina Concepcio 90.60 308 P **P 20 03 45.2 -0.1**
comp=Z,74nm,1.9s,mb5.7
MTE Manteigas 90.61 311 *e*P **P 20 03 40.9 -4.5**
comp=Z,50nm,1.4s,mb5.7
MTE Manteigas 90.61 311 *e*P **P 20 03 46.7 +1.3**
comp=Z,50nm,1.4s,mb5.7
MTE Manteigas 90.61 311 *e*PP PP 20 07 33.0 +12
MTE *e*S S 20 14 41.1 +2.1
MTE Manteigas 90.61 311 *e*LQ 20 28 09.1
MTE A 20 57 15.6
comp=Z,3µm,16.4s
ELOB Lobios 90.62 313 P **P 20 03 44.2 -1.2**
comp=Z,116nm,2.0s,mb5.9
PCAB Cabril 90.63 313 *e*P **P 20 03 46.4 +0.9**
comp=Z,40nm,1.1s,mb5.7
PCBR Castelo Branco 90.70 311 *e*P **P 20 03 47.0 +1.2**
comp=Z,23nm,1.1s,mb5.4
STS Santiago 90.70 314 P **P 20 03 44.7 -1.1**
STS pmax pmax
comp=Z,39nm,0.9s,mb5.7
STS Santiago 90.70 314 P **P 20 03 44.7 -1.1**
comp=Z,39nm,0.9s,mb5.7
PVIS Viseu 90.79 312 *e*P **P 20 03 47.6 +1.4**
comp=Z,37nm,1.7s,mb5.4
SVW2 Sparrevohn 91.02 27 *e*P **P 20 03 48.3 +1.0**
PESTR Estremoz 91.03 310 *e*P **P 20 03 42.4 -4.9**
comp=Z,16nm,1.6s,mb5.1
PESTR Estremoz 91.03 310 *e*P **P 20 03 48.3 +1.0**
comp=Z,16nm,1.6s,mb5.1
PESTR Estremoz 91.03 310 *e*PP PP 20 07 32.4 +8.5
PESTR *e*S S 20 14 42.8 0.0
PESTR Estremoz 91.03 310 *e*LQ 20 28 15.4
PESTR A 20 51 17.3
comp=Z,3µm,16.8s

EGRO El Granado 91.28 308 P **P** **20 03 46.5 -2.0**
comp=Z,94nm,1.5s,mb5.9
PBEJ Beja 91.45 309 *e*P **P** **20 03 50.3 +1.0**
comp=Z,27nm,1.3s,mb5.4
PTEO Sao Teotonio 92.23 309 *e*P **P** **20 03 53.6 +0.7**
comp=Z,45nm,1.4s,mb5.6
PMAFR Mafra 92.28 310 *e*P **P** **20 03 48.6 -4.5**
PMAFR Mafra 92.28 310 *e*PP PP 20 07 46.2 +12
PMAFR *e*S S 20 14 54.3 +0.2
PMAFR Mafra 92.28 310 *e*LQ 20 28 40.5
PMAFR A 20 59 21.8
comp=Z,3µm,19.0s
COLA College 92.38 22⇑*i*P **P** **20 03 53.2 -0.4**
COLA LR LR
comp=Z,9µm,21.0s,MS6.2
PMR Palmer 93.56 25 *e*P **P** **20 03 58.7 -0.3**
PMR pmax pmax
comp=Z,194nm,1.5s,mb6.3
PMR MLR MLR
comp=Z,9µm,21.0s,MS6.2
PMR Palmer 93.56 25 *e*P **P** **20 03 58.7 -0.3**
comp=Z,194nm,1.5s,mb6.3
PMR LR LR
comp=Z,9µm,21.0s,MS6.2
SLKM Skilak Lake 93.63 26 P **P** **20 03 59.3 -0.1**
SLKM Skilak Lake 93.63 26 *e*P **P** **20 03 58.5 -0.9**
SML Sawmill 93.78 25 P **P** **20 04 00.7 +0.7**
SML Sawmill 93.78 25 *e*P **P** **20 04 00.0 0.0**
KDAK Kodiak Island 93.84 29 PFAKE 20 04 10.0 +10
KDAK LR LR
comp=Z,3µm,20.0s,MS5.8
RES Resolute Bay 94.67 2 P **P** **20 04 04.2 +0.1**
RES Resolute Bay 94.67 2 *e*P **P** **20 04 03.4 -0.7**
comp=Z,2µm,0.9s
EGAK Eagle 94.79 20 *e*P **P** **20 04 04.2 -0.5**
comp=Z,37nm,1.0s,mb5.8
EGAK LR LR
comp=Z,6µm,21.0s,MS6.1
MENT Mentasta 94.97 22 *e*P **P** **20 04 06.4 +0.9**
DAWY Dawson 95.84 20 *e*P **P** **20 04 09.1 -0.4**
VNDA Vanda 96.02 168 P **P** **20 04 09.3 -1.0**
comp=Z,3.1nm,0.7s,mb4.8,baz=296,slow=5.8,SNR=12
VNDA S SKSac 20 14 42.0 -2.5
comp=Z,0.7nm,1.0s,baz=134,slow=13,SNR=3.3
VNDA LR LR 20 47 23.5
comp=Z,9µm,18.1s,MS6.3,baz=296,slow=35
VNDA Vanda 96.02 168 P **P** **20 04 09.8 -0.5**
VNDA pmax pmax
comp=Z,24nm,1.2s
VNDA Vanda 96.02 168 *e*P **P** **20 04 09.4 -0.9**
comp=Z,24nm,1.3s,mb5.5
LIC Lamto 96.12 277 *e*P **P** **20 04 12.0 +1.3**
comp=Z,132nm,1.6s,mb5.8
LIC *e*MLR
comp=Z,10µm,20.2s
LIC Lamto 96.12 277 *e*P **P** **20 04 12.0 +1.3**
comp=Z,66nm,1.6s,mb5.8
LIC LR LR
comp=Z,5µm,20.3s,MS6.0
NVL N'lazarevskaya 96.93 199⇑*i*P pP 20 04 24.8 +0.4
NVL *i* S SKSac 20 14 44.1 -5.1
NVL *i* 20 15 36.9
NVL *e*SSS 20 22 25.0
NVL pmax pmax
comp=Z,16nm,1.0s,mb5.4
SBA Scott Base 97.12 168 P **P** **20 04 17.0 +1.7**
SBA *e* pP 20 04 27.0 +1.7
SBA pmax pmax
comp=Z,120nm,1.8s,mb6.0
SBA Scott Base 97.12 168 *e*P **P** **20 04 16.8 +1.5**
comp=Z,140nm,2.1s,mb6.0
SBA LR LR
comp=Z,7µm,19.0s,MS6.2
SFJD Kangerlussuaq 97.99 346 *i*P **P** **20 04 24.8 +5.6**
SFJD *e* 20 07 52.2
SFJD *i* S S 20 15 42.8 -1.0
SFJD Kangerlussuaq 97.99 346 *e*P **P** **20 04 24.8 +5.6**
SFJD *i* S S 20 15 42.8 -1.0
SFJD Kangerlussuaq 97.99 346 PFAKE 20 04 30.0 +11
SFJD LR LR
comp=Z,7µm,22.0s,MS6.1
AFI Afiamalu 98.09 103 S SKSac 20 14 58.8 +3.7
comp=Z,4.4nm,0.2s,baz=19,slow=22,SNR=1.8
AFI Afiamalu 98.09 103 PFAKE 20 04 30.0 +10
AFI LR LR
comp=Z,3µm,21.0s,MS5.8
QSPA South Pole Qui 100.58 180 PFAKE 20 04 40.0 +9.2
QSPA LR LR
comp=Z,14µm,22.0s,MS6.4
SNAA Sanae 101.73 199 PKKPbc PKKPbc 20 20 40.7 -1.1
comp=Z,0.9nm,0.8s,baz=244,slow=4.2,SNR=4.6
SIT Sitka 101.93 24 PFAKE 20 04 50.0 +13
SIT LR LR
comp=Z,9µm,20.0s,MS6.3
YKA Yellowknife Ar 104.08 13 Pdiff Pdif 20 04 45.4 -0.9
comp=Z,3.3nm,0.8s,baz=327,slow=4.2,SNR=41
YKA PP PP 20 08 57.6 -6.5
comp=Z,13nm,1.0s,baz=333,slow=7.7,SNR=12
YKA PKKPbc PKKPbc 20 20 34.1 -0.7
comp=Z,1.2nm,0.8s,baz=153,slow=2.5,SNR=11
POHA Pohakuloa 106.60 66 PFAKE 20 09 20.0 +12
POHA LR LR
comp=Z,3µm,19.0s,MS5.9
ASCN Ascension 107.83 265 PFAKE 20 09 20.0 +10
ASCN LR LR
comp=Z,1µm,21.0s,MS5.5
TRIS Tristan da Cun 108.08 234 PFAKE 20 09 20.0 +9.2
TRIS LR LR
comp=Z,7µm,19.0s,MS6.2
RAR Rarotonga 110.30 109 PFAKE 20 09 30.0 +15
RAR LR LR
comp=Z,1.0nm,21.0s
SCHQ Schefferville 112.42 347 PKKPbc PKKPbc 20 20 07.8 -0.7
comp=Z,2.3nm,0.7s,baz=231,slow=4.4,SNR=4.1
SCHQ Schefferville 112.42 347 PFAKE 20 09 30.0 +11
SCHQ LR LR
comp=Z,11µm,21.0s,MS6.4
A05A Maple Falls 113.25 24⇑P PKiKP 20 09 22.3 +1.7
baz=113
B05A Bryant 113.83 24⇑P PKiKP 20 09 22.5 +0.8
baz=114
B06A Marblemount 113.88 24⇑P PKiKP 20 09 21.6 -0.1
baz=114
A07A Ashnola River, 113.88 23⇑P PKiKP 20 09 22.2 +0.5
baz=114
A08A Turner Farm, O 114.38 22⇑P PKiKP 20 09 23.5 +0.8
baz=114
B07A Winthrop 114.46 23⇓P PKiKP 20 09 23.0 +0.2
baz=114
A09A Danville 114.61 22⇑P PKiKP 20 09 23.0 -0.2
baz=114
F03A Seaside 115.03 27⇑P PKiKP 20 09 24.8 +0.8
baz=115
C07A Waterville 115.11 24⇑P PKiKP 20 09 24.3 +0.2
baz=115
D06A Cle Elum 115.20 24⇓P PKiKP 20 09 24.8 +0.5
baz=115
E05A Randle 115.32 25⇑P PKiKP 20 09 25.6 +1.1
baz=115
A11A Hall Mountain, 115.42 21⇑P PKPdf 20 09 24.9 +0.1
baz=115,SNR=9.3
C08A Higginbotham F 115.42 23⇓P PKPdf 20 09 24.6 -0.2
baz=115
F04A Amboy 115.53 26⇑P PKPdf 20 09 24.8 -0.1
baz=115
D07A Quincy 115.55 24⇓P PKPdf 20 09 24.5 -0.5
baz=115
G03A Yamhill 115.63 27⇓P PKPdf 20 09 25.3 +0.2
baz=115
A12A Yaak River Ran 115.68 20⇓P PKPdf 20 09 25.4 +0.1
baz=116
NEW Newport 115.74 21 *e*PKIKP PKPdf 20 09 26.2 +0.9
NEW MLR MLR
comp=Z,5µm,20.0s
H02A Toledo 115.80 28⇓P PKPdf 20 09 25.0 -0.4
baz=116
B11A Sandpoint 115.86 21⇓P PKPdf 20 09 26.3 +0.7
baz=116
D08A Wollman Farm, 116.07 23⇓P PKPdf 20 09 25.8 -0.2
baz=116
G04A Mulino 116.08 27⇓P PKPdf 20 09 26.5 +0.5
baz=116
B12A Libby 116.10 20⇑P PKPdf 20 09 26.5 +0.4
baz=116
COR Corvallis 116.19 28 PFAKE 20 09 40.0 +14
COR LR LR
comp=Z,4µm,20.0s,MS6.0
D09A Jones Farm, Ri 116.30 23 P PKPdf 20 09 27.0 +0.6
baz=116,SNR=5.8
HAWA Hanford 116.37 24 *e*PKPdf PKPdf 20 09 27.1 +0.5
HAWA LR LR
comp=Z,5µm,20.0s,MS6.1
E08A Dider Farm, El 116.48 24 P PKPdf 20 09 27.6 +0.8
baz=116,SNR=5.5
G05A Wamic 116.56 26⇑P PKPdf 20 09 27.4 +0.5
baz=116
B13A Whitefish 116.56 20 P PKPdf 20 09 27.5 +0.6
baz=116,SNR=11
H04A Detroit Lake 116.61 27⇓P PKPdf 20 09 27.2 +0.2
baz=116
I03A Eugene 116.67 28⇑P PKPdf 20 09 28.8 +1.7
baz=116
D10A Wagner Farm, O 116.70 22 P PKPdf 20 09 27.7 +0.5
baz=116,SNR=7.9
E09A Wood Farm, Sta 116.82 23⇑P PKPdf 20 09 27.6 +0.1
baz=117
G06A Carlson Farm, 116.85 26⇓P PKPdf 20 09 27.9 +0.5
baz=117
J02A Umpqua 116.99 29⇑P PKPdf 20 09 27.9 +0.2
baz=117
H05A Madras 117.06 26⇓P PKPdf 20 09 29.0 +1.1
baz=117
C13A Hot Springs 117.13 20⇓P PKPdf 20 09 28.4 +0.4
baz=117
F08A Pendleton 117.16 24⇓P PKPdf 20 09 28.5 +0.4
baz=117
I04A Tendick Farm, 117.20 28⇑P PKPdf 20 09 28.6 +0.5
baz=117
G07A Ruggs Ranch, H 117.23 25⇑P PKPdf 20 09 29.0 +0.7
baz=117
E10A Myers Farm, Un 117.24 23⇓P PKPdf 20 09 28.4 +0.1
baz=117
J03A Ideyld Park 117.28 28⇑P PKPdf 20 09 28.8 +0.5
baz=117
H06A Lindquist Farm 117.38 26⇑P PKPdf 20 09 29.3 +0.8
baz=117
I05A Bend 117.43 27⇑P PKPdf 20 09 28.7 +0.1
baz=117
G08A Pilot Rock 117.50 24 P PKPdf 20 09 29.7 +1.0
baz=117,SNR=5.2
F09A S2 Ranch, Elgi 117.58 24 P PKPdf 20 09 29.6 +0.8
baz=117,SNR=9.1
F10A Beach Ranch, E 117.62 23 P PKPdf 20 09 30.1 +1.1
baz=117,SNR=14
D13A Huson 117.67 20⇓P PKPdf 20 09 29.2 +0.1
baz=118
E11A Bogner Ranch, 117.68 22 P PKPdf 20 09 29.1 0.0
baz=118,SNR=11
J04A Umpqua Nationa 117.77 28 P PKPdf 20 09 30.6 +1.3
baz=118,SNR=9.9
H07A Lands Inn, Kim 117.82 25 P PKPdf 20 09 30.8 +1.4
baz=118,SNR=8.4
HUMO Hull Mountain 117.86 29 *e*PKPdf PKPdf 20 09 30.2 +0.8
HUMO LR LR
comp=Z,6µm,20.0s,MS6.2
HUMO Hull Mountain 117.86 29 P PKPdf 20 09 30.8 +1.4
baz=118,SNR=6.4
D14A Greenough 118.01 20⇓P PKPdf 20 09 29.8 +0.1
baz=118
I06A Prineville 118.07 26⇓P PKPdf 20 09 30.9 +1.0
baz=118
MSO Missoula 118.08 20 PFAKE 20 09 40.0 +10
MSO LR LR
comp=Z,6µm,19.0s,MS6.2
F11A Grangeville 118.10 22⇓P PKPdf 20 09 29.7 -0.2
baz=118
J05A Fort Rock 118.14 27 P PKPdf 20 09 31.7 +1.7
baz=118,SNR=13
H08A Prairie City 118.25 25⇓P PKPdf 20 09 30.9 +0.7
baz=118
I07A Izee 118.26 26 P PKPdf 20 09 31.8 +1.6
baz=118,SNR=6.1
EGMT Eagleton 118.32 17 *e*PKPdf PKPdf 20 09 30.3 0.0
EGMT LR LR
comp=Z,7µm,21.0s,MS6.2
E13A Victor 118.33 21 P PKPdf 20 09 30.7 +0.3
baz=118,SNR=6.4
D15A Lincoln 118.36 19 P PKPdf 20 09 30.9 +0.5
baz=118,SNR=5.9
K04A Chilquin 118.44 28⇑P PKPdf 20 09 31.3 +0.8
baz=118
BMO Blue Mountains 118.53 24 *e*PKIKP PKPdf 20 09 29.0 -1.7
BMO MLR MLR
comp=Z,7µm,22.0s,MS6.2
E14A Clinton 118.59 20⇑P PKPdf 20 09 30.6 -0.2
baz=118
J06A Christmas Vall 118.64 27 P PKPdf 20 09 32.4 +1.5
baz=118,SNR=17
YBH Yreka Blue Hor 118.65 29 PFAKE 20 09 40.0 +9.0
YBH LR LR
comp=Z,5µm,22.0s,MS6.1
YBH Yreka Blue Hor 118.65 29⇑P PKPdf 20 09 32.0 +1.1
baz=118
JCC Jacoby Creek 118.69 31⇓P PKPdf 20 09 31.2 +0.2
baz=118
L04A Klamath Falls 118.70 29⇑P PKPdf 20 09 31.8 +0.8
baz=118
K05A Summer Lake 118.73 27 P PKPdf 20 09 33.0 +1.9
baz=118,SNR=8.2
I08A Drewsey 118.79 25⇓P PKPdf 20 09 31.6 +0.4
baz=119
M02C Callahan 118.84 30 P PKPdf 20 09 32.9 +1.6
baz=119,SNR=8.7
F13A Darby 118.85 21⇓P PKPdf 20 09 31.7 +0.4
baz=119
ULM Lac du Bonnet 118.88 6 PKP PKPdf 20 09 30.8 -0.6
comp=Z,3.5nm,0.6s,baz=27,slow=3.6,SNR=13
ULM PP PP 20 10 47.3 -3.1
comp=Z,5.0nm,0.8s,baz=339,slow=3.9,SNR=2.4
ULM PKKPbc PKKPbc 20 19 44.9 -1.1
comp=Z,5.5nm,0.9s,baz=207,slow=4.7,SNR=9.2
ULM Lac du Bonnet 118.88 6 *e*PKPdf PKPdf 20 09 30.0 -1.4
J07A Hines 118.91 26 P PKPdf 20 09 33.2 +1.7
baz=119,SNR=7.4
K06A Valley Falls 118.96 27 P PKPdf 20 09 33.2 +1.7
baz=119,SNR=13
H10A Noah's Angus R 118.97 23⇓P PKPdf 20 09 31.4 -0.2
baz=119
M04C Macdoel 119.03 29⇑P PKPdf 20 09 32.1 +0.4
baz=119
I09A Lost Marbles R 119.08 25⇓P PKPdf 20 09 31.9 +0.1
baz=119
H11A Donnelly 119.16 23⇓P PKPdf 20 09 32.3 +0.4
baz=119
F14A Wisdom 119.16 20⇑P PKPdf 20 09 32.3 +0.4
baz=119
J08A Circle Bar Ran 119.28 25⇑P PKPdf 20 09 32.9 +0.7
baz=119
M03C McCloud 119.29 29 P PKPdf 20 09 33.0 +0.9
baz=119,SNR=7.8
O01C Eel River Cons 119.30 31⇑P PKPdf 20 09 33.0 +0.8
baz=119
G13A Cobalt 119.48 21⇑P PKPdf 20 09 32.9 +0.4
baz=119
K07A Rock Creek Ran 119.49 26 P PKPdf 20 09 34.0 +1.5
baz=119,SNR=16
J09A Fry Pan Ranch, 119.59 25⇓P PKPdf 20 09 33.8 +1.0
baz=119
WDC Whiskeytown Da 119.61 30 PFAKE 20 09 40.0 +7.2
WDC LR LR
comp=Z,4µm,21.0s,MS6.1
WDC Whiskeytown Da 119.61 30 P PKPdf 20 09 33.6 +0.8
baz=119,SNR=7.7
MOD Modoc 119.65 28 *e*PKPdf PKPdf 20 09 33.6 +0.7
MOD Modoc 119.65 28 P PKPdf 20 09 34.5 +1.6
baz=120,SNR=20
M05C Lookout 119.69 29 P PKPdf 20 09 34.3 +1.4
baz=120,SNR=7.4
PPT Papeete 119.72 104 *e*PP PP 20 10 48.6 -7.5
comp=Z,1µm,25.5s
PPT Papeete 119.72 104 *e*PS PS 20 20 47.6 +2.3
comp=Z,3µm,30.5s
PPT Papeete 119.72 104 *e*SS SS 20 27 15.7 -2.7
comp=Z,4µm,28.0s
PPT *e*LR LR 20 46 37.7
comp=Z,4µm,22.5s
H12A Diamond D Ranc 119.72 22 P PKPdf 20 09 33.8 +0.7
baz=120,SNR=12
KIPM Iron Peak 119.72 31 *e*PKPdf PKPdf 20 09 34.3 +1.2
K08A Mann Creek Ran 119.79 26 P PKPdf 20 09 34.8 +1.7
baz=120,SNR=18
O02C Red Bluff 119.80 31 P PKPdf 20 09 34.6 +1.4
baz=120,SNR=5.8
I11A Placerville 119.84 23 P PKPdf 20 09 34.0 +0.8
baz=120,SNR=9.8
BOZ Bozeman (W) 119.89 19 PFAKE 20 09 50.0 +17
BOZ LR LR
comp=Z,7µm,19.0s,MS6.3
BOZ Bozeman (W) 119.89 19⇓P PKPdf 20 09 34.3 +1.0
baz=120
TBI Tubuai 119.91 111 *e*PP PP 20 10 53.2 -4.2
comp=Z,868nm,28.0s
TBI Tubuai 119.91 111 *e*PS PS 20 20 46.4 -0.6
comp=Z,3µm,32.2s
TBI Tubuai 119.91 111 *e*SS SS 20 27 30.9 +10
comp=Z,3µm,34.5s
TBI *e*LR LR 20 46 33.9
comp=Z,6µm,23.5s
J10A Berg Farm, Mel 119.93 24⇓P PKPdf 20 09 34.1 +0.7
baz=120
HATC Hat Creek Radi 119.96 29 P PKPdf 20 09 34.8 +1.3
baz=120,SNR=6.1
WVOR Wild Horse Val 119.97 26 *e*PKIKP PKPdf 20 09 34.7 +1.2
L07A Adell 119.99 27 P PKPdf 20 09 35.6 +2.1
baz=120,SNR=8.9
G15A Dillon 120.03 20 P PKPdf 20 09 34.7 +1.1
baz=120,SNR=11
P01C Double 8 Ranch 120.05 31⇑P PKPdf 20 09 34.7 +1.1
baz=120
M06C Likely Place G 120.12 28⇓P PKPdf 20 09 34.8 +1.0
baz=120
K09A Rome 120.14 25 P PKPdf 20 09 35.4 +1.6
baz=120,SNR=14
GASB Alder Springs 120.23 31 P PKPdf 20 09 36.1 +2.2
baz=120,SNR=6.5
L08A Fields 120.29 26 P PKPdf 20 09 36.0 +1.9
baz=120,SNR=13
O03C Acorn Hollow, 120.31 30⇑P PKPdf 20 09 34.6 +0.4
baz=120
MFID Camas Ranch 120.31 24 P PKPdf 20 09 35.4 +1.2
baz=120,SNR=20
K10A MacKenzie Ranc 120.43 25⇑P PKPdf 20 09 35.4 +1.0
baz=120
ELFS Eagle Lake Fie 120.46 29 P PKPdf 20 09 36.1 +1.6
baz=120,SNR=8.9
LAO LASA Array 120.49 15 *e*PKPdf PKPdf 20 09 35.8 +1.3
LAO LR LR
comp=Z,7µm,20.0s,MS6.3
O04C Chester 120.52 29 P PKPdf 20 09 36.0 +1.4
baz=120,SNR=13
HOPS Hopland 120.54 32 PFAKE 20 09 50.0 +15
HOPS LR LR
comp=Z,4µm,22.0s,MS6.0
HOPS Hopland 120.54 32⇓P PKPdf 20 09 34.7 +0.1
baz=120
M07A Soldier Meadow 120.57 27 P PKPdf 20 09 36.5 +1.9
baz=120,SNR=7.0
L09A Wilkinson Ranc 120.72 26 P PKPdf 20 09 37.2 +2.2
baz=120,SNR=5.4
HLID Hailey 120.73 22 *e*PKPdf PKPdf 20 09 35.5 +0.6
HLID LR LR
comp=Z,4µm,19.0s,MS6.1
HLID Hailey 120.73 22 P PKPdf 20 09 35.9 +1.0
baz=120,SNR=23
J12A Stokes Ranch, 120.74 23 P PKPdf 20 09 36.4 +1.4
baz=120,SNR=20
HOPE Hope Point 120.74 212 PFAKE 20 09 50.0 +15
HOPE LR LR
comp=Z,1.0nm,21.0s
N06A Buffalo Meadow 120.78 28 P PKPdf 20 09 36.0 +1.0
baz=121,SNR=27
M08A Happy Creek Ra 120.88 27 P PKPdf 20 09 37.3 +2.0
baz=121,SNR=13
O05C Quincy 120.88 29 P PKPdf 20 09 36.6 +1.4
baz=121,SNR=7.4
ORV Oroville 120.91 30 P PKPdf 20 09 35.9 +0.6
baz=121,SNR=7.7
MNRC McLaughlin Nat 120.95 31 P PKPdf 20 09 37.4 +2.0
baz=121,SNR=6.3
J13A Cove Ranch, Pi 120.96 22 P PKPdf 20 09 36.4 +1.0
baz=121,SNR=30
YMR Madison River 120.97 19 PFAKE 20 09 50.0 +15
YMR LR LR
comp=Z,8µm,19.0s,MS6.4
SUTB Sutter Butte 121.02 31⇑P PKPdf 20 09 36.2 +0.7
baz=121
OHCM Honcut 121.09 30 *e*PKPdf PKPdf 20 09 36.6 +0.9
RLMT Red Lodge 121.09 18 PFAKE 20 09 50.0 +14
RLMT LR LR
comp=Z,7µm,20.0s,MS6.3
N07B Gerlach 121.15 28 P PKPdf 20 09 37.5 +1.7
baz=121,SNR=20
BEKR Beckwourth 121.22 29 P PKPdf 20 09 37.1 +1.2
baz=121,SNR=12
O06A Flanigan 121.24 29 P PKPdf 20 09 37.4 +1.4
baz=121,SNR=7.6
LKWY Lake 121.25 19 PFAKE 20 09 50.0 +14
LKWY LR LR
comp=Z,15µm,20.0s,MS6.6
MCCM Marconi Confer 121.28 32 PFAKE 20 09 50.0 +14
MCCM LR LR
comp=Z,4µm,21.0s,MS6.0
MCCM Marconi Confer 121.28 32⇓P PKPdf 20 09 37.7 +1.7
baz=121
M09A Marrel Ranch, 121.30 26 P PKPdf 20 09 38.2 +2.1
baz=121,SNR=5.6
K12A Draper Farm, C 121.33 23⇓P PKPdf 20 09 36.8 +0.7
baz=121
CVS Carmenet Viney 121.35 32⇓P PKPdf 20 09 37.5 +1.4
baz=121
Q03C Winters 121.36 31⇑P PKPdf 20 09 38.1 +2.0
baz=121
EYMN Ely 121.52 3 *e*PKPdf PKPdf 20 09 36.3 -0.1
EYMN LR LR
comp=Z,8µm,22.0s,MS6.3
Q04C Lincoln 121.52 31⇑P PKPdf 20 09 37.8 +1.3
baz=121
N08A GE Springer Mi 121.53 27 P PKPdf 20 09 37.9 +1.4
baz=121,SNR=14
P05C Yuba Gap, Truc 121.54 30⇓P PKPdf 20 09 36.9 +0.4
baz=121
P06A Stead Airport, 121.59 29⇑P PKPdf 20 09 37.9 +1.3
baz=121
K13A Stover Farm, H 121.64 23 P PKPdf 20 09 38.5 +1.8
baz=121,SNR=11
O07A Toulon 121.69 28 P PKPdf 20 09 38.6 +1.8
baz=122,SNR=11
N09A Rock Creek Ran 121.74 26 P PKPdf 20 09 39.1 +2.2
baz=122,SNR=6.4
DCID1 Drake Creek 121.85 20 *e*PKPdf PKPdf 20 09 38.8 +1.7
PKME Peaks-Kenny Pk 121.90 345 PFAKE 20 09 50.0 +13
PKME LR LR
comp=Z,4µm,20.0s,MS6.1
LAVA Lava Cap Winer 121.90 30⇓P PKPdf 20 09 38.2 +1.0
baz=122
O08A Rochester Mine 121.91 27⇑P PKPdf 20 09 38.8 +1.6
baz=122
BDM Black Diamond 121.95 32⇓P PKPdf 20 09 38.9 +1.6
baz=122
WCN Washoe City 121.96 29 P PKPdf 20 09 39.1 +1.8
baz=122,SNR=8.1
JRSC Jasper Ridge 122.17 32⇑P PKPdf 20 09 39.7 +2.0
baz=122
L13A Double Diamond 122.17 23 P PKPdf 20 09 39.1 +1.4
baz=122,SNR=20
BMN Battle Mountai 122.21 26 *e*PKIKP PKPdf 20 09 38.6 +0.8
BMN MLR MLR
comp=Z,3µm,19.0s,MS6.0
WENL Wente Brothers 122.25 32⇑P PKPdf 20 09 38.6 +0.7
baz=122
R05C Kirkwood Meado 122.27 30 P PKPdf 20 09 39.6 +1.7
baz=122,SNR=8.5
N10A Dunphy 122.28 26 P PKPdf 20 09 39.9 +2.0
baz=122,SNR=5.7
M12A Wells 122.36 24 P PKPdf 20 09 39.9 +1.8
baz=122,SNR=24
P08A Dixie Valley 122.43 28⇑P PKPdf 20 09 39.5 +1.3
baz=122
O09A Fish Creek Ran 122.44 27 P PKPdf 20 09 40.0 +1.7
baz=122,SNR=10.0
N11A Elko Archery C 122.53 25 P PKPdf 20 09 40.4 +2.0
baz=122,SNR=5.9
AHID Auburn Hatcher 122.61 20 PKPdf PKPdf 20 09 38.6 0.0
AHID LR LR
comp=Z,4µm,19.0s,MS6.1
CMB Columbia Colle 122.64 31 PFAKE 20 09 50.0 +11
CMB LR LR
comp=Z,4µm,21.0s,MS6.1
CMB Columbia Colle 122.64 31 P PKPdf 20 09 39.5 +0.9
baz=122,SNR=7.0
O10A Cortez Mining, 122.64 26⇑P PKPdf 20 09 39.9 +1.3
baz=122

Q07A	Schurz	122.69	29	⇑P		PKPdf	20 09 40.6 +1.9
	baz=122						
M13A	Montello	122.71	24	P		PKPdf	20 09 40.3 +1.5
	baz=122,SNR=9.7						
R06C	Coleville	122.72	29	P		PKPdf	20 09 40.8 +2.0
	baz=122,SNR=15						
N12A	Clover Valley,	122.79	25	P		PKPdf	20 09 40.3 +1.4
	baz=123,SNR=29						
ELK	Elko	122.80	25	ePKIKP		PKPdf	20 09 40.4 +1.5
ELK				MLR		MLR	
	comp=Z,4μm,20.0s						
PACP	Pacheco Peak	122.96	32	P		PKPdf	20 09 41.2 +2.0
	baz=123,SNR=5.6						
P09A	Austin	122.97	27	⇑P		PKPdf	20 09 40.2 +1.0
	baz=123						
S06C	San Francisco	123.02	30	P		PKPdf	20 09 40.8 +1.4
	baz=123,SNR=20						
SAO	San Andreas Ge	123.06	32	PFAKE			20 09 50.0 +11
SAO				LR		LR	
	comp=Z,4μm,22.0s,MS6.0						
N13A	Wendover, West	123.12	24	⇑P		PKPdf	20 09 41.1 +1.6
	baz=123						
BW06	Boulder Array	123.13	19	PFAKE			20 09 50.0 +10
BW06				LR		LR	
	comp=Z,5μm,20.0s,MS6.2						
PDAR	Pinedale Array	123.13	19	PKP		PKPdf	20 09 39.7 +0.1
	comp=Z,12nm,0.8s,baz=59,slow=1.0,SNR=61						
PDAR				PP		PP	20 11 17.5 -1.9
	comp=Z,8.6nm,0.8s,baz=359,slow=2.8,SNR=4.2						
PDAR				PKKPbc		PKKPbc	20 19 29.6 -0.5
	comp=Z,0.6nm,0.5s,baz=146,slow=5.7,SNR=5.1						
O11A	Cowboy Ranch,	123.13	26	⇓P		PKPdf	20 09 40.9 +1.3
	baz=123						
Q08A	Gabbs	123.17	28	P		PKPdf	20 09 40.8 +1.2
	baz=123,SNR=14						
S05C	Merced	123.20	31	⇓P		PKPdf	20 09 40.4 +0.7
	baz=123						
P10A	Eureka	123.21	26	P		PKPdf	20 09 41.6 +1.9
	baz=123,SNR=5.6						
R07C	Lee Vining	123.25	29	⇓P		PKPdf	20 09 40.8 +1.0
	baz=123						
HAST	UC Hastings Re	123.29	33	⇓P		PKPdf	20 09 41.2 +1.3
	baz=123						
NVAR	Mina Array Bea	123.34	29	PKP		PKPdf	20 09 41.4 +1.4
	comp=Z,26nm,0.7s,baz=269,slow=2.8,SNR=57						
RSSD	Black Hills	123.44	14	ePKIKP		PKPdf	20 09 39.7 -0.4
RSSD				MLR		MLR	
	comp=Z,7μm,22.0s,MS6.3						
HWUT	Hardware Ranch	123.47	21	PFAKE			20 09 50.0 +10
HWUT				LR		LR	
	comp=Z,6μm,20.0s,MS6.3						
R08A	Mina	123.50	29	P		PKPdf	20 09 42.4 +2.1
	baz=123,SNR=9.4						
LBNH	Lisbon	123.50	347	PFAKE			20 09 50.0 +10
LBNH				LR		LR	
	comp=Z,7μm,22.0s,MS6.3						
BGU	Big Grassy Mou	123.52	23	ePKPdf		PKPdf	20 09 40.8 +0.5
Q09A	Carvers	123.53	28	P		PKPdf	20 09 42.3 +2.0
	baz=123,SNR=6.3						
LRV	Little Rabbit	123.55	32	PKPdf		PKPdf	20 09 41.7 +1.3
PMSA	Palmer Station	123.55	192	PFAKE			20 09 50.0 +10
PMSA				LR		LR	
	comp=Z,9μm,20.0s,MS6.5						
LONY	Lake Ozonia	123.70	349	ePKPdf		PKPdf	20 09 40.4 -0.3
LONY				LR		LR	
	comp=Z,4μm,19.0s,MS6.1						
U04C	Hernandez Rese	123.72	32	⇑P		PKPdf	20 09 42.3 +1.6
	baz=124						
KCC	Kaiser Creek	123.72	30	P		PKPdf	20 09 42.2 +1.5
	baz=124,SNR=6.6						
T06C	Millerton Lake	123.77	31	P		PKPdf	20 09 41.6 +0.9
	baz=124,SNR=11						
P12A	McGill	124.00	25	P		PKPdf	20 09 42.8 +1.5
	baz=124,SNR=20						
R09A	Tonopah	124.06	28	⇑P		PKPdf	20 09 42.9 +1.6
	baz=124						
MTUM	Tungsten Hills	124.07	30	ePKPdf		PKPdf	20 09 42.8 +1.4
U05C	Westside ANR,	124.08	32	⇑P		PKPdf	20 09 42.7 +1.3
	baz=124						
TPH	Tonopah	124.13	28	ePKIKP		PKPdf	20 09 42.6 +1.1
S08C	White Mtn Res	124.14	29	P		PKPdf	20 09 43.9 +2.4
	baz=124,SNR=13						
PKD	Parkfield	124.16	32	⇑P		PKPdf	20 09 42.9 +1.3
	baz=124						
Q11A	Duckwater	124.20	26	⇑P		PKPdf	20 09 42.9 +1.3
	baz=124						
V04C	Ramage Ranch,	124.22	33	⇑P		PKPdf	20 09 42.7 +1.0
	baz=124						
DUG	Dugway	124.23	23	PFAKE			20 09 50.0 +8.3
DUG				LR		LR	
	comp=Z,5μm,21.0s,MS6.2						
DUG	Dugway	124.23	23	⇑P		PKPdf	20 09 42.9 +1.3
	baz=124						
NCB	Newcomb	124.25	348	PFAKE			20 09 50.0 +8.3
NCB				LR		LR	
	comp=Z,4μm,22.0s,MS6.1						
R10A	Warm Springs	124.37	27	P		PKPdf	20 09 44.1 +2.2
	baz=124,SNR=7.5						
JLU	Jordanelle	124.39	22	ePKPdf		PKPdf	20 09 42.4 +0.5
Q12A	Willow Creek R	124.40	26	P		PKPdf	20 09 43.7 +1.7
	baz=124,SNR=7.9						
S09A	Goldfield	124.41	28	P		PKPdf	20 09 44.0 +2.0
	baz=124,SNR=28						
TIN	Tinemaha	124.47	30	⇓P		PKPdf	20 09 44.3 +2.2
	baz=124						
GLMI	Grayling	124.68	357	PFAKE			20 04 00.0
GLMI				LR		LR	
	comp=Z,2μm,20.0s,MS5.7						
RWWY	Rawlins	124.84	18	ePKPdf		PKPdf	20 09 42.7 -0.1
MPU	Maple Canyon	124.84	22	PFAKE			20 09 50.0 +7.2
MPU				LR		LR	
	comp=Z,6μm,21.0s,MS6.2						
SMMC	Simmler	124.93	32	⇑P		PKPdf	20 09 45.2 +2.2
	baz=125						
VES	Vestal, Richgr	125.00	31	P		PKPdf	20 09 43.7 +0.6
	baz=125,SNR=6.3						
HRV	Harvard--Oak R	125.06	346	PFAKE			20 09 50.0 +6.8
HRV				LR		LR	
	comp=Z,4μm,22.0s,MS6.1						
WES	Weston	125.11	345	PFAKE			20 09 50.0 +6.6
WES				LR		LR	
	comp=Z,3μm,19.0s,MS6.0						
PKM	Peak Mountain	125.34	33	⇑P		PKPdf	20 09 46.0 +2.2
	baz=125						
DAC	Darwin (Calif)	125.39	30	ePKIKP		PKPdf	20 09 44.7 +0.8
DAC				MLR		MLR	
	comp=Z,3μm,20.0s,MS6.0						
ISA	Isabella	125.44	31	⇑P		PKPdf	20 09 45.0 +1.0
	baz=125						
FURC	Furnace Creek,	125.59	29	⇑P		PKPdf	20 09 46.2 +1.9
	baz=125						
MPMC	Manual Prospec	125.62	30	P		PKPdf	20 09 45.8 +1.5
	baz=125,SNR=15						
PHWY	Pilot Hill	125.70	17	ePKPdf		PKPdf	20 09 44.4 -0.1
MVU	Marysvale	125.93	24	PFAKE			20 10 00.0 +15
MVU				LR		LR	
	comp=Z,3μm,20.0s,MS6.0						
MSU	Marysvale	125.93	24	ePKIKP		PKPdf	20 09 46.6 +1.7
LRMC	Laurel Mountai	125.98	30	P		PKPdf	20 09 47.1 +2.0
	baz=126,SNR=7.8						
CCUT	Cedar City	126.27	25	ePKPdf		PKPdf	20 09 47.2 +1.6
BINY	Binghamton	126.30	349	ePKPdf		PKPdf	20 09 46.4 +0.8
BINY				LR		LR	
	comp=Z,6μm,22.0s,MS6.2						
EDW2	Edwards Air Fo	126.30	31	⇓P		PKPdf	20 09 46.9 +1.3
	baz=126						
SHOC	Shoshone	126.33	29	⇓P		PKPdf	20 09 47.3 +1.6
	baz=126						
GSC	Goldstone	126.56	30	P		PKPdf	20 09 48.3 +2.2
	baz=126,SNR=11						
U12A	Valley of Fire	126.70	27	P		PKPdf	20 09 48.6 +2.2
	baz=126,SNR=8.1						
V11A	Goodsprings	126.78	28	⇓P		PKPdf	20 09 48.0 +1.4
	baz=127						
RRX	Edison Barstow	126.80	30	⇑P		PKPdf	20 09 47.9 +1.3
	baz=127						
TUQ	Turquoise Mtn.	126.87	29	⇓P		PKPdf	20 09 48.6 +1.9
	baz=127						
BFSC	Mount Baldy St	126.97	31	⇓P		PKPdf	20 09 47.3 +0.4
	baz=127						
ISCO	Idaho Springs	127.05	17	ePKIKP		PKPdf	20 09 46.2 -0.9
ISCO				MLR		MLR	
	comp=Z,6μm,22.0s,MS6.2						
V12A	Nelson	127.14	28	P		PKPdf	20 09 49.1 +1.9
	baz=127,SNR=19						
AAM	Ann Arbor	127.14	356	PFAKE			20 10 00.0 +13
AAM				LR		LR	
	comp=Z,5μm,21.0s,MS6.2						
HEC	Hector,Ludlow	127.17	30	P		PKPdf	20 09 49.2 +1.9
	baz=127,SNR=6.2						
SMCO	Snowmass	127.20	19	ePKPdf		PKPdf	20 09 48.6 +1.2
SCIA	State Center	127.41	5	ePKPdf		PKPdf	20 09 47.2 -0.6
SCIA				LR		LR	
	comp=Z,7μm,21.0s,MS6.3						
GMRC	Granite Mounta	127.53	29	P		PKPdf	20 09 50.2 +2.2
	baz=127,SNR=10						
MURC	Murrieta	127.71	31	⇓P		PKPdf	20 09 50.2 +1.9
	baz=128						
BELC	Belle Mtn.	128.00	30	⇓P		PKPdf	20 09 51.0 +2.2
	baz=128						
PFO	Pinyon Flat Ob	128.08	31	PFAKE			20 10 00.0 +11
PFO				LR		LR	
	comp=Z,1μm,20.0s,MS5.5						
PFO	Pinyon Flat Ob	128.08	31	P		PKPdf	20 09 51.4 +2.3
	baz=128,SNR=5.8						
W13A	Hualapai Mount	128.10	27	P		PKPdf	20 09 51.1 +2.0
	baz=128,SNR=18						
SSPA	Standing Stone	128.15	351	ePKPdf		PKPdf	20 09 48.1 -1.1
TAOE	Nuku Hiva Isla	128.23	93	ePP		PP	20 11 45.2 -8.1
	comp=Z,4μm,26.0s						
TAOE	Nuku Hiva Isla	128.23	93	eSP		SP	20 21 53.9 -2.8
	comp=Z,2μm,26.8s						
TAOE				eSS		SS	20 29 05.2 -0.7
	comp=Z,17μm,31.9s						
TAOE				eLR		LR	20 50 02.7
	comp=Z,6μm,21.3s						
IRM	Iron Mountain	128.28	29	P		PKPdf	20 09 52.0 +2.6
	baz=128,SNR=12						
109C	Camp Elliot, M	128.32	32	⇑P		PKPdf	20 09 50.8 +1.3
	baz=128						
W14A	Seligman	128.36	27	P		PKPdf	20 09 51.7 +2.2
	baz=128,SNR=22						
MVCO	Mesa Verde	128.46	21	ePKPdf		PKPdf	20 09 50.6 +0.8
MVCO				LR		LR	
	comp=Z,5μm,22.0s,MS6.1						
MVL	Millersville	128.50	349	ePKPdf		PKPdf	20 09 50.1 +0.3
BC3	Big Chuckw Mtn	128.54	30	P		PKPdf	20 09 52.4 +2.5
	baz=128,SNR=7.7						
X13A	Yucca	128.54	28	P		PKPdf	20 09 52.4 +2.4
	baz=128,SNR=17						
PDMCI	Parker Dam,Lak	128.64	28	P		PKPdf	20 09 52.3 +2.2
	baz=128,SNR=11						
RCBR	Riachuelo	128.66	271	PFAKE			20 10 00.0 +10
RCBR				LR		LR	
	comp=Z,8μm,20.0s,MS6.4						
MONP	Monument Peak	128.67	31	⇑P		PKPdf	20 09 52.5 +2.3
	baz=128						
W15A	Williams	128.75	26	⇓P		PKPdf	20 09 52.1 +1.8
	baz=128						
WUAZ	Wupatki	128.84	25	ePKPdf		PKPdf	20 09 52.2 +1.7
WUAZ	Wupatki	128.84	25	⇑P		PKPdf	20 09 52.0 +1.5
	baz=129						
Y12C	Blythe	128.91	29	P		PKPdf	20 09 53.0 +2.4
	baz=129,SNR=5.9						
SWSC	Sam W. Stewart	128.95	31	⇑P		PKPdf	20 09 52.8 +2.2
	baz=129						
SDCO	Great Sand Dun	128.98	18	ePKPdf		PKPdf	20 09 51.2 +0.5
DVTC	Desert V Tower	129.02	31	⇓P		PKPdf	20 09 53.3 +2.5
	baz=129						
X14A	Yava	129.07	27	P		PKPdf	20 09 53.2 +2.3
	baz=129,SNR=16						
Y13A	Salome	129.19	28	⇑P		PKPdf	20 09 53.3 +2.2
	baz=129						
GLA	Glamis	129.34	30	P		PKPdf	20 09 53.8 +2.4
	baz=129,SNR=17						
X15A	Humboldt	129.35	26	P		PKPdf	20 09 54.0 +2.5
	baz=129,SNR=13						
MCWV	Mont Chateau	129.39	352	PFAKE			20 10 00.0 +8.5
MCWV				LR		LR	
	comp=Z,9μm,21.0s,MS6.4						
CBKS	Cedar Bluff	129.46	12	PKIKP		PKPdf	20 09 51.5 -0.2
CBKS				MLR		MLR	
	comp=Z,7μm,20.0s,MS6.3						
Y14A	Wickenburg	129.47	28	P		PKPdf	20 09 53.9 +2.2
	baz=129,SNR=14						
KSU1	Kansas State U	129.75	9	ePKPdf		PKPdf	20 09 52.3 +0.1
KSU1				LR		LR	
	comp=Z,9μm,20.0s,MS6.5						
Z14A	Wintersburg	129.97	28	P		PKPdf	20 09 55.0 +2.4
	baz=130,SNR=9.0						
CBN	Corbin	130.43	349	PFAKE			20 10 10.0 +17
CBN				LR		LR	
	comp=Z,6μm,19.0s,MS6.3						
115A	Sonoran Desert	130.85	28	P		PKPdf	20 09 57.9 +3.6
	baz=131,SNR=7.9						
116A	Eloy	131.21	27	P		PKPdf	20 09 58.4 +3.5
	baz=131,SNR=6.0						
ANMO	Albuquerque	131.21	21	PP		PP	20 12 13.6 +0.9
ANMO				SKPbc		SKPbc	20 13 19.7 +2.2
ANMO	Albuquerque	131.21	21	ePKIKP		PKPdf	20 09 55.9 +0.9
ANMO				MLR		MLR	
	comp=Z,8μm,20.0s						
FVM	French Village	131.51	3	ePKIKP		PKPdf	20 09 55.4 -0.1
SIUC	Southern Illin	131.82	2	PKPdf		PKPdf	20 09 56.6 +0.5
TUC	Tucson	131.83	27	SKPbc		SKPbc	20 13 21.9 +2.2
TUC	Tucson	131.83	27	ePKIKP		PKPdf	20 09 57.9 +1.8
BLA	Blacksburg	131.88	352	PFAKE			20 10 10.0 +14
BLA				LR		LR	
	comp=Z,7μm,20.0s,MS6.4						
BBSR	BB Station	131.91	334	PFAKE			20 10 10.0 +14
BBSR				LR		LR	
	comp=Z,3μm,19.0s,MS6.0						
EFI	East Falkland	132.59	205	PFAKE			20 10 10.0 +12
EFI				LR		LR	
	comp=Z,1μm,19.0s,MS5.6						
AMTX	Amarillo	132.75	16	ePKPdf		PKPdf	20 09 58.0 +0.2
AMTX				LR		LR	
	comp=Z,5μm,20.0s,MS6.2						
TZTN	Tazewell	132.86	356	ePKPdf		PKPdf	20 09 59.5 +1.4
TZTN				LR		LR	
	comp=Z,7μm,20.0s,MS6.4						
CNNC	Cliffs of the	133.40	349	PFAKE			20 10 10.0 +11
CNNC				LR		LR	
	comp=Z,5μm,19.0s,MS6.2						
WVT	Waverly	133.43	0	ePKIKP		PKPdf	20 09 58.2 -1.0
WMOK	Wichita Mounta	133.59	13	ePKHKP			20 09 45.5
MNTX	Cornudas Mount	134.53	21	PKPdf		PKPdf	20 10 02.2 +1.0
PLAL	Pickwick Lake	134.57	1	ePKPdf		PKPdf	20 10 00.5 -0.8
PLAL				LR		LR	
	comp=Z,5μm,19.0s,MS6.3						
MIAR	Mount Ida	134.65	7	ePKIKP		PKPdf	20 10 02.0 +0.5
MIAR				MLR		MLR	
	comp=Z,8μm,20.0s,MS6.4						
NHSC	New Hope	135.87	351	PFAKE			20 10 20.0 +16
NHSC				LR		LR	
	comp=Z,4μm,19.0s,MS6.2						
GOGA	Godfrey	135.97	355	PFAKE			20 10 20.0 +16
GOGA				LR		LR	
	comp=Z,6μm,20.0s,MS6.3						
NATX	Nacogdoches	137.25	9	PFAKE			20 10 20.0 +14
NATX				LR		LR	
	comp=Z,8μm,19.0s,MS6.5						
LTX	Lajitas	137.29	21	ePKHKP			20 09 54.4
LTX				e			20 10 06.9
TXAR	Lajitas Array	137.29	21	PKhKP			20 09 55.2
	comp=Z,1.9nm,0.7s,baz=279,slow=2.3,SNR=14						
TXAR				PKP		PKPdf	20 10 08.2 +1.9
	comp=Z,5.5nm,0.7s,baz=142,slow=0.7,SNR=17						
TXAR				PP		PP	20 12 41.3 -10
	comp=Z,5.3nm,1.1s,baz=347,slow=1.6,SNR=3.1						
TXAR	Lajitas Array	137.29	21	PKHKP			20 09 55.2
TXAR							20 10 08.2
PTCN	Pitcairn Islan	137.29	115	PFAKE			20 10 20.0 +14
PTCN				LR		LR	
	comp=Z,4μm,20.0s,MS6.1						
JCT	Junction City	137.41	16	ePKHKP			20 09 55.6
JCT				e			20 10 07.0
JCT				MLR		MLR	
	comp=Z,4μm,21.0s,MS6.2						
BRAL	Brewton	138.53	359	PFAKE			20 10 20.0 +11
BRAL				LR		LR	
	comp=Z,6μm,21.0s,MS6.3						
KVTX	Kingsville	140.70	15	PFAKE			20 10 20.0 +7.4
KVTX				LR		LR	
	comp=Z,5μm,20.0s,MS6.3						
DWPF	Disney	140.97	351	PFAKE			20 10 30.0 +17
DWPF				LR		LR	
	comp=Z,6μm,21.0s,MS6.3						
BBGH	Gun Hill	143.46	310	PFAKE			20 10 30.0 +12
BBGH				LR		LR	
	comp=Z,7μm,21.0s,MS6.4						
LPA	La Plata	143.80	224	dePKP		PKPdf	20 10 17.0 -1.1
LPA				epPKP		pPKPdf	20 10 29.0 +0.7
LPA				ePKKS			20 22 04.0
LPA							
	comp=Z,6μm,18.0s						
MTP	Monte Pirata	144.06	323	ePKPdf		PKPdf	20 10 16.5 -2.0
TRQA	Tornquist	144.37	216	ePKPdf		PKPdf	20 10 17.2 -1.9
SJG	San Juan	144.40	323	PKP		PKPdf	20 10 18.3 -0.8
	comp=Z,36nm,0.6s,baz=54,slow=5.1,SNR=10						
SJG	San Juan	144.40	323	ePKPdf		PKPdf	20 10 18.1 -1.1
GRGR	Grenville	145.67	311	ePKPdf		PKPdf	20 10 20.3 -1.0
TRN	Trinidad (W)	146.42	308	eP		PKPdf	20 10 25.8 +3.2
PLCA	Paso Flores	146.51	204	PKPbc		PKPbc	20 10 24.1 -0.1
	comp=Z,40nm,0.8s,baz=130,slow=2.4,SNR=36						
PLCA	Paso Flores	146.51	204	ePKPdf		PKPdf	20 10 23.9 +1.1
PLCA				LR		LR	
	comp=Z,6μm,20.0s,MS6.4						
MGV	Manicaragua	146.55	347	eP		PKPdf	20 10 25.6 +2.8
MASC	Masc	146.62	337	eP		PKPdf	20 10 26.0 +3.0
CCCC	Cccc	146.87	343	eP		PKPdf	20 10 22.3 -1.1
MOIG	Morelia	146.98	24	iP		PKPdf	20 10 24.5 +0.9
LMGC	Las Mercedes	147.71	341	eP		PKPdf	20 10 16.1 -8.7
PTVM	Pico Tres Padr	147.84	21	iP		PKPdf	20 10 25.9 +0.9
IIO	Organos	147.97	20	iP		PKPdf	20 10 27.9 +2.7
LVIG	Laguna Verde	148.55	16	iP		PKPdf	20 10 27.4 +1.2
PLIG	Platanillo	148.80	22	iP		PKPdf	20 10 28.2 +1.7
PCRV	Puerto La Cruz	149.16	311	PKPbc		PKPbc	20 10 29.5 -1.9
	comp=Z,21nm,0.7s,baz=142,slow=4.7,SNR=8.3						
TEIG	Tepich	149.27	1	PKP		PKPdf	20 10 25.6 -1.7
	comp=Z,4.2nm,0.8s,baz=46,slow=14,SNR=1.9						
TEIG				PKPbc		PKPbc	20 10 32.3 +0.6
	comp=Z,28nm,0.7s,baz=357,slow=6.0,SNR=14						
TEIG	Tepich	149.27	1	PKP		PKPdf	20 10 25.6 -1.7
TEIG				ePKPbc		PKPbc	20 10 32.2 +0.6
TEIG				LR		LR	
	comp=Z,4μm,20.0s,MS6.2						
STH	Stony Hill	149.49	339	⇓eP		PKPbc	20 10 33.6 +1.4
CVJ	Coleyville	149.60	341	⇓eP		PKPbc	20 10 33.9 +1.5
CAIG	El Cayaco	149.72	25	⇓P		PKPbc	20 10 33.4 +0.7
MCJ	Malvern	149.93	341	⇓eP		PKPbc	20 10 34.8 +1.5
TUIG	Tuzandepetl	150.67	13	iP		PKPbc	20 10 36.2 +1.2
VHO	Vista Hermosa	150.97	18	iP		PKPbc	20 10 37.0 +1.3
PNIG	Pinotepa	151.14	21	iP		PKPbc	20 10 35.4 -0.7
CMIG	Matias Romero	151.47	15	PKP		PKPdf	20 10 30.8 +0.1
	comp=Z,2.8nm,0.6s,baz=23,slow=2.2,SNR=1.7						
CMIG				PKPbc		PKPbc	20 10 37.1 +0.2
	comp=Z,52nm,0.8s,baz=355,slow=3.0,SNR=3.3						
CMIG				PP		PP	20 14 14.7 -1.4
	comp=Z,4.5nm,0.9s,baz=34,slow=7.3,SNR=2.8						
MDZ	Mendoza	151.98	215	ePKIKP		PKPbc	20 10 41.0 +2.9
HUIG	Huatulco	152.39	18	iP		PKPdf	20 10 33.4 +1.2
FCH	Farellones	152.43	213	eP		PKPbc	20 10 38.8 -0.3
CFAA	Coronel Fontan	152.54	218	PKP		PKPdf	20 10 32.8 +0.4
	comp=Z,0.7nm,0.8s,baz=44,slow=1.7,SNR=8.5						
CFAA				PKPbc		PKPbc	20 10 40.2 +0.9
	comp=Z,4.5nm,0.7s,baz=136,slow=2.8,SNR=28						
SIV	San Ignacio	153.68	256	PKP		PKPdf	20 10 34.3 +0.3
	comp=Z,1.6nm,0.6s,baz=131,slow=8.3,SNR=6.9						
SIV				PKPbc		PKPbc	20 10 42.3 +0.5
	comp=Z,7.8nm,1.0s,baz=141,slow=4.2,SNR=8.1						
SIV				PP		PP	20 14 33.7 +5.1
	comp=Z,2.8nm,0.8s,baz=71,slow=18,SNR=3.2						
RPN	Rapa Nui	153.80	132	PFAKE			20 10 50.0 +16
RPN				LR		LR	
	comp=Z,897nm,20.0s,MS5.6						
SDV	Santo Domingo	154.25	318	PKP		PKPdf	20 10 35.5 +0.7
	comp=Z,2.3nm,0.4s,baz=226,slow=23,SNR=4.2						
SDV				PKPbc		PKPbc	20 10 43.4 +0.4
	comp=Z,12nm,0.9s,baz=37,slow=20,SNR=4.8						
SDV	Santo Domingo	154.25	318	ePKPdf		PKPdf	20 10 35.3 +0.4
SDV				LR		LR	
	comp=Z,3μm,19.0s,MS6.1						
TLL	Tololo Astrono	155.10	216	eP		PKPdf	20 10 37.3 +1.3
LCO	Las Campanas	155.88	219	ePKPdf		PKPdf	20 10 38.2 +1.1
LCO				LR		LR	
	comp=Z,8μm,20.0s,MS6.5						
JTS	JuntasAbangare	158.99	353	PKP		PKPdf	20 10 34.9 -6.1
	comp=Z,2.9nm,0.6s,baz=251,slow=18,SNR=2.3						
JTS	JuntasAbangare	158.99	353	PKP		PKPdf	20 10 34.9 -6.1
JTS				LR		LR	
	comp=Z,1μm,19.0s,MS5.8						
ROSC	El Rosal	159.68	319	PKP		PKPdf	20 10 42.8 +1.1
	comp=Z,6.3nm,0.4s,baz=263,slow=24,SNR=6.2						
LPAZ	La Paz	160.28	252	PKP		PKPdf	20 10 44.0 +1.5
	comp=Z,2.5nm,0.8s,baz=64,slow=2.9,SNR=9.3						
LPAZ				PKPab		PKPab	20 11 24.8 +1.8
	comp=Z,9.1nm,0.9s,baz=42,slow=15,SNR=6.7						
LPAZ				PP		PP	20 15 11.7 +6.6
	comp=Z,1.6nm,0.8s,baz=39,slow=9.7,SNR=2.5						
LPAZ	La Paz	160.28	252	ePKPdf		PKPdf	20 10 43.7 +1.2
LPAZ				LR		LR	
	comp=Z,9μm,22.0s						
OTAV	Otavalo	165.84	320	PFAKE			20 11 00.0 +12
OTAV				LR		LR	
	comp=Z,10μm,21.0s						
NNA	Nana	169.38	262	PKP		PKPdf	20 10 51.2 +0.9
	comp=Z,13nm,0.8s,baz=293,slow=8.8,SNR=4.9						
NNA				PP		PP	20 15 59.7 +7.1
	comp=Z,11nm,1.1s,baz=202,slow=13,SNR=2.2						
NNA	Nana	169.38	262	PKP		PKPdf	20 10 51.2 +0.9
NNA				PP		PP	20 15 59.7 +7.1
NNA				LR		LR	
	comp=Z,2μm,21.0s						
PAYG	Puerto Ayora	169.69	15	PFAKE			20 11 00.0 +10
PAYG				LR		LR	
	comp=Z,9μm,22.0s						
ATAH	Atahualpa	170.20	291	PKP		PKPdf	20 10 52.5 +1.7
	comp=Z,7.6nm,0.8s,baz=31,slow=9.0,SNR=9.3						

*ISCJB **22** 20:24:58.3±0.3, 3512N±002×3398E±003, h59km±7km, Error ellipse: s-maj=3.7km s-min=3.6km az=100.0*
*ISK **22** 20:24:58.4, 3527N×3401E, h14km, MD3.2, ML3.4*
*CSEM **22** 20:24:58.1±0.1, 3515N×3392E, h40km, Mw3.3, Error ellipse: s-maj=2.0km s-min=1.6km az=62.0*
*NEIC **22** 20:24:59.7, 3529N×3385E, h35km, ML3.3(NIC), After NIC.*
*NIC **22** 20:24:59.7±0.3, 3529N×3385E, h35km, ML3.3, MW3.3*
*NSSC **22** 20:25:00, 35.10N×3407E, h40km*
*GRAL **22** 20:25:00.1±1.5, 3493N×3413E, h0km±166km, MD3.4*
*GII **22** 20:25:00.1±1.7, 3505N×3443E, h5km±192km, ML2.6/4*
*HLW **22** 20:25:06.4, 3458N×3365E, h33km, Mb3.4*

ISC 22 20:24:59.3±0.3, 3513N±002×3399E±003, h49km±7km, n64, σ0§94/90, 8C-22D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PHNC	**Paralimni**	**0.14**	**164**	⇑P		**Pn**	**20 25 07.6**	**+0.4**
PHNC	59nm,0.4s				S	**Sn**	**20 25 14.4**	**+1.6**
PHNC	**Paralimni**	**0.14**	**164**	⇑*i*P		**Pn**	**20 25 07.6**	**+0.4**
PHNC					S	**Sn**	**20 25 14.4**	**+1.6**
PHNC	**Paralimni**	**0.14**	**164**	⇑*i*P		**Pn**	**20 25 07.6**	**+0.4**
PHNC	59nm,0.4s							
CSS	**Prodhromos**	**0.56**	**252**	P		**Pn**	**20 25 10.3**	**-1.0**
CSS	29nm,0.2s				S	**Sn**	**20 25 19.3**	**-0.6**
MAMC	**Mammari**	**0.63**	**274**	P		**Pn**	**20 25 11.2**	**-0.9**
SZAC	**Souni-Zanaja**	**0.98**	**248**	⇓P		**Pn**	**20 25 16.6**	**-0.2**
SZAC	23nm,0.2s				S	**Sn**	**20 25 29.7**	**+0.1**
SZAC	**Souni-Zanaja**	**0.98**	**248**	⇓*e*P		**Pn**	**20 25 16.6**	**-0.2**
SZAC					S	**Sn**	**20 25 29.7**	**+0.1**
SZAC	**Souni-Zanaja**	**0.98**	**248**	⇓*e*P		**Pn**	**20 25 16.6**	**-0.2**
SZAC	23nm,0.2s							
IKL	**Isikli**	**1.13**	**348**	PG		**Pn**	**20 25 18.1**	**-0.6**
IKL					SG	**Sn**	**20 25 32.4**	**-0.8**
ALFC	**Alevga**	**1.14**	**272**	⇓P		**Pn**	**20 25 17.6**	**-1.3**
ALFC	31nm,0.2s				S	**Sn**	**20 25 31.6**	**-1.8**
ALFC	**Alevga**	**1.14**	**272**	⇓*i*P		**Pn**	**20 25 17.6**	**-1.3**
ALFC					S	**Sn**	**20 25 31.6**	**-1.8**
ALFC	**Alevga**	**1.14**	**272**	⇓*i*P		**Pn**	**20 25 17.6**	**-1.3**
ALFC	31nm,0.2s							
AKMC	**Akamas**	**1.36**	**266**	P		**Pn**	**20 25 22.1**	**+0.2**
PPCY	**Paphos**	**1.37**	**260**	P		**Pn**	**20 25 21.7**	**-0.3**
ARNB	**Al Arnab**	**1.77**	**65**	⇓P		**Pn**	**20 25 28.0**	**+0.4**
ARNB				⇓S		**Sn**	**20 25 48.0**	**-0.9**
ARNB	**Al Arnab**	**1.77**	**65**	⇓*i*P		**Pn**	**20 25 28.2**	**+0.6**
MERS	**Mersin**	**1.78**	**14**	PN		**Pn**	**20 25 28.4**	**+0.7**
MERS				SN		**Sn**	**20 25 49.0**	**-0.1**
HWQ	**Hawqa**	**1.83**	**117**	*e*Pn		**Pn**	**20 25 28.9**	**+0.6**
HWQ				Sn		**Sn**	**20 25 50.7**	**+0.5**
BHL	**Bhannes**	**1.84**	**131**	*e*Pn		**Pn**	**20 25 27.9**	**-0.6**
BHL				Sn		**Sn**	**20 25 48.5**	**-2.1**
SLNF	**Slenfeh**	**1.89**	**75**	⇓P		**Pn**	**20 25 29.0**	**-0.1**
SLNF				⇓S		**Sn**	**20 25 51.0**	**-0.6**
SLNF	**Slenfeh**	**1.89**	**75**	⇓*i*P		**Pn**	**20 25 29.4**	**+0.3**
BIDA	**Albida**	**1.92**	**93**	⇓P		**Pn**	**20 25 29.0**	**-0.5**
BIDA				⇓S		**Sn**	**20 25 52.0**	**-0.5**
BIDA	**Albida**	**1.92**	**93**	⇓*i*P		**Pn**	**20 25 29.9**	**+0.4**
MATL	**Matirih**	**1.98**	**146**	*e*Pn		**Pn**	**20 25 30.4**	**0.0**
HTY	**Hatay**	**2.01**	**60**	PN		**Pn**	**20 25 31.8**	**+1.0**
WRDH	**Warideh**	**2.02**	**79**	⇓P		**Pn**	**20 25 31.0**	**+0.1**
WRDH				⇓S		**Sn**	**20 25 53.0**	**-1.9**
WRDH	**Warideh**	**2.02**	**79**	⇓*i*P		**Pn**	**20 25 31.3**	**+0.4**
HAWK	**Haweek**	**2.08**	**106**	⇑P		**Pn**	**20 25 32.0**	**+0.2**
HAWK				⇑S		**Sn**	**20 25 55.0**	**-1.5**
HAWK	**Haweek**	**2.08**	**106**	⇑*i*P		**Pn**	**20 25 32.3**	**+0.5**
FKH	**Fakeheh**	**2.18**	**114**	*e*Pn		**Pn**	**20 25 34.0**	**+0.9**
FKH				Sn		**Sn**	**20 25 59.1**	**+0.1**
HDMB	**Hadim**	**2.19**	**327**	PN		**Pn**	**20 25 34.2**	**+0.9**
BTCH	**Batrach**	**2.21**	**65**	⇓P		**Pn**	**20 25 34.0**	**+0.5**
BTCH				⇓S		**Sn**	**20 25 59.0**	**-0.6**
BTCH	**Batrach**	**2.21**	**65**	⇓*i*P		**Pn**	**20 25 34.3**	**+0.8**
RCY	**Rachaya**	**2.24**	**137**	*e*Pn		**Pn**	**20 25 34.2**	**+0.3**
RCY				Sn		**Sn**	**20 25 59.6**	**-0.7**
HNTI	**Hanita**	**2.27**	**154**	Pn		**Pn**	**20 25 35.2**	**+0.9**
KARA	**Karaisali**	**2.29**	**22**	*e*PN		**Pn**	**20 25 35.3**	**+0.7**
KFRA	**Kufra**	**2.31**	**87**	⇑P		**Pn**	**20 25 35.0**	**+0.2**
KFRA				⇑S		**Sn**	**20 26 00.0**	**-2.0**
KFRA	**Kufra**	**2.31**	**87**	⇑*i*P		**Pn**	**20 25 35.7**	**+0.9**
HRI	**Mount Hermon**	**2.36**	**142**	Pn		**Pn**	**20 25 36.2**	**+0.7**
HRI	**Mount Hermon**	**2.36**	**142**	Pn		**Pn**	**20 25 36.2**	**+0.6**
BRBR	**Barbar**	**2.37**	**136**	⇑P		**Pn**	**20 25 36.0**	**+0.3**
BRBR				⇑S		**Sn**	**20 26 01.0**	**-2.5**
BRBR	**Barbar**	**2.37**	**136**	⇑*i*P		**Pn**	**20 25 36.7**	**+1.0**
KSDI	**Kefar Szold**	**2.38**	**144**	Pn		**Pn**	**20 25 36.3**	**+0.4**
KSDI				Sn		**Sn**	**20 26 03.2**	**-0.6**
MMC7	**Mount Meron ar**	**2.41**	**151**	Pn		**Pn**	**20 25 36.1**	**-0.1**
MMA1	**Mount Meron ar**	**2.42**	**150**	Pn		**Pn**	**20 25 36.3**	**-0.1**
MMC6	**Mount Meron ar**	**2.42**	**151**	Pn		**Pn**	**20 25 36.1**	**-0.3**
MMC6				Sn		**Sn**	**20 26 04.4**	**-0.3**
MMA0	**Mount Meron ar**	**2.42**	**151**	Pn		**Pn**	**20 25 36.3**	**-0.1**
MMC5	**Mount Meron ar**	**2.43**	**150**	Pn		**Pn**	**20 25 36.4**	**-0.1**
KOZT	**Kozan**	**2.77**	**32**	*e*PN		**Pn**	**20 25 42.4**	**+1.2**
MMLI	**Mount Malkishu**	**2.94**	**156**	Pn		**Pn**	**20 25 44.9**	**+1.3**
SLTI	**Sal'it**	**3.02**	**163**	Pn		**Pn**	**20 25 45.9**	**+1.4**
SLTI				Sn		**Sn**	**20 26 22.0**	**+2.6**
KONT	**Konya--Tatoy**	**3.10**	**335**	*e*PN		**Pn**	**20 25 46.2**	**+0.5**
GAZ	**Gaziantep**	**3.31**	**51**	*e*PN		**Pn**	**20 25 49.4**	**+0.8**
KMRS	**Kahramanmaras**	**3.34**	**44**	*e*PN		**Pn**	**20 25 49.9**	**+0.9**
DSI	**Dead Sea**	**3.74**	**161**	Pn		**Pn**	**20 25 56.4**	**+1.8**
DSI	**Dead Sea**	**3.74**	**161**	Pn		**Pn**	**20 25 56.3**	**+1.8**
AMAG	**Maghara**	**4.53**	**189**	⇑P		**Pn**	**20 26 05.0**	**-0.3**
PRNI	**Paran**	**4.84**	**170**	Pn		**Pn**	**20 26 12.0**	**+2.3**
SUZ		**5.37**	**191**	⇑P		**Pn**	**20 26 16.1**	**-0.7**
SUZ				S		**Sn**	**20 27 07.3**	**-10**
ZNM		**5.82**	**190**	⇓*e*P		**Pn**	**20 26 22.5**	**-0.5**
GLL	**Jalalah**	**5.87**	**200**	⇑*e*P		**Pn**	**20 26 23.1**	**-0.6**
HSAF	**As Saff**	**5.87**	**201**	⇑*i*P		**Pn**	**20 26 22.6**	**-1.2**
HSAF				S		**Sn**	**20 27 19.2**	**-11**
HSAF	**As Saff**	**5.87**	**201**	P		**Pn**	**20 26 22.5**	**-1.2**
HDHB	**Dhahab**	**6.42**	**175**	⇑*i*P		**Pn**	**20 26 31.8**	**+0.6**

KRSC 22 20:58:53.7±0.3, 5461N×16216E, h38km±27km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.26**	**258**	*e*P		Pn	20 59 00.8	-0.5
MKZ				*i*S		Sn	20 59 05.9	-0.7
TUMR	**Tumrok**	**1.34**	**301**	*e*P		Pn	20 59 16.8	+0.9
TUMR				*i*S		Sn	20 59 33.4	+0.8
KMNR	**Kamenistaya**	**1.59**	**317**	*e*P		Pn	20 59 20.4	+1.0
KMNR				*e*S		Sn	20 59 39.8	+1.1
ZLN	**Zelenaya**	**1.61**	**332**	*e*P		Pn	20 59 20.7	+1.1
KBTR	**Krutoberegovo**	**1.65**	**13**	*e*P		Pn	20 59 20.8	+0.7
KBTR				*i*S		Sn	20 59 41.1	+1.1
KII	**Karymskiy**	**1.69**	**251**	*e*P		Pn	20 59 22.9	+2.2
KII				*i*S		Sn	20 59 43.5	+2.4
KIRR	**Kirishev**	**1.70**	**323**	*e*P		Pn	20 59 22.2	+1.3
CIRR	**Tsirk**	**1.71**	**332**	*e*P		Pn	20 59 22.3	+1.3
CIRR				*i*S		Sn	20 59 43.1	+1.5
KPT	**Kopyto**	**1.75**	**322**	*e*P		Pn	20 59 22.9	+1.3
KRSR	**Krestovskiy**	**1.85**	**331**	*e*P		Pn	20 59 25.6	+2.7
KRSR				*i*S		Sn	20 59 48.5	+3.5
KLY	**Klyuchi**	**1.91**	**334**	*e*P		Pn	20 59 25.0	+1.3
KLY				*i*S		Sn	20 59 47.5	+0.9
KOZ	**Kozyrevsk**	**1.95**	**319**	*e*P		Pn	20 59 26.1	+1.8
KOZ				*i*S		Sn	20 59 49.9	+2.3
SPN	**Mys Shipunski**	**1.97**	**221**	*e*P		Pn	20 59 24.5	-0.1
SPN				*i*S		Sn	20 59 47.0	-1.1
SMKR	**Semkarok**	**2.02**	**349**	*e*P		Pn	20 59 26.2	+1.0
BDR	**Baidarnaya**	**2.04**	**345**	*e*P		Pn	20 59 26.2	+0.7
SRKR	**Sorokina**	**2.12**	**345**	*e*P		Pn	20 59 29.3	+2.6
NLC	**Nalytchevo**	**2.20**	**230**	*e*P		Pn	20 59 29.4	+1.6
SRDR	**Sredinnyy**	**2.21**	**322**	*e*P		Pn	20 59 30.3	+2.5
AVH	**Avacha**	**2.43**	**238**	*e*P		Pn	20 59 33.4	+2.5
AVH				*i*S		Sn	21 00 02.1	+2.7
PET	**Petropavlovsk**	**2.62**	**234**	*e*P		Pn	20 59 35.9	+2.5
PET				*i*S		Sn	21 00 06.2	+2.2
GNL	**Ganaly**	**2.65**	**251**	*e*P		Pn	20 59 36.6	+2.8
RUS	**Russkaya**	**3.08**	**226**	*e*P		Pn	20 59 41.9	+2.1
RUS				*i*S		Sn	21 00 15.8	+0.4
GRL	**Gorelyy**	**3.19**	**231**	P		Pn	20 59 44.9	+3.6

MEX 22 21:01:53.7±0.8, 1730N×10107W, h15km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CAIG	**El Cayaco**	**0.81**	**108**	*i*P		Pg	21 02 06.0	-3.4
CAIG				*i*S		Sg	21 02 16.4	-3.5
ACX	**Acapulco**	**1.18**	**111**	*i*P		Pn	21 02 12.5	-3.2
ACX				*i*S		Sb	21 02 27.0	-4.0
MEIG	**Mezcala**	**1.52**	**66**	*i*P		Pn	21 02 16.9	-3.3
MEIG				*i*S		Sn	21 02 33.9	-5.8
PLIG	**Platanillo**	**1.85**	**54**	*i*P		Pn	21 02 22.2	-2.6
PLIG				*i*S		Sn	21 02 42.4	-5.5

*ISCJB **22** 21:11:42.7±0.9, 4450N±006×14828E±0.10, h70km±7km, mb4.0/10, Error ellipse: s-maj=13.0km s-min=6.7km az=70.9*
*SKHL **22** 21:11:42.6±1.1, 4450N×14840E, h63km±16km, mb4.4/3*
*MOS **22** 21:11:42.4±1.1, 4469N×14832E, h75km, mb4.2/2, Error ellipse: s-maj=19.6km s-min=18.8km az=149.8*
*JMA **22** 21:11:42.0±0.3, 4407N×148.19E, h0km, M4.3*
*IDC **22** 21:11:45.5±5.6, 4467N×14833E, h82km±48km, mb3.3/6, mb1 3.6/7, mb1mx3.3/21, mbtmp3.3/7, ML3.6/1, Error ellipse: s-maj=40.3km s-min=23.1km az=85.0*

ISC 22 21:11:43.7±1.0, 4451N±005×14831E±010, h61km±7km, n42, σ1§19/57, mb4.0/10, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KUR	**Kuril'sk**	**0.79**	**337**	⇓*i*PN		**Pn**	**21 11 58.5**	**-0.6**
KUR				*i*S		**Sn**	**21 12 10.0**	**-0.3**
KUR	comp=N,540nm,0.8s			pmax		pmax		
KUR	comp=E,430nm,0.8s			pmax		pmax		
KUR	comp=Z,970nm,0.8s			pmax		pmax		
KUR	comp=Z,2μm,1.0s			smax				
KUR	comp=N,5μm,0.5s			smax				
KUR	comp=E,4μm,0.5s			smax				
KUR	comp=N,11μm,2.0s			smax				
KUR	comp=E,8μm,2.0s			smax				
KUR	**Kuril'sk**	**0.79**	**337**	*i*P		**Pn**	**21 11 58.5**	**-0.6**
KUR				AMB		AMB	21 11 59.0	
KUR	comp=E,2μm,1.0s			AMB		AMB	21 11 59.0	
KUR	comp=E,540nm,0.8s			AMB		AMB	21 11 59.0	
KUR	comp=E,430nm,0.8s			AMB		AMB	21 11 59.0	
KUR	comp=E,970nm,0.8s			*i*S		**Sn**	**21 12 10.0**	**-0.3**
KUR				A			21 12 11.0	
KUR	comp=E,5μm,0.5s			A			21 12 11.0	
KUR	comp=E,4μm,0.5s			A			21 12 13.0	
KUR	comp=E,11μm,2.0s			A			21 12 13.0	
KUR	comp=E,8μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**1.82**	**256**	*e*PN		**Pn**	**21 12 12.0**	**-0.7**
YUK				*e*S		**Sn**	**21 12 34.5**	**-0.2**
YUK	comp=Z,170nm,0.4s			pmax		pmax		
YUK	comp=N,2μm,1.0s			smax				
YUK	comp=E,2μm,0.8s			smax				
YUK	comp=N,2μm,0.4s			smax				
YUK	comp=E,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.82**	**256**	*e*P		**Pn**	**21 12 12.0**	**-0.7**
YUK				AMB		AMB	21 12 12.5	
YUK	comp=E,170nm,0.4s			*e*S		**Sn**	**21 12 34.5**	**-0.2**
YUK				A			21 12 36.9	
YUK	comp=E,2μm,1.0s			A			21 12 36.9	
YUK	comp=E,2μm,1.0s			A			21 12 42.5	
YUK	comp=E,2μm,0.4s			A			21 12 42.5	
YUK	comp=E,1μm,0.4s							
NEM2	**Nemuro 2**	**2.18**	**239**	P		**Pn**	**21 12 16.1**	**-1.5**
NEM2				*e*S		**Sn**	**21 12 41.2**	**-2.2**
JRA	**Rausu**	**2.36**	**257**	P		**Pn**	**21 12 20.7**	**+0.6**
JRA				*e*S		**Sn**	**21 12 48.7**	**+0.8**
JNK	**Nakash**	**2.75**	**252**	P		**Pn**	**21 12 25.6**	**+0.3**
JNK				*e*S		**Sn**	**21 12 57.4**	**+0.1**
JAK	**Akkeshi**	**3.02**	**241**	P		**Pn**	**21 12 28.3**	**-0.8**
JAK				*e*S		**Sn**	**21 13 02.2**	**-1.9**
JTKR	**Abashiri--Toko**	**3.21**	**262**	P		**Pn**	**21 12 34.1**	**+2.5**
JAR	**Ashorobuto**	**3.50**	**251**	P		**Pn**	**21 12 36.7**	**+1.1**
JAR				*e*S		**Sn**	**21 13 17.5**	**+1.8**
JKK2	**Kamakawa 2**	**4.05**	**263**	P		**Pn**	**21 12 44.7**	**+1.6**
JCH	**Churui**	**4.06**	**244**	P		**Pn**	**21 12 43.1**	**-0.2**
JCH				*e*S		**Sn**	**21 13 28.1**	**-1.5**
JSE	**Soyaes**	**4.10**	**278**	P		**Pn**	**21 12 44.7**	**+0.8**
ASAJ	**Asahikawa**	**4.12**	**266**	P		**Pn**	**21 12 46.2**	**+2.1**
ASAJ	comp=E,2.5nm,0.3s,baz=54,slow=18,SNR=2.5			S		**Sn**	**21 13 47.8**	**+17**
JFR	**Furan**	**4.35**	**254**	P		**Pn**	**21 12 50.1**	**+2.9**
ERM	**Erimo**	**4.51**	**238**	*ce*PN		**Pn**	**21 12 51.6**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.59**	**304**	*e*PN		**Pn**	**21 12 50.0**	**-0.5**
YSS				*e*S		**Sn**	**21 13 41.5**	**-1.0**
YSS	comp=Z,20nm,0.6s			pmax		pmax		
YSS	comp=N,20nm,0.7s			smax				
YSS	**Yuzh-Sakhalins**	**4.59**	**304**	*e*P		**Pn**	**21 12 50.0**	**-0.5**
YSS				AMB		AMB	21 12 54.0	
YSS	comp=N,20nm,0.6s			*e*S		**Sn**	**21 13 41.5**	**-1.0**
YSS				A			21 13 46.0	
JNBK	**Urakawa-nobuka**	**4.62**	**243**	P		**Pn**	**21 12 51.1**	**+0.1**
JWK2	**Keihoku**	**4.62**	**282**	P		**Pn**	**21 12 54.8**	**+3.8**
JKB	**Kayabe**	**5.93**	**246**	P		**Pn**	**21 13 09.4**	**+0.5**
JKB				*e*S		**Sn**	**21 14 13.8**	**-1.6**
JOT	**Ohata**	**6.18**	**242**	P		**Pn**	**21 13 12.0**	**-0.3**
JANG	**Nango**	**6.50**	**233**	P		**Pn**	**21 13 15.3**	**-1.5**
JANG				*e*S		**Sn**	**21 14 24.2**	**-5.4**
MKAR	**Makanchi Array**	**44.97**	**297**	P		**P**	**21 19 52.7**	**-0.1**
JIRN	**Jiri**	**51.73**	**273**	*e*P		**P**	**21 20 45.6**	**+0.8**
JIRN	**Jiri**	**51.73**	**273**	*e*P		**P**	**21 20 45.6**	**+0.8**
GUN	**Gumba**	**51.80**	**273**	*e*P		**P**	**21 20 45.8**	**+0.5**
GUN	**Gumba**	**51.80**	**273**	*e*P		**P**	**21 20 46.0**	**+0.7**
KKN	**Kakani**	**52.30**	**274**	*e*P		**P**	**21 20 49.5**	**+0.5**
KKN	**Kakani**	**52.30**	**274**	*e*P		**P**	**21 20 49.6**	**+0.6**
DMN	**Daman**	**52.53**	**274**	*e*P		**P**	**21 20 51.3**	**+0.6**
GKN	**Gorkha**	**52.63**	**274**	*e*P		**P**	**21 20 51.3**	**-0.2**
GKN	**Gorkha**	**52.63**	**274**	*e*P		**P**	**21 20 51.4**	**-0.1**
KOLN	**Koldanda**	**53.51**	**275**	*e*P		**P**	**21 20 58.4**	**+0.5**
KOLN	**Koldanda**	**53.51**	**275**	*e*P		**P**	**21 20 58.6**	**+0.7**
FINES	**FINESS Array B**	**64.57**	**333**	P		**P**	**21 22 11.7**	**-2.8**
FINES				pmax		pmax		
WRA	**Warramunga Arr**	**65.40**	**194**	P		**P**	**21 22 19.5**	**-0.3**
WRA	**Warramunga Arr**	**65.40**	**194**	P		**P**	**21 22 19.5**	**-0.3**
ASAR	**Alice Springs**	**69.11**	**194**	P		**P**	**21 22 44.0**	**+0.6**
NOA	**NORSAR Array B**	**69.19**	**339**	P		**P**	**21 22 41.8**	**-2.0**
TXAR	**Lajitas Array**	**81.54**	**57**	P		**P**	**21 23 54.1**	**-0.6**

comp=Z,0.3nm,0.5s,mb3.5,baz=278,slow=3.2,SNR=8.4

*ISCJB **22** 21:20:14.5±0.8, 154S±02×173.1W±02, h10km, mb4.0/7, Error ellipse: s-maj=37.9km s-min=10.1km az=93.4*
*IDC **22** 21:20:15.7±0.9, 1567S×17307W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/17, mbtmp4.1/7, MS3.3/1, Ms1 3.3/1, ms1mx3.3/31, Error ellipse: s-maj=50.5km s-min=20.4km az=141.0*
*NEIC **22** 21:20:16.4±0.8, 1549S×17303W, h10km, mb4.2/1, Error ellipse: s-maj=40.1km s-min=13.6km az=136.0*

ISC 22 21:20:16.7±7.0, 154S±02×1730W±02, h14km±45km, n14, σ1§02/13, mb4.0/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
AFI	**Afiamalu**	**1.88**	**39**	Pn		**Pn**	**21 20 48.4**	**0.0**
AFI	137nm,0.3s,baz=200,slow=2.4,SNR=54				Sn	**Sn**	**21 21 10.1**	**-1.8**
AFI	243nm,0.3s,baz=27,slow=23,SNR=12				LR	LR	21 21 36.5	
AFI	comp=Z,637nm,18.1s,baz=76,slow=38							
URZ	**Urewera**	**24.40**	**199**	P		**P**	**21 25 33.4**	**-1.1**
STKA	**Stephens Creek**	**44.38**	**240**	*e*P		**P**	**21 28 26.0**	**-0.6**
STKA	**Stephens Creek**	**44.38**	**240**	P		**P**	**21 28 26.1**	**-0.5**
WB2	**Warramunga Arr**	**50.22**	**257**	*e*P		**P**	**21 29 11.8**	**-0.2**
WRA	**Warramunga Arr**	**50.23**	**257**	P		**P**	**21 29 12.2**	**0.0**
ASAR	**Alice Springs**	**50.48**	**252**	P		**P**	**21 29 14.1**	**0.0**
TXAR	**Lajitas Array**	**80.28**	**56**	P		**P**	**21 32 28.5**	**+1.5**
TXAR	**Lajitas Array**	**80.28**	**56**	P		**P**	**21 32 28.5**	**+1.5**
PDAR	**Pinedale Array**	**82.00**	**42**	P		**P**	**21 32 40.9**	**+4.8**
YKA	**Yellowknife Ar**	**89.93**	**23**	P		**P**	**21 33 16.9**	**+1.6**
YKA	**Yellowknife Ar**	**89.93**	**23**	P		**P**	**21 33 16.9**	**+1.6**
KMBO	**Kilima Mbogo**	**145.89**	**244**	PKPbc		PKPbc	21 39 58.8	+3.2
BRTR	**Keskin Array B**	**146.39**	**321**	PKPbc		PKPbc	21 40 00.2	+3.2

*IDC **22** 21:31:49.1±0.6, 1333N×12590E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, MS4.1/4, Ms1 4.1/4, ms1mx3.9/29, Error ellipse: s-maj=28.5km s-min=12.4km az=80.0*
*ISCJB **22** 21:31:50.9±2.4, 1337N±003×12590E±006, h22km±17km, mb4.5/34, MS4.2/2, Error ellipse: s-maj=9.5km s-min=5.7km az=19.7*
*BJI **22** 21:31:51.1, 1344N×12625E, h32km, mB5.3, mb4.6*
*MOS **22** 21:31:52.1±1.2, 1333N×12587E, h33km, mb4.9/13, Error ellipse: s-maj=17.9km s-min=8.7km az=107.3*
*MAN **22** 21:31:52.3, 1338N×12581E, h67km, mb4.5, ML5.3, MS4.8*
*NEIC **22** 21:31:55.0±0.3, 1333N×12592E, h40km, mb4.8/8, Error ellipse: s-maj=16.0km s-min=7.7km az=76.0*

ISC 22 21:31:52.1±2.5, 1336N±003×12587E±005, h17km±16km, h29km±5.9km: pP-P, n73, σ0§94/72, mb4.5/34, MS4.2/2, 3C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CNP	**Catarman**	**1.45**	**235**	*e*P		**Pn**	**21 32 16.7**	**-0.8**
CNP				*e*S		**Sn**	**21 32 35.3**	**-0.7**
PLP	**Palo**	**2.35**	**202**	*e*P		**Pn**	**21 32 30.0**	**+0.1**
PLP				*i*S		**Sn**	**21 32 58.1**	**-0.1**
OCLP	**Ormoc**	**2.61**	**208**	*e*P		**Pn**	**21 32 32.7**	**-0.6**
MSLP	**Maasin**	**3.36**	**197**	*e*P		**Pn**	**21 32 43.7**	**0.0**
MSLP				*e*S		**Sn**	**21 33 23.2**	**+0.1**
GQP	**Guinayangan**	**3.38**	**280**	⇓*e*P		**Pn**	**21 32 43.5**	**-0.4**
GQP				*e*S		**Sn**	**21 33 21.3**	**-2.2**
RCP	**Roxas**	**3.54**	**240**	⇓*e*P		**Pn**	**21 32 46.6**	**+0.4**
LLP	**Lapu-Lapu**	**3.56**	**212**	⇑*e*P		**Pn**	**21 32 46.0**	**-0.4**
LLP				*e*S		**Sn**	**21 33 29.2**	**+1.2**
JOW	**Kunigami**	**13.59**	**9**	LR		LR	21 39 37.2	
GUMO	comp=Z,856nm,19.5s,baz=130,slow=34 **Guam**	**18.48**	**87**	LR		LR	21 41 12.8	
CBIJ	comp=Z,391nm,20.7s,baz=202,slow=30 **Chichi jima**	**20.48**	**46**	LR		LR	21 43 32.6	
KSRS	comp=Z,257nm,18.4s,MS3.6,baz=112,slow=34 **Korea Array**	**24.06**	**4**	P		**P**	**21 37 07.2**	**+0.9**
MJAR	8.5nm,0.8s,mb4.2,baz=181,slow=11,SNR=24 **Matsushiro Arr**	**25.60**	**23**	P		**P**	**21 37 19.1**	**-1.3**
XAN	1.9nm,0.7s,mb3.7,baz=196,slow=9.2,SNR=5.8 **Xi'an**	**25.71**	**326**	P		**P**	**21 37 21.1**	**-0.2**
XAN				AP		pP	21 37 30.8	+4.2
XAN	comp=Z,15nm,1.2s,mb4.4			AMB		AMB		
PSI	**Prapat**	**28.63**	**251**	P		**P**	**21 37 47.9**	**+0.3**
LZH	comp=Z,7.9nm,0.8s,mb4.5,baz=34,slow=2.1,SNR=7.5 **Lanzhou**	**30.07**	**323**	*e*P		**P**	**21 37 59.6**	**-0.7**
LZH				AP		pP	21 38 09.0	+3.4
LZH				XP		sP	21 38 13.3	+5.5
LZH	comp=Z,18nm,1.3s,mb4.6			AMB		AMB		
LZH	**Lanzhou**	**30.07**	**323**	*e*P		**P**	**21 37 59.6**	**-0.7**
LZH				*PP		pP	21 38 09.0	+3.4
LZH				*SP		sP	21 38 13.2	+5.4
LZH	comp=Z,18nm,1.3s,mb4.6			pmax		pmax		
LZH	**Lanzhou**	**30.07**	**323**	*e*P		**P**	**21 37 59.6**	**-0.7**
LZH				pP		pP	21 38 09.0	+3.4
LZH				sP		sP	21 38 13.2	+5.4
CN2	**Changchun**	**30.34**	**359**	*e*P		**P**	**21 37 59.8**	**-2.9**
FITZ	**Fitzroy Crossi**	**31.26**	**180**	*e*P		**P**	**21 38 10.0**	**-0.8**
FITZ	comp=Z,6.8nm,0.7s,mb4.6 **Fitzroy Crossi**	**31.26**	**180**	P		**P**	**21 38 10.7**	**-0.2**
WRA	comp=Z,2.8nm,0.5s,mb4.3,baz=28,slow=10,SNR=10 **Warramunga Arr**	**34.13**	**166**	P		**P**	**21 38 34.3**	**-1.6**
GTA

MK31 Makanchi Array 49.37 321 *eP* **P 21 40 41.6 +1.1**
MKAR Makanchi Array 49.37 321 P **P 21 40 41.5 +1.1**
comp=N,6.1nm,0.8s,mb4.7,baz=114,slow=9.3,SNR=49
MKAR Makanchi Array 49.37 321 *i* P **P 21 40 41.5 +1.0**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
ZAL Zalesovo 51.76 330 P **P 21 40 58.7 +0.2**
comp=Z,1.4nm,0.6s,mb4.0,baz=343,slow=6.9,SNR=7.8
ZAL Zalesovo 51.76 330 *i* P **P 21 40 59.2 +0.6**
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZAL Zalesovo 51.76 330 P **P 21 40 58.7 +0.2**
AAK Ala-Archa 52.90 314⇓ *eP* **P 21 41 06.9 -0.1**
AAK pmax pmax
comp=Z,5.0nm,1.7s,mb4.2
SEY Seymchan 52.94 15⇑ *eP* **P 21 41 09.0 +1.6**
NVS Novosibirsk 53.02 331 *i* P **P 21 41 05.7 -2.3**
NVS pmax pmax
comp=Z,20nm,2.1s,mb4.7
NVS pmax pmax
comp=N,17nm,2.0s
NVS pmax pmax
comp=E,12nm,1.7s
KURK Kurchatov 53.33 324⇓ *iP* **P 21 41 10.8 +0.6**
KURK Kurchatov 53.33 324 *eP* **P 21 41 10.9 +0.7**
comp=E,26nm,1.0s,mb5.1
TIXI Tiksi 58.29 1 *eP* **P 21 41 45.2 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
TIXI Tiksi 58.29 1 *eP* **P 21 41 45.2 -0.6**
comp=Z,6.9nm,1.0s,mb4.6
BRVK Borovoye 59.00 324 *eP* **P 21 41 50.8 +0.1**
BRVK pmax pmax
comp=Z,16nm,1.4s,mb4.9
BRVK Borovoye 59.00 324 *eP* **P 21 41 50.8 +0.1**
comp=Z,16nm,1.4s,mb4.9
BILL Biiibino 60.56 16*c* *iP* **P 21 42 01.7 +0.3**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
ARU Arti 66.45 326⇓ *iP* **P 21 42 40.0 -0.4**
ARU *e* 21 45 04.5
ARU *e*PPP 21 46 42.6
ARU *e*S S 21 51 24.0 -6.0
ARU *e*SS SS 21 55 42.2 -4.6
ARU pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KIV Kislovodsk 75.98 312⇓ *iP* **P 21 43 37.7 -0.4**
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.7
OBN Obninsk 78.77 324 *eP* **P 21 43 53.2 -0.5**
OBN pmax pmax
comp=Z,54nm,2.5s,mb5.0
ARCES ARCESS Array B 81.18 340 P **P 21 44 06.7 -0.1**
comp=Z,7.2nm,1.1s,mb4.5,baz=54,slow=6.3,SNR=5.4
INK Inuvik 81.57 22 *eP* **P 21 44 09.0 +0.2**
comp=Z,341nm,1.3s
FINES FINESS Array B 83.00 332 P **P 21 44 15.7 -0.6**
comp=Z,1.1nm,0.6s,mb4.1,baz=106,slow=6.2,SNR=9.9
FINES FINESS Array B 83.00 332 *i* P **P 21 44 16.6 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 83.94 321 P **P 21 44 20.3 -0.8**
comp=Z,0.7nm,0.4s,mb4.2,baz=64,slow=4.3,SNR=13
AKASG LR LR 22 28 18.1
comp=Z,382nm,18.3s,MS4.8,baz=270,slow=40
AKASG Malin Array Be 83.94 321 P **P 21 44 20.3 -0.8**
AKASG LR LR 22 28 18.1
NOA NORSAR Array B 89.83 334 P **P 21 44 48.4 -1.4**
comp=Z,1.1nm,0.7s,mb4.3,baz=64,slow=4.5,SNR=3.4
YKA Yellowknife Ar 91.11 24 P **P 21 44 55.8 +0.1**
comp=Z,0.8nm,0.7s,mb4.2,baz=300,slow=4.7,SNR=14
TXAR Lajitas Array 116.08 48 PKP PKPdf 21 50 34.7 +0.6
comp=Z,0.3nm,0.6s,baz=42,slow=0.3,SNR=5.4
TXAR Lajitas Array 116.08 48 PKP PKPdf 21 50 34.7 +0.6
PLCA Paso Flores 149.17 155 PKPbc PKPbc 21 51 40.8 +1.4
comp=Z,2.1nm,0.8s,baz=7.0,slow=19,SNR=3.6
SDV Santo Domingo 152.48 37 *e*PKPbc PKPbc 21 51 48.9 +1.6

ISC 22 21:37:58.5±0.8, 3495N±006×711E±01, h10km, n8, σ1°27/11, 2C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.31**	**149**	P	**Pn**	**21 38 18.5**	**-4.3**
CEP				S	**Sb**	**21 38 39.0**	**-1.0**
CHCP	**Chirah Chowk**	**2.21**	**125**	P	**Pn**	**21 38 34.9**	**-0.2**
THW	**Thamme Wali**	**2.22**	**166**	P	**Pn**	**21 38 36.1**	**+0.8**
SBDP	**Sheikh Budin**	**2.66**	**185**	P	**Pn**	**21 38 42.6**	**+1.2**
SARP	**Sargodha**	**3.29**	**156**	P	**Pn**	**21 38 47.3**	**-2.8**
THN	**Thein Dam**	**4.59**	**122**	*eP*	**Pn**	**21 39 07.5**	**-0.5**
THN				*eS*	**Sn**	**21 40 04.1**	**+2.7**
KK31	**Karatay Array**	**8.15**	**357**	⇑Pn	**Pn**	**21 39 58.3**	**+1.4**
	0.8nm,0.3s,baz=176,slow=12,SNR=39						
KK31				⇑Sn	**Sn**	**21 41 28.3**	**-0.7**
	2.4nm,0.7s,baz=180,slow=24,SNR=19						
AB31	**Akbulak array**	**16.49**	**333**	⇓P	**Pn**	**21 41 49.3**	**-0.6**
	0.4nm,0.3s,baz=149,slow=13,SNR=14						

JMA 22 22:16:28.8±0.5, 4539N×15009E, h30km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.72**	**239**	P	Pn	22 17 23.1	-1.0
NEM2				*e*S	Sn	22 18 04.0	-2.9
JRA	**Rausu**	**3.83**	**249**	P	Pn	22 17 27.4	+1.7
JRA				*e*S	Sn	22 18 10.5	+0.8
JNK	**Nakash**	**4.25**	**247**	P	Pn	22 17 32.8	+1.4
JAK	**Akkeshi**	**4.56**	**240**	P	Pn	22 17 35.2	-0.5
JAK				*e*S	Sn	22 18 24.3	-3.3
JTKR	**Abashiri--Toko**	**4.63**	**254**	P	Pn	22 17 38.9	+2.2
JAR	**Ashorobuto**	**4.99**	**247**	P	Pn	22 17 43.2	+1.5
JMP	**Maruseppu**	**4.99**	**256**	P	Pn	22 17 44.6	+2.9
JOB	**Onbets**	**5.14**	**243**	*e*S	Sn	22 18 40.0	-2.0
JCH	**Churui**	**5.59**	**243**	*e*S	Sn	22 18 50.0	-3.1
JNBK	**Urakawa-nobuka**	**6.15**	**242**	P	Pn	22 17 56.9	-0.7
JNBK				*e*S	Sn	22 19 03.0	-3.9
JKB	**Kayabe**	**7.44**	**245**	P	Pn	22 18 15.1	-0.2
JTM	**Tenmabayashi**	**8.04**	**238**	*e*S	Sn	22 19 45.9	-7.6
JTH	**Tanohata**	**8.15**	**231**	*e*S	Sn	22 19 44.8	-11
JRG	**Rokugo**	**9.21**	**233**	*e*S	Sn	22 20 15.4	-6.6
JIO	**Ouri**	**9.51**	**226**	*e*S	Sn	22 20 18.2	-11

IDC ***22*** *22:27:20.8±6.5, 0.13S×9026W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/16, mbtmp3.9/5, ML3.8/1, MS3.6/4, Ms1 3.6/4, ms1mx3.3/26, Error ellipse: s-maj=179.6km s-min=108.1km az=53.0*
ISCJB ***22*** *22:27:23.4±1.3, 0.1N±02×908W±0.4, h10km, mb4.0/7, MS3.7/2, Error ellipse: s-maj=62.5km s-min=10.6km az=121.2*
NEIC ***22*** *22:27:24.4±1.3, 002S×9089W, h10km, mb4.4/3, Error ellipse: s-maj=56.5km s-min=8.6km az=56.0*
ISC 22 22:27:26.2±2.8, 00S±03×908W±04, h20km±23km, n14, σ0°65/12, mb4.0/7, MS3.7/2, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**0.85**	**141**	*eP*	**Pb**	**22 27 42.2**	**0.0**
JTS	**JuntasAbangare**	**11.78**	**30**	LR	LR	22 33 33.6	
	comp=Z,147nm,20.4s,baz=56,slow=32						
CMIG	**Matias Romero**	**17.46**	**347**	P	**Pn**	**22 31 28.2**	**-0.3**
	0.3nm,0.3s,baz=187,slow=10,SNR=3.6						
CMIG				LR	LR	22 37 18.9	
	comp=Z,130nm,18.1s,baz=327,slow=34						
CMIG	**Matias Romero**	**17.46**	**347**	P	**Pn**	**22 31 28.2**	**-0.3**
CMIG				LR	LR	22 37 18.9	
TEIG	**Tepich**	**20.27**	**7**	LR	LR	22 39 06.4	
	comp=Z,163nm,18.4s,MS3.4,baz=68,slow=35						
LPAZ	**La Paz**	**27.61**	**127**	P	**P**	**22 33 12.3**	**+0.2**
	0.6nm,0.5s,mb3.5						
TXAR	**Lajitas Array**	**31.66**	**338**	P	**P**	**22 33 49.0**	**+1.0**
	1.4nm,0.7s,mb3.9,baz=154,slow=9.7,SNR=16						
KSU1	**Kansas State U**	**39.28**	**353**	*eP*	**P**	**22 34 54.7**	**+1.1**
	6.3nm,0.5s,mb4.6						
MCWV	**Mont Chateau**	**40.73**	**13**	*eP*	**P**	**22 35 05.3**	**-0.3**
	5.8nm,0.5s,mb4.5						
ARUT	**Antelope Range**	**43.01**	**333**	*eP*	**P**	**22 35 23.7**	**-0.5**
PDAR	**Pinedale Array**	**45.80**	**341**	P	**P**	**22 35 46.5**	**+0.1**
	0.3nm,0.9s,mb3.2,baz=128,slow=10,SNR=3.0						
PDAR				LR	LR	22 53 52.1	
	comp=Z,192nm,19.8s,MS4.0,baz=6.2,slow=34						

ULM	**Lac du Bonnet**	**50.26**	**356**	P	**P**	**22 36 20.9**	**-0.1**
	3.5nm,0.6s,mb4.6,baz=171,slow=9.0,SNR=9.9						
YKA	**Yellowknife Ar**	**64.87**	**348**	P	**P**	**22 38 02.6**	**-1.2**
	1.2nm,0.8s,mb4.0,baz=149,slow=6.4,SNR=18						
YKA	**Yellowknife Ar**	**64.87**	**348**	P	**P**	**22 38 02.6**	**-1.2**

IDC ***22*** *22:33:36.5±0.8, 1627S×17286W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/18, mbtmp4.2/8, MS3.6/1, Ms1 3.6/1, ms1mx3.1/28, Error ellipse: s-maj=40.2km s-min=18.9km az=134.0*
ISCJB ***22*** *22:33:39.5±0.6, 161S±01×173W±02, h35km, mb4.4/11, Error ellipse: s-maj=30.0km s-min=8.1km az=66.4*
NEIC ***22*** *22:33:41.3±0.6, 1617S×17287W, h35km, mb4.8/4, Error ellipse: s-maj=33.3km s-min=13.0km az=125.0*
ISC 22 22:33:41.2±0.6, 161S±01×1729W±02, h35km, n18, σ1°35/15, mb4.4/11, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.42**	**26**	Pn	**Pn**	**22 34 16.2**	**-2.0**
	19nm,0.3s,baz=183,slow=3.4,SNR=16						
AFI				Sn	**Sn**	**22 34 44.9**	**-1.7**
	70nm,0.3s,baz=172,slow=22,SNR=7.4						
RAR	**Rarotonga**	**13.41**	**114**	LR	LR	22 40 53.1	
	comp=Z,262nm,19.5s,baz=62,slow=33						
URZ	**Urewera**	**23.78**	**200**	P	**P**	**22 38 48.2**	**-2.3**
	8.9nm,0.7s,mb4.3,baz=35,slow=4.9,SNR=5.9						
TAU	**Tasmania Unive**	**43.16**	**223**	*eP*	**P**	**22 41 37.2**	**-1.1**
	18nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**44.13**	**241**	P	**P**	**22 41 45.9**	**-0.3**
	1.6nm,0.5s,mb4.0,baz=87,slow=14,SNR=6.8						
STKA	**Stephens Creek**	**44.13**	**241**	*eP*	**P**	**22 41 46.2**	**0.0**
WRA	**Warramunga Arr**	**50.18**	**257**	P	**P**	**22 42 33.9**	**+0.6**
	1.0nm,0.8s,mb3.9,baz=93,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**50.38**	**252**	P	**P**	**22 42 35.4**	**+0.5**
	6.9nm,0.6s,mb4.9,baz=88,slow=8.3,SNR=114						
VNDA	**Vanda**	**62.74**	**186**	P	**P**	**22 44 02.2**	**-0.5**
	1.7nm,0.9s,mb4.2,baz=359,slow=5.7,SNR=4.3						
VNDA	**Vanda**	**62.74**	**186**	*eP*	**P**	**22 44 01.0**	**-1.7**
	2.5nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**74.50**	**42**	P	**P**	**22 45 17.6**	**+1.6**
	3.2nm,1.0s,mb4.2,baz=226,slow=10,SNR=6.8						
HLID	**Hailey**	**79.84**	**39**	*eP*	**P**	**22 45 47.6**	**+1.6**
	18nm,2.0s,mb4.7						
PDAR	**Pinedale Array**	**82.44**	**42**	P	**P**	**22 46 01.6**	**+1.8**
	1.3nm,0.8s,mb3.9,baz=213,slow=3.0,SNR=9.1						
YKA	**Yellowknife Ar**	**90.53**	**23**	P	**P**	**22 46 40.5**	**+1.0**
	0.7nm,0.8s,mb4.1,baz=230,slow=4.5,SNR=10						
SNAA	**Sanae**	**92.19**	**177**	*eP*	**P**	**22 46 47.5**	**+0.3**
	6.0nm,0.9s,mb4.9						
KMBO	**Kilima Mbogo**	**145.68**	**243**	PKPbc	PKPbc	22 53 19.9	+3.7
	1.5nm,0.8s,baz=74,slow=6.8,SNR=5.8						
GERES	**GERESS Array B**	**146.90**	**352**	PKPbc	PKPbc	22 53 21.2	+1.4
	0.8nm,0.8s,baz=29,slow=3.0,SNR=6.0						
BRTR	**Keskin Array B**	**147.01**	**321**	PKPbc	PKPbc	22 53 20.6	+0.4
	1.3nm,0.8s,baz=131,slow=2.9,SNR=7.7						

ISCJB ***22*** *22:46:20.4±0.4, 3000N±005×13856E±007, h426km±5km, mb4.0/37, Error ellipse: s-maj=9.9km s-min=7.4km az=153.1*
MOS ***22*** *22:46:20.4±0.7, 3000N×13845E, h427km, mb4.0/27, Error ellipse: s-maj=16.8km s-min=7.9km az=106.3*
IDC ***22*** *22:46:21.2±0.7, 3004N×13859E, h419km±7km, mb3.6/19, mb1 3.7/24, mb1mx3.7/28, mbtmp3.6/24, Error ellipse: s-maj=15.1km s-min=8.1km az=73.0*
NEIC ***22*** *22:46:21.8±0.6, 3004N×13847E, h426km±6km, mb4.1/13, Error ellipse: s-maj=7.5km s-min=5.4km az=100.0*
BJI ***22*** *22:46:22.2, 3003N×13856E, h451km, mB4.8, mb4.3*
ISC 22 22:46:21.4±0.4, 3002N±005×13861E±007, h422km±5km, n90, σ0°84/90, mb4.0/37, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.24**	**18**	P	**P**	**22 47 29.6**	**+1.4**
	72nm,0.3s,baz=68,slow=23,SNR=8.6						
JHJ				S	**S**	**22 48 22.0**	**-0.4**
	69nm,0.3s,baz=61,slow=24,SNR=4.4						
CBIJ	**Chichi jima**	**4.29**	**132**	P	**P**	**22 47 37.5**	**+0.1**
	33nm,0.3s,baz=311,slow=18,SNR=13						
CBIJ				S	**S**	**22 48 37.1**	**-2.2**
	91nm,0.3s,baz=281,slow=22,SNR=22						
MJAR	**Matsushiro Arr**	**6.51**	**357**	P	**P**	**22 48 00.0**	**-0.1**
	2.3nm,0.3s,baz=178,slow=31,SNR=17						
MJAR	**Matsushiro Arr**	**6.51**	**357**	P	**P**	**22 48 00.0**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**6.51**	**357**	*eP*	**P**	**22 48 00.4**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MAJO	**Matsushiro**	**6.51**	**357**	*eP*	**P**	**22 48 00.3**	**+0.2**
	comp=Z,5.8nm,0.3s						
MAT	**Matsushiro**	**6.51**	**357**	P	**P**	**22 48 00.5**	**+0.4**
KSRS	**Korea Array**	**11.57**	**313**	P	**P**	**22 48 56.8**	**+1.0**
	baz=126,slow=12,SNR=7.4						
ASAJ	**Asahikawa**	**14.42**	**12**	P	**P**	**22 49 28.3**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=103,slow=14,SNR=5.2						
ASAJ	**Asahikawa**	**14.42**	**12**	P	**P**	**22 49 28.3**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YHNB	**Yeheng**	**16.21**	**255**	*eP*	**P**	**22 49 45.6**	**-0.5**
NACB	**Ninganchiao**	**16.23**	**253**	*eP*	**P**	**22 49 44.9**	**-1.4**
YSS	**Yuzh-Sakhalins**	**17.21**	**10**	*eP*	**P**	**22 49 57.4**	**+0.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**17.21**	**10**	*eP*	**P**	**22 49 57.4**	**+0.8**
	comp=Z,10nm,0.4s						
BJT	**Baijiatuau**	**20.86**	**305**	*eP*	**P**	**22 50 29.9**	**-2.3**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJT	**Baijiatuau**	**20.86**	**305**	*eP*	**P**	**22 50 29.9**	**-2.3**
	comp=Z,3.9nm,0.6s						
HIA	**Hailar**	**23.97**	**329**	*eP*	**P**	**22 50 59.9**	**-0.4**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HIA	**Hailar**	**23.97**	**329**	*eP*	**P**	**22 50 59.9**	**-0.4**
	comp=Z,3.0nm,0.6s,mb3.9						
GYA	**Guiyang**	**28.32**	**271**	*eP*	**P**	**22 51 39.3**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**30.43**	**315**	P	**P**	**22 51 56.8**	**-0.4**
	comp=Z,1.7nm,0.5s,mb3.6,baz=127,slow=8.8,SNR=14						
SONM				ScP	ScP	22 57 45.0	-1.1
	comp=Z,0.5nm,0.5s,baz=85,slow=3.1,SNR=3.9						
SONM	**Songino Array**	**30.43**	**315**	P	**P**	**22 51 56.8**	**-0.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM				pmax	pmax		
	comp=N,1.0nm,0.5s						
MA2	**Magadan**	**30.68**	**12**	*eP*	**P**	**22 51 59.8**	**+0.4**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
MA2	**Magadan**	**30.68**	**12**	*eP*	**P**	**22 51 59.8**	**+0.4**
	comp=Z,6.9nm,0.7s,mb4.1						
KMI	**Kunming**	**32.09**	**270**	P	**P**	**22 52 11.9**	**+0.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb3.7						
KMI	**Kunming**	**32.09**	**270**	P	**P**	**22 52 11.9**	**+0.4**
	comp=Z,7.0nm,1.6s,mb3.7						
GTA	**Gaotai**	**33.02**	**297**	*eP*	**P**	**22 52 19.8**	**+0.2**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.0						
ZAK	**Zakamensk**	**33.34**	**318**	*eP*	**P**	**22 52 22.3**	**0.0**
PMG	**Port Moresby**	**40.05**	**167**	P	**P**	**22 53 17.5**	**-0.5**
PMG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
PMG	**Port Moresby**	**40.05**	**167**	P	**P**	**22 53 17.5**	**-0.5**
	comp=Z,3.8nm,0.4s,mb4.1						
LSA	**Lhasa**	**40.93**	**282**	*eP*	**P**	**22 53 29.0**	**+4.0**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
LSA	**Lhasa**	**40.93**	**282**	*eP*	**P**	**22 53 28.9**	**+3.9**
	comp=Z,1.6nm,0.4s,mb3.7						
BILL	**Biiibino**	**41.39**	**15**	*eP*	**P**	**22 53 28.6**	**-0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
BILL	**Biiibino**	**41.39**	**15**	*eP*	**P**	**22 53 28.6**	**-0.2**
	comp=Z,1.4nm,0.4s,mb3.6						
ZAL	**Zalesovo**	**45.23**	**318**	P	**P**	**22 53 58.3**	**-0.6**
	comp=Z,2.1nm,0.4s,mb3.8,baz=0.3,slow=6.3,SNR=6.5						
ZAL	**Zalesovo**	**45.23**	**318**	P	**P**	**22 53 58.3**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						

JIRN	**Jiri**	**45.65**	**281**	*eP*	**P**	**22 54 03.7**	**+1.5**
	comp=Z,40nm,0.4s,mb5.1						
GUN	**Gumba**	**45.85**	**281**	*eP*	**P**	**22 54 05.0**	**+1.3**
	comp=Z,22nm,0.4s,mb4.8						
MK31	**Makanchi Array**	**46.20**	**308**	*eP*	**P**	**22 54 06.2**	**-0.2**
MKAR	**Makanchi Array**	**46.20**	**308**	P	**P**	**22 54 06.3**	**-0.1**
	comp=Z,1.6nm,0.3s,mb3.8,baz=85,slow=9.8,SNR=67						
MKAR				PcP	PcP	22 55 34.1	+0.1
	comp=Z,0.6nm,0.4s,baz=88,slow=14,SNR=6.0						
MKAR				ScP	ScP	22 58 45.0	-1.2
	comp=Z,0.9nm,0.6s,baz=68,slow=4.2,SNR=7.2						
KKN	**Kakani**	**46.39**	**281**	*eP*	**P**	**22 54 08.5**	**+0.6**
	comp=Z,15nm,0.6s,mb4.5						
DMN	**Daman**	**46.59**	**281**	*eP*	**P**	**22 54 10.2**	**+0.8**
	comp=Z,10nm,0.5s,mb4.4						
GKN	**Gorkha**	**46.88**	**282**	*eP*	**P**	**22 54 12.2**	**+0.6**
	comp=Z,7.9nm,0.3s,mb4.5						
KOLN	**Koldanda**	**47.83**	**282**	*eP*	**P**	**22 54 19.8**	**+1.0**
KURK	**Kurchatov**	**48.70**	**313**	*eP*	**P**	**22 54 24.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.3						
KURK	**Kurchatov**	**48.70**	**313**	*eP*	**P**	**22 54 24.7**	**-0.7**
	comp=Z,5.6nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**49.84**	**185**	*eP*	**P**	**22 54 34.4**	**+0.5**
WRA	**Warramunga Arr**	**49.85**	**185**	P	**P**	**22 54 34.5**	**+0.6**
	comp=Z,4.1nm,0.5s,mb4.0,baz=360,slow=7.7,SNR=122						
WRA	**Warramunga Arr**	**49.85**	**185**	P	**P**	**22 54 34.5**	**+0.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ASAR	**Alice Springs**	**53.57**	**185**	P	**P**	**22 55 01.8**	**+0.7**
	comp=Z,1.7nm,0.4s,mb3.6,baz=2.9,slow=5.4,SNR=34						
ASAR	**Alice Springs**	**53.57**	**185**	P	**P**	**22 55 01.8**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVA0	**Borovoye Array**	**53.77**	**316**	*i* P	**P**	**22 55 02.2**	**-0.2**
BVAR	**Borovoye Array**	**53.77**	**316**	P	**P**	**22 55 02.2**	**-0.2**
	comp=Z,12nm,0.4s,mb4.5,baz=97,slow=7.4,SNR=175						
BVAR				PcP	PcP	22 56 01.6	-0.4
	comp=Z,0.9nm,0.5s,baz=74,slow=5.4,SNR=3.8						
BVAR	**Borovoye Array**	**53.77**	**316**	P	**P**	**22 55 02.2**	**-0.2**
BVAR						22 56 01.6	
BVAR				pmax	pmax		
	comp=Z,12nm,0.4s						
BRVK	**Borovoye**	**53.83**	**316**	P	**P**	**22 55 02.7**	**-0.1**
BRVK	**Borovoye**	**53.83**	**316**	*eP*	**P**	**22 55 02.4**	**-0.5**
	comp=Z,5.0nm,0.6s,mb3.9						
DAWY	**Dawson**	**59.99**	**30**	*eP*	**P**	**22 55 45.8**	**+0.4**
STKA	**Stephens Creek**	**61.63**	**177**	P	**P**	**22 55 57.2**	**+0.9**
	comp=Z,3.2nm,0.6s,mb4.0,baz=335,slow=11,SNR=7.8						
STKA	**Stephens Creek**	**61.63**	**177**	P	**P**	**22 55 57.2**	**+0.9**
INK	**Inuvik**	**61.70**	**25**	P	**P**	**22 55 56.9**	**+0.1**
	comp=Z,1.9nm,0.5s,mb3.9,baz=288,slow=4.9,SNR=20						
INK	**Inuvik**	**61.70**	**25**	P	**P**	**22 55 56.9**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTK	**Aktyubinsk**	**61.75**	**314**	P	**P**	**22 55 56.6**	**-0.5**
AKTO	**Aktyubinsk**	**61.75**	**314**	P	**P**	**22 55 56.6**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.2,baz=76,slow=13,SNR=15						
AKTO	**Aktyubinsk**	**61.75**	**314**	P	**P**	**22 55 56.7**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
NWAO	**Narrogin (SRO)**	**65.80**	**200**	*eP*	**P**	**22 56 23.4**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**65.80**	**200**	*eP*	**P**	**22 56 23.4**	**+0.2**
	comp=Z,5.5nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**69.74**	**340**	P	**P**	**22 56 47.1**	**-0.3**
	comp=Z,6.0nm,0.9s,mb4.1,baz=71,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**69.74**	**340**	P	**P**	**22 56 47.1**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA	**Yellowknife Ar**	**71.06**	**28**	P	**P**	**22 56 54.9**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.5,baz=297,slow=6.2,SNR=16						
JOF	**Joensuu**	**71.06**	**332**	*ep*	**P**	**22 56 54.1**	**-1.2**
	comp=Z,3.3nm,0.3s,mb4.3						
JOF	**Joensuu**	**71.06**	**332**	*eP*	**P**	**22 56 54.1**	**-1.2**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**73.47**	**333**	*ep*	**P**	**22 57 07.8**	**-1.5**
	comp=Z,2.3nm,0.4s,mb4.1						
KAF	**Kangasniemi**	**73.47**	**333**	*eP*	**P**	**22 57 07.8**	**-1.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**73.93**	**332**	P	**P**	**22 57 11.3**	**-0.7**
	comp=Z,1.5nm,0.3s,mb4.1,baz=61,slow=5.6,SNR=26						
FINES	**FINESS Array B**	**73.93**	**332**	P	**P**	**22 57 11.3**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**73.93**	**332**	P	**P**	**22 57 11.3**	**-0.7**
AKASG	**Malin Array Be**	**78.40**	**322**	P	**P**	**22 57 35.9**	**-0.9**
	comp=Z,0.9nm,0.3s,mb3.8,baz=51,slow=5.4,SNR=7.8						
AKASG	**Malin Array Be**	**78.40**	**322**	P	**P**	**22 57 35.9**	**-0.9**
HFS	**Hagfors**	**79.48**	**335**	P	**P**	**22 57 41.6**	**-1.0**
	comp=Z,1.2nm,0.3s,mb4.0,baz=74,slow=7.2,SNR=18						
HFS	**Hagfors**	**79.48**	**335**	P	**P**	**22 57 41.6**	**-1.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**79.72**	**337**	P	**P**	**22 57 43.0**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.1,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**79.72**	**337**	P	**P**	**22 57

PVER			*e*S	Sg	22 50 52.0	-1.2
PVER						
	618nm,0.3s					
PVER	**Pico Vermelho**	**0.69 299**	*e*P	Pg	22 50 43.1	-1.2
PVER			*e*S	Sg	22 50 52.0	-1.2
CML	**Cha da Macela**	**0.69 296**	*e*P	Pg	22 50 43.1	-1.4
FAC	**Faja de Cima**	**0.77 294**	*e*P	Pg	22 50 44.4	-1.6
PDA	**Ponta Delgada**	**0.77 292**	*e*P	Pg	22 50 59.4	+13
PDA			*e*S	Sg	22 51 04.5	+8.5
PSAN	**Santo Antonio**	**0.86 297**	*e*P	Pg	22 50 45.5	-2.2
PFET	**Feteiras**	**0.89 294**	*e*P	Pg	22 50 46.0	-2.2
SET2	**Ginetes**	**0.91 295**	*e*P	Pg	22 50 46.3	-2.4
SET4	**Mosteiros**	**0.92 297**	*e*P	Pg	22 50 46.4	-2.4
PFAV	**Pico das Favas**	**2.22 305**	*e*P	Pn	22 51 04.5	-4.6
PFAV			*e*S	Sn	22 51 29.1	-8.1
PFAV						
	78nm,0.3s					
PFAV	**Pico das Favas**	**2.22 305**	*e*P	Pn	22 51 04.5	-4.6
PFAV			*e*S	Sn	22 51 29.1	-8.1
RIB2	**Ribeirinha**	**2.25 303**	*e*P	Pn	22 51 05.1	-4.6
RIB2			*e*S	Sn	22 51 29.9	-8.2
RIB2						
	83nm,0.2s					
RIB2	**Ribeirinha**	**2.25 303**	*e*P	Pn	22 51 05.1	-4.6
RIB2			*e*S	Sn	22 51 29.9	-8.2
ADH	**Angra Heroismo**	**2.29 302**	*e*P	Pn	22 51 04.8	-5.3
ADH			*e*S	Sn	22 51 29.9	-9.0
PVNV	**Vila Nova**	**2.29 305**	*e*P	Pn	22 51 05.5	-4.7
PVNV			*e*S	Sn	22 51 31.0	-8.0
PVNV						
	66nm,0.1s					
PVNV	**Vila Nova**	**2.29 305**	*e*P	Pn	22 51 05.5	-4.7
PVNV			*e*S	Sn	22 51 31.0	-8.0
PPAD	**Pico dos Padre**	**2.34 303**	*e*P	Pn	22 51 06.5	-4.4
PPAD			*e*S	Sn	22 51 32.4	-8.0
PPAD						
	34nm,0.2s					
PPAD	**Pico dos Padre**	**2.34 303**	*e*P	Pn	22 51 06.5	-4.4
PPAD			*e*S	Sn	22 51 32.4	-8.0
PBIS	**Biscoitos**	**2.35 304**	*e*S	Sn	22 51 32.9	-7.7
PBIS						
	33nm,0.2s					
ASBA	**Santa Barbara**	**2.38 303**	*e*P	Pn	22 51 06.7	-4.7
ASBA			*e*S	Sn	22 51 33.1	-8.2
ASBA						
	316nm,0.3s					
ASBA	**Santa Barbara**	**2.38 303**	*e*P	Pn	22 51 06.7	-4.7
ASBA			*e*S	Sn	22 51 33.1	-8.2
PID	**Ribeirinha**	**2.83 291**	*e*P	Pn	22 51 13.4	-4.2
PID			*e*S	Sn	22 51 44.7	-7.6
ROSA	**Rosais**	**3.02 296**	*e*P	Pn	22 51 15.6	-4.6
ROSA			*e*S	Sn	22 51 49.8	-7.2
SRBC	**Serra Branca**	**3.02 302**	*e*P	Pn	22 51 16.3	-3.9
SRBC			*e*S	Sn	22 51 49.1	-8.0
PICO	**Pico**	**3.08 291**	*e*P	Pn	22 51 16.9	-4.1
PICO			*e*S	Sn	22 51 50.4	-8.0
HOR	**Horta**	**3.24 290**	*e*P	Pn	22 51 18.7	-4.5
HOR			*e*S	Sn	22 51 54.0	-8.4
CALA	**Caldeira**	**3.31 291**	*i* P	Pn	22 51 20.0	-4.1
CALA			*e*S	Sn	22 51 55.8	-8.3

KRSC 22 23:05:07.4±1.1, 5300N×16278E, h32km±32km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.67 274**		*e*P	Pn	23 05 36.0	+1.6
SPN				*i* S	Sn	23 05 56.7	+2.1
MKZ	**Mys Kozlova**	**1.68 339**		*e*P	Pn	23 05 35.6	+1.1
MKZ				*i* S	Sn	23 05 56.2	+1.3
NLC	**Nalytchevo**	**2.08 276**		*e*P	Pn	23 05 41.8	+1.8
NLC				*i* S	Sn	23 06 06.6	+1.8
KII	**Karymskiy**	**2.24 299**		*e*P	Pn	23 05 44.5	+2.2
KII				*i* S	Sn	23 06 11.3	+2.4
PET	**Petropavlovsk**	**2.49 272**		*e*P	Pn	23 05 47.8	+2.1
PET				*i* S	Sn	23 06 17.3	+2.3
RUS	**Russkaya**	**2.66 259**		*e*P	Pn	23 05 49.6	+1.6
RUS				*i* S	Sn	23 06 20.4	+1.3
TUMR	**Tumrok**	**2.76 327**		*e*P	Pn	23 05 52.4	+3.0
TUMR				*i* S	Sn	23 06 25.5	+3.8
GRL	**Gorelyy**	**2.89 263**		*e*P	Pn	23 05 53.9	+2.7
GRL				*i* S	Sn	23 06 27.7	+2.8
GNL	**Ganaly**	**2.98 285**		*e*P	Pn	23 05 55.6	+3.2
GNL				*i* S	Sn	23 06 30.8	+3.7
KMNR	**Kamenistaya**	**3.14 333**		*e*P	Pn	23 05 57.9	+3.3
KMNR				*i* S	Sn	23 06 34.4	+3.5
KBTR	**Krutoberegovo**	**3.21**	**0**	*e*P	Pn	23 05 56.2	+0.6
KBTR				*i* S	Sn	23 06 31.3	-1.5
ZLN	**Zelenaya**	**3.23 340**		*e*P	Pn	23 05 59.3	+3.4
KIRR	**Kirishev**	**3.28 335**		*e*P	Pn	23 06 00.0	+3.4
KPT	**Kopyto**	**3.33 334**		*e*P	Pn	23 06 00.9	+3.7
KRSR	**Krestovskiy**	**3.47 339**		*e*P	Pn	23 06 01.8	+2.6
KRSR				*i* S	Sn	23 06 41.4	+2.2
KOZ	**Kozyrevsk**	**3.50 332**		*e*P	Pn	23 06 03.0	+3.4
KOZ				*i* S	Sn	23 06 43.6	+3.7
SMKR	**Semkarok**	**3.67 349**		*e*P	Pn	23 06 04.6	+2.7
SMKR				*i* S	Sn	23 06 46.0	+2.0
BDR	**Baidarnaya**	**3.69 346**		*e*P	Pn	23 06 04.7	+2.5
SRDR	**Sredinnyy**	**3.77 333**		*e*P	Pn	23 06 05.8	+2.5
SRKR	**Sorokina**	**3.78 346**		*e*P	Pn	23 06 05.8	+2.4

*ISCJB **22** 23:29:19.9±2.0, 353S±02×1792W±03, h123km±18km, mb4.3/3, Error ellipse: s-maj=40.6km s-min=22.1km az=61.7*
*IDC **22** 23:29:19.2±8.2, 3463S×17990W, h51km±65km, mb4.1/3, mb1 4.4/4, mb1mx3.9/13, mbtmp4.3/4, ML4.7/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/20, Error ellipse: s-maj=54.5km s-min=32.2km az=49.0*
*NEIC **22** 23:29:34.1±1.6, 3604S×17970E, h184km±11km, mb4.6/2, Error ellipse: s-maj=22.7km s-min=18.2km az=79.0*
ISC 22 23:29:22.0±2.0, 349S±01×1798W±02, h85km±15km, n101, σ0§92/57, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.05 210**		P	**Pn**	**23 30 08.2**	**+0.1**
MXZ				S	**Sn**	**23 30 44.0**	**+0.5**
MXZ	**Matakaoa Point**	**3.05 210**		PN	**Pn**	**23 30 08.2**	**+0.2**
MXZ				SN	**Sn**	**23 30 44.0**	**+0.5**
MXZ				T		23 32 57.4	
PUZ	**Puketiti**	**3.51 207**		P	**Pn**	**23 30 15.2**	**+0.9**
PUZ	**Puketiti**	**3.51 207**		PN	**Pn**	**23 30 15.2**	**+0.9**
PUZ				SN	**Sn**	**23 30 55.6**	**+0.8**
WIZ	**White Island**	**3.57 223**		PN	**Pn**	**23 30 15.9**	**+0.8**
MYRZ	**Mayor Island**	**3.99 233**		PN	**Pn**	**23 30 22.2**	**+1.4**
MWZ	**Matawai**	**4.03 212**		*e*P	**Pn**	**23 30 21.5**	**+0.2**
MWZ	**Matawai**	**4.03 212**		*e*PN	**Pn**	**23 30 21.5**	**+0.1**
URZ	**Urewera**	**4.16 216**		P	**Pn**	**23 30 23.4**	**+0.3**
	37nm,0.3s,baz=53,slow=3.1,SNR=154						
URZ				S	**Sn**	**23 31 12.1**	**+1.5**
	27nm,0.3s,baz=245,slow=18,SNR=3.2						
URZ				LR	LR	23 31 51.7	
	comp=Z,260nm,19.1s,baz=356,slow=35						
URZ	**Urewera**	**4.16 216**		*e*P	**Pn**	**23 30 23.2**	**+0.1**
URZ	**Urewera**	**4.16 216**		PN	**Pn**	**23 30 22.9**	**-0.2**
URZ				SN	**Sn**	**23 31 09.2**	**-1.4**
EDRZ	**Edgecumbe**	**4.24 221**		P	**Pn**	**23 30 25.6**	**+1.4**
EDRZ	**Edgecumbe**	**4.24 221**		PN	**Pn**	**23 30 24.8**	**+0.7**
KARZ	**Kaharoa**	**4.45 225**		P	**Pn**	**23 30 28.5**	**+1.4**
KARZ	**Kaharoa**	**4.45 225**		PN	**Pn**	**23 30 28.1**	**+1.0**
KNZ	**Kokohu**	**4.56 206**		P	**Pn**	**23 30 27.4**	**-1.2**
KNZ	**Kokohu**	**4.56 206**		PN	**Pn**	**23 30 27.1**	**-1.5**
KNZ				SN	**Sn**	**23 31 18.6**	**-1.7**
BKZ	**Black Stump Fm**	**5.17 214**		P	**Pn**	**23 30 36.0**	**-0.9**
BKZ	**Black Stump Fm**	**5.17 214**		*e*PN	**Pn**	**23 30 35.9**	**-1.0**
OUZ	**Omahuta**	**5.46 265**		*e*P	**Pn**	**23 30 39.0**	**-1.8**
OUZ	**Omahuta**	**5.46 265**		PN	**Pn**	**23 30 38.8**	**-2.0**
KRVZ	**Karewarewa**	**5.54 220**		PN	**Pn**	**23 30 41.6**	**-0.4**
OTVZ	**Oturere**	**5.58 220**		PN	**Pn**	**23 30 42.1**	**-0.4**
WTVZ	**West Tongariro**	**5.58 220**		P	**Pn**	**23 30 42.1**	**-0.4**
WTVZ	**West Tongariro**	**5.58 220**		*e*PN	**Pn**	**23 30 42.0**	**-0.5**
NGZ	**Ngauruhoe**	**5.62 220**		P	**Pn**	**23 30 43.6**	**+0.5**
NGZ	**Ngauruhoe**	**5.62 220**		PN	**Pn**	**23 30 43.3**	**+0.3**
TWVZ	**Taurewa**	**5.63 222**		P	**Pn**	**23 30 43.0**	**-0.2**
TWVZ	**Taurewa**	**5.63 222**		PN	**Pn**	**23 30 43.2**	**0.0**
TUVZ	**Tukino**	**5.66 219**		P	**Pn**	**23 30 46.1**	**+2.5**
TUVZ	**Tukino**	**5.66 219**		PN	**Pn**	**23 30 43.8**	**+0.2**
WPVZ	**Whakapapa**	**5.67 220**		*e*P	**Pn**	**23 30 44.4**	**+0.7**
WPVZ	**Whakapapa**	**5.67 220**		PN	**Pn**	**23 30 44.3**	**+0.5**
FWVZ	**Far West T-bar**	**5.71 220**		P	**Pn**	**23 30 43.6**	**-0.6**
FWVZ	**Far West T-bar**	**5.71 220**		PN	**Pn**	**23 30 43.4**	**-0.8**
MOVZ	**Moawhango**	**5.72 217**		P	**Pn**	**23 30 43.7**	**-0.7**
MOVZ	**Moawhango**	**5.72 217**		PN	**Pn**	**23 30 43.3**	**-1.1**
WNVZ	**Wahianoa**	**5.74 219**		P	**Pn**	**23 30 44.4**	**-0.2**
WNVZ	**Wahianoa**	**5.74 219**		PN	**Pn**	**23 30 43.8**	**-0.8**
PXZ	**Pawanui**	**5.75 207**		PN	**Pn**	**23 30 41.0**	**-3.8**
TSZ	**Takapari Road**	**6.14 212**		*e*P	Px	23 30 48.1	
TSZ	**Takapari Road**	**6.14 212**		*e*PN	Px	23 30 47.3	
WAZ	**Wanganui**	**6.37 220**		P	Px	23 30 51.8	
WAZ	**Wanganui**	**6.37 220**		*e*PN	Px	23 30 51.8	
BFZ	**Birch Farm**	**6.54 208**		P	Px	23 30 53.0	
BFZ	**Birch Farm**	**6.54 208**		PN	Px	23 30 52.9	
MRZ	**Mangatainoka R**	**6.80 211**		*e*P	Px	23 30 55.8	
MRZ	**Mangatainoka R**	**6.80 211**		*e*PN	Px	23 30 55.1	
MRZ				*e*SN	Sx	23 32 09.1	
MTW	**Mount Morrison**	**7.24 210**		P	Px	23 31 01.2	
MTW	**Mount Morrison**	**7.24 210**		*e*PN	Px	23 31 00.4	
KIW	**Kapiti Island**	**7.26 214**		P	Px	23 31 01.6	
KIW	**Kapiti Island**	**7.26 214**		PN	Px	23 31 01.1	
CAW	**Cannon Point**	**7.38 212**		P	Px	23 31 03.8	
CAW	**Cannon Point**	**7.38 212**		*e*PN	Px	23 31 02.5	
PAWZ	**Paruwai Farm**	**7.46 209**		P	Px	23 31 04.9	
PAWZ	**Paruwai Farm**	**7.46 209**		PN	Px	23 31 04.8	
MRW	**Makara Radio**	**7.65 213**		P	Px	23 31 07.6	
MRW	**Makara Radio**	**7.65 213**		*e*PN	Px	23 31 07.2	
DUWZ	**D'Urville Isla**	**7.69 219**		PN	Px	23 31 08.6	
TCW	**Tory Channel**	**7.83 215**		P	Px	23 31 09.1	
TCW	**Tory Channel**	**7.83 215**		*e*PN	Px	23 31 08.2	
TUWZ	**Tuamarina**	**8.15 216**		*e*PN	Px	23 31 12.2	
NNZ	**Nelson**	**8.28 219**		*e*P	Px	23 31 15.9	
NNZ	**Nelson**	**8.28 219**		*e*PN	Px	23 31 15.1	
BSWZ	**Blackbirch Sta**	**8.41 215**		*e*P	Px	23 31 16.9	
BSWZ	**Blackbirch Sta**	**8.41 215**		*e*PN	Px	23 31 16.7	
QRZ	**Quartz Range**	**8.46 224**		*e*P	Px	23 31 17.4	
QRZ	**Quartz Range**	**8.46 224**		*e*PN	Px	23 31 17.2	
THZ	**Tophouse**	**8.92 218**		*e*P	Px	23 31 22.6	
THZ	**Tophouse**	**8.92 218**		*e*PN	Px	23 31 22.3	
THZ				*e*SN	Sx	23 33 00.6	
KHZ	**Kahutara**	**9.12 213**		*e*P	Px	23 31 26.4	
KHZ	**Kahutara**	**9.12 213**		*e*PN	Px	23 31 26.1	
LTZ	**Lake Taylor**	**9.99 216**		*e*P	**Pn**	**23 31 36.5**	**-6.1**
LTZ	**Lake Taylor**	**9.99 216**		*e*PN	**Pn**	**23 31 36.1**	**-6.5**
MQZ	**McQueen's Vall**	**10.54 212**		*e*PN	Px	23 31 43.5	
MQZ				*e*SN	Sx	23 33 34.2	
WVZ	**Waitaha Valley**	**10.98 219**		*e*PN	**Pn**	**23 31 49.8**	**-6.2**
RPZ	**Rata Peaks**	**11.28 216**		P	Px	23 31 54.6	
	2.4nm,0.3s,baz=65,slow=9.2,SNR=7.6						
RPZ				S	Sx	23 33 53.3	
	1.3nm,0.3s,baz=126,slow=19,SNR=5.3						
ODZ	**Otahua Downs**	**12.48 213**		*e*P	**Pn**	**23 32 10.2**	**-6.2**
ODZ	**Otahua Downs**	**12.48 213**		*e*PN	**Pn**	**23 32 09.6**	**-6.7**
JCZ	**Jackson Bay**	**12.71 221**		*e*P	**Pn**	**23 32 13.8**	**-5.6**
JCZ	**Jackson Bay**	**12.71 221**		PN	**Pn**	**23 32 10.8**	**-8.7**
DZM	**Mont Dzumac**	**17.62 313**		LR	LR	23 38 40.6	
	comp=Z,141nm,18.3s,baz=318,slow=32						
TBI	**Tubuai**	**28.76 74**		*e*LR	LR	23 41 32.2	
	268nm,33.0s						
TBI	**Tubuai**	**28.76 74**		*e*T		00 04 32.8	
	16nm,0.3s						
HNR	**Honiara**	**31.45 319**		LR	LR	23 45 54.1	
	comp=Z,95nm,19.0s,baz=359,slow=32						
PAE	**Paea**	**31.89 65**		*e*T		00 08 27.0	
	20nm,0.2s						
PPT	**Papeete**	**31.95 65**		*e*LR	LR	23 43 17.3	
	222nm,30.5s						
PPT	**Papeete**	**31.95 65**		*e*T		00 08 32.0	
	15nm,0.3s						
TVO	**Taravao**	**32.06 66**		*e*T		00 08 39.7	
	7.5nm,0.3s						
STKA	**Stephens Creek**	**32.27 264**		LR	LR	23 46 08.0	
	comp=Z,170nm,20.1s,baz=20,slow=31						
VAH	**Vaihoa**	**34.87 64**		*e*T		00 12 09.8	
	14nm,0.3s						
ASAR	**Alice Springs**	**41.61 273**		P	**P**	**23 37 01.4**	**-0.2**
	3.0nm,0.5s,mb4.2,baz=116,slow=8.6,SNR=43						
WB2	**Warramunga Arr**	**43.01 278**		*e*P	**P**	**23 37 13.3**	**+0.3**
WRA	**Warramunga Arr**	**43.02 278**		P	**P**	**23 37 12.9**	**-0.1**
	3.1nm,0.4s,mb4.4,baz=118,slow=7.6,SNR=89						
WRA				LR	LR	23 55 34.4	
	comp=Z,71nm,18.5s,baz=125,slow=37						
FITZ	**Fitzroy Crossi**	**51.05 274**		P	**P**	**23 38 15.9**	**+0.4**
	2.1nm,0.6s,mb4.3,baz=136,slow=6.9,SNR=5.7						
JOF	**Joensuu**	**146.00 335**		*e*pkp	PKPdf	23 48 49.4	-1.6
KAF	**Kangasniemi**	**148.23 337**		*e*pkp	PKPdf	23 48 55.8	+1.0
FINES	**FINESS Array B**	**148.79 336**		PKPbc	PKPbc	23 48 59.0	-0.7
	6.5nm,0.8s,baz=64,slow=4.4,SNR=11						
BRTR	**Keskin Array B**	**153.11 290**		PKPbc	PKPbc	23 49 09.3	-0.4
	1.6nm,0.9s,baz=157,slow=3.1,SNR=6.2						
BRTR				PKPab	PKPab	23 49 20.4	-1.1
	1.1nm,0.8s,baz=83,slow=3.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**158.26 184**		PKP	PKPdf	23 49 11.3	+2.1
	1.9nm,1.1s,baz=136,slow=0.5,SNR=5.5						
TORD				PKPab	PKPab	23 49 47.0	+3.3
	2.0nm,0.9s,baz=173,slow=2.7,SNR=8.4						
TORD	**Torodi Ar. Bea**	**158.26 184**		PKP	PKPdf	23 49 11.3	+2.1
TORD				PKPab	PKPab	23 49 47.0	+3.3

IDC 22 23:58:07.2±1.3, 1143N×9101E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=315.7km s-min=23.4km az=41.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.71**	**82**	*e*P	x	23 58 47.8	
PBA				*e*S	x	23 59 08.9	
PBA				*ex*	x	23 59 10.5	
	comp=N,335nm,0.4s						
PBA				*ex*	x	23 59 11.5	
	comp=E,449nm,0.4s						
WRA	**Warramunga Arr**	**52.83 126**		P	P	00 07 24.0	-0.4
	comp=E,1.1nm,0.5s,baz=302,slow=10.0,SNR=50						
WRA				PcP	PcP	00 08 34.6	+0.8
	comp=E,0.1nm,0.4s,baz=315,slow=3.0,SNR=5.0						
ASAR	**Alice Springs**	**54.55 130**		P	P	00 07 38.3	+1.3
	comp=E,0.6nm,0.4s,baz=310,slow=6.0,SNR=11						
BRTR	**Keskin Array B**	**57.79 310**		P	P	00 08 01.5	+1.3
	comp=E,0.6nm,0.8s,baz=106,slow=7.8,SNR=3.7						
GERES	**GERESS Array B**	**73.13 318**		P	P	00 09 38.8	-0.7
	comp=E,0.6nm,0.8s,baz=93,slow=5.3,SNR=4.7						

*CSEM **23** 00:18:18.6, 6783N×2019E, h4km, ML2.7, Mining explosion. After UPP*
*UPP **23** 00:18:18.6, 6783N×2019E, h4km, ML2.7, Mining explosion.*
HEL 23 00:18:19.0±0.0, 6783N×2019E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**24**	*i* P	Pg	00 18 21.3	-0.4
KUA				*i* S	Sg	00 18 23.3	-0.1
NIKU	**Nikkaluokta**	**0.44 276**		*i* P	Pg	00 18 26.9	-0.6
LANU	**Lannavaara**	**0.71 71**		*i* P	Pg	00 18 31.8	-0.9
DUNU	**Dundret**	**0.73 168**		*i* P	Pg	00 18 31.9	-1.0
MASU	**Masugnsbyn**	**0.79 118**		*i* P	Pg	00 18 33.3	-0.8
SALU	**Saltoluokta**	**0.79 236**		*i* P	Pg	00 18 33.2	-0.9
KIF	**Kilpisjarvi**	**1.20 11**		*e*P	Pg	00 18 41.4	-0.7
KIF				*e*S	Sg	00 18 57.3	-0.3
PAJU	**Pajala**	**1.39 124**		*e*P	Pn	00 18 43.7	-1.9
HARU	**Harads**	**1.70 169**		*e*P	Pn	00 18 49.2	-0.7
HARU	**Harads**	**1.70 169**		P	Pn	00 18 49.2	-0.7
SGF	**Sodankyl**	**2.46 96**		*e*PB	Pb	00 19 01.5	-2.5
SGF				*e*SB	Sb	00 19 33.2	-1.6

*CSEM **23** 00:25:54.1, 6786N×2020E, h0km, ML3.7, Mining explosion. After UPP*
UPP 23 00:25:54.1, 6786N×2020E, h0km, ML3.7, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.44 272**		P	Pg	00 26 02.5	0.0
LANU	**Lannavaara**	**0.70 73**		P	Pg	00 26 07.6	0.0
DUNU	**Dundret**	**0.75 169**		P	Pg	00 26 08.1	-0.4
	baz=70						
SALU	**Saltoluokta**	**0.80 234**		P	Pg	00 26 09.3	-0.2
PAJU	**Pajala**	**1.40 125**		P	Pn	00 26 19.8	-1.1
HARU	**Harads**	**1.73 169**		P	Pn	00 26 25.9	+0.5

*NIED **23** 00:37:00, 4100N×14580E, h5km, Mw3.6 Best double couple: M0:2.82000×10^14 NP1:φ0:232.00000°, δ:54.00000°, λ:-91.00000°. NP2:φ0:54.00000°, δ:36.00000°, λ:-88.00000°.*
JMA 23 00:37:55.0±0.2, 4100N×14579E, h40km, M3.7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**2.15 338**		P	Pn	00 38 30.4	+2.0
JAK				*e*S	Sn	00 38 54.7	+0.8
JEM	**Erimo**	**2.22 298**		P	Pn	00 38 30.0	+0.7
JEM				*e*S	Sn	00 38 54.7	-0.8
NEM2	**Nemuro 2**	**2.36 359**		P	Pn	00 38 32.5	+1.2
NEM2				*e*S	Sn	00 38 59.1	+0.1
JOB	**Onbets**	**2.40 323**		P	Pn	00 38 33.4	+1.7
JOB				*e*S	Sn	00 39 00.1	+0.3
JCH	**Churui**	**2.43 312**		P	Pn	00 38 33.6	+1.5
JCH				*e*S	Sn	00 38 59.7	-0.9
JNBK	**Urakawa-nobuka**	**2.61 300**		P	Pn	00 38 36.2	+1.5
JNBK				*e*S	Sn	00 39 05.3	+0.2
JNK	**Nakash**	**2.70 343**		*e*S	Sn	00 39 06.6	-0.8
JAR	**Ashorobuto**	**2.74 327**		*e*S	Sn	00 39 07.5	-0.9
JRA	**Rausu**	**2.98 351**		P	Pn	00 38 40.4	+0.7
JRA				*e*S	Sn	00 39 14.4	+0.2
JBT2	**Biratori 2**	**3.12 306**		P	Pn	00 38 43.8	+2.2
JBT2				*e*S	Sn	00 39 19.1	+1.6
JFR	**Furan**	**3.21 313**		*e*S	Sn	00 39 19.5	-0.5
JTKR	**Abashiri--Toko**	**3.28 336**		P	Pn	00 38 46.1	+2.3
JTKR				*e*S	Sn	00 39 22.6	+1.0
JMP	**Maruseppu**	**3.50 330**		P	Pn	00 38 48.8	+1.9
JMP				*e*S	Sn	00 39 27.4	+0.3

WEL 23 00:39:31.5±1.2, 3765S×17690E, h277km±10km, ML3.5/8, Error ellipse: s-maj=27.6km s-min=15.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.84 145**		PN	Pn	00 40 08.5	-0.2
MWZ				SN	S	00 40 37.3	-0.8
WNVZ	**Wahianoa**	**1.97 211**		PN	Pn	00 40 15.7	-0.2
TSZ	**Takapari Road**	**2.52 197**		PN	Pn	00 40 21.5	+0.6
MRZ	**Mangatainoka R**	**3.18 198**		PN	Pn	00 40 27.6	+0.1
KIW	**Kapiti Island**	**3.56 205**		PN	Pn	00 40 31.1	-0.6
CAW	**Cannon Point**	**3.74 202**		PN	Pn	00 40 33.3	-0.3
TCW	**Tory Channel**	**4.10 209**		PN	Pn	00 40 36.8	-0.9
TUWZ	**Tuamarina**	**4.42 210**		PN	Pn	00 40 40.4	-0.9
NNZ	**Nelson**	**4.49 216**		PN	Pn	00 40 40.1	-2.0
NNZ				SN	S	00 41 35.8	-2.8
QRZ	**Quartz Range**	**4.65 226**		PN	Pn	00 40 40.9	-3.1
THZ	**Tophouse**	**5.14 216**		PN	Pn	00 40 48.8	-1.0
KHZ	**Kahutara**	**5.42 207**		PN	Pn	00 40 52.7	-0.5

*ISCJB **23** 01:01:11.7±0.6, 1462N±005×9255W±004, h88km±7km, mb4.0/6, Error ellipse: s-maj=9.5km s-min=5.6km az=58.3*
*NEIC **23** 01:01:11.9±1.1, 1462N×9232W, h65km±14km, mb4.5/3, Error ellipse: s-maj=16.9km s-min=9.7km az=62.0*
*IDC **23** 01:01:13.2±1.7, 1479N×9230W, h70km±16km, mb3.7/5, mb1 3.9/8, mb1mx3.6/23, mbtmp3.7/8, MS3.3/4, Ms1 3.3/4, ms1mx3.1/24, Error ellipse: s-maj=20.2km s-min=10.8km az=37.0*
*MEX **23** 01:01:14.0±0.4, 1453N×9261W, h40km, MD4.6*
*CASC **23** 01:01:16.0±1.6, 1469N×9231W, h59km±22km, MD4.3, mb4.5(NEIC)*
ISC 23 01:01:12.8±0.6, 1463N±005×9251W±004, h81km±7km, n34, σ1§08/35, mb4.0/6, 4C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.90 110⇑**		*e*P	**Pn**	**01 01 30.8**	**0.0**
FUG	**Fuego 3**	**1.63 96⇑**		*e*P	**Pn**	**01 01 39.7**	**-0.1**
CCIG	**Comitan**	**1.69 12**		*i* P	**Pn**	**01 01 41.4**	**+0.9**
CCIG				*i* S	**Sn**	**01 02 02.1**	**+0.6**
TER	**Terranova**	**1.80 100⇑**		*e*P	**Pn**	**01 01 43.9**	**+1.8**
PCG	**Pacaya**	**1.86 97⇑**		*e*P	**Pn**	**01 01 43.7**	**+0.9**
RBDL	**Robledal**	**2.79 100**		*e*P	x	01 01 56.2	
RTR	**El Retiro**	**2.87 104**		*e*P	x	01 01 57.6	
RTR				*e*S	x	01 02 29.5	
SNJE	**San Jose**	**2.92 105**		*e*P	x	01 01 57.9	
SNJE				*e*S	x	01 02 30.6	
BOQS	**Boqueron**	**3.26 105**		*e*P	x	01 02 03.1	
BOQS				*e*S	x	01 02 39.4	
CMIG	**Matias Romero**	**3.35 317**		P	**Pn**	**01 02 02.9**	**0.0

Error ellipse: s-maj=4.6km s-min=3.8km az=166.9
*CSEM **23** 01:18:29.4±0.1, 38.36N×26.73E, h15km, MD3.4, Error ellipse: s-maj=2.3km s-min=1.7km az=84.0*
*ATH **23** 01:18:29.9, 38.40N×26.47E, h5km, MD3.6/12, ML3.7*
ISC 23 01:18:30.3±0.4, 38.38N±002×26.82E±003, h7km±3km, n67, σ0.81/73, 15C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.17**	**87**	*i* PG			**Pg**	**01 18 30.7**	**-0.1**
BLCB				*i* SG			**Sg**	**01 18 36.0**	**-0.2**
URLA	**Izmir**	**0.18**	**265**	*i* P			**Pg**	**01 18 34.2**	**+0.3**
URLA				*i* S			**Sg**	**01 18 37.2**	**+0.9**
IZM	**Izmir**	**0.35**	**86**	PG			**Pg**	**01 18 36.5**	**-0.6**
IZM				SG			**Sg**	**01 18 42.0**	**+0.3**
KDAG	**Bornova**	**0.35**	**85**	*i* P			**Pg**	**01 18 36.9**	**-0.2**
KDAG				*i* S			**Sg**	**01 18 41.7**	**-0.1**
SMG	**Samos**	**0.67**	**179**	*e*Pb			**Pb**	**01 18 43.5**	**-0.7**
SMG	**Samos**	**0.67**	**179**	P			**Pg**	**01 18 42.9**	**-0.2**
SMG	**Samos**	**0.67**	**179**	*e*Pb			**Pb**	**01 18 43.5**	**-0.7**
AKS	**Akhisar**	**0.93**	**57**	PG			**Pg**	**01 18 46.9**	**-1.2**
AYVA	**Ayvalik**	**0.94**	**354**	*i* P			**Pg**	**01 18 47.7**	**-0.5**
AYVA				*i* S			**Sg**	**01 19 01.1**	**+0.6**
PRK	**Paraskevi**	**0.97**	**334**	*e*PB			**Pg**	**01 18 47.1**	**-1.8**
PRK	**Paraskevi**	**0.97**	**334**	P			**Pg**	**01 18 48.9**	**0.0**
MLSB	**Milas**	**1.32**	**145**	PN			**Pn**	**01 18 54.3**	**-0.7**
EZN	**Ezine**	**1.50**	**345**	*e*PN			**Pn**	**01 18 56.0**	**-1.5**
APE	**Apeiranthos**	**1.67**	**218**	*e*PG			**Pn**	**01 18 57.8**	**-1.9**
APE	**Apeiranthos**	**1.66**	**218**	P			**Pn**	**01 18 58.8**	**-0.9**
YER	**Yerkesik**	**1.70**	**136**	PN			**Pn**	**01 18 59.4**	**-0.8**
DAT	**Datca**	**1.75**	**160**	*e*PN			**Pn**	**01 19 00.4**	**-0.6**
DENT	**Denizli**	**1.85**	**109**	*e*PN			**Pn**	**01 19 01.7**	**-0.7**
DST	**Dursunbey**	**1.87**	**48**	*e*PN			**Pn**	**01 19 03.0**	**+0.4**
LIA	**Limnos Island**	**1.98**	**321**	*e*PN			**Pn**	**01 19 04.0**	**-0.2**
LIA	**Limnos Island**	**1.98**	**321**	P			**Pn**	**01 19 03.8**	**-0.4**
LIA	**Limnos Island**	**1.98**	**321**	*e*Pn			**Pn**	**01 19 04.0**	**-0.2**
LPK	**Lapseki**	**2.00**	**359**	*e*PN			**Pn**	**01 19 03.3**	**-1.1**
EDC	**Edincik**	**2.13**	**22**	*e*PN			**Pn**	**01 19 06.2**	**0.0**
BNT	**Bandirma**	**2.15**	**23**	*e*PN			**Pn**	**01 19 06.9**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.16**	**137**	*e*PN			**Pn**	**01 19 06.8**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.33**	**7**	*e*PN			**Pn**	**01 19 08.3**	**-0.6**
SART	**Tekirdag**	**2.33**	**7**	*i* P			**Pn**	**01 19 10.0**	**+1.0**
SART				*i* S			**Sn**	**01 19 37.5**	**-0.3**
PTL	**Penteli**	**2.35**	**263**	*e*PG			**Pn**	**01 19 09.0**	**-0.2**
ARG	**Arkhangelos**	**2.39**	**154**	*e*PG			**Pg**	**01 19 17.5**	**+1.4**
ENEZ	**Enez**	**2.41**	**348**	*e*PN			**Pn**	**01 19 09.3**	**-0.8**
KVR	**Kavouri**	**2.47**	**258**	*e*PG			**Pn**	**01 19 11.2**	**+0.4**
ATH	**Athens Observa**	**2.48**	**262**	*e*PG			**Pn**	**01 19 11.2**	**+0.2**
NAIG	**Nisos Aigina**	**2.70**	**258**	*e*PG			**Pn**	**01 19 15.5**	**+1.5**
GEMT	**Gemlik**	**2.76**	**41**	*e*PN			**Pn**	**01 19 15.1**	**+0.3**
IZI	**Iznik**	**2.84**	**46**	*e*PN			**Pn**	**01 19 16.5**	**+0.5**
SHUT	**Suhut-Afyon**	**2.94**	**85**	*e*PN			**Pn**	**01 19 18.1**	**+0.8**
RDO	**Rodhopi**	**2.94**	**341**	*e*PB			**Pn**	**01 19 17.0**	**-0.3**
RDO	**Rodhopi**	**2.94**	**341**	P			**Pn**	**01 19 17.4**	**+0.1**
ELL	**Elmali**	**2.94**	**123**	*e*PN			**Pn**	**01 19 17.8**	**+0.4**
YLV	**Yalova**	**2.95**	**41**	*e*PN			**Pn**	**01 19 18.3**	**+0.8**
ADVT	**Abdulvahap**	**3.06**	**47**	*e*PN			**Pn**	**01 19 19.2**	**+0.3**
ISK	**Istanbul-Kandi**	**3.19**	**32**	*e*PN			**Pn**	**01 19 20.2**	**-0.6**
HRT	**Hereke**	**3.29**	**41**	*e*PN			**Pn**	**01 19 22.9**	**+0.8**
GPA	**Golpazari**	**3.31**	**54**	*e*PN			**Pn**	**01 19 22.5**	**0.0**
ESKT	**Eskisehir**	**3.34**	**69**	*e*PN			**Pn**	**01 19 24.3**	**+1.4**
EDRB	**Edirne**	**3.47**	**359**	*e*PN			**Pn**	**01 19 24.8**	**+0.2**
VLI	**Veliai**	**3.50**	**243**	*e*PN			**Pn**	**01 19 25.0**	**-0.1**
NVR	**Nevrokopi**	**3.74**	**323**	*e*PN			**Pn**	**01 19 25.2**	**-3.2**
NVR	**Nevrokopi**	**3.74**	**323**	P			**Pn**	**01 19 28.6**	**+0.2**
MDU	**Mudurnu**	**3.99**	**57**	*e*PN			**Pn**	**01 19 33.5**	**+1.7**
VTS	**Vitosha**	**5.03**	**328**	⇑P		⇑*i*P	**Pn**	**01 19 46.6**	**+0.6**
VTS	**Vitosha**	**5.03**	**328**	⇑P		⇑*i*P	**Pn**	**01 19 46.7**	**+0.6**
TIRR	**Tirgusor**	**6.20**	**11**	⇑P		⇑*i*P	**Pn**	**01 19 53.8**	**-8.3**
TIRR	**Tirgusor**	**6.20**	**11**	⇑P		⇑*i*P	**Pn**	**01 19 53.8**	**-8.3**
MLR	**Muntele Rosu**	**7.14**	**355**	⇑P		⇑*i*P	**Pn**	**01 20 13.5**	**-1.6**
VOIR		**7.18**	**350**	⇑P		⇑*i*P	**Pn**	**01 20 07.6**	**-8.0**
VOIR		**7.18**	**350**	⇑P		⇑*i*P	**Pn**	**01 20 07.6**	**-8.0**
VRI	**Vrincioaia**	**7.49**	**360**	⇑P		⇑*i*P	**Pn**	**01 20 10.6**	**-9.2**
VRI	**Vrincioaia**	**7.49**	**360**	⇑P		⇑*i*P	**Pn**	**01 20 10.6**	**-9.2**
GZR	**Gura Zlata**	**7.63**	**338**	⇓*i*P			**Pn**	**01 20 23.0**	**+1.2**
BZS	**Buzias**	**8.21**	**334**	⇑P		⇑*i*P	**Pn**	**01 20 28.5**	**-1.2**
BZS	**Buzias**	**8.21**	**334**	⇑P		⇑*i*P	**Pn**	**01 20 28.5**	**-1.2**
DRGR		**8.94**	**342**	⇑P		⇑*i*P	**Pn**	**01 20 46.8**	**+7.1**
DRGR		**8.94**	**342**	⇑P		⇑*i*P	**Pn**	**01 20 46.8**	**+7.1**
BURAR	**Bucovina Array**	**9.31**	**353**	⇑P		⇑*i*P	**Pn**	**01 20 46.0**	**+1.2**
BURAR	**Bucovina Array**	**9.31**	**353**	⇑P		⇑*i*P	**Pn**	**01 20 46.0**	**+1.2**

*ISCJB **23** 01:53:20.8±0.4, 54.35S±005×159.0E±0.1, h10km, mb4.8/18, MS4.6/38, Error ellipse: s-maj=9.1km s-min=6.0km az=56.0*
*IDC **23** 01:53:21.1±0.6, 54.38S×158.89E, h0km, mb4.7/9, mb1 4.7/9, mb1mx4.7/12, mbtmp4.6/9, MS3.8/6, Ms1 3.8/6, ms1mx3.4/17, Error ellipse: s-maj=27.8km s-min=17.5km az=72.0*
*NEIC **23** 01:53:22.8±0.3, 54.39S×158.87E, h10km, mb5.0/15, MS4.6/34, Error ellipse: s-maj=10.0km s-min=7.5km az=117.0*
*GCMT **23** 01:53:22.8±0.3, 54.60S×158.65E, h22km±1km, MW5.1/51, Moment Tensor Solution. s30,c36; s51,c73; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.95±.35; Mθθ-0.07±.20; Mφφ-4.88±.21; Mrθ2.16±.41; Mrφ0.07±.13; Mθφ-2.01±.30; Best double couple: M0=5.69700×10^16 NP1:φs=16.00000°, δ36.00000°, λ120.00000°. NP2: φs=160.00000°, δ59.00000°, λ70.00000°. Principal axes: T 6.0700, Plg68.0000°, Azm27.0000°; N -0.7470, Plg17.0000°, Azm170.0000°; P -5.3240, Plg12.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **23** 01:53:31.3±1.8, 54.18S×156.78E, h33km, mb5.0/5 Error ellipse: s-maj=38.8km s-min=13.5km az=104.5*
ISC 23 01:53:22.5±0.3, 54.41S±005×158.89E±010, h10km, (h15km±.8km:pP-P), n166, σ0.93/59, mb4.8/18, MS4.6/38, 18C-6D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APZ	**The Paps**	**9.53**	**41**	PN			**Pn**	**01 55 38.1**	**-1.6**
APZ				SN			**Sn**	**01 57 18.9**	**-8.0**
SYZ	**Scrubby Hill**	**10.23**	**44**	PN			**Pn**	**01 55 48.8**	**-0.5**
SYZ				SN			**Sn**	**01 57 35.5**	**-8.5**
WHZ	**Wether Hill Ro**	**10.31**	**38**	*e*P			**Pn**	**01 55 49.1**	**-1.3**
WHZ	**Wether Hill Ro**	**10.31**	**38**	PN			**Pn**	**01 55 49.1**	**-1.3**
MLZ	**Mavora Lakes**	**10.86**	**37**	*e*P			**Pn**	**01 55 58.1**	**+0.1**
MLZ	**Mavora Lakes**	**10.86**	**37**	PN			**Pn**	**01 55 58.1**	**+0.1**
TUZ	**Tuapeka**	**10.90**	**43**	*e*P			**Pn**	**01 55 58.3**	**-0.2**
TUZ	**Tuapeka**	**10.90**	**43**	PN			**Pn**	**01 55 58.3**	**-0.2**
EAZ	**Earnscleugh**	**11.38**	**40**	*e*P			**Pn**	**01 56 05.0**	**0.0**
EAZ	**Earnscleugh**	**11.38**	**40**	PN			**Pn**	**01 56 05.0**	**0.0**
ODZ	**Otahua Downs**	**12.05**	**44**	*e*P			**Pn**	**01 56 14.4**	**+0.1**
ODZ	**Otahua Downs**	**12.05**	**44**	PN			**Pn**	**01 56 14.4**	**+0.1**
JCZ	**Jackson Bay**	**12.18**	**36**	*e*P			**Pn**	**01 56 18.0**	**+2.0**
JCZ	**Jackson Bay**	**12.18**	**36**	PN			**Pn**	**01 56 18.0**	**+2.1**
TAU	**Tasmania Unive**	**13.79**	**322**	*e*P			**Pn**	**01 56 36.2**	**-1.9**
CNB	**Canberra Magne**	**20.22**	**337**	*e*P			**P**	**01 57 59.9**	**+2.3**
60nm,1.3s									
VNDA	**Vanda**	**23.23**	**178**	P			**P**	**01 58 30.6**	**+0.8**
6.2nm,0.8s,mb4.1,baz=342,slow=8.1,SNR=16									
VNDA				PcP			PcP	02 02 17.2	-0.3
1.2nm,0.8s,baz=297,slow=2.3,SNR=5.0									
VNDA				LR			LR	02 05 43.7	
comp=Z,321nm,19.1s,MS3.8,baz=275,slow=32									
VNDA	**Vanda**	**23.23**	**178**	*e*P			**P**	**01 58 30.2**	**+0.4**
VNDA				pmax			pmax		
comp=Z,7.0nm,0.9s									
VNDA				MLR			MLR		
comp=Z,396nm,20.0s									
VNDA	**Vanda**	**23.23**	**178**	*e*P			**P**	**01 58 30.2**	**+0.4**
comp=Z,6.7nm,0.9s,mb4.1									
VNDA				LR			LR		
comp=Z,396nm,20.0s,MS3.9									
STKA	**Stephens Creek**	**25.68**	**324**	*e*P			**P**	**01 58 53.1**	**+0.5**
comp=Z,6.0nm,0.8s,mb4.2									
STKA				*e*PCP			PcP	02 02 22.5	-0.4
STKA	**Stephens Creek**	**25.68**	**324**	P			**P**	**01 58 53.6**	**+1.0**
comp=Z,4.8nm,0.9s,mb4.0,baz=153,slow=10,SNR=6.5									
STKA				PcP			PcP	02 02 22.5	-0.4
comp=Z,4.9nm,0.8s,baz=84,slow=3.1,SNR=4.9									
STKA				LR			LR	02 07 06.9	
comp=Z,110nm,21.0s,baz=295,slow=32									
STKA	**Stephens Creek**	**25.68**	**324**	*e*P			**P**	**01 58 51.9**	**-0.7**
CASY	**Casey**	**25.95**	**224**	P			**P**	**01 58 55.8**	**+0.7**
comp=Z,20nm,1.1s,mb4.6									
CASY				LR			LR		
comp=Z,237nm,20.0s,MS3.7									
FORT	**Forrest**	**32.31**	**304**	*e*P			**P**	**01 59 50.9**	**-0.7**
comp=Z,6.4nm,0.3s,mb4.9									
CTA	**Charters Tower**	**35.60**	**339**	⇑*i*P			**P**	**02 00 20.8**	**+0.7**
comp=Z,17nm,1.1s,mb4.9									
CTA				*e*PCP			PcP	02 02 48.8	-0.1
CTA	**Charters Tower**	**35.60**	**339**	⇑*i*P			**P**	**02 00 20.8**	**+0.7**
CTA				*e*				02 02 48.8	
CTA				pmax			pmax		
comp=Z,17nm,1.1s									
CTAO	**Charters Tower**	**35.60**	**339**	*e*P			**P**	**02 00 20.8**	**+0.7**
CTAO				pmax			pmax		
comp=Z,39nm,1.2s,mb5.2									
CTAO	**Charters Tower**	**35.60**	**339**	*e*P			**P**	**02 00 20.8**	**+0.7**
comp=Z,39nm,1.2s,mb5.2									
QSPA	**South Pole Qui**	**35.70**	**180**	*e*P			**P**	**02 00 21.9**	**+0.8**
comp=Z,37nm,1.1s,mb5.2									
QSPA				LR			LR		
comp=Z,277nm,19.0s,MS4.0									
NWAO	**Narrogin (SRO)**	**36.27**	**289**	P			**P**	**02 00 26.9**	**+1.0**
comp=Z,13nm,0.8s,mb4.9,baz=146,slow=7.0,SNR=4.0									
NWAO	**Narrogin (SRO)**	**36.27**	**289**	*e*P			**P**	**02 00 26.0**	**+0.1**
NWAO				pmax			pmax		
comp=Z,10.0nm,0.7s									
NWAO	**Narrogin (SRO)**	**36.27**	**289**	*e*P			**P**	**02 00 26.0**	**+0.1**
comp=Z,10nm,0.7s,mb4.9									
KLBR	**Kellerberrin**	**37.00**	**291**	*e*P			**P**	**02 00 32.9**	**+0.8**
comp=Z,21nm,0.9s,mb5.0									
WB2	**Warramunga Arr**	**39.16**	**322**	⇑*i*P			**P**	**02 00 49.7**	**-0.7**
WB2				*e*PCP			PcP	02 02 59.0	-0.7
WRA	**Warramunga Arr**	**39.17**	**322**	P			**P**	**02 00 49.8**	**-0.6**
comp=Z,10nm,0.6s,mb4.7,baz=158,slow=7.2,SNR=106									
WRA				PcP			PcP	02 02 58.9	-0.9
comp=Z,8.7nm,1.0s,baz=164,slow=2.9,SNR=20									
WRA				LR			LR	02 16 25.5	
comp=Z,342nm,19.7s,MS4.2,baz=160,slow=35									
WRA	**Warramunga Arr**	**39.17**	**322**	P			**P**	**02 00 49.8**	**-0.6**
WRA								02 02 58.9	
MAW	**Mawson**	**43.45**	**214**	P			**P**	**02 01 25.8**	**+0.2**
comp=Z,6.6nm,1.1s,mb4.3,baz=107,slow=9.0,SNR=5.4									
MAW				PcP			PcP	02 03 13.1	-0.6
comp=Z,6.7nm,0.8s,baz=176,slow=6.3,SNR=7.4									
MAW				LR			LR	02 18 09.6	
comp=Z,61nm,19.2s,MS3.5,baz=94,slow=34									
MAW	**Mawson**	**43.45**	**214**	*e*P			**P**	**02 01 25.0**	**-0.6**
MAW				pmax			pmax		
comp=Z,9.0nm,1.0s									
MAW	**Mawson**	**43.45**	**214**	*e*P			**P**	**02 01 25.0**	**-0.7**
comp=Z,9.2nm,1.0s,mb4.5									
FITZ	**Fitzroy Crossi**	**44.31**	**312**	⇑*i*P			**P**	**02 01 32.9**	**+0.3**
comp=Z,21nm,0.9s,mb4.9									
FITZ				*e*PCP			PcP	02 03 16.7	0.0
FITZ	**Fitzroy Crossi**	**44.31**	**312**	P			**P**	**02 01 33.0**	**+0.4**
comp=Z,15nm,0.9s,mb4.7,baz=162,slow=10,SNR=16									
FITZ				PcP			PcP	02 03 16.1	-0.6
comp=Z,4.9nm,0.9s,baz=162,slow=3.2,SNR=3.6									
RAR	**Rarotonga**	**45.46**	**60**	PFAKE				02 01 50.0	+8.3
RAR				LR			LR		
comp=Z,1.0nm,22.0s									
PMG	**Port Moresby**	**45.85**	**344**	*d i*P			**P**	**02 01 46.1**	**+1.3**
PMG	**Port Moresby**	**45.85**	**344**	*e*P			**P**	**02 01 45.6**	**+0.8**
comp=Z,22nm,0.9s,mb5.1									
PMG				LR			LR		
comp=Z,194nm,19.0s,MS4.1									
KAKA	**Kakadu**	**46.52**	**323**	*e*P			**P**	**02 01 49.4**	**-0.7**
comp=Z,20nm,0.6s,mb5.2									
KAKA				*e*PCP			PcP	02 03 23.7	-0.6
SYO	**Syowa Base**	**49.17**	**205**	⇓*e*P			**P**	**02 02 09.0**	**-1.6**
TBI	**Tubuai**	**49.23**	**72**	*e*S			**S**	**02 09 19.2**	**+2.4**
comp=Z,230nm,29.0s									
TBI				*e*LR			LR	02 16 15.6	
comp=Z,533nm,30.8s									
SNAA	**Sanae**	**53.55**	**187**	*e*P			**P**	**02 02 42.9**	**-0.5**
SNAA				*e*			pP	02 02 46.4	-0.2
SNAA				*e*				02 03 49.0	
SNAA	**Sanae**	**53.55**	**187**	*e*P			**P**	**02 02 42.6**	**-0.9**
comp=Z,26nm,1.1s,mb5.1									
SNAA				*e*PcP			PcP	02 03 49.1	-1.0
PPT	**Papeete**	**53.82**	**68**	*e*S			**S**	**02 10 24.6**	**+4.4**
comp=Z,225nm,28.2s									
PPT				*e*LR			LR	02 18 16.6	
comp=Z,615nm,27.2s									
PPT	**Papeete**	**53.82**	**68**	LR			LR	02 18 41.2	
comp=Z,218nm,20.7s,MS4.2,baz=194,slow=28									
VNA3	**Neumayer Olymp**	**54.38**	**185**	*e*P			**P**	**02 02 49.0**	**-0.5**
VNA3				*e*			pP	02 02 53.5	+0.8
VNA3				*e*				02 03 53.1	
VNA2	**Neumayer--Watz**	**54.58**	**185**	*e*P			**P**	**02 02 50.9**	**0.0**
baz=161,slow=5.7									
VNA2				*e*			pP	02 02 55.3	+1.2
VNA2				*e*				02 03 00.2	
VNA2				*e*				02 03 53.8	
VNA2				*e*				02 04 13.5	
VNA1	**Neumayer--Stat**	**54.90**	**185**	*e*P			**P**	**02 02 53.7**	**+0.4**
VNA1				*e*			pP	02 02 58.2	+1.8
VNA1				*e*				02 03 53.7	
PTCN	**Pitcairn Islan**	**59.04**	**90**	PFAKE				02 03 40.0	+17
PTCN				LR			LR		
comp=Z,1μm,20.0s,MS5.0									
TAOE	**Nuku Hiva Isla**	**66.14**	**71**	*e*LR			LR	02 24 03.7	
comp=Z,838nm,30.7s									
DAV	**Davao City (W)**	**67.32**	**324**	PFAKE				02 04 30.0	+12
DAV				LR			LR		
comp=Z,2μm,21.0s,MS5.3									
TRQA	**Tornquist**	**81.42**	**149**	*e*P			**P**	**02 05 39.3**	**-0.4**
comp=Z,14nm,1.0s,mb4.8									
BOSA	**Boshof**	**88.17**	**220**	P			**P**	**02 06 13.3**	**-0.3**
comp=Z,4.2nm,0.6s,mb4.9,baz=158,slow=4.8,SNR=25									
BOSA				LR			LR	02 43 38.2	
comp=Z,36nm,18.9s,MS3.8,baz=163,slow=34									
LBTB	**Lobatse**	**91.29**	**221**	PFAKE				02 06 40.0	+12
LBTB				LR			LR		
comp=Z,254nm,21.0s,MS4.6									
MJAR	**Matsushiro Arr**	**92.33**	**343**	P			**P**	**02 06 33.5**	**+0.5**
comp=Z,6.9nm,0.7s,mb5.1,baz=171,slow=6.2,SNR=12									
MJAR	**Matsushiro Arr**	**92.33**	**343**	P			**P**	**02 06 33.5**	**+0.5**
ENH	**Enshi**	**94.47**	**319**	PFAKE				02 06 50.0	+7.1
ENH				LR			LR		
comp=Z,3.0nm,19.0s									
KSRS	**Korea Array**	**95.30**	**336**	P			**P**	**02 06 47.3**	**+0.6**
comp=Z,0.5nm,0.3s,mb4.4,baz=9.7,slow=5.9,SNR=3.1									
ERM	**Erimo**	**96.99**	**348**	PFAKE				02 07 00.0	+5.6
ERM				LR			LR		
comp=Z,59nm,19.0s,MS4.1									
LPAZ	**La Paz**	**99.01**	**135**	PFAKE				02 07 20.0	+17
LPAZ				LR			LR		
comp=Z,101nm,19.0s,MS4.3									
TSUM	**Tsumeb**	**99.55**	**217**	PFAKE				02 07 20.0	+14
TSUM				LR			LR		
comp=Z,77nm,21.0s,MS4.2									
BJT	**Baijiatuau**	**100.95**	**328**	PFAKE				02 07 20.0	+7.9
BJT				LR			LR		
comp=Z,171nm,20.0s,MS4.6									
LSA	**Lhasa**	**101.96**	**305**	PFAKE				02 07 30.0	+13
LSA				LR			LR		
comp=Z,148nm,20.0s,MS4.5									
HIA	**Hailar**	**108.43**	**334**	PFAKE				02 12 00.0	+8.8
HIA				LR			LR		
comp=Z,91nm,19.0s,MS4.4									
MA2	**Magadan**	**113.82**	**355**	PFAKE				02 12 10.0	+8.6
MA2				LR			LR		
comp=Z,77nm,20.0s,MS4.3									
NVAR	**Mina Array Bea**	**116.41**	**60**	PKP			PKPdf	02 12 07.1	+0.7
comp=Z,0.4nm,0.8s,baz=193,slow=2.8,SNR=3.3									
NVAR	**Mina Array Bea**	**116.41**	**60**	PKP			PKPdf	02 12 07.1	+0.7
MSKU	**Masuku**	**117.19**	**220**	PFAKE				02 12 20.0	+12
MSKU				LR			LR		
comp=Z,35nm,21.0s,MS4.0									
LTX	**Lajitas**	**117.49**	**77**	PFAKE				02 12 20.0	+12
LTX				LR			LR		
comp=Z,165nm,20.0s,MS4.7									
TXAR	**Lajitas Array**	**117.49**	**77**	PKP			PKPdf	02 12 08.2	-0.2
comp=Z,0.3nm,0.9s,baz=187,slow=3.6,SNR=3.2									
YAK	**Yakutsk**	**118.36**	**345**	PFAKE				02 12 20.0	+10
YAK				LR			LR		
comp=Z,81nm,19.0s,MS4.4									
BMN	**Battle Mountai**	**118.47**	**60**	PFAKE				02 12 20.0	+10
BMN				LR			LR		
comp=Z,766nm,22.0s,MS5.3									
MKAR	**Makanchi Array**	**119.77**	**310**	PKP			PKPdf	02 12 10.8	-2.1
comp=Z,3.2nm,0.9s,baz=202,slow=2.9,SNR=14									
SDV	**Santo Domingo**	**119.96**	**120**	PFAKE				02 12 30.0	+17
SDV				LR			LR		
comp=Z,102nm,19.0s,MS4.5									
ANMO	**Albuquerque**	**120.11**	**71**	PFAKE				02 12 20.0	+6.5
ANMO				LR			LR		
comp=Z,157nm,21.0s,MS4.6									
AAK	**Ala-Archa**	**120.36**	**302**	⇑*i*PKIKP			PKPdf	02 12 12.1	-1.9
MPU	**Maple Canyon**	**121.03**	**64**	PFAKE				02 12 30.0	+15
MPU				LR			LR		
comp=Z,1μm,22.0s,MS5.5									
BMO	**Blue Mountains**	**121.70**	**56**	PFAKE				02 12 30.0	+13
BMO				LR			LR		
comp=Z,267nm,21.0s,MS4.9									
TNA	**Tin City**	**122.30**	**16**	PFAKE				02 12 30.0	+12
TNA				LR			LR		
comp=Z,193nm,21.0s,MS4.7									
AHID	**Auburn Hatcher**	**123.30**	**62**	PFAKE				02 12 30.0	+10
AHID				LR			LR		
comp=Z,387nm,19.0s,MS5.1									
PDAR	**Pinedale Array**	**124.10**	**63**	PKP			PKPdf	02 12 21.0	-0.2
comp=Z,0.5nm,0.8s,baz=201,slow=4.8,SNR=3.5									
KURK	**Kurchatov**	**124.30**	**311**	*d i*PKIKP			PKPdf	02 12 19.6	-2.0
NATX	**Nacogdoches**	**124.47**	**82**	PFAKE				02 12 30.0	+8.1
NATX				LR			LR		
comp=Z,377nm,19.0s,MS5.1									
YMR	**Madison River**	**124.72**	**60**	PFAKE				02 12 30.0	+7.6
YMR				LR			LR		
comp=Z,1μm,21.0s									
LKWY	**Lake**	**124.93**	**61**	PFAKE				02 12 30.0	+7.2
LKWY				LR			LR		
comp=Z,438nm,20.0s,MS5.1									
BOZ	**Bozeman (W)**	**125.07**	**59**	PFAKE				02 12 30.0	+7.0
BOZ				LR			LR		
comp=Z,610nm,19.0s,MS5.3									
IMA2	**Indian Mountai**	**125.41**	**22**	*e*PKPdf			PKPdf	02 12 22.3	-1.4
TIXI	**Tiksi**	**127.54**	**348**	⇑*i*PKIKP			PKPdf	02 12 24.1	-3.7
TIXI	**Tiksi**	**127.54**	**348**	PFAKE				02 12 40.0	+12
TIXI				LR			LR		
comp=Z,113nm,19.0s,MS4.6									
BRAL	**Brewton**	**128.35**	**89**	PFAKE				02 12 40.0	+11
BRAL				LR			LR		
comp=Z,526nm,20.0s,MS5.2									
BVAR	**Borovoye Array**	**129.60**	**308**	PKP			PKPdf	02 12 30.3	-1.4
comp=Z,2.7nm,0.6s,baz=151,slow=3.4,SNR=16									
BRVK	**Borovoye**	**129.67**	**308**	PFAKE				02 12 40.0	+8.2
BRVK				LR			LR		
comp=Z,83nm,21.0s,MS4.4									
PLAL	**Pickwick Lake**	**130.61**	**84**	PFAKE				02 12 40.0	+6.4
PLAL				LR			LR		
comp=Z,271nm,20.0s,MS4.9									
AKTK	**Aktyubinsk**	**133.97**	**299**	PKP			PKPdf	02 12 38.5	-1.4
AKTO	**Aktyubinsk**	**133.97**	**299**	PKP			PKPdf	02 12 38.5	-1.4
comp=Z,1.3nm,0.6s,baz=135,slow=3.3,SNR=7.1

NOA	**NORSAR Array B**	**161.66**	**304**	PKPab	PKPab	02 14 06.8	-1.9
	comp=Z,1.0nm,0.8s,baz=257,slow=3.7,SNR=3.2						

*IDC **23** 02:04:22.6±0.6, 848S×112.57E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/18, mbtmp4.2/9, ML4.2/1, MS3.4/3, Ms1 3.3/3, ms1mx2.9/27, Error ellipse: s-maj=35.0km s-min=16.7km az=49.0*
*NEIC **23** 02:04:26.2±5.7, 845S×112.63E, h23km±39km, mb4.7/8, Error ellipse: s-maj=15.1km s-min=8.5km az=60.0*
NEIC Felt [IV] at Blitar and Karangkates.
*BJI **23** 02:04:26.1, 850S×112.60E, h22km, mB5.1, mb4.7, Ms4.6, Msz4.0*
*ISCJB **23** 02:04:32.3±0.8, 84S±0.1×112.85E±0.10, h92km±6km, mb4.3/15, Error ellipse: s-maj=21.7km s-min=10.3km az=83.5*

ISC 23 02:04:33.4±0.8, 84S±01×1129E±01, h85km±7km, n39, σ0§78/33, mb4.3/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.48**	**297**	P	**Sn**	**02 04 57.6**	**-0.2**
	0.0nm,0.0s						
DNP	**Denpasar**	**2.32**	**98**	P	**Pn**	**02 05 14.7**	**+5.1**
	0.0nm,0.0s						
BJII	**Banjamegara**	**3.31**	**288**	P	**Pn**	**02 05 22.6**	**-0.4**
	0.0nm,0.0s						
KSI	**Kapahiang**	**11.26**	**294**	P	**Pn**	**02 07 12.4**	**+1.2**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**15.72**	**129**	*e*P	**Pn**	**02 08 04.0**	**-5.9**
	14nm,0.9s						
FITZ				*e*S	S	02 10 47.7	-25
FITZ	**Fitzroy Crossi**	**15.72**	**129**	Pn	**Pn**	**02 08 06.3**	**-3.5**
	0.7nm,0.3s,baz=315,slow=6.4,SNR=21						
FITZ				Sn	**Sn**	**02 10 49.7**	**-14**
	0.5nm,0.3s,baz=236,slow=20,SNR=4.7						
PSI	**Prapat**	**17.81**	**308**	LR	LR	02 15 48.6	
	comp=Z,124nm,19.8s,baz=304,slow=39						
KAKA	**Kakadu**	**19.70**	**104**	*e*P	**Pn**	**02 08 56.0**	**-2.0**
	12nm,0.6s						
KAKA				*e*S	**S**	**02 12 44.8**	**+11**
WRA	**Warramunga Arr**	**23.73**	**121**	P	**P**	**02 09 38.5**	**+0.8**
	18nm,0.7s,mb4.5,baz=298,slow=11,SNR=192						
WRA				PcP	PcP	02 13 20.8	+1.4
	1.0nm,0.7s,baz=292,slow=2.0,SNR=7.5						
WRA				S	**S**	**02 14 05.5**	**+19**
	1.0nm,0.9s,baz=291,slow=22,SNR=4.3						
WB2	**Warramunga Arr**	**23.74**	**121**	*e*P	**P**	**02 09 38.5**	**+0.7**
WB2				*e*S	**S**	**02 14 01.0**	**+14**
FORT	**Forrest**	**26.41**	**150**	*e*P	**P**	**02 10 01.5**	**-0.5**
	25nm,0.7s,mb4.8						
CTA	**Charters Tower**	**34.30**	**113**	*e*P	**P**	**02 11 06.6**	**-4.9**
	7.5nm,0.2s,mb5.2						
STKA	**Stephens Creek**	**35.47**	**135**	*e*P	**P**	**02 11 22.4**	**+0.8**
	22nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**35.47**	**135**	P	**P**	**02 11 22.8**	**+1.1**
	27nm,0.6s,mb5.2,baz=307,slow=8.7,SNR=93						
STKA				PcP	PcP	02 13 50.5	+1.1
	4.0nm,0.6s,baz=344,slow=4.3,SNR=5.2						
STKA				LR	LR	02 27 23.5	
	comp=Z,60nm,18.3s,baz=26,slow=39						
KSRS	**Korea Array**	**47.71**	**16**	LR	LR	02 36 13.0	
	comp=Z,25nm,18.7s,baz=340,slow=40						
BTO	**Baotou**	**48.81**	**357**	*e*P	**P**	**02 13 10.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**48.99**	**359**	*e*P	**P**	**02 13 15.4**	**+4.0**
HHC				AP	pP	02 13 25.4	-6.6
HHC				XP	sP	02 13 28.6	-13
HHC				PCP	PcP	02 14 40.0	+5.8
HHC				PP	PP	02 15 09.3	+3.8
HHC				SCP	ScP	02 18 29.8	+8.2
HHC				PCS	PcS	02 18 34.3	+3.7
HHC				S	**S**	**02 20 19.4**	**+10**
HHC				XS	sS	02 20 34.8	-10
HHC				SCS	ScS	02 23 01.5	+6.2
HHC				SS	SS	02 23 45.4	+4.2
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,103nm,5.6s						
HHC				LR	LR		
	comp=N,138nm,14.6s						
HHC				LR	LR		
	comp=E,216nm,14.6s						
HHC				LR	LR		
	comp=Z,140nm,16.5s						
SONM	**Songino Array**	**56.26**	**355**	P	**P**	**02 14 06.0**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=175,slow=8.0,SNR=7.6						
CASY	**Casey**	**57.84**	**181**	*e*P	**P**	**02 14 15.9**	**-0.2**
	comp=Z,11nm,1.0s,mb4.9						
MK31	**Makanchi Array**	**61.31**	**337**	*e*P	**P**	**02 14 39.8**	**-0.1**
MKAR	**Makanchi Array**	**61.31**	**337**	P	**P**	**02 14 40.0**	**0.0**
	comp=Z,0.5nm,0.3s,mb4.0,baz=147,slow=7.3,SNR=16						
AAK	**Ala-Archa**	**61.66**	**329**	*e*P	**P**	**02 14 42.1**	**-0.2**
	comp=Z,5.1nm,1.0s,mb4.5						
KURK	**Kurchatov**	**65.91**	**337**	*e*P	**P**	**02 15 09.7**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**71.01**	**334**	P	**P**	**02 15 41.6**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.4,baz=134,slow=6.2,SNR=2.9						
AKTK	**Aktyubinsk**	**75.35**	**327**	P	**P**	**02 16 07.0**	**-0.5**
AKTO	**Aktyubinsk**	**75.35**	**327**	P	**P**	**02 16 07.0**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.8,baz=50,slow=5.5,SNR=4.7						
KMBO	**Kilima Mbogo**	**75.62**	**271**	P	**P**	**02 16 09.5**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=97,slow=8.1,SNR=5.4						
BOSA	**Boshof**	**83.98**	**242**	P	**P**	**02 16 53.9**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.2,baz=97,slow=4.2,SNR=4.1						
BOSA	**Boshof**	**83.98**	**242**	P	**P**	**02 16 53.9**	**-0.3**
BRTR	**Keskin Array B**	**87.12**	**311**	P	**P**	**02 17 09.6**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=134,slow=5.9,SNR=11						
TORD	**Torodi Ar. Bea**	**112.40**	**281**	PKiKP	PKiKP	02 22 59.8	+0.3
	comp=Z,0.3nm,0.3s,baz=36,slow=2.0,SNR=19						
YKA	**Yellowknife Ar**	**116.02**	**22**	PKP	PKPdf	02 23 06.9	+0.5
	comp=Z,0.4nm,0.6s,baz=316,slow=1.8,SNR=13						
YKA	**Yellowknife Ar**	**116.02**	**22**	PKP	PKPdf	02 23 06.9	+0.5
NVAR	**Mina Array Bea**	**125.22**	**49**	PKP	PKPdf	02 23 27.8	+3.7
	comp=Z,0.3nm,0.6s,baz=230,slow=2.2,SNR=3.5						
NVAR	**Mina Array Bea**	**125.22**	**49**	PKP	PKPdf	02 23 27.8	+3.7
WCI	**Wyandotte Cave**	**145.61**	**27**	*e*PKPbc	PKPbc	02 24 03.7	+1.5
WVT	**Waverly**	**146.53**	**31**	*e*PKPbc	PKPbc	02 24 06.7	+1.7
OXF	**Oxford**	**146.89**	**35**	*e*PKPbc	PKPbc	02 24 08.2	+2.2
LPAZ	**La Paz**	**155.47**	**178**	PKPab	PKPab	02 24 44.8	+1.8
	comp=Z,0.6nm,0.6s,baz=198,slow=6.4,SNR=3.6						

*NEIC **23** 02:23:47.6, 1700N×95.11W, h109km, MD3.9(MEX), After MEX.*

MEX 23 02:23:47.7±0.7, 1699N×9512W, h108km±6km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.24**	**66**	*i* P	Pn	02 24 01.7	-1.3
CMIG				*i* S	Sn	02 24 12.7	-1.8
OXX	**Oaxaca**	**1.54**	**274**	*i* P	Pn	02 24 13.8	-1.0
OXX				*i* S	Sn	02 24 33.8	-1.6
HUIG	**Huatulco**	**1.54**	**218**	*i* P	Pn	02 24 12.9	-2.0
HUIG				*i* S	Sn	02 24 34.8	-0.8
VHO	**Vista Hermosa**	**1.55**	**273**	*e*P	Pn	02 24 14.2	-0.7
VHO				*i* S	Sn	02 24 35.0	-0.7
TPIG	**Tehuac#an**	**2.57**	**304**	*i* P	Pn	02 24 26.6	-1.3
TPIG				*i* S	Sn	02 24 57.5	-1.3
UTMO	**Huajuapan**	**2.70**	**288**	*i* P	Pn	02 24 28.5	-1.1
UTMO				*i* S	Sn	02 25 00.4	-1.4
CCIG	**Comitan**	**2.94**	**103**	*i* P	Pn	02 24 32.7	-0.2
CCIG				*i* S	Sn	02 25 05.6	-2.1
CCIG	**Comitan**	**2.94**	**103**	*i* P	Pn	02 24 32.7	-0.2
CCIG				*i* S	Sn	02 25 04.6	-3.0

*ISCJB **23** 02:25:44.1±2.4, 59S±0.1×154.51E±0.08, h34km±23km, mb4.0/7, MS3.2/1, Error ellipse: s-maj=24.4km s-min=12.9km az=166.0*
*IDC **23** 02:25:45.3±7.3, 584S×154.38E, h33km±57km, mb3.6/4, mb1 3.8/6, mb1mx3.7/14, mbtmp3.9/6, ML4.1/2, MS3.1/5, Ms1 3.1/5, ms1mx3.0/19, Error ellipse: s-maj=37.6km s-min=32.9km az=141.0*
*NEIC **23** 02:25:47.0±1.7, 591S×154.48E, h53km±16km, mb3.7/1, Error ellipse: s-maj=22.1km s-min=14.3km az=183.0*

ISC 23 02:25:47.7±2.0, 60S±01×15456E±008, h51km±19km, n18, σ0§82/17, mb4.0/7, MS3.2/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.36**	**123**	Pn	**Pn**	**02 27 19.4**	**+0.6**
	12nm,0.3s,baz=260,slow=11,SNR=2.4						
HNR				Sn	**Sn**	**02 28 43.5**	**+13**
	8.2nm,0.3s,baz=244,slow=2.8,SNR=8.3						
HNR				LR	LR	02 28 58.7	
	comp=Z,62nm,19.3s,baz=359,slow=29						
PMG	**Port Moresby**	**8.10**	**244**	Pn	**Pn**	**02 27 40.0**	**-2.6**
	6.8nm,0.3s,baz=48,slow=8.0,SNR=14						
PMG				Sn	**Sn**	**02 29 13.4**	**+0.6**
	2.6nm,0.3s,baz=249,slow=21,SNR=7.1						
PMG				LR	LR	02 30 39.6	
	comp=Z,170nm,19.1s,baz=221,slow=37						
PMG	**Port Moresby**	**8.10**	**244**	*e*Pn	**Pn**	**02 27 41.1**	**-1.5**
PMG				*e*Sn	**Sn**	**02 29 14.7**	**+1.9**
CTA	**Charters Tower**	**16.20**	**209**	LR	LR	02 34 44.1	
	comp=Z,80nm,19.2s,baz=230,slow=33						
DZM	**Mont Dzumac**	**19.71**	**146**	LR	LR	02 37 01.8	
	comp=Z,60nm,19.2s,baz=210,slow=34						
WRA	**Warramunga Arr**	**24.07**	**233**	P	**P**	**02 30 57.2**	**-1.0**
	0.7nm,0.5s,mb3.3,baz=56,slow=10.0,SNR=12						
WRA				LR	LR	02 40 05.7	
	comp=Z,68nm,18.8s,MS3.2,baz=280,slow=36						
STKA	**Stephens Creek**	**28.50**	**204**	P	**P**	**02 31 38.5**	**+0.4**
	0.9nm,0.7s,mb3.5,baz=27,slow=14,SNR=3.4						
SONM	**Songino Array**	**68.23**	**327**	P	**P**	**02 36 42.8**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=134,slow=5.9,SNR=3.7						
GUN	**Gumba**	**74.21**	**301**	*e*P	**P**	**02 37 19.6**	**+0.5**
	18nm,0.8s,mb5.0						
PKI	**Pulchoki**	**74.53**	**301**	*e*P	**P**	**02 37 21.3**	**+0.4**
KKN	**Kakani**	**74.69**	**301**	*e*P	**P**	**02 37 22.8**	**+0.9**
DMN	**Daman**	**74.80**	**301**	*e*P	**P**	**02 37 22.9**	**+0.4**
GKN	**Gorkha**	**75.30**	**301**	*e*P	**P**	**02 37 25.5**	**+0.1**
KOLN	**Koldanda**	**76.13**	**300**	*e*P	**P**	**02 37 30.1**	**0.0**
	13nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**82.34**	**319**	P	**P**	**02 38 03.1**	**-0.9**
	0.2nm,0.4s,mb3.4,baz=99,slow=6.8,SNR=4.8						
QSPA	**South Pole Qui**	**84.01**	**180**	*e*P	**P**	**02 38 12.0**	**-0.6**
	1.6nm,1.8s,mb3.9						
TOA0	**Torodi Ar. Sit**	**152.32**	**287**	*e*PKPbc	PKPbc	02 45 38.1	+0.2
TORD	**Torodi Ar. Bea**	**152.32**	**287**	PKPbc	PKPbc	02 45 36.8	-1.1
	0.7nm,0.7s,baz=69,slow=1.9,SNR=11						

CASC 23 02:43:08.6±1.5, 1543N×9289W, h16km±999km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.64**	**132**	*e*P	Pn	02 43 36.5	-0.2
FUG	**Fuego 3**	**2.21**	**116**	*e*P	Pn	02 43 43.7	-0.9
FUG				*e*S	Sn	02 44 13.3	+1.8
PCG	**Pacaya**	**2.44**	**115**	*e*P	Pn	02 43 47.6	-0.1
PCG				*e*S	Sn	02 44 19.1	+1.9
NBG	**Las Nubes**	**2.60**	**108**	*e*P	Pn	02 43 36.6	-13
RBDL	**Robledal**	**3.37**	**112**	*e*P	x	02 44 01.8	
RTR	**El Retiro**	**3.49**	**115**	*e*P	x	02 44 02.9	
SBLS	**San Blas**	**3.54**	**116**	*e*P	x	02 44 03.6	
SBLS				*e*S	x	02 44 44.6	
SNJE	**San Jose**	**3.54**	**116**	*e*P	x	02 44 02.9	
LFRS	**El Faro**	**4.12**	**115**	*e*P	x	02 44 10.8	

*IDC **23** 02:53:07.3±4.4, 5576N×111.15E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=66.0km s-min=28.3km az=94.0*
*ISCJB **23** 02:53:10.0±0.3, 5553N±003×11022E±004, h10km, mb3.8/3, Error ellipse: s-maj=4.2km s-min=2.2km az=112.2*
*MOS **23** 02:53:11.2±1.1, 5571N×110.16E, h11km, mb4.4/3, Error ellipse: s-maj=11.0km s-min=7.0km az=67.8*
*NEIC **23** 02:53:11.7±2.2, 5579N×110.43E, h10km, mb3.9/2, Error ellipse: s-maj=32.7km s-min=15.0km az=75.0*
*BYKL **23** 02:53:12.4±0.3, 5568N×110.16E, h5km±4km*

ISC 23 02:53:11.9±0.3, 5559N±002×11023E±003, h10km, n57, σ1§66/102, mb3.8/3, 8C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.43**	**296**	*e*PG	**Pg**	**02 53 18.6**	**-1.8**
NIZ				*e*		02 53 23.9	
NIZ				pmax	pmax		
	comp=Z,637nm,0.2s						
NIZ				smax			
	comp=N,3μm,0.2s						
NIZ	**Nizh Angarsk**	**0.43**	**296**	*e*Pg	**Pg**	**02 53 18.7**	**-1.7**
NIZ				*e*Sg	**Sg**	**02 53 24.0**	**-2.2**
NIZ				*e*		02 53 25.5	
NIZ				Pmax			
	comp=N,236nm,0.3s						
NIZ				max			
	comp=N,3μm,0.2s						
KMO	**Kumora**	**0.63**	**61**	*e*PG	**Pg**	**02 53 22.8**	**-1.2**
KMO				*e*		02 53 30.9	
KMO				pmax	pmax		
	comp=Z,165nm,0.2s						
KMO				smax			
	comp=N,2μm,0.8s						
KMO	**Kumora**	**0.63**	**61**	⇑*i*Pg	**Pg**	**02 53 22.8**	**-1.2**
KMO				*i* Sg	**Sg**	**02 53 31.3**	**-0.9**
KMO				Pmax			
	comp=N,390nm,0.3s						
KMO				Smax			
	comp=N,2μm,1.0s						
YLYR	**Ulyunkhan**	**0.89**	**143**	*i*PG	**Pg**	**02 53 30.2**	**+1.2**
YLYR				*e*		02 53 43.3	
YLYR				smax			
	comp=N,1.0nm,0.2s						
YLYR	**Ulyunkhan**	**0.89**	**143**	⇑*i*Pg	**Pg**	**02 53 30.1**	**+1.1**
YLYR				*e*Sg	**Sg**	**02 53 44.0**	**+3.4**
YLYR				*e*		02 53 49.1	
YLYR				*e*		02 53 53.1	
YLYR				Pmax			
	comp=N,203nm,0.5s						
YLYR				max			
	comp=N,807nm,0.2s						
YOA	**Uoyan**	**1.00**	**56**	*e*PG	**Pg**	**02 53 30.3**	**-0.9**
YOA				*e*		02 53 43.7	
YOA				pmax	pmax		
	comp=Z,323nm,0.2s						
YOA				smax			
	comp=N,2μm,0.3s						
YOA	**Uoyan**	**1.00**	**56**	*e*Pg	**Pg**	**02 53 30.4**	**-0.8**
YOA				*e*Sg	**Sg**	**02 53 44.3**	**0.0**
YOA				Pmax			
	comp=N,410nm,0.3s						
YOA				Smax			
	comp=N,2μm,0.3s						
UKT	**Uakit**	**1.93**	**91**	⇑*i*Pg	**Pg**	**02 53 47.3**	**-1.6**
UKT				*i* Sg	**Sg**	**02 54 14.1**	**+0.1**
UKT				Pmax			
	comp=N,320nm,0.9s						
UKT				Smax			
	comp=N,604nm,0.5s						
SYVR	**Suvo**	**1.94**	**184**	*e*PN	**Pn**	**02 53 48.6**	**+3.8**
SYVR				*e*		02 54 17.2	
SYVR				smax			
	comp=E,1.0nm,0.7s						
SYVR	**Suvo**	**1.94**	**184**	*e*Pn	**Pn**	**02 53 47.7**	**+2.9**
SYVR				⇑*i*Pg	**Pg**	**02 53 48.8**	**-0.2**
SYVR				*e*Sg	**Sg**	**02 54 16.1**	**+2.0**
SYVR				*e*		02 54 18.6	
SYVR				Pmax			
	comp=E,161nm,0.4s						
SYVR				max			
	comp=E,2μm,0.9s						
SVKR	**Severomuysk**	**1.95**	**73**	*e*PN	**Pn**	**02 53 47.2**	**+2.2**
SVKR				*e*		02 54 13.9	
SVKR				smax			
	comp=N,2.0nm,0.5s						
SVKR	**Severomuysk**	**1.95**	**73**	*e*Pg	**Pg**	**02 53 47.5**	**-1.8**
SVKR				*e*Sg	**Sg**	**02 54 15.0**	**+0.4**
SVKR				Pmax			
	comp=N,519nm,0.6s						
SVKR				Smax			
	comp=N,2μm,0.5s						
OGRR	**Ongureny**	**2.48**	**219**	*e*PN	**Pn**	**02 53 54.9**	**+2.6**
OGRR				*e*		02 53 58.6	
OGRR				*e*		02 54 30.7	
OGRR	**Ongureny**	**2.48**	**219**	*e*Pn	**Pn**	**02 53 54.9**	**+2.6**
OGRR				*e*Pg	**Pg**	**02 53 56.3**	**-3.1**
OGRR				*e*Sg	**Sg**	**02 54 30.3**	**-1.2**
OGRR				Pmax			
	comp=N,48nm,0.3s						
OGRR				Smax			
	comp=N,290nm,0.3s						
MXMB	**Maximikha**	**2.48**	**201**	*e*Pn	**Pn**	**02 53 55.8**	**+3.4**
MXMB				*e*Pg	**Pg**	**02 53 58.9**	**-0.6**
MXMB				*e*Sg	**Sg**	**02 54 33.1**	**+1.4**
MXMB				Smax			
	comp=N,557nm,0.8s						
NLYR	**Nelyaty**	**3.20**	**71**	*e*Pn	**Pn**	**02 54 03.5**	**+1.3**
NLYR				*e*Pg	**Pg**	**02 54 10.1**	**-3.1**
NLYR				*e*Sg	**Sg**	**02 54 52.6**	**-2.1**
ZRHB	**Zarechye**	**3.54**	**212**	*e*	**Pg**	**02 54 18.0**	**-1.7**
ZRHB				*e*Sg	**Sg**	**02 55 04.2**	**-1.3**
ZRHB				max			
	comp=N,49nm,0.5s						
ZRHB				Smax			
	comp=N,383nm,1.3s						
TRG	**Tyrgan**	**3.64**	**220**	*e*PN	**Pn**	**02 54 11.0**	**+2.8**
TRG				*e*		02 54 20.2	
TRG				*e*		02 55 08.0	
TRG				pmax	pmax		
	comp=Z,19nm,0.2s						
TRG				smax			
	comp=E,129nm,0.3s						
TRG	**Tyrgan**	**3.64**	**220**	*e*Pn	**Pn**	**02 54 10.8**	**+2.6**
TRG				*e*Sn	**Sn**	**02 54 55.1**	**+3.9**
TRG				*e*Sg	**Sg**	**02 55 06.8**	**-1.9**
TRG				max			
	comp=E,50nm,0.3s						
TRG				Smax			
	comp=E,130nm,0.4s						
TRTB	**Turuntaevo**	**3.70**	**206**	*e*Pn	**Pn**	**02 54 11.8**	**+2.8**
TRTB				*e*		02 54 21.8	
TRTB				*e*Sg	**Sg**	**02 55 08.5**	**-2.1**
TRTB				max			
	comp=E,25nm,0.9s						
TRTB				Smax			
	comp=E,141nm,1.6s						
UUDB	**Ulan-Yde**	**4.03**	**203**	*e*Pg	**Pg**	**02 54 25.1**	**-3.9**
UUDB				*e*Sn	**Sn**	**02 55 01.7**	**+0.9**
UUDB				*e*Sg	**Sg**	**02 55 19.0**	**-2.2**
UUDB				Pmax			
	comp=E,17nm,0.6s						
UUDB				Smax			
	comp=E,110nm,1.0s						
CIT	**Chita**	**4.08**	**150**	*e*PN	**Pn**	**02 54 16.7**	**+2.4**
CIT				*e*		02 54 26.5	
CIT				*e*		02 55 20.2	
CIT				pmax	pmax		
	comp=Z,77nm,1.2s						
CIT				smax			
	comp=N,129nm,1.0s						
CIT	**Chita**	**4.08**	**150**	*e*Pn	**Pn**	**02 54 16.6**	**+2.3**
CIT				*e*Pg	**Pg**	**02 54 26.4**	**-3.6**
CIT				*e*Sg	**Sg**	**02 55 20.3**	**-2.5**
CIT				Pmax			
	comp=N,77nm,1.0s						
CIT				Smax			
	comp=N,130nm,0.9s						
FFNB	**Fofonovo**	**4.10**	**212**	*e*Sn	**Sn**	**02 55 04.4**	**+1.9**
FFNB				*e*Sg	**Sg**	**02 55 19.6**	**-3.9**
FFNB				Smax			
	comp=N,275nm,0.7s						
CRS	**Chara**	**4.67**	**70**	*e*PN	**Pn**	**02 54 24.2**	**+1.7**
CRS				*e*		02 54 35.7	
CRS				*e*		02 55 37.2	
CRS				pmax	pmax		
	comp=Z,52nm,0.9s						
CRS				smax			
	comp=E,110nm,1.4s						
CRS	**Chara**	**4.67**	**70**	*e*Pg	**Pg**	**02 54 35.6**	**-5.8**
CRS				*e*		02 54 37.9	
CRS				*e*Sg	**Sg**	**02 55 36.6**	**-5.3**
CRS				max			
	comp=E,55nm,0.9s						
CRS				Smax			
	comp=E,111nm,1.5s						
LSTR	**Listvyanka**	**4.91**	**223**	*e*Pn	**Pn**	**02 54 27.8**	**+2.0**
LSTR				*e*		02 54 35.5	
LSTR				*e*Sn	**Sn**	**02 55 22.0**	**-0.7**
LSTR				*e*Sg	**Sg**	**02 55 44.7**	**-4.9**
LSTR				max			
	comp=E,24nm,0.9s						
LSTR				Smax			
	comp=E,79nm,0.9s						
TLY	**Talaya**	**5.54**	**228**	*e*PN	**Pn**	**02 54 35.1**	**+0.8**
TLY				*e*		02 54 52.1	
TLY				*e*S	**Sn**	**02 55 38.8**	**+0.8**
TLY				*e*		02 56 04.8	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.3s						
TLY				smax			
	comp=E,74nm,1.2s						
TLY	**Talaya**	**5.54**	**228**	*e*Pn	**Pn**	**02 54 35.5**	**+1.2**
TLY				*e*		02 55 40.0	
TLY				*e*Sg	**Sg**	**02 56 05.0**	**-4.6**
TLY				max			
	comp=E,18nm,1.3s						
TLY				Smax			
	comp=E,73nm,1.1s						
TUP	**Tupik**	**5.71**	**98**	*e*PN	**Pn**	**02 54 38.0**	**+1.2**
TUP				*e*		02 54 55.8	
TUP				*e*S	**Sn**	**02 55 43.6**	**+1.2**
TUP				*e*		02 56 11.3	
TUP				pmax	pmax		
	comp=Z,17nm,0.7s						
TUP				smax			
	comp=N,118nm,1.1s						
TUP	**Tupik**	**5.71**	**98**	*e*Pn	**Pn**	**02 54 38.2**	**+1.4**
TUP				*e*Pg	**Pg**	**02 54 55.0**	**-6.3**
TUP				*e*Sg	**Sg**	**02 56 11.2**	**-4.2**
TUP				Pmax			
	comp=N,16nm,1.1s						
TUP				Smax			
	comp=N,122nm,1.0s						
ARS	**Arshan**	**5.91**	**235**	*e*PN	**Pn**	**02 54 40.9**	**+1.4**
ARS				*e*S	**Sn**	**02 55 45.6**	**-1.6**
ARS				*e*S	**Sg**	**02 56 15.7**	**-5.9**
ARS				smax			
	comp=N,240nm,0.6s						
ARS	**Arshan**	**5.91**	**235**	⇑*i*Pn	**Pn**	**02 54 40.9**	**+1.4**
ARS				*e*Sn	**Sn**	**02 55 45.1**	**-2.1**
ARS				*e*Sg	**Sg**	**02 56 17.0**	**-4.6**
ARS				max			
	comp=N,33nm,0.5s						
ARS				Smax			
	comp=N,246nm,0.6s						
KPC	**Khapcheranga**	**6.03**	**167**	*e*PN	**Pn**	**02 54 43.6**	**+2.4**
KPC				*e*		02 55 03.1	
KPC				*e*		02 56 23.9	
KPC				pmax	pmax		
	comp=Z,15nm,1.0s						
KPC				smax			
	comp=E,67nm,1.4s						
KPC	**Khapcheranga**	**6.03**	**167**	*e*Pn	**Pn**	**02 54 43.3**	**+2.1**
KPC				*e*Pg	**Pg**	**02 55 02.5**	**-4.9**
KPC				*e*Sg	**Sg**	**02 56 23.0**	**-2.6**
KPC				Pmax			
	comp=E,10.0nm,0.9s						
KPC				Smax			
	comp=E,67nm,1.3s						
ZAK	**Zakamensk**	**6.69**	**222**	*e*PN	**Pn**	**02 54 53.3**	**+3.1**
ZAK				*e*S	**Sn**	**02 56 04.2**	**-2.2**
ZAK	**Zakamensk**	**6.69**	**222**	*e*Sg	**Sg**	**02 56 41.1**	**-5.5**
ZAK				Smax			
	comp=E,54nm,1.2s						
MOY	**Mondy**	**6.75**	**238**	*e*PN	**Pn**	**02 54 54.0**	**+3.0**
MOY				*e*S	**Sn**	**02 56 08.3**	**+0.3**
M

ORL *e*Sg **Sg** **02 56 44.9 -6.9**
ORL max
comp=N,22nm,0.6s
ORL Smax
comp=N,103nm,1.1s
SONM Songino Array 8.12 199 Pn **Pn** **02 55 13.0 +3.3**
comp=N,0.3nm,0.3s,baz=15,slow=13,SNR=5.4
SONM Lg 02 57 34.8
comp=N,1.6nm,0.3s,baz=20,slow=28,SNR=11
TDJR Todzha 8.91 255 *e*Pn **Pn** **02 55 23.2 +2.5**
TDJR *e*Sg Sn 02 57 47.6 +46
ZAL Zalesovo 14.75 274 Pn **Pn** **02 56 41.2 +0.8**
baz=81,slow=7.3,SNR=3.2
TIXI Tiksi 17.97 19⇑*e*P **Pn** **02 57 20.2 -1.6**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 19.47 269 *e*P **Pn** **02 57 39.5 -0.5**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 19.47 269 *e*P **Pn** **02 57 39.5 -0.5**
comp=Z,6.6nm,0.9s
MK31 Makanchi Array 19.48 255 *e*P **Pn** **02 57 39.9 -0.2**
MKAR Makanchi Array 19.48 255 P **Pn** **02 57 39.8 -0.4**
comp=Z,2.8nm,0.8s,baz=60,slow=11,SNR=13
MKAR Makanchi Array 19.48 255 *i* P **Pn** **02 57 40.2 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 23.17 280 P **P** **02 58 19.7 +1.1**
comp=Z,1.6nm,0.6s,mb3.6,baz=68,slow=12,SNR=8.5
BVAR Borovoye Array 23.17 280 P **P** **02 58 19.7 +1.1**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 23.21 280 *e*P **P** **02 58 19.8 +0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
BRVK Borovoye 23.21 280 *e*P **P** **02 58 19.8 +0.8**
comp=Z,1.7nm,0.5s,mb3.7
FINES FINESS Array B 41.44 314 P **P** **03 00 56.9 -1.7**
comp=Z,3.3nm,0.9s,mb4.0,baz=69,slow=10,SNR=4.3
FINES FINESS Array B 41.44 314 *i* P **P** **03 00 58.0 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.9s

IDC ***23*** *02:56:16.8±2.8, 1054S×16062E, h116km±19km, mb3.5/5, mb1 3.7/5, mb1mx3.6/12, mbtmp3.5/5, MS3.4/4, Ms1 3.3/4, ms1mx3.2/13, Error ellipse: s-maj=48.7km s-min=23.7km az=124.0*
ISCJB ***23*** *02:56:23.1±1.0, 95S±02×1596E±02, h126km±11km, mb3.8/8, Error ellipse: s-maj=46.6km s-min=19.5km az=90.6*
NEIC ***23*** *02:56:23.8±0.7, 958S×15967E, h124km±7km, mb4.2/4, Error ellipse: s-maj=29.9km s-min=11.3km az=133.0*
ISC 23 02:56:23.8±1.1, 96S±02×1597E±02, h125km±10km, n16, σ0±40/15, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.28**	**49**	P		**Pn**	**02 56 41.2**	**0.0**
	306nm,0.3s,baz=97,slow=7.1,SNR=48							
HNR				S		**Sn**	**02 57 13.0**	**+19**
	562nm,0.3s,baz=266,slow=8.8,SNR=8.5							
CTA	**Charters Tower**	**16.66**	**230**	*e*P		**Pn**	**03 00 09.8**	**0.0**
	7.1nm,0.8s							
CTA	**Charters Tower**	**16.66**	**230**	P		**Pn**	**03 00 09.3**	**-0.5**
	0.7nm,0.3s,baz=69,slow=12,SNR=8.6							
CTAO	**Charters Tower**	**16.66**	**230**	*e*P		**Pn**	**03 00 09.9**	**+0.1**
	14nm,0.9s							
WB2	**Warramunga Arr**	**26.57**	**244**	*e*P		**P**	**03 01 49.9**	**-0.1**
WRA	**Warramunga Arr**	**26.57**	**244**	P		**P**	**03 01 49.6**	**-0.5**
	1.5nm,0.8s,mb3.6,baz=77,slow=8.8,SNR=16							
WRA				LR		LR	03 11 51.9	
	comp=Z,45nm,19.0s,baz=65,slow=35							
STKA	**Stephens Creek**	**27.81**	**215**	*e*P		**P**	**03 01 51.2**	**-10**
	2.1nm,0.8s,mb3.7							
STKA	**Stephens Creek**	**27.81**	**215**	P		**P**	**03 01 51.2**	**-10**
	1.4nm,0.5s,mb3.8,baz=38,slow=8.8,SNR=5.2							
STKA				LR		LR	03 12 26.3	
	comp=Z,95nm,18.6s,baz=24,slow=35							
AFI	**Afiamalu**	**28.20**	**101**	LR		LR	03 09 21.7	
	comp=Z,70nm,20.9s,baz=170,slow=29							
FITZ	**Fitzroy Crossi**	**34.11**	**252**	*e*P		**P**	**03 02 57.3**	**+0.9**
	3.1nm,0.6s,mb4.3							
KSRS	**Korea Array**	**55.50**	**329**	LR		LR	03 26 41.0	
	comp=Z,35nm,19.7s,baz=340,slow=32							
SONM	**Songino Array**	**74.09**	**326**	P		**P**	**03 07 46.3**	**+0.1**
	0.4nm,0.6s,mb3.3,baz=110,slow=6.4,SNR=3.6							
MKAR	**Makanchi Array**	**88.47**	**318**	P		**P**	**03 09 01.4**	**-0.5**
	0.5nm,0.7s,mb3.6,baz=108,slow=6.3,SNR=3.4							
NVAR	**Mina Array Bea**	**89.68**	**51**	P		**P**	**03 09 02.9**	**-4.8**
	0.2nm,0.6s,mb3.5,baz=239,slow=7.0,SNR=2.7							
YKA	**Yellowknife Ar**	**96.45**	**28**	P		**P**	**03 09 38.8**	**+0.1**
	0.4nm,0.8s,mb3.9,baz=257,slow=4.4,SNR=4.9							
SNAA	**Sanae**	**98.06**	**185**	*e*P		**P**	**03 09 46.1**	**+0.1**
	0.3nm,0.4s,mb4.2							

NEIC 23 03:17:27.5, 3783S×17682E, h1km, ML3.9(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.19**	**216**	P		Pg	03 17 32.3	+1.1
MARZ				S		Sg	03 17 35.5	+1.8
EDRZ	**Edgecumbe**	**0.28**	**193**	P		Pg	03 17 34.1	+1.1
EDRZ				S		Sg	03 17 38.4	+1.7
LIRZ	**Lichensteins R**	**0.39**	**243**	P		Pg	03 17 36.0	+1.1
LIRZ				S		Sg	03 17 42.2	+2.3
MKRZ	**Makatiti**	**0.42**	**222**	P		Pg	03 17 36.9	+1.4
TGRZ	**Tauranga**	**0.45**	**282**	P		Pg	03 17 37.0	+0.8
TAZ	**Tarawera**	**0.47**	**211**	P		Pg	03 17 38.3	+1.8
URZ	**Urewera**	**0.49**	**152**	*e*P		Pg	03 17 37.9	+1.1
KARZ	**Kaharoa**	**0.49**	**247**	P		Pg	03 17 37.9	+0.9
MWZ	**Matawai**	**0.75**	**132**	*e*P		Pg	03 17 41.9	0.0

CSEM ***23*** *03:23:20.0±0.6, 3973N×2976W, h0km, ML3.1, Error ellipse: s-maj=15.1km s-min=5.3km az=59.0, After PDA*
PDA ***23*** *03:23:20.0±0.6, 3973N×2976W, h0km, MD3.5, ML3.1, Error ellipse: s-maj=15.1km s-min=5.3km az=59.0*
SVSA 23 03:23:20.0±0.6, 3973N×2976W, h0km, MD3.5, ML3.1, Error ellipse: s-maj=15.1km s-min=5.3km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.37**	**143**	*e*P		Pg	03 23 41.3	-4.9
PCED				*e*S		Sg	03 23 57.8	-6.2
PCED								
	78nm,0.2s							
PCED	**Cedros**	**1.37**	**143**	*e*P		Pg	03 23 41.3	-4.9
PCED				*e*S		Sg	03 23 57.8	-6.2
CALA	**Caldeira**	**1.41**	**144**	*e*S		Sg	03 23 57.3	-7.9
HOR	**Horta**	**1.48**	**143**	*e*P		Pn	03 23 43.0	-4.9
HOR				*e*S		Sg	03 24 00.3	-7.4
ROSA	**Rosais**	**1.55**	**130**	*e*P		Pn	03 23 44.1	-4.7
ROSA				*e*S		Sn	03 24 01.8	-7.8
PICO	**Pico**	**1.60**	**139**	*e*S		Sn	03 24 03.2	-7.8

ISCJB ***23*** *03:32:47.9±0.5, 1781S±006×16795E±009, h10km, mb4.6/21, MS4.0/5, Error ellipse: s-maj=12.0km s-min=8.8km az=16.4*
IDC ***23*** *03:32:47.4±0.8, 1780S×16806E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/15, mbtmp4.4/11, ML4.0/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/24, Error ellipse: s-maj=29.2km s-min=18.2km az=114.0*
BJI ***23*** *03:32:47.0, 1780S×16810E, h5km, mB5.3, mb4.9, Ms4.9, Msz4.4*
NEIC ***23*** *03:32:48.1±6.9, 1778S×16811E, h6km±40km, mb4.9/13, Error ellipse: s-maj=15.8km s-min=10.2km az=59.0*
LDG ***23*** *03:32:50.5±0.2, 1763S×16741E, h10km, Mb5.1/1, Error ellipse: s-maj=30.1km s-min=4.8km az=96.0*
ISC 23 03:32:49.6±6.2, 1786S±007×1681E±01, h13km±37km, h17km±.5km: pP-P, n94, σ0±88/39, mb4.7/19, MS4.0/5, 4C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.47**	**200**	*e*P		**Pn**	**03 33 56.5**	**-0.5**
DZM				*e*S		**Sn**	**03 34 45.6**	**-3.4**
DZM	**Mont Dzumac**	**4.47**	**200**	Pn		**Pn**	**03 33 56.5**	**-0.5**
	8.2nm,0.3s,baz=2.7,slow=20,SNR=101							
DZM				Sn		**Sn**	**03 34 49.2**	**+0.3**
	18nm,0.3s,baz=152,slow=22,SNR=8.2							
DZM				LR		LR	03 35 30.6	
	comp=Z,794nm,20.1s,baz=216,slow=36							
HNR	**Honiara**	**11.54**	**316**	LR		LR	03 39 10.8	
	comp=Z,435nm,19.4s,baz=180,slow=34							
RAO	**Raoul Island**	**17.09**	**134**	LR		LR	03 41 54.8	
	comp=Z,423nm,19.9s,baz=164,slow=32							
ARMA	**Armidale**	**19.52**	**227**	*e*P		**Pn**	**03 37 19.1**	**+1.1**
AFI	**Afiamalu**	**19.74**	**81**	LR		LR	03 43 22.9	
	comp=Z,397nm,20.1s,baz=222,slow=32							
CTA	**Charters Tower**	**20.79**	**260**	*e*P		**P**	**03 37 31.3**	**+0.9**
	8.3nm,0.6s							
CTA	**Charters Tower**	**20.79**	**260**	P		**P**	**03 37 31.1**	**+0.7**
	10nm,0.6s,baz=87,slow=11,SNR=8.8							
CTA				LR		LR	03 44 30.4	
	comp=Z,562nm,19.6s,MS3.9,baz=58,slow=34							
CTAO	**Charters Tower**	**20.79**	**260**	*e*P		**P**	**03 37 31.3**	**+0.9**
	15nm,0.8s							
PMG	**Port Moresby**	**22.01**	**290**	LR		LR	03 45 13.5	
	comp=Z,386nm,18.2s,MS3.9,baz=112,slow=34							
CNB	**Canberra Magne**	**24.07**	**220**	*e*P		**P**	**03 38 05.8**	**+1.1**
	46nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**27.71**	**235**	*e*P		**P**	**03 38 38.0**	**+0.4**
	9.5nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**27.71**	**235**	P		**P**	**03 38 38.1**	**+0.5**
	11nm,0.6s,mb4.7,baz=52,slow=6.8,SNR=32							
STKA				LR		LR	03 49 20.1	
	comp=Z,322nm,18.7s,MS3.9,baz=33,slow=36							
WB2	**Warramunga Arr**	**31.98**	**261**	*e*P		**P**	**03 39 11.2**	**-4.2**
WRA	**Warramunga Arr**	**31.99**	**261**	P		**P**	**03 39 13.7**	**-1.8**
	4.3nm,0.7s,mb4.4,baz=92,slow=9.5,SNR=58							
WRA				PcP		PcP	03 42 05.6	+0.3
	1.8nm,0.7s,baz=87,slow=3.0,SNR=7.4							
WRA				LR		LR	03 51 17.0	
	comp=Z,226nm,20.4s,MS3.8,baz=100,slow=35							
KAKA	**Kakadu**	**34.75**	**273**	*e*P		**P**	**03 39 38.5**	**-1.1**
	16nm,1.1s,mb4.9							
FORT	**Forrest**	**38.49**	**243**	*e*P		**P**	**03 40 11.0**	**-0.5**
	28nm,0.6s,mb5.2							
TBI	**Tubuai**	**39.98**	**105**	*e*S		**S**	**03 46 34.4**	**+5.3**
	138nm,29.2s							
TBI				*e*LR		LR	03 51 30.5	
	276nm,26.8s							
PPT	**Papeete**	**40.24**	**96**	*e*LR		LR	03 51 55.3	
	373nm,26.0s							
FITZ	**Fitzroy Crossi**	**40.33**	**263**	*e*P		**P**	**03 40 25.8**	**-1.0**
	59nm,0.9s,mb5.3							
TAOE	**Nuku Hiva Isla**	**50.99**	**87**	*e*LR		LR	03 56 42.3	
	770nm,24.1s							
KKM	**Kota Kinabalu**	**56.45**	**290**	*e*P		**P**	**03 42 31.2**	**+0.1**
VNDA	**Vanda**	**59.77**	**182**	P		**P**	**03 42 54.4**	**+0.1**
	1.7nm,0.8s,mb4.1,baz=18,slow=7.4,SNR=4.3							
VNDA	**Vanda**	**59.77**	**182**	*e*P		**P**	**03 42 54.2**	**-0.1**
	1.4nm,0.6s,mb4.2							
KSM	**Kuching**	**60.03**	**282**	*e*P		**P**	**03 42 56.4**	**+0.3**
MJAR	**Matsushiro Arr**	**61.04**	**333**	P		**P**	**03 43 02.0**	**-1.1**
	1.2nm,0.5s,mb4.3,baz=156,slow=8.2,SNR=3.4							
QSPA	**South Pole Qui**	**72.18**	**180**	*e*P		**P**	**03 44 14.6**	**+0.4**
	5.8nm,0.5s,mb4.8							
CN2	**Changchun**	**72.73**	**329**	*e*P		**P**	**03 44 17.3**	**-0.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
CHTO	**Chiang Mai**	**77.11**	**295**	*e*P		**P**	**03 44 43.1**	**+0.4**
	comp=Z,2.4nm,0.4s,mb4.5							
HHC	**Hu-ho-hao-te**	**78.48**	**320**	*e*P		**P**	**03 44 53.1**	**+2.7**
HHC				S		S	03 54 43.8	-2.5
HHC				SS		SS	03 59 51.3	+1.8
HHC				AMB		AMB		
	comp=Z,16nm,0.4s,mb5.3							
HHC				LR		LR		
	comp=N,160nm,14.9s,MS4.7							
HHC				LR		LR		
	comp=E,226nm,15.5s,MS4.7							
HHC				LR		LR		
	comp=Z,126nm,14.9s,MS4.4							
MAW	**Mawson**	**79.30**	**202**	P		**P**	**03 44 55.3**	**+0.4**
	comp=Z,4.2nm,0.9s,mb4.4,baz=107,slow=11,SNR=4.9							
HIA	**Hailar**	**79.39**	**330**	*e*P		**P**	**03 44 54.9**	**-0.5**
	comp=Z,5.7nm,0.3s,mb5.0							
LZH	**Lanzhou**	**81.02**	**312**	*e*P		**P**	**03 45 14.0**	**+10**
LZH				pP		pP	03 45 19.4	+11
LZH				sP		sP	03 45 22.5	+13
GTA	**Gaotai**	**85.41**	**314**	P		**P**	**03 45 28.4**	**+1.6**
GTA				AP		pP	03 45 33.6	+2.6
GTA				XP		sP	03 45 36.4	+3.9
GTA				AMB		AMB		
	comp=Z,6.0nm,1.0s,mb4.7							
SONM	**Songino Array**	**85.48**	**323**	P		**P**	**03 45 27.3**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.5,baz=131,slow=4.4,SNR=20							
SYO	**Syowa Base**	**85.95**	**196⇑***e*P			**P**	**03 45 28.8**	**-0.7**
PMSA	**Palmer Station**	**88.56**	**160**	*e*P		**P**	**03 45 41.7**	**-0.4**
	comp=Z,26nm,1.2s,mb5.4							
NVAR	**Mina Array Bea**	**88.70**	**49**	P		**P**	**03 45 42.6**	**-0.2**
	comp=Z,0.5nm,0.5s,mb4.1,baz=235,slow=8.8,SNR=5.9							
SNAA	**Sanae**	**90.48**	**183**	*e*		**P**	**03 45 50.4**	**-0.7**
SNAA				*e*		pP	03 45 55.7	+0.4
SNAA	**Sanae**	**90.48**	**183**	*e*P		**P**	**03 45 50.6**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.7							
VNA3	**Neumayer Olymp**	**91.11**	**181**	*e*		**P**	**03 45 53.9**	**-0.2**
VNA3				*e*		pP	03 45 59.6	+1.3
VNA3				*e*			03 46 06.6	
VNA3				*e*			03 46 25.3	
VNA2	**Neumayer--Watz**	**91.39**	**181**	*e*		**P**	**03 45 55.6**	**+0.3**
	baz=182,slow=4.0							
VNA2				*e*		pP	03 46 00.5	+1.0
VNA2				*e*			03 46 08.0	
VNA2				*e*			03 46 26.3	
VNA1	**Neumayer--Stat**	**91.68**	**181**	*e*		**P**	**03 46 00.8**	**+4.1**
VNA1				*e*		pP	03 46 05.3	+4.4
YKA	**Yellowknife Ar**	**99.94**	**27**	P		Pdif	03 46 33.1	-1.2
	comp=Z,0.1nm,0.4s,baz=258,slow=5.1,SNR=5.8							
MKAR	**Makanchi Array**	**100.01**	**316**	P		Pdif	03 46 34.4	-0.2
	comp=Z,0.3nm,0.5s,baz=93,slow=7.0,SNR=5.9							
AKTK	**Aktyubinsk**	**116.34**	**318**	PKP		PKPdf	03 51 32.3	-0.6
AKTO	**Aktyubinsk**	**116.34**	**318**	PKP		PKPdf	03 51 32.3	-0.6
	comp=Z,1.1nm,0.6s,baz=133,slow=6.2,SNR=4.3							
ARCES	**ARCESS Array B**	**123.47**	**345**	PKP		PKPdf	03 51 45.2	-1.5
	comp=Z,4.5nm,0.8s,baz=64,slow=2.8,SNR=10							
ARCES	**ARCESS Array B**	**123.47**	**345**	PKP		PKPdf	03 51 45.2	-1.5
FINES	**FINESS Array B**	**128.91**	**338**	PKP		PKPdf	03 51 56.2	-0.9
	comp=Z,4.3nm,1.0s,baz=258,slow=7.2,SNR=8.1							
FINES	**FINESS Array B**	**128.91**	**338**	PKP		PKPdf	03 51 56.2	-0.9
AKASG	**Malin Array Be**	**133.76**	**325**	PKP		PKPdf	03 52 05.5	-0.6
	comp=Z,0.5nm,0.5s,baz=56,slow=2.0,SNR=4.3							
AKASG				SKPbc		SKPbc	03 55 34.3	-0.5
	comp=Z,0.4nm,0.5s,baz=43,slow=3.8,SNR=5.2							
BRTR	**Keskin Array B**	**135.12**	**309**	PKP		PKPdf	03 52 10.0	+1.3
	comp=Z,0.5nm,0.9s,baz=74,slow=1.5,SNR=2.9							
GERES	**GERESS Array B**	**142.78**	**332**	PKhKP			03 52 17.7	
	comp=Z,0.6nm,0.7s,baz=53,slow=1.0,SNR=3.5							
GERES				PKP		PKPdf	03 52 22.2	-0.5
	comp=Z,0.4nm,0.6s,baz=45,slow=2.1,SNR=5.9							
MOTA	**Moosalm**	**145.06**	**332⇑***i*P			PKPbc	03 52 25.8	-0.3
	comp=Z,10nm,1.0s							
RETA	**Reutte**	**145.10**	**333⇑***i*PKPdf			PKPdf	03 52 26.5	-0.3
	comp=Z,12nm,1.2s							
SQTA	**Sankt Quirin**	**145.11**	**332⇓***i*P			PKPbc	03 52 26.5	+0.2
	comp=Z,7.6nm,0.9s							
BAIF	**Baives**	**145.38**	**342**	*e*PKP1		PKPbc	03 52 28.4	+1.2
	comp=Z,12nm,1.0s							
BFO	**Black Forest**	**145.43**	**336**	*e*PKPbc		PKPbc	03 52 26.8	-0.5
FETA	**Feichten**	**145.47**	**332⇓***i*PKPdf			PKPdf	03 52 28.0	+0.5
	comp=Z,22nm,1.0s							
DAVA	**Damuels**	**145.63**	**333⇑***i*P			PKPdf	03 52 28.6	+0.9
	comp=Z,15nm,1.0s							
CDF	**Champ du Feu**	**145.76**	**337**	*e*PKP1		PKPbc	03 52 28.2	-0.2
	comp=Z,9.2nm,0.6s							
HINF	**Hinteralfeld**	**146.42**	**337**	*e*PKP1		PKPbc	03 52 30.3	-0.1
HAU	**Haudompre**	**146.44**	**338**	*e*PKP1		PKPbc	03 52 30.2	-0.2
	comp=Z,5.6nm,0.5s							
MEZF	**Maizieres J'vi**	**146.47**	**339**	*e*PKP1		PKPbc	03 52 30.7	+0.2
	comp=Z,6.8nm,0.4s							
CABF	**La Chapelle**	**147.71**	**337**	*e*PKP1		PKPbc	03 52 34.2	+0.2
FLN	**La Foliniere**	**147.81**	**346**	*e*PKP1		PKPbc	03 52 33.5	-0.8
LDF	**La Druitiere**	**147.89**	**345**	*e*PKP1		PKPbc	03 52 33.9	-0.6
LOR	**Lormes**	**147.94**	**340**	*e*PKP1		PKPbc	03 52 34.4	-0.2
	comp=Z,4.4nm,0.5s							
SSF	**Saint Saulge**	**148.24**	**340**	*e*PKP1		PKPbc	03 52 35.3	-0.1
	comp=Z,6.6nm,0.5s							
GRR	**Gorron**	**148.25**	**346**	*e*PKP1		PKPbc	03 52 35.1	-0.3
	comp=Z,8.2nm,0.5s							
LPL	**La Plagne**	**148.36**	**335**	*e*PKP1		PKPbc	03 52 36.1	+0.4
	comp=Z,7.3nm,0.5s							
LPG	**La Plagne**	**148.37**	**335**	*e*PKP1		PKPbc	03 52 36.2	+0.5
	comp=Z,14nm,0.8s							
SMF	**Signal de Mont**	**148.49**	**339**	*e*PKP1		PKPbc	03 52 35.5	-0.6
BGF	**Bois d'Agland**	**148.90**	**340**	*e*PKP1		PKPbc	03 52 36.6	-0.5
MBDF	**Montbardon**	**148.99**	**334**	*e*PKP1		PKPbc	03 52 36.8	-0.5
ORIF	**Oris-en-Rattie**	**149.20**	**335**	*e*PKP1		PKPbc	03 52 37.9	0.0
	comp=Z,16nm,0.8s							
TCF	**Toulx Ste Croi**	**149.34**	**341**	*e*PKP1		PKPbc	03 52 38.0	-0.2
SBF	**Sospel**	**149.38**	**332**	*e*PKP1		PKPbc	03 52 37.9	-0.4
	comp=Z,35nm,0.9s							
PGF	**Pioggiola**	**149.65**	**329**	*e*PKP1		PKPbc	03 52 38.8	-0.2
	comp=Z,35nm,0.8s							
VIVF	**Saint-Julien-l**	**149.72**	**336**	*e*PKP1		PKPbc	03 52 39.0	-0.2
MFF	**Saint Martin d**	**149.74**	**344**	*e*PKP1		PKPbc	03 52 38.5	-0.7
	comp=Z,6.8nm,0.7s							
FRF	**La Foret Royal**	**149.97**	**332**	*e*PKP1		PKPbc	03 52 39.0	-0.8
SMRF	**Simiane la Rot**	**150.09**	**334**	*e*PKP1		PKPbc	03 52 40.3	+0.2
RJF	**Les Rejaudoux**	**150.44**	**341**	*e*PKP1		PKPbc	03 52 40.7	-0.2
CAF	**Calviac**	**150.60**	**340**	*e*PKP1		PKPbc	03 52 40.9	-0.4
	comp=Z,8.4nm,0.8s							
LASF	**Ste Croix**	**150.69**	**336**	*e*PKP1		PKPbc	03 52 41.4	-0.1
LFF	**La Frestale**	**151.01**	**341**	*e*PKP1		PKPbc	03 52 41.7	-0.5
	comp=Z,18nm,0.8s							
MTLF	**Montolieu**	**151.93**	**338**	*e*PKP1		PKPbc	03 52 44.0	-0.4
EPF	**Esparros**	**152.85**	**340**	*e*PKP1		PKPbc	03 52 46.8	+0.4
ETSF	**Etsaut**	**153.25**	**341**	*e*PKP1		PKPbc	03 52 47.3	0.0
	comp=Z,6.0nm,0.6s							
ESDC	**Sonseca Array**	**157.20**	**344**	PKPab		PKPab	03 53 16.7	+0.7
	comp=Z,0.6nm,0.8s,baz=12,slow=3.1,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**166.10**	**252**	*e*PKPab		PKPab	03 53 54.9	0.0
TORD	**Torodi Ar. Bea**	**166.10**	**252**	PKP		PKPdf	03 52 54.3	-0.1
	comp=Z,1.1nm,1.1s,baz=271,slow=1.2,SNR=5.0							
TORD				PKPab		PKPab	03 53 54.9	0.0
	comp=Z,1.9nm,0.9s,baz=106,slow=3.5,SNR=8.7							

ISCJB ***23*** *03:50:49.6±0.3, 5443N±002×16189E±006, h37km, mb4.1/33, Error ellipse: s-maj=5.0km s-min=2.8km az=46.6*
MOS ***23*** *03:50:49.0±1.6, 5449N×16184E, h33km, mb4.4/24, Error ellipse: s-maj=12.7km s-min=6.2km az=89.1*
IDC ***23*** *03:50:51.4±0.7, 5461N×16126E, h37km±4km, mb3.7/18, mb1 3.9/19, mb1mx3.8/28, mbtmp3.7/19, ML3.9/1, Error ellipse: s-maj=19.2km s-min=14.4km az=155.0*
KRSC ***23*** *03:50:52.6±0.4, 5451N×16149E, h37km±26km, ML4.5*
NEIC ***23*** *03:50:59.1±1.5, 5468N×16142E, h103km±13km, mb4.2/15, Error ellipse: s-maj=11.0km s-min=8.6km az=154.0*
ISC 23 03:50:51.0±0.3, 5445N±002×16182E±006, h39km, h39km±.8km: pP-P, n115, σ1±29/132, mb4.1/33, 5C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.12**	**334**	*i* P		**Pn**	**03 50 58.0**	**+0.4**
TUMR	**Tumrok**	**1.27**	**311**	*e*P		**Pn**	**03 51 12.4**	**+0.1**
KII	**Karymskiy**	**1.45**	**254**	*e*P		**Pn**	**03 51 15.2**	**+0.5**
KII				*i* S		**Sn**	**03 51 32.1**	**-0.4**
KMNR	**Kamenistaya**	**1.59**	**326**	*e*P		**Pn**	**03 51 17.7**	**+1.0**
KMNR				*i* S		**Sn**	**03 51 35.2**	**-0.8**
ZLN	**Zelenaya**	**1.67**	**340**	*e*P		**Pn**	**03 51 19.0**	**+1.2**
KIRR	**Kirishev**	**1.73**	**331**	*e*P		**Pn**	**03 51 19.6**	**+1.1**
KIRR				*i* S		**Sn**	**03 51 39.8**	**+0.5**
SPN	**Mys Shipunski**	**1.73**	**219**	*e*P		**Pn**	**03 51 18.2**	**-0.3**
SPN				*i* S		**Sn**	**03 51 37.2**	**-2.1**
KPT	**Kopyto**	**1.77**	**330**	*e*P		**Pn**	**03 51 20.3**	**+1.2**
CIRR	**Tsirk**	**1.77**	**340**	*e*P		**Pn**	**03 51 20.6**	**+1.4**
CIRR				*i* S		**Sn**	**03 51 40.7**	**+0.2**
KBTR	**Krutoberegovo**	**1.85**	**18**	*e*P		**Pn**	**03 51 22.4**	**+2.2**
KBTR				*i* S		**Sn**	**03 51 43.9**	**+1.5**
KRSR	**Krestovskiy**	**1.91**	**339**	*e*P		**Pn**	**03 51 21.9**	**+0.9**
KRSR				*i* S		**Sn**	**03 51 43.6**	**-0.2**
NLC	**Nalytchevo**	**1.95**	**230**	*e*P		**Pn**	**03 51 22.0**	**+0.4**
NLC				*i* S		**Sn**	**03 51 44.0**	**-0.8**
KOZ	**Kozyrevsk**	**1.96**	**326**	*e*P		**Pn**	**03 51 23.0**	**+1.3**
KOZR	**Kozyr**	**1.96**	**327**	PN		**Pn**	**03 51 23.0**	**+1.3**
KLY	**Klyuchi**	**1.98**	**341**	*e*P		**Pn**	**03 51 22.6**	**+0.6**
KLY				*i* S		**Sn**	**03 51 44.7**	**-0.9**
SMKR	**Semkarok**	**2.14**	**355**	*e*P		**Pn**	**03 51 26.0**	**+1.7**
BDR	**Baidarnaya**	**2.15**	**351**	*e*P		**Pn**	**03 51 25.9**

BVAR	**Borovoye Array**	**50.35 308**	P	**P**	**03 59 41.1**	**-2.9**
BVAR			pmax	pmax		
comp=Z,1.0nm,0.5s						
FCC	**Fort Churchill**	**51.78 40**	*e*P	**P**	**03 59 54.9**	**+0.1**
FCC			pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0						
FCC	**Fort Churchill**	**51.78 40**	*e*P	**P**	**03 59 54.9**	**+0.1**
comp=Z,1.0nm,0.5s,mb4.0						
LVZ	**Lovozero**	**51.84 337⇑**	*e*P	**P**	**03 59 53.2**	**-2.0**
NVAR	**Mina Array Bea**	**54.33 72**	P	**P**	**04 00 16.4**	**+2.8**
comp=Z,0.5nm,0.6s,mb3.6,baz=304,slow=8.5,SNR=4.6						
PDAR	**Pinedale Array**	**55.98 63**	P	**P**	**04 00 27.5**	**+2.0**
comp=Z,1.2nm,1.1s,mb3.9,baz=349,slow=3.0,SNR=4.8						
PDAR			pP	pP	04 00 38.4	+1.5
comp=Z,1.0nm,0.9s,baz=327,slow=2.5,SNR=5.4						
JOF	**Joensuu**	**56.76 335**	*e*p	**P**	**04 00 29.4**	**-1.6**
comp=Z,3.2nm,0.5s,mb4.6						
JOF	**Joensuu**	**56.76 335**	*e*P	**P**	**04 00 29.4**	**-1.6**
JOF			pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.6						
RSSD	**Black Hills**	**57.81 58**	*e*P	**P**	**04 00 39.7**	**+1.3**
RSSD			pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0						
RSSD	**Black Hills**	**57.81 58**	*e*P	**P**	**04 00 39.7**	**+1.2**
comp=Z,1.5nm,0.7s,mb4.1						
KAF	**Kangasniemi**	**58.63 337**	*e*p	**P**	**04 00 42.6**	**-1.6**
comp=Z,2.0nm,0.3s,mb4.6,baz=28,slow=6.5						
KAF	**Kangasniemi**	**58.63 337**	*e*P	**P**	**04 00 42.6**	**-1.6**
KAF			pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.6						
FINES	**FINESS Array B**	**59.27 337**	P	**P**	**04 00 46.2**	**-2.4**
comp=Z,3.7nm,0.5s,mb4.7,baz=38,slow=9.6,SNR=26						
FINES	**FINESS Array B**	**59.27 337**	P	**P**	**04 00 46.2**	**-2.4**
FINES			pmax	pmax		
comp=Z,4.0nm,0.5s						
FINES	**FINESS Array B**	**59.27 337**	P	**P**	**04 00 46.2**	**-2.4**
NB2	**NORSAR Subarra**	**62.52 344**	P	**P**	**04 01 08.6**	**-2.1**
comp=Z,1.4nm,0.5s,mb4.3,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**62.52 344**	P	**P**	**04 01 09.2**	**-1.5**
comp=Z,2.6nm,0.7s,mb4.5,baz=20,slow=6.7,SNR=7.7						
NOA	**NORSAR Array B**	**62.52 344**	P	**P**	**04 01 09.2**	**-1.5**
NOA			pmax	pmax		
comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**62.96 343**	P	**P**	**04 01 11.3**	**-2.3**
comp=Z,2.3nm,0.4s,mb4.6,baz=40,slow=7.7,SNR=17						
HFS	**Hagfors**	**62.96 343**	P	**P**	**04 01 11.3**	**-2.3**
HFS			pmax	pmax		
comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**67.97 330**	P	**P**	**04 01 43.6**	**-2.4**
comp=Z,0.4nm,0.3s,mb3.9,baz=27,slow=6.9,SNR=3.9						
AKASG	**Malin Array Be**	**67.97 330**	*i* P	**P**	**04 01 48.9**	**+2.9**
TXAR	**Lajitas Array**	**69.18 69**	P	**P**	**04 01 55.0**	**+1.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=290,slow=4.9,SNR=6.7						
TXAR	**Lajitas Array**	**69.18 69**	P	**P**	**04 01 55.0**	**+1.5**
TXAR			pmax	pmax		
comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**69.18 69**	P	**P**	**04 01 55.0**	**+1.4**
EKA	**Eskdalemuir Ar**	**69.88 351**	P	**P**	**04 01 56.9**	**-1.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=19,slow=5.5,SNR=12						
EKA	**Eskdalemuir Ar**	**69.88 351**	P	**P**	**04 01 56.9**	**-1.0**
EKA			pmax	pmax		
comp=Z,2.0nm,0.7s						
CLL	**Collm**	**71.44 340**	*e*P	**P**	**04 02 06.0**	**-1.4**
KHC	**Kasperske Hory**	**73.39 339⇓**	*e*P	**P**	**04 02 17.7**	**-1.3**
GERES	**GERESS Array B**	**73.63 339**	P	**P**	**04 02 19.6**	**-0.8**
comp=Z,0.8nm,0.6s,mb3.8,baz=46,slow=5.8,SNR=8.1						
GERES	**GERESS Array B**	**73.63 339**	P	**P**	**04 02 19.6**	**-0.8**
GERES			pmax	pmax		
comp=Z,1.0nm,0.6s						
BAIF	**Baives**	**74.18 345**	*e*P	**P**	**04 02 22.5**	**-1.1**
comp=Z,6.9nm,0.7s,mb4.4						
BAIF	**Baives**	**74.18 345**	*e*P	**P**	**04 02 22.5**	**-1.1**
BAIF			pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3						
BAIF	**Baives**	**74.18 345**	*e*P	**P**	**04 02 22.5**	**-1.1**
comp=Z,3.5nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**75.28 343**	*e*P	**P**	**04 02 29.2**	**-0.8**
comp=Z,5.6nm,0.8s,mb4.2						
CDF	**Champ du Feu**	**75.28 343**	*e*P	**P**	**04 02 29.2**	**-0.8**
CDF			pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3						
CDF	**Champ du Feu**	**75.28 343**	*e*P	**P**	**04 02 29.2**	**-0.8**
comp=Z,2.8nm,0.8s,mb4.2						
MEZF	**Maizieres J'vi**	**75.56 344**	*e*P	**P**	**04 02 30.8**	**-0.8**
comp=Z,4.9nm,0.5s,mb4.4						
MEZF	**Maizieres J'vi**	**75.56 344**	*e*P	**P**	**04 02 30.8**	**-0.8**
comp=Z,4.9nm,0.5s,mb4.7						
HAU	**Haudompre**	**75.83 343**	*e*P	**P**	**04 02 32.0**	**-1.2**
FLN	**La Foliniere**	**76.08 348**	*e*P	**P**	**04 02 33.1**	**-1.5**
LDF	**La Druitiere**	**76.20 348**	*e*P	**P**	**04 02 34.0**	**-1.3**
BRTR	**Keskin Array B**	**76.21 321**	P	**P**	**04 02 34.3**	**-1.0**
comp=Z,0.7nm,0.8s,mb3.7,baz=28,slow=2.3,SNR=4.8						
BRTR	**Keskin Array B**	**76.21 321**	*i* P	**P**	**04 02 34.9**	**-0.4**
BRTR			pmax	pmax		
comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**76.21 321**	P	**P**	**04 02 34.3**	**-1.0**
GRR	**Gorron**	**76.50 348**	*e*P	**P**	**04 02 35.8**	**-1.1**
LOR	**Lormes**	**76.95 345**	*e*P	**P**	**04 02 38.3**	**-1.2**
comp=Z,6.7nm,0.6s,mb4.4						
LOR	**Lormes**	**76.95 345**	*e*P	**P**	**04 02 38.3**	**-1.2**
LOR			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4						
LOR	**Lormes**	**76.95 345**	*e*P	**P**	**04 02 38.3**	**-1.2**
comp=Z,3.3nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**77.21 345**	*e*P	**P**	**04 02 39.8**	**-1.1**
comp=Z,5.4nm,0.7s,mb4.3						
SSF	**Saint Saulge**	**77.21 345**	*e*P	**P**	**04 02 39.8**	**-1.1**
SSF			pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3						
SSF	**Saint Saulge**	**77.21 345**	*e*P	**P**	**04 02 39.8**	**-1.1**
comp=Z,2.7nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**77.49 345**	*e*P	**P**	**04 02 41.5**	**-1.0**
comp=Z,3.7nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**77.49 345**	*e*P	**P**	**04 02 41.5**	**-1.0**
AVF			pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**77.49 345**	*e*P	**P**	**04 02 41.5**	**-1.0**
comp=Z,1.9nm,0.6s,mb4.2						
SMF	**Signal de Mont**	**77.56 345**	*e*P	**P**	**04 02 41.8**	**-1.1**
WRA	**Warramunga Arr**	**77.75 206**	P	**P**	**04 02 43.7**	**-0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=19,slow=6.1,SNR=6.4						
WRA			pP	pP	04 02 54.7	-1.1
comp=Z,0.7nm,0.7s,baz=22,slow=6.0,SNR=4.0						
WRA	**Warramunga Arr**	**77.75 206**	P	**P**	**04 02 43.7**	**-0.3**
WRA			*PP	pP	04 02 54.7	-1.0
WRA			pmax	pmax		
comp=Z,1.0nm,0.7s						
MFF	**Saint Martin d**	**78.17 347**	*e*P	**P**	**04 02 45.5**	**-0.8**
LPL	**La Plagne**	**78.18 342**	*e*P	**P**	**04 02 46.6**	**+0.3**
comp=Z,7.1nm,0.8s,mb4.4						
LPL	**La Plagne**	**78.18 342**	*e*P	**P**	**04 02 46.6**	**+0.3**
LPL			pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4						
LPL	**La Plagne**	**78.18 342**	*e*P	**P**	**04 02 46.6**	**+0.3**
comp=Z,3.5nm,0.8s,mb4.3						
LPG	**La Plagne**	**78.19 342**	*e*P	**P**	**04 02 46.9**	**+0.5**
comp=Z,9.2nm,0.8s,mb4.5						
LPG	**La Plagne**	**78.19 342**	*e*P	**P**	**04 02 46.9**	**+0.5**
LPG			pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**78.19 342**	*e*P	**P**	**04 02 46.9**	**+0.5**
comp=Z,4.6nm,0.8s,mb4.5						
MMAI	**Mount Meron Ar**	**81.43 317**	P	**P**	**04 03 03.3**	**-0.6**
comp=Z,2.1nm,0.9s,mb4.1,baz=23,slow=6.6,SNR=6.3						
ESDC	**Sonseca Array**	**85.45 349**	P	**P**	**04 03 24.4**	**-0.2**
comp=Z,0.3nm,0.4s,mb3.8,baz=349,slow=4.9,SNR=2.9						
ESDC			pP	pP	04 03 36.3	-0.2
comp=Z,1.4nm,0.7s,baz=6.1,slow=4.9,SNR=5.4						
ESDC			sP	sP	04 03 40.3	-0.6
comp=Z,1.0nm,0.7s,baz=357,slow=4.9,SNR=3.8						

*NEIC **23** 04:13:23.8±1.6, 46.79N×152.46E, h10km, Error ellipse: s-maj=47.4km s-min=14.1km az=181.0*
*ISCJB **23** 04:13:31.3±1.1, 46.8N±02.0×152.6E±02, h86km±12km, mb3.6/9, Error ellipse: s-maj=30.7km s-min=9.5km az=108.0*
*IDC **23** 04:13:34.6±4.4, 47.12N×152.54E, h86km±46km, mb3.5/10, mb1 3.7/11, mb1mx3.5/22, mbtmp3.5/11, Error ellipse: s-maj=47.2km s-min=19.4km az=177.0*
*MOS **23** 04:13:34.4±1.3, 47.29N×152.29E, h93km, mb4.0/4, Error ellipse: s-maj=28.4km s-min=14.2km az=57.2*
ISC 23 04:13:33.3±1.0, 46.8N±02.0×152.5E±02, h90km±11km, n36, σ1°44/42, mb3.6/9, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.59**	**246**	*e*PN	**Pn**	**04 14 29.0**	**+2.2**
KUR				*e*S	**Sn**	**04 15 13.8**	**+5.7**
KUR				pmax	pmax		
comp=Z,60nm,0.5s							
KUR				smax			
comp=N,170nm,0.6s							
KUR				smax			
comp=E,80nm,0.6s							
SKR	**Severo-Kuril's**	**4.57**	**30**	*e*PN	**Pn**	**04 14 37.8**	**-2.2**
SKR				*e*S	**Sn**	**04 15 23.0**	**-8.9**
SKR				pmax	pmax		
comp=Z,30nm,0.4s							
SKR				smax			
comp=E,80nm,0.5s							
SKR				smax			
comp=N,70nm,0.2s							
SKR				smax			
comp=Z,30nm,0.5s							
NEM2	**Nemuro 2**	**5.89**	**237**	P	**Pn**	**04 14 56.3**	**-1.7**
NEM2				*e*S	**Sn**	**04 16 01.6**	**-2.4**
JRA	**Rausu**	**5.93**	**244**	P	**Pn**	**04 15 00.2**	**+1.6**
JNK	**Nakash**	**6.37**	**243**	P	**Pn**	**04 15 05.1**	**+0.6**
JTKR	**Abashiri--Toko**	**6.68**	**248**	P	**Pn**	**04 15 10.2**	**+1.4**
JAK	**Akkeshi**	**6.72**	**238**	P	**Pn**	**04 15 08.0**	**-1.3**
JAK				*e*S	**Sn**	**04 16 22.0**	**-2.3**
JMP	**Maruseppu**	**7.01**	**250**	P	**Pn**	**04 15 16.4**	**+3.1**
JAR	**Ashorobuto**	**7.11**	**244**	P	**Pn**	**04 15 15.6**	**+1.0**
JOB	**Onbets**	**7.29**	**241**	P	**Pn**	**04 15 17.2**	**+0.2**
JOB				*e*S	**Sn**	**04 16 37.6**	**-0.5**
ASAJ	**Asahikawa**	**7.46**	**253**	P	**Pn**	**04 15 22.4**	**+3.0**
comp=Z,1.2nm,0.3s,baz=79,slow=14,SNR=6.6							
ASAJ	**Asahikawa**	**7.46**	**253**	PN	**Pn**	**04 15 22.4**	**+3.0**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
JKK2	**Kamakawa 2**	**7.47**	**251**	P	**Pn**	**04 15 21.9**	**+2.4**
JCH	**Churui**	**7.74**	**241**	P	**Pn**	**04 15 22.5**	**-0.7**
JCH				*e*S	**Sn**	**04 16 47.0**	**-2.1**
ERM	**Erimo**	**8.22**	**238⇑**	*e*PN	**Pn**	**04 15 36.7**	**+6.9**
JNBK	**Urakawa-nobuka**	**8.30**	**241**	P	**Pn**	**04 15 29.5**	**-1.3**
JNBK				*e*S	**Sn**	**04 16 59.1**	**-3.7**
KSRS	**Korea Array**	**20.41**	**252**	P	**P**	**04 18 06.8**	**+3.7**
comp=Z,1.6nm,0.6s,baz=56,slow=10.0,SNR=3.9							
INK	**Inuvik**	**41.84**	**32**	*e*P	**P**	**04 21 13.7**	**-0.6**
MKAR	**Makanchi Array**	**46.55**	**297**	P	**P**	**04 21 51.1**	**-0.8**
comp=Z,0.4nm,0.6s,mb3.3,baz=43,slow=6.9,SNR=4.5							
MKAR				PcP	PcP	04 23 25.4	+0.7
comp=Z,0.1nm,0.4s,baz=64,slow=2.6,SNR=4.5							
YKA	**Yellowknife Ar**	**51.14**	**37**	P	**P**	**04 22 26.4**	**-0.5**
comp=Z,0.2nm,0.6s,mb3.4,baz=296,slow=7.0,SNR=5.7							
YKA				PcP	PcP	04 23 41.3	0.0
comp=Z,0.2nm,0.5s,baz=302,slow=3.8,SNR=5.3							
YKA	**Yellowknife Ar**	**51.14**	**37**	P	**P**	**04 22 26.4**	**-0.5**
YKA						04 23 41.3	
YKA	**Yellowknife Ar**	**51.14**	**37**	P	**P**	**04 22 26.4**	**-0.5**
YKA				PcP	PcP	04 23 41.4	0.0
NVAR	**Mina Array Bea**	**62.78**	**62**	P	**P**	**04 23 49.8**	**+0.6**
comp=Z,0.2nm,0.5s,mb3.3,baz=261,slow=11,SNR=2.5							
FINES	**FINESS Array B**	**63.82**	**334**	P	**P**	**04 23 55.3**	**-0.7**
comp=Z,2.5nm,0.8s,mb4.1,baz=44,slow=6.4,SNR=8.8							
FINES	**FINESS Array B**	**63.82**	**334**	P	**P**	**04 23 55.3**	**-0.7**
FINES				pmax	pmax		
comp=Z,3.0nm,0.8s							
PDAR	**Pinedale Array**	**65.06**	**54**	P	**P**	**04 24 04.5**	**+0.5**
comp=Z,0.9nm,0.8s,mb3.7,baz=298,slow=1.8,SNR=6.5							
NB2	**NORSAR Subarra**	**68.05**	**341**	P	**P**	**04 24 22.5**	**-0.6**
comp=Z,1.1nm,0.6s,mb3.9,baz=28,slow=6.2							
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	**04 24 22.8**	**-0.3**
comp=Z,1.1nm,0.5s,mb3.9,baz=27,slow=6.3,SNR=3.7							
NOA	**NORSAR Array B**	**68.05**	**341**	P	**P**	**04 24 22.8**	**-0.3**
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							
MDRS	**Chennai**	**68.45**	**266**	*e*x	x	04 25 27.7	
MDRS				*e*x	x	04 28 19.7	
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**04 24 42.5**	**-0.5**
comp=Z,0.7nm,0.3s,mb4.0,baz=32,slow=6.3,SNR=4.7							
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**04 24 42.5**	**-0.4**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**04 24 42.5**	**-0.5**
TXAR	**Lajitas Array**	**77.83**	**60**	P	**P**	**04 25 21.4**	**+0.5**
comp=Z,0.4nm,0.5s,mb3.4,baz=298,slow=2.7,SNR=5.2							
BRTR	**Keskin Array B**	**78.07**	**316**	P	**P**	**04 25 23.5**	**+1.4**
comp=Z,0.7nm,0.9s,mb3.4,baz=44,slow=8.6,SNR=3.2							
BRTR	**Keskin Array B**	**78.07**	**316**	P	**P**	**04 25 23.5**	**+1.3**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.9s							

CASC 23 04:16:05.5±1.1, 1401N×8978W, h11km±3km, MD3.5, 1C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.14**	**40⇑**	*i*P	x	04 16 09.6	
RTR	**El Retiro**	**0.17**	**131⇓**	*i*P	x	04 16 10.1	
RTR				*e*S	x	04 16 13.5	
SNJE	**San Jose**	**0.22**	**130⇓**	*i*P	x	04 16 10.9	
SNJE				*e*S	x	04 16 14.6	
SBLS	**San Blas**	**0.22**	**138**	*e*P	x	04 16 10.8	
SBLS				*e*S	x	04 16 15.0	
BOQS	**Boqueron**	**0.55**	**119**	*e*P	x	04 16 17.0	
BOQS				*e*S	x	04 16 24.9	
MTO2	**Montecristo 2**	**0.56**	**46**	*e*P	x	04 16 16.7	
MTO2				*e*S	x	04 16 25.0	
LBRS	**Las Brisas**	**0.76**	**111**	*e*P	x	04 16 20.0	
LBRS				*e*S	x	04 16 31.0	
LFRS	**El Faro**	**0.79**	**119**	*e*P	x	04 16 20.8	
FUG	**Fuego 3**	**1.12**	**293**	*e*P	Pb	04 16 25.6	-1.4
FUG				*e*S	Sb	04 16 41.2	-0.4
JAT	**Jato**	**1.83**	**280**	*e*P	Pn	04 16 39.0	+2.0

*ISCJB **23** 04:46:37.9±0.6, 39.36N±003×23.52E±004, h12km±6km, Error ellipse: s-maj=5.9km s-min=5.1km az=93.8*
*CSEM **23** 04:46:38.5±0.1, 39.36N×23.52E, h10km, ML2.3, Error ellipse: s-maj=2.2km s-min=2.0km az=145.0*
*THE **23** 04:46:38.6, 39.34N×23.52E, h14km, ML2.3*
*ATH **23** 04:46:38.7, 39.35N×23.48E, h13km±10km, MD2.9/3*
ISC 23 04:46:38.0±0.6, 3935N±003×2352E±005, h18km±6km, n12, σ0°93/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**259**	*e*PG	**Pg**	**04 46 43.2**	**-0.3**
NEO				*e*SG	**Sg**	**04 46 46.5**	**-0.7**
XOR	**Xorichti**	**0.25**	**274**	*e*Pg	**Pg**	**04 46 43.5**	**-0.3**
XOR				*e*Sg	**Sg**	**04 46 47.8**	**+0.1**
AOS	**Alonnisos**	**0.33**	**122**	*e*Pg	**Pg**	**04 46 44.8**	**-0.4**
AOS				*e*Sg	**Sg**	**04 46 50.5**	**+0.5**
PAIG	**Paliouri**	**0.59**	**12**	*e*Pg	**Pg**	**04 46 50.6**	**+0.9**
PAIG				*e*Sg	**Sg**	**04 47 00.2**	**+2.5**
LKR	**Lokris**	**0.81**	**210**	*e*PB	**Pb**	**04 46 53.8**	**+0.3**
AGG	**Agios Georgios**	**0.98**	**251**	*e*Pg	**Pg**	**04 46 56.7**	**-0.4**
AGG				*e*Sg	**Sg**	**04 47 11.8**	**+1.9**
PLG	**Polygyros**	**1.02**	**357**	*e*Pg	**Pg**	**04 46 57.6**	**-0.3**
PLG				*e*Sg	**Sg**	**04 47 11.7**	**+0.3**
PLG	**Polygyros**	**1.02**	**357**	*e*PB	**Pb**	**04 46 57.6**	**+0.4**
PLG				*e*SB	**Sb**	**04 47 11.3**	**+1.0**
OUR	**Ouranopolis**	**1.05**	**20**	*e*Pg	**Pg**	**04 46 57.4**	**-0.9**
LIT	**Litokhoron**	**1.09**	**314**	*e*Pg	**Pg**	**04 46 58.7**	**-0.5**
SOH	**Sokhos**	**1.48**	**355**	*e*Pg	**Pg**	**04 47 04.4**	**-2.1**
SRS	**Serrai**	**1.77**	**2**	*e*Pb	**Pb**	**04 47 08.9**	**-1.0**
SRS				*e*Sb	**Sb**	**04 47 31.1**	**-0.6**

*NEIC **23** 04:50:58.4, 28.93S×71.37W, h33km, mb3.8/1, After GUC.*
GUC 23 04:50:58.4±0.8, 2893S×7137W, h33km±3km, ML4.7, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.59**	**98**	*e*Pn	Pn	04 51 10.7	+0.3
LCO				*e*Sn	Sn	04 51 19.9	+1.0
VACH	**Vallenar**	**0.64**	**56⇓**	*i*P	Pn	04 51 10.7	-0.4
VACH				*i* S	Sb	04 51 20.1	+0.2
VACH				AML	AML	04 51 22.0	
comp=N,41μm,0.1s							
VACH	**Vallenar**	**0.64**	**56⇓**	*i*P	Pn	04 51 10.7	-0.4
VACH				*i* S	Sb	04 51 33.3	+0.2
LSCH	**La Serena**	**0.98**	**174⇑**	*i*P	Pn	04 51 16.4	+0.6
LSCH				*i* S	Sn	04 51 28.9	+0.5
TLL	**Tololo Astrono**	**1.32**	**158**	*e*P	Pn	04 51 22.0	+1.4
TLL				*i* S	Sn	04 51 40.1	+3.0
OVCH	**Ovalle**	**1.67**	**175**	*e*P	Pn	04 51 26.3	+0.9
OVCH				*i* S	Sn	04 51 48.4	+2.7
CPCH	**Copiapo**	**1.81**	**30⇑**	*i*P	Pn	04 51 28.4	+1.1
CPCH				*i* S	Sn	04 51 52.0	+3.0
CPCH				AML	AML	04 51 55.3	
comp=E,17μm,0.1s							
CPCH	**Copiapo**	**1.81**	**30⇑**	*i*P	Pn	04 51 28.4	+1.1
CPCH				*i* S	Sn	04 51 52.0	+3.0
CMCH	**Combarbala**	**2.25**	**172⇓**	*i*P	Pn	04 51 34.2	+0.8
CMCH				*i* S	Sn	04 52 01.8	+1.8
CMCH				AML	AML	04 52 15.4	
comp=N,5μm,1.0s							
CMCH	**Combarbala**	**2.25**	**172⇓**	*i*P	Pn	04 51 34.2	+0.8
CMCH				*i* S	Sn	04 52 01.8	+1.8
PTCH	**Petorca**	**3.34**	**174**	*e*P	Pn	04 51 49.9	+1.6
PTCH				*i* S	Sn	04 52 28.1	+1.3
PTCH				AML	AML	04 52 50.1	
comp=E,1μm,0.2s							
PTCH	**Petorca**	**3.34**	**174**	*e*P	Pn	04 51 49.9	+1.6
PTCH				*i* S	Sn	04 52 28.1	+1.3
PEL	**Peldehue**	**4.24**	**172**	*e*P	Pn	04 52 02.5	+1.9
MDZ	**Mendoza**	**4.49**	**152**	*e*P	Pn	04 52 20.8	+17
MDZ				*e*		04 52 56.1	
MDZ				S	Sn	04 53 15.0	+20
CLCH	**Cerro Calan**	**4.50**	**171**	*e*P	Pn	04 52 06.1	+1.8
RCDM	**Rinconada Maip**	**4.57**	**174**	*e*P	Pn	04 52 06.3	+1.1
RCDM				*i* S	Sn	04 52 58.6	+1.5
LPAZ	**La Paz**	**12.93**	**14**	*e*Pn	Pn	04 54 03.6	+3.8
NNA	**Nana**	**17.62**	**342**	*e*P	Pn	04 55 01.9	+0.6
comp=E,5.7nm,0.8s							

*NSSP **23** 04:57:32.0, 3963N×4262E, h12km, ML2.9*
*ISCJB **23** 04:57:38.6±0.4, 3963N±003×4287E±003, h2km, Error ellipse: s-maj=3.8km s-min=3.4km az=82.9*
*ISK **23** 04:57:38.5, 3964N×4286E, h5km, MD3.4, ML3.4*
*CSEM **23** 04:57:38.0±0.1, 3964N×4287E, h2km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.9km az=59.0*
ISC 23 04:57:39.3±0.5, 3959N±003×4283E±003, h2km±5km, n24, σ1°16/33, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.12**	**98**	*i* PG	**Pg**	**04 57 41.4**	**-0.3**
AGRB				*i* SG	**Sg**	**04 57 44.9**	**+1.6**
DIGO	**Kars**	**0.92**	**27**	*i* P	**Pg**	**04 57 56.4**	**-0.5**
DIGO				*i* S	**Sg**	**04 58 13.0**	**+4.2**
CLDR	**Caldiran**	**0.95**	**118**	PG	**Pg**	**04 57 56.8**	**-0.8**
CLDR				SG	**Sg**	**04 58 10.3**	**+0.4**
KARS	**Kars**	**1.04**	**11**	PG	**Pg**	**04 57 58.4**	**-0.8**
VANB	**Van**	**1.09**	**156**	*e*PN	**Pn**	**04 58 01.1**	**-0.4**
TVAN	**Van**	**1.15**	**157**	*i* P	**Pg**	**04 58 00.2**	**-1.2**
TVAN				*i* S	**Sg**	**04 58 16.8**	**+0.4**
ERZM	**Erzurum**	**1.17**	**286**	*i* P	**Pg**	**04 58 01.0**	**-0.8**
ERZM				*i* S	**Sg**	**04 58 19.6**	**+2.6**
EZM	**Erzurum**	**1.18**	**286**	PN	**Pg**	**04 58 00.8**	**-1.1**
ERE	**Yerevan**	**1.39**	**65**	P	**Pn**	**04 58 02.0**	**-3.6**
HNAZ	**Hnaberd**	**1.45**	**44**	P	**Pn**	**04 58 03.7**	**-2.7**
HNAZ				S	**Sb**	**04 58 27.7**	**+2.0**
BNGL	**BINGOL**	**1.46**	**244**	*i* P	**Pn**	**04 58 04.8**	**-1.7**
BNGL				*i* S	**Sb**	**04 58 26.3**	**+0.3**
KAMZ	**Kamo**	**1.50**	**34**	⇓P	**Pn**	**04 58 06.4**	**-0.7**
ARTV	**Artvin**	**1.73**	**337**	*i* P	**Pn**	**04 58 10.2**	**-0.1**
ARTV				*i* S	**Sg**	**04 58 37.9**	**+2.9**
ARTV	**Artvin**	**1.73**	**337**	*i* P	**Pn**	**04 58 10.2**	**-0.2**
STE	**Stepanavan**	**1.83**	**39**	P	**Pn**	**04 58 12.0**	**+0.3**
BINT	**Bingol**	**1.96**	**249**	*e*PN	**Pn**	**04 58 13.9**	**+0.4**
SIRT	**Sirnak**	**2.11**	**189**	*e*PN	**Pn**	**04 58 16.7**	**+1.1**
HKR	**Hakkari**	**2.13**	**160**	*e*PN	**Pn**	**04 58 16.7**	**+0.8**
EZC	**Erzincan**	**2.33**	**275**	*e*PN	**Pg**	**04 58 24.2**	**+0.1**
CUKT	**Cukurca**	**2.42**	**165**	*e*PN	**Pn**	**04 58 20.5**	**+0.7**
MTA	**Mtatsminda**	**2.57**	**35**	P	**Pn**	**04 58 22.5**	**+0.6**
MTA				S	**Sg**	**04 59 02.7**	**+0.7**
DGRG	**David-gareji**	**2.68**	**45**	P	**Pg**	**04 58 29.9**	**-0.8**
GUMT	**Gumushane**	**2.72**	**290**	*e*PN	**Pn**	**04 58 24.6**

GRSS *eS* **Sn** **06 13 28.4 +0.4**
IBAV Isla La Blanqu 2.41 293 *eP* **Pn** **06 13 19.9 +0.4**
IBAV *eS* **Sn** **06 13 47.6 -0.5**
GURV El Guri 3.19 194 *eP* **Pn** **06 13 29.1 -1.0**
GURV *eS* **Sn** **06 14 02.9 -4.2**
CUPV Cœpira 3.52 257 *eP* **Pn** **06 13 34.0 -0.6**
CUPV *eS* **Sn** **06 14 12.9 -2.1**

NEIC 23 06:49:57.0, 3786N×12224W, h10km, MW3.6(BRK), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAC	**San Andreas**	**0.31**	**207**	*eP*g	Pg	06 50 03.6	+0.4
SAC				*eS*g	Sg	06 50 08.5	+1.0
MCCM	**Marconi Confer**	**0.58**	**299**	*eP*g	Pg	06 50 08.3	0.0
MCCM				*eS*g	Sg	06 50 18.7	+2.7
NSHM	**Saint Helena R**	**0.72**	**336**	*eP*g	Pg	06 50 10.9	0.0
NSHM				*eS*g	Sg	06 50 22.4	+2.1
SAO	**San Andreas Ge**	**1.26**	**150**	*eP*g	Pg	06 50 19.0	-2.3
SAO				*eS*b	Sb	06 50 35.4	-1.8
HOPS	**Hopland**	**1.31**	**330**	*eP*g	Pg	06 50 20.6	-1.5
HOPS				*eS*g	Sg	06 50 41.5	+2.4
CMB	**Columbia Colle**	**1.47**	**83**	*eP*n	Pn	06 50 22.9	-0.7
OHCM	**Honcut**	**1.59**	**22**	*eP*n	Pn	06 50 22.8	-2.4
OHCM				*eS*n	Sn	06 50 42.4	-3.3
LRV	**Little Rabbit**	**1.73**	**145**	*eP*n	Pn	06 50 26.3	-0.9
KCPM	**Cahto Peak**	**2.10**	**330**	*eP*n	Pn	06 50 36.6	+4.4
KIPM	**Iron Peak**	**2.17**	**334**	*eP*n	Pn	06 50 37.4	+4.2
WDC	**Whiskeytown Da**	**2.73**	**355**	*eP*n	Pn	06 50 43.7	+2.9
PTRM	**Twissleman Ran**	**2.74**	**143**	Pn	Pn	06 50 40.6	-0.3
MTUM	**Tungsten Hills**	**2.96**	**99**	*eP*n	Pn	06 50 45.6	+1.5
KHMM	**Horse Mountain**	**3.23**	**339**	*eP*n	Pn	06 50 45.9	-1.7

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*ISCJB **23** 07:02:19.1±0.8, 6014S±009×183W±03, h10km, mb3.9/6, MS4.2/2, Error ellipse: s-maj=22.5km s-min=11.1km az=139.6*
*IDC **23** 07:02:19.0±0.8, 5993S×1842W, h0km, mb3.9/5, mb1 4.1/6, mb1mx4.0/15, mbtmp4.0/6, ML4.5/1, MS4.1/2, Ms1 4.1/2, ms1mx3.7/8, Error ellipse: s-maj=28.7km s-min=24.7km az=38.0*
*NEIC **23** 07:02:20.4±0.7, 5998S×1838W, h10km, mb4.7/1, Error ellipse: s-maj=24.8km s-min=16.4km az=70.0*
ISC 23 07:02:20.9±0.8, 6008S±009×183W±03, h10km, n20, σ0.93/14, mb3.9/6, MS4.2/2, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.39**	**163**	*e*	**Pn**	**07 05 03.6**	**+0.1**
VNA1				*e*		07 05 06.6	
VNA1				*e*		07 05 14.5	
VNA1				*e*		07 05 17.9	
VNA3	**Neumayer Olymp**	**11.74**	**166**	*e*	**Pn**	**07 05 07.8**	**-0.6**
VNA3				*e*		07 05 11.0	
VNA3				*e*		07 05 17.8	
VNA3				*e*		07 05 21.1	
VNA2	**Neumayer--Watz**	**11.76**	**162**	*e*	**Pn**	**07 05 08.0**	**-0.7**
baz=333,slow=17							
VNA2				*e*		07 05 10.8	
VNA2				*e*		07 05 17.9	
VNA2				*e*		07 05 20.4	
SNAA	**Sanae**	**13.18**	**158**	Pn	**Pn**	**07 05 27.8**	**-0.2**
2.3nm,0.3s,baz=333,slow=14,SNR=103							
SNAA	**Sanae**	**13.18**	**158**	*e*	**Pn**	**07 05 28.0**	**0.0**
SNAA	**Sanae**	**13.18**	**158**	*eP*	**Pn**	**07 05 28.0**	**0.0**
SNAA				*e*		07 05 30.4	
QSPA	**South Pole Qui**	**30.15**	**180**	*eP*	**P**	**07 08 31.7**	**+0.8**
17nm,1.3s,mb4.6							
VNDA	**Vanda**	**42.65**	**180**	P	**P**	**07 10 18.5**	**+1.0**
1.9nm,0.8s,mb3.9,baz=194,slow=6.8,SNR=6.4							
VNDA	**Vanda**	**42.65**	**180**	P	**P**	**07 10 18.5**	**+1.0**
BOSA	**Boshof**	**42.99**	**63**	P	**P**	**07 10 21.2**	**+1.0**
2.4nm,1.0s,mb3.9,baz=207,slow=6.8,SNR=3.5							
CFAA	**Coronel Fontan**	**43.39**	**288**	P	**P**	**07 10 22.3**	**-1.2**
0.2nm,0.7s,mb3.0,baz=158,slow=9.8,SNR=8.4							
CFAA	**Coronel Fontan**	**43.39**	**288**	P	**P**	**07 10 22.3**	**-1.2**
LPAZ	**La Paz**	**56.50**	**298**	P	**P**	**07 12 04.4**	**+1.3**
1.5nm,0.6s,mb4.2,baz=135,slow=2.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**74.74**	**20**	P	**P**	**07 13 59.5**	**-1.5**
1.0nm,0.6s,mb3.9,baz=194,slow=5.5,SNR=6.5							
NWAO	**Narrogin (SRO)**	**80.38**	**143**	LR	LR	07 48 15.0	
comp=Z,101nm,20.9s,MS4.2,baz=126,slow=34							
WRA	**Warramunga Arr**	**97.21**	**154**	LR	LR	07 55 13.8	
comp=Z,84nm,18.1s,MS4.3,baz=195,slow=33							
YKA	**Yellowknife Ar**	**142.35**	**311**	PKhKP		07 21 46.0	
0.2nm,0.7s,baz=117,slow=1.9,SNR=5.2							
YKA				PKP	PKPdf	07 21 50.3	-3.4
0.3nm,0.6s,baz=120,slow=2.1,SNR=6.7							
YKA	**Yellowknife Ar**	**142.35**	**311**	PKP	PKPdf	07 21 50.3	-3.4
SONM	**Songino Array**	**146.29**	**86**	PKPbc	PKPbc	07 21 59.7	-2.0
3.5nm,0.9s,baz=219,slow=3.8,SNR=24							
INK	**Inuvik**	**151.95**	**314**	PKPbc	PKPbc	07 22 11.5	-4.7
2.2nm,0.9s,baz=312,slow=5.4,SNR=11							
INK				PKPab	PKPab	07 22 21.4	-4.0
2.4nm,1.0s,baz=130,slow=3.8,SNR=5.0							

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*ISCJB **23** 07:03:28.7±0.7, 6011S±008×187W±03, h10km, mb4.0/7, MS3.9/3, Error ellipse: s-maj=18.7km s-min=10.6km az=153.2*
*IDC **23** 07:03:28.6±0.8, 5995S×1885W, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/15, mbtmp4.1/7, ML4.2/1, MS3.8/4, Ms1 3.8/4, ms1mx3.7/7, Error ellipse: s-maj=25.5km s-min=23.7km az=12.0*
*NEIC **23** 07:03:30.2±0.6, 6001S×1873W, h10km, mb4.8/1, Error ellipse: s-maj=18.2km s-min=14.1km az=76.0*
ISC 23 07:03:30.4±0.7, 6006S±008×187W±03, h10km, n21, σ0.94/13, mb4.0/7, MS3.9/3, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.46**	**162**	*eP*	**Pn**	**07 06 13.6**	**-0.5**
VNA1				*e*		07 06 16.8	
VNA1				*e*		07 08 17.0	
VNA1				*e*		07 09 32.6	
VNA1				*e*		07 09 36.8	
VNA3	**Neumayer Olymp**	**11.81**	**166**	*eP*	**Pn**	**07 06 19.4**	**+0.6**
VNA3				*e*		07 06 21.9	
VNA3				*e*		07 08 22.3	
VNA3				*e*		07 09 37.1	
VNA2	**Neumayer--Watz**	**11.84**	**162**	*eP*	**Pn**	**07 06 19.0**	**-0.3**
baz=326,slow=12							
VNA2				*e*		07 06 22.1	
VNA2				*e*		07 08 23.2	
VNA2				*e*		07 09 37.7	
VNA2				*e*		07 09 42.0	
SNAA	**Sanae**	**13.27**	**158**	Pn	**Pn**	**07 06 37.8**	**-0.9**
1.3nm,0.3s,baz=334,slow=15,SNR=5.1							
SNAA				LR	LR	07 10 33.0	
comp=Z,137nm,18.1s,baz=132,slow=32							
SNAA	**Sanae**	**13.27**	**158**	*eP*	**Pn**	**07 06 37.9**	**-0.9**
SNAA				*e*		07 06 40.5	
SNAA				*e*		07 09 53.0	
SNAA				*e*		07 09 56.0	
PMSA	**Palmer Station**	**21.15**	**238**	LR	LR	07 15 14.6	
comp=Z,186nm,19.3s,MS3.5,baz=153,slow=33							
USHA	**Ushuaia**	**26.73**	**259**	LR	LR	07 17 15.7	
comp=Z,526nm,20.5s,MS4.1,baz=56,slow=31							
QSPA	**South Pole Qui**	**30.18**	**180**	*eP*	**P**	**07 09 41.7**	**+1.0**
12nm,0.7s,mb4.7							
SUR	**Sutherland**	**37.95**	**61**	P	**P**	**07 10 49.5**	**+1.4**
1.9nm,0.8s,mb3.9,baz=335,slow=1.6,SNR=3.7							
VNDA	**Vanda**	**42.67**	**180**	P	**P**	**07 11 27.8**	**+0.6**
4.0nm,0.8s,mb4.2,baz=200,slow=5.5,SNR=8.3							
VNDA	**Vanda**	**42.67**	**180**	P	**P**	**07 11 27.8**	**+0.6**
BOSA	**Boshof**	**43.14**	**63**	P	**P**	**07 11 30.4**	**-0.6**
2.9nm,0.9s,mb4.0,baz=198,slow=7.6,SNR=3.8							
CFAA	**Coronel Fontan**	**43.21**	**288**	P	**P**	**07 11 30.1**	**-1.4**
0.1nm,0.5s,mb2.8,baz=162,slow=8.5,SNR=5.3							
LPAZ	**La Paz**	**56.33**	**299**	P	**P**	**07 13 12.8**	**+1.3**
1.4nm,0.7s,mb4.1,baz=127,slow=9.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**74.78**	**21**	P	**P**	**07 15 09.7**	**-1.0**
3.7nm,0.9s,mb4.3,baz=190,slow=6.5,SNR=9.8							
WRA	**Warramunga Arr**	**97.31**	**155**	LR	LR	08 03 33.9	
comp=Z,44nm,18.2s,MS4.0,baz=190,slow=37							
YKA	**Yellowknife Ar**	**142.20**	**311**	PKhKP		07 22 54.4	
1.2nm,1.1s,baz=116,slow=3.7,SNR=5.7							
YKA				PKP	PKPdf	07 23 01.4	-1.6
0.4nm,0.7s,baz=124,slow=2.8,SNR=3.6							
YKA	**Yellowknife Ar**	**142.20**	**311**	PKP	PKPdf	07 23 01.4	-1.6
SONM	**Songino Array**	**146.46**	**86**	PKPbc	PKPbc	07 23 10.1	-1.6
7.9nm,0.8s,baz=220,slow=3.5,SNR=25							
KSRS	**Korea Array**	**149.00**	**122**	PKPbc	PKPbc	07 23 16.9	-1.8
3.5nm,0.8s,baz=198,slow=3.2,SNR=6.5							
INK	**Inuvik**	**151.81**	**314**	PKPbc	PKPbc	07 23 21.9	-3.4
3.2nm,0.9s,baz=95,slow=5.5,SNR=8.0							
INK				PKPab	PKPab	07 23 29.5	-4.8
4.0nm,1.0s,baz=97,slow=3.3,SNR=5.7							

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*ISCJB **23** 07:05:26.0±2.0, 35N±02×1226E±03, h560km±30km, mb4.2/6, Error ellipse: s-maj=61.7km s-min=18.4km az=116.3*
*IDC **23** 07:05:26.9±2.8, 352N×12276E, h547km±32km, mb3.3/4, mb1 3.5/4, mb1mx3.0/19, mbtmp3.3/4, Error ellipse: s-maj=94.5km s-min=17.6km az=64.0*
*NEIC **23** 07:05:26.9±0.9, 342N×12263E, h550km, mb4.8/3, Error ellipse: s-maj=38.9km s-min=11.9km az=54.0*
ISC 23 07:05:27.1±2.1, 34N±02×1226E±04, h551km±29km, n10, σ0.59/10, mb4.2/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**6.91**	**292**	*eP*	**P**	**07 07 14.2**	**0.0**
KAKA	**Kakadu**	**18.76**	**149**	*eP*	**P**	**07 09 11.8**	**0.0**
19nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.59**	**172**	P	**P**	**07 09 38.0**	**+0.6**
1.4nm,0.3s,mb4.0,baz=356,slow=8.5,SNR=18							
WRA	**Warramunga Arr**	**25.91**	**154**	P	**P**	**07 10 15.3**	**-0.4**
5.1nm,0.3s,mb4.6,baz=337,slow=9.5,SNR=135							
WRA				ScP	ScP	07 16 13.5	+0.2
0.5nm,0.6s,baz=339,slow=2.9,SNR=7.6							
WB2	**Warramunga Arr**	**25.92**	**154**	*eP*	**P**	**07 10 15.4**	**-0.4**
FORT	**Forrest**	**34.40**	**172**	*eP*	**P**	**07 11 27.7**	**-1.1**
19nm,0.6s,mb4.8							
KLBR	**Kellerberrin**	**35.13**	**187**	*eP*	**P**	**07 11 35.0**	**+0.2**
11nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**39.47**	**154**	*eP*	**P**	**07 12 11.3**	**+1.1**
2.0nm,0.3s,mb4.1							
STKA	**Stephens Creek**	**39.47**	**154**	P	**P**	**07 12 11.5**	**+1.2**
3.9nm,0.5s,mb4.2,baz=328,slow=8.4,SNR=14							
MKAR	**Makanchi Array**	**55.54**	**327**	P	**P**	**07 14 10.5**	**-0.1**
0.5nm,0.3s,mb3.2,baz=125,slow=6.6,SNR=6.8							

IDC 23 07:07:43.6±28.0, 2141N×14298E, h444km±335km, mb3.0/4, mb1 3.1/4, mb1mx2.7/21, mbtmp3.0/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/7, Error ellipse: s-maj=73.4km s-min=38.2km az=40.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**15.86**	**320**	LR	LR	07 16 38.9	
comp=Z,337nm,18.3s,baz=90,slow=34							
WRA	**Warramunga Arr**	**41.95**	**192**	P	P	07 14 53.9	+0.1
0.1nm,0.3s,baz=10,slow=8.1,SNR=6.0							
BVAR	**Borovoye Array**	**62.77**	**320**	P	P	07 17 24.1	0.0
1.0nm,0.3s,baz=93,slow=8.4,SNR=8.6							
YKA	**Yellowknife Ar**	**76.80**	**28**	P	P	07 18 47.9	-0.3
0.3nm,0.5s,baz=292,slow=6.0,SNR=8.9							
FINES	**FINESS Array B**	**83.36**	**334**	P	P	07 19 22.6	-0.1
0.6nm,0.5s,baz=72,slow=6.3,SNR=4.8							

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*NEIC **23** 07:35:31.3, 4483S×16765E, h84km, ML3.8(WEL), After WEL.*
WEL 23 07:35:31.4±0.2, 4483S×16764E, h83km±1km, ML3.7/12, 2C-2D, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.25**	**53**	P	Pn	07 35 43.7	0.0
MSZ				S	Sn	07 35 52.5	-0.3
MSZ	**Milford Sound**	**0.25**	**53**	⇓P	Pn	07 35 43.7	0.0
MSZ				SN	Sn	07 35 52.5	-0.3
MLZ	**Mavora Lakes**	**0.64**	**145**	P	Pn	07 35 46.4	-0.3
MLZ				S	Sn	07 35 57.4	-0.6
MLZ	**Mavora Lakes**	**0.64**	**145**	⇑P	Pn	07 35 46.4	-0.2
MLZ				SN	Sn	07 35 57.4	-0.7
DCZ	**Deep Cove**	**0.74**	**208**	P	Pn	07 35 47.3	-0.3
DCZ	**Deep Cove**	**0.74**	**208**	PN	Pn	07 35 47.3	-0.3
DCZ				SN	Sn	07 35 59.2	-0.6
WKZ	**Wanaka**	**0.98**	**91**	P	Pn	07 35 50.3	0.0
WKZ	**Wanaka**	**0.98**	**91**	⇑PN	Pn	07 35 50.3	0.0
WHZ	**Wether Hill Ro**	**1.09**	**169**	P	Pn	07 35 51.5	-0.1
WHZ				S	Sn	07 36 06.7	-0.1
WHZ	**Wether Hill Ro**	**1.09**	**169**	⇓PN	Pn	07 35 51.5	-0.2
WHZ				SN	Sn	07 36 06.7	-0.2
JCZ	**Jackson Bay**	**1.10**	**47**	P	Pn	07 35 51.4	-0.3
JCZ	**Jackson Bay**	**1.10**	**47**	PN	Pn	07 35 51.4	-0.3
EAZ	**Earnscleugh**	**1.25**	**110**	P	Pn	07 35 53.3	-0.3
EAZ	**Earnscleugh**	**1.25**	**110**	PN	Pn	07 35 53.3	-0.3
TUZ	**Tuapeka**	**1.80**	**130**	PN	Pn	07 36 00.2	-0.5
LBZ	**Lake Benmore**	**1.87**	**77**	*eP*	Pn	07 36 00.4	-1.2
LBZ	**Lake Benmore**	**1.87**	**77**	PN	Pn	07 36 00.4	-1.2
FOZ	**Fox Glacier**	**1.94**	**50**	*eP*	Pn	07 36 02.7	+0.2
FOZ	**Fox Glacier**	**1.94**	**50**	PN	Pn	07 36 02.7	+0.2
SYZ	**Scrubby Hill**	**2.01**	**149**	PN	Pn	07 36 03.1	-0.4
APZ	**The Paps**	**2.02**	**173**	PN	Pn	07 36 03.6	-0.1
ODZ	**Otahua Downs**	**2.14**	**97**	P	Pn	07 36 04.0	-1.2
ODZ	**Otahua Downs**	**2.14**	**97**	PN	Pn	07 36 04.0	-1.2
HHSZ	**Highcliff Hill**	**2.34**	**118**	PN	Pn	07 36 07.5	-0.3
RPZ	**Rata Peaks**	**2.69**	**67**	*eP*	Pn	07 36 10.8	-1.7
WVZ	**Waitaha Valley**	**2.84**	**53**	PN	Pn	07 36 12.9	-1.7
DSZ	**Denniston Nort**	**4.32**	**46**	*eP*	Pn	07 36 33.5	-1.2
DSZ	**Denniston Nort**	**4.32**	**46**	PN	Pn	07 36 33.5	-1.2
THZ	**Tophouse**	**4.91**	**53**	PN	Pn	07 36 40.0	-2.7
QRZ	**Quartz Range**	**5.37**	**44**	*eP*	Pn	07 36 48.1	-0.9

IDC 23 07:37:37.1±1.7, 546N×12160E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=226.3km s-min=23.6km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.18**	**154**	P	P	07 43 30.7	-0.5
0.7nm,0.3s,baz=331,slow=11,SNR=22							
ASAR	**Alice Springs**	**31.34**	**158**	P	P	07 44 00.4	+1.2
0.5nm,0.4s,baz=343,slow=6.9,SNR=15							
MJAR	**Matsushiro Arr**	**34.48**	**24**	LR	LR	07 58 21.0	
comp=Z,58nm,21.9s,baz=335,slow=36							
MKAR	**Makanchi Array**	**53.28**	**327**	P	P	07 46 57.7	0.0
0.5nm,0.5s,baz=120,slow=8.0,SNR=17							

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*IDC **23** 07:48:10.8±1.2, 4709N×15263E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/24, mbtmp3.7/6, MS3.6/3, Ms1 3.6/3, ms1mx3.1/34, Error ellipse: s-maj=42.0km s-min=30.2km az=114.0*
*ISCJB **23** 07:48:16.1±3.6, 4719N±02×1526E±04, h51km±29km, mb3.6/6, MS4.2/2, Error ellipse: s-maj=44.5km s-min=31.5km az=50.5*
*MOS **23** 07:48:16.5±0.6, 4713N×15257E, h54km, mb3.9/4, Error ellipse: s-maj=77.4km s-min=22.9km az=72.5*
ISC 23 07:48:18.4±3.4, 472N±02×1526E±04, h57km±27km, n13, σ0.37/10, mb3.6/6, MS4.2/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.21**	**32**	*eP*N	**Pn**	**07 49 20.0**	**-0.1**
SKR				*e*		07 50 07.5	
ASAJ	**Asahikawa**	**7.64**	**250**	LR	LR	07 53 01.3	
comp=Z,53nm,18.2s,baz=148,slow=38							
INK	**Inuvik**	**41.49**	**33**	P	**P**	**07 56 00.5**	**+0.7**
0.8nm,0.8s,mb3.4,baz=252,slow=3.2,SNR=4.7							
INK	**Inuvik**	**41.49**	**33**	P	**P**	**07 56 00.5**	**+0.7**
INK				pmax	pmax		
comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**50.32**	**309**	LR	LR	08 20 27.3	
comp=Z,134nm,19.6s,MS4.0,baz=139,slow=38							
YKA	**Yellowknife Ar**	**50.80**	**37**	P	**P**	**07 57 13.0**	**0.0**
comp=Z,0.1nm,0.4s,mb3.1,baz=298,slow=7.0,SNR=3.3							
FINES	**FINESS Array B**	**63.51**	**334**	P	**P**	**07 58 42.8**	**+0.2**
comp=Z,2.9nm,1.1s,mb4.2,baz=31,slow=8.4,SNR=5.9							
FINES	**FINESS Array B**	**63.51**	**334**	P	**P**	**07 58 42.8**	**+0.1**
FINES				pmax	pmax		
comp=Z,3.0nm,1.1s							
HFS	**Hagfors**	**67.94**	**339**	P	**P**	**07 59 10.8**	**-0.4**
comp=Z,1.7nm,0.6s,mb4.3,baz=95,slow=7.4,SNR=5.4							
HFS	**Hagfors**	**67.94**	**339**	P	**P**	**07 59 10.8**	**-0.4**
HFS				pmax	pmax		
comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**72.50**	**198**	P	**P**	**07 59 39.2**	**+0.2**
comp=Z,0.3nm,0.6s,mb3.4,baz=5.2,slow=5.8,SNR=4.2							
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**08 00 07.8**	**-0.5**
comp=Z,0.3nm,0.6s,mb3.4,baz=320,slow=5.2,SNR=4.0							
TKL	**Tuckaleechee C**	**83.31**	**43**	LR	LR	08 39 14.5	
comp=Z,138nm,18.2s,MS4.4,baz=4.8,slow=37							

IDC 23 07:54:15.7±2.2, 2299N×14206E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=88.6km s-min=20.1km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.09**	**2**	Pn	Pn	07 55 19.6	+0.1
36nm,0.3s,baz=305,slow=20,SNR=15							
CBIJ				Sn	Sn	07 55 59.8	-8.2
56nm,0.3s,baz=109,slow=23,SNR=21							
WRA	**Warramunga Arr**	**43.33**	**191**	P	P	08 02 19.2	-0.2
1.2nm,0.5s,baz=10.0,slow=8.0,SNR=30							
FITZ	**Fitzroy Crossi**	**43.88**	**203**	P	P	08 02 24.5	+0.6
1.8nm,0.7s,baz=4.4,slow=4.2,SNR=6.7							
ASAR	**Alice Springs**	**47.05**	**190**	P	P	08 02 49.0	0.0
0.4nm,0.5s,baz=12,slow=6.1,SNR=11							
MKAR	**Makanchi Array**	**53.06**	**312**	P	P	08 03 34.4	-0.2
0.2nm,0.4s,baz=84,slow=9.3,SNR=8.8							
BVAR	**Borovoye Array**	**61.02**	**319**	P	P	08 04 31.4	+0.4
0.4nm,0.4s,baz=119,slow=5.6,SNR=4.1							

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*ISCJB **23** 08:11:59.0±2.3, 4676N±007×15482E±008, h17km±16km, mb4.3/37, MS3.7/6, Error ellipse: s-maj=13.7km s-min=7.4km az=120.3*
*NEIC **23** 08:11:59.2±0.5, 4661N×15493E, h10km, mb4.7/11, Error ellipse: s-maj=12.2km s-min=7.7km az=147.0*
*BJI **23** 08:12:00.5, 4699N×15438E, h10km, mB4.7, mb4.3*
*MOS **23** 08:12:01.2±1.2, 4668N×15483E, h38km, mb4.5/27, Error ellipse: s-maj=10.7km s-min=7.9km az=103.1*
*SKHL **23** 08:12:02.0±0.9, 4580N×15500E, h142km±8km, mb4.8/2, msha5.8/1*
*IDC **23** 08:12:05.0±3.8, 4655N×15488E, h56km±35km, mb3.9/21, mb1 4.1/23, mb1mx4.0/28, mbtmp3.9/23, ML3.8/2, MS3.5/6, Ms1 3.5/6, ms1mx3.3/25, Error ellipse: s-maj=17.0km s-min=13.6km az=161.0*
*SZGRF **23** 08:12:05.2, 4633N×15325E, h33km, mb4.2, Kuril Islands, Russia*
ISC 23 08:12:02.1±2.3, 4675N±007×15486E±008, h27km±16km, h17km±4.5km: pP-P, n98, σ1.15/99, mb4.3/37, MS3.7/6, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.03**	**11**	*e*PN	**Pn**	**08 12 59.5**	**-2.4**
KUR	**Kuril'sk**	**5.11**	**255**	*i* P	**Pn**	**08 13 16.4**	**-0.4**
KUR				AMB	AMB	08 13 19.0	
90nm,0.7s							
KUR				AMB	AMB	08 13 19.0	
280nm,0.7s							
KUR				*i* S	**Sn**	**08 14 11.5**	**-3.3**
KUR				A		08 14 13.4	
380nm,0.6s							
KUR				A		08 14 13.4	
160nm,0.6s							
PET	**Petropavlovsk**	**6.74**	**20**	*e*PN	**Pn**	**08 13 36.8**	**-2.5**
PET				pmax	pmax		
comp=Z,14nm,0.7s							
PET				MLR	MLR		
comp=Z,200nm,18.0s							
PET	**Petropavlovsk**	**6.74**	**20**	*e*Pn	**Pn**	**08 13 38.9**	**-0.4**
PET				*e*Sn	**Sn**	**08 14 51.4**	**-3.7**
YSS	**Yuzh-Sakhalins**	**8.30**	**276**	⇓*e*PN	**Pn**	**08 14 02.2**	**+1.5**
YSS				pmax	pmax		
comp=Z,20nm,0.8s							
YSS				MLR	MLR		
comp=Z,300nm,15.0s							
YSS	**Yuzh-Sakhalins**	**8.30**	**276**	*e*Pn	**Pn**	**08 14 02.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.30**	**276**	*e*P	**Pn**	**08 14 02.2**	**+1.5**
YSS				AMB	AMB	08 14 04.1	
comp=Z,20nm,0.8s							
YSS				*e*S	**Sn**	**08 15 33.0**	**-0.6**
YSS				AMS	AMS	08 18 45.0	
comp=Z,300nm,15.0s							
ASAJ	**Asahikawa**	**9.02**	**257**	P	**Pn**	**08 14 12.1**	**+1.6**
comp=Z,1.2nm,0.3s,baz=96,slow=24,SNR=8.6							
ASAJ				LR	LR	08 18 27.2	
comp=Z,76nm,18.0s,baz=356,slow=42							
ERM	**Erimo**	**9.62**	**245**	*e*PN	**Pn**	**08 14 17.1**	**-1.7**
MA2	**Magadan**	**13.08**	**351**	*e*PN	**Pn**	**08 15 08.6**	**+2.5**
KLR	**Kul'dur**	**15.66**	**288**	*e*P	**Pn**	**08 15 41.8**	**+1.0**
MJAR	**Matsushiro Arr**	**16.06**	**237**	P	**Pn**	**08 15 46.6**	**+0.6**
comp=Z,0.3nm,0.3s,baz=35,slow=9.2,SNR=5.6							
CLNS	**Chul'man**	**20.94**	**310**	*e*P	**P**	**08 16 41.1**	**-1.6**
CLNS				pmax	pmax		
comp=Z,8.0nm,1.0s							
CLNS				pmax	pmax		
comp=N,4.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,10.0nm,1.1s							
CLNS				MLR	MLR		
comp=Z,200nm,11.0s,MS3.8							
CLNS				MLR	MLR		
comp=N,100nm,12.0s,MS4.5							
CLNS				MLR	MLR		
comp=E,1μm,13.0s,MS4.5							
YAK	**

MKAR Makanchi Array 48.01 298 P **P** **08 20 37.9 -0.8**
comp=Z,2.1nm,0.6s,mb4.3,baz=68,slow=8.1,SNR=22
MKAR PcP PcP 08 22 05.6 -0.8
comp=Z,0.8nm,0.6s,baz=68,slow=3.4,SNR=3.9
MKAR LR LR 08 40 36.4
comp=Z,72nm,18.2s,MS3.7,baz=222,slow=36
MKAR Makanchi Array 48.01 298 P **P** **08 20 37.9 -0.8**
MKAR 08 22 05.6
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,72nm,18.2s
KURK Kurchatov 48.36 304 *i* P **P** **08 20 40.9 -0.5**
KURK Kurchatov 48.36 304 *eP* **P** **08 20 40.9 -0.5**
comp=Z,6.6nm,0.8s,mb4.7
YKA Yellowknife Ar 50.20 37 P **P** **08 20 55.2 -0.2**
comp=Z,2.0nm,0.8s,mb4.2,baz=295,slow=7.1,SNR=25
YKA PcP PcP 08 22 13.6 -0.8
comp=Z,0.3nm,0.6s,baz=306,slow=3.7,SNR=4.8
YKA Yellowknife Ar 50.20 37 P **P** **08 20 55.2 -0.3**
YKA 08 22 13.6
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 50.20 37 P **P** **08 20 55.2 -0.2**
YKA PcP PcP 08 22 13.7 -0.8
BVAR Borovoye Array 51.79 310 P **P** **08 21 07.3 -0.1**
comp=Z,4.6nm,0.5s,mb4.7,baz=59,slow=7.8,SNR=38
BVAR Borovoye Array 51.79 310 P **P** **08 21 07.3 -0.1**
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BRVK Borovoye 51.83 310 *eP* **P** **08 21 07.7 0.0**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 51.83 310 *eP* **P** **08 21 07.7 +0.1**
comp=Z,5.4nm,0.6s,mb4.7
AAK Ala-Archa 54.91 297 *i* P **P** **08 21 29.7 -0.6**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
AAK Ala-Archa 54.91 297 *eP* **P** **08 21 30.2 -0.1**
comp=Z,2.6nm,0.8s,mb4.3
ARU Arti 55.82 318⇓ *iP* **P** **08 21 36.2 -0.7**
ARU *e* 08 23 40.8
ARU *e*PPP 08 24 52.9
ARU *e*S **S** **08 29 28.1 +5.8**
ARU pmax pmax
comp=Z,14nm,1.6s,mb4.7
ARU Arti 55.82 318 *eP* **P** **08 21 36.4 -0.5**
comp=Z,5.0nm,0.5s,mb4.8
ARCES ARCESS Array B 58.25 341 P **P** **08 21 54.5 +0.4**
comp=Z,4.0nm,0.7s,mb4.6,baz=33,slow=7.2,SNR=6.6
ARCES ARCESS Array B 58.25 341 P **P** **08 21 54.5 +0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
AKTK Aktyubinsk 59.62 313 P **P** **08 22 03.8 +0.2**
AKTK LR LR 08 51 52.6
AKTO Aktyubinsk 59.62 313 P **P** **08 22 03.8 +0.2**
comp=Z,1.8nm,0.5s,mb4.3,baz=48,slow=8.9,SNR=6.7
AKTO LR LR 08 51 52.6
comp=Z,121nm,19.3s,MS4.0,baz=158,slow=40
AKTO Aktyubinsk 59.62 313 P **P** **08 22 03.8 +0.2**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO MLR MLR
comp=Z,121nm,19.3s,MS4.0
NVAR Mina Array Bea 61.36 63 P **P** **08 22 16.0 +0.5**
comp=Z,1.8nm,0.8s,mb4.3,baz=295,slow=7.1,SNR=15
JOF Joensuu 61.86 334 *ep* **P** **08 22 18.8 -0.1**
comp=Z,1.7nm,0.4s,mb4.5
JOF Joensuu 61.86 334 *eP* **P** **08 22 18.8 -0.1**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
SNOW Snow King Moun 62.65 55 *eP* **P** **08 22 25.5 +1.4**
comp=Z,4.5nm,1.1s,mb4.5
PDAR Pinedale Array 63.77 55 P **P** **08 22 31.6 0.0**
comp=Z,1.8nm,0.8s,mb4.1,baz=308,slow=2.5,SNR=14
KAF Kangasniemi 63.95 336 *ep* **P** **08 22 33.0 +0.3**
FINES FINESS Array B 64.55 335 P **P** **08 22 37.2 +0.5**
comp=Z,3.5nm,0.5s,mb4.6,baz=38,slow=7.6,SNR=37
FINES FINESS Array B 64.55 335 P **P** **08 22 37.2 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 64.55 335 P **P** **08 22 37.2 +0.5**
ULM Lac du Bonnet 65.73 42 P **P** **08 22 43.5 -0.9**
comp=Z,1.0nm,0.6s,mb4.0,baz=276,slow=4.7,SNR=5.2
OBN Obninsk 65.99 326 P **P** **08 22 41.0 -5.0**
OBN *e* 08 32 04.7
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
NB2 NORSAR Subarra 68.61 342 P **P** **08 23 04.8 +2.2**
comp=Z,1.6nm,0.5s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 68.61 342 P **P** **08 23 03.4 +0.8**
comp=Z,2.1nm,0.6s,mb4.3,baz=26,slow=6.4,SNR=9.4
NOA NORSAR Array B 68.61 342 P **P** **08 23 03.4 +0.8**
NOA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 68.92 201 P **P** **08 23 02.1 -2.5**
comp=Z,1.0nm,0.9s,mb3.8,baz=19,slow=6.8,SNR=6.2
WRA Warramunga Arr 68.92 201 P **P** **08 23 02.1 -2.4**
WRA pmax pmax
comp=Z,1.0nm,0.9s
ANMO Albuquerque 70.80 59 P **P** **08 23 16.5 +0.4**
comp=Z,0.9nm,0.6s,mb3.9,baz=311,slow=10.0,SNR=5.8
ANMO Albuquerque 70.80 59 P **P** **08 23 16.5 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 72.21 327 P **P** **08 23 24.2 -0.4**
comp=Z,1.7nm,0.6s,mb4.1,baz=33,slow=6.2,SNR=6.6
AKASG Malin Array Be 72.21 327 P **P** **08 23 24.2 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 72.21 327 P **P** **08 23 24.2 -0.4**
ASAR Alice Springs 72.60 200 P **P** **08 23 25.5 -1.4**
comp=Z,2.4nm,0.8s,mb4.2,baz=15,slow=5.4,SNR=24
ASAR Alice Springs 72.60 200 P **P** **08 23 25.5 -1.4**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 76.44 62 P **P** **08 23 49.1 -0.1**
comp=Z,5.6nm,0.7s,mb4.6,baz=302,slow=4.2,SNR=50
TXAR Lajitas Array 76.44 62 P **P** **08 23 49.2 0.0**
TXAR pmax pmax
comp=Z,6.0nm,0.7s
EKA Eskdalemuir Ar 76.62 347 P **P** **08 23 51.5 +1.3**
comp=Z,1.5nm,0.5s,mb4.1,baz=16,slow=4.9,SNR=11
EKA Eskdalemuir Ar 76.62 347 P **P** **08 23 51.6 +1.4**
EKA pmax pmax
comp=Z,2.0nm,0.5s
UPC Upice 76.81 334 *eP* **P** **08 23 55.1 +3.8**
CLL Collm 76.96 337 *i* pP pP 08 23 55.7 -5.2
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 78.75 335 *eP* **P** **08 24 02.0 -0.1**
KHC *e*pP pP 08 24 05.4 -5.5
KHC Kasperske Hory 78.75 335 *eP* **P** **08 24 05.4 +3.3**
GRA1 Grafenberg Arr 78.91 337 *eP* **P** **08 24 03.5 +0.5**
comp=Z,3.0nm,1.3s,mb4.1
GRF Grafenberg Arr 78.91 337 *eP* **P** **08 24 03.5 +0.5**
comp=Z,3.0nm,1.3s,mb4.1
GRF Grafenberg Arr 78.91 337 *eP* **P** **08 24 03.5 +0.5**
GRF pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
GERES GERESS Array B 78.98 335 P **P** **08 24 03.4 +0.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=35,slow=7.3,SNR=5.3
BRTR Keskin Array B 79.21 318 P **P** **08 24 05.2 +0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=37,slow=6.4,SNR=4.4
BRTR Keskin Array B 79.21 318 P **P** **08 24 05.2 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
CDF Champ du Feu 81.11 339 *eP* **P** **08 24 18.7 +3.9**
GRR Gorron 82.91 344 *eP* **P** **08 24 28.5 +4.2**
SMF Signal de Mont 83.58 340 *eP* **P** **08 24 32.0 +4.2**
LPL La Plagne 83.94 338 *eP* **P** **08 24 35.7 +6.1**
comp=Z,14nm,0.8s,mb4.8
LPG La Plagne 83.95 338 *eP* **P** **08 24 35.1 +5.4**
comp=Z,8.9nm,0.8s,mb4.7
LPG La Plagne 83.95 338 *eP* **P** **08 24 35.1 +5.4**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LPG La Plagne 83.95 338 *eP* **P** **08 24 35.1 +5.4**
comp=Z,4.4nm,0.8s,mb4.6
CAF Calviac 85.61 341 *eP* **P** **08 24 41.2 +3.1**
PLCA Paso Flores 147.01 96 PKPbc PKPbc 08 31 40.4 -1.8
comp=Z,2.1nm,0.9s,baz=240,slow=8.3,SNR=4.2

*ISCJB **23** 08:21:11.9±0.7, 14.12N±0.07×91.49W±0.06, h82km±7km, mb3.6/5, Error ellipse: s-maj=13.1km s-min=7.0km az=78.7*

*IDC **23** 08:21:13.7±1.8, 14.12N×91.45W, h79km±17km, mb3.4/5, mb1 3.6/8, mb1mx3.5/21, mbtmp3.4/8, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=21.5km s-min=10.9km az=44.0*

*NEIC **23** 08:21:13.2±1.4, 14.07N×91.48W, h76km±15km, Error ellipse: s-maj=24.4km s-min=11.1km az=224.0*

*CASC **23** 08:21:16.5±1.5, 14.23N×91.38W, h12km±10km, MD3.9*

ISC 23 08:21:13.1±0.7, 14.09N±0.07×91.50W±0.06, h72km±7km, n27, σ1§10/23, mb3.6/5, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.26**	**330**	*eP*	**Pn**	**08 21 22.8**	**-1.5**
FUG	**Fuego 3**	**0.73**	**61**	*eP*	**Pn**	**08 21 28.8**	**+0.2**
TER	**Terranova**	**0.82**	**75**	*eP*	**Pn**	**08 21 28.9**	**-0.7**
PCG	**Pacaya**	**0.92**	**71**	*eP*	**Pn**	**08 21 31.2**	**+0.4**
NBG	**Las Nubes**	**1.22**	**66**	*eP*	**Pn**	**08 21 22.8**	**-12**
RBDL	**Robledal**	**1.76**	**89**	*eP*	x	08 21 45.9	
RTR	**El Retiro**	**1.81**	**96**	*eP*	x	08 21 46.2	
RTR				*e*S	x	08 22 09.1	
SBLS	**San Blas**	**1.84**	**98**	*eP*	x	08 21 46.2	
SBLS				*e*S	x	08 22 09.8	
SNJE	**San Jose**	**1.85**	**97**	*eP*	x	08 21 46.5	
SNJE				*e*S	x	08 22 10.9	
BOQS	**Boqueron**	**2.19**	**99**	*eP*	x	08 21 51.3	
LBRS	**Las Brisas**	**2.41**	**98**	*eP*	x	08 21 54.4	
LFRS	**El Faro**	**2.42**	**101**⇑	*eP*	x	08 21 54.5	
LFRS				*e*S	x	08 22 24.1	
LCBS	**La Ceiba**	**2.49**	**100**	*eP*	x	08 21 55.5	
LCBS				*e*S	x	08 22 25.7	
CNCH	**Conchagua**	**3.66**	**102**	*eP*	x	08 22 11.1	
TGUH	**Tegucigalpa,Un**	**4.11**	**90**	*e*Pn	**Pn**	**08 22 13.4**	**0.0**
CMIG	**Matias Romero**	**4.42**	**313**	P	**Pn**	**08 22 16.6**	**-1.0**
	2.4nm,0.3s,baz=127,slow=11,SNR=42						
CMIG				S	**Sn**	**08 23 09.3**	**+1.5**
	6.1nm,0.3s,baz=270,slow=20,SNR=7.1						
CMIG	**Matias Romero**	**4.42**	**313**	P	**Pn**	**08 22 16.6**	**-1.0**
CMIG				S	**Sn**	**08 23 09.3**	**+1.5**
TEIG	**Tepich**	**6.83**	**26**	P	**Pn**	**08 22 51.4**	**+0.8**
	33nm,0.3s,baz=217,slow=1.9,SNR=436						
TEIG				S	**Sn**	**08 24 06.8**	**-0.2**
	baz=184,slow=22,SNR=2.3						
TEIG				LR	LR	08 26 01.7	
	comp=Z,69nm,19.5s,baz=312,slow=42						
JTS	**JuntasAbangare**	**7.43**	**120**	P	**Pn**	**08 22 59.0**	**+0.1**
	1.9nm,0.3s,baz=315,slow=21,SNR=9.0						
JTS				S	**Sn**	**08 24 24.3**	**+2.7**
	0.5nm,0.3s,baz=327,slow=22,SNR=1.9						
JTS	**JuntasAbangare**	**7.43**	**120**	P	**Pn**	**08 22 59.0**	**+0.1**
JTS				S	**Sn**	**08 24 24.3**	**+2.7**
TXAR	**Lajitas Array**	**18.89**	**325**	P	**Pn**	**08 25 29.7**	**+0.7**
	0.1nm,0.3s,baz=156,slow=12,SNR=5.5						
NVAR	**Mina Array Bea**	**33.90**	**321**	P	**P**	**08 27 51.2**	**+2.2**
	0.7nm,0.7s,mb3.6,baz=132,slow=7.4,SNR=8.1						
SIV	**San Ignacio**	**42.40**	**134**	P	**P**	**08 28 60.0**	**-0.5**
	0.7nm,0.5s,mb3.6,baz=300,slow=9.2,SNR=7.0						
SCHQ	**Schefferville**	**44.97**	**20**	P	**P**	**08 29 19.0**	**-2.0**
	3.6nm,1.0s,mb4.1,baz=227,slow=13,SNR=3.6						
CFAA	**Coronel Fontan**	**50.62**	**154**	P	**P**	**08 30 04.4**	**-0.3**
	0.1nm,0.3s,mb3.4,baz=353,slow=11,SNR=7.1						
YKA	**Yellowknife Ar**	**51.05**	**346**	P	**P**	**08 30 06.8**	**-1.1**
	0.3nm,0.6s,mb3.5,baz=150,slow=7.3,SNR=11						
YKA				PcP	PcP	08 31 22.3	-0.6
	0.3nm,0.6s,baz=152,slow=3.7,SNR=5.7						
YKA	**Yellowknife Ar**	**51.05**	**346**	P	**P**	**08 30 06.8**	**-1.1**
YKA				PcP	PcP	08 31 22.3	-0.6

IDC 23 08:27:39.5±7.0, 1942S×6851W, h177km±45km, mb3.1/2, mb1 3.1/4, mb1mx3.0/18, mbtmp3.0/4, Error ellipse: s-maj=83.0km s-min=31.4km az=31.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.14**	**7**	P	Pn	08 28 30.5	+0.8
	0.9nm,0.3s,baz=188,slow=8.4,SNR=19						
LPAZ				S	Sn	08 29 10.3	+1.5
	0.8nm,0.3s,baz=209,slow=14,SNR=4.4						
SIV	**San Ignacio**	**7.87**	**65**	P	Pn	08 29 31.4	+0.4
	0.5nm,0.3s,baz=266,slow=9.4,SNR=16						
TORD	**Torodi Ar. Bea**	**76.31**	**71**	P	P	08 39 09.4	+0.6
	0.2nm,0.3s,baz=256,slow=5.8,SNR=3.3						
YKA	**Yellowknife Ar**	**89.36**	**340**	P	P	08 40 15.5	-0.4
	0.2nm,0.7s,baz=136,slow=4.6,SNR=6.7						

*IDC **23** 09:19:11.7±1.0, 13.30N×121.11E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=95.3km s-min=9.2km az=76.0*

*ISCJB **23** 09:19:12.4±0.8, 13.46N±0.03×121.35E±0.03, h7km±6km, mb3.8/5, Error ellipse: s-maj=5.5km s-min=4.8km az=143.4*

*MAN **23** 09:19:12.7, 13.47N×121.39E, h6km, mb3.5, ML4.7, MS1.6*

ISC 23 09:19:12.7±0.7, 13.47N±0.03×121.36E±0.03, h3km±5km, n20, σ1§16/28, mb3.8/5, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.47**	**91**	*eP*	**Pg**	**09 19 22.1**	**+0.3**
BOAC				*e*S	**Sg**	**09 19 29.9**	**+2.1**
TGY	**Tagaytay City**	**0.75**	**327**	Pg	**Pg**	**09 19 27.4**	**+0.2**
	847nm,0.3s,baz=172,slow=3.8,SNR=32						
TGY				Lg		09 19 38.8	
	2μm,0.3s,baz=46,slow=6.6,SNR=17						
TGY	**Tagaytay City**	**0.75**	**327**⇓	*eP*	**Pg**	**09 19 27.3**	**+0.1**
TGY				*e*S	**Sg**	**09 19 36.1**	**-0.9**
LUBP	**Lubang**	**1.12**	**284**	*eP*	**Pg**	**09 19 33.2**	**-1.0**
LUBP				*e*S	**Sg**	**09 19 49.5**	**+0.9**
GQP	**Guinayangan**	**1.14**	**67**⇓	*eP*	**Pg**	**09 19 34.2**	**-0.4**
GQP				*e*S	**Sg**	**09 19 53.0**	**+3.6**
OTRP	**Odiongan**	**1.27**	**150**	*eP*	**Pg**	**09 19 34.8**	**-2.4**
POLP	**Polilio Island**	**1.37**	**24**	*eP*	**Pn**	**09 19 37.1**	**-1.6**
POLP				*e*S	**Sg**	**09 19 56.9**	**+0.1**
BUSP	**Coron**	**1.85**	**218**	*eP*	**Pn**	**09 19 45.9**	**+0.7**
BUSP				*e*S	**Sn**	**09 20 09.3**	**+0.3**
KALP	**Kalibo**	**2.02**	**152**	*eP*	**Pn**	**09 19 46.5**	**-1.2**
PCPH	**Palayan**	**2.10**	**353**⇑	*iP*	**Pn**	**09 19 47.6**	**-1.1**
PCPH				*i* S	**Sn**	**09 20 15.6**	**+0.4**
BALP	**Baler**	**2.27**	**5**	*eP*	**Pn**	**09 19 51.9**	**+0.9**
RCP	**Roxas**	**2.33**	**144**⇑	*eP*	**Pn**	**09 19 51.3**	**-0.6**
ENPP	**El Nido**	**2.94**	**220**	*eP*	**Pn**	**09 20 01.7**	**+1.5**
CAUP	**Cauayan**	**3.48**	**7**	*eP*	**Pn**	**09 20 11.1**	**+3.3**
PPR	**Puerto Princes**	**4.48**	**215**⇑	*iP*	**Pn**	**09 20 23.6**	**+2.1**
PPR				*i* S	**Sn**	**09 21 14.3**	**+0.1**
WRA	**Warramunga Arr**	**35.57**	**159**	P	**P**	**09 26 09.5**	**-1.7**
	1.2nm,0.4s,mb4.1,baz=337,slow=9.6,SNR=13						
SONM	**Songino Array**	**36.46**	**343**	P	**P**	**09 26 19.3**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=148,slow=8.5,SNR=2.9						
ASAR	**Alice Springs**	**38.89**	**162**	P	**P**	**09 26 38.1**	**-1.3**
	0.7nm,0.4s,mb3.7,baz=342,slow=7.2,SNR=28						
MKAR	**Makanchi Array**	**46.60**	**323**	P	**P**	**09 27 41.5**	**-0.4**
	0.3nm,0.8s,mb3.3,baz=113,slow=9.1,SNR=4.1						
STKA	**Stephens Creek**	**49.08**	**157**	P	**P**	**09 28 02.2**	**+1.0**
	2.3nm,0.8s,mb4.2,baz=325,slow=12,SNR=2.9						

*IDC **23** 09:26:43.0±2.0, 1287N×8793W, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.4/19, mbtmp3.3/5, ML2.8/2, Error ellipse: s-maj=82.8km s-min=15.9km az=46.0*

*ISCJB **23** 09:26:44.7±1.6, 123N±0.03×885W±0.1, h58km±22km, mb3.2/3, Error ellipse: s-maj=54.0km s-min=11.6km az=28.2*

*CASC **23** 09:26:46.7±2.1, 1204N×8841W, h35km±999km, MD3.8, ML3.0*

ISC 23 09:26:46.6±1.6, 123N±0.03×884W±0.1, h57km±20km, n18, σ0§98/13, mb3.2/3, 3C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.16**	**30**⇓	*eP*	x	09 27 10.1	
CNCH				*e*S	x	09 27 28.1	
BLLM	**Bellamira**	**1.19**	**9**⇓	*eP*	x	09 27 10.2	
LCBS	**La Ceiba**	**1.49**	**339**⇑	*eP*	x	09 27 14.1	
LCBS				*e*S	x	09 27 34.2	
LFRS	**El Faro**	**1.49**	**335**⇓	*eP*	x	09 27 14.0	
LFRS				*e*S	x	09 27 35.1	
LBRS	**Las Brisas**	**1.59**	**338**⇓	*eP*	x	09 27 15.8	
BOQS	**Boqueron**	**1.69**	**330**	*eP*	x	09 27 17.3	
BOQS				*e*S	x	09 27 39.6	
MOMJ	**Momotombo**	**1.84**	**85**⇑	*eP*	**Pn**	**09 27 14.8**	**-1.1**
SBLS	**San Blas**	**1.96**	**323**	*eP*	x	09 27 20.5	
RTR	**El Retiro**	**2.02**	**324**⇑	*eP*	x	09 27 21.9	
RTR				*e*S	x	09 27 47.9	
XAVN	**Gruta Xavier**	**2.05**	**93**	*eP*	**Pn**	**09 27 18.7**	**0.0**
XAVN				*e*S	**Sn**	**09 27 44.1**	**+0.9**
MGAN	**Managua**	**2.13**	**93**⇓	*eP*	**Pn**	**09 27 18.7**	**-1.1**
MGAN				*e*S	**Sn**	**09 27 44.9**	**-0.2**
MGAN				*i*		09 27 45.3	
	comp=E,134nm,0.3s						
TICN	**Ticuantepe**	**2.15**	**96**⇓	*eP*	**Pn**	**09 27 19.9**	**-0.2**
TICN				*e*S	**Sn**	**09 27 46.6**	**+0.9**
RBDL	**Robledal**	**2.21**	**326**	*eP*	x	09 27 24.8	
JTS	**JuntasAbangare**	**3.93**	**120**	Pn	**Pn**	**09 27 44.6**	**+0.2**
	comp=E,0.6nm,0.3s,baz=334,slow=20,SNR=7.1						
JTS				Pg	**Pn**	**09 27 54.3**	**+10**
	comp=E,0.6nm,0.3s,baz=300,slow=18,SNR=5.1						
JTS				Lg		09 28 45.8	
	comp=E,1.9nm,0.3s,baz=51,slow=21,SNR=8.3						
CMIG	**Matias Romero**	**7.88**	**308**	Pn	**Pn**	**09 28 38.6**	**+0.1**
	comp=E,0.2nm,0.3s,baz=151,slow=10,SNR=6.8						
TXAR	**Lajitas Array**	**22.13**	**322**	P	**P**	**09 31 39.9**	**+2.6**
	comp=E,0.5nm,0.7s,mb3.1,baz=153,slow=14,SNR=5.5						
ULM	**Lac du Bonnet**	**38.37**	**352**	P	**P**	**09 34 00.6**	**-1.5**
	comp=E,1.1nm,0.7s,mb3.7,baz=188,slow=9.6,SNR=4.6						
YKA	**Yellowknife Ar**	**53.55**	**345**	P	**P**	**09 36 01.6**	**+0.1**
	comp=E,0.1nm,0.6s,mb3.0,baz=148,slow=6.5,SNR=5.5						

*ISCJB **23** 09:36:22.1±0.7, 61.1S±0.1×233W±0.3, h10km, mb3.8/5, Error ellipse: s-maj=25.1km s-min=10.2km az=117.9*

*IDC **23** 09:36:24.0±2.1, 60.72S×232.5W, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.8/15, mbtmp3.9/5, Error ellipse: s-maj=81.4km s-min=24.9km az=6.0*

ISC 23 09:36:24.0±0.7, 61.1S±0.1×232W±0.3, h10km, n10, σ0§84/9, mb3.8/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.36**	**154**	*e*	**Pn**	**09 39 06.5**	**+0.2**
VNA1				*e*		09 39 10.9	
VNA1				*e*		09 39 16.0	
VNA1				*e*		09 41 01.4	
VNA1				*e*		09 41 07.7	
VNA3	**Neumayer Olymp**	**11.56**	**158**	*e*	**Pn**	**09 39 09.3**	**+0.3**
VNA3				*e*		09 41 06.5	
VNA3				*e*		09 41 12.7	
VNA2	**Neumayer--Watz**	**11.76**	**154**	*e*	**Pn**	**09 39 11.4**	**-0.4**
VNA2				*e*		09 39 15.1	
VNA2				*e*		09 39 21.9	
VNA2				*e*		09 41 12.4	
VNA2				*e*		09 41 19.0	
SNAA	**Sanae**	**13.32**	**151**	*e*	**Pn**	**09 39 32.9**	**-0.2**
SNAA				*e*		09 39 35.9	
SNAA				*e*		09 39 42.0	
SNAA				*e*		09 41 51.0	
SNAA				*e*		09 41 55.9	
CFAA	**Coronel Fontan**	**41.49**	**294**	P	**P**	**09 44 11.1**	**-0.1**
	0.2nm,0.6s,mb2.9,baz=144,slow=8.7,SNR=4.4						
BOSA	**Boshof**	**45.60**	**67**	P	**P**	**09 44 44.6**	**+0.3**
	1.3nm,0.5s,mb4.1,baz=213,slow=7.7,SNR=9.5						
SIV	**San Ignacio**	**52.51**	**312**	P	**P**	**09 45 35.6**	**-1.7**
	0.7nm,0.6s,mb3.8,baz=157,slow=10,SNR=5.8						
LPAZ	**La Paz**	**54.94**	**304**	P	**P**	**09 45 57.0**	**+1.9**
	0.7nm,0.4s,mb4.1,baz=141,slow=6.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**76.58**	**25**	P	**P**	**09 48 14.4**	**-0.2**
	1.4nm,0.7s,mb4.0,baz=192,slow=6.5,SNR=8.7						
SONM	**Songino Array**	**148.73**	**92**	PKPbc	PKPbc	09 56 11.5	-0.1
	0.3nm,0.5s,baz=209,slow=2.6,SNR=3.3						

*ISCJB **23** 09:55:03.9±1.5, 11.70N±0.03×87.41W±0.05, h2km±10km, mb3.5/4, Error ellipse: s-maj=7.8km s-min=5.3km az=153.5*

*IDC **23** 09:55:05.8±1.6, 12.61N×86.54W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.6/5, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=103.7km s-min=21.4km az=58.0*

*CASC **23** 09:55:07.3±2.6, 11.70N×87.19W, h1km±4km, MD4.0, ML3.8*

*NEIC **23** 09:55:12.5±1.7, 12.12N×86.77W, h82km±16km, Error ellipse: s-maj=72.0km s-min=13.7km az=59.0*

ISC 23 09:55:06.0±1.7, 13.07N±0.04×85.75W±0.09, h1km±11km, n26, σ1§46/33, mb3.5/4, 6C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMJ	**Momotombo**	**1.01**	**230**⇑	*eP*	**Pg**	**09 55 25.1**	**-0.4**
MOMJ				*e*S	**Sg**	**09 55 40.6**	**+2.0**
MGAN	**Managua**	**1.04**	**208**⇑	*eP*	**Pg**	**09 55 26.9**	**+1.0**
MGAN				*e*S	**Sg**	**09 55 42.6**	**+3.3**
MGAN				*i*		09 55 44.7	
	comp=N,3μm,0.5s						
XAVN	**Gruta Xavier**	**1.07**	**212**⇑	*eP*	**Pg**	**09 55 26.0**	**-0.6**
XAVN				*e*S	**Sg**	**09 55 41.7**	**+1.2**
TICN	**Ticuantepe**	**1.13**	**205**⇓	*eP*	**Pg**	**09 55 27.3**	**-0.4**
TICN				*e*S	**Sg**	**09 55 42.5**	**+0.2**
TELN	**Telica**	**1.15**	**247**⇓	*eP*	**Pg**	**09 55 25.3**	**-2.8**
TELN				*e*S	**Sg**	**09 55 39.6**	**-3.5**
CONN	**Concepcion**	**1.50**	**175**⇓	*eP*	**Pn**	**09 55 33.9**	**-0.2**
CONN				*e*S	**Sb**	**09 55 57.0**	**+2.8**
MADN	**Villa Maderas**	**1.66**	**173**⇓	*eP*	**Pn**	**09 55 35.9**	**-0.4**
MADN				*e*S	**Sn**	**09 55 59.4**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.78**	**304**⇑	*i*Pn	**Pn**	**09 55 44.3**	**+6.4**
TGUH				*e*Sn	**Sn**	**09 56 15.2**	**+14**
CNCH	**Conchagua**	**2.04**	**276**⇑	*eP*	x	09 55 39.0	
CNCH				*e*S	x	09 56 01.5	
LIM1	**Limonal**	**2.40**	**168**	*i* P	**Pn**	**09 55 44.8**	**-1.7**
LIM1				*e*S	**Sn**	**09 56 14.6**	**-2.0**
BLLM	**Bellamira**	**2.45**	**279**⇑	*eP*	x	09 55 44.0	
JTS	**JuntasAbangare**	**2.87**	**164**	Pn	**Pn**	**09 55 51.9**	**-1.0**
	comp=N,4.3nm,0.3s,baz=316,slow=21,SNR=27						
JTS				Sn	**Sn**	**09 56 27.3**	**-0.8**
	comp=N,16nm,0.3s,baz=0.4,slow=23,SNR=9.5						
JTS				LR	LR	09 57 18.7	
	comp=N,196nm,18.8s,baz=242,slow=48						
VCR	**Vista de Mar**	**2.92**	**178**	*eP*	**Pn**	**09 55 44.8**	**-8.9**
VCR				*e*S	**Sn**	**09 56 12.8**	**-17**
LCBS	**La Ceiba**	**3.20**	**281**	*eP*	x	09 55 51.0	
JCR	**Jicaral**	**3.26**	**169**	*eP*	**Pn**	**09 55 51.5**	**-6.8**
JCR				*e*S	**Sn**	**09 56 28.7**	**-8.9**
LFRS	**El Faro**	**3.27**	**280**	*eP*	x	09 55 51.4	
LFRS				*e*S	x	09 56 24.3	
CGA2	**Cerro Gallo 2**	**3.28**	**157**	*eP*	**Pn**	**09 55 57.4**	**-1.2**
PRS1	**Puriscal**	**3.37**	**155**	*eP*	**Pn**	**09 56 01.8

Error ellipse: s-maj=8.1km s-min=5.0km az=129.8
*NEIC **23** 10:09:41.1, 42.13N×14.266E, h49km, mb3.9/2, After JMA.*
*JMA **23** 10:09:41.1±0.2, 42.13N×14.266E, h49km±2km, M3.5*
Broadband fault plane solution: P waves. NP1: φs292.00000°, δ48.00000°, λ63.00000°. NP2: φs150.00000°, δ48.00000°, λ117.00000°. Principal axes: T Plg70.0000°, Azm131.0000°; N Plg20.0000°, Azm311.0000°; P Plg0.0000°, Azm221.0000°;
ISC 23 10:09:41.1±0.6, 4210N±004×14262E±005, h49km±7km, n18, σ0=77/28, 4C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.20**	**30**	⇑P	**Pn**	**10 09 48.9**	**-0.5**
JNBK				eS	**Sn**	**10 09 55.3**	**+0.1**
ERM	**Erimo**	**0.41**	**102**	ePn	**Pn**	**10 09 51.4**	**+0.2**
JEM	**Erimo**	**0.41**	**102**	⇑P	**Pn**	**10 09 51.2**	**-0.1**
JEM				eS	**Sn**	**10 09 58.6**	**+0.1**
JBT2	**Biratori 2**	**0.70**	**345**	⇑P	**Pn**	**10 09 54.5**	**-0.3**
JBT2				eS	**Sn**	**10 10 05.3**	**+0.6**
JCH	**Churui**	**0.75**	**47**	⇓P	**Pn**	**10 09 55.0**	**-0.5**
JCH				eS	**Sn**	**10 10 05.3**	**-0.6**
JFR	**Furan**	**1.06**	**359**	P	**Pn**	**10 09 59.5**	**-0.1**
JEW	**Eniwo**	**1.14**	**311**	⇑P	**Pn**	**10 10 00.8**	**+0.2**
JEW				eS	**Sn**	**10 10 16.4**	**+1.3**
JKB	**Kayabe**	**1.20**	**260**	⇓P	**Pn**	**10 10 01.2**	**-0.3**
JKB				eS	**Sn**	**10 10 16.4**	**-0.3**
JOB	**Onbets**	**1.20**	**48**	P	**Pn**	**10 10 01.9**	**+0.3**
JOB				eS	**Sn**	**10 10 18.0**	**+1.2**
JNB	**Noboribetsu**	**1.23**	**288**	⇓P	**Pn**	**10 10 01.3**	**-0.6**
JNB				eS	**Sn**	**10 10 16.1**	**-1.2**
JOT	**Ohata**	**1.38**	**239**	⇓P	**Pn**	**10 10 03.5**	**-0.4**
JOT				eS	**Sn**	**10 10 20.3**	**-0.7**
JAB	**Ashibetsu**	**1.43**	**348**	P	**Pn**	**10 10 05.1**	**+0.4**
JAR	**Ashorobuto**	**1.47**	**35**	⇓P	**Pn**	**10 10 04.6**	**-0.5**
JAR				eS	**Sn**	**10 10 23.2**	**+0.1**
MAJO	**Matsushiro**	**6.52**	**213**	ePn	**Pn**	**10 11 16.9**	**+2.4**
MDJ	**Mudanjiang**	**9.81**	**289**	ePn	**Pn**	**10 11 59.9**	**+0.3**
INCN	**Inchon**	**13.13**	**255**	ePn	**Pn**	**10 12 46.0**	**+1.2**
PET	**Petropavlovsk**	**15.34**	**39**	ePn	**Pn**	**10 13 12.6**	**-1.8**
	1.8nm,0.2s						
BJT	**Baijiatuan**	**20.03**	**273**	eP	**P**	**10 14 10.1**	**+0.2**
	1.9nm,0.3s						

*ISCJB **23** 10:28:58.2±2.1, 332S±0.1×177.7W±0.3, h35km, mb3.7/2, Error ellipse: s-maj=43.0km s-min=11.8km az=27.9*
*IDC **23** 10:29:08.7±5.1, 31.82S×179.45W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/14, mbtmp4.0/3, ML4.5/1, Error ellipse: s-maj=153.5km s-min=32.2km az=144.0*
ISC 23 10:29:00.2±2.1, 331S±01×177.7W±03, h35km, n9, σ1=16/8, mb3.7/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.87**	**357**	Pn	**Pn**	**10 29 56.2**	**-0.9**
	75nm,0.3s,baz=108,slow=23,SNR=3.4						
PUZ	**Puketiti**	**5.96**	**213**	PN	**Pn**	**10 30 26.5**	**+0.7**
PUZ				SN	Sx	10 31 27.3	
MWZ	**Matawai**	**6.51**	**216**	PN	**Pn**	**10 30 34.5**	**+1.1**
MWZ				SN	Sx	10 31 40.5	
OUZ	**Omahuta**	**7.54**	**251**	PN	**Pn**	**10 30 46.3**	**-1.3**
BKZ	**Black Stump Fm**	**7.66**	**216**	PN	**Pn**	**10 30 48.2**	**-1.1**
MRZ	**Mangatainoka R**	**9.27**	**214**	PN	**Pn**	**10 31 10.0**	**-1.3**
ASAR	**Alice Springs**	**43.32**	**270**	P	**P**	**10 37 00.2**	**+1.6**
	0.5nm,0.4s,mb3.6,baz=107,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**44.55**	**275**	P	**P**	**10 37 09.7**	**+1.2**
	0.7nm,0.4s,mb3.8,baz=115,slow=8.1,SNR=24						
FINES	**FINESS Array B**	**147.79**	**339**	PKPbc	PKPbc	10 48 48.6	+7.4
	0.8nm,0.5s,baz=50,slow=4.3,SNR=4.7						

*IDC **23** 10:31:19.9±5.9, 36.25N×71.04E, h134km±51km, mb3.4/10, mb1 3.5/13, mb1mx3.3/25, mbtmp3.3/13, Error ellipse: s-maj=28.5km s-min=19.4km az=22.0*
*ISCJB **23** 10:31:21.4±0.4, 36.38N±004×71.12E±007, h161km±6km, mb3.5/9, Error ellipse: s-maj=9.2km s-min=5.5km az=141.7*
*NEIC **23** 10:31:22.4±0.8, 36.38N×71.11E, h154km±8km, mb4.0/1, Error ellipse: s-maj=12.3km s-min=8.7km az=115.0*
*NNC **23** 10:31:28.2±5.6, 36.93N×70.89E, h121km±80km, mb2.9, mpv3.7, Error ellipse: s-maj=46.3km s-min=32.3km az=10.0*
ISC 23 10:31:22.4±0.4, 3639N±004×7112E±007, h157km±6km, n47, σ0=75/51, mb3.5/9, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.51**	**223**	ePn	**Pn**	**10 32 04.3**	**+0.4**
CEP	**Cherat**	**2.64**	**166**	P	**Pn**	**10 32 06.1**	**+0.6**
CEP				S	**Sn**	**10 32 39.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.24**	**147**	P	**Pn**	**10 32 13.6**	**+0.6**
THW	**Thamme Wali**	**3.62**	**172**	P	**Pn**	**10 32 18.2**	**+0.3**
SBDP	**Sheikh Budin**	**4.09**	**184**	P	**Pn**	**10 32 23.4**	**-0.5**
SARP	**Sargodha**	**4.64**	**163**	P	**Pn**	**10 32 30.6**	**-0.5**
DRP	**Derazinda**	**4.70**	**190**	P	**Pn**	**10 32 32.2**	**+0.3**
THN	**Thein Dam**	**5.47**	**135**	eP	**Pn**	**10 32 41.1**	**-1.0**
THN				eS	**Sn**	**10 33 44.3**	**-0.2**
AML	**Almayashu**	**6.07**	**18**	P	**Pn**	**10 32 48.8**	**-1.2**
	SNR=33						
UCH	**Uchtor**	**6.39**	**23**	P	**Pn**	**10 32 55.3**	**+1.0**
	SNR=8.0						
KK31	**Karatay Array**	**6.72**	**356**	⇓P	**Pn**	**10 32 57.0**	**-1.7**
	9.6nm,0.4s,baz=180,slow=13						
KK31				⇑S	**Sn**	**10 34 07.4**	**-6.8**
	13nm,0.5s,baz=189,slow=23						
AAK	**Ala-Archa**	**6.76**	**22**	P	**Pn**	**10 32 58.2**	**-1.0**
	SNR=12						
AAK	**Ala-Archa**	**6.76**	**22**	ePn	**Pn**	**10 32 58.5**	**-0.7**
	2.7nm,0.4s						
SDNR	**Sundarnagar**	**6.88**	**133**	eP	**Pn**	**10 33 01.5**	**+0.7**
SDNR				ex	x	10 35 07.0	
KBK	**Karagaybulak**	**6.92**	**24**	P	**Pn**	**10 33 03.3**	**+2.0**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.38**	**26**	P	**Pn**	**10 33 08.4**	**+1.0**
	SNR=19						
TKM2	**Tokmak 2**	**7.38**	**26**	⇑P	**Pn**	**10 33 08.0**	**+0.6**
	0.8nm,0.6s						
TKM2				⇑S	**Sn**	**10 34 25.8**	**-4.2**
	1.5nm,1.1s						
KLP	**Kalpa**	**7.65**	**127**	eP	**Pn**	**10 33 11.0**	**0.0**
KLP				eS	**Sn**	**10 34 31.5**	**-4.9**
KLP				AML	AML	10 34 36.4	
	comp=N,66nm,0.0s						
KLP				AML	AML	10 34 41.8	
	comp=E,61nm,0.2s						
JOSI	**Joshimath**	**9.13**	**127**	ex	x	10 32 55.5	
JOSI				eS	**Sn**	**10 35 06.5**	**-5.7**
JOSI				AML	AML	10 35 13.2	
	comp=E,57nm,0.5s						
JOSI				AML	AML	10 35 13.7	
	comp=N,46nm,0.8s						
MK31	**Makanchi Array**	**13.32**	**35**	P	**Pn**	**10 34 29.8**	**+4.4**
	comp=N,0.5nm,0.5s,baz=200,slow=9.5,SNR=23						
MKAR	**Makanchi Array**	**13.32**	**35**	P	**Pn**	**10 34 26.3**	**+0.9**
	comp=N,0.3nm,0.3s,baz=207,slow=10,SNR=19						
KOLN	**Koldanda**	**13.62**	**126**	eP	**Pn**	**10 34 27.4**	**-1.7**
	comp=N,7.3nm,0.3s						
GKN	**Gorkha**	**14.16**	**122**	eP	**Pn**	**10 34 35.2**	**-0.7**
	comp=N,15nm,0.4s						
DMN	**Daman**	**14.73**	**123**	eP	**Pn**	**10 34 43.4**	**+0.3**
	comp=N,10nm,0.5s						
KKN	**Kakani**	**14.73**	**122**	eP	**Pn**	**10 34 42.5**	**-0.6**
PKI	**Pulchoki**	**14.96**	**122**	eP	**Pn**	**10 34 46.6**	**+0.7**
AB31	**Abkulak array**	**15.23**	**331**	⇑P	**Pn**	**10 34 49.0**	**-0.2**
	comp=N,1.2nm,0.3s,baz=144,slow=11,SNR=54						
JIRN	**Jiri**	**15.45**	**120**	eP	**Pn**	**10 34 52.0**	**+0.1**
	comp=N,18nm,0.3s						
BVAR	**Borovoye Array**	**16.64**	**358**	P	**Pn**	**10 35 05.5**	**-1.0**
	comp=N,0.2nm,0.3s,baz=252,slow=37,SNR=3.7						
AKTK	**Aktyubinsk**	**16.93**	**330**	P	**Pn**	**10 35 10.0**	**+0.1**
AKTO	**Aktyubinsk**	**16.93**	**330**	⇑P	**Pn**	**10 35 10.1**	**+0.2**
	comp=N,0.1nm,1.0s						
AKTO	**Aktyubinsk**	**16.93**	**330**	P	**Pn**	**10 35 10.0**	**+0.1**
	comp=N,0.5nm,0.3s,baz=143,slow=11,SNR=12						
ZAL	**Zalesovo**	**19.96**	**24**	P	**P**	**10 35 42.9**	**+0.6**
	comp=N,2.1nm,0.6s,baz=268,slow=11,SNR=5.1						
AKASG	**Malin Array Be**	**33.09**	**309**	P	**P**	**10 37 43.5**	**+0.2**
	comp=N,0.2nm,0.4s,mb3.2,baz=82,slow=6.4,SNR=5.6						
AKASG	**Malin Array Be**	**33.09**	**309**	P	**P**	**10 37 43.5**	**+0.2**
FINES	**FINESS Array B**	**37.63**	**326**	P	**P**	**10 38 22.1**	**+0.1**
	comp=N,1.8nm,0.8s,mb3.7,baz=149,slow=13,SNR=3.4						
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**10 38 52.5**	**+0.2**
	comp=N,3.0nm,0.9s,mb3.9,baz=123,slow=9.8,SNR=4.0						
NB2	**NORSAR Subarra**	**44.53**	**323**	P	**P**	**10 39 17.5**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.5,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.53**	**323**	P	**P**	**10 39 18.5**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.7,baz=96,slow=7.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.81**	**269**	P	**P**	**10 41 50.1**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=50,slow=5.6,SNR=8.8						
INK	**Inuvik**	**74.00**	**9**	P	**P**	**10 42 40.9**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=328,slow=6.5,SNR=9.1						
INK	**Inuvik**	**74.00**	**9**	P	**P**	**10 42 40.9**	**+0.2**
YKA	**Yellowknife Ar**	**81.35**	**3**	P	**P**	**10 43 21.8**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.4,baz=351,slow=5.4,SNR=24						
YKA	**Yellowknife Ar**	**81.35**	**3**	P	**P**	**10 43 21.8**	**+0.4**
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**10 43 24.1**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=324,slow=5.0,SNR=6.6						
ASAR	**Alice Springs**	**84.11**	**125**	P	**P**	**10 43 36.0**	**+0.4**
	comp=Z,0.3nm,0.8s,mb3.1,baz=338,slow=4.0,SNR=3.7						
VNDA	**Vanda**	**125.36**	**165**	PKP	PKPdf	10 50 04.2	-0.3
	comp=Z,1.3nm,0.8s,baz=72,slow=3.2,SNR=7.3						

*NIED **23** 10:36:00, 46.90N×153.20E, h17km, Mw4.1 Best double couple: M0:1.84000×10^15 NP1:φs220.00000°, δ82.00000°, λ-160.00000°. NP2:φs128.00000°, δ71.00000°, λ-9.00000°.*
*BJI **23** 10:36:14.3, 47.10N×154.11E, h10km, mB4.7, mb4.3*
*NEIC **23** 10:36:22.1±0.5, 46.98N×153.16E, h10km, mb3.9/2, Error ellipse: s-maj=14.6km s-min=6.8km az=145.0*
*ISCJB **23** 10:36:23.8±0.9, 46.62N±007×153.21E±009, h44km±7km, mb4.2/23, MS3.8/2, Error ellipse: s-maj=14.1km s-min=6.5km az=107.3*
*SKHL **23** 10:36:24.8±0.5, 46.40N×153.40E, h64km±14km, mb5.1/1*
*MOS **23** 10:36:25.6±1.3, 46.71N×153.17E, h57km, mb4.2/15, Error ellipse: s-maj=10.7km s-min=8.0km az=71.3*
*IDC **23** 10:36:29.7±3.5, 46.89N×153.05E, h75km±33km, mb3.7/17, mb1 4.0/19, mb1mx3.9/27, mbtmp3.8/19, MS3.6/3, Ms1 3.6/3, ms1mx3.1/34, Error ellipse: s-maj=23.3km s-min=14.5km az=166.0*
ISC 23 10:36:26.1±0.7, 4673N±006×15319E±009, h46km±6km, n95, σ1=22/103, mb4.2/23, MS3.7/2, 5C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.00**	**250**	⇑iPN	**Pn**	**10 37 25.6**	**+0.8**
KUR				*i*S	**Sn**	**10 38 11.6**	**+1.2**
KUR				pmax	pmax		
	comp=N,90nm,0.5s						
KUR				pmax	pmax		
	comp=E,40nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,2μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
KUR				smax			
	comp=N,820nm,0.7s						
KUR				smax			
	comp=E,260nm,0.7s						
KUR	**Kuril'sk**	**4.00**	**250**	*i*P	**Pn**	**10 37 25.6**	**+0.8**
KUR				AMB	AMB	10 37 28.5	
	comp=E,90nm,0.5s						
KUR				AMB	AMB	10 37 28.5	
	comp=E,40nm,0.5s						
KUR				AMB	AMB	10 37 28.5	
	comp=E,150nm,0.5s						
KUR				*i*S	**Sn**	**10 38 11.6**	**+1.2**
KUR				A		10 38 30.0	
	comp=E,2μm,1.0s						
KUR				A		10 38 30.0	
	comp=E,2μm,1.0s						
KUR				A		10 38 34.6	
	comp=E,820nm,0.7s						
KUR				A		10 38 34.6	
	comp=E,260nm,0.7s						
SKR	**Severo-Kuril's**	**4.41**	**25**	*e*PN	**Pn**	**10 37 30.0**	**-0.4**
SKR				*e*S	**Sn**	**10 38 19.0**	**-1.4**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**245**	eP	**Pn**	**10 37 50.0**	**+0.2**
YUK				A		10 39 13.3	
	comp=Z,380nm,0.5s						
YUK				A		10 39 13.3	
	comp=Z,320nm,0.5s						
YUK				A		10 39 28.0	
	comp=Z,2μm,1.0s						
YUK				A		10 39 28.0	
	comp=Z,2μm,1.0s						
NEM2	**Nemuro 2**	**6.25**	**240**	P	**Pn**	**10 37 53.8**	**-2.0**
NEM2				eS	**Sn**	**10 39 01.1**	**-4.8**
JRA	**Rausu**	**6.33**	**247**	P	**Pn**	**10 37 57.7**	**+0.9**
JNK	**Nakash**	**6.76**	**245**	P	**Pn**	**10 38 02.7**	**0.0**
JAK	**Akkeshi**	**7.09**	**241**	P	**Pn**	**10 38 05.4**	**-1.9**
JAK				eS	**Sn**	**10 39 21.7**	**-4.8**
JTKR	**Abashiri--Toko**	**7.09**	**250**	P	**Pn**	**10 38 08.3**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.16**	**276**	⇑ePN	**Pn**	**10 38 09.7**	**+1.5**
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.16**	**276**	ePn	**Pn**	**10 38 07.0**	**-1.2**
	comp=Z,5.8nm,0.8s						
PET	**Petropavlovsk**	**7.22**	**27**	ePN	**Pn**	**10 38 11.2**	**+2.2**
PET				pmax	pmax		
	comp=Z,26nm,1.0s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET	**Petropavlovsk**	**7.22**	**27**	Pn	**Pn**	**10 38 04.7**	**-4.3**
JMP	**Maruseppu**	**7.44**	**252**	P	**Pn**	**10 38 14.4**	**+2.4**
JAR	**Ashorobuto**	**7.50**	**246**	P	**Pn**	**10 38 13.0**	**+0.1**
JAR				eS	**Sn**	**10 39 36.1**	**-0.5**
JOB	**Onbets**	**7.67**	**243**	P	**Pn**	**10 38 14.5**	**-0.7**
JOB				eS	**Sn**	**10 39 37.1**	**-3.6**
JKK2	**Kamakawa 2**	**7.89**	**253**	P	**Pn**	**10 38 19.8**	**+1.6**
ASAJ	**Asahikawa**	**7.89**	**255**	P	**Pn**	**10 38 20.4**	**+2.1**
	comp=Z,1.6nm,0.3s,baz=96,slow=8.9,SNR=18						
ASAJ				LR	LR	10 41 07.8	
	comp=Z,219nm,19.0s,baz=195,slow=36						
ASAJ	**Asahikawa**	**7.89**	**255**	P	**Pn**	**10 38 20.3**	**+2.0**
JCH	**Churui**	**8.12**	**243**	P	**Pn**	**10 38 20.4**	**-0.9**
ERM	**Erimo**	**8.59**	**240**	ePN	**Pn**	**10 38 28.3**	**+0.5**
JBT2	**Biratori 2**	**8.65**	**247**	P	**Pn**	**10 38 27.6**	**-1.1**
JNBK	**Urakawa-nobuka**	**8.68**	**243**	P	**Pn**	**10 38 27.0**	**-2.0**
JNB	**Noboribetsu**	**9.65**	**248**	P	**Pn**	**10 38 42.0**	**-0.3**
JYM2	**Yakumo 2**	**10.26**	**248**	P	**Pn**	**10 38 49.3**	**-1.3**
JTM	**Tenmabayashi**	**10.58**	**240**	P	**Pn**	**10 38 52.0**	**-3.1**
JTM				eS	**Sn**	**10 40 41.9**	**-10**
OFUJ	**Ofunato**	**11.38**	**232**	eS	**Sn**	**10 41 00.6**	**-11**
JIO	**Ouri**	**12.01**	**231**	eS	**Sn**	**10 41 15.2**	**-12**
KLR	**Kul'dur**	**14.57**	**288**	eP	**Pn**	**10 39 49.6**	**+0.3**
MAJO	**Matsushiro**	**15.11**	**233**	eP	**Pn**	**10 39 57.3**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAJO	**Matsushiro**	**15.11**	**233**	ePn	**Pn**	**10 39 57.3**	**+0.9**
	comp=Z,3.7nm,0.8s						
MAT	**Matsushiro**	**15.11**	**233**	P	**Pn**	**10 40 01.6**	**+5.2**
MJAR	**Matsushiro Arr**	**15.11**	**233**	P	**Pn**	**10 39 59.0**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=34,slow=9.4,SNR=13						
MJAR	**Matsushiro Arr**	**15.11**	**233**	P	**Pn**	**10 39 59.0**	**+2.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.11**	**233**	P	**Pn**	**10 39 59.0**	**+2.6**
SEY	**Seymchan**	**16.25**	**359**	eP	**Pn**	**10 40 13.2**	**+2.2**
MDJ	**Mudanjiang**	**16.61**	**271**	ePn	**Pn**	**10 40 14.8**	**-0.9**
	comp=Z,12nm,0.8s						
CN2	**Changchun**	**19.70**	**272**	eP	**Pn**	**10 40 51.1**	**-2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CLNS	**Chul'man**	**20.07**	**311**	eP	**P**	**10 40 57.0**	**+1.5**
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK	**Yakutsk**	**20.36**	**327**	eP	**P**	**10 41 02.2**	**+3.5**
YAK				pmax	pmax		
	comp=Z,18nm,1.1s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
KSRS	**Korea Array**	**20.84**	**253**	P	**P**	**10 41 06.4**	**+2.6**
	comp=E,5.6nm,0.7s,baz=50,slow=11,SNR=16						
BILL	**Bilibino**	**22.40**	**13**	eP	**P**	**10 41 23.2**	**+2.7**
BILL				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.0						
HIA	**Hailar**	**22.42**	**289**	*i*P	**P**	**10 41 20.2**	**-0.5**
SONM	**Songino Array**	**31.39**	**289**	P	**P**	**10 42 43.4**	**+1.0**
	comp=Z,2.0nm,1.0s,mb3.9,baz=87,slow=9.3,SNR=4.7						
SONM				LR	LR	10 56 20.7	
	comp=Z,130nm,19.0s,MS3.6,baz=74,slow=38						
SONM	**Songino Array**	**31.39**	**289**	P	**P**	**10 42 43.4**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,131nm,19.0s						
ZAK	**Zakamensk**	**32.73**	**295**	eP	**P**	**10 42 55.3**	**+1.0**
COLA	**College**	**36.12**	**38**	eP	**P**	**10 43 23.4**	**-0.2**
GTA	**Gaotai**	**39.02**	**279**	eP	**P**	**10 43 49.0**	**+0.9**
GTA				AP	pP	10 43 52.1	-8.5
GTA				XP	sP	10 43 54.0	-12
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb3.8						
INK	**Inuvik**	**41.64**	**32**	P	**P**	**10 44 09.5**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.0,baz=299,slow=7.3,SNR=28						
INK	**Inuvik**	**41.64**	**32**	P	**P**	**10 44 09.5**	**-0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**10 44 50.8**	**-1.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=68,slow=7.5,SNR=10						
MKAR				PcP	PcP	10 46 23.7	-0.6
	comp=Z,1.1nm,0.8s,baz=56,slow=3.0,SNR=5.1						
MKAR				LR	LR	11 05 34.7	
	comp=Z,126nm,20.2s,MS3.9,baz=240,slow=37						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**10 44 50.8**	**-1.8**
MKAR						10 46 23.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,126nm,20.3s						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**10 44 50.8**	**-1.8**
MKAR				PcP	PcP	10 46 23.7	-0.6
MKAR				LR	LR	11 05 34.7	
KURK	**Kurchatov**	**47.42**	**304**	eP	**P**	**10 44 53.9**	**-2.0**
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**	**10 45 20.0**	**-2.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=90,slow=5.8,SNR=2.7						
BVAR				PcP	PcP	10 46 37.2	-1.3
	comp=Z,0.6nm,0.6s,baz=38,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**10 45 22.4**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=297,slow=7.0,SNR=14						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**10 45 22.4**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**53.89**	**296**	eP	**P**	**10 45 42.5**	**-2.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,2.0s,mb3.9						
JIRN	**Jiri**	**55.00**	**275**	eP	**P**	**10 45 53.6**	**+0.9**
	comp=Z,14nm,0.5s,mb5.3						
KKN	**Kakani**	**55.54**	**275**	eP	**P**	**10 45 57.7**	**+1.1**
PKI	**Pulchoki**	**55.59**	**275**	eP	**P**	**10 45 57.6**	**+0.7**
DMN	**Daman**	**55.77**	**275**	eP	**P**	**10 45 59.1**	**+0.9**
	comp=Z,14nm,0.7s,mb5.1						
GKN	**Gorkha**	**55.84**	**276**	eP	**P**	**10 45 59.3**	**+0.5**
KOLN	**Koldanda**	**56.70**	**276**	eP	**P**	**10 46 05.5**	**+0.6**
	comp=Z,22nm,1.1s,mb5.1						
NVAR	**Mina Array Bea**	**62.40**	**62**	P	**P**	**10 46 44.9**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.9,baz=288,slow=8.1,SNR=4.6						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	**10 46 53.7**	**-1.5**
	comp=Z,3.7nm,0.8s,mb4.5,baz=34,slow=6.7,SNR=14						
FINES	**FINESS Array B**	**64.08**	**335**	eP	**P**	**10 46 56.1**	**+0.9**
PDAR	**Pinedale Array**	**64.72**	**54**	P	**P**	**10 47 00.1**	**+0.7**
	comp=Z,1.0nm,0.9s,mb3.9,baz=340,slow=2.2,SNR=7.6						
ULM	**Lac du Bonnet**	**66.50**	**41**	P	**P**	**10 47 10.5**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.2,baz=261,slow=5.8,SNR=5.0						
NB2	**NORSAR Subarra**	**68.26**	**341**	P	**P**	**10 47 20.6**	**-1.5**
	comp=Z,3.2nm,0.6s,mb4.5,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.26**	**341**	P	**P**	**10 47 20.9**	**-1.2**
	comp=Z,5.1nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=14						
NOA	**NORSAR Array B**	**68.26**	**341**	P	**P**	**10 47 20.9**	**-1.2**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	**Malin Array Be**	**71.59**	**326**	P	**P**	**10 47 41.0**	**-1.4**
	comp=Z,2.2nm,0.5s,mb4.3,baz=32,slow=6.2,SNR=14						
AKASG	**Malin Array Be**	**71.59**	**326**	P	**P**	**10 47 41.1**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ANMO	**Albuquerque**	**71.80**	**58**	eP	**P**	**10 47 43.4**	**-0.3**
ASAR	**Alice Springs**	**72.20**	**199**	P	**P**	**10 47 46.5**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=14,slow=5.8,SNR=5.8						
ASAR	**Alice Springs**	**72.20**	**199**	P	**P**	**10 47 46.5**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STHS	**Steb

SIV	**San Ignacio**	**33.56 119**	P		**P**		**10 47 08.6 +0.6**
	3.9nm,0.9s,mb4.3,baz=287,slow=10,SNR=17						
CFAA	**Coronel Fontan**	**38.02 147**	P		**P**		**10 47 45.7 -0.6**
	0.2nm,0.4s,mb3.2,baz=299,slow=11,SNR=4.9						
PLCA	**Paso Flores**	**44.47 158**	LR		LR		11 03 12.3
	comp=Z,66nm,18.5s,MS3.6,baz=1.3,slow=31						
NVAR	**Mina Array Bea**	**45.84 330**	P		**P**		**10 48 51.5 +1.3**
	0.9nm,0.8s,mb3.8,baz=169,slow=8.0,SNR=8.0						
PDAR	**Pinedale Array**	**45.87 341**	P		**P**		**10 48 50.4 -0.1**
	0.4nm,0.8s,mb3.4,baz=145,slow=6.6,SNR=2.5						
ULM	**Lac du Bonnet**	**50.42 356**	P		**P**		**10 49 24.1 -1.6**
	4.3nm,0.9s,mb4.5,baz=184,slow=5.5,SNR=6.9						
SCHQ	**Schefferville**	**58.37 16**	LR		LR		11 17 03.0
	comp=Z,131nm,21.9s,MS4.0,baz=36,slow=38						
YKA	**Yellowknife Ar**	**64.99 348**	P		**P**		**10 51 06.6 -1.5**
	0.8nm,0.7s,mb3.8,baz=150,slow=6.3,SNR=13						
YKA	**Yellowknife Ar**	**64.99 348**	P		**P**		**10 51 06.6 -1.5**

BJI ***23*** *10:54:44.9, 289S×13467E, h35km, mB5.3, mb5.1, Ms4.7, Msz4.3*
IDC ***23*** *10:54:44.9±0.5, 272S×13382E, h0km, mb4.9/14, mb1 4.9/18, mb1mx4.9/21, mbtmp4.9/18, ML4.2/4, MS4.1/16, Ms1 4.1/16, ms1mx4.1/22, Error ellipse: s-maj=20.5km s-min=9.9km az=83.0*
ISCJB ***23*** *10:54:45.8±1.6, 273S±004×134.14E±005, h20km±11km, mb5.1/64, MS4.2/24, Error ellipse: s-maj=9.1km s-min=6.5km az=167.2*
MOS ***23*** *10:54:48.5±1.2, 258S×13398E, h33km, mb5.4/31, Error ellipse: s-maj=13.3km s-min=6.8km az=112.1*
GCMT ***23*** *10:54:50.4±0.2, 254S×13408E, h12km, MW5.0/53, Moment Tensor Solution. s34,c41; s53,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.94±.12; Mθθ0.18±.08; Mφφ2.76±.12; Mrθ0.71±.30; Mθφ1.32±.09; Mφr1.53±.28; Best double couple: M0=3.55300×10^16 NP1:φs=22.00000°, δ31.00000°, λ-92.00000°. NP2: φs=204.00000°, δ59.00000°, λ-89.00000°. Principal axes: T 3.7410, Plg14.0000°, Azm293.0000°; N -0.3710, Plg1.0000°, Azm23.0000°; P -3.3660, Plg76.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *10:54:50.4±1.2, 271S×13405E, h36km±11km, mb5.2/24 Error ellipse: s-maj=9.0km s-min=6.1km az=67.0*
NEIC Felt [III] at Kaimana.
ISC 23 10:54:48.9±1.6, 270S±004×13425E±006, h29km±11km, h34km±.8km; pP-P, n165, σ1924/157, mb5.1/64, MS4.2/24, 3C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**6.13**	**261**	P	**Pn**	**10 56 14.1**	**-3.4**
	448nm,0.8s						
JAY	**Jayapura**	**6.45**	**89**	P	**Pn**	**10 56 27.5**	**+5.6**
	266nm,0.9s						
KAKA	**Kakadu**	**10.11**	**190**	*e*P	**Pn**	**10 57 10.8**	**-1.3**
	65nm,0.6s						
KAKA				*e*S	**Sn**	**10 59 01.6**	**-2.9**
PMG	**Port Moresby**	**14.46**	**118**	Pn	**Pn**	**10 58 16.0**	**+4.5**
	0.7nm,0.3s,baz=286,slow=17,SNR=2.8						
PMG				LR	LR	11 04 20.7	
	comp=Z,879nm,20.1s,baz=282,slow=39						
PMG	**Port Moresby**	**14.46**	**118**	*e*P	**Pn**	**10 58 21.7**	**+10**
WB2	**Warramunga Arr**	**17.14**	**180**	*e*P	**Pn**	**10 58 43.1**	**-3.2**
WB2				*e*S	**Sn**	**11 01 51.1**	**-4.9**
WRA	**Warramunga Arr**	**17.14**	**180**	P	**Pn**	**10 58 44.9**	**-1.4**
	0.5nm,0.3s,baz=359,slow=7.6,SNR=34						
FITZ	**Fitzroy Crossi**	**17.48**	**208**	*e*P	**Pn**	**10 58 45.9**	**-4.6**
	61nm,0.6s						
FITZ				*e*S	**Sn**	**11 01 50.3**	**-14**
FITZ	**Fitzroy Crossi**	**17.48**	**208**	P	**Pn**	**10 58 47.0**	**-3.6**
	2.6nm,0.3s,baz=25,slow=14,SNR=33						
FITZ				LR	LR	11 04 35.9	
	comp=Z,117nm,21.8s,baz=33,slow=34						
GUMO	**Guam**	**19.31**	**33**	P	**Pn**	**10 59 15.6**	**+2.8**
	2.4nm,0.3s,baz=45,slow=4.3,SNR=3.3						
GUMO				LR	LR	11 06 04.0	
	comp=Z,146nm,19.7s,baz=214,slow=35						
DNP	**Denpasar**	**19.85**	**252**	P	**Pn**	**10 59 21.4**	**+2.2**
	300nm,0.9s						
KKM	**Kota Kinabalu**	**20.00**	**296**	*e*P	**Pn**	**10 59 20.5**	**-0.5**
NBBI	**Negara**	**20.33**	**253**	P	**P**	**10 59 21.2**	**-1.5**
	355nm,1.2s						
KMMI	**Kalianget**	**20.66**	**257**	P	**P**	**10 59 27.8**	**+1.5**
	295nm,1.3s						
ASAR	**Alice Springs**	**20.85**	**181**	P	**P**	**10 59 30.1**	**+1.8**
	196nm,1.0s,baz=5.6,slow=11,SNR=685						
ASAR				S	**S**	**11 03 22.3**	**+3.0**
	6.7nm,0.8s,baz=360,slow=26,SNR=5.3						
CTA	**Charters Tower**	**20.88**	**147**	*e*P	**P**	**10 59 31.4**	**+2.7**
	47nm,1.0s						
CTA	**Charters Tower**	**20.88**	**147**	P	**P**	**10 59 31.6**	**+2.9**
	67nm,1.0s,baz=327,slow=13,SNR=15						
CTA				LR	LR	11 08 42.6	
	comp=Z,2μm,18.2s,MS4.5,baz=323,slow=40						
CTA	**Charters Tower**	**20.88**	**147**	*e*P	**P**	**10 59 31.4**	**+2.7**
CTA				pmax	pmax		
	comp=Z,47nm,1.0s						
CTAO	**Charters Tower**	**20.88**	**147**	*e*P	**P**	**10 59 31.5**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,89nm,1.0s						
CTAO	**Charters Tower**	**20.88**	**147**	*e*P	**P**	**10 59 31.5**	**+2.8**
	comp=Z,89nm,1.0s						
CVP	**Callao Caves**	**23.69**	**329**	*e*P	**P**	**11 00 00.1**	**+1.8**
KSM	**Kuching**	**24.29**	**280**	*e*P	**P**	**11 00 04.2**	**+0.5**
BJII	**Banjamegara**	**24.87**	**258**	P	**P**	**11 00 09.7**	**+0.7**
	comp=Z,149nm,1.9s,mb5.2						
JCJI	**Jatiwangi**	**26.16**	**261**	P	**P**	**11 00 23.9**	**+3.2**
	comp=Z,336nm,1.2s,mb5.8						
HNR	**Honiara**	**26.40**	**106**	P	**P**	**11 00 28.9**	**+6.0**
	comp=Z,34nm,0.9s,mb4.9,baz=260,slow=6.5,SNR=3.9						
HNR				LR	LR	11 11 24.4	
	comp=Z,121nm,18.5s,MS3.5,baz=360,slow=37						
LEM	**Lembang**	**26.85**	**260**	P	**P**	**11 00 28.9**	**+2.0**
	comp=Z,90nm,1.2s,mb5.2						
FORT	**Forrest**	**28.54**	**191**	*e*P	**P**	**11 00 42.8**	**+0.8**
	comp=Z,43nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**29.84**	**167**	*e*P	**P**	**11 00 53.8**	**+0.3**
	comp=Z,9.1nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**29.84**	**167**	P	**P**	**11 00 54.0**	**+0.4**
	comp=Z,14nm,1.0s,mb4.7,baz=342,slow=7.6,SNR=14						
STKA				LR	LR	11 14 15.5	
	comp=Z,554nm,21.3s,MS4.2,baz=341,slow=39						
JOW	**Kunigami**	**29.92**	**349**	LR	LR	11 11 13.1	
	comp=Z,701nm,20.6s,MS4.3,baz=142,slow=33						
ARMA	**Armidale**	**32.11**	**151**	*e*P	**P**	**11 01 15.2**	**+1.6**
QIZ	**Qiongzhong**	**32.29**	**313**	P	**P**	**11 01 18.9**	**+3.8**
QIZ				S	**S**	**11 06 30.5**	**+3.6**
QIZ				AMB	AMB		
	comp=Z,49nm,1.6s,mb5.1						
QIZ				LR	LR		
	comp=Z,492nm,34.6s,MS4.0						
KLBR	**Kellerberrin**	**32.68**	**207**	*e*P	**P**	**11 01 18.8**	**+0.2**
	comp=Z,69nm,1.2s,mb5.5						
PPI	**Padang Panjang**	**33.91**	**273**	P	**P**	**11 01 28.4**	**-0.9**
	comp=Z,73nm,1.1s,mb5.5						
NWAO	**Narrogin (SRO)**	**34.04**	**206**	P	**P**	**11 01 28.1**	**-2.4**
	comp=Z,32nm,1.0s,mb5.2,baz=27,slow=12,SNR=9.7						
NWAO				LR	LR	11 16 46.2	
	comp=Z,490nm,19.3s,MS4.2,baz=254,slow=39						
NWAO	**Narrogin (SRO)**	**34.04**	**206**	*e*P	**P**	**11 01 31.1**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,40nm,1.1s						
NWAO	**Narrogin (SRO)**	**34.04**	**206**	*e*P	**P**	**11 01 31.1**	**+0.6**
	comp=Z,40nm,1.1s,mb5.3						
PSI	**Prapat**	**35.73**	**279**	P	**P**	**11 01 43.6**	**-1.4**
	comp=Z,15nm,0.9s,mb4.9,baz=141,slow=3.8,SNR=7.8						
SSE	**Sheshan**	**35.84**	**341**	P	**P**	**11 01 47.9**	**+2.0**
SSE				S	**S**	**11 07 23.6**	**+1.8**
SSE				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.5						
SSE				LR	LR		
	comp=N,221nm,21.5s,MS3.9						
SSE				LR	LR		
	comp=E,84nm,21.7s,MS3.9						
SSE				LR	LR		
	comp=Z,287nm,20.9s,MS4.0						
SSE	**Sheshan**	**35.84**	**341**	P	**P**	**11 01 47.9**	**+2.0**
	comp=Z,36nm,0.6s,mb5.5						
SSE				S	**S**	**11 07 23.6**	**+1.8**
SSE				SS	SS	11 09 59.3	+0.9
WHN	**Wuhan**	**38.12**	**332**	⇓P	**P**	**11 02 08.4**	**+3.0**
MAT	**Matsushiro**	**39.21**	**5**	P	**P**	**11 02 12.0**	**-2.5**
MJAR	**Matsushiro Arr**	**39.21**	**5**	P	**P**	**11 02 13.1**	**-1.4**
	comp=Z,7.0nm,1.2s,mb4.3,baz=174,slow=9.6,SNR=5.2						
MJAR				LR	LR	11 15 51.4	
	comp=Z,254nm,20.5s,MS4.0,baz=200,slow=32						
GYA	**Guiyang**	**39.38**	**319**	P	**P**	**11 02 16.0**	**+0.1**
GYA				AP	pP	11 02 26.4	+2.0
GYA				XP	sP	11 02 30.6	+2.7
GYA				PP	PP	11 03 50.3	+3.8
GYA				PCP	PcP	11 04 27.6	+3.7
GYA				SCP	ScP	11 08 12.0	+1.6
GYA				S	**S**	**11 08 17.8**	**+2.3**
GYA				SS	SS	11 11 05.3	-4.6
GYA				SCS	ScS	11 12 22.8	+0.4
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
GYA				LR	LR		
	comp=N,540nm,17.9s,MS4.6						
GYA				LR	LR		
	comp=E,640nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,690nm,18.4s,MS4.5						
KSRS	**Korea Array**	**40.38**	**352**	P	**P**	**11 02 24.3**	**+0.1**
	comp=Z,10nm,1.1s,mb4.5,baz=170,slow=10,SNR=9.3						
KSRS				PcP	PcP	11 04 27.3	+0.3
	comp=Z,1.9nm,0.7s,baz=172,slow=2.8,SNR=5.0						
KSRS				LR	LR	11 18 52.0	
	comp=Z,210nm,18.1s,MS4.0,baz=174,slow=36						
CHTO	**Chiang Mai**	**40.78**	**303**	*e*P	**P**	**11 02 28.3**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
CHTO	**Chiang Mai**	**40.78**	**303**	*e*P	**P**	**11 02 28.3**	**+0.8**
	comp=Z,18nm,1.3s,mb4.5						
KMI	**Kunming**	**41.22**	**314**	P	**P**	**11 02 32.3**	**+1.2**
KMI				AP	pP	11 02 41.6	+2.0
KMI				XP	sP	11 02 45.4	+2.3
KMI				PP	PP	11 04 12.1	+5.6
KMI				PPP		11 04 37.4	
KMI				S	**S**	**11 08 44.4**	**+1.5**
KMI				SS	SS	11 11 47.6	+1.1
KMI				SSS		11 12 20.5	
KMI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,112nm,3.7s						
KMI				LR	LR		
	comp=N,218nm,21.9s,MS4.2						
KMI				LR	LR		
	comp=E,246nm,19.3s,MS4.2						
KMI				LR	LR		
	comp=Z,349nm,23.4s,MS4.2						
KMI	**Kunming**	**41.22**	**314**	P	**P**	**11 02 32.2**	**+1.1**
KMI				*PP	pP	11 02 41.6	+2.0
KMI				*SP	sP	11 02 45.4	+2.3
KMI						11 04 12.1	
KMI				PPP		11 04 37.4	
KMI				S	**S**	**11 08 44.4**	**+1.5**
KMI				SSS		11 12 20.5	
KMI				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
KMI	**Kunming**	**41.22**	**314**	P	**P**	**11 02 32.2**	**+1.1**
	comp=Z,18nm,1.2s,mb4.6						
KMI				pP	pP	11 02 41.6	+2.0
KMI				sP	sP	11 02 45.4	+2.3
KMI				PP	PP	11 04 12.1	+5.6
KMI				PPP		11 04 37.4	
KMI				S	**S**	**11 08 44.4**	**+1.5**
KMI				SS	SS	11 11 47.6	+1.1
KMI				SSS		11 12 20.5	
XAN	**Xi'an**	**43.64**	**329**	P	**P**	**11 02 49.9**	**-0.9**
XAN				AMB	AMB		
	comp=Z,32nm,1.2s,mb4.9						
CD2	**Chengdu**	**44.28**	**321**	P	**P**	**11 02 55.4**	**-0.6**
CD2				AP	pP	11 03 05.4	+0.8
CD2				XP	sP	11 03 09.5	+1.5
CD2				PP	PP	11 04 39.5	+0.1
CD2				S	**S**	**11 09 23.8**	**-4.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,200nm,5.9s						
CD2				LR	LR		
	comp=N,410nm,6.0s						
CD2				LR	LR		
	comp=E,300nm,5.3s						
CD2				LR	LR		
	comp=Z,320nm,6.3s						
BJT	**Baijiatuau**	**45.63**	**341**	*e*P	**P**	**11 03 06.1**	**-0.6**
BJT				pmax	pmax		
	comp=Z,77nm,0.8s						
BJT	**Baijiatuau**	**45.63**	**341**	*e*P	**P**	**11 03 06.1**	**-0.6**
	comp=Z,77nm,0.8s,mb5.7						
BJI	**Beijing**	**45.65**	**341**	P	**P**	**11 03 06.3**	**-0.5**
BJI				S	**S**	**11 09 46.8**	**-1.0**
BJI				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.2						
BJI				AMB	AMB		
	comp=Z,366nm,3.7s						
BJI				LR	LR		
	comp=N,147nm,32.5s						
BJI				LR	LR		
	comp=E,342nm,24.4s						
BJI				LR	LR		
	comp=Z,359nm,25.6s						
BJI	**Beijing**	**45.65**	**341**	P	**P**	**11 03 06.3**	**-0.5**
	comp=Z,28nm,0.9s,mb5.2						
BJI				S	**S**	**11 09 46.8**	**-1.0**
BJI				SS	SS	11 13 16.2	+4.1
CN2	**Changchun**	**46.96**	**351**	*e*P	**P**	**11 03 16.3**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ASAJ	**Asahikawa**	**47.20**	**8**	P	**P**	**11 03 18.9**	**-0.2**
	comp=Z,14nm,0.8s,mb4.9,baz=195,slow=31,SNR=5.6						
MDJ	**Mudanjiang**	**47.29**	**355**	P	**P**	**11 03 19.9**	**+0.2**
MDJ				AP	pP	11 03 28.8	+0.5
MDJ				XP	sP	11 03 32.6	+0.8
MDJ				PP	PP	11 05 10.3	-0.6
MDJ				SCP	ScP	11 08 42.4	0.0
MDJ				PCS	PcS	11 08 46.5	+0.8
MDJ				S	**S**	**11 10 10.4**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,74nm,3.8s						
MDJ				LR	LR		
	comp=N,120nm,31.3s						
MDJ				LR	LR		
	comp=E,67nm,22.8s						
MDJ				LR	LR		
	comp=Z,127nm,33.2s,MS3.7						
MDJ	**Mudanjiang**	**47.29**	**355**	*e*P	**P**	**11 03 19.6**	**-0.1**
	comp=Z,34nm,1.0s,mb5.2						
LZH	**Lanzhou**	**47.90**	**326**	*e*P	**P**	**11 03 24.6**	**+0.1**
LZH				AP	pP	11 03 34.0	+0.9
LZH				XP	sP	11 03 37.9	+1.4
LZH				PP	PP	11 05 16.0	-0.5
LZH				*e*S	**S**	**11 10 18.0**	**-2.0**
LZH				*e*SS	SS	11 13 43.0	-5.8
LZH				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.7						
LZH				AMB	AMB		
	comp=Z,280nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,14.9s						
LZH				LR	LR		
	comp=Z,2μm,16.6s,MS5.2						
LZH	**Lanzhou**	**47.90**	**326**	*e*P	**P**	**11 03 24.6**	**+0.1**
LZH				*PP	pP	11 03 34.0	+0.9
LZH				*SP	sP	11 03 37.9	+1.4
LZH						11 05 16.0	
LZH				*e*S	**S**	**11 10 18.0**	**-2.0**
LZH				*SS	sS	11 10 36.0	+1.8
LZH				*e*SS	SS	11 13 43.0	-5.8
LZH				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.7						
LZH	**Lanzhou**	**47.90**	**326**	*e*P	**P**	**11 03 24.6**	**+0.1**
	comp=Z,90nm,1.2s,mb5.7						
LZH				pP	pP	11 03 34.0	+0.9
LZH				sP	sP	11 03 37.9	+1.4
LZH				PP	PP	11 05 16.0	-0.5
LZH				*e*S	**S**	**11 10 18.0**	**-2.0**
LZH				sS	sS	11 10 36.0	+1.8
LZH				*e*SS	SS	11 13 43.0	-5.8
HHC	**Hu-ho-hao-te**	**48.03**	**337**	*e*P	**P**	**11 03 28.8**	**+3.3**
HHC				AP	pP	11 03 38.3	+4.1
HHC				XP	sP	11 03 42.3	+4.7
HHC				AMB	AMB		
	comp=Z,35nm,0.9s,mb5.4						
HHC				AMB	AMB		
	comp=Z,182nm,4.2s						
HHC				LR	LR		
	comp=N,220nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=E,331nm,14.9s,MS4.5						
HHC				LR	LR		
	comp=Z,311nm,17.3s,MS4.3						
SHL	**Shillong**	**49.72**	**307**	*e*P	**P**	**11 03 37.5**	**-0.9**
YSS	**Yuzh-Sakhalins**	**50.01**	**8**	*e*P	**P**	**11 03 39.1**	**-1.5**
YSS				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
HABR	**Khabarovsk**	**50.97**	**1**	*e*P	**P**	**11 03 45.7**	**-2.2**
HABR				*e*S	**S**	**11 10 57.3**	**-5.6**
KLR	**Kul'dur**	**51.77**	**358**	*e*P	**P**	**11 03 50.7**	**-3.1**
KLR				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.3						
LSA	**Lhasa**	**52.30**	**311**	P	**P**	**11 04 01.0**	**+3.2**
LSA	**Lhasa**	**52.30**	**311**	*e*P	**P**	**11 03 57.3**	**-0.5**
LSA				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
LSA	**Lhasa**	**52.30**	**311**	*e*P	**P**	**11 03 57.3**	**-0.5**
	comp=Z,22nm,1.1s,mb5.0						
GTA	**Gaotai**	**52.51**	**326**	P	**P**	**11 03 59.9**	**+0.6**
GTA				AP	pP	11 04 10.9	+2.8
GTA				XP	sP	11 04 13.4	+1.9
GTA				PCP	PcP	11 05 09.6	0.0
GTA				PP	PP	11 06 01.0	+2.7
GTA				S	**S**	**11 11 24.6**	**+0.5**
GTA				XS	sS	11 11 41.3	+2.8
GTA				SS	SS	11 15 02.8	+0.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
GTA				AMB	AMB		
	comp=Z,176nm,6.9s						
GTA				LR	LR		
	comp=N,246nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=E,265nm,17.5s,MS4.5						
GTA				LR	LR		
	comp=Z,266nm,17.9s,MS4.3						
JIRN	**Jiri**	**55.21**	**307**	*e*P	**P**	**11 04 18.7**	**-0.4**
	comp=Z,11nm,0.7s,mb5.0						
PKI	**Pulchoki**	**55.80**	**306**	*e*P	**P**	**11 04 23.5**	**+0.1**
SONM	**Songino Array**	**55.91**	**338**	P	**P**	**11 04 24.3**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.4,baz=152,slow=7.3,SNR=17						
SONM				LR	LR	11 27 48.5	
	comp=Z,280nm,19.6s,MS4.4,baz=3.7,slow=36						
KKN	**Kakani**	**55.99**	**306**	*e*P	**P**	**11 04 24.8**	**0.0**
DMN	**Daman**	**56.06**	**306**	*e*P	**P**	**11 04 25.2**	**0.0**
	comp=Z,37nm,1.0s,mb5.3						
GKN	**Gorkha**	**56.60**	**306**	*e*P	**P**	**11 04 28.5**	**-0.6**
	comp=Z,41nm,1.1s,mb5.4						
CIT	**Chita**	**57.27**	**345**	*e*P	**P**	**11 04 34.2**	**+0.4**
CIT				*e*		11 04 51.0	
CIT				pmax	pmax		
	comp=Z,72nm,2.8s,mb5.2						
KOLN	**Koldanda**	**57.35**	**306**	*e*P	**P**	**11 04 34.3**	**-0.1**
	comp=Z,57nm,1.1s,mb5.5						
HYB	**Hyderabad**	**58.43**	**292**	*i* P	**P**	**11 04 43.0**	**+1.0**
HYB	**Hyderabad**	**58.43**	**292**	*e*P	**P**	**11 04 43.0**	**+1.0**
ZAK	**Zakamensk**	**59.17**	**337**	*e*P	**P**	**11 04 47.2**	**+0.1**
ZAK				*e*		11 05 38.7	
CLNS	**Chul'man**	**59.83**	**354**	*e*P	**P**	**11 04 50.9**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,18nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
TLY	**Talaya**	**60.09**	**339**	*e*P	**P**	**11 04 56.7**	**+3.3**
TLY				pmax	pmax		
	comp=Z,18nm,1.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,222nm,19.0s,MS4.3						
MOY	**Mondy**	**61.08**	**337**	*e*P	**P**	**11 05 01.0**	**+0.8**
MOY				pmax	pmax		
	comp=Z,62nm,2.4s,mb5.3						
WMQ	**Urumqi**	**62.29**	**324**	P	**P**	**11 05 08.9**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,44nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,319nm,3.6s						
WMQ				LR	LR		
	comp=N,192nm,23.0s,MS4.3						
WMQ				LR	LR		
	comp=E,131nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,102nm,20.0s,MS4.0						
BOD	**Bodaibo**	**62.48**	**348**	*e*P	**P**	**11 05 08.7**	**-0.9**
BOD				pmax	pmax		
	comp=Z,18nm,1.6s,mb5.0						
YAK	**Yakutsk**	**64.65**	**358**	*e*P	**P**	**11 05 24.2**	**+0.3**
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,22nm,1.3s						
YAK	**Yakutsk**	**64.65**	**358**	*e*P	**P**	**11 05 24.0**	**+0.1**
	comp=N,36nm,0.7s,mb5.5						
MK31	**Makanchi Array**	**67.11**	**324**	*e*P	**P**	**11 05 39.4**	**-0.4**
MKAR	**Makanchi Array**	**67.11**	**324**	P	**P**	**11 05 39.5**	**-0.3**
	comp=N,21nm,0.9s,mb5.2,baz=112,slow=7.9,SNR=52						
MKAR				LR	LR	11 35 21.2	
	comp=N,181nm,18.6s,MS4.3,baz=271,slow=36						
KSH	**Kashi**	**67.87**	**315**	P	**P**	**11 05 49.5**	**+4.9**
KSH				AP	pP	11 05 59.8	+6.2
KSH				XP	sP	11 06 03.3	+6.4
KSH				PP	PP	11 08 21.1	+6.7
KSH				PPP		11 09 58.4	
KSH				SCP		11 10 14.3	
KSH				PCS		11 10 18.3	
KSH				S	S	11 14 44.8	+3.6
KSH				XS	sS	11 15 01.6	+5.6
KSH				SCS	ScS	11 15 41.0	-0.4
KSH				SS	SS	11 19 08.3	+5.2
KSH				AMB	AMB		
	comp=Z,124nm,1.0s,mb5.9						
KSH				AMB	AMB		
	comp=Z,378nm,4.6s						
KZA	**Kyzart**	**69.40**	**317**	P	**P**	**11 05 55.8**	**+1.6**
	SNR=26						
TKM2	**Tokmak 2**	**69.51**	**318**	P	**P**	**11 05 55.5**	**+0.6**
	SNR=8.1						
ZAL	**Zalesovo**	**69.74**	**331**	P	**P**	**11 05 55.4**	**-0.8**
	comp=Z,7.2nm,1.0s,mb4.5,baz=354,slow=5.2,SNR=13						
ZAL				LR	LR	11 36 09.3	
	comp=Z,157nm,19.2s,MS4.3,baz=270,slow=36						
UCH	**Uchtor**	**69.97**	**317**	P	**P**	**11 05 58.7**	**+1.1**
	SNR=21						
AAK	**Ala-Archa**	**70.14**	**317**	P	**P**	**11 05 58.2**	**-0.5**
	comp=Z,59nm,1.2s,mb5.4,SNR=6.6						
AAK	**Ala-Archa**	**70.14**	**317**	*e*P	**P**	**11 05 58.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**70.14**	**317**	*e*P	**P**	**11 05 58.9**	**+0.2**
	comp=Z,11nm,1.0s,mb4.8						
USP	**Ospenovka**	**70.39**	**318**	P	**P**	**11 06 00.6**	**+0.4**

comp=Z,38nm,1.1s,mb5.2
BILL Bilibino 74.02 12 *e*P **P 11 06 21.4 -0.5**
BILL pmax pmax
comp=Z,19nm,2.8s,mb4.5
TIXI Tiksi 74.30 358 *e*P **P 11 06 22.2 -1.3**
TIXI pmax pmax
comp=Z,17nm,1.2s,mb4.8
TIXI Tiksi 74.30 358 *e*P **P 11 06 22.2 -1.3**
comp=Z,17nm,1.2s,mb4.8
VNDA Vanda 76.22 174 P **P 11 06 34.6 +0.1**
comp=Z,5.0nm,1.0s,mb4.4,baz=332,slow=4.0,SNR=8.2
VNDA LR LR 11 39 38.5
comp=Z,226nm,18.7s,MS4.5,baz=354,slow=35
VNDA Vanda 76.22 174 *e*P **P 11 06 35.0 +0.4**
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA Vanda 76.22 174 *e*P **P 11 06 35.0 +0.4**
comp=Z,14nm,1.4s,mb4.7
BVA0 Borovoye Array 76.79 326 *i*P **P 11 06 36.4 -1.4**
BVA0 pmax pmax
comp=Z,27nm,1.4s,mb5.0
BRVK Borovoye 76.86 326 P **P 11 06 38.4 +0.2**
comp=Z,228nm,1.0s,mb6.1,SNR=22
BRVK Borovoye 76.86 326 *e*P **P 11 06 38.2 0.0**
BRVK pmax pmax
comp=Z,46nm,1.1s,mb5.3
BRVK Borovoye 76.86 326 *e*P **P 11 06 38.2 0.0**
comp=Z,46nm,1.1s,mb5.3
MAW Mawson 80.48 202 *e*P **P 11 06 58.8 +0.7**
comp=Z,12nm,1.2s,mb4.7
MAW Mawson 80.48 202 P **P 11 06 58.3 +0.2**
comp=Z,14nm,1.1s,mb4.8,baz=63,slow=7.8,SNR=8.1
MAW LR LR 11 41 18.2
comp=Z,116nm,18.4s,MS4.3,baz=67,slow=35
MAW Mawson 80.48 202 *e*P **P 11 06 58.8 +0.7**
MAW pmax pmax
comp=Z,12nm,1.2s
AB31 Akbulak array 81.85 320 *i*P **P 11 07 04.6 -0.8**
AB31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TTA Tatalina 83.30 26 *e*P **P 11 07 14.3 +1.4**
TTA pmax pmax
comp=Z,70nm,1.7s,mb5.4
TTA Tatalina 83.30 26 *e*P **P 11 07 14.3 +1.3**
comp=Z,70nm,1.7s,mb5.4
ARU Arti 84.36 327 P **P 11 07 17.4 -1.0**
comp=Z,335nm,0.8s,SNR=14
ARU Arti 84.36 327 *e*P **P 11 07 17.8 -0.6**
ARU *e* 11 10 30.1
ARU *e*PPP 11 12 24.6
ARU *e*S S 11 17 36.6 -5.8
ARU Arti 84.36 327 *e*P **P 11 07 17.6 -0.7**
comp=Z,43nm,0.8s,mb5.6
IMA2 Indian Mountai 85.25 23 *e*P **P 11 07 24.1 +1.2**
ORR Orenburg 85.59 322 P **P 11 07 24.0 -0.5**
ORR pmax pmax
comp=Z,50nm,1.0s,mb5.7
COLA College 87.30 25 *e*P **P 11 07 32.9 0.0**
SYO Syowa Base 89.17 201⇑ *e*PcP PcP 11 07 44.2 +0.9
DAWY Dawson 90.81 26 *e*P **P 11 07 50.1 +0.7**
DAWY *e*pP pP 11 08 00.1 +1.4
KIV Kislovodsk 92.98 314 *e*P **P 11 08 00.6 +1.1**
KIV pmax pmax
comp=Z,17nm,1.4s,mb5.3
INK Inuvik 93.32 22 *e*P **P 11 08 00.1 -1.0**
comp=Z,499nm,1.4s
KLMR Klimovskoe 94.65 331 *e*P **P 11 08 04.3 -2.9**
KLMR pmax pmax
comp=Z,58nm,1.9s,mb5.7
OBN Obninsk 96.60 325⇑ *e*P **P 11 08 13.8 -2.3**
OBN 11 12 04.0
OBN *e* 11 20 53.2
OBN pmax pmax
comp=Z,15nm,0.9s,mb5.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.7
KMBO Kilima Mbogo 96.94 269 LR LR 11 50 18.7
comp=Z,64nm,18.4s,MS4.1,baz=89,slow=34
ARCES ARCESS Array B 99.01 340 P **P 11 08 25.1 -1.8**
comp=Z,5.8nm,0.9s,mb5.1,baz=81,slow=7.5,SNR=6.1
FINES FINESS Array B 101.00 332 P Pdif 11 08 34.2 -1.5
comp=Z,5.7nm,1.0s,baz=111,slow=10,SNR=4.8
AKASG Malin Array Be 101.58 321 P Pdif 11 08 36.4 -2.0
comp=Z,0.4nm,0.5s,baz=68,slow=3.8,SNR=4.4
YKA Yellowknife Ar 102.05 26 P Pdif 11 08 40.7 +0.3
comp=Z,0.2nm,0.5s,baz=292,slow=4.5,SNR=6.5
YKA Yellowknife Ar 102.05 26 P Pdif 11 08 40.7 +0.3
NVAR Mina Array Bea 105.32 51 Pdiff Pdif 11 08 58.1 +3.2
comp=Z,0.3nm,0.6s,baz=253,slow=10,SNR=3.0
RSSD Black Hills 114.25 42 *e*PKIKP PKiKP 11 13 27.0 +1.4
ANMO Albuquerque 115.35 52 *i*PKIKP PKPdf 11 13 30.7 +3.0
ULM Lac du Bonnet 116.55 33 PKP PKPdf 11 13 30.0 0.0
comp=Z,1.4nm,0.5s,baz=234,slow=0.4,SNR=6.0
ULM Lac du Bonnet 116.55 33 PKP PKPdf 11 13 30.0 0.0
MNTX Cornudas Mount 117.06 56 *e*PKPdf PKPdf 11 13 33.2 +2.1
TXAR Lajitas Array 119.08 58 PKP PKPdf 11 13 36.8 +1.9
comp=Z,1.1nm,0.7s,baz=171,slow=2.5,SNR=12
JCT Junction City 122.00 55 *e*PKIKP PKPdf 11 13 42.5 +2.0
SCHQ Schefferville 125.27 15 PKP PKPdf 11 13 47.5 +0.7
comp=Z,2.6nm,0.8s,baz=327,slow=9.5,SNR=3.9
BLO Bloomington 128.13 40 *e*PKIKP PKPdf 11 13 54.4 +2.1
WVT Waverly 128.88 44 *e*PKIKP PKPdf 11 13 54.8 +1.1
TOA0 Torodi Ar. Sit 131.96 285 *e*PKPdf PKPdf 11 14 00.6 +1.0
TORD Torodi Ar. Bea 131.96 285 PKP PKPdf 11 14 00.5 +0.9
comp=Z,2.8nm,0.7s,baz=60,slow=1.8,SNR=11
TORD Torodi Ar. Bea 131.96 285 PKP PKPdf 11 14 00.5 +0.9
OTAV Otavalo 147.22 94 *e*PKPbc PKPbc 11 14 31.9 +2.5
OTAV *e*PKPab PKPab 11 14 34.0 +2.9
ARE Arequipa 148.23 128 *e*PKP2 PKPab 11 14 36.0 +0.8
LPAZ La Paz 150.93 131 PKPbc PKPbc 11 14 42.1 +3.4
comp=Z,9.8nm,0.9s,baz=343,slow=0.5,SNR=8.2
LPAZ La Paz 150.93 131 *e*PKPdf PKPdf 11 14 37.2 +4.2
LPAZ *e*PKPbc PKPbc 11 14 43.1 +4.3
ROSC El Rosal 151.40 85 PKPbc PKPbc 11 14 43.7 +3.8
comp=Z,17nm,0.6s,baz=94,slow=22,SNR=11
ROSC El Rosal 151.40 85 *e*PKPbc PKPbc 11 14 43.3 +3.4
SDV Santo Domingo 154.50 75 *e*PKPdf PKPdf 11 14 41.1 +2.8

*NEIC **23** 11:01:23.9, 3145S×6893W, h150km, MG3.9(GUC), After GUC.*

GUC 23 11:01:23.9±0.5, 3145S×6893W, h150km, MD3.8, ML3.9, 9C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.43**	**177**⇑	*i*P	Pn	11 01 51.3	-1.4
MDZ				*e*		11 02 09.3	
MDZ				*i*S	Sn	11 03 18.3	+64
CMCH	**Combarbala**	**1.79**	**278**⇑	*i*P	Pn	11 01 57.4	+0.7
CMCH				*e*S	Sn	11 02 23.0	+1.3
CMCH				AML	AML	11 02 25.6	
	comp=E,2μm,0.6s						
CMCH	**Combarbala**	**1.79**	**278**⇑	*i*P	Pn	11 01 57.4	+0.7
CMCH				*e*S	Sn	11 02 23.0	+1.3
JACH	**Jahuel**	**1.87**	**229**	*e*P	Pn	11 01 58.2	+0.7
JACH				*i*S	Sn	11 02 24.6	+1.3
PTCH	**Petorca**	**1.88**	**244**⇑	*i*P	Pn	11 01 58.1	+0.4
PTCH				*i*S	Sn	11 02 24.1	+0.5
PTCH				AML	AML	11 02 26.6	
	comp=N,2μm,0.3s						
PTCH	**Petorca**	**1.88**	**244**⇑	*i*P	Pn	11 01 58.1	+0.4
PTCH				*i*S	Sn	11 02 24.1	+0.5
TLL	**Tololo Astrono**	**2.06**	**308**	*e*P	Pn	11 02 01.0	+1.3
TLL				*i*S	Sn	11 02 28.8	+1.6
TLL				AML	AML	11 02 32.6	
	comp=E,288nm,0.3s						
TLL	**Tololo Astrono**	**2.06**	**308**	*e*P	Pn	11 02 01.0	+1.3
TLL				*i*S	Sn	11 02 28.8	+1.6
OVCH	**Ovalle**	**2.12**	**293**	*e*P	Pn	11 02 01.1	+0.6
OVCH				*i*S	Sn	11 02 28.6	+0.1
FCH	**Farellones**	**2.20**	**211**⇑	*i*P	Pn	11 02 02.6	+1.3
FCH				*i*S	Sn	11 02 31.8	+1.8
FCH				AML	AML	11 02 41.7	
	comp=E,234nm,0.3s						
PEL	**Peldehue**	**2.25**	**221**⇑	*i*P	Pn	11 02 02.6	+0.7
PEL				*i*S	Sn	11 02 31.8	+0.6
PEL				AML	AML	11 02 35.5	
	comp=E,797nm,0.4s						
ROCH	**El Roble**	**2.33**	**229**	*e*P	Pn	11 02 03.9	+1.1
CLCH	**Cerro Calan**	**2.37**	**215**	*e*P	Pn	11 02 04.2	+0.9
CLCH				*i*S	Sn	11 02 34.6	+0.9
CLCH				AML	AML	11 02 38.3	
	comp=E,684nm,0.6s						
LSCH	**La Serena**	**2.52**	**307**	*e*P	Pn	11 02 05.9	+0.7
LSCH				*i*S	Sn	11 02 36.8	-0.2
LSCH				AML	AML	11 02 38.3	
	comp=E,104nm,0.2s						
LSCH	**La Serena**	**2.52**	**307**	*e*P	Pn	11 02 05.9	+0.7
LSCH				*i*S	Sn	11 02 36.8	-0.2
PCH	**Pirque**	**2.54**	**211**	*e*P	Pn	11 02 06.4	+0.9
RCDM	**Rinconada Maip**	**2.58**	**217**	*e*P	Pn	11 02 06.7	+0.7
RCDM				*i*S	Sn	11 02 39.3	+0.9
RCDM				AML	AML	11 02 41.5	
	comp=E,530nm,0.2s						
RCDM	**Rinconada Maip**	**2.58**	**217**	*e*P	Pn	11 02 06.7	+0.7
RCDM				*i*S	Sn	11 02 39.3	+0.9
TACH	**Talagante**	**2.77**	**217**	*e*P	Pn	11 02 08.6	+0.2
TACH				*i*S	Sn	11 02 43.1	+0.4
CHCH	**Chadas Angostu**	**2.87**	**210**⇓	*i*P	Pn	11 02 10.2	+0.7
CHCH				*e*S	Sn	11 02 45.5	+0.6
LCO	**Las Campanas**	**2.88**	**327**	*e*Pn	Pn	11 02 10.4	+0.8
CACH	**El Canelo**	**3.01**	**207**	*e*P	Pn	11 02 12.7	+1.4
LCCH	**Las Cruces**	**3.01**	**227**	*e*P	Pn	11 02 11.7	+0.4
CICH	**Cipreses**	**3.12**	**203**⇑	*i*P	Pn	11 02 13.7	+0.9
VACH	**Vallenar**	**3.28**	**331**⇑	*i*P	Pn	11 02 15.3	+0.6
VACH				*i*S	Sn	11 02 53.0	-1.2
SFDO	**San Fernando**	**3.61**	**208**⇓	*i*P	Pn	11 02 18.8	-0.2

CASC 23 11:05:49.5±2.1, 1377N×9064W, h56km±37km, MD3.6, 5C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.62**	**3**⇓	*e*P	Pn	11 06 02.1	-0.4
PCG				*e*S	Sn	11 06 13.8	+1.9
FUG	**Fuego 3**	**0.70**	**344**⇑	*e*P	Pn	11 06 03.0	-0.5
RTR	**El Retiro**	**0.98**	**83**⇑	*e*P	x	11 06 08.4	
RTR				*e*S	x	11 06 21.3	
RBDL	**Robledal**	**0.99**	**70**⇑	*e*P	x	11 06 09.4	
SBLS	**San Blas**	**0.99**	**86**⇑	*e*P	x	11 06 08.3	
SBLS				*e*S	x	11 06 21.4	
SNJE	**San Jose**	**1.01**	**85**⇑	*e*P	x	11 06 08.7	
JAT	**Jato**	**1.11**	**299**⇓	*e*P	Pn	11 06 08.2	-0.6
JAT				*e*S	Sn	11 06 23.7	+0.6
BOQS	**Boqueron**	**1.32**	**92**	*e*P	x	11 06 12.3	
BOQS				*e*S	x	11 06 28.9	
LFRS	**El Faro**	**1.54**	**95**	*e*P	x	11 06 15.4	
LFRS				*e*S	x	11 06 33.3	
LCBS	**La Ceiba**	**1.62**	**94**	*e*P	x	11 06 16.6	
LCBS				*e*S	x	11 06 35.5	

*ISCJB **23** 11:53:02.6±0.3, 4590N±002×281E±003, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=51.6*
*LDG **23** 11:53:04.4±0.0, 4591N×280E, h2km, Md2.6/3, Ml2.5/19, Error ellipse: s-maj=0.8km s-min=0.6km az=112.0*
*CSEM **23** 11:53:04.4±0.0, 4592N×280E, h2km, ML2.5/18, Error ellipse: s-maj=0.8km s-min=0.5km az=112.0*
*NEIC **23** 11:53:04.4, 4591N×280E, h2km, ML2.5(LDG), ML2.6(STR), After LDG.*
*STR **23** 11:53:04.0±0.2, 4591N×279E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 23 11:53:03.5±0.3, 4591N±001×280E±002, h12km±3km, n53, σ0878/115, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	**0.22**	**138**	Pg	**Pg**	**11 53 08.6**	**+0.5**
AGO	**Saint Agoulin**	**0.27**	**59**	Pg	**Pg**	**11 53 09.9**	**+0.9**
AGO				Sg	**Sg**	**11 53 13.7**	**+1.0**
VERF	**Verneugheol**	**0.28**	**234**	Pg	**Pg**	**11 53 09.6**	**+0.5**
VERF				Sg	**Sg**	**11 53 13.2**	**+0.3**
TCF	**Toulx Ste Croi**	**0.56**	**313**	*e*Pg	**Pg**	**11 53 15.0**	**+0.7**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**11 53 22.2**	**+0.5**
	8.9nm,0.2s						
TCF	**Toulx Ste Croi**	**0.56**	**313**	*e*Pg	**Pg**	**11 53 15.0**	**+0.7**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**11 53 22.2**	**+0.5**
	4.4nm,0.2s						
BGF	**Bois d'Agland**	**0.65**	**3**	*e*Pn	**Pn**	**11 53 18.9**	**+0.4**
BGF				*e*Sg	**Sg**	**11 53 24.9**	**+0.4**
	26nm,0.2s,SNR=1.0						
BGF				*e*Sn	**Sg**	**11 53 29.2**	**+4.7**
	30nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**0.65**	**3**	*e*Pg	**Pg**	**11 53 16.9**	**+0.9**
BGF				*e*Pn	**Pn**	**11 53 18.9**	**+0.4**
BGF				*e*Sg	**Sg**	**11 53 24.9**	**+0.4**
BGF				*e*Sn	**Sg**	**11 53 29.2**	**+4.7**
BGF	**Bois d'Agland**	**0.65**	**3**	*e*Pn	**Pn**	**11 53 18.9**	**+0.4**
BGF				*e*Sg	**Sg**	**11 53 24.9**	**+0.4**
	13nm,0.2s,SNR=1.0						
BGF				*e*Sn	**Sg**	**11 53 29.2**	**+4.7**
	15nm,0.3s,SNR=1.0						
COLF	**Collangettes**	**0.74**	**122**	Pg	**Pg**	**11 53 19.0**	**+1.2**
LBL	**Lubilhac**	**0.75**	**155**	Pg	**Pg**	**11 53 18.5**	**+0.5**
AVF	**Avril sur Loir**	**0.96**	**23**	*e*Pg	**Pg**	**11 53 22.5**	**+0.6**
AVF				*e*Sg	**Sg**	**11 53 34.5**	**+0.1**
	27nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**0.96**	**23**	*e*Pg	**Pg**	**11 53 22.5**	**+0.6**
AVF				*e*Sg	**Sg**	**11 53 34.5**	**+0.1**
	14nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**1.03**	**44**	*e*Pg	**Pg**	**11 53 23.8**	**+0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**11 53 36.7**	**0.0**
SMF				*e*Sn	**Sn**	**11 53 38.5**	**+0.4**
	8.8nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**1.03**	**44**	*e*Pg	**Pg**	**11 53 23.8**	**+0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**11 53 36.7**	**0.0**
SMF				*e*Sn	**Sn**	**11 53 38.5**	**+0.4**
	4.4nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.09**	**236**	*e*Pn	**Pn**	**11 53 25.0**	**+0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**11 53 38.4**	**-0.2**
	13nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.09**	**236**	*e*Pn	**Pn**	**11 53 25.0**	**+0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**11 53 38.4**	**-0.2**
	6.6nm,0.2s,SNR=1.0						
CAF	**Calviac**	**1.12**	**208**	*e*Pn	**Pn**	**11 53 25.5**	**+0.5**
CAF				*e*Sg	**Sg**	**11 53 40.0**	**+0.5**
	12nm,0.2s,SNR=1.0						
CAF	**Calviac**	**1.12**	**208**	*e*Pg	**Pg**	**11 53 25.0**	**0.0**
CAF				*e*Pn	**Pn**	**11 53 25.5**	**+0.5**
CAF				*e*Sg	**Sg**	**11 53 40.0**	**+0.5**
CAF	**Calviac**	**1.12**	**208**	*e*Pn	**Pn**	**11 53 25.5**	**+0.5**
CAF				*e*Sg	**Sg**	**11 53 40.0**	**+0.5**
	6.2nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**1.25**	**23**	*e*Pg	**Pg**	**11 53 27.9**	**+0.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**11 53 43.8**	**+0.1**
	16nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**1.25**	**23**	*e*Pg	**Pg**	**11 53 27.9**	**+0.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**11 53 43.8**	**+0.1**
	7.8nm,0.2s,SNR=1.0						
HYF	**Humbligny**	**1.36**	**355**	*e*P	**Pn**	**11 53 30.5**	**+2.2**
HYF				*e*Sg	**Sg**	**11 53 47.2**	**-0.1**
LOR	**Lormes**	**1.54**	**28**	*e*Pg	**Pg**	**11 53 33.3**	**+0.3**
	baz=214,SNR=1.0						
LOR				*e*Sn	**Sn**	**11 53 50.7**	**0.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**11 53 52.9**	**-0.1**
	10nm,0.2s,baz=203,SNR=1.0						
LOR	**Lormes**	**1.54**	**28**	*e*Pn	**Pn**	**11 53 31.3**	**+0.5**
LOR				*e*Pg	**Pg**	**11 53 33.3**	**+0.3**
LOR				*e*Sn	**Sn**	**11 53 50.7**	**0.0**
LOR				*e*Sg	**Sg**	**11 53 52.9**	**-0.1**
LOR	**Lormes**	**1.54**	**28**	*e*Pg	**Pg**	**11 53 33.3**	**+0.3**
	baz=214,SNR=1.0						
LOR				*e*Sn	**Sn**	**11 53 50.7**	**0.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**11 53 52.9**	**-0.1**
	5.2nm,0.2s,baz=203,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.69**	**128**	*e*Pg	**Pg**	**11 53 36.1**	**+0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**11 53 54.4**	**-0.1**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**11 53 57.6**	**-0.3**
	6.6nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.69**	**128**	*e*Pn	**Pn**	**11 53 33.4**	**+0.5**
VIVF				*e*Pg	**Pg**	**11 53 36.1**	**+0.2**
VIVF				*e*Sn	**Sn**	**11 53 54.4**	**-0.1**
VIVF				*e*Sg	**Sg**	**11 53 57.6**	**-0.3**
VIVF	**Saint-Julien-l**	**1.69**	**128**	*e*Pg	**Pg**	**11 53 36.1**	**+0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**11 53 54.4**	**-0.1**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**11 53 57.6**	**-0.3**
	3.3nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.75**	**237**	*e*Pg	**Pg**	**11 53 37.0**	**0.0**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**11 54 00.0**	**+0.3**
	12nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**1.75**	**237**	*e*Pn	**Pn**	**11 53 34.1**	**+0.4**
LFF				*e*Pg	**Pg**	**11 53 37.0**	**0.0**
LFF				*e*Sg	**Sg**	**11 54 00.0**	**+0.3**
LFF	**La Frestale**	**1.75**	**237**	*e*Pg	**Pg**	**11 53 37.0**	**0.0**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**11 54 00.0**	**+0.3**
	5.8nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**1.98**	**157**	*e*Pg	**Pg**	**11 53 41.1**	**-0.5**
LASF				*e*Sg	**Sg**	**11 54 06.2**	**-1.1**
	3.5nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**1.98**	**157**	*e*Pn	**Pn**	**11 53 37.4**	**+0.5**
LASF				*e*Pg	**Pg**	**11 53 41.1**	**-0.5**
LASF				*e*Sg	**Sg**	**11 54 06.2**	**-1.1**
LASF	**Ste Croix**	**1.98**	**157**	*e*Pg	**Pg**	**11 53 41.1**	**-0.5**
LASF				*e*Sg	**Sg**	**11 54 06.2**	**-1.1**
	1.8nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**2.16**	**290**	*e*Pn	**Pn**	**11 53 40.1**	**+0.8**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**11 54 05.2**	**-0.8**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**11 54 12.0**	**-0.8**
	4.0nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**2.16**	**290**	*e*Pn	**Pn**	**11 53 40.1**	**+0.8**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**11 54 05.2**	**-0.8**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**11 54 12.0**	**-0.8**
	2.0nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.38**	**72**	*e*Sg	**Sg**	**11 54 19.7**	**-0.4**
	2.0nm,0.3s						
CABF	**La Chapelle**	**2.38**	**72**	*e*Sg	**Sg**	**11 54 19.7**	**-0.4**
	1.0nm,0.3s						
MTLF	**Montolieu**	**2.61**	**189**	*e*Pg	**Pg**	**11 53 53.0**	**-0.4**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**11 54 26.8**	**-0.4**
	4.5nm,0.6s,SNR=1.0						
MTLF	**Montolieu**	**2.61**	**189**	*e*Pn	**Pn**	**11 53 45.8**	**+0.3**
MTLF				*e*Pg	**Pg**	**11 53 53.0**	**-0.4**
MTLF				*e*Sg	**Sg**	**11 54 26.8**	**-0.4**
MTLF	**Montolieu**	**2.61**	**189**	*e*Pg	**Pg**	**11 53 53.0**	**-0.4**
MTLF				*e*Sg	**Sg**	**11 54 26.8**	**-0.4**
	2.2nm,0.6s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.01**	**30**	*e*Pg	**Pg**	**11 54 00.0**	**-1.2**
	baz=209,SNR=1.0						
MEZF				*e*Sg	**Sg**	**11 54 38.7**	**-1.5**
	5.3nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.01**	**30**	*e*Pg	**Pg**	**11 54 00.0**	**-1.2**
	baz=209,SNR=1.0						
MEZF				*e*Sg	**Sg**	**11 54 38.7**	**-1.5**
	2.7nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.21**	**48**	*e*Pg	**Pg**	**11 54 03.7**	**-1.2**
HAU				*e*Sg	**Sg**	**11 54 45.1**	**-1.4**
	2.4nm,0.3s						
HAU	**Haudompre**	**3.21**	**48**	*e*Pg	**Pg**	**11 54 03.7**	**-1.2**
HAU				*e*Sg	**Sg**	**11 54 45.1**	**-1.4**
	1.2nm,0.3s						
LDF	**La Druitiere**	**3.34**	**324**	*e*Sg	**Sg**	**11 54 48.7**	**-2.1**
	1.7nm,0.3s						
LDF	**La Druitiere**	**3.34**	**324**	*e*Sg	**Sg**	**11 54 48.7**	**-2.1**
	0.9nm,0.3s						
HINF	**Hinteralfeld**	**3.37**	**54**	*e*Sg	**Sg**	**11 54 50.3**	**-1.4**
	2.0nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.37**	**54**	*e*Sg	**Sg**	**11 54 50.3**	**-1.4**
	1.0nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.38**	**212**	*e*Sn	**Sn**	**11 54 34.6**	**-1.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**11 54 50.5**	**-1.5**
	2.0nm,0.3s						
EPF	**Esparros**	**3.38**	**212**	*e*Sn	**Sn**	**11 54 34.6**	**-1.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**11 54 50.5**	**-1.5**
	1.0nm,0.3s						
BAIF	**Baives**	**4.25**	**12**	*e*Sn	**Sn**	**11 54 52.9**	**-4.8**
	2.7nm,0.8s,SNR=1.0						
BAIF	**Baives**	**4.25**	**12**	*e*Sn	**Sn**	**11 54 52.9**	**-4.8**
	1.4nm,0.8s,SNR=1.0						

*ISCJB **23** 11:57:09.7±0.9, 2288S±005×6808W±009, h76km±12km, mb4.0/5, Error ellipse: s-maj=14.8km s-min=8.2km az=36.2*
*NEIC **23** 11:57:11.3, 2300S×6845W, h120km, mb4.7/2, After GUC.*
*GUC **23** 11:57:11.3±0.8, 2300S×6845W, h120km, ML4.7*
*IDC **23** 11:57:13.2±0.7, 2251S×6844W, h104km±5km, mb3.7/4, mb1 3.8/7, mb1mx3.8/7, mbtmp3.7/7, Error ellipse: s-maj=27.9km s-min=18.9km az=92.0*

ISC 23 11:57:11.7±0.8, 2290S±005×6815W±010, h77km±11km, h104km±.6km: pP-P, n25, σ1°40/27, mb4.0/5, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.95**	**255**⇓	*i*P	**Pn**	**11 57 43.0**	**+0.2**
CEN1				*i*S	**Sn**	**11 58 08.1**	**+1.6**
CEN1				AML	AML	11 58 10.2	
	comp=N,4μm,0.6s						
CPN1	**Cerro Paranal**	**2.69**	**230**	*e*P	**Pn**	**11 57 52.8**	**+0.1**
CPN1				*i*S	**Sn**	**11 58 23.4**	**-0.9**
CPN1				AML	AML	11 58 32.9	
	comp=E,6μm,0.4s						
CDCH	**Caldera**	**4.82**	**210**	*e*P	**Pn**	**11 58 20.6**	**-1.1**
CDCH				*e*S	**Sn**	**11 59 13.1**	**-3.1**
CPCH	**Copiapo**	**4.87**	**204**	*e*P	**Pn**	**11 58 22.3**	**-0.1**
CPCH				*i*S	**Sn**	**11 59 15.6**	**-1.9**
LCO	**Las Campanas**	**6.51**	**200**	*e*Pn	**Pn**	**11 58 45.1**	**+0.3**
	comp=E,33nm,0.5s						
LPAZ	**La Paz**	**6.58**	**0**	P	**Pn**	**11 58 44.7**	**-1.0**
	comp=E,1.0nm,0.3s,baz=182,slow=6.3,SNR=16						
ARE	**Arequipa**	**7.13**	**333**	*e*P	**Pn**	**11 58 55.0**	**+1.7**
ARE				*e*S	**Sn**	**12 00 22.0**	**+9.2**
TLL	**Tololo Astrono**	**7.62**	**198**	*e*P	**Pn**	**11 59 00.0**	**+0.1**
CFAA	**Coronel Fontan**	**8.67**	**181**	P	**Pn**	**11 59 17.2**	**+2.9**
	comp=E,0.2nm,0.3s,baz=349,slow=13,SNR=13						
CFAA				S	**Sn**	**12 00 56.4**	**

MKAR pPKPbc pPKPbc 12 17 09.1 +4.1
comp=E,0.4nm,0.6s,baz=307,slow=3.8,SNR=1.9

*IDC **23** 12:10:04.8±1.0,200N×9659E,h0km,mb4.3/11, mb1 4.4/12,mb1mx4.1/23,mbtmp4.3/12,ML3.4/1,MS3.6/4, Ms1 3.5/4,ms1mx3.1/38,Error ellipse: s-maj=33.5km s-min=16.2km az=47.0*
*NEIC **23** 12:10:09.4±0.5,204N×9665E,h30km,mb4.5/10,Error ellipse: s-maj=10.7km s-min=6.8km az=223.0*
*BJI **23** 12:10:09.4,233N×9674E,h30km,mB5.1,mb4.7,Ms4.5, Ms2.4.2*
*ISCJB **23** 12:10:10.6±3.1,2.1N±0.1×968E±0.2,h54km±24km, mb4.4/22,MS3.9/4,Error ellipse: s-maj=32.1km s-min=11.7km az=111.6*

ISC 23 12:10:12.5±3.1,21N±01×968E±02,h52km±24km, h36km±7.1km:pP-P,n34,σ0§83/32,mb4.4/22,MS3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.21**	**72**	Pn	**Pn**	**12 10 46.6**	**-0.1**
	8.4nm,0.3s,baz=267,slow=11,SNR=32						
PSI				LR	LR	12 11 36.4	
	comp=Z,383nm,20.6s,baz=286,slow=38						
KULM	**Kulim**	**4.95**	**51**	*e*Pn	**Pn**	**12 11 23.8**	**-0.4**
CM31	**Chiang Mai Arr**	**16.36**	**7**	*e*Pn	**Pn**	**12 13 59.7**	**+1.1**
	15nm,0.8s						
KKM	**Kota Kinabalu**	**19.73**	**78**	*e*P	**Pn**	**12 14 38.3**	**-1.4**
KMI	**Kunming**	**23.56**	**14**	P	**P**	**12 15 18.8**	**+0.5**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.2						
KMI	**Kunming**	**23.56**	**14**	P	**P**	**12 15 18.7**	**+0.4**
	comp=Z,11nm,1.2s,mb4.2						
LSA	**Lhasa**	**27.94**	**349**	*e*P	**P**	**12 15 58.3**	**+0.4**
	comp=Z,9.4nm,0.9s,mb4.4						
LZH	**Lanzhou**	**34.41**	**10**	*e*P	**P**	**12 16 50.5**	**-4.3**
LZH				AP	pP	12 17 01.5	-6.7
LZH				XP	sP	12 17 05.4	-8.9
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.8						
LZH	**Lanzhou**	**34.41**	**10**	*e*P	**P**	**12 16 50.5**	**-4.3**
	comp=Z,18nm,1.4s,mb4.8						
LZH				pP	pP	12 17 01.5	-6.7
LZH				sP	sP	12 17 05.4	-8.9
FITZ	**Fitzroy Crossi**	**34.78**	**127**	P	**P**	**12 16 57.7**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.2,baz=318,slow=16,SNR=4.1						
GTA	**Gaotai**	**37.20**	**4**	P	**P**	**12 17 18.5**	**-0.2**
GTA				AP	pP	12 17 22.9	-9.3
GTA				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.9						
HHC	**Hu-ho-hao-te**	**40.78**	**17**	*e*P	**P**	**12 17 52.3**	**+3.7**
HHC				AP	pP	12 18 02.4	+0.1
HHC				XP	sP	12 18 06.6	-1.7
HHC				SCS	ScS	12 27 45.3	-3.7
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,151nm,5.5s						
HHC				LR	LR		
	comp=N,305nm,17.3s,MS4.3						
HHC				LR	LR		
	comp=E,270nm,17.2s,MS4.3						
HHC				LR	LR		
	comp=Z,185nm,14.9s,MS4.1						
WMQ	**Urumqi**	**42.30**	**350**	*e*P	**P**	**12 18 02.8**	**+1.8**
WRA	**Warramunga Arr**	**42.85**	**123**	P	**P**	**12 18 05.9**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.2,baz=301,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**44.26**	**128**	P	**P**	**12 18 17.6**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.8,baz=302,slow=8.0,SNR=19						
AAK	**Ala-Archa**	**45.00**	**337**	*e*P	**P**	**12 18 23.1**	**+0.4**
	comp=Z,5.4nm,1.1s,mb4.3						
KSRS	**Korea Array**	**45.31**	**35**	P	**P**	**12 18 25.2**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.2,baz=214,slow=8.7,SNR=7.5						
KSRS				LR	LR	12 38 22.5	
	comp=Z,71nm,18.2s,MS3.6,baz=230,slow=37						
MK31	**Makanchi Array**	**46.25**	**346**	*e*P	**P**	**12 18 32.2**	**-0.4**
MKAR	**Makanchi Array**	**46.25**	**346**	P	**P**	**12 18 32.4**	**-0.3**
	comp=Z,12nm,0.7s,mb4.9,baz=161,slow=7.7,SNR=91						
SONM	**Songino Array**	**46.27**	**9**	P	**P**	**12 18 33.4**	**+0.6**
	comp=Z,5.6nm,0.8s,mb4.5,baz=188,slow=9.2,SNR=44						
TLY	**Talaya**	**49.71**	**6**	P	**P**	**12 18 59.6**	**+0.2**
	comp=Z,7.7nm,0.8s,mb4.8						
KURK	**Kurchatov**	**50.80**	**345**	*e*P	**P**	**12 19 07.2**	**-0.3**
	comp=Z,4.7nm,0.8s,mb4.5						
HIA	**Hailar**	**50.89**	**19**	*e*P	**P**	**12 19 08.8**	**+0.5**
	comp=Z,8.5nm,0.9s,mb4.7						
ZAL	**Zalesovo**	**52.58**	**351**	P	**P**	**12 19 21.4**	**+0.5**
	comp=Z,7.5nm,0.6s,mb4.8,baz=306,slow=6.3,SNR=29						
STKA	**Stephens Creek**	**54.26**	**132**	LR	LR	12 44 39.8	
	comp=Z,99nm,18.6s,MS3.9,baz=228,slow=38						
STKA	**Stephens Creek**	**54.26**	**132**	P	**P**	**12 19 34.1**	**+1.0**
BRVK	**Borovoye**	**55.31**	**341**	*e*P	**P**	**12 19 39.1**	**-1.6**
	comp=Z,5.5nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**68.20**	**312**	P	**P**	**12 21 06.9**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=146,slow=6.6,SNR=3.2						
TIXI	**Tiksi**	**72.34**	**10**	*e*P	**P**	**12 21 31.0**	**-1.8**
	comp=Z,4.6nm,0.8s,mb4.5						
MAW	**Mawson**	**73.53**	**193**	LR	LR	12 46 23.0	
	comp=Z,51nm,21.3s,MS3.8,baz=93,slow=30						
FINES	**FINESS Array B**	**79.00**	**332**	P	**P**	**12 22 10.2**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=186,slow=5.7,SNR=8.2						
ARCES	**ARCESS Array B**	**81.53**	**340**	P	**P**	**12 22 23.8**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=84,slow=5.0,SNR=3.8						
ARCES	**ARCESS Array B**	**81.53**	**340**	P	**P**	**12 22 23.8**	**-0.7**
GERES	**GERESS Array B**	**83.86**	**319**	P	**P**	**12 22 36.7**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.7,baz=91,slow=5.7,SNR=8.5						

*NEIC **23** 12:16:29.5,2676S×7108W,h36km,MD4.0(GUC),After GUC.*

GUC 23 12:16:29.5±0.7,2676S×7108W,h36km±5km,MD4.0, ML4.1,4C-1D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.39**	**145**	⇓*i*P	Pn	12 16 38.3	-0.3
CDCH				*i* S	Sn	12 16 45.2	+0.4
CPCH	**Copiapo**	**0.88**	**133**	⇑*i*P	Pn	12 16 45.4	+0.1
CPCH				*i* S	Sn	12 16 58.1	+1.2
CPCH				AML	AML	12 16 59.2	
	comp=E,33μm,0.1s						
CPCH	**Copiapo**	**0.88**	**133**	⇑*i*P	Pn	12 16 45.4	+0.1
CPCH				*i* S	Sn	12 16 58.1	+1.2
VACH	**Vallenar**	**1.83**	**171**	⇑*i*P	Pn	12 17 00.4	+1.9
VACH				*i* S	Sn	12 17 23.0	+2.5
VACH				AML	AML	12 17 24.4	
	comp=E,2μm,0.2s						
VACH	**Vallenar**	**1.83**	**171**	⇑*i*P	Pn	12 17 00.4	+1.9
VACH				*i* S	Sn	12 17 23.0	+2.5
LCO	**Las Campanas**	**2.27**	**172**	*e*Pn	Pn	12 17 05.8	+1.3
TLL	**Tololo Astrono**	**3.41**	**176**	*e*P	Pn	12 17 22.1	+1.9
TLL				*i* S	Sn	12 18 01.9	+2.7
TLL				AML	AML	12 18 29.2	
	comp=E,137nm,0.5s						
TLL	**Tololo Astrono**	**3.41**	**176**	*e*P	Pn	12 17 22.1	+1.9
TLL				*i* S	Sn	12 18 01.9	+2.7

*IDC **23** 12:27:49.6±5.1,007N×12177E,h227km±52km,mb3.7/7, mb1 3.8/8,mb1mx3.6/20,mbtmp3.7/8,Error ellipse: s-maj=73.2km s-min=12.5km az=66.0*
*ISCJB **23** 12:27:52.1±1.7,0.1N±01×1220E±02,h273km±16km, mb4.1/19,Error ellipse: s-maj=29.7km s-min=8.4km az=116.8*
*NEIC **23** 12:27:55.7±1.6,000S×12182E,h294km±16km,mb4.0/6, Error ellipse: s-maj=26.6km s-min=7.8km az=58.0*

ISC 23 12:27:50.4±2.1,02N±01×1222E±02,h237km±20km,n34, σ0§89/33,mb4.2/19,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.29**	**314**	Pn	**Pn**	**12 29 52.2**	**+4.9**
KKM				*e*S	**S**	**12 31 20.0**	**-1.4**
KSM	**Kuching**	**11.94**	**276**	*e*Pn	**Pn**	**12 30 34.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.54**	**170**	*e*P	**P**	**12 31 48.5**	**-1.0**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.54**	**170**	P	**P**	**12 31 48.9**	**-0.6**
	1.3nm,0.3s,baz=358,slow=7.9,SNR=35						
KULM	**Kulim**	**22.08**	**284**	*e*P	**P**	**12 32 22.1**	**-3.9**
WRA	**Warramunga Arr**	**23.32**	**150**	P	**P**	**12 32 37.7**	**+0.3**
	8.9nm,0.5s,mb4.6,baz=326,slow=11,SNR=162						
WB2	**Warramunga Arr**	**23.33**	**150**	*e*P	**P**	**12 32 36.9**	**-0.6**
WB2	**Warramunga Arr**	**23.33**	**150**	*e*P	**P**	**12 32 37.3**	**-0.2**
ASAR	**Alice Springs**	**26.35**	**155**	P	**P**	**12 33 05.2**	**+0.5**
	2.0nm,0.6s,mb3.9,baz=343,slow=13,SNR=62						
ASAR				PcP	PcP	12 36 25.1	+1.2
	0.7nm,0.3s,baz=344,slow=2.1,SNR=14						
KLBR	**Kellerberrin**	**31.93**	**187**	*e*P	**P**	**12 33 52.7**	**-1.2**
	3.6nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**36.84**	**152**	*e*P	**P**	**12 34 37.0**	**+1.0**
	5.4nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**36.84**	**152**	P	**P**	**12 34 37.1**	**+1.1**
	7.3nm,0.8s,mb4.3,baz=326,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**36.84**	**152**	*e*P	**P**	**12 34 37.0**	**+1.0**
HNR	**Honiara**	**38.80**	**105**	P	**P**	**12 34 59.4**	**+7.1**
	26nm,0.7s,mb4.9						
LSA	**Lhasa**	**41.62**	**318**	*e*P	**P**	**12 35 16.7**	**+1.3**
	5.4nm,0.6s,mb4.2						
PALK	**Pallekele**	**41.95**	**281**	P	**P**	**12 35 19.3**	**+1.3**
	16nm,1.0s,mb4.4						
JIRN	**Jiri**	**43.98**	**311**	*e*P	**P**	**12 35 34.9**	**+0.6**
	21nm,0.5s,mb4.8						
GUN	**Gumba**	**44.35**	**311**	*e*P	**P**	**12 35 37.5**	**+0.3**
	31nm,0.4s,mb5.0						
PKI	**Pulchoki**	**44.52**	**311**	*e*P	**P**	**12 35 38.4**	**-0.2**
KKN	**Kakani**	**44.74**	**311**	*e*P	**P**	**12 35 40.5**	**+0.2**
	7.2nm,0.4s,mb4.4						
DMN	**Daman**	**44.77**	**311**	*e*P	**P**	**12 35 40.6**	**0.0**
	12nm,0.6s,mb4.4						
GKN	**Gorkha**	**45.33**	**311**	*e*P	**P**	**12 35 44.8**	**-0.1**
	18nm,0.7s,mb4.5						
KOLN	**Koldanda**	**46.01**	**310**	*e*P	**P**	**12 35 49.9**	**-0.3**
SONM	**Songino Array**	**49.36**	**346**	P	**P**	**12 36 16.7**	**+0.8**
	3.1nm,0.6s,mb3.8,baz=167,slow=9.1,SNR=29						
MK31	**Makanchi Array**	**57.99**	**329**	*e*P	**P**	**12 37 18.1**	**-0.1**
MKAR	**Makanchi Array**	**57.99**	**329**	P	**P**	**12 37 18.4**	**+0.1**
	2.1nm,0.3s,mb4.2,baz=123,slow=8.4,SNR=50						
AAK	**Ala-Archa**	**60.03**	**321**	*e*P	**P**	**12 37 31.7**	**-0.6**
	1.4nm,0.6s,mb3.8						
KBL	**Kabul**	**60.17**	**310**	*e*P	**P**	**12 37 32.7**	**-0.5**
ZAL	**Zalesovo**	**61.76**	**336**	P	**P**	**12 37 43.8**	**-0.1**
	0.9nm,0.5s,mb3.7,baz=340,slow=7.2,SNR=3.6						
KURK	**Kurchatov**	**62.37**	**330**	*e*P	**P**	**12 37 47.1**	**-0.8**
	2.4nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**67.86**	**329**	P	**P**	**12 38 22.3**	**-0.9**
	0.9nm,0.6s,mb3.6,baz=138,slow=11,SNR=4.9						
VNDA	**Vanda**	**80.59**	**172**	*e*P	**P**	**12 39 36.2**	**-0.3**
	1.1nm,0.7s,mb3.6						
TORD	**Torodi Ar. Bea**	**119.56**	**285**	PKP	PKPdf	12 46 11.8	0.0
	0.4nm,0.4s,baz=54,slow=1.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**119.56**	**285**	PKP	PKPdf	12 46 11.8	0.0

IDC 23 12:28:54.3±2.9,420S×15313E,h0km,mb3.6/3,mb1 3.9/4, mb1mx3.6/16,mbtmp3.8/4,ML2.7/1,Error ellipse: s-maj=132.8km s-min=36.4km az=128.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.86**	**229**	Pn	Pn	12 30 48.1	-1.8
	0.6nm,0.3s,baz=306,slow=14,SNR=3.4						
PMG				Sn	Sn	12 32 22.6	+3.0
	2.2nm,0.3s,baz=153,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**24.08**	**228**	P	P	12 34 11.7	+0.3
	0.5nm,0.5s,baz=53,slow=9.8,SNR=5.1						
ASAR	**Alice Springs**	**26.81**	**222**	P	P	12 34 36.8	+0.7
	0.2nm,0.5s,baz=55,slow=8.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**30.23**	**241**	P	P	12 35 07.6	+1.0
	3.6nm,1.1s,baz=0.0,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**150.42**	**289**	PKPbc	PKPbc	12 48 48.3	+0.6
	0.7nm,0.7s,baz=75,slow=2.5,SNR=8.1						

*GII **23** 12:38:23.7±0.5,3292N×3585E,h0km±30km*
*GRAL **23** 12:38:23.9±1.5,3328N×3524E,h0km±614km,MD2.9*
*ISCJB **23** 12:38:24.9±0.8,3338N±003×3531E±007,h0km,Error ellipse: s-maj=8.4km s-min=3.4km az=21.2*
*CSEM **23** 12:38:24.6±0.1,3338N×3539E,h2km,ML2.9,Error ellipse: s-maj=3.1km s-min=2.0km az=76.0,Mining explosion.*

ISC 23 12:38:25.4±0.8,3337N±003×3531E±007,h0km,n14, σ1§03/21,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.12**	**9**	*e*Pg	**Pg**	**12 38 27.2**	**-0.5**
KSDI	**Kefar Szold**	**0.34**	**121**	Pg	**Pg**	**12 38 30.9**	**-1.1**
KSDI				Sg	**Sg**	**12 38 36.0**	**-0.5**
KSDI	**Kefar Szold**	**0.34**	**121**	Pg	**Pg**	**12 38 30.9**	**-1.1**
KSDI				Sg	**Sg**	**12 38 35.9**	**-0.5**
MMC7	**Mount Meron ar**	**0.35**	**168**	Pg	**Pg**	**12 38 31.9**	**-0.3**
MMC7				Sg	**Sg**	**12 38 39.0**	**+2.2**
MMC3	**Mount Meron ar**	**0.36**	**166**	Pg	**Pg**	**12 38 32.4**	**0.0**
MMC3	**Mount Meron ar**	**0.36**	**166**	Pg	**Pg**	**12 38 32.3**	**0.0**
MMA0	**Mount Meron ar**	**0.36**	**167**	Pg	**Pg**	**12 38 32.7**	**+0.4**
MMA0				Sg	**Sg**	**12 38 39.2**	**+2.1**
MMC6	**Mount Meron ar**	**0.36**	**169**	Pg	**Pg**	**12 38 32.1**	**-0.3**
MMB1	**Mount Meron ar**	**0.37**	**166**	Pg	**Pg**	**12 38 31.9**	**-0.5**
MMC5	**Mount Meron ar**	**0.37**	**166**	Pg	**Pg**	**12 38 32.3**	**-0.2**
MMC4	**Mount Meron ar**	**0.38**	**166**	Pg	**Pg**	**12 38 31.0**	**-1.5**
RCY	**Rachaya**	**0.44**	**75**	*e*Pg	**Pg**	**12 38 32.3**	**-1.6**
RCY				*e*Sg	**Sg**	**12 38 40.0**	**+0.4**
BHL	**Bhannes**	**0.60**	**28**	*e*Pg	**Pg**	**12 38 36.6**	**-0.3**
BHL				*e*Sg	**Sg**	**12 38 46.5**	**+1.7**
HWQ	**Hawqa**	**1.05**	**30**	*e*Pg	**Pg**	**12 38 45.2**	**-0.3**
HWQ				*e*Sg	**Sg**	**12 39 00.1**	**+1.0**

*NEIC **23** 12:42:23.3,33.18S×7031W,h94km,MD3.7(GUC),After GUC.*
NEIC Felt [II] at Santiago.

GUC 23 12:42:23.3±0.7,3318S×7031W,h94km±2km,MD3.7, ML3.7,11C-9D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.15**	**175**	⇓*i*P	Pn	12 42 37.1	+0.5
FCH				*i* S	Sn	12 42 47.8	+1.3
FCH				AML	AML	12 42 53.4	
	comp=E,3μm,0.2s						
CLCH	**Cerro Calan**	**0.29**	**222**	*e*P	Pn	12 42 37.3	+0.1
CLCH				*i* S	Sn	12 42 48.1	+0.6
CLCH				AML	AML	12 42 49.3	
	comp=E,7μm,0.8s						
DSCH	**Colegio Aleman**	**0.31**	**226**	*e*P	Pn	12 42 36.7	-0.6
DSCH				*i* S	Sn	12 42 47.6	-0.1
PEL	**Peldehue**	**0.32**	**277**	⇑*i*P	Pn	12 42 37.5	+0.1
PEL				*i* S	Sn	12 42 48.0	+0.2
PEL				AML	AML	12 42 48.8	
	comp=N,15μm,0.3s						
STL	**Santa Lucia**	**0.38**	**228**	⇓*i*P	Pn	12 42 37.0	-0.7
STL				*i* S	Sn	12 42 47.8	-0.5
STL				AML	AML	12 42 48.1	
	comp=N,1μm,0.2s						
SAN	**Santiago**	**0.40**	**228**	⇑*i*P	Pn	12 42 37.9	+0.1
SAN				*i* S	Sn	12 42 48.8	+0.2
SAN				AML	AML	12 42 49.8	
	comp=E,5μm,0.3s						
SAN	**Santiago**	**0.40**	**228**	⇑*i*P	Pn	12 42 37.9	+0.1
SAN				*i* S	Sn	12 42 48.8	+0.2
PCH	**Pirque**	**0.47**	**202**	⇑*i*P	Pn	12 42 38.5	+0.2
PCH				*i* S	Sn	12 42 50.1	+0.7
YECH	**El Yeso**	**0.52**	**159**	⇓*i*P	Pn	12 42 39.4	+0.8
YECH				AML	AML	12 42 56.8	
	comp=N,945nm,0.4s						
RCDM	**Rinconada Maip**	**0.52**	**234**	⇓*i*P	Pn	12 42 38.7	+0.1
RCDM				*i* S	Sn	12 42 50.4	+0.4
RCDM				AML	AML	12 42 51.5	
	comp=E,17μm,0.1s						
RCDM	**Rinconada Maip**	**0.52**	**234**	⇓*i*P	Pn	12 42 38.7	+0.1
RCDM				*i* S	Sn	12 42 50.4	+0.4
JACH	**Jahuel**	**0.55**	**334**	⇑*i*P	Pn	12 42 39.3	+0.4
JACH				*i* S	Sn	12 42 51.2	+0.7
ROCH	**El Roble**	**0.63**	**289**	⇓*i*P	Pn	12 42 39.8	+0.3
TACH	**Talagante**	**0.71**	**228**	⇓*i*P	Pn	12 42 40.2	-0.1
TACH				*i* S	Sn	12 42 53.0	+0.1
CHCH	**Chadas Angostu**	**0.80**	**201**	⇑*i*P	Pn	12 42 41.4	+0.2
CHCH				*i* S	Sn	12 42 55.3	+0.7
CACH	**El Canelo**	**0.96**	**195**	⇓*i*P	Pn	12 42 43.8	+0.9
CACH				*i* S	Sn	12 42 59.5	+1.9
PTCH	**Petorca**	**1.06**	**330**	*e*P	Pn	12 42 44.5	+0.6
PTCH				*i* S	Sn	12 43 00.4	+1.0
PTCH				AML	AML	12 43 01.6	
	comp=N,6μm,0.3s						
PTCH	**Petorca**	**1.06**	**330**	*e*P	Pn	12 42 44.5	+0.6
PTCH				*i* S	Sn	12 43 00.4	+1.0
LCCH	**Las Cruces**	**1.10**	**254**	⇓*i*P	Pn	12 42 44.4	0.0
LCCH				*i* S	Sn	12 42 59.7	-0.5
IHA	**Instituto Hidr**	**1.13**	**278**	⇑*i*P	Pn	12 42 44.5	-0.3
IHA				*i* S	Sn	12 43 01.6	+0.6
CICH	**Cipreses**	**1.14**	**185**	*e*P	Pn	12 42 45.6	+0.7
CICH				*e*S	Sn	12 43 02.6	+1.5
LNV	**Longovilo**	**1.20**	**230**	⇓*i*P	Pn	12 42 44.8	-0.8
LNV				*i* S	Sn	12 43 00.8	-1.6
SFDO	**San Fernando**	**1.55**	**202**	⇑*i*P	Pn	12 42 50.2	+0.4
SFDO				*i* S	Sn	12 43 10.4	+0.5
NICH	**Los Niches**	**1.97**	**203**	⇑*i*P	Pn	12 42 55.4	+0.2
NICH				*i* S	Sn	12 43 20.1	+0.5
TALC	**Talca**	**2.47**	**206**	⇑*i*P	Pn	12 43 01.1	-0.7
TALC				*i* S	Sn	12 43 30.1	-1.2

*ISCJB **23** 12:50:35.7±0.6,3935N±003×2354E±004,h8km±6km, Error ellipse: s-maj=5.2km s-min=4.9km az=164.4*
*CSEM **23** 12:50:36.3±0.1,3933N×2353E,h5km,MD2.8,Error ellipse: s-maj=1.6km s-min=1.5km az=27.0*
*ATH **23** 12:50:36.6,3935N×2348E,h11km±3km,MD2.8/4*
*THE **23** 12:50:36.4,3931N×2353E,h10km,ML2.3*

ISC 23 12:50:36.1±0.6,3934N±003×2355E±004,h12km±7km,n13, σ0§73/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.25**	**264**	*e*PG	**Pg**	**12 50 40.9**	**-0.4**
NEO				*e*SG	**Sg**	**12 50 44.2**	**-0.7**
XOR	**Xorichti**	**0.28**	**277**	*e*Pg	**Pg**	**12 50 41.4**	**-0.4**
XOR				*e*Sg	**Sg**	**12 50 45.4**	**-0.2**
AOS	**Alonnisos**	**0.31**	**122**	*e*Pg	**Pg**	**12 50 42.2**	**-0.1**
AOS				*e*Sg	**Sg**	**12 50 47.0**	**+0.5**
PAIG	**Paliouri**	**0.60**	**10**	*e*Pg	**Pg**	**12 50 48.8**	**+1.0**
LKR	**Lokris**	**0.81**	**212**	*e*PB	**Pg**	**12 50 51.1**	**-0.5**
LKR				*e*SB	**Sg**	**12 51 02.8**	**+0.6**
AGG	**Agios Georgios**	**1.00**	**252**	*e*Pg	**Pg**	**12 50 54.6**	**-0.7**
AGG				*e*Sg	**Sg**	**12 51 09.2**	**+0.9**
AGG	**Agios Georgios**	**1.00**	**252**	*e*Pg	**Pg**	**12 50 54.6**	**-0.6**
AGG				*e*Sg	**Sg**	**12 51 09.1**	**+0.9**
PLG	**Polygyros**	**1.04**	**356**	*e*PB	**Pb**	**12 50 55.6**	**-0.4**
PLG				*e*SB	**Sb**	**12 51 09.3**	**-0.2**
LIT	**Litokhoron**	**1.12**	**314**	*e*Pg	**Pg**	**12 50 58.3**	**+0.7**
LIT				*e*Sg	**Sg**	**12 51 13.9**	**+1.8**
THL	**Klokotos Trika**	**1.21**	**281**	*e*PB	**Pb**	**12 50 58.4**	**-0.4**
HORT	**Hortiatis**	**1.31**	**345**	*e*Pg	**Pg**	**12 50 59.8**	**-1.4**
HORT				*e*Sg	**Sg**	**12 51 17.8**	**-0.4**
GRG	**Griva**	**1.84**	**332**	*e*Pb	**Pn**	**12 51 08.0**	**+0.5**
GRG	**Griva**	**1.84**	**332**	*e*Pb	**Pn**	**12 51 07.9**	**+0.5**

*ISCJB **23** 12:57:15.7±2.2,1868N±010×1459E±03,h148km±22km, mb3.7/8,Error ellipse: s-maj=50.6km s-min=15.9km az=8.1*
*IDC **23** 12:57:16.8±3.2,1865N×14600E,h145km±29km,mb3.4/6, mb1 3.6/8,mb1mx3.4/21,mbtmp3.4/8,Error ellipse: s-maj=39.5km s-min=15.4km az=95.0*
*NEIC **23** 12:57:17.0±1.7,1865N×14592E,h146km±17km,mb4.4/2, Error ellipse: s-maj=37.0km s-min=11.4km az=94.0*

ISC 23 12:57:16.8±2.1,1866N±010×1460E±03,h144km±21km, n13,σ0§68/14,mb3.7/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.16**	**192**	P	**Pn**	**12 58 32.0**	**-0.2**
	21nm,0.3s,baz=4.7,slow=3.5,SNR=15						
GUMO	**Guam**	**5.16**	**192**	P	**Pn**	**12 58 32.0**	**-0.2**
GUMO				*e*Sn	**Sn**	**12 59 25.3**	**-5.6**
MJAR	**Matsushiro Arr**	**19.08**	**341**	P	**P**	**13 01 28.1**	**0.0**
	0.3nm,0.3s,baz=163,slow=9.7,SNR=5.2						
WRA	**Warramunga Arr**	**40.03**	**197**	P	**P**	**13 04 37.7**	**+0.2**
	0.4nm,0.3s,mb3.5,baz=14,slow=8.1,SNR=18						
FITZ	**Fitzroy Crossi**	**41.65**	**210**	P	**P**	**13 04 51.2**	**+0.4**
	2.0nm,0.9s,mb3.7,baz=50,slow=7.9,SNR=9.3						
ASAR	**Alice Springs**	**43.69**	**196**	P	**P**	**13 05 07.2**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=18,slow=7.9,SNR=6.9						
YAK	**Yakutsk**	**44.80**	**349**	P	**P**	**13 05 16.0**	**-0.1**
	8.1nm,0.6s,mb4.5						
BILL	**Bilibino**	**51.01**	**10**	P	**P**	**13 06 04.5**	**+0.7**
	5.1nm,1.2s,mb4.0						
MKAR	**Makanchi Array**	**58.68**	**314**	P	**P**	**13 06 59.7**	**+0.7**
	0.4nm,0.6s,mb3.4,baz=81,slow=8.9,SNR=3.0						
YKA	**Yellowknife Ar**	**77.89**	**28**	P	**P**	**13 08 58.7**	**+0.2**
	1.1nm,0.6s,mb3.6,baz=288,slow=5.5,SNR=23						
YKA				pP	pP	13 09 33.4	-0.8
	0.2nm,0.6s,baz=287,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**77.89**	**28**	P	**P**	**13 08 58.7**	**+0.2**
YKA				pP	pP	13 09 33.4	-0.8
FINES	**FINESS

SPN	**Mys Shipunski**	**0.40**	**231**	*e*P	Pn	14 05 00.8	+0.4
SPN				*i* S	Sn	14 05 07.9	+0.4
NLC	**Nalytchevo**	**0.73**	**256**	*e*P	Pn	14 05 05.1	+0.5
NLC				*i* S	Sn	14 05 15.3	+0.5
KII	**Karymskiy**	**0.94**	**317**	*e*P	Pn	14 05 07.2	-0.2
KII				*i* S	Sn	14 05 19.0	-0.7
AVH	**Avacha**	**1.08**	**266**	*e*P	Pn	14 05 10.4	+1.2
AVH				*i* S	Sn	14 05 24.5	+1.4
PET	**Petropavlovsk**	**1.18**	**255**	*e*P	Pn	14 05 11.2	+0.7
PET				*i* S	Sn	14 05 25.9	+0.5
MKZ	**Mys Kozlova**	**1.40**	**30**	*e*P	Pn	14 05 12.8	-0.8
MKZ				*i* S	Sn	14 05 28.7	-2.2
RUS	**Russkaya**	**1.53**	**234**	*e*P	Pn	14 05 16.1	+0.8
RUS				*i* S	Sn	14 05 34.3	+0.3
GNL	**Ganaly**	**1.58**	**284**	*e*P	Pn	14 05 17.4	+1.3
GNL				*i* S	Sn	14 05 37.2	+1.8
GRL	**Gorelyy**	**1.69**	**243**	*e*P	Pn	14 05 19.3	+1.8
GRL				*i* S	Sn	14 05 40.3	+2.4
TUMR	**Tumrok**	**1.95**	**354**	*e*P	Pn	14 05 22.4	+1.3
TUMR				*i* S	Sn	14 05 45.5	+1.1
KMNR	**Kamenistaya**	**2.42**	**356**	*e*P	Pn	14 05 29.6	+2.1
KMNR				*i* S	Sn	14 05 58.8	+2.9
MIPR	**Malaya Ipel'ka**	**2.53**	**246**	P	Pn	14 05 30.5	+1.4
KOZ	**Kozyrevsk**	**2.74**	**352**	*e*P	Pn	14 05 32.9	+0.9
KOZ				*i* S	Sn	14 06 03.3	-0.5
KRSR	**Krestovskiy**	**2.87**	**0**	P	Pn	14 05 37.3	+3.5
KLY	**Klyuchi**	**2.97**	**1**	P	Pn	14 05 37.7	+2.6
KLY				*i* S	Sn	14 06 11.4	+1.9
SRDR	**Sredinnyy**	**3.01**	**351**	*e*P	Pn	14 05 36.7	+1.0
KBTR	**Krutoberegovo**	**3.16**	**24**	*e*P	Pn	14 05 38.7	+1.0
KBTR				*i* S	Sn	14 06 14.4	+0.3
BDR	**Baidarnaya**	**3.25**	**7**	*e*P	Pn	14 05 41.5	+2.6
BDR				*i* S	Sn	14 06 18.6	+2.3
SMKR	**Semkarok**	**3.28**	**9**	*e*P	Pn	14 05 41.3	+1.9
SMKR				*i* S	Sn	14 06 19.0	+1.8
SRKR	**Sorokina**	**3.33**	**6**	*e*P	Pn	14 05 42.6	+2.5
SRKR				*i* S	Sn	14 06 20.9	+2.5

CSEM ***23*** *14:18:23.6, 1209N×4387E, h5km, ML3.6, After DHMR*
DHMR 23 14:18:23.6±0.8, 1209N×4387E, h6km±5km, ML3.6, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.16**	**12**	*i* P	Pg	14 18 45.6	-0.1
TRBA				*i* S	Sg	14 19 01.9	+1.2
ADEN	**Aden**	**1.28**	**58**	*i* P	Pn	14 18 47.4	-0.6
ADEN				*i* S	Sg	14 19 05.5	+0.8
ADEN				AML	AML	14 19 12.0	
	comp=E,983nm,0.4s						
ADEN	**Aden**	**1.28**	**58**	*i* P	Pn	14 18 47.4	-0.6
ADEN				*i* S	Sg	14 19 05.6	+0.9
	comp=E,492nm,0.4s						
UDYN	**Al 'Udayn**	**1.86**	**3**	*i* P	Pn	14 18 56.9	+0.8
UDYN				*i* S	Sn	14 19 23.0	+3.0
UDYN				AML	AML	14 19 29.9	
	comp=N,714nm,0.5s						
UDYN	**Al 'Udayn**	**1.86**	**3**	*i* P	Pn	14 18 56.9	+0.8
UDYN				*i* S	Sn	14 19 23.0	+3.1
	comp=N,357nm,0.5s						
LBOS		**2.22**	**37**	⇓*i* P	Pn	14 19 03.0	+2.1
LBOS				*i* S	Sn	14 19 33.3	+4.6
BDHA	**Al Bayda'**	**2.50**	**41**	*i* P	Pn	14 19 07.0	+2.3
BDHA				*i* S	Sn	14 19 41.4	+5.9
DHBB	**Dhamar BB**	**2.51**	**12**	*i* P	Pn	14 19 07.7	+2.7
DHBB				*i* S	Sn	14 19 41.9	+5.9
HAJJ	**Hajjah**	**3.59**	**356**	*i* P	Pn	14 19 22.1	+2.2
HAJJ				*i* S	Sn	14 20 09.1	+6.5

IDC ***23*** *14:18:22.7±1.0, 020S×1250.7E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/19, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=110.1km s-min=16.5km az=66.0*
ISCJB ***23*** *14:18:25.5±0.7, 00N±0.1×1256E±0.2, h35km, mb4.0/8, Error ellipse: s-maj=26.4km s-min=10.3km az=126.8*
NEIC ***23*** *14:18:32.9±5.0, 020S×1253.7E, h85km±47km, mb4.2/2, Error ellipse: s-maj=46.9km s-min=10.1km az=54.0*
ISC 23 14:18:27.7±0.7, 00S±01×1256E±02, h35km, n17, σ0§92/16, mb3.9/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.38**	**276**	*e*P	**Pn**	**14 22 02.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**17.97**	**180**	*e*P	**Pn**	**14 22 33.3**	**-1.3**
	4.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.97**	**180**	P	**Pn**	**14 22 33.4**	**-1.2**
	0.2nm,0.3s,baz=357,slow=13,SNR=6.6						
WRA	**Warramunga Arr**	**21.56**	**157**	P	**P**	**14 23 13.2**	**-0.9**
	0.6nm,0.4s,mb3.3,baz=332,slow=11,SNR=13						
WB2	**Warramunga Arr**	**21.57**	**157**	*e*P	**P**	**14 23 17.9**	**+3.8**
WB2	**Warramunga Arr**	**21.57**	**157**	*e*P	**P**	**14 23 16.6**	**+2.4**
ASAR	**Alice Springs**	**24.84**	**162**	P	**P**	**14 23 47.2**	**+0.5**
	0.5nm,0.4s,mb3.4,baz=339,slow=9.3,SNR=26						
ASAR				PcP	PcP	14 27 23.9	+1.7
	0.5nm,0.5s,baz=348,slow=2.0,SNR=14						
STKA	**Stephens Creek**	**35.10**	**156**	*e*P	**P**	**14 25 18.3**	**+0.7**
	1.8nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**35.10**	**156**	P	**P**	**14 25 18.4**	**+0.8**
	1.0nm,0.5s,mb4.0,baz=329,slow=10,SNR=5.3						
SONM	**Songino Array**	**50.51**	**343**	P	**P**	**14 27 23.7**	**+1.3**
	0.4nm,0.5s,mb3.6,baz=153,slow=9.7,SNR=5.1						
MK31	**Makanchi Array**	**60.03**	**327**	*e*P	**P**	**14 28 30.9**	**-0.1**
MKAR	**Makanchi Array**	**60.03**	**327**	P	**P**	**14 28 29.6**	**-1.3**
	1.0nm,0.4s,mb4.2,baz=124,slow=8.5,SNR=32						
AAK	**Ala-Archa**	**62.42**	**320**	*e*P	**P**	**14 28 47.3**	**+0.1**
	0.9nm,0.7s,mb4.0						
KURK	**Kurchatov**	**64.32**	**329**	*e*P	**P**	**14 28 59.3**	**-0.4**
	3.8nm,0.7s,mb4.5						
AKTK	**Aktyubinsk**	**75.92**	**322**	P	**P**	**14 30 10.3**	**-0.4**
AKTO	**Aktyubinsk**	**75.92**	**322**	P	**P**	**14 30 10.3**	**-0.4**
	2.1nm,0.4s,mb4.5,baz=114,slow=7.2,SNR=13						
TORD	**Torodi Ar. Bea**	**122.94**	**286**	PKP	PKPdf	14 37 20.7	+0.6
	0.3nm,0.6s,baz=57,slow=1.7,SNR=2.5						

IDC 23 14:44:04.2±2.4, 268S×13419E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=89.8km s-min=26.6km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.16**	**180**	P	Pn	14 48 06.7	+1.4
	0.1nm,0.3s,baz=360,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**17.47**	**208**	P	Pn	14 48 07.7	-1.5
	0.1nm,0.3s,baz=32,slow=9.5,SNR=2.8						
ASAR	**Alice Springs**	**20.87**	**181**	P	P	14 48 48.2	+0.6
	3.3nm,0.8s,baz=5.6,slow=12,SNR=37						
MKAR	**Makanchi Array**	**67.06**	**324**	P	P	14 54 59.4	+0.2
	0.2nm,0.5s,baz=115,slow=8.4,SNR=3.6						

ISCJB ***23*** *15:05:05.5±0.5, 3936N±003×2354E±004, h12km±4km, Error ellipse: s-maj=5.0km s-min=4.1km az=49.9*
THE ***23*** *15:05:06.0, 3931N×2355E, h12km, ML2.5*
CSEM ***23*** *15:05:06.2±0.1, 3933N×2355E, h12km, MD3.0, Error ellipse: s-maj=2.1km s-min=2.0km az=111.0*
ATH ***23*** *15:05:07.1, 3936N×2342E, h16km±2km, MD3.0/3*
ISC 23 15:05:05.8±0.5, 3934N±003×2355E±004, h16km±5km, n16, σ0§75/29, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.25**	**263**	*e*PB	**Pg**	**15 05 11.1**	**-0.3**
NEO				*e*SB	**Sg**	**15 05 14.3**	**-0.9**
XOR	**Xorichti**	**0.28**	**276**	*e*Pg	**Pg**	**15 05 11.6**	**-0.2**
XOR				*e*Sg	**Sg**	**15 05 15.7**	**-0.2**
AOS	**Alonnisos**	**0.31**	**123**	*e*Pg	**Pg**	**15 05 12.2**	**-0.1**
AOS				*e*Sg	**Sg**	**15 05 15.8**	**-1.0**
AOS	**Alonnisos**	**0.31**	**123**	*e*Pg	**Pg**	**15 05 12.2**	**-0.2**
AOS				*e*Sg	**Sg**	**15 05 15.8**	**-1.0**
PAIG	**Paliouri**	**0.60**	**10**	*e*Pg	**Pg**	**15 05 18.8**	**+1.3**
LKR	**Lokris**	**0.81**	**212**	*e*PN	**Pg**	**15 05 21.7**	**+0.1**
LKR				*e*SN	**Sg**	**15 05 33.1**	**+0.9**
AGG	**Agios Georgios**	**1.00**	**252**	*e*Pg	**Pg**	**15 05 24.6**	**-0.5**
AGG				*e*Sg	**Sg**	**15 05 38.6**	**+0.5**
PLG	**Polygyros**	**1.04**	**356**	*e*Pg	**Pg**	**15 05 25.6**	**-0.3**
PLG				*e*Sg	**Sg**	**15 05 40.1**	**+0.7**
PLG	**Polygyros**	**1.04**	**356**	*e*PN	**Pn**	**15 05 25.8**	**+0.2**
PLG				*e*SN	**Sn**	**15 05 39.4**	**-0.3**
PLG	**Polygyros**	**1.04**	**356**	*e*Pg	**Pg**	**15 05 25.6**	**-0.2**
PLG				*e*Sn	**Sn**	**15 05 39.4**	**-0.3**
PLG				*e*Sg	**Sg**	**15 05 40.1**	**+0.7**
OUR	**Ouranopolis**	**1.05**	**19**	*e*Pg	**Pg**	**15 05 25.9**	**-0.2**
LIT	**Litokhoron**	**1.11**	**313**	*e*Pg	**Pg**	**15 05 27.4**	**0.0**
LIT				*e*Sg	**Sg**	**15 05 42.8**	**+0.9**
THL	**Klokotos Trika**	**1.21**	**281**	*e*PN	**Pn**	**15 05 28.3**	**+0.4**
HORT	**Hortiatis**	**1.30**	**345**	*e*Pg	**Pg**	**15 05 29.9**	**-1.0**
HORT				*e*Sg	**Sg**	**15 05 47.7**	**-0.2**
LIA	**Limnos Island**	**1.38**	**66**	*e*PN	**Pg**	**15 05 34.7**	**+2.3**
SRS	**Serrai**	**1.78**	**1**	*e*Pb	**Pb**	**15 05 36.9**	**-1.1**
SRS				*e*Sb	**Sb**	**15 05 59.3**	**-0.7**

ISCJB ***23*** *15:13:18.8±0.3, 3792N±003×3793E±003, h10km, mb3.4/3, Error ellipse: s-maj=3.9km s-min=2.8km az=122.2*
IDC ***23*** *15:13:18.9±1.2, 3794N×3786E, h0km, mb3.3/4, mb1 3.6/8, mb1mx3.4/22, mbtmp3.4/8, ML3.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/23, Error ellipse: s-maj=18.9km s-min=14.4km az=90.0*
CSEM ***23*** *15:13:18.1±0.1, 3794N×3792E, h5km, MD3.6, Error ellipse: s-maj=2.2km s-min=1.7km az=149.0*
ISK ***23*** *15:13:18.1, 3794N×3793E, h5km, MD3.6, ML3.7*
NEIC ***23*** *15:13:20.2±0.8, 3791N×3787E, h10km, ML3.6(ISK), Error ellipse: s-maj=12.9km s-min=11.8km az=57.0*
ISC 23 15:13:19.6±0.3, 3794N±002×3794E±003, h10km, n49, σ1§01/60, mb3.4/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.54**	**45**	*i* PG	**Pg**	**15 13 29.0**	**-1.2**
MYA				*i* SG	**Sg**	**15 13 36.9**	**-0.4**
ATAB	**Bozova**	**0.55**	**149**	*i* P	**Pg**	**15 13 30.2**	**0.0**
ATAB				*i* S	**Sg**	**15 13 42.6**	**+5.2**
GZT	**Gaziantep**	**0.66**	**207**	*i* P	**Pg**	**15 13 31.5**	**-0.8**
URFA	**Urfa**	**0.86**	**125**	PG	**Pg**	**15 13 35.7**	**-0.4**
URFA				SG	**Sg**	**15 13 48.4**	**+1.1**
KMRS	**Kahramanmaras**	**0.93**	**243**	PG	**Pg**	**15 13 35.4**	**-2.1**
GAZ	**Gaziantep**	**0.96**	**217**	PG	**Pg**	**15 13 36.9**	**-1.2**
ELZG	**Elazig**	**0.99**	**56**	*i* P	**Pg**	**15 13 37.1**	**-1.6**
ELZG				*i* S	**Sg**	**15 13 50.4**	**-1.2**
PTK	**Pertek**	**1.48**	**50**	PN	**Pn**	**15 13 46.7**	**+0.4**
KOZT	**Kozan**	**1.74**	**255**	PN	**Pn**	**15 13 49.4**	**-0.4**
DIY	**Diyarbakir**	**1.81**	**91**	PN	**Pn**	**15 13 50.1**	**-0.7**
BNN	**Bunyan**	**1.88**	**300**	PN	**Pn**	**15 13 52.4**	**+0.6**
COBT	**Iskenderun**	**1.95**	**224**	*i* P	**Pn**	**15 13 51.7**	**-1.1**
COBT				*i* S	**Sn**	**15 14 19.7**	**+2.3**
CEYT	**Ceyhan**	**1.98**	**243**	PN	**Pn**	**15 13 53.4**	**+0.3**
SVSK	**Karacayir**	**2.11**	**340**	PN	**Pn**	**15 13 55.9**	**+1.0**
BINT	**Bingol**	**2.21**	**64**	PN	**Pn**	**15 13 56.5**	**+0.2**
HTY	**Hatay**	**2.32**	**219**	PN	**Pn**	**15 13 57.4**	**-0.4**
EZC	**Erzincan**	**2.33**	**38**	PN	**Pn**	**15 13 55.5**	**-2.4**
MARD	**Mardin**	**2.34**	**105**	*i* P	**Pn**	**15 13 58.0**	**-0.1**
MARD				*i* S	**Sg**	**15 14 34.6**	**-0.1**
KARA	**Karaisali**	**2.39**	**254**	*e*PN	**Pn**	**15 13 58.1**	**-0.7**
KELT	**Kelkit**	**2.43**	**24**	*i* P	**Pn**	**15 13 59.9**	**+0.5**
KELT				*i* S	**Sn**	**15 14 30.3**	**+1.1**
AVNT	**Avonos**	**2.57**	**290**	*i* P	**Pn**	**15 14 01.7**	**+0.5**
AVNT				*i* S	**Sg**	**15 14 40.1**	**-2.0**
TOKT	**Tokat**	**2.61**	**336**	PN	**Pn**	**15 14 02.4**	**+0.5**
YOZ	**Yozgat**	**2.66**	**310**	PN	**Pn**	**15 14 02.7**	**+0.2**
BNGL	**BINGOL**	**2.71**	**67**	*i* P	**Pg**	**15 14 09.2**	**-2.5**
BNGL				*i* S	**Sg**	**15 14 51.8**	**+4.9**
GUMT	**Gumushane**	**2.79**	**25**	*e*PN	**Pn**	**15 14 04.8**	**+0.6**
MERS	**Mersin**	**2.92**	**250**	*e*PN	**Pn**	**15 14 06.8**	**+0.7**
EZM	**Erzurum**	**3.31**	**53**	*e*PN	**Pn**	**15 14 12.3**	**+0.8**
ERZM	**Erzurum**	**3.31**	**53**	*i* P	**Pn**	**15 14 13.8**	**+2.3**
CTKT	**Corum**	**3.63**	**319**	*i* P	**Pn**	**15 14 17.2**	**+1.5**
CTKT	**Corum**	**3.63**	**319**	*i* P	**Pn**	**15 14 17.2**	**+1.4**
BR131	**Keskin Array S**	**3.80**	**299**	*e*Pn	**Pn**	**15 14 19.2**	**+1.0**
BR131				*e*Pg	**Pg**	**15 14 32.2**	**-0.3**
BR131	**Keskin Array S**	**3.80**	**299**	*e*Pn	**Pn**	**15 14 19.2**	**+1.0**
BR131	**Keskin Array S**	**3.80**	**299**	*e*Pg	**Pg**	**15 14 32.2**	**-0.3**
BRTR	**Keskin Array B**	**3.80**	**299**	Pn	**Pn**	**15 14 18.4**	**+0.2**
	1.6nm,0.3s,baz=123,slow=8.9,SNR=19						
BRTR				Pg	**Pg**	**15 14 26.2**	**-6.2**
	2.1nm,0.3s,baz=120,slow=17,SNR=14						
BRTR				Lg		15 15 18.4	
	1.6nm,0.3s,baz=128,slow=28,SNR=5.1						
BRTR	**Keskin Array B**	**3.80**	**299**	Pg	**Pb**	**15 14 26.2**	**-0.6**
FKH	**Fakeheh**	**3.90**	**199**	*e*Pn	**Pn**	**15 14 19.4**	**-0.2**
HWQ	**Hawqa**	**3.99**	**204**	*e*Pn	**Pn**	**15 14 21.3**	**+0.5**
MSL	**Mosul**	**4.43**	**110**	*ex*	x	15 14 42.5	
MSL				*ex*	x	15 14 51.0	
MSL				*ex*	x	15 14 59.0	
MSL				*ex*	x	15 15 32.5	
MSL				*ex*	x	15 15 43.5	
MSL				*ex*	x	15 15 53.5	
BHL	**Bhannes**	**4.43**	**205**	*e*Pn	**Pn**	**15 14 27.9**	**+1.0**
MMAI	**Mount Meron Ar**	**5.33**	**204**	Pn	**Pn**	**15 14 39.6**	**+0.4**
	3.5nm,0.3s,baz=27,slow=13,SNR=20						
MMAI				Pg	**Pg**	**15 14 57.3**	**-4.4**
	5.2nm,0.3s,baz=19,slow=15,SNR=9.8						
MMAI				Lg		15 16 06.5	
	6.6nm,0.3s,baz=32,slow=30,SNR=4.4						
ASF	**Jabal al Asfar**	**5.82**	**189**	Pn	**Pn**	**15 14 46.3**	**+0.4**
	0.6nm,0.3s,baz=336,slow=20,SNR=5.3						
ASF				Lg		15 16 24.3	
	3.1nm,0.3s,baz=64,slow=24,SNR=3.8						
ASF				LR	LR	15 17 15.2	
	comp=Z,67nm,18.1s,baz=129,slow=41						
IDI	**Anoyia**	**10.82**	**260**	Pn	**Pn**	**15 15 54.1**	**-0.4**
	0.4nm,0.3s,baz=69,slow=12,SNR=2.5						
IDI	**Anoyia**	**10.82**	**260**	Pn	**Pn**	**15 15 54.0**	**-0.5**
GERES	**GERESS Array B**	**20.62**	**310**	P	**P**	**15 17 58.4**	**-0.6**
	0.7nm,0.6s,baz=110,slow=12,SNR=7.9						
FINES	**FINESS Array B**	**24.67**	**346**	P	**P**	**15 18 41.2**	**+0.7**
	1.5nm,0.8s,mb3.6,baz=148,slow=16,SNR=5.0						
FINES	**FINESS Array B**	**24.67**	**346**	P	**P**	**15 18 41.2**	**+0.7**
MKAR	**Makanchi Array**	**33.56**	**60**	P	**P**	**15 20 00.3**	**+0.7**
	0.3nm,0.9s,mb3.2,baz=286,slow=5.4,SNR=2.6						
YKA	**Yellowknife Ar**	**77.50**	**347**	P	**P**	**15 25 16.6**	**+1.3**
	0.2nm,0.5s,mb3.3,baz=22,slow=5.6,SNR=4.6						
YKA	**Yellowknife Ar**	**77.50**	**347**	P	**P**	**15 25 16.6**	**+1.2**

ISCJB ***23*** *15:23:41.0±1.5, 223S±01×17958W±0.10, h548km±18km, mb4.4/22, Error ellipse: s-maj=24.2km s-min=9.1km az=124.1*
NEIC ***23*** *15:23:43.3±1.2, 2225S×17955W, h567km±13km, mb4.8/11, Error ellipse: s-maj=19.2km s-min=8.1km az=154.0*
BJI ***23*** *15:23:43.3, 2230S×17960W, h567km, mB4.7, mb4.5*
IDC ***23*** *15:23:45.1±1.7, 2231S×17967W, h585km±16km, mb3.7/11, mb1 3.9/11, mb1mx3.6/16, mbtmp3.7/11, Error ellipse: s-maj=25.6km s-min=13.8km az=159.0*
ISC 23 15:23:42.9±1.5, 223S±01×1795W±01, h556km±18km, n44, σ0§80/40, mb4.4/22, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.13**	**43**	*e*P	**P**	**15 26 12.3**	**-0.2**
AFI				*e*S	**S**	**15 28 10.3**	**-5.2**
DZM	**Mont Dzumac**	**12.99**	**268**	P	**P**	**15 26 36.5**	**+4.9**
	1.8nm,0.3s,baz=117,slow=21,SNR=21						
HNR	**Honiara**	**23.47**	**300**	P	**P**	**15 28 08.3**	**-1.4**
	12nm,0.3s,mb5.0,baz=350,slow=5.4,SNR=9.9						
HNR	**Honiara**	**23.47**	**300**	*e*P	**P**	**15 28 08.4**	**-1.3**
	20nm,0.6s,mb4.9						
ARMA	**Armidale**	**27.01**	**247**	⇓*i* P	**P**	**15 28 42.7**	**+1.7**
CNB	**Canberra Magne**	**30.04**	**238**	*e*P	**P**	**15 29 08.4**	**+1.1**
	39nm,0.7s,mb5.0						
CTA	**Charters Tower**	**31.93**	**268**	*e*P	**P**	**15 29 23.9**	**+0.5**
	12nm,0.3s,mb4.9						
CTAO	**Charters Tower**	**31.93**	**268**	*e*P	**P**	**15 29 23.9**	**+0.5**
	21nm,0.4s,mb5.0						
PMG	**Port Moresby**	**34.41**	**287**	P	**P**	**15 29 45.0**	**+0.7**
	27nm,0.8s,mb4.8,baz=111,slow=6.6,SNR=6.7						
PMG	**Port Moresby**	**34.41**	**287**	*e*P	**P**	**15 29 44.8**	**+0.6**
	39nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**35.73**	**246**	⇓*i* P	**P**	**15 29 55.9**	**+0.6**
	12nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**35.73**	**246**	P	**P**	**15 29 56.0**	**+0.7**
	14nm,0.4s,mb4.8,baz=92,slow=9.7,SNR=63						
STKA	**Stephens Creek**	**35.73**	**246**	*e*P	**P**	**15 29 55.8**	**+0.5**
ASAR	**Alice Springs**	**42.73**	**259**	P	**P**	**15 30 51.6**	**+0.1**
	21nm,0.6s,mb4.8,baz=74,slow=6.8,SNR=447						
ASAR				ScP	ScP	15 35 25.8	-2.6
	0.6nm,0.8s,baz=104,slow=4.7,SNR=4.9						
ASAR				S	**S**	**15 36 30.5**	**-4.8**
	0.9nm,0.9s,baz=100,slow=15,SNR=5.8						
WB2	**Warramunga Arr**	**42.95**	**264**	*e*P	**P**	**15 30 52.5**	**-0.8**
WB2	**Warramunga Arr**	**42.95**	**264**	*e*P	**P**	**15 30 52.6**	**-0.7**
WRA	**Warramunga Arr**	**42.96**	**264**	P	**P**	**15 30 52.6**	**-0.8**
	9.8nm,0.3s,mb4.8,baz=97,slow=8.3,SNR=568						
WRA				ScP	ScP	15 35 27.1	-2.3
	2.3nm,0.9s,baz=99,slow=4.2,SNR=9.4						
KAKA	**Kakadu**	**46.61**	**273**	*e*P	**P**	**15 31 20.9**	**-0.4**
	15nm,0.3s,mb5.0						
FORT	**Forrest**	**47.28**	**248**	⇓*i* P	**P**	**15 31 25.6**	**-0.8**
	29nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.39**	**264**	*e*P	**P**	**15 31 56.4**	**-0.2**
	9.3nm,0.3s,mb4.6						
KLBR	**Kellerberrin**	**56.01**	**246**	*e*P	**P**	**15 32 28.5**	**-0.7**
	67nm,1.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**56.29**	**245**	*e*P	**P**	**15 32 30.7**	**-0.5**
	35nm,1.4s,mb4.4						
MUN	**Mundaring**	**57.27**	**246**	*e*P	**P**	**15 32 37.5**	**-0.3**
KKM	**Kota Kinabalu**	**68.85**	**286**	*e*P	**P**	**15 33 52.2**	**+0.1**
MJAR	**Matsushiro Arr**	**70.82**	**325**	P	**P**	**15 34 03.6**	**-0.3**
	3.0nm,0.8s,mb3.9,baz=158,slow=5.5,SNR=6.3						
KSM	**Kuching**	**72.26**	**279**	*e*P	**P**	**15 34 12.3**	**+0.1**
KSRS	**Korea Array**	**77.30**	**320**	P	**P**	**15 34 40.9**	**+0.5**
	0.7nm,0.7s,mb3.2,baz=130,slow=7.6,SNR=3.0						
CMB	**Columbia Colle**	**81.75**	**43**	*e*P	**P**	**15 35 04.3**	**+0.5**
	3.0nm,0.8s,mb3.8						
KULM	**Kulim**	**82.61**	**279**	*e*P	**P**	**15 35 07.8**	**-0.4**
NVAR	**Mina Array Bea**	**83.31**	**44**	P	**P**	**15 35 13.2**	**+1.5**
	1.1nm,0.7s,mb3.5,baz=224,slow=7.7,SNR=7.5						
PLCA	**Paso Flores**	**89.08**	**134**	P	**P**	**15 35 38.2**	**-0.9**
	3.4nm,1.1s,mb4.1,baz=235,slow=12,SNR=3.1						
PLCA	**Paso Flores**	**89.08**	**134**	P	**P**	**15 35 38.2**	**-0.9**
TXAR	**Lajitas Array**	**89.23**	**58**	P	**P**	**15 35 39.3**	**-0.6**
	1.3nm,0.8s,mb3.8,baz=218,slow=7.5,SNR=6.2						
ANMO	**Albuquerque**	**89.64**	**52**	P	**P**	**15 35 42.3**	**+0.5**
	1.9nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**91.25**	**44**	P	**P**	**15 35 47.6**	**-1.5**
	0.6nm,0.8s,mb3.6,baz=210,slow=2.5,SNR=5.2						
SDCO	**Great Sand Dun**	**91.61**	**50**	*e*P	**P**	**15 35 51.4**	**+0.6**
	0.9nm,0.7s,mb3.9						
LZH	**Lanzhou**	**92.72**	**308**	*e*P	**P**	**15 35 57.3**	**+1.3**
LZH				AP	pP	15 37 56.3	-1.6
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
LZH	**Lanzhou**	**92.72**	**308**	*e*P	**P**	**15 35 57.3**	**+1.3**
	comp=Z,18nm,1.2s,mb5.0						
LZH				pP	pP	15 37 56.2	-1.7
MKAR	**Makanchi Array**	**111.38**	**313**	PKiKP	PKiKP	15 41 12.1	-1.9
	comp=Z,0.3nm,0.7s,baz=218,slow=1.2,SNR=6.1						
BVAR	**Borovoye Array**	**119.51**	**319**	PKP	PKPdf	15 41 28.1	-1.5
	comp=Z,0.5nm,0.4s,baz=149,slow=1.6,SNR=5.1						
FINES	**FINESS Array B**	**137.06**	**342**	PKP	PKPdf	15 42 01.0	-1.9
	comp=Z,2.0nm,0.9s,baz=141,slow=9.8,SNR=5.5						
FINES				SKPbc	SKPbc	15 44 40.2	-3.7
	comp=Z,1.5nm,0.9s,baz=358,slow=4.6,SNR=5.1						
HFS	**Hagfors**	**141.06**	**349**	PKhKP		15 42 02.6	
	comp=Z,1.1nm,0.3s,baz=90,slow=3.0,SNR=12						
AKASG	**Malin Array Be**	**143.84**	**329**	PKP	PKPdf	15 42 12.7	-2.4
	comp=Z,1.7nm,0.4s,baz=44,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**146.92**	**309**	PKPbc	PKPbc	15 42 22.6	-0.7
	comp=Z,1.1nm,0.5s,baz=128,slow=4.3,SNR=5.3						

STR ***23*** *15:30:41.3±0.7, 4755N×756E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***23*** *15:30:41.9±0.2, 4760N×

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.43**	**337**	Pn	**Pn**	**17 02 53.8**	**-0.1**
	3μm,0.3s,baz=111,slow=3.1,SNR=2136						
HNR				Sn	**Sn**	**17 03 02.3**	**+1.8**
	24μm,0.3s,baz=86,slow=15,SNR=209						
HNR	**Honiara**	**0.43**	**337**	*e*Pn	**Pn**	**17 02 53.2**	**-0.7**
HNR				*e*Sn	**Sn**	**17 03 01.3**	**+0.8**
PMG	**Port Moresby**	**12.79**	**271**	Pn	**Pn**	**17 05 41.1**	**-2.5**
	0.4nm,0.3s,baz=63,slow=6.8,SNR=4.2						
PMG				LR	LR	17 10 24.9	
	comp=Z,1μm,19.5s,baz=295,slow=36						
DZM	**Mont Dzumac**	**13.60**	**154**	Pn	**Pn**	**17 05 53.2**	**-1.5**
	0.3nm,0.3s,baz=304,slow=21,SNR=15						
DZM				LR	LR	17 10 31.7	
	comp=Z,472nm,18.4s,baz=353,slow=34						
CTA	**Charters Tower**	**16.82**	**231**	*e*P	**Pn**	**17 06 39.9**	**+2.8**
	25nm,0.9s						
CTA	**Charters Tower**	**16.82**	**231**	Pn	**Pn**	**17 06 38.6**	**+1.5**
	0.8nm,0.3s,baz=65,slow=13,SNR=17						
CTA				LR	LR	17 12 30.4	
	comp=Z,439nm,18.8s,baz=51,slow=35						
CTAO	**Charters Tower**	**16.82**	**231**	*e*P	**Pn**	**17 06 39.6**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,46nm,0.9s						
CTAO	**Charters Tower**	**16.82**	**231**	*e*Pn	**Pn**	**17 06 39.6**	**+2.6**
	comp=Z,46nm,0.9s						
ARMA	**Armidale**	**21.96**	**200**	*e*P	**P**	**17 07 34.5**	**-0.5**
WB2	**Warramunga Arr**	**26.82**	**245**	*e*P	**P**	**17 08 21.6**	**+0.4**
WB2	**Warramunga Arr**	**26.82**	**245**	*e*P	**P**	**17 08 21.6**	**+0.4**
WRA	**Warramunga Arr**	**26.83**	**245**	P	**P**	**17 08 21.8**	**+0.5**
	comp=Z,12nm,0.6s,mb4.6,baz=76,slow=9.0,SNR=113						
WRA				PcP	PcP	17 11 43.9	+0.6
	comp=Z,4.1nm,0.8s,baz=78,slow=2.7,SNR=12						
WRA				LR	LR	17 18 35.5	
	comp=Z,160nm,19.2s,MS3.6,baz=75,slow=35						
WRA	**Warramunga Arr**	**26.83**	**245**	*i* P	**P**	**17 08 21.7**	**+0.4**
WRA				pmax	pmax		
	comp=Z,12nm,0.6s						
CNB	**Canberra Magne**	**27.20**	**200**	*e*P	**P**	**17 08 25.5**	**+0.8**
	comp=Z,12nm,0.9s,mb4.4						
KAKA	**Kakadu**	**27.29**	**261**	*e*P	**P**	**17 08 25.2**	**-0.2**
	comp=Z,9.3nm,0.5s,mb4.6						
GUMO	**Guam**	**27.75**	**327**	LR	LR	17 18 35.7	
	comp=Z,291nm,18.5s,MS3.9,baz=149,slow=34						
AFI	**Afiamalu**	**27.79**	**101**	LR	LR	17 17 42.1	
	comp=Z,274nm,19.4s,MS3.9,baz=274,slow=32						
STKA	**Stephens Creek**	**27.86**	**215**	*e*P	**P**	**17 08 34.0**	**+3.5**
	comp=Z,6.6nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**27.86**	**215**	P	**P**	**17 08 31.4**	**+0.9**
	comp=Z,5.6nm,0.7s,mb4.3,baz=21,slow=11,SNR=12						
STKA	**Stephens Creek**	**27.86**	**215**	*e*P	**P**	**17 08 31.6**	**+1.1**
ASAR	**Alice Springs**	**28.56**	**238**	P	**P**	**17 08 36.2**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.0,baz=62,slow=10,SNR=62						
ASAR				PcP	PcP	17 11 47.0	-0.6
	comp=Z,2.5nm,0.9s,baz=64,slow=2.3,SNR=6.7						
FITZ	**Fitzroy Crossi**	**34.41**	**252**	*e*P	**P**	**17 09 27.9**	**-0.3**
	comp=Z,17nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**34.41**	**252**	P	**P**	**17 09 27.9**	**-0.2**
	comp=Z,8.7nm,0.6s,mb4.8,baz=91,slow=8.4,SNR=29						
KKM	**Kota Kinabalu**	**46.49**	**288**	*e*P	**P**	**17 11 08.4**	**+0.4**
PPT	**Papeete**	**49.36**	**105**	*e*LR	LR	17 25 37.2	
	comp=Z,112nm,22.8s						
MJAR	**Matsushiro Arr**	**50.52**	**337**	P	**P**	**17 11 38.1**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.4,baz=165,slow=8.5,SNR=9.2						
MAJO	**Matsushiro**	**50.52**	**337**	*e*P	**P**	**17 11 37.3**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**50.52**	**337**	*e*P	**P**	**17 11 37.3**	**-1.7**
	comp=Z,10nm,0.8s,mb4.8						
MAT	**Matsushiro**	**50.52**	**337**	P	**P**	**17 11 37.8**	**-1.2**
KSM	**Kuching**	**50.84**	**280**	*e*P	**P**	**17 11 41.8**	**+0.3**
KSRS	**Korea Array**	**55.87**	**329**	P	**P**	**17 12 18.9**	**+0.5**
	comp=Z,5.0nm,0.9s,mb4.5,baz=143,slow=7.1,SNR=11						
YSS	**Yuzh-Sakhalins**	**58.61**	**346**	*e*P	**P**	**17 12 36.3**	**-1.4**
YSS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**58.61**	**346**	*e*P	**P**	**17 12 36.2**	**-1.5**
	comp=Z,11nm,0.8s,mb4.9						
TAOE	**Nuku Hiva Isla**	**58.88**	**94**	*e*LR	LR	17 29 59.2	
	comp=Z,707nm,29.7s						
MDJ	**Mudanjiang**	**60.82**	**335**	*e*P	**P**	**17 12 53.2**	**+0.3**
	comp=Z,30nm,1.3s,mb5.3						
CN2	**Changchun**	**61.97**	**332**	⇑P	**P**	**17 13 01.0**	**+0.3**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.4						
KLR	**Kul'dur**	**63.87**	**340**	*e*P	**P**	**17 13 10.2**	**-3.1**
KMI	**Kunming**	**65.80**	**303**	P	**P**	**17 13 27.6**	**+1.8**
KMI				*SP	sP	17 13 56.9	+16
KMI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
KMI	**Kunming**	**65.80**	**303**	P	**P**	**17 13 27.6**	**+1.8**
	comp=Z,13nm,1.2s,mb4.8						
KMI				pP	pP	17 13 47.9	+11
KMI				sP	sP	17 13 56.9	+16
HHC	**Hu-ho-hao-te**	**67.39**	**322**	*e*P	**P**	**17 13 38.4**	**+2.3**
HHC				AP	pP	17 13 48.4	+1.5
HHC				XP	sP	17 13 53.3	+2.4
HHC				PP	PP	17 16 09.3	+4.5
HHC				S	S	17 22 31.1	+1.8
HHC				SCS	ScS	17 23 30.6	-0.9
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,224nm,5.6s						
HHC				LR	LR		
	comp=N,471nm,16.6s,MS5.0						
HHC				LR	LR		
	comp=E,630nm,16.1s,MS5.0						
HHC				LR	LR		
	comp=Z,418nm,14.9s,MS4.8						
CD2	**Chengdu**	**67.51**	**309**	P	**P**	**17 13 38.0**	**+1.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.6						
VNDA	**Vanda**	**67.68**	**180**	P	**P**	**17 13 37.4**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.5,baz=339,slow=7.3,SNR=24						
VNDA	**Vanda**	**67.68**	**180**	*e*P	**P**	**17 13 37.1**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VNDA	**Vanda**	**67.68**	**180**	*e*P	**P**	**17 13 37.1**	**-0.8**
	comp=Z,9.3nm,0.8s,mb4.9						
HIA	**Hailar**	**68.67**	**333**	*i* P	**P**	**17 13 44.3**	**+0.2**
HIA	**Hailar**	**68.67**	**333**	*e*P	**P**	**17 13 44.1**	**0.0**
	comp=Z,17nm,0.9s,mb5.0						
MA2	**Magadan**	**69.58**	**355**	*e*P	**P**	**17 13 47.8**	**-1.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MA2	**Magadan**	**69.58**	**355**	*e*P	**P**	**17 13 47.8**	**-1.9**
	comp=Z,10nm,0.7s,mb4.9						
LZH	**Lanzhou**	**69.89**	**314**	*e*P	**P**	**17 13 53.0**	**+1.4**
LZH				AP	pP	17 14 03.3	+0.8
LZH				XP	sP	17 14 07.1	+0.6
LZH				PP	PP	17 16 30.1	+3.7
LZH				*e*S	S	17 23 02.0	+3.0
LZH				XS	sS	17 23 17.6	+0.7
LZH				*e*SS	SS	17 27 32.1	+3.9
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,181nm,8.4s						
LZH				LR	LR		
	comp=E,400nm,14.4s						
LZH				LR	LR		
	comp=Z,670nm,15.2s,MS5.0						
LZH	**Lanzhou**	**69.89**	**314**	*e*P	**P**	**17 13 53.0**	**+1.4**
LZH				*PP	pP	17 14 03.2	+0.7
LZH				*SP	sP	17 14 07.1	+0.6
LZH						17 16 30.1	
LZH				*e*S	S	17 23 02.0	+3.0
LZH				*SS	sS	17 23 17.6	+0.7
LZH				*e*SS	SS	17 27 32.1	+3.9
LZH				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
LZH				MLR	MLR		
	comp=Z,670nm,15.2s,MS5.0						
LZH	**Lanzhou**	**69.89**	**314**	*e*P	**P**	**17 13 53.0**	**+1.4**
	comp=Z,26nm,1.2s,mb5.0						
LZH				pP	pP	17 14 03.2	+0.7
LZH				sP	sP	17 14 07.1	+0.6
LZH				PP	PP	17 16 30.1	+3.7
LZH				*e*S	S	17 23 02.0	+3.0
LZH				sS	sS	17 23 17.6	+0.7
LZH				*e*SS	SS	17 27 32.1	+3.9
LZH				LR	LR		
	comp=Z,670nm,15.2s,MS5.0						

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CLNS	**Chul'man**	**72.49**	**341**	*e*P	**P**	**17 14 05.1**	**-2.3**
CLNS				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,1μm,12.0s,MS5.3						
CLNS				MLR	MLR		
	comp=N,500nm,11.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,1μm,11.0s,MS5.4						
SEY	**Seymchan**	**72.78**	**356**	*i* P	**P**	**17 14 07.9**	**-1.2**
GTA	**Gaotai**	**74.28**	**316**	P	**P**	**17 14 19.1**	**+1.2**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
SONM	**Songino Array**	**74.48**	**326**	P	**P**	**17 14 19.5**	**+0.4**
	comp=Z,6.4nm,0.6s,mb4.7,baz=140,slow=5.5,SNR=64						
YAK	**Yakutsk**	**75.46**	**346**	*e*P	**P**	**17 14 24.2**	**-0.5**
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.3						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK	**Yakutsk**	**75.46**	**346**	*e*P	**P**	**17 14 23.9**	**-0.8**
	comp=N,45nm,0.7s,mb5.5						
LSA	**Lhasa**	**77.05**	**304**	*e*P	**P**	**17 14 35.4**	**+1.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
LSA	**Lhasa**	**77.05**	**304**	*e*P	**P**	**17 14 35.4**	**+1.7**
	comp=Z,9.4nm,1.1s,mb4.6						
ZAK	**Zakamensk**	**77.59**	**327**	⇑*e*P	**P**	**17 14 36.8**	**0.0**
BILL	**Biiibino**	**77.79**	**2**	*e*P	**P**	**17 14 37.1**	**-0.8**
BILL				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
BILL	**Biiibino**	**77.79**	**2**	*e*P	**P**	**17 14 37.0**	**-0.8**
	comp=Z,20nm,1.1s,mb5.0						
QSPA	**South Pole Qui**	**80.17**	**180**	*e*P	**P**	**17 14 50.6**	**-0.3**
	comp=Z,8.4nm,0.8s,mb4.7						
PALK	**Pallekele**	**80.89**	**279**	P	**P**	**17 14 59.5**	**+4.7**
	comp=Z,18nm,1.1s,mb4.9						
GUN	**Gumba**	**80.91**	**300**	*e*P	**P**	**17 14 55.8**	**+0.9**
	comp=Z,24nm,0.9s,mb5.1						
PKI	**Pulchoki**	**81.22**	**300**	*e*P	**P**	**17 14 57.2**	**+0.7**
	comp=Z,22nm,0.9s,mb5.1						
KKN	**Kakani**	**81.39**	**300**	*e*P	**P**	**17 14 57.9**	**+0.5**
	comp=Z,18nm,0.8s,mb5.1						
DMN	**Daman**	**81.49**	**300**	*e*P	**P**	**17 14 58.9**	**+0.9**
	comp=Z,51nm,1.0s,mb5.4						
GKN	**Gorkha**	**82.00**	**300**	*e*P	**P**	**17 15 00.9**	**+0.3**
	comp=Z,37nm,1.0s,mb5.3						
KOLN	**Koldanda**	**82.82**	**300**	*e*P	**P**	**17 15 04.0**	**-0.9**
	comp=Z,30nm,1.0s,mb5.3						
IMA2	**Indian Mountai**	**82.91**	**17**	*e*P	**P**	**17 15 04.2**	**-1.2**
MAW	**Mawson**	**83.74**	**202**	P	**P**	**17 15 09.1**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.7,baz=91,slow=9.3,SNR=6.6						
MAW	**Mawson**	**83.74**	**202**	P	**P**	**17 15 09.0**	**-0.7**
MAW				pmax	pmax		
	comp=Z,19nm,1.2s						
MAW	**Mawson**	**83.74**	**202**	P	**P**	**17 15 09.0**	**-0.7**
	comp=Z,19nm,1.2s,mb5.1						
TIXI	**Tiksi**	**83.91**	**350**	*i* P	**P**	**17 15 08.8**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.6						
COLA	**College**	**83.94**	**20**	*e*P	**P**	**17 15 08.8**	**-1.9**
WMQ	**Urumqi**	**84.35**	**316**	P	**P**	**17 15 12.8**	**0.0**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.6						
WMQ				LR	LR		
	comp=N,1μm,24.0s						
WMQ				LR	LR		
	comp=E,329nm,17.0s						
WMQ				LR	LR		
	comp=Z,334nm,17.0s						
L02A	**Cave Junction**	**86.53**	**46**	⇑P	**P**	**17 15 21.3**	**-2.3**
	baz=86						
O02C	**Red Bluff**	**86.58**	**48**	⇓P	**P**	**17 15 23.3**	**-0.6**
	baz=86						
V03C	**Hunter Liggett**	**86.67**	**53**	⇑P	**P**	**17 15 24.8**	**+0.5**
	baz=87						
PACP	**Pacheco Peak**	**86.88**	**52**	⇑P	**P**	**17 15 25.1**	**-0.2**
	baz=87						
I02A	**Mapleton**	**86.90**	**45**	⇓P	**P**	**17 15 22.8**	**-2.6**
	baz=87						
S04C	**Ingram Canyon,**	**86.98**	**51**	⇓P	**P**	**17 15 25.5**	**-0.3**
	baz=87						
U04C	**Hernandez Rese**	**87.11**	**53**	⇓P	**P**	**17 15 26.0**	**-0.5**
	baz=87						
PKD	**Parkfield**	**87.20**	**53**	⇑P	**P**	**17 15 27.5**	**+0.6**
	baz=87						
M03C	**McCloud**	**87.36**	**48**	⇑P	**P**	**17 15 27.7**	**0.0**
	baz=87						
ORV	**Oroville**	**87.37**	**49**	⇑P	**P**	**17 15 27.3**	**-0.4**
	baz=87						
S05C	**Merced**	**87.71**	**52**	⇓P	**P**	**17 15 29.0**	**-0.4**
	baz=88						
CMB	**Columbia Colle**	**87.83**	**51**	⇓P	**P**	**17 15 29.9**	**0.0**
	baz=88						
P05C	**Yuba Gap, Truc**	**87.97**	**50**	⇑P	**P**	**17 15 29.9**	**-0.7**
	baz=88						
T06C	**Millerton Lake**	**88.11**	**52**	⇑P	**P**	**17 15 30.7**	**-0.6**
	baz=88						
BEKR	**Beckwourth**	**88.30**	**49**	⇑P	**P**	**17 15 32.0**	**-0.1**
	baz=88						
ARVC	**Arvin**	**88.37**	**54**	⇓P	**P**	**17 15 33.5**	**+1.1**
	baz=88						
KCC	**Kaiser Creek**	**88.48**	**52**	⇓P	**P**	**17 15 32.9**	**-0.1**
	baz=88						
HELL	**Mitchell Peak,**	**88.57**	**53**	P	**P**	**17 15 33.7**	**+0.3**
	baz=88,SNR=5.3						
R06C	**Coleville**	**88.66**	**51**	⇑P	**P**	**17 15 33.4**	**-0.4**
	baz=89						
ISA	**Isabella**	**88.77**	**54**	⇑P	**P**	**17 15 34.2**	**-0.2**
	baz=89						
MK31	**Makanchi Array**	**88.88**	**318**	*e*P	**P**	**17 15 34.3**	**-0.6**
MKAR	**Makanchi Array**	**88.88**	**318**	P	**P**	**17 15 33.8**	**-1.1**
	comp=Z,3.9nm,0.9s,mb4.8,baz=105,slow=5.6,SNR=31						
MKAR	**Makanchi Array**	**88.88**	**318**	*i* P	**P**	**17 15 34.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
N06A	**Buffalo Meadow**	**88.90**	**48**	⇓P	**P**	**17 15 35.5**	**+0.5**
	baz=89						
EDW2	**Edwards Air Fo**	**88.98**	**54**	⇑P	**P**	**17 15 35.1**	**-0.3**
	baz=89						
LRMC	**Laurel Mountai**	**89.35**	**54**	⇑P	**P**	**17 15 37.6**	**+0.5**
	baz=89,SNR=5.2						
ZAL	**Zalesovo**	**89.37**	**325**	P	**P**	**17 15 36.3**	**-0.9**
	comp=Z,0.4nm,0.4s,mb4.1,baz=350,slow=19,SNR=3.0						
S08C	**White Mtn Res**	**89.41**	**52**	⇑P	**P**	**17 15 37.9**	**+0.5**
	baz=89						
O07A	**Toulon**	**89.47**	**49**	⇑P	**P**	**17 15 37.6**	**-0.1**
	baz=89						
NVAR	**Mina Array Bea**	**89.52**	**51**	P	**P**	**17 15 38.5**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.5,baz=243,slow=9.1,SNR=12						
M07A	**Soldier Meadow**	**89.54**	**48**	⇑P	**P**	**17 15 37.2**	**-0.8**
	baz=89						
MPMC	**Manual Prospec**	**89.64**	**53**	P	**P**	**17 15 39.3**	**+0.8**
	baz=90,SNR=6.5						
K07A	**Rock Creek Ran**	**89.79**	**47**	⇓P	**P**	**17 15 38.8**	**-0.4**
	baz=90						
Q08A	**Gabbs**	**89.90**	**51**	⇑P	**P**	**17 15 39.1**	**-0.5**
	baz=90						
GSC	**Goldstone**	**90.02**	**54**	⇓P	**P**	**17 15 41.4**	**+1.2**
	baz=90						
M08A	**Happy Creek Ra**	**90.13**	**48**	⇓P	**P**	**17 15 39.7**	**-1.1**
	baz=90						
N08A	**GE Springer Mi**	**90.17**	**49**	⇓P	**P**	**17 15 41.7**	**+0.7**
	baz=90						
S09A	**Goldfield**	**90.20**	**52**	⇑P	**P**	**17 15 40.3**	**-0.7**
	baz=90,SNR=6.4						
FURC	**Furnace Creek,**	**90.22**	**53**	⇑P	**P**	**17 15 41.7**	**+0.6**
	baz=90						
HEC	**Hector,Ludlow**	**90.31**	**55**	⇓P	**P**	**17 15 42.0**	**+0.4**
	baz=90						
L08A	**Fields**	**90.32**	**47**	⇑P	**P**	**17 15 42.2**	**+0.5**
	baz=90						
SWSC	**Sam W. Stewart**	**90.36**	**57**	⇓P	**P**	**17 15 43.2**	**+1.4**
	baz=90						
R09A	**Tonopah**	**90.42**	**51**	⇓P	**P**	**17 15 42.3**	**+0.2**
	baz=90,SNR=5.2						
J08A	**Circle Bar Ran**	**90.49**	**46**	⇓P	**P**	**17 15 42.7**	**+0.3**
	baz=90						
U10A	**Ash Meadows, A**	**90.63**	**53**	⇑P	**P**	**17 15 44.2**	**+1.1**
	baz=90						
N09A	**Rock Creek Ran**	**90.63**	**49**	⇑P	**P**	**17 15 43.4**	**+0.3**
	baz=90						
O09A	**Fish Creek Ran**	**90.74**	**49**	⇓P	**P**	**17 15 44.7**	**+1.2**
	baz=91						
TUQ	**Turquoise Mtn.**	**90.75**	**54**	⇓P	**P**	**17 15 44.2**	**+0.6**
	baz=91						
L09A	**Wilkinson Ranc**	**90.78**	**48**	⇓P	**P**	**17 15 44.5**	**+0.7**
	baz=91						
E08A	**Dider Farm, El**	**90.80**	**43**	⇑P	**P**	**17 15 42.8**	**-1.1**
	baz=91						
M09A	**Marrel Ranch,**	**90.81**	**48**	⇓P	**P**	**17 15 45.0**	**+1.1**
	baz=91						
K09A	**Rome**	**90.88**	**47**	⇑P	**P**	**17 15 44.7**	**+0.4**
	baz=91						
J09A	**Fry Pan Ranch,**	**91.00**	**46**	⇑P	**P**	**17 15 45.3**	**+0.5**
	baz=91						
IRM	**Iron Mountain**	**91.13**	**56**	⇑P	**P**	**17 15 46.4**	**+1.0**
	baz=91						
P10A	**Eureka**	**91.17**	**50**	⇑P	**P**	**17 15 45.8**	**+0.2**
	baz=91						
SYO	**Syowa Base**	**91.27**	**198**	⇓*e*P	**P**	**17 15 44.8**	**-1.3**
Q11A	**Duckwater**	**91.63**	**51**	P	**P**	**17 15 48.5**	**+0.8**
	baz=92,SNR=5.8						
O11A	**Cowboy Ranch,**	**91.88**	**50**	P	**P**	**17 15 50.0**	**+1.2**
	baz=92,SNR=8.9						
F10A	**Beach Ranch, E**	**91.93**	**44**	⇑P	**P**	**17 15 48.3**	**-0.8**
	baz=92						
H10A	**Noah's Angus R**	**91.97**	**45**	⇓P	**P**	**17 15 48.9**	**-0.4**
	baz=92						
M11A	**Holland Ranch,**	**92.03**	**48**	⇓P	**P**	**17 15 50.4**	**+0.8**
	baz=92						
U12A	**Valley of Fire**	**92.05**	**54**	⇓P	**P**	**17 15 51.3**	**+1.6**
	baz=92						
KURK	**Kurchatov**	**92.19**	**321**	*e*P	**P**	**17 15 48.4**	**-1.9**
X13A	**Yucca**	**92.28**	**55**	⇑P	**P**	**17 15 52.9**	**+2.2**
	baz=92						
Q12A	**Willow Creek R**	**92.30**	**51**	⇑P	**P**	**17 15 51.6**	**+0.8**
	baz=92						
I11A	**Placerville**	**92.39**	**46**	⇓P	**P**	**17 15 51.1**	**-0.2**
	baz=92						
N12A	**Clover Valley,**	**92.48**	**49**	⇑P	**P**	**17 15 53.1**	**+1.5**
	baz=92						
H11A	**Donnelly**	**92.51**	**45**	⇑P	**P**	**17 15 51.2**	**-0.6**
	baz=92						
M12A	**Wells**	**92.68**	**49**	⇓P	**P**	**17 15 53.8**	**+1.2**
	baz=93						
E11A	**Bogner Ranch,**	**92.70**	**44**	⇑P	**P**	**17 15 51.0**	**-1.7**
	baz=93						
J12A	**Stokes Ranch,**	**92.88**	**47**	⇓P	**P**	**17 15 53.3**	**-0.2**
	baz=93,SNR=7.9						
K12A	**Draper Farm, C**	**92.91**	**47**	P	**P**	**17 15 54.6**	**+1.0**
	baz=93,SNR=5.5						
W14A	**Seligman**	**93.00**	**55**	⇑P	**P**	**17 15 55.9**	**+1.9**
	baz=93						
X14A	**Yava**	**93.03**	**56**	⇑P	**P**	**17 15 56.1**	**+1.9**
	baz=93						
M13A	**Montello**	**93.22**	**49**	⇓P	**P**	**17 15 55.5**	**+0.5**
	baz=93						
HLID	**Hailey**	**93.43**	**47**	⇓P	**P**	**17 15 56.8**	**+0.8**
	baz=93						
L13A	**Double Diamond**	**93.51**	**48**	⇑P	**P**	**17 15 56.8**	**+0.4**
	baz=93						
J13A	**Cove Ranch, Pi**	**93.57**	**47**	⇓P	**P**	**17 15 56.7**	**0.0**
	baz=94						
G13A	**Cobalt**	**93.83**	**45**	⇑P	**P**	**17 15 56.8**	**-1.1**
	baz=94						
F13A	**Darby**	**93.88**	**44**	⇑P	**P**	**17 15 56.9**	**-1.2**
	baz=94						
YKA	**Yellowknife Ar**	**96.46**	**28**	P	**P**	**17 16 08.3**	**-1.6**
	comp=Z,1.4nm,0.6s,mb4.5,baz=259,slow=4.6,SNR=32						
PDAR	**Pinedale Array**	**96.82**	**48**	P	**P**	**17 16 11.2**	**-0.4**
	comp=Z,1.0nm,1.0s,mb4.2,baz=254,slow=2.8,SNR=4.9						
ANMO	**Albuquerque**	**98.34**	**56**	*e*P	**P**	**17 16 15.6**	**-2.8**
PMSA	**Palmer Station**	**98.61**	**162**	*e*P	**P**	**17 16 16.5**	**-3.1**
	comp=Z,65nm,1.1s						
BOSA	**Boshof**	**122.04**	**227**	PKP	PKPdf	17 21 35.1	+0.1
	comp=Z,1.6nm,0.6s,baz=150,slow=4.1,SNR=9.0						
BOSA	**Boshof**	**122.04**	**227**	*e*PKPdf	PKPdf	17 21 34.8	-0.2
LBTB	**Lobatse**	**123.76**	**231**	*e*PKIKP	PKPdf	17 21 38.7	+0.4
LSZ	**Lusaka**	**126.24**	**243**	*e*PKIKP	PKPdf	17 21 44.2	+1.1
SDV	**Santo Domingo**	**129.95**	**87**	*e*PKPdf	PKPdf	17 21 49.3	-0.9
TORD	**Torodi Ar. Bea**	**158.60**	**281**	PKPab	PKPab	17 23 13.9	+0.6
	comp=Z,2.0nm,1.0s,baz=99,slow=4.4,SNR=7.0						

IDC 23 17:12:08.0±2.7, 1798S×17660W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.7/3, Error ellipse: s-maj=96.2km s-min=40.2km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.31**	**259**	P	P	17 20 35.3	-0.1
	0.1nm,0.3s,baz=92,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**46.43**	**254**	P	P	17 20 37.9	+1.5
	1.2nm,0.4s,baz=90,slow=7.8,SNR=57						
ASAR				PcP	PcP	17 22 09.1	-2.1
	0.1nm,0.4s,baz=102,slow=4.2,SNR=4.9						
MJAR	**Matsushiro Arr**	**69.00**	**322**	P	P	17 23 15.3	+0.1
	1.3nm,1.0s,baz=154,slow=7.6,SNR=4.0						
BRTR	**Keskin Array B**	**146.04**	**316**	PKPbc	PKPbc	17 31 49.6

Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC ***23*** *17:28:31.9±1.8,2481N×12235E,h44km±17km,mb4.3/20, mb1 4.4/25,mb1mx4.3/30,mbtmp4.3/25,ML3.8/5,MS4.4/19, Ms1 4.4/19,ms1mx4.2/32 Error ellipse: s-maj=16.5km s-min=10.4km az=77.0*
ISC 23 17:28:29.9±0.2,2472N±002×12231E±002,h26km, h26km±2.2km:pP-P,n221,σ1§15/235,mb4.8/69,MS4.5/24, 7C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**112**	P			**Pb**	**17 28 41.3**	**-2.0**
YOJ				S			**Sb**	**17 28 52.3**	**-0.1**
TATO	**Taipei**	**0.79**	**289**	*e*Pg			**Pb**	**17 28 43.3**	**-1.6**
NACB	**Ninganchiao**	**0.85**	**230**	*e*Pn			**Pn**	**17 28 44.7**	**-1.4**
NACB				*e*Sn			**Sn**	**17 28 55.9**	**-1.8**
YHNB	**Yeheng**	**0.85**	**267**	*e*Pg			**Pb**	**17 28 44.4**	**-1.6**
YHNB				*e*Sn			**Sn**	**17 28 57.7**	**0.0**
IRIF	**Iriomote-Funau**	**1.35**	**106**	P			**Pn**	**17 28 50.5**	**-2.5**
IRIF				*e*S			**Sn**	**17 29 09.7**	**-0.3**
HATJ	**Hateruma jima**	**1.52**	**115**	P			**Pn**	**17 28 53.7**	**-1.6**
HATJ				*e*S			**Sn**	**17 29 14.7**	**+0.6**
JKRS	**Kuro-shima**	**1.62**	**107**	P			**Pn**	**17 28 54.9**	**-1.8**
JKRS				*e*S			**Sn**	**17 29 16.8**	**+0.1**
JIJ	**Ishigaki jima**	**1.71**	**102**	P			**Pn**	**17 28 55.7**	**-2.2**
JIJ				*e*S			**Sn**	**17 29 19.0**	**+0.1**
JTJ	**Tarama**	**2.18**	**92**	P			**Pn**	**17 29 03.2**	**-1.2**
JMJ	**Miyako jima 2**	**2.71**	**87**	P			**Pn**	**17 29 12.6**	**+0.8**
JOGS	**Gusukube**	**2.82**	**89**	P			**Pn**	**17 29 14.0**	**+0.8**
QZH	**Quanzhou**	**3.38**	**275**	⇑*i*P			**Pn**	**17 29 20.4**	**-0.6**
QZH				S			**Sn**	**17 29 55.3**	**-5.0**
QZH				Smax					
	comp=N,5μm,1.1s								
QZH				Smax					
	comp=E,2μm,0.6s								
QZH				LR			LR		
	comp=N,30μm,11.9s								
QZH				LR			LR		
	comp=E,37μm,10.3s								
QZH				LR			LR		
	comp=Z,41μm,9.3s								
BBP	**Basco**	**4.27**	**184**	⇑*i*P			**Pn**	**17 29 33.8**	**+0.6**
BBP				*i* S			**Sn**	**17 30 21.0**	**-1.0**
JKE	**Kume jima 2**	**4.35**	**67**	P			**Pn**	**17 29 35.1**	**+0.9**
JAGN	**Aguni-jima**	**4.83**	**66**	P			**Pn**	**17 29 42.5**	**+1.7**
JJT2	**Tamagusuku 2**	**5.12**	**73**	P			**Pn**	**17 29 46.2**	**+1.4**
JIH	**Iheya**	**5.59**	**64**	P			**Pn**	**17 29 53.0**	**+1.7**
JOW	**Kunigami**	**5.78**	**67**	P			**Pn**	**17 29 54.5**	**+0.7**
	comp=Z,8.0nm,0.3s,baz=240,slow=12,SNR=16								
JOW	**Kunigami**	**5.78**	**67**	P			**Pn**	**17 29 54.4**	**+0.6**
SSE	**Sheshan**	**6.43**	**351**	P			**Pn**	**17 29 59.4**	**-3.4**
SSE				S			**Sn**	**17 31 17.4**	**+2.1**
SSE				Smax					
	comp=N,532nm,1.0s								
SSE				Smax					
	comp=E,1μm,1.0s								
SSE				LR			LR		
	comp=N,6μm,9.2s								
SSE				LR			LR		
	comp=E,2μm,9.2s								
SSE				LR			LR		
	comp=Z,7μm,8.7s								
SSE	**Sheshan**	**6.43**	**351**	Pn			**Pn**	**17 29 59.4**	**-3.4**
	comp=Z,532nm,1.0s								
SSE				Sn			**Sn**	**17 31 17.4**	**+2.1**
JTK	**Tokunoshima**	**6.70**	**61**	P			**Pn**	**17 30 07.0**	**+0.5**
JAM	**Amami Oshima**	**7.50**	**59**	P			**Pn**	**17 30 18.5**	**+1.0**
WHN	**Wuhan**	**9.13**	**311**	*e*P			**Pn**	**17 30 38.5**	**-1.4**
WHN				S			**Sn**	**17 32 14.3**	**-7.5**
WHN				LR			LR		
	comp=Z,9μm,13.2s								
JFU	**Fukue jima 2**	**9.72**	**34**	P			**Pn**	**17 30 53.1**	**+5.2**
JSU	**Suzuyama**	**9.87**	**45**	P			**Pn**	**17 31 01.9**	**+12**
TGY	**Tagaytay City**	**10.64**	**187**	P			**Pn**	**17 31 03.3**	**+2.7**
	comp=Z,6.9nm,0.3s,baz=273,slow=19,SNR=1.8								
JNU	**Nakatsue**	**11.24**	**40**	P			**Pn**	**17 31 09.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=236,slow=12,SNR=1.8								
JNU				LR			LR	17 35 46.0	
	comp=Z,6μm,18.5s,baz=88,slow=39								
JNU	**Nakatsue**	**11.24**	**40**	P			**Pn**	**17 31 15.2**	**+6.4**
TIA	**Tai'an**	**12.29**	**340**	*e*P			**Pn**	**17 31 26.4**	**+3.2**
TIA				LR			LR		
	comp=N,2μm,19.0s								
TIA				LR			LR		
	comp=E,7μm,11.0s								
QIZ	**Qiongzhong**	**12.88**	**246**	*e*P			**Pn**	**17 31 31.1**	**-0.1**
QIZ				*e*S			**Sn**	**17 33 59.3**	**+5.7**
QIZ				LR			LR		
	comp=N,4μm,13.8s								
QIZ				LR			LR		
	comp=E,2μm,11.9s								
QIZ				LR			LR		
	comp=Z,2μm,15.0s								
INCN	**Inchon**	**13.25**	**15**	*e*Pn			**Pn**	**17 31 41.1**	**+4.9**
	comp=Z,144nm,1.1s								
INCN				*e*				17 31 48.5	
KSRS	**Korea Array**	**13.57**	**19**	P			**Pn**	**17 31 38.9**	**-1.7**
	baz=205,slow=14,SNR=7.5								
KSRS				LR			LR	17 37 19.8	
	comp=Z,2μm,18.5s,baz=181,slow=39								
DL2	**Dalian**	**14.16**	**358**	P			**Pn**	**17 31 51.3**	**+2.7**
DL2				AMB			AMB		
	comp=Z,10.0nm,1.0s								
DL2				AMB			AMB		
	comp=Z,150nm,7.0s								
DL2				LR			LR		
	comp=N,2μm,11.4s								
DL2				LR			LR		
	comp=E,710nm,11.1s								
DL2				LR			LR		
	comp=Z,2μm,11.1s								
GYA	**Guiyang**	**14.22**	**280**	P			**Pn**	**17 31 53.1**	**+3.6**
GYA				AMB			AMB		
	comp=Z,30nm,0.8s								
GYA				AMB			AMB		
	comp=Z,330nm,5.7s								
GYA				LR			LR		
	comp=N,3μm,7.8s								
GYA				LR			LR		
	comp=E,6μm,9.3s								
GYA				LR			LR		
	comp=Z,7μm,9.0s								
XAN	**Xi'an**	**14.90**	**312**	P			**Pn**	**17 31 58.3**	**-0.5**
XAN				AP			pP	17 32 01.4	-10
XAN				AMB			AMB		
	comp=Z,8.0nm,1.2s								
XAN				AMB			AMB		
	comp=Z,77nm,6.1s								
XAN				LR			LR		
	comp=N,3μm,15.0s								
XAN				LR			LR		
	comp=E,3μm,15.9s								
XAN				LR			LR		
	comp=Z,3μm,11.0s								
BJT	**Baijiatuau**	**16.11**	**343**	*e*P			**Pn**	**17 32 15.2**	**+0.8**
BJT				pmax			pmax		
	comp=Z,16nm,0.8s								
BJT	**Baijiatuau**	**16.11**	**343**	*e*P			**Pn**	**17 32 15.2**	**+0.8**
	comp=Z,16nm,0.8s								
BJT				*e*				17 32 23.1	
BJI	**Beijing**	**16.12**	**343**	P			**Pn**	**17 32 14.8**	**+0.1**
BJI				S			**Sn**	**17 35 17.3**	**+4.7**
BJI				AMB			AMB		
	comp=Z,18nm,1.1s								
BJI				LR			LR		
	comp=N,2μm,19.6s								
BJI				LR			LR		
	comp=E,4μm,13.1s								
BJI				LR			LR		
	comp=Z,1μm,24.8s								
BJI	**Beijing**	**16.12**	**343**	P			**Pn**	**17 32 14.7**	**0.0**
BJI				S			**Sn**	**17 35 17.3**	**+4.7**
BJI				pmax			pmax		
	comp=Z,18nm,1.1s								
BJI	**Beijing**	**16.12**	**343**	P			**Pn**	**17 32 14.7**	**0.0**
	comp=Z,18nm,1.1s								
BJI				S			**Sn**	**17 35 17.3**	**+4.7**
SNY	**Shenyang**	**17.10**	**3**	⇓P			**Pn**	**17 32 28.0**	**+1.1**
SNY				AMB			AMB		
	comp=Z,11nm,1.5s								
SNY				LR			LR		
	comp=N,3μm,10.5s								
SNY				LR			LR		
	comp=E,881nm,8.4s								
SNY				LR			LR		
	comp=Z,3μm,10.6s								
CD2	**Chengdu**	**17.52**	**295**	P			**Pn**	**17 32 32.3**	**0.0**
CD2				AP			pP	17 32 40.3	0.0
CD2				XP			sP	17 32 44.8	+1.1
CD2				PP				17 32 47.5	
CD2				S			**Sn**	**17 35 44.8**	**-1.8**
CD2				XS			sS	17 35 57.5	-7.7
CD2				SS				17 36 07.5	
CD2				AMB			AMB		
	comp=Z,30nm,0.6s								
CD2				AMB			AMB		
	comp=Z,230nm,5.1s								
CD2				LR			LR		
	comp=N,4μm,10.4s								
CD2				LR			LR		
	comp=E,3μm,7.9s								
CD2				LR			LR		
	comp=Z,3μm,10.2s								
KMI	**Kunming**	**17.76**	**275**	P			**Pn**	**17 32 35.3**	**+0.2**
KMI				PP				17 32 47.5	
KMI				PPP				17 32 57.6	
KMI				S			**Sn**	**17 35 47.3**	**-4.9**
KMI				SS				17 36 09.3	
KMI				SSS				17 36 21.6	
KMI				AMB			AMB		
	comp=Z,349nm,6.8s								
KMI				LR			LR		
	comp=N,3μm,7.4s								
KMI				LR			LR		
	comp=E,5μm,10.9s								
KMI				LR			LR		
	comp=Z,6μm,12.0s								
KMI	**Kunming**	**17.76**	**275**	P			**Pn**	**17 32 35.3**	**+0.2**
	comp=Z,3.0nm,1.8s								
KMI				sP			sP	17 32 39.7	-6.6
KMI				PP				17 32 47.5	
KMI				PPP				17 32 57.6	
KMI				S			**Sn**	**17 35 47.3**	**-4.9**
KMI				sS			sS	17 35 51.3	-19
KMI				SS				17 36 09.2	
KMI				SSS				17 36 21.6	
MAJO	**Matsushiro**	**18.03**	**45**	*e*P			**Pn**	**17 32 39.7**	**+1.2**
MAJO				pmax			pmax		
	comp=Z,44nm,1.2s								
MAJO	**Matsushiro**	**18.03**	**45**	*e*P			**Pn**	**17 32 39.7**	**+1.2**
	comp=Z,44nm,1.2s								
MAJO				*e*				17 32 46.2	
MAT	**Matsushiro**	**18.03**	**45**	P			**Pn**	**17 32 39.6**	**+1.1**
MAT				S			**Sn**	**17 36 05.0**	**+6.2**
MAT	**Matsushiro**	**18.03**	**45**	P			**Pn**	**17 32 45.6**	**+7.1**
MJAR	**Matsushiro Arr**	**18.03**	**45**	P			**Pn**	**17 32 40.0**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=235,slow=10,SNR=8.5								
MJAR				LR			LR	17 40 25.5	
	comp=Z,932nm,18.4s,baz=235,slow=40								
CBIJ	**Chichi jima**	**18.04**	**78**	LR			LR	17 38 28.4	
	comp=Z,337nm,18.4s,baz=90,slow=33								
JRY	**Ryogami san**	**18.19**	**48**	P			**Pn**	**17 32 47.8**	**+7.4**
HHC	**Hu-ho-hao-te**	**18.42**	**333**	*e*P			**Pn**	**17 32 44.5**	**+1.2**
HHC				AP			pP	17 32 52.9	+2.6
HHC				XP			sP	17 32 57.0	+3.4
HHC				PP				17 33 00.0	
HHC				S			**Sn**	**17 36 06.1**	**-2.2**
HHC				SS				17 36 29.9	
HHC				AMB			AMB		
	comp=Z,63nm,0.9s								
HHC				AMB			AMB		
	comp=Z,364nm,6.4s								
HHC				LR			LR		
	comp=N,4μm,14.3s								
HHC				LR			LR		
	comp=E,5μm,16.1s								
HHC				LR			LR		
	comp=Z,2μm,11.9s								
BTO	**Baotou**	**18.89**	**330**	*e*P			**Pn**	**17 32 49.0**	**+0.1**
BTO				AMB			AMB		
	comp=Z,15nm,1.2s								
BTO				LR			LR		
	comp=N,1μm,14.3s								
BTO				LR			LR		
	comp=E,2μm,13.1s								
CN2	**Changchun**	**19.21**	**7**	⇑P			**Pn**	**17 32 52.8**	**0.0**
CN2				*e*S			**Sn**	**17 36 22.3**	**-5.0**
CN2				AMB			AMB		
	comp=Z,40nm,1.0s								
CN2				AMB			AMB		
	comp=Z,300nm,4.0s								
CN2				LR			LR		
	comp=N,2μm,11.0s								
CN2				LR			LR		
	comp=E,2μm,11.0s								
CN2				LR			LR		
	comp=Z,2μm,11.0s								
KKM	**Kota Kinabalu**	**19.47**	**198**	P			**Pn**	**17 32 60.0**	**+4.1**
KKM	**Kota Kinabalu**	**19.47**	**198**	*e*P			**Pn**	**17 32 56.8**	**+0.9**
LZH	**Lanzhou**	**19.51**	**310**	*e*P			**Pn**	**17 32 57.8**	**+1.4**
LZH				AP			pP	17 33 07.5	+5.3
LZH				S			**Sn**	**17 36 36.0**	**+1.4**
LZH				AMB			AMB		
	comp=Z,50nm,1.1s								
LZH				AMB			AMB		
	comp=Z,270nm,5.2s								
LZH				LR			LR		
	comp=N,3μm,14.7s								
LZH				LR			LR		
	comp=Z,3μm,15.0s								
LZH	**Lanzhou**	**19.51**	**310**	*e*P			**Pn**	**17 32 57.8**	**+1.4**
	comp=Z,50nm,1.1s								
LZH				pP			pP	17 33 07.5	+5.3
LZH				sP			sP	17 33 12.9	+7.3
LZH				PP				17 33 19.0	
LZH				S			**Sn**	**17 36 36.0**	**+1.4**
LZH				sS			sS	17 36 51.0	+5.7
LZH				SS				17 37 08.0	
VLA	**Vladivostok**	**19.98**	**21**	*e*P			**Pn**	**17 33 01.7**	**-0.3**
VLA				pmax			pmax		
	comp=Z,421nm,1.9s								
VLA				MLR			MLR		
	comp=Z,1μm,11.0s								
KKTK	**Khon Kaen**	**20.05**	**249**	P			**P**	**17 33 03.5**	**+2.6**
MDJ	**Mudanjiang**	**20.72**	**15**	P			**P**	**17 33 09.0**	**+0.8**
MDJ				AP				17 33 14.1	
MDJ				XP			sP	17 33 17.3	-1.4
MDJ				S			**S**	**17 37 02.6**	**+4.4**
MDJ				AMB			AMB		
	comp=Z,32nm,1.2s								
MDJ				AMB			AMB		
	comp=Z,311nm,10.1s								
MDJ				LR			LR		
	comp=N,1μm,15.2s,MS4.8								
MDJ				LR			LR		
	comp=E,3μm,15.2s,MS4.8								
MDJ				LR			LR		
	comp=Z,2μm,14.0s,MS4.6								
MDJ	**Mudanjiang**	**20.72**	**15**	*e*P			**P**	**17 33 08.8**	**+0.7**
	comp=Z,90nm,1.4s								
TSM	**Tawau**	**20.75**	**193**	P			**P**	**17 33 09.5**	**+1.0**
NANT	**Nan**	**20.91**	**258**	⇓P				17 33 29.2	
	comp=Z,208nm,1.2s								
JOM	**Ohasama**	**21.73**	**43**	P			**P**	**17 33 15.6**	**-3.5**
CHTO	**Chiang Mai**	**22.47**	**259**	⇓P			**P**	**17 33 28.7**	**+1.8**
	SNR=15								
CHTO	**Chiang Mai**	**22.47**	**259**	*e*P			**P**	**17 33 29.4**	**+2.5**
CHTO				pmax			pmax		
	comp=Z,51nm,1.3s,mb4.8								
CHTO	**Chiang Mai**	**22.47**	**259**	*e*P			**P**	**17 33 29.4**	**+2.5**
	comp=Z,51nm,1.3s,mb4.8								
GTA	**Gaotai**	**23.95**	**313**	P			**P**	**17 33 42.4**	**+0.5**
GTA				AP				17 33 52.1	
GTA				XP			sP	17 33 55.9	+3.1
GTA				AMB			AMB		
	comp=Z,32nm,1.7s,mb4.5								
GTA				AMB			AMB		
	comp=Z,246nm,7.2s								
GTA				LR			LR		
	comp=N,3μm,17.5s,MS4.9								
GTA				LR			LR		
	comp=E,2μm,17.1s,MS4.9								
GTA				LR			LR		
	comp=Z,2μm,16.4s,MS4.6								
GUMO	**Guam**	**23.98**	**113**	LR			LR	17 42 17.6	
	comp=Z,500nm,18.1s,MS4.0,baz=123,slow=34								
HIA	**Hailar**	**24.59**	**356**	*e*P			**P**	**17 33 47.2**	**-0.5**
HIA				pmax			pmax		
	comp=Z,65nm,1.4s								
HIA	**Hailar**	**24.59**	**356**	*e*P			**P**	**17 33 47.2**	**-0.4**
	comp=Z,65nm,1.4s,mb5.0								
JCH	**Churui**	**24.90**	**39**	P			**P**	**17 33 50.5**	**0.0**
ASAJ	**Asahikawa**	**25.46**	**36**	P			**P**	**17 33 54.5**	**-1.1**
	comp=Z,4.1nm,0.4s,mb4.3,baz=246,slow=19,SNR=11								
ASAJ				LR			LR	17 44 06.1	
	comp=Z,2μm,18.9s,MS4.5,baz=262,slow=37								
KLR	**Kul'dur**	**25.56**	**14**	*e*P			**P**	**17 33 52.8**	**-3.7**
KLR				*e*S			**S**	**17 38 27.5**	**+4.8**
KLR				pmax			pmax		
	comp=N,50nm,1.8s								
KLR				pmax			pmax		
	comp=Z,100nm,1.8s,mb5.0								
KLR				smax					
	comp=N,1μm,15.0s								
KLR				smax					
	comp=E,500nm,15.0s								
KLR				MLR			MLR		
	comp=N,2μm,12.0s								
KLR				MLR			MLR		
	comp=Z,7μm,12.0s,MS5.4								
HABR	**Khabarovsk**	**25.75**	**20**	⇑*e*P			**P**	**17 33 59.0**	**+0.7**
HABR				*e**PP				17 34 38.0	
HABR				*e*S			**S**	**17 38 11.9**	**-14**
HABR				pmax			pmax		
	comp=Z,45nm,1.4s,mb4.8								
KSM	**Kuching**	**25.86**	**208**	*e*P			**P**	**17 33 59.9**	**+0.7**
SONM	**Songino Array**	**26.29**	**335**	P			**P**	**17 34 03.4**	**+0.3**
	comp=Z,49nm,1.0s,mb5.0,baz=144,slow=5.3,SNR=201								
SONM				PcP			PcP	17 37 28.5	-0.5
	comp=Z,2.9nm,1.0s,baz=178,slow=3.2,SNR=5.0								
SONM				LR			LR	17 44 45.6	
	comp=Z,994nm,18.2s,MS4.4,baz=325,slow=37								
SONM	**Songino Array**	**26.29**	**335**	P			**P**	**17 34 03.4**	**+0.2**
SONM								17 37 28.5	
YSS	**Yuzh-Sakhalins**	**27.54**	**31**	*e*P			**P**	**17 34 12.3**	**-2.1**
YSS				*e*			pP	17 34 19.0	-3.1
YSS				pmax			pmax		
	comp=Z,40nm,1.0s,mb5.0								
YSS				MLR			MLR		
	comp=Z,900nm,17.0s,MS4.4								
YSS				MLR			MLR		
	comp=E,800nm,18.0s								
YSS	**Yuzh-Sakhalins**	**27.54**	**31**	*e*P			**P**	**17 34 15.6**	**+1.2**
	comp=E,48nm,0.9s,mb5.1								
CIT	**Chita**	**28.07**	**348**	*e*P			**P**	**17 34 19.4**	**+0.3**
CIT				*e*				17 34 31.2	
CIT				*e*				17 35 11.1	
CIT				pmax			pmax		
	comp=Z,85nm,1.7s,mb5.1								
LSA	**Lhasa**	**28.10**	**287**	P			**P**	**17 34 21.0**	**+1.6**
LSA				AMB			AMB		
	comp=Z,10.0nm,1.0s,mb4.4								
LSA				LR			LR		
	comp=N,850nm,18.5s								
LSA				LR			LR		
	comp=Z,1μm,10.2s								
LSA	**Lhasa**	**28.10**	**287**	*e*P			**P**	**17 34 21.0**	**+1.6**
LSA				pmax			pmax		
	comp=Z,13nm,0.9s,mb4.6								
LSA	**Lhasa**	**28.10**	**287**	*e*P			**P**	**17 34 21.0**	**+1.6**
	comp=Z,13nm,0.9s,mb4.6								
IPM	**Ipoh**	**28.70**	**229**	P			**P**	**17 34 25.5**	**+0.7**
ZAK	**Žakamensk**	**29.56**	**335**	⇓*e*P			**P**	**17 34 32.2**	**-0.1**
ZAK				pmax			pmax		
	comp=Z,8.0nm,1.1s,mb4.4								
TLY	**Talaya**	**30.47**	**337**	P			**P**	**17 34 40.5**	**0.0**
	comp=Z,255nm,0.9s,SNR=6.3								
TLY	**Talaya**	**30.47**	**337**	⇓P			**P**	**17 34 41.0**	**+0.5**
	SNR=7.7								
TLY	**Talaya**	**30.47**	**337**	*e*P			**P**	**17 34 40.5**	**0.0**
TLY				pmax			pmax		
	comp=Z,47nm,1.0s,mb5.2								
TLY				MLR			MLR		
	comp=Z,476nm,12.0s,MS4.4								
TLY	**Talaya**	**30.47**	**337**	*e*P			**P**	**17 34 40.2**	**-0.2**
	comp=Z,43nm,0.9s,mb5.2								
IRK	**Irkutsk**	**30.72**	**338**	*e*P			**P**	**17 34 42.0**	**-0.6**
IRK				pmax			pmax		
	comp=Z,84nm,1.4s,mb5.4								
PSI	**Prapat**	**31.36**	**230**	P			**P**	**17 34 50.1**	**+1.9**
	comp=Z,13nm,0.7s,mb4.8,baz=16,slow=4.3,SNR=4.7								
PSI				LR			LR	17 46 25.4	
	comp=Z,299nm,20.1s,MS4.0,baz=295,slow=34								
MOY	**Mondy**	**31.46**	**334**	*e*P			**P**	**17 34 49.4**	**+0.3**
MOY				*e*				17 45 21.2	
MOY				pmax			pmax		
	comp=Z,59nm,2.1s,mb5.0								
GUN	**Gumba**	**32.73**	**284**	*e*P			**P**	**17 35 01.7**	**+1.4**
	comp=Z,91nm,1.1s,mb5.6								
PKI	**Pulchoki**	**33.17**	**283**	*e*P			**P**	**17 35 05.1**	**+1.0**
	comp=Z,46nm,1.1s,mb5.3								
KKN	**Kakani**	**33.27**	**283**	*e*P			**P**	**17 35 06.0**	**+1.0**
	comp=Z,72nm,1.1s,mb5.5								
DMN	**Daman**	**33.44**	**283**	*e*P			**P**	**17 35 07.5**	**+1.0**
	comp=Z,51nm,1.0s,mb5.4								
BOD	**Bodaibo**	**33.60**	**352**	*e*P			**P**	**17 35 06.3**	**-1.6**
BOD				pmax			pmax		
	comp=Z,5.0nm,1.6s,mb4.2								
GKN	**Gorkha**	**33.83**	**284**	*e*P			**P**	**17 35 10.6**	**+0.7**
	comp=Z,77nm,1.2s,mb5.5								
WMQ	**Urumqi**	**34.04**	**313**	P			**P**	**17 35 12.8**	**+1.1**
WMQ				XP			sP	17 35 26.6	+3.9
WMQ				PP			PP	17 36 26.9	-2.0
WMQ				PPP				17 36 45.1	
WMQ				PCP			PcP	17 37 49.5	+0.4
WMQ				S			**S**	**17 40 35.3**	**-0.2**
WMQ				XS			sS	17 40 50.9	+2.5
WMQ				SS			SS	17 42 44.0	-19
WMQ				SCS			ScS	17 45 32.4	-1.7
WMQ				AMB			AMB		
	comp=Z,9.0nm,1.2s,mb4.6								
WMQ				AMB			AMB		
	comp=Z,265nm,3.8s								
WMQ				LR			LR		
	comp=N,1μm,9.0s								
WMQ				LR			LR		
	comp=E,776nm,8.0s								
WMQ				LR			LR		
	comp=Z,335nm,17.0s,MS4.1								
KOLN	**Koldanda**	**34.76**	**284**	*e*P			**P**	**17 35 19.0**	**+1.1**
	comp=Z,50nm,1.1s,mb5.4								
YAK	**Yakutsk**	**37.63**	**6**	*e*P			**P**	**17 35 41.4**	**-1.1**
YAK				*i* *PP			pP	17 35 52.5	+2.1
YAK				*e*S			**S**	**17 41 21.2**	**-9.4**
YAK				pmax			pmax		
	comp=N,21nm,1.5s								
YAK				pmax			pmax		
	comp=Z,33nm,1.5s,mb4.8								
YAK				pmax			pmax		
	comp=E,6.0nm,1.4s								
YAK				MLR			MLR		
	comp=Z,1μm,16.0s,MS4.8								
YAK				MLR			MLR		
	comp=N,1μm,15.0s,MS4.8								
YAK				MLR			MLR		
	comp=E,152nm,13.0s,MS4.8								
YAK	**Yakutsk**	**37.63**	**6**	*e*P			**P**	**17 35 41.0**	**-1.5**
	comp=E,20nm,0.9s,mb4.8								
KRAR	**Krasnoyarsk**	**37.92**	**333**	*e*P			**P**	**17 35 44.4**	**-0.5**
KRAR				pmax			pmax		
	comp=Z,31nm,1.3s,mb4.9								
KAKA	**Kakadu**	**38.49**	**164**	*e*P			**P**	**17 35 49.4**	**-0.4**
	comp=Z,28nm,0.8s,mb5.0								
MK31	**Makanchi Array**	**38.68**	**315**	*e*P			**P**	**17 35 51.3**	**0.0**
MKAR	**Makanchi Array**	**38.68**	**315**	P			**P**	**17

comp=N,22nm,1.8s
NVS pmax pmax
comp=E,22nm,1.8s
NVS pmax pmax
comp=Z,36nm,1.8s,mb4.7
KURK Kurchatov 42.35 319 P **P 17 36 21.8 +0.2**
comp=Z,75nm,1.3s,mb5.2,SNR=7.5
KURK Kurchatov 42.35 319 ⇑P **P 17 36 21.1 -0.5**
SNR=7.4
KURK Kurchatov 42.35 319 ⇓*i*P **P 17 36 21.1 -0.5**
KURK Kurchatov 42.35 319 *e*P **P 17 36 21.2 -0.4**
comp=Z,38nm,1.5s,mb4.8
FITZ Fitzroy Crossi 42.68 175 *e*P **P 17 36 24.0 -0.4**
comp=Z,10nm,0.9s,mb4.5
FITZ *i* pP pP 17 36 31.6 -0.7
FITZ Fitzroy Crossi 42.68 175 P **P 17 36 24.3 -0.1**
comp=Z,8.4nm,0.9s,mb4.5,baz=20,slow=9.1,SNR=9.4
FITZ PcP PcP 17 38 15.7 -0.2
comp=Z,2.9nm,0.8s,baz=270,slow=4.0,SNR=3.3
AJM Ajmer 42.83 283 *i* P **P 17 36 26.0 +0.4**
AAK Ala-Archa 43.00 307 *e*P **P 17 36 27.2 +0.2**
AAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
AAK Ala-Archa 43.00 307 *e*P **P 17 36 27.2 +0.2**
comp=Z,9.1nm,1.3s,mb4.3
SEY Seymchan 43.13 20 *e*P **P 17 36 27.0 -1.0**
WRA Warramunga Arr 45.91 164 P **P 17 36 50.4 +0.2**
comp=Z,118nm,0.9s,mb5.8,baz=346,slow=8.4,SNR=292
WB2 Warramunga Arr 45.91 164 *e*P **P 17 36 50.6 +0.4**
WB2 *i* pP pP 17 36 57.1 -1.1
WB2 Warramunga Arr 45.91 164 *e*P **P 17 36 50.7 +0.5**
WB2 *e* 17 36 55.9
KK31 Karatay Array 45.97 307 *i* P **P 17 36 51.2 +0.6**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
KKAR Karatay Array 45.97 307 P **P 17 36 51.2 +0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
KBL Kabul 46.87 295 *e*P **P 17 36 59.0 +1.3**
KBL *e*PP PP 17 38 52.1 +4.1
TIXI Tiksi 47.11 3 *e*P **P 17 36 53.5 -6.1**
TIXI *e*S **S 17 43 43.0 -7.2**
TIXI pmax pmax
comp=Z,45nm,1.5s,mb5.2
TIXI Tiksi 47.11 3 *e*P **P 17 36 57.3 -2.3**
comp=Z,45nm,1.2s,mb5.3
BVA0 Borovoye Array 47.92 320 P **P 17 37 05.2 -0.7**
BVA0 pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
BVAR Borovoye Array 47.92 320 P **P 17 37 05.2 -0.6**
comp=Z,4.9nm,1.0s,mb4.5,baz=108,slow=13,SNR=16
BVAR PcP PcP 17 38 32.8 -1.2
comp=Z,1.7nm,0.7s,baz=72,slow=4.7,SNR=2.6
BRVK Borovoye 47.99 320 P **P 17 37 06.8 +0.4**
comp=Z,124nm,0.9s,mb5.9,SNR=6.4
BRVK Borovoye 47.99 320 ⇓P **P 17 37 06.2 -0.2**
SNR=7.2
BRVK Borovoye 47.99 320 *e*P **P 17 37 05.7 -0.7**
BRVK pmax pmax
comp=Z,21nm,0.9s,mb5.2
BRVK Borovoye 47.99 320 *e*P **P 17 37 05.7 -0.8**
comp=Z,21nm,0.9s,mb5.2
ASAR Alice Springs 49.39 166 P **P 17 37 18.1 +0.8**
comp=Z,34nm,0.8s,mb5.4,baz=343,slow=6.7,SNR=204
CTA Charters Tower 50.27 150 *e*P **P 17 37 25.6 +1.8**
comp=Z,21nm,1.4s,mb5.0
CTA *i* pP pP 17 37 32.6 +0.7
CTA Charters Tower 50.27 150 P **P 17 37 25.2 +1.4**
comp=Z,11nm,0.9s,mb4.9,baz=319,slow=8.4,SNR=5.6
CTAO Charters Tower 50.27 150 *e*P **P 17 37 24.9 +1.1**
CTAO pmax pmax
comp=Z,29nm,1.1s,mb5.2
CTAO Charters Tower 50.27 150 *e*P **P 17 37 24.9 +1.1**
comp=Z,29nm,1.1s,mb5.2
BILL Bilibino 50.84 20 *i* P **P 17 37 28.0 -0.2**
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BILL Bilibino 50.84 20 *e*P **P 17 37 27.6 -0.5**
comp=Z,6.5nm,1.0s,mb4.5
AB31 Akbulak array 53.81 314 *i* P **P 17 37 49.8 -0.4**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AKTO Aktyubinsk 55.11 315 P **P 17 37 59.3 -0.4**
ARU Arti 55.30 323 ⇓*i*P **P 17 38 00.0 -1.1**
ARU *e* 17 40 04.8
ARU pmax pmax
comp=Z,19nm,0.9s,mb5.1
ARU Arti 55.30 323 *e*P **P 17 38 00.1 -1.0**
comp=Z,20nm,0.9s,mb5.1
FORT Forrest 55.46 174 *e*P **P 17 38 03.2 +1.0**
comp=Z,18nm,0.6s,mb5.3
FORT *i* pP pP 17 38 09.0 -1.3
ORR Orenburg 57.21 317 *e*P **P 17 38 14.2 -0.5**
ORR MLR MLR
comp=Z,350nm,18.0s,MS4.5
NWAO Narrogin (SRO) 57.53 185 P **P 17 38 16.2 -0.7**
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 57.53 185 P **P 17 38 16.2 -0.7**
comp=Z,10nm,0.8s,mb4.9
STKA Stephens Creek 59.22 161 *e*P **P 17 38 28.5 -0.2**
comp=Z,4.5nm,0.8s,mb4.5
STKA Stephens Creek 59.22 161 P **P 17 38 29.0 +0.3**
comp=Z,5.2nm,0.8s,mb4.6,baz=349,slow=8.2,SNR=9.0
STKA LR LR 18 04 36.9
comp=Z,141nm,20.3s,MS4.1,baz=22,slow=36
STKA Stephens Creek 59.22 161 *e*P **P 17 38 28.3 -0.4**
KLMR Klimovskoe 65.26 328 *e*P **P 17 39 07.0 -2.2**
KLMR pmax pmax
comp=Z,43nm,1.5s,mb5.3
KIV Kislovodsk 66.05 309 *e*P **P 17 39 15.4 +1.1**
KIV pmax pmax
comp=Z,35nm,1.2s,mb5.3
KIV Kislovodsk 66.05 309 *e*P **P 17 39 15.3 +1.1**
comp=Z,35nm,1.2s,mb5.3
OBN Obninsk 67.72 322⇑*e*P **P 17 39 23.6 -1.3**
OBN 17 39 51.0
OBN 17 41 54.5
OBN pmax pmax
comp=Z,19nm,1.5s,mb4.9
OBN MLR MLR
comp=Z,200nm,14.0s,MS4.5
COLA College 67.84 27 *e*P **P 17 39 26.3 +0.6**
COLA College 67.84 27 P **P 17 39 24.9 -0.8**
JOF Joensuu 68.75 331 *e*p **P 17 39 33.4 +2.0**
comp=Z,3.5nm,0.5s,mb4.5
ARCES ARCESS Array B 69.43 338 P **P 17 39 35.1 -0.5**
comp=Z,4.7nm,0.9s,mb4.4,baz=40,slow=4.0,SNR=4.5
ARCES LR LR 18 17 59.0
comp=Z,541nm,18.8s,MS4.8,baz=184,slow=43
KAF Kangasniemi 71.20 330 *e*p **P 17 39 48.3 +1.9**
comp=Z,2.5nm,0.6s,mb4.3
KAF Kangasniemi 71.20 330 *e*P **P 17 39 48.3 +1.9**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FINES FINESS Array B 71.50 330 P **P 17 39 47.3 -1.0**
comp=Z,3.9nm,0.8s,mb4.4,baz=66,slow=4.8,SNR=6.3
FINES LR LR 18 13 37.1
comp=Z,477nm,19.7s,MS4.8,baz=253,slow=38
FINES FINESS Array B 71.50 330 *i* P **P 17 39 48.5 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 72.35 22 P **P 17 39 51.6 -1.7**
comp=Z,4.7nm,0.9s,mb4.4,baz=296,slow=8.8,SNR=14
INK LR LR 18 14 28.1
comp=Z,300nm,19.9s,MS4.6,baz=107,slow=38
INK Inuvik 72.35 22 *e*P **P 17 39 51.8 -1.5**
comp=Z,417nm,1.2s
AKASG Malin Array Be 73.15 318 P **P 17 39 57.1 -1.0**
comp=Z,3.9nm,0.9s,mb4.3,baz=58,slow=5.4,SNR=10
AKASG LR LR 18 17 34.3
comp=Z,317nm,18.2s,MS4.6,baz=50,slow=40
BRTR Keskin Array B 73.68 307 P **P 17 40 01.5 +0.3**
comp=Z,7.0nm,0.9s,mb4.6,baz=90,slow=7.4,SNR=22
ANTO Ankara 74.25 307 *e*P **P 17 40 04.3 -0.2**
ANTO pmax pmax
comp=Z,15nm,0.9s,mb4.9
ANTO Ankara 74.25 307 *e*P **P 17 40 04.3 -0.2**
comp=Z,14nm,0.9s,mb4.9
SUW Suwalki 75.49 323 P **P 17 40 10.9 -0.8**
SUW pmax pmax
comp=Z,54nm,1.0s,mb5.4
SUW Suwalki 75.49 323 P **P 17 40 10.8 -0.9**
comp=Z,54nm,1.0s,mb5.4
RES Resolute Bay 77.97 9 *e*P **P 17 40 22.2 -3.5**
comp=Z,308nm,1.2s
NB2 NORSAR Subarra 78.23 332 P **P 17 40 26.0 -1.2**
comp=Z,4.0nm,0.9s,mb4.3,baz=55,slow=6.2
NOA NORSAR Array B 78.23 332 P **P 17 40 25.4 -1.7**
comp=Z,2.8nm,1.0s,mb4.2,baz=60,slow=5.3,SNR=3.9
NOA PP PP 17 43 23.8 -0.2
comp=Z,1.5nm,0.9s,baz=68,slow=8.2,SNR=3.4
NOA LR LR 18 18 40.0
comp=Z,246nm,18.4s,MS4.6,baz=50,slow=38
NOA NORSAR Array B 78.23 332 P **P 17 40 25.4 -1.8**
NOA 17 43 23.8
NOA NORSAR Array B 78.23 332 P **P 17 40 25.4 -1.7**
NOA PP PP 17 43 23.8 -0.2
NOA LR LR 18 18 40.0
KSP Ksiaz 80.65 322 *e*P **P 17 40 41.2 +0.9**
UPC Upice 80.96 322 *e*pP pP 17 40 47.6 -2.9
PVCC Panska Ves 81.76 322 *e*P **P 17 40 45.2 -1.0**
YKA Yellowknife Ar 82.08 23 P **P 17 40 46.1 -1.8**
comp=Z,4.2nm,0.8s,mb4.4,baz=314,slow=4.9,SNR=62
YKA PKKPbc PKKPbc 17 59 14.2 -2.4
comp=Z,0.1nm,0.4s,baz=123,slow=2.9,SNR=3.8
YKA LR LR 18 20 17.7
comp=Z,222nm,21.0s,MS4.5,baz=285,slow=38
YKA Yellowknife Ar 82.08 23 P **P 17 40 46.1 -1.8**
YKA PKKPbc PKKPbc 17 59 14.2 -2.4
YKA LR LR 18 20 17.7
CLL Collm 82.24 323 *e*P **P 17 40 49.0 +0.2**
CLL *e*PcP PcP 17 40 55.0 +1.0
CLL *e*pP pP 17 40 58.0 +0.8
CLL *e*sPcP 17 41 06.0
KHC Kasperske Hory 83.01 321 *e*P **P 17 40 52.9 +0.2**
GERES GERESS Array B 83.08 321 P **P 17 40 52.9 -0.2**
comp=Z,0.9nm,0.8s,mb3.9,baz=64,slow=6.1,SNR=6.6
GERES LR LR 18 18 41.8
comp=Z,222nm,18.6s,MS4.6,baz=256,slow=36
NKC Novy Kostel 83.09 323 *e*P **P 17 40 53.5 +0.3**
KMBO Kilima Mbogo 85.97 267 P **P 17 41 08.9 +1.2**
comp=Z,6.0nm,0.9s,mb4.8,baz=42,slow=8.5,SNR=18
KMBO Kilima Mbogo 85.97 267⇑*e*P **P 17 41 10.1 +2.4**
KMBO Kilima Mbogo 85.97 267 *e*P **P 17 41 09.0 +1.3**
comp=Z,7.0nm,0.9s,mb4.9
GIVF Givet 87.26 325 *e*P **P 17 41 14.5 +0.5**
LPG La Plagne 88.87 321 *e*P **P 17 41 21.5 -0.2**
comp=Z,14nm,1.1s,mb4.9
LPG La Plagne 88.87 321 *e*P **P 17 41 21.5 -0.2**
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LPG La Plagne 88.87 321 *e*P **P 17 41 21.5 -0.2**
comp=Z,7.3nm,1.0s,mb5.0
LPL La Plagne 88.87 321 *e*P **P 17 41 21.3 -0.4**
comp=Z,13nm,1.0s,mb4.9
LPL La Plagne 88.87 321 *e*P **P 17 41 21.3 -0.4**
LPL pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LPL La Plagne 88.87 321 *e*P **P 17 41 21.3 -0.4**
comp=Z,6.7nm,1.0s,mb4.9
SSF Saint Saulge 89.78 323 *e*P **P 17 41 25.5 -0.4**
SMF Signal de Mont 89.84 323 *e*P **P 17 41 25.4 -0.9**
comp=Z,18nm,1.1s,mb5.0
SMF Signal de Mont 89.84 323 *e*P **P 17 41 25.4 -0.9**
SMF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
SMF Signal de Mont 89.84 323 *e*P **P 17 41 25.4 -0.9**
comp=Z,8.9nm,1.1s,mb5.0
AVF Avril sur Loir 90.02 323 *e*P **P 17 41 26.2 -0.9**
FCC Fort Churchill 91.53 18 *e*P **P 17 41 32.0 -2.1**
FCC pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
FCC Fort Churchill 91.53 18 *e*P **P 17 41 31.9 -2.1**
comp=Z,9.5nm,1.3s,mb5.0
NVAR Mina Array Bea 95.34 43 P **P 17 41 51.7 0.0**
comp=Z,1.7nm,0.8s,mb4.5,baz=287,slow=5.6,SNR=12
PDAR Pinedale Array 97.60 36 LR LR 18 21 48.6
comp=Z,171nm,21.2s,MS4.5,baz=348,slow=33
ULM Lac du Bonnet 98.05 24 LR LR 18 34 05.4
comp=Z,154nm,20.0s,MS4.5,baz=329,slow=40
VNDA Vanda 104.67 172 PP PP 17 46 51.5 -1.5
comp=Z,3.1nm,1.1s,baz=316,slow=7.6,SNR=4.1
TORD Torodi Ar. Bea 110.93 296 PP PP 17 47 34.8 -3.9
comp=Z,1.4nm,1.0s,baz=58,slow=4.5,SNR=4.7
SNAA Sanae 124.06 198 *e*PKPdf PKPdf 17 47 25.3 -0.5
VNA2 Neumayer--Watz 125.71 198 *e*PKPdf PKPdf 17 47 28.1 -0.9
baz=42,slow=1.5
VNA2 *e* 17 47 34.3
VNA2 *e* 17 47 36.1
VNA1 Neumayer--Stat 126.10 198 *e*PKPdf PKPdf 17 47 29.1 -0.6
VNA1 *e* 17 47 35.2
VNA1 *e* 17 47 37.0
VNA3 Neumayer Olymp 126.17 197 *e*PKPdf PKPdf 17 47 28.4 -1.5
VNA3 *e* 17 47 35.0
VNA3 *e* 17 47 36.7
SDV Santo Domingo 144.29 22 *e*PKPdf PKPdf 17 48 00.6 -2.9
ROSC El Rosal 146.44 31 PKPbc PKPbc 17 48 09.3 +0.8
comp=Z,4.0nm,0.3s,baz=98,slow=22,SNR=6.4
ROSC El Rosal 146.44 31 *e*PKPdf PKPdf 17 48 08.4 +1.3
LPAZ La Paz 167.12 51 PKP PKPdf 17 48 33.8 +0.6
comp=Z,3.1nm,1.1s,baz=351,slow=2.9,SNR=7.5
LPAZ PKPab PKPab 17 49 37.3 -0.2
comp=Z,1.8nm,0.9s,baz=348,slow=7.8,SNR=3.7

CASC 23 17:52:41.5±2.0, 1046N×8524W, h6km±5km, MD3.5, ML3.2, 3C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.51**	**229**	⇓*i*P	Pg	17 52 51.4	+0.1
FORC	**Fortuna**	**0.56**	**89**	⇓*i*P	Pg	17 52 52.9	+0.7
FORC				*i* S	Sg	17 53 01.4	+1.8
JCR	**Jicaral**	**0.62**	**169**	⇓*e*P	Pg	17 52 53.6	+0.2
CGA2	**Cerro Gallo 2**	**0.88**	**120**	*e*P	Pg	17 52 57.8	-0.6
CGA2				*e*S	Sg	17 53 10.2	+0.4
MADN	**Villa Maderas**	**0.98**	**343**	*e*P	Pg	17 53 01.6	+1.3
MADN				*e*S	Sg	17 53 15.3	+2.2
PRS1	**Puriscal**	**1.03**	**117**	⇑*e*P	Pg	17 53 00.7	-0.5
CONN	**Concepcion**	**1.16**	**341**	*e*P	Pg	17 53 04.2	+0.5
LAJ	**Bijagual**	**1.25**	**118**	*e*P	Pg	17 52 59.8	-5.6
SJS	**Escuela Geolog**	**1.27**	**114**	*e*P	Pn	17 53 05.6	-0.3
LCR2	**La Lucha 2**	**1.41**	**120**	⇑*e*P	Pn	17 53 06.5	-1.3
ICR	**Volcan Irazu**	**1.47**	**109**	*e*P	Pn	17 53 08.4	-0.1
BUS	**Buena Vista**	**1.71**	**122**	*e*P	Pn	17 53 11.6	-0.3
TICN	**Ticuantepe**	**1.84**	**328**	*e*P	Pn	17 53 14.8	+1.2
TICN				*e*S	Sn	17 53 38.4	+1.1
MGAN	**Managua**	**1.95**	**329**	*i*	Sn	17 53 43.3	+3.4
MGAN	comp=E,220nm,0.4s			*i*		17 53 55.1	
	comp=N,199nm,0.3s						

*IDC **23** 17:56:52.7±0.5, 4691N×15540E, h0km, mb4.3/20, mb1 4.5/22, mb1mx4.4/26, mbtmp4.3/22, ML3.8/2, MS4.0/13, Ms1 4.0/13, ms1mx3.7/32, Error ellipse: s-maj=16.5km s-min=13.7km az=151.0*
*NEIC **23** 17:56:54.0±0.2, 4684N×15542E, h10km, mb4.9/47, MS4.5/1, Error ellipse: s-maj=7.3km s-min=5.1km az=125.0*
*ISCJB **23** 17:56:53.5±0.3, 4683N±005×15534E±006, h15km, mb4.7/80, MS4.2/22, Error ellipse: s-maj=7.5km s-min=4.4km az=113.6*
*GCMT **23** 17:56:54.0±0.7, 4691N×15555E, h20km±1km, MW4.9/48, Moment Tensor Solution. s13,c14; s48,c61; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.54±.28; $M_{\theta\theta}$1.86±.19; $M_{\phi\phi}$0.68±.16; $M_{r\theta}$0.31±.36; $M_{\theta\phi}$0.95±.09; $M_{\phi r}$-0.04±.30; Best double couple: M=2.48300×10^{16} NP1:ϕ_s245.00000°, δ48.00000°, λ-85.00000°. NP2: ϕ_s245.00000°, δ48.00000°, λ-85.00000°. Principal axes: T 2.4010, Plg3.0000°, Azm331.0000°; N 0.1700, Plg4.0000°, Azm61.0000°; P -2.5650, Plg85.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **23** 17:56:55.7, 47.17N×15490E, h10km, mB5.0, mb4.4, Ms4.5, Msz4.0*
*MOS **23** 17:56:59.3±1.1, 4677N×155.12E, h59km, mb5.0/46, MS4.2/14, Error ellipse: s-maj=9.6km s-min=6.3km az=107.1*
*SKHL **23** 17:56:59.0±0.4, 47.10N×155.10E, h54km±10km, mb4.9/3, ms4.4/3*
*SZGRF **23** 17:57:02.6, 4756N×15583E, h33km, mb4.9, East of Kuril Islands, Russia*
ISC 23 17:56:53.5±1.6, 4697N±004×15536E±005, h4km±9km, h16km±2.7km: pP-P, n240, σ1§10/243, mb4.7/79, MS4.2/22,

15C-4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.75**	**7**	*e*PN	**Pn**	**17 57 53.0**	**+0.9**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				MLR	MLR		
	comp=E,6μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
SKR	**Severo-Kuril's**	**3.75**	**7**	*e*P	**Pn**	**17 57 53.0**	**+0.9**
SKR				AMB	AMB	17 57 57.6	
	comp=Z,80nm,0.5s						
SKR				*e*S	**Sn**	**17 58 33.2**	**-3.5**
SKR				A		17 58 36.0	
	comp=Z,360nm,0.2s						
SKR				A		17 58 36.0	
	comp=Z,640nm,0.2s						
SKR				AMS	AMS	17 59 36.0	
	comp=Z,6μm,14.0s						
SKR				AMS	AMS	17 59 36.0	
	comp=Z,2μm,14.0s						
KUR	**Kuril'sk**	**5.49**	**254**	⇑*i*PN	**Pn**	**17 58 18.0**	**+2.0**
KUR				*i* S	**Sn**	**17 59 17.6**	**-2.0**
KUR				pmax	pmax		
	comp=N,90nm,0.8s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=Z,820nm,0.8s						
KUR				smax			
	comp=N,90nm,0.3s						
KUR				smax			
	comp=E,360nm,0.3s						
KUR	**Kuril'sk**	**5.49**	**254**	*i* P	**Pn**	**17 58 18.0**	**+2.0**
KUR				AMB	AMB	17 58 19.0	
	comp=E,90nm,0.8s						
KUR				AMB	AMB	17 58 19.0	
	comp=E,60nm,0.8s						
KUR				AMB	AMB	17 58 19.0	
	comp=E,820nm,0.8s						
KUR				*i* S	**Sn**	**17 59 17.6**	**-2.0**
KUR				A		17 59 22.5	
	comp=E,90nm,0.3s						
KUR				A		17 59 22.5	
	comp=E,360nm,0.3s						
PET	**Petropavlovsk**	**6.42**	**18**	*e*PN	**Pn**	**17 58 27.5**	**-1.3**
PET				pmax	pmax		
	comp=Z,39nm,1.0s						
PET	**Petropavlovsk**	**6.42**	**18**	*e*Pn	**Pn**	**17 58 26.9**	**-1.9**
	comp=Z,23nm,0.8s						
PET				*e*Sn	**Sn**	**17 59 35.2**	**-7.3**
YSS	**Yuzh-Sakhalins**	**8.62**	**275**	*e*PN	**Pn**	**17 59 02.0**	**+3.0**
YSS				*e*S	**Sn**	**18 00 37.0**	**+0.3**
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=N,500nm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.62**	**275**	Pn	**Pn**	**17 59 00.9**	**+1.9**
YSS	**Yuzh-Sakhalins**	**8.62**	**275**	*e*P	**Pn**	**17 59 02.0**	**+3.0**
YSS				AMB	AMB	17 59 04.0	
	comp=N,30nm,1.0s						
YSS				*e*S	**Sn**	**18 00 37.0**	**+0.3**
YSS				AMS	AMS	18 03 34.0	
	comp=N,500nm,13.0s						
YSS				AMS	AMS	18 03 34.0	
	comp=N,600nm,13.0s						
YSS				AMS	AMS	18 03 34.0	
	comp=N,1μm,13.0s						
ASAJ	**Asahikawa**	**9.40**	**257**	Pn	**Pn**	**17 59 10.6**	**+1.0**
	comp=N,1.4nm,0.3s,baz=84,slow=13,SNR=11						
ASAJ				LR	LR	18 03 30.5	
	comp=N,162nm,18.5s,baz=166,slow=42						
ERM	**Erimo**	**10.02**	**245**	*i* PN	**Pn**	**17 59 17.8**	**-0.4**
OKH	**Okha**	**10.32**	**314**	*e*P	**Pn**	**17 59 20.8**	**-1.5**
OKH				*e*S	**Sn**	**18 01 15.2**	**-3.2**
OKH				AMS	AMS	18 05 42.2	
	comp=N,2μm,12.0s						
OKH				AMS	AMS	18 05 42.2	
	comp=N,2μm,12.0s						
OKH				AMS	AMS	18 05 42.2	
	comp=N,2μm,12.0s						
MA2	**Magadan**	**12.92**	**350**	*e*Pn	**Pn**	**17 59 59.9**	**+2.0**
HABR	**Khabarovsk**	**13.75**	**284**	*e*P	**Pn**	**18 00 01.8**	**-7.4**
HABR				*e*S	**Sn**	**18 02 36.8**	**-5.6**
KLR	**Kul'dur**	**15.92**	**287**	*e*P	**Pn**	**18 00 39.6**	**+1.3**
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
SEY	**Seymchan**	**16.09**	**355**	*e*P	**Pn**	**18 00 38.1**	**-2.4**
MAJO	**Matsushiro**	**16.46**	**237**	*e*P	**Pn**	**18 00 42.5**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,42nm,0.9s						
MAJO	**Matsushiro**	**16.46**	**237**	*e*Pn	**Pn**	**18 00 42.5**	**-2.8**
	comp=Z,42nm,0.9s						
MAT	**Matsushiro**	**16.46**	**237**	P	**Pn**	**18 00 42.6**	**-2.7**
MJAR	**Matsushiro Arr**	**16.46**	**237**	Pn	**Pn**	**18 00 42.7**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=31,slow=14,SNR=14						
MJAR	**Matsushiro Arr**	**16.46**	**237**	Pn	**Pn**	**18 00 42.7**	**-2.6**
MDJ	**Mudanjiang**	**18.10**	**272**	Pn	**Pn**	**18 01 04.2**	**-1.6**
YAK	**Yakutsk**	**21.00**	**325**	*e*P	**P**	**18 01 36.3**	**-1.5**
YAK				*e*		18 01 53.5	
YAK				*e*S	**S**	**18 05 23.2**	**-8.9**
YAK				*i* SS		18 05 46.4	
YAK				*i* SSS		18 06 00.0	
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				smax			
	comp=N,105nm,2.9s						
YAK				smax			
	comp=Z,59nm,3.4s						
YAK				smax			
	comp=E,107nm,2.8s						
YAK				MLR	MLR		
	comp=E,200nm,15.0s,MS3.7						
YAK				MLR	MLR		
	comp=Z,257nm,15.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,154nm,16.0s,MS3.7						
YAK	**Yakutsk**	**21.00**	**325**	*e*Pn	**P**	**18 01 35.6**	**-2.2**
	comp=N,24nm,0.6s						
CLNS	**Chul'man**	**21.06**	**309**	*e*P	**P**	**18 01 35.4**	**-3.1**
CLNS				*e*		18 01 56.0	
CLNS				*e*PPP		18 02 04.9	
CLNS				*e*S	**S**	**18 05 33.2**	**-0.2**
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.2						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				smax			
	comp=N,18nm,1.1s						
CLNS				smax			
	comp=E,15nm,0.9s						
CLNS				smax			
	comp=Z,4.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s,MS4.5						
CLNS				MLR	MLR		
	comp=Z,400nm,13.0s,MS4.0						
CN2	**Changchun**	**21.18**	**272**	*e*P	**P**	**18 01 38.3**	**-1.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.4						
BILL	**Bilibino**	**21.86**	**11**	*i* P	**P**	**18 01 46.6**	**-0.5**
BILL				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.7						
BILL	**Bilibino**	**21.86**	**11**	*e*Pn	**P**	**18 01 45.5**	**-1.6**
	comp=Z,30nm,1.0s,mb4.7						
KSRS	**Korea Array**	**22.34**	**255**	P	**P**	**18 01 54.2**	**+2.0**
	comp=Z,9.1nm,0.8s,mb4.2,baz=63,slow=8.0,SNR=23						
HIA	**Hailar**	**23.75**	**289**	*i* P	**P**	**18 02 06.0**	**-0.9**
HIA	**Hailar**	**23.75**	**289**	P	**P**	**18 02 06.8**	**-0.2**

BOD Bodaibo 27.04 309 *eP* **P 18 02 34.5 -2.3**
TIXI Tiksi 27.71 342 *eP* **P 18 02 37.8 -5.0**
TIXI pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
TIXI MLR MLR
comp=Z,484nm,13.0s,MS4.3
TIXI Tiksi 27.71 342 *eP* **P 18 02 41.8 -1.0**
comp=Z,9.8nm,0.9s,mb4.4
HHC Hu-ho-hao-te 31.81 275 *eP* **P 18 03 20.3 +1.2**
HHC XP sP 18 03 27.1 +6.1
HHC S **S 18 08 28.5 -1.4**
HHC PCS PcS 18 09 54.0 -0.7
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,179nm,5.7s
HHC LR LR
comp=N,259nm,13.7s,MS4.3
HHC LR LR
comp=E,364nm,15.5s,MS4.3
HHC LR LR
comp=Z,250nm,13.7s,MS4.1
SONM Songino Array 32.71 290 P **P 18 03 26.0 -1.0**
comp=Z,1.2nm,0.9s,mb3.8,baz=62,slow=7.6,SNR=7.4
SONM PcP PcP 18 06 12.3 -0.3
comp=Z,1.2nm,0.9s,baz=114,slow=2.6,SNR=4.8
SONM LR LR 18 18 13.7
comp=Z,259nm,18.5s,MS4.0,baz=25,slow=39
IMA2 Indian Mountai 32.73 36 *eP* **P 18 03 26.9 -0.2**
ZAK Zakamensk 33.98 295 *eP* **P 18 03 35.5 -2.6**
GUMO Guam 34.42 198 LR LR 18 17 12.4
comp=Z,68nm,18.8s,MS3.4,baz=4.2,slow=36
SML Sawmill 34.75 44 *eP* **P 18 03 44.5 -0.2**
COLA College 35.01 39 *i P* **P 18 03 47.7 +0.7**
COLA College 35.01 39 P **P 18 03 46.0 -1.0**
comp=Z,22nm,1.0s,mb5.0
WHN Wuhan 35.48 257 *eP* **P 18 03 52.0 +1.0**
KRAR Krasnoyarsk 38.69 307 *eP* **P 18 04 17.5 -0.8**
KRAR pmax pmax
comp=Z,11nm,1.1s,mb4.5
LZH Lanzhou 39.42 273 *eP* **P 18 04 26.0 +1.6**
LZH AP pP 18 04 30.5 +4.7
LZH XP sP 18 04 33.1 +6.7
LZH PP PP 18 06 00.5 +5.8
LZH *e*S **S 18 10 27.0 +0.4**
LZH XS sS 18 10 34.5 +5.6
LZH *e*SS SS 18 13 13.3 -7.1
LZH AMB AMB
comp=Z,36nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,186nm,4.5s
LZH LR LR
comp=N,430nm,14.5s
LZH LR LR
comp=Z,763nm,15.7s,MS4.6
LZH Lanzhou 39.42 273 *eP* **P 18 04 26.0 +1.6**
LZH 18 06 00.5
LZH *e*S **S 18 10 27.0 +0.4**
LZH *e*SS SS 18 13 13.3 -7.1
LZH pmax pmax
comp=Z,36nm,1.2s,mb5.0
LZH MLR MLR
comp=Z,760nm,15.7s,MS4.6
LZH Lanzhou 39.42 273 *eP* **P 18 04 26.0 +1.6**
comp=Z,36nm,1.2s,mb5.0
LZH pP pP 18 04 30.5 +4.7
LZH sP sP 18 04 33.1 +6.7
LZH PP PP 18 06 00.5 +5.8
LZH *e*S **S 18 10 27.0 +0.4**
LZH sS sS 18 10 34.5 +5.6
LZH *e*SS SS 18 13 13.3 -7.1
LZH LR LR
comp=Z,760nm,15.7s,MS4.6
GTA Gaotai 40.45 280 P **P 18 04 34.8 +1.8**
GTA AP pP 18 04 37.9 +3.5
GTA XP sP 18 04 39.9 +4.9
GTA PCP PcP 18 06 36.8 +1.0
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.1
INK Inuvik 40.64 33 P **P 18 04 34.8 +0.2**
comp=Z,7.2nm,0.9s,mb4.3,baz=274,slow=7.3,SNR=25
INK Inuvik 40.64 33 *eP* **P 18 04 35.1 +0.5**
comp=Z,275nm,0.9s,mb5.9
GYA Guiyang 43.27 259 P **P 18 04 56.8 +0.8**
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,140nm,3.1s
ZAL Zalesovo 43.74 306 P **P 18 04 59.4 -0.5**
comp=Z,2.5nm,0.4s,mb4.3,baz=51,slow=5.8,SNR=14
ZAL PcP PcP 18 06 47.5 +0.8
comp=Z,3.4nm,1.0s,baz=92,slow=0.8,SNR=6.8
ZAL LR LR 18 22 47.1
comp=Z,236nm,18.6s,MS4.1,baz=42,slow=36
ZAL Zalesovo 43.74 306 P **P 18 04 59.4 -0.5**
ZAL 18 06 47.5
ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL MLR MLR
comp=Z,236nm,18.6s
NVS Novosibirsk 44.27 308 *eP* **P 18 05 02.8 -1.4**
NVS *e* 18 06 47.3
WMQ Urumqi 46.28 292 P **P 18 05 21.6 +1.6**
WMQ AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
WMQ LR LR
comp=N,391nm,20.0s,MS4.4
WMQ LR LR
comp=E,86nm,17.0s,MS4.4
WMQ LR LR
comp=Z,149nm,17.0s,MS4.0
KMI Kunming 46.80 261 P **P 18 05 24.8 +0.7**
KMI AP pP 18 05 31.8 +6.3
KMI XP sP 18 05 36.3 +10
KMI AMB AMB
comp=Z,9.0nm,1.4s,mb4.5
KMI Kunming 46.80 261 P **P 18 05 24.7 +0.6**
KMI *SP sP 18 05 36.2 +10
KMI pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
KMI Kunming 46.80 261 P **P 18 05 24.7 +0.6**
comp=Z,9.0nm,1.4s,mb4.5
KMI pP pP 18 05 31.7 +6.2
KMI sP sP 18 05 36.2 +10
MK31 Makanchi Array 48.20 298 *eP* **P 18 05 34.7 -0.4**
MKAR Makanchi Array 48.20 298 P **P 18 05 35.2 +0.2**
comp=Z,2.0nm,0.7s,mb4.3,baz=68,slow=8.2,SNR=26
MKAR PcP PcP 18 07 02.0 -0.3
comp=Z,2.2nm,0.9s,baz=68,slow=4.3,SNR=3.9
MKAR LR LR 18 26 37.8
comp=Z,114nm,18.5s,MS3.9,baz=318,slow=37
MKAR Makanchi Array 48.20 298 P **P 18 05 35.2 +0.1**
MKAR 18 07 02.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,114nm,18.5s
MKAR Makanchi Array 48.20 298 P **P 18 05 35.2 +0.2**
MKAR PcP PcP 18 07 02.0 -0.3
MKAR LR LR 18 26 37.8
KURK Kurchatov 48.52 304 *eP* **P 18 05 37.3 -0.2**
KURK Kurchatov 48.52 304 *eP* **P 18 05 37.2 -0.3**
comp=Z,8.0nm,0.8s,mb4.8
YKA Yellowknife Ar 49.82 37 P **P 18 05 47.3 -0.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=295,slow=7.3,SNR=20
YKA PcP PcP 18 07 07.5 -0.7
comp=Z,0.5nm,0.7s,baz=290,slow=3.6,SNR=4.9
YKA Yellowknife Ar 49.82 37 P **P 18 05 47.4 -0.1**
YKA PcP PcP 18 07 07.5 -0.7
LSA Lhasa 51.80 275 P **P 18 06 06.0 +3.6**
LSA Lhasa 51.80 275 *eP* **P 18 06 05.0 +2.6**
LSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LSA Lhasa 51.80 275 *eP* **P 18 06 05.0 +2.7**
comp=Z,3.2nm,0.7s,mb4.4
BVAR Borovoye Array 51.90 310 P **P 18 06 03.1 -0.1**
comp=Z,6.5nm,0.4s,mb4.9,baz=58,slow=7.8,SNR=61
BVAR PcP PcP 18 07 15.7 -0.2
comp=Z,2.3nm,0.8s,baz=66,slow=3.7,SNR=3.9
BVAR Borovoye Array 51.90 310 P **P 18 06 03.1 -0.1**
BVAR 18 07 15.7
BVAR pmax pmax
comp=Z,7.0nm,0.4s
BRVK Borovoye 51.94 310 *eP* **P 18 06 03.7 +0.2**
BRVK *e* 18 06 14.5
BRVK *e* 18 07 15.8
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
BRVK Borovoye 51.94 310 *eP* **P 18 06 03.7 +0.2**
comp=Z,9.0nm,0.6s,mb4.9
BRVK *e* 18 06 14.4
BRVK *e*PcP PcP 18 07 15.8 -0.2
NANT Nan 52.50 257 ⇑P **P 18 06 07.1 -0.5**
CHG Chiang Mai 53.67 258 ⇑P **P 18 06 18.1 +1.9**
comp=Z,14nm,0.9s,mb4.9
CHTO Chiang Mai 53.67 258 *eP* **P 18 06 17.6 +1.4**
CHTO pmax pmax
comp=Z,15nm,1.1s,mb4.8
CHTO Chiang Mai 53.67 258 *eP* **P 18 06 17.6 +1.3**
comp=Z,15nm,1.1s,mb4.8
CM31 Chiang Mai Arr 53.92 258 *eP* **P 18 06 18.9 +0.8**
comp=Z,3.1nm,0.5s,mb4.5
AAK Ala-Archa 55.11 297 *eP* **P 18 06 26.6 -0.1**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
AAK Ala-Archa 55.11 297 *eP* **P 18 06 26.6 -0.1**
comp=Z,6.9nm,0.9s,mb4.7
ARU Arti 55.88 318 ⇓*iP* **P 18 06 32.4 +0.1**
ARU *e* 18 07 29.7
ARU *e* 18 08 35.4
ARU *e*S **S 18 14 19.9 -0.5**
ARU pmax pmax
comp=Z,26nm,1.3s,mb5.1
ARU Arti 55.88 318 *eP* **P 18 06 32.5 +0.3**
comp=Z,20nm,0.9s,mb5.1
HNR Honiara 56.29 175 LR LR 18 27 54.6
comp=Z,68nm,18.2s,MS3.8,baz=0.2,slow=33
GUN Gumba 56.51 276 *eP* **P 18 06 38.4 +1.6**
comp=Z,20nm,0.9s,mb5.1
KKN Kakani 57.00 277 *eP* **P 18 06 40.9 +0.7**
comp=Z,27nm,1.1s,mb5.2
PKI Pulchoki 57.05 276 *eP* **P 18 06 41.1 +0.5**
DMN Daman 57.23 277 *eP* **P 18 06 42.4 +0.5**
comp=Z,33nm,0.9s,mb5.3
GKN Gorkha 57.30 277 *eP* **P 18 06 43.5 +1.2**
comp=Z,12nm,0.7s,mb5.1
ARCES ARCESS Array B 58.15 341 P **P 18 06 49.0 +0.7**
comp=Z,6.2nm,0.9s,mb4.7,baz=46,slow=7.0,SNR=5.0
ARCES LR LR 18 34 54.7
comp=Z,338nm,18.2s,MS4.5,baz=4.2,slow=39
ARCES ARCESS Array B 58.15 341 P **P 18 06 49.1 +0.8**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES MLR MLR
comp=Z,338nm,18.2s
KOLN Koldanda 58.15 278 *eP* **P 18 06 49.1 +0.8**
comp=Z,18nm,1.0s,mb5.0
FCC Fort Churchill 60.23 34 *eP* **P 18 07 01.8 -0.9**
FCC pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
FCC Fort Churchill 60.23 34 *eP* **P 18 07 01.8 -1.0**
comp=Z,2.7nm,0.9s,mb4.3
KLMR Klimovskoe 60.71 330 *eP* **P 18 07 04.0 -2.0**
NVAR Mina Array Bea 60.96 64 P **P 18 07 08.8 +1.1**
comp=Z,0.7nm,0.8s,mb3.9,baz=292,slow=5.5,SNR=5.7
JOF Joensuu 61.81 335 *ep* **P 18 07 13.3 -0.2**
comp=Z,2.6nm,0.5s,mb4.6
JOF Joensuu 61.81 335 *eP* **P 18 07 13.3 -0.2**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
KAKA Kakadu 62.85 205 *eP* **P 18 07 19.8 -0.7**
comp=Z,9.7nm,0.7s,mb5.0
PBA Port Blair 62.94 258 *eP* x 18 06 58.0
PBA *e*S x 18 07 18.4
PBA *ex* x 18 07 20.1
comp=E,201nm,0.4s
PBA *ex* x 18 07 20.3
comp=N,269nm,0.2s
PDAR Pinedale Array 63.37 55 P **P 18 07 23.4 -0.5**
comp=N,1.3nm,0.9s,mb4.0,baz=248,slow=1.6,SNR=7.8
KAF Kangasniemi 63.88 336 *ep* **P 18 07 28.9 +1.6**
comp=N,1.4nm,0.4s,mb4.3,baz=32,slow=6.0
KAF Kangasniemi 63.88 336 *eP* **P 18 07 28.9 +1.6**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
FINES FINESS Array B 64.49 336 P **P 18 07 31.1 -0.2**
comp=Z,4.0nm,0.8s,mb4.5,baz=41,slow=7.5,SNR=25
FINES LR LR 18 37 31.8
comp=Z,157nm,18.4s,MS4.2,baz=158,slow=38
FINES FINESS Array B 64.49 336 P **P 18 07 31.1 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,157nm,18.4s
OBN Obninsk 65.99 327 P **P 18 07 40.0 -1.0**
OBN 18 08 15.0
OBN *i* S S 18 16 29.4 +0.1
OBN SS SS 18 20 48.0 +3.7
OBN pmax pmax
comp=Z,20nm,1.8s,mb4.8
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
CTA Charters Tower 67.24 189 LR LR 18 37 52.1
comp=Z,46nm,18.3s,MS3.7,baz=220,slow=37
CTAO Charters Tower 67.24 189 P **P 18 07 47.4 -1.6**
CTAO pmax pmax
comp=Z,11nm,1.0s,mb4.8
CTAO Charters Tower 67.24 189 P **P 18 07 47.4 -1.6**
comp=Z,11nm,1.0s,mb4.9
NB2 NORSAR Subarra 68.51 342 P **P 18 07 56.7 -0.3**
comp=Z,30nm,1.4s,mb5.0,baz=30,slow=6.5
NOA NORSAR Array B 68.51 342 P **P 18 07 56.7 -0.2**
comp=Z,2.5nm,0.7s,mb4.3,baz=27,slow=6.4,SNR=6.0
NOA LR LR 18 43 43.1
comp=Z,112nm,19.0s,MS4.1,baz=0.0,slow=41
NOA NORSAR Array B 68.51 342 P **P 18 07 56.7 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,112nm,19.0s
NOA NORSAR Array B 68.51 342 P **P 18 07 56.7 -0.2**
NOA LR LR 18 43 43.1
WB2 Warramunga Arr 69.24 201 *eP* **P 18 08 00.6 -0.9**
WB2 Warramunga Arr 69.24 201 *eP* **P 18 08 00.3 -1.2**
WRA Warramunga Arr 69.24 201 P **P 18 08 00.5 -1.1**
comp=Z,8.4nm,0.9s,mb4.7,baz=19,slow=6.4,SNR=36
WRA Warramunga Arr 69.24 201 P **P 18 08 00.5 -1.1**
WRA pmax pmax
comp=Z,8.0nm,0.9s
DZM Mont Dzumac 69.44 169 LR LR 18 36 30.8
comp=Z,80nm,18.1s,MS4.0,baz=194,slow=34
FITZ Fitzroy Crossi 70.08 210 *eP* **P 18 08 06.5 -0.2**
comp=Z,12nm,1.5s,mb4.6
KIV Kislovodsk 71.74 315 *eP* **P 18 08 17.0 +0.2**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
KIV Kislovodsk 71.74 315 P **P 18 08 18.3 +1.5**
comp=Z,24nm,1.0s,mb5.1
AKASG Malin Array Be 72.21 327 P **P 18 08 18.9 -0.7**
comp=Z,0.9nm,0.4s,mb4.1,baz=32,slow=6.2,SNR=11
AKASG Malin Array Be 72.21 327 P **P 18 08 18.9 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 72.93 201 P **P 18 08 24.2 +0.3**
comp=Z,5.2nm,0.6s,mb4.7,baz=16,slow=5.9,SNR=132
ASAR Alice Springs 72.93 201 P **P 18 08 24.2 +0.3**
ASAR pmax pmax
comp=Z,5.0nm,0.6s
TXAR Lajitas Array 76.04 62 P **P 18 08 41.0 -1.0**
comp=Z,4.1nm,0.8s,mb4.4,baz=339,slow=6.7,SNR=14
TXAR Lajitas Array 76.04 62 P **P 18 08 41.0 -1.0**
TXAR pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 76.09 331 *eP* **P 18 08 43.1 +0.8**
STHS *e* 18 08 51.6
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 76.09 331 *eP* **P 18 08 43.1 +0.8**
STHS *e*pP pP 18 08 51.5 +7.8
STHS Stebnicka Huta 76.09 331 *eP* **P 18 08 43.1 +0.8**
comp=Z,5.3nm,0.8s,mb4.5
STHS *e* 18 08 51.6
KOLS Kolonicke sedl 76.16 330 *eP* **P 18 08 43.1 +0.4**
BURAR Bucovina Array 76.24 328 ⇑*iP* **P 18 08 43.5 +0.4**
KSP Ksiaz 76.38 335 *eP* **P 18 08 47.7 +3.8**
OKC Ostrava-Krasne 76.71 333 *eP* **P 18 08 49.8 +4.0**
UPC Upice 76.76 335 *eP* **P 18 08 49.3 +3.2**
DPC Dobruska-Polom 76.81 334 *eP* **P 18 08 50.8 +4.4**
CLL Collm 76.89 337 ⇑*iP* **P 18 08 46.7 -0.1**
CLL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
CLL Collm 76.89 337 ⇑*iP* **P 18 08 46.7 -0.1**
comp=Z,9.0nm,1.2s,mb4.6
CLL *i* 18 08 50.4
CLL Collm 76.89 337 ⇑*iP* **P 18 08 46.7 -0.1**
comp=Z,9.0nm,1.2s,mb4.6
CLL *i* pP pP 18 08 50.4 +2.1
comp=Z,16nm,1.0s
CLL *i* pPcP 18 09 01.2
MORC Moravsky Berou 76.95 333 ⇑*iP* **P 18 08 48.2 +1.1**
BRG Berggiesshubel 77.02 336 *eP* **P 18 08 47.6 +0.1**
comp=Z,2.2nm,1.1s,mb4.0
BRG *e* 18 08 51.8
comp=Z,3.2nm,1.1s
BRG Berggiesshubel 77.02 336 *eP* **P 18 08 47.7 +0.1**
BRG *e* 18 08 51.8
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
KECS Kecovo 77.14 331 *eP* **P 18 08 52.3 +4.1**
PVCC Panska Ves 77.16 336 *eP* **P 18 08 43.0 -5.3**
PRU Pruhonice 77.65 335 *eP* **P 18 08 51.7 +0.6**
VRAC Vranov 77.65 334 ⇑*iP* **P 18 08 52.2 +1.1**
VYHS Vyhne 77.67 332 *eP* **P 18 08 51.8 +0.6**
VYHS *e*pP pP 18 08 55.6 +2.9
MLR Muntele Rosu 77.76 326 ⇓*iP* **P 18 08 53.0 +1.3**
DRGR 77.84 329 ⇑*iP* **P 18 08 52.7 +0.6**
NKC Novy Kostel 78.01 337 *eP* **P 18 08 54.9 +1.8**
MALT Malatya 78.12 314 ⇓*iP* **P 18 08 53.3 -0.4**
VOIR 78.14 327 ⇑*iP* **P 18 08 54.7 +0.9**
KHC Kasperske Hory 78.70 336 *eP* **P 18 08 57.3 +0.4**
KHC *e*pP pP 18 09 01.3 +3.0
GRA1 Grafenberg Arr 78.83 337 *eP* **P 18 08 58.5 +0.9**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 78.83 337 *eP* **P 18 08 58.5 +0.9**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 78.83 337 *eP* **P 18 08 58.5 +0.9**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRFO Grafenberg 78.84 337 *eP* **P 18 09 00.8 +3.2**
GRFO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRFO Grafenberg 78.84 337 *eP* **P 18 09 00.8 +3.2**
comp=Z,9.2nm,0.8s,mb4.8
GERES GERESS Array B 78.92 335 P **P 18 08 58.3 +0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=29,slow=3.0,SNR=13
GERES LR LR 18 44 43.4
comp=Z,206nm,19.0s,MS4.5,baz=84,slow=36
GERES GERESS Array B 78.92 335 P **P 18 08 58.3 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,206nm,19.0s
GZR Gura Zlata 79.02 328 ⇓*iP* **P 18 08 59.0 +0.4**
BZS Buzias 79.24 329 ⇑*iP* **P 18 08 59.6 -0.3**
MEM Membach 79.27 341 P **P 18 09 05.2 +5.1**
comp=Z,6.9nm,0.9s,mb4.6
BR131 Keskin Array S 79.27 318 P **P 18 09 01.8 +1.8**
comp=Z,7.2nm,1.0s,mb4.6
BRTR Keskin Array B 79.27 318 P **P 18 09 00.4 +0.4**
comp=Z,3.4nm,0.9s,mb4.3,baz=59,slow=2.5,SNR=7.9
BRTR Keskin Array B 79.27 318 *i P* **P 18 09 00.9 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 79.45 192 *eP* **P 18 08 59.9 -1.1**
comp=Z,1.9nm,0.9s,mb4.0
STKA Stephens Creek 79.45 192 P **P 18 08 59.9 -1.2**
comp=Z,2.1nm,0.9s,mb4.1,baz=331,slow=7.6,SNR=3.4
STKA Stephens Creek 79.45 192 *eP* **P 18 08 59.0 -2.0**
BCLA Clavier 79.61 341 P **P 18 09 06.8 +5.0**
GIVF Givet 80.01 341 *eP* **P 18 09 03.8 -0.2**
BAIF Baives 80.18 342 *eP* **P 18 09 05.4 +0.4**
KBA Koelnbreinsper 80.62 335 ⇑*iP* **P 18 09 06.0 -1.3**
comp=Z,16nm,0.9s,mb5.0
KBA Koelnbreinsper 80.62 335 ⇑*iP* **P 18 09 06.1 -1.2**
KBA pmax pmax
comp=Z,16nm,0.9s,mb5.0
BFO Black Forest 80.84 338 P **P 18 09 08.6 +0.1**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BFO Black Forest 80.84 338 P **P 18 09 08.6 +0.1**
comp=Z,7.4nm,1.0s,mb4.6
CDF Champ du Feu 81.02 339 *eP* **P 18 09 09.5 0.0**
comp=Z,28nm,1.3s,mb4.7
CDF Champ du Feu 81.02 339 *eP* **P 18 09 09.5 0.0**
CDF pmax pmax
comp=Z,14nm,1.3s,mb4.7
CDF Champ du Feu 81.02 339 *eP* **P 18 09 09.5 0.0**
comp=Z,14nm,1.3s,mb4.7
PPT Papeete 81.05 128 LR LR 18 37 48.2
comp=Z,183nm,22.0s,MS4.4,baz=354,slow=30
FORT Forrest 81.21 204 *eP* **P 18 09 08.8 -1.7**
comp=Z,19nm,0.9s,mb5.0
VTS Vitosha 81.26 326 ⇑*iP* **P 18 09 11.1 +0.4**
MEZF Maizieres J'vi 81.46 341 *eP* **P 18 09 11.9 +0.1**
comp=Z,40nm,1.1s,mb4.9
MEZF Maizieres J'vi 81.46 341 *eP* **P 18 09 11.9 +0.1**
comp=Z,40nm,1.1s,mb5.3
HAU Haudompre 81.62 340 *eP* **P 18 09 13.3 +0.6**
comp=Z,28nm,1.3s,mb4.7
HAU *e*MLR
comp=Z,219nm,22.5s
HAU Haudompre 81.62 340 *eP* **P 18 09 13.3 +0.6**
HAU pmax pmax
comp=Z,14nm,1.3s,mb4.7
HAU MLR MLR
comp=Z,220nm,22.5s,MS4.5
HAU Haudompre 81.62 340 *eP* **P 18 09 13.3 +0.6**
comp=Z,14nm,1.3s,mb4.7
HAU LR LR
comp=Z,220nm,22.5s,MS4.5
HINF Hinteralfeld 81.68 339 *eP* **P 18 09 13.4 +0.4**
GRR Gorron 82.80 344 *eP* **P 18 09 18.8 0.0**
LOR Lormes 82.90 341 *eP* **P 18 09 19.2 -0.1**
comp=Z,55nm,1.4s,mb5.1
LOR *e*MLR
comp=Z,287nm,17.5s
LOR Lormes 82.90 341 *eP* **P 18 09 19.2 -0.1**
LOR pmax pmax
comp=Z,28nm,1.4s,mb5.1
LOR MLR MLR
comp=Z,290nm,17.5s,MS4.7
LOR Lormes 82.90 341 *eP* **P 18 09 19.2 -0.1**
comp=Z,28nm,1.4s,mb5.1
LOR LR LR
comp=Z,290nm,17.5s,MS4.7
CABF La Chapelle 82.99 339 *eP* **P 18 09 19.8 0.0**
comp=Z,42nm,1.2s,mb5.0
CABF La Chapelle 82.99 339 *eP* **P 18 09 19.8 0.0**
CABF pmax pmax
comp=Z,21nm,1.2s,mb5.0
CABF La Chapelle 82.99 339 *eP* **P 18 09 19.8 0.0**
comp=Z,21nm,1.2s,mb5.0
SSF Saint Saulge 83.17 341 *eP* **P 18 09 20.6 -0.2**
comp=Z,25nm,1.3s,mb4.8
SSF Saint Saulge 83.17 341 *eP* **P 18 09 20.6 -0.2**
SSF pmax pmax
comp=Z,13nm,1.3s,mb4.8
SSF Saint Saulge 83.17 341 *eP* **P 18 09 20.6 -0.2**
comp=Z,13nm,1.3s,mb4.8
SGMF Saint Gilles 83.23 345 *eP* **P 18 09 21.0 -0.1**
comp=Z,31nm,0.9s,mb5.0
SGMF Saint Gilles 83.23 345 *eP* **P 18 09 21.0 -0.1**
SGMF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SGMF Saint Gilles 83.23 345 *eP* **P 18 09 21.0 -0.1**
comp=Z,16nm,0.9s,mb5.0
ROSF Rostrenen 83.27 346 *eP* **P 18 09 21.3 0.0**
comp=Z,67nm,1.2s,mb5.2
ROSF Rostrenen 83.27 346 *eP* **P 18 09 21.3 0.0**
ROSF pmax pmax
comp=Z,34nm,1.2s,mb5.2
ROSF Rostrenen 83.27 346 *eP* **P 18 09 21.3 0.0**
comp=Z,34nm,1.2s,mb5.2
AVF Avril sur Loir 83.46 341 *eP* **P 18 09 22.3 0.0**
comp=Z,26nm,1.1s,mb4.9
AVF Avril sur Loir 83.46 341 *eP* **P 18 09 22.3 0.0**
AVF pmax pmax
comp=Z,13nm,1.1s,mb4.9
AVF Avril sur Loir 83.46 341 *eP* **P 18 09 22.3 0.0**
comp=Z,13nm,1.1s,mb4.9
SMF Signal de Mont 83.49 341 *eP* **P 18 09 22.5 +0.1**
comp=Z,52nm,1.2s,mb5.1
SMF Signal de Mont 83.49 341 *eP* **P 18 09 22.5 +0.1**
SMF pmax pmax
comp=Z,26nm,1.2s,mb5.1
SMF Signal de Mont 83.49 341 *eP* **P 18 09 22.5 +0.1**
comp=Z,26nm,1.2s,mb5.1

BGF	**Bois d'Agland**	**83.79**	**341**	*e*P	**P**	**18 09 24.2**	**+0.2**
	comp=Z,18nm,0.9s,mb4.9						
BGF	**Bois d'Agland**	**83.79**	**341**	*e*P	**P**	**18 09 24.2**	**+0.2**
BGF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
BGF	**Bois d'Agland**	**83.79**	**341**	*e*P	**P**	**18 09 24.2**	**+0.2**
	comp=Z,8.9nm,0.9s,mb4.9						
LPL	**La Plagne**	**83.86**	**338**	*e*P	**P**	**18 09 24.4**	**+0.1**
	comp=Z,28nm,1.0s,mb5.0						
LPL	**La Plagne**	**83.86**	**338**	*e*P	**P**	**18 09 24.4**	**+0.1**
LPL				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
LPL	**La Plagne**	**83.86**	**338**	*e*P	**P**	**18 09 24.4**	**+0.1**
	comp=Z,14nm,1.0s,mb5.0						
LPG	**La Plagne**	**83.87**	**338**	*e*P	**P**	**18 09 24.6**	**+0.2**
	comp=Z,39nm,1.1s,mb5.1						
LPG	**La Plagne**	**83.87**	**338**	*e*P	**P**	**18 09 24.6**	**+0.2**
LPG				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2						
LPG	**La Plagne**	**83.87**	**338**	*e*P	**P**	**18 09 24.6**	**+0.2**
	comp=Z,20nm,1.1s,mb5.2						
TCF	**Toulx Ste Croi**	**84.19**	**342**	*e*P	**P**	**18 09 26.2**	**+0.2**
	comp=Z,18nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**84.19**	**342**	*e*P	**P**	**18 09 26.2**	**+0.2**
TCF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**84.19**	**342**	*e*P	**P**	**18 09 26.2**	**+0.2**
	comp=Z,9.3nm,1.0s,mb4.9						
ORIF	**Oris-en-Rattie**	**84.63**	**339**	*e*P	**P**	**18 09 28.8**	**+0.6**
	comp=Z,26nm,0.9s,mb5.0						
ORIF				*e*MLR			
	comp=Z,205nm,19.5s						
ORIF	**Oris-en-Rattie**	**84.63**	**339**	*e*P	**P**	**18 09 28.8**	**+0.6**
ORIF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1						
ORIF	**Oris-en-Rattie**	**84.63**	**339**	*e*P	**P**	**18 09 28.8**	**+0.6**
	comp=Z,13nm,0.9s,mb5.1						
RJF	**Les Rejaudoux**	**85.27**	**342**	*e*P	**P**	**18 09 31.1**	**-0.3**
	comp=Z,40nm,1.3s,mb5.1						
RJF				*e*MLR			
	comp=Z,174nm,19.2s						
RJF	**Les Rejaudoux**	**85.27**	**342**	*e*P	**P**	**18 09 31.1**	**-0.3**
RJF				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.1						
RJF				MLR	MLR		
	comp=Z,170nm,19.3s,MS4.5						
RJF	**Les Rejaudoux**	**85.27**	**342**	*e*P	**P**	**18 09 31.1**	**-0.3**
	comp=Z,20nm,1.3s,mb5.1						
RJF				LR	LR		
	comp=Z,170nm,19.3s,MS4.5						
CAF	**Calviac**	**85.52**	**341**	*e*P	**P**	**18 09 32.5**	**-0.2**
	comp=Z,56nm,1.4s,mb5.3						
CAF	**Calviac**	**85.52**	**341**	*e*P	**P**	**18 09 32.5**	**-0.2**
CAF				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.3						
CAF	**Calviac**	**85.52**	**341**	*e*P	**P**	**18 09 32.5**	**-0.2**
	comp=Z,28nm,1.4s,mb5.3						
LFF	**La Frestale**	**85.78**	**342**	*e*P	**P**	**18 09 33.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**86.62**	**211**	P	**P**	**18 09 36.3**	**-1.8**
NWAO				pmax	pmax		
	comp=Z,70nm,1.6s						
NWAO	**Narrogin (SRO)**	**86.62**	**211**	P	**P**	**18 09 36.3**	**-1.8**
	comp=Z,70nm,1.6s,mb5.6						
ESDC	**Sonseca Array**	**91.79**	**344**	P	**P**	**18 10 01.9**	**-0.6**
	comp=Z,0.9nm,0.9s,mb4.1,baz=356,slow=3.5,SNR=7.0						
TORD	**Torodi Ar. Bea**	**115.67**	**331**	PKP	PKPdf	18 15 35.6	-1.4
	comp=Z,0.6nm,1.0s,baz=349,slow=1.5,SNR=3.7						
LPAZ	**La Paz**	**132.87**	**64**	PKP	PKPdf	18 16 10.4	+0.5
	comp=Z,1.0nm,0.7s,baz=8.6,slow=6.4,SNR=5.2						
LPAZ	**La Paz**	**132.87**	**64**	PKIKP	PKPdf	18 16 10.4	+0.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CFAA	**Coronel Fontan**	**143.44**	**81**	PKP	PKPdf	18 16 26.4	-2.8
	comp=Z,0.6nm,0.7s,baz=326,slow=2.8,SNR=12						
PLCA	**Paso Flores**	**146.70**	**96**	PKPbc	PKPbc	18 16 36.0	-0.5
	comp=Z,8.4nm,1.0s,baz=338,slow=6.2,SNR=7.3						
PLCA	**Paso Flores**	**146.70**	**96**	PKP2	PKPab	18 16 36.0	-1.6
PLCA				pmax	pmax		
	comp=Z,8.0nm,1.0s						

IDC 23 18:03:43.6±5.5, 2327S×17992W, h490km±40km, mb3.1/3, mb1 3.3/3, mb1mx3.1/14, mbtmp3.1/3, Error ellipse: s-maj=134.7km s-min=38.3km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.56**	**269**	*e*P	P	18 09 26.6	+1.7
	3.0nm,0.3s						
STKA	**Stephens Creek**	**35.03**	**247**	P	P	18 09 54.3	-0.1
	1.0nm,0.4s,baz=132,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**42.22**	**260**	P	P	18 10 53.2	+0.5
	1.2nm,0.4s,baz=94,slow=7.3,SNR=41						
ASAR				ScP	ScP	18 15 39.3	0.0
	0.5nm,0.9s,baz=106,slow=5.0,SNR=4.3						
WRA	**Warramunga Arr**	**42.53**	**265**	P	P	18 10 55.3	+0.1
	1.1nm,0.3s,baz=92,slow=8.5,SNR=51						
AKASG	**Malin Array Be**	**144.48**	**328**	PKP	PKPdf	18 22 22.9	-0.7
	1.6nm,0.5s,baz=44,slow=4.0,SNR=27						
BRTR	**Keskin Array B**	**147.25**	**308**	PKPbc	PKPbc	18 22 31.4	-0.1
	1.2nm,0.6s,baz=90,slow=2.9,SNR=3.3						
GERES	**GERESS Array B**	**152.29**	**340**	PKPbc	PKPbc	18 22 43.1	-0.4
	0.3nm,0.6s,baz=74,slow=5.7,SNR=4.4						

IDC 23 18:26:15.3±8.5, 444S×15362E, h111km±59km, mb3.2/5, mb1 3.5/6, mb1mx3.3/16, mbtmp3.3/6, Error ellipse: s-maj=88.9km s-min=31.5km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.10**	**232**	P	Pn	18 28 10.9	+0.9
	5.4nm,0.3s,baz=47,slow=5.5,SNR=26						
PMG				S	Sn	18 29 40.2	+0.4
	1.6nm,0.3s,baz=222,slow=16,SNR=4.7						
WRA	**Warramunga Arr**	**24.30**	**229**	P	P	18 31 23.4	+1.1
	2.1nm,0.4s,baz=55,slow=10,SNR=39						
ASAR	**Alice Springs**	**26.97**	**223**	P	P	18 31 46.0	-0.5
	0.2nm,0.6s,baz=55,slow=9.1,SNR=13						
FITZ	**Fitzroy Crossi**	**30.55**	**241**	P	P	18 32 17.9	-0.3
	1.6nm,0.9s,baz=55,slow=14,SNR=2.4						
SONM	**Songino Array**	**66.46**	**327**	P	P	18 36 51.7	-1.0
	0.1nm,0.4s,baz=128,slow=5.6,SNR=2.7						
MKAR	**Makanchi Array**	**80.59**	**319**	P	P	18 38 16.8	+1.3
	0.1nm,0.4s,baz=114,slow=6.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**150.97**	**289**	PKPbc	PKPbc	18 45 56.1	+1.2
	0.7nm,0.9s,baz=75,slow=2.8,SNR=3.1						

CASC 23 18:33:13.3±1.9, 831N×8281W, h19km±8km, MD3.9, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.37**	**70**	*e*P	Pg	18 33 21.0	-0.1
DVD				*e*S	Sg	18 33 26.6	+0.2
BRU2	**Volcan**	**0.50**	**13**	||*i*P	Pg	18 33 23.3	0.0
BRU2				*e*S	Sg	18 33 31.9	+1.9
BRU	**Baru**	**0.55**	**26**	⇑*e*P	Pg	18 33 24.6	+0.2
CTCR	**Cotoan**	**0.59**	**4**	||*i*P	Pb	18 33 24.7	-0.3
CTCR				*e*S	Sg	18 33 33.5	+0.6
CNI	**Changuinola**	**1.14**	**14**	*e*P	Pn	18 33 33.0	-1.2
LCR2	**La Lucha 2**	**1.85**	**320**	*e*P	Pn	18 33 45.7	+1.6
LCR2				*e*S	Sn	18 34 07.2	+0.2
LCR2				*e*S	Sn	18 34 07.8	+0.9
PRS1	**Puriscal**	**2.23**	**318**	*e*P	Pn	18 33 48.2	-1.1
PRS1				*e*P		18 33 49.4	
PRS1				*e*S	Sn	18 34 17.8	+1.4
PTP	**Ponta Puerca**	**19.40**	**58**	⇑*i*P		18 33 17.6	

IDC 23 18:39:31.6±1.0, 2445N×12142E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML2.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/35, Error ellipse: s-maj=53.8km s-min=19.4km az=72.0
ISCJB 23 18:39:32.2±1.5, 248N±0.1×12223E±008, h25km±10km, mb3.6/5, Error ellipse: s-maj=25.3km s-min=8.7km az=44.2
JMA 23 18:39:32.0±0.4, 2480N×12222E, h39km, M3.3
ISC 23 18:39:33.1±1.5, 248N±01×12231E±008, h17km±7km, n12, σ0§94/17, mb3.6/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**116**	P	**Pg**	**18 39 46.9**	**-0.1**
YOJ				S	**Sg**	**18 39 57.2**	**+0.7**
IRIF	**Iriomote-Funau**	**1.37**	**109**	P	**Pn**	**18 39 56.1**	**-1.3**
IRIF				*e*S	**Sn**	**18 40 15.0**	**-0.1**
HATJ	**Hateruma jima**	**1.54**	**118**	P	**Pn**	**18 39 59.1**	**-0.7**
HATJ				*e*S	**Sn**	**18 40 19.1**	**-0.3**
JKRS	**Kuro-shima**	**1.64**	**109**	P	**Pn**	**18 40 00.5**	**-0.6**
JKRS				*e*S	**Sn**	**18 40 21.7**	**-0.1**
JIJ	**Ishigaki jima**	**1.72**	**104**	P	**Pn**	**18 40 01.7**	**-0.5**
JIJ				*e*S	**Sn**	**18 40 24.9**	**+1.1**
JTJ	**Tarama**	**2.18**	**93**	P	**Pn**	**18 40 08.6**	**0.0**
KSRS	**Korea Array**	**13.51**	**19**	Pn	**Pn**	**18 42 53.0**	**+9.1**
	baz=191,slow=11,SNR=3.1						
KSRS				LR	LR	18 48 06.8	
	comp=Z,51nm,19.5s,baz=348,slow=37						
SONM	**Songino Array**	**26.24**	**335**	P	**P**	**18 45 08.5**	**+1.3**
	1.2nm,0.8s,mb3.5,baz=157,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**38.63**	**315**	P	**P**	**18 46 53.6**	**-1.8**
	0.2nm,0.7s,mb3.0,baz=101,slow=9.9,SNR=2.6						
WRA	**Warramunga Arr**	**45.97**	**164**	P	**P**	**18 47 55.7**	**+0.5**
	4.7nm,0.7s,mb4.5,baz=346,slow=8.7,SNR=29						
ASAR	**Alice Springs**	**49.45**	**166**	P	**P**	**18 48 23.1**	**+0.9**
	1.4nm,0.8s,mb4.1,baz=346,slow=6.8,SNR=16						
YKA	**Yellowknife Ar**	**82.02**	**23**	P	**P**	**18 51 56.2**	**+4.0**
	0.1nm,0.7s,mb2.9,baz=314,slow=5.0,SNR=5.4						

NIED 23 19:06:00, 2480N×12220E, h14km, Mw3.7 Best double couple: M0:4.17000×10^14 NP1:φs=40.00000°, δ86.00000°, λ-158.00000°. NP2:φs=308.00000°, δ68.00000°, λ-4.00000°.
NEIC 23 19:06:36.5±1.3, 2501N×12245E, h10km, mb4.9/1, Error ellipse: s-maj=19.9km s-min=14.8km az=178.0
IDC 23 19:06:39.2±1.2, 2449N×12159E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML2.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/35, Error ellipse: s-maj=67.4km s-min=20.5km az=69.0
JMA 23 19:06:39.1±0.3, 2476N×12221E, h41km, M3.7
ISCJB 23 19:06:40.5±1.0, 2479N±008×12230E±003, h33km±7km, mb3.9/5, Error ellipse: s-maj=12.8km s-min=5.0km az=12.9
ISC 23 19:06:39.8±1.2, 2479N±007×12231E±005, h15km±9km, n17, σ0§82/22, mb3.9/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**117**	P	**Pb**	**19 06 53.9**	**0.0**
YOJ				S	**Sb**	**19 07 04.4**	**+0.9**
TATO	**Taipei**	**0.77**	**284**	*e*Pg	**Pg**	**19 06 55.1**	**+0.3**
YHNB	**Yeheng**	**0.86**	**263**	*e*Pg	**Pg**	**19 06 56.4**	**0.0**
YHNB				*e*Sg	**Sg**	**19 07 08.1**	**+0.4**
NACB	**Ninganchiao**	**0.89**	**227**	*e*Pg	**Pg**	**19 06 56.8**	**-0.3**
NACB				*e*Sg	**Sg**	**19 07 08.6**	**-0.1**
IRIF	**Iriomote-Funau**	**1.37**	**109**	P	**Pn**	**19 07 43.1**	**-1.2**
HATJ	**Hateruma jima**	**1.54**	**118**	P	**Pn**	**19 07 06.1**	**-0.6**
HATJ				*e*S	**Sn**	**19 07 26.3**	**-0.1**
JKRS	**Kuro-shima**	**1.64**	**109**	P	**Pn**	**19 07 07.5**	**-0.5**
JIJ	**Ishigaki jima**	**1.72**	**104**	P	**Pn**	**19 07 08.6**	**-0.5**
JIJ				*e*S	**Sn**	**19 07 31.1**	**+0.3**
JTJ	**Tarama**	**2.18**	**93**	P	**Pn**	**19 07 15.9**	**+0.5**
KSRS	**Korea Array**	**13.51**	**19**	Pn	**Pn**	**19 09 59.8**	**+9.0**
	baz=206,slow=14,SNR=2.8						
KSRS				LR	LR	19 15 00.8	
	comp=Z,32nm,20.7s,baz=180,slow=36						
SONM	**Songino Array**	**26.23**	**335**	P	**P**	**19 12 15.2**	**+1.2**
	1.8nm,1.0s,mb3.6,baz=153,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**38.63**	**315**	P	**P**	**19 14 02.5**	**+0.2**
	0.2nm,0.6s,mb3.0,baz=111,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**45.97**	**164**	P	**P**	**19 15 03.0**	**+0.8**
	1.9nm,0.6s,mb4.2,baz=346,slow=8.7,SNR=8.9						
WB2	**Warramunga Arr**	**45.98**	**164**	P	**P**	**19 15 01.6**	**-0.6**
KBL	**Kabul**	**46.84**	**295**	P	**P**	**19 15 06.6**	**-2.3**
ASAR	**Alice Springs**	**49.46**	**166**	P	**P**	**19 15 30.7**	**+1.5**
	0.6nm,0.6s,mb3.8,baz=345,slow=7.2,SNR=5.9						
SUW	**Suwalki**	**75.44**	**323**	P	**P**	**19 18 18.6**	**-4.3**
	8.6nm,0.7s,mb4.8						

NEIC 23 19:07:07.2, 4459S×16681E, h14km, ML3.9(WEL), After WEL.
WEL 23 19:07:07.7±0.7, 4463S×16688E, h12km, ML3.8/12, 3C-1D, Error ellipse: s-maj=6.9km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.75**	**93**	P	Pg	19 07 21.9	-0.3
MSZ				S	Sg	19 07 31.1	-0.9
MSZ	**Milford Sound**	**0.75**	**93**	||P*	Pb	19 07 21.9	-0.7
MSZ				S*	Sb	19 07 31.1	-1.7
MSZ				S*	Sb	19 07 31.1	-1.7
DCZ	**Deep Cove**	**0.87**	**167**	P	Pg	19 07 23.2	-1.2
DCZ				S	Sg	19 07 33.3	-2.4
DCZ	**Deep Cove**	**0.87**	**167**	⇑P*	Pb	19 07 23.2	-1.4
DCZ				S*	Sb	19 07 34.1	-2.1
MLZ	**Mavora Lakes**	**1.16**	**128**	P	Pb	19 07 28.8	-0.9
MLZ	**Mavora Lakes**	**1.16**	**128**	P*	Pb	19 07 28.8	-0.8
MLZ				S*	Sb	19 07 43.0	-1.7
JCZ	**Jackson Bay**	**1.46**	**68**	P	Pn	19 07 32.4	-1.4
JCZ	**Jackson Bay**	**1.46**	**68**	PN	Pn	19 07 32.3	-1.5
WHZ	**Wether Hill Ro**	**1.47**	**150**	P	Pn	19 07 33.3	-0.6
WHZ	**Wether Hill Ro**	**1.47**	**150**	⇑PN	Pn	19 07 33.3	-0.7
WKZ	**Wanaka**	**1.54**	**98**	PN	Pn	19 07 35.3	+0.4
EAZ	**Earnscleugh**	**1.82**	**110**	P	Pn	19 07 39.6	+0.7
EAZ	**Earnscleugh**	**1.82**	**110**	⇑PN	Pn	19 07 39.6	+0.7
FOZ	**Fox Glacier**	**2.29**	**63**	P	Pn	19 07 44.2	-1.0
FOZ				S	Sn	19 08 10.9	-2.4
FOZ	**Fox Glacier**	**2.29**	**63**	PN	Pn	19 07 44.1	-1.1
FOZ				SN	Sn	19 08 10.9	-2.4
TUZ	**Tuapeka**	**2.35**	**125**	*e*P	Pn	19 07 46.2	+0.1
LBZ	**Lake Benmore**	**2.38**	**85**	*e*P	Pn	19 07 46.2	-0.2
LBZ	**Lake Benmore**	**2.38**	**85**	PN	Pn	19 07 46.1	-0.3
SYZ	**Scrubby Hill**	**2.48**	**141**	PN	Pn	19 07 47.8	-0.1
ODZ	**Otahua Downs**	**2.71**	**100**	P	Pn	19 07 50.7	-0.3
ODZ	**Otahua Downs**	**2.71**	**100**	PN	Pn	19 07 50.4	-0.6
HHSZ	**Highcliff Hill**	**2.91**	**117**	PN	Pn	19 07 53.9	+0.1
RPZ	**Rata Peaks**	**3.14**	**74**	*e*P	Pn	19 07 56.0	-0.9
RPZ	**Rata Peaks**	**3.14**	**74**	PN	Pn	19 07 55.8	-1.1
WVZ	**Waitaha Valley**	**3.19**	**62**	PN	Pn	19 07 55.1	-2.6
LTZ	**Lake Taylor**	**4.32**	**67**	*e*P	Pn	19 08 11.0	-2.2
THZ	**Tophouse**	**5.25**	**59**	*e*P	Pn	19 08 24.8	-1.2
QRZ	**Quartz Range**	**5.64**	**50**	P	Pn	19 08 29.2	-2.0

IDC 23 20:03:45.0±1.5, 663S×12954E, h0km, mb3.9/2, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=70.2km s-min=22.8km az=70.0
ISCJB 23 20:03:48.2±1.0, 701S±008×1289E±02, h35km, mb3.7/2, Error ellipse: s-maj=24.7km s-min=11.3km az=169.4
NEIC 23 20:03:49.1±1.0, 654S×13001E, h35km, Error ellipse: s-maj=36.0km s-min=12.2km az=72.0
ISC 23 20:03:50.3±1.0, 695S±008×1290E±02, h35km, n10, σ0§90/15, mb3.7/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.63**	**150**	*e*P	**Pn**	**20 05 29.4**	**+4.1**
	14nm,0.1s						
FITZ	**Fitzroy Crossi**	**11.57**	**196**	*e*P	**Pn**	**20 06 41.5**	**+8.5**
	7.5nm,1.4s						
FITZ				*e*S	**Sn**	**20 08 42.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.57**	**196**	Pn	**Pn**	**20 06 39.7**	**+6.7**
	0.3nm,0.3s,baz=56,slow=9.4,SNR=18						
FITZ				Sn	**Sn**	**20 08 39.5**	**-1.5**
	0.3nm,0.3s,baz=51,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**13.90**	**159**	Pn	**Pn**	**20 07 03.9**	**-0.9**
	0.5nm,0.3s,baz=338,slow=13,SNR=23						
WRA				Sn	**Sn**	**20 09 26.9**	**-11**
	1.0nm,0.3s,baz=332,slow=22,SNR=9.5						
WB2	**Warramunga Arr**	**13.91**	**159**	*e*P	**Pn**	**20 07 04.1**	**-0.8**
WB2				*e*S	**Sn**	**20 09 28.7**	**-9.2**
ASAR	**Alice Springs**	**17.27**	**165**	P	**Pn**	**20 07 49.8**	**+1.2**
	0.5nm,0.3s,baz=338,slow=9.0,SNR=24						
ASAR				S	**S**	**20 10 51.4**	**-16**
	0.4nm,0.3s,baz=322,slow=14,SNR=6.1						
STKA	**Stephens Creek**	**27.43**	**156**	P	**P**	**20 09 33.4**	**+0.7**
	2.1nm,0.9s,mb3.6,baz=354,slow=10,SNR=6.5						
STKA	**Stephens Creek**	**27.43**	**156**	P	**P**	**20 09 33.4**	**+0.7**
MK31	**Makanchi Array**	**67.67**	**327**	*e*P	**P**	**20 14 43.4**	**-0.4**
MKAR	**Makanchi Array**	**67.67**	**327**	P	**P**	**20 14 44.0**	**+0.2**
	0.4nm,0.4s,mb3.8,baz=117,slow=7.9,SNR=20						

ISCJB 23 20:30:38.4±1.2, 613S±01×346W±05, h10km, mb3.8/4, MS3.4/5, Error ellipse: s-maj=34.6km s-min=14.6km az=123.9
IDC 23 20:30:39.1±2.0, 6120S×3462W, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.8/14, mbtmp3.9/5, ML3.2/1, MS3.3/7, Ms1 3.3/7, ms1mx3.2/17, Error ellipse: s-maj=64.8km s-min=29.3km az=26.0
ISC 23 20:30:40.1±1.2, 613S±01×346W±05, h10km, n13, σ0§66/8, mb3.8/4, MS3.4/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**13.74**	**242**	LR	LR	20 37 53.2	
	comp=Z,126nm,20.4s,baz=294,slow=32						
VNA3	**Neumayer Olymp**	**14.04**	**146**	*e*P	**Pn**	**20 33 58.9**	**-0.1**
VNA3				*e*		20 36 23.3	
VNA2	**Neumayer--Watz**	**14.52**	**143**	*e*P	**Pn**	**20 34 05.3**	**-0.3**
	baz=304,slow=16						
VNA2				*e*		20 36 38.7	
SNAA	**Sanae**	**16.16**	**143**	Pn	**Pn**	**20 34 28.1**	**+0.7**
	0.1nm,0.3s,baz=310,slow=11,SNR=13						
SNAA				LR	LR	20 39 41.4	
	comp=Z,19nm,19.5s,baz=230,slow=33						
SNAA	**Sanae**	**16.16**	**143**	*e*P	**Pn**	**20 34 31.1**	**+3.7**
SNAA				*e*		20 37 16.9	
PLCA	**Paso Flores**	**29.95**	**297**	LR	LR	20 48 08.5	
	comp=Z,59nm,18.8s,MS3.2,baz=182,slow=35						
MAW	**Mawson**	**38.33**	**142**	LR	LR	20 51 32.0	
	comp=Z,36nm,19.3s,MS3.2,baz=75,slow=33						
VNDA	**Vanda**	**41.09**	**185**	LR	LR	20 55 10.0	
	comp=Z,34nm,18.6s,MS3.2,baz=151,slow=36						
LPAZ	**La Paz**	**50.88**	**317**	P	**P**	**20 39 40.8**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=107,slow=8.1,SNR=2.2						
LPAZ				LR	LR	20 59 23.0	
	comp=Z,44nm,19.0s,MS3.5,baz=1.7,slow=34						
BOSA	**Boshof**	**50.92**	**78**	P	**P**	**20 39 40.9**	**-0.6**
	1.4nm,0.9s,mb3.9,baz=252,slow=12,SNR=3.9						
LBTB	**Lobatse**	**54.13**	**76**	P	**P**	**20 40 05.0**	**-0.3**
	2.3nm,0.8s,mb4.2,baz=226,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**79.54**	**36**	P	**P**	**20 42 48.3**	**+1.1**
	0.6nm,0.5s,mb3.8,baz=201,slow=5.9,SNR=13						
TORD				LR	LR	21 08 17.0	
	comp=Z,42nm,19.7s,MS3.8,baz=40,slow=28						
YKA	**Yellowknife Ar**	**137.42**	**317**	PKP	PKPdf	20 50 04.8	+0.8
	0.7nm,1.1s,baz=126,slow=2.6,SNR=6.0						

IDC 23 21:12:57.8±1.8, 3774N×2275E, h0km, mb3.7/3, mb1 3.5/4, mb1mx3.3/19, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=145.6km s-min=24.2km az=142.0
ISCJB 23 21:13:00.6±0.9, 3449N±006×2588E±006, h10km, mb3.6/3, Error ellipse: s-maj=8.8km s-min=6.9km az=114.2
THE 23 21:13:05.0, 3470N×2584E, h8km
ATH 23 21:13:05.6, 3480N×2588E, h20km±1km, MD3.5/6
CSEM 23 21:13:07.3±0.3, 3485N×2575E, h15km, MD3.5, Error ellipse: s-maj=7.5km s-min=3.2km az=166.0
ISC 23 21:13:01.8±0.9, 3452N±006×2587E±006, h10km, n21, σ1§02/23, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.38**	**337**	*e*PB	**Pg**	**21 13 10.5**	**+1.2**
ZKR	**Zakros**	**0.66**	**25**	*e*Pg	**Pg**	**21 13 15.8**	**+1.3**
ZKR				*e*Sg	**Sg**	**21 13 23.4**	**+0.4**
LAST	**Lasithi**	**0.72**	**333**	*e*Pg	**Pg**	**21 13 15.0**	**-0.6**
LAST				*e*Sg	**Sg**	**21 13 24.7**	**-0.3**
NPS	**Neapolis**	**0.77**	**344**	*e*PN	**Pg**	**21 13 15.5**	**-1.1**
SIVA	**Sivas**	**1.01**	**300**	*e*Pg	**Pg**	**21 13 21.8**	**+0.6**
KARP	**Karpathos**	**1.47**	**46**	*e*PN	**Pn**	**21 13 30.0**	**+1.7**
GVD	**Gavdhos**	**1.51**	**283**	*e*Pg	**Pg**	**21 13 30.1**	**-0.6**
GVD	**Gavdhos**	**1.51**	**283**	*e*Pg	**Pg**	**21 13 30.1**	**-0.6**
GVD	**Gavdhos**	**1.51**	**283**	*e*Pn	**Pg**	**21 13 33.0**	**+2.3**
VAM	**Vamos**	**1.63**	**303**	*e*PN	**Pg**	**21 13 34.0**	**+0.9**
KARN	**Karanos**	**1.83**	**299**	*e*Pb	**Pb**	**21 13 34.5**	**-0.9**
THR6	**Thira Island,**	**1.87**	**348**	*e*Pb	**Pn**	**21 13 33.8**	**-0.1**
THR3	**Thira Island,**	**1.92**	**349**	*e*Pb	**Pn**	**21 13 34.2**	**-0.3**
THR5	**Thira Island,**	**1.94**	**347**	*e*Pb	**Pn**	**21 13 33.7**	**-1.1**
THR4	**Thira Island,**	**1.97**	**349**	*e*Pb	**Pn**	**21 13 34.7**	**-0.6**
APE	**Apeiranthos**	**2.56**	**354**	*e*Pn	**Pn**	**21 13 42.6**	**-0.6**
VLI	**Veliai**	**3.24**	**313**	*e*PN	**Pn**	**21 13 55.6**	**+2.9**
BRTR	**Keskin Array B**	**8.09**	**48**	Pn	**Pn**	**21 15 06.6**	**+7.4**
	0.0nm,0.3s,baz=236,slow=10,SNR=3.1						
TORD	**Torodi Ar. Bea**	**30.54**	**232**	P	**P**	**21 19 15.8**	**+0.4**
	0.3nm,0.4s,mb3.5,baz=34,slow=8.5,SN

KBTR Krutoberegovo 8.41 30 *e*P **Pn 21 22 40.0 -0.7**
YSS Yuzh-Sakhalins 8.63 260 *e*PN **Pn 21 22 46.2 +2.6**
ASAJ Asahikawa 10.04 244 Pn **Pn 21 23 00.8 -2.0**
comp=E,1.0nm,0.3s,baz=42,slow=8.2,SNR=7.3
ASAJ LR LR 21 26 27.3
comp=E,86nm,21.9s,baz=131,slow=35
MA2 Magadan 10.72 348 PN **Pn 21 23 11.5 -0.6**
MA2 pmax pmax
comp=Z,14nm,1.0s
MA2 Magadan 10.72 348 Pn **Pn 21 23 11.5 -0.6**
comp=Z,14nm,1.0s
ERM Erimo 11.06 234 *i* PN **Pn 21 23 11.8 -5.0**
MJAR Matsushiro Arr 17.69 231 Pn **Pn 21 24 41.6 -0.5**
comp=Z,0.1nm,0.3s,baz=14,slow=12,SNR=3.5
YAK Yakutsk 19.14 322 *e*P **Pn 21 24 58.5 -1.0**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,13nm,1.4s
YAK Yakutsk 19.14 322 *e*P **Pn 21 24 58.1 -1.5**
comp=E,14nm,0.8s
BILL Biiibino 19.70 12 *i* P **Pn 21 25 04.3 -1.8**
BILL Biiibino 19.70 12 *e*P **Pn 21 25 03.4 -2.7**
comp=E,4.1nm,0.4s
KSRS Korea Array 22.92 249 P **P 21 25 40.1 +2.0**
comp=E,0.8nm,0.8s,mb3.1,baz=44,slow=10.0,SNR=2.4
HIA Hailar 23.03 284 *e*P **P 21 25 37.7 -1.4**
HIA Hailar 23.03 284 *e*P **P 21 25 37.1 -2.0**
comp=E,5.0nm,0.6s,mb4.0
TIXI Tiksi 25.57 341 *e*P **P 21 26 00.2 -2.0**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
SONM Songino Array 31.91 286 P **P 21 26 57.8 -0.9**
comp=Z,0.3nm,0.8s,mb3.1,baz=78,slow=7.3,SNR=4.1
INK Inuvik 38.84 34 P **P 21 27 56.7 -1.3**
comp=Z,0.6nm,0.5s,mb3.6,baz=268,slow=15,SNR=6.9
INK Inuvik 38.84 34 P **P 21 27 56.7 -1.3**
INK pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 42.37 304 P **P 21 28 26.2 -0.8**
comp=Z,0.4nm,0.3s,mb3.6,baz=92,slow=12,SNR=3.1
MK31 Makanchi Array 47.09 296 *e*P **P 21 29 04.1 -0.4**
MK31 *e**PP pP 21 29 22.4 -3.6
MKAR Makanchi Array 47.09 296 P **P 21 29 04.4 -0.1**
comp=Z,0.2nm,0.3s,mb3.3,baz=166,slow=11,SNR=16
MKAR PcP PcP 21 30 37.3 +2.2
comp=Z,0.5nm,0.9s,baz=54,slow=7.8,SNR=3.6
MKAR LR LR 21 49 07.1
comp=Z,70nm,18.1s,baz=234,slow=36
KURK Kurchatov 47.20 303 *e*P **P 21 29 03.9 -1.5**
YKA Yellowknife Ar 48.14 39 P **P 21 29 11.9 -0.7**
comp=Z,0.6nm,0.9s,mb3.4,baz=296,slow=7.2,SNR=3.8
BVAR Borovoye Array 50.41 309 P **P 21 29 29.6 -0.4**
comp=Z,0.9nm,0.4s,mb4.0,baz=51,slow=7.2,SNR=8.3
BVAR PcP PcP 21 30 49.7 +2.6
comp=Z,0.6nm,0.5s,baz=76,slow=1.8,SNR=3.8
BVAR Borovoye Array 50.41 309 P **P 21 29 29.6 -0.3**
BVAR 21 30 49.7
BVAR pmax pmax
comp=Z,1.0nm,0.4s
LSA Lhasa 51.55 273 *e*P **P 21 29 39.0 +0.5**
LSA pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
LSA Lhasa 51.55 273 *e*P **P 21 29 39.0 +0.6**
comp=Z,1.5nm,0.6s,mb4.2
ARCES ARCESS Array B 56.01 341 P **P 21 30 09.2 -1.8**
comp=Z,2.8nm,0.8s,mb4.4,baz=27,slow=8.1,SNR=3.7
ARCES ARCESS Array B 56.01 341 P **P 21 30 09.2 -1.8**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
JIRN Jiri 56.15 274 *e*P **P 21 30 12.7 +0.7**
comp=Z,9.7nm,0.6s,mb5.0
GUN Gumba 56.19 275 *e*P **P 21 30 12.5 +0.2**
comp=Z,8.7nm,0.5s
KKN Kakani 56.66 275 *e*P **P 21 30 16.0 +0.4**
comp=Z,5.3nm,0.5s,mb4.8
DMN Daman 56.90 275 *e*P **P 21 30 18.1 +0.8**
GKN Gorkha 56.94 276 *e*P **P 21 30 18.0 +0.4**
KOLN Koldanda 57.77 276 *e*P **P 21 30 23.7 +0.3**
comp=Z,5.6nm,0.8s,mb4.6
PDAR Pinedale Array 62.20 56 P **P 21 30 54.0 +0.2**
comp=Z,1.1nm,0.9s,mb3.9,baz=304,slow=2.1,SNR=8.5
FINES FINESS Array B 62.42 335 P **P 21 30 53.7 -1.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=38,slow=6.1,SNR=11
FINES FINESS Array B 62.42 335 P **P 21 30 53.7 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 62.42 335 P **P 21 30 53.7 -1.5**
OBN Obninsk 64.08 326⇑ *e*P **P 21 31 06.4 +0.2**
OBN pmax pmax
comp=Z,8.0nm,1.6s,mb4.3
NOA NORSAR Array B 66.36 342 P **P 21 31 20.2 -0.7**
comp=Z,0.6nm,0.8s,mb3.5,baz=30,slow=6.1,SNR=2.8
NOA NORSAR Array B 66.36 342 P **P 21 31 20.2 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 66.65 340 P **P 21 31 22.1 -0.6**
comp=Z,1.6nm,0.8s,mb3.9,baz=48,slow=4.3,SNR=8.7
HFS Hagfors 66.65 340 P **P 21 31 22.1 -0.6**
HFS pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 70.28 327 P **P 21 31 44.6 -0.8**
comp=Z,0.3nm,0.3s,mb3.6,baz=33,slow=6.2,SNR=5.6
AKASG Malin Array Be 70.28 327 *e*P **P 21 31 45.8 +0.4**
WRA Warramunga Arr 71.28 201 P **P 21 31 54.6 +3.2**
comp=Z,0.3nm,0.6s,mb3.3,baz=16,slow=6.1,SNR=2.8
EKA Eskdalemuir Ar 74.28 347 P **P 21 32 09.0 -0.2**
comp=Z,1.1nm,0.6s,mb3.8,baz=19,slow=4.7,SNR=9.2
EKA Eskdalemuir Ar 74.28 347 P **P 21 32 09.0 -0.2**
EKA pmax pmax
comp=Z,1.0nm,0.6s
BURAR Bucovina Array 74.31 327⇓ *i*P **P 21 32 08.8 -0.5**
DPC Dobruska-Polom 74.76 334 *e*P **P 21 32 13.1 +1.2**
CLL Collm 74.81 337 *i* P **P 21 32 12.4 +0.2**
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CLL Collm 74.81 337 *i* P **P 21 32 12.4 +0.2**
comp=Z,4.0nm,0.9s,mb4.2
MORC Moravsky Berou 74.92 333⇑ *i*P **P 21 32 13.5 +0.7**
ASAR Alice Springs 74.97 200 P **P 21 32 16.8 +3.6**
comp=Z,0.3nm,0.7s,mb3.2,baz=18,slow=5.7,SNR=4.4
TXAR Lajitas Array 75.10 62 P **P 21 32 13.1 -0.8**
comp=Z,0.6nm,0.4s,mb3.7,baz=306,slow=4.9,SNR=7.1
TXAR Lajitas Array 75.10 62 P **P 21 32 13.1 -0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.4s
PRU Pruhonice 75.59 335 *e*P **P 21 32 17.7 +1.0**
VRAC Vranov 75.61 333 P **P 21 32 17.1 +0.3**
comp=Z,2.9nm,0.7s,mb4.1,baz=51,slow=5.5,SNR=6.4
VRAC Vranov 75.61 333 P **P 21 32 17.1 +0.3**
VRAC pmax pmax
comp=Z,3.0nm,0.7s
VRAC Vranov 75.61 333⇑ *i*P **P 21 32 17.6 +0.8**
MLR Muntele Rosu 75.85 326⇓ *i*P **P 21 32 19.2 +1.0**
DRGR 75.89 329⇑ *i*P **P 21 32 19.2 +0.8**
VOIR 76.23 326⇑ *i*P **P 21 32 19.2 -1.1**
KHC Kasperske Hory 76.63 335 *e*P **P 21 32 23.8 +1.2**
GRA1 Grafenberg Arr 76.75 337 *e*P **P 21 32 24.3 +1.0**
comp=Z,2.0nm,0.9s,mb3.9
GRF Grafenberg Arr 76.75 337 *e*P **P 21 32 24.3 +1.0**
comp=Z,2.0nm,0.9s,mb3.9
GRF Grafenberg Arr 76.75 337 *e*P **P 21 32 24.3 +1.0**
GRF pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
GERES GERESS Array B 76.86 335 P **P 21 32 24.7 +0.8**
comp=Z,0.8nm,0.6s,mb3.6,baz=20,slow=4.3,SNR=9.2
GERES GERESS Array B 76.86 335 P **P 21 32 24.7 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GZR Gura Zlata 77.08 328⇑ *i*P **P 21 32 24.0 -1.1**
BZS Buzias 77.28 329⇑ *i*P **P 21 32 25.8 -0.5**
BRTR Keskin Array B 77.55 318 P **P 21 32 28.4 +0.7**
comp=Z,1.3nm,0.8s,mb3.7,baz=82,slow=3.9,SNR=4.8
BRTR Keskin Array B 77.55 318 P **P 21 32 28.5 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
VTS Vitosha 79.35 326⇑ *i*P **P 21 32 39.0 +1.3**
MMAI Mount Meron Ar 82.22 313 P **P 21 32 54.1 +1.1**
comp=Z,1.0nm,0.5s,mb3.9,baz=58,slow=7.9,SNR=5.9
KEST Kesra 90.17 333 P **P 21 33 34.2 +2.2**
comp=Z,1.0nm,0.8s,mb4.0,baz=22,slow=5.4,SNR=3.9

CSEM ***23*** *21:54:24.7, 119.3N×438.2E, h13km, ML3.9, After DHMR*
DHMR 23 21:54:24.7±1.1, 119.3N×438.2E, h13km±10km, ML3.9, 2C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.33**	**13**	*i* P	Pn	21 54 49.6	+0.8
ADEN	**Aden**	**1.42**	**53⇓**	*i*P	Pn	21 54 50.8	+0.7
ADEN				*i* S	Sn	21 55 09.8	+1.2
ADEN				AML	AML	21 55 16.0	
	comp=N,3μm,0.7s						
ADEN	**Aden**	**1.42**	**53⇓**	*i*P	Pn	21 54 50.8	+0.7
ADEN				*i* S	Sn	21 55 09.8	+1.2
	comp=N,2μm,0.7s						
UDYN	**Al 'Udayn**	**2.03**	**4⇑**	*i*P	Pn	21 54 59.8	+1.3
UDYN				*i* S	Sn	21 55 27.9	+4.2
UDYN				AML	AML	21 55 35.3	
	comp=N,779nm,0.6s						
UDYN	**Al 'Udayn**	**2.03**	**4⇑**	*i*P	Pn	21 54 59.8	+1.2
UDYN				*i* S	Sn	21 55 27.9	+4.1
	comp=N,389nm,0.6s						
LBOS		**2.38**	**36**	*i* P	Pn	21 55 05.4	+2.0
LBOS				*i* S	Sn	21 55 38.3	+5.8
BDHA	**Al Bayda'**	**2.66**	**40**	*i* P	Pn	21 55 09.7	+2.6
BDHA				*i* S	Sn	21 55 46.1	+6.9
BDHA				AML	AML	21 55 52.2	
	comp=E,701nm,0.5s						
BDHA	**Al Bayda'**	**2.66**	**40**	*i* P	Pn	21 55 09.7	+2.6
BDHA				*i* S	Sn	21 55 46.1	+6.9
	comp=E,351nm,0.5s						
DHBB	**Dhamar BB**	**2.69**	**12**	*i* P	Pn	21 55 10.8	+3.2
DHBB				*i* S	Sn	21 55 46.5	+6.6
HAJJ	**Hajjah**	**3.75**	**357**	*i* P	Pn	21 55 25.1	+2.9
HAJJ				*i* S	Sn	21 56 11.9	+5.6

ISCJB ***23*** *22:43:26.2±1.1, 265.9N±0.03×75.96E±0.04, h22km±11km, mb3.6/1, Error ellipse: s-maj=6.2km s-min=4.7km az=156.3*
NEIC ***23*** *22:43:26.7±1.8, 268.8N×76.15E, h10km, mb4.2/2, Error ellipse: s-maj=34.1km s-min=14.2km az=204.0*
NEIC Slight damage in parts of northeastern Rajasthan. Felt [V] at Jaipur.
NDI ***23*** *22:43:28.1±4.3, 26.64N×75.81E, h15km±18km, ML3.7*
ISC 23 22:43:25.7±1.0, 26.63N±0.03×75.93E±0.04, h1km±7km, n37, σ1§37/54, mb3.8/1, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**1.16**	**263**	*e*P	**Pg**	**22 43 47.5**	**-0.6**
AJM				*e*S	**Sg**	**22 44 03.0**	**-0.1**
AJM				AML	AML	22 44 04.8	
	comp=E,991nm,0.1s						
AJM				AML	AML	22 44 04.8	
	comp=N,1μm,0.2s						
KHET	**Khetri**	**1.44**	**356**	*e*P	**Pn**	**22 43 52.6**	**-0.3**
KHET				*e*S	**Sb**	**22 44 10.5**	**-1.7**
KHET				*e*x	x	22 44 14.8	
	comp=N,530nm,0.2s						
KHET				*e*x	x	22 44 16.6	
	comp=E,5μm,0.1s						
AGRA	**Agra**	**1.89**	**71**	*e*P	**Pn**	**22 44 02.2**	**+3.0**
AGRA				*e*S	**Sn**	**22 44 26.8**	**+3.1**
AGRA				*e*x	x	22 44 26.9	
	comp=E,720nm,0.4s						
AGRA				*e*x	x	22 44 27.2	
	comp=N,1μm,0.6s						
SONA	**Sohna**	**1.91**	**32**	*e*P	**Pn**	**22 44 00.9**	**+1.5**
SONA				*e*S	**Sn**	**22 44 25.4**	**+1.3**
SONA				*e*x	x	22 44 31.9	
	comp=E,1μm,0.4s						
SONA				*e*x	x	22 44 31.9	
	comp=N,979nm,0.3s						
AYAN	**Aya Nagar**	**2.13**	**30**	*e*P	**Pn**	**22 44 03.8**	**+1.4**
AYAN				*e*S	**Sn**	**22 44 30.8**	**+1.4**
AYAN				*e*x	x	22 44 34.3	
	comp=Z,440nm,0.4s						
BHGR	**Bahadurgarh**	**2.23**	**23**	*e*P	**Pn**	**22 44 05.4**	**+1.6**
BHGR				*e*S	**Sn**	**22 44 32.5**	**+0.4**
BHGR				*e*x	x	22 44 39.9	
	comp=Z,944nm,0.2s						
NDI	**New Delhi**	**2.34**	**29**	*e*P	**Pn**	**22 44 08.4**	**+3.1**
NDI				*e*S	**Sn**	**22 44 34.9**	**+0.2**
NDI				AML	AML	22 44 41.5	
	comp=E,726nm,0.5s						
NDI				AML	AML	22 44 41.6	
	comp=N,393nm,0.1s						
BHPL	**Bhopal**	**3.64**	**158**	*e*P	**Pn**	**22 44 24.6**	**+1.4**
BHPL				*e*S	**Sn**	**22 45 06.8**	**+0.1**
BHPL				AML	AML	22 45 12.5	
	comp=N,86nm,0.3s						
BHPL				AML	AML	22 45 22.9	
	comp=E,237nm,0.2s						
JASL	**Jaisalmer**	**4.50**	**275**	*e*P	**Pn**	**22 44 36.2**	**+1.2**
SMLA	**Simla**	**4.61**	**13**	*e*x	x	22 44 43.0	
SMLA				*e*S	**Sn**	**22 45 30.0**	**-0.6**
LGTI	**Lohaghat**	**4.74**	**53**	*e*P	**Pn**	**22 44 37.8**	**-0.4**
LGTI				*e*x	x	22 45 49.3	
PTH	**Pithoragarh**	**4.77**	**51**	*e*P	**Pn**	**22 44 40.0**	**+1.3**
PTH				*e*x	x	22 45 30.0	
SDNR	**Sundarnagar**	**4.94**	**10**	*e*P	**Pg**	**22 44 59.5**	**-0.8**
SDNR				*e*S	**Sg**	**22 45 56.5**	**-7.8**
SDNR	**Sundarnagar**	**4.94**	**10**	*e*P	**Pb**	**22 44 51.6**	**-1.3**
SDNR				*e*S	**Sg**	**22 46 01.6**	**-2.7**
JOSI	**Joshimath**	**5.04**	**38**	*e*P	**Pn**	**22 44 44.1**	**+1.6**
KLP	**Kalpa**	**5.29**	**22**	*e*P	**Pn**	**22 44 46.0**	**+0.1**
KLP				*e*x	x	22 45 48.8	
KLP				AML	AML	22 46 30.6	
	comp=N,187nm,0.5s						
KLP				AML	AML	22 46 30.7	
	comp=E,435nm,0.9s						
ALBI	**Allahabad**	**5.45**	**103**	*e*S	**Sn**	**22 45 50.0**	**-1.4**
THN	**Thein Dam**	**5.78**	**358**	*e*P	**Pn**	**22 44 53.8**	**+1.2**
THN				*e*x	x	22 46 16.6	
BHV	**Bhavnagar**	**5.96**	**216**	*e*x	x	22 45 37.0	
AKL	**Akola**	**5.99**	**170**	*e*P	**Pn**	**22 44 56.3**	**+0.9**
AKL				*e*S	**Sn**	**22 45 59.4**	**-5.1**
AKL				AML	AML	22 46 40.2	
	comp=E,116nm,0.6s						
AKL				AML	AML	22 46 41.2	
	comp=N,78nm,0.5s						
NGP	**Nagpur**	**6.16**	**152**	*e*P	**Pn**	**22 44 59.4**	**+1.6**
NGP				*e*S	**Sn**	**22 46 07.0**	**-1.8**
NGP				*e*x	x	22 46 11.1	
	comp=N,28nm,0.6s						
NGP				AML	AML	22 46 38.8	
	comp=N,71nm,0.8s						
NGP				AML	AML	22 46 40.9	
	comp=E,84nm,0.8s						
KOLN	**Koldanda**	**6.92**	**79**	*e*Pn	**Pn**	**22 45 08.2**	**-0.1**
KOLN				*e*Sn	**Sn**	**22 46 22.1**	**-5.5**
	comp=E,36nm,0.2s						
THW	**Thamme Wali**	**7.14**	**330**	P	**Pn**	**22 45 11.6**	**+0.3**
DRP	**Derazinda**	**7.14**	**317**	P	**Pn**	**22 45 13.4**	**+2.1**
CHCP	**Chirah Chowk**	**7.37**	**342**	P	**Pn**	**22 45 15.0**	**+0.5**
GKN	**Gorkha**	**7.86**	**78**	*e*Pn	**Pn**	**22 45 20.3**	**-0.9**
GKN				*e*Sn	**Sn**	**22 46 43.6**	**-7.2**
	comp=E,62nm,0.3s						
CEP	**Cherat**	**7.97**	**335**	P	**Pn**	**22 45 23.4**	**+0.8**
CEP				S	**Sn**	**22 46 51.0**	**-2.3**
LATR	**Latur**	**8.20**	**176**	*e*x	x	22 44 55.5	
LATR				*e*x	x	22 47 30.8	
DMN	**Daman**	**8.23**	**81**	*e*Pn	**Pn**	**22 45 25.4**	**-0.9**
DMN				*e*Sn	**Sn**	**22 46 53.1**	**-6.8**
	comp=E,42nm,0.3s						
KKN	**Kakani**	**8.40**	**80**	*e*Pn	**Pn**	**22 45 27.1**	**-1.5**
KKN				*e*Sn	**Sn**	**22 46 58.0**	**-6.1**
	comp=E,40nm,0.3s						
PKI	**Pulchoki**	**8.50**	**82**	*e*Pn	**Pn**	**22 45 29.0**	**-0.9**
PKI				*e*Sn	**Sn**	**22 47 00.0**	**-6.4**
	comp=E,67nm,0.5s						
GUN	**Gumba**	**8.94**	**80**	*e*Pn	**Pn**	**22 45 35.2**	**-0.8**
GUN				*e*Sn	**Sn**	**22 47 10.0**	**-7.4**
	comp=E,80nm,0.4s						
LSA	**Lhasa**	**13.77**	**74**	Pn	**Pn**	**22 46 38.5**	**-3.5**
AAK	**Ala-Archa**	**16.01**	**356**	Pn	**Pn**	**22 47 09.1**	**-2.9**
KURK	**Kurchatov**	**24.14**	**4**	P	**P**	**22 48 41.2**	**-2.0**
BRVK	**Borovoye**	**26.73**	**352**	*e*P	**P**	**22 49 03.7**	**-2.9**
	comp=E,1.3nm,0.7s,mb3.8						
YHNB	**Yeheng**	**40.85**	**82**	P	**P**	**22 51 07.5**	**-1.5**

IDC ***23*** *22:59:35.8±0.3, 67.8S×105.61E, h0km, mb5.3/39, mb1 5.3/40, mb1mx5.3/40, mbtmp5.3/40, ML4.4/1, MS4.6/28, Ms1 4.6/28, ms1mx4.5/34, Error ellipse: s-maj=10.9km s-min=9.3km az=44.0*
BJI ***23*** *22:59:37.3, 77.0S×105.60E, h85km, mB5.3, mb5.2, Ms5.0, Msz4.8*
NEIC ***23*** *22:59:40.5±0.1, 67.9S×105.64E, h30km, mb5.4/37, MS4.9/54, MW5.5, Error ellipse: s-maj=5.5km s-min=3.4km az=51.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^17^Nm; Mrr0.93; Mθθ-0.56; Mφφ-0.37; Mrθ0.50; Mθφ-1.93; Mφr-0.22; Best double couple: M0 2.10000×10^17^ NP1:φs87.00000°, δ71.00000°, λ154.00000°. NP2: φs185.00000°, δ66.00000°, λ21.00000°. Principal axes: T 1.7700, Plg31.0000°, Azm45.0000°; N 0.6400, Plg59.0000°, Azm233.0000°; P -2.4100, Plg4.0000°, Azm137.0000°;*
NEIC Felt [III] at Cilegon, Cirende, Cisarua, Jakarta, Pandeglang, Serang and Sukabumi.
GCMT ***23*** *22:59:40.5±0.2, 7.10S×105.69E, h44km, MW5.4/78, Moment Tensor Solution. s69,c108; s78,c126; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr0.80±.03; Mθθ-0.49±.03; Mφφ-0.30±.03; Mrθ0.70±.03; Mθφ-1.23±.02; Mφr-0.44±.03; Best double couple: M0 1.63800×10^17^ NP1:φs192.00000°, δ56.00000°, λ31.00000°. NP2:φs83.00000°, δ65.00000°, λ141.00000°. Principal axes: T 1.6240, Plg44.0000°, Azm44.0000°; N 0.0280, Plg45.0000°, Azm235.0000°; P -1.6520, Plg6.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***23*** *22:59:43.9±0.9, 65.7S×105.78E, h65km, mb5.9/37 Error ellipse: s-maj=11.4km s-min=5.9km az=113.7*
ISCJB ***23*** *22:59:44.5±0.1, 67.7S±0.03×105.68E±0.02, h77km, mb5.3/127, Error ellipse: s-maj=4.3km s-min=3.1km az=64.6*
ISC 23 22:59:46.4±0.1, 67.6S±0.03×105.69E±0.02, h79km, h79km±2.2km: pP-P, n766, σ0§99/432, mb5.3/127, 164C-113D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.77**	**34**	P	**Pn**	**23 00 02.0**	**-0.8**
	0.0nm,0.0s						
TNG	**Tangerang**	**1.11**	**58**	P	**Pn**	**23 00 07.5**	**+0.7**
	0.0nm,0.0s						
CBJI	**Citeko**	**1.20**	**74**	P	**Pn**	**23 00 07.6**	**-0.2**
	0.0nm,0.0s						
LEM	**Lembang**	**1.91**	**92**	P	**Pn**	**23 00 17.2**	**+0.1**
	0.0nm,0.0s						
KLI	**Kotabumi**	**2.06**	**336**	P	**Pn**	**23 00 19.0**	**-0.1**
	0.0nm,0.0s						
BJII	**Banjamegara**	**4.03**	**98**	P	**Pn**	**23 00 45.3**	**-0.3**
	0.0nm,0.0s						
KSI	**Kapahiang**	**4.37**	**315**	P	**Pn**	**23 00 48.7**	**-1.6**
	0.0nm,0.0s						
KRKI	**Karangkates**	**6.84**	**102**	P	**Pn**	**23 01 24.0**	**-0.1**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**8.20**	**320**	P	**Pn**	**23 01 38.4**	**-4.1**
	0.0nm,0.0s						
KGM	**Kluang**	**9.04**	**345**	P	**Pn**	**23 01 58.5**	**+4.5**
KGM	**Kluang**	**9.04**	**345**	P	**Pn**	**23 01 58.5**	**+4.5**
KSM	**Kuching**	**9.39**	**30**	*e*Pn	**Pn**	**23 02 01.7**	**+2.9**
KSM				*e*S	**Sn**	**23 03 54.9**	**+12**
DNP	**Denpasar**	**9.62**	**102**	P	**Pn**	**23 02 00.9**	**-1.1**
	0.0nm,0.0s						
PSI	**Prapat**	**11.66**	**324**	Pn	**Pn**	**23 02 22.7**	**-7.1**
	2.5nm,0.3s,baz=167,slow=11,SNR=14						
PSI				Sn	**Sn**	**23 04 32.9**	**-5.2**
	1.6nm,0.3s,baz=140,slow=13,SNR=3.6						
PSI				LR	LR	23 07 42.4	
	comp=Z,4μm,19.5s,baz=141,slow=42						
IPM	**Ipoh**	**12.10**	**337**	P	**Pn**	**23 02 39.1**	**+3.3**
IPM	**Ipoh**	**12.10**	**337**	P	**Pn**	**23 02 39.1**	**+3.3**
KULM	**Kulim**	**12.99**	**337**	*e*Pn	**Pn**	**23 02 45.3**	**-2.4**
PCI	**Palu**	**15.26**	**68**	P	**Pn**	**23 03 19.8**	**+2.5**
	594nm,1.8s						
BSI	**Banda Aceh**	**16.00**	**319**	P	**Pn**	**23 03 21.0**	**-5.7**
	133nm,1.1s						
TSM	**Tawau**	**16.38**	**48**	P	**Pn**	**23 03 38.8**	**+7.3**
TSM	**Tawau**	**16.38**	**48**	P	**Pn**	**23 03 38.8**	**+7.3**
KKM	**Kota Kinabalu**	**16.50**	**40**	P	**Pn**	**23 03 37.0**	**+4.2**
KKM	**Kota Kinabalu**	**16.50**	**40**	P	**Pn**	**23 03 37.0**	**+4.2**
KKM	**Kota Kinabalu**	**16.50**	**40**	*e*P	**Pn**	**23 03 35.3**	**+2.4**
FITZ	**Fitzroy Crossi**	**22.47**	**122**	*e*P	**P**	**23 04 37.8**	**-1.2**
	63nm,0.6s,mb5.1						
FITZ				*e*S	**S**	**23 08 37.7**	**-2.5**
FITZ	**Fitzroy Crossi**	**22.47**	**122**	P	**P**	**23 04 37.9**	**-1.1**
	33nm,0.7s,mb4.8,baz=283,slow=6.2,SNR=49						
FITZ				S	**S**	**23 08 39.8**	**-0.4**
	7.2nm,0.7s,baz=166,slow=19,SNR=3.0						
FITZ				LR	LR	23 13 08.5	
	comp=Z,2μm,21.8s,baz=306,slow=36						
ENPP	**El Nido**	**22.48**	**38**	*e*P	**P**	**23 04 40.3**	**+1.2**
AAI	**Ambon**	**22.61**	**83**	P	**P**	**23 04 37.7**	**-2.8**
	216nm,1.2s,mb5.3						
NST	**Nakhon Sawan**	**22.96**	**346**	P	**P**	**23 04 45.0**	**+0.8**
KKTK	**Khon Kaen**	**23.13**	**353**	P	**P**	**23 04 44.5**	**-1.2**
CUYO	**Cuyo Island**	**23.21**	**41**	*e*P	**P**	**23 04 47.0**	**+0.5**
DCPH	**Dipolog City**	**23.29**	**49**	*e*P	**P**	**23 04 50.9**	**+3.7**
BUSP	**Coron**	**23.57**	**38**	*e*P	**P**	**23 04 50.6**	**+0.8**
GUIM	**Jordan**	**24.11**	**44**	*e*P	**P**	**23 04 57.7**	**+3.0**
DAV	**Davao City (W)**	**24.13**	**56**	*e*P	**P**	**23 04 58.0**	**+3.1**
DAV				LR	LR		
	comp=Z,1μm,22.0s						
BUKP	**Musuan**	**24.18**	**53**	*e*P	**P**	**23 04 58.6**	**+3.2**
MATI	**Mati**	**24.62**	**57**	*e*P	**P**	**23 05 00.9**	**+1.5**
LLP	**Lapu-Lapu**	**24.88**	**47⇑**	*e*P	**P**	**23 05 04.9**	**+3.2**
RCP	**Roxas**	**24.88**	**43⇓**	*e*P	**P**	**23 05 03.4**	**+1.7**
BUTP	**Butuan**	**25.27**	**52**	*e*P	**P**	**23 05 06.4**	**+1.1**
MSLP	**Maasin**	**25.42**	**49**	*e*P	**P**	**23 05 08.6**	**+2.0**
TGY	**Tagaytay City**	**25.66**	**36**	P	**P**	**23 05 10.0**	**+1.2**
	comp=Z,106nm,0.3s,baz=197,slow=11,SNR=5.2						
OCLP	**Ormoc**	**25.84**	**47**	*e*P	**P**	**23 05 14.1**	**+3.7**
NANT	**Nan**	**25.87**	**349**	P	**P**	**23 05 09.7**	**-1.0**
	comp=Z,124nm,0.9s,mb5.3						
CM31	**Chiang Mai Arr**	**25.93**	**345**	PFAKE		23 05 20.0	+8.8
CM31				LR	LR		
	comp=Z,1μm,19.0s						
QIZ	**Qiongzhong**	**25.95**	**9**	P	**P**	**23 05 12.5**	**+1.1**
QIZ				AP	pP	23 05 33.0	+3.4
QIZ				S	**S**	**23 09 37.1**	**+1.0**
QIZ				XS	sS	23 10 11.8	+4.2
QIZ				AMB	AMB		
	comp=Z,37nm,1.4s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,735nm,5.0s						
QIZ				LR	LR		
	comp=N,2μm,22.0s						
QIZ				LR	LR		
	comp=E,3μm,20.4s						
QIZ				LR	LR		
	comp=Z,3μm,22.0s						
CHG	**Chiang Mai**	**26.27**	**345**	⇓P	**P**	**23 05 18.3**	**+4.0**
	comp=Z,23nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**26.27**	**345**	*e*P	**P**	**23 05 13.2**	**-1.1**
	comp=Z,13nm,0.8s,mb4.4						
CHTO				LR	LR		
	comp=Z,1μm,20.0s						
MUN	**Mundaring**	**26.94**	**160**	*e*P	**P**	**23 05 19.6**	**-0.7**
MUN				*e*S	S	23 10 21.6	+30
KAKA	**Kakadu**	**27.00**	**105**	*e*P	**P**	**23 05 20.2**	**-0.6**
	comp=Z,154nm,0.6

KMI			PP	PP		23 07 17.3 +0.6
KMI			S	**S**		**23 11 13.0 +4.8**
KMI			AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5					
KMI			AMB	AMB		
	comp=Z,265nm,5.5s					
KMI			LR	LR		
	comp=N,1μm,23.9s					
KMI			LR	LR		
	comp=E,3μm,19.3s					
KMI			LR	LR		
	comp=Z,2μm,17.0s					
KMI	**Kunming**	**31.82**	**355**	P	**P**	**23 06 04.1 +0.5**
	comp=Z,10.0nm,1.1s,mb4.5					
KMI				pP	pP	23 06 19.0 -3.0
KMI				sP	sP	23 06 25.4 -5.8
KMI				PP	PP	23 07 17.3 +0.6
KMI				PPP		23 07 32.0
KMI				PcP	PcP	23 08 54.6 +1.8
KMI				S	**S**	**23 11 13.0 +4.8**
KMI				sS	sS	23 11 42.1 +2.1
KMI				ScP	ScP	23 12 33.2 +4.1
KMI				PcS	PcS	23 12 38.9 +1.4
KMI				SS	SS	23 13 09.5 -18
KMI				SSS		23 13 35.0
KMI				LR	LR	
	comp=Z,2μm,17.0s					
ASAR	**Alice Springs**	**31.88**	**125**	P	**P**	**23 06 03.8 -0.3**
	comp=Z,21nm,0.6s,mb5.1,baz=301,slow=7.8,SNR=127					
ASAR				PcP	PcP	23 08 53.7 +0.7
	comp=Z,15nm,0.9s,baz=290,slow=2.5,SNR=9.6					
ASAR				S	**S**	**23 11 07.8 -1.4**
	comp=Z,21nm,1.1s,baz=297,slow=17,SNR=13					
MDRS	**Chennai**	**32.05**	**308**	*ex*	x	23 07 02.0
MDRS				AMb	AMB	23 07 12.5
	comp=Z,76nm,2.6s,mb5.0					
MDRS				*ex*	x	23 09 06.7
KOD	**Kodaikanal**	**32.79**	**301**	*eP*	**P**	**23 06 11.6 -0.4**
KOD				AMb	AMB	23 06 19.0
	comp=Z,43nm,1.1s,mb5.2					
GYA	**Guiyang**	**33.04**	**2**	P	**P**	**23 06 14.3 +0.1**
GYA				AP	pP	23 06 34.0 +1.3
GYA				XP	sP	23 06 44.3 +2.5
GYA				PP	PP	23 07 27.6 -2.6
GYA				S	**S**	**23 11 29.9 +2.8**
GYA				AMB	AMB	
	comp=Z,60nm,1.0s,mb5.4					
GYA				AMB	AMB	
	comp=Z,650nm,4.6s					
GYA				LR	LR	
	comp=N,650nm,22.1s					
GYA				LR	LR	
	comp=E,2μm,20.9s					
GYA				LR	LR	
	comp=Z,770nm,18.5s					
QZH	**Quanzhou**	**33.93**	**21**	*eP*	**P**	**23 06 21.9 0.0**
QZH				S	**S**	**23 11 48.1 +7.2**
QZH				LR	LR	
	comp=Z,3μm,33.0s					
NACB	**Ninganchiao**	**34.44**	**26**	P	**P**	**23 06 27.6 +1.2**
SHL	**Shillong**	**34.83**	**338**	*eP*	**P**	**23 06 29.0 -0.7**
SHL				AMb	AMB	23 06 40.1
	comp=Z,530nm,0.6s					
SHL				*ex*	x	23 11 52.5
HYB	**Hyderabad**	**36.01**	**312**	*i P*	**P**	**23 06 40.0 +0.2**
HYB				*eS*	**S**	**23 12 16.0 +3.2**
HYB	**Hyderabad**	**36.01**	**312**	*eP*	**P**	**23 06 40.0 +0.2**
HYB				*eS*	**S**	**23 12 16.0 +3.2**
BOK	**Bokaro**	**36.01**	**328**	*eP*	**P**	**23 06 39.9 +0.1**
BOK				AMb	AMB	23 06 50.0
	comp=Z,40nm,1.2s,mb5.2					
BOK				*ex*	x	23 12 13.1
ENH	**Enshi**	**37.00**	**5**	PFAKE		23 07 00.0 +12
ENH				LR	LR	
	comp=Z,3.0nm,20.0s					
CD2	**Chengdu**	**37.50**	**357**	P	**P**	**23 06 54.9 +2.4**
CD2				AP	pP	23 07 15.0 +3.7
CD2				XP	sP	23 07 24.9 +4.5
CD2				PP	PP	23 08 22.0 +2.6
CD2				S	**S**	**23 12 37.1 +1.5**
CD2				AMB	AMB	
	comp=Z,30nm,0.5s,mb5.4					
CD2				AMB	AMB	
	comp=Z,100nm,4.1s					
CD2				LR	LR	
	comp=N,2μm,14.3s					
CD2				LR	LR	
	comp=E,2μm,16.0s					
CD2				LR	LR	
	comp=Z,2μm,14.3s					
WHN	**Wuhan**	**38.01**	**12**	⇓P	**P**	**23 06 57.8 +1.0**
WHN				LR	LR	
	comp=Z,3μm,22.2s					
LATR	**Latur**	**38.11**	**311**	*eP*	**P**	**23 06 54.7 -2.9**
NGP	**Nagpur**	**38.13**	**317**	*eP*	**P**	**23 06 57.5 -0.2**
NGP				AMb	AMB	23 07 02.2
	comp=Z,51nm,1.0s,mb5.3					
GOA	**Goa**	**38.55**	**305**	*eP*	**P**	**23 06 58.8 -2.5**
GOA				AMb	AMB	23 07 04.2
	comp=Z,116nm,1.4s,mb5.5					
LSA	**Lhasa**	**38.86**	**340**	P	**P**	**23 07 05.0 +1.1**
LSA	**Lhasa**	**38.86**	**340**	*eP*	**P**	**23 07 03.7 -0.2**
	comp=Z,49nm,0.9s,mb5.3					
LSA				LR	LR	
	comp=Z,1μm,21.0s					
JIRN	**Jiri**	**39.07**	**332**	*eP*	**P**	**23 07 05.5 -0.2**
	comp=Z,52nm,0.4s,mb5.7					
AKL	**Akola**	**39.23**	**315**	*eP*	**P**	**23 07 07.4 +0.4**
AKL				AMb	AMB	23 07 12.1
	comp=Z,86nm,1.1s,mb5.5					
KAD	**Karad**	**39.26**	**308**	*eP*	**P**	**23 07 06.7 -0.5**
KAD				AMb	AMB	23 07 12.0
	comp=Z,66nm,1.3s,mb5.3					
PKI	**Pulchoki**	**39.37**	**331**	*eP*	**P**	**23 07 07.3 -0.8**
GUN	**Gumba**	**39.43**	**332**	*eP*	**P**	**23 07 07.7 -1.0**
	comp=Z,128nm,0.7s,mb5.8					
ALBI	**Allahabad**	**39.45**	**325**	*eP*	**P**	**23 07 06.5 -2.3**
DMN	**Daman**	**39.55**	**331**	*eP*	**P**	**23 07 08.9 -0.7**
	comp=Z,114nm,1.0s,mb5.6					
KKN	**Kakani**	**39.61**	**331**	*eP*	**P**	**23 07 09.4 -0.8**
	comp=Z,137nm,1.1s,mb5.7					
JOW	**Kunigami**	**39.93**	**32**	P	**P**	**23 07 13.8 +1.0**
	comp=Z,29nm,0.4s,mb5.5,baz=188,slow=4.5,SNR=20					
GKN	**Gorkha**	**40.10**	**330**	*eP*	**P**	**23 07 13.2 -1.0**
	comp=Z,63nm,0.3s,mb5.9					
POO	**Poona**	**40.23**	**309**	⇓*iP*	**P**	**23 07 13.0 -2.3**
	comp=Z,50nm,1.0s,mb5.3					
POO				*eP*		23 07 15.1
POO				AMb	AMB	23 07 28.9
	comp=Z,46nm,1.7s,mb5.0					
KOLN	**Koldanda**	**40.43**	**329**	*eP*	**P**	**23 07 16.2 -0.7**
	comp=Z,79nm,0.7s,mb5.6					
SSE	**Sheshan**	**40.46**	**21**	P	**P**	**23 07 17.6 +0.4**
SSE				S	**S**	**23 13 23.6 +3.6**
SSE				XS	sS	23 13 58.9 +6.5
SSE				AMB	AMB	
	comp=Z,58nm,0.7s,mb5.5					
SSE				AMB	AMB	
	comp=Z,194nm,4.1s					
SSE				LR	LR	
	comp=N,329nm,26.6s					
SSE				LR	LR	
	comp=E,309nm,26.7s					
SSE				LR	LR	
	comp=Z,466nm,27.1s					
SSE	**Sheshan**	**40.46**	**21**	P	**P**	**23 07 17.6 +0.4**
	comp=Z,58nm,0.7s,mb5.5					
SSE				S	**S**	**23 13 23.6 +3.6**
SSE				sS	sS	23 13 58.9 +6.5
SSE				LR	LR	
	comp=Z,470nm,27.1s					
BHPL	**Bhopal**	**40.66**	**318**	*eP*	**P**	**23 07 17.6 -1.2**
BHPL				AMb	AMB	23 07 22.5
	comp=Z,48nm,1.1s,mb5.2					
XAN	**Xi'an**	**40.69**	**4**	P	**P**	**23 07 18.4 -0.7**
XAN				AP	pP	23 07 43.9 +5.8
XAN				S	**S**	**23 13 20.5 -3.0**
XAN				AMB	AMB	
	comp=Z,35nm,1.1s,mb5.1					
XAN				AMB	AMB	
	comp=Z,75nm,11.4s					
XAN				LR	LR	
	comp=E,2μm,29.3s					
XAN				LR	LR	
	comp=Z,1μm,22.1s					

PMG	**Port Moresby**	**41.12**	**97**	P	**P**	**23 07 23.7 +1.1**
	comp=Z,213nm,1.0s,mb5.9,baz=291,slow=5.2,SNR=39					
PMG				S	**S**	**23 13 28.4 -1.4**
	comp=Z,6.6nm,0.7s,baz=156,slow=20,SNR=2.9					
PMG	**Port Moresby**	**41.12**	**97**	*c iP*	**P**	**23 07 23.4 +0.8**
PMG	**Port Moresby**	**41.12**	**97**	*eP*	**P**	**23 07 23.5 +0.9**
	comp=Z,535nm,1.3s,mb6.2					
PMG				LR	LR	
	comp=Z,618nm,22.0s					
CTA	**Charters Tower**	**41.49**	**113**	*eP*	**P**	**23 07 26.4 +0.8**
	comp=Z,29nm,0.9s,mb5.1					
CTA				*eS*	**S**	**23 13 37.9 +2.7**
CTA	**Charters Tower**	**41.49**	**113**	P	**P**	**23 07 26.6 +0.9**
	comp=Z,48nm,1.0s,mb5.3,baz=280,slow=9.8,SNR=21					
CTA				S	**S**	**23 13 36.0 +0.7**
	comp=Z,5.4nm,1.0s,baz=29,slow=18,SNR=2.9					
CTA				LR	LR	23 25 33.8
	comp=Z,604nm,21.9s,baz=278,slow=38					
CTAO	**Charters Tower**	**41.49**	**113**	*eP*	**P**	**23 07 26.5 +0.9**
CTAO				LR	LR	
	comp=Z,1μm,22.0s					
STKA	**Stephens Creek**	**41.76**	**131**	*eP*	**P**	**23 07 27.9 0.0**
	comp=Z,103nm,0.9s,mb5.6					
STKA				*eS*	**S**	**23 13 40.9 +1.6**
STKA	**Stephens Creek**	**41.76**	**131**	P	**P**	**23 07 28.1 +0.2**
	comp=Z,115nm,0.8s,mb5.7,baz=303,slow=8.0,SNR=155					
STKA				S	**S**	**23 13 38.7 -0.7**
	comp=Z,3.1nm,1.0s,baz=18,slow=19,SNR=3.3					
STKA				LR	LR	23 25 14.9
	comp=Z,2μm,21.0s,baz=290,slow=37					
LZH	**Lanzhou**	**42.66**	**358**	*eP*	**P**	**23 07 35.3 +0.2**
LZH				AP	pP	23 07 54.3 +0.1
LZH				XP	sP	23 08 04.3 +1.1
LZH				PP	PP	23 09 18.0 +2.6
LZH				S	**S**	**23 13 52.3 -0.2**
LZH				AMB	AMB	
	comp=Z,110nm,1.3s,mb5.4					
LZH				AMB	AMB	
	comp=Z,330nm,5.6s					
LZH				LR	LR	
	comp=N,2μm,13.1s					
LZH				LR	LR	
	comp=Z,2μm,15.4s					
LZH	**Lanzhou**	**42.66**	**358**	*eP*	**P**	**23 07 35.2 +0.1**
	comp=Z,110nm,1.3s,mb5.4					
LZH				pP	pP	23 07 54.2 0.0
LZH				sP	sP	23 08 04.3 +1.1
LZH				PP	PP	23 09 18.0 +2.6
LZH				PcP	PcP	23 09 27.2 +1.4
LZH				ScP	ScP	23 13 14.3 +4.7
LZH				PcS	PcS	23 13 20.0 +2.0
LZH				S	**S**	**23 13 52.2 -0.3**
LZH				sS	sS	23 14 25.0 -0.1
LZH				*e*SS	SS	23 16 58.0 -7.4
LZH				ScS	ScS	23 17 30.0 +1.5
LZH				LR	LR	
	comp=Z,2μm,15.4s					
LGTI	**Lohaghat**	**43.54**	**327**	*eP*	**P**	**23 07 42.0 -0.2**
PTH	**Pithoragarh**	**43.63**	**327**	*eP*	**P**	**23 07 42.2 -0.8**
PTH				*ex*	x	23 13 59.8
GUMO	**Guam**	**43.84**	**62**	P	**P**	**23 07 43.0 -1.6**
	comp=Z,67nm,0.4s,mb5.7,baz=340,slow=1.7,SNR=11					
GUMO	**Guam**	**43.84**	**62**	P	**P**	**23 07 43.0 -1.6**
TIA	**Tai'an**	**44.07**	**13**	P	**P**	**23 07 46.3 -0.2**
NDI	**New Delhi**	**44.67**	**323**	*eP*	**P**	**23 07 50.5 -0.7**
NDI				AMb	AMB	23 07 55.1
	comp=Z,103nm,1.2s,mb5.4					
NDI				*ex*	x	23 14 19.0
AJM	**Ajmer**	**44.71**	**319**	*eP*	**P**	**23 07 50.4 -1.2**
AJM				AMb	AMB	23 07 53.4
	comp=Z,74nm,1.2s,mb5.3					
GTA	**Gaotai**	**46.26**	**354**	⇑P	**P**	**23 08 04.1 +0.2**
GTA				AP	pP	23 08 25.1 +1.9
GTA				XP	sP	23 08 34.8 +2.7
GTA				PP	PP	23 09 54.3 +0.6
GTA				S	**S**	**23 14 43.5 -1.2**
GTA				XS	sS	23 15 24.0 +6.3
GTA				SCS	ScS	23 17 51.3 -0.1
GTA				AMB	AMB	
	comp=Z,20nm,1.4s,mb4.7					
GTA				AMB	AMB	
	comp=Z,204nm,6.5s					
GTA				LR	LR	
	comp=N,783nm,21.3s					
GTA				LR	LR	
	comp=E,1μm,19.0s					
GTA				LR	LR	
	comp=Z,751nm,22.1s					
JNU	**Nakatsue**	**46.32**	**30**	P	**P**	**23 08 04.2 -0.2**
	comp=Z,30nm,0.5s,mb5.3,baz=198,slow=20,SNR=24					
JNU				LR	LR	23 26 54.9
	comp=Z,811nm,21.9s,baz=142,slow=35					
SDNR	**Sundarnagar**	**46.91**	**326**	*eP*	**P**	**23 08 08.5 -0.4**
SDNR				*ex*	x	23 14 53.2
BTO	**Baotou**	**47.30**	**4**	*eP*	**P**	**23 08 11.4 -0.6**
BJT	**Baijiatuau**	**47.54**	**11**	*eP*	**P**	**23 08 12.5 -1.3**
	comp=Z,66nm,1.2s,mb5.3					
BJI	**Beijing**	**47.56**	**11**	P	**P**	**23 08 13.9 -0.1**
BJI				S	**S**	**23 15 09.0 +5.7**
BJI				AMB	AMB	
	comp=Z,49nm,1.1s,mb5.2					
BJI				AMB	AMB	
	comp=Z,239nm,3.8s					
BJI				LR	LR	
	comp=N,994nm,18.8s					
BJI				LR	LR	
	comp=E,1μm,21.3s					
BJI				LR	LR	
	comp=Z,776nm,18.8s					
BJI	**Beijing**	**47.56**	**11**	P	**P**	**23 08 13.9 -0.1**
	comp=Z,49nm,1.1s,mb5.2					
BJI				S	**S**	**23 15 09.0 +5.7**
BJI				SS	SS	23 18 45.1 +13
BJI				LR	LR	
	comp=Z,780nm,18.8s					
HHC	**Hu-ho-hao-te**	**47.68**	**6**	*eP*	**P**	**23 08 15.6 +0.7**
HHC				AP	pP	23 08 36.8 +2.5
HHC				XP	sP	23 08 48.1 +4.8
HHC				PP	PP	23 10 07.8 +0.7
HHC				PCS	PcS	23 13 36.9 -1.8
HHC				S	**S**	**23 15 04.5 -0.5**
HHC				SCS	ScS	23 17 56.3 -4.5
HHC				AMB	AMB	
	comp=Z,26nm,1.1s,mb5.0					
HHC				AMB	AMB	
	comp=Z,222nm,6.2s					
HHC				LR	LR	
	comp=N,874nm,17.2s					
HHC				LR	LR	
	comp=E,1μm,19.0s					
HHC				LR	LR	
	comp=Z,907nm,23.8s					
DL2	**Dalian**	**47.78**	**17**	P	**P**	**23 08 15.3 -0.4**
DL2				S	**S**	**23 15 07.8 +1.4**
DL2				AMB	AMB	
	comp=Z,20nm,1.0s,mb4.9					
DL2				LR	LR	
	comp=N,340nm,13.8s					
DL2				LR	LR	
	comp=E,310nm,14.9s					
DL2				LR	LR	
	comp=Z,430nm,17.0s					
YNG	**Young**	**47.95**	**131**	*eP*	**P**	**23 08 17.5 +0.6**
	comp=Z,27nm,0.6s,mb5.2					
INCN	**Inchon**	**48.16**	**22**	PFAKE		23 08 30.0 +11
INCN				LR	LR	
	comp=Z,508nm,20.0s					
THN	**Thein Dam**	**48.31**	**326**	*eP*	**P**	**23 08 17.9 -1.9**
THN				*ex*	x	23 15 10.8
KSRS	**Korea Array**	**48.64**	**24**	P	**P**	**23 08 22.6 +0.3**
	comp=Z,20nm,0.6s,mb5.3,baz=213,slow=6.9,SNR=60					
KSRS				PcP	PcP	23 09 47.6 +1.0
	comp=Z,12nm,1.0s,baz=214,slow=3.0,SNR=9.1					
KSRS				ScP	ScP	23 13 34.2 -0.1
	comp=Z,2.5nm,0.9s,baz=218,slow=4.0,SNR=4.1					
KSRS				LR	LR	23 27 58.9
	comp=Z,233nm,20.4s,baz=317,slow=35					
CBIJ	**Chichi jima**	**48.79**	**45**	P	**P**	**23 08 21.6 -1.8**
	comp=Z,175nm,0.9s,mb6.0,baz=106,slow=20,SNR=5.5					
CBIJ				LR	LR	23 29 01.4
	comp=Z,271nm,18.6s,baz=95,slow=36					
ARMA	**Armidale**	**49.04**	**125**	*eP*	**P**	**23 08 27.5 +2.2**
ARMA				*e*PCP	PcP	23 09 50.4 +2.4
CNB	**Canberra Magne**	**49.09**	**132**	*eP*	**P**	**23 08 26.3 +0.5**
	comp=Z,25nm,1.1s,mb5.1					

MSEY	**Mahe Island**	**49.99**	**270**	PFAKE		23 08 40.0 +7.4
MSEY				LR	LR	
	comp=Z,222nm,19.0s					
SNY	**Shenyang**	**51.05**	**17**	⇑P	**P**	**23 08 39.4 -1.1**
SNY				S	**S**	**23 15 51.6 -0.4**
SNY				AMB	AMB	
	comp=Z,35nm,1.2s,mb5.3					
SNY				LR	LR	
	comp=N,339nm,19.5s					
SNY				LR	LR	
	comp=E,616nm,21.3s					
SNY				LR	LR	
	comp=Z,466nm,20.7s					
JHJ	**Hachijo jima 2**	**51.20**	**37**	LR	LR	23 27 44.8
	comp=Z,480nm,21.6s,baz=325,slow=33					
MAJO	**Matsushiro**	**52.77**	**33**	*eP*	**P**	**23 08 50.3 -3.0**
MAT	**Matsushiro**	**52.77**	**33**	P	**P**	**23 08 51.6 -1.7**
MAT				*eS*	**S**	**23 16 25.0 +9.5**
MJAR	**Matsushiro Arr**	**52.77**	**33**	P	**P**	**23 08 51.8 -1.5**
	comp=Z,17nm,0.5s,mb5.4,baz=208,slow=8.3,SNR=93					
MJAR				PcP	PcP	23 10 02.1 +0.2
	comp=Z,8.9nm,1.0s,baz=213,slow=5.0,SNR=5.5					
WMQ	**Urumqi**	**52.92**	**344**	P	**P**	**23 08 54.1 -0.3**
WMQ				XP	sP	23 09 24.6 +1.6
WMQ				PP	PP	23 10 55.8 +1.2
WMQ				PCS	PcS	23 13 59.8 -1.4
WMQ				S	**S**	**23 16 15.4 -2.2**
WMQ				SCS	ScS	23 18 33.3 -3.3
WMQ				AMB	AMB	
	comp=Z,38nm,1.2s,mb5.3					
WMQ				AMB	AMB	
	comp=Z,328nm,6.0s					
WMQ				LR	LR	
	comp=N,728nm,29.0s					
WMQ				LR	LR	
	comp=E,643nm,26.0s					
WMQ				LR	LR	
	comp=Z,399nm,25.0s					
CN2	**Changchun**	**53.41**	**18**	⇑P	**P**	**23 08 59.5 +1.5**
CN2				PCP	PcP	23 10 04.8 +0.5
CN2				*e*S	**S**	**23 16 20.8 -3.5**
CN2				AMB	AMB	
	comp=Z,150nm,1.0s,mb6.0					
CN2				LR	LR	
	comp=N,500nm,17.0s					
CN2				LR	LR	
	comp=E,400nm,17.0s					
CN2				LR	LR	
	comp=Z,600nm,21.0s					
KSH	**Kashi**	**53.63**	**332**	P	**P**	**23 08 59.3 -0.3**
KSH				AP	pP	23 09 18.8 -0.6
KSH				XP	sP	23 09 27.8 -0.4
KSH				PP	PP	23 11 03.0 +2.0
KSH				S	**S**	**23 16 25.4 -1.8**
KSH				SCS	ScS	23 18 38.9 -2.7
KSH				SS	SS	23 20 05.0 -3.6
KSH				AMB	AMB	
	comp=Z,137nm,1.1s,mb5.9					
KSH				AMB	AMB	
	comp=Z,2μm,6.2s					
KSH				LR	LR	
	comp=Z,2μm,6.6s					
KBL	**Kabul**	**53.72**	**322**	⇑*iP*	**P**	**23 08 59.5 -0.9**
HNR	**Honiara**	**53.74**	**97**	P	**P**	**23 09 00.2 -0.2**
	comp=Z,81nm,0.6s,mb5.9,baz=263,slow=4.3,SNR=19					
HNR				S	**S**	**23 16 28.5 -0.2**
	comp=Z,61nm,0.8s,baz=88,slow=8.9,SNR=11					
HNR				LR	LR	23 35 17.0
	comp=Z,224nm,19.9s,baz=181,slow=40					
HNR	**Honiara**	**53.74**	**97**	⇑*iP*	**P**	**23 09 00.2 -0.2**
HNR				pmax	pmax	
	comp=Z,290nm,1.1s,mb6.2					
HNR	**Honiara**	**53.74**	**97**	⇑*iP*	**P**	**23 09 00.2 -0.2**
	comp=Z,290nm,1.1s,mb6.2					
SONM	**Songino Array**	**54.36**	**1**	P	**P**	**23 09 05.2 +0.2**
	comp=Z,8.5nm,0.4s,mb5.1,baz=180,slow=9.6,SNR=155					
SONM				PcP	PcP	23 10 08.4 +0.4
	comp=Z,28nm,0.7s,baz=190,slow=3.9,SNR=20					
SONM				ScP	ScP	23 14 00.7 +1.6
	comp=Z,4.1nm,0.8s,baz=171,slow=3.3,SNR=5.2					
SONM				LR	LR	23 35 01.7
	comp=Z,2μm,19.4s,baz=171,slow=39					
JMDO	**Jabal Madar**	**54.85**	**303**	⇑P	**P**	**23 09 10.0 +1.4**
	SNR=5.4					
VLA	**Vladivostok**	**55.05**	**23**	*eP*	**P**	**23 09 09.0 -1.0**
VLA				*e*		23 10 10.0
VLA				pmax	pmax	
	comp=Z,90nm,1.7s,mb5.5					
VLA	**Vladivostok**	**55.05**	**23**	*eP*	**P**	**23 09 08.9 -1.1**
SMDO	**Samad**	**55.20**	**304**	⇓P	**P**	**23 09 12.8 +1.7**
	SNR=11					
MDJ	**Mudanjiang**	**55.49**	**21**	P	**P**	**23 09 12.6 -0.5**
MDJ				AP	pP	23 09 30.9 -2.1
MDJ				XP	sP	23 09 42.1 +0.3
MDJ				PP	PP	23 11 17.1 -0.6
MDJ				SCP	ScP	23 14 03.0 -1.0
MDJ				SS	SS	23 20 38.5 +0.6
MDJ				AMB	AMB	
	comp=Z,37nm,1.2s,mb5.3					
MDJ				AMB	AMB	
	comp=Z,155nm,3.9s					
MDJ				LR	LR	
	comp=N,282nm,35.6s					
MDJ				LR	LR	
	comp=E,241nm,34.2s					
MDJ				LR	LR	
	comp=Z,347nm,40.5s					
MDJ	**Mudanjiang**	**55.49**	**21**	*eP*	**P**	**23 09 12.7 -0.4**
	comp=Z,32nm,0.9s,mb5.3					
BSY	**Bisya**	**55.76**	**303**	⇑P	**P**	**23 09 16.8 +1.8**
	SNR=7.0					
KZA	**Kyzart**	**55.99**	**333**	P	**P**	**23 09 16.9 +0.2**
	SNR=39					
HOQ	**Hoqain**	**56.04**	**304**	⇓P	**P**	**23 09 19.0 +1.9**
	SNR=7.9					
UCH	**Uchtor**	**56.45**	**333**	P	**P**	**23 09 19.7 -0.3**
	SNR=17					
TKM2	**Tokmak 2**	**56.51**	**334**	P	**P**	**23 09 19.6 -0.7**
	SNR=44					
ARQ	**Araqi**	**56.58**	**304**	⇑P	**P**	**23 09 22.0 +1.1**
	SNR=5.7					
KBK	**Karagaybulak**	**56.59**	**333**	P	**P**	**23 09 20.6 -0.3**
	SNR=29					
AML	**Almayashu**	**56.75**	**332**	P	**P**	**23 09 22.5 +0.4**
	SNR=20					
AAK	**Ala-Archa**	**56.77**	**333**	P	**P**	**23 09 22.9 +0.6**
	SNR=17					
AAK	**Ala-Archa**	**56.77**	**333**	P	**P**	**23 09 21.6 -0.6**
	SNR=11					
AAK	**Ala-Archa**	**56.77**	**333**	*eP*	**P**	**23 09 22.1 -0.1**
AAK				LR	LR	
	comp=Z,170nm,22.0s					
WHFO	**Wadi Hawf**	**56.81**	**296**	⇓P	**P**	**23 09 23.3 +0.7**
	SNR=26					
FRU	**Bishkek**	**56.88**	**333**	*eP*	**P**	**23 09 22.0 -1.0**
FRU				*e*		23 09 50.0
FRU				pmax	pmax	
	comp=Z,100nm,1.6s,mb5.6					
CHMS	**Chumysh**	**56.95**	**333**	P	**P**	**23 09 23.2 -0.3**
	SNR=10.0					
ZAK	**Zakamensk**	**56.95**	**358**	*eP*	**P**	**23 09 23.5 0.0**
ZAK				*e*		23 10 18.5
ABTO	**Aybut**	**57.04**	**296**	⇓P	**P**	**23 09 25.4 +1.3**
	SNR=8.3					
EKS2	**Erkin-Say**	**57.12**	**332**	P	**P**	**23 09 24.2 -0.5**
	SNR=53					
HIA	**Hailar**	**57.13**	**11**	*i P*	**P**	**23 09 23.9 -0.9**
HIA				LR	LR	
	comp=Z,669nm,19.0s					
MK31	**Makanchi Array**	**57.23**	**341**	⇑*iP*	**P**	**23 09 24.0 -1.5**
MKAR	**Makanchi Array**	**57.23**	**341**	P	**P**	**23 09 24.6 -0.9**
	comp=Z,12nm,0.4s,mb5.3,baz=154,slow=7.2,SNR=199					
MKAR				S	**S**	**23 17 16.6 +1.3**
	comp=Z,2.4nm,0.9s,baz=150,slow=12,SNR=7.4					
MKAR				LR	LR	23 38 22.4
	comp=Z,567nm,21.5s,baz=35,slow=41					
MKAR	**Makanchi Array**	**57.23**	**341**	⇑*eP*	**P**	**23 09 24.2 -1.3**
USP	**Ospenovka**	**57.27**	**333**	P	**P**	**23 09 24.7 -1.1**
	SNR=20					
ASHO	**Ashiyiah**	**57.55**	**305**	⇑P	**P**	**23 09 28.9 +1.1**
	SNR=10					
HATD	**Hatta, Dubai**	**57.55**	**305**	⇑P	**P**	**23 09 29.1 +1.3**
	SNR=11					
BANOM	**Banah**	**57.91**	**306**	⇓P	**P**	**23 09 32.4 +2.2**
	SNR=6.1					
OPO	**Ambohidratompo**	**58.05**	**252**	P	**P**	**23 09 31.2 0.0**

comp=Z,8.1nm,1.1s,mb4.7,baz=97,slow=7.3,SNR=5.9
TLY Talaya 58.24 358 *e*P **P 23 09 33.0 +0.5**
TLY *e*S 23 17 45.3
TLY pmax pmax
comp=Z,17nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,771nm,18.0s
TLY Talaya 58.24 358 *e*P **P 23 09 33.0 +0.5**
MOY Mondy 58.34 357 *e*P **P 23 09 33.8 +0.6**
MOY pmax pmax
comp=Z,59nm,2.2s,mb5.2
CIT Chita 58.94 6 *e*P **P 23 09 37.6 +0.2**
CIT pmax pmax
comp=Z,75nm,2.6s,mb5.3
ERM Erimo 59.37 32 *e*P **P 23 09 40.1 -0.3**
CASY Casey 59.51 178 PFAKE 23 09 50.0 +8.6
CASY LR LR
comp=Z,776nm,21.0s
KLR Kul'dur 60.23 19⇓ *i*P **P 23 09 42.2 -4.1**
KLR pmax pmax
comp=Z,100nm,1.6s,mb5.6
DZM Mont Dzumac 60.41 111 P **P 23 09 48.8 +1.3**
comp=Z,8.4nm,0.9s,mb4.8,baz=204,slow=20,SNR=4.1
DZM LR LR 23 34 23.4
comp=Z,651nm,20.7s,baz=241,slow=34
ASAJ Asahikawa 60.60 30 P **P 23 09 48.4 -0.5**
comp=Z,16nm,0.4s,mb5.4,baz=251,slow=16,SNR=19
HABR Khabarovsk 60.74 22⇑ *i*P **P 23 09 48.3 -1.5**
HABR *e* 23 10 32.9
HABR *e*S **S 23 17 58.3 -2.4**
HABR pmax pmax
comp=Z,92nm,1.6s,mb5.6
KURK Kurchatov 61.84 341 P **P 23 09 56.4 -0.8**
SNR=25
KURK Kurchatov 61.84 341 *c i*P **P 23 09 55.8 -1.4**
KURK Kurchatov 61.84 341 *e*P **P 23 09 55.8 -1.4**
comp=Z,89nm,1.0s,mb5.8
KURK LR LR
comp=Z,229nm,21.0s
YSS Yuzh-Sakhalins 62.76 28 *c i*P **P 23 10 02.9 -0.4**
YSS pmax pmax
comp=Z,230nm,1.1s,mb6.0
YSS Yuzh-Sakhalins 62.76 28 *e*P **P 23 10 02.9 -0.4**
comp=Z,230nm,1.1s,mb6.0
ZAL Zalesovo 62.98 346 P **P 23 10 03.9 -0.9**
comp=Z,39nm,0.4s,mb5.7,baz=331,slow=3.8,SNR=131
ZAL S **S 23 18 27.7 -1.3**
comp=Z,4.4nm,1.0s,baz=167,slow=20,SNR=12
ZAL PKPPKP 23 39 06.0
comp=Z,0.8nm,0.8s,baz=141,slow=7.3,SNR=3.9
ZAL LR LR 23 40 35.8
comp=Z,1μm,20.0s,baz=322,slow=39
ZAL Zalesovo 62.98 346 *i* P **P 23 10 03.9 -0.9**
ZAL pmax pmax
comp=Z,39nm,0.4s
KRAR Krasnoyarsk 63.45 352 *e*P **P 23 10 06.9 -1.0**
KRAR pmax pmax
comp=Z,50nm,1.4s,mb5.2
NVS Novosibirsk 64.19 346 *e*P **P 23 10 10.6 -2.1**
NVS *e* 23 10 44.7
NVS *i* S **S 23 18 35.9 -8.0**
NVS *e* 23 19 51.2
NVS pmax pmax
comp=Z,75nm,1.8s,mb5.2
NVS pmax pmax
comp=N,39nm,1.4s
NVS pmax pmax
comp=E,29nm,1.7s
NVS smax
comp=N,82nm,2.3s
NVS smax
comp=E,49nm,2.1s
BOD Bodaibo 64.72 5 *e*P **P 23 10 14.9 -1.3**
BOD pmax pmax
comp=Z,31nm,1.1s,mb5.0
ATD Arta Tunnel 65.10 286 LR LR 23 34 50.4
comp=Z,146nm,18.7s,baz=57,slow=32
CLNS Chul'man 65.31 11 *c i*P **P 23 10 20.0 0.0**
CLNS *e* pP 23 10 44.7 +4.3
CLNS *e*PPP 23 14 27.8
CLNS *e*S S 23 18 55.1 -2.6
CLNS pmax pmax
comp=Z,63nm,1.3s,mb5.3
CLNS pmax pmax
comp=N,39nm,1.2s
CLNS pmax pmax
comp=E,25nm,1.2s
CLNS MLR MLR
comp=N,100nm,15.0s
CLNS MLR MLR
comp=Z,700nm,15.0s
CLNS MLR MLR
comp=E,400nm,12.0s
BVAR Borovoye Array 66.65 338 P **P 23 10 27.8 -0.8**
comp=E,32nm,0.5s,mb5.4,baz=141,slow=8.8,SNR=275
BRVK Borovoye 66.72 338 *e*P **P 23 10 28.0 -1.0**
comp=E,81nm,1.0s,mb5.5
BRVK LR LR
comp=Z,204nm,21.0s
MAW Mawson 67.22 196 P **P 23 10 31.3 -0.9**
comp=Z,21nm,0.6s,mb5.2,baz=47,slow=5.2,SNR=29
MAW LR LR 23 34 00.8
comp=Z,299nm,20.0s,baz=41,slow=31
MAW Mawson 67.22 196 *e*P **P 23 10 31.3 -0.9**
comp=Z,17nm,0.6s,mb5.1
MAW LR LR
comp=Z,809nm,22.0s
RPZ Rata Peaks 67.62 135 P **P 23 10 34.9 +0.2**
comp=Z,80nm,0.8s,mb5.6,baz=293,slow=3.6,SNR=30
RPZ LR LR 23 39 07.5
comp=Z,1μm,20.9s,baz=284,slow=35
KMBO Kilima Mbogo 68.46 271 P **P 23 10 40.4 +0.4**
comp=Z,6.6nm,0.9s,mb4.5,baz=57,slow=8.2,SNR=14
KMBO LR LR 23 35 08.1
comp=Z,612nm,22.0s,baz=94,slow=31
KMBO Kilima Mbogo 68.46 271 *e*P **P 23 10 40.8 +0.8**
KMBO LR LR
comp=Z,644nm,22.0s
SNZO South Karori 69.82 131 *e*P **P 23 10 48.2 -0.3**
comp=Z,92nm,0.9s,mb5.6
SNZO LR LR
comp=Z,1μm,21.0s
AKTO Aktyubinsk 70.26 330 LR LR 23 44 48.0
comp=Z,238nm,20.1s,baz=312,slow=39
BHD Baghdad 70.40 309 *ex* x 23 10 58.0
BHD *ex* x 23 19 57.0
YAK Yakutsk 71.06 12 *c i*P **P 23 10 55.5 -0.5**
YAK *i* 23 11 10.1
YAK *i* *PP pP 23 11 20.2 +3.6
YAK *e*S S 23 20 05.5 -0.6
YAK *i* 23 20 49.4
YAK *i* SS SS 23 24 45.4 +4.8
YAK pmax pmax
comp=N,100nm,1.3s
YAK pmax pmax
comp=Z,217nm,1.3s,mb5.8
YAK pmax pmax
comp=E,37nm,1.4s
YAK smax
comp=E,35nm,1.4s
YAK smax
comp=N,353nm,6.6s
YAK MLR MLR
comp=N,449nm,17.0s
YAK MLR MLR
comp=Z,566nm,17.0s
YAK MLR MLR
comp=E,359nm,19.0s
YAK Yakutsk 71.06 12 *e*P **P 23 10 54.5 -1.5**
URZ Urewera 71.26 128 P **P 23 10 57.2 0.0**
comp=E,16nm,0.8s,mb4.9,baz=336,slow=5.9,SNR=9.3
URZ LR LR 23 42 14.2
comp=E,526nm,20.9s,baz=274,slow=36
SKR Severo-Kuril's 71.80 31 *e*P **P 23 11 01.2 +0.7**
MSL Mosul 72.53 311 *ex* x 23 11 05.0
MSL *ex* x 23 11 26.0
MSL *ex* x 23 11 44.0
MSL *ex* x 23 20 20.5
MSL *ex* x 23 20 49.0
MSL *ex* x 23 21 11.0
HAKT HAKKARI 72.56 313 *i* P **P 23 11 04.8 -0.1**
ORR Orenburg 72.62 330 *e*P **P 23 11 05.5 +0.2**
ORR pmax pmax
comp=Z,140nm,1.0s,mb5.8
DGRG David-gareji 72.99 317 P **P 23 11 08.7 +1.2**
MTA Mtatsminda 73.49 317 P **P 23 11 10.8 +0.3**

ARU Arti 73.86 335⇑ *i*P **P 23 11 12.4 -0.2**
ARU *e* 23 11 27.6
ARU *e*PPP 23 15 44.5
ARU *e*S S 23 20 37.3 -0.7
ARU *e*SS SS 23 25 25.8 +2.4
ARU pmax pmax
comp=Z,236nm,1.1s,mb5.8
ARU Arti 73.86 335 *e*P **P 23 11 12.4 -0.2**
GOR Gori 74.08 317 P **P 23 11 13.3 -0.6**
PET Petropavlovsk 74.45 30⇑ *i*P **P 23 11 15.7 -0.3**
PET *e**PP pP 23 11 39.0 +2.2
PET *e*S S 23 20 45.7 +1.1
PET *e*PPS 23 21 41.5
PET pmax pmax
comp=Z,237nm,1.3s,mb5.8
PET smax
comp=N,100nm,13.4s
PET smax
comp=E,100nm,17.2s
PET MLR MLR
comp=Z,100nm,20.0s
PET Petropavlovsk 74.45 30⇑ *i*P **P 23 11 15.4 -0.6**
comp=Z,289nm,1.1s,mb5.9
PET LR LR
comp=Z,272nm,19.0s
MARD Mardin 74.63 312 *i* P **P 23 11 17.3 +0.2**
ONI Oni 74.77 317 P **P 23 11 17.7 -0.2**
BNGL BINGOL 74.95 313 *i* P **P 23 11 19.7 +0.7**
MA2 Magadan 75.15 22 *c i*P **P 23 11 19.8 -0.3**
MA2 pmax pmax
comp=Z,234nm,1.5s,mb5.7
MA2 Magadan 75.15 22⇑ *e*P **P 23 11 19.4 -0.7**
comp=Z,228nm,1.3s,mb5.7
MA2 LR LR
comp=Z,313nm,21.0s
ERZM Erzurum 75.16 314 *i* P **P 23 11 20.9 +0.8**
SYO Syowa Base 75.28 200⇑ *e*P **P 23 11 18.2 -2.6**
SYO Syowa Base 75.28 200⇓ *e*P **P 23 11 24.6 +3.8**
MATP Matopo 75.70 251 P **P 23 11 23.9 +0.7**
comp=Z,36nm,0.9s,mb5.1,baz=98,slow=5.1,SNR=36
KIV Kislovodsk 75.84 318⇓ P **P 23 11 25.1 +1.0**
SNR=5.6
KIV Kislovodsk 75.84 318 *c i*P **P 23 11 24.2 +0.2**
KIV pmax pmax
comp=Z,48nm,1.1s,mb5.1
KIV Kislovodsk 75.84 318⇑ *i*P **P 23 11 24.3 +0.3**
KIV LR LR
comp=Z,75nm,22.0s
LSZ Lusaka 76.23 256 P **P 23 11 26.6 +0.4**
comp=Z,13nm,0.6s,mb4.8,baz=89,slow=6.0,SNR=55
LSZ Lusaka 76.23 256 *e*P **P 23 11 25.7 -0.6**
LSZ Lusaka 76.23 256⇑ *e*P **P 23 11 26.5 +0.2**
comp=Z,39nm,1.1s,mb5.0
LSZ P 23 11 26.6
LSZ LR LR
comp=Z,801nm,20.0s
ELZG Elazig 76.37 312 *i* P **P 23 11 28.4 +1.4**
VNDA Vanda 76.44 169 P **P 23 11 26.4 -1.0**
comp=Z,14nm,0.8s,mb4.7,baz=310,slow=5.9,SNR=74
VNDA LR LR 23 39 53.4
comp=Z,489nm,20.9s,baz=306,slow=32
SOKR Solikamsk 76.61 337 *c i*P **P 23 11 28.7 +0.3**
SOKR pmax pmax
comp=Z,330nm,1.2s,mb5.9
MALT Malatya 76.72 312⇑ *i*P **P 23 11 29.5 +0.5**
EIL Elat 76.85 302⇑ *i*P **P 23 11 30.5 +0.8**
comp=Z,1μm,1.1s
GZT Gaziantep 77.05 311 *i* P **P 23 11 31.5 +0.7**
SBA Scott Base 77.52 169 *e*P **P 23 11 33.0 -0.5**
comp=Z,15nm,0.8s,mb4.8
SBA LR LR
comp=Z,775nm,21.0s
COBT Iskenderun 77.78 309 *i* P **P 23 11 35.7 +0.8**
SEY Seymchan 78.02 20⇑ *i*P **P 23 11 36.0 -0.3**
LBTB Lobatse 78.22 246 P **P 23 11 37.8 +0.4**
comp=Z,18nm,0.8s,mb4.8,baz=123,slow=5.8,SNR=28
LBTB LR LR 23 39 58.0
comp=Z,297nm,20.6s,baz=105,slow=31
VRHR Novokhopersk 79.45 325 *e*P **P 23 11 43.3 -0.8**
VRHR pmax pmax
comp=Z,100nm,1.1s,mb5.6
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,50nm,0.6s
AVNT Avonos 79.53 311 *i* P **P 23 11 44.2 -0.3**
ANN Anapa 79.65 318 *e*P **P 23 11 46.2 +1.0**
ANN *e**PP pP 23 12 03.9 -2.3
ANN *e*S S 23 21 44.2 +3.1
ANN pmax pmax
comp=Z,96nm,1.2s,mb5.5
TIXI Tiksi 79.73 7 *i* P **P 23 11 44.1 -1.6**
TIXI pmax pmax
comp=Z,168nm,1.0s,mb5.8
CTKT Corum 80.13 313 *i* P **P 23 11 48.1 +0.3**
CDAG Cicekdag 80.14 312 *i* P **P 23 11 47.6 -0.2**
BOYT Boyabat 80.29 314 *i* P **P 23 11 49.1 +0.4**
BR131 Keskin Array S 80.70 312⇑ *e*P **P 23 11 50.7 -0.2**
comp=Z,31nm,0.8s,mb5.2
BR131 LR LR
comp=Z,2μm,22.0s
BRTR Keskin Array B 80.70 312 P **P 23 11 50.7 -0.2**
comp=Z,28nm,0.8s,mb5.1,baz=119,slow=7.2,SNR=93
BRTR Keskin Array B 80.70 312 *i* P **P 23 11 50.7 -0.2**
BRTR pmax pmax
comp=Z,28nm,0.8s
VORD Divnogorie 80.75 324 *e*P **P 23 11 47.9 -3.2**
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.1
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,80nm,0.7s
ELDT Eldivan 81.08 313 *i* P **P 23 11 53.1 +0.2**
VOR Voronezh 81.10 325 *e*P **P 23 11 53.0 0.0**
VOR *e* pP 23 12 12.0 -2.0
VOR pmax pmax
comp=Z,220nm,1.3s,mb5.8
AFI Afiamalu 81.18 103 P **P 23 11 56.1 +2.7**
AFI pmax pmax
comp=Z,130nm,1.1s,mb5.7
AFI Afiamalu 81.18 103 *e*P **P 23 11 55.3 +1.9**
comp=Z,128nm,1.1s,mb5.7
ANTO Ankara 81.37 312 ⇓P **P 23 11 55.1 +0.7**
SNR=7.0
ANTO Ankara 81.37 312 ⇑P **P 23 11 55.0 +0.6**
ANTO LR LR
comp=Z,425nm,20.0s
ANTO Ankara 81.37 312⇑ *i*P **P 23 11 55.0 +0.6**
BALT Daday 81.41 314 *i* P **P 23 11 55.3 +0.6**
SIM Simferopol' 81.92 317 *e*P **P 23 11 57.5 +0.2**
SIM pmax pmax
comp=Z,51nm,0.9s,mb5.3
ESKT Eskisehir 82.72 311 *i* P **P 23 12 01.7 +0.2**
TKTP Tekketepe 82.75 310 *i* P **P 23 12 01.4 -0.3**
HENT Hendek 83.02 312 *i* P **P 23 12 03.3 +0.2**
BORA Eskisehir 83.11 311 *i* P **P 23 12 03.7 +0.2**
GOLH Golhisar 83.14 309 *i* P **P 23 12 03.5 -0.1**
MOS Moscow 83.50 328⇓ *i*P **P 23 12 04.2 -1.3**
MOS *i* S S 23 22 20.3 -0.4
MOS pmax pmax
comp=Z,122nm,1.3s,mb5.6
GDZ Gediz 83.64 310 *i* P **P 23 12 06.1 -0.1**
OBN Obninsk 83.83 327⇑ *i*P **P 23 12 07.2 0.0**
OBN *e* pP 23 12 28.7 +0.4
OBN *e*S S 23 22 24.2 +0.1
OBN *e*PS 23 23 28.2
OBN pmax pmax
comp=Z,189nm,1.3s,mb5.8
OBN Obninsk 83.83 327⇑ *i*P **P 23 12 07.3 +0.1**
ULDT Uludag 84.15 311 *i* P **P 23 12 09.4 +0.6**
KLMR Klimovskoe 84.58 333 *e*P **P 23 12 10.5 -0.5**
KLMR *e**PP pP 23 12 30.2 -2.0
KLMR *e**SP sP 23 12 37.9 -2.8
KLMR *e* 23 15 24.6
KLMR *e*S S 23 22 26.9 -4.8
KLMR pmax pmax
comp=Z,159nm,1.2s,mb5.8
BDRM Kayabasi 84.75 308 *i* P **P 23 12 12.2 +0.3**
NVL N'lazarevskaya 84.94 199 *e*P **P 23 12 12.0 -0.8**
NVL pmax pmax
comp=Z,18nm,1.0s,mb5.0
KDAG Bornova 85.17 309 *i* P **P 23 12 14.8 +0.8**
ZKR Zakros 85.31 306 *e*P **P 23 12 16.2 +1.5**

BILL Bilibino 85.69 19 *c i*P **P 23 12 15.6 -0.9**
BILL pmax pmax
comp=Z,42nm,1.5s,mb5.2
TIRR Tirgusor 85.70 316⇑ *i*P **P 23 12 16.9 +0.3**
TSUM Tsumeb 86.03 251 P **P 23 12 18.4 +0.1**
comp=Z,7.8nm,0.9s,mb4.6,baz=77,slow=4.0,SNR=12
KIS Kishinev 86.04 318 *e*P **P 23 12 17.0 -1.3**
KIS *e* pP 23 12 40.0 +0.5
KIS pmax pmax
comp=Z,175nm,1.5s,mb5.8
KIS Kishinev 86.04 318 *e*UNK **P 23 12 17.0 -1.3**
KIS XM 23 12 18.0
comp=Z,200nm,1.5s
CFR Carcaliu 86.06 316 P **P 23 12 24.9 +6.5**
IDI Anoyia 86.41 306 P **P 23 12 21.3 +1.2**
comp=Z,29nm,0.9s,mb5.2,baz=119,slow=13
SIVA Sivas 86.43 306 *e*P **P 23 12 20.7 +0.5**
JMB Yambol 86.55 313 *e*P **P 23 12 21.5 +0.7**
ALN Alexandroupoli 86.62 312 *e*P **P 23 12 21.5 +0.4**
AKASG Malin Array Be 86.71 322 P **P 23 12 20.8 -0.8**
comp=Z,18nm,0.9s,mb5.0,baz=89,slow=4.6,SNR=61
AKASG LR LR 23 58 42.7
comp=Z,287nm,21.4s,baz=315,slow=41
AKASG Malin Array Be 86.71 322 *i* P **P 23 12 20.8 -0.7**
AKASG pmax pmax
comp=Z,19nm,0.9s
AKASG Malin Array Be 86.71 322 P **P 23 12 20.8 -0.8**
AKASG LR LR 23 58 42.7
AKBB Malin Array Si 86.71 322 *e*P **P 23 12 20.8 -0.7**
KIEV Kiev 86.71 322 *e*P **P 23 12 20.7 -0.9**
comp=Z,12nm,0.8s,mb4.9
IAS Iasi 86.92 318 P **P 23 12 23.6 +1.0**
VRI Vrincioaia 87.19 317⇑ *i*P **P 23 12 25.3 +1.4**
SZH Strazhica 87.19 314 P **P 23 12 24.3 +0.4**
PLOR Plostina 87.23 317⇑ *i*P **P 23 12 25.0 +0.9**
BUC1 Bucharest 87.34 315 P **P 23 12 25.7 +1.1**
PVL Pavlikeni 87.61 314 *e*P **P 23 12 27.3 +1.4**
MLR Muntele Rosu 87.64 316⇑ *i*P **P 23 12 27.2 +1.2**
ZIMR 87.67 314 P **P 23 12 27.3 +1.1**
RZN Rozhen 87.76 312 *e*P **P 23 12 27.9 +1.3**
PLD Plovdiv 87.85 313 *e*P **P 23 12 27.4 +0.4**
OUR Ouranopolis 88.05 311 *e*P **P 23 12 28.1 +0.1**
PAIG Paliouri 88.21 310 *e*P **P 23 12 24.6 -4.1**
VOIR 88.25 316⇑ *i*P **P 23 12 28.8 -0.1**
PGB Panagyurishte 88.32 313 *e*P **P 23 12 29.0 -0.3**
PLG Polygyros 88.46 311 *e*P **P 23 12 29.9 -0.1**
MNK Minsk 88.47 325 *e*P **P 23 12 28.0 -1.9**
MMB Musomiste 88.47 312 *e*P **P 23 12 30.0 +0.1**
XOR Xorichti 88.48 310 *e*P **P 23 12 29.2 -0.8**
SRS Serrai 88.48 312 *e*P **P 23 12 29.9 -0.2**
PUL Pulkovo 88.51 331 *e*P **P 23 12 29.7 -0.5**
PUL pmax pmax
comp=Z,207nm,1.2s,mb6.0
PUL pmax pmax
comp=N,102nm,0.8s
PUL pmax pmax
comp=E,297nm,1.1s
PUL Pulkovo 88.51 331 *e*P **P 23 12 30.4 +0.2**
BURAR Bucovina Array 88.57 318⇑ *i*P **P 23 12 31.8 +1.4**
SOH Sokhos 88.61 311 *e*P **P 23 12 30.8 +0.1**
HORT Hortiatis 88.76 311 *e*P **P 23 12 31.3 -0.1**
JOF Joensuu 88.95 334 *e*p **P 23 12 32.2 0.0**
comp=E,22nm,0.5s,mb5.5
JOF Joensuu 88.95 334 *e*P **P 23 12 32.2 0.0**
JOF pmax pmax
comp=Z,22nm,0.5s,mb5.4
KKB Krupnik 88.99 312 *e*P **P 23 12 32.0 -0.4**
KNT Kendrikon 89.01 311 *e*P **P 23 12 32.4 -0.1**
VTS Vitosha 89.03 313 *e*P **P 23 12 33.2 +0.6**
VTS Vitosha 89.03 313 *e*P **P 23 12 33.0 +0.4**
VTS Vitosha 89.03 313 P **P 23 12 33.6 +1.0**
VTS Vitosha 89.03 313⇑ *i*P **P 23 12 33.2 +0.6**
AGG Agios Georgios 89.08 309 *e*P **P 23 12 32.7 -0.1**
LIT Litokhoron 89.14 310 *e*P **P 23 12 33.2 +0.1**
VAY Valandovo 89.28 312 *e*P **P 23 12 33.3 -0.5**
VAY Valandovo 89.28 312 *e*P **P 23 12 32.9 -0.9**
VAY Valandovo 89.28 312 *e*P **P 23 12 32.8 -1.0**
VAY Valandovo 89.28 312 *e*P **P 23 12 32.9 -0.9**
VAY Valandovo 89.28 312 *e*P **P 23 12 32.8 -1.0**
SNAA Sanae 89.36 197⇑ *i*P **P 23 12 34.4 +0.2**
SNAA *e* 23 12 36.0
SNAA *e* pP 23 12 54.1 -1.4
SNAA *e* 23 13 01.1
SNAA *e* 23 13 11.6
SNAA Sanae 89.36 197 *e*P **P 23 12 34.0 -0.1**
comp=Z,70nm,1.3s,mb5.5
APA Apatity 89.55 339 *e*P **P 23 12 35.8 +0.8**
LVV L'vov 89.76 320 *e*P **P 23 12 36.1 +0.1**
GZR Gura Zlata 89.81 316 P **P 23 12 37.7 +1.4**
GZR Gura Zlata 89.81 316⇓ *i*P **P 23 12 37.5 +1.2**
FNA Florina 90.08 311 *e*P **P 23 12 37.7 +0.1**
DRGR 90.09 317 P **P 23 12 39.1 +1.5**
KRUS Krusevo 90.27 311 *e*P **P 23 12 37.9 -0.5**
KRUS Krusevo 90.27 311 *e*P **P 23 12 37.9 -0.5**
LKD Levkas 90.33 309 *e*P **P 23 12 39.7 +1.1**
OHR Ohrid 90.56 311 *e*P **P 23 12 38.9 -0.9**
OHR Ohrid 90.56 311 *e*P **P 23 12 38.5 -1.2**
OHR Ohrid 90.56 311 *e*P **P 23 12 38.9 -0.9**
OHR Ohrid 90.56 311 *e*P **P 23 12 38.5 -1.2**
KWP Kalwaria 90.58 320 *e*P **P 23 12 40.8 +1.0**
BZS Buzias 90.65 316 P **P 23 12 40.9 +0.7**
BZS Buzias 90.65 316⇑ P **P 23 12 40.5 +0.3**
BZS Buzias 90.65 316⇑ *i*P **P 23 12 40.5 +0.3**
UZH Uzhgorod 90.68 319 *e*P **P 23 12 41.0 +0.7**
UZH *i* pP 23 13 00.0 -1.7
IGT Igoumenitsa 90.69 310 *e*P **P 23 12 41.0 +0.6**
SVIS Svilajnac 90.73 314⇑ *i*P **P 23 12 40.7 +0.1**
KOLS Kolonicke sedl 90.74 319 *e*P **P 23 12 41.2 +0.6**
FIA1 FINESS Array S 90.95 332 *e*P **P 23 12 40.7 -0.8**
FINES FINESS Array B 90.95 332 P **P 23 12 41.1 -0.5**
comp=Z,10nm,0.5s,mb5.2,baz=107,slow=5.8,SNR=73
FINES FINESS Array B 90.95 332 *i* P **P 23 12 41.0 -0.6**
FINES pmax pmax
comp=Z,10.0nm,0.5s
KAF Kangasniemi 90.99 332 *e*p **P 23 12 41.5 -0.2**
comp=Z,29nm,0.9s,mb5.4,baz=94,slow=4.1
KAF Kangasniemi 90.99 332 *e*P **P 23 12 41.5 -0.2**
KAF pmax pmax
comp=Z,29nm,0.9s,mb5.4
VNA2 Neumayer--Watz 91.00 198⇑ *i*P **P 23 12 42.2 +0.4**
baz=81,slow=2.9
VNA2 *e* 23 12 43.4
VNA2 *e* pP 23 13 02.0 -1.2
VNA2 *e* 23 13 09.3
VNA2 *e* 23 13 21.0
GRUS Gruza 91.03 314⇑ *i*P **P 23 12 41.5 -0.4**
SUW Suwalki 91.03 324 *e*P **P 23 12 41.8 -0.1**
CRVS Cervenica-Dubn 91.26 319 *e*P **P 23 12 43.7 +0.7**
VNA1 Neumayer--Stat 91.38 198⇑ *i*P **P 23 12 44.4 +0.8**
VNA1 *e* 23 12 45.6
VNA1 *e* pP 23 13 03.8 -1.2
VNA1 *e* 23 13 11.5
STHS Stebnicka Huta 91.48 319 *e*P **P 23 12 44.6 +0.6**
STHS pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
STHS Stebnicka Huta 91.48 319 *e*P **P 23 12 44.6 +0.6**
comp=Z,10nm,0.9s,mb5.0
VNA3 Neumayer Olymp 91.54 197⇑ *i*P **P 23 12 44.5 +0.2**
VNA3 *e* 23 12 45.8
VNA3 *e* pP 23 13 04.3 -1.4
VNA3 *e* 23 13 12.0
VNA3 *e* 23 13 23.3
DIVS Divcibare 91.58 314⇑ *i*P **P 23 12 44.4 -0.1**
DIVS Divcibare 91.58 314 *e*P **P 23 12 45.3 +0.8**
RAR Rarotonga 91.78 111 PFAKE 23 13 00.0 +15
RAR LR LR
comp=Z,1.0nm,22.0s
KECS Kecovo 91.84 318 *e*P **P 23 12 45.7 0.0**
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
KECS Kecovo 91.84 318 *e*P **P 23 12 45.7 0.0**
comp=Z,5.0nm,1.0s,mb4.7
MSKU Masuku 91.88 268 PFAKE 23 13 00.0 +14
MSKU LR LR
comp=Z,34nm,20.0s
BBLS Bajina Basta - 91.96 314⇑ *i*P **P 23 12 42.2 -4.1**
KEV Kevo 92.40 340 *e*p **P 23 12 47.2 -1.1**
comp=Z,12nm,0.6s,mb5.3
KEV Kevo 92.40 340 *e*P **P 23 12 47.2 -1.1**
KEV pmax pmax
comp=Z,12nm,0.6s,mb5.3
ARCES ARCESS Array B 92.87 340 P **P 23 12 49.7 -0.7**

comp=Z,27nm,0.8s,mb5.6,baz=96,slow=6.9,SNR=94
ARCES **ARCESS Array B** 92.87 340 P **P** 23 12 49.7 -0.7
VYHS **Vyhne** 92.93 318 eP **P** 23 12 50.8 +0.1
OKC **Ostrava-Krasne** 93.53 320 eP **P** 23 12 53.7 +0.2
OKC ex x 23 13 11.0
SMOL **Smolenice** 93.86 318 eP **P** 23 12 55.1 +0.1
MORC **Moravsky Berou** 93.92 319 ⇓P **P** 23 12 55.4 +0.2
MORC **Moravsky Berou** 93.92 319 ⇓iP **P** 23 12 55.3 +0.1
ZST **Bratislava** 94.05 318 eP **P** 23 12 56.2 +0.3
ZST pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
ZST **Bratislava** 94.05 318 eP **P** 23 12 56.2 +0.3
comp=Z,7.8nm,1.2s,mb4.9
ZST ePP PP 23 16 41.4 -1.5
KOGS **Kog** 94.47 316 eP **P** 23 12 58.2 +0.4
DPC **Dobruska-Polom** 94.75 320 eP **P** 23 12 59.7 +0.6
KSP **Ksiaz** 94.81 320 eP **P** 23 13 00.2 +0.8
KSP **Ksiaz** 94.81 320 eP **P** 23 12 59.0 -0.4
GOLS **Golise** 94.86 316 eP **P** 23 13 00.1 +0.5
UPC **Upice** 94.96 320 eP **P** 23 12 59.0 -1.0
PERS **Pernice** 95.26 316 eP **P** 23 13 02.1 +0.7
LJU **Ljubljana** 95.63 316 eP **P** 23 13 03.5 +0.4
PRU **Pruhonice** 95.87 320 eP **P** 23 13 04.2 0.0
PVCC **Panska Ves** 95.88 320 eP **P** 23 13 04.5 +0.3
PVCC ex x 23 13 26.3
BRG **Berggiesshubel** 96.30 320 eP **P** 23 13 06.5 +0.4
BRG 23 16 57.9
BRG pmax pmax
comp=Z,12nm,1.6s,mb5.1
BRG **Berggiesshubel** 96.30 320 eP **P** 23 13 06.5 +0.4
comp=Z,12nm,1.6s,mb5.1
GERES **GERESS Array B** 96.35 318 P **P** 23 13 06.3 -0.1
comp=Z,2.3nm,1.0s,mb4.6,baz=105,slow=4.7,SNR=13
SPB4 **Spitsbergen Ar** 96.44 348 eP **P** 23 13 05.2 -1.6
KHC **Kasperske Hory** 96.45 319 eP **P** 23 13 06.6 -0.2
CLL **Collm** 96.91 321 eP **P** 23 13 08.0 -0.9
GRA1 **Grafenberg Arr** 98.00 319 ePdif **P** 23 13 13.9 +0.1
GRA1 ePP PP 23 17 13.0 -0.5
GRF **Grafenberg Arr** 98.00 319 ePdiff **P** 23 13 13.9 +0.1
GRF ePP PP 23 17 13.0 -0.5
NOA **NORSAR Array B** 98.05 331 P **P** 23 13 13.8 -0.2
comp=Z,4.2nm,1.0s,mb4.9,baz=89,slow=4.6,SNR=3.3
KEST **Kesra** 99.05 305 P **P** 23 13 20.4 +1.9
comp=Z,3.3nm,1.1s,mb4.8,baz=29,slow=3.9,SNR=3.9
KEST LR LR 23 59 36.6
comp=Z,74nm,19.4s,baz=0.7,slow=36
TBI **Tubuai** 100.82 115 eLR LR 23 46 27.7
comp=Z,478nm,33.5s
LPG **La Plagne** 101.06 315 ePP PP 23 17 34.2 -2.4
comp=Z,22nm,1.2s
CABF **La Chapelle** 101.48 316 ePP PP 23 17 37.5 -2.3
comp=Z,20nm,1.1s
PPT **Papeete** 101.88 109 eLR LR 23 46 56.8
comp=Z,636nm,22.8s
LOR **Lormes** 102.97 317 ePP PP 23 17 48.6 -2.4
comp=Z,39nm,1.6s
SMF **Signal de Mont** 103.02 316 ePP PP 23 17 49.0 -2.4
SSF **Saint Saulge** 103.22 317 ePP PP 23 17 50.7 -2.2
comp=Z,40nm,1.6s
TORD **Torodi Ar. Bea** 105.10 282 Pdiff Pdif 23 13 46.1 +0.7
comp=Z,1.7nm,1.2s,baz=64,slow=3.7,SNR=4.3
TORD PKiKP PKiKP 23 18 00.2 +0.7
comp=Z,1.5nm,0.7s,baz=32,slow=2.0,SNR=12
TORD **Torodi Ar. Bea** 105.10 282 Pdif Pdif 23 13 46.1 +0.7
TORD PKPdf PKiKP 23 18 00.2 +0.7
INK **Inuvik** 107.31 20 Pdiff Pdif 23 13 56.6 +1.4
comp=Z,2.1nm,1.1s,baz=259,slow=4.6,SNR=3.8
INK PKiKP PKiKP 23 18 03.4 -0.3
comp=Z,2.5nm,1.0s,baz=23,slow=6.2,SNR=4.1
INK PKKPbc PKKPbc 23 29 18.4 -0.9
comp=Z,3.8nm,1.0s,baz=243,slow=1.7,SNR=9.1
PMSA **Palmer Station** 108.25 185 PFAKE 23 18 20.0 +15
PMSA LR LR
comp=Z,834nm,19.0s
ESDC **Sonseca Array** 109.41 310 PKiKP PKiKP 23 18 08.3 +0.7
comp=Z,2.3nm,0.9s,baz=40,slow=1.9,SNR=10
ESDC PKKPab PKKPab 23 29 26.0 +1.0
comp=Z,1.3nm,0.8s,baz=267,slow=3.9,SNR=6.0
HOPE **Hope Point** 111.42 203 PFAKE 23 18 20.0 +8.6
HOPE LR LR
comp=Z,2.0nm,22.0s
PVRL **Vila Real** 111.98 312 ePKiKP PKiKP 23 18 13.6 +1.2
MTE **Manteigas** 112.01 311 ePKiKP PKiKP 23 18 13.8 +1.3
PCBR **Castelo Branco** 112.06 310 ePKiKP PKiKP 23 18 13.5 +0.9
PVIS **Viseu** 112.22 311 ePKiKP PKiKP 23 18 13.4 +0.5
PESTR **Estremoz** 112.31 309 ePKiKP PKiKP 23 18 13.5 +0.4
PBEJ **Beja** 112.66 308 ePKiKP PKiKP 23 18 13.3 -0.4
PLOU **Loures** 113.50 309 ePKiKP PKiKP 23 18 16.6 +1.3
PMAFR **Mafra** 113.59 310 ePKiKP PKiKP 23 18 16.8 +1.3
YKA **Yellowknife Ar** 117.08 20 PKP PKPdf 23 18 21.4 -0.8
comp=Z,4.2nm,0.9s,baz=304,slow=1.8,SNR=44
YKA PKKPbc PKKPbc 23 28 45.9 -1.0
comp=Z,1.5nm,0.8s,baz=125,slow=4.2,SNR=16
YKA **Yellowknife Ar** 117.08 20 ⇑iPKiKP PKPdf 23 18 21.3 -0.9
YKA **Yellowknife Ar** 117.08 20 PKP PKPdf 23 18 21.4 -0.8
YKA PKKPbc PKKPbc 23 28 45.9 -1.0
PMPS **Porto Santo** 120.39 304 ePKiKP PKiKP 23 18 28.5 -0.2
PMAR **Madeira** 120.94 304 ePKiKP PKiKP 23 18 31.6 +1.9
A05A **Maple Falls** 121.84 35 ⇓P PKPdf 23 18 31.5 +0.1
baz=122
C04A **Brinnon** 121.95 37 ⇑P PKPdf 23 18 31.9 +0.4
baz=122
E03A **Lebam** 122.14 38 ⇑P PKPdf 23 18 32.4 +0.4
baz=122
B05A **Bryant** 122.20 36 P PKPdf 23 18 33.2 +1.1
baz=122,SNR=8.6
B06A **Marblemount** 122.43 35 ⇓P PKPdf 23 18 32.6 +0.1
baz=122
F03A **Seaside** 122.43 39 ⇓P PKPdf 23 18 33.8 +1.3
baz=122
A07A **Ashnola River,** 122.78 34 P PKPdf 23 18 33.9 +0.8
baz=123,SNR=11
D05A **Enumclaw** 122.79 37 ⇑P PKPdf 23 18 34.0 +0.8
baz=123
I02A **Mapleton** 123.11 41 ⇓P PKPdf 23 18 34.8 +1.0
baz=123
F04A **Amboy** 123.13 38 ⇑P PKPdf 23 18 34.7 +0.9
baz=123,SNR=6.0
H03A **Soap Creek Ran** 123.16 40 ⇓P PKPdf 23 18 35.4 +1.5
baz=123
E05A **Randle** 123.23 37 ⇓P PKPdf 23 18 34.5 +0.5
baz=123
B07A **Winthrop** 123.23 35 ⇑P PKPdf 23 18 34.3 +0.2
baz=123,SNR=5.7
G04A **Mulino** 123.43 39 ⇓P PKPdf 23 18 35.6 +1.2
baz=124
A08A **Turner Farm, O** 123.45 34 ⇓P PKPdf 23 18 34.8 +0.3
baz=124,SNR=8.9
D06A **Cle Elum** 123.47 36 ⇑P PKPdf 23 18 35.5 +1.0
baz=124
I03A **Eugene** 123.48 41 ⇑P PKPdf 23 18 35.8 +1.3
baz=124
J02A **Umpqua** 123.55 42 ⇓P PKPdf 23 18 34.9 +0.3
baz=124
C07A **Waterville** 123.67 36 ⇑P PKPdf 23 18 35.3 +0.4
baz=124
E06A **Yakima** 123.71 37 ⇑P PKPdf 23 18 36.1 +1.1
baz=124
WTV **Waterville** 123.73 36 P PKPdf 23 18 35.6 +0.6
B08A **Colville Reser** 123.73 35 P PKPdf 23 18 35.5 +0.5
baz=124,SNR=13
EBG **Ellensburg** 123.77 37 P PKPdf 23 18 36.4 +1.3
A09A **Danville** 123.81 34 ⇑P PKPdf 23 18 35.8 +0.6
baz=124,SNR=6.7
H04A **Detroit Lake** 123.86 40 ⇑P PKPdf 23 18 35.8 +0.6
baz=124
K02A **Glendale** 123.86 42 ⇑P PKPdf 23 18 36.2 +0.9
baz=124
EDM **Edmonton** 123.87 27 ePKPdf PKPdf 23 18 35.3 0.0
J03A **Ideyld Park** 123.95 41 ⇑P PKPdf 23 18 36.1 +0.7
baz=124
D07A **Quincy** 123.98 36 ⇑P PKPdf 23 18 35.9 +0.4
baz=124
L02A **Cave Junction** 124.04 43 ⇑P PKPdf 23 18 36.3 +0.7
baz=124
EPH **Ephrata** 124.11 36 P PKPdf 23 18 36.5 +0.8
I04A **Tendick Farm,** 124.12 41 ⇑P PKPdf 23 18 36.2 +0.4
baz=124,SNR=7.7
C08A **Higginbotham F** 124.20 35 ⇑P PKPdf 23 18 36.3 +0.4
baz=124,SNR=9.4
HUMO **Hull Mountain** 124.28 42 ⇑P PKPdf 23 18 37.0 +1.0
baz=124,SNR=7.3
JCC **Jacoby Creek** 124.30 44 ⇓P PKPdf 23 18 37.3 +1.2
baz=124
B09A **Rice** 124.36 34 ⇑P PKPdf 23 18 37.0 +0.8
baz=124,SNR=16

E07A **Sunnyside** 124.38 37 ⇑P PKPdf 23 18 37.2 +1.0
baz=124
H05A **Madras** 124.48 39 ⇓P PKPdf 23 18 37.6 +1.1
baz=124
G06A **Carlson Farm,** 124.56 38 ⇑P PKPdf 23 18 37.6 +1.0
baz=125
J04A **Umpqua Nationa** 124.56 41 ⇑P PKPdf 23 18 37.9 +1.3
baz=125,SNR=5.6
OD2 **Odessa Site #2** 124.61 35 P PKPdf 23 18 37.5 +0.9
D08A **Wollman Farm,** 124.66 36 P PKPdf 23 18 38.0 +1.2
baz=125,SNR=16
F07A **Phinny Hill Vi** 124.67 37 ⇑P PKPdf 23 18 38.1 +1.3
baz=125
I05A **Bend** 124.68 40 ⇓P PKPdf 23 18 38.0 +1.2
baz=125,SNR=6.0
H2OWA **Water** 124.71 37 P PKPdf 23 18 38.5 +1.6
N02C **Big Bar** 124.80 44 ⇑P PKPdf 23 18 38.4 +1.3
baz=125,SNR=5.8
YBH **Yreka Blue Hor** 124.83 43 ⇓P PKPdf 23 18 38.4 +1.3
baz=125
M02C **Callahan** 124.87 43 ⇓P PKPdf 23 18 37.9 +0.7
baz=125,SNR=8.0
E08A **Dider Farm, El** 124.88 36 ⇑P PKPdf 23 18 38.2 +1.0
baz=125
BUOR **Burton Butte** 124.90 42 P PKPdf 23 18 38.7 +1.5
H06A **Lindquist Farm** 125.00 39 P PKPdf 23 18 38.7 +1.3
baz=125,SNR=8.5
D09A **Jones Farm, Ri** 125.01 35 ⇑P PKPdf 23 18 38.2 +0.8
baz=125,SNR=8.5
A11A **Hall Mountain,** 125.03 33 ⇑P PKPdf 23 18 38.4 +0.9
baz=125,SNR=8.2
K04A **Chilquin** 125.09 42 ⇑P PKPdf 23 18 38.8 +1.2
baz=125
J05A **Fort Rock** 125.11 41 ⇓P PKPdf 23 18 38.6 +1.0
baz=125,SNR=11
G07A **Ruggs Ranch, H** 125.14 38 ⇓P PKPdf 23 18 38.7 +1.0
baz=125
L04A **Klamath Falls** 125.18 42 ⇑P PKPdf 23 18 38.7 +1.0
baz=125,SNR=5.9
P01C **Double 8 Ranch** 125.32 46 ⇑P PKPdf 23 18 39.0 +1.0
baz=125
B11A **Sandpoint** 125.33 33 ⇓P PKPdf 23 18 38.6 +0.6
baz=125,SNR=7.1
M04C **Macdoel** 125.39 43 ⇓P PKPdf 23 18 39.1 +1.0
baz=125,SNR=7.7
F08A **Pendleton** 125.41 37 ⇓P PKPdf 23 18 39.2 +1.0
baz=125
M03C **McCloud** 125.42 43 ⇓P PKPdf 23 18 39.3 +1.1
baz=126,SNR=5.7
O02C **Red Bluff** 125.42 45 ⇑P PKPdf 23 18 39.5 +1.3
baz=126,SNR=6.4
A12A **Yaak River Ran** 125.42 32 ⇑P PKPdf 23 18 39.5 +1.2
baz=125
WDC **Whiskeytown Da** 125.43 44 P PKPdf 23 18 39.5 +1.3
baz=126,SNR=6.3
I06A **Prineville** 125.46 40 ⇑P PKPdf 23 18 39.7 +1.4
baz=126,SNR=6.8
H07A **Lands Inn, Kim** 125.55 39 ⇓P PKPdf 23 18 39.7 +1.2
baz=126,SNR=11
G08A **Pilot Rock** 125.56 38 P PKPdf 23 18 39.7 +1.2
baz=126,SNR=15
K05A **Summer Lake** 125.59 41 ⇑P PKPdf 23 18 39.7 +1.1
baz=126,SNR=10.0
D10A **Wagner Farm, O** 125.61 35 P PKPdf 23 18 39.6 +1.0
baz=126,SNR=8.8
GASB **Alder Springs** 125.68 45 ⇑P PKPdf 23 18 40.0 +1.2
baz=126,SNR=6.0
HOPS **Hopland** 125.69 46 ⇓P PKPdf 23 18 40.2 +1.5
baz=126
B12A **Libby** 125.73 33 ⇑P PKPdf 23 18 39.8 +1.0
baz=126
I07A **Izee** 125.83 39 P PKPdf 23 18 40.6 +1.6
baz=126,SNR=6.5
L05A **Lakeview** 125.94 42 ⇑P PKPdf 23 18 40.8 +1.6
baz=126
K06A **Valley Falls** 125.98 41 ⇓P PKPdf 23 18 40.6 +1.3
baz=126,SNR=11
E10A **Myers Farm, Un** 126.02 35 P PKPdf 23 18 40.5 +1.1
baz=126,SNR=12
O03C **Acorn Hollow,** 126.02 45 ⇑P PKPdf 23 18 40.3 +0.9
baz=126
M05C **Lookout** 126.04 43 ⇑P PKPdf 23 18 40.7 +1.3
baz=126
HATC **Hat Creek Radi** 126.07 44 ⇓P PKPdf 23 18 40.9 +1.4
baz=126,SNR=6.5
LBCM **Butte Creek Ri** 126.14 43 P PKPdf 23 18 41.1 +1.5
MCCM **Marconi Confer** 126.16 47 ⇑P PKPdf 23 18 41.3 +1.6
baz=126
MNRC **McLaughlin Nat** 126.19 46 ⇑P PKPdf 23 18 41.5 +1.8
baz=126,SNR=14
NSHM **Saint Helena R** 126.21 47 ePKPdf PKPdf 23 18 41.0 +1.2
F10A **Beach Ranch, E** 126.23 36 P PKPdf 23 18 41.2 +1.5
baz=126,SNR=13
J07A **Klines** 126.31 40 ⇓P PKPdf 23 18 41.5 +1.6
baz=126,SNR=6.9
MOD **Modoc** 126.36 42 ePKPdf PKPdf 23 18 41.3 +1.3
MOD **Modoc** 126.36 42 ⇓P PKPdf 23 18 41.2 +1.2
baz=126,SNR=12
B13A **Whitefish** 126.39 32 P PKPdf 23 18 41.2 +1.1
baz=126,SNR=17
CVS **Carmenet Viney** 126.39 47 ⇓P PKPdf 23 18 41.4 +1.3
baz=126,SNR=8.2
I08A **Drewsey** 126.50 39 ⇓P PKPdf 23 18 41.6 +1.3
baz=126,SNR=12
SUTB **Sutter Butte** 126.51 45 ⇑P PKPdf 23 18 41.3 +1.0
baz=127
O04C **Chester** 126.54 44 ⇑P PKPdf 23 18 41.4 +1.0
baz=127,SNR=18
M06C **Likely Place G** 126.56 43 ⇓P PKPdf 23 18 41.6 +1.1
baz=127
ORV **Oroville** 126.58 45 P PKPdf 23 18 41.7 +1.2
baz=127,SNR=12
Q03C **Winters** 126.59 46 ⇑P PKPdf 23 18 41.8 +1.4
baz=127
E11A **Bogner Ranch,** 126.61 35 P PKPdf 23 18 41.2 +0.7
baz=127,SNR=12
ELFS **Eagle Lake Fie** 126.66 43 ⇓P PKPdf 23 18 41.7 +1.1
baz=127
H09A **Durkee** 126.67 38 ⇑P PKPdf 23 18 41.6 +1.0
baz=127,SNR=6.6
K07A **Rock Creek Ran** 126.68 40 ⇑P PKPdf 23 18 42.1 +1.5
baz=127,SNR=16
OHCM **Honcut** 126.68 45 ePKPdf PKPdf 23 18 41.7 +1.1
C13A **Hot Springs** 126.75 33 P PKPdf 23 18 41.4 +0.7
baz=127,SNR=6.8
O05C **Quincy** 126.81 44 ⇓P PKPdf 23 18 42.0 +1.1
baz=127,SNR=20
J08A **Circle Bar Ran** 126.84 39 ⇑P PKPdf 23 18 42.3 +1.3
baz=127,SNR=13
F11A **Grangeville** 126.90 36 ⇑P PKPdf 23 18 41.6 +0.6
baz=127,SNR=6.1
L07A **Adell** 126.94 41 ⇑P PKPdf 23 18 42.4 +1.3
baz=127
BDM **Black Diamond** 126.97 47 ⇑P PKPdf 23 18 42.4 +1.2
baz=127
I09A **Lost Marbles R** 126.99 38 ⇓P PKPdf 23 18 41.7 +0.5
baz=127
K08A **Mann Creek Ran** 127.15 40 ⇑P PKPdf 23 18 42.7 +1.2
baz=127,SNR=12
D13A **Huson** 127.16 34 P PKPdf 23 18 42.1 +0.6
baz=127,SNR=11
WENL **Wente Brothers** 127.18 47 ⇑P PKPdf 23 18 43.0 +1.4
baz=127
WVOR **Wild Horse Val** 127.20 41 ePKPdf PKPdf 23 18 42.3 +0.7
N06A **Buffalo Meadow** 127.20 43 ⇑P PKPdf 23 18 43.2 +1.6
baz=127,SNR=17
BEKR **Beckwourth** 127.24 44 ⇓P PKPdf 23 18 43.0 +1.3
baz=127,SNR=13
H10A **Noah's Angus R** 127.27 37 P PKPdf 23 18 42.8 +1.0
baz=127,SNR=18
J09A **Fry Pan Ranch,** 127.30 39 ⇑P PKPdf 23 18 43.0 +1.1
baz=127,SNR=18
P05C **Yuba Gap, Truc** 127.31 45 P PKPdf 23 18 43.8 +2.0
baz=127,SNR=13
M07A **Soldier Meadow** 127.35 42 ⇑P PKPdf 23 18 43.5 +1.6
baz=127,SNR=12
LAVA **Lava Cap Winer** 127.45 46 ⇑P PKPdf 23 18 43.2 +1.0
baz=128,SNR=15
O06A **Flanigan** 127.47 44 ⇑P PKPdf 23 18 43.3 +1.2
baz=128,SNR=22
L08A **Fields** 127.51 41 ⇓P PKPdf 23 18 43.5 +1.3
baz=128,SNR=18
S04C **Ingram Canyon,** 127.54 47 ⇓P PKPdf 23 18 43.5 +1.2
baz=128,SNR=12
P06A **Stead Airport,** 127.64 44 ⇑P PKPdf 23 18 43.6 +1.1
baz=128
H11A **Donnelly** 127.64 37 ⇑P PKPdf 23 18 43.3 +0.8
baz=128,SNR=15

K09A **Rome** 127.65 40 ⇓P PKPdf 23 18 43.9 +1.4
baz=128,SNR=7.8
D14A **Greenough** 127.69 33 ⇑P PKPdf 23 18 42.6 +0.1
baz=128,SNR=14
E13A **Victor** 127.70 34 P PKPdf 23 18 43.3 +0.7
baz=128,SNR=22
PACP **Pacheco Peak** 127.77 48 ⇓P PKPdf 23 18 44.5 +1.8
baz=128,SNR=5.5
N07B **Gerlach** 127.77 42 ⇓P PKPdf 23 18 44.2 +1.5
baz=128,SNR=14
HAST **UC Hastings Re** 127.82 49 ⇑P PKPdf 23 18 44.4 +1.6
baz=128,SNR=5.0
M08A **Happy Creek Ra** 127.85 41 ⇑P PKPdf 23 18 44.5 +1.6
baz=128,SNR=12
J10A **Berg Farm, Mel** 127.87 39 ⇑P PKPdf 23 18 44.4 +1.4
baz=128
WCN **Washoe City** 127.91 44 ⇓P PKPdf 23 18 44.8 +1.8
baz=128,SNR=5.8
CHMT **Chamberlain Mo** 127.93 33 ePKPdf PKPdf 23 18 43.3 +0.3
R05C **Kirkwood Meado** 127.94 45 ⇑P PKPdf 23 18 44.6 +1.6
baz=128,SNR=12
F13A **Darby** 128.00 35 P PKPdf 23 18 43.7 +0.5
baz=128,SNR=8.8
CMB **Columbia Colle** 128.01 46 ⇑P PKPdf 23 18 44.1 +1.0
baz=128,SNR=9.2
L09A **Wilkinson Ranc** 128.03 41 ⇑P PKPdf 23 18 45.0 +1.8
baz=128,SNR=12
E14A **Clinton** 128.10 34 ⇓P PKPdf 23 18 44.3 +0.9
baz=128,SNR=9.3
I11A **Placerville** 128.11 38 ⇓P PKPdf 23 18 44.2 +0.8
baz=128,SNR=6.0
O07A **Toulon** 128.12 43 ⇑P PKPdf 23 18 44.7 +1.3
baz=128,SNR=14
K10A **MacKenzie Ranc** 128.15 39 ⇑P PKPdf 23 18 44.7 +1.3
baz=128,SNR=13
LRV **Little Rabbit** 128.20 48 ePKPdf PKPdf 23 18 46.2 +2.7
D15A **Lincoln** 128.25 33 P PKPdf 23 18 44.8 +1.1
baz=128,SNR=9.3
T05C **Eagle Field, D** 128.27 48 ⇑P PKPdf 23 18 45.1 +1.4
baz=128
N08A **GE Springer Mi** 128.33 42 ⇑P PKPdf 23 18 45.4 +1.6
baz=128,SNR=14
S05C **Merced** 128.33 47 ⇓P PKPdf 23 18 45.1 +1.3
baz=128
U04C **Hernandez Rese** 128.40 48 ⇓P PKPdf 23 18 45.7 +1.8
baz=128
H12A **Diamond D Ranc** 128.41 36 ⇓P PKPdf 23 18 45.1 +1.2
baz=128,SNR=15
MFID **Camas Ranch** 128.46 38 ⇓P PKPdf 23 18 45.3 +1.3
baz=128,SNR=24
R06C **Coleville** 128.46 45 ⇑P PKPdf 23 18 45.8 +1.8
baz=128,SNR=14
G13A **Cobalt** 128.47 35 ⇓P PKPdf 23 18 45.2 +1.2
baz=128
M09A **Marrel Ranch,** 128.47 41 ⇓P PKPdf 23 18 45.7 +1.6
baz=128,SNR=9.5
F14A **Wisdom** 128.53 34 ⇓P PKPdf 23 18 45.4 +1.2
baz=128,SNR=9.4
E15A **Deer Lodge** 128.56 33 P PKPdf 23 18 45.7 +1.5
baz=128,SNR=7.2
N09A **Rock Creek Ran** 128.70 42 ⇓P PKPdf 23 18 46.2 +1.7
baz=129,SNR=8.4
Q07A **Schurz** 128.73 44 ⇓P PKPdf 23 18 46.3 +1.7
baz=129
PKD **Parkfield** 128.74 49 ⇓P PKPdf 23 18 46.2 +1.7
baz=129
P08A **Dixie Valley** 128.88 43 ⇓P PKPdf 23 18 46.5 +1.7
baz=129
U05C **Westside ANR,** 128.90 48 ⇑P PKPdf 23 18 46.3 +1.4
baz=129
T06C **Millerton Lake** 128.93 47 ⇓P PKPdf 23 18 46.3 +1.3
baz=129,SNR=16
R07C **Lee Vining** 128.94 46 ⇑P PKPdf 23 18 46.8 +1.9
baz=129,SNR=9.6
J12A **Stokes Ranch,** 129.00 38 ⇓P PKPdf 23 18 46.7 +1.6
baz=129,SNR=42
F15A **Butte** 129.00 34 P PKPdf 23 18 46.5 +1.4
baz=129,SNR=11
EGMT **Eagleton** 129.04 30 ePKPdf PKPdf 23 18 46.3 +1.1
KCC **Kaiser Creek** 129.07 47 P PKPdf 23 18 47.3 +2.1
baz=129,SNR=7.4
BMN **Battle Mountai** 129.11 42 PFAKE 23 19 00.0 +15
BMN LR LR
comp=Z,500nm,21.0s
DLMT **Dillon** 129.24 34 ePKPdf PKPdf 23 18 47.7 +2.2
O09A **Fish Creek Ran** 129.26 42 ⇑P PKPdf 23 18 47.5 +2.0
baz=129
MLAC **Mammoth Lakes** 129.29 46 ⇓P PKPdf 23 18 47.5 +1.9
baz=129
NVAR **Mina Array Bea** 129.31 45 PKP PKPdf 23 18 47.7 +2.0
comp=Z,6.4nm,0.9s,baz=283,slow=0.4,SNR=33
NVAR SKPbc 23 22 03.7
comp=Z,2.0nm,0.9s,baz=266,slow=4.5,SNR=4.6
NVAR **Mina Array Bea** 129.31 45 PKP PKPdf 23 18 47.7 +2.0
NVAR SKPbc 23 22 03.7
Q08A **Gabbs** 129.37 44 ⇑P PKPdf 23 18 47.5 +1.8
baz=129,SNR=9.3
SMMC **Simmler** 129.40 49 ⇓P PKPdf 23 18 47.9 +2.1
baz=130
G15A **Dillon** 129.42 34 ⇓P PKPdf 23 18 47.2 +1.4
baz=129,SNR=25
MCMT **McKenzie Canyo** 129.42 35 ePKPdf PKPdf 23 18 47.6 +1.8
N10A **Dunphy** 129.44 41 ⇑P PKPdf 23 18 47.4 +1.5
baz=130
K12A **Draper Farm, C** 129.45 38 ⇓P PKPdf 23 18 47.5 +1.6
baz=130,SNR=7.3
J13A **Cove Ranch, Pi** 129.47 37 ⇓P PKPdf 23 18 47.7 +1.7
baz=130,SNR=43
M11A **Holland Ranch,** 129.54 40 ⇓P PKPdf 23 18 48.1 +2.0
baz=130,SNR=10
RCTC **Rector, Farmer** 129.56 48 ⇑P PKPdf 23 18 47.7 +1.6
baz=130
HELL **Mitchell Peak,** 129.56 47 ⇑P PKPdf 23 18 47.5 +1.3
baz=130,SNR=7.9
BOZ **Bozeman (W)** 129.60 34 PFAKE 23 19 00.0 +14
BOZ LR LR
comp=Z,680nm,20.0s
MTUM **Tungsten Hills** 129.60 46 ePKPdf PKPdf 23 18 48.7 +2.5
O10A **Cortez Mining,** 129.66 42 ⇓P PKPdf 23 18 47.7 +1.4
baz=130,SNR=5.6
PKM **Peak Mountain** 129.69 50 ⇑P PKPdf 23 18 48.2 +1.8
baz=130
S08C **White Mtn Res** 129.82 46 ⇓P PKPdf 23 18 48.5 +1.9
baz=130,SNR=11
VES **Vestal, Richgr** 129.87 48 ⇓P PKPdf 23 18 48.4 +1.7
baz=130
N11A **Elko Archery C** 129.89 41 ⇓P PKPdf 23 18 48.3 +1.6
baz=130
K13A **Stover Farm, H** 129.95 38 ⇓P PKPdf 23 18 48.9 +2.0
baz=130,SNR=14
P10A **Eureka** 130.01 43 ⇑P PKPdf 23 18 48.7 +1.7
baz=130
M12A **Wells** 130.10 40 ⇑P PKPdf 23 18 48.9 +1.7
baz=130,SNR=7.1
QLMT **Earthquake Lak** 130.22 34 ePKPdf PKPdf 23 18 49.5 +2.1
QLMT eSKPab 23 22 07.2
R09A **Tonopah** 130.26 44 ⇓P PKPdf 23 18 49.3 +1.8
baz=130
O11A **Cowboy Ranch,** 130.29 42 ⇑P PKPdf 23 18 49.1 +1.6
baz=130,SNR=14
N12A **Clover Valley,** 130.32 40 ⇑P PKPdf 23 18 49.3 +1.7
baz=130,SNR=13
L13A **Double Diamond** 130.35 39 ⇓P PKPdf 23 18 49.6 +1.9
baz=130,SNR=11
ARVC **Arvin** 130.35 49 ⇓P PKPdf 23 18 49.0 +1.4
baz=130
CWC **Cottonwood Cre** 130.35 47 ⇑P PKPdf 23 18 49.3 +1.6
baz=130
S09A **Goldfield** 130.39 45 ⇓P PKPdf 23 18 49.6 +1.9
baz=130,SNR=22
ISA **Isabella** 130.39 48 ⇑P PKPdf 23 18 49.3 +1.6
baz=130
P11A **Circle Ranch,** 130.52 42 ⇑P PKPdf 23 18 49.8 +1.8
baz=130
GCMT **Greycliff** 130.56 32 ePKPdf PKPdf 23 18 50.0 +2.0
YMR **Madison River** 130.57 34 ePKPdf PKPdf 23 18 51.3 +3.2
YMR LR LR
comp=Z,2μm,21.0s
M13A **Montello** 130.61 39 ⇓P PKPdf 23 18 49.6 +1.5
baz=131,SNR=8.4
GRAC **Grapevine Rang** 130.62 46 ⇑P PKPdf 23 18 49.8 +1.7
baz=131
OSI **Osito Adit** 130.63 50 ⇓P PKPdf 23 18 49.9 +1.7
baz=131
R10A **Warm Springs** 130.77 44 ⇓P PKPdf 23 18 50.4 +2.0
baz=131
DAC **Darwin (Calif)** 130.78 47 PFAKE 23 19 00.0 +12
DAC LR LR

comp=Z,292nm,19.0s
YFT Old Faithful 130.78 34 *e*PKPdf PKPdf 23 18 52.4 +3.9
N13A Wendover, West 130.86 40 ⇓P PKPdf 23 18 50.1 +1.5
baz=131
Q11A Duckwater 130.94 43 ⇓P PKPdf 23 18 50.3 +1.6
baz=131,SNR=15
MPMC Manual Prospec 130.94 47 ⇓P PKPdf 23 18 50.3 +1.5
baz=131,SNR=14
LKWY Lake 130.95 34 PFAKE 23 19 00.0 +11
LKWY LR LR
comp=Z,467nm,19.0s
LRMC Laurel Mountai 131.05 48 ⇓P PKPdf 23 18 50.7 +1.7
baz=131,SNR=8.7
EDW2 Edwards Air Fo 131.08 49 ⇑P PKPdf 23 18 50.6 +1.6
baz=131,SNR=9.9
DECC Green Verdugo 131.08 50 ⇓P PKPdf 23 18 50.8 +1.8
baz=131
FURC Furnace Creek, 131.22 46 ⇓P PKPdf 23 18 51.1 +1.8
baz=131
CIS Catalina Islan 131.35 51 ⇓P PKPdf 23 18 50.9 +1.4
baz=131
Q12A Willow Creek R 131.40 42 ⇓P PKPdf 23 18 51.2 +1.6
baz=131
SNOW Snow King Moun 131.44 35 *e*PKPdf PKPdf 23 18 52.0 +2.3
REDW Red Top Meadow 131.45 35 *e*PKPdf PKPdf 23 18 51.5 +1.8
BGU Big Grassy Mou 131.56 39 *e*PKPdf PKPdf 23 18 51.6 +1.7
U10A Ash Meadows, A 131.62 46 ⇓P PKPdf 23 18 51.8 +1.7
baz=132,SNR=6.1
SCHQ Schefferville 131.69 354 PKP PKPdf 23 18 50.2 0.0
comp=Z,9.1nm,1.1s,baz=40,slow=2.6,SNR=12
SCHQ SKPbc SKPbc 23 22 11.8 +3.0
comp=Z,12nm,0.9s,baz=355,slow=2.3,SNR=7.8
SCHQ Schefferville 131.69 354 PKP PKPdf 23 18 50.2 0.0
SCHQ SKPbc SKPbc 23 22 11.8 +3.0
SCHQ LR LR
comp=Z,749nm,22.0s
LAO LASA Array 131.70 29 *e*PKPdf PKPdf 23 18 49.9 -0.3
GSC Goldstone 131.78 48 ⇑P PKPdf 23 18 52.2 +1.9
baz=132,SNR=10
SHOC Shoshone 131.90 47 ⇑P PKPdf 23 18 52.5 +2.0
baz=132
HWUT Hardware Ranch 132.08 38 *e*PKPdf PKPdf 23 18 52.4 +1.5
DUG Dugway 132.11 40 *e*PKPdf PKPdf 23 18 52.5 +1.5
DUG Dugway 132.11 40 P PKPdf 23 18 52.8 +1.9
baz=132,SNR=15
MURC Murrieta 132.20 50 ⇑P PKPdf 23 18 53.1 +2.0
baz=132
NOQ North Oquirrh 132.29 39 *e*PKPdf PKPdf 23 18 53.0 +1.7
U11A Corn Creek 132.30 46 ⇓P PKPdf 23 18 53.2 +1.9
baz=132
HEC Hector,Ludlow 132.33 48 ⇑P PKPdf 23 18 53.0 +1.7
baz=132,SNR=5.3
TUQ Turquoise Mtn. 132.36 47 ⇑P PKPdf 23 18 53.4 +2.0
baz=132,SNR=10
V11A Goodsprings 132.54 46 ⇓P PKPdf 23 18 53.7 +2.0
baz=133
109C Camp Elliot, M 132.56 51 ⇑P PKPdf 23 18 53.6 +1.8
baz=133
BW06 Boulder Array 132.56 35 PFAKE 23 19 00.0 +8.2
BW06 LR LR
comp=Z,255nm,19.0s
PDAR Pinedale Array 132.56 35 PKhKP 23 18 39.0
comp=Z,0.5nm,0.9s,baz=346,slow=0.6,SNR=3.5
PDAR PKP PKPdf 23 18 52.6 +0.8
comp=Z,4.1nm,0.8s,baz=134,slow=0.4,SNR=18
PDAR SKPbc SKPbc 23 22 14.8 +2.9
comp=Z,5.9nm,1.1s,baz=240,slow=1.6,SNR=9.3
PDAR Pinedale Array 132.56 35 PKP PKPdf 23 18 52.6 +0.8
PDAR SKPbc SKPbc 23 22 14.8 +2.9
PLCA Paso Flores 132.61 184 PKP PKPdf 23 18 53.1 +1.2
comp=Z,3.0nm,0.9s,baz=189,slow=7.3,SNR=4.3
PLCA Paso Flores 132.61 184 PKP PKPdf 23 18 53.1 +1.2
PLCA LR LR
comp=Z,358nm,19.0s
NLU North Lily Min 132.71 40 *e*PKPdf PKPdf 23 18 53.5 +1.5
PFO Pinyon Flat Ob 132.76 50 ⇓P PKPdf 23 18 54.0 +1.8
baz=133
GMRC Granite Mounta 132.85 48 ⇑P PKPdf 23 18 54.5 +2.1
baz=133,SNR=24
U12A Valley of Fire 132.89 45 ⇓P PKPdf 23 18 54.7 +2.2
baz=133
BELC Belle Mtn. 132.94 49 ⇑P PKPdf 23 18 54.8 +2.3
baz=133
MPU Maple Canyon 132.96 40 PFAKE 23 19 10.0 +17
MPU LR LR
comp=Z,2μm,21.0s
DAU Daniels Canyon 132.97 39 *e*PKPdf PKPdf 23 18 54.2 +1.7
ARUT Antelope Range 132.98 43 *e*PKPdf PKPdf 23 18 54.5 +1.9
ARUT *e*SKP 23 22 16.9
V12A Nelson 133.01 46 ⇓P PKPdf 23 18 54.5 +1.9
baz=133,SNR=17
ULM Lac du Bonnet 133.05 19 PKP PKPdf 23 18 52.5 -0.3
comp=Z,11nm,0.9s,baz=324,slow=3.5,SNR=17
ULM SKPbc SKPbc 23 22 15.3 +1.8
comp=Z,6.7nm,0.9s,baz=344,slow=4.7,SNR=7.7
ULM Lac du Bonnet 133.05 19 PKP PKPdf 23 18 52.5 -0.3
ULM SKPbc SKPbc 23 22 15.3 +1.8
MONP Monument Peak 133.09 51 ⇑P PKPdf 23 18 54.7 +1.9
baz=133
W12A Cal Nev Ari 133.19 47 ⇑P PKPdf 23 18 54.7 +1.7
baz=133
MVU Marysvale 133.42 42 PFAKE 23 19 10.0 +17
MVU LR LR
comp=Z,299nm,19.0s
DVTC Desert V Tower 133.43 51 ⇓P PKPdf 23 18 55.6 +2.1
baz=134
MSU Marysvale 133.44 42 *e*PKPdf PKPdf 23 18 55.8 +2.4
BC3 Big Chuckw Mtn 133.50 49 ⇓P PKPdf 23 18 55.7 +2.1
baz=134
IRM Iron Mountain 133.50 48 ⇓P PKPdf 23 18 55.5 +1.9
baz=134,SNR=7.6
SWSC Sam W. Stewart 133.54 50 ⇓P PKPdf 23 18 55.9 +2.3
baz=134
NEE2 Needles Airpor 133.62 47 ⇓P PKPdf 23 18 55.5 +1.7
baz=134
TMUT Trail Mountain 133.63 40 *e*PKPdf PKPdf 23 18 55.5 +1.6
TMUT *e*SKP 23 22 19.0
TRQA Tornquist 133.96 194 PFAKE 23 19 10.0 +16
TRQA LR LR
comp=Z,394nm,20.0s
W13A Hualapai Mount 134.00 47 P PKPdf 23 18 56.9 +2.4
baz=134,SNR=7.5
Y12C Blythe 134.15 49 ⇓P PKPdf 23 18 56.9 +2.1
baz=134
SRU San Rafael 134.18 40 *e*PKPdf PKPdf 23 18 55.9 +1.1
SRU *e*SKP 23 22 20.8
PDMCI Parker Dam,Lak 134.19 48 ⇑P PKPdf 23 18 56.9 +2.1
baz=134
X13A Yucca 134.28 47 ⇑P PKPdf 23 18 56.7 +1.6
baz=134,SNR=5.7
W14A Seligman 134.52 46 ⇓P PKPdf 23 18 57.4 +1.9
baz=135,SNR=15
RSSD Black Hills 134.61 30 PFAKE 23 19 10.0 +14
RSSD LR LR
comp=Z,6μm,19.0s
Y13A Salome 134.64 48 ⇑P PKPdf 23 18 57.5 +1.8
baz=135
X14A Yava 135.02 47 ⇓P PKPdf 23 18 58.5 +2.1
baz=135,SNR=8.1
W15A Williams 135.12 46 ⇓P PKPdf 23 18 58.4 +1.8
baz=135,SNR=6.7
Y14A Wickenburg 135.19 48 ⇑P PKPdf 23 18 59.1 +2.4
baz=135
X15A Humboldt 135.48 46 ⇓P PKPdf 23 18 59.5 +2.2
baz=136,SNR=9.8
Z14A Wintersburg 135.50 48 ⇑P PKPdf 23 18 59.4 +2.1
baz=136
WUAZ Wupatki 135.57 45 *e*PKPdf PKPdf 23 18 59.6 +2.2
WUAZ Wupatki 135.57 45 ⇑P PKPdf 23 18 59.3 +1.9
baz=136
PHWY Pilot Hill 135.83 34 *e*PKPdf PKPdf 23 18 58.7 +0.7
SMCO Snowmass 136.34 37 *e*PKPdf PKPdf 23 19 01.1 +2.2
MVCO Mesa Verde 136.58 41 *e*PKPdf PKPdf 23 19 01.2 +1.9
116A Eloy 136.80 49 ⇑P PKPdf 23 19 01.8 +2.0
baz=137
SDCO Great Sand Dun 138.14 38 *e*PKPdf PKPdf 23 19 03.8 +1.6
ANMO Albuquerque 139.24 42 *e*PKPdf PKPdf 23 19 01.6 -2.6
ANMO LR LR
comp=Z,251nm,21.0s
Y22C IRIS PASSCAL I 139.43 43 ⇑P PKPdf 23 19 06.8 +2.2
baz=139
CBKS Cedar Bluff 140.69 32 PFAKE 23 19 20.0 +13
CBKS LR LR
comp=Z,250nm,20.0s
MNTX Cornudas Mount 141.83 45 *e*PKPdf PKPdf 23 19 07.2 -1.7
KSU1 Kansas State U 142.04 29 PFAKE 23 19 20.0 +11
KSU1 LR LR
comp=Z,273nm,20.0s
LONY Lake Ozonia 142.29 0 *e*PKPdf PKPdf 23 19 05.1 -4.6
LONY LR LR
comp=Z,244nm,21.0s
NCB Newcomb 142.94 360 *e*PKPdf PKPdf 23 19 07.7 -3.2
WMOK Wichita Mounta 144.17 36 *e*PKPdf PKPdf 23 19 11.7 -1.4
LCO Las Campanas 144.26 185 *e*PKPdf PKPdf 23 19 12.7 -0.5
LCO LR LR
comp=Z,236nm,20.0s
LTX Lajitas 144.37 47 *e*PKPdf PKPdf 23 19 13.6 +0.2
LTX LR LR
comp=Z,344nm,19.0s
TXAR Lajitas Array 144.37 47 PKP PKPdf 23 19 14.2 +0.9
comp=Z,45nm,0.7s,baz=300,slow=2.5,SNR=148
WES Weston 144.43 356 *e*PKPdf PKPdf 23 19 11.0 -2.5
WES LR LR
comp=Z,943nm,20.0s
QUA2 Belchertown 144.59 357 *e*PKPdf PKPdf 23 19 12.8 -1.0
BINY Binghamton 144.68 2 ⇑*e*PKPdf PKPdf 23 19 12.9 -1.0
BINY LR LR
comp=Z,421nm,20.0s
SLM Saint Louis 145.15 22 *e*PKPdf PKPdf 23 19 14.3 -0.4
FVM French Village 145.65 23 *e*PKPdf PKPdf 23 19 15.9 +0.3
BLO Bloomington 145.91 17 *e*PKPdf PKPdf 23 19 16.7 +0.6
SSPA Standing Stone 146.12 5 *e*PKPdf PKPdf 23 19 17.2 +0.8
SIUC Southern Illin 146.34 22 *e*PKPdf PKPdf 23 19 17.7 +0.9
JCT Junction City 146.40 42 *e*PKPdf PKPdf 23 19 18.0 +1.1
USIN University of 146.66 19 *e*PKPdf PKPdf 23 19 18.2 +0.9
WCI Wyandotte Cave 146.84 17 *e*PKPdf PKPdf 23 19 18.0 +0.4
MVL Millersville 146.86 3 *e*PKPdf PKPdf 23 19 18.5 +0.9
MCWV Mont Chateau 146.87 8 *e*PKPbc PKPbc 23 19 20.2 +0.6
PVMO Portageville 147.30 23 *e*PKPbc PKPbc 23 19 20.8 -0.1
SDMD Soldier's Deli 147.42 4 *e*PKPbc PKPbc 23 19 20.9 -0.3
UALR University of 147.54 28 *e*PKPdf PKPdf 23 19 19.6 +0.8
UTMT University of 147.69 22 *e*PKPbc PKPbc 23 19 22.7 +0.8
WVT Waverly 148.25 21 *e*PKPdf PKPdf 23 19 20.8 +0.9
WVT *e*PKPbc PKPbc 23 19 23.9 +0.5
CBN Corbin 148.58 5 PFAKE 23 19 30.0 +10
CBN LR LR
comp=Z,315nm,19.0s
NATX Nacogdoches 148.70 35 PFAKE 23 19 30.0 +9.3
NATX LR LR
comp=Z,433nm,20.0s
OXF Oxford 149.07 25 *e*PKPbc PKPbc 23 19 25.8 +0.4
ELN Prospectdale 149.11 10 *e*PKPdf PKPdf 23 19 21.7 +0.3
ELN *e*PKPbc PKPbc 23 19 25.5 -0.1
TZTN Tazewell 149.18 15 *e*PKPdf PKPdf 23 19 22.3 +0.8
TZTN *e*PKPbc PKPbc 23 19 26.1 +0.3
TZTN LR LR
comp=Z,361nm,21.0s
BLA Blacksburg 149.19 10 *e*PKPbc PKPbc 23 19 25.6 -0.1
BLA LR LR
comp=Z,283nm,20.0s
PLAL Pickwick Lake 149.19 22 *e*PKPdf PKPdf 23 19 21.4 0.0
PLAL *e*PKPbc PKPbc 23 19 25.8 0.0
CNNC Cliffs of the 151.47 6 *e*PKPbc PKPbc 23 19 32.2 +0.9
CNNC LR LR
comp=Z,260nm,19.0s
JSC Jenkinsville 151.87 12 *e*PKPdf PKPdf 23 19 27.2 +1.6
JSC *e*PKPbc PKPbc 23 19 33.1 +1.0
GOGA Godfrey 152.16 17 PFAKE 23 19 40.0 +14
GOGA LR LR
comp=Z,401nm,19.0s
COW Cow Castle Cre 152.86 12 *e*PKPdf PKPdf 23 19 28.5 +1.4
BBSR BB Station 152.99 342 PFAKE 23 19 40.0 +13
BBSR LR LR
comp=Z,203nm,21.0s
BRAL Brewton 153.08 25 *e*PKPdf PKPdf 23 19 28.9 +1.5
BRAL *e*PKPbc PKPbc 23 19 36.0 +1.1
NHSC New Hope 153.23 11 *e*PKPab PKPab 23 19 47.4 +0.2
LPAZ La Paz 156.30 195 PKP PKPdf 23 19 34.1 +2.3
comp=Z,8.9nm,1.1s,baz=42,slow=3.6,SNR=24
LPAZ PKPab PKPab 23 20 01.5 +1.2
comp=Z,6.3nm,1.1s,baz=350,slow=13,SNR=4.7
LPAZ La Paz 156.30 195 PKP PKPdf 23 19 34.1 +2.3
LPAZ PKPab PKPab 23 20 01.5 +1.2
LPAZ LR LR
comp=Z,199nm,22.0s
TGUH Tegucigalpa,Un 165.34 59 *e*PKPdf PKPdf 23 19 42.2 +0.6
SJG San Juan 166.20 326 PFAKE 23 19 50.0 +7.7
SJG LR LR
comp=Z,320nm,20.0s
JTS JuntasAbangare 168.90 71 PFAKE 23 20 00.0 +16
JTS LR LR
comp=Z,84nm,22.0s
OTAV Otavalo 172.31 147 PFAKE 23 20 00.0 +14
OTAV LR LR
comp=Z,177nm,20.0s
SDV Santo Domingo 175.79 300 *e*PKPdf PKPdf 23 19 47.4 +0.1
SDV LR LR
comp=Z,159nm,22.0s

IDC 23 23:24:06.6±7.3, 2252S×17821E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=181.4km s-min=126.3km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.74**	**246**	P	P	23 30 50.1	+0.4
	1.1nm,0.5s,baz=82,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**40.65**	**259**	P	P	23 31 48.8	+0.4
	1.0nm,0.6s,baz=97,slow=8.9,SNR=9.0						
WRA	**Warramunga Arr**	**40.87**	**265**	P	P	23 31 50.0	-0.1
	0.9nm,0.5s,baz=102,slow=8.0,SNR=6.0						
WRA				ScP	ScP	23 37 42.5	+0.7
	1.8nm,0.9s,baz=114,slow=4.4,SNR=8.3						

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*IDC **23** 23:27:15.1±1.4, 1047S×12470E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=99.0km s-min=26.1km az=64.0*
*NEIC **23** 23:27:19.9±0.8, 1052S×12478E, h35km, Error ellipse: s-maj=31.1km s-min=9.9km az=51.0*
*ISCJB **23** 23:27:20.9±2.9, 108S±0.1×1246E±0.1, h70km±32km, mb3.7/1, Error ellipse: s-maj=28.7km s-min=11.4km az=88.8*
ISC 23 23:27:22.7±2.6, 108S±01×1247E±01, h66km±33km, n7, σ0°68/10, mb3.7/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.34**	**173**	Pn	**Pn**	**23 29 08.0**	**+0.9**
	0.6nm,0.3s,baz=10,slow=11,SNR=27						
FITZ				Sn	**Sn**	**23 30 28.2**	**-0.6**
	3.3nm,0.3s,baz=202,slow=8.6,SNR=14						
WRA	**Warramunga Arr**	**13.01**	**136**	Pn	**Pn**	**23 30 23.9**	**-0.6**
	0.4nm,0.3s,baz=312,slow=15,SNR=13						
WRA				Sn	**Sn**	**23 32 47.3**	**-0.2**
	0.7nm,0.3s,baz=307,slow=24,SNR=7.7						
WB2	**Warramunga Arr**	**13.02**	**136**	*e*Pn	**Pn**	**23 30 24.2**	**-0.5**
WB2				*e*Sn	**Sn**	**23 32 48.1**	**+0.3**
ASAR	**Alice Springs**	**15.53**	**147**	Pn	**Pn**	**23 30 59.2**	**+1.6**
	0.3nm,0.3s,baz=325,slow=13,SNR=13						
ASAR				Sn	**Sn**	**23 33 48.5**	**-0.3**
	0.2nm,0.3s,baz=323,slow=24,SNR=6.6						
KULM	**Kulim**	**28.77**	**303**	P	**P**	**23 33 13.9**	**-0.2**
MKAR	**Makanchi Array**	**68.69**	**330**	P	**P**	**23 38 18.9**	**-0.2**
	0.8nm,0.6s,mb3.7,baz=136,slow=7.0,SNR=12						
TORD	**Torodi Ar. Bea**	**124.28**	**279**	PKP	PKPdf	23 46 16.6	+2.8
	0.3nm,0.6s,baz=81,slow=2.0,SNR=6.6						

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*NEIC **24** 00:04:33.1, 1732N×10144W, h5km, MD3.7(MEX), After MEX.*
MEX 24 00:04:33.4±0.8, 1735N×10139W, h5km±24km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.27**	**345**	*i* P	Pg	00 04 38.2	-0.4
ZIIG				*i* S	Sg	00 04 42.2	+0.1
CAIG	**El Cayaco**	**1.11**	**105**	*i* P	Pg	00 04 51.8	-3.0
CAIG				*i* S	Sg	00 05 05.6	-3.7
CAIG	**El Cayaco**	**1.11**	**105**	*i* P	Pg	00 04 51.8	-3.0
CAIG				*i* S	Sg	00 05 06.6	-2.6
ACX	**Acapulco**	**1.49**	**108**	*i* P	Pn	00 04 58.5	-2.3
ACX				*i* S	Sn	00 05 17.0	-3.7
ACX	**Acapulco**	**1.49**	**108**	*i* P	Pn	00 04 58.5	-2.3
ACX				*i* S	Sn	00 05 17.3	-3.4
MEIG	**Mezcala**	**1.78**	**71**	*i* P	Pn	00 05 02.1	-2.8
MEIG				*i* S	Sn	00 05 23.6	-4.4
PLIG	**Platanillo**	**2.08**	**60**	*i* P	Pn	00 05 07.5	-1.4
PLIG				*i* S	Sn	00 05 30.6	-4.6
PLIG	**Platanillo**	**2.08**	**60**	*i* P	Pn	00 05 07.5	-1.4
PLIG				*i* S	Sn	00 05 32.6	-2.6
MOIG	**Morelia**	**2.33**	**5**	*i* P	Pn	00 05 10.6	-1.8
MOIG				*i* S	Sn	00 05 37.2	-4.1
MOIG	**Morelia**	**2.33**	**5**	*i* P	Pn	00 05 11.8	-0.6
MOIG				*i* S	Sn	00 05 39.2	-2.1
IIO	**Organos**	**3.38**	**48**	*i* P	Pn	00 05 23.2	-3.6
IIO				*i* S	Sn	00 06 05.3	-1.9
UTMO	**Huajuapan**	**3.46**	**81**	*i* P	Pn	00 05 25.8	-2.1
UTMO				*i* S	Sn	00 06 05.2	-4.0

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*ISCJB **24** 00:07:21.7±1.3, 2145S±006×687W±0.1, h91km±17km, mb3.7/3, Error ellipse: s-maj=19.6km s-min=9.1km az=164.0*
*IDC **24** 00:07:24.8±2.1, 2147S×6862W, h100km±18km, mb3.7/2, mb1 3.9/4, mb1mx3.5/15, mbtmp3.8/4, Error ellipse: s-maj=40.8km s-min=15.4km az=91.0*
*NEIC **24** 00:07:24.3±1.1, 2138S×6875W, h100km±13km, mb3.5/2, Error ellipse: s-maj=18.8km s-min=11.6km az=81.0*
ISC 24 00:07:23.0±0.9, 2142S±006×688W±01, h90km±14km, n12, σ1°22/15, mb3.7/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.15**	**7**	P	**Pn**	**00 08 41.1**	**+3.6**
	1.8nm,0.3s,baz=186,slow=7.0,SNR=29						
LPAZ				S	**Sn**	**00 09 40.0**	**+4.5**
	0.3nm,0.3s,baz=42,slow=21,SNR=2.9						
LPAZ	**La Paz**	**5.15**	**7**	*e*Pn	**Pn**	**00 08 41.6**	**+4.1**
ARE	**Arequipa**	**5.54**	**332**	P	**Pn**	**00 08 43.0**	**+0.1**
ARE				*e*S	**Sn**	**00 09 41.0**	**-4.2**
SIV	**San Ignacio**	**9.12**	**55**	P	**Pn**	**00 09 30.7**	**-0.9**
	6.7nm,0.3s,baz=250,slow=12,SNR=60						
SIV				S	**Sn**	**00 11 07.2**	**-5.2**
	0.1nm,0.3s,baz=329,slow=21,SNR=3.1						
CFAA	**Coronel Fontan**	**10.16**	**177**	P	**Pn**	**00 09 48.0**	**+2.2**
	0.1nm,0.3s,baz=129,slow=6.1,SNR=17						
CFAA				S	**Sn**	**00 11 37.0**	**-0.9**
	0.1nm,0.3s,baz=283,slow=22,SNR=6.3						
NNA	**Nana**	**12.12**	**319**	S	**Sn**	**00 12 23.8**	**-1.7**
	1.6nm,0.3s,baz=237,slow=17,SNR=3.5						
NNA	**Nana**	**12.12**	**319**	Pn	**Pn**	**00 10 13.7**	**+1.3**
	16nm,1.0s						
PLCA	**Paso Flores**	**19.31**	**184**	P	**Pn**	**00 11 41.8**	**-1.0**
	1.6nm,0.7s						
OTAV	**Otavalo**	**23.49**	**335**	P	**P**	**00 12 25.9**	**+1.3**
	1.6nm,0.6s,mb3.5						
TORD	**Torodi Ar. Bea**	**77.25**	**70**	P	**P**	**00 19 07.5**	**+0.1**
	1.1nm,0.6s,mb3.8,baz=254,slow=5.5,SNR=23						
YKA	**Yellowknife Ar**	**91.14**	**341**	P	**P**	**00 20 17.1**	**-0.6**
	0.5nm,0.7s,mb3.8,baz=136,slow=4.5,SNR=12						
YKA				pP	pP	00 20 42.4	+0.8
	0.1nm,0.5s,baz=126,slow=5.4,SNR=2.2						
MKAR	**Makanchi Array**	**145.52**	**36**	PKPbc	PKPbc	00 26 51.6	+0.7
	1.7nm,0.8s,baz=320,slow=3.2,SNR=15						

IDC 24 00:09:19.9±5.0, 260S×13864E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/12, mbtmp3.5/3, ML3.6/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/14, Error ellipse: s-maj=208.8km s-min=28.1km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.75**	**193**	P	Pn	00 13 27.3	-1.1
	0.2nm,0.3s,baz=16,slow=13,SNR=7.9						
ASAR	**Alice Springs**	**21.44**	**192**	P	P	00 14 10.8	+1.1
	0.6nm,0.4s,baz=11,slow=11,SNR=6.1						
RAO	**Raoul Island**	**49.03**	**127**	LR	LR	00 35 52.2	
	comp=Z,122nm,19.9s,baz=319,slow=32						
MKAR	**Makanchi Array**	**69.65**	**322**	P	P	00 20 31.4	+0.2
	0.7nm,0.6s,baz=103,slow=8.2,SNR=11						

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*CSEM **24** 00:19:11.0, 1197N×4381E, h12km, ML4.2, After DHMR*
DHMR 24 00:19:11.0±1.4, 1197N×4381E, h13km±7km, ML4.2, 6C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.29**	**13**	⇑*i* P	Pn	00 19 35.3	+0.6
TRBA				*i* S	Sb	00 19 52.5	+0.9
TRBA				AML	AML	00 19 57.0	
	comp=Z,5μm,0.6s						
ADEN	**Aden**	**1.40**	**55**	⇑*i* P	Pn	00 19 36.8	+0.6
ADEN				*i* S	Sn	00 19 55.5	+1.0
ADEN				AML	AML	00 20 01.3	
	comp=N,4μm,0.7s						
ADEN	**Aden**	**1.40**	**55**	⇑*i* P	Pn	00 19 36.8	+0.6
ADEN				*i* S	Sn	00 19 55.5	+1.0
	comp=N,2μm,0.7s						
UDYN	**Al 'Udayn**	**1.99**	**4**	⇑*i* P	Pn	00 19 45.7	+1.3
UDYN				*i* S	Sn	00 20 13.4	+4.2
UDYN				AML	AML	00 20 20.4	
	comp=N,4μm,0.5s						
UDYN	**Al 'Udayn**	**1.99**	**4**	⇑*i* P	Pn	00 19 45.7	+1.3
UDYN				*i* S	Sn	00 20 13.4	+4.2
	comp=N,2μm,0.5s						
LBOS		**2.35**	**36**	*i* P	Pn	00 19 51.5	+2.2
LBOS				*i* S	Sn	00 20 23.5	+5.4
BDHA	**Al Bayda'**	**2.63**	**40**	*i* P	Pn	00 19 55.7	+2.6
BDHA				*i* S	Sn	00 20 31.6	+6.8
BDHA				AML	AML	00 20 45.8	
	comp=N,1μm,0.7s						
BDHA	**Al Bayda'**	**2.63**	**40**	*i* P	Pn	00 19 55.7	+2.6
BDHA				*i* S	Sn	00 20 31.6	+6.7
	comp=N,602nm,0.7s						
DHBB	**Dhamar BB**	**2.65**	**12**	*i* P	Pn	00 19 56.6	+3.2
DHBB				*i* S	Sn	00 20 32.7	+7.4
HAJJ	**Hajjah**	**3.71**	**357**	⇑*i* P	Pn	00 20 10.5	+2.5
HAJJ				*i* S	Sn	00 20 56.9	+5.3

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*CSEM **24** 00:21:04.6, 6784N×2020E, h3km, ML3.4, Mining explosion. After UPP*
*UPP **24** 00:21:04.6, 6784N×2020E, h3km, ML3.4, Mining explosion.*
HEL 24 00:21:05.0±0.0, 6784N×2020E, h0km, ML1.5, ML3.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	00 21 07.1	-0.3
KUA				*i* S	Sg	00 21 09.1	0.0
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 21 12.9	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	00 21 17.7	-0.9
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	00 21 18.0	-1.1
DUNU	**Dundret**	**0.74**	**169**	P	Pg	00 21 18.0	-1.1
	baz=80						
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 21 19.3	-0.8
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	00 21 19.4	-0.8
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PB	Pb	00 21 27.3	-1.1
KIF				*e*SB	Sb	00 21 43.2	-1.2
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 21 29.8	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 21 35.4	-0.7
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	00 21 46.8	+0.5
SGF				*e*SG	Sg	00 22 19.8	-4.0

WEL 24 00:24:14.3±0.1, 4066S×17621E, h24km±1km, ML3.5/34, 4C-1D, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.04**	**133**	⇑P*	Pb	00 24 18.5	+0.1
BFZ				S*	Sb	00 24 21.6	+0.4
TIWZ	**Tintock**	**0.28**	**243**	P*	Pb	00 24 21.6	+0.7
TIWZ				S*	Sb	00 24 27.0	+1.7
MRZ	**Mangatainoka R**	**0.48**	**269**	⇓P*	Pb	00 24 24.3	+0.1
MRZ				S*	Sb	00 24 31.3	+0.5
TSZ	**Takapari Road**	**0.62**	**342**	P*	Pb	00 24 26.1	-0.5
TSZ				S*	Sb	00 24 34.9	0.0
MTW	**Mount Morrison**	**0.74**	**227**	⇑P*	Pb	00 24 28.8	+0.4
PXZ	**Pawanui**	**0.80**	**39**	P*	Pb	00 24 29.3	-0.2
TRWZ	**Traveller**	**0.84**	**208**	P*	Pb	00 24 30.4	+0.1
PAWZ	**Paruwai Farm**	**0.94**	**219**	P*	Pb	00 24 31.6	-0.3
CAW	**Cannon Point**	**0.98**	**242**	⇑P*	Pb	00 24 32.3	-0.3
KIW	**Kapiti Island**	**1.01**	**258**	⇑P*	Pb	00 24 33.0	-0.1

KIW			S*	Sb		00 24 47.1	+1.1
MSWZ	**Moikau Station**	**1.05 223**	P*	Pb		00 24 32.8	-1.0
WEL	**Wellington**	**1.26 240**	P*	Pb		00 24 35.9	-1.5
BHW	**Baring Head**	**1.26 233**	P*	Pb		00 24 35.8	-1.6
MRW	**Makara Radio**	**1.28 243**	P*	Pb		00 24 36.2	-1.5
MOVZ	**Moawhango**	**1.29 344**	PN	Pn		00 24 37.2	+0.3
SNZO	**South Karori**	**1.31 240**	P*	Pb		00 24 36.5	-1.8
MTVZ	**Mangateitei**	**1.39 336**	PN	Pn		00 24 38.9	+0.7
WNVZ	**Wahianoa**	**1.41 340**	PN	Pn		00 24 39.3	+0.9
TRVZ	**Turoa**	**1.45 339**	PN	Pn		00 24 40.0	+1.0
TUVZ	**Tukino**	**1.45 343**	PN	Pn		00 24 39.9	+0.9
FWVZ	**Far West T-bar**	**1.48 340**	PN	Pn		00 24 40.5	+0.9
BKZ	**Black Stump Fm**	**1.50 8**	*e*PN	Pn		00 24 39.1	-0.7
NGZ	**Ngauruhoe**	**1.55 342**	PN	Pn		00 24 41.1	+0.7
TCW	**Tory Channel**	**1.57 249**	PN	Pn		00 24 40.0	-0.6
WTVZ	**West Tongariro**	**1.61 343**	PN	Pn		00 24 42.4	+1.1
DUWZ	**D'Urville Isla**	**1.75 264**	PN	Pn		00 24 43.4	+0.3
TUWZ	**Tuamarina**	**1.88 245**	PN	Pn		00 24 43.8	-1.2
BSWZ	**Blackbirch Sta**	**2.06 238**	PN	Pn		00 24 46.3	-1.1
NNZ	**Nelson**	**2.22 254**	PN	Pn		00 24 49.1	-0.5
MWZ	**Matawai**	**2.53 24**	*e*PN	Pn		00 24 51.0	-2.9
THZ	**Tophouse**	**2.73 245**	PN	Pn		00 24 55.2	-1.4
LTZ	**Lake Taylor**	**3.63 233**	PN	Pn		00 25 07.1	-2.0
MQZ	**McQueen's Vall**	**4.04 220**	PN	Pn		00 25 12.9	-1.7

*SKO **24** 00:26:37.9, 4059N×1984E, h3km, M2.2, ML2.6*
*NEIC **24** 00:26:38.1, 4058N×1961E, h41km, MD2.8(PDG), After PDG.*
*TIR **24** 00:26:38.8, 4094N×2000E, h0km, Ml2.7*
*PDG **24** 00:26:38.1±0.2, 4058N×1961E, h41km±11km*
*ATH **24** 00:26:38.5, 4103N×1947E, h41km±22km, MD3.5/6*
*ISCJB **24** 00:26:39.7±0.3, 4089N±002×1981E±003, h8km, Error ellipse: s-maj=3.4km s-min=2.0km az=117.5*
*CSEM **24** 00:26:39.8±0.2, 4091N×1982E, h8km, ML2.8, Error ellipse: s-maj=5.4km s-min=3.0km az=104.0*
*THE **24** 00:26:40.5, 4094N×1992E, h10km, ML2.8*

ISC 24 00:26:39.9±0.5, 4090N±002×1980E±003, h2km±4km, n63, σ1§11/98, 5C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.62**	**165**	*i* Pg	**Pg**	**00 26 51.3**	**-0.6**
TPE				*i* Sg	**Sg**	00 27 00.4	+0.5
OHR	**Ohrid**	**0.79**	**74**	*e*Pg	**Pg**	**00 26 52.8**	**-2.2**
OHR	**Ohrid**	**0.79**	**74**	*i* Pg	**Pg**	**00 26 53.7**	**-1.4**
OHR				*i* Sg	**Sg**	**00 27 06.4**	**+1.2**
OHR	comp=E,165nm,0.5s			*e*Lg		00 27 07.1	
OHR	comp=N,152nm,0.6s			*e*Lg		00 27 08.8	
OHR	**Ohrid**	**0.79**	**74**	*i* Pg	**Pg**	**00 26 53.7**	**-1.4**
OHR				*i* Sg	**Sg**	**00 27 06.4**	**+1.2**
OHR	comp=E,165nm,0.5s			*e*Lg		00 27 07.1	
OHR	comp=N,152nm,0.6s			*e*Lg		00 27 08.8	
OHR	**Ohrid**	**0.79**	**74**	P	**Pg**	**00 26 53.8**	**-1.2**
OHR	**Ohrid**	**0.79**	**74**	*i* Pg	**Pg**	**00 26 53.6**	**-1.4**
OHR				*i* Sg	**Sg**	**00 27 06.4**	**+1.2**
LSK	**Leskovik**	**0.96**	**140**	*i* Pg	**Pg**	**00 26 57.0**	**-1.4**
LSK				*i* Sg	**Sg**	**00 27 12.3**	**+1.4**
SRN	**Sarande**	**1.03**	**171**	*i* Pg	**Pg**	**00 27 00.1**	**+0.5**
SRN				*i* Sg	**Sg**	**00 27 11.7**	**-1.3**
SRN	**Sarande**	**1.03**	**171**	*i* Pg	**Pg**	**00 27 00.1**	**+0.5**
SRN				*i* Sg	**Sg**	**00 27 14.9**	**+1.9**
ULC	**Ulcinj**	**1.14**	**339**	⇑*i* Pg	**Pg**	**00 27 02.0**	**+0.2**
ULC				*e*Sg	**Sg**	**00 27 21.2**	**+4.5**
BIA	**Bitola**	**1.16**	**83**	*i* Pg	**Pg**	**00 26 59.9**	**-2.3**
BIA				*i* Sg	**Sg**	**00 27 17.5**	**+0.2**
BIA	**Bitola**	**1.16**	**83**	*i* Pg	**Pg**	**00 26 59.9**	**-2.3**
BIA				*i* Sg	**Sg**	**00 27 17.5**	**+0.2**
BIA	**Bitola**	**1.16**	**83**	*e*Pg	**Pg**	**00 26 59.9**	**-2.3**
BIA	**Bitola**	**1.16**	**83**	P	**Pg**	**00 27 00.4**	**-1.8**
BIA				*i* Sg	**Sg**	**00 27 17.5**	**+0.2**
KEK	**Kerkira**	**1.18**	**180**	*e*P	**Pg**	**00 27 02.6**	**0.0**
KEK				*e*S	**Sg**	**00 27 19.3**	**+1.4**
KRUS	**Krusevo**	**1.19**	**66**	*i* Pg	**Pg**	**00 27 01.6**	**-1.2**
KRUS				*i* Sg	**Sg**	**00 27 20.0**	**+1.8**
FNA	**Florina**	**1.20**	**95**	*e*Pg	**Pg**	**00 27 01.2**	**-1.8**
FNA				*e*Sg	**Sg**	**00 27 18.9**	**+0.3**
IGT	**Igoumenitsa**	**1.42**	**163**	*e*Pg	**Pn**	**00 27 06.0**	**-0.8**
IGT				*e*Sg	**Sg**	**00 27 27.8**	**+2.2**
JAN	**Janina**	**1.48**	**147**	*e*P	**Pn**	**00 27 07.6**	**0.0**
JAN				*e*S	**Sg**	**00 27 28.6**	**+1.2**
BUM	**Brajici-Budva**	**1.56**	**335**	⇑*i*Pn	**Pn**	**00 27 08.1**	**-0.5**
BUM				*e*Sn	**Sn**	**00 27 31.0**	**+1.6**
MEV	**Metsovon**	**1.56**	**135**	*e*Pg	**Pg**	**00 27 09.3**	**-0.5**
MEV				*e*Sg	**Sg**	**00 27 29.6**	**-0.4**
MEV	**Metsovon**	**1.56**	**135**	*e*Pg	**Pg**	**00 27 09.3**	**-0.5**
MEV				*e*Sg	**Sg**	**00 27 29.6**	**-0.4**
TTG	**Podgorica**	**1.58**	**345**	⇓*i*Pn	**Pn**	**00 27 08.9**	**-0.2**
TTG				*e*Sn	**Sn**	**00 27 32.2**	**+2.2**
KZN	**Kozani**	**1.61**	**111**	*e*P	**Pn**	**00 27 09.6**	**+0.2**
KZN				*e*S	**Sg**	**00 27 33.5**	**+1.7**
SKO	**Skopje**	**1.64**	**48**	*e*Pg	**Pn**	**00 27 10.1**	**+0.4**
SKO				*e*Sg	**Sn**	**00 27 31.5**	**+0.1**
SKO	**Skopje**	**1.64**	**48**	*i* Pn	**Pn**	**00 27 10.2**	**+0.5**
SKO				*i* Sn	**Sn**	**00 27 32.9**	**+1.5**
PVY	**Plav**	**1.70**	**4**	⇓*i*Pn	**Pn**	**00 27 11.3**	**+0.6**
PVY				*e*Sn	**Sg**	**00 27 36.1**	**+1.4**
HCY	**Herceg Novi**	**1.83**	**328**	⇓*i*Pn	**Pn**	**00 27 11.2**	**-1.2**
HCY				*e*Sn	**Sn**	**00 27 36.7**	**+0.5**
STIP	**Stip**	**1.97**	**65**	*e*Pb	**Pn**	**00 27 13.3**	**-1.0**
STIP	**Stip**	**1.97**	**65**	*i* Pn	**Pn**	**00 27 13.8**	**-0.5**
STIP	**Stip**	**1.97**	**65**	*i* Pn	**Pn**	**00 27 13.8**	**-0.5**
STIP	**Stip**	**1.97**	**65**	*i* Pn	**Pn**	**00 27 13.8**	**-0.5**
GRG	**Griva**	**1.97**	**87**	*e*Pb	**Pn**	**00 27 13.5**	**-0.9**
GRG				*e*Sb	**Sn**	**00 27 39.3**	**-0.4**
IVA	**Berane**	**1.98**	**2**	⇓*i*Pn	**Pn**	**00 27 15.0**	**+0.6**
IVA				*e*Sn	**Sg**	**00 27 42.7**	**-0.6**
NKY	**Niksic**	**2.01**	**343**	⇑*i*Pn	**Pn**	**00 27 14.6**	**-0.2**
NKY				*e*Sn	**Sn**	**00 27 42.1**	**+1.6**
VAY	**Valandovo**	**2.14**	**78**	*e*Pn	**Pn**	**00 27 14.6**	**-2.0**
VAY				*e*Sn	**Sn**	**00 27 42.2**	**-1.5**
VAY	**Valandovo**	**2.14**	**78**	*i* Pn	**Pn**	**00 27 14.8**	**-1.8**
VAY	**Valandovo**	**2.14**	**78**	P	**Pn**	**00 27 15.7**	**-0.9**
THL	**Klokotos Trika**	**2.16**	**127**	*e*P	**Pn**	**00 27 17.5**	**+0.6**
LIT	**Litokhoron**	**2.20**	**110**	*e*Pn	**Pn**	**00 27 17.0**	**-0.5**
BRY	**Bratogost**	**2.21**	**335**	⇓*i*Pn	**Pn**	**00 27 17.1**	**-0.5**
BRY				*e*Sn	**Sn**	**00 27 46.5**	**+0.9**
KNT	**Kendrikon**	**2.36**	**83**	*e*Pn	**Pn**	**00 27 18.9**	**-0.8**
UPM	**Unac-Piva**	**2.40**	**344**	⇑*i*Pn	**Pn**	**00 27 20.4**	**+0.2**
UPM				*e*Sn	**Sn**	**00 27 51.8**	**+1.6**
PLE	**Pljevlja**	**2.45**	**353**	⇓*i*Pn	**Pn**	**00 27 21.4**	**+0.5**
PLE				*e*Sn	**Sn**	**00 27 53.7**	**+2.2**
EVR	**Evrytania**	**2.51**	**141**	*e*P	**Pn**	**00 27 23.1**	**+1.3**
STON	**Ston**	**2.52**	**322**	*i* Pn	**Pn**	**00 27 20.2**	**-1.7**
STON				*i* Sn	**Sn**	**00 27 50.1**	**-3.1**
SOH	**Sokhos**	**2.70**	**90**	*e*Pn	**Pn**	**00 27 22.8**	**-1.5**
AGG	**Agios Georgios**	**2.70**	**133**	*e*Pn	**Pn**	**00 27 25.5**	**+1.1**
AGG				*e*Sn	**Sn**	**00 27 57.2**	**-0.4**
PLG	**Polygyros**	**2.83**	**99**	*e*P	**Pn**	**00 27 26.3**	**+0.2**
SRS	**Serrai**	**2.88**	**84**	*e*Pn	**Pn**	**00 27 26.1**	**-0.8**
BBLS	**Bajina Basta -**	**2.98**	**355**	*e*Pn	**Pn**	**00 27 23.7**	**-4.5**
VTS	**Vitosha**	**3.06**	**55**	⇓*i*P	**Pn**	**00 27 29.5**	**+0.1**
VTS	**Vitosha**	**3.06**	**55**	P	**Pn**	**00 27 29.8**	**+0.4**
GRUS	**Gruza**	**3.07**	**13**	*e*Pn	**Pn**	**00 27 29.8**	**+0.4**
PAIG	**Paliouri**	**3.12**	**107**	*e*Pn	**Pn**	**00 27 29.4**	**-0.7**
DIVS	**Divcibare**	**3.20**	**3**	⇑*i*Pn	**Pn**	**00 27 30.2**	**-1.1**
GZR	**Gura Zlata**	**5.00**	**25**	⇓*i*P	**Pn**	**00 27 56.5**	**+0.6**
NVLJ	**Novalja**	**5.16**	**317**	*i* Pn	**Pn**	**00 27 57.0**	**-1.1**
NVLJ				*i* Sn	**Sn**	**00 28 54.7**	**-3.5**
BOJS	**Bojanci**	**5.68**	**326**	P	**Pn**	**00 28 04.6**	**-0.7**
CEY	**Cerknica**	**6.22**	**323**	P	**Pn**	**00 28 11.7**	**-1.1**
PERS	**Pernice**	**6.66**	**331**	*i* Pn	**Pn**	**00 28 18.9**	**+0.1**
VOJS	**Vojsko**	**6.70**	**322**	P	**Pn**	**00 28 18.1**	**-1.2**
PSZ	**Piszkesteto**	**7.02**	**1**	⇓*i*P	**Pn**	**00 28 28.3**	**+4.6**

IDC 24 00:45:22.5±9.7, 576S×15425E, h95km±68km, mb3.1/2, mb1 3.6/3, mb1mx3.3/15, mbtmp3.5/3, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.9/8, Error ellipse: s-maj=108.8km s-min=58.7km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.72**	**123**	LR	LR	00 49 18.1	
	comp=Z,105nm,19.7s,baz=356,slow=35						
PMG	**Port Moresby**	**7.90**	**242**	P	Pn	00 47 14.5	-0.1
	2.7nm,0.3s,baz=34,slow=6.6,SNR=8.7						
PMG				S	Sn	00 48 43.7	+1.4
	1.0nm,0.3s,baz=286,slow=6.4,SNR=7.7						
PMG				LR	LR	00 49 59.5	
	comp=Z,118nm,19.3s,baz=62,slow=35						
CTA	**Charters Tower**	**16.22**	**208**	LR	LR	00 54 30.2	
	comp=Z,49nm,18.9s,baz=231,slow=34						
WRA	**Warramunga Arr**	**23.94**	**232**	P	P	00 50 28.3	+0.6
	0.7nm,0.8s,baz=56,slow=9.7,SNR=9.2						
ASAR	**Alice Springs**	**26.46**	**226**	P	P	00 50 50.5	-0.1
	0.4nm,0.6s,baz=61,slow=9.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**151.97**	**287**	PKPbc	PKPbc	01 05 07.8	+1.3
	0.9nm,0.9s,baz=84,slow=2.2,SNR=4.3						

*NEIC **24** 00:51:29.8, 34.17N×2669E, h3km, mb4.1/12, ML3.4(ATH), After ATH.*
*ATH **24** 00:51:29.8, 34.17N×2669E, h3km, MD3.9/9*
*CSEM **24** 00:51:30.9±0.1, 3423N×2667E, h2km, mb4.2, Error ellipse: s-maj=2.3km s-min=1.2km az=50.0*
*MOS **24** 00:51:31.6±1.2, 34.14N×2645E, h29km, mb4.2/6, Error ellipse: s-maj=8.6km s-min=4.7km az=114.9*
*ISCJB **24** 00:51:33.7±0.3, 3425N±003×2661E±003, h47km±4km, mb3.8/20, Error ellipse: s-maj=5.3km s-min=3.1km az=56.5*
*IDC **24** 00:51:35.4±3.0, 3449N×2652E, h25km±19km, mb3.8/12, mb1 3.9/19, mb1mx3.8/26, mbtmp3.8/19, ML4.2/4, Error ellipse: s-maj=21.5km s-min=14.2km az=177.0*
*HLW **24** 00:51:37.1, 3409N×2663E, h33km, Mb4.0*
*THE **24** 00:51:39.0, 3469N×2631E, h10km*

ISC 24 00:51:32.9±0.7, 3430N±003×2652E±003, h16km±5km, n149, σ1§14/167, mb3.8/20, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.85**	**343**	*e*Pg	**Pg**	**00 51 47.5**	**-2.1**
ZKR				*e*Sg	**Sg**	**00 51 55.8**	**-5.0**
XRY	**Khrisi**	**0.89**	**310**	*e*PG	**Pg**	**00 51 50.0**	**-0.3**
LAST	**Lasithi**	**1.22**	**315**	*e*Pg	**Pg**	**00 51 55.2**	**-1.2**
LAST				*e*Sg	**Sg**	**00 52 08.1**	**-4.2**
NPS	**Neapolis**	**1.22**	**322**	*e*PG	**Pg**	**00 51 55.7**	**-0.8**
NPS	**Neapolis**	**1.22**	**322**	P	**Pn**	**00 51 55.8**	**+0.5**
KARP	**Karpathos**	**1.35**	**23**	*e*PN	**Pn**	**00 51 56.9**	**-0.2**
KARP	**Karpathos**	**1.35**	**23**	P	**Pn**	**00 51 57.3**	**+0.2**
SIVA	**Sivas**	**1.58**	**298**	*e*Pg	**Pg**	**00 52 02.9**	**-0.5**
IDI	**Anoyia**	**1.67**	**307**	Pg	**Pg**	**00 52 04.5**	**-0.5**
IDI	18nm,0.3s,baz=136,slow=12,SNR=108			Sn	**Sn**	**00 52 27.6**	**+5.1**
	42nm,0.3s,baz=17,slow=21,SNR=12						
IDI	**Anoyia**	**1.67**	**307**	Pg	**Pg**	**00 52 04.5**	**-0.5**
IDI				Sn	**Sn**	**00 52 27.5**	**+5.0**
GVD	**Gavdhos**	**2.08**	**286**	*e*Pb	**Pb**	**00 52 10.6**	**+0.3**
GVD	**Gavdhos**	**2.08**	**286**	*e*Pn	**Pb**	**00 52 10.5**	**+0.2**
VAM	**Vamos**	**2.21**	**301**	*e*PN	**Pb**	**00 52 12.7**	**+0.3**
VAM	**Vamos**	**2.21**	**301**	P	**Pb**	**00 52 13.0**	**+0.6**
SANT	**Santorini**	**2.25**	**338**	*e*Pb	**Pn**	**00 52 10.3**	**+0.9**
THR1	**Thera Island**	**2.25**	**338**	*e*Pb	**Pn**	**00 52 10.3**	**+1.0**
THR6	**Thira Island,**	**2.25**	**336**	*e*Pb	**Pn**	**00 52 09.5**	**0.0**
THR3	**Thira Island,**	**2.30**	**337**	*e*Pb	**Pn**	**00 52 10.6**	**+0.5**
ARG	**Arkhangelos**	**2.32**	**34**	*e*PN	**Pn**	**00 52 12.0**	**+1.6**
ARG	**Arkhangelos**	**2.32**	**34**	P	**Pn**	**00 52 12.1**	**+1.7**
THR5	**Thira Island,**	**2.32**	**336**	*e*Pb	**Pn**	**00 52 11.0**	**+0.6**
THR4	**Thira Island,**	**2.35**	**337**	*e*Pb	**Pn**	**00 52 11.7**	**+1.0**
KARN	**Karanos**	**2.41**	**298**	*e*Pn	**Pn**	**00 52 15.0**	**+3.4**
BDRM	**Kayabasi**	**2.86**	**15**	*i* P	**Pn**	**00 52 18.2**	**+0.3**
BDRM				*i* S	**Sn**	**00 52 47.0**	**-5.0**
APE	**Apeiranthos**	**2.88**	**344**	*e*Pn	**Pn**	**00 52 18.4**	**+0.2**
APE	**Apeiranthos**	**2.88**	**344**	*e*PN	**Pn**	**00 52 21.0**	**+2.9**
APE	**Apeiranthos**	**2.88**	**344**	P	**Pn**	**00 52 19.2**	**+1.1**
KSL	**Kastellorizon**	**3.12**	**53**	*e*PN	**Pn**	**00 52 21.5**	**+0.2**
AKAS	**Kas**	**3.18**	**52**	*i* P	**Pn**	**00 52 22.5**	**+0.3**
AKAS				*i* S	**Sn**	**00 53 00.0**	**+0.3**
HMAT	**Matruh**	**3.23**	**171**	P	**Pn**	**00 52 22.9**	**0.0**
HMAT				S	**Sn**	**00 52 55.3**	**-5.7**
KYTH	**Kithira**	**3.47**	**306**	*e*PN	**Pn**	**00 52 30.0**	**+3.8**
VLI	**Veliai**	**3.79**	**311**	P	**Pn**	**00 52 32.2**	**+1.6**
GOLH	**Golhisar**	**3.84**	**39**	*i* P	**Pn**	**00 52 32.3**	**+1.0**
GOLH				*i* S	**Sn**	**00 53 12.0**	**-4.0**
DNZL	**Cakiroluk**	**3.96**	**30**	*i* P	**Pn**	**00 52 39.7**	**+6.8**
KDAG	**Bornova**	**4.14**	**8**	*i* P	**Pn**	**00 52 35.1**	**-0.4**
ITM	**Ithomi**	**4.72**	**309**	P	**Pn**	**00 52 47.0**	**+3.7**
TKTP	**Tekketepe**	**4.84**	**38**	*i* P	**Pn**	**00 52 46.7**	**+1.7**
SWA1		**5.07**	**188**	⇑P	**Pn**	**00 52 48.1**	**0.0**
SWA1				S	**Sn**	**00 53 40.4**	**-5.8**
LKR	**Lokris**	**5.19**	**328**	*e*PN	**Pn**	**00 52 53.7**	**+3.9**
NEO	**Neokhori**	**5.66**	**333**	P	**Pn**	**00 53 00.7**	**+4.4**
ERMK	**Ermenek**	**5.72**	**64**	*i* P	**Pn**	**00 52 58.5**	**+1.4**
ERMK				*i* S	**Sn**	**00 53 59.9**	**-2.5**
AGG	**Agios Georgios**	**5.80**	**326**	*e*Pn	**Pn**	**00 52 59.8**	**+1.6**
FYM	**Al Fayyum**	**5.98**	**139**	⇓P	**Pn**	**00 53 00.8**	**+0.1**
AYT	**Al 'Ayyat**	**6.04**	**138**	P	**Pn**	**00 53 01.3**	**-0.1**
PAIG	**Paliouri**	**6.06**	**339**	*e*Pn	**Pn**	**00 53 03.6**	**+1.7**
HHAG	**Hagoal**	**6.41**	**131**	P	**Pn**	**00 53 06.8**	**+0.1**
HHAG				S	**Sn**	**00 54 12.6**	**-6.9**
GLL	**Jalalah**	**6.45**	**135**	P	**Pn**	**00 53 07.5**	**+0.4**
LKD	**Levkas**	**6.46**	**315**	*e*Pn	**Pn**	**00 53 08.2**	**+0.9**
LIT	**Litokhoron**	**6.63**	**332**	*e*Pn	**Pn**	**00 53 11.3**	**+1.7**
AMAG	**Maghara**	**6.72**	**121**	P	**Pn**	**00 53 10.3**	**-0.6**
SUZ		**6.96**	**128**	P	**Pn**	**00 53 14.5**	**+0.4**
IGT	**Igoumenitsa**	**7.20**	**318**	*e*Pn	**Pn**	**00 53 18.6**	**+1.1**
IGT	**Igoumenitsa**	**7.20**	**318**	*e*Pn	**Pn**	**00 53 18.5**	**+1.0**
HFRF	**Wahat Farafira**	**7.29**	**167**	P	**Pn**	**00 53 19.4**	**+0.7**
KNT	**Kendrikon**	**7.43**	**338**	*e*Pn	**Pn**	**00 53 23.8**	**+3.1**
MMAI	**Mount Meron Ar**	**7.51**	**97**	Pn	**Pn**	**00 53 21.6**	**-0.2**
	5.8nm,0.3s,baz=295,slow=12,SNR=28						
MMAI				Sn	**Sn**	**00 54 45.8**	**-0.8**
	9.1nm,0.3s,baz=264,slow=22,SNR=8.2						
BHL	**Bhannes**	**7.58**	**90**	*e*Pn	**Pn**	**00 53 22.2**	**-0.5**
BHL				Sn	**Sn**	**00 54 41.4**	**-6.9**
RCY	**Rachaya**	**7.77**	**93**	Sn	**Sn**	**00 54 49.8**	**-3.2**
HWQ	**Hawqa**	**7.80**	**87**	*e*Pn	**Pn**	**00 53 25.8**	**+0.1**
HWQ				Sn	**Sn**	**00 54 48.6**	**-5.1**
BRTR	**Keskin Array B**	**7.86**	**44**	Pn	**Pn**	**00 53 26.3**	**-0.1**
	0.2nm,0.3s,baz=225,slow=15,SNR=12						
COBT	**Iskenderun**	**8.25**	**72**	*i* P	**Pn**	**00 53 32.8**	**+0.9**
COBT				*i* S	**Sn**	**00 54 59.4**	**-5.4**
EIL	**Elat**	**8.52**	**120**	*e*Pn	**Pn**	**00 53 36.6**	**+1.1**
	114nm,0.4s						
EIL				*e*Sn	**Sn**	**00 55 07.9**	**-3.3**
EIL	**Elat**	**8.52**	**120**	*e*Pn	**Pn**	**00 53 36.6**	**+1.1**
	114nm,0.4s						
EIL				*e*Sn	**Sn**	**00 55 07.9**	**-3.3**
HDHB	**Dhahab**	**8.87**	**127**	P	**Pn**	**00 53 40.8**	**+0.5**
ASF	**Jabal al Asfar**	**8.95**	**101**	Pn	**Pn**	**00 53 41.4**	**0.0**
	0.5nm,0.3s,baz=153,slow=5.6,SNR=9.2						
ASF				Sn	**Sn**	**00 55 19.4**	**-2.4**
	0.5nm,0.3s,baz=209,slow=22,SNR=4.3						
VAE	**Valguarnera**	**10.32**	**291**	Pn	**Pn**	**00 54 03.3**	**+3.0**
	0.8nm,0.3s,baz=73,slow=20,SNR=3.6						
MLR	**Muntele Rosu**	**11.19**	**358**	Pn	**Pn**	**00 54 17.2**	**+5.0**
	0.0nm,0.3s,baz=275,slow=19,SNR=2.5						
KEST	**Kesra**	**14.15**	**281**	Pn	**Pn**	**00 54 58.5**	**+5.9**
	0.0nm,0.3s,baz=227,slow=16,SNR=2.5						
KIV	**Kislovodsk**	**15.80**	**48**	P	**Pn**	**00 55 14.6**	**0.0**
KIV				pmax	pmax		
	comp=Z,33nm,1.6s						
KIV	**Kislovodsk**	**15.80**	**48**	Pn	**Pn**	**00 55 14.6**	**0.0**
	comp=Z,33nm,1.6s						
PGF	**Pioggiola**	**15.99**	**306**	*e*P	**Pn**	**00 55 17.1**	**0.0**
	comp=Z,141nm,1.4s						
PGF	**Pioggiola**	**15.99**	**306**	*e*P	**Pn**	**00 55 17.1**	**0.0**
PGF				pmax	pmax		
	comp=Z,71nm,1.4s						
PGF	**Pioggiola**	**15.99**	**306**	*e*P	**Pn**	**00 55 17.1**	**0.0**
	comp=Z,71nm,1.4s						
AKASG	**Malin Array Be**	**16.51**	**6**	Pn	**Pn**	**00 55 22.1**	**-1.7**
	comp=Z,9.0nm,0.3s,baz=192,slow=12,SNR=4.3						
VRAC	**Vranov**	**16.70**	**337**	Pn	**Pn**	**00 55 26.9**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=141,slow=12,SNR=4.2						
GERES	**GERESS Array B**	**17.38**	**331**	P	**Pn**	**00 55 35.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=145,slow=11,SNR=14						
SBF	**Sospel**	**17.60**	**309**	*e*P	**Pn**	**00 55 37.2**	**-0.2**
	comp=Z,108nm,1.2s						
SBF	**Sospel**	**17.60**	**309**	*e*P	**Pn**	**00 55 37.2**	**-0.2**
SBF				pmax	pmax		
	comp=Z,54nm,1.2s						
SBF	**Sospel**	**17.60**	**309**	*e*P	**Pn**	**00 55 37.2**	**-0.2**
	comp=Z,54nm,1.2s						
KHC	**Kasperske Hory**	**17.66**	**331**	*e*P	**Pn**	**00 55 37.5**	**-0.6**
KHC				*e*pP	pP	00 55 52.5	+8.9
MBDF	**Montbardon**	**18.41**	**310**	*e*P	**Pn**	**00 55 47.7**	**+0.3**
	comp=Z,14nm,0.8s						
MBDF	**Montbardon**	**18.41**	**310**	*e*P	**Pn**	**00 55 47.7**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MBDF	**Montbardon**	**18.41**	**310**	*e*P	**Pn**	**00 55 47.7**	**+0.3**
	comp=Z,6.8nm,0.8s						
LPG	**La Plagne**	**18.80**	**312**	*e*P	**Pn**	**00 55 51.5**	**-0.6**
LPL	**La Plagne**	**18.82**	**312**	*e*P	**Pn**	**00 55 52.0**	**-0.3**
ORIF	**Oris-en-Rattie**	**19.07**	**310**	*e*P	**Pn**	**00 55 53.8**	**-1.5**
BFO	**Black Forest**	**19.51**	**321**	*e*P	**Pn**	**00 55 57.9**	**-2.7**
BFO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BFO	**Black Forest**	**19.51**	**321**	*e*P	**Pn**	**00 55 57.9**	**-2.7**
	comp=Z,4.6nm,0.8s						
BFO	**Black Forest**	**19.51**	**321**	*e*P	**Pn**	**00 55 57.9**	**-2.7**
	comp=Z,4.6nm,0.8s						
CLL	**Collm**	**19.63**	**334**	*e*P	**Pn**	**00 56 01.0**	**-1.1**
CABF	**La Chapelle**	**19.76**	**315**	*e*P	**Pn**	**00 56 02.7**	**-0.9**
	comp=Z,17nm,0.9s						
CABF	**La Chapelle**	**19.76**	**315**	*e*P	**Pn**	**00 56 02.7**	**-0.9**
CABF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CABF	**La Chapelle**	**19.76**	**315**	*e*P	**Pn**	**00 56 02.7**	**-0.9**
	comp=Z,8.7nm,0.9s						
HINF	**Hinteralfeld**	**19.98**	**318**	*e*P	**Pn**	**00 56 03.8**	**-2.5**
	comp=Z,10nm,0.9s						
HINF	**Hinteralfeld**	**19.98**	**318**	*e*P	**Pn**	**00 56 03.8**	**-2.5**
HINF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HINF	**Hinteralfeld**	**19.98**	**318**	*e*P	**Pn**	**00 56 03.8**	**-2.5**
	comp=Z,5.1nm,0.9s						
CDF	**Champ du Feu**	**20.11**	**320**	*e*P	**P**	**00 56 06.4**	**+0.5**
	comp=Z,23nm,1.0s						
CDF	**Champ du Feu**	**20.11**	**320**	*e*P	**P**	**00 56 06.4**	**+0.5**
CDF				pmax	pmax		
	comp=Z,12nm,1.0s						
CDF	**Champ du Feu**	**20.11**	**320**	*e*P	**P**	**00 56 06.4**	**+0.5**
	comp=Z,12nm,1.0s						
HAU	**Haudompre**	**20.37**	**318**	*e*P	**P**	**00 56 07.9**	**-0.8**
SMF	**Signal de Mont**	**21.12**	**313**	*e*P	**P**	**00 56 16.6**	**-0.3**
MEZF	**Maizieres J'vi**	**21.37**	**318**	*e*P	**P**	**00 56 18.9**	**-0.6**
	comp=Z,9.5nm,0.5s,mb4.1						
MEZF	**Maizieres J'vi**	**21.37**	**318**	*e*P	**P**	**00 56 18.9**	**-0.6**
	comp=Z,4.8nm,0.5s,mb4.1

SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,70nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.90**	**244**	*e*PN	**Pn**	**01 31 51.5**	**-0.3**
NEM2	**Nemuro 2**	**6.34**	**240**	P	**Pn**	**01 31 56.3**	**-1.5**
NEM2				*e*S	**Sn**	**01 33 02.5**	**-7.8**
JRA	**Rausu**	**6.41**	**246**	P	**Pn**	**01 32 00.1**	**+1.3**
JNK	**Nakash**	**6.84**	**245**	P	**Pn**	**01 32 05.3**	**+0.6**
JTKR	**Abashiri--Toko**	**7.17**	**250**	P	**Pn**	**01 32 10.7**	**+1.5**
JAK	**Akkeshi**	**7.18**	**241**	P	**Pn**	**01 32 07.6**	**-1.7**
JAK				*e*S	**Sn**	**01 33 23.0**	**-7.9**
YSS	**Yuzh-Sakhalins**	**7.19**	**275**	*e*PN	**Pn**	**01 32 14.6**	**+5.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.19**	**275**	*e*Pn	**Pn**	**01 32 14.6**	**+5.1**
	comp=Z,10nm,0.4s						
JAR	**Ashorobuto**	**7.58**	**246**	P	**Pn**	**01 32 15.6**	**+0.7**
JOB	**Onbets**	**7.75**	**243**	P	**Pn**	**01 32 17.2**	**0.0**
JOB				*e*S	**Sn**	**01 33 38.9**	**-6.1**
ASAJ	**Asahikawa**	**7.96**	**254**	P	**Pn**	**01 32 23.2**	**+3.1**
	comp=Z,1.6nm,0.3s,baz=98,slow=23,SNR=8.7						
ASAJ	**Asahikawa**	**7.96**	**254**	P	**Pn**	**01 32 22.9**	**+2.8**
ASAJ	**Asahikawa**	**7.96**	**254**	PN	**Pn**	**01 32 23.2**	**+3.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.96**	**252**	P	**Pn**	**01 32 22.2**	**+2.1**
JCH	**Churui**	**8.20**	**243**	P	**Pn**	**01 32 22.2**	**-1.2**
JCH				*e*S	**Sn**	**01 33 47.4**	**-8.7**
JBT2	**Biratori 2**	**8.73**	**246**	P	**Pn**	**01 32 30.9**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.76**	**243**	P	**Pn**	**01 32 29.5**	**-1.6**
JNB	**Noboribetsu**	**9.73**	**248**	P	**Pn**	**01 32 44.0**	**-0.3**
JYM2	**Yakumo 2**	**10.34**	**248**	P	**Pn**	**01 32 51.6**	**-1.0**
JTM	**Tenmabayashi**	**10.67**	**240**	P	**Pn**	**01 32 54.0**	**-3.2**
MJAR	**Matsushiro Arr**	**15.20**	**233**	P	**Pn**	**01 34 04.0**	**+5.0**
	comp=Z,0.4nm,0.3s,baz=33,slow=8.5,SNR=9.3						
MAJO	**Matsushiro**	**15.20**	**233**	*e*P	**Pn**	**01 34 04.1**	**+5.1**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**15.20**	**233**	*e*Pn	**Pn**	**01 34 04.1**	**+5.1**
	comp=Z,4.7nm,0.5s						
KSRS	**Korea Array**	**20.91**	**253**	P	**P**	**01 35 10.5**	**+3.6**
	comp=Z,0.9nm,0.6s,baz=66,slow=9.3,SNR=3.2						
BILL	**Bilibino**	**22.29**	**13**	*e*P	**P**	**01 35 21.7**	**0.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.2						
FALS	**False Pass**	**28.12**	**57**	P	**P**	**01 36 17.1**	**+0.7**
INK	**Inuvik**	**41.53**	**32**	P	**P**	**01 38 11.9**	**+0.1**
	comp=Z,1.2nm,0.5s,mb3.8,baz=301,slow=4.9,SNR=19						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**01 38 55.6**	**+0.1**
	comp=Z,0.4nm,0.9s,mb3.4,baz=68,slow=8.0,SNR=3.1						
YKA	**Yellowknife Ar**	**50.80**	**37**	P	**P**	**01 39 24.5**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=297,slow=7.3,SNR=15						
NVAR	**Mina Array Bea**	**62.31**	**62**	P	**P**	**01 40 47.0**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.7,baz=278,slow=7.0,SNR=3.7						
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**01 40 55.2**	**-2.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=34,slow=7.8,SNR=6.2						
PDAR	**Pinedale Array**	**64.62**	**54**	P	**P**	**01 41 02.5**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.8,baz=314,slow=1.8,SNR=8.4						
NOA	**NORSAR Array B**	**68.18**	**341**	P	**P**	**01 41 23.1**	**-1.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=26,slow=6.4,SNR=3.5						
TXAR	**Lajitas Array**	**77.37**	**61**	P	**P**	**01 42 19.3**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=300,slow=4.1,SNR=4.3						

BJI ***24*** *01:32:19.1,5.88N×12559E,h138km,mB5.1,mb5.1*
ISCJB ***24*** *01:32:20.6±0.2,6.16N±003×125.37E±004,h123km, mb5.0/81,Error ellipse: s-maj=5.1km s-min=3.8km az=136.8*
MAN ***24*** *01:32:21.4,6.12N×12529E,h99km,mb4.9,ML5.5,MS4.6*
IDC ***24*** *01:32:22.4±0.8,6.12N×125.17E,h128km±6km,mb4.2/27, mb1 4.3/27,mb1mx4.3/31,mbtmp4.2/27,MS4.0/2, Ms1 4.0/2,ms1mx3.0/31,Error ellipse: s-maj=14.1km s-min=6.8km az=72.0*
NEIC ***24*** *01:32:23.9±0.7,6.17N×12530E,h139km±6km,mb4.9/30, Error ellipse: s-maj=7.1km s-min=4.8km az=63.0*
NEIC Felt [II PIVS] at General Santos.
MOS ***24*** *01:32:24.4±1.2,6.21N×12525E,h159km,mb4.9/23,Error ellipse: s-maj=11.5km s-min=6.1km az=113.0*
ISC 24 01:32:22.7±0.2,6.19N±003×12542E±004,h125km, h125km±3.3km:pP-P,n201,σ1.06/211,mb5.0/81,17C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.88**	**10**	*e*P	**Pn**	**01 32 44.0**	**-0.1**
DAV	**Davao City (W)**	**0.88**	**10**	*e*P	**Pn**	**01 32 44.1**	**0.0**
DAV				*e*S	**Sn**	**01 33 01.8**	**+1.5**
MATI	**Mati**	**1.12**	**48**	*e*P	**Pn**	**01 32 45.8**	**-0.5**
MATI				*e*S	**Sn**	**01 33 02.7**	**-1.5**
BUKP	**Musuan**	**1.71**	**348**	*e*P	**Pn**	**01 32 52.2**	**-0.7**
BUTP	**Butuan**	**2.76**	**4**	*e*P	**Pn**	**01 33 06.9**	**+0.8**
TBP	**Tagbilaran**	**3.80**	**336**	*e*P	**Pn**	**01 33 18.8**	**-0.9**
SNPH	**Sibulan**	**3.80**	**325**	*e*P	**Pn**	**01 33 19.5**	**-0.2**
MSLP	**Maasin**	**3.95**	**352**	*e*P	**Pn**	**01 33 21.5**	**-0.2**
LLP	**Lapu-Lapu**	**4.34**	**341**	⇑*e*P	**Pn**	**01 33 26.8**	**-0.1**
GUIM	**Jordan**	**5.22**	**328**	*e*P	**Pn**	**01 33 38.2**	**-0.4**
RCP	**Roxas**	**5.95**	**334**	⇑*e*P	**Pn**	**01 33 49.0**	**+0.5**
KALP	**Kalibo**	**6.24**	**331**	*e*P	**Pn**	**01 33 59.3**	**+6.9**
OTRP	**Odiongan**	**6.99**	**332**	*e*P	**Pn**	**01 34 03.0**	**+0.6**
TSM	**Tawau**	**7.75**	**256**	P	**Pn**	**01 34 12.7**	**-0.1**
TGY	**Tagaytay City**	**9.01**	**331**	P	**Pn**	**01 34 31.1**	**+1.3**
	37nm,0.3s,baz=268,slow=5.3,SNR=6.5						
KKM	**Kota Kinabalu**	**9.15**	**270**	P	**Pn**	**01 34 32.8**	**+1.1**
KKM	**Kota Kinabalu**	**9.15**	**270**	*e*P	**Pn**	**01 34 32.0**	**+0.2**
KSM	**Kuching**	**15.79**	**253**	*e*P	**Pn**	**01 35 58.7**	**+0.8**
NACB	**Ninganchiao**	**18.25**	**349**	*e*P	**P**	**01 36 27.9**	**+1.5**
YHNB	**Yeheng**	**18.78**	**349**	*e*P	**P**	**01 36 33.9**	**+1.8**
QZH	**Quanzhou**	**19.76**	**341**	⇓*i*P	**P**	**01 36 44.6**	**+1.8**
QZH				AMB	AMB		
	comp=Z,200nm,1.0s						
QIZ	**Qiongzhong**	**19.82**	**311**	P	**P**	**01 36 43.9**	**+0.5**
QIZ				*e*S	**S**	**01 40 13.3**	**-6.5**
QIZ				AMB	AMB		
	comp=Z,36nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,302nm,7.0s						
QIZ	**Qiongzhong**	**19.82**	**311**	*e*P	**P**	**01 36 44.0**	**+0.6**
	comp=Z,24nm,0.8s						
KAKA	**Kakadu**	**20.04**	**160**	⇑*i*P	**P**	**01 36 45.9**	**+0.2**
	comp=Z,48nm,0.6s						
KAKA				*e*S	**S**	**01 40 24.5**	**+0.4**
KAKA				*e*SCP	ScP	01 44 20.3	-0.7
GZH	**Guangzhou**	**20.43**	**327**	P	**P**	**01 36 51.8**	**+1.8**
GZH				AMB	AMB		
	comp=Z,181nm,1.0s						
GUMO	**Guam**	**20.51**	**68**	P	**P**	**01 36 55.1**	**+4.3**
	comp=Z,33nm,0.5s,baz=160,slow=3.7,SNR=4.2						
GUMO	**Guam**	**20.51**	**68**	*e*P	**P**	**01 36 54.3**	**+3.5**
GUMO				pmax	pmax		
	comp=Z,73nm,0.8s						
GUMO	**Guam**	**20.51**	**68**	*e*P	**P**	**01 36 54.3**	**+3.4**
	comp=Z,73nm,0.8s						
JOW	**Kunigami**	**20.70**	**7**	P	**P**	**01 36 55.0**	**+2.1**
	comp=Z,42nm,0.6s,baz=199,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**24.14**	**179**	⇑*i*P	**P**	**01 37 26.1**	**-0.9**
	comp=Z,11nm,0.5s,mb4.4						
FITZ				*e*		01 37 51.2	
FITZ	**Fitzroy Crossi**	**24.14**	**179**	P	**P**	**01 37 26.6**	**-0.4**
	comp=Z,3.0nm,0.3s,mb4.1,baz=26,slow=9.4,SNR=34						
FITZ				pP		01 37 51.2	
	comp=Z,14nm,0.7s,baz=1.5,slow=6.0,SNR=6.5						
KKTK	**Khon Kaen**	**24.32**	**296**	P	**P**	**01 37 29.5**	**+0.9**
	comp=Z,432nm,0.6s						
IPM	**Ipoh**	**24.35**	**267**	P	**P**	**01 37 31.1**	**+2.3**
KULM	**Kulim**	**24.66**	**269**	*e*P	**P**	**01 37 31.1**	**-0.6**
CBIJ	**Chichi jima**	**26.20**	**36**	P	**P**	**01 37 45.8**	**+0.2**
	comp=Z,107nm,0.5s,mb5.5,baz=272,slow=18,SNR=15						
NST	**Nakhon Sawan**	**26.52**	**293**	⇓P	**P**	**01 37 49.0**	**+0.5**
	comp=Z,143nm,0.8s,mb5.5						
PSI	**Prapat**	**26.62**	**264**	P	**P**	**01 37 49.0**	**-0.4**
	comp=Z,4.6nm,0.7s,mb4.1,baz=85,slow=3.4,SNR=4.7						
PSI	**Prapat**	**26.62**	**264**	P	**P**	**01 37 49.0**	**-0.4**
PMG	**Port Moresby**	**26.64**	**125**	P	**P**	**01 37 51.0**	**+1.5**
	comp=Z,9.2nm,0.5s,mb4.6,baz=324,slow=3.2,SNR=7.0						
GYA	**Guiyang**	**26.94**	**320**	⇑*i*P	**P**	**01 37 53.8**	**+1.5**
GYA				AP	pP	01 38 21.8	+2.7
GYA				XP	sP	01 38 37.0	+3.3
GYA				PP	PP	01 38 44.9	-11
GYA				PPP		01 38 59.8	
GYA				PCP	PcP	01 41 13.5	+2.5
GYA				S	**S**	**01 42 20.0**	**-0.1**
GYA				XS	sS	01 43 08.3	+0.9
GYA				SS		01 43 43.8	
GYA				SCP	ScP	01 44 40.4	+0.9
GYA				SCS	ScS	01 48 30.0	-0.6
GYA				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.9						
GYA				AMB	AMB		
	comp=Z,400nm,3.0s						
GYA				LR	LR		
	comp=N,640nm,15.8s						
GYA				LR	LR		
	comp=E,540nm,16.0s						
GYA				LR	LR		
	comp=Z,480nm,16.0s						
NANT	**Nan**	**27.14**	**300**	P	**P**	**01 37 53.0**	**-1.1**
	comp=Z,102nm,0.9s,mb5.4						
WRA	**Warramunga Arr**	**27.41**	**162**	P	**P**	**01 37 56.5**	**0.0**
	comp=Z,2.0nm,0.3s,mb4.1,baz=333,slow=11,SNR=24						
WRA				pP	pP	01 38 22.2	-1.2
	comp=Z,35nm,1.1s,baz=340,slow=10,SNR=14						
WRA				S	**S**	**01 42 24.9**	**-2.6**
	comp=Z,3.5nm,1.0s,baz=324,slow=15,SNR=5.8						
WRA				ScP	ScP	01 44 40.4	-0.5
	comp=Z,2.3nm,0.8s,baz=336,slow=3.7,SNR=4.5						
WRA	**Warramunga Arr**	**27.41**	**162**	P	**P**	**01 37 56.5**	**0.0**
WRA				S	**S**	**01 42 24.9**	**-2.6**
WB2	**Warramunga Arr**	**27.42**	**162**	*e*P	**P**	**01 37 56.1**	**-0.4**
WB2				*e*	pP	01 38 20.7	-2.7
WB2				*e*S	**S**	**01 42 24.3**	**-3.3**
CHG	**Chiang Mai**	**28.68**	**298**	⇑P	**P**	**01 38 07.7**	**0.0**
	comp=Z,15nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**28.68**	**298**	*e*P	**P**	**01 38 07.5**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**28.68**	**298**	*e*P	**P**	**01 38 07.5**	**-0.2**
	comp=Z,13nm,0.8s,mb4.6						
KMI	**Kunming**	**28.74**	**313**	P	**P**	**01 38 10.0**	**+1.8**
KMI				PP	PP	01 39 06.8	-8.6
KMI				S	**S**	**01 42 51.6**	**+3.3**
KMI				SS	SS	01 44 24.4	-31
KMI				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.6						
KMI				AMB	AMB		
	comp=Z,85nm,5.8s						
KMI				LR	LR		
	comp=N,273nm,18.1s						
KMI				LR	LR		
	comp=E,220nm,20.1s						
KMI				LR	LR		
	comp=Z,173nm,24.1s						
KMI	**Kunming**	**28.74**	**313**	P	**P**	**01 38 10.0**	**+1.8**
KMI				*SP	sP	01 38 40.8	-9.0
KMI						01 39 06.8	
KMI				S	**S**	**01 42 51.6**	**+3.3**
KMI				SS	SS	01 44 24.4	-31
KMI				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.6						
KMI				MLR	MLR		
	comp=Z,170nm,24.1s						
KMI	**Kunming**	**28.74**	**313**	P	**P**	**01 38 10.0**	**+1.8**
	comp=Z,23nm,1.5s,mb4.6						
KMI				pP	pP	01 38 30.2	-5.1
KMI				sP	sP	01 38 40.8	-9.0
KMI				PP	PP	01 39 06.8	-8.6
KMI				S	**S**	**01 42 51.6**	**+3.3**
KMI				sS	sS	01 43 28.3	-7.4
KMI				SS	SS	01 44 24.4	-31
KMI				LR	LR		
	comp=Z,170nm,24.1s						
ASAR	**Alice Springs**	**30.81**	**165**	P	**P**	**01 38 26.5**	**-0.1**
	comp=Z,3.3nm,0.4s,mb4.4,baz=342,slow=6.9,SNR=114						
ASAR				S	**S**	**01 43 19.9**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=355,slow=24,SNR=4.4						
ASAR				ScP	ScP	01 44 50.8	-1.0
	comp=Z,3.1nm,0.6s,baz=344,slow=3.2,SNR=12						
ASAR	**Alice Springs**	**30.81**	**165**	P	**P**	**01 38 26.5**	**-0.1**
ASAR				S	**S**	**01 43 19.9**	**-0.9**
KS15	**Wonju Array Si**	**31.18**	**4**	*e*P	**P**	**01 38 30.4**	**+0.6**
KSRS	**Korea Array**	**31.20**	**4**	P	**P**	**01 38 30.6**	**+0.7**
	comp=Z,8.9nm,0.7s,mb4.6,baz=184,slow=10,SNR=37						
KSRS				PcP	PcP	01 41 21.1	-0.6
	comp=Z,2.3nm,0.5s,baz=190,slow=2.2,SNR=7.9						
XAN	**Xi'an**	**31.64**	**333**	P	**P**	**01 38 33.5**	**-0.3**
XAN				AMB	AMB		
	comp=Z,78nm,0.8s,mb5.5						
CD2	**Chengdu**	**31.90**	**323**	⇑*i*P	**P**	**01 38 36.8**	**+0.7**
CD2				AP	pP	01 39 04.0	+0.7
CD2				XP	sP	01 39 19.0	+1.3
CD2				PP	PP	01 39 47.0	-3.5
CD2				S	**S**	**01 43 36.1**	**-1.7**
CD2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.6						
CD2				AMB	AMB		
	comp=Z,140nm,4.8s						
CD2				LR	LR		
	comp=N,370nm,6.4s						
CD2				LR	LR		
	comp=E,400nm,7.6s						
CD2				LR	LR		
	comp=Z,330nm,6.0s						
MAJO	**Matsushiro**	**32.40**	**19**	*e*P	**P**	**01 38 32.7**	**-7.7**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**32.40**	**19**	*e*P	**P**	**01 38 32.6**	**-7.8**
	comp=Z,9.4nm,0.8s,mb4.6						
MAT	**Matsushiro**	**32.40**	**19**	P	**P**	**01 38 32.3**	**-8.1**
MAT	**Matsushiro**	**32.40**	**19**	P	**P**	**01 38 40.0**	**-0.4**
MJAR	**Matsushiro Arr**	**32.40**	**19**	P	**P**	**01 38 40.0**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.3,baz=194,slow=8.5,SNR=10.0						
MJAR				PcP	PcP	01 41 26.0	+1.0
	comp=Z,5.5nm,1.0s,baz=173,slow=3.4,SNR=5.9						
MJAR	**Matsushiro Arr**	**32.40**	**19**	P	**P**	**01 38 40.0**	**-0.4**
MJAR				PcP	PcP	01 41 26.0	+1.0
DL2	**Dalian**	**32.74**	**355**	P	**P**	**01 38 43.9**	**+0.4**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CTA	**Charters Tower**	**33.20**	**142**	*e*P	**P**	**01 38 49.3**	**+1.9**
	comp=Z,6.0nm,0.6s,mb4.6						
CTA				*e*SCP	ScP	01 45 01.3	+1.4
CTA	**Charters Tower**	**33.20**	**142**	P	**P**	**01 38 48.4**	**+1.0**
	comp=Z,4.2nm,0.5s,mb4.5,baz=324,slow=12,SNR=7.3						
CTA				ScP	ScP	01 45 01.4	+1.6
	comp=Z,8.6nm,1.0s,baz=355,slow=2.4,SNR=4.9						
CTA	**Charters Tower**	**33.20**	**142**	*e*P	**P**	**01 38 49.3**	**+1.9**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CTAO	**Charters Tower**	**33.20**	**142**	*e*P	**P**	**01 38 49.0**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**33.20**	**142**	*e*P	**P**	**01 38 49.0**	**+1.6**
	comp=Z,7.5nm,0.6s,mb4.7						
BJT	**Baijiatuau**	**34.69**	**347**	*e*P	**P**	**01 39 00.1**	**-0.2**
BJT				pmax	pmax		
	comp=Z,39nm,1.1s						
BJT	**Baijiatuau**	**34.69**	**347**	*e*P	**P**	**01 39 00.1**	**-0.3**
	comp=Z,38nm,1.1s,mb5.1						
BJI	**Beijing**	**34.71**	**347**	*e*P	**P**	**01 39 00.3**	**-0.2**
BJI				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.2						
BJI				LR	LR		
	comp=Z,130nm,26.0s						
BJI	**Beijing**	**34.71**	**347**	*e*P	**P**	**01 39 00.2**	**-0.3**
BJI				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.2						
BJI				MLR	MLR		
	comp=Z,130nm,26.0s						
BJI	**Beijing**	**34.71**	**347**	*e*P	**P**	**01 39 00.2**	**-0.3**
	comp=Z,34nm,0.8s,mb5.2						
BJI				LR	LR		
	comp=Z,130nm,26.0s						
SNY	**Shenyang**	**35.52**	**358**	⇑P	**P**	**01 39 07.6**	**+0.2**
SNY				AP	pP	01 39 35.4	+0.4
SNY				XP	sP	01 39 51.8	+2.5
SNY				S	**S**	**01 44 29.6**	**-4.0**
SNY				XS	sS	01 45 25.5	+3.8
SNY				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
SNY				AMB	AMB		
	comp=Z,295nm,5.1s						
SNY				LR	LR		
	comp=E,428nm,20.4s						
SNY				LR	LR		
	comp=Z,213nm,4.8s						
LZH	**Lanzhou**	**35.73**	**329**	*e*P	**P**	**01 39 10.0**	**+0.8**
LZH				AP	pP	01 39 35.0	-1.8
LZH				XP	sP	01 39 52.5	+1.3
LZH				PP	PP	01 40 34.3	+1.5
LZH				*e*S	**S**	**01 44 34.3**	**-2.6**
LZH				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,280nm,4.2s						
LZH				LR	LR		
	comp=N,2μm,15.6s						
LZH				LR	LR		
	comp=Z,2μm,16.4s						
LZH	**Lanzhou**	**35.73**	**329**	*e*P	**P**	**01 39 10.0**	**+0.8**
LZH						01 40 34.2	
LZH				*e*S	**S**	**01 44 34.2**	**-2.7**
LZH				*e*SS	SS	01 47 01.2	-13
LZH				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5						
LZH				MLR	MLR		
	comp=Z,2μm,16.4s						
LZH	**Lanzhou**	**35.73**	**329**	*e*P	**P**	**01 39 10.0**	**+0.8**
	comp=Z,70nm,1.2s,mb5.5						
LZH				pP	pP	01 39 35.0	-1.8
LZH				sP	sP	01 39 52.5	+1.3
LZH				PP	PP	01 40 34.2	+1.4
LZH				*e*S	**S**	**01 44 34.2**	**-2.7**
LZH				sS	sS	01 45 23.2	-1.7
LZH				*e*SS	SS	01 47 01.2	-13
LZH				LR	LR		
	comp=Z,2μm,16.4s						
HHC	**Hu-ho-hao-te**	**36.67**	**342**	*e*P	**P**	**01 39 17.6**	**+0.4**
HHC				AP	pP	01 39 46.5	+1.6
HHC				XP	sP	01 40 00.3	+1.1
HHC				PP	PP	01 40 46.5	+3.4
HHC				S	**S**	**01 44 51.5**	**+0.4**
HHC				PCS	PcS	01 45 24.6	-0.8
HHC				XS	sS	01 45 41.3	+2.0
HHC				SS	SS	01 47 27.1	-9.1
HHC				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
HHC				LR	LR		
	comp=N,184nm,20.2s						
HHC				LR	LR		
	comp=E,434nm,21.4s						
FORT	**Forrest**	**36.85**	**176**	*e*P	**P**	**01 39 18.8**	**+0.1**
	comp=E,16nm,0.6s,mb5.1						
HNR	**Honiara**	**37.75**	**114**	LR	LR	01 53 02.9	
	comp=E,83nm,19.9s,baz=358,slow=33						
MDJ	**Mudanjiang**	**38.44**	**5**	P	**P**	**01 39 32.8**	**+0.6**
MDJ				S	**S**	**01 45 16.3**	**-1.7**
MDJ				SCS	ScS	01 49 23.0	-6.6
MDJ				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,67nm,3.7s						
MDJ				LR	LR		
	comp=N,43nm,29.7s						
MDJ				LR	LR		
	comp=E,120nm,27.1s						
MDJ				LR	LR		
	comp=Z,51nm,23.2s						
MDJ	**Mudanjiang**	**38.44**	**5**	*e*P	**P**	**01 39 33.0**	**+0.8**
	comp=Z,32nm,0.9s,mb5.2						
NWAO	**Narrogin (SRO)**	**39.67**	**191**	P	**P**	**01 39 41.8**	**-0.6**
	comp=Z,2.8nm,0.3s,mb4.6,baz=23,slow=9.3,SNR=11						
LSA	**Lhasa**	**39.85**	**310**	P	**P**	**01 39 46.0**	**+2.1**
LSA	**Lhasa**	**39.85**	**310**	*e*P	**P**	**01 39 45.1**	**+1.2**
LSA				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.2						
LSA	**Lhasa**	**39.85**	**310**	*e*P	**P**	**01 39 45.1**	**+1.3**
	comp=Z,49nm,1.3s,mb5.2						
GTA	**Gaotai**	**40.33**	**329**	⇑P	**P**	**01 39 48.3**	**+0.5**
GTA				AP	pP	01 40 17.3	+1.5
GTA				XP	sP	01 40 31.5	+1.5
GTA				PP	PP	01 41 26.4	+3.4
GTA				PCP	PcP	01 41 49.3	+0.5
GTA				SCP	ScP	01 45 25.3	-1.1
GTA				S	**S**	**01 45 46.4**	**+0.3**
GTA				SS	SS	01 48 45.9	-3.8
GTA				SCS	ScS	01 49 38.5	-2.1
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,159nm,6.5s						
GTA				LR	LR		
	comp=N,165nm,15.2s						
GTA				LR	LR		
	comp=E,162nm,14.1s						
GTA				LR	LR		
	comp=Z,168nm,16.7s						
STKA	**Stephens Creek**	**40.88**	**159**	*e*P	**P**	**01 39 53.3**	**+1.0**
	comp=Z,7.4nm,0.5s,mb4.8						
STKA				*e*SCP	ScP	01 45 27.7	-0.9
STKA	**Stephens Creek**	**40.88**	**159**	P	**P**	**01 39 52.8**	**+0.4**
	comp=Z,14nm,0.8s,mb4.8,baz=330,slow=7.4,SNR=21						
STKA				ScP	ScP	01 45 27.6	-0.9
	comp=Z,4.2nm,0.7s,baz=322,slow=4.0,SNR=6.9						
JIRN	**Jiri**	**42.89**	**304**	*e*P	**P**	**01 40 09.4**	**+0.7**
	comp=Z,67nm,0.8s,mb5.4						
HABR	**Khabarovsk**	**42.92**	**9**	*e*P	**P**	**01 40 08.5**	**-0.4**
HABR				*e*S	**S**	**01 46 22.6**	**-1.8**
HIA	**Hailar**	**43.19**	**355**	*e*P	**P**	**01 40 10.5**	**-0.6**
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
HIA	**Hailar**	**43.19**	**355**	*e*P	**P**	**01 40 10.5**	**-0.5**
	comp=Z,14nm,0.9s,mb4.7						
KLR	**Kul'dur**	**43.22**	**6**	*e*P	**P**	**01 40 08.0**	**-3.3**
KLR				*e*		01 41 53.8	
KLR				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.9

comp=Z,100nm,0.7s,mb5.9
WMQ Urumqi 49.97 325 P **P 01 41 04.5 +0.6**
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,242nm,7.0s
WMQ LR LR
comp=N,216nm,21.0s
WMQ LR LR
comp=E,155nm,18.0s
WMQ LR LR
comp=Z,101nm,21.0s
MNGI Mangalore 50.27 282 *ex* x 01 39 51.4
MNGI AMb AMB 01 39 59.2
comp=Z,39nm,0.4s,mb5.7
CLNS Chul'man 50.51 360 *eP* **P 01 41 06.8 -1.2**
CLNS pmax pmax
comp=Z,26nm,0.7s,mb5.4
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=E,11nm,0.8s
SONA Sohna 50.69 302 *eP* **P 01 41 08.6 -0.7**
SONA AMb AMB 01 41 09.8
comp=Z,46nm,0.9s,mb5.5
NDI New Delhi 50.70 302 *eP* **P 01 41 07.9 -1.5**
NDI AMb AMB 01 41 09.4
comp=Z,30nm,0.7s,mb5.5
AYAN Aya Nagar 50.72 302 *eP* **P 01 41 08.5 -1.0**
AYAN AMb AMB 01 41 10.7
comp=Z,30nm,1.4s,mb5.1
KLP Kalpa 50.73 306⇓*iP* **P 01 41 10.4 +0.7**
KLP AMb AMB 01 41 11.4
comp=Z,50nm,1.3s,mb5.4
KUDL Kundal 51.16 301 *ex* x 01 41 07.6
KUDL AMb AMB 01 41 08.5
comp=Z,50nm,1.1s,mb5.5
POO Poona 51.67 289 *eP* **P 01 41 17.1 +0.5**
POO AMb AMB 01 41 17.8
comp=Z,36nm,0.6s,mb5.6
KHET Khetri 51.73 301 *eP* **P 01 41 16.7 -0.3**
KHET AMb AMB 01 41 18.4
comp=Z,43nm,0.8s,mb5.5
BOD Bodaibo 52.26 352 *eP* **P 01 41 19.5 -1.5**
MK31 Makanchi Array 54.80 325⇑*eP* **P 01 41 38.8 -0.7**
MKAR Makanchi Array 54.80 325 P **P 01 41 39.0 -0.6**
comp=Z,7.2nm,0.6s,mb4.8,baz=118,slow=7.3,SNR=92
MKAR pP pP 01 42 09.2 0.0
comp=Z,3.0nm,0.7s,baz=129,slow=7.9,SNR=4.1
MKAR Makanchi Array 54.80 325 P **P 01 41 39.0 -0.6**
MKAR pP pP 01 42 09.2 0.0
YAK Yakutsk 55.81 2*c iP* **P 01 41 46.5 -0.3**
YAK pmax pmax
comp=Z,106nm,0.8s,mb5.9
YAK Yakutsk 55.81 2 *eP* **P 01 41 46.8 +0.1**
MA2 Magadan 56.66 15 *eP* **P 01 41 54.3 +1.5**
MA2 *e* 01 42 48.6
MA2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KZA Kyzart 56.93 317 P **P 01 41 56.2 +1.5**
SNR=16
TKM2 Tokmak 2 57.05 318 P **P 01 41 56.1 +0.6**
SNR=10
KBK Karagaybulak 57.37 317 P **P 01 41 58.7 +0.9**
SNR=11
UCH Uchtor 57.49 317 P **P 01 42 00.2 +1.5**
SNR=25
CHMS Chumysh 57.65 318 P **P 01 41 59.9 +0.2**
SNR=6.2
AAK Ala-Archa 57.67 317 P **P 01 42 00.7 +0.8**
SNR=7.5
AAK Ala-Archa 57.67 317⇑P **P 01 42 00.0 +0.1**
SNR=5.1
AAK Ala-Archa 57.67 317 *i* P **P 01 41 58.3 -1.6**
AAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
ZAL Zalesovo 57.82 333 P **P 01 41 59.7 -1.2**
comp=Z,2.9nm,0.6s,mb4.5,baz=344,slow=7.6,SNR=12
USP Ospenovka 57.92 318 P **P 01 42 01.3 -0.4**
SNR=32
AML Almayashu 58.01 316 P **P 01 42 03.5 +1.2**
SNR=20
EKS2 Erkin-Say 58.16 317 P **P 01 42 03.7 +0.4**
SNR=19
KURK Kurchatov 58.98 327⇑P **P 01 42 07.9 -1.0**
SNR=7.5
KURK Kurchatov 58.98 327 *eP* **P 01 42 08.0 -1.0**
KURK pmax pmax
comp=Z,22nm,0.9s,mb5.2
KURK Kurchatov 58.98 327 *eP* **P 01 42 08.0 -1.0**
comp=Z,22nm,0.9s,mb5.2
KBL Kabul 59.01 307⇑*eP* **P 01 42 08.9 -0.3**
NVS Novosibirsk 59.10 333 *eP* **P 01 42 04.8 -5.0**
SEY Seymchan 59.95 14 *eP* **P 01 42 16.5 +0.8**
BVAR Borovoye Array 64.56 327 P **P 01 42 45.2 -1.1**
comp=Z,11nm,1.0s,mb4.7,baz=127,slow=9.5,SNR=30
BRVK Borovoye 64.63 327⇑P **P 01 42 45.8 -1.1**
SNR=6.2
BRVK Borovoye 64.63 327 *eP* **P 01 42 45.3 -1.5**
URZ Urewera 65.22 137 P **P 01 42 51.5 +0.8**
comp=Z,8.4nm,0.7s,mb4.7,baz=306,slow=14,SNR=4.7
TIXI Tiksi 65.42 1 *eP* **P 01 42 50.8 -1.1**
BILL Bilibino 67.53 15 *i P* **P 01 43 05.5 +0.1**
BILL *e**PP pP 01 43 33.2 -2.8
BILL *e**SP sP 01 43 45.3 -4.3
BILL *e*SS SS 01 56 12.7 -1.9
BILL pmax pmax
comp=Z,30nm,2.4s,mb4.7
BILL Bilibino 67.53 15 *eP* **P 01 43 04.0 -1.3**
comp=Z,7.9nm,0.9s,mb4.5
AKTK Aktyubinsk 70.93 321 P **P 01 43 24.3 -2.0**
AKTO Aktyubinsk 70.93 321 P **P 01 43 24.3 -2.0**
comp=Z,9.2nm,0.7s,mb4.7,baz=99,slow=7.5,SNR=28
ARU Arti 72.17 328⇓*iP* **P 01 43 32.7 -1.0**
ARU *e* 01 43 51.4
ARU *e* 01 46 11.9
ARU *e*S S 01 52 41.5 -4.5
ARU *e*SS SS 01 57 21.2 -4.7
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TTA Tatalina 79.31 27 *eP* **P 01 44 15.7 +1.3**
TTA pmax pmax
comp=Z,26nm,1.5s,mb4.8
TTA Tatalina 79.31 27 *eP* **P 01 44 15.7 +1.3**
comp=Z,26nm,1.5s,mb4.8
IMA2 Indian Mountai 80.67 24 *eP* **P 01 44 23.0 +1.3**
SLKM Skilak Lake 81.86 30 *eP* **P 01 44 27.8 -0.2**
PMR Palmer 82.42 29 *eP* **P 01 44 31.6 +0.7**
PMR pmax pmax
comp=Z,13nm,0.6s,mb4.9
PMR Palmer 82.42 29 *eP* **P 01 44 31.6 +0.7**
comp=Z,13nm,0.6s,mb4.9
SML Sawmill 82.81 29 *eP* **P 01 44 34.6 +1.7**
COLA College 83.04 25 *i P* **P 01 44 34.5 +0.4**
COLA College 83.04 25 *eP* **P 01 44 33.9 -0.2**
comp=Z,21nm,0.8s,mb5.0
ANN Anapa 84.25 314 *eP* **P 01 44 34.3 -6.0**
ANN *e*S S 01 54 41.9 -13
ANN *e**SS sS 01 55 39.3 -11
ANN pmax pmax
comp=Z,46nm,0.7s,mb5.4
OBN Obninsk 84.31 325 *eP* **P 01 44 39.1 -1.4**
OBN *e**SP sP 01 45 22.3 -3.4
OBN *e* 01 47 54.9
OBN *e*SS SS 02 00 21.9 -6.2
OBN pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
ASF Jabal al Asfar 85.50 302 P **P 01 44 45.7 -0.7**
comp=Z,6.7nm,0.8s,mb4.6,baz=189,slow=2.0,SNR=9.0
VNDA Vanda 86.02 173 P **P 01 44 47.9 -1.1**
comp=Z,0.8nm,0.6s,baz=279,slow=5.7,SNR=5.3
VNDA Vanda 86.02 173 P **P 01 44 47.9 -1.1**
JOF Joensuu 86.41 333 *ep* **P 01 44 47.8 -3.2**
comp=Z,8.9nm,0.7s,mb4.8
PPT Papeete 87.11 108 LR LR 02 20 21.9
comp=Z,154nm,19.2s,baz=221,slow=33
BRTR Keskin Array B 87.46 310 P **P 01 44 55.0 -1.0**
comp=Z,2.9nm,0.8s,mb4.2,baz=112,slow=5.5,SNR=11
ARCES ARCESS Array B 87.70 340 P **P 01 44 56.1 -1.1**
comp=Z,7.5nm,0.9s,mb4.7,baz=61,slow=7.6,SNR=3.8
KMBO Kilima Mbogo 88.30 269 P **P 01 44 59.1 -1.0**
comp=Z,0.3nm,0.3s,baz=47,slow=14,SNR=6.0
KMBO Kilima Mbogo 88.30 269⇑*eP* **P 01 45 01.6 +1.6**
INK Inuvik 88.36 21 P **P 01 44 59.6 -0.7**
comp=Z,14nm,0.9s,mb5.0,baz=276,slow=4.4,SNR=62
KAF Kangasniemi 88.82 332 *ep* **P 01 44 59.8 -2.7**
comp=Z,6.8nm,0.7s,mb4.8
KAF Kangasniemi 88.82 332 *eP* **P 01 44 59.8 -2.7**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
FINES FINESS Array B 89.06 332 P **P 01 45 01.2 -2.3**
comp=Z,2.3nm,0.6s,mb4.4,baz=56,slow=5.6,SNR=15
AKASG Malin Array Be 89.17 321 P **P 01 45 01.2 -2.9**
comp=Z,2.1nm,0.9s,mb4.2,baz=76,slow=3.9,SNR=5.3
AKASG Malin Array Be 89.17 321 *i P* **P 01 45 02.5 -1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 94.65 352⇓*iP* **P 01 45 27.1 -2.4**
comp=Z,3.7nm,0.8s,mb4.9
DAG Danmarks Havn 94.65 352⇓*eP* **P 01 45 27.1 -2.4**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
RES Resolute Bay 95.63 10 *eP* **P 01 45 33.8 -0.1**
comp=Z,178nm,0.8s
YKA Yellowknife Ar 97.80 24⇑*eP* **P 01 45 43.6 -0.1**
comp=Z,4.4nm,0.8s,mb5.0,baz=301,slow=4.8,SNR=76
YKA Yellowknife Ar 97.80 24⇑*eP* **P 01 45 44.0 +0.3**
ISCO Idaho Springs 114.42 41 *eP* Pdif 01 47 02.9 +5.3
ANMO Albuquerque 116.30 46 *i* PKIKP PKPdf 01 50 53.4 +2.1
SCHQ Schefferville 118.34 8 PKP PKPdf 01 50 55.3 +0.1
comp=Z,4.0nm,0.6s,baz=9.7,slow=2.5,SNR=15
TORD Torodi Ar. Bea 120.90 289 PKP PKPdf 01 50 59.4 -0.8
comp=Z,2.1nm,0.8s,baz=43,slow=1.7,SNR=12
TXAR Lajitas Array 121.09 50 PKP PKPdf 01 51 01.8 +1.3
comp=Z,0.2nm,0.3s,baz=112,slow=1.3,SNR=3.5
PLCA Paso Flores 142.76 160 PKP PKPdf 01 51 39.1 -2.0
comp=Z,2.4nm,0.8s,baz=270,slow=3.0,SNR=3.5
PLCA SKPbc SKPbc 01 55 06.9 -0.7
comp=Z,2.2nm,0.7s,baz=189,slow=5.7,SNR=4.8
TRQA Tornquist 147.58 169 *e*PKPbc PKPbc 01 51 52.5 +0.3
LPAZ La Paz 163.36 128 PKP PKPdf 01 52 11.7 +1.4
comp=Z,0.6nm,0.5s,baz=14,slow=4.5,SNR=4.6
LPAZ PKPab PKPab 01 53 03.1 +1.3
comp=Z,1.1nm,0.9s,baz=187,slow=6.9,SNR=3.5

ISCJB ***24*** *01:37:26.5±0.5, 3938N±002×2352E±004, h1km±5km, Error ellipse: s-maj=4.7km s-min=3.7km az=39.3*
THE ***24*** *01:37:27.6, 3934N×2350E, h10km, ML2.4*
NEIC ***24*** *01:37:27.7, 3935N×2348E, h7km, MD3.0(ATH), ML2.6(THE), After ATH.*
CSEM ***24*** *01:37:27.4±0.1, 3937N×2350E, h5km, MD3.0, Error ellipse: s-maj=2.0km s-min=1.6km az=113.0*
ATH ***24*** *01:37:27.7, 3935N×2348E, h7km, MD3.0/5*
ISC 24 01:37:27.1±0.5, 3937N±002×2351E±004, h9km±4km, n35, σ0983/58, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**255**	*e*PG	**Pg**	**01 37 32.1**	**+0.3**
NEO				*e*SG	**Sg**	**01 37 34.7**	**-0.3**
XOR	**Xorichti**	**0.25**	**270**	*e*Pg	**Pg**	**01 37 32.2**	**+0.1**
XOR				*e*Sg	**Sg**	**01 37 35.6**	**+0.2**
XOR	**Xorichti**	**0.25**	**270**	P	**Pg**	**01 37 32.0**	**-0.1**
XOR				S	**Sg**	**01 37 36.0**	**+0.5**
XOR	**Xorichti**	**0.25**	**270**	*e*Pg	**Pg**	**01 37 32.2**	**+0.1**
XOR				*e*Sg	**Sg**	**01 37 35.7**	**+0.2**
AOS	**Alonnisos**	**0.35**	**125**	*e*Pg	**Pg**	**01 37 34.0**	**0.0**
AOS				*e*Sg	**Sg**	**01 37 39.1**	**+0.6**
AOS	**Alonnisos**	**0.35**	**125**	P	**Pg**	**01 37 34.0**	**+0.1**
AOS				S	**Sg**	**01 37 39.0**	**+0.5**
PAIG	**Paliouri**	**0.57**	**13**	*e*Pg	**Pg**	**01 37 39.7**	**+1.5**
PAIG	**Paliouri**	**0.57**	**13**	P	**Pg**	**01 37 40.0**	**+1.8**
LKR	**Lokris**	**0.82**	**209**	*e*PG	**Pg**	**01 37 42.4**	**-0.5**
LKR				*e*SB	**Sb**	**01 37 54.0**	**-0.6**
AGG	**Agios Georgios**	**0.98**	**250**	*e*Pg	**Pg**	**01 37 45.5**	**-0.4**
AGG				*e*Sg	**Sg**	**01 38 00.1**	**+1.4**
AGG	**Agios Georgios**	**0.98**	**250**	P	**Pg**	**01 37 46.0**	**0.0**
AGG				S	**Sg**	**01 38 00.0**	**+1.3**
AGG	**Agios Georgios**	**0.98**	**250**	P	**Pg**	**01 37 46.0**	**0.0**
AGG				*e*Sg	**Sg**	**01 38 00.1**	**+1.4**
PLG	**Polygyros**	**1.01**	**357**	*e*PB	**Pb**	**01 37 46.6**	**-0.1**
PLG				*e*SB	**Sb**	**01 38 00.6**	**+0.6**
OUR	**Ouranopolis**	**1.03**	**20**	*e*Pg	**Pg**	**01 37 47.0**	**+0.1**
LIT	**Litokhoron**	**1.08**	**313**	*e*Pg	**Pg**	**01 37 47.8**	**0.0**
LIT				*e*Sg	**Sg**	**01 38 03.6**	**+1.9**
LIT	**Litokhoron**	**1.08**	**313**	P	**Pg**	**01 37 48.0**	**+0.2**
LIT				S	**Sg**	**01 38 04.0**	**+2.3**
LIT	**Litokhoron**	**1.08**	**313**	P	**Pg**	**01 37 48.0**	**+0.2**
LIT				*e*Sg	**Sg**	**01 38 03.6**	**+1.9**
THL	**Klokotos Trika**	**1.18**	**280**	*e*PB	**Pb**	**01 37 49.7**	**+0.1**
HORT	**Hortiatis**	**1.27**	**346**	*e*Pg	**Pg**	**01 37 50.8**	**-0.6**
HORT				*e*Sg	**Sg**	**01 38 07.8**	**-0.1**
HORT	**Hortiatis**	**1.27**	**346**	P	**Pn**	**01 37 51.0**	**0.0**
HORT				S	**Sb**	**01 38 08.0**	**+0.5**
HORT	**Hortiatis**	**1.27**	**346**	P	**Pn**	**01 37 51.0**	**0.0**
HORT				*e*Sg	**Sg**	**01 38 07.8**	**-0.1**
THE	**Thessaloniki**	**1.33**	**342**	*e*Pg	**Pg**	**01 37 51.7**	**-1.0**
THE	**Thessaloniki**	**1.33**	**342**	P	**Pn**	**01 37 52.0**	**+0.2**
EVR	**Evrytania**	**1.40**	**252**	*e*PG	**Pg**	**01 37 53.2**	**-0.8**
SOH	**Sokhos**	**1.46**	**355**	*e*Pg	**Pg**	**01 37 53.7**	**-1.3**
SOH				*e*Sg	**Sg**	**01 38 13.5**	**-0.4**
SOH	**Sokhos**	**1.46**	**355**	P	**Pn**	**01 37 54.0**	**+0.5**
SOH				S	**Sn**	**01 38 14.0**	**+1.3**
SOH	**Sokhos**	**1.46**	**355**	P	**Pn**	**01 37 54.0**	**+0.5**
SOH				*e*Sg	**Sg**	**01 38 13.5**	**-0.5**
SRS	**Serrai**	**1.75**	**2**	*e*Pb	**Pb**	**01 37 58.4**	**-1.0**
SRS	**Serrai**	**1.75**	**2**	P	**Pn**	**01 37 58.0**	**+0.4**
SRS	**Serrai**	**1.75**	**2**	*e*Pb	**Pb**	**01 37 58.3**	**-1.0**
GRG	**Griva**	**1.80**	**332**	*e*Pb	**Pb**	**01 37 58.6**	**-1.6**
GRG				*e*Sb	**Sb**	**01 38 21.2**	**-1.6**
GRG	**Griva**	**1.80**	**332**	P	**Pn**	**01 37 59.0**	**+0.7**
GRG				S	**Sn**	**01 38 21.0**	**-0.2**
GRG	**Griva**	**1.80**	**332**	P	**Pn**	**01 37 59.0**	**+0.7**
GRG				*e*Sb	**Sb**	**01 38 21.2**	**-1.7**
KNT	**Kendrikon**	**1.85**	**345**	*e*Pb	**Pb**	**01 37 59.8**	**-1.3**
KNT	**Kendrikon**	**1.85**	**345**	P	**Pn**	**01 38 00.0**	**+1.0**

IDC ***24*** *01:55:06.4±0.8, 645N×12607E, h0km, mb4.5/9, mb1 4.6/9, mb1mx4.4/22, mbtmp4.5/9, MS3.4/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=41.5km s-min=16.8km az=81.0*
NEIC ***24*** *01:55:11.7±0.4, 644N×12599E, h35km, mb4.9/7, Error ellipse: s-maj=16.7km s-min=7.2km az=75.0*
ISCJB ***24*** *01:55:14.8±0.7, 627N±007×126.1E±0.1, h70km±9km, mb4.5/14, Error ellipse: s-maj=19.2km s-min=10.6km az=134.9*
BJI ***24*** *01:55:14.5, 640N×12600E, h35km, mB5.3, mb4.7*
MAN ***24*** *01:55:17.4, 645N×12593E, h81km, mb4.3, ML5.1, MS4.5*
ISC 24 01:55:16.5±0.6, 637N±007×1261E±01, h76km±8km, n33, σ1900/32, mb4.4/14, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.59**	**16**	*e*P	**Pn**	**01 55 28.4**	**-2.3**
MATI				*e*S	**Sn**	**01 55 41.5**	**+0.3**
DAV	**Davao City (W)**	**0.86**	**324**	⇓*iP*	**Pn**	**01 55 33.0**	**-0.6**
BUKP	**Musuan**	**1.81**	**326**	*e*P	**Pn**	**01 55 45.5**	**-0.2**
BUTP	**Butuan**	**2.62**	**350**	*e*P	**Pn**	**01 55 57.8**	**+1.2**
MSLP	**Maasin**	**3.93**	**342**	*e*P	**Pn**	**01 56 16.2**	**+1.8**
SNPH	**Sibulan**	**4.08**	**316**	*e*P	**Pn**	**01 56 17.5**	**+1.0**
GUMO	**Guam**	**19.83**	**67**	LR	LR	02 07 00.2
comp=Z,67nm,18.2s,baz=259,slow=36							
KAKA	**Kakadu**	**19.98**	**162**	*e*P	**Pn**	**01 59 41.9**	**-3.2**
64nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.32**	**181**	⇓*iP*	**P**	**02 00 27.4**	**+0.4**
12nm,0.5s,mb4.5							
FITZ	**Fitzroy Crossi**	**24.32**	**181**	P	**P**	**02 00 27.1**	**+0.1**
6.8nm,0.5s,mb4.2,baz=14,slow=6.7,SNR=24							
PMG	**Port Moresby**	**26.20**	**127**	P	**P**	**02 00 43.7**	**-0.4**
14nm,0.9s,mb4.4,baz=313,slow=9.7,SNR=3.4							
PMG	**Port Moresby**	**26.20**	**127**	*e*P	**P**	**02 00 44.2**	**+0.1**
23nm,1.1s,mb4.5							
WRA	**Warramunga Arr**	**27.38**	**163**	P	**P**	**02 00 54.1**	**-0.6**
6.8nm,0.5s,mb4.4,baz=349,slow=10,SNR=36							
WB2	**Warramunga Arr**	**27.39**	**163**	⇑*iP*	**P**	**02 00 53.9**	**-0.8**
ENH	**Enshi**	**28.44**	**329**	*e*P	**P**	**02 01 02.1**	**-2.0**
0.3nm,0.3s,mb3.3							
ASAR	**Alice Springs**	**30.82**	**166**	P	**P**	**02 01 24.8**	**-0.4**
2.5nm,0.4s,mb4.3,baz=346,slow=7.2,SNR=45							
ASAR				PcP	PcP	02 04 20.7	+0.1
1.0nm,0.5s,baz=338,slow=2.1,SNR=6.4							
XAN	**Xi'an**	**31.79**	**332**	P	**P**	**02 01 37.8**	**+4.1**
XAN				AMB	AMB	
comp=Z,14nm,0.8s,mb4.7							
CTA	**Charters Tower**	**32.94**	**143**	*e*P	**P**	**02 01 45.0**	**+1.3**
comp=Z,9.0nm,0.8s,mb4.7							
CTAO	**Charters Tower**	**32.94**	**143**	*e*P	**P**	**02 01 45.0**	**+1.2**
FORT	**Forrest**	**36.99**	**177**	*e*P	**P**	**02 02 19.3**	**+0.7**
comp=Z,16nm,0.6s,mb5.1							
KLBR	**Kellerberrin**	**38.58**	**191**	*e*P	**P**	**02 02 32.3**	**+0.3**
comp=Z,38nm,1.4s,mb5.0							
MUN	**Mundaring**	**39.28**	**193**	*e*P	**P**	**02 02 37.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**39.98**	**192**	P	**P**	**02 02 43.9**	**+0.2**
comp=Z,6.9nm,0.4s,mb4.8,baz=39,slow=10,SNR=19							
NWAO	**Narrogin (SRO)**	**39.98**	**192**	*e*P	**P**	**02 02 43.6**	**0.0**
NWAO				P		02 02 43.9
STKA	**Stephens Creek**	**40.81**	**160**	⇓*iP*	**P**	**02 02 50.7**	**+0.2**
comp=Z,15nm,0.5s,mb5.1							
STKA	**Stephens Creek**	**40.81**	**160**	P	**P**	**02 02 51.0**	**+0.5**
comp=Z,29nm,0.7s,mb5.2,baz=336,slow=7.9,SNR=64							
STKA				LR	LR	02 18 48.2
comp=Z,68nm,20.0s,baz=25,slow=35							
ARMA	**Armidale**	**44.02**	**148**	*e*P	**P**	**02 03 17.8**	**+1.3**
SONM	**Songino Array**	**44.60**	**341**	P	**P**	**02 03 20.4**	**-0.8**
comp=Z,0.1nm,0.4s,baz=101,slow=6.0,SNR=2.7							
CNB	**Canberra Magne**	**46.90**	**154**	*e*P	**P**	**02 03 40.5**	**+1.2**
VNDA	**Vanda**	**86.11**	**173**	P	**P**	**02 07 48.8**	**-0.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=308,slow=4.3,SNR=6.7							
INK	**Inuvik**	**87.95**	**21**	P	**P**	**02 07 58.0**	**-0.1**
comp=Z,0.6nm,0.5s,mb3.9,baz=304,slow=2.5,SNR=12							
YKA	**Yellowknife Ar**	**97.37**	**24**	P	**P**	**02 08 40.9**	**-0.5**
comp=Z,0.3nm,0.6s,mb3.9,baz=300,slow=4.4,SNR=7.0							
TORD	**Torodi Ar. Bea**	**121.47**	**290**	PKP	PKPdf	02 14 01.8	+0.7
comp=Z,0.9nm,0.6s,baz=56,slow=1.9,SNR=8.0							

SZGRF ***24*** *01:58:27.8, 3935N×7525E, h33km, mb5.0, MS4.7, Southern Xinjiang, China*
IDC ***24*** *01:58:28.2±0.4, 3958N×7452E, h0km, mb4.8/29, mb1 4.9/33, mb1mx4.9/33, mbtmp4.7/33, ML4.1/4, MS4.3/26, Ms1 4.3/26, ms1mx4.2/34, Error ellipse: s-maj=11.5km s-min=9.5km az=28.0*
ISCJB ***24*** *01:58:31.3±0.1, 3963N±002×7446E±002, h31km, mb4.9/167, MS4.5/94, Error ellipse: s-maj=2.9km s-min=2.2km az=82.7*
NEIC ***24*** *01:58:33.0±0.2, 3961N×7454E, h35km, mb5.0/107, MS4.7/54, Error ellipse: s-maj=5.3km s-min=3.1km az=213.0*
BJI ***24*** *01:58:33.6, 3991N×7495E, h20km, mB5.1, mb4.9, ML4.9, Ms4.8, Msz4.6*
GCMT ***24*** *01:58:33.0±0.3, 3983N×7456E, h17km±1km, MW5.0/66, Moment Tensor Solution. s34,c41; s66,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.06±.22; $M_{\theta\theta}$-4.58±.15; $M_{\phi\phi}$1.52±.14; $M_{r\theta}$0.29±.30; $M_{\theta\phi}$0.27±.10; $M_{\phi r}$1.29±.46; Best double couple: $M_0$4.20400×10^{16} NP1:ϕ_s299.00000°, δ51.00000°, λ130.00000°. NP2: ϕ_s66.00000°, δ54.00000°, λ52.00000°. Principal axes: T 3.8100, Plg60.0000°, Azm275.0000°; N 0.7890, Plg30.0000°, Azm91.0000°; P -4.5990, Plg2.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***24*** *01:58:34.6±0.9, 3977N×7450E, h59km, mb5.1/82, MS4.3/25 Error ellipse: s-maj=6.1km s-min=3.5km az=129.2*
NNC ***24*** *01:58:35.1±2.5, 4020N×7420E, h0km, mb5.0, mpv5.0, Error ellipse: s-maj=22.6km s-min=10.9km az=149.0*
ISC 24 01:58:33.7±0.1, 3970N±002×7448E±002, h34km, h34km±2.1km: pP-P, n571, σ1909/550, mb4.9/167, MS4.5/94, 111C-36D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.17**	**98**	⇑*i*PG	**Pn**	**01 58 52.3**	**-1.4**
KSH				SG	**Sn**	**01 59 07.9**	**-0.5**
KSH				Smax		
comp=N,165μm,1.0s						
KSH				Smax		
comp=E,169μm,0.9s						
KZA	**Kyzart**	**2.45**	**14**	P	**Pn**	**01 59 13.5**	**+2.3**
SNR=2900						
AML	**Almayashu**	**2.50**	**347**	P	**Pn**	**01 59 13.6**	**+1.6**
SNR=2746						
UCH	**Uchtor**	**2.53**	**1**	P	**Pn**	**01 59 15.1**	**+2.8**
SNR=376						
ULHL	**Ulahol**	**2.87**	**27**	P	**Pn**	**01 59 19.2**	**+2.1**
SNR=208						
AAK	**Ala-Archa**	**2.93**	**0**	P	**Pn**	**01 59 20.7**	**+2.8**
SNR=2808						
AAK	**Ala-Archa**	**2.93**	**0**	*i* PN	**Pn**	**01 59 19.7**	**+1.8**
AAK	**Ala-Archa**	**2.93**	**0**	*e*Pn	**Pn**	**01 59 19.5**	**+1.6**
KBK	**Karagaybulak**	**2.98**	**7**	P	**Pn**	**01 59 21.1**	**+2.6**
SNR=1396						
EKS2	**Erkin-Say**	**3.01**	**350**	P	**Pn**	**01 59 21.1**	**+2.2**
SNR=398						
FRU	**Bishkek**	**3.13**	**2**	⇓*i*PN	**Pn**	**01 59 23.5**	**+2.9**
FRU				*e*S	**Sn**	**02 00 02.0**	**+5.1**
FRU				pmax	pmax	
comp=Z,8μm,4.0s						
FRU				smax		
comp=N,24μm,5.0s						
CHMS	**Chumysh**	**3.30**	**4**	P	**Pn**	**01 59 25.7**	**+2.7**
SNR=431						
TKM2	**Tokmak 2**	**3.33**	**14**	P	**Pn**	**01 59 26.2**	**+2.9**
SNR=1118						
TKM2	**Tokmak 2**	**3.33**	**14**	⇑Pn	**Pn**	**01 59 26.1**	**+2.8**
comp=N,122nm,0.6s						
TKM2				⇓Lg		02 00 06.8
comp=N,516nm,0.9s						
TKM2	**Tokmak 2**	**3.33**	**14**	PN	**Pn**	**01 59 26.0**	**+2.7**
TKM2						02 00 10.0
TKM2				pmax	pmax	
comp=Z,767nm,0.6s						
TKM2				pmax	pmax	
comp=Z,19μm,1.4s						
USP	**Ospenovka**	**3.56**	**0**	P	**Pn**	**01 59 28.6**	**+2.1**
SNR=85						
KNDC	**Almaty**	**3.98**	**27**	⇓Pn	**Pn**	**01 59 35.4**	**+3.1**
comp=Z,2μm,0.7s						
KNDC				⇓Lg		02 00 31.7
comp=Z,14μm,1.1s						
AAA	**Alma-Ata**	**4.02**	**27**	*d i*PN	**Pn**	**01 59 42.6**	**+10**
AAA				pmax	pmax	
comp=Z,2.0nm,0.5s						
KK31	**Karatay Array**	**4.52**	**320**	⇓Pn	**Pn**	**01 59 40.5**	**+0.7**
comp=Z,105nm,0.4s,baz=131,slow=14						
KK31				⇓Lg		02 00 43.0
comp=Z,2μm,1.0s,baz=126,slow=28						
KKAR	**Karatay Array**	**4.52**	**320**	PN	**Pn**	**01 59 40.4**	**+0.7**
KKAR				pmax	pmax	
comp=Z,42nm,0.4s						
KKAR				pmax	pmax	
comp=Z,2μm,1.0s						
CHCP	**Chirah Chowk**	**6.11**	**190**	⇓P	**Pn**	**02 00 05.3**	**+3.8**
KBL	**Kabul**	**6.73**	**222**	⇑*i*Pn	**Pn**	**02 00 13.4**	**+3.4**
KBL				*e*Sn	**Sn**	**02 01 39.8**	**+14**
THW	**Thamme Wali**	**7.24**	**199**	P	**Pn**	**02 00 19.1**	**+2.1**
DLH	**Dalhousie**	**7.24**	**170**	*e*P	**Pn**	**02 00 19.0**	**+1.9**
DLH				*ex*	x	02 01 47.0
THN	**Thein Dam**	**7.32**	**172**	*e*P	**Pn**	**02 00 19.5**	**+1.3**
THN				*ex*	x	02 01 42.4
SARP	**Sargodha**	**7.90**	**191**	P	**Pn**	**02 00 28.0**	**+1.9**
SBDP	**Sheikh Budin**	**7.96**	**203**	⇑P	**Pn**	**02 00 28.8**	**+1.9**
SDNR	**Sundarnagar**	**8.43**	**165**	*e*P	**Pn**	**02 00 33.5**	**+0.1**
SDNR				*ex*	x	02 02 04.5
DRP	**Derazinda**	**8.66**	**205**	⇓P	**Pn**	**02 00 38.6**	**+2.0**
DRP				S	**Sn**	**02 02 13.0**	**0.0**
KLP	**Kalpa**	**8.71**	**158**	*e*P	**Pn**	**02

MKAR				Lg			02 03 15.6
MKAR				LR	LR		02 04 35.8
DDI	**Dehra Dun**	**9.80**	**162**	*e*P	**Pn**		**02 00 53.8 +1.6**
DDI				*ex*	x		02 02 44.8
JOSI	**Joshimath**	**10.02**	**154**	*e*P	**Pn**		**02 00 56.0 +0.7**
JOSI				*ex*	x		02 02 46.1
WMQ	**Urumqi**	**10.70**	**63**	P	**Pn**		**02 01 04.4 -0.1**
WMQ				S	**Sn**		**02 02 58.0 -5.0**
WMQ				AMB	AMB		
	comp=Z,57nm,1.0s						
WMQ				LR	LR		
	comp=N,5μm,6.0s						
WMQ				LR	LR		
	comp=E,3μm,4.0s						
WMQ				LR	LR		
	comp=Z,690nm,19.0s						
PTH	**Pithoragarh**	**11.17**	**153**	*e*P	**Pn**		**02 01 12.9 +2.0**
PTH				*ex*	x		02 03 11.1
NDI	**New Delhi**	**11.22**	**168**	*e*P	**Pn**		**02 01 10.2 -1.4**
NDI				AMb	AMB		02 01 13.5
	comp=Z,63nm,0.9s						
NDI				*e*S	**Sn**		**02 03 03.1 -13**
LGTI	**Lohaghat**	**11.27**	**153**	*i* P	**Pn**		**02 01 11.7 -0.6**
LGTI				*ex*	x		02 03 42.0
KURK	**Kurchatov**	**11.39**	**13**	⇑Pn	**Pn**		**02 01 12.4 -1.6**
	comp=Z,23nm,1.1s						
KURK				⇓Lg			02 04 24.7
	comp=Z,528nm,1.2s						
KURK	**Kurchatov**	**11.39**	**13**	*i* P	**Pn**		**02 01 14.0 0.0**
KURK	**Kurchatov**	**11.39**	**13**	*e*Pn	**Pn**		**02 01 12.5 -1.5**
AYAN	**Aya Nagar**	**11.40**	**168**	*e*P	**Pn**		**02 01 12.3 -1.8**
SONA	**Sohna**	**11.62**	**169**	*e*P	**Pn**		**02 01 15.9 -1.2**
SONA				AMb	AMB		02 01 18.8
	comp=Z,103nm,1.1s						
SONA				*e*S	**Sn**		**02 03 13.4 -12**
KUDL	**Kundal**	**11.64**	**171**	*ex*	x		02 01 12.2
KUDL				*e*S	**Sn**		**02 03 12.7 -13**
KHET	**Khetri**	**11.65**	**174**	*e*P	**Pn**		**02 01 15.7 -1.7**
KHET				AMb	AMB		02 01 19.0
	comp=Z,47nm,0.0s						
AGRA	**Agra**	**12.77**	**166**	*e*P	**Pn**		**02 01 30.9 -1.8**
AGRA				*e*S	**Sn**		**02 03 39.9 -14**
VAN	**Vannovskaya**	**12.89**	**267**	*e*P	**Pn**		**02 01 30.7 -3.7**
VAN				*e*S	**Sn**		**02 03 52.3 -4.2**
JASL	**Jaisalmer**	**13.08**	**194**	*ex*	x		02 01 31.2
AJM	**Ajmer**	**13.19**	**179**	*e*S	**Sn**		**02 03 49.6 -14**
BVA0	**Borovoye Array**	**13.62**	**349**	⇓Pn	**Pn**		**02 01 42.7 -1.7**
	comp=Z,9.3nm,0.8s						
BVA0				⇓Lg			02 05 33.7
	comp=Z,114nm,1.5s						
BVA0	**Borovoye Array**	**13.62**	**349**	P	**Pn**		**02 01 42.6 -1.8**
BVA0				pmax	pmax		
	comp=Z,23nm,1.2s						
BVA0				pmax	pmax		
	comp=Z,841nm,2.5s						
BVAR	**Borovoye Array**	**13.62**	**349**	Pn	**Pn**		**02 01 42.7 -1.7**
	comp=Z,1.5nm,0.3s,baz=163,slow=12,SNR=44						
BVAR				Sn	**Sn**		**02 04 13.7 -0.8**
	comp=Z,0.4nm,0.3s,baz=146,slow=22,SNR=3.0						
BVAR				Lg			02 05 43.0
	comp=Z,1.9nm,0.3s,baz=152,slow=32,SNR=5.5						
BVAR				LR	LR		02 07 01.7
	comp=Z,2μm,18.5s,baz=139,slow=37						
BVAR	**Borovoye Array**	**13.62**	**349**	P	**Pn**		**02 01 42.7 -1.7**
BVAR							02 04 13.7
BRVK	**Borovoye**	**13.67**	**349**	*e*P	**Pn**		**02 01 41.8 -3.3**
DANN	**Dangsing**	**13.68**	**143**	*e*P	**Pn**		**02 01 41.2 -4.0**
	comp=Z,1.0nm,0.4s						
AB31	**Akbulak array**	**14.08**	**317**	Pn	**Pn**		**02 01 48.1 -2.5**
	comp=Z,92nm,0.8s,baz=127,slow=11,SNR=474						
AB31				⇑Sn	**Sn**		**02 04 21.5 -4.2**
	comp=Z,37nm,0.9s,baz=94,slow=34,SNR=4.1						
KOLN	**Koldanda**	**14.10**	**145**	*e*P	**Pn**		**02 01 47.5 -3.5**
	comp=Z,119nm,0.6s						
KOLN				*e*S	**Sn**		**02 04 20.4 -5.8**
GKN	**Gorkha**	**14.39**	**141**	*e*P	**Pn**		**02 01 50.6 -4.3**
	comp=Z,137nm,0.5s						
GKN				*e*S	**Sn**		**02 04 26.3 -6.8**
KKN	**Kakani**	**14.88**	**140**	*e*P	**Pn**		**02 01 57.2 -4.3**
	comp=Z,148nm,0.7s						
KKN	**Kakani**	**14.88**	**140**	*e*P	**Pn**		**02 01 57.2 -4.3**
KKN				pmax	pmax		
	comp=Z,148nm,0.7s						
DMN	**Daman**	**14.94**	**141**	*e*P	**Pn**		**02 01 58.0 -4.4**
	comp=Z,129nm,0.6s						
GUN	**Gumba**	**15.09**	**138**	*e*P	**Pn**		**02 02 00.4 -3.8**
	comp=Z,161nm,0.7s						
PKI	**Pulchoki**	**15.12**	**140**	*e*P	**Pn**		**02 02 00.3 -4.4**
	comp=Z,93nm,0.6s						
PKI	**Pulchoki**	**15.12**	**140**	*e*P	**Pn**		**02 02 00.3 -4.4**
PKI				pmax	pmax		
	comp=Z,93nm,0.6s						
JIRN	**Jiri**	**15.45**	**137**	*e*P	**Pn**		**02 02 04.9 -4.1**
	comp=Z,396nm,0.8s						
JIRN				*e*S	**Sn**		**02 04 52.0 -7.0**
ALBI	**Allahabad**	**15.62**	**155**	*ex*	x		02 02 04.5
AKTK	**Aktyubinsk**	**15.79**	**318**	Pn	**Pn**		**02 02 11.6 -1.7**
AKTK				Lg			02 06 50.2
AKTK				LR	LR		02 08 43.0
AKTO	**Aktyubinsk**	**15.79**	**318**	⇓Pn	**Pn**		**02 02 11.2 -2.1**
	comp=Z,3.5nm,1.4s						
AKTO				⇑Sn	**Sn**		**02 05 04.1 -3.1**
	comp=Z,3.6nm,1.9s						
AKTO	**Aktyubinsk**	**15.79**	**318**	Pn	**Pn**		**02 02 11.6 -1.7**
	comp=Z,1.9nm,0.3s,baz=128,slow=14,SNR=68						
AKTO				Lg			02 06 50.2
	comp=Z,0.4nm,0.3s,baz=216,slow=19,SNR=2.5						
AKTO				LR	LR		02 08 43.0
	comp=Z,1μm,20.1s,baz=301,slow=39						
AKTO	**Aktyubinsk**	**15.79**	**318**	P	**Pn**		**02 02 11.2 -2.2**
AKTO							02 04 58.7
AKTO				pmax	pmax		
	comp=Z,10.0nm,1.5s						
AKTO				smax			
	comp=Z,66nm,2.6s						
ZAL	**Zalesovo**	**15.87**	**23**	Pn	**Pn**		**02 02 13.7 -0.7**
	comp=Z,1.5nm,0.3s,baz=266,slow=10,SNR=34						
ZAL				Sn	**Sn**		**02 05 08.2 -1.1**
	comp=Z,0.4nm,0.3s,baz=283,slow=14,SNR=2.4						
ZAL				Lg			02 06 54.4
	comp=Z,0.8nm,0.3s,baz=344,slow=20,SNR=3.5						
ZAL				LR	LR		02 09 19.7
	comp=Z,2μm,21.4s,baz=255,slow=41						
ZAL	**Zalesovo**	**15.87**	**23**	P	**Pn**		**02 02 13.7 -0.8**
ZAL							02 05 08.2
ZAL	**Zalesovo**	**15.87**	**23**	Pn	**Pn**		**02 02 13.7 -0.7**
ZAL				Sn	**Sn**		**02 05 08.2 -1.1**
ZAL				Lg			02 06 54.4
ZAL				LR	LR		02 09 19.7
NVS	**Novosibirsk**	**16.25**	**18**	⇑*i*P	**Pn**		**02 02 17.3 -2.0**
BHPL	**Bhopal**	**16.60**	**170**	*e*P	**Pn**		**02 02 20.2 -3.5**
BHPL				AMb	AMB		02 02 24.1
	comp=Z,32nm,0.8s						
BHPL				*ex*	x		02 05 18.3
LSA	**Lhasa**	**16.93**	**121**	P	**Pn**		**02 02 28.0 +0.1**
LSA				S	**Sn**		**02 05 40.0 +5.0**
LSA				AMB	AMB		
	comp=Z,20nm,1.2s						
LSA				LR	LR		
	comp=N,790nm,14.1s						
LSA				LR	LR		
	comp=E,1μm,15.4s						
LSA				LR	LR		
	comp=Z,2μm,11.6s						
LSA	**Lhasa**	**16.93**	**121**	*e*P	**Pn**		**02 02 28.9 +1.0**
LSA				pmax	pmax		
	comp=Z,53nm,0.8s						
LSA	**Lhasa**	**16.93**	**121**	*e*P	**Pn**		**02 02 28.9 +1.0**
	comp=Z,53nm,0.8s						
ORR	**Orenburg**	**18.16**	**318**	P	**Pn**		**02 02 43.4 +0.4**
ORR				pmax	pmax		
	comp=Z,90nm,1.2s						
ORR				MLR	MLR		
	comp=Z,920nm,17.0s						
BOK	**Bokaro**	**18.56**	**145**	*ex*	x		02 02 42.9
BOK				AMb	AMB		02 02 50.9
	comp=Z,48nm,1.0s						
BOK				*ex*	x		02 05 56.7
NGP	**Nagpur**	**18.90**	**167**	*e*P	**Pn**		**02 02 49.9 -2.2**
NGP				*ex*	x		02 02 57.7
	comp=Z,71nm,0.9s						
NGP				*ex*	x		02 06 07.7
AKL	**Akola**	**19.06**	**173**	⇓*i*P	**Pn**		**02 02 52.1 -1.9**
AKL				*ex*	x		02 03 00.1
	comp=Z,100nm,0.8s						
AKL				*ex*	x		02 06 16.9
GTA	**Gaotai**	**19.53**	**83**	⇑P	**Pn**		**02 02 59.6 0.0**
GTA				AP	pP		02 03 07.9 +0.8
GTA				XP	sP		02 03 12.3 +0.9
GTA				PP			02 03 20.0
GTA				PPP			02 03 28.8
GTA				AMB	AMB		
	comp=Z,56nm,1.1s						
GTA				AMB	AMB		
	comp=Z,451nm,5.3s						
GTA				LR	LR		
	comp=N,1μm,13.3s						
GTA				LR	LR		
	comp=E,961nm,12.6s						
GTA				LR	LR		
	comp=Z,1μm,17.5s						
ARU	**Arti**	**19.75**	**333**	⇓*i*P	**Pn**		**02 03 02.9 +0.7**
ARU				*e*S	**Sn**		**02 06 38.8 -4.3**
ARU				pmax	pmax		
	comp=Z,59nm,1.0s						
ARU	**Arti**	**19.75**	**333**	*e*Pn	**Pn**		**02 03 00.8 -1.5**
SHL	**Shillong**	**20.28**	**129**	*e*P	**P**		**02 03 05.0 -1.4**
SHL				*e*S	**S**		**02 06 53.6 +1.6**
KRAR	**Krasnoyarsk**	**20.36**	**31**	*i* P	**P**		**02 03 08.0 +0.8**
KRAR				pmax	pmax		
	comp=Z,45nm,1.1s						
LATR	**Latur**	**21.29**	**175**	*ex*	x		02 03 13.2
MOY	**Mondy**	**21.92**	**48**	*e*P	**P**		**02 03 24.9 +0.9**
MOY				pmax	pmax		
	comp=Z,102nm,1.6s,mb5.0						
IMP	**Imphal**	**22.11**	**126**	*e*P	**P**		**02 03 27.0 +0.9**
IMP				*ex*	x		02 07 21.0
DGRG	**David-gareji**	**22.13**	**284**	P	**P**		**02 03 26.6 +0.3**
ARQ	**Araqi**	**22.30**	**228**	⇓P	**P**		**02 03 31.4 +3.3**
	SNR=17						
KAD	**Karad**	**22.31**	**181**	*i* P	**P**		**02 03 27.7 -0.5**
KAD				*ex*	x		02 08 02.9
HYB	**Hyderabad**	**22.48**	**170**	*i* P	**P**		**02 03 29.0 -1.0**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**		**02 07 31.0 -4.1**
HYB	**Hyderabad**	**22.48**	**170**	*e*P	**P**		**02 03 29.0 -1.0**
HYB				*e*S	**S**		**02 07 36.0 +0.9**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**22.48**	**170**	*e*P	**P**		**02 03 29.0 -1.0**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**		**02 07 36.0 +0.9**
MTA	**Mtatsminda**	**22.55**	**285**	P	**P**		**02 03 30.3 -0.4**
SOKR	**Solikamsk**	**22.81**	**336**	⇑*i*P	**P**		**02 03 34.5 +1.0**
SOKR				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
ZAK	**Zakamensk**	**22.85**	**53**	⇑*i*P	**P**		**02 03 33.6 -0.3**
ZAK				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.6						
GOR	**Gori**	**23.03**	**286**	P	**P**		**02 03 27.1 -8.7**
VIS	**Vishakhapatnam**	**23.21**	**158**	*i* P	**P**		**02 03 38.7 +1.1**
VIS				*i* x	x		02 07 57.1
LZH	**Lanzhou**	**23.41**	**90**	*e*P	**P**		**02 03 40.0 +0.2**
LZH				AP			02 03 47.5
LZH				*e*S	**S**		**02 07 51.0 +0.7**
LZH				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,370nm,4.5s						
LZH				LR	LR		
	comp=N,2μm,11.5s						
LZH				LR	LR		
	comp=Z,3μm,13.0s,MS4.9						
LZH	**Lanzhou**	**23.41**	**90**	*e*P	**P**		**02 03 40.0 +0.2**
LZH				**SP	sP		02 03 55.5 +2.3
LZH							02 04 15.0
LZH				*e*S	**S**		**02 07 51.0 +0.7**
LZH				*e*SS			02 08 40.0
LZH				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
LZH				MLR	MLR		
	comp=Z,3μm,13.0s,MS4.9						
LZH	**Lanzhou**	**23.41**	**90**	*e*P	**P**		**02 03 40.0 +0.2**
	comp=Z,90nm,1.0s,mb5.2						
LZH				pP			02 03 47.5
LZH				sP	sP		02 03 55.5 +2.3
LZH				PP			02 04 15.0
LZH				*e*S	**S**		**02 07 51.0 +0.7**
LZH				sS	sS		02 08 05.0 -1.2
LZH				*e*SS			02 08 40.0
LZH				LR	LR		
	comp=Z,3μm,13.0s,MS4.9						
TLY	**Talaya**	**23.47**	**50**	P	**P**		**02 03 42.1 +1.8**
	SNR=12						
TLY	**Talaya**	**23.47**	**50**	*e*P	**P**		**02 03 41.8 +1.5**
TLY				pmax	pmax		
	comp=Z,47nm,1.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,388nm,13.0s,MS4.0						
TLY	**Talaya**	**23.47**	**50**	*e*P	**P**		**02 03 41.4 +1.1**
TLY				LR	LR		
	comp=Z,77nm,21.0s						
ONI	**Oni**	**23.48**	**287**	P	**P**		**02 03 40.8 +0.4**
CLDR	**Caldiran**	**23.56**	**278**	*e*P	**P**		**02 03 42.8 +1.6**
GOF	**Gofitskoye**	**23.75**	**293**	*e*P	**P**		**02 03 51.1 +8.3**
GOF				pmax	pmax		
	comp=Z,100nm,1.3s,mb5.1						
KARS	**Kars**	**23.94**	**282**	*e*P	**P**		**02 03 44.8 +0.2**
KIV	**Kislovodsk**	**23.98**	**291**	⇓P	sP		02 04 01.3 +2.5
	SNR=6.9						
KIV	**Kislovodsk**	**23.98**	**291**	*e*P	**P**		**02 03 45.5 +0.5**
KIV				*e*S	**S**		**02 07 51.0 -8.6**
KIV				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
KIV				MLR	MLR		
	comp=Z,391nm,12.0s,MS4.1						
KIV	**Kislovodsk**	**23.98**	**291**	*e*P	**P**		**02 03 45.2 +0.2**
	comp=Z,56nm,0.7s,mb5.1						
KIV				LR	LR		
	comp=Z,159nm,22.0s,MS3.5						
HKR	**Hakkari**	**24.05**	**275**	*e*P	**P**		**02 03 47.3 +1.7**
HAKT	**HAKKARI**	**24.08**	**275**	*i* P	**P**		**02 03 45.1 -0.8**
AGRB	**Hanur-Agry**	**24.19**	**280**	*e*P	**P**		**02 03 49.0 +2.2**
CUKT	**Cukurca**	**24.23**	**274**	*e*P	**P**		**02 03 47.6 +0.3**
SONM	**Songino Array**	**24.31**	**60**	P	**P**		**02 03 48.5 +0.5**
	comp=Z,6.3nm,0.8s,mb4.1,baz=261,slow=10,SNR=34						
SONM				LR	LR		02 13 25.5
	comp=Z,612nm,21.9s,MS4.0,baz=88,slow=37						
SIRT	**Sirnak**	**25.07**	**275**	*e*P	**P**		**02 03 55.9 +1.0**
ERZM	**Erzurum**	**25.36**	**281**	*i* P	**P**		**02 04 02.1 +4.5**
EZM	**Erzurum**	**25.36**	**281**	*e*P	**P**		**02 04 02.1 +4.5**
CD2	**Chengdu**	**25.37**	**101**	P	**P**		**02 03 59.3 +1.7**
CD2				AP	pP		02 04 08.8 +1.5
CD2				XP	sP		02 04 12.6 +1.1
CD2				PP			02 04 38.6
CD2				S	**S**		**02 08 21.9 +0.1**
CD2				XS	sS		02 08 36.8 -1.1
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9						
CD2				AMB	AMB		
	comp=Z,290nm,5.3s						
CD2				LR	LR		
	comp=N,1μm,13.2s,MS4.7						
CD2				LR	LR		
	comp=E,1μm,14.4s,MS4.7						
CD2				LR	LR		
	comp=Z,890nm,13.8s,MS4.4						
VRHR	**Novokhopersk**	**25.51**	**307**	*e*P	**P**		**02 03 58.1 -0.8**
VRHR				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.1						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
BTMT	**Batman**	**25.62**	**277**	*e*P	**P**		**02 03 59.9 0.0**
SOC	**Sochi**	**26.15**	**290**	*e*P	**P**		**02 04 03.8 -0.9**
SOC				*e**PP	pP		02 04 21.1 +6.7
SOC				*e*			02 04 55.2
SOC				*e*S	**S**		**02 08 26.9 -7.2**
SOC				*e*SS			02 09 45.7
SOC				pmax	pmax		
	comp=Z,131nm,1.7s,mb5.2						
SOC				MLR	MLR		
	comp=Z,452nm,10.0s,MS4.3						
BINT	**Bingol**	**26.23**	**279**	*e*P	**P**		**02 04 05.8 +0.4**
MNGI	**Mangalore**	**26.65**	**179**	*e*P	**P**		**02 04 11.5 +2.3**
MNGI				AMb	AMB		02 04 17.4
	comp=Z,80nm,0.9s,mb5.3						
GUMT	**Gumushane**	**26.69**	**283**	*e*P	**P**		**02 04 10.3 +0.8**
KELT	**Kelkit**	**26.91**	**282**	*i* P	**P**		**02 04 13.9 +2.4**
VORD	**Divnogorie**	**26.92**	**306**	*e*P	**P**		**02 04 09.7 -2.0**
VORD				pmax	pmax		
	comp=N,40nm,0.9s						
VORD				pmax	pmax		
	comp=E,70nm,0.9s						
VORD				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
PTK	**Pertek**	**27.06**	**280**	*e*P	**P**		**02 04 11.0 -1.9**
VOR	**Voronezh**	**27.14**	**308**	*e*P	**P**		**02 04 14.5 +0.9**
VOR				pmax	pmax		
	comp=Z,100nm,1.9s,mb5.0						
KMI	**Kunming**	**27.80**	**113**	P	**P**		**02 04 20.0 +0.5**
KMI				AP	pP		02 04 27.3 -2.0
KMI				XP	sP		02 04 31.5 -1.9
KMI				PP			02 05 07.5
KMI				S	**S**		**02 09 03.0 +2.9**
KMI				XS	sS		02 09 14.8 -1.4
KMI				SS			02 10 15.0
KMI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,142nm,3.6s						
KMI				LR	LR		
	comp=N,396nm,11.3s,MS4.5						
KMI				LR	LR		
	comp=E,680nm,11.7s,MS4.5						
KMI				LR	LR		
	comp=Z,725nm,12.5s,MS4.5						
KMI	**Kunming**	**27.80**	**113**	P	**P**		**02 04 20.0 +0.5**
KMI				**SP	sP		02 04 31.5 -1.9
KMI							02 05 07.5
KMI				S	**S**		**02 09 03.0 +2.9**
KMI				SS			02 10 15.0
KMI				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.7						
KMI				MLR	MLR		
	comp=Z,730nm,12.5s,MS4.5						
KMI	**Kunming**	**27.80**	**113**	P	**P**		**02 04 20.0 +0.5**
	comp=Z,21nm,1.0s,mb4.7						
KMI				pP	pP		02 04 27.2 -2.1
KMI				sP	sP		02 04 31.5 -1.9
KMI				PP			02 05 07.5
KMI				S	**S**		**02 09 03.0 +2.9**
KMI				sS	sS		02 09 14.7 -1.6
KMI				SS			02 10 15.0
KMI				LR	LR		
	comp=Z,730nm,12.5s,MS4.5						
XAN	**Xi'an**	**28.02**	**91**	P	**P**		**02 04 21.8 +0.3**
XAN				AP	pP		02 04 25.5 -5.7
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.6						
XAN				AMB	AMB		
	comp=Z,56nm,4.1s						
XAN				LR	LR		
	comp=N,762nm,14.4s,MS4.6						
XAN				LR	LR		
	comp=E,700nm,13.7s,MS4.6						
XAN				LR	LR		
	comp=Z,1μm,17.0s,MS4.5						
HHC	**Hu-ho-hao-te**	**28.19**	**76**	*e*P	**P**		**02 04 25.8 +2.8**
HHC				AP	pP		02 04 34.8 +2.0
HHC				XP	sP		02 04 38.9 +2.0
HHC				PP	PP		02 05 15.8 -11
HHC				S	**S**		**02 09 08.3 +2.0**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,253nm,10.2s						
HHC				LR	LR		
	comp=N,1μm,14.3s,MS4.7						
HHC				LR	LR		
	comp=E,1μm,16.1s,MS4.7						
HHC				LR	LR		
	comp=Z,1μm,14.3s,MS4.5						
GZT	**Gaziantep**	**28.84**	**277**	*i* P	**P**		**02 04 28.7 -0.1**
MOS	**Moscow**	**29.09**	**316**	*e*P	**P**		**02 04 29.9 -1.1**
MOS				*e*			02 05 23.0
MOS				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.3						
OBN	**Obninsk**	**29.49**	**314**	*e*P	**P**		**02 04 34.1 -0.4**
OBN				*e**PP	pP		02 04 53.9 +10
OBN				*e*			02 05 30.2
OBN				*e*			02 07 39.0
OBN				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.8						
OBN				MLR	MLR		
	comp=Z,400nm,21.0s,MS4.0						
CIT	**Chita**	**29.51**	**52**	*e*P	**P**		**02 04 34.8 +0.1**
CIT				*e*			02 04 51.2
CIT				*e*			02 15 04.5
CHTO	**Chiang Mai**	**29.64**	**128**	PFAKE			02 04 50.0 +14
CHTO				LR	LR		
	comp=Z,383nm,21.0s,MS4.0						
GYA	**Guiyang**	**29.86**	**106**	P	**P**		**02 04 40.4 +2.6**
GYA				AP	pP		02 04 49.8 +2.2
GYA				XP	sP		02 04 54.3 +2.6
GYA				PP	PP		02 05 40.8 -4.7
GYA				PPP			02 05 54.6
GYA				PCP	PcP		02 07 44.3 +3.9
GYA				S	**S**		**02 09 32.5 0.0**
GYA				SCP	ScP		02 11 22.3 +2.5
GYA				SCS	ScS		02 15 16.0 +1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
GYA				AMB	AMB		
	comp=Z,250nm,8.0s						
GYA				LR	LR		
	comp=N,520nm,14.7s,MS4.5						
GYA				LR	LR		
	comp=E,580nm,15.0s,MS4.5						
GYA				LR	LR		
	comp=Z,820nm,13.2s,MS4.5						
ENH	**Enshi**	**30.03**	**97**	PFAKE			02 04 50.0 +11
ENH				LR	LR		
	comp=Z,6.0nm,22.0s						
SIM	**Simferopol'**	**30.07**	**293**	*de*P	**P**		**02 04 40.6 +0.9**
SIM				pmax	pmax		
	comp=Z,41nm,0.7s,mb5.3						
SIM				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.0						
CTKT	**Corum**	**30.17**	**285**	*i* P	**P**		**02 04 40.9 +0.4**
KLMR	**Klimovskoe**	**30.20**	**326**	*e*P	**P**		**02 04 40.4 -0.4**
KLMR				pmax	pmax		
	comp=Z,48nm,1.7s,mb5.0						
NANT	**Nan**	**30.75**	**125**	⇓P	**P**		**02 04 43.0 -2.7**
	comp=Z,90nm,0.9s,mb5.6						
BOD	**Bodaibo**	**31.14**	**41**	*e*P	**P**		**02 04 48.1 -1.1**
BOD				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.0						
ASF	**Jabal al Asfar**	**31.17**	**268**	P	**P**		**02 04 50.5 +1.1**
	comp=Z,2.5nm,0.9s,mb4.0,baz=54,slow=5.2,SNR=3.2						
ASF				LR	LR		02 20 02.4
	comp=Z,156nm,18.4s,MS3.7,baz=126,slow=42						
ELDT	**Eldivan**	**31.21**	**285**	*i* P	**P**		**02 04 50.6 +0.8**
BR131	**Keskin Array S**	**31.22**	**283**	PFAKE			02 05 00.0 +10
BR131				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
BRTR	**Keskin Array B**	**31.22**	**283**	P	**P**		**02 04 50.8 +0.9**
	comp=Z,16nm,0.6s,mb5.1,baz=87,slow=6.0,SNR=113						
BJT	**Baijiatuau**	**31.80**	**76**	PFAKE			02 05 10.0 +15
BJT				LR	LR		
	comp=Z,628nm,19.0s,MS4.3						
ANTO	**Ankara**	**31.82**	**284**	*e*P	**P**		**02 04 55.5 +0.4**
	comp=Z,9.0nm,0.6s,mb4.8						
ANTO				LR	LR		
	comp=Z,177nm,19.0s,MS3.8						
ANTO	**Ankara**	**31.82**	**284**	⇓*i*P	**P**		**02 04 55.9 +0.7**
NST	**Nakhon Sawan**	**32.78**	**130**	P	**P**		**02 05 02.0 -1.6**
AKASG	**Malin Array Be**	**33.24**	**305**	P	**P**		**

ESKT Eskisehir 33.36 284 *i* P **P 02 05 08.9 +0.3**
TIA Tai'an 33.58 82 P **P 02 05 11.6 +1.1**
WHN Wuhan 33.64 93 *eP* **P 02 05 12.0 +0.9**
TKTP Tekketepe 34.16 282 *i* P **P 02 05 16.2 +0.7**
ULDT Uludag 34.49 286 *i* P **P 02 05 18.7 +0.3**
JOF Joensuu 34.59 327 *ep* **P 02 05 16.1 -3.2**
comp=Z,13nm,0.7s,mb5.0
PLOR Plostina 35.21 296⇑*i*P **P 02 05 26.3 +1.7**
DNZL Cakiroluk 35.23 282 *i* P **P 02 05 31.2 +6.4**
MLR Muntele Rosu 35.75 296 P **P 02 05 31.3 +2.1**
comp=Z,12nm,0.7s,mb4.9,baz=334,slow=4.9,SNR=30
MLR LR LR 02 21 44.3
comp=Z,456nm,20.3s,MS4.2,baz=240,slow=39
MLR Muntele Rosu 35.75 296 P **P 02 05 31.3 +2.0**
MLR pmax pmax
comp=Z,12nm,0.7s
MLR MLR MLR
comp=Z,456nm,20.3s
MLR Muntele Rosu 35.75 296⇑⇑P **P 02 05 30.9 +1.6**
MLR Muntele Rosu 35.75 296⇑*i*P **P 02 05 30.9 +1.6**
BURAR Bucovina Array 35.99 299⇑*i*P **P 02 05 31.7 +0.4**
VOIR 36.38 296⇓*i*P **P 02 05 35.6 +0.9**
MTUR Matau 36.40 295⇓*i*P **P 02 05 37.2 +2.3**
FINES FINESS Array B 36.48 323 P **P 02 05 35.2 -0.3**
comp=Z,6.2nm,0.4s,mb4.9,baz=110,slow=9.1,SNR=95
FINES LR LR 02 21 08.8
comp=Z,793nm,19.0s,MS4.5,baz=119,slow=37
FINES FINESS Array B 36.48 323 P **P 02 05 35.2 -0.3**
FINES LR LR 02 21 08.8
KAF Kangasniemi 36.54 324 *ep* **P 02 05 33.3 -2.7**
baz=105,slow=8.7
LVV L'vov 36.59 303 *eP* **P 02 05 36.3 -0.1**
LVV *e* 02 06 00.7
LVV *e* 02 06 55.3
LVV MLR MLR
comp=Z,300nm,18.0s,MS4.1
LVV MLR MLR
comp=N,1μm,16.0s,MS4.7
LVV MLR MLR
comp=E,400nm,16.0s,MS4.7
CLNS Chul'man 36.71 45 *eP* **P 02 05 35.3 -2.2**
CLNS pmax pmax
comp=Z,11nm,1.2s,mb4.6
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS MLR MLR
comp=Z,700nm,14.0s,MS4.6
CLNS MLR MLR
comp=N,100nm,12.0s
QIZ Qiongzhong 36.74 114 P **P 02 05 40.5 +2.8**
QIZ S **S 02 11 22.9 +3.7**
QIZ AMB AMB
comp=Z,73nm,2.2s,mb5.1
QIZ LR LR
comp=N,535nm,17.0s,MS4.6
QIZ LR LR
comp=E,600nm,17.4s,MS4.6
QIZ LR LR
comp=Z,511nm,12.2s
SNY Shenyang 36.85 70 *eP* **P 02 05 42.9 +4.2**
SNY PCP PcP 02 07 59.3 -0.7
SNY S **S 02 11 15.1 -5.8**
SNY XS sS 02 11 29.9 -7.3
SNY AMB AMB
comp=Z,95nm,2.9s,mb5.1
SNY LR LR
comp=N,919nm,12.0s
SNY LR LR
comp=Z,910nm,13.3s,MS4.7
KWP Kalwaria 37.46 303 *eP* **P 02 05 44.6 +0.8**
CN2 Changchun 37.76 67 *eP* **P 02 05 48.6 +2.2**
CN2 LR LR
comp=N,1μm,16.0s,MS4.9
CN2 LR LR
comp=E,600nm,16.0s,MS4.9
CN2 LR LR
comp=Z,900nm,16.0s,MS4.7
KOLS Kolonicke sedl 37.81 302 *eP* **P 02 05 46.3 -0.5**
KOLS *e*PP PP 02 07 12.2 -1.2
UZH Uzhgorod 37.83 301 *eP* **P 02 05 46.5 -0.4**
GZR Gura Zlata 37.97 296⇓*i*P **P 02 05 48.7 +0.6**
VTS Vitosha 38.24 291⇑*i*P **P 02 05 51.5 +1.1**
CRVS Cervenica-Dubn 38.34 302 *eP* **P 02 05 52.2 +0.9**
CRVS *e*PP PP 02 07 21.3 +2.0
CRVS Cervenica-Dubn 38.34 302 *eP* **P 02 05 52.3 +1.0**
CRVS *e*PP PP 02 07 21.4 +2.1
STHS Stebnicka Huta 38.43 303 *eP* **P 02 05 51.6 -0.4**
STHS *e* 02 07 29.0
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
STHS Stebnicka Huta 38.43 303 *eP* **P 02 05 51.6 -0.4**
comp=Z,3.7nm,0.8s,mb4.2
STHS *e*PP PP 02 07 29.0 +8.8
SSE Sheshan 38.67 88 P **P 02 05 55.1 +1.1**
SSE AMB AMB
comp=Z,70nm,0.6s,mb5.6
SSE AMB AMB
comp=Z,37nm,4.7s
SSE LR LR
comp=N,208nm,22.2s,MS4.0
SSE LR LR
comp=E,194nm,22.8s,MS4.0
SSE LR LR
comp=Z,160nm,17.3s
SSE Sheshan 38.67 88 P **P 02 05 55.1 +1.1**
comp=Z,70nm,0.6s,mb5.6
SSE LR LR
comp=Z,160nm,17.3s,MS3.9
BZS Buzias 38.73 297⇓*i*P **P 02 05 55.3 +0.8**
NIE Niedzica 39.03 303 *eP* **P 02 05 58.0 +0.9**
KECS Kecovo 39.04 301 *eP* **P 02 05 56.9 -0.2**
KECS *e* 02 07 39.2
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KECS Kecovo 39.04 301 *eP* **P 02 05 56.9 -0.2**
KECS *e*PP PP 02 07 39.2 +12
KECS *e* 04 43 38.1
KECS Kecovo 39.04 301 *eP* **P 02 05 56.9 -0.2**
comp=Z,4.3nm,0.9s,mb4.2
KECS *e*PP PP 02 07 39.2 +12
OJC Ojcow 39.27 304 *eP* **P 02 05 59.1 0.0**
ARCES ARCESS Array B 39.31 335 P **P 02 05 59.2 -0.3**
comp=Z,17nm,0.6s,mb5.0,baz=108,slow=8.0,SNR=69
ARCES LR LR 02 22 59.2
comp=Z,912nm,20.9s,MS4.6,baz=115,slow=37
ARCES ARCESS Array B 39.31 335 P **P 02 05 59.2 -0.3**
ARCES LR LR 02 22 59.2
ARE0 ARCESS Array S 39.31 335 *eP* **P 02 05 58.9 -0.5**
GRUS Gruza 39.71 294⇑*i*P **P 02 06 02.8 0.0**
YAK Yakutsk 39.77 37 *eP* **P 02 06 02.6 -0.6**
YAK pmax pmax
comp=Z,48nm,0.6s,mb5.4
YAK MLR MLR
comp=Z,721nm,21.0s,MS4.5
YAK Yakutsk 39.77 37 *eP* **P 02 06 02.6 -0.6**
comp=Z,48nm,0.6s,mb5.4
YAK LR LR
comp=Z,721nm,21.0s,MS4.5
VYHS Vyhne 40.12 302 *i* P **P 02 06 06.7 +0.6**
VYHS *e* 02 07 41.0
VYHS pmax pmax
comp=Z,17nm,1.6s,mb4.5
VYHS Vyhne 40.12 302 *i* P **P 02 06 06.7 +0.6**
comp=Z,17nm,1.6s,mb4.5
VYHS *e*PP PP 02 07 41.0 +2.3
DIVS Divcibare 40.17 295⇑*i*P **P 02 06 07.0 +0.5**
INCN Inchon 40.36 76 PFAKE 02 06 20.0 +12
INCN LR LR
comp=Z,193nm,22.0s,MS3.9
MDJ Mudanjiang 40.50 64 P **P 02 06 07.5 -1.8**
MDJ S **S 02 12 21.8 +6.0**
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
MDJ AMB AMB
comp=Z,1μm,14.0s
MDJ LR LR
comp=N,1μm,25.7s
MDJ LR LR
comp=Z,1μm,14.8s
MDJ Mudanjiang 40.50 64 PFAKE 02 06 20.0 +11
MDJ LR LR
comp=Z,729nm,22.0s,MS4.5
GKP Gorka Klasztor 40.59 309 *eP* **P 02 06 10.0 0.0**

BBLS Bajina Basta - 40.63 294⇑*i*P **P 02 06 11.8 +1.4**
MORC Moravsky Berou 40.77 304⇓*i*P **P 02 06 12.2 +0.7**
SMOL Smolenice 41.04 302 *eP* **P 02 06 13.6 -0.1**
KLR Kul'dur 41.08 57 *eP* **P 02 06 09.7 -4.3**
ZST Bratislava 41.31 301 *eP* **P 02 06 14.7 -1.3**
ZST MLR MLR
comp=Z,300nm,17.9s,MS4.2
KSRS Korea Array 41.33 75 P **P 02 06 15.7 -0.5**
comp=Z,1.6nm,0.8s,baz=284,slow=5.0,SNR=5.4
KSRS PcP PcP 02 08 13.2 -1.0
comp=Z,2.6nm,0.9s,baz=298,slow=2.9,SNR=5.0
KSRS LR LR 02 25 20.8
comp=Z,299nm,18.7s,baz=297,slow=39
KSP Ksiaz 41.42 305 *eP* **P 02 06 17.4 +0.6**
KSP Ksiaz 41.42 305 *eP* **P 02 06 16.7 -0.1**
VRAC Vranov 41.45 303⇓*i*P **P 02 06 17.8 +0.7**
DPC Dobruska-Polom 41.47 305 *eP* **P 02 06 17.8 +0.5**
KULM Kulim 41.60 139 *eP* **P 02 06 18.6 +0.2**
UPC Upice 41.64 305 *eP* **P 02 06 18.9 +0.2**
TIXI Tiksi 41.78 23*c i*P **P 02 06 18.9 -0.9**
TIXI pmax pmax
comp=Z,24nm,1.2s,mb4.7
TIXI Tiksi 41.78 23 *eP* **P 02 06 18.8 -1.0**
TIXI LR LR
comp=Z,873nm,19.0s,MS4.7
TREC Trest 42.17 303 *eP* **P 02 06 23.4 +0.4**
TREC *e*PP PP 02 08 12.6 +12
CONA Conrad Observa 42.18 301 *i* P **P 02 06 23.6 +0.5**
comp=Z,24nm,1.4s,mb4.6,SNR=13
HFS Hagfors 42.33 320 P **P 02 06 23.8 -0.5**
comp=Z,12nm,0.5s,mb4.8,baz=99,slow=9.8,SNR=56
HFS LR LR 02 24 31.6
comp=Z,485nm,18.2s,MS4.4,baz=88,slow=37
PVCC Panska Ves 42.55 305 *eP* **P 02 06 26.3 +0.2**
PRU Pruhonice 42.66 304 *eP* **P 02 06 27.1 +0.2**
PRU *e*PP PP 02 08 13.0 +6.8
BRG Berggiesshubel 42.89 306 *eP* **P 02 06 28.9 +0.1**
comp=Z,15nm,0.9s,mb4.7
BRG Berggiesshubel 42.89 306 *i* P **P 02 06 28.8 -0.1**
comp=Z,9.2nm,0.9s,mb4.5
BRG *i* 02 06 34.0
comp=Z,8.2nm,0.9s
BRG *e* 02 08 19.4
comp=Z,4.9nm,0.9s
BRG Berggiesshubel 42.89 306 *i* P **P 02 06 28.8 0.0**
BRG *e* 02 08 19.4
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
PSI Prapat 42.91 143 P **P 02 06 26.9 -2.1**
comp=Z,6.0nm,0.6s,mb4.5,baz=330,slow=6.1,SNR=4.8
PERS Pernice 42.95 300 *i* P **P 02 06 29.4 +0.2**
BOJS Bojanci 43.12 298 *i* P **P 02 06 30.9 +0.2**
MOA Molln 43.24 301⇑*i*P **P 02 06 31.9 +0.2**
comp=Z,13nm,1.1s,mb4.6,SNR=6.9
FBE Freiberg 43.25 306 *eP* **P 02 06 32.0 +0.3**
comp=Z,27nm,0.9s,mb5.0
VISS Visnje 43.33 298 *i* P **P 02 06 32.9 +0.5**
HABR Khabarovsk 43.36 58 *eP* **P 02 06 32.0 -0.6**
HABR S **S 02 12 52.2 -5.9**
CLL Collm 43.40 307 *eP* **P 02 06 32.6 -0.4**
comp=Z,14nm,0.8s,mb4.7
CLL Collm 43.40 307⇑*i*P **P 02 06 32.8 -0.2**
comp=Z,14nm,0.8s,mb4.7
CLL *i* 02 06 37.5
CLL Collm 43.40 307⇑*i*P **P 02 06 32.8 -0.2**
comp=Z,14nm,0.8s,mb4.7
CLL *e*pP pP 02 06 42.0 -1.0
CLL *e*PP PP 02 08 17.0 +2.8
CLL Lm 02 24 00.0
comp=Z,600nm,20.9s
GEC2 GERESS Array S 43.41 303 *eP* **P 02 06 33.2 +0.2**
comp=Z,18nm,0.8s,mb4.8
GEC2 GERESS Array S 43.41 303 *eP* **P 02 06 33.2 +0.2**
GEC2 pmax pmax
comp=Z,18nm,0.8s,mb4.8
GERES GERESS Array B 43.41 303 P **P 02 06 33.5 +0.5**
comp=Z,7.3nm,0.6s,mb4.6,baz=65,slow=7.9,SNR=92
GERES LR LR 02 25 55.9
comp=Z,434nm,20.0s,MS4.3,baz=257,slow=38
KHC Kasperske Hory 43.43 303 *eP* **P 02 06 33.5 +0.3**
KHC x x 02 06 39.0
KHC Kasperske Hory 43.43 303 *eP* **P 02 06 33.5 +0.3**
KHC *e* 02 06 39.0
NB2 NORSAR Subarra 43.55 321 P **P 02 06 33.3 -0.9**
comp=Z,20nm,0.8s,mb4.9,baz=90,slow=8.6
NOA NORSAR Array B 43.55 321 P **P 02 06 33.4 -0.8**
comp=Z,15nm,0.7s,mb4.8,baz=90,slow=8.0,SNR=31
NOA LR LR 02 25 08.3
comp=Z,405nm,21.7s,MS4.3,baz=90,slow=37
NAO01 NORSAR Array S 43.72 321 *eP* **P 02 06 34.6 -0.9**
comp=Z,19nm,0.8s,mb4.9
JAVS Javornik 43.83 299 *i* P **P 02 06 36.9 +0.5**
WET Wettzell 43.88 304 *eP* **P 02 06 36.6 -0.2**
comp=Z,13nm,0.8s,mb4.7
WET Wettzell 43.88 304 *eP* **P 02 06 36.6 -0.2**
WET pmax pmax
comp=Z,13nm,0.8s,mb4.7
TANN Tannenbergstha 43.90 305 *eP* **P 02 06 37.3 +0.3**
comp=Z,14nm,1.1s,mb4.6
VOY Vojsko 43.91 299 *eP* **P 02 06 36.8 -0.3**
VOY *e* pP 02 06 48.8 +1.7
NKC Novy Kostel 43.94 305 *eP* **P 02 06 37.6 +0.3**
NKC *e*PP PP 02 08 21.2 +1.3
WERN Wernitzgruen 43.97 305 *eP* **P 02 06 36.6 -1.0**
GUNZ Gunzen 43.99 305 *eP* **P 02 06 37.7 0.0**
comp=Z,13nm,0.9s,mb4.7
WERD Werda 43.99 306 *eP* **P 02 06 37.5 -0.2**
comp=Z,10.0nm,0.9s,mb4.5
KBA Koelnbreinsper 44.03 301 *i* P **P 02 06 38.0 0.0**
comp=Z,7.0nm,0.5s,mb4.7,SNR=12
KBA Koelnbreinsper 44.03 301 *i* P **P 02 06 38.0 0.0**
KBA pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
ROTZ Rotzenmuhle 44.18 305 *eP* **P 02 06 39.2 0.0**
comp=Z,13nm,1.2s,mb4.5
MANZ Manzenberg 44.20 305 *eP* **P 02 06 40.1 +0.7**
comp=Z,9.0nm,1.0s,mb4.5
MOX Moxa 44.38 306 *eP* **P 02 06 40.7 -0.2**
comp=Z,14nm,1.1s,mb4.6
MOX Moxa 44.38 306 *eP* **P 02 06 41.0 +0.1**
MOX LR LR
comp=Z,26nm,1.5s,mb4.7
MOX
comp=Z,600nm,15.0s
MOX Moxa 44.38 306 *eP* **P 02 06 41.0 +0.1**
MOX pmax pmax
comp=Z,26nm,1.5s,mb4.7
MOX MLR MLR
comp=Z,600nm,15.0s,MS4.6
KONO Kongsberg 44.41 319 *eP* **P 02 06 42.1 +1.1**
KONO Kongsberg 44.41 319 *eP* **P 02 06 40.0 -1.0**
comp=Z,16nm,0.8s,mb4.8
KONO LR LR
comp=Z,575nm,19.0s,MS4.5
SGO Sicignano 44.49 291 P **P 02 06 42.3 +0.6**
BSEG Bad Segeberg 44.61 311 *eP* **P 02 06 43.0 +0.4**
comp=Z,19nm,0.8s,mb5.0
GRA1 Grafenberg Arr 44.82 305 *eP* **P 02 06 45.1 +0.7**
comp=Z,28nm,0.9s,mb5.1
GRA1 LR LR
comp=Z,900nm,19.0s,MS4.7
GRF Grafenberg Arr 44.82 305 *eP* **P 02 06 45.1 +0.7**
comp=Z,28nm,0.9s,mb5.1
GRF *e*L 02 26 23.4
comp=Z,884nm,19.0s
GRF Grafenberg Arr 44.82 305 *eP* **P 02 06 45.1 +0.7**
GRF pmax pmax
comp=Z,28nm,0.9s,mb5.1
GRF MLR MLR
comp=Z,900nm,19.0s,MS4.7
GRF Grafenberg Arr 44.82 305 *eP* **P 02 06 45.1 +0.7**
GRF pmax pmax
comp=Z,28nm,0.9s,mb5.1
GRF MLR MLR
comp=Z,900nm,19.0s,MS4.7
GRFO Grafenberg 44.83 305 *eP* **P 02 06 43.6 -0.8**
GRFO pmax pmax
comp=Z,16nm,0.8s,mb4.9
GRFO MLR MLR
comp=Z,991nm,21.0s,MS4.7
GRFO Grafenberg 44.83 305 *eP* **P 02 06 43.6 -0.8**
comp=Z,16nm,0.8s,mb4.9
GRFO LR LR
comp=Z,991nm,21.0s,MS4.7
CLZ Clausthal 44.93 308 *eP* **P 02 06 45.2 0.0**
comp=Z,54nm,2.0s,mb5.0
CLZ Clausthal 44.93 308 *eP* **P 02 06 45.2 0.0**

CLZ pmax pmax
comp=Z,54nm,2.0s,mb5.0
WTTA Wattenberg 45.11 301 *i* P **P 02 06 46.6 0.0**
comp=Z,13nm,0.6s,mb4.9,SNR=18
WTTA Wattenberg 45.11 301 *i* P **P 02 06 46.6 -0.1**
WTTA pmax pmax
comp=Z,13nm,0.6s,mb4.9
FUR Furstenfeldbru 45.13 303 *eP* **P 02 06 47.4 +0.6**
comp=Z,35nm,0.8s,mb5.2
FUR Furstenfeldbru 45.13 303 *eP* **P 02 06 47.4 +0.6**
FUR pmax pmax
comp=Z,35nm,0.8s,mb5.2
WATA Walderalm 45.13 301⇓*i*P **P 02 06 46.2 -0.6**
comp=Z,6.3nm,0.8s,mb4.5,SNR=16
WATA Walderalm 45.13 301⇓*i*P **P 02 06 46.2 -0.6**
WATA pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
GTTG Gvttingen 45.23 307 *eP* **P 02 06 48.1 +0.5**
comp=Z,28nm,0.8s,mb5.1
SNTG Esanatoglia 45.33 295 P **P 02 06 49.3 +0.9**
comp=Z,23nm,0.9s,mb5.0
NRCA Norcia 45.33 295 P **P 02 06 49.1 +0.7**
comp=Z,12nm,0.7s,mb4.8
SQTA Sankt Quirin 45.41 301⇑*i*P **P 02 06 48.5 -0.5**
comp=Z,13nm,1.2s,mb4.7
SQTA Sankt Quirin 45.41 301⇑*i*P **P 02 06 48.5 -0.5**
SQTA pmax pmax
comp=Z,13nm,1.2s,mb4.6
CTI Castel Tesino 45.42 300 P **P 02 06 48.9 -0.2**
CTI pmax pmax
comp=Z,14nm,1.0s,mb4.8
CTI Castel Tesino 45.42 300 P **P 02 06 48.9 -0.2**
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 45.44 301⇓*i*P **P 02 06 48.6 -0.7**
comp=Z,8.4nm,1.1s,mb4.5,SNR=11
MOTA Moosalm 45.44 301⇓*i*P **P 02 06 48.6 -0.7**
MOTA pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
ASS Assisi 45.59 295 P **P 02 06 52.3 +1.9**
ASS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ASS Assisi 45.59 295 P **P 02 06 52.3 +1.9**
comp=Z,2.7nm,0.8s,mb4.2
RETA Reutte 45.63 302⇑*i*P **P 02 06 51.1 +0.3**
comp=Z,24nm,1.5s,mb4.9
SFI Santa Sofia 45.89 297 P **P 02 06 54.2 +1.4**
VMG Vicchio 46.08 297 P **P 02 06 56.0 +1.7**
JOW Kunigami 46.15 89 P **P 02 06 54.4 -0.4**
comp=Z,17nm,0.6s,mb5.2,baz=356,slow=2.7,SNR=3.7
BRMO Bormio 46.16 300 P **P 02 06 54.4 -0.5**
DAVA Damuels 46.26 302 *i* P **P 02 06 55.6 -0.2**
comp=Z,24nm,0.6s,mb5.3,SNR=33
STU Stuttgart 46.33 304 *eP* **P 02 06 56.5 +0.2**
comp=Z,19nm,0.9s,mb5.0
CSNT Castellina Chi 46.41 296 P **P 02 06 56.6 -0.3**
comp=Z,93nm,1.4s,mb5.5
IBBN Ibbenburen 46.42 309 *eP* **P 02 06 56.7 -0.3**
GSCL Gusciola 46.62 298 P **P 02 06 59.9 +1.3**
comp=Z,12nm,0.7s,mb5.0
ERBM Eremo 46.72 298 P **P 02 07 01.2 +1.9**
comp=Z,236nm,1.9s,mb5.8
BFO Black Forest 47.00 303 *eP* **P 02 07 01.4 -0.1**
comp=Z,11nm,0.9s,mb4.8
BFO Black Forest 47.00 303 *eP* **P 02 07 01.4 -0.1**
BFO pmax pmax
comp=Z,11nm,0.9s,mb4.8
LANF Langenberg 47.16 304 *eP* **P 02 07 02.7 -0.1**
CDF Champ du Feu 47.65 304⇑*i*P **P 02 07 06.4 -0.2**
comp=Z,25nm,0.9s,mb4.9
CDF Champ du Feu 47.65 304⇑*i*P **P 02 07 06.4 -0.2**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.9
CDF Champ du Feu 47.65 304⇑*i*P **P 02 07 06.4 -0.2**
comp=Z,12nm,0.9s,mb4.9
ECH Echery 47.78 304 *eP* **P 02 07 08.1 +0.5**
MEM Membach 47.87 307 P **P 02 07 08.0 -0.3**
MEM AP pP 02 07 17.8 -0.6
comp=Z,8.1nm,1.1s
WLF Walferdange 48.03 306 *eP* **P 02 07 08.7 -0.8**
comp=Z,20nm,1.0s,mb5.0
WLF Walferdange 48.03 306 P **P 02 07 10.3 +0.8**
comp=Z,23nm,1.7s,mb4.9
WLF AP pP 02 07 21.1 +1.5
BEBN Eben Emael 48.03 307 AP pP 02 07 18.4 -1.2
HINF Hinteralfeld 48.09 303⇑*i*P **P 02 07 09.7 -0.3**
comp=Z,28nm,1.0s,mb5.0
HINF Hinteralfeld 48.09 303⇑*i*P **P 02 07 09.7 -0.3**
HINF pmax pmax
comp=Z,14nm,1.0s,mb5.0
HINF Hinteralfeld 48.09 303⇑*i*P **P 02 07 09.7 -0.3**
comp=Z,14nm,1.0s,mb4.9
LOMF Lomont 48.24 303 *eP* **P 02 07 10.2 -1.0**
BCLA Clavier 48.36 307 E **P 02 07 17.2 +5.1**
HAU Haudompre 48.36 304⇑*i*P **P 02 07 11.8 -0.3**
comp=Z,24nm,0.8s,mb5.0
HAU *e*MLR
comp=Z,395nm,20.5s
HAU Haudompre 48.36 304⇑*i*P **P 02 07 11.8 -0.3**
HAU pmax pmax
comp=Z,12nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,400nm,20.5s,MS4.4
HAU Haudompre 48.36 304⇑*i*P **P 02 07 11.8 -0.3**
comp=Z,12nm,0.8s,mb5.0
HAU LR LR
comp=Z,400nm,20.5s,MS4.4
THEF They Montfort 48.53 304 *eP* **P 02 07 13.3 -0.1**
GIVF Givet 48.74 307⇑*i*P **P 02 07 15.1 +0.1**
comp=Z,36nm,0.9s,mb5.1
GIVF Givet 48.74 307⇑*i*P **P 02 07 15.1 +0.1**
GIVF pmax pmax
comp=Z,18nm,0.9s,mb5.1
GIVF Givet 48.74 307⇑*i*P **P 02 07 15.1 +0.1**
comp=Z,18nm,0.9s,mb5.1
LPG La Plagne 48.86 300⇑*i*P **P 02 07 16.5 +0.6**
comp=Z,37nm,0.9s,mb5.1
LPG La Plagne 48.86 300⇑*i*P **P 02 07 16.5 +0.6**
LPG pmax pmax
comp=Z,18nm,0.9s,mb5.1
LPG La Plagne 48.86 300⇑*i*P **P 02 07 16.5 +0.6**
comp=Z,18nm,0.9s,mb5.1
LPL La Plagne 48.86 300⇑*i*P **P 02 07 16.5 +0.6**
comp=Z,27nm,0.6s,mb5.1
LPL La Plagne 48.86 300⇑*i*P **P 02 07 16.5 +0.6**
LPL pmax pmax
comp=Z,14nm,0.6s,mb5.2
LPL La Plagne 48.86 300⇑*i*P **P 02 07 16.5 +0.6**
comp=Z,14nm,0.6s,mb5.2
RSL Roselend 48.88 300 *eP* **P 02 07 16.0 -0.1**
DOU Dourbes 48.88 307 P **P 02 07 16.2 +0.1**
SBF Sospel 48.93 298 *eP* **P 02 07 16.6 +0.2**
comp=Z,119nm,1.0s,mb5.6
SBF Sospel 48.93 298 *eP* **P 02 07 16.6 +0.2**
SBF pmax pmax
comp=Z,60nm,1.0s,mb5.6
SBF Sospel 48.93 298 *eP* **P 02 07 16.6 +0.2**
comp=Z,60nm,1.0s,mb5.6
CABF La Chapelle 48.95 302 *eP* **P 02 07 16.3 -0.3**
comp=Z,15nm,0.6s,mb4.9
CABF La Chapelle 48.95 302 *eP* **P 02 07 16.3 -0.3**
CABF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
CABF La Chapelle 48.95 302 *eP* **P 02 07 16.3 -0.3**
comp=Z,7.6nm,0.6s,mb4.9
MEZF Maizieres J'vi 49.05 304⇑*i*P **P 02 07 17.6 +0.3**
comp=Z,46nm,0.9s,mb5.2
MEZF Maizieres J'vi 49.05 304⇑*i*P **P 02 07 17.6 +0.3**
comp=Z,46nm,0.9s,mb5.5
MBDF Montbardon 49.09 299⇑*i*P **P 02 07 17.2 -0.5**
comp=Z,31nm,0.7s,mb5.2
MBDF Montbardon 49.09 299⇑*i*P **P 02 07 17.2 -0.5**
MBDF pmax pmax
comp=Z,15nm,0.7s,mb5.1
MBDF Montbardon 49.09 299⇑*i*P **P 02 07 17.2 -0.5**
comp=Z,15nm,0.7s,mb5.1
BAIF Baives 49.13 307⇑*i*P **P 02 07 18.2 +0.2**
comp=Z,27nm,0.8s,mb5.0
BAIF Baives 49.13 307⇑*i*P **P 02 07 18.2 +0.2**
BAIF pmax pmax
comp=Z,13nm,0.8s,mb5.0
BAIF Baives 49.13 307⇑*i*P **P 02 07 18.2 +0.2**
comp=Z,13nm,0.8s,mb5.0
MAJO Matsushiro 49.30 72 *eP* **P 02 07 17.7 -1.6**
MAJO pmax pmax
comp=Z,12nm,0.9s,mb4.9
MAJO Matsushiro 49.30 72 *eP* **P 02 07 17.7 -1.6**
comp=Z,12nm,0.9s,mb4.9

MAT Matsushiro 49.30 72 P **P 02 07 17.9 -1.4**
MJAR Matsushiro Arr 49.30 72 P **P 02 07 18.7 -0.6**
comp=Z,6.6nm,0.8s,mb4.7,baz=291,slow=9.6,SNR=17
MJAR PcP PcP 02 08 41.2 -0.5
comp=Z,2.0nm,0.8s,baz=288,slow=4.0,SNR=4.3
MJAR LR LR 02 28 28.8
comp=Z,220nm,20.0s,MS4.2,baz=260,slow=36
MJAR Matsushiro Arr 49.30 72 P **P 02 07 18.7 -0.6**
MJAR 02 08 41.2
MJAR Matsushiro Arr 49.30 72 P **P 02 07 18.7 -0.6**
MJAR PcP PcP 02 08 41.2 -0.5
MJAR LR LR 02 28 28.8
FRF La Foret Royal 49.57 298⇑ *iP* **P 02 07 21.2 -0.1**
comp=Z,31nm,0.8s,mb5.1
FRF La Foret Royal 49.57 298⇑ *iP* **P 02 07 21.2 -0.1**
FRF pmax pmax
comp=Z,15nm,0.8s,mb5.1
FRF La Foret Royal 49.57 298⇑ *iP* **P 02 07 21.2 -0.1**
comp=Z,15nm,0.8s,mb5.1
ASAJ Asahikawa 49.58 61 LR LR 02 30 06.6
comp=Z,362nm,18.5s,MS4.4,baz=142,slow=38
ORIF Oris-en-Rattie 49.63 300 *eP* **P 02 07 21.8 0.0**
comp=Z,28nm,0.8s,mb5.0
ORIF *e*MLR
comp=Z,458nm,21.0s
ORIF Oris-en-Rattie 49.63 300 *eP* **P 02 07 21.8 0.0**
ORIF pmax pmax
comp=Z,14nm,0.8s,mb5.0
ORIF Oris-en-Rattie 49.63 300 *eP* **P 02 07 21.8 0.0**
comp=Z,14nm,0.8s,mb5.0
SMRF Simiane la Rot 50.15 299 *eP* **P 02 07 25.8 0.0**
comp=Z,44nm,0.9s,mb5.2
SMRF Simiane la Rot 50.15 299 *eP* **P 02 07 25.8 0.0**
comp=Z,44nm,0.9s,mb5.5
MA2 Magadan 50.16 40 PFAKE 02 07 40.0 +14
MA2 LR LR
comp=Z,499nm,20.0s,MS4.5
LOR Lormes 50.19 303⇑ *iP* **P 02 07 25.1 -0.9**
comp=Z,21nm,1.0s,mb4.8
LOR *e*MLR
comp=Z,440nm,21.8s
LOR Lormes 50.19 303⇑ *iP* **P 02 07 25.1 -0.9**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,440nm,21.8s,MS4.4
LOR Lormes 50.19 303⇑ *iP* **P 02 07 25.1 -0.9**
comp=Z,10nm,1.0s,mb4.8
LOR LR LR
comp=Z,440nm,21.8s,MS4.4
SEY Seymchan 50.23 36 *eP* **P 02 07 29.3 +2.9**
KKM Kota Kinabalu 50.28 121 *eP* **P 02 07 28.7 +2.0**
SMF Signal de Mont 50.40 302⇑ *iP* **P 02 07 27.1 -0.6**
comp=Z,26nm,1.0s,mb4.9
SMF Signal de Mont 50.40 302⇑ *iP* **P 02 07 27.1 -0.6**
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.9
SMF Signal de Mont 50.40 302⇑ *iP* **P 02 07 27.1 -0.6**
comp=Z,13nm,1.0s,mb4.9
VIVF Saint-Julien-l 50.46 300⇑ *iP* **P 02 07 28.0 -0.1**
comp=Z,23nm,0.6s,mb5.1
VIVF Saint-Julien-l 50.46 300⇑ *iP* **P 02 07 28.0 -0.1**
VIVF pmax pmax
comp=Z,12nm,0.6s,mb5.1
VIVF Saint-Julien-l 50.46 300⇑ *iP* **P 02 07 28.0 -0.1**
comp=Z,12nm,0.6s,mb5.1
SSF Saint Saulge 50.48 303⇑ *iP* **P 02 07 27.5 -0.8**
KEST Kesra 50.66 287 P **P 02 07 30.1 +0.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=40,slow=5.4,SNR=11
AVF Avril sur Loir 50.67 303⇑ *iP* **P 02 07 29.2 -0.5**
comp=Z,41nm,0.8s,mb5.1
AVF Avril sur Loir 50.67 303⇑ *iP* **P 02 07 29.2 -0.5**
AVF pmax pmax
comp=Z,21nm,0.8s,mb5.1
AVF Avril sur Loir 50.67 303⇑ *iP* **P 02 07 29.2 -0.5**
comp=Z,21nm,0.8s,mb5.1
PLDF La Plantade 50.77 302 *eP* **P 02 07 30.0 -0.4**
HYF Humbligny 50.98 304 *eP* **P 02 07 32.0 0.0**
AGO Saint Agoulin 51.06 302 *eP* **P 02 07 32.6 -0.1**
BGF Bois d'Agland 51.08 303 *eP* **P 02 07 32.2 -0.6**
comp=Z,12nm,0.8s,mb4.6
BGF Bois d'Agland 51.08 303 *eP* **P 02 07 32.2 -0.6**
BGF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BGF Bois d'Agland 51.08 303 *eP* **P 02 07 32.2 -0.6**
comp=Z,6.2nm,0.8s,mb4.6
LBL Lubilhac 51.27 301 *eP* **P 02 07 34.0 -0.2**
LASF Ste Croix 51.28 299⇑ *iP* **P 02 07 34.6 +0.4**
comp=Z,48nm,1.0s,mb5.1
TCF Toulx Ste Croi 51.59 303⇑ *iP* **P 02 07 36.4 -0.1**
comp=Z,51nm,1.3s,mb5.0
TCF Toulx Ste Croi 51.59 303⇑ *iP* **P 02 07 36.4 -0.1**
TCF pmax pmax
comp=Z,25nm,1.3s,mb5.0
TCF Toulx Ste Croi 51.59 303⇑ *iP* **P 02 07 36.4 -0.1**
comp=Z,25nm,1.3s,mb5.0
EKA Eskdalemuir Ar 51.94 315 P **P 02 07 38.5 -0.7**
comp=Z,13nm,0.8s,mb4.9,baz=80,slow=7.7,SNR=16
ESK Eskdalemuir 51.97 315 *eP* **P 02 07 38.7 -0.7**
ESK pmax pmax
comp=Z,28nm,1.1s,mb5.1
ESK Eskdalemuir 51.97 315 *eP* **P 02 07 38.7 -0.7**
comp=Z,28nm,1.1s,mb5.1
CAF Calviac 52.16 301⇑ *iP* **P 02 07 41.1 +0.2**
comp=Z,16nm,0.8s,mb4.7
CAF Calviac 52.16 301⇑ *iP* **P 02 07 41.1 +0.2**
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CAF Calviac 52.16 301⇑ *iP* **P 02 07 41.1 +0.2**
comp=Z,7.8nm,0.8s,mb4.7
LDF La Druitiere 52.28 306⇑ *iP* **P 02 07 40.9 -0.8**
comp=Z,12nm,0.5s,mb4.8
LDF La Druitiere 52.28 306⇑ *iP* **P 02 07 40.9 -0.8**
LDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LDF La Druitiere 52.28 306⇑ *iP* **P 02 07 40.9 -0.8**
comp=Z,6.3nm,0.5s,mb4.8
RJF Les Rejaudoux 52.39 302⇑ *iP* **P 02 07 42.8 +0.3**
comp=Z,24nm,0.9s,mb4.8
RJF *e*MLR
comp=Z,259nm,21.5s
RJF Les Rejaudoux 52.39 302⇑ *iP* **P 02 07 42.8 +0.3**
RJF pmax pmax
comp=Z,12nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,260nm,21.5s,MS4.2
RJF Les Rejaudoux 52.39 302⇑ *iP* **P 02 07 42.8 +0.3**
comp=Z,12nm,0.9s,mb4.8
RJF LR LR
comp=Z,260nm,21.5s,MS4.2
FLN La Foliniere 52.45 306 *eP* **P 02 07 41.9 -1.1**
FLN *e*MLR
comp=Z,819nm,21.0s
FLN La Foliniere 52.45 306 *eP* **P 02 07 41.9 -1.1**
FLN LR LR
comp=Z,820nm,21.0s,MS4.8
DAG Danmarks Havn 52.45 343⇓ *iP* **P 02 07 42.1 -0.9**
comp=Z,4.8nm,0.7s,mb4.5
DAG Danmarks Havn 52.45 343⇓ *iP* **P 02 07 42.1 -0.9**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MTLF Montolieu 52.65 299⇑ *iP* **P 02 07 44.5 0.0**
comp=Z,18nm,0.8s,mb4.8
MTLF Montolieu 52.65 299⇑ *iP* **P 02 07 44.5 0.0**
MTLF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MTLF Montolieu 52.65 299⇑ *iP* **P 02 07 44.5 0.0**
comp=Z,8.9nm,0.8s,mb4.8
GRR Gorron 52.81 306⇑ *iP* **P 02 07 44.8 -0.8**
comp=Z,62nm,1.0s,mb5.2
GRR Gorron 52.81 306⇑ *iP* **P 02 07 44.8 -0.8**
GRR pmax pmax
comp=Z,31nm,1.0s,mb5.2
GRR Gorron 52.81 306⇑ *iP* **P 02 07 44.8 -0.8**
comp=Z,31nm,1.0s,mb5.2
MFF Saint Martin d 53.00 304⇑ *iP* **P 02 07 46.2 -0.8**
comp=Z,37nm,1.2s,mb4.9
MFF Saint Martin d 53.00 304⇑ *iP* **P 02 07 46.2 -0.8**
MFF pmax pmax
comp=Z,18nm,1.2s,mb4.9
MFF Saint Martin d 53.00 304⇑ *iP* **P 02 07 46.2 -0.8**
comp=Z,18nm,1.2s,mb4.9
KMBO Kilima Mbogo 53.00 229 P **P 02 07 48.5 +1.4**
comp=Z,9.1nm,0.7s,mb4.8,baz=34,slow=11,SNR=34
KMBO LR LR 02 29 56.9
comp=Z,112nm,19.8s,MS3.9,baz=287,slow=36
KMBO Kilima Mbogo 53.00 229 ⇓P **P 02 07 48.7 +1.7**
SNR=5.5
KMBO Kilima Mbogo 53.00 229 P **P 02 07 48.5 +1.4**
KMBO LR LR 02 29 57.0
LFF La Frestale 53.03 301⇑ *iP* **P 02 07 47.4 +0.1**
comp=Z,31nm,0.7s,mb5.0
LFF La Frestale 53.03 301⇑ *iP* **P 02 07 47.4 +0.1**
LFF pmax pmax
comp=Z,16nm,0.7s,mb5.1
LFF La Frestale 53.03 301⇑ *iP* **P 02 07 47.4 +0.1**
comp=Z,16nm,0.7s,mb5.0
SGMF Saint Gilles 53.92 306⇑ *iP* **P 02 07 53.2 -0.6**
comp=Z,37nm,0.8s,mb5.0
SGMF Saint Gilles 53.92 306⇑ *iP* **P 02 07 53.2 -0.6**
SGMF pmax pmax
comp=Z,18nm,0.8s,mb5.0
SGMF Saint Gilles 53.92 306⇑ *iP* **P 02 07 53.2 -0.6**
comp=Z,18nm,0.8s,mb5.1
EPF Esparros 54.04 299 *eP* **P 02 07 53.8 -0.9**
EBIE Bielsa 54.31 299 P **P 02 07 56.9 +0.2**
comp=Z,52nm,1.6s,mb5.2
ROSF Rostrenen 54.33 307 *eP* **P 02 07 56.5 -0.3**
QUIF Quistinic 54.42 306 *eP* **P 02 07 56.6 -0.8**
comp=Z,35nm,0.9s,mb5.0
QUIF Quistinic 54.42 306 *eP* **P 02 07 56.6 -0.8**
QUIF pmax pmax
comp=Z,17nm,0.9s,mb5.0
QUIF Quistinic 54.42 306 *eP* **P 02 07 56.6 -0.8**
comp=Z,18nm,0.9s,mb5.0
DLF Lyons Farm 54.46 313 *eP* **P 02 08 01.5 +3.7**
BILL Bilibino 54.52 27⇑ *iP* **P 02 07 57.9 -0.3**
BILL *e* 02 08 11.4
BILL *e* 02 08 16.5
BILL *e* 02 09 01.0
BILL *e*SS SS 02 19 08.1 -10
BILL pmax pmax
comp=Z,21nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,700nm,21.0s,MS4.7
BILL Bilibino 54.52 27 *eP* **P 02 07 58.0 -0.2**
comp=Z,8.6nm,0.8s,mb4.8
BILL LR LR
comp=Z,751nm,20.0s,MS4.8
ETSF Etsaut 54.70 300 *eP* **P 02 07 59.6 +0.2**
DCN Croghan 54.86 313 *eP* **P 02 08 01.1 +0.4**
SJPF Ste Jean 55.05 300 *eP* **P 02 08 02.0 0.0**
comp=Z,30nm,1.0s,mb5.0
SJPF Ste Jean 55.05 300 *eP* **P 02 08 02.0 0.0**
SJPF pmax pmax
comp=Z,15nm,1.0s,mb5.0
SJPF Ste Jean 55.05 300 *eP* **P 02 08 02.0 0.0**
comp=Z,15nm,1.0s,mb5.0
EALK Alkurruntz 55.20 300 P **P 02 08 02.8 -0.3**
comp=Z,44nm,1.8s,mb5.2
ELIZ Elizondo 55.24 300⇑ P **P 02 08 03.0 -0.4**
ELIZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ELIZ Elizondo 55.24 300⇑ P **P 02 08 03.0 -0.3**
comp=Z,9.3nm,1.0s,mb4.8
ECRI Cripan 56.12 300⇑ P **P 02 08 07.0 -2.7**
ECRI pmax pmax
comp=Z,25nm,1.1s,mb5.2
ECRI Cripan 56.12 300⇑ P **P 02 08 07.0 -2.7**
comp=Z,25nm,1.1s,mb5.2
PET Petropavlovsk 56.34 46 PFAKE 02 08 20.0 +8.8
PET LR LR
comp=Z,217nm,20.0s,MS4.2
ELAN Lanestosa 56.47 301⇑ P **P 02 08 11.4 -0.9**
comp=Z,53nm,1.7s,mb5.3
ETOR Torete 56.59 298 P **P 02 08 11.5 -1.5**
ETOR pmax pmax
comp=Z,14nm,1.9s,mb4.7
ETOR Torete 56.59 298 P **P 02 08 11.5 -1.5**
comp=Z,14nm,1.9s,mb4.7
CBIJ Chichi jima 56.69 81 LR LR 02 33 01.3
comp=Z,161nm,19.6s,MS4.1,baz=102,slow=37
ETOB Tobarra 57.21 295 P **P 02 08 16.4 -1.1**
comp=Z,67nm,1.9s,mb5.3
GUD Guadarrama 58.09 299 P **P 02 08 22.8 -0.8**
GUD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
GUD Guadarrama 58.09 299 P **P 02 08 22.8 -0.8**
comp=Z,8.5nm,1.0s,mb4.7
EHUE Huescar 58.32 295 P **P 02 08 23.3 -1.9**
EHUE pmax pmax
comp=Z,13nm,1.0s,mb4.9
EHUE Huescar 58.32 295 P **P 02 08 23.3 -1.9**
comp=Z,13nm,1.0s,mb4.9
ESDC Sonseca Array 58.41 297 P **P 02 08 25.5 -0.3**
comp=Z,5.1nm,0.5s,mb4.8,baz=56,slow=7.1,SNR=98
ESDC LR LR 02 36 41.7
comp=Z,190nm,18.2s,MS4.2,baz=330,slow=39
ESDC Sonseca Array 58.41 297 ⇑P **P 02 08 25.6 -0.3**
comp=Z,9.6nm,0.4s,mb5.2
ESLA Sonseca Array 58.41 297 *eP* **P 02 08 25.5 -0.3**
comp=Z,1.1nm,0.7s,mb4.0
ENIJ Nijar 58.45 294 P **P 02 08 23.8 -2.3**
ENIJ pmax pmax
comp=Z,24nm,1.1s,mb5.1
ENIJ Nijar 58.45 294 P **P 02 08 23.8 -2.3**
comp=Z,24nm,1.1s,mb5.1
EQES Quesada 58.66 295 P **P 02 08 27.3 -0.3**
comp=Z,38nm,1.6s,mb5.2
EBAN Banos Encina 58.99 296 P **P 02 08 29.7 -0.2**
EBAN pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
EBAN Banos Encina 58.99 296 P **P 02 08 29.7 -0.2**
comp=Z,10nm,0.7s,mb5.0
ECOG Cogollos-Vega 59.26 295 P **P 02 08 30.5 -1.2**
ECOG pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ECOG Cogollos-Vega 59.26 295 P **P 02 08 30.5 -1.3**
comp=Z,3.2nm,0.6s,mb4.5
ERUA La Rua 59.29 302 P **P 02 08 27.3 -4.7**
ERUA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ERUA La Rua 59.29 302 P **P 02 08 27.3 -4.7**
comp=Z,9.4nm,0.9s,mb4.8
PBRG Braganca 59.30 301 *eP* **P 02 08 32.3 +0.3**
EGUA Guajares 59.47 294 P **P 02 08 32.6 -0.6**
EGUA pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
EGUA Guajares 59.47 294 P **P 02 08 32.6 -0.6**
comp=Z,1.9nm,0.8s,mb4.2
ERON Agron 59.55 295⇑ P **P 02 08 31.9 -1.8**
comp=Z,4.3nm,0.7s,mb4.6
ELUQ Luque 59.61 295⇑ P **P 02 08 33.4 -0.8**
ELUQ pmax pmax
comp=Z,21nm,0.8s,mb5.2
ELUQ Luque 59.61 295⇑ P **P 02 08 33.4 -0.8**
comp=Z,21nm,0.8s,mb5.2
PVRL Vila Real 60.19 301 *eP* **P 02 08 38.4 +0.2**
PVIS Viseu 60.58 300 *eP* **P 02 08 41.0 +0.2**
PCBR Castelo Branco 60.72 299 *eP* **P 02 08 41.2 -0.6**
ESPR Espera 61.05 295 P **P 02 08 40.9 -3.1**
comp=Z,23nm,1.4s,mb5.1
EMIN Mina Concepcio 61.18 297 P **P 02 08 42.0 -2.9**
comp=Z,23nm,2.2s,mb4.9
PESTR Estremoz 61.27 298 *eP* **P 02 08 46.7 +1.2**
EGRO El Granado 61.85 297 P **P 02 08 48.4 -1.1**
comp=Z,31nm,1.3s,mb5.3
TNA Tin City 64.55 24 PFAKE 02 09 20.0 +13
TNA LR LR
comp=Z,280nm,20.0s,MS4.5
GUMO Guam 66.41 92 LR LR 02 39 39.1
comp=Z,90nm,18.6s,MS4.0,baz=290,slow=37
IMA2 Indian Mountai 68.23 19 *eP* **P 02 09 29.4 -1.4**
TOA0 Torodi Ar. Sit 68.51 269⇑ *iP* **P 02 09 32.0 -0.6**
TORD Torodi Ar. Bea 68.51 269 P **P 02 09 32.2 -0.5**
comp=Z,33nm,0.5s,mb5.5,baz=48,slow=5.6,SNR=714
TORD LR LR 02 43 55.6
comp=Z,74nm,18.5s,MS4.0,baz=65,slow=40
TORD Torodi Ar. Bea 68.51 269 P **P 02 09 32.2 -0.5**
TORD LR LR 02 43 55.6
MSKU Masuku 69.07 249 PFAKE 02 09 50.0 +14
MSKU LR LR
comp=Z,47nm,22.0s,MS3.7
LSZ Lusaka 69.64 228 ⇓P **P 02 09 40.4 +0.8**
SNR=5.2
LSZ Lusaka 69.64 228 *eP* **P 02 09 40.1 +0.5**
LSZ pmax pmax
comp=Z,25nm,1.3s,mb5.0
LSZ MLR MLR
comp=Z,266nm,21.0s,MS4.5
LSZ Lusaka 69.64 228 *eP* **P 02 09 40.1 +0.5**
comp=Z,25nm,1.3s,mb5.0
LSZ LR LR
comp=Z,266nm,21.0s,MS4.5
INK Inuvik 70.29 11 P **P 02 09 42.7 -0.9**
comp=Z,9.0nm,0.9s,mb4.7,baz=3.8,slow=7.3,SNR=30
INK LR LR 02 43 28.4
comp=Z,158nm,18.3s,MS4.3,baz=90,slow=38
COLA College 70.62 18 *eP* **P 02 09 44.5 -1.2**
COLA College 70.62 18 *eP* **P 02 09 44.4 -1.2**
comp=Z,15nm,0.9s,mb4.9
DAWY Dawson 73.16 15 *eP* **P 02 09 59.6 -1.2**
FITZ Fitzroy Crossi 74.71 130⇑ *iP* **P 02 10 10.3 +0.4**
comp=Z,29nm,0.9s,mb5.2
FITZ Fitzroy Crossi 74.71 130 P **P 02 10 10.4 +0.5**
comp=Z,22nm,1.0s,mb5.0,baz=332,slow=4.7,SNR=20
KAKA Kakadu 74.92 121 *eP* **P 02 10 10.8 -0.3**
comp=Z,17nm,0.6s,mb5.2
YKA Yellowknife Ar 77.89 4 P **P 02 10 27.0 -1.0**
comp=Z,5.2nm,0.6s,mb4.7,baz=350,slow=5.8,SNR=100
YKA PKKPbc PKKPbc 02 29 26.3 -2.3
comp=Z,0.3nm,0.7s,baz=167,slow=2.2,SNR=6.6
YKA LR LR 02 46 50.1
comp=Z,266nm,19.0s,MS4.6,baz=355,slow=37
YKA Yellowknife Ar 77.89 4 P **P 02 10 27.0 -1.0**
YKA PKKPbc PKKPbc 02 29 26.3 -2.3
YKA LR LR 02 46 50.1
LIC Lamto 77.98 268⇑ *iP* **P 02 10 28.3 -0.2**
comp=Z,17nm,0.7s,mb4.8
LIC *e*MLR
comp=Z,166nm,22.8s
LIC Lamto 77.98 268⇑ *iP* **P 02 10 28.3 -0.2**
comp=Z,8.6nm,0.7s,mb4.8
LIC LR LR
comp=Z,80nm,22.8s,MS4.0
LBTB Lobatse 78.88 224 *eP* **P 02 10 34.1 +0.6**
LBTB pmax pmax
comp=Z,15nm,0.5s,mb5.2
LBTB MLR MLR
comp=Z,321nm,21.0s,MS4.6
LBTB Lobatse 78.88 224 *eP* **P 02 10 34.1 +0.7**
comp=Z,15nm,0.5s,mb5.2
LBTB LR LR
comp=Z,321nm,21.0s,MS4.6
TSUM Tsumeb 79.03 234 *eP* **P 02 10 34.6 +0.4**
comp=Z,7.9nm,1.1s,mb4.6
SCHQ Schefferville 80.18 338 P **P 02 10 39.8 -0.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=71,slow=8.6,SNR=6.0
SCHQ LR LR 02 45 45.0
comp=Z,152nm,20.1s,MS4.3,baz=8.1,slow=35
WRA Warramunga Arr 81.45 125 P **P 02 10 47.3 0.0**
comp=Z,25nm,0.7s,mb5.3,baz=325,slow=5.2,SNR=132
WRA PKKPbc PKKPbc 02 29 21.6 +0.8
comp=Z,0.4nm,0.4s,baz=142,slow=1.9,SNR=4.7
WB2 Warramunga Arr 81.46 125⇑ *iP* **P 02 10 47.3 0.0**
KLBR Kellerberrin 81.51 144 *eP* **P 02 10 46.9 -0.7**
comp=Z,18nm,1.0s,mb5.0
NWAO Narrogin (SRO) 82.40 145 P **P 02 10 51.6 -0.7**
comp=Z,7.6nm,0.7s,mb4.7,baz=343,slow=5.4,SNR=3.6
ASAR Alice Springs 83.92 127 P **P 02 10 59.2 -0.9**
comp=Z,15nm,0.7s,mb5.2,baz=320,slow=4.5,SNR=69
FORT Forrest 85.97 136 *eP* **P 02 11 10.3 -0.1**
comp=Z,40nm,0.7s,mb5.8
EDM Edmonton 87.21 5 *eP* **P 02 11 15.9 -0.6**
CTA Charters Tower 89.45 117 *eP* **P 02 11 27.1 0.0**
comp=Z,7.2nm,0.9s,mb5.0
CTA Charters Tower 89.45 117 *eP* **P 02 11 27.1 0.0**
CTA pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 90.03 354 P **P 02 11 28.7 -1.1**
comp=Z,2.6nm,0.9s,mb4.6,baz=28,slow=5.7,SNR=5.0
ULM LR LR 02 55 03.6
comp=Z,309nm,20.1s,MS4.7,baz=27,slow=38
EYMN Ely 91.85 351 PFAKE 02 11 50.0 +12
EYMN LR LR
comp=Z,468nm,21.0s,MS4.9
EGMT Eagleton 92.58 3 PFAKE 02 11 50.0 +8.4
EGMT LR LR
comp=Z,351nm,21.0s,MS4.8
WES Weston 92.61 335 PFAKE 02 11 50.0 +8.2
WES LR LR
comp=Z,749nm,20.0s,MS5.1
CHMT Chamberlain Mo 93.49 5 *eP* **P 02 11 45.0 -0.8**
LAO LASA Array 93.99 0 PFAKE 02 12 00.0 +12
LAO LR LR
comp=Z,616nm,20.0s,MS5.1
STKA Stephens Creek 94.54 128 *eP* **P 02 11 50.0 -0.7**
comp=Z,3.5nm,1.1s,mb4.7
STKA Stephens Creek 94.54 128 P **P 02 11 49.8 -0.8**
comp=Z,3.8nm,0.8s,mb4.8,baz=323,slow=9.9,SNR=6.7
STKA LR LR 02 55 42.3
comp=Z,114nm,20.4s,MS4.3,baz=278,slow=36
BOZ Bozeman (W) 94.86 4 PFAKE 02 12 00.0 +7.9
BOZ LR LR
comp=Z,363nm,19.0s,MS4.9
RLMT Red Lodge 95.50 3 PFAKE 02 12 10.0 +15
RLMT LR LR
comp=Z,404nm,19.0s,MS4.9
MCMT McKenzie Canyo 95.60 5 *eP* **P 02 11 55.5 0.0**
YMR Madison River 95.87 4 PFAKE 02 12 10.0 +13
YMR LR LR
comp=Z,993nm,20.0s,MS5.3
LKWY Lake 96.00 4 PFAKE 02 12 10.0 +13
LKWY LR LR
comp=Z,418nm,19.0s,MS4.9
RSSD Black Hills 96.55 359 PFAKE 02 12 10.0 +10
RSSD LR LR
comp=Z,346nm,20.0s,MS4.8
HLID Hailey 96.73 6 PFAKE 02 12 10.0 +9.3
HLID LR LR
comp=Z,341nm,19.0s,MS4.8
AHID Auburn Hatcher 97.76 4 PFAKE 02 12 20.0 +15
AHID LR LR
comp=Z,237nm,20.0s,MS4.7
PDAR Pinedale Array 97.84 3 P **P 02 12 05.5 -0.2**
comp=Z,0.4nm,0.8s,mb4.0,baz=56,slow=3.7,SNR=3.5
PDAR LR LR 02 56 51.9
comp=Z,191nm,21.9s,MS4.5,baz=17,slow=36
HWUT Hardware Ranch 98.89 5 PFAKE 02 12 20.0 +10
HWUT LR LR
comp=Z,287nm,19.0s,MS4.8
BMN Battle Mountai 99.54 9 PFAKE 02 12 20.0 +6.7
BMN LR LR
comp=Z,498nm,21.0s,MS5.0
MPU Maple Canyon 100.47 5 PFAKE 02 12 30.0 +13
MPU LR LR
comp=Z,1μm,22.0s,MS5.5
ISCO Idaho Springs 100.88 0 PFAKE 02 12 30.0 +11
ISCO LR LR
comp=Z,572nm,20.0s,MS5.1
KSU1 Kansas State U 101.16 353 PFAKE 02 12 30.0 +10
KSU1 LR LR
comp=Z,290nm,19.0s,MS4.8
CBKS Cedar Bluff 101.69 355 PFAKE 02 12 30.0 +7.2
CBKS LR LR
comp=Z,327nm,20.0s,MS4.8
SDCO Great Sand Dun 102.93 360 PFAKE 02 12 40.0 +12
SDCO LR LR
comp=Z,523nm,19.0s,MS5.1
PLAL Pickwick Lake 103.96 345 PFAKE 02 12 40.0 +7.1
PLAL LR LR
comp=Z,382nm,22.0s,MS4.9
OXF Oxford 104.67 346 PFAKE 02 12 50.0 +14
OXF LR LR
comp=Z,344nm,22.0s,MS4.8
MIAR Mount Ida 105.30 350 PFAKE 02 17 00.0 +7.2
MIAR LR LR
comp=Z,346nm,19.0s,MS4.9
ANMO Albuquerque 105.72 1 PFAKE 02 17 00.0 +6.5
ANMO LR LR
comp=Z,563nm,21.0s,MS5.1
NATX Nacogdoches 108.19 350 PFAKE 02 17 10.0 +12
NATX LR LR
comp=Z,348nm,20.0s,MS4.9
MNTX Cornudas Mount 108.97 360 PFAKE 02 17 10.0 +10
MNTX LR LR
comp=Z,203nm,20.0s,MS4.7
JCT Junction City 109.98 355 PFAKE 02 17 10.0 +8.5
JCT LR LR
comp=Z,283nm,20.0s,MS4.8
SDV Santo Domingo 121.85 318 PFAKE 02 17 40.0 +16
SDV LR LR
comp=Z,116nm,21.0s,MS4.5
TGUH Tegucigalpa,Un 123.88 339 PFAKE 02 17 40.0 +12
TGUH LR LR
comp=Z,112nm,19.0s,MS4.5
JTS JuntasAbangare 126.72 334 PFAKE 02 17 50.0 +16
JTS LR LR
comp=Z,61nm,21.0s,MS4.2

ROSC El Rosal 127.17 320 PKP PKPdf 02 17 36.1 +1.7
comp=Z,4.8nm,0.5s,baz=78,slow=15,SNR=4.7
VNDA Vanda 127.83 164 PKP PKPdf 02 17 34.2 -1.4
comp=Z,1.8nm,0.9s,baz=306,slow=1.5,SNR=6.8
VNDA Vanda 127.83 164 PKP PKPdf 02 17 34.2 -1.4
VNDA LR LR
comp=Z,274nm,20.0s,MS4.9
RAR Rarotonga 130.50 85 PFAKE 02 17 50.0 +9.2
RAR LR LR
comp=Z,1.0nm,19.0s
OTAV Otavalo 133.19 321 PFAKE 02 18 00.0 +14
OTAV LR LR
comp=Z,120nm,20.0s,MS4.6
LPAZ La Paz 140.00 295 PKP PKPdf 02 17 59.5 +1.0
comp=Z,1.3nm,0.8s,baz=280,slow=5.9,SNR=5.9
LPAZ La Paz 140.00 295 PKP PKPdf 02 17 59.5 +1.0
TRQA Tornquist 146.30 259 *e*PKPdf PKPdf 02 18 10.0 +0.5
LCO Las Campanas 149.51 280 *e*PKPbc PKPbc 02 18 19.6 +0.2
PLCA Paso Flores 153.38 256 PKPbc PKPbc 02 18 28.0 -0.3
comp=Z,6.3nm,1.1s,baz=63,slow=3.3,SNR=5.2
PLCA Paso Flores 153.38 256 PKIKP PKPbc 02 18 28.0 -0.3
PLCA pmax pmax
comp=Z,6.0nm,1.1s

IDC 24 02:24:08.9±20.0, 369S×12910E, h140km±209km, mb3.4/2, mb1 3.6/4, mb1mx3.3/17, mbtmp3.4/4, ML3.9/2, Error ellipse: s-maj=125.2km s-min=53.3km az=47.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.72**	**193**	P	Pn	02 27 30.9	+0.7
	0.2nm,0.3s,baz=177,slow=17,SNR=5.2						
WRA	**Warramunga Arr**	**16.94**	**163**	P	Pn	02 27 56.5	-1.0
	0.7nm,0.3s,baz=341,slow=12,SNR=19						
ASAR	**Alice Springs**	**20.39**	**167**	P	P	02 28 35.1	+0.5
	6.7nm,0.8s,baz=346,slow=12,SNR=79						
MKAR	**Makanchi Array**	**64.98**	**326**	P	P	02 34 33.9	+0.1
	0.2nm,0.4s,baz=114,slow=9.3,SNR=6.2						

*NEIC **24** 02:25:29.4±2.0, 3621N×14089E, h35km, MG3.8(JMA), Error ellipse: s-maj=48.2km s-min=14.0km az=222.0*
*ISCJB **24** 02:25:34.5±0.5, 3594N±003×140.19E±005, h72km±5km, mb3.7/4, Error ellipse: s-maj=7.1km s-min=5.1km az=10.6*
*IDC **24** 02:25:35.3±1.1, 3507N×13779E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=31.8km s-min=16.5km az=86.0*
*JMA **24** 02:25:35.8±0.1, 3599N×140.16E, h61km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs241.00000°, δ3.00000°, λ162.00000°. NP2: φs349.00000°, δ89.00000°, λ87.00000°. Principal axes: T Plg46.0000°, Azm256.0000°; N Plg3.0000°, Azm349.0000°; P Plg44.0000°, Azm82.0000°;*
JMA Felt II J1.

ISC 24 02:25:35.5±0.5, 3594N±003×14018E±005, h64km±6km, n20, σ0°56/32, mb3.7/4, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.28**	**2**	⇑P	**Pn**	**02 25 45.9**	**-0.1**
JYT				S	**Sn**	**02 25 52.9**	**-0.6**
JAG	**Ashikaga**	**0.76**	**309**	⇓P	**Pn**	**02 25 50.6**	**-0.1**
JAG				*e*S	**Sn**	**02 26 01.1**	**-0.8**
JRY	**Ryogami san**	**1.04**	**274**	⇓P	**Pn**	**02 25 54.4**	**+0.1**
JRY				S	**Sn**	**02 26 07.8**	**-0.4**
JKT	**Katashina**	**1.11**	**318**	⇓P	**Pn**	**02 25 55.0**	**-0.2**
JKT				S	**Sn**	**02 26 09.8**	**-0.1**
JOD2	**Odawara 2**	**1.12**	**233**	⇓P	**Pn**	**02 25 55.4**	**+0.1**
JOD2				S	**Sn**	**02 26 09.0**	**-1.0**
BSO3	**Boso 3**	**1.17**	**167**	P	**Pn**	**02 25 56.2**	**+0.3**
JIM2	**Oshima 3**	**1.37**	**207**	P	**Pn**	**02 25 58.0**	**-0.5**
JIM2				S	**Sn**	**02 26 15.3**	**-0.5**
JYN	**Shimob**	**1.41**	**252**	⇓P	**Pn**	**02 25 59.6**	**+0.6**
JYN				S	**Sn**	**02 26 16.9**	**+0.2**
BSO1	**Boso 1**	**1.44**	**153**	P	**Pn**	**02 26 00.2**	**+0.7**
JFY	**Yanaizu**	**1.51**	**345**	⇓P	**Pn**	**02 26 00.7**	**+0.3**
JFY				S	**Sn**	**02 26 19.4**	**+0.2**
JFK	**Kawauchi**	**1.53**	**21**	⇑P	**Pn**	**02 26 00.3**	**-0.4**
JFK				S	**Sn**	**02 26 19.7**	**+0.1**
JFT	**Otama**	**1.58**	**4**	P	**Pn**	**02 26 01.7**	**+0.4**
MJAR	**Matsushiro Arr**	**1.70**	**291**	Pn	**Pn**	**02 26 03.0**	**0.0**
	49nm,0.3s,baz=92,slow=8.8,SNR=671						
MJAR				Sn	**Sn**	**02 26 24.8**	**+1.0**
	15nm,0.3s,baz=40,slow=5.8,SNR=8.5						
MAJO	**Matsushiro**	**1.71**	**291**	*e*Pn	**Pn**	**02 26 03.7**	**+0.7**
MAT	**Matsushiro**	**1.71**	**291**	P	**Pn**	**02 26 02.6**	**-0.5**
MAT				S	**Sn**	**02 26 24.7**	**+0.8**
JHJ	**Hachijo jima 2**	**2.84**	**187**	Pn	**Pn**	**02 26 19.9**	**+1.5**
	24nm,0.3s,baz=249,slow=18,SNR=14						
JHJ				Sn	**Sn**	**02 26 51.6**	**+0.2**
	42nm,0.3s,baz=92,slow=24,SNR=7.2						
MKAR	**Makanchi Array**	**43.87**	**303**	P	**P**	**02 33 34.9**	**-0.6**
	0.6nm,0.8s,mb3.4,baz=81,slow=11,SNR=4.8						
FITZ	**Fitzroy Crossi**	**55.49**	**197**	P	**P**	**02 35 03.1**	**-0.7**
	1.9nm,0.9s,mb4.1,baz=14,slow=8.3,SNR=3.9						
WRA	**Warramunga Arr**	**55.85**	**187**	P	**P**	**02 35 05.7**	**-0.7**
	0.8nm,0.5s,mb4.0,baz=0.6,slow=7.6,SNR=9.2						
ASAR	**Alice Springs**	**59.58**	**187**	P	**P**	**02 35 32.6**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=12,slow=10,SNR=4.8						

*CSEM **24** 03:19:39.5, 1204N×4383E, h10km, ML3.5, After DHMR*

DHMR 24 03:19:39.5±0.8, 1204N×4383E, h11km±10km, ML3.5, 2C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.34**	**57**	*i* P	Pn	03 20 03.5	-0.6
ADEN				*i* S	Sb	03 20 22.9	+1.1
ADEN				AML	AML	03 20 28.8	
	comp=E,1μm,0.5s						
ADEN	**Aden**	**1.34**	**57**	*i* P	Pn	03 20 03.5	-0.7
ADEN				*i* S	Sb	03 20 22.9	+1.1
	comp=E,672nm,0.5s						
UDYN	**Al 'Udayn**	**1.92**	**4**	*i* P	Pn	03 20 13.5	+1.4
UDYN				*i* S	Sn	03 20 39.6	+3.4
UDYN				AML	AML	03 20 47.4	
	comp=N,439nm,0.4s						
UDYN	**Al 'Udayn**	**1.92**	**4**	*i* P	Pn	03 20 13.5	+1.4
UDYN				*i* S	Sn	03 20 39.6	+3.4
	comp=N,219nm,0.4s						
LBOS		**2.28**	**37**	⇑*i* P	Pn	03 20 19.6	+2.5
LBOS				*i* S	Sn	03 20 50.4	+5.2
BDHA	**Al Bayda'**	**2.56**	**41**	*i* P	Pn	03 20 23.9	+2.9
BDHA				*i* S	Sn	03 20 58.5	+6.4
BDHA				AML	AML	03 21 04.8	
	comp=E,239nm,0.6s						
DHBB	**Dhamar BB**	**2.57**	**12**	⇑*i* P	Pn	03 20 24.4	+3.3
DHBB				*i* S	Sn	03 20 58.7	+6.3
HAJJ	**Hajjah**	**3.64**	**356**	*i* P	Pn	03 20 38.2	+2.4
HAJJ				*i* S	Sn	03 21 24.4	+5.7

*ISCJB **24** 03:43:36.6±0.2, 3375N±002×11602W±002, h10km, Error ellipse: s-maj=2.5km s-min=2.2km az=163.5*
*IDC **24** 03:43:36.3±2.2, 3362N×11608W, h0km, ML3.6/2, Error ellipse: s-maj=30.6km s-min=13.5km az=45.0*
*NEIC **24** 03:43:38.9, 3371N×11605W, h13km, ML4.0(PAS), After PAS.*
NEIC Felt [IV] at Coachella; [III] at Borrego Springs, El Cajon, Escondido, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, Rancho Mirage, Poway, San Diego, Thermal and Thousand Palms; [II] at Carlsbad, Cathedral City, Julian, Lakeside, La Mesa, Niland, Ramona, San Marcos, Santee and Twentynine Palms. Felt at Aguanga, Alpine, Anza, Calimesa, Chula Vista, Desert Hot Springs, Encinitas, Hemet, Idyllwild, Jamul, Joshua Tree, Moreno Valley, Mountain Center, Oceanside, Pala, Pasadena, Ranchita, San Clemente, San Jacinto, San Juan Capistrano, Solana Beach, Valley Center, Vista, Warner Springs and Yucca Valley.

ISC 24 03:43:37.3±0.3, 3371N±001×11606W±002, h8km±2km, n97, σ1°07/152, 26C-35D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BELC	**Belle Mtn.**	**0.29**	**10**	⇑P	**Pg**	**03 43 44.6**	**+1.6**
	baz=0.3,SNR=1000						
BELC				⇓S	**Sg**	**03 43 48.7**	**+1.8**
	baz=0.3						
PFO	**Pinyon Flat Ob**	**0.35**	**253**	*e*Pg	**Pg**	**03 43 45.1**	**+1.1**
PFO				*e*Sg	**Sg**	**03 43 50.4**	**+1.8**
PFO	**Pinyon Flat Ob**	**0.35**	**253**	⇑P	**Pg**	**03 43 45.4**	**+1.4**
	baz=0.3,SNR=1000						
PFO				⇑S	**Sg**	**03 43 50.5**	**+1.8**
	baz=0.3						
BC3	**Big Chuckw Mtn**	**0.51**	**96**	⇑P	**Pg**	**03 43 48.3**	**+1.2**
	baz=0.5,SNR=1000						
BC3				⇓S	**Sg**	**03 43 55.6**	**+1.9**
	baz=0.5						
SWSC	**Sam W. Stewart**	**0.80**	**164**	⇓P	**Pg**	**03 43 52.6**	**0.0**
	baz=0.8,SNR=1000						
SWSC				⇓S	**Sg**	**03 44 03.5**	**+0.5**
	baz=0.8						
MONP	**Monument Peak**	**0.87**	**200**	P	**Pg**	**03 43 54.5**	**+0.5**
	baz=0.8,SNR=1000						
MONP				⇓S	**Sg**	**03 44 06.0**	**+0.6**
	baz=0.8						
IRM	**Iron Mountain**	**0.88**	**59**	P	**Pg**	**03 43 54.9**	**+0.8**
	baz=0.9,SNR=1000						
IRM				⇑S	**Sg**	**03 44 06.8**	**+1.3**
	baz=0.9						
BBRC	**Big Bear Sol-O**	**0.90**	**308**	P	**Pg**	**03 43 55.4**	**+0.7**
	baz=0.9,SNR=480						
BBRC				⇑S	**Sg**	**03 44 07.7**	**+1.3**
	baz=0.9						
MURC	**Murrieta**	**0.96**	**264**	P	**Pg**	**03 43 56.1**	**+0.4**
	baz=0.9,SNR=807						
MURC				⇓S	**Sg**	**03 44 08.9**	**+0.7**
	baz=0.9						
DVTC	**Desert V Tower**	**1.05**	**182**	P	**Pg**	**03 43 56.8**	**-0.7**
	baz=1.0,SNR=1000						
DVTC				⇓S	**Sg**	**03 44 10.5**	**-0.6**
	baz=1.0						
GMRC	**Granite Mounta**	**1.12**	**17**	⇑P	**Pg**	**03 43 58.7**	**0.0**
	baz=1.1,SNR=1000						
GMRC				⇓S	**Sg**	**03 44 14.1**	**+0.9**
	baz=1.1						
HEC	**Hector,Ludlow**	**1.14**	**349**	⇓P	**Pg**	**03 43 58.9**	**-0.3**
	baz=1.2,SNR=866						
HEC				⇓S	**Sg**	**03 44 15.6**	**+1.7**
	baz=1.2						
109C	**Camp Elliot, M**	**1.20**	**227**	⇑P	**Pb**	**03 43 59.6**	**-0.7**
	baz=1.2,SNR=394						
109C				⇑S	**Sb**	**03 44 15.7**	**-0.2**
	baz=1.2						
Y12C	**Blythe**	**1.28**	**88**	P	**Pn**	**03 44 00.2**	**-1.2**
	baz=1.3,SNR=1000						
Y12C				⇓S	**Sb**	**03 44 19.0**	**+0.8**
	baz=1.3						
RRX	**Edison Barstow**	**1.40**	**326**	⇓P	**Pn**	**03 44 02.3**	**-0.8**
	baz=1.4,SNR=32						
RRX				⇓S	**Sb**	**03 44 22.5**	**+0.7**
	baz=1.4						
BFSC	**Mount Baldy St**	**1.43**	**292**	⇑P	**Pn**	**03 44 02.9**	**-0.6**
	baz=1.4,SNR=614						
BFSC				⇓S	**Sn**	**03 44 23.1**	**+0.6**
	baz=1.4						
NEE2	**Needles Airpor**	**1.59**	**48**	⇓P	**Pn**	**03 44 05.2**	**-0.5**
	baz=1.6,SNR=110						
GSC	**Goldstone**	**1.70**	**339**	⇓P	**Pn**	**03 44 06.7**	**-0.5**
	baz=1.7,SNR=103						
TUQ	**Turquoise Mtn.**	**1.72**	**4**	P	**Pn**	**03 44 07.3**	**-0.3**
	baz=1.7,SNR=1000						
Y13A	**Salome**	**1.86**	**86**	⇑P	**Pn**	**03 44 08.2**	**-1.2**
	baz=1.9,SNR=27						
W12A	**Cal Nev Ari**	**1.86**	**31**	⇓P	**Pn**	**03 44 08.7**	**-0.7**
	baz=1.9						
DECC	**Green Verdugo**	**1.96**	**287**	⇓P	**Pn**	**03 44 10.3**	**-0.6**
	baz=1.9						
EDW2	**Edwards Air Fo**	**1.98**	**307**	P	**Pn**	**03 44 10.2**	**-0.8**
	baz=2.0,SNR=55						
CIS	**Catalina Islan**	**1.98**	**262**	⇓P	**Pn**	**03 44 10.4**	**-0.7**
	baz=2.0,SNR=179						
X13A	**Yucca**	**2.05**	**64**	⇑P	**Pn**	**03 44 11.6**	**-0.3**
	baz=2.1,SNR=123						
V11A	**Goodsprings**	**2.18**	**13**	⇓P	**Pn**	**03 44 14.1**	**+0.3**
	baz=2.2,SNR=95						
SHOC	**Shoshone**	**2.19**	**355**	⇓P	**Pn**	**03 44 13.7**	**-0.2**
	baz=2.2,SNR=22						
LRMC	**Laurel Mountai**	**2.22**	**323**	⇓P	**Pn**	**03 44 13.6**	**-0.7**
	baz=2.2,SNR=93						
V12A	**Nelson**	**2.24**	**26**	⇓P	**Pn**	**03 44 14.8**	**+0.1**
	baz=2.3,SNR=52						
W13A	**Hualapai Mount**	**2.27**	**52**	⇓P	**Pn**	**03 44 14.6**	**-0.4**
	baz=2.3,SNR=35						
OSI	**Osito Adit**	**2.39**	**293**	⇑P	**Pn**	**03 44 16.6**	**-0.1**
	baz=2.4						
BLG	**Laguna Peak**	**2.53**	**280**	⇓P	**Pn**	**03 44 18.3**	**-0.4**
	baz=2.5,SNR=10						
Y14A	**Wickenburg**	**2.55**	**84**	⇑P	**Pn**	**03 44 18.4**	**-0.5**
	baz=2.6						
Z14A	**Wintersburg**	**2.62**	**97**	⇓P	**Pn**	**03 44 18.7**	**-1.2**
	baz=2.6,SNR=28						
MPMC	**Manual Prospec**	**2.62**	**334**	P	**Pn**	**03 44 19.4**	**-0.5**
	baz=2.6,SNR=184						
ARVC	**Arvin**	**2.69**	**302**	⇓P	**Pn**	**03 44 20.1**	**-0.8**
	baz=2.7,SNR=13						
U10A	**Ash Meadows, A**	**2.71**	**355**	⇑P	**Pn**	**03 44 21.3**	**+0.2**
	baz=2.7,SNR=19						
X14A	**Yava**	**2.73**	**73**	⇑P	**Pn**	**03 44 21.2**	**-0.2**
	baz=2.8,SNR=43						
ISA	**Isabella**	**2.79**	**315**	⇓P	**Pn**	**03 44 21.3**	**-0.9**
	baz=2.8,SNR=23						
DAC	**Darwin (Calif)**	**2.85**	**334**	*e*Pn	**Pn**	**03 44 23.0**	**-0.1**
DAC				*e*Pg	**Pg**	**03 44 31.4**	**-0.5**
DAC				*e*Sg	**Sg**	**03 45 03.7**	**-5.2**
W14A	**Seligman**	**2.88**	**58**	⇑P	**Pn**	**03 44 23.7**	**+0.2**
	baz=2.9,SNR=57						
U12A	**Valley of Fire**	**2.99**	**24**	P	**Pn**	**03 44 25.4**	**+0.5**
	baz=3.0,SNR=90						
CWC	**Cottonwood Cre**	**3.19**	**329**	⇑P	**Pn**	**03 44 27.8**	**+0.1**
	baz=3.2,SNR=6.3						
X15A	**Humboldt**	**3.26**	**75**	⇑P	**Pn**	**03 44 28.3**	**-0.4**
	baz=3.3						
115A	**Sonoran Desert**	**3.36**	**106**	⇑P	**Pn**	**03 44 29.0**	**-1.1**
	baz=3.4,SNR=57						
SMMC	**Simmler**	**3.62**	**297**	⇑P	**Pn**	**03 44 33.4**	**-0.3**
	baz=3.6						
116A	**Eloy**	**3.83**	**106**	⇓P	**Pn**	**03 44 35.1**	**-1.4**
	baz=3.8,SNR=18						
HELL	**Mitchell Peak,**	**3.83**	**321**	⇑P	**Pn**	**03 44 36.3**	**-0.2**
	baz=3.8,SNR=14						
PTRM	**Twissleman Ran**	**3.93**	**301**	*e*Pn	**Pn**	**03 44 38.3**	**+0.3**
PTRM				*e*Pg	**Pg**	**03 44 50.1**	**-2.5**
PTRM				*e*Sg	**Sg**	**03 45 42.2**	**-1.4**
S09A	**Goldfield**	**4.12**	**347**	⇑P	**Pn**	**03 44 40.8**	**+0.4**
	baz=4.1,SNR=19						
S08C	**White Mtn Res**	**4.15**	**336**	⇓P	**Pn**	**03 44 41.7**	**+0.8**
	baz=4.2,SNR=10						
MTUM	**Tungsten Hills**	**4.17**	**331**	*e*Pn	**Pn**	**03 44 42.0**	**+0.8**
MTUM				*e*Pg	**Pg**	**03 44 55.9**	**-1.2**
MTUM				*e*Sg	**Sg**	**03 45 51.2**	**0.0**
WUAZ	**Wupatki**	**4.26**	**64**	*e*Pn	**Pn**	**03 44 44.5**	**+2.0**
WUAZ				*e*Pg	**Pg**	**03 44 59.6**	**+0.7**
WUAZ				*e*Sg	**Sg**	**03 45 52.8**	**-1.3**
PKD	**Parkfield**	**4.31**	**302**	P	**Pn**	**03 44 43.0**	**-0.1**
	baz=4.3,SNR=9.5						
V04C	**Ramage Ranch,**	**4.41**	**297**	⇑P	**Pn**	**03 44 44.6**	**+0.1**
	baz=4.4						
CCUT	**Cedar City**	**4.42**	**29**	*e*Pn	**Pn**	**03 44 46.3**	**+1.7**
CCUT				*e*Sg	**Sg**	**03 45 57.9**	**-1.2**
TPH	**Tonopah**	**4.46**	**348**	*e*Pn	**Pn**	**03 44 46.4**	**+1.3**
TPH				*e*Pg	**Pg**	**03 45 00.7**	**-1.9**
TPH				*e*Sg	**Sg**	**03 46 01.1**	**+0.8**
KCC	**Kaiser Creek**	**4.48**	**324**	⇓P	**Pn**	**03 44 46.7**	**+1.3**
	baz=4.5						
ARUT	**Antelope Range**	**4.59**	**27**	*e*Pn	**Pn**	**03 44 46.8**	**-0.2**
ARUT				*e*Pg	**Pg**	**03 45 02.8**	**-2.4**
ARUT				*e*Sg	**Sg**	**03 46 00.5**	**-4.1**
R09A	**Tonopah**	**4.59**	**350**	⇑P	**Pn**	**03 44 47.3**	**+0.3**
	baz=4.6						
LRV	**Little Rabbit**	**4.89**	**305**	*e*Pn	**Pn**	**03 44 51.7**	**+0.7**
LRV				*e*Pb	**Pb**	**03 45 01.5**	**-1.6**
LRV				*e*Pg	**Pg**	**03 45 09.9**	**-0.9**
LRV				*e*Sg	**Sg**	**03 46 15.4**	**+1.2**
NVAR	**Mina Array Bea**	**5.05**	**340**	Pn	**Pn**	**03 44 54.6**	**+1.3**
	2.0nm,0.3s,baz=161,slow=14,SNR=34						
NVAR				Lg		03 46 21.6	
	baz=160,slow=34						
Q08A	**Gabbs**	**5.36**	**344**	⇓P	**Pn**	**03 44 58.3**	**+0.7**
	baz=5.4,SNR=5.3						
SAO	**San Andreas Ge**	**5.36**	**306**	*e*Pn	**Pn**	**03 44 52.8**	**-4.8**
SAO				*e*Pb	**Pb**	**03 45 08.7**	**-2.5**
SAO				*e*Pg	**Pg**	**03 45 18.0**	**-1.9**
Q12A	**Willow Creek R**	**5.41**	**10**	⇓P	**Pn**	**03 44 59.6**	**+1.4**
	baz=5.4						
CMB	**Columbia Colle**	**5.56**	**322**	*e*Pn	**Pn**	**03 45 01.2**	**+0.8**
CMB				*e*Pg	**Pg**	**03 45 21.0**	**-2.9**
CMB				*e*Sg	**Sg**	**03 46 31.6**	**-4.3**
CMB	**Columbia Colle**	**5.56**	**322**	⇓P	**Pn**	**03 45 01.5**	**+1.2**
	baz=5.6						
MSU	**Marysvale**	**5.73**	**32**	*e*Pn	**Pn**	**03 45 02.9**	**+0.3**
MSU				*e*Pb	**Pb**	**03 45 13.4**	**-4.0**
MSU				*e*Pg	**Pg**	**03 45 26.6**	**-0.4**
MSU				*e*Sg	**Sg**	**03 46 42.2**	**+1.1**
P12A	**McGill**	**5.82**	**9**	⇓P	**Pn**	**03 45 05.7**	**+1.7**
	baz=5.9,SNR=25						
BMN	**Battle Mountai**	**6.77**	**352**	*e*Pn	**Pn**	**03 45 22.2**	**+5.3**
BMN				*e*Pg	**Pg**	**03 45 47.5**	**+0.5**
BMN				*e*Lg		03 47 14.1	
TMUT	**Trail Mountain**	**6.80**	**34**	*e*Pn	**Pn**	**03 45 18.0**	**+0.6**
TMUT				*e*Pg	**Pg**	**03 45 47.0**	**-0.6**
TMUT				*e*Sg	**Sg**	**03 47 12.5**	**-3.2**
DUG	**Dugway**	**6.97**	**21**	*e*Pn	**Pn**	**03 45 19.6**	**-0.1**
DUG				*e*Pb	**Pb**	**03 45 33.0**	**-5.6**
DUG				*e*Pg	**Pg**	**03 45 49.8**	**-0.9**
DUG				*e*Sg	**Sg**	**03 47 20.0**	**-1.1**
SRU	**San Rafael**	**6.99**	**38**	*e*Pn	**Pn**	**03 45 21.2**	**+1.2**
	15nm,0.6s						
SRU				*e*Pb	**Pb**	**03 45 38.7**	**-0.3**
SRU				*e*Sg	**Sg**	**03 47 15.3**	**-6.5**
NLU	**North Lily Min**	**7.00**	**26**	*e*Pn	**Pn**	**03 45 19.0**	**-1.1**
NLU				*e*Pg	**Pg**	**03 45 49.4**	**-1.9**
NLU				*e*Sg	**Sg**	**03 47 20.6**	**-1.4**
BEKR	**Beckwourth**	**7.04**	**332**	⇑S	**Sn**	**03 46 43.3**	**+2.3**
	baz=7.1						
ELK	**Elko**	**7.05**	**5**	*e*Pn	**Pn**	**03 45 20.3**	**-0.5**
	15nm,0.8s						
ELK				*e*Pg	**Pg**	**03 45 50.7**	**-1.6**
ELK				*e*Lg		03 47 33.2	
MVCO	**Mesa Verde**	**7.09**	**58**	*e*Pn	**Pn**	**03 45 21.5**	**+0.2**
	44nm,0.6s						
MVCO				*e*Pg	**Pg**	**03 45 50.1**	**-2.8**
MVCO				*e*Lg		03 47 16.8	
MPU	**Maple Canyon**	**7.22**	**28**	*e*Pb	**Pb**	**03 45 44.8**	**+1.9**
BGU	**Big Grassy Mou**	**7.59**	**18**	*e*Pn	**Pn**	**03 45 30.3**	**+2.1**
BGU				*e*Pg	**Pg**	**03 46 02.9**	**+0.3**
BGU				*e*Lg		03 47 38.4	
CTU	**Camp Tracy**	**7.77**	**25**	*e*Pn	**Pn**	**03 45 39.9**	**+9.3**
CTU				*e*Pg	Pg	03 46 11.5	+5.5
JLU	**Jordanelle**	**7.80**	**27**	*e*Pn	**Pn**	**03 45 30.4**	**-0.7**
JLU				*e*Lg		03 48 02.2	
ANMO	**Albuquerque**	**8.03**	**78**	*e*Pn	**Pn**	**03 45 35.3**	**+1.0**
ANMO				*e*Pg	Pg	03 46 10.3	-0.7
ANMO				*e*Lg		03 47 49.9	
SPUT	**South Promonto**	**8.11**	**20**	*e*Pn	**Pn**	**03 45 33.7**	**-1.6**
SPUT				*e*Pb	**Pb**	**03 45 57.8**	**-0.1**
SPUT				*e*Lg		03 47 48.0	
HWUT	**Hardware Ranch**	**8.65**	**23**	*e*Pn	**Pn**	**03 45 49.4**	**+6.7**
	8.4nm,0.9s						
HWUT				*e*Lg		03 48 14.5	
WVOR	**Wild Horse Val**	**8.94**	**348**	*e*Pn	**Pn**	**03 45 46.9**	**+0.1**
	14nm,1.0s						
MNTX	**Cornudas Mount**	**9.22**	**100**	*e*Pn	**Pn**	**03 45 50.5**	**0.0**
	2.4nm,0.3s						
MNTX				*e*Sn	**Sn**	**03 47 29.0**	**-5.3**
MNTX				*e*Lg		03 48 28.4	
SDCO	**Great Sand Dun**	**9.48**	**62**	*e*Pn	**Pn**	**03 45 52.9**	**-1.2**
HLID	**Hailey**	**9.92**	**7**	*e*Pn	**Pn**	**03 46 01.5**	**+1.4**
HLID				*e*Pg	Pn	03 46 43.0	+43
BW06	**Boulder Array**	**10.38**	**28**	*e*Pn	**Pn**	**03 46 08.1**	**+1.7**
PDAR	**Pinedale Array**	**10.38**	**28**	Pn	**Pn**	**03 46 11.4**	**+5.0**
	0.1nm,0.3s,baz=200,slow=7.7,SNR=8.1						
PDAR				Lg		03 49 04.1	
	baz=211,slow=21						
MCMT	**McKenzie Canyo**	**11.38**	**12**	*e*Pn	**Pn**	**03 46 29.2**	**+9.2**
LTX	**Lajitas**	**11.44**	**109**	*e*Pn	**Pn**	**03 46 21.9**	**+1.0**
TXAR	**Lajitas Array**	**11.44**	**109**	Pn	**Pn**	**03 46 22.1**	**+1.3**
	baz=294,slow=14						
TXAR				Lg		03 49 37.1	
	0.2nm,0.3s,baz=286,slow=27,SNR=5.3						
BOZ	**Bozeman (W)**	**12.40**	**15**	*e*Pn	**Pn**	**03 46 27.0**	**-7.0**
	11nm,0.6s						
RLMT	**Red Lodge**	**12.54**	**23**	*e*Pn	**Pn**	**03 46 39.8**	**+3.8**
	6.3nm,0.5s						
RLMT				*e*Sn	**Sn**	**03 48 51.3**	**-4.6**
WMOK	**Wichita Mounta**	**14.33**	**81**	*e*P	**Pn**	**03 47 05.6**	**+5.1**
	3.3nm,1.1s						
NEW	**Newport**	**14.56**	**357**	*e*Pn	**Pn**	**03 47 01.9**	**-1.7**
	4.3nm,0.8s						
NEW				*e*P		03 47 10.5	

*NIED **24** 03:53:00, 4140N×142.10E, h32km, Mw3.9 Best double couple: M0 6.72000×10^14 NP1:φs294.00000°, δ52.00000°, λ84.00000°. NP2:φs124.00000°, δ39.00000°, λ98.00000°.*
*ISCJB **24** 03:53:12.7±0.4, 4139N±003×142.11E±005, h49km±5km, mb3.7/14, MS3.2/1, Error ellipse: s-maj=6.9km s-min=4.2km az=63.7*
*JMA **24** 03:53:12.4, 4140N×142.13E, h34km±2km, M4.1*
JMA Felt II J1.
*NEIC **24** 03:53:14.4±0.9, 4140N×14222E, h50km±10km, MG4.1(JMA), Error ellipse: s-maj=15.2km s-min=9.1km az=129.0*
NEIC Recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu. Also recorded [1 JMA] in southwestern Hokkaido.
*IDC **24** 03:53:14.6±2.0, 4135N×142.16E, h53km±17km, mb3.5/13, mb1 3.7/16, mb1mx3.6/26, mbtmp3.5/16, ML3.8/3, MS3.1/4, Ms1 3.1/4, ms1mx2.8/25, Error ellipse: s-maj=20.

0.6nm,0.4s,mb4.0,baz=80,slow=9.1,SNR=7.5
INK Inuvik 50.28 29 P **P 04 02 05.6 -0.1**
1.2nm,0.5s,mb4.2,baz=339,slow=4.3,SNR=25
INK Inuvik 50.28 29 *e*P **P 04 02 05.8 +0.1**
RES Resolute Bay 58.25 15 *e*P **P 04 03 03.0 -0.6**
34nm,0.6s
YKA Yellowknife Ar 59.79 32 P **P 04 03 14.3 0.0**
0.1nm,0.5s,mb3.1,baz=305,slow=6.6,SNR=4.7
WRA Warramunga Arr 61.45 188 P **P 04 03 24.2 -1.5**
1.1nm,0.4s,mb4.4,baz=5.7,slow=6.9,SNR=9.1
JOF Joensuu 62.38 331 *e*p **P 04 03 31.1 -0.8**
2.9nm,0.5s,mb4.7
KAF Kangasniemi 64.69 332 *e*p **P 04 03 55.7 +8.6**
ASAR Alice Springs 65.18 188 P **P 04 03 50.2 -0.1**
0.7nm,0.5s,mb4.0,baz=4.1,slow=7.2,SNR=17
FINES FINESS Array B 65.22 332 P **P 04 03 50.0 -0.6**
1.0nm,0.7s,mb3.9,baz=37,slow=19,SNR=5.0
NB2 NORSAR Subarra 70.38 337 P **P 04 04 22.7 -0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=37,slow=6.5
NOA NORSAR Array B 70.38 337 P **P 04 04 23.4 +0.3**
comp=Z,0.8nm,0.8s,mb3.7,baz=35,slow=6.3,SNR=2.5
NOA NORSAR Array B 70.38 337 P **P 04 04 23.4 +0.3**
AKASG Malin Array Be 71.19 322 P **P 04 04 26.9 -1.0**
comp=Z,0.1nm,0.2s,mb3.3,baz=46,slow=4.1,SNR=2.7
AKASG Malin Array Be 71.19 322 P **P 04 04 26.9 -1.0**
NVAR Mina Array Bea 71.98 55 P **P 04 04 33.7 +1.0**
comp=Z,0.2nm,0.4s,mb3.4,baz=280,slow=5.7,SNR=5.3
NVAR Mina Array Bea 71.98 55 P **P 04 04 33.7 +1.0**
PDAR Pinedale Array 74.25 47 P **P 04 04 46.0 -0.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=228,slow=1.2,SNR=4.6

*IDC **24** 04:06:01.8±0.9, 7468N×9.13E, h0km, mb3.5/9, mb1 3.7/12, mb1mx3.6/25, mbtmp3.6/12, ML2.9/3, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=23.5km s-min=13.9km az=60.0*
*ISCJB **24** 04:06:01.2±0.5, 7474N±004×98E±03, h10km, mb3.5/10, MS3.4/2, Error ellipse: s-maj=9.9km s-min=5.7km az=165.2*
*BER **24** 04:06:02.9±2.1, 7464N×947E, h0km±30km, ML2.2(NAO)*
*CSEM **24** 04:06:02.5±0.1, 7465N×9.11E, h10km, ML2.2, Error ellipse: s-maj=6.3km s-min=2.8km az=82.0*
*NEIC **24** 04:06:03.1±0.6, 7471N×955E, h10km, mb3.6/1, Error ellipse: s-maj=18.6km s-min=8.6km az=82.0*
*NAO **24** 04:06:06.5±4.9, 7476N×1126E, ML2.2*
ISC 24 04:06:01.9±1.8, 7472N±004×98E±03, h5km±12km, n30, σ1°16/33, mb3.5/10, MS3.4/2, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**2.52**	**90**	*e*S	**Sn**	**04 07 13.4**	**-1.1**
SPB4	**Spitsbergen Ar**	**3.80**	**21**	*e*Pn	**Pn**	**04 07 02.8**	**+1.6**
SPB4	**Spitsbergen Ar**	**3.80**	**21**	*e*Pn	**Pn**	**04 07 02.8**	**+1.6**
SPA0	**Spitsbergen Ar**	**3.80**	**21**	Pn	**Pn**	**04 07 02.3**	**+1.1**
	baz=202,slow=14						
KBS	**Kingsbay**	**4.26**	**6**	*e*P	**Pn**	**04 07 07.0**	**-0.4**
KBS				*e*S	**Sn**	**04 07 57.0**	**-0.5**
KBS	**Kingsbay**	**4.26**	**6**	*e*Pn	**Pn**	**04 07 06.9**	**-0.5**
KBS				*e*Pg	**Pg**	**04 07 22.8**	**-0.7**
KBS	**Kingsbay**	**4.26**	**6**	*e*Pn	**Pn**	**04 07 06.9**	**-0.5**
KBS	**Kingsbay**	**4.26**	**6**	*e*Pg	**Pg**	**04 07 22.8**	**-0.7**
ARA0	**ARCESS Array S**	**7.08**	**129**	Pn	**Pn**	**04 07 46.1**	**-0.1**
	baz=321,slow=12						
ARA0				Sn	**Sn**	**04 09 03.0**	**-4.1**
	baz=331,slow=22						
ARCES	**ARCESS Array B**	**7.08**	**129**	Pn	**Pn**	**04 07 45.9**	**-0.3**
	0.5nm,0.3s,baz=328,slow=13,SNR=8.0						
ARCES				Sn	**Sn**	**04 09 00.3**	**-6.8**
	0.2nm,0.3s,baz=297,slow=11,SNR=3.0						
ARCES	**ARCESS Array B**	**7.08**	**129**	Pn	**Pn**	**04 07 45.9**	**-0.3**
ARCES				Sn	**Sn**	**04 09 00.3**	**-6.8**
FINES	**FINESS Array B**	**14.56**	**148**	Pn	**Pn**	**04 09 27.5**	**-1.1**
	0.2nm,0.3s,baz=349,slow=14,SNR=5.7						
HFS	**Hagfors**	**14.73**	**172**	Pn	**Pn**	**04 09 31.5**	**+0.7**
	0.1nm,0.3s,baz=18,slow=14,SNR=2.3						
SFJD	**Kangerlussuaq**	**20.27**	**279**	LR	LR	04 16 59.7	
	comp=Z,194nm,20.1s,MS3.5,baz=185,slow=33						
CLL	**Collm**	**23.54**	**175**	*e*P	**P**	**04 11 12.0**	**-1.3**
GRA1	**Grafenberg Arr**	**25.13**	**178**	*e*P	**P**	**04 11 28.5**	**+0.7**
GRF	**Grafenberg Arr**	**25.13**	**178**	*e*P	**P**	**04 11 28.5**	**+0.7**
AKASG	**Malin Array Be**	**25.43**	**150**	P	**P**	**04 11 29.9**	**-0.7**
	0.2nm,0.3s,mb3.1,baz=344,slow=9.3,SNR=3.2						
VRAC	**Vranov**	**25.67**	**170**	P	**P**	**04 11 33.9**	**+1.2**
	1.7nm,0.8s,mb3.6,baz=349,slow=10,SNR=3.5						
GERES	**GERESS Array B**	**26.02**	**174**	P	**P**	**04 11 37.4**	**+1.5**
	2.0nm,1.1s,mb3.6,baz=349,slow=9.4,SNR=7.7						
AKTK	**Aktyubinsk**	**31.33**	**113**	P	**P**	**04 12 23.7**	**+0.5**
AKTK	**Aktyubinsk**	**31.33**	**113**	P	**P**	**04 12 23.7**	**+0.5**
AKTO	**Aktyubinsk**	**31.33**	**113**	P	**P**	**04 12 23.7**	**+0.5**
	0.8nm,0.8s,mb3.6,baz=266,slow=20,SNR=2.0						
BVAR	**Borovoye Array**	**32.11**	**98**	P	**P**	**04 12 33.3**	**+3.2**
	1.2nm,0.9s,mb3.7,baz=350,slow=7.3,SNR=4.0						
INK	**Inuvik**	**35.31**	**337**	P	**P**	**04 12 57.6**	**-0.3**
	1.2nm,1.0s,mb3.8,baz=15,slow=8.1,SNR=2.8						
BR131	**Keskin Array S**	**36.79**	**149**	*e*P	**P**	**04 13 06.7**	**-4.0**
	0.8nm,0.7s,mb3.7						
YKA	**Yellowknife Ar**	**38.33**	**322**	P	**P**	**04 13 21.9**	**-1.8**
	0.3nm,0.9s,mb3.0,baz=13,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**40.95**	**91**	LR	LR	04 34 45.8	
	comp=Z,53nm,19.0s,MS3.4,baz=356,slow=42						
SONM	**Songino Array**	**46.22**	**68**	P	**P**	**04 14 30.5**	**+2.6**
	0.2nm,0.5s,mb3.3,baz=325,slow=7.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**61.73**	**189**	P	**P**	**04 16 20.0**	**-1.3**
	0.4nm,0.8s,mb3.6,baz=354,slow=6.3,SNR=3.1						

*IDC **24** 04:09:42.3±1.2, 1325N×12120E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/23, Error ellipse: s-maj=122.7km s-min=10.3km az=72.0*
*MAN **24** 04:09:43.0, 1349N×12158E, h5km, mb2.6, ML4.1, MS1.4*
*ISCJB **24** 04:09:43.9±0.6, 1352N±005×12160E±005, h26km±6km, mb3.6/3, MS3.1/2, Error ellipse: s-maj=8.6km s-min=6.1km az=85.9*
ISC 24 04:09:43.8±0.8, 1353N±004×12158E±004, h16km±6km, n21, σ0°95/23, mb3.6/3, MS3.1/2, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.27**	**106**	*e*P	**Pg**	**04 09 49.1**	**-0.5**
BOAC				*e*S	**Sg**	**04 09 54.4**	**+0.8**
TGY	**Tagaytay City**	**0.84**	**312**	Pg	**Pg**	**04 09 59.8**	**-0.4**
	104nm,0.3s,baz=322,slow=11,SNR=30						
TGY				Lg		04 10 11.2	
	526nm,0.3s,baz=300,slow=4.2,SNR=10						
TGY	**Tagaytay City**	**0.84**	**312**	*e*P	**Pb**	**04 09 59.7**	**-0.4**
TGY				*e*S	**Sb**	**04 10 11.9**	**+0.7**
GQP	**Guinayangan**	**0.92**	**66**	*e*P	**Pb**	**04 10 00.5**	**-1.0**
GQP				*e*S	**Sb**	**04 10 13.9**	**+0.5**
POLP	**Polillo Island**	**1.24**	**16**	*e*P	**Pn**	**04 10 06.2**	**-0.3**
OTRP	**Odiongan**	**1.24**	**160**	*e*P	**Pn**	**04 10 05.9**	**-0.6**
OTRP				*e*S	**Sb**	**04 10 22.6**	**-0.1**
LUBP	**Lubang**	**1.31**	**279**	*e*P	**Pn**	**04 10 06.5**	**-1.0**
KALP	**Kalibo**	**1.99**	**158**	*e*P	**Pg**	**04 10 27.9**	**+6.0**
BUSP	**Coron**	**2.03**	**222**	*e*P	**Pn**	**04 10 17.7**	**+0.3**
BALP	**Baler**	**2.20**	**360**	*e*P	**Pn**	**04 10 21.7**	**+2.0**
RCP	**Roxas**	**2.27**	**150**	*e*P	**Pn**	**04 10 24.1**	**+3.5**
SCZP	**Santa Cruz**	**2.75**	**324**	*e*P	**Pn**	**04 10 23.2**	**-4.1**
ENPP	**El Nido**	**3.12**	**223**	*e*P	**Pn**	**04 10 33.6**	**+1.2**
CAUP	**Cauayan**	**3.40**	**4**	*e*P	**Pn**	**04 10 42.9**	**+6.7**
APYP	**Conner**	**4.32**	**356**	*e*P	**Pn**	**04 10 47.4**	**-1.5**
KSRS	**Korea Array**	**24.49**	**12**	LR	LR	04 24 20.3	
	comp=Z,20nm,18.9s,MS2.6,baz=239,slow=35						
WRA	**Warramunga Arr**	**35.55**	**159**	P	**P**	**04 16 39.3**	**-1.0**
	1.2nm,0.7s,mb3.9,baz=335,slow=10,SNR=5.2						
WB2	**Warramunga Arr**	**35.56**	**159**	*e*P	**P**	**04 16 39.7**	**-0.6**
SONM	**Songino Array**	**36.46**	**343**	LR	LR	04 31 16.3	
	comp=Z,75nm,18.4s,MS3.5,baz=318,slow=35						
ASAR	**Alice Springs**	**38.88**	**162**	P	**P**	**04 17 08.8**	**+0.2**
	0.7nm,0.7s,mb3.5,baz=342,slow=7.2,SNR=15						
MKAR	**Makanchi Array**	**46.67**	**323**	P	**P**	**04 18 12.9**	**+1.2**
	0.3nm,0.8s,mb3.2,baz=125,slow=7.9,SNR=2.5						

*MOS **24** 04:24:11.6±1.3, 5567N×110.15E, h9km, mb4.2/1, Error ellipse: s-maj=24.3km s-min=17.1km az=60.8*
BYKL 24 04:24:11.0±0.3, 5570N×11016E, h5km±13km, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**282**	*e*Pg	Pg	04 24 17.8	-0.1
NIZ				*e*Sg	Sg	04 24 22.8	+0.2
NIZ				*e*		04 24 24.3	
NIZ				Pmax			
	52nm,0.4s						
NIZ				max			
	596nm,0.2s						
KMO	**Kumora**	**0.62**	**72**	⇑*i*Pg	Pg	04 24 21.4	-1.5
KMO				*i* Sg	Sg	04 24 29.7	-1.2
KMO				Pmax			
	71nm,0.3s						
KMO				Smax			
	395nm,0.9s						
YOA	**Uoyan**	**0.98**	**63**	*e*PG	Pg	04 24 29.4	-0.4
YOA				*e*		04 24 42.9	
YOA				pmax	pmax		
	comp=Z,61nm,0.2s						
YOA				smax			
	comp=N,444nm,0.3s						
YOA	**Uoyan**	**0.98**	**63**	*e*Pg	Pg	04 24 29.4	-0.4
YOA				*e*Sg	Sg	04 24 42.6	0.0
YOA				Pmax			
	comp=N,81nm,0.3s						
YOA				Smax			
	comp=N,440nm,0.3s						
YLYR	**Ulyunkhan**	**1.00**	**145**	*e*PG	Pg	04 24 28.9	-1.4
YLYR				*e*		04 24 41.9	
YLYR	**Ulyunkhan**	**1.00**	**145**	⇑*i*Pg	Pg	04 24 28.9	-1.4
YLYR				*e*Sg	Sg	04 24 43.0	-0.3
YLYR				*e*Sb	Sb	04 24 47.7	+3.3
YLYR				Pmax			
	comp=N,52nm,0.9s						
YLYR				max			
	comp=N,257nm,0.2s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*PN	Pn	04 24 45.4	+0.5
SVKR				*e*		04 24 46.5	
SVKR				*e*		04 25 12.8	
SVKR				smax			
	comp=N,1.0nm,0.5s						
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pg	Pg	04 24 46.4	-2.1
SVKR				*e*Sg	Sg	04 25 13.0	-0.9
SVKR				Pmax			
	comp=N,81nm,0.2s						
SVKR				Smax			
	comp=N,528nm,0.4s						
UKT	**Uakit**	**1.98**	**95**	*e*PN	Pn	04 24 45.9	+0.8
UKT				*e*		04 25 12.7	
UKT				pmax	pmax		
	comp=Z,62nm,0.3s						
UKT				smax			
	comp=N,168nm,0.4s						
UKT	**Uakit**	**1.98**	**95**	⇑*i*Pg	Pg	04 24 45.9	-3.0
UKT				*i* Sg	Sg	04 25 12.7	-1.9
UKT				Pmax			
	comp=N,78nm,1.0s						
UKT				Smax			
	comp=N,166nm,0.4s						
SYVR	**Suvo**	**2.05**	**183**	*e*PN	Pn	04 24 47.5	+1.4
SYVR				*e*		04 25 16.2	
SYVR	**Suvo**	**2.05**	**183**	*e*Pn	Pn	04 24 46.6	+0.5
SYVR				⇑*i*Pg	Pg	04 24 47.8	-2.5
SYVR				*e*Sg	Sg	04 25 15.4	-1.4
SYVR				*e*		04 25 17.6	
SYVR				Pmax			
	comp=N,32nm,0.3s						
SYVR				max			
	comp=N,470nm,0.7s						
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn	Pn	04 24 53.7	+0.8
OGRR				*e*Pg	Pg	04 24 56.3	-3.4
OGRR				*e*Sg	Sg	04 25 30.0	-2.7
OGRR				Pmax			
	comp=N,8.0nm,0.3s						
OGRR				Smax			
	comp=N,64nm,0.5s						
MXMB	**Maximikha**	**2.58**	**199**	*e*Sg	Sg	04 25 31.5	-2.3
MXMB				Smax			
	comp=N,155nm,0.6s						
BOD	**Bodaibo**	**3.00**	**43**	*e*Pn	Pn	04 24 59.8	+0.6
BOD				*e*Pg	Pg	04 25 04.8	-3.7
BOD				*e*Sn	Sn	04 25 36.1	+0.6
BOD				*e*Sg	Sg	04 25 43.2	-4.1
BOD				Pmax			
	comp=N,6.0nm,0.4s						
BOD				Smax			
	comp=N,36nm,0.7s						
NLYR	**Nelyaty**	**3.21**	**73**	*e*	Pn	04 25 10.6	+8.6
NLYR				*e*Sg	Sg	04 25 50.3	-3.7
TRG	**Tyrgan**	**3.70**	**219**	*e*Pn	Pn	04 25 09.7	+0.9
TRG				*e*Sn	Sn	04 25 53.6	+0.9
TRG				*e*Sg	Sg	04 26 06.6	-3.2
TRG				max			
	comp=N,16nm,0.3s						
TRG				Smax			
	comp=N,37nm,0.5s						
TRTB	**Turuntaevo**	**3.78**	**204**	*e*Pn	Pn	04 25 10.6	+0.6
TRTB				*e*Sg	Sg	04 26 08.2	-4.4
TRTB				max			
	comp=N,5.0nm,0.5s						
TRTB				Smax			
	comp=N,37nm,1.0s						
UUDB	**Ulan-Yde**	**4.12**	**202**	*e*Sg	Sg	04 26 16.7	-6.5
UUDB				Smax			
	comp=N,24nm,0.8s						
FFNB	**Fofonovo**	**4.17**	**210**	*e*Sg	Sg	04 26 19.0	-6.1
FFNB				Smax			
	comp=N,58nm,0.5s						
HRMR	**Khuramsha**	**4.50**	**206**	*e*Pn	Pn	04 25 19.8	0.0
HRMR				*e*Pg	Pg	04 25 31.7	-5.6
HRMR				*e*Sg	Sg	04 26 29.6	-6.0
HRMR				Pmax			
	comp=N,13nm,0.7s						
HRMR				Smax			
	comp=N,73nm,1.0s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pb	04 25 36.4	+3.0
CRS				*e*		04 26 37.4	
CRS				pmax	pmax		
	comp=Z,30nm,1.6s						
CRS				smax			
	comp=E,32nm,1.6s						
CRS	**Chara**	**4.67**	**72**	*e*Pg	Pg	04 25 35.0	-5.6
CRS				*e*Sg	Sg	04 26 36.7	-4.4
CRS				Pmax			
	comp=E,9.0nm,1.0s						
CRS				Smax			
	comp=E,12nm,0.8s						
LSTR	**Listvyanka**	**4.97**	**222**	*e*Sn	Sn	04 26 23.1	-1.0
LSTR				*e*Sg	Sg	04 26 44.6	-6.0
LSTR				Smax			
	comp=E,16nm,0.6s						
TLY	**Talaya**	**5.58**	**227**	*e*	Sn	04 26 33.6	-5.6
TLY				*e*Sg	Sg	04 27 04.1	-6.2
TLY				Smax			
	comp=E,15nm,0.9s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	04 25 36.7	-0.6
TUP				*e*Pg	Pg	04 25 53.3	-8.3
TUP				*e*Sn	Sn	04 26 41.8	-2.1
TUP				*e*Sg	Sg	04 27 09.4	-7.0
TUP				Pmax			
	comp=E,3.0nm,0.9s						
TUP				Smax			
	comp=E,22nm,0.8s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	Pn	04 25 39.8	+0.2
ARS				*e*S	Sg	04 27 14.3	-7.6
ARS				smax			
	comp=E,63nm,0.5s						
ARS	**Arshan**	**5.94**	**234**	*e*Pn	Pn	04 25 39.5	-0.1
ARS				*e*Pg	Pg	04 25 57.9	-7.0
ARS				*e*Sn	Sn	04 26 46.0	-2.1
ARS				*e*Sg	Sg	04 27 14.8	-7.1
ARS				Pmax			
	comp=E,11nm,0.4s						
ARS				Smax			
	comp=E,63nm,0.7s						
KPC	**Khapcheranga**	**6.16**	**166**	*e*Pn	Pn	04 25 42.1	-0.5
KPC				*e*Pg	Pg	04 26 01.5	-7.4
KPC				*e*		04 26 54.7	
KPC				*e*Sg	Sg	04 27 21.6	-7.1
KPC				Pmax			
	comp=E,2.0nm,1.0s						
KPC				Smax			
	comp=E,26nm,1.2s						
MOY	**Mondy**	**6.78**	**237**	⇑*i*Pn	Pn	04 25 52.8	+1.7
MOY				*e*Sn	Sn	04 27 06.6	-2.1
MOY				*e*Sg	Sg	04 27 39.3	-9.3
MOY				max			
	comp=E,12nm,1.0s						
MOY				Smax			
	comp=E,11nm,1.0s						
ORL	**Orlik**	**6.86**	**247**	*e*PN	Pn	04 25 53.4	+1.2
ORL				*e*S	Sg	04 27 44.1	-7.1
ORL				smax			
	comp=N,20nm,0.7s						
ORL	**Orlik**	**6.86**	**247**	*e*Pn	Pn	04 25 53.4	+1.2
ORL				*e*Sn	Sn	04 27 08.7	-1.9
ORL				*e*Sg	Sg	04 27 44.5	-6.7
ORL				max			
	comp=N,5.0nm,1.0s						
ORL				Smax			
	comp=N,19nm,0.8s						

*IDC **24** 04:26:35.7±1.0, 3941N×30.11W, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/21, mbtmp3.7/9, MS3.4/2, Ms1 3.5/2, ms1mx2.9/33, Error ellipse: s-maj=34.2km s-min=13.6km az=2.0*
*ISCJB **24** 04:26:37.9±0.7, 3940N±004×2952W±006, h10km, mb3.6/8, MS3.3/1, Error ellipse: s-maj=7.6km s-min=4.4km az=100.0*
*CSEM **24** 04:26:39.4±1.4, 3946N×2971W, h5km, ML3.4, Error ellipse: s-maj=7.8km s-min=4.9km az=33.0, After PDA*
*PDA **24** 04:26:39.4±1.4, 3946N×2971W, h5km, MD3.6, ML3.4, Error ellipse: s-maj=7.8km s-min=4.9km az=33.0*
*SVSA **24** 04:26:39.4±1.4, 3946N×2971W, h5km, MD3.6, ML3.4, Error ellipse: s-maj=7.8km s-min=4.9km az=33.0*
ISC 24 04:26:37.9±0.6, 3935N±004×2956W±005, h10km, n45, σ0°93/75, mb3.6/8, MS3.3/1, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.96**	**142**	*e*P	**Pg**	**04 26 56.8**	**+0.4**
PTCA				*e*S	**Sg**	**04 27 10.2**	**+1.2**
PTCA							
	255nm,0.2s						
PTCA	**Ponta do Capel**	**0.96**	**142**	*e*P	**Pg**	**04 26 56.8**	**+0.4**
PTCA				*e*S	**Sg**	**04 27 10.2**	**+1.2**
PCED	**Cedros**	**0.98**	**137**	*e*P	**Pg**	**04 26 57.1**	**+0.4**
PCED				*e*S	**Sg**	**04 27 10.0**	**+0.6**
PCED							
	940nm,0.4s						
PCED	**Cedros**	**0.98**	**137**	*e*P	**Pg**	**04 26 57.1**	**+0.4**
PCED				*e*S	**Sg**	**04 27 10.0**	**+0.6**
CALA	**Caldeira**	**1.01**	**139**	*e*P	**Pg**	**04 26 57.1**	**-0.2**
CALA				*e*S	**Sg**	**04 27 11.2**	**+0.7**
HOR	**Horta**	**1.09**	**138**	*e*P	**Pb**	**04 26 58.1**	**-0.7**
HOR				*e*S	**Sg**	**04 27 13.2**	**+0.2**
ROSA	**Rosais**	**1.20**	**121**	*e*P	**Pb**	**04 27 00.2**	**-0.5**
ROSA				*e*S	**Sb**	**04 27 15.9**	**-0.3**
PVIA	**Vitoria**	**1.20**	**103**	*e*S	**Sb**	**04 27 15.2**	**-1.1**
PVIA							
	33nm,0.2s						
SRBC	**Serra Branca**	**1.22**	**104**	*e*S	**Sb**	**04 27 15.6**	**-1.2**
PICO	**Pico**	**1.22**	**133**	*e*P	**Pn**	**04 27 00.4**	**-0.6**
PICO				*e*S	**Sb**	**04 27 16.8**	**0.0**
PCND	**Candelaria**	**1.22**	**135**	*e*P	**Pn**	**04 27 00.9**	**-0.1**
PCND				*e*S	**Sb**	**04 27 17.2**	**+0.3**
PCND							
	914nm,0.3s						
STGR	**Santa Cruz**	**1.24**	**102**	*e*S	**Sb**	**04 27 16.8**	**-0.5**
STGR							
	142nm,0.2s						
PAMA	**Santo Amaro**	**1.26**	**121**	*e*P	**Pn**	**04 27 01.3**	**-0.2**
PAMA				*e*S	**Sb**	**04 27 17.5**	**-0.5**
PAMA							
	177nm,0.1s						
PAMA	**Santo Amaro**	**1.26**	**121**	*e*P	**Pn**	**04 27 01.3**	**-0.2**
PAMA				*e*S	**Sb**	**04 27 17.5**	**-0.5**
PTEI	**Pico do Teixo**	**1.26**	**132**	*e*P	**Pn**	**04 27 01.4**	**-0.2**
PTEI				*e*S	**Sb**	**04 27 18.0**	**-0.1**
PTEI							
	577nm,0.2s						
PBOI	**Pico dos Bois**	**1.29**	**134**	*e*P	**Pn**	**04 27 02.0**	**0.0**
PBOI				*e*S	**Sb**	**04 27 18.6**	**-0.3**
PBOI							
	305nm,0.2s						
PMAN	**Manadas**	**1.35**	**121**	*e*P	**Pn**	**04 27 02.4**	**-0.3**
PMAN				*e*S	**Sb**	**04 27 19.3**	**-1.2**
PMAN							
	289nm,0.3s						
PMAN	**Manadas**	**1.35**	**121**	*e*P	**Pn**	**04 27 02.4**	**-0.3**
PMAN				*e*S	**Sb**	**04 27 19.3**	**-1.2**
PID	**Ribeirinha**	**1.44**	**128**	*e*P	**Pn**	**04 27 03.8**	**-0.2**
PID				*e*S	**Sn**	**04 27 21.8**	**-1.1**
PIED	**Piedade**	**1.49**	**128**	*e*P	**Pn**	**04 27 04.3**	**-0.4**
PIED				*e*S	**Sn**	**04 27 22.9**	**-1.4**
PSBA	**Serra de Santa**	**1.83**	**108**	*e*P	**Pn**	**04 27 10.4**	**+1.0**
PSBA				*e*S	**Sn**	**04 27 32.5**	**-0.1**
PSBA							
	99nm,0.4s						
PSBA	**Serra de Santa**	**1.83**	**108**	*e*P	**Pn**	**04 27 10.4**	**+1.0**
PSBA				*e*S	**Sn**	**04 27 32.5**	**-0.1**
ASBA	**Santa Barbara**	**1.85**	**109**	*e*P	**Pn**	**04 27 11.4**	**+1.8**
ASBA				*e*S	**Sn**	**04 27 33.6**	**+0.6**
ASBA							
	80nm,0.4s						
ASBA	**Santa Barbara**	**1.85**	**109**	*e*P	**Pn**	**04 27 11.4**	**+1.8**
ASBA				*e*S	**Sn**	**04 27 33.6**	**+0.6**
PPAD	**Pico dos Padre**	**1.88**	**109**	*e*P	**Pn**	**04 27 11.0**	**+0.9**
PPAD				*e*S	**Sn**	**04 27 34.0**	**+0.2**
PPAD							
	21nm,0.2s						
PPAD	**Pico dos Padre**	**1.88**	**109**	*e*P	**Pn**	**04 27 11.0**	**+0.9**
PPAD				*e*S	**Sn**	**04 27 34.0**	**+0.2**
PBIS	**Biscoitos**	**1.89**	**107**	*e*P	**Pn**	**04 27 10.8**	**+0.7**
PBIS				*e*S	**Sn**	**04 27 33.4**	**-0.6**
PBIS							
	46nm,0.2s						
PBIS	**Biscoitos**	**1.89**	**107**	*e*P	**Pn**	**04 27 10.8**	**+0.7**
PBIS				*e*S	**Sn**	**04 27 33.4**	**-0.6**
ADH	**Angra Heroismo**	**1.94**	**110**	*e*P	**Pn**	**04 27 14.8**	**+4.0**
PVNV	**Vila Nova**	**1.96**	**107**	*e*P	**Pn**	**04 27 12.2**	**+1.1**
PVNV				*e*S	**Sn**	**04 27 35.4**	**-0.3**
PVNV							
	22nm,0.2s						
PVNV	**Vila Nova**	**1.96**	**107**	*e*P	**Pn**	**04 27 12.2**	**+1.1**
PVNV				*e*S	**Sn**	**04 27 35.4**	**-0.3**
RIB2	**Ribeirinha**	**1.98**	**109**	*e*P	**Pn**	**04 27 12.5**	**+1.1**
RIB2				*e*S	**Sn**	**04 27 35.6**	**-0.6**
RIB2							
	22nm,0.2s						
RIB2	**Ribeirinha**	**1.98**	**109**	*e*P	**Pn**	**04 27 12.5**	**+1.1**
RIB2				*e*S	**Sn**	**04 27 35.6**	**-0.6**
PFAV	**Pico das Favas**	**2.03**	**107**	*e*P	**Pn**	**04 27 13.6**	**+1.5**
PFAV				*e*S	**Sn**	**04 27 37.5**	**+0.1**
PFAV							
	29nm,0.2s						
PFAV	**Pico das Favas**	**2.03**	**107**	*e*P	**Pn**	**04 27 13.6**	**+1.5**
PFAV				*e*S	**Sn**	**04 27 37.5**	**+0.1**

mb1 4.3/15,mb1mx4.2/19,mbtmp4.0/15,MS3.2/2,
Ms1 3.3/2,ms1mx2.7/26,Error ellipse: s-maj=20.5km
s-min=9.0km az=34.0

ISC 24 04:28:15.7±0.7,1431S±006×7278W±007,h68km±6km,
h97km±2.1km:pP-P,n239,σ0°74/234,mb4.4/36,71C-68D,
Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.48**	**150**	⇑*i*P	**Pn**	**04 28 55.0**	**+1.3**
ARE				*i* S	**Sn**	**04 29 25.3**	**+2.5**
NNA	**Nana**	**4.58**	**300**	P	**Pn**	**04 29 21.9**	**-0.5**
38nm,0.3s,baz=121,slow=11,SNR=66							
NNA				S	**Sn**	**04 30 13.2**	**-1.1**
80nm,0.3s,baz=224,slow=14,SNR=12							
NNA	**Nana**	**4.58**	**300**	*e*Pn	**Pn**	**04 29 21.7**	**-0.7**
NNA				*e*Sn	**Sn**	**04 30 12.6**	**-1.7**
LPAZ	**La Paz**	**4.90**	**114**	P	**Pn**	**04 29 31.2**	**+4.4**
24nm,0.3s,baz=295,slow=11,SNR=312							
LPAZ				S	**Sn**	**04 30 29.1**	**+7.0**
3.4nm,0.3s,baz=12,slow=23,SNR=7.5							
LPAZ				LR	LR	04 31 14.9	
comp=Z,265nm,18.8s,baz=201,slow=35							
LPAZ	**La Paz**	**4.90**	**114**	*e*Pn	**Pn**	**04 29 30.8**	**+4.0**
LPAZ				*e*Sn	**Sn**	**04 30 18.7**	**-3.4**
ATAH	**Atahualpa**	**9.12**	**322**	P	**Pn**	**04 30 23.7**	**-0.7**
1.1nm,0.3s,baz=144,slow=4.6,SNR=5.4							
ATAH				S	**Sn**	**04 32 03.9**	**-1.6**
1.2nm,0.3s,baz=112,slow=21,SNR=3.7							
SIV	**San Ignacio**	**11.43**	**100**	P	**Pn**	**04 30 55.4**	**-0.6**
11nm,0.3s,baz=280,slow=13,SNR=143							
OTAV	**Otavalo**	**15.50**	**338**	*e*P	**Pn**	**04 31 52.0**	**+1.8**
10nm,1.2s							
CFAA	**Coronel Fontan**	**17.71**	**167**	P	**Pn**	**04 32 15.1**	**-2.5**
0.1nm,0.3s,baz=336,slow=12,SNR=21							
SDV	**Santo Domingo**	**23.14**	**5**	*e*P	**P**	**04 33 17.7**	**+1.6**
5.5nm,0.9s,mb3.9							
TRQA	**Tornquist**	**25.52**	**160**	*e*P	**P**	**04 33 37.0**	**-0.7**
3.0nm,0.6s,mb3.9							
PCRV	**Puerto La Cruz**	**25.63**	**19**	LR	LR	04 44 34.0	
comp=Z,51nm,21.2s,baz=14,slow=38							
PLCA	**Paso Flores**	**26.40**	**176**	P	**P**	**04 33 45.1**	**-0.6**
2.2nm,0.8s,mb3.6,baz=349,slow=8.2,SNR=4.6							
PLCA				PcP	PcP	04 37 08.4	-1.2
2.7nm,0.9s,baz=261,slow=4.4,SNR=4.5							
PMSA	**Palmer Station**	**50.77**	**175**	*e*P	**P**	**04 37 08.5**	**-0.3**
7.8nm,0.4s,mb5.1							
ELN	**Prospectdale**	**51.81**	**352**	*e*P	**P**	**04 37 16.9**	**+0.3**
WVT	**Waverly**	**52.14**	**345**	*e*P	**P**	**04 37 17.3**	**-1.8**
5.5nm,0.8s,mb4.6							
LTX	**Lajitas**	**52.65**	**326**	*e*P	**P**	**04 37 22.4**	**-0.5**
6.1nm,0.7s,mb4.7							
TXAR	**Lajitas Array**	**52.65**	**326**	P	**P**	**04 37 22.4**	**-0.4**
4.3nm,0.6s,mb4.7,baz=149,slow=8.7,SNR=41							
TXAR	**Lajitas Array**	**52.65**	**326**	P	**P**	**04 37 22.4**	**-0.4**
WCI	**Wyandotte Cave**	**53.77**	**347**	*e*P	**P**	**04 37 29.5**	**-1.6**
7.4nm,0.7s,mb4.8							
FVM	**French Village**	**54.59**	**343**	*e*P	**P**	**04 37 36.0**	**-1.0**
2.6nm,0.5s,mb4.5							
MNTX	**Cornudas Mount**	**55.41**	**326**	*e*P	**P**	**04 37 41.8**	**-1.1**
6.5nm,1.0s,mb4.6							
ANMO	**Albuquerque**	**58.49**	**328**	*e*P	**P**	**04 38 04.4**	**-0.3**
2.1nm,0.6s,mb4.3							
CBKS	**Cedar Bluff**	**58.55**	**335**	*e*P	**P**	**04 38 04.6**	**-0.6**
19nm,1.1s,mb5.0							
116A	**Eloy**	**59.65**	**322**	⇓P	**P**	**04 38 12.6**	**-0.2**
baz=60							
SDCO	**Great Sand Dun**	**60.21**	**330**	*e*P	**P**	**04 38 16.2**	**-0.4**
19nm,0.9s,mb5.1							
MVCO	**Mesa Verde**	**61.28**	**328**	⇑P	**P**	**04 38 23.6**	**-0.2**
baz=62							
X15A	**Humboldt**	**61.33**	**323**	⇑P	**P**	**04 38 23.1**	**-1.0**
baz=62							
Y14A	**Wickenburg**	**61.39**	**322**	⇑P	**P**	**04 38 23.9**	**-0.7**
baz=62							
WUAZ	**Wupatki**	**61.57**	**325**	⇓P	**P**	**04 38 26.1**	**+0.3**
baz=62							
X14A	**Yava**	**61.69**	**323**	⇑P	**P**	**04 38 26.5**	**-0.1**
baz=62							
Y13A	**Salome**	**61.80**	**322**	⇓P	**P**	**04 38 27.3**	**0.0**
baz=62							
W15A	**Williams**	**61.84**	**324**	⇑P	**P**	**04 38 27.6**	**0.0**
baz=62							
SMCO	**Snowmass**	**62.05**	**330**	*e*P	**P**	**04 38 29.4**	**+0.4**
9.4nm,0.8s,mb4.9							
Y12C	**Blythe**	**62.17**	**321**	⇓P	**P**	**04 38 30.5**	**+0.6**
baz=62							
W14A	**Seligman**	**62.33**	**323**	⇓P	**P**	**04 38 30.0**	**-0.9**
baz=62							
X13A	**Yucca**	**62.34**	**322**	⇓P	**P**	**04 38 30.0**	**-0.9**
baz=62							
BC3	**Big Chuckw Mtn**	**62.68**	**320**	⇑P	**P**	**04 38 32.7**	**-0.5**
baz=63							
W13A	**Hualapai Mount**	**62.72**	**323**	⇑P	**P**	**04 38 32.9**	**-0.5**
baz=63							
IRM	**Iron Mountain**	**62.83**	**321**	⇑P	**P**	**04 38 34.2**	**-0.1**
baz=63							
GMRC	**Granite Mounta**	**63.56**	**321**	⇓P	**P**	**04 38 38.7**	**-0.4**
baz=64							
V12A	**Nelson**	**63.72**	**323**	⇑P	**P**	**04 38 39.1**	**-1.0**
baz=64							
U12A	**Valley of Fire**	**64.03**	**323**	⇑P	**P**	**04 38 42.0**	**-0.1**
baz=64							
V11A	**Goodsprings**	**64.14**	**322**	⇓P	**P**	**04 38 42.8**	**-0.1**
baz=64							
MSU	**Marysvale**	**64.19**	**326**	*e*P	**P**	**04 38 43.6**	**+0.4**
ARUT	**Antelope Range**	**64.36**	**325**	*e*P	**P**	**04 38 45.2**	**+0.9**
GSC	**Goldstone**	**64.61**	**321**	⇓P	**P**	**04 38 45.7**	**-0.2**
baz=65							
BLG	**Laguna Peak**	**65.24**	**319**	⇓P	**P**	**04 38 50.3**	**+0.2**
baz=65							
LRMC	**Laurel Mountai**	**65.26**	**321**	⇓P	**P**	**04 38 50.1**	**-0.1**
baz=65							
FURC	**Furnace Creek,**	**65.42**	**322**	⇓P	**P**	**04 38 51.4**	**+0.2**
baz=66							
MPMC	**Manual Prospec**	**65.53**	**321**	⇑P	**P**	**04 38 51.4**	**-0.5**
baz=66							
DUG	**Dugway**	**65.75**	**327**	*e*P	**P**	**04 38 53.5**	**+0.1**
14nm,1.1s,mb4.7							
DUG	**Dugway**	**65.75**	**327**	⇓P	**P**	**04 38 54.0**	**+0.7**
baz=66							
ISA	**Isabella**	**65.87**	**320**	⇓P	**P**	**04 38 54.4**	**+0.3**
baz=66							
Q12A	**Willow Creek R**	**66.01**	**325**	⇓P	**P**	**04 38 54.7**	**-0.3**
baz=66							
BW06	**Boulder Array**	**66.07**	**331**	*e*P	**P**	**04 38 54.5**	**-0.9**
5.5nm,1.1s,mb4.3							
PDAR	**Pinedale Array**	**66.07**	**331**	P	**P**	**04 38 54.5**	**-0.9**
1.6nm,0.8s,mb3.9,baz=147,slow=8.8,SNR=9.5							
PDAR				pP	pP	04 39 18.5	+5.1
0.5nm,0.7s,baz=131,slow=6.7,SNR=1.8							
GRAC	**Grapevine Rang**	**66.08**	**322**	⇑P	**P**	**04 38 55.2**	**-0.2**
baz=66							
CWC	**Cottonwood Cre**	**66.13**	**321**	⇑P	**P**	**04 38 55.9**	**+0.1**
baz=66							
HWUT	**Hardware Ranch**	**66.16**	**329**	*e*P	**P**	**04 38 55.5**	**-0.4**
9.3nm,1.1s,mb4.5							
R10A	**Warm Springs**	**66.32**	**324**	⇑P	**P**	**04 38 57.8**	**+0.8**
baz=66							
Q11A	**Duckwater**	**66.34**	**325**	P	**P**	**04 38 57.7**	**+0.6**
baz=66,SNR=6.5							
VES	**Vestal, Richgr**	**66.36**	**320**	⇓P	**P**	**04 38 57.2**	**0.0**
baz=66							
P12A	**McGill**	**66.36**	**325**	P	**P**	**04 38 58.2**	**+1.0**
baz=67,SNR=6.9							
S09A	**Goldfield**	**66.47**	**323**	P	**P**	**04 38 58.5**	**+0.6**
baz=67,SNR=6.1							
R09A	**Tonopah**	**66.73**	**323**	⇓P	**P**	**04 38 59.8**	**+0.2**
baz=67							
HELL	**Mitchell Peak,**	**66.86**	**321**	P	**P**	**04 39 00.8**	**+0.3**
baz=67,SNR=5.7							
S08C	**White Mtn Res**	**66.89**	**322**	⇑P	**P**	**04 39 00.8**	**+0.2**
baz=67							
V05C	**Boulder Hill,**	**66.89**	**320**	⇑P	**P**	**04 39 01.2**	**+0.6**
baz=67							
SNOW	**Snow King Moun**	**67.17**	**331**	*e*P	**P**	**04 39 02.1**	**-0.3**
4.2nm,0.7s,mb4.4							
M13A	**Montello**	**67.31**	**327**	⇑P	**P**	**04 39 02.7**	**-0.5**
baz=68							
P10A	**Eureka**	**67.33**	**325**	⇑P	**P**	**04 39 04.1**	**+0.7**
baz=68							
MOOW	**Moose Ponds**	**67.38**	**331**	*e*P	**P**	**04 39 03.1**	**-0.6**
3.1nm,1.0s,mb4.1							
N12A	**Clover Valley,**	**67.41**	**326**	⇑P	**P**	**04 39 02.9**	**-0.9**
baz=68							
ULM	**Lac du Bonnet**	**67.41**	**344**	P	**P**	**04 39 02.0**	**-1.8**
6.5nm,0.6s,mb4.6,baz=157,slow=6.1,SNR=21							
ULM	**Lac du Bonnet**	**67.41**	**344**	*e*P	**P**	**04 39 02.1**	**-1.8**
4.1nm,0.6s,mb4.4							
KCC	**Kaiser Creek**	**67.46**	**321**	⇑P	**P**	**04 39 04.3**	**+0.1**
baz=68							
DCID1	**Drake Creek**	**67.47**	**331**	*e*P	**P**	**04 39 04.4**	**+0.2**
NVAR	**Mina Array Bea**	**67.58**	**323**	P	**P**	**04 39 05.4**	**+0.4**
baz=150,slow=6.3							
Q08A	**Gabbs**	**67.65**	**323**	⇓P	**P**	**04 39 05.3**	**-0.1**
baz=68							
P09A	**Austin**	**67.66**	**324**	⇓P	**P**	**04 39 04.8**	**-0.6**
baz=68							
L13A	**Double Diamond**	**67.72**	**328**	P	**P**	**04 39 06.2**	**+0.4**
baz=68,SNR=8.5							
M12A	**Wells**	**67.74**	**327**	⇑P	**P**	**04 39 05.4**	**-0.6**
baz=68							
U04C	**Hernandez Rese**	**67.75**	**320**	⇓P	**P**	**04 39 05.8**	**-0.3**
baz=68							
R07C	**Lee Vining**	**67.80**	**322**	⇑P	**P**	**04 39 07.0**	**+0.7**
baz=68							
O10A	**Cortez Mining,**	**67.81**	**325**	⇑P	**P**	**04 39 06.6**	**+0.2**
baz=68							
LKWY	**Lake**	**67.84**	**332**	*e*P	**P**	**04 39 07.6**	**+1.0**
10nm,1.1s,mb4.6							
S05C	**Merced**	**68.09**	**321**	P	**P**	**04 39 09.1**	**+0.9**
baz=68,SNR=6.1							
O09A	**Fish Creek Ran**	**68.11**	**325**	⇑P	**P**	**04 39 08.7**	**+0.4**
baz=68							
S06C	**San Francisco**	**68.14**	**321**	⇓P	**P**	**04 39 09.2**	**+0.7**
baz=68							
K13A	**Stover Farm, H**	**68.19**	**328**	⇑P	**P**	**04 39 07.9**	**-0.9**
baz=68							
M11A	**Holland Ranch,**	**68.22**	**326**	P	**P**	**04 39 09.5**	**+0.5**
baz=68,SNR=5.5							
P08A	**Dixie Valley**	**68.29**	**324**	⇓P	**P**	**04 39 10.2**	**+0.7**
baz=68,SNR=7.8							
R06C	**Coleville**	**68.32**	**322**	⇑P	**P**	**04 39 10.1**	**+0.5**
baz=68							
PACP	**Pacheco Peak**	**68.47**	**320**	⇑P	**P**	**04 39 10.2**	**-0.3**
baz=69							
CMB	**Columbia Colle**	**68.57**	**321**	⇑P	**P**	**04 39 11.1**	**-0.1**
baz=69							
K12A	**Draper Farm, C**	**68.60**	**328**	P	**P**	**04 39 11.8**	**+0.4**
baz=69,SNR=13							
N09A	**Rock Creek Ran**	**68.76**	**325**	⇑P	**P**	**04 39 13.0**	**+0.6**
baz=69							
J13A	**Cove Ranch, Pi**	**68.78**	**329**	⇓P	**P**	**04 39 12.1**	**-0.4**
baz=69							
R05C	**Kirkwood Meado**	**68.81**	**322**	⇑P	**P**	**04 39 13.5**	**+0.8**
baz=69							
S04C	**Ingram Canyon,**	**68.81**	**320**	⇓P	**P**	**04 39 14.6**	**+1.9**
baz=69							
WCN	**Washoe City**	**69.01**	**323**	⇑P	**P**	**04 39 14.0**	**+0.1**
baz=69							
HLID	**Hailey**	**69.02**	**329**	*e*P	**P**	**04 39 14.2**	**+0.2**
4.2nm,1.2s,mb4.1							
HLID	**Hailey**	**69.02**	**329**	P	**P**	**04 39 14.6**	**+0.7**
baz=69,SNR=6.0							
R04C	**Big Horse Ranc**	**69.04**	**321**	⇑P	**P**	**04 39 14.3**	**+0.2**
baz=69							
SCHQ	**Schefferville**	**69.05**	**4**	P	**P**	**04 39 14.1**	**0.0**
3.8nm,0.9s,mb4.2,baz=193,slow=7.3,SNR=3.0							
N08A	**GE Springer Mi**	**69.05**	**325**	⇓P	**P**	**04 39 13.8**	**-0.4**
baz=69							
O07A	**Toulon**	**69.06**	**324**	⇑P	**P**	**04 39 14.0**	**-0.2**
baz=69							
M09A	**Marrel Ranch,**	**69.11**	**326**	⇑P	**P**	**04 39 14.3**	**-0.3**
baz=69							
J12A	**Stokes Ranch,**	**69.14**	**328**	⇓P	**P**	**04 39 14.3**	**-0.5**
baz=69							
LAVA	**Lava Cap Winer**	**69.24**	**322**	⇓P	**P**	**04 39 15.8**	**+0.5**
baz=69							
G15A	**Dillon**	**69.27**	**331**	P	**P**	**04 39 15.9**	**+0.4**
baz=70,SNR=5.7							
P06A	**Stead Airport,**	**69.33**	**323**	⇓P	**P**	**04 39 16.1**	**+0.2**
baz=70							
BDM	**Black Diamond**	**69.42**	**320**	⇓P	**P**	**04 39 17.7**	**+1.2**
baz=70							
P05C	**Yuba Gap, Truc**	**69.51**	**322**	⇑P	**P**	**04 39 18.1**	**+1.1**
baz=70							
N07B	**Gerlach**	**69.52**	**324**	⇑P	**P**	**04 39 16.7**	**-0.4**
baz=70							
O06A	**Flanigan**	**69.61**	**323**	⇑P	**P**	**04 39 18.1**	**+0.5**
baz=70							
MFID	**Camas Ranch**	**69.63**	**328**	P	**P**	**04 39 18.1**	**+0.4**
baz=70,SNR=16							
L09A	**Wilkinson Ranc**	**69.64**	**326**	P	**P**	**04 39 18.3**	**+0.5**
baz=70,SNR=7.6							
M08A	**Happy Creek Ra**	**69.64**	**325**	⇑P	**P**	**04 39 17.6**	**-0.2**
baz=70							
Q04C	**Lincoln**	**69.68**	**321**	⇑P	**P**	**04 39 18.4**	**+0.4**
baz=70							
BEKR	**Beckwourth**	**69.73**	**323**	⇑P	**P**	**04 39 18.7**	**+0.4**
baz=70							
K10A	**MacKenzie Ranc**	**69.73**	**327**	P	**P**	**04 39 18.6**	**+0.2**
baz=70,SNR=5.4							
F15A	**Butte**	**69.78**	**332**	⇓P	**P**	**04 39 18.3**	**-0.4**
baz=70							
Q03C	**Winters**	**69.94**	**321**	⇓P	**P**	**04 39 20.0**	**+0.3**
baz=70							
H12A	**Diamond D Ranc**	**69.95**	**329**	⇓P	**P**	**04 39 19.8**	**0.0**
baz=70							
N06A	**Buffalo Meadow**	**70.00**	**324**	P	**P**	**04 39 20.2**	**+0.2**
baz=70,SNR=8.4							
M07A	**Soldier Meadow**	**70.04**	**325**	⇓P	**P**	**04 39 19.4**	**-0.9**
baz=70							
G13A	**Cobalt**	**70.04**	**330**	P	**P**	**04 39 20.8**	**+0.5**
baz=70,SNR=6.8							
I11A	**Placerville**	**70.05**	**328**	P	**P**	**04 39 20.5**	**+0.2**
baz=70,SNR=8.0							
O05C	**Quincy**	**70.12**	**323**	⇑P	**P**	**04 39 21.0**	**+0.3**
baz=70							
L08A	**Fields**	**70.12**	**326**	P	**P**	**04 39 21.0**	**+0.3**
baz=70,SNR=5.2							
J10A	**Berg Farm, Mel**	**70.13**	**327**	⇓P	**P**	**04 39 20.0**	**-0.8**
baz=70							
K09A	**Rome**	**70.13**	**326**	P	**P**	**04 39 20.9**	**+0.1**
baz=70,SNR=12							
F14A	**Wisdom**	**70.16**	**331**	⇓P	**P**	**04 39 21.2**	**+0.2**
baz=70							
SUTB	**Sutter Butte**	**70.17**	**321**	⇑P	**P**	**04 39 21.6**	**+0.6**
baz=70							
ORV	**Oroville**	**70.20**	**322**	P	**P**	**04 39 21.6**	**+0.4**
baz=70,SNR=14							
SNAA	**Sanae**	**70.23**	**162**	*e*P	**P**	**04 39 19.4**	**-2.0**
4.1nm,0.8s,mb4.3							
E15A	**Deer Lodge**	**70.28**	**332**	⇓P	**P**	**04 39 20.3**	**-1.4**
baz=70							
O04C	**Chester**	**70.44**	**323**	⇑P	**P**	**04 39 23.4**	**+0.7**
baz=71							
L07A	**Adell**	**70.56**	**325**	⇑P	**P**	**04 39 23.9**	**+0.5**
baz=71							
K08A	**Mann Creek Ran**	**70.56**	**326**	⇑P	**P**	**04 39 23.4**	**0.0**
baz=71							
J09A	**Fry Pan Ranch,**	**70.59**	**327**	⇑P	**P**	**04 39 24.1**	**+0.5**
baz=71							
F13A	**Darby**	**70.60**	**331**	P	**P**	**04 39 24.0**	**+0.4**
baz=71,SNR=5.4							
H11A	**Donnelly**	**70.64**	**329**	⇓P	**P**	**04 39 23.1**	**-0.8**
baz=71							
M06C	**Likely Place G**	**70.66**	**324**	⇓P	**P**	**04 39 24.6**	**+0.5**
baz=71							
E14A	**Clinton**	**70.67**	**331**	P	**P**	**04 39 24.7**	**+0.6**
baz=71,SNR=7.3							
D15A	**Lincoln**	**70.69**	**332**	⇓P	**P**	**04 39 23.9**	**-0.3**
baz=71							
K07A	**Rock Creek Ran**	**70.95**	**326**	⇓P	**P**	**04 39 26.4**	**+0.6**
baz=71							
J08A	**Circle Bar Ran**	**70.98**	**326**	⇑P	**P**	**04 39 25.1**	**-0.9**
baz=71							
GASB	**Alder Springs**	**71.00**	**321**	⇑P	**P**	**04 39 26.8**	**+0.7**
baz=71							
E13A	**Victor**	**71.01**	**331**	⇓P	**P**	**04 39 26.5**	**+0.3**
baz=71							
I09A	**Lost Marbles R**	**71.02**	**327**	⇑P	**P**	**04 39 26.1**	**-0.1**
baz=71							
MOD	**Modoc**	**71.02**	**324**	P	**P**	**04 39 26.4**	**+0.2**
baz=71,SNR=6.2							
M05C	**Lookout**	**71.15**	**324**	P	**P**	**04 39 27.1**	**+0.1**
baz=71,SNR=5.7							
D14A	**Greenough**	**71.17**	**332**	⇓P	**P**	**04 39 26.1**	**-1.0**
baz=71							
G11A	**Walters Elk Ra**	**71.26**	**329**	⇓P	**P**	**04 39 27.7**	**0.0**
baz=72							
P01C	**Double 8 Ranch**	**71.26**	**321**	⇓P	**P**	**04 39 28.9**	**+1.2**
baz=71							
I08A	**Drewsey**	**71.41**	**327**	⇓P	**P**	**04 39 28.8**	**+0.2**
baz=72							
J07A	**Hines**	**71.44**	**326**	⇑P	**P**	**04 39 29.1**	**+0.4**
baz=72							
H09A	**Durkee**	**71.45**	**328**	⇓P	**P**	**04 39 28.5**	**-0.3**
baz=72							
F11A	**Grangeville**	**71.55**	**330**	P	**P**	**04 39 29.3**	**-0.2**
baz=72,SNR=6.6							
K06A	**Valley Falls**	**71.58**	**325**	P	**P**	**04 39 30.5**	**+0.9**
baz=72,SNR=9.6							
D13A	**Huson**	**71.62**	**331**	P	**P**	**04 39 30.1**	**+0.3**
baz=72,SNR=5.2							
M03C	**McCloud**	**71.66**	**323**	⇑P	**P**	**04 39 29.3**	**-0.7**
baz=72							
M04C	**Macdoel**	**71.82**	**324**	⇓P	**P**	**04 39 31.5**	**+0.5**
baz=72							
H08A	**Prairie City**	**71.88**	**327**	P	**P**	**04 39 32.1**	**+0.7**
baz=72,SNR=6.3							
E11A	**Bogner Ranch,**	**71.91**	**330**	⇑P	**P**	**04 39 31.8**	**+0.2**
baz=72							
I07A	**Izee**	**72.02**	**327**	⇓P	**P**	**04 39 32.5**	**+0.2**
baz=72							
N02C	**Big Bar**	**72.08**	**322**	⇑P	**P**	**04 39 32.6**	**0.0**
baz=72							
L04A	**Klamath Falls**	**72.10**	**324**	⇓P	**P**	**04 39 32.6**	**-0.1**
baz=72							
C13A	**Hot Springs**	**72.10**	**332**	⇑P	**P**	**04 39 33.7**	**+1.0**
baz=72							
F10A	**Beach Ranch, E**	**72.14**	**329**	⇓P	**P**	**04 39 34.4**	**+1.4**
baz=72							
M02C	**Callahan**	**72.16**	**323**	⇓P	**P**	**04 39 33.0**	**-0.1**
baz=72							
K04A	**Chilquin**	**72.28**	**324**	⇓P	**P**	**04 39 34.0**	**+0.2**
baz=72							
YBH	**Yreka Blue Hor**	**72.29**	**323**	⇑P	**P**	**04 39 32.4**	**-1.4**
baz=72							
F09A	**S2 Ranch, Elgi**	**72.30**	**329**	P	**P**	**04 39 34.3**	**+0.4**
baz=72,SNR=8.5							
I06A	**Prineville**	**72.31**	**326**	P	**P**	**04 39 35.0**	**+1.0**
baz=72,SNR=5.6							
G08A	**Pilot Rock**	**72.55**	**328**	⇓P	**P**	**04 39 36.3**	**+0.9**
baz=73							
H06A	**Lindquist Farm**	**72.90**	**327**	P	**P**	**04 39 38.5**	**+1.0**
baz=73,SNR=5.1							
J04A	**Umpqua Nationa**	**72.90**	**325**	⇓P	**P**	**04 39 37.2**	**-0.2**
baz=73							
G07A	**Ruggs Ranch, H**	**72.90**	**327**	⇓P	**P**	**04 39 38.3**	**+0.8**
baz=73							
D10A	**Wagner Farm, O**	**72.93**	**330**	⇑P	**P**	**04 39 37.1**	**-0.6**
baz=73							
B12A	**Libby**	**73.14**	**332**	⇑P	**P**	**04 39 39.1**	**+0.2**
baz=73							
G06A	**Carlson Farm,**	**73.39**	**327**	⇓P	**P**	**04 39 40.2**	**-0.2**
baz=74							
E08A	**Dider Farm, El**	**73.42**	**329**	⇓P	**P**	**04 39 39.4**	**-1.1**
baz=74							
D09A	**Jones Farm, Ri**	**73.44**	**329**	⇓P	**P**	**04 39 40.1**	**-0.6**
baz=74							
F07A	**Phinny Hill Vi**	**73.46**	**328**	⇑P	**P**	**04 39 40.8**	**0.0**
baz=74							
J03A	**Ideyld Park**	**73.47**	**324**	⇑P	**P**	**04 39 41.9**	**+1.1**
baz=74							
B11A	**Sandpoint**	**73.48**	**331**	⇓P	**P**	**04 39 41.3**	**+0.5**
baz=74							
C10A	**Spilker Farm,**	**73.48**	**330**	⇓P	**P**	**04 39 40.5**	**-0.4**
baz=74							
A12A	**Yaak River Ran**	**73.51**	**332**	P	**P**	**04 39 41.6**	**+0.5**
baz=74,SNR=6.6							
D08A	**Wollman Farm,**	**73.74**	**329**	⇑P	**P**	**04 39 42.3**	**-0.1**
baz=74							
J02A	**Umpqua**	**73.81**	**324**	⇑P	**P**	**04 39 43.1**	**+0.3**
baz=74							
A11A	**Hall Mountain,**	**73.85**	**332**	⇑P	**P**	**04 39 42.7**	**-0.4**
baz=74							
E07A	**Sunnyside**	**73.87**	**328**	⇓P	**P**	**04 39 44.3**	**+1.1**
baz=74							
I03A	**Eugene**	**74.02**	**325**	⇑P	**P**	**04 39 44.6**	**+0.6**
baz=74							
B09A	**Rice**	**74.31**	**331**	⇑P	**P**	**04 39 44.8**	**-1.0**
baz=74							
D07A	**Quincy**	**74.36**	**329**	⇓P	**P**	**04 39 46.3**	**+0.3**
baz=75							
H03A	**Soap Creek Ran**	**74.47**	**325**	⇓P	**P**	**04 39 47.7**	**+1.0**
baz=75							
C07A	**Waterville**	**74.74**	**329**	P	**P**	**04 39 48.6**	**+0.4**
baz=75,SNR=5.0							
D06A	**Cle Elum**	**74.80**	**328**	⇑P	**P**	**04 39 49.5**	**+0.9**
baz=75							
B08A	**Colville Reser**	**74.83**	**330**	⇑P	**P**	**04 39 48.8**	**0.0**
baz=75							
A09A	**Danville**	**74.90**	**331**	⇓P	**P**	**04 39 49.1**	**-0.1**
baz=75							
A08A	**Turner Farm, O**	**75.21**	**330**	⇓P	**P**	**04 39 50.8**	**-0.2**
baz=75							
B07A	**Winthrop**	**75.29**	**330**	⇑P	**P**	**04 39 51.3**	**0.0**
baz=76							
D05A	**Enumclaw**	**75.38**	**328**	⇑P	**P**	**04 39 52.2**	**+0.3**
baz=76							
F03A	**Seaside**	**75.41**	**326**	⇓P	**P**	**04 39 53.0**	**+0.9**
baz=76							
A07A	**Ashnola River,**	**75.81**	**330**	P	**P**	**04 39 54.6**	**+0.2**
baz=76,SNR=5.5							
QSPA	**South Pole Qui**	**75.84**	**180**	*e*P	**P**	**04 39 53.0**	**-1.5**
2.3nm,0.5s,mb4.2							
B06A	**Marblemount**	**76.00**	**329**	⇑P	**P**	**04 39 54

*CSEM **24** 04:29:35.3±1.3,3944N×2972W,h5km,ML3.1,Error ellipse: s-maj=12.8km s-min=9.5km az=77.0,After PDA*
*PDA **24** 04:29:35.3±1.3,3944N×2972W,h5km,MD3.7,ML3.1, Error ellipse: s-maj=12.8km s-min=9.5km az=77.0*

SVSA 24 04:29:35.3±1.3,3944N×2972W,h5km,MD3.7,ML3.1, Error ellipse: s-maj=12.8km s-min=9.5km az=77.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.12**	**140**	*e*S	Sg	04 30 06.0	-5.3
PTCA	73nm,0.2s						
PCED	**Cedros**	**1.14**	**135**	*e*S	Sg	04 30 05.8	-6.0
PCED	285nm,0.3s						
CALA	**Caldeira**	**1.17**	**137**	*e*P	Pg	04 29 53.7	-4.0
CALA				*e*S	Sg	04 30 06.8	-6.1
HOR	**Horta**	**1.25**	**137**	*e*S	Sg	04 30 08.6	-6.8
ROSA	**Rosais**	**1.36**	**122**	*e*P	Pn	04 29 55.8	-5.1
ROSA				*e*S	Sb	04 30 11.6	-7.3
PICO	**Pico**	**1.38**	**133**	*e*P	Pn	04 29 56.6	-4.6
PICO				*e*S	Sb	04 30 12.6	-6.9
PCND	**Candelaria**	**1.38**	**134**	*e*S	Sb	04 30 12.7	-6.8
PCND	163nm,0.3s						
STGR	**Santa Cruz**	**1.38**	**105**	*e*S	Sb	04 30 12.1	-7.5
STGR	16nm,0.1s						
PAMA	**Santo Amaro**	**1.42**	**122**	*e*S	Sb	04 30 13.4	-7.3
PAMA	57nm,0.3s						
PTEI	**Pico de Teixo**	**1.42**	**131**	*e*S	Sb	04 30 13.7	-7.1
PTEI	100nm,0.2s						
PBOI	**Pico dos Bois**	**1.45**	**133**	*e*S	Sb	04 30 15.4	-6.2
PBOI	95nm,0.2s						
PMAN	**Manadas**	**1.51**	**122**	*e*S	Sn	04 30 15.2	-7.8
PMAN	80nm,0.3s						

*IDC **24** 04:36:08.8±0.9,3950N×3008W,h0km,mb3.9/12, mb1 4.1/12,mb1mx3.9/22,mbtmp3.9/12,MS3.7/12, Ms1 3.7/12,ms1mx3.6/29,Error ellipse: s-maj=27.9km s-min=12.2km az=177.0*
*ISCJB **24** 04:36:10.8±0.5,3941N×4004×2952W×005,h10km, mb4.0/16,MS3.7/11,Error ellipse: s-maj=6.8km s-min=3.4km az=94.6*
*NEIC **24** 04:36:11.5±0.6,3956N×2991W,h10km,mb4.5/5,Error ellipse: s-maj=15.8km s-min=8.8km az=192.0*
*SVSA **24** 04:36:12.7±1.6,3945N×2972W,h5km,MD3.4,ML3.7, Error ellipse: s-maj=8.1km s-min=6.0km az=41.0*
*PDA **24** 04:36:12.7±1.6,3945N×2972W,h5km,MD3.4,ML3.7, Error ellipse: s-maj=8.1km s-min=6.0km az=41.0*
*CSEM **24** 04:36:13.0±0.1,3930N×2956W,h30km,mb4.5/3,Error ellipse: s-maj=3.6km s-min=2.2km az=56.0*

ISC 24 04:36:11.9±0.5,3935N±004×2949W±005,h10km,n69, σ0§99/92,mb4.0/16,MS3.7/11,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.52**	**130**	*e*P	Pg	04 36 34.5	+12
PLUZ				*e*S	Sg	04 36 50.3	+21
PLUZ	228nm,0.3s						
PTCA	**Ponta do Capel**	**0.94**	**145**	*e*P	Pg	04 36 30.3	+0.3
PTCA				*e*S	Sg	04 36 43.1	+0.9
PTCA	498nm,0.3s						
PTCA	**Ponta do Capel**	**0.94**	**145**	*e*P	Pg	04 36 30.3	+0.3
PTCA				*e*S	Sg	04 36 43.1	+0.9
PCED	**Cedros**	**0.95**	**139**	*e*P	Pg	04 36 29.9	-0.3
PCED				*e*S	Sg	04 36 43.3	+0.7
PCED	2μm,0.3s						
PCED	**Cedros**	**0.95**	**139**	*e*P	Pg	04 36 29.9	-0.3
PCED				*e*S	Sg	04 36 43.3	+0.7
CALA	**Caldeira**	**0.99**	**141**	*e*P	Pg	04 36 30.7	-0.2
CALA				*e*S	Sg	04 36 44.5	+0.8
HOR	**Horta**	**1.06**	**141**	*e*P	Pg	04 36 31.7	-0.7
HOR				*e*S	Sg	04 36 46.3	+0.1
PVIA	**Vitoria**	**1.16**	**104**	*e*S	Sb	04 36 48.5	-0.5
PVIA	66nm,0.3s						
ROSA	**Rosais**	**1.16**	**123**	*e*P	Pb	04 36 33.1	-1.0
SRBC	**Serra Branca**	**1.17**	**105**	*e*S	Sb	04 36 49.2	-0.3
STGR	**Santa Cruz**	**1.19**	**103**	*e*P	Pb	04 36 33.7	-0.8
STGR				*e*S	Sb	04 36 49.9	-0.1
STGR	308nm,0.2s						
STGR	**Santa Cruz**	**1.19**	**103**	*e*P	Pb	04 36 33.7	-0.8
STGR				*e*S	Sb	04 36 49.9	-0.1
PICO	**Pico**	**1.19**	**135**	*e*P	Pb	04 36 33.9	-0.7
PICO				*e*S	Sb	04 36 49.7	-0.3
PCND	**Candelaria**	**1.19**	**137**	*e*P	Pb	04 36 34.4	-0.2
PCND				*e*S	Sb	04 36 50.4	+0.3
PCND	2μm,0.2s						
PAMA	**Santo Amaro**	**1.22**	**123**	*e*S	Sb	04 36 50.6	-0.4
PAMA	385nm,0.2s						
PTEI	**Pico de Teixo**	**1.23**	**134**	*e*P	Pn	04 36 35.0	-0.2
PTEI				*e*S	Sb	04 36 51.2	0.0
PTEI	1μm,0.2s						
PBOI	**Pico dos Bois**	**1.26**	**136**	*e*P	Pn	04 36 35.4	-0.2
PBOI				*e*S	Sb	04 36 52.2	+0.1
PBOI	1μm,0.3s						
PMAN	**Manadas**	**1.31**	**123**	*e*P	Pn	04 36 35.2	-1.0
PMAN				*e*S	Sb	04 36 52.5	-0.9
PMAN	881nm,0.2s						
PMAN	**Manadas**	**1.31**	**123**	*e*P	Pn	04 36 35.2	-1.0
PMAN				*e*S	Sb	04 36 52.5	-0.9
PID	**Ribeirinha**	**1.41**	**130**	*e*P	Pn	04 36 36.7	-0.9
PIED	**Piedade**	**1.46**	**129**	*e*P	Pn	04 36 38.0	-0.3
PSBA	**Serra de Santa**	**1.79**	**108**	*e*P	Pn	04 36 42.2	-0.6
PSBA				*e*S	Sn	04 37 04.5	-1.0
PSBA	214nm,0.4s						
PSBA	**Serra de Santa**	**1.79**	**108**	*e*P	Pn	04 36 42.2	-0.6
PSBA				*e*S	Sn	04 37 04.5	-1.0
ASBA	**Santa Barbara**	**1.80**	**110**	*e*P	Pn	04 36 43.5	+0.5
ASBA				*e*S	Sn	04 37 05.5	-0.4
ASBA	167nm,0.3s						
ASBA	**Santa Barbara**	**1.80**	**110**	*e*P	Pn	04 36 43.5	+0.5
ASBA				*e*S	Sn	04 37 05.5	-0.4
PPAD	**Pico dos Padre**	**1.84**	**110**	*e*P	Pn	04 36 43.7	+0.2
PPAD				*e*S	Sn	04 37 05.9	-0.9
PPAD	39nm,0.1s						
PPAD	**Pico dos Padre**	**1.84**	**110**	*e*P	Pn	04 36 43.7	+0.2
PPAD				*e*S	Sn	04 37 05.9	-0.9
PBIS	**Biscoitos**	**1.84**	**108**	*e*P	Pn	04 36 43.9	+0.3
PBIS				*e*S	Sn	04 37 06.4	-0.5
PBIS	99nm,0.2s						
PBIS	**Biscoitos**	**1.84**	**108**	*e*P	Pn	04 36 43.9	+0.3
PBIS				*e*S	Sn	04 37 06.4	-0.5
ADH	**Angra Heroismo**	**1.89**	**111**	*e*P	Pn	04 36 44.1	-0.2
ADH				*e*S	Sn	04 37 07.5	-0.6
PVNV	**Vila Nova**	**1.91**	**107**	*e*P	Pn	04 36 45.6	+1.1
PVNV				*e*S	Sn	04 37 08.8	+0.1
PVNV	45nm,0.3s						
PVNV	**Vila Nova**	**1.91**	**107**	*e*P	Pn	04 36 45.6	+1.1
PVNV				*e*S	Sn	04 37 08.8	+0.1
RIB2	**Ribeirinha**	**1.93**	**110**	*e*P	Pn	04 36 45.1	+0.3
RIB2				*e*S	Sn	04 37 08.7	-0.4
RIB2	43nm,0.2s						
RIB2	**Ribeirinha**	**1.93**	**110**	*e*P	Pn	04 36 45.1	+0.3
RIB2				*e*S	Sn	04 37 08.7	-0.4
PFAV	**Pico das Favas**	**1.98**	**108**	*e*P	Pn	04 36 46.0	+0.5
PFAV				*e*S	Sn	04 37 10.6	+0.2
PFAV	54nm,0.3s						
PFAV	**Pico das Favas**	**1.98**	**108**	*e*P	Pn	04 36 46.0	+0.5
PFAV				*e*S	Sn	04 37 10.6	+0.2
CML	**Cha da Macela**	**3.47**	**116**	*e*P	Pn	04 37 07.6	+1.6
PMAT	**Coroa da Mata**	**3.50**	**115**	*e*P	Pn	04 37 07.7	+1.3
ESDC	**Sonseca Array**	**19.68**	**81**	P	Pn	04 40 44.8	+2.2
ESDC	4.6nm,0.9s,baz=281,slow=9.2,SNR=14			LR	LR	04 47 32.9	
ESDC	comp=Z,221nm,18.4s,baz=275,slow=34						
ESDC	**Sonseca Array**	**19.68**	**81**	P	Pn	04 40 44.8	+2.2
ESDC				LR	LR	04 47 32.9	
ESDC	**Sonseca Array**	**19.68**	**81**	P	Pn	04 40 44.8	+2.2
MDT	**Midelt**	**21.10**	**100**	P	P	04 40 59.9	+3.4
MDT	2.9nm,1.0s,mb3.6,baz=336,slow=8.2,SNR=2.6			LR	LR	04 48 05.2	
MDT	comp=Z,160nm,18.8s,MS3.4,baz=125,slow=33						
EKA	**Eskdalemuir Ar**	**23.75**	**39**	P	P	04 41 24.5	+0.1
SCHQ	4.6nm,1.1s,mb3.8,baz=234,slow=9.4,SNR=4.8 **Schefferville**	**29.34**	**314**	LR	LR	04 50 47.1	
GRA1	comp=Z,140nm,21.3s,MS3.5,baz=120,slow=30 **Grafenberg Arr**	**30.47**	**57**	*e*P	P	04 42 26.2	+1.4
GRF	9.0nm,1.3s,mb4.3 **Grafenberg Arr**	**30.47**	**57**	*e*P	P	04 42 26.2	+1.4
KEST	comp=Z,9.0nm,1.3s,mb4.3 **Kesra**	**30.85**	**84**	LR	LR	04 53 06.6	
GERES	comp=Z,37nm,18.7s,MS3.1,baz=224,slow=32 **GERESS Array B**	**32.06**	**58**	P	P	04 42 39.7	+1.0
GERES	comp=Z,0.6nm,0.8s,mb3.5,baz=261,slow=5.1,SNR=3.8			LR	LR	04 53 39.5	
NOA	comp=Z,122nm,19.8s,MS3.6,baz=294,slow=32 **NORSAR Array B**	**33.10**	**36**	P	P	04 42 46.9	-1.0
CRVS	comp=Z,2.9nm,1.0s,mb4.2,baz=248,slow=9.0,SNR=3.2 **Cervenica-Dubn**	**37.17**	**58**	*e*P	P	04 43 25.1	+2.1
TOA0	**Torodi Ar. Sit**	**37.92**	**125**	*e*P	P	04 43 31.9	+2.6
TOA0	**Torodi Ar. Sit**	**37.92**	**125**	*e*P	P	04 43 31.9	+2.5
TORD	**Torodi Ar. Bea**	**37.92**	**125**	P	P	04 43 31.9	+2.5
TORD	comp=Z,2.8nm,1.2s,mb3.9,baz=328,slow=5.5,SNR=5.7			LR	LR	04 58 33.3	
SJG	comp=Z,153nm,18.0s,MS3.9,baz=325,slow=35 **San Juan**	**38.12**	**247**	LR	LR	04 53 51.8	
FINES	comp=Z,45nm,20.4s,MS3.3,baz=97,slow=28 **FINESS Array B**	**40.14**	**38**	P	P	04 43 46.0	-1.9
FINES	comp=Z,6.6nm,0.9s,mb4.3,baz=194,slow=7.3,SNR=8.1			LR	LR	04 58 24.1	
FINES	comp=Z,201nm,18.6s,MS4.0,baz=359,slow=33 **FINESS Array B**	**40.14**	**38**	P	P	04 43 46.0	-1.9
AKASG	**Malin Array Be**	**41.98**	**54**	P	P	04 44 03.0	-0.1
FCC	comp=Z,2.8nm,0.8s,mb4.0,baz=276,slow=8.5,SNR=12 **Fort Churchill**	**44.57**	**318**	*e*P	P	04 44 19.0	-5.0
ULM	comp=Z,8.6nm,1.3s,mb4.4 **Lac du Bonnet**	**46.87**	**306**	LR	LR	05 02 59.8	
BRTR	comp=Z,140nm,19.4s,MS3.9,baz=112,slow=35 **Keskin Array B**	**47.76**	**68**	P	P	04 44 51.2	+2.1
YKA	comp=Z,0.7nm,0.7s,mb3.8,baz=347,slow=3.3,SNR=3.5 **Yellowknife Ar**	**53.84**	**325**	P	P	04 45 30.9	-4.0
YKA	comp=Z,0.1nm,0.6s,mb2.9,baz=77,slow=8.5,SNR=3.2			LR	LR	05 05 28.5	
WMOK	comp=Z,89nm,21.5s,MS3.8,baz=55,slow=33 **Wichita Mounta**	**54.26**	**288**	*e*P	P	04 45 39.0	+0.9
BW06	comp=Z,3.0nm,0.9s,mb4.2 **Boulder Array**	**58.28**	**301**	*e*P	P	04 46 05.2	-1.5
BW06	comp=Z,6.1nm,1.3s,mb4.5 **Boulder Array**	**58.28**	**301**	*e*P	P	04 46 05.2	-1.5
PDAR	comp=Z,6.1nm,1.3s,mb4.5 **Pinedale Array**	**58.28**	**301**	P	P	04 46 04.0	-2.8
PDAR	comp=Z,1.0nm,1.0s,mb3.8,baz=76,slow=3.8,SNR=6.3			LR	LR	05 11 43.9	
TXAR	comp=Z,118nm,18.5s,MS4.0,baz=155,slow=37 **Lajitas Array**	**60.50**	**285**	P	P	04 46 20.4	-1.7
BVAR	comp=Z,1.3nm,0.8s,mb4.0,baz=70,slow=7.2,SNR=8.5 **Bovoye Array**	**64.98**	**41**	LR	LR	05 13 16.5	
MKAR	comp=Z,128nm,21.0s,MS4.1,baz=134,slow=34 **Makanchi Array**	**74.86**	**41**	P	P	04 47 52.3	-0.3
ASAR	comp=Z,2.5nm,0.8s,mb4.2,baz=320,slow=5.4,SNR=11 **Alice Springs**	**158.96**	**47**	PKPab	PKPab	04 56 45.5	-0.8
	comp=Z,0.9nm,0.9s,baz=332,slow=5.4,SNR=6.2						

*IDC **24** 04:36:15.2±0.9,3042S×17688W,h0km,mb4.4/7, mb1 4.6/8,mb1mx4.4/15,mbtmp4.4/8,ML4.4/1,MS4.2/4, Ms1 4.2/4,ms1mx3.7/23,Error ellipse: s-maj=25.8km s-min=22.0km az=76.0*
*ISCJB **24** 04:36:21.9±0.9,3044S±005×1775W±02,h35km,mb4.7/11, MS4.0/3,Error ellipse: s-maj=20.0km s-min=7.0km az=2.8*
*NEIC **24** 04:36:21.6±2.7,3018S×17709W,h36km±21km,mb4.8/7, Error ellipse: s-maj=22.4km s-min=17.5km az=77.0*

ISC 24 04:36:22.7±1.0,3042S±006×1773W±02,h35km,n47, σ1§57/30,mb4.7/11,MS4.0/3,1C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**336**	Pn	Pn	04 36 41.9	-2.2
RAO	521nm,0.3s,baz=104,slow=9.0,SNR=20			Sn	Sn	04 36 57.4	-2.5
RAO	2μm,0.3s,baz=88,slow=21,SNR=14 **Raoul Island**	**1.28**	**336**	Pn	Pn	04 36 41.9	-2.2
RAO				Sn	Sn	04 36 57.4	-2.5
URZ	**Urewera**	**9.07**	**209**	Pn	Pn	04 38 27.4	-3.7
URZ	0.6nm,0.3s,baz=326,slow=14,SNR=5.7			Sn	Sn	04 40 11.6	-0.3
RPZ	4.2nm,0.3s,baz=271,slow=18,SNR=8.5 **Rata Peaks**	**16.17**	**212**	Pn	Pn	04 40 04.6	-2.6
DZM	1.4nm,0.3s,baz=80,slow=15,SNR=6.0 **Mont Dzumac**	**16.76**	**296**	*e*P	Pn	04 40 19.1	+4.5
DZM	**Mont Dzumac**	**16.76**	**296**	P	Pn	04 40 13.5	-1.2
DZM	0.1nm,0.3s,baz=155,slow=21,SNR=2.5			LR	LR	04 45 42.6	
NOUC	comp=Z,2μm,18.0s,baz=38,slow=33 **Port Laguerre**	**16.86**	**296**	*e*P	Pn	04 40 21.2	+5.4
TBI	**Tubuai**	**25.78**	**81**	*e*LQ		04 46 37.8	
TBI	413nm,26.5s			*e*LR	LR	04 47 50.2	
PPT	436nm,30.2s,baz=258 **Papeete**	**28.30**	**69**	*e*LQ		04 47 33.9	
PPT	737nm,24.8s			*e*LR	LR	04 49 05.6	
PPT	330nm,26.5s,baz=234 **Papeete**	**28.30**	**69**	LR	LR	04 50 07.7	
HNR	comp=Z,217nm,20.1s,MS3.7,baz=248,slow=30 **Honiara**	**29.77**	**310**	LR	LR	04 52 08.5	
CTA	comp=Z,191nm,20.4s,MS3.7,baz=0.0,slow=32 **Charters Tower**	**34.38**	**279**	*e*P	P	04 43 08.5	+2.1
CTA	10.0nm,0.6s,mb4.9 **Charters Tower**	**34.38**	**279**	P	P	04 43 08.2	+1.9
CTAO	6.8nm,0.5s,mb4.8,baz=101,slow=10,SNR=12 **Charters Tower**	**34.38**	**279**	*e*P	P	04 43 08.0	+1.6
STKA	18nm,0.8s,mb5.0 **Stephens Creek**	**35.05**	**257**	*e*P	P	04 43 15.2	+3.1
STKA	21nm,0.8s,mb5.1 **Stephens Creek**	**35.05**	**257**	P	P	04 43 13.8	+1.8
STKA	5.5nm,0.7s,mb4.6,baz=100,slow=11,SNR=12			LR	LR	04 57 30.6	
STKA	comp=Z,632nm,18.1s,MS4.4,baz=294,slow=36 **Stephens Creek**	**35.05**	**257**	*e*P	P	04 43 13.8	+1.7
TAOE	**Nuku Hiva Isla**	**40.78**	**66**	*e*LR	LR	04 54 53.9	
ASAR	359nm,22.9s **Alice Springs**	**43.70**	**267**	P	P	04 44 25.2	+1.0
WB2	4.2nm,0.8s,mb4.2,baz=105,slow=6.8,SNR=37 **Warramunga Arr**	**44.68**	**272**	*i*P	P	04 44 33.0	+0.9
WB2	**Warramunga Arr**	**44.68**	**272**	*e*P	P	04 44 32.8	+0.8
WRA	**Warramunga Arr**	**44.69**	**272**	P	P	04 44 33.0	+0.8
VNDA	6.4nm,0.5s,mb4.7,baz=112,slow=7.5,SNR=44 **Vanda**	**48.13**	**186**	P	P	04 44 54.9	-4.3
VNDA	0.5nm,0.8s,mb3.6,baz=56,slow=3.6,SNR=2.3 **Vanda**	**48.13**	**186**	*e*P	P	04 44 57.7	-1.5
KAKA	2.6nm,1.0s,mb4.2 **Kakadu**	**49.52**	**280**	*e*P	P	04 45 09.0	-0.8
FITZ	5.3nm,0.6s,mb4.8 **Fitzroy Crossi**	**52.95**	**270**	*e*P	P	04 45 36.6	+1.1
FITZ	12nm,1.4s,mb4.6 **Fitzroy Crossi**	**52.95**	**270**	P	P	04 45 36.3	+0.8
CASY	4.6nm,0.8s,mb4.5,baz=148,slow=7.7,SNR=9.2 **Casey**	**55.40**	**208**	*e*P	P	04 45 52.2	-1.1
QSPA	99nm,1.3s,mb5.7 **South Pole Qui**	**59.69**	**180**	*e*P	P	04 46 26.2	+2.6
SNAA	12nm,0.7s,mb5.0 **Sanae**	**78.12**	**178**	*e*P	P	04 48 19.6	+1.5
MJAR	5.3nm,0.9s,mb4.5 **Matsushiro Arr**	**78.60**	**325**	P	P	04 48 18.8	-1.9
YSS	2.4nm,0.8s,mb4.2,baz=157,slow=3.8,SNR=3.3 **Yuzh-Sakhalins**	**85.03**	**334**	*e*P	P	04 48 55.4	+0.8
MK31	**Makanchi Array**	**118.24**	**310**	*e*PKPdf	PKPdf	04 55 04.7	-1.4
MKAR	**Makanchi Array**	**118.24**	**310**	PKP	PKPdf	04 55 04.6	-1.5
	0.4nm,0.5s,baz=117,slow=1.1,SNR=4.9						
MKAR	**Makanchi Array**	**118.24**	**310**	PKP	PKPdf	04 55 04.6	-1.6
KAF	**Kangasniemi**	**144.76**	**341**	*e*p	PKPdf	04 55 51.3	-4.5
	5.6nm,0.6s						
FINES	**FINESS Array B**	**145.37**	**340**	PKPbc	PKPbc	04 55 55.0	-1.7
	16nm,0.8s,baz=61,slow=3.7,SNR=60						
FINES	**FINESS Array B**	**145.37**	**340**	PKPbc	PKPbc	04 55 55.0	-1.7
NB2	**NORSAR Subarra**	**148.86**	**352**	PKP	PKPdf	04 56 04.8	+2.2
	comp=Z,1.5nm,0.7s,baz=14,slow=2.6						
NOA	**NORSAR Array B**	**148.86**	**352**	PKPbc	PKPbc	04 56 05.0	-1.6
	comp=Z,3.3nm,0.8s,baz=14,slow=4.3,SNR=6.1						
NOA	**NORSAR Array B**	**148.86**	**352**	PKPbc	PKPbc	04 56 05.0	-1.6
AKASG	**Malin Array Be**	**151.67**	**323**	PKPbc	PKPbc	04 56 11.8	-1.6
	comp=Z,2.7nm,0.6s,baz=46,slow=2.7,SNR=14						
BRTR	**Keskin Array B**	**153.13**	**299**	PKPbc	PKPbc	04 56 16.3	-0.3
	comp=Z,0.7nm,0.6s,baz=154,slow=5.3,SNR=4.5						
CLL	**Collm**	**157.77**	**343**	*e*PKPab	PKPab	04 56 48.0	-0.1
CLL				*ep*PKPab	pPKPab	04 56 57.0	-2.3
KHC	**Kasperske Hory**	**159.56**	**339**	*e*PKPAB	PKPab	04 56 56.5	+0.6
GERES	**GERESS Array B**	**159.78**	**339**	PKPab	PKPab	04 56 53.0	-3.8
	comp=Z,0.3nm,0.7s,baz=90,slow=4.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**162.78**	**177**	PKPab	PKPab	04 57 09.1	-0.8
	comp=Z,0.5nm,0.6s,baz=180,slow=3.9,SNR=5.8						

*CSEM **24** 04:38:28.0±1.1,3953N×2984W,h10km,ML2.6,Error ellipse: s-maj=26.0km s-min=9.6km az=51.0,After PDA*
*PDA **24** 04:38:28.0±1.1,3953N×2984W,h10km,MD3.5,ML2.6, Error ellipse: s-maj=26.0km s-min=9.6km az=51.0*

SVSA 24 04:38:28.0±1.1,3953N×2984W,h10km,MD3.5,ML2.6, Error ellipse: s-maj=26.0km s-min=9.6km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.25**	**139**	*e*S	Sb	04 39 01.0	-6.7
PTCA	20nm,0.2s						
CALA	**Caldeira**	**1.30**	**136**	*e*S	Sb	04 39 01.9	-7.3
HOR	**Horta**	**1.38**	**136**	*e*P	Pn	04 38 48.1	-5.1
HOR				*e*S	Sb	04 39 03.7	-7.7
ROSA	**Rosais**	**1.48**	**122**	*e*S	Sn	04 39 06.4	-7.8
PICO	**Pico**	**1.51**	**132**	*e*P	Pn	04 38 50.6	-4.4
PICO				*e*S	Sn	04 39 07.4	-7.3
PCND	**Candelaria**	**1.51**	**134**	*e*P	Pn	04 38 50.8	-4.3
PCND				*e*S	Sn	04 39 07.8	-7.0
PCND	36nm,0.3s						
PTEI	**Pico de Teixo**	**1.55**	**131**	*e*S	Sn	04 39 08.8	-7.0
PTEI	38nm,0.3s						
PBOI	**Pico dos Bois**	**1.58**	**133**	*e*P	Pn	04 39 09.7	+14

*CSEM **24** 04:41:37.9±1.4,3948N×2983W,h5km,ML2.6,Error ellipse: s-maj=23.8km s-min=11.2km az=48.0,After PDA*
*PDA **24** 04:41:37.9±1.4,3948N×2983W,h5km,MD3.5,ML2.6, Error ellipse: s-maj=23.8km s-min=11.2km az=48.0*

SVSA 24 04:41:37.9±1.4,3948N×2983W,h5km,MD3.5,ML2.6, Error ellipse: s-maj=23.8km s-min=11.2km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.20**	**138**	*e*S	Sg	04 42 10.2	-6.3
PTCA	35nm,0.2s						
PCED	**Cedros**	**1.22**	**134**	*e*S	Sg	04 42 10.4	-6.8
PCED	46nm,0.3s						
CALA	**Caldeira**	**1.25**	**135**	*e*P	Pg	04 41 57.3	-4.7
CALA				*e*S	Sg	04 42 11.4	-6.8
HOR	**Horta**	**1.33**	**135**	*e*P	Pn	04 41 58.0	-5.2
HOR				*e*S	Sb	04 42 13.9	-6.8
ROSA	**Rosais**	**1.45**	**121**	*e*S	Sb	04 42 16.4	-7.7
PCND	**Candelaria**	**1.47**	**133**	*e*S	Sn	04 42 17.5	-7.1
PCND	31nm,0.3s						
PICO	**Pico**	**1.47**	**131**	*e*P	Pn	04 42 00.4	-4.6
PICO				*e*S	Sn	04 42 17.1	-7.5
PTEI	**Pico de Teixo**	**1.51**	**130**	*e*S	Sn	04 42 18.4	-7.3
PTEI	25nm,0.2s						
PBOI	**Pico dos Bois**	**1.54**	**132**	*e*P	Pn	04 42 17.6	+12
PMAN	**Manadas**	**1.60**	**121**	*e*S	Sn	04 42 19.7	-8.1
PMAN	39nm,0.2s						

*NEIC **24** 04:48:04.2,1791N×9608W,h120km,MD3.9(MEX),After MEX.*

MEX 24 04:48:04.1±0.7,1794N×9607W,h119km±10km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**1.05**	**216**	*i*P	Pn	04 48 25.0	-1.6
OXX				*i*S	Sn	04 48 42.0	-1.6
VHO	**Vista Hermosa**	**1.07**	**217**	*e*P	Pn	04 48 25.8	-0.9
VHO				*i*S	Sn	04 48 42.8	-1.1
TPIG	**Tehuac#an**	**1.32**	**292**	*i*P	Pn	04 48 28.5	-0.9
TPIG				*i*S	Sn	04 48 46.6	-2.0
CMIG	**Matias Romero**	**1.41**	**126**	*i*P	Pn	04 48 29.6	-0.8
CMIG				*i*S	Sn	04 48 48.2	-2.1
CMIG	**Matias Romero**	**1.41**	**126**	*i*P	Pn	04 48 29.6	-0.8
CMIG				*i*S	Sn	04 48 47.9	-2.5
UTMO	**Huajuapan**	**1.66**	**267**	*e*P	Pn	04 48 32.5	-0.7
UTMO				*i*S	Sn	04 48 53.8	-1.7
HUIG	**Huatulco**	**2.16**	**181**	*i*P	Pn	04 48 38.6	-0.8
HUIG				*i*S	Sn	04 49 04.0	-2.5
PNIG	**Pinotepa**	**2.50**	**232**	*i*P	Pn	04 48 41.4	-2.4
PNIG				*i*S	Sn	04 49 12.5	-1.7

*CSEM **24** 04:53:39.5±1.2,3946N×2975W,h10km,ML3.1,Error ellipse: s-maj=7.2km s-min=6.2km az=56.0,After PDA*
*PDA **24** 04:53:39.5±1.2,3946N×2975W,h10km,MD3.4,ML3.1, Error ellipse: s-maj=7.2km s-min=6.2km az=56.0*

SVSA 24 04:53:39.5±1.2,3946N×2975W,h10km,MD3.4,ML3.1, Error ellipse: s-maj=7.2km s-min=6.2km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.74**	**126**	*e*S	Sg	04 54 17.3	+14
PLUZ	48nm,0.3s						
PTCA	**Ponta do Capel**	**1.14**	**139**	*e*P	Pb	04 53 57.1	-4.3
PTCA				*e*S	Sb	04 54 09.9	-6.4
PTCA	102nm,0.4s						
PTCA	**Ponta do Capel**	**1.14**	**139**	*e*P	Pb	04 53 57.1	-4.3
PTCA				*e*S	Sb	04 54 09.9	-6.4
PCED	**Cedros**	**1.16**	**135**	*e*P	Pb	04 53 57.2	-4.5
PCED				*e*S	Sb	04 54 10.0	-6.8
PCED	258nm,0.3s						
PCED	**Cedros**	**1.16**	**135**	*e*P	Pb	04 53 57.2	-4.5
PCED				*e*S	Sb	04 54 10.0	-6.8
CALA	**Caldeira**	**1.20**	**137**	*e*P	Pb	04 53 57.0	-5.2
CALA				*e*S	Sb	04 54 11.1	-

PBOI
108nm,0.3s
PMAN Manadas 1.53 122 *e*P Pn 04 54 02.2 -4.7
PMAN *e*S Sn 04 54 19.1 -7.8
PMAN
149nm,0.4s
PMAN Manadas 1.53 122 *e*P Pn 04 54 02.2 -4.7
PMAN *e*S Sn 04 54 19.1 -7.8
PIED Piedade 1.68 127 *e*P Pn 04 54 04.8 -4.1
PSBA Serra de Santa 2.01 109 *e*P Pn 04 54 09.1 -4.4
PSBA *e*S Sn 04 54 31.4 -7.2
PSBA
50nm,0.3s
PSBA Serra de Santa 2.01 109 *e*P Pn 04 54 09.1 -4.4
PSBA *e*S Sn 04 54 31.4 -7.2

BJI ***24*** *05:07:35.6, 43.4S×153.65E, h70km, mB5.7, mb5.7, Ms5.2, Msz5.1*
ISCJB ***24*** *05:07:36.0±0.1, 43.57S±0.03×153.13E±0.02, h61km, mb5.6/105, Error ellipse: s-maj=3.6km s-min=3.1km az=179.5*
GCMT ***24*** *05:07:37.9±0.1, 43.79S×153.13E, h60km, MW5.7/99, Moment Tensor Solution. s99,c193; s88,c230; Duration: 1s7 Moment tensor: Scale 10^17^Nm; Mrr4.08±.05; Mθθ-4.42±.04; Mφφ0.34±.04; Mrθ1.46±.04; Mrφ0.04±.04; Mθφ0.50±.04; Best double couple: M0 4.52500×10^17^ NP1:φs278.00000°, δ36.00000°, λ102.00000°. NP2:φs83.00000°, δ55.00000°, λ82.00000°. Principal axes: T 4.3860, Plg78.0000°, Azm323.0000°; N 0.2820, Plg7.0000°, Azm88.0000°; P -4.6640, Plg10.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***24*** *05:07:37.9±0.1, 43.55S×153.16E, mb5.6/62, MW5.7 Error ellipse: s-maj=4.1km s-min=3.6km az=102.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^17^Nm; Mrr5.25; Mθθ-3.97; Mφφ-1.29; Mrθ0.88; Mφθ-0.63; Mφr-0.30; Best double couple: M0 4.80000×10^17^ NP1:φs82.00000°, δ50.00000°, λ95.00000°. NP2:φs254.00000°, δ40.00000°, λ84.00000°. Principal axes: T 5.3500, Plg84.0000°, Azm29.0000°; N -1.1700, Plg4.0000°, Azm258.0000°; P -4.1800, Plg5.0000°, Azm168.0000°;*
IDC ***24*** *05:07:37.1±0.5, 43.59S×153.08E, h58km±3km, mb5.1/18, mb1 5.2/22, mb1mx5.2/22, mbtmp5.2/22, MS4.9/16, Ms1 4.9/16, ms1mx4.9/18 Error ellipse: s-maj=10.2km s-min=7.0km az=87.0*
MOS ***24*** *05:07:37.3±1.1, 44.45S×153.05E, h61km, mb5.8/35, MS5.1/11, Error ellipse: s-maj=8.1km s-min=5.4km az=104.3*

ISC 24 05:07:38.0±0.1, 457S±002×15316E±002, h63km, h63km±1.5km: pP-P, n792, σ0=89/476, mb5.6/105, 139C-106D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.65**	**231**	P	**Pn**	**05 09 25.4**	**-1.3**
	22nm,0.3s,baz=50,slow=9.2,SNR=55						
PMG				S	**Sn**	**05 10 51.5**	**-0.3**
	219nm,0.3s,baz=126,slow=19,SNR=16						
PMG	**Port Moresby**	**7.65**	**231**	*e*Pn	**Pn**	**05 09 27.9**	**+1.3**
PMG				*e*Sn	**Sn**	**05 10 51.4**	**-0.4**
HNR	**Honiara**	**8.29**	**126**	P	**Pn**	**05 09 36.1**	**+0.6**
	58nm,0.3s,baz=259,slow=1.0,SNR=11						
HNR				S	**Sn**	**05 11 08.7**	**+1.2**
	43nm,0.3s,baz=99,slow=12,SNR=2.0						
HNR	**Honiara**	**8.29**	**126**	*e*P	**Pn**	**05 09 37.0**	**+1.5**
HNR				*e*		05 11 09.4	
HNR				pmax	pmax		
	comp=Z,2μm,0.8s						
HNR	**Honiara**	**8.29**	**126**	*e*Pn	**Pn**	**05 09 37.0**	**+1.5**
	comp=Z,2μm,0.8s						
HNR				*e*Sn	**Sn**	**05 11 09.4**	**+1.9**
CTA	**Charters Tower**	**16.82**	**203**	*e*P	**Pn**	**05 11 29.8**	**+0.5**
	comp=Z,88nm,1.5s						
CTA				*i* S	**S**	**05 14 39.0**	**-3.7**
CTA	**Charters Tower**	**16.82**	**203**	P	**Pn**	**05 11 30.0**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=26,slow=13,SNR=39						
CTA				S	**S**	**05 14 37.1**	**-5.6**
	baz=236,slow=15,SNR=1.3						
CTA				ScS	ScS	05 23 26.0	+3.5
	baz=8.2,slow=22,SNR=2.1						
CTA				PKiKP	PKiKP	05 24 06.2	-0.5
	comp=Z,0.1nm,0.3s,baz=316,slow=1.7,SNR=4.5						
CTA	**Charters Tower**	**16.82**	**203**	*e*P	**Pn**	**05 11 29.8**	**+0.5**
CTA				*i* S	**S**	**05 14 39.0**	**-3.7**
CTA				pmax	pmax		
	comp=Z,88nm,1.5s						
CTAO	**Charters Tower**	**16.82**	**203**	*e*P	**Pn**	**05 11 30.5**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,202nm,1.3s						
CTAO	**Charters Tower**	**16.82**	**203**	*e*P	**Pn**	**05 11 30.5**	**+1.2**
	comp=Z,202nm,1.3s						
GUMO	**Guam**	**19.83**	**336**	P	**Pn**	**05 12 03.5**	**-2.1**
	comp=Z,24nm,0.3s,baz=173,slow=8.7,SNR=23						
GUMO				S	**S**	**05 15 43.2**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=67,slow=19,SNR=2.0						
GUMO				LR	LR	05 18 57.8	
	comp=Z,2μm,18.9s,baz=156,slow=34						
GUMO	**Guam**	**19.83**	**336**	*e*P	**Pn**	**05 12 05.4**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,971nm,1.1s						
GUMO	**Guam**	**19.83**	**336**	*e*P	**Pn**	**05 12 05.4**	**-0.1**
	comp=Z,972nm,1.1s						
NOUC	**Port Laguerre**	**21.58**	**145**	*e*P	**P**	**05 12 21.4**	**-1.0**
DZM	**Mont Dzumac**	**21.64**	**145**	*e*P	**P**	**05 12 22.6**	**-0.4**
DZM	**Mont Dzumac**	**21.64**	**145**	P	**P**	**05 12 22.6**	**-0.4**
	comp=Z,81nm,0.6s,mb5.3,baz=335,slow=14,SNR=53						
DZM				S	**S**	**05 16 17.5**	**-1.5**
	comp=Z,7.0nm,0.8s,baz=172,slow=22,SNR=3.1						
DZM				ScP	ScP	05 19 56.5	+2.6
	comp=Z,28nm,0.9s,baz=75,slow=6.1,SNR=8.4						
KAKA	**Kakadu**	**22.00**	**247**	*e*P	**P**	**05 12 25.2**	**-1.7**
	comp=Z,1μm,0.9s,mb6.4						
KAKA				*e*S	**S**	**05 16 22.3**	**-3.7**
WB2	**Warramunga Arr**	**23.85**	**229**	⇑*i*P	**P**	**05 12 44.6**	**-0.7**
WB2				*i* S	**S**	**05 16 55.2**	**-1.6**
WRA	**Warramunga Arr**	**23.86**	**229**	P	**P**	**05 12 45.0**	**-0.4**
	comp=Z,218nm,0.8s,mb5.6,baz=52,slow=9.9,SNR=140						
WRA				pP		05 13 00.2	
	comp=Z,210nm,0.9s,baz=52,slow=9.8,SNR=8.7						
WRA				sP	sP	05 13 06.7	-1.4
	comp=Z,246nm,0.9s,baz=54,slow=9.9,SNR=6.1						
WRA				PcP	PcP	05 16 27.5	+0.6
	comp=Z,12nm,0.7s,baz=53,slow=2.8,SNR=4.7						
WRA				S	**S**	**05 16 54.5**	**-2.4**
	comp=Z,8.4nm,0.8s,baz=58,slow=12,SNR=6.5						
WRA				ScP	ScP	05 20 01.2	+1.5
	comp=Z,6.2nm,0.7s,baz=52,slow=2.7,SNR=5.0						
WRA				LR	LR	05 22 23.8	
	comp=Z,3μm,20.6s,baz=55,slow=37						
WRA				PKiKP	PKiKP	05 24 08.6	-1.2
	comp=Z,2.4nm,0.8s,baz=294,slow=0.8,SNR=7.0						
WRA	**Warramunga Arr**	**23.86**	**229**	P	**P**	**05 12 45.0**	**-0.4**
WRA				*PP		05 13 00.2	
WRA				*SP	sP	05 13 06.7	-1.4
WRA						05 16 27.5	
WRA				S	**S**	**05 16 54.5**	**-2.4**
WRA	**Warramunga Arr**	**23.86**	**229**	P	**P**	**05 12 45.0**	**-0.4**
WRA				pP		05 13 00.2	
WRA				sP	sP	05 13 06.7	-1.4
WRA				PcP	PcP	05 16 27.4	+0.6
WRA				S	**S**	**05 16 54.5**	**-2.4**
WRA				ScP	ScP	05 20 01.2	+1.6
WRA				LR	LR	05 22 23.8	
ARMA	**Armidale**	**25.75**	**183**	*e*P	**P**	**05 13 04.4**	**+1.8**
ARMA				*e*S	**S**	**05 17 23.7**	**-3.3**
ARMA				*e*SCP	ScP	05 20 05.9	+0.9
ASAR	**Alice Springs**	**26.56**	**223**	P	**P**	**05 13 09.3**	**-0.5**
	comp=Z,36nm,0.9s,mb4.9,baz=56,slow=8.0,SNR=90						
ASAR				S	**S**	**05 17 38.6**	**-1.2**
	comp=Z,16nm,1.1s,baz=52,slow=12,SNR=5.3						
ASAR				ScP	ScP	05 20 09.2	+1.9
	comp=Z,4.5nm,0.8s,baz=73,slow=3.3,SNR=4.1						
ASAR				PKiKP	PKiKP	05 24 10.4	-0.9
	comp=Z,2.0nm,0.8s,baz=137,slow=1.4,SNR=5.9						
ASAR	**Alice Springs**	**26.56**	**223**	P	**P**	**05 13 09.4**	**-0.5**
ASAR				S	**S**	**05 17 38.6**	**-1.2**
ASAR	**Alice Springs**	**26.56**	**223**	P	**P**	**05 13 09.3**	**-0.5**
ASAR				S	**S**	**05 17 38.6**	**-1.2**
ASAR				ScP	ScP	05 20 09.2	+1.9
RIV	**Riverview**	**29.17**	**183**	*e*P	**P**	**05 13 39.4**	**+6.2**
STKA	**Stephens Creek**	**29.25**	**200**	*e*P	**P**	**05 13 33.0**	**-0.9**
	comp=Z,42nm,0.8s,mb5.2						
STKA				*e*PCP	PcP	05 16 40.6	+1.1
STKA				*e*S	**S**	**05 18 15.4**	**-6.8**
STKA				*e*SCP	ScP	05 20 18.4	+2.8
STKA	**Stephens Creek**	**29.25**	**200**	P	**P**	**05 13 33.8**	**-0.1**
	comp=Z,48nm,0.8s,mb5.3,baz=0.6,slow=7.9,SNR=61						
STKA				PcP	PcP	05 16 40.5	+1.0
	comp=Z,31nm,0.8s,baz=67,slow=5.6,SNR=4.7						
STKA				S	**S**	**05 18 19.4**	**-2.7**
	comp=Z,2.3nm,0.7s,baz=301,slow=18,SNR=1.4						
STKA				ScP	ScP	05 20 18.2	+2.6
	comp=Z,10nm,0.8s,baz=46,slow=3.8,SNR=5.6						
STKA				PKiKP	PKiKP	05 24 12.1	-0.9
	comp=Z,2.6nm,0.7s,baz=331,slow=16,SNR=4.4						
STKA				LR	LR	05 24 53.5	
	comp=Z,6μm,20.9s,baz=16,slow=36						
FITZ	**Fitzroy Crossi**	**30.08**	**241**	⇑*i*P	**P**	**05 13 40.3**	**-1.0**
	comp=Z,551nm,1.2s,mb6.2						
FITZ				*i* S	**S**	**05 18 27.9**	**-7.3**
CNB	**Canberra Magne**	**30.79**	**186**	*e*P	**P**	**05 13 50.0**	**+2.5**
	comp=Z,75nm,1.3s,mb5.4						
ADE	**Adelaide**	**33.07**	**202**	P	**P**	**05 14 08.8**	**+1.3**
CBIJ	**Chichi jima**	**33.22**	**342**	LR	LR	05 27 08.2	
	comp=Z,782nm,18.9s,baz=303,slow=35						
FORT	**Forrest**	**35.19**	**219**	*e*P	**P**	**05 14 24.9**	**-0.9**
	comp=Z,281nm,1.1s,mb6.1						
FORT				*e*	pP	05 14 39.2	-2.3
AFI	**Afiamalu**	**35.79**	**107**	S	**S**	**05 20 04.9**	**+1.2**
	comp=Z,7.7nm,0.8s,baz=345,slow=20,SNR=1.9						
TSM	**Tawau**	**36.33**	**284**	P	**P**	**05 14 35.8**	**+0.1**
TGY	**Tagaytay City**	**36.96**	**301**	P	**P**	**05 14 40.5**	**-0.5**
	comp=Z,87nm,0.3s,baz=1.1,slow=22,SNR=3.1						
TGY				PcP	PcP	05 17 01.9	+0.9
	comp=Z,114nm,0.3s,baz=214,slow=6.4,SNR=5.0						
TGY				LR	LR	05 27 29.7	
	comp=Z,17nm,19.7s,baz=120,slow=32						
TGY	**Tagaytay City**	**36.96**	**301**	P	**P**	**05 14 40.5**	**-0.5**
TGY						05 17 01.9	
PPR	**Puerto Princes**	**37.14**	**293**	*e*P	**P**	**05 14 44.0**	**+1.4**
KKM	**Kota Kinabalu**	**38.36**	**286**	P	**P**	**05 14 52.7**	**-0.1**
KKM	**Kota Kinabalu**	**38.36**	**286**	*e*P	**P**	**05 14 53.3**	**+0.5**
TAU	**Tasmania Unive**	**38.53**	**187**	*e*P	**P**	**05 14 56.0**	**+1.8**
TAU				pmax	pmax		
	comp=Z,131nm,1.4s,mb5.5						
TAU	**Tasmania Unive**	**38.53**	**187**	*e*P	**P**	**05 14 56.0**	**+1.8**
	comp=Z,131nm,1.4s,mb5.5						
JOW	**Kunigami**	**39.42**	**324**	LR	LR	05 28 03.7	
	comp=Z,2μm,21.9s,baz=347,slow=31						
JHJ	**Hachijo jima 2**	**39.57**	**342**	LR	LR	05 30 24.8	
	comp=Z,1μm,18.3s,baz=331,slow=35						
THZ	**Tophouse**	**41.02**	**157**	PN	**P**	**05 15 14.5**	**-0.4**
THZ				pP	pP	05 15 28.4	-2.4
SNZO	**South Karori**	**41.36**	**155**	*e*P	**P**	**05 15 17.1**	**-0.6**
	comp=Z,39nm,0.6s,mb5.2						
LTZ	**Lake Taylor**	**41.67**	**159**	PN	**P**	**05 15 20.6**	**+0.4**
KHZ	**Kahutara**	**41.83**	**157**	PN	**P**	**05 15 20.4**	**-1.1**
KHZ				sP	sP	05 15 40.5	-4.3
NACB	**Ninganchiao**	**41.97**	**314**	*e*P	**P**	**05 15 22.9**	**+0.2**
YHNB	**Yeheng**	**42.43**	**315**	*e*P	**P**	**05 15 27.1**	**+0.6**
TATO	**Taipei**	**42.54**	**315**	*e*P	**P**	**05 15 28.7**	**+1.4**
	comp=Z,137nm,0.8s,mb5.7						
KLBR	**Kellerberrin**	**42.72**	**227**	*e*P	**P**	**05 15 27.7**	**-1.1**
	comp=Z,52nm,0.5s,mb5.5						
JNU	**Nakatsue**	**43.02**	**332**	LR	LR	05 30 19.6	
	comp=Z,3μm,21.8s,baz=262,slow=32						
MJAR	**Matsushiro Arr**	**43.22**	**342**	P	**P**	**05 15 30.6**	**-2.2**
	comp=Z,6.0nm,0.4s,mb4.7,baz=168,slow=10.0,SNR=45						
MJAR				PcP	PcP	05 17 21.3	+0.2
	comp=Z,48nm,0.7s,baz=160,slow=3.8,SNR=26						
MJAR				LR	LR	05 31 50.5	
	comp=Z,1μm,21.0s,baz=175,slow=34						
MJAR	**Matsushiro Arr**	**43.22**	**342**	P	**P**	**05 15 30.6**	**-2.2**
MJAR						05 17 21.3	
MAJO	**Matsushiro**	**43.22**	**342**	*e*P	**P**	**05 15 31.1**	**-1.7**
MAJO				*e*		05 17 21.2	
MAJO				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.1						
MAJO	**Matsushiro**	**43.22**	**342**	*e*P	**P**	**05 15 31.1**	**-1.7**
	comp=Z,25nm,0.6s,mb5.1						
MAJO				*e*PcP	PcP	05 17 21.2	+0.1
KSM	**Kuching**	**43.23**	**277**	*e*P	**P**	**05 15 33.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**43.80**	**225**	*e*P	**P**	**05 15 36.6**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,38nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.80**	**225**	*e*P	**P**	**05 15 36.6**	**-0.9**
	comp=Z,38nm,1.0s,mb5.1						
MUN	**Mundaring**	**44.05**	**227**	*e*P	**P**	**05 15 39.0**	**-0.4**
MUN				*i* S	**S**	**05 22 03.0**	**-4.1**
QZH	**Quanzhou**	**44.60**	**313**	⇓*i*P	**P**	**05 15 45.3**	**+1.4**
QZH				AP	pP	05 16 03.8	+3.9
QZH				S	**S**	**05 22 15.1**	**-0.1**
QZH				XS	sS	05 22 46.4	+4.0
QZH				AMB	AMB		
	comp=Z,250nm,0.8s,mb6.1						
QZH				AMB	AMB		
	comp=Z,1μm,9.4s						
QZH				LR	LR		
	comp=Z,6μm,30.0s						
SSE	**Sheshan**	**46.78**	**321**	P	**P**	**05 16 01.9**	**+0.8**
SSE				AP	pP	05 16 18.0	+0.8
SSE				XP	sP	05 16 26.8	+2.3
SSE				S	**S**	**05 22 45.4**	**-1.2**
SSE				XS	sS	05 23 14.9	+1.0
SSE				SS	SS	05 26 11.6	-2.0
SSE				AMB	AMB		
	comp=Z,102nm,0.9s,mb5.8						
SSE				AMB	AMB		
	comp=Z,406nm,5.1s						
SSE				LR	LR		
	comp=N,1μm,25.7s						
SSE				LR	LR		
	comp=E,1μm,25.7s						
SSE				LR	LR		
	comp=Z,2μm,23.1s						
SSE	**Sheshan**	**46.78**	**321**	P	**P**	**05 16 01.9**	**+0.8**
	comp=Z,102nm,0.9s,mb5.8						
SSE				pP	pP	05 16 18.0	+0.8
SSE				sP	sP	05 16 26.8	+2.3
SSE				S	**S**	**05 22 45.4**	**-1.2**
SSE				sS	sS	05 23 14.9	+1.0
SSE				SS	SS	05 26 11.6	-2.0
SSE				LR	LR		
	comp=Z,2μm,23.1s						
ERM	**Erimo**	**47.25**	**350**	P	**P**	**05 16 06.0**	**+1.3**
ERM				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
ERM	**Erimo**	**47.25**	**350**	*e*P	**P**	**05 16 05.3**	**+0.5**
	comp=Z,34nm,0.6s,mb5.5						
GZH	**Guangzhou**	**47.60**	**307**	P	**P**	**05 16 09.3**	**+1.8**
GZH				S	**S**	**05 23 00.8**	**+2.6**
GZH				LR	LR		
	comp=N,1μm,22.8s						
GZH				LR	LR		
	comp=E,2μm,23.9s						
GZH				LR	LR		
	comp=Z,4μm,22.5s						
KSRS	**Korea Array**	**47.96**	**333**	P	**P**	**05 16 10.4**	**+0.2**
	comp=Z,40nm,0.7s,mb5.6,baz=150,slow=7.7,SNR=130						
KSRS				PcP	PcP	05 17 38.4	+0.8
	comp=Z,13nm,0.7s,baz=159,slow=3.6,SNR=8.6						
KSRS				ScP	ScP	05 21 28.1	+1.6
	comp=Z,0.8nm,0.4s,baz=142,slow=5.6,SNR=4.1						
KSRS				S	**S**	**05 23 00.0**	**-3.2**
	comp=Z,0.3nm,0.4s,baz=204,slow=37,SNR=2.3						
KSRS				LR	LR	05 36 30.3	
	comp=Z,790nm,18.9s,baz=187,slow=36						
INCN	**Inchon**	**48.58**	**332**	*e*P	**P**	**05 16 15.8**	**+0.8**
	comp=Z,249nm,0.6s,mb6.4						
QIZ	**Qiongzhong**	**48.66**	**300**	P	**P**	**05 16 16.6**	**+1.0**
QIZ				XP	sP	05 16 42.4	+3.3
QIZ				S	**S**	**05 23 14.8**	**+1.6**
QIZ				XS	sS	05 23 49.3	+8.6
QIZ				AMB	AMB		
	comp=Z,62nm,1.2s,mb5.5						
QIZ				AMB	AMB		
	comp=Z,585nm,6.8s						
QIZ				LR	LR		
	comp=N,930nm,23.2s						
QIZ				LR	LR		
	comp=E,2μm,23.7s						
QIZ				LR	LR		
	comp=Z,3μm,23.4s						
ASAJ	**Asahikawa**	**49.39**	**350**	LR	LR	05 34 31.9	
	comp=Z,1μm,21.4s,baz=36,slow=33						
KGM	**Kluang**	**50.23**	**276**	P	**P**	**05 16 28.2**	**+0.7**
WHN	**Wuhan**	**50.94**	**316**	P	**P**	**05 16 34.5**	**+1.6**
WHN				AP	pP	05 16 48.0	-1.3
WHN				S	**S**	**05 23 44.8**	**-0.1**
WHN				LR	LR		
	comp=Z,4μm,24.1s						
VLA	**Vladivostok**	**51.22**	**340**	*i* P	**P**	**05 16 35.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**52.12**	**351**	*e*P	**P**	**05 16 41.2**	**-0.5**
YSS				*e*SP	sP	05 17 04.0	-1.3
YSS				*e*		05 17 53.8	
YSS				*e*		05 18 38.0	
YSS				*e*S	**S**	**05 23 57.0**	**-4.2**
YSS				*e*PS		05 24 14.0	
YSS				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.5						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**52.12**	**351**	*e*P	**P**	**05 16 41.7**	**0.0**
	comp=Z,33nm,0.5s,mb5.5						
YSS				*e*PcP	PcP	05 17 53.6	+0.7
DL2	**Dalian**	**52.16**	**329**	⇑*i*P	**P**	**05 16 42.4**	**+0.4**
DL2				AP	pP	05 16 56.8	-1.6
DL2				XP	sP	05 17 06.9	+1.3
DL2				PCP	PcP	05 17 53.4	+0.4
DL2				PP	PP	05 18 40.4	-0.4
DL2				S	**S**	**05 24 04.9**	**+3.2**
DL2				XS	sS	05 24 33.4	+3.9
DL2				SS	SS	05 27 36.3	-3.4
DL2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
DL2				AMB	AMB		
	comp=Z,260nm,6.0s						
DL2				LR	LR		
	comp=N,420nm,20.7s						
DL2				LR	LR		
	comp=E,460nm,20.2s						
DL2				LR	LR		
	comp=Z,1μm,27.4s						
MDJ	**Mudanjiang**	**53.33**	**339**	P	**P**	**05 16 50.6**	**-0.1**
MDJ				PCP	PcP	05 17 57.5	+0.1
MDJ				PP	PP	05 18 51.3	-0.1
MDJ				S	**S**	**05 24 17.4**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,71nm,0.8s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,310nm,7.3s						
MDJ				LR	LR		
	comp=N,1μm,29.6s						
MDJ				LR	LR		
	comp=E,567nm,29.6s						
MDJ				LR	LR		
	comp=Z,2μm,31.1s						
MDJ	**Mudanjiang**	**53.33**	**339**	*e*P	**P**	**05 16 50.4**	**-0.2**
	comp=Z,91nm,0.9s,mb5.7						
MDJ				*e*PcP	PcP	05 17 57.5	0.0
KULM	**Kulim**	**53.35**	**280**	*e*P	**P**	**05 16 51.0**	**+0.2**
SNY	**Shenyang**	**53.46**	**333**	⇑P	**P**	**05 16 50.5**	**-1.1**
SNY				AP	pP	05 17 08.4	+0.3
SNY				XP	sP	05 17 13.8	-1.5
SNY				S	**S**	**05 24 23.8**	**+4.3**
SNY				XS	sS	05 24 52.5	+5.2
SNY				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
SNY				AMB	AMB		
	comp=Z,508nm,14.8s						
SNY				LR	LR		
	comp=N,957nm,26.4s						
SNY				LR	LR		
	comp=Z,2μm,31.4s						
SNG	**Songkhla**	**53.72**	**282**	P	**P**	**05 16 53.5**	**0.0**
KKTK	**Khon Kaen**	**53.93**	**294**	P	**P**	**05 16 56.2**	**+1.2**
	comp=Z,679nm,0.5s						
CN2	**Changchun**	**54.24**	**335**	*e*P	**P**	**05 16 57.1**	**-0.2**
CN2				*e*AP	pP	05 17 14.4	+0.6
CN2				PCP	PcP	05 18 00.6	-0.3
CN2				SCP	ScP	05 21 49.3	-4.2
CN2				*e*S	**S**	**05 24 29.1**	**-0.8**
CN2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.4						
CN2				AMB	AMB		
	comp=Z,600nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,21.0s						
CN2				LR	LR		
	comp=E,600nm,21.0s						
CN2				LR	LR		
	comp=Z,2μm,25.0s						
KIP	**Kipapa**	**54.36**	**60**	*e*P	**P**	**05 16 59.5**	**+1.3**
GYA	**Guiyang**	**54.54**	**307**	P	**P**	**05 17 00.9**	**+1.4**
GYA				AP	pP	05 17 18.3	+2.3
GYA				XP	sP	05 17 25.3	+2.1
GYA				PCP	PcP	05 18 03.3	+1.3
GYA				PP	PP	05 19 06.9	+4.7
GYA				SCP	ScP	05 21 55.8	+1.0
GYA				S	**S**	**05 24 33.3**	**-0.7**
GYA				PS		05 24 55.8	
GYA				SS	SS	05 28 18.8	+1.6
GYA				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.4						
GYA				AMB	AMB		
	comp=Z,520nm,9.1s						
GYA				LR	LR		
	comp=N,750nm,23.6s						
GYA				LR	LR		
	comp=E,2μm,22.4s						
GYA				LR	LR		
	comp=Z,2μm,22.7s						
PSI	**Prapat**	**54.68**	**277**	P	**P**	**05 16 59.2**	**-1.3**
	comp=Z,18nm,0.7s,mb5.2,baz=110,slow=8.2,SNR=11						
PSI	**Prapat**	**54.68**	**277**	P	**P**	**05 16 59.2**	**-1.3**
SKR	**Severo-Kuril's**	**55.09**	**2**	P	**P**	**05 17 08.0**	**+4.5**
SKR				*e*		05 18 06.0	
SKR				*e*S	**S**	**05 24 52.0**	**+11**
SKR				pmax	pmax		
	comp=Z,1μm,16.0s						
SKR				MLR	MLR		
	comp=N,1μm,18.0s						
SKR				MLR	MLR		
	comp=E,1μm,18.0s						
SKR				MLR	MLR		
	comp=Z,2μm,18.0s						
HABR	**Khabarovsk**	**55.15**	**345**	⇑*i*P	**P**	**05 17 04.2**	**+0.3**
HABR				*e*S	**S**	**05 24 42.3**	**+0.1**
HABR				pmax	pmax		
	comp=Z,199nm,1.6s,mb5.9						
KHU	**Kahuku**	**55.68**	**63**	P	**P**	**05 17 08.8**	**+1.1**
KHU	**Kahuku**	**55.68**	**63**	*e*P	**P**	**05 17 08.7**	**+1.0**
BJT	**Baijiatuau**	**55.89**	**326**	*e*P	**P**	**05 17 09.4**	**+0.2**
BJT				pmax	pmax		
	comp=Z,15nm,0.6s						
BJT	**Baijiatuau**	**55.89**	**326**	*e*P	**P**	**05 17 09.4**	**+0.2**
	comp=Z,15nm,0.6s,mb5.2						
BJI	**Beijing**	**55.90**	**326**	P	**P**	**05 17 08.8**	**-0.5**
BJI				PP	PP	05 19 10.6	-3.8
BJI				S	**S**	**05 24 46.8**	**-5.4**
BJI				SS	SS	05 28 37.4	-1.3
BJI				AMB	AMB		
	comp=Z,31nm,1.9s,mb5.0						
BJI				AMB	AMB		
	comp=Z,641nm,3.9s						
BJI				LR	LR		
	comp=N,960nm,23.0s						
BJI				LR	LR		
	comp=E,2μm,24.2s						
BJI		

KLR eS S 05 24 52.5 -11
KLR pmax pmax
comp=N,38nm,1.4s
KLR pmax pmax
comp=E,90nm,1.4s
KLR pmax pmax
comp=Z,240nm,1.4s,mb6.0
KMI Kunming 57.15 304 P **P** **05 17 20.4 +2.2**
KMI AP pP 05 17 38.3 +3.5
KMI XP sP 05 17 46.0 +4.1
KMI PCP PcP 05 18 14.5 +2.3
KMI PP PP 05 19 30.5 +4.9
KMI PPP 05 20 50.8
KMI SCP ScP 05 22 07.9 +1.6
KMI PCS PcS 05 22 14.1 +0.9
KMI S **S** **05 25 12.3 +3.5**
KMI PS 05 25 31.8
KMI XS sS 05 25 39.5 +2.6
KMI SCS ScS 05 27 00.6 -1.2
KMI SS SS 05 28 59.9 +1.5
KMI SSS 05 31 17.8
KMI AMB AMB
comp=Z,53nm,1.6s,mb5.3
KMI AMB AMB
comp=Z,516nm,5.0s
KMI LR LR
comp=N,980nm,19.3s
KMI LR LR
comp=E,1μm,21.8s
KMI LR LR
comp=Z,2μm,22.8s
KMI Kunming 57.15 304 P **P** **05 17 20.4 +2.2**
KMI *PP pP 05 17 38.2 +3.4
KMI *SP sP 05 17 46.0 +4.1
KMI 05 18 14.5
KMI 05 19 30.5
KMI PPP 05 20 50.8
KMI S **S** **05 25 12.3 +3.5**
KMI PS 05 25 31.8
KMI 05 27 00.6
KMI SS SS 05 28 59.9 +1.5
KMI SSS 05 31 17.7
KMI pmax pmax
comp=Z,53nm,1.6s,mb5.3
KMI MLR MLR
comp=Z,2μm,22.8s
KMI Kunming 57.15 304 P **P** **05 17 20.4 +2.2**
comp=Z,53nm,1.6s,mb5.3
KMI pP pP 05 17 38.2 +3.4
KMI sP sP 05 17 46.0 +4.1
KMI PcP PcP 05 18 14.5 +2.3
KMI PP PP 05 19 30.5 +4.9
KMI PPP 05 20 50.8
KMI ScP ScP 05 22 07.9 +1.6
KMI PcS PcS 05 22 14.1 +0.9
KMI S **S** **05 25 12.3 +3.5**
KMI PS 05 25 31.8
KMI sS sS 05 25 39.5 +2.6
KMI ScS ScS 05 27 00.6 -1.2
KMI SS SS 05 28 59.9 +1.5
KMI SSS 05 31 17.7
KMI LR LR
comp=Z,2μm,22.8s
PPT Papeete 57.46 108 *e*P **P** **05 17 20.6 +0.3**
comp=Z,40nm,1.1s,mb5.4
PPT Papeete 57.46 108 *e*S **S** **05 25 16.5 +3.8**
comp=Z,1μm,28.5s
PPT *e*LQ 05 31 52.9
comp=Z,2μm,31.2s
PPT *e*LR LR 05 34 17.4
comp=Z,1μm,23.8s,baz=291
PPT Papeete 57.46 108 P **P** **05 17 19.8 -0.5**
comp=Z,18nm,0.8s,mb5.2,baz=13,slow=3.3,SNR=4.7
PPT LR LR 05 37 56.4
comp=Z,612nm,18.9s,baz=272,slow=32
PAE Paea 57.46 108 *e*P **P** **05 17 20.7 +0.4**
comp=Z,42nm,1.2s,mb5.4
PAE Paea 57.46 108 *e*P **P** **05 17 20.7 +0.4**
PAE pmax pmax
comp=Z,42nm,1.2s,mb5.3
PET Petropavlovsk 57.57 4 *e*P **P** **05 17 21.2 +0.1**
PET *e*PP pP 05 17 45.2 +7.5
PET *e* 05 19 28.5
PET *e*PPP 05 20 46.4
PET *e*S **S** **05 25 13.9 -0.3**
PET *e*SS SS 05 29 08.7 +3.8
PET pmax pmax
comp=Z,98nm,0.7s,mb6.0
PET smax
comp=N,700nm,21.9s
PET MLR MLR
comp=Z,600nm,16.0s
PET MLR MLR
comp=Z,500nm,20.0s
TVO Taravao 57.79 108 *e*P **P** **05 17 23.2 +0.6**
comp=Z,78nm,0.8s,mb5.8
TVO Taravao 57.79 108 *e*P **P** **05 17 23.2 +0.6**
TVO pmax pmax
comp=Z,78nm,0.8s,mb5.8
CM31 Chiang Mai Arr 58.10 295 *e*P **P** **05 17 26.2 +1.4**
comp=Z,50nm,0.7s,mb5.7
CHG Chiang Mai 58.21 295 ⇑P **P** **05 17 26.3 +0.7**
comp=Z,50nm,0.9s,mb5.5
CHTO Chiang Mai 58.21 295 *e*P **P** **05 17 26.3 +0.7**
CHTO *e*PP pP 05 17 42.3 +0.1
CHTO pmax pmax
comp=Z,51nm,1.0s,mb5.5
CHTO Chiang Mai 58.21 295 *e*P **P** **05 17 26.3 +0.7**
comp=Z,51nm,1.0s,mb5.5
CHTO *e*pP pP 05 17 42.3 0.0
TBI Tubuai 58.33 115 *e*S **S** **05 25 25.8 +1.7**
comp=Z,618nm,30.8s
TBI *e*LQ 05 32 19.3
comp=Z,4μm,34.0s
TBI *e*LR LR 05 34 47.1
comp=Z,5μm,33.5s,baz=279
PMOR Pomariorio Ree 58.85 105 *e*P **P** **05 17 30.3 +0.3**
comp=Z,58nm,0.9s,mb5.6
CD2 Chengdu 58.86 310 ⇑*i*P **P** **05 17 30.9 +0.8**
CD2 AP pP 05 17 54.9 +8.1
CD2 PP PP 05 19 44.0 +3.3
CD2 S **S** **05 25 26.9 -4.1**
CD2 XS sS 05 26 08.6 +9.4
CD2 AMB AMB
comp=Z,240nm,0.7s,mb6.3
CD2 AMB AMB
comp=Z,810nm,5.4s
CD2 LR LR
comp=N,2μm,25.6s
CD2 LR LR
comp=E,2μm,19.2s
CD2 LR LR
comp=Z,2μm,27.5s
HHC Hu-ho-hao-te 59.07 324 *e*P **P** **05 17 32.3 +0.7**
HHC AP pP 05 17 52.1 +3.8
HHC XP sP 05 18 01.1 +5.7
HHC PP PP 05 19 45.8 +3.2
HHC S **S** **05 25 32.4 -1.3**
HHC PS 05 25 58.3
HHC XS sS 05 26 05.4 +3.4
HHC SCS ScS 05 27 11.4 -4.5
HHC AMB AMB
comp=Z,29nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,560nm,6.7s
HHC LR LR
comp=N,790nm,27.4s
HHC LR LR
comp=E,1μm,28.6s
HHC LR LR
comp=Z,2μm,29.1s
VAH Vaihoa 59.12 105 *e*P **P** **05 17 31.8 -0.1**
comp=Z,41nm,0.9s,mb5.5
BTO Baotou 59.83 323 *e*P **P** **05 17 36.9 +0.1**
HIA Hailar 60.97 336 ⇑*i*P **P** **05 17 44.4 -0.2**
LZH Lanzhou 61.31 316 P **P** **05 17 48.9 +2.0**
LZH AP pP 05 18 03.8 +0.1
LZH XP sP 05 18 10.0 -0.8
LZH PP PP 05 20 06.0 +3.6
LZH S **S** **05 26 01.0 -1.5**
LZH PS 05 26 27.0
LZH XS sS 05 26 30.0 -0.9
LZH *e*SS SS 05 30 05.0 +1.3
LZH AMB AMB
comp=Z,410nm,1.2s,mb6.4
LZH AMB AMB
comp=Z,2μm,4.5s
LZH LR LR
comp=E,4μm,15.2s
LZH LR LR
comp=Z,6μm,16.8s
LZH Lanzhou 61.31 316 P **P** **05 17 48.9 +2.0**
LZH *PP pP 05 18 03.8 +0.1
LZH *SP sP 05 18 10.0 -0.8
LZH 05 20 06.0
LZH S **S** **05 26 01.0 -1.5**
LZH PS 05 26 27.0
LZH *SS sS 05 26 30.0 -0.9
LZH *e*SS SS 05 30 05.0 +1.3
LZH pmax pmax
comp=Z,410nm,1.2s,mb6.4
LZH MLR MLR
comp=Z,6μm,16.8s
LZH Lanzhou 61.31 316 P **P** **05 17 48.9 +2.0**
comp=Z,410nm,1.2s,mb6.4
LZH pP pP 05 18 03.8 +0.1
LZH sP sP 05 18 10.0 -0.8
LZH PP PP 05 20 06.0 +3.6
LZH S **S** **05 26 01.0 -1.5**
LZH PS 05 26 27.0
LZH sS sS 05 26 30.0 -0.9
LZH *e*SS SS 05 30 05.0 +1.3
LZH LR LR
comp=Z,6μm,16.8s
DRV Dumont d'Urvil 62.66 186 P **P** **05 17 55.0 -0.9**
DRV S **S** **05 26 22.0 +2.6**
DRV SS SS 05 30 23.0 -1.7
DRV L 05 34 00.0
DRV R 05 38 00.0
MA2 Magadan 63.98 359 *e*P **P** **05 18 03.9 -0.7**
MA2 *e*PP pP 05 18 21.4 -0.1
MA2 pmax pmax
comp=Z,102nm,0.7s,mb6.0
MA2 Magadan 63.98 359 *e*P **P** **05 18 03.9 -0.7**
comp=Z,102nm,0.7s,mb6.0
MA2 *e*pP pP 05 18 21.4 -0.1
CLNS Chul'man 65.39 343 *c i*P **P** **05 18 14.3 +0.5**
CLNS *e* 05 18 38.4
CLNS *e* 05 22 23.3
CLNS pmax pmax
comp=N,41nm,0.9s
CLNS pmax pmax
comp=Z,78nm,0.9s,mb5.7
CLNS pmax pmax
comp=E,13nm,0.8s
CIT Chita 65.65 334 *e*P **P** **05 18 15.9 +0.4**
CIT *e* pP 05 18 31.5 -0.9
CIT *e* 05 18 43.0
CIT pmax pmax
comp=Z,175nm,2.8s,mb5.6
GTA Gaotai 65.73 317 ⇑P **P** **05 18 17.4 +1.4**
GTA AP pP 05 18 34.3 +1.3
GTA XP sP 05 18 41.6 +1.6
GTA PP PP 05 20 45.5 +4.3
GTA S S 05 26 59.3 +1.9
GTA XS sS 05 27 27.8 +1.7
GTA SS SS 05 31 18.3 +5.7
GTA AMB AMB
comp=Z,140nm,1.4s,mb5.8
GTA AMB AMB
comp=Z,1μm,8.7s
GTA LR LR
comp=N,520nm,18.2s
GTA LR LR
comp=E,804nm,19.0s
GTA LR LR
comp=Z,1μm,19.8s
TAOE Nuku Hiva Isla 66.31 98 *e*S S 05 27 06.2 +1.8
comp=Z,3μm,29.3s
TAOE *e*SS SS 05 31 11.0 -11
comp=Z,3μm,27.7s
TAOE *e*LQ 05 35 13.8
comp=Z,3μm,35.7s
TAOE *e*LR LR 05 38 16.6
comp=Z,5μm,31.9s,baz=274
SONM Songino Array 66.32 328 P **P** **05 18 20.2 +0.4**
comp=Z,24nm,0.5s,mb5.4,baz=146,slow=5.4,SNR=124
SONM PcP PcP 05 18 49.7 +0.4
comp=Z,30nm,0.8s,baz=147,slow=3.2,SNR=11
SONM LR LR 05 45 28.3
comp=Z,1μm,21.8s,baz=147,slow=34
SONM PKPPKP 05 46 53.1
comp=Z,1.5nm,0.8s,baz=277,slow=1.8,SNR=4.7
SONM Songino Array 66.32 328 P **P** **05 18 20.2 +0.4**
SONM 05 18 49.7
SONM Songino Array 66.32 328 P **P** **05 18 20.2 +0.4**
SONM PcP PcP 05 18 49.7 +0.4
SONM LR LR 05 45 28.3
SONM P'P' 05 46 53.1
SHL Shillong 66.50 300 *e*P **P** **05 18 22.0 +1.1**
SHL *e*S S 05 27 10.0 +3.3
SEY Seymchan 67.32 360 ⇓*i*P **P** **05 18 25.9 -0.2**
LSA Lhasa 68.40 304 P **P** **05 18 34.4 +1.4**
LSA Lhasa 68.40 304 *e*P **P** **05 18 34.4 +1.4**
LSA pmax pmax
comp=Z,45nm,0.8s,mb5.5
LSA Lhasa 68.40 304 *e*P **P** **05 18 34.4 +1.4**
comp=Z,45nm,0.8s,mb5.5
YAK Yakutsk 68.82 348 *e*P **P** **05 18 35.3 -0.3**
YAK *e* 05 18 58.5
YAK *e* 05 21 09.1
YAK *e*PPP 05 22 51.5
YAK *e*S S 05 27 41.4 +6.9
YAK *e* 05 28 34.3
YAK *e*SS SS 05 32 07.7 +7.2
YAK pmax pmax
comp=Z,78nm,1.2s,mb5.5
YAK pmax pmax
comp=N,52nm,1.5s
YAK pmax pmax
comp=E,23nm,1.6s
YAK smax
comp=E,253nm,5.4s
YAK smax
comp=N,309nm,7.0s
YAK Yakutsk 68.82 348 *e*P **P** **05 18 35.8 +0.2**
comp=N,55nm,0.8s,mb5.5
FALS False Pass 69.27 25 *e*P **P** **05 18 37.8 -0.6**
ZAK Zakamensk 69.48 328 *e*P **P** **05 18 39.6 -0.1**
ZAK pmax pmax
comp=Z,22nm,1.1s,mb5.0
BOD Bodaibo 69.71 339 *e*P **P** **05 18 39.9 -1.1**
BOD pmax pmax
comp=Z,37nm,1.4s,mb5.1
TLY Talaya 70.06 330 *e*P **P** **05 18 43.7 +0.5**
TLY *e* 05 19 06.2
TLY *e* 05 21 15.8
TLY *e*PPP 05 23 08.0
TLY *e*S S 05 27 55.1 +6.0
TLY pmax pmax
comp=Z,32nm,1.4s,mb5.1
TLY Talaya 70.06 330 *e*P **P** **05 18 42.8 -0.4**
comp=Z,29nm,1.2s,mb5.1
TLY *e*PcP PcP 05 19 05.6 +0.7
IRK Irkutsk 70.08 330 *e*P **P** **05 18 42.0 -1.4**
IRK *e* 05 19 07.7
IRK *e* 05 21 15.3
IRK *e*S S 05 27 52.1 +2.7
IRK pmax pmax
comp=Z,78nm,1.3s,mb5.5
SDPT Sand Point 70.86 26 *e*P **P** **05 18 46.7 -1.4**
comp=Z,124nm,0.7s,mb6.0
MOY Mondy 71.40 329 *e*P **P** **05 18 51.6 +0.2**
MOY pmax pmax
comp=Z,109nm,2.2s,mb5.4
GUN Gumba 72.31 301 *e*P **P** **05 18 57.7 +0.9**
comp=Z,186nm,0.5s,mb6.2
VIS Vishakhapatnam 72.32 290 *e*P **P** **05 18 57.7 +0.9**
VIS AMb AMB 05 19 00.6
comp=Z,193nm,0.8s,mb6.1
CHGN Chignik 72.36 26 *e*P **P** **05 18 55.6 -1.5**
PKI Pulchoki 72.62 301 *e*P **P** **05 18 59.2 +0.5**
comp=Z,88nm,0.6s,mb5.9
PKI Pulchoki 72.62 301 *e*P **P** **05 18 59.2 +0.5**
PKI pmax pmax
comp=Z,88nm,0.6s,mb5.9
KKN Kakani 72.79 301 *e*P **P** **05 19 00.2 +0.6**
comp=Z,117nm,0.5s,mb6.1
KKN Kakani 72.79 301 *e*P **P** **05 19 00.2 +0.6**
KKN pmax pmax
comp=Z,117nm,0.5s,mb6.1
DMN Daman 72.89 301 *e*P **P** **05 19 01.0 +0.8**
comp=Z,116nm,0.5s,mb6.0
BILL Bilibino 73.03 5 *c i*P **P** **05 19 00.6 -0.5**
BILL *e* pP 05 19 17.3 -1.0
BILL *e*PP pP 05 19 27.3 +9.0
BILL *e* 05 21 41.1
BILL *e*S S 05 28 19.2 -4.1
BILL *e*SS SS 05 33 06.2 +1.1
BILL pmax pmax
comp=Z,65nm,0.6s,mb5.7
BILL Bilibino 73.03 5 *e*P **P** **05 19 00.4 -0.7**
comp=Z,75nm,0.8s,mb5.7
BILL *e*pP pP 05 19 18.6 +0.3
VNDA Vanda 73.04 178 P **P** **05 19 00.9 -0.2**
comp=Z,62nm,0.9s,mb5.5,baz=327,slow=6.3,SNR=165
VNDA S S 05 28 24.4 +0.9
comp=Z,0.5nm,0.9s,baz=66,slow=3.6,SNR=2.2
VNDA LR LR 05 50 22.0
comp=Z,813nm,18.2s,baz=349,slow=35
VNDA Vanda 73.04 178 *e*P **P** **05 19 00.8 -0.4**
comp=Z,60nm,0.9s,mb5.5
GKN Gorkha 73.39 301 *e*P **P** **05 19 03.6 +0.4**
comp=Z,81nm,0.4s,mb6.0
SBA Scott Base 73.58 177 *e*P **P** **05 19 04.8 +0.5**
SBA *e*PP pP 05 19 21.1 -0.5
SBA pmax pmax
comp=Z,53nm,0.9s,mb5.5
SBA Scott Base 73.58 177 *e*P **P** **05 19 04.8 +0.5**
comp=Z,53nm,0.9s,mb5.5
SBA *e*pP pP 05 19 21.1 -0.5
KOLN Koldanda 74.23 300 *e*P **P** **05 19 08.4 +0.3**
comp=Z,187nm,1.1s,mb5.9
MDRS Chennai 74.47 285 *e*P **P** **05 19 07.8 -1.7**
MDRS AMb AMB 05 19 08.4
comp=Z,39nm,0.2s,mb6.1
ALBI Allahabad 75.23 298 *e*P **P** **05 19 12.5 -1.4**
TNA Tin City 75.48 16 *e*P **P** **05 19 14.8 -0.5**
comp=Z,12nm,0.8s,mb4.9
KDAK Kodiak Island 75.81 27 *e*P **P** **05 19 16.5 -0.7**
comp=Z,23nm,0.7s,mb5.2
WMQ Urumqi 75.82 317 *e*P **P** **05 19 17.9 +0.7**
WMQ AP pP 05 19 34.9 +0.4
WMQ PP PP 05 22 10.8 +2.9
WMQ PPP 05 23 57.8
WMQ S S 05 28 54.0 -0.4
WMQ SKS 05 29 18.0
WMQ XS sS 05 29 23.1 -0.7
WMQ PS 05 29 40.6
WMQ SS SS 05 33 49.8 +2.4
WMQ AMB AMB
comp=Z,49nm,1.1s,mb5.3
WMQ AMB AMB
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,731nm,20.0s
WMQ LR LR
comp=E,677nm,15.5s
WMQ LR LR
comp=Z,1μm,30.0s
SVW2 Sparrevohn 76.48 23 *e*P **P** **05 19 20.7 -0.3**
HYB Hyderabad 76.75 289 *i* P **P** **05 19 22.5 0.0**
comp=Z,145nm,1.0s,mb5.9
HYB *e* pP 05 19 38.0 -1.9
HYB Hyderabad 76.75 289 *e*P **P** **05 19 22.5 0.0**
HYB *e* pP 05 19 38.0 -1.9
HYB pmax pmax
comp=Z,145nm,1.0s,mb5.9
HYB Hyderabad 76.75 289 *e*P **P** **05 19 22.5 0.0**
comp=Z,145nm,1.0s,mb5.9
HYB *e* pP 05 19 38.0 -1.9
TRD Trivandrum 77.08 280 ⇑*e*P **P** **05 19 22.4 -2.0**
TTA Tatalina 77.43 21 *e*P **P** **05 19 26.1 -0.2**
LGTI Lohaghat 77.48 301 *e*x x 05 19 42.0
PTH Pithoragarh 77.53 301 *e*P **P** **05 19 28.7 +1.8**
TIXI Tiksi 77.72 352 *e*P **P** **05 19 22.4 -5.5**
TIXI *e*S S 05 29 07.8 -7.4
TIXI *e* 05 29 32.5
TIXI *e*SS sS 05 30 02.6 +18
TIXI *e*SS SS 05 34 13.9 -2.3
TIXI *e*SSS 05 37 39.6
TIXI pmax pmax
comp=Z,36nm,1.5s,mb5.1
TIXI MLR MLR
comp=Z,449nm,19.0s
TIXI Tiksi 77.72 352 *e*P **P** **05 19 26.5 -1.4**
comp=Z,12nm,0.4s,mb5.2
SLKM Skilak Lake 78.31 25 P **P** **05 19 30.4 -0.8**
SLKM Skilak Lake 78.31 25 *e*P **P** **05 19 30.1 -1.1**
BHPL Bhopal 78.76 295 *e*P **P** **05 19 34.7 +1.0**
BHPL AMb AMB 05 19 37.8
comp=Z,148nm,1.5s,mb5.7
BHPL AMb AMB 05 19 37.8
comp=Z,150nm,1.4s,mb5.7
PMR Palmer 79.33 24 *e*P **P** **05 19 35.4 -1.4**
PMR pmax pmax
comp=Z,54nm,0.8s,mb5.5
PMR MLR MLR
comp=Z,2μm,23.0s
PMR Palmer 79.33 24 *e*P **P** **05 19 35.4 -1.4**
comp=Z,54nm,0.8s,mb5.5
PMR LR LR
comp=Z,2μm,23.0s
SML Sawmill 79.77 24 *e*P **P** **05 19 38.6 -0.6**
NDI New Delhi 79.92 300 *e*P **P** **05 19 39.5 -0.5**
IMA2 Indian Mountai 80.12 19 *e*P **P** **05 19 40.6 -0.5**
DGAR Diego Garcia 80.22 263 *e*P **P** **05 19 41.7 +0.1**
MK31 Makanchi Array 80.39 319 P **P** **05 19 42.9 +0.4**
MK31 Makanchi Array 80.39 319 *e*P **P** **05 19 42.8 +0.2**
MKAR Makanchi Array 80.39 319 P **P** **05 19 42.8 +0.3**
comp=Z,38nm,0.6s,mb5.5,baz=99,slow=7.1,SNR=449
MKAR pP pP 05 19 58.7 -1.3
comp=Z,22nm,0.8s,baz=100,slow=6.3,SNR=4.3
MKAR PKiKP PKiKP 05 25 10.6 -0.2
comp=Z,1.0nm,0.7s,baz=120,slow=0.4,SNR=5.8
MKAR PKKPbc PKKPbc 05 38 24.9 +1.1
comp=Z,1.4nm,0.7s,baz=309,slow=2.4,SNR=9.8
MKAR PKPPKP 05 46 24.6
comp=Z,0.6nm,0.8s,baz=243,slow=4.6,SNR=3.7
MKAR LR LR 05 54 37.0
comp=Z,556nm,19.9s,baz=115,slow=35
MKAR Makanchi Array 80.39 319 P **P** **05 19 42.8 +0.3**
MKAR pP pP 05 19 58.7 -1.3
KAD Karad 80.87 288 *i* P **P** **05 19 45.0 -0.1**
ZAL Zalesovo 81.17 326 P **P** **05 19 45.9 -0.8**
comp=Z,22nm,0.6s,mb5.3,baz=356,slow=5.7,SNR=77
ZAL pP pP 05 20 03.4 -0.8
comp=Z,7.4nm,0.8s,baz=23,slow=7.4,SNR=3.9
ZAL S S 05 29 51.5 -0.1
comp=Z,0.5nm,0.3s,baz=156,slow=5.0,SNR=2.7
ZAL PKKPbc PKKPbc 05 38 23.8 +1.8
comp=Z,0.7nm,0.3s,baz=259,slow=1.6,SNR=5.0
POO Poona 81.34 289 *e*P **P** **05 19 44.0 -3.6**
COLA College 81.51 22 *i* P **P** **05 19 46.6 -1.9**
COLA College 81.51 22 *e*P **P** **05 19 46.2 -2.3**
comp=Z,54nm,0.8s,mb5.5
DLH Dalhousie 81.70 304 *e*P **P** **05 19 52.0 +2.5**
AJM Ajmer 81.79 297 *e*P **P** **05 19 50.9 +0.9**
AJM AMb AMB 05 19 53.3
comp=Z,197nm,1.5s,mb5.8
THN Thein Dam 81.89 304 *e*P **P** **05 19 50.0 -0.5**
NVS Novosibirsk 82.33 327 ⇑*i*P **P** **05 19 51.9 -0.9**
NVS *i* pP 05 20 09.2 -1.2
NVS *e*S S 05 30 03.2 -0.5
NVS *e*PS 05 31 14.1
NVS pmax pmax
comp=Z,245nm,1.8s,mb5.8
NVS pmax pmax
comp=N,81nm,1.9s
NVS pmax pmax
comp=E,135nm,1.7s
NVS smax
comp=N,44nm,2.4s
NVS smax
comp=E,62nm,2.1s
KSH Kashi 83.06 311 P **P** **05 19 58.8 +2.2**
KSH AP pP 05 20 15.8 +1.7
KSH XP sP 05 20 22.8 +1.7
KSH PP PP 05 23 12.6 +4.5
KSH PPP 05 25 06.5
KSH SKS 05 30 11.5
KSH XS sS 05 30 41.3 +0.5
KSH SS SS 05 35 41.3 +5.4

KSH AMB AMB
comp=Z,623nm,0.7s,mb6.8
ULHL Ulahol 83.42 313 P **P 05 19 59.8 +1.3**
SNR=11
KURK Kurchatov 83.81 322 P **P 05 20 00.4 0.0**
comp=Z,509nm,0.9s,mb6.7,SNR=28
KURK Kurchatov 83.81 322 *c i*P **P 05 19 59.9 -0.5**
KURK Kurchatov 83.81 322 *e*P **P 05 19 59.8 -0.6**
comp=Z,118nm,1.1s,mb5.9
EGAK Eagle 84.01 23 *e*P **P 05 20 00.2 -1.3**
comp=Z,23nm,0.8s,mb5.4
EGAK *e*pP pP 05 20 18.6 -0.5
TKM2 Tokmak 2 84.03 314 P **P 05 20 02.6 +1.0**
SNR=91
TKM2 Tokmak 2 84.03 314 *i* P **P 05 20 02.4 +0.8**
KZA Kyzart 84.11 313 P **P 05 20 04.1 +2.1**
SNR=205
DAWY Dawson 84.44 24 *e*P **P 05 20 03.3 -0.3**
KBK Karagaybulak 84.44 313 P **P 05 20 04.8 +1.1**
SNR=85
CHMS Chumysh 84.65 314 P **P 05 20 05.4 +0.7**
SNR=7.7
UCH Uchtor 84.68 313 P **P 05 20 06.7 +1.9**
SNR=135
FRU Bishkek 84.72 314 ⇑*i*P **P 05 20 05.0 0.0**
FRU pmax pmax
comp=Z,463nm,1.8s,mb6.3
AAK Ala-Archa 84.77 313 P **P 05 20 06.5 +1.2**
SNR=20
AAK Ala-Archa 84.77 313 P **P 05 20 05.9 +0.6**
comp=Z,2μm,0.7s
AAK Ala-Archa 84.77 313 *e*P **P 05 20 05.3 0.0**
AAK pmax pmax
comp=Z,197nm,0.7s,mb6.3
AAK Ala-Archa 84.77 313 *e*P **P 05 20 05.3 0.0**
comp=Z,197nm,0.7s,mb6.3
USP Ospenovka 84.89 314 P **P 05 20 06.7 +0.8**
SNR=262
AML Almayashu 85.26 313 P **P 05 20 09.8 +2.0**
SNR=10
EKS2 Erkin-Say 85.29 313 P **P 05 20 09.2 +1.2**
SNR=230
BHJ Bhuj 85.83 294 *e*P **P 05 20 10.3 -0.3**
BHJ *e*P 05 20 10.3
BHJ AMb AMB 05 20 15.2
comp=Z,159nm,1.0s,mb6.2
BHJ AMb AMB 05 20 15.3
comp=Z,168nm,1.3s,mb6.1
MAW Mawson 85.92 203 *e*P **P 05 20 09.8 -1.2**
comp=Z,23nm,0.6s,mb5.6
MAW Mawson 85.92 203 P **P 05 20 10.0 -1.0**
comp=Z,29nm,0.7s,mb5.6,baz=91,slow=6.6,SNR=47
MAW pP pP 05 20 26.6 -2.1
comp=Z,35nm,0.8s,baz=87,slow=1.6,SNR=8.5
MAW S S 05 30 31.8 -7.7
comp=Z,2.0nm,0.9s,baz=75,slow=18,SNR=1.7
MAW LR LR 05 54 59.5
comp=Z,902nm,21.6s,baz=77,slow=33
KBL Kabul 87.72 305 *e*P **P 05 20 19.2 -0.6**
KK31 Karatay Array 87.73 313 *i* P **P 05 20 19.5 -0.4**
KKAR Karatay Array 87.73 313 P **P 05 20 19.5 -0.4**
KKAR pmax pmax
comp=Z,30nm,0.7s,mb5.6
N02C Big Bar 88.08 49 ⇓P **P 05 20 23.0 +1.5**
baz=88
INK Inuvik 88.12 21 P **P 05 20 20.2 -1.5**
comp=Z,20nm,0.9s,mb5.3,baz=246,slow=6.1,SNR=94
INK Inuvik 88.12 21 *e*P **P 05 20 20.3 -1.4**
comp=Z,1μm,1.1s
O02C Red Bluff 88.38 50 ⇓P **P 05 20 24.1 +1.2**
baz=88
M02C Callahan 88.49 48 ⇑P **P 05 20 24.2 +0.8**
baz=88
HUMO Hull Mountain 88.57 47 ⇓P **P 05 20 24.6 +0.8**
baz=89
F03A Seaside 88.59 44 ⇓P **P 05 20 24.0 +0.1**
baz=89
WDC Whiskeytown Da 88.62 49 ⇑P **P 05 20 24.9 +0.8**
baz=89
YBH Yreka Blue Hor 88.64 48 ⇑P **P 05 20 24.9 +0.8**
baz=89
E03A Lebam 88.67 43 ⇑P **P 05 20 25.1 +0.8**
baz=89
HAST UC Hastings Re 88.90 54 ⇓P **P 05 20 25.9 +0.6**
baz=89
M03C McCloud 89.02 49 ⇓P **P 05 20 26.0 +0.1**
baz=89
I04A Tendick Farm, 89.12 46 ⇑P **P 05 20 26.5 +0.1**
baz=89
C04A Brinnon 89.23 42 ⇓P **P 05 20 27.0 +0.1**
baz=89
J04A Umpqua Nationa 89.27 47 ⇓P **P 05 20 27.0 -0.1**
baz=89
BVA0 Borovoye Array 89.27 323 *i* P **P 05 20 26.0 -1.1**
BVA0 pmax pmax
comp=Z,22nm,0.8s,mb5.5
ORV Oroville 89.29 50 ⇓P **P 05 20 27.4 +0.2**
baz=89
L04A Klamath Falls 89.30 48 ⇑P **P 05 20 27.3 +0.1**
baz=89
BRVK Borovoye 89.34 323 P **P 05 20 26.2 -1.2**
comp=Z,1μm,0.7s,SNR=91
BRVK Borovoye 89.34 323 *e*P **P 05 20 26.4 -1.0**
BRVK pmax pmax
comp=Z,103nm,0.7s,mb6.3
BRVK Borovoye 89.34 323 *e*P **P 05 20 26.4 -1.0**
comp=Z,103nm,0.7s,mb6.3
PKD Parkfield 89.66 54 ⇓P **P 05 20 29.0 0.0**
baz=90
O04C Chester 89.69 50 ⇑P **P 05 20 29.5 +0.4**
baz=90
M05C Lookout 89.76 49 ⇑P **P 05 20 29.1 -0.3**
baz=90
O05C Quincy 89.78 50 ⇑P **P 05 20 29.2 -0.3**
baz=90
LAVA Lava Cap Winer 89.79 51 ⇓P **P 05 20 29.6 0.0**
baz=90
D05A Enumclaw 89.82 43 ⇓P **P 05 20 29.4 -0.3**
baz=90
P05C Yuba Gap, Truc 89.95 51 ⇑P **P 05 20 30.7 +0.4**
baz=90
S05C Merced 89.97 53 ⇑P **P 05 20 31.1 +0.8**
baz=90
CMB Columbia Colle 90.00 52 *e*P **P 05 20 30.5 0.0**
CMB Columbia Colle 90.00 52 ⇑P **P 05 20 30.5 0.0**
baz=90
F05A White Salmon 90.04 44 ⇓P **P 05 20 30.9 +0.2**
baz=90
SMMC Simmler 90.04 55 ⇑P **P 05 20 31.5 +0.8**
baz=90
U05C Westside ANR, 90.04 54 ⇓P **P 05 20 31.1 +0.4**
baz=90
H05A Madras 90.06 45 ⇓P **P 05 20 31.2 +0.4**
baz=90
G05A Wamic 90.06 45 ⇑P **P 05 20 31.1 +0.2**
baz=90
K05A Summer Lake 90.09 47 ⇑P **P 05 20 31.7 +0.8**
baz=90
PKM Peak Mountain 90.15 55 ⇓P **P 05 20 31.4 +0.2**
baz=90
BEKR Beckwourth 90.20 50 ⇑P **P 05 20 31.5 0.0**
baz=90
SNCC San Nicolas Is 90.24 57 ⇑P **P 05 20 32.4 +0.7**
baz=90
S06C San Francisco 90.41 52 ⇑P **P 05 20 32.8 +0.4**
baz=90
T06C Millerton Lake 90.43 53 ⇑P **P 05 20 32.7 +0.2**
baz=90
MOD Modoc 90.45 48 ⇑P **P 05 20 32.6 0.0**
baz=90
K06A Valley Falls 90.57 47 ⇓P **P 05 20 33.0 -0.1**
baz=91
D06A Cle Elum 90.60 43 ⇑P **P 05 20 32.6 -0.7**
baz=91
WCN Washoe City 90.61 51 ⇑P **P 05 20 33.6 +0.2**
baz=91
O06A Flanigan 90.64 50 ⇑P **P 05 20 33.5 0.0**
baz=91
N06A Buffalo Meadow 90.69 49 ⇑P **P 05 20 33.4 -0.3**
baz=91
H06A Lindquist Farm 90.70 45 ⇓P **P 05 20 33.1 -0.7**
baz=91
I06A Prineville 90.71 46 ⇑P **P 05 20 32.6 -1.2**
baz=91
KCC Kaiser Creek 90.77 53 ⇑P **P 05 20 33.8 -0.3**
baz=91
R06C Coleville 90.78 52 ⇓P **P 05 20 34.0 -0.2**
baz=91

HELL Mitchell Peak, 90.95 53 ⇑P **P 05 20 34.4 -0.5**
baz=91
SCI San Clemente I 91.03 57 ⇑P **P 05 20 35.8 +0.5**
baz=91
R07C Lee Vining 91.05 52 ⇑P **P 05 20 35.8 +0.4**
baz=91
A07A Ashnola River, 91.10 41 ⇓P **P 05 20 35.5 -0.1**
baz=91
F07A Phinny Hill Vi 91.10 44 ⇑P **P 05 20 35.1 -0.5**
baz=91
L07A Adell 91.17 48 ⇑P **P 05 20 36.7 +0.7**
baz=91
C07A Waterville 91.18 42 ⇓P **P 05 20 35.7 -0.3**
baz=91
MLAC Mammoth Lakes 91.18 53 ⇓P **P 05 20 36.0 0.0**
baz=91
D07A Quincy 91.19 43 ⇓P **P 05 20 35.6 -0.5**
baz=91
B07A Winthrop 91.21 42 ⇓P **P 05 20 35.3 -0.9**
baz=91
E07A Sunnyside 91.21 44 ⇓P **P 05 20 35.7 -0.5**
baz=91
G07A Ruggs Ranch, H 91.22 45 ⇑P **P 05 20 35.5 -0.7**
baz=91
I07A Izee 91.23 46 ⇑P **P 05 20 35.9 -0.3**
baz=91
M07A Soldier Meadow 91.24 49 ⇓P **P 05 20 36.7 +0.4**
baz=91
K07A Rock Creek Ran 91.30 47 ⇑P **P 05 20 36.4 -0.2**
baz=91
ISA Isabella 91.31 55 ⇓P **P 05 20 36.2 -0.4**
baz=91
J07A Hines 91.31 47 ⇑P **P 05 20 35.9 -0.7**
baz=91
DECC Green Verdugo 91.31 56 ⇓P **P 05 20 35.9 -0.7**
baz=91
N07B Gerlach 91.34 49 ⇑P **P 05 20 36.0 -0.7**
baz=91
O07A Toulon 91.36 50 ⇓P **P 05 20 37.2 +0.4**
baz=91
TIN Tinemaha 91.62 53 ⇓P **P 05 20 38.6 +0.5**
baz=92
EDW2 Edwards Air Fo 91.64 55 P **P 05 20 38.9 +0.8**
baz=92,SNR=7.2
CWC Cottonwood Cre 91.69 54 ⇑P **P 05 20 37.8 -0.5**
baz=92
S08C White Mtn Res 91.70 53 ⇑P **P 05 20 38.4 0.0**
baz=92
G08A Pilot Rock 91.72 45 ⇓P **P 05 20 37.8 -0.7**
baz=92
B08A Colville Reser 91.73 42 ⇓P **P 05 20 38.4 -0.2**
baz=92
E08A Dider Farm, El 91.75 44 ⇓P **P 05 20 38.5 -0.2**
baz=92
R08A Mina 91.81 52 ⇓P **P 05 20 38.6 -0.4**
baz=92
A08A Turner Farm, O 91.82 41 ⇑P **P 05 20 38.4 -0.5**
baz=92
M08A Happy Creek Ra 91.84 49 ⇓P **P 05 20 38.0 -1.1**
baz=92
K08A Mann Creek Ran 91.86 47 ⇓P **P 05 20 38.8 -0.4**
baz=92
BFSC Mount Baldy St 91.87 56 ⇑P **P 05 20 38.8 -0.4**
baz=92
H08A Prairie City 91.87 46 ⇓P **P 05 20 38.5 -0.7**
baz=92
C08A Higginbotham F 91.87 42 ⇑P **P 05 20 38.3 -0.9**
baz=92
I08A Drewsey 91.89 46 ⇑P **P 05 20 38.2 -1.1**
baz=92
F08A Pendleton 91.89 44 ⇑P **P 05 20 38.2 -1.1**
baz=92
D08A Wollman Farm, 91.89 43 ⇓P **P 05 20 38.1 -1.2**
baz=92
J08A Circle Bar Ran 91.92 47 P **P 05 20 39.6 +0.2**
baz=92,SNR=7.5
L08A Fields 91.92 48 ⇓P **P 05 20 39.8 +0.4**
baz=92
LRMC Laurel Mountai 91.93 55 P **P 05 20 40.2 +0.7**
baz=92,SNR=8.7
P08A Dixie Valley 91.94 51 ⇑P **P 05 20 39.9 +0.4**
baz=92
N08A GE Springer Mi 91.98 49 ⇓P **P 05 20 39.7 0.0**
baz=92
Q08A Gabbs 91.99 51 P **P 05 20 39.9 +0.2**
baz=92,SNR=5.2
DAC Darwin (Calif) 92.07 54 *e*P **P 05 20 40.8 +0.7**
DAC pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
DAC Darwin (Calif) 92.07 54 *e*P **P 05 20 40.8 +0.7**
comp=Z,9.5nm,0.9s,mb5.1
MPMC Manual Prospec 92.14 54 P **P 05 20 41.2 +0.8**
baz=92,SNR=9.1
MURC Murrieta 92.20 57 ⇑P **P 05 20 40.9 +0.2**
baz=92
A09A Danville 92.27 41 ⇓P **P 05 20 40.2 -0.9**
baz=92
GRAC Grapevine Rang 92.30 53 ⇑P **P 05 20 41.5 +0.4**
baz=92
D09A Jones Farm, Ri 92.31 43 ⇓P **P 05 20 41.1 -0.2**
baz=92
L09A Wilkinson Ranc 92.42 48 ⇓P **P 05 20 42.1 +0.4**
baz=92
K09A Rome 92.42 48 ⇓P **P 05 20 41.2 -0.5**
baz=92
J09A Fry Pan Ranch, 92.44 47 ⇑P **P 05 20 41.8 0.0**
baz=92
N09A Rock Creek Ran 92.44 49 ⇑P **P 05 20 41.6 -0.2**
baz=92
S09A Goldfield 92.46 53 P **P 05 20 42.2 +0.3**
baz=92,SNR=9.2
BBRC Big Bear Sol-O 92.48 56 ⇓P **P 05 20 42.3 +0.3**
baz=92
F09A S2 Ranch, Elgi 92.49 45 ⇑P **P 05 20 41.7 -0.4**
baz=92
I09A Lost Marbles R 92.49 46 ⇑P **P 05 20 41.5 -0.5**
baz=92
B09A Rice 92.52 42 ⇓P **P 05 20 41.3 -0.9**
baz=92
M09A Marrel Ranch, 92.54 49 ⇓P **P 05 20 42.3 0.0**
baz=92
H09A Durkee 92.59 46 ⇑P **P 05 20 41.8 -0.7**
baz=93
R09A Tonopah 92.62 52 P **P 05 20 43.1 +0.4**
baz=93,SNR=7.2
GSC Goldstone 92.64 55 ⇓P **P 05 20 43.1 +0.3**
baz=93
O09A Fish Creek Ran 92.65 50 ⇑P **P 05 20 42.6 -0.2**
baz=93
FURC Furnace Creek, 92.67 54 P **P 05 20 43.6 +0.7**
baz=93,SNR=5.8
MONP Monument Peak 92.81 57 ⇓P **P 05 20 43.8 +0.3**
baz=93
BMO Blue Mountains 92.86 45 *e*P **P 05 20 42.7 -1.1**
BMO pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
BMO Blue Mountains 92.86 45 *e*P **P 05 20 42.7 -1.1**
comp=Z,9.4nm,1.0s,mb5.2
F10A Beach Ranch, E 92.99 44 P **P 05 20 43.6 -0.7**
baz=93,SNR=12
HEC Hector,Ludlow 93.00 55 ⇓P **P 05 20 44.4 -0.1**
baz=93
D10A Wagner Farm, O 93.02 43 P **P 05 20 44.2 -0.3**
baz=93,SNR=9.2
C10A Spilker Farm, 93.04 42 ⇑P **P 05 20 43.7 -0.9**
baz=93
K10A MacKenzie Ranc 93.05 48 P **P 05 20 45.4 +0.7**
baz=93,SNR=5.2
U10A Ash Meadows, A 93.10 54 ⇓P **P 05 20 45.2 +0.3**
baz=93
E10A Myers Farm, Un 93.10 44 ⇑P **P 05 20 43.8 -1.1**
baz=93
SHOC Shoshone 93.11 54 ⇑P **P 05 20 44.9 0.0**
baz=93
J10A Berg Farm, Mel 93.17 47 ⇑P **P 05 20 45.3 +0.2**
baz=93
NEW Newport 93.19 42 *e*P **P 05 20 44.0 -1.3**
BELC Belle Mtn. 93.23 56 ⇑P **P 05 20 46.3 +0.8**
baz=93
H10A Noah's Angus R 93.24 46 P **P 05 20 44.7 -0.8**
baz=93,SNR=17
TUQ Turquoise Mtn. 93.37 55 P **P 05 20 46.8 +0.7**
baz=93,SNR=7.2
GMRC Granite Mounta 93.55 56 ⇓P **P 05 20 47.4 +0.5**
baz=94,SNR=5.2
G11A Walters Elk Ra 93.63 45 ⇓P **P 05 20 46.4 -0.9**
baz=94
BC3 Big Chuckw Mtn 93.66 57 ⇓P **P 05 20 47.9 +0.5**
baz=94

B11A Sandpoint 93.70 42 ⇓P **P 05 20 47.4 -0.2**
baz=94
E11A Bogner Ranch, 93.71 44 P **P 05 20 46.5 -1.1**
baz=94,SNR=6.6
F11A Grangeville 93.73 44 P **P 05 20 45.9 -1.9**
baz=94,SNR=7.0
A11A Hall Mountain, 93.73 41 P **P 05 20 48.0 +0.2**
baz=94,SNR=9.9
Q11A Duckwater 93.76 51 ⇓P **P 05 20 47.9 -0.1**
baz=94,SNR=5.9
H11A Donnelly 93.77 46 ⇓P **P 05 20 47.7 -0.2**
baz=94
I11A Placerville 93.78 46 ⇓P **P 05 20 48.3 +0.3**
baz=94
V11A Goodsprings 93.79 54 ⇑P **P 05 20 48.2 +0.1**
baz=94
MFID Camas Ranch 93.85 47 ⇑P **P 05 20 48.4 +0.1**
baz=94
IRM Iron Mountain 93.94 56 ⇑P **P 05 20 49.2 +0.5**
baz=94
SYO Syowa Base 94.00 199 ⇓*i*P **P 05 20 47.6 -1.4**
SYO Syowa Base 94.00 199 ⇓*i*pP pP 05 21 04.4 -2.4
A12A Yaak River Ran 94.20 41 P **P 05 20 50.1 +0.2**
baz=94,SNR=5.9
B12A Libby 94.22 42 ⇓P **P 05 20 49.8 -0.2**
baz=94,SNR=6.8
V12A Nelson 94.26 55 ⇑P **P 05 20 50.3 +0.1**
baz=94
N12A Clover Valley, 94.33 49 ⇑P **P 05 20 51.2 +0.6**
baz=94
P12A McGill 94.37 51 ⇓P **P 05 20 51.4 +0.6**
baz=94
J12A Stokes Ranch, 94.37 47 P **P 05 20 51.8 +1.0**
baz=94,SNR=6.0
NEE2 Needles Airpor 94.41 56 ⇑P **P 05 20 51.5 +0.6**
baz=94
Q12A Willow Creek R 94.41 51 ⇓P **P 05 20 51.4 +0.5**
baz=94
Y12C Blythe 94.44 57 ⇓P **P 05 20 51.3 +0.3**
baz=94
K12A Draper Farm, C 94.49 48 ⇑P **P 05 20 51.2 -0.1**
baz=94
U12A Valley of Fire 94.54 54 ⇓P **P 05 20 52.1 +0.6**
baz=94
H12A Diamond D Ranc 94.59 46 ⇓P **P 05 20 52.0 +0.3**
baz=95
PDMCI Parker Dam,Lak 94.78 56 ⇑P **P 05 20 52.7 +0.1**
baz=95
C13A Hot Springs 94.88 43 ⇓P **P 05 20 52.2 -0.8**
baz=95
HLID Hailey 94.88 47 *e*P **P 05 20 53.4 +0.3**
HLID Hailey 94.88 47 ⇓P **P 05 20 53.0 -0.1**
baz=95
N13A Wendover, West 94.96 50 ⇓P **P 05 20 53.3 -0.1**
baz=95
B13A Whitefish 94.97 42 P **P 05 20 53.0 -0.4**
baz=95,SNR=8.9
F13A Darby 95.00 45 P **P 05 20 53.0 -0.6**
baz=95,SNR=13
M13A Montello 95.00 49 ⇓P **P 05 20 53.3 -0.3**
baz=95
W13A Hualapai Mount 95.02 55 ⇓P **P 05 20 54.7 +1.0**
baz=95
Y13A Salome 95.02 57 ⇑P **P 05 20 54.5 +0.8**
baz=95
X13A Yucca 95.05 56 ⇑P **P 05 20 54.4 +0.6**
baz=95
J13A Cove Ranch, Pi 95.05 47 ⇓P **P 05 20 55.0 +1.2**
baz=95
G13A Cobalt 95.05 45 ⇓P **P 05 20 54.5 +0.6**
baz=95
YKW3 Yellowknife Ar 95.06 28 *e*P **P 05 20 52.2 -1.7**
YKA Yellowknife Ar 95.06 28 P **P 05 20 52.1 -1.7**
comp=Z,6.7nm,0.8s,mb5.1,baz=269,slow=4.7,SNR=119
YKA PKiKP PKiKP 05 25 34.1 -0.9
comp=Z,0.8nm,0.8s,baz=274,slow=1.3,SNR=5.5
YKA PKKPbc PKKPbc 05 37 47.4 -0.7
comp=Z,1.8nm,0.7s,baz=87,slow=2.8,SNR=24
E13A Victor 95.11 44 ⇑P **P 05 20 54.0 -0.1**
baz=95
WALA Waterton Lakes 95.35 41 *e*P **P 05 20 55.1 -0.1**
comp=Z,13nm,0.8s,mb5.4
AB31 Akbulak array 95.53 319 *i* P **P 05 20 53.9 -2.1**
E14A Clinton 95.59 44 ⇓P **P 05 20 55.6 -0.7**
baz=96
F14A Wisdom 95.67 45 ⇑P **P 05 20 56.9 +0.2**
baz=96
W14A Seligman 95.68 55 ⇓P **P 05 20 57.5 +0.8**
baz=96
Y14A Wickenburg 95.71 56 ⇓P **P 05 20 56.7 -0.1**
baz=96
EDM Edmonton 95.73 37 *e*P **P 05 20 56.3 -0.6**
X14A Yava 95.82 56 ⇑P **P 05 20 58.6 +1.3**
baz=96
E15A Deer Lodge 96.18 44 P **P 05 20 58.2 -0.8**
baz=96,SNR=6.0
G15A Dillon 96.29 45 ⇓P **P 05 20 59.7 +0.2**
baz=96
ARU Arti 96.33 326 P **P 05 20 57.6 -2.0**
comp=Z,306nm,1.1s,mb6.6,SNR=10.0
ARU Arti 96.33 326 ⇑*i*P **P 05 20 57.5 -2.1**
ARU *e* pP 05 21 16.1 -1.3
ARU *e* 05 24 53.7
ARU *e*S SKSac 05 31 24.8 -5.9
ARU *e*PS PS 05 33 39.1 -3.0
ARU *e*SS SS 05 38 48.8 +0.7
ARU pmax pmax
comp=Z,44nm,0.9s,mb5.9
ARU Arti 96.33 326 *e*P **P 05 20 57.1 -2.5**
comp=Z,39nm,0.8s,mb5.9
ARU *e*pP pP 05 21 15.8 -1.6
W15A Williams 96.35 55 ⇑P **P 05 21 00.8 +1.1**
baz=96
X15A Humboldt 96.36 56 ⇑P **P 05 21 01.8 +2.0**
baz=96
AKTK Aktyubinsk 96.78 320 P **P 05 20 59.8 -1.9**
AKTO Aktyubinsk 96.78 320 P **P 05 20 59.8 -1.9**
comp=Z,20nm,0.7s,mb5.6,baz=95,slow=6.1,SNR=50
AKTO PKiKP PKiKP 05 25 38.9 +0.9
comp=Z,2.4nm,0.5s,baz=125,slow=6.7,SNR=7.0
BOZ Bozeman (W) 96.89 45 *e*P **P 05 21 02.0 -0.2**
BOZ pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
BOZ Bozeman (W) 96.89 45 *e*P **P 05 21 02.0 -0.2**
comp=Z,7.0nm,0.7s,mb5.2
BOZ Bozeman (W) 96.89 45 ⇑P **P 05 21 02.7 +0.5**
baz=97
WUAZ Wupatki 97.08 55 ⇓P **P 05 21 03.2 +0.2**
baz=97
MOOW Moose Ponds 97.55 47 *e*P **P 05 21 05.2 +0.1**
EGMT Eagleton 98.12 42 ⇓P **P 05 21 07.1 -0.6**
baz=98
BW06 Boulder Array 98.43 48 *e*P **P 05 21 07.9 -1.2**
comp=Z,2.1nm,0.8s,mb4.7
PDAR Pinedale Array 98.43 48 P **P 05 21 07.6 -1.6**
comp=Z,1.8nm,0.7s,mb4.7,baz=265,slow=2.3,SNR=16
PDAR PKKPbc PKKPbc 05 37 39.9 +0.9
comp=Z,0.4nm,0.6s,baz=81,slow=5.6,SNR=3.8
PDAR PKPPKP 05 45 52.2
comp=Z,0.5nm,0.9s,baz=270,slow=1.5,SNR=3.5
PDAR LR LR 05 58 01.5
comp=Z,730nm,20.8s,baz=276,slow=31
ORR Orenburg 98.78 321 P **P 05 21 09.2 -1.5**
ORR pmax pmax
comp=Z,50nm,0.8s,mb6.1
MVCO Mesa Verde 99.39 53 ⇑P **P 05 21 13.8 +0.4**
baz=99
RES Resolute Bay 100.10 14 *e*P Pdif 05 21 16.6 0.0
SNAA Sanae 102.30 188 *e*P Pdif 05 21 25.3 -1.0
SNAA pmax pmax
comp=Z,2.0nm,0.8s
SNAA Sanae 102.30 188 *e*Pdif Pdif 05 21 25.3 -1.1
comp=Z,2.2nm,0.8s
TXAR Lajitas Array 103.71 61 PP PP 05 25 47.5 -2.3
comp=Z,0.4nm,0.8s,baz=250,slow=7.3,SNR=3.5
TXAR PKKPbc PKKPbc 05 37 21.2 -2.6
comp=Z,1.5nm,0.7s,baz=102,slow=2.7,SNR=4.5
TXAR PKKPab PKKPab 05 37 44.5 +0.8
comp=Z,2.7nm,0.9s,baz=116,slow=5.8,SNR=8.0
TXAR PKPPKP 05 45 41.4
comp=Z,0.5nm,0.9s,baz=216,slow=6.2,SNR=2.5
KLMR Klimovskoe 105.35 332 *e*P Pdif 05 21 34.6 -5.3
KLMR pmax pmax
comp=Z,74nm,2.3s
FCC Fort Churchill 105.58 30 *e*PKP PKiKP 05 25 53.1 -0.8
PMSA Palmer Station 105.59 164 *e*Pdif Pdif 05 21 41.0 0.0

ARCES **ARCESS Array B 106.75 343** Pdiff Pdif 05 21 44.2 -2.0
comp=Z,7.5nm,0.8s,baz=60,slow=7.2,SNR=9.0
ARCES PKiKP PKiKP 05 25 56.1 0.0
comp=Z,11nm,0.7s,baz=77,slow=1.9,SNR=15
ARCES PKKPbc PKKPbc 05 37 11.3 -3.2
comp=Z,4.3nm,0.7s,baz=254,slow=2.1,SNR=8.0
JOF Joensuu 108.13 336 *ep* Pdif 05 21 49.1 -3.2
comp=Z,26nm,0.6s
OBN Obninsk 108.73 327 *eP* Pdif 05 21 54.1 -0.8
OBN *e* 05 26 27.6
OBN *e* 05 32 23.2
OBN pmax pmax
comp=Z,16nm,1.2s
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,700nm,18.0s
KAF Kangasniemi 110.55 336 *ep* Pdif 05 21 59.1 -3.9
comp=Z,3.9nm,0.6s
KAF Kangasniemi 110.55 336 *ep* PKiKP 05 26 01.3 -1.9
comp=Z,7.7nm,0.6s
FINES FINESS Array B 110.99 336 Pdiff Pdif 05 22 03.4 -1.6
comp=Z,6.8nm,0.7s,baz=74,slow=5.5,SNR=34
FINES PKiKP PKiKP 05 26 03.2 -0.8
comp=Z,8.8nm,0.8s,baz=126,slow=2.2,SNR=15
FINES PKKPbc PKKPbc 05 36 59.2 -1.9
comp=Z,5.5nm,1.0s,baz=220,slow=2.7,SNR=6.7
FINES FINESS Array B 110.99 336 ⇑PKiKP PKiKP 05 26 03.2 -0.8
FINES FINESS Array B 110.99 336 Pdif Pdif 05 22 03.4 -1.6
FINES PKPdf PKiKP 05 26 03.2 -0.8
FINES PKKPbc PKKPbc 05 36 59.2 -1.9
MALT Malatya 112.14 310 ⇑*iP* PKiKP 05 26 07.3 +1.1
AKASG Malin Array Be 114.52 325 Pdiff Pdif 05 22 19.8 -0.9
comp=Z,3.0nm,0.7s,baz=51,slow=4.7,SNR=20
AKASG PKP PKiKP 05 26 10.0 -0.8
comp=Z,13nm,0.6s,baz=62,slow=2.2,SNR=69
AKASG PKKPbc PKKPbc 05 36 47.2 -2.1
comp=Z,1.1nm,0.5s,baz=256,slow=4.0,SNR=11
AKASG Malin Array Be 114.52 325 Pdif Pdif 05 22 19.8 -0.9
AKASG PKP PKiKP 05 26 10.0 -0.8
AKASG PKKPbc PKKPbc 05 36 47.2 -2.1
AKBB Malin Array Si 114.52 325 *e*PKIKP PKiKP 05 26 10.2 -0.6
KIEV Kiev 114.53 325 *e*PKIKP PKiKP 05 26 10.1 -0.7
ASF Jabal al Asfar 114.58 303 PKP PKiKP 05 26 11.6 +0.7
comp=Z,6.2nm,0.7s,baz=8.7,slow=3.1,SNR=11
AVNT Avonos 114.76 311 *i P* PKiKP 05 26 10.7 -0.5
BRTR Keskin Array B 115.42 312 Pdiff Pdif 05 22 25.1 +0.4
comp=Z,0.8nm,0.7s,baz=99,slow=7.9,SNR=4.3
BRTR PKP PKPdf 05 26 12.4 0.0
comp=Z,6.5nm,0.6s,baz=120,slow=2.9,SNR=22
BRTR PKKPbc PKKPbc 05 36 47.3 +1.1
comp=Z,1.0nm,0.8s,baz=220,slow=1.0,SNR=4.3
MMAI Mount Meron Ar 115.66 304 PKP PKPdf 05 26 13.8 +0.8
comp=Z,5.1nm,0.6s,baz=81,slow=5.2,SNR=5.9
KMBO Kilima Mbogo 115.71 267 PKP PKPdf 05 26 14.5 +1.4
comp=Z,2.8nm,0.7s,baz=51,slow=7.5,SNR=10
KMBO Kilima Mbogo 115.71 267 *e*PKPdf PKPdf 05 26 14.7 +1.6
ANTO Ankara 116.00 312 PKIKP PKPdf 05 26 14.3 +0.7
ANTO Ankara 116.00 312 *e*PKPdf PKPdf 05 26 13.7 0.0
ANTO Ankara 116.00 312 ⇑*iP* PKPdf 05 26 13.9 +0.3
SUW Suwalki 116.23 330 *e*PKP PKPdf 05 26 13.8 -0.3
KIS Kishinev 116.27 321 *e*PKIKP PKPdf 05 26 17.0 +2.9
KIS Kishinev 116.27 321 *e*UNK 05 26 17.0
HFS Hagfors 116.60 339 Pdiff Pdif 05 22 28.3 -1.6
comp=Z,1.7nm,0.6s,baz=74,slow=8.2,SNR=5.2
HFS PKP PKPdf 05 26 13.6 -1.1
comp=Z,14nm,0.7s,baz=90,slow=4.4,SNR=26
WCI Wyandotte Cave 116.61 49 *e*PKIKP PKPdf 05 26 14.6 -0.2
EIL Elat 116.68 301 *e*PKPdf PKPdf 05 26 15.4 +0.4
NB2 NORSAR Subarra116.82 340 PKPdf PKPdf 05 26 13.5 -1.7
comp=Z,7.8nm,0.7s,baz=44,slow=1.9
NB2 NORSAR Subarra116.82 340 P Pdif 05 22 27.3 -3.6
comp=Z,10nm,1.7s,baz=72,slow=4.4
NB2 NORSAR Subarra116.82 340 PKPdf PKPdf 05 26 13.5 -1.7
baz=44,slow=1.9
NB2 NORSAR Subarra116.82 340 P Pdif 05 22 27.3 -3.6
baz=72,slow=4.4
NB2 NORSAR Subarra116.82 340 ⇓P Pdif 05 22 27.3 -3.6
NB2 PKPdf PKPdf 05 26 13.5 -1.7
NOA NORSAR Array B 116.82 340 Pdiff Pdif 05 22 29.4 -1.5
comp=Z,1.4nm,0.7s,baz=46,slow=4.5,SNR=4.0
NOA PKP PKPdf 05 26 13.7 -1.5
comp=Z,18nm,0.7s,baz=46,slow=1.9,SNR=76
NOA PKKPbc PKKPbc 05 36 41.0 -0.3
comp=Z,0.9nm,0.8s,baz=49,slow=3.8,SNR=4.4
NOA NORSAR Array B 116.82 340 P Pdif 05 22 29.4 -1.5
NOA 05 26 13.7
NOA NORSAR Array B 116.82 340 Pdif Pdif 05 22 29.4 -1.5
NOA PKP PKPdf 05 26 13.7 -1.5
NOA PKKPbc PKKPbc 05 36 41.0 -0.3
NAO01 NORSAR Array S 117.07 340 *e*PKPdf PKPdf 05 26 15.6 -0.1
HENT Hendek 117.09 314 *i P* PKPdf 05 26 14.9 -0.8
TIRR Tirgusor 117.52 318 ⇓*iP* PKPdf 05 26 17.8 +1.2
ESKT Eskisehir 117.53 312 *i P* PKPdf 05 26 15.6 -1.0
LVV L'vov 117.89 325 *e*PKIKP PKPdf 05 26 17.5 +0.2
LVV *e* 05 26 35.5
LVV *e* 05 27 31.7
LVV MLR MLR
comp=Z,900nm,24.0s
LVV MLR MLR
comp=N,700nm,22.0s
LVV MLR MLR
comp=E,700nm,20.0s
VRI Vrincioaia 118.05 320 ⇓*iP* PKPdf 05 26 18.9 +1.3
BURAR Bucovina Array 118.23 323 ⇓*iP* PKPdf 05 26 19.3 +1.4
ULDT Uludag 118.58 314 *i P* PKPdf 05 26 17.0 -1.6
MLR Muntele Rosu 118.71 320 PKP PKPdf 05 26 18.6 -0.3
comp=E,8.1nm,0.7s,baz=311,slow=2.3,SNR=30
MLR PKKPbc PKKPbc 05 36 35.4 +0.8
comp=E,2.3nm,0.7s,baz=188,slow=8.5,SNR=7.5
MLR Muntele Rosu 118.71 320 P PKPdf 05 26 20.1 +1.2
MLR Muntele Rosu 118.71 320 ⇓*iP* PKPdf 05 26 19.9 +1.1
KWP Kalwaria 118.73 326 *e*PKP PKPdf 05 26 19.5 +0.6
SNX Sinaia 119.04 320 ⇑*iP* PKPdf 05 26 21.6 +2.1
VOIR 119.30 321 ⇑*iP* PKPdf 05 26 21.2 +1.2
KOLS Kolonicke sedl 119.33 325 *i* PKP PKPdf 05 26 20.5 +0.5
DNZL Cakiroluk 119.45 311 *i P* PKPdf 05 26 23.7 +3.4
UZH Uzhgorod 119.47 325 *e*PKIKP PKPdf 05 26 20.0 -0.3
UZH *i* 05 26 37.0
BSD Bornholm Skovb 119.47 334 *i P* PKPdf 05 26 20.5 +0.2
comp=E,37nm,0.7s
BSD Bornholm Skovb 119.47 334 *i* PKIKP PKPdf 05 26 20.5 +0.2
BSD pmax pmax
comp=Z,37nm,0.7s
GKP Gorka Klasztor 119.57 331 *e*PKP PKPdf 05 26 21.0 +0.5
SZH Strazhica 119.64 318 P PKPdf 05 26 20.6 0.0
SZH Strazhica 119.64 318 P PKPdf 05 26 20.6 0.0
STHS Stebnicka Huta 119.66 326 *e*PKP PKPdf 05 26 21.6 +0.9
PLCA Paso Flores 119.75 143 PKP PKPdf 05 26 21.3 +0.5
comp=Z,11nm,0.6s,baz=220,slow=2.7,SNR=52
PLCA SKP 05 29 54.4
comp=Z,3.0nm,1.1s,baz=184,slow=1.4,SNR=3.0
PLCA PKKPbc PKKPbc 05 36 31.9 +1.1
comp=Z,5.1nm,0.7s,baz=20,slow=4.7,SNR=15
PLCA Paso Flores 119.75 143 *e*PKPdf PKPdf 05 26 21.4 +0.6
CRVS Cervenica-Dubn 119.80 325 *e*PKP PKPdf 05 26 21.9 +1.0
CRVS Cervenica-Dubn 119.80 325 *e*PKP PKPdf 05 26 22.0 +1.1
OJC Ojcow 120.02 327 *e*PKP PKPdf 05 26 21.8 +0.4
DRGR 120.12 323 ⇓*iP* PKPdf 05 26 22.5 +0.9
NIE Niedzica 120.17 326 *e*PKP PKPdf 05 26 22.5 +0.8
SCHQ Schefferville 120.43 26 PKP PKPdf 05 26 21.8 -0.4
comp=Z,5.0nm,0.8s,baz=333,slow=2.5,SNR=6.6
SCHQ PKKPab PKKPab 05 36 29.4 -0.5
comp=Z,3.6nm,0.9s,baz=185,slow=12,SNR=3.6
ALN Alexandroupoli 120.50 315 *eP* PKPdf 05 26 21.5 -0.8
KDAG Bornova 120.54 312 *i P* PKPdf 05 26 21.8 -0.6
KECS Kecovo 120.57 325 *e*PKP PKPdf 05 26 22.4 0.0
AYVA Ayvalik 120.64 314 *i P* PKPdf 05 26 19.3 -3.2
GZR Gura Zlata 120.75 321 P PKPdf 05 26 23.6 +0.8
GZR Gura Zlata 120.75 321 ⇑*iP* PKPdf 05 26 23.7 +1.0
RDO Rodhopi 120.76 316 P PKPdf 05 26 23.9 +1.1
MUD Monsted U'grnd 120.90 338 *i P* PKPdf 05 26 23.1 +0.1
comp=Z,16nm,0.7s
MUD Monsted U'grnd 120.90 338 *i* PKIKP PKPdf 05 26 23.1 +0.1
MUD pmax pmax
comp=Z,16nm,0.7s
OKC Ostrava-Krasne 121.12 328 *e*PKPdf PKPdf 05 26 24.1 +0.6
OKC *ep*PKP pPKPdf 05 26 41.8 -0.1
LBTB Lobatse 121.20 237 *e*PKIKP PKPdf 05 26 23.9 +0.3
PSZ Piszkesteto 121.21 325 ⇓*iP* PKPdf 05 26 24.7 +1.1
PSZ Piszkesteto 121.21 325 ⇓*e*PKP PKPdf 05 26 24.4 +0.8
LRW Lerwick 121.21 345 *eP* PKPdf 05 26 23.1 -0.6
LRW ⇑*eP* 05 26 23.1
LRW AMb AMB 05 26 24.4
comp=Z,43nm,1.6s
WAL1 Walls 121.22 346 *eP* PKPdf 05 26 23.4 -0.2
BZS Buzias 121.36 322 PKIKP PKPdf 05 26 24.7 +0.8
BZS Buzias 121.36 322 ⇓*iP* PKPdf 05 26 23.9 0.0
MORC Moravsky Berou 121.48 328 P PKPdf 05 26 24.3 +0.2
MORC Moravsky Berou 121.48 328 ⇑*iP* PKPdf 05 26 24.9 +0.8
VYHS Vyhne 121.49 326 *e*PKP PKPdf 05 26 24.2 0.0
KSP Ksiaz 121.50 329 *e*Pdif Pdif 05 22 51.5 -0.2
KSP *e*PKP PKPdf 05 26 24.1 -0.1
KSP LR LR
comp=Z,3μm,26.5s
KARP Karpathos 121.57 309 P PKPdf 05 26 25.6 +1.3
PENC Penc 121.62 325 ⇓*eP* PKPdf 05 26 25.4 +1.0
JSC Jenkinsville 121.65 52 *e*PKIKP PKPdf 05 26 24.5 0.0
SUR Sutherland 121.73 227 *e*PKPdf PKPdf 05 26 25.9 +1.3
VTS Vitosha 121.74 318 P PKPdf 05 26 25.0 +0.3
VTS Vitosha 121.74 318 P PKPdf 05 26 25.0 +0.3
VTS Vitosha 121.74 318 ⇓*iP* PKPdf 05 26 24.9 +0.2
PKSN Nyarlorinc 121.76 324 *eP* PKPdf 05 26 25.0 +0.3
DPC Dobruska-Polom 121.78 329 *e*PKPdf PKPdf 05 26 25.1 +0.4
DPC *ep*PKP pPKPdf 05 26 42.2 -0.9
MMB Musomiste 121.82 317 P PKPdf 05 26 24.2 -0.6
MMB Musomiste 121.82 317 P PKPdf 05 26 24.2 -0.6
UPC Upice 121.84 329 *e*PKPdf PKPdf 05 26 23.5 -1.3
BUD Budapest 121.94 325 ⇓*e*PKIKP PKPdf 05 26 25.7 +0.7
BUD Budapest 121.94 325 ⇓*e*PKP PKPdf 05 26 25.7 +0.7
LSZ Lusaka 122.05 249 PKKPab PKKPab 05 36 24.0 +1.1
comp=Z,1.4nm,0.7s,baz=318,slow=0.7,SNR=4.6
LSZ Lusaka 122.05 249 *e*PKPdf PKPdf 05 26 25.9 +0.6
LSZ *ep*PKPdf pPKPdf 05 26 42.6 -1.1
SRS Serrai 122.11 317 *eP* PKPdf 05 26 24.1 -1.3
KKB Krupnik 122.14 318 P PKPdf 05 26 25.8 +0.4
KKB Krupnik 122.14 318 P PKPdf 05 26 25.8 +0.4
OUR Ouranopolis 122.17 316 *eP* PKPdf 05 26 24.5 -0.9
SVIS Svilajnac 122.24 321 ⇓*iP* PKPdf 05 26 24.6 -1.0
VRAC Vranov 122.25 328 PKP PKPdf 05 26 26.3 +0.7
comp=Z,23nm,0.8s,baz=95,slow=1.4,SNR=45
VRAC Vranov 122.25 328 P PKPdf 05 26 26.5 +0.8
VRAC Vranov 122.25 328 ⇑*iP* PKPdf 05 26 26.7 +1.1
SMOL Smolenice 122.26 327 *e*PKP PKPdf 05 26 26.2 +0.5
PKSG 122.35 325 *eP* PKPdf 05 26 26.0 +0.2
PAIG Paliouri 122.55 315 *eP* PKPdf 05 26 25.2 -1.0
BARS Barje 122.55 319 ⇓*e*PKP PKPdf 05 26 26.9 +0.6
PVCC Panska Ves 122.56 330 *e*PKPdf PKPdf 05 26 26.3 +0.1
KNT Kendrikon 122.57 317 *eP* PKPdf 05 26 25.4 -0.9
ZST Bratislava 122.62 327 *e*PKP PKPdf 05 26 26.6 +0.3
ZST Bratislava 122.62 327 *e*PKP PKPdf 05 26 26.6 +0.3
ZST LR LR
comp=Z,500nm,19.2s
BRG Berggiesshubel 122.65 331 *e*PKP PKPdf 05 26 26.9 +0.5
comp=Z,46nm,0.8s
BRG *e* 05 26 42.3
comp=Z,16nm,1.1s
VAY Valandovo 122.72 317 *i* PKP PKPdf 05 26 26.0 -0.6
VAY Valandovo 122.72 317 *i* PKP PKPdf 05 26 26.0 -0.6
GRUS Gruza 122.76 321 ⇑*iP* PKPdf 05 26 26.2 -0.4
STIP Stip 122.82 318 *i* PKP PKPdf 05 26 26.8 +0.1
STIP Stip 122.82 318 *i* PKP PKPdf 05 26 26.8 +0.1
CLL Collm 122.82 331 *i* PKIKP PKPdf 05 26 26.8 +0.1
CLL *i* 05 26 44.9
CLL *e* 05 26 51.0
CLL Collm 122.82 331 *i* PKPdf PKPdf 05 26 26.8 +0.1
comp=Z,106nm,0.7s
CLL LmV 05 24 00.0
comp=Z,700nm,20.5s
CLL *i* pPKPdf pPKPdf 05 26 44.9 -0.2
CLL *es*PKPdf 05 26 51.0
CLL *e*PP PP 05 28 08.0 +2.5
CLL *e*SKS SKSdf 05 33 26.0 -7.2
CLL *e*PS PS 05 37 57.0 -4.6
CLL *e*PPS 05 39 37.0
CLL *e*(PSS) 05 45 46.0
CLL *e*SSS 05 49 54.0
PKSM Moragy 122.84 324 ⇓*e*PKIKP PKPdf 05 26 26.8 0.0
TREC Trest 122.84 328 *e*PKPdf PKPdf 05 26 26.7 -0.1
NPS Neapolis 122.86 309 P PKPdf 05 26 29.1 +2.3
PRU Pruhonice 122.91 329 *ep*PKP pPKPdf 05 26 44.0 -1.3
GRG Griva 123.00 317 *eP* PKPdf 05 26 27.3 +0.2
DIVS Divcibare 123.11 321 ⇓*iP* PKPdf 05 26 28.1 +0.9
XOR Xorichti 123.12 315 *eP* PKPdf 05 26 26.1 -1.2
SKO Skopje 123.19 318 *i* PKP PKPdf 05 26 29.0 +1.6
SKO Skopje 123.19 318 *i* PKP PKPdf 05 26 29.0 +1.6
SOP Sopron 123.21 326 ⇓*e*PKIKP PKPdf 05 26 28.4 +0.9
SOP Sopron 123.21 326 ⇓*e*PKP PKPdf 05 26 28.4 +0.9
RHK3 Tenkes 123.24 324 ⇓*eP* PKPdf 05 26 28.1 +0.6
LIT Litokhoron 123.30 316 *eP* PKPdf 05 26 26.9 -0.7
MLA1 Latheron 123.36 345 ⇑*iP* PKPdf 05 26 27.6 -0.2
IDI Anoyia 123.41 310 PKP PKPdf 05 26 28.9 +1.0
comp=Z,27nm,0.6s,baz=360,slow=15,SNR=20
CONA Conrad Observa 123.45 327 ⇑*i*PKiKP PKiKP 05 26 28.5 +0.3
comp=Z,21nm,0.7s,SNR=12
KRUS Krusevo 123.59 318 *i* PKP PKPdf 05 26 28.3 +0.1
KRUS Krusevo 123.59 318 *i* PKP PKPdf 05 26 28.3 +0.1
BIA Bitola 123.70 317 *i* PKP PKPdf 05 26 27.9 -0.5
BIA Bitola 123.70 317 *i* PKP PKPdf 05 26 27.9 -0.5
FNA Florina 123.77 317 *eP* PKPdf 05 26 28.2 -0.4
NKC Novy Kostel 123.79 331 *e*PKPdf PKPdf 05 26 28.7 +0.1
AGG Agios Georgios 123.87 315 *eP* PKPdf 05 26 28.2 -0.6
MVH1 Achvaich 123.91 346 ⇑*iP* PKPdf 05 26 28.5 -0.3
MOX Moxa 123.92 331 *eP* PKPdf 05 26 28.9 +0.1
comp=Z,42nm,1.4s
KHC Kasperske Hory 123.93 329 *e*PKPdf PKPdf 05 26 29.1 +0.2
KHC *ep*PKP pPKPdf 05 26 45.5 -1.8
KHC *ex* x 05 27 22.5
KHC Kasperske Hory 123.93 329 *e*PKIKP PKPdf 05 26 29.1 +0.2
KHC *e* 05 26 45.5
KHC Kasperske Hory 123.93 329 *e*PKP PKPdf 05 26 29.1 +0.2
KHC *e* 05 26 45.5
KHC *e* 05 27 22.5
MCD Coleburn Disti 123.97 345 ⇑*eP* PKPdf 05 26 28.4 -0.6
OHR Ohrid 124.01 318 *i* PKP PKPdf 05 26 29.4 +0.4
OHR Ohrid 124.01 318 *i* PKP PKPdf 05 26 29.4 +0.4
ARSA Arzberg 124.04 326 ⇑*iP* PKPdf 05 26 28.4 -0.7
comp=Z,23nm,1.0s,SNR=13
GEC2 GERESS Array S 124.05 329 *e*PKIKP PKPdf 05 26 29.2 +0.1
GERES GERESS Array B 124.05 329 PKP PKPdf 05 26 29.3 +0.2
comp=Z,47nm,0.8s,baz=69,slow=1.5,SNR=240
GERES PKKPbc PKKPbc 05 36 14.2 -0.1
comp=Z,0.5nm,0.7s,baz=245,slow=2.8,SNR=4.4
MME1 Meikle Cairn 124.13 345 ⇑*iP* PKPdf 05 26 28.6 -0.7
EVR Evrytania 124.28 315 P PKPdf 05 26 32.2 +2.7
MEV Metsovon 124.31 316 *eP* PKPdf 05 26 30.5 +0.9
MOA Molln 124.36 328 ⇑*iP* PKPdf 05 26 29.8 +0.1
comp=Z,29nm,0.9s,SNR=28
MDO Dochfour 124.38 345 ⇑*iP* PKPdf 05 26 29.3 -0.4
KAC Achnashellach 124.56 346 *eP* PKPdf 05 26 29.9 -0.2
WIT Witteveen 124.57 336 *e*PKP PKPdf 05 26 31.2 +1.1
GRA1 Grafenberg Arr 124.74 331 *e*PKPdf PKPdf 05 26 30.2 -0.2
GRA1 LR LR
comp=Z,600nm,20.4s
GRF Grafenberg Arr 124.74 331 *e*PKIKP PKPdf 05 26 30.2 -0.2
GRF MLR MLR
comp=Z,600nm,20.4s
GRFO Grafenberg 124.75 331 *e*PKIKP PKPdf 05 26 30.5 +0.1
KPL Plockton 124.79 346 ⇑*eP* PKPdf 05 26 30.3 -0.2
KPL AMb AMB 05 26 35.9
comp=Z,79nm,2.1s
RLS Riolos of Patr 124.89 314 P PKPdf 05 26 33.0 +2.3
IGT Igoumenitsa 125.05 316 *eP* PKPdf 05 26 31.0 0.0
WTSB Winterswijk 125.15 335 *e*PKP PKPdf 05 26 31.4 +0.2
comp=Z,78nm,0.6s
LKD Levkas 125.19 315 *eP* PKPdf 05 26 31.8 +0.5
KAR1 Arisaig 125.21 346 ⇑*eP* PKPdf 05 26 31.2 -0.1
ESY Stoneypath 125.25 344 ⇑*iP* PKPdf 05 26 31.3 -0.1
KBA Koelnbreinsper 125.33 327 ⇑*iP* PKPdf 05 26 31.4 -0.1
comp=Z,40nm,1.0s,SNR=12
EDI Edinburgh 125.41 344 ⇑*eP* PKPdf 05 26 31.4 -0.3
EDI AMb AMB 05 26 33.1
comp=Z,83nm,2.0s
EAB Aberfoyle 125.49 345 ⇑*iP* PKPdf 05 26 31.7 -0.1
EBL Broad Law 125.50 344 ⇑*iP* PKPdf 05 26 31.8 0.0
XSO Sourhope Farm 125.52 343 ⇑*iP* PKPdf 05 26 31.9 0.0
EAU Auchinoon 125.55 344 ⇑*iP* PKPdf 05 26 32.1 +0.1
CADS Cadrg 125.63 326 *i* PKPdf PKPdf 05 26 31.2 -0.9
VOY Vojsko 125.66 326 *e*PKPdf PKPdf 05 26 32.7 +0.5
VOY *e*PKPbc PKPdf 05 26 36.6 +4.4
VOY *e*PKPab PKPdf 05 26 43.4 +11
PTCC Patocco-Chiusa 125.74 327 PKP PKPdf 05 26 32.6 +0.3
PGBU Glenifferbraes 125.86 345 *eP* PKPdf 05 26 32.2 -0.4
PGBU AMb AMB 05 26 32.6
comp=Z,53nm,1.3s
GMNA Gemona 125.88 327 PKP PKPdf 05 26 32.9 +0.3
EKA Eskdalemuir Ar 125.92 344 PKP PKPdf 05 26 32.8 +0.1
comp=Z,20nm,0.7s,baz=27,slow=3.7,SNR=83
EKA PKPbc 05 36 07.2
comp=Z,1.0nm,0.7s,baz=223,slow=4.4,SNR=5.5
FVI Forni Avoltri 125.93 327 PKIKP PKPdf 05 26 33.1 +0.4
ESK Eskdalemuir 125.94 344 *eP* PKPdf 05 26 32.5 -0.2
ESK AMb AMB 05 26 34.4
comp=Z,43nm,1.7s
ESK Eskdalemuir 125.94 344 *e*PKPdf PKPdf 05 26 32.6 -0.1
TOD Tromm 125.95 332 PKIKP PKPdf 05 26 33.2 +0.5
LWH Whinny Nab 126.03 341 ⇑*eP* PKPdf 05 26 33.2 +0.4
XAL Allendale 126.05 343 ⇑*iP* PKPdf 05 26 32.9 0.0
WATA Walderalm 126.11 328 *i P* PKPdf 05 26 33.1 +0.1
comp=Z,45nm,1.0s,SNR=49
WTTA Wattenberg 126.12 328 ⇓*iP* PKPdf 05 26 33.7 +0.6
comp=Z,153nm,1.0s,SNR=51
SEST Monte Rota 126.14 328 PKP PKPdf 05 26 33.7 +0.6
LCO Las Campanas 126.26 131 *e*PKPdf PKPdf 05 26 34.3 +1.0
ABH Alteburg 126.34 333 PKP PKPdf 05 26 34.5 +1.0
MOTA Moosalm 126.34 329 *i P* PKPdf 05 26 33.6 +0.1
comp=Z,69nm,0.9s,SNR=56
SQTA Sankt Quirin 126.37 329 *i P* PKPdf 05 26 33.9 +0.4
comp=Z,54nm,0.9s,SNR=50
HGN Heimansgroeve 126.40 335 *e*PKP PKPdf 05 26 33.4 -0.2
comp=Z,72nm,1.1s
MEM Membach 126.48 335 PKP PKPdf 05 26 34.0 +0.3
BEBN Eben Emael 126.49 335 PKP PKPdf 05 26 34.6 +0.9
TRQA Tornquist 126.51 146 *e*PKPdf PKPdf 05 26 33.8 0.0
GCD Castle Douglas 126.55 344 ⇑*iP* PKPdf 05 26 33.8 -0.1
CKE Keswick 126.55 343 ⇑*eP* PKPdf 05 26 34.0 +0.1
GMK Mull of Kintyr 126.56 345 ⇑*eP* PKPdf 05 26 33.9 0.0
ABA1 Baconsthorpe 126.61 339 ⇑*eP* PKPdf 05 26 34.4 +0.4
XDE Dent Fell 126.73 343 *eP* PKPdf 05 26 34.0 -0.2
GAL1 Galloway 126.76 344 *eP* PKPdf 05 26 34.3 0.0
GAL1 AMb AMB 05 26 35.9
comp=Z,92nm,1.8s
AEU East Anglia Un 126.80 339 ⇑*eP* PKPdf 05 26 34.8 +0.4
APPI Appiano 126.84 328 PKP PKPdf 05 26 34.4 0.0
LANF Langenberg 126.86 332 PKP PKPdf 05 26 35.1 +0.6
CTI Castel Tesino 126.89 327 PKIKP PKPdf 05 26 35.2 +0.7
BCLA Clavier 126.93 335 PKP PKPdf 05 26 35.2 +0.6
GCL Cushendall 126.94 345 ⇑*eP* PKPdf 05 26 34.8 +0.2
SPAK Spaichingen-Ko 127.00 331 PKP PKPdf 05 26 35.6 +0.9
DAVA Damuels 127.01 329 *i P* PKPdf 05 26 35.1 +0.3
comp=Z,67nm,0.7s,SNR=28
UCC Uccle 127.03 336 PKP PKPdf 05 26 34.7 -0.1
BFO Black Forest 127.07 331 *e*PKIKP PKPdf 05 26 34.6 -0.3
LHO Holmfirth 127.07 342 ⇑*eP* PKPdf 05 26 35.1 +0.3
WLF Walferdange 127.12 334 PKP PKPdf 05 26 35.8 +0.9
WLF APKP 05 26 53.0
RGNG Rignano Grg 127.13 321 PKP PKPdf 05 26 35.2 +0.2
STR Strasbourg 127.16 332 PKP PKPdf 05 26 36.4 +1.4
KBI1 Birley Grange 127.21 341 ⇑*eP* PKPdf 05 26 35.1 0.0
ATAH Atahualpa 127.28 102 PKP PKPdf 05 26 37.9 +2.6
comp=Z,14nm,0.9s,baz=323,slow=3.3
SNF Seneffe 127.29 335 PKP PKPdf 05 26 35.6 +0.4
BRMO Bormio 127.29 328 PKP PKPdf 05 26 36.4 +1.1
GIVF Givet 127.37 335 *e*PKIKP PKPdf 05 26 35.9 +0.5
comp=Z,174nm,0.9s
DOU Dourbes 127.47 335 PKP PKPdf 05 26 35.7 +0.1
CDF Champ du Feu 127.51 332 *e*PKIKP PKPdf 05 26 35.7 0.0
comp=Z,87nm,1.1s
KWE Weaver Farm 127.51 341 ⇑*iP* PKPdf 05 26 36.1 +0.4
FELD Feldberg im Sc 127.54 331 ⇓*eP* PKPdf 05 26 36.7 +0.9
CING Cingoli 127.64 324 PKP PKPdf 05 26 37.6 +1.6
GMM Mts of Mourne 127.65 345 ⇑*eP* PKPdf 05 26 36.0 0.0
BAIF Baives 127.66 335 *e*PKIKP PKPdf 05 26 36.4 +0.4
comp=Z,79nm,0.9s
FSSB Fossombrone 127.70 324 PKP PKPdf 05 26 37.5 +1.4
ECH Echery 127.70 332 PKP PKPdf 05 26 37.1 +1.0
TUE Stuetta 127.83 329 PKP PKPdf 05 26 37.3 +1.0
SNTG Esanatoglia 127.86 324 PKP PKPdf 05 26 37.9 +1.5
SGO Sicignano 127.91 320 PKIKP PKPdf 05 26 37.1 +0.6
MOF Molkenrain 127.97 331 PKP PKPdf 05 26 37.1 +0.5
NRCA Norcia 128.00 323 PKP PKPdf 05 26 37.7 +1.1
SBD1 Bryn Du 128.05 342 ⇑*eP* PKPdf 05 26 37.1 +0.3
BBS Basel-Blauen 128.07 331 PKIKP PKPdf 05 26 37.3 +0.5
MENF Mencas 128.10 337 PKP PKPdf 05 26 36.9 +0.1
SFI Santa Sofia 128.11 325 PKIKP PKPdf 05 26 38.4 +1.6
BADI Badiali 128.12 324 PKP PKPdf 05 26 37.7 +0.8
HINF Hinteralfeld 128.13 332 *e*PKIKP PKPdf 05 26 37.1 +0.2
comp=Z,148nm,1.0s
SDI San Donato 128.22 322 PKIKP PKPdf 05 26 37.7 +0.6
HAU Haudompre 128.24 332 *e*PKIKP PKPdf 05 26 37.4 +0.3
comp=Z,112nm,0.8s
THEF They Montfort 128.24 333 PKP PKPdf 05 26 38.1 +1.0
VMG Vicchio 128.25 325 PKP PKPdf 05 26 38.8 +1.7
SKP1 Kophill 128.26 340 ⇑*eP* PKPdf 05 26 37.2 +0.1
HLM1 Long Mynd 128.27 342 ⇑*iP* PKPdf 05 26 37.6 +0.4
ZCCA Zocca 128.32 326 PKP PKPdf 05 26 39.4 +2.1
SSW Stow on the Wo 128.40 341 ⇑*iP* PKPdf 05 26 38.3 +0.8
MEZF Maizieres J'vi 128.47 333 *e*PKIKP PKPdf 05 26 38.3 +0.8
comp=Z,96nm,0.7s
LOMF Lomont 128.47 331 PKP PKPdf 05 26 38.1 +0.6
VAI Varese 128.53 329 PKIKP PKPdf 05 26 37.6 -0.1
GSCL Gusciola 128.54 326 PKP PKPdf 05 26 39.7 +2.0
ERBM Eremo 128.59 326 PKP PKPdf 05 26 39.2 +1.4
CSNT Castellina Chi 128.69 325 PKP PKPdf 05 26 38.3 +0.3
MCH1 Michaelchurch 128.75 341 *eP* PKPdf 05 26 37.9 -0.2
MCH1 ⇑*eP* 05 26 37.9
MCH1 AMb AMB 05 26 41.0
comp=Z,41nm,1.8s
SWN1 Swindon 128.77 340 ⇑*iP* PKPdf 05 26 38.9 +0.8
MTTG Motta San Giov 128.96 317 PKP PKPdf 05 26 39.8 +1.3
HGH Gray Hill 129.00 341 ⇑*eP* PKPdf 05 26 38.9 +0.4
CABF La Chapelle 129.36 331 *e*PKIKP PKPdf 05 26 40.3 +1.1
LPL La Plagne 129.81 330 *e*PKIKP PKPdf 05 26 41.2 +1.1
comp=Z,58nm,0.8s
LPG La Plagne 129.81 330 *e*PKIKP PKPdf 05 26 41.3 +1.2
comp=Z,79nm,0.8s
LOR Lormes 129.92 333 *e*PKIKP PKPdf 05 26 41.1 +0.8
comp=Z,94nm,0.9s
HTL Hartland 130.09 342 *eP* PKPdf 05 26 39.7 -0.9
HTL AMb AMB 05 26 40.3
comp=Z,47nm,1.7s
SSF Saint Saulge 130.23 333 *e*PKIKP PKPdf 05 26 41.6 +0.7
comp=Z,92nm,0.8s
TSUM Tsumeb 130.31 240 *e*PKPdf PKPdf 05 26 42.3 +1.2
TSUM *e*SKPbc SKPbc 05 30 01.3 +2.6
MBDF Montbardon 130.34 329 *e*PKIKP PKPdf 05 26 42.2 +1.1
comp=Z,34nm,0.7s
SMF Signal de Mont 130.39 333 *e*PKIKP PKPdf 05 26 41.9 +0.7
comp=Z,105nm,1.0s
DYA Yadsworthy 130.40 341 *eP* PKPdf 05 26 41.8 +0.6
SAOF Saorge 130.43 328 PKP PKPdf 05 26 41.4 +0.1
HYF Humbligny 130.46 334 *e*PKIKP PKPdf 05 26 42.5 +1.2
AUTN L'Aution 130.49 328 PKP PKPdf 05 26 42.8 +1.4
AVF Avril sur Loir 130.51 333 *e*PKIKP PKPdf 05 26 41.8 +0.4
comp=Z,30nm,0.8s
LDF La Druitiere 130.57 337 *e*PKIKP PKPdf 05 26 41.9 +0.4
comp=Z,30nm,0.7s
FLN La Foliniere 130.57 337 *e*PKIKP PKPdf 05 26 42.0 +0.5
comp=Z,99nm,0.7s
TOUF Mont Tournerai 130.58 328 PKP PKPdf 05 26 43.1 +1.6
SBF Sospel 130.58 328 *e*PKIKP PKPdf 05 26 42.1 +0.6
comp=Z,110nm,0.9s
PGF Pioggiola 130.58 325 *e*PKIKP PKPdf 05 26 42.5 +1.0
comp=Z,211nm,0.

MFF	**Saint Martin d**	**132.18**	**335**	*e*PKIKP	PKPdf	05 26 45.3	+0.7
	comp=Z,61nm,0.8s						
LASF	**Ste Croix**	**132.27**	**330**	*e*PKIKP	PKPdf	05 26 45.7	+0.9
	comp=Z,162nm,0.9s						
QUIF	**Quistinic**	**132.28**	**339**	*e*PKIKP	PKPdf	05 26 45.1	+0.3
	comp=Z,36nm,0.8s						
RJF	**Les Rejaudoux**	**132.47**	**333**	*e*PKIKP	PKPdf	05 26 46.1	+1.0
	comp=Z,30nm,0.8s						
CAF	**Calviac**	**132.50**	**332**	*e*PKIKP	PKPdf	05 26 46.3	+1.1
	comp=Z,37nm,1.1s						
ROSC	**El Rosal**	**132.68**	**88**	PKP	PKPdf	05 26 45.5	0.0
	comp=Z,12nm,0.5s,baz=87,slow=19,SNR=7.8						
ROSC				SKPab		05 30 10.6	
	comp=Z,7.7nm,0.5s,baz=106,slow=13,SNR=5.2						
LFF	**La Frestale**	**133.10**	**333**	*e*PKIKP	PKPdf	05 26 47.3	+1.0
	comp=Z,40nm,0.8s						
MTLF	**Montolieu**	**133.62**	**331**	*e*PKIKP	PKPdf	05 26 47.9	+0.6
	comp=Z,70nm,1.0s						
LPAZ	**La Paz**	**134.21**	**118**	PKhKP		05 26 40.6	
	comp=Z,2.7nm,0.7s,baz=251,slow=3.2,SNR=6.3						
LPAZ				PKP	PKPdf	05 26 51.0	+2.6
	comp=Z,11nm,0.7s,baz=309,slow=1.7,SNR=19						
LPAZ				SKPab		05 30 16.7	
	comp=Z,8.3nm,0.9s,baz=269,slow=1.9,SNR=10						
LPAZ	**La Paz**	**134.21**	**118**	*e*PKHKP		05 26 40.4	
LPAZ				*e*		05 26 50.7	
LPAZ	**La Paz**	**134.21**	**118**	*e*PKPpre		05 26 40.4	
LPAZ				*e*PKPdf	PKPdf	05 26 50.7	+2.3
LPAZ				PKP	PKPdf	05 26 51.0	+2.6
LPAZ				SKPab		05 30 16.7	
KEST	**Kesra**	**134.48**	**318**	PKP	PKPdf	05 26 50.5	+1.6
	comp=Z,5.5nm,0.6s,baz=131,slow=2.8,SNR=23						
KEST				SKPab		05 30 16.6	
	comp=Z,2.0nm,0.8s,baz=114,slow=20,SNR=3.1						
EPF	**Esparros**	**134.75**	**332**	*e*PKIKP	PKPdf	05 26 50.5	+1.1
	comp=Z,44nm,0.9s						
ETSF	**Etsaut**	**135.28**	**332**	*e*PKIKP	PKPdf	05 26 51.4	+1.0
	comp=Z,85nm,0.7s						
SJPF	**Ste Jean**	**135.41**	**333**	*e*PKIKP	PKPdf	05 26 52.0	+1.4
	comp=Z,51nm,0.7s						
SDV	**Santo Domingo**	**136.32**	**82**	PKP	PKPdf	05 26 53.5	+1.1
	comp=Z,32nm,0.8s,baz=226,slow=21,SNR=18						
SDV				SKPbc	SKPbc	05 30 21.1	+2.1
	comp=Z,6.9nm,0.7s,baz=236,slow=22,SNR=4.0						
SDV	**Santo Domingo**	**136.32**	**82**	*e*PKPpre		05 26 44.0	
SDV				*e*PKPdf	PKPdf	05 26 52.4	+0.1
SDV				PKP	PKPdf	05 26 53.5	+1.1
SDV				*e*SKPdf	SKPdf	05 30 20.2	-1.6
SDV				SKPbc	SKPbc	05 30 21.1	+2.1
PBRG	**Braganca**	**138.81**	**337**	*e*P	PKPdf	05 26 48.9	-8.0
SJG	**San Juan**	**139.29**	**67**	*e*PKIKP	PKPdf	05 27 00.5	+2.7
ESDC	**Sonseca Array**	**139.39**	**333**	PKhKP		05 26 48.6	
	comp=Z,1.5nm,0.6s,baz=11,slow=3.5,SNR=11						
ESDC				PKP	PKPdf	05 26 59.0	+1.0
	comp=Z,12nm,0.8s,baz=13,slow=2.4,SNR=25						
ESDC				SKKPbc		05 39 06.9	
	comp=Z,3.2nm,0.9s,baz=230,slow=3.9,SNR=9.0						
ESLA	**Sonseca Array**	**139.39**	**333**	*e*PKPdf	PKPdf	05 26 58.7	+0.7
PVRL	**Vila Real**	**139.63**	**338**	*e*P	PKPdf	05 26 51.0	-7.4
PAB	**San Pablo**	**139.67**	**333**	*e*PKHKP		05 26 50.3	
PAB				*e*		05 26 59.4	
PVIS	**Viseu**	**140.19**	**337**	*e*P	PKPdf	05 26 52.5	-6.9
MTE	**Manteigas**	**140.32**	**337**	*e*P	PKPdf	05 26 54.2	-5.5
MTE	**Manteigas**	**140.32**	**337**	*e*LR	LR	06 17 11.3	
SIV	**San Ignacio**	**140.45**	**122**	SKPbc	SKPbc	05 30 34.0	+3.3
	comp=Z,14nm,0.9s,baz=260,slow=2.9,SNR=12						
PCBR	**Castelo Branco**	**140.77**	**336**	*e*PKPdf	PKPdf	05 26 55.6	-4.9
PCBR				*i* P		05 27 02.0	
PESTR	**Estremoz**	**141.64**	**335**	*e*PKPdf	PKPdf	05 26 58.1	-4.0
PESTR	**Estremoz**	**141.64**	**335**	*e*LR	LR	06 18 32.4	
PCRV	**Puerto La Cruz**	**142.13**	**79**	SKKP		05 39 50.9	
	comp=Z,16nm,0.9s,baz=153,slow=4.5,SNR=4.1						
PMAFR	**Mafra**	**142.24**	**337**	*e*PKPdf	PKPdf	05 26 58.9	-4.2
PMAFR	**Mafra**	**142.24**	**337**	*e*LR	LR	06 17 59.0	
PBEJ	**Beja**	**142.47**	**335**	*e*PKPdf	PKPdf	05 27 00.2	-3.3
PTEO	**Sao Teotonio**	**143.24**	**336**	*e*PKPdf	PKPdf	05 27 02.5	-2.4
MDT	**Midelt**	**145.06**	**326**	PKPbc	PKPbc	05 27 08.6	+1.0
	comp=Z,56nm,0.9s,baz=39,slow=2.7,SNR=111						
CAM4	**Nova Friburgo**	**149.13**	**151**	⇓*i*P	PKPdf	05 27 16.8	+1.9
CAM4				*i*		05 27 20.2	
CAM4				*i*		05 27 22.0	
CAM4				*i*		05 27 37.2	
PMPS	**Porto Santo**	**150.01**	**342**	*i* P	PKPbc	05 27 22.8	+1.6
PMAR	**Madeira**	**150.49**	**343**	*i* P	PKPbc	05 27 24.4	+2.0
TOA0	**Torodi Ar. Sit**	**150.57**	**289**	*e*PKPdf	PKPdf	05 27 18.1	+0.9
TOA0				*e*PKPbc	PKPbc	05 27 23.2	+0.7
TORD	**Torodi Ar. Bea**	**150.57**	**289**	PKP	PKPdf	05 27 17.5	+0.4
	comp=Z,6.2nm,0.7s,baz=29,slow=0.8,SNR=41						
TORD				PKPbc	PKPbc	05 27 23.0	+0.4
	comp=Z,200nm,0.7s,baz=31,slow=2.4,SNR=138						
TORD				pPKPbc	pPKPbc	05 27 38.7	-2.3
	comp=Z,122nm,1.1s,baz=60,slow=1.9,SNR=7.1						
TORD				PP	PP	05 30 58.5	-0.6
	comp=Z,1.8nm,0.6s,baz=62,slow=4.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.57**	**289**	PKP	PKPdf	05 27 17.5	+0.4
TORD				PKPbc	PKPbc	05 27 23.0	+0.4
TORD				pPKPbc	pPKPbc	05 27 38.7	-2.3
TORD				PP	PP	05 30 58.5	-0.6
CAM3	**Guarapari**	**151.50**	**152**	*e*P	PKPbc	05 27 24.9	+0.1
CAM3				*i*		05 27 26.0	
CAM3				*i*		05 27 43.8	
LIC	**Lamto**	**158.22**	**275**	*e*PKIKP	PKPdf	05 27 28.0	+0.2
	comp=Z,26nm,0.9s						
RCBR	**Riachuelo**	**166.27**	**139**	*e*PKPdf	PKPdf	05 27 36.4	+0.6

*CSEM **24** 05:10:37.4±1.2,3950N×2977W,h10km,ML2.7,Error ellipse: s-maj=18.3km s-min=7.3km az=51.0,After PDA*
*PDA **24** 05:10:37.4±1.2,3950N×2977W,h10km,MD3.4,ML2.7, Error ellipse: s-maj=18.3km s-min=7.3km az=51.0*
SVSA 24 05:10:37.4±1.2,3950N×2977W,h10km,MD3.4,ML2.7, Error ellipse: s-maj=18.3km s-min=7.3km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.19**	**140**	*e*P	Pb	05 10 55.2	-4.8
PTCA				*e*S	Sb	05 11 08.5	-6.9
PTCA	25nm,0.2s						
PTCA	**Ponta do Capel**	**1.19**	**140**	*e*P	Pb	05 10 55.2	-4.8
PTCA				*e*S	Sb	05 11 08.5	-6.9
PCED	**Cedros**	**1.20**	**136**	*e*P	Pb	05 10 55.5	-4.8
PCED				*e*S	Sb	05 11 08.9	-7.0
PCED	64nm,0.3s						
PCED	**Cedros**	**1.20**	**136**	*e*P	Pb	05 10 55.5	-4.8
PCED				*e*S	Sb	05 11 08.9	-7.0
CALA	**Caldeira**	**1.24**	**137**	*e*P	Pn	05 10 55.9	-4.8
CALA				*e*S	Sb	05 11 09.8	-7.1
HOR	**Horta**	**1.32**	**137**	*e*P	Pn	05 10 57.1	-4.7
HOR				*e*S	Sb	05 11 12.1	-7.0
ROSA	**Rosais**	**1.42**	**123**	*e*P	Pn	05 10 58.2	-5.1
ROSA				*e*S	Sn	05 11 14.4	-7.6
PICO	**Pico**	**1.45**	**133**	*e*P	Pn	05 10 59.2	-4.4
PICO				*e*S	Sn	05 11 15.5	-7.1
PCND	**Candelaria**	**1.45**	**135**	*e*P	Pn	05 10 59.6	-4.0
PCND				*e*S	Sn	05 11 15.8	-6.9
PCND	37nm,0.3s						
PTEI	**Pico do Teixo**	**1.49**	**132**	*e*S	Sn	05 11 17.2	-6.5
PTEI	35nm,0.3s						
PBOI	**Pico dos Bois**	**1.52**	**134**	*e*S	Sn	05 11 17.7	-6.7
PBOI	21nm,0.3s						
PMAN	**Manadas**	**1.57**	**123**	*e*S	Sn	05 11 17.9	-7.8
PMAN	32nm,0.3s						

*CSEM **24** 05:48:17.2±0.8,3929N×2989W,h5km,ML2.5,Error ellipse: s-maj=19.5km s-min=7.1km az=41.0,After PDA*
*PDA **24** 05:48:17.2±0.8,3929N×2989W,h5km,MD3.4,ML2.5, Error ellipse: s-maj=19.5km s-min=7.1km az=41.0*
SVSA 24 05:48:17.2±0.8,3929N×2989W,h5km,MD3.4,ML2.5, Error ellipse: s-maj=19.5km s-min=7.1km az=41.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.14**	**125**	*e*P	Pg	05 48 34.6	-4.4
PCED				*e*S	Sg	05 48 48.2	-5.6
PCED	50nm,0.4s						
PCED	**Cedros**	**1.14**	**125**	*e*P	Pg	05 48 34.6	-4.4
PCED				*e*S	Sg	05 48 48.2	-5.6
CALA	**Caldeira**	**1.17**	**127**	*e*P	Pg	05 48 35.7	-3.8
CALA				*e*S	Sg	05 48 49.0	-5.7
HOR	**Horta**	**1.24**	**127**	*e*S	Sg	05 48 50.7	-6.5
PCND	**Candelaria**	**1.38**	**126**	*e*S	Sb	05 48 53.9	-7.6
PCND	23nm,0.2s						
PICO	**Pico**	**1.39**	**124**	*e*P	Pn	05 48 38.4	-4.8
PICO				*e*S	Sb	05 48 54.7	-6.9
ROSA	**Rosais**	**1.40**	**113**	*e*S	Sb	05 48 54.6	-7.5

IDC 24 06:20:48.9±2.3,652S×13008E,h0km,mb3.4/1,mb1 3.7/4, mb1mx3.5/14,mbtmp3.5/4,ML3.6/3,Error ellipse: s-maj=89.9km s-min=28.9km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.30**	**200**	Pn	Pn	06 23 46.5	+1.3
	0.3nm,0.3s,baz=29,slow=13,SNR=18						
FITZ				Sn	Sn	06 25 52.5	-10
	0.2nm,0.3s,baz=23,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**13.96**	**163**	Pn	Pn	06 24 07.1	-0.8
	0.3nm,0.3s,baz=344,slow=13,SNR=12						
WRA				Sn	Sn	06 26 31.2	-13
	0.4nm,0.3s,baz=343,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**17.44**	**168**	P	Pn	06 24 53.6	+0.2
	0.2nm,0.3s,baz=346,slow=8.7,SNR=13						
ASAR				S	Sn	06 27 56.5	-12
	0.1nm,0.3s,baz=350,slow=25,SNR=3.8						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	06 31 49.2	+0.1
	0.2nm,0.5s,baz=117,slow=7.5,SNR=4.6						

*CSEM **24** 06:31:08.5±1.5,3862N×2913W,h7km±7km,ML2.5,Error ellipse: s-maj=10.7km s-min=6.0km az=55.0,After PDA*
*PDA **24** 06:31:08.5±1.5,3862N×2913W,h7km±7km,MD3.1,ML2.5, Error ellipse: s-maj=10.7km s-min=6.0km az=55.0*
SVSA 24 06:31:08.5±1.5,3862N×2913W,h7km±7km,MD3.1,ML2.5, Error ellipse: s-maj=10.7km s-min=6.0km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.26**	**98**	*i* P	Pg	06 31 13.9	+0.2
PTCA				*e*S	Sg	06 31 17.5	+0.4
PTCA	332nm,0.2s						
PTCA	**Ponta do Capel**	**0.26**	**98**	*e*S	Sg	06 31 17.5	+0.4
PCED	**Cedros**	**0.33**	**88**	*e*P	Pg	06 31 14.2	-0.8
PCED				*i* S	Sg	06 31 18.8	-0.6
PCED	569nm,0.2s						
PCED	**Cedros**	**0.33**	**88**	*e*P	Pg	06 31 14.2	-0.8
PCED				*i* S	Sg	06 31 18.8	-0.6
CALA	**Caldeira**	**0.34**	**96**	*i* P	Pg	06 31 14.1	-0.9
CALA				*e*S	Sg	06 31 18.8	-0.7
CALA	**Caldeira**	**0.34**	**96**	*e*S	Sg	06 31 18.8	-0.7
HOR	**Horta**	**0.40**	**103**	*i* P	Pg	06 31 15.1	-1.2
HOR				*e*S	Sg	06 31 20.2	-1.3
HOR	**Horta**	**0.40**	**103**	*e*S	Sg	06 31 20.2	-1.3
PLUZ	**Luz**	**0.41**	**17**	*e*P	Pg	06 31 24.0	+7.5
PCND	**Candelaria**	**0.54**	**106**	*e*P	Pg	06 31 18.0	-1.0
PCND				*e*S	Sg	06 31 24.5	-1.6
PCND	75nm,0.2s						
PICO	**Pico**	**0.56**	**102**	*e*P	Pg	06 31 18.2	-1.2
PICO				*e*S	Sg	06 31 25.7	-1.0
PBOI	**Pico dos Bois**	**0.62**	**107**	*e*S	Sg	06 31 26.8	-1.7
PBOI	76nm,0.2s						
PTEI	**Pico do Teixo**	**0.62**	**101**	*e*S	Sg	06 31 27.1	-1.3
PTEI	66nm,0.2s						
ROSA	**Rosais**	**0.70**	**82**	*e*P	Pg	06 31 19.9	-2.1
ROSA				*e*S	Sg	06 31 28.3	-2.8
PAMA	**Santo Amaro**	**0.74**	**85**	*e*S	Sg	06 31 29.7	-2.8
PAMA	86nm,0.2s						
PMAN	**Manadas**	**0.81**	**89**	*e*S	Sg	06 31 31.3	-3.4
PMAN	86nm,0.3s						
SRBC	**Serra Branca**	**0.95**	**64**	*e*P	Pg	06 31 23.3	-3.4
PVIA	**Vitoria**	**0.95**	**62**	*e*S	Sg	06 31 34.9	-4.3
PVIA	14nm,0.1s						
STGR	**Santa Cruz**	**0.99**	**62**	*e*P	Pg	06 31 24.1	-3.4
STGR				*e*S	Sg	06 31 35.7	-4.7
STGR	36nm,0.2s						
STGR	**Santa Cruz**	**0.99**	**62**	*e*P	Pg	06 31 24.1	-3.4
STGR				*e*S	Sg	06 31 35.7	-4.7
PSBA	**Serra de Santa**	**1.42**	**83**	*e*S	Sb	06 31 45.5	-8.1
PSBA	29nm,0.3s						

KNET 24 06:39:23.5±0.8,4095N×7426E,h0km±4km,ml3.0,10C-8D, Error ellipse: s-maj=4.9km s-min=3.4km az=12.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.26**	**340**	⇓P	Pg	06 39 47.5	-0.1
	55nm,0.2s,SNR=57						
AML				⇑S	Sg	06 40 05.6	+1.6
	142nm,0.2s						
KZA	**Kyzart**	**1.35**	**33**	⇓P	Pg	06 39 50.0	+0.6
	31nm,0.2s,SNR=57						
KZA				⇑S	Sg	06 40 10.6	+3.6
	213nm,0.4s						
AAK	**Ala-Archa**	**1.70**	**6**	⇓P	Pn	06 39 56.2	+1.8
	67nm,0.2s,SNR=93						
AAK				⇑S	Sn	06 40 20.8	+4.1
	54nm,0.3s						
EKS2	**Erkin-Say**	**1.75**	**348**	⇓P	Pn	06 39 56.7	+1.5
	30nm,0.2s,SNR=123						
EKS2				⇑S	Sn	06 40 22.8	+4.6
	30nm,0.2s						
KBK	**Karagaybulak**	**1.79**	**16**	⇑P	Pn	06 39 58.2	+2.6
	34nm,0.1s,SNR=52						
KBK				⇑S	Sn	06 40 24.4	+5.4
	97nm,0.2s						
ULHL	**Ulahol**	**1.97**	**48**	⇑P	Pn	06 40 00.1	+1.9
	30nm,0.2s,SNR=15						
ULHL				⇓S	Sn	06 40 28.5	+4.9
	199nm,0.3s						
CHMS	**Chumysh**	**2.08**	**10**	⇑P	Pn	06 40 03.5	+3.7
	40nm,0.2s,SNR=23						
CHMS				⇓S	Sn	06 40 32.9	+6.5
	38nm,0.3s						
TKM2	**Tokmak 2**	**2.21**	**26**	⇑P	Pn	06 40 05.5	+4.0
	34nm,0.3s,SNR=16						
TKM2	**Tokmak 2**	**2.21**	**26**	⇓Pn	Pn	06 40 05.3	+3.8
	0.6nm,0.3s						
TKM2				⇑Lg		06 40 37.9	
	1.4nm,0.4s						
USP	**Ospenovka**	**2.33**	**4**	⇓P	Pn	06 40 06.2	+3.2
	35nm,0.2s,SNR=70						
KK31	**Karatay Array**	**3.53**	**309**	Pn	Pn	06 40 22.9	+3.3
	0.5nm,0.3s,baz=124,slow=13,SNR=56						
KK31				Lg		06 41 13.9	
	24nm,0.5s,baz=139,slow=29,SNR=17						

*ISCJB **24** 06:57:56.8±2.2,3510N±005×237E±0.1,h8km±8km,Error ellipse: s-maj=19.9km s-min=7.6km az=147.0*
*CSEM **24** 06:57:57.5±0.4,3508N×2368E,h2km,MD3.6,Error ellipse: s-maj=8.1km s-min=3.0km az=70.0*
*THE **24** 06:57:58.4,3509N×2380E,h10km*
*ATH **24** 06:58:02.3,3494N×2403E,h10km,MD3.6/3*
ISC 24 06:57:56.4±2.5,3510N±006×237E±02,h11km±9km,n13, σ1§10/16,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.37**	**36**	*e*Pg	**Pg**	**06 58 04.2**	**+0.4**
KARN				*e*Sg	**Sg**	**06 58 09.9**	**+1.1**
GVD	**Gavdhos**	**0.44**	**126**	*e*Pg	**Pg**	**06 58 04.9**	**-0.2**
GVD				*e*Sg	**Sg**	**06 58 11.4**	**+0.4**
GVD	**Gavdhos**	**0.44**	**126**	*e*PG	**Pg**	**06 58 05.0**	**-0.1**
SIVA	**Sivas**	**0.95**	**94**	*e*Pg	**Pg**	**06 58 13.3**	**-1.5**
SIVA				*e*Sg	**Sg**	**06 58 27.1**	**-0.1**
LAST	**Lasithi**	**1.50**	**87**	*e*Pg	**Pn**	**06 58 22.5**	**-0.7**
NPS	**Neapolis**	**1.61**	**84**	*e*PB	**Pb**	**06 58 27.0**	**+0.8**
XRY	**Khrísi**	**1.69**	**97**	*e*PB	**Pb**	**06 58 28.0**	**+0.5**
THR6	**Thira Island,**	**1.90**	**48**	*e*Pb	**Pb**	**06 58 30.2**	**-0.8**
THR5	**Thira Island,**	**1.91**	**46**	*e*Pb	**Pb**	**06 58 30.0**	**-1.2**
THR3	**Thira Island,**	**1.93**	**47**	*e*Pb	**Pb**	**06 58 30.8**	**-0.8**
THR1	**Thera Island**	**1.94**	**49**	*e*Pb	**Pb**	**06 58 30.5**	**-1.3**
ZKR	**Zakros**	**2.10**	**89**	*e*Pn	**Pn**	**06 58 33.7**	**+2.1**
APE	**Apeiranthos**	**2.49**	**37**	*e*Pn	**Pn**	**06 58 39.4**	**+2.6**

IDC 24 06:59:30.7±5.2,3092S×17882W,h0km,mb4.3/3, mb1 4.5/3,mb1mx4.0/13,mbtmp4.3/3,Error ellipse: s-maj=192.7km s-min=51.9km az=152.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.54**	**198**	*e*PN	Pn	07 01 07.1	-15
PUZ				*e*SN	Sn	07 02 19.9	-28
MWZ	**Matawai**	**7.99**	**201**	*e*PN	Pn	07 01 14.8	-13
URZ	**Urewera**	**8.06**	**204**	PN	Pn	07 01 16.8	-12
TCW	**Tory Channel**	**11.69**	**207**	*e*SN	Sn	07 03 57.9	-32
STKA	**Stephens Creek**	**33.68**	**258**	P	P	07 06 13.5	+0.1
	2.9nm,0.8s,baz=100,slow=5.9,SNR=3.2						
ASAR	**Alice Springs**	**42.38**	**268**	P	P	07 07 26.7	-0.1
	2.3nm,0.7s,baz=103,slow=7.6,SNR=38						
WRA	**Warramunga Arr**	**43.42**	**273**	P	P	07 07 35.7	+0.5
	3.8nm,0.4s,baz=114,slow=8.0,SNR=30						
FINES	**FINESS Array B**	**145.38**	**339**	PKPbc	PKPbc	07 19 08.8	-1.7
	1.5nm,0.7s,baz=62,slow=3.8,SNR=6.8						

*KNET **24** 07:01:37.6±0.5,4094N×7421E,h0km,ml3.1,Error ellipse: s-maj=3.9km s-min=3.2km az=83.0*
*ISCJB **24** 07:01:38.1±1.3,4077N±007×7420E±0.10,h10km,Error ellipse: s-maj=10.6km s-min=9.3km az=39.9*
*NNC **24** 07:01:44.1±2.4,4132N×7388E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=28.8km s-min=11.1km az=168.0*
ISC 24 07:01:38.9±1.3,4078N±007×743E±01,h10km,n14, σ1§25/21,9C-12D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.42**	**342**	⇓P	**Pn**	**07 02 01.7**	**-3.0**
	70nm,0.2s,SNR=79						
AML				⇓S	**Sn**	**07 02 20.0**	**-3.4**
	888nm,0.6s						
UCH	**Uchtor**	**1.45**	**7**	⇓P	**Pn**	**07 02 03.3**	**-2.0**
	51nm,0.1s,SNR=170						
UCH				⇑S	**Sn**	**07 02 23.3**	**-1.0**
	320nm,0.6s						
KZA	**Kyzart**	**1.48**	**29**	⇓P	**Pn**	**07 02 04.2**	**-1.4**
	26nm,0.1s,SNR=55						
KZA				⇓S	**Sn**	**07 02 24.8**	**-0.3**
	224nm,0.3s						
AAK	**Ala-Archa**	**1.86**	**5**	⇓P	**Pn**	**07 02 10.5**	**-0.3**
	73nm,0.3s,SNR=152						
AAK				⇑S	**Sn**	**07 02 35.1**	**+0.9**
	50nm,0.3s						
EKS2	**Erkin-Say**	**1.92**	**349**	⇓P	**Pn**	**07 02 10.9**	**-0.7**
	26nm,0.1s,SNR=36						
EKS2				⇓S	**Sn**	**07 02 36.9**	**+1.1**
	103nm,0.5s						
KBK	**Karagaybulak**	**1.94**	**15**	⇓P	**Pn**	**07 02 12.2**	**+0.3**
	58nm,0.1s,SNR=107						
KBK				⇓S	**Sb**	**07 02 39.3**	**+0.8**
	101nm,0.2s						
ULHL	**Ulahol**	**2.07**	**45**	⇑P	**Pn**	**07 02 14.3**	**+0.6**
	22nm,0.1s,SNR=15						
CHMS	**Chumysh**	**2.24**	**9**	⇓P	**Pn**	**07 02 17.6**	**+1.5**
	50nm,0.2s,SNR=73						
CHMS				⇓S	**Sb**	**07 02 47.2**	**-0.1**
	86nm,0.6s						
TKM2	**Tokmak 2**	**2.35**	**24**	⇑P	**Pn**	**07 02 19.1**	**+1.5**
	17nm,0.1s,SNR=39						
TKM2	**Tokmak 2**	**2.35**	**24**	⇑Pn	**Pn**	**07 02 19.3**	**+1.7**
	1.0nm,0.4s						
TKM2				⇑Lg		07 02 50.2	
	2.6nm,0.5s						
USP	**Ospenovka**	**2.49**	**4**	⇑P	**Pn**	**07 02 20.8**	**+1.4**
	41nm,0.3s,SNR=91						
KNDC	**Almaty**	**3.15**	**39**	⇑Pn	**Pb**	**07 02 34.0**	**-0.9**
	47nm,0.8s						
KNDC				⇑Lg		07 03 15.7	
	196nm,0.5s						
KK31	**Karatay Array**	**3.65**	**311**	Pn	**Pn**	**07 02 36.4**	**+1.0**
	5.4nm,0.5s,baz=131,slow=13,SNR=92						
KK31				Lg		07 03 21.2	
	35nm,0.5s,baz=138,slow=32,SNR=17						
MK31	**Makanchi Array**	**8.34**	**41**	Pn	**Pn**	**07 03 47.0**	**+7.1**
	0.9nm,0.6s,baz=220,slow=14,SNR=7.8						
MK31				Lg		07 06 00.8	
	4.9nm,0.9s,baz=224,slow=28,SNR=4.2						

*CSEM **24** 07:12:10.9±0.2,3628N×2211E,h8km,ML3.8,Error ellipse: s-maj=5.4km s-min=3.0km az=61.0*
*NEIC **24** 07:12:11.4,3629N×2220E,h24km,ML3.8(ATH),After ATH.*
*ATH **24** 07:12:11.4,3629N×2220E,h24km±1km,MD3.8/10,ML3.8*
ISC 24 07:12:12.7±1.6,3634N±007×222E±01,h23km±11km,n17, σ1§29/24,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.72**	**95**	*e*PN	**Pb**	**07 12 25.0**	**-1.5**
VLI	**Veliai**	**0.73**	**59**	*e*PN	**Pb**	**07 12 25.5**	**-1.3**
VLI				*e*SN	**Sb**	**07 12 36.3**	**-0.1**
ITM	**Ithomi**	**0.85**	**348**	*e*PN	**Pb**	**07 12 28.8**	**0.0**
ITM				*e*SN	**Sb**	**07 12 42.4**	**+2.6**
NAIG	**Nisos Aigina**	**1.77**	**37**	*e*PN	**Pn**	**07 12 43.0**	**+1.1**
RLS	**Riolos of Patr**	**1.80**	**342**	*e*PN	**Pn**	**07 12 44.1**	**+1.8**
MGER	**Gerania Oros**	**1.86**	**28**	*e*PN	**Pn**	**07 12 45.0**	**+1.8**
VAM	**Vamos**	**1.91**	**119**	*e*PN	**Pn**	**07 12 44.1**	**+0.3**
KVR	**Kavouri**	**1.96**	**41**	*e*PN	**Pn**	**07 12 46.0**	**+1.4**
ATH	**Athens Observa**	**2.05**	**37**	*e*PB	**Pn**	**07 12 47.0**	**+1.2**
GVD	**Gavdhos**	**2.18**

BALP Baler 5.35 162 *eP* **Pn 07 17 47.3 +2.9**
JNU Nakatsue 15.63 36 LR LR 07 26 56.1
comp=Z,388nm,18.9s,baz=158,slow=40
KSRS Korea Array 17.94 21 P **Pn 07 20 35.0 +1.3**
baz=212,slow=9.9,SNR=3.8
KSRS LR LR 07 28 58.6
comp=Z,108nm,18.6s,baz=181,slow=42
LZH Lanzhou 20.66 321 *eP* **P 07 21 03.5 -0.2**
LZH AP 07 21 11.5
LZH XP sP 07 21 16.0 -1.4
LZH AMB AMB
comp=Z,15nm,1.5s
LZH Lanzhou 20.66 321 *eP* **P 07 21 03.5 -0.2**
comp=Z,15nm,1.5s
LZH pP 07 21 11.5
LZH sP sP 07 21 16.0 -1.4
JHJ Hachijo jima 2 21.48 51 LR LR 07 29 02.8
comp=Z,103nm,19.2s,MS3.2,baz=0.1,slow=35
MJAR Matsushiro Arr 22.34 42 P **P 07 21 25.0 +3.2**
comp=Z,1.4nm,0.7s,mb3.5,baz=240,slow=9.2,SNR=6.5
MJAR LR LR 07 29 55.7
comp=Z,130nm,20.3s,MS3.4,baz=250,slow=36
MDJ Mudanjiang 25.01 17 P **P 07 21 56.5 +8.9**
MDJ AMB AMB
comp=Z,13nm,1.2s,mb4.3
MDJ AMB AMB
comp=Z,70nm,3.4s
GTA Gaotai 25.25 321 *eP* **P 07 21 51.0 +1.2**
GTA AP pP 07 21 57.9 -1.9
GTA XP sP 07 22 00.9 -3.2
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb3.9
PSI Prapat 27.20 231 LR LR 07 31 40.5
comp=Z,138nm,21.4s,MS3.5,baz=186,slow=34
SONM Songino Array 29.02 341 P **P 07 22 23.7 0.0**
comp=Z,0.7nm,0.9s,mb3.4,baz=169,slow=8.9,SNR=5.1
FITZ Fitzroy Crossi 39.14 171 P **P 07 23 49.2 -2.1**
comp=Z,1.8nm,0.7s,mb3.9,baz=33,slow=5.7,SNR=3.9
ZAL Zalesovo 42.43 330 P **P 07 24 16.6 -1.7**
comp=Z,0.9nm,0.4s,mb3.7,baz=360,slow=8.0,SNR=5.1
WRA Warramunga Arr 42.96 160 P **P 07 24 22.4 -0.3**
comp=Z,5.0nm,0.7s,mb4.4,baz=342,slow=9.0,SNR=31
WRA PcP PcP 07 26 13.7 +1.0
comp=Z,1.9nm,0.7s,baz=345,slow=3.7,SNR=7.5
WB2 Warramunga Arr 42.96 160 *eP* **P 07 24 22.3 -0.4**
ASAR Alice Springs 46.33 162 P **P 07 24 49.6 +0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=344,slow=7.0,SNR=20
ASAR PcP PcP 07 26 25.1 +0.8
comp=Z,0.9nm,0.7s,baz=358,slow=3.5,SNR=4.3
CTA Charters Tower 48.19 146 ⇑*iP* **P 07 25 06.2 +2.1**
comp=Z,9.6nm,1.0s,mb4.8
CTA Charters Tower 48.19 146 P **P 07 25 06.0 +1.9**
comp=Z,12nm,0.9s,mb4.9,baz=320,slow=9.9,SNR=8.2
CTAO Charters Tower 48.19 146 *eP* **P 07 25 05.9 +1.8**
comp=Z,18nm,1.0s,mb5.0
BVAR Borovoye Array 49.52 323 P **P 07 25 14.4 +0.2**
comp=Z,0.8nm,0.7s,mb3.9,baz=107,slow=9.9,SNR=4.6
BVAR PcP PcP 07 26 36.3 +0.5
comp=Z,0.3nm,0.5s,baz=87,slow=3.0,SNR=4.2
AKTK Aktyubinsk 56.34 317 P **P 07 26 05.0 +0.5**
AKTO Aktyubinsk 56.34 317 P **P 07 26 05.0 +0.5**
comp=Z,1.9nm,1.0s,mb4.1,baz=101,slow=16,SNR=4.2
STKA Stephens Creek 56.42 158 P **P 07 26 05.6 +0.5**
comp=Z,6.0nm,1.2s,mb4.5,baz=318,slow=12,SNR=2.8
STKA Stephens Creek 56.42 158 P **P 07 26 05.6 +0.5**
AKASG Malin Array Be 74.55 319 P **P 07 28 00.9 -1.3**
comp=Z,0.2nm,0.4s,mb3.4,baz=63,slow=5.4,SNR=4.1
GERES GERESS Array B 84.62 320 P **P 07 28 57.6 +0.6**
comp=Z,0.6nm,0.8s,mb3.8,baz=83,slow=4.3,SNR=6.4
YKA Yellowknife Ar 86.47 22 P **P 07 29 05.2 -1.0**
comp=Z,0.9nm,1.0s,mb4.0,baz=315,slow=4.4,SNR=6.9

*IDC **24** 07:27:17.6±1.4, 34.27N×26.65E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=31.3km s-min=20.5km az=5.0*
*HLW **24** 07:27:17.8, 34.51N×26.67E, h15km, Mb3.5*
*ISCJB **24** 07:27:20.4±0.9, 34.28N±0.05×26.79E±0.07, h36km±16km, mb3.5/3, Error ellipse: s-maj=10.8km s-min=6.9km az=93.3*
ISC 24 07:27:21.4±2.8, 34.30N±0.05×26.73E±0.07, h27km±25km, n13, σ0=78/17, mb3.5/3, 4C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDI	**Anoyia**	**1.80**	**304**	Pn	**Pn**	**07 27 50.1**	**-0.6**
	5.1nm,0.3s,baz=119,slow=13,SNR=19						
IDI				Sn	**Sn**	**07 28 12.9**	**+0.2**
	8.4nm,0.3s,baz=215,slow=23,SNR=4.7						
HMAT	**Matruh**	**3.22**	**174**	P	**Pn**	**07 28 10.1**	**0.0**
HMAT				S	**Sn**	**07 28 49.0**	**+1.4**
SWA1		**5.10**	**190**	⇓P	**Pn**	**07 28 36.5**	**+0.5**
SWA1				S	**Sn**	**07 29 33.3**	**-0.8**
HSAF	**As Saff**	**6.21**	**137**	⇑P	**Pn**	**07 28 51.6**	**+0.2**
GLL	**Jalalah**	**6.33**	**137**	⇑P	**Pn**	**07 28 53.0**	**-0.1**
AMAG	**Maghara**	**6.58**	**122**	⇓P	**Pn**	**07 28 55.9**	**-0.5**
SUZ		**6.83**	**129**	⇑P	**Pn**	**07 29 00.1**	**+0.3**
MMAI	**Mount Meron Ar**	**7.35**	**98**	Pn	**Pn**	**07 29 07.3**	**+0.4**
	1.4nm,0.3s,baz=285,slow=11,SNR=4.1						
HNKL	**Nakhl**	**7.54**	**123**	⇑P	**Pn**	**07 29 09.8**	**+0.3**
HNKL				S	**Sn**	**07 30 31.7**	**-2.5**
GERES	**GERESS Array B**	**17.46**	**330**	P	**Pn**	**07 31 22.2**	**-0.7**
	0.1nm,0.3s,baz=149,slow=12,SNR=4.7						
AKTO	**Aktyubinsk**	**27.91**	**45**	P	**P**	**07 33 10.6**	**+1.4**
	0.6nm,0.4s,mb3.6,baz=255,slow=11,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.97**	**233**	P	**P**	**07 33 36.0**	**-0.4**
	0.4nm,0.6s,mb3.4,baz=34,slow=8.8,SNR=6.4						
SONM	**Songino Array**	**59.03**	**51**	P	**P**	**07 37 19.1**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=282,slow=7.5,SNR=5.0						

*MOS **24** 07:27:40.9±1.0, 14.12S×76.94W, h36km, mb5.2/16, Error ellipse: s-maj=22.2km s-min=8.1km az=122.0*
*ISCJB **24** 07:27:41.6±0.3, 1408S±005×7677W±006, h41km, mb4.8/47, MS3.9/8, Error ellipse: s-maj=9.7km s-min=5.4km az=89.9*
*IDC **24** 07:27:43.2±0.6, 14.16S×77.00W, h40km±3km, mb4.4/14, mb1 4.6/18, mb1mx4.4/24, mbtmp4.4/18, ML4.8/3, MS3.7/9, Ms1 3.7/9, ms1mx3.6/23, Error ellipse: s-maj=22.5km s-min=13.7km az=68.0*
*NEIC **24** 07:27:43.4±0.3, 14.12S×76.92W, mb5.0/36, Error ellipse: s-maj=9.9km s-min=5.3km az=54.0*
*BJI **24** 07:27:43.3, 14.10S×76.90W, h41km, mB5.3, Ms5.0, Msz4.7*
ISC 24 07:27:44.2±0.3, 1403S±006×7670W±006, h43km, h43km±.7km: pP-P, n334, σ0=60/328, mb4.8/47, MS3.9/8, 67C-61D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.04**	**356**	Pn	**Pn**	**07 28 15.0**	**-0.9**
	8μm,0.5s						
NNA	**Nana**	**2.04**	**356**	Pn	**Pn**	**07 28 15.3**	**-0.7**
	121nm,0.3s,baz=176,slow=13,SNR=337						
NNA				Sn	**Sn**	**07 28 39.5**	**-0.6**
	742nm,0.3s,baz=194,slow=12,SNR=35						
NNA	**Nana**	**2.04**	**356**	*e*Pn	**Pn**	**07 28 15.3**	**-0.6**
NNA				eSn	**Sn**	**07 28 28.1**	**-12**
ARE	**Arequipa**	**5.58**	**116**	*e*P	**Pn**	**07 29 05.0**	**+0.5**
ARE				*e*S	**Sn**	**07 30 09.0**	**+1.7**
ATAH	**Atahualpa**	**7.18**	**346**	Pn	**Pn**	**07 29 26.0**	**-0.6**
	37nm,0.3s,baz=167,slow=5.9,SNR=220						
ATAH				Sn	**Sn**	**07 30 40.2**	**-6.6**
	37nm,0.3s,baz=73,slow=23,SNR=5.6						
LPAZ	**La Paz**	**8.57**	**106**	Pn	**Pn**	**07 29 49.5**	**+3.9**
	4.8nm,0.3s,baz=292,slow=9.6,SNR=225						
LPAZ				LR	LR	07 34 01.7	
	comp=Z,327nm,18.9s,baz=285,slow=43						
LPAZ	**La Paz**	**8.57**	**106**	*e*P	**Pn**	**07 29 50.1**	**+4.5**
LPAZ				pmax	pmax		
	comp=Z,41nm,0.7s						
LPAZ	**La Paz**	**8.57**	**106**	*e*Pn	**Pn**	**07 29 50.1**	**+4.5**
	comp=Z,41nm,0.7s						
OTAV	**Otavalo**	**14.28**	**353**	*e*Pn	**Pn**	**07 31 03.5**	**-0.2**
SIV	**San Ignacio**	**15.22**	**99**	Pn	**Pn**	**07 31 13.9**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=272,slow=14,SNR=12						
ROSC	**El Rosal**	**18.91**	**7**	P	**Pn**	**07 32 03.8**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=104,slow=17,SNR=2.5						
ROSC	**El Rosal**	**18.91**	**7**	*e*P	**Pn**	**07 32 06.2**	**+4.1**
CFAA	**Coronel Fontan**	**19.13**	**157**	P	**Pn**	**07 31 57.4**	**-7.4**
	comp=Z,0.1nm,0.3s,baz=152,slow=22,SNR=14						
CFAA				LR	LR	07 38 03.7	
	comp=Z,53nm,19.6s,baz=330,slow=32						
SDV	**Santo Domingo**	**23.55**	**15**	P	**P**	**07 32 51.2**	**+0.5**
	comp=Z,15nm,0.7s,mb4.5,baz=230,slow=23,SNR=7.7						
SDV	**Santo Domingo**	**23.55**	**15**	*e*P	**P**	**07 32 52.0**	**+1.3**
	comp=Z,10nm,0.7s,mb4.4						
JTS	**JuntasAbangare**	**25.51**	**341**	LR	LR	07 42 04.3	
	comp=Z,152nm,20.4s,MS3.5,baz=340,slow=34						
JTS	**JuntasAbangare**	**25.51**	**341**	*i P*	**P**	**07 33 02.1**	**-6.5**
PCRV	**Puerto La Cruz**	**26.86**	**27**	P	**P**	**07 33 22.7**	**+2.0**
	comp=Z,11nm,0.6s,mb4.5,baz=294,slow=11,SNR=9.0						
PLCA	**Paso Flores**	**27.14**	**170**	P	**P**	**07 33 20.6**	**-2.6**
	comp=Z,2.6nm,0.8s,mb3.8,baz=323,slow=11,SNR=6.7						
PLCA				LR	LR	07 41 42.2	
	comp=Z,154nm,20.8s,MS3.5,baz=337,slow=31						
CMIG	**Matias Romero**	**35.76**	**329**	P	**P**	**07 34 38.0**	**-1.0**
	comp=Z,3.6nm,0.8s,mb4.4,baz=110,slow=6.1,SNR=6.4						
CMIG				LR	LR	07 46 48.2	
	comp=Z,134nm,20.8s,MS3.7,baz=22,slow=32						
TEIG	**Tepich**	**35.90**	**341**	P	**P**	**07 34 39.5**	**-0.6**
	comp=Z,8.6nm,0.7s,mb4.8,baz=32,slow=21,SNR=7.1						
TEIG				LR	LR	07 49 15.0	
	comp=Z,111nm,19.2s,MS3.6,baz=149,slow=36						
TEIG	**Tepich**	**35.90**	**341**	*e*P	**P**	**07 34 40.5**	**+0.4**
	comp=Z,9.7nm,0.6s,mb4.9						
USHA	**Ushuaia**	**41.22**	**173**	P	**P**	**07 35 22.5**	**-2.2**
	comp=Z,6.5nm,0.9s,mb4.3,baz=72,slow=15,SNR=2.4						
NATX	**Nacogdoches**	**48.68**	**340**	*e*P	**P**	**07 36 23.1**	**-1.0**
JCT	**Junction City**	**49.53**	**334**	*e*P	**P**	**07 36 30.1**	**-0.4**
JCT				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
JCT	**Junction City**	**49.53**	**334**	*e*P	**P**	**07 36 30.1**	**-0.4**
	comp=Z,5.8nm,0.7s,mb4.7						
PLAL	**Pickwick Lake**	**49.93**	**348**	*e*P	**P**	**07 36 32.3**	**-1.2**
	comp=Z,10nm,1.1s,mb4.8						
LTX	**Lajitas**	**50.37**	**329**	*e*P	**P**	**07 36 36.5**	**-0.4**
LTX				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
LTX	**Lajitas**	**50.37**	**329**	*e*P	**P**	**07 36 36.5**	**-0.4**
	comp=Z,12nm,1.0s,mb4.9						
TXAR	**Lajitas Array**	**50.37**	**329**	P	**P**	**07 36 36.4**	**-0.5**
	comp=Z,8.6nm,0.9s,mb4.8,baz=148,slow=9.1,SNR=63						
TXAR				pP	pP	07 36 48.4	-0.5
	comp=Z,3.0nm,0.7s,baz=153,slow=8.4,SNR=7.3						
TXAR				LR	LR	07 55 32.3	
	comp=Z,113nm,18.9s,MS3.9,baz=5.0,slow=33						
TXAR	**Lajitas Array**	**50.37**	**329**	P	**P**	**07 36 36.4**	**-0.5**
TXAR				*PP	pP	07 36 48.4	-0.6
TXAR	**Lajitas Array**	**50.37**	**329**	P	**P**	**07 36 36.4**	**-0.5**
TXAR				pP	pP	07 36 48.4	-0.5
TXAR				LR	LR	07 55 32.3	
UALR	**University of**	**50.76**	**343**	*e*P	**P**	**07 36 39.2**	**-0.6**
	comp=Z,16nm,1.0s,mb4.9						
USIN	**University of**	**52.73**	**349**	*e*P	**P**	**07 36 53.2**	**-1.4**
	comp=Z,17nm,0.6s,mb5.2						
USIN				*e*pP	pP	07 37 05.2	-1.5
WCI	**Wyandotte Cave**	**52.76**	**351**	*e*P	**P**	**07 36 53.7**	**-1.1**
WCI				*e**PP	pP	07 37 04.7	-2.2
WCI				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
WCI	**Wyandotte Cave**	**52.76**	**351**	*e*P	**P**	**07 36 53.7**	**-1.0**
	comp=Z,20nm,0.9s,mb5.1						
WCI				*e*pP	pP	07 37 04.7	-2.2
SIUC	**Southern Illin**	**52.80**	**348**	*e*P	**P**	**07 36 54.1**	**-1.0**
	comp=Z,23nm,0.6s,mb5.3						
SIUC				*e*pP	pP	07 37 06.0	-1.2
WMOK	**Wichita Mounta**	**52.84**	**337**	*e*P	**P**	**07 36 54.1**	**-1.3**
MNTX	**Cornudas Mount**	**53.15**	**329**	*e*P	**P**	**07 36 56.5**	**-1.1**
	comp=Z,9.7nm,1.0s,mb4.7						
SDMD	**Soldier's Deli**	**53.16**	**360**	*e*P	**P**	**07 36 57.0**	**-0.8**
FVM	**French Village**	**53.32**	**346**	*e*P	**P**	**07 36 57.7**	**-1.2**
FVM				*e**PP	pP	07 37 10.2	-0.8
FVM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
FVM	**French Village**	**53.32**	**346**	*e*P	**P**	**07 36 57.7**	**-1.2**
	comp=Z,10.0nm,0.8s,mb4.8						
FVM				*e*pP	pP	07 37 10.2	-0.9
BLO	**Bloomington**	**53.72**	**351**	*e*P	**P**	**07 37 00.5**	**-1.3**
BLO				*e**PP	pP	07 37 12.4	-1.5
BLO				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.2						
BLO	**Bloomington**	**53.72**	**351**	*e*P	**P**	**07 37 00.5**	**-1.3**
	comp=Z,21nm,0.7s,mb5.2						
BLO				*e*pP	pP	07 37 12.4	-1.5
KSU1	**Kansas State U**	**56.03**	**341**	*e*P	**P**	**07 37 17.5**	**-1.1**
	comp=Z,14nm,0.7s,mb5.1						
ANMO	**Albuquerque**	**56.31**	**331**	*c iP*	**P**	**07 37 20.5**	**0.0**
ANMO	**Albuquerque**	**56.31**	**331**	*e*P	**P**	**07 37 20.4**	**-0.1**
	comp=Z,24nm,1.1s,mb5.2						
CBKS	**Cedar Bluff**	**56.81**	**339**	*e*P	**P**	**07 37 23.3**	**-0.8**
CBKS				*e**PP	pP	07 37 35.0	-1.4
CBKS				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.4						
CBKS	**Cedar Bluff**	**56.81**	**339**	*e*P	**P**	**07 37 23.3**	**-0.8**
	comp=Z,25nm,0.6s,mb5.4						
CBKS				*e*pP	pP	07 37 35.0	-1.3
116A	**Eloy**	**57.16**	**325**	⇑P	**P**	**07 37 26.3**	**-0.3**
	baz=57,SNR=11						
115A	**Sonoran Desert**	**57.56**	**325**	⇓P	**P**	**07 37 29.4**	**0.0**
	baz=58						
SCIA	**State Center**	**57.71**	**345**	*e*P	**P**	**07 37 29.4**	**-1.0**
	comp=Z,19nm,0.8s,mb5.2						
SDCO	**Great Sand Dun**	**58.17**	**333**	*e*P	**P**	**07 37 33.4**	**-0.3**
	comp=Z,23nm,1.0s,mb5.2						
SDCO				*e*pP	pP	07 37 45.0	-0.9
Z14A	**Wintersburg**	**58.45**	**325**	⇑P	**P**	**07 37 35.4**	**-0.2**
	baz=58						
X15A	**Humboldt**	**58.90**	**326**	⇑P	**P**	**07 37 38.8**	**+0.1**
	baz=59,SNR=20						
Y14A	**Wickenburg**	**58.91**	**325**	⇓P	**P**	**07 37 38.6**	**-0.3**
	baz=59,SNR=8.4						
MVCO	**Mesa Verde**	**59.10**	**331**	*e*P	**P**	**07 37 39.7**	**-0.5**
	comp=Z,14nm,1.0s,mb5.0						
MVCO	**Mesa Verde**	**59.10**	**331**	⇑P	**P**	**07 37 39.8**	**-0.4**
	baz=59,SNR=10						
WUAZ	**Wupatki**	**59.22**	**327**	*e*P	**P**	**07 37 41.0**	**+0.1**
	comp=Z,25nm,1.1s,mb5.2						
WUAZ				*e*pP	pP	07 37 53.8	+0.6
WUAZ	**Wupatki**	**59.22**	**327**	⇓P	**P**	**07 37 41.3**	**+0.4**
	baz=59,SNR=17						
X14A	**Yava**	**59.24**	**325**	⇓P	**P**	**07 37 41.2**	**+0.1**
	baz=59						
Y13A	**Salome**	**59.28**	**324**	⇑P	**P**	**07 37 41.3**	**-0.2**
	baz=59,SNR=7.6						
W15A	**Williams**	**59.44**	**326**	⇓P	**P**	**07 37 42.7**	**+0.2**
	baz=60,SNR=9.1						
Y12C	**Blythe**	**59.64**	**324**	⇑P	**P**	**07 37 43.9**	**+0.1**
	baz=60,SNR=12						
SWSC	**Sam W. Stewart**	**59.80**	**322**	⇓P	**P**	**07 37 45.0**	**0.0**
	baz=60						
PDMCI	**Parker Dam,Lak**	**59.82**	**324**	⇑P	**P**	**07 37 45.2**	**+0.1**
	baz=60						
X13A	**Yucca**	**59.86**	**325**	P	**P**	**07 37 45.4**	**0.0**
	baz=60,SNR=9.1						
W14A	**Seligman**	**59.90**	**326**	P	**P**	**07 37 46.2**	**+0.5**
	baz=60,SNR=14						
ISCO	**Idaho Springs**	**59.94**	**335**	*e*P	**P**	**07 37 45.4**	**-0.5**
ISCO				*e**PP	pP	07 37 57.3	-0.9
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ISCO	**Idaho Springs**	**59.94**	**335**	*e*P	**P**	**07 37 45.4**	**-0.5**
	comp=Z,6.2nm,1.0s,mb4.6						
ISCO				*e*pP	pP	07 37 57.3	-0.9
SMCO	**Snowmass**	**60.01**	**333**	*e*P	**P**	**07 37 46.9**	**+0.5**
	comp=Z,12nm,0.9s,mb4.9						
BC3	**Big Chuckw Mtn**	**60.11**	**323**	⇑P	**P**	**07 37 47.1**	**0.0**
	baz=60,SNR=7.2						
W13A	**Hualapai Mount**	**60.26**	**325**	⇓P	**P**	**07 37 48.5**	**+0.4**
	baz=60,SNR=13						
IRM	**Iron Mountain**	**60.29**	**324**	P	**P**	**07 37 48.5**	**+0.2**
	baz=60,SNR=25						
PFO	**Pinyon Flat Ob**	**60.66**	**322**	*e*P	**P**	**07 37 50.6**	**-0.3**
PFO	**Pinyon Flat Ob**	**60.66**	**322**	P	**P**	**07 37 51.5**	**+0.6**
	baz=61,SNR=6.2						
BELC	**Belle Mtn.**	**60.67**	**323**	⇑P	**P**	**07 37 51.1**	**+0.1**
	baz=61						
W12A	**Cal Nev Ari**	**60.95**	**325**	⇓P	**P**	**07 37 52.6**	**-0.2**
	baz=61,SNR=6.9						
GMRC	**Granite Mounta**	**61.03**	**324**	⇓P	**P**	**07 37 53.5**	**+0.1**
	baz=61,SNR=8.1						
PHWY	**Pilot Hill**	**61.14**	**336**	*e*P	**P**	**07 37 53.7**	**-0.5**
V12A	**Nelson**	**61.25**	**325**	⇑P	**P**	**07 37 54.8**	**-0.1**
	baz=61,SNR=5.7						
BBRC	**Big Bear Sol-O**	**61.40**	**322**	⇓P	**P**	**07 37 56.2**	**+0.4**
	baz=61						
HEC	**Hector,Ludlow**	**61.45**	**323**	⇑P	**P**	**07 37 56.4**	**+0.2**
	baz=62,SNR=6.7						
SRU	**San Rafael**	**61.58**	**330**	*e*P	**P**	**07 37 57.1**	**0.0**
SRU				*e**PP	pP	07 38 09.3	-0.1
SRU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
SRU	**San Rafael**	**61.58**	**330**	*e*P	**P**	**07 37 57.1**	**0.0**
	comp=Z,9.4nm,0.7s,mb5.0						
SRU				*e*pP	pP	07 38 09.3	-0.2
U12A	**Valley of Fire**	**61.60**	**326**	⇓P	**P**	**07 37 57.1**	**-0.1**
	baz=62,SNR=9.2						
TUQ	**Turquoise Mtn.**	**61.65**	**324**	⇓P	**P**	**07 37 57.5**	**-0.1**
	baz=62						
V11A	**Goodsprings**	**61.66**	**325**	⇓P	**P**	**07 37 57.2**	**-0.4**
	baz=62,SNR=6.7						
CCUT	**Cedar City**	**61.80**	**327**	*e*P	**P**	**07 37 59.0**	**+0.5**
BFSC	**Mount Baldy St**	**61.82**	**322**	P	**P**	**07 37 58.8**	**+0.1**
	baz=62,SNR=9.9						
MSU	**Marysvale**	**61.92**	**329**	*e*P	**P**	**07 38 00.0**	**+0.6**
MSU				*e**PP	pP	07 38 11.9	+0.1
ARUT	**Antelope Range**	**62.02**	**328**	*e*P	**P**	**07 38 00.9**	**+0.9**
GSC	**Goldstone**	**62.06**	**323**	P	**P**	**07 38 00.8**	**+0.5**
	baz=62,SNR=5.0						
SHOC	**Shoshone**	**62.18**	**324**	⇓P	**P**	**07 38 01.3**	**+0.2**
	baz=62						
DECC	**Green Verdugo**	**62.23**	**322**	⇓P	**P**	**07 38 02.1**	**+0.7**
	baz=62						
EDW2	**Edwards Air Fo**	**62.46**	**322**	⇓P	**P**	**07 38 02.8**	**-0.2**
	baz=62,SNR=7.7						
BLG	**Laguna Peak**	**62.58**	**321**	⇓P	**P**	**07 38 03.8**	**0.0**
	baz=63						
U10A	**Ash Meadows, A**	**62.58**	**325**	P	**P**	**07 38 04.4**	**+0.6**
	baz=63,SNR=5.3						
LRMC	**Laurel Mountai**	**62.70**	**323**	⇑P	**P**	**07 38 04.5**	**-0.1**
	baz=63						
OSI	**Osito Adit**	**62.72**	**322**	⇓P	**P**	**07 38 04.8**	**+0.1**
	baz=63						
MPU	**Maple Canyon**	**62.82**	**330**	*e*P	**P**	**07 38 10.0**	**+4.6**
MPU				*e*pP	pP	07 38 18.0	+0.3
FURC	**Furnace Creek,**	**62.92**	**324**	P	**P**	**07 38 06.5**	**+0.5**
	baz=63,SNR=14						
DAU	**Daniels Canyon**	**62.95**	**331**	*e*P	**P**	**07 38 07.0**	**+0.7**
DAU				*e**PP	pP	07 38 18.8	+0.1
MPMC	**Manual Prospec**	**62.99**	**324**	P	**P**	**07 38 06.3**	**-0.2**
	baz=63,SNR=11						
JLU	**Jordanelle**	**63.19**	**331**	*e*P	**P**	**07 38 07.8**	**0.0**
JLU				*e*pP	pP	07 38 20.0	-0.3
DAC	**Darwin (Calif)**	**63.20**	**324**	*e*P	**P**	**07 38 07.6**	**-0.3**
DAC				*e**PP	pP	07 38 19.8	-0.5
DAC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
DAC	**Darwin (Calif)**	**63.20**	**324**	*e*P	**P**	**07 38 07.6**	**-0.3**
	comp=Z,7.7nm,0.9s,mb4.8						
DAC				*e*pP	pP	07 38 19.8	-0.5
ISA	**Isabella**	**63.29**	**323**	P	**P**	**07 38 08.7**	**+0.2**
	baz=63,SNR=8.9						
DUG	**Dugway**	**63.53**	**330**	*e*P	**P**	**07 38 10.2**	**+0.1**
DUG				*e**PP	pP	07 38 22.3	-0.2
DUG				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
DUG	**Dugway**	**63.53**	**330**	*e*P	**P**	**07 38 10.2**	**+0.1**
	comp=Z,25nm,0.7s,mb5.3						
DUG				*e*pP	pP	07 38 22.3	-0.2
DUG	**Dugway**	**63.53**	**330**	P	**P**	**07 38 10.5**	**+0.4**
	baz=64,SNR=36						
PKM	**Peak Mountain**	**63.57**	**321**	⇑P	**P**	**07 38 10.4**	**+0.1**
	baz=64						
GRAC	**Grapevine Rang**	**63.58**	**324**	⇑P	**P**	**07 38 10.5**	**+0.1**
	baz=64						
CWC	**Cottonwood Cre**	**63.59**	**323**	P	**P**	**07 38 11.1**	**+0.6**
	baz=64,SNR=5.6						
Q12A	**Willow Creek R**	**63.68**	**328**	P	**P**	**07 38 11.4**	**+0.3**
	baz=64,SNR=8.2						
VES	**Vestal, Richgr**	**63.77**	**322**	P	**P**	**07 38 12.0**	**+0.4**
	baz=64,SNR=6.7						
R10A	**Warm Springs**	**63.91**	**326**	P	**P**	**07 38 13.8**	**+1.2**
	baz=64,SNR=7.9						
SMMC	**Simmler**	**63.96**	**321**	P	**P**	**07 38 13.4**	**+0.5**
	baz=64,SNR=6.6						
Q11A	**Duckwater**	**63.97**	**327**	P	**P**	**07 38 13.5**	**+0.5**
	baz=64,SNR=18						
S09A	**Goldfield**	**64.01**	**325**	P	**P**	**07 38 13.4**	**+0.2**
	baz=64,SNR=11						
HWUT	**Hardware Ranch**	**64.04**	**332**	*e*P	**P**	**07 38 12.8**	**-0.7**
	comp=Z,20nm,0.8s,mb5.2						
P12A	**McGill**	**64.04**	**328**	P	**P**	**07 38 14.1**	**+0.6**
	baz=64,SNR=20						
PDAR	**Pinedale Array**	**64.06**	**334**	P	**P**	**07 38 12.8**	**-0.8**
	comp=Z,4.7nm,1.0s,mb4.5,baz=140,slow=7.5,SNR=23						
TIN	**Tinemaha**	**64.11**	**324**	⇓P	**P**	**07 38 14.0**	**+0.1**
	baz=64						
RCTC	**Rector, Farmer**	**64.18**	**323**	⇓P	**P**	**07 38 13.8**	**-0.5**
	baz=64						
BGU	**Big Grassy Mou**	**64.20**	**330**	*e*P	**P**	**07 38 13.9**	**-0.6**
TPH	**Tonopah**	**64.26**	**325**	*e*P	**P**	**07 38 15.3**	**+0.4**
TPH				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
TPH	**Tonopah**	**64.26**	**325**	*e*P	**P

N10A Dunphy 65.79 328 P **P 07 38 24.9 0.0**
baz=66,SNR=7.9
R06C Coleville 65.82 324 P **P 07 38 26.0 +1.0**
baz=66,SNR=6.1
PACP Pacheco Peak 65.86 322 ⇓P **P 07 38 25.5 +0.2**
baz=66
LKWY Lake 65.88 334 *e*P **P 07 38 26.6 +1.2**
LKWY pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LKWY Lake 65.88 334 *e*P **P 07 38 26.6 +1.2**
comp=Z,5.2nm,0.7s,mb4.7
P08A Dixie Valley 65.88 326 ⇑P **P 07 38 25.7 +0.3**
baz=66
M11A Holland Ranch, 65.95 329 P **P 07 38 26.0 +0.2**
baz=66,SNR=6.7
CMB Columbia Colle 66.02 323 *e*P **P 07 38 25.7 -0.6**
CMB pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
CMB Columbia Colle 66.02 323 *e*P **P 07 38 25.7 -0.6**
comp=Z,7.5nm,1.0s,mb4.7
CMB Columbia Colle 66.02 323 P **P 07 38 26.3 0.0**
baz=66,SNR=8.5
K13A Stover Farm, H 66.03 331 P **P 07 38 25.8 -0.6**
baz=66,SNR=5.8
ULM Lac du Bonnet 66.19 347 P **P 07 38 26.2 -1.1**
comp=Z,22nm,0.7s,mb5.3,baz=161,slow=6.4,SNR=65
ULM pP pP 07 38 37.9 -1.9
comp=Z,32nm,0.7s,baz=160,slow=6.3,SNR=25
ULM Lac du Bonnet 66.19 347 P **P 07 38 26.2 -1.1**
ULM pP pP 07 38 37.9 -1.9
P07A Fallon 66.22 325 ⇓P **P 07 38 27.8 +0.3**
baz=66
S04C Ingram Canyon, 66.22 322 ⇓P **P 07 38 28.0 +0.4**
baz=66
R05C Kirkwood Meado 66.30 324 P **P 07 38 28.9 +0.7**
baz=66,SNR=6.5
K12A Draper Farm, C 66.41 330 P **P 07 38 29.1 +0.3**
baz=66,SNR=23
N09A Rock Creek Ran 66.42 327 ⇑P **P 07 38 28.2 -0.6**
baz=66
R04C Big Horse Panc 66.49 323 P **P 07 38 30.4 +1.0**
baz=66,SNR=9.2
QLMT Earthquake Lak 66.53 334 *e*P **P 07 38 30.3 +0.7**
WCN Washoe City 66.53 325 P **P 07 38 29.8 +0.2**
baz=67,SNR=7.0
J13A Cove Ranch, Pi 66.64 331 P **P 07 38 30.4 +0.1**
baz=67,SNR=12
O07A Toulon 66.65 326 P **P 07 38 30.2 -0.1**
baz=67,SNR=16
N08A GE Springer Mi 66.69 327 ⇑P **P 07 38 29.7 -0.9**
baz=67
M09A Marrel Ranch, 66.79 328 P **P 07 38 30.6 -0.6**
baz=67,SNR=6.2
BDM Black Diamond 66.84 322 ⇓P **P 07 38 32.3 +0.7**
baz=67
P06A Stead Airport, 66.87 325 ⇑P **P 07 38 32.0 +0.2**
baz=67
HLID Hailey 66.88 331 *e*P **P 07 38 31.4 -0.4**
comp=Z,7.6nm,0.7s,mb4.8
HLID Hailey 66.88 331 P **P 07 38 31.9 +0.1**
baz=67,SNR=19
J12A Stokes Ranch, 66.97 330 P **P 07 38 32.6 +0.2**
baz=67,SNR=8.6
P05C Yuba Gap, Truc 67.01 324 P **P 07 38 33.0 +0.3**
baz=67,SNR=7.9
N07B Gerlach 67.13 326 P **P 07 38 33.5 0.0**
baz=67,SNR=8.3
Q04C Lincoln 67.14 323 ⇑P **P 07 38 34.0 +0.5**
baz=67
O06A Flanigan 67.17 325 ⇑P **P 07 38 33.6 0.0**
baz=67
G15A Dillon 67.25 333 P **P 07 38 34.4 +0.3**
baz=67,SNR=8.9
BEKR Beckwourth 67.26 325 P **P 07 38 34.6 +0.4**
baz=67,SNR=11
BOZ Bozeman (W) 67.27 334 P **P 07 38 33.7 -0.6**
baz=67,SNR=11
M08A Happy Creek Ra 67.29 327 ⇑P **P 07 38 34.2 -0.2**
baz=67
L09A Wilkinson Ranc 67.33 328 P **P 07 38 34.6 0.0**
baz=67,SNR=16
Q03C Winters 67.37 323 ⇓P **P 07 38 35.4 +0.5**
baz=67
MFID Camas Ranch 67.44 330 P **P 07 38 35.5 +0.2**
baz=68,SNR=18
DLMT Dillon 67.45 333 *e*P **P 07 38 34.9 -0.6**
comp=Z,23nm,1.2s,mb5.1
DLMT *e*pP pP 07 38 46.8 -1.2
K10A MacKenzie Ranc 67.48 329 P **P 07 38 35.6 0.0**
baz=68,SNR=14
N06A Buffalo Meadow 67.58 326 P **P 07 38 36.4 +0.2**
baz=68,SNR=11
O05C Quincy 67.64 325 ⇓P **P 07 38 37.0 +0.4**
baz=68
SUTB Sutter Butte 67.64 324 ⇑P **P 07 38 36.6 0.0**
baz=68
M07A Soldier Meadow 67.67 327 ⇑P **P 07 38 36.7 -0.1**
baz=68
ORV Oroville 67.69 324 P **P 07 38 37.1 +0.2**
baz=68,SNR=26
F15A Butte 67.79 334 ⇓P **P 07 38 37.2 -0.3**
baz=68
MNRC McLaughlin Nat 67.79 323 ⇑P **P 07 38 37.9 +0.3**
baz=68
L08A Fields 67.81 328 P **P 07 38 37.7 0.0**
baz=68,SNR=5.5
H12A Diamond D Ranc 67.84 332 P **P 07 38 38.0 +0.1**
baz=68,SNR=9.4
K09A Rome 67.86 329 P **P 07 38 38.3 +0.3**
baz=68,SNR=20
I11A Placerville 67.88 330 P **P 07 38 38.0 -0.2**
baz=68,SNR=15
J10A Berg Farm, Mel 67.91 330 ⇓P **P 07 38 38.1 -0.2**
baz=68
G13A Cobalt 67.97 332 P **P 07 38 38.7 0.0**
baz=68,SNR=11
O04C Chester 67.97 325 P **P 07 38 38.8 +0.1**
baz=68,SNR=8.3
ELFS Eagle Lake Fie 67.98 325 P **P 07 38 39.1 +0.3**
baz=68,SNR=5.8
F14A Wisdom 68.14 333 ⇑P **P 07 38 40.1 +0.3**
baz=68
L07A Adell 68.20 327 ⇑P **P 07 38 40.3 +0.1**
baz=68
M06C Likely Place G 68.25 326 ⇓P **P 07 38 40.7 +0.3**
baz=68
K08A Mann Creek Ran 68.27 328 ⇑P **P 07 38 40.5 0.0**
baz=68
E15A Deer Lodge 68.31 334 ⇓P **P 07 38 40.9 +0.1**
baz=68
J09A Fry Pan Ranch, 68.34 329 P **P 07 38 41.0 0.0**
baz=68,SNR=6.0
GASB Alder Springs 68.46 323 ⇑P **P 07 38 42.1 +0.3**
baz=68
H11A Donnelly 68.50 331 P **P 07 38 42.0 +0.1**
baz=69,SNR=6.3
HATC Hat Creek Radi 68.52 325 ⇑P **P 07 38 41.9 -0.3**
baz=69
F13A Darby 68.55 333 P **P 07 38 42.2 -0.2**
baz=69,SNR=12
K07A Rock Creek Ran 68.63 328 ⇓P **P 07 38 42.7 -0.1**
baz=69
MOD Modoc 68.63 326 P **P 07 38 43.2 +0.3**
baz=69,SNR=6.4
E14A Clinton 68.67 334 P **P 07 38 43.5 +0.5**
baz=69,SNR=12
P01C Double 8 Ranch 68.70 323 ⇓P **P 07 38 43.7 +0.5**
baz=69
J08A Circle Bar Ran 68.71 329 ⇓P **P 07 38 43.1 -0.2**
baz=69
M05C Lookout 68.72 326 P **P 07 38 43.4 +0.1**
baz=69,SNR=10
D15A Lincoln 68.75 335 ⇓P **P 07 38 43.6 0.0**
baz=69
H10A Noah's Angus R 68.76 330 ⇓P **P 07 38 43.6 0.0**
baz=69
I09A Lost Marbles R 68.79 329 ⇓P **P 07 38 43.7 -0.1**
baz=69
E13A Victor 68.99 333 P **P 07 38 45.5 +0.4**
baz=69,SNR=12
SCHQ Schefferville 69.10 6 P **P 07 38 45.5 -0.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=134,slow=2.7,SNR=5.3
SCHQ pP pP 07 38 57.1 -1.1
comp=Z,5.4nm,0.8s,baz=221,slow=4.8,SNR=4.6
SCHQ LR LR 08 12 14.6
comp=Z,81nm,18.5s,MS4.0,baz=152,slow=39
SCHQ Schefferville 69.10 6 *e*P **P 07 38 45.6 -0.1**
comp=Z,7.3nm,0.9s,mb4.6
SCHQ *e*pP pP 07 38 57.3 -1.0
J07A Hines 69.15 328 ⇑P **P 07 38 46.6 +0.5**
baz=69
I08A Drewsey 69.16 329 ⇓P **P 07 38 46.0 -0.1**
baz=69
D14A Greenough 69.20 334 ⇓P **P 07 38 46.4 +0.1**
baz=69
M03C McCloud 69.20 325 ⇑P **P 07 38 45.8 -0.6**
baz=69
K06A Valley Falls 69.23 327 P **P 07 38 47.0 +0.4**
baz=69,SNR=11
H09A Durkee 69.26 330 ⇑P **P 07 38 46.1 -0.6**
baz=69
M04C Macdoel 69.39 325 ⇑P **P 07 38 47.0 -0.5**
baz=69
O01C Eel River Cons 69.42 323 ⇑P **P 07 38 47.8 +0.1**
baz=70
F11A Grangeville 69.45 332 P **P 07 38 47.3 -0.6**
baz=70,SNR=23
N02C Big Bar 69.57 324 ⇓P **P 07 38 49.0 +0.4**
baz=70
D13A Huson 69.61 333 P **P 07 38 49.0 0.0**
baz=70,SNR=6.3
H08A Prairie City 69.64 329 P **P 07 38 49.6 +0.5**
baz=70,SNR=15
L04A Klamath Falls 69.68 326 ⇓P **P 07 38 49.5 +0.2**
baz=70
M02C Callahan 69.69 325 ⇓P **P 07 38 48.6 -0.8**
baz=70
I07A Izee 69.75 329 P **P 07 38 50.4 +0.6**
baz=70,SNR=9.2
E11A Bogner Ranch, 69.83 332 P **P 07 38 49.6 -0.7**
baz=70,SNR=6.1
YBH Yreka Blue Hor 69.83 325 ⇓P **P 07 38 49.4 -0.9**
baz=70
K04A Chilquin 69.89 326 ⇓P **P 07 38 50.9 +0.3**
baz=70
I06A Prineville 70.01 328 P **P 07 38 52.2 +0.8**
baz=70,SNR=7.3
F10A Beach Ranch, E 70.01 331 P **P 07 38 51.5 +0.1**
baz=70,SNR=6.7
C13A Hot Springs 70.12 334 P **P 07 38 52.1 +0.1**
baz=70,SNR=12
F09A S2 Ranch, Elgi 70.14 331 P **P 07 38 52.3 +0.2**
baz=70,SNR=6.3
E10A Myers Farm, Un 70.34 332 ⇓P **P 07 38 53.4 0.0**
baz=70
BSMT Bassoo Peak 70.34 334 *e*P **P 07 38 54.0 +0.6**
G08A Pilot Rock 70.34 330 P **P 07 38 53.6 +0.2**
baz=70,SNR=6.6
B13A Whitefish 70.61 334 ⇓P **P 07 38 55.1 +0.1**
baz=71
F08A Pendleton 70.62 330 ⇑P **P 07 38 54.3 -0.8**
baz=71
H06A Lindquist Farm 70.63 329 P **P 07 38 55.9 +0.7**
baz=71,SNR=5.5
G07A Ruggs Ranch, H 70.68 329 ⇑P **P 07 38 55.8 +0.4**
baz=71
I05A Bend 70.71 328 ⇑P **P 07 38 55.8 +0.2**
baz=71
D10A Wagner Farm, O 70.84 332 P **P 07 38 55.9 -0.5**
baz=71,SNR=5.5
WALA Waterton Lakes 70.92 335 *e*P **P 07 38 56.3 -0.6**
comp=Z,20nm,1.2s,mb4.9
WALA *e*pP pP 07 39 08.9 -0.5
K02A Glendale 70.95 325 ⇓P **P 07 38 57.1 0.0**
baz=71
H05A Madras 71.03 328 ⇑P **P 07 38 57.7 +0.2**
baz=71
G06A Carlson Farm, 71.14 329 ⇑P **P 07 38 58.6 +0.4**
baz=71
B12A Libby 71.16 334 P **P 07 38 59.0 +0.7**
baz=71,SNR=5.4
F07A Phinny Hill Vi 71.25 330 ⇓P **P 07 38 59.2 +0.3**
baz=71
E08A Dider Farm, El 71.26 331 ⇑P **P 07 38 58.6 -0.4**
baz=71
D09A Jones Farm, Ri 71.32 331 ⇑P **P 07 38 59.4 0.0**
baz=71
J02A Umpqua 71.40 326 ⇓P **P 07 38 60.0 +0.2**
baz=72
C10A Spilker Farm, 71.42 332 ⇑P **P 07 38 60.0 0.0**
baz=72
B11A Sandpoint 71.47 333 ⇑P **P 07 39 00.1 -0.1**
baz=72
G05A Wamic 71.48 328 ⇑P **P 07 39 00.8 +0.5**
baz=72
A12A Yaak River Ran 71.54 334 P **P 07 39 01.1 +0.4**
baz=72,SNR=14
I03A Eugene 71.64 326 ⇓P **P 07 39 01.4 +0.1**
baz=72
NEW Newport 71.67 333 *e*P **P 07 39 00.9 -0.6**
NEW *e**PP pP 07 39 13.1 -0.9
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 71.67 333 *e*P **P 07 39 00.8 -0.6**
comp=Z,12nm,1.0s,mb4.8
NEW *e*pP pP 07 39 13.1 -0.9
E07A Sunnyside 71.69 330 P **P 07 39 02.2 +0.7**
baz=72,SNR=5.3
SNAA Sanae 71.70 161 *e*P **P 07 39 00.0 -1.6**
SNAA *e**PP pP 07 39 12.5 -1.7
SNAA pmax pmax
comp=Z,16nm,0.8s
SNAA Sanae 71.70 161 *e*P **P 07 38 60.0 -1.7**
comp=Z,16nm,0.8s,mb5.0
SNAA *e*pP pP 07 39 12.5 -1.7
A11A Hall Mountain, 71.86 334 ⇓P **P 07 39 03.3 +0.7**
baz=72
F05A White Salmon 72.00 329 ⇑P **P 07 39 03.5 +0.1**
baz=72
G04A Mulino 72.06 328 ⇓P **P 07 39 03.9 +0.1**
baz=72
H03A Soap Creek Ran 72.12 327 ⇓P **P 07 39 04.8 +0.6**
baz=72
C08A Higginbotham F 72.19 331 ⇑P **P 07 39 04.5 -0.1**
baz=72
D07A Quincy 72.20 331 ⇑P **P 07 39 04.7 +0.1**
baz=72
B09A Rice 72.25 332 ⇑P **P 07 39 05.0 0.0**
baz=72
H02A Toledo 72.50 327 ⇑P **P 07 39 06.2 -0.2**
baz=73
F04A Amboy 72.52 328 ⇑P **P 07 39 06.6 0.0**
baz=73
C07A Waterville 72.60 331 P **P 07 39 07.2 +0.3**
baz=73,SNR=5.0
D06A Cle Elum 72.62 330 ⇓P **P 07 39 07.0 -0.2**
baz=73
B08A Colville Reser 72.74 332 ⇑P **P 07 39 07.5 -0.3**
baz=73
A09A Danville 72.85 333 P **P 07 39 08.6 +0.1**
baz=73,SNR=5.4
A08A Turner Farm, O 73.14 332 P **P 07 39 10.5 +0.3**
baz=73,SNR=5.1
D05A Enumclaw 73.17 330 ⇑P **P 07 39 10.2 -0.2**
baz=73
B07A Winthrop 73.18 331 ⇑P **P 07 39 10.3 -0.1**
baz=73
A07A Ashnola River, 73.72 332 P **P 07 39 14.1 +0.5**
baz=74,SNR=5.6
B06A Marblemount 73.86 331 ⇑P **P 07 39 14.3 -0.1**
baz=74
FCC Fort Churchill 73.92 351 *e*P **P 07 39 13.6 -1.1**
FCC *e**PP pP 07 39 25.6 -1.8
FCC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
FCC Fort Churchill 73.92 351 *e*P **P 07 39 13.6 -1.1**
comp=Z,9.2nm,0.9s,mb4.7
FCC *e*pP pP 07 39 25.6 -1.8
B05A Bryant 73.97 330 ⇓P **P 07 39 15.1 +0.1**
baz=74
EDM Edmonton 74.00 338 *e*P **P 07 39 14.0 -1.2**
A05A Maple Falls 74.48 331 ⇑P **P 07 39 18.0 0.0**
baz=75
YKA Yellowknife Ar 81.83 343 P **P 07 39 57.4 -1.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=142,slow=6.1,SNR=48
YKA pP pP 07 40 09.2 -2.3
comp=Z,6.6nm,0.7s,baz=143,slow=6.2,SNR=42
YKA Yellowknife Ar 81.83 343 P **P 07 39 57.4 -1.3**
YKA pP pP 07 40 09.2 -2.3
TOA0 Torodi Ar. Sit 82.20 74 *e*P **P 07 40 03.9 +3.2**
TORD Torodi Ar. Bea 82.20 74 P **P 07 40 03.0 +2.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=242,slow=4.3,SNR=10
TORD pP pP 07 40 15.1 +1.6
comp=Z,6.6nm,0.8s,baz=265,slow=4.6,SNR=17
SYO Syowa Base 86.00 161 ⇓*e*P **P 07 40 17.6 -2.4**
SYO Syowa Base 86.00 161 ⇓*e*P pP 07 40 28.8 -4.0
INK Inuvik 91.50 342 P **P 07 40 44.9 -1.2**
comp=Z,4.4nm,1.2s,mb4.7,baz=123,slow=4.4,SNR=8.3
INK pP pP 07 40 57.4 -1.6
comp=Z,13nm,1.1s,baz=120,slow=5.5,SNR=18
INK LR LR 08 22 50.9
comp=Z,83nm,20.0s,MS4.2,baz=120,slow=36
INK Inuvik 91.50 342 *e*P **P 07 40 44.6 -1.4**
comp=Z,562nm,1.1s
INK *e*pP pP 07 40 57.3 -1.7
COLA College 94.82 336 *i* P **P 07 41 05.4 +4.0**
WRA Warramunga Arr 134.48 223 PKP PKPdf 07 46 57.2 -0.4
comp=Z,0.5nm,0.7s,baz=141,slow=1.7,SNR=5.8
WRA pPKP pPKPdf 07 47 09.4 -1.5
comp=Z,0.8nm,0.7s,baz=135,slow=1.9,SNR=3.9
WRA Warramunga Arr 134.48 223 PKP PKPdf 07 46 57.2 -0.4
WRA pPKP pPKPdf 07 47 09.4 -1.5
ZAL Zalesovo 137.60 16 PKP PKPdf 07 47 03.8 +0.4
comp=Z,2.0nm,0.8s,baz=103,slow=1.5,SNR=3.7
ZAL pPKP pPKPdf 07 47 17.2 +0.5
comp=Z,2.5nm,0.8s,baz=183,slow=2.4,SNR=4.5
SONM Songino Array 146.20 356 PKPbc PKPbc 07 47 19.9 +0.1
comp=Z,5.5nm,0.8s,baz=335,slow=2.2,SNR=12
SONM pPKPbc pPKPbc 07 47 32.0 -1.0
comp=Z,2.9nm,0.5s,baz=334,slow=2.6,SNR=7.4
WMQ Urumqi 147.44 21 *e*PKP PKPdf 07 47 20.6 -0.2
KSRS Korea Array 148.00 321 PKP PKPdf 07 47 21.6 -0.1
comp=Z,2.7nm,0.8s,baz=116,slow=36,SNR=5.0
KSRS PKPbc PKPbc 07 47 24.6 -0.2
comp=Z,2.8nm,0.8s,baz=117,slow=1.4,SNR=9.3
HHC Hu-ho-hao-te 152.32 346 *e*PKP PKPdf 07 47 29.3 +0.8
HHC APKP 07 47 39.9
HHC XPKP 07 47 42.9
HHC PKS 07 51 02.1
HHC PP PP 07 51 21.3 +3.7
HHC SKS SKSdf 07 54 31.4 -0.9
HHC LR LR
comp=N,226nm,22.0s,MS5.1
HHC LR LR
comp=E,249nm,22.0s,MS5.1
HHC LR LR
comp=Z,260nm,26.8s,MS4.9
KMI Kunming 168.95 3 PKP PKPdf 07 47 48.1 +1.6

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*BJI **24** 07:36:27.7, 5581N×11032E, h10km, mB4.7, mb4.5, Ms4.2, Msz4.0*
*ISCJB **24** 07:36:27.9±0.2, 5568N±002×11025E±003, h10km, mb4.2/36, MS3.6/2, Error ellipse: s-maj=2.8km s-min=2.0km az=123.2*
*MOS **24** 07:36:28.5±1.0, 5582N×110.16E, h10km, mb4.6/11, Error ellipse: s-maj=8.1km s-min=5.8km az=70.5*
*IDC **24** 07:36:28.7±0.7, 5575N×11026E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.1/29, mbtmp4.1/21, ML3.6/1, Error ellipse: s-maj=17.1km s-min=16.5km az=38.0*
*NEIC **24** 07:36:29.8±0.3, 5576N×11027E, h10km, mb4.5/12, Error ellipse: s-maj=7.1km s-min=6.2km az=153.0*
*BYKL **24** 07:36:29.9±0.2, 5573N×11023E, h6km±3km*
ISC 24 07:36:29.4±0.2, 5572N±002×11027E±003, h10km, n135, σ1§41/202, mb4.2/36, MS3.6/2, 15C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.41**	**278**	*e*PG	**Pg**	**07 36 37.4**	**-0.2**
NIZ				*e*		07 36 43.2	
NIZ				pmax	pmax		
	comp=Z,7μm,0.6s						
NIZ				smax			
	comp=N,10μm,0.5s						
NIZ	**Nizh Angarsk**	**0.41**	**278**	⇑*i*Pg	**Pg**	**07 36 37.3**	**-0.3**
NIZ				*e*		07 36 37.9	
NIZ				max		07 36 41.5	
	comp=N,2μm,0.5s						
NIZ				*i* Sg	**Sg**	**07 36 43.3**	**+0.2**
NIZ				Smax		07 36 43.5	
	comp=N,12μm,0.5s						
KMO	**Kumora**	**0.55**	**72**	⇑*i*PG	**Pg**	**07 36 39.8**	**-0.4**
KMO				*e*		07 36 47.2	
KMO				pmax	pmax		
	comp=Z,2μm,0.4s						
KMO				smax			
	comp=N,12μm,0.9s						
KMO	**Kumora**	**0.55**	**72**	⇑*i*Pg	**Pg**	**07 36 39.8**	**-0.4**
KMO				Pmax		07 36 40.5	
	comp=N,2μm,0.4s						
KMO				*i* Sg	**Sg**	**07 36 47.5**	**0.0**
KMO				Smax		07 36 49.8	
	comp=N,12μm,1.1s						
YOA	**Uoyan**	**0.92**	**62**	⇓*i*PG	**Pg**	**07 36 46.6**	**-0.5**
YOA				*i*		07 37 00.2	
YOA				pmax	pmax		
	comp=Z,930nm,0.2s						
YOA				smax			
	comp=N,14μm,0.4s						
YOA	**Uoyan**	**0.92**	**62**	*e*Pg	**Pg**	**07 36 46.6**	**-0.5**
YOA				Pmax		07 36 50.4	
	comp=N,1μm,0.4s						
YOA				*e*Sg	**Sg**	**07 37 00.2**	**+1.1**
YOA				Smax		07 37 11.1	
	comp=N,14μm,0.5s						
YLYR	**Ulyunkhan**	**0.98**	**148**	⇑*i*PG	**Pg**	**07 36 48.1**	**-0.3**
YLYR				*e*		07 37 01.2	
YLYR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YLYR				smax			
	comp=N,2.0nm,0.2s						
YLYR	**Ulyunkhan**	**0.98**	**148**	⇓*i*Pg	**Pg**	**07 36 48.1**	**-0.3**
	comp=N,2μm,0.5s						
YLYR				⇑*i*Pg	**Pg**	**07 36 48.1**	**-0.3**
	comp=N,950nm,0.5s						
YLYR				⇑*i*Pg	**Pg**	**07 36 48.1**	**-0.3**
	comp=N,2μm,0.5s						
YLYR				Pmax		07 36 50.0	
	comp=N,1μm,0.6s						
YLYR				*i* Sg	**Sg**	**07 37 01.6**	**+0.4**
YLYR				*e*		07 37 09.7	
YLYR				max		07 37 11.1	
	comp=N,5μm,0.3s						
SVKR	**Severomuysk**	**1.90**	**76**	*e*PN	**Pn**	**07 37 04.1**	**+2.3**
SVKR				*e*		07 37 04.6	
SVKR				*e*		07 37 30.3	
SVKR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SVKR				smax			
	comp=N,29nm,0.8s						
SVKR	**Severomuysk**	**1.90**	**76**	*e*Pn	**Pn**	**07 37 04.0**	**+2.2**
SVKR				⇑*i*Pg	**Pg**	**07 37 04.7**	**-1.1**
SVKR				*e*Sg	**Sg**	**07 37 30.8**	**+0.4**
UKT	**Uakit**	**1.92**	**95**	⇑*i*PN	**Pg**	**07 37 04.6**	**-1.7**
UKT				*e*		07 37 30.5	
UKT				pmax	pmax		
	comp=Z,2μm,0.4s						
UKT				smax			
	comp=N,7μm,0.4s						
UKT	**Uakit**	**1.92**	**95**	⇑*i*Pg	**Pg**	**07 37 04.6**	**-1.7**
UKT				Pmax		07 37 05.5	
	comp=N,2μm,1.0s						
UKT				*e*Sg	**Sg**	**07 37 30.0**	**-1.1**
UKT				Smax		07 37 34.6	
	comp=N,6μm,0.4s						
SYVR	**Suvo**	**2.07**	**184**	*e*PN	**Pn**	**07 37 07.1**	**+2.9**
SYVR				*e*		07 37 36.4	
SYVR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SYVR				smax			
	comp=E,6.0nm,0.8s						
SYVR	**Suvo**	**2.07**	**184**	*e*Pn	**Pn**	**07 37 05.9**	**+1.7**
SYVR				⇑*i*Pg	**Pg**	**07 37 07.2**	**-1.9**
SYVR				Pmax		07 37 07.9	
	comp=E,1μm,0.7s						
SYVR				*e*Sg	**Sg**	**07 37 35.8**	**-0.1**
SYVR				Smax		07 37 37.8	
	comp=E,7μm,0.8s						
OGRR	**Ongureny**	**2.59**	**218**	*e*PN	**Pn**	**07 37 13.4**	**+2.0**
OGRR				*e*		07 37 17.7	
OGRR				*e*		07 37 50.2	
OGRR				smax			
	comp=E,1.0nm,0.6s						
OGRR	**Ongureny**	**2.59**	**218**	*e*Pn	**Pn**	**07 37 13.4**	**+2.0**
OGRR				*e*Pg	**Pg**	**07 37 15.7**	**-3.4**
OGRR				Pmax		07 37 23.1	
	comp=E,169nm,0.6s						

OGRR				*e*		07 37 47.2	
OGRR				*e*Sg	**Sg**	**07 37 50.3**	**-2.5**
OGRR				Smax		07 37 54.5	
comp=E,1μm,0.5s							
MXMB	**Maximikha**	**2.61**	**200**	*e*Pn	**Pn**	**07 37 13.2**	**+1.5**
MXMB				*e*Pg	**Pg**	**07 37 17.2**	**-2.3**
MXMB				Pmax		07 37 24.8	
comp=E,293nm,0.8s							
MXMB				*e*Sg	**Sg**	**07 37 53.1**	**-0.3**
MXMB				Smax		07 37 56.2	
comp=E,4μm,0.7s							
BOD	**Bodaibo**	**2.94**	**43**	*e*PN	**Pn**	**07 37 17.0**	**+0.7**
BOD				*e*		07 37 23.2	
BOD				*e*		07 37 59.6	
BOD				pmax	pmax		
comp=Z,145nm,0.4s							
BOD				smax			
comp=N,2μm,0.4s							
BOD	**Bodaibo**	**2.94**	**43**	*e*Pn	**Pn**	**07 37 17.6**	**+1.3**
BOD				*e*Pg	**Pg**	**07 37 22.8**	**-3.1**
BOD				*e*		07 37 24.1	
BOD				max		07 37 24.6	
comp=N,181nm,0.3s							
BOD				*e*Sn	**Sn**	**07 37 54.2**	**+2.6**
BOD				*e*Sg	**Sg**	**07 38 00.9**	**-3.1**
BOD				Smax		07 38 06.6	
comp=N,2μm,1.1s							
NLYR	**Nelyaty**	**3.14**	**73**	*e*PN	**Pn**	**07 37 20.6**	**+1.6**
NLYR				*e*		07 37 25.8	
NLYR				*e*		07 38 07.2	
NLYR	**Nelyaty**	**3.14**	**73**	*e*Pn	**Pn**	**07 37 20.7**	**+1.7**
NLYR				*e*Pg	**Pg**	**07 37 26.0**	**-3.6**
NLYR				*e*Sg	**Sg**	**07 38 07.6**	**-2.8**
ZRHB	**Zarechye**	**3.66**	**211**	*e*Pg	**Pg**	**07 37 35.3**	**-4.3**
ZRHB				Pmax		07 37 55.2	
comp=N,312nm,1.2s							
ZRHB				*e*Sg	**Sg**	**07 38 23.5**	**-3.5**
ZRHB				Smax		07 38 38.0	
comp=N,2μm,1.2s							
TRG	**Tyrgan**	**3.75**	**219**	*e*PN	**Pn**	**07 37 29.2**	**+1.9**
TRG				*e*		07 37 38.2	
TRG				*e*S	**Sn**	**07 38 13.0**	**+1.5**
TRG				*e*		07 38 26.5	
TRG				pmax	pmax		
comp=Z,160nm,0.7s							
TRG				smax			
comp=E,654nm,0.8s							
TRG	**Tyrgan**	**3.75**	**219**	⇓*i*Pn	**Pn**	**07 37 29.1**	**+1.8**
TRG				max		07 37 31.5	
comp=E,19nm,0.8s							
TRG				*e*		07 37 41.8	
TRG				*e*Sn	**Sn**	**07 38 13.1**	**+1.6**
TRG				*e*Sg	**Sg**	**07 38 25.5**	**-4.4**
TRG				Smax		07 38 33.1	
comp=E,653nm,0.7s							
TRTB	**Turuntaevo**	**3.83**	**205**	⇑*i*Pn	**Pn**	**07 37 30.2**	**+1.8**
TRTB				*e*Pg	**Pg**	**07 37 38.8**	**-3.9**
TRTB				Pmax		07 37 45.8	
comp=E,100nm,1.0s							
TRTB				*i* Sn	**Sn**	**07 38 11.6**	**-1.8**
TRTB				*e*Sg	**Sg**	**07 38 27.6**	**-4.7**
TRTB				*e*		07 38 34.4	
TRTB				max		07 38 39.4	
comp=E,660nm,0.9s							
UUDB	**Ulan-Yde**	**4.16**	**203**	*e*Pn	**Pn**	**07 37 33.1**	**+0.2**
UUDB				*e*Pg	**Pg**	**07 37 44.1**	**-4.9**
UUDB				Pmax		07 37 52.1	
comp=E,113nm,0.9s							
UUDB				*e*Sg	**Sg**	**07 38 38.3**	**-4.6**
UUDB				Smax		07 38 54.8	
comp=E,692nm,1.2s							
CIT	**Chita**	**4.18**	**151**	*e*PN	**Pg**	**07 37 45.2**	**-4.3**
CIT				*e*		07 38 39.3	
CIT				pmax	pmax		
comp=Z,657nm,1.0s							
CIT				smax			
comp=E,874nm,1.0s							
CIT	**Chita**	**4.18**	**151**	*e*Pn	**Pn**	**07 37 34.4**	**+1.1**
CIT				*e*Pg	**Pg**	**07 37 45.3**	**-4.2**
CIT				Pmax		07 37 46.0	
comp=E,660nm,1.0s							
CIT				*e*Sn	**Sn**	**07 38 23.9**	**+1.7**
CIT				*i* Sg	**Sg**	**07 38 39.4**	**-4.3**
CIT				Smax		07 38 46.3	
comp=E,868nm,1.0s							
FFNB	**Fofonovo**	**4.22**	**211**	*e*Pn	**Pn**	**07 37 36.1**	**+2.3**
FFNB				*e*Pg	**Pg**	**07 37 45.0**	**-5.3**
FFNB				Pmax		07 37 46.8	
comp=E,174nm,0.5s							
FFNB				*e*Sn	**Sn**	**07 38 25.5**	**+2.4**
FFNB				*e*Sg	**Sg**	**07 38 38.4**	**-6.6**
FFNB				Smax		07 38 48.0	
comp=E,974nm,0.7s							
KAB	**Kabansk**	**4.25**	**212**	*e*PN	**Pg**	**07 37 47.7**	**-3.2**
KAB	**Kabansk**	**4.25**	**212**	*e*Sg	**Sg**	**07 38 42.0**	**-3.9**
KAB				Smax		07 38 59.3	
comp=E,2μm,1.2s							
CRS	**Chara**	**4.61**	**72**	*e*PN	**Pn**	**07 37 41.7**	**+2.5**
CRS				*e*		07 37 52.9	
CRS				*e*		07 38 53.2	
CRS				pmax	pmax		
comp=Z,300nm,1.0s							
CRS				smax			
comp=E,704nm,1.4s							
CRS	**Chara**	**4.61**	**72**	*e*Pn	**Pn**	**07 37 41.3**	**+2.1**
CRS				⇑*i*Pg	**Pg**	**07 37 52.8**	**-5.0**
CRS				*e*		07 37 54.8	
CRS				max		07 37 55.0	
comp=E,301nm,1.0s							
CRS				*e*Sg	**Sg**	**07 38 52.5**	**-5.0**
CRS				Smax		07 39 14.7	
comp=E,888nm,1.7s							
IRK	**Irkutsk**	**4.96**	**228**	*e*PN	**Pn**	**07 37 45.0**	**+1.0**
IRK				*e*S	**Sn**	**07 38 40.3**	**-1.1**
IRK				*e*S	**Sg**	**07 39 02.7**	**-6.1**
IRK				smax			
comp=N,1μm,0.6s							
IRK	**Irkutsk**	**4.96**	**228**	*e*Sn	**Sn**	**07 38 40.3**	**-1.1**
IRK				*e*Sg	**Sg**	**07 39 01.4**	**-7.4**
IRK				Smax		07 39 14.8	
comp=N,1μm,0.6s							
LSTR	**Listvyanka**	**5.02**	**222**	*e*Pn	**Pn**	**07 37 46.3**	**+1.5**
LSTR				max		07 37 49.4	
comp=N,63nm,0.6s							
LSTR				*e*Sn	**Sn**	**07 38 44.0**	**+1.1**
LSTR				*e*Sg	**Sg**	**07 39 05.1**	**-5.7**
LSTR				Smax		07 39 13.5	
comp=N,341nm,1.1s							
KHNR	**Khani**	**5.54**	**73**	*e*Sn	**Sn**	**07 38 57.1**	**+1.5**
KHNR				*e*Sg	**Sg**	**07 39 21.4**	**-5.8**
TLY	**Talaya**	**5.64**	**227**	*e*PN	**Pn**	**07 37 53.8**	**+0.5**
TLY				*e*		07 38 10.2	
TLY				*e*S	**Sn**	**07 38 56.9**	**-1.2**
TLY				*e*		07 39 22.7	
TLY				pmax	pmax		
comp=Z,39nm,0.8s							
TLY				smax			
comp=E,313nm,1.1s							
TLY	**Talaya**	**5.64**	**227**	*e*Pn	**Pn**	**07 37 53.9**	**+0.6**
TLY				*e*Sn	**Sn**	**07 38 57.0**	**-1.1**
TLY	**Talaya**	**5.64**	**227**	*e*Pn	**Pn**	**07 37 54.0**	**+0.7**
TLY				*e*Sn	**Sn**	**07 38 56.3**	**-1.8**
TLY				max		07 39 18.8	
comp=E,41nm,0.7s							
TLY				*e*Sg	**Sg**	**07 39 23.9**	**-6.6**
TLY				Smax		07 39 35.0	
comp=E,316nm,1.0s							
TUP	**Tupik**	**5.71**	**99**	*e*PN	**Pn**	**07 37 55.4**	**+1.1**
TUP				*e*		07 38 12.6	
TUP				*e*S	**Sn**	**07 38 58.8**	**-1.2**
TUP				*e*		07 39 25.8	
TUP				pmax	pmax		
comp=Z,121nm,0.7s							
TUP				smax			
comp=N,789nm,0.9s							
TUP	**Tupik**	**5.71**	**99**	*e*Pn	**Pn**	**07 37 55.4**	**+1.1**
TUP				⇑*i*Pg	**Pg**	**07 38 12.8**	**-6.1**
TUP				Pmax		07 38 16.0	
comp=N,144nm,1.0s							
TUP				*e*Sn	**Sn**	**07 39 01.2**	**+1.2**
TUP				*e*Sg	**Sg**	**07 39 27.1**	**-5.8**
TUP				Smax		07 39 31.2	
comp=N,813nm,0.9s							
ARS	**Arshan**	**6.00**	**234**	*e*PN	**Pn**	**07 37 59.3**	**+1.0**
ARS				*e*S	**Sn**	**07 39 07.3**	**+0.2**
ARS				*e*S	**Sg**	**07 39 37.4**	**-4.7**
ARS				smax			
comp=N,1μm,0.6s							
ARS	**Arshan**	**6.00**	**234**	⇑*i*Pn	**Pn**	**07 37 59.1**	**+0.8**
ARS				max		07 38 00.0	
comp=N,105nm,0.7s							
ARS				*e*Sn	**Sn**	**07 39 05.7**	**-1.4**
ARS				*e*Sg	**Sg**	**07 39 35.9**	**-6.2**
ARS				Smax		07 39 41.7	
comp=N,1μm,1.3s							
KPC	**Khapcheranga**	**6.16**	**167**	*e*PN	**Pn**	**07 38 01.5**	**+1.1**
KPC				*e*		07 38 20.6	
KPC				*e*		07 39 41.3	
KPC				pmax	pmax		
comp=Z,91nm,0.7s							
KPC				smax			
comp=E,479nm,1.4s							
KPC	**Khapcheranga**	**6.16**	**167**	*e*Pn	**Pn**	**07 38 01.5**	**+1.1**
KPC				*e*Pg	**Pg**	**07 38 20.6**	**-6.8**
KPC				Pmax		07 38 22.9	
comp=E,91nm,1.0s							
KPC				*e*Sg	**Sg**	**07 39 41.2**	**-5.9**
KPC				Smax		07 39 53.6	
comp=E,472nm,1.3s							
ZAK	**Zakamensk**	**6.80**	**221**	*e*PN	**Pn**	**07 38 11.7**	**+2.4**
ZAK				*e*		07 38 33.2	
ZAK				*e*		07 40 00.4	
ZAK				pmax	pmax		
comp=Z,19nm,0.7s							
ZAK				smax			
comp=N,354nm,1.8s							
ZAK	**Zakamensk**	**6.80**	**221**	*e*	**Sn**	**07 39 31.3**	**+4.6**
ZAK				*e*Sg	**Sg**	**07 40 01.2**	**-6.5**
ZAK				Smax		07 40 27.3	
comp=N,351nm,1.6s							
MOY	**Mondy**	**6.84**	**237**	*e*PN	**Pn**	**07 38 11.7**	**+1.9**
MOY				*e*		07 38 30.7	
MOY				*e*S	**Sn**	**07 39 27.0**	**-0.7**
MOY				*e*		07 39 58.3	
MOY				pmax	pmax		
comp=Z,22nm,0.3s							
MOY				smax			
comp=N,333nm,1.3s							
MOY	**Mondy**	**6.84**	**237**	⇓*i*Pn	**Pn**	**07 38 12.1**	**+2.3**
MOY				max		07 38 14.9	
comp=N,176nm,1.0s							
MOY				*e*Sn	**Sn**	**07 39 28.1**	**+0.4**
MOY				*e*Sg	**Sg**	**07 40 01.6**	**-7.3**
MOY				Smax		07 40 04.1	
comp=N,331nm,1.1s							
ORL	**Orlik**	**6.92**	**247**	*e*PN	**Pn**	**07 38 12.9**	**+2.0**
ORL				*e*S	**Sn**	**07 39 28.5**	**-1.2**
ORL				*e*S	**Sg**	**07 40 03.6**	**-8.0**
ORL				smax			
comp=N,467nm,1.0s							
ORL	**Orlik**	**6.92**	**247**	*e*Pn	**Pn**	**07 38 12.8**	**+1.9**
ORL				max		07 38 15.2	
comp=N,58nm,0.8s							
ORL				*e*Sn	**Sn**	**07 39 28.5**	**-1.2**
ORL				*e*Sg	**Sg**	**07 40 03.3**	**-8.3**
ORL				Smax		07 40 11.1	
comp=N,458nm,1.3s							
NRGR	**Nerungri**	**8.12**	**77**	*e*PG	Px	07 38 56.3	
CLNS	**Chul'man**	**8.22**	**76**	*e*PN	**Pn**	**07 38 33.2**	**+4.5**
CLNS				pmax	pmax		
comp=Z,6.0nm,0.7s							
CLNS				pmax	pmax		
comp=N,5.0nm,0.6s							
CLNS				pmax	pmax		
comp=E,7.0nm,1.1s							
CLNS				MLR	MLR		
comp=Z,200nm,12.0s							
CLNS				MLR	MLR		
comp=N,100nm,10.0s							
CLNS				MLR	MLR		
comp=E,100nm,13.0s							
CLNS	**Chul'man**	**8.22**	**76**	*e*Pg	Px	07 38 57.3	
CLNS				*e*Sg	Sx	07 40 44.1	
SONM	**Songino Array**	**8.25**	**198**	Pn	**Pn**	**07 38 31.5**	**+2.3**
comp=E,0.8nm,0.3s,baz=11,slow=13,SNR=17							
SONM				Lg		07 40 50.4	
comp=E,6.4nm,0.3s,baz=18,slow=25,SNR=11							
HIA	**Hailar**	**8.66**	**134**	*e*PN	**Pn**	**07 38 34.4**	**-0.4**
HIA	**Hailar**	**8.66**	**134**	*e*Sg	Sx	07 40 59.1	
TDJR	**Todzha**	**8.97**	**254**	*e*Pn	**Pn**	**07 38 40.2**	**+1.2**
TDJR				*e*		07 40 25.2	
TDJR				*e*Sg	Sn	07 41 06.4	+46
KRAR	**Krasnoyarsk**	**9.79**	**279**	⇓*e*P	**Pn**	**07 38 49.8**	**-0.4**
YAK	**Yakutsk**	**11.84**	**50**	*e*P	**Pn**	**07 39 13.6**	**-4.7**
YAK				pmax	pmax		
comp=Z,10.0nm,0.8s							
YAK				pmax	pmax		
comp=N,7.0nm,1.2s							
YAK				pmax	pmax		
comp=E,12nm,1.1s							
YAK				MLR	MLR		
comp=Z,120nm,7.0s							
YAK	**Yakutsk**	**11.84**	**50**	*e*Pn	**Pn**	**07 39 13.3**	**-5.0**
KLR	**Kul'dur**	**14.58**	**107**	*e*P	**Pn**	**07 39 54.5**	**-1.2**
ZAL	**Zalesovo**	**14.76**	**274**	Pn	**Pn**	**07 39 58.7**	**+0.5**
comp=Z,0.5nm,0.3s,baz=32,slow=12,SNR=17							
ZAL				Lg		07 44 16.4	
comp=Z,0.4nm,0.3s,baz=112,slow=24,SNR=3.7							
ZAL	**Zalesovo**	**14.76**	**274**	*i* P	**Pn**	**07 40 00.1**	**+1.9**
ZAL				pmax	pmax		
comp=Z,3.0nm,0.8s							
ZAL	**Zalesovo**	**14.76**	**274**	Pn	**Pn**	**07 39 58.7**	**+0.5**
ZAL				Lg		07 44 16.4	
HHC	**Hu-ho-hao-te**	**14.90**	**176**	*e*P	**Pn**	**07 40 01.5**	**+1.4**
HHC				XP	sP	07 40 08.3	-1.7
HHC				PP		07 40 13.8	
HHC				S	**Sn**	**07 42 48.1**	**+2.8**
HHC				XS	sS	07 42 55.3	-13
HHC				SS		07 43 06.8	
HHC				AMB	AMB		
comp=Z,10.0nm,0.5s							
HHC				AMB	AMB		
comp=Z,134nm,5.8s							
HHC				LR	LR		
comp=N,165nm,6.0s							
HHC				LR	LR		
comp=E,273nm,4.8s							
HHC				LR	LR		
comp=Z,216nm,6.5s							
NVS	**Novosibirsk**	**15.39**	**278**	*e*P	**Pn**	**07 40 09.7**	**+3.0**
NVS				*e*		07 42 53.0	
CN2	**Changchun**	**15.40**	**134**	*e*P	**Pn**	**07 40 06.5**	**-0.2**
MDJ	**Mudanjiang**	**16.57**	**124**	P	**Pn**	**07 40 21.3**	**-0.5**
MDJ				S	**Sn**	**07 43 24.8**	**-1.0**
MDJ				AMB	AMB		
comp=Z,3.0nm,0.8s							
MDJ				AMB	AMB		
comp=Z,89nm,4.8s							
MDJ				LR	LR		
comp=N,317nm,7.7s							
MDJ				LR	LR		
comp=E,134nm,7.2s							
MDJ				LR	LR		
comp=Z,426nm,7.8s							
HABR	**Khabarovsk**	**16.80**	**105**	*e*P	**Pn**	**07 40 21.7**	**-3.1**
HABR				*e*S	**Sn**	**07 43 24.1**	**-7.3**
GTA	**Gaotai**	**17.74**	**207**	*e*P	**Pn**	**07 40 41.9**	**+5.4**
GTA				AP	pP	07 40 45.9	+5.8
GTA				XP	sP	07 40 48.8	+7.4
GTA				LG2		07 45 57.1	
GTA				AMB	AMB		
comp=Z,4.0nm,1.1s							
TIXI	**Tiksi**	**17.84**	**19**	⇓*e*P	**Pn**	**07 40 34.0**	**-3.7**
TIXI				pmax	pmax		
comp=Z,4.0nm,0.5s							
TIXI				MLR	MLR		
comp=Z,100nm,24.0s							
TIXI	**Tiksi**	**17.84**	**19**	*e*P	**Pn**	**07 40 33.7**	**-4.1**
comp=Z,15nm,0.4s							
WMQ	**Urumqi**	**18.72**	**240**	P	**Pn**	**07 40 52.1**	**+3.6**
WMQ				PP		07 41 07.8	
WMQ				PPP		07 41 17.1	
WMQ				S	**Sn**	**07 44 19.6**	**+1.7**
WMQ				SS		07 44 42.3	
WMQ				LR	LR		
comp=N,77nm,14.0s							
WMQ				LR	LR		
comp=E,106nm,18.0s							
WMQ				LR	LR		
comp=Z,66nm,18.0s							
KURK	**Kurchatov**	**19.49**	**268**	*c i*P	**Pn**	**07 40 56.9**	**-0.9**
KURK	**Kurchatov**	**19.49**	**268**	*e*P	**Pn**	**07 40 56.8**	**-1.1**
comp=Z,18nm,0.8s							
MK31	**Makanchi Array**	**19.54**	**255**	*e*P	**Pn**	**07 40 57.4**	**-1.0**
SEY	**Seymchan**	**22.30**	**54**	*i* P	**P**	**07 41 25.7**	**-1.2**
BVAR	**Borovoye Array**	**23.16**	**280**	P	**P**	**07 41 35.7**	**-0.4**
comp=Z,7.9nm,0.7s,mb4.3,baz=72,slow=9.3,SNR=21							
BRVK	**Borovoye**	**23.21**	**280**	*e*P	**P**	**07 41 36.3**	**-0.3**
BRVK				pmax	pmax		
comp=Z,12nm,0.8s,mb4.4							
BRVK	**Borovoye**	**23.21**	**280**	*e*P	**P**	**07 41 36.2**	**-0.3**
comp=Z,12nm,0.8s,mb4.4							
CD2	**Chengdu**	**25.22**	**193**	*e*P	**P**	**07 41 53.9**	**-1.5**
CD2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.6							
AAK	**Ala-Archa**	**26.46**	**255**	*i* P	**P**	**07 42 06.9**	**+0.3**
AAK	**Ala-Archa**	**26.46**	**255**	*e*P	**P**	**07 42 06.5**	**-0.1**
comp=Z,3.8nm,0.8s,mb4.0							
BILL	**Bilibino**	**28.00**	**42**	*e*P	**P**	**07 42 20.7**	**+0.3**
BILL				*e*		07 43 07.0	
BILL				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.5							
BILL				MLR	MLR		
comp=Z,100nm,17.0s,MS3.5							
GYA	**Guiyang**	**29.35**	**187**	P	**P**	**07 42 35.0**	**+2.6**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
AKTK	**Aktyubinsk**	**31.20**	**283**	P	**P**	**07 42 49.0**	**+0.3**
AKTO	**Aktyubinsk**	**31.20**	**283**	P	**P**	**07 42 49.0**	**+0.3**
comp=Z,1.1nm,0.6s,mb3.9,baz=78,slow=13,SNR=3.6							
APA	**Apatity**	**35.83**	**320**	*i*	**P**	**07 43 27.0**	**-2.1**
APA				pmax	pmax		
comp=Z,6.0nm,1.4s,mb4.3							
KEV	**Kevo**	**37.25**	**325**	*ep*	**P**	**07 43 40.3**	**-0.9**
comp=Z,11nm,0.6s,mb4.9							
KEV	**Kevo**	**37.25**	**325**	*e*P	**P**	**07 43 40.3**	**-0.9**
KEV				pmax	pmax		
comp=Z,11nm,0.6s,mb4.9							
ARCES	**ARCESS Array B**	**37.82**	**325**	P	**P**	**07 43 45.9**	**-0.2**
comp=Z,4.3nm,0.6s,mb4.4,baz=63,slow=10,SNR=19							
JOF	**Joensuu**	**38.49**	**314**	*ep*	**P**	**07 43 50.9**	**-0.8**
comp=Z,1.5nm,0.4s,mb4.1							
OBN	**Obninsk**	**40.00**	**301**	*e*P	**P**	**07 44 03.3**	**-1.0**
OBN				*e*S	**S**	**07 50 08.0**	**-1.8**
OBN				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.3							
OBN				MLR	MLR		
comp=Z,100nm,19.0s,MS3.7							
KAF	**Kangasniemi**	**40.92**	**314**	*ep*	**P**	**07 44 10.7**	**-1.2**
comp=Z,5.1nm,0.6s,mb4.3,baz=60,slow=7.9							
KAF	**Kangasniemi**	**40.92**	**314**	*e*P	**P**	**07 44 10.7**	**-1.2**
KAF				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.3							
FINES	**FINESS Array B**	**41.36**	**314**	P	**P**	**07 44 15.4**	**-0.2**
comp=Z,3.8nm,0.5s,mb4.3,baz=64,slow=8.8,SNR=35							
FINES				PcP	PcP	07 46 14.6	+0.9
comp=Z,3.6nm,1.1s,baz=49,slow=5.8,SNR=5.5							
FINES	**FINESS Array B**	**41.36**	**314**	*i* P	**P**	**07 44 15.3**	**-0.2**
FINES				pmax	pmax		
comp=Z,4.0nm,0.5s							
IMA2	**Indian Mountai**	**43.24**	**36**	*e*P	**P**	**07 44 30.9**	**0.0**
KIV	**Kislovodsk**	**43.44**	**284**	*e*P	**P**	**07 44 30.6**	**-1.8**
KIV				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.4							
KIV	**Kislovodsk**	**43.44**	**284**	*e*P	**P**	**07 44 30.6**	**-1.9**
comp=Z,5.1nm,0.6s,mb4.4							
COLA	**College**	**45.91**	**36**	*e*P	**P**	**07 44 50.2**	**-2.0**
COLA				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.5							
COLA	**College**	**45.91**	**36**	*e*P	**P**	**07 44 50.2**	**-2.0**
comp=Z,2.8nm,0.5s,mb4.5							
AKASG	**Malin Array Be**	**46.19**	**299**	P	**P**	**07 44 53.7**	**-0.6**
comp=Z,2.1nm,0.6s,mb4.3,baz=44,slow=8.6,SNR=16							
AKASG	**Malin Array Be**	**46.19**	**299**	*i* P	**P**	**07 44 54.0**	**-0.4**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.6s							
HFS	**Hagfors**	**47.05**	**317**	P	**P**	**07 45 00.6**	**-0.5**
comp=Z,3.8nm,0.5s,mb4.6,baz=52,slow=9.6,SNR=29							
NB2	**NORSAR Subarra**	**47.40**	**319**	P	**P**	**07 45 03.5**	**-0.3**
comp=Z,1.7nm,0.5s,mb4.2,baz=45,slow=7.4							
NOA	**NORSAR Array B**	**47.40**	**319**	P	**P**	**07 45 03.8**	**0.0**
comp=Z,3.4nm,0.7s,mb4.4,baz=46,slow=7.3,SNR=9.3							
INK	**Inuvik**	**47.74**	**27**	P	**P**	**07 45 06.5**	**0.0**
comp=Z,1.5nm,0.6s,mb4.2,baz=327,slow=12,SNR=12							
INK	**Inuvik**	**47.74**	**27**	P	**P**	**07 45 06.5**	**0.0**
INK				pmax	pmax		
comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**47.74**	**27**	*e*P	**P**	**07 45 06.3**	**-0.2**
comp=Z,242nm,1.4s							
RES	**Resolute Bay**	**48.80**	**9**	*e*P	**P**	**07 45 13.4**	**-1.2**
comp=Z,80nm,1.1s							
KONO	**Kongsberg**	**48.92**	**319**	*e*P	**P**	**07 45 13.2**	**-2.4**
KONO				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
KONO	**Kongsberg**	**48.92**	**319**	*e*P	**P**	**07 45 13.2**	**-2.5**
comp=Z,4.2nm,0.8s,mb4.5							
DAWY	**Dawson**	**49.16**	**33**	*e*P	**P**	**07 45 17.8**	**+0.4**
BRTR	**Keskin Array B**	**51.26**	**286**	P	**P**	**07 45 35.2**	**+1.8**
comp=Z,1.0nm,0.7s,mb3.8,baz=56,slow=4.6,SNR=3.2							
VRAC	**Vranov**	**53.16**	**305**	P	**P**	**07 45 48.4**	**+1.0**
comp=Z,0.8nm,0.4s,mb4.0,baz=27,slow=4.5,SNR=3.7							
GERES	**GERESS Array B**	**54.81**	**307**	P	**P**	**07 46 00.2**	**+0.6**
comp=Z,0.6nm,0.7s,mb3.7,baz=47,slow=8.0,SNR=9.0							
EKA	**Eskdalemuir Ar**	**56.77**	**321**	P	**P**	**07 46 13.5**	**-0.1**
comp=Z,1.5nm,0.7s,mb4.2,baz=48,slow=6.8,SNR=9.7							
ESK	**Eskdalemuir**	**56.79**	**321**	*e*P	**P**	**07 46 12.9**	**-0.9**
ESK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
ESK	**Eskdalemuir**	**56.79**	**321**	*e*P	**P**	**07 46 12.9**	**-0.9**
comp=Z,5.1nm,0.8s,mb4.6							
YKA	**Yellowknife Ar**	**57.04**	**23**	P	**P**	**07 46 14.7**	**-0.8**
comp=Z,2.0nm,0.7s,mb4.3,baz=331,slow=7.1,SNR=27							
YKA	**Yellowknife Ar**	**57.04**	**23**	P	**P**	**07 46 14.7**	**-0.8**
ESDC	**Sonseca Array**	**69.82**	**311**	P	**P**	**07 47 41.0**	**+0.9**
comp=Z,1.4nm,0.7s,mb4.0,baz=27,slow=6.5,SNR=12							
RLMT	**Red Lodge**	**74.14**	**28**	*e*P	**P**	**07 48 05.9**	**-0.1**
comp=Z,6.6nm,0.8s,mb4.6							
MDT	**Midelt**	**75.86**	**308**	P	**P**	**07 48 16.4**	**+0.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=31,slow=9.1,SNR=6.0							
PDAR	**Pinedale Array**	**76.25**	**29**	P	**P**	**07 48 18.8**	**+0.6**
comp=Z,0.2nm,0.5s,mb3.3,baz=48,slow=2.7,SNR=2.7							
NVAR	**Mina Array Bea**	**77.51**	**37**	P	**P**	**07 48 26.9**	**+1.6**
comp=Z,0.6nm,0.6s,mb3.7,baz=313,slow=6.2,SNR=8.5							
WRA	**Warramunga Arr**	**78.08**	**157**	P	**P**	**07 48 28.7**	**+0.3**
comp=Z,0.9nm,0.9s,mb3.7,baz=350,slow=6.3,SNR=6.5							
WRA	**Warramunga Arr**	**78.08**	**157**	*i* P	**P**	**07 48 30.1**	**+1.6**
WRA				pmax	pmax		
comp=Z,1.0nm,1.0s							
ASAR	**Alice Sprngs**	**81.59**	**158**	P	**P**	**07 48 48.3**	**+0.8**

mb1 3.5/11, mb1mx3.3/24, mbtmp3.2/11, Error ellipse: s-maj=23.7km s-min=15.9km az=128.0

ISC 24 07:45:40.1±0.6, 458N±01×15331E±010, h35km, n36, σ1§32/43, mb3.6/9, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.87	264	⇑iPN			Pn	07 46 39.5	+2.5
KUR				eS			Sn	07 47 26.0	+4.9
KUR				pmax			pmax		
	comp=Z,190nm,0.7s								
KUR				smax					
	comp=N,140nm,0.9s								
KUR				smax					
	comp=E,230nm,0.9s								
SKR	Severo-Kuril's	5.24	20	ePN			Pn	07 46 54.1	-1.7
NEM2	Nemuro 2	5.92	248	P			Pn	07 47 04.6	-0.7
NEM2				eS			Sn	07 48 10.8	-1.1
JRA	Rausu	6.11	255	P			Pn	07 47 09.0	+1.2
JNK	Nakash	6.51	253	P			Pn	07 47 14.0	+0.7
JAK	Akkeshi	6.77	249	P			Pn	07 47 16.4	-0.5
JAK				eS			Sn	07 48 31.3	-1.5
JTKR	Abashiri--Toko	6.92	258	P			Pn	07 47 20.3	+1.3
JAR	Ashorobuto	7.26	253	P			Pn	07 47 24.5	+0.9
JAR				eS			Sn	07 48 46.4	+1.7
JMP	Maruseppu	7.29	259	P			Pn	07 47 26.1	+2.1
JOB	Onbets	7.38	250	P			Pn	07 47 25.6	+0.4
JOB				eS			Sn	07 48 47.0	-0.7
JKK2	Kamakawa 2	7.75	259	P			Pn	07 47 32.1	+1.8
JCH	Churui	7.82	250	P			Pn	07 47 31.2	-0.1
JCH				eS			Sn	07 48 56.9	-1.7
JFR	Furan	8.10	255	P			Pn	07 47 37.3	+2.2
JNBK	Urakawa-nobuka	8.38	249	P			Pn	07 47 38.4	-0.5
JNBK				eS			Sn	07 49 11.2	-1.0
JBT2	Biratori 2	8.41	253	P			Pn	07 47 39.8	+0.4
JKB	Kayabe	9.69	251	P			Pn	07 47 56.3	-0.6
JANG	Nango	10.18	242	P			Pn	07 48 01.5	-2.2
JTM	Tenmabayashi	10.23	245	P			Pn	07 48 02.7	-1.6
JIO	Ouri	11.51	235	P			Pn	07 48 19.7	-2.1
MAT	Matsushiro	14.63	236	X			Pn	07 49 13.2	+8.7
MJAR	Matsushiro Arr	14.63	236	P			Pn	07 49 12.8	+8.3
	comp=E,0.4nm,0.3s,baz=38,slow=8.6,SNR=14								
KSRS	Korea Array	20.66	255	P			P	07 50 20.3	+3.6
	comp=E,1.2nm,0.6s,baz=57,slow=11,SNR=5.4								
SONM	Songino Array	31.79	291	P			P	07 52 02.8	+1.7
	comp=E,0.3nm,0.5s,mb3.3,baz=84,slow=7.6,SNR=2.0								
INK	Inuvik	42.39	32	P			P	07 53 30.9	-0.1
	comp=E,0.7nm,0.7s,mb3.4,baz=288,slow=19,SNR=5.7								
INK	Inuvik	42.39	32	P			P	07 53 30.9	-0.1
INK				pmax			pmax		
	comp=Z,1.0nm,0.7s								
BVAR	Borovoye Array	51.57	310	P			P	07 54 41.2	-1.4
	comp=Z,0.9nm,0.7s,mb3.8,baz=40,slow=7.5,SNR=5.0								
BVAR	Borovoye Array	51.57	310	P			P	07 54 41.2	-1.5
BVAR				pmax			pmax		
	comp=Z,1.0nm,0.7s								
YKA	Yellowknife Ar	51.61	36	P			P	07 54 41.8	-1.2
	comp=Z,0.4nm,0.8s,mb3.4,baz=296,slow=7.1,SNR=6.2								
NVAR	Mina Array Bea	62.76	62	P			P	07 56 02.5	+0.8
	comp=Z,0.5nm,0.9s,mb3.7,baz=294,slow=2.9,SNR=3.6								
FINES	FINESS Array B	64.96	335	P			P	07 56 15.4	-0.8
	comp=Z,1.4nm,0.7s,mb4.1,baz=38,slow=9.6,SNR=5.8								
FINES	FINESS Array B	64.96	335	P			P	07 56 15.4	-0.8
FINES				pmax			pmax		
	comp=Z,1.0nm,0.7s								
WRA	Warramunga Arr	67.66	199	P			P	07 56 34.3	+0.8
	comp=Z,0.7nm,1.2s,mb3.6,baz=186,slow=38,SNR=2.5								
WRA	Warramunga Arr	67.66	199	P			P	07 56 34.3	+0.8
WRA				pmax			pmax		
	comp=Z,1.0nm,1.2s								
ASAR	Alice Springs	71.35	199	P			P	07 56 57.7	+1.5
	comp=Z,0.5nm,0.8s,mb3.5,baz=13,slow=6.7,SNR=4.0								
ASAR	Alice Springs	71.35	199	P			P	07 56 57.7	+1.5
ASAR				pmax			pmax		
	comp=Z,1.0nm,0.8s								
TXAR	Lajitas Array	77.85	60	P			P	07 57 33.4	-0.6
	comp=Z,0.3nm,0.6s,mb3.4,baz=313,slow=5.6,SNR=5.7								

*BJI **24** 08:00:55.6, 783S×11708E, h518km, mB4.8, mb5.2*
*MOS **24** 08:01:03.8±0.9, 674S×11649E, h514km, mb5.3/48, Error ellipse: s-maj=9.2km s-min=5.3km az=114.3*
*ISCJB **24** 08:01:03.9±0.1, 684S±002×11650E±003, h518km, mb5.2/118, Error ellipse: s-maj=3.8km s-min=2.9km az=110.6*
*GCMT **24** 08:01:05.2±0.3, 679S×11663E, h531km±2km, MW5.6/79, Moment Tensor Solution. s79,c118; Duration: 1§5 Moment tensor: Scale 10^17 Nm; M_{rr}-2.70±.07; $M_{\theta\theta}$1.34±.11; $M_{\phi\phi}$1.36±.14; $M_{r\theta}$0.17±.13; $M_{\theta\phi}$-1.44±.12; $M_{\phi r}$-0.88±.13; Best double couple: $M_0$2.88800×10^17 NP1:φs125.00000°, δ38.00000°, λ-106.00000°. NP2: φs325.00000°, δ53.00000°, λ-78.00000°. Principal axes: T 2.8900, Plg8.0000°, Azm46.0000°; N -0.0030, Plg10.0000°, Azm138.0000°; P -2.8870, Plg77.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **24** 08:01:05.7±0.5, 680S×11658E, h525km±4km, mb4.7/25, mb1 4.7/27, mb1mx4.7/28, mbtmp4.7/27 Error ellipse: s-maj=7.8km s-min=5.2km az=58.0*
*NEIC **24** 08:01:05.2±0.1, 680S×11651E, mb5.3/61, Error ellipse: s-maj=5.3km s-min=3.6km az=60.0*

ISC 24 08:01:05.2±0.1, 685S±002×11653E±003, h520km, h520km±1.9km: pP-P, n630, σ1§00/363, mb5.2/118, 115C-148D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DNP	Denpasar	2.24	216	P			P	08 02 12.0	-1.3
14μm,1.1s									
NBBI	Negara	2.42	231	P			P	08 02 12.6	-1.7
4μm,0.8s									
KMMI	Kalianget	2.55	265	P			P	08 02 15.5	+0.5
2μm,1.0s									
KRKI	Karangkates	4.25	252	P			P	08 02 25.6	-1.3
2μm,0.6s									
BJII	Banjamegara	6.79	265	P			P	08 02 50.2	+0.3
3μm,1.4s									
JCJI	Jatiwangi	8.21	272	P			P	08 03 03.3	-0.9
2μm,1.0s									
LEM	Lembang	8.85	270	P			P	08 03 11.0	+0.2
3μm,0.7s									
CBJI	Citeko	9.63	272	P			P	08 03 17.5	-1.3
5μm,0.9s									
TPI	Tanjungpandan	9.73	294	P			P	08 03 19.4	-0.5
164nm,1.4s									
TNG	Tangerang	9.85	273	P			P	08 03 21.3	+0.2
1μm,1.1s									
TARAI	Tarakan	10.16	6	P			P	08 03 25.4	+1.1
4μm,1.6s									
KSM	Kuching	10.34	323	ePn			P	08 03 27.6	+1.3
SBJI	Serang	10.36	273	P			P	08 03 25.7	-0.8
812nm,1.4s									
TSM	Tawau	11.15	7	P			P	08 03 35.7	+1.0
AAI	Ambon	12.03	75	P			P	08 03 42.8	-1.2
3μm,0.8s									
KKM	Kota Kinabalu	12.81	359	P			P	08 03 51.9	-0.2
KKM	Kota Kinabalu	12.81	359	ePn			P	08 03 51.8	-0.3
FITZ	Fitzroy Crossi	14.28	142	eP			P	08 04 07.0	-0.5
53nm,0.4s									
FITZ				*i*S			S	08 06 34.8	-3.0
FITZ	Fitzroy Crossi	14.28	142	P			P	08 04 07.7	+0.1
6.4nm,0.3s,baz=335,slow=7.5,SNR=52									
FITZ				S			S	08 06 33.2	-4.6
baz=150,slow=22,SNR=1.6									
BATP	Bataraza	15.59	5	eP			P	08 04 21.0	-0.1
KGM	Kluang	15.86	303	P			P	08 04 25.1	+1.2
DAV	Davao City (W)	16.51	33	⇑P			P	08 04 30.3	-0.3
SNR=12									
DAV	Davao City (W)	16.51	33	eP			P	08 04 30.2	-0.4
180nm,0.4s									
PPR	Puerto Princes	16.66	8	⇑*i*P			P	08 04 32.5	+0.5
KAKA	Kakadu	16.72	112	eP			P	08 04 30.5	-2.2
156nm,0.4s									
KAKA				eS			S	08 07 20.7	-1.5
MATI	Mati	16.79	35	eP			P	08 04 32.2	-1.1
BUKP	Musuan	16.92	30	eP			P	08 04 34.5	0.0
PPI	Padang Panjang	17.30	291	P			P	08 04 36.8	-1.2
205nm,1.0s									
SNPH	Sibulan	17.41	23	⇑eP			P	08 04 39.5	+0.4
TBP	Tagbilaran	17.98	24	eP			P	08 04 44.7	+0.5
CUYO	Cuyo Island	18.14	14	eP			P	08 04 47.5	+1.8
ENPP	El Nido	18.16	9	eP			P	08 04 47.5	+1.5
GUIM	Jordan	18.37	19	eP			P	08 04 48.9	+1.0
LLP	Lapu-Lapu	18.59	24	⇑eP			P	08 04 50.5	+0.6
807μm,2.0s									
LLP				eS			S	08 08 00.0	+7.3
MSLP	Maasin	18.80	26	eP			P	08 04 52.3	+0.6
BUSP	Coron	19.08	11	eP			P	08 04 56.3	+2.0
IPM	Ipoh	19.13	306	P			P	08 04 55.6	+0.8
RCP	Roxas	19.30	19	⇑eP			P	08 04 56.9	+0.6
OTRP	Odiongan	19.85	16	eP			P	08 05 02.1	+0.8
KULM	Kulim	19.91	307	eP			P	08 05 02.2	+0.3
PSI	Prapat	20.02	298	P			P	08 05 03.3	+0.4
5.6nm,0.3s,baz=119,slow=9.4,SNR=19									
PSI				S			S	08 08 14.2	-1.7
0.4nm,0.3s,baz=36,slow=19,SNR=2.6									
SNG	Songkhla	21.12	311	P			P	08 05 13.0	+0.2
270nm,1.0s,mb5.8									
TGY	Tagaytay City	21.27	12	P			P	08 05 14.6	+0.5
132nm,0.3s,baz=217,slow=4.0,SNR=4.8									
TGY				S			S	08 08 36.2	+0.6
85nm,0.3s,baz=234,slow=19,SNR=1.5									
WRA	Warramunga Arr	21.64	129	P			P	08 05 17.9	+0.4
70nm,0.6s,mb5.5,baz=310,slow=9.5,SNR=891									
WRA				S			S	08 08 40.1	-1.4
24nm,0.9s,baz=293,slow=19,SNR=4.6									
WRA				PKiKP			PKiKP	08 16 43.0	-0.4
2.0nm,0.4s,baz=306,slow=1.3,SNR=26									
WRA	Warramunga Arr	21.64	129	P			P	08 05 17.9	+0.4
WRA				S			S	08 08 40.1	-1.4
WB2	Warramunga Arr	21.65	129	eP			P	08 05 17.4	-0.2
WB2				eS			S	08 08 39.5	-2.1
WB2				eSCS			ScS	08 15 27.8	-2.6
ASAR	Alice Springs	23.63	137	P			P	08 05 35.9	+0.6
44nm,0.3s,mb5.5,baz=312,slow=7.7,SNR=1307									
ASAR				PcP			PcP	08 09 02.3	+0.6
19nm,0.3s,baz=314,slow=2.0,SNR=18									
ASAR				S			S	08 09 09.9	-2.9
31nm,0.8s,baz=332,slow=20,SNR=6.7									
ASAR				ScP			ScP	08 11 51.7	+1.1
12nm,0.7s,baz=354,slow=1.3,SNR=7.1									
ASAR				PKiKP			PKiKP	08 16 44.0	-0.4
0.8nm,0.3s,baz=4.5,slow=1.1,SNR=7.6									
ASAR	Alice Springs	23.63	137	P			P	08 05 35.9	+0.6
ASAR								08 09 02.3	
ASAR				S			S	08 09 09.9	-3.0
ASAR	Alice Springs	23.63	137	P			P	08 05 35.9	+0.6
ASAR				PcP			PcP	08 09 02.3	+0.6
ASAR				S			S	08 09 09.9	-2.9
ASAR				ScP			ScP	08 11 51.7	+1.1
CAUP	Cauayan	24.21	12	eP			P	08 05 40.8	+0.3
KLBR	Kellerberrin	24.65	177	⇑*i*P			P	08 05 44.1	-0.2
76nm,1.2s,mb5.2									
KLBR				eS			S	08 09 26.7	-2.2
ABRA	Dolores	24.69	10	eP			P	08 05 43.2	-1.5
MUN	Mundaring	25.01	181	⇑*i*P			P	08 05 47.8	+0.3
MUN				ePCP			PcP	08 09 04.9	+0.1
NWAO	Narrogin (SRO)	25.96	179	P			P	08 05 56.7	+0.8
116nm,0.8s,mb5.6,baz=360,slow=9.2,SNR=68									
NWAO				PcP			PcP	08 09 07.4	+0.3
11nm,0.4s,baz=156,slow=2.2,SNR=4.2									
NWAO				S			S	08 09 48.0	-1.4
24nm,0.9s,baz=94,slow=22,SNR=1.3									
NWAO	Narrogin (SRO)	25.96	179	eP			P	08 05 56.6	+0.7
NWAO				pmax			pmax		
comp=Z,103nm,0.8s									
NWAO	Narrogin (SRO)	25.96	179	eP			P	08 05 56.6	+0.7
comp=Z,103nm,0.8s,mb5.5									
FORT	Forrest	26.15	157	eP			P	08 05 58.2	+0.6
comp=Z,43nm,0.4s,mb5.4									
FORT				ePCP			PcP	08 09 08.4	+0.9
FORT				eS			S	08 09 52.3	-0.1
QIZ	Qiongzhong	26.54	346	P			P	08 06 01.8	+0.7
QIZ				XP			sP	08 08 29.8	+2.0
QIZ				PCP			PcP	08 09 09.1	+0.7
QIZ				S			S	08 10 00.5	+1.9
QIZ				SCP			ScP	08 11 59.6	+0.6
QIZ				AMB			AMB		
comp=Z,71nm,2.2s,mb4.9									
QIZ				AMB			AMB		
comp=Z,886nm,3.5s									
QIZ	Qiongzhong	26.54	346	eP			P	08 06 02.2	+1.2
comp=Z,15nm,0.4s,mb5.0									
KKTK	Khon Kaen	26.73	330	P			P	08 06 04.0	+1.3
comp=Z,1μm,0.7s									
NST	Nakhon Sawan	27.65	324	P			P	08 06 11.6	+0.8
comp=Z,146nm,0.8s,mb5.7									
NANT	Nan	29.88	329	⇓P			P	08 06 30.0	-0.2
comp=Z,646nm,1.0s,mb6.1									
GZH	Guangzhou	29.91	354	P			P	08 06 30.9	+0.4
GZH				S			S	08 10 57.4	+6.4
PMG	Port Moresby	30.42	97	P			P	08 06 35.4	+0.6
comp=Z,18nm,0.6s,mb4.8,baz=292,slow=21,SNR=11									
PMG				PcP			PcP	08 09 18.7	+0.4
comp=Z,17nm,0.7s,baz=236,slow=11,SNR=3.1									
PMG				S			S	08 10 58.5	-0.3
comp=Z,5.0nm,0.7s,baz=250,slow=20,SNR=0.8									
PMG	Port Moresby	30.42	97	eP			P	08 06 35.2	+0.3
PMG				pmax			pmax		
comp=Z,19nm,0.6s									
PMG	Port Moresby	30.42	97	eP			P	08 06 35.2	+0.4
comp=Z,19nm,0.6s,mb4.8									
CM31	Chiang Mai Arr	30.55	326	eP			P	08 06 37.3	+1.4
comp=Z,28nm,0.5s,mb5.0									
CHG	Chiang Mai	30.84	326	⇓P			P	08 06 39.7	+1.3
comp=Z,80nm,0.8s,mb5.3									
CHTO	Chiang Mai	30.84	326	⇓P			P	08 06 39.8	+1.4
SNR=15									
CHTO	Chiang Mai	30.84	326	eP			P	08 06 39.7	+1.3
CHTO				pmax			pmax		
comp=Z,76nm,1.0s,mb5.2									
CHTO	Chiang Mai	30.84	326	eP			P	08 06 39.7	+1.2
comp=Z,76nm,1.0s,mb5.2									
NACB	Ninganchiao	31.22	9	eP			P	08 06 40.2	-1.6
QZH	Quanzhou	31.66	4	eP			P	08 06 45.8	+0.3
QZH				S			S	08 11 16.3	-1.5
QZH				XS			sS	08 14 15.1	+13
YHNB	Yeheng	31.68	8	eP			P	08 06 45.8	+0.1
CTA	Charters Tower	31.69	117	⇓*i*P			P	08 06 46.1	+0.4
comp=Z,35nm,0.9s,mb4.9									
CTA				ePCP			PcP	08 09 22.9	+1.1
CTA				eS			S	08 11 11.3	-7.0
CTA				eSCP			ScP	08 12 15.4	-0.2
CTA	Charters Tower	31.69	117	P			P	08 06 46.5	+0.8
comp=Z,41nm,0.8s,mb5.0,baz=294,slow=10,SNR=38									
CTA				PcP			PcP	08 09 23.0	+1.2
comp=Z,25nm,0.5s,baz=312,slow=3.5,SNR=13									
CTA				S			S	08 11 17.9	-0.4
comp=Z,16nm,1.1s,baz=235,slow=19,SNR=3.3									
CTA				ScP			ScP	08 12 15.5	-0.1
comp=Z,16nm,0.9s,baz=277,slow=6.1,SNR=3.7									
CTA	Charters Tower	31.69	117	⇓*i*P			P	08 06 46.1	+0.4
CTA				*e*				08 09 22.9	
CTA				pmax			pmax		
comp=Z,35nm,0.9s									
CTAO	Charters Tower	31.69	117	eP			P	08 06 46.7	+1.0
CTAO				e*PP				08 08 13.1	
CTAO				eS			S	08 11 18.8	+0.5
CTAO				pmax			pmax		
comp=Z,70nm,1.0s,mb5.2									
CTAO	Charters Tower	31.69	117	eP			P	08 06 46.7	+1.0
comp=Z,70nm,1.0s,mb5.1									
CTAO				epP				08 08 13.1	
CTAO				eS			S	08 11 18.8	+0.6
TATO	Taipei	31.99	9	eP			P	08 06 46.9	-1.4
comp=Z,116nm,0.6s,mb5.6									
STKA	Stephens Creek	34.16	140	⇓*i*P			P	08 07 07.4	+0.7
comp=Z,66nm,0.6s,mb5.3									
STKA				ePCP			PcP	08 09 29.2	+0.4
STKA				eS			S	08 11 55.3	-0.6
STKA	Stephens Creek	34.16	140	P			P	08 07 07.4	+0.7
comp=Z,78nm,0.4s,mb5.6,baz=318,slow=8.1,SNR=407									
STKA				PcP			PcP	08 09 29.4	+0.6
comp=Z,26nm,0.4s,baz=339,slow=2.9,SNR=11									
STKA				S			S	08 11 54.5	-1.4
comp=Z,55nm,1.2s,baz=124,slow=17,SNR=6.5									
GYA	Guiyang	34.46	344	⇓*i*P			P	08 07 10.4	+1.2
GYA				AP				08 08 42.9	
GYA				PP			PP	08 08 47.9	+3.6
GYA				XP			sP	08 09 40.3	+1.8
GYA				S			S	08 12 05.0	+4.6
GYA				SCS			ScS	08 16 31.8	+2.0
GYA				AMB			AMB		
comp=Z,60nm,0.9s,mb5.1									
GYA				AMB			AMB		
comp=Z,240nm,2.8s,mb5.2									
KMI	Kunming	34.49	338	⇓P			P	08 07 12.1	+2.6
KMI				AP				08 08 42.8	
KMI				PP			PP	08 08 48.4	+3.7
KMI				PPP				08 09 19.6	
KMI				XP			sP	08 09 40.6	+1.8
KMI				S			S	08 12 04.6	+3.7
KMI				SCS			ScS	08 16 31.6	+1.6
KMI				AMB			AMB		
comp=Z,130nm,0.8s,mb5.5									
KMI				AMB			AMB		
comp=Z,426nm,3.1s									
KMI	Kunming	34.49	338	⇓P			P	08 07 12.1	+2.6
KMI				*PP				08 08 42.7	
KMI								08 09 32.0	
KMI				*SP			sP	08 09 40.6	+1.8
KMI				S			S	08 12 04.6	+3.7
KMI				*SS			sS	08 14 48.0	+1.6
KMI				SS			SS	08 15 00.3	-2.8
KMI								08 16 31.6	
KMI				pmax			pmax		
comp=Z,130nm,0.8s,mb5.5									
KMI				MLR			MLR		
comp=Z,310nm,15.6s									
KMI	Kunming	34.49	338	⇓P			P	08 07 12.1	+2.6
comp=Z,130nm,0.8s,mb5.5									
KMI				pP				08 08 42.7	
KMI				PP			PP	08 08 48.4	+3.7
KMI				PPP				08 09 19.6	
KMI				PcP			PcP	08 09 32.0	+2.2
KMI				sP			sP	08 09 40.6	+1.8
KMI				S			S	08 12 04.6	+3.7
KMI				ScP			ScP	08 12 28.0	+2.5
KMI				PcS			PcS	08 13 18.1	+1.0
KMI				sS			sS	08 14 48.0	+1.6
KMI				SS			SS	08 15 00.3	-2.8
KMI				SSS				08 15 46.6	
KMI				ScS			ScS	08 16 31.6	+1.6
KMI				LR			LR		
comp=Z,310nm,15.6s									
ADE	Adelaide	34.64	147	⇑*i*P			P	08 07 12.2	+1.5
GUMO	Guam	34.70	54	P			P	08 07 10.7	-0.5
comp=Z,129nm,0.6s,mb5.6,baz=170,slow=15,SNR=10									
GUMO	Guam	34.70	54	eP			P	08 07 10.9	-0.3
GUMO				pmax			pmax		
comp=Z,100nm,0.5s,mb5.6									
GUMO	Guam	34.70	54	eP			P	08 07 10.9	-0.3
comp=Z,100nm,0.5s,mb5.6									
WHN	Wuhan	37.23	357	⇓P			P	08 07 33.5	+1.3
SSE	Sheshan	37.99	6	P			P	08 07 39.4	+1.0
SSE				XP			sP	08 10 06.6	-2.5
SSE				S			S	08 12 49.8	-3.2
SSE				XS			sS	08 15 40.9	0.0
SSE				AMB			AMB		
comp=Z,54nm,0.8s,mb5.1									
SSE				AMB			AMB		
comp=Z,45nm,3.9s									
SSE	Sheshan	37.99	6	P			P	08 07 39.4	+1.0
comp=Z,54nm,0.8s,mb5.1									
SSE				sP			sP	08 10 06.6	-2.5
SSE				S			S	08 12 49.7	-3.3
SSE				sS			sS	08 15 40.9	0.0
SSE				LR			LR		
comp=Z,210nm,21.3s									
IMP	Imphal	38.38	326	eP			P	08 07 41.0	-0.5
PALK	Pallekele	38.39	291	eP			P	08 07 42.3	+0.7
CD2	Chengdu	39.48	343	⇓*i*P			P	08 07 50.9	+0.4
CD2				AP			pP	08 09 23.5	+0.7
CD2				PP			PP	08 09 36.8	0.0
CD2				S			S	08 13 14.4	-0.6
CD2				AMB			AMB		
comp=Z,310nm,0.7s,mb6.0									
CD2				AMB			AMB		
comp=Z,220nm,4.4s									
SHL	Shillong	40.15	324	eP			P	08 07 57.0	+1.1
SHL				eS			S	08 13 24.4	-0.4
ARMA	Armidale	40.41	130	eP			P	08 08 00.5	+2.6
ARMA				ePCP			PcP	08 09 49.9	+1.6
ARMA				eSCP			ScP	08 12 48.6	+0.7
XAN	Xi'an	41.30	350	P			P	08 08 04.5	-0.5
XAN				AMB			AMB		
comp=Z,48nm,0.9s,mb5.0									
CNB	Canberra Magne	41.37	138	eP			P	08 08 07.0	+1.5
comp=Z,46nm,1.1s,mb4.9									
RIV	Riverview	41.77	135	⇑*i*P			P	08 08 11.0	+2.3
JNU	Nakatsue	42.02	18	P			P	08 08 10.8	+0.2
comp=Z,26nm,0.9s,mb4.8,baz=226,slow=19,SNR=8.8									
TRD	Trivandrum	42.30	291	eP			P	08 08 12.2	-0.7
KOD	Kodaikanal	42.44	293	*ex*			P	08 08 09.9	-4.1
TIA	Tai'an	42.83	1	⇓P			P	08 08 16.4	-0.7
TIA				AMB			AMB		
comp=Z,66nm,1.0s,mb5.1									
HNR	Honiara	43.04	96	P			P	08 08 19.7	+1.1
comp=Z,266nm,0.9s,mb5.8,baz=260,slow=1.5,SNR=7.8									
HNR				S			S	08 14 06.2	-0.2
comp=Z,59nm,0.8s,baz=271,slow=21,SNR=1.7									
HNR	Honiara	43.04	96	eP			P	08 08 19.5	+0.8
HNR				pmax			pmax		
comp=Z,212nm,0.9s,mb5.7									
HNR	Honiara	43.04	96	eP			P	08 08 19.5	+0.8
comp=Z,212nm,0.9s,mb5.7									
DGAR	Diego Garcia	43.73	266	eP			P	08 08 23.6	-0.5
DGAR				pmax			pmax		
comp=Z,111nm,0.7s,mb5.5									
DGAR	Diego Garcia	43.73	266	eP			P	08 08 23.6	-0.5
comp=Z,111nm,0.7s,mb5.5									
LSA	Lhasa	43.77	327	P			P	08 08 26.8	+2.5
LSA	Lhasa	43.77	327	eP			P

DL2 S **S** **08 14 41.1 -3.8**
DL2 XS sS 08 17 38.6 -0.5
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.1
DL2 AMB AMB
comp=Z,150nm,5.4s
DMN Daman 45.79 320⇓*i*P **P** **08 08 40.5 +0.6**
comp=Z,637nm,0.9s,mb6.1
KKN Kakani 45.80 320⇓*i*P **P** **08 08 40.4 +0.4**
NGP Nagpur 46.13 308 *e*P **P** **08 08 41.9 -0.6**
NGP AMb AMB 08 08 43.5
comp=Z,325nm,1.2s,mb5.7
GKN Gorkha 46.36 320⇓*i*P **P** **08 08 44.6 +0.4**
comp=Z,216nm,0.4s,mb6.1
ALBI Allahabad 46.50 315 *e*P **P** **08 08 42.5 -2.8**
BJT Baijiatuau 46.63 360 *e*P **P** **08 08 46.0 -0.3**
BJT pmax pmax
comp=Z,178nm,1.3s
BJT Baijiatuau 46.63 360 *e*P **P** **08 08 46.0 -0.3**
comp=Z,178nm,1.3s,mb5.4
BJI Beijing 46.65 360 P **P** **08 08 46.3 -0.2**
BJI PCP PcP 08 10 10.3 +0.5
BJI XP sP 08 11 23.1 +2.3
BJI XS sS 08 17 52.9 +0.7
BJI AMB AMB
comp=Z,102nm,1.0s,mb5.3
BJI AMB AMB
comp=Z,359nm,4.0s
BJI Beijing 46.65 360 P **P** **08 08 46.2 -0.3**
BJI 08 10 10.2
BJI *SP sP 08 11 23.1 +2.3
BJI SS SS 08 18 31.2 -0.8
BJI pmax pmax
comp=Z,102nm,1.0s,mb5.3
BJI Beijing 46.65 360 P **P** **08 08 46.2 -0.3**
comp=Z,102nm,1.0s,mb5.3
BJI PcP PcP 08 10 10.2 +0.4
BJI sP sP 08 11 23.1 +2.3
BJI S **S** **08 14 52.6 -4.7**
BJI sS sS 08 17 52.9 +0.7
BJI SS SS 08 18 31.2 -0.8
KOLN Koldanda 46.87 319⇓*i*P **P** **08 08 48.5 +0.4**
comp=Z,365nm,0.7s,mb6.0
AKL Akola 47.50 306 *e*P **P** **08 08 52.5 -0.4**
AKL AMb AMB 08 08 54.5
comp=Z,200nm,1.2s,mb5.5
BTO Baotou 47.59 353 *e*P **P** **08 08 52.6 -1.0**
HHC Hu-ho-hao-te 47.68 355 *e*P **P** **08 08 54.3 +0.1**
HHC AP pP 08 10 30.8 -0.6
HHC PP PP 08 10 55.1 +2.7
HHC XP sP 08 11 26.6 -2.4
HHC PCS PcS 08 14 08.3 -1.7
HHC S **S** **08 15 10.3 -1.2**
HHC AMB AMB
comp=Z,44nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,192nm,5.5s
MAJO Matsushiro 47.71 24 *e*P **P** **08 08 53.3 -1.1**
MAJO *e* 08 10 14.1
MAJO pmax pmax
comp=Z,26nm,0.6s,mb4.9
MAJO Matsushiro 47.71 24 *e*P **P** **08 08 53.3 -1.1**
comp=Z,26nm,0.6s,mb4.9
MAJO *e*PcP PcP 08 10 14.1 +0.5
MJAR Matsushiro Arr 47.71 24 P **P** **08 08 53.5 -0.9**
comp=Z,40nm,0.8s,mb5.0,baz=198,slow=7.9,SNR=123
MJAR PcP PcP 08 10 14.0 +0.4
comp=Z,14nm,1.0s,baz=209,slow=4.1,SNR=8.2
GOA Goa 47.77 298 *e*P **P** **08 08 52.8 -2.1**
GOA AMb AMB 08 08 54.9
comp=Z,208nm,1.1s,mb5.6
KAD Karad 48.24 300 *i*P **P** **08 08 57.9 -0.5**
BHPL Bhopal 48.53 309 *e*P **P** **08 09 00.1 -0.5**
BHPL AMb AMB 08 09 02.5
comp=Z,169nm,1.1s,mb5.5
GTA Gaotai 48.56 343⇓*i*P **P** **08 09 02.0 +1.3**
GTA PCP PcP 08 10 17.3 +0.6
GTA AP pP 08 10 40.9 +2.4
GTA PP PP 08 11 05.3 +5.0
GTA XP sP 08 11 36.8 +0.9
GTA SCP ScP 08 13 22.3 +0.7
GTA PCS PcS 08 14 12.9 -0.8
GTA S **S** **08 15 26.6 +3.0**
GTA SCS ScS 08 17 55.9 -1.0
GTA AMB AMB
comp=Z,116nm,0.9s,mb5.4
GTA AMB AMB
comp=Z,357nm,8.8s
SNY Shenyang 48.86 7⇓P **P** **08 09 02.3 -0.7**
SNY PCP PcP 08 10 17.4 -0.4
SNY PP PP 08 11 03.8 +0.7
SNY AMB AMB
comp=Z,42nm,1.4s,mb4.8
SNY AMB AMB
comp=Z,123nm,8.9s
POO Poona 49.07 302 *e*P **P** **08 09 03.5 -1.1**
POO *e*P 08 09 04.5
POO AMb AMB 08 09 05.9
comp=Z,208nm,0.9s,mb5.6
LGTI Lohaghat 50.19 318 *i*P **P** **08 09 11.5 -1.3**
PTH Pithoragarh 50.28 318 *e*P **P** **08 09 13.0 -0.4**
NOUC Port Laguerre 50.28 113 *e*P **P** **08 09 14.8 +1.3**
CN2 Changchun 51.05 8 *e*P **P** **08 09 18.0 -1.1**
CN2 *e*PCP PcP 08 10 26.1 +0.2
CN2 *e*AP pP 08 10 56.6 -1.6
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.6
VLA Vladivostok 51.65 14⇓*e*P **P** **08 09 23.8 +0.4**
VLA pmax pmax
comp=Z,54nm,1.6s,mb4.6
NDI New Delhi 51.80 315 *e*P **P** **08 09 22.6 -1.8**
AJM Ajmer 52.41 311 *i*P **P** **08 09 28.0 -0.9**
MDJ Mudanjiang 52.56 12 P **P** **08 09 29.6 -0.4**
MDJ PCP PcP 08 10 31.4 -0.3
MDJ AP pP 08 11 09.4 -0.5
MDJ PP PP 08 11 35.3 -0.8
MDJ S **S** **08 16 16.0 -1.6**
MDJ AMB AMB
comp=Z,67nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,202nm,4.4s
MDJ Mudanjiang 52.56 12 *e*P **P** **08 09 29.8 -0.2**
comp=Z,120nm,1.4s,mb5.0
BHJ Bhuj 54.70 305 *e*P **P** **08 09 44.6 -0.6**
BHJ AMb AMB 08 09 46.3
comp=Z,208nm,0.8s,mb5.4
DLH Dalhousie 54.99 318 *e*P **P** **08 09 47.0 -0.1**
THN Thein Dam 55.09 318 *e*P **P** **08 09 46.2 -1.6**
SONM Songino Array 55.17 352 P **P** **08 09 48.5 +0.1**
comp=Z,82nm,0.8s,mb5.0,baz=169,slow=9.1,SNR=353
SONM PcP PcP 08 10 41.7 -0.1
comp=Z,9.5nm,0.5s,baz=174,slow=3.9,SNR=11
SONM pP pP 08 11 30.0 +0.2
comp=Z,6.4nm,0.7s,baz=166,slow=8.8,SNR=1.6
SONM S **S** **08 16 50.2 -1.8**
comp=Z,1.3nm,1.1s,baz=170,slow=11,SNR=2.5
HIA Hailar 55.95 3 *e*P **P** **08 09 53.1 -0.7**
HIA *e* 08 10 44.7
HIA *e*PP pP 08 11 37.3 +1.8
HIA pmax pmax
comp=Z,26nm,0.8s
HIA Hailar 55.95 3 *e*P **P** **08 09 53.0 -0.8**
comp=Z,26nm,0.8s,mb4.5
HIA *e*PcP PcP 08 10 44.7 -0.1
HIA *e*pP pP 08 11 37.3 +1.8
WMQ Urumqi 56.77 335 P **P** **08 10 00.1 +0.6**
WMQ PCP PcP 08 10 49.3 +1.2
WMQ PP PP 08 12 15.3 +1.9
WMQ XP sP 08 12 35.9 -1.9
WMQ PPP 08 13 45.9
WMQ S **S** **08 17 13.3 +0.5**
WMQ SCS ScS 08 18 54.3 -0.9
WMQ AMB AMB
comp=Z,135nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,469nm,3.2s
KLR Kul'dur 57.41 12 *e*P **P** **08 09 59.4 -4.4**
HABR Khabarovsk 57.44 15⇓*i*P **P** **08 10 04.3 +0.2**
HABR *e*S **S** **08 17 20.0 -1.3**
HABR pmax pmax
comp=Z,111nm,1.1s,mb5.0
ZAK Zakamensk 58.14 350⇑*i*P **P** **08 10 00.7 -8.1**
ZAK *e* 08 10 52.4
ZAK pmax pmax
comp=Z,21nm,1.4s,mb4.2
YSS Yuzh-Sakhalins 58.40 21 *e*P **P** **08 10 10.8 +0.2**
YSS pmax pmax
comp=Z,38nm,0.6s,mb4.8
YSS Yuzh-Sakhalins 58.40 21 *e*P **P** **08 10 10.8 +0.2**
comp=Z,38nm,0.6s,mb4.8
CIT Chita 58.69 358 *e*P **P** **08 10 12.9 +0.4**
CIT *e* 08 10 51.5
CIT *e* pP 08 11 56.3 +0.7
CIT *e* 08 12 52.7
CIT *e* 08 17 36.8
TLY Talaya 59.34 351⇑P **P** **08 10 17.2 +0.3**
SNR=6.8
TLY Talaya 59.34 351 *e*P **P** **08 10 17.5 +0.6**
TLY pmax pmax
comp=Z,75nm,1.8s,mb4.6
TLY Talaya 59.34 351 *e*P **P** **08 10 17.6 +0.7**
comp=Z,23nm,0.7s,mb4.5
KSH Kashi 59.44 324 *i*P **P** **08 10 18.9 +1.4**
KSH PCP PcP 08 11 00.3 +1.6
KSH AP pP 08 12 01.3 +0.3
KSH PP PP 08 12 39.8 +3.0
KSH XP sP 08 12 55.0 -1.7
KSH S **S** **08 17 46.9 +0.4**
KSH SCS ScS 08 19 14.8 -0.1
KSH AMB AMB
comp=Z,734nm,1.0s,mb5.9
CASY Casey 59.48 183 *e*P **P** **08 10 17.9 0.0**
comp=Z,25nm,0.5s,mb4.7
IRK Irkutsk 59.78 351 *e*P **P** **08 10 18.6 -1.3**
IRK pmax pmax
comp=Z,113nm,2.1s,mb4.8
QUE Quetta 60.12 311 *e*P **P** **08 10 22.0 -0.1**
QUE *e*S **S** **08 17 51.0 -4.1**
THZ Tophouse 60.66 134 PN **P** **08 10 26.2 +0.5**
KBL Kabul 60.85 316 *e*P **P** **08 10 26.5 -0.4**
ULHL Ulahol 61.11 327 P **P** **08 10 29.1 +0.4**
SNR=7.8
KHZ Kahutara 61.32 135 PN **P** **08 10 30.5 +0.5**
MK31 Makanchi Array 61.45 334 *e*P **P** **08 10 30.7 -0.2**
MKAR Makanchi Array 61.45 334 P **P** **08 10 30.7 -0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.4s
KZA Kyzart 61.55 326 P **P** **08 10 32.7 +1.2**
SNR=132
TKM2 Tokmak 2 61.92 327 P **P** **08 10 33.9 0.0**
SNR=59
UCH Uchtor 62.05 326 P **P** **08 10 35.8 +0.9**
SNR=41
KBK Karagaybulak 62.10 326 P **P** **08 10 35.7 +0.6**
SNR=105
AAK Ala-Archa 62.33 326 P **P** **08 10 37.3 +0.7**
SNR=136
AAK Ala-Archa 62.33 326 P **P** **08 10 36.2 -0.4**
comp=Z,812nm,0.9s,mb6.2
AAK Ala-Archa 62.33 326 *e*P **P** **08 10 36.3 -0.3**
AAK *e* 08 11 10.3
AAK *e*PP pP 08 12 22.7 +1.3
AAK pmax pmax
comp=Z,126nm,0.9s,mb5.3
AAK Ala-Archa 62.33 326 *e*P **P** **08 10 36.3 -0.3**
comp=Z,126nm,0.9s,mb5.3
AAK *e*PcP PcP 08 11 10.3 -0.2
AAK *e*pP pP 08 12 22.7 +1.2
CHMS Chumysh 62.43 327 P **P** **08 10 37.1 -0.2**
SNR=13
AML Almayashu 62.45 325 P **P** **08 10 38.4 +1.0**
SNR=161
USP Ospenovka 62.75 327 P **P** **08 10 39.4 +0.1**
SNR=66
EKS2 Erkin-Say 62.75 326 P **P** **08 10 39.8 +0.5**
SNR=169
CLNS Chul'man 63.83 5*d*i*P **P** **08 10 46.4 +0.1**
CLNS *e* 08 11 14.5
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=Z,44nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,26nm,0.9s
JMDO Jabal Madar 64.12 299⇓P **P** **08 10 47.9 -0.2**
SNR=6.4
OKH Okha 64.17 17 *e*P **P** **08 10 46.1 -2.3**
BOD Bodaibo 64.48 359 *e*P **P** **08 10 49.3 -1.1**
BOD pmax pmax
comp=Z,69nm,1.1s,mb5.0
BIDO Bidbid 64.50 300⇓P **P** **08 10 50.7 +0.2**
SNR=13
KK31 Karatay Array 64.89 324 *i*P **P** **08 10 52.4 -0.6**
KK31 pmax pmax
comp=Z,79nm,0.9s,mb5.1
KKAR Karatay Array 64.89 324 *i*P **P** **08 10 52.4 -0.6**
KKAR pmax pmax
comp=Z,75nm,1.0s,mb5.1
KRAR Krasnoyarsk 65.62 346⇓*e*P **P** **08 10 56.9 -0.6**
KRAR pmax pmax
comp=Z,50nm,0.5s,mb5.3
KURK Kurchatov 66.01 335 P **P** **08 10 59.2 -0.8**
comp=Z,701nm,1.0s,mb6.2,SNR=54
KURK Kurchatov 66.01 335 P **P** **08 10 59.9 0.0**
SNR=47
KURK Kurchatov 66.01 335 P **P** **08 10 59.1 -0.9**
KURK pmax pmax
comp=Z,111nm,1.3s,mb5.2
KURK Kurchatov 66.01 335 *e*P **P** **08 10 59.7 -0.3**
KURK pmax pmax
comp=Z,109nm,0.9s,mb5.4
KURK Kurchatov 66.01 335 *e*P **P** **08 10 59.7 -0.3**
comp=Z,109nm,0.9s,mb5.4
ZAL Zalesovo 66.18 340 P **P** **08 11 00.6 -0.5**
comp=Z,40nm,0.3s,mb5.4,baz=336,slow=4.6,SNR=153
ZAL pP pP 08 12 48.0 +0.5
comp=Z,4.0nm,0.7s,baz=333,slow=5.2,SNR=3.0
ZAL S S 08 19 05.2 -3.6
comp=Z,1.2nm,0.6s,baz=203,slow=13,SNR=2.7
ZAL Zalesovo 66.18 340 P **P** **08 11 00.6 -0.5**
ZAL pP pP 08 12 48.0 +0.5
ZAL S S 08 19 05.2 -3.6
WHFO Wadi Hawf 66.64 293⇓P **P** **08 11 02.9 -1.0**
SNR=12
ASHO Ashiyiah 66.67 300⇑P **P** **08 11 04.2 +0.1**
SNR=13
SKR Severo-Kuril's 66.70 26 *e*P **P** **08 11 04.1 -0.2**
ABTO Aybut 66.92 292⇓P **P** **08 11 05.6 0.0**
SNR=10
NVS Novosibirsk 67.45 340 *e*P **P** **08 11 06.6 -2.3**
NVS *e* 08 11 29.9
NVS *e*S S 08 19 17.8 -5.9
NVS pmax pmax
comp=E,73nm,1.4s
NVS pmax pmax
comp=Z,130nm,1.4s,mb5.3
NVS pmax pmax
comp=N,100nm,1.5s
NVS smax
comp=N,39nm,2.5s
NVS smax
comp=E,47nm,2.2s
OPO Ambohidratompo 68.30 253 P **P** **08 11 15.4 +1.3**
comp=E,17nm,0.6s,mb4.7,baz=88,slow=4.5,SNR=29
YAK Yakutsk 69.42 7*d*i*P **P** **08 11 19.7 -1.2**
YAK pmax pmax
comp=Z,121nm,0.9s,mb5.4
YAK Yakutsk 69.42 7 *e*P **P** **08 11 19.9 -0.9**
comp=Z,89nm,0.8s,mb5.3
PET Petropavlovsk 69.48 26 *e*P **P** **08 11 21.8 +0.6**
PET *e*SP sP 08 14 06.2 +2.6
PET *e*S S 08 19 51.6 +4.4
PET pmax pmax
comp=Z,87nm,0.7s,mb5.4
PET smax
comp=N,500nm,12.7s
MAW Mawson 70.44 199⇓*i*P **P** **08 11 27.4 +0.5**
comp=N,31nm,1.2s,mb4.7
MAW Mawson 70.44 199 P **P** **08 11 27.6 +0.7**
comp=N,13nm,0.3s,mb4.9,baz=66,slow=6.1,SNR=79
MAW S S 08 19 57.7 -0.4
comp=N,2.8nm,1.0s,baz=280,slow=11,SNR=2.2
MAW Mawson 70.44 199⇓*i*P **P** **08 11 27.4 +0.5**
MAW pmax pmax
comp=Z,31nm,1.2s
AFI Afiamalu 70.66 102 *e*P **P** **08 11 30.4 +2.2**
AFI pmax pmax
comp=Z,63nm,1.2s,mb5.0
AFI Afiamalu 70.66 102 *e*P **P** **08 11 30.4 +2.2**
comp=Z,63nm,1.2s,mb5.0
BVA0 Borovoye Array 71.26 333 *i*P **P** **08 11 31.2 -0.6**
BVA0 pmax pmax
comp=Z,21nm,0.9s,mb4.7
BVAR Borovoye Array 71.26 333 P **P** **08 11 31.3 -0.4**
comp=Z,89nm,0.8s,mb5.4,baz=140,slow=7.8,SNR=357
BRVK Borovoye 71.33 333 P **P** **08 11 31.1 -1.1**
comp=Z,788nm,1.2s,mb6.1,SNR=54
BRVK Borovoye 71.33 333 *e*P **P** **08 11 31.8 -0.4**
BRVK pmax pmax
comp=Z,145nm,1.0s,mb5.5
BRVK Borovoye 71.33 333 *e*P **P** **08 11 31.8 -0.4**
comp=Z,145nm,1.0s,mb5.5
MA2 Magadan 71.59 18*d*i*P **P** **08 11 33.6 0.0**
MA2 pmax pmax
comp=Z,68nm,1.0s,mb5.0
MA2 Magadan 71.59 18 *e*P **P** **08 11 33.7 0.0**
comp=Z,42nm,0.8s,mb4.9
BDHA Al Bayda' 73.38 287⇓*e*P **P** **08 11 45.5 +1.5**
LBOS 73.66 287 *e*P **P** **08 11 47.2 +1.6**
LBOS AMb AMB 08 11 48.0
comp=Z,27nm,0.6s,mb4.9
AB31 Akbulak array 74.41 325 *i*P **P** **08 11 49.3 -0.5**
AB31 pmax pmax
comp=Z,86nm,0.8s,mb5.2
VNDA Vanda 74.49 171 P **P** **08 11 50.5 +0.2**
comp=Z,17nm,0.5s,mb4.8,baz=316,slow=6.0,SNR=247
VNDA pP pP 08 13 41.0 +0.9
comp=Z,7.7nm,1.1s,baz=320,slow=5.5,SNR=2.9
VNDA S S 08 20 45.1 +1.9
comp=Z,1.2nm,1.0s,baz=153,slow=16,SNR=3.2
VNDA Vanda 74.49 171 *e*P **P** **08 11 50.4 +0.1**
VNDA pmax pmax
comp=Z,19nm,0.6s
VNDA Vanda 74.49 171 *e*P **P** **08 11 50.4 +0.1**
comp=Z,19nm,0.6s,mb4.7
TRBA At Turbah 74.62 286⇓*e*P **P** **08 11 52.7 +1.7**
TRBA AMb AMB 08 11 53.2
comp=Z,27nm,0.6s,mb4.9
SEY Seymchan 74.76 16⇓*e*P **P** **08 11 51.4 -0.4**
SBA Scott Base 75.50 170 *e*P **P** **08 11 57.0 +1.0**
SBA pmax pmax
comp=Z,16nm,0.7s,mb4.6
SBA Scott Base 75.50 170 *e*P **P** **08 11 57.0 +1.0**
comp=Z,16nm,0.7s,mb4.5
AKTK Aktyubinsk 76.08 326 P **P** **08 11 59.1 0.0**
AKTO Aktyubinsk 76.08 326 P **P** **08 11 59.1 0.0**
comp=Z,98nm,0.8s,mb5.3,baz=110,slow=6.2,SNR=174
SMY Shemya 76.71 32 *e*P **P** **08 12 03.3 +0.7**
SMY pmax pmax
comp=Z,188nm,1.1s,mb5.4
SMY Shemya 76.71 32 *e*P **P** **08 12 03.3 +0.7**
comp=Z,188nm,1.1s,mb5.4
ORR Orenburg 78.45 326 P **P** **08 12 11.6 -0.5**
ORR pmax pmax
comp=Z,90nm,0.9s,mb5.1
TIXI Tiksi 78.76 4 *e*P **P** **08 12 06.5 -7.2**
TIXI *e*PP pP 08 14 02.4 -2.7
TIXI pmax pmax
comp=Z,86nm,1.0s,mb5.0
TIXI Tiksi 78.76 4 *e*P **P** **08 12 11.8 -1.9**
comp=Z,84nm,1.0s,mb5.0
ARU Arti 78.81 331 P **P** **08 12 12.4 -1.6**
comp=Z,416nm,1.0s,mb5.7,SNR=19
ARU Arti 78.81 331⇓*i*P **P** **08 12 12.6 -1.4**
ARU *e* 08 12 18.4
ARU *e* pP 08 14 05.2 -0.2
ARU *e* 08 15 19.0
ARU *e*S S 08 21 25.2 -3.9
ARU *e*SS SS 08 26 42.7 -5.5
ARU pmax pmax
comp=Z,96nm,1.2s,mb5.0
ARU Arti 78.81 331 *e*P **P** **08 12 12.7 -1.2**
comp=Z,156nm,1.3s,mb5.2
SYO Syowa Base 78.97 201⇑*i*P **P** **08 12 14.6 -0.2**
KMBO Kilima Mbogo 79.22 270 P **P** **08 12 18.0 +1.8**
comp=Z,64nm,0.9s,mb5.0,baz=63,slow=8.0,SNR=137
KMBO Kilima Mbogo 79.22 270 *e*P **P** **08 12 17.8 +1.6**
KMBO pmax pmax
comp=Z,81nm,0.9s
KMBO Kilima Mbogo 79.22 270 *e*P **P** **08 12 17.8 +1.7**
comp=Z,81nm,0.9s,mb5.0
DGRG David-gareji 80.62 314 P **P** **08 12 25.3 +1.8**
HAKT HAKKÄRI 80.72 310 *i*P **P** **08 12 24.5 +0.4**
MTA Mtatsminda 81.11 314 P **P** **08 12 26.9 +0.9**
SOKR Solikamsk 81.21 334⇓*i*P **P** **08 12 25.3 -1.2**
SOKR pmax pmax
comp=Z,90nm,1.4s,mb5.0
ONI Oni 82.32 315 P **P** **08 12 33.4 +1.2**
BILL Bilibino 82.43 17⇓*e*P **P** **08 12 31.8 -1.0**
BILL *e*PP pP 08 14 25.9 +0.4
BILL *e* 08 15 51.5
BILL *e*S S 08 22 00.4 -5.6
BILL pmax pmax
comp=Z,130nm,1.2s,mb5.2
BILL Bilibino 82.43 17 *e*P **P** **08 12 31.4 -1.4**
comp=Z,6.4nm,0.7s,mb4.2
KIV Kislovodsk 83.24 316*d*i*P **P** **08 12 37.1 +0.2**
KIV pmax pmax
comp=Z,91nm,2.2s,mb4.9
KIV Kislovodsk 83.24 316 *e*P **P** **08 12 37.3 +0.5**
comp=Z,53nm,1.2s,mb4.9
GOF Gofitskoye 83.32 317 *e*P **P** **08 12 44.1 +6.9**
MALT Malatya 84.96 309⇓*i*P **P** **08 12 46.2 +0.9**
GZT Gaziantep 85.42 308 *i*P **P** **08 12 48.3 +0.8**
FKH Fakeheh 85.72 305 *e*P **P** **08 12 50.6 +1.7**
VRHR Novokhopersk 85.92 322 *e*P **P** **08 12 49.3 -0.6**
VRHR pmax pmax
comp=Z,170nm,0.6s,mb5.8
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,50nm,0.8s
EIL Elat 86.09 300 *e*P **P** **08 12 52.1 +1.3**
BHL Bhannes 86.26 305 *e*P **P** **08 12 52.3 +0.8**
COBT Iskenderun 86.28 307 *i*P **P** **08 12 52.5 +0.9**
LSZ Lusaka 86.63 255 *e*P **P** **08 12 54.3 +1.0**
LSZ *e*PP pP 08 14 49.1 +1.6
LSZ pmax pmax
comp=Z,133nm,1.1s,mb5.5
LSZ Lusaka 86.63 255 *e*P **P** **08 12 54.2 +0.9**
comp=Z,133nm,1.1s,mb5.5
LSZ *e*pP pP 08 14 49.1 +1.6
ANN Anapa 87.10 316 *e*P **P** **08 12 54.7 -0.8**
ANN *e*PP pP 08 14 50.2 +0.3
ANN *e* 08 16 27.2
ANN *e*S SKSac 08 22 30.1 -2.9
ANN *e*SS SS 08 28 46.0 -3.6
ANN pmax pmax
comp=Z,66nm,0.8s,mb5.3
VOR Voronezh 87.55 323 *e*P **P** **08 12 57.0 -0.6**
VOR pmax pmax
comp=Z,180nm,1.6s,mb5.5
BOSA Boshof 87.88 242 P **P** **08 13 00.1 +1.0**
comp=Z,6.8nm,0.4s,mb4.7,baz=104,slow=4.4,SNR=21
BOSA pP pP 08 14 56.4 +2.6
comp=Z,9.3nm,0.9s,baz=100,slow=5.2,SNR=5.5
BOSA Boshof 87.88 242 *e*P **P** **08 12 59.8 +0.6**
BOSA *e*PP pP 08 14 56.5 +2.7
BOSA pmax pmax
comp=Z,78nm,1.4s,mb5.2
BOSA Boshof 87.88 242 *e*P **P** **08 12 59.8 +0.7**
comp=Z,78nm,1.4s,mb5.2
BOSA *e*pP pP 08 14 56.5 +2.7
LBTB Lobatse 87.99 245 *e*P **P** **08 13 00.7 +1.0**
LBTB pmax pmax
comp=Z,74nm,1.1s,mb5.3
LBTB Lobatse 87.99 245 *e*P **P** **08 13 00.7 +1.0**
comp=Z,74nm,1.1s,mb5.3
NVL N'lazarevskaya 88.38 199*d*i*P **P** **08 13 01.8 +0.3**
NVL pmax pmax
comp=Z,62nm,1.5s,mb5.1
MAIT Maitri 88.41 199 *e*P **P** **08 12 59.7 -1.9**
BR131 Keskin Array S 88.89 310 *e*P **P** **08 13 03.3 -0.6**
comp=Z,5.1nm,0.8s,mb4.4
BRTR Keskin Array B 88.89 310 P **P** **08 13 03.4 -0.5**
comp=Z,7.3nm,0.9s,mb4.5,baz=92,slow=6.3,SNR=22
BRTR pP pP 08 14 59.0 +0.2
comp=Z,6.0nm,1.0s,baz=116,slow=5.7,SNR=7.4
BRTR PP PP 08 16 43.3 +0.8
comp=Z,3.6nm,0.8s,baz=109,slow=8.3,SNR=5.4
MOS Moscow 89.40 326 *e*P **P** **08 13 04.2 -2.1**
MOS *e* pP 08 15 00.5 -0.7
MOS *e* 08 29 23.8
MOS pmax pmax
comp=Z,109nm,1.4s,mb5.5

SIM Simferopol' 89.44 315⇓ eP P 08 13 06.1 -0.3
SIM pmax pmax
comp=Z,30nm,0.9s,mb5.1
KLMR Klimovskoe 89.66 332 eP P 08 13 04.1 -3.3
KLMR pmax pmax
comp=Z,113nm,2.0s,mb5.3
OBN Obninsk 89.86 326 d iP P 08 13 07.3 -1.1
OBN e*PP pP 08 15 02.8 -0.6
OBN e 08 16 49.1
OBN pmax pmax
comp=Z,138nm,1.6s,mb5.5
OBN Obninsk 89.86 326 eP P 08 13 07.4 -0.9
comp=Z,153nm,1.4s,mb5.6
ESKT Eskisehir 90.99 310 i P P 08 13 12.4 -1.2
SUR Sutherland 91.18 237 P P 08 13 16.3 +1.8
comp=Z,216nm,1.2s,mb6.0,SNR=8.1
SUR Sutherland 91.18 237 eP P 08 13 15.9 +1.4
comp=Z,38nm,0.9s,mb5.3
SDPT Sand Point 91.61 35 eP P 08 13 16.0 -0.4
comp=Z,116nm,0.7s,mb6.0
SNAA Sanae 92.39 196 eP P 08 13 20.2 +0.2
SNAA pmax pmax
comp=Z,12nm,0.5s
SNAA Sanae 92.39 196 eP P 08 13 20.2 +0.2
comp=Z,12nm,0.5s,mb5.2
CHGN Chignik 92.90 34 eP P 08 13 23.7 +1.3
TIRR Tirgusor 93.40 314 ⇓iP P 08 13 24.2 -0.5
AKASG Malin Array Be 93.54 320 P P 08 13 23.7 -1.6
comp=Z,8.9nm,0.8s,mb4.9,baz=82,slow=4.4,SNR=33
AKASG PP PP 08 17 16.2 -2.5
comp=Z,2.6nm,0.8s,baz=80,slow=6.4,SNR=7.9
AKASG PKKPbc PKKPbc 08 30 24.9 -3.0
comp=Z,1.1nm,0.3s,baz=282,slow=3.5,SNR=6.7
AKASG Malin Array Be 93.54 320 P P 08 13 23.7 -1.6
AKASG PP PP 08 17 16.2 -2.5
AKASG PKKPbc PKKPbc 08 30 24.9 -3.0
JOF Joensuu 93.86 333 ep P 08 13 19.4 -7.4
comp=Z,14nm,0.9s,mb5.1
JOF Joensuu 93.86 333 eP P 08 13 19.4 -7.4
JOF pmax pmax
comp=Z,14nm,0.9s,mb5.1
VRI Vrincioaia 94.72 315 ⇓iP P 08 13 31.0 +0.3
TTA Tatalina 94.88 27 eP P 08 13 31.1 -0.3
SVW2 Sparrevohn 94.92 29 eP P 08 13 31.7 +0.1
MLR Muntele Rosu 95.24 315 ⇑iP P 08 13 32.3 -0.7
BURAR Bucovina Array 95.89 317 ⇑iP P 08 13 36.1 +0.2
KAF Kangasniemi 96.10 332 ep P 08 13 34.8 -2.1
comp=Z,24nm,1.0s,mb5.4
KAF Kangasniemi 96.10 332 eP P 08 13 34.8 -2.1
KAF pmax pmax
comp=Z,24nm,1.0s,mb5.4
IMA2 Indian Mountai 96.12 24 eP P 08 13 37.1 +0.1
TSUM Tsumeb 96.16 250 eP P 08 13 38.3 +1.1
comp=Z,27nm,1.4s,mb5.3
FINES FINESS Array B 96.18 331 P P 08 13 35.8 -1.5
comp=Z,12nm,0.9s,mb5.1,baz=90,slow=8.0,SNR=16
FINES PKiKP PKiKP 08 18 11.4 -0.7
comp=Z,3.8nm,1.0s,baz=104,slow=4.9,SNR=6.3
FINES PKKPbc PKKPbc 08 30 21.2 +0.2
comp=Z,3.1nm,1.0s,baz=274,slow=3.0,SNR=6.7
ARCES ARCESS Array B 96.72 339 P P 08 13 38.2 -1.4
comp=Z,19nm,1.1s,mb5.3,baz=64,slow=2.8,SNR=8.7
ARCES PKiKP PKiKP 08 18 10.4 -2.6
comp=Z,3.2nm,0.8s,baz=221,slow=1.3,SNR=5.2
ARCES PKKPbc PKKPbc 08 30 18.6 -1.0
comp=Z,2.9nm,0.8s,baz=289,slow=3.7,SNR=4.9
LVV L'vov 96.79 319 eP P 08 13 39.1 -0.9
SUW Suwalki 97.46 324 eP P 08 13 41.5 -1.5
DRGR 97.56 316 ⇑iP P 08 13 43.3 -0.1
KWP Kalwaria 97.64 319 eP P 08 13 43.5 -0.3
KOLS Kolonicke sedl 97.91 318 PDIF Pdif 08 13 45.1 +0.1
KOLS Kolonicke sedl 97.91 318 eP Pdif 08 13 45.1 +0.1
BZS Buzias 98.28 315 ⇑iP Pdif 08 13 46.0 -0.6
CRVS Cervenica-Dubn 98.45 318 PDIF Pdif 08 13 46.7 -0.7
CRVS ePP PP 08 17 53.3 -2.7
CRVS Cervenica-Dubn 98.45 318 eP Pdif 08 13 46.7 -0.7
CRVS ePP PP 08 17 53.3 -2.7
STHS Stebnicka Huta 98.59 319 eP Pdif 08 13 48.2 +0.2
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
STHS Stebnicka Huta 98.59 319 PDIF Pdif 08 13 48.2 +0.2
STHS Stebnicka Huta 98.59 319 eP Pdif 08 13 48.2 +0.2
comp=Z,5.5nm,1.0s
KECS Kecovo 99.09 318 eP Pdif 08 13 49.0 -1.2
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.4
KECS Kecovo 99.09 318 PDIF Pdif 08 13 49.0 -1.2
KECS Kecovo 99.09 318 eP Pdif 08 13 49.0 -1.2
comp=Z,2.3nm,1.0s
OKC Ostrava-Krasne 100.60 319 ePP PP 08 18 07.4 -4.7
OKC ex x 08 18 12.6
DPC Dobruska-Polom 101.75 320 ex x 08 18 06.8
DPC ePP PP 08 18 21.7 +1.0
UPC Upice 101.94 320 ePP PP 08 18 19.6 -2.5
GERES GERESS Array B 103.56 319 Pdiff Pdif 08 14 10.0 -0.2
comp=Z,0.7nm,0.8s,baz=79,slow=2.9,SNR=5.7
GERES PP PP 08 18 25.9 -8.2
comp=Z,1.5nm,0.8s,baz=73,slow=6.0,SNR=5.0
KHC Kasperske Hory 103.62 319 ex x 08 17 30.0
KHC ePP PP 08 18 30.5 -3.9
KHC ex x 08 18 38.2
INK Inuvik 103.64 21 Pdiff Pdif 08 14 10.4 0.0
comp=Z,4.3nm,1.1s,baz=271,slow=6.3,SNR=9.1
NKC Novy Kostel 104.24 320 ePP PP 08 18 31.0 -8.0
CDF Champ du Feu 107.85 319 ePP PP 08 18 58.8 -6.3
HINF Hinteralfeld 108.23 318 ePP PP 08 19 02.2 -5.7
HAU Haudompre 108.53 318 ePP PP 08 19 06.0 -4.0
LPG La Plagne 108.69 316 ePP PP 08 19 04.4 -6.8
comp=Z,68nm,1.5s
LPL La Plagne 108.70 316 ePP PP 08 19 03.7 -7.6
comp=Z,65nm,1.4s
CABF La Chapelle 108.96 317 ePP PP 08 19 09.1 -4.0
comp=Z,85nm,1.5s
MEZF Maizieres J'vi 109.28 319 ePP PP 08 19 10.9 -4.5
BAIF Baives 109.49 321 ePP PP 08 19 08.4 -8.5
comp=Z,44nm,1.5s
LOR Lormes 110.33 318 ePP PP 08 19 19.0 -3.8
comp=Z,32nm,1.2s
SMF Signal de Mont 110.47 317 ePP PP 08 19 19.4 -4.5
comp=Z,32nm,1.0s
SSF Saint Saulge 110.61 318 ePP PP 08 19 19.7 -5.1
comp=Z,32nm,1.1s
AVF Avril sur Loir 110.77 318 ePP PP 08 19 21.3 -4.7
comp=Z,36nm,1.3s
TCF Toulx Ste Croi 111.65 317 ePP PP 08 19 27.7 -4.5
comp=Z,81nm,1.5s
YKA Yellowknife Ar 113.21 23 Pdiff Pdif 08 14 54.5 +1.5
comp=Z,0.8nm,0.6s,baz=306,slow=4.4,SNR=16
YKA PKiKP PKiKP 08 18 42.6 -0.9
comp=Z,2.9nm,0.4s,baz=305,slow=1.7,SNR=89
YKA SKP 08 21 28.0
comp=Z,0.8nm,0.5s,baz=310,slow=2.0,SNR=8.8
YKA Yellowknife Ar 113.21 23 Pdif Pdif 08 14 54.5 +1.5
YKA PKPdf PKiKP 08 18 42.6 -0.8
YKA SKP 08 21 28.1
C04A Brinnon 115.32 40 ⇓P PKPdf 08 18 48.2 +0.7
baz=115
TOA0 Torodi Ar. Sit 115.66 281 ePKPdf PKPdf 08 18 48.5 +0.3
TORD Torodi Ar. Bea 115.66 281 PKP PKPdf 08 18 48.5 +0.4
comp=Z,11nm,0.5s,baz=65,slow=1.8,SNR=166
TORD SKP 08 21 34.9
comp=Z,2.2nm,0.9s,baz=71,slow=2.1,SNR=3.6
TORD PKKPbc PKKPbc 08 29 21.9 -0.1
comp=Z,0.5nm,0.4s,baz=304,slow=4.3,SNR=7.3
TORD PKKPab PKKPab 08 29 29.7 +0.8
comp=Z,0.4nm,0.4s,baz=292,slow=4.3,SNR=5.1
TORD Torodi Ar. Bea 115.66 281 PKP PKPdf 08 18 48.5 +0.4
TORD SKP 08 21 34.9
TORD PKKPbc PKKPbc 08 29 21.9 -0.1
TORD PKKPab PKKPab 08 29 29.7 +0.8
B05A Bryant 115.69 39 ⇓P PKPdf 08 18 48.3 +0.1
baz=116
H03A Soap Creek Ran 116.05 43 ⇑P PKPdf 08 18 48.0 -0.9
baz=116
D05A Enumclaw 116.12 40 ⇓P PKPdf 08 18 49.2 +0.2
baz=116
F04A Amboy 116.25 42 ⇑P PKPdf 08 18 49.8 +0.5
baz=116
K02A Glendale 116.45 45 ⇓P PKPdf 08 18 49.7 0.0
baz=116
A07A Ashnola River, 116.47 38 ⇓P PKPdf 08 18 49.8 +0.1
baz=116
B07A Winthrop 116.85 39 ⇓P PKPdf 08 18 50.4 0.0
baz=117
I04A Tendick Farm, 116.91 44 ⇑P PKPdf 08 18 50.2 -0.3
baz=117
C07A Waterville 117.17 39 ⇓P PKPdf 08 18 50.9 -0.2
baz=117
A08A Turner Farm, O 117.19 38 ⇑P PKPdf 08 18 51.0 -0.1
baz=117
J04A Umpqua Nationa 117.29 45 ⇑P PKPdf 08 18 51.9 +0.6
baz=117
M02C Callahan 117.29 47 ⇓P PKPdf 08 18 51.6 +0.3
baz=117
YBH Yreka Blue Hor 117.30 46 ⇑P PKPdf 08 18 51.4 +0.1
baz=117
B08A Colville Reser 117.38 38 ⇓P PKPdf 08 18 51.1 -0.3
baz=117,SNR=5.3
D07A Quincy 117.41 40 ⇑P PKPdf 08 18 50.9 -0.6
baz=117
H05A Madras 117.46 43 ⇑P PKPdf 08 18 51.8 +0.2
baz=117
I05A Bend 117.58 43 ⇓P PKPdf 08 18 52.1 +0.3
baz=118
A09A Danville 117.60 38 ⇓P PKPdf 08 18 52.0 +0.1
baz=118
ESDC Sonseca Array 117.66 311 PKP PKPdf 08 18 52.5 +0.5
comp=Z,1.1nm,0.4s,baz=29,slow=2.8,SNR=18
G06A Carlson Farm, 117.66 42 ⇑P PKPdf 08 18 52.5 +0.5
baz=118
O02C Red Bluff 117.67 48 ⇓P PKPdf 08 18 52.9 +0.9
baz=118
WDC Whiskeytown Da 117.74 48 ⇓P PKPdf 08 18 52.3 +0.1
baz=118
L04A Klamath Falls 117.76 46 ⇓P PKPdf 08 18 52.3 +0.1
baz=118,SNR=5.2
C08A Higginbotham F 117.77 39 ⇑P PKPdf 08 18 52.1 -0.1
baz=118
M03C McCloud 117.85 47 ⇓P PKPdf 08 18 53.0 +0.6
baz=118
GASB Alder Springs 117.85 49 ⇑P PKPdf 08 18 53.4 +1.0
baz=118
F07A Phinny Hill Vi 117.90 41 ⇑P PKPdf 08 18 53.0 +0.5
baz=118
M04C Macdoel 117.91 46 ⇓P PKPdf 08 18 53.0 +0.6
baz=118
H06A Lindquist Farm 118.03 43 ⇑P PKPdf 08 18 53.5 +0.8
baz=118
B09A Rice 118.08 38 ⇓P PKPdf 08 18 53.2 +0.4
baz=118
D08A Wollman Farm, 118.13 40 ⇓P PKPdf 08 18 53.3 +0.4
baz=118
E08A Dider Farm, El 118.25 40 ⇓P PKPdf 08 18 53.5 +0.4
baz=118,SNR=8.4
MNRC McLaughlin Nat 118.26 49 ⇑P PKPdf 08 18 53.4 +0.2
baz=118,SNR=5.6
G07A Ruggs Ranch, H 118.29 42 ⇑P PKPdf 08 18 53.6 +0.4
baz=118
K05A Summer Lake 118.29 45 ⇑P PKPdf 08 18 53.9 +0.7
baz=118,SNR=12
I06A Prineville 118.38 43 ⇓P PKPdf 08 18 54.1 +0.7
baz=118
CVS Carmenet Viney 118.39 50 ⇓P PKPdf 08 18 54.0 +0.6
baz=118
HATC Hat Creek Radi 118.46 47 ⇓P PKPdf 08 18 53.9 +0.3
baz=118
D09A Jones Farm, Ri 118.51 40 ⇑P PKPdf 08 18 53.6 -0.1
baz=118
M05C Lookout 118.53 46 ⇑P PKPdf 08 18 54.2 +0.6
baz=118,SNR=5.1
F08A Pendleton 118.69 41 ⇓P PKPdf 08 18 54.6 +0.6
baz=119
K06A Valley Falls 118.72 45 ⇑P PKPdf 08 18 54.6 +0.6
baz=119,SNR=9.4
G08A Pilot Rock 118.75 42 ⇓P PKPdf 08 18 54.8 +0.7
baz=119
NEW Newport 118.77 38 PKP PKPdf 08 18 53.6 -0.5
comp=Z,1.4nm,0.4s,baz=69,slow=3.7,SNR=5.0
ORV Oroville 118.79 48 P PKPdf 08 18 54.9 +0.7
baz=119,SNR=5.1
JRSC Jasper Ridge 118.79 51 ⇓P PKPdf 08 18 54.1 -0.1
baz=119
I07A Izee 118.81 43 ⇓P PKPdf 08 18 55.0 +0.8
baz=119
O04C Chester 118.88 48 ⇑P PKPdf 08 18 54.8 +0.5
baz=119,SNR=5.7
A11A Hall Mountain, 118.94 37 ⇓P PKPdf 08 18 54.7 +0.3
baz=119
MOD Modoc 118.97 46 ⇑P PKPdf 08 18 55.1 +0.6
baz=119,SNR=7.6
ELFS Eagle Lake Fie 119.05 47 ⇑P PKPdf 08 18 55.1 +0.5
baz=119
M06C Likely Place G 119.06 46 ⇓P PKPdf 08 18 55.2 +0.5
baz=119
O05C Quincy 119.10 48 ⇓P PKPdf 08 18 55.2 +0.4
baz=119,SNR=11
WENL Wente Brothers 119.11 51 ⇓P PKPdf 08 18 55.6 +0.8
baz=119
B11A Sandpoint 119.16 37 ⇓P PKPdf 08 18 55.1 +0.3
baz=119
D10A Wagner Farm, O 119.17 39 P PKPdf 08 18 55.6 +0.7
baz=119,SNR=6.3
J07A Hines 119.18 44 ⇑P PKPdf 08 18 55.7 +0.7
baz=119
H08A Prairie City 119.22 42 ⇓P PKPdf 08 18 55.5 +0.5
baz=119
F09A S2 Ranch, Elgi 119.28 41 ⇓P PKPdf 08 18 55.5 +0.4
baz=119
A12A Yaak River Ran 119.37 37 ⇑P PKPdf 08 18 55.7 +0.4
baz=119
K07A Rock Creek Ran 119.45 44 ⇓P PKPdf 08 18 56.0 +0.5
baz=119
S04C Ingram Canyon, 119.47 51 ⇑P PKPdf 08 18 56.3 +0.9
baz=119
E10A Myers Farm, Un 119.50 40 ⇑P PKPdf 08 18 55.7 +0.1
baz=119,SNR=7.0
I08A Drewsey 119.50 43 ⇑P PKPdf 08 18 56.3 +0.8
baz=119,SNR=8.3
P05C Yuba Gap, Truc 119.52 49 ⇓P PKPdf 08 18 56.4 +0.8
baz=119,SNR=7.2
BEKR Beckwourth 119.54 48 P PKPdf 08 18 56.5 +0.9
baz=120,SNR=11
R04C Big Horse Ranc 119.56 50 ⇑P PKPdf 08 18 56.2 +0.6
baz=120
LAVA Lava Cap Miner 119.58 49 ⇑P PKPdf 08 18 56.2 +0.5
baz=120,SNR=6.2
L07A Adell 119.61 45 ⇓P PKPdf 08 18 56.9 +1.1
baz=120,SNR=5.6
F10A Beach Ranch, E 119.62 40 P PKPdf 08 18 56.6 +0.9
baz=120,SNR=6.7
PACP Pacheco Peak 119.62 51 ⇑P PKPdf 08 18 56.4 +0.6
baz=120
N06A Buffalo Meadow 119.66 47 ⇓P PKPdf 08 18 56.5 +0.7
baz=120,SNR=12
J08A Circle Bar Ran 119.76 43 ⇑P PKPdf 08 18 56.8 +0.7
baz=120,SNR=6.4
H09A Durkee 119.83 42 ⇓P PKPdf 08 18 56.5 +0.4
baz=120,SNR=6.2
O06A Flanigan 119.84 47 ⇓P PKPdf 08 18 56.7 +0.5
baz=120,SNR=13
M07A Soldier Meadow 119.94 46 ⇓P PKPdf 08 18 57.3 +1.0
baz=120,SNR=7.6
PVRL Vila Real 119.94 314 ePKPdf PKPdf 08 18 57.1 +0.7
P06A Stead Airport, 119.94 48 ⇓P PKPdf 08 18 57.1 +0.8
baz=120
K08A Mann Creek Ran 119.97 44 ⇑P PKPdf 08 18 57.0 +0.6
baz=120
BMO Blue Mountains 120.00 42 ePKIKP PKPdf 08 18 56.5 0.0
PCAB Cabril 120.01 315 ePKPdf PKPdf 08 18 57.5 +1.0
I09A Lost Marbles R 120.04 43 ⇑P PKPdf 08 18 57.0 +0.4
baz=120
CMB Columbia Colle 120.04 50 ⇑P PKPdf 08 18 57.0 +0.4
baz=120,SNR=5.2
R05C Kirkwood Meado 120.09 49 ⇑P PKPdf 08 18 57.4 +0.8
baz=120,SNR=8.4
E11A Bogner Ranch, 120.12 40 ⇓P PKPdf 08 18 57.0 +0.3
baz=120
WCN Washoe City 120.15 48 ⇑P PKPdf 08 18 57.5 +0.8
baz=120
U04C Hernandez Rese 120.18 52 ⇑P PKPdf 08 18 57.9 +1.1
baz=120
PCBR Castelo Branco 120.21 312 ePKPdf PKPdf 08 18 57.1 +0.2
PVIS Viseu 120.24 313 ePKPdf PKPdf 08 18 57.5 +0.5
L08A Fields 120.25 45 ⇓P PKPdf 08 18 58.1 +1.1
baz=120,SNR=12
J09A Fry Pan Ranch, 120.25 43 ⇑P PKPdf 08 18 58.1 +1.1
baz=120,SNR=8.3
N07B Gerlach 120.27 46 ⇓P PKPdf 08 18 57.8 +0.7
baz=120,SNR=9.9
S05C Merced 120.27 51 ⇓P PKPdf 08 18 57.6 +0.6
baz=120,SNR=7.2
B13A Whitefish 120.33 37 ⇑P PKPdf 08 18 57.1 0.0
baz=120,SNR=5.7
F11A Grangeville 120.34 40 ⇑P PKPdf 08 18 57.3 +0.1
baz=120,SNR=6.2
H10A Noah's Angus R 120.47 42 P PKPdf 08 18 57.8 +0.4
baz=120,SNR=13
PKD Parkfield 120.48 52 ⇑P PKPdf 08 18 58.0 +0.6
baz=120
M08A Happy Creek Ra 120.48 46 ⇓P PKPdf 08 18 58.4 +1.0
baz=120,SNR=8.2
S06C San Francisco 120.49 50 ⇓P PKPdf 08 18 58.5 +1.1
baz=120,SNR=12
K09A Rome 120.50 44 ⇑P PKPdf 08 18 58.0 +0.6
baz=120
O07A Toulon 120.54 47 ⇓P PKPdf 08 18 58.6 +1.1
baz=120,SNR=8.0
C13A Hot Springs 120.57 38 ⇓P PKPdf 08 18 57.0 -0.6
baz=120
PESTR Estremoz 120.59 311 ePKPdf PKPdf 08 18 58.3 +0.7
R06C Coleville 120.61 49 ⇑P PKPdf 08 18 58.8 +1.1
baz=120,SNR=6.4
U05C Westside ANR, 120.70 52 ⇑P PKPdf 08 18 58.8 +1.0
baz=121
L09A Wilkinson Ranc 120.78 45 ⇓P PKPdf 08 18 58.9 +0.9
baz=121,SNR=6.4
T06C Millerton Lake 120.84 51 ⇑P PKPdf 08 18 58.1 0.0
baz=121,SNR=7.2
N08A GE Springer Mi 120.87 46 ⇑P PKPdf 08 18 58.9 +0.7
baz=121,SNR=6.2
J10A Berg Farm, Mel 120.89 43 ⇑P PKPdf 08 18 58.9 +0.7
baz=121
D13A Huson 120.90 38 P PKPdf 08 18 58.3 +0.1
baz=121,SNR=8.8
H11A Donnelly 120.91 41 P PKPdf 08 18 58.8 +0.6
baz=121,SNR=18
Q07A Schurz 120.97 48 ⇑P PKPdf 08 18 59.5 +1.1
baz=121
V05C Boulder Hill, 121.00 52 ⇓P PKPdf 08 18 59.6 +1.2
baz=121
O08A Rochester Mine 121.02 47 ⇓P PKPdf 08 18 59.7 +1.2
baz=121
R07C Lee Vining 121.04 49 ⇓P PKPdf 08 18 59.8 +1.3
baz=121,SNR=5.9
KCC Kaiser Creek 121.06 50 ⇑P PKPdf 08 18 59.1 +0.5
baz=121
K10A MacKenzie Ranc 121.06 44 ⇑P PKPdf 08 18 59.2 +0.6
baz=121,SNR=9.1
SMMC Simmler 121.06 53 ⇑P PKPdf 08 18 59.6 +1.1
baz=121
M09A Marrel Ranch, 121.14 45 ⇑P PKPdf 08 18 59.4 +0.7
baz=121
I11A Placerville 121.25 42 ⇑P PKPdf 08 18 59.3 +0.4
baz=121,SNR=11
P08A Dixie Valley 121.27 47 ⇑P PKPdf 08 18 59.5 +0.6
baz=121
N09A Rock Creek Ran 121.29 46 ⇓P PKPdf 08 18 59.8 +0.8
baz=121,SNR=5.4
PKM Peak Mountain 121.31 53 ⇑P PKPdf 08 19 00.3 +1.3
baz=121
MSO Missoula 121.33 38 ePKPdf PKPdf 08 18 59.1 +0.1
MSO epPKPdf pPKPdf 08 21 02.0 +0.4
E13A Victor 121.35 39 ⇓P PKPdf 08 18 59.0 -0.1
baz=121
RCTC Rector, Farmer 121.40 51 ⇓P PKPdf 08 18 59.4 +0.2
baz=121
HELL Mitchell Peak, 121.46 51 ⇓P PKPdf 08 18 59.9 +0.6
baz=121
D14A Greenough 121.49 38 ⇑P PKPdf 08 18 59.7 +0.4
baz=121,SNR=11
NVAR Mina Array Bea 121.50 49 PKP PKPdf 08 19 00.6 +1.2
comp=Z,2.4nm,0.7s,baz=269,slow=1.4,SNR=21
NVAR pPKP pPKPdf 08 21 03.6 +1.7
comp=Z,2.1nm,0.8s,baz=258,slow=3.3,SNR=7.7
NVAR PKKPbc PKKPbc 08 29 02.3 +1.0
comp=Z,1.2nm,0.6s,baz=153,slow=3.6,SNR=16
MFID Camas Ranch 121.53 43 ⇓P PKPdf 08 19 00.1 +0.7
baz=121,SNR=12
F13A Darby 121.54 40 P PKPdf 08 18 59.4 -0.1
baz=121,SNR=6.3
Q08A Gabbs 121.64 48 ⇓P PKPdf 08 19 00.5 +0.9
baz=122,SNR=8.6
VES Vestal, Richgr 121.65 52 ⇓P PKPdf 08 18 59.9 +0.2
baz=122
R08A Mina 121.67 49 ⇑P PKPdf 08 19 00.6 +0.9
baz=122,SNR=7.2
BSC Santa Cruz Isl 121.69 54 ⇓P PKPdf 08 19 00.4 +0.7
baz=122
H12A Diamond D Ranc 121.73 41 ⇑P PKPdf 08 19 00.5 +0.7
baz=122,SNR=8.5
O09A Fish Creek Ran 121.76 47 ⇓P PKPdf 08 19 00.8 +0.9
baz=122
E14A Clinton 121.79 39 P PKPdf 08 19 00.5 +0.5
baz=122,SNR=7.6
S08C White Mtn Res 121.88 50 ⇓P PKPdf 08 19 01.1 +1.0
baz=122,SNR=8.9
LIC Lamto 121.97 273 ePKIKP PKPdf 08 19 00.3 0.0
comp=Z,32nm,0.4s
TIN Tinemaha 121.97 50 ⇑P PKPdf 08 19 01.4 +1.1
baz=122
P09A Austin 122.00 47 ⇑P PKPdf 08 19 01.1 +0.7
baz=122
ARVC Arvin 122.04 53 ⇓P PKPdf 08 19 01.2 +0.8
baz=122
N10A Dunphy 122.06 46 ⇑P PKPdf 08 19 01.2 +0.8
baz=122
J12A Stokes Ranch, 122.09 43 P PKPdf 08 19 01.9 +1.4
baz=122,SNR=19
D15A Lincoln 122.10 38 ⇑P PKPdf 08 19 01.1 +0.5
baz=122,SNR=6.7
F14A Wisdom 122.14 39 ⇓P PKPdf 08 19 01.0 +0.4
baz=122
ISA Isabella 122.17 52 ⇑P PKPdf 08 19 01.5 +0.8
baz=122
Q09A Carvers 122.20 48 ⇓P PKPdf 08 19 01.5 +0.8
baz=122
O10A Cortez Mining, 122.21 46 ⇓P PKPdf 08 19 01.8 +1.1
baz=122
OSI Osito Adit 122.26 53 ⇑P PKPdf 08 19 01.7 +0.9
baz=122
CWC Cottonwood Cre 122.26 51 ⇓P PKPdf 08 19 01.6 +0.8
baz=122
M11A Holland Ranch, 122.31 45 ⇓P PKPdf 08 19 01.8 +0.8
baz=122
E15A Deer Lodge 122.31 38 P PKPdf 08 19 01.6 +0.6
baz=122,SNR=5.3
HLID Hailey 122.42 42 ePKPdf PKPdf 08 19 02.5 +1.3
HLID epPKPdf pPKPdf 08 21 05.2 +1.6
HLID Hailey 122.42 42 ⇓P PKPdf 08 19 02.3 +1.2
baz=122,SNR=21
K12A Draper Farm, C 122.46 43 ⇓P PKPdf 08 19 02.5 +1.3
baz=122,SNR=6.9
P10A Eureka 122.47 47 ⇓P PKPdf 08 19 02.5 +1.2
baz=122
R09A Tonopah 122.48 49 ⇑P PKPdf 08 19 02.6 +1.4
baz=122
S09A Goldfield 122.53 49 ⇓P PKPdf 08 19 02.7 +1.3
baz=122,SNR=7.4
N11A Elko Archery C 122.57 45 ⇑P PKPdf 08 19 02.8 +1.4
baz=122,SNR=6.3
GRAC Grapevine Rang 122.64 50 ⇑P PKPdf 08 19 02.6 +1.0
baz=123,SNR=5.8
J13A Cove Ranch, Pi 122.65 42 ⇑P PKPdf 08 19 02.8 +1.2
baz=122,SNR=34
DECC Green Verdugo 122.67 54 ⇓P PKPdf 08 19 02.4 +0.8
baz=123
F15A Butte 122.67 39 P PKPdf 08 19 02.3 +0.7
baz=123,SNR=9.2
EDW2 Edwards Air Fo 122.77 53 ⇓P PKPdf 08 19 03.3 +1.5
baz=123,SNR=12
MPMC Manual Prospec 122.83 51 ⇓P PKPdf 08 19 03.5 +1.5
baz=123,SNR=11
CIS Catalina Islan 122.83 55 ⇓P PKPdf 08 19 03.0 +1.1
baz=123
LRMC Laurel Mountai 122.84 52 ⇓P PKPdf 08 19 03.2 +1.3
baz=123,SNR=9.8
M12A Wells 122.92 44 ⇑P PKPdf 08 19 03.4 +1.3
baz=123,SNR=8.0
G15A Dillon 122.98 40 P PKPdf 08 19 03.7 +1.5
baz=123,SNR=8.5
P11A Circle Ranch, 123.01 47 ⇓P PKPdf 08 19 03.3 +1.1
baz=123
K13A Stover Farm, H 123.01 43 ⇓P PKPdf 08 19 03.6 +1.3
baz=123,SNR=10.0
R10A Warm Springs 123.03 48 ⇑P PKPdf 08 19 03.3 +0.9
baz=123
N12A Clover Valley, 123.05 45 ⇓P PKPdf 08 19 03.4 +1.1
baz=123,SNR=12
FURC Furnace Creek, 123.19 51 ⇑P PKPdf 08 19 03.7 +1.1
baz=123,SNR=6.9
BFSC Mount Baldy St 123.20 53 ⇓P PKPdf 08 19 03.5 +0.9

baz=123
EGMT Eagleton 123.26 35 P PKPdf 08 19 04.3 +1.5
baz=123,SNR=5.1
BOZ Bozeman (W) 123.30 39 P PKPdf 08 19 03.8 +0.9
baz=123,SNR=17
Q11A Duckwater 123.32 48 ⇓P PKPdf 08 19 04.2 +1.3
baz=123,SNR=13
L13A Double Diamond 123.33 43 ⇓P PKPdf 08 19 04.2 +1.3
baz=123,SNR=11
M13A Montello 123.47 44 ⇑P PKPdf 08 19 04.1 +1.0
baz=123
RRX Edison Barstow 123.55 52 ⇑P PKPdf 08 19 04.6 +1.3
baz=124
GSC Goldstone 123.58 52 ⇑P PKPdf 08 19 04.5 +1.2
baz=124,SNR=9.1
U10A Ash Meadows, A 123.61 51 ⇓P PKPdf 08 19 05.0 +1.5
baz=124,SNR=9.9
N13A Wendover, West 123.63 45 ⇓P PKPdf 08 19 04.6 +1.1
baz=124
P12A McGill 123.65 47 ⇑P PKPdf 08 19 04.7 +1.2
baz=124,SNR=6.7
MURC Murrieta 123.75 54 ⇑P PKPdf 08 19 05.1 +1.4
baz=124
BBRC Big Bear Sol-O 123.79 53 ⇑P PKPdf 08 19 04.9 +1.2
baz=124
QLMT Earthquake Lak 123.80 39 *e*PKPdf PKPdf 08 19 05.5 +1.7
QLMT epPKPdf pPKPdf 08 21 08.4 +2.1
SHOC Shoshone 123.81 51 ⇑P PKPdf 08 19 05.1 +1.3
baz=124,SNR=9.8
Q12A Willow Creek R 123.86 47 ⇓P PKPdf 08 19 05.0 +1.1
baz=124
109C Camp Elliot, M 124.01 55 ⇑P PKPdf 08 19 05.6 +1.4
baz=124
HEC Hector,Ludlow 124.09 52 ⇑P PKPdf 08 19 05.9 +1.5
baz=124
YMR Madison River 124.17 39 *e*PKPdf PKPdf 08 19 06.3 +1.8
YMR epPKPdf pPKPdf 08 21 09.3 +2.3
TUQ Turquoise Mtn. 124.23 52 ⇓P PKPdf 08 19 06.1 +1.5
baz=124
U11A Corn Creek 124.33 50 ⇑P PKPdf 08 19 06.5 +1.7
baz=124
PFO Pinyon Flat Ob 124.34 54 ⇑P PKPdf 08 19 06.1 +1.2
baz=124,SNR=7.2
YFT Old Faithful 124.35 40 *e*PKPdf PKPdf 08 19 07.6 +2.8
YFT epPKPdf pPKPdf 08 21 10.3 +2.9
V11A Goodsprings 124.48 51 ⇑P PKPdf 08 19 06.5 +1.4
baz=124,SNR=5.8
DCID1 Drake Creek 124.52 41 *e*PKPdf PKPdf 08 19 06.8 +1.6
DCID1 epPKPdf pPKPdf 08 21 09.2 +1.5
MONP Monument Peak 124.57 55 ⇑P PKPdf 08 19 06.8 +1.5
baz=124
BELC Belle Mtn. 124.59 53 ⇑P PKPdf 08 19 06.9 +1.6
baz=124,SNR=7.2
GMRC Granite Mounta 124.63 52 ⇓P PKPdf 08 19 07.2 +1.8
baz=124,SNR=11
REDW Red Top Meadow 124.84 41 *e*PKPdf PKPdf 08 19 07.0 +1.2
REDW epPKPdf pPKPdf 08 21 09.4 +1.1
SNOW Snow King Moun 124.86 41 *e*PKPdf PKPdf 08 19 07.4 +1.6
SNOW epPKPdf pPKPdf 08 21 10.1 +1.8
DUG Dugway 124.87 45 *e*PKIKP PKPdf 08 19 07.4 +1.6
DUG *e* 08 21 08.2
DUG Dugway 124.87 45 ⇑P PKPdf 08 19 07.0 +1.2
baz=125,SNR=12
DVTC Desert V Tower 124.89 55 ⇑P PKPdf 08 19 07.5 +1.7
baz=125
V12A Nelson 124.97 51 ⇑P PKPdf 08 19 07.6 +1.6
baz=125,SNR=16
U12A Valley of Fire 124.97 50 ⇑P PKPdf 08 19 07.7 +1.6
baz=125,SNR=8.5
SWSC Sam W. Stewart 125.06 54 ⇑P PKPdf 08 19 08.0 +1.8
baz=125
W12A Cal Nev Ari 125.09 51 ⇑P PKPdf 08 19 07.7 +1.4
baz=125
BC3 Big Chuckw Mtn 125.13 53 ⇓P PKPdf 08 19 07.9 +1.6
baz=125,SNR=5.6
IRM Iron Mountain 125.22 53 ⇓P PKPdf 08 19 08.2 +1.7
baz=125,SNR=7.0
NEE2 Needles Airpor 125.45 52 ⇓P PKPdf 08 19 08.2 +1.2
baz=125
Y12C Blythe 125.84 53 ⇑P PKPdf 08 19 09.3 +1.6
baz=126,SNR=5.5
W13A Hualapai Mount 125.92 51 ⇓P PKPdf 08 19 09.7 +1.9
baz=126,SNR=11
PDAR Pinedale Array 125.96 41 PKP PKPdf 08 19 08.7 +0.8
comp=Z,2.6nm,0.5s,baz=125,slow=1.1,SNR=36
PDAR PP PP 08 21 08.4 -1.0
comp=Z,5.0nm,1.2s,baz=312,slow=4.7,SNR=7.0
PDAR PKKPbc 08 28 44.1
comp=Z,0.8nm,0.4s,baz=112,slow=6.8,SNR=19
PDMCI Parker Dam,Lak 125.97 52 ⇑P PKPdf 08 19 09.4 +1.5
baz=126
MSU Marysvale 125.98 47 *e*PKIKP PKPdf 08 19 10.0 +2.0
MSU *e* 08 21 14.0
X13A Yucca 126.12 52 ⇑P PKPdf 08 19 09.7 +1.5
baz=126,SNR=11
Y13A Salome 126.37 53 ⇑P PKPdf 08 19 10.3 +1.6
baz=126,SNR=7.9
W14A Seligman 126.50 51 ⇓P PKPdf 08 19 11.0 +2.1
baz=126,SNR=13
X14A Yava 126.90 52 ⇓P PKPdf 08 19 11.5 +1.8
baz=127
SRU San Rafael 126.92 45 *e*PKIKP PKPdf 08 19 10.8 +1.0
SRU *e* 08 21 15.1
Y14A Wickenburg 126.98 52 ⇓P PKPdf 08 19 11.3 +1.4
baz=127
W15A Williams 127.14 51 ⇓P PKPdf 08 19 12.0 +1.8
baz=127,SNR=5.6
Z14A Wintersburg 127.21 53 ⇓P PKPdf 08 19 11.8 +1.5
baz=127
X15A Humboldt 127.40 51 ⇑P PKPdf 08 19 12.4 +1.7
baz=127,SNR=11
WUAZ Wupatki 127.70 50 ⇑P PKPdf 08 19 13.0 +1.7
baz=128,SNR=8.1
115A Sonoran Desert 128.00 54 ⇑P PKPdf 08 19 13.3 +1.5
baz=128
116A Eloy 128.46 54 ⇓P PKPdf 08 19 14.4 +1.8
baz=128
ULM Lac du Bonnet 128.97 26 PKP PKPdf 08 19 12.9 -0.7
comp=Z,3.5nm,0.6s,baz=326,slow=1.9,SNR=9.8
ULM pPKP pPKPdf 08 21 16.7 +0.5
comp=Z,1.2nm,0.7s,baz=1.9,slow=6.3,SNR=3.5
ULM SKPbc 08 21 45.8
comp=Z,6.0nm,0.9s,baz=297,slow=3.1,SNR=5.4
MVCO Mesa Verde 129.17 47 P PKPdf 08 19 16.1 +2.1
baz=129,SNR=8.5
SMCO Snowmass 129.37 44 *e*PKPdf PKPdf 08 19 16.6 +2.2
SMCO epPKPdf pPKPdf 08 21 19.4 +2.4
SMCO *e*SKPdf SKPdf 08 21 48.6 -12
ISCO Idaho Springs 129.99 42 *e*PKPdf PKPdf 08 19 16.7 +1.1
ISCO epPKPdf pPKPdf 08 21 19.8 +1.7
ISCO *e*SKPbc SKPbc 08 21 50.6 +0.9
SCHQ Schefferville 132.07 3 PKP PKPdf 08 19 19.2 -0.3
comp=Z,3.4nm,0.5s,baz=61,slow=2.2,SNR=12
SCHQ SKPbc SKPbc 08 21 56.2 -0.9
comp=Z,5.5nm,0.6s,baz=14,slow=4.1,SNR=9.2
PLCA Paso Flores 132.21 173 PKP PKPdf 08 19 21.0 +1.2
comp=Z,4.4nm,0.6s,baz=297,slow=0.9,SNR=13
PLCA SKPbc SKPbc 08 21 58.5 +0.9
comp=Z,17nm,1.0s,baz=178,slow=6.1,SNR=14
PLCA Paso Flores 132.21 173 *e*PKPdf PKPdf 08 19 21.0 +1.2
PLCA *e*SKPbc SKPbc 08 21 58.5 +0.9
TRQA Tornquist 135.31 182 *e*PKPdf PKPdf 08 19 26.4 +0.8
TXAR Lajitas Array 136.05 54 PKhKP 08 19 10.5
comp=Z,0.3nm,0.4s,baz=258,slow=2.8,SNR=11
TXAR PKP PKPdf 08 19 28.8 +1.8
comp=Z,0.8nm,0.5s,baz=213,slow=4.3,SNR=7.1
TXAR pPKP pPKPdf 08 21 31.2 +1.7
comp=Z,1.9nm,0.9s,baz=321,slow=1.8,SNR=4.9
TXAR SKPbc SKPbc 08 22 10.8 +0.8
comp=Z,2.9nm,0.9s,baz=265,slow=1.4,SNR=10
TXAR Lajitas Array 136.05 54 PKP PKPdf 08 19 28.8 +1.8
TXAR pPKP pPKPdf 08 21 31.2 +1.7
TXAR SKPbc SKPbc 08 22 10.8 +0.8
WMOK Wichita Mounta 137.26 45 *e*SKPbc SKPbc 08 22 14.3 +0.8
SIUC Southern Illin 141.39 34 *e*PKPdf PKPdf 08 19 32.9 -3.8
UALR University of 141.54 40 *e*PKPdf PKPdf 08 19 33.5 -3.5
BLO Bloomington 141.69 29 *e*PKPdf PKPdf 08 19 32.6 -4.7
USIN University of 142.04 32 *e*PKPdf PKPdf 08 19 35.1 -2.7
WCI Wyandotte Cave 142.54 30 *e*PKPdf PKPdf 08 19 35.6 -3.1
UTMT University of 142.57 35 *e*PKPdf PKPdf 08 19 36.1 -2.7
BINY Binghamton 143.09 16 *e*PKPdf PKPdf 08 19 37.6 -2.1
LCO Las Campanas 143.68 169 *e*PKPbc PKPdf 08 19 40.7 0.0
LCO *e*SKPbc SKPbc 08 22 31.7 +1.6
SSPA Standing Stone 143.97 19 *e*PKPbc PKPdf 08 19 40.5 -0.8
SSPA epPKPdf pPKPdf 08 21 44.6 +0.6
PLAL Pickwick Lake 143.99 36 *e*PKPbc PKPdf 08 19 40.1 -1.1

MCWV Mont Chateau 144.17 22 *e*PKPdf PKPdf 08 19 41.3 -0.2
CAM4 Nova Friburgo 144.48 215 ⇓*i*P PKPdf 08 19 44.1 +2.0
CAM4 *i* 08 19 46.2
CAM4 *i* 08 20 02.1
CAM3 Guarapari 144.51 219 ⇓*i*P PKPdf 08 19 43.6 +1.4
CAM3 *i* 08 19 46.0
PAL Palisades 144.73 14 *e*PKPdf PKPdf 08 19 43.3 +0.8
PAL *ep*PKPdf pPKPdf 08 21 47.5 +2.2
BRNJ Basking Ridge 144.88 15 *e*PKPdf PKPdf 08 19 44.1 +1.3
MVL Millersville 145.02 17 *e*PKPdf PKPdf 08 19 43.9 +0.9
MVL *ep*PKPdf pPKPdf 08 21 47.4 +1.6
TZTN Tazewell 145.21 29 *e*PKPdf PKPdf 08 19 44.1 +0.8
TZTN *ep*PKPdf pPKPdf 08 21 46.1 0.0
SDMD Soldier's Deli 145.41 18 *e*PKPdf PKPdf 08 19 44.8 +1.0
ELN Prospectdale 145.91 25 *e*PKPdf PKPdf 08 19 45.8 +1.2
ELN *ep*PKPdf pPKPdf 08 21 46.9 -0.5
BLA Blacksburg 146.06 25 *e*PKPdf PKPdf 08 19 46.1 +1.3
BLA *ep*PKPdf pPKPdf 08 21 46.6 -1.1
CBN Corbin 146.34 20 *e*PKPdf PKPdf 08 19 47.0 +1.8
BRAL Brewton 147.35 40 *e*PKPdf PKPdf 08 19 48.5 +1.5
BRAL *e*PKPbc PKPbc 08 19 51.5 +1.3
JSC Jenkinsville 148.13 29 *e*PKPbc PKPbc 08 19 52.9 +0.7
LHS Liberty Hill 148.19 28 *e*PKPbc PKPbc 08 19 53.1 +0.8
LHS *ep*PKPdf pPKPdf 08 21 54.7 +3.5
CNNC Cliffs of the 148.78 23 *e*PKPbc PKPbc 08 19 54.6 +0.8
CNNC *e*PKPab PKPab 08 20 00.3 +0.6
CNNC *ep*PKPdf pPKPdf 08 21 59.4 +7.2
COW Cow Castle Cre 149.14 29 *e*PKPbc PKPbc 08 19 55.3 +0.6
COW *ep*PKPdf pPKPdf 08 21 59.6 +6.8
CEN1 Los Morros 149.24 168 ⇑*i*P PKPdf 08 19 56.5 +6.5
NHSC New Hope 149.61 28 *e*PKPbc PKPbc 08 19 57.1 +1.2
NHSC *ep*PKPdf pPKPdf 08 22 00.7 +7.1
RCBR Riachuelo 149.75 246 *e*PKPbc PKPbc 08 19 58.1 +2.0
RCBR *e*PKPab PKPab 08 20 05.6 +1.9
LPAZ La Paz 156.56 169 PKP PKPdf 08 20 03.2 +2.7
comp=Z,7.6nm,1.0s,baz=49,slow=1.2,SNR=24
LPAZ PKPab PKPab 08 20 35.4 +2.6
comp=Z,6.7nm,0.4s,baz=119,slow=1.5,SNR=12
LPAZ La Paz 156.56 169 *e*PKPdf PKPdf 08 20 02.7 +2.2
LPAZ *e*PKPdif 08 20 13.2
LPAZ *e*PKPab PKPab 08 20 35.0 +2.2
LPAZ *ep*PKPdf pPKPdf 08 22 04.9 +1.1
OTAV Otavalo 163.68 113 *e*PKPdf PKPdf 08 20 10.2 +2.0
SDV Santo Domingo 172.62 74 *e*PKPdf PKPdf 08 20 14.5 +0.3
SDV *e*PKPab PKPab 08 21 44.8 +1.3
SDV *ep*PKPdf pPKPdf 08 22 18.1 0.0

MOS ***24*** *08:06:55.9±0.8, 55.75N×110.18E, h6km, mb4.2/1, Error ellipse: s-maj=22.6km s-min=14.6km az=58.9*
BYKL 24 08:06:56.7±0.4, 55.73N×110.23E, h3km±7km, 6C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.39**	**277**	⇑*i*Pg	Pg	08 07 04.3	+0.1
NIZ				*e*		08 07 05.4	
NIZ				*e*Sg	Sg	08 07 10.1	+0.8
NIZ				max			
	68nm,0.4s						
NIZ				Smax			
	885nm,0.5s						
KMO	**Kumora**	**0.57**	**74**	⇑*i*Pg	Pg	08 07 06.6	-1.0
KMO				*i* Sg	Sg	08 07 14.2	-0.8
KMO				Pmax			
	116nm,0.3s						
KMO				Smax			
	480nm,1.0s						
YOA	**Uoyan**	**0.93**	**64**	*e*PG	Pg	08 07 14.1	-0.5
YOA				*e*		08 07 26.9	
YOA				pmax	pmax		
	comp=Z,126nm,0.3s						
YOA				smax			
	comp=N,733nm,0.4s						
YOA	**Uoyan**	**0.93**	**64**	*e*Pg	Pg	08 07 14.1	-0.5
YOA				*e*Sg	Sg	08 07 27.0	+0.3
YOA				*e*		08 07 34.1	
YOA				Pmax			
	comp=N,123nm,0.5s						
YOA				max			
	comp=N,733nm,0.3s						
YLYR	**Ulyunkhan**	**1.01**	**148**	⇑*i*PG	Pg	08 07 15.0	-1.0
YLYR				*e*		08 07 28.3	
YLYR	**Ulyunkhan**	**1.01**	**148**	⇑*i*Pg	Pg	08 07 15.0	-1.0
YLYR				*e*		08 07 15.7	
YLYR				*e*Sg	Sg	08 07 29.4	+0.3
YLYR				*e*		08 07 35.0	
YLYR				*e*		08 07 37.8	
YLYR				max			
	comp=N,60nm,0.2s						
YLYR				max			
	comp=N,261nm,0.2s						
SVKR	**Severomuysk**	**1.91**	**77**	*e*PN	Pn	08 07 31.3	+1.1
SVKR				*e*		08 07 56.6	
SVKR				smax			
	comp=N,1.0nm,0.8s						
SVKR	**Severomuysk**	**1.91**	**77**	*e*Pn	Pn	08 07 30.3	+0.1
SVKR				⇑*i*Pg	Pg	08 07 31.5	-1.9
SVKR				*e*Sg	Sg	08 07 57.2	-1.0
SVKR				Pmax			
	comp=N,99nm,0.4s						
SVKR				Smax			
	comp=N,880nm,0.7s						
UKT	**Uakit**	**1.94**	**96**	*e*PN	Pn	08 07 31.5	+0.9
UKT				*e*		08 07 56.8	
UKT				pmax	pmax		
	comp=Z,79nm,0.4s						
UKT				smax			
	comp=N,213nm,0.4s						
UKT	**Uakit**	**1.94**	**96**	⇑*i*Pg	Pg	08 07 31.4	-2.5
UKT				*i* Sg	Sg	08 07 57.4	-1.7
UKT				Pmax			
	comp=N,104nm,1.0s						
UKT				Smax			
	comp=N,219nm,0.5s						
SYVR	**Suvo**	**2.08**	**184**	*e*PN	Pn	08 07 34.1	+1.6
SYVR				*e*		08 08 03.1	
SYVR	**Suvo**	**2.08**	**184**	*e*Pn	Pn	08 07 32.9	+0.4
SYVR				*e*Pg	Pg	08 07 34.2	-2.4
SYVR				*e*Sg	Sg	08 08 01.9	-1.7
SYVR				Pmax			
	comp=N,53nm,0.6s						
SYVR				Smax			
	comp=N,350nm,0.7s						
OGRR	**Ongureny**	**2.59**	**217**	*e*Pn	Pn	08 07 40.5	+1.0
OGRR				*e*Pg	Pg	08 07 43.2	-3.2
OGRR				*e*Sn	Sn	08 08 13.7	+2.2
OGRR				*e*Sg	Sg	08 08 17.2	-2.7
OGRR				Pmax			
	comp=N,16nm,0.4s						
OGRR				Smax			
	comp=N,92nm,0.5s						
MXMB	**Maximikha**	**2.62**	**200**	*e*Sg	Sg	08 08 19.8	-1.1
BOD	**Bodaibo**	**2.95**	**43**	*e*Pn	Pn	08 07 43.1	-1.3
BOD				*e*Sn	Sn	08 08 21.5	+1.2
BOD				*e*Sg	Sg	08 08 26.8	-4.7
BOD				max			
	comp=N,7.0nm,0.3s						
BOD				Smax			
	comp=N,68nm,0.4s						
NLYR	**Nelyaty**	**3.16**	**74**	*e*Pg	Pg	08 07 52.7	-4.5
NLYR				*e*Sg	Sg	08 08 35.5	-2.7
TRG	**Tyrgan**	**3.75**	**219**	*e*Pn	Pn	08 07 57.7	+2.3
TRG				*e*Sg	Sg	08 08 53.5	-3.6
TRG				max			
	comp=N,11nm,0.5s						
TRG				Smax			
	comp=N,38nm,0.4s						
TRTB	**Turuntaevo**	**3.83**	**205**	*e*Pn	Pn	08 07 57.2	+0.7
TRTB				*e*Pg	Pg	08 08 05.3	-4.8
TRTB				*e*Sn	Sn	08 08 41.4	-0.6
TRTB				*e*Sg	Sg	08 08 54.5	-5.2
TRTB				Pmax			
	comp=N,7.0nm,0.5s						
TRTB				Smax			
	comp=N,44nm,0.9s						
UUDB	**Ulan-Yde**	**4.16**	**203**	*e*Sg	Sg	08 09 06.2	-4.1
UUDB				Smax			
	comp=N,29nm,0.9s						
CIT	**Chita**	**4.20**	**151**	*e*Pg	Pg	08 08 11.2	-6.1
CIT				*i* Sg	Sg	08 09 05.0	-6.7
CIT				Pmax			
	comp=N,24nm,0.9s						
CIT				Smax			
	comp=N,34nm,0.6s						
FFNB Fofonovo 4.22 210 *e*Sg Sg 08 09 06.8 -5.5
CRS Chara 4.63 72 *e*PN Pn 08 08 17.7 +10
CRS *e* 08 09 20.2
CRS pmax pmax
comp=Z,23nm,1.6s
CRS smax
comp=E,38nm,1.7s
CRS Chara 4.63 72 *e*Pn Pn 08 08 02.2 -5.3
CRS *e*Pg Pg 08 08 19.6 -5.8
CRS *e*Sg Sg 08 09 20.1 -5.2
CRS Pmax
comp=E,12nm,1.0s
CRS Smax
comp=E,21nm,1.0s
LSTR Listvyanka 5.02 222 *e*Sn Sn 08 09 08.7 -2.7
LSTR *e*Sg Sg 08 09 31.3 -6.6
TLY Talaya 5.63 227 *e*PN Pn 08 08 21.4 +0.1
TLY *e* 08 08 37.9
TLY *e* 08 09 50.1
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY smax
comp=N,31nm,1.7s
TLY Talaya 5.63 227 *e*Sn Sn 08 09 23.9 -2.6
TLY *e*Sg Sg 08 09 49.2 -8.4
TUP Tupik 5.74 99 *e*Pn Pn 08 08 22.6 -0.1
TUP *e*Pg Pg 08 08 39.2 -7.4
TUP *e*Sg Sg 08 09 55.7 -5.3
TUP Pmax
comp=N,6.0nm,0.9s
TUP Smax
comp=N,27nm,0.8s
ARS Arshan 5.99 234 *e*PN Pn 08 08 26.5 +0.2
ARS *e*S Sn 08 10 01.0 +26
ARS smax
comp=E,68nm,1.0s
ARS Arshan 5.99 234 *e*Pn Pn 08 08 26.3 0.0
ARS *e*Sn Sn 08 09 33.1 -2.3
ARS *e*Sg Sg 08 10 03.1 -6.1
ARS max
comp=E,10.0nm,0.5s
ARS Smax
comp=E,65nm,1.0s
KPC Khapcheranga 6.18 167 *e* Pn 08 08 37.4 +8.6
KPC *e*Pg Pg 08 08 47.5 -7.5
KPC *e*Sn Sn 08 09 57.5 +18
KPC *e*Sg Sg 08 10 08.1 -6.9
KPC Pmax
comp=E,3.0nm,0.5s
KPC Smax
comp=E,20nm,0.9s
MOY Mondy 6.83 237 *e*Pn Pn 08 08 39.2 +1.5
MOY *e* 08 08 46.6
MOY *e*Sn Sn 08 09 55.6 -0.3
MOY *e*Sg Sg 08 10 29.5 -6.4
MOY max
comp=E,12nm,0.8s
MOY Smax
comp=E,64nm,1.7s
ORL Orlik 6.91 247 *e*PN Pn 08 08 39.8 +1.0
ORL *e*S Sn 08 09 53.3 -4.6
ORL Orlik 6.91 247 *e*Sn Sn 08 09 55.2 -2.7
ORL *e*Sg Sg 08 10 27.7 -11
ORL Smax
comp=E,46nm,2.2s

IDC ***24*** *08:07:25.8±2.9, 48.56N×154.79E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=75.3km s-min=29.1km az=148.0*
ISCJB ***24*** *08:07:31.4±3.1, 48.3N±02×155.0E±03, h70km±17km, mb3.8/8, Error ellipse: s-maj=51.6km s-min=13.3km az=90.8*
MOS ***24*** *08:07:33.9±1.7, 48.56N×154.69E, h78km, mb4.3/4, Error ellipse: s-maj=29.6km s-min=17.4km az=78.1*
ISC 24 08:07:32.6±3.0, 48.2N±02×155.0E±03, h71km±15km, n14, σ1§02/15, mb3.8/8, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.54**	**16**	*e*PN	**Pn**	**08 08 11.0**	**-0.6**
SKR				*e*S	**Sn**	**08 08 42.0**	**+0.5**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,170nm,0.6s						
SKR				smax			
	comp=E,210nm,0.6s						
SKR				smax			
	comp=Z,80nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.41**	**266**	⇑*e*PN	**Pn**	**08 09 32.0**	**+0.4**
KSRS	**Korea Array**	**22.50**	**251**	P	**P**	**08 12 26.1**	**-0.1**
	comp=Z,2.6nm,0.5s,mb3.8,baz=46,slow=10,SNR=9.7						
YKA	**Yellowknife Ar**	**48.95**	**38**	P	**P**	**08 16 11.5**	**-0.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=296,slow=7.2,SNR=3.6						
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**08 16 24.9**	**-1.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=59,slow=7.5,SNR=5.4						
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**08 16 24.9**	**-1.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.24**	**335**	P	**P**	**08 17 52.1**	**-1.5**
	comp=Z,3.2nm,1.0s,mb4.2,baz=33,slow=7.5,SNR=6.4						
FINES	**FINESS Array B**	**63.24**	**335**	P	**P**	**08 17 52.1**	**-1.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NOA	**NORSAR Array B**	**67.23**	**342**	P	**P**	**08 18 19.2**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=25,slow=6.3,SNR=3.0						
NOA	**NORSAR Array B**	**67.23**	**342**	P	**P**	**08 18 19.2**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.03**	**327**	P	**P**	**08 18 43.0**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.6,baz=32,slow=6.0,SNR=2.9						
GERES	**GERESS Array B**	**77.68**	**335**	P	**P**	**08 19 22.8**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=34,slow=5.4,SNR=5.8						
BRTR	**Keskin Array B**	**78.19**	**318**	P	**P**	**08 19 26.4**	**+2.1**
	comp=Z,1.4nm,0.8s,mb3.7,baz=19,slow=9.2,SNR=3.9						
BRTR	**Keskin Array B**	**78.19**	**318**	P	**P**	**08 19 26.4**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

SZGRF ***24*** *08:38:42.1, 18.41S×178.34W, h33km, Fiji Islands region*
ISCJB ***24*** *08:39:39.6±0.8, 17.61S±008×178.96W±007, h532km±11km, mb4.2/23, Error ellipse: s-maj=14.6km s-min=8.2km az=104.7*
NEIC ***24*** *08:39:40.0±0.9, 17.61S×178.89W, h523km±11km, mb4.6/15, Error ellipse: s-maj=12.3km s-min=7.4km az=144.0*
IDC ***24*** *08:39:40.5±1.2, 17.65S×178.92W, h530km±14km, mb3.7/13, mb1 3.9/15, mb1mx3.8/20, mbtmp3.7/15, Error ellipse: s-maj=13.4km s-min=9.0km az=142.0*
ISC 24 08:39:40.4±0.8, 17.62S±008×178.87W±007, h529km±10km, n89, σ0§90/43, mb4.2/23, 16C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**63**	P	**P**	**08 41 34.7**	**-0.3**
	17nm,0.3s,baz=233,slow=15,SNR=28						
AFI				S	**S**	**08 43 09.0**	**-0.1**
	1.2nm,0.3s,baz=68,slow=19,SNR=5.9						
AFI	**Afiamalu**	**7.76**	**63**	*e*Pn	**P**	**08 41 34.5**	**-0.5**
	73nm,0.6s						
DZM	**Mont Dzumac**	**14.50**	**250**	*e*P	**P**	**08 42 45.3**	**+0.4**
DZM	**Mont Dzumac**	**14.50**	**250**	P	**P**	**08 42 45.5**	**+0.6**
	1.6nm,0.3s,baz=71,slow=19,SNR=17						
URZ	**Urewera**	**20.86**	**189**	P	**P**	**08 43 43.2**	**-2.1**
	5.3nm,0.7s,baz=305,slow=6.2,SNR=6.5						
URZ				S	**S**	**08 47 03.7**	**+0.2**
	6.1nm,0.6s,baz=90,slow=20,SNR=4.4						
ARMA	**Armidale**	**29.70**	**239**	⇓*i*P	**P**	**08 45 04.4**	**+1.1**
CTA	**Charters Tower**	**33.06**	**260**	⇓*i*P	**P**	**08 45 32.2**	**+0.2**
	16nm,0.8s,mb4.6						
CTA	**Charters Tower**	**33.06**	**260**	P	**P**	**08 45 32.2**	**+0.2**
	19nm,0.8s,mb4.7,baz=91,slow=9.9,SNR=22						
CTAO	**Charters Tower**	**33.06**	**260**	*e*P	**P**	**08 45 32.2**	**+0.2**
	22nm,0.9s,mb4.7						
CNB	**Canberra Magne**	**33.25**	**232**	⇓*i*P	**P**	**08 45 34.5**	**+0.8**
	31nm,0.5s,mb5.1						
PMG	**Port Moresby**	**33.97**	**279**	P	**P**	**08 45 40.4**	**+0.7**
	20nm,0.8s,mb4.7,baz=101,slow=5.4,SNR=6.1						

PMG Port Moresby 33.97 279 *eP* **P 08 45 41.2 +1.5**
25nm,0.8s,mb4.8
STKA Stephens Creek 38.38 241 ⇓*iP* **P 08 46 16.9 +0.7**
18nm,0.5s,mb4.9
STKA Stephens Creek 38.38 241 P **P 08 46 16.9 +0.8**
20nm,0.5s,mb5.0,baz=90,slow=9.7,SNR=133
WB2 Warramunga Arr 44.24 259 *eP* **P 08 47 01.6 -0.9**
WRA Warramunga Arr 44.25 259 P **P 08 47 01.9 -0.7**
9.5nm,0.7s,mb4.5,baz=93,slow=7.2,SNR=130
ASAR Alice Springs 44.44 254 P **P 08 47 04.4 +0.3**
104nm,0.7s,baz=89,slow=7.9,SNR=1567
ASAR ScP ScP 08 51 38.5 +0.7
1.1nm,0.7s,baz=92,slow=4.3,SNR=5.7
ASAR S **S 08 52 57.1 -3.2**
1.6nm,1.0s,baz=87,slow=16,SNR=9.0
KAKA Kakadu 47.15 269 *eP* **P 08 47 24.5 -0.2**
25nm,0.4s,mb5.1
FORT Forrest 49.73 244 ⇓*iP* **P 08 47 43.4 -0.6**
66nm,0.6s,mb5.2
FITZ Fitzroy Crossi 52.64 260 ⇓*iP* **P 08 48 05.4 +0.4**
6.2nm,0.3s,mb4.4
FITZ Fitzroy Crossi 52.64 260 P **P 08 48 05.5 +0.5**
3.8nm,0.3s,mb4.2,baz=82,slow=7.4,SNR=43
KLBR Kellerberrin 58.56 243 ⇓*iP* **P 08 48 45.3 -0.8**
24nm,0.7s,mb4.5
MUN Mundaring 59.86 243 *eP* **P 08 48 54.7 -0.1**
SBA Scott Base 60.68 183 *eP* **P 08 49 01.3 +1.1**
3.4nm,0.7s,mb3.8
VNDA Vanda 60.70 185 P **P 08 49 00.3 0.0**
0.8nm,0.6s,baz=341,slow=5.6,SNR=8.2
VNDA Vanda 60.70 185 *eP* **P 08 49 00.3 0.0**
1.2nm,0.7s,mb3.3
MJAR Matsushiro Arr 67.41 324 P **P 08 49 43.1 0.0**
6.2nm,0.7s,mb4.2,baz=159,slow=6.2,SNR=15
MAJO Matsushiro 67.41 324 *eP* **P 08 49 43.2 +0.1**
5.0nm,0.4s,mb4.4
QSPA South Pole Qui 72.43 180 *eP* **P 08 50 12.7 -0.3**
5.8nm,0.9s,mb4.0
MDJ Mudanjiang 77.69 325 *eP* **P 08 50 42.6 +0.2**
10nm,0.9s,mb4.2
CMB Columbia Colle 77.93 44 *eP* **P 08 50 44.3 +0.6**
1.5nm,0.8s,mb3.4
NVAR Mina Array Bea 79.52 44 P **P 08 50 52.8 +0.7**
2.0nm,0.7s,mb3.6,baz=226,slow=9.0,SNR=23
CCUT Cedar City 82.44 47 *eP* **P 08 51 08.7 +1.6**
MAW Mawson 83.98 200 P **P 08 51 14.5 -0.4**
1.9nm,0.6s,mb3.8,baz=167,slow=6.8,SNR=4.2
COLA College 85.59 13 *eP* **P 08 51 20.8 -1.9**
2.4nm,0.6s,mb4.0
BILL Bilibino 86.10 354 *eP* **P 08 51 24.8 -0.3**
3.2nm,0.8s,mb4.0
TXAR Lajitas Array 86.22 58 P **P 08 51 27.6 +2.0**
1.6nm,0.7s,mb3.7,baz=217,slow=6.1,SNR=16
PDAR Pinedale Array 87.45 44 P **P 08 51 31.9 +0.4**
1.4nm,0.5s,mb3.9,baz=217,slow=3.3,SNR=19
INK Inuvik 91.72 15 *eP* **P 08 51 49.7 -1.6**
59nm,0.8s
YKA Yellowknife Ar 94.25 25 P **P 08 52 01.8 -1.1**
0.7nm,0.7s,mb3.9,baz=245,slow=4.5,SNR=15
FINES FINESS Array B 132.79 344 PKP PKPdf 08 57 54.6 -0.5
2.6nm,1.0s,baz=62,slow=4.1,SNR=2.9
BURAR Bucovina Array 144.15 332 ⇑*iP* PKPdf 08 58 16.3 +0.5
BRTR Keskin Array B 144.26 315 PKP PKPdf 08 58 15.6 -0.5
1.1nm,0.5s,baz=93,slow=3.4,SNR=6.4
STHS Stebnicka Huta 144.35 337 *e*PKP PKPdf 08 58 15.8 -0.4
KOLS Kolonicke sedl 144.36 336 *e*PKP PKPdf 08 58 15.8 -0.4
CLL Collm 145.08 347 *e*PKPbc PKPbc 08 58 17.7 -0.5
CLL Collm 145.08 347 *i* PKPbc PKPbc 08 58 17.7 -0.5
comp=Z,10.0nm,0.7s
UPC Upice 145.09 343 *e*PKP PKPdf 08 58 18.2 +0.8
DPC Dobruska-Polom 145.14 343 *e*PKP PKPdf 08 58 18.6 +1.1
BRG Berggiesshubel 145.28 346 *e*PKPbc PKPbc 08 58 18.8 0.0
BRG Berggiesshubel 145.28 346 *e*PKP PKPdf 08 58 18.5 +0.8
comp=Z,2.3nm,0.6s
MORC Moravsky Berou 145.30 341 ⇑*iP* PKPdf 08 58 18.8 +1.0
MLR Muntele Rosu 145.36 329 ⇑*iP* PKPdf 08 58 19.9 +2.0
FBE Freiberg 145.37 346 *e*PKPbc PKPbc 08 58 18.8 -0.3
KECS Kecovo 145.41 337 *e*PKP PKPdf 08 58 17.5 -0.5
NEUB Neuenburg 145.43 348 *e*PKPbc PKPbc 08 58 18.9 -0.3
PVCC Panska Ves 145.45 345 *e*PKP PKPdf 08 58 19.4 +1.4
PVCC *ex* x 08 58 23.1
VOIR 145.83 329 ⇑*iP* PKPbc 08 58 23.4 +3.0
DRGR 145.88 333 ⇑*iP* PKPdf 08 58 20.4 +1.6
PRU Pruhonice 145.95 344 *e*PKP PKPdf 08 58 20.5 +1.6
PRU *ex* x 08 58 22.6
VYHS Vyhne 145.99 339 *e*PKP PKPdf 08 58 20.8 +1.8
TANN Tannenbergstha 146.04 347 *e*PKPbc PKPbc 08 58 20.6 -0.4
WERD Werda 146.04 347 *e*PKPbc PKPbc 08 58 20.6 -0.4
GUNZ Gunzen 146.12 347 *e*PKPbc PKPbc 08 58 21.1 -0.1
WERN Wernitzgruen 146.18 347 *e*PKPbc PKPbc 08 58 21.2 -0.2
NKC Novy Kostel 146.22 347 *e*PKP PKPbc 08 58 23.3 +1.8
KHC Kasperske Hory 146.98 345 *e*PKP PKPbc 08 58 23.2 -0.4
KHC *ex* x 08 58 26.5
GEC2 GERESS Array S 147.22 345 *e*PKPbc PKPbc 08 58 24.0 -0.2
GERES GERESS Array B 147.22 345 PKPbc PKPbc 08 58 23.9 -0.3
comp=Z,2.4nm,0.6s,baz=28,slow=2.8,SNR=29
BZS Buzias 147.28 333 ⇑*iP* PKPbc 08 58 24.0 -0.3
GIVF Givet 147.46 356 ⇑*i*PKP1 PKPbc 08 58 24.5 -0.3
BAIF Baives 147.54 356 ⇑*i*PKP1 PKPbc 08 58 24.9 -0.1
CDF Champ du Feu 148.88 352 *e*PKP1 PKPbc 08 58 28.1 -0.3
comp=Z,4.1nm,0.5s
FLN La Foliniere 148.91 2 *e*PKP1 PKPbc 08 58 27.8 -0.6
LDF La Druitiere 149.09 2 ⇑*i*PKP1 PKPbc 08 58 28.1 -0.8
comp=Z,4.2nm,0.4s
ROSF Rostrenen 149.15 6 *e*PKP1 PKPbc 08 58 28.8 -0.2
GRR Gorron 149.27 3 ⇑*i*PKP1 PKPbc 08 58 28.8 -0.5
SGMF Saint Gilles 149.30 5 *e*PKP1 PKPbc 08 58 29.5 +0.1
HAU Haudompre 149.39 353 ⇑*i*PKP1 PKPbc 08 58 29.3 -0.3
comp=Z,2.8nm,0.4s
HINF Hinteralfeld 149.52 352 *e*PKP1 PKPbc 08 58 29.3 -0.6
LOR Lormes 150.35 356 ⇑*i*PKP1 PKPbc 08 58 31.6 -0.2
comp=Z,16nm,0.8s
SSF Saint Saulge 150.57 357 ⇑*i*PKP1 PKPbc 08 58 32.2 -0.2
comp=Z,5.9nm,0.4s
CABF La Chapelle 150.80 353 *e*PKP1 PKPbc 08 58 32.6 -0.3
AVF Avril sur Loir 150.85 357 ⇑*i*PKP1 PKPbc 08 58 32.4 -0.6
MFF Saint Martin d 151.08 2 ⇑*i*PKP1 PKPbc 08 58 33.0 -0.5
BGF Bois d'Agland 151.11 358 ⇑*i*PKP1 PKPbc 08 58 33.3 -0.3
comp=Z,4.6nm,0.4s
RJF Les Rejaudoux 152.39 359 *e*PKP1 PKPbc 08 58 36.9 +0.4
MBDF Montbardon 152.56 351 *e*PKP1 PKPbc 08 58 38.6 +1.8
ESDC Sonseca Array 157.58 10 PKPab PKPab 08 59 11.2 -0.3
comp=Z,0.1nm,0.4s,baz=313,slow=5.5,SNR=4.5

IDC 24 08:50:51.8±0.7, 673N×7290W, h172km±9km, mb3.1/5, mb1 3.5/8, mb1mx3.3/21, mbtmp3.3/8, Error ellipse: s-maj=30.2km s-min=7.8km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34**	**217**	P	Pn	08 51 32.7	+0.5
	32nm,0.3s,baz=97,slow=20,SNR=47						
ROSC				S	Sn	08 52 04.7	+1.3
	62nm,0.3s,baz=90,slow=20,SNR=12						
SDV	**Santo Domingo**	**3.11**	**46**	P	Pn	08 51 42.8	+1.4
	13nm,0.3s,baz=237,slow=23,SNR=31						
SDV				S	Sn	08 52 20.2	+0.3
	25nm,0.3s,baz=66,slow=22,SNR=21						
PCRV	**Puerto La Cruz**	**8.87**	**67**	P	Pn	08 52 58.3	+1.8
	0.3nm,0.3s,baz=312,slow=18,SNR=2.6						
TXAR	**Lajitas Array**	**36.68**	**312**	P	P	08 57 42.0	0.0
	0.4nm,0.6s,baz=121,slow=8.4,SNR=4.9						
ULM	**Lac du Bonnet**	**47.44**	**340**	P	P	08 59 08.3	-0.7
	0.8nm,0.4s,baz=20,slow=6.0,SNR=3.0						
PDAR	**Pinedale Array**	**48.28**	**324**	P	P	08 59 15.7	+0.3
	0.3nm,0.5s,baz=125,slow=7.9,SNR=3.1						
NVAR	**Mina Array Bea**	**51.70**	**315**	P	P	08 59 42.5	+1.3
	0.2nm,0.6s,baz=108,slow=6.0,SNR=2.9						
YKA	**Yellowknife Ar**	**63.42**	**340**	P	P	09 01 03.0	0.0
	0.8nm,0.6s,baz=133,slow=6.7,SNR=22						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	PKPbc	09 10 18.8	-1.2
	0.1nm,0.5s,baz=116,slow=3.4,SNR=3.0						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPbc	09 10 24.3	+1.3
	0.2nm,0.4s,baz=107,slow=2.7,SNR=9.5						

IDC 24 09:06:18.2±34.0, 6597S×10150E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/9, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/11, Error ellipse: s-maj=929.2km s-min=34.3km az=88.0, Antarctica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.85**	**148**	P	P	09 11 00.9	-0.5
	1.0nm,0.6s,baz=277,slow=11,SNR=14						
VNDA				LR	LR	09 18 50.8	
	comp=Z,67nm,21.2s,baz=152,slow=36						
ASAR	**Alice Springs**	**47.07**	**42**	P	P	09 14 51.4	-0.2
	0.7nm,0.7s,baz=199,slow=6.6,SNR=9.9						
WRA	**Warramunga Arr**	**50.73**	**41**	P	P	09 15 19.3	-0.4
	0.7nm,0.7s,baz=200,slow=6.7,SNR=5.6						

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*LDG **24** 09:13:13.5±0.1, 4762N×895E, h20km, Ml2.2/7, Error ellipse: s-maj=1.4km s-min=1.0km az=147.0*
*LEDBW **24** 09:13:13.7±0.1, 47608N±0005×8954E±0006, h21km±1km, ML1.9, Error ellipse: s-maj=2.2km s-min=1.6km az=123.0*
*ZUR **24** 09:13:13.3, 4760N×897E, h22km, ML1.9/13*
*ISCJB **24** 09:13:13.1±0.3, 4768N±002×892E±002, h0km, Error ellipse: s-maj=2.3km s-min=2.1km az=148.4*
*BGR **24** 09:13:14.9±1.1, 4769N×903E, h10km, ML1.6/1, Error ellipse: s-maj=12.2km s-min=4.4km az=15.0*
*STR **24** 09:13:16.6±1.8, 4754N×870E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 24 09:13:13.9±0.3, 4766N±002×895E±002, h0km, n58, σ1§29/87, 17C-5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISB	**Singen-Schiene**	**0.03**	**18**	⇓*iP**	**Pg**	**09 13 17.6**	**+3.1**
SISB				*i S**	**Sg**	**09 13 20.6**	**+5.7**
STEIN	**Stein am Rhein**	**0.06**	**285**	⇓*iPg*	**Pg**	**09 13 17.7**	**+2.8**
	89nm,0.1s						
STEIN				*i* Sg	**Sg**	**09 13 20.7**	**+5.0**
	89nm,0.1s						
WEIN	**Weingarten**	**0.13**	**169**	⇓*iPg*	**Pg**	**09 13 17.5**	**+1.2**
	560nm,0.4s						
WEIN				*i* Sg	**Sg**	**09 13 20.6**	**+2.6**
	560nm,0.4s						
TRULL	**Truellikon**	**0.18**	**268**	*i* Pg	**Pg**	**09 13 18.8**	**+1.5**
	205nm,0.2s						
WILA	**Wila**	**0.24**	**187**	*i* Sg	**Pg**	**09 13 18.8**	**+0.3**
	1μm,0.2s						
WILA	**Wila**	**0.24**	**187**	⇓*iPg*	**Sg**	**09 13 22.7**	**+1.0**
	1μm,0.2s						
WILA	**Wila**	**0.24**	**187**	⇓*iPg*	**Pg**	**09 13 18.8**	**+0.2**
WILA				*i* Sg	**Sg**	**09 13 22.7**	**+1.0**
SLE	**Schleitheim**	**0.33**	**290**	⇑P*	**Pg**	**09 13 21.1**	**+0.9**
SLE				PmP		09 13 22.3	
SLE				*i S**	**Sg**	**09 13 26.4**	**+2.0**
SLE	**Schleitheim**	**0.33**	**290**	⇑*iPg*	**Pg**	**09 13 21.7**	**+1.6**
	299nm,0.3s						
SLE				*e*Sg	**Sg**	**09 13 26.4**	**+2.0**
	299nm,0.3s						
SLE	**Schleitheim**	**0.33**	**290**	PmP	**Pg**	**09 13 22.3**	**+2.2**
SLE				*i* Sg	**Sg**	**09 13 26.4**	**+2.0**
ZUR	**Zurich**	**0.38**	**221**	⇑*iP**	**Pg**	**09 13 21.1**	**-0.1**
ZUR				*i S**	**Sg**	**09 13 26.5**	**+0.4**
ZUR	**Zurich**	**0.38**	**221**	⇑*iP**	**Pg**	**09 13 23.2**	**+1.1**
GUT				⇑*i*PmP		09 13 23.9	
GUT				S*	**Sg**	**09 13 30.2**	**+2.5**
GUT				SmS		09 13 31.3	
GUT	**Gutenstein**	**0.43**	**15**	⇑*iPg*	**Pg**	**09 13 23.2**	**+1.1**
GUT				Sg	**Sg**	**09 13 30.2**	**+2.5**
GUT	**Gutenstein**	**0.43**	**15**	⇑*i*PmP		09 13 23.9	
GUT				SmS		09 13 31.3	
SPAK	**Spaichingen-Ko**	**0.46**	**346**	S*	**Sg**	**09 13 31.4**	**+2.8**
LIENZ	**Alp Oberkamor**	**0.52**	**134**	⇑*iPg*	**Pg**	**09 13 23.2**	**-0.6**
	112nm,0.2s						
LIENZ	**Alp Oberkamor**	**0.52**	**134**	⇑*iPg*	**Pg**	**09 13 23.5**	**-0.2**
LIENZ				Sg	**Sg**	**09 13 30.9**	**+0.4**
LIENZ				SmS		09 13 32.6	
SULZ	**Sulz-Cheisache**	**0.58**	**258**	⇑*iP**	**Pg**	**09 13 25.0**	**0.0**
SULZ				PmP		09 13 25.3	
SULZ				S*	**Sg**	**09 13 33.1**	**+0.6**
SULZ	**Sulz-Cheisache**	**0.58**	**258**	⇑*iPg*	**Pg**	**09 13 25.0**	**0.0**
	89nm,0.8s						
SULZ	**Sulz-Cheisache**	**0.58**	**258**	PmP	**Pg**	**09 13 25.3**	**+0.4**
SULZ				Sg	**Sg**	**09 13 33.1**	**+0.6**
PLONS	**Plons**	**0.67**	**154**	⇑*iPg*	**Pg**	**09 13 25.8**	**-1.0**
	40nm,0.6s						
FELD	**Feldberg im Sc**	**0.68**	**289**	⇑P*	**Pg**	**09 13 26.9**	**+0.1**
FELD				*i S**	**Sg**	**09 13 36.6**	**+1.0**
FELD	**Feldberg im Sc**	**0.68**	**289**	⇑Pn	**Pg**	**09 13 26.9**	**+0.1**
FELD				*i* Sn	**Sg**	**09 13 36.6**	**+1.0**
KIZ	**Kirchzarten**	**0.76**	**294**	⇑P	**Pg**	**09 13 28.3**	**-0.1**
KIZ				Sg	**Sg**	**09 13 38.8**	**+0.6**
KIZ	**Kirchzarten**	**0.76**	**294**	⇑Pn	**Pg**	**09 13 28.3**	**-0.1**
KIZ				Sn	**Sg**	**09 13 38.8**	**+0.6**
UBR	**Ueberruh**	**0.78**	**88**	⇑P	**Pg**	**09 13 28.8**	**-0.1**
UBR				S	**Sg**	**09 13 39.9**	**+0.8**
UBR	**Ueberruh**	**0.78**	**88**	⇑Pg	**Pg**	**09 13 28.8**	**-0.1**
UBR				Sg	**Sg**	**09 13 39.9**	**+0.8**
BFO	**Black Forest**	**0.79**	**329**	*e*Pg	**Pg**	**09 13 29.4**	**+0.3**
	SNR=7.1						
BFO				*e*Sg	**Sg**	**09 13 40.4**	**+1.1**
	SNR=6.9						
BUCH	**Bad Urach**	**0.84**	**19**	P	**Pg**	**09 13 30.2**	**+0.2**
BUCH				Sg	**Sg**	**09 13 42.6**	**+1.7**
BALST	**Balsthal**	**0.91**	**250**	⇑*iPn*	**Pg**	**09 13 29.7**	**-1.6**
	80nm,0.2s						
BALST	**Balsthal**	**0.91**	**250**	⇑*iPn*	**Pg**	**09 13 29.6**	**-1.6**
BALST	**Balsthal**	**0.91**	**250**	P	**Pg**	**09 13 30.5**	**-0.8**
BALST				S	**Sg**	**09 13 42.7**	**-0.4**
BBS	**Basel-Blauen**	**0.99**	**259**	Pg	**Pg**	**09 13 32.1**	**-0.8**
LBG	**Lerchenberg**	**1.01**	**354**	Pg	**Pg**	**09 13 33.1**	**-0.2**
LBG				S	**Sg**	**09 13 44.8**	**-1.6**
LBG				SmS		09 13 47.3	
STU	**Stuttgart**	**1.13**	**8**	*e*Sg	**Sg**	**09 13 49.2**	**-1.0**
	SNR=2.4						
BOURR	**Bourrignon**	**1.19**	**258**	⇑*iPn*	**Pg**	**09 13 33.7**	**-3.1**
	18nm,0.6s						
MOF	**Molkenrain**	**1.24**	**280**	Pg	**Pg**	**09 13 38.6**	**+0.9**
HDH	**Heidenheim-Cha**	**1.25**	**42**	Sg	**Sg**	**09 13 53.9**	**-0.3**
ECH	**Echery**	**1.33**	**296**	Pg	**Pg**	**09 13 40.7**	**+1.4**
ECH				Sg	**Sg**	**09 13 56.0**	**-0.6**
CDF	**Champ du Feu**	**1.35**	**305**	*e*Pn	**Pn**	**09 13 36.4**	**-3.6**
CDF	**Champ du Feu**	**1.35**	**305**	*e*Pg	**Pg**	**09 13 39.4**	**-0.4**
CDF				*e*Sn	**Sn**	**09 13 52.8**	**-5.9**
CDF				*e*Sg	**Sg**	**09 13 57.7**	**+0.3**
	5.0nm,0.3s						
HINF	**Hinteralfeld**	**1.42**	**277**	*e*Pn	**Pn**	**09 13 36.9**	**-4.1**
HINF	**Hinteralfeld**	**1.42**	**277**	*e*Pg	**Pg**	**09 13 40.4**	**-0.8**
HINF				*e*Sg	**Sg**	**09 13 58.8**	**-0.8**
	13nm,0.4s						
FUR	**Furstenfeldbru**	**1.65**	**71**	*e*Pg	**Pg**	**09 13 45.7**	**+0.2**
	SNR=1.6						
FUR				*e*Sg	**Sg**	**09 14 05.6**	**-1.1**
	SNR=1.5						
SIND	**Sindeldorf**	**1.75**	**14**	Sg	**Sg**	**09 14 09.1**	**-1.0**
HAU	**Haudompre**	**1.79**	**282**	*e*Pn	**Pn**	**09 13 41.7**	**-4.3**
HAU	**Haudompre**	**1.79**	**282**	*e*Pg	**Pg**	**09 13 46.6**	**-1.5**
HAU				*e*Sg	**Sg**	**09 14 10.5**	**-0.8**
	11nm,0.5s						
CABF	**La Chapelle**	**2.22**	**243**	*e*Pn	**Pn**	**09 13 47.3**	**-4.6**
CABF	**La Chapelle**	**2.22**	**243**	*e*Pg	**Pg**	**09 13 54.2**	**-2.1**
CABF				*e*Sg	**Sg**	**09 14 23.2**	**-1.9**
	1.2nm,0.3s						
GRF	**Grafenberg Arr**	**2.53**	**36**	*e*Sg	**Sg**	**09 14 34.6**	**-0.7**
	SNR=1.6						
SFTF	**Sexfontaines**	**2.69**	**283**	*e*Sg	**Sg**	**09 14 38.4**	**-1.8**
	0.7nm,0.2s						
WET	**Wettzell**	**3.01**	**59**	*e*Sg	**Sg**	**09 14 47.6**	**-3.0**
	SNR=3.3						
GEC2	**GERESS Array S**	**3.39**	**68**	*e*Sg	**Sg**	**09 14 59.9**	**-3.0**
	SNR=4.2						
LOR	**Lormes**	**3.48**	**265**	*e*Sg	**Sg**	**09 15 02.5**	**-3.0**
	0.7nm,0.2s						

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*IDC **24** 09:17:42.8±1.4, 1670N×8673W, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.7/19, mbtmp3.5/8, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/19, Error ellipse: s-maj=42.8km s-min=22.9km az=55.0*
*ISCJB **24** 09:17:49.3±0.5, 1699N±004×8696W±007, h35km, mb3.5/5, Error ellipse: s-maj=10.3km s-min=5.6km az=4.4*
*CASC **24** 09:18:00.3±2.2, 1637N×8661W, h14km±49km, MD4.4*

ISC 24 09:17:51.5±0.5, 1698N±004×8704W±007, h35km, n28, σ1§39/23, mb3.5/5, 1C-1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO2	**Montecristo 2**	**3.40**	**221**	*e*P	x	09 18 52.6	
MTO2				*e*S	x	09 19 31.3	
TEIG	**Tepich**	**3.43**	**340**	Pn	**Pn**	**09 18 43.1**	**+0.7**
	10nm,0.3s,baz=139,slow=1.6,SNR=63						
TEIG				Sn	**Sn**	**09 19 27.3**	**+5.4**
	33nm,0.3s,baz=69,slow=22,SNR=15						
LBRS	**Las Brisas**	**3.76**	**211**	*e*P	x	09 18 55.6	
LBRS				*e*S	x	09 19 35.3	
CNCH	**Conchagua**	**3.76**	**192**	*e*P	x	09 18 52.6	
CNCH				*e*S	x	09 19 32.8	
LFU	**La Fuente**	**3.79**	**212**	*e*S	x	09 19 39.7	
LCBS	**La Ceiba**	**3.80**	**210**	*e*P	x	09 18 54.6	
LFRS	**El Faro**	**3.87**	**211**	*e*P	x	09 18 56.5	
LFRS				*e*S	x	09 19 40.2	
BOQS	**Boqueron**	**3.88**	**214**	*e*P	x	09 18 57.5	
BOQS				*e*S	x	09 19 40.5	
SBLS	**San Blas**	**3.99**	**219**	*e*P	x	09 18 59.6	
MOMJ	**Momotombo**	**4.57**	**174**	*e*P	**Pn**	**09 18 59.6**	**+1.5**
BOAB	**BOACO BROADBAN**	**0.70**	**163**	*e*S	**Sn**	**09 19 47.9**	**-5.3**
XAVN	**Gruta Xavier**	**4.85**	**172**	*e*P	**Pn**	**09 19 03.3**	**+1.2**
MGAN	**Managua**	**4.87**	**171**	⇓*e*P	**Pn**	**09 19 02.5**	**+0.2**
MGAN				*e*S	**Sn**	**09 19 54.9**	**-2.5**
TICN	**Ticuantepe**	**4.98**	**171**	*e*P	**Pn**	**09 19 04.7**	**+1.0**
CONN	**Concepcion**	**5.56**	**166**	⇑*e*P	**Pn**	**09 19 13.4**	**+1.7**
SOR	**Soroa**	**6.91**	**33**	*e*PG	**Pn**	**09 19 31.2**	**+0.9**
	baz=236						
SOR				*e*SG	**Sn**	**09 20 57.0**	**+9.3**
	comp=N,566nm,0.5s						
SOR				*e*			
	comp=E,943nm,0.2s						
JTS	**JuntasAbangare**	**6.95**	**163**	Pn	**Pn**	**09 19 20.2**	**-11**
	comp=E,0.2nm,0.3s,baz=315,slow=20,SNR=2.4						
JTS				Lg		09 20 57.6	
	comp=E,2.1nm,0.3s,baz=303,slow=21,SNR=4.8						
CMIG	**Matias Romero**	**7.50**	**272**	Pn	**Pn**	**09 19 31.4**	**-7.0**
	comp=E,0.6nm,0.3s,baz=93,slow=8.8,SNR=11						
CMIG				Sn	**Sn**	**09 20 50.0**	**-12**
	baz=30,slow=20,SNR=2.9						
CMIG				LR	LR	09 23 07.0	
	comp=E,83nm,20.2s,baz=44,slow=42						
MGV	**Manicaragua**	**8.39**	**51**	*e*P	**Pn**	**09 19 50.3**	**-0.2**
MGV				*e*S	**Sn**	**09 21 23.9**	**0.0**
	comp=N,1.3nm,0.4s						
MGV				*e*			
	comp=E,3.3nm,0.3s						
TKL	**Tuckaleechee C**	**18.83**	**8**	P	**Pn**	**09 22 10.1**	**+1.2**
	comp=E,0.1nm,0.3s,baz=157,slow=13,SNR=3.0						
TXAR	**Lajitas Array**	**19.59**	**312**	P	**Pn**	**09 22 17.1**	**-0.9**
	comp=E,0.2nm,0.3s,baz=131,slow=11,SNR=11						
PDAR	**Pinedale Array**	**32.07**	**328**	P	**P**	**09 24 15.1**	**0.0**
	comp=E,0.5nm,1.1s,mb3.3,baz=96,slow=4.5,SNR=3.5						
ULM	**Lac du Bonnet**	**33.94**	**350**	P	**P**	**09 24 29.7**	**-1.6**
	comp=E,1.0nm,0.6s,mb3.9,baz=186,slow=19,SNR=2.2						
NVAR	**Mina Array Bea**	**34.70**	**314**	P	**P**	**09 24 39.1**	**+1.1**
	comp=E,0.4nm,0.7s,mb3.5,baz=119,slow=9.4,SNR=2.2						
YKA	**Yellowknife Ar**	**49.38**	**344**	P	**P**	**09 26 36.2**	**-1.4**
	comp=E,0.5nm,0.9s,mb3.6,baz=138,slow=7.6,SNR=5.7						
ESDC	**Sonseca Array**	**74.12**	**53**	P	**P**	**09 29 21.4**	**-2.8**
	comp=E,0.4nm,0.7s,mb3.5,baz=262,slow=4.3,SNR=3.5						
WRA	**Warramunga Arr**	**140.71**	**259**	PKP	PKPdf	09 37 16.2	-1.2
	comp=E,0.4nm,0.7s,baz=90,slow=2.4,SNR=3.0						
ASAR	**Alice Springs**	**141.13**	**253**	PKP	PKPdf	09 37 14.7	-3.5
	comp=E,0.4nm,0.9s,baz=110,slow=2.8,SNR=3.8						

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*NIED **24** 09:19:00, 3880N×13570E, h360km, Mw4.4 Best double couple: M0 3.79000×10^15 NP1:φs=5.00000°, δ85.00000°, λ-145.00000°. NP2:φs=272.00000°, δ55.00000°, λ-6.00000°.*
*JMA **24** 09:19:28.9±0.1, 3882N×13571E, h394km±2km, M3.7*
*BJI **24** 09:19:28.4, 3898N×13565E, h396km, mB4.9, mb4.7*
*IDC **24** 09:19:29.9±0.7, 3889N×13545E, h366km±8km, mb3.4/16, mb1 3.7/19, mb1mx3.6/25, mbtmp3.5/19, Error ellipse: s-maj=11.1km s-min=10.1km az=36.0*
*NEIC **24** 09:19:29.8±0.4, 3890N×13552E, h370km±5km, mb4.5/13, MW4.3(NIED), Error ellipse: s-maj=8.6km s-min=7.0km az=134.0*
*ISCJB **24** 09:19:29.1±0.2, 3889N±004×13559E±004, h379km±3km, mb4.1/33, Error ellipse: s-maj=6.2km s-min=4.9km az=96.9*

ISC 24 09:19:29.9±0.2, 3886N±004×13557E±004, h373km±3km, n77, σ0§95/90, mb4.1/33, 2C-6D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.47**	**133**	P	**Pn**	**09 20 21.1**	**+0.9**
JHG				*e*S	**S**	**09 21 02.1**	**+1.4**
JSZ	**Suzu**	**2.00**	**134**	P	**Pn**	**09 20 24.0**	**+0.6**
JSZ				S	**S**	**09 21 07.4**	**+1.0**
JJH	**Hakui**	**2.16**	**153**	P	**Pn**	**09 20 25.1**	**+0.7**
JSD	**Sado**	**2.27**	**110**	P	**Pn**	**09 20 25.3**	**+0.1**
JSD				S	**S**	**09 21 09.3**	**-0.5**
JKG	**Kaga**	**2.65**	**167**	P	**Pn**	**09 20 28.7**	**+0.6**
JAW	**Awa shima**	**2.91**	**97**	P	**Pn**	**09 20 30.4**	**+0.1**
MAJO	**Matsushiro**	**3.12**	**137**	*e*Pn	**Pn**	**09 20 32.0**	**-0.1**
MAT	**Matsushiro**	**3.12**	**137**	P	**Pn**	**09 20 32.1**	**0.0**
MAT				S	**S**	**09 21 22.1**	**-0.1**
MAT	**Matsushiro**	**3.12**	**137**	P	**Pn**	**09 20 32.1**	**0.0**
MAT				*e*S	**S**	**09 21 22.5**	**+0.3**
MJAR	**Matsushiro Arr**	**3.12**	**137**	P	**Pn**	**09 20 32.6**	**+0.5**
	3.8nm,0

comp=Z,11nm,0.7s,mb4.2
SONM Songino Array 22.92 303 P **P 09 24 02.4 -0.3**
comp=Z,2.9nm,0.5s,mb3.8,baz=107,slow=9.4,SNR=28
LZH Lanzhou 25.27 274 *eP* **P 09 24 26.0 +2.2**
LZH AMB AMB
comp=Z,56nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,251nm,4.3s
GYA Guiyang 27.18 252 P **P 09 24 39.6 -1.1**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
GTA Gaotai 27.63 283 *eP* **P 09 24 44.3 -0.4**
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb3.8
ZAL Zalesovo 37.26 311 P **P 09 26 05.6 -1.9**
comp=Z,1.1nm,0.3s,mb3.5,baz=1.9,slow=4.9,SNR=4.3
CHTO Chiang Mai 37.46 248 *eP* **P 09 26 09.2 +0.1**
comp=Z,8.8nm,0.8s,mb4.0
KURK Kurchatov 41.15 306 *eP* **P 09 26 37.8 -1.4**
comp=Z,3.5nm,0.4s,mb3.9
GUN Gumba 42.44 270⇓*iP* **P 09 26 49.8 +0.2**
comp=Z,62nm,0.4s,mb5.1
KKN Kakani 42.97 271⇓*iP* **P 09 26 53.8 0.0**
comp=Z,69nm,0.5s,mb5.0
PKI Pulchoki 42.97 270⇓*iP* **P 09 26 53.5 -0.3**
comp=Z,19nm,0.5s,mb4.5
DMN Daman 43.19 271⇓*iP* **P 09 26 55.4 -0.1**
comp=Z,17nm,0.4s,mb4.5
GKN Gorkha 43.37 271⇓*iP* **P 09 26 56.5 -0.4**
comp=Z,44nm,0.7s,mb4.7
KOLN Koldanda 44.29 272⇓*iP* **P 09 27 04.1 -0.1**
comp=Z,12nm,0.3s,mb4.5
INK Inuvik 54.87 27 P **P 09 28 23.7 +0.7**
comp=Z,1.0nm,0.4s,mb3.5,baz=262,slow=6.2,SNR=27
INK Inuvik 54.87 27 *eP* **P 09 28 23.5 +0.5**
comp=Z,36nm,0.4s,mb5.0
WB2 Warramunga Arr 58.50 181 *eP* **P 09 28 47.3 -1.1**
WRA Warramunga Arr 58.50 181 P **P 09 28 48.7 +0.3**
comp=Z,1.8nm,0.6s,mb3.7,baz=358,slow=7.7,SNR=23
ARCES ARCESS Array B 60.61 338 P **P 09 29 01.8 -0.7**
comp=Z,6.0nm,0.9s,mb4.0,baz=51,slow=9.6,SNR=4.5
JOF Joensuu 62.12 330 *ep* **P 09 29 10.8 -1.7**
comp=Z,3.3nm,0.7s,mb4.0
ASAR Alice Springs 62.22 182 P **P 09 29 13.8 +0.7**
comp=Z,0.9nm,0.7s,mb3.4,baz=352,slow=5.6,SNR=18
YKA Yellowknife Ar 64.50 29 P **P 09 29 28.3 +0.3**
comp=Z,0.6nm,0.7s,mb3.4,baz=310,slow=6.3,SNR=13
KAF Kangasniemi 64.51 331 *ep* **P 09 29 26.3 -1.7**
comp=Z,2.4nm,0.4s,mb4.2,baz=52,slow=6.0
FINES FINESS Array B 64.99 330 P **P 09 29 30.5 -0.6**
comp=Z,1.2nm,0.4s,mb3.9,baz=74,slow=6.6,SNR=18
AKASG Malin Array Be 69.97 319 P **P 09 30 01.3 -0.6**
comp=Z,1.6nm,0.4s,mb4.1,baz=48,slow=6.2,SNR=19
STKA Stephens Creek 70.60 175 P **P 09 30 07.8 +2.0**
comp=Z,3.9nm,0.9s,mb4.2,baz=149,slow=23,SNR=3.7
NB2 NORSAR Subarra 70.64 335 P **P 09 30 05.5 -0.5**
comp=Z,2.9nm,1.1s,mb3.9,baz=30,slow=6.2
NOA NORSAR Array B 70.64 335 P **P 09 30 05.8 -0.2**
comp=Z,0.6nm,0.6s,mb3.5,baz=41,slow=6.0,SNR=2.9
DLMT Dillon 76.21 42 *eP* **P 09 30 39.8 +1.7**
comp=Z,5.5nm,0.5s,mb4.5
CMB Columbia Colle 76.48 52 *eP* **P 09 30 40.9 +1.3**
comp=Z,2.1nm,0.4s,mb4.2
NVAR Mina Array Bea 77.50 51 P **P 09 30 47.4 +2.2**
comp=Z,1.1nm,0.7s,mb3.7,baz=285,slow=5.7,SNR=14
NVAR Mina Array Bea 77.50 51 P **P 09 30 47.4 +2.2**
GERES GERESS Array B 78.65 325 P **P 09 30 51.3 -0.1**
comp=Z,0.3nm,0.6s,mb3.2,baz=38,slow=6.5,SNR=2.8
BW06 Boulder Array 79.58 43 *eP* **P 09 30 57.5 +1.1**
comp=Z,2.0nm,1.1s,mb3.8
PDAR Pinedale Array 79.58 43 P **P 09 30 57.8 +1.3**
comp=Z,1.9nm,0.7s,mb3.9,baz=285,slow=1.5,SNR=19
ULM Lac du Bonnet 80.40 31 P **P 09 31 01.3 +0.4**
comp=Z,1.6nm,0.5s,mb4.0,baz=307,slow=5.1,SNR=4.0
ULM Lac du Bonnet 80.40 31 P **P 09 31 01.3 +0.4**
TXAR Lajitas Array 92.53 49 P **P 09 32 01.7 +2.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=266,slow=2.4,SNR=12
LPAZ La Paz 149.40 49 PKPbc PKPbc 09 38 37.0 +1.6
comp=Z,1.0nm,0.5s,baz=21,slow=5.7,SNR=6.5
LPAZ La Paz 149.40 49 *e*PKPbc PKPbc 09 38 37.3 +2.0

MOS ***24*** *09:46:23.3±0.8, 501S×14481E, h46km, mb5.4/32, MS4.8/7, Error ellipse: s-maj=10.7km s-min=5.7km az=108.4*
BJI ***24*** *09:46:23.6, 492S×14535E, h68km, mB5.3, mb5.0, Ms4.7, Msz4.5*
IDC ***24*** *09:46:24.9±2.6, 504S×14490E, h50km±25km, mb4.5/17, mb1 4.7/22, mb1mx4.7/23, mbtmp4.7/22, ML4.8/5, MS4.5/20, Ms1 4.5/20, ms1mx4.3/26, Error ellipse: s-maj=16.6km s-min=11.1km az=100.0*
ISCJB ***24*** *09:46:24.6±0.2, 510S±003×14489E±005, h63km, mb5.1/86, Error ellipse: s-maj=6.7km s-min=4.5km az=165.6*
NEIC ***24*** *09:46:26.1±0.7, 510S×14488E, h62km±6km, mb5.3/39, Error ellipse: s-maj=5.2km s-min=4.2km az=77.0*
GCMT ***24*** *09:46:26.1±0.2, 499S×14487E, h60km±1km, MW5.3/76, Moment Tensor Solution. s54,c92; s76,c141; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.23±.02; Mθθ0.83±.02; Mφφ-1.06±.02; Mrθ0.43±.01; Mφθ0.16±.02; Mφr0.13±.02; Best double couple: M0 1.07800×1017 NP1:φs133.00000°, δ68.00000°, λ17.00000°. NP2: φs37.00000°, δ74.00000°, λ157.00000°. Principal axes: T 1.0750, Plg27.0000°, Azm354.0000°; N 0.0040, Plg62.0000°, Azm184.0000°; P -1.0810, Plg4.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 09:46:26.3±0.2, 513S±003×14500E±005, h65km, h65km±1.8km: pP-P, n269, σ1s01/206, mb5.1/86, 19C-18D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.76**	**153**	P	**Pn**	**09 47 35.6**	**+0.1**
	73nm,0.3s,baz=356,slow=7.1,SNR=251						
PMG				S	**Sn**	**09 48 27.1**	**-2.3**
	145nm,0.3s,baz=275,slow=21,SNR=27						
PMG				LR	LR	09 49 28.8	
	comp=Z,4μm,18.7s,baz=354,slow=38						
PMG	**Port Moresby**	**4.76**	**153**	*e*Pn	**Pn**	**09 47 35.4**	**-0.1**
KAKA	**Kakadu**	**14.51**	**238**⇑	*i*P	**Pn**	**09 49 44.7**	**-3.4**
	317nm,0.8s						
CTA	**Charters Tower**	**14.92**	**175**⇓	*i*P	**Pn**	**09 49 54.8**	**+1.3**
	35nm,0.7s						
CTA				*e*S	**Sn**	**09 52 50.6**	**+13**
CTA	**Charters Tower**	**14.92**	**175**	P	**Pn**	**09 49 55.1**	**+1.6**
	2.0nm,0.3s,baz=349,slow=14,SNR=34						
CTA	**Charters Tower**	**14.92**	**175**⇓	*i*P	**Pn**	**09 49 54.8**	**+1.3**
CTA				*e*S	**Sn**	**09 52 50.6**	**+13**
CTA				pmax	pmax		
	comp=Z,35nm,0.7s						
CTAO	**Charters Tower**	**14.92**	**175**	*e*P	**Pn**	**09 49 54.6**	**+1.1**
HNR	**Honiara**	**15.43**	**107**	P	**Pn**	**09 50 01.9**	**+1.9**
	comp=Z,26nm,0.3s,baz=252,slow=1.8,SNR=14						
HNR				LR	LR	09 55 29.3	
	comp=Z,1μm,21.9s,baz=356,slow=35						
HNR	**Honiara**	**15.43**	**107**	*e*P	**Pn**	**09 50 01.4**	**+1.3**
HNR				pmax	pmax		
	comp=Z,717nm,1.0s						
HNR	**Honiara**	**15.43**	**107**	*e*P	**Pn**	**09 50 01.4**	**+1.3**
	comp=Z,717nm,1.0s						
WB2	**Warramunga Arr**	**18.00**	**214**⇓	*i*P	**Pn**	**09 50 30.5**	**-1.6**
WRA	**Warramunga Arr**	**18.01**	**214**	P	**Pn**	**09 50 31.3**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=38,slow=12,SNR=144						
WRA				S	**S**	**09 53 53.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=29,slow=21,SNR=6.8						
WRA				LR	LR	09 58 00.4	
	comp=Z,2μm,19.5s,baz=45,slow=39						
WRA	**Warramunga Arr**	**18.01**	**214**	*i* P	**Pn**	**09 50 30.7**	**-1.4**
WRA				pmax	pmax		
	comp=Z,72nm,0.9s						
GUMO	**Guam**	**18.59**	**360**	P	**Pn**	**09 50 37.1**	**-2.1**
	comp=Z,7.5nm,0.3s,baz=184,slow=8.6,SNR=7.8						
GUMO				LR	LR	09 56 29.8	
	comp=Z,1μm,21.9s,baz=172,slow=33						
GUMO	**Guam**	**18.59**	**360**	*e*P	**Pn**	**09 50 39.9**	**+0.7**
GUMO				pmax	pmax		
	comp=Z,292nm,1.1s						
GUMO	**Guam**	**18.59**	**360**	*e*P	**Pn**	**09 50 39.9**	**+0.7**
	comp=Z,292nm,1.1s						
ASAR	**Alice Springs**	**21.31**	**209**	P	**P**	**09 51 08.2**	**+0.5**
	comp=Z,15nm,0.7s,mb4.4,baz=42,slow=8.0,SNR=74						
FITZ	**Fitzroy Crossi**	**22.89**	**234**	*e*P	**P**	**09 51 22.3**	**-2.2**
	comp=Z,94nm,1.0s,mb5.2						
FITZ				*e*S	**S**	**09 55 23.1**	**-6.2**
FITZ	**Fitzroy Crossi**	**22.89**	**234**	P	**P**	**09 51 23.1**	**-1.4**
	comp=Z,28nm,0.8s,mb4.8,baz=68,slow=8.3,SNR=49						
FITZ				LR	LR	10 01 02.0	
	comp=Z,816nm,19.6s,baz=59,slow=38						
ARMA	**Armidale**	**25.92**	**167**	*e*P	**P**	**09 51 53.8**	**+1.4**
DZM	**Mont Dzumac**	**26.73**	**131**	P	**P**	**09 52 00.3**	**+0.6**
	comp=Z,21nm,1.0s,mb4.7,baz=326,slow=7.3,SNR=6.5						
STKA	**Stephens Creek**	**26.80**	**186**	*e*P	**P**	**09 52 01.9**	**+1.6**
	comp=Z,9.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**26.80**	**186**	P	**P**	**09 52 01.0**	**+0.7**
	comp=Z,6.7nm,0.6s,mb4.3,baz=12,slow=9.8,SNR=7.5						
STKA				LR	LR	10 04 01.6	
	comp=Z,2μm,19.7s,baz=3.5,slow=39						
FORT	**Forrest**	**30.09**	**210**	*e*P	**P**	**09 52 30.3**	**+0.8**
	comp=Z,20nm,0.6s,mb5.0						
CNB	**Canberra Magne**	**30.31**	**173**	*e*P	**P**	**09 52 35.3**	**+3.8**
	comp=Z,18nm,1.0s,mb4.8						
KSM	**Kuching**	**35.27**	**280**	*e*P	**P**	**09 53 13.4**	**-1.3**
KLBR	**Kellerberrin**	**36.68**	**221**	*e*P	**P**	**09 53 27.2**	**+0.4**
	comp=Z,18nm,0.8s,mb4.9						
NACB	**Ninganchiao**	**36.99**	**323**	*e*P	**P**	**09 53 29.2**	**-0.2**
YHNB	**Yeheng**	**37.49**	**323**	*e*P	**P**	**09 53 34.0**	**+0.2**
TATO	**Taipei**	**37.66**	**324**	*e*P	**P**	**09 53 35.6**	**+0.5**
	comp=Z,161nm,0.9s,mb5.8						
NWAO	**Narrogin (SRO)**	**37.88**	**220**	P	**P**	**09 53 36.8**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.3,baz=42,slow=13,SNR=2.5						
MUN	**Mundaring**	**37.94**	**222**	*e*P	**P**	**09 53 37.8**	**+0.3**
JNU	**Nakatsue**	**40.33**	**342**	P	**P**	**09 53 56.6**	**-0.8**
	comp=Z,20nm,1.0s,mb4.8,baz=213,slow=12,SNR=2.7						
JNU				LR	LR	10 08 01.3	
	comp=Z,2μm,19.0s,baz=283,slow=32						
GZH	**Guangzhou**	**41.74**	**313**	P	**P**	**09 54 06.5**	**-2.5**
GZH				S	**S**	**10 00 19.9**	**-1.5**
MJAR	**Matsushiro Arr**	**41.93**	**352**	P	**P**	**09 54 09.4**	**-1.2**
	comp=Z,23nm,1.2s,mb4.7,baz=179,slow=8.1,SNR=23						
MJAR				LR	LR	10 10 37.4	
	comp=Z,322nm,20.5s,baz=155,slow=35						
MAJO	**Matsushiro**	**41.94**	**352**	*e*P	**P**	**09 54 09.9**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.0						
MAJO	**Matsushiro**	**41.94**	**352**	*e*P	**P**	**09 54 09.9**	**-0.7**
	comp=Z,36nm,1.0s,mb5.0						
MAT	**Matsushiro**	**41.94**	**352**	P	**P**	**09 54 09.2**	**-1.4**
MAT				S	**S**	**10 00 22.4**	**-1.9**
QIZ	**Qiongzhong**	**42.13**	**306**	P	**P**	**09 54 12.8**	**+0.6**
QIZ				XP	sP	09 54 34.8	-1.0
QIZ				*e*S	**S**	**10 00 28.8**	**+1.7**
QIZ				AMB	AMB		
	comp=Z,35nm,1.4s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,394nm,3.6s						
QIZ				LR	LR		
	comp=E,512nm,23.1s						
QIZ				LR	LR		
	comp=Z,769nm,26.2s						
RAO	**Raoul Island**	**42.48**	**129**	LR	LR	10 09 31.9	
	comp=Z,624nm,19.1s,baz=324,slow=33						
SSE	**Sheshan**	**42.60**	**329**	P	**P**	**09 54 15.6**	**-0.4**
SSE				XP	sP	09 54 38.1	-1.6
SSE				S	**S**	**10 00 35.4**	**+1.3**
SSE				XS	sS	10 01 02.8	+1.2
SSE				AMB	AMB		
	comp=Z,45nm,1.2s,mb5.1						
SSE				AMB	AMB		
	comp=Z,119nm,2.9s,mb5.1						
SSE				LR	LR		
	comp=N,256nm,23.7s						
SSE				LR	LR		
	comp=E,231nm,23.7s						
SSE				LR	LR		
	comp=Z,373nm,23.1s						
SSE	**Sheshan**	**42.60**	**329**	P	**P**	**09 54 15.6**	**-0.4**
	comp=Z,45nm,1.2s,mb5.1						
SSE				sP	sP	09 54 38.1	-1.6
SSE				S	**S**	**10 00 35.4**	**+1.3**
SSE				sS	sS	10 01 02.8	+1.2
SSE				SS	SS	10 03 50.3	+4.2
SSE				LR	LR		
	comp=Z,370nm,23.1s						
AFI	**Afiamalu**	**43.45**	**105**	LR	LR	10 08 54.9	
	comp=Z,460nm,21.6s,baz=273,slow=31						
URZ	**Urewera**	**44.04**	**143**	LR	LR	10 12 10.0	
	comp=Z,875nm,18.9s,baz=196,slow=35						
KSRS	**Korea Array**	**45.25**	**341**	P	**P**	**09 54 37.2**	**-0.1**
	comp=Z,17nm,1.0s,mb4.8,baz=162,slow=8.9,SNR=30						
KSRS				LR	LR	10 11 59.9	
	comp=Z,535nm,18.1s,baz=156,slow=34						
KULM	**Kulim**	**45.48**	**283**	*e*P	**P**	**09 54 38.5**	**-0.5**
INCN	**Inchon**	**45.71**	**340**	*e*P	**P**	**09 54 41.1**	**+0.2**
	comp=Z,30nm,0.9s,mb5.2						
WHN	**Wuhan**	**46.02**	**322**	⇓P	**P**	**09 54 44.8**	**+1.5**
PSI	**Prapat**	**46.69**	**279**	P	**P**	**09 54 48.2**	**-0.4**
	comp=Z,38nm,0.8s,mb5.4,baz=144,slow=3.2,SNR=23						
PSI	**Prapat**	**46.69**	**279**	P	**P**	**09 54 48.2**	**-0.4**
GYA	**Guiyang**	**48.62**	**312**⇑	*i*P	**P**	**09 55 03.9**	**+0.4**
GYA				AP	pP	09 55 20.8	+0.8
GYA				XP	sP	09 55 28.1	+0.7
GYA				PCP	PcP	09 56 30.4	+2.3
GYA				PP	PP	09 56 59.4	+2.5
GYA				SCP	ScP	10 00 18.8	+1.5
GYA				S	**S**	**10 02 02.3**	**+1.6**
GYA				SCS	ScS	10 04 49.3	-0.7
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
GYA				AMB	AMB		
	comp=Z,160nm,5.0s						
GYA				LR	LR		
	comp=N,570nm,17.9s						
GYA				LR	LR		
	comp=E,640nm,17.4s						
GYA				LR	LR		
	comp=Z,630nm,17.2s						
TIA	**Tai'an**	**48.71**	**330**	P	**P**	**09 55 03.8**	**-0.4**
DL2	**Dalian**	**48.86**	**336**	P	**P**	**09 55 07.0**	**+1.6**
DL2				AP	pP	09 55 22.1	+0.2
DL2				S	**S**	**10 02 07.9**	**+3.8**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
DL2				AMB	AMB		
	comp=Z,110nm,5.2s						
DL2				LR	LR		
	comp=N,110nm,13.6s						
DL2				LR	LR		
	comp=E,180nm,14.7s						
DL2				LR	LR		
	comp=Z,200nm,13.8s						
NST	**Nakhon Sawan**	**48.98**	**296**	P	**P**	**09 55 07.0**	**+0.7**
	comp=Z,108nm,0.8s,mb5.9						
VLA	**Vladivostok**	**49.47**	**347**	*i* P	**P**	**09 55 10.4**	**+0.4**
VLA				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.2						
SNY	**Shenyang**	**50.65**	**339**	⇑P	**P**	**09 55 18.3**	**-0.6**
SNY				S	**S**	**10 02 27.1**	**-1.9**
SNY				SS	SS	10 05 59.4	-4.5
SNY				AMB	AMB		
	comp=Z,19nm,2.2s,mb4.6						
SNY				AMB	AMB		
	comp=Z,197nm,5.1s						
SNY				LR	LR		
	comp=N,405nm,14.4s						
SNY				LR	LR		
	comp=E,258nm,18.0s						
SNY				LR	LR		
	comp=Z,472nm,19.2s						
KMI	**Kunming**	**50.89**	**308**	P	**P**	**09 55 22.3**	**+1.6**
KMI				AP	pP	09 55 40.0	+2.6
KMI				XP	sP	09 55 47.3	+2.6
KMI				PCP	PcP	09 56 38.8	+2.3
KMI				PP	PP	09 57 20.8	+3.3
KMI				PPP		09 58 21.6	
KMI				SCP	ScP	10 00 27.6	+0.6
KMI				PCS	PcS	10 00 34.8	+0.8
KMI				S	**S**	**10 02 33.5**	**+1.1**
KMI				PS		10 02 52.4	
KMI				XS	sS	10 03 02.8	+2.3
KMI				SCS	ScS	10 05 04.4	-1.0
KMI				SS	SS	10 06 06.6	-1.1
KMI				SSS		10 07 44.3	
KMI				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,173nm,3.2s						
KMI				LR	LR		
	comp=N,311nm,17.2s						
KMI				LR	LR		
	comp=E,361nm,20.5s						
KMI				LR	LR		
	comp=Z,550nm,20.5s						
KMI	**Kunming**	**50.89**	**308**	P	**P**	**09 55 22.2**	**+1.5**
KMI				*PP	pP	09 55 40.0	+2.6
KMI						09 56 38.7	
KMI						09 57 20.8	
KMI				PPP		09 58 21.6	
KMI				S	**S**	**10 02 33.5**	**+1.1**
KMI				PS		10 02 52.4	
KMI				SS	SS	10 06 06.6	-1.1
KMI				SSS		10 07 44.2	
KMI				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
KMI				MLR	MLR		
	comp=Z,550nm,20.5s						
KMI	**Kunming**	**50.89**	**308**	P	**P**	**09 55 22.2**	**+1.5**
	comp=Z,37nm,1.1s,mb5.2						
KMI				pP	pP	09 55 40.0	+2.6
KMI				sP	sP	09 55 47.2	+2.5
KMI				PcP	PcP	09 56 38.7	+2.2
KMI				PP	PP	09 57 20.8	+3.3
KMI				PPP		09 58 21.6	
KMI				ScP	ScP	10 00 27.6	+0.6
KMI				PcS	PcS	10 00 34.7	+0.7
KMI				S	**S**	**10 02 33.5**	**+1.1**
KMI				PS		10 02 52.4	
KMI				sS	sS	10 03 02.7	+2.2
KMI				ScS	ScS	10 05 04.4	-1.0
KMI				SS	SS	10 06 06.6	-1.1
KMI				SSS		10 07 44.2	
KMI				LR	LR		
	comp=Z,550nm,20.5s						
CM31	**Chiang Mai Arr**	**51.08**	**299**	*e*P	**P**	**09 55 23.7**	**+1.5**
	comp=Z,50nm,0.7s,mb5.6						
CHG	**Chiang Mai**	**51.22**	**299**	⇑P	**P**	**09 55 24.0**	**+0.8**
	comp=Z,58nm,0.7s,mb5.6						
CHTO	**Chiang Mai**	**51.22**	**299**	*e*P	**P**	**09 55 23.9**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.4						
CHTO	**Chiang Mai**	**51.22**	**299**	*e*P	**P**	**09 55 23.9**	**+0.6**
	comp=Z,47nm,0.9s,mb5.4						
MDJ	**Mudanjiang**	**51.41**	**346**	P	**P**	**09 55 23.4**	**-1.3**
MDJ				AP	pP	09 55 39.1	-2.2
MDJ				XP	sP	09 55 45.8	-2.9
MDJ				PP	PP	09 57 21.0	-1.3
MDJ				S	**S**	**10 02 42.5**	**+2.9**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,98nm,3.1s						
MDJ				LR	LR		
	comp=N,370nm,31.8s						
MDJ				LR	LR		
	comp=Z,578nm,30.5s						
XAN	**Xi'an**	**51.75**	**321**	P	**P**	**09 55 25.5**	**-1.7**
XAN				AP	pP	09 55 42.8	-1.1
XAN				AMB	AMB		
	comp=Z,29nm,1.6s,mb5.0						
CN2	**Changchun**	**51.80**	**342**	*e*P	**P**	**09 55 26.9**	**-0.6**
CN2				*e*AP	pP	09 55 42.4	-1.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				LR	LR		
	comp=Z,600nm,19.0s						
YSS	**Yuzh-Sakhalins**	**51.89**	**358**	*e*P	**P**	**09 55 33.3**	**+5.1**
YSS				*e*	pP	09 55 45.6	+0.7
BJT	**Baijiatuau**	**52.17**	**332**	*e*P	**P**	**09 55 30.1**	**-0.2**
BJT				pmax	pmax		
	comp=Z,57nm,1.3s						
BJT	**Baijiatuau**	**52.17**	**332**	*e*P	**P**	**09 55 30.1**	**-0.2**
	comp=Z,58nm,1.3s,mb5.3						
BJI	**Beijing**	**52.19**	**332**	P	**P**	**09 55 29.8**	**-0.6**
BJI				AP	pP	09 55 45.8	-1.3
BJI				XP	sP	09 55 52.6	-1.9
BJI				AMB	AMB		
	comp=Z,32nm,1.1s,mb5.2						
BJI				AMB	AMB		
	comp=Z,222nm,3.8s						
BJI				LR	LR		
	comp=N,493nm,21.0s						
BJI				LR	LR		
	comp=E,253nm,21.6s						
BJI				LR	LR		
	comp=Z,689nm,24.3s						
BJI	**Beijing**	**52.19**	**332**	P	**P**	**09 55 29.7**	**-0.7**
BJI				*PP	pP	09 55 45.8	-1.3
BJI				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
BJI				MLR	MLR		
	comp=Z,690nm,24.3s						
BJI	**Beijing**	**52.19**	**332**	P	**P**	**09 55 29.7**	**-0.7**
	comp=Z,32nm,1.1s,mb5.2						
BJI				pP	pP	09 55 45.8	-1.3
BJI				sP	sP	09 55 52.6	-1.9
BJI				S	S	10 03 16.8	+27
BJI				sS	sS	10 03 53.4	+35
BJI				LR	LR		
	comp=Z,690nm,24.3s						
CD2	**Chengdu**	**53.24**	**315**	P	**P**	**09 55 38.8**	**+0.6**
CD2				AP	pP	09 55 54.5	-0.5
CD2				XP	sP	09 56 01.5	-0.8
CD2				PP	PP	09 57 41.3	+2.5
CD2				S	**S**	**10 03 04.6**	**0.0**
CD2				XS	sS	10 03 31.8	-1.1
CD2				SS	SS	10 06 44.5	-0.4
CD2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.7						
CD2				AMB	AMB		
	comp=Z,100nm,4.5s						
CD2				LR	LR		
	comp=N,300nm,13.0s						
CD2				LR	LR		
	comp=E,290nm,12.0s						
CD2				LR	LR		
	comp=Z,330nm,15.6s						
HABR	**Khabarovsk**	**54.08**	**352**	*e*P	**P**	**09 55 44.0**	**-0.3**
HABR				*e*S	**S**	**10 03 17.5**	**+1.6**
HABR				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.2						
HHC	**Hu-ho-hao-te**	**55.06**	**329**	*e*P	**P**	**09 55 51.6**	**+0.2**
HHC				AP	pP	09 56 08.1	-0.1
HHC				XP	sP	09 56 14.8	-0.8
HHC				PP	PP	09 57 57.5	+2.4
HHC				S	**S**	**10 03 28.8**	**-0.2**
HHC				PS		10 03 51.6	
HHC				XS	sS	10 03 55.9	-1.6
HHC				SCS	ScS	10 05 32.3	-2.4
HHC				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,203nm,5.5s						
HHC				LR	LR		
	comp=N,352nm,23.8s						
HHC				LR	LR		
	comp=E,290nm,22.0s						
HHC				LR	LR		
	comp=Z,402nm,25.0s						
KLR	**Kul'dur**	**55.35**	**349**	*e*P	**P**	**09 55 49.3**	**-4.2**
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.3						
BTO	**Baotou**	**55.68**	**328**	*e*P	**P**	**09 55 55.1**	**-0.8**
RAR	**Rarotonga**	**55.81**	**112**	LR	LR	10 17 16.2	
	comp=Z,307nm,19.2s,baz=44,slow=33						
LZH	**Lanzhou**	**56.26**	**320**	⇑P	**P**	**09 56 00.8**	**+0.8**
LZH				AP	pP	09 56 17.6	+0.7
LZH				XP	sP	09 56 24.6	+0.4
LZH				PP	PP	09 58 10.0	+4.2
LZH				*e*S	**S**	**10 03 47.0**	**+2.0**
LZH				PS		10 04 08.0	
LZH				XS	sS	10 04 14.0	+0.4
LZH				*e*SS	SS	10 07 35.0	+2.6
LZH				AMB	AMB		
	comp=Z,130nm,1.4s,mb5.8						
LZH				AMB	AMB		
	comp=Z,350nm,4.3s						
LZH				LR	LR		
	comp=N,1μm,15.6s						
LZH				LR	LR		
	comp=Z,2μm,16.0s						
LZH	**Lanzhou**	**56.26**

LZH			*PP	pP	09 56 17.6	+0.7
LZH					09 58 10.0	
LZH			eS	S	**10 03 47.0**	**+2.0**
LZH			PS		10 04 08.0	
LZH			eSS	SS	10 07 35.0	+2.6
LZH			pmax	pmax		
	comp=Z,130nm,1.4s,mb5.8					
LZH			MLR	MLR		
	comp=Z,2µm,16.0s					
LZH	**Lanzhou**	**56.26 320**	⇑P	**P**	**09 56 00.7**	**+0.7**
	comp=Z,130nm,1.4s,mb5.8					
LZH			pP	pP	09 56 17.6	+0.7
LZH			sP	sP	09 56 24.6	+0.4
LZH			PP	PP	09 58 10.0	+4.2
LZH			eS	**S**	**10 03 47.0**	**+2.0**
LZH			PS		10 04 08.0	
LZH			sS	sS	10 04 14.0	+0.4
LZH			eSS	SS	10 07 35.0	+2.6
LZH			LR	LR		
	comp=Z,2µm,16.0s					
HIA	**Hailar**	**58.46 341**	*e*P	**P**	**09 56 15.1**	**-0.4**
HIA			pmax	pmax		
	comp=Z,20nm,1.1s					
HIA	**Hailar**	**58.46 341**	*e*P	**P**	**09 56 15.1**	**-0.5**
	comp=Z,20nm,1.1s,mb5.1					
SHL	**Shillong**	**59.87 303**	*e*P	**P**	**09 56 26.0**	**+0.7**
SHL			eS	**S**	**10 04 34.0**	**+1.8**
GTA	**Gaotai**	**60.80 321**	⇑P	**P**	**09 56 32.1**	**+0.5**
GTA			AP	pP	09 56 49.3	+0.6
GTA			XP	sP	09 56 56.4	+0.4
GTA			PP	PP	09 58 50.6	+4.4
GTA			S	**S**	**10 04 45.8**	**+1.7**
GTA			XS	sS	10 05 12.8	-0.2
GTA			SS	SS	10 08 47.9	+4.1
GTA			AMB	AMB		
	comp=Z,12nm,1.4s,mb4.8					
GTA			AMB	AMB		
	comp=Z,197nm,6.1s					
GTA			LR	LR		
	comp=N,223nm,18.2s					
GTA			LR	LR		
	comp=E,174nm,16.7s					
GTA			LR	LR		
	comp=Z,141nm,18.2s					
LSA	**Lhasa**	**62.13 307**	P	**P**	**09 56 43.0**	**+2.4**
LSA	**Lhasa**	**62.13 307**	*e*P	**P**	**09 56 41.7**	**+1.1**
LSA			pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2					
LSA	**Lhasa**	**62.13 307**	*e*P	**P**	**09 56 41.7**	**+1.2**
	comp=Z,17nm,0.8s,mb5.2					
SONM	**Songino Array**	**62.69 332**	P	**P**	**09 56 43.9**	**-0.4**
	comp=Z,4.5nm,1.0s,mb4.6,baz=148,slow=8.7,SNR=29					
SONM			LR	LR	10 24 08.3	
	comp=Z,455nm,19.1s,baz=352,slow=36					
SONM			PKP2bc		10 25 55.0	
	comp=Z,4.0nm,1.0s,baz=323,slow=2.2,SNR=19					
SONM	**Songino Array**	**62.69 332**	P	**P**	**09 56 43.9**	**-0.4**
SONM			LR	LR	10 24 08.3	
SONM			⇑*e*		10 25 55.0	
CIT	**Chita**	**62.91 339**	*e*P	**P**	**09 56 43.9**	**-1.9**
CIT			*e*	pP	09 57 03.0	0.0
CLNS	**Chul'man**	**63.90 348**	*d i*P	**P**	**09 56 52.9**	**+0.6**
CLNS			*e**PP	pP	09 57 11.9	+2.4
CLNS			*e*		09 57 21.2	
CLNS			*e*		09 59 17.1	
CLNS			*e*PPP		10 00 49.8	
CLNS			eS	**S**	**10 05 23.7**	**+0.7**
CLNS			*e**SS	SKSac	10 06 37.8	-2.4
CLNS			pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1					
CLNS			pmax	pmax		
	comp=N,24nm,1.7s					
CLNS			pmax	pmax		
	comp=E,6.0nm,0.8s					
CLNS			smax			
	comp=N,103nm,11.3s					
CLNS			smax			
	comp=Z,73nm,12.3s					
CLNS			smax			
	comp=E,672nm,13.7s					
MA2	**Magadan**	**64.66 3**	*e*P	**P**	**09 56 57.4**	**+0.1**
MA2			*e*	pP	09 57 13.5	-1.0
MA2			*e*		10 05 56.8	
MA2			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0					
PPT	**Papeete**	**65.06 107**	*e*S	S	10 05 45.4	+8.2
	comp=Z,120nm,27.8s					
PPT			*e*LQ		10 13 47.7	
	comp=Z,745nm,28.5s					
PPT			*e*LR	LR	10 16 31.8	
	comp=Z,669nm,24.5s					
PPT	**Papeete**	**65.06 107**	LR	LR	10 20 15.6	
	comp=Z,415nm,20.1s,baz=261,slow=31					
TBI	**Tubuai**	**65.55 113**	*e*S	S	10 05 50.2	+7.0
	comp=Z,119nm,32.5s					
TBI			*e*LQ		10 14 01.0	
	comp=Z,752nm,35.0s					
TBI			*e*LR	LR	10 16 54.7	
	comp=Z,359nm,37.8s					
CASY	**Casey**	**65.58 195**	*e*P	**P**	**09 57 03.1**	**-0.2**
	comp=Z,16nm,0.5s,mb5.3					
GUN	**Gumba**	**65.72 304**	*e*P	**P**	**09 57 05.2**	**+1.0**
	comp=Z,102nm,0.8s,mb5.9					
ZAK	**Zakamensk**	**65.93 332**	⇑*i*P	**P**	**09 57 05.4**	**-0.1**
ZAK			pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0					
PKI	**Pulchoki**	**66.00 303**	*e*P	**P**	**09 57 06.6**	**+0.7**
	comp=Z,242nm,1.6s,mb6.0					
KKN	**Kakani**	**66.18 303**	*e*P	**P**	**09 57 07.8**	**+0.7**
	comp=Z,114nm,0.8s,mb6.0					
DMN	**Daman**	**66.27 303**	*e*P	**P**	**09 57 08.5**	**+0.9**
	comp=Z,180nm,1.0s,mb6.1					
TLY	**Talaya**	**66.67 333**	*e*P	**P**	**09 57 10.6**	**+0.4**
TLY			*e*		09 59 38.5	
TLY			*e*PPP		10 01 15.7	
TLY			eS		10 06 13.7	
TLY			*e*PS		10 06 35.5	
TLY			*e*SSS		10 13 08.9	
TLY			pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0					
TLY	**Talaya**	**66.67 333**	*e*P	**P**	**09 57 10.8**	**+0.6**
	comp=Z,7.6nm,0.8s,mb4.8					
IRK	**Irkutsk**	**66.79 334**	*e*P	**P**	**09 57 08.0**	**-3.0**
IRK			*e*		09 59 40.2	
IRK			pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0					
GKN	**Gorkha**	**66.79 303**	*e*P	**P**	**09 57 11.5**	**+0.5**
	comp=Z,151nm,1.0s,mb6.0					
MDRS	**Chennai**	**66.79 286**	*ex*	**P**	**09 57 17.1**	**+6.1**
MDRS			AMb	AMB	09 57 18.5	
	comp=Z,85nm,0.2s					
VAH	**Vaihoa**	**66.86 104**	*e*P	**P**	**09 57 15.1**	**+3.7**
	comp=Z,31nm,1.4s,mb5.2					
BOD	**Bodaibo**	**67.54 343**	*e*P	**P**	**09 57 13.9**	**-1.9**
BOD			pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8					
KOLN	**Koldanda**	**67.58 303**	*e*P	**P**	**09 57 16.5**	**+0.5**
	comp=Z,104nm,1.0s,mb5.8					
MOY	**Mondy**	**67.87 332**	*e*P	**P**	**09 57 17.8**	**0.0**
MOY			pmax	pmax		
	comp=Z,61nm,2.1s,mb5.3					
YAK	**Yakutsk**	**68.00 352**	⇓*e*P	**P**	**09 57 18.1**	**-0.5**
YAK			pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2					
YAK			MLR	MLR		
	comp=Z,100nm,19.0s					
SEY	**Seymchan**	**68.10 4**	⇓*e*P	**P**	**09 57 19.5**	**+0.2**
TRD	**Trivandrum**	**69.18 281**	*e*P	**P**	**09 57 27.2**	**+1.2**
TRD			AMb	AMB	09 57 30.6	
	comp=Z,82nm,1.1s,mb5.6					
HYB	**Hyderabad**	**69.29 291**	*i* P	**P**	**09 57 26.0**	**-0.7**
HYB			*e*pP	pP	09 57 44.0	0.0
HYB	**Hyderabad**	**69.29 291**	*e*P	**P**	**09 57 26.0**	**-0.7**
WMQ	**Urumqi**	**70.84 320**	P	**P**	**09 57 36.5**	**+0.4**
WMQ			AP	pP	09 57 51.9	-1.7
WMQ			PCP	PcP	09 57 56.8	+0.4
WMQ			PP	PP	10 00 16.1	+2.4
WMQ			PPP		10 01 56.1	
WMQ			S	S	10 06 45.3	-0.9
WMQ			XS	sS	10 07 14.1	-1.7
WMQ			PS		10 07 22.0	
WMQ			SKS		10 07 29.0	
WMQ			SCS	ScS	10 07 31.3	-3.0
WMQ			SS	SS	10 11 20.5	+0.9
WMQ			AMB	AMB		
	comp=Z,28nm,1.2s,mb5.1					
WMQ			AMB	AMB		
	comp=Z,180nm,3.5s					
WMQ			LR	LR		
	comp=N,166nm,36.0s					
WMQ			LR	LR		
	comp=E,138nm,22.0s					
WMQ			LR	LR		
	comp=Z,135nm,30.0s					
BHPL	**Bhopal**	**71.66 296**	*e*P	**P**	**09 57 41.1**	**0.0**
BHPL			AMb	AMB	09 57 41.8	
	comp=Z,32nm,0.6s,mb5.4					
VNDA	**Vanda**	**72.90 176**	P	**P**	**09 57 49.1**	**+0.6**
	comp=Z,5.5nm,0.7s,mb4.6,baz=330,slow=6.2,SNR=6.8					
VNDA			LR	LR	10 29 47.7	
	comp=Z,360nm,19.0s,baz=340,slow=36					
VNDA	**Vanda**	**72.90 176**	*e*P	**P**	**09 57 49.8**	**+1.2**
NDI	**New Delhi**	**73.23 302**	*ex*	x	09 57 40.0	
KAD	**Karad**	**73.35 290**	*e*P	**P**	**09 57 50.9**	**-0.3**
SBA	**Scott Base**	**73.58 175**	*e*P	**P**	**09 57 54.2**	**+1.7**
SBA			pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1					
SBA	**Scott Base**	**73.58 175**	*e*P	**P**	**09 57 54.2**	**+1.7**
	comp=Z,33nm,1.3s,mb5.1					
POO	**Poona**	**73.90 291**	*ex*	x	09 57 49.5	
TAOE	**Nuku Hiva Isla**	**74.29 98**	*e*LR	LR	10 20 53.4	
	comp=Z,754nm,21.8s					
BILL	**Bilibino**	**74.52 8**	*c i*P	**P**	**09 57 57.8**	**-0.2**
BILL			*e**PP	pP	09 58 14.2	-1.4
BILL			eSS	SS	10 12 15.5	-0.4
BILL			pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7					
BILL			MLR	MLR		
	comp=Z,100nm,16.0s					
BILL	**Bilibino**	**74.52 8**	*e*P	**P**	**09 57 57.9**	**-0.1**
	comp=Z,7.3nm,0.8s,mb4.7					
SDPT	**Sand Point**	**75.09 29**	*e*P	**P**	**09 58 01.5**	**+0.2**
	comp=Z,46nm,0.9s,mb5.4					
THN	**Thein Dam**	**75.48 305**	*e*P	**P**	**09 58 02.5**	**-1.0**
MK31	**Makanchi Array**	**75.56 321**	*i* P	**P**	**09 58 03.1**	**-0.9**
MK31			pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1					
MK31	**Makanchi Array**	**75.56 321**	*e*P	**P**	**09 58 03.5**	**-0.5**
MKAR	**Makanchi Array**	**75.56 321**	LR	LR	10 28 29.9	
	comp=Z,207nm,20.9s,baz=0.0,slow=34					
MKAR	**Makanchi Array**	**75.56 321**	*i* P	**P**	**09 58 03.1**	**-0.9**
MKAR			pmax	pmax		
	comp=Z,22nm,1.0s					
ZAL	**Zalesovo**	**77.22 328**	P	**P**	**09 58 12.9**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.3,baz=360,slow=5.8,SNR=23					
ZAL			LR	LR	10 31 25.8	
	comp=Z,332nm,21.7s,baz=345,slow=35					
KSH	**Kashi**	**77.32 312**	P	**P**	**09 58 15.9**	**+2.0**
KSH			PCP	PcP	09 58 25.3	+1.1
KSH			AP	pP	09 58 31.0	-0.6
KSH			XP	sP	09 58 38.3	-0.4
KSH			PP	PP	10 01 11.3	+2.6
KSH			PPP		10 02 59.4	
KSH			S	S	10 07 58.5	-0.4
KSH			SKS		10 08 17.1	
KSH			SCS	ScS	10 08 23.8	-2.4
KSH			XS	sS	10 08 26.3	-2.6
KSH			SS	SS	10 12 59.3	+1.1
KSH			AMB	AMB		
	comp=Z,73nm,0.9s,mb5.6					
KSH			AMB	AMB		
	comp=Z,844nm,5.4s					
TIXI	**Tiksi**	**77.36 355**	*i* P	**P**	**09 58 12.9**	**-1.2**
TIXI			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5					
TIXI			MLR	MLR		
	comp=Z,200nm,27.0s					
ULHL	**Ulahol**	**77.96 315**	P	**P**	**09 58 18.0**	**+0.5**
	SNR=10.0					
NVS	**Novosibirsk**	**78.45 329**	⇑*i*P	**P**	**09 58 18.9**	**-1.3**
NVS			*e*	pP	09 58 40.3	+2.4
NVS			eS	S	10 08 04.1	-7.0
NVS			pmax	pmax		
	comp=N,32nm,1.6s					
NVS			pmax	pmax		
	comp=Z,63nm,1.6s,mb5.3					
NVS			pmax	pmax		
	comp=E,39nm,1.5s					
NVS			smax			
	comp=N,27nm,2.3s					
NVS			smax			
	comp=E,38nm,2.3s					
KZA	**Kyzart**	**78.61 315**	P	**P**	**09 58 22.6**	**+1.5**
	SNR=59					
TKM2	**Tokmak 2**	**78.63 315**	P	**P**	**09 58 21.5**	**+0.3**
	SNR=15					
TKM2	**Tokmak 2**	**78.63 315**	P	**P**	**09 58 20.1**	**-1.1**
TKM2			pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0					
BHJ	**Bhuj**	**78.64 295**	*e*P	**P**	**09 58 22.3**	**+1.0**
BHJ			AMb	AMB	09 58 23.5	
	comp=Z,66nm,1.1s,mb5.5					
KBK	**Karagaybulak**	**79.00 315**	P	**P**	**09 58 24.0**	**+0.8**
	SNR=5.8					
UCH	**Uchtor**	**79.18 315**	P	**P**	**09 58 25.4**	**+1.3**
	SNR=26					
CHMS	**Chumysh**	**79.24 315**	P	**P**	**09 58 25.0**	**+0.4**
	SNR=8.7					
FRU	**Bishkek**	**79.28 315**	*e*P	**P**	**09 58 24.5**	**-0.3**
FRU			pmax	pmax		
	comp=Z,54nm,2.0s,mb5.1					
AAK	**Ala-Archa**	**79.31 315**	P	**P**	**09 58 25.4**	**+0.5**
	SNR=15					
AAK	**Ala-Archa**	**79.31 315**	P	**P**	**09 58 24.9**	**0.0**
	comp=Z,85nm,0.9s,mb5.7,SNR=12					
AAK	**Ala-Archa**	**79.31 315**	⇓P	**P**	**09 58 24.9**	**0.0**
	SNR=9.2					
AAK	**Ala-Archa**	**79.31 315**	*e*P	**P**	**09 58 24.3**	**-0.6**
AAK			pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8					
AAK	**Ala-Archa**	**79.31 315**	*e*P	**P**	**09 58 24.3**	**-0.6**
	comp=Z,11nm,0.8s,mb4.8					
KURK	**Kurchatov**	**79.33 324**	P	**P**	**09 58 24.2**	**-0.8**
	comp=Z,109nm,1.3s,mb5.6,SNR=12					
KURK	**Kurchatov**	**79.33 324**	⇓P	**P**	**09 58 24.9**	**-0.1**
	SNR=12					
KURK	**Kurchatov**	**79.33 324**	*c i*P	**P**	**09 58 24.4**	**-0.6**
KURK	**Kurchatov**	**79.33 324**	*e*P	**P**	**09 58 24.0**	**-1.0**
	comp=Z,27nm,1.0s,mb5.1					
USP	**Ospenovka**	**79.50 316**	P	**P**	**09 58 26.1**	**+0.2**
	SNR=14					
AML	**Almayashu**	**79.73 314**	P	**P**	**09 58 28.3**	**+1.1**
	SNR=26					
EKS2	**Erkin-Say**	**79.83 315**	P	**P**	**09 58 28.5**	**+0.8**
	SNR=20					
KDAK	**Kodiak Island**	**80.09 29**	*e*P	**P**	**09 58 29.9**	**+0.7**
	comp=Z,31nm,1.2s,mb5.1					
SVW2	**Sparrevohn**	**80.30 25**	*e*P	**P**	**09 58 30.6**	**+0.4**
KBL	**Kabul**	**81.40 306**	*e*P	**P**	**09 58 35.4**	**-0.7**
KK31	**Karatay Array**	**82.26 315**	*i* P	**P**	**09 58 39.9**	**-0.7**
KK31			pmax	pmax		
	comp=Z,42nm,1.2s,mb5.2					
KKAR	**Karatay Array**	**82.26 315**	*i* P	**P**	**09 58 39.9**	**-0.7**
KKAR			pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3					
MAW	**Mawson**	**82.28 203**	*e*P	**P**	**09 58 40.8**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.5					
MAW	**Mawson**	**82.28 203**	P	**P**	**09 58 40.4**	**-0.4**
	comp=Z,2.9nm,0.4s,mb4.6,baz=75,slow=6.7,SNR=18					
MAW			LR	LR	10 34 42.6	
	comp=Z,247nm,20.7s,baz=300,slow=35					
MAW	**Mawson**	**82.28 203**	*e*P	**P**	**09 58 40.8**	**0.0**
MAW			pmax	pmax		
	comp=Z,4.0nm,0.6s					
SLKM	**Skilak Lake**	**82.37 27**	*e*P	**P**	**09 58 41.6**	**+0.4**
PMR	**Palmer**	**83.30 26**	*e*P	**P**	**09 58 45.2**	**-0.8**
PMR			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8					
PMR	**Palmer**	**83.30 26**	*e*P	**P**	**09 58 45.2**	**-0.8**
	comp=Z,8.1nm,0.8s,mb4.8					
IMA2	**Indian Mountai**	**83.46 21**	*e*P	**P**	**09 58 46.8**	**-0.1**
SML	**Sawmill**	**83.73 26**	*e*P	**P**	**09 58 48.2**	**0.0**
BVA0	**Borovoye Array**	**84.90 324**	*i* P	**P**	**09 58 53.3**	**-0.8**
BVA0			pmax	pmax		
	comp=Z,18nm,1.7s,mb4.9					
BVAR	**Borovoye Array**	**84.90 324**	P	**P**	**09 58 53.9**	**-0.2**
	comp=Z,6.5nm,0.5s,mb5.0,baz=114,slow=6.6,SNR=43					
BVAR			LR	LR	10 36 04.3	
	comp=Z,247nm,20.7s,baz=24,slow=35					
BRVK	**Borovoye**	**84.97 324**	P	**P**	**09 58 54.8**	**+0.3**
	comp=Z,131nm,1.6s,mb5.8,SNR=7.0					
BRVK	**Borovoye**	**84.97 324**	⇑P	**P**	**09 58 55.0**	**+0.5**
	SNR=10					
BRVK	**Borovoye**	**84.97 324**	*e*P	**P**	**09 58 54.2**	**-0.3**
BRVK			pmax	pmax		
	comp=Z,40nm,1.2s,mb5.4					
BRVK	**Borovoye**	**84.97 324**	*e*P	**P**	**09 58 54.1**	**-0.3**
	comp=Z,40nm,1.2s,mb5.4					
COLA	**College**	**85.13 23**	*d i*P	**P**	**09 58 54.4**	**-0.9**
COLA	**College**	**85.13 23**	*e*P	**P**	**09 58 53.9**	**-1.4**
	comp=Z,18nm,0.9s,mb5.2					
DAWY	**Dawson**	**88.33 25**	*e*P	**P**	**09 59 11.4**	**+0.5**
AB31	**Akbulak array**	**90.62 319**	P	**P**	**09 59 18.2**	**-3.4**
AB31			pmax	pmax		
	comp=Z,15nm,0.9s,mb5.3					
SYO	**Syowa Base**	**90.72 200**	⇑*e*P	**P**	**09 59 20.6**	**-1.4**
SYO	**Syowa Base**	**90.72 200**	⇓*e*PcP	PcP	09 59 24.8	+1.7
INK	**Inuvik**	**91.58 22**	*e*P	**P**	**09 59 25.6**	**-0.4**
AKTK	**Aktyubinsk**	**91.99 320**	P	**P**	**09 59 26.8**	**-1.1**
AKTO	**Aktyubinsk**	**91.99 320**	P	**P**	**09 59 26.8**	**-1.1**
	comp=Z,7.5nm,0.9s,mb5.0,baz=97,slow=5.3,SNR=16					
ARU	**Arti**	**92.26 326**	⇓*i*P	**P**	**09 59 27.3**	**-1.9**
ARU			*e*		10 03 08.1	
ARU			*e*PPP		10 05 06.1	
ARU			eS	SKSac	10 09 54.7	-2.1
ARU			eSS	SS	10 16 37.4	-0.8
ARU			pmax	pmax		
	comp=Z,12nm,1.3s,mb5.1					
ARU	**Arti**	**92.26 326**	*e*P	**P**	**09 59 27.9**	**-1.3**
	comp=Z,39nm,1.6s,mb5.5					
NVAR	**Mina Array Bea**	**98.41 52**	P	**P**	**09 59 58.9**	**+1.6**
	comp=Z,0.6nm,0.7s,mb4.2,baz=273,slow=6.2,SNR=4.9					
YKA	**Yellowknife Ar**	**99.33 28**	P	**P**	**10 00 00.6**	**-0.7**
	comp=Z,0.6nm,0.6s,mb4.3,baz=276,slow=5.1,SNR=13					
YKA			PKKPbc	PKKPbc	10 16 23.4	-1.2
	comp=Z,0.7nm,0.8s,baz=94,slow=8.3,SNR=13					
YKA	**Yellowknife Ar**	**99.33 28**	P	**P**	**10 00 00.6**	**-0.7**
YKA			PKKPbc	PKKPbc	10 16 23.4	-1.2
FINES	**FINESS Array B**	**108.02 334**	PKKPbc	PKKPbc	10 15 59.7	+0.9
	comp=Z,4.3nm,1.1s,baz=225,slow=2.4,SNR=4.0					
TXAR	**Lajitas Array**	**111.08 61**	PKKPab	PKKPab	10 16 00.4	+1.3
	comp=Z,1.0nm,0.9s,baz=103,slow=5.6,SNR=6.0					
HFS	**Hagfors**	**113.95 336**	PKKPbc	PKKPbc	10 15 40.6	+1.2
	comp=Z,2.0nm,0.9s,baz=264,slow=5.4,SNR=4.6					
DRGR		**115.47 320**	⇑*i*P	PKPdf	10 05 01.3	+0.5
GZR	**Gura Zlata**	**115.92 318**	⇑*i*P	PKPdf	10 05 02.0	+0.3
NIE	**Niedzica**	**115.94 323**	*e*PKP	PKPdf	10 05 02.8	+1.1
BZS	**Buzias**	**116.61 319**	⇓*i*P	PKPdf	10 05 03.0	0.0
PSZ	**Piszkesteto**	**116.81 322**	⇓*i*P		10 05 23.0	
VYHS	**Vyhne**	**117.21 323**	*e*PKP	PKPdf	10 05 03.5	-0.6
MORC	**Moravsky Berou**	**117.41 325**	⇓*i*P	PKPdf	10 05 05.0	+0.5
KSP	**Ksiaz**	**117.61 326**	*e*PKIKP	PKPdf	10 05 05.5	+0.6
VRAC	**Vranov**	**118.17 324**	⇑*i*P	PKPdf	10 05 06.7	+0.7
TREC	**Trest**	**118.81 325**	*e*PKPdf	PKPdf	10 05 07.4	+0.2
BRG	**Berggiesshubel**	**118.89 327**	*e*P	PKPdf	10 05 07.3	-0.1
	comp=Z,9.5nm,1.5s					
PRU	**Pruhonice**	**119.01 326**	*e*PKPdf	PKPdf	10 05 07.4	-0.2
CLL	**Collm**	**119.17 328**	*i* PKPdf	PKPdf	10 05 07.2	-0.7
	comp=Z,8.0nm,1.0s					
CLL			Lm		10 57 00.0	
	comp=N,300nm,20.2s					
CLL			Lm		10 57 00.0	
	comp=E,200nm,19.9s					
KHC	**Kasperske Hory**	**119.98 325**	*e*PKPdf	PKPdf	10 05 09.7	+0.2
KHC			x	x	10 05 12.5	
KHC	**Kasperske Hory**	**119.98 325**	*e*PKP	PKPdf	10 05 09.7	+0.2
KHC			*e*		10 05 12.5	
NKC	**Novy Kostel**	**120.04 327**	*e*PKPdf	PKPdf	10 05 09.7	+0.1
GERES	**GERESS Array B**	**120.06 325**	PKP	PKPdf	10 05 10.0	+0.4
	comp=E,2.8nm,0.7s,baz=50,slow=2.1,SNR=33					
GERES			PKKPbc	PKKPbc	10 15 20.0	+2.2
	comp=E,0.4nm,0.6s,baz=197,slow=4.2,SNR=4.3					
GRA1	**Grafenberg Arr**	**121.00 327**	*e*PKP	PKPdf	10 05 11.0	-0.4
GRF	**Grafenberg Arr**	**121.00 327**	*e*PKPdf	PKPdf	10 05 11.0	-0.4
WTTA	**Wattenberg**	**122.06 324**	⇓*i*P	PKPdf	10 05 13.9	+0.5
	comp=E,16nm,0.9s					
MOTA	**Moosalm**	**122.32 325**	⇓*i*P	PKPdf	10 05 14.0	0.0
	comp=E,6.5nm,0.9s					
SQTA	**Sankt Quirin**	**122.33 324**	⇓*i*P	PKPdf	10 05 14.2	+0.2
	comp=E,6.4nm,1.0s					
TSUM	**Tsumeb**	**122.88 243**	*e*PKPdf	PKPdf	10 05 17.0	+2.0
MEM	**Membach**	**123.18 330**	PKP	PKPdf	10 05 15.8	+0.2
WLF	**Walferdange**	**123.69 329**	PKP	PKPdf	10 05 17.4	+0.8
CDF	**Champ du Feu**	**123.86 327**	*e*PKIKP	PKPdf	10 05 16.4	-0.5
PLCA	**Paso Flores**	**123.93 148**	PKP	PKPdf	10 05 19.2	+2.1
	comp=E,4.3nm,0.7s,baz=245,slow=1.6,SNR=17					
PLCA	**Paso Flores**	**123.93 148**	PKP	PKPdf	10 05 19.2	+2.1
GIVF	**Givet**	**124.09 330**	*e*PKIKP	PKPdf	10 05 17.3	-0.1
	comp=E,27nm,1.1s					
DOU	**Dourbes**	**124.21 330**	PKP	PKPdf	10 05 18.5	+0.9
BAIF	**Baives**	**124.42 330**	*e*PKIKP	PKPdf	10 05 17.9	-0.1
	comp=E,13nm,1.1s					
HINF	**Hinteralfeld**	**124.44 327**	*e*PKIKP	PKPdf	10 05 17.7	-0.3
	comp=E,26nm,1.0s					
HAU	**Haudompre**	**124.60 327**	*e*PKIKP	PKPdf	10 05 18.1	-0.2
	comp=E,32nm,1.1s					
HAU			*e*MLR			
	comp=Z,323nm,22.2s					
HAU	**Haudompre**	**124.60 327**	*e*PKPdf	PKPdf	10 05 18.1	-0.2
HAU			LR	LR		
	comp=Z,320nm,22.3s					
MEZF	**Maizieres J'vi**	**124.98 329**	*e*PKIKP	PKPdf	10 05 19.2	+0.1
CABF	**La Chapelle**	**125.58 326**	*e*PKIKP	PKPdf	10 05 20.6	+0.4
	comp=Z,36nm,1.0s					
LPG	**La Plagne**	**125.85 325**	*e*PKIKP	PKPdf	10 05 21.2	+0.5
	comp=Z,18nm,1.1s					
LPL	**La Plagne**	**125.85 325**	*e*PKIKP	PKPdf	10 05 21.2	+0.5
	comp=Z,11nm,0.9s					
PGF	**Pioggiola**	**126.10 321**	*e*PKIKP	PKPdf	10 05 21.1	-0.1
MBDF	**Montbardon**	**126.28 324**	*e*PKIKP	PKPdf	10 05 21.3	-0.2
	comp=Z,14nm,0.9s					
LOR	**Lormes**	**126.38 328**	*e*PKIKP	PKPdf	10 05 21.7	0.0
	comp=Z,38nm,1.5s					
LOR			*e*MLR			
	comp=Z,316nm,21.2s					
LOR	**Lormes**	**126.38 328**	*e*PKPdf	PKPdf	10 05 21.7	0.0
LOR			LR	LR		
	comp=Z,320nm,21.3s					
ORIF	**Oris-en-Rattie**	**126.69 325**	*e*PKIKP	PKPdf	10 05 22.6	+0.3
ORIF			*e*MLR			
	comp=Z,200nm,22.5s					
SSF	**Saint Saulge**	**126.70 328**	*e*PKIKP	PKPdf	10 05 22.4	+0.1
	comp=Z,32nm,1.3s					
SMF	**Signal de Mont**	**126.78 327**	*e*PK

PBEJ	Beja	138.98 327	*e*PKiKP	PKiKP		10 05 46.4	-1.2
LPAZ	La Paz	140.93 124	PKhKP			10 05 47.4	
	comp=Z,1.0nm,0.4s,baz=189,slow=3.0,SNR=8.5						
LPAZ	La Paz	140.93 124	*e*PKPdf	PKPdf		10 05 47.2	-1.7
TOA0	Torodi Ar. Sit	142.94 285	*e*PKPdf	PKPdf		10 05 49.5	-3.0
TORD	Torodi Ar. Bea	142.94 285	PKhKP			10 05 49.2	
	comp=Z,4.0nm,0.6s,baz=76,slow=3.2,SNR=32						
SDV	Santo Domingo	144.45 82	*e*PKPdf	PKPdf		10 05 55.1	0.0
LIC	Lamto	150.15 274	⇑*i*PKP1	PKPbc		10 06 11.4	+1.6
	comp=Z,49nm,0.4s						
LIC			*e*MLR				
	comp=Z,203nm,20.5s						

LDG ***24*** *10:03:10.0±0.4, 1329S×16706E, h10km, Mb4.7/3, Error ellipse: s-maj=58.4km s-min=11.9km az=87.0*
IDC ***24*** *10:03:16.9±2.2, 1381S×16700E, h63km±15km, mb4.0/12, mb1 4.1/12, mb1mx4.0/18, mbtmp4.0/12, MS4.1/2, Ms1 4.1/2, ms1mx3.2/20, Error ellipse: s-maj=26.1km s-min=16.6km az=106.0*
ISCJB ***24*** *10:03:19.0±1.6, 1382S±007×16680E±009, h88km±13km, mb4.4/18, Error ellipse: s-maj=15.9km s-min=8.5km az=108.2*
NEIC ***24*** *10:03:21.9±1.6, 1376S×16686E, h106km±13km, mb4.6/6, Error ellipse: s-maj=13.5km s-min=11.4km az=59.0*

ISC 24 10:03:21.1±1.3,1383S±007×16683E±008, h90km±11km, n73,σ1§04/35, mb4.4/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.03	302	P	Pn	10 05 16.3	+1.4
	65nm,0.3s,baz=116,slow=2.9,SNR=24						
HNR				S	Sn	10 06 43.0	-1.0
	18nm,0.3s,baz=86,slow=19,SNR=2.7						
DZM	Mont Dzumac	8.21	182	*e*P	Pn	10 05 15.9	-1.4
DZM				*e*S	Sn	10 06 41.5	-6.9
DZM	Mont Dzumac	8.21	182	P	Pn	10 05 17.3	0.0
	6.4nm,0.3s,baz=48,slow=19,SNR=40						
DZM				S	Sn	10 06 46.2	-2.1
	1.0nm,0.3s,baz=242,slow=18,SNR=2.1						
NOUC	Port Laguerre	8.24	183	*e*P	Pn	10 05 18.1	+0.3
NOUC				*e*S	Sn	10 06 44.1	-5.1
CTA	Charters Tower	20.63	250	*e*P	P	10 07 55.3	+2.2
	5.0nm,0.8s						
CTA	Charters Tower	20.63	250	P	P	10 07 55.0	+1.9
	5.2nm,0.6s,baz=63,slow=10.0,SNR=6.7						
ARMA	Armidale	21.65	218	*e*P	P	10 08 06.0	+1.9
URZ	Urewera	25.99	161	P	P	10 08 47.5	+2.2
	5.0nm,0.8s,mb4.0,baz=305,slow=18,SNR=3.1						
STKA	Stephens Creek	29.26	228	*e*P	P	10 09 15.3	+0.8
	6.0nm,0.6s,mb4.4						
STKA	Stephens Creek	29.26	228	P	P	10 09 14.9	+0.4
	7.3nm,0.6s,mb4.5,baz=42,slow=8.5,SNR=17						
WB2	Warramunga Arr	31.63	254	*e*P	P	10 09 34.1	-1.3
WRA	Warramunga Arr	31.64	254	P	P	10 09 35.1	-0.4
	2.5nm,0.7s,mb4.0,baz=85,slow=8.6,SNR=24						
WRA				PcP	PcP	10 12 25.5	-0.1
	1.3nm,0.9s,baz=81,slow=2.6,SNR=5.3						
WRA				ScP	ScP	10 16 01.1	+0.5
	1.1nm,0.9s,baz=84,slow=3.8,SNR=7.2						
ASAR	Alice Springs	32.60	248	P	P	10 09 43.5	-0.5
	2.1nm,0.5s,mb4.2,baz=73,slow=10,SNR=67						
ASAR				ScP	ScP	10 16 06.6	+2.7
	2.2nm,1.0s,baz=92,slow=2.9,SNR=11						
GUMO	Guam	34.86	320	LR	LR	10 21 34.7	
	comp=Z,87nm,19.5s,baz=93,slow=31						
FITZ	Fitzroy Crossi	39.77	258	P	P	10 10 45.2	+0.2
	3.3nm,1.1s,mb4.1,baz=53,slow=20,SNR=3.8						
PMOR	Pomariorio Ree	43.81	97	*e*P	P	10 11 18.0	+0.1
	32nm,1.3s,mb4.9						
VAH	Vaihoa	44.05	98	*e*P	P	10 11 20.0	+0.1
	11nm,0.8s,mb4.6						
NWAO	Narrogin (SRO)	48.85	238	P	P	10 11 56.8	-0.5
	3.6nm,0.5s,mb4.5,baz=109,slow=11,SNR=6.2						
NWAO	Narrogin (SRO)	48.85	238	P	P	10 11 56.8	-0.5
DRV	Dumont d'Urvil	55.72	193	L		10 12 00.0	
DRV				R		10 16 00.0	
MJAR	Matsushiro Arr	56.91	333	P	P	10 12 54.7	-2.0
	1.7nm,0.8s,mb4.1,baz=165,slow=7.2,SNR=6.0						
JNU	Nakatsue	57.94	324	P	P	10 13 03.9	0.0
	15nm,1.0s,mb5.0,baz=238,slow=12,SNR=2.8						
KSRS	Korea Array	62.76	326	P	P	10 13 36.8	+0.1
	1.4nm,0.8s,mb4.0,baz=135,slow=7.2,SNR=7.7						
VNDA	Vanda	63.75	181	P	P	10 13 41.5	-1.7
	1.4nm,0.7s,mb3.9,baz=354,slow=7.9,SNR=14						
QSPA	South Pole Qui	76.19	180	*e*P	P	10 14 58.0	-1.4
	5.5nm,0.7s,mb4.4						
LZH	Lanzhou	77.40	312	*e*P	P	10 15 11.2	+5.0
	19nm,1.4s,mb4.6						
LZH				pP	pP	10 15 16.0	-14
LZH				sP	sP	10 15 19.2	-20
SONM	Songino Array	81.52	324	P	P	10 15 28.5	-0.1
	0.9nm,0.6s,mb3.8,baz=142,slow=5.4,SNR=8.0						
MAW	Mawson	82.55	202	P	P	10 15 34.8	+0.9
	5.2nm,0.9s,mb4.4,baz=90,slow=10.0,SNR=4.3						
GUN	Gumba	88.58	299	*e*P	P	10 16 04.0	+0.2
PKI	Pulchoki	88.89	299	*e*P	P	10 16 05.7	+0.5
KKN	Kakani	89.06	299	*e*P	P	10 16 06.1	+0.1
DMN	Daman	89.16	299	*e*P	P	10 16 07.2	+0.7
	13nm,0.7s,mb5.1						
GKN	Gorkha	89.67	299	*e*P	P	10 16 08.8	-0.1
	6.2nm,0.4s,mb5.1						
MKAR	Makanchi Array	96.26	317	LR	LR	10 58 59.3	
	comp=Z,333nm,19.8s,baz=0,slow=35						
ARCES	ARCESS Array B	119.28	345	PKP	PKPdf	10 21 57.5	-2.2
	9.2nm,0.9s,baz=40,slow=2.3,SNR=9.5						
ARCES	ARCESS Array B	119.28	345	PKP	PKPdf	10 21 57.5	-2.2
KAF	Kangasniemi	124.20	339	*e*p	PKPdf	10 22 05.9	-3.2
	6.6nm,0.8s						
FINES	FINESS Array B	124.73	338	PKP	PKPdf	10 22 08.5	-1.7
	0.7nm,0.3s,baz=56,slow=3.4,SNR=10						
CPD	Cerro la Pandu	129.25	78	*e*P	PKPdf	10 22 13.6	-5.2
NB2	NORSAR Subarra	129.65	345	PKPdf	PKPdf	10 22 18.0	-1.5
	comp=Z,0.9nm,0.6s,baz=28,slow=1.8						
NOA	NORSAR Array B	129.65	345	PKP	PKPdf	10 22 18.0	-1.5
	comp=Z,1.3nm,0.7s,baz=31,slow=2.0,SNR=4.9						
AKASG	Malin Array Be	129.75	326	PKP	PKPdf	10 22 19.9	+0.2
	comp=Z,0.4nm,0.5s,baz=55,slow=2.3,SNR=3.7						
BRTR	Keskin Array B	131.60	311	PKP	PKPdf	10 22 21.0	-2.2
	comp=Z,1.1nm,1.0s,baz=190,slow=2.6,SNR=2.6						
BRTR				SKPbc	SKPbc	10 25 43.1	+2.6
	comp=Z,0.9nm,0.7s,baz=78,slow=3.3,SNR=4.2						
ANTO	Ankara	132.16	312	*e*P	PKPdf	10 22 17.4	-6.9
GERES	GERESS Array B	138.65	333	PKP	PKPdf	10 22 36.1	-0.3
	comp=Z,0.7nm,0.7s,baz=40,slow=1.5,SNR=8.5						
GERES				SKPbc	SKPbc	10 26 05.4	+2.5
	comp=Z,0.9nm,0.6s,baz=35,slow=3.3,SNR=7.6						
FLN	La Foliniere	143.62	346	*e*PKP1	PKPdf	10 22 41.5	-3.8
LDF	La Druitiere	143.69	345	*e*PKP1	PKPdf	10 22 42.6	-2.8
SSF	Saint Saulge	144.05	340	*e*PKP1	PKPdf	10 22 44.1	-1.9
	comp=Z,7.3nm,0.7s						
GRR	Gorron	144.06	346	*e*PKP1	PKPdf	10 22 43.5	-2.6
LPL	La Plagne	144.20	336	*e*PKP1	PKPdf	10 22 45.7	-0.6
LPG	La Plagne	144.21	336	*e*PKP1	PKPdf	10 22 45.2	-1.1
SMF	Signal de Mont	144.30	340	*e*PKP1	PKPdf	10 22 43.9	-2.6
	comp=Z,9.5nm,0.9s						
AVF	Avril sur Loir	144.33	340	*e*PKP1	PKPdf	10 22 43.9	-2.6
SGMF	Saint Gilles	144.56	348	*e*PKP1	PKPdf	10 22 45.2	-1.7
	comp=Z,22nm,0.6s						
ROSF	Rostrenen	144.63	349	*e*PKP1	PKPdf	10 22 44.5	-2.5
	comp=Z,14nm,0.8s						
BGF	Bois d'Agland	144.70	341	*e*PKP1	PKPdf	10 22 46.0	-1.2
	comp=Z,18nm,0.8s						
MBDF	Montbardon	144.83	335	*e*PKP1	PKPdf	10 22 46.0	-1.4
QUIF	Quistinic	145.01	348	*e*PKP1	PKPbc	10 22 46.4	-0.8
	comp=Z,29nm,0.8s						
ORIF	Oris-en-Rattie	145.03	336	*e*PKP1	PKPbc	10 22 46.9	-0.4
	comp=Z,29nm,0.8s						
TCF	Toulx Ste Croi	145.15	341	*e*PKP1	PKPbc	10 22 46.7	-1.0
	comp=Z,14nm,0.9s						
SBF	Sospel	145.25	333	*e*PKP1	PKPbc	10 22 47.0	-1.0
MFF	Saint Martin d	145.54	344	*e*PKP1	PKPbc	10 22 47.9	-1.0
	comp=Z,23nm,0.8s						
PGF	Pioggiola	145.56	330	*e*PKP1	PKPbc	10 22 47.2	-1.8
	comp=Z,132nm,1.4s						
FRF	La Foret Royal	145.83	334	*e*PKP1	PKPbc	10 22 50.1	+0.3
	comp=Z,12nm,0.7s						
SMRF	Simiane la Rot	145.94	336	*e*PKP1	PKPbc	10 22 50.4	+0.3
	comp=Z,11nm,0.7s						
LMR	La Mourre	146.08	334	*e*PKP1	PKPbc	10 22 50.3	-0.3
	comp=Z,19nm,0.8s						
RJF	Les Rejaudoux	146.24	341	*e*PKP1	PKPbc	10 22 49.5	-1.5
LASF	Ste Croix	146.52	338	*e*PKP1	PKPbc	10 22 52.1	+0.2
	comp=Z,34nm,1.1s						
LFF	La Frestale	146.81	342	*e*PKP1	PKPbc	10 22 51.2	-1.5
	comp=Z,18nm,0.8s						
MTLF	Montolieu	147.75	339	*e*PKP1	PKPbc	10 22 54.8	-0.5
	comp=Z,25nm,0.9s						
KEST	Kesra	150.24	321	PKPbc	PKPbc	10 23 01.9	+0.3
	comp=Z,3.3nm,0.7s,baz=111,slow=0.8,SNR=7.8						
ESDC	Sonseca Array	153.01	344	PKPbc	PKPbc	10 23 07.2	-0.7
	comp=Z,0.5nm,0.6s,baz=24,slow=2.3,SNR=4.7						
ESDC				PKPab	PKPab	10 23 19.9	+0.3
	comp=Z,0.5nm,0.5s,baz=5.4,slow=4.5,SNR=6.6						
TORD	Torodi Ar. Bea	165.52	269	PKP	PKPdf	10 23 14.4	-0.5
	comp=Z,1.4nm,0.8s,baz=42,slow=1.3,SNR=7.3						
TORD				PKPab	PKPab	10 24 14.6	+0.8
	comp=Z,1.7nm,1.1s,baz=76,slow=4.7,SNR=5.0						

SZGRF ***24*** *10:26:21.9, 3377N×2688E, h33km, mb4.2, Eastern Mediterranean Sea*
ISCJB ***24*** *10:26:28.4±0.4, 3499N±001×2697E±001, h17km±3km, mb4.6/111, MS4.0/16, Error ellipse: s-maj=2.3km s-min=1.5km az=59.6*
GRAL ***24*** *10:26:28.5±0.8, 3491N×2683E, h0km±999km, MD4.6*
NIC ***24*** *10:26:29.0±0.3, 3531N×2668E, h25km, mb4.6, ML4.1, MW4.1*
NEIC ***24*** *10:26:29.3, 3512N×2690E, h18km, mb4.6/91, MD4.6(ISK), ML4.1(NIC), ML4.6(ATH), After ATH.*
BJI ***24*** *10:26:29.2, 3497N×2669E, h29km, mB5.2, mb4.9, Ms4.6, Ms24.3*
ATH ***24*** *10:26:29.3, 3512N×2690E, h18km±1km, MD4.4/18, ML4.6*
MOS ***24*** *10:26:30.6±1.4, 3503N×2684E, h30km, mb4.8/50, Error ellipse: s-maj=4.4km s-min=2.4km az=108.1*
ISK ***24*** *10:26:30.0, 3505N×2684E, h64km, MD4.6*
CSEM ***24*** *10:26:30.0±0.0, 3503N×2699E, h30km, mb4.8/55, Ms3.5, Mw4.1, Error ellipse: s-maj=1.1km s-min=0.8km az=34.0*
GII ***24*** *10:26:30.9±1.3, 3456N×2706E, h2km±94km, mb4.6/5, ML4.5/5*
THE ***24*** *10:26:31.7, 3519N×2684E, h10km, ML4.2*
HLW ***24*** *10:26:31.2, 3514N×2716E, h20km, Mb4.5*
IDC ***24*** *10:26:35.6±1.7, 3526N×2681E, h53km±16km, mb4.1/24, mb1 4.2/31, mb1mx4.2/34, mbtmp4.1/31, ML4.1/7, MS4.0/10, Ms1 4.0/10, ms1mx3.6/28, Error ellipse: s-maj=12.1km s-min=9.4km az=127.0*
NAO ***24*** *10:27:28.7, 4151N×2680E, h33km, mb3.7*

ISC 24 10:26:30.6±0.5, 3502N±001×2692E±001, h18km±3km, h23km±3.0km; pP-P, n668, σ1§20/699, mb4.6/111, MS4.0/16, 37C-33D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.57	20	‖*e*PB	Pg	10 26 38.6	-3.3
KARP				*e*SB	Sg	10 26 46.2	-3.3
ZKR	Zakros	0.59	280	*e*Pg	Pg	10 26 41.0	-1.2
ZKR				*e*Sg	Sg	10 26 50.6	+0.5
XRY	Khrisi	1.02	262	*e*PN	Pn	10 26 49.5	-0.5
NPS	Neapolis	1.10	283	*e*PN	Pb	10 26 50.0	-1.1
NPS				*e*SN	Sb	10 27 03.1	-2.0
LAST	Lasithi	1.19	277	*e*Pg	Pn	10 26 51.8	-0.6
ARG	Arkhangelos	1.55	39	*e*PN	Pn	10 26 56.7	-0.6
ARG				*e*SN	Sn	10 27 18.7	+1.8
IDI	Anoyia	1.69	280	P	Pb	10 27 01.2	+0.1
	215nm,0.3s,baz=86,slow=14,SNR=34						
IDI				S	Sg	10 27 28.7	+3.7
	273nm,0.3s,baz=318,slow=21,SNR=7.2						
SIVA	Sivas	1.73	271	*e*Pb	Pb	10 27 02.1	+0.2
DAT	Datca	1.79	17	*i* PN	Pn	10 26 59.7	-0.9
DAT				*i* SN	Sn	10 27 20.6	-2.3
THR1	Thera Island	1.80	319	*e*Pb	Pn	10 27 00.1	-0.6
THR1				*e*Sb	Sn	10 27 22.3	-0.9
SANT	Santorini	1.80	319	*e*Pb	Pn	10 26 59.9	-0.9
THR6	Thira Island,	1.82	318	*e*Pb	Pn	10 27 00.5	-0.5
THR3	Thira Island,	1.86	319	*e*Pb	Pn	10 27 00.8	-0.8
THR5	Thira Island,	1.90	318	*e*Pb	Pn	10 27 01.6	-0.4
THR5	Thira Island,	1.90	318	*e*Pb	Pn	10 27 01.6	-0.5
BDRM	Kayabasi	2.09	12	*i* P	Pn	10 27 03.2	-1.5
DALT	Dalyan (Mudla)	2.24	38	*i* PN	Pn	10 27 06.8	+0.1
VAM	Vamos	2.26	281	*e*PN	Pn	10 27 08.8	+1.7
GVD	Gavdhos	2.33	266	P	Pb	10 27 13.9	+1.7
APE	Apeiranthos	2.34	332	*e*Pn	Pn	10 27 07.3	-0.9
MLSB	Milas	2.38	17	*i* PN	Pn	10 27 07.7	-1.0
YER	Yerkesik	2.38	27	*i* PN	Pn	10 27 08.9	+0.1
FETY	Fethiye	2.39	47	*i* PN	Pn	10 27 09.1	+0.3
KSL	Kastellorizon	2.45	62	*e*PN	Pn	10 27 10.0	+0.4
KARN	Karanos	2.49	280	*e*Pn	Pn	10 27 12.6	+2.4
AKAS	Kas	2.50	60	*i* P	Pn	10 27 10.4	0.0
SMG	Samos	2.69	359	*e*PN	Pn	10 27 12.0	-1.0
GOLH	Golhisar	3.08	43	*i* P	Pn	10 27 19.9	+1.6
DNZL	Cakiroluk	3.17	32	*i* P	Pb	10 27 26.6	+0.2
DENT	Denizli	3.22	31	*i* PN	Pn	10 27 20.2	-0.1
URLA	Izmir	3.35	356	*i* P	Pn	10 27 21.3	-0.7
IZM	Izmir	3.39	5	*i* PN	Pn	10 27 22.1	-0.5
KDAG	Bornova	3.39	5	*i* P	Pn	10 27 22.0	-0.6
KYTH	Kithira	3.41	293	*e*PN	Pn	10 27 23.7	+0.9
VLI	Veliai	3.66	299	*e*PN	Pn	10 27 27.0	+0.8
SLUM		3.79	203	⇑*i*P	Pn	10 27 30.3	+2.2
SLUM				S	Sn	10 28 13.2	+0.8
NAIG	Nisos Aigina	3.89	316	*e*PN	Pn	10 27 30.0	+0.5
PTL	Penteli	3.90	322	*e*PN	Pn	10 27 30.0	+0.4
KHL	Karahalli	3.91	32	PN	Pn	10 27 29.5	-0.2
HMAT	Matruh	3.91	178	‖P	Pn	10 27 31.3	+1.5
HMAT				S	Sn	10 28 15.2	0.0
ATH	Athens Observa	3.92	320	*e*PN	Pn	10 27 30.4	+0.5
AKS	Akhisar	3.92	10	PN	Pn	10 27 29.1	-0.8
ISP	Isparta	4.04	45	*e*Pn	Pn	10 27 32.1	+0.6
ISP	Isparta	4.04	45	P	Pn	10 27 33.2	+1.6
TKTP	Tekketepe	4.07	41	*i* P	Pn	10 27 33.4	+1.4
PRK	Paraskevi	4.25	353	*e*PN	Pn	10 27 34.0	-0.5
AYVA	Ayvalik	4.29	358	*i* P	Pn	10 27 32.9	-2.0
AKMC	Akamas	4.44	88	P	Pn	10 27 36.5	-0.5
PPCY	Paphos	4.46	90	P	Pn	10 27 36.8	-0.5
GDZ	Gediz	4.55	26	*i* P	Pn	10 27 38.5	0.0
SHUT	Suhut-Afyon	4.58	38	PN	Pn	10 27 39.1	+0.2
ITM	Ithomi	4.58	300	*e*PN	Pn	10 27 41.4	+2.4
ALFC	Alevga	4.66	87	P	Pn	10 27 39.4	-0.6
	47nm,0.3s						
ALFC				S	Sn	10 28 34.8	+1.2
ALT	Altintas	4.77	31	PN	Pn	10 27 41.9	+0.3
DST	Dursunbey	4.78	16	PN	Pn	10 27 41.7	0.0
LKR	Lokris	4.80	320	*e*PN	Pn	10 27 43.2	+1.2
AOS	Alonnisos	4.81	331	*e*Pn	Pn	10 27 42.8	+0.7
BTOK	Tokmak	4.82	10	*i* P	Pn	10 27 42.5	+0.3
EZN	Ezine	4.83	355	PN	Pn	10 27 41.1	-1.2
BOZC	Bozcaada	4.87	352	*i* P	Pn	10 27 41.6	-1.3
SZAC	Souni-Zanaja	4.91	91	P	Pn	10 27 43.1	-0.4
	22nm,0.5s						
SZAC				S	Sn	10 28 42.1	+2.3
HDMB	Hadim	4.91	65	PN	Pn	10 27 43.6	+0.1
LIA	Limnos Island	5.07	345	P	Pn	10 27 45.9	+0.3
LOS	Limnos	5.12	344	*e*Pn	Pn	10 27 46.6	+0.2
ERMK	Ermenek	5.13	70	*i* P	Pn	10 27 47.6	+1.1
MAMC	Mammari	5.17	86	P	Pn	10 27 46.9	-0.1
NEO	Neokhori	5.20	327	P	Pn	10 27 49.6	+2.1
CSS	Prodhromos	5.26	89	P	Pn	10 27 48.2	-0.1
	8.2nm,0.5s						
CSS				S	Sn	10 28 49.7	+1.2
KONT	Konya--Tatoy	5.27	55	*e*PN	Pn	10 27 49.4	+1.0
RLS	Riolos of Patr	5.34	306	P	Pn	10 27 54.3	+4.9
LPK	Lapseki	5.35	359	*e*PN	Pn	10 27 48.2	-1.3
BNT	Bandirma	5.39	8	*e*PN	Pn	10 27 49.4	-0.7
ULDT	Uludag	5.41	18	*i* P	Pn	10 27 50.6	+0.2
AGG	Agios Georgios	5.43	319	*e*Pn	Pn	10 27 52.5	+1.9
ESKT	Eskisehir	5.48	34	*e*PN	Pn	10 27 51.8	+0.5
ESKT	Eskisehir	5.48	34	*i* P	Pn	10 27 51.8	+0.5
SEYT	Eskypehyr	5.48	34	*i* P	Pn	10 27 51.8	+0.5
KIZT	Kizilcal	5.54	44	*e*PN	Pn	10 27 52.7	+0.6
PAIG	Paliouri	5.54	333	*e*Pn	Pn	10 27 52.2	+0.1
BORA	Eskisehir	5.61	29	*i* P	Pn	10 27 53.1	0.0
IKL	Isikli	5.64	76	*e*PN	Pn	10 27 53.0	-0.6
EVR	Evrytania	5.65	315	*e*PN	Pn	10 27 54.3	+0.7
RKY	Sarkoy-Tekirda	5.67	2	*e*PN	Pn	10 27 53.7	-0.2
IZI	Iznik	5.68	20	*e*PN	Pn	10 27 54.2	+0.1
GEMT	Gemlik	5.70	18	*e*PN	Pn	10 27 54.2	-0.2
ENEZ	Enez	5.74	354	*e*PN	Pn	10 27 54.1	-0.8
OUR	Ouranopolis	5.80	337	*e*Pn	Pn	10 27 55.3	-0.4
SWA1		5.83	190	‖*e*P	Pn	10 27 58.3	+2.2
SWA1				S	Sn	10 29 01.6	-0.9
ADVT	Abdulvahap	5.85	22	*e*PN	Pn	10 27 56.1	-0.3
YLV	Yalova	5.87	19	*e*PN	Pn	10 27 56.3	-0.4
GPA	Golpazari	5.91	26	*e*PN	Pn	10 27 57.1	-0.1
ALN	Alexandroupoli	5.91	354	*e*Pn	Pn	10 27 56.9	-0.4
THL	Klokotos Trika	5.99	321	*e*PN	Pn	10 28 00.5	+2.1
OSMT	Osmaniye	6.00	21	*e*PN	Pn	10 27 58.3	-0.1
PLG	Polygyros	6.02	334	*e*PN	Pn	10 27 59.0	+0.3
AANS		6.04	140	⇑*i*P	Pn	10 27 58.6	-0.4
BADT	Buyukada	6.08	16	*e*PN	Pn	10 27 59.9	+0.3
LIT	Litokhoron	6.18	327	*e*Pn	Pn	10 28 01.6	+0.7
HRT	Hereke	6.19	20	*e*PN	Pn	10 28 00.7	-0.4
HNAT	Natroun	6.21	149	‖*e*P	Pn	10 28 01.6	+0.2
HNAT	Natroun	6.21	149	P	Pn	10 28 01.5	+0.1
LKD	Levkas	6.23	308	*e*Pn	Pn	10 28 03.7	+2.0
SQR		6.26	144	‖*e*P	Pn	10 28 01.8	-0.4
HORT	Hortiatis	6.34	333	*e*Pn	Pn	10 28 04.5	+1.3
FYM	Al Fayyum	6.35	146	‖*i*P	Pn	10 28 03.2	-0.1
AYT	Al 'Ayyat	6.39	145	‖*e*P	Pn	10 28 04.2	+0.4
MDU	Mudurnu	6.42	31	*e*PN	Pn	10 28 03.9	-0.3
THE	Thessaloniki	6.42	332	*e*Pn	Pn	10 28 07.9	+3.7
MERS	Mersin	6.44	71	*e*PN	Pn	10 28 03.9	-0.6
KLYT	Kilyos	6.45	14	*e*PN	Pn	10 28 03.9	-0.7
HENT	Hendek	6.59	27	*i* P	Pn	10 28 06.7	+0.1
HSAF	As Saff	6.66	143	‖P	Pn	10 28 07.3	-0.2
HHAG	Hagoal	6.68	138	‖*i*P	Pn	10 28 07.4	-0.4
JAN	Janina	6.70	316	*e*PN	Pn	10 28 10.0	+2.0
ANTO	Ankara	6.73	42	*e*Pn	Pn	10 28 09.5	+1.0
	64nm,0.6s						
ANTO	Ankara	6.73	42	⇑*i*P	Pn	10 28 10.2	+1.7
ANTO	Ankara	6.73	42	*e*Pn	Pn	10 28 09.5	+1.0
	64nm,0.6s						
ANTO	Ankara	6.73	42	P	Pn	10 28 10.2	+1.7
KDZ	Kurdzhali	6.73	350	*e*P	Pn	10 28 09.0	+0.5
GLL	Jalalah	6.77	142	‖P	Pn	10 28 08.6	-0.5
EDRB	Edirne	6.82	359	*e*PN	Pn	10 28 08.8	-1.0
AMAG	Maghara	6.86	128	⇑*i*P	Pn	10 28 09.3	-1.0
RZN	Rozhen	6.88	346	*e*P	Pn	10 28 14.0	+3.4
GRG	Griva	6.92	330	*e*Pn	Pn	10 28 12.8	+1.7
IGT	Igoumenitsa	6.92	313	*e*Pn	Pn	10 28 11.2	+0.1
KAMT	Kaman	6.95	49	*e*PN	Pn	10 28 11.2	-0.3
KARA	Karaisali	6.95	69	*e*PN	Pn	10 28 10.4	-1.1
MMB	Musomiste	7.03	340	*e*P	Pn	10 28 12.0	-0.6
HBNS	Bani Suwayf	7.06	148	‖*e*P	Pn	10 28 13.2	+0.2
DIM	Dimitrovgrad	7.11	352	P	Pn	10 28 16.3	+2.6
BR131	Keskin Array S	7.12	47	*e*Pn	Pn	10 28 14.6	+0.8
BR131	Keskin Array S	7.12	47	*e*Pn	Pn	10 28 14.6	+0.8
BRTR	Keskin Array B	7.12	47	P	Pn	10 28 14.7	+0.8
	1.8nm,0.3s,baz=178,slow=23,SNR=36						
BRTR				S	Sn	10 29 36.0	+1.7
	0.6nm,0.3s,baz=217,slow=25,SNR=6.3						
BRTR	Keskin Array B	7.12	47	P	Pn	10 28 14.6	+0.8
OFRI	'Ofer	7.12	107	Pn	Pn	10 28 13.5	-0.4
VAY	Valandovo	7.17	333	*i* Pn	Pn	10 28 16.0	+1.5
VAY				*e*Sn	Sn	10 29 35.2	-0.3
VAY	Valandovo	7.17	333	*i* Pn	Pn	10 28 16.0	+1.5
VAY				*e*Sn	Sn	10 29 35.2	-0.3
VAY	Valandovo	7.17	333	*i* Pn	Pn	10 28 15.9	+1.4
SUZ		7.18	134	‖*e*P	Pn	10 28 14.2	-0.5
FNA	Florina

TIRR Tirgusor 9.50 6 *e*Pn Pn 10 28 47.3 +0.8
comp=Z,40nm,1.0s
HHRG Al Ghardaqah 9.63 142⇓*e*P Pn 10 28 47.8 -0.5
HDK1 Dakhla 9.68 167⇓*e*P Pn 10 28 50.7 +1.8
MALT Malatya 9.81 67⇑*i*P Pn 10 28 49.8 -1.0
PZI Palazzolo 9.91 285 P Pn 10 28 52.1 0.0
SG1 Sgolgore (BA) 9.96 309 *e*Pn Pn 10 28 50.5 -2.3
GTR Jabal at Tayr 9.98 161 ⇑P Pn 10 28 54.2 +1.1
GRUS Gruza 10.07 333⇑*i*Pn Pn 10 28 57.7 +3.4
SVIS Svilajnac 10.25 336⇓*i*Pn Pn 10 29 00.5 +3.7
CDT Castel del Mon 10.35 309 *e*Pn Pn 10 28 56.8 -1.3
HSFG 10.35 143 ⇑P Pn 10 28 57.7 -0.5
VAE Valguarnera 10.40 287 P Pn 10 29 00.4 +1.6
comp=Z,1.7nm,0.3s,baz=103,slow=18,SNR=3.5
VAE S **Sn 10 30 49.3 -5.6**
comp=Z,2.6nm,0.3s,baz=90,slow=20,SNR=2.4
MLR Muntele Rosu 10.49 356 P Pn 10 29 01.2 +1.1
comp=Z,0.4nm,0.3s,baz=97,slow=5,3,SNR=18
MLR Muntele Rosu 10.49 356 ⇑P Pn 10 29 02.8 +2.7
MLR Muntele Rosu 10.49 356⇑*i*P Pn 10 29 02.8 +2.7
VOIR 10.51 353⇓*i*P Pn 10 29 04.2 +3.9
DIVS Divcibare 10.53 332⇑*i*Pn Pn 10 29 03.2 +2.7
BBLS Bajina Basta - 10.57 329⇑*i*Pn Pn 10 29 02.2 +1.0
STON Ston 10.63 320 *i* Pn Pn 10 28 59.7 -2.3
STON *i* Sn **Sn 10 30 52.7 -7.8**
SGO Sicignano 10.72 304 P Pn 10 29 02.4 -0.9
SGO pmax pmax
comp=Z,19nm,0.4s
SGO Sicignano 10.72 304 Pn Pn 10 29 02.4 -0.9
comp=Z,19nm,0.4s
GZR Gura Zlata 10.84 344⇓*i*P Pn 10 29 05.8 +1.0
VRI Vrincioaia 10.84 359⇑*i*P Pn 10 29 07.6 +2.8
HEDF Idfu 11.27 150⇑*e*P Pn 10 29 12.0 +1.2
BZS Buzias 11.33 341⇓*i*P Pn 10 29 15.1 +3.5
SIM Simferopol' 11.35 27⇓*e*P Pn 10 29 16.0 +4.2
SIM pmax pmax
comp=Z,26nm,0.8s
SIM MLR MLR
comp=Z,370nm,18.6s
SGG Gregorio Mates 11.73 307 Pn Pn 10 29 18.1 +1.0
KIS Kishinev 12.06 6 *e*UNK Pn 10 29 22.0 +0.5
DRGR 12.19 346⇑*i*P Pn 10 29 29.5 +6.3
BURAR Bucovina Array 12.65 355⇓*i*P Pn 10 29 33.6 +4.0
KMPD K-Podol'skiy 13.54 359 P Pn 10 29 42.0 +0.2
BOJS Bojanci 13.74 323 *e*Pn Pn 10 29 46.9 +2.5
BOJS *e*Sn **Sn 10 32 10.4 -6.1**
PSZ Piszkesteto 13.92 340⇓*i*P Pn 10 29 52.2 +5.3
VISS Visnje 14.15 323 *e*Pn Pn 10 29 49.7 -0.4
KECS Kecovo 14.28 342 *e*P Pn 10 30 00.8 +9.0
CEY Cerknica 14.31 322 *i* Pn Pn 10 29 50.2 -2.1
KEST Kesra 14.36 278 P Pn 10 29 54.8 +1.8
comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=2.3
KEST S **Sn 10 32 30.6 -1.2**
comp=Z,0.1nm,0.3s,baz=140,slow=17,SNR=2.7
SFI Santa Sofia 14.62 312 P Pn 10 30 03.2 +6.7
PERS Pernice 14.63 326 *e*Pn Pn 10 30 03.0 +6.4
VYHS Vyhne 14.74 338 *e*P Pn 10 30 01.7 +3.5
VOY Vojsko 14.78 322 *e*Pn Pn 10 29 59.3 +0.6
VOY *e* 10 30 01.2
VOY *e* 10 30 04.6
VOY *e* 10 30 24.2
ARSA Arzberg 14.92 328⇑*i*P Pn 10 30 03.5 +3.0
comp=Z,21nm,1.9s
ONI Oni 14.92 55 P Pn 10 30 08.4 +7.7
LVV L'vov 14.95 353 *e*P Pn 10 29 59.3 -1.6
LVV MLR MLR
comp=Z,500nm,9.0s
LVV MLR MLR
comp=N,400nm,8.0s
LVV MLR MLR
comp=E,700nm,11.0s
LVV L'vov 14.95 353 *e*P Pn 10 29 59.3 -1.6
comp=E,400nm,8.0s
STHS Stebnicka Huta 14.99 346 *e*P Pn 10 30 06.2 +4.7
KIV Kislovodsk 15.07 49⇑*e*P Pn 10 30 09.1 +6.5
KIV Kislovodsk 15.07 49 *e*P Pn 10 30 09.0 +6.4
comp=E,31nm,0.8s
MTA Mtatsminda 15.51 59 P Pn 10 30 13.9 +5.5
KIEV Kiev 15.76 5 *e*P Pn 10 30 13.5 +1.9
KIEV pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 15.76 5 *e*Pn Pn 10 30 13.5 +1.9
comp=Z,17nm,0.8s
AKASG Malin Array Be 15.77 5 P Pn 10 30 12.4 +0.7
comp=Z,1.8nm,0.3s,baz=194,slow=11,SNR=7.6
AKBB Malin Array Si 15.77 5 *e*P Pn 10 30 14.3 +2.6
DGRG David-gareji 15.85 61 P Pn 10 30 17.7 +5.0
PGF Pioggiola 15.85 304 *e*P Pn 10 30 11.1 -1.7
comp=Z,28nm,0.7s
PGF Pioggiola 15.85 304 *e*P Pn 10 30 11.1 -1.7
PGF pmax pmax
comp=Z,14nm,0.7s
PGF Pioggiola 15.85 304 *e*P Pn 10 30 11.1 -1.7
comp=Z,14nm,0.7s
MOA Molln 15.92 327⇑*i*P Pn 10 30 17.0 +3.3
comp=Z,16nm,0.9s
OJC Ojcow 16.06 343 *e*P Pn 10 30 18.5 +3.0
OKC Ostrava-Krasne 16.15 339 *e*P Pn 10 30 20.4 +3.8
VRAC Vranov 16.18 335 P Pn 10 30 16.6 -0.4
comp=Z,0.2nm,0.3s,baz=90,slow=15,SNR=2.7
VRAC LR LR 10 36 17.9
comp=Z,398nm,18.7s,baz=342,slow=37
VRAC Vranov 16.18 335 P Pn 10 30 16.6 -0.4
VRAC ⇑P 10 30 21.4
VRAC LR LR 10 36 17.9
VRAC Vranov 16.18 335⇑*i*P Pn 10 30 21.4 +4.4
MORC Moravsky Berou 16.28 338⇓*i*P Pn 10 30 18.3 +0.1
TREC Trest 16.57 333 *e*P Pn 10 30 25.1 +3.1
WTTA Wattenberg 16.76 321⇑*i*P Pn 10 30 26.4 +2.0
comp=Z,17nm,0.9s
WTTA Wattenberg 16.76 321⇑*i*P Pn 10 30 26.4 +2.0
WTTA pmax pmax
comp=Z,17nm,0.9s
WATA Walderalm 16.84 322⇑*i*P Pn 10 30 27.4 +2.0
comp=Z,34nm,1.6s
WATA Walderalm 16.84 322⇑*i*P Pn 10 30 27.5 +2.1
WATA pmax pmax
comp=Z,34nm,1.6s
GEC2 GERESS Array S 16.93 329 *e*P Pn 10 30 28.0 +1.5
comp=Z,30nm,1.5s
GEC2 GERESS Array S 16.93 329 *e*P Pn 10 30 28.0 +1.5
GEC2 pmax pmax
comp=Z,30nm,1.5s
GERES GERESS Array B 16.93 329 P Pn 10 30 25.0 -1.4
comp=Z,0.5nm,0.3s,baz=140,slow=11,SNR=30
GERES LR LR 10 37 06.6
comp=Z,252nm,18.9s,baz=311,slow=38
SQTA Sankt Quirin 16.95 321⇑*i*P Pn 10 30 27.4 +0.6
comp=Z,49nm,1.8s
SQTA Sankt Quirin 16.95 321⇑*i*P Pn 10 30 27.4 +0.6
SQTA pmax pmax
comp=Z,49nm,1.8s
MOTA Moosalm 17.09 321⇑*i*P Pn 10 30 28.4 -0.2
comp=Z,12nm,1.3s
MOTA Moosalm 17.09 321⇑*i*P Pn 10 30 28.4 -0.1
MOTA pmax pmax
comp=Z,12nm,1.3s
DPC Dobruska-Polom 17.16 336 *e*P Pn 10 30 30.4 +1.0
KHC Kasperske Hory 17.20 329 *e*P Pn 10 30 29.0 -0.9
KHC *ex* *x* 10 30 31.8
KHC *x* x 10 30 46.0
KHC Kasperske Hory 17.20 329 *e*P Pn 10 30 31.8 +1.9
KHC *e* 10 30 46.0
UPC Upice 17.40 336 *e*P Pn 10 30 38.6 +6.2
SBF Sospel 17.42 306 *e*P Pn 10 30 33.3 +0.6
comp=Z,112nm,0.8s
SBF Sospel 17.42 306 *e*P Pn 10 30 33.3 +0.6
SBF pmax pmax
comp=Z,56nm,0.8s
SBF Sospel 17.42 306 *e*P Pn 10 30 33.3 +0.6
comp=Z,56nm,0.8s
PRU Pruhonice 17.49 333 *e*P Pn 10 30 34.1 +0.6
WET Wettzell 17.51 328 *e*P Pn 10 30 34.2 +0.5
comp=Z,23nm,1.5s
WET Wettzell 17.51 328 *e*P Pn 10 30 34.2 +0.5
WET pmax pmax
comp=Z,23nm,1.5s
FUR Furstenfeldbru 17.55 323 *e*P Pn 10 30 34.5 +0.3
comp=Z,18nm,0.9s
FUR Furstenfeldbru 17.55 323 *e*P Pn 10 30 34.5 +0.3
FUR pmax pmax
comp=Z,18nm,0.9s
KSP Ksiaz 17.60 337 *e*P Pn 10 30 36.5 +1.6
KSP Ksiaz 17.60 337 *e*P Pn 10 30 36.3 +1.4

DAVA Damuels 17.70 319 P Pn 10 30 36.3 +0.2
FRF La Foret Royal 17.83 305 *e*P Pn 10 30 35.3 -2.4
comp=Z,41nm,0.9s
FRF La Foret Royal 17.83 305 *e*P Pn 10 30 35.3 -2.4
FRF pmax pmax
comp=Z,20nm,0.9s
FRF La Foret Royal 17.83 305 *e*P Pn 10 30 35.3 -2.4
comp=Z,20nm,0.9s
LMR La Mourre 17.84 304 *e*P Pn 10 30 35.5 -2.4
comp=Z,72nm,1.3s
LMR La Mourre 17.84 304 *e*P Pn 10 30 35.5 -2.4
LMR pmax pmax
comp=Z,36nm,1.3s
LMR La Mourre 17.84 304 *e*P Pn 10 30 35.5 -2.4
comp=Z,36nm,1.3s
PVCC Panska Ves 17.92 334 *e*P Pn 10 30 32.8 -6.0
MUO Muotathal 18.20 317 ⇓P Pn 10 30 42.9 +0.7
MBDF Montbardon 18.21 308 *e*P Pn 10 30 39.6 -2.8
comp=Z,34nm,0.7s
MBDF Montbardon 18.21 308 *e*P Pn 10 30 39.6 -2.8
MBDF pmax pmax
comp=Z,17nm,0.7s
MBDF Montbardon 18.21 308 *e*P Pn 10 30 39.6 -2.8
comp=Z,17nm,0.7s
ROTZ Rotzenmuhle 18.26 328 *e*P Pn 10 30 45.0 +2.0
comp=Z,7.0nm,1.2s
WILA Wila 18.31 318 ⇓P Pn 10 30 42.2 -1.4
BRG Berggiesshubel 18.43 333 *e*P Pn 10 30 46.4 +1.3
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 18.43 333 *e*P Pn 10 30 45.1 0.0
comp=Z,0.9nm,0.6s
BRG *e* 10 30 48.6
comp=Z,8.2nm,1.5s
DIX Grande Dixence 18.44 313 P Pn 10 30 45.9 +0.7
LKBD Leukerbad 18.47 314 ⇓P Pn 10 30 45.0 -0.5
LKBD ⇑P 10 30 45.2
LKBD Leukerbad 18.47 314 ⇑P Pn 10 30 45.2 -0.3
MANZ Manzenberg 18.47 329 *e*P Pn 10 30 46.0 +0.4
comp=Z,16nm,1.2s
NKC Novy Kostel 18.51 330 *e*P Pn 10 30 45.7 -0.4
LPG La Plagne 18.57 310 *e*P Pn 10 30 44.7 -2.1
comp=Z,35nm,0.7s
LPG La Plagne 18.57 310 *e*P Pn 10 30 44.7 -2.1
LPG pmax pmax
comp=Z,18nm,0.7s
LPG La Plagne 18.57 310 *e*P Pn 10 30 44.7 -2.1
comp=Z,18nm,0.7s
WERN Wernitzgruen 18.59 330 *e*P Pn 10 30 47.3 +0.3
comp=Z,15nm,1.2s
LPL La Plagne 18.59 310 *e*P Pn 10 30 44.1 -2.9
comp=Z,20nm,0.5s
LPL La Plagne 18.59 310 *e*P Pn 10 30 44.1 -2.9
LPL pmax pmax
comp=Z,10.0nm,0.5s
LPL La Plagne 18.59 310 *e*P Pn 10 30 44.1 -2.9
comp=Z,10nm,0.5s
GRA1 Grafenberg Arr 18.64 327 *e*P Pn 10 30 47.0 -0.7
comp=Z,47nm,1.7s
GRF Grafenberg Arr 18.64 327 *e*P Pn 10 30 47.0 -0.7
comp=Z,47nm,1.7s
GRF Grafenberg Arr 18.64 327 *e*P Pn 10 30 47.0 -0.7
GRF pmax pmax
comp=Z,47nm,1.7s
GRF Grafenberg Arr 18.64 327 *e*P Pn 10 30 47.0 -0.7
GRF pmax pmax
comp=Z,47nm,1.7s
GRFO Grafenberg 18.64 327 *e*P Pn 10 30 47.4 -0.3
GRFO pmax pmax
comp=Z,24nm,0.9s
GRFO Grafenberg 18.64 327 *e*P Pn 10 30 47.4 -0.3
comp=Z,24nm,0.9s
GRFO Grafenberg 18.64 327 *e*P Pn 10 30 47.4 -0.3
comp=Z,24nm,0.9s
TANN Tannenbergstha 18.65 330 *e*P Pn 10 30 47.5 -0.2
comp=Z,42nm,1.8s
FBE Freiberg 18.69 332 *e*P Pn 10 30 48.1 -0.2
comp=Z,13nm,0.9s
RSL Roselend 18.73 311 *e*P Pn 10 30 47.7 -1.1
WERD Werda 18.74 330 *e*P Pn 10 30 49.4 +0.6
comp=Z,22nm,1.4s
SULZ Sulz-Cheisache 18.81 317 ⇓P Pn 10 30 51.2 +1.5
ORIF Oris-en-Rattie 18.87 308 *e*P Pn 10 30 48.0 -2.4
comp=Z,18nm,0.7s
ORIF *e*MLR
comp=Z,610nm,22.5s
ORIF Oris-en-Rattie 18.87 308 *e*P Pn 10 30 48.0 -2.4
ORIF pmax pmax
comp=Z,9.0nm,0.7s
ORIF Oris-en-Rattie 18.87 308 *e*P Pn 10 30 48.0 -2.4
comp=Z,9.2nm,0.7s
CLL Collm 19.14 333 *e*P Pn 10 30 53.0 -0.6
CLL *i* 10 31 01.9
CLL *i* 10 31 08.8
CLL Collm 19.14 333 *e*P Pn 10 30 53.0 -0.6
CLL *e*pP pP 10 30 57.0 -0.8
CLL *i* PP 10 31 02.1
CLL *i* pPP 10 31 08.8
CLL Lm 10 38 00.0
comp=N,600nm,18.3s
CLL Lm 10 38 00.0
comp=E,400nm,18.5s
BFO Black Forest 19.16 320 *e*P Pn 10 30 52.0 -2.0
comp=Z,11nm,1.2s
BFO Black Forest 19.16 320 *e*P Pn 10 30 52.0 -2.0
BFO pmax pmax
comp=Z,11nm,1.2s
MOX Moxa 19.17 329 *e*P Pn 10 30 54.0 -0.1
MOX Moxa 19.17 329 *e*P Pn 10 30 54.1 0.0
SUW Suwalki 19.18 353 *e*P Pn 10 30 56.2 +2.1
SUW pmax pmax
comp=Z,69nm,0.9s
SUW Suwalki 19.18 353 *e*Pn Pn 10 30 56.2 +2.1
comp=Z,69nm,0.9s
VRHR Novokhopersk 19.27 29 *e*P Pn 10 30 53.8 -1.5
VRHR pmax pmax
comp=Z,10.0nm,0.3s
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR Novokhopersk 19.27 29 *e*P Pn 10 30 53.8 -1.5
comp=E,10.0nm,0.4s
CABF La Chapelle 19.50 313 *e*P Pn 10 30 53.9 -4.1
comp=E,32nm,0.5s
CABF La Chapelle 19.50 313 *e*P Pn 10 30 53.9 -4.1
CABF pmax pmax
comp=Z,16nm,0.5s
CABF La Chapelle 19.50 313 *e*P Pn 10 30 53.9 -4.1
comp=Z,16nm,0.5s
OG05 Jujurieux 19.62 311 *e*P Pn 10 30 56.0 -3.4
VIVF Saint-Julien-I 19.63 307 *e*P Pn 10 30 56.6 -3.0
comp=Z,32nm,0.8s
VIVF Saint-Julien-I 19.63 307 *e*P Pn 10 30 56.6 -3.0
VIVF pmax pmax
comp=Z,16nm,0.8s
VIVF Saint-Julien-I 19.63 307 *e*P Pn 10 30 56.6 -3.0
comp=Z,16nm,0.8s
HINF Hinteralfeld 19.68 317 *e*P Pn 10 30 55.7 -4.4
comp=Z,8.5nm,0.5s
HINF Hinteralfeld 19.68 317 *e*P Pn 10 30 55.7 -4.4
HINF pmax pmax
comp=Z,4.0nm,0.5s
HINF Hinteralfeld 19.68 317 *e*P Pn 10 30 55.7 -4.4
comp=Z,4.3nm,0.5s
CDF Champ du Feu 19.78 319 *e*P Pn 10 30 57.3 -4.0
comp=Z,37nm,1.0s
CDF Champ du Feu 19.78 319 *e*P Pn 10 30 57.3 -4.0
CDF pmax pmax
comp=Z,18nm,1.0s
CDF Champ du Feu 19.78 319 *e*P Pn 10 30 57.3 -4.0
comp=Z,18nm,1.0s
LANF Langenberg 19.84 321 *e*P Pn 10 31 02.7 +0.7
HAU Haudompre 20.07 317 *e*P P 10 31 00.2 -2.7
comp=Z,26nm,0.6s
HAU *e*MLR
comp=Z,327nm,17.8s
HAU Haudompre 20.07 317 *e*P P 10 31 00.2 -2.7
HAU pmax pmax
comp=Z,13nm,0.6s
HAU Haudompre 20.07 317 *e*P P 10 31 00.2 -2.7
comp=Z,13nm,0.6s
EJON La Jonquera 20.12 299 P P 10 31 02.5 -1.0
comp=Z,420nm,2.9s
EJON La Jonquera 20.12 299 P P 10 31 02.5 -1.0
comp=Z,420nm,2.9s
TNS Taunus Mts 20.31 324 *e*P P 10 31 04.5 -1.0

comp=Z,16nm,1.2s
TNS Taunus Mts 20.31 324 *e*P P 10 31 04.5 -1.0
TNS pmax pmax
comp=Z,16nm,1.2s
THEF They Montfort 20.39 317 *e*P P 10 31 05.7 -0.7
COLF Collangettes 20.53 308 *e*P P 10 31 06.7 -1.2
GTTG Gvttingen 20.54 329 *e*P P 10 31 07.8 -0.2
comp=Z,18nm,1.0s
CLZ Clausthal 20.59 330 *e*P P 10 31 08.2 -0.4
comp=Z,21nm,1.7s
CLZ Clausthal 20.59 330 *e*P P 10 31 08.2 -0.4
CLZ pmax pmax
comp=Z,21nm,1.7s
LBL Lubilhac 20.71 307 *e*P P 10 31 09.9 0.0
PLDF La Plantade 20.75 309 *e*P P 10 31 09.2 -1.1
MTLF Montolieu 20.82 301 *e*P P 10 31 10.1 -1.0
comp=Z,48nm,1.2s
MTLF Montolieu 20.82 301 *e*P P 10 31 10.1 -1.0
MTLF pmax pmax
comp=Z,24nm,1.2s
MTLF Montolieu 20.82 301 *e*P P 10 31 10.1 -1.0
comp=Z,24nm,1.2s
SMF Signal de Mont 20.89 311 *e*P P 10 31 10.1 -1.8
comp=Z,35nm,0.5s
SMF Signal de Mont 20.89 311 *e*P P 10 31 10.1 -1.8
SMF pmax pmax
comp=Z,17nm,0.5s
SMF Signal de Mont 20.89 311 *e*P P 10 31 10.1 -1.8
comp=Z,17nm,0.5s
PYM Petit Puy Mans 21.06 308 *e*P P 10 31 13.7 0.0
MEZF Maizieres J'vi 21.06 316 *e*P P 10 31 11.4 -2.3
comp=Z,30nm,0.8s,mb4.4
MEZF Maizieres J'vi 21.06 316 *e*P P 10 31 11.4 -2.3
comp=Z,15nm,0.8s,mb4.4
AGO Saint Agoulin 21.10 309 *e*P P 10 31 12.9 -1.2
WLF Walferdange 21.11 320 P P 10 31 13.0 -1.2
comp=Z,12nm,1.7s,mb4.0
LOR Lormes 21.16 312 *e*P P 10 31 12.8 -1.9
comp=Z,39nm,0.8s,mb4.5
LOR *e*MLR
comp=Z,341nm,21.8s
LOR Lormes 21.16 312 *e*P P 10 31 12.8 -1.9
LOR pmax pmax
comp=Z,20nm,0.8s,mb4.5
LOR MLR MLR
comp=Z,340nm,21.8s,MS3.7
LOR Lormes 21.16 312 *e*P P 10 31 12.8 -1.9
comp=Z,20nm,0.8s,mb4.5
LOR LR LR
comp=Z,340nm,21.8s,MS3.7
OBN Obninsk 21.18 15⇓*e*P P 10 31 16.2 +1.2
OBN *e**PP 10 31 31.7
OBN *e*S **S 10 35 06.8 -3.0**
OBN *e* 10 35 14.8
OBN pmax pmax
comp=Z,32nm,0.8s,mb4.7
OBN MLR MLR
comp=Z,100nm,8.0s
OBN Obninsk 21.18 15 *e*Pn P 10 31 16.2 +1.3
comp=Z,53nm,1.1s,mb4.8
OBN Obninsk 21.18 15 *e*P P 10 31 16.2 +1.2
comp=Z,32nm,0.8s,mb4.7
AVF Avril sur Loir 21.26 311 *e*P P 10 31 14.3 -1.5
comp=Z,41nm,0.8s,mb4.5
AVF Avril sur Loir 21.26 311 *e*P P 10 31 14.3 -1.5
AVF pmax pmax
comp=Z,21nm,0.8s,mb4.5
AVF Avril sur Loir 21.26 311 *e*P P 10 31 14.3 -1.5
comp=Z,21nm,0.8s,mb4.5
SSF Saint Saulge 21.28 312 *e*P P 10 31 14.5 -1.5
comp=Z,91nm,0.9s,mb4.8
SSF Saint Saulge 21.28 312 *e*P P 10 31 14.5 -1.5
SSF pmax pmax
comp=Z,46nm,0.9s,mb4.8
SSF Saint Saulge 21.28 312 *e*P P 10 31 14.5 -1.5
comp=Z,46nm,0.9s,mb4.8
CAF Calviac 21.39 305 *e*P P 10 31 14.4 -2.8
comp=Z,10nm,0.7s,mb4.0
CAF Calviac 21.39 305 *e*P P 10 31 14.4 -2.8
CAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
CAF Calviac 21.39 305 *e*P P 10 31 14.4 -2.8
comp=Z,5.1nm,0.7s,mb4.0
BGF Bois d'Agland 21.48 310 *e*P P 10 31 16.1 -2.1
comp=Z,29nm,0.6s,mb4.5
BGF Bois d'Agland 21.48 310 *e*P P 10 31 16.1 -2.1
BGF pmax pmax
comp=Z,15nm,0.6s,mb4.5
BGF Bois d'Agland 21.48 310 *e*P P 10 31 16.1 -2.1
comp=Z,15nm,0.6s,mb4.5
BUG Bochum-Univer 21.67 325 *e*P P 10 31 21.4 +1.1
comp=Z,8.0nm,1.0s,mb4.1
ERTA Horta de San J 21.73 294 P P 10 31 19.4 -1.5
comp=Z,908nm,2.9s,mb5.7
ERTA Horta de San J 21.73 294 P P 10 31 19.4 -1.5
comp=Z,908nm,2.9s,mb5.7
MEM Membach 21.76 322 P P 10 31 20.7 -0.4
MEM AP 10 31 26.6
comp=Z,16nm,1.1s
MEM Membach 21.76 322 P P 10 31 20.7 -0.4
comp=Z,16nm,1.1s,mb4.4
TCF Toulx Ste Croi 21.78 309 *e*P P 10 31 20.4 -1.0
comp=Z,16nm,0.8s,mb4.2
TCF Toulx Ste Croi 21.78 309 *e*P P 10 31 20.4 -1.0
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 21.78 309 *e*P P 10 31 20.4 -1.0
comp=Z,8.0nm,0.8s,mb4.2
RJF Les Rejaudoux 21.88 306 *e*P P 10 31 21.6 -0.9
comp=Z,48nm,0.9s,mb4.6
RJF *e*MLR
comp=Z,294nm,22.2s
RJF Les Rejaudoux 21.88 306 *e*P P 10 31 21.6 -0.9
RJF pmax pmax
comp=Z,24nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,290nm,22.3s,MS3.6
RJF Les Rejaudoux 21.88 306 *e*P P 10 31 21.6 -0.9
comp=Z,24nm,0.9s,mb4.6
RJF LR LR
comp=Z,290nm,22.3s,MS3.6
HGN Heimansgroeve 21.89 322 *e*P P 10 31 23.4 +0.9
comp=Z,26nm,2.2s,mb4.3
HYF Humbligny 21.90 311 *e*P P 10 31 22.1 -0.6
EBEN Beniarda 22.00 288 P P 10 31 22.1 -1.6
comp=Z,800nm,2.3s,mb5.7
EBEN Beniarda 22.00 288 P P 10 31 22.1 -1.6
comp=Z,800nm,2.3s,mb5.7
BCLA Clavier 22.00 321 P P 10 31 22.9 -0.9
comp=Z,12nm,1.5s,mb4.1
BCLA Clavier 22.00 321 P P 10 31 22.8 -1.0
comp=Z,12nm,1.5s,mb4.1
GIVF Givet 22.07 320 *e*P P 10 31 22.5 -2.0
comp=Z,30nm,0.7s,mb4.5
GIVF Givet 22.07 320 *e*P P 10 31 22.5 -2.0
GIVF pmax pmax
comp=Z,15nm,0.7s,mb4.5
GIVF Givet 22.07 320 *e*P P 10 31 22.5 -2.0
comp=Z,15nm,0.7s,mb4.5
EPF Esparros 22.08 299 *e*P P 10 31 23.6 -1.0
EBIE Bielsa 22.15 298 P P 10 31 25.6 +0.2
comp=Z,341nm,3.1s
EBIE Bielsa 22.15 298 P P 10 31 25.6 +0.2
comp=Z,341nm,3.1s
DOU Dourbes 22.18 320 P P 10 31 25.4 -0.3
LFF La Frestale 22.29 304 *e*P P 10 31 25.9 -1.0
comp=Z,40nm,1.0s,mb4.5
LFF La Frestale 22.29 304 *e*P P 10 31 25.9 -1.0
LFF pmax pmax
comp=Z,20nm,1.0s,mb4.5
LFF La Frestale 22.29 304 *e*P P 10 31 25.9 -1.0
comp=Z,20nm,1.0s,mb4.5
BAIF Baives 22.37 319 *e*P P 10 31 26.7 -1.0
comp=Z,49nm,0.7s,mb4.7
BAIF Baives 22.37 319 *e*P P 10 31 26.7 -1.0
BAIF pmax pmax
comp=Z,25nm,0.7s,mb4.8
BAIF Baives 22.37 319 *e*P P 10 31 26.7 -1.0
comp=Z,25nm,0.7s,mb4.7
SNF Seneffe 22.58 320 P P 10 31 29.5 -0.5
comp=Z,16nm,2.2s,mb4.0
ETSF Etsaut 22.70 299 *e*P P 10 31 31.2 0.0
comp=Z,21nm,0.7s,mb4.3
ETSF Etsaut 22.70 299 *e*P P 10 31 31.2 0.0
ETSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
ETSF Etsaut 22.70 299 *e*P P 10 31 31.2 0.0

comp=Z,10nm,0.7s,mb4.3
UCC Uccle 22.71 321 P **P 10 31 31.2 -0.1**
SJPF Ste Jean 23.22 299 *e*P **P 10 31 37.0 +0.3**
comp=Z,78nm,1.2s,mb4.7
SJPF Ste Jean 23.22 299 *e*P **P 10 31 37.0 +0.3**
SJPF pmax pmax
comp=Z,39nm,1.2s,mb4.7
SJPF Ste Jean 23.22 299 *e*P **P 10 31 37.0 +0.3**
comp=Z,39nm,1.2s,mb4.7
MFF Saint Martin d 23.41 308 *e*P **P 10 31 36.6 -2.1**
comp=Z,27nm,0.8s,mb4.5
MFF Saint Martin d 23.41 308 *e*P **P 10 31 36.6 -2.1**
MFF pmax pmax
comp=Z,14nm,0.8s,mb4.4
MFF Saint Martin d 23.41 308 *e*P **P 10 31 36.6 -2.1**
comp=Z,14nm,0.8s,mb4.4
EALK Alkurruntz 23.45 299 P **P 10 31 40.4 +1.3**
comp=Z,209nm,3.3s
EALK Alkurruntz 23.45 299 P **P 10 31 40.4 +1.3**
comp=Z,209nm,3.3s
ELIZ Elizondo 23.45 299 P **P 10 31 39.4 +0.3**
ELIZ pmax pmax
comp=Z,15nm,0.8s,mb4.5
ELIZ Elizondo 23.45 299 P **P 10 31 39.4 +0.3**
comp=Z,15nm,0.8s,mb4.5
ELIZ Elizondo 23.45 299 P **P 10 31 39.4 +0.3**
comp=Z,15nm,0.8s,mb4.5
ETOR Torete 23.52 293 P **P 10 31 39.6 -0.2**
ETOR pmax pmax
comp=Z,19nm,1.6s,mb4.3
ETOR Torete 23.52 293 P **P 10 31 39.6 -0.3**
comp=Z,19nm,1.6s,mb4.3
ETOR Torete 23.52 293 P **P 10 31 39.6 -0.2**
comp=Z,19nm,1.6s,mb4.3
EVIA Vianos 23.78 287 P **P 10 31 42.2 0.0**
EVIA pmax pmax
comp=Z,11nm,0.7s,mb4.4
EVIA Vianos 23.78 287 P **P 10 31 42.2 0.0**
comp=Z,11nm,0.7s,mb4.4
EVIA Vianos 23.78 287 P **P 10 31 42.2 0.0**
comp=Z,11nm,0.7s,mb4.4
ECRI Cripan 24.07 297 P **P 10 31 45.1 +0.3**
ECRI pmax pmax
comp=Z,16nm,0.8s,mb4.5
ECRI Cripan 24.07 297 P **P 10 31 45.1 +0.3**
comp=Z,16nm,0.8s,mb4.5
ECRI Cripan 24.07 297 P **P 10 31 45.1 +0.3**
comp=Z,16nm,0.8s,mb4.5
LDF La Druitiere 24.14 312 *e*P **P 10 31 43.5 -2.0**
comp=Z,38nm,0.9s,mb4.5
LDF La Druitiere 24.14 312 *e*P **P 10 31 43.5 -2.0**
LDF pmax pmax
comp=Z,19nm,0.9s,mb4.5
LDF La Druitiere 24.14 312 *e*P **P 10 31 43.5 -2.0**
comp=Z,19nm,0.9s,mb4.5
EBER Berja 24.16 283 P **P 10 31 45.3 -0.4**
EQES Quesada 24.25 285 P **P 10 31 46.7 +0.2**
comp=Z,10.0nm,0.8s,mb4.3
EQES Quesada 24.25 285 P **P 10 31 46.7 +0.2**
comp=Z,10.0nm,0.8s,mb4.3
FLN La Foliniere 24.43 313 *e*P **P 10 31 45.3 -2.8**
comp=Z,27nm,0.5s,mb4.6
FLN *e*MLR
comp=Z,260nm,18.2s
FLN La Foliniere 24.43 313 *e*P **P 10 31 45.3 -2.8**
FLN pmax pmax
comp=Z,14nm,0.5s,mb4.7
FLN MLR MLR
comp=Z,260nm,18.3s,MS3.8
FLN La Foliniere 24.43 313 *e*P **P 10 31 45.3 -2.8**
comp=Z,14nm,0.5s,mb4.6
FLN LR LR
comp=Z,260nm,18.3s,MS3.8
GRR Gorron 24.51 312 *e*P **P 10 31 47.0 -1.9**
comp=Z,21nm,0.5s,mb4.7
GRR Gorron 24.51 312 *e*P **P 10 31 47.0 -1.9**
GRR pmax pmax
comp=Z,11nm,0.4s,mb4.7
GRR Gorron 24.51 312 *e*P **P 10 31 47.0 -1.9**
comp=Z,10nm,0.4s,mb4.7
EGUA Guajares 24.71 283 P **P 10 31 50.1 -0.6**
comp=Z,0.9nm,0.4s,mb3.6
EGUA Guajares 24.71 283 P **P 10 31 50.1 -0.6**
comp=Z,0.9nm,0.4s,mb3.6
EBAN Banos Encina 24.80 286 P **P 10 31 51.4 -0.1**
EBAN pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
EBAN Banos Encina 24.80 286 P **P 10 31 51.4 -0.1**
comp=Z,6.8nm,0.6s,mb4.3
ELAN Lanestosa 24.84 298 P **P 10 31 54.8 +3.0**
comp=Z,97nm,1.6s,mb5.1
ELAN Lanestosa 24.84 298 P **P 10 31 54.8 +3.0**
comp=Z,97nm,1.6s,mb5.1
ESDC Sonseca Array 24.92 290 P **P 10 31 52.7 +0.1**
comp=Z,11nm,0.7s,mb4.5,baz=82,slow=10.0,SNR=29
ESDC Sonseca Array 24.92 290 P **P 10 31 52.5 -0.1**
comp=Z,12nm,0.8s,mb4.5
ESDC Sonseca Array 24.92 290 P **P 10 31 52.5 -0.1**
comp=Z,12nm,0.8s,mb4.5
ESLA Sonseca Array 24.92 290 *e*P **P 10 31 52.8 +0.2**
GUD Guadarrama 25.10 292 P **P 10 31 54.0 -0.2**
GUD pmax pmax
comp=Z,14nm,0.7s,mb4.6
GUD Guadarrama 25.10 292 P **P 10 31 54.0 -0.2**
comp=Z,14nm,0.7s,mb4.6
ELUQ Luque 25.21 285 P **P 10 31 55.1 -0.1**
ELUQ pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
ELUQ Luque 25.21 285 P **P 10 31 55.1 -0.1**
comp=Z,9.1nm,0.5s,mb4.6
ELUQ Luque 25.21 285 P **P 10 31 55.1 -0.1**
comp=Z,9.1nm,0.5s,mb4.6
PAB San Pablo 25.22 290 *e*P **P 10 31 56.0 +0.7**
PAB pmax pmax
comp=Z,14nm,1.1s,mb4.4
PAB San Pablo 25.22 290 *e*P **P 10 31 56.0 +0.7**
comp=Z,14nm,1.1s,mb4.4
PAB San Pablo 25.22 290 *e*P **P 10 31 56.0 +0.7**
comp=Z,14nm,1.1s,mb4.4
EADA Adamuz 25.42 286 P **P 10 31 56.4 -0.8**
comp=Z,61nm,1.7s,mb4.9
EADA Adamuz 25.42 286 P **P 10 31 56.3 -0.9**
comp=Z,61nm,1.7s,mb4.9
SGMF Saint Gilles 25.52 310 *e*P **P 10 31 57.2 -0.8**
EMIJ Mijas 25.70 283 P **P 10 31 59.7 0.0**
comp=Z,29nm,0.9s,mb4.8
EMIJ Mijas 25.70 283 P **P 10 31 59.7 0.0**
comp=Z,29nm,0.9s,mb4.8
QUIF Quistinic 25.79 309 *e*P **P 10 32 00.3 -0.2**
comp=Z,36nm,0.8s,mb4.7
QUIF Quistinic 25.79 309 *e*P **P 10 32 00.3 -0.2**
QUIF pmax pmax
comp=Z,18nm,0.8s,mb4.7
QUIF Quistinic 25.79 309 *e*P **P 10 32 00.3 -0.2**
comp=Z,18nm,0.8s,mb4.7
ORR Orenburg 25.95 42 P **P 10 32 02.1 +0.1**
ORR pmax pmax
comp=Z,50nm,1.5s,mb4.8
ROSF Rostrenen 26.00 310 *e*P **P 10 32 01.0 -1.3**
comp=Z,22nm,0.7s,mb4.5
ROSF Rostrenen 26.00 310 *e*P **P 10 32 01.0 -1.3**
ROSF pmax pmax
comp=Z,11nm,0.6s,mb4.6
ROSF Rostrenen 26.00 310 *e*P **P 10 32 01.0 -1.3**
comp=Z,11nm,0.6s,mb4.6
EARI Arriondas 26.13 298 P **P 10 32 03.8 +0.2**
comp=Z,43nm,1.2s,mb4.9
EARI Arriondas 26.13 298 P **P 10 32 03.8 +0.2**
comp=Z,43nm,1.2s,mb4.9
MDT Midelt 26.21 274 P **P 10 32 04.3 0.0**
comp=Z,5.9nm,0.8s,mb4.2,baz=83,slow=13,SNR=6.5
EJIF Jimena Fronter 26.27 283 P **P 10 32 04.9 +0.1**
EJIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
EJIF Jimena Fronter 26.27 283 P **P 10 32 04.9 0.0**
comp=Z,6.1nm,0.7s,mb4.2
EJIF Jimena Fronter 26.27 283 P **P 10 32 04.9 +0.1**
comp=Z,6.1nm,0.7s,mb4.2
FINES FINESS Array B 26.45 359 P **P 10 32 04.6 -1.9**
comp=Z,2.2nm,0.6s,mb3.9,baz=164,slow=11,SNR=12
FINES FINESS Array B 26.45 359 *i* P **P 10 32 05.0 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ESPR Espera 26.53 284 P **P 10 32 05.5 -1.7**
comp=Z,27nm,0.9s,mb4.8
ESPR Espera 26.53 284 P **P 10 32 05.5 -1.7**
comp=Z,27nm,0.9s,mb4.8

HFS Hagfors 26.56 345 P **P 10 32 05.0 -2.4**
comp=Z,6.8nm,0.7s,mb4.3,baz=141,slow=9.6,SNR=13
HFS LR LR 10 43 36.0
comp=Z,582nm,19.6s,MS4.1,baz=94,slow=39
HFA0 Hagfors New Ar 26.57 345 P **P 10 32 05.3 -2.3**
KLMR Klimovskoe 27.10 14 *e*P **P 10 32 11.6 -0.7**
KLMR *e*S **S 10 36 49.2 -0.4**
KLMR pmax pmax
comp=Z,40nm,2.0s,mb4.6
EMIN Mina Concepcio 27.10 286 P **P 10 32 14.0 +1.7**
comp=Z,30nm,1.2s,mb4.7
EMIN Mina Concepcio 27.10 286 P **P 10 32 14.0 +1.7**
comp=Z,30nm,1.2s,mb4.7
PBRG Braganca 27.11 295 *e*P **P 10 32 12.2 -0.2**
ECAL Calabor 27.12 295 P **P 10 32 13.5 +1.0**
comp=Z,6.9nm,0.5s,mb4.4
ECAL Calabor 27.12 295 P **P 10 32 13.5 +1.0**
comp=Z,6.9nm,0.5s,mb4.4
KAF Kangasniemi 27.12 359 *e*p **P 10 32 10.4 -2.1**
comp=Z,6.8nm,0.8s,mb4.2
KAF Kangasniemi 27.12 359 *e*P **P 10 32 10.4 -2.1**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
AKTK Aktyubinsk 27.30 46 P **P 10 32 13.6 -0.5**
AKTK LR LR 10 47 15.1
AKTO Aktyubinsk 27.30 46 P **P 10 32 13.6 -0.5**
comp=Z,5.2nm,0.6s,mb4.3,baz=240,slow=8.5,SNR=12
AKTO LR LR 10 47 15.1
comp=Z,194nm,18.9s,MS3.7,baz=8.3,slow=46
EBAD Badajoz 27.31 288 P **P 10 32 14.0 -0.1**
comp=Z,41nm,1.3s,mb4.8
EBAD Badajoz 27.31 288 P **P 10 32 14.0 -0.2**
comp=Z,41nm,1.3s,mb4.8
EPON Pontenova 27.54 298 P **P 10 32 16.1 -0.1**
comp=Z,30nm,1.3s,mb4.8
EPON Pontenova 27.54 298 P **P 10 32 16.1 -0.1**
comp=Z,30nm,1.3s,mb4.8
PCBR Castelo Branco 27.63 290 *e*pP pP 10 32 23.5 +1.0
PCBR Castelo Branco 27.63 290 *e*pP pP 10 32 23.5 +1.0
MTE Manteigas 27.68 292 *e*P **P 10 32 21.1 +3.6**
PESTR Estremoz 27.75 288 *e*pP pP 10 32 23.9 +0.3
PESTR Estremoz 27.75 288 *e*pP pP 10 32 23.9 +0.3
EGRO El Granado 27.76 285 P **P 10 32 18.7 +0.5**
comp=Z,42nm,1.3s,mb4.9
PVRL Vila Real 27.82 293 *i* P **P 10 32 22.2 +3.4**
NB2 NORSAR Subarra 27.93 344 P **P 10 32 16.9 -2.8**
comp=Z,1.8nm,0.5s,mb4.0,baz=147,slow=11
NOA NORSAR Array B 27.93 344 P **P 10 32 17.4 -2.4**
comp=Z,0.7nm,0.4s,mb3.6,baz=155,slow=7.9,SNR=4.9
PVIS Viseu 27.95 292 *e*P sP 10 32 31.2 +3.6
PBEJ Beja 28.02 286 *e*pP pP 10 32 25.4 -0.6
PBEJ Beja 28.02 286 *e*pP pP 10 32 25.4 -0.6
AB31 Akbulak array 28.06 49 P **P 10 32 21.8 +0.9**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
JOF Joensuu 28.06 4 *e*p **P 10 32 18.1 -2.8**
comp=Z,4.8nm,0.6s,mb4.3
PCAB Cabril 28.07 294 *e*P **P 10 32 21.6 +0.6**
ELOB Lobios 28.10 295 P **P 10 32 21.2 -0.1**
comp=Z,74nm,1.8s,mb5.0
ELOB Lobios 28.10 295 P **P 10 32 21.2 -0.1**
comp=Z,74nm,1.8s,mb5.0
PTEO Sao Teotonio 28.74 286 *e*P **P 10 32 34.8 +7.8**
EKA Eskdalemuir Ar 29.00 324 P **P 10 32 27.9 -1.3**
comp=Z,1.7nm,0.6s,mb4.0,baz=124,slow=11,SNR=12
PMAFR Mafra 29.06 289 *e*P **P 10 32 29.9 +0.1**
ARU Arti 30.33 35 *e*P **P 10 32 42.6 +1.6**
ARU *e* 10 33 37.7
ARU *e*PPP 10 33 52.3
ARU *e*S **S 10 37 41.4 +1.1**
ARU *e*SS SS 10 39 18.0 -32
TOA0 Torodi Ar. Sit 31.52 233 *e*P **P 10 32 52.8 +1.2**
TORD Torodi Ar. Bea 31.52 233 P **P 10 32 53.0 +1.4**
comp=Z,5.5nm,0.7s,mb4.5,baz=32,slow=8.7,SNR=94
TORD LR LR 10 48 36.5
comp=Z,264nm,18.4s,MS4.0,baz=60,slow=42
TORD Torodi Ar. Bea 31.52 233 P **P 10 32 53.0 +1.4**
TORD LR LR 10 48 36.5
KK31 Karatay Array 34.48 63 *i* P **P 10 33 17.8 +0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
KKAR Karatay Array 34.48 63 P **P 10 33 17.8 +0.4**
ARCES ARCESS Array B 34.58 359 P **P 10 33 16.3 -2.0**
comp=Z,2.1nm,0.5s,mb4.3,baz=169,slow=7.2,SNR=5.2
BVAR Borovoye Array 35.41 46 P **P 10 33 25.0 -0.4**
comp=Z,2.5nm,0.8s,mb4.2,baz=260,slow=8.4,SNR=11
EKS2 Erkin-Say 36.90 64 P **P 10 33 39.8 +1.6**
SNR=12
AAK Ala-Archa 37.43 64 P **P 10 33 44.1 +1.4**
SNR=13
AAK Ala-Archa 37.43 64 *d i* P **P 10 33 43.2 +0.5**
AAK pmax pmax
comp=Z,14nm,0.9s,mb4.8
AAK MLR MLR
comp=Z,200nm,24.0s,MS3.8
AAK Ala-Archa 37.43 64 *e*P **P 10 33 42.8 +0.2**
AAK Ala-Archa 37.43 64 *e*P **P 10 33 42.8 +0.1**
CHMS Chumysh 37.59 63 P **P 10 33 44.9 +0.9**
SNR=9.1
KZA Kyzart 38.03 64 P **P 10 33 49.8 +2.0**
SNR=19
TKM2 Tokmak 2 38.21 63 P **P 10 33 50.6 +1.3**
SNR=11
TKM2 Tokmak 2 38.21 63 P **P 10 33 47.7 -1.6**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ULHL Ulahol 38.75 64 P **P 10 33 55.9 +2.1**
SNR=6.7
KURK Kurchatov 40.15 51 *e*P **P 10 34 05.7 +0.2**
KURK pmax pmax
comp=Z,14nm,0.8s,mb4.7
KURK Kurchatov 40.15 51 *e*P **P 10 34 05.7 +0.2**
comp=Z,14nm,0.8s,mb4.7
KURK Kurchatov 40.15 51 *e*P **P 10 34 05.7 +0.2**
comp=Z,14nm,0.8s,mb4.7
LIC Lamto 41.07 233 *e*P **P 10 34 13.9 +0.8**
comp=Z,44nm,1.0s,mb4.7
LIC Lamto 41.07 233 *e*P **P 10 34 13.9 +0.8**
comp=Z,22nm,1.0s,mb4.7
MK31 Makanchi Array 42.65 57 *i* P **P 10 34 26.6 +0.6**
MK31 pmax pmax
comp=Z,24nm,0.4s,mb5.3
MK31 Makanchi Array 42.65 57 *e*P **P 10 34 26.5 +0.5**
MK31 Makanchi Array 42.65 57 *e*P **P 10 34 26.5 +0.5**
MKAR Makanchi Array 42.65 57 *e*P **P 10 34 26.6 +0.6**
MKAR pmax pmax
comp=Z,10.0nm,0.4s
NVS Novosibirsk 43.17 45 *e*P **P 10 34 30.5 +0.3**
NVS pmax pmax
comp=E,15nm,1.0s
NVS pmax pmax
comp=Z,21nm,1.0s,mb4.8
NVS pmax pmax
comp=N,12nm,1.3s
ZAL Zalesovo 44.05 46 P **P 10 34 37.2 -0.1**
comp=N,6.5nm,0.5s,mb4.6,baz=194,slow=6.9,SNR=24
ZAL LR LR 10 59 26.8
comp=N,150nm,18.1s,MS4.0,baz=347,slow=45
ZAL Zalesovo 44.05 46 P **P 10 34 37.2 -0.1**
ZAL LR LR 10 59 26.8
WMQ Urumqi 46.83 60 P **P 10 35 00.4 +1.1**
WMQ AMB AMB
comp=Z,18nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,428nm,5.0s
WMQ LR LR
comp=N,105nm,20.0s
WMQ LR LR
comp=E,123nm,27.0s
WMQ LR LR
comp=Z,141nm,25.0s,MS3.8
DANN Dangsing 48.27 81 *e*P **P 10 35 12.1 +1.5**
comp=Z,1.0nm,0.6s,mb4.0
KOLN Koldanda 48.37 82 *e*P **P 10 35 12.2 +0.9**
comp=Z,35nm,0.8s,mb5.5
KRAR Krasnoyarsk 48.66 43 *i* P **P 10 35 16.1 +2.5**
GKN Gorkha 49.12 81 *e*P **P 10 35 18.0 +0.9**
comp=Z,40nm,0.7s,mb5.6
DMN Daman 49.66 82 *e*P **P 10 35 22.3 +1.1**
comp=Z,49nm,0.8s,mb5.6
KKN Kakani 49.73 81 *e*P **P 10 35 22.5 +0.8**
comp=Z,26nm,0.6s,mb5.4
KKN Kakani 49.73 81 *e*P **P 10 35 22.5 +0.8**
KKN pmax pmax
comp=Z,26nm,0.6s,mb5.4
PKI Pulchoki 49.92 82 *e*P **P 10 35 24.0 +0.8**

comp=Z,33nm,0.7s,mb5.5
PKI Pulchoki 49.92 82 *e*P **P 10 35 24.0 +0.8**
PKI pmax pmax
comp=Z,33nm,0.7s,mb5.5
LSZ Lusaka 50.03 178 P **P 10 35 26.3 +2.3**
comp=Z,2.0nm,0.5s,mb4.4,baz=13,slow=8.3,SNR=6.5
LSZ Lusaka 50.03 178 *e*P **P 10 35 26.8 +2.8**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LSZ Lusaka 50.03 178 *e*P **P 10 35 26.8 +2.8**
comp=Z,2.9nm,0.8s,mb4.4
LSZ Lusaka 50.03 178 *e*P **P 10 35 26.8 +2.8**
comp=Z,2.9nm,0.8s,mb4.4
GUN Gumba 50.17 81 *e*P **P 10 35 26.1 +1.1**
comp=Z,79nm,1.1s,mb5.6
LSA Lhasa 53.70 76 *e*P **P 10 35 53.1 +1.8**
LSA pmax pmax
comp=Z,14nm,0.9s,mb4.9
LSA Lhasa 53.70 76 *e*P **P 10 35 53.1 +1.8**
comp=Z,14nm,0.9s,mb4.9
LSA Lhasa 53.70 76 *e*P **P 10 35 53.1 +1.8**
comp=Z,14nm,0.9s,mb4.9
MOY Mondy 54.04 48 *e*P **P 10 35 55.2 +1.3**
TSUM Tsumeb 54.64 191 P **P 10 36 00.0 +1.8**
comp=Z,2.6nm,0.8s,mb4.3,baz=338,slow=6.6,SNR=11
TSUM Tsumeb 54.64 191 *e*P **P 10 36 00.3 +2.1**
comp=Z,4.3nm,0.8s,mb4.5
TSUM Tsumeb 54.64 191 *e*P **P 10 36 00.3 +2.1**
comp=Z,4.3nm,0.8s,mb4.5
MATP Matopo 55.15 178 P **P 10 36 04.9 +2.9**
comp=Z,5.7nm,0.7s,mb4.7,baz=357,slow=8.5,SNR=22
TLY Talaya 55.64 47 *e*P **P 10 36 09.7 +4.2**
TLY pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ZAK Zakamensk 55.76 49 *e*P **P 10 36 04.9 -1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
IRK Irkutsk 55.88 46 *e*P **P 10 36 09.0 +1.9**
IRK pmax pmax
comp=Z,27nm,1.4s,mb5.1
GTA Gaotai 56.75 62 P **P 10 36 14.4 +1.0**
GTA AP pP 10 36 20.8 +1.7
GTA XP sP 10 36 23.6 +2.3
GTA PP PP 10 38 22.3 +2.7
GTA S **S 10 44 07.1 +1.7**
GTA XS sS 10 44 16.6 +1.7
GTA SS SS 10 47 57.9 +4.5
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,140nm,6.5s
GTA LR LR
comp=N,150nm,13.3s,MS4.4
GTA LR LR
comp=E,139nm,14.4s,MS4.4
GTA LR LR
comp=Z,104nm,14.4s,MS4.1
SONM Songino Array 58.46 51 P **P 10 36 26.4 +1.0**
comp=Z,3.8nm,0.5s,mb4.7,baz=288,slow=7.6,SNR=45
SONM LR LR 11 06 27.9
comp=Z,129nm,18.1s,MS4.1,baz=288,slow=41
BOD Bodaibo 59.68 38 *e*P **P 10 36 32.0 -1.8**
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
LBTB Lobatse 59.71 181 P **P 10 36 37.4 +3.3**
comp=Z,4.3nm,0.8s,mb4.5,baz=334,slow=2.5,SNR=8.1
TIXI Tiksi 60.79 21 ‖ *e*P **P 10 36 42.3 +0.8**
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
TIXI MLR MLR
comp=Z,100nm,16.0s,MS4.1
TIXI Tiksi 60.79 21 P **P 10 36 41.8 +0.4**
TIXI Tiksi 60.79 21 P **P 10 36 41.8 +0.3**
LZH Lanzhou 60.96 64 *e*P **P 10 36 48.0 +5.4**
LZH AP pP 10 36 56.0 +7.6
LZH XP sP 10 37 02.5 +12
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,128nm,4.5s
LZH Lanzhou 60.96 64 *e*P **P 10 36 48.0 +5.4**
LZH *PP pP 10 36 56.0 +7.6
LZH *SP sP 10 37 02.5 +12
LZH pmax pmax
comp=Z,30nm,1.2s,mb5.3
LZH Lanzhou 60.96 64 *e*P **P 10 36 48.0 +5.4**
comp=Z,30nm,1.2s,mb5.3
LZH pP pP 10 36 56.0 +7.6
LZH sP sP 10 37 02.5 +12
LZH Lanzhou 60.96 64 *e*P **P 10 36 48.0 +5.4**
comp=Z,30nm,1.2s,mb5.3
LZH pP pP 10 36 56.0 +7.6
CD2 Chengdu 63.09 70 P **P 10 36 57.8 +0.9**
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.7
BOSA Boshof 63.30 182 P **P 10 37 00.8 +2.5**
comp=Z,1.5nm,0.4s,mb4.5,baz=55,slow=2.4,SNR=9.4
SCHQ Schefferville 64.23 320 P **P 10 37 04.4 0.0**
comp=Z,4.0nm,0.6s,mb4.7,baz=54,slow=9.6,SNR=16
HHC Hu-ho-hao-te 64.51 57 *e*P **P 10 37 07.8 +1.5**
HHC AP pP 10 37 13.8 +1.7
HHC XP sP 10 37 16.8 +2.5
HHC PP PP 10 39 31.8 +3.6
HHC S **S 10 45 43.3 -1.3**
HHC PS 10 46 08.3
HHC SCS ScS 10 46 55.9 -3.9
HHC AMB AMB
comp=Z,19nm,0.7s,mb5.2
HHC AMB AMB
comp=Z,172nm,5.7s
HHC LR LR
comp=N,200nm,16.1s,MS4.8
HHC LR LR
comp=E,419nm,16.6s,MS4.8
HHC LR LR
comp=Z,190nm,14.9s,MS4.4
KMI Kunming 64.95 76 P **P 10 37 10.6 +1.5**
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb4.9
KMI Kunming 64.95 76 P **P 10 37 10.6 +1.5**
comp=Z,8.0nm,0.6s,mb4.9
YAK Yakutsk 65.28 30 *i* P **P 10 37 11.2 -0.1**
XAN Xi'an 65.60 65 P **P 10 37 13.8 +0.4**
XAN AMB AMB
comp=Z,8.0nm,0.6s,mb4.9
GYA Guiyang 67.41 73 *e*P **P 10 37 25.3 +0.4**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 Changchun 72.19 49 *e*P **P 10 37 56.8 +2.4**
CN2 *e*XP sP 10 38 06.8 +4.4
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
BILL Bilibino 72.84 15 *i* P **P 10 38 01.3 +3.1**
KLR Kul'dur 72.92 42 *e*P **P 10 37 57.0 -1.7**
PSI Prapat 73.68 98 P **P 10 38 04.2 +1.1**
comp=Z,5.2nm,0.7s,mb4.6,baz=315,slow=4.1,SNR=4.6
INK Inuvik 75.95 353 *e*P **P 10 38 16.2 -0.1**
VLA Vladivostok 76.48 47 *e*P **P 10 38 20.6 +1.3**
VLA pmax pmax
comp=Z,21nm,1.3s,mb4.9
KSRS Korea Array 77.22 53 P **P 10 38 23.9 +0.4**
comp=Z,2.4nm,0.7s,mb4.3,baz=309,slow=4.6,SNR=12
KSRS LR LR 11 20 20.8
comp=Z,57nm,18.2s,MS3.9,baz=350,slow=42
YKW3 Yellowknife Ar 77.97 343 *e*P **P 10 38 26.4 -1.2**
YKW3 Yellowknife Ar 77.97 343 *e*P **P 10 38 26.4 -1.3**
YKA Yellowknife Ar 78.02 343 P **P 10 38 26.5 -1.5**
comp=Z,1.4nm,0.5s,mb4.1,baz=32,slow=5.4,SNR=20
IMA2 Indian Mountai 79.24 0 *e*P **P 10 38 35.0 +0.3**
IMA2 Indian Mountai 79.24 0 *e*P **P 10 38 35.0 +0.3**
DAWY Dawson 80.66 354 *e*P **P 10 38 41.7 -0.6**
DAWY Dawson 80.66 354 *e*P **P 10 38 41.7 -0.7**
ULM Lac du Bonnet 81.23 327 P **P 10 38 44.2 -1.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=54,slow=3.7,SNR=7.7
ULM LR LR 11 13 08.8
comp=Z,95nm,19.7s,MS4.2,baz=74,slow=34
ULM Lac du Bonnet 81.23 327 *e*P **P 10 38 44.9 -0.5**
comp=Z,2.8nm,0.6s,mb4.4
ULM Lac du Bonnet 81.23 327 *e*P **P 10 38 44.9 -0.5**
comp=Z,2.8nm,0.6s,mb4.4
BLO Bloomington 83.94 314 *e*P **P 10 38 59.6 0.0**
MJAR Matsushiro Arr 84.34 49 P **P 10 39 02.1 +0.5**
comp=Z,3.7nm,0.8s,mb4.5,baz=305,slow=4.5,SNR=7.2
EDM Edmonton 85.59 337 *e*P **P 10 39 08.2 +0.3**
WVT Waverly 86.73 313 *e*P **P 10 39 13.1 -0.4**

WVT				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
WVT	**Waverly**	**86.73**	**313**	*e*P	**P**	**10 39 13.1**	**-0.4**
	comp=Z,5.2nm,0.7s,mb4.9						
WVT	**Waverly**	**86.73**	**313**	*e*P	**P**	**10 39 13.1**	**-0.4**
	comp=Z,5.2nm,0.7s,mb4.9						
FVM	**French Village**	**87.01**	**315**	*e*P	**P**	**10 39 15.5**	**+0.6**
PLAL	**Pickwick Lake**	**87.64**	**312**	*e*P	**P**	**10 39 18.6**	**+0.7**
	comp=Z,4.6nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**92.97**	**329**	P	**P**	**10 39 41.9**	**-0.9**
	comp=Z,0.4nm,0.6s,mb4.0,baz=72,slow=4.8,SNR=3.9						
PDAR				LR	LR	11 24 01.2	
	comp=Z,118nm,20.3s,MS4.3,baz=291,slow=37						
ASAR	**Alice Springs**	**116.60**	**101**	PKP	PKPdf	10 45 14.1	+0.5
	comp=Z,0.5nm,0.6s,baz=299,slow=1.5,SNR=5.8						

*CSEM **24** 10:35:34.3, 3479N×2633E, h10km, MD3.7/3, After ATH*
ATH 24 10:35:34.3, 3479N×2633E, h10km, MD3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.53**	**279**	*e*PB	Pg	10 35 44.5	-0.1
NPS	**Neapolis**	**0.75**	**309**	*e*PB	Pb	10 35 48.3	-1.2
KARP	**Karpathos**	**1.02**	**42**	*e*PB	Pb	10 35 53.6	-0.4

*CSEM **24** 10:50:38.1±0.0, 3097N×3461E, h1km, ML2.9, Error ellipse: s-maj=1.5km s-min=1.1km az=98.0, Mining explosion.*
*ISCJB **24** 10:50:40.8±0.4, 3073N±002×3505E±004, h0km, Error ellipse: s-maj=5.6km s-min=3.2km az=22.5*
*GII **24** 10:50:40.7±0.2, 3077N×3504E, h0km, ML2.9/4*
*HLW **24** 10:50:44.9, 3058N×3483E, h6km, Mb2.8*
ISC 24 10:50:41.3±0.4, 3074N±002×3500E±004, h0km, n28, σ1$01/37, 6C-1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.24**	**141**	Pg	**Pg**	**10 50 46.2**	**+0.3**
RMNI	**Mount Ramon**	**0.25**	**236**	Pg	**Pg**	**10 50 47.8**	**+1.7**
MASH	**Mash'abbe Sade**	**0.32**	**324**	Pg	**Pg**	**10 50 48.2**	**+0.9**
SVTA	**Shivta**	**0.38**	**300**	Pg	**Pg**	**10 50 49.6**	**+1.0**
PRNI	**Paran**	**0.39**	**180**	Pg	**Pg**	**10 50 49.8**	**+1.1**
PRNI				Sg	**Sg**	**10 50 56.9**	**+3.1**
RTMI	**Retamim**	**0.41**	**319**	Pg	**Pg**	**10 50 50.0**	**+0.8**
KZIT	**Kziot**	**0.55**	**288**	Pg	**Pg**	**10 50 52.7**	**+0.9**
KZIT				Sg	**Sg**	**10 51 02.4**	**+3.5**
YTIR	**Yattir**	**0.63**	**9**	Pg	**Pg**	**10 50 53.0**	**-0.4**
MZDA	**Masada**	**0.65**	**28**	Pg	**Pg**	**10 50 53.0**	**-0.7**
MZDA				Sg	**Sg**	**10 51 02.4**	**+0.3**
HRFI	**Mount Harif**	**0.70**	**178**	Pg	**Pg**	**10 50 55.4**	**+0.7**
HRFI				Sg	**Sg**	**10 51 08.6**	**+4.7**
AMAZ	**Amatzia**	**0.79**	**355**	Pg	**Pg**	**10 50 56.7**	**+0.2**
DSI	**Dead Sea**	**0.89**	**21**	Pg	**Pg**	**10 50 59.0**	**+0.7**
DRGI	**Dragot**	**0.91**	**21**	Pg	**Pg**	**10 50 58.7**	**-0.1**
AQBJ	**Aqaba**	**1.01**	**178**	Pg	**Pg**	**10 51 01.2**	**+0.6**
EIL	**Elat**	**1.07**	**182**	Pg	**Pg**	**10 51 02.2**	**+0.5**
HNKL	**Nakhl**	**1.20**	**228**	⇑P	**Pg**	**10 51 03.7**	**-0.5**
HNKL				S	**Sg**	**10 51 17.3**	**-2.5**
SLTI	**Sal'it**	**1.50**	**1**	Pn	**Pn**	**10 51 08.5**	**-0.9**
HBST	**Basata**	**1.54**	**189**	⇑P	**Pn**	**10 51 09.9**	**0.0**
HBST				S	**Sn**	**10 51 27.2**	**-3.4**
HBST	**Basata**	**1.54**	**189**	P	**Pn**	**10 51 09.9**	**0.0**
AMAG	**Maghara**	**1.55**	**267**	⇑P	**Pn**	**10 51 09.9**	**-0.2**
HMDT	**Nahal Hemdat**	**1.57**	**16**	Pn	**Pn**	**10 51 09.3**	**-1.1**
MMLI	**Mount Malkishu**	**1.73**	**12**	Pn	**Pn**	**10 51 11.8**	**-0.8**
OFRI	**'Ofer**	**1.88**	**360**	Pn	**Pn**	**10 51 14.1**	**-0.5**
HDHB	**Dhahab**	**2.04**	**190**	⇑P	**Pn**	**10 51 16.8**	**-0.1**
HDHB				S	**Sn**	**10 51 39.4**	**-3.6**
SUZ		**2.08**	**245**	⇓P	**Pn**	**10 51 17.0**	**-0.5**
SUZ				S	**Sn**	**10 51 40.4**	**-3.7**
MMC7	**Mount Meron ar**	**2.30**	**8**	Pn	**Pn**	**10 51 20.4**	**0.0**
HKAT	**Jabal Katrina**	**2.38**	**202**	⇑P	**Pn**	**10 51 20.8**	**-0.7**
TR1		**2.88**	**199**	⇑P	**Pn**	**10 51 27.7**	**-0.7**
TR1				S	**Sn**	**10 51 59.7**	**-3.9**

*PRU **24** 10:55:16.0, 4457N×1050E, h0km*
*GEN **24** 10:55:19.3, 4483N×1039E, h13km, ML3.0*
*NEIC **24** 10:55:20.2, 4476N×1025E, h4km, ML2.9(STR), ML3.3(LDG), ML2.9(ROM), ML3.5(SZGRF), After ROM.*
*ROM **24** 10:55:20.2±0.3, 4476N×1025E, h4km±3km, Md3.0/26, Ml2.9/27, Error ellipse: s-maj=2.1km s-min=2.0km az=124.0*
*ISCJB **24** 10:55:20.8±0.2, 4481N±001×1026E±002, h24km±3km, Error ellipse: s-maj=2.6km s-min=1.9km az=117.4*
*CSEM **24** 10:55:20.2±0.0, 4471N×1024E, h25km, ML3.3/3, Error ellipse: s-maj=1.0km s-min=0.9km az=135.0*
*STR **24** 10:55:20.9±1.0, 4533N×950E, h10km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 10:55:21.2±0.1, 4484N×1048E, h10km, Ml3.3/20, Error ellipse: s-maj=2.1km s-min=1.9km az=21.0*
*SZGRF **24** 10:55:21.5, 4491N×1022E, h10km, mb3.3, Northern Italy*
ISC 24 10:55:20.6±0.2, 4481N±001×1030E±002, h16km±2km, n165, σ1$26/260, 6C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOVE	**Novellara**	**0.30**	**92**	⇑*i*Pg	**Pg**	**10 55 27.3**	**+0.4**
NOVE				Sg	**Sg**	**10 55 34.0**	**+2.8**
	12μm,0.3s						
GRAM		**0.36**	**208**	P	**Pg**	**10 55 27.4**	**-0.6**
ERBM	**Eremo**	**0.40**	**168**	Pg	**Pg**	**10 55 28.3**	**-0.4**
	2μm,0.9s						
VALM		**0.46**	**185**	P	**Pg**	**10 55 28.8**	**-1.0**
GSCL	**Gusciola**	**0.50**	**156**	Pg	**Pg**	**10 55 30.0**	**-0.6**
	139nm,0.3s						
SBPO	**S.Benedetto Po**	**0.51**	**61**	Pg	**Pg**	**10 55 32.1**	**+1.5**
SBPO				Sg	**Sg**	**10 55 41.8**	**+4.4**
	532nm,0.7s						
CODM		**0.53**	**218**	P	**Pg**	**10 55 30.3**	**-0.7**
RAVA	**Ravarino**	**0.59**	**95**	Pg	**Pg**	**10 55 32.9**	**+0.8**
RAVA				Sg	**Sg**	**10 55 43.8**	**+3.8**
	2μm,0.5s						
BOB	**Bobbio (Coli)**	**0.61**	**266**	Pg	**Pg**	**10 55 33.1**	**+0.6**
	399nm,0.6s						
SARO	**Sassorosso**	**0.63**	**173**	P	**Pg**	**10 55 31.4**	**-1.5**
VLC	**Villacollemand**	**0.65**	**174**	Pg	**Pg**	**10 55 32.3**	**-1.1**
VLC				Sg	**Sg**	**10 55 41.7**	**-0.3**
	971nm,0.6s						
ZCCA	**Zocca**	**0.67**	**133**	Pg	**Pg**	**10 55 34.4**	**+0.8**
	18nm,0.5s						
VINC	**Vinca**	**0.68**	**189**	P	**Pg**	**10 55 32.5**	**-1.3**
SC2M	**Scurtabr**	**0.68**	**234**	Pg	**Pg**	**10 55 33.0**	**-0.9**
SC2M				Sg	**Sg**	**10 55 43.7**	**+0.8**
	402nm,0.4s						
BDI	**Bagni Di Lucca**	**0.78**	**164**	Pg	**Pg**	**10 55 34.3**	**-1.4**
BDI				Sg	**Sg**	**10 55 45.1**	**-0.8**
	406nm,0.5s						
SALO	**Salr**	**0.83**	**11**	Pg	**Pg**	**10 55 37.7**	**+1.1**
	676nm,0.3s						
FIU	**Minerbio Fiu**	**0.87**	**101**	Pg	**Pg**	**10 55 39.6**	**+2.2**
FIU				Sg	**Sg**	**10 55 51.3**	**+2.4**
	2μm,0.4s						
FNVD	**Fontana Vidola**	**0.87**	**137**	Pg	**Pg**	**10 55 37.1**	**-0.4**
MAIM		**0.90**	**171**	Pg	**Pg**	**10 55 36.7**	**-1.4**
	190nm,0.5s						
MAGA	**Magasa**	**0.99**	**13**	Pg	**Pg**	**10 55 39.8**	**-0.1**
	1μm,0.3s						
GENL	**Genova Univers**	**1.03**	**247**	P	**Pb**	**10 55 38.1**	**-1.9**
MDI	**Monti di Nese**	**1.05**	**337**	Pg	**Pg**	**10 55 41.3**	**+0.3**
	375nm,0.3s						
SEI	**Scarperia**	**1.07**	**134**	Pg	**Pg**	**10 55 41.8**	**+0.6**
	257nm,0.2s						
TEOL	**Teolo**	**1.12**	**60**	⇓*i*Pg	**Pg**	**10 55 41.3**	**-0.9**
TEOL				*i* Sg	**Sg**	**10 55 57.6**	**+0.8**
CRMI	**Carmignano**	**1.13**	**154**	Pg	**Pg**	**10 55 42.8**	**+0.5**
	47nm,0.3s						
VMG	**Vicchio**	**1.23**	**133**	Pg	**Pg**	**10 55 44.7**	**+0.4**
MABI	**Malga Bissina**	**1.26**	**7**	Pg	**Pg**	**10 55 44.3**	**-0.5**
	60nm,0.4s						
PCP	**Pian Castagno**	**1.28**	**259**	Pg	**Pg**	**10 55 45.5**	**+0.3**
	151nm,0.7s						
PCP	**Pian Castagno**	**1.28**	**259**	P	**Pn**	**10 55 42.8**	**-1.0**
PCP	**Pian Castagno**	**1.28**	**259**	Pg	**Pg**	**10 55 45.5**	**+0.3**
	151nm,0.7s						
GROG	**Isola di Gorgo**	**1.41**	**192**	Pg	**Pn**	**10 55 45.4**	**-0.2**
	106nm,0.5s						
MUGIO	**Muggio**	**1.42**	**322**	Pg	**Pg**	**10 55 46.8**	**-1.2**
MUGIO				Sg	**Sg**	**10 56 08.5**	**+2.0**
SFI	**Santa Sofia**	**1.43**	**129**	Pg	**Pg**	**10 55 47.7**	**-0.4**
	53nm,0.3s						
QLNO	**Quiliano**	**1.48**	**252**	Pg	**Pg**	**10 55 47.3**	**-1.7**
	164nm,1.6s						
CGRP	**Cima Grappa**	**1.51**	**44**	⇓*e*Pg	**Pn**	**10 55 46.7**	**-0.2**
CGRP				*e*Sg	**Sg**	**10 56 07.9**	**-1.3**
VAI	**Varese**	**1.51**	**315**	Pg	**Pg**	**10 55 48.2**	**-1.5**
CSNT	**Castellina Chi**	**1.52**	**151**	Pg	**Pg**	**10 55 47.7**	**-2.0**
CSNT				Sg	**Sg**	**10 56 07.3**	**-2.1**
	119nm,0.5s						
CTI	**Castel Tesino**	**1.56**	**37**	Pg	**Pn**	**10 55 48.0**	**+0.3**
	207nm,0.3s						
FIN	**Finale Ligure**	**1.61**	**249**	Pg	**Pn**	**10 55 49.2**	**+0.9**
	27nm,0.3s						
FIN	**Finale Ligure**	**1.61**	**249**	P	**Pn**	**10 55 46.5**	**-1.8**
FIN	**Finale Ligure**	**1.61**	**249**	Pg	**Pn**	**10 55 49.2**	**+0.9**
	27nm,0.3s						
MTLO	**Montello**	**1.62**	**51**	⇓*i*Pg	**Pn**	**10 55 48.4**	**-0.1**
BRMO	**Bormio**	**1.67**	**2**	Pg	**Pn**	**10 55 50.7**	**+1.6**
CRE	**Caprese Michel**	**1.68**	**134**	Pg	**Pn**	**10 55 50.1**	**+0.8**
	34nm,0.2s						
MONC	**Moncucco Torin**	**1.70**	**280**	Pg	**Pg**	**10 55 54.6**	**+1.3**
RORO		**1.74**	**247**	P	**Pn**	**10 55 48.3**	**-1.8**
TUE	**Stuetta**	**1.79**	**339**	Pg	**Pg**	**10 55 52.8**	**-2.2**
	87nm,0.7s						
APPI	**Appiano**	**1.79**	**21**	Pg	**Pn**	**10 55 52.0**	**+1.2**
	217nm,0.4s						
ROB	**Roburent**	**1.81**	**254**	P	**Pn**	**10 55 49.9**	**-1.2**
FUORN	**Ofenpass**	**1.81**	**359**	Pg	**Pg**	**10 55 53.3**	**-2.1**
ORX	**Oropa**	**1.83**	**298**	P	**Pn**	**10 55 50.3**	**-1.1**
FAU	**Forcella Aurin**	**1.85**	**39**	⇓*i*Pn	**Pn**	**10 55 52.1**	**+0.5**
FAU				*i* Sn	**Sn**	**10 56 17.2**	**+2.5**
BADI	**Badiali**	**1.91**	**132**	Pg	**Pn**	**10 55 53.4**	**+1.0**
	44nm,0.4s						
CAE	**Caneva**	**1.93**	**51**	⇑*i*Pn	**Pn**	**10 55 52.6**	**-0.1**
CAE				*i* Sn	**Sn**	**10 56 17.1**	**+0.6**
TRAV		**1.94**	**292**	P	**Pn**	**10 55 51.6**	**-1.2**
IMI	**Imperia**	**1.95**	**243**	Pg	**Pn**	**10 55 53.7**	**+0.8**
	20nm,0.2s						
MONE	**Monesi**	**1.96**	**249**	P	**Pn**	**10 55 52.2**	**-0.9**
DAVOX	**Davos**	**2.00**	**352**	Pg	**Pn**	**10 55 56.2**	**+2.6**
NEGI	**Negi**	**2.09**	**244**	P	**Pn**	**10 55 53.2**	**-1.8**
MLNI	**Malnisio**	**2.11**	**50**	⇑*e*Pn	**Pn**	**10 55 54.9**	**-0.2**
MLNI				*e*Sn	**Sn**	**10 56 21.6**	**+0.6**
SAOF	**Saorge**	**2.13**	**248**	Pg	**Pn**	**10 55 56.8**	**+1.3**
ENR	**Entracque**	**2.14**	**255**	P	**Pn**	**10 55 54.9**	**-0.7**
RSP	**Reno Superiore**	**2.19**	**280**	P	**Pn**	**10 55 55.3**	**-0.9**
DOI	**San Damiano**	**2.20**	**263**	Pg	**Pn**	**10 55 58.1**	**+1.7**
	122nm,0.7s						
STV	**Sta Anna Valdi**	**2.20**	**256**	P	**Pn**	**10 55 55.4**	**-1.0**
AUTN	**L'Aution**	**2.21**	**249**	Pg	**Pb**	**10 55 58.6**	**-1.6**
AUTN				Sg	**Sb**	**10 56 26.7**	**-0.6**
FETA	**Feichten**	**2.23**	**8**	⇑*i*Pn	**Pn**	**10 55 59.2**	**+2.3**
SBF	**Sospel**	**2.26**	**246**	*e*Pn	**Pn**	**10 55 58.8**	**+1.5**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**10 56 26.9**	**+2.1**
	57nm,0.4s,SNR=1.0						
PZZ	**Prazzo**	**2.30**	**264**	P	**Pn**	**10 55 56.8**	**-1.0**
LUCF	**Luceram**	**2.31**	**248**	Pg	**Pn**	**10 56 00.5**	**+2.6**
LSD	**Ceresole Reale**	**2.32**	**287**	P	**Pn**	**10 55 58.9**	**+0.9**
TOUF	**Mont Tournerai**	**2.33**	**251**	Pg	**Pn**	**10 56 00.1**	**+1.9**
SEST	**Monte Rota**	**2.36**	**34**	Pg	**Pn**	**10 56 00.7**	**+2.1**
	74nm,0.6s						
SCE	**Schlegeis**	**2.44**	**23**	⇑*i*Pn	**Pn**	**10 56 00.8**	**+1.1**
PGF	**Pioggiola**	**2.45**	**203**	*e*Pn	**Pn**	**10 56 00.4**	**+0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**10 56 29.9**	**+0.5**
	8.5nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.45**	**203**	*e*Pn	**Pn**	**10 56 00.4**	**+0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**10 56 29.9**	**+0.5**
	4.2nm,0.2s,SNR=1.0						
FVI	**Forni Avoltri**	**2.50**	**43**	Pg	**Pn**	**10 56 01.3**	**+0.8**
	63nm,0.8s						
SQTA	**Sankt Quirin**	**2.50**	**14**	*e*Pn	**Pb**	**10 56 03.1**	**-1.9**
	SNR=56						
SQTA				⇑*i*Sn	**Sb**	**10 56 35.5**	**0.0**
SQTA	**Sankt Quirin**	**2.50**	**14**	Pn	**Pb**	**10 56 03.1**	**-1.9**
	56nm,2.0s						
SQTA				Sn	**Sb**	**10 56 35.5**	**0.0**
DAVA	**Damuels**	**2.50**	**353**	⇑*e*Pn	**Pb**	**10 56 03.1**	**-1.9**
	SNR=7.4						
DAVA				⇑*i*Sn	**Sb**	**10 56 37.2**	**+1.7**
DAVA	**Damuels**	**2.50**	**353**	*e*Pg	**Pb**	**10 56 03.6**	**-1.4**
DAVA				*e*Sg	**Sb**	**10 56 36.1**	**+0.6**
RRL	**Cesana Torines**	**2.50**	**274**	P	**Pn**	**10 56 01.8**	**+1.2**
MBDF	**Montbardon**	**2.51**	**269**	*e*Pn	**Pn**	**10 56 01.3**	**+0.6**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**10 56 31.7**	**+0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**10 56 43.0**	**+1.6**
	46nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**2.51**	**269**	*e*Pn	**Pn**	**10 56 01.3**	**+0.6**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**10 56 31.7**	**0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**10 56 43.0**	**+1.6**
	23nm,0.5s,SNR=1.0						
MOTA	**Moosalm**	**2.60**	**12**	*e*Pn	**Pn**	**10 56 04.9**	**+2.9**
	SNR=41						
MOTA				⇑*i*Sn	**Sn**	**10 56 37.9**	**+4.8**
MOTA	**Moosalm**	**2.60**	**12**	Pn	**Pn**	**10 56 04.9**	**+3.0**
	40nm,6.0s						
MOTA				Sn	**Sn**	**10 56 37.9**	**+4.8**
LPG	**La Plagne**	**2.60**	**287**	*e*Pn	**Pn**	**10 56 03.0**	**+1.0**
LPG				*e*Sg	**Sg**	**10 56 43.0**	**-1.2**
	27nm,0.5s,SNR=1.0						
LPG	**La Plagne**	**2.60**	**287**	*e*Pn	**Pn**	**10 56 03.0**	**+1.0**
LPG				*e*Sg	**Sg**	**10 56 43.0**	**-1.2**
	14nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**2.62**	**287**	*e*Pn	**Pn**	**10 56 04.1**	**+1.9**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**10 56 34.1**	**+0.4**
	24nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**2.62**	**287**	*e*Pn	**Pn**	**10 56 04.1**	**+1.9**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**10 56 34.1**	**+0.4**
	12nm,0.3s,SNR=1.0						
WTTA	**Wattenberg**	**2.63**	**20**	⇑*e*Pn	**Pn**	**10 56 04.4**	**+2.1**
	SNR=114						
WTTA				⇓*i*Sn	**Sn**	**10 56 37.7**	**+3.8**
WTTA	**Wattenberg**	**2.63**	**20**	*e*Pg	**Pg**	**10 56 06.1**	**-4.9**
PLRO	**Paularo**	**2.65**	**48**	⇑*i*Pn	**Pn**	**10 56 03.3**	**+0.7**
PTCC	**Patocco-Chiusa**	**2.67**	**52**	Pg	**Pg**	**10 56 02.6**	**-9.2**
	14nm,0.2s						
WATA	**Walderalm**	**2.68**	**19**	⇑*e*Pn	**Pn**	**10 56 05.0**	**+2.0**
	SNR=16						
WATA				⇑*i*Sn	**Sn**	**10 56 40.1**	**+5.0**
WATA	**Walderalm**	**2.68**	**19**	Pn	**Pn**	**10 56 05.0**	**+2.0**
	16nm,5.0s						
WATA				Sn	**Sn**	**10 56 40.1**	**+4.9**
RETA	**Reutte**	**2.70**	**7**	⇑*i*Pn	**Pn**	**10 56 05.7**	**+2.4**
RETA				⇓*i*Sn	**Sn**	**10 56 41.7**	**+6.0**
CADS	**Cadrg**	**2.80**	**58**	*i* Pn	**Pn**	**10 56 04.3**	**-0.5**
CADS				*i*		10 56 12.2	
VOY	**Vojsko**	**2.81**	**63**	*e*Pn	**Pn**	**10 56 04.3**	**-0.6**
VOY				*e*		10 56 11.9	
VOY				*e*Sn	**Sn**	**10 56 37.5**	**-0.9**
FRF	**La Foret Royal**	**2.91**	**246**	*e*Pn	**Pn**	**10 56 06.8**	**+0.6**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**10 56 41.5**	**+0.7**
	13nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**3.10**	**243**	*e*Pn	**Pn**	**10 56 08.8**	**0.0**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**10 56 46.0**	**+0.4**
	21nm,0.3s,SNR=1.0						
KBA	**Koelnbreinsper**	**3.11**	**42**	⇑*i*Pn	**Pn**	**10 56 09.4**	**+0.5**
KBA				⇓*i*Sn	**Sn**	**10 56 48.5**	**+2.7**
KBA	**Koelnbreinsper**	**3.11**	**42**	*e*Pn	**Pn**	**10 56 10.9**	**+1.9**
ORIF	**Oris-en-Rattie**	**3.14**	**274**	*e*Pn	**Pn**	**10 56 11.3**	**+1.9**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**10 56 47.0**	**+0.4**
	26nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.14**	**274**	*e*Pn	**Pn**	**10 56 11.3**	**+1.9**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**10 56 47.0**	**+0.4**
	13nm,0.4s,SNR=1.0						
NVLJ	**Novalja**	**3.27**	**93**	*i* Pn	**Pn**	**10 56 10.6**	**-0.6**
NVLJ				*i* Sn	**Sn**	**10 56 47.3**	**-2.4**
CABF	**La Chapelle**	**3.46**	**303**	*e*Pg	**Pg**	**10 56 28.9**	**+2.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**10 56 54.4**	**+0.1**
	7.0nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**3.46**	**303**	*e*Pn	**Pn**	**10 56 15.7**	**+2.0**
CABF				*e*Pg	**Pg**	**10 56 28.9**	**+2.1**
CABF				*e*Sn	**Sn**	**10 56 54.4**	**+0.1**
CABF	**La Chapelle**	**3.46**	**303**	*e*Pg	**Pg**	**10 56 28.9**	**+2.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**10 56 54.4**	**+0.1**
	3.5nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**3.49**	**258**	*e*Pn	**Pn**	**10 56 15.7**	**+1.6**
BOJS	**Bojanci**	**3.57**	**77**	*i* Pn	**Pn**	**10 56 15.0**	**-0.3**
BOJS				*i* Sn	**Sn**	**10 56 55.1**	**-2.1**
MOF	**Molkenrain**	**3.75**	**325**	Pg	**Pn**	**10 56 18.8**	**+1.0**
BFO	**Black Forest**	**3.78**	**340**	*e*Pn	**Pn**	**10 56 19.9**	**+1.8**
BFO				*e*Sn	**Sn**	**10 57 00.8**	**-1.4**
PERS	**Pernice**	**3.84**	**60**	*i* Pn	**Pn**	**10 56 19.2**	**+0.3**
HINF	**Hinteralfeld**	**3.84**	**323**	*e*Pn	**Pn**	**10 56 18.9**	**-0.1**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**10 57 01.1**	**-2.7**
	38nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.84**	**323**	*e*Pn	**Pn**	**10 56 18.9**	**-0.1**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**10 57 01.1**	**-2.7**
	19nm,0.3s,SNR=1.0						
GCIS	**Gornji Cirnik**	**3.91**	**72**	*e*Pn	**Pn**	**10 56 19.6**	**-0.3**
GCIS				*i* Sn	**Sn**	**10 57 04.0**	**-1.4**
VIVF	**Saint-Julien-l**	**4.00**	**273**	*e*Pg	**Pg**	**10 56 37.4**	**+0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**10 57 07.1**	**-0.7**
	3.9nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.00**	**273**	*e*Pn	**Pn**	**10 56 22.2**	**+1.0**
VIVF				*e*Pg	**Pg**	**10 56 37.4**	**+0.2**
VIVF				*e*Sn	**Sn**	**10 57 07.1**	**-0.7**
VIVF	**Saint-Julien-l**	**4.00**	**273**	*e*Pg	**Pg**	**10 56 37.4**	**+0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**10 57 07.1**	**-0.7**
	2.0nm,0.3s,SNR=1.0						
ECH	**Echery**	**4.04**	**329**	Pg	**Pn**	**10 56 23.0**	**+1.3**
ECH				Sg	**Sn**	**10 57 08.4**	**-0.3**
MOA	**Molln**	**4.10**	**41**	⇓*i*Pn	**Pn**	**10 56 23.1**	**+0.6**
	SNR=32						
MOA				⇓*i*Sn	**Sn**	**10 57 12.6**	**+2.4**
MOA	**Molln**	**4.10**	**41**	Pn	**Pn**	**10 56 23.1**	**+0.5**
	32nm,5.0s						
MOA				Sn	**Sn**	**10 57 12.6**	**+2.4**
CDF	**Champ du Feu**	**4.16**	**331**	*e*Pn	**Pn**	**10 56 23.9**	**+0.5**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**10 57 08.6**	**-3.1**
	9.7nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**4.21**	**321**	*e*Pn	**Pn**	**10 56 24.8**	**+0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**10 57 11.6**	**-1.2**
	51nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**4.21**	**321**	*e*Pn	**Pn**	**10 56 24.8**	**+0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**10 57 11.6**	**-1.2**
	26nm,0.4s,SNR=1.0						
GEC2	**GERESS Array S**	**4.67**	**29**	*e*Pn	**Pn**	**10 56 30.5**	**+0.2**
GEC2				*e*Sn	**Sn**	**10 57 23.6**	**-0.5**
WET	**Wettzell**	**4.68**	**21**	*e*Pn	**Pn**	**10 56 30.7**	**+0.1**
WET				*e*Sn	**Sn**	**10 57 23.4**	**-1.2**
KHC	**Kasperske Hory**	**4.87**	**26**	*e*PN	**Pn**	**10 56 33.4**	**+0.2**
KHC				x	x	10 56 37.5	
KHC				PG	**Pg**	**10 56 56.0**	**+2.1**
KHC				*e*SN	**Sn**	**10 57 27.3**	**-1.9**
KHC				*e*SG	**Sg**	**10 57 55.8**	**-1.2**
	43nm,1.7s						
KHC	**Kasperske Hory**	**4.87**	**26**	*e*Pn	**Pn**	**10 56 33.4**	**+0.2**
KHC				*e*		10 56 37.5	
KHC				*e*		10 56 56.0	
KHC				*e*Sn	**Sn**	**10 57 27.3**	**-1.9**
KHC				*e*Sg	**Sg**	**10 57 55.8**	**-1.2**
SMF	**Signal de Mont**	**4.88**	**294**	*e*Pn	**Pn**	**10 56 33.9**	**+0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**10 57 28.0**	**-1.4**
	17nm,0.4s						
GRFO	**Grafenberg**	**4.93**	**7**	*e*Pg	**Pg**	**

RCY				eSg	Pg	11 06 10.1	+2.3
BHL	**Bhannes**	**2.63**	**10**	ePg	Pn	11 06 06.1	-2.2
BHL				eSg	Pg	11 06 16.9	+1.9
HWQ	**Hawqa**	**3.05**	**14**	eSg	Pn	11 06 20.0	+5.9

KRSC 24 11:09:08.3±1.2, 5418N×16462E, h42km±41km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.73 284**		eP	Pn	11 09 38.2	+2.3
MKZ				eS	Sn	11 10 00.0	+3.2
KBTR	**Krutoberegovo**	**2.28 334**		P	Pn	11 09 43.4	0.0
KBTR				S	Sn	11 10 08.8	-1.5
TUMR	**Tumrok**	**2.82 295**		P	Pn	11 09 53.6	+2.8
TUMR				S	Sn	11 10 26.5	+2.9
SPN	**Mys Shipunski**	**2.94 250**		eP	Pn	11 09 54.5	+2.0
SPN				eS	Sn	11 10 28.2	+1.6
KMNR	**Kamenistaya**	**2.98 304**		P	Pn	11 09 56.6	+3.6
KMNR				S	Sn	11 10 32.2	+4.7
KRSR	**Krestovskiy**	**3.09 313**		S	Sn	11 10 33.9	+3.6
KLY	**Klyuchi**	**3.12 315**		S	Sn	11 10 33.3	+2.4
SRKR	**Sorokina**	**3.17 323**		P	Pn	11 09 57.6	+2.0
SRKR				S	Sn	11 10 33.1	+1.0
NLC	**Nalytchevo**	**3.30 254**		eP	Pn	11 09 59.5	+2.1
NLC				eS	Sn	11 10 37.4	+2.1
SRDR	**Sredinnyy**	**3.53 309**		P	Pn	11 10 03.4	+2.8
SRDR				S	Sn	11 10 44.0	+2.9
AVH	**Avacha**	**3.61 258**		eP	Pn	11 10 04.9	+3.2
AVH				S	Sn	11 10 46.2	+3.1
PET	**Petropavlovsk**	**3.74 254**		eP	Pn	11 10 07.3	+3.8
PET				eS	Sn	11 10 50.4	+4.2
GNL	**Ganaly**	**3.98 266**		eP	Pn	11 10 10.7	+4.0
GNL				S	Sn	11 10 56.4	+4.3
RUS	**Russkaya**	**4.06 247**		eP	Pn	11 10 09.7	+1.8
RUS				S	Sn	11 10 54.4	+0.3
GRL	**Gorelyy**	**4.25 250**		eP	Pn	11 10 13.6	+3.2

*ISCJB **24** 11:35:52.2±0.4, 2896N±002×5692E±003, h15km, mb3.8/12, MS3.5/1, Error ellipse: s-maj=4.4km s-min=3.2km az=35.4*
*THR **24** 11:35:52.1±0.5, 2898N×5691E, h15km±3km, ML3.9*
*CSEM **24** 11:35:53.2±0.1, 2892N×5689E, h18km, ML3.9, Error ellipse: s-maj=2.3km s-min=1.6km az=97.0*
*TEH **24** 11:35:55.6, 2896N×5690E, h15km, Mn4.0*
*NEIC **24** 11:35:55.0, 2900N×5690E, h15km, mb3.7/1, MN4.0(TEH), After TEH.*
*IDC **24** 11:35:56.9±9.3, 2896N×5686E, h68km±85km, mb3.5/12, mb1 3.6/13, mb1mx3.5/24, mbtmp3.5/13, ML4.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=30.5km s-min=18.5km az=145.0*

ISC 24 11:35:52.9±0.8, 2896N±002×5690E±004, h7km±5km, n72, σ1§39/121, mb3.8/12, MS3.5/1, 3C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.03 353**		ePg	**Pg**	**11 36 11.2**	**-1.4**
KRBR				eSg	**Sg**	**11 36 25.1**	**-0.9**
KRBR				AML	AML	11 36 25.6	
	comp=E,9μm,0.2s						
IBND		**1.54 192**		ePn	**Pn**	**11 36 22.4**	**+1.7**
BNDS	**Bandar-Abbas**	**1.68 203**		ePg	**Pg**	**11 36 23.4**	**-1.9**
BNDS				eSg	**Sg**	**11 36 46.4**	**-0.7**
BNDS				AML	AML	11 36 48.9	
	comp=N,1μm,0.5s						
BNDS	**Bandar-Abbas**	**1.68 203**		ePg	**Pg**	**11 36 23.4**	**-1.8**
	SNR=90						
BNDS				eSg	**Sg**	**11 36 46.4**	**-0.7**
	SNR=90						
IBAF	**Bafgh**	**2.87 337**		ePn	**Pn**	**11 36 39.3**	**+0.3**
IBAF				ePn	**Pn**	**11 36 39.8**	**+0.8**
IBAF				ePn	**Pn**	**11 36 40.7**	**+1.7**
IBAF	**Bafgh**	**2.87 337**		ePn	**Pn**	**11 36 40.7**	**+1.7**
BANOM	**Banah**	**3.07 190**		⇑P	**Pn**	**11 36 41.5**	**-0.3**
	SNR=181						
BANOM				⇓S	**Sn**	**11 37 18.6**	**-0.2**
IMEH	**Mehriz**	**3.13 321**		ePn	**Pn**	**11 36 44.2**	**+1.6**
IMEH				eSn	**Sn**	**11 37 21.1**	**+0.9**
ISRV	**Sarvestan**	**3.34 278**		ePn	**Pn**	**11 36 46.4**	**+0.9**
ISRV				eSn	**Sn**	**11 37 26.1**	**+0.7**
ISRV	**Sarvestan**	**3.34 278**		Pn	**Pn**	**11 36 46.4**	**+0.9**
ISRV				Sn	**Sn**	**11 37 26.0**	**+0.6**
ZHSF	**Zahedan**	**3.44 78**		ePn	**Pn**	**11 36 47.3**	**+0.4**
IPAR	**Pars**	**3.48 286**		ePn	**Pn**	**11 36 47.6**	**+0.2**
IPAR				ePn	**Pn**	**11 36 49.3**	**+1.9**
IPAR				ePn	**Pn**	**11 36 49.3**	**+1.9**
IPAR				eSn	**Sn**	**11 37 27.8**	**-1.0**
IPAR	**Pars**	**3.48 286**		Pn	**Pn**	**11 36 47.5**	**+0.1**
IPAR				Sn	**Sn**	**11 37 27.7**	**-1.1**
IPAR	**Pars**	**3.48 286**		ePn	**Pn**	**11 36 49.3**	**+1.9**
IPAR				eSn	**Sn**	**11 37 27.8**	**-1.0**
GHIR	**Ghir-Karzin**	**3.51 260**		ePn	**Pn**	**11 36 48.3**	**+0.4**
GHIR				AML	AML	11 37 34.7	
	comp=E,176nm,0.6s						
GHIR				AML	AML	11 37 35.7	
	comp=N,174nm,0.4s						
IMOK	**Mook**	**3.67 272**		ePn	**Pn**	**11 36 49.3**	**-0.8**
IMOK				ePn	**Pn**	**11 36 50.9**	**+0.8**
IMOK				ePn	**Pn**	**11 36 51.2**	**+1.1**
IMOK				eSn	**Sn**	**11 37 33.9**	**+0.4**
IMOK	**Mook**	**3.67 272**		Pn	**Pn**	**11 36 50.8**	**+0.8**
IMOK				Sn	**Sn**	**11 37 33.9**	**+0.4**
IMOK	**Mook**	**3.67 272**		ePn	**Pn**	**11 36 51.2**	**+1.1**
IMOK				eSn	**Sn**	**11 37 33.9**	**+0.4**
IKOO		**3.90 27**		ePn	**Pn**	**11 36 53.3**	**+0.1**
IKOO				eSn	**Sn**	**11 37 38.8**	**-0.4**
ICHK	**Chekchek**	**3.92 327**		ePn	**Pn**	**11 36 55.0**	**+1.6**
ICHK				ePn	**Pn**	**11 36 55.1**	**+1.7**
ICHK				eSn	**Sn**	**11 37 38.9**	**-0.7**
ICHK	**Chekchek**	**3.92 327**		Pn	**Pn**	**11 36 55.0**	**+1.6**
ICHK				Sn	**Sn**	**11 37 38.8**	**-0.8**
ICHK	**Chekchek**	**3.92 327**		ePn	**Pn**	**11 36 55.1**	**+1.7**
ICHK				eSn	**Sn**	**11 37 38.9**	**-0.7**
ISAD	**Sadrabad**	**4.05 317**		ePn	**Pn**	**11 36 57.0**	**+1.8**
ISAD				ePn	**Pn**	**11 36 57.2**	**+2.0**
ISAD				eSn	**Sn**	**11 37 42.1**	**-0.8**
ISAD	**Sadrabad**	**4.05 317**		Pn	**Pn**	**11 36 57.2**	**+2.0**
ISAD				Sn	**Sn**	**11 37 42.0**	**-0.9**
ITEG		**4.23 22**		ePn	**Pn**	**11 36 58.9**	**+1.1**
ITEG				eSn	**Sn**	**11 37 47.0**	**-0.4**
ASHO	**Ashiyiah**	**4.33 190**		⇑P	**Pn**	**11 36 59.4**	**+0.4**
	SNR=10						
IDAH		**4.55 33**		ePn	**Pn**	**11 37 03.7**	**+1.6**
IDAH				eSn	**Sn**	**11 37 54.9**	**-0.3**
IMON		**4.84 29**		ePn	**Pn**	**11 37 07.1**	**+1.0**
NASN	**Na'in**	**5.20 318**		ePn	**Pn**	**11 37 12.0**	**+1.0**
IGAR	**Garneh**	**5.21 310**		ePn	**Pn**	**11 37 15.8**	**+4.6**
IZEF	**Zefreh**	**5.55 316**		ePn	**Pn**	**11 37 15.2**	**-0.7**
IZEF				ePn	**Pn**	**11 37 16.1**	**+0.2**
IZEF				ePn	**Pn**	**11 37 16.7**	**+0.8**
IZEF				eSn	**Sn**	**11 38 17.3**	**-2.7**
IZEF	**Zefreh**	**5.55 316**		ePn	**Pn**	**11 37 16.7**	**+0.8**
IZEF				eSn	**Sn**	**11 38 17.3**	**-2.7**
ARQ	**Araqi**	**5.61 184**		⇑P	**Pn**	**11 37 17.7**	**+1.0**
IKLH	**Kalahroud**	**6.30 315**		ePn	**Pn**	**11 37 26.9**	**+0.7**
IKLH				ePn	**Pn**	**11 37 27.6**	**+1.4**
IKLH				ePn	**Pn**	**11 37 27.6**	**+1.4**
IKLH	**Kalahroud**	**6.30 315**		ePn	**Pn**	**11 37 27.6**	**+1.4**
IPIR	**Pirpir**	**6.37 307**		ePn	**Pn**	**11 37 28.3**	**+1.2**
IPIR	**Pirpir**	**6.37 307**		Pn	**Pn**	**11 37 28.2**	**+1.1**
ISFB	**Sefidab**	**6.69 325**		ePn	**Pn**	**11 37 31.4**	**-0.1**
ISFB				ePn	**Pn**	**11 37 31.4**	**-0.1**
ISFB				ePn	**Pn**	**11 37 33.1**	**+1.6**
ISFB	**Sefidab**	**6.69 325**		ePn	**Pn**	**11 37 33.1**	**+1.6**
IANJ	**Anjiloo**	**6.96 339**		ePn	**Pn**	**11 37 37.1**	**+1.8**
IANJ				ePn	**Pn**	**11 37 37.3**	**+2.0**
IANJ	**Anjiloo**	**6.96 339**		Pn	**Pn**	**11 37 37.2**	**+1.9**
IDMV	**Damavand**	**7.78 329**		ePn	**Pn**	**11 37 46.7**	**+0.2**
IDMV				ePn	**Pn**	**11 37 48.2**	**+1.7**
IDMV	**Damavand**	**7.78 329**		ePn	**Pn**	**11 37 48.2**	**+1.7**
IMYA	**Miamay**	**7.84 19**		ePn	**Pn**	**11 37 55.3**	**+8.0**
IMYA				ePn	**Pn**	**11 37 56.3**	**+9.0**
IMYA				ePn	**Pn**	**11 37 56.6**	**+9.3**
IMYA	**Miamay**	**7.84 19**		Pn	**Pn**	**11 37 56.6**	**+9.3**
IGLO	**Galoogah**	**7.87 339**		ePn	**Pn**	**11 37 51.5**	**+3.8**
IGLO				ePn	**Pn**	**11 37 51.5**	**+3.8**
IGLO				ePn	**Pn**	**11 37 53.1**	**+5.4**
IGLO	**Galoogah**	**7.87 339**		Pn	**Pn**	**11 37 53.0**	**+5.3**
IKRD	**Kardeh**	**7.91 9**		ePn	**Pn**	**11 37 53.4**	**+5.1**
IKRD				ePn	**Pn**	**11 37 54.7**	**+6.4**
IKRD				ePn	**Pn**	**11 37 55.3**	**+7.0**
IKRD	**Kardeh**	**7.91 9**		Pn	**Pn**	**11 37 54.7**	**+6.4**
IVIS	**Veys**	**10.20 306**		ePn	**Pn**	**11 38 16.8**	**-2.8**
IVIS				ePn	**Pn**	**11 38 17.3**	**-2.3**
IVIS				ePn	**Pn**	**11 38 17.3**	**-2.3**
IVIS				eSn	**Sn**	**11 40 07.1**	**-7.1**
IDHR	**Dehrash**	**10.62 305**		ePn	**Pn**	**11 38 23.6**	**-1.8**
IDHR				ePn	**Pn**	**11 38 23.7**	**-1.7**
MMAI	**Mount Meron Ar**	**18.87 288**		P	**Pn**	**11 40 12.1**	**-2.0**
	comp=N,1.0nm,0.3s,baz=103,slow=14,SNR=3.6						
AKTK	**Aktyubinsk**	**21.46 2**		P	**P**	**11 40 39.9**	**-2.0**
AKTK	**Aktyubinsk**	**21.46 2**		P	**P**	**11 40 39.9**	**-1.9**
AKTO	**Aktyubinsk**	**21.46 2**		P	**P**	**11 40 39.9**	**-2.0**
	comp=N,1.1nm,0.5s,mb3.4,baz=193,slow=13,SNR=3.2						
BR131	**Keskin Array S**	**21.95 305**		eP	**P**	**11 40 46.1**	**-0.9**
	comp=N,2.3nm,0.6s,mb3.8						
BR131	**Keskin Array S**	**21.95 305**		eP	**P**	**11 40 46.1**	**-0.9**
	comp=N,2.3nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**21.95 305**		P	**P**	**11 40 44.5**	**-2.5**
	comp=N,2.6nm,0.7s,mb3.8,baz=111,slow=10.0,SNR=11						
BVAR	**Borovoye Array**	**26.02 19**		P	**P**	**11 41 23.4**	**-3.1**
	comp=N,1.7nm,0.7s,mb3.7,baz=193,slow=6.1,SNR=11						
FINES	**FINESS Array B**	**38.37 337**		P	**P**	**11 43 11.1**	**-3.5**
	comp=N,2.4nm,1.0s,mb3.9,baz=146,slow=12,SNR=8.2						
FINES	**FINESS Array B**	**38.37 337**		P	**P**	**11 43 11.1**	**-3.5**
GERES	**GERESS Array B**	**38.41 313**		P	**P**	**11 43 10.6**	**-4.3**
	comp=N,0.2nm,0.5s,mb3.1,baz=115,slow=7.0,SNR=3.5						
KEST	**Kesra**	**40.43 292**		P	**P**	**11 43 27.6**	**-4.2**
	comp=N,1.6nm,0.9s,mb3.8,baz=249,slow=16,SNR=3.2						
TOA0	**Torodi Ar. Sit**	**53.42 265**		eP	**P**	**11 45 09.5**	**-3.8**
TOA0	**Torodi Ar. Sit**	**53.42 265**		eP	**P**	**11 45 09.5**	**-3.8**
TORD	**Torodi Ar. Bea**	**53.42 265**		P	**P**	**11 45 09.6**	**-3.8**
	comp=N,2.9nm,0.5s,mb4.5,baz=61,slow=7.2,SNR=39						
TORD				LR	LR	12 08 50.9	
	comp=N,42nm,18.7s,MS3.5,baz=5.0,slow=37						
KSRS	**Korea Array**	**58.77 62**		P	**P**	**11 45 48.1**	**-3.4**
	comp=N,0.5nm,0.5s,mb3.8,baz=280,slow=6.8,SNR=3.7						
BOSA	**Boshof**	**64.76 211**		P	**P**	**11 46 28.6**	**-3.3**
	comp=N,2.1nm,0.5s,mb4.4,baz=33,slow=6.7,SNR=14						
YKA	**Yellowknife Ar**	**88.61 356**		P	**P**	**11 48 42.8**	**-3.8**
	comp=N,0.2nm,0.7s,mb3.6,baz=3.8,slow=4.8,SNR=5.8						
YKA	**Yellowknife Ar**	**88.61 356**		P	**P**	**11 48 42.8**	**-3.8**
WRA	**Warramunga Arr**	**89.08 113**		P	**P**	**11 48 45.1**	**-3.7**
	comp=N,0.2nm,0.8s,mb3.5,baz=314,slow=3.8,SNR=3.2						
ASAR	**Alice Springs**	**90.66 117**		P	**P**	**11 48 51.4**	**-4.8**
	comp=N,0.2nm,0.4s,mb3.8,baz=304,slow=5.0,SNR=5.6						

*ISCJB **24** 11:43:42.4±0.3, 4314N±002×043W±003, h12km±3km, Error ellipse: s-maj=4.2km s-min=2.9km az=134.9*
*STR **24** 11:43:43.8±0.1, 4303N×048W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 11:43:43.8±0.0, 4306N×047W, h3km, Md2.1/2, Ml1.9/4, Error ellipse: s-maj=1.1km s-min=0.8km az=162.0*
*MDD **24** 11:43:44.3±0.3, 4307N×045W, h4km±4km, mbLg1.4/10, Error ellipse: s-maj=2.8km s-min=1.5km az=6.0, PRXIMO*

ISC 24 11:43:43.5±0.3, 4310N±002×045W±002, h10km±3km, n34, σ0§47/51, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.05 130**		Pg	**Pg**	**11 43 45.5**	**+0.1**
REYF				Sg	**Sg**	**11 43 46.9**	**0.0**
REYF	**Montagne du Re**	**0.05 130**		P	**Pg**	**11 43 45.5**	**0.0**
REYF				S	**Sg**	**11 43 46.9**	**0.0**
ATE	**Arette**	**0.19 265**		Pg	**Pg**	**11 43 47.3**	**-0.1**
ATE				Sg	**Sg**	**11 43 49.9**	**-0.2**
ATE	**Arette**	**0.19 265**		P	**Pg**	**11 43 47.1**	**-0.3**
ATE				S	**Sg**	**11 43 50.0**	**-0.1**
ETSF	**Etsaut**	**0.22 202**		ePg	**Pg**	**11 43 47.7**	**-0.3**
ETSF				eSg	**Sg**	**11 43 50.1**	**-1.0**
	23nm,0.2s						
ETSF	**Etsaut**	**0.22 202**		Pg	**Pg**	**11 43 47.7**	**-0.3**
ETSF				Lg		11 43 50.1	
	11nm,0.2s						
LABF	**Labassere**	**0.39 98**		S	**Sg**	**11 43 57.3**	**+1.2**
LARF	**Larrau**	**0.40 261**		P	**Pg**	**11 43 51.3**	**0.0**
LARF				S	**Sg**	**11 43 57.0**	**+0.3**
VIEF	**Viey**	**0.41 122**		Pg	**Pg**	**11 43 51.6**	**+0.1**
VIEF				Sg	**Sg**	**11 43 56.9**	**0.0**
VIEF	**Viey**	**0.41 122**		P	**Pg**	**11 43 51.7**	**+0.2**
VIEF				S	**Sg**	**11 43 56.9**	**0.0**
SJPF	**Ste Jean**	**0.57 271**		ePg	**Pg**	**11 43 54.2**	**-0.3**
SJPF				eSg	**Sg**	**11 44 01.9**	**-0.1**
	3.5nm,0.2s						
SJPF	**Ste Jean**	**0.57 271**		Pg	**Pg**	**11 43 54.2**	**-0.3**
SJPF				Lg		11 44 01.9	
	1.8nm,0.2s						
EPF	**Esparros**	**0.58 97**		ePg	**Pg**	**11 43 55.0**	**+0.3**
EPF				eSg	**Sg**	**11 44 03.0**	**+0.6**
	6.3nm,0.2s						
EPF	**Esparros**	**0.58 97**		Pg	**Pg**	**11 43 55.0**	**+0.3**
EPF				Lg		11 44 03.0	
	3.2nm,0.2s						
EBIE	**Bielsa**	**0.60 134**		Pg	**Pg**	**11 43 55.0**	**-0.1**
	4.4nm,0.3s,SNR=6.6						
EBIE				Lg		11 44 02.6	
	5.9nm,0.1s,SNR=18						
IPRE	**Itoiz**	**0.73 246**		Pg	**Pg**	**11 43 58.1**	**+0.5**
	0.8nm,0.1s,SNR=4.0						
IPRE				Lg		11 44 07.3	
	1.4nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.78 279**		Pg	**Pg**	**11 43 59.1**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EALK				Lg		11 44 10.5	
	1.4nm,0.1s,SNR=5.7						
ELIZ	**Elizondo**	**0.79 275**		Pg	**Pg**	**11 43 58.8**	**0.0**
	1.5nm,0.2s,SNR=8.0						
ELIZ				Lg		11 44 10.6	
	2.0nm,0.2s,SNR=6.1						
IUSE	**Utxeti**	**0.82 259**		Pg	**Pg**	**11 44 00.1**	**+0.8**
	SNR=7.9						
IUSE				Lg		11 44 11.3	
	0.9nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.38 181**		Pg	**Pg**	**11 44 10.1**	**+0.1**
	7.1nm,0.3s,SNR=5.7						
ESAC				Lg		11 44 28.1	
	38nm,0.3s,SNR=15						
ECRI	**Cripan**	**1.59 253**		Pg	**Pg**	**11 44 13.9**	**-0.2**
	SNR=7.9						
ECRI				Lg		11 44 34.9	
	1.3nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.88 128**		Lg		11 44 44.1	
	SNR=7.9						
MTLF	**Montolieu**	**1.96 82**		ePg	**Pg**	**11 44 20.5**	**-0.6**
MTLF				eSg	**Sg**	**11 44 46.3**	**-0.2**
	1.3nm,0.2s						
MTLF	**Montolieu**	**1.96 82**		Pg	**Pg**	**11 44 20.5**	**-0.6**
MTLF				Lg		11 44 46.3	
	0.6nm,0.2s						
LFF	**La Frestale**	**2.03 25**		ePg	**Pg**	**11 44 22.1**	**-0.2**
LFF				eSg	**Sg**	**11 44 48.9**	**+0.3**
	1.8nm,0.2s						
LFF	**La Frestale**	**2.03 25**		Pg	**Pg**	**11 44 22.1**	**-0.2**
LFF				Lg		11 44 48.9	
	0.9nm,0.2s						
ERTA	**Hoja de San J**	**2.22 165**		Pn	**Pn**	**11 44 20.8**	**+0.4**
	SNR=7.9						
ERTA				Sn	**Sn**	**11 44 46.6**	**-1.3**
	SNR=7.9						
ERTA				Lg		11 44 53.1	
	SNR=7.9						
CAF	**Calviac**	**2.57 44**		ePn	**Pn**	**11 44 25.0**	**-0.2**
CAF	**Calviac**	**2.57 44**		ePg	**Pg**	**11 44 32.5**	**-0.2**
CAF				eSg	**Sg**	**11 45 05.6**	**-0.4**
	0.7nm,0.2s						
CAF	**Calviac**	**2.57 44**		Pn	**Pn**	**11 44 25.0**	**-0.2**
CAF				Pg	**Pg**	**11 44 32.5**	**-0.2**
CAF				Lg		11 45 05.6	
	0.3nm,0.2s						
ETOR	**Torete**	**2.58 208**		Pn	**Pn**	**11 44 25.1**	**-0.2**
	SNR=7.9						
ETOR				Sn	**Sn**	**11 44 57.6**	**+0.9**
	SNR=7.9						
ETOR				Lg		11 45 04.8	
	4.5nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.62 32**		ePn	**Pn**	**11 44 26.0**	**+0.2**
RJF	**Les Rejaudoux**	**2.62 32**		ePg	**Pg**	**11 44 33.1**	**-0.5**
RJF				eSg	**Sg**	**11 45 07.3**	**-0.2**
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.62 32**		Pn	**Pn**	**11 44 26.0**	**+0.2**
RJF				Pg	**Pg**	**11 44 33.1**	**-0.5**
RJF				Lg		11 45 07.3	
	0.0nm,0.2s						

*IDC **24** 11:50:20.0±0.9, 3692N×10493W, h0km, mb3.3/2, mb1 3.7/7, mb1mx3.5/25, mbtmp3.4/7, ML3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/14, Error ellipse: s-maj=19.2km s-min=8.9km az=85.0*
*ISCJB **24** 11:50:20.4±0.4, 3694N±004×10468W±004, h10km, mb3.2/2, Error ellipse: s-maj=5.6km s-min=4.0km az=26.3*
*NEIC **24** 11:50:21.5±0.5, 3694N×10475W, h5km, MN3.6, Error ellipse: s-maj=8.4km s-min=6.7km az=222.0*

ISC 24 11:50:22.5±0.4, 3692N±004×10479W±003, h10km, n46, σ1§70/66, mb3.2/2, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**1.00 326**		eP	**Pg**	**11 50 39.0**	**-2.8**
SDCO				eS	**Sg**	**11 50 48.6**	**-6.2**
ANMO	**Albuquerque**	**2.39 215**		Pn	**Pn**	**11 51 01.8**	**+0.1**
	12nm,0.3s,baz=20,slow=14,SNR=169						
ANMO				Lg		11 51 32.6	
	43nm,0.3s,baz=108,slow=22,SNR=13						
ANMO	**Albuquerque**	**2.39 215**		ePn	**Pn**	**11 51 01.0**	**-0.6**
ANMO				eSg	**Sg**	**11 51 33.7**	**-5.6**
SMCO	**Snowmass**	**2.84 323**		ePn	**Pn**	**11 51 09.3**	**+1.5**
SMCO				ePg	**Pg**	**11 51 21.0**	**+4.2**
SMCO				eSg	**Sg**	**11 51 50.7**	**-2.9**
ISCO	**Idaho Springs**	**2.95 348**		ePn	**Pn**	**11 51 11.2**	**+1.9**
ISCO				ePg	**Pg**	**11 51 18.7**	**-0.3**
ISCO				eSg	**Sg**	**11 51 52.8**	**-4.4**
MVCO	**Mesa Verde**	**2.98 277**		ePn	**Pn**	**11 51 10.2**	**+0.4**
MVCO				ePg	**Pb**	**11 51 14.8**	**-0.9**
MVCO				eSg	**Sg**	**11 51 56.9**	**-1.3**
PHWY	**Pilot Hill**	**4.41 353**		ePn	**Pn**	**11 51 31.8**	**+2.4**
CBKS	**Cedar Bluff**	**4.42 63**		ePn	**Pn**	**11 51 30.2**	**+0.5**
CBKS				ePg	**Pg**	**11 51 43.9**	**-3.4**
CBKS				eSg	**Sg**	**11 52 45.7**	**+1.1**
SRU	**San Rafael**	**5.03 298**		ePn	**Pn**	**11 51 38.8**	**+0.8**
SRU				ePg	**Pb**	**11 51 52.7**	**+2.1**
MNTX	**Cornudas Mount**	**5.23 186**		ePn	**Pn**	**11 51 42.3**	**+1.5**
MNTX				eSg	**Sb**	**11 53 01.8**	**+4.9**
WMOK	**Wichita Mounta**	**5.35 112**		ePn	**Pn**	**11 51 43.3**	**+0.9**
WUAZ	**Wupatki**	**5.50 257**		ePn	**Pn**	**11 51 44.1**	**-0.4**
WUAZ				eSg	**Sg**	**11 53 15.7**	**-3.5**
TMUT	**Trail Mountain**	**5.59 297**		ePn	**Pn**	**11 51 48.0**	**+2.4**
MSU	**Marysvale**	**6.07 287**		ePn	**Pn**	**11 51 54.7**	**+2.5**
DAU	**Daniels Canyon**	**6.14 307**		ePn	**Pn**	**11 51 55.8**	**+2.5**
DAU				ePg	**Pg**	**11 52 17.8**	**-2.4**
MPU	**Maple Canyon**	**6.19 302**		ePn	**Pn**	**11 51 56.1**	**+2.1**
MPU				ePg	**Pg**	**11 52 20.0**	**-1.2**
JLU	**Jordanelle**	**6.37 307**		ePn	**Pn**	**11 51 57.0**	**+0.6**
JLU				ePg	**Pg**	**11 52 29.9**	**+5.4**
NLU	**North Lily Min**	**6.47 300**		Pn	**Pn**	**11 51 59.6**	**+1.8**
NLU				ePg	**Pg**	**11 52 22.9**	**-3.5**
NLU				eSg	Sx	11 53 53.9	
CTU	**Camp Tracy**	**6.61 307**		ePg	**Pg**	**11 52 21.8**	**-7.3**
KSU1	**Kansas State U**	**6.82 69**		Pn	**Pn**	**11 52 04.7**	**+2.2**
KSU1				ePg	**Pg**	**11 52 26.3**	**-6.7**
KSU1				eSg	Sx	11 53 57.3	
CCUT	**Cedar City**	**6.87 278**		Pn	**Pn**	**11 52 05.5**	**+2.3**
BW06	**Boulder Array**	**6.89 329**		ePb	**Pb**	**11 52 28.9**	**+6.5**
PDAR	**Pinedale Array**	**6.89 329**		Pn	**Pn**	**11 52 04.2**	**+0.6**
	0.1nm,0.3s,baz=137,slow=14,SNR=9.2						
PDAR				Pg	**Pg**	**11 52 29.2**	**-5.3**
	0.3nm,0.3s,baz=161,slow=14,SNR=7.4						
PDAR				Lg		11 53 57.4	
	0.4nm,0.3s,baz=146,slow=26,SNR=4.4						
PDAR	**Pinedale Array**	**6.89 329**		Pn	**Pn**	**11 52 04.2**	**+0.6**
PDAR				Pg	**Pg**	**11 52 29.2**	**-5.3**
PDAR				Lg		11 53 57.4	
HWUT	**Hardware Ranch**	**7.04 314**		Pn	**Pn**	**11 52 06.6**	**+1.0**
HWUT				ePg	**Pg**	**11 52 32.3**	**-4.9**
HWUT				eSb	Sx	11 54 00.2	
DUG	**Dugway**	**7.08 300**		ePg	**Pg**	**11 52 32.5**	**-5.6**
LTX	**Lajitas**	**7.62 173**		ePn	**Pn**	**11 52 12.2**	**-1.5**
LTX				ePg	**Pg**	**11 52 43.0**	**-5.5**
TXAR	**Lajitas Array**	**7.62 173**		Pn	**Pn**	**11 52 14.4**	**+0.8**
	0.2nm,0.3s,baz=358,slow=11,SNR=16						
TXAR				Pg	**Pg**	**11 52 40.0**	**-8.5**
	1.3nm,0.3s,baz=10,slow=16,SNR=18						
TXAR				Lg		11 54 15.1	
	2.8nm,0.3s,baz=339,slow=

LPL	**La Plagne**	**0.56**	**29**	*e*Pg		**Pg**	**11 52 47.5 -0.1**
	SNR=1.0						
LPL				*e*Sg		**Sg**	**11 52 55.6 +0.8**
	11nm,0.4s,SNR=1.0						
RSP	**Reno Superiore**	**0.66**	**79**	P		**Pg**	**11 52 49.0 -0.5**
RSL	**Roselend**	**0.68**	**17**	Pg		**Pg**	**11 52 50.2 +0.1**
RSL				Sg		**Sg**	**11 53 00.7 +1.8**
LSD	**Ceresole Reale**	**0.71**	**53**	P		**Pg**	**11 52 49.9 -0.7**
PZZ	**Prazzo**	**0.76**	**134**	P		**Pg**	**11 52 50.6 -0.8**
OCF	**Saint Nazaire**	**0.87**	**239**	Pg		**Pg**	**11 52 55.3 +1.7**
OG26	**St.-Nazaire-De**	**0.87**	**239**	Pg		**Pg**	**11 52 55.3 +1.7**
STV	**Sta Anna Valdi**	**1.05**	**138**	P		**Pg**	**11 52 55.4 -1.8**
TRAV		**1.10**	**64**	P		**Pg**	**11 52 56.4 -1.6**
ENR	**Entracque**	**1.11**	**136**	P		**Pg**	**11 52 56.5 -1.8**
OG05	**Jujurieux**	**1.18**	**329**	Pg		**Pg**	**11 53 00.8 +1.2**
OG05				Sg		**Sg**	**11 53 17.7 +2.7**
SMRF	**Simiane la Rot**	**1.19**	**208**	*e*Pg		**Pg**	**11 53 00.5 +0.7**
	SNR=1.0						
SMRF				*e*Sg		**Sg**	**11 53 17.3 +2.0**
	14nm,0.4s						
SMRF	**Simiane la Rot**	**1.19**	**208**	*e*Pg		**Pg**	**11 53 00.5 +0.7**
	SNR=1.0						
SMRF				*e*Sg		**Sg**	**11 53 17.3 +2.0**
	7.2nm,0.4s						
VIVF	**Saint-Julien-l**	**1.20**	**262**	*e*Pg		**Pg**	**11 53 01.0 +1.1**
VIVF				*e*Sn		**Sn**	**11 53 16.5 -0.4**
	39nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.20**	**262**	*e*Pn		**Pn**	**11 53 00.5 +0.2**
VIVF				*e*Pg		**Pg**	**11 53 01.0 +1.1**
VIVF				*e*Sn		**Sn**	**11 53 16.5 -0.4**
VIVF	**Saint-Julien-l**	**1.20**	**262**	*e*Pg		**Pg**	**11 53 01.0 +1.1**
VIVF				*e*Sn		**Sn**	**11 53 16.5 -0.4**
	20nm,0.4s,SNR=1.0						
TOUF	**Mont Tournerai**	**1.21**	**147**	Pg		**Pg**	**11 53 02.0 +1.9**
AUTN	**L'Aution**	**1.30**	**143**	Pg		**Pg**	**11 53 02.9 +1.1**
AUTN				Sg		**Sg**	**11 53 23.7 +5.1**
LUCF	**Luceram**	**1.35**	**147**	Pg		**Pg**	**11 53 02.9 +0.1**
SAOF	**Saorge**	**1.36**	**140**	Pg		**Pg**	**11 53 05.5 +2.5**
SBF	**Sospel**	**1.41**	**146**	*e*Pg		**Pg**	**11 53 03.9 0.0**
	SNR=1.0						
SBF				*e*Sg		**Sg**	**11 53 22.1 -0.1**
	20nm,0.2s,SNR=1.0						
SBF	**Sospel**	**1.41**	**146**	*e*Pg		**Pg**	**11 53 03.9 0.0**
	SNR=1.0						
SBF				*e*Sg		**Sg**	**11 53 22.1 -0.1**
	10nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.49**	**172**	*e*Pg		**Pg**	**11 53 05.1 -0.4**
	SNR=1.0						
FRF				*e*Sg		**Sg**	**11 53 24.6 -0.2**
	10nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.49**	**172**	*e*Pg		**Pg**	**11 53 05.1 -0.4**
	SNR=1.0						
FRF				*e*Sg		**Sg**	**11 53 24.6 -0.2**
	5.1nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.59**	**354**	*e*Pg		**Pg**	**11 53 07.5 +0.1**
	SNR=1.0						
CABF				*e*Sg		**Sg**	**11 53 29.3 +1.4**
	5.3nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**1.59**	**354**	*e*Pn		**Pn**	**11 53 05.1 -0.5**
CABF				*e*Pg		**Pg**	**11 53 07.5 +0.1**
CABF				*e*Sg		**Sg**	**11 53 29.3 +1.4**
CABF	**La Chapelle**	**1.59**	**354**	*e*Pg		**Pg**	**11 53 07.5 +0.1**
	SNR=1.0						
CABF				*e*Sg		**Sg**	**11 53 29.3 +1.4**
	2.7nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**1.70**	**176**	*e*P		**Pn**	**11 53 08.7 +1.5**
LMR	**La Mourre**	**1.70**	**176**	*e*Pg		**Pg**	**11 53 09.3 -0.3**
	SNR=1.0						
LMR				*e*Sg		**Sg**	**11 53 30.6 -1.1**
	9.0nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.70**	**176**	*e*Pn		**Pn**	**11 53 06.8 -0.4**
LMR				*e*P			11 53 08.7
LMR				*e*Pg		**Pg**	**11 53 09.3 -0.3**
LMR				*e*Sg		**Sg**	**11 53 30.6 -1.1**
LMR	**La Mourre**	**1.70**	**176**	*e*P		**Pn**	**11 53 08.7 +1.5**
LMR	**La Mourre**	**1.70**	**176**	*e*Pg		**Pg**	**11 53 09.3 -0.3**
	SNR=1.0						
LMR				*e*Sg		**Sg**	**11 53 30.6 -1.1**
	4.5nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.02**	**243**	*e*Pg		**Pg**	**11 53 15.5 -0.1**
LASF				*e*Sg		**Sg**	**11 53 41.8 0.0**
	1.4nm,0.2s						
LASF	**Ste Croix**	**2.02**	**243**	*e*Pn		**Pn**	**11 53 11.5 -0.1**
LASF				*e*Pg		**Pg**	**11 53 15.5 -0.1**
LASF				*e*Sg		**Sg**	**11 53 41.8 0.0**
LASF	**Ste Croix**	**2.02**	**243**	*e*Pg		**Pg**	**11 53 15.5 -0.1**
LASF				*e*Sg		**Sg**	**11 53 41.8 0.0**
	0.7nm,0.2s						
SMF	**Signal de Mont**	**2.38**	**314**	*e*Pg		**Pg**	**11 53 22.1 -0.4**
	SNR=1.0						
SMF				*e*Sg		**Sg**	**11 53 52.7 -0.6**
	7.7nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.38**	**314**	*e*Pn		**Pn**	**11 53 16.9 +0.4**
SMF				*e*Pg		**Pg**	**11 53 22.1 -0.4**
SMF				*e*Sg		**Sg**	**11 53 52.7 -0.6**
SMF	**Signal de Mont**	**2.38**	**314**	*e*Pg		**Pg**	**11 53 22.1 -0.4**
	SNR=1.0						
SMF				*e*Sg		**Sg**	**11 53 52.7 -0.6**
	3.8nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.73**	**311**	*e*Pg		**Pg**	**11 53 30.1 +0.9**
	SNR=1.0						
AVF				*e*Sg		**Sg**	**11 54 03.3 -1.3**
	6.7nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.73**	**311**	*e*Pn		**Pn**	**11 53 21.6 +0.3**
AVF				*e*Pg		**Pg**	**11 53 30.1 +0.9**
AVF				*e*Sg		**Sg**	**11 54 03.3 -1.3**
AVF	**Avril sur Loir**	**2.73**	**311**	*e*Pg		**Pg**	**11 53 30.1 +0.9**
	SNR=1.0						
AVF				*e*Sg		**Sg**	**11 54 03.3 -1.3**
	3.3nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**2.81**	**7**	*e*Pg		**Pg**	**11 53 30.1 -0.6**
HINF				*e*Sg		**Sg**	**11 54 06.1 -0.9**
	1.8nm,0.3s						
HINF	**Hinteralfeld**	**2.81**	**7**	*e*Pn		**Pn**	**11 53 22.2 -0.2**
HINF				*e*Pg		**Pg**	**11 53 30.1 -0.6**
HINF				*e*Sg		**Sg**	**11 54 06.1 -0.9**
HINF	**Hinteralfeld**	**2.81**	**7**	*e*Pg		**Pg**	**11 53 30.1 -0.6**
HINF				*e*Sg		**Sg**	**11 54 06.1 -0.9**
	0.9nm,0.3s						
LOR	**Lormes**	**2.83**	**323**	*e*Pn		**Pn**	**11 53 22.4 -0.2**
	baz=148						
LOR	**Lormes**	**2.83**	**323**	*e*Pg		**Pg**	**11 53 30.6 -0.4**
	baz=141,SNR=1.0						
LOR				*e*Sg		**Sg**	**11 54 05.4 -2.3**
	5.6nm,0.4s						
LOR	**Lormes**	**2.83**	**323**	*e*Pn		**Pn**	**11 53 22.4 -0.2**
LOR				*e*Pg		**Pg**	**11 53 30.6 -0.4**
LOR				*e*Sg		**Sg**	**11 54 05.4 -2.3**
LOR	**Lormes**	**2.83**	**323**	*e*Pg		**Pg**	**11 53 30.6 -0.4**
	baz=141,SNR=1.0						
LOR				*e*Sg		**Sg**	**11 54 05.4 -2.3**
	2.8nm,0.4s						
SSF	**Saint Saulge**	**2.83**	**317**	*e*Pg		**Pg**	**11 53 30.9 -0.3**
SSF				*e*Sg		**Sg**	**11 54 06.3 -1.6**
	3.7nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.83**	**317**	*e*Pn		**Pn**	**11 53 22.7 0.0**
SSF				*e*Pg		**Pg**	**11 53 30.9 -0.3**
SSF				*e*Sg		**Sg**	**11 54 06.3 -1.6**
SSF	**Saint Saulge**	**2.83**	**317**	*e*Pg		**Pg**	**11 53 30.9 -0.3**
SSF				*e*Sg		**Sg**	**11 54 06.3 -1.6**
	1.9nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**2.88**	**303**	*e*Pg		**Pg**	**11 53 32.4 +0.2**
	SNR=1.0						
BGF				*e*Sg		**Sg**	**11 54 08.3 -1.2**
	9.9nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**2.88**	**303**	*e*Pn		**Pn**	**11 53 23.4 0.0**
BGF				*e*Pg		**Pg**	**11 53 32.4 +0.2**
BGF				*e*Sg		**Sg**	**11 54 08.3 -1.2**
BGF	**Bois d'Agland**	**2.88**	**303**	*e*Pg		**Pg**	**11 53 32.4 +0.2**
	SNR=1.0						
BGF				*e*Sg		**Sg**	**11 54 08.3 -1.2**
	4.9nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**2.97**	**0**	*e*Pn		**Pn**	**11 53 24.6 -0.1**
TCF	**Toulx Ste Croi**	**3.16**	**295**	*e*Pn		**Pn**	**11 53 27.1 -0.1**
	SNR=1.0						
CDF	**Champ du Feu**	**3.44**	**10**	*e*Pn		**Pn**	**11 53 31.1 0.0**
MEZF	**Maizieres J'vi**	**3.58**	**346**	*e*Pn		**Pn**	**11 53 33.7 +0.7**
	SNR=1.0						
CLL	**Collm**	**7.69**	**33**	*e*Sg		Sx	11 57 08.0

*ATH **24** 11:58:17.3,3787N×2015E,h10km±4km,MD3.8/5*
*NEIC **24** 11:58:17.3,3787N×2015E,h10km,MD3.8(ATH),After ATH.*

*ISCJB **24** 11:58:18.8±0.7,3796N±004×20.16E±006,h10km,Error ellipse: s-maj=7.4km s-min=5.0km az=150.1*
*THE **24** 11:58:19.5,3800N×2016E,h10km,ML3.4*
*CSEM **24** 11:58:20.1±0.4,3794N×20.12E,h20km,ML3.4,Error ellipse: s-maj=8.7km s-min=7.3km az=60.0*
ISC 24 11:58:19.8±0.7,3795N±004×2021E±007,h10km,n22,
σ0§99/30,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.83**	**25**	*e*Pg	**Pg**	**11 58 33.3**	**-2.5**
LKD				*e*Sg	**Sg**	**11 58 46.3**	**-0.3**
RLS	**Riolos of Patr**	**1.00**	**84**	*e*PG	**Pg**	**11 58 36.7**	**-2.4**
ITM	**Ithomi**	**1.57**	**119**	*e*PB	**Pn**	**11 58 47.2**	**-0.5**
ITM				*e*SB	**Sn**	**11 59 08.5**	**+0.4**
IGT	**Igoumenitsa**	**1.58**	**3**	*e*Pg	**Pn**	**11 58 47.3**	**-0.6**
IGT				*e*Sg	**Sg**	**11 59 09.9**	**-0.8**
EVR	**Evrytania**	**1.58**	**52**	*e*PB	**Pn**	**11 58 48.7**	**+0.8**
JAN	**Janina**	**1.77**	**16**	*e*PG	**Pn**	**11 58 52.0**	**+1.4**
KEK	**Kerkira**	**1.79**	**350**	*e*PN	**Pn**	**11 58 51.0**	**+0.3**
AGG	**Agios Georgios**	**1.98**	**57**	*e*Pn	**Pn**	**11 58 54.5**	**+1.1**
MEV	**Metsovon**	**2.00**	**23**	*e*Pb	**Pn**	**11 58 52.6**	**-1.0**
MEV				*e*Sb	**Sb**	**11 59 20.9**	**-0.2**
THL	**Klokotos Trika**	**2.14**	**41**	*e*PN	**Pn**	**11 58 56.5**	**+0.9**
LKR	**Lokris**	**2.30**	**72**	*e*PN	**Pn**	**11 58 58.3**	**+0.5**
VLI	**Veliai**	**2.50**	**119**	*e*PB	**Pn**	**11 59 00.0**	**-0.5**
XOR	**Xorichti**	**2.73**	**58**	*e*Pn	**Pn**	**11 59 04.1**	**+0.4**
LIT	**Litokhoron**	**2.79**	**39**	*e*Pn	**Pn**	**11 59 05.8**	**+1.3**
BIA	**Bitola**	**3.18**	**15**	*e*Pn	**Pg**	**11 59 20.5**	**-0.3**
BIA	**Bitola**	**3.18**	**15**	*e*Pn	**Pg**	**11 59 20.5**	**-0.3**
OHR	**Ohrid**	**3.19**	**8**	*e*Pn	**Pn**	**11 59 10.6**	**+0.6**
OHR				*e*Sn	**Sn**	**11 59 47.9**	**-0.1**
KRUS	**Krusevo**	**3.51**	**13**	*e*Pn	**Pn**	**11 59 14.1**	**-0.2**
KRUS				*e*Sn	**Sn**	**11 59 56.5**	**+0.6**
KRUS	**Krusevo**	**3.51**	**13**	*e*Pn	**Pn**	**11 59 14.1**	**-0.2**
KRUS				*e*Sn	**Sn**	**11 59 56.5**	**+0.6**
KRUS	**Krusevo**	**3.51**	**13**	*e*Pn	**Pn**	**11 59 14.1**	**-0.3**
KRUS				*e*Sn	**Sn**	**11 59 56.4**	**+0.5**
PZI	**Palazzolo**	**4.28**	**260**	Pn	**Pn**	**11 59 23.2**	**-1.8**
SGO	**Sicignano**	**4.61**	**306**	Pn	**Pn**	**11 59 31.0**	**+1.5**

*MOS **24** 12:09:30.5±1.2,5572N×11024E,h8km,mb4.2/1,Error ellipse: s-maj=34.6km s-min=25.3km az=80.8*
BYKL 24 12:09:30.2±0.3,5572N×11025E,h1km±6km,6C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.41**	**278**	*e*Pg	Pg	12 09 37.6	-0.4
NIZ				*i* Sg	Sg	12 09 43.5	+0.3
NIZ				Pmax			
	62nm,0.2s						
NIZ				Smax			
	804nm,0.5s						
KMO	**Kumora**	**0.56**	**72**	⇑*i*Pg	Pg	12 09 39.9	-1.1
KMO				*e*Sg	Sg	12 09 47.5	-0.8
KMO				Pmax			
	124nm,0.3s						
KMO				Smax			
	408nm,0.9s						
YOA	**Uoyan**	**0.93**	**63**	*e*Sg	Sg	12 09 59.5	-0.5
YOA				Smax			
	526nm,0.5s						
YLYR	**Ulyunkhan**	**0.99**	**148**	⇑*i*PG	Pg	12 09 48.2	-1.0
YLYR				*e*		12 10 01.0	
YLYR	**Ulyunkhan**	**0.99**	**148**	⇑*i*Pg	Pg	12 09 48.2	-1.0
YLYR				*e*		12 09 48.8	
YLYR				*e*Sg	Sg	12 10 01.8	-0.3
YLYR				*e*		12 10 07.9	
YLYR				*e*		12 10 10.6	
YLYR				max			
	73nm,0.2s						
YLYR				max			
	313nm,0.2s						
SVKR	**Severomuysk**	**1.91**	**77**	*e*PN	Pn	12 10 04.1	+0.3
SVKR				*e*		12 10 04.7	
SVKR				*e*		12 10 30.6	
SVKR				smax			
	comp=N,1.0nm,0.8s						
SVKR	**Severomuysk**	**1.91**	**77**	*e*Pg	Pg	12 10 04.0	-2.7
SVKR				*e*Sg	Sg	12 10 30.7	-0.7
SVKR				Pmax			
	comp=N,76nm,0.3s						
SVKR				Smax			
	comp=N,801nm,0.5s						
UKT	**Uakit**	**1.93**	**96**	*e*PN	Pn	12 10 04.4	+0.3
UKT				*e*		12 10 30.2	
UKT				pmax	pmax		
	comp=Z,88nm,0.5s						
UKT				smax			
	comp=N,230nm,0.3s						
UKT	**Uakit**	**1.93**	**96**	⇑*i*Pg	Pg	12 10 04.6	-2.6
UKT				*e*Sg	Sg	12 10 30.7	-1.5
UKT				Pmax			
	comp=N,89nm,0.9s						
UKT				Smax			
	comp=N,230nm,0.4s						
SYVR	**Suvo**	**2.07**	**184**	*e*PN	Pn	12 10 07.2	+1.1
SYVR				*e*		12 10 36.1	
SYVR	**Suvo**	**2.07**	**184**	⇑*i*Pg	Pg	12 10 07.3	-2.6
SYVR				*e*Sg	Sg	12 10 36.1	-0.7
SYVR				Pmax			
	comp=N,53nm,0.6s						
SYVR				Smax			
	comp=N,294nm,0.7s						
OGRR	**Ongureny**	**2.59**	**218**	*e*Pn	Pn	12 10 13.8	+0.6
OGRR				*e*Pg	Pg	12 10 15.7	-4.1
OGRR				*e*Sn	Sn	12 10 46.3	+1.0
OGRR				*e*Sg	Sg	12 10 50.7	-2.7
OGRR				Pmax			
	comp=N,9.0nm,0.3s						
OGRR				Smax			
	comp=N,63nm,0.5s						
MXMB	**Maximikha**	**2.61**	**200**	*e*Sg	Sg	12 10 52.3	-1.9
MXMB				Smax			
	comp=N,123nm,0.6s						
BOD	**Bodaibo**	**2.95**	**43**	*e*Pn	Pn	12 10 18.2	0.0
BOD				*e*Pg	Pg	12 10 22.4	-4.3
BOD				*e*Sn	Sn	12 10 54.3	+0.1
BOD				*e*Sg	Sg	12 11 00.8	-4.2
BOD				Pmax			
	comp=N,11nm,0.4s						
BOD				Smax			
	comp=N,86nm,0.4s						
NLYR	**Nelyaty**	**3.15**	**74**	*e*Pn	Pn	12 10 22.0	+1.1
NLYR				*e*Sg	Sg	12 11 06.8	-4.6
TRG	**Tyrgan**	**3.75**	**219**	*e*Pn	Pn	12 10 29.5	+0.4
TRG				*e*Sn	Sn	12 11 14.5	+0.6
TRG				*e*Sg	Sg	12 11 26.3	-4.3
TRG				max			
	comp=N,10.0nm,0.6s						
TRG				Smax			
	comp=N,36nm,0.6s						
TRTB	**Turuntaevo**	**3.82**	**205**	*e*Pn	Pn	12 10 29.7	-0.5
TRTB				*e*Sg	Sg	12 11 28.6	-4.5
TRTB				max			
	comp=N,8.0nm,1.1s						
TRTB				Smax			
	comp=N,31nm,1.1s						
UUDB	**Ulan-Yde**	**4.15**	**203**	*e*Sg	Sg	12 11 40.3	-3.4
CIT	**Chita**	**4.19**	**151**	*e*Sg	Sg	12 11 38.5	-6.3
CIT				Smax			
	comp=N,36nm,0.7s						
FFNB	**Fofonovo**	**4.22**	**211**	*e*Sg	Sg	12 11 40.2	-5.5
CRS	**Chara**	**4.62**	**72**	*e*PN	Pn	12 10 54.8	+14
CRS				*e*		12 11 53.5	
CRS				pmax	pmax		
	comp=Z,24nm,1.1s						
CRS				smax			
	comp=E,57nm,1.7s						
CRS	**Chara**	**4.62**	**72**	*e*Sg	Sg	12 11 53.3	-5.3
CRS				Smax			
	comp=E,18nm,1.3s						
LSTR	**Listvyanka**	**5.02**	**222**	*e*Sn	Sn	12 11 42.3	-3.0
LSTR				*e*Sg	Sg	12 12 04.4	-7.1
LSTR				Smax			
	comp=E,33nm,1.6s						
TLY	**Talaya**	**5.63**	**227**	*e*Sn	Sn	12 11 57.2	-3.2
TLY				*e*Sg	Sg	12 12 23.4	-7.8
TUP	**Tupik**	**5.72**	**99**	*e*Pn	Pn	12 10 55.6	-0.7
TUP				*e*Pg	Pg	12 11 11.7	-8.2
TUP				*e*Sn	Sn	12 11 58.9	-3.7
TUP				*e*Sg	Sg	12 12 28.6	-5.5
TUP				Smax			
	comp=E,42nm,1.2s						
ARS	**Arshan**	**6.00**	**234**	*e*PN	Pn	12 10 59.6	-0.4
ARS				*e*S	Sn	12 12 04.8	-4.5
ARS				*e*S	Sn	12 12 35.6	+26
ARS				smax			
	comp=N,54nm,0.6s						
ARS	**Arshan**	**6.00**	**234**	*e*Sn	Sn	12 12 04.5	-4.8
ARS				*e*Sg	Sg	12 12 35.7	-7.1
ARS				Smax			
	comp=N,52nm,0.6s						
KPC	**Khapcheranga**	**6.16**	**167**	*e*Sg	Sg	12 12 40.1	-8.1
KPC				Smax			
	comp=N,23nm,1.0s						
MOY	**Mondy**	**6.83**	**237**	*e*Pn	Pn	12 11 12.7	+1.2
MOY				*e*Sn	Sn	12 12 29.1	-0.8
MOY				*e*Sg	Sg	12 13 01.3	-8.3
MOY				max			
	comp=N,7.0nm,0.8s						
MOY				Smax			
	comp=N,21nm,1.5s						
ORL	**Orlik**	**6.91**	**247**	⇑*i*Pn	Pn	12 11 13.4	+0.8
ORL				*e*Sn	Sn	12 12 28.8	-3.1
ORL				*e*Sg	Sg	12 13 04.7	-7.5
ORL				max			
	comp=N,4.0nm,0.6s						
ORL				Smax			
	comp=N,23nm,1.5s						

*ISCJB **24** 12:41:41.0±1.5,3603N±009×692E±02,h79km±53km, Error ellipse: s-maj=28.2km s-min=12.1km az=33.8*
*NNC **24** 12:41:50.9±4.9,3658N×6940E,h103km±84km,mb3.2, mpv3.3,Error ellipse: s-maj=38.9km s-min=30.0km az=33.0*
ISC 24 12:41:42.1±1.3,3603N±006×690E±02,h60km±62km,n16,
σ1§14/19,1C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.23**	**132**	P	**Pn**	**12 42 29.3**	**-1.0**
SBDP	**Sheikh Budin**	**4.00**	**158**	P	**Pn**	**12 42 40.6**	**-0.3**
DRP	**Derazinda**	**4.39**	**167**	P	**Pn**	**12 42 46.4**	**+0.3**
AML	**Almayashu**	**7.09**	**29**	P	**Pn**	**12 43 23.4**	**+0.3**
	SNR=21						
KK31	**Karatay Array**	**7.15**	**9**	P	**Pn**	**12 43 26.1**	**+2.0**
	1.5nm,0.3s,baz=200,slow=15,SNR=61						
KK31				⇓S	**Sn**	**12 44 39.1**	**-4.8**
	4.1nm,0.3s,baz=193,slow=23,SNR=6.6						
UCH	**Uchtor**	**7.51**	**33**	P	**Pn**	**12 43 28.9**	**0.0**
	SNR=24						
EKS2	**Erkin-Say**	**7.57**	**28**	P	**Pn**	**12 43 30.9**	**+1.2**
	SNR=8.5						
KZA	**Kyzart**	**7.73**	**37**	P	**Pn**	**12 43 30.9**	**-1.0**
	SNR=14						
AAK	**Ala-Archa**	**7.83**	**31**	P	**Pn**	**12 43 33.5**	**+0.1**
	SNR=14						
KBK	**Karagaybulak**	**8.04**	**33**	P	**Pn**	**12 43 36.1**	**-0.1**
	SNR=7.8						
CHMS	**Chumysh**	**8.24**	**31**	P	**Pn**	**12 43 40.1**	**+1.2**
	SNR=7.1						
USP	**Ospenovka**	**8.36**	**29**	P	**Pn**	**12 43 39.6**	**-1.0**
	SNR=11						
TKM2	**Tokmak 2**	**8.55**	**34**	P	**Pn**	**12 43 42.2**	**-0.9**
	SNR=9.3						
TKM2	**Tokmak 2**	**8.55**	**34**	⇓P	**Pn**	**12 43 42.1**	**-1.0**
	0.5nm,0.6s						
TKM2				⇑S	**Sn**	**12 45 12.3**	**-5.7**
	0.4nm,0.5s						
MK31	**Makanchi Array**	**14.62**	**39**	P	**Pn**	**12 45 05.7**	**+0.1**
	2.2nm,0.7s,baz=218,slow=9.7,SNR=12						
AB31	**Akbulak array**	**14.80**	**336**	P	**Pn**	**12 45 09.8**	**+2.1**
	2.0nm,0.8s,baz=161,slow=25,SNR=20						
AB31				⇓S	**Sn**	**12 47 48.1**	**-2.4**
	2.5nm,0.7s,baz=154,slow=23,SNR=4.8						

*MOS **24** 13:18:27.3±1.4,4732N×15326E,h82km,mb4.0/1,Error ellipse: s-maj=36.8km s-min=19.6km az=69.8*
*ISCJB **24** 13:18:29.1±1.8,476N±02×1532E±02,h84km±15km, mb3.4/8,Error ellipse: s-maj=36.1km s-min=10.2km az=97.0*
*NEIC **24** 13:18:34.2±2.8,4742N×15294E,h127km±27km,Error ellipse: s-maj=30.1km s-min=15.0km az=115.0*
*IDC **24** 13:18:39.3±6.6,4735N×15305E,h176km±62km,mb3.0/7, mb1 3.2/8,mb1mx3.1/21,mbtmp3.0/8,Error ellipse: s-maj=28.9km s-min=17.6km az=112.0*
ISC 24 13:18:30.1±1.6,476N±02×1533E±02,h83km±14km,n12,
σ1§07/13,mb3.4/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.63**	**30**	*e*PN	**Pn**	**13 19 24.2**	**+0.2**
SKR				*e*S	**Sn**	**13 20 05.0**	**-0.8**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax			
	comp=N,100nm,0.3s						
SKR				smax			
	comp=E,100nm,0.3s						
SKR				smax			
	comp=Z,40nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.19**	**269**	*e*PN	**Pn**	**13 20 12.8**	**+0.3**
MJAR	**Matsushiro Arr**	**15.68**	**231**	P	**Pn**	**13 22 05.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=31,slow=10,SNR=6.0						
KSRS	**Korea Array**	**21.16**	**251**	P	**P**	**13 23 09.9**	**+1.5**
	comp=Z,3.6nm,0.8s,mb3.8,baz=122,slow=40,SNR=5.6						
INK	**Inuvik**	**40.90**	**33**	*e*P	**P**	**13 26 05.5**	**+1.4**
YKA	**Yellowknife Ar**	**50.20**	**37**	P	**P**	**13 27 18.5**	**+1.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=300,slow=7.1,SNR=3.8						
FINES	**FINESS Array B**	**63.35**	**335**	P	**P**	**13 28 49.6**	**-0.9**
	comp=Z,0.7nm,0.4s,mb3.9,baz=53,slow=7.4,SNR=6.5						
PDAR	**Pinedale Array**	**64.18**	**54**	P	**P**	**13 29 01.3**	**+5.4**
	comp=Z,0.2nm,0.5s,mb3.2,baz=286,slow=3.7,SNR=2.4						
WRA	**Warramunga Arr**	**69.32**	**199**	P	**P**	**13 29 24.8**	**-3.8**
	comp=Z,0.4nm,0.8s,mb3.3,baz=18,slow=6.8,SNR=3.0						
AKASG	**Malin Array Be**	**70.93**	**326**	P	**P**	**13 29 37.3**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.6,baz=34,slow=

ERTA Lg 13 34 53.8
1.9nm,0.2s,SNR=7.9
EBIE Bielsa 2.11 302 Pg Pg 13 34 32.0 -3.0
0.1nm,0.1s,SNR=7.9
EBIE Lg 13 35 00.0
5.6nm,0.3s,SNR=11
EPF Esparros 2.19 312 *e*Pn Pn 13 34 29.6 -1.7
EPF Esparros 2.19 312 *e*P Pn 13 34 31.4 +0.1
EPF Esparros 2.19 312 *e*Pg Pg 13 34 34.7 -1.8
EPF *e*Sg Sg 13 35 02.7 -2.2
6.9nm,0.3s
EPF Esparros 2.19 312 Pn Pn 13 34 29.6 -1.7
EPF Pg Pg 13 34 34.7 -1.8
EPF Lg 13 35 02.7
3.5nm,0.3s
ESAC San Caprasio 2.28 274 Pg Pg 13 34 36.5 -1.7
1.3nm,0.1s,SNR=7.6
ESAC Lg 13 35 06.0
11nm,0.4s,SNR=8.3
LASF Ste Croix 2.65 20 *e*Pg Pg 13 34 42.2 -3.2
LASF *e*Sg Sg 13 35 16.9 -2.8
0.9nm,0.2s
LASF Ste Croix 2.65 20 Pg Pg 13 34 42.2 -3.2
LASF Lg 13 35 16.9
0.4nm,0.2s
ETSF Etsaut 2.67 300 *e*Pg Pg 13 34 43.7 -1.9
ETSF *e*Sg Sg 13 35 17.3 -2.8
4.9nm,0.4s
ETSF Etsaut 2.67 300 Pg Pg 13 34 43.7 -1.9
ETSF Lg 13 35 17.3
2.5nm,0.4s
SJPF Ste Jean 3.20 300 *e*Sn Sn 13 35 19.5 -3.9
SJPF *e*Sg Sg 13 35 33.9 -3.3
3.8nm,0.3s
CAF Calviac 3.35 354 *e*Pg Pg 13 34 55.9 -2.8
CAF *e*Sg Sg 13 35 38.8 -3.3
1.8nm,0.3s
LFF La Frestale 3.60 339 *e*Sg Sg 13 35 47.6 -2.5
0.9nm,0.2s
LFF La Frestale 3.60 339 Lg 13 35 47.6
0.4nm,0.2s
VIVF Saint-Julien-l 3.60 25 *e*Sg Sg 13 35 46.8 -3.4
1.1nm,0.3s

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*IDC **24** 13:42:01.6±1.0, 2885N×142.76E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=38.5km s-min=20.1km az=90.0*
*ISCJB **24** 13:42:04.7±0.9, 290N±0.1×1427E±02, h35km, mb3.8/6, Error ellipse: s-maj=26.6km s-min=12.6km az=144.6*
*NEIC **24** 13:42:06.8±0.8, 2892N×14259E, h35km, MG3.2(JMA), Error ellipse: s-maj=30.5km s-min=13.2km az=78.0*
ISC 24 13:42:06.8±0.9, 290N±01×1427E±02, h35km, n13, σ0§86/13, mb3.8/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.47**	**334**	Pn	**Pn**	**13 44 05.3**	**-1.7**
	0.6nm,0.3s,baz=158,slow=11,SNR=16						
MJAR	**Matsushiro Arr**	**8.47**	**334**	Pn	**Pn**	**13 44 05.3**	**-1.7**
MAJO	**Matsushiro**	**8.48**	**334**	*e*P	**Pn**	**13 44 06.6**	**-0.4**
MAT	**Matsushiro**	**8.48**	**334**	P	**Pn**	**13 44 06.5**	**-0.5**
KSRS	**Korea Array**	**15.01**	**308**	Pn	**Pn**	**13 45 37.2**	**+1.0**
	baz=118,slow=8.4,SNR=3.2						
SONM	**Songino Array**	**33.75**	**314**	P	**P**	**13 48 46.3**	**+1.4**
	0.4nm,0.8s,mb3.4,baz=110,slow=7.8,SNR=5.0						
WRA	**Warramunga Arr**	**49.27**	**190**	P	**P**	**13 50 51.4**	**-0.6**
	2.2nm,0.8s,mb4.2,baz=13,slow=8.6,SNR=13						
ASAR	**Alice Springs**	**52.99**	**190**	P	**P**	**13 51 19.5**	**-0.5**
	1.0nm,1.2s,mb3.6,baz=11,slow=6.6,SNR=3.6						
INK	**Inuvik**	**61.16**	**25**	P	**P**	**13 52 18.6**	**+1.0**
	1.1nm,0.8s,mb4.0,baz=283,slow=3.3,SNR=6.7						
INK	**Inuvik**	**61.16**	**25**	*e*P	**P**	**13 52 18.5**	**+0.8**
YKA	**Yellowknife Ar**	**70.29**	**29**	P	**P**	**13 53 16.7**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=294,slow=6.5,SNR=4.8						
YKA	**Yellowknife Ar**	**70.29**	**29**	P	**P**	**13 53 16.7**	**+0.1**
NOA	**NORSAR Array B**	**82.08**	**338**	P	**P**	**13 54 23.6**	**+0.1**
	0.9nm,0.8s,mb3.8,baz=48,slow=6.0,SNR=3.5						

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*IDC **24** 13:50:28.9±1.8, 268S×14128E, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.9/14, mbtmp4.1/6, ML4.1/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/20, Error ellipse: s-maj=51.0km s-min=27.6km az=138.0*
*ISCJB **24** 13:50:32.5±1.3, 29S±02×1415E±02, h35km, mb3.8/4, MS3.2/1, Error ellipse: s-maj=30.4km s-min=14.9km az=104.0*
*NEIC **24** 13:50:33.8±1.0, 285S×14140E, h30km, mb4.2/3, Error ellipse: s-maj=27.0km s-min=12.3km az=143.0*
ISC 24 13:50:34.0±1.3, 29S±02×1415E±01, h35km, n18, σ0§67/12, mb3.8/4, MS3.2/1, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.27**	**222**	*e*P	**Pn**	**13 53 39.0**	**-0.9**
	13nm,0.5s						
GUMO	**Guam**	**16.67**	**12**	LR	LR	13 59 35.3	
	comp=Z,53nm,19.2s,baz=182,slow=33						
CTA	**Charters Tower**	**17.76**	**165**	LR	LR	14 01 42.8	
	comp=Z,99nm,18.4s,baz=236,slow=38						
WB2	**Warramunga Arr**	**18.36**	**202**	*e*P	**Pn**	**13 54 46.3**	**+0.5**
WRA	**Warramunga Arr**	**18.37**	**202**	P	**Pn**	**13 54 45.9**	**+0.1**
	0.6nm,0.3s,baz=22,slow=12,SNR=20						
HNR	**Honiara**	**19.48**	**110**	P	**Pn**	**13 54 58.4**	**-0.8**
	2.0nm,0.3s,baz=265,slow=11,SNR=4.1						
HNR	**Honiara**	**19.48**	**110**	P	**Pn**	**13 54 58.3**	**-0.9**
	45nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.70**	**225**	*e*P	**P**	**13 55 21.2**	**-0.7**
	6.7nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.70**	**225**	P	**P**	**13 55 21.0**	**-0.9**
	3.6nm,0.7s,mb3.9,baz=49,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**21.96**	**199**	P	**P**	**13 55 25.3**	**+0.7**
	1.8nm,0.6s,mb3.6,baz=32,slow=11,SNR=32						
KSRS	**Korea Array**	**42.03**	**344**	LR	LR	14 13 14.5	
	comp=Z,35nm,19.4s,MS3.2,baz=30,slow=33						
VNDA	**Vanda**	**75.41**	**176**	P	**P**	**14 02 15.0**	**+0.9**
	0.5nm,0.4s,mb3.8,baz=331,slow=8.5,SNR=5.0						
VNDA	**Vanda**	**75.41**	**176**	*e*P	**P**	**14 02 14.9**	**+0.8**
	1.3nm,1.0s,mb3.8						
YKA	**Yellowknife Ar**	**98.93**	**27**	P	**P**	**14 04 10.9**	**+0.3**
	0.1nm,0.6s,mb3.5,baz=288,slow=4.7,SNR=4.0						
YKA	**Yellowknife Ar**	**98.93**	**27**	P	**P**	**14 04 10.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**138.95**	**287**	PKP	PKPdf	14 10 04.3	+7.6
	0.3nm,0.7s,baz=96,slow=2.0,SNR=2.6						
LPAZ	**La Paz**	**145.10**	**124**	PKPbc	PKPbc	14 10 11.0	+3.9
	1.9nm,1.0s,baz=230,slow=7.9,SNR=5.7						
LPAZ	**La Paz**	**145.10**	**124**	PKPbc	PKPbc	14 10 11.0	+3.9

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*HLW **24** 13:50:32.9, 3105N×3554E, h3km, Mb3.4*
*ISCJB **24** 13:50:37.3±0.6, 3090N±002×3543E±006, h26km±5km, Error ellipse: s-maj=9.1km s-min=3.7km az=25.7*
*GII **24** 13:50:37.5±0.4, 3090N×3539E, h15km±1km, ML2.8/8, Mw2.2/5*
ISC 24 13:50:36.9±0.7, 3089N±002×3544E±006, h17km±3km, n25, σ0§72/34, 3C-2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.40**	**215**	Pg	**Pg**	**13 50 45.8**	**+0.8**
MZDA	**Masada**	**0.43**	**351**	Pg	**Pg**	**13 50 46.3**	**+0.7**
MZDA				Sg	**Sg**	**13 50 51.6**	**+0.2**
YTIR	**Yattir**	**0.55**	**330**	Pg	**Pg**	**13 50 48.5**	**+0.7**
MASH	**Mash'abbe Sade**	**0.57**	**281**	Pg	**Pg**	**13 50 48.5**	**+0.3**
PRNI	**Paran**	**0.65**	**215**	Pg	**Pg**	**13 50 50.1**	**+0.4**
PRNI				Sg	**Sg**	**13 50 59.5**	**+1.2**
RMNI	**Mount Ramon**	**0.65**	**244**	Pg	**Pg**	**13 50 50.3**	**+0.6**
RTMI	**Retamim**	**0.67**	**285**	Pg	**Pg**	**13 50 50.0**	**0.0**
DSI	**Dead Sea**	**0.69**	**356**	Pg	**Pg**	**13 50 50.7**	**+0.4**
DRGI	**Dragot**	**0.71**	**357**	Pg	**Pg**	**13 50 50.8**	**+0.1**
SVTA	**Shivta**	**0.71**	**274**	Pg	**Pg**	**13 50 50.6**	**-0.1**
AMAZ	**Amatzia**	**0.79**	**325**	Pg	**Pg**	**13 50 51.9**	**-0.3**
AMAZ				Sg	**Sg**	**13 51 02.7**	**+0.1**
KZIT	**Kziot**	**0.90**	**272**	Pg	**Pg**	**13 50 53.8**	**-0.5**
KZIT				Sg	**Sg**	**13 51 05.1**	**-1.1**
HRFI	**Mount Harif**	**0.92**	**203**	Pg	**Pg**	**13 50 54.0**	**-0.6**
HRFI				Sg	**Sg**	**13 51 06.7**	**0.0**
AQBJ	**Aqaba**	**1.20**	**196**	Pg	**Pg**	**13 50 59.4**	**-0.7**
EIL	**Elat**	**1.28**	**199**	Pg	**Pg**	**13 51 00.3**	**-1.3**
HMDT	**Nahal Hemdat**	**1.37**	**3**	Pn	**Pn**	**13 51 00.7**	**-0.4**
SLTI	**Sal'it**	**1.39**	**346**	Pn	**Pn**	**13 51 01.4**	**-0.1**
SLTI				Sn	**Sn**	**13 51 20.2**	**+0.6**
MMLI	**Mount Malkishu**	**1.55**	**359**	Pn	**Pn**	**13 51 03.6**	**-0.1**
HNKL	**Nakhl**	**1.58**	**233**	⇑P	**Pn**	**13 51 03.7**	**-0.4**
HNKL				S	**Sn**	**13 51 25.8**	**+1.6**
OFRI	**'Ofer**	**1.77**	**347**	Pn	**Pn**	**13 51 06.8**	**0.0**
AMAG	**Maghara**	**1.94**	**263**	⇑P	**Pn**	**13 51 07.6**	**-1.5**
MMA0	**Mount Meron ar**	**2.12**	**359**	Pn	**Pn**	**13 51 11.6**	**0.0**
HDHB	**Dhahab**	**2.27**	**199**	⇓P	**Pn**	**13 51 12.6**	**-1.0**
HDHB				S	**Sn**	**13 51 42.9**	**+1.7**
SUZ		**2.48**	**246**	⇓P	**Pn**	**13 51 15.7**	**-0.9**
ZAF		**2.97**	**238**	⇑P	**Pn**	**13 51 22.8**	**-0.5**
ZAF				S	**Sn**	**13 51 58.7**	**+0.1**

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*LDG **24** 13:53:16.0±0.1, 4308N×100W, h10km, Md2.0/2, Ml1.7/1, Error ellipse: s-maj=2.0km s-min=0.9km az=18.0*
*STR **24** 13:53:16.1±0.0, 4311N×099W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 24 13:53:16.6±0.3, 4309N×100W, h6km±4km, mbLg1.0/8, Error ellipse: s-maj=2.5km s-min=1.4km az=16.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.06**	**174**	P	Pg	13 53 18.1	-0.1
LARF				S	Sg	13 53 19.3	0.0
ORDF	**Ordiarp**	**0.13**	**20**	Pg	Pg	13 53 19.0	-0.3
ORDF				Sg	Sg	13 53 21.2	0.0
ORDF	**Ordiarp**	**0.13**	**20**	P	Pg	13 53 19.2	-0.2
ORDF				S	Sg	13 53 21.2	+0.1
SJPF	**Ste Jean**	**0.17**	**277**	*e*Pg	Pg	13 53 19.8	-0.3
SJPF				*e*Sg	Sg	13 53 22.7	+0.3
	24nm,0.2s						
SJPF	**Ste Jean**	**0.17**	**277**	Pg	Pg	13 53 19.8	-0.3
SJPF				Lg		13 53 22.7	
	12nm,0.2s						
ATE	**Arette**	**0.22**	**92**	Pg	Pg	13 53 20.8	-0.1
ATE				Sg	Sg	13 53 24.2	+0.4
OSSF	**Osses**	**0.25**	**310**	Pg	Pg	13 53 21.3	-0.3
OSSF	**Osses**	**0.25**	**310**	P	Pg	13 53 21.5	-0.2
OSSF				S	Sg	13 53 24.7	-0.3
ETSF	**Etsaut**	**0.37**	**121**	*e*Pg	Pg	13 53 23.4	-0.5
ETSF				*e*Sg	Sg	13 53 28.4	-0.4
	11nm,0.3s						
ETSF	**Etsaut**	**0.37**	**121**	Pg	Pg	13 53 23.4	-0.5
ETSF				Lg		13 53 28.4	
	5.5nm,0.3s						
IPRE	**Itoiz**	**0.39**	**223**	Lg		13 53 29.2	
	1.0nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.40**	**289**	Pg	Pg	13 53 24.0	-0.3
	2.8nm,0.3s,SNR=9.9						
EALK				Lg		13 53 29.4	
	6.4nm,0.2s,SNR=16						
ELIZ	**Elizondo**	**0.40**	**281**	Pg	Pg	13 53 24.1	-0.2
	0.4nm,0.1s,SNR=14						
ELIZ				Lg		13 53 29.5	
	1.6nm,0.1s,SNR=9.7						
IUSE	**Utxeti**	**0.43**	**250**	Pg	Pg	13 53 24.6	-0.3
	0.3nm,0.0s,SNR=7.9						
IUSE				Lg		13 53 31.1	
	2.7nm,0.1s,SNR=4.6						
EARA	**Aranguren**	**0.54**	**234**	Lg		13 53 32.4	
	3.0nm,0.2s,SNR=4.0						
EBIE	**Bielsa**	**0.93**	**116**	Pg	Pg	13 53 33.3	-1.1
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		13 53 45.9	
	0.3nm,0.1s,SNR=8.4						
EPF	**Esparros**	**0.98**	**93**	*e*Pg	Pg	13 53 34.5	-0.9
EPF				*e*Sg	Sg	13 53 47.5	-0.7
	1.7nm,0.2s						
EPF	**Esparros**	**0.98**	**93**	Pg	Pg	13 53 34.5	-0.9
EPF				Lg		13 53 47.5	
	0.9nm,0.2s						
ESAC	**San Caprasio**	**1.42**	**164**	Pg	Pg	13 53 44.6	+0.7
	7.1nm,0.2s,SNR=7.9						
ESAC				Lg		13 54 03.8	
	2.0nm,0.1s,SNR=7.9						

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*NEIC **24** 13:56:17.9, 3173S×6820W, h150km, MG3.6(GUC), After GUC.*
GUC 24 13:56:17.9±0.8, 3173S×6820W, h150km, ML3.6, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.24**	**244**	*e*P	Pn	13 56 56.6	+0.8
FCH	**Farellones**	**2.38**	**227**	⇑*i*P	Pn	13 56 58.8	+1.3
FCH				*i* S	Sn	13 57 30.1	+2.2
FCH				AML	AML	13 57 35.8	
	comp=E,62nm,0.2s						
PTCH	**Petorca**	**2.38**	**256**	*i* P	Pn	13 56 58.2	+0.7
PTCH				*i* S	Sn	13 57 28.0	-0.1
PTCH				AML	AML	13 57 29.1	
	comp=N,555nm,0.3s						
PTCH	**Petorca**	**2.38**	**256**	*i* P	Pn	13 56 58.2	+0.7
PTCH				*i* S	Sn	13 57 28.0	-0.1
CMCH	**Combarbala**	**2.46**	**282**	*e*P	Pn	13 56 59.3	+0.8
CMCH				*i* S	Sn	13 57 30.6	+0.8
CMCH				AML	AML	13 57 33.7	
	comp=E,812nm,0.8s						
CMCH	**Combarbala**	**2.46**	**282**	*e*P	Pn	13 56 59.3	+0.8
CMCH				*i* S	Sn	13 57 30.6	+0.8
PEL	**Peldehue**	**2.53**	**236**	⇑*i*P	Pn	13 56 59.4	+0.1
PEL				*i* S	Sn	13 57 32.1	+0.8
PEL				AML	AML	13 57 34.5	
	comp=N,169nm,0.4s						
CLCH	**Cerro Calan**	**2.58**	**229**	*e*P	Pn	13 57 00.3	+0.4
CLCH				*i* S	Sn	13 57 33.3	+0.9
CLCH				AML	AML	13 57 38.7	
	comp=N,147nm,0.5s						
PCH	**Pirque**	**2.71**	**225**	*e*P	Pn	13 57 02.5	+0.9
PCH				*i* S	Sn	13 57 35.0	-0.3
TLL	**Tololo Astrono**	**2.73**	**304**	*e*P	Pn	13 57 03.2	+1.4
TLL				*i* S	Sn	13 57 37.4	+1.7
TLL				AML	AML	13 57 40.3	
	comp=E,80nm,0.5s						
TLL	**Tololo Astrono**	**2.73**	**304**	*e*P	Pn	13 57 03.2	+1.4
TLL				*i* S	Sn	13 57 37.4	+1.7
RCDM	**Rinconada Maip**	**2.81**	**231**	*e*P	Pn	13 57 03.8	+1.0
RCDM				*i* S	Sn	13 57 38.5	+0.9
RCDM				AML	AML	13 57 45.7	
	comp=E,120nm,0.2s						
RCDM	**Rinconada Maip**	**2.81**	**231**	*e*P	Pn	13 57 03.8	+1.0
RCDM				*i* S	Sn	13 57 38.5	+0.9
CHCH	**Chadas Angostu**	**3.01**	**223**	*e*P	Pn	13 57 06.3	+0.9
CACH	**El Canelo**	**3.12**	**220**	⇓*i*P	Pn	13 57 08.2	+1.4
CICH	**Cipreses**	**3.18**	**215**	*e*P	Pn	13 57 08.8	+1.3
SFDO	**San Fernando**	**3.72**	**219**	⇑*i*P	Pn	13 57 14.8	+0.3
SFDO				*e*S	Sn	13 57 59.4	+1.0

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*CSEM **24** 14:07:25.2±0.3, 4072N×5196E, h60km, mb3.9/4, Error ellipse: s-maj=9.8km s-min=4.0km az=177.0*
*ISCJB **24** 14:07:30.5±1.8, 4132N±009×5196E±008, h71km±17km, mb3.3/5, Error ellipse: s-maj=17.4km s-min=7.5km az=125.1*
*NEIC **24** 14:07:30.0±1.8, 4106N×5200E, h64km±14km, mb3.9/4, Error ellipse: s-maj=24.2km s-min=7.8km az=171.0*
*IDC **24** 14:07:31.3±4.8, 41.14N×5201E, h75km±39km, mb3.4/5, mb1 3.7/9, mb1mx3.4/23, mbtmp3.6/9, ML4.1/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=45.7km s-min=18.5km az=173.0*
*NNC **24** 14:07:35.4±4.0, 4105N×5319E, h56km±114km, mb3.6, Error ellipse: s-maj=42.3km s-min=21.0km az=55.0*
ISC 24 14:07:30.0±1.5, 4113N±010×5201E±008, h60km±14km, n34, σ1§09/41, mb3.4/5, MS2.9/1, 2C-3D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**7.44**	**295**	Pn	**Pn**	**14 09 15.6**	**-0.2**
KIV	**Kislovodsk**	**7.44**	**295**	Pn	**Pn**	**14 09 15.6**	**-0.2**
AB31	**Akbulak array**	**9.86**	**32**	Pn	**Pn**	**14 09 48.2**	**-0.8**
	1.7nm,0.3s,baz=212,slow=13,SNR=35						
AB31				⇓Sn	**Sn**	**14 11 38.4**	**+0.3**
	14nm,0.5s,baz=208,slow=24,SNR=18						
AKTK	**Aktyubinsk**	**10.20**	**22**	P	**Pn**	**14 09 54.7**	**+1.0**
AKTK				S	**Sn**	**14 11 45.5**	**-0.9**
AKTK	**Aktyubinsk**	**10.20**	**22**	P	**Pn**	**14 09 54.7**	**+1.0**
AKTO	**Aktyubinsk**	**10.20**	**22**	⇑Pn	**Pn**	**14 09 54.3**	**+0.6**
AKTO				⇓Sn	**Sn**	**14 11 46.6**	**+0.2**
	0.9nm,0.8s						
AKTO	**Aktyubinsk**	**10.20**	**22**	P	**Pn**	**14 09 54.7**	**+1.0**
	3.1nm,0.3s,baz=206,slow=10,SNR=40						
AKTO				S	**Sn**	**14 11 45.5**	**-0.9**
	7.3nm,0.3s,baz=181,slow=20,SNR=14						
KK31	**Karatay Array**	**13.88**	**76**	Pn	**Pn**	**14 10 39.5**	**-4.2**
	0.5nm,0.4s,baz=265,slow=16,SNR=10.0						
KK31				⇓Sn	**Sn**	**14 13 03.8**	**-12**
	1.6nm,0.5s,baz=40,slow=42,SNR=6.6						
BRTR	**Keskin Array B**	**14.06**	**270**	P	**Pn**	**14 10 47.2**	**+1.0**
	0.1nm,0.3s,baz=81,slow=10,SNR=3.6						
ARU	**Arti**	**15.90**	**13**	*e*Pn	**Pn**	**14 11 10.7**	**+0.8**
	4.6nm,0.5s						
ARU	**Arti**	**15.90**	**13**	*e*Pn	**Pn**	**14 11 10.7**	**+0.8**
	4.6nm,0.5s						
BRVK	**Borovoye**	**17.18**	**40**	*e*P	**Pn**	**14 11 25.9**	**0.0**
	4.1nm,0.6s						
BRVK	**Borovoye**	**17.18**	**40**	*e*P	**Pn**	**14 11 25.9**	**0.0**
	4.1nm,0.6s						
BVA0	**Borovoye Array**	**17.21**	**40**	Pn	**Pn**	**14 11 26.9**	**+0.7**
	0.8nm,0.6s,baz=231,slow=14,SNR=33						
BVA0				⇑Sn	**Sn**	**14 14 27.5**	**-9.4**
	1.1nm,0.8s,baz=233,slow=25,SNR=14						
BVAR	**Borovoye Array**	**17.21**	**40**	P	**Pn**	**14 11 26.1**	**-0.2**
	1.1nm,0.3s,baz=228,slow=12,SNR=29						
BVAR				S	**S**	**14 14 29.8**	**-13**
	1.1nm,0.3s,baz=229,slow=27,SNR=7.9						
BVAR				LR	LR	14 17 47.2	
	comp=Z,75nm,18.2s,baz=319,slow=36						
BVAR	**Borovoye Array**	**17.21**	**40**	Pn	**Pn**	**14 11 26.9**	**+0.6**
	0.8nm,0.6s,SNR=33						
AKASG	**Malin Array Be**	**18.45**	**309**	P	**Pn**	**14 11 39.6**	**-1.8**
	1.7nm,0.3s,baz=111,slow=12,SNR=14						
KIEV	**Kiev**	**18.46**	**309**	*e*P	**Pn**	**14 11 40.5**	**-1.0**
	8.3nm,0.6s						
KIEV	**Kiev**	**18.46**	**309**	*e*P	**Pn**	**14 11 40.5**	**-1.0**
	8.3nm,0.6s						
KURK	**Kurchatov**	**20.75**	**54**	*e*P	**P**	**14 12 06.1**	**+0.4**
	3.9nm,0.6s						
KURK	**Kurchatov**	**20.75**	**54**	*e*P	**P**	**14 12 06.1**	**+0.4**
MK31	**Makanchi Array**	**22.44**	**65**	*e*P	**P**	**14 12 23.2**	**-0.5**
MK31	**Makanchi Array**	**22.44**	**65**	*e*P	**P**	**14 12 23.2**	**-0.6**
MKAR	**Makanchi Array**	**22.44**	**65**	P	**P**	**14 12 23.6**	**-0.2**
	baz=258,slow=10.0						
MKAR	**Makanchi Array**	**22.44**	**65**	P	**P**	**14 12 23.5**	**-0.3**
ZAL	**Zalesovo**	**25.32**	**48**	P	**P**	**14 12 52.3**	**+1.2**
	0.8nm,0.6s,mb3.4,baz=217,slow=9.3,SNR=3.8						
ZAL				LR	LR	14 24 20.1	
	comp=Z,42nm,21.7s,MS2.9,baz=75,slow=40						
FIA1	**FINESS Array S**	**25.70**	**331**	*e*P	**P**	**14 12 55.7**	**+1.3**
FIA1	**FINESS Array S**	**25.70**	**331**	*e*P	**P**	**14 12 55.7**	**+1.2**
FINES	**FINESS Array B**	**25.70**	**331**	P	**P**	**14 12 55.7**	**+1.3**
	1.3nm,0.4s,mb3.8,baz=167,slow=11,SNR=15						
FINES	**FINESS Array B**	**25.70**	**331**	P	**P**	**14 12 55.7**	**+1.3**
GERES	**GERESS Array B**	**27.93**	**299**	P	**P**	**14 13 14.0**	**-0.6**
	0.4nm,0.5s,mb3.3,baz=89,slow=8.7,SNR=13						
NB2	**NORSAR Subarra**	**31.70**	**323**	P	**P**	**14 13 48.0**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**31.70**	**323**	P	**P**	**14 13 48.0**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=118,slow=8.4,SNR=3.0						
YKA	**Yellowknife Ar**	**76.16**	**354**	P	**P**	**14 19 09.1**	**-2.5**
	comp=Z,0.1nm,0.5s,mb3.0,baz=6.7,slow=6.1,SNR=3.8						

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*NEIC **24** 14:21:52.8, 4531S×16692E, h11km, ML3.7(WEL), After WEL.*
WEL 24 14:21:52.2±0.4, 4536S×16684E, h12km, ML3.7/12, 3D, Error ellipse: s-maj=3.6km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.25**	**119**	P	Pg	14 21 57.9	+0.5
DCZ				S	Sg	14 22 02.0	+1.0
DCZ	**Deep Cove**	**0.25**	**119**	⇓P*	Pg	14 21 57.9	+0.5
DCZ				S*	Sg	14 22 02.0	+1.0
MLZ	**Mavora Lakes**	**0.94**	**90**	P	Pg	14 22 08.3	-2.0
MLZ	**Mavora Lakes**	**0.94**	**90**	⇓P*	Pb	14 22 08.3	-2.1
MLZ				S*	Sb	14 22 20.3	-2.5
WHZ	**Wether Hill Ro**	**0.94**	**125**	P	Pg	14 22 09.2	-1.2
WHZ				S	Sg	14 22 22.2	-0.5
WHZ	**Wether Hill Ro**	**0.94**	**125**	⇓P*	Pb	14 22 09.2	-1.3
WHZ				S*	Sb	14 22 22.2	-0.7
MSZ	**Milford Sound**	**1.03**	**49**	*e*P	Pb	14 22 08.7	-3.3
MSZ	**Milford Sound**	**1.03**	**49**	P*	Pb	14 22 08.7	-3.3
MSZ				*e*S*	Sb	14 22 25.1	-0.4
WKZ	**Wanaka**	**1.63**	**72**	*e*P	Pn	14 22 20.2	-0.5
WKZ	**Wanaka**	**1.63**	**72**	PN	Pn	14 22 20.1	-0.7
APZ	**The Paps**	**1.68**	**152**	PN	Pn	14 22 21.3	0.0
EAZ	**Earnscleugh**	**1.75**	**87**	P	Pn	14 22 21.9	-0.4
EAZ	**Earnscleugh**	**1.75**	**87**	PN	Pn	14 22 21.9	-0.4
JCZ	**Jackson Bay**	**1.88**	**47**	*e*P	Pn	14 22 23.3	-0.8
JCZ	**Jackson Bay**	**1.88**	**47**	PN	Pn	14 22 23.3	-0.8
SYZ	**Scrubby Hill**	**1.99**	**127**	PN	Pn	14 22 25.0	-0.7
TUZ	**Tuapeka**	**2.05**	**108**	*e*P	Pn	14 22 26.3	-0.1
LBZ	**Lake Benmore**	**2.57**	**69**	*e*P	Pn	14 22 32.0	-1.6
LBZ	**Lake Benmore**	**2.57**	**69**	PN	Pn	14 22 32.0	-1.6
ODZ	**Otahua Downs**	**2.71**	**85**	*e*P	Pn	14 22 33.9	-1.6
ODZ	**Otahua Downs**	**2.71**	**85**	PN	Pn	14 22 33.9	-1.7
FOZ	**Fox Glacier**	**2.71**	**50**	*e*P	Pn	14 22 35.3	-0.3
FOZ	**Fox Glacier**	**2.71**	**50**	PN	Pn	14 22 35.3	-0.3
RPZ	**Rata Peaks**	**3.43**	**63**	*e*P	Pn	14 22 44.3	-1.2
WVZ	**Waitaha Valley**	**3.61**	**52**	PN	Pn	14 22 46.5	-1.4
CRLZ	**Can

M_{rr}-0.08±.02; $M_{\theta\theta}$-0.08±.02; $M_{\phi\phi}$0.16±.02; $M_{r\theta}$0.80±.01; $M_{\theta\phi}$-0.67±.02; $M_{\phi r}$-0.17±.01; Best double couple: $M_0$1.06100×10^{17} NP1:ϕ_s186.00000°,δ40.00000°, λ-4.00000°. NP2:ϕ_s279.00000°,δ88.00000°, λ-129.00000°. Principal axes: T 1.1150, Plg31.0000°, Azm40.0000°; N -0.1070, Plg39.0000°, Azm281.0000°; P -1.0080, Plg35.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MOS **24** 14:26:17.6±1.0,5178N×17888E,h84^{km},mb5.0/68, MS4.4/11 Error ellipse: s-maj=7.4km s-min=5.5km az=95.5*

*IDC **24** 14:26:17.2±0.4,5176N×17893E,h67^{km}±2^{km},mb4.5/30, mb1 4.6/30,mb1mx4.6/33,mbtmp4.5/30,MS4.4/19, Ms1 4.4/19,ms1mx4.2/25,Error ellipse: s-maj=10.9km s-min=8.6km az=138.0*

*BJI **24** 14:26:22.6,52.18N×177.92E,h96^{km},mB5.2,mb5.1*

ISC 24 14:26:18.1±0.1,5183N±004×17884E±002,h73^{km}, h73^{km}±1.7^{km}:pP-P,n685,σ0.987/669,mb4.9/166,63C-74D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.54**	**148**	P	**Pn**	**14 26 28.0**	**-3.5**
AMKA				S	**Sn**	**14 26 36.6**	**-4.7**
SMY	**Shemya**	**3.05**	**289**	P	**Pn**	**14 27 04.2**	**+0.2**
SMY				S	**Sn**	**14 27 40.2**	**+0.9**
ATKA	**Atka Island**	**4.32**	**82**	P	**Pn**	**14 27 21.6**	**+0.4**
ATKA				S	**Sn**	**14 28 11.4**	**+1.1**
UNV	**Unalaska Valle**	**9.10**	**71**	P	**Pn**	**14 28 28.3**	**+1.7**
AKLV	**Akutan Long Va**	**9.46**	**70**	P	**Pn**	**14 28 33.8**	**+2.3**
AKUT	**Akutan**	**9.56**	**70**	P	**Pn**	**14 28 35.7**	**+2.8**
FALS	**False Pass**	**11.03**	**67**	*e*Pn	**Pn**	**14 28 55.4**	**+2.5**
PET	**Petropavlovsk**	**12.38**	**283**	*e*P	**Pn**	**14 29 19.8**	**+8.5**
PET				*e*S	**Sn**	**14 31 24.0**	**-3.4**
PET				pmax	pmax		
	comp=Z,31nm,0.5s						
PET				smax			
	comp=N,179nm,0.5s						
PET				smax			
	comp=E,129nm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
SDPT	**Sand Point**	**12.77**	**66**	*e*P	**Pn**	**14 29 15.9**	**-0.7**
	comp=Z,29nm,0.3s						
CHGN	**Chignik**	**14.06**	**63**	*e*P	**Pn**	**14 29 34.3**	**+0.6**
SKR	**Severo-Kuril's**	**14.27**	**274**	*e*P	**Pn**	**14 29 38.2**	**+1.8**
SKR				*e*S	**Sn**	**14 32 05.0**	**-8.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,140nm,0.5s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
TNA	**Tin City**	**15.33**	**21**	*e*P	**Pn**	**14 29 54.0**	**+3.8**
	comp=Z,100nm,0.5s						
SVW2	**Sparrevohn**	**16.80**	**47**	*e*P	**Pn**	**14 30 11.2**	**+2.7**
BILL	**Bilibino**	**17.37**	**344**	*c i*P	**Pn**	**14 30 18.2**	**+2.6**
BILL				pmax	pmax		
	comp=Z,203nm,2.0s						
BILL				MLR	MLR		
	comp=Z,500nm,18.0s						
BILL	**Bilibino**	**17.37**	**344**	*e*P	**Pn**	**14 30 17.6**	**+2.0**
	comp=Z,153nm,1.4s						
TTA	**Tatalina**	**17.39**	**41**	*e*P	**Pn**	**14 30 18.7**	**+2.9**
KDAK	**Kodiak Island**	**17.43**	**59**	P	**Pn**	**14 30 16.2**	**-0.1**
	comp=Z,622nm,0.4s,SNR=14						
KDAK	**Kodiak Island**	**17.43**	**59**	*e*P	**Pn**	**14 30 15.0**	**-1.3**
	comp=Z,47nm,0.4s						
MA2	**Magadan**	**17.51**	**307**	*e*P	**Pn**	**14 30 20.6**	**+3.3**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SEY	**Seymchan**	**17.93**	**319**	⇑*i*P	**Pn**	**14 30 24.3**	**+1.9**
SLKM	**Skilak Lake**	**19.12**	**51**	P	**Pn**	**14 30 35.8**	**-0.9**
SLKM	**Skilak Lake**	**19.12**	**51**	*e*P	**Pn**	**14 30 35.3**	**-1.4**
IMA2	**Indian Mountai**	**19.86**	**34**	*e*P	**Pn**	**14 30 45.2**	**-0.2**
PMR	**Palmer**	**19.90**	**48**	*e*P	**Pn**	**14 30 44.5**	**-1.4**
PMR				pmax	pmax		
	comp=Z,22nm,0.5s						
PMR	**Palmer**	**19.90**	**48**	*e*P	**Pn**	**14 30 44.5**	**-1.4**
	comp=Z,22nm,0.5s						
SML	**Sawmill**	**20.32**	**48**	P	**P**	**14 30 48.6**	**+0.4**
SML	**Sawmill**	**20.32**	**48**	*e*P	**P**	**14 30 48.1**	**-0.1**
EYAK	**Cordova Ski Ar**	**21.30**	**52**	*e*P	**P**	**14 30 59.7**	**+0.9**
COLA	**College**	**21.48**	**40**	P	**P**	**14 31 02.3**	**+1.6**
COLA				pmax	pmax		
	comp=Z,42nm,0.9s,mb4.8						
COLA	**College**	**21.48**	**40**	*e*P	**P**	**14 31 01.6**	**+1.0**
	comp=Z,42nm,0.8s,mb4.8						
OKH	**Okha**	**21.69**	**289**	*e*P	**P**	**14 31 00.0**	**-2.9**
OKH				pmax	pmax		
	comp=Z,500nm,3.0s						
MENT	**Mentasta**	**22.68**	**46**	*e*P	**P**	**14 31 13.4**	**+0.1**
YSS	**Yuzh-Sakhalins**	**23.82**	**273**	⇑*i*P	**P**	**14 31 25.2**	**+0.9**
YSS				*e**SP	sP	14 31 55.0	+5.2
YSS				*e*S	**S**	**14 35 32.0**	**-2.8**
YSS				*e*		14 36 02.0	
YSS				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.1						
YSS				pmax	pmax		
	comp=E,180nm,1.5s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
YSS	**Yuzh-Sakhalins**	**23.82**	**273**	*e*P	**P**	**14 31 25.1**	**+0.8**
	comp=Z,90nm,1.1s,mb5.0						
EGAK	**Eagle**	**24.18**	**42**	*e*P	**P**	**14 31 27.4**	**-0.2**
	comp=Z,101nm,0.8s,mb5.2						
DAWY	**Dawson**	**24.80**	**44**	*e*P	**P**	**14 31 33.4**	**+0.2**
SKAG	**Skagway**	**26.49**	**55**	*e*P	**P**	**14 31 47.7**	**-0.8**
	comp=Z,20nm,1.0s,mb4.5						
HABR	**Khabarovsk**	**27.94**	**281**	*e*P	**P**	**14 32 01.0**	**-0.5**
HABR				*e*S	**S**	**14 36 41.6**	**+1.5**
INK	**Inuvik**	**27.94**	**36**	P	**P**	**14 32 01.9**	**+0.3**
	comp=Z,6.9nm,0.4s,mb4.6,baz=245,slow=9.2,SNR=127						
INK				ScP	ScP	14 38 46.9	-2.7
	comp=Z,2.3nm,1.0s,baz=238,slow=6.5,SNR=4.0						
INK				LR	LR	14 43 38.7	
	comp=Z,861nm,21.6s,baz=231,slow=37						
INK	**Inuvik**	**27.94**	**36**	P	**P**	**14 32 02.0**	**+0.5**
INK	**Inuvik**	**27.94**	**36**	*e*P	**P**	**14 32 01.7**	**+0.2**
	comp=Z,259nm,0.4s						
YAK	**Yakutsk**	**28.01**	**311**	P	**P**	**14 32 00.7**	**-1.4**
YAK				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.1						
YAK	**Yakutsk**	**28.01**	**311**	P	**P**	**14 32 00.7**	**-1.5**
	comp=Z,57nm,0.9s,mb5.1						
TIXI	**Tiksi**	**29.52**	**331**	*i* P	**P**	**14 32 16.0**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,600nm,18.0s						
KLR	**Kul'dur**	**29.64**	**284**	*e*P	**P**	**14 32 12.9**	**-3.7**
KLR				pmax	pmax		
	comp=E,70nm,1.8s						
KLR				pmax	pmax		
	comp=Z,92nm,1.8s,mb5.1						
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
VLA	**Vladivostok**	**32.41**	**273**	*i* P	**P**	**14 32 40.3**	**-0.6**
VLA				pmax	pmax		
	comp=Z,62nm,1.7s,mb5.1						
MJAR	**Matsushiro Arr**	**32.42**	**258**	P	**P**	**14 32 40.9**	**-0.2**
	comp=Z,7.0nm,0.9s,mb4.4,baz=47,slow=7.3,SNR=17						
MJAR				pP	pP	14 32 57.0	-1.4
	comp=Z,5.0nm,0.8s,baz=41,slow=7.2,SNR=5.1						
MJAR				LR	LR	14 43 47.7	
	comp=Z,329nm,21.8s,baz=65,slow=32						
MJAR	**Matsushiro Arr**	**32.42**	**258**	P	**P**	**14 32 40.9**	**-0.2**
MJAR				*PP	pP	14 32 57.0	-1.3
MJAR	**Matsushiro Arr**	**32.42**	**258**	P	**P**	**14 32 40.9**	**-0.2**
MJAR				pP	pP	14 32 57.0	-1.4
MJAR				LR	LR	14 43 47.7	
MAJO	**Matsushiro**	**32.42**	**258**	P	**P**	**14 32 41.4**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.1						
MAJO	**Matsushiro**	**32.42**	**258**	*e*P	**P**	**14 32 40.9**	**-0.2**
	comp=Z,47nm,1.3s,mb5.1						
MAT	**Matsushiro**	**32.42**	**258**	P	**P**	**14 32 41.2**	**+0.1**
MAT				S	**S**	**14 37 44.0**	**-6.3**
MDJ	**Mudanjiang**	**33.05**	**277**	P	**P**	**14 32 45.5**	**-1.1**
MDJ				PP	PP	14 34 01.3	-1.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,109nm,5.0s						
MDJ				LR	LR		
	comp=N,787nm,36.2s						
MDJ				LR	LR		
	comp=E,332nm,38.8s						
MDJ				LR	LR		
	comp=Z,250nm,20.4s						
YKA	**Yellowknife Ar**	**35.98**	**46**	P	**P**	**14 33 11.5**	**-0.3**
	comp=Z,5.9nm,0.3s,mb5.0,baz=282,slow=9.4,SNR=139						
YKA				ScP	ScP	14 39 15.0	-1.8
	comp=Z,2.6nm,0.8s,baz=297,slow=3.2,SNR=14						
YKA				LR	LR	14 48 55.3	
	comp=Z,1μm,20.8s,baz=260,slow=38						
CN2	**Changchun**	**36.02**	**279**	*e*P	**P**	**14 33 11.9**	**-0.3**
CN2				*e*AP	pP	14 33 35.8	+6.2
CN2				*e*S	**S**	**14 38 43.3**	**-2.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				LR	LR		
	comp=N,400nm,19.0s						
CN2				LR	LR		
	comp=E,400nm,19.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
BOD	**Bodaibo**	**36.52**	**306**	*e*P	**P**	**14 33 15.4**	**-1.1**
BOD				*e*	pP	14 33 31.7	-2.2
BOD				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
HIA	**Hailar**	**36.75**	**290**	*e*P	**P**	**14 33 17.5**	**-0.9**
HIA				pmax	pmax		
	comp=Z,14nm,0.5s						
HIA	**Hailar**	**36.75**	**290**	*e*P	**P**	**14 33 17.5**	**-0.9**
	comp=Z,14nm,0.5s,mb5.1						
A05A	**Maple Falls**	**36.86**	**70**	⇑P	**P**	**14 33 19.8**	**+0.5**
	baz=37						
C04A	**Brinnon**	**36.94**	**73**	⇑P	**P**	**14 33 20.0**	**0.0**
	baz=37						
E03A	**Lebam**	**37.16**	**75**	⇓P	**P**	**14 33 21.7**	**-0.2**
	baz=37						
B05A	**Bryant**	**37.19**	**71**	⇓P	**P**	**14 33 22.5**	**+0.4**
	baz=37						
E04A	**Onalaska**	**37.64**	**74**	⇑P	**P**	**14 33 25.8**	**-0.1**
	baz=38						
D05A	**Enumclaw**	**37.78**	**73**	⇓P	**P**	**14 33 27.0**	**-0.1**
	baz=38						
A07A	**Ashnola River,**	**37.83**	**69**	⇓P	**P**	**14 33 27.5**	**+0.1**
	baz=38,SNR=6.9						
F04A	**Amboy**	**38.15**	**75**	⇑P	**P**	**14 33 30.0**	**-0.2**
	baz=38,SNR=9.8						
KSRS	**Korea Array**	**38.17**	**268**	P	**P**	**14 33 31.4**	**+0.9**
	comp=Z,9.8nm,0.9s,mb4.7,baz=57,slow=8.0,SNR=32						
KSRS				pP	pP	14 33 47.1	-0.9
	comp=Z,11nm,0.9s,baz=55,slow=7.5,SNR=11						
KSRS				LR	LR	14 49 21.6	
	comp=Z,95nm,18.1s,baz=70,slow=36						
SNY	**Shenyang**	**38.26**	**277**	⇑P	**P**	**14 33 29.9**	**-1.2**
SNY				AP	pP	14 33 54.4	+5.7
SNY				XP	sP	14 34 08.3	+11
SNY				XS	sS	14 39 55.6	+5.8
SNY				AMB	AMB		
	comp=Z,20nm,1.8s,mb4.7						
SNY				LR	LR		
	comp=E,268nm,26.4s						
SNY				LR	LR		
	comp=Z,330nm,22.4s						
B07A	**Winthrop**	**38.26**	**70**	⇓P	**P**	**14 33 31.3**	**+0.1**
	baz=38,SNR=6.0						
H03A	**Soap Creek Ran**	**38.28**	**77**	⇓P	**P**	**14 33 30.7**	**-0.6**
	baz=38						
I02A	**Mapleton**	**38.32**	**78**	⇑P	**P**	**14 33 31.2**	**-0.4**
	baz=38						
D06A	**Cle Elum**	**38.45**	**72**	P	**P**	**14 33 32.3**	**-0.5**
	baz=38,SNR=9.2						
G04A	**Mulino**	**38.49**	**76**	⇑P	**P**	**14 33 33.7**	**+0.6**
	baz=38,SNR=6.0						
A08A	**Turner Farm, O**	**38.52**	**69**	P	**P**	**14 33 33.9**	**+0.6**
	baz=38,SNR=8.8						
TBM	**Table Mountain**	**38.61**	**72**	P	**P**	**14 33 33.7**	**-0.4**
C07A	**Waterville**	**38.67**	**71**	P	**P**	**14 33 34.0**	**-0.6**
	baz=39,SNR=5.4						
I03A	**Eugene**	**38.67**	**78**	⇓P	**P**	**14 33 34.7**	**+0.2**
	baz=39						
E06A	**Yakima**	**38.70**	**73**	⇓P	**P**	**14 33 35.8**	**+0.9**
	baz=39						
F05A	**White Salmon**	**38.75**	**74**	⇓P	**P**	**14 33 34.7**	**-0.6**
	baz=39						
EBG	**Ellensburg**	**38.76**	**73**	P	**P**	**14 33 35.3**	**0.0**
B08A	**Colville Reser**	**38.77**	**70**	P	**P**	**14 33 34.8**	**-0.6**
	baz=39,SNR=14						
J02A	**Umpqua**	**38.82**	**79**	⇑P	**P**	**14 33 35.9**	**+0.1**
	baz=39						
A09A	**Danville**	**38.90**	**69**	P	**P**	**14 33 36.3**	**-0.2**
	baz=39,SNR=8.9						
H04A	**Detroit Lake**	**38.95**	**77**	⇑P	**P**	**14 33 37.2**	**+0.3**
	baz=39,SNR=6.8						
D07A	**Quincy**	**38.97**	**72**	⇓P	**P**	**14 33 36.7**	**-0.4**
	baz=39						
CIT	**Chita**	**39.03**	**297**	*e*P	**P**	**14 33 37.8**	**+0.2**
CIT				*e*	pP	14 33 54.4	-0.8
CIT				pmax	pmax		
	comp=Z,45nm,1.7s,mb5.0						
G05A	**Wamic**	**39.17**	**75**	⇑P	**P**	**14 33 38.1**	**-0.7**
	baz=39						
J03A	**Ideyld Park**	**39.19**	**79**	⇑P	**P**	**14 33 38.0**	**-0.9**
	baz=39						
C08A	**Higginbotham F**	**39.22**	**71**	⇓P	**P**	**14 33 39.9**	**+0.7**
	baz=39						
I04A	**Tendick Farm,**	**39.29**	**78**	⇓P	**P**	**14 33 40.0**	**+0.3**
	baz=39						
E07A	**Sunnyside**	**39.36**	**73**	⇓P	**P**	**14 33 40.0**	**-0.3**
	baz=39,SNR=5.4						
B09A	**Rice**	**39.42**	**69**	⇑P	**P**	**14 33 40.7**	**-0.2**
	baz=39,SNR=7.8						
L02A	**Cave Junction**	**39.48**	**81**	⇑P	**P**	**14 33 41.9**	**+0.6**
	baz=39						
SNIWA	**Snively Ranch**	**39.52**	**73**	P	**P**	**14 33 41.5**	**-0.2**
H05A	**Madras**	**39.55**	**76**	⇓P	**P**	**14 33 42.6**	**+0.7**
	baz=39						
G06A	**Carlson Farm,**	**39.59**	**75**	⇑P	**P**	**14 33 42.3**	**+0.1**
	baz=40						
HUMO	**Hull Mountain**	**39.62**	**80**	*e*P	**P**	**14 33 42.8**	**+0.3**
	comp=Z,14nm,0.8s,mb4.8						
HUMO	**Hull Mountain**	**39.62**	**80**	⇑P	**P**	**14 33 43.0**	**+0.5**
	baz=40						
BBOR	**Butler Butte**	**39.63**	**79**	P	**P**	**14 33 43.6**	**+1.1**
HAWA	**Hanford**	**39.64**	**73**	*e*P	**P**	**14 33 41.8**	**-0.9**
	comp=Z,13nm,0.5s,mb5.0						
D08A	**Wollman Farm,**	**39.66**	**71**	P	**P**	**14 33 41.9**	**-0.9**
	baz=40,SNR=7.7						
F07A	**Phinny Hill Vi**	**39.66**	**74**	⇑P	**P**	**14 33 42.4**	**-0.5**
	baz=40,SNR=9.5						
J04A	**Umpqua Nationa**	**39.78**	**78**	⇓P	**P**	**14 33 44.2**	**+0.4**
	baz=40						
I05A	**Bend**	**39.78**	**77**	⇑P	**P**	**14 33 43.7**	**-0.2**
	baz=40,SNR=5.5						
E08A	**Dider Farm, El**	**39.87**	**72**	⇓P	**P**	**14 33 44.3**	**-0.3**
	baz=40						
EDM	**Edmonton**	**39.87**	**60**	P	**P**	**14 33 43.7**	**-0.9**
EDM	**Edmonton**	**39.87**	**60**	*e*P	**P**	**14 33 43.4**	**-1.2**
RES	**Resolute Bay**	**39.94**	**24**	P	**P**	**14 33 46.4**	**+1.3**
RES	**Resolute Bay**	**39.94**	**24**	*e*P	**P**	**14 33 45.5**	**+0.4**
	comp=Z,472nm,1.0s						
D09A	**Jones Farm, Ri**	**40.01**	**71**	⇑P	**P**	**14 33 46.3**	**+0.5**
	baz=40						
H06A	**Lindquist Farm**	**40.03**	**75**	P	**P**	**14 33 46.8**	**+0.8**
	baz=40,SNR=5.7						
NEW	**Newport**	**40.10**	**69**	P	**P**	**14 33 45.7**	**-0.8**
NEW				pmax	pmax		
	comp=Z,13nm,0.7s						
NEW	**Newport**	**40.10**	**69**	*e*P	**P**	**14 33 45.3**	**-1.2**
	comp=Z,13nm,0.7s,mb4.9						
G07A	**Ruggs Ranch, H**	**40.15**	**74**	⇑P	**P**	**14 33 46.9**	**0.0**
	baz=40						
A11A	**Hall Mountain,**	**40.19**	**68**	P	**P**	**14 33 47.2**	**0.0**
	baz=40,SNR=12						
C10A	**Spilker Farm,**	**40.21**	**70**	⇓P	**P**	**14 33 47.1**	**-0.3**
	baz=40						
YBH	**Yreka Blue Hor**	**40.26**	**81**	P	**P**	**14 33 49.5**	**+1.7**
YBH				pmax	pmax		
	comp=Z,19nm,0.8s						
YBH	**Yreka Blue Hor**	**40.26**	**81**	*e*P	**P**	**14 33 49.1**	**+1.3**
	comp=Z,19nm,0.8s,mb5.0						
YBH	**Yreka Blue Hor**	**40.26**	**81**	⇑P	**P**	**14 33 48.2**	**+0.4**
	baz=40,SNR=11						
K04A	**Chilquin**	**40.36**	**79**	⇓P	**P**	**14 33 48.9**	**+0.3**
	baz=40						
M02C	**Callahan**	**40.37**	**81**	⇓P	**P**	**14 33 49.2**	**+0.5**
	baz=40						
F08A	**Pendleton**	**40.40**	**73**	⇓P	**P**	**14 33 48.9**	**0.0**
	baz=40,SNR=6.1						
N02C	**Big Bar**	**40.43**	**82**	⇓P	**P**	**14 33 49.7**	**+0.5**
	baz=40,SNR=11						
B11A	**Sandpoint**	**40.45**	**68**	⇓P	**P**	**14 33 49.9**	**+0.5**
	baz=40						
L04A	**Klamath Falls**	**40.51**	**80**	P	**P**	**14 33 50.9**	**+1.0**
	baz=40,SNR=20						
O01C	**Eel River Cons**	**40.51**	**83**	⇓P	**P**	**14 33 48.8**	**-1.1**
	baz=40						
I06A	**Prineville**	**40.54**	**76**	⇓P	**P**	**14 33 50.6**	**+0.5**
	baz=40						
G08A	**Pilot Rock**	**40.56**	**74**	⇓P	**P**	**14 33 49.9**	**-0.3**
	baz=40						
A12A	**Yaak River Ran**	**40.61**	**67**	⇓P	**P**	**14 33 51.1**	**+0.5**
	baz=40,SNR=6.1						
D10A	**Wagner Farm, O**	**40.62**	**71**	P	**P**	**14 33 49.5**	**-1.2**
	baz=40,SNR=20						
M04C	**Macdoel**	**40.77**	**80**	⇓P	**P**	**14 33 51.9**	**-0.1**
	baz=41,SNR=16						
K05A	**Summer Lake**	**40.81**	**78**	⇓P	**P**	**14 33 52.9**	**+0.6**
	baz=41,SNR=11						
B12A	**Libby**	**40.88**	**68**	⇑P	**P**	**14 33 52.3**	**-0.6**
	baz=41						
I07A	**Izee**	**40.89**	**76**	P	**P**	**14 33 54.1**	**+1.1**
	baz=41,SNR=17						
M03C	**McCloud**	**40.89**	**81**	P	**P**	**14 33 54.4**	**+1.4**
	baz=41,SNR=9.9						
KCPM	**Cahto Peak**	**40.93**	**84**	*e*P	**P**	**14 33 53.7**	**+0.4**
F09A	**S2 Ranch, Elgi**	**40.96**	**73**	⇑P	**P**	**14 33 53.0**	**-0.6**
	baz=41						
E10A	**Myers Farm, Un**	**41.02**	**71**	P	**P**	**14 33 53.1**	**-0.9**
	baz=41,SNR=19						
WDC	**Whiskeytown Da**	**41.04**	**82**	P	**P**	**14 33 54.9**	**+0.7**
WDC				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.2						
WDC	**Whiskeytown Da**	**41.04**	**82**	*e*P	**P**	**14 33 54.5**	**+0.2**
	comp=Z,48nm,1.3s,mb5.2						
WDC	**Whiskeytown Da**	**41.04**	**82**	P	**P**	**14 33 55.0**	**+0.7**
	baz=41,SNR=13						
O02C	**Red Bluff**	**41.13**	**83**	⇓P	**P**	**14 33 55.6**	**+0.6**
	baz=41,SNR=9.6						
H08A	**Prairie City**	**41.15**	**75**	P	**P**	**14 33 56.5**	**+1.4**
	baz=41,SNR=5.5						
K06A	**Valley Falls**	**41.16**	**78**	P	**P**	**14 33 56.0**	**+0.8**
	baz=41,SNR=20						
P01C	**Double 8 Ranch**	**41.21**	**84**	⇑P	**P**	**14 33 55.5**	**-0.2**
	baz=41,SNR=5.5						
F10A	**Beach Ranch, E**	**41.22**	**72**	P	**P**	**14 33 56.2**	**+0.5**
	baz=41,SNR=5.2						
J07A	**Hines**	**41.40**	**76**	P	**P**	**14 33 58.6**	**+1.4**
	baz=41,SNR=16						
M05C	**Lookout**	**41.44**	**80**	P	**P**	**14 33 58.5**	**+1.0**
	baz=41,SNR=9.7						
GASB	**Alder Springs**	**41.48**	**83**	⇓P	**P**	**14 33 58.8**	**+0.9**
	baz=41						
WALA	**Waterton Lakes**	**41.54**	**66**	*e*P	**P**	**14 33 56.9**	**-1.4**
	comp=Z,23nm,0.8s,mb5.0						
I08A	**Drewsey**	**41.55**	**75**	P	**P**	**14 33 59.4**	**+1.0**
	baz=41,SNR=6.9						
HATC	**Hat Creek Radi**	**41.56**	**81**	P	**P**	**14 33 59.8**	**+1.3**
	baz=42,SNR=13						
B13A	**Whitefish**	**41.57**	**67**	⇑P	**P**	**14 33 58.2**	**-0.4**
	baz=42,SNR=11						
E11A	**Bogner Ranch,**	**41.62**	**71**	⇑P	**P**	**14 33 58.0**	**-0.9**
	baz=42,SNR=5.5						
MOD	**Modoc**	**41.64**	**79**	*e*P	**P**	**14 33 59.4**	**+0.3**
	comp=Z,19nm,0.6s,mb5.0						
MOD	**Modoc**	**41.64**	**79**	P	**P**	**14 33 59.8**	**+0.7**
	baz=42,SNR=41						
BSMT	**Bassoo Peak**	**41.66**	**68**	P	**P**	**14 33 58.4**	**-0.8**
HOPS	**Hopland**	**41.66**	**84**	⇓P	**P**	**14 33 57.9**	**-1.4**
	baz=42						
H09A	**Durkee**	**41.67**	**74**	⇓P	**P**	**14 33 60.0**	**+0.6**
	baz=42						
O03C	**Acorn Hollow,**	**41.70**	**82**	⇑P	**P**	**14 33 58.9**	**-0.7**
	baz=42						
BMO	**Blue Mountains**	**41.78**	**73**	*e*P	**P**	**14 33 59.3**	**-1.0**
	comp=Z,11nm,0.7s,mb4.7						
K07A	**Rock Creek Ran**	**41.82**	**77**	⇓P	**P**	**14 34 00.9**	**+0.3**
	baz=42,SNR=22						
C13A	**Hot Springs**	**41.87**	**68**	P	**P**	**14 34 01.1**	**0.0**
	baz=42,SNR=12						
F11A	**Grangeville**	**41.90**	**71**	⇓P	**P**	**14 34 01.4**	**+0.2**
	baz=42,SNR=6.9						
J08A	**Circle Bar Ran**	**41.91**	**76**	P	**P**	**14 34 02.4**	**+1.0**
	baz=42,SNR=15						
M06C	**Likely Place G**	**41.94**	**80**	⇑P	**P**	**14 34 01.8**	**+0.3**
	baz=42,SNR=5.9						
I09A	**Lost Marbles R**	**42.01**	**75**	⇓P	**P**	**14 34 02.6**	**+0.5**
	baz=42,SNR=9.4						
O04C	**Chester**	**42.09**	**81**	P	**P**	**14 34 03.8**	**+1.0**
	baz=42,SNR=34						
MNRC	**McLaughlin Nat**	**42.12**	**84**	⇓P	**P**	**14 34 02.9**	**-0.2**
	baz=42,SNR=5.2						
ELFS	**Eagle Lake Fie**	**42.13**	**81**	P	**P**	**14 34 04.5**	**+1.4**
	baz=42,SNR=15						
L07A	**Adell**	**42.16**	**78**	P	**P**	**14 34 04.2**	**+0.8**
	baz=42,SNR=29						
NSHM	**Saint Helena R**	**42.24**	**85**	*e*P	**P**	**14 34 04.1**	**0.0**
D13A	**Huson**	**42.24**	**69**	⇑P	**P**	**14 34 03.2**	**-0.9**
	baz=42						
H10A	**Noah's Angus R**	**42.26**	**73**	P	**P**	**14 34 03.5**	**-0.6**
	baz=42,SNR=17						
K08A	**Mann Creek Ran**	**42.26**	**77**	P	**P**	**14 34 04.5**	**+0.2**
	baz=42,SNR=12						
ORV	**Oroville**	**42.29**	**83**	P	**P**	**14 34 04.3**	**-0.2**
	baz=42,SNR=23						
SUTB	**Sutter Butte**	**42.31**	**83**	⇑P	**P**	**14 34 04.4**	**-0.2**
	baz=42						
**WVOR

baz=43
E14A Clinton 43.17 69 P **P 14 34 10.5 -1.1**
baz=43,SNR=27
L09A Wilkinson Ranc 43.17 77 ⇑P **P 14 34 11.8 +0.3**
baz=43
P06A Stead Airport, 43.20 81 P **P 14 34 12.7 +0.9**
baz=43,SNR=17
K10A MacKenzie Ranc 43.21 76 P **P 14 34 11.9 +0.1**
baz=43,SNR=58
LAVA Lava Cap Winer 43.25 83 P **P 14 34 12.3 +0.1**
baz=43,SNR=17
WENL Wente Brothers 43.32 85 ⇑P **P 14 34 12.6 -0.1**
baz=43
BNLO Ben Lomond (Sa 43.38 86 ⇑P **P 14 34 12.9 -0.3**
baz=43
D15A Lincoln 43.39 68 P **P 14 34 12.4 -1.0**
baz=43,SNR=19
R04C Big Horse Ranc 43.43 84 ⇓P **P 14 34 13.7 +0.1**
baz=43
G13A Cobalt 43.46 71 P **P 14 34 13.1 -0.9**
baz=43,SNR=18
MFID Camas Ranch 43.47 74 P **P 14 34 15.1 +1.1**
baz=43,SNR=8.5
WCN Washoe City 43.52 82 P **P 14 34 15.1 +0.7**
baz=43,SNR=30
O07A Toulon 43.53 80 P **P 14 34 15.2 +0.7**
baz=43,SNR=30
F14A Wisdom 43.57 70 P **P 14 34 14.1 -0.7**
baz=44,SNR=15
N08A GE Springer Mi 43.62 79 P **P 14 34 15.5 +0.3**
baz=44,SNR=26
M09A Marrel Ranch, 43.65 78 P **P 14 34 16.2 +0.8**
baz=44,SNR=12
E15A Deer Lodge 43.66 69 P **P 14 34 14.2 -1.3**
baz=44,SNR=26
S04C Ingram Canyon, 43.66 85 ⇓P **P 14 34 16.0 +0.5**
baz=44
R05C Kirkwood Meado 43.69 83 P **P 14 34 16.3 +0.6**
baz=44,SNR=18
BJI Beijing 43.84 280 *e*P **P 14 34 18.0 +1.0**
BJI AP pP 14 34 39.8 +4.9
BJI XP sP 14 34 50.4 +7.2
BJI S **S 14 40 39.9 -2.7**
BJI AMB AMB
comp=Z,17nm,1.1s,mb4.7
BJI LR LR
comp=N,312nm,13.7s
BJI LR LR
comp=E,278nm,13.2s
BJI LR LR
comp=Z,355nm,21.4s
BJI Beijing 43.84 280 *e*P **P 14 34 18.0 +1.0**
BJI *PP pP 14 34 39.7 +4.8
BJI *SP sP 14 34 50.4 +7.2
BJI S **S 14 40 39.9 -2.7**
BJI SS SS 14 44 06.1 +5.0
BJI pmax pmax
comp=Z,17nm,1.1s,mb4.7
BJI MLR MLR
comp=Z,360nm,21.4s
BJI Beijing 43.84 280 *e*P **P 14 34 18.0 +1.0**
comp=Z,17nm,1.1s,mb4.7
BJI pP pP 14 34 39.7 +4.8
BJI sP sP 14 34 50.4 +7.2
BJI S **S 14 40 39.9 -2.7**
BJI sS sS 14 41 21.4 +8.3
BJI SS SS 14 44 06.1 +5.0
BJI LR LR
comp=Z,360nm,21.4s
BJT Baijiatuau 43.86 280 P **P 14 34 16.6 -0.5**
BJT *e* pP 14 34 36.3 +1.3
BJT pmax pmax
comp=Z,17nm,0.9s
BJT Baijiatuau 43.86 280 P **P 14 34 16.6 -0.5**
comp=Z,17nm,0.9s,mb4.8
BJT *e* pP 14 34 36.3 +1.3
O08A Rochester Mine 43.90 79 ⇑P **P 14 34 18.1 +0.7**
baz=44
P07A Fallon 43.90 81 ⇑P **P 14 34 18.0 +0.5**
baz=44
CMB Columbia Colle 43.91 84 P **P 14 34 17.9 +0.4**
CMB pmax pmax
comp=Z,12nm,0.8s,mb4.7
CMB Columbia Colle 43.91 84 *e*P **P 14 34 17.7 +0.2**
comp=Z,12nm,0.8s,mb4.7
CMB Columbia Colle 43.91 84 ⇑P **P 14 34 17.2 -0.3**
baz=44,SNR=15
N09A Rock Creek Ran 43.94 78 P **P 14 34 18.2 +0.4**
baz=44,SNR=39
J12A Stokes Ranch, 44.00 74 ⇓P **P 14 34 18.7 +0.5**
baz=44,SNR=16
PACP Pacheco Peak 44.00 85 P **P 14 34 18.7 +0.5**
baz=44,SNR=5.6
SAO San Andreas Ge 44.06 86 P **P 14 34 19.0 +0.3**
SAO pmax pmax
comp=Z,17nm,0.7s,mb4.9
SAO San Andreas Ge 44.06 86 *e*P **P 14 34 18.7 +0.1**
comp=Z,17nm,0.7s,mb4.9
F15A Butte 44.06 69 P **P 14 34 17.6 -1.1**
baz=44,SNR=15
M10A I.L. Ranch, Tu 44.14 77 ⇓P **P 14 34 19.6 +0.3**
baz=44
R06C Coleville 44.18 82 P **P 14 34 20.2 +0.5**
baz=44,SNR=31
HLID Hailey 44.23 73 *e*P **P 14 34 18.9 -1.1**
comp=Z,21nm,0.9s,mb4.9
HLID Hailey 44.23 73 ⇓P **P 14 34 20.1 0.0**
baz=44,SNR=32
HAST UC Hastings Re 44.23 86 P **P 14 34 20.4 +0.3**
baz=44,SNR=15
DLMT Dillon 44.27 70 *e*P **P 14 34 20.0 -0.4**
comp=Z,4.0nm,0.5s,mb4.4
P08A Dixie Valley 44.30 80 P **P 14 34 21.6 +0.9**
baz=44,SNR=6.5
Q07A Schurz 44.32 81 ⇓P **P 14 34 21.2 +0.4**
baz=44
S06C San Francisco 44.34 83 P **P 14 34 21.5 +0.5**
baz=44,SNR=29
S05C Merced 44.38 84 P **P 14 34 21.3 +0.1**
baz=44,SNR=25
BMN Battle Mountai 44.38 79 P **P 14 34 21.6 +0.3**
BMN pmax pmax
comp=Z,24nm,0.6s,mb5.1
BMN Battle Mountai 44.38 79 *e*P **P 14 34 21.1 -0.1**
comp=Z,24nm,0.6s,mb5.1
MCMT McKenzie Canyo 44.43 71 *e*P **P 14 34 20.1 -1.6**
EGMT Eagleton 44.43 65 *e*P **P 14 34 20.7 -1.0**
comp=Z,17nm,0.5s,mb5.0
EGMT Eagleton 44.43 65 P **P 14 34 20.8 -0.9**
baz=44,SNR=5.4
G15A Dillon 44.45 70 P **P 14 34 20.4 -1.4**
baz=44,SNR=19
T05C Eagle Field, D 44.45 85 ⇓P **P 14 34 21.9 0.0**
baz=44
J13A Cove Ranch, Pi 44.46 73 P **P 14 34 21.6 -0.4**
baz=44,SNR=49
K12A Draper Farm, C 44.47 75 P **P 14 34 22.2 +0.3**
baz=44,SNR=30
LRV Little Rabbit 44.54 86 *e*P **P 14 34 23.6 +1.1**
O09A Fish Creek Ran 44.56 79 P **P 14 34 23.4 +0.7**
baz=44,SNR=23
TLY Talaya 44.58 301 *e*P **P 14 34 24.5 +1.7**
TLY *e* 14 35 58.5
TLY *e*S **S 14 40 54.4 +1.2**
TLY *e*SS SS 14 44 15.5 +0.3
TLY pmax pmax
comp=Z,27nm,1.6s,mb4.7
TLY MLR MLR
comp=Z,370nm,20.0s
N10A Dunphy 44.64 78 P **P 14 34 23.9 +0.5**
baz=44,SNR=14
M11A Holland Ranch, 44.65 77 P **P 14 34 23.9 +0.5**
baz=44,SNR=21
V03C Hunter Liggett 44.66 86 ⇓P **P 14 34 23.8 +0.2**
baz=44
BOZ Bozeman (W) 44.67 69 P **P 14 34 22.7 -0.9**
BOZ pmax pmax
comp=Z,29nm,0.6s,mb5.2
BOZ Bozeman (W) 44.67 69 *e*P **P 14 34 22.6 -1.1**
comp=Z,29nm,0.6s,mb5.2
BOZ Bozeman (W) 44.67 69 P **P 14 34 22.8 -0.9**
baz=45,SNR=71
R07C Lee Vining 44.70 83 P **P 14 34 24.8 +1.0**
baz=45,SNR=22
U04C Hernandez Rese 44.72 86 P **P 14 34 24.7 +0.7**
baz=45,SNR=12
O10A Cortez Mining, 44.90 78 P **P 14 34 26.3 +0.8**
baz=45,SNR=13
Q08A Gabbs 44.91 81 P **P 14 34 26.0 +0.6**
baz=45,SNR=34
NVAR Mina Array Bea 44.95 82 P **P 14 34 26.3 +0.5**
comp=Z,26nm,0.7s,mb5.1,baz=295,slow=7.0,SNR=112
NVAR PcP PcP 14 36 06.7 +0.8
comp=Z,9.0nm,0.9s,baz=298,slow=4.9,SNR=2.9
NVAR ScP ScP 14 39 51.1 -0.8
comp=Z,1.5nm,0.8s,baz=259,slow=7.1,SNR=5.0
NVAR Mina Array Bea 44.95 82 P **P 14 34 26.3 +0.5**
NVAR PcP PcP 14 36 06.7 +0.8
NVAR ScP ScP 14 39 51.1 -0.8
K13A Stover Farm, H 44.95 74 ⇓P **P 14 34 27.1 +1.3**
baz=45
P09A Austin 44.97 80 P **P 14 34 26.8 +0.8**
baz=45,SNR=8.9
T06C Millerton Lake 44.98 84 P **P 14 34 26.1 +0.1**
baz=45,SNR=39
KCC Kaiser Creek 45.02 84 P **P 14 34 26.9 +0.6**
baz=45,SNR=21
N11A Elko Archery C 45.05 77 ⇓P **P 14 34 27.0 +0.4**
baz=45
FFC Flin Flon 45.06 54 P **P 14 34 26.5 -0.2**
comp=Z,84nm,0.5s,mb5.7,SNR=6.0
R08A Mina 45.12 82 P **P 14 34 27.8 +0.6**
baz=45,SNR=27
MLAC Mammoth Lakes 45.12 83 ⇓P **P 14 34 29.1 +2.0**
baz=45,SNR=6.2
SONM Songino Array 45.13 295 P **P 14 34 28.0 +0.8**
comp=Z,10nm,0.6s,mb4.8,baz=62,slow=7.9,SNR=75
SONM pP pP 14 34 44.3 -0.9
comp=Z,9.0nm,0.7s,baz=60,slow=9.5,SNR=6.5
SONM PcP PcP 14 36 06.7 +0.1
comp=Z,2.8nm,0.6s,baz=77,slow=3.6,SNR=4.1
SONM ScP ScP 14 39 52.2 -0.4
comp=Z,4.6nm,0.8s,baz=59,slow=2.2,SNR=13
SONM LR LR 14 54 39.2
comp=Z,394nm,18.1s,baz=61,slow=38
SONM Songino Array 45.13 295 P **P 14 34 28.0 +0.8**
SONM *PP pP 14 34 44.3 -0.9
SONM 14 36 06.7
V04C Ramage Ranch, 45.14 86 ⇓P **P 14 34 28.3 +1.0**
baz=45
PKD Parkfield 45.14 86 P **P 14 34 27.6 +0.3**
baz=45,SNR=9.7
U05C Westside ANR, 45.15 85 P **P 14 34 28.4 +1.0**
baz=45,SNR=10
M12A Wells 45.19 76 P **P 14 34 28.4 +0.7**
baz=45,SNR=12
QLMT Earthquake Lak 45.25 70 P **P 14 34 27.1 -1.1**
P10A Eureka 45.34 79 P **P 14 34 29.3 +0.4**
baz=45,SNR=13
L13A Double Diamond 45.37 75 P **P 14 34 29.4 +0.3**
baz=45,SNR=14
Q09A Carvers 45.38 80 P **P 14 34 30.1 +0.9**
baz=45,SNR=15
N12A Clover Valley, 45.45 77 P **P 14 34 30.1 +0.4**
baz=45,SNR=14
ZAK Zakamensk 45.46 300 *e*P **P 14 34 29.0 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.1
PTRM Twissleman Ran 45.53 86 *e*P **P 14 34 30.9 +0.4**
V05C Boulder Hill, 45.59 86 ⇑P **P 14 34 30.6 -0.2**
baz=46
HELL Mitchell Peak, 45.61 84 P **P 14 34 31.0 0.0**
baz=46,SNR=45
S08C White Mtn Res 45.61 83 P **P 14 34 32.0 +1.0**
baz=46,SNR=16
YMR Madison River 45.62 70 *e*P **P 14 34 29.5 -1.5**
comp=Z,12nm,0.6s,mb4.8
TIA Tai'an 45.65 275 P **P 14 34 31.8 +0.4**
M13A Montello 45.67 76 P **P 14 34 32.4 +0.9**
baz=46,SNR=6.6
RCTC Rector, Farmer 45.71 85 P **P 14 34 32.3 +0.4**
baz=46,SNR=8.3
P11A Circle Ranch, 45.81 79 P **P 14 34 33.3 +0.7**
baz=46,SNR=5.8
YFT Old Faithful 45.82 70 *e*P **P 14 34 32.8 +0.2**
R09A Tonopah 45.82 81 P **P 14 34 32.9 +0.2**
baz=46,SNR=79
TPH Tonopah 45.83 81 P **P 14 34 33.2 +0.4**
TPH pmax pmax
comp=Z,36nm,0.7s,mb5.2
TPH Tonopah 45.83 81 *e*P **P 14 34 33.0 +0.3**
comp=Z,36nm,0.7s,mb5.2
TIN Tinemaha 45.86 83 ⇑P **P 14 34 33.3 +0.3**
baz=46
SMMC Simmler 45.89 86 ⇓P **P 14 34 33.1 -0.1**
baz=46
MOY Mondy 45.98 302 *e*P **P 14 34 34.9 +0.9**
LKWY Lake 46.01 70 P **P 14 34 34.8 +0.7**
LKWY pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
LKWY Lake 46.01 70 *e*P **P 14 34 34.1 0.0**
comp=Z,8.1nm,0.6s,mb4.6
S09A Goldfield 46.05 82 P **P 14 34 34.8 +0.3**
baz=46,SNR=34
VES Vestal, Richgr 46.11 85 P **P 14 34 34.5 -0.5**
baz=46,SNR=30
HHC Hu-ho-hao-te 46.15 284 *e*P **P 14 34 36.3 +1.0**
HHC AP pP 14 34 54.3 +1.0
HHC PP PP 14 36 25.8 +1.1
HHC S **S 14 41 16.5 +0.6**
HHC XS sS 14 41 46.3 -0.3
HHC SCS ScS 14 44 22.0 -1.7
HHC AMB AMB
comp=Z,27nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,141nm,5.0s
HHC LR LR
comp=N,298nm,16.6s
HHC LR LR
comp=E,428nm,16.1s
HHC LR LR
comp=Z,161nm,17.2s
HVU Hansel Valley 46.25 74 P **P 14 34 36.1 0.0**
HVU pmax pmax
comp=Z,20nm,0.7s,mb5.0
HVU Hansel Valley 46.25 74 *e*P **P 14 34 35.5 -0.6**
comp=Z,20nm,0.7s,mb5.0
R10A Warm Springs 46.26 80 P **P 14 34 36.5 +0.3**
baz=46,SNR=20
PKM Peak Mountain 46.27 86 P **P 14 34 37.0 +0.8**
baz=46,SNR=7.4
MOOW Moose Ponds 46.28 71 *e*P **P 14 34 35.2 -1.1**
comp=Z,3.3nm,0.6s,mb4.2
Q11A Duckwater 46.31 79 P **P 14 34 36.7 +0.2**
baz=46,SNR=42
RLMT Red Lodge 46.34 68 *e*P **P 14 34 36.6 -0.1**
comp=Z,24nm,0.7s,mb5.0
CWC Cottonwood Cre 46.34 84 ⇓P **P 14 34 36.4 -0.3**
baz=46
P12A McGill 46.37 78 P **P 14 34 37.2 +0.2**
baz=46,SNR=26
GRAC Grapevine Rang 46.42 83 ⇑P **P 14 34 36.9 -0.5**
baz=46
SSE Sheshan 46.55 267 P **P 14 34 39.5 +1.1**
SSE AP pP 14 34 56.1 -0.3
SSE S **S 14 41 21.5 -0.1**
SSE XS sS 14 41 54.9 +2.6
SSE AMB AMB
comp=Z,46nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,94nm,2.8s,mb5.0
SSE LR LR
comp=N,224nm,22.9s
SSE LR LR
comp=E,169nm,22.9s
SSE LR LR
comp=Z,153nm,24.4s
SSE Sheshan 46.55 267 P **P 14 34 39.5 +1.1**
comp=Z,46nm,0.9s,mb5.2
SSE pP pP 14 34 56.1 -0.3
SSE S **S 14 41 21.5 -0.1**
SSE sS sS 14 41 54.9 +2.6
SSE LR LR
comp=Z,150nm,24.4s
ISA Isabella 46.60 85 P **P 14 34 38.4 -0.5**
baz=46,SNR=13
BGU Big Grassy Mou 46.62 75 *e*P **P 14 34 38.7 -0.2**
SBC Santa Barbara 46.64 87 ⇓P **P 14 34 38.8 -0.2**
baz=46
Q12A Willow Creek R 46.69 79 P **P 14 34 39.8 +0.3**
baz=47,SNR=19
FCC Fort Churchill 46.70 46 P **P 14 34 39.0 -0.6**
FCC pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
FCC Fort Churchill 46.70 46 *e*P **P 14 34 38.4 -1.2**
comp=Z,6.1nm,0.5s,mb4.6
ARVC Arvin 46.73 86 ⇓P **P 14 34 39.0 -0.8**
baz=47
DAC Darwin (Calif) 46.75 83 P **P 14 34 40.1 +0.1**
DAC pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
DAC Darwin (Calif) 46.75 83 *e*P **P 14 34 39.5 -0.4**
comp=Z,8.9nm,0.8s,mb4.5
GUMO Guam 46.88 228 LR LR 14 50 43.3
comp=Z,341nm,20.0s,baz=48,slow=31
MPMC Manual Prospec 46.95 84 P **P 14 34 41.8 +0.3**
baz=47,SNR=20
BSC Santa Cruz Isl 46.98 87 ⇑P **P 14 34 41.9 +0.1**
baz=47
FURC Furnace Creek, 47.08 83 P **P 14 34 42.8 +0.3**
baz=47,SNR=31
HWUT Hardware Ranch 47.08 74 *e*P **P 14 34 42.0 -0.5**
comp=Z,11nm,0.6s,mb4.8
OSI Osito Adit 47.13 86 P **P 14 34 43.5 +0.6**
baz=47,SNR=9.5
DUG Dugway 47.19 76 P **P 14 34 43.4 0.0**
DUG pmax pmax
comp=Z,59nm,1.3s,mb5.2
DUG Dugway 47.19 76 *e*P **P 14 34 42.0 -1.4**
comp=Z,59nm,1.3s,mb5.2
DUG Dugway 47.19 76 P **P 14 34 43.5 +0.1**
baz=47,SNR=24
LRMC Laurel Mountai 47.21 84 P **P 14 34 43.3 -0.2**
baz=47,SNR=17
BTO Baotou 47.23 285 *e*P **P 14 34 44.6 +0.9**
BLG Laguna Peak 47.26 87 P **P 14 34 43.7 -0.2**
baz=47,SNR=7.6
NOQ North Oquirrh 47.33 75 *e*P **P 14 34 45.0 +0.5**
comp=Z,14nm,0.5s,mb5.0
EDW2 Edwards Air Fo 47.41 85 P **P 14 34 44.7 -0.4**
baz=47,SNR=11
U10A Ash Meadows, A 47.44 82 P **P 14 34 45.5 +0.3**
baz=47,SNR=13
CTU Camp Tracy 47.53 75 *e*P **P 14 34 45.9 -0.1**
comp=Z,19nm,0.8s,mb5.0
PDAR Pinedale Array 47.56 71 P **P 14 34 45.3 -1.0**
comp=Z,18nm,0.5s,mb5.1,baz=310,slow=3.0,SNR=97
PDAR ScP ScP 14 40 00.6 -2.2
comp=Z,1.9nm,0.9s,baz=324,slow=2.1,SNR=4.7
PDAR LR LR 14 52 06.8
comp=Z,187nm,20.6s,baz=301,slow=33
DECC Green Verdugo 47.62 86 P **P 14 34 46.7 0.0**
baz=48,SNR=5.5
JLU Jordanelle 47.76 75 *e*P **P 14 34 47.6 -0.2**
NLU North Lily Min 47.79 76 *e*P **P 14 34 47.2 -0.8**
SHOC Shoshone 47.80 83 P **P 14 34 48.4 +0.3**
baz=48,SNR=9.4
GSC Goldstone 47.87 84 P **P 14 34 48.8 +0.2**
baz=48,SNR=43
DAU Daniels Canyon 47.99 75 P **P 14 34 52.3 +2.7**
DAU Daniels Canyon 47.99 75 *e*P **P 14 34 51.0 +1.3**
MPU Maple Canyon 48.02 75 P **P 14 34 48.6 -1.2**
comp=Z,6.3nm,0.5s,mb4.7
BFSC Mount Baldy St 48.04 86 P **P 14 34 50.2 +0.2**
baz=48,SNR=16
CIS Catalina Islan 48.14 87 ⇓P **P 14 34 50.5 -0.3**
baz=48
TUQ Turquoise Mtn. 48.33 83 P **P 14 34 52.2 +0.1**
baz=48,SNR=21
ARUT Antelope Range 48.33 79 P **P 14 34 52.1 -0.1**
ARUT Antelope Range 48.33 79 *e*P **P 14 34 52.0 -0.1**
V11A Goodsprings 48.37 82 P **P 14 34 52.6 +0.1**
baz=48,SNR=29
HEC Hector,Ludlow 48.47 84 P **P 14 34 53.6 +0.3**
baz=48,SNR=8.1
BBRC Big Bear Sol-O 48.48 85 P **P 14 34 53.9 +0.5**
baz=48,SNR=7.6
CCUT Cedar City 48.52 79 *e*P **P 14 34 54.0 +0.3**
U12A Valley of Fire 48.53 81 P **P 14 34 54.0 +0.3**
baz=48,SNR=26
MSU Marysvale 48.63 77 P **P 14 34 54.9 +0.4**
MSU Marysvale 48.63 77 *e*P **P 14 34 54.8 +0.2**
TMUT Trail Mountain 48.72 76 *e*P **P 14 34 55.3 +0.1**
MURC Murrieta 48.75 86 P **P 14 34 55.4 -0.1**
baz=49,SNR=5.8
V12A Nelson 48.80 82 P **P 14 34 56.0 +0.3**
baz=49,SNR=11
GMRC Granite Mounta 48.92 84 P **P 14 34 56.5 -0.2**
baz=49,SNR=48
W12A Cal Nev Ari 49.06 82 ⇓P **P 14 34 57.8 0.0**
baz=49
PFO Pinyon Flat Ob 49.21 85 P **P 14 34 58.0 -0.9**
comp=Z,62nm,0.7s,mb5.7,SNR=5.9
PFO Pinyon Flat Ob 49.21 85 P **P 14 34 57.8 -1.1**
PFO pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
PFO Pinyon Flat Ob 49.21 85 *e*P **P 14 34 57.2 -1.7**
comp=Z,6.5nm,0.7s,mb4.7
PFO Pinyon Flat Ob 49.21 85 P **P 14 34 58.6 -0.3**
baz=49,SNR=9.8
BELC Belle Mtn. 49.23 85 ⇓P **P 14 34 58.4 -0.7**
baz=49
SRU San Rafael 49.25 76 P **P 14 34 59.5 +0.2**
SRU pmax pmax
comp=Z,16nm,0.5s,mb5.2
SRU San Rafael 49.25 76 *e*P **P 14 34 58.4 -0.9**
comp=Z,16nm,0.5s,mb5.2
109C Camp Elliot, M 49.29 86 P **P 14 34 59.7 +0.1**
baz=49,SNR=8.0
NEE2 Needles Airpor 49.57 83 ⇓P **P 14 35 00.9 -0.8**
baz=50
IRM Iron Mountain 49.65 84 P **P 14 35 02.1 -0.1**
baz=50,SNR=22
MONP Monument Peak 49.71 86 P **P 14 35 02.8 0.0**
baz=50,SNR=12
BC3 Big Chuckw Mtn 49.80 85 P **P 14 35 02.8 -0.6**
baz=50,SNR=8.5
W13A Hualapai Mount 49.80 82 P **P 14 35 03.5 0.0**
baz=50,SNR=17
SPB4 Spitsbergen Ar 49.81 355 *e*P **P 14 35 03.1 -0.4**
SWSC Sam W. Stewart 50.06 85 ⇑P **P 14 35 04.6 -0.8**
baz=50
X13A Yucca 50.17 82 P **P 14 35 06.0 -0.3**
baz=50,SNR=10
PDMCI Parker Dam,Lak 50.17 83 P **P 14 35 05.9 -0.3**
baz=50,SNR=25
W14A Seligman 50.22 81 P **P 14 35 06.8 +0.2**
baz=50,SNR=24
Y12C Blythe 50.30 84 P **P 14 35 07.1 -0.2**
baz=50,SNR=30
ULM Lac du Bonnet 50.65 56 P **P 14 35 08.9 -1.0**
comp=Z,7.5nm,0.5s,mb5.0,baz=305,slow=7.5,SNR=34
ULM LR LR 14 58 14.0
comp=Z,426nm,18.6s,baz=42,slow=38
ULM Lac du Bonnet 50.65 56 *e*P **P 14 35 07.9 -2.0**
comp=Z,10nm,0.6s,mb5.0
Y13A Salome 50.69 83 P **P 14 35 10.1 -0.1**
baz=51,SNR=20
W15A Williams 50.74 81 P **P 14 35 11.6 +1.0**
baz=51,SNR=7.9
X14A Yava 50.83 82 P **P 14 35 11.5 +0.3**
baz=51,SNR=26
WUAZ Wupatki 51.06 80 *e*P **P 14 35 13.0 +0.1**
comp=Z,27nm,0.8s,mb5.3
WUAZ Wupatki 51.06 80 P **P 14 35 13.4 +0.4**
baz=51,SNR=16
Y14A Wickenburg 51.12 82 P **P 14 35 13.1 -0.2**
baz=51,SNR=15
WHN Wuhan 51.17 272 ⇑P **P 14 35 13.8 +0.1**
DAG Danmarks Havn 51.19 5⇑*i*P **P 14 35 14.2 +0.3**
comp=Z,6.0nm,1.0s,mb4.6
DAG Danmarks Havn 51.19 5⇑*i*P **P 14 35 14.2 +0.3**
DAG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
X15A Humboldt 51.22 81 P **P 14 35 14.5 +0.3**
baz=51,SNR=23
Z14A Wintersburg 51.54 83 ⇓P **P 14 35 16.5 0.0**
baz=51
MVCO Mesa Verde 51.69 76 *e*P **P 14 35 17.4 -0.2**
comp=Z,46nm,1.4s,mb5.3
MVCO Mesa Verde 51.69 76 ⇑P **P 14 35 17.8 +0.1**
baz=52
ISCO Idaho Springs 51.73 72 *e*P **P 14 35 18.4 +0.4**
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ISCO Idaho Springs 51.73 72 *e*P **P 14 35 18.4 +0.4**
comp=Z,5.7nm,0.8s,mb4.7
XAN Xi'an 52.13 279 P **P 14 35 20.8 -0.1**
XAN AMB AMB
comp=Z,18nm,1.2s,mb5.0
115A Sonoran Desert 52.43 83 P **P 14 35 23.6 +0.4**

baz=52,SNR=24
QZH Quanzhou 52.53 263⇑ *i*P **P 14 35 24.5 +0.7**
QZH S **S 14 42 38.4 -6.7**
QZH AMB AMB
comp=Z,170nm,1.3s,mb5.9
ZAL Zalesovo 52.66 312 P **P 14 35 25.3 +0.5**
comp=Z,2.2nm,0.4s,mb4.6,baz=51,slow=6.7,SNR=8.8
ZAL ScP ScP 14 40 25.8 +1.1
comp=Z,0.7nm,0.7s,baz=36,slow=3.4,SNR=3.3
ZAL LR LR 15 00 13.4
comp=Z,274nm,18.2s,baz=60,slow=39
ZAL Zalesovo 52.66 312 P **P 14 35 25.3 +0.5**
ZAL ScP ScP 14 40 25.8 +1.1
ZAL LR LR 15 00 13.3
NVS Novosibirsk 52.80 314 *e*P **P 14 35 25.1 -0.8**
NVS *e**PP pP 14 35 43.7 -0.6
NVS *e* 14 35 55.3
NVS *e*S **S 14 42 45.2 -3.6**
NVS *e*SS ScS 14 45 05.9 -2.8
NVS pmax pmax
comp=Z,55nm,1.9s,mb5.3
NVS pmax pmax
comp=N,28nm,2.0s
NVS pmax pmax
comp=E,34nm,2.0s
NVS smax
comp=E,28nm,2.0s
116A Eloy 52.85 83 P **P 14 35 26.3 +0.1**
baz=53,SNR=13
SDCO Great Sand Dun 53.14 74 *e*P **P 14 35 28.2 -0.1**
comp=E,43nm,1.5s,mb5.3
LZH Lanzhou 53.85 284 *e*P **P 14 35 34.3 +0.8**
LZH PP PP 14 37 38.0 +2.8
LZH S **S 14 42 57.0 -6.0**
LZH PS 14 43 25.0
LZH XS sS 14 43 40.0 +5.6
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,120nm,4.6s
LZH LR LR
comp=N,580nm,14.2s
LZH LR LR
comp=Z,710nm,15.9s
LZH Lanzhou 53.85 284 *e*P **P 14 35 34.3 +0.8**
LZH *PP pP 14 35 51.8 -0.2
LZH *SP sP 14 36 02.1 +1.9
LZH 14 37 38.0
LZH S **S 14 42 57.0 -6.0**
LZH PS 14 43 25.0
LZH *e*SS SS 14 46 42.0 -2.8
LZH pmax pmax
comp=Z,30nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,710nm,15.9s
LZH Lanzhou 53.85 284 *e*P **P 14 35 34.3 +0.8**
comp=Z,30nm,1.2s,mb5.2
LZH pP pP 14 35 51.8 -0.2
LZH sP sP 14 36 02.1 +1.9
LZH PP PP 14 37 38.0 +2.8
LZH S **S 14 42 57.0 -6.0**
LZH PS 14 43 25.0
LZH sS sS 14 43 40.0 +5.6
LZH *e*SS SS 14 46 42.0 -2.8
LZH LR LR
comp=Z,710nm,15.9s
GTA Gaotai 54.03 290 ⇓P **P 14 35 35.8 +0.9**
GTA AP pP 14 35 58.9 +5.6
GTA XP sP 14 36 10.3 +8.8
GTA PCP PcP 14 36 38.1 -1.0
GTA PP PP 14 37 40.1 +3.2
GTA SCP ScP 14 40 30.1 -0.6
GTA S **S 14 43 05.9 +0.4**
GTA AMB AMB
comp=Z,27nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,266nm,8.7s
GTA LR LR
comp=N,284nm,16.0s
GTA LR LR
comp=E,254nm,16.0s
GTA LR LR
comp=Z,188nm,17.1s
EYMN Ely 54.34 56 *e*P **P 14 35 35.8 -1.3**
comp=Z,10nm,0.6s,mb5.0
ANMO Albuquerque 54.43 77 P **P 14 35 37.9 +0.1**
ANMO pmax pmax
comp=Z,22nm,1.6s
ANMO Albuquerque 54.43 77 *e*P **P 14 35 37.4 -0.3**
comp=Z,22nm,1.6s,mb4.9
CBKS Cedar Bluff 55.82 69 P **P 14 35 47.2 -0.6**
CBKS pmax pmax
comp=Z,24nm,1.0s,mb5.2
CBKS Cedar Bluff 55.82 69 *e*P **P 14 35 46.7 -1.1**
comp=Z,24nm,0.9s,mb5.2
MNTX Cornudas Mount 57.32 79 *e*P **P 14 35 57.9 -0.5**
comp=Z,16nm,0.7s,mb5.2
ARCES ARCESS Array B 57.38 349 P **P 14 35 58.0 -0.8**
comp=Z,3.6nm,0.6s,mb4.6,baz=45,slow=7.0,SNR=13
ARCES pP pP 14 36 15.6 -1.9
comp=Z,6.9nm,0.7s,baz=25,slow=9.3,SNR=3.3
ARCES LR LR 15 00 33.6
comp=Z,523nm,19.1s,baz=9.3,slow=36
ARCES ARCESS Array B 57.38 349 P **P 14 35 58.1 -0.8**
ARCES *PP pP 14 36 15.6 -1.9
SCIA State Center 57.42 62 P **P 14 35 58.5 -0.6**
comp=Z,25nm,0.6s,mb5.4
KSU1 Kansas State U 57.42 67 *e*P **P 14 35 57.3 -1.9**
comp=Z,13nm,0.6s,mb5.1
CD2 Chengdu 57.45 280 P **P 14 35 58.0 -1.3**
CD2 AP pP 14 36 21.9 +4.0
CD2 XP sP 14 36 33.0 +6.9
CD2 PP PP 14 38 07.8 +0.4
CD2 S **S 14 43 44.1 -6.8**
CD2 XS sS 14 44 25.6 +3.0
CD2 SCS ScS 14 45 34.1 -7.9
CD2 SS SS 14 47 35.9 -5.6
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CD2 AMB AMB
comp=Z,150nm,6.4s
CD2 LR LR
comp=N,290nm,20.4s
CD2 LR LR
comp=E,270nm,14.4s
CD2 LR LR
comp=Z,300nm,19.2s
KURK Kurchatov 57.64 312 P **P 14 36 00.4 -0.3**
comp=Z,265nm,0.5s,SNR=37
KURK Kurchatov 57.64 312 ⇓P **P 14 36 00.9 +0.3**
SNR=12
KURK Kurchatov 57.64 312 ⇓*i*P **P 14 36 00.6 -0.1**
KURK Kurchatov 57.64 312 *e*P **P 14 36 00.5 -0.2**
comp=Z,20nm,0.5s,mb5.4
WMQ Urumqi 57.86 301 P **P 14 36 03.3 +1.1**
WMQ AP pP 14 36 24.6 +3.8
WMQ PCP PcP 14 36 55.5 +1.6
WMQ PP PP 14 38 12.8 +1.8
WMQ PPP 14 39 37.5
WMQ S **S 14 43 53.6 -2.7**
WMQ PS 14 44 21.5
WMQ XS sS 14 44 34.4 +6.4
WMQ SCS ScS 14 45 39.8 -5.2
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,336nm,6.0s
WMQ LR LR
comp=N,190nm,8.0s
WMQ LR LR
comp=E,836nm,8.0s
WMQ LR LR
comp=Z,380nm,22.0s
MK31 Makanchi Array 58.59 307 P **P 14 36 07.1 -0.2**
MK31 Makanchi Array 58.59 307 *e*P **P 14 36 06.8 -0.5**
MKAR Makanchi Array 58.59 307 *i*P **P 14 36 06.9 -0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
GYA Guiyang 58.82 274⇑ *i*P **P 14 36 09.0 +0.1**
GYA AP pP 14 36 33.8 +6.2
GYA XP sP 14 36 44.3 +8.6
GYA PCP PcP 14 36 58.3 +0.6
GYA PP PP 14 38 22.5 +2.9
GYA SCP ScP 14 40 48.6 -3.1
GYA S **S 14 44 05.0 -3.8**
GYA PS 14 44 33.3
GYA XS sS 14 44 45.5 +4.9
GYA SS SS 14 48 00.8 -2.2
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,130nm,5.0s
GYA LR LR
comp=N,540nm,18.4s
GYA LR LR
comp=E,490nm,16.9s
GYA LR LR
comp=Z,480nm,17.0s
WMOK Wichita Mounta 59.16 72 P **P 14 36 10.8 -0.5**
WMOK pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WMOK Wichita Mounta 59.16 72 *e*P **P 14 36 10.4 -0.9**
comp=Z,7.7nm,0.7s,mb4.8
TGY Tagaytay City 59.35 253 P **P 14 36 13.9 +1.3**
comp=Z,59nm,0.4s,baz=136,slow=5.4,SNR=6.6
TGY pP pP 14 36 30.6 -0.7
comp=Z,177nm,0.9s,baz=323,slow=9.7,SNR=3.6
BVA0 Borovoye Array 59.58 318 *i*P **P 14 36 14.7 +0.5**
BVAR Borovoye Array 59.58 318 P **P 14 36 14.7 +0.5**
comp=Z,16nm,0.4s,mb5.5,baz=54,slow=6.9,SNR=96
BRVK Borovoye 59.60 318 P **P 14 36 14.4 +0.1**
comp=Z,208nm,0.4s,SNR=14
BRVK Borovoye 59.60 318 P **P 14 36 15.5 +1.2**
SNR=18
BRVK Borovoye 59.60 318 *e*P **P 14 36 14.7 +0.4**
BRVK pmax pmax
comp=Z,70nm,1.1s,mb5.6
BRVK Borovoye 59.60 318 *e*P **P 14 36 14.7 +0.3**
comp=Z,70nm,1.1s,mb5.6
LTX Lajitas 60.03 80 P **P 14 36 17.1 -0.1**
LTX pmax pmax
comp=Z,16nm,0.6s,mb5.2
LTX Lajitas 60.03 80 *e*P **P 14 36 16.8 -0.5**
comp=Z,16nm,0.6s,mb5.2
TXAR Lajitas Array 60.03 80 P **P 14 36 16.9 -0.3**
comp=Z,13nm,0.6s,mb5.2,baz=303,slow=5.0,SNR=67
TXAR pP pP 14 36 34.5 -1.5
comp=Z,6.7nm,0.7s,baz=288,slow=5.1,SNR=5.0
TXAR Lajitas Array 60.03 80 P **P 14 36 16.9 -0.3**
TXAR pP pP 14 36 34.5 -1.5
SCHQ Schefferville 60.55 37 P **P 14 36 19.4 -1.3**
comp=Z,4.3nm,0.5s,mb4.7,baz=314,slow=6.3,SNR=15
SCHQ LR LR 15 04 47.6
comp=Z,443nm,19.8s,baz=112,slow=38
SCHQ Schefferville 60.55 37 P **P 14 36 19.4 -1.4**
SCHQ LR LR 15 04 47.6
ARU Arti 61.43 327 P **P 14 36 27.8 +1.0**
comp=Z,225nm,0.5s,SNR=14
ARU Arti 61.43 327⇑ *i*P **P 14 36 27.7 +0.9**
ARU *e* pP 14 36 46.2 +0.6
ARU *e* 14 37 05.6
ARU *e* 14 38 40.0
ARU *e*S **S 14 44 46.0 +3.7**
ARU *e*SS SS 14 48 49.0 +5.0
ARU pmax pmax
comp=Z,43nm,1.3s,mb5.3
ARU Arti 61.43 327 *e*P **P 14 36 27.6 +0.8**
comp=Z,42nm,1.0s,mb5.4
ARU *e* pP 14 36 46.3 +0.7
JCT Junction City 61.56 76 P **P 14 36 26.9 -0.7**
JCT pmax pmax
comp=Z,17nm,0.7s,mb5.2
JCT Junction City 61.56 76 P **P 14 36 26.5 -1.1**
comp=Z,17nm,0.6s,mb5.2
FVM French Village 61.68 64 *e*P **P 14 36 26.5 -2.0**
FVM pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
FVM French Village 61.68 64 *e*P **P 14 36 26.5 -2.0**
comp=Z,8.9nm,0.5s,mb5.0
KMI Kunming 62.21 276 P **P 14 36 32.8 +0.8**
KMI AP pP 14 36 56.5 +5.6
KMI XP sP 14 37 07.3 +8.4
KMI PCP PcP 14 37 11.9 +0.5
KMI PP PP 14 38 52.3 +2.7
KMI PPP 14 40 22.3
KMI SCP ScP 14 41 03.6 -3.2
KMI PCS PcS 14 41 13.8 -0.8
KMI S **S 14 44 48.1 -4.0**
KMI PS 14 45 19.1
KMI XS sS 14 45 29.0 +4.8
KMI SCS ScS 14 46 11.5 -6.0
KMI SS SS 14 48 53.8 -2.4
KMI SSS 14 51 36.9
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
KMI AMB AMB
comp=Z,124nm,3.8s
KMI LR LR
comp=N,180nm,23.2s
KMI LR LR
comp=E,216nm,13.8s
KMI LR LR
comp=Z,172nm,22.9s
KMI Kunming 62.21 276 P **P 14 36 32.7 +0.7**
KMI *PP pP 14 36 56.5 +5.6
KMI *SP sP 14 37 07.3 +8.4
KMI 14 37 11.9
KMI 14 38 52.3
KMI PPP 14 40 22.3
KMI S **S 14 44 48.1 -4.0**
KMI PS 14 45 19.1
KMI *SS sS 14 45 29.0 +4.8
KMI 14 46 11.5
KMI SS SS 14 48 53.8 -2.4
KMI SSS 14 51 36.9
KMI pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KMI MLR MLR
comp=Z,170nm,22.9s
KMI Kunming 62.21 276 P **P 14 36 32.7 +0.7**
comp=Z,6.0nm,1.0s,mb4.6
KMI pP pP 14 36 56.5 +5.6
KMI sP sP 14 37 07.3 +8.4
KMI PcP PcP 14 37 11.9 +0.5
KMI PP PP 14 38 52.3 +2.7
KMI PPP 14 40 22.3
KMI ScP ScP 14 41 03.6 -3.2
KMI PcS PcS 14 41 13.7 -0.9
KMI S **S 14 44 48.1 -4.0**
KMI PS 14 45 19.1
KMI sS sS 14 45 29.0 +4.8
KMI ScS ScS 14 46 11.5 -6.0
KMI SS SS 14 48 53.8 -2.4
KMI SSS 14 51 36.9
KMI LR LR
comp=Z,170nm,22.9s
MIAR Mount Ida 62.34 69 *e*P **P 14 36 31.6 -1.3**
MIAR pmax pmax
comp=Z,18nm,0.6s,mb5.3
MIAR Mount Ida 62.34 69 *e*P **P 14 36 31.6 -1.2**
comp=Z,18nm,0.6s,mb5.3
SIUC Southern Illin 62.55 63 *e*P **P 14 36 33.5 -0.7**
comp=Z,11nm,0.6s,mb5.0
JOF Joensuu 62.77 344 *e*p **P 14 36 34.1 -1.6**
comp=Z,4.7nm,0.3s,mb4.9
BLO Bloomington 62.98 60 P **P 14 36 35.5 -1.6**
BLO pmax pmax
comp=Z,17nm,0.6s,mb5.2
BLO Bloomington 62.98 60 *e*P **P 14 36 35.4 -1.7**
comp=Z,17nm,0.6s,mb5.2
USIN University of 63.22 62 *e*P **P 14 36 37.8 -0.9**
comp=Z,38nm,0.6s,mb5.5
WCI Wyandotte Cave 63.78 61 *e*P **P 14 36 40.9 -1.5**
WCI pmax pmax
comp=Z,17nm,0.7s,mb5.0
WCI Wyandotte Cave 63.78 61 *e*P **P 14 36 40.9 -1.5**
comp=Z,17nm,0.7s,mb5.0
KAF Kangasniemi 64.33 346 *e*p **P 14 36 44.0 -2.0**
comp=Z,2.8nm,0.4s,mb4.5
KAF Kangasniemi 64.33 346 *e*P **P 14 36 44.0 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
TKM2 Tokmak 2 64.68 308 P **P 14 36 49.5 +1.2**
SNR=9.4
OXF Oxford 64.75 66 P **P 14 36 47.4 -1.3**
OXF pmax pmax
comp=Z,47nm,0.5s,mb5.6
OXF Oxford 64.75 66 *e*P **P 14 36 47.2 -1.5**
comp=Z,48nm,0.4s,mb5.7
USP Ospenovka 64.96 309 P **P 14 36 50.9 +0.8**
SNR=21
FINES FINESS Array B 65.00 346 P **P 14 36 49.2 -1.2**
comp=Z,1.2nm,0.3s,mb4.1,baz=20,slow=9.0,SNR=19
FINES LR LR 15 07 23.9
comp=Z,438nm,18.5s,baz=356,slow=38
FINES FINESS Array B 65.00 346 *i*P **P 14 36 49.9 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
PLAL Pickwick Lake 65.16 65 *e*P **P 14 36 49.2 -2.2**
comp=Z,12nm,0.6s,mb4.9
KBK Karagaybulak 65.20 308 P **P 14 36 52.6 +1.0**
SNR=12
FRU Bishkek 65.23 308 *e*P **P 14 36 52.5 +0.7**
FRU *e* pP 14 37 10.0 -0.8
FRU pmax pmax
comp=Z,60nm,2.2s,mb5.0
FRNY Flat Rock 65.31 48 *e*P **P 14 36 49.3 -3.1**
AAK Ala-Archa 65.44 308 P **P 14 36 54.2 +1.0**
SNR=17
AAK Ala-Archa 65.44 308 P **P 14 36 53.1 -0.1**
comp=Z,109nm,0.5s,mb5.9,SNR=16
AAK Ala-Archa 65.44 308 ⇓P **P 14 36 53.2 0.0**
SNR=5.5
AAK Ala-Archa 65.44 308 *e*P **P 14 36 52.7 -0.5**
AAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
AAK Ala-Archa 65.44 308 *e*P **P 14 36 52.6 -0.5**
comp=Z,9.1nm,0.6s,mb4.8
KZA Kyzart 65.48 307 P **P 14 36 54.7 +1.2**
SNR=12
EKS2 Erkin-Say 65.77 309 P **P 14 36 56.4 +1.1**
SNR=21
LSA Lhasa 65.90 288 *e*P **P 14 36 58.0 +1.8**
LSA pmax pmax
comp=Z,26nm,1.1s,mb5.0
LSA Lhasa 65.90 288 *e*P **P 14 36 58.0 +1.8**
comp=Z,26nm,1.1s,mb5.0
MCWV Mont Chateau 66.14 56 *e*P **P 14 36 56.3 -1.4**
comp=Z,11nm,0.5s,mb4.9
BINY Binghamton 66.17 52 *e*P **P 14 36 56.3 -1.6**
comp=Z,29nm,0.5s,mb5.4
AML Almayashu 66.20 308 P **P 14 36 59.8 +1.7**
SNR=8.2
ACCN Adirondack Com 66.38 49 *e*P **P 14 36 57.4 -1.8**
SSPA Standing Stone 66.40 54 *e*P **P 14 36 57.9 -1.5**
comp=Z,20nm,0.6s,mb5.1
AKTK Aktyubinsk 66.45 323 P **P 14 37 00.6 +0.9**
AKTK pP pP 14 37 18.6 -0.2
AKTO Aktyubinsk 66.45 323 P **P 14 37 00.6 +0.9**
comp=Z,19nm,0.6s,mb5.1,baz=60,slow=8.2,SNR=87
AKTO pP pP 14 37 18.6 -0.2
comp=Z,23nm,0.9s,baz=32,slow=5.7,SNR=7.4
TZTN Tazewell 66.50 61 *e*P **P 14 36 58.8 -1.2**
comp=Z,14nm,0.6s,mb5.0
ORR Orenburg 66.66 326 *e*P **P 14 37 01.7 +0.7**
ORR *i* pP 14 37 20.9 +0.8
ORR pmax pmax
comp=Z,30nm,1.4s,mb4.9
AB31 Akbulak array 66.68 321 *e*P **P 14 37 01.8 +0.7**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
KK31 Karatay Array 66.99 311 *i*P **P 14 37 03.3 +0.2**
KK31 pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
KKAR Karatay Array 66.99 311 P **P 14 37 03.3 +0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
KSH Kashi 67.04 305 P **P 14 37 05.3 +1.8**
KSH AP pP 14 37 30.3 +7.8
KSH PCP PcP 14 37 32.8 +1.5
KSH XP sP 14 37 40.0 +9.4
KSH PP PP 14 39 36.3 +4.4
KSH PPP 14 41 14.3
KSH SCP 14 41 25.8
KSH PCS 14 41 35.5
KSH S S 14 45 50.4 -1.2
KSH XS sS 14 46 33.3 +9.3
KSH SCS ScS 14 46 50.9 -3.6
KSH AMB AMB
comp=Z,57nm,1.0s,mb5.4
KSH AMB AMB
comp=Z,531nm,3.7s
KSH LR LR
comp=N,2μm,6.2s
KSH LR LR
comp=E,3μm,5.8s
KSH LR LR
comp=Z,1μm,5.8s
NB2 NORSAR Subarra 67.05 353 P **P 14 37 02.8 -0.7**
comp=Z,2.4nm,0.6s,mb4.2,baz=8.8,slow=6.5
NOA NORSAR Array B 67.05 353 P **P 14 37 02.3 -1.1**
comp=Z,1.7nm,0.5s,mb4.1,baz=8.2,slow=6.3,SNR=8.8
NOA pP pP 14 37 21.8 -0.8
comp=Z,14nm,1.0s,baz=7.0,slow=6.3,SNR=12
NOA LR LR 15 04 21.2
comp=Z,188nm,21.1s,baz=0.0,slow=34
NOA NORSAR Array B 67.05 353 P **P 14 37 02.3 -1.2**
NOA *PP pP 14 37 21.8 -0.7
NOA NORSAR Array B 67.05 353 P **P 14 37 02.3 -1.1**
NOA pP pP 14 37 21.8 -0.8
NOA LR LR 15 04 21.2
ELN Prospectdale 67.48 58 *e*P **P 14 37 04.3 -2.0**
MVL Millersville 67.65 53 *e*P **P 14 37 05.7 -1.6**
BLA Blacksburg 67.67 58 P **P 14 37 06.5 -0.9**
BLA pmax pmax
comp=Z,16nm,0.6s,mb5.0
BLA Blacksburg 67.67 58 *e*P **P 14 37 06.2 -1.3**
comp=Z,16nm,0.6s,mb5.0
HFS Hagfors 67.75 352 P **P 14 37 06.5 -1.5**
comp=Z,1.6nm,0.3s,mb4.3,baz=24,slow=8.4,SNR=15
SDMD Soldier's Deli 67.86 54 *e*P **P 14 37 07.1 -1.5**
PAL Palisades 68.08 51 P **P 14 37 09.1 -0.9**
PAL pmax pmax
comp=Z,15nm,0.6s,mb5.0
PAL Palisades 68.08 51 *e*P **P 14 37 08.6 -1.4**
comp=Z,15nm,0.6s,mb5.0
CPNY Central Park 68.22 51 *e*P **P 14 37 10.0 -0.9**
SHL Shillong 68.51 284 *e*P **P 14 37 14.0 +1.3**
SHL *e*x x 14 46 07.0
OBN Obninsk 68.91 338⇓*i*P **P 14 37 14.0 -1.2**
OBN *e* pP 14 37 35.2 +0.9
OBN *e*S S 14 46 13.5 -0.3
OBN pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
CHTO Chiang Mai 69.24 274 *e*P **P 14 37 16.7 -0.5**
CHTO *e* pP 14 37 34.1 -2.3
CHTO pmax pmax
comp=Z,16nm,1.1s,mb4.8
CHTO Chiang Mai 69.24 274 *e*P **P 14 37 16.7 -0.5**
comp=Z,16nm,1.1s,mb4.8
CHTO *e* pP 14 37 34.1 -2.2
JSC Jenkinsville 69.43 61 P **P 14 37 17.3 -1.1**
JSC Jenkinsville 69.43 61 *e*P **P 14 37 17.1 -1.3**
CM31 Chiang Mai Arr 69.51 274 *e*P **P 14 37 17.8 -1.1**
comp=Z,7.9nm,0.5s,mb4.8
LHS Liberty Hill 69.53 60 P **P 14 37 18.0 -1.0**
LHS Liberty Hill 69.53 60 *e*P **P 14 37 17.8 -1.2**
TAOE Nuku Hiva Isla 69.95 136 *e*LR LR 14 58 17.9
comp=Z,2μm,31.4s
TAOE Nuku Hiva Isla 69.95 136 *e*T 15 53 01.4
comp=Z,78nm,0.2s
GUN Gumba 70.32 290 *e*P **P 14 37 25.1 +1.2**
comp=Z,172nm,0.9s,mb5.9
KKN Kakani 70.76 291 *e*P **P 14 37 27.5 +1.0**
comp=Z,51nm,0.7s,mb5.5
KKN Kakani 70.76 291 *e*P **P 14 37 27.5 +1.0**
KKN pmax pmax
comp=Z,51nm,0.7s,mb5.5
PKI Pulchoki 70.85 290 *e*P **P 14 37 28.0 +0.9**
comp=Z,166nm,1.2s,mb5.7
GKN Gorkha 70.97 291 *e*P **P 14 37 28.6 +0.8**
comp=Z,138nm,1.1s,mb5.7
DMN Daman 71.00 291 *e*P **P 14 37 29.1 +1.1**
comp=Z,85nm,1.1s,mb5.5
KOLN Koldanda 71.75 292 *e*P **P 14 37 33.2 +0.7**
comp=Z,58nm,0.9s,mb5.4
PMOR Pomariorio Ree 72.56 146 *e*T 15 56 19.3
comp=Z,11nm,0.2s
EKA Eskdalemuir Ar 73.19 1 P **P 14 37 40.7 -0.4**
comp=Z,2.3nm,0.4s,mb4.4,baz=355,slow=4.4,SNR=35
EKA pP pP 14 37 59.5 -0.9
comp=Z,6.2nm,0.9s,baz=350,slow=4.2,SNR=5.5
BOK Bokaro 73.42 287 *e*P **P 14 37 43.0 +0.5**
BOK AMb AMB 14 37 45.7
comp=Z,28nm,1.4s,mb4.9
DWPF Disney 74.04 65 *e*P **P 14 37 45.5 -0.5**

comp=Z,21nm,0.6s,mb5.0
DZM Mont Dzumac 74.38 192 P **P 14 37 47.9 -0.1**
comp=Z,12nm,1.1s,mb4.6,baz=45,slow=9.5,SNR=4.5
KBL Kabul 74.39 306 *e*P **P 14 37 47.3 -0.8**
KBL *e* pP 14 38 05.7 -1.7
PPT Papeete 74.39 149 *e*LR LR 15 00 16.3
comp=Z,1μm,29.0s,baz=345
PPT Papeete 74.39 149 *e*T 15 58 36.9
comp=Z,20nm,0.3s
PPT Papeete 74.39 149 LR LR 15 01 54.1
comp=Z,439nm,20.3s,baz=263,slow=29
PAE Paea 74.48 149 *e*T 15 58 43.4
comp=Z,22nm,0.3s
AKASG Malin Array Be 74.65 341 P **P 14 37 48.5 -1.0**
comp=Z,2.9nm,0.3s,mb4.4,baz=20,slow=6.3,SNR=13
AKASG pP pP 14 38 07.3 -1.6
comp=Z,5.2nm,0.6s,baz=21,slow=5.6,SNR=4.2
AKASG LR LR 15 14 18.0
comp=Z,239nm,19.9s,baz=10.0,slow=38
AKASG Malin Array Be 74.65 341 P **P 14 37 48.5 -1.1**
AKASG *PP pP 14 38 07.4 -1.5
AKBB Malin Array Si 74.65 341 P **P 14 37 48.8 -0.8**
AKBB Malin Array Si 74.65 341 *e*P **P 14 37 48.4 -1.2**
KIEV Kiev 74.66 341 P **P 14 37 48.8 -0.8**
KIEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
KIEV Kiev 74.66 341 *e*P **P 14 37 48.3 -1.4**
comp=Z,6.5nm,0.6s,mb4.5
TVO Taravao 74.70 149 *e*T 15 58 59.8
comp=Z,7.1nm,0.3s
KAKA Kakadu 75.75 227⇓*i*P **P 14 37 54.5 -1.4**
comp=Z,35nm,1.1s,mb5.0
KAKA *e*pP pP 14 38 12.3 -3.0
CLL Collm 76.54 351 P sP 14 38 23.0 -4.8
CLL *e* 14 38 46.0
CLL Collm 76.54 351 *e*(pP) pP 14 38 23.0 +3.2
BRG Berggiesshubel 76.88 350 *e*(P) sP 14 38 29.7 +0.1
comp=Z,3.3nm,1.3s
UPC Upice 77.00 349 *e*P **P 14 38 02.5 -0.5**
CTA Charters Tower 77.07 211 *e*P **P 14 38 02.2 -1.2**
comp=Z,16nm,1.1s,mb4.7
CTA *e*pP pP 14 38 20.0 -2.9
CTA Charters Tower 77.07 211 P **P 14 38 02.5 -0.9**
comp=Z,18nm,1.0s,mb4.8,baz=11,slow=6.7,SNR=12
CTA pP pP 14 38 20.4 -2.5
comp=Z,7.4nm,0.9s,baz=352,slow=9.7,SNR=3.4
CTA Charters Tower 77.07 211 P **P 14 38 02.5 -0.9**
CTA *PP pP 14 38 20.4 -2.5
CTA pmax pmax
comp=Z,18nm,1.0s
CTA pmax pmax
comp=Z,7.0nm,0.9s
CTAO Charters Tower 77.07 211 *e*P **P 14 38 02.4 -1.0**
CTAO pmax pmax
comp=Z,37nm,1.5s,mb4.9
CTAO Charters Tower 77.07 211 *e*P **P 14 38 02.4 -1.0**
comp=Z,38nm,1.5s,mb4.9
DPC Dobruska-Polom 77.12 349 *e*P **P 14 38 05.0 +1.4**
DPC *e*pP pP 14 38 27.4 +4.3
MOX Moxa 77.33 352 *e*P sP 14 38 26.7 -5.5
KIV Kislovodsk 77.34 329 *e*P **P 14 38 05.9 +1.0**
KIV pmax pmax
comp=Z,16nm,1.2s,mb4.6
KIV MLR MLR
comp=Z,187nm,18.0s
STHS Stebnicka Huta 77.34 345 *e*P **P 14 38 06.0 +1.1**
STHS *e* pP 14 38 29.2 +4.8
STHS Stebnicka Huta 77.34 345 *e*pP pP 14 38 29.2 +4.8
STHS *e* 14 38 06.0
KOLS Kolonicke sedl 77.64 344 *e*P **P 14 38 06.5 -0.1**
KOLS *e* pP 14 38 27.7 +1.6
NKC Novy Kostel 77.66 351 *e*P **P 14 38 07.3 +0.7**
NKC *e*pP pP 14 38 29.6 +3.5
PRU Pruhonice 77.68 350 *e*P **P 14 38 06.6 -0.2**
PRU *e*pP pP 14 38 29.8 +3.5
AJM Ajmer 77.80 297 *e*P **P 14 38 07.3 -0.1**
AJM AMb AMB 14 38 08.9
comp=Z,19nm,1.5s,mb4.6
CRVS Cervenica-Dubn 77.81 345 *e*P sP 14 38 32.3 -2.6
UZH Uzhgorod 77.93 344 *e*P **P 14 38 02.0 -6.2**
UZH *e* pP 14 38 19.0 -8.7
UZH *i* 14 38 32.7
GRA1 Grafenberg Arr 78.31 352 *e*P **P 14 38 08.8 -1.4**
comp=Z,6.0nm,1.2s,mb4.2
GRA1 LR LR
comp=Z,200nm,21.1s
GRF Grafenberg Arr 78.31 352 *e*P **P 14 38 08.8 -1.4**
comp=Z,6.0nm,1.2s,mb4.2
GRF *e*L 15 08 00.1
comp=Z,164nm,21.1s
GRF Grafenberg Arr 78.31 352 *e*P **P 14 38 08.8 -1.4**
GRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
GRF MLR MLR
comp=Z,200nm,21.1s
GRF Grafenberg Arr 78.31 352 *e*P **P 14 38 08.8 -1.4**
GRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
GRF MLR MLR
comp=Z,200nm,21.1s
KECS Kecovo 78.37 345 *e*pP pP 14 38 34.8 +4.7
BAIF Baives 78.39 356 *e*P **P 14 38 10.9 +0.2**
BURAR Bucovina Array 78.39 342⇓*i*P **P 14 38 10.7 0.0**
VYHS Vyhne 78.60 347 *e*P sP 14 38 35.5 -3.8
KHC Kasperske Hory 78.63 350 *e*P **P 14 38 08.7 -3.3**
KHC *e*pP pP 14 38 35.5 +3.9
BHPL Bhopal 78.77 293 *e*P **P 14 38 12.3 -0.5**
BHPL AMb AMB 14 38 15.1
comp=Z,28nm,1.6s,mb4.8
GERES GERESS Array B 78.90 350 P **P 14 38 12.8 -0.7**
comp=Z,0.6nm,0.5s,baz=27,slow=5.3,SNR=8.9
GERES LR LR 15 18 02.0
comp=Z,283nm,18.2s,baz=186,slow=39
PSZ Piszkesteto 79.01 346⇑*i*P sP 14 38 38.6 -3.0
ZST Bratislava 79.14 348 *e*P sP 14 38 35.8 -6.5
ZST Bratislava 79.14 348 *e*pP pP 14 38 35.8 +1.5
FLN La Foliniere 79.78 360 *e*P **P 14 38 18.1 -0.2**
FLN *e*MLR
comp=Z,176nm,21.8s
FLN La Foliniere 79.78 360 *e*P **P 14 38 18.1 -0.2**
FLN LR LR
comp=Z,180nm,21.8s
TBI Tubuai 79.85 151 *e*LR LR 15 02 49.2
comp=Z,807nm,33.8s,baz=343
TBI Tubuai 79.85 151 *e*T 16 05 26.2
comp=Z,5.0nm,0.3s
CDF Champ du Feu 79.88 354 *e*P **P 14 38 18.7 -0.1**
comp=Z,2.9nm,0.5s,mb4.1
CDF Champ du Feu 79.88 354 *e*P **P 14 38 18.7 -0.1**
CDF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
CDF Champ du Feu 79.88 354 *e*P **P 14 38 18.7 -0.1**
comp=Z,1.5nm,0.5s,mb4.1
BFO Black Forest 79.89 354 *e*P **P 14 38 18.2 -0.7**
MEZF Maizieres J'vi 79.91 356 *e*P **P 14 38 19.3 +0.3**
LDF La Druitiere 79.95 359 *e*P **P 14 38 18.5 -0.7**
comp=Z,12nm,0.6s,mb4.6
LDF La Druitiere 79.95 359 *e*P **P 14 38 18.5 -0.7**
LDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
LDF La Druitiere 79.95 359 *e*P **P 14 38 18.5 -0.7**
comp=Z,5.9nm,0.6s,mb4.6
GRR Gorron 80.16 360 *e*P **P 14 38 19.4 -0.9**
comp=Z,15nm,0.6s,mb4.7
GRR Gorron 80.16 360 *e*P **P 14 38 19.4 -0.9**
GRR pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
GRR Gorron 80.16 360 *e*P **P 14 38 19.4 -0.9**
comp=Z,7.4nm,0.6s,mb4.7
ROSF Rostrenen 80.19 1 *e*P **P 14 38 19.7 -0.8**
MLR Muntele Rosu 80.28 341 P **P 14 38 22.2 +1.2**
comp=Z,2.4nm,0.6s,mb4.2,baz=35,slow=2.7,SNR=4.8
MLR Muntele Rosu 80.28 341⇑*i*P **P 14 38 22.2 +1.2**
SGMF Saint Gilles 80.29 1 *e*P **P 14 38 20.2 -0.8**
comp=Z,11nm,0.5s,mb4.7
SGMF Saint Gilles 80.29 1 *e*P **P 14 38 20.2 -0.8**
SGMF pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
SGMF Saint Gilles 80.29 1 *e*P **P 14 38 20.2 -0.8**
comp=Z,5.5nm,0.5s,mb4.6
HAU Haudompre 80.33 355 *e*P **P 14 38 20.6 -0.7**
comp=Z,2.9nm,0.4s,mb4.1
HAU *e*MLR
comp=Z,251nm,18.5s
HINF Hinteralfeld 80.50 355 *e*P **P 14 38 22.5 +0.4**
comp=Z,2.0nm,0.5s,mb3.9
HINF Hinteralfeld 80.50 355 *e*P **P 14 38 22.5 +0.4**
HINF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
HINF Hinteralfeld 80.50 355 *e*P **P 14 38 22.5 +0.4**
comp=Z,1.0nm,0.5s,mb3.9
VOIR 80.51 342⇑*i*P **P 14 38 23.0 +0.8**
WATA Walderalm 80.61 351⇓*i*P **P 14 38 22.4 -0.3**
comp=Z,4.1nm,0.5s,mb4.5
WATA Walderalm 80.61 351⇓*i*P **P 14 38 22.4 -0.3**
WATA pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
WATA Walderalm 80.61 351⇓*i*P **P 14 38 22.4 -0.3**
comp=Z,4.1nm,0.5s,mb4.5
WTTA Wattenberg 80.68 351⇑*i*P **P 14 38 23.3 +0.2**
comp=Z,4.6nm,0.5s,mb4.6
WTTA Wattenberg 80.68 351⇑*i*P **P 14 38 23.3 +0.2**
WTTA pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
KBA Koelnbreinsper 80.69 350⇑*i*P **P 14 38 23.9 +0.7**
comp=Z,10nm,0.5s,mb4.9
KBA Koelnbreinsper 80.69 350⇑*i*P **P 14 38 23.9 +0.7**
KBA pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
BZS Buzias 80.97 344⇑*i*P **P 14 38 23.9 -0.8**
GZR Gura Zlata 80.98 343⇑*i*P **P 14 38 24.7 0.0**
LOR Lormes 81.19 357 *e*P **P 14 38 25.7 -0.1**
comp=Z,2.1nm,0.4s,mb4.0
LOR *e*MLR
comp=Z,217nm,20.2s
WB2 Warramunga Arr 81.34 222 *e*P **P 14 38 24.2 -2.4**
WB2 *e*pP pP 14 38 43.0 -3.3
WRA Warramunga Arr 81.34 222 P **P 14 38 25.1 -1.5**
comp=Z,11nm,1.0s,mb4.6,baz=36,slow=6.1,SNR=40
WRA pP pP 14 38 43.1 -3.2
comp=Z,5.7nm,0.8s,baz=34,slow=6.2,SNR=7.0
SSF Saint Saulge 81.41 357 *e*P **P 14 38 27.0 0.0**
comp=Z,3.7nm,0.5s,mb4.2
SSF Saint Saulge 81.41 357 *e*P **P 14 38 27.0 0.0**
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
SSF Saint Saulge 81.41 357 *e*P **P 14 38 27.0 0.0**
comp=Z,1.9nm,0.5s,mb4.2
TGUH Tegucigalpa,Un 81.46 78 P **P 14 38 26.2 -1.1**
PSI Prapat 81.57 264 P **P 14 38 27.6 -0.2**
comp=Z,18nm,0.9s,mb4.9,baz=360,slow=1.8,SNR=12
PSI pP pP 14 38 46.1 -1.4
comp=Z,13nm,1.0s,baz=2.6,slow=3.2,SNR=4.3
AVF Avril sur Loir 81.68 357 *e*P **P 14 38 28.3 -0.1**
SMF Signal de Mont 81.81 357 *e*P **P 14 38 28.1 -1.0**
comp=Z,2.2nm,0.3s,mb4.1
BGF Bois d'Agland 81.93 357 *e*P **P 14 38 29.7 0.0**
TCF Toulx Ste Croi 82.22 358 *e*P **P 14 38 31.6 +0.4**
HYB Hyderabad 82.68 289 *i*P **P 14 38 33.5 -0.1**
HYB *e*S S 14 48 48.0 +2.6
HYB Hyderabad 82.68 289 *e*P **P 14 38 33.5 -0.1**
LFF La Frestale 83.60 359 *e*P **P 14 38 38.1 -0.3**
comp=Z,8.5nm,0.5s,mb4.5
LFF La Frestale 83.60 359 *e*P **P 14 38 38.1 -0.3**
LFF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
LFF La Frestale 83.60 359 *e*P **P 14 38 38.1 -0.3**
comp=Z,4.3nm,0.5s,mb4.5
FITZ Fitzroy Crossi 83.61 230⇓*i*P **P 14 38 37.8 -0.6**
comp=Z,29nm,1.0s,mb5.1
FITZ *e*pP pP 14 38 55.4 -2.7
FITZ Fitzroy Crossi 83.61 230 P **P 14 38 37.9 -0.5**
comp=Z,14nm,0.6s,mb5.0,baz=27,slow=4.5,SNR=27
FITZ pP pP 14 38 55.7 -2.4
comp=Z,9.0nm,0.9s,baz=68,slow=3.1,SNR=4.0
MALT Malatya 83.81 330⇓*i*P **P 14 38 42.1 +2.7**
BRTR Keskin Array B 83.91 334 P **P 14 38 40.6 +0.6**
comp=Z,1.5nm,0.6s,mb4.0,baz=36,slow=2.8,SNR=8.2
BRTR pP pP 14 38 57.7 -2.0
comp=Z,2.0nm,0.9s,baz=71,slow=1.9,SNR=4.1
BRTR Keskin Array B 83.91 334 *i*P **P 14 38 40.5 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
POO Poona 84.53 293 *e*P **P 14 38 39.0 -4.1**
comp=Z,38nm,1.2s,mb5.2
ASAR Alice Springs 84.85 221 P **P 14 38 43.7 -1.0**
comp=Z,4.1nm,0.6s,mb4.5,baz=20,slow=4.9,SNR=93
ASAR pP pP 14 39 02.5 -2.0
comp=Z,4.3nm,0.8s,baz=30,slow=6.5,SNR=7.4
ASAR PKKPbc PKKPbc 14 56 52.6 +0.1
comp=Z,0.2nm,0.5s,baz=201,slow=1.9,SNR=5.6
ASAR Alice Springs 84.85 221 P **P 14 38 43.7 -1.0**
ASAR *PP pP 14 39 02.5 -2.0
MDRS Chennai 85.08 285 *e*P **P 14 38 44.9 -1.0**
MDRS AMb AMB 14 38 48.4
comp=Z,15nm,0.1s,mb5.7
KAD Karad 85.31 292 *e*P **P 14 38 46.5 -0.5**
ESDC Sonseca Array 88.84 2 P **P 14 39 02.6 -1.5**
comp=Z,0.5nm,0.5s,mb3.8,baz=353,slow=4.6,SNR=5.8
ESDC LR LR 15 17 42.3
comp=Z,117nm,18.3s,baz=350,slow=35
STKA Stephens Creek 89.53 211⇓*i*P **P 14 39 06.8 -0.5**
comp=Z,21nm,1.4s,mb5.1
STKA Stephens Creek 89.53 211 P **P 14 39 06.9 -0.5**
comp=Z,13nm,0.7s,mb5.2,baz=347,slow=6.3,SNR=14
STKA LR LR 15 14 57.8
comp=Z,414nm,20.6s,baz=24,slow=33
KEST Kesra 92.32 351 LR LR 15 25 50.8
comp=Z,84nm,21.6s,baz=271,slow=39
TORD Torodi Ar. Bea 115.25 357 PKP PKPdf 14 44 49.9 -1.3
comp=Z,0.6nm,0.4s,baz=355,slow=2.5,SNR=11
TORD PKKPbc PKKPbc 14 55 29.9 +4.2
comp=Z,0.7nm,0.6s,baz=189,slow=3.6,SNR=9.2
TORD Torodi Ar. Bea 115.25 357 PKP PKPdf 14 44 49.9 -1.3
TORD PKKPbc PKKPbc 14 55 29.9 +4.2
LPAZ La Paz 116.85 82 PKP PKPdf 14 44 54.3 +0.1
comp=Z,0.5nm,0.7s,baz=153,slow=2.3,SNR=2.2
KMBO Kilima Mbogo 120.10 314 PKP PKPdf 14 45 00.5 +0.1
comp=Z,1.5nm,0.8s,baz=67,slow=20,SNR=3.6
VNDA Vanda 129.51 185 PKP PKPdf 14 45 16.8 -1.6
comp=Z,1.3nm,1.0s,baz=35,slow=1.9,SNR=4.2
VNDA SKPbc 14 48 32.3
comp=Z,2.2nm,0.7s,baz=340,slow=2.6,SNR=9.8
PLCA Paso Flores 132.51 105 PKP PKPdf 14 45 23.7 -0.5
comp=Z,2.4nm,0.9s,baz=341,slow=8.6,SNR=3.3
PLCA pPKP pPKPdf 14 45 42.0 -2.9
comp=Z,1.4nm,0.7s,baz=67,slow=3.4,SNR=2.2
PLCA SKPbc SKPbc 14 48 45.4 +0.7
comp=Z,5.6nm,1.0s,baz=278,slow=4.0,SNR=7.6
PLCA Paso Flores 132.51 105 PKP PKPdf 14 45 23.7 -0.5
PLCA pPKP pPKPdf 14 45 42.0 -2.9
PLCA SKPbc SKPbc 14 48 45.4 +0.7
QSPA South Pole Qui 141.58 180 *e*PKPpre 14 45 32.5
TSUM Tsumeb 144.26 329 PKP PKPdf 14 45 44.6 -1.0
comp=Z,5.6nm,1.1s,baz=87,slow=1.8,SNR=7.6
TSUM Tsumeb 144.26 329 *e*PKPdf PKPdf 14 45 44.2 -1.4
MAW Mawson 145.94 218 *e*P PKPdf 14 45 46.5 -2.0
comp=Z,9.6nm,1.1s
MAW *e*pP 14 46 07.8
MAW Mawson 145.94 218 PKPbc PKPbc 14 45 47.0 -2.3
comp=Z,8.1nm,0.6s,baz=84,slow=5.5,SNR=20
MAW pPKPbc pPKPbc 14 46 05.8 -3.9
comp=Z,7.8nm,0.7s,baz=95,slow=7.6,SNR=4.8
MAW Mawson 145.94 218 *e*PKP2 PKPab 14 45 47.6 -2.3
PMSA Palmer Station 146.07 137 PKPbc PKPbc 14 45 47.7 -2.0
comp=Z,12nm,0.8s,baz=259,slow=5.1,SNR=10
PMSA SKPbc SKPbc 14 49 21.3 -1.1
comp=Z,5.0nm,0.6s,baz=333,slow=2.3,SNR=4.4
LBTB Lobatse 146.36 313 *e*PKP2 PKPab 14 45 50.5 -1.0
LBTB Lobatse 146.36 313 *e*PKPbc PKPbc 14 45 50.0 -0.5
BOSA Boshof 149.57 309 PKPbc PKPbc 14 45 59.0 -0.1
comp=Z,9.6nm,0.5s,baz=40,slow=2.7,SNR=50
BOSA Boshof 149.57 309 PKP2 PKPbc 14 45 59.1 0.0
BOSA pmax pmax
comp=Z,10.0nm,0.5s
BOSA Boshof 149.57 309 *e*PKPbc PKPbc 14 45 58.8 -0.3
SYO Syowa Base 154.28 213⇓*e*PKPbc PKPbc 14 46 07.3 -2.5
SYO Syowa Base 154.28 213⇓*e*PKPab PKPab 14 46 21.2 -2.8
SNAA Sanae 160.07 178 PKP PKPdf 14 46 05.1 -3.8
comp=Z,0.4nm,0.8s,baz=76,slow=0.7,SNR=3.1
SNAA PKPab PKPab 14 46 45.4 -3.6
comp=Z,0.5nm,0.5s,baz=168,slow=12,SNR=7.7

*ISCJB **24** 14:37:41.8±1.6, 55S±01×1494E±02, h149km±14km, mb3.9/7, Error ellipse: s-maj=33.8km s-min=12.6km az=41.8*
*NEIC **24** 14:37:44.1±2.0, 554S×149.35E, h156km±18km, mb4.4/3, Error ellipse: s-maj=26.1km s-min=14.4km az=99.0*
*IDC **24** 14:37:45.8±1.6, 565S×149.38E, h171km±13km, mb3.6/8, mb1 3.9/10, mb1mx3.8/16, mbtmp3.7/10, Error ellipse: s-maj=38.5km s-min=9.4km az=114.0*

ISC 24 14:37:44.9±1.5, 56S±01×1494E±02, h163km±12km, n22, σ0.9/90/22, mb3.9/7, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.39 210**		P	**Pn**	**14 38 49.6**	**-1.0**
	37nm,0.3s,baz=27,slow=5.5,SNR=79						
PMG				S	**Sn**	**14 39 42.4**	**+0.7**
	40nm,0.3s,baz=113,slow=19,SNR=18						
PMG	**Port Moresby**	**4.39 210**		*e*Pn	**Pn**	**14 38 49.4**	**-1.1**
PMG				*e*Sn	**Sn**	**14 39 41.9**	**+0.2**
CTA	**Charters Tower**	**14.73 192**		*e*P	**Pn**	**14 41 05.6**	**+0.2**
	9.5nm,0.8s						
CTA	**Charters Tower**	**14.73 192**		P	**Pn**	**14 41 06.0**	**+0.6**
	0.3nm,0.3s,baz=18,slow=14,SNR=4.8						
CTAO	**Charters Tower**	**14.73 192**		*e*P	**Pn**	**14 41 05.7**	**+0.3**
	22nm,1.0s						
KAKA	**Kakadu**	**18.16 246**		*e*P	**P**	**14 41 44.5**	**-0.5**
	8.1nm,0.4s						
WB2	**Warramunga Arr**	**20.43 224**		*e*P	**P**	**14 42 09.3**	**-0.2**
WRA	**Warramunga Arr**	**20.44 224**		P	**P**	**14 42 09.8**	**+0.2**
	2.8nm,0.5s,baz=50,slow=11,SNR=14						
WRA				S	**S**	**14 45 48.5**	**-1.0**
	3.9nm,0.8s,baz=44,slow=20,SNR=8.6						
ASAR	**Alice Springs**	**23.36 218**		P	**P**	**14 42 39.5**	**+0.8**
	1.4nm,0.5s,mb3.6,baz=57,slow=8.9,SNR=22						
ASAR				S	**S**	**14 46 39.5**	**+0.3**
	0.5nm,0.8s,baz=53,slow=14,SNR=4.7						
FITZ	**Fitzroy Crossi**	**26.32 240**⇓		*i*P	**P**	**14 43 05.1**	**-0.4**
	8.0nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**26.32 240**		P	**P**	**14 43 05.3**	**-0.2**
	4.5nm,0.5s,mb4.4,baz=68,slow=9.3,SNR=16						
STKA	**Stephens Creek**	**27.15 195**		P	**P**	**14 43 13.6**	**+0.7**
MJAR	**Matsushiro Arr**	**43.20 347**		P	**P**	**14 45 30.5**	**+0.8**
	4.3nm,0.9s,mb4.1,baz=165,slow=7.2,SNR=9.7						
KSRS	**Korea Array**	**47.27 337**		P	**P**	**14 46 02.9**	**+1.1**
	1.3nm,0.5s,mb3.8,baz=154,slow=8.9,SNR=9.8						
SONM	**Songino Array**	**65.23 330**		P	**P**	**14 48 10.0**	**+1.1**
	0.9nm,0.8s,mb3.7,baz=129,slow=4.4,SNR=7.1						
ZAL	**Zalesovo**	**79.96 327**		P	**P**	**14 49 34.4**	**-1.5**
	0.9nm,0.3s,mb3.8,baz=357,slow=6.5,SNR=2.8						
ZAL	**Zalesovo**	**79.96 327**		P	**P**	**14 49 34.4**	**-1.5**
INK	**Inuvik**	**90.41 21**		P	**P**	**14 50 25.8**	**-2.0**
	1.0nm,1.0s,mb3.7,baz=256,slow=4.2,SNR=3.9						
GERES	**GERESS Array B**	**122.90 327**		PKP	PKPdf	14 56 21.4	-0.2
	0.1nm,0.3s,baz=75,slow=1.1,SNR=4.9						
LPAZ	**La Paz**	**136.98 121**		PKP	PKPdf	14 56 51.5	+3.2
	0.4nm,0.5s,baz=280,slow=6.1,SNR=3.1						
LPAZ	**La Paz**	**136.98 121**		PKP	PKPdf	14 56 51.5	+3.2
TORD	**Torodi Ar. Bea**	**147.29 286**		PKPbc	PKPbc	14 57 09.2	+0.1
	0.6nm,0.4s,baz=88,slow=2.7,SNR=13						

IDC 24 15:31:06.5±2.4, 745S×12746E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=299.8km s-min=32.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.10 152**		Pn	Pn	15 34 26.1	-1.2
	0.3nm,0.3s,baz=329,slow=13,SNR=6.2						
WRA				Sn	Sn	15 36 49.4	-15
	1.4nm,0.3s,baz=318,slow=27,SNR=8.6						
ASAR	**Alice Springs**	**17.27 160**		P	Pn	15 35 10.3	+1.3
	0.3nm,0.3s,baz=339,slow=11,SNR=49						
ASAR				S	Sn	15 38 09.2	-12
	0.3nm,0.3s,baz=348,slow=26,SNR=9.9						
SONM	**Songino Array**	**58.11 343**		P	P	15 41 01.8	+0.1
	0.4nm,0.7s,baz=165,slow=5.2,SNR=3.6						

*ISCJB **24** 15:38:46.8±0.6, 26.16S±003×7031W±0.10, h55km±7km, mb4.0/11, Error ellipse: s-maj=14.7km s-min=5.3km az=13.5*
*NEIC **24** 15:38:46.4, 26.16S×7042W, h39km, mb4.3/4, After GUC.*
*GUC **24** 15:38:46.4±0.8, 26.16S×7042W, h39km±4km, ML5.0*
*IDC **24** 15:38:48.1±0.6, 2607S×70.18W, h50km±5km, mb3.5/8, mb1 3.7/10, mb1mx3.6/17, mbtmp3.5/10, Error ellipse: s-maj=29.0km s-min=11.4km az=72.0*

ISC 24 15:38:48.0±0.5, 2618S±003×7033W±010, h49km±6km, h50km±20km: pP-P, n34, σ0.88/41, mb4.0/11, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.99 206**		*e*P	**Pn**	**15 39 04.5**	**-1.1**
CDCH				*i*S	**Sn**	**15 39 17.2**	**-1.4**
CPCH	**Copiapo**	**1.18 181**⇓		*i*P	**Pn**	**15 39 07.4**	**-0.7**
CPCH				*i*S	**Sn**	**15 39 23.4**	**+0.5**
CPCH				AML	AML	15 39 26.0	
	comp=N,97μm,0.1s						
CPCH	**Copiapo**	**1.18 181**⇓		*i*P	**Pn**	**15 39 07.4**	**-0.7**
CPCH				*i*S	**Sn**	**15 39 23.4**	**+0.5**
CPN1	**Cerro Paranal**	**1.55 358**⇓		*i*P	**Pn**	**15 39 13.2**	**0.0**
CPN1				*i*S	**Sn**	**15 39 33.3**	**+1.2**
VACH	**Vallenar**	**2.42 189**		*e*P	**Pn**	**15 39 24.1**	**-0.9**
VACH				*i*S	**Sn**	**15 39 53.9**	**+0.5**
VACH				AML	AML	15 40 10.2	
	comp=E,7μm,0.3s						
VACH	**Vallenar**	**2.42 189**		*e*P	**Pn**	**15 39 24.1**	**-0.9**
VACH				*i*S	**Sn**	**15 39 53.9**	**+0.5**
LCO	**Las Campanas**	**2.84 187**		*e*Pn	**Pn**	**15 39 30.8**	**0.0**
TLL	**Tololo Astrono**	**4.00 186**		*e*P	**Pn**	**15 39 47.5**	**+0.8**
TLL				*i*S	**Sn**	**15 40 33.0**	**+0.7**
TLL				AML	AML	15 41 05.6	
	comp=N,671nm,0.7s						
TLL	**Tololo Astrono**	**4.00 186**		*e*P	**Pn**	**15 39 47.5**	**+0.8**
TLL				*i*S	**Sn**	**15 40 33.0**	**+0.7**
CFAA	**Coronel Fontan**	**5.71 162**		P	**Pn**	**15 40 12.2**	**+1.9**
	comp=N,0.7nm,0.3s,baz=338,slow=13,SNR=44						
CFAA				S	**Sn**	**15 41 19.1**	**+4.7**
	comp=N,1.2nm,0.3s,baz=330,slow=20,SNR=3.1						
LPAZ	**La Paz**	**10.05 12**		P	**Pn**	**15 41 09.4**	**-0.3**
	comp=N,0.3nm,0.3s,baz=206,slow=8.2,SNR=10						
LPAZ	**La Paz**	**10.05 12**		*e*P	**Pn**	**15 41 09.3**	**-0.5**
SIV	**San Ignacio**	**13.31 42**		P	**Pn**	**15 41 49.7**	**-4.5**
	comp=N,0.7nm,0.3s,baz=239,slow=9.8,SNR=13						
SIV				S	**Sn**	**15 44 19.7**	**-1.0**
	comp=N,0.2nm,0.3s,baz=223,slow=17,SNR=3.1						
TRQA	**Tornquist**	**13.79 151**		*e*P	**Pn**	**15 41 54.7**	**-6.0**
PLCA	**Paso Flores**	**14.52 181**		P	**Pn**	**15 42 14.6**	**+4.1**
	comp=N,0.1nm,0.3s,baz=20,slow=13,SNR=3.6						
PLCA	**Paso Flores**	**14.52 181**		*e*P	**Pn**	**15 42 16.9**	**+6.4**
RCBR	**Riachuelo**	**38.59 64**		*e*P	**P**	**15 46 06.9**	**+0.7**
	comp=N,2.4nm,0.4s,mb4.3						
PMSA	**Palmer Station**	**38.81 176**		P	**P**	**15 46 09.0**	**+1.0**
	comp=N,1.4nm,0.3s,mb4.1,baz=338,slow=5.4,SNR=3.4						
SNAA	**Sanae**	**58.33 160**		P	**P**	**15 48 37.0**	**-1.0**
	comp=N,0.5nm,0.6s,mb3.8,baz=281,slow=12,SNR=11						
SNAA				pP	pP	15 48 51.4	-0.2
	comp=N,0.3nm,0.5s,baz=252,slow=6.4,SNR=2.1						
SNAA	**Sanae**	**58.33 160**		*e*P	**P**	**15 48 36.9**	**-1.1**
	comp=N,1.0nm,0.5s,mb4.1						
SNAA				pP	pP	15 48 51.4	-0.2
TXAR	**Lajitas Array**	**63.79 328**		P	**P**	**15 49 15.5**	**+0.5**
	comp=N,0.2nm,0.5s,mb3.4,baz=146,slow=9.8,SNR=2.9						
TXAR				pP	pP	15 49 28.7	-0.1
	comp=N,0.4nm,0.7s,baz=158,slow=10,SNR=3.9						
QSPA	**South Pole Qui**	**64.03 180**		*e*P	**P**	**15 49 16.8**	**+0.2**
	comp=N,6.1nm,0.4s,mb5.0						
PDAR	**Pinedale Array**	**77.54 332**		P	**P**	**15 50 38.9**	**+0.2**
	comp=N,0.2nm,0.4s,mb3.4,baz=142,slow=7.5,SNR=4.2						
NVAR	**Mina Array Bea**	**78.41 323**		P	**P**	**15 50 44.8**	**+1.4**
	comp=N,0.3nm,0.8s,mb3.3,baz=166,slow=13,SNR=3.5						
NVAR				pP	pP	15 50 58.0	+0.5
	comp=N,0.6nm,0.7s,baz=146,slow=4.6,SNR=4.3						
ULM	**Lac du Bonnet**	**79.39 344**		P	**P**	**15 50 47.4**	**-1.4**
	comp=N,0.9nm,0.3s,mb4.1,baz=162,slow=8.0,SNR=5.1						
ULM	**Lac du Bonnet**	**79.39 344**		*e*P	**P**	**15 50 47.1**	**-1.7**
	comp=N,1.4nm,0.4s,mb4.2						
TOA0	**Torodi Ar. Sit**	**80.16 70**		*e*P	**P**	**15 50 52.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**80.16 70**		P	**P**	**

ZAL	**Zalesovo**	**146.71**	**27**	PKPbc	PKPbc	15 58 23.1	-1.3
	comp=N,3.3nm,0.7s,baz=169,slow=3.1,SNR=17						
ZAL				pPKPbc	pPKPbc	15 58 38.9	-0.3
	comp=N,1.7nm,0.7s,baz=150,slow=3.5,SNR=4.6						
MK31	**Makanchi Array**	**150.12**	**39**	*e*PKPbc	PKPbc	15 58 32.8	-0.5

*ISCJB **24** 15:50:52.8±0.5, 3937N±002×2351E±004, h9km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=179.8*
*CSEM **24** 15:50:53.7±0.1, 3936N×2351E, h5km, ML3.2, Error ellipse: s-maj=2.0km s-min=1.7km az=105.0*
*THE **24** 15:50:53.6, 3931N×2349E, h10km, ML2.7*
*NEIC **24** 15:50:53.6, 3934N×2346E, h13km, ML3.2(ATH), After ATH.*
*ATH **24** 15:50:53.6, 3934N×2346E, h13km±5km, MD3.2/7, ML3.2*

ISC 24 15:50:53.1±0.4, 3936N±002×2351E±004, h13km±5km, n23, σ0§80/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**257**	*e*PG		**Pg**	**15 50 58.3**	**+0.3**
NEO				*e*SG		**Sg**	**15 51 00.8**	**-0.5**
XOR	**Xorichti**	**0.24**	**272**	*e*Pg		**Pg**	**15 50 58.4**	**0.0**
XOR				*e*Sg		**Sg**	**15 51 01.9**	**+0.1**
XOR	**Xorichti**	**0.24**	**272**	*e*Pg		**Pg**	**15 50 58.3**	**0.0**
XOR				*e*Sg		**Sg**	**15 51 01.9**	**+0.1**
AOS	**Alonnisos**	**0.35**	**123**	*e*Pg		**Pg**	**15 51 00.1**	**0.0**
AOS				*e*Sg		**Sg**	**15 51 05.2**	**+0.4**
PAIG	**Paliouri**	**0.58**	**13**	*e*Pg		**Pg**	**15 51 06.0**	**+1.5**
LKR	**Lokris**	**0.81**	**209**	*e*PB		**Pg**	**15 51 08.4**	**-0.4**
LKR				*e*SB		**Sg**	**15 51 18.6**	**-0.8**
AGG	**Agios Georgios**	**0.97**	**250**	*e*Pg		**Pg**	**15 51 11.4**	**-0.5**
AGG				*e*Sg		**Sg**	**15 51 25.2**	**+0.6**
PLG	**Polygyros**	**1.02**	**357**	*e*PB		**Pb**	**15 51 12.7**	**+0.1**
PLG				*e*SB		**Sb**	**15 51 26.7**	**+0.8**
OUR	**Ouranopolis**	**1.04**	**20**	*e*Pg		**Pg**	**15 51 13.3**	**0.0**
LIT	**Litokhoron**	**1.08**	**314**	*e*Pg		**Pg**	**15 51 13.9**	**-0.1**
LIT				*e*Sg		**Sg**	**15 51 30.5**	**+2.5**
THL	**Klokotos Trika**	**1.17**	**281**	*e*PB		**Pb**	**15 51 15.2**	**-0.1**
HORT	**Hortiatis**	**1.28**	**346**	*e*Pg		**Pg**	**15 51 17.1**	**-0.6**
HORT				*e*Sg		**Sg**	**15 51 35.1**	**+0.8**
PTL	**Penteli**	**1.34**	**168**	*e*PG		**Pg**	**15 51 18.7**	**-0.1**
THE	**Thessaloniki**	**1.34**	**342**	*e*Pg		**Pg**	**15 51 17.8**	**-1.1**
MGER	**Gerania Oros**	**1.38**	**188**	*e*PB		**Pb**	**15 51 19.5**	**+0.6**
EVR	**Evrytania**	**1.39**	**252**	*e*PB		**Pb**	**15 51 19.0**	**0.0**
ATH	**Athens Observa**	**1.39**	**173**	*e*PN		**Pn**	**15 51 18.5**	**+0.2**
SOH	**Sokhos**	**1.47**	**356**	*e*Pg		**Pg**	**15 51 20.5**	**-0.8**
NAIG	**Nisos Aigina**	**1.60**	**180**	*e*PB		**Pb**	**15 51 23.7**	**+1.2**
SRS	**Serrai**	**1.76**	**2**	*e*Pb		**Pb**	**15 51 23.8**	**-1.4**
GRG	**Griva**	**1.81**	**332**	*e*Pb		**Pb**	**15 51 24.8**	**-1.3**
KNT	**Kendrikon**	**1.86**	**346**	*e*Pb		**Pb**	**15 51 25.8**	**-1.2**
FNA	**Florina**	**2.17**	**312**	*e*Pn		**Pn**	**15 51 29.4**	**+0.5**

*IDC **24** 16:10:43.7±1.5, 4688N×15364E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=54.1km s-min=21.8km az=96.0*
*MOS **24** 16:10:47.9±1.5, 4693N×15296E, h33km, mb4.3/4, Error ellipse: s-maj=35.1km s-min=19.0km az=56.4*
*ISCJB **24** 16:10:57.6±1.8, 467N±0.1×1522E±02, h110km±15km, mb3.7/6, Error ellipse: s-maj=29.2km s-min=13.7km az=87.0*

ISC 24 16:10:58.3±1.6, 468N±01×1522E±02, h101km±14km, n31, σ1§10/38, mb3.7/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.39**	**244**	PN		**Pn**	**16 11 45.0**	**-4.3**
KUR				*e*S		**Sn**	**16 12 38.5**	**+10**
KUR				pmax		pmax		
	comp=Z,170nm,0.7s							
KUR				smax				
	comp=N,280nm,0.9s							
KUR				smax				
	comp=E,280nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**5.24**	**241**	PN		**Pn**	**16 12 14.0**	**-0.2**
NEM2	**Nemuro 2**	**5.71**	**235**	P		**Pn**	**16 12 18.7**	**-1.8**
NEM2				*e*S		**Sn**	**16 13 23.6**	**-1.1**
JRA	**Rausu**	**5.74**	**243**	P		**Pn**	**16 12 22.6**	**+1.6**
JNK	**Nakash**	**6.18**	**241**	P		**Pn**	**16 12 27.3**	**+0.4**
JTKR	**Abashiri--Toko**	**6.48**	**247**	P		**Pn**	**16 12 32.7**	**+1.7**
JAK	**Akkeshi**	**6.54**	**237**	P		**Pn**	**16 12 29.9**	**-1.9**
JAK				*e*S		**Sn**	**16 13 44.1**	**-0.8**
JAR	**Ashorobuto**	**6.91**	**243**	P		**Pn**	**16 12 37.5**	**+0.6**
JAR				*e*S		**Sn**	**16 13 58.6**	**+4.6**
JOB	**Onbets**	**7.10**	**240**	P		**Pn**	**16 12 39.5**	**+0.1**
JOB				*e*S		**Sn**	**16 13 59.6**	**+1.1**
ASAJ	**Asahikawa**	**7.26**	**252**	P		**Pn**	**16 12 45.2**	**+3.6**
JKK2	**Kamakawa 2**	**7.27**	**250**	P		**Pn**	**16 12 44.1**	**+2.4**
JCH	**Churui**	**7.55**	**240**	P		**Pn**	**16 12 44.4**	**-1.2**
JCH				*e*S		**Sn**	**16 14 09.8**	**+0.3**
JFR	**Furan**	**7.71**	**245**	P		**Pn**	**16 12 48.1**	**+0.3**
JBT2	**Biratori 2**	**8.06**	**244**	P		**Pn**	**16 12 52.8**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.11**	**240**	P		**Pn**	**16 12 51.9**	**-1.3**
JNBK				*e*S		**Sn**	**16 14 22.6**	**-0.6**
JNB	**Noboribetsu**	**9.05**	**246**	P		**Pn**	**16 13 06.1**	**+0.1**
JKB	**Kayabe**	**9.38**	**243**	P		**Pn**	**16 13 09.5**	**-0.9**
JOSM	**Okushiri--Mats**	**10.24**	**247**	P		**Pn**	**16 13 22.0**	**-0.1**
MJAR	**Matsushiro Arr**	**14.61**	**231**	Pn		**Pn**	**16 14 22.6**	**+2.7**
	comp=E,0.3nm,0.3s,baz=40,slow=9.2,SNR=5.1							
KSRS	**Korea Array**	**20.21**	**251**	P		**P**	**16 15 31.4**	**+6.4**
	comp=E,1.0nm,0.6s,baz=60,slow=9.4,SNR=6.3							
FINES	**FINESS Array B**	**63.73**	**334**	P		**P**	**16 21 19.2**	**0.0**
	comp=E,1.7nm,0.9s,mb3.9,baz=43,slow=8.6,SNR=11							
FINES	**FINESS Array B**	**63.73**	**334**	P		**P**	**16 21 19.2**	**0.0**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**67.98**	**341**	P		**P**	**16 21 46.3**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.7,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.98**	**341**	P		**P**	**16 21 46.2**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=26,slow=6.5,SNR=3.7							
NOA	**NORSAR Array B**	**67.98**	**341**	P		**P**	**16 21 46.2**	**-0.3**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
HFS	**Hagfors**	**68.20**	**339**	P		**P**	**16 21 47.7**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=54,slow=7.5,SNR=7.0							
HFS	**Hagfors**	**68.20**	**339**	P		**P**	**16 21 47.7**	**-0.1**
HFS				pmax		pmax		
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**68.35**	**198**	P		**P**	**16 21 48.5**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.3,baz=22,slow=6.6,SNR=5.3							
AKASG	**Malin Array Be**	**71.16**	**326**	P		**P**	**16 22 05.0**	**-1.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=36,slow=6.3,SNR=6.2							
AKASG	**Malin Array Be**	**71.16**	**326**	P		**P**	**16 22 05.0**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**72.05**	**198**	P		**P**	**16 22 12.4**	**+1.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=15,slow=6.2,SNR=7.1							

*STR **24** 16:14:35.8±0.7, 4756N×756E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 16:14:36.4±0.2, 4759N×756E, h10km, Md2.3/1, Ml1.9/7, Error ellipse: s-maj=4.0km s-min=2.6km az=115.0*

ZUR 24 16:14:36.2, 4759N×760E, h5km±1km, ML1.2, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALST	**Balsthal**	**0.26**	**165**	⇓*i*Pg		Pg	16 14 41.6	+0.4
	103nm,0.3s							
BALST				*i* Sg		Sg	16 14 45.5	+0.8
	103nm,0.3s							
BOURR	**Bourrignon**	**0.32**	**232**	⇑*i*Pg		Pg	16 14 42.7	+0.4
	22nm,0.3s							
SULZ	**Sulz-Cheisache**	**0.35**	**99**	⇑*i*Pg		Pg	16 14 43.2	+0.2
	42nm,0.3s							
SULZ				*i* Sg		Sg	16 14 48.3	+0.6
	42nm,0.3s							
MOF	**Molkenrain**	**0.41**	**310**	Pg		Pg	16 14 44.1	0.0
MOF				Sg		Sg	16 14 49.8	+0.3
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn		Pg	16 14 47.7	+0.9
HINF				*e*Sg		Sg	16 14 53.6	-0.4
HINF				*e*Sn		Sg	16 14 57.3	+3.3
	4.7nm,0.2s							
SLE	**Schleitheim**	**0.63**	**73**	*e*Pg		Pg	16 14 48.5	+0.2
	36nm,0.4s							
ECH	**Echery**	**0.70**	**335**	Pg		Pg	16 14 49.9	+0.3
ECH				Sg		Sg	16 14 58.4	-0.2
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pg		Pg	16 14 52.3	-0.3
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn		Pn	16 14 52.9	-2.0
CDF				*e*Sg		Sg	16 15 02.7	-1.0
CDF				*e*Sn		Sn	16 15 04.9	-2.9
	4.7nm,0.2s							
HAU	**Haudompre**	**0.94**	**297**	*e*Pg		Pg	16 14 53.6	-0.7
HAU				*e*Sg		Sg	16 15 06.2	-0.3
	3.2nm,0.1s							
CABF	**La Chapelle**	**1.42**	**227**	*e*Pg		Pg	16 15 03.1	-0.3
CABF				*e*Sg		Sg	16 15 20.1	-1.8
	1.7nm,0.3s							
SFTF	**Sexfontaines**	**1.83**	**291**	*e*Pg		Pg	16 15 10.2	-1.1
SFTF				*e*Sg		Sg	16 15 33.6	-1.4
	2.3nm,0.3s							
MEZF	**Maizieres J'vi**	**1.94**	**299**	*e*Sg		Sg	16 15 37.0	-1.5
	1.0nm,0.3s							
LOR	**Lormes**	**2.56**	**264**	*e*Sg		Sg	16 15 55.2	-3.2
	1.9nm,0.3s							
SMF	**Signal de Mont**	**2.73**	**251**	*e*Sg		Sg	16 16 00.2	-3.8
	0.6nm,0.2s							

*NEIC **24** 16:22:18.9±1.0, 2300S×17948W, h540km±12km, mb4.7/8, Error ellipse: s-maj=13.0km s-min=9.5km az=140.0*
*ISCJB **24** 16:22:19.8±1.2, 2319S±007×17961W±009, h559km±16km, mb4.4/19, Error ellipse: s-maj=12.3km s-min=10.1km az=175.1*
*IDC **24** 16:22:21.6±1.5, 2299S×17964W, h563km±15km, mb3.6/12, mb1 3.8/13, mb1mx3.7/17, mbtmp3.6/13, Error ellipse: s-maj=14.4km s-min=12.3km az=164.0*

ISC 24 16:22:21.2±1.2, 2327S±006×17954W±009, h563km±15km, n72, σ1§00/52, mb4.4/19, 1C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.87**	**40**	P		**P**	**16 24 53.0**	**-5.3**
	13nm,0.3s,baz=59,slow=4.4,SNR=31							
AFI	**Afiamalu**	**11.87**	**40**	*e*P		**P**	**16 24 53.2**	**-5.2**
	164nm,0.9s							
DZM	**Mont Dzumac**	**12.99**	**273**	*e*P		**P**	**16 25 13.7**	**+3.8**
DZM	**Mont Dzumac**	**12.99**	**273**	P		**P**	**16 25 09.8**	**-0.1**
	1.3nm,0.3s,baz=86,slow=16,SNR=16							
URZ	**Urewera**	**15.21**	**190**	P		**P**	**16 25 30.4**	**-2.2**
	6.4nm,0.3s,baz=350,slow=7.4,SNR=28							
URZ	**Urewera**	**15.21**	**190**	*e*PN		**P**	**16 25 29.6**	**-3.0**
BKZ	**Black Stump Fm**	**16.20**	**191**	*e*PN		**P**	**16 25 39.7**	**-2.2**
MRZ	**Mangatainoka R**	**17.82**	**192**	*e*PN		**P**	**16 25 55.5**	**-1.2**
KIW	**Kapiti Island**	**18.15**	**194**	*e*PN		**P**	**16 25 59.2**	**-0.6**
CAW	**Cannon Point**	**18.35**	**193**	*e*PN		**P**	**16 26 00.9**	**-0.7**
SNZO	**South Karori**	**18.62**	**194**	*e*P		**P**	**16 26 05.0**	**+1.0**
	49nm,0.7s							
QRZ	**Quartz Range**	**18.73**	**199**	*e*PN		**P**	**16 26 05.9**	**+0.9**
NNZ	**Nelson**	**18.85**	**197**	*e*PN		**P**	**16 26 05.6**	**-0.6**
NNZ				*e*SN		**S**	**16 29 08.5**	**-0.4**
TUWZ	**Tuamarina**	**18.91**	**195**	*e*PN		**P**	**16 26 06.6**	**-0.1**
THZ	**Tophouse**	**19.49**	**197**	*e*PN		**P**	**16 26 12.3**	**+0.3**
THZ				*e*SN		**S**	**16 29 18.0**	**-1.2**
DSZ	**Denniston Nort**	**19.79**	**199**	*e*PN		**P**	**16 26 14.6**	**-0.1**
KHZ	**Kahutara**	**19.94**	**195**	*e*PN		**P**	**16 26 15.5**	**-0.6**
LTZ	**Lake Taylor**	**20.61**	**197**	*e*PN		**P**	**16 26 22.2**	**+0.1**
WVZ	**Waitaha Valley**	**21.33**	**200**	*e*PN		**P**	**16 26 28.7**	**+0.2**
RPZ	**Rata Peaks**	**21.82**	**199**	P		**P**	**16 26 35.4**	**+2.4**
	47nm,0.7s,mb5.2,baz=22,slow=1.9,SNR=26							
ARMA	**Armidale**	**26.64**	**248**	*e*P		**P**	**16 27 17.5**	**+1.9**
CNB	**Canberra Magne**	**29.53**	**239**	*e*P		**P**	**16 27 42.8**	**+2.0**
	16nm,0.7s,mb4.7							
CTA	**Charters Tower**	**31.90**	**269**	⇓*i*P		**P**	**16 28 01.6**	**+0.5**
	68nm,0.4s,mb5.5							
CTAO	**Charters Tower**	**31.90**	**269**	*e*P		**P**	**16 28 01.7**	**+0.6**
	83nm,0.4s							
PMG	**Port Moresby**	**34.70**	**288**	P		**P**	**16 28 24.3**	**-0.3**
	58nm,0.8s,mb5.2,baz=94,slow=4.6,SNR=21							
PMG	**Port Moresby**	**34.70**	**288**	*e*P		**P**	**16 28 23.8**	**-0.8**
	60nm,0.8s,mb5.2							
STKA	**Stephens Creek**	**35.35**	**247**	*e*P		**P**	**16 28 30.0**	**0.0**
	9.7nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**35.35**	**247**	P		**P**	**16 28 31.2**	**+1.1**
	12nm,0.6s,mb4.6,baz=89,slow=9.5,SNR=32							
STKA				PcP		PcP	16 30 45.1	+0.9
	2.0nm,0.5s,baz=62,slow=3.6,SNR=3.3							
ASAR	**Alice Springs**	**42.55**	**260**	P		**P**	**16 29 28.4**	**+0.3**
	26nm,0.8s,mb4.8,baz=85,slow=7.7,SNR=252							
ASAR				PcP		PcP	16 31 07.9	+0.5
	1.0nm,0.5s,baz=103,slow=5.1,SNR=4.1							
ASAR				S		**S**	**16 35 10.2**	**-0.1**
	1.5nm,0.7s,baz=101,slow=16,SNR=7.3							
WB2	**Warramunga Arr**	**42.86**	**265**	⇓*i*P		**P**	**16 29 30.0**	**-0.5**
WRA	**Warramunga Arr**	**42.87**	**265**	P		**P**	**16 29 30.1**	**-0.4**
	30nm,0.7s,mb4.9,baz=100,slow=8.1,SNR=79							
WRA				S		**S**	**16 35 13.6**	**-1.2**
	1.2nm,0.9s,baz=97,slow=14,SNR=5.1							
KAKA	**Kakadu**	**46.68**	**274**	⇓*i*P		**P**	**16 29 59.0**	**-0.7**
	20nm,0.3s,mb5.1							
FORT	**Forrest**	**46.92**	**249**	⇓*i*P		**P**	**16 30 01.6**	**0.0**
	86nm,0.6s,mb5.5							
FITZ	**Fitzroy Crossi**	**51.30**	**265**	*e*P		**P**	**16 30 34.0**	**+0.2**
	36nm,0.9s,mb4.7							
VNDA	**Vanda**	**55.03**	**185**	P		**P**	**16 31 02.4**	**+2.1**
	1.8nm,0.7s,mb3.4,baz=356,slow=7.9,SNR=11							
VNDA	**Vanda**	**55.03**	**185**	*e*P		**P**	**16 31 02.5**	**+2.2**
KLBR	**Kellerberrin**	**55.62**	**247**	⇓*i*P		**P**	**16 31 04.5**	**+0.2**
	22nm,0.7s,mb4.5							
MUN	**Mundaring**	**56.87**	**246**	*e*P		**P**	**16 31 12.8**	**-0.1**
QSPA	**South Pole Qui**	**66.81**	**180**	*e*P		**P**	**16 32 19.1**	**+1.7**
	11nm,1.2s,mb4.3							
MJAR	**Matsushiro Arr**	**71.62**	**325**	P		**P**	**16 32 44.9**	**-1.4**
	2.0nm,0.7s,mb3.6,baz=163,slow=6.6,SNR=7.2							
KSRS	**Korea Array**	**78.04**	**320**	P		**P**	**16 33 22.1**	**0.0**
	1.4nm,0.7s,mb3.4,baz=127,slow=5.8,SNR=7.7							
MAW	**Mawson**	**78.48**	**200**	P		**P**	**16 33 25.8**	**+1.3**
	2.8nm,0.9s,mb3.6,baz=135,slow=2.9,SNR=6.4							
NVAR	**Mina Array Bea**	**84.01**	**44**	P		**P**	**16 33 52.7**	**-0.2**
	0.3nm,0.5s,baz=222,slow=6.6,SNR=3.7							
NVAR	**Mina Array Bea**	**84.01**	**44**	P		**P**	**16 33 52.7**	**-0.2**
NANT	**Nan**	**88.34**	**291**	⇑P		**P**	**16 34 12.5**	**-0.9**
	119nm,1.0s							
MNTX	**Cornudas Mount**	**89.51**	**55**	*e*P		**P**	**16 34 19.1**	**+0.2**
	1.0nm,0.8s,mb3.7							
TXAR	**Lajitas Array**	**89.74**	**58**	P		**P**	**16 34 20.4**	**+0.4**
	0.6nm,0.8s,mb3.5,baz=203,slow=6.1,SNR=6.0							
PDAR	**Pinedale Array**	**91.95**	**44**	P		**P**	**16 34 29.6**	**-0.6**
	0.5nm,0.8s,mb3.6,baz=184,slow=2.4,SNR=3.8							
ARCES	**ARCESS Array B**	**131.36**	**349**	PKP		PKPdf	16 40 28.4	-1.5
	5.5nm,1.0s,baz=35,slow=4.4,SNR=5.5							
FINES	**FINESS Array B**	**137.39**	**342**	PKP		PKPdf	16 40 40.9	-1.4
	1.2nm,0.6s,baz=101,slow=1.4,SNR=5.8							
FINES				SKPbc		SKPbc	16 43 22.6	-1.1
	4.0nm,1.0s,baz=135,slow=0.3,SNR=3.7							
NB2	**NORSAR Subarra**	**141.53**	**352**	PKP			16 40 42.0	
	comp=Z,1.0nm,0.6s,baz=15,slow=3.2							
NOA	**NORSAR Array B**	**141.53**	**352**	PKhKP			16 40 41.9	
	comp=Z,1.1nm,0.7s,baz=7,3,slow=2.3,SNR=5.4							
NOA	**NORSAR Array B**	**141.53**	**352**	PKP			16 40 41.9	
AKASG	**Malin Array Be**	**144.67**	**328**	PKP		PKPdf	16 40 52.6	-1.6
	comp=Z,3.9nm,0.5s,baz=43,slow=4.0,SNR=55							
AKASG				SKPbc		SKPbc	16 43 42.0	+1.4
	comp=Z,0.1nm,0.2s,baz=23,slow=2.0,SNR=4.1							
BRTR	**Keskin Array B**	**147.53**	**308**	PKPbc		PKPbc	16 41 01.8	-0.7
	comp=Z,1.8nm,0.6s,baz=130,slow=4.7,SNR=9.2							
EKA	**Eskdalemuir Ar**	**147.87**	**4**	PKPbc		PKPbc	16 41 01.1	-2.3
	comp=Z,1.5nm,0.7s,baz=324,slow=2.3,SNR=6.6							
KOLS	**Kolonicke sedl**	**149.13**	**331**	*e*PKP		PKPbc	16 41 09.8	+3.3
STHS	**Stebnicka Huta**	**149.21**	**333**	*e*PKP		PKPbc	16 41 06.7	0.0
CRVS	**Cervenica-Dubn**	**149.51**	**332**	*e*PKP		PKPbc	16 41 07.5	+0.1
OKC	**Ostrava-Krasne**	**150.08**	**337**	*e*PKPbc		PKPbc	16 41 08.0	-0.7
UPC	**Upice**	**150.23**	**340**	*e*PKPbc		PKPbc	16 41 08.5	-0.6
DPC	**Dobruska-Polom**	**150.27**	**339**	*e*PKPbc		PKPbc	16 41 08.7	-0.5
CLL	**Collm**	**150.38**	**344**	⇓*i*PKP		PKPbc	16 41 08.4	-1.0
CLL				*i* PKP		PKPab	16 41 16.9	-1.5
CLL	**Collm**	**150.38**	**344**	⇓*i*PKPbc		PKPbc	16 41 08.4	-1.0
	comp=Z,10.0nm,0.7s							
CLL				*i* PKPab		PKPab	16 41 16.9	-1.5
BRG	**Berggiesshubel**	**150.52**	**343**	*i* PKP		PKPbc	16 41 08.9	-0.8
	comp=Z,6.3nm,1.0s							
PVCC	**Panska Ves**	**150.65**	**341**	*e*PKPbc		PKPbc	16 41 09.5	-0.6
VYHS	**Vyhne**	**150.91**	**334**	*e*PKP		PKPbc	16 41 09.8	-0.9
VYHS				*e*			16 41 20.1	
PRU	**Pruhonice**	**151.14**	**341**	*e*PKPbc		PKPbc	16 41 10.5	-0.7
KHC	**Kasperske Hory**	**152.19**	**341**	*e*PKPbc		PKPbc	16 41 12.5	-1.0
KHC				PKPab		PKPab	16 41 25.0	-1.1
KHC	**Kasperske Hory**	**152.19**	**341**	*e*PKP		PKPbc	16 41 12.5	-1.0
KHC				*e*			16 41 25.0	
GERES	**GERESS Array B**	**152.41**	**341**	PKPbc		PKPbc	16 41 12.6	-1.4
	comp=Z,0.5nm,0.6s,baz=48,slow=2.0,SNR=21							
GERES				PKPab		PKPab	16 41 25.2	-1.8
	comp=Z,0.6nm,0.9s,baz=23,slow=4.5,SNR=3.7							
TORD	**Torodi Ar. Bea**	**169.86**	**187**	PKPab		PKPab	16 42 43.1	-0.3
	comp=Z,0.6nm,0.6s,baz=169,slow=3.7,SNR=4.7							

SKHL 24 16:24:16.1±0.1, 5425N×12739E, h7km±1km, mb4.1/7, 3C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.31**	**307**	⇑*i*Pg		Pg	16 24 21.4	-0.7
KROS				*i* Sg		Sg	16 24 25.0	-1.2
ZEA	**Zeya**	**0.52**	**189**	⇑*i*Pg		Pg	16 24 25.1	-1.0
ZEA				AMB		AMB	16 24 25.4	
	220nm,0.4s							
ZEA				AMB		AMB	16 24 25.4	
	290nm,0.4s							
ZEA				sPg			16 24 27.9	
ZEA				*e*Sg		Sg	16 24 31.7	-1.2
ZEA				A			16 24 32.1	
	530nm,0.3s							
ZEA				A			16 24 32.1	
	980nm,0.3s							
BMKR	**Bomnak**	**0.96**	**61**	⇓*i*Pg		Pg	16 24 33.2	-1.4
BMKR				AMB		AMB	16 24 34.8	
	29nm,0.3s							
BMKR				AMB		AMB	16 24 34.8	
	34nm,0.3s							
BMKR				sPg			16 24 37.4	
BMKR				*e*Sg		Sg	16 24 45.7	-1.5
BMKR				A			16 24 46.9	
	390nm,0.4s							
BMKR				A			16 24 46.9	
	300nm,0.4s							
YASR	**Yasnyy**	**1.02**	**160**	⇑*i*Pg		Pg	16 24 34.5	-1.3
YASR				AMB		AMB	16 24 35.4	
	60nm,0.5s							
YASR				AMB		AMB	16 24 35.4	
	40nm,0.5s							
YASR				AMB		AMB	16 24 35.4	
	80nm,0.5s							
YASR				*i* Sg		Sg	16 24 48.0	-1.0
YASR				A			16 24 51.8	
	190nm,0.5s							
YASR				A			16 24 51.8	
	170nm,0.5s							
YASR				A			16 24 51.8	
	97nm,0.5s							
CLNS	**Chul'man**	**2.96**	**332**	*e*Pg		Pg	16 25 12.6	-0.1
CLNS				AMB		AMB	16 25 19.1	
	20nm,0.3s							
CLNS				AMB		AMB	16 25 19.1	
	10.0nm,0.3s							
CLNS				AMB		AMB	16 25 19.1	
	30nm,0.3s							
CLNS				*e*Sn		Sn	16 25 41.0	+1.9
CLNS				*e*Sg		Sg	16 25 50.3	-0.7
CLNS				A			16 25 57.4	
	244nm,0.4s							
CLNS				A			16 25 57.4	
	149nm,0.4s							
CLNS				A			16 25 57.4	
	30nm,0.4s							
EKMR	**Ekimchan**	**3.51**	**107**	*e*Pn		Pn	16 25 10.7	-0.4
EKMR				*e*Pg		Pg	16 25 19.2	-4.2
EKMR				AMB		AMB	16 25 20.5	
	5.0nm,0.4s							
EKMR				AMB		AMB	16 25 20.5	
	20nm,0.4s							
EKMR				AMB		AMB	16 25 20.5	
	21nm,0.4s							
EKMR				sPg			16 25 22.1	
EKMR				*e*Sg		Sg	16 26 05.2	-3.7
EKMR				A			16 26 11.8	
	60nm,0.5s							
EKMR				A

*NEIC **24** 16:49:09.7±0.7, 9.32S×157.98E, h35km, Error ellipse: s-maj=25.6km s-min=12.6km az=158.0*

ISC 24 16:49:05.2±6.8, 93S±02×157.95E±007, h2km±43km, n14, σ0≈61/13, mb3.8/6, MS3.4/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.98**	**95**	Pn	**Pn**	**16 49 39.8**	**+0.2**
	35nm,0.3s,baz=276,slow=5.4,SNR=14						
HNR				Sn	**Sn**	**16 50 04.7**	**-0.3**
	127nm,0.3s,baz=84,slow=12,SNR=13						
HNR	**Honiara**	**1.98**	**95**	*e*Pn	**Pn**	**16 49 39.5**	**-0.2**
HNR				Sn	**Sn**	**16 50 04.8**	**-0.3**
PMG	**Port Moresby**	**10.65**	**268**	LR	LR	16 55 16.0	
	comp=Z,117nm,21.2s,baz=324,slow=35						
CTA	**Charters Tower**	**15.61**	**225**	LR	LR	16 56 55.5	
	comp=Z,42nm,21.6s,baz=324,slow=30						
WB2	**Warramunga Arr**	**25.15**	**242**	*e*P	**P**	**16 54 31.3**	**-0.3**
WRA	**Warramunga Arr**	**25.16**	**242**	P	**P**	**16 54 31.2**	**-0.5**
	4.5nm,0.9s,mb4.0,baz=67,slow=10.0,SNR=10						
ASAR	**Alice Springs**	**27.09**	**235**	P	**P**	**16 54 48.5**	**-0.7**
	1.4nm,1.0s,mb3.5,baz=65,slow=11,SNR=6.5						
ASAR				PcP	PcP	16 58 10.8	+0.7
	0.3nm,0.9s,baz=54,slow=1.6,SNR=4.2						
STKA	**Stephens Creek**	**27.15**	**212**	P	**P**	**16 54 50.9**	**+1.2**
	3.7nm,0.9s,mb3.9,baz=29,slow=9.7,SNR=4.3						
STKA	**Stephens Creek**	**27.15**	**212**	P	**P**	**16 54 51.1**	**+1.4**
AFI	**Afiamalu**	**30.00**	**102**	LR	LR	17 04 49.8	
	comp=Z,87nm,21.7s,MS3.4,baz=200,slow=32						
SONM	**Songino Array**	**72.81**	**326**	P	**P**	**17 00 35.3**	**+0.2**
	0.7nm,1.0s,mb3.5,baz=116,slow=3.4,SNR=4.0						
NVAR	**Mina Array Bea**	**90.83**	**51**	P	**P**	**17 02 10.8**	**+0.8**
	0.6nm,0.7s,mb4.0,baz=233,slow=5.3,SNR=5.9						
YKA	**Yellowknife Ar**	**96.95**	**28**	P	**P**	**17 02 37.7**	**-0.4**
	0.3nm,0.9s,mb3.7,baz=259,slow=4.5,SNR=3.9						
YKA	**Yellowknife Ar**	**96.95**	**28**	P	**P**	**17 02 37.7**	**-0.4**

IDC 24 17:21:33.1±1.5, 2766N×9109E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=60.4km s-min=25.8km az=65.0, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.20**	**161**	*i* PN	Pn	17 22 05.0	-5.9
SHL				*e*SN	Sn	17 22 27.0	-12
IMP	**Imphal**	**3.84**	**138**	*e*P	Pn	17 22 27.0	-6.4
IMP				*e*S	Sn	17 23 03.0	-16
SONM	**Songino Array**	**23.41**	**27**	P	P	17 26 43.8	-0.1
	0.5nm,0.5s,baz=213,slow=13,SNR=5.5						
FINES	**FINESS Array B**	**54.20**	**328**	P	P	17 31 00.1	-0.3
	2.3nm,0.8s,baz=102,slow=8.8,SNR=6.1						
WRA	**Warramunga Arr**	**63.17**	**134**	P	P	17 32 03.8	+0.9
	0.5nm,0.8s,baz=319,slow=7.4,SNR=3.2						
ASAR	**Alice Springs**	**65.65**	**137**	P	P	17 32 18.9	-0.3
	0.4nm,0.7s,baz=313,slow=6.2,SNR=7.2						

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*BJI **24** 17:39:01.7, 2.35S×139.57E, h29km, mB6.0, mb5.4, Ms5.5, Msz5.3*

*IDC **24** 17:39:03.1±0.3, 2.11S×139.01E, h0km, mb5.4/22, mb1 5.5/26, mb1mx5.5/26, mbtmp5.5/26, ML5.3/3, MS5.5/12, Ms1 5.5/12, ms1mx5.4/18, Error ellipse: s-maj=10.7km s-min=6.1km az=85.0*

*ISCJB **24** 17:39:05.1±0.1, 2.14S±0.02×139.06E±0.03, h26km, mb5.7/116, MS5.5/189, Error ellipse: s-maj=4.3km s-min=2.9km az=113.5*

*GCMT **24** 17:39:07.3±0.1, 1.92S×139.05E, h12km, MW5.7/100, Moment Tensor Solution. s89,c169; s100,c284; Duration: 1s8 Moment tensor: Scale 10^17^Nm; M_{rr}0.21±.04; $M_{\theta\theta}$-0.73±.04; $M_{\phi\phi}$0.52±.05; $M_{r\theta}$0.07±.11; $M_{\theta\phi}$4.63±.03; $M_{\phi r}$0.58±.12; Best double couple: M_0=4.71000×10^17^ NP1:ϕ_s=86.00000°, δ83.00000°, λ2.00000°. NP2:ϕ_s=356.00000°, δ88.00000°, λ173.00000°. Principal axes: T 4.6210, Plg6.0000°, Azm311.0000°; N 0.1780, Plg83.0000°, Azm162.0000°; P -4.7990, Plg4.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **24** 17:39:07.3±0.1, 2.12S×139.04E, mb5.8/54, MS5.6/163, MW5.8 Error ellipse: s-maj=4.9km s-min=3.4km az=65.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^17^Nm; M_{rr}1.06; $M_{\theta\theta}$-1.96; $M_{\phi\phi}$0.90; $M_{r\theta}$0.44; $M_{\theta\phi}$5.29; $M_{\phi r}$-1.55; Best double couple: M_0=5.70000×10^17^ NP1: ϕ_s=172.00000°, δ88.00000°, λ163.00000°. NP2: ϕ_s=262.00000°, δ73.00000°, λ3.00000°. Principal axes: T 5.1800, Plg14.0000°, Azm126.0000°; N 1.0700, Plg73.0000°, Azm344.0000°; P -6.2400, Plg10.0000°, Azm218.0000°;*

NEIC Felt [IV] at Sarmi.

*MOS **24** 17:39:07.1±1.0, 2.00S×139.01E, h33km, mb5.9/35, MS5.4/46 Error ellipse: s-maj=10.6km s-min=5.7km az=114.5*

ISC 24 17:39:07.5±0.2, 211S±002×139.07E±003, h28km, h28km±1.3km: pP-P, n592, σ1≈01/372, mb5.7/116, MS5.5/189, 25C-22D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.68**	**104**	P	**Pn**	**17 39 31.3**	**-3.8**
	0.0nm,0.0s						
MMPI	**Merauke**	**6.45**	**168**	P	**Pn**	**17 40 42.6**	**+2.0**
	0.0nm,0.0s						
PMG	**Port Moresby**	**10.83**	**132**	Pn	**Pn**	**17 41 41.1**	**+0.5**
	2.9nm,0.3s,baz=315,slow=11,SNR=28						
PMG				Sn	**Sn**	**17 43 43.9**	**+3.0**
	1.2nm,0.3s,baz=83,slow=17,SNR=3.5						
PMG				Lg		17 44 40.5	
	0.5nm,0.3s,baz=317,slow=22,SNR=11						
PMG	**Port Moresby**	**10.83**	**132**	⇓*e*P	**Pn**	**17 41 40.5**	**-0.2**
PMG	**Port Moresby**	**10.83**	**132**	*e*Pn	**Pn**	**17 41 40.7**	**+0.1**
	571nm,1.0s						
AAI	**Ambon**	**10.97**	**262**	P	**Pn**	**17 41 42.5**	**-0.1**
	0.0nm,0.0s						
KAKA	**Kakadu**	**12.41**	**212**	⇓*i*P	**Pn**	**17 41 58.4**	**-3.9**
	342nm,0.5s						
KAKA				*e*S	**Sn**	**17 44 13.5**	**-6.2**
DAV	**Davao City (W)**	**16.26**	**304**	*e*P	**Pn**	**17 42 54.4**	**+0.5**
	729nm,1.3s						
GUMO	**Guam**	**16.62**	**20**	Pn	**Pn**	**17 42 59.3**	**+0.8**
	8.2nm,0.3s,baz=175,slow=9.5,SNR=11						
GUMO				Lg		17 47 54.3	
	2.5nm,0.3s,baz=213,slow=23,SNR=3.3						
GUMO				LR	LR	17 49 12.6	
	comp=Z,3μm,19.1s,baz=202,slow=37						
GUMO	**Guam**	**16.62**	**20**	P	**Pn**	**17 43 00.0**	**+1.5**
GUMO				pmax	pmax		
	comp=Z,741nm,1.2s						
GUMO	**Guam**	**16.62**	**20**	P	**Pn**	**17 43 00.0**	**+1.5**
	comp=Z,740nm,1.2s						
BUKP	**Musuan**	**17.14**	**306**	*e*P	**Pn**	**17 43 03.9**	**-1.0**
BUTP	**Butuan**	**17.34**	**310**	*e*P	**Pn**	**17 43 08.4**	**+0.9**
WB2	**Warramunga Arr**	**18.32**	**194**	*e*P	**Pn**	**17 43 15.8**	**-3.7**
WRA	**Warramunga Arr**	**18.32**	**194**	P	**Pn**	**17 43 18.2**	**-1.3**
	comp=Z,12nm,0.3s,baz=20,slow=12,SNR=93						
WRA				S	**Sn**	**17 46 47.6**	**+4.3**
	comp=Z,2.3nm,0.3s,baz=9.6,slow=21,SNR=6.4						
WRA				Lg		17 48 56.2	
	baz=14,slow=24,SNR=4.4						
WRA				P3KP		18 18 36.2	
	comp=Z,0.1nm,0.3s,baz=123,slow=2.3,SNR=5.6						
WRA	**Warramunga Arr**	**18.32**	**194**	P	**Pn**	**17 43 18.2**	**-1.3**
WRA				S	**Sn**	**17 46 47.6**	**+4.3**
WRA	**Warramunga Arr**	**18.32**	**194**	P	**Pn**	**17 43 18.2**	**-1.4**
WRA				S	**Sn**	**17 46 47.6**	**+4.3**
WRA				Lg		17 48 56.2	
MSLP	**Maasin**	**18.66**	**311**	*e*P	**Pn**	**17 43 22.6**	**-1.1**
TBP	**Tagbilaran**	**19.15**	**308**	*e*P	**Pn**	**17 43 29.3**	**-0.3**
CTA	**Charters Tower**	**19.20**	**159**	*e*P	**Pn**	**17 43 29.2**	**-1.0**
	comp=Z,70nm,0.6s						
CTA				*i* S	**Sn**	**17 47 03.5**	**-1.1**
CTA	**Charters Tower**	**19.20**	**159**	P	**Pn**	**17 43 29.8**	**-0.4**
	comp=Z,6.5nm,0.3s,baz=335,slow=12,SNR=71						
CTA				S	**Sn**	**17 47 06.5**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=226,slow=21,SNR=1.8						
CTA				Lg		17 48 45.5	
	comp=Z,0.6nm,0.3s,baz=1.2,slow=15,SNR=3.1						
CTA	**Charters Tower**	**19.20**	**159**	*e*P	**Pn**	**17 43 29.2**	**-1.0**
CTA				*i* S	**Sn**	**17 47 03.5**	**-1.1**
CTA				pmax	pmax		
	comp=Z,70nm,0.6s						
CTAO	**Charters Tower**	**19.20**	**159**	*e*P	**Pn**	**17 43 29.5**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,162nm,0.9s						
CTAO	**Charters Tower**	**19.20**	**159**	*e*P	**Pn**	**17 43 29.4**	**-0.7**
	comp=Z,162nm,0.9s						
PLP	**Palo**	**19.24**	**314**	*e*P	**Pn**	**17 43 32.0**	**+1.3**
PCI	**Palu**	**19.26**	**273**	P	**Pn**	**17 43 31.7**	**+0.8**
	comp=Z,616nm,1.1s						
OCLP	**Ormoc**	**19.44**	**313**	*e*P	**Pn**	**17 43 32.3**	**-0.7**
SNPH	**Sibulan**	**19.45**	**306**	*e*P	**Pn**	**17 43 33.0**	**-0.2**
LLP	**Lapu-Lapu**	**19.45**	**310**	⇑*e*P	**Pn**	**17 43 31.2**	**-2.0**
WSI	**Waingapu**	**20.11**	**247**	P	**P**	**17 43 38.1**	**-1.0**
	comp=Z,754nm,0.9s						
CNP	**Catarman**	**20.39**	**316**	*e*P	**P**	**17 43 40.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**20.65**	**219**	*e*P	**P**	**17 43 43.4**	**-1.5**
	comp=Z,533nm,0.9s						
FITZ				*e*S	**S**	**17 47 27.3**	**-6.9**
FITZ	**Fitzroy Crossi**	**20.65**	**219**	P	**P**	**17 43 43.8**	**-1.1**
	comp=Z,135nm,1.1s,baz=45,slow=11,SNR=79						
FITZ				S	**S**	**17 47 30.7**	**-3.5**
	comp=Z,202nm,0.9s,baz=199,slow=16,SNR=4.6						
FITZ				Lg		17 49 47.4	
	comp=Z,96nm,1.1s,baz=127,slow=14,SNR=1.8						
FITZ				LR	LR	17 52 43.8	
	comp=Z,21μm,18.5s,MS5.5,baz=44,slow=40						
GUIM	**Jordan**	**20.71**	**308**	*e*P	**P**	**17 43 45.9**	**+0.3**
RCP	**Roxas**	**21.16**	**310**	⇓*e*P	**P**	**17 43 52.1**	**+1.6**
HNR	**Honiara**	**22.00**	**110**	P	**P**	**17 43 57.8**	**-1.6**
	comp=Z,1μm,1.0s,mb6.3,baz=256,slow=2.2,SNR=56						
HNR				S	**S**	**17 48 05.7**	**+5.0**
	comp=Z,47nm,1.0s,baz=88,slow=21,SNR=2.4						
HNR	**Honiara**	**22.00**	**110**	*e*P	**P**	**17 43 57.3**	**-2.1**
HNR				pmax	pmax		
	comp=Z,1μm,0.9s,mb6.4						
HNR				MLR	MLR		
	comp=Z,11μm,20.0s,MS5.3						
HNR	**Honiara**	**22.00**	**110**	*e*P	**P**	**17 43 57.3**	**-2.1**
	comp=Z,1μm,0.9s,mb6.4						
HNR				LR	LR		
	comp=Z,11μm,20.0s,MS5.3						
ASAR	**Alice Springs**	**22.01**	**193**	P	**P**	**17 43 58.3**	**-1.2**
	comp=Z,374nm,1.0s,mb5.8,baz=19,slow=8.6,SNR=384						
ASAR				S	**S**	**17 48 06.0**	**+5.1**
	comp=Z,73nm,1.1s,baz=13,slow=15,SNR=6.4						
ASAR				Lg		17 50 27.5	
	comp=Z,78nm,1.2s,baz=21,slow=28,SNR=4.2						
ASAR				P3KP		18 18 40.0	
	comp=Z,0.9nm,1.0s,baz=310,slow=1.0,SNR=4.6						
ASAR	**Alice Springs**	**22.01**	**193**	P	**P**	**17 43 58.3**	**-1.2**
ASAR				S	**S**	**17 48 06.0**	**+5.1**
ASAR	**Alice Springs**	**22.01**	**193**	P	**P**	**17 43 58.3**	**-1.2**
ASAR				S	**S**	**17 48 06.0**	**+5.1**
ASAR				Lg		17 50 27.5	
CUYO	**Cuyo Island**	**22.10**	**306**	*e*P	**P**	**17 44 00.5**	**0.0**
TSM	**Tawau**	**22.11**	**287**	P	**P**	**17 44 03.2**	**+2.5**
OTRP	**Odiongan**	**22.21**	**311**	*e*P	**P**	**17 44 02.3**	**+0.5**
BOAC	**Boac**	**23.05**	**313**	*e*P	**P**	**17 44 09.1**	**-1.4**
BUSP	**Coron**	**23.41**	**307**	*e*P	**P**	**17 44 14.2**	**-0.2**
ENPP	**El Nido**	**23.59**	**305**	*e*P	**P**	**17 44 16.2**	**+0.1**
BATP	**Bataraza**	**23.81**	**297**	*e*P	**P**	**17 44 18.2**	**+0.2**
POLP	**Polilio Island**	**23.82**	**315**	*e*P	**P**	**17 44 17.4**	**-0.8**
TGY	**Tagaytay City**	**24.13**	**312**	P	**P**	**17 44 21.4**	**+0.4**
	comp=Z,662nm,0.9s,baz=160,slow=5.4,SNR=25						
TGY				LR	LR	17 52 43.7	
	comp=Z,31nm,19.9s,baz=113,slow=34						
KKM	**Kota Kinabalu**	**24.21**	**290**	P	**P**	**17 44 24.2**	**+2.4**
KKM	**Kota Kinabalu**	**24.21**	**290**	*e*P	**P**	**17 44 22.0**	**+0.2**
LUBP	**Lubang**	**24.41**	**311**	*e*P	**P**	**17 44 24.0**	**+0.4**
DNP	**Denpasar**	**24.62**	**254**	P	**P**	**17 44 24.8**	**-0.7**
	comp=Z,593nm,1.3s,mb6.0						
BALP	**Baler**	**24.77**	**316**	*e*P	**P**	**17 44 26.5**	**-0.4**
PALP	**Palanan**	**25.15**	**320**	*e*P	**P**	**17 44 28.9**	**-1.4**
CAUP	**Cauayan**	**25.46**	**319**	*e*P	**P**	**17 44 34.2**	**+1.2**
ABRA	**Dolores**	**26.70**	**318**	*e*P	**P**	**17 44 40.8**	**-3.5**
KSM	**Kuching**	**28.97**	**277**	*e*P	**P**	**17 45 04.9**	**+0.3**
BJII	**Banjamegara**	**29.70**	**259**	P	**P**	**17 45 11.2**	**+0.1**
	comp=Z,103nm,1.4s,mb5.4						
STKA	**Stephens Creek**	**29.71**	**176**	*e*P	**P**	**17 45 10.5**	**-0.6**
	comp=Z,73nm,0.7s,mb5.5						
STKA				*e*S	**S**	**17 50 03.1**	**-2.3**
STKA	**Stephens Creek**	**29.71**	**176**	P	**P**	**17 45 10.7**	**-0.4**
	comp=Z,86nm,0.8s,mb5.5,baz=348,slow=8.0,SNR=90						
STKA				S	**S**	**17 50 06.9**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=45,slow=22,SNR=1.4						
STKA				Lg		17 54 39.6	
	comp=Z,25nm,1.1s,baz=245,slow=4.3,SNR=2.9						
STKA				LR	LR	17 58 42.2	
	comp=Z,11μm,18.9s,MS5.5,baz=349,slow=40						
FORT	**Forrest**	**30.36**	**199**	*e*P	**P**	**17 45 17.6**	**+0.7**
	comp=Z,989nm,0.6s,mb6.7						
FORT				*e*S	**S**	**17 50 12.9**	**-2.7**
ARMA	**Armidale**	**30.57**	**158**	*e*P	**P**	**17 45 19.5**	**+0.7**
ARMA				*e*S	**S**	**17 50 24.1**	**+5.2**
NACB	**Ninganchiao**	**31.16**	**328**	*e*P	**P**	**17 45 22.5**	**-1.5**
YHNB	**Yeheng**	**31.68**	**328**	*e*P	**P**	**17 45 28.1**	**-0.5**
TATO	**Taipei**	**31.87**	**329**	*e*P	**P**	**17 45 30.1**	**-0.1**
TATO				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
CBJI	**Citeko**	**32.41**	**261**	P	**P**	**17 45 32.7**	**-2.2**
	comp=Z,95nm,0.7s,mb5.7						
ADE	**Adelaide**	**32.69**	**181**	⇑*i*P	**P**	**17 45 38.3**	**+0.9**
NOUC	**Port Laguerre**	**33.10**	**129**	*e*P	**P**	**17 45 40.7**	**-0.3**
DZM	**Mont Dzumac**	**33.20**	**129**	*e*P	**P**	**17 45 40.4**	**-1.4**
DZM	**Mont Dzumac**	**33.20**	**129**	P	**P**	**17 45 41.6**	**-0.2**
	comp=Z,69nm,0.9s,mb5.6,baz=0.7,slow=7.8,SNR=22						
QZH	**Quanzhou**	**33.43**	**325**	⇑*i*P	**P**	**17 45 43.9**	**0.0**
QZH				S	**S**	**17 50 57.6**	**-5.9**
QZH				AMB	AMB		
	comp=Z,180nm,0.7s,mb6.1						
QZH				AMB	AMB		
	comp=Z,2μm,3.1s						
QZH				LR	LR		
	comp=N,2μm,11.3s						
QZH				LR	LR		
	comp=E,10μm,20.0s						
QZH				LR	LR		
	comp=Z,22μm,33.8s						
RIV	**Riverview**	**33.52**	**162**	*e*P	**P**	**17 45 44.8**	**+0.1**
KLI	**Kotabumi**	**34.25**	**264**	P	**P**	**17 45 52.9**	**+1.9**
	comp=Z,126nm,2.4s,mb5.4						
CNB	**Canberra Magne**	**34.40**	**165**	*e*P	**P**	**17 45 52.2**	**-0.1**
	comp=Z,244nm,1.2s,mb6.0						
GZH	**Guangzhou**	**35.43**	**316**	P	**P**	**17 46 01.8**	**+0.6**
GZH				S	**S**	**17 51 35.1**	**+0.7**
GZH				LR	LR		
	comp=N,3μm,16.6s,MS5.2						
GZH				LR	LR		
	comp=E,2μm,16.3s,MS5.2						
GZH				LR	LR		
	comp=Z,6μm,17.3s,MS5.4						
KLBR	**Kellerberrin**	**35.56**	**212**	⇓*i*P	**P**	**17 46 01.7**	**-0.6**
	comp=Z,134nm,0.8s,mb5.9						
QIZ	**Qiongzhong**	**35.59**	**307**	P	**P**	**17 46 03.0**	**+0.4**
QIZ				AP	pP	17 46 11.4	+0.7
QIZ				XP	sP	17 46 14.9	+0.8
QIZ				PP	PP	17 47 23.4	-0.2
QIZ				PPP		17 47 43.6	
QIZ				S	**S**	**17 51 36.9**	**+0.1**
QIZ				AMB	AMB		
	comp=Z,89nm,1.0s,mb5.7						
QIZ				AMB	AMB		
	comp=Z,402nm,4.0s						
QIZ				LR	LR		
	comp=N,5μm,22.4s,MS5.2						
QIZ				LR	LR		
	comp=E,2μm,25.4s,MS5.2						
QIZ				LR	LR		
	comp=Z,6μm,32.8s						
QIZ	**Qiongzhong**	**35.59**	**307**	*e*P	**P**	**17 46 01.6**	**-1.0**
	comp=Z,386nm,1.6s,mb6.1						
QIZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
JNU	**Nakatsue**	**35.88**	**348**	P	**P**	**17 46 05.2**	**+0.2**
	comp=Z,55nm,0.9s,mb5.5,baz=200,slow=20,SNR=9.2						
JNU				PP	PP	17 47 25.2	-1.6
	comp=Z,68nm,0.6s,baz=214,slow=19,SNR=7.6						
JNU				S	**S**	**17 51 41.9**	**+0.6**
	comp=Z,12nm,0.9s,baz=243,slow=19,SNR=1.4						
JNU				LR	LR	18 00 46.6	
	comp=Z,8μm,18.4s,MS5.5,baz=84,slow=36						
KGM	**Kluang**	**35.98**	**276**	P	**P**	**17 46 07.0**	**+1.1**
MUN	**Mundaring**	**36.70**	**214**	⇓*i*P	**P**	**17 46 11.7**	**-0.3**
MUN				*e*S	**S**	**17 51 50.8**	**-2.9**
NWAO	**Narrogin (SRO)**	**36.88**	**211**	P	**P**	**17 46 13.8**	**+0.3**
	comp=Z,106nm,0.9s,mb5.7,baz=40,slow=8.2,SNR=43						
NWAO				PP	PP	17 47 35.9	-1.9
	comp=Z,93nm,1.0s,baz=33,slow=12,SNR=5.0						
NWAO				S	**S**	**17 51 55.4**	**-1.0**
	comp=Z,25nm,1.1s,baz=156,slow=12,SNR=1.5						
NWAO				LR	LR	18 02 29.6	
	comp=Z,21μm,18.5s,MS6.0,baz=35,slow=38						
NWAO	**Narrogin (SRO)**	**36.88**	**211**	*e*P	**P**	**17 46 13.4**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,134nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,22μm,22.0s						
NWAO	**Narrogin (SRO)**	**36.88**	**211**	*e*P	**P**	**17 46 13.4**	**-0.1**
	comp=Z,134nm,1.0s,mb5.7						
NWAO				LR	LR		
	comp=Z,22μm,22.0s,MS5.9						
SSE	**Sheshan**	**37.15**	**334**	P	**P**	**17 46 15.5**	**-0.4**
SSE				AP	pP	17 46 22.6	-1.4
SSE				PP	PP	17 47 41.1	+0.3
SSE				S	**S**	**17 52 00.4**	**-0.2**
SSE				SS	SS	17 54 42.6	-1.2
SSE				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,469nm,3.9s						
SSE				LR	LR		
	comp=N,2μm,20.2s,MS5.4						
SSE				LR	LR		
	comp=E,6μm,20.2s,MS5.4						
SSE				LR	LR		
	comp=Z,5μm,20.1s,MS5.3						
SSE	**Sheshan**	**37.15**	**334**	P	**P**	**17 46 15.5**	**-0.4**
	comp=Z,70nm,0.7s,mb5.6						
SSE				pP	pP	17 46 22.6	-1.4
SSE				PP	PP	17 47 41.1	+0.3
SSE				S	**S**	**17 52 00.4**	**-0.2**
SSE				sS	sS	17 52 10.5	-3.6
SSE				SS	SS	17 54 42.6	-1.2
SSE				LR	LR		
	comp=Z,5μm,20.1s,MS5.3						
MJAR	**Matsushiro Arr**	**38.46**	**359**	P	**P**	**17 46 25.9**	**-1.0**
	comp=Z,8.9nm,0.6s,mb4.7,baz=177,slow=8.8,SNR=33						
MJAR				PcP	PcP	17 48 41.2	+1.5
	comp=Z,8.3nm,1.0s,baz=181,slow=3.3,SNR=7.4						
MJAR				S	**S**	**17 52 25.9**	**+5.4**
	comp=Z,7.6nm,0.6s,baz=163,slow=15,SNR=8.7						
MJAR	**Matsushiro Arr**	**38.46**	**359**	P	**P**	**17 46 25.9**	**-1.0**
MJAR				PcP	PcP	17 48 41.2	+1.5
MJAR				S	**S**	**17 52 25.9**	**+5.4**
MAJO	**Matsushiro**	**38.46**	**359**	P	**P**	**17 46 25.3**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**38.46**	**359**	*e*P	**P**	**17 46 25.1**	**-1.8**
	comp=Z,14nm,0.6s,mb4.9						
MAJO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
MAT	**Matsushiro**	**38.46**	**359**	P	**P**	**17 46 25.2**	**-1.7**
MAT				S	**S**	**17 52 14.0**	**-6.5**
IPM	**Ipoh**	**38.57**	**280**	P	**P**	**17 46 28.8**	**+0.9**
KULM	**Kulim**	**39.07**	**281**	*e*P	**P**	**17 46 32.0**	**-0.1**
SNG	**Songkhla**	**39.46**	**284**	P	**P**	**17 46 36.0**	**+0.7**
	comp=Z,542nm,0.8s,mb6.3						
WHN	**Wuhan**	**40.12**	**326**	P	**P**	**17 46 41.6**	**+0.8**
WHN				S	**S**	**17 52 52.3**	**+6.8**
WHN				LR	LR		
	comp=Z,6μm,20.4s,MS5.4						
KKTK	**Khon Kaen**	**40.22**	**298**	P	**P**	**17 46 42.0**	**+0.4**
	comp=Z,864nm,0.8s,mb6.5						
PSI	**Prapat**	**40.43**	**277**	P	**P**	**17 46 43.2**	**-0.2**
	comp=Z,119nm,0.8s,mb5.7,baz=96,slow=4.5,SNR=108						
PSI				S	**S**	**17 52 53.0**	**+3.0**
	comp=Z,1.3nm,0.3s,baz=315,slow=23,SNR=6.0						
PSI	**Prapat**	**40.43**	**277**	P	**P**	**17 46 43.2**	**-0.2**
PSI				S	**S**	**17 52 53.0**	**+3.0**
KSRS	**Korea Array**	**40.70**	**346**	P	**P**	**17 46 45.3**	**-0.3**
	comp=Z,9.2nm,0.8s,baz=157,slow=8.5,SNR=34						
KSRS				PcP	PcP	17 48 48.0	+1.1
	comp=Z,7.6nm,0.9s,baz=167,slow=2.6,SNR=7.1						
KSRS				LR	LR	18 03 40.9	
	comp=Z,4μm,19.3s,MS5.3,baz=170,slow=36						
INCN	**Inchon**	**41.05**	**345**	*e*P	**P**	**17 46 48.2**	**-0.3**
	comp=Z,54nm,1.1s,mb5.1						
INCN				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
TAU	**Tasmania Unive**	**41.29**	**171**	P	**P**	**17 46 52.7**	**+2.3**
	comp=Z,758nm,1.2s,mb6.2,SNR=7.4						
TAU	**Tasmania Unive**	**41.29**	**171**	*e*P	**P**	**17 46 51.6**	**+1.2**
TAU				pmax	pmax		
	comp=Z,173nm,1.1s,mb5.6						
TAU				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
TAU	**Tasmania Unive**	**41.29**	**171**	*e*P	**P**	**17 46 51.6**	**+1.2**
	comp=Z,173nm,1.1s,mb5.6						
TAU				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
NNT	**Nongplab**	**41.70**	**292**	P	**P**	**17 46 55.0**	**+1.2**
GYA	**Guiyang**	**42.26**	**314**	⇑*i*P	**P**	**17 46 58.9**	**+0.6**
GYA				AP	pP	17 47 07.3	+0.7
GYA				XP	sP	17 47 12

comp=Z,7μm,20.8s,MS5.6
KMI Kunming 44.41 310 P P 17 47 17.1 +1.4
KMI *PP pP 17 47 26.1 +2.1
KMI *SP sP 17 47 29.6 +2.3
KMI 17 49 01.0
KMI 17 49 02.9
KMI PPP 17 49 42.1
KMI S **S** **17 53 49.0 +0.3**
KMI *SS sS 17 54 04.9 +2.6
KMI SS SS 17 57 01.9 -6.1
KMI 17 57 10.8
KMI SSS 17 57 58.5
KMI pmax pmax
comp=Z,24nm,0.9s,mb4.9
KMI MLR MLR
comp=Z,7μm,20.8s,MS5.6
KMI Kunming 44.41 310 P P 17 47 17.1 +1.4
comp=Z,24nm,0.9s,mb4.9
KMI pP pP 17 47 26.1 +2.1
KMI sP sP 17 47 29.6 +2.3
KMI PcP PcP 17 49 01.0 +1.8
KMI PP PP 17 49 02.9 +3.4
KMI PPP 17 49 42.1
KMI ScP ScP 17 52 49.7 +0.4
KMI PcS PcS 17 52 53.1 +0.6
KMI S **S** **17 53 49.0 +0.3**
KMI sS sS 17 54 04.9 +2.6
KMI SS SS 17 57 01.9 -6.1
KMI ScS ScS 17 57 10.8 -1.1
KMI SSS 17 57 58.5
KMI LR LR
comp=Z,7μm,20.8s,MS5.6
CM31 Chiang Mai Arr 44.45 299 PFAKE 17 47 30.0 +14
CM31 LR LR
comp=Z,3μm,19.0s,MS5.2
CHG Chiang Mai 44.59 300 ⇑P **P** **17 47 17.7 +0.5**
comp=Z,78nm,0.9s,mb5.5
CHTO Chiang Mai 44.59 300 ⇓P **P** **17 47 17.4 +0.2**
SNR=30
CHTO Chiang Mai 44.59 300 *e*P **P** **17 47 17.0 -0.2**
CHTO *e* 17 49 01.4
CHTO pmax pmax
comp=Z,77nm,1.1s,mb5.5
CHTO MLR MLR
comp=Z,3μm,20.0s,MS5.2
CHTO Chiang Mai 44.59 300 *e*P **P** **17 47 17.0 -0.2**
comp=Z,77nm,1.1s,mb5.4
CHTO *e* 17 49 01.4
CHTO *e*ScP ScP 17 52 53.2 +3.1
CHTO LR LR
comp=Z,3μm,20.0s,MS5.2
VLA Vladivostok 45.48 353 *e*P **P** **17 47 23.4 -0.9**
VLA *e* pP 17 47 29.6 -3.0
VLA *e*S **S** **17 54 05.0 +0.8**
VLA pmax pmax
comp=Z,89nm,1.4s,mb5.4
VLA MLR MLR
comp=Z,3μm,18.9s,MS5.3
VLA Vladivostok 45.48 353 *i* P **P** **17 47 24.6 +0.3**
XAN Xi'an 45.79 324 P **P** **17 47 26.1 -0.6**
XAN AP pP 17 47 32.3 -2.8
XAN PP PP 17 49 19.3 +5.1
XAN S **S** **17 54 07.6 -1.1**
XAN AMB AMB
comp=Z,35nm,1.3s,mb5.1
XAN AMB AMB
comp=Z,626nm,4.0s
XAN LR LR
comp=N,1μm,24.6s,MS5.1
XAN LR LR
comp=E,2μm,21.0s,MS5.1
XAN LR LR
comp=Z,5μm,26.5s
SNY Shenyang 45.93 344 ⇑P **P** **17 47 31.6 +3.8**
SNY AP pP 17 47 38.8 +2.6
SNY XP sP 17 47 42.0 +2.5
SNY S **S** **17 54 13.8 +3.1**
SNY XS sS 17 54 24.6 +0.1
SNY AMB AMB
comp=Z,1μm,4.3s
SNY LR LR
comp=N,2μm,16.8s,MS5.3
SNY LR LR
comp=E,2μm,16.8s,MS5.3
SNY LR LR
comp=Z,3μm,19.4s,MS5.2
BJT Baijiatuau 46.88 336 *e*P **P** **17 47 34.7 -0.5**
BJT pmax pmax
comp=Z,188nm,1.2s
BJT MLR MLR
comp=Z,5μm,20.0s
BJT Baijiatuau 46.88 336 *e*P **P** **17 47 34.7 -0.6**
comp=Z,188nm,1.2s,mb5.9
BJT LR LR
comp=Z,5μm,20.0s,MS5.5
BJI Beijing 46.89 336 *e*P **P** **17 47 34.9 -0.5**
BJI AP pP 17 47 43.9 +0.2
BJI XP sP 17 47 47.8 +0.8
BJI S **S** **17 54 23.8 -0.7**
BJI XS sS 17 54 43.5 +5.3
BJI AMB AMB
comp=Z,63nm,1.0s,mb5.5
BJI AMB AMB
comp=Z,2μm,3.5s
BJI LR LR
comp=N,3μm,23.7s,MS5.4
BJI LR LR
comp=E,4μm,20.2s,MS5.4
BJI LR LR
comp=Z,5μm,24.8s,MS5.3
BJI Beijing 46.89 336 *e*P **P** **17 47 34.9 -0.5**
BJI *PP pP 17 47 43.9 +0.2
BJI *SP sP 17 47 47.7 +0.7
BJI S **S** **17 54 23.7 -0.8**
BJI *SS sS 17 54 43.5 +5.3
BJI pmax pmax
comp=Z,63nm,1.0s,mb5.5
BJI MLR MLR
comp=Z,5μm,24.8s,MS5.3
BJI Beijing 46.89 336 *e*P **P** **17 47 34.9 -0.5**
comp=Z,63nm,1.0s,mb5.5
BJI pP pP 17 47 43.9 +0.2
BJI sP sP 17 47 47.7 +0.7
BJI S **S** **17 54 23.7 -0.8**
BJI sS sS 17 54 43.5 +5.3
BJI SS SS 17 57 53.3 +2.1
BJI LR LR
comp=Z,5μm,24.8s,MS5.3
CD2 Chengdu 46.98 317 ⇑*i*P **P** **17 47 36.4 +0.3**
CD2 AP pP 17 47 46.3 +1.9
CD2 XP sP 17 47 50.3 +2.6
CD2 PCP PcP 17 49 08.5 +0.4
CD2 PP PP 17 49 26.5 -0.2
CD2 S **S** **17 54 25.0 -0.7**
CD2 XS sS 17 54 41.3 +1.8
CD2 SCS ScS 17 57 25.8 -2.8
CD2 AMB AMB
comp=Z,140nm,0.8s,mb5.9
CD2 AMB AMB
comp=Z,850nm,5.3s
CD2 LR LR
comp=N,5μm,21.4s,MS5.6
CD2 LR LR
comp=E,5μm,22.7s,MS5.6
CD2 LR LR
comp=Z,3μm,16.8s
MDJ Mudanjiang 47.28 351 P **P** **17 47 38.1 -0.3**
MDJ AP pP 17 47 44.5 -2.3
MDJ XP sP 17 47 46.9 -3.2
MDJ S **S** **17 54 25.9 -4.1**
MDJ SCS ScS 17 57 30.9 +0.4
MDJ AMB AMB
comp=Z,39nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,601nm,4.6s
MDJ LR LR
comp=N,2μm,20.6s,MS5.2
MDJ LR LR
comp=E,1μm,16.6s,MS5.2
MDJ LR LR
comp=Z,4μm,22.0s
MDJ Mudanjiang 47.28 351 *e*P **P** **17 47 37.5 -0.9**
comp=Z,79nm,1.0s,mb5.6
MDJ LR LR
comp=Z,4μm,21.0s,MS5.3
CN2 Changchun 47.31 347 *e*P **P** **17 47 37.6 -1.0**
CN2 *e*AP pP 17 47 44.0 -3.0
CN2 *e*S **S** **17 54 30.3 -0.1**
CN2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,900nm,4.0s
CN2 LR LR
comp=N,3μm,19.0s,MS5.4
CN2 LR LR
comp=E,2μm,19.0s,MS5.4
CN2 LR LR
comp=Z,4μm,19.0s,MS5.4
YSS Yuzh-Sakhalins 48.96 3 ⇑*i*P **P** **17 47 50.1 -1.3**
YSS *e**SP sP 17 48 04.0 +0.9
YSS *e* 17 49 19.0
YSS *e* 17 49 51.0
YSS *e*S **S** **17 54 54.0 +0.2**
YSS *e* 17 55 06.0
YSS *e* 17 57 34.0
YSS pmax pmax
comp=Z,50nm,0.8s,mb5.6
YSS pmax pmax
comp=N,20nm,0.7s
YSS pmax pmax
comp=Z,1μm,4.0s
YSS smax
comp=N,400nm,11.0s
YSS MLR MLR
comp=N,1μm,19.0s
YSS MLR MLR
comp=Z,1μm,19.0s,MS5.0
YSS Yuzh-Sakhalins 48.96 3 *e*P **P** **17 47 49.8 -1.6**
comp=Z,47nm,0.8s,mb5.6
YSS LR LR
comp=Z,3μm,22.0s,MS5.2
HHC Hu-ho-hao-te 49.56 333 *e*P **P** **17 47 56.8 +0.8**
HHC AP pP 17 48 06.8 +2.4
HHC XP sP 17 48 10.3 +2.6
HHC PP PP 17 49 52.0 +1.6
HHC PCS PcS 17 53 13.3 -0.8
HHC S **S** **17 55 00.8 -1.4**
HHC XS sS 17 55 18.3 +2.3
HHC SCS ScS 17 57 42.6 -3.2
HHC SS SS 17 58 30.6 -3.8
HHC AMB AMB
comp=Z,26nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,1μm,4.6s
HHC LR LR
comp=N,4μm,22.0s,MS5.5
HHC LR LR
comp=E,3μm,17.8s,MS5.5
HHC LR LR
comp=Z,5μm,21.4s,MS5.5
AFI Afiamalu 49.95 106 P **P** **17 47 59.4 +0.5**
comp=Z,77nm,1.0s,mb5.7,baz=267,slow=22,SNR=6.5
AFI Afiamalu 49.95 106 P **P** **17 47 59.5 +0.5**
AFI LR LR
comp=Z,8μm,22.0s,MS5.7
URZ Urewera 50.05 141 P **P** **17 47 59.9 +0.2**
comp=Z,12nm,0.6s,mb5.1,baz=340,slow=3.6,SNR=11
BTO Baotou 50.10 331 *e*P **P** **17 47 59.8 -0.2**
BTO AMB AMB
comp=Z,38nm,2.7s,mb5.0
LZH Lanzhou 50.22 323 P **P** **17 48 01.8 +0.8**
LZH AP pP 17 48 11.5 +2.1
LZH XP sP 17 48 16.8 +4.1
LZH PP PP 17 49 59.0 +2.6
LZH S **S** **17 55 09.0 -2.4**
LZH PS 17 55 27.0
LZH *e*SS SS 17 58 40.0 -4.9
LZH AMB AMB
comp=Z,140nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,790nm,4.6s
LZH LR LR
comp=N,6μm,16.1s
LZH LR LR
comp=Z,10μm,17.0s,MS5.9
LZH Lanzhou 50.22 323 P **P** **17 48 01.8 +0.8**
LZH *PP pP 17 48 11.5 +2.1
LZH *SP sP 17 48 16.8 +4.1
LZH 17 49 59.0
LZH S **S** **17 55 09.0 -2.4**
LZH PS 17 55 27.0
LZH sS sS 17 55 37.0 +12
LZH *e*SS SS 17 58 40.0 -4.9
LZH LR LR
comp=Z,10μm,17.0s,MS5.9
RPZ Rata Peaks 50.23 150 P **P** **17 48 01.2 +0.2**
comp=Z,35nm,0.8s,mb5.5,baz=338,slow=2.3,SNR=15
HABR Khabarovsk 50.50 357 ⇓*i*P **P** **17 48 02.2 -0.9**
HABR *e*S **S** **17 55 15.7 +0.5**
HABR pmax pmax
comp=Z,79nm,1.1s,mb5.7
SNZO South Karori 50.51 145 PFAKE 17 48 20.0 +17
SNZO LR LR
comp=Z,7μm,19.0s,MS5.7
IMP Imphal 51.28 304 *e*P **P** **17 48 10.0 +1.1**
IMP *e*x x 17 49 29.0
KLR Kul'dur 51.52 354 *e*P **P** **17 48 07.0 -3.8**
KLR *e*S **S** **17 55 26.5 -3.0**
KLR *e*SS SS 17 59 07.5 +1.9
KLR pmax pmax
comp=Z,1μm,1.4s,mb6.5
KLR smax
comp=N,700nm,13.0s
KLR smax
comp=E,2μm,13.0s
MIDW Midway 51.55 51 PFAKE 17 48 20.0 +9.0
MIDW LR LR
comp=Z,6μm,20.0s,MS5.6
AGT Agartala 53.16 302 *i* x x 17 47 27.0
AGT *i* x x 17 48 47.0
SHL Shillong 53.29 304 *e*P **P** **17 48 22.1 -1.8**
SHL *e*S **S** **17 55 54.0 +0.4**
HIA Hailar 53.83 344 *e*P **P** **17 48 27.1 -0.8**
HIA pmax pmax
comp=Z,113nm,1.4s
HIA MLR MLR
comp=Z,4μm,21.0s
HIA Hailar 53.83 344 *e*P **P** **17 48 27.1 -0.7**
comp=Z,113nm,1.4s,mb5.6
HIA LR LR
comp=Z,4μm,21.0s,MS5.5
GTA Gaotai 54.80 323 ⇓P **P** **17 48 35.6 +0.7**
GTA AP pP 17 48 44.3 +0.9
GTA XP sP 17 48 47.5 +0.8
GTA PP PP 17 50 41.3 +3.5
GTA S **S** **17 56 16.4 +2.3**
GTA XS sS 17 56 34.4 +6.4
GTA SS SS 18 00 00.5 +3.1
GTA AMB AMB
comp=Z,18nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,869nm,7.2s
GTA LR LR
comp=N,2μm,22.8s,MS5.2
GTA LR LR
comp=E,1μm,22.1s,MS5.2
GTA LR LR
comp=Z,3μm,22.1s,MS5.2
CAL Calcutta 55.20 299 *e*P **P** **17 48 40.5 +2.8**
CAL *e*S **S** **17 56 22.6 +3.3**
LSA Lhasa 55.62 309 P **P** **17 48 42.0 +1.2**
LSA AP pP 17 48 51.0 +1.7
LSA XP sP 17 48 55.0 +2.4
LSA PCP PcP 17 49 39.3 -0.9
LSA PP PP 17 50 47.3 +2.2
LSA S **S** **17 56 23.3 -1.7**
LSA XS sS 17 56 44.0 +5.1
LSA SCS ScS 17 58 28.5 +0.4
LSA SS SS 18 00 16.5 +6.3
LSA AMB AMB
comp=Z,20nm,0.8s,mb5.2
LSA LR LR
comp=N,990nm,25.5s,MS5.1
LSA LR LR
comp=E,2μm,25.5s,MS5.1
LSA LR LR
comp=Z,3μm,25.5s,MS5.2
LSA Lhasa 55.62 309 *e*P **P** **17 48 41.9 +1.1**
LSA pmax pmax
comp=Z,80nm,0.8s,mb5.8
LSA MLR MLR
comp=Z,3μm,22.0s,MS5.3
LSA Lhasa 55.62 309 *e*P **P** **17 48 41.9 +1.1**
comp=Z,80nm,0.8s,mb5.8
LSA LR LR
comp=Z,3μm,22.0s,MS5.3
SONM Songino Array 57.33 334 P **P** **17 48 53.1 +0.1**
comp=Z,9.3nm,0.6s,mb5.0,baz=155,slow=7.1,SNR=52
SONM LR LR 18 12 43.9
comp=Z,5μm,21.0s,MS5.6,baz=140,slow=35
SONM PKP2bc 18 18 53.2
comp=Z,0.7nm,1.0s,baz=270,slow=3.0,SNR=3.5
SONM Songino Array 57.33 334 P **P** **17 48 53.1 +0.1**
SONM LR LR 18 12 43.9
SONM ⇑*e* 18 18 53.2
PET Petropavlovsk 57.34 14 *d i*P **P** **17 48 59.0 +5.9**
PET *e*S **S** **17 56 52.9 +5.1**
PET MLR MLR
comp=Z,2μm,15.0s,MS5.4
PET MLR MLR
comp=Z,2μm,19.0s
BOK Bokaro 57.73 300 *e*P **P** **17 48 57.7 +1.9**
BOK AMb AMB 17 49 05.8
comp=Z,181nm,1.2s,mb6.0
BOK *e*S **S** **17 56 51.5 -1.4**
CIT Chita 58.09 342 *e*P **P** **17 48 58.8 +0.5**
CIT pmax pmax
comp=Z,427nm,2.9s,mb6.0
VIS Vishakhapatnam 58.32 292 *e*P **P** **17 48 58.2 -1.7**
VIS AMb AMB 17 49 09.7
comp=Z,152nm,1.2s,mb5.9
GUN Gumba 59.14 304 *e*P **P** **17 49 06.3 +0.6**
comp=Z,482nm,1.1s,mb6.4
PKI Pulchoki 59.41 304 *e*P **P** **17 49 07.7 +0.2**
comp=Z,139nm,0.9s,mb6.0
PKI Pulchoki 59.41 304 *e*P **P** **17 49 07.7 +0.2**
PKI pmax pmax
comp=Z,139nm,0.9s,mb6.0
KKN Kakani 59.60 304 *e*P **P** **17 49 09.1 +0.3**
comp=Z,407nm,0.9s,mb6.5
DMN Daman 59.68 304 *e*P **P** **17 49 09.9 +0.6**
comp=Z,393nm,1.0s,mb6.4
CLNS Chul'man 59.87 351 *e*P **P** **17 49 10.6 -0.1**
CLNS *e* 17 49 21.9
CLNS pmax pmax
comp=Z,42nm,0.6s,mb5.7
CLNS pmax pmax
comp=N,30nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.5s
GKN Gorkha 60.20 304 *e*P **P** **17 49 13.3 +0.3**
comp=E,511nm,1.0s,mb6.5
MDRS Chennai 60.27 286 *e*P **P** **17 49 12.8 -0.7**
MDRS AMb AMB 17 49 21.8
comp=Z,168nm,1.6s,mb5.8
MDRS *e*x x 17 52 18.7
ZAK Zakamensk 60.60 335 ⇑*i*P **P** **17 49 15.3 -0.4**
ZAK pmax pmax
comp=Z,71nm,1.3s
ZAK pmax pmax
comp=Z,2.0nm,1.1s
KOLN Koldanda 60.98 303 *e*P **P** **17 49 18.8 +0.5**
comp=Z,325nm,1.0s,mb6.4
TLY Talaya 61.42 336 P **P** **17 49 21.3 +0.1**
comp=Z,261nm,1.1s,mb6.3,SNR=7.4
TLY Talaya 61.42 336 ⇓P **P** **17 49 21.7 +0.5**
SNR=15
TLY Talaya 61.42 336 *e*P **P** **17 49 21.8 +0.6**
TLY *e* 17 53 01.9
TLY *e*S **S** **17 57 43.9 +3.4**
TLY pmax pmax
comp=Z,80nm,1.3s,mb5.7
TLY pmax pmax
comp=Z,3μm,18.0s
TLY Talaya 61.42 336 *e*P **P** **17 49 21.3 +0.1**
comp=Z,88nm,1.3s,mb5.7
TLY LR LR
comp=Z,544nm,21.0s,MS4.7
IRK Irkutsk 61.59 336 *e*P **P** **17 49 23.4 +1.0**
IRK pmax pmax
comp=Z,375nm,2.9s,mb6.0
SMY Shemya 62.05 23 PFAKE 17 49 40.0 +15
SMY LR LR
comp=Z,4μm,20.0s,MS5.6
MA2 Magadan 62.19 7 *d i*P **P** **17 49 25.1 -1.3**
MA2 pmax pmax
comp=Z,33nm,1.9s,mb5.1
MA2 MLR MLR
comp=Z,900nm,14.0s,MS5.1
MA2 Magadan 62.19 7 *i* P **P** **17 49 25.2 -1.2**
MA2 LR LR
comp=Z,1μm,20.0s,MS5.1
KOD Kodaikanal 62.52 283 *e*P **P** **17 49 29.9 +1.2**
KOD AMb AMB 17 49 38.3
comp=Z,160nm,0.7s,mb6.3
MOY Mondy 62.52 334 *e*P **P** **17 49 29.2 +0.5**
MOY pmax pmax
comp=Z,529nm,3.0s
HYB Hyderabad 62.70 291 *i* P **P** **17 49 29.5 -0.3**
comp=Z,70nm,1.0s,mb5.8
HYB *e*S **S** **17 57 56.0 -0.6**
HYB Hyderabad 62.70 291 *e*P **P** **17 49 29.5 -0.3**
HYB *e* pP 17 49 36.0 -2.4
HYB *e*S **S** **17 57 56.0 -0.6**
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.8
HYB Hyderabad 62.70 291 *e*P **P** **17 49 29.5 -0.3**
comp=Z,70nm,1.0s,mb5.8
HYB *e* pP 17 49 36.0 -2.4
HYB *e*S **S** **17 57 56.0 -0.6**
JBP Jabalpur 62.73 297 ⇓*i*P **P** **17 49 30.4 +0.4**
JBP *e*x x 17 49 40.8
comp=Z,167nm,1.1s
JBP *e*S **S** **17 57 58.6 +1.6**
TRD Trivandrum 62.80 281 *e*P **P** **17 49 30.4 -0.1**
TRD AMb AMB 17 49 55.1
comp=Z,104nm,1.1s,mb5.9
BOD Bodaibo 63.03 345 *e*P **P** **17 49 30.9 -1.1**
BOD pmax pmax
comp=Z,44nm,1.6s,mb5.3
NGP Nagpur 63.06 295 *e*P **P** **17 49 32.0 -0.2**
NGP *e*x x 17 49 42.7
comp=Z,187nm,1.4s
NGP *e*S **S** **17 58 01.1 -0.1**
YAK Yakutsk 64.37 355 *e*P **P** **17 49 40.4 -0.4**
YAK *e* 17 50 14.1
YAK *e* 17 51 58.5
YAK *e*PPP 17 53 34.3
YAK *e*S **S** **17 58 19.1 +1.7**
YAK *e* 17 59 32.3
YAK *e*SS SS 18 02 30.3 +2.9
YAK pmax pmax
comp=Z,100nm,1.3s,mb5.7
YAK pmax pmax
comp=N,53nm,1.2s
YAK pmax pmax
comp=E,11nm,1.5s
YAK smax
comp=N,926nm,8.0s
YAK smax
comp=Z,509nm,7.0s
YAK smax
comp=E,809nm,8.1s
YAK MLR MLR
comp=Z,2μm,19.0s,MS5.4
YAK MLR MLR
comp=N,2μm,18.0s,MS5.4
YAK MLR MLR
comp=E,769nm,14.0s,MS5.4
YAK Yakutsk 64.37 355 *e*P **P** **17 49 39.4 -1.4**
comp=E,149nm,0.9s,mb6.0
YAK LR LR

comp=Z,2μm,20.0s,MS5.4
WMQ Urumqi 64.77 321 P **P** **17 49 43.5 +0.1**
WMQ XP sP 17 49 54.9 -0.4
WMQ PCP PcP 17 50 19.6 +2.8
WMQ PP PP 17 52 08.3 +2.3
WMQ PPP 17 53 42.4
WMQ SCP 17 54 15.1
WMQ S **S** **17 58 20.8 -1.5**
WMQ SCS ScS 17 59 32.8 -3.4
WMQ SS SS 18 02 34.4 +0.8
WMQ AMB AMB
comp=Z,142nm,1.2s,mb5.9
WMQ AMB AMB
comp=Z,857nm,3.0s
WMQ LR LR
comp=N,2μm,20.0s,MS5.4
WMQ LR LR
comp=E,1μm,17.0s,MS5.4
WMQ LR LR
comp=Z,2μm,30.0s
AKL Akola 64.81 294⇑*iP* **P** **17 49 44.1 +0.3**
AKL *ex* x 17 49 52.7
comp=Z,205nm,1.0s
AKL *i*S **S** **17 58 21.1 -1.8**
BHPL Bhopal 65.02 297 *eP* **P** **17 49 44.6 -0.6**
BHPL AMb AMB 17 49 54.0
comp=Z,129nm,1.4s,mb5.8
MNGI Mangalore 65.47 285 *eP* **P** **17 49 48.7 +0.7**
MNGI AMb AMB 17 49 59.1
comp=Z,93nm,2.0s,mb5.5
SEY Seymchan 65.64 7⇑*eP* **P** **17 49 49.2 +0.1**
HON Honolulu 65.75 66 *eP* **P** **17 49 50.4 +0.6**
DGAR Diego Garcia 66.54 263 PFAKE 17 50 10.0 +15
DGAR LR LR
comp=Z,468nm,19.0s,MS4.7
NDI New Delhi 66.62 302 *eP* **P** **17 49 56.4 +0.9**
NDI AMb AMB 17 50 03.4
comp=Z,137nm,1.9s,mb5.7
KAD Karad 66.77 290 *eP* **P** **17 49 56.0 -0.4**
KAD *eP* 17 49 56.1
KAD AMb AMB 17 50 04.5
comp=Z,104nm,0.8s,mb5.9
CASY Casey 67.13 192 *eP* **P** **17 49 57.7 -1.0**
POO Poona 67.30 291⇓*iP* **P** **17 49 58.0 -1.7**
comp=Z,240nm,1.0s,mb6.2
POHA Pohakuloa 67.69 68 *eP* **P** **17 50 02.8 +0.6**
comp=Z,201nm,1.2s,mb6.0
AJM Ajmer 68.26 299 *eP* **P** **17 50 05.7 0.0**
AJM AMb AMB 17 50 14.8
comp=Z,157nm,2.0s,mb5.7
AJM *ex* x 17 58 55.8
BOM Bombay 68.33 291 *ex* x 17 49 57.9
BOM *ex* x 17 56 19.0
DLH Dalhousie 68.76 306 *eP* **P** **17 50 10.0 +1.1**
THN Thein Dam 68.93 306 *eP* **P** **17 50 08.8 -1.1**
KRAR Krasnoyarsk 69.01 334 *iP* **P** **17 50 10.0 -0.4**
KRAR pmax pmax
comp=Z,22nm,0.4s,mb5.4
KRAR MLR MLR
comp=Z,3μm,22.0s,MS5.5
MK31 Makanchi Array 69.53 322 P **P** **17 50 14.0 +0.3**
MK31 Makanchi Array 69.53 322 *eP* **P** **17 50 13.5 -0.2**
MKAR Makanchi Array 69.53 322 *iP* **P** **17 50 13.6 -0.1**
MKAR pmax pmax
comp=Z,177nm,1.1s
KSH Kashi 70.94 313 P **P** **17 50 24.0 +1.7**
KSH AP pP 17 50 31.6 +0.6
KSH XP sP 17 50 35.1 +0.9
KSH PCP PcP 17 50 44.1 +1.5
KSH PP PP 17 53 04.3 +4.7
KSH PPP 17 54 45.5
KSH S S 17 59 37.5 +1.4
KSH XS sS 17 59 50.0 -0.5
KSH SKS 18 00 20.8
KSH SCS ScS 18 00 22.3 -2.0
KSH SS SS 18 04 12.1 +3.0
KSH AMB AMB
comp=Z,124nm,0.9s,mb5.8
KSH AMB AMB
comp=Z,3μm,3.5s
KSH LR LR
comp=N,1μm,6.6s
KSH LR LR
comp=E,3μm,6.5s
KSH LR LR
comp=Z,2μm,7.6s
PPT Papeete 71.59 108 *eP* **P** **17 50 27.3 +1.0**
comp=Z,64nm,1.2s,mb5.4
PPT Papeete 71.59 108 *eS* S 17 59 42.6 -1.2
comp=Z,2μm,25.2s
PPT *e*LQ 18 09 15.1
comp=Z,6μm,32.8s
PPT *e*LR LR 18 12 23.9
comp=Z,9μm,24.0s
PPT Papeete 71.59 108 P **P** **17 50 27.9 +1.7**
comp=Z,44nm,0.8s,mb5.4,baz=272,slow=3.7,SNR=7.7
PAE Paea 71.60 108 *eP* **P** **17 50 26.9 +0.6**
comp=Z,86nm,1.1s,mb5.6
PAE Paea 71.60 108 *eP* **P** **17 50 26.9 +0.6**
PAE pmax pmax
comp=Z,86nm,1.1s,mb5.6
ZAL Zalesovo 71.60 330 LR LR 18 22 09.8
comp=Z,2μm,21.8s,MS5.4,baz=353,slow=36
UNV Unalaska Valle 71.64 31 PFAKE 17 50 40.0 +13
UNV LR LR
comp=Z,9μm,19.0s,MS6.1
ULHL Ulahol 71.67 316 P **P** **17 50 28.8 +2.0**
SNR=6.3
TVO Taravao 71.92 108 *eP* **P** **17 50 29.3 +1.1**
comp=Z,73nm,0.9s,mb5.6
TVO Taravao 71.92 108 *eP* **P** **17 50 29.3 +1.1**
TVO pmax pmax
comp=Z,73nm,0.9s,mb5.6
BHJ Bhuj 72.01 295 *eP* **P** **17 50 28.9 +0.1**
BHJ AMb AMB 17 50 40.0
comp=Z,317nm,0.6s,mb6.4
TBI Tubuai 72.17 114 *eS* S 17 59 49.0 -1.3
comp=Z,1μm,28.0s
TBI *e*LQ 18 09 35.5
comp=Z,3μm,45.8s
TBI *e*LR LR 18 12 41.9
comp=Z,7μm,34.0s
KZA Kyzart 72.31 315 P **P** **17 50 32.5 +1.9**
SNR=109
TKM2 Tokmak 2 72.36 316 P **P** **17 50 31.5 +0.6**
SNR=38
TKM2 Tokmak 2 72.36 316 P **P** **17 50 30.1 -0.7**
TKM2 pmax pmax
comp=Z,113nm,1.4s,mb5.6
BILL Bilibino 72.51 10 *iP* **P** **17 50 32.1 +0.3**
BILL *e* 17 50 38.1
BILL *e* 17 50 48.5
BILL *e* 17 53 11.7
BILL *e*S S 17 59 52.6 -1.7
BILL pmax pmax
comp=Z,19nm,2.1s,mb4.7
BILL MLR MLR
comp=Z,2μm,28.0s,MS5.2
BILL Bilibino 72.51 10 *eP* **P** **17 50 31.7 0.0**
comp=Z,37nm,1.6s,mb5.1
BILL LR LR
comp=Z,1μm,21.0s,MS5.2
KBK Karagaybulak 72.72 316 P **P** **17 50 33.9 +0.9**
SNR=24
NVS Novosibirsk 72.85 330 *eP* **P** **17 50 32.6 -1.2**
NVS *e*S S 17 59 55.5 -2.7
NVS pmax pmax
comp=Z,230nm,1.7s,mb5.8
NVS pmax pmax
comp=N,130nm,1.4s
NVS pmax pmax
comp=E,118nm,1.4s
UCH Uchtor 72.88 315 P **P** **17 50 35.6 +1.7**
SNR=47
CHMS Chumysh 72.97 316 P **P** **17 50 34.8 +0.3**
SNR=18
FRU Bishkek 73.00 316 *eP* **P** **17 50 35.0 +0.3**
FRU *i* pP 17 50 41.5 -1.9
FRU pmax pmax
comp=Z,628nm,3.0s
AAK Ala-Archa 73.02 316 P **P** **17 50 35.4 +0.6**
SNR=20
AAK Ala-Archa 73.02 316 P **P** **17 50 34.5 -0.3**
comp=Z,176nm,1.0s,mb6.0,SNR=17
AAK Ala-Archa 73.02 316*c iP* **P** **17 50 34.2 -0.6**
AAK pmax pmax
comp=Z,25nm,1.3s,mb5.0
AAK Ala-Archa 73.02 316 *eP* **P** **17 50 34.3 -0.5**
comp=Z,42nm,1.0s,mb5.3
AAK LR LR
comp=Z,423nm,21.0s,MS4.7
PMOR Pomariorio Ree 73.07 105 *eP* **P** **17 50 36.1 +1.0**
comp=Z,168nm,1.1s,mb5.9
USP Ospenovka 73.23 316 P **P** **17 50 36.5 +0.4**
SNR=41
VAH Vaihoa 73.34 105 *eP* **P** **17 50 37.4 +0.7**
comp=Z,107nm,1.0s,mb5.7
AML Almayashu 73.42 315 P **P** **17 50 38.3 +1.2**
SNR=51
KURK Kurchatov 73.43 325 P **P** **17 50 36.5 -0.7**
comp=Z,419nm,1.0s,mb6.3,SNR=22
KURK Kurchatov 73.43 325 *eP* **P** **17 50 36.7 -0.5**
KURK pmax pmax
comp=Z,196nm,1.4s,mb5.8
KURK MLR MLR
comp=Z,304nm,19.0s,MS4.6
KURK Kurchatov 73.43 325 *eP* **P** **17 50 36.7 -0.6**
comp=Z,196nm,1.4s,mb5.8
KURK LR LR
comp=Z,304nm,19.0s,MS4.6
EKS2 Erkin-Say 73.53 316 P **P** **17 50 38.7 +0.9**
SNR=49
TIXI Tiksi 73.92 357⇓*iP* **P** **17 50 36.8 -3.3**
TIXI *e* 17 53 20.9
TIXI *e*S S 18 00 07.7 -2.6
TIXI *e* 18 00 48.3
TIXI pmax pmax
comp=Z,21nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,2μm,18.0s,MS5.4
TIXI Tiksi 73.92 357 *eP* **P** **17 50 38.0 -2.1**
comp=Z,33nm,1.1s,mb5.2
TIXI LR LR
comp=Z,2μm,20.0s,MS5.4
KBL Kabul 74.86 307 *eP* **P** **17 50 45.3 -0.2**
SDPT Sand Point 75.44 31 P **P** **17 50 49.4 +0.6**
KKAR Karatay Array 75.95 315 *iP* **P** **17 50 51.8 0.0**
KKAR pmax pmax
comp=Z,29nm,0.8s,mb5.3
VNDA Vanda 76.34 175 P **P** **17 50 53.1 -0.9**
comp=Z,15nm,0.7s,mb5.0,baz=321,slow=5.8,SNR=52
VNDA LR LR 18 26 49.4
comp=Z,7μm,18.1s,MS6.0,baz=352,slow=38
VNDA Vanda 76.34 175 *eP* **P** **17 50 52.6 -1.4**
VNDA pmax pmax
comp=Z,108nm,1.3s
VNDA MLR MLR
comp=Z,5μm,19.0s
VNDA Vanda 76.34 175 *eP* **P** **17 50 52.6 -1.4**
comp=Z,108nm,1.3s,mb5.6
VNDA LR LR
comp=Z,5μm,19.0s,MS5.9
CHGN Chignik 76.89 31 *eP* **P** **17 50 58.5 +1.4**
SBA Scott Base 77.11 174 P **P** **17 50 59.0 +0.7**
SBA pmax pmax
comp=Z,180nm,1.6s,mb5.8
SBA Scott Base 77.11 174 *eP* **P** **17 50 58.0 -0.3**
comp=Z,177nm,1.6s,mb5.7
SBA LR LR
comp=Z,4μm,19.0s,MS5.7
TNA Tin City 77.47 20 *eP* **P** **17 50 60.0 -0.4**
comp=Z,16nm,1.0s,mb4.9
TNA LR LR
comp=Z,1μm,19.0s,MS5.2
BVA0 Borovoye Array 79.03 325 *iP* **P** **17 51 08.8 -0.2**
BVA0 pmax pmax
comp=Z,63nm,1.9s,mb5.2
BVAR Borovoye Array 79.03 325 P **P** **17 51 08.7 -0.3**
comp=Z,27nm,0.6s,mb5.4,baz=115,slow=7.5,SNR=164
BVAR LR LR 18 25 59.5
comp=Z,626nm,21.7s,MS4.9,baz=139,slow=36
BRVK Borovoye 79.10 325 P **P** **17 51 09.7 +0.3**
comp=Z,476nm,1.1s,mb6.3,SNR=42
BRVK Borovoye 79.10 325 *eP* **P** **17 51 08.8 -0.6**
BRVK pmax pmax
comp=Z,102nm,0.8s,mb5.8
BRVK MLR MLR
comp=Z,380nm,20.0s,MS4.7
BRVK Borovoye 79.10 325 *eP* **P** **17 51 08.8 -0.6**
comp=Z,102nm,0.8s,mb5.8
BRVK LR LR
comp=Z,380nm,20.0s,MS4.7
SVW2 Sparrevohn 80.18 27 *eP* **P** **17 51 15.7 +0.4**
KDAK Kodiak Island 80.41 30 P **P** **17 51 18.3 +1.8**
comp=Z,351nm,1.3s,mb6.1,SNR=5.1
KDAK Kodiak Island 80.41 30 *eP* **P** **17 51 17.9 +1.5**
comp=Z,208nm,1.5s,mb5.8
KDAK LR LR
comp=Z,2μm,20.0s,MS5.3
TAOE Nuku Hiva Isla 80.57 99 *e*LR LR 18 16 39.8
comp=Z,13μm,22.8s
TTA Tatalina 80.72 25 *eP* **P** **17 51 19.1 +1.0**
SLKM Skilak Lake 82.44 28 *eP* **P** **17 51 26.5 -0.7**
SMDO Samad 82.56 293⇑P **P** **17 51 29.0 +1.1**
SNR=26
MAW Mawson 82.81 202 *eP* **P** **17 51 28.0 -1.2**
comp=Z,25nm,0.6s,mb5.4
MAW Mawson 82.81 202 P **P** **17 51 29.1 -0.1**
comp=Z,28nm,0.6s,mb5.5,baz=92,slow=6.6,SNR=71
MAW LR LR 18 29 41.6
comp=Z,5μm,18.3s,MS5.9,baz=71,slow=37
MAW Mawson 82.81 202 P **P** **17 51 28.7 -0.5**
MAW pmax pmax
comp=Z,33nm,0.7s
IMA2 Indian Mountai 82.86 22 *eP* **P** **17 51 29.6 +0.2**
PMR Palmer 83.27 27 *eP* **P** **17 51 31.0 -0.6**
PMR pmax pmax
comp=Z,82nm,1.5s,mb5.5
PMR Palmer 83.27 27 *eP* **P** **17 51 31.0 -0.6**
comp=Z,82nm,1.5s,mb5.5
HOQ Hoqain 83.29 294⇓P **P** **17 51 33.2 +1.6**
SNR=32
BSY Bisya 83.31 293⇓P **P** **17 51 32.7 +0.9**
SNR=13
MSEY Mahe Island 83.44 266 PFAKE 17 51 40.0 +7.5
MSEY LR LR
comp=Z,308nm,20.0s,MS4.7
SML Sawmill 83.70 27 *eP* **P** **17 51 33.3 -0.4**
SML Sawmill 83.70 27 *eP* **P** **17 51 33.0 -0.8**
ARQ Araqi 83.99 294⇓P **P** **17 51 36.5 +1.2**
SNR=21
BANOM Banah 84.41 296⇑P **P** **17 51 39.2 +1.8**
SNR=6.9
SHAO Shalim 84.41 288⇓P **P** **17 51 38.6 +1.2**
SNR=6.8
AB31 Akbulak array 84.50 320 *iP* **P** **17 51 36.7 -1.1**
AB31 pmax pmax
comp=Z,66nm,1.0s,mb5.7
ASHO Ashiyiah 84.52 295⇓P **P** **17 51 39.1 +1.1**
SNR=10
COLA College 84.77 24 *iP* **P** **17 51 37.9 -1.3**
COLA College 84.77 24 *eP* **P** **17 51 37.7 -1.5**
comp=Z,38nm,1.1s,mb5.4
COLA LR LR
comp=Z,2μm,20.0s,MS5.5
SVE Sverdlovsk 85.43 327⇓*eP* **P** **17 51 47.0 +4.5**
SVE pmax pmax
comp=Z,630nm,3.1s
RBK Rabkut 85.73 288⇑P **P** **17 51 44.7 +0.7**
SNR=54
AKTK Aktyubinsk 85.91 321 P **P** **17 51 44.0 -0.9**
AKTO Aktyubinsk 85.91 321 P **P** **17 51 44.0 -0.9**
comp=Z,6.1nm,0.6s,mb5.0,baz=97,slow=7.2,SNR=24
MENT Mentasta 86.06 27 *eP* **P** **17 51 45.6 0.0**
WHFO Wadi Hawf 86.17 288⇑P **P** **17 51 46.6 +0.4**
SNR=36
ARU Arti 86.49 327 P **P** **17 51 46.3 -1.5**
comp=Z,163nm,0.5s,mb6.5,SNR=6.3
ARU Arti 86.49 327⇑*iP* **P** **17 51 46.5 -1.3**
ARU *e* 17 55 08.7
ARU *e*PPP 17 57 02.8
ARU *e*S SKSac 18 02 09.8 -2.6
ARU *e*SS SS 18 08 04.1 +1.4
ARU pmax pmax
comp=Z,44nm,0.9s,mb5.7
ARU MLR MLR
comp=E,800nm,20.0s,MS5.2
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.3
ARU MLR MLR
comp=N,700nm,19.0s,MS5.2
ARU Arti 86.49 327 *eP* **P** **17 51 46.2 -1.5**
comp=N,43nm,0.9s,mb5.7
ARU LR LR
comp=Z,417nm,20.0s,MS4.8
ABTO Aybut 86.59 287⇑P **P** **17 51 49.1 +0.9**
SNR=16
EGAK Eagle 87.53 25 *eP* **P** **17 51 52.4 -0.5**
comp=Z,75nm,1.2s,mb5.8
EGAK LR LR
comp=Z,3μm,20.0s,MS5.7
QSPA South Pole Qui 87.83 180 *eP* **P** **17 51 53.0 -1.2**
comp=Z,224nm,1.3s,mb6.2
QSPA LR LR
comp=Z,5μm,20.0s,MS6.0
ORR Orenburg 88.10 322 *iP* **P** **17 51 55.5 0.0**
DAWY Dawson 88.18 26 *eP* **P** **17 51 55.8 -0.1**
SIT Sitka 89.36 33 PFAKE 17 52 10.0 +8.6
SIT LR LR
comp=Z,3μm,19.0s,MS5.8
SKAG Skagway 89.56 31 *eP* **P** **17 52 02.8 +0.4**
comp=Z,96nm,1.3s,mb6.0
PTCN Pitcairn Islan 89.88 115 PFAKE 17 52 20.0 +16
PTCN LR LR
comp=Z,2μm,19.0s,MS5.6
WRAK Wrangell Islan 90.95 34 PFAKE 17 52 20.0 +11
WRAK LR LR
comp=Z,4μm,20.0s,MS5.8
INK Inuvik 90.98 22 P **P** **17 52 08.4 -0.6**
comp=Z,7.0nm,1.0s,mb4.9,baz=232,slow=5.4,SNR=14
INK PP PP 17 55 45.7 +0.4
comp=Z,2.3nm,1.0s,baz=282,slow=4.4,SNR=2.9
INK Inuvik 90.98 22 P **P** **17 52 08.4 -0.6**
INK PP PP 17 55 45.7 +0.4
SYO Syowa Base 91.44 201⇑*eP* **P** **17 52 10.8 -0.4**
BHD Baghdad 95.07 303 *ex* x 17 52 27.3
BHD *ex* x 17 56 16.3
BHD *ex* x 18 02 58.0
BHD *ex* x 18 03 39.0
KIV Kislovodsk 96.06 314 *eP* **P** **17 52 39.0 +6.6**
KIV *e* 17 56 34.0
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb5.3
KIV pmax pmax
comp=Z,138nm,2.4s,mb6.0
KIV Kislovodsk 96.06 314 PFAKE 17 52 40.0 +7.6
KIV LR LR
comp=Z,294nm,20.0s,MS4.8
MSL Mosul 96.06 306 *ex* x 17 52 32.0
MSL *ex* x 17 52 32.0
MSL Mosul 96.06 306 *ex* x 18 03 09.0
VRHR Novokhopersk 96.31 321 *eP* **P** **17 52 32.9 -0.6**
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.4s
KLMR Klimovskoe 96.49 331 *eP* **P** **17 52 32.6 -1.7**
KLMR pmax pmax
comp=Z,36nm,1.4s,mb5.6
COR Corvallis 96.91 46 PFAKE 17 52 50.0 +14
COR LR LR
comp=Z,2μm,19.0s,MS5.7
HUMO Hull Mountain 97.30 47 PFAKE 17 52 50.0 +12
HUMO LR LR
comp=Z,3μm,20.0s,MS5.7
HOPS Hopland 97.43 51 PFAKE 17 52 50.0 +11
HOPS LR LR
comp=Z,3μm,19.0s,MS5.8
YBH Yreka Blue Hor 97.54 48 PFAKE 17 52 50.0 +11
YBH LR LR
comp=Z,3μm,20.0s,MS5.8
MCCM Marconi Confer 97.63 52 PFAKE 17 52 50.0 +11
MCCM LR LR
comp=Z,2μm,19.0s,MS5.7
WDC Whiskeytown Da 97.74 50 PFAKE 17 52 50.0 +10
WDC LR LR
comp=Z,3μm,19.0s,MS5.8
VOR Voronezh 97.77 322 *eP* **P** **17 52 40.0 -0.1**
VOR pmax pmax
comp=Z,70nm,1.6s,mb5.9
MOS Moscow 98.18 326 *eP* **P** **17 52 41.1 -0.9**
MOS *e* 17 56 45.3
MOS MLR MLR
comp=Z,2μm,20.0s,MS5.5
SOC Sochi 98.23 314 *eP* **P** **17 52 39.9 -2.3**
SOC *e*S SKSac 18 03 14.5 -3.6
SOC *e*PS PS 18 05 33.3 -2.0
SOC *e*SS SS 18 10 59.2 +8.0
SOC *e*SSS 18 14 41.2
SOC pmax pmax
comp=Z,27nm,0.7s,mb5.9
SOC MLR MLR
comp=Z,1μm,20.0s,MS5.3
KBS Kingsbay 98.77 351 PFAKE 17 53 00.0 +15
KBS LR LR
comp=Z,1μm,20.0s,MS5.4
SAO San Andreas Ge 98.86 53 PFAKE 17 53 00.0 +15
SAO LR LR
comp=Z,3μm,21.0s,MS5.8
OBN Obninsk 98.87 325⇓*eP* **P** **17 52 43.8 -1.2**
OBN *e**PP pP 17 52 53.7 -0.3
OBN *e**SP sP 17 52 58.2 +1.0
OBN *e*SS SS 18 11 01.3 +1.1
OBN pmax pmax
comp=Z,23nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,1μm,22.0s,MS5.3
MOD Modoc 99.32 48 PFAKE 17 53 00.0 +13
MOD LR LR
comp=Z,2μm,20.0s,MS5.6
YKA Yellowknife Ar 99.37 27 P **P** **17 52 46.8 -0.5**
comp=Z,2.7nm,0.8s,mb4.8,baz=287,slow=4.7,SNR=18
YKA PP PP 17 56 51.2 +0.7
comp=Z,0.9nm,0.8s,baz=286,slow=6.8,SNR=4.5
YKA PKiKP PKiKP 17 57 16.7 -0.1
comp=Z,0.7nm,0.6s,baz=293,slow=1.5,SNR=9.0
YKA PKKPbc PKKPbc 18 09 05.4 -5.0
comp=Z,1.1nm,0.7s,baz=111,slow=2.5,SNR=3.9
YKA LR LR 18 35 02.5
comp=Z,3μm,20.5s,MS5.8,baz=325,slow=34
YKA Yellowknife Ar 99.37 27 P **P** **17 52 46.8 -0.5**
YKA PP PP 17 56 51.2 +0.7
HAWA Hanford 99.39 43 PFAKE 17 53 00.0 +13
HAWA LR LR
comp=Z,2μm,20.0s,MS5.6
CMB Columbia Colle 99.60 52 PFAKE 17 53 00.0 +12
CMB LR LR
comp=Z,2μm,19.0s,MS5.6
ANN Anapa 99.74 315 *eP* Pdif 17 52 41.8 -7.1
ANN *e**PP 17 52 52.3
ANN *e*S SKSac 18 03 17.2 -8.4
ANN MLR MLR
comp=Z,799nm,18.0s,MS5.3
ARCES ARCESS Array B 100.06 341 P Pdif 17 52 49.5 -0.8
comp=Z,4.0nm,0.6s,baz=64,slow=5.5,SNR=12
ARCES PKiKP PKiKP 17 57 17.2 -0.8
comp=Z,3.9nm,0.8s,baz=62,slow=3.4,SNR=4.1
WVOR Wild Horse Val 100.49 47 PFAKE 17 53 00.0 +7.7
WVOR LR LR
comp=Z,2μm,20.0s,MS5.5
NEW Newport 100.75 41 PFAKE 17 53 00.0 +6.6
NEW LR LR
comp=Z,2μm,19.0s,MS5.7
BMO Blue Mountains 101.14 45 PFAKE 17 53 10.0 +15
BMO LR LR
comp=Z,1μm,19.0s,MS5.5
NVAR Mina Array Bea 101.20 51 P Pdif 17 52 55.0 -0.4
comp=Z,1.6nm,0.7s,baz=259,slow=5.9,SNR=11
NVAR PP PP 17 57 08.8 +4.5
comp=Z,3.2nm,1.1s,baz=266,slow=8.6,SNR=6.7
ASF Jabal al Asfar 101.42 302 P Pdif 17 52 58.2 +1.8
comp=Z,1.8nm,0.5s,baz=342,slow=6.4,SNR=3.0
KMBO Kilima Mbogo 101.76 268 PP PP 17 57 10.1 +1.4
comp=Z,1.9nm,0.9s,baz=34,slow=21,SNR=4.6
KMBO Kilima Mbogo 101.76 268 PFAKE 17 53 10.0 +12
KMBO LR LR
comp=Z,768nm,19.0s,MS5.2
BMN Battle Mountai 101.79 49 PFAKE 17 53 10.0 +12
BMN LR LR
comp=Z,2μm,19.0s,MS5.7
DAC Darwin (Calif) 101.99 53 PFAKE 17 53 10.0 +11
DAC LR LR
comp=Z,4μm,19.0s,MS5.9
TPH Tonopah 102.08 52 PFAKE 17 53 10.0 +11
TPH LR LR

comp=Z,2μm,19.0s,MS5.7
MMAI Mount Meron Ar 102.60 303 P Pdif 17 53 03.1 +1.5
comp=Z,1.2nm,0.6s,baz=46,slow=7.0,SNR=3.6
FINES FINESS Array B 102.69 333 P Pdif 17 53 00.5 -1.5
comp=Z,2.5nm,0.8s,baz=65,slow=4.4,SNR=7.3
FINES FINESS Array B 102.69 333 *i* P Pdif 17 53 03.2 +1.2
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 102.69 333 P Pdif 17 53 00.5 -1.5
MSO Missoula 103.12 42 PFAKE 17 53 20.0 +16
MSO LR LR
comp=Z,1μm,19.0s,MS5.5
BR131 Keskin Array S 103.20 310 PFAKE 17 53 20.0 +16
BR131 LR LR
comp=Z,554nm,20.0s,MS5.1
BRTR Keskin Array B 103.20 310 P Pdif 17 53 03.4 -0.9
comp=Z,0.8nm,0.7s,baz=35,slow=4.5,SNR=3.7
PFO Pinyon Flat Ob 103.22 56 PFAKE 17 53 20.0 +16
PFO LR LR
comp=Z,725nm,20.0s,MS5.2
EIL Elat 103.31 300 *e*Pdif Pdif 17 53 06.3 +1.6
comp=Z,809nm,1.6s
HLID Hailey 103.39 46 PFAKE 17 53 20.0 +15
HLID LR LR
comp=Z,2μm,19.0s,MS5.7
ANTO Ankara 103.82 310 PFAKE 17 53 20.0 +13
ANTO LR LR
comp=Z,497nm,21.0s,MS5.0
AKASG Malin Array Be 104.12 322 Pdiff Pdif 17 53 07.4 -1.0
comp=Z,0.7nm,0.6s,baz=58,slow=4.4,SNR=8.9
AKASG PKiKP PKiKP 17 57 26.0 +0.6
comp=Z,0.7nm,0.5s,baz=62,slow=2.1,SNR=6.6
KIEV Kiev 104.13 322 PFAKE 17 53 20.0 +12
KIEV LR LR
comp=Z,1μm,19.0s,MS5.5
BOZ Bozeman (W) 104.94 43 PFAKE 17 53 20.0 +8.0
BOZ LR LR
comp=Z,2μm,20.0s,MS5.6
DUG Dugway 105.16 49 PFAKE 17 57 40.0 +13
DUG LR LR
comp=Z,2μm,19.0s,MS5.7
YMR Madison River 105.61 44 PFAKE 17 57 40.0 +12
YMR LR LR
comp=Z,2μm,20.0s,MS5.7
EGMT Eagleton 105.63 41 PFAKE 17 57 40.0 +12
EGMT LR LR
comp=Z,2μm,20.0s,MS5.7
HWUT Hardware Ranch 105.82 47 PFAKE 17 57 40.0 +11
HWUT LR LR
comp=Z,3μm,20.0s,MS5.8
MVU Marysvale 105.92 51 PFAKE 17 57 40.0 +11
MVU LR LR
comp=Z,2μm,20.0s,MS5.7
AHID Auburn Hatcher 105.92 46 PFAKE 17 57 40.0 +11
AHID LR LR
comp=Z,2μm,20.0s,MS5.6
LKWY Lake 106.03 44 PFAKE 17 57 40.0 +11
LKWY LR LR
comp=Z,2μm,19.0s,MS5.7
MPU Maple Canyon 106.08 49 PFAKE 17 57 40.0 +11
MPU LR LR
comp=Z,3μm,20.0s,MS5.8
RLMT Red Lodge 106.68 43 PFAKE 17 57 40.0 +10
RLMT LR LR
comp=Z,2μm,19.0s,MS5.7
BW06 Boulder Array 107.03 46 PFAKE 17 57 40.0 +9.2
BW06 LR LR
comp=Z,2μm,19.0s,MS5.6
PDAR Pinedale Array 107.03 46 Pdiff Pdif 17 53 25.0 +3.7
comp=Z,0.5nm,0.7s,baz=200,slow=2.2,SNR=4.5
PDAR PKKPbc PKKPbc 18 08 48.2 +0.5
comp=Z,0.5nm,0.7s,baz=103,slow=5.4,SNR=3.9
WUAZ Wupatki 107.10 54 PFAKE 17 57 40.0 +9.1
WUAZ LR LR
comp=Z,4μm,19.0s,MS5.9
MLR Muntele Rosu 107.58 317 PP PP 17 57 48.9 -3.0
comp=Z,3.8nm,0.9s,baz=137,slow=7.2,SNR=3.0
RPN Rapa Nui 108.14 119 PFAKE 17 57 40.0 +7.2
RPN LR LR
comp=Z,383nm,19.0s,MS5.0
LAO LASA Array 108.30 41 PFAKE 17 57 40.0 +6.9
LAO LR LR
comp=Z,2μm,20.0s,MS5.6
UZH Uzhgorod 109.03 321 *e*P Pdif 17 53 36.3 +6.1
MVCO Mesa Verde 109.05 51 PFAKE 17 57 50.0 +15
MVCO LR LR
comp=Z,2μm,20.0s,MS5.7
NB2 NORSAR Subarra109.29 336 P Pdif 17 53 35.0 +3.6
comp=Z,5.6nm,1.1s,baz=58,slow=4.6
NOA NORSAR Array B109.29 336 Pdiff Pdif 17 53 32.1 +0.7
comp=Z,0.9nm,0.8s,baz=148,slow=18,SNR=3.3
NOA PP PP 17 58 05.5 +1.1
comp=Z,2.5nm,1.0s,baz=53,slow=6.7,SNR=3.3
LSZ Lusaka 109.52 253 *e*PKiKP PKiKP 17 57 37.3 +1.8
LSZ LR LR
comp=Z,1μm,20.0s,MS5.4
BOSA Boshof 109.72 239 PKiKP PKiKP 17 57 36.6 +0.8
comp=Z,1.4nm,0.7s,baz=138,slow=13,SNR=6.0
BOSA Boshof 109.72 239 PKPdf PKiKP 17 57 36.6 +0.8
BOSA LR LR
comp=Z,1μm,20.0s,MS5.5
LBTB Lobatse 110.23 242 PFAKE 17 57 50.0 +13
LBTB LR LR
comp=Z,1μm,20.0s,MS5.5
RSSD Black Hills 110.54 43 PFAKE 17 57 50.0 +13
RSSD LR LR
comp=Z,363nm,20.0s,MS5.0
ISCO Idaho Springs 110.64 48 PFAKE 17 57 50.0 +12
ISCO LR LR
comp=Z,3μm,20.0s,MS5.8
KONO Kongsberg 110.74 335 PFAKE 17 57 50.0 +12
KONO LR LR
comp=Z,3μm,20.0s,MS5.9
PMSA Palmer Station 111.15 170 PFAKE 17 57 50.0 +12
PMSA LR LR
comp=Z,2μm,19.0s,MS5.7
ANMO Albuquerque 111.16 53 PFAKE 17 57 50.0 +11
ANMO LR LR
comp=Z,3μm,19.0s,MS5.8
SDCO Great Sand Dun 111.25 50 PFAKE 17 57 50.0 +11
SDCO LR LR
comp=Z,3μm,20.0s,MS5.8
DPC Dobruska-Polom 111.98 324 *ep*PKP 17 57 47.5
UPC Upice 112.10 325 *e*PP PP 17 58 21.8 -2.7
SUR Sutherland 112.39 234 PFAKE 17 57 50.0 +9.2
SUR LR LR
comp=Z,401nm,19.0s,MS5.0
MNTX Cornudas Mount 112.74 56 *e*PKiKP PKiKP 17 57 42.3 +0.8
MNTX LR LR
comp=Z,2μm,20.0s,MS5.7
PVCC Panska Ves 112.92 325 *e*PKP PKiKP 17 57 42.4 +0.6
PVCC AMS AMS 18 45 30.0
comp=Z,2μm,27.0s
TREC Trest 112.92 324 *e*PKP PKiKP 17 57 41.8 -0.1
BRG Berggiesshubel 113.11 326 *e*PKP PKiKP 17 57 48.8 +6.6
comp=Z,2.8nm,1.0s
BRG *e* 17 58 42.7
comp=Z,20nm,1.7s
BRG *e* 18 14 16.0
BRG
comp=N,502nm,20.0s
BRG
comp=E,749nm,18.6s
BRG
comp=Z,1μm,18.2s
BRG Berggiesshubel 113.11 326 *e*PKP PKiKP 17 57 48.8 +6.6
BRG *e* 17 58 42.7
BRG *e* 18 14 16.0
BRG LR LR
comp=Z,1μm,18.2s,MS5.6
PRU Pruhonice 113.17 325 *e*PKP PKiKP 17 57 42.3 0.0
PRU *e*PP PP 17 58 35.7 +3.5
PRU AMS AMS 18 45 40.0
comp=Z,2μm,19.7s
ULM Lac du Bonnet 113.36 35 PKiKP PKiKP 17 57 42.2 -0.5
comp=Z,2.9nm,0.6s,baz=350,slow=4.8,SNR=10
ULM Lac du Bonnet 113.36 35 *e*PKiKP PKiKP 17 57 41.5 -1.2
ULM LR LR
comp=Z,3μm,20.0s,MS5.9
CLL Collm 113.44 326 *i* PKIKP PKiKP 17 57 44.7 +1.9
CLL *i* 17 57 49.9
CLL *i* 17 58 42.2
CLL MLR MLR
comp=Z,2μm,21.6s,MS5.7
CLL Collm 113.44 326 *i* PKiKP PKiKP 17 57 44.7 +1.9
CLL *i* pPKiKP 17 57 49.9
CLL *i* pPP 17 58 42.2
comp=Z,625nm,4.1s
CLL *e*PSS 18 14 42.0
CLL LmV 18 47 00.0
comp=Z,2μm,21.6s
KHC Kasperske Hory 114.12 324 *e*PKP PKiKP 17 57 43.5 -0.6
KHC pPKP 17 57 51.5
KHC *e*PP PP 17 58 46.7 +7.8
KHC AMS AMS 18 46 30.0
comp=Z,2μm,21.4s
KHC Kasperske Hory 114.12 324 *e*PKP PKiKP 17 57 43.5 -0.6
KHC *e* 17 57 51.5
KHC *e*PP PP 17 58 46.7 +7.8
KHC LR LR
comp=Z,2μm,21.4s,MS5.6
GERES GERESS Array B 114.18 324 Pdiff Pdif 17 53 53.7 +0.6
comp=Z,0.6nm,0.8s,baz=69,slow=7.3,SNR=3.5
GERES PKiKP PKiKP 17 57 43.9 -0.3
comp=Z,1.9nm,0.6s,baz=74,slow=1.7,SNR=26
GERES PP PP 17 58 40.3 +1.0
comp=Z,1.8nm,0.9s,baz=60,slow=5.4,SNR=4.2
NKC Novy Kostel 114.26 326 *e*PKP PKiKP 17 57 44.1 -0.3
MOX Moxa 114.53 326 *e*P PKiKP 17 57 52.0 +7.1
MOX
comp=Z,2μm,22.0s
LTX Lajitas 114.68 59 PFAKE 17 58 00.0 +15
LTX LR LR
comp=Z,2μm,21.0s,MS5.7
TXAR Lajitas Array 114.68 59 PKKPbc PKKPbc 18 08 25.0 +2.2
comp=Z,1.0nm,0.9s,baz=101,slow=6.5,SNR=4.2
AMTX Amarillo 114.98 52 PFAKE 17 58 00.0 +14
AMTX LR LR
comp=Z,3μm,20.0s,MS5.9
GRA1 Grafenberg Arr 115.21 325 *e*PKPdf PKiKP 17 57 46.4 +0.2
GRA1 LR LR
comp=Z,1μm,21.2s,MS5.5
GRF Grafenberg Arr 115.21 325 *e*PKIKP PKiKP 17 57 46.4 +0.2
GRF MLR MLR
comp=Z,1μm,21.2s,MS5.5
GRFO Grafenberg 115.21 325 PFAKE 17 58 00.0 +14
GRFO LR LR
comp=Z,2μm,22.0s,MS5.6
CBKS Cedar Bluff 115.29 48 PFAKE 17 58 00.0 +14
CBKS LR LR
comp=Z,2μm,20.0s,MS5.7
WTTA Wattenberg 116.13 323⇑ *i*P PKPdf 17 57 48.0 0.0
comp=Z,18nm,1.0s
WATA Walderalm 116.14 323⇑ *i*P PKPdf 17 57 47.5 -0.5
comp=Z,4.2nm,0.9s
SQTA Sankt Quirin 116.41 323⇑ *i*P PKPdf 17 57 48.4 -0.2
comp=Z,4.9nm,0.9s
MOTA Moosalm 116.41 323⇑ *i*P PKPdf 17 57 47.5 -1.1
comp=Z,9.5nm,0.9s
EYMN Ely 116.99 36 PFAKE 17 58 00.0 +10
EYMN LR LR
comp=Z,3μm,20.0s,MS6.0
DAVA Damuels 117.17 324⇑ *i*P PKPdf 17 57 50.0 0.0
comp=Z,8.7nm,0.6s
WMOK Wichita Mounta 117.30 52 *e*PKIKP PKPdf 17 57 50.1 -0.2
WMOK MLR MLR
comp=Z,2μm,20.0s,MS5.7
KSU1 Kansas State U 117.48 46 *e*PKPdf PKPdf 17 57 50.8 +0.2
KSU1 LR LR
comp=Z,2μm,21.0s,MS5.7
BFO Black Forest 117.54 325 *e*PKIKP PKPdf 17 57 49.9 -0.8
BFO MLR MLR
comp=Z,340nm,20.0s,MS5.0
JCT Junction City 117.67 57 PFAKE 17 58 00.0 +9.0
JCT LR LR
comp=Z,2μm,22.0s,MS5.7
CDF Champ du Feu 118.10 326 *e*PKIKP PKPdf 17 57 49.8 -2.0
comp=Z,7.1nm,0.9s
GIVF Givet 118.49 328 *e*PKIKP PKPdf 17 57 52.1 -0.4
HINF Hinterlalfeld 118.66 325 *e*PKIKP PKPdf 17 57 51.8 -1.1
comp=Z,23nm,0.8s
SCIA State Center 118.73 42 PFAKE 17 58 00.0 +7.0
SCIA LR LR
comp=Z,2μm,21.0s,MS5.6
TSUM Tsumeb 118.77 247 *e*PKPdf PKPdf 17 57 54.4 +1.3
TSUM LR LR
comp=Z,1μm,22.0s,MS5.5
ESK Eskdalemuir 118.80 336 PFAKE 17 58 00.0 +6.8
ESK LR LR
comp=Z,721nm,20.0s,MS5.3
BAIF Baives 118.83 329 *e*PKIKP PKPdf 17 57 52.7 -0.5
comp=Z,16nm,1.0s
HAU Haudompre 118.84 326 *e*PKIKP PKPdf 17 57 52.3 -0.9
comp=Z,14nm,0.6s
HAU *e*MLR
comp=Z,1μm,18.8s
HAU Haudompre 118.84 326 *e*PKPdf PKPdf 17 57 52.3 -0.9
HAU LR LR
comp=Z,1μm,18.8s,MS5.6
MEZF Maizieres J'vi 119.28 327 *e*PKIKP PKPdf 17 57 53.6 -0.5
comp=Z,19nm,0.9s
CABF La Chapelle 119.75 324 *e*PKIKP PKPdf 17 57 54.6 -0.4
comp=Z,42nm,0.9s
LPG La Plagne 119.94 323 *e*PKIKP PKPdf 17 57 55.8 +0.4
comp=Z,11nm,0.6s
LPL La Plagne 119.95 323 *e*PKIKP PKPdf 17 57 55.6 +0.2
comp=Z,15nm,0.7s
PGF Pioggiola 120.00 319 *e*PKIKP PKPdf 17 57 55.4 -0.1
comp=Z,26nm,0.6s
KVTX Kingsville 120.04 59 PFAKE 17 58 10.0 +14
KVTX LR LR
comp=Z,2μm,19.0s,MS5.8
MBDF Montbardon 120.33 322 *e*PKIKP PKPdf 17 57 56.4 +0.3
comp=Z,15nm,0.7s
SBF Sospel 120.36 321 *e*PKIKP PKPdf 17 57 55.4 -0.8
LOR Lormes 120.65 326 *e*PKIKP PKPdf 17 57 56.1 -0.6
comp=Z,11nm,0.9s
LOR *e*MLR
comp=Z,1μm,21.0s
LOR Lormes 120.65 326 *e*PKPdf PKPdf 17 57 56.1 -0.6
LOR LR LR
comp=Z,1μm,21.0s,MS5.6
ORIF Oris-en-Rattie 120.77 323 *e*PKIKP PKPdf 17 57 57.0 +0.1
comp=Z,19nm,0.8s
ORIF *e*MLR
comp=Z,2μm,20.2s
SSF Saint Saulge 120.96 326 *e*PKIKP PKPdf 17 57 56.8 -0.5
comp=Z,21nm,0.9s
FRF La Foret Royal 121.01 321 *e*PKIKP PKPdf 17 57 55.9 -1.5
comp=Z,48nm,1.0s
SMF Signal de Mont 121.01 326 *e*PKIKP PKPdf 17 57 56.8 -0.6
comp=Z,28nm,1.0s
AVF Avril sur Loir 121.21 326 *e*PKIKP PKPdf 17 57 56.8 -1.0
comp=Z,13nm,1.0s
LMR La Mourre 121.21 321 *e*PKIKP PKPdf 17 57 57.0 -0.8
comp=Z,106nm,1.3s
HYF Humbligny 121.32 327 *e*PKIKP PKPdf 17 57 57.9 -0.1
MIAR Mount Ida 121.41 50 PFAKE 17 58 10.0 +12
MIAR LR LR
comp=Z,3μm,20.0s,MS5.9
SMRF Simiane la Rot 121.46 322 *e*PKIKP PKPdf 17 57 58.2 -0.1
comp=Z,67nm,1.1s
NATX Nacogdoches 121.52 54 PFAKE 17 58 10.0 +12
NATX LR LR
comp=Z,2μm,20.0s,MS5.7
VIVF Saint-Julien-l 121.53 323 *e*PKIKP PKPdf 17 57 57.8 -0.6
comp=Z,33nm,1.1s
BGF Bois d'Agland 121.62 326 *e*PKIKP PKPdf 17 57 58.1 -0.5
comp=Z,22nm,0.7s
LDF La Druitiere 121.97 329 *e*PKIKP PKPdf 17 57 58.5 -0.7
FLN La Foliniere 122.05 330 *e*PKIKP PKPdf 17 57 59.1 -0.3
FLN *e*MLR
comp=Z,2μm,22.0s
FLN La Foliniere 122.05 330 *e*PKPdf PKPdf 17 57 59.1 -0.3
FLN LR LR
comp=Z,2μm,22.0s,MS5.6
TCF Toulx Ste Croi 122.14 326 *e*PKIKP PKPdf 17 57 59.2 -0.4
comp=Z,46nm,0.9s
UALR University of 122.27 50 *e*PKPdf PKPdf 17 57 60.0 +0.2
FVM French Village 122.36 45 *e*PKIKP PKPdf 17 57 59.5 -0.5
LASF Ste Croix 122.45 323 *e*PKIKP PKPdf 17 57 59.8 -0.4
comp=Z,48nm,1.1s
GRR Gorron 122.48 329 *e*PKIKP PKPdf 17 57 59.7 -0.5
comp=Z,38nm,1.1s
GLMI Grayling 122.68 36 PFAKE 17 58 40.0 +39
GLMI LR LR
comp=Z,3μm,20.0s,MS5.9
KEST Kesra 122.74 312 PKP PKPdf 17 58 02.7 +2.0
comp=Z,5.1nm,0.9s,baz=216,slow=2.4,SNR=5.0
CAF Calviac 123.02 325 *e*PKIKP PKPdf 17 58 01.2 -0.1
comp=Z,18nm,0.9s
RJF Les Rejaudoux 123.11 325 *e*PKIKP PKPdf 17 58 01.1 -0.3
comp=Z,15nm,0.9s
RJF *e*MLR
comp=Z,2μm,22.0s
RJF Les Rejaudoux 123.11 325 *e*PKPdf PKPdf 17 58 01.1 -0.3
RJF LR LR
comp=Z,2μm,22.0s,MS5.6
MFF Saint Martin d 123.24 327 *e*PKIKP PKPdf 17 58 01.1 -0.6
comp=Z,30nm,1.0s
SIUC Southern Illin 123.34 45 *e*PKPdf PKPdf 17 58 03.0 +1.1
SCHQ Schefferville 123.36 18 PKP PKPdf 17 58 01.5 -0.4
comp=Z,6.4nm,0.6s,baz=359,slow=5.0,SNR=13
SCHQ Schefferville 123.36 18 PKP PKPdf 17 58 01.5 -0.4
SCHQ LR LR
comp=Z,2μm,19.0s,MS5.8
SGMF Saint Gilles 123.42 330 *e*PKIKP PKPdf 17 58 01.2 -0.8
comp=Z,53nm,1.1s
ROSF Rostrenen 123.72 331 *e*PKIKP PKPdf 17 58 01.8 -0.8
LFF La Frestale 123.77 325 *e*PKIKP PKPdf 17 58 03.0 +0.3
comp=Z,42nm,1.1s
MTLF Montolieu 123.84 323 *e*PKIKP PKPdf 17 58 02.4 -0.4
comp=Z,44nm,1.2s
QUIF Quistinic 123.95 330 *e*PKIKP PKPdf 17 58 02.2 -0.8
USIN University of 124.31 44 *e*PKPdf PKPdf 17 58 03.5 -0.2
EFI East Falkland 124.48 167 PFAKE 17 58 20.0 +16
EFI LR LR
comp=Z,424nm,19.0s,MS5.1
BLO Bloomington 124.51 42 *e*PKIKP PKPdf 17 58 03.8 -0.3
OXF Oxford 124.59 49 *e*PKIKP PKPdf 17 58 03.8 -0.5
OXF MLR MLR
comp=Z,2μm,19.0s,MS5.9
AAM Ann Arbor 124.69 38 PFAKE 17 58 20.0 +16
AAM LR LR
comp=Z,2μm,20.0s,MS5.8
CMIG Matias Romero 124.97 71 PKP PKPdf 17 58 06.7 +1.7
comp=Z,3.6nm,0.9s,baz=60,slow=8.8,SNR=4.7
WVT Waverly 125.05 46 *e*PKIKP PKPdf 17 58 04.0 -1.1
WVT MLR MLR
comp=Z,2μm,20.0s,MS5.8
WCI Wyandotte Cave 125.14 43 PKIKP PKPdf 17 58 03.8 -1.5
WCI Wyandotte Cave 125.14 43 *e*PKPdf PKPdf 17 58 03.2 -2.1
WCI LR LR
comp=Z,2μm,22.0s,MS5.7
EPF Esparros 125.14 324 *e*PKIKP PKPdf 17 58 05.1 -0.2
comp=Z,21nm,1.0s
PLAL Pickwick Lake 125.38 48 *e*PKPdf PKPdf 17 58 04.7 -1.1
PLAL LR LR
comp=Z,2μm,20.0s,MS5.8
EBIE Bielsa 125.46 324 PKP PKPdf 17 58 10.3 +4.3
ETSF Etsaut 125.75 324 *e*PKIKP PKPdf 17 58 06.9 +0.4
comp=Z,33nm,0.9s
SJPF Ste Jean 126.01 325 *e*PKIKP PKPdf 17 58 06.4 -0.6
comp=Z,19nm,0.9s
EALK Alkurruntz 126.10 325 PKP PKPdf 17 58 08.4 +1.3
ECRI Cripan 127.06 325 PKIKP PKPdf 17 58 11.3 +2.3
ELAN Lanestosa 127.19 326 PKP PKPdf 17 58 10.5 +1.3
BRAL Brewton 127.84 52 PFAKE 17 58 20.0 +10
BRAL LR LR
comp=Z,2μm,20.0s,MS5.8
TZTN Tazewell 127.87 44 *e*PKPdf PKPdf 17 58 11.8 +1.2
TZTN LR LR
comp=Z,2μm,20.0s,MS5.8
ETOR Torete 127.90 323 PKIKP PKPdf 17 58 12.3 +1.7
ECHE Chera 127.95 321 PKIKP PKPdf 17 58 12.9 +2.2
TKL Tuckaleechee C 128.16 45 PKP PKPdf 17 58 11.8 +0.7
comp=Z,13nm,0.7s,baz=160,slow=4.1,SNR=32
LONY Lake Ozonia 128.29 30 PFAKE 17 58 20.0 +8.7
LONY LR LR
comp=Z,3μm,20.0s,MS5.9
MCWV Mont Chateau 128.57 38 PFAKE 17 58 20.0 +8.1
MCWV LR LR
comp=Z,2μm,21.0s,MS5.8
ETOB Tobarra 128.87 320 PKP PKPdf 17 58 14.3 +1.8
NCB Newcomb 128.93 31 *e*PKPdf PKPdf 17 58 12.6 0.0
NCB LR LR
comp=Z,2μm,20.0s,MS5.8
SSPA Standing Stone 129.16 36 PFAKE 17 58 20.0 +7.0
SSPA LR LR
comp=Z,2μm,19.0s,MS5.9
BINY Binghamton 129.22 33 PFAKE 17 58 20.0 +6.9
BINY LR LR
comp=Z,2μm,20.0s,MS5.9
GUD Guadarrama 129.26 324 PKIKP PKPdf 17 58 15.0 +1.8
ELN Prospectdale 129.39 41 PKPdf PKPdf 17 58 13.4 -0.1
EVIA Vianos 129.48 321 PKIKP PKPdf 17 58 15.4 +1.8
GOGA Godfrey 129.49 47 PFAKE 17 58 30.0 +16
GOGA LR LR
comp=Z,2μm,19.0s,MS5.8
PLCA Paso Flores 129.53 151 PKP PKPdf 17 58 14.1 +0.4
comp=Z,7.0nm,1.1s,baz=170,slow=3.0,SNR=14
PLCA Paso Flores 129.53 151 *e*PKPdf PKPdf 17 58 13.8 +0.2
PLCA LR LR
comp=Z,1μm,19.0s,MS5.5
BLA Blacksburg 129.62 41 *e*PKIKP PKPdf 17 58 14.2 +0.3
BLA MLR MLR
comp=Z,2μm,21.0s,MS5.8
ESDC Sonseca Array 129.75 323 PKP PKPdf 17 58 14.9 +0.8
comp=Z,1.1nm,0.7s,baz=15,slow=2.5,SNR=8.8
ESDC PP PP 18 00 29.1 +3.9
comp=Z,4.3nm,1.0s,baz=47,slow=5.7,SNR=7.4
ESDC Sonseca Array 129.75 323 PKP PKPdf 17 58 15.7 +1.6
ESLA Sonseca Array 129.75 323 PFAKE 17 58 30.0 +16
ESLA LR LR
comp=Z,7μm,22.0s,MS6.3
LBNH Lisbon 129.88 29 PFAKE 17 58 30.0 +16
LBNH LR LR
comp=Z,2μm,21.0s,MS5.8
PBRG Braganca 129.96 327 *e*PKP PKPdf 17 58 15.8 +1.3
PBRG *ep*PKP pPKPdf 17 58 22.7 -1.0
PAB San Pablo 130.06 323 PFAKE 17 58 30.0 +15
PAB LR LR
comp=Z,1μm,19.0s,MS5.6
HNH Hanover 130.09 30 *e*PKPdf PKPdf 17 58 15.7 +1.0
STS Santiago 130.17 329 PKIKP PKPdf 17 58 16.3 +1.4
ENIJ Nijar 130.26 319 PKIKP PKPdf 17 58 16.2 +1.1
TEIG Tepich 130.42 65 PFAKE 17 58 30.0 +15
TEIG LR LR
comp=Z,963nm,20.0s,MS5.5
MVL Millersville 130.47 36 *e*PKPdf PKPdf 17 58 15.9 +0.5
EBAN Banos Encina 130.57 321 PKIKP PKPdf 17 58 17.0 +1.3
PAYG Puerto Ayora 130.58 93 PFAKE 17 58 30.0 +14
PAYG LR LR
comp=Z,2μm,19.0s,MS5.9
ELOB Lobios 130.63 328 PKP PKPdf 17 58 16.5 +0.7
JSC Jenkinsville 130.64 45 *e*PKIKP PKPdf 17 58 17.2 +1.4
PCAB Cabril 130.72 328 *e*PKP PKPdf 17 58 17.3 +1.3
PCAB *ep*PKP pPKPdf 17 58 24.3 -0.8
EBER Berja 130.75 319 PKP PKPdf 17 58 18.0 +2.0
PVRL Vila Real 130.86 327 *e*PKP PKPdf 17 58 17.6 +1.4
PVRL *ep*PKP pPKPdf 17 58 24.7 -0.7
ECOG Cogollos-Vega 130.96 320 PKIKP PKPdf 17 58 17.1 +0.7
CBN Corbin 130.99 38 PFAKE 17 58 30.0 +14
CBN LR LR
comp=Z,2μm,20.0s,MS5.8
EADA Adamuz 131.06 322 PKP PKPdf 17 58 18.3 +1.7
EGUA Guajares 131.23 320 PKIKP PKPdf 17 58 17.6 +0.7
ERON Agron 131.27 320 PKP PKPdf 17 58 17.6 +0.6
HRV Harvard--Oak R 131.34 30 PFAKE 17 58 30.0 +13
HRV LR LR
comp=Z,2μm,19.0s,MS5.9
PVIS Viseu 131.34 326 *ep*PKP pPKPdf 17 58 26.1 -0.2
MTE Manteigas 131.36 326 *e*PKP PKPdf 17 58 18.7 +1.5
MTE *ep*PKP pPKPdf 17 58 26.2 -0.1
MTE Manteigas 131.36 326 *e*LQ 18 42 49.5
MTE A 18 59 15.1
comp=Z,1μm,22.8s
ELOJ Sierra Loja 131.42 320 PKIKP PKPdf 17 58 18.1 +0.8
WES Weston 131.54 30 PFAKE 17 58 30.0 +12
WES LR LR
comp=Z,3μm,22.0s,MS5.9
PCBR Castelo Branco 131.70 325 *e*PKP PKPdf 17 58 19.3 +1.5
PCBR *ep*PKP pPKPdf 17 58 26.4 -0.6
NHSC New Hope 132.02 46 PFAKE 17 58 30.0 +12
NHSC LR LR
comp=Z,1μm,20.0s,MS5.7
EBAD Badajoz 132.16 324 PKP PKPdf 17 58 22.3 +3.6
EMIJ Mijas 132.16 320 PKP PKPdf 17 58 19.8 +1.1
PESTR Estremoz 132.42 324 *e*PKP PKPdf 17 58 20.6 +1.4
PESTR *ep*PKP pPKPdf 17 58 27.2 -1.1
PESTR Estremoz 132.42 324 *e*LQ 18 43 42.4
PESTR A 19 07 59.5
comp=Z,796nm,15.3s
CNNC Cliffs of the 132.43 42 PFAKE 17 58 30.0 +11
CNNC LR LR
comp=Z,2μm,20.0s,MS5.8

EMIN	**Mina Concepcio**	**132.60**	**323**	PKP	PKPdf	17 58 21.5 +2.0
ESPR	**Espera**	**132.66**	**321**	PKP	PKPdf	17 58 21.5 +1.8
TGUH	**Tegucigalpa,Un**	**132.71**	**73**	PFAKE		17 58 30.0 +10
TGUH				LR	LR	
	comp=Z,1μm,19.0s,MS5.5					
TRIS	**Tristan da Cun**	**132.82**	**211**	PFAKE		17 58 30.0 +10
TRIS				LR	LR	
	comp=Z,3μm,19.0s,MS6.0					
PBEJ	**Beja**	**133.14**	**324**	*e*PKP	PKPdf	17 58 22.3 +1.8
PBEJ				*ep*PKP	pPKPdf	17 58 29.1 -0.6
EGRO	**El Granado**	**133.24**	**323**	PKP	PKPdf	17 58 23.5 +2.7
PLOU	**Loures**	**133.30**	**326**	*i* P	PKPdf	17 58 29.1 +8.3
PMAFR	**Mafra**	**133.33**	**326**	P	PKPdf	17 58 25.0 +4.1
PMAFR	**Mafra**	**133.33**	**326**	*e*LQ		18 43 44.0
PMAFR				A		19 00 13.5
	comp=Z,1μm,21.6s					
DWPF	**Disney**	**133.50**	**52**	PFAKE		17 58 30.0 +8.8
DWPF				LR	LR	
	comp=Z,2μm,21.0s,MS5.7					
PTEO	**Sao Teotonio**	**133.97**	**324**	P	PKPdf	17 58 25.9 +3.8
PTEO				*ep*PKP	pPKPdf	17 58 31.3 +0.1
MDT	**Midelt**	**134.25**	**316**	PKP	PKPdf	17 58 23.6 +1.0
	comp=Z,1.7nm,0.8s,baz=192,slow=2.0,SNR=6.1					
MDT				PP	PP	18 00 58.1 +4.1
	comp=Z,1.6nm,0.9s,baz=113,slow=6.6,SNR=2.1					
JTS	**JuntasAbangare**	**135.53**	**78**	*e*PKIKP	PKPdf	17 58 25.7 +0.7
JTS				MLR	MLR	
	comp=Z,384nm,21.0s					
TRQA	**Tornquist**	**135.55**	**156**	PFAKE		17 58 40.0 +15
TRQA				LR	LR	
	comp=Z,2μm,20.0s,MS5.9					
TOA0	**Torodi Ar. Sit**	**136.43**	**287**	*e*PKPpre		17 58 14.3
TOA0				*e*PKPdf	PKPdf	17 58 27.9 +1.3
TORD	**Torodi Ar. Bea**	**136.43**	**287**	PKhKP		17 58 13.6
	comp=Z,1.1nm,0.7s,baz=55,slow=2.8,SNR=7.4					
TORD				PKP	PKPdf	17 58 27.6 +0.9
	comp=Z,8.8nm,0.7s,baz=64,slow=1.9,SNR=25					
TORD				PP	PP	18 01 13.2 +5.4
	comp=Z,3.9nm,1.1s,baz=67,slow=6.1,SNR=3.6					
TORD				SKKPbc		18 10 57.5
	comp=Z,3.1nm,1.2s,baz=255,slow=5.2,SNR=4.0					
LCO	**Las Campanas**	**137.92**	**140**	*e*PKPdf	PKPdf	17 58 31.1 +1.6
LCO				LR	LR	
	comp=Z,1μm,20.0s,MS5.7					
ATAH	**Atahualpa**	**141.53**	**104**	PKP	PKPdf	17 58 37.4 +1.4
	comp=Z,24nm,1.1s,baz=309,slow=6.2,SNR=7.9					
NNA	**Nana**	**141.67**	**112**	PKP	PKPdf	17 58 39.0 +2.8
	comp=Z,5.2nm,0.6s,baz=247,slow=6.8,SNR=2.8					
NNA	**Nana**	**141.67**	**112**	PKP	PKPdf	17 58 39.0 +2.8
NNA				LR	LR	
	comp=Z,391nm,20.0s,MS5.2					
OTAV	**Otavalo**	**142.44**	**92**	PFAKE		17 58 50.0 +12
OTAV				LR	LR	
	comp=Z,1μm,21.0s,MS5.6					
BBSR	**BB Station**	**142.51**	**34**	PFAKE		17 58 50.0 +12
BBSR				LR	LR	
	comp=Z,2μm,20.0s,MS5.8					
CFTV	**Fuerteventura**	**143.39**	**318**	PKP	PKPdf	17 58 38.9 -0.4
LIC	**Lamto**	**143.97**	**278**	*e*PKIKP	PKPdf	17 58 38.9 -1.4
	comp=Z,55nm,0.8s					
LIC				*e*MLR		
	comp=Z,2μm,20.0s					
LIC	**Lamto**	**143.97**	**278**	*e*PKPdf	PKPdf	17 58 38.9 -1.4
LIC				LR	LR	
	comp=Z,970nm,20.0s,MS5.6					
EOSO	**Osorio**	**144.58**	**319**	PKP	PKPdf	17 58 42.2 +0.8
ARE	**Arequipa**	**144.63**	**123**	*e*PKIKP	PKPdf	17 58 42.0 +0.5
EBAJ	**Bajamar**	**144.77**	**321**	PKP	PKPdf	17 58 42.8 +1.1
CCAN	**Las Canadas**	**145.16**	**320**	PKP	PKPdf	17 58 44.2 +1.8
EGOM	**La Gomera**	**145.59**	**321**	PKP	PKPdf	17 58 45.2 +2.1
ROSC	**El Rosal**	**146.56**	**84**	PKPbc	PKPbc	17 58 48.2 +2.0
	comp=Z,32nm,0.8s,baz=277,slow=3.8,SNR=6.3					
ROSC	**El Rosal**	**146.56**	**84**	*e*PKPbc	PKPbc	17 58 47.8 +1.5
LPAZ	**La Paz**	**147.50**	**125**	PKPbc	PKPbc	17 58 50.2 +1.3
	comp=Z,21nm,0.6s,baz=258,slow=3.5,SNR=34					
LPAZ	**La Paz**	**147.50**	**125**	*e*PKPdf	PKPdf	17 58 48.5 +2.2
LPAZ				LR	LR	
	comp=Z,831nm,19.0s,MS5.5					
SDV	**Santo Domingo**	**149.70**	**76**	PKPbc	PKPbc	17 58 54.5 -0.1
	comp=Z,48nm,0.9s,baz=234,slow=24,SNR=16					
SDV				PKPab	PKPab	17 59 02.4 +2.5
	comp=Z,71nm,0.9s,baz=241,slow=19,SNR=17					
SDV	**Santo Domingo**	**149.70**	**76**	*e*PKPdf	PKPdf	17 58 50.2 +0.3
SDV				PKPbc	PKPbc	17 58 54.5 -0.1
SDV				*e*PKPbc	PKPbc	17 58 55.5 +0.9
SDV				PKPab	PKPab	17 59 02.4 +2.5
SDV				LR	LR	
	comp=Z,435nm,21.0s,MS5.2					
SJG	**San Juan**	**150.59**	**56**	PKPbc	PKPbc	17 58 57.8 +1.1
	comp=Z,93nm,0.6s,baz=82,slow=3.7,SNR=23					
SJG				PKPab	PKPab	17 59 05.6 +2.1
	comp=Z,160nm,0.9s,baz=340,slow=4.0,SNR=16					
SJG	**San Juan**	**150.59**	**56**	*e*PKPbc	PKPbc	17 58 57.2 +0.4
SJG				LR	LR	
	comp=Z,1μm,21.0s,MS5.6					
CPD	**Cerro la Pandu**	**150.82**	**56**	*e*PKIKP	PKPdf	17 58 56.9 +5.2
MTP	**Monte Pirata**	**151.09**	**55**	*e*PKPdf	PKPdf	17 58 52.4 +0.3
MTP				*e*PKPbc	PKPbc	17 58 58.5 +0.5
ASCN	**Ascension**	**151.68**	**249**	PFAKE		17 59 10.0 +17
ASCN				LR	LR	
	comp=Z,342nm,21.0s,MS5.1					
SIV	**San Ignacio**	**153.17**	**133**	PKP	PKPdf	17 58 56.4 +1.2
	comp=Z,1.8nm,0.8s,baz=156,slow=3.7,SNR=7.4					
SIV				PKPbc	PKPbc	17 59 03.6 +1.0
	comp=Z,5.5nm,0.8s,baz=228,slow=2.5,SNR=16					
SIV				PKPab	PKPab	17 59 16.6 +2.2
	comp=Z,8.0nm,0.9s,baz=219,slow=8.3,SNR=8.7					
RCBR	**Riachuelo**	**170.65**	**212**	PFAKE		17 59 20.0 +7.1
RCBR				LR	LR	
	comp=Z,2μm,20.0s					

*ISCJB **24** 17:54:09.4±0.8, 70N±0.1×732W±0.1, h150km, mb3.8/3, Error ellipse: s-maj=22.0km s-min=7.9km az=76.7*
*IDC **24** 17:54:09.9±0.8, 673N×7298W, h156km±11km, mb3.5/3, mb1 3.6/5, mb1mx3.3/20, mbtmp3.6/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=43.5km s-min=7.8km az=130.0*
*NEIC **24** 17:54:10.7±0.9, 674N×7294W, h167km±11km, mb3.7/1, Error ellipse: s-maj=42.4km s-min=13.5km az=125.0*
ISC 24 17:54:10.6±0.8, 69N±01×731W±01, h150km, n12, σ0§93/14, mb3.8/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.35**	**210**	P	**Pn**	**17 54 51.0**	**+1.2**
	36nm,0.3s,baz=275,slow=23,SNR=58						
ROSC				S	**Sn**	**17 55 19.7**	**-0.3**
	38nm,0.3s,baz=264,slow=21,SNR=7.2						
ROSC	**El Rosal**	**2.35**	**210**	*e*Pn	**Pn**	**17 54 51.2**	**+1.5**
ROSC				*e*Sn	**Sn**	**17 55 17.9**	**-2.1**
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**17 55 01.0**	**+0.9**
	23nm,0.3s,baz=228,slow=5.7,SNR=78						
SDV				S	**Sn**	**17 55 38.4**	**-0.1**
	49nm,0.3s,baz=242,slow=23,SNR=20						
SDV				LR	LR	17 55 51.5	
	comp=Z,142nm,18.9s,baz=321,slow=32						
SDV	**Santo Domingo**	**3.17**	**51**	*e*Pn	**Pn**	**17 55 00.2**	**+0.1**
SDV				*e*Sn	**Sn**	**17 55 37.2**	**-1.2**
SDV				LR	LR	17 55 51.5	
ULM	**Lac du Bonnet**	**47.21**	**340**	P	**P**	**18 02 27.9**	**-0.2**
	2.1nm,1.0s,mb3.7,baz=155,slow=8.6,SNR=3.0						
ULM	**Lac du Bonnet**	**47.21**	**340**	*e*P	**P**	**18 02 27.5**	**-0.7**
	1.2nm,0.5s,mb3.8						
SCHQ	**Schefferville**	**48.07**	**5**	P	**P**	**18 02 35.8**	**+1.0**
	1.5nm,0.5s,mb3.9,baz=208,slow=10,SNR=6.3						
SCHQ	**Schefferville**	**48.07**	**5**	*e*P	**P**	**18 02 35.3**	**+0.5**
YKA	**Yellowknife Ar**	**63.19**	**340**	P	**P**	**18 04 22.1**	**-0.5**
	0.5nm,0.5s,mb3.6,baz=132,slow=6.7,SNR=13						
YKA	**Yellowknife Ar**	**63.19**	**340**	P	**P**	**18 04 22.1**	**-0.5**
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	PKPbc	18 13 40.5	-0.6
	0.7nm,0.7s,baz=114,slow=4.1,SNR=6.9						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	PKPbc	18 13 43.2	-0.9
	0.5nm,0.4s,baz=108,slow=2.6,SNR=10						

*MAN **24** 17:56:50.5, 1176N×12620E, h15km, mb3.9, ML4.9, MS2.7*
*ISCJB **24** 17:56:53.7±1.3, 1170N±006×12605E±0.10, h45km±11km, mb4.3/16, Error ellipse: s-maj=17.1km s-min=7.8km az=132.3*
*NEIC **24** 17:56:54.5±0.7, 1156N×12577E, mb4.9/8, Error ellipse: s-maj=34.2km s-min=10.2km az=59.0*
*IDC **24** 17:57:01.0±3.9, 1160N×12581E, h90km±35km, mb3.5/8, mb1 3.6/9, mb1mx3.5/19, mbtmp3.6/9, Error ellipse: s-maj=53.3km s-min=14.4km az=69.0*
ISC 24 17:56:55.3±1.3, 1169N±006×12600E±010, h39km±11km, h32km±3km: pP-P, n32, σ0§98/36, mb4.3/16, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.56**	**261**	*e*P	**Pn**	**17 57 04.5**	**-2.3**
BESP				*e*S	**Sn**	**17 57 13.1**	**-1.9**
PLP	**Palo**	**1.13**	**243**	*e*P	**Pn**	**17 57 13.2**	**-1.4**
PLP				*i* S	**Sn**	**17 57 29.8**	**+0.9**
OCLP	**Ormoc**	**1.50**	**245**	*e*P	**Pn**	**17 57 19.9**	**+0.1**
CNP	**Catarman**	**1.54**	**302**	*e*P	**Pn**	**17 57 20.1**	**-0.2**
CNP				*e*S	**Sn**	**17 57 39.8**	**+0.7**
MSLP	**Maasin**	**1.91**	**216**	*e*P	**Pn**	**17 57 26.1**	**+0.8**
LLP	**Lapu-Lapu**	**2.42**	**236⇑**	*e*P	**Pn**	**17 57 31.9**	**-0.4**
LLP				*i* S	**Sn**	**17 58 15.9**	**+15**
BUTP	**Butuan**	**2.73**	**188**	*e*P	**Pn**	**17 57 36.5**	**0.0**
TBP	**Tagbilaran**	**2.89**	**227**	*e*P	**Pn**	**17 57 40.2**	**+1.4**
RCP	**Roxas**	**3.19**	**268⇑**	*e*P	**Pn**	**17 57 45.1**	**+2.1**
GUIM	**Jordan**	**3.51**	**253**	*e*P	**Pn**	**17 57 48.0**	**+0.6**
BUKP	**Musuan**	**3.89**	**194**	*e*P	**Pn**	**17 57 52.4**	**-0.2**
OTRP	**Odiongan**	**3.95**	**280**	*e*P	**Pn**	**17 57 55.0**	**+1.6**
BOAC	**Boac**	**4.43**	**294**	*e*P	**Pn**	**17 58 00.0**	**+0.1**
TGY	**Tagaytay City**	**5.49**	**296**	P	**Pn**	**17 58 19.8**	**+5.2**
	3.4nm,0.3s,baz=68,slow=5.6,SNR=5.8						
CAUP	**Cauayan**	**6.61**	**323**	*e*P	**Pn**	**17 58 28.9**	**-1.1**
KSRS	**Korea Array**	**25.72**	**4**	P	**P**	**18 02 23.3**	**+1.4**
	1.7nm,1.0s,mb3.5,baz=186,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**32.48**	**165**	P	**P**	**18 03 22.3**	**+0.2**
	0.6nm,0.9s,mb3.4,baz=345,slow=9.0,SNR=5.2						
WRA				PcP	PcP	18 06 10.6	+2.2
	0.4nm,0.8s,baz=329,slow=2.3,SNR=2.6						
ASAR	**Alice Springs**	**35.97**	**168**	P	**P**	**18 03 52.2**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=352,slow=6.6,SNR=15						
ASAR				PcP	PcP	18 06 18.9	+0.5
	0.3nm,0.8s,baz=347,slow=2.7,SNR=3.9						
SONM	**Songino Array**	**39.61**	**339**	P	**P**	**18 04 23.7**	**+0.7**
	0.6nm,0.9s,mb3.3,baz=162,slow=7.5,SNR=4.2						
GUN	**Gumba**	**40.84**	**299**	*e*P	**P**	**18 04 33.4**	**+0.2**
	33nm,0.9s,mb5.0						
PKI	**Pulchoki**	**41.15**	**299**	*e*P	**P**	**18 04 35.1**	**-0.7**
	13nm,0.7s,mb4.7						
KKN	**Kakani**	**41.32**	**299**	*e*P	**P**	**18 04 36.8**	**-0.4**
	24nm,1.0s,mb4.8						
DMN	**Daman**	**41.42**	**299**	*e*P	**P**	**18 04 37.7**	**-0.3**
	26nm,1.1s,mb4.8						
GKN	**Gorkha**	**41.92**	**299**	*e*P	**P**	**18 04 41.6**	**-0.5**
	25nm,1.1s,mb4.8						
KOLN	**Koldanda**	**42.76**	**298**	*e*P	**P**	**18 04 48.4**	**-0.5**
	20nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**45.82**	**161**	P	**P**	**18 05 13.2**	**-0.2**
	2.7nm,0.7s,mb4.3,baz=329,slow=11,SNR=4.6						
MK31	**Makanchi Array**	**50.75**	**322**	*e*P	**P**	**18 05 52.6**	**+1.2**
MK31				*e*	pP	18 06 02.0	-0.6
KURK	**Kurchatov**	**54.76**	**325**	*e*P	**P**	**18 06 21.4**	**+0.4**
	15nm,1.1s,mb4.9						
KURK				*e*	pP	18 06 30.9	-1.4
BVAR	**Borovoye Array**	**60.36**	**325**	P	**P**	**18 07 01.0**	**+0.6**
	2.0nm,0.8s,mb4.2,baz=123,slow=11,SNR=11						
BRVK	**Borovoye**	**60.43**	**325**	*e*P	**P**	**18 07 01.2**	**+0.3**
	2.6nm,0.9s,mb4.3						
BRVK				*e*	pP	18 07 10.6	-1.8
BRTR	**Keskin Array B**	**84.44**	**309**	P	**P**	**18 09 22.2**	**-1.6**
	0.9nm,0.8s,mb3.9,baz=160,slow=7.6,SNR=4.5						
AKASG	**Malin Array Be**	**85.31**	**321**	P	**P**	**18 09 26.1**	**-2.1**
	2.5nm,0.9s,mb4.4,baz=64,slow=5.3,SNR=9.9						

*IDC **24** 18:05:53.2±1.0, 877N×12650E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, Error ellipse: s-maj=75.9km s-min=18.3km az=76.0*
*MAN **24** 18:05:54.5, 858N×12716E, h30km, mb3.9, ML4.9, MS4.2*
*ISCJB **24** 18:05:55.0±2.9, 862N±006×127.14E±008, h32km±21km, mb3.9/8, Error ellipse: s-maj=13.9km s-min=8.9km az=144.7*
*NEIC **24** 18:05:58.4±0.7, 882N×12667E, h35km, mb4.3/1, Error ellipse: s-maj=29.7km s-min=11.9km az=86.0*
ISC 24 18:05:57.4±1.9, 862N±007×1270E±01, h37km±18km, n17, σ1§30/20, mb3.9/8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.44**	**284**	*e*P	**Pn**	**18 06 19.1**	**-1.9**
BUTP				*e*S	**Sn**	**18 06 40.3**	**+1.6**
MATI	**Mati**	**1.83**	**205**	*e*P	**Pn**	**18 06 25.1**	**-1.3**
MATI				*e*S	**Sn**	**18 06 46.5**	**-1.9**
BUKP	**Musuan**	**2.09**	**249**	*e*P	**Pn**	**18 06 30.4**	**+0.5**
DAV	**Davao City (W)**	**2.11**	**223**	*e*Pn	**Pn**	**18 06 30.8**	**+0.5**
MSLP	**Maasin**	**2.62**	**305**	*e*P	**Pn**	**18 06 37.5**	**+0.3**
PLP	**Palo**	**3.24**	**321**	*e*P	**Pn**	**18 06 46.1**	**+0.4**
TBP	**Tagbilaran**	**3.31**	**289**	*e*P	**Pn**	**18 06 47.1**	**+0.5**
LLP	**Lapu-Lapu**	**3.46**	**299⇑**	*e*P	**Pn**	**18 06 49.1**	**+0.3**
LLP				*i* S	**Sn**	**18 07 33.4**	**+4.8**
FITZ	**Fitzroy Crossi**	**26.59**	**183**	P	**P**	**18 11 34.0**	**+1.9**
	7.7nm,1.2s,mb4.1,baz=42,slow=6.9,SNR=10						
WRA	**Warramunga Arr**	**29.28**	**166**	P	**P**	**18 12 01.8**	**+5.7**
	1.1nm,0.7s,mb3.7,baz=345,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**32.78**	**168**	P	**P**	**18 12 29.6**	**+2.6**
	0.3nm,0.4s,mb3.6,baz=342,slow=7.4,SNR=14						
SONM	**Songino Array**	**42.82**	**340**	P	**P**	**18 13 50.9**	**-0.7**
	0.9nm,0.9s,mb3.5,baz=162,slow=7.3,SNR=4.6						
BVAR	**Borovoye Array**	**63.44**	**326**	P	**P**	**18 16 22.5**	**-0.9**
	0.4nm,0.5s,mb3.8,baz=111,slow=7.1,SNR=5.2						
BRVK	**Borovoye**	**63.51**	**326**	*e*P	**P**	**18 16 22.3**	**-1.6**
	3.2nm,1.1s,mb4.3						
FINES	**FINESS Array B**	**87.69**	**332**	P	**P**	**18 18 40.8**	**-1.4**
	5.3nm,1.0s,mb4.7,baz=104,slow=5.9,SNR=7.5						
YKA	**Yellowknife Ar**	**94.94**	**24**	P	**P**	**18 19 17.1**	**+1.2**
	0.3nm,1.0s,mb3.7,baz=299,slow=4.2,SNR=6.1						
YKA	**Yellowknife Ar**	**94.94**	**24**	P	**P**	**18 19 17.1**	**+1.2**

*NEIC **24** 18:10:22.6, 1542N×9650W, h15km, MD3.7(MEX), After MEX.*
MEX 24 18:10:23.4±0.9, 1548N×9646W, h28km±20km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.45**	**49**	*e*P	Pb	18 10 31.0	-1.9
HUIG				*i* S	Sb	18 10 37.5	-1.7
VHO	**Vista Hermosa**	**1.61**	**351**	*i* P	Pn	18 10 48.5	-1.5
VHO				*i* S	Sn	18 11 07.6	-2.1
OXX	**Oaxaca**	**1.62**	**351**	*i* P	Pn	18 10 47.8	-2.2
OXX				*i* S	Sn	18 11 07.5	-2.4
CMIG	**Matias Romero**	**2.21**	**43**	*i* P	Pn	18 10 56.7	-1.4
CMIG				*i* S	Sn	18 11 22.2	-2.2
CMIG	**Matias Romero**	**2.21**	**43**	*i* P	Pn	18 10 56.7	-1.4
CMIG				*i* S	Sn	18 11 24.8	+0.3
UTMO	**Huajuapan**	**2.67**	**331**	*i* P	Pn	18 11 04.1	-0.5
UTMO				*i* S	Sn	18 11 32.9	-3.1
TPIG	**Tehuac#an**	**3.05**	**344**	*i* S	Sn	18 11 47.5	+2.2
SCIG	**Sabancuy**	**6.12**	**55**	*i* P	Pn	18 11 48.0	-3.8

*STR **24** 18:15:49.7±0.0, 4300N×000E, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 18:15:49.8±0.1, 4303N×001W, h3km, Md1.7/2, Ml1.7/5, Error ellipse: s-maj=1.6km s-min=1.1km az=9.0*
MDD 24 18:15:50.0±0.2, 4301N×000W, h0km, mbLg1.3/6, 1C, Error ellipse: s-maj=2.2km s-min=1.8km az=6.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**56**	Pg	Pg	18 15 51.3	0.0
LABF				Sg	Sg	18 15 52.5	+0.3
LABF	**Labassere**	**0.07**	**56**	P	Pg	18 15 51.3	+0.1
LABF				S	Sg	18 15 52.6	+0.4
VIEF	**Viey**	**0.13**	**171**	Pg	Pg	18 15 52.3	-0.1
VIEF				Sg	Sg	18 15 54.1	+0.1
VIEF	**Viey**	**0.13**	**171**	P	Pg	18 15 52.4	0.0
VIEF				S	Sg	18 15 54.3	+0.3
EPF	**Esparros**	**0.25**	**85**	*e*Pg	Pg	18 15 54.4	-0.4
EPF				*e*Sg	Sg	18 15 58.2	+0.1
	13nm,0.2s						
EPF	**Esparros**	**0.25**	**85**	Pg	Pg	18 15 54.4	-0.4
EPF				Lg		18 15 58.2	
	6.4nm,0.2s						
REYF	**Montagne du Re**	**0.29**	**282**	Pg	Pg	18 15 55.5	0.0
REYF				Sg	Sg	18 15 59.7	+0.4
REYF	**Montagne du Re**	**0.29**	**282**	P	Pg	18 15 55.2	-0.3
REYF				S	Sg	18 15 59.5	+0.2
RESF	**Ens**	**0.32**	**128**	Pg	Pg	18 15 55.8	-0.3
RESF				Sg	Sg	18 16 00.3	0.0
RESF	**Ens**	**0.32**	**128**	P	Pg	18 15 55.9	-0.2
RESF				S	Sg	18 16 00.2	0.0
EBIE	**Bielsa**	**0.34**	**161**	⇑Pg	Pg	18 15 56.1	-0.3
	1.4nm,0.1s,SNR=18						
EBIE				Lg		18 16 00.6	
	6.0nm,0.0s,SNR=7.9						
ETSF	**Etsaut**	**0.42**	**255**	*e*Pg	Pg	18 15 57.7	-0.3
ETSF				*e*Sg	Sg	18 16 03.2	-0.3
	4.2nm,0.2s						
ETSF	**Etsaut**	**0.42**	**255**	Pg	Pg	18 15 57.7	-0.3
ETSF				Lg		18 16 03.2	
	2.1nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**277**	*e*Pg	Pg	18 16 06.5	-0.7
SJPF				*e*Sg	Sg	18 16 18.8	-0.1
	2.2nm,0.3s						
SJPF	**Ste Jean**	**0.90**	**277**	Pg	Pg	18 16 06.5	-0.7
SJPF				Lg		18 16 18.8	
	1.1nm,0.3s						
EALK	**Alkurruntz**	**1.12**	**281**	Pg	Pg	18 16 10.7	-0.8
	0.2nm,0.1s,SNR=4.0						
EALK				Lg		18 16 26.9	
	0.6nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**1.13**	**278**	Pg	Pg	18 16 10.1	-1.5
	0.4nm,0.2s,SNR=7.9						
ELIZ				Lg		18 16 26.3	
	0.6nm,0.2s,SNR=4.0						
CORG	**Organya**	**1.25**	**128**	P	Pg	18 16 14.0	+0.1
CORG				S	Sg	18 16 29.6	-0.4
CAVN	**Les Avellanes**	**1.26**	**153**	P	Pg	18 16 14.0	0.0
CAVN				S	Sg	18 16 30.4	+0.1
	6.2nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**195**	Pg	Pg	18 16 16.0	+0.6
	0.7nm,0.1s,SNR=7.9						
ESAC				Lg		18 16 34.7	
	6.1nm,0.1s,SNR=4.6						
EMIR	**Miracle**	**1.57**	**133**	Pg	Pg	18 16 17.3	-2.8
	SNR=4.0						
EMIR				Lg		18 16 41.1	
	SNR=7.9						
MTLF	**Montolieu**	**1.66**	**78**	*e*Pg	Pg	18 16 20.7	-1.0
MTLF				*e*Sg	Sg	18 16 42.2	-1.1
	1.9nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	Pg	Pg	18 16 20.7	-1.0
MTLF				Lg		18 16 42.2	
	0.9nm,0.2s						
LFF	**La Frestale**	**2.00**	**15**	*e*Sg	Sg	18 16 52.2	-2.1
	1.1nm,0.2s						
LFF	**La Frestale**	**2.00**	**15**	Lg		18 16 52.2	
	0.6nm,0.2s						
ERTA	**Horta de San J**	**2.07**	**173**	Lg		18 16 55.7	
	SNR=7.9						
CAF	**Calviac**	**2.43**	**37**	*e*Sg	Sg	18 17 05.7	-2.3
	0.6nm,0.2s						
CAF	**Calviac**	**2.43**	**37**	Lg		18 17 05.7	
	0.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	*e*Sg	Sg	18 17 09.1	-2.6
	0.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**25**	Lg		18 17 09.1	
	0.3nm,0.2s						

MEX 24 18:36:30.7±0.5, 1577N×9560W, h18km±27km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.49**	**270**	*i* P	Pg	18 36 38.8	-1.9
HUIG				*i* S	Sg	18 36 45.5	-1.9
CMIG	**Matias Romero**	**1.48**	**27**	*e*P	Pn	18 36 53.2	-3.1
CMIG				*i* S	Sn	18 37 09.9	-5.4
VHO	**Vista Hermosa**	**1.69**	**320**	*i* P	Pn	18 36 56.9	-2.4
VHO				*i* S	Sn	18 37 16.3	-4.2
UTMO	**Huajuapan**	**2.94**	**314**	*i* P	Pn	18 37 14.2	-2.3
UTMO				*i* S	Sn	18 37 48.6	-2.7
TPIG	**Tehuac#an**	**3.13**	**328**	*i* S	Sn	18 37 52.2	-3.8

*IDC **24** 18:51:32.3±1.1, 750N×7297W, h163km±16km, mb2.7/1, mb1 3.1/3, mb1mx2.8/20, mbtmp3.0/3, MS3.1/1, Ms1 3.1/1, ms1mx3.0/7, Error ellipse: s-maj=48.5km s-min=8.5km az=131.0*
NEIC 24 18:51:32.0±1.0, 737N×7291W, h165km±15km, Error ellipse: s-maj=57.8km s-min=14.9km az=128.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**2.71**	**56**	P	Pn	18 52 17.4	+1.0
	10nm,0.3s,baz=243,slow=23,SNR=37						
SDV				LR	LR	18 52 47.5	
	comp=Z,345nm,21.8s,baz=109,slow=28						
SDV				S	Sn	18 52 51.0	+0.3
	15nm,0.3s,baz=302,slow=17,SNR=11	

9.3nm,0.5s
JLU Jordanelle 5.61 237 *e*Pn **Pn 19 06 15.4 -0.4**
DAU Daniels Canyon 5.61 235 *e*Pn **Pn 19 06 16.1 +0.3**
CTU Camp Tracy 5.74 239 *e*Pn **Pn 19 06 17.7 0.0**
12nm,0.5s
HVU Hansel Valley 5.89 252 *e*P **Pn 19 06 19.7 0.0**
10nm,0.7s
SDCO Great Sand Dun 6.07 182 *e*Pn **Pn 19 06 22.2 +0.1**
5.5nm,0.6s
MPU Maple Canyon 6.08 234 *e*Pn **Pn 19 06 22.5 +0.1**
16nm,0.7s
SRU San Rafael 6.14 222 *e*Pn **Pn 19 06 21.5 -1.7**
21nm,0.5s
TMUT Trail Mountain 6.35 227 *e*Pn **Pn 19 06 26.4 +0.4**
NLU North Lily Min 6.38 235 *e*Pn **Pn 19 06 26.1 -0.4**
CHMT Chamberlain Mo 6.42 302 *e*P **Pn 19 06 27.3 +0.3**
BGU Big Grassy Mou 6.44 246 *e*Pn **Pn 19 06 27.2 -0.1**
CBKS Cedar Bluff 6.50 138 *e*Pg **Pg 19 06 52.1 -3.6**
26nm,0.6s
HLID Hailey 6.64 271 *e*Pn **Pn 19 06 31.9 +1.8**
3.0nm,0.6s
DUG Dugway 6.69 240 *e*Pn **Pn 19 06 29.0 -1.6**
5.0nm,0.5s
MSO Missoula 6.82 299 *e*P **Pn 19 06 32.3 -0.2**
2.9nm,0.6s
MVCO Mesa Verde 7.04 202 *e*Pn **Pn 19 06 37.2 +1.6**
7.9nm,0.6s
MSU Marysvale 7.43 227 *e*Pn **Pn 19 06 40.7 -0.3**
KSU1 Kansas State U 8.02 123 *e*Pg **Pg 19 07 15.2 -10**
20nm,0.6s
ARUT Antelope Range 8.64 229 *e*Pn **Pn 19 06 58.0 +0.5**
CCUT Cedar City 8.77 227 *e*Pn **Pn 19 06 59.5 +0.2**
ANMO Albuquerque 8.90 186 Pg **Pg 19 07 36.5 -5.2**
0.1nm,0.3s,baz=0.4,slow=11,SNR=3.0
ULM Lac du Bonnet 9.08 42 Pn **Pn 19 07 03.0 -0.5**
0.9nm,0.3s,baz=230,slow=11,SNR=18
ULM Pg Pg 19 07 37.2 -7.9
1.1nm,0.3s,baz=227,slow=15,SNR=7.3
ULM Lac du Bonnet 9.08 42 Pn **Pn 19 07 03.0 -0.5**
ULM Pg 19 07 37.2 -7.9
WUAZ Wupatki 9.53 212 *e*Pn **Pn 19 07 08.6 -1.1**
9.8nm,0.5s
NVAR Mina Array Bea 11.21 246 Pn **Pn 19 07 32.8 +0.1**
0.5nm,0.3s,baz=58,slow=12,SNR=6.4
YBH Yreka Blue Hor 12.99 267 Pn **Pn 19 08 00.9 +3.9**
0.1nm,0.3s,baz=69,slow=8.6,SNR=5.2
TXAR Lajitas Array 14.51 174 Pn **Pn 19 08 22.6 +4.8**
0.0nm,0.3s,baz=358,slow=12,SNR=5.6
TXAR Pg Pn 19 09 19.5 +62
0.1nm,0.3s,baz=357,slow=14,SNR=4.1
YKA Yellowknife Ar 19.49 347 P **Pn 19 09 19.2 -1.8**
0.1nm,0.3s,baz=159,slow=12,SNR=9.6
YKA Yellowknife Ar 19.49 347 P **Pn 19 09 19.2 -1.8**
SONM Songino Array 84.57 339 P **P 19 17 26.1 -0.2**
0.4nm,0.6s,mb3.8,baz=26,slow=4.4,SNR=3.5

GUC 24 19:09:46.6±0.8,3314S×7024W,h4km±4km,MD3.6,ML2.2, 1C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.19**	**192**	*e*P	Pg	19 09 50.9	+0.6
FCH				*i* S	Sg	19 09 53.9	+1.0
FCH				AML	AML	19 09 54.2	
	comp=E,816nm,0.2s						
CLCH	**Cerro Calan**	**0.35**	**224**	*e*P	Pg	19 09 54.1	+0.6
CLCH				*e*S	Sg	19 09 59.3	+1.3
CLCH				AML	AML	19 10 01.9	
	comp=E,750nm,0.8s						
PEL	**Peldehue**	**0.37**	**269**	*e*P	Pg	19 09 54.0	+0.2
PEL				*i* S	Sg	19 09 59.1	+0.5
PEL				AML	AML	19 10 05.4	
	comp=N,285nm,0.5s						
PCH	**Pirque**	**0.53**	**205**	*e*P	Pg	19 09 57.3	+0.5
PCH				*e*S	Sg	19 10 04.8	+1.1
JACH	**Jahuel**	**0.54**	**327**	*e*P	Pg	19 09 57.3	+0.3
JACH				*e*S	Sg	19 10 05.0	+0.9
TACH	**Talagante**	**0.78**	**228**	*e*P	Pg	19 10 01.5	0.0
TACH				*e*S	Sg	19 10 12.2	+0.6
SFDO	**San Fernando**	**1.60**	**203⇑**	*i*P	Pn	19 10 16.0	+0.3
SFDO				*i* S	Sn	19 10 38.4	+1.5

CASC 24 19:12:53.5±1.4,880N×8411W,h11km±38km,MD3.7, 1C-1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.94**	**6⇑**	*e*P	Pg	19 13 10.3	-1.4
LCR2				*e*S	Sg	19 13 24.2	+0.3
LAJ	**Bijagual**	**1.06**	**359⇓**	*e*P	Pb	19 13 11.8	-2.0
PRS1	**Puriscal**	**1.19**	**350**	*e*P	Pb	19 13 13.1	-3.0
PRS1				*e*S	Sb	19 13 29.7	-1.9
ICR	**Volcan Irazu**	**1.20**	**13**	*e*P	Pn	19 13 16.9	+0.6
CGA2	**Cerro Gallo 2**	**1.26**	**344**	*e*P	Pn	19 13 16.2	-0.8
CGA2				*e*S	Sb	19 13 33.3	-0.2

GUC 24 19:28:05.3±0.7,3209S×6813W,h25km,ML3.8,2C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.16**	**253⇑**	*i*P	Pn	19 28 41.8	+2.0
JACH				*i* S	Sn	19 29 08.9	+3.2
FCH	**Farellones**	**2.20**	**235⇓**	*i*P	Pn	19 28 41.9	+1.7
FCH				*i* S	Sn	19 29 10.2	+3.6
FCH				AML	AML	19 29 11.1	
	comp=E,391nm,0.4s						
PTCH	**Petorca**	**2.38**	**265⇑**	*i*P	Pn	19 28 44.2	+1.5
PTCH				*i* S	Sn	19 29 13.2	+2.2
PTCH				AML	AML	19 29 19.0	
	comp=N,914nm,0.3s						
PEL	**Peldehue**	**2.40**	**243**	*e*P	Pn	19 28 44.6	+1.6
PEL				*i* S	Sn	19 29 14.1	+2.6
PEL				AML	AML	19 29 16.8	
	comp=N,357nm,0.5s						
CLCH	**Cerro Calan**	**2.41**	**237**	*e*P	Pn	19 28 44.3	+1.2
CLCH				*i* S	Sn	19 29 14.1	+2.3
CLCH				AML	AML	19 29 21.2	
	comp=E,425nm,0.3s						
CMCH	**Combarbala**	**2.61**	**290**	*e*P	Pn	19 28 47.1	+1.3
CMCH				*i* S	Sn	19 29 19.1	+2.3
CMCH				AML	AML	19 29 25.0	
	comp=N,5μm,0.6s						
RCDM	**Rinconada Maip**	**2.65**	**237**	*e*P	Pn	19 28 47.8	+1.4
RCDM				*i* S	Sn	19 29 21.9	+4.2
RCDM				AML	AML	19 29 25.1	
	comp=N,209nm,0.4s						
TACH	**Talagante**	**2.83**	**236**	*i* P	Pn	19 28 49.4	+0.5
CICH	**Cipreses**	**2.94**	**220**	*e*P	Pn	19 28 56.6	+6.3
TLL	**Tololo Astrono**	**2.99**	**309**	*e*P	Pn	19 28 52.8	+1.8
TLL				AML	AML	19 29 43.0	
	comp=N,167nm,0.4s						

MOS 24 19:29:59.4±2.9,4220N×4238E,h18km,mb3.8/1,3C-1D, Error ellipse: s-maj=99.9km s-min=15.8km az=142.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**1.13**	**52⇑**	*i*PG	Pg	19 30 18.9	-2.4
DIGR				*i* S	Sb	19 30 32.9	-1.8
ZEI	**Tsey**	**1.26**	**63⇑**	*i*PG	Pg	19 30 20.2	-3.6
GOR	**Gori**	**1.31**	**99**	P	Pn	19 30 16.4	-6.3
GOR				S	Sn	19 30 29.1	-11
LACR	**Lac**	**1.55**	**66⇑**	*i*PG	Pg	19 30 24.4	-4.9
ARNR	**Ardon**	**1.71**	**54⇓**	*i*PN	Pn	19 30 30.3	+2.0
ARNR				*i* S	Sn	19 30 52.7	+2.9
KZR	**Kazreti**	**1.73**	**118**	P	Pn	19 30 22.9	-5.6
KZR				S	Sn	19 30 40.3	-10
MTA	**Mtatsminda**	**1.87**	**105**	P	Pn	19 30 25.4	-5.1
MTA				S	Sn	19 30 45.4	-8.4
VLKR	**Vladikavkaz**	**1.90**	**63**	*e*PN	Pn	19 30 32.6	+1.8
SNJR	**Sundja**	**2.00**	**64**	*e*PN	Pn	19 30 36.8	+4.6
DGRG	**David-gareji**	**2.36**	**108**	P	Pn	19 30 34.5	-2.8
DGRG				S	Sn	19 31 01.9	-3.9

*ISCJB **24** 19:34:20.7±1.0,596S×009×355E±02,h10km,mb3.6/5, Error ellipse: s-maj=30.8km s-min=5.9km az=47.7*
*NEIC **24** 19:34:24.6±1.0,597S×3525E,h10km,mb4.3/1,Error ellipse: s-maj=28.8km s-min=10.9km az=108.0*
*IDC **24** 19:34:29.9±2.6,6.15S×3435E,h0km,mb3.5/5,mb1 3.8/7, mb1mx3.6/22,mbtmp3.7/7,ML3.5/2,MS2.9/1,Ms1 2.9/1, ms1mx2.7/35,Error ellipse: s-maj=70.1km s-min=21.0km az=96.0*
ISC 24 19:34:24.1±0.8,596S±009×354E±02,h10km,n14, σ1§14/16,mb3.6/5,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**5.14**	**21**	Pn	**Pn**	**19 35 43.3**	**+2.2**
	2.1nm,0.3s,baz=199,slow=16,SNR=22						
KMBO				Sn	**Sn**	**19 36 39.4**	**-1.1**
	27nm,0.3s,baz=126,slow=21,SNR=4.9						
KMBO				Lg		19 37 08.8	
	29nm,0.3s,baz=89,slow=18,SNR=18						
KMBO				LR	LR	19 37 23.9	
	comp=Z,100nm,20.0s,baz=272,slow=30						
KMBO	**Kilima Mbogo**	**5.14**	**21**	*e*Pn	**Pn**	**19 35 42.5**	**+1.4**
KMBO				*e*Sn	**Sn**	**19 36 38.9**	**-1.6**
KMBO				Lg		19 37 08.8	
KMBO				*e*Sg	**Sg**	**19 37 09.0**	**-0.2**
KMBO				LR	LR	19 37 23.9	
LSZ	**Lusaka**	**11.65**	**217**	Pn	**Pn**	**19 37 09.4**	**-1.0**
	0.8nm,0.3s,baz=44,slow=10,SNR=15						
LSZ				Lg		19 40 21.9	
	12nm,0.3s,baz=141,slow=20,SNR=16						
MATP	**Matopo**	**15.86**	**204**	Pn	**Pn**	**19 38 05.6**	**-1.8**
	0.1nm,0.3s,baz=25,slow=13,SNR=3.4						
MATP				Lg		19 42 42.2	
	1.7nm,0.3s,baz=315,slow=23,SNR=8.0						
MATP	**Matopo**	**15.86**	**204**	Pn	**Pn**	**19 38 05.6**	**-1.8**
MATP				Lg		19 42 42.2	
ATD	**Arta Tunnel**	**18.89**	**23**	Lg		19 44 44.4	
	0.7nm,0.3s,baz=274,slow=20,SNR=4.1						
LBTB	**Lobatse**	**21.15**	**205**	P	**P**	**19 39 09.7**	**+0.5**
	1.1nm,0.8s,mb3.3,baz=30,slow=13,SNR=3.3						
LBTB				Lg		19 45 26.1	
	9.6nm,0.9s,baz=141,slow=16,SNR=3.7						
LBTB	**Lobatse**	**21.15**	**205**	*e*P	**P**	**19 39 09.7**	**+0.5**
	18nm,1.1s,mb4.3						
LBTB				Lg		19 45 26.1	
TSUM	**Tsumeb**	**21.77**	**231**	P	**P**	**19 39 15.5**	**-0.4**
	3.0nm,0.9s,mb3.7,baz=42,slow=11,SNR=5.8						
TSUM				Lg		19 45 39.2	
	3.9nm,0.7s,baz=301,slow=20,SNR=3.0						
TSUM	**Tsumeb**	**21.77**	**231**	*e*P	**P**	**19 39 15.7**	**-0.2**
TSUM				Lg		19 45 39.2	
BOSA	**Boshof**	**24.50**	**202**	P	**P**	**19 39 45.2**	**+1.8**
	1.3nm,0.8s,mb3.4,baz=31,slow=12,SNR=3.0						
BOSA				Lg		19 47 10.0	
	12nm,1.0s,baz=308,slow=21,SNR=6.8						
TOA0	**Torodi Ar. Sit**	**38.48**	**300**	*e*P	**P**	**19 41 47.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**38.48**	**300**	P	**P**	**19 41 46.1**	**-0.1**
	0.4nm,0.9s,mb3.1,baz=117,slow=7.9,SNR=2.7						
GERES	**GERESS Array B**	**57.78**	**343**	P	**P**	**19 44 22.9**	**+7.5**
	1.1nm,0.9s,mb3.9,baz=152,slow=6.0,SNR=7.6						

*ISCJB **24** 19:34:33.6±3.9,1337N×006×1259E±0.1,h18km±27km, mb4.0/14,MS3.2/3,Error ellipse: s-maj=24.2km s-min=8.5km az=151.1*
*MAN **24** 19:34:34.9,1343N×12582E,h31km,mb3.4,ML4.6,MS3.8*
*IDC **24** 19:34:40.4±4.5,1329N×12606E,h64km±41km,mb3.7/12, mb1 3.8/13,mb1mx3.7/21,mbtmp3.7/13,ML4.2/1,MS3.3/4, Ms1 3.3/4,ms1mx3.2/31,Error ellipse: s-maj=44.5km s-min=13.2km az=72.0*
*NEIC **24** 19:34:43.3±3.4,1321N×12589E,h92km±29km,mb4.6/2, Error ellipse: s-maj=42.8km s-min=8.6km az=67.0*
ISC 24 19:34:33.0±2.4,1334N±005×12584E±008,h3km±15km, n34,σ0§83/32,mb4.0/14,MS3.2/3,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.41**	**234**	*e*P	**Pn**	**19 34 59.5**	**-0.1**
CNP				*e*S	**Sn**	**19 35 17.7**	**-0.9**
BESP	**Borongan**	**1.77**	**193**	*e*P	**Pn**	**19 35 04.8**	**+0.2**
OCLP	**Ormoc**	**2.57**	**208**	*e*P	**Pn**	**19 35 17.5**	**+2.0**
MSLP	**Maasin**	**3.33**	**197**	*e*P	**Pn**	**19 35 27.0**	**+1.0**
RCP	**Roxas**	**3.50**	**240⇓**	*e*P	**Pn**	**19 35 29.8**	**+1.5**
OTRP	**Odiongan**	**3.84**	**256**	*e*P	**Pn**	**19 35 32.6**	**-0.5**
BOAC	**Boac**	**3.88**	**272**	*e*P	**Pn**	**19 35 33.2**	**-0.4**
POLP	**Polillo Island**	**4.03**	**291**	*e*P	**Pg**	**19 35 48.4**	**-1.8**
GUIM	**Jordan**	**4.17**	**230**	*e*P	**Pn**	**19 35 37.4**	**-0.1**
TGY	**Tagaytay City**	**4.82**	**280**	P	**Pn**	**19 35 55.0**	**+8.5**
	8.5nm,0.3s,baz=117,slow=6.8,SNR=4.5						
PALP	**Palanan**	**4.95**	**319**	*e*P	**Pn**	**19 35 48.3**	**0.0**
CAUP	**Cauayan**	**5.28**	**313**	*e*P	**Pn**	**19 35 52.5**	**-0.3**
BUKP	**Musuan**	**5.48**	**188**	*e*P	**Pn**	**19 36 00.5**	**+5.0**
ABRA	**Dolores**	**6.54**	**312**	*e*P	**Pn**	**19 36 10.1**	**0.0**
GUMO	**Guam**	**18.51**	**87**	LR	LR	19 44 44.7	
	comp=Z,67nm,18.0s,baz=83,slow=33						
KSRS	**Korea Array**	**24.09**	**4**	P	**P**	**19 39 49.6**	**-0.1**
	3.2nm,0.9s,mb3.8,baz=184,slow=12,SNR=9.5						
KSRS				LR	LR	19 49 01.1	
	comp=Z,46nm,18.7s,MS3.0,baz=0.0,slow=36						
MJAR	**Matsushiro Arr**	**25.63**	**24**	LR	LR	19 48 24.4	
	comp=Z,126nm,21.0s,MS3.4,baz=275,slow=32						
PSI	**Prapat**	**28.59**	**251**	LR	LR	19 53 01.9	
	comp=Z,74nm,18.0s,MS3.3,baz=18,slow=38						
FITZ	**Fitzroy Crossi**	**31.24**	**180**	P	**P**	**19 40 52.8**	**-1.0**
	2.4nm,0.8s,mb4.1,baz=150,slow=7.5,SNR=3.6						
WRA	**Warramunga Arr**	**34.12**	**166**	P	**P**	**19 41 17.0**	**-1.9**
	0.6nm,0.7s,mb3.6,baz=343,slow=9.8,SNR=4.2						
ASAR	**Alice Springs**	**37.62**	**168**	P	**P**	**19 41 48.5**	**-0.5**
	0.5nm,0.7s,mb3.3,baz=349,slow=6.8,SNR=7.8						
ASAR				PcP	PcP	19 44 06.3	-0.4
	0.6nm,0.8s,baz=339,slow=5.0,SNR=4.1						
SONM	**Songino Array**	**38.02**	**339**	P	**P**	**19 41 52.7**	**+0.3**
	2.6nm,0.9s,mb3.9,baz=148,slow=7.6,SNR=12						
STKA	**Stephens Creek**	**47.43**	**162**	P	**P**	**19 43 08.8**	**+0.1**
	3.8nm,0.8s,mb4.4,baz=326,slow=11,SNR=5.3						
MK31	**Makanchi Array**	**49.36**	**321**	*e*P	**P**	**19 43 24.5**	**+0.8**
ZAL	**Zalesovo**	**51.76**	**330**	P	**P**	**19 43 42.5**	**+0.7**
	0.5nm,0.2s,mb4.0,baz=5.8,slow=4.8,SNR=4.7						
KURK	**Kurchatov**	**53.32**	**324**	*e*P	**P**	**19 43 53.8**	**+0.4**
	8.4nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**58.92**	**324**	P	**P**	**19 44 34.3**	**+0.8**
	1.1nm,0.6s,mb4.1,baz=126,slow=7.5,SNR=7.8						
BRVK	**Borovoye**	**58.99**	**324**	*e*P	**P**	**19 44 34.4**	**+0.4**
	5.1nm,1.3s,mb4.4						
ARCES	**ARCESS Array B**	**81.19**	**340**	P	**P**	**19 46 50.2**	**+0.1**
	2.1nm,0.8s,mb4.1,baz=72,slow=5.8,SNR=3.4						
FINES	**FINESS Array B**	**83.00**	**332**	P	**P**	**19 46 59.0**	**-0.7**
	1.3nm,0.9s,mb4.0,baz=66,slow=3.4,SNR=6.3						
FINES	**FINESS Array B**	**83.00**	**332**	P	**P**	**19 46 59.0**	**-0.7**
BRTR	**Keskin Array B**	**83.27**	**309**	P	**P**	**19 47 00.9**	**-0.2**
	0.8nm,0.9s,mb3.8,baz=141,slow=50,SNR=3.7						
YKA	**Yellowknife Ar**	**91.14**	**24**	P	**P**	**19 47 38.4**	**-0.8**
	0.5nm,0.7s,mb4.0,baz=299,slow=4.4,SNR=8.5						
YKA	**Yellowknife Ar**	**91.14**	**24**	P	**P**	**19 47 38.4**	**-0.8**

*NIED **24** 19:35:00,2390N×12230E,h14km,Mw3.8 Best double couple: M0:5.42000×10^14 NP1:φ0:199.00000°,δ64.00000°, λ-67.00000°. NP2:φ0:335.00000°,δ34.00000°, λ-129.00000°.*
JMA 24 19:35:20.8±0.3,2389N×12234E,h20km,M3.6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.84**	**47**	P	Pb	19 35 36.5	-0.1
YOJ				S	Sb	19 35 47.4	0.0
IRIF	**Iriomote-Funau**	**1.34**	**70**	P	Pn	19 35 44.5	+0.1
IRIF				*e*S	Sn	19 36 02.8	+1.1
HATJ	**Hateruma jima**	**1.35**	**83**	P	Pn	19 35 44.7	+0.2
HATJ				*e*S	Sn	19 36 01.8	0.0
JKRS	**Kuro-shima**	**1.56**	**77**	P	Pn	19 35 48.3	+0.9
JIJ	**Ishigaki jima**	**1.71**	**74**	P	Pn	19 35 49.7	+0.2
JIJ				*e*S	Sn	19 36 11.9	+1.1
JTJ	**Tarama**	**2.28**	**70**	P	Pn	19 35 58.3	+1.0
JTJ				*e*S	Sn	19 36 26.5	+1.7
JKE	**Kume jima 2**	**4.70**	**58**	P	Pn	19 36 30.4	-0.2

*LDG **24** 19:42:29.3±0.7,4239N×3.11W,h10km,Ml2.3/5,Error ellipse: s-maj=15.2km s-min=3.7km az=16.0*
MDD 24 19:42:34.2±0.2,4295N×303W,h5km±6km,mbLg1.8/15, 1C,Error ellipse: s-maj=4.2km s-min=1.4km az=37.0, PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**0.41**	**314**	Pg	Pg	19 42 41.4	-0.6
	SNR=24						
ELAN				Lg		19 42 47.5	
	26nm,0.2s,SNR=52						
ECRI	**Cripan**	**0.52**	**131**	⇑Pg	Pg	19 42 43.6	-0.5
	5.6nm,0.1s,SNR=18						
ECRI				Lg		19 42 51.8	
	8.1nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**1.08**	**99**	Pg	Pg	19 42 55.4	+0.4
	2.2nm,0.2s,SNR=5.9						
EARA				Lg		19 43 10.1	
	8.2nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.09**	**90**	Pg	Pg	19 42 54.7	-0.4
	1.6nm,0.1s,SNR=7.9						
IUSE				Lg		19 43 10.9	
	1.1nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**1.12**	**79**	Pg	Pg	19 42 54.4	-1.4
	1.6nm,0.1s,SNR=25						
ELIZ				Lg		19 43 10.2	
	3.2nm,0.2s,SNR=7.4						
EALK	**Alkurruntz**	**1.15**	**76**	Pg	Pg	19 42 55.1	-1.2
	4.3nm,0.2s,SNR=19						
EALK				Lg		19 43 10.4	
	11nm,0.3s,SNR=12						
IPRE	**Itoiz**	**1.24**	**96**	Lg		19 43 13.7	
	0.4nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**1.34**	**82**	*e*Pg	Pg	19 42 58.6	-1.2
SJPF				*e*Sn	Sn	19 43 14.8	-2.9
	9.7nm,0.3s						
SJPF	**Ste Jean**	**1.34**	**82**	Pg	Pg	19 42 58.6	-1.2
SJPF				Sn	Sn	19 43 14.8	-2.9
	4.8nm,0.3s						
EARI	**Arriondas**	**1.63**	**283**	Pg	Pg	19 43 04.2	-1.3
	0.3nm,0.1s,SNR=15						
EARI				Lg		19 43 26.0	
	3.6nm,0.3s,SNR=6.6						
ETSF	**Etsaut**	**1.82**	**91**	*e*Pg	Pg	19 43 05.4	-3.6
ETSF				*e*Sg	Sg	19 43 30.6	-2.0
	3.3nm,0.3s						
ETSF	**Etsaut**	**1.82**	**91**	Pg	Pg	19 43 05.4	-3.6
ETSF				Lg		19 43 30.6	
	1.6nm,0.3s						
ETOR	**Torete**	**2.25**	**161**	Pg	Pg	19 43 15.2	-2.1
	1.8nm,0.1s,SNR=7.4						
ETOR				Lg		19 43 44.2	
	13nm,0.3s,SNR=6.4						
ESAC	**San Caprasio**	**2.26**	**122**	Pg	Pg	19 43 16.3	-1.2
	2.0nm,0.2s,SNR=7.9						
ESAC				Lg		19 43 43.8	
	16nm,0.3s,SNR=79						
EBIE	**Bielsa**	**2.35**	**95**	Pn	Pn	19 43 12.7	-0.8
	0.3nm,0.1s,SNR=7.9						
EBIE				Pg	Pg	19 43 16.2	-3.0
	0.9nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	19 43 43.7	+1.0
	0.4nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**2.45**	**200**	Pn	Pn	19 43 14.9	0.0
	0.2nm,0.3s,SNR=4.0						
GUD				Pg	Pg	19 43 18.0	-3.2
	1.0nm,0.2s,SNR=7.9						
GUD				Lg		19 43 50.5	
	1.5nm,0.2s,SNR=7.9						
EPF	**Esparros**	**2.48**	**87**	*e*Pg	Pg	19 43 18.3	-3.4
EPF				*e*Sn	Sn	19 43 41.1	-4.8
EPF				*e*Sg	Sg	19 43 51.3	-2.5
	2.0nm,0.3s						
EPF	**Esparros**	**2.48**	**87**	Pg	Pg	19 43 18.3	-3.4
EPF				Lg		19 43 51.3	
	1.0nm,0.3s						
ECAL	**Calabor**	**2.92**	**251**	Pg	Pg	19 43 28.2	-1.9
	0.5nm,0.1s,SNR=7.9						
ECAL				Lg		19 44 06.3	
	4.8nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**3.04**	**279**	Pg	Pg	19 43 29.8	-2.6
	0.1nm,0.1s,SNR=4.0						
EPON				Lg		19 44 09.2	
	1.6nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**3.21**	**127**	Lg		19 44 15.1	
	2.1nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.22**	**143**	Lg		19 44 15.7	
	0.6nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.35**	**192**	Pg	Pg	19 43 35.7	-2.6
	0.2nm,0.1s,baz=12,slow=18,SNR=8.2						
ESDC				Lg		19 44 18.9	
	0.4nm,0.2s,baz=12,slow=32,SNR=4.8						
LFF	**La Frestale**	**3.38**	**53**	*e*Pn	Pn	19 43 25.8	-1.8
RJF	**Les Rejaudoux**	**4.03**	**53**	*e*Pn	Pn	19 43 34.0	-2.6
RJF				*e*Sn	Sn	19 44 21.0	-3.3
	1.5nm,0.3s						
RJF	**Les Rejaudoux**	**4.03**	**53**	Pn	Pn	19 43 34.0	-2.6
RJF				Sn	Sn	19 44 21.0	-3.3
	0.8nm,0.3s						
CAF	**Calviac**	**4.18**	**60**	*e*Sn	Sn	19 44 25.1	-2.7
	1.0nm,0.2s						
CAF	**Calviac**	**4.18**	**60**	Sn	Sn	19 44 25.1	-2.7
	0.5nm,0.2s						
MFF	**Saint Martin d**	**4.19**	**28**	*e*Pn	Pn	19 43 38.7	-0.1
QUIF	**Quistinic**	**4.97**	**359**	*e*Pn	Pn	19 43 48.1	-1.4
TCF	**Toulx Ste Croi**	**5.01**	**46**	*e*Pn	Pn	19 43 49.1	-1.0
SGMF	**Saint Gilles**	**5.32**	**3**	*e*Pn	Pn	19 43 54.2	0.0
ROSF	**Rostrenen**	**5.39**	**358**	*e*Pn	Pn	19 43 55.1	-0.2

JSN 24 19:47:08.5±0.9,1904N×7959W,h37km±18km,MD3.7,2C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVJ	**Coleyville**	**2.11**	**112⇑**	*e*P	Pn	19 47 40.8	-0.5
CVJ				*e*S	Sn	19 48 05.8	-0.4
MCJ	**Malvern**	**2.12**	**121⇑**	*e*P	Pn	19 47 42.0	+0.6
MCJ				*e*S	Sn	19 48 05.6	-0.9
CCCC	**Cccc**	**2.75**	**38**	*e*P	Pn	19 48 06.5	+16
STH	**Stony Hill**	**2.81**	**109**	*e*P	Pn	19 47 50.3	-0.5
STH				*e*S	Sn	19 48 22.4	-1.1
MGV	**Manicaragua**	**3.08**	**353**	*e*P	Pn	19 48 07.1	+12

*ISCJB **24** 19:50:59.9±0.6,1331N±005×14423E±004,h122km±4km, mb4.7/43,Error ellipse: s-maj=8.5km s-min=6.3km az=177.3*
*BJI **24** 19:50:59.2,1339N×14472E,h136km,mB5.0,mb4.8*
*IDC **24** 19:51:00.7±0.5,1335N×14436E,

WRA ScP ScP 20 03 43.5 -1.0
0.9nm,0.6s,baz=13,slow=3.5,SNR=12
FITZ Fitzroy Crossi 36.28 211 eP **P 19 57 53.0 -0.2**
9.8nm,1.0s,mb4.7
FITZ Fitzroy Crossi 36.28 211 P **P 19 57 53.2 0.0**
2.3nm,0.7s,mb4.2,baz=42,slow=14,SNR=12
BJI Beijing 36.30 322 eP **P 19 57 53.8 +0.5**
BJI AMB AMB
comp=Z,19nm,0.8s,mb5.1
BJI Beijing 36.30 322 eP **P 19 57 53.7 +0.4**
comp=Z,19nm,0.8s,mb5.1
XAN Xi'an 38.12 309 P **P 19 58 08.9 +0.2**
XAN AMB AMB
comp=Z,12nm,0.8s,mb4.8
ASAR Alice Springs 38.17 196 P **P 19 58 08.4 -0.7**
comp=Z,1.1nm,0.4s,mb4.0,baz=22,slow=12,SNR=45
ASAR PP PP 19 59 45.2 +6.5
comp=Z,1.1nm,0.8s,baz=13,slow=12,SNR=5.1
ASAR PcP PcP 20 00 21.2 -0.2
comp=Z,1.0nm,0.6s,baz=31,slow=3.1,SNR=7.7
ASAR ScP ScP 20 03 56.4 -1.7
comp=Z,0.5nm,0.7s,baz=16,slow=4.4,SNR=5.0
KMI Kunming 40.81 293 ⇑P **P 19 58 32.9 +1.9**
KMI AMB AMB
comp=Z,11nm,1.4s,mb4.5
KMI LR LR
comp=Z,129nm,17.7s
KMI Kunming 40.81 293 ⇑P **P 19 58 32.9 +1.9**
comp=Z,11nm,1.4s,mb4.5
KMI LR LR
comp=Z,130nm,17.7s
CD2 Chengdu 41.16 302 P **P 19 58 34.3 +0.4**
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.4
DZM Mont Dzumac 41.35 148 P **P 19 58 36.1 +0.6**
comp=Z,14nm,0.4s,mb5.2,baz=280,slow=6.0,SNR=49
LZH Lanzhou 42.75 309 eP **P 19 58 47.5 +0.7**
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,149nm,4.5s
CM31 Chiang Mai Arr 43.84 283 eP **P 19 58 57.0 +1.4**
comp=Z,3.2nm,0.3s,mb4.5
STKA Stephens Creek 45.04 183 eP **P 19 59 03.3 -1.8**
comp=Z,6.4nm,0.4s,mb4.7
STKA Stephens Creek 45.04 183 P **P 19 59 04.0 -1.2**
comp=Z,6.4nm,0.3s,mb4.8,baz=7.5,slow=7.8,SNR=61
SONM Songino Array 46.62 325 P **P 19 59 17.9 +0.4**
comp=Z,2.0nm,0.4s,mb4.2,baz=140,slow=7.9,SNR=28
SONM PcP PcP 20 00 48.3 -1.2
comp=Z,0.7nm,0.5s,baz=148,slow=4.7,SNR=4.2
GTA Gaotai 46.93 312 P **P 19 59 20.5 +0.6**
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.6
YAK Yakutsk 49.73 351 eP **P 19 59 40.1 -1.3**
comp=Z,9.3nm,0.6s,mb4.9
LSA Lhasa 51.62 297 P **P 19 59 57.6 +2.0**
LSA Lhasa 51.62 297 eP **P 19 59 57.2 +1.5**
comp=Z,10nm,0.4s,mb5.2
NWAO Narrogin (SRO) 52.79 209 LR LR 20 24 27.3
comp=Z,84nm,20.8s,baz=22,slow=38
JIRN Jiri 55.82 294 eP **P 20 00 26.8 +0.7**
comp=Z,15nm,0.3s,mb5.5
GUN Gumba 56.10 295 eP **P 20 00 28.8 +0.6**
comp=Z,31nm,0.4s,mb5.7
BILL Bilibino 56.49 10 eP **P 20 00 28.4 -2.5**
comp=Z,3.2nm,0.6s,mb4.5
PKI Pulchoki 56.51 294 eP **P 20 00 31.1 +0.1**
comp=Z,16nm,0.4s,mb5.4
KKN Kakani 56.63 295 eP **P 20 00 32.1 +0.2**
comp=Z,7.4nm,0.3s,mb5.2
DMN Daman 56.77 294 eP **P 20 00 32.8 -0.1**
comp=Z,14nm,0.4s,mb5.3
GKN Gorkha 57.20 295 eP **P 20 00 36.0 0.0**
comp=Z,28nm,0.4s,mb5.6
KOLN Koldanda 58.11 294 eP **P 20 00 42.4 +0.1**
comp=Z,21nm,0.5s,mb5.4
MK31 Makanchi Array 61.29 316 eP **P 20 01 03.8 -0.3**
ZAL Zalesovo 61.51 325 P **P 20 01 04.8 -0.8**
comp=Z,1.1nm,0.5s,mb4.2,baz=39,slow=6.5,SNR=4.2
HYB Hyderabad 63.27 283 i P **P 20 01 17.0 -0.3**
HYB Hyderabad 63.27 283 eP **P 20 01 17.0 -0.3**
KURK Kurchatov 64.42 320 eP **P 20 01 24.2 -0.6**
comp=Z,7.3nm,0.3s,mb5.0
SLKM Skilak Lake 66.46 29 eP **P 20 01 35.8 -2.2**
POO Poona 67.59 285 ex x 20 01 40.5
BVAR Borovoye Array 69.78 322 P **P 20 01 58.1 -0.6**
comp=Z,2.9nm,0.4s,mb4.5,baz=101,slow=8.1,SNR=41
BRVK Borovoye 69.85 322 eP **P 20 01 58.5 -0.6**
comp=Z,3.4nm,0.6s,mb4.3
KBL Kabul 70.50 302 eP **P 20 02 02.1 -0.9**
INK Inuvik 74.79 22 eP **P 20 02 26.4 -2.1**
AKTK Aktyubinsk 77.49 319 P **P 20 02 42.9 -0.8**
AKTO Aktyubinsk 77.49 319 P **P 20 02 42.9 -0.8**
comp=Z,0.8nm,0.5s,mb3.7,baz=84,slow=9.2,SNR=4.6
H03A Soap Creek Ran 82.43 46 ⇑P **P 20 03 10.5 +0.1**
baz=82
J02A Umpqua 82.48 47 ⇓P **P 20 03 10.4 -0.2**
baz=82
HUMO Hull Mountain 83.08 48 ⇑P **P 20 03 13.8 +0.2**
baz=83
YKA Yellowknife Ar 83.32 27 P **P 20 03 13.2 -1.7**
comp=Z,1.2nm,0.3s,mb4.2,baz=286,slow=5.1,SNR=31
YKA Yellowknife Ar 83.32 27 P **P 20 03 13.2 -1.7**
M02C Callahan 83.40 49 ⇑P **P 20 03 15.3 0.0**
baz=83
YBH Yreka Blue Hor 83.44 49 ⇑P **P 20 03 15.3 -0.2**
baz=83
A07A Ashnola River, 83.48 41 ⇓P **P 20 03 14.8 -1.0**
baz=83
D06A Cle Elum 83.58 43 ⇑P **P 20 03 15.9 -0.4**
baz=83
E06A Yakima 83.64 44 ⇓P **P 20 03 16.1 -0.4**
baz=83
O02C Red Bluff 83.70 50 ⇓P **P 20 03 17.2 +0.3**
baz=84
B07A Winthrop 83.78 42 ⇑P **P 20 03 16.9 -0.3**
baz=84
WDC Whiskeytown Da 83.80 50 ⇓P **P 20 03 17.3 0.0**
baz=84
H05A Madras 83.88 46 ⇑P **P 20 03 17.6 -0.2**
baz=84
L04A Klamath Falls 83.94 48 ⇑P **P 20 03 18.0 0.0**
baz=84,SNR=5.8
I05A Bend 83.95 46 ⇓P **P 20 03 18.0 -0.2**
baz=84
K04A Chiloquin 83.96 48 ⇓P **P 20 03 18.3 +0.1**
baz=84
M03C McCloud 83.96 49 ⇑P **P 20 03 18.4 +0.2**
baz=84
C07A Waterville 83.99 43 ⇓P **P 20 03 17.2 -1.1**
baz=84
M04C Macdoel 84.06 49 ⇑P **P 20 03 18.9 +0.2**
baz=84
G06A Carlson Farm, 84.16 45 ⇓P **P 20 03 18.2 -1.0**
baz=84
D07A Quincy 84.16 43 ⇓P **P 20 03 18.6 -0.6**
baz=84
A08A Turner Farm, O 84.21 41 ⇑P **P 20 03 18.7 -0.7**
baz=84
MNRC McLaughlin Nat 84.24 52 ⇑P **P 20 03 20.0 +0.4**
baz=84
O03C Acorn Hollow, 84.31 50 ⇓P **P 20 03 19.5 -0.4**
baz=84
B08A Colville Reser 84.31 42 P **P 20 03 19.6 -0.4**
baz=84,SNR=7.7
CVS Carmenet Viney 84.34 52 ⇑P **P 20 03 19.8 -0.3**
baz=84
E07A Sunnyside 84.39 44 ⇑P **P 20 03 19.9 -0.4**
baz=84
H06A Lindquist Farm 84.48 45 ⇑P **P 20 03 20.3 -0.5**
baz=84
F07A Phinny Hill Vi 84.49 44 ⇑P **P 20 03 20.8 -0.1**
baz=84
K05A Summer Lake 84.54 48 ⇓P **P 20 03 21.1 0.0**
baz=84
HATC Hat Creek Radi 84.55 49 ⇑P **P 20 03 20.6 -0.5**
baz=84
C08A Higginbotham F 84.64 42 ⇑P **P 20 03 21.1 -0.5**
baz=84
A09A Danville 84.65 41 ⇑P **P 20 03 21.2 -0.5**
baz=84
SUTB Sutter Butte 84.66 51 ⇑P **P 20 03 21.1 -0.6**
baz=84
M05C Lookout 84.66 49 ⇑P **P 20 03 21.4 -0.3**
baz=84
I06A Prineville 84.75 46 ⇑P **P 20 03 21.8 -0.3**
baz=84
ORV Oroville 84.80 51 ⇓P **P 20 03 21.7 -0.7**
baz=85
G07A Ruggs Ranch, H 84.81 45 ⇓P **P 20 03 21.9 -0.6**
baz=85
D08A Wollman Farm, 84.89 43 ⇑P **P 20 03 22.2 -0.7**
baz=85
E08A Dider Farm, El 84.94 44 ⇓P **P 20 03 22.6 -0.5**
baz=85
O04C Chester 84.94 50 P **P 20 03 23.6 +0.5**
baz=85,SNR=7.7
K06A Valley Falls 84.98 47 ⇑P **P 20 03 23.2 -0.1**
baz=85
WENL Wente Brothers 85.04 53 ⇓P **P 20 03 23.3 -0.3**
baz=85
B09A Rice 85.06 42 ⇑P **P 20 03 23.5 -0.3**
baz=85
O05C Quincy 85.15 50 ⇓P **P 20 03 23.5 -0.6**
baz=85
MOD Modoc 85.15 48 ⇑P **P 20 03 23.8 -0.4**
baz=85
M06C Likely Place G 85.19 49 ⇓P **P 20 03 23.6 -0.8**
baz=85
F08A Pendleton 85.30 44 ⇓P **P 20 03 24.7 -0.2**
baz=85,SNR=5.5
G08A Pilot Rock 85.30 45 ⇓P **P 20 03 24.1 -0.7**
baz=85
D09A Jones Farm, Ri 85.30 43 P **P 20 03 24.9 0.0**
baz=85,SNR=8.7
S04C Ingram Canyon, 85.40 53 P **P 20 03 25.9 +0.5**
baz=85,SNR=5.8
HAST UC Hastings Re 85.48 54 ⇑P **P 20 03 25.0 -0.8**
baz=85
J07A Hines 85.52 47 ⇑P **P 20 03 25.8 -0.2**
baz=85
P05C Yuba Gap, Truc 85.53 51 ⇑P **P 20 03 25.6 -0.4**
baz=85
PACP Pacheco Peak 85.54 53 ⇑P **P 20 03 25.4 -0.6**
baz=85
LAVA Lava Cap Winer 85.56 51 ⇑P **P 20 03 25.8 -0.4**
baz=85,SNR=5.5
BEKR Beckwourth 85.59 50 P **P 20 03 26.1 -0.2**
baz=85,SNR=15
K07A Rock Creek Ran 85.73 47 ⇑P **P 20 03 26.9 -0.1**
baz=86,SNR=5.1
C10A Spilker Farm, 85.76 42 ⇑P **P 20 03 27.1 -0.1**
baz=86
N06A Buffalo Meadow 85.77 49 ⇑P **P 20 03 27.1 -0.1**
baz=86
L07A Adell 85.82 48 ⇑P **P 20 03 27.5 +0.1**
baz=86,SNR=7.3
I08A Drewsey 85.91 46 ⇑P **P 20 03 27.3 -0.6**
baz=86
F09A S2 Ranch, Elgi 85.91 44 ⇓P **P 20 03 27.5 -0.3**
baz=86
O06A Flanigan 85.91 50 ⇓P **P 20 03 27.1 -0.9**
baz=86
P06A Stead Airport, 85.98 50 ⇑P **P 20 03 27.7 -0.6**
baz=86
D10A Wagner Farm, O 85.98 43 ⇓P **P 20 03 26.8 -1.4**
baz=86
CMB Columbia Colle 86.00 52 P **P 20 03 28.5 +0.1**
baz=86,SNR=5.3
A11A Hall Mountain, 86.07 41 ⇓P **P 20 03 28.5 -0.1**
baz=86,SNR=7.4
R05C Kirkwood Meado 86.08 51 ⇑P **P 20 03 28.5 -0.2**
baz=86
U04C Hernandez Rese 86.09 54 ⇑P **P 20 03 28.9 +0.1**
baz=86
M07A Soldier Meadow 86.10 49 ⇓P **P 20 03 28.6 -0.3**
baz=86
J08A Circle Bar Ran 86.11 46 ⇓P **P 20 03 28.9 0.0**
baz=86
WCN Washoe City 86.18 51 ⇑P **P 20 03 29.8 +0.6**
baz=86
V04C Ramage Ranch, 86.19 54 ⇓P **P 20 03 29.4 +0.1**
baz=86
B11A Sandpoint 86.20 41 ⇓P **P 20 03 29.3 0.0**
baz=86
E10A Myers Farm, Un 86.24 43 P **P 20 03 29.4 -0.1**
baz=86,SNR=6.7
K08A Mann Creek Ran 86.26 47 ⇓P **P 20 03 29.5 -0.1**
baz=86,SNR=7.1
F10A Beach Ranch, E 86.30 44 ⇓P **P 20 03 29.8 0.0**
baz=86
H09A Durkee 86.34 45 ⇑P **P 20 03 29.9 -0.2**
baz=86
PKD Parkfield 86.37 54 ⇓P **P 20 03 30.0 -0.2**
baz=86
N07B Gerlach 86.40 49 ⇑P **P 20 03 30.5 +0.2**
baz=86
I09A Lost Marbles R 86.47 46 ⇓P **P 20 03 30.1 -0.6**
baz=86
L08A Fields 86.50 48 P **P 20 03 31.1 +0.3**
baz=86,SNR=8.4
A12A Yaak River Ran 86.52 41 ⇓P **P 20 03 31.1 +0.2**
baz=86
BMO Blue Mountains 86.54 45 eP **P 20 03 30.5 -0.5**
comp=Z,12nm,0.8s,mb4.9
R06C Coleville 86.60 51 ⇑P **P 20 03 31.2 -0.1**
baz=86
U05C Westside ANR, 86.61 54 ⇓P **P 20 03 31.1 -0.2**
baz=86
O07A Toulon 86.62 50 ⇓P **P 20 03 31.1 -0.3**
baz=86
J09A Fry Pan Ranch, 86.62 46 ⇑P **P 20 03 31.6 +0.2**
baz=86,SNR=5.3
M08A Happy Creek Ra 86.66 48 ⇓P **P 20 03 31.1 -0.4**
baz=86
B12A Libby 86.69 41 ⇑P **P 20 03 31.8 0.0**
baz=86
T06C Millerton Lake 86.77 53 P **P 20 03 32.1 0.0**
baz=86,SNR=6.6
K09A Rome 86.81 47 ⇓P **P 20 03 32.0 -0.3**
baz=87
E11A Bogner Ranch, 86.88 43 P **P 20 03 32.0 -0.6**
baz=87,SNR=6.7
SMMC Simmler 86.95 55 ⇑P **P 20 03 33.0 0.0**
baz=87
H10A Noah's Angus R 86.99 45 P **P 20 03 32.8 -0.5**
baz=87,SNR=14
KCC Kaiser Creek 86.99 53 ⇑P **P 20 03 32.7 -0.5**
baz=87
R07C Lee Vining 87.01 52 ⇓P **P 20 03 32.9 -0.4**
baz=87
N08A GE Springer Mi 87.01 49 P **P 20 03 33.9 +0.6**
baz=87,SNR=7.8
L09A Wilkinson Ranc 87.03 48 ⇓P **P 20 03 33.5 +0.1**
baz=87,SNR=7.0
F11A Grangeville 87.04 44 P **P 20 03 32.6 -0.8**
baz=87,SNR=5.1
G11A Walters Elk Ra 87.10 44 ⇑P **P 20 03 33.1 -0.6**
baz=87
ARCES ARCESS Array B 87.15 342 P **P 20 03 33.5 -0.4**
comp=Z,6.6nm,0.9s,mb4.5,baz=58,slow=8.6,SNR=3.9
PKM Peak Mountain 87.20 55 ⇓P **P 20 03 35.2 +1.0**
baz=87
J10A Berg Farm, Mel 87.30 46 ⇑P **P 20 03 34.5 -0.2**
baz=87
A13A Flathead Natio 87.31 40 ⇓P **P 20 03 34.6 -0.2**
baz=87
M09A Marrel Ranch, 87.34 48 ⇓P **P 20 03 34.3 -0.6**
baz=87
K10A MacKenzie Ranc 87.40 47 P **P 20 03 35.3 +0.1**
baz=87,SNR=13
B13A Whitefish 87.44 41 ⇓P **P 20 03 35.6 +0.3**
baz=87
N09A Rock Creek Ran 87.44 49 P **P 20 03 36.0 +0.7**
baz=87,SNR=6.0
H11A Donnelly 87.47 45 P **P 20 03 35.0 -0.5**
baz=87,SNR=10
NVAR Mina Array Bea 87.49 51 P **P 20 03 36.2 +0.6**
comp=Z,4.3nm,0.6s,mb4.6,baz=268,slow=5.7,SNR=20
VES Vestal, Richgr 87.55 54 ⇑P **P 20 03 35.2 -0.7**
baz=87
BSC Santa Cruz Isl 87.57 56 ⇑P **P 20 03 35.0 -1.0**
baz=87
C13A Hot Springs 87.57 42 ⇑P **P 20 03 35.6 -0.3**
baz=87
Q08A Gabbs 87.66 51 P **P 20 03 37.0 +0.5**
baz=87,SNR=5.0
R08A Mina 87.66 51 ⇓P **P 20 03 37.1 +0.7**
baz=87
F12A Elk City 87.68 44 ⇑P **P 20 03 35.6 -0.9**
baz=87
I11A Placerville 87.73 45 ⇑P **P 20 03 36.5 -0.3**
baz=88
S08C White Mtn Res 87.83 52 ⇓P **P 20 03 37.9 +0.7**
baz=88,SNR=5.7
O09A Fish Creek Ran 87.87 49 P **P 20 03 38.0 +0.6**
baz=88,SNR=6.1
ARVC Arvin 87.93 55 ⇓P **P 20 03 37.7 +0.1**
baz=88
MFID Camas Ranch 87.96 46 P **P 20 03 37.9 +0.1**
baz=88,SNR=14
M10A I.L. Ranch, Tu 87.98 48 P **P 20 03 38.4 +0.5**
baz=88,SNR=5.3
ISA Isabella 88.07 54 ⇓P **P 20 03 38.1 -0.3**
baz=88
C14A Swan Lake 88.08 41 ⇑P **P 20 03 38.2 -0.2**
baz=88
CWC Cottonwood Cre 88.18 53 ⇓P **P 20 03 39.0 +0.2**
baz=88
N10A Dunphy 88.22 49 ⇑P **P 20 03 39.4 +0.3**
baz=88
F13A Darby 88.29 43 P **P 20 03 38.8 -0.6**
baz=88,SNR=5.5
H12A Diamond D Ranc 88.30 45 ⇑P **P 20 03 39.3 -0.1**
baz=88
O10A Cortez Mining, 88.34 49 ⇓P **P 20 03 39.9 +0.2**
baz=88
D14A Greenough 88.44 42 ⇓P **P 20 03 41.1 +1.0**
baz=88
R09A Tonopah 88.48 51 P **P 20 03 40.8 +0.5**
baz=88,SNR=14
S09A Goldfield 88.50 52 P **P 20 03 40.9 +0.5**
baz=88,SNR=9.4
J12A Stokes Ranch, 88.51 46 ⇓P **P 20 03 40.4 0.0**
baz=88
M11A Holland Ranch, 88.54 48 ⇓P **P 20 03 41.2 +0.7**
baz=88
DECC Green Verdugo 88.55 55 ⇑P **P 20 03 40.8 +0.1**
baz=88
P10A Eureka 88.56 50 ⇓P **P 20 03 41.3 +0.6**
baz=88
G13A Cobalt 88.57 44 P **P 20 03 40.5 -0.1**
baz=88,SNR=13
E14A Clinton 88.66 43 ⇑P **P 20 03 40.9 -0.2**
baz=88
EDW2 Edwards Air Fo 88.66 55 ⇑P **P 20 03 41.7 +0.6**
baz=88
LRMC Laurel Mountai 88.74 54 P **P 20 03 42.3 +0.8**
baz=88,SNR=8.1
MPMC Manual Prospec 88.74 53 P **P 20 03 41.8 +0.4**
baz=88,SNR=9.6
N11A Elko Archery C 88.75 48 ⇑P **P 20 03 42.2 +0.6**
baz=88
K12A Draper Farm, C 88.83 46 P **P 20 03 42.5 +0.5**
baz=89,SNR=6.5
HLID Hailey 88.90 45 eP **P 20 03 42.3 0.0**
comp=Z,6.7nm,0.9s,mb4.7
HLID Hailey 88.90 45 P **P 20 03 42.5 +0.3**
baz=89,SNR=11
O11A Cowboy Ranch, 89.01 49 ⇑P **P 20 03 43.4 +0.6**
baz=89
R10A Warm Springs 89.05 51 ⇓P **P 20 03 43.7 +0.8**
baz=89
BFSC Mount Baldy St 89.09 55 ⇓P **P 20 03 43.2 +0.1**
baz=89
D15A Lincoln 89.10 42 ⇑P **P 20 03 44.1 +0.9**
baz=89
P11A Circle Ranch, 89.10 50 ⇓P **P 20 03 44.1 +0.9**
baz=89
J13A Cove Ranch, Pi 89.11 46 P **P 20 03 43.6 +0.3**
baz=89,SNR=8.3
FURC Furnace Creek, 89.12 53 P **P 20 03 43.9 +0.6**
baz=89,SNR=5.5
M12A Wells 89.18 48 P **P 20 03 44.4 +0.9**
baz=89,SNR=7.6
E15A Deer Lodge 89.22 42 ⇓P **P 20 03 43.6 -0.2**
baz=89
N12A Clover Valley, 89.25 48 P **P 20 03 44.7 +0.8**
baz=89,SNR=5.5
Q11A Duckwater 89.38 50 ⇓P **P 20 03 45.0 +0.6**
baz=89
K13A Stover Farm, H 89.40 46 ⇑P **P 20 03 45.3 +0.7**
baz=89
GSC Goldstone 89.48 54 P **P 20 03 45.8 +0.8**
baz=89,SNR=5.9
F15A Butte 89.50 43 ⇓P **P 20 03 45.1 +0.1**
baz=89
U10A Ash Meadows, A 89.54 53 P **P 20 03 46.4 +1.1**
baz=89,SNR=6.1
MURC Murrieta 89.63 56 ⇑P **P 20 03 45.8 +0.1**
baz=89
L13A Double Diamond 89.67 47 ⇑P **P 20 03 46.5 +0.7**
baz=89
G15A Dillon 89.72 44 ⇑P **P 20 03 46.1 0.0**
baz=90
SHOC Shoshone 89.73 53 ⇓P **P 20 03 46.6 +0.5**
baz=90
M13A Montello 89.73 48 P **P 20 03 46.8 +0.7**
baz=90,SNR=5.6
P12A McGill 89.75 49 ⇑P **P 20 03 46.6 +0.4**
baz=90
N13A Wendover, West 89.86 48 ⇑P **P 20 03 47.3 +0.6**
baz=90
109C Camp Elliot, M 89.90 56 ⇓P **P 20 03 47.0 +0.1**
baz=90
Q12A Willow Creek R 89.94 50 ⇑P **P 20 03 47.8 +0.7**
baz=90,SNR=5.0
HEC Hector,Ludlow 89.98 54 P **P 20 03 47.9 +0.6**
baz=90,SNR=6.4
BOZ Bozeman (W) 90.13 43 ⇓P **P 20 03 48.3 +0.3**
baz=90
TUQ Turquoise Mtn. 90.14 54 P **P 20 03 48.9 +0.9**
baz=90,SNR=6.9
PFO Pinyon Flat Ob 90.22 55 ⇓P **P 20 03 49.4 +0.9**
baz=90
U11A Corn Creek 90.27 53 ⇓P **P 20 03 49.8 +1.2**
baz=90
V11A Goodsprings 90.41 53 ⇓P **P 20 03 49.9 +0.6**
baz=90
MONP Monument Peak 90.45 56 ⇑P **P 20 03 50.3 +0.8**
baz=90
BELC Belle Mtn. 90.48 55 ⇓P **P 20 03 50.2 +0.6**
baz=90
GMRC Granite Mounta 90.53 54 ⇓P **P 20 03 50.7 +0.8**
baz=90
QLMT Earthquake Lak 90.54 44 eP **P 20 03 50.6 +0.7**
DVTC Desert V Tower 90.77 56 ⇓P **P 20 03 51.6 +0.6**
baz=90
V12A Nelson 90.89 53 P **P 20 03 52.6 +1.1**
baz=91,SNR=6.2
U12A Valley of Fire 90.92 52 ⇓P **P 20 03 52.5 +0.9**
baz=91
BC3 Big Chuckw Mtn 91.01 55 ⇑P **P 20 03 52.9 +0.8**
baz=91
DUG Dugway 91.07 48 ⇓P **P 20 03 52.8 +0.4**
baz=91
IRM Iron Mountain 91.11 55 P **P 20 03 53.1 +0.6**
baz=91,SNR=5.1
FINES FINESS Array B 91.15 335 P **P 20 03 50.9 -1.9**
comp=Z,1.5nm,0.5s,mb4.4,baz=40,slow=3.2,SNR=14
VNDA Vanda 91.26 176 P **P 20 03 51.7 -1.5**
comp=Z,0.8nm,0.8s,mb3.9,baz=312,slow=9.8,SNR=5.2
VNDA Vanda 91.26 176 P **P 20 03 51.7 -1.5**
ARUT Antelope Range 91.35 51 eP **P 20 03 53.9 +0.2**
Y12C Blythe 91.73 55 ⇓P **P 20 03 56.1 +0.7**
baz=92
W13A Hualapai Mount 91.83 53 ⇓P **P 20 03 56.2 +0.3**
baz=92
PDMCI Parker Dam,Lak 91.87 54 ⇓P **P 20 03 56.8 +0.7**
baz=92
X13A Yucca 92.02 54 ⇓P **P 20 03 57.5 +0.7**
baz=92
Y13A Salome 92.26 55 ⇓P **P 20 03 58.6 +0.8**
baz=92
W14A Seligman 92.42 53 ⇓P **P 20 03 59.6 +1.0**
baz=92
BW06 Boulder Array 92.52 45 eP **P 20 03 58.1 -0.9**
comp=Z,1.4nm,0.7s,mb4.4
PDAR Pinedale Array 92.52 45 P **P 20 03 58.5 -0.5**
comp=Z,0.8nm,0.6s,mb4.2,baz=248,slow=2.8,SNR=9.4
X14A Yava 92.80 54 ⇓P **P 20 04 01.2 +0.8**
baz=93
Y14A Wickenburg 92.88 54 ⇑P **P 20 04 01.2 +0.5**
baz=93
W15A Williams 93.06 53 ⇑P **P 20 04 02.7 +1.1**
baz=93
Z14A Wintersburg 93.10 55 ⇓P **P 20 04 02.4 +0.7**
baz=93
X15A Humboldt 93.31 54 ⇑P **P 20 04 03.6 +0.9**
baz=93
WUAZ Wupatki 93.65 52 ⇑P **P 20 04 05.3 +1.0**
baz=93
GERES GERESS Array B 104.26 329 PKiKP PKiKP 20 09 09.0 +1.0

comp=Z,0.4nm,0.8s,baz=45,slow=0.6,SNR=3.6
ESDC Sonseca Array 119.55 332 PKP PKPdf 20 09 36.3 -0.7
comp=Z,0.1nm,0.4s,baz=14,slow=2.3,SNR=5.7
BOSA Boshof 121.66 245 PKP PKPdf 20 09 40.9 -0.1
comp=Z,1.5nm,0.6s,baz=101,slow=5.9,SNR=7.2
BOSA Boshof 121.66 245 PKP PKPdf 20 09 40.9 -0.1
TORD Torodi Ar. Bea 134.55 304 PKP PKPdf 20 10 06.8 +1.2
comp=Z,1.6nm,0.6s,baz=51,slow=1.7,SNR=11
PLCA Paso Flores 139.12 138 PKP PKPdf 20 10 14.5 +0.5
comp=Z,1.2nm,0.7s,baz=176,slow=5.3,SNR=4.6
PLCA Paso Flores 139.12 138 *e*P PKPdf 20 10 14.4 +0.4
LPAZ La Paz 148.52 99 PKPbc PKPbc 20 10 36.0 +1.9
comp=Z,7.5nm,0.7s,baz=294,slow=3.1,SNR=21
LPAZ La Paz 148.52 99 *e*PKPbc PKPbc 20 10 35.8 +1.7

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*ISCJB **24** 19:53:25.9±0.7,3838N±003×2189E±004,h3km±6km, Error ellipse: s-maj=5.7km s-min=4.4km az=12.3*
*CSEM **24** 19:53:26.4±0.1,3836N×2189E,h2km,ML3.3,Error ellipse: s-maj=2.9km s-min=2.7km az=82.0*
*THE **24** 19:53:26.2,3834N×2190E,h10km,ML3.0*
*NEIC **24** 19:53:26.3,3837N×2185E,h18km,ML3.3(ATH),After ATH.*
*ATH **24** 19:53:26.3,3837N×2185E,h18km±2km,MD3.5/8,ML3.3*
ISC 24 19:53:26.4±0.7,3838N±003×2190E±004,h5km±6km,n29,
σ1§05/39,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.47**	**227**	*e*PB	**Pg**	**19 53 34.9**	**-0.5**
RLS				*e*SB	**Sg**	**19 53 42.0**	**+0.5**
EVR	**Evrytania**	**0.54**	**352**	*e*PN	**Pg**	**19 53 36.5**	**-0.3**
EVR				*e*SN	**Sg**	**19 53 45.6**	**+1.8**
AGG	**Agios Georgios**	**0.72**	**27**	*e*Pg	**Pg**	**19 53 39.8**	**-0.5**
AGG				*e*Sg	**Sg**	**19 53 51.5**	**+1.9**
LKR	**Lokris**	**0.90**	**72**	*e*PB	**Pb**	**19 53 43.7**	**-0.8**
LKR				*e*SN	**Sn**	**19 53 58.2**	**-0.9**
LKD	**Levkas**	**1.04**	**289**	*e*Pg	**Pg**	**19 53 44.5**	**-1.7**
LKD				*e*Sg	**Sg**	**19 54 01.3**	**+1.6**
MGER	**Gerania Oros**	**1.14**	**110**	*e*PN	**Pn**	**19 53 49.0**	**+0.1**
THL	**Klokotos Trika**	**1.19**	**4**	*e*PN	**Pn**	**19 53 49.0**	**-0.6**
THL				*e*SN	**Sn**	**19 54 05.9**	**-0.2**
ITM	**Ithomi**	**1.20**	**179**	*e*PN	**Pn**	**19 53 48.8**	**-0.9**
NEO	**Neokhori**	**1.39**	**48**	*e*PN	**Pn**	**19 53 52.4**	**+0.1**
NAIG	**Nisos Aigina**	**1.40**	**116**	*e*PN	**Pn**	**19 53 53.5**	**+1.0**
XOR	**Xorichti**	**1.41**	**45**	*e*Pg	**Pn**	**19 53 52.8**	**+0.1**
ATH	**Athens Observa**	**1.48**	**105**	*e*PN	**Pn**	**19 53 54.0**	**+0.3**
MEV	**Metsovon**	**1.50**	**340**	*e*Pg	**Pg**	**19 53 54.4**	**-0.7**
JAN	**Janina**	**1.52**	**328**	*e*PN	**Pn**	**19 53 55.0**	**+0.9**
PTL	**Penteli**	**1.58**	**101**	*e*PN	**Pn**	**19 53 56.0**	**+1.0**
IGT	**Igoumenitsa**	**1.68**	**314**	*e*Pb	**Pb**	**19 53 57.2**	**-0.6**
AOS	**Alonnisos**	**1.73**	**62**	*e*Pb	**Pb**	**19 53 57.5**	**-1.2**
LIT	**Litokhoron**	**1.78**	**15**	*e*Pb	**Pb**	**19 53 58.1**	**-1.4**
LIT				*e*Sb	**Sb**	**19 54 22.9**	**+0.8**
VLI	**Veliai**	**1.85**	**153**	*e*PN	**Pn**	**19 53 59.7**	**+1.0**
PAIG	**Paliouri**	**2.07**	**41**	*e*Pn	**Pn**	**19 54 01.4**	**-0.4**
FNA	**Florina**	**2.44**	**351**	*e*Pn	**Pn**	**19 54 07.6**	**+0.8**
GRG	**Griva**	**2.60**	**8**	*e*Pn	**Pn**	**19 54 09.9**	**+0.8**
BIA	**Bitola**	**2.67**	**351**	*e*Pn	**Pg**	**19 54 16.3**	**-1.3**
BIA	**Bitola**	**2.67**	**351**	*e*Pn	**Pg**	**19 54 16.3**	**-1.3**
KNT	**Kendrikon**	**2.88**	**15**	*e*Pn	**Pn**	**19 54 13.6**	**+0.6**
VAY	**Valandovo**	**2.98**	**10**	*e*Pn	**Pn**	**19 54 17.2**	**+2.9**
KRUS	**Krusevo**	**3.03**	**351**	*e*Pn	**Pb**	**19 54 17.5**	**-3.3**
KRUS				*e*Sn	**Sb**	**19 54 56.5**	**-1.5**
KRUS	**Krusevo**	**3.03**	**351**	*e*Pn	**Pb**	**19 54 17.5**	**-3.3**
KRUS				*e*Sn	**Sb**	**19 54 56.5**	**-1.5**
KRUS	**Krusevo**	**3.03**	**351**	*e*Pn	**Pb**	**19 54 17.4**	**-3.3**
KRUS				*e*Sn	**Sb**	**19 54 56.4**	**-1.6**

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*ISCJB **24** 19:54:47.2±0.5,3680N±002×3474E±002,h15km±4km, mb3.4/3,Error ellipse: s-maj=3.4km s-min=3.2km az=84.0*
*GRAL **24** 19:54:47.4±1.0,3669N×3434E,h3km±469km,MD3.9*
*HLW **24** 19:54:47.2,3693N×3465E,h33km,Mb3.2*
*CSEM **24** 19:54:47.9±0.1,3688N×3477E,h20km,MD3.8,Error ellipse: s-maj=1.4km s-min=1.1km az=57.0*
*NEIC **24** 19:54:48.2,3688N×3474E,h25km,ML3.7(ISK),After ISK.*
*ISK **24** 19:54:48.2,3688N×3474E,h25km,MD3.8,ML3.7*
*IDC **24** 19:54:49.0±2.5,3688N×3470E,h35km±23km,mb3.4/3, mb1 3.7/8,mb1mx3.4/22,mbtmp3.6/8,ML3.8/5,MS3.2/2, Ms1 3.2/2,ms1mx2.8/25,Error ellipse: s-maj=26.7km s-min=16.2km az=78.0*
*NSSC **24** 19:54:49,3683N×3487E,h22km±8km*
ISC 24 19:54:47.4±0.5,3681N±002×3478E±002,h9km±4km,n84,
σ1§15/113,mb3.4/3,1C-15D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARA	**Karaisali**	**0.51**	**26**	*i* PG	**Pg**	**19 54 58.0**	**+0.8**
KARA				*i* SG	**Sg**	**19 55 05.1**	**+1.3**
KRTS	**Karatas**	**0.53**	**116**	*i* PG	**Pg**	**19 55 01.0**	**+3.3**
KRTS				*i* SG	**Sg**	**19 55 10.6**	**+5.9**
CEYT	**Ceyhan**	**0.80**	**75**	*i* PG	**Pg**	**19 55 03.8**	**+1.0**
IKL	**Isikli**	**1.05**	**238**	*i* PG	**Pg**	**19 55 07.1**	**-0.4**
IKL				*i* SG	**Sg**	**19 55 21.8**	**+0.7**
KOZT	**Kozan**	**1.07**	**51**	*i* PG	**Pg**	**19 55 07.8**	**-0.2**
COBT	**Iskenderun**	**1.22**	**103**	*i* P	**Pn**	**19 55 10.4**	**-0.2**
COBT				*i* S	**Sb**	**19 55 28.2**	**+1.7**
HTY	**Hatay**	**1.29**	**122**	*i* PN	**Pn**	**19 55 11.9**	**+0.3**
ARNB	**Al Arnab**	**1.35**	**134**	⇑P	**Pn**	**19 55 13.0**	**+0.6**
ARNB				⇑S	**Sb**	**19 55 30.0**	**-0.2**
ERMK	**Ermenek**	**1.51**	**264**	*i* P	**Pn**	**19 55 16.2**	**+1.7**
ERMK				*i* S	**Sn**	**19 55 36.7**	**+2.4**
DRWC	**Darouich**	**1.53**	**96**	⇓P	**Pn**	**19 55 14.0**	**-0.8**
DRWC				⇑S	**Sn**	**19 55 33.0**	**-1.8**
DRWC	**Darouich**	**1.53**	**96**	⇓*i*P	**Pn**	**19 55 14.9**	**+0.1**
BTCH	**Batrach**	**1.56**	**119**	⇓P	**Pn**	**19 55 16.0**	**+0.8**
BTCH				⇑S	**Sn**	**19 55 35.0**	**-0.6**
BTCH	**Batrach**	**1.56**	**119**	⇓*i*P	**Pn**	**19 55 16.2**	**+1.0**
SLNF	**Slenfeh**	**1.68**	**136**	⇓P	**Pn**	**19 55 17.0**	**+0.1**
SLNF				⇓S	**Sn**	**19 55 39.0**	**+0.4**
SLNF	**Slenfeh**	**1.68**	**136**	⇓*i*P	**Pn**	**19 55 17.6**	**+0.7**
KMRS	**Kahramanmaras**	**1.83**	**67**	PN	**Pn**	**19 55 18.9**	**-0.1**
HDMB	**Hadim**	**1.84**	**276**	PN	**Pn**	**19 55 19.4**	**+0.2**
WRDH	**Warideh**	**1.85**	**134**	⇓P	**Pn**	**19 55 19.0**	**-0.3**
WRDH				⇓S	**Sn**	**19 55 42.0**	**-0.8**
WRDH	**Warideh**	**1.85**	**134**	⇓*i*P	**Pn**	**19 55 19.8**	**+0.5**
PHNC	**Paralimni** 11nm,0.8s	**1.90**	**199**	P	**Pn**	**19 55 17.9**	**-2.0**
AVNT	**Avonos**	**1.97**	**2**	*i* P	**Pn**	**19 55 20.8**	**-0.1**
AVNT				*i* S	**Sn**	**19 55 48.5**	**+2.8**
GAZ	**Gaziantep**	**1.98**	**79**	PN	**Pn**	**19 55 21.3**	**+0.2**
MAMC	**Mammari**	**2.06**	**218**	P	**Pn**	**19 55 20.5**	**-1.7**
CSS	**Prodhromos**	**2.18**	**213**	P	**Pn**	**19 55 25.8**	**+2.0**
BIDA	**Albida**	**2.18**	**145**	⇓P	**Pn**	**19 55 23.0**	**-0.8**
BIDA				⇑S	**Sn**	**19 55 50.0**	**-1.0**
BIDA	**Albida**	**2.18**	**145**	⇓*i*P	**Pn**	**19 55 23.9**	**+0.1**
BNN	**Bunyan**	**2.21**	**22**	*e*PN	**Pn**	**19 55 24.0**	**-0.2**
KONT	**Konya--Tatoy**	**2.24**	**301**	PN	**Pn**	**19 55 24.5**	**-0.1**
KFRA	**Kufra**	**2.28**	**134**	⇑P	**Pn**	**19 55 25.0**	**-0.2**
KFRA				⇑S	**Sn**	**19 55 55.0**	**+1.5**
KFRA	**Kufra**	**2.28**	**134**	⇑*i*P	**Pn**	**19 55 25.2**	**0.0**
ALFC	**Alevga** 8.0nm,0.2s	**2.42**	**228**	P	**Pn**	**19 55 24.9**	**-2.1**
SZAC	**Souni-Zanaja**	**2.56**	**218**	P	**Pn**	**19 55 30.8**	**+1.8**
AKMC	**Akamas**	**2.66**	**229**	P	**Pn**	**19 55 30.0**	**-0.5**
KAMT	**Kaman**	**2.69**	**342**	*e*PN	**Pn**	**19 55 30.8**	**0.0**
HWQ	**Hawqa**	**2.70**	**159**	*e*Pn	**Pn**	**19 55 31.0**	**+0.1**
HWQ				Sn	**Sn**	**19 56 04.1**	**+0.4**
PPCY	**Paphos**	**2.75**	**227**	P	**Pn**	**19 55 33.2**	**+1.5**
CDAG	**Cicekdag**	**2.83**	**354**	*i* P	**Pn**	**19 55 33.4**	**+0.7**
CDAG				*i* S	**Sg**	**19 56 15.2**	**-3.1**
YOZ	**Yozgat**	**2.86**	**8**	*e*PN	**Pn**	**19 55 33.1**	**-0.1**
FKH	**Fakeheh**	**2.89**	**152**	*e*Pn	**Pn**	**19 55 33.8**	**+0.3**
FKH				Sn	**Sn**	**19 56 08.7**	**+0.3**
BHL	**Bhannes**	**2.98**	**166**	*e*Pn	**Pn**	**19 55 34.3**	**-0.5**
BHL				Sn	**Sn**	**19 56 08.4**	**-2.3**
BR131	**Keskin Array S**	**3.05**	**343**	*e*Pn	**Pn**	**19 55 35.4**	**-0.3**
BR131	**Keskin Array S**	**3.05**	**343**	*e*Pn	**Pn**	**19 55 35.4**	**-0.3**
BRTR	**Keskin Array B** 2.2nm,0.3s,baz=175,slow=14,SNR=44	**3.05**	**343**	Pn	**Pn**	**19 55 35.6**	**-0.1**
BRTR				Pg	**Pg**	**19 55 43.4**	**-2.4**
BRTR	6.0nm,0.3s,baz=164,slow=17,SNR=32			Lg		19 56 24.6	
BRTR	4.5nm,0.3s,baz=166,slow=40,SNR=24 **Keskin Array B**	**3.05**	**343**	Pg	**Pg**	**19 55 43.3**	**-2.5**
KIZT	**Kizilcal**	**3.09**	**313**	*e*PN	**Pn**	**19 55 36.5**	**+0.2**
MYA	**Malataya**	**3.27**	**61**	*e*PN	**Pn**	**19 55 38.8**	**0.0**
URFA	**Urfa**	**3.29**	**78**	*e*PN	**Pn**	**19 55 40.2**	**+1.1**
ROOS	**tl_alroos**	**3.33**	**141**	⇑P	**Pn**	**19 55 40.0**	**+0.3**
ROOS	**tl_alroos**	**3.33**	**141**	⇑*i*P	**Pn**	**19 55 40.6**	**+0.9**
MATL	**Matirih**	**3.34**	**172**	*e*Pn	**Pn**	**19 55 38.7**	**-1.1**
CORM	**Corum**	**3.37**	**358**	*e*PN	**Pn**	**19 55 40.2**	**+0.1**
RCY	**Rachaya**	**3.42**	**165**	*e*Pn	**Pn**	**19 55 40.7**	**-0.2**
RCY				Sn	**Sn**	**19 56 19.6**	**-1.9**
ANTO	**Ankara**	**3.43**	**334**	*e*Pn	**Pn**	**19 55 41.4**	**+0.3**
ANTO	**Ankara**	**3.43**	**334**	*e*Pn	**Pn**	**19 55 41.3**	**+0.3**
BRBR	**Barbar**	**3.52**	**164**	⇑P	**Pn**	**19 55 42.0**	**-0.2**
BRBR	**Barbar**	**3.52**	**164**	⇑*i*P	**Pn**	**19 55 42.8**	**+0.6**
ISP	**Isparta**	**3.56**	**288**	*e*PN	**Pn**	**19 55 43.5**	**+0.8**
SVSK	**Karacayir**	**3.56**	**29**	*e*PN	**Pn**	**19 55 43.0**	**+0.2**
TOTH	**TOTAH**	**3.69**	**158**	⇑P	**Pn**	**19 55 46.0**	**+1.4**
TOTH	**TOTAH**	**3.69**	**158**	⇑*i*P	**Pn**	**19 55 46.1**	**+1.5**
TKTP	**Tekketepe**	**3.76**	**290**	*i* P	**Pn**	**19 55 47.0**	**+1.5**
TKTP				*i* S	**Sg**	**19 56 47.5**	**-0.5**
CTKT	**Corum**	**3.81**	**0**	*i* P	**Pn**	**19 55 47.8**	**+1.6**
CTKT				*i* S	**Sg**	**19 56 48.2**	**-1.5**
MMAI	**Mount Meron Ar** 42nm,0.3s,baz=354,slow=14,SNR=284	**3.82**	**172**	Pn	**Pn**	**19 55 46.2**	**-0.1**
ELDT	**Eldivan**	**3.83**	**344**	*i* P	**Pn**	**19 55 50.4**	**+4.0**
ELDT				*i* S	**Sg**	**19 56 49.0**	**-1.3**
ESKT	**Eskisehir**	**4.11**	**312**	*i* P	**Pn**	**19 55 50.5**	**+0.1**
ESKT				*i* S	**Sg**	**19 56 54.6**	**-4.9**
SEYT	**Eskypehyr**	**4.11**	**312**	*i* P	**Pn**	**19 55 50.5**	**+0.1**
AKAS	**Kas**	**4.21**	**264**	*i* P	**Pb**	**19 55 57.9**	**-3.6**
AKAS				*i* S	**Sb**	**19 56 52.7**	**+0.4**
SALA	**Sala**	**4.39**	**158**	⇑P	**Pn**	**19 55 55.0**	**+0.8**
SALA	**Sala**	**4.39**	**158**	⇑*i*P	**Pn**	**19 55 55.8**	**+1.6**
BOYT	**Boyabat**	**4.61**	**1**	*i* P	**Pn**	**19 55 58.9**	**+1.7**
BOYT				*i* S	**Sg**	**19 57 10.4**	**-5.0**
MARD	**Mardin**	**4.83**	**82**	*i* P	**Pn**	**19 55 59.2**	**-1.0**
MARD				*i* S	**Sg**	**19 57 20.1**	**-2.2**
ASF	**Jabal al Asfar** 3.2nm,0.3s,baz=207,slow=6.2,SNR=33	**4.94**	**159**	Pn	**Pn**	**19 56 03.6**	**+1.8**
ASF				LR	LR	19 57 41.9	
AMAG	comp=Z,125nm,19.3s,baz=110,slow=34 **Maghara**	**6.28**	**192**	⇓P	**Pn**	**19 56 19.5**	**-0.7**
HNKL	**Nakhl**	**6.89**	**186**	⇓P	**Pn**	**19 56 27.9**	**-0.6**
HNKL				S	**Sn**	**19 57 42.1**	**-4.9**
SUZ		**7.13**	**194**	⇓P	**Pn**	**19 56 31.1**	**-0.8**
SUZ				S	**Sn**	**19 57 46.9**	**-6.2**
IDI	**Anoyia** 0.7nm,0.3s,baz=103,slow=8.5,SNR=6.2	**8.15**	**262**	Pn	**Pn**	**19 56 45.2**	**-0.6**
HMAT	**Matruh**	**8.55**	**230**	⇑P	**Pn**	**19 56 49.5**	**-1.8**
HMAT				S	**Sn**	**19 58 19.1**	**-8.9**
AKASG	**Malin Array Be** 0.8nm,0.3s,baz=152,slow=12,SNR=6.4	**14.45**	**346**	Pn	**Pn**	**19 58 16.4**	**+4.4**
AKASG	**Malin Array Be**	**14.45**	**346**	Pn	**Pn**	**19 58 16.4**	**+4.4**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=120,slow=11,SNR=14	**19.51**	**315**	P	**Pn**	**19 59 13.5**	**-2.6**
GERES				LR	LR	20 06 59.8	
AKTK	comp=Z,128nm,19.9s,baz=97,slow=38 **Aktyubinsk**	**21.53**	**43**	P	**P**	**19 59 35.7**	**-1.1**
AKTO	**Aktyubinsk** 1.2nm,0.5s,mb3.5,baz=230,slow=9.7,SNR=5.5	**21.53**	**43**	P	**P**	**19 59 35.7**	**-1.1**
FINES	**FINESS Array B** 1.5nm,0.9s,mb3.5,baz=166,slow=12,SNR=4.7	**25.26**	**350**	P	**P**	**20 00 09.5**	**-4.3**
YKA	**Yellowknife Ar** 0.3nm,0.8s,mb3.3,baz=42,slow=5.6,SNR=4.7	**78.02**	**346**	P	**P**	**20 06 41.8**	**-4.4**

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*IDC **24** 19:56:47.6±0.6,2078S×17438W,h0km,mb4.5/17, mb1 4.7/18,mb1mx4.6/23,mbtmp4.5/18,ML4.5/1,MS4.0/8, Ms1 4.0/8,ms1mx3.7/25,Error ellipse: s-maj=21.4km s-min=14.5km az=139.0*
*ISCJB **24** 19:56:47.9±0.4,2071S±007×17448W±009,h10km, mb4.6/26,MS4.0/8,Error ellipse: s-maj=13.3km s-min=8.8km az=64.9*
*NEIC **24** 19:56:50.0±0.4,2059S×17441W,h15km,mb4.7/12,Error ellipse: s-maj=15.0km s-min=8.8km az=128.0*
*SZGRF **24** 19:56:50.1,2177S×17359W,h33km,Tonga Islands*
*BJI **24** 19:56:50.7,1996S×17404W,h15km,mB5.1,mb4.9,Ms4.7, Msz4.4*
*MOS **24** 19:57:01.5±1.3,1870S×17569W,h33km,mb5.0/8,Error ellipse: s-maj=17.8km s-min=15.0km az=66.5*
ISC 24 19:56:49.4±0.4,2070S±007×17437W±009,h10km,n167,
σ1§09/55,mb4.6/26,MS4.0/8,13C-11D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 26nm,0.3s,baz=207,slow=4.6,SNR=25	**7.19**	**21**	Pn	**Pn**	**19 58 30.7**	**-3.8**
AFI				Sn	Sx	19 59 46.3	
AFI	13nm,0.3s,baz=302,slow=7.7,SNR=3.7 **Afiamalu**	**7.19**	**21**	*e*P	**Pn**	**19 58 29.9**	**-4.6**
AFI				*e*		19 59 36.7	
AFI	comp=Z,75nm,0.4s			pmax	pmax		
AFI	**Afiamalu** comp=Z,75nm,0.4s	**7.19**	**21**	*e*Pn	**Pn**	**19 58 29.9**	**-4.6**
AFI				*e*Sn	Sx	19 59 36.7	
RAR	**Rarotonga** comp=Z,5.4nm,0.3s,baz=229,slow=9.5,SNR=14	**13.65**	**95**	Pn	**Pn**	**19 59 51.1**	**-12**
DZM	**Mont Dzumac** comp=Z,1.2nm,0.3s,baz=85,slow=18,SNR=10	**17.92**	**262**	P	**Pn**	**20 01 03.1**	**+4.4**
URZ	**Urewera** comp=Z,1.3nm,0.3s,baz=27,slow=0.9,SNR=7.4	**18.99**	**201**	P	**Pn**	**20 01 11.4**	**-0.3**
SNZO	**South Karori** comp=Z,4.0nm,0.7s,mb4.4	**22.54**	**202**	P	**P**	**20 01 51.3**	**+1.8**
TBI	**Tubuai** comp=Z,636nm,28.2s	**23.23**	**101**	*e*LR	LR	20 07 20.4	
PPT	**Papeete** comp=Z,732nm,27.2s	**23.62**	**87**	*e*LR	LR	20 07 25.0	
PPT	**Papeete** comp=Z,182nm,21.1s,MS3.5,baz=265,slow=30	**23.62**	**87**	LR	LR	20 08 33.9	
RPZ	**Rata Peaks** comp=Z,9.9nm,0.7s,mb4.4,baz=25,slow=5.9,SNR=7.2	**25.98**	**205**	P	**P**	**20 02 20.6**	**-1.5**
HNR	**Honiara** comp=Z,314nm,19.2s,MS3.9,baz=0.3,slow=33	**27.17**	**291**	LR	LR	20 11 36.3	
CTA	**Charters Tower** comp=Z,4.0nm,0.7s,mb4.4	**36.85**	**264**	*e*P	**P**	**20 03 57.8**	**0.0**
CTA	**Charters Tower** comp=Z,5.3nm,0.6s,mb4.6,baz=91,slow=9.6,SNR=20	**36.85**	**264**	P	**P**	**20 03 58.0**	**+0.2**
CTA				LR	LR	20 17 32.2	
CTA	comp=Z,211nm,18.3s,MS4.0,baz=90,slow=34 **Charters Tower**	**36.85**	**264**	*e*P	**P**	**20 03 57.8**	**0.0**
CTA	comp=Z,4.0nm,0.7s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,5.0nm,0.6s,mb4.5	**36.85**	**264**	*e*P	**P**	**20 03 58.3**	**+0.5**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,5.1nm,0.6s,mb4.5	**36.85**	**264**	*e*P	**P**	**20 03 58.3**	**+0.5**
PMG	**Port Moresby** comp=Z,10nm,0.7s,mb4.7,baz=99,slow=12,SNR=3.9	**38.71**	**281**	P	**P**	**20 04 13.7**	**+0.3**
PMG				LR	LR	20 16 30.4	
PMG	comp=Z,137nm,20.8s,MS3.8,baz=274,slow=30 **Port Moresby**	**38.71**	**281**	*e*P	**P**	**20 04 13.8**	**+0.3**
PMG				pmax	pmax		
PMG	comp=Z,10.0nm,0.7s **Port Moresby**	**38.71**	**281**	*e*P	**P**	**20 04 13.8**	**+0.3**
STKA	comp=Z,10nm,0.7s,mb4.7 **Stephens Creek**	**40.77**	**245**	*e*P	**P**	**20 04 30.2**	**-0.5**
STKA	comp=Z,3.3nm,0.7s,mb4.1 **Stephens Creek**	**40.77**	**245**	P	**P**	**20 04 30.1**	**-0.6**
ASAR	comp=Z,2.8nm,0.5s,mb4.1,baz=88,slow=11,SNR=11 **Alice Springs**	**47.78**	**256**	P	**P**	**20 05 26.1**	**-0.6**
WB2	comp=Z,6.4nm,0.7s,mb4.8,baz=99,slow=7.7,SNR=128 **Warramunga Arr**	**47.93**	**261**	*e*P	**P**	**20 05 26.7**	**-1.2**
WRA	**Warramunga Arr** comp=Z,4.4nm,0.7s,mb4.6,baz=99,slow=7.0,SNR=78	**47.94**	**261**	P	**P**	**20 05 26.7**	**-1.2**
WRA				PcP	PcP	20 06 57.0	+0.8
KAKA	comp=Z,1.9nm,0.7s,baz=96,slow=3.4,SNR=5.1 **Kakadu**	**51.38**	**270**	*e*P	**P**	**20 05 53.8**	**-0.4**
FITZ	comp=Z,8.9nm,0.6s,mb4.9 **Fitzroy Crossi**	**56.37**	**262**	*e*P	**P**	**20 06 31.7**	**+1.0**
FITZ	comp=Z,9.2nm,1.5s,mb4.6 **Fitzroy Crossi**	**56.37**	**262**	P	**P**	**20 06 30.6**	**-0.1**
SBA	comp=Z,1.3nm,0.3s,mb4.4,baz=65,slow=7.5,SNR=16 **Scott Base**	**57.92**	**185**	*e*P	**P**	**20 06 43.5**	**+1.8**
VNDA	comp=Z,2.6nm,0.7s,mb4.4 **Vanda**	**58.04**	**186**	P	**P**	**20 06 43.1**	**+0.6**
VNDA	comp=Z,1.6nm,0.9s,mb4.0,baz=26,slow=7.3,SNR=5.7 **Vanda**	**58.04**	**186**	*e*P	**P**	**20 06 43.1**	**+0.6**
KLBR	comp=Z,2.2nm,0.8s,mb4.2 **Kellerberrin**	**61.05**	**245**	*e*P	**P**	**20 07 03.0**	**-0.3**
NWAO	comp=Z,22nm,0.9s,mb5.3 **Narrogin (SRO)**	**61.31**	**243**	P	**P**	**20 07 05.3**	**+0.2**
MUN	comp=Z,8.4nm,0.8s,mb4.9,baz=123,slow=10 **Mundaring**	**62.30**	**244**	*e*P	**P**	**20 07 12.1**	**+0.4**
QSPA	**South Pole Qui** comp=Z,19nm,1.1s,mb4.9	**69.37**	**180**	*e*P	**P**	**20 07 56.9**	**-0.3**
MJAR	**Matsushiro Arr** comp=Z,8.4nm,0.9s,mb4.7,baz=159,slow=5.9,SNR=18	**72.43**	**322**	P	**P**	**20 08 16.5**	**+0.6**
MAT	**Matsushiro**	**72.43**	**322**	P	**P**	**20 08 16.1**	**+0.2**
JNU	**Nakatsue** comp=Z,12nm,0.9s,mb4.8,baz=245,slow=20,SNR=5.6	**74.79**	**315**	P	**P**	**20 08 31.7**	**+2.0**
NVAR	**Mina Array Bea** comp=Z,4.5nm,0.8s,mb4.5,baz=226,slow=8.5,SNR=27	**78.87**	**42**	P	**P**	**20 08 53.0**	**+0.3**
KSRS	**Korea Array** comp=Z,2.8nm,0.7s,mb4.3,baz=128,slow=6.4,SNR=12	**79.32**	**317**	P	**P**	**20 08 57.3**	**+2.1**
HABR	**Khabarovsk**	**82.34**	**329**	*e*P	**P**	**20 09 10.6**	**-0.7**
MAW	**Mawson** comp=Z,132nm,18.8s,MS4.3,baz=243,slow=33	**82.51**	**199**	LR	LR	20 41 43.4	
MSU	**Marysvale**	**82.83**	**44**	*e*P	**P**	**20 09 14.8**	**+0.9**
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,mb3.9,baz=242,slow=2.7,SNR=4.0	**84.32**	**56**	P	**P**	**20 09 24.2**	**+2.6**
TXAR	**Lajitas Array**	**84.32**	**56**	P	**P**	**20 09 24.2**	**+2.6**
TTA	**Tatalina**	**84.60**	**8**	*e*P	**P**	**20 09 22.8**	**-0.2**
TTA	comp=Z,30nm,1.3s,mb5.3			pmax	pmax		
TTA	**Tatalina** comp=Z,30nm,1.3s,mb5.3	**84.60**	**8**	*e*P	**P**	**20 09 22.8**	**-0.2**
ANMO	**Albuquerque**	**84.90**	**50**	⇓*e*P	**P**	**20 09 25.1**	**+0.6**
PLCA	**Paso Flores** comp=Z,82nm,21.5s,MS4.1,baz=184,slow=28	**86.65**	**132**	LR	LR	20 37 29.4	
BW06	**Boulder Array**	**86.81**	**42**	*e*P	**P**	**20 09 31.9**	**-2.0**
PDAR	**Pinedale Array** comp=Z,1.1nm,0.8s,mb4.1,baz=189,slow=3.1,SNR=6.8	**86.81**	**42**	P	**P**	**20 09 33.2**	**-0.7**
SYO	**Syowa Base**	**87.25**	**192**	⇑*e*P	**P**	**20 09 34.4**	**-1.7**
SEY	**Seymchan**	**87.38**	**345**	*i* P	**P**	**20 09 36.3**	**-0.4**
COLA	**College**	**87.71**	**11**	⇓*e*P	**P**	**20 09 37.2**	**-1.1**
PSI	**Prapat** comp=Z,3.9nm,0.3s,mb5.1,baz=138,slow=2.8,SNR=16	**87.90**	**274**	P	**P**	**20 09 38.6**	**-0.6**
BILL	**Bilibino**	**89.62**	**353**	⇓*e*P	**P**	**20 09 46.9**	**-0.4**
BILL	comp=Z,3.0nm,0.8s,mb4.7			pmax	pmax		
XAN	**Xi'an**	**90.98**	**306**	P	**P**	**20 09 55.0**	**+1.4**
XAN				AP	pP	20 10 04.5	+7.5
XAN	comp=Z,12nm,1.6s,mb5.0			AMB	AMB		
KMI	**Kunming**	**92.48**	**296**	P	**P**	**20 10 03.6**	**+3.0**
KMI	comp=Z,12nm,1.1s,mb5.1			AMB	AMB		
KMI	comp=Z,70nm,6.4s			AMB	AMB		
KMI	**Kunming** comp=Z,12nm,1.1s,mb5.1	**92.48**	**296**	P	**P**	**20 10 03.6**	**+3.0**
YAK	**Yakutsk**	**93.59**	**337**	*i* P	**P**	**20 10 04.9**	**-0.9**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.6s,mb4.1,baz=238,slow=4.6,SNR=14	**95.30**	**24**	P	**P**	**20 10 12.6**	**-1.0**
ULM	**Lac du Bonnet** comp=Z,129nm,18.5s,MS4.5,baz=1.4,slow=33	**98.60**	**40**	LR	LR	20 51 09.6	
LPAZ	**La Paz** comp=Z,68nm,19.9s,MS4.1,baz=278,slow=30	**99.83**	**111**	LR	LR	20 45 18.6	
TIXI	**Tiksi**	**99.83**	**344**	⇑*e*P	Pdif	20 10 31.1	-2.9
TIXI	comp=Z,3.0nm,1.1s,mb4.6			pmax	pmax		
ZAL	**Zalesovo** comp=Z,1.0nm,0.7s,baz=322,slow=4.5,SNR=6.6	**112.79**	**321**	PKiKP	PKiKP	20 15 25.7	-0.7
ZAL	**Zalesovo**	**112.79**	**321**	PKPdf	PKiKP	20 15 25.7	-0.7
KURK	**Kurchatov**	**116.44**	**317**	*e*PKIKP	PKPdf	20 15 31.8

KHC	Kasperske Hory	150.93	349	‖ *i* PKIKP	PKPbc	20 16 42.8	+0.5
KHC	Kasperske Hory	150.93	349	*e* PKP	PKPbc	20 16 42.3	0.0
KHC				*e*		20 16 56.0	
WET	Wettzell	151.03	350	*e* PKPbc	PKPbc	20 16 42.5	0.0
ZST	Bratislava	151.05	344	*e* PKP	PKPbc	20 16 43.4	+0.8
WLF	Walferdange	151.09	359	*e* PKPbc	PKPbc	20 16 43.0	+0.3
WLF	Walferdange	151.09	359	PKPbc	PKPbc	20 16 43.3	+0.7
GERES	GERESS Array B	151.18	349	PKPbc	PKPbc	20 16 42.8	0.0
	comp=Z,3.4nm,0.7s,baz=19,slow=2.3,SNR=37						
FLN	La Foliniere	151.57	9	*e* PKP1	PKPbc	20 16 43.0	-0.8
CONA	Conrad Observa	151.60	345	⇑ *i* PKiKP	PKiKP	20 16 44.2	0.0
	comp=Z,7.4nm,0.8s						
LDF	La Drutiiere	151.79	8	*e* PKP1	PKPbc	20 16 43.4	-0.9
BZS	Buzias	151.88	336	⇑ *i* P	PKPbc	20 16 44.3	-0.2
GRR	Gorron	151.88	9	*e* PKP1	PKPbc	20 16 43.8	-0.7
	comp=Z,22nm,0.8s						
FUR	Furstenfeldbru	152.22	352	*e* PKPbc	PKPbc	20 16 45.2	0.0
MEZF	Maizieres J'vi	152.26	1	*e* PKP1	PKPbc	20 16 45.3	0.0
	comp=Z,24nm,1.1s						
CDF	Champ du Feu	152.32	358	*e* PKP1	PKPbc	20 16 45.3	-0.2
	comp=Z,8.4nm,0.7s						
BFO	Black Forest	152.35	356	*e* PKPbc	PKPbc	20 16 45.4	-0.1
HAU	Haudompre	152.75	359	*e* PKP1	PKPbc	20 16 46.1	-0.3
	comp=Z,6.9nm,0.7s						
HINF	Hinteralfeld	152.93	358	*e* PKP1	PKPbc	20 16 46.0	-0.8
	comp=Z,4.2nm,0.7s						
WATA	Walderalm	152.99	351	⇑ *i* P	PKPbc	20 16 46.6	-0.3
	comp=Z,2.0nm,0.9s						
PERS	Pernice	152.99	346	*i* PKPbc	PKPbc	20 16 46.6	-0.4
WTTA	Wattenberg	153.05	351	⇑ *i* P	PKPbc	20 16 47.0	-0.1
	comp=Z,7.3nm,0.7s						
LOR	Lormes	153.46	3	*e* PKP1	PKPbc	20 16 47.7	-0.3
SSF	Saint Saulge	153.65	3	⇑ *i* PKP1	PKPbc	20 16 48.1	-0.3
	comp=Z,7.7nm,0.9s						
AVF	Avril sur Loir	153.91	4	*e* PKP1	PKPbc	20 16 48.2	-0.8
BOJS	Bojanci	154.02	344	*i* PKPbc	PKPbc	20 16 49.7	+0.5
SMF	Signal de Mont	154.08	3	*e* PKP1	PKPbc	20 16 49.0	-0.3
BGF	Bois d'Agland	154.11	4	*e* PKP1	PKPbc	20 16 48.9	-0.5
	comp=Z,10nm,0.9s						
CABF	La Chapelle	154.15	359	*e* PKP1	PKPbc	20 16 49.8	+0.3
TORD	Torodi Ar. Bea	171.60	153	PKPab	PKPab	20 18 18.7	-0.7
	comp=Z,0.6nm,0.9s,baz=212,slow=3.0,SNR=2.4						

*ISCJB **24** 20:04:23.9±1.6, 1332N±006×1259E±0.1, h33km±16km, mb4.2/13, Error ellipse: s-maj=18.8km s-min=9.7km az=146.6*
*MAN **24** 20:04:24.2, 1331N×12577E, h77km, mb3.0, ML4.3, MS6.4*
*NEIC **24** 20:04:31.6±2.2, 1328N×12594E, h88km±21km, mb4.6/5, Error ellipse: s-maj=16.9km s-min=9.3km az=73.0*
*IDC **24** 20:04:45.8±3.4, 1310N×12575E, h235km±33km, mb3.4/8, mb1 3.5/8, mb1mx3.3/19, mbtmp3.4/8, Error ellipse: s-maj=53.6km s-min=11.4km az=75.0*

ISC 24 20:04:24.6±3.1, 1332N±005×12582E±008, h24km±23km, n29, σ1°91°/31, mb4.2/13, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Cataman	1.38	235	*e* P	Pn	20 04 47.7	-0.7
CNP				*e* S	Sn	20 05 06.1	+0.2
OCLP	Ormoc	2.54	208	*e* P	Pn	20 05 04.9	+0.5
MSLP	Maasin	3.30	197	*e* P	Pn	20 05 15.6	+0.8
RCP	Roxas	3.47	240	⇑ *e* P	Pn	20 05 18.0	+0.8
OTRP	Odiongan	3.82	256	*e* P	Pn	20 05 22.1	+0.1
BOAC	Boac	3.87	273	*e* P	Pn	20 05 21.6	-1.0
POLP	Polilio Island	4.02	291	*e* P	Pn	20 05 24.9	+0.3
GUIM	Jordan	4.14	230	*e* P	Pn	20 05 25.6	-0.7
CAUP	Cauayan	5.28	314	*e* P	Pn	20 05 40.8	-1.2
TATO	Taipei	12.30	341	Pn	Pn	20 07 24.1	+6.0
QIZ	Qiongzhong	16.36	292	Pn	Pn	20 08 17.9	+5.3
	15nm,1.0s						
KSRS	Korea Array	24.11	4	P	P	20 09 41.4	+2.9
	5.2nm,1.1s,mb3.9,baz=172,slow=9.3,SNR=8.4						
MAJO	Matsushiro	25.66	24	P	P	20 09 52.5	0.0
CM31	Chiang Mai Arr	26.34	285	*e* P	P	20 10 01.3	+2.7
PMG	Port Moresby	30.96	136	*e* P	P	20 10 39.2	-0.6
FITZ	Fitzroy Crossi	31.22	180	P	P	20 10 44.5	+2.5
	1.4nm,0.4s,mb4.1,baz=34,slow=3.6,SNR=7.2						
WRA	Warramunga Arr	34.09	166	P	P	20 11 05.7	-1.6
	1.3nm,0.9s,mb3.9,baz=344,slow=10,SNR=5.3						
WRA				S	S	20 16 13.1	-19
	0.4nm,0.8s,baz=335,slow=22,SNR=7.9						
ASAR	Alice Springs	37.59	168	P	P	20 11 37.0	-0.2
	0.5nm,0.4s,mb3.6,baz=350,slow=6.4,SNR=14						
SONM	Songino Array	38.03	339	P	P	20 11 41.3	+0.3
	2.4nm,1.0s,mb3.9,baz=157,slow=8.7,SNR=11						
STKA	Stephens Creek	47.41	162	P	P	20 12 56.4	-0.6
	2.6nm,0.8s,mb4.2,baz=333,slow=9.5,SNR=4.4						
STKA	Stephens Creek	47.41	162	P	P	20 12 56.4	-0.6
PET	Petropavlovsk	47.43	26	P	P	20 12 58.3	+1.1
YAK	Yakutsk	48.72	2	*e* P	P	20 13 08.5	+1.3
	6.7nm,1.1s,mb4.6						
KURK	Kurchatov	53.34	324	*e* P	P	20 13 40.9	-1.0
	7.5nm,0.9s,mb4.6						
BVAR	Borovoye Array	58.93	325	P	P	20 14 22.0	+0.1
	0.6nm,0.6s,mb3.8,baz=77,slow=6.7,SNR=6.1						
BRVK	Borovoye	59.01	325	*e* P	P	20 14 21.8	-0.6
	4.7nm,1.1s,mb4.4						
INK	Inuvik	81.64	22	*e* P	P	20 16 39.9	-0.7
	49nm,0.9s,mb5.4						
FINES	FINESS Array B	83.02	332	P	P	20 16 47.3	-0.6
	1.9nm,1.0s,mb4.1,baz=62,slow=7.1,SNR=2.7						
YKA	Yellowknife Ar	91.17	24	P	P	20 17 26.6	-0.9
	0.4nm,0.9s,mb3.8,baz=300,slow=4.7,SNR=6.1						

*CSEM **24** 20:08:25.3±1.1, 3932N×2995W, h0km, ML2.5, Error ellipse: s-maj=25.8km s-min=9.5km az=42.0, After PDA*
*PDA **24** 20:08:25.3±1.1, 3932N×2995W, h0km, MD3.4, ML2.5, Error ellipse: s-maj=25.8km s-min=9.5km az=42.0*

SVSA 24 20:08:25.3±1.1, 3932N×2995W, h0km, MD3.4, ML2.5, Error ellipse: s-maj=25.8km s-min=9.5km az=42.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	Ponta do Capel	1.16	129	*e* S	Sg	20 08 58.0	-4.6
PTCA							
	19nm,0.2s						
PCED	Cedros	1.19	125	*e* P	Pg	20 08 43.8	-4.3
PCED				*e* S	Sg	20 08 58.0	-5.6
PCED							
	67nm,0.4s						
PCED	Cedros	1.19	125	*e* P	Pg	20 08 43.8	-4.3
PCED				*e* S	Sg	20 08 58.0	-5.6
CALA	Caldeira	1.22	127	*e* S	Sg	20 08 59.4	-5.1
HOR	Horta	1.30	127	*e* S	Sg	20 09 01.1	-5.9
PCND	Candelaria	1.44	126	*e* P	Pn	20 08 48.1	-4.5
PCND				*e* S	Sg	20 09 04.8	-6.7
PCND							
	30nm,0.2s						
PICO	Pico	1.44	124	*e* P	Pn	20 08 48.0	-4.6
PICO				*e* S	Sg	20 09 04.9	-6.7
ROSA	Rosais	1.46	114	*e* S	Sg	20 09 05.0	-7.1
PTEI	Pico do Teixo	1.49	123	*e* S	Sg	20 09 05.7	-7.5
PTEI							
	25nm,0.3s						
PBOI	Pico dos Bois	1.51	125	*e* P	Sg	20 09 06.3	-7.6
PID	Ribeirinha	1.67	121	*e* S	Sn	20 09 10.4	-7.6

IDC 24 20:27:24.9±7.6, 2178N×14222E, h392km±85km, mb3.0/6, mb1 3.3/7, mb1mx3.2/20, mbtmp3.0/7, Error ellipse: s-maj=45.0km s-min=14.8km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	19.92	325	P	P	20 31 28.0	-1.0
	baz=144,slow=9.7,SNR=8.8						
SONM	Songino Array	38.70	321	P	P	20 34 14.1	+1.3
	1.2nm,0.7s,baz=126,slow=7.2,SNR=13						
WRA	Warramunga Arr	42.18	191	P	P	20 34 40.2	-0.7
	1.7nm,0.8s,baz=13,slow=8.4,SNR=5.2						
ASAR	Alice Springs	45.89	191	P	P	20 35 10.7	+0.7
	0.5nm,0.7s,baz=21,slow=9.8,SNR=12						
YKA	Yellowknife Ar	76.80	28	P	P	20 38 34.0	-0.5
	0.5nm,0.6s,baz=292,slow=5.4,SNR=9.0						
NVAR	Mina Array Bea	83.79	51	P	P	20 39 12.5	+1.2
	1.2nm,0.9s,baz=263,slow=5.4,SNR=7.1						
AKASG	Malin Array Be	86.91	324	P	P	20 39 25.3	-1.2
	0.1nm,0.4s,baz=323,slow=5.9,SNR=3.2						
LPAZ	La Paz	150.83	85	PKP	PKPdf	20 46 37.2	+12
	1.1nm,0.7s,baz=45,slow=4.3,SNR=5.6						

WEL 24 20:37:24.7±0.6, 4498S×16690E, h12km, ML3.6/9, 2C, Error ellipse: s-maj=6.3km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.53	161	⇑ P*	Pb	20 37 34.5	-1.3
DCZ				S*	Sb	20 37 41.6	-1.8
MSZ	Milford Sound	0.79	67	P*	Pb	20 37 38.9	-1.5
MSZ				S*	Sb	20 37 49.4	-1.7
MLZ	Mavora Lakes	0.97	113	P*	Pb	20 37 41.9	-1.4
MLZ				*e* S*	Sb	20 37 54.5	-1.6
WHZ	Wether Hill Ro	1.17	142	⇑ P*	Pb	20 37 45.2	-1.6
WKZ	Wanaka	1.51	85	PN	Pn	20 37 51.6	+0.1
JCZ	Jackson Bay	1.61	56	*e* PN	Pn	20 37 53.6	+0.8
EAZ	Earnscleugh	1.72	99	PN	Pn	20 37 54.6	+0.2
APZ	The Paps	2.00	158	*e* PN	Pn	20 37 57.0	-1.2
SYZ	Scrubby Hill	2.21	136	PN	Pn	20 38 00.2	-0.9
LBZ	Lake Benmore	2.41	77	*e* PN	Pn	20 38 02.7	-1.3
FOZ	Fox Glacier	2.45	56	PN	Pn	20 38 01.9	-2.6
ODZ	Otahua Downs	2.65	93	PN	Pn	20 38 06.2	-1.0
HHSZ	Highcliff Hill	2.75	110	*e* PN	Pn	20 38 08.2	-0.4
WVZ	Waitaha Valley	3.36	57	PN	Pn	20 38 13.3	-3.6

*CSEM **24** 20:45:43.7, 1213N×4390E, h4km, ML3.5, After DHMR*

DHMR 24 20:45:43.7±0.9, 1213N×4390E, h5km±4km, ML3.5, 1C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.11	11	‖ *i* P	Pg	20 46 04.5	-0.5
TRBA				*i* S	Sg	20 46 20.8	+1.3
TRBA				AML	AML	20 46 22.1	
	comp=Z,1μm,0.4s						
ADEN	Aden	1.24	59	*i* P	Pg	20 46 06.2	-1.2
ADEN				*i* S	Sg	20 46 24.8	+1.3
ADEN				AML	AML	20 46 31.2	
	comp=E,1μm,0.5s						
ADEN	Aden	1.24	59	*i* P	Pg	20 46 06.2	-1.2
ADEN				*i* S	Sg	20 46 24.8	+1.3
	comp=E,564nm,0.5s						
UDYN	Al 'Udayn	1.83	2	*i* P	Pn	20 46 17.4	+1.6
UDYN				*i* S	Sn	20 46 42.3	+3.0
UDYN				AML	AML	20 46 49.6	
	comp=N,538nm,0.4s						
UDYN	Al 'Udayn	1.83	2	*i* P	Pn	20 46 17.4	+1.6
UDYN				*i* S	Sn	20 46 42.3	+3.0
	comp=N,269nm,0.4s						
LBOS		2.17	37	*i* P	Pn	20 46 22.3	+1.7
LBOS				*i* S	Sn	20 46 52.2	+4.3
BDHA	Al Bayda'	2.45	41	‖ *i* P	Pn	20 46 26.7	+2.4
BDHA				*i* S	Sn	20 47 00.5	+5.8
DHBB	Dhamar BB	2.47	11	*i* P	Pn	20 46 26.9	+2.2
DHBB				*i* S	Sn	20 47 00.9	+5.6

CASC 24 20:48:47.0±2.0, 879N×8286W, h18km±6km, MD4.0, 3C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	Cotoan	0.14	42	‖ *i* P	Pg	20 48 52.4	+1.3
BRU2	Volcan	0.16	89	*e* S	Sg	20 48 54.9	+0.5
BRU	Baru	0.29	87	*e* P	Pg	20 48 54.2	+0.8
ACR	Cerro Adams	0.34	246	⇑ *i* P	Pg	20 48 54.6	+0.4
DVD	David	0.53	131	⇑ *i* P	Pg	20 48 57.0	-0.7
DVD				*e* S	Sg	20 49 03.8	-1.1
CNI	Changuinola	0.70	28	‖ *e* P	Pb	20 49 00.5	-0.3
BUS	Buena Vista	1.17	310	*e* P	Pn	20 49 08.0	-0.5
BUS				*e* S	Sb	20 49 24.7	+1.3
LCR2	La Lucha 2	1.48	310	*e* P	Pn	20 49 12.6	0.0
LAJ	Bijagual	1.64	311	*e* P	Pn	20 49 19.4	+4.5
PRS1	Puriscal	1.86	310	⇑ *e* P	Pn	20 49 18.0	0.0
PRS1				*e* S	Sn	20 49 41.1	+0.1
CGA2	Cerro Gallo 2	2.00	308	*e* P	Pn	20 49 20.7	+0.8
CGA2				*e* S	Sn	20 49 44.5	+0.1
AZU	Azuero	2.74	111	*e* P	Pn	20 49 31.3	+1.3

DHMR 24 20:53:34.5±1.5, 1185N×4299E, h11km±16km, ML3.7, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.75	39	‖ *i* P	Pn	20 54 06.5	+1.7
TRBA				*i* S	Sn	20 54 30.4	+3.3
UDYN	Al 'Udayn	2.31	24	‖ *i* P	Pn	20 54 15.1	+2.7
UDYN				*i* S	Sn	20 54 45.3	+4.6
UDYN				AML	AML	20 54 54.3	
	comp=Z,756nm,0.9s						
LBOS		2.98	47	*i* P	Pn	20 54 24.6	+3.0
LBOS				*i* S	Sn	20 55 03.8	+6.5
DHBB	Dhamar BB	3.03	27	*i* P	Pn	20 54 24.6	+2.4
DHBB				*i* S	Sn	20 55 06.0	+7.6
BDHA	Al Bayda'	3.28	50	*i* P	Pn	20 54 28.8	+3.0
BDHA				*i* S	Sn	20 55 11.0	+6.3
BDHA				AML	AML	20 55 29.3	
	comp=E,276nm,0.5s						
BDHA	Al Bayda'	3.28	50	*i* P	Pn	20 54 28.8	+3.0
BDHA				*i* S	Sn	20 55 11.0	+6.3
	comp=E,138nm,0.5s						

WEL 24 21:00:16.9±0.4, 4096S×17286E, h213km±2km, ML3.5/8, 5C, Error ellipse: s-maj=3.2km s-min=2.8km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.28	297	⇑ PN	Pn	21 00 44.5	-0.3
QRZ				SN	S	21 01 05.0	-1.6
NNZ	Nelson	0.47	124	⇑ PN	Pn	21 00 45.4	0.0
NNZ				SN	S	21 01 06.6	-1.0
THZ	Tophouse	0.80	178	⇑ PN	Pn	21 00 47.1	+0.3
THZ				SN	S	21 01 09.9	-0.2
DUWZ	D'Urville Isla	0.82	79	PN	Pn	21 00 47.0	+0.1
TUWZ	Tuamarina	0.94	120	PN	Pn	21 00 47.8	+0.2
BSWZ	Blackbirch Sta	1.07	135	PN	Pn	21 00 48.6	+0.2
TCW	Tory Channel	1.10	104	PN	Pn	21 00 48.7	+0.1
TCW				SN	S	21 01 12.0	-1.3
DSZ	Denniston Nort	1.12	225	⇑ PN	Pn	21 00 48.3	-0.5
MRW	Makara Radio	1.42	102	PN	Pn	21 00 50.8	-0.2
SNZO	South Karori	1.44	105	PN	Pn	21 00 50.9	-0.3
KHZ	Kahutara	1.54	161	⇑ PN	Pn	21 00 51.7	-0.3
KIW	Kapiti Island	1.55	87	PN	Pn	21 00 52.0	-0.2
CAW	Cannon Point	1.68	96	PN	Pn	21 00 52.9	-0.3
LTZ	Lake Taylor	1.88	193	PN	Pn	21 00 54.7	-0.4
MTW	Mount Morrison	2.01	97	PN	Pn	21 00 56.1	-0.3
WAZ	Wanganui	2.02	54	PN	Pn	21 00 56.3	-0.2
MRZ	Mangatainoka R	2.08	83	PN	Pn	21 00 56.7	-0.5
MRZ				SN	S	21 01 26.4	-2.3
TSZ	Takapari Road	2.53	70	PN	Pn	21 01 01.4	-0.5
BFZ	Birch Farm	2.58	85	PN	Pn	21 01 02.1	-0.4
WVZ	Waitaha Valley	2.64	216	PN	Pn	21 01 01.9	-1.2
MOVZ	Moawhango	2.70	56	PN	Pn	21 01 02.2	-1.6
TUVZ	Tukino	2.73	53	PN	Pn	21 01 02.8	-1.2
TWVZ	Taurewa	2.73	47	PN	Pn	21 01 02.4	-1.7
WTVZ	West Tongariro	2.79	50	PN	Pn	21 01 03.3	-1.4
FOZ	Fox Glacier	3.51	221	PN	Pn	21 01 10.2	-3.0

*ISCJB **24** 21:33:54.7±1.0, 212S±0.1×179.22W±0.08, h608km±15km, mb3.7/15, Error ellipse: s-maj=16.9km s-min=9.8km az=127.1*
*NEIC **24** 21:33:55.9±1.1, 2109S×179.19W, h614km±14km, mb3.9/9, Error ellipse: s-maj=15.2km s-min=11.6km az=156.0*
*IDC **24** 21:33:58.7±2.3, 2124S×179.31W, h645km±28km, mb3.0/9, mb1 3.3/11, mb1mx3.2/17, mbtmp3.0/11, Error ellipse: s-maj=20.3km s-min=13.6km az=174.0*

ISC 24 21:33:54.6±1.0, 212S±01×17912W±008, h590km±14km, n34, σ0°82/29, mb3.7/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.07	45	P	P	21 36 13.9	+0.1
	3.9nm,0.3s,baz=264,slow=0.2,SNR=6.7						
AFI	Afiamalu	10.07	45	*e* P	P	21 36 14.8	+1.0
AFI				*e* S	S	21 38 07.1	-1.0
DZM	Mont Dzumac	13.46	264	P	P	21 36 48.5	+0.5
	0.4nm,0.3s,baz=52,slow=21,SNR=5.1						
URZ	Urewera	17.32	190	P	P	21 37 24.0	-0.3
	1.2nm,0.3s,baz=297,slow=5.3,SNR=8.8						
HNR	Honiara	23.30	297	P	P	21 38 18.4	+0.3
CTA	Charters Tower	32.39	266	*e* P	P	21 39 37.8	+0.7
	2.7nm,0.5s,mb4.1						
CTA	Charters Tower	32.39	266	P	P	21 39 36.9	-0.2
	4.6nm,0.6s,mb4.3,baz=102,slow=9.1,SNR=11						
CTAO	Charters Tower	32.39	266	*e* P	P	21 39 38.0	+0.9
	3.3nm,0.4s,mb4.3						
PMG	Port Moresby	34.49	285	P	P	21 39 54.2	-0.5
STKA	Stephens Creek	36.55	245	P	P	21 40 11.9	+0.2
	2.5nm,1.0s,mb3.7,baz=124,slow=20,SNR=4.7						
ASAR	Alice Springs	43.34	258	P	P	21 41 06.0	+0.2
	1.3nm,0.5s,mb3.8,baz=94,slow=8.2,SNR=14						
ASAR				PcP	PcP	21 42 40.2	-0.6
	1.0nm,0.6s,baz=106,slow=4.2,SNR=8.1						
ASAR				S	S	21 46 47.5	-4.1
	0.8nm,0.9s,baz=84,slow=14,SNR=5.3						
WB2	Warramunga Arr	43.46	263	*e* P	P	21 41 05.8	-0.9
WRA	Warramunga Arr	43.47	263	P	P	21 41 06.6	-0.2
	0.5nm,0.3s,mb3.6,baz=96,slow=7.5,SNR=16						
SBA	Scott Base	57.12	184	*e* P	P	21 42 47.6	+1.6
	2.8nm,0.6s,mb3.7						
NWAO	Narrogin (SRO)	57.13	244	*e* P	P	21 42 45.7	-0.3
	1.5nm,0.5s,mb3.5						
VNDA	Vanda	57.13	185	P	P	21 42 45.8	-0.3
	1.0nm,0.5s,mb3.3,baz=0.4,slow=4.7,SNR=10						
VNDA	Vanda	57.13	185	*e* P	P	21 42 46.5	+0.5
	0.8nm,0.4s,mb3.3						
QSPA	South Pole Qui	68.88	180	*e* P	P	21 44 01.2	-0.1
	3.9nm,0.7s,mb4.0						
MAW	Mawson	80.56	200	P	P	21 45 06.0	-0.4
LPIG	La Paz	80.66	60	P	P	21 45 09.1	+2.1
	16nm,0.4s,mb4.8,baz=163,slow=9.1,SNR=2.5						
PMSA	Palmer Station	81.07	157	*e* P	P	21 45 08.5	-0.6
	10nm,1.1s,mb4.2						
NVAR	Mina Array Bea	82.24	44	P	P	21 45 15.0	0.0
	0.2nm,0.5s,mb2.9,baz=232,slow=6.4,SNR=3.8						
SNAA	Sanae	87.35	179	*e* P	P	21 45 37.5	-2.2
	0.9nm,0.5s,mb3.8						
TXAR	Lajitas Array	88.31	58	P	P	21 45 44.5	+0.2
	0.8nm,0.8s,mb3.5,baz=243,slow=5.5,SNR=4.8						
PLCA	Paso Flores	89.56	134	P	P	21 45 50.4	+0.4
	0.7nm,0.6s,mb3.7,baz=246,slow=10.0,SNR=2.5						
PLCA	Paso Flores	89.56	134	*e* P	P	21 45 50.5	+0.4
	0.8nm,0.6s,mb3.7						
PDAR	Pinedale Array	90.18	44	P	P	21 45 52.6	-0.3
	0.2nm,0.7s,mb3.1,baz=208,slow=4.2,SNR=4.0						
KURK	Kurchatov	113.79	317	PKiKP	PKiKP	21 51 24.8	-2.1
NOA	NORSAR Array B	139.53	352	PKP	PKPdf	21 52 15.4	-0.3
	0.5nm,0.9s,baz=21,slow=2.4,SNR=2.3						
AKASG	Malin Array Be	143.09	330	PKP	PKPdf	21 52 18.1	-4.0
	1.3nm,0.5s,baz=39,slow=4.4,SNR=13						
BRTR	Keskin Array B	146.51	311	PKPbc	PKPbc	21 52 29.4	-1.2
	1.0nm,0.7s,baz=150,slow=4.7,SNR=6.1						
CLL	Collm	148.48	345	*e* PKPbc	PKPbc	21 52 34.0	-1.6
GERES	GERESS Array B	150.56	343	PKPbc	PKPbc	21 52 39.2	-1.3
	1.0nm,0.6s,baz=23,slow=2.1,SNR=14						
TORD	Torodi Ar. Bea	171.96	186	PKP	PKPdf	21 52 53.6	-2.7
	0.4nm,1.0s,baz=130,slow=0.4,SNR=4.1						
TORD				PKPab	PKPab	21 54 22.6	-0.9
	0.7nm,1.0s,baz=169,slow=3.7,SNR=5.8						

*ISCJB **24** 21:58:04.3±0.4, 4034N±002×2251E±003, h7km±6km, Error ellipse: s-maj=4.7km s-min=3.1km az=119.4*
*ATH **24** 21:58:04.9, 4033N×2246E, h10km, MD3.2/4*
*CSEM **24** 21:58:04.9±0.1, 4034N×2247E, h15km, ML2.6, Error ellipse: s-maj=1.4km s-min=1.2km az=70.0*
*THE **24** 21:58:05.2, 4033N×2251E, h6km, ML2.6*
*NEIC **24** 21:58:05.2, 4033N×2251E, h7km, MD3.2(ATH), After THE.*
*SKO **24** 21:58:06.2, 4037N×2257E, h15km, M1.7, ML2.2*

ISC 24 21:58:04.9±0.4, 4033N±002×2251E±003, h14km±6km, n30, σ0°72/48, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	Litokhoron	0.23	185	*e* Pg	Pg	21 58 10.0	+0.1
LIT				*e* Sg	Sg	21 58 13.8	+0.5
THE	Thessaloniki	0.46	48	*e* Pg	Pg	21 58 14.4	+0.4
HORT	Hortiatis	0.52	59	*e* Pg	Pg	21 58 15.8	+0.6
KZN	Kozani	0.57	268	*e* PB	Pb	21 58 15.1	-1.6
GRG	Griva	0.63	352	*e* Pg	Pg	21 58 16.8	-0.4
GRG				*e* Sg	Sg	21 58 26.2	+0.6
PLG	Polygyros	0.71	86	*e* PG	Pg	21 58 19.0	+0.2
SOH	Sokhos	0.81	52	*e* Pg	Pg	21 58 20.7	+0.1
THL	Klokotos Trika	0.85	207	*e* PB	Pb	21 58 21.2	-0.3
KNT	Kendrikon	0.88	19	*e* Pg	Pg	21 58 21.6	-0.4
FNA	Florina	0.98	298	*e* Pg	Pg	21 58 22.7	-1.1
FNA				*e* Sg	Sg	21 58 37.3	+0.7
PAIG	Paliouri	0.98	114	*e* Pg	Pg	21 58 23.6	-0.3
PAIG				*e* Sg	Sg	21 58 37.4	+0.7
VAY	Valandovo	0.99	2	*e* Pg	Pg	21 58 23.2	-0.9
VAY				*i* Sg	Sg	21 58 37.0	0.0
VAY				*e* Lg		21 58 38

ellipse: s-maj=9.8km s-min=6.2km az=63.0, After PDA
PDA 24 22:00:08.3±0.8, 3945N×2991W, h5km, MD3.5, ML2.8, Error ellipse: s-maj=9.8km s-min=6.2km az=63.0

SVSA 24 22:00:08.3±0.8, 3945N×2991W, h5km, MD3.5, ML2.8, Error ellipse: s-maj=9.8km s-min=6.2km az=63.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.25**	**131**	eS	Sg	22 00 41.7	-6.7
PCED	75nm,0.3s						
CALA	**Caldeira**	**1.28**	**133**	eP	Pn	22 00 28.0	-4.8
CALA				eS	Sg	22 00 42.6	-6.8
HOR	**Horta**	**1.36**	**133**	eS	Sb	22 00 44.5	-7.3
ROSA	**Rosais**	**1.49**	**119**	eP	Pn	22 00 30.6	-5.1
PCND	**Candelaria**	**1.49**	**131**	eS	Sn	22 00 48.3	-7.3
PCND	31nm,0.2s						
PICO	**Pico**	**1.50**	**129**	eP	Pn	22 00 31.3	-4.5
PICO				eS	Sn	22 00 48.2	-7.5
SRBC	**Serra Branca**	**1.51**	**105**	eP	Pn	22 00 29.3	-6.6
PTEI	**Pico do Teixo**	**1.54**	**128**	eP	Sn	22 00 49.8	-7.0
PGRA	**Graciosa**	**1.55**	**105**	eS	Sn	22 00 49.4	-7.7
PGRA	41nm,0.3s						

ISCJB 24 22:06:59.2±1.4, 180S±0.1×1753W±0.1, h119km±15km, mb3.8/6, Error ellipse: s-maj=20.4km s-min=11.5km az=90.6
IDC 24 22:07:00.5±2.2, 1807S×175.13W, h123km±21km, mb3.4/5, mb1 3.6/6, mb1mx3.4/17, mbtmp3.4/6, MS3.6/1, Ms1 3.6/1, ms1mx2.9/15, Error ellipse: s-maj=44.3km s-min=14.6km az=137.0
NEIC 24 22:07:01.2±1.1, 1806S×17523W, h126km±11km, mb4.0/1, Error ellipse: s-maj=13.9km s-min=9.2km az=143.0

ISC 24 22:07:00.6±1.3, 180S±01×1752W±01, h118km±14km, n17, σ0§87/17, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.26**	**39**	P	**Pn**	**22 08 18.6**	**+1.6**
AFI	5.3nm,0.3s,baz=242,slow=16,SNR=18			S	**Sn**	**22 09 15.5**	**-1.1**
	15nm,0.3s,baz=43,slow=23,SNR=12						
RAO	**Raoul Island**	**11.45**	**192**	P	**Pn**	**22 09 40.0**	**-0.5**
RAO	220nm,0.3s,baz=244,slow=23,SNR=7.8			LR	LR	22 13 13.8	
	comp=Z,314nm,19.3s,baz=196,slow=33						
HNR	**Honiara**	**25.57**	**286**	P	**P**	**22 12 17.2**	**-1.3**
CTA	**Charters Tower**	**36.42**	**260**	P	**P**	**22 13 55.0**	**+1.1**
	1.0nm,0.3s,mb4.2,baz=84,slow=11,SNR=8.2						
CTAO	**Charters Tower**	**36.42**	**260**	eP	**P**	**22 13 55.1**	**+1.3**
	1.0nm,0.4s,mb4.1						
PMG	**Port Moresby**	**37.48**	**278**	P	**P**	**22 14 03.4**	**+0.7**
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**22 14 33.4**	**-0.6**
WB2	**Warramunga Arr**	**47.59**	**259**	eP	**P**	**22 15 24.7**	**+0.2**
WRA	**Warramunga Arr**	**47.60**	**259**	P	**P**	**22 15 24.4**	**-0.1**
	0.3nm,0.3s,mb3.6,baz=97,slow=7.4,SNR=29						
ASAR	**Alice Springs**	**47.68**	**254**	P	**P**	**22 15 25.1**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=89,slow=8.5,SNR=19						
ASAR				PcP	PcP	22 16 51.7	-1.0
	0.3nm,0.5s,baz=108,slow=4.0,SNR=4.5						
QSPA	**South Pole Qui**	**72.03**	**180**	P	**P**	**22 18 11.4**	**-0.3**
NVAR	**Mina Array Bea**	**77.43**	**42**	P	**P**	**22 18 42.5**	**-0.4**
	0.5nm,0.7s,mb3.4,baz=229,slow=8.3,SNR=5.5						
YKA	**Yellowknife Ar**	**93.19**	**24**	P	**P**	**22 20 00.9**	**-0.7**
	0.1nm,0.4s,mb3.5,baz=243,slow=4.9,SNR=3.8						
YKA	**Yellowknife Ar**	**93.19**	**24**	P	**P**	**22 20 00.9**	**-0.7**
JTS	**JuntasAbangare**	**93.38**	**80**	eP	**P**	**22 20 04.1**	**+1.7**
	22nm,0.4s						
TRQA	**Tornquist**	**96.18**	**133**	eP	**P**	**22 20 15.0**	**-0.3**
	4.7nm,1.0s,mb4.9						
GERES	**GERESS Array B**	**148.42**	**349**	PKPbc	PKPbc	22 26 32.7	-0.5
	0.4nm,0.6s,baz=31,slow=2.8,SNR=7.4						

ISCJB 24 22:49:12.2±0.8, 4145N±003×4394E±005, h4km±8km, Error ellipse: s-maj=7.3km s-min=4.3km az=126.1
CSEM 24 22:49:13.4±0.6, 4145N×4398E, h25km, mb3.7, Error ellipse: s-maj=21.4km s-min=6.9km az=110.0
MOS 24 22:49:13.1±1.8, 4148N×4413E, h5km, mb3.7/1, Error ellipse: s-maj=65.5km s-min=11.8km az=89.9

ISC 24 22:49:12.6±1.0, 4142N±003×4392E±006, h4km±9km, n17, σ1§01/32, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.37**	**96**	P	**Pg**	**22 49 19.6**	**-0.2**
KZR				S	**Sg**	**22 49 24.6**	**-0.1**
GOR	**Gori**	**0.58**	**14**	P	**Pg**	**22 49 23.4**	**-0.4**
GOR				S	**Sg**	**22 49 31.5**	**+0.2**
MTA	**Mtatsminda**	**0.71**	**67**	P	**Pg**	**22 49 25.3**	**-0.9**
MTA				S	**Sg**	**22 49 35.3**	**-0.1**
DIGO	**Kars**	**1.09**	**203**	iP	**Pn**	**22 49 34.2**	**-0.5**
DIGO				iS	**Sn**	**22 49 49.5**	**-0.7**
DIGO	**Kars**	**1.09**	**203**	iP	**Pn**	**22 49 34.2**	**-0.5**
DIGO				iS	**Sn**	**22 49 49.5**	**-0.7**
DGRG	**David-gareji**	**1.09**	**88**	P	**Pg**	**22 49 33.3**	**-0.2**
DGRG				S	**Sg**	**22 49 49.1**	**+1.4**
ONI	**Oni**	**1.21**	**343**	P	**Pn**	**22 49 34.7**	**-1.7**
ONI				S	**Sn**	**22 49 51.3**	**-1.9**
ZEI	**Tsey**	**1.35**	**359**	iPg	**Pg**	**22 49 37.9**	**-0.6**
ZEI				iSg	**Sg**	**22 49 56.2**	**+0.3**
LACR	**Lac**	**1.43**	**11**	iPg	**Pg**	**22 49 38.8**	**-1.3**
LACR				iSg	**Sg**	**22 49 57.6**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.50**	**350**	iPg	**Pg**	**22 49 41.3**	**-0.1**
DIGR				iSg	**Sg**	**22 50 01.8**	**+1.0**
ARTV	**Artvin**	**1.52**	**262**	iP	**Pn**	**22 49 41.5**	**+0.8**
ARTV				iS	**Sn**	**22 50 02.1**	**+1.3**
ARTV	**Artvin**	**1.52**	**262**	iP	**Pn**	**22 49 41.5**	**+0.8**
ARTV				iS	**Sn**	**22 50 02.1**	**+1.3**
VLKR	**Vladikavkaz**	**1.72**	**19**	ePg	**Pg**	**22 49 45.8**	**+0.2**
VLKR				eSg	**Sg**	**22 50 09.3**	**+1.5**
SNJR	**Sundja**	**1.77**	**22**	ePn	**Pn**	**22 49 45.4**	**+1.3**
SNJR				eSg	**Sg**	**22 50 08.4**	**-1.2**
ARNR	**Ardon**	**1.79**	**8**	ePn	**Pn**	**22 49 46.7**	**+2.5**
ARNR				eSg	**Sg**	**22 50 10.9**	**+0.9**
KIV	**Kislovodsk**	**2.69**	**341**	ePN	**Pn**	**22 49 52.0**	**-4.7**
KIV	comp=Z,3.0nm,0.4s			pmax	pmax		
KIV	**Kislovodsk**	**2.69**	**341**	ePn	**Pn**	**22 49 52.0**	**-4.7**
	comp=Z,3.0nm,0.4s						

MAN 24 23:02:46.2, 777N×12529E, h35km, mb3.7, ML4.8, MS2.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.25**	**295**	eP	Pn	23 02 55.0	+1.4
BUKP				eS	Sn	23 03 01.6	+2.9
MSLP	**Maasin**	**2.39**	**350**	eP	Pn	23 03 23.1	+0.3

CSEM 24 23:04:02.2, 67.18N×2068E, h8km, ML3.2, Mining explosion. After UPP
UPP 24 23:04:02.2, 67.18N×2068E, h8km, ML3.2, Mining explosion.

HEL 24 23:04:02.5±0.0, 6718N×2068E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**217**	iP	Pg	23 04 03.8	-0.1
MASU	**Masugnsbyn**	**0.58**	**61**	iP	Pg	23 04 13.1	-0.6
KUA	**Kurravaara**	**0.79**	**351**	iP	Pg	23 04 16.6	-1.1
SALU	**Saltoluokta**	**0.87**	**285**	iP	Pg	23 04 18.2	-0.9
SALU	**Saltoluokta**	**0.87**	**285**	P	Pg	23 04 18.2	-0.9
	baz=106						
NIKU	**Nikkaluokta**	**0.94**	**318**	eP	Pg	23 04 19.3	-1.2
PAJU	**Pajala**	**0.96**	**98**	eP	Pg	23 04 19.7	-1.3
LANU	**Lannavaara**	**1.01**	**29**	eP	Pg	23 04 20.7	-1.2
HARU	**Harads**	**1.03**	**173**	eP	Pg	23 04 20.8	-1.3
HARU	**Harads**	**1.03**	**173**	P	Pg	23 04 20.8	-1.4
	baz=340						
SJUU	**Sjulsmark**	**1.72**	**167**	eP	Pn	23 04 33.0	-0.6
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	23 04 33.0	-0.7
KIF	**Kilpisjarvi**	**1.84**	**1**	eP	Pn	23 04 35.5	+0.2
KIF				eS	Sn	23 05 00.9	+1.7
SGF	**Sodankyl**	**2.28**	**81**	ePB	Pb	23 04 42.4	-2.1
SGF				eSG	Sg	23 05 12.4	-3.4

CSEM 24 23:07:33.0, 67.18N×2068E, h3km, ML3.6, Mining explosion. After UPP

UPP 24 23:07:33.0, 6718N×2068E, h3km, ML3.6, 1D, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**217**	⇓P	Pg	23 07 34.6	+0.1
MASU	**Masugnsbyn**	**0.58**	**61**	P	Pg	23 07 43.9	-0.2
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	23 07 48.9	-0.8
	baz=111						
NIKU	**Nikkaluokta**	**0.94**	**318**	P	Pg	23 07 50.4	-0.6
PAJU	**Pajala**	**0.96**	**98**	P	Pg	23 07 50.7	-0.8
LANU	**Lannavaara**	**1.01**	**29**	P	Pg	23 07 51.4	-0.9
HARU	**Harads**	**1.03**	**173**	P	Pg	23 07 51.9	-0.8
	baz=353						
LILU	**Lilltraesk**	**1.93**	**190**	P	Pn	23 08 07.5	+0.7

ISCJB 24 23:18:05.5±0.8, 1708N±004×10104W±003, h22km±6km, mb3.5/3, Error ellipse: s-maj=7.7km s-min=4.2km az=49.5
MEX 24 23:18:06.1±0.6, 1704N×10109W, h8km±8km, MD4.3
NEIC 24 23:18:06.6, 1705N×10109W, h8km, mb4.3/3, MD4.3(MEX), After MEX.
IDC 24 23:18:13.9±7.1, 1649N×10049W, h148km±52km, mb3.2/3, mb1 3.5/5, mb1mx3.3/19, mbtmp3.1/5, Error ellipse: s-maj=95.1km s-min=35.3km az=24.0

ISC 24 23:18:06.2±0.8, 1715N±005×10098W±003, h7km±5km, n38, σ1§22/61, mb3.5/3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.65**	**314**	eP	**Pg**	**23 18 17.3**	**-1.4**
ZIIG				iS	**Sg**	**23 18 27.2**	**0.0**
CAIG	**El Cayaco**	**0.69**	**99**	iP	**Pg**	**23 18 19.6**	**+0.1**
CAIG				iS	**Sg**	**23 18 29.5**	**+1.1**
ACX	**Acapulco**	**1.05**	**106**	iP	**Pg**	**23 18 24.8**	**-1.6**
ACX				iS	**Sg**	**23 18 40.7**	**+0.6**
MEIG	**Mezcala**	**1.50**	**59**	eP	**Pn**	**23 18 32.0**	**-1.6**
MEIG				iS	**Sn**	**23 18 52.4**	**-1.1**
PLIG	**Platanillo**	**1.87**	**49**	eP	**Pn**	**23 18 37.2**	**-1.4**
PLIG				iS	**Sn**	**23 19 02.2**	**-0.3**
PLIG	**Platanillo**	**1.87**	**49**	eP	**Pn**	**23 18 37.2**	**-1.4**
PLIG				iS	**Sn**	**23 19 03.0**	**+0.6**
MOIG	**Morelia**	**2.52**	**355**	iP	**Pn**	**23 18 46.5**	**-1.1**
MOIG				iS	**Sn**	**23 19 16.3**	**-2.2**
MOIG	**Morelia**	**2.52**	**355**	iP	**Pn**	**23 18 47.9**	**+0.3**
MOIG				iS	**Sn**	**23 19 17.2**	**-1.3**
MMIG	**Aquila**	**2.52**	**297**	eP	**Pn**	**23 18 43.7**	**-4.0**
MMIG				iS	**Sn**	**23 19 12.9**	**-5.8**
SZVM	**Salazar**	**2.64**	**35**	iP	**Pn**	**23 18 48.7**	**-0.5**
SZVM				iS	**Sn**	**23 19 21.8**	**+0.3**
PNIG	**Pinotepa**	**2.83**	**105**	iP	**Pn**	**23 18 50.7**	**-1.2**
PNIG				iS	**Sn**	**23 19 25.2**	**-1.1**
PNIG	**Pinotepa**	**2.83**	**105**	iP	**Pn**	**23 18 52.7**	**+0.8**
PNIG				iS	**Sn**	**23 19 21.2**	**-5.1**
PPM	**Popocatepetl**	**2.93**	**49**	iP	**Pn**	**23 18 54.4**	**+1.1**
PPM				iS	**Sn**	**23 19 30.2**	**+1.4**
PTVM	**Pico Tres Padr**	**3.00**	**36**	eP	**Pn**	**23 18 53.2**	**-1.0**
PTVM				iS	**Sn**	**23 19 31.2**	**+0.7**
PTVM	**Pico Tres Padr**	**3.00**	**36**	eP	**Pn**	**23 18 58.2**	**+4.0**
PTVM				iS	**Sn**	**23 19 38.3**	**+7.9**
UTMO	**Huajuapan**	**3.10**	**77**	eP	**Pn**	**23 18 54.9**	**-0.7**
UTMO				iS	**Sn**	**23 19 30.5**	**-2.4**
IIO	**Organos**	**3.23**	**41**	iP	**Pn**	**23 18 56.6**	**-0.8**
IIO				iS	**Sn**	**23 19 40.4**	**+4.2**
TPIG	**Tehuac#an**	**3.67**	**69**	iP	**Pn**	**23 19 04.6**	**+1.2**
TPIG				iS	**Sn**	**23 19 46.0**	**-0.9**
SFJM	**Santa Fe**	**3.85**	**330**	iP	**Pn**	**23 19 06.8**	**+0.9**
VHO	**Vista Hermosa**	**4.06**	**91**	iP	**Pn**	**23 19 08.6**	**-0.2**
VHO				iS	**Sn**	**23 19 57.5**	**+0.9**
VHO	**Vista Hermosa**	**4.06**	**91**	iP	**Pn**	**23 19 08.6**	**-0.2**
VHO				iS	**Sn**	**23 19 56.5**	**-0.1**
CMIG	**Matias Romero**	**5.83**	**90**	P	**Pn**	**23 19 32.9**	**-0.1**
	0.2nm,0.3s,baz=287,slow=11,SNR=2.8						
CMIG				S	**Sn**	**23 20 34.6**	**-5.5**
	1.3nm,0.3s,baz=298,slow=15,SNR=2.7						
CMIG	**Matias Romero**	**5.83**	**90**	iP	**Pn**	**23 19 40.9**	**+7.9**
CMIG				iS	**Sn**	**23 20 41.1**	**+1.0**
CMIG	**Matias Romero**	**5.83**	**90**	P	**Pn**	**23 19 32.9**	**-0.1**
CMIG				iP		23 19 49.0	
CMIG				S	**Sn**	**23 20 34.6**	**-5.5**
LTX	**Lajitas**	**12.37**	**349**	ePn	**Pn**	**23 21 04.7**	**+1.9**
TXAR	**Lajitas Array**	**12.37**	**349**	P	**Pn**	**23 21 14.1**	**+11**
	0.1nm,0.3s,baz=174,slow=8.9,SNR=5.0						
TXAR	**Lajitas Array**	**12.37**	**349**	P	**Pn**	**23 21 14.1**	**+11**
NATX	**Nacogdoches**	**15.63**	**20**	ePn	**Pn**	**23 21 49.3**	**+2.3**
	31nm,1.0s						
JTS	**JuntasAbangare**	**16.99**	**112**	ePn	**Pn**	**23 22 05.3**	**+1.0**
WMOK	**Wichita Mounta**	**17.62**	**6**	ePn	**Pn**	**23 22 13.9**	**+1.7**
ANMO	**Albuquerque**	**18.39**	**346**	P	**Pn**	**23 22 26.9**	**+5.3**
	0.1nm,0.3s,baz=142,slow=12,SNR=8.7						
ANMO	**Albuquerque**	**18.39**	**346**	eP	**Pn**	**23 22 23.4**	**+1.7**
	1.9nm,0.7s						
PAYG	**Puerto Ayora**	**20.61**	**148**	eP	**P**	**23 22 45.5**	**-0.6**
	16nm,0.7s						
NVAR	**Mina Array Bea**	**26.07**	**328**	P	**P**	**23 23 41.4**	**+1.0**
	1.0nm,0.8s,mb3.4,baz=156,slow=11,SNR=7.0						
PDAR	**Pinedale Array**	**26.56**	**346**	P	**P**	**23 23 44.0**	**-0.8**
	0.8nm,1.0s,mb3.2,baz=140,slow=7.1,SNR=4.2						
ACSO	**Alum Creek Sta**	**27.78**	**30**	P	**P**	**23 23 57.3**	**+1.5**
SDV	**Santo Domingo**	**30.65**	**102**	eP	**P**	**23 24 22.2**	**+1.0**
YKA	**Yellowknife Ar**	**46.29**	**351**	P	**P**	**23 26 30.1**	**-2.3**
	0.9nm,0.7s,mb3.8,baz=160,slow=7.2,SNR=12						

ISCJB 24 23:22:11.7±0.5, 3706N±002×3622E±004, h7km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=26.5
ISK 24 23:22:11.2, 37.10N×3623E, h9km, MD3.1
CSEM 24 23:22:11.1±0.1, 37.11N×3624E, h5km, Mc1.7, Error ellipse: s-maj=3.1km s-min=2.2km az=168.0
NEIC 24 23:22:11.2, 37.10N×3623E, h9km, MD3.1(ISK), After ISK.
NSSC 24 23:22:18, 3679N×3631E, h12km±5km

ISC 24 23:22:12.1±0.4, 3705N±002×3623E±003, h6km±5km, n27, σ1§11/37, 3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.39**	**264**	PG	**Pg**	**23 22 19.9**	**+0.3**
CEYT				SG	**Sg**	**23 22 24.9**	**+0.2**
COBT	**Iskenderun**	**0.53**	**178**	iP	**Pg**	**23 22 23.1**	**+0.7**
COBT				iS	**Sg**	**23 22 30.4**	**+1.1**
COBT	**Iskenderun**	**0.53**	**178**	iP	**Pg**	**23 22 23.0**	**+0.6**
KOZT	**Kozan**	**0.53**	**323**	PG	**Pg**	**23 22 21.0**	**-1.4**
KOZT				SG	**Sg**	**23 22 29.3**	**-0.1**
DRWC	**Darouich**	**0.56**	**141**	⇑P	**Pg**	**23 22 23.0**	**+0.2**
DRWC	**Darouich**	**0.56**	**141**	⇑iP	**Pg**	**23 22 23.8**	**+1.0**
KMRS	**Kahramanmaras**	**0.70**	**50**	PG	**Pg**	**23 22 24.9**	**-0.7**
GAZ	**Gaziantep**	**0.80**	**81**	PG	**Pg**	**23 22 26.7**	**-0.7**
KRTS	**Karatas**	**0.83**	**235**	ePG	**Pg**	**23 22 28.4**	**+0.2**
HTY	**Hatay**	**0.93**	**184**	ePG	**Pg**	**23 22 30.8**	**+0.8**
KARA	**Karaisali**	**0.96**	**283**	ePG	**Pg**	**23 22 30.3**	**-0.3**
BTCH	**Batrach**	**1.03**	**169**	⇓P	**Pg**	**23 22 32.0**	**+0.1**
BTCH				⇓S	**Sg**	**23 22 44.0**	**-1.2**
BTCH	**Batrach**	**1.03**	**169**	⇓iP	**Pg**	**23 22 32.1**	**+0.2**
GZT	**Gaziantep**	**1.11**	**74**	iP	**Pg**	**23 22 32.2**	**-1.2**
GZT				iS	**Sg**	**23 22 47.9**	**+0.1**
ARNB	**Al Arnab**	**1.21**	**190**	⇑P	**Pg**	**23 22 36.0**	**+0.7**
ARNB				⇑S	**Sg**	**23 22 49.0**	**-1.9**
MERS	**Mersin**	**1.38**	**263**	ePN	**Pn**	**23 22 37.6**	**-0.2**
SLNF	**Slenfeh**	**1.45**	**180**	⇑P	**Pn**	**23 22 40.0**	**+1.1**
SLNF				⇑S	**Sn**	**23 22 56.0**	**-2.2**
SLNF	**Slenfeh**	**1.45**	**180**	⇑iP	**Pn**	**23 22 40.5**	**+1.6**
WRDH	**Warideh**	**1.55**	**174**	⇑P	**Pn**	**23 22 41.0**	**+0.8**
WRDH				⇑S	**Sn**	**23 22 59.0**	**-1.5**
WRDH	**Warideh**	**1.55**	**174**	⇑iP	**Pn**	**23 22 41.7**	**+1.5**
ATAB	**Bozova**	**1.70**	**75**	iP	**Pn**	**23 22 44.0**	**+1.8**
ATAB				iS	**Sn**	**23 23 06.2**	**+1.9**
BNN	**Bunyan**	**1.82**	**351**	ePN	**Pn**	**23 22 43.0**	**-0.9**
BIDA	**Albida**	**2.04**	**178**	⇑P	**Pn**	**23 22 48.0**	**+1.1**
BIDA	**Albida**	**2.04**	**178**	⇑iP	**Pn**	**23 22 48.4**	**+1.5**
AVNT	**Avonos**	**2.04**	**328**	eP	**Pg**	**23 22 52.8**	**+1.6**
AVNT				iS	**Sg**	**23 23 23.7**	**+6.1**
URFA	**Urfa**	**2.11**	**79**	ePN	**Pn**	**23 22 47.4**	**-0.4**
MYA	**Malataya**	**2.16**	**53**	ePN	**Pn**	**23 22 47.0**	**-1.6**

NEIC 24 23:22:57.0, 1988S×13373E, h10km, ML3.8(AUST), After AUST.
ISCJB 24 23:22:59.0±0.9, 1996S±006×13387E±004, h25km±8km, mb3.9/2, Error ellipse: s-maj=9.6km s-min=6.6km az=36.4
IDC 24 23:22:59.6±1.0, 2007S×13390E, h0km, mb3.9/2, mb1 4.1/6, mb1mx4.0/12, mbtmp4.1/6, ML4.1/3, MS3.2/1, Ms1 3.1/1, ms1mx2.3/20, Error ellipse: s-maj=22.6km s-min=6.6km az=166.0
AUST 24 23:23:00.8, 1977S×13396E, h12km, ML3.8

ISC 24 23:22:59.1±1.3, 2006S±005×13384E±004, h5km±9km, n29, σ1§30/46, mb3.9/2, 1C-1D, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.48**	**77**	Pg	**Pg**	**23 23 08.3**	**-0.1**
	104nm,0.3s,baz=277,slow=18,SNR=3991						
WRA				Lg		23 23 13.3	
	610nm,0.3s,baz=283,slow=34,SNR=229						
WB2	**Warramunga Arr**	**0.50**	**77**	⇑iP	**Pg**	**23 23 08.8**	**+0.2**
WB2				eS	**Sg**	**23 23 13.7**	**-1.4**
WB2				eRG		23 23 15.8	
ASAR	**Alice Springs**	**3.59**	**179**	Pg	**Pg**	**23 24 03.6**	**-4.3**
	13nm,0.3s,baz=21,slow=7.9,SNR=283						
ASAR				Sn	**Sn**	**23 24 45.7**	**+7.5**
	32nm,0.3s,baz=2.5,slow=29,SNR=20						
ASAR				Lg		23 24 59.2	
	70nm,0.3s,baz=3.8,slow=30,SNR=13						
QIS	**Mount Isa**	**5.44**	**96**	⇓iP	**Pn**	**23 24 21.8**	**+1.1**
KNA	**Kununurra**	**6.45**	**311**	eP	**Pn**	**23 24 35.1**	**+0.4**
KNA				eS	**Sn**	**23 25 46.6**	**-2.1**
	6.5nm,0.2s						
KNA	**Kununurra**	**6.45**	**311**	eP	**Pn**	**23 24 35.1**	**+0.4**
	6.5nm,0.2s						
KNA				eS	**Sn**	**23 25 46.6**	**-2.1**
KAKA	**Kakadu**	**7.42**	**349**	eP	**Pn**	**23 24 46.3**	**-1.7**
KAKA				eS	**Sn**	**23 26 05.2**	**-7.4**
	86nm,0.5s						
KAKA	**Kakadu**	**7.42**	**349**	eP	**Pn**	**23 24 46.3**	**-1.7**
	86nm,0.5s						
KAKA				eS	**Sn**	**23 26 05.2**	**-7.4**
FITZ	**Fitzroy Crossi**	**7.99**	**283**	eP	**Pn**	**23 24 57.9**	**+2.1**
FITZ				eS	**Sn**	**23 26 22.7**	**-3.9**
	35nm,0.4s						
FITZ	**Fitzroy Crossi**	**7.99**	**283**	Pn	**Pn**	**23 24 58.2**	**+2.3**
	1.8nm,0.3s,baz=109,slow=11,SNR=60						
FITZ				Sn	**Sn**	**23 26 26.7**	**+0.1**
	6.3nm,0.3s,baz=149,slow=23,SNR=9.1						
FITZ				Lg		23 27 13.5	
	5.1nm,0.3s,baz=354,slow=22,SNR=3.8						
FITZ	**Fitzroy Crossi**	**7.99**	**283**	eP	**Pn**	**23 24 57.9**	**+2.1**
	35nm,0.4s						
FITZ				eS	**Sn**	**23 26 22.7**	**-3.9**
MTSU	**Mount Surprise**	**10.09**	**81**	eP	**Pn**	**23 25 24.4**	**-0.2**
MTSU				eS	**Sn**	**23 27 09.8**	**-8.3**
	22nm,0.3s						
MTSU	**Mount Surprise**	**10.09**	**81**	eP	**Pn**	**23 25 24.4**	**-0.2**
	22nm,0.3s						
MTSU				eS	**Sn**	**23 27 09.8**	**-8.3**
CTA	**Charters Tower**	**11.67**	**92**	Pn	**Pn**	**23 25 47.0**	**+0.8**
	0.4nm,0.3s,baz=255,slow=11,SNR=9.8						
CTA				Lg		23 29 07.7	
	1.5nm,0.3s,baz=175,slow=22,SNR=7.7						
CTA	**Charters Tower**	**11.67**	**92**	Pn	**Pn**	**23 25 47.0**	**+0.8**
CTA				Lg		23 29 07.7	
CTAO	**Charters Tower**	**11.67**	**92**	ePn	**Pn**	**23 25 45.4**	**-0.8**
CTAO				eSn	**Sn**	**23 27 56.9**	**0.0**
FORT	**Forrest**	**11.88**	**205**	eP	**Pn**	**23 25 52.9**	**+3.8**
FORT				eS	**Sn**	**23 28 00.6**	**-1.5**
	53nm,1.2s						
FORT	**Forrest**	**11.88**	**205**	eP	**Pn**	**23 25 52.9**	**+3.8**
	53nm,1.2s						
FORT				eS	**Sn**	**23 28 00.6**	**-1.5**
BBOO	**Buckleboo**	**12.86**	**172**	eP	**Pn**	**23 26 04.0**	**+1.5**
BBOO				eS	**Sn**	**23 28 22.7**	**-3.2**
	7.5nm,0.4s						
BBOO	**Buckleboo**	**12.86**	**172**	eP	**Pn**	**23 26 04.0**	**+1.5**
	7.5nm,0.4s						
BBOO				eS	**Sn**	**23 28 22.7**	**-3.2**
STKA	**Stephens Creek**	**13.68**	**151**	eP	**Pn**	**23 26 13.6**	**-0.1**
STKA				eS	**Sn**	**23 28 40.1**	**-5.9**
	6.2nm,0.4s						
STKA	**Stephens Creek**	**13.68**	**151**	Pn	**Pn**	**23 26 14.7**	**+1.0**
	1.0nm,0.3s,baz=317,slow=11,SNR=20						
STKA				LR	LR	23 31 23.8	
	comp=Z,87nm,19.1s,baz=45,slow=37						
STKA	**Stephens Creek**	**13.68**	**151**	eP	**Pn**	**23 26 13.6**	**-0.1**
	6.2nm,0.4s						
STKA				eS	**Sn**	**23 28 40.1**	**-5.9**
NWAO	**Narrogin (SRO)**	**19.59**	**226**	P	**Pn**	**23 27 29.4**	**+0.2**
	0.8nm,0.3s,baz=17,slow=11,SNR=8.2						
NWAO	**Narrogin (SRO)**	**19.59**	**226**	P	**Pn**	**23 27 29.4**	**+0.2**
NWAO				eS	**Sn**	**23 31 02.7**	**-6.8**
SONM	**Songino Array**	**71.93**	**341**	P	**P**	**23 34 24.6**	**+1.2**
	0.3nm,0.4s,mb3.6,baz=160,slow=6.1,SNR=5.6						
ZAL	**Zalesovo**	**84.87**	**333**	P	**P**	**23 35 36.3**	**+1.5**
	0.7nm,0.4s,mb4.1,baz=321,slow=3.2,SNR=4.5						
YKA	**Yellowknife Ar**

EMIN S **Sn** **23 30 08.4 +0.6**
10nm,0.3s,SNR=10.0
EJIF Jimena Fronter 2.48 77 ⇑P **Pn** **23 29 42.6 +1.4**
11nm,0.2s,SNR=18
EJIF S **Sn** **23 30 11.5 0.0**
9.8nm,0.6s,SNR=7.9
MOE Montemor 2.58 2 *e*Pn **Pn** **23 29 43.3 +0.7**
MOE *e*Sn **Sn** **23 30 14.7 +0.6**
PLOU Loures 3.00 350 *e*Pn **Pn** **23 29 48.3 0.0**
PLOU *e*Sn **Sn** **23 30 23.2 -1.0**
PLOU A 23 30 26.9
9.2nm,0.1s
PLOU Loures 3.00 350 *e*P **Pn** **23 29 48.3 0.0**
PLOU *e*S **Sn** **23 30 23.1 -1.1**
PLOU Loures 3.00 350 *e*Pn **Pn** **23 29 48.3 0.0**
PLOU *e*Sn **Sn** **23 30 23.2 -1.0**
9.2nm,0.1s
PESTR Estremoz 3.01 13 *e*Pn **Pn** **23 29 48.7 +0.2**
PESTR *e*Sn **Sn** **23 30 24.3 -0.3**
PESTR A 23 30 27.3
4.2nm,0.2s
PESTR Estremoz 3.01 13 *e*Pn **Pn** **23 29 48.7 +0.2**
PESTR *e*Sn **Sn** **23 30 24.3 -0.3**
4.2nm,0.2s
EBAD Badajoz 3.05 22 P **Pn** **23 29 49.7 +0.7**
0.3nm,0.1s,SNR=30
EBAD S **Sn** **23 30 26.4 +1.0**
4.5nm,0.3s,SNR=11
EBAD Badajoz 3.05 22 P **Pn** **23 29 49.7 +0.7**
0.3nm,0.1s,SNR=30
EBAD S **Sn** **23 30 26.4 +0.9**
4.5nm,0.3s,SNR=11
EMIJ Mijas 3.05 77 P **Pn** **23 29 48.4 -0.6**
0.1nm,0.1s,SNR=12
EMIJ S **Sn** **23 30 25.6 0.0**
4.7nm,0.3s,SNR=7.1
PMAFR Mafra 3.08 348 *e*Pn **Pn** **23 29 49.3 -0.2**
PMAFR *e*Sn **Sn** **23 30 25.3 -1.1**
PMAFR A 23 30 26.8
24nm,0.2s
TGT Taghat 3.36 123 *i* P **Pn** **23 29 51.5 -1.8**
TGT *i* S **Sn** **23 30 31.5 -1.8**
MIF Mishlifen 3.67 132 *i* P **Pn** **23 29 55.5 -2.1**
MIF *i* S **Sn** **23 30 35.5 -5.4**
ELOJ Sierra Loja 3.68 70 P **Pn** **23 29 59.0 +1.3**
0.4nm,0.2s,SNR=7.9
ELOJ S **Sn** **23 30 40.7 -0.4**
SNR=7.9
ELUQ Luque 3.75 63 P **Pn** **23 29 59.5 +0.9**
1.9nm,0.3s,SNR=9.0
ELUQ S **Sn** **23 30 42.2 -0.5**
5.3nm,0.2s,SNR=8.8
EADA Adamuz 3.83 53 ⇑P **Pn** **23 30 00.8 +1.1**
2.1nm,0.1s,SNR=18
EADA S **Sn** **23 30 45.1 +0.4**
7.3nm,0.3s,SNR=16
EADA Adamuz 3.83 53 P **Pn** **23 30 00.8 +1.1**
2.1nm,0.1s,SNR=18
EADA S **Sn** **23 30 45.1 +0.3**
7.3nm,0.3s,SNR=16
KIB El Ksiba 3.91 148 *i* P **Pn** **23 29 56.0 -4.8**
KIB *i* S **Sn** **23 30 36.5 -10**
PCBR Castelo Branco 3.98 11 *e*Pn **Pn** **23 30 02.1 +0.3**
PCBR *e*Sn **Sn** **23 30 47.3 -1.1**
PCBR A 23 30 49.2
17nm,0.3s
PCBR Castelo Branco 3.98 11 *e*P **Pn** **23 30 02.1 +0.3**
PCBR *e*S **Sn** **23 30 47.3 -1.2**
PCBR Castelo Branco 3.98 11 *e*Pn **Pn** **23 30 02.1 +0.3**
PCBR *e*Sn **Sn** **23 30 47.3 -1.1**
17nm,0.3s
CZD Col de Zad 4.05 135 *i* P **Pn** **23 30 00.0 -2.7**
CZD *i* S **Sn** **23 30 43.0 -7.2**
EGUA Guajares 4.06 76 P **Pn** **23 30 03.7 +0.8**
0.6nm,0.2s,SNR=7.9
EGUA S **Sn** **23 30 50.5 +0.1**
1.0nm,0.2s,SNR=7.9
TZC Tazercounte 4.12 156 *i* P **Pn** **23 29 56.5 -7.2**
TZC *i* S **Sn** **23 30 37.0 -15**
ECOG Cogollos-Vega 4.17 70 P **Pn** **23 30 06.0 +1.6**
0.7nm,0.1s,SNR=4.0
ECOG S **Sn** **23 30 54.2 +1.1**
SNR=4.0
EQUE Quentar 4.24 71 P **Pn** **23 30 06.9 +1.5**
1.0nm,0.4s,SNR=10
EQUE S **Sn** **23 30 54.4 -0.5**
3.6nm,0.3s,SNR=8.2
EQUE Quentar 4.24 71 P **Pn** **23 30 06.9 +1.5**
1.0nm,0.4s,SNR=10
EQUE S **Sn** **23 30 54.4 -0.6**
3.6nm,0.3s,SNR=8.2
EBAN Banos Encina 4.36 58 P **Pn** **23 30 07.8 +0.8**
2.0nm,0.1s,SNR=7.7
EBAN S **Sn** **23 30 56.6 -1.2**
9.9nm,0.3s,SNR=13
MTE Manteigas 4.52 9 *e*Pn **Pn** **23 30 09.8 +0.6**
MTE *e*Sn **Sn** **23 31 00.7 -1.1**
MTE A 23 31 03.4
6.5nm,0.2s
MTE Manteigas 4.52 9 *e*P **Pn** **23 30 09.8 +0.6**
MTE *e*S **Sn** **23 31 00.7 -1.1**
MTE Manteigas 4.52 9 *e*Pn **Pn** **23 30 09.8 +0.6**
MTE *e*Sn **Sn** **23 31 00.7 -1.1**
6.5nm,0.2s
EQES Quesada 4.71 65 P **Pn** **23 30 12.6 +0.7**
1.0nm,0.3s,SNR=6.9
EQES S **Sn** **23 31 06.1 -0.5**
7.0nm,0.3s,SNR=7.9
EQES Quesada 4.71 65 P **Pn** **23 30 12.6 +0.7**
1.0nm,0.3s,SNR=6.9
EQES S **Sn** **23 31 06.1 -0.5**
7.0nm,0.3s,SNR=7.9
PVIS Viseu 4.79 5 *e*Pn **Pn** **23 30 13.3 +0.3**
PVIS *e*Sn **Sn** **23 31 07.1 -1.5**
EHUE Huescar 5.07 67 P **Pn** **23 30 17.2 +0.4**
1.8nm,0.2s,SNR=7.9
EHUE S **Sn** **23 31 14.5 -0.9**
2.1nm,0.2s,SNR=7.9
ESDC Sonseca Array 5.16 42 P **Pn** **23 30 19.0 +0.9**
0.7nm,0.1s,baz=108,slow=5.9,SNR=11
ESDC S **Sn** **23 31 16.0 -1.8**
1.9nm,0.2s,SNR=7.9
ESDC Sonseca Array 5.16 42 P **Pn** **23 30 19.0 +0.9**
0.7nm,0.1s,SNR=11
ESDC S **Sn** **23 31 16.0 -1.7**
1.9nm,0.2s,SNR=7.9
PVRL Vila Real 5.37 6 *e*Pn **Pn** **23 30 21.4 +0.6**
PVRL *e*Sn **Sn** **23 31 21.3 -1.4**
PVRL A 23 31 23.7
4.3nm,0.1s
PVRL Vila Real 5.37 6 *e*Pn **Pn** **23 30 21.4 +0.6**
PVRL *e*Sn **Sn** **23 31 21.3 -1.4**
4.3nm,0.1s
EVIA Vianos 5.47 59 P **Pn** **23 30 22.6 +0.3**
1.1nm,0.1s,SNR=7.9
EVIA S **Sn** **23 31 24.3 -0.9**
3.2nm,0.2s,SNR=6.6
PCAB Cabril 5.78 3 *e*Pn **Pn** **23 30 26.5 0.0**
PCAB *e*Sn **Sn** **23 31 30.0 -2.8**
PCAB A 23 31 39.3
4.2nm,0.2s
PCAB Cabril 5.78 3 *e*Pn **Pn** **23 30 26.5 0.0**
PCAB *e*Sn **Sn** **23 31 30.0 -2.8**
4.2nm,0.2s
GUD Guadarrama 5.80 35 P **Pn** **23 30 28.4 +1.6**
1.2nm,0.4s,SNR=7.9
GUD S **Sn** **23 31 32.4 -0.9**
3.2nm,0.4s,SNR=7.9
ELOB Lobios 5.93 3 P **Pn** **23 30 28.2 -0.4**
2.9nm,0.9s,SNR=14
ELOB S **Sn** **23 31 33.5 -3.2**
2.0nm,0.1s,SNR=7.9
ELOB Lobios 5.93 3 P **Pn** **23 30 28.2 -0.4**
2.9nm,0.9s,SNR=14
ELOB S **Sn** **23 31 33.5 -3.2**
2.0nm,0.1s,SNR=7.9
PBRG Braganca 6.01 12 *e*Sn **Sn** **23 31 36.2 -2.5**
ETOB Tobarra 6.14 62 P **Pn** **23 30 31.5 -0.1**
0.9nm,0.1s,SNR=15
ETOB S **Sn** **23 31 40.0 -1.9**
3.0nm,0.1s,SNR=7.9
ETOB Tobarra 6.14 62 P **Pn** **23 30 31.5 -0.1**
0.9nm,0.1s,SNR=15
ETOB S **Sn** **23 31 40.0 -1.9**
3.0nm,0.1s,SNR=7.9
ECAL Calabor 6.15 12 P **Pn** **23 30 32.3 +0.7**
ECAL S **Sn** **23 31 41.5 -0.5**
ECAL Calabor 6.15 12 P **Pn** **23 30 32.3 +0.7**
SNR=4.0
ECAL S **Sn** **23 31 41.5 -0.5**
4.7nm,0.2s,SNR=7.9
ECAL Calabor 6.15 12 P **Pn** **23 30 32.3 +0.7**
SNR=4.0
ECAL S **Sn** **23 31 41.5 -0.5**
4.7nm,0.2s,SNR=7.9
ETOR Torete 7.01 44 P **Pn** **23 30 45.0 +1.5**
2.8nm,0.1s,SNR=7.9
ETOR S **Sn** **23 32 01.7 -1.5**
10.0nm,0.2s,SNR=7.9
EMAZ Mazaricos 7.02 357 P **Pn** **23 30 42.3 -1.2**
1.4nm,0.1s,SNR=6.3
EMAZ S **Sn** **23 31 58.9 -4.5**
1.2nm,0.2s,SNR=7.9
EMAZ Mazaricos 7.02 357 P **Pn** **23 30 42.3 -1.2**
1.4nm,0.1s,SNR=6.3
EMAZ S **Sn** **23 31 58.9 -4.4**
1.2nm,0.2s,SNR=7.9
EBEN Beniarda 7.13 65 P **Pn** **23 30 44.9 -0.2**
EBEN S **Sn** **23 32 02.1 -4.0**
EBEN Beniarda 7.13 65 P **Pn** **23 30 44.9 -0.1**
SNR=7.9

IPEC ***25*** *00:03:54.9±0.5, 5028N×1892E, h2km±1km, ML2.3/4, Error ellipse: s-maj=2.6km s-min=2.3km az=81.0*
PRU ***25*** *00:03:56.6, 5028N×1879E, h0km*
CSEM ***25*** *00:03:56.2±0.1, 5026N×1884E, h1km, ML3.2/5, Error ellipse: s-maj=2.8km s-min=1.0km az=15.0*
VIE ***25*** *00:03:58.7±0.6, 4972N×1887E, h0km, mb1.9/2, ML2.6/3, Error ellipse: s-maj=3.8km s-min=3.6km az=30.0 46 km ESE of Ostrava Suspected Mining induced.*

WAR 25 00:03:56.3, 5024N×1889E, ML2.7, 7C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.47**	**251**	*e*Pg	Pg	00 04 06.0	+0.6
RAC				*e*Sg	Sg	00 04 12.6	+1.1
RAC	**Raciborz**	**0.47**	**251**	*e*Sg	Sg	00 04 12.6	+1.1
OJC	**Ojcow**	**0.58**	**91**	*e*Pg	Pg	00 04 07.9	+0.4
OJC				*e*Sg	Sg	00 04 16.2	+1.1
OKC	**Ostrava-Krasne**	**0.62**	**230**	*e*PG	Pg	00 04 08.4	+0.1
OKC				*e*SG	Sg	00 04 16.9	+0.6
36nm,0.4s							
OKC	**Ostrava-Krasne**	**0.62**	**230**	*e*Pg	Pg	00 04 07.9	-0.4
OKC				*e*Sg	Sg	00 04 16.1	-0.2
MORC	**Moravsky Berou**	**0.98**	**243**	⇑*i*P	Pg	00 04 14.7	-0.5
MORC	**Moravsky Berou**	**0.98**	**243**	*e*Pg	Pg	00 04 14.4	-0.8
MORC				*e*Sg	Sg	00 04 26.8	-1.1
35nm,0.2s							
LIKS	**Likavka**	**1.20**	**173**	*e*PN	Pn	00 04 19.4	-0.9
LIKS				*e*SN	Sn	00 04 37.7	+0.5
NIE	**Niedzica**	**1.23**	**131**	*e*Pg	Pg	00 04 20.1	+0.1
NIE				*e*Sg	Sg	00 04 37.7	+1.7
JAVC	**Velka Javorina**	**1.59**	**210**	*e*Pn	Pn	00 04 25.9	+0.2
JAVC				*e*Sg	Sg	00 04 44.4	-3.1
16nm,0.4s							
DPC	**Dobruska-Polom**	**1.65**	**275**	*e*PG	Pg	00 04 25.2	-2.7
DPC				*e*SG	Sg	00 04 47.3	-2.0
30nm,0.6s							
DPC	**Dobruska-Polom**	**1.65**	**275**	*e*Pg	Pg	00 04 25.2	-2.7
DPC				*e*Sg	Sg	00 04 47.2	-2.1
STHS	**Stebnicka Huta**	**1.73**	**117**	*e*PG	Pg	00 04 29.3	-0.2
STHS				*e*SN	Sn	00 04 54.3	+3.8
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	Pn	00 04 27.2	-0.6
VYHS				*e*SN	Sn	00 04 51.1	+0.3
VRAC	**Vranov**	**1.75**	**239**	*e*Pn	Pn	00 04 27.0	-1.0
VRAC	**Vranov**	**1.75**	**239**	⇑*i*P	Pn	00 04 28.0	0.0
VRAC				*e*Sg	Sg	00 04 50.9	-1.8
44nm,0.6s							
KSP	**Ksiaz**	**1.76**	**291**	*e*Pg	Pg	00 04 28.9	-1.2
KSP				*e*Sg	Sg	00 04 52.1	-0.9
UPC	**Upice**	**1.86**	**279**	*e*PG	Pg	00 04 29.4	-2.6
UPC				*e*SG	Sg	00 04 53.7	-2.4
KRUC	**Moravsky**	**2.00**	**235**	*e*Pn	Pn	00 04 30.2	-1.2
KRUC				*e*Sn	Sn	00 04 57.6	+0.5
17nm,0.4s							
KECS	**Kecovo**	**2.04**	**149**	*e*PG	Pg	00 04 33.9	-1.6
KECS				*e*SN	Sn	00 05 01.4	+3.3
CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*PN	Pn	00 04 33.7	+0.4
CRVS				*e*PG	Pg	00 04 36.8	-0.6
CRVS				*e*SN	Sn	00 05 03.7	+3.1
ZST	**Bratislava**	**2.35**	**210**	*e*SN	Sn	00 05 04.0	-1.8
PSZ	**Piszkesteto**	**2.41**	**164**	⇑*i*P	Pn	00 04 41.3	+4.3
PVCC	**Panska Ves**	**2.78**	**278**	*e*SG	Sg	00 05 22.3	-3.3
26nm,0.4s							
PRU	**Pruhonice**	**2.81**	**267**	*e*PN	Pn	00 04 40.7	-1.8
PRU				*e*PG	Pg	00 04 45.8	-4.3
PRU				*e*SG	Sg	00 05 22.0	-4.6
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PN	Pn	00 04 52.4	-1.2
KHC				*e*PG	Pg	00 05 01.5	-4.2
KHC				*ex*	x	00 05 35.5	
KHC				*e*SG	Sg	00 05 50.0	-2.7
11nm,0.6s							
MOA	**Molln**	**3.87**	**234**	⇑*i*Pn	Pn	00 04 55.3	-1.7
MOA				⇑*i*Sg	Sg	00 05 56.4	-4.2
comp=Z,4.7nm,0.4s							
CLL	**Collm**	**3.89**	**288**	*i* Pg	Pg	00 05 08.8	-2.0
CLL				*e*Sg	Sg	00 05 58.0	-3.2
comp=Z,14nm,1.4s							
BURAR	**Bucovina Array**	**4.93**	**120**	⇑*i*P	Pn	00 05 12.0	+0.4
GZR	**Gura Zlata**	**5.51**	**150**	⇑*i*P	Pn	00 05 20.3	+0.7

CSEM ***25*** *00:22:37.8, 6783N×2019E, h1km, ML3.2, Mining explosion. After UPP*
UPP ***25*** *00:22:37.8, 6783N×2019E, h1km, ML3.2, Mining explosion.*

HEL 25 00:22:38.3±0.1, 6783N×2019E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**24**	*i* P	Pg	00 22 40.5	-0.4
KUA				*i* S	Sg	00 22 42.4	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 22 46.1	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 22 51.2	-0.8
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 22 51.2	-0.8
baz=304							
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 22 51.2	-1.1
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 22 51.2	-1.1
baz=61							
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 22 52.6	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 22 52.6	-0.8
baz=173							
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 22 52.6	-0.8
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	00 23 00.7	-0.5
KIF				*e*S	Sg	00 23 16.9	+0.1
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	00 23 03.0	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 23 09.0	-0.3
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	00 23 14.7	-4.9
SGF				*e*S	Sn	00 23 49.7	-0.6

BJI ***25*** *00:28:13.5, 12.19N×93.15E, h30km, mB4.4, mb4.6*
IDC ***25*** *00:28:16.3±0.6, 1279N×9319E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/23, mbtmp4.2/17, MS3.6/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=28.3km s-min=12.9km az=51.0*
ISCJB ***25*** *00:28:20.4±1.3, 1276N±005×9323E±006, h41km±11km, mb4.2/25, MS3.5/2, Error ellipse: s-maj=11.4km s-min=6.4km az=90.6*
NEIC ***25*** *00:28:21.1±0.3, 1277N×9324E, h30km, mb4.3/13, Error ellipse: s-maj=7.7km s-min=4.2km az=50.0*

ISC 25 00:28:23.0±1.0, 1283N±005×9325E±005, h45km±9km, h29km±4.2km: pP-P, n67, σ0=90/66, mb4.2/25, MS3.5/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.27**	**203**	*e*P	Px	00 28 45.2	
PBA				*e*S	Sx	00 29 04.1	
PBA				*ex*	x	00 29 08.9	
comp=E,7μm,0.3s							
PBA				*ex*	x	00 29 08.9	
comp=N,9μm,0.7s							
NST	**Nakhon Sawan**	**7.25**	**66**	P	**Pn**	**00 30 09.0**	**+2.7**
comp=N,167nm,0.6s							
CHG	**Chiang Mai**	**8.09**	**42**	PG	**Pn**	**00 30 18.3**	**+0.4**
CHG				SG		00 30 19.8	
CHTO	**Chiang Mai**	**8.09**	**42**	*e*Pn	**Pn**	**00 30 18.6**	**+0.7**
comp=N,48nm,0.7s							
CHTO				*e*Sn	**Sn**	**00 31 46.8**	**-1.1**
NANT	**Nan**	**9.31**	**49**	P	**Pn**	**00 30 38.0**	**+3.4**
KULM	**Kulim**	**10.46**	**135**	*e*Pn	**Pn**	**00 30 48.2**	**-2.1**
VIS	**Vishakhapatnam**	**10.74**	**298**	*e*P	**Pn**	**00 30 52.0**	**-2.2**
VIS				*e*S	**Sn**	**00 32 40.2**	**-13**
VIS				AML	AML	00 32 42.4	
comp=N,64nm,0.7s							
VIS				AML	AML	00 32 42.4	
comp=E,47nm,0.5s							
SHL	**Shillong**	**12.74**	**354**	*e*P	**Pn**	**00 31 22.0**	**+0.5**
SHL				*ex*	**Sn**	**00 33 33.0**	**-8.8**
BOK	**Bokaro**	**12.95**	**328**	*e*P	**Pn**	**00 31 22.9**	**-1.5**
BOK				*e*S	**Sn**	**00 33 33.4**	**-14**
BOK				AML	AML	00 33 40.8	
comp=E,12nm,0.3s							
BOK				AML	AML	00 33 41.8	
comp=N,13nm,0.6s							
JIRN	**Jiri**	**16.17**	**337**	*e*P	**Pn**	**00 32 07.6**	**+0.6**
PKI	**Pulchoki**	**16.40**	**335**	*e*P	**Pn**	**00 32 10.0**	**0.0**
comp=N,9.9nm,0.3s							
GUN	**Gumba**	**16.51**	**336**	*e*P	**Pn**	**00 32 12.1**	**+0.7**
comp=N,7.0nm,0.3s							
GUN				*e*S	**Sn**	**00 35 01.0**	**-13**
DMN	**Daman**	**16.56**	**334**	*e*P	**Pn**	**00 32 12.3**	**+0.3**
comp=N,6.1nm,0.3s							
KKN	**Kakani**	**16.65**	**335**	*e*P	**Pn**	**00 32 14.1**	**+1.0**
comp=N,2.5nm,0.2s							
LSA	**Lhasa**	**16.90**	**354**	*e*Pn	**Pn**	**00 32 16.5**	**+0.2**
comp=N,8.0nm,0.5s							
LSA				*e*Sn	**Sn**	**00 35 22.7**	**-0.4**
QIZ	**Qiongzhong**	**17.10**	**67**	P	**Pn**	**00 32 18.8**	**+0.1**
GKN	**Gorkha**	**17.11**	**333**	*e*P	**Pn**	**00 32 19.3**	**+0.5**
comp=N,19nm,0.3s							
KOLN	**Koldanda**	**17.39**	**330**	*e*P	**Pn**	**00 32 24.2**	**+1.9**
comp=N,7.6nm,0.3s							
GYA	**Guiyang**	**18.51**	**41**	P	**Pn**	**00 32 36.1**	**+0.1**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s							
KSM	**Kuching**	**20.32**	**122**	P	**P**	**00 32 55.1**	**-0.1**
ENH	**Enshi**	**22.96**	**38**	*e*P	**P**	**00 33 22.6**	**-0.8**
KKM	**Kota Kinabalu**	**23.62**	**104**	*e*P	**P**	**00 33 30.0**	**0.0**
LZH	**Lanzhou**	**25.05**	**21**	*e*P	**P**	**00 33 43.0**	**0.0**
LZH				AP	pP	00 33 52.5	-2.3
LZH				XP	sP	00 33 58.5	-1.7
LZH				AMB	AMB		
comp=Z,28nm,1.0s,mb4.8							
LZH				AMB	AMB		
comp=Z,127nm,4.1s							
LZH	**Lanzhou**	**25.05**	**21**	*e*P	**P**	**00 33 43.0**	**0.0**
comp=Z,28nm,1.0s,mb4.8							
LZH				pP	pP	00 33 52.5	-2.3
LZH				sP	sP	00 33 58.5	-1.7
XAN	**Xi'an**	**25.48**	**31**	P	**P**	**00 33 45.8**	**-1.1**
XAN				AP	pP	00 33 53.3	-5.4
XAN				AMB	AMB		
comp=Z,21nm,0.8s,mb4.7							
GTA	**Gaotai**	**27.11**	**11**	*e*P	**P**	**00 34 02.6**	**+1.0**
GTA				AP	pP	00 34 10.3	-3.2
GTA				XP	sP	00 34 13.9	-4.9
GTA				AMB	AMB		
comp=Z,8.0nm,0.9s,mb4.2							
YHNB	**Yeheng**	**29.05**	**62**	*e*P	**P**	**00 34 19.4**	**+0.4**
NACB	**Ninganchiao**	**29.09**	**63**	P	**P**	**00 34 19.6**	**+0.3**
AAK	**Ala-Archa**	**33.86**	**335**	*e*P	**P**	**00 35 01.6**	**+0.4**
MK31	**Makanchi Array**	**35.09**	**347**	*e*P	**P**	**00 35 11.8**	**-0.1**
SONM	**Songino Array**	**36.59**	**15**	P	**P**	**00 35 24.0**	**-0.7**
comp=Z,0.9nm,0.5s,mb3.9,baz=199,slow=6.9,SNR=12							
SONM				PcP	PcP	00 37 47.8	+0.6
comp=Z,0.9nm,0.6s,baz=171,slow=4.0,SNR=5.2							
SONM				LR	LR	00 52 11.9	
comp=Z,79nm,18.4s,MS3.5,baz=211,slow=39							
KSRS	**Korea Array**	**39.47**	**45**	P	**P**	**00 35 48.8**	**-0.2**
comp=Z,6.3nm,0.6s,mb4.5,baz=240,slow=8.2,SNR=18							
KSRS				PcP	PcP	00 37 58.7	+2.6
comp=Z,0.4nm,0.3s,baz=220,slow=45,SNR=3.3							
KSRS				LR	LR	00 53 12.7	
comp=Z,64nm,18.7s,MS3.5,baz=358,slow=38							
KURK	**Kurchatov**	**39.62**	**345**	*e*P	**P**	**00 35 49.9**	**-0.4**
comp=Z,1.3nm,0.7s,mb3.8							
ZAL	**Zalesovo**	**41.55**	**352**	P	**P**	**00 36 07.0**	**+0.8**
comp=Z,1.9nm,0.4s,mb4.1,baz=300,slow=8.7,SNR=9.7							
BVAR	**Borovoye Array**	**44.05**	**340**	P	**P**	**00 36 26.0**	**-0.4**
comp=Z,1.0nm,0.4s,mb3.9,baz=138,slow=10.0,SNR=12							
BRVK	**Borovoye**	**44.12**	**340**	P	**P**	**00 36 26.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**44.34**	**133**	P	**P**	**00 36 28.1**	**-0.6**
comp=Z,2.1nm,0.5s,mb4.1,baz=276,slow=8.7,SNR=11							
AKTK	**Aktyubinsk**	**47.23**	**330**	P	**P**	**00 36 51.2**	**-0.3**
AKTO	**Aktyubinsk**	**47.23**	**330**	P	**P**	**00 36 51.2**	**-0.3**
comp=Z,0.7nm,0.5s,mb3.9,baz=101,slow=12,SNR=4.7							
NWAO	**Narrogin (SRO)**	**50.94**	**154**	*e*P	**P**	**00 37 20.4**	**+0.6**
comp=Z,6.7nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**51.92**	**128**	P	**P**	**00 37 26.6**	**-0.6**
comp=Z,0.9nm,0.4s,mb4.1,baz=302,slow=9.1,SNR=10							
WRA				PcP	PcP	00 38 39.8	+0.4
comp=Z,1.1nm,0.6s,baz=314,slow=3.3,SNR=7.0							
WB2	**Warramunga Arr**	**51.93**	**128**	*e*P	**P**	**00 37 27.4**	**+0.2**
KIV	**Kislovodsk**	**53.13**	**316**	P	**P**	**00 37 35.2**	**-1.0**
ASAR	**Alice Springs**	**53.81**	**132**	P	**P**	**00 37 41.3**	**+0.1**
comp=Z,1.9nm,0.4s,mb4.4,baz=310,slow=7.0,SNR=57							
ASAR				PcP	PcP	00 38 47.1	+0.6
comp=Z,1.1nm,0.7s,baz=314,slow=4.2,SNR=7.3							
BRTR	**Keskin Array B**	**58.60**	**309**	P	**P**	**00 38 14.8**	**-0.6**
comp=Z,1.1nm,0.7s,mb4.0,baz=112,slow=7.2,SNR=5.2							
STKA	**Stephens Creek**	**64.17**	**135**	P	**P**	**00 38 53.5**	**+0.5**
comp=Z,4.6nm,1.1s,mb4.4,baz=328,slow=8.4,SNR=4.0							
FINES	**FINESS Array B**	**67.96**	**331**	P	**P**	**00 39 16.4**	**-0.9**
comp=Z,3.1nm,0.8s,mb4.4,baz=101,slow=8.7,SNR=9.5							
ARCES	**ARCESS Array B**	**70.34**	**340**	P	**P**	**00 39 30.6**	**-1.5**
comp=Z,1.9nm,0.7s,mb4.1,baz=87,slow=6.2,SNR=5.3							
GERES	**GERESS Array B**	**73.59**	**317**	P	**P**	**00 39 51.9**	**+0.4**
comp=Z,1.7nm,0.6s,mb4.1,baz=86,slow=5.6,SNR=27							
HFS	**Hagfors**	**73.77**	**329**	P	**P**	**00 39 51.6**	**-1.0**
comp=Z,2.6nm,0.6s,mb4.3,baz=129,slow=4.2,SNR=11							
NB2	**NORSAR Subarra**	**75.02**	**330**	P	**P**	**00 39 58.6**	**-1.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=5.9							
NOA	**NORSAR Array B**	**75.02**	**330**	P	**P**	**00 39 58.9**	**-0.9**
comp=Z,1.2nm,0.6s,mb4.0,baz=91,slow=5.7,SNR=7.8							
GRA1	**Grafenberg Arr**	**75.19**	**318**	*e*PKP	**P**	**00 40 01.6**	**+0.8**
GRF	**Grafenberg Arr**	**75.19**	**318**	*e*PKP	**P**	**00 40 01.6**	**+0.8**
LBTB	**Lobatse**	**75.89**	**240**	*e*P	**P**	**00 40 07.0**	**+2.1**
comp=Z,0.8nm,0.4s,mb4.0							
LPG	**La Plagne**	**78.54**	**314**	*e*P	**P**	**00 40 19.8**	**+0.2**
comp=Z,10.0nm,0.8s,mb4.5							
LPG	**La Plagne**	**78.54**	**314**	*e*P	**P**	**00 40 19.8**	**+0.2**
comp=Z,5.0nm,0.8s,mb4.5							
ESDC	**Sonseca Array**	**87.38**	**310**	P	**P**	**00 41 05.3**	**-0.1**
comp=Z,0.4nm,0.6s,mb3.8,baz=59,slow=4.5,SNR=5.4							
ESLA	**Sonseca Array**	**87.38**	**310**	P	**P**	**00 41 06.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**88.62**	**283**	P	**P**	**00 41 13.1**	**+1.8**
comp=Z,0.6nm,0.9s,mb3.9,baz=96,slow=4.5,SNR=3.6							
COLA	**College**	**90.10**	**22**	*e*P	**P**	**00 41 18.0**	**-0.2**
comp=Z,1.2nm,0.4s,mb4.6							
QSPA	**South Pole Qui**	**102.70**	**180**	Pdif	Pdif	00 42 15.0	-0.3
SNAA	**Sanae**	**104.00**	**199**	*e*Pdif	Pdif	00 42 20.1	-1.0
PDAR	**Pinedale Array**	**120.86**	**19**	PKP	PKPdf	00 47 10.4	+0.1
comp=Z,0.7nm,0.7s,baz=58,slow=1.3,SNR

FITZ	**Fitzroy Crossi**	19.52 188	*e*P		**Pn**	**01 21 26.8 +0.8**
	7.6nm,0.9s					
FITZ	**Fitzroy Crossi**	19.52 188	P		**Pn**	**01 21 26.4 +0.3**
	0.1nm,0.3s,baz=4.4,slow=13,SNR=2.9					
FITZ			LR		LR	01 29 45.3
	comp=Z,48nm,19.9s,baz=18,slow=39					
WRA	**Warramunga Arr**	21.88 165	P		**P**	**01 21 50.8 +0.4**
	3.7nm,0.7s,mb3.9,baz=343,slow=11,SNR=13					
WB2	**Warramunga Arr**	21.89 165	||*i*P	**P**	**01 21 50.8 +0.4**
ASAR	**Alice Springs**	25.38 169	P		**P**	**01 22 25.4 +0.6**
	3.4nm,0.9s,mb3.9,baz=352,slow=13,SNR=22					
CTAO	**Charters Tower**	27.45 142	P		**P**	**01 22 44.0 +0.5**
KULM	**Kulim**	28.15 279	*e*P		**P**	**01 22 49.9 +0.2**
ENH	**Enshi**	34.01 330	*e*P		**P**	**01 23 40.9 -0.6**
	0.3nm,0.3s,mb3.7					
STKA	**Stephens Creek**	35.26 161	*e*P		**P**	**01 23 52.1 -0.1**
	3.0nm,0.8s,mb4.3					
STKA	**Stephens Creek**	35.26 161	P		**P**	**01 23 52.0 -0.2**
	2.9nm,0.9s,mb4.2,baz=342,slow=7.1,SNR=4.7					
MJAR	**Matsushiro Arr**	36.15 13	P		**P**	**01 23 59.8 -0.1**
	2.5nm,0.8s,mb4.2,baz=192,slow=9.5,SNR=6.2					
LSA	**Lhasa**	45.40 312	P		**P**	**01 25 16.4 +0.3**
SONM	**Songino Array**	50.15 341	P		**P**	**01 25 53.5 +0.4**
	1.0nm,0.9s,mb3.8,baz=153,slow=8.1,SNR=6.4					
MK31	**Makanchi Array**	60.56 325	*e*P		**P**	**01 27 08.0 -0.1**
AAK	**Ala-Archa**	63.36 318	*e*P		**P**	**01 27 26.0 -0.9**
	0.8nm,0.6s,mb4.0					
KURK	**Kurchatov**	64.74 327	*e*P		**P**	**01 27 35.1 -0.9**
	4.1nm,0.6s,mb4.6					
CASY	**Casey**	68.69 188	*e*P		**P**	**01 28 00.2 -0.9**
	16nm,0.9s,mb5.0					
BRVK	**Borovoye**	70.39 327	P		**P**	**01 28 12.3 +0.5**
VNDA	**Vanda**	80.83 173	*e*P		**P**	**01 29 11.1 -0.4**
	3.3nm,1.1s,mb4.2					
COLA	**College**	86.07 25	*e*P		**P**	**01 29 38.9 +0.4**
KIV	**Kislovodsk**	86.11 314	*e*P		**P**	**01 29 39.4 +0.7**
	7.4nm,0.8s,mb5.0					
SNAA	**Sanae**	103.36 194	*e*Pdif		Pdif	01 30 58.4 +0.5

ISCJB ***25*** *01:22:26.3±1.1, 2185S±006×672W±02, h183km±12km, mb3.7/5, Error ellipse: s-maj=23.3km s-min=9.9km az=166.9*
IDC ***25*** *01:22:27.0±2.0, 2184S×67.19W, h173km±17km, mb3.7/4, mb1 3.8/6, mb1mx3.5/15, mbtmp3.7/6, Error ellipse: s-maj=28.5km s-min=18.6km az=75.0*
NEIC ***25*** *01:22:27.7±1.0, 2185S×67.19W, h182km±12km, mb3.5/3, Error ellipse: s-maj=19.1km s-min=9.4km az=88.0*

ISC 25 01:22:27.4±1.0, 2184S±006×672W±02, h175km±12km, n12, σ0§84/16, mb3.7/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	5.59	351	P	**Pn**	**01 23 51.0**	**+2.1**
	1.8nm,0.3s,baz=149,slow=6.6,SNR=37						
LPAZ				S	**Sn**	**01 24 53.0**	**+0.1**
	baz=251,slow=23,SNR=1.6						
LPAZ	**La Paz**	5.59	351	*e*Pn	**Pn**	**01 23 51.4**	**+2.6**
LPAZ				*e*Sn	**Sn**	**01 24 51.2**	**-1.7**
SIV	**San Ignacio**	8.22	46	P	**Pn**	**01 24 22.9**	**-0.6**
	9.0nm,0.3s,baz=238,slow=11,SNR=252						
SIV				S	**Sn**	**01 25 50.2**	**-5.3**
	0.3nm,0.3s,baz=128,slow=21,SNR=2.4						
CFAA	**Coronel Fontan**	9.77	185	P	**Pn**	**01 24 43.2**	**-0.7**
	0.0nm,0.3s,baz=32,slow=16,SNR=11						
CFAA				S	**Sn**	**01 26 26.6**	**-5.9**
	0.1nm,0.3s,baz=188,slow=13,SNR=6.3						
TRQA	**Tornquist**	16.78	166	*e*P	**Pn**	**01 26 12.9**	**+0.7**
	1.9nm,0.7s						
PLCA	**Paso Flores**	19.05	188	*e*P	**P**	**01 26 36.0**	**-0.2**
	0.7nm,0.6s						
OTAV	**Otavalo**	24.53	332	*e*P	**P**	**01 27 31.0**	**+0.4**
	0.8nm,0.6s,mb3.4						
PAYG	**Puerto Ayora**	30.79	310	P	**P**	**01 28 26.0**	**-0.3**
PDAR	**Pinedale Array**	75.20	329	P	**P**	**01 33 51.1**	**+0.6**
	0.2nm,0.6s,mb3.0,baz=122,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	75.99	70	P	**P**	**01 33 55.5**	**+0.4**
	4.6nm,0.4s,mb4.5,baz=255,slow=5.6,SNR=163						
ULM	**Lac du Bonnet**	76.12	342	P	**P**	**01 33 54.8**	**-1.0**
	1.3nm,0.6s,mb3.7,baz=189,slow=4.0,SNR=4.6						
YKA	**Yellowknife Ar**	92.03	340	P	**P**	**01 35 16.0**	**-0.3**
	0.6nm,0.7s,mb3.8,baz=129,slow=4.6,SNR=13						

LDG ***25*** *01:26:33.2±0.1, 4156N×180E, h10km, Ml2.0/6, Error ellipse: s-maj=1.5km s-min=1.1km az=23.0*

MDD 25 01:26:33.8±0.3, 4156N×180E, h0km, mbLg1.7/8, Error ellipse: s-maj=3.3km s-min=2.6km az=60.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIR	**Miracle**	0.41	329	Pg	Pg	01 26 41.2	-0.4
	15nm,1.0s,SNR=8.3						
EMIR				Lg		01 26 47.1	
	15nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	0.51	67	P	Pg	01 26 43.1	-0.5
CFON				S	Sg	01 26 50.0	-0.2
	11nm,0.2s						
CGAR	**Garraf**	0.57	242	P	Pg	01 26 38.9	-5.8
CGAR				S	Sg	01 26 42.7	-9.4
	4.0nm,0.1s						
CORG	**Organya**	0.76	332	P	Pg	01 26 47.6	-0.7
CORG				S	Sg	01 26 58.1	0.0
CBRU	**Bruguera**	0.77	21	P	Pg	01 26 48.1	-0.5
CBRU				S	Sg	01 26 58.9	+0.3
CAVN	**Les Avellanes**	0.85	292	P	Pg	01 26 49.2	-0.8
CAVN				S	Sg	01 27 01.2	+0.1
	5.3nm,0.1s						
CLLI	**Llivia**	0.92	8	P	Pg	01 26 51.4	-0.1
CSOR	**Sort**	0.95	329	P	Pg	01 26 51.3	-0.7
EJON	**La Jonquera**	1.20	42	Pg	Pg	01 26 56.1	-0.6
	11nm,1.1s,SNR=6.1						
EJON				Lg		01 27 12.5	
	0.4nm,0.0s,SNR=10.0						
ERTA	**Horta de San J**	1.26	242	Pg	Pg	01 26 57.1	-0.9
	7.0nm,0.9s,SNR=13						
ERTA				Lg		01 27 14.2	
	2.7nm,0.1s,SNR=12						
EBIE	**Bielsa**	1.67	313	Pg	Pg	01 27 04.3	-1.5
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		01 27 26.7	
	0.3nm,0.1s,SNR=10						
ESAC	**San Caprasio**	1.71	276	Pg	Pg	01 27 05.5	-1.0
	2.2nm,0.1s,SNR=7.9						
ESAC				Lg		01 27 27.5	
	8.8nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	1.80	10	*e*Pg	Pg	01 27 07.0	-1.3
MTLF				*e*Sg	Sg	01 27 29.8	-1.9
	1.9nm,0.2s						
MTLF	**Montolieu**	1.80	10	Pg	Pg	01 27 07.0	-1.3
MTLF				Lg		01 27 29.8	
	0.9nm,0.2s						
EPF	**Esparros**	1.82	324	*e*Pg	Pg	01 27 06.8	-1.9
EPF				*e*Sg	Sg	01 27 31.2	-1.2
	7.4nm,0.2s						
EPF	**Esparros**	1.82	324	Pg	Pg	01 27 06.8	-1.9
EPF				Lg		01 27 31.2	
	3.7nm,0.2s						
ETSF	**Etsaut**	2.20	308	*e*Pg	Pg	01 27 14.5	-1.5
ETSF				*e*Sg	Sg	01 27 43.1	-1.5
	2.1nm,0.3s						
ETSF	**Etsaut**	2.20	308	Pg	Pg	01 27 14.5	-1.5
ETSF				Lg		01 27 43.1	
	1.1nm,0.3s						
SJPF	**Ste Jean**	2.73	306	*e*Sg	Sg	01 27 59.0	-2.4
	0.7nm,0.2s						
SJPF	**Ste Jean**	2.73	306	Lg		01 27 59.0	
	0.3nm,0.2s						
LASF	**Ste Croix**	2.93	30	*e*Sg	Sg	01 28 04.5	-3.4
	0.2nm,0.2s						
CAF	**Calviac**	3.37	3	*e*Pn	Pn	01 27 24.2	-3.4
CAF				*e*Sg	Sg	01 28 18.9	-3.0
	1.1nm,0.3s						
LFF	**La Frestale**	3.46	347	*e*Pn	Pn	01 27 25.5	-3.4

ISCJB ***25*** *01:48:21.1±1.2, 1174N±008×4368E±006, h10km, Error ellipse: s-maj=13.4km s-min=5.3km az=118.2*
CSEM ***25*** *01:48:26.2, 1208N×4385E, h12km, ML4.0, After DHMR*
DHMR ***25*** *01:48:26.2±1.3, 1208N×4385E, h12km±7km, ML4.0*

ISC 25 01:48:22.6±1.2, 1173N±009×4378E±006, h10km, n10, σ1§11/20, 1C-4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	1.53	12	||*i*P	**Pn**	**01 48 48.5**	**-1.4**
TRBA				*i* S	**Sn**	**01 49 04.4**	**-5.4**
TRBA				AML	AML	01 49 11.3	
	comp=Z,3μm,0.5s						
ADEN	**Aden**	1.57	49	||*i*P	**Pn**	**01 48 50.0**	**-0.5**
ADEN				*i* S	**Sn**	**01 49 09.1**	**-1.9**
ADEN				AML	AML	01 49 17.2	
	comp=E,5μm,0.7s						
ADEN	**Aden**	1.57	49	||*i*P	**Pn**	**01 48 50.0**	**-0.5**
ADEN				*i* S	**Sn**	**01 49 09.1**	**-1.8**
	comp=E,2μm,0.7s						
UDYN	**Al 'Udayn**	2.23	5	||*i*P	**Pn**	**01 48 59.4**	**-0.2**
UDYN				*i* S	**Sn**	**01 49 25.4**	**-1.8**
UDYN				AML	AML	01 49 34.5	
	comp=N,2μm,0.6s						
UDYN	**Al 'Udayn**	2.23	5	||*i*P	**Pn**	**01 48 59.4**	**-0.2**
UDYN				*i* S	**Sn**	**01 49 25.4**	**-1.8**
	comp=N,896nm,0.6s						
BDHA	**Al Bayda'**	2.83	38	*i* P	**Pn**	**01 49 09.3**	**+1.4**
BDHA				*i* S	**Sn**	**01 49 43.2**	**+1.2**
BDHA				AML	AML	01 50 00.2	
	comp=N,698nm,0.6s						
BDHA	**Al Bayda'**	2.83	38	*i* P	**Pn**	**01 49 09.3**	**+1.4**
BDHA				*i* S	**Sn**	**01 49 43.2**	**+1.2**
	comp=N,349nm,0.6s						
DHBB	**Dhamar BB**	2.89	12	*i* P	**Pn**	**01 49 09.7**	**+1.1**
DHBB				*i* S	**Sn**	**01 49 43.3**	**-0.1**
HAJJ	**Hajjah**	3.95	358	*i* P	**Pn**	**01 49 24.0**	**+0.8**
HAJJ				*i* S	**Sn**	**01 50 10.8**	**+1.2**
DESE	**Dese**	4.11	262	*e*P	**Pg**	**01 49 41.8**	**+0.6**
DESE				S	**Sg**	**01 50 33.6**	**-0.8**

ISCJB ***25*** *02:19:44.4±1.5, 179S±03×1786W±0.1, h567km±21km, mb3.9/10, Error ellipse: s-maj=41.6km s-min=14.9km az=139.1*
NEIC ***25*** *02:19:45.3±1.2, 1784S×17857W, h566km±16km, mb4.2/7, Error ellipse: s-maj=32.6km s-min=11.7km az=160.0*
IDC ***25*** *02:19:52.8±30.0, 1772S×17883W, h657km±432km, mb3.2/6, mb1 3.5/6, mb1mx3.2/15, mbtmp3.2/6, Error ellipse: s-maj=152.7km s-min=87.8km az=14.0*

ISC 25 02:19:45.4±1.4, 179S±03×1785W±01, h564km±19km, n14, σ0§81/14, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	7.63	59	*e*P	**P**	**02 21 39.8**	**0.0**
	9.9nm,0.5s						
CTA	**Charters Tower**	33.33	261	*e*P	**P**	**02 25 37.8**	**+0.5**
	4.2nm,0.8s,mb4.0						
CTAO	**Charters Tower**	33.33	261	*e*P	**P**	**02 25 38.0**	**+0.7**
	4.2nm,0.7s,mb4.1						
PMG	**Port Moresby**	34.35	280	P	**P**	**02 25 43.4**	**-2.4**
	14nm,0.8s,mb4.5						
STKA	**Stephens Creek**	38.52	241	*e*P	**P**	**02 26 21.2**	**+1.2**
	5.3nm,1.0s,mb4.0						
STKA	**Stephens Creek**	38.52	241	P	**P**	**02 26 20.9**	**+0.9**
	5.7nm,0.8s,mb4.1,baz=53,slow=8.0,SNR=7.1						
WB2	**Warramunga Arr**	44.50	260	*e*P	**P**	**02 27 07.3**	**+0.1**
WRA	**Warramunga Arr**	44.52	260	P	**P**	**02 27 07.2**	**-0.2**
	3.2nm,0.7s,mb4.0,baz=94,slow=7.6,SNR=20						
ASAR	**Alice Springs**	44.67	254	P	**P**	**02 27 09.1**	**+0.5**
	18nm,0.7s,mb4.7,baz=88,slow=8.5,SNR=258						
KAKA	**Kakadu**	47.47	269	*e*P	**P**	**02 27 29.9**	**+0.2**
	6.3nm,0.6s,mb4.3						
QSPA	**South Pole Qui**	72.12	180	*e*P	**P**	**02 30 12.1**	**-1.1**
	0.7nm,0.7s,mb3.2						
NVAR	**Mina Array Bea**	79.52	44	P	**P**	**02 30 54.5**	**+0.5**
	0.6nm,0.8s,mb3.0,baz=222,slow=8.8,SNR=6.6						
TXAR	**Lajitas Array**	86.11	58	P	**P**	**02 31 27.4**	**+0.4**
	1.1nm,0.9s,mb3.5,baz=207,slow=5.3,SNR=9.3						
PDAR	**Pinedale Array**	87.45	43	P	**P**	**02 31 33.0**	**-0.3**
	0.4nm,0.6s,mb3.2,baz=222,slow=2.0,SNR=3.6						

ISK ***25*** *02:22:25.6, 3861N×3957E, h5km, MD3.9, ML3.9*
NEIC ***25*** *02:22:25.0, 3861N×3957E, h5km, ML3.9(ISK), After ISK.*
ISCJB ***25*** *02:22:26.6±0.6, 3858N±002×3961E±003, h5km±5km, mb3.3/5, MS3.1/1, Error ellipse: s-maj=4.0km s-min=3.4km az=124.4*
IDC ***25*** *02:22:26.5±1.2, 3856N×3976E, h0km, mb3.4/5, mb1 3.6/9, mb1mx3.5/20, mbtmp3.6/9, ML3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/20, Error ellipse: s-maj=24.3km s-min=18.5km az=151.0*
CSEM ***25*** *02:22:26.4±0.1, 3861N×3957E, h5km, MD3.9, Error ellipse: s-maj=1.5km s-min=1.3km az=169.0*

ISC 25 02:22:27.1±0.6, 3861N±002×3963E±003, h0km±4km, n71, σ0§96/76, mb3.4/5, MS3.1/1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	0.34	327	*i* PG	**Pg**	**02 22 33.0**	**-0.5**
PTK				*i* SG	**Sg**	**02 22 38.7**	**+0.8**
ELZG	**Elazig**	0.52	258	*i* P	**Pg**	**02 22 36.4**	**-0.6**
ELZG				*i* S	**Sg**	**02 22 45.0**	**+1.3**
BINT	**Bingol**	0.72	68	*i* PG	**Pg**	**02 22 40.7**	**-0.2**
DIY	**Diyarbakir**	0.85	146	*i* PG	**Pg**	**02 22 44.0**	**+0.5**
MYA	**Malataya**	0.99	254	*i* PG	**Pg**	**02 22 44.5**	**-1.5**
EZC	**Erzincan**	1.14	7	*i* PN	**Pn**	**02 22 48.5**	**-1.8**
BNGL	**BINGOL**	1.24	74	*i* P	**Pg**	**02 22 49.8**	**-0.9**
BNGL				*i* S	**Sg**	**02 23 13.0**	**+6.2**
URFA	**Urfa**	1.33	209	*i* PN	**Pn**	**02 22 52.1**	**-0.8**
BTMT	**Batman**	1.52	105	*i* PN	**Pn**	**02 22 54.7**	**-0.8**
ATAB	**Bozova**	1.55	223	*i* P	**Pn**	**02 22 55.0**	**-0.9**
ATAB				*i* S	**Sg**	**02 23 18.4**	**+1.5**
KELT	**Kelkit**	1.56	349	*i* P	**Pn**	**02 22 55.9**	**-0.2**
MARD	**Mardin**	1.58	145	*i* P	**Pn**	**02 22 54.8**	**-1.6**
MARD				*i* S	**Sn**	**02 23 15.4**	**-2.1**
GUMT	**Gumushane**	1.85	356	*i* PN	**Pn**	**02 22 59.9**	**-0.1**
EZM	**Erzurum**	1.87	46	*i* PN	**Pn**	**02 23 00.7**	**+0.5**
ERZM	**Erzurum**	1.87	46	*i* P	**Pn**	**02 23 00.1**	**-0.1**
GZT	**Gaziantep**	2.06	233	*i* P	**Pn**	**02 23 01.7**	**-1.1**
GZT				*i* S	**Sg**	**02 23 35.3**	**+2.2**
MACK	**Trabzon**	2.33	3	*i* P	**Pn**	**02 23 08.2**	**+1.5**
KTUT	**Trabzon**	2.38	3	PN	**Pn**	**02 23 07.4**	**+0.2**
GAZ	**Gaziantep**	2.39	234	PN	**Pn**	**02 23 06.3**	**-1.2**
KMRS	**Kahramanmaras**	2.42	244	PN	**Pn**	**02 23 07.3**	**-0.5**
SVSK	**Karacayir**	2.42	303	PN	**Pn**	**02 23 07.2**	**-0.7**
SIRT	**Sirnak**	2.48	116	PN	**Pn**	**02 23 09.0**	**+0.3**
GRSN	**GIRESUNGRSN**	2.54	336	*i* P	**Pg**	**02 23 11.8**	**-3.9**
GRSN				*i* S	**Sg**	**02 23 47.4**	**-1.2**
AGRB	**Hanur-Agry**	2.79	69	PN	**Pn**	**02 23 13.2**	**+0.3**
TOKT	**Tokat**	2.94	307	PN	**Pn**	**02 23 14.7**	**-0.2**
VANB	**Van**	2.95	89	*e*PN	**Pn**	**02 23 16.4**	**+1.3**
VANT	**Van**	2.95	92	*e*PN	**Pn**	**02 23 14.7**	**-0.5**
BNN	**Bunyan**	2.97	276	PN	**Pn**	**02 23 15.2**	**-0.2**
KOZT	**Kozan**	3.21	251	*e*PN	**Pn**	**02 23 18.6**	**-0.1**
KARS	**Kars**	3.34	52	*e*PN	**Pn**	**02 23 22.1**	**+1.6**
HAKT	**HAKKARI**	3.38	107	*i* P	**Pn**	**02 23 20.5**	**-0.6**
CLDR	**Caldiran**	3.39	80	*e*PN	**Pn**	**02 23 22.6**	**+1.4**
COBT	**Iskenderun**	3.40	233	*i* P	**Pg**	**02 23 30.9**	**-1.3**
COBT				*i* S	**Sg**	**02 24 16.0**	**-0.2**
HKR	**Hakkari**	3.40	106	*e*PN	**Pn**	**02 23 21.6**	**+0.2**
CUKT	**Cukurca**	3.43	112	*e*PN	**Pn**	**02 23 23.5**	**+1.8**
CEYT	**Ceyhan**	3.46	244	*e*PN	**Pn**	**02 23 21.6**	**-0.6**
YOZ	**Yozgat**	3.50	288	*e*PN	**Pn**	**02 23 23.2**	**+0.4**
MSL	**Mosul**	3.60	129	*i* x	x	02 23 24.0	
MSL				*i* x	x	02 23 34.0	
MSL				*i* x	x	02 23 38.5	
MSL				*i* x	x	02 24 22.5	
MSL				*i* x	x	02 24 27.0	
KVT	**Kavak**	3.70	313	*e*PN	**Pn**	**02 23 25.6**	**+0.2**
HTY	**Hatay**	3.73	229	*e*PN	**Pn**	**02 23 26.1**	**+0.3**
AVNT	**Avonos**	3.74	274	*i* P	**Pn**	**02 23 25.7**	**-0.3**
KARA	**Karaisali**	3.86	251	*e*PN	**Pn**	**02 23 28.0**	**+0.4**
CORM	**Corum**	4.18	294	*e*PN	**Pn**	**02 23 31.5**	**-0.5**
CDAG	**Cicekdag**	4.21	286	*i* P	**Pn**	**02 23 32.6**	**+0.1**
CDAG				*i* S	**Sg**	**02 24 41.5**	**-0.9**
CTKT	**Corum**	4.24	300	*i* P	**Pn**	**02 23 35.6**	**+2.7**
MERS	**Mersin**	4.41	248	*e*PN	**Pn**	**02 23 34.9**	**-0.2**
BYBT	**Boyabat**	4.70	309	*e*PN	**Pn**	**02 23 39.9**	**+0.7**
BR131	**Keskin Array S**	4.79	285	*e*Pn	**Pn**	**02 23 40.4**	**0.0**
BR131	**Keskin Array S**	4.79	285	*e*Pn	**Pn**	**02 23 40.4**	**0.0**
BRTR	**Keskin Array B**	4.79	285	Pn	**Pn**	**02 23 40.3**	**-0.1**
	3.5nm,0.3s,baz=60,slow=24,SNR=155						
BRTR				Lg		02 25 04.5	
	baz=356,slow=39,SNR=2.8						
TOS	**Tosya**	4.95	301	*e*PN	**Pn**	**02 23 42.8**	**+0.2**
FKH	**Fakeheh**	5.08	212	*e*P	**Pn**	**02 23 44.0**	**-0.4**

ELDT	**Eldivan**	5.15	293	*i* P	**Pn**	**02 23 45.7**	**+0.3**
HWQ	**Hawqa**	5.25	216	*e*P	**Pn**	**02 23 47.6**	**+0.9**
BHL	**Bhannes**	5.69	216	*e*P	**Pn**	**02 23 53.0**	**+0.2**
RCY	**Rachaya**	5.97	212	*e*P	**Pn**	**02 23 57.8**	**+1.1**
MMAI	**Mount Meron Ar**	6.55	213	Pn	**Pn**	**02 24 06.0**	**+1.3**
	11nm,0.3s,baz=58,slow=15,SNR=74						
MMAI				Lg		02 26 00.2	
	5.9nm,0.3s,baz=19,slow=23,SNR=4.1						
BHD	**Baghdad**	6.58	143	*ex*	x	02 25 35.0	
BHD				*ex*	x	02 26 00.5	
ASF	**Jabal al Asfar**	6.80	200	Pn	**Pn**	**02 24 08.2**	**+0.1**
	1.5nm,0.3s,baz=245,slow=14,SNR=18						
ASF				Lg		02 26 10.1	
	3.2nm,0.3s,baz=73,slow=19,SNR=5.0						
AKASG	**Malin Array Be**	14.16	332	Pn	**Pn**	**02 25 53.6**	**+4.9**
	0.2nm,0.3s,baz=215,slow=41,SNR=3.4						
AKTK	**Aktyubinsk**	17.60	42	P	**Pn**	**02 26 34.2**	**+0.6**
AKTK	**Aktyubinsk**	17.60	42	P	**Pn**	**02 26 34.2**	**+0.6**
AKTO	**Aktyubinsk**	17.60	42	P	**Pn**	**02 26 34.2**	**+0.6**
	0.3nm,0.3s,baz=230,slow=9.4,SNR=8.3						
VRAC	**Vranov**	19.65	310	LR	LR	02 35 32.2	
	comp=Z,118nm,18.3s,baz=145,slow=40						
GERES	**GERESS Array B**	21.25	307	P	**P**	**02 27 17.1**	**+2.4**
	0.5nm,0.7s,mb3.0,baz=104,slow=12,SNR=9.9						
FINES	**FINESS Array B**	24.36	344	P	**P**	**02 27 46.2**	**-0.4**
	2.1nm,0.9s,mb3.7,baz=118,slow=19,SNR=2.9						
FINES	**FINESS Array B**	24.36	344	P	**P**	**02 27 46.2**	**-0.4**
NOA	**NORSAR Array B**	28.57	331	LR	LR	02 41 19.4	
	comp=Z,53nm,20.0s,MS3.1,baz=315,slow=40						
TORD	**Torodi Ar. Bea**	42.06	243	P	**P**	**02 30 19.5**	**-1.0**
	1.3nm,1.0s,mb3.6,baz=59,slow=7.0,SNR=5.8						
SONM	**Songino Array**	48.13	56	P	**P**	**02 31 08.2**	**-0.5**
	0.2nm,0.4s,mb3.6,baz=284,slow=10,SNR=3.4						
YKA	**Yellowknife Ar**	77.12	348	P	**P**	**02 34 21.0**	**-1.3**
	0.1nm,0.6s,mb3.1,baz=17,slow=5.3,SNR=3.4						

ISCJB ***25*** *02:45:42.1±3.4, 66S±0.1×15505E±0.10, h60km±29km, mb4.3/11, MS3.0/2, Error ellipse: s-maj=21.8km s-min=15.0km az=42.4*
IDC ***25*** *02:45:45.7±4.2, 660S×15498E, h80km±36km, mb3.9/6, mb1 4.1/9, mb1mx3.9/16, mbtmp3.9/9, MS3.3/5, Ms1 3.2/5, ms1mx3.1/18, Error ellipse: s-maj=25.7km s-min=24.9km az=109.0*
NEIC ***25*** *02:45:45.1±1.9, 660S×15495E, h78km±16km, mb4.1/4, Error ellipse: s-maj=13.8km s-min=12.0km az=204.0*

ISC 25 02:45:44.9±2.6, 67S±01×15508E±010, h70km±22km, n29, σ0§94/27, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	5.54	120	LR	LR	02 49 15.5	
	comp=Z,361nm,18.9s,baz=357,slow=37						
PMG	**Port Moresby**	8.30	250	P	**Pn**	**02 47 41.7**	**-0.8**
	5.7nm,0.3s,baz=58,slow=11,SNR=16						
PMG				S	**Sn**	**02 49 17.1**	**+2.5**
	3.4nm,0.3s,baz=92,slow=18,SNR=6.7						
PMG				LR	LR	02 50 44.1	
	comp=Z,201nm,20.0s,baz=32,slow=36						
PMG	**Port Moresby**	8.30	250	*e*Pn	**Pn**	**02 47 41.3**	**-1.1**
	41nm,0.8s						
PMG				*e*Sn	**Sn**	**02 49 14.4**	**-0.3**
PMG				S	**Sn**	**02 49 17.1**	**+2.5**
CTA	**Charters Tower**	15.85	212	*e*P	**Pn**	**02 49 23.5**	**-0.1**
	4.6nm,0.9s						
CTA	**Charters Tower**	15.85	212	P	**Pn**	**02 49 25.9**	**+2.3**
	0.2nm,0.3s,baz=42,slow=8.3,SNR=7.4						
CTA				LR	LR	02 54 31.4	
	comp=Z,96nm,18.8s,baz=50,slow=33						
DZM	**Mont Dzumac**	18.83	146	P	**Pn**	**02 50 00.3**	**+0.1**
	0.5nm,0.3s,baz=81,slow=17,SNR=7.0						
GUMO	**Guam**	22.55	333	LR	LR	02 58 55.0	
	comp=Z,42nm,18.6s,baz=72,slow=35						
KAKA	**Kakadu**	23.10	253	*e*P	**P**	**02 50 45.1**	**+0.4**
	4.0nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	24.06	235	*e*P	**P**	**02 50 54.0**	**+0.5**
WB2	**Warramunga Arr**	24.06	235	*e*P	**P**	**02 50 53.9**	**+0.4**
WB2				*e*PcP	P

CSOR S **Sb** **02 47 42.5 0.0**
SJPF Ste Jean 1.02 273 *e*Sg **Sg** **02 47 42.2 -1.1**
1.3nm,0.2s
SJPF Ste Jean 1.02 273 Lg 02 47 42.2
0.6nm,0.2s
CORG Organya 1.20 134 P **Pn** **02 47 33.1 +0.3**
CORG S **Sb** **02 47 48.3 +0.1**
EALK Alkurruntz 1.23 277 Pg **Pg** **02 47 36.3 +2.2**
SNR=7.9
EALK Lg 02 47 50.7
0.2nm,0.1s,SNR=4.0
ELIZ Elizondo 1.25 275 Pg **Pg** **02 47 36.5 +2.3**
SNR=7.9
ELIZ Lg 02 47 51.9
SNR=7.9
CAVN Les Avellanes 1.27 160 P **Pn** **02 47 34.1 +0.4**
CAVN S **Sb** **02 47 50.5 +0.2**
1.4nm,0.2s
ESAC San Caprasio 1.43 199 Pg **Pg** **02 47 37.5 -0.3**
SNR=7.9
ESAC Lg 02 47 56.7
7.6nm,0.3s,SNR=6.6
MTLF Montolieu 1.52 79 *e*Pg **Pg** **02 47 39.4 -0.1**
MTLF *e*Sg **Sg** **02 47 59.2 -0.1**
0.7nm,0.2s
MTLF Montolieu 1.52 79 Pg **Pg** **02 47 39.4 -0.1**
MTLF Lg 02 47 59.2
0.3nm,0.2s
EMIR Miracle 1.54 139 Pg **Pg** **02 47 39.7 0.0**
SNR=7.9
EMIR Lg 02 48 00.7
SNR=7.9
LFF La Frestale 1.91 12 *e*Sg **Sg** **02 48 11.5 -0.2**
1.4nm,0.3s
ERTA Horta de San J 2.12 177 Lg 02 48 17.8
SNR=7.9
CAF Calviac 2.30 36 *e*Sg **Sg** **02 48 23.8 -0.4**
0.2nm,0.1s
RJF Les Rejaudoux 2.43 23 *e*Sg **Sg** **02 48 27.8 -0.6**
1.0nm,0.2s

NEIC ***25*** *03:02:27.6±0.8, 39.66N×74.56E, h35km, Error ellipse: s-maj=15.0km s-min=13.8km az=66.0*
IDC ***25*** *03:02:29.7±6.6, 39.76N×74.51E, h54km±58km, mb3.4/8, mb1 3.6/10, mb1mx3.4/22, mbtmp3.4/10, ML3.2/2, Error ellipse: s-maj=38.7km s-min=23.5km az=25.0*
ISCJB ***25*** *03:02:32.0±2.6, 39.99N±02.02×74.55E±0.1, h85km±21km, mb3.5/8, Error ellipse: s-maj=35.7km s-min=12.7km az=38.3*

ISC 25 03:02:24.4±3.5, 397N±01×745E±01, h11km±21km, n27, σ1.93/28, mb3.6/8, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart** SNR=98	**2.48**	**13**	P	**Pb**	**03 03 07.5**	**-1.6**
AML	**Almayashu** SNR=46	**2.55**	**346**	P	**Pb**	**03 03 09.3**	**-0.8**
UCH	**Uchtor** SNR=150	**2.57**	**0**	P	**Pn**	**03 03 08.2**	**+2.3**
ULHL	**Ulahol** SNR=9.4	**2.90**	**26**	P	**Pb**	**03 03 16.0**	**-0.2**
AAK	**Ala-Archa** SNR=42	**2.97**	**360**	P	**Pb**	**03 03 16.4**	**-1.0**
AAK	**Ala-Archa**	**2.97**	**360**	*e*Pn	**Pn**	**03 03 13.4**	**+1.9**
KBK	**Karagaybulak** SNR=44	**3.01**	**6**	P	**Pn**	**03 03 15.6**	**+3.5**
EKS2	**Erkin-Say** SNR=29	**3.05**	**350**	P	**Pb**	**03 03 18.0**	**-0.8**
CHMS	**Chumysh** SNR=15	**3.34**	**3**	P	**Pn**	**03 03 19.9**	**+3.3**
TKM2	**Tokmak 2** SNR=17	**3.36**	**14**	P	**Pn**	**03 03 20.4**	**+3.5**
TKM2	**Tokmak 2** 3.4nm,0.6s	**3.36**	**14**	⇓Pn	**Pn**	**03 03 19.7**	**+2.9**
TKM2	6.6nm,0.8s			⇑Lg		03 04 03.8	
USP	**Ospenovka** SNR=20	**3.61**	**360**	P	**Pb**	**03 03 27.6**	**-0.6**
KK31	**Karatay Array** 4.3nm,0.5s,baz=126,slow=13,SNR=56	**4.57**	**320**	⇓Pn	**Pn**	**03 03 33.8**	**+0.4**
KK31	6.8nm,0.5s,baz=136,slow=15,SNR=6.1			⇑Sn	**Sn**	**03 04 25.7**	**-0.9**
KK31	21nm,0.6s,baz=135,slow=29,SNR=5.5			⇑Lg		03 04 44.0	
MK31	**Makanchi Array**	**9.11**	**36**	Pn	**Pn**	**03 04 36.0**	**+0.1**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=153,slow=9.7,SNR=2.5	**13.67**	**349**	P	**Pn**	**03 05 37.5**	**-0.6**
BVAR	**Borovoye Array**	**13.67**	**349**	P	**Pn**	**03 05 37.5**	**-0.6**
AKTK	**Aktyubinsk**	**15.83**	**318**	P	**Pn**	**03 06 09.9**	**+2.7**
AKTO	**Aktyubinsk** 0.1nm,0.3s,baz=114,slow=14,SNR=4.4	**15.83**	**318**	P	**Pn**	**03 06 09.9**	**+2.7**
BRTR	**Keskin Array B** 0.6nm,0.6s,mb3.6,baz=79,slow=9.1,SNR=3.3	**31.26**	**283**	P	**P**	**03 08 44.5**	**+0.4**
BRTR	**Keskin Array B**	**31.26**	**283**	P	**P**	**03 08 44.5**	**+0.4**
FINES	**FINESS Array B** 2.2nm,0.9s,mb4.0,baz=111,slow=10,SNR=6.0	**36.53**	**323**	P	**P**	**03 09 28.6**	**-1.3**
GERES	**GERESS Array B** 0.2nm,0.5s,mb3.1,baz=60,slow=7.9,SNR=3.7	**43.45**	**303**	P	**P**	**03 10 27.6**	**+0.2**
NOA	**NORSAR Array B** 0.9nm,0.8s,mb3.5,baz=72,slow=12,SNR=2.9	**43.60**	**321**	P	**P**	**03 10 28.0**	**-0.7**
TORD	**Torodi Ar. Bea** 0.8nm,0.5s,mb3.9,baz=50,slow=5.6,SNR=17	**68.54**	**269**	P	**P**	**03 13 26.1**	**-0.9**
YKA	**Yellowknife Ar** 0.1nm,0.4s,mb3.1,baz=348,slow=5.6,SNR=5.6	**77.93**	**4**	P	**P**	**03 14 20.5**	**-1.9**
WRA	**Warramunga Arr** 0.5nm,0.5s,mb3.7,baz=303,slow=6.9,SNR=7.3	**81.40**	**125**	P	**P**	**03 14 41.7**	**+0.3**
ASAR	**Alice Springs** 0.3nm,0.7s,mb3.6,baz=311,slow=5.2,SNR=8.2	**83.88**	**127**	P	**P**	**03 14 54.0**	**-0.3**

IDC 25 03:13:59.9±4.0, 1250N×14522E, h138km±44km, mb2.9/3, mb1 3.2/3, mb1mx3.0/19, mbtmp2.9/3, Error ellipse: s-maj=167.2km s-min=22.9km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 57nm,0.3s,baz=205,slow=0.7,SNR=50	**1.14**	**343**	P	Pn	03 14 25.0	+0.1
GUMO	73nm,0.3s,baz=358,slow=23,SNR=13			S	Sn	03 14 44.0	+0.3
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=22,slow=10.0,SNR=3.1	**33.97**	**199**	P	P	03 20 29.2	-0.8
ASAR	**Alice Springs** 0.3nm,0.5s,baz=18,slow=13,SNR=8.0	**37.61**	**197**	P	P	03 21 02.2	+1.2
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=286,slow=5.1,SNR=7.0	**83.67**	**27**	P	P	03 26 12.8	-0.2

BJI ***25*** *03:22:57.3, 39.59×142.64E, h10km, mB5.3, mb5.0, Ms4.6, Msz4.4*
IDC ***25*** *03:23:01.1±0.7, 29.15×141.74E, h0km, mb4.4/10, mb1 4.5/12, mb1mx4.5/16, mbtmp4.4/12, ML4.1/2, MS4.1/13, Ms1 4.1/13, ms1mx4.0/20, Error ellipse: s-maj=25.3km s-min=15.4km az=81.0*
ISCJB ***25*** *03:23:02.5±2.2, 30.50±00.04×141.81E±0.07, h15km±13km, mb4.8/36, MS4.4/43, Error ellipse: s-maj=12.1km s-min=5.9km az=11.2*
MOS ***25*** *03:23:05.2±1.5, 29.15×141.77E, h33km, mb5.1/11, MS4.1/11, Error ellipse: s-maj=15.4km s-min=7.4km az=106.3*
NEIC ***25*** *03:23:06.5±0.4, 30.25×141.77E, h35km, mb5.0/14, MS4.3/28, Error ellipse: s-maj=11.4km s-min=7.8km az=88.0*
GCMT ***25*** *03:23:06.5±0.4, 29.25×141.97E, h25km±2km, MW5.0/57, Moment Tensor Solution. s18,c20; s57,c66; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.72±.21; Mθθ-0.25±.13; Mφφ-1.47±.14; Mrθ0.20±.26; Mφθ1.82±.09; Mφr2.59±.42; Best double couple: M0=3.55600×10^16 NP1:φs112.00000°, δ33.00000°, λ32.00000°. NP2: φs355.00000°, δ73.00000°, λ119.00000°. Principal axes: T 3.4980, Plg53.0000°, Azm300.0000°; N 0.1140, Plg28.0000°, Azm165.0000°; P -3.6130, Plg23.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 03:23:07.0±2.7, 310S±004×146.86E±007, h34km±19km, n128, σ1.22/94, mb4.8/36, MS4.4/43, 3C-7D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.2nm,0.3s,baz=157,slow=6.5,SNR=3.4	**8.19**	**140**	Pn	**Pn**	**03 25 05.5**	**+2.1**
PMG	comp=Z,741nm,20.5s,baz=41,slow=38			LR	LR	03 28 24.5	
PMG	**Port Moresby**	**8.19**	**140**	*i* P	**Pn**	**03 25 06.0**	**+2.6**
PMG	**Port Moresby** 38nm,0.8s	**8.19**	**140**	*e*Pn	**Pn**	**03 25 04.9**	**+1.5**
PMG				LR	LR	03 28 24.5	
KAKA	**Kakadu** 51nm,0.4s	**13.34**	**224**	*e*P	**Pn**	**03 26 13.0**	**-0.9**
KAKA				*e*S	**Sn**	**03 28 36.6**	**-4.4**
GUMO	**Guam** comp=Z,258nm,21.0s,baz=210,slow=32	**16.85**	**10**	LR	LR	03 31 48.5	
CTA	**Charters Tower** 1.4nm,0.3s	**17.42**	**166**	*e*P	**Pn**	**03 27 12.3**	**+4.9**
CTA				*e*S	**Sn**	**03 30 30.7**	**+10**
CTA	**Charters Tower** 0.3nm,0.3s,baz=324,slow=12,SNR=4.1	**17.42**	**166**	P	**Pn**	**03 27 11.9**	**+4.6**
CTA	comp=Z,616nm,18.8s,baz=355,slow=39			LR	LR	03 34 21.4	
CTA	**Charters Tower**	**17.42**	**166**	*e*P	**Pn**	**03 27 12.3**	**+4.9**
CTA				*e*S	**Sn**	**03 30 30.7**	**+10**
CTA	comp=Z,1.0nm,0.3s			pmax	pmax		
WB2	**Warramunga Arr**	**18.27**	**203**	*e*P	**Pn**	**03 27 17.2**	**-0.6**
WB2				*e*S	**Sn**	**03 30 38.1**	**-2.7**
WRA	**Warramunga Arr** comp=Z,3.3nm,0.3s,baz=19,slow=12,SNR=75	**18.28**	**203**	P	**Pn**	**03 27 18.1**	**+0.2**
WRA				S	**Sn**	**03 30 38.6**	**-2.3**
WRA	comp=Z,0.4nm,0.3s,baz=14,slow=21,SNR=4.4			LR	LR	03 34 44.4	
WRA	**Warramunga Arr** comp=Z,903nm,18.5s,baz=25,slow=38	**18.28**	**203**	P	**Pn**	**03 27 18.1**	**+0.2**
WRA				S	**Sn**	**03 30 38.6**	**-2.3**
FITZ	**Fitzroy Crossi** comp=Z,28nm,1.1s,mb4.6	**21.79**	**226**	⇓*i* P	**P**	**03 27 55.4**	**-0.6**
FITZ				*e*S	**S**	**03 31 56.5**	**+1.5**
FITZ	**Fitzroy Crossi** comp=Z,9.2nm,0.4s,mb4.5,baz=52,slow=12,SNR=44	**21.79**	**226**	P	**P**	**03 27 54.9**	**-1.1**
ASAR	**Alice Springs** comp=Z,3.1nm,0.4s,mb4.1,baz=30,slow=12,SNR=59	**21.84**	**200**	P	**P**	**03 27 56.5**	**-0.1**
KKM	**Kota Kinabalu**	**27.17**	**290**	*e*P	**P**	**03 28 45.3**	**-2.0**
STKA	**Stephens Creek** comp=Z,4.3nm,1.5s,mb4.0	**28.63**	**180**	*e*P	**P**	**03 29 01.0**	**+0.8**
STKA	**Stephens Creek** comp=Z,2.1nm,0.6s,mb4.0,baz=355,slow=10,SNR=7.1	**28.63**	**180**	P	**P**	**03 29 01.7**	**+1.4**
STKA				LR	LR	03 41 25.2	
STKA	**Stephens Creek** comp=Z,507nm,18.5s,MS4.2,baz=181,slow=38	**28.63**	**180**	*e*P	**P**	**03 29 00.9**	**+0.7**
DZM	**Mont Dzumac** comp=Z,6.0nm,0.7s,mb4.5,baz=28,slow=20,SNR=6.0	**30.42**	**130**	P	**P**	**03 29 16.5**	**+0.3**
FORT	**Forrest** comp=Z,38nm,0.5s,mb5.4	**30.46**	**204**	*e*P	**P**	**03 29 17.5**	**+1.0**
KSM	**Kuching**	**31.86**	**278**	*e*P	**P**	**03 29 28.5**	**-0.3**
CNB	**Canberra Magne** comp=Z,19nm,1.0s,mb5.0	**32.80**	**169**	*e*P	**P**	**03 29 44.2**	**+7.1**
KLBR	**Kellerberrin** comp=Z,16nm,1.1s,mb4.8	**36.31**	**216**	*e*P	**P**	**03 30 05.3**	**-2.1**
JNU	**Nakatsue** comp=Z,455nm,19.2s,MS4.3,baz=191,slow=32	**37.49**	**345**	LR	LR	03 43 05.7	
MUN	**Mundaring**	**37.51**	**217**	*e*P	**P**	**03 30 18.8**	**+1.2**
NWAO	**Narrogin (SRO)**	**37.58**	**215**	PFAKE		03 30 30.0	+12
NWAO	comp=Z,269nm,20.0s,MS4.0			LR	LR		
QIZ	**Qiongzhong**	**38.41**	**306**	PFAKE		03 30 40.0	+15
QIZ	comp=Z,303nm,19.0s,MS4.1			LR	LR		
MJAR	**Matsushiro Arr** comp=Z,1.9nm,0.6s,mb4.0,baz=152,slow=7.6,SNR=6.5	**39.58**	**355**	P	**P**	**03 30 31.1**	**-3.9**
MJAR	comp=Z,249nm,19.0s,MS4.1,baz=165,slow=35			LR	LR	03 46 03.7	
MAJO	**Matsushiro** comp=Z,217nm,20.0s,MS4.0	**39.58**	**355**	PFAKE		03 30 50.0	+15
MAJO				LR	LR		
KULM	**Kulim**	**42.00**	**281**	*e*P	**P**	**03 30 53.7**	**-1.2**
KSRS	**Korea Array** comp=Z,145nm,19.8s,MS3.9,baz=158,slow=34	**42.37**	**343**	LR	LR	03 46 58.3	
INCN	**Inchon** comp=Z,287nm,20.0s,MS4.2	**42.78**	**342**	PFAKE		03 31 10.0	+8.7
INCN				LR	LR		
PSI	**Prapat** comp=Z,5.1nm,0.5s,mb4.5,baz=135,slow=5.9,SNR=6.5	**43.31**	**277**	P	**P**	**03 31 03.3**	**-2.3**
ERM	**Erimo**	**44.92**	**1**	PFAKE		03 31 30.0	+12
ERM	comp=Z,35nm,19.0s			LR	LR		
CHTO	**Chiang Mai**	**47.51**	**299**	PFAKE		03 31 50.0	+11
CHTO	comp=Z,95nm,19.0s,MS3.8			LR	LR		
XAN	**Xi'an**	**48.24**	**323**	P	**P**	**03 31 44.5**	**0.0**
XAN	comp=Z,15nm,1.6s,mb4.8			AMB	AMB		
MDJ	**Mudanjiang** comp=Z,235nm,21.0s,MS4.2	**48.75**	**348**	PFAKE		03 32 00.0	+12
MDJ				LR	LR		
BJT	**Baijiatuau** comp=Z,17nm,1.0s	**48.95**	**334**	*e*P	**P**	**03 31 48.2**	**-1.8**
BJT				pmax	pmax		
BJT	**Baijiatuau** comp=Z,435nm,22.0s	**48.95**	**334**	*e*P	**P**	**03 31 48.2**	**-1.7**
BJT				MLR	MLR		
BJT	**Baijiatuau** comp=Z,17nm,1.0s,mb5.0	**48.95**	**334**	*e*P	**P**	**03 31 48.2**	**-1.7**
BJT	comp=Z,435nm,22.0s,MS4.4			LR	LR		
CN2	**Changchun** comp=Z,10.0nm,0.8s,mb4.9	**48.96**	**344**	*e*P	**P**	**03 31 49.5**	**-0.5**
CN2				AMB	AMB		
BJI	**Beijing**	**48.97**	**334**	P	**P**	**03 31 47.3**	**-2.8**
BJI				S	**S**	**03 39 04.1**	**+12**
BJI	comp=Z,18nm,1.2s,mb5.0			AMB	AMB		
BJI	comp=N,181nm,20.2s,MS4.3			LR	LR		
BJI	comp=E,291nm,20.2s,MS4.3			LR	LR		
BJI	comp=Z,222nm,22.0s,MS4.1			LR	LR		
BJI	**Beijing** comp=Z,18nm,1.2s,mb5.0	**48.97**	**334**	P	**P**	**03 31 47.3**	**-2.8**
BJI				S	**S**	**03 39 04.1**	**+12**
BJI	comp=Z,220nm,22.0s,MS4.1			LR	LR		
CD2	**Chengdu** comp=Z,60nm,1.0s,mb5.6	**49.61**	**316**	P	**P**	**03 31 56.0**	**+1.0**
CD2				AMB	AMB		
YSS	**Yuzh-Sakhalins**	**49.85**	**1**	⇓*e*P	**P**	**03 31 56.2**	**-0.6**
YSS	comp=Z,38nm,1.3s,mb5.3			pmax	pmax		
YSS	**Yuzh-Sakhalins** comp=Z,29nm,1.1s,mb5.2	**49.85**	**1**	*e*P	**P**	**03 31 53.9**	**-2.9**
HABR	**Khabarovsk**	**51.70**	**354**	*e*P	**P**	**03 32 08.9**	**-1.9**
HABR				*e*S	**S**	**03 39 28.1**	**-1.9**
LZH	**Lanzhou**	**52.72**	**321**	*e*P	**P**	**03 32 19.5**	**+1.2**
LZH				AMB	AMB		
LZH	comp=Z,43nm,1.5s,mb5.2			AMB	AMB		
LZH	comp=Z,215nm,5.1s			LR	LR		
LZH	comp=E,270nm,14.0s			LR	LR		
LZH	comp=Z,440nm,15.0s,MS4.6			LR	LR		
LZH	**Lanzhou** comp=Z,43nm,1.5s,mb5.2	**52.72**	**321**	*e*P	**P**	**03 32 19.5**	**+1.2**
LZH				pP	pP	03 32 34.0	+5.5
LZH				sP	sP	03 32 38.5	+6.0
LZH				LR	LR		
KLR	**Kul'dur** comp=Z,440nm,15.0s,MS4.6	**52.85**	**352**	*e*P	**P**	**03 32 15.4**	**-3.9**
HIA	**Hailar**	**55.57**	**343**	⇓*e*P	**P**	**03 32 39.0**	**-0.1**
HIA	**Hailar**	**55.57**	**343**	PFAKE		03 32 50.0	+11
HIA	comp=Z,275nm,20.0s,MS4.3			LR	LR		
SHL	**Shillong**	**56.15**	**304**	*e*P	**P**	**03 32 44.0**	**+0.8**
GTA	**Gaotai**	**57.28**	**322**	⇑P	**P**	**03 32 52.6**	**+1.3**
GTA				AP	pP	03 32 58.5	-3.1
GTA				XP	sP	03 33 02.0	-3.6
GTA	comp=Z,23nm,1.0s,mb5.2			AMB	AMB		
LSA	**Lhasa** comp=Z,4.0nm,0.6s,mb4.6	**58.42**	**308**	*e*P	**P**	**03 33 00.7**	**+1.5**
LSA				pmax	pmax		
LSA	comp=Z,158nm,19.0s,MS4.2			MLR	MLR		
LSA	**Lhasa** comp=Z,4.3nm,0.6s,mb4.7	**58.42**	**308**	*e*P	**P**	**03 33 00.7**	**+1.5**
LSA	comp=Z,158nm,19.0s,MS4.2			LR	LR		
ULN	**Ulaanbaatar**	**59.18**	**333**	PFAKE		03 33 20.0	+15
ULN	comp=Z,237nm,22.0s,MS4.3			LR	LR		
SONM	**Songino Array** comp=Z,2.7nm,0.9s,mb4.3,baz=154,slow=7.4,SNR=16	**59.45**	**333**	P	**P**	**03 33 05.2**	**-1.2**
SONM				LR	LR	03 57 11.7	
RAR	**Rarotonga** comp=Z,195nm,20.2s,MS4.2,baz=150,slow=35	**59.47**	**113**	PFAKE		03 33 20.0	+13
RAR				LR	LR		
CIT	**Chita** comp=Z,1.0nm,22.0s	**59.93**	**340**	*e*P	**P**	**03 33 09.3**	**-0.4**
CIT				*e*		03 33 15.9	
CIT				*e*		03 36 48.9	
CIT	comp=Z,38nm,1.7s,mb5.2			pmax	pmax		
GUN	**Gumba** comp=Z,53nm,1.1s,mb5.6	**62.00**	**304**	*e*P	**P**	**03 33 25.1**	**+1.3**
PKI	**Pulchoki**	**62.28**	**303**	*e*P	**P**	**03 33 26.5**	**+0.9**
KKN	**Kakani**	**62.46**	**303**	*e*P	**P**	**03 33 27.8**	**+1.0**
DMN	**Daman** comp=Z,37nm,0.9s,mb5.5	**62.54**	**303**	*e*P	**P**	**03 33 28.6**	**+1.2**
ZAK	**Zakamensk**	**62.71**	**333**	*e*P	**P**	**03 33 28.8**	**+0.3**
ZAK	comp=Z,8.0nm,1.3s,mb4.7			pmax	pmax		
MA2	**Magadan**	**62.88**	**5**	PFAKE		03 33 40.0	+10
MA2	comp=Z,161nm,22.0s,MS4.2			LR	LR		
GKN	**Gorkha**	**63.07**	**304**	*e*P	**P**	**03 33 31.8**	**+0.9**
TLY	**Talaya** comp=Z,38nm,19.0s,MS3.6	**63.48**	**335**	PFAKE		03 33 40.0	+6.4
TLY				LR	LR		
KOLN	**Koldanda** comp=Z,46nm,1.1s,mb5.4	**63.86**	**303**	*e*P	**P**	**03 33 37.1**	**+1.0**
MOY	**Mondy**	**64.64**	**333**	*e*P	**P**	**03 33 42.2**	**+1.0**
BOD	**Bodaibo**	**64.72**	**344**	*e*P	**P**	**03 33 38.2**	**-3.5**
BOD	comp=Z,7.0nm,1.2s,mb4.6			pmax	pmax		
YAK	**Yakutsk**	**65.62**	**354**	⇓*e*P	**P**	**03 33 47.4**	**-0.2**
YAK	comp=Z,22nm,1.0s,mb5.1			pmax	pmax		
YAK	comp=Z,100nm,21.0s,MS4.0			MLR	MLR		
YAK	**Yakutsk**	**65.62**	**354**	PFAKE		03 34 00.0	+12
YAK	comp=Z,130nm,19.0s,MS4.2			LR	LR		
SEY	**Seymchan**	**66.34**	**5**	*i* P	**P**	**03 33 52.0**	**-0.2**
PPT	**Papeete** comp=Z,100nm,20.4s,MS4.0,baz=260,slow=32	**68.64**	**108**	LR	LR	03 59 50.3	
MK31	**Makanchi Array**	**72.03**	**321**	*e*P	**P**	**03 34 27.6**	**+0.1**
BILL	**Bilibino**	**73.01**	**9**	⇓*e*P	**P**	**03 34 32.9**	**-0.4**
BILL				*e*S	S	03 43 51.2	-6.7
BILL	comp=Z,3.0nm,0.9s,mb4.2			pmax	pmax		
BILL	comp=Z,100nm,15.0s,MS4.2			MLR	MLR		
ZAL	**Zalesovo** comp=Z,1.5nm,0.5s,mb4.2,baz=13,slow=6.6,SNR=13	**73.87**	**329**	P	**P**	**03 34 37.0**	**-1.4**
ZAL				LR	LR	04 06 44.4	
KZA	**Kyzart** SNR=17	**74.97**	**315**	P	**P**	**03 34 47.0**	**+2.3**
TIXI	**Tiksi** comp=Z,4.0nm,1.1s,mb4.3	**75.09**	**356**	*e*P	**P**	**03 34 41.0**	**-4.5**
TIXI				pmax	pmax		
TIXI	comp=Z,112nm,18.0s,MS4.2			MLR	MLR		
NVS	**Novosibirsk**	**75.11**	**329**	*i* P	**P**	**03 34 45.0**	**-0.6**
VNDA	**Vanda** comp=Z,2.5nm,0.9s,mb4.1,baz=339,slow=6.0,SNR=5.8	**75.14**	**176**	P	**P**	**03 34 46.3**	**+0.6**
VNDA	comp=Z,282nm,18.5s,MS4.6,baz=83,slow=36			LR	LR	04 08 17.0	
KBK	**Karagaybulak** SNR=6.0	**75.37**	**315**	P	**P**	**03 34 48.3**	**+1.3**
UCH	**Uchtor** SNR=11	**75.54**	**315**	P	**P**	**03 34 50.1**	**+2.1**
CHMS	**Chumysh** SNR=5.9	**75.61**	**316**	P	**P**	**03 34 49.2**	**+0.8**
AAK	**Ala-Archa**	**75.68**	**315**	⇑*e*P	**P**	**03 34 49.0**	**+0.2**
AAK	comp=Z,11nm,1.7s,mb4.5			pmax	pmax		
AAK	comp=Z,100nm,19.0s,MS4.1			MLR	MLR		
AAK	**Ala-Archa** comp=Z,6.6nm,0.9s,mb4.6	**75.68**	**315**	*e*P	**P**	**03 34 48.6**	**-0.2**
KURK	**Kurchatov**	**75.85**	**324**	*c i*P	**P**	**03 34 49.6**	**-0.2**
KURK	**Kurchatov** comp=Z,28nm,1.6s,mb4.9	**75.85**	**324**	*e*P	**P**	**03 34 49.1**	**-0.7**
USP	**Ospenovka** SNR=12	**75.87**	**316**	P	**P**	**03 34 50.8**	**+0.8**
AML	**Almayashu** SNR=5.5	**76.09**	**315**	P	**P**	**03 34 53.5**	**+2.3**
EKS2	**Erkin-Say** SNR=5.8	**76.19**	**315**	P	**P**	**03 34 52.8**	**+1.1**
TNA	**Tin City**	**77.47**	**19**	PFAKE		03 35 10.0	+11
TNA	comp=Z,232nm,19.0s,MS4.5			LR	LR		
KBL	**Kabul**	**77.69**	**306**	*e*P	**P**	**03 34 59.9**	**-0.3**
TTA	**Tatalina**	**80.46**	**24**	*e*P	**P**	**03 35 14.9**	**-0.4**
TTA	comp=Z,44nm,1.7s,mb5.1			pmax	pmax		
TTA	**Tatalina** comp=Z,44nm,1.7s,mb5.1	**80.46**	**24**	*e*P	**P**	**03 35 14.9**	**-0.4**
BRVK	**Borovoye**	**81.51**	**325**	*e*P	**P**	**03 35 21.1**	**+0.2**
BRVK	comp=Z,8.0nm,0.9s,mb4.7			pmax	pmax		
BRVK	comp=Z,66nm,21.0s,MS4.0			MLR	MLR		
BRVK	**Borovoye** comp=Z,8.2nm,0.9s,mb4.7	**81.51**	**325**	*e*P	**P**	**03 35 21.1**	**+0.2**
BRVK	comp=Z,66nm,21.0s,MS4.0			LR	LR		
COLA	**College** comp=Z,13nm,1.1s,mb5.1	**84.54**	**24**	⇓*e*P	**P**	**03 35 35.2**	**-1.4**
QSPA	**South Pole Qui**	**86.85**	**180**	*e*P	**P**	**03 35 47.0**	**-1.1**
DAWY	**Dawson**	**87.86**	**26**	*e*P	**P**	**03 35 52.7**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,2.7nm,1.1s,mb4.7,baz=282,slow=4.6,SNR=15	**98.98**	**27**	P	**P**	**03 36 42.5**	**-1.6**
YKA				LR	LR	04 23 58.8	
YKA	**Yellowknife Ar** comp=Z,102nm,18.1s,MS4.4,baz=245,slow=37	**98.98**	**27**	P	**P**	**03 36 42.5**	**-1.6**
YKA				LR	LR	04 23 58.8	
BMN	**Battle Mountai**	**100.32**	**50**	PFAKE		03 37 00.0	+10
BMN	comp=Z,455nm,21.0s,MS5.0			LR	LR		
OBN	**Obninsk**	**101.26**	**326**	⇓*e*P	Pdif	03 36 54.4	+0.2
OBN				*e*SS	SS	03 55 37.7	+6.1
OBN	comp=Z,48nm,2.3s			pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,665nm,21.0s,MS5.2	**103.73**	**44**	PFAKE		03 37 20.0	+15
BOZ				LR	LR		
YMR	**Madison River** comp=Z,1μm,19.0s,MS5.5	**104.36**	**45**	PFAKE		03 37 20.0	+12
YMR				LR	LR		
AHID	**Auburn Hatcher** comp=Z,188nm,21.0s,MS4.6	**104.59**	**47**	PFAKE		03 37 20.0	+11
AHID				LR	LR		
MPU	**Maple Canyon** comp=Z,1μm,21.0s,MS5.4	**104.61**	**50**	PFAKE		03 37 20.0	+11
MPU				LR	LR		
LKWY	**Lake** comp=Z,575nm,20.0s,MS5.1	**104.78**	**45**	PFAKE		03 37 20.0	+10
LKWY				LR	LR		
TMUT	**Trail Mountain**	**105.05**	**50**	*e*PKPdf	PKiKP	03 41 25.2	-0.4
LAO	**LASA Array** comp=Z,494nm,19.0s,MS5.1	**107.19**	**42**	PFAKE		03 41 40.0	+10
LAO				LR	LR		
RSSD	**Black Hills** comp=Z,6μm,20.0s	**109.33**	**44**	PFAKE		03 41 50.0	+16
RSSD				LR	LR		
LTX	**Lajitas** comp=Z,503nm,22.0s,MS5.1	**112.79**	**60**	PFAKE		03 41 50.0	+10
LTX				LR	LR		
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=80,slow=1.4,SNR=3.4	**112.79**	**60**	PKiKP	PKiKP	03 41 42.2	+2.1
TXAR	**Lajitas Array**	**112.79**	**60**	PKPdf	PKiKP	03 41 42.2	+2.1
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,baz=170,slow=8.1,SNR=4.1	**116.61**	**324**	PKP	PKPdf	03 41 46.7	-0.7
NATX	**Nacogdoches** comp=Z,587nm,21.0s,MS5.2	**119.83**	**55**	PFAKE		03 42 10.0	+16
NATX				LR	LR		
BFO	**Black Forest** comp=Z,76nm,22.0s,MS4.3	**119.93**	**326**	PFAKE		03 42 00.0	+6.1
BFO				LR	LR		
HOPE	**Hope Point**	**122.81**	**181**	PFAKE		03 42 10.0	+11
HOPE				LR	LR		

comp=Z,1.0nm,19.0s
BRAL Brewton 126.23 53 PFAKE 03 42 20.0 +14
BRAL LR LR
comp=Z,1μm,21.0s,MS5.6
MSKU Masuku 128.05 265 PFAKE 03 42 20.0 +11
MSKU LR LR
comp=Z,143nm,21.0s,MS4.6
WES Weston 130.94 32 PFAKE 03 42 30.0 +15
WES LR LR
comp=Z,2μm,22.0s
JTS JuntasAbangare 133.01 79 PFAKE 03 42 30.0 +11
JTS LR LR
comp=Z,16nm,20.0s,MS3.7
TORD Torodi Ar. Bea 139.38 287 PKhKP 03 42 23.2
comp=Z,0.2nm,0.7s,baz=230,slow=24,SNR=3.5
ROSC El Rosal 143.86 86 PKP PKPdf 03 42 37.3 -1.4
comp=Z,8.5nm,0.6s,baz=103,slow=5.6,SNR=8.5
LPAZ La Paz 144.65 124 PKP PKPdf 03 42 41.2 +1.2
comp=Z,5.6nm,0.6s,baz=274,slow=2.8,SNR=27
SDV Santo Domingo 147.20 78 *e*PKPdf PKPdf 03 42 47.0 +2.6
SDV LR LR
comp=Z,90nm,21.0s,MS4.5
BBGH Gun Hill 156.59 64 PFAKE 03 43 10.0 +12
BBGH LR LR
comp=Z,1μm,21.0s

CASC 25 03:44:20.2±4.0, 1441N×9038W, h21km±22km, MD4.0, 5C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.22**	**267**	⇑*e*P	Pb	03 44 25.2	-0.5
FUG	**Fuego 3**	**0.45**	**275**	⇓*e*P	Pb	03 44 29.2	-0.2
RBDL	**Robledal**	**0.73**	**113**	⇑*i*P	x	03 44 32.6	
MTO2	**Montecristo 2**	**0.98**	**90**	⇑*i*P	x	03 44 40.1	
JAT	**Jato**	**1.22**	**266**	⇓*e*P	Pn	03 44 43.0	+0.9
BOQS	**Boqueron**	**1.26**	**122**	*e*P	x	03 44 40.5	
LFU	**La Fuente**	**1.39**	**118**	*e*P	x	03 44 43.1	
LBRS	**Las Brisas**	**1.46**	**117**	⇑*e*P	x	03 44 44.0	
LFRS	**El Faro**	**1.50**	**121**	*e*P	x	03 44 44.7	
LCBS	**La Ceiba**	**1.55**	**119**	⇑*e*P	x	03 44 45.4	
CNCH	**Conchagua**	**2.71**	**114**	*e*P	x	03 45 04.8	

MAN 25 03:47:51.1, 984N×12584E, h20km, mb1.9, ML3.7, MS1.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.89**	**194**	*e*P	Pb	03 48 07.3	-0.6
MSLP	**Maasin**	**1.01**	**287**	*e*P	Pb	03 48 08.8	-1.2
MSLP				*e*S	Sb	03 48 25.5	+2.7
BUKP	**Musuan**	**2.09**	**202**	*e*P	Pn	03 48 25.6	+0.6

*IDC **25** 04:00:10.7±0.9, 48.28N×152.80E, h0km, mb3.6/11, mb1 3.8/11, mb1mx3.7/23, mbtmp3.7/11, Error ellipse: s-maj=34.6km s-min=18.8km az=105.0*
*MOS **25** 04:00:15.7±2.0, 48.18N×152.20E, h52km, mb4.2/4, Error ellipse: s-maj=38.0km s-min=15.1km az=74.5*
*ISCJB **25** 04:00:20.4±2.2, 483N±0.1×1527E±0.3, h92km±21km, mb3.5/11, Error ellipse: s-maj=33.2km s-min=18.3km az=60.4*

ISC 25 04:00:21.8±2.0, 483N±01×1527E±03, h91km±19km, n19, σ0972/19, mb3.5/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.27**	**42**	*e*PN	**Pn**	**04 01 11.5**	**+0.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
MJAR	**Matsushiro Arr**	**15.85**	**228**	Pn	**Pn**	**04 03 50.3**	**-9.3**
	comp=Z,0.1nm,0.3s,baz=55,slow=11,SNR=4.3						
KSRS	**Korea Array**	**21.05**	**248**	P	**Pn**	**04 04 57.1**	**-1.2**
	comp=Z,0.4nm,0.3s,mb3.2,baz=45,slow=10,SNR=2.9						
INK	**Inuvik**	**40.51**	**33**	P	**P**	**04 07 50.5**	**-1.2**
	comp=Z,0.8nm,0.9s,mb3.5,baz=248,slow=5.4,SNR=4.6						
INK	**Inuvik**	**40.51**	**33**	P	**P**	**04 07 50.6**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**49.86**	**37**	P	**P**	**04 09 04.6**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=6.8,SNR=4.5						
YKA	**Yellowknife Ar**	**49.86**	**37**	P	**P**	**04 09 04.6**	**-1.1**
FINES	**FINESS Array B**	**62.53**	**334**	P	**P**	**04 10 35.7**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=34,slow=6.8,SNR=7.7						
FINES	**FINESS Array B**	**62.53**	**334**	P	**P**	**04 10 35.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**66.68**	**341**	P	**P**	**04 11 03.3**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.6,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**66.68**	**341**	P	**P**	**04 11 02.5**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.5,baz=28,slow=6.6,SNR=2.8						
HFS	**Hagfors**	**66.92**	**339**	P	**P**	**04 11 04.8**	**+0.5**
	comp=Z,1.1nm,0.4s,mb4.1,baz=69,slow=8.1,SNR=16						
HFS	**Hagfors**	**66.92**	**339**	P	**P**	**04 11 04.8**	**+0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**69.88**	**198**	P	**P**	**04 11 23.5**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.3,baz=28,slow=6.5,SNR=3.6						
AKASG	**Malin Array Be**	**70.11**	**326**	P	**P**	**04 11 24.8**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=34,slow=5.8,SNR=2.9						
ASAR	**Alice Springs**	**73.58**	**198**	P	**P**	**04 11 45.4**	**+0.4**
	comp=Z,0.1nm,0.7s,mb2.6,baz=4.4,slow=5.5,SNR=3.2						
EKA	**Eskdalemuir Ar**	**74.78**	**346**	P	**P**	**04 11 52.5**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.1,baz=18,slow=4.9,SNR=19						
EKA	**Eskdalemuir Ar**	**74.78**	**346**	P	**P**	**04 11 52.6**	**+0.6**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**76.95**	**334**	P	**P**	**04 12 04.8**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.3,baz=36,slow=5.3,SNR=5.8						

WEL 25 04:28:27.6±0.4, 3831S×17852E, h5km, ML3.5/4, 2C-1D, Error ellipse: s-maj=3.4km s-min=1.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.31**	**320**	⇓PG	Pg	04 28 33.6	-0.2
PUZ				SG	Sg	04 28 38.4	+0.6
PUZ				SG	Sg	04 28 38.5	+0.7
MXZ	**Matakaoa Point**	**0.77**	**348**	P*	Pb	04 28 42.8	-0.6
MXZ				S*	Sb	04 28 54.4	+0.2
MWZ	**Matawai**	**0.78**	**268**	⇑P*	Pb	04 28 43.0	-0.6
MWZ				S*	Sb	04 28 54.6	+0.2
KNZ	**Kokohu**	**0.97**	**223**	P*	Pb	04 28 46.0	-0.9
KNZ				S*	Sb	04 29 00.1	+0.2
URZ	**Urewera**	**1.11**	**272**	⇑P*	Pb	04 28 48.1	-1.2
URZ				S*	Sb	04 29 04.0	+0.1
MRZ	**Mangatainoka R**	**3.27**	**223**	*e*PN	Pn	04 29 15.1	-4.3
MRZ				SN	Sn	04 29 54.0	-4.7
MRZ				SN	Sn	04 29 54.3	-4.4

IDC 25 05:07:19.7±1.7, 750S×15713E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, ML4.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/15, Error ellipse: s-maj=42.1km s-min=26.7km az=1.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.38**	**125**	Pn	Pn	05 08 12.7	-1.0
	22nm,0.3s,baz=267,slow=5.4,SNR=7.0						
HNR				Sn	Sn	05 08 57.2	+2.7
	29nm,0.3s,baz=94,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**25.32**	**238**	P	P	05 12 48.4	+0.4
	1.7nm,0.7s,baz=63,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**27.47**	**232**	P	P	05 13 07.7	+0.2
	0.3nm,0.6s,baz=66,slow=9.8,SNR=5.1						
JNU	**Nakatsue**	**47.49**	**330**	LR	LR	05 34 34.1	
	comp=Z,90nm,18.5s,baz=323,slow=34						
YKA	**Yellowknife Ar**	**95.79**	**28**	P	P	05 20 47.8	+0.1
	0.2nm,0.6s,baz=266,slow=4.4,SNR=4.3						

MAN 25 05:14:33.5, 986N×12606E, h12km, mb2.4, ML4.0, MS1.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.57**	**262**	*e*P	Pg	05 14 45.1	+0.5
SCPH				*e*S	Sg	05 14 56.4	+4.3
BUTP	**Butuan**	**0.99**	**206**	*e*P	Pb	05 14 51.3	-1.2
BUTP	**Butuan**	**0.99**	**206**	*e*P	Pb	05 14 51.5	-1.1
MSLP	**Maasin**	**1.21**	**283**	*e*P	Pn	05 14 55.4	-0.9
MSLP				*e*S	Sb	05 15 13.0	+1.0
MSLP	**Maasin**	**1.21**	**283**	*e*P	Pn	05 14 55.1	-1.2
MSLP				*e*S	Sb	05 15 12.8	+0.8
CGP	**Cagayan de Oro**	**1.94**	**224**	⇓*e*P	Pn	05 15 05.8	-0.5
CGP				*e*S	Sn	05 15 32.1	+1.5
BUKP	**Musuan**	**2.20**	**207**	*e*P	Pn	05 15 10.5	+0.6
BUKP	**Musuan**	**2.20**	**207**	*e*P	Pn	05 15 10.3	+0.5
GUIM	**Jordan**	**3.50**	**283**	*e*P	Pn	05 15 28.0	+0.3

IDC 25 05:45:38.0±5.5, 1591N×9283W, h93km±25km, mb3.0/2, mb1 3.5/5, mb1mx3.2/20, mbtmp3.2/5, Error ellipse: s-maj=65.5km s-min=14.1km az=172.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.29**	**301**	P	Pn	05 46 15.0	+0.9
	5.3nm,0.3s,baz=125,slow=11,SNR=40						
CMIG				S	Sn	05 46 42.1	+0.4
	9.0nm,0.3s,baz=112,slow=15,SNR=8.3						
TEIG	**Tepich**	**6.10**	**45**	P	Pn	05 47 05.0	-0.5
	6.1nm,0.3s,baz=264,slow=2.3,SNR=66						
TEIG				S	Sn	05 48 15.1	+1.2
	17nm,0.3s,baz=91,slow=23,SNR=9.9						
TXAR	**Lajitas Array**	**16.68**	**325**	P	Pn	05 49 28.1	+2.2
	0.1nm,0.3s,baz=161,slow=17,SNR=2.6						
NVAR	**Mina Array Bea**	**31.70**	**320**	P	P	05 51 54.5	+1.9
	0.5nm,0.6s,baz=128,slow=8.9,SNR=6.8						
YKA	**Yellowknife Ar**	**48.99**	**347**	P	P	05 54 13.3	-1.9
	0.1nm,0.5s,baz=150,slow=7.2,SNR=6.8						

IDC 25 06:10:42.8±15.0, 257S×12434E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=223.5km s-min=184.4km az=135.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.84**	**151**	P	Pn	06 15 14.1	-2.5
	0.1nm,0.3s,baz=328,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**22.93**	**157**	P	P	06 15 48.5	+0.2
	0.6nm,0.4s,baz=330,slow=7.6,SNR=20						
STKA	**Stephens Creek**	**33.38**	**153**	P	P	06 17 23.9	+1.2
	1.6nm,0.9s,baz=324,slow=12,SNR=4.7						

*IDC **25** 06:35:49.4±3.5, 3595N×7126E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/23, mbtmp4.0/7, Error ellipse: s-maj=73.6km s-min=34.7km az=125.0*
*ISCJB **25** 06:36:06.3±1.3, 3649N±006×713E±02, h146km±16km, mb3.8/5, Error ellipse: s-maj=22.8km s-min=5.4km az=131.8*

ISC 25 06:36:07.5±1.2, 3649N±006×714E±02, h144km±14km, n31, σ0982/36, mb3.8/5, 1C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.41**	**137**	*e*P	**Pn**	**06 37 27.6**	**+1.4**
THN				*e*S	**Sn**	**06 38 28.4**	**+0.8**
DLH	**Dalhousie**	**5.47**	**135**	*e*S	**Sn**	**06 38 29.0**	**-0.1**
DLH				*ex*	x	06 38 54.0	
AML	**Almayashu**	**5.92**	**17**	P	**Pn**	**06 37 32.7**	**-0.3**
	SNR=73						
UCH	**Uchtor**	**6.23**	**22**	P	**Pn**	**06 37 36.9**	**-0.2**
	SNR=26						
KZA	**Kyzart**	**6.34**	**27**	P	**Pn**	**06 37 38.1**	**-0.5**
	SNR=9.0						
EKS2	**Erkin-Say**	**6.44**	**16**	P	**Pn**	**06 37 41.5**	**+1.5**
	SNR=38						
AAK	**Ala-Archa**	**6.59**	**21**	P	**Pn**	**06 37 41.9**	**-0.2**
	SNR=22						
KK31	**Karatay Array**	**6.64**	**355**	⇑P	**Pn**	**06 37 41.6**	**-1.0**
	7.4nm,0.3s,baz=187,slow=19,SNR=127						
KK31				S	**Sn**	**06 38 51.3**	**-5.8**
	5.4nm,0.3s,baz=187,slow=20,SNR=10						
KBK	**Karagaybulak**	**6.75**	**23**	P	**Pn**	**06 37 45.1**	**+0.9**
	SNR=7.8						
ULHL	**Ulahol**	**6.88**	**32**	P	**Pn**	**06 37 45.4**	**-0.4**
	SNR=16						
CHMS	**Chumysh**	**7.00**	**21**	P	**Pn**	**06 37 48.0**	**+0.5**
	SNR=13						
USP	**Ospenovka**	**7.19**	**19**	P	**Pn**	**06 37 49.6**	**-0.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.20**	**26**	P	**Pn**	**06 37 49.7**	**-0.5**
	SNR=6.5						
KLP	**Kalpa**	**7.55**	**129**	*e*P	**Pn**	**06 37 56.1**	**+1.2**
KLP				*e*S	**Sn**	**06 39 16.0**	**-3.2**
KLP				AML	AML	06 39 19.4	
	comp=E,86nm,0.3s						
KLP				AML	AML	06 39 19.6	
	comp=N,76nm,0.2s						
JOSI	**Joshimath**	**9.04**	**129**	*ex*	x	06 38 12.2	
JOSI				*e*S	**Sn**	**06 39 49.8**	**-5.2**
KHET	**Khetri**	**9.19**	**155**	*e*S	**Sn**	**06 39 51.8**	**-6.8**
KHET				*e*S	**Sn**	**06 39 52.4**	**-6.2**
KHET				AML	AML	06 39 56.9	
	comp=E,16nm,0.1s						
KOLN	**Koldanda**	**13.52**	**127**	*e*P	**Pn**	**06 39 13.0**	**-0.4**
	comp=E,4.2nm,0.3s						
KOLN				*e*S	**Sn**	**06 41 28.0**	**-15**
GKN	**Gorkha**	**14.05**	**123**	*e*P	**Pn**	**06 39 20.1**	**-0.1**
	comp=E,11nm,0.3s						
DMN	**Daman**	**14.62**	**123**	*e*P	**Pn**	**06 39 27.1**	**-0.3**
	comp=E,9.2nm,0.4s						
KKN	**Kakani**	**14.62**	**122**	*e*P	**Pn**	**06 39 27.0**	**-0.4**
PKI	**Pulchoki**	**14.85**	**123**	*e*P	**Pn**	**06 39 30.1**	**-0.1**
GUN	**Gumba**	**14.96**	**121**	*e*P	**Pn**	**06 39 31.3**	**-0.3**
JIRN	**Jiri**	**15.33**	**121**	*e*P	**Pn**	**06 39 36.7**	**+0.5**
	comp=E,12nm,0.3s						
AKTO	**Aktyubinsk**	**16.94**	**330**	P	**Pn**	**06 39 54.6**	**-1.2**
	comp=E,0.5nm,0.3s,baz=147,slow=8.1,SNR=9.4						
ZAL	**Zalesovo**	**19.79**	**24**	P	**Pn**	**06 40 27.1**	**+0.6**
	comp=E,2.4nm,0.4s,baz=248,slow=6.8,SNR=6.2						
FINES	**FINESS Array B**	**37.66**	**326**	P	**P**	**06 43 08.9**	**+0.3**
	comp=E,1.4nm,0.9s,mb3.6,baz=128,slow=9.0,SNR=5.4						
ARCES	**ARCESS Array B**	**41.27**	**338**	P	**P**	**06 43 39.2**	**+0.8**
	comp=E,4.7nm,1.0s,mb4.1,baz=92,slow=11,SNR=3.3						
HFS	**Hagfors**	**43.26**	**322**	P	**P**	**06 43 55.0**	**+0.4**
	comp=E,1.6nm,0.4s,mb4.0,baz=94,slow=11,SNR=10						
NB2	**NORSAR Subarra**	**44.57**	**323**	P	**P**	**06 44 05.0**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.5,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.57**	**323**	P	**P**	**06 44 05.2**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.5,baz=96,slow=7.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P	**P**	**06 46 37.7**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.5,baz=55,slow=5.9,SNR=11						

PRE 25 07:08:45.9±1.3, 2805S×2676E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.81**	**110**	*e*P	Pg	07 09 01.5	+0.2
SEK				*e*S	Sg	07 09 12.7	+0.8
SEK				AML	AML	07 09 13.3	
	comp=Z,844nm,0.2s						
PRYS	**Parys**	**1.24**	**25**	*e*P	Pg	07 09 09.8	+0.1
PRYS				*e*S	Sg	07 09 26.1	+0.3
PRYS				AML	AML	07 09 28.7	
	comp=Z,2μm,0.2s						
BOSA	**Boshof**	**1.44**	**247**	*e*P	Pn	07 09 14.4	+1.4
BOSA				*e*S	Sg	07 09 32.8	+0.6
BOSA				AML	AML	07 09 36.2	
	comp=Z,190nm,0.6s						
SWZ	**Schweizer**	**1.54**	**304**	*e*P	Pn	07 09 15.2	+0.9
SWZ				*e*S	Sn	07 09 36.0	+1.1
SWZ				AML	AML	07 09 38.2	
	comp=Z,427nm,0.7s						
KLOF	**Kloof**	**1.85**	**24**	*e*P	Pn	07 09 19.7	+1.0
KLOF				*e*S	Sn	07 09 44.1	+1.4
KLOF				AML	AML	07 09 47.0	
	comp=Z,1μm,0.2s						
KSR	**Koster**	**2.19**	**3**	*e*P	Pn	07 09 24.5	+1.1
KSR				*e*S	Sn	07 09 52.3	+1.2
KSR				AML	AML	07 09 55.0	
	comp=Z,638nm,0.2s						
LBTB	**Lobatse**	**3.20**	**341**	*e*P	Pn	07 09 38.4	+1.2
LBTB				*e*S	Sn	07 10 15.1	-0.8
LBTB				AML	AML	07 10 31.1	
	comp=Z,281nm,0.3s						
KSD	**Kokstad**	**3.40**	**138**	*e*P	Pn	07 09 40.8	+1.0
KSD				*e*S	Sn	07 10 19.6	-1.1
KSD				AML	AML	07 10 36.3	
	comp=Z,59nm,0.3s						
UPI	**Upington**	**4.87**	**265**	*e*P	Pn	07 10 01.5	+1.3
UPI				*e*S	Sn	07 10 55.6	-1.6
UPI				AML	AML	07 11 22.8	
	comp=Z,45nm,0.3s						
GRM	**Grahamstown**	**5.25**	**182**	*e*P	Pn	07 10 06.0	+0.7
GRM				*e*S	Sn	07 11 05.4	-1.1
GRM				AML	AML	07 11 35.6	
	comp=Z,22nm,0.5s						
MSNA	**Messina**	**6.40**	**28**	*e*P	Pn	07 10 21.3	+0.1
MSNA				*e*S	Sn	07 11 29.9	-4.9
MSNA				AML	AML	07 12 13.1	
	comp=Z,64nm,0.6s						
SUR	**Sutherland**	**6.72**	**229**	*e*P	Pn	07 10 26.3	+0.8
SUR				*e*S	Sn	07 11 39.9	-2.7
CVNA	**Calvinia**	**6.98**	**239**	*e*P	Pn	07 10 29.7	+0.6
CVNA				*e*S	Sn	07 11 46.9	-2.2
CVNA				AML	AML	07 12 29.0	
	comp=Z,51nm,0.7s						
CER	**Ceres**	**8.33**	**229**	*e*S	Sn	07 12 18.4	-3.8
CER				AML	AML	07 13 05.9	
	comp=Z,11nm,0.5s						
ELIM	**Elim**	**8.86**	**221**	*e*P	Pn	07 10 55.8	+0.8
ELIM				*e*S	Sn	07 12 31.6	-3.8
ELIM				AML	AML	07 13 31.2	
	comp=Z,16nm,0.8s						

BJI 25 07:13:21.0, 2172N×10166E, h31km, ML3.5, Ms3.6, Msz3.0, 2C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANT	**Nan**	**3.04**	**197**	⇑P	Pn	07 14 09.0	+2.0
	1μm,1.0s						
KMI	**Kunming**	**3.53**	**16**	PG	Pb	07 14 24.8	+2.1
KMI				SG	Sb	07 15 10.8	+5.7
KMI				Smax			
	comp=N,51nm,0.8s						
KMI				Smax			
	comp=E,43nm,1.3s						
CHG	**Chiang Mai**	**3.85**	**222**	⇑P	Pb	07 14 37.4	+9.1
	comp=E,66nm,0.7s						

*ISCJB **25** 07:25:14.2±0.9, 3933N±008×74.1E±0.1, h10km, mb3.7/6, Error ellipse: s-maj=15.3km s-min=11.4km az=11.4*
*IDC **25** 07:25:14.3±1.0, 3943N×7434E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, ML3.2/2, Error ellipse: s-maj=39.3km s-min=18.1km az=56.0*

ISC 25 07:25:15.9±0.9, 3938N±008×742E±01, h10km, n20, σ1816/21, mb3.7/6, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.77**	**353**	P	**Pn**	**07 26 01.1**	**+0.8**
	SNR=25						
KZA	**Kyzart**	**2.82**	**17**	P	**Pn**	**07 26 00.3**	**-0.7**
	SNR=29						
UCH	**Uchtor**	**2.86**	**5**	P	**Pn**	**07 26 00.8**	**-0.8**
	SNR=115						
AAK	**Ala-Archa**	**3.26**	**4**	P	**Pn**	**07 26 06.8**	**-0.3**
	SNR=101						
ULHL	**Ulahol**	**3.27**	**28**	P	**Pn**	**07 26 08.8**	**+1.6**
	SNR=34						
EKS2	**Erkin-Say**	**3.29**	**355**	P	**Pn**	**07 26 08.9**	**+1.4**
	SNR=7.3						
KBK	**Karagaybulak**	**3.33**	**10**	P	**Pn**	**07 26 07.7**	**-0.3**
	SNR=61						
CHMS	**Chumysh**	**3.64**	**7**	P	**Pn**	**07 26 13.8**	**+1.4**
	SNR=12						
TKM2	**Tokmak 2**	**3.70**	**17**	P	**Pn**	**07 26 12.7**	**-0.4**
	SNR=16						
TKM2	**Tokmak 2**	**3.70**	**17**	⇓Pn	**Pn**	**07 26 12.1**	**-1.0**
	1.9nm,0.5s						
TKM2				⇑Lg		07 26 55.7	
	2.6nm,0.5s						
USP	**Ospenovka**	**3.89**	**4**	P	**Pn**	**07 26 20.4**	**+4.6**
	SNR=30						
KK31	**Karatay Array**	**4.63**	**325**	⇓Pn	**Pn**	**07 26 27.3**	**+1.4**
	1.7nm,0.4s,baz=130,slow=14,SNR=25						
KK31				⇑Pg	**Pg**	**07 26 38.0**	**-6.5**
	3.0nm,0.4s,baz=138,slow=16,SNR=7.9						
KK31				⇓Lg		07 27 35.3	
	23nm,0.7s,baz=126,slow=28,SNR=6.6						
BVAR	**Borovoye Array**	**13.89**	**350**	Pn	**Pn**	**07 28 30.2**	**-2.6**
	0.1nm,0.3s,baz=173,slow=12,SNR=3.4						
AKTO	**Aktyubinsk**	**15.87**	**319**	Pn	**Pn**	**07 28 58.5**	**-0.8**
	0.1nm,0.3s,baz=121,slow=17,SNR=3.1						
FINES	**FINESS Array B**	**36.59**	**323**	P	**P**	**07 32 22.6**	**+0.6**
	3.0nm,1.0s,mb4.1,baz=123,slow=14,SNR=4.5						
ARCES	**ARCESS Array B**	**39.50**	**335**	P	**P**	**07 32 45.3**	**-1.3**
	2.4nm,1.0s,mb3.9,baz=93,slow=9.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**68.27**	**269**	P	**P**	**07 36 17.6**	**+0.6**
	0.4nm,0.6s,mb3.6,baz=62,slow=5.0,SNR=5.2						
YKA	**Yellowknife Ar**	**78.23**	**4**	P	**P**	**07 37 13.1**	**-2.7**
	0.1nm,0.4s,mb3.1,baz=348,slow=5.6,SNR=4.3						
WRA	**Warramunga Arr**	**81.47**	**124**	P	**P**	**07 37 33.9**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=329,slow=5.4,SNR=15						
ASAR	**Alice Springs**	**83.92**	**127**	P	**P**	**07 37 46.0**	**-0.1**
	0.3nm,0.6s,mb3.6,baz=306,slow=4.7,SNR=8.0						

*CSEM **25** 08:10:39.8, 1220N×4380E, h10km, ML3.8, After DHMR*
DHMR 25 08:10:39.8±0.8, 1220N×4380E, h11km±5km, ML3.8, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.07**	**17**	⇑*i*P	Pb	08 11 00.3	-0.1
TRBA				*i*S	Sg	08 11 14.7	+0.3
TRBA				AML	AML	08 11 23.1	
	comp=N,2μm,0.6s						
ADEN	**Aden**	**1.29**	**63**	*i*P	Pn	08 11 03.3	-0.6
ADEN				*i*S	Sb	08 11 21.8	+1.1
ADEN				AML	AML	08 11 27.1	
	comp=N,3μm,0.5s						
ADEN	**Aden**	**1.29**	**63**	*i*P	Pn	08 11 03.3	-0.5
ADEN				*i*S	Sb	08 11 21.8	+1.0
	comp=N,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.77**	**5**	*i*P	Pn	08 11 11.3	+1.0
UDYN				*i*S	Sn	08 11 36.2	+3.4
UDYN				AML	AML	08 11 44.0	
	comp=N,1μm,0.4s						
UDYN	**Al 'Udayn**	**1.77**	**5**	*i*P	Pn	08 11 11.4	+1.1
UDYN				*i*S	Sn	08 11 36.2	+3.4
	comp=N,550nm,0.4s						
LBOS		**2.18**	**40**	*i*P	Pn	08 11 18.0	+1.9
LBOS				*i*S	Sn	08 11 48.0	+4.9
DHBB	**Dhamar BB**	**2.43**	**14**	*i*P	Pn	08 11 22.0	+2.6
DHBB				*i*S	Sn

PSI				Sn		Sn	08 22 48.2	-8.7
	24nm,0.3s,baz=307,slow=14,SNR=9.0							
PSI	Prapat	2.95	97	Pn		Pn	08 22 22.4	-0.3
PSI				Sn		Sn	08 22 48.2	-8.7
KULM	Kulim	5.11	65	ePn		Pn	08 22 52.1	-0.1
CHTO	Chiang Mai	15.84	10	eP		Pn	08 25 16.4	-0.4
CHTO				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CHTO	Chiang Mai	15.84	10	eP		Pn	08 25 16.4	-0.4
	comp=Z,9.2nm,0.9s							
KKM	Kota Kinabalu	20.36	81	eP		P	08 26 10.0	+1.0
HYB	Hyderabad	22.22	311	i P		P	08 26 32.0	+3.2
HYB	Hyderabad	22.22	311	eP		P	08 26 32.0	+3.2
SHL	Shillong	22.64	350	eP		P	08 26 30.5	-2.7
SHL				i S		S	08 30 31.0	-5.0
JIRN	Jiri	26.11	340	eP		P	08 27 06.2	+0.8
	comp=Z,4.4nm,0.2s,mb4.5							
PKI	Pulchoki	26.31	338	eP		P	08 27 07.1	-0.1
GUN	Gumba	26.45	340	eP		P	08 27 09.1	+0.7
	comp=Z,44nm,0.6s,mb5.1							
DMN	Daman	26.45	338	eP		P	08 27 08.0	-0.5
KKN	Kakani	26.55	338	eP		P	08 27 09.5	+0.1
	comp=Z,26nm,0.6s,mb4.9							
KKN	Kakani	26.55	338	eP		P	08 27 09.5	+0.1
KKN				pmax		pmax		
	comp=Z,26nm,0.6s,mb4.9							
LSA	Lhasa	26.80	351	P		P	08 27 14.0	+2.4
GKN	Gorkha	26.99	337	eP		P	08 27 13.5	+0.2
	comp=Z,12nm,0.3s,mb4.9							
KOLN	Koldanda	27.19	335	eP		P	08 27 15.5	+0.4
	comp=Z,19nm,0.7s,mb4.8							
FITZ	Fitzroy Crossi	36.05	127	eP		P	08 28 31.3	-1.5
	comp=Z,8.9nm,0.8s,mb4.8							
GTA	Gaotai	36.26	5	eP		P	08 28 35.0	+0.4
GTA				AP		pP	08 28 40.0	-12
GTA				XP		sP	08 28 43.0	-17
GTA				AMB		AMB		
	comp=Z,3.0nm,0.7s,mb4.3							
KAKA	Kakadu	39.48	114	eP		P	08 29 00.7	-1.0
	comp=Z,21nm,1.4s,mb4.8							
MUN	Mundaring	39.87	153	eP		P	08 29 05.6	+0.7
KLBR	Kellerberrin	40.28	151	eP		P	08 29 08.5	+0.2
	comp=Z,4.8nm,0.4s,mb4.7							
BJI	Beijing	41.02	24	P		P	08 29 16.3	+1.9
BJI				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.6							
BJI				AMB		AMB		
	comp=Z,211nm,5.0s							
BJI	Beijing	41.02	24	P		P	08 29 16.2	+1.8
BJI				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.6							
BJI	Beijing	41.02	24	P		P	08 29 16.2	+1.8
	comp=Z,13nm,1.2s,mb4.6							
NWAO	Narrogin (SRO)	41.13	152	P		P	08 29 15.6	+0.3
	comp=Z,8.9nm,0.5s,mb4.8,baz=330,slow=8.9,SNR=18							
AAK	Ala-Archa	43.74	337	eP		P	08 29 36.3	-0.2
AAK				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.4							
AAK	Ala-Archa	43.74	337	eP		P	08 29 36.3	-0.2
	comp=Z,8.2nm,1.1s,mb4.4							
WRA	Warramunga Arr	44.09	123	P		P	08 29 39.3	0.0
	comp=Z,11nm,0.5s,mb4.9,baz=300,slow=9.2,SNR=82							
WB2	Warramunga Arr	44.10	123	eP		P	08 29 38.7	-0.7
KSRS	Korea Array	44.98	37	P		P	08 29 46.6	+0.3
	comp=Z,3.8nm,0.7s,mb4.2,baz=226,slow=9.7,SNR=13							
KSRS				LR		LR	08 50 46.0	
	comp=Z,119nm,19.5s,baz=103,slow=39							
MK31	Makanchi Array	45.08	347	eP		P	08 29 47.1	0.0
MKAR	Makanchi Array	45.08	347	eP		P	08 29 47.0	-0.1
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
SONM	Songino Array	45.41	10	P		P	08 29 50.1	+0.3
	comp=Z,3.8nm,0.6s,mb4.3,baz=190,slow=9.5,SNR=6.8							
SONM				PcP		PcP	08 31 29.2	+1.3
	comp=Z,3.3nm,0.6s,baz=192,slow=3.8,SNR=11							
SONM				LR		LR	08 50 46.5	
	comp=Z,111nm,19.3s,baz=165,slow=39							
SONM	Songino Array	45.41	10	P		P	08 29 50.1	+0.3
SONM							08 31 29.2	
ASAR	Alice Springs	45.53	128	P		P	08 29 50.8	0.0
	comp=Z,4.8nm,0.6s,mb4.4,baz=298,slow=7.9,SNR=162							
ASAR				PcP		PcP	08 31 29.2	+0.9
	comp=Z,2.1nm,0.6s,baz=306,slow=3.5,SNR=11							
FORT	Forrest	45.54	140	eP		P	08 29 51.4	+0.6
	comp=Z,20nm,0.6s,mb5.0							
ULN	Ulaanbaatar	45.56	10	eP		P	08 29 51.4	+0.5
KKAR	Karatay Array	45.78	334	i P		P	08 29 53.4	+0.7
CN2	Changchun	48.15	29	eP		P	08 30 11.5	+0.3
CN2				eAP		pP	08 30 21.0	-7.9
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
KURK	Kurchatov	49.61	346	eP		P	08 30 22.3	-0.1
KURK				pmax		pmax		
	comp=Z,29nm,1.4s,mb5.0							
KURK	Kurchatov	49.61	346	eP		P	08 30 22.3	-0.1
	comp=Z,29nm,1.4s,mb5.0							
MJAR	Matsushiro Arr	51.11	44	PcP		PcP	08 31 49.2	+0.8
	comp=Z,1.0nm,0.8s,baz=261,slow=4.9,SNR=4.0							
ZAL	Zalesovo	51.45	352	P		P	08 30 36.6	+0.4
	comp=Z,6.1nm,0.6s,mb4.8,baz=310,slow=6.1,SNR=22							
BVA0	Borovoye Array	54.03	341	i P		P	08 30 54.3	-0.9
BVAR	Borovoye Array	54.03	341	P		P	08 30 54.8	-0.4
	comp=Z,3.7nm,0.6s,mb4.6,baz=140,slow=8.8,SNR=23							
BRVK	Borovoye	54.09	341	eP		P	08 30 55.0	-0.6
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.7							
BRVK	Borovoye	54.09	341	eP		P	08 30 55.0	-0.7
	comp=Z,8.5nm,1.1s,mb4.7							
CTA	Charters Tower	54.46	117	eP		P	08 30 59.1	+0.8
	comp=Z,4.4nm,0.9s,mb4.5							
CTA	Charters Tower	54.46	117	eP		P	08 30 59.1	+0.8
CTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CTAO	Charters Tower	54.46	117	eP		P	08 30 59.1	+0.8
CTAO				pmax		pmax		
	comp=Z,13nm,1.5s,mb4.7							
CTAO	Charters Tower	54.46	117	eP		P	08 30 59.1	+0.7
	comp=Z,13nm,1.5s,mb4.7							
KLR	Kul'dur	55.09	28	eP		P	08 31 00.0	-2.9
AB31	Akbulak array	55.24	332	P		P	08 31 03.6	-0.4
AB31				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.1							
STKA	Stephens Creek	55.55	133	eP		P	08 31 06.5	+0.3
	comp=Z,3.3nm,0.9s,mb4.4							
STKA	Stephens Creek	55.55	133	P		P	08 31 06.6	+0.3
	comp=Z,3.8nm,0.8s,mb4.5,baz=298,slow=8.9,SNR=4.9							
BOD	Bodaibo	56.34	11	eP		P	08 31 11.9	+0.1
BOD				e			08 31 21.6	
AKTK	Aktyubinsk	56.95	332	P		P	08 31 15.7	-0.5
AKTO	Aktyubinsk	56.95	332	P		P	08 31 15.7	-0.5
	comp=Z,4.8nm,0.8s,mb4.5,baz=138,slow=7.3,SNR=16							
KMBO	Kilima Mbogo	58.87	267	LR		LR	08 53 35.5	
	comp=Z,98nm,18.0s,baz=95,slow=33							
BRTR	Keskin Array B	66.92	312	P		P	08 32 22.0	-1.0
	comp=Z,1.3nm,0.9s,mb3.8,baz=90,slow=7.4,SNR=5.3							
AKASG	Malin Array Be	72.99	322	P		P	08 32 58.9	-1.3
	comp=Z,2.8nm,0.5s,mb4.3,baz=90,slow=5.0,SNR=14							
LBTB	Lobatse	73.67	243	eP		P	08 33 04.0	-0.3
BOSA	Boshof	74.71	239	P		P	08 33 10.3	0.0
	comp=Z,2.1nm,0.8s,mb3.9,baz=39,slow=9.6,SNR=5.0							
BOSA				LR		LR	09 03 54.2	
	comp=Z,86nm,18.1s,baz=272,slow=34							
BOSA	Boshof	74.71	239	P		P	08 33 10.3	0.0
BOSA				LR		LR	09 03 54.2	
JOF	Joensuu	75.88	335	ep		P	08 33 15.9	-1.1
	comp=Z,11nm,1.0s,mb4.6							
KOLS	Kolonicke sedl	76.96	319	eP		P	08 33 23.5	+0.4
STHS	Stebnicka Huta	77.71	320	eP		P	08 33 28.5	+1.2
FINES	FINESS Array B	77.72	332	P		P	08 33 26.9	-0.4
	comp=Z,3.4nm,0.7s,mb4.2,baz=109,slow=5.9,SNR=12							
KAF	Kangasniemi	77.81	333	ep		P	08 33 26.6	-1.2
	comp=Z,13nm,0.9s,mb4.7							
KAF	Kangasniemi	77.81	333	eP		P	08 33 26.6	-1.2
KAF				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.7							
KECS	Kecovo	78.05	319	eP		P	08 33 29.4	+0.2
ARCES	ARCESS Array B	80.31	340	P		P	08 33 41.4	-0.1
	comp=Z,2.9nm,0.5s,mb4.3,baz=90,slow=4.9,SNR=24							
GERES	GERESS Array B	82.56	319	P		P	08 33 53.9	+0.6
	comp=Z,1.9nm,0.7s,mb4.0,baz=93,slow=5.3,SNR=20							
GRF	Grafenberg Arr	84.22	319	eP		P	08 34 02.6	+0.7
NOA	NORSAR Array B	84.73	331	P		P	08 34 04.1	-0.4
	comp=Z,2.2nm,1.0s,mb4.0,baz=94,slow=5.1,SNR=3.3							
NOA	NORSAR Array B	84.73	331	P		P	08 34 04.1	-0.4
TORD	Torodi Ar. Bea	93.47	283	P		P	08 34 46.5	+0.5
	comp=Z,1.3nm,0.7s,mb4.3,baz=93,slow=5.3,SNR=8.2							
ULM	Lac du Bonnet	125.84	9	PKP		PKPdf	08 40 31.8	0.0
	comp=Z,1.7nm,0.6s,baz=271,slow=2.0,SNR=6.0							
NVAR	Mina Array Bea	127.89	34	PKP		PKPdf	08 40 38.1	+2.3
	comp=Z,0.7nm,0.7s,baz=266,slow=3.8,SNR=5.2							
PDAR	Pinedale Array	128.79	24	PKP		PKPdf	08 40 37.9	+0.4
	comp=Z,0.5nm,0.5s,baz=127,slow=2.4,SNR=9.1							
TXAR	Lajitas Array	142.61	29	PKP		PKPdf	08 41 01.9	-1.2
	comp=Z,0.4nm,0.5s,baz=176,slow=0.7,SNR=4.4							
JCT	Junction City	143.32	23	ePKIKP		PKPdf	08 41 02.4	-1.9
LPAZ	La Paz	159.64	229	PKPab		PKPab	08 42 10.2	+2.6
	comp=Z,2.8nm,0.6s,baz=142,slow=4.2,SNR=11							

MOS 25 08:26:37.6±1.6, 4776N×10904E, h29km, mb4.0/2, 2D, Error ellipse: s-maj=47.3km s-min=19.4km az=15.4, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULN	Ulaanbaatar	1.34	275	d iP	Pn	08 27 00.4	0.0
HIA	Hailar	7.27	74	eP	Pn	08 28 22.9	+1.1
VLA	Vladivostok	16.68	98	d iP	Pn	08 30 32.4	+3.3
NVS	Novosibirsk	17.55	303	i P	Pn	08 30 43.9	+3.8
AAK	Ala-Archa	24.74	271	eP	P	08 31 57.0	+0.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	Borovoye	25.04	297	eP	P	08 31 59.5	+0.4
KIV	Kislovodsk	45.09	291	eP	P	08 34 53.2	+2.1
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SOC	Sochi	47.14	292	eP	P	08 35 07.5	+0.3
SOC				e		08 37 04.6	
SOC				eS	S	08 41 57.4	-0.4
SOC				e		08 44 58.2	
SOC				pmax	pmax		
	comp=Z,118nm,1.1s						

*ISCJB **25** 08:44:10.0±0.2, 3725N±002×11461W±003, h10km, Error ellipse: s-maj=3.1km s-min=1.9km az=56.8*
*NEIC **25** 08:44:11.3, 3721N×11466W, h8km, ML3.5(REN), After REN.*

ISC 25 08:44:11.1±0.2, 3721N±001×11467W±002, h10km, n63, σ0996/91, 20C-20D, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U12A	Valley of Fire	0.79	172	P	Pg	08 44 26.3	0.0
	baz=0.8,SNR=516						
U12A				⇑S	Sg	08 44 36.7	+0.1
	baz=0.8						
U11A	Corn Creek	0.97	216	P	Pg	08 44 29.4	-0.4
	baz=1.0,SNR=223						
U11A				⇓S	Sg	08 44 42.8	+0.3
	baz=1.0						
CCUT	Cedar City	1.10	72	ePg	Pg	08 44 32.6	+0.4
CCUT				eSg	Sg	08 44 47.0	+0.5
ARUT	Antelope Range	1.14	59	ePn	Pn	08 44 33.4	+0.4
ARUT				eSn	Sn	08 44 49.3	+0.6
V12A	Nelson	1.49	186	P	Pn	08 44 38.0	+0.1
	baz=1.5,SNR=472						
V12A				⇑S	Sn	08 44 57.4	-0.1
	baz=1.5						
V11A	Goodsprings	1.50	204	⇑P	Pn	08 44 38.1	0.0
	baz=1.5,SNR=372						
V11A				⇑S	Sn	08 44 57.8	+0.1
	baz=1.5						
U10A	Ash Meadows, A	1.55	240	⇓P	Pn	08 44 38.6	-0.1
	baz=1.6,SNR=135						
R10A	Warm Springs	1.68	310	P	Pn	08 44 40.6	+0.1
	baz=1.7,SNR=177						
R10A				⇑S	Sn	08 45 02.4	+0.3
	baz=1.7						
Q11A	Duckwater	1.80	335	⇑P	Pn	08 44 42.3	0.0
	baz=1.8,SNR=29						
Q12A	Willow Creek R	1.83	356	⇑P	Pn	08 44 42.9	+0.3
	baz=1.8						
SHOC	Shoshone	1.84	225	⇓P	Pn	08 44 42.3	-0.5
	baz=1.8,SNR=54						
FURC	Furnace Creek,	1.90	248	⇓P	Pn	08 44 44.2	+0.5
	baz=1.9,SNR=39						
W12A	Cal Nev Ari	1.92	185	⇑P	Pn	08 44 43.8	+0.1
	baz=1.9						
TUQ	Turquoise Mtn.	2.04	210	⇓P	Pn	08 44 45.3	-0.2
	baz=2.0,SNR=38						
S09A	Goldfield	2.09	285	P	Pn	08 44 45.7	-0.5
	baz=2.1,SNR=173						
R09A	Tonopah	2.16	299	P	Pn	08 44 46.9	-0.2
	baz=2.2,SNR=233						
GRAC	Grapevine Rang	2.17	265	P	Pn	08 44 47.0	-0.3
	baz=2.2,SNR=34						
TPH	Tonopah	2.20	294	ePn	Pn	08 44 47.3	-0.4
W13A	Hualapai Mount	2.21	163	⇓P	Pn	08 44 48.1	+0.4
	baz=2.2,SNR=14						
P12A	McGill	2.26	355	⇑P	Pn	08 44 49.6	+1.0
	baz=2.3,SNR=21						
MSU	Marysvale	2.36	56	ePg	Pg	08 44 55.0	-1.4
MSU				eSg	Sg	08 45 27.0	-0.1
W14A	Seligman	2.38	147	⇑P	Pn	08 44 51.3	+1.2
	baz=2.4,SNR=14						
NEE2	Needles Airpor	2.44	179	⇑P	Pn	08 44 50.7	-0.3
	baz=2.4						
P11A	Circle Ranch,	2.48	340	⇓S	Sn	08 45 23.4	+1.4
	baz=2.5						
DAC	Darwin (Calif)	2.52	249	ePg	Pg	08 44 57.6	-1.9
DAC				eSg	Sg	08 45 29.1	-3.1
MPMC	Manual Prospec	2.54	244	⇓P	Pn	08 44 52.0	-0.4
	baz=2.5,SNR=6.6						
GMRC	Granite Mounta	2.56	199	P	Pn	08 44 52.3	-0.3
	baz=2.6,SNR=12						
Q09A	Carvers	2.56	310	⇓P	Pn	08 44 53.3	+0.7
	baz=2.6						
X13A	Yucca	2.70	165	⇓P	Pn	08 44 54.7	+0.1
	baz=2.7						
HEC	Hector,Ludlow	2.73	210	⇓P	Pn	08 44 55.2	+0.2
	baz=2.7						
HEC				⇓S	Sn	08 45 28.8	+0.7
	baz=2.7						
P10A	Eureka	2.78	330	⇑P	Pn	08 44 56.8	+1.1
	baz=2.8						
S08C	White Mtn Res	2.80	277	⇓P	Pn	08 44 55.8	-0.1
	baz=2.8,SNR=13						
S08C				⇑S	Sn	08 45 30.6	+0.8
	baz=2.8						
P09A	Austin	3.03	321	⇑P	Pn	08 44 59.8	+0.6
	baz=3.0						
Q08A	Gabbs	3.05	304	⇑P	Pn	08 44 59.2	-0.2
	baz=3.1,SNR=8.6						
IRM	Iron Mountain	3.07	187	⇓P	Pn	08 44 59.9	+0.2
	baz=3.1,SNR=14						
X14A	Yava	3.10	152	⇓P	Pn	08 45 01.1	+1.1
	baz=3.1						
WUAZ	Wupatki	3.16	121	ePg	Pg	08 45 08.1	-3.5
DUG	Dugway	3.31	25	ePg	Pg	08 45 12.9	-1.7
DUG				eSg	Sg	08 45 58.2	+0.7
BELC	Belle Mtn.	3.38	199	⇑P	Pn	08 45 04.3	+0.3
	baz=3.4,SNR=7.7						
NLU	North Lily Min	3.41	36	ePn	Pn	08 45 05.8	+1.4
TMUT	Trail Mountain	3.43	52	ePg	Pg	08 45 16.1	-0.7
TMUT				eSg	Sg	08 46 02.0	+0.7
ISA	Isabella	3.43	244	⇑P	Pn	08 45 04.9	+0.2
	baz=3.4						
Y12C	Blythe	3.46	178	P	Pn	08 45 05.1	+0.1
	baz=3.5,SNR=7.6						
Y13A	Salome	3.46	168	⇑P	Pn	08 45 05.0	0.0
	baz=3.5,SNR=7.1						
O09A	Fish Creek Ran	3.55	327	⇓P	Pn	08 45 06.8	+0.6
	baz=3.6						
ELK	Elko	3.55	353	ePg	Pg	08 45 17.9	-1.3
ELK				eSg	Sg	08 46 02.6	-2.7
R07C	Lee Vining	3.58	285	⇑P	Pn	08 45 07.0	+0.4
	baz=3.6						
N12A	Clover Valley,	3.64	356	P	Pn	08 45 08.0	+0.4
	baz=3.7,SNR=9.8						
N13A	Wendover, West	3.66	6	⇓P	Pn	08 45 08.0	+0.3
	baz=3.7						
MPU	Maple Canyon	3.67	39	ePg	Pg	08 45 20.6	-0.9
MPU				eSg	Sg	08 46 07.5	-1.6
BMN	Battle Mountai	3.78	329	ePg	Pg	08 45 22.0	-1.6
BMN				eSg	Sg	08 46 08.4	-4.1
SRU	San Rafael	3.78	59	ePb	Pb	08 45 17.6	-0.3
SRU				ePg	Pg	08 45 23.5	0.0
SRU				eSg	Sg	08 46 11.2	-1.3
PFO	Pinyon Flat Ob	3.88	203	ePn	Pn	08 45 10.8	0.0
PFO				ePg	Pg	08 45 23.8	-1.6
PFO	Pinyon Flat Ob	3.88	203	⇑P	Pn	08 45 11.1	+0.3
	baz=3.9,SNR=6.4						
BGU	Big Grassy Mou	3.92	19	ePn	Pn	08 45 14.3	+2.9
BGU				ePg	Pg	08 45 28.6	+2.4
BGU				eSg	Sg	08 46 18.0	+1.0
CTU	Camp Tracy	4.15	32	ePg	Pg	08 45 29.9	-0.8
CTU				eSg	Sg	08 46 25.2	+0.7
M13A	Montello	4.16	5	P	Pn	08 45 15.0	+0.3
	baz=4.2,SNR=8.4						
M13A				⇓S	Sn	08 46 04.8	+1.5
	baz=4.2						
DAU	Daniels Canyon	4.16	39	ePg	Pg	08 45 29.2	-1.6
M12A	Wells	4.20	358	⇓P	Pn	08 45 15.5	+0.2
	baz=4.2						
M12A				⇓S	Sn	08 46 05.3	+1.0
	baz=4.2						
JLU	Jordanelle	4.21	36	ePg	Pg	08 45 31.4	-0.4
HVU	Hansel Valley	4.79	17	ePb	Pb	08 45 32.7	-2.4
HVU				ePg	Pg	08 45 42.8	-0.1
HVU				eSg	Sg	08 46 40.2	-4.7
MVCO	Mesa Verde	4.93	88	ePn	Pn	08 45 27.4	+2.2
MVCO				ePg	Pg	08 45 41.8	-3.7
MVCO				eSg	Sg	08 46 45.1	-4.3
HWUT	Hardware Ranch	5.00	28	ePg	Pg	08 45 44.2	-2.8
	4.1nm,0.6s						

IDC 25 09:13:20.5±7.1, 1611S×17399W, h56km±51km, mb3.8/3, mb1 4.2/4, mb1mx3.7/16, mbtmp3.9/4, ML2.1/1, Error ellipse: s-maj=191.9km s-min=23.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.06	45	P	Pn	09 14 07.9	+1.6
	14nm,0.3s,baz=176,slow=3.2,SNR=51						
AFI				S	Sn	09 14 42.0	+0.3
	74nm,0.3s,baz=22,slow=19,SNR=6.4						
WRA	Warramunga Arr	49.13	257	P	P	09 22 02.9	+0.5
	1.2nm,0.5s,baz=96,slow=7.0,SNR=30						
ASAR	Alice Springs	49.35	252	P	P	09 22 04.0	0.0
	6.5nm,0.7s,baz=87,slow=8.7,SNR=124						
PDAR	Pinedale Array	83.17	42	P	P	09 25 41.2	+0.8
	0.5nm,0.8s,baz=205,slow=3.1,SNR=5.0						

*IDC **25** 09:23:24.9±0.8, 3156S×6770W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/15, mbtmp3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=24.9km s-min=8.4km az=174.0*
*ISCJB **25** 09:23:26.0±1.2, 3151S±003×6755W±005, h13km±8km, mb3.9/6, Error ellipse: s-maj=6.6km s-min=5.5km az=1.5*
*GUC **25** 09:23:27.5±0.8, 3154S×6763W, h150km, ML5.1*
*NEIC **25** 09:23:28.1±0.8, 3153S×6770W, h10km, mb4.1/2, Error ellipse: s-maj=10.4km s-min=6.8km az=73.0*

ISC 25 09:23:26.1±1.3, 3151S±003×6760W±005, h0km±8km, n40, σ0994/52, mb4.0/6, 4C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.55	260	Pg	Pg	09 23 34.8	-1.9
	392nm,0.3s,baz=105,slow=21						
CFAA				Lg		09 23 39.2	
	2μm,0.3s,baz=92,slow=23,SNR=321						
MDZ	Mendoza	1.73	217	eP	Pn	09 23 56.9	-0.5
MDZ				i		09 24 01.5	
MDZ				i S	Sn	09 24 15.9	-4.3
JACH	Jahuel	2.80	244	eP	Pn	09 24 12.7	+0.6
JACH				i S	Sn	09 24 46.8	+0.3
CMCH	Combarbala	2.93	276	⇓iP	Pn	09 24 13.9	0.0
CMCH				i S	Sn	09 24 49.6	-0.1
CMCH				AML	AML	09 24 52.0	
	comp=N,10μm,0.5s						
CMCH	Combarbala	2.93	276	⇓iP	Pn	09 24 13.9	0.0
CMCH				i S	Sn	09 24 49.6	-0.1
PTCH	Petorca	2.93	254	⇑iP	Pn	09 24 13.7	-0.2
PTCH				i S	Sn	09 24 49.7	-0.1
PTCH				AML	AML	09 24 54.4	
	comp=N,3μm,0.3s						
PTCH	Petorca	2.93	254	⇑iP	Pn	09 24 13.7	-0.2
PTCH				i S	Sn	09 24 49.7	-0.1
TLL	Tololo Astrono	3.06	295	eP	Pn	09 24 17.0	+1.3
TLL				i S	Sn	09 24 54.5	+1.4
PEL	Peldehue	3.08	237	⇓iP	Pn	09 24 16.1	+0.1
PEL				i S	Sn	09 24 52.3	-1.1
PEL				AML	AML	09 24 59.6	
	comp=N,3μm,0.6s						
CLCH	Cerro Calan	3.12	232	⇑iP	Pn	09 24 16.7	+0.3
CLCH				i S	Sn	09 24 54.1	-0.2
CLCH				AML	AML	09 25 01.5	
	comp=N,5μm,0.6s						
DSCH	Colegio Aleman	3.14	232	eP	Pn	09 24 16.7	-0.1
OVCH	Ovalle	3.22	285	eP	Pn	09 24 17.9	+0.1
PCH	Pirque	3.24	229	eP	Pn	09 24 18.5	+0.4
PCH				eS	Sn	09 24 59.3	+1.9
RCDM	Rinconada Maip	3.35	233	eP	Pn	09 24 19.8	+0.1
RCDM				i S	Sn	09 24 59.5	-0.7
RCDM				AML	AML	09 25 05.4	
	comp=N,802nm,0.4s						
RCDM	Rinconada Maip	3.35	233	eP	Pn	09 24 19.8	+0.1
RCDM				i S	Sn	09 24 59.5	-0.7
LSCH	La Serena	3.52	296	eP	Pn	09 24 21.9	-0.1
CHCH	Chadas Angostu	3.53	226	eP	Pn	09 24 22.4	+0.3
TACH	Talagante	3.54	232	⇓iP	Pn	09 24 21.8	-0.4
LCO	Las Campanas	3.66	312	ePn	Pn	09 24 25.6	+1.7
LCO				eSn	Sn	09 25 07.9	+0.2
VACH	Vallenar	4.01	316	eP	Pn	09 24 30.2

*ISCJB **25** 09:53:33.4±1.0, 2.17S±009×13873E±0.10, h33km, mb4.1/5, MS4.2/7, Error ellipse: s-maj=15.9km s-min=9.6km az=78.9*

ISC 25 09:53:37.8±2.2, 22S±01×1388E±01, h57km±20km, n26, σ1§13/17, mb4.1/5, MS4.2/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.98**	**131**	Pn	**Pn**	**09 56 12.7**	**+0.6**
	0.5nm, 0.3s, baz=293, slow=13, SNR=3.9						
KAKA	**Kakadu**	**12.14**	**211**	*e*P	**Pn**	**09 56 27.2**	**-0.8**
	13nm, 0.4s						
KAKA				*e*S	**Sn**	**09 58 41.4**	**-0.3**
GUMO	**Guam**	**16.85**	**21**	LR	LR	10 03 29.0	
	comp=Z, 333nm, 20.0s, baz=122, slow=36						
WB2	**Warramunga Arr**	**18.12**	**193**	*e*P	**Pn**	**09 57 45.6**	**+0.3**
WB2				*e*S	**S**	**10 01 03.5**	**-6.2**
WRA	**Warramunga Arr**	**18.12**	**193**	P	**Pn**	**09 57 46.0**	**+0.7**
	1.2nm, 0.3s, baz=18, slow=12, SNR=22						
CTA	**Charters Tower**	**19.20**	**158**	*e*P	**Pn**	**09 57 54.5**	**-3.8**
	6.0nm, 1.1s						
CTA	**Charters Tower**	**19.20**	**158**	P	**Pn**	**09 57 57.1**	**-1.2**
	0.3nm, 0.3s, baz=350, slow=9.3, SNR=7.2						
FITZ	**Fitzroy Crossi**	**20.35**	**218**	*e*P	**P**	**09 58 12.2**	**+2.8**
	11nm, 1.0s						
FITZ				*e*S	**S**	**10 01 52.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**20.35**	**218**	P	**P**	**09 58 11.0**	**+1.6**
	4.0nm, 0.9s, baz=40, slow=14, SNR=4.6						
FITZ				LR	LR	10 07 17.6	
	comp=Z, 409nm, 18.0s, MS3.8, baz=43, slow=40						
ASAR	**Alice Springs**	**21.82**	**192**	P	**P**	**09 58 25.8**	**+0.6**
	4.4nm, 0.5s, mb4.2, baz=23, slow=10, SNR=39						
HNR	**Honiara**	**22.25**	**110**	P	**P**	**09 58 28.4**	**-1.4**
	49nm, 0.9s, mb5.0, baz=268, slow=8.4, SNR=4.2						
STKA	**Stephens Creek**	**29.61**	**175**	*e*P	**P**	**09 59 37.0**	**-0.5**
	1.9nm, 0.6s, mb4.0						
STKA	**Stephens Creek**	**29.61**	**175**	P	**P**	**09 59 37.4**	**-0.1**
	1.9nm, 0.6s, mb4.0, baz=250, slow=18, SNR=7.1						
KSRS	**Korea Array**	**40.74**	**347**	LR	LR	10 17 54.9	
	comp=Z, 131nm, 18.1s, MS3.8, baz=155, slow=36						
SONM	**Songino Array**	**57.31**	**335**	P	**P**	**10 03 19.1**	**-0.7**
	0.5nm, 0.7s, mb3.6, baz=156, slow=7.6, SNR=3.3						
SONM				LR	LR	10 24 27.2	
	comp=Z, 193nm, 21.6s, MS4.2, baz=168, slow=32						
ZAL	**Zalesovo**	**71.55**	**330**	LR	LR	10 37 22.2	
	comp=Z, 119nm, 18.5s, MS4.2, baz=106, slow=37						
PPT	**Papeete**	**71.86**	**108**	*e*LR	LR	10 26 41.5	
	193nm, 23.8s						
PPT	**Papeete**	**71.86**	**108**	LR	LR	10 34 19.6	
	comp=Z, 179nm, 19.0s, MS4.4, baz=85, slow=34						
TBI	**Tubuai**	**72.40**	**114**	*e*LR	LR	10 26 59.1	
	174nm, 31.2s						
VNDA	**Vanda**	**76.25**	**175**	P	**P**	**10 05 22.3**	**+2.1**
	1.2nm, 0.9s, mb3.8, baz=6.9, slow=5.4, SNR=3.3						
TAOE	**Nuku Hiva Isla**	**80.87**	**99**	*e*LR	LR	10 30 47.6	
	1μm, 35.6s						
ATD	**Arta Tunnel**	**96.23**	**281**	LR	LR	10 48 01.5	
	comp=Z, 44nm, 18.6s, MS4.0, baz=21, slow=34						
YKA	**Yellowknife Ar**	**99.62**	**27**	LR	LR	10 47 44.1	
	comp=Z, 246nm, 20.6s, MS4.7, baz=220, slow=33						
SNAA	**Sanae**	**102.18**	**192**	*e*	PKiKP	10 11 48.9	+0.6
SNAA				*e*		10 11 57.1	
ROSC	**El Rosal**	**146.88**	**85**	PKPbc	PKPbc	10 13 16.9	+3.2
	2.3nm, 0.7s, baz=73, slow=17, SNR=4.4						
LPAZ	**La Paz**	**147.69**	**126**	PKPbc	PKPbc	10 13 21.0	+5.0
	2.3nm, 0.8s, baz=117, slow=3.7, SNR=6.9						

*ISCJB **25** 10:04:54.4±0.4, 3875N±002×4594E±004, h10km, Error ellipse: s-maj=4.5km s-min=2.3km az=116.8*
*NSSP **25** 10:04:55.0, 3870N×4593E, h11km, ML3.4*
*CSEM **25** 10:04:55.1±0.2, 3866N×4604E, h10km, ML3.6, Error ellipse: s-maj=5.2km s-min=3.1km az=55.0*
*TEH **25** 10:04:55.5, 3872N×4591E, h18km, Mn3.8*
*THR **25** 10:04:56.9±0.5, 3908N×4609E, h16km±4km, ML3.6*

ISC 25 10:04:54.9±0.4, 3872N±002×4595E±004, h10km±4km, n31, σ0§84/54, 6D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.19**	**267**	*e*Pg	**Pg**	**10 04 59.6**	**+0.7**
IMRD				*e*Sg	**Sg**	**10 05 03.1**	**+1.4**
ITBZ	**Tabriz**	**0.51**	**162**	*e*Pg	**Pg**	**10 05 04.9**	**0.0**
ITBZ				*e*Sg	**Sg**	**10 05 12.4**	**+0.8**
GRS	**Goris**	**0.83**	**21**	⇓P	**Pg**	**10 05 10.0**	**-0.9**
GRS				S	**Sg**	**10 05 22.0**	**+0.3**
IAZR	**Azarshahr**	**1.04**	**179**	*e*Pg	**Pg**	**10 05 14.6**	**-0.4**
IAZR				*e*Sg	**Sg**	**10 05 28.3**	**-0.2**
MAKU	**Maku**	**1.17**	**303**	*e*Pg	**Pg**	**10 05 17.8**	**+0.4**
MAKU				*e*Sg	**Sg**	**10 05 33.6**	**+1.0**
MAKU				AML	AML	10 05 37.9	
	comp=N, 1μm, 0.4s						
MAKU	**Maku**	**1.17**	**303**	*e*Pg	**Pg**	**10 05 17.8**	**+0.4**
	SNR=91						
MAKU				*e*Sg	**Sg**	**10 05 33.6**	**+1.0**
	SNR=91						
IBST	**Bostanabad**	**1.26**	**144**	*e*Pn	**Pn**	**10 05 18.4**	**-0.2**
IBST				*e*Sn	**Sn**	**10 05 36.2**	**+0.5**
GRMI	**Germi**	**1.52**	**86**	*e*Pg	**Pn**	**10 05 23.2**	**+1.0**
GRMI				*e*Sg	**Sn**	**10 05 42.7**	**+0.6**
GRMI				AML	AML	10 05 47.7	
	comp=E, 849nm, 0.2s						
GRMI				AML	AML	10 05 47.8	
	comp=N, 805nm, 0.3s						
GRMI	**Germi**	**1.52**	**86**	*e*Pg	**Pn**	**10 05 23.2**	**+1.0**
	SNR=91						
GRMI				*e*Sg	**Sn**	**10 05 42.7**	**+0.6**
	SNR=91						
ERE	**Yerevan**	**1.84**	**322**	P	**Pn**	**10 05 25.0**	**-1.6**
ERE				S	**Sg**	**10 05 53.0**	**-1.1**
KAPZ	**Kaputan**	**1.87**	**329**	⇓P	**Pb**	**10 05 29.4**	**+0.3**
KAPZ				S	**Sg**	**10 05 54.7**	**-0.2**
PAAR	**P'arak'ar**	**1.87**	**320**	P	**Pb**	**10 05 28.9**	**-0.3**
PAAR				S	**Sb**	**10 05 53.4**	**+0.7**
VRNZ	**Vardanashen**	**1.90**	**315**	⇓P	**Pb**	**10 05 29.2**	**-0.5**
VRNZ				S	**Sb**	**10 05 53.5**	**+0.1**
NPPZ	**NPP**	**2.01**	**316**	P	**Pb**	**10 05 32.0**	**+0.4**
NPPZ				S	**Sb**	**10 05 58.3**	**+1.6**
AMBZ	**Amberd**	**2.11**	**322**	⇓P	**Pb**	**10 05 32.0**	**-1.3**
AMBZ				S	**Sg**	**10 06 03.3**	**+0.5**
HAKT	**HAKKARI**	**2.12**	**237**	*i* P	**Pg**	**10 05 35.2**	**-0.3**
ARUZ	**Aruch**	**2.12**	**318**	P	**Pb**	**10 05 33.6**	**+0.2**
ARUZ				S	**Sg**	**10 06 02.4**	**-0.6**
VNNZ	**Vanand**	**2.15**	**311**	P	**Pb**	**10 05 34.6**	**+0.7**
VNNZ				S	**Sg**	**10 06 03.0**	**-0.9**
AKSZ	**Araks**	**2.17**	**313**	⇓P	**Pb**	**10 05 33.4**	**-0.8**
AKSZ				S	**Sb**	**10 06 01.1**	**-0.1**
STE	**Stepanavan**	**2.58**	**332**	⇓P	**Pg**	**10 05 44.0**	**-0.3**
STE				S	**Sg**	**10 06 20.0**	**+2.3**
DIGO	**Kars**	**2.61**	**311**	*i* P	**Pg**	**10 05 43.7**	**-1.2**
DGRG	**David-gareji**	**2.76**	**351**	P	**Pg**	**10 05 48.5**	**+0.8**
DGRG				S	**Sg**	**10 06 31.7**	**+8.2**
KZR	**Kazreti**	**2.90**	**337**	P	**Pg**	**10 05 51.1**	**+0.6**
KZR				S	**Sg**	**10 06 27.2**	**-0.9**
MTA	**Mtatsminda**	**3.10**	**344**	P	**Pg**	**10 05 53.6**	**-0.6**
MTA				S	**Sg**	**10 06 33.9**	**-0.4**
MSL	**Mosul**	**3.33**	**224**	*ex*	x	10 05 50.0	
MSL				*ex*	x	10 05 58.5	
MSL				*ex*	x	10 06 40.0	
SNGE	**Sanandaj**	**3.79**	**162**	*e*Pn	**Pb**	**10 06 01.2**	**-0.8**
ONI	**Oni**	**4.29**	**335**	P	**Pg**	**10 06 13.0**	**-4.2**
ONI				S	**Sg**	**10 07 13.2**	**+0.4**
MARD	**Mardin**	**4.32**	**253**	*i* P	**Pg**	**10 06 14.4**	**-3.2**
THKV	**Tehran--Karaj**	**4.83**	**124**	*e*Pn	**Pn**	**10 06 12.8**	**+5.2**
THKV				AML	AML	10 07 42.8	
	comp=N, 65nm, 0.6s						
THKV				AML	AML	10 07 46.4	
	comp=E, 54nm, 0.7s						
CHTH	**Charan**	**4.99**	**123**	*e*Pn	**Pn**	**10 06 15.3**	**+5.4**
CHTH				*e*Sg	**Sg**	**10 07 35.0**	**-0.2**
ASAO	**Ashtian**	**5.30**	**141**	*e*Pn	**Pn**	**10 06 20.6**	**+6.4**

*SOF **25** 10:10:37.7, 4024N×2557E, h2km, MD3.0*
*ISCJB **25** 10:10:39.3±0.5, 4030N±002×2556E±003, h3km±4km, Error ellipse: s-maj=3.8km s-min=3.6km az=99.5*
*ISK **25** 10:10:40.8, 4027N×2571E, h6km, MD3.3*
*NEIC **25** 10:10:40.3, 4028N×2559E, h23km, MD3.0(SOF), MD3.3(ISK), MD3.3(ATH), After ATH.*
*ATH **25** 10:10:40.3, 4028N×2559E, h23km±2km, MD3.3/5*
*CSEM **25** 10:10:40.3±0.1, 4030N×2563E, h10km, MD3.3, Error ellipse: s-maj=1.4km s-min=1.2km az=167.0*

*THE **25** 10:10:41.0, 4031N×2557E, h13km, ML3.4*

ISC 25 10:10:40.3±0.4, 4030N±002×2557E±003, h8km±4km, n32, σ0§84/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.50**	**217**	*e*PB	**Pg**	**10 10 50.5**	**+0.5**
LIA				*e*SB	**Sg**	**10 10 57.7**	**+1.2**
LOS	**Limnos**	**0.52**	**226**	*e*Pg	**Pg**	**10 10 51.0**	**+0.5**
LOS				*e*Sg	**Sg**	**10 10 58.7**	**+1.4**
BOZC	**Bozcaada**	**0.59**	**141**	*i* P	**Pg**	**10 10 51.5**	**-0.1**
BOZC				*i* S	**Sg**	**10 10 58.7**	**-0.6**
ENEZ	**Enez**	**0.62**	**45**	*i* PG	**Pg**	**10 10 52.3**	**-0.1**
ENEZ				*i* SG	**Sg**	**10 11 01.0**	**+0.5**
ALN	**Alexandroupoli**	**0.70**	**31**	*e*Pg	**Pg**	**10 10 54.1**	**+0.3**
ALN				*e*Sg	**Sg**	**10 11 04.0**	**+1.1**
EZN	**Ezine**	**0.75**	**129**	PG	**Pg**	**10 10 53.9**	**-0.8**
EZN				SG	**Sg**	**10 11 03.3**	**-1.1**
RDO	**Rodhopi**	**0.85**	**358**	*e*PN	**Pn**	**10 10 57.0**	**-1.5**
PRK	**Paraskevi**	**1.18**	**153**	*e*PN	**Pn**	**10 11 02.6**	**-0.5**
PRK				*e*SN	**Sn**	**10 11 18.2**	**-1.1**
OUR	**Ouranopolis**	**1.22**	**272**	*e*Pg	**Pg**	**10 11 02.6**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.29**	**72**	PN	**Pn**	**10 11 03.4**	**-1.1**
SART	**Tekirdag**	**1.29**	**72**	*i* P	**Pn**	**10 11 03.7**	**-0.9**
SART				*i* S	**Sb**	**10 11 21.2**	**-0.3**
AYVA	**Ayvalik**	**1.31**	**139**	*i* P	**Pn**	**10 11 05.1**	**+0.2**
AYVA				*i* S	**Sb**	**10 11 22.1**	**0.0**
KDZ	**Kurdzhali**	**1.36**	**355**	*i* P	**Pn**	**10 11 06.0**	**+0.5**
RZN	**Rozhen**	**1.53**	**335**	*i* P	**Pn**	**10 11 08.6**	**+0.7**
PLG	**Polygyros**	**1.62**	**273**	*e*PN	**Pn**	**10 11 10.0**	**+0.8**
NVR	**Nevrokopi**	**1.67**	**310**	*e*PB	**Pb**	**10 11 09.9**	**-1.3**
SRS	**Serrai**	**1.71**	**299**	*e*Pb	**Pb**	**10 11 09.7**	**-2.2**
DIM	**Dimitrovgrad**	**1.75**	**359**	*e*Pg	**Pg**	**10 11 13.0**	**-0.9**
EDC	**Edincik**	**1.75**	**88**	PN	**Pn**	**10 11 10.9**	**-0.1**
EDRB	**Edirne**	**1.78**	**29**	PN	**Pn**	**10 11 12.5**	**+1.1**
BNT	**Bandirma**	**1.80**	**87**	PN	**Pn**	**10 11 11.2**	**-0.4**
MMB	**Musomiste**	**1.90**	**313**	*i* P	**Pn**	**10 11 13.0**	**0.0**
PLD	**Plovdiv**	**1.92**	**340**	*i* Pg	**Pg**	**10 11 17.9**	**+0.8**
BTOK	**Tokmak**	**1.96**	**105**	*i* P	**Pn**	**10 11 14.0**	**+0.2**
BTOK				*i* S	**Sn**	**10 11 39.1**	**+0.4**
KCT	**Karacabey**	**2.13**	**90**	*e*PN	**Pn**	**10 11 17.0**	**+0.8**
JMB	**Yambol**	**2.30**	**19**	*i* P	**Pn**	**10 11 19.0**	**+0.6**
JMB				*i* Pg	**Pg**	**10 11 24.5**	**+0.2**
KKB	**Krupnik**	**2.45**	**311**	*i* P	**Pn**	**10 11 20.8**	**+0.3**
KKB				*i* Pg	**Pg**	**10 11 26.0**	**-1.2**
DST	**Dursunbey**	**2.45**	**105**	*e*PN	**Pn**	**10 11 21.1**	**+0.6**
GEMT	**Gemlik**	**2.77**	**86**	*e*PN	**Pn**	**10 11 25.5**	**+0.6**
VTS	**Vitosha**	**2.90**	**323**	*i* Pg	**Pg**	**10 11 35.2**	**-0.7**
YLV	**Yalova**	**2.92**	**83**	*e*PN	**Pn**	**10 11 28.3**	**+1.4**
IZI	**Iznik**	**2.98**	**88**	*e*PN	**Pn**	**10 11 28.5**	**+0.6**

*ISCJB **25** 10:29:09.6±0.3, 2735S±005×6665E±006, h10km, mb4.8/66, MS4.2/16, Error ellipse: s-maj=8.6km s-min=7.7km az=64.5*
*BJI **25** 10:29:09.4, 27.14S×66.11E, h14km, mB5.2, mb4.8, Ms4.8, Msz4.5*
*IDC **25** 10:29:09.6±0.5, 2727S×6657E, h0km, mb4.5/20, mb1 4.5/20, mb1mx4.5/25, mbtmp4.4/20, MS4.0/11, Ms1 4.0/11, ms1mx3.9/21, Error ellipse: s-maj=18.7km s-min=14.7km az=13.0*
*MOS **25** 10:29:09.8±0.8, 2731S×6660E, h10km, mb5.0/17, Error ellipse: s-maj=14.6km s-min=9.2km az=95.1*
*NEIC **25** 10:29:11.1±0.2, 2735S×6659E, h10km, mb4.9/26, Error ellipse: s-maj=7.9km s-min=7.5km az=164.0*

ISC 25 10:29:11.2±0.3, 2735S±006×6656E±006, h10km, (h20km±2.5km: pP-P), n135, σ0§83/125, mb4.8/66, MS4.2/16, 12C-3D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**36.37**	**258**	P	**P**	**10 36 15.6**	**+0.1**
	4.8nm, 0.9s, mb4.4, baz=120, slow=5.9, SNR=6.7						
BOSA				LR	LR	10 48 03.9	
	comp=Z, 140nm, 20.8s, MS3.7, baz=109, slow=31						
BOSA	**Boshof**	**36.37**	**258**	*e*P	**P**	**10 36 15.6**	**+0.1**
BOSA				pmax	pmax		
	comp=Z, 6.0nm, 1.0s, mb4.5						
BOSA	**Boshof**	**36.37**	**258**	*e*P	**P**	**10 36 15.6**	**+0.1**
	comp=Z, 6.4nm, 1.0s, mb4.5						
LBTB	**Lobatse**	**36.72**	**264**	*e*P	**P**	**10 36 18.3**	**-0.2**
LBTB				pmax	pmax		
	comp=Z, 2.0nm, 0.8s, mb4.0						
LBTB	**Lobatse**	**36.72**	**264**	*e*P	**P**	**10 36 18.3**	**-0.2**
	comp=Z, 2.0nm, 0.8s, mb4.0						
LSZ	**Lusaka**	**37.57**	**281**	P	**P**	**10 36 25.8**	**+0.1**
	comp=Z, 4.5nm, 0.8s, mb4.2, baz=121, slow=8.4, SNR=6.9						
LSZ	**Lusaka**	**37.57**	**281**	*e*P	**P**	**10 36 25.9**	**+0.2**
LSZ				pmax	pmax		
	comp=Z, 5.0nm, 0.8s, mb4.3						
LSZ	**Lusaka**	**37.57**	**281**	*e*P	**P**	**10 36 25.9**	**+0.2**
	comp=Z, 5.0nm, 0.8s, mb4.3						
KMBO	**Kilima Mbogo**	**38.34**	**308**	P	**P**	**10 36 33.3**	**+1.1**
	comp=Z, 0.5nm, 0.3s, mb3.8, baz=171, slow=9.5, SNR=4.0						
KMBO				LR	LR	10 48 19.1	
	comp=Z, 116nm, 21.2s, MS3.7, baz=93, slow=30						
KMBO	**Kilima Mbogo**	**38.34**	**308**	*e*P	**P**	**10 36 33.9**	**+1.7**
KMBO				pmax	pmax		
	comp=Z, 1.0nm, 0.8s						
KMBO	**Kilima Mbogo**	**38.34**	**308**	*e*P	**P**	**10 36 33.9**	**+1.8**
	comp=Z, 1.2nm, 0.8s, mb3.7						
SUR	**Sutherland**	**39.76**	**251**	P	**P**	**10 36 45.8**	**+1.7**
	comp=Z, 3.1nm, 0.9s, mb4.0, baz=280, slow=4.4, SNR=3.5						
SUR	**Sutherland**	**39.76**	**251**	*e*P	**P**	**10 36 46.0**	**+1.9**
	comp=Z, 96nm, 2.0s, mb5.2						
MAW	**Mawson**	**40.33**	**182**	P	**P**	**10 36 49.4**	**+0.6**
	comp=Z, 7.4nm, 0.8s, mb4.5, baz=346, slow=8.3, SNR=5.1						
MAW				LR	LR	10 49 18.5	
	comp=Z, 262nm, 21.9s, MS4.0, baz=70, slow=30						
MAW	**Mawson**	**40.33**	**182**	*e*P	**P**	**10 36 49.5**	**+0.6**
MAW				pmax	pmax		
	comp=Z, 20nm, 1.1s						
MAW	**Mawson**	**40.33**	**182**	*e*P	**P**	**10 36 49.5**	**+0.7**
	comp=Z, 20nm, 1.1s, mb4.8						
PSI	**Prapat**	**43.26**	**51**	LR	LR	10 50 12.2	
	comp=Z, 188nm, 21.1s, MS4.0, baz=291, slow=29						
SYO	**Syowa Base**	**44.60**	**193**	⇑*e*P	**P**	**10 37 22.8**	**-0.8**
ATD	**Arta Tunnel**	**44.98**	**326**	P	**P**	**10 37 28.2**	**+1.6**
	comp=Z, 16nm, 0.8s, mb4.9, baz=286, slow=23, SNR=6.0						
KAD	**Karad**	**45.01**	**10**	*e*P	**P**	**10 37 26.9**	**+0.1**
KAD				AMb	AMB	10 37 29.2	
	comp=Z, 17nm, 1.1s, mb4.8						
HYB	**Hyderabad**	**46.00**	**16**	*i* P	**P**	**10 37 35.5**	**+0.8**
HYB	**Hyderabad**	**46.00**	**16**	*e*P	**P**	**10 37 35.5**	**+0.8**
POO	**Poona**	**46.15**	**10**	*e*P	**P**	**10 37 35.1**	**-0.8**
POO				AMb	AMB	10 37 37.2	
	comp=Z, 15nm, 0.9s, mb4.9						
KULM	**Kulim**	**46.24**	**51**	*e*P	**P**	**10 37 35.3**	**-1.3**
CASY	**Casey**	**47.40**	**158**	*e*P	**P**	**10 37 44.1**	**-1.5**
	comp=Z, 10nm, 1.0s, mb4.7						
BHPL	**Bhopal**	**51.38**	**13**	*e*P	**P**	**10 38 15.9**	**-0.1**
BHPL				AMb	AMB	10 38 26.6	
	comp=Z, 25nm, 1.0s, mb5.1						
NVL	**N'lazarevskaya**	**53.03**	**200**	⇓*i*P	**P**	**10 38 31.4**	**+3.1**
NVL				pmax	pmax		
	comp=Z, 29nm, 1.8s, mb4.9						
AJM	**Ajmer**	**54.08**	**9**	*e*P	**P**	**10 38 36.7**	**+0.7**
AJM				AMb	AMB	10 38 46.5	
	comp=Z, 23nm, 1.2s, mb5.0						
BOK	**Bokaro**	**54.16**	**22**	*e*P	**P**	**10 38 35.2**	**-1.5**
BOK				AMb	AMB	10 38 37.9	
	comp=Z, 13nm, 1.1s, mb4.8						
FITZ	**Fitzroy Crossi**	**54.84**	**94**	*e*P	**P**	**10 38 42.9**	**+1.4**
	comp=Z, 14nm, 0.9s, mb5.0						
FITZ	**Fitzroy Crossi**	**54.84**	**94**	P	**P**	**10 38 42.9**	**+1.3**
	comp=Z, 7.1nm, 0.9s, mb4.7, baz=249, slow=9.0, SNR=6.2						
KOLN	**Koldanda**	**57.20**	**18**	*e*P	**P**	**10 38 58.5**	**+0.1**
	comp=Z, 41nm, 1.2s, mb5.3						
DMN	**Daman**	**57.48**	**20**	*e*P	**P**	**10 39 00.8**	**+0.4**
KKN	**Kakani**	**57.70**	**20**	*e*P	**P**	**10 39 01.9**	**-0.1**
GKN	**Gorkha**	**57.71**	**19**	*e*P	**P**	**10 39 01.7**	**-0.3**
	comp=Z, 19nm, 0.9s, mb5.1						
SNAA	**Sanae**	**57.82**	**200**	P	**P**	**10 39 02.9**	**+0.1**
	comp=Z, 0.9nm, 0.9s, mb3.8, baz=71, slow=8.5, SNR=5.2						
SNAA	**Sanae**	**57.82**	**200**	*e*P	**P**	**10 39 05.8**	**+3.0**
SNAA				*e*	pP	10 39 10.4	+4.4
SNAA				*e*		10 39 17.8	
SNAA	**Sanae**	**57.82**	**200**	*e*P	**P**	**10 39 02.6**	**-0.2**
SNAA				pmax	pmax		
	comp=Z, 6.0nm, 1.0s						
SNAA	**Sanae**	**57.82**	**200**	*e*P	**P**	**10 39 02.6**	**-0.2**
	comp=Z, 6.1nm, 1.0s, mb4.6						
GUN	**Gumba**	**57.99**	**20**	*e*P	**P**	**10 39 04.4**	**+0.4**
VNA2	**Neumayer--Watz**	**59.17**	**202**	*e*P	**P**	**10 39 10.4**	**-1.8**
	baz=52, slow=5.5						
VNA2				*e*	pP	10 39 15.3	-0.2
VNA2				*e*		10 39 20.8	
VNA2				*e*		10 39 23.3	
VNA2				*e*		10 39 27.1	
VNA2				*e*		10 39 55.2	
VNA3	**Neumayer Olymp**	**59.94**	**201**	*e*P	**P**	**10 39 11.1**	**-6.4**
VNA3				*e*		10 39 16.5	
VNA3				*e*		10 39 22.0	
VNA3				*e*		10 39 56.7	
ASAR	**Alice Springs**	**60.23**	**103**	P	**P**	**10 39 19.8**	**+0.3**
	comp=Z, 7.4nm, 0.8s, mb4.7, baz=250, slow=6.0, SNR=32						
LSA	**Lhasa**	**61.42**	**24**	*e*P	**P**	**10 39 27.7**	**+0.1**
KBL	**Kabul**	**61.60**	**2**	*e*P	**P**	**10 39 29.1**	**+0.3**
WRA	**Warramunga Arr**	**61.87**	**99**	P	**P**	**10 39 31.5**	**+0.8**
	comp=Z, 9.9nm, 0.9s, mb5.0, baz=250, slow=6.2, SNR=27						
WB2	**Warramunga Arr**	**61.88**	**99**	*e*P	**P**	**10 39 31.6**	**+0.8**
WB2				*e*pP	pP	10 39 40.2	+6.2
KMI	**Kunming**	**62.75**	**37**	P	**P**	**10 39 39.3**	**+2.7**
KMI				AMB	AMB		
	comp=Z, 9.0nm, 0.6s, mb5.1						
KMI	**Kunming**	**62.75**	**37**	P	**P**	**10 39 39.3**	**+2.7**
	comp=Z, 9.0nm, 0.6s, mb5.1						
QSPA	**South Pole Qui**	**62.79**	**180**	*e*P	**P**	**10 39 37.2**	**+0.4**
	comp=Z, 49nm, 0.7s, mb5.8						
KAKA	**Kakadu**	**62.96**	**91**	*e*P	**P**	**10 39 37.2**	**-0.7**
	comp=Z, 6.5nm, 0.8s, mb4.8						
STKA	**Stephens Creek**	**64.18**	**114**	LR	LR	11 03 19.6	
	comp=Z, 91nm, 18.1s, MS4.0, baz=205, slow=32						
EIL	**Elat**	**64.27**	**330**	*e*P	**P**	**10 39 47.7**	**+1.1**
	comp=Z, 122nm, 1.0s, mb5.9						
VNDA	**Vanda**	**64.64**	**166**	LR	LR	11 03 00.6	
	comp=Z, 166nm, 18.9s, MS4.2, baz=269, slow=31						
GYA	**Guiyang**	**65.96**	**39**	⇑*i*P	**P**	**10 39 59.0**	**+1.4**
GYA				AP	pP	10 40 03.5	+2.7
GYA				XP	sP	10 40 06.0	+3.9
GYA				PCP	PcP	10 40 31.5	+3.2
GYA				PP	PP	10 42 28.8	+6.1
GYA				S	S	10 48 48.5	+3.4
GYA				AMB	AMB		
	comp=Z, 10.0nm, 0.8s, mb4.9						
GYA				AMB	AMB		
	comp=Z, 90nm, 4.6s						
GYA				LR	LR		
	comp=N, 340nm, 19.7s, MS4.7						
GYA				LR	LR		
	comp=E, 270nm, 20.4s, MS4.7						
GYA				LR	LR		
	comp=Z, 280nm, 19.4s, MS4.5						
CD2	**Chengdu**	**67.95**	**34**	P	**P**	**10 40 10.0**	**-0.3**
CD2				AP	pP	10 40 14.8	+1.3
CD2				XP	sP	10 40 17.0	+2.3
CD2				PP	PP	10 42 41.0	+0.9
CD2				S	S	10 49 07.5	-1.7
CD2				SS	SS	10 53 27.0	-4.0
CD2				AMB	AMB		
	comp=Z, 20nm, 0.7s, mb5.3						
CD2				AMB	AMB		
	comp=Z, 70nm, 4.9s						
CD2				LR	LR		
	comp=N, 220nm, 6.0s						
CD2				LR	LR		
	comp=E, 200nm, 9.6s						
CD2				LR	LR		
	comp=Z, 150nm, 7.2s						
AAK	**Ala-Archa**	**70.02**	**6**	*e*P	**P**	**10 40 22.2**	**-0.9**
AAK				pmax	pmax		
	comp=Z, 11nm, 1.3s, mb4.6						
AAK	**Ala-Archa**	**70.02**	**6**	*e*P	**P**	**10 40 22.1**	**-1.0**
	comp=Z, 11nm, 1.3s, mb4.6						
LZH	**Lanzhou**	**72.23**	**31**	*e*P	**P**	**10 40 36.0**	**-0.5**
LZH				AP	pP	10 40 44.0	+4.2
LZH				XP	sP	10 40 50.0	+9.0
LZH				AMB	AMB		
	comp=Z, 20nm, 1.0s, mb5.0						
LZH	**Lanzhou**	**72.23**	**31**	*e*P	**P**	**10 40 36.0**	**-0.5**
	comp=Z, 20nm, 1.0s, mb5.0						
LZH				pP	pP	10 40 44.0	+4.2
LZH				sP	sP

comp=Z,143nm,19.0s,MS4.4,baz=249,slow=35
BBLS Bajina Basta - 83.00 328 ⇑ *i* P **P 10 41 37.9 +1.3**
NVS Novosibirsk 83.11 10 *i* P **P 10 41 36.4 -0.8**
ULN Ulaanbaatar 83.25 26 *e*P **P 10 41 37.0 -0.9**
ULN pmax pmax
comp=Z,12nm,1.1s,mb4.8
ULN Ulaanbaatar 83.25 26 *e*P **P 10 41 37.0 -0.9**
comp=Z,12nm,1.1s,mb4.8
ARU Arti 83.73 356 ⇓ *i* P **P 10 41 40.1 -0.3**
ARU *e* 10 44 56.5
ARU *e*S S 10 52 00.9 -2.3
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
AKASG Malin Array Be 84.43 337 P **P 10 41 43.4 -0.6**
comp=Z,0.9nm,0.5s,mb4.2,baz=149,slow=4.4,SNR=17
OBN Obninsk 86.07 343 ⇓ *e*P **P 10 41 52.6 +0.4**
OBN *e* 10 45 13.2
OBN *e*S SKSac 10 52 10.7 -7.5
OBN pmax pmax
comp=Z,18nm,1.5s,mb5.1
KSRS Korea Array 86.42 44 P **P 10 41 53.1 -0.7**
comp=Z,6.2nm,0.8s,mb4.9,baz=228,slow=5.3,SNR=17
KSRS LR LR 11 18 14.3
comp=Z,51nm,18.5s,MS4.0,baz=236,slow=34
VYHS Vyhne 86.75 330 *e*P **P 10 41 54.6 -0.9**
VYHS pmax pmax
comp=Z,12nm,1.8s,mb4.8
VYHS Vyhne 86.75 330 *e*P **P 10 41 54.6 -0.9**
comp=Z,12nm,1.8s,mb4.8
CONA Conrad Observa 87.67 329 ⇑ *i* P **P 10 41 59.6 -0.4**
comp=Z,13nm,1.2s,mb5.0
OKC Ostrava-Krasne 88.05 331 *e*P **P 10 42 00.8 -1.0**
MOA Molln 88.36 328 ⇑ *i* P **P 10 42 02.9 -0.3**
comp=Z,12nm,1.1s,mb5.0
TREC Trest 88.83 329 *e*P **P 10 42 04.8 -0.7**
CN2 Changchun 88.99 38 *e*P **P 10 42 08.0 +1.8**
CN2 LR LR
comp=Z,300nm,19.0s,MS4.7
CIT Chita 89.11 27 *e*P **P 10 42 01.8 -5.0**
CIT pmax pmax
comp=Z,38nm,2.5s,mb5.3
DPC Dobruska-Polom 89.23 330 *e*P **P 10 42 07.1 -0.2**
GERES GERESS Array B 89.33 328 P **P 10 42 06.9 -0.9**
comp=Z,1.2nm,0.9s,mb4.2,baz=150,slow=6.2,SNR=6.7
UPC Upice 89.48 330 *e*P **P 10 42 08.7 +0.2**
FETA Feichten 89.52 326 ⇑ *i* P **P 10 42 08.9 +0.2**
comp=Z,18nm,1.3s,mb5.3
KHC Kasperske Hory 89.59 328 *e*P **P 10 42 07.4 -1.6**
KHC Kasperske Hory 89.59 328 ⇑ *e*P **P 10 42 07.8 -1.2**
PRU Pruhonice 89.76 329 *e*P **P 10 42 09.3 -0.5**
RETA Reutte 89.81 326 ⇑ *i* P **P 10 42 09.9 -0.2**
comp=Z,16nm,1.6s,mb5.1
WET Wettzell 89.93 328 *e*P **P 10 42 09.7 -0.9**
comp=Z,6.0nm,1.2s,mb4.8
WET Wettzell 89.93 328 *e*P **P 10 42 09.7 -0.9**
WET pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
FUR Furstenfeldbru 90.02 327 *e*P **P 10 42 11.4 +0.3**
comp=Z,22nm,0.9s,mb5.5
FUR Furstenfeldbru 90.02 327 *e*P **P 10 42 11.4 +0.3**
FUR pmax pmax
comp=Z,22nm,0.9s,mb5.5
PVCC Panska Ves 90.13 330 *e*P **P 10 42 11.6 0.0**
BRG Berggiesshubel 90.66 330 *e*P **P 10 42 14.6 +0.6**
comp=Z,13nm,1.5s,mb5.0
BRG Berggiesshubel 90.66 330 *e*P **P 10 42 15.4 +1.4**
comp=Z,4.9nm,1.4s,mb4.7
BRG Berggiesshubel 90.66 330 *e*P **P 10 42 15.4 +1.4**
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.7
MANZ Manzenberg 90.88 328 *e*P **P 10 42 15.4 +0.4**
comp=Z,14nm,1.6s,mb5.0
NKC Novy Kostel 90.89 329 *e*P **P 10 42 15.4 +0.3**
FBE Freiberg 90.95 330 *e*P **P 10 42 15.6 +0.2**
comp=Z,20nm,1.6s,mb5.2
WERN Wernitzgruen 90.96 329 *e*P **P 10 42 15.9 +0.5**
comp=Z,9.0nm,1.3s,mb4.9
TANN Tannenbergstha 91.01 329 *e*P **P 10 42 15.8 +0.2**
comp=Z,11nm,1.5s,mb5.0
GUNZ Gunzen 91.03 329 *e*P **P 10 42 15.7 -0.1**
comp=Z,16nm,1.4s,mb5.2
GRA1 Grafenberg Arr 91.09 328 *e*P **P 10 42 15.9 -0.1**
comp=Z,28nm,1.6s,mb5.3
GRF Grafenberg Arr 91.09 328 *e*P **P 10 42 15.9 -0.1**
comp=Z,28nm,1.6s,mb5.3
GRF Grafenberg Arr 91.09 328 *e*P **P 10 42 15.9 -0.1**
GRF pmax pmax
comp=Z,28nm,1.6s,mb5.3
GRF Grafenberg Arr 91.09 328 *e*P **P 10 42 15.9 -0.1**
GRF pmax pmax
comp=Z,28nm,1.6s,mb5.3
WERD Werda 91.10 329 *e*P **P 10 42 16.4 +0.3**
comp=Z,7.0nm,1.3s,mb4.8
MOX Moxa 91.56 329 *e*P **P 10 42 17.6 -0.6**
comp=Z,22nm,1.7s,mb5.2
MJAR Matsushiro Arr 92.60 50 P **P 10 42 22.4 -0.6**
comp=Z,3.2nm,1.1s,mb4.7,baz=226,slow=6.0,SNR=5.5
MJAR LR LR 11 26 57.6
comp=Z,56nm,18.8s,MS4.0,baz=335,slow=38
CLZ Clausthal 92.94 329 *e*P **P 10 42 25.1 +0.5**
comp=Z,12nm,1.5s,mb5.1
CLZ Clausthal 92.94 329 *e*P **P 10 42 25.1 +0.5**
CLZ pmax pmax
comp=Z,12nm,1.5s,mb5.1
ESDC Sonseca Array 93.54 313 P **P 10 42 26.9 -0.5**
comp=Z,3.9nm,1.1s,mb4.8,baz=125,slow=3.2,SNR=9.8
BILL Bilibino 118.68 25 *i* PKIKP PKPdf 10 47 52.7 -6.8
YKA Yellowknife Ar 144.85 1 PKP PKPdf 10 48 46.1 -2.3
comp=Z,14nm,0.8s,baz=344,slow=3.6,SNR=204
SSPA Standing Stone 147.91 304 *e*PKPbc PKPbc 10 48 56.2 -0.4
ULM Lac du Bonnet 153.49 334 PKPbc PKPbc 10 49 07.7 -2.2
comp=Z,4.9nm,0.9s,baz=316,slow=1.7,SNR=8.6
EDM Edmonton 154.16 360 *e*PKPdf PKPdf 10 49 02.1 -1.1
EDM *e*PKPbc PKPbc 10 49 10.8 -0.5
EDM *e*PKPab PKPab 10 49 23.5 -1.6
PDAR Pinedale Array 164.30 349 PKP PKPdf 10 49 14.3 -0.7
comp=Z,0.7nm,0.9s,baz=116,slow=2.3,SNR=5.2
NVAR Mina Array Bea 168.23 19 PKP PKPdf 10 49 20.3 +2.3
comp=Z,0.1nm,0.4s,baz=106,slow=3.7,SNR=4.9

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*IDC **25** 10:30:32.6±0.7, 1322N×12584E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, MS3.4/4, Ms1 3.4/4, ms1mx3.2/23, Error ellipse: s-maj=58.2km s-min=14.2km az=75.0*
*ISCJB **25** 10:30:35.9±1.6, 1326N±006×12597E±009, h35km±15km, mb4.1/12, MS3.3/3, Error ellipse: s-maj=15.8km s-min=8.9km az=149.4*
*MAN **25** 10:30:35.2, 1341N×12587E, h31km, mb3.9, ML4.9, MS5.3*
*NEIC **25** 10:30:36.9±0.5, 1329N×12618E, h30km, mb4.8/2, Error ellipse: s-maj=20.8km s-min=9.5km az=65.0*
ISC 25 10:30:36.7±2.7, 1325N±005×12595E±007, h27km±19km, n34, σ1°04/33, mb4.1/12, MS3.3/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**1.46**	**240**	*e*P	**Pn**	**10 30 59.9**	**-1.3**
CNP				*e*S	**Sn**	**10 31 18.3**	**-1.0**
PLP	**Palo**	**2.28**	**205**	*e*P	**Pn**	**10 31 13.3**	**+0.9**
PLP				*e*S	**Sn**	**10 31 40.6**	**+1.0**
OCLP	**Ormoc**	**2.55**	**211**	*e*P	**Pb**	**10 31 25.5**	**+3.8**
MSLP	**Maasin**	**3.27**	**199**	*e*P	**Pn**	**10 31 27.2**	**+1.1**
SCPH	**Surigao**	**3.47**	**188**	*e*P	**Pb**	**10 31 42.4**	**+5.0**
SCPH				*e*S	**Sn**	**10 32 06.4**	**-2.8**
RCP	**Roxas**	**3.55**	**242**	⇓ *e*P	**Pn**	**10 31 29.8**	**-0.2**
KALP	**Kalibo**	**3.86**	**247**	*e*P	**Sn**	**10 32 19.8**	**+1.2**
OTRP	**Odiongan**	**3.93**	**258**	*e*P	**Pn**	**10 31 34.1**	**-1.1**
BALP	**Baler**	**4.91**	**301**	*e*P	**Pn**	**10 31 44.6**	**-4.0**
TGY	**Tagaytay City**	**4.95**	**280**	Pn	**Pn**	**10 31 53.0**	**+3.8**
	7.8nm,0.3s,baz=170,slow=12,SNR=3.0						
TGY				Sn	**Sn**	**10 32 50.5**	**+5.0**
	22nm,0.3s,baz=58,slow=5.6,SNR=3.2						
BUKP	**Musuan**	**5.41**	**189**	*e*P	**Pb**	**10 32 03.8**	**-6.6**
CAUP	**Cauayan**	**5.42**	**313**	*e*P	**Pn**	**10 31 53.9**	**-1.8**
LUBP	**Lubang**	**5.57**	**276**	*e*P	**Pn**	**10 31 59.1**	**+1.4**
GUMO	**Guam**	**18.41**	**87**	LR	LR	10 41 35.0	
	comp=Z,117nm,18.7s,baz=311,slow=36						
JNU	**Nakatsue**	**20.29**	**12**	LR	LR	10 41 51.5	
	comp=Z,153nm,19.5s,MS3.4,baz=264,slow=33						
KSRS	**Korea Array**	**24.17**	**4**	P	**P**	**10 35 50.7**	**+0.1**
	4.0nm,1.0s,mb3.8,baz=186,slow=10,SNR=14						
KSRS				LR	LR	10 44 18.1	
	comp=Z,46nm,19.7s,MS3.0,baz=185,slow=34						
MJAR	**Matsushiro Arr**	**25.67**	**23**	LR	LR	10 44 24.6	
	comp=Z,134nm,19.0s,MS3.5,baz=200,slow=32						
FITZ	**Fitzroy Crossi**	**31.15**	**181**	P	**P**	**10 36 52.6**	**-0.5**
	3.1nm,0.9s,mb4.2,baz=29,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**34.00**	**166**	P	**P**	**10 37 16.8**	**-1.2**
	1.8nm,0.9s,mb4.0,baz=345,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**37.50**	**168**	P	**P**	**10 37 48.5**	**+0.5**
	1.6nm,0.8s,mb3.8,baz=355,slow=7.4,SNR=15						
SONM	**Songino Array**	**38.14**	**339**	P	**P**	**10 37 53.2**	**-0.3**
	2.5nm,0.9s,mb3.9,baz=151,slow=7.1,SNR=16						
FORT	**Forrest**	**43.82**	**177**	*e*P	**P**	**10 38 39.9**	**-0.3**
	18nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**47.31**	**162**	*e*P	**P**	**10 39 09.2**	**+1.4**
	4.6nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**47.31**	**162**	P	**P**	**10 39 09.4**	**+1.6**
	4.7nm,0.6s,mb4.6,baz=332,slow=10.0,SNR=7.9						
MK31	**Makanchi Array**	**49.50**	**321**	*e*P	**P**	**10 39 25.3**	**+0.6**
ZAL	**Zalesovo**	**51.89**	**330**	P	**P**	**10 39 43.2**	**+0.5**
	0.9nm,0.4s,mb4.0,baz=33,slow=7.5,SNR=4.2						
BVAR	**Borovoye Array**	**59.06**	**324**	P	**P**	**10 40 34.3**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=118,slow=8.6,SNR=7.2						
FINES	**FINESS Array B**	**83.14**	**332**	P	**P**	**10 42 60.0**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=60,slow=7.5,SNR=3.7						
FINES	**FINESS Array B**	**83.14**	**332**	P	**P**	**10 42 60.0**	**-0.1**
YKA	**Yellowknife Ar**	**91.18**	**24**	P	**P**	**10 43 39.2**	**+0.1**
	0.3nm,0.7s,mb3.8,baz=302,slow=4.8,SNR=6.2						
YKA	**Yellowknife Ar**	**91.18**	**24**	P	**P**	**10 43 39.2**	**+0.1**
GERES	**GERESS Array B**	**94.17**	**322**	P	**P**	**10 43 52.9**	**0.0**
	0.3nm,0.7s,mb3.8,baz=345,slow=7.4,SNR=3.7						
MSKU	**Masuku**	**112.12**	**274**	*e*Pdif	Pdif	10 45 13.8	+0.6
PLCA	**Paso Flores**	**149.04**	**155**	PKPbc	PKPbc	10 50 23.2	+1.1
	1.0nm,0.8s,baz=251,slow=2.6,SNR=3.8						

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*HLW **25** 10:35:24.8, 2992N×3662E, h4km, Mb3.2*
*ISCJB **25** 10:35:27.2±1.0, 2985N±006×3628E±007, h0km, Error ellipse: s-maj=9.4km s-min=7.1km az=91.5*
*CSEM **25** 10:35:29.4±0.2, 2983N×3611E, h2km, ML2.1, Error ellipse: s-maj=5.3km s-min=2.8km az=115.0, Mining explosion.*
*GII **25** 10:35:30.0±1.1, 2996N×3609E, h0km±8km, ML2.1/4*
ISC 25 10:35:27.3±1.0, 2985N±006×3632E±007, h0km, n19, σ0°67/24, 5C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.11**	**264**	Pg	**Pg**	**10 35 48.7**	**+0.1**
HRFI	**Mount Harif**	**1.13**	**280**	Pg	**Pg**	**10 35 48.1**	**-0.8**
HRFI				Sg	**Sg**	**10 36 02.5**	**-1.1**
HRFI	**Mount Harif**	**1.13**	**280**	Pg	**Pg**	**10 35 48.1**	**-0.9**
HRFI				Sg	**Sg**	**10 36 02.5**	**-1.2**
EIL	**Elat**	**1.21**	**262**	Pg	**Pg**	**10 35 50.1**	**-0.3**
EIL				Sg	**Sg**	**10 36 07.2**	**+1.1**
ZFRI	**Zfri**	**1.22**	**306**	Pg	**Pg**	**10 35 49.3**	**-1.3**
HBST	**Basata**	**1.52**	**246**	⇓ P	**Pn**	**10 35 55.5**	**-0.2**
MZDA	**Masada**	**1.67**	**331**	Pn	**Pn**	**10 35 57.8**	**0.0**
MASH	**Mash'abbe Sade**	**1.75**	**311**	Pn	**Pn**	**10 35 59.3**	**+0.4**
SVTA	**Shivta**	**1.82**	**307**	Pn	**Pn**	**10 36 00.2**	**+0.4**
YTIR	**Yattir**	**1.83**	**326**	Pn	**Pn**	**10 36 00.4**	**+0.4**
HDHB	**Dhahab**	**1.87**	**233**	⇑ P	**Pn**	**10 36 00.2**	**-0.3**
DSI	**Dead Sea**	**1.90**	**335**	Pn	**Pn**	**10 36 01.7**	**+0.8**
DRGI	**Dragot**	**1.91**	**335**	Pn	**Pn**	**10 36 01.5**	**+0.4**
KZIT	**Kziot**	**1.97**	**303**	Pn	**Pn**	**10 36 00.9**	**-1.0**
HNKL	**Nakhl**	**2.04**	**273**	⇑ P	**Pn**	**10 36 02.9**	**+0.1**
HNKL				S	**Sn**	**10 36 30.2**	**+1.3**
HKAT	**Jabal Katrina**	**2.43**	**238**	⇑ P	**Pn**	**10 36 08.3**	**+0.1**
SHRM		**2.74**	**225**	⇑ P	**Pn**	**10 36 12.2**	**-0.2**
AMAG	**Maghara**	**2.81**	**287**	⇑ P	**Pn**	**10 36 12.7**	**-0.7**
AMAG				S	**Sn**	**10 36 48.5**	**+0.5**
SUZ		**3.03**	**271**	⇓ P	**Pn**	**10 36 16.8**	**+0.3**

NEIC 25 11:10:49.7, 6152N×14656W, h15km, ML3.5(AEIC), **ML3.8**(PMR), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SML	**Sawmill**	**0.90**	**290**	P	Pb	11 11 04.7	-2.2
SML				S	Sb	11 11 17.2	-1.6
KNK	**Knik Glacier**	**0.92**	**264**	P	Pb	11 11 05.7	-1.6
KNK				S	Sb	11 11 18.5	-0.9
EYAK	**Cordova Ski Ar**	**1.05**	**158**	P	Pb	11 11 07.4	-2.1
EYAK				S	Sb	11 11 23.2	+0.1
GHO	**Glory Hole Cre**	**1.16**	**284**	P	Pn	11 11 09.1	-2.3
PMR	**Palmer**	**1.23**	**275**	*e*Pn	Pn	11 11 09.6	-2.8
PMR				P		11 11 10.5	
PMR				*e*Sg	Sg	11 11 27.5	-2.1
RAGM	**Ragged Mountai**	**1.46**	**140**	P	Pn	11 11 13.6	-2.0
RC01	**Rabbit Creek A**	**1.59**	**256**	P	Pn	11 11 16.0	-1.4
FIB	**Fire Island**	**1.78**	**260**	P	Pn	11 11 19.5	-0.4
MENT	**Mentasta**	**1.95**	**42**	*e*P	Pn	11 11 21.0	-1.2
SLKM	**Skilak Lake**	**2.05**	**242**	P	Pn	11 11 22.3	-1.3
DOT	**Dot Lake**	**2.43**	**27**	P	Pn	11 11 28.1	-0.8
MCK	**McKinley**	**2.48**	**335**	P	Pn	11 11 29.1	-0.5
MCK				*e*Pn	Pn	11 11 29.1	-0.4
MCK				*e*Sg	Sg	11 12 06.3	-3.1
TRF	**Thorofare Moun**	**2.60**	**320**	P	Pn	11 11 30.1	-1.1
KTH	**Kantishna Hill**	**2.88**	**317**	P	Pn	11 11 34.0	-1.0
COLA	**College**	**3.42**	**351**	P	Pn	11 11 41.0	-1.5
EGAK	**Eagle**	**4.09**	**34**	P	Pn	11 11 50.8	-0.9
EGAK				*e*Pn	Pn	11 11 50.8	-0.8
EGAK				*e*Pg	Pg	11 12 12.2	+4.2
EGAK				*e*Sg	Sg	11 12 56.7	-4.3
DAWY	**Dawson**	**4.17**	**49**	*e*Pn	Pn	11 11 52.0	-0.8
DAWY				*e*Pg	Pg	11 12 07.5	-2.0
SVW2	**Sparrevohn**	**4.37**	**268**	*e*Pn	Pn	11 11 52.8	-2.7
TTA	**Tatalina**	**4.65**	**292**	*e*P	Pn	11 11 59.1	-0.2
IMA2	**Indian Mountai**	**5.55**	**328**	P	Pn	11 12 10.4	-1.4
TNA	**Tin City**	**10.33**	**302**	*e*Pn	Pn	11 13 18.8	+1.4
	3.5nm,0.6s						

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*CSEM **25** 11:19:53.1, 6791N×2014E, h13km, ML2.9, Suspected Mining explosion. After UPP*
*UPP **25** 11:19:53.1, 6791N×2014E, h13km, ML2.9, Suspected Mining explosion.*
HEL 25 11:19:53.7±0.2, 6789N×2013E, h0km, ML2.0, ML2.9(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**51**	*i* P	Pg	11 19 54.8	-0.8
NIKU	**Nikkaluokta**	**0.41**	**267**	*i* P	Pg	11 20 01.0	-0.6
LANU	**Lannavaara**	**0.72**	**76**	*i* P	Pg	11 20 06.4	-1.1
DUNU	**Dundret**	**0.79**	**167**	*i* P	Pg	11 20 07.9	-0.9
DUNU	**Dundret**	**0.79**	**167**	P	Pg	11 20 07.9	-1.0
	baz=45						
KIF	**Kilpisjarvi**	**1.15**	**12**	*e*P	Pg	11 20 16.1	+0.4
KIF				*e*S	Sg	11 20 33.6	+3.0
SGF	**Sodankyl**	**2.49**	**97**	*e*P	Pn	11 20 35.5	+0.1
SGF				*e*S	Sn	11 21 05.2	-1.2
SGF				MSG		11 21 12.7	
	comp=Z,6.8nm,0.3s						
KEV	**Kevo**	**3.12**	**50**	*e*P	Pn	11 20 44.8	+0.6
KEV				*e*S	Sn	11 21 22.4	+0.3
KEV				MSG		11 21 32.3	
	comp=Z,3.4nm,0.3s						
OUL	**Oulu**	**3.64**	**138**	*e*SB	Sb	11 21 42.7	-1.0
OUL				MSG		11 21 52.0	
	comp=Z,3.2nm,0.3s						
KU4	**Liikasenvaara**	**4.00**	**108**	*e*SG	Sg	11 21 57.2	-4.9
KU4				MSG		11 22 01.4	
	comp=Z,2.8nm,0.3s						

IDC 25 11:38:13.6±52.0, 2269S×17295W, h0km, mb3.8/3, **mb1 4.0**/3, **mb1mx3.7**/16, **mbtmp3.8**/3, **MS3.7**/1, **Ms1 3.6**/1, **ms1mx2.6**/29, **Error ellipse: s-maj=989.2km s-min=176.8km az=87.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.17**	**247**	P	P	11 45 60.0	+0.3
	1.8nm,1.0s,baz=97,slow=11,SNR=4.0						
STKA				LR	LR	11 59 48.0	
	comp=Z,82nm,18.3s,baz=195,slow=31						
ASAR	**Alice Springs**	**48.63**	**258**	P	P	11 46 59.5	+0.4
	0.6nm,0.8s,baz=96,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**48.98**	**263**	P	P	11 47 01.9	+0.2
	1.3nm,0.7s,baz=103,slow=8.1,SNR=15						

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*IDC **25** 11:53:08.0±0.6, 5683S×2429W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.4/17, mbtmp4.5/11, ML4.1/1, MS3.9/12, Ms1 3.9/12, ms1mx3.9/17, Error ellipse: s-maj=21.5km s-min=17.1km az=170.0*
*ISCJB **25** 11:53:08.0±0.5, 5688S±007×242W±02, h10km, mb4.6/13, MS3.9/11, Error ellipse: s-maj=13.0km s-min=8.8km az=122.1*
*NEIC **25** 11:53:09.5±0.3, 5686S×2421W, h10km, mb5.1/4, Error ellipse: s-maj=11.0km s-min=10.0km az=221.0*
ISC 25 11:53:09.6±0.5, 5691S±007×242W±02, h10km, n37, σ0°92/23, mb4.6/13, **MS3.9**/11, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.39**	**160**	*e*P	**Pn**	**11 56 46.9**	**0.0**
VNA3	**Neumayer Olymp**	**15.65**	**162**	*e*P	**Pn**	**11 56 49.6**	**-0.6**
VNA3				*e*		11 56 51.2	
VNA3				*e*		11 56 54.3	
VNA3				*e*		11 59 32.4	
VNA3				*e*		11 59 37.0	
VNA2	**Neumayer--Watz**	**15.79**	**160**	*e*P	**Pn**	**11 56 51.6**	**-0.4**
	baz=325,slow=14						
VNA2				*e*		11 56 52.5	
VNA2				*e*		11 56 55.9	
VNA2				*e*		11 59 33.9	
VNA2				*e*		11 59 38.4	
SNAA	**Sanae**	**17.29**	**157**	P	**Pn**	**11 57 11.8**	**+0.7**
	0.6nm,0.3s,baz=331,slow=15,SNR=20						
SNAA				LR	LR	12 02 12.3	
	comp=Z,177nm,22.0s,baz=47,slow=31						
SNAA	**Sanae**	**17.29**	**157**	*e*P	**Pn**	**11 57 12.9**	**+1.8**
SNAA				*e*		11 57 15.0	
PMSA	**Palmer Station**	**20.62**	**231**	P	**P**	**11 57 48.9**	**-0.2**
	44nm,0.7s,baz=70,slow=7.0,SNR=14						
PMSA				LR	LR	12 04 51.5	
	comp=Z,389nm,18.1s,MS3.8,baz=351,slow=34						
USHA	**Ushuaia**	**24.58**	**256**	P	**P**	**11 58 28.0**	**-1.8**
	13nm,0.8s,mb4.5,baz=80,slow=5.4,SNR=4.0						
USHA				LR	LR	12 05 57.1	
	comp=Z,320nm,18.7s,MS3.8,baz=228,slow=31						
QSPA	**South Pole Qui**	**33.34**	**180**	*e*P	**P**	**11 59 48.7**	**+1.0**
	12nm,0.9s,mb4.8						
PLCA	**Paso Flores**	**33.78**	**278**	P	**P**	**11 59 49.1**	**-2.5**
	2.9nm,0.8s,mb4.2,baz=136,slow=12,SNR=7.2						
PLCA				LR	LR	12 13 07.8	
	comp=Z,214nm,18.0s,MS3.9,baz=125,slow=36						
MAW	**Mawson**	**38.46**	**142**	LR	LR	12 14 05.6	
	comp=Z,209nm,18.6s,MS4.0,baz=85,slow=33						
BOSA	**Boshof**	**44.61**	**72**	P	**P**	**12 01 21.6**	**-0.4**
	3.2nm,0.8s,mb4.2,baz=188,slow=6.6,SNR=8.2						
BOSA				LR	LR	12 16 25.9	
	comp=Z,352nm,18.6s,MS4.3,baz=227,slow=31						
VNDA	**Vanda**	**45.78**	**182**	P	**P**	**12 01 32.1**	**+0.7**
	4.5nm,0.8s,mb4.4,baz=166,slow=3.7,SNR=9.0						
VNDA				LR	LR	12 21 47.7	
	comp=Z,90nm,18.7s,MS3.7,baz=17,slow=38						
LBTB	**Lobatse**	**47.71**	**70**	P	**P**	**12 01 45.9**	**-0.5**
	3.5nm,0.7s,mb4.5,baz=218,slow=6.5,SNR=11						
LBTB	**Lobatse**	**47.71**	**70**	P	**P**	**12 01 45.9**	**-0.5**
LBTB				*e*P		12 01 46.1	
LPAZ	**La Paz**	**52.23**	**303**	P	**P**	**12 02 21.9**	**+1.1**
	31nm,0.9s,mb5.2,baz=154,slow=6.5,SNR=106						
LPAZ				LR	LR	12 24 32.5	
	comp=Z,80nm,19.7s,MS3.8,baz=17,slow=36						
LPAZ	**La Paz**	**52.23**	**303**	P	**P**	**12 02 21.9**	**+1.1**
LPAZ				LR	LR	12 24 32.5	
ARE	**Arequipa**	**53.67**	**299**	*e*P	**P**	**12 02 32.0**	**+0.6**
OTAV	**Otavalo**	**71.52**	**301**	*e*P	**P**	**12 04 32.1**	**+1.5**
TOA0	**Torodi Ar. Sit**	**73.04**	**26**	*e*P	**P**	**12 04 39.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.04**	**26**	P	**P**	**12 04 39.4**	**-0.4**
	1.9nm,0.7s,mb4.1,baz=204,slow=6.2,SNR=20						
TORD				LR	LR	12 29 40.2	
	comp=Z,54nm,22.0s,MS3.8,baz=280,slow=30						
ROSC	**El Rosal**	**73.73**	**307**	P	**P**	**12 04 44.5**	**+0.7**
	3.5nm,0.5s,mb4.5,baz=81,slow=22,SNR=4.6						
KMBO	**Kilima Mbogo**	**73.83**	**66**	LR	LR	12 35 05.9	
	comp=Z,131nm,18.0s,MS4.3,baz=244,slow=34						
SDV	**Santo Domingo**	**75.80**	**312**	*e*P	**P**	**12 04 56.1**	**+0.3**
	13nm,0.9s,mb4.8						
JTS	**JuntasAbangare**	**83.38**	**300**	*e*P	**P**	**12 05 36.8**	**-0.1**
	16nm,1.1s,mb5.0						
PPT	**Papeete**	**92.99**	**231**	LR	LR	12 40 55.5	
	comp=Z,91nm,21.4s,MS4.2,baz=129,slow=31						
KEST	**Kesra**	**96.55**	**27**	LR	LR	12 43 11.8	
	comp=Z,31nm,22.0s,MS3.8,baz=207,slow=31						
ASAR	**Alice Springs**	**97.64**	**160**	P	**P**	**12 06 43.4**	**-1.1**
	1.0nm,1.1s,mb4.2,baz=163,slow=2.1,SNR=5.0						
WRA	**Warramunga Arr**	**101.35**	**159**	P	Pdif	12 06 59.7	-1.2
	0.7nm,1.1s,baz=193,slow=6.5,SNR=2.8						
PDAR	**Pinedale Array**	**122.21**	**300**	PKP	PKPdf	12 12 02.7	-2.0
	0.3nm,0.6s,baz=140,slow=5.8,SNR=2.9						
NVAR	**Mina Array Bea**	**123.26**	**290**	PKP	PKPdf	12 12 06.7	0.0
	0.3nm,0.7s,baz=196,slow=3.1,SNR=3.7						
FINES	**FINESS Array B**	**124.39**	**27**	PKP	PKPdf	12 12 07.0	-1.9
	2.4nm,1.0s,baz=62,slow=6.5,SNR=4.0						
ARCES	**ARCESS Array B**	**131.14**	**21**	PKP	PKPdf	12 12 19.5	-2.3
	2.3nm,0.8s,baz=276,slow=2.3,SNR=4.3						
YKA	**Yellowknife Ar**	**137.93**	**316**	PKhKP		12 12 21.4	
	0.2nm,0.8s,baz=113,slow=2.8,SNR=5.1						
YKA				PKP	PKPdf	12 12 30.2	-4.2
	2.7nm,1.0s,baz=125,slow=2.2,SNR=16						
YKA				PP	PP	12 15 18.9	-3.1
	1.1nm,0.9s,baz=120,slow=6.9,SNR=9.0						
YKA				SKPab		12 16 15.7	
	0.5nm,0.9s,baz=123,slow=1.5,SNR=4.1						
YKA	**Yellowknife Ar**	**137.93**	**316**	PKP		12 12 21.4	
YKA				PKP	PKPdf	12 12 30.

Error ellipse: s-maj=3.6km s-min=1.8km az=66.0
ISCJB ***25*** *12:18:33.3±0.7, 3718N±004×23.35E±007, h118km±9km, Error ellipse: s-maj=9.8km s-min=5.3km az=123.2*
ATH ***25*** *12:18:34.6, 37.19N×23.42E, h93km±4km, ML3.1*
NEIC ***25*** *12:18:34.6, 37.19N×23.42E, h93km, MG3.1(ATH), After ATH.*
HLW ***25*** *12:18:35.4, 3703N×2387E, h33km, Mb3.9*
ISC 25 12:18:34.7±0.7, 3718N±004×2337E±007, h104km±9km, n28, σ0=97/35, 3C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.57**	**217**	*e*P	**Pn**	**12 18 51.3**	**-0.1**
VLI				*e*S	**Sn**	12 19 02.6	-1.3
NAIG	**Nisos Aigina**	**0.58**	**10**	*e*P	**Pn**	**12 18 50.5**	**-0.9**
KVR	**Kavouri**	**0.72**	**26**	*e*P	**Pn**	**12 18 51.2**	**-1.4**
MGER	**Gerania Oros**	**0.81**	**354**	*e*P	**Pn**	**12 18 52.7**	**-0.7**
ATH	**Athens Observa**	**0.84**	**19**	*e*P	**Pn**	**12 18 53.4**	**-0.3**
KYTH	**Kithira**	**0.94**	**197**	*e*P	**Pn**	**12 18 55.3**	**+0.6**
PTL	**Penteli**	**0.95**	**24**	*e*P	**Pn**	**12 18 54.8**	**-0.1**
ITM	**Ithomi**	**1.15**	**270**	*e*P	**Pn**	**12 18 57.9**	**+0.9**
ITM				*e*S	**Sn**	12 19 14.3	+0.5
LKR	**Lokris**	**1.50**	**349**	*e*P	**Pn**	**12 19 00.9**	**-0.1**
APE	**Apeiranthos**	**1.73**	**93**	*e*P	**Pn**	**12 19 04.7**	**+0.7**
RLS	**Riolos of Patr**	**1.74**	**301**	*e*P	**Pn**	**12 19 05.7**	**+1.6**
THR5	**Thira Island,**	**1.76**	**115**	*e*Pb	**Pn**	**12 19 05.5**	**+1.2**
THR6	**Thira Island,**	**1.83**	**116**	*e*Pb	**Pn**	**12 19 06.5**	**+1.3**
THR6	**Thira Island,**	**1.83**	**116**	*e*Pb	**Pn**	**12 19 06.4**	**+1.2**
THR1	**Thera Island**	**1.86**	**115**	*e*Pb	**Pn**	**12 19 06.7**	**+1.1**
VAM	**Vamos**	**1.89**	**159**	*e*P	**Pn**	**12 19 06.6**	**+0.6**
VAM				*e*S	**Sn**	12 19 31.0	+1.1
AGG	**Agios Georgios**	**2.01**	**336**	*e*Pb	**Pn**	**12 19 07.7**	**+0.2**
AGG				*e*Sb	**Sn**	12 19 32.3	-0.3
EVR	**Evrytania**	**2.12**	**325**	*e*P	**Pn**	**12 19 09.7**	**+0.7**
GVD	**Gavdhos**	**2.41**	**166**	*e*P	**Pn**	**12 19 13.0**	**+0.3**
LKD	**Levkas**	**2.63**	**306**	*e*Pn	**Pn**	**12 19 15.9**	**+0.2**
NPS	**Neapolis**	**2.64**	**136**	*e*P	**Pn**	**12 19 15.1**	**-0.6**
IGT	**Igoumenitsa**	**3.35**	**315**	*e*Pn	**Pn**	**12 19 24.9**	**-0.2**
HORT	**Hortiatis**	**3.42**	**357**	*e*Pn	**Pn**	**12 19 26.2**	**+0.2**
FNA	**Florina**	**3.92**	**337**	*e*Pn	**Pn**	**12 19 33.0**	**+0.2**
SLUM		**5.88**	**164**	⇑P	**Pn**	**12 19 57.6**	**-1.7**
HMAT	**Matruh**	**6.81**	**152**	⇑P	**Pn**	**12 20 09.3**	**-2.7**
HMAT				S	**Sn**	12 21 17.8	-10
STON	**Ston**	**7.16**	**324**	*i* Pn	**Pn**	**12 20 13.1**	**-3.5**
STON				*i* Sn	**Sn**	12 21 26.4	-10
SWA1		**8.14**	**165**	⇑P	**Pn**	**12 20 28.6**	**-1.3**
SWA1				S	**Sn**	12 21 51.5	-8.7

ISCJB ***25*** *12:21:57.5±0.3, 4309N±003×14071E±004, h173km±2km, mb3.9/22, Error ellipse: s-maj=5.8km s-min=5.2km az=127.9*
NEIC ***25*** *12:21:58.7±0.5, 4314N×14067E, h168km±6km, mb4.3/7, Error ellipse: s-maj=7.9km s-min=6.7km az=106.0*
IDC ***25*** *12:21:58.7±0.9, 4310N×14070E, h169km±7km, mb3.6/16, mb1 3.7/17, mb1mx3.7/23, mbtmp3.5/17, Error ellipse: s-maj=13.5km s-min=11.5km az=114.0*
MOS ***25*** *12:21:58.2±1.5, 4315N×14060E, h180km, mb4.0/7, Error ellipse: s-maj=13.0km s-min=7.7km az=103.9*
JMA ***25*** *12:21:59.3±0.1, 4311N×14069E, h164km±1km, M3.4*
ISC 25 12:21:58.5±0.3, 4310N±003×14070E±004, h170km±2km, n67, σ0=87/83, mb3.9/22, 1C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.30**	**327**	P	**Pn**	**12 22 21.5**	**+0.2**
JSK				*e*S	**Sn**	12 22 38.3	-0.5
JEW	**Eniwo**	**0.61**	**115**	P	**Pn**	**12 22 23.3**	**+0.7**
JSH	**Shimam**	**0.67**	**227**	P	**Pn**	**12 22 23.2**	**+0.3**
JSH				*e*S	**Sn**	12 22 41.1	-0.5
JNB	**Noboribetsu**	**0.68**	**158**	P	**Pn**	**12 22 23.2**	**+0.2**
JHR	**Hokuryu**	**0.98**	**49**	P	**Pn**	**12 22 25.9**	**+0.9**
JHR				*e*S	**Sn**	12 22 45.8	+0.4
JKB	**Kayabe**	**1.24**	**168**	P	**Pn**	**12 22 27.4**	**+0.3**
JOSM	**Okushiri--Mats**	**1.36**	**222**	P	**Pn**	**12 22 28.4**	**+0.2**
JOSM				*e*S	**Sn**	12 22 50.6	-0.5
JFR	**Furan**	**1.39**	**87**	P	**Pn**	**12 22 28.8**	**+0.3**
JFR				*e*S	**Sn**	12 22 50.7	-0.8
JYG	**Yagishiri**	**1.43**	**21**	P	**Pn**	**12 22 29.0**	**+0.2**
JKK2	**Kamakawa 2**	**1.68**	**62**	P	**Pn**	**12 22 32.1**	**+0.8**
JKK2				*e*S	**Sn**	12 22 56.5	-0.2
ASAJ	**Asahikawa**	**1.71**	**53**	P	**Pn**	**12 22 32.5**	**+0.8**
	11nm,0.3s,baz=234,slow=12,SNR=100						
ASAJ				S	**Sn**	12 22 57.6	+0.3
	7.1nm,0.3s,baz=340,slow=33,SNR=31						
ASAJ	**Asahikawa**	**1.71**	**53**	PN	**Pn**	**12 22 32.5**	**+0.8**
ASAJ				S	**Sn**	12 22 57.6	+0.3
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**1.72**	**118**	P	**Pn**	**12 22 31.8**	**0.0**
JNBK				*e*S	**Sn**	12 22 57.3	-0.2
JOT	**Ohata**	**1.74**	**171**	P	**Pn**	**12 22 32.0**	**0.0**
JCH	**Churui**	**2.02**	**103**	P	**Pn**	**12 22 34.0**	**-1.0**
JCH				*e*S	**Sn**	12 23 00.9	-2.3
ERM	**Erimo**	**2.12**	**120**	*d i* PN	**Pn**	**12 22 36.5**	**+0.4**
ERM	**Erimo**	**2.12**	**120**	*e*Pn	**Pn**	**12 22 36.4**	**+0.3**
ERM				*e*Sn	**Sn**	12 23 03.7	-1.5
JAR	**Ashorobuto**	**2.25**	**84**	P	**Pn**	**12 22 37.7**	**0.0**
JAR				*e*S	**Sn**	12 23 07.5	-0.5
JSE	**Soyaes**	**2.30**	**36**	P	**Pn**	**12 22 39.0**	**+0.8**
JWK2	**Keihoku**	**2.38**	**21**	P	**Pn**	**12 22 40.3**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**3.87**	**74**	*e*PN	**Pn**	**12 23 03.0**	**+5.5**
YUK				*e*S	**Sn**	12 23 45.0	+1.5
YUK				pmax	pmax		
	comp=Z,180nm,0.3s						
YUK				smax			
	comp=N,280nm,0.5s						
YUK				smax			
	comp=E,170nm,0.5s						
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.12**	**20**	⇓*i* PN	**Pn**	**12 23 01.8**	**+1.1**
YSS				S	**Sn**	12 23 48.5	-0.8
YSS				pmax	pmax		
	comp=Z,130nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.12**	**20**	*e*Pn	**Pn**	**12 23 01.6**	**+0.9**
HABR	**Khabarovsk**	**6.67**	**326**	*e*PN	**Pn**	**12 23 34.3**	**+0.2**
HABR				*e*S	**Sn**	12 24 50.3	+1.0
HABR				pmax	pmax		
	comp=Z,32nm,1.1s						
MAJO	**Matsushiro**	**6.83**	**197**	*e*PN	**Pn**	**12 23 37.2**	**+1.0**
MJAR	**Matsushiro Arr**	**6.83**	**197**	P	**Pn**	**12 23 36.7**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=16,slow=15,SNR=5.0						
KLR	**Kul'dur**	**8.72**	**318**	*e*PN	**Pn**	**12 23 58.6**	**-2.6**
HIA	**Hailar**	**15.75**	**300**	*e*P	**Pn**	**12 25 30.4**	**-0.7**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**15.75**	**300**	*e*P	**Pn**	**12 25 30.4**	**-0.6**
	comp=Z,7.1nm,0.6s						
MA2	**Magadan**	**17.62**	**17**	P	**Pn**	**12 25 51.6**	**-2.0**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	**Magadan**	**17.62**	**17**	P	**Pn**	**12 25 51.6**	**-2.0**
	comp=Z,5.3nm,0.7s						
YAK	**Yakutsk**	**20.05**	**345**	*e*P	**P**	**12 26 16.1**	**-2.4**
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK	**Yakutsk**	**20.05**	**345**	*e*P	**P**	**12 26 15.5**	**-2.9**
	comp=E,16nm,0.6s						
ULN	**Ulaanbaatar**	**23.95**	**293**	*e*P	**P**	**12 26 57.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**23.95**	**293**	*e*P	**P**	**12 26 57.3**	**+0.3**
	comp=Z,1.8nm,0.5s,mb3.9						
SONM	**Songino Array**	**24.39**	**293**	P	**P**	**12 27 01.3**	**+0.3**
	comp=Z,2.1nm,0.5s,mb3.9,baz=81,slow=8.7,SNR=18						
TIXI	**Tiksi**	**29.21**	**352**	*e*P	**P**	**12 27 41.1**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.0						
ZAL	**Zalesovo**	**37.64**	**307**	P	**P**	**12 28 57.9**	**+0.9**
	comp=Z,6.5nm,0.5s,mb4.5,baz=25,slow=8.1,SNR=33						
MK31	**Makanchi Array**	**40.69**	**296**	*e*P	**P**	**12 29 22.3**	**+0.1**
KURK	**Kurchatov**	**41.96**	**303**	*e*P	**P**	**12 29 32.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
KURK	**Kurchatov**	**41.96**	**303**	*e*P	**P**	**12 29 32.8**	**+0.2**
	comp=Z,11nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**46.24**	**308**	P	**P**	**12 30 06.6**	**0.0**
	comp=Z,3.8nm,0.4s,mb4.4,baz=82,slow=10,SNR=26						
BRVK	**Borovoye**	**46.29**	**308**	P	**P**	**12 30 07.9**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**46.29**	**308**	P	**P**	**12 30 07.9**	**+0.9**
	comp=Z,3.6nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**47.35**	**293**	*e*P	**P**	**12 30 13.1**	**-2.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
INK	**Inuvik**	**49.30**	**29**	P	**P**	**12 30 29.7**	**-0.4**
	comp=Z,0.9nm,0.3s,mb3.8,baz=316,slow=8.7,SNR=22						
INK	**Inuvik**	**49.30**	**29**	*e*P	**P**	**12 30 29.9**	**-0.2**
	comp=Z,25nm,0.4s,mb5.2						
ARU	**Arti**	**51.55**	**315**	⇑*i*P	**P**	**12 30 46.6**	**-0.4**
ARU				*e*		12 32 44.6	
ARU				*e*S	**S**	**12 37 53.7**	**-0.7**
ARU				*e*SS	SS	12 41 29.9	-2.7
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
ARCES	**ARCESS Array B**	**58.15**	**338**	P	**P**	**12 31 34.2**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.1,baz=51,slow=6.4,SNR=9.7						
YKA	**Yellowknife Ar**	**58.89**	**32**	P	**P**	**12 31 39.4**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=306,slow=6.4,SNR=21						
YKA	**Yellowknife Ar**	**58.89**	**32**	P	**P**	**12 31 39.4**	**0.0**
WRA	**Warramunga Arr**	**63.00**	**187**	P	**P**	**12 32 07.2**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=4.7,slow=7.0,SNR=26						
WRA	**Warramunga Arr**	**63.00**	**187**	*i* P	**P**	**12 32 07.5**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.23**	**331**	P	**P**	**12 32 08.1**	**-0.5**
	comp=Z,2.7nm,0.5s,mb4.4,baz=64,slow=7.0,SNR=44						
ASAR	**Alice Springs**	**66.73**	**187**	P	**P**	**12 32 31.6**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.8,baz=4.3,slow=5.7,SNR=20						
NB2	**NORSAR Subarra**	**68.40**	**336**	P	**P**	**12 32 41.1**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.5,baz=42,slow=6.2						
NOA	**NORSAR Array B**	**68.40**	**336**	P	**P**	**12 32 41.1**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.6,baz=39,slow=6.0,SNR=4.3						
AKASG	**Malin Array Be**	**69.21**	**321**	P	**P**	**12 32 46.5**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.8,baz=43,slow=6.0,SNR=5.1						
AKASG	**Malin Array Be**	**69.21**	**321**	*i* P	**P**	**12 32 46.7**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**69.21**	**321**	P	**P**	**12 32 46.5**	**-0.3**
NVAR	**Mina Array Bea**	**71.84**	**54**	P	**P**	**12 33 04.0**	**+1.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=280,slow=5.6,SNR=6.0						
NVAR	**Mina Array Bea**	**71.84**	**54**	P	**P**	**12 33 04.0**	**+1.3**
PDAR	**Pinedale Array**	**73.83**	**46**	P	**P**	**12 33 14.9**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.3,baz=314,slow=1.0,SNR=4.5						
ULM	**Lac du Bonnet**	**74.75**	**34**	P	**P**	**12 33 19.9**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.4,baz=270,slow=6.1,SNR=2.8						
GERES	**GERESS Array B**	**77.29**	**327**	P	**P**	**12 33 34.3**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.3,baz=42,slow=6.1,SNR=6.6						
TXAR	**Lajitas Array**	**86.84**	**52**	P	**P**	**12 34 24.7**	**+0.9**
	comp=Z,0.3nm,0.9s,mb3.1,baz=324,slow=4.5,SNR=3.9						
TXAR	**Lajitas Array**	**86.84**	**52**	P	**P**	**12 34 24.7**	**+0.9**

ISCJB ***25*** *12:35:50.6±8.8, 26S±06×1394E±02, h70km±55km, mb4.3/3, Error ellipse: s-maj=102.9km s-min=31.0km az=165.6*
IDC ***25*** *12:35:53.4±7.3, 279S×13938E, h58km±67km, mb3.8/3, mb1 3.9/6, mb1mx3.6/14, mbtmp3.8/6, ML3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/19, Error ellipse: s-maj=70.9km s-min=44.3km az=172.0*
NEIC ***25*** *12:35:56.2±5.1, 3115S×13926E, h35km, mb3.6/3, Error ellipse: s-maj=73.6km s-min=16.6km az=176.0*
ISC 25 12:35:55.2±6.9, 28S±06×1394E±02, h78km±40km, n14, σ0=80/14, mb4.3/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.08**	**131**	P	**Pn**	**12 38 16.0**	**-1.0**
	0.2nm,0.3s,baz=325,slow=18,SNR=2.5						
PMG	**Port Moresby**	**10.08**	**131**	Pn	**Pn**	**12 38 17.4**	**+0.4**
KAKA	**Kakadu**	**12.03**	**215**	*e*P	**Pn**	**12 38 34.8**	**-8.8**
	9.0nm,0.5s						
WB2	**Warramunga Arr**	**17.73**	**196**	*e*P	**Pn**	**12 39 56.6**	**-0.2**
WRA	**Warramunga Arr**	**17.73**	**196**	P	**Pn**	**12 39 56.2**	**-0.6**
	1.1nm,0.3s,baz=14,slow=11,SNR=32						
CTA	**Charters Tower**	**18.41**	**159**	*e*P	**Pn**	**12 40 06.8**	**+1.8**
	2.1nm,0.6s						
CTA	**Charters Tower**	**18.41**	**159**	P	**Pn**	**12 40 05.5**	**+0.5**
	0.3nm,0.3s,baz=329,slow=15,SNR=8.1						
CTAO	**Charters Tower**	**18.41**	**159**	*e*P	**Pn**	**12 40 06.9**	**+1.9**
	2.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.34**	**221**	*e*P	**P**	**12 40 26.3**	**+1.1**
	6.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.34**	**221**	P	**P**	**12 40 25.9**	**+0.8**
	2.0nm,0.6s,baz=46,slow=12,SNR=6.7						
FITZ				LR	LR	12 49 28.9	
	comp=Z,76nm,18.3s,baz=72,slow=40						
ASAR	**Alice Springs**	**21.41**	**194**	P	**P**	**12 40 36.4**	**-0.2**
	5.8nm,0.6s,mb4.1,baz=24,slow=11,SNR=44						
STKA	**Stephens Creek**	**28.97**	**176**	*e*P	**P**	**12 41 46.2**	**-1.1**
	1.7nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**28.97**	**176**	P	**P**	**12 41 47.5**	**+0.2**
	2.5nm,0.7s,mb3.9,baz=356,slow=10,SNR=9.5						
FORT	**Forrest**	**29.82**	**200**	*e*P	**P**	**12 41 54.3**	**-0.5**
	20nm,0.6s,mb4.9						

ISCJB ***25*** *12:59:42.7±0.6, 2993S±005×1792W±01, h344km±7km, mb3.4/4, Error ellipse: s-maj=20.6km s-min=6.0km az=35.3*
NEIC ***25*** *12:59:44.2±0.5, 3004S×17893W, h354km±7km, Error ellipse: s-maj=14.5km s-min=7.2km az=110.0*
IDC ***25*** *12:59:45.2±1.1, 2968S×17932W, h348km±12km, mb3.3/4, mb1 3.6/6, mb1mx3.4/15, mbtmp3.5/6, Error ellipse: s-maj=27.7km s-min=14.9km az=151.0*
ISC 25 12:59:44.4±0.6, 3007S±005×1791W±01, h352km±8km, n47, σ1=22/53, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**51**	P	**Pn**	**13 00 30.8**	**-0.7**
	171nm,0.3s,baz=101,slow=9.7,SNR=9.9						
RAO				S	**S**	**13 01 04.5**	**-4.8**
	226nm,0.3s,baz=94,slow=22,SNR=14						
MXZ	**Matakaoa Point**	**7.79**	**196**	*e*P	**Pn**	**13 01 37.0**	**+1.0**
MXZ	**Matakaoa Point**	**7.79**	**196**	PN	**Pn**	**13 01 37.0**	**+1.0**
MXZ				SN	**S**	**13 03 06.2**	**-0.8**
PUZ	**Puketiti**	**8.29**	**195**	*e*P	**Pn**	**13 01 41.7**	**-0.2**
PUZ	**Puketiti**	**8.29**	**195**	PN	**Pn**	**13 01 42.2**	**+0.3**
PUZ				SN	**S**	**13 03 18.4**	**+0.6**
MWZ	**Matawai**	**8.71**	**198**	P	**Pn**	**13 01 48.8**	**+1.8**
MWZ	**Matawai**	**8.71**	**198**	PN	**Pn**	**13 01 47.5**	**+0.6**
MWZ				*e*SN	**S**	**13 03 28.7**	**+1.5**
URZ	**Urewera**	**8.76**	**200**	P	**Pn**	**13 01 50.2**	**+2.7**
	10nm,0.3s,baz=290,slow=3.9,SNR=29						
URZ				S	**S**	**13 03 28.7**	**+0.5**
	12nm,0.3s,baz=136,slow=22,SNR=16						
URZ	**Urewera**	**8.76**	**200**	P	**Pn**	**13 01 48.7**	**+1.2**
URZ	**Urewera**	**8.76**	**200**	PN	**Pn**	**13 01 48.7**	**+1.2**
URZ				SN	**S**	**13 03 28.5**	**+0.4**
KNZ	**Kokohu**	**9.32**	**196**	*e*P	**Pn**	**13 01 54.8**	**+0.6**
BKZ	**Black Stump Fm**	**9.79**	**201**	*e*P	**Pn**	**13 02 00.4**	**+0.7**
BKZ	**Black Stump Fm**	**9.79**	**201**	*e*PN	**Pn**	**13 01 60.0**	**+0.3**
PXZ	**Pawanui**	**10.48**	**197**	PN	**Pn**	**13 02 06.6**	**-1.4**
PXZ				*e*SN	**S**	**13 04 03.4**	**-2.6**
TSZ	**Takapari Road**	**10.77**	**201**	P	**Pn**	**13 02 12.2**	**+0.8**
WAZ	**Wanganui**	**10.83**	**205**	*e*P	**Pn**	**13 02 14.8**	**+2.7**
WAZ	**Wanganui**	**10.83**	**205**	*e*PN	**Pn**	**13 02 13.9**	**+1.8**
WAZ				*e*SN	**S**	**13 04 14.6**	**+1.1**
MRZ	**Mangatainoka R**	**11.43**	**201**	*e*P	**Pn**	**13 02 18.7**	**-0.6**
MRZ	**Mangatainoka R**	**11.43**	**201**	*e*PN	**Pn**	**13 02 16.7**	**-2.6**
MRZ				*e*SN	**S**	**13 04 23.0**	**-4.0**
MTW	**Mount Morrison**	**11.91**	**200**	P	**Pn**	**13 02 25.5**	**+0.5**
CAW	**Cannon Point**	**12.00**	**202**	P	**Pn**	**13 02 26.0**	**-0.1**
CAW	**Cannon Point**	**12.00**	**202**	PN	**Pn**	**13 02 26.0**	**0.0**
TCW	**Tory Channel**	**12.36**	**204**	P	**Pn**	**13 02 30.1**	**-0.2**
NNZ	**Nelson**	**12.70**	**207**	*e*P	**Pn**	**13 02 32.3**	**-2.0**
THZ	**Tophouse**	**13.35**	**207**	*e*P	**Pn**	**13 02 40.6**	**-1.4**
THZ	**Tophouse**	**13.35**	**207**	PN	**Pn**	**13 02 40.3**	**-1.7**
THZ				*e*SN	**S**	**13 05 04.4**	**-2.5**
KHZ	**Kahutara**	**13.68**	**204**	*e*P	**Pn**	**13 02 43.8**	**-2.0**
DSZ	**Denniston Nort**	**13.79**	**210**	SN	**S**	**13 05 15.5**	**-0.4**
LTZ	**Lake Taylor**	**14.47**	**206**	SN	**S**	**13 05 28.7**	**-0.7**
MQZ	**McQueen's Vall**	**15.13**	**204**	SN	**S**	**13 05 42.6**	**-0.1**
DZM	**Mont Dzumac**	**15.27**	**298**	*e*P	**P**	**13 03 00.8**	**-0.9**
DZM	**Mont Dzumac**	**15.27**	**298**	P	**P**	**13 03 04.1**	**+2.3**
	2.1nm,0.3s,baz=116,slow=13,SNR=24						
RPZ	**Rata Peaks**	**15.73**	**207**	S	**S**	**13 05 54.9**	**+0.2**
	1.6nm,0.3s,baz=31,slow=18,SNR=12						
AFI	**Afiamalu**	**17.43**	**24**	P	**P**	**13 03 23.9**	**-1.2**
	1.9nm,0.3s,baz=204,slow=18,SNR=6.8						
AFI				S	**S**	**13 06 15.7**	**-12**
	0.6nm,0.3s,baz=128,slow=19,SNR=2.3						
STKA	**Stephens Creek**	**33.66**	**257**	P	**P**	**13 05 54.8**	**+1.5**
	2.7nm,1.1s,mb3.4,baz=212,slow=14,SNR=9.3						
ASAR	**Alice Springs**	**42.22**	**267**	P	**P**	**13 07 03.8**	**-0.2**
	0.7nm,0.7s,mb2.9,baz=104,slow=7.7,SNR=25						
ASAR				PcP	PcP	13 08 51.2	+0.6
	0.4nm,0.5s,baz=106,slow=3.4,SNR=5.2						
WB2	**Warramunga Arr**	**43.16**	**272**	*e*P	**P**	**13 07 11.6**	**0.0**
WRA	**Warramunga Arr**	**43.17**	**272**	P	**P**	**13 07 11.6**	**-0.1**
	4.4nm,0.4s,mb4.0,baz=111,slow=7.4,SNR=52						
WRA				S	**S**	**13 13 06.5**	**-4.7**
	1.2nm,0.8s,baz=108,slow=14,SNR=4.6						
VNA3	**Neumayer Olymp**	**78.69**	**177**	*e*	**P**	**13 11 10.7**	**+2.4**
VNA3				*e*		13 11 14.7	
VNA2	**Neumayer--Watz**	**79.11**	**177**	*e*	**P**	**13 11 14.7**	**+4.1**
	baz=189,slow=6.0						
VNA2				*e*		13 11 18.3	
NVAR	**Mina Array Bea**	**88.62**	**43**	P	**P**	**13 11 58.6**	**+0.4**
	0.1nm,0.3s,mb3.1,baz=232,slow=6.7,SNR=4.1						
ARCES	**ARCESS Array B**	**138.07**	**347**	PKhKP		13 18 17.8	
	5.8nm,1.1s,baz=64,slow=4.1,SNR=5.6						
ARCES				PKP	PKPdf	13 18 28.5	+0.8
	2.0nm,0.8s,baz=42,slow=2.0,SNR=5.7						
FINES	**FINESS Array B**	**144.52**	**339**	PKP	PKPdf	13 18 37.2	-2.0
	5.3nm,0.5s,baz=50,slow=3.8,SNR=39						
NB2	**NORSAR Subarra**	**148.29**	**351**	PKP	PKPdf	13 18 48.4	+2.9
	comp=Z,2.5nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.29**	**351**	PKPbc	PKPbc	13 18 48.5	-0.8
	comp=Z,2.7nm,0.8s,baz=17,slow=4.3,SNR=7.5						
AKASG	**Malin Array Be**	**150.49**	**322**	PKPbc	PKPbc	13 18 54.1	-0.7
	comp=Z,2.1nm,0.6s,baz=48,slow=2.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**163.14**	**183**	PKPab	PKPab	13 20 00.2	+2.9
	comp=Z,0.6nm,0.4s,baz=191,slow=1.5,SNR=6.6						

ISCJB ***25*** *13:22:11.3±0.5, 3703N±003×2794E±003, h7km±6km, Error ellipse: s-maj=5.7km s-min=4.0km az=35.5*
CSEM ***25*** *13:22:11.3±0.1, 3706N×2798E, h10km, MD2.9, Error ellipse: s-maj=3.0km s-min=1.8km az=50.0*
ISK ***25*** *13:22:11.2, 3708N×2796E, h8km, MD2.9*
NEIC ***25*** *13:22:11.2, 3708N×2796E, h8km, MD2.9(ISK), MD3.3(ATH), After ISK.*
ATH ***25*** *13:22:12.2, 3691N×2771E, h10km, MD3.3/3*
ISC 25 13:22:11.8±0.5, 3705N±003×2794E±003, h8km±5km, n17, σ0=97/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.28**	**333**	PG	**Pg**	**13 22 16.7**	**-0.7**
MLSB				SG	**Sg**	**13 22 21.5**	**+0.4**
YER	**Yerkesik**	**0.29**	**73**	PG	**Pg**	**13 22 17.3**	**-0.3**
YER				SG	**Sg**	**13 22 21.6**	**+0.1**
BDRM	**Kayabasi**	**0.40**	**273**	*i* P	**Pg**	**13 22 19.4**	**-0.1**
BDRM				*i* S	**Sg**	**13 22 25.4**	**+0.7**
DAT	**Datca**	**0.43**	**222**	PG	**Pg**	**13 22 19.7**	**-0.5**
DAT				SG	**Sg**	**13 22 28.4**	**+2.5**
DALT	**Dalyan (Mudla)**	**0.63**	**116**	PG	**Pg**	**13 22 23.5**	**-0.4**
ARG	**Arkhangelos**	**0.84**	**170**	*e*PB	**Pg**	**13 22 27.0**	**-1.1**
FETY

TRG Smax
comp=N,21nm,0.8s
UUDB Ulan-Yde 6.84 75 *e*Sg Sg 13 37 49.6 -5.2
UUDB Smax
comp=N,65nm,1.6s
TRTB Turuntaevo 6.87 72 *e*Pg Pg 13 36 21.0 -5.8
TRTB *e*Sg Sg 13 37 51.1 -4.7
TRTB Pmax
comp=N,1.0nm,0.4s
TRTB Smax
comp=N,32nm,1.6s
ULN Ulaanbaatar 7.14 109 *e*Sg Sg 13 37 56.4 -8.2
OGRR Ongureny 7.22 61 *e* Pn 13 36 27.8 +27
OGRR *e*Sg Sg 13 37 59.6 -7.5
OGRR Smax
comp=N,44nm,1.3s
NIZ Nizh Angarsk 9.16 51 *e*Pg Pn 13 37 01.7 +34
NIZ *e*Sg Sn 13 39 00.4 +50
NIZ Pmax
comp=N,3.0nm,0.2s
NIZ Smax
comp=N,38nm,2.1s
YLYR Ulyunkhan 9.62 58 *e*Sg Sn 13 39 14.5 +53
YLYR Smax
comp=N,33nm,3.3s
KPC Khapcheranga 9.94 89 *e*Pg Pn 13 37 14.1 +36
KPC *e*Sg Sn 13 39 22.9 +53
KPC Smax
comp=N,28nm,1.9s
KMO Kumora 10.04 53 *e*Sg Sn 13 39 28.2 +56
KMO Smax
comp=N,27nm,2.6s
UKT Uakit 11.15 57 *e*Sg Sn 13 40 01.8 +62
UKT Smax
comp=N,7.0nm,1.9s

*IDC **25** 13:35:20.3±2.1, 8528N×1645E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/22, mbtmp3.8/8, ML3.7/1, Error ellipse: s-maj=108.0km s-min=17.8km az=71.0*
NEIC 25 13:35:23.1±1.2, 8506N×1109E, h10km, Error ellipse: s-maj=60.1km s-min=11.9km az=69.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**6.18**	**178**	*e*Pn	Pn	13 36 53.5	-0.8
SPB4	**Spitsbergen Ar**	**6.96**	**171**	*e*Pn	Pn	13 37 03.4	-1.7
ARCES	**ARCESS Array B**	**15.82**	**161**	Pn	Pn	13 39 01.9	-4.0
	0.4nm,0.3s,baz=357,slow=10,SNR=20						
ARCES				Sn	Sn	13 41 49.7	-12
	0.2nm,0.3s,baz=5.3,slow=20,SNR=2.9						
FIA1	**FINESS Array S**	**23.95**	**162**	P	P	13 40 37.5	+0.1
FINES	**FINESS Array B**	**23.95**	**162**	P	P	13 40 36.5	-0.8
	5.5nm,0.8s,baz=2.4,slow=14,SNR=9.6						
NB2	**NORSAR Subarra**	**24.15**	**180**	P	P	13 40 41.1	+1.8
	comp=Z,6.5nm,1.2s,baz=354,slow=11						
NOA	**NORSAR Array B**	**24.15**	**180**	P	P	13 40 40.5	+1.2
	comp=Z,1.5nm,0.8s,baz=349,slow=6.8,SNR=5.4						
HFS	**Hagfors**	**25.07**	**177**	P	P	13 40 48.0	+0.4
	comp=Z,2.0nm,0.8s,baz=266,slow=19,SNR=3.4						
INK	**Inuvik**	**26.03**	**331**	P	P	13 40 55.5	-0.9
	comp=Z,2.3nm,1.1s,baz=22,slow=18,SNR=4.6						
INK	**Inuvik**	**26.03**	**331**	*e*P	P	13 40 55.7	-0.6
YKA	**Yellowknife Ar**	**30.81**	**313**	P	P	13 41 37.4	-1.6
	comp=Z,0.1nm,0.7s,baz=10,slow=7.3,SNR=3.5						
AKASG	**Malin Array Be**	**34.79**	**160**	P	P	13 42 12.3	-1.5
	comp=Z,0.3nm,0.4s,baz=354,slow=8.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**72.03**	**190**	P	P	13 46 48.2	+1.0
	comp=Z,0.6nm,0.8s,baz=6.1,slow=4.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**72.03**	**190**	P	P	13 46 48.2	+1.0

*ISCJB **25** 13:57:04.9±0.4, 4029N±002×2552E±002, h1km±4km, Error ellipse: s-maj=3.7km s-min=2.6km az=66.4*
*SOF **25** 13:57:04.7, 4031N×2562E, h8km, MD3.3*
*THE **25** 13:57:05.7, 4017N×2579E, h26km, ML4.1*
*NEIC **25** 13:57:06.4±0.7, 4028N×2552E, h7km±6km, MD3.3(SOF), MD3.7(ATH), ML3.6(ISK), Error ellipse: s-maj=4.4km s-min=3.3km az=208.0*
*ATH **25** 13:57:06.0, 4028N×2559E, h27km, MD3.7/6*
*CSEM **25** 13:57:06.1±0.1, 4028N×2559E, h12km, MD3.7, Error ellipse: s-maj=2.1km s-min=1.5km az=55.0*
*ISK **25** 13:57:06.7, 4025N×2574E, h2km, MD3.4, ML3.6*
ISC 25 13:57:06.2±0.4, 4028N±002×2556E±002, h4km±3km, n76, σ1°09/95, 6C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.48**	**218**	*e*PB	**Pg**	**13 57 16.4**	**+1.1**
LIA				*e*SB	**Sg**	**13 57 23.9**	**+2.3**
LOS	**Limnos**	**0.50**	**227**	*e*Pg	**Pg**	**13 57 16.9**	**+1.0**
BOZC	**Bozcaada**	**0.57**	**139**	*i* P	**Pg**	**13 57 17.3**	**+0.1**
BOZC				*i* S	**Sg**	**13 57 24.5**	**-0.1**
ENEZ	**Enez**	**0.64**	**44**	PG	**Pg**	**13 57 18.4**	**-0.1**
ENEZ				SG	**Sg**	**13 57 27.5**	**+0.6**
ALN	**Alexandroupoli**	**0.72**	**30**	*e*Pg	**Pg**	**13 57 19.9**	**-0.1**
ALN				*e*Sg	**Sg**	**13 57 29.9**	**+0.6**
EZN	**Ezine**	**0.74**	**127**	PG	**Pg**	**13 57 20.0**	**-0.3**
EZN				SG	**Sg**	**13 57 28.8**	**-1.1**
RDO	**Rodhopi**	**0.87**	**359**	*e*PN	**Pn**	**13 57 22.9**	**-2.2**
PRK	**Paraskevi**	**1.16**	**152**	*e*PN	**Pn**	**13 57 28.2**	**-1.0**
PRK				*e*SN	**Sn**	**13 57 44.2**	**-1.3**
OUR	**Ouranopolis**	**1.21**	**273**	*e*Pg	**Pg**	**13 57 28.4**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.30**	**71**	PN	**Pn**	**13 57 29.9**	**-1.1**
AYVA	**Ayvalik**	**1.30**	**138**	*i* P	**Pn**	**13 57 30.3**	**-0.8**
AYVA				*i* S	**Sg**	**13 57 47.7**	**-0.2**
SART	**Tekirdag**	**1.30**	**71**	*i* P	**Pn**	**13 57 29.7**	**-1.4**
SART				*i* S	**Sg**	**13 57 46.2**	**-1.7**
KDZ	**Kurdzhali**	**1.38**	**355**	*i* P	**Pn**	**13 57 31.6**	**-0.5**
MFT	**Murefte**	**1.41**	**68**	PN	**Pn**	**13 57 31.4**	**-1.1**
PAIG	**Paliouri**	**1.49**	**257**	*e*Pb	**Pb**	**13 57 31.9**	**-2.4**
RZN	**Rozhen**	**1.55**	**336**	*i* P	**Pn**	**13 57 34.5**	**0.0**
RZN				*i* Pg	**Pg**	**13 57 36.6**	**+0.7**
PLG	**Polygyros**	**1.62**	**274**	*e*PN	**Pn**	**13 57 34.7**	**-0.8**
NVR	**Nevrokopi**	**1.68**	**310**	*e*PN	**Pn**	**13 57 35.8**	**-0.5**
SRS	**Serrai**	**1.72**	**300**	*e*Pb	**Pb**	**13 57 36.3**	**-2.0**
EDC	**Edincik**	**1.76**	**87**	PN	**Pn**	**13 57 38.3**	**+0.9**
SOH	**Sokhos**	**1.77**	**289**	*e*Pb	**Pb**	**13 57 37.1**	**-2.1**
DIM	**Dimitrovgrad**	**1.77**	**359**	*i* P	**Pn**	**13 57 36.9**	**-0.7**
DIM				*i* Pg	**Pg**	**13 57 39.4**	**-0.7**
BNT	**Bandirma**	**1.80**	**87**	PN	**Pn**	**13 57 37.5**	**-0.5**
EDRB	**Edirne**	**1.81**	**29**	PN	**Pn**	**13 57 39.1**	**+1.1**
MMB	**Musomiste**	**1.91**	**314**	*i* P	**Pn**	**13 57 38.9**	**-0.6**
PLD	**Plovdiv**	**1.94**	**341**	*i* P	**Pn**	**13 57 43.2**	**+3.3**
KCT	**Karacabey**	**2.14**	**89**	PN	**Pn**	**13 57 43.2**	**+0.6**
BLCB	**Balcova**	**2.21**	**148**	PN	**Pn**	**13 57 44.0**	**+0.4**
AKS	**Akhisar**	**2.23**	**128**	PN	**Pn**	**13 57 43.6**	**-0.2**
JMB	**Yambol**	**2.32**	**19**	*i* P	**Pn**	**13 57 44.7**	**-0.4**
JMB				*i* Pg	**Pg**	**13 57 49.8**	**-0.8**
CTT	**Catalca**	**2.35**	**67**	PN	**Pn**	**13 57 46.9**	**+1.5**
DST	**Dursunbey**	**2.45**	**105**	PN	**Pn**	**13 57 47.2**	**+0.3**
KKB	**Krupnik**	**2.46**	**311**	*i* P	**Pn**	**13 57 47.0**	**0.0**
KKB				*i* Pg	**Pg**	**13 57 52.6**	**-0.7**
VAY	**Valandovo**	**2.50**	**296**	*e*Pn	**Pg**	**13 57 53.9**	**-0.2**
VAY				*e*Sn	**Sg**	**13 58 27.1**	**+0.6**
VAY	**Valandovo**	**2.50**	**296**	*e*Pn	**Pg**	**13 57 53.9**	**-0.2**
VAY				*e*Sn	**Sg**	**13 58 27.1**	**+0.6**
PGB	**Panagyurishte**	**2.50**	**336**	*i* P	**Pn**	**13 57 49.6**	**+2.0**
PGB				*i* Pg	**Pg**	**13 57 52.7**	**-1.4**
SMG	**Samos**	**2.75**	**158**	*e*PN	**Pn**	**13 57 50.0**	**-1.0**
BADT	**Buyukada**	**2.77**	**77**	*e*PN	**Pn**	**13 57 52.2**	**+0.9**
ISK	**Istanbul-Kandi**	**2.77**	**72**	PN	**Pn**	**13 57 52.6**	**+1.3**
GEMT	**Gemlik**	**2.77**	**86**	*e*PN	**Pn**	**13 57 52.3**	**+1.0**
KLYT	**Kilyos**	**2.82**	**69**	*e*PN	**Pn**	**13 57 53.5**	**+1.6**
VTS	**Vitosha**	**2.91**	**323**	*i* P	**Pn**	**13 57 55.3**	**+2.0**
VTS	**Vitosha**	**2.91**	**323**	||*i*P	**Pn**	**13 57 55.5**	**+2.2**
VTS	**Vitosha**	**2.91**	**323**	||*i*P	**Sg**	**13 58 40.3**	**+0.5**
YLV	**Yalova**	**2.92**	**83**	*e*PN	**Pn**	**13 57 54.6**	**+1.2**
STIP	**Stip**	**2.92**	**300**	*e*Pn	**Pg**	**13 58 02.0**	**-0.2**
STIP				*e*Sn	**Sg**	**13 58 42.5**	**+2.4**
STIP	**Stip**	**2.92**	**300**	*e*Pn	**Pg**	**13 58 02.0**	**-0.2**
STIP				*e*Sn	**Sg**	**13 58 42.5**	**+2.4**
PVL	**Pavlikeni**	**2.94**	**357**	*i* P	**Pn**	**13 57 52.0**	**-1.7**
IZI	**Iznik**	**2.99**	**88**	PN	**Pn**	**13 57 55.4**	**+1.1**
SZH	**Strazhica**	**3.00**	**5**	*i* P	**Pn**	**13 57 53.9**	**-0.6**
HRT	**Hereke**	**3.17**	**79**	*e*PN	**Pn**	**13 57 57.9**	**+1.1**
ADVT	**Abdulvahap**	**3.19**	**86**	*e*PN	**Pn**	**13 57 58.6**	**+1.5**
PRD	**Provadia**	**3.23**	**25**	*i* P	**Pn**	**13 57 56.9**	**-0.7**
KRUS	**Krusevo**	**3.45**	**290**	*e*Pn	**Pg**	**13 58 11.7**	**-0.6**
KRUS				*e*Sn	**Sg**	**13 58 58.3**	**+1.2**
KRUS	**Krusevo**	**3.45**	**290**	*e*Pn	**Pg**	**13 58 11.7**	**-0.6**
KRUS				*e*Sn	**Sg**	**13 58 58.3**	**+1.2**
KHL	**Karahalli**	**3.64**	**121**	*e*PN	**Pn**	**13 58 03.7**	**+0.5**
BARS	**Barje**	**3.79**	**313**	⇑*i*Pn	**Pg**	**13 58 18.6**	**-0.1**
VLI	**Velíai**	**4.11**	**211**	P	**Pn**	**13 58 09.8**	**+0.1**
ESKT	**Eskisehir**	**4.14**	**99**	*e*PN	**Pn**	**13 58 10.3**	**+0.2**
TIRR	**Tirgusor**	**4.68**	**26**	⇑P	**Pn**	**13 58 17.0**	**-0.5**
TIRR	**Tirgusor**	**4.68**	**26**	⇑*i*P	**Pn**	**13 58 17.0**	**-0.6**
KIZT	**Kizilcal**	**5.08**	**104**	*e*PN	**Pn**	**13 58 23.7**	**+0.7**
GRUS	**Gruza**	**5.10**	**317**	⇑*i*Pn	**Pn**	**13 58 24.3**	**+0.9**
VOIR		**5.17**	**356**	||P	**Pn**	**13 58 23.1**	**-1.2**
VOIR		**5.17**	**356**	||*i*P	**Pn**	**13 58 23.1**	**-1.2**
MLR	**Muntele Rosu**	**5.22**	**3**	||P	**Pn**	**13 58 28.1**	**+3.2**
MLR	**Muntele Rosu**	**5.22**	**3**	||*i*P	**Pn**	**13 58 28.1**	**+3.1**
GZR	**Gura Zlata**	**5.51**	**339**	||P	**Pn**	**13 58 27.9**	**-1.0**
GZR	**Gura Zlata**	**5.51**	**339**	||*i*P	**Pn**	**13 58 28.0**	**-0.9**
DIVS	**Divcibare**	**5.63**	**315**	*e*Pn	**Pn**	**13 58 30.5**	**-0.1**
VRI	**Vrincioaia**	**5.65**	**8**	||P	**Pn**	**13 58 32.4**	**+1.5**
VRI	**Vrincioaia**	**5.65**	**8**	||*i*P	**Pn**	**13 58 32.4**	**+1.5**
BZS	**Buzias**	**6.07**	**333**	||P	**Pn**	**13 58 35.5**	**-1.2**
BZS	**Buzias**	**6.07**	**333**	||*i*P	**Pn**	**13 58 35.5**	**-1.2**
BURAR	**Bucovina Array**	**7.34**	**358**	⇑P	**Pn**	**13 58 55.5**	**+1.5**
BURAR	**Bucovina Array**	**7.34**	**358**	⇑*i*P	**Pn**	**13 58 55.5**	**+1.4**

*IDC **25** 14:00:03.1±0.6, 126N×126.16E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.3/20, mbtmp4.2/14, ML4.0/1, Error ellipse: s-maj=32.2km s-min=12.8km az=76.0*
*ISCJB **25** 14:00:04.4±8.5, 126N±008×126.2E±0.1, h20km±62km, mb4.4/21, Error ellipse: s-maj=23.7km s-min=11.3km az=138.6*
*NEIC **25** 14:00:04.6±0.3, 130N×126.25E, h10km, mb4.7/9, Error ellipse: s-maj=14.4km s-min=5.5km az=70.0*
*BJI **25** 14:00:04.5, 130N×126.20E, h10km, mB5.0, mb4.6*
ISC 25 14:00:08.6±4.2, 125N±008×1263E±01, h37km±42km, n36, σ0°88/33, mb4.4/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.16**	**156**	*e*P	**Pn**	**14 03 46.0**	**+6.0**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.24**	**182**	*e*P	**Pn**	**14 04 29.8**	**-1.0**
	6.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.24**	**182**	P	**Pn**	**14 04 29.2**	**-1.7**
	0.3nm,0.3s,baz=27,slow=6.2,SNR=8.2						
WRA	**Warramunga Arr**	**22.50**	**160**	P	**P**	**14 05 04.5**	**-0.4**
	5.9nm,0.4s,mb4.4,baz=342,slow=11,SNR=34						
WB2	**Warramunga Arr**	**22.50**	**160**	*e*P	**P**	**14 05 05.0**	**+0.1**
ASAR	**Alice Springs**	**25.86**	**164**	P	**P**	**14 05 36.9**	**+0.2**
	2.0nm,0.5s,mb3.9,baz=343,slow=7.9,SNR=77						
ASAR				PcP	PcP	14 09 05.9	+0.7
	0.7nm,0.5s,baz=353,slow=2.1,SNR=7.0						
PSI	**Prapat**	**27.36**	**274**	P	**P**	**14 05 49.4**	**-0.9**
	4.8nm,0.8s,mb4.1,baz=18,slow=2.6,SNR=4.4						
KLBR	**Kellerberrin**	**33.64**	**193**	*e*P	**P**	**14 06 46.1**	**+0.4**
	30nm,1.4s,mb5.0						
MUN	**Mundaring**	**34.39**	**195**	*e*P	**P**	**14 06 53.2**	**+1.0**
NWAO	**Narrogin (SRO)**	**35.05**	**193**	P	**P**	**14 06 58.6**	**+0.8**
	3.7nm,0.7s,mb4.4,baz=20,slow=9.3,SNR=5.1						
NWAO	**Narogin (SRO)**	**35.05**	**193**	*e*P	**P**	**14 06 58.9**	**+1.1**
STKA	**Stephens Creek**	**36.01**	**158**	*e*P	**P**	**14 07 06.7**	**+0.6**
	3.5nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**36.01**	**158**	P	**P**	**14 07 06.6**	**+0.5**
	4.0nm,0.7s,mb4.5,baz=330,slow=12,SNR=13						
KSRS	**Korea Array**	**36.06**	**2**	P	**P**	**14 07 07.5**	**+0.9**
	0.8nm,0.7s,mb3.8,baz=180,slow=9.8,SNR=5.6						
MJAR	**Matsushiro Ar**	**36.82**	**16**	P	**P**	**14 07 12.3**	**-0.7**
	1.4nm,0.5s,mb4.1,baz=184,slow=9.8,SNR=6.4						
LSA	**Lhasa**	**43.76**	**314**	*e*P	**P**	**14 08 12.1**	**+1.7**
	4.0nm,0.7s,mb4.3						
GTA	**Gaotai**	**44.99**	**331**	*e*P	**P**	**14 08 22.5**	**+2.2**
GTA				AP	pP	14 08 25.5	-5.5
GTA				XP	sP	14 08 28.0	-7.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
GUN	**Gumba**	**46.84**	**308**	*e*P	**P**	**14 08 34.8**	**-0.1**
	comp=Z,15nm,0.6s,mb5.1						
KKN	**Kakani**	**47.26**	**308**	*e*P	**P**	**14 08 37.7**	**-0.4**
DMN	**Daman**	**47.31**	**307**	*e*P	**P**	**14 08 40.5**	**+1.9**
GKN	**Gorkha**	**47.89**	**308**	*e*P	**P**	**14 08 41.9**	**-0.9**
	comp=Z,6.5nm,0.7s,mb4.7						
KOLN	**Koldanda**	**48.59**	**307**	*e*P	**P**	**14 08 47.9**	**-0.5**
	comp=Z,11nm,0.6s,mb5.1						
SONM	**Songino Array**	**49.49**	**342**	P	**P**	**14 08 56.0**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=164,slow=6.3,SNR=7.6						
MK31	**Makanchi Array**	**59.33**	**326**	*e*P	**P**	**14 10 06.2**	**-0.6**
ZAL	**Zalesovo**	**62.58**	**334**	P	**P**	**14 10 27.9**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.3,baz=9.5,slow=6.0,SNR=4.2						
KURK	**Kurchatov**	**63.58**	**328**	*e*P	**P**	**14 10 34.9**	**-0.6**
	comp=Z,8.0nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**69.14**	**328**	P	**P**	**14 11 10.3**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.1,baz=132,slow=6.6,SNR=7.7						
AKTK	**Aktyubinsk**	**75.31**	**322**	P	**P**	**14 11 47.8**	**-0.1**
AKTO	**Aktyubinsk**	**75.31**	**322**	P	**P**	**14 11 47.8**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=107,slow=9.0,SNR=9.5						
ARU	**Arti**	**76.78**	**328**	*e*P	**P**	**14 11 55.5**	**-0.8**
	comp=Z,6.4nm,0.8s,mb4.6						
VNDA	**Vanda**	**81.04**	**173**	P	**P**	**14 12 19.0**	**-0.7**
	comp=Z,2.1nm,1.0s,mb4.0,baz=338,slow=5.4,SNR=3.8						
VNDA	**Vanda**	**81.04**	**173**	P	**P**	**14 12 19.0**	**-0.7**
FINES	**FINESS Array B**	**93.78**	**332**	P	**P**	**14 13 21.7**	**0.0**
	comp=Z,2.4nm,0.9s,mb4.6,baz=54,slow=7.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**123.21**	**287**	PKP	PKPdf	14 19 02.7	+1.4
	comp=Z,0.7nm,0.8s,baz=57,slow=2.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**123.21**	**287**	PKP	PKPdf	14 19 02.7	+1.4
TXAR	**Lajitas Array**	**123.46**	**53**	PKP	PKPdf	14 19 03.6	+1.7
	comp=Z,0.2nm,0.8s,baz=318,slow=1.7,SNR=3.5						

*CSEM **25** 14:05:47.8±1.2, 1204N×4379E, h10km, ML4.1, Error ellipse: s-maj=23.6km s-min=17.7km az=32.0, After DHMR*
DHMR 25 14:05:47.8±1.1, 1204N×4379E, h10km±7km, ML4.1, 1C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.23**	**15**	||*i*P	Pn	14 06 10.7	-0.2
TRBA				AML	AML	14 06 16.9	
	comp=N,2μm,0.5s						
TRBA				*i* S	Sb	14 06 27.9	+1.0
ADEN	**Aden**	**1.38**	**58**	*i* P	Pn	14 06 13.5	+0.4
ADEN				*i* S	Sb	14 06 32.4	+1.2
ADEN				AML	AML	14 06 38.7	
	comp=E,9μm,0.6s						
UDYN	**Al 'Udayn**	**1.92**	**5**	⇑*i*P	Pn	14 06 21.3	+0.7
UDYN				*i* S	Sn	14 06 48.4	+3.6
UDYN				AML	AML	14 06 54.3	
	comp=N,2μm,0.5s						
DHBB	**Dhamar BB**	**2.58**	**13**	*i* P	Pn	14 06 32.9	+3.3
DHBB				*i* S	Sn	14 07 07.8	+6.7
BDHA	**Al Bayda'**	**2.59**	**42**	*i* P	Pn	14 06 32.2	+2.5
BDHA				*i* S	Sn	14 07 07.2	+6.0
BDHA				AML	AML	14 07 21.5	
	comp=E,1μm,0.5s						
HAJJ	**Hajjah**	**3.64**	**357**	*i* P	Pn	14 06 46.5	+2.3
HAJJ				*i* S	Sn	14 07 33.1	+6.0

*SZGRF **25** 14:08:49.3, 3423N×2289E, h10km, mb4.4, MS4.1, Central Mediterranean Sea*
*ISCJB **25** 14:08:53.0±0.2, 3459N±002×2250E±002, h10km, mb4.6/59, MS3.9/19, Error ellipse: s-maj=3.2km s-min=1.9km az=68.0*
*BJI **25** 14:08:52.2, 3484N×2210E, h19km, mB5.1, mb4.7, Ms4.7, Msz4.2*
*IDC **25** 14:08:53.9±0.7, 3485N×2262E, h0km, mb4.3/17, mb1 4.4/25, mb1mx4.3/33, mbtmp4.3/25, ML4.0/8, MS3.9/14, Ms1 3.9/14, ms1mx3.6/37, Error ellipse: s-maj=14.7km s-min=13.4km az=15.0*
*HLW **25** 14:08:54.5, 3503N×2263E, h33km, Mb4.3*
*PDG **25** 14:08:55.9±0.3, 3460N×2140E, h11km±11km*
*MOS **25** 14:08:57.7±1.0, 3480N×2253E, h41km, mb4.8/28, Error ellipse: s-maj=4.9km s-min=2.5km az=106.2*
*THE **25** 14:08:57.9, 3481N×2254E, h6km, ML4.3*
*CSEM **25** 14:08:58.9±0.1, 3477N×2254E, h55km, mb4.6/28, Ms3.6, Error ellipse: s-maj=2.9km s-min=1.3km az=12.0*
*ATH **25** 14:08:59.4, 3483N×2266E, h39km, MD4.5/26, ML4.4*
*NEIC **25** 14:08:59.4±0.6, 3472N×2251E, h41km±4km, mb4.4/57, MD4.5(ATH), Error ellipse: s-maj=6.3km s-min=2.8km az=196.0*

ISC 25 14:08:55.2±0.2, 3463N±002×2250E±002, h10km, (h20km±5.3km:pP-P), n456, σ1°22/486, mb4.6/59, MS3.9/19, 34C-36D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.32**	**81**	*e*PN	**Pn**	**14 09 19.7**	**0.0**
VAM	**Vamos**	**1.59**	**60**	*e*PN	**Pn**	**14 09 23.9**	**+0.4**
KYTH	**Kithira**	**1.70**	**15**	*e*PN	**Pn**	**14 09 24.8**	**-0.2**
IDI	**Anoyia**	**2.07**	**71**	Pn	**Pn**	**14 09 31.8**	**+1.8**
	17nm,0.3s,baz=273,slow=16,SNR=85						
IDI				Sn	**Sg**	**14 10 03.4**	**+1.6**
	72nm,0.3s,baz=22,slow=22,SNR=6.4						
IDI	**Anoyia**	**2.07**	**71**	Sn	**Sg**	**14 10 03.3**	**+1.6**
VLI	**Velíai**	**2.11**	**10**	*e*PB	**Pb**	**14 09 32.6**	**-1.0**
ITM	**Ithomi**	**2.59**	**350**	*e*PN	**Pn**	**14 09 38.6**	**+1.5**
NPS	**Neapolis**	**2.63**	**75**	*e*PB	**Pb**	**14 09 40.3**	**-2.2**
XRY	**Khrisi**	**2.64**	**84**	*e*PN	**Pn**	**14 09 39.2**	**+1.3**
THR6	**Thira Island,**	**2.92**	**53**	*e*Pn	**Pn**	**14 09 42.7**	**+0.9**
THR5	**Thira Island,**	**2.93**	**52**	*e*Pn	**Pn**	**14 09 42.2**	**+0.4**
THR3	**Thira Island,**	**2.96**	**52**	*e*Pn	**Pn**	**14 09 43.3**	**+1.1**
SANT	**Santorini**	**2.97**	**53**	*e*Pn	**Pn**	**14 09 43.0**	**+0.6**
THR1	**Thera Island**	**2.97**	**53**	*e*Pn	**Pn**	**14 09 43.2**	**+0.8**
NAIG	**Nisos Aigina**	**3.22**	**14**	*e*PN	**Pn**	**14 09 46.7**	**+0.8**
KVR	**Kavouri**	**3.35**	**17**	*e*PN	**Pn**	**14 09 48.2**	**+0.6**
MGER	**Gerania Oros**	**3.40**	**10**	*e*PN	**Pn**	**14 09 49.0**	**+0.6**
APE	**Apeiranthos**	**3.46**	**44**	*e*Pn	**Pn**	**14 09 49.1**	**-0.1**
APE	**Apeiranthos**	**3.46**	**44**	*e*P	**Pb**	**14 09 53.9**	**-2.7**
APE	**Apeiranthos**	**3.46**	**44**	*e*Pn	**Pn**	**14 09 49.3**	**+0.2**
ATH	**Athens Observa**	**3.48**	**16**	*e*PN	**Pn**	**14 09 50.2**	**+0.9**
RLS	**Riolos of Patr**	**3.52**	**347**	*e*PN	**Pn**	**14 09 52.0**	**+2.0**
PTL	**Penteli**	**3.58**	**17**	*e*PN	**Pn**	**14 09 51.8**	**+1.0**
SLUM		**3.87**	**143**	||P	**Pn**	**14 09 56.1**	**+1.3**
SLUM				S	**Sn**	**14 10 40.1**	**-0.2**
KARP	**Karpathos**	**3.93**	**75**	*e*PN	**Pn**	**14 09 58.2**	**+2.6**
KARP	**Karpathos**	**3.93**	**75**	*e*PN	**Pn**	**14 09 58.1**	**+2.5**
LKR	**Lokris**	**4.03**	**6**	*e*PN	**Pn**	**14 09 57.7**	**+0.7**
EVR	**Evrytania**	**4.31**	**353**	*e*PN	**Pn**	**14 10 04.5**	**+3.6**
LKD	**Levkas**	**4.33**	**340**	*e*Pn	**Pn**	**14 10 02.2**	**+1.1**
AGG	**Agios Georgios**	**4.38**	**358**	*e*Pn	**Pn**	**14 10 03.5**	**+1.6**
SMG	**Samos**	**4.66**	**48**	P	**Pn**	**14 10 07.7**	**+2.0**
AOS	**Alonnisos**	**4.66**	**13**	*e*Pn	**Pn**	**14 10 07.0**	**+1.4**
BDRM	**Kayabasi**	**4.69**	**57**	*i* P	**Pn**	**14 10 06.4**	**+0.3**
NEO	**Neokhori**	**4.70**	**7**	*e*PN	**Pn**	**14 10 08.0**	**+1.8**
XOR	**Xorichti**	**4.76**	**6**	*e*Pn	**Pn**	**14 10 07.5**	**+0.6**
ARG	**Arkhangelos**	**4.86**	**69**	*e*PN	**Pn**	**14 10 09.9**	**+1.6**
THL	**Klokotos Trika**	**4.94**	**356**	*e*PN	**Pn**	**14 10 10.6**	**+1.1**
URLA	**Izmir**	**4.97**	**40**	*i* P	**Pn**	**14 10 10.8**	**+0.8**
JAN	**Janina**	**5.19**	**346**	*e*PN	**Pn**	**14 10 13.5**	**+0.6**
IGT	**Igoumenitsa**	**5.19**	**341**	*e*Pn	**Pn**	**14 10 13.2**	**+0.3**
HMAT	**Matruh**	**5.23**	**131**	||P	**Pn**	**14 10 13.5**	**0.0**
PAIG	**Paliouri**	**5.37**	**10**	*e*Pn	**Pn**	**14 10 15.7**	**+0.3**
KDAG	**Bornova**	**5.38**	**44**	*e*P	**Pn**	**14 10 18.8**	**+3.3**
PRK	**Paraskevi**	**5.51**	**32**	*e*PN	**Pn**	**14 10 17.2**	**-0.1**
KEK	**Kerkira**	**5.51**	**338**	*e*PN	**Pn**	**14 10 17.5**	**+0.2**
KZN	**Kozani**	**5.70**	**354**	*e*PN	**Pn**	**14 10 20.8**	**+0.9**
PLG	**Polygyros**	**5.78**	**7**	*e*PN	**Pn**	**14 10 21.6**	**+0.5**
PLG	**Polygyros**	**5.78**	**7**	*e*Pn	**Pn**	**14 10 21.0**	**0.0**
OUR	**Ouranopolis**	**5.81**	**11**	*e*Pn	**Pn**	**14 10 21.2**	**-0.3**
HORT	**Hortiatis**	**5.98**	**4**	*e*Pn	**Pn**	**14 10 25.3**	**+1.6**
SWA1		**6.01**	**152**	||P	**Pn**	**14 10 25.2**	**+1.1**
SWA1	

ANTO Ankara 9.73 54 *e*P **Pn 14 11 14.9 -0.3**
ANTO pmax pmax
comp=Z,108nm,1.5s
ANTO Ankara 9.73 54 *e*Pn **Pn 14 11 14.9 -0.3**
comp=Z,108nm,1.5s
ANTO Ankara 9.73 54 *e*P **Pn 14 11 14.9 -0.3**
comp=Z,108nm,1.5s
AMAG Maghara 9.86 111 ⇑P **Pn 14 11 15.7 -1.4**
SUZ 9.97 116 ⇓P **Pn 14 11 17.6 -0.8**
ZAF 10.06 119 ⇓P **Pn 14 11 18.9 -0.9**
BRTR Keskin Array B 10.23 57 Pn **Pn 14 11 23.2 +1.1**
comp=Z,0.2nm,0.3s,baz=240,slow=9.9,SNR=15
BR131 Keskin Array S 10.24 57 *e*Pn **Pn 14 11 21.9 -0.3**
comp=Z,8.9nm,0.8s
ZNM 10.24 118 ⇓P **Pn 14 11 21.6 -0.7**
GZR Gura Zlata 10.75 1 ⇓*i*P **Pn 14 11 30.6 +1.4**
HNKL Nakhl 10.79 113 ⇑P **Pn 14 11 28.8 -0.8**
HNKL S **Sn 14 13 21.6 -8.8**
TIRR Tirgusor 10.82 23 ⇓*i*P **Pn 14 11 29.2 -0.9**
TIRR Tirgusor 10.82 23 *e*P **Pn 14 11 30.6 +0.5**
KEST Kesra 10.82 280 Pn **Pn 14 11 31.9 +1.7**
comp=Z,0.1nm,0.3s,baz=63,slow=11,SNR=2.4
MMAI Mount Meron Ar 10.85 95 Pn **Pn 14 11 29.6 -0.9**
comp=Z,9.0nm,0.3s,baz=282,slow=12,SNR=21
MMAI Sn **Sn 14 13 24.6 -7.4**
comp=Z,4.2nm,0.3s,baz=297,slow=27,SNR=4.5
VOIR 10.97 9 ⇓*i*P **Pn 14 11 37.4 +5.2**
BZS Buzias 10.99 357 ⇓*i*P **Pn 14 11 30.0 -2.5**
MLR Muntele Rosu 11.16 13 Pn **Pn 14 11 33.7 -1.1**
comp=Z,0.3nm,0.3s,baz=108,slow=20,SNR=2.3
MLR Muntele Rosu 11.16 13 ⇑P **Pn 14 11 35.7 +0.9**
MLR Muntele Rosu 11.16 13 ⇑*i*P **Pn 14 11 35.7 +0.9**
GTR Jabal at Tayr 11.46 140 ⇑P **Pn 14 11 40.5 +1.7**
HKAT Jabal Katrina 11.53 119 P **Pn 14 11 40.2 +0.3**
EIL Elat 11.65 112 *e*Pn **Pn 14 11 39.3 -2.2**
comp=Z,474nm,0.6s
VRI Vrincioaia 11.68 15 ⇑*i*P **Pn 14 11 44.3 +2.5**
RHK3 Tenkes 11.70 345 *e*P **Pn 14 11 39.3 -2.9**
PKSM Moragy 11.93 347 *e*P **Pn 14 11 44.6 -0.8**
ASF Jabal al Asfar 12.28 97 Pn **Pn 14 11 50.7 +0.6**
comp=Z,1.0nm,0.3s,baz=153,slow=8.5,SNR=16
MALT Malatya 13.33 69 ⇑*i*P **Pn 14 12 05.3 +0.8**
PSZ Piszkesteto 13.42 352 ⇓*i*P **Pn 14 12 05.1 -0.6**
PSZ Piszkesteto 13.42 352 ⇑*e*P **Pn 14 12 06.2 +0.5**
SOP Sopron 13.78 343 *e*P **Pn 14 12 17.2 +6.6**
KECS Kecovo 13.92 354 *e*PN **Pn 14 12 13.3 +0.8**
KECS *es*PN 14 12 25.6
UZH Uzhgorod 13.99 359 *e*P **Pn 14 12 11.0 -2.5**
UZH *e*S **Sn 14 14 39.0 -10**
UZH MLR MLR
comp=Z,1µm,12.0s
VYHS Vyhne 14.12 350 *e*P **Pn 14 12 24.0 +8.8**
VYHS Vyhne 14.12 350 *e*P **Pn 14 12 11.7 -3.5**
VYHS *e* 14 12 24.0
ZST Bratislava 14.14 345 *e*P **Pn 14 12 23.1 +7.6**
ZST Bratislava 14.14 345 *e*P **Pn 14 12 13.8 -1.7**
ZST *e* 14 12 23.1
CRVS Cervenica-Dubn 14.28 357 *e*PN **Pn 14 12 16.4 -1.0**
KOLS Kolonicke sedl 14.29 359 *e*P **Pn 14 12 20.7 +3.1**
STHS Stebnicka Huta 14.80 357 *e*P **Pn 14 12 31.7 +7.1**
STHS *ep*P pP 14 12 42.4 +9.0
NIE Niedzica 14.87 354 *e*P **Pn 14 12 33.0 +7.6**
WTTA Wattenberg 15.03 330 ⇑*i* **Pn 14 12 36.3 +8.5**
comp=Z,48nm,1.2s
WTTA Wattenberg 15.03 330
comp=Z,48nm,1.2s
WTTA Wattenberg 15.03 330 ⇓*i*P **Pn 14 12 29.1 +1.4**
WTTA pmax pmax
comp=Z,15nm,1.2s
WTTA Wattenberg 15.03 330 ⇓*i*P **Pn 14 12 29.1 +1.4**
comp=Z,15nm,1.2s
WTTA *i* 14 12 36.3
WTTA Wattenberg 15.03 330 *i*P **Pn 14 12 29.1 +1.4**
comp=Z,15nm,1.2s
WATA Walderalm 15.12 330 ⇓*i*P **Pn 14 12 31.2 +2.4**
comp=Z,46nm,1.5s
WATA Walderalm 15.12 330 ⇓*i*P **Pn 14 12 31.2 +2.4**
WATA pmax pmax
comp=Z,46nm,1.5s
SQTA Sankt Quirin 15.18 329 ⇑*i* **Pn 14 12 37.2 +7.6**
comp=Z,28nm,1.1s
SQTA Sankt Quirin 15.18 329 ⇑*i*Pn **Pn 14 12 31.7 +2.1**
comp=Z,22nm,1.5s,SNR=6.6
SQTA ⇓*i*Sn **Sn 14 15 16.8 -0.9**
SQTA Sankt Quirin 15.18 329 **Pn 14 12 37.2 +7.6**
comp=Z,28nm,1.1s
SQTA Sankt Quirin 15.18 329 ⇑*i*P **Pn 14 12 31.7 +2.1**
SQTA pmax pmax
comp=Z,22nm,1.5s
SQTA Sankt Quirin 15.18 329 ⇑*i*P **Pn 14 12 31.7 +2.1**
comp=Z,22nm,1.5s
SQTA *i* 14 12 37.2
FRF La Foret Royal 15.18 311 *e*P **Pn 14 12 28.6 -1.0**
FETA Feichten 15.23 328 ⇑*i*Pn **Pn 14 12 30.9 +0.6**
comp=Z,8.7nm,1.0s
FETA Feichten 15.23 328 **Pn 14 12 38.4 +8.1**
comp=Z,81nm,1.2s
VRAC Vranov 15.30 345 Pn **Pn 14 12 28.2 -3.0**
comp=Z,0.4nm,0.3s,baz=166,slow=9.4,SNR=5.3
VRAC Vranov 15.30 345 ⇓P **Pn 14 12 29.0 -2.2**
VRAC Vranov 15.30 345 ⇓*i*P **Pn 14 12 29.0 -2.2**
ANN Anapa 15.31 44 *e*P **Pn 14 12 26.2 -5.2**
ANN *e*S **Sn 14 15 10.3 -11**
ANN pmax pmax
comp=Z,117nm,1.4s
MOTA Moosalm 15.32 329 ⇓*i*P **Pn 14 12 32.8 +1.3**
comp=Z,33nm,1.2s,SNR=13
MOTA Moosalm 15.32 329 ⇑*i*Pn **Pn 14 12 32.0 +0.5**
comp=Z,33nm,1.2s,SNR=13
MOTA Moosalm 15.32 329 ⇓*i*P **Pn 14 12 32.8 +1.3**
MOTA pmax pmax
comp=Z,33nm,1.2s
OKC Ostrava-Krasne 15.53 349 *e*P **Pn 14 12 35.9 +1.7**
OKC *ex* x 14 12 39.2
TREC Trest 15.54 343 *e*P **Pn 14 12 35.0 +0.6**
TREC *ex* x 14 12 39.5
MORC Moravsky Berou 15.57 348 ⇓*i*P **Pn 14 12 36.2 +1.5**
MORC Moravsky Berou 15.57 348 *e*P **Pn 14 12 34.6 -0.1**
GEC2 GERESS Array S 15.63 338 *e*P **Pn 14 12 33.7 -1.8**
GERES GERESS Array B 15.63 338 Pn **Pn 14 12 33.3 -2.3**
comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=17
GERES Sn **Sn 14 15 18.5 -10**
comp=Z,0.1nm,0.3s,baz=149,slow=21,SNR=3.6
GERES PcP PcP 14 17 36.9 +0.1
comp=Z,0.0nm,0.3s,baz=135,slow=0.2,SNR=3.6
GERES GERESS Array B 15.63 338 P **Pn 14 12 33.3 -2.2**
GERES 14 15 18.5
OJC Ojcow 15.70 354 *e*P **Pn 14 12 40.4 +3.9**
MBDF Montbardon 15.73 315 *e*P **Pn 14 12 36.2 -0.6**
comp=Z,77nm,1.4s
MBDF Montbardon 15.73 315 *e*P **Pn 14 12 36.2 -0.6**
MBDF pmax pmax
comp=Z,38nm,1.4s
MBDF Montbardon 15.73 315 *e*P **Pn 14 12 36.2 -0.6**
comp=Z,38nm,1.4s
DAVA Damuels 15.81 327 ⇓*i* **Pn 14 12 40.3 +2.4**
comp=Z,39nm,1.4s
DAVA Damuels 15.81 327 ⇑*i*P **Pn 14 12 40.6 +2.7**
comp=Z,5.4nm,1.0s,SNR=7.8
DAVA Damuels 15.81 327 *i* **Pn 14 12 40.3 +2.4**
KHC Kasperske Hory 15.92 338 *e*P **Pn 14 12 38.1 -1.2**
KHC *ex* x 14 12 44.3
KHC Kasperske Hory 15.92 338 *e*P **Pn 14 12 38.1 -1.2**
KHC *e* 14 12 44.3
KHC Kasperske Hory 15.92 338 *e*P **Pn 14 12 38.7 -0.6**
WET Wettzell 16.15 337 *e*P **Pn 14 12 46.1 +3.8**
comp=Z,63nm,1.4s
WET Wettzell 16.15 337 *e*P **Pn 14 12 46.1 +3.8**
WET pmax pmax
comp=Z,63nm,1.4s
LPG La Plagne 16.19 317 *e*P **Pn 14 12 42.7 -0.1**
LPL La Plagne 16.21 317 *e*P **Pn 14 12 42.8 -0.3**
comp=Z,98nm,1.7s
LPL La Plagne 16.21 317 *e*P **Pn 14 12 42.8 -0.3**
LPL pmax pmax
comp=Z,49nm,1.7s
LPL La Plagne 16.21 317 *e*P **Pn 14 12 42.8 -0.3**
comp=Z,49nm,1.7s
DPC Dobruska-Polom 16.35 346 *e*P **Pn 14 12 45.4 +0.6**
DPC *ex* x 14 12 48.5
ORIF Oris-en-Rattie 16.36 314 *e*P **Pn 14 12 44.8 -0.2**
comp=Z,59nm,1.5s
ORIF *e*MLR
comp=Z,632nm,19.2s
ORIF Oris-en-Rattie 16.36 314 *e*P **Pn 14 12 44.8 -0.2**
ORIF pmax pmax
comp=Z,29nm,1.5s
ORIF Oris-en-Rattie 16.36 314 *e*P **Pn 14 12 44.8 -0.2**
comp=Z,29nm,1.5s
PRU Pruhonice 16.42 342 *e*P **Pn 14 12 44.8 -0.9**
PRU *ex* x 14 12 49.2
UPC Upice 16.56 345 *e*P **Pn 14 12 45.2 -2.3**
UPC *ex* x 14 12 51.2
KIEV Kiev 16.78 15 *e*P **Pn 14 12 46.0 -4.3**
KIEV pmax pmax
comp=Z,23nm,1.1s
KIEV Kiev 16.78 15 *e*Pn **Pn 14 12 46.0 -4.3**
comp=Z,23nm,1.1s
AKASG Malin Array Be 16.79 15 Pn **Pn 14 12 45.9 -4.5**
comp=Z,0.4nm,0.3s,baz=206,slow=12,SNR=9.6
AKASG Sn **Sn 14 15 38.7 -18**
comp=Z,0.9nm,0.3s,baz=214,slow=11,SNR=4.8
AKBB Malin Array Si 16.79 15 *e*P **Pn 14 12 46.3 -4.1**
KSP Ksiaz 16.82 346 *e*P **Pn 14 12 50.9 +0.1**
KSP Ksiaz 16.82 346 *e*P **Pn 14 12 50.5 -0.3**
KSP *e* 14 12 53.8
MSL Mosul 16.86 78 *ex* x 14 12 52.0
MSL *ex* x 14 15 56.0
SPAK Spaichingen-Ko 16.91 327 *e*P **Pn 14 12 52.5 +0.6**
PVCC Panska Ves 16.91 342 *e*P **Pn 14 12 50.2 -1.7**
PVCC *ex* x 14 12 54.8
ROTZ Rotzenmuhle 16.91 337 *e*P **Pn 14 12 53.7 +1.7**
comp=Z,39nm,1.4s
BBS Basel-Blauen 17.05 323 *e*P **Pn 14 12 53.6 -0.1**
VIVF Saint-Julien-l 17.06 312 *e*P **Pn 14 12 53.5 -0.3**
comp=Z,77nm,1.6s
VIVF Saint-Julien-l 17.06 312 *e*P **Pn 14 12 53.5 -0.3**
VIVF pmax pmax
comp=Z,39nm,1.6s
VIVF Saint-Julien-l 17.06 312 *e*P **Pn 14 12 53.5 -0.3**
comp=Z,39nm,1.6s
FELD Feldberg im Sc 17.11 325 *e*P **Pn 14 12 54.5 +0.1**
MANZ Manzenberg 17.14 337 *e*P **Pn 14 12 57.3 +2.6**
comp=Z,70nm,1.5s
GRA1 Grafenberg Arr 17.19 335 *e*P **Pn 14 12 58.2 +2.8**
comp=Z,138nm,1.4s
GRF Grafenberg Arr 17.19 335 *e*P **Pn 14 12 58.2 +2.8**
comp=Z,138nm,1.4s
GRF *e*L 14 21 01.0
comp=Z,961nm,18.0s
LASF Ste Croix 17.20 309 *e*P **Pn 14 12 54.8 -0.7**
comp=Z,113nm,1.5s
LASF Ste Croix 17.20 309 *e*P **Pn 14 12 54.8 -0.7**
comp=Z,56nm,1.5s
CABF La Chapelle 17.23 319 *e*P **Pn 14 12 55.1 -0.9**
comp=Z,69nm,1.6s
CABF La Chapelle 17.23 319 *e*P **Pn 14 12 55.1 -0.9**
CABF pmax pmax
comp=Z,35nm,1.6s
CABF La Chapelle 17.23 319 *e*P **Pn 14 12 55.1 -0.9**
comp=Z,35nm,1.6s
STU Stuttgart 17.23 329 *e*P **Pn 14 12 58.9 +2.9**
comp=Z,13nm,0.9s
NKC Novy Kostel 17.24 338 *e*P **Pn 14 12 55.1 -1.0**
NKC *ex* x 14 12 58.9
NKC AMS AMS 14 20 10.0
comp=Z,800nm,15.8s
NKC Novy Kostel 17.24 338 *e*P **Pn 14 12 55.1 -1.0**
NKC *e* 14 12 58.9
BFO Black Forest 17.28 327 *e*P **Pn 14 12 56.9 +0.3**
comp=Z,54nm,1.7s
BFO Black Forest 17.28 327 *e*P **Pn 14 12 56.9 +0.3**
BFO pmax pmax
comp=Z,54nm,1.7s
WERN Wernitzgruen 17.31 338 *e*P **Pn 14 12 59.4 +2.5**
comp=Z,42nm,1.5s
BRG Berggiesshubel 17.39 342 *e*P **Pn 14 12 59.9 +2.0**
comp=Z,33nm,1.5s
BRG Berggiesshubel 17.39 342 *e*P **Pn 14 13 00.1 +2.2**
comp=Z,20nm,1.5s
BRG
comp=N,324nm,16.6s
BRG
comp=E,338nm,14.7s
BRG
comp=Z,371nm,17.6s
GUNZ Gunzen 17.39 338 *e*P **Pn 14 12 59.7 +1.8**
comp=Z,37nm,1.2s
TANN Tannenbergstha 17.40 338 *e*P **Pn 14 13 00.6 +2.6**
comp=Z,44nm,1.5s
WERD Werda 17.47 338 *e*P **Pn 14 13 00.9 +1.9**
comp=Z,49nm,1.5s
MOF Molkenrain 17.51 324 *e*P **Pn 14 12 59.0 -0.4**
FBE Freiberg 17.59 341 *e*P **Pn 14 13 01.9 +1.5**
comp=Z,49nm,1.3s
HINF Hinteralfeld 17.62 323 *e*P **Pn 14 12 59.6 -1.2**
comp=Z,60nm,1.4s
HINF Hinteralfeld 17.62 323 *e*P **Pn 14 12 59.6 -1.2**
HINF pmax pmax
comp=Z,30nm,1.4s
HINF Hinteralfeld 17.62 323 *e*P **Pn 14 12 59.6 -1.2**
comp=Z,30nm,1.4s
ECH Echery 17.75 325 *e*P **Pn 14 13 02.2 -0.2**
CDF Champ du Feu 17.83 325 *e*P **Pn 14 13 01.7 -1.7**
comp=Z,58nm,1.3s
CDF Champ du Feu 17.83 325 *e*P **Pn 14 13 01.7 -1.7**
CDF pmax pmax
comp=Z,29nm,1.3s
CDF Champ du Feu 17.83 325 *e*P **Pn 14 13 01.7 -1.7**
comp=Z,29nm,1.3s
MOX Moxa 17.86 337 *e*P **Pn 14 13 05.9 +2.1**
MOX
comp=Z,600nm,18.0s
MTLF Montolieu 17.98 305 *e*P **Pn 14 13 04.1 -1.1**
comp=Z,24nm,1.2s
MTLF Montolieu 17.98 305 *e*P **Pn 14 13 04.1 -1.1**
MTLF pmax pmax
comp=Z,12nm,1.2s
MTLF Montolieu 17.98 305 *e*P **Pn 14 13 04.1 -1.1**
comp=Z,12nm,1.2s
LANF Langenberg 18.00 327 *e*P **Pn 14 13 08.1 +2.7**
HAU Haudompre 18.00 323 *e*P **Pn 14 13 04.3 -1.2**
comp=Z,86nm,1.3s
HAU *e*MLR
comp=Z,290nm,21.2s
HAU Haudompre 18.00 323 *e*P **Pn 14 13 04.3 -1.2**
HAU pmax pmax
comp=Z,43nm,1.3s
HAU Haudompre 18.00 323 *e*P **Pn 14 13 04.3 -1.2**
comp=Z,43nm,1.3s
CLL Collm 18.03 340 *e*P **Pn 14 13 07.0 +1.1**
comp=Z,32nm,1.2s
CLL Collm 18.03 340 *i*P **Pn 14 13 07.0 +1.1**
comp=Z,32nm,1.2s
CLL *i* 14 13 19.4
CLL Collm 18.03 340 *i*P **Pn 14 13 07.0 +1.1**
comp=Z,32nm,1.2s
CLL *i*PP 14 13 19.4
CLL LmH 14 18 42.0
comp=N,700nm,21.4s
CLL LmH 14 18 42.0
comp=E,1µm,21.9s
KIV Kislovodsk 18.15 53 *e*P **Pn 14 13 06.2 -1.1**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,247nm,13.0s
KIV Kislovodsk 18.15 53 *e*P **Pn 14 13 06.2 -1.1**
comp=Z,247nm,13.0s
PLDF La Plantade 18.27 314 *e*P **Pn 14 13 09.0 +0.2**
THEF They Montfort 18.33 323 *e*P **Pn 14 13 09.4 -0.1**
SMF Signal de Mont 18.51 316 *e*P **Pn 14 13 11.6 -0.1**
comp=Z,36nm,1.4s
SMF Signal de Mont 18.51 316 *e*P **Pn 14 13 11.6 -0.1**
SMF pmax pmax
comp=Z,18nm,1.4s
SMF Signal de Mont 18.51 316 *e*P **Pn 14 13 11.6 -0.1**
comp=Z,18nm,1.4s
PYM Petit Puy Mans 18.53 313 *e*P **Pn 14 13 12.2 +0.3**
AGO Saint Agoulin 18.61 314 *e*P **Pn 14 13 12.2 -0.7**
TNS Taunus Mts 18.67 331 *e*P **Pn 14 13 14.8 +1.2**
comp=Z,30nm,1.5s
TNS Taunus Mts 18.67 331 *e*P **Pn 14 13 14.8 +1.2**
TNS pmax pmax
comp=Z,30nm,1.5s
CAF Calviac 18.73 309 *e*P **Pn 14 13 14.0 -0.3**
comp=Z,29nm,1.2s
CAF Calviac 18.73 309 *e*P **Pn 14 13 14.0 -0.3**
CAF pmax pmax
comp=Z,15nm,1.2s
CAF Calviac 18.73 309 *e*P **Pn 14 13 14.0 -0.3**
comp=Z,15nm,1.2s
LOR Lormes 18.85 318 *e*P **Pn 14 13 15.2 -0.7**
comp=Z,13nm,1.0s
LOR *e*MLR
comp=Z,346nm,22.0s
LOR Lormes 18.85 318 *e*P **Pn 14 13 15.2 -0.7**
LOR pmax pmax
comp=Z,7.0nm,1.0s
LOR Lormes 18.85 318 *e*P **Pn 14 13 15.2 -0.7**
comp=Z,6.7nm,1.0s
AVF Avril sur Loir 18.87 316 *e*P **Pn 14 13 15.5 -0.6**
comp=Z,37nm,1.4s
AVF Avril sur Loir 18.87 316 *e*P **Pn 14 13 15.5 -0.6**
AVF pmax pmax
comp=Z,18nm,1.4s
AVF Avril sur Loir 18.87 316 *e*P **Pn 14 13 15.5 -0.6**
comp=Z,18nm,1.4s
SSF Saint Saulge 18.93 317 *e*P **Pn 14 13 15.9 -0.9**
comp=Z,24nm,1.4s
SSF Saint Saulge 18.93 317 *e*P **Pn 14 13 15.9 -0.9**
SSF pmax pmax
comp=Z,12nm,1.4s
SSF Saint Saulge 18.93 317 *e*P **Pn 14 13 15.9 -0.9**
comp=Z,12nm,1.4s
MEZF Maizieres J'vi 18.98 322 *e*P **Pn 14 13 17.7 +0.3**
comp=Z,70nm,1.2s
MEZF Maizieres J'vi 18.98 322 *e*P **Pn 14 13 17.7 +0.3**
comp=Z,70nm,1.2s
BGF Bois d'Agland 19.04 315 *e*P **Pn 14 13 17.0 -1.1**
comp=Z,51nm,1.5s
BGF Bois d'Agland 19.04 315 *e*P **Pn 14 13 17.0 -1.1**
BGF pmax pmax
comp=Z,26nm,1.5s
BGF Bois d'Agland 19.04 315 *e*P **Pn 14 13 17.0 -1.1**
comp=Z,26nm,1.5s
EPF Esparros 19.16 303 *e*P **Pn 14 13 18.6 -0.9**
WLF Walferdange 19.24 326 *e*P **Pn 14 13 21.1 +0.6**
comp=Z,46nm,1.4s
WLF Walferdange 19.24 326 P **Pn 14 13 20.7 +0.1**
comp=Z,37nm,1.7s
RJF Les Rejaudoux 19.24 310 *e*P **Pn 14 13 20.4 -0.2**
comp=Z,61nm,1.2s
RJF *e*MLR
comp=Z,265nm,19.5s
RJF Les Rejaudoux 19.24 310 *e*P **Pn 14 13 20.4 -0.2**
RJF pmax pmax
comp=Z,30nm,1.2s
RJF Les Rejaudoux 19.24 310 *e*P **Pn 14 13 20.4 -0.2**
comp=Z,30nm,1.2s
TCF Toulx Ste Croi 19.28 313 *e*P **Pn 14 13 20.2 -0.8**
comp=Z,25nm,1.2s
TCF Toulx Ste Croi 19.28 313 *e*P **Pn 14 13 20.2 -0.8**
TCF pmax pmax
comp=Z,12nm,1.3s
TCF Toulx Ste Croi 19.28 313 *e*P **Pn 14 13 20.2 -0.8**
comp=Z,12nm,1.3s
CLZ Clausthal 19.29 337 *e*P **Pn 14 13 20.6 -0.6**
comp=Z,14nm,1.0s
CLZ Clausthal 19.29 337 *e*P **Pn 14 13 20.6 -0.6**
CLZ pmax pmax
comp=Z,14nm,1.0s
LFF La Frestale 19.58 308 *e*P **Pn 14 13 23.2 -1.5**
comp=Z,33nm,0.8s
LFF La Frestale 19.58 308 *e*P **Pn 14 13 23.2 -1.5**
LFF pmax pmax
comp=Z,16nm,0.8s
LFF La Frestale 19.58 308 *e*P **Pn 14 13 23.2 -1.5**
comp=Z,16nm,0.8s
ETSF Etsaut 19.74 302 *e*P **Pn 14 13 25.3 -1.3**
comp=Z,58nm,1.3s
ETSF Etsaut 19.74 302 *e*P **Pn 14 13 25.3 -1.3**
ETSF pmax pmax
comp=Z,29nm,1.3s
ETSF Etsaut 19.74 302 *e*P **Pn 14 13 25.3 -1.3**
comp=Z,29nm,1.3s
MEM Membach 19.98 328 P **Pn 14 13 29.4 0.0**
comp=Z,8.0nm,1.1s
BUG Bochum--Univer 20.09 331 *e*P **P 14 13 30.2 +1.4**
comp=Z,35nm,1.1s
HGN Heimansgroeve 20.13 328 *e*P **P 14 13 30.7 +1.4**
comp=Z,29nm,0.9s
GIVF Givet 20.16 325 *e*P **P 14 13 30.5 +0.9**
comp=Z,94nm,1.2s
GIVF Givet 20.16 325 *e*P **P 14 13 30.5 +0.9**
GIVF pmax pmax
comp=Z,47nm,1.2s
GIVF Givet 20.16 325 *e*P **P 14 13 30.5 +0.9**
comp=Z,47nm,1.2s
DOU Dourbes 20.26 325 P **P 14 13 31.5 +0.8**
comp=Z,20nm,1.5s
SJPF Ste Jean 20.27 302 *e*P **P 14 13 32.7 +1.8**
comp=Z,116nm,1.1s
SJPF Ste Jean 20.27 302 *e*P **P 14 13 32.7 +1.8**
SJPF pmax pmax
comp=Z,58nm,1.1s
SJPF Ste Jean 20.27 302 *e*P **P 14 13 32.7 +1.8**
comp=Z,58nm,1.1s
BAIF Baives 20.42 325 *e*P **P 14 13 33.0 +0.5**
comp=Z,45nm,1.3s
BAIF Baives 20.42 325 *e*P **P 14 13 33.0 +0.5**
BAIF pmax pmax
comp=Z,22nm,1.3s
BAIF Baives 20.42 325 *e*P **P 14 13 33.0 +0.5**
comp=Z,22nm,1.3s
IBBN Ibbenburen 20.59 334 *e*P **P 14 13 35.6 +1.3**
comp=Z,23nm,0.9s
WTSB Winterswijk 20.68 332 *e*P **P 14 13 36.1 +0.8**
comp=Z,1.8nm,1.5s
SNF Seneffe 20.69 326 P **P 14 13 36.2 +0.8**
comp=Z,15nm,1.5s
UCC Uccle 20.86 326 P **P 14 13 37.8 +0.7**
MFF Saint Martin d 20.86 312 *e*P **P 14 13 37.7 +0.5**
comp=Z,60nm,1.5s
MFF Saint Martin d 20.86 312 *e*P **P 14 13 37.7 +0.5**
MFF pmax pmax
comp=Z,30nm,1.5s
MFF Saint Martin d 20.86 312 *e*P **P 14 13 37.7 +0.5**
comp=Z,30nm,1.5s
BSEG Bad Segeberg 21.12 340 *e*P **P 14 13 39.5 -0.6**
comp=Z,49nm,1.0s,mb4.0,baz=92,slow=11,SNR=23
BSD Bornholm Skovb 21.15 348 *i*P **P 14 13 38.6 -1.8**
comp=Z,30nm,1.1s,mb4.5
BSD Bornholm Skovb 21.15 348 *i*P **P 14 13 38.6 -1.8**
BSD pmax pmax
comp=Z,30nm,1.1s,mb4.5
ESDC Sonseca Array 21.65 291 P **P 14 13 46.3 +0.5**
comp=Z,5.7nm,0.9s,mb4.0,baz=92,slow=11,SNR=23
ESLA Sonseca Array 21.65 291 *e*P **P 14 13 46.9 +1.2**
comp=Z,2.6nm,0.9s,mb3.7
ESLA Sonseca Array 21.65 291 *e*P **P 14 13 46.9 +1.1**
comp=Z,2.6nm,0.9s,mb3.7
LDF La Druitiere 21.82 317 *e*P **P 14 13 47.5 0.0**
comp=Z,118nm,1.6s,mb4.8
LDF La Druitiere 21.82 317 *e*P **P 14 13 47.5 0.0**
LDF pmax pmax
comp=Z,59nm,1.6s,mb4.8
LDF La Druitiere 21.82 317 *e*P **P 14 13 47.5 0.0**
comp=Z,59nm,1.6s,mb4.8
PAB San Pablo 21.94 291 *e*P **P 14 13 50.0 +1.2**
PAB pmax pmax
comp=Z,38nm,1.3s,mb4.7
PAB San Pablo 21.94 291 *e*P **P 14 13 50.0 +1.2**
comp=Z,38nm,1.3s,mb4.7
FLN La Foliniere 22.11 317 *e*P **P 14 13 50.2 -0.5**
comp=Z,36nm,1.0s,mb4.5
FLN *e*MLR
comp=Z,179nm,20.2s
FLN La Foliniere 22.11 317 *e*P **P 14 13 50.2 -0.5**
FLN pmax pmax
comp=Z,18nm,1.0s,mb4.5
FLN MLR MLR
comp=Z,180nm,20.3s,MS3.5
FLN La Foliniere 22.11 317 *e*P **P 14 13 50.2 -0.5**
comp=Z,18nm,1.0s,mb4.5
FLN LR LR
comp=Z,180nm,20.3s,MS3.5
GRR Gorron 22.13 315 *e*P **P 14 13 50.4 -0.5**
comp=Z,51nm,1.3s,mb4.5
GRR Gorron 22.13 315 *e*P **P 14 13 50.4 -0.5**
GRR pmax pmax
comp=Z,26nm,1.3s,mb4.5
GRR Gorron 22.13 315 *e*P **P 14 13 50.4 -0.5**
comp=Z,26nm,1.3s,mb4.5
MDT Midelt 22.60 273 P **P 14 13 56.7 +0.8**
comp=Z,10nm,0.9s,mb4.3,baz=98,slow=11,SNR=19
MDT LR LR 14 25 36.4

comp=Z,233nm,18.5s,MS3.6,baz=81,slow=44
OBN Obninsk 22.70 21⇓ *eP* **P 14 13 55.9 -1.0**
OBN *e* 14 14 23.0
OBN *eS* **S 14 18 02.8 -2.8**
OBN pmax pmax
comp=Z,39nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,200nm,14.0s,MS3.7
OBN Obninsk 22.70 21 *eP* **P 14 13 55.9 -1.0**
comp=Z,39nm,1.2s,mb4.7
SGMF Saint Gilles 23.07 314 *eP* **P 14 14 00.0 -0.8**
comp=Z,83nm,1.4s,mb4.7
SGMF Saint Gilles 23.07 314 *eP* **P 14 14 00.0 -0.8**
SGMF pmax pmax
comp=Z,41nm,1.4s,mb4.7
SGMF Saint Gilles 23.07 314 *eP* **P 14 14 00.0 -0.8**
comp=Z,41nm,1.4s,mb4.7
QUIF Quistinic 23.29 313 *eP* **P 14 14 01.8 -1.3**
comp=Z,63nm,1.3s,mb4.6
QUIF Quistinic 23.29 313 *eP* **P 14 14 01.8 -1.3**
QUIF pmax pmax
comp=Z,31nm,1.3s,mb4.6
QUIF Quistinic 23.29 313 *eP* **P 14 14 01.8 -1.3**
comp=Z,32nm,1.3s,mb4.6
ROSF Rostrenen 23.53 313 *eP* **P 14 14 05.0 -0.7**
comp=Z,90nm,1.4s,mb4.7
ROSF Rostrenen 23.53 313 *eP* **P 14 14 05.0 -0.7**
ROSF pmax pmax
comp=Z,45nm,1.4s,mb4.7
ROSF Rostrenen 23.53 313 *eP* **P 14 14 05.0 -0.7**
comp=Z,45nm,1.4s,mb4.7
MOS Moscow 23.55 22 *eP* **P 14 14 03.2 -2.7**
MOS *e* 14 14 34.8
MOS *e*PPP 14 14 45.4
MOS pmax pmax
comp=Z,73nm,1.3s,mb5.0
MOS Moscow 23.55 22 *eP* **P 14 14 03.2 -2.7**
comp=Z,73nm,1.3s,mb5.0
MUD Monsted U'grnd 23.65 341 *iP* **P 14 14 06.6 -0.3**
MUD Monsted U'grnd 23.65 341 *eP* **P 14 14 06.6 -0.3**
HFS Hagfors 26.16 350 P **P 14 14 28.4 -1.2**
comp=Z,8.4nm,0.8s,mb4.3,baz=161,slow=11,SNR=15
HFS LR LR 14 26 03.8
comp=Z,181nm,19.0s,MS3.6,baz=68,slow=40
FINES FINESS Array B 26.93 4 P **P 14 14 34.0 -2.6**
comp=Z,13nm,1.1s,mb4.4,baz=166,slow=9.3,SNR=7.2
FINES LR LR 14 26 19.5
comp=Z,307nm,20.0s,MS3.9,baz=323,slow=39
FIA1 FINESS Array S 26.93 4 P **P 14 14 34.9 -1.7**
FIA1 FINESS Array S 26.93 4 P **P 14 14 34.9 -1.7**
EKA Eskdalemuir Ar 27.26 327 P **P 14 14 39.2 -0.4**
comp=Z,8.3nm,0.9s,mb4.2,baz=131,slow=8.9,SNR=14
NAO01 NORSAR Array S 27.28 348 *eP* **P 14 14 38.9 -0.9**
NAO01 NORSAR Array S 27.28 348 *eP* **P 14 14 38.9 -0.9**
NB2 NORSAR Subarra 27.41 348 P **P 14 14 39.3 -1.6**
comp=Z,1.1nm,0.5s,mb3.6,baz=146,slow=10
NOA NORSAR Array B 27.41 348 P **P 14 14 40.1 -0.8**
comp=Z,1.9nm,0.7s,mb3.8,baz=160,slow=9.7,SNR=5.8
KAF Kangasniemi 27.61 4 *ep* **P 14 14 41.9 -0.8**
comp=Z,5.6nm,0.6s,mb4.4,baz=182,slow=9.2
KAF Kangasniemi 27.61 4 *eP* **P 14 14 41.9 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
KLMR Klimovskoe 28.44 18 *eP* **P 14 14 51.9 +1.7**
KLMR *eS* **S 14 19 30.0 -7.4**
KLMR pmax pmax
comp=Z,56nm,2.0s,mb4.8
TOA0 Torodi Ar. Sit 28.51 226 *eP* **P 14 14 51.3 +0.6**
TOA0 Torodi Ar. Sit 28.51 226 *eP* **P 14 14 51.3 +0.6**
TORD Torodi Ar. Bea 28.51 226 P **P 14 14 52.5 +1.8**
comp=Z,3.1nm,0.7s,mb4.1,baz=35,slow=6.9,SNR=18
TORD LR LR 14 27 46.9
comp=Z,256nm,18.6s,MS3.9,baz=30,slow=39
ORR Orenburg 28.71 44 *eP* **P 14 14 50.9 -1.6**
ORR pmax pmax
comp=Z,50nm,4.7s
ORR Orenburg 28.71 44 *eP* **P 14 14 50.9 -1.6**
comp=Z,50nm,4.7s
JOF Joensuu 28.84 8 *ep* **P 14 14 49.1 -4.6**
comp=Z,12nm,1.1s,mb4.5
AKTO Aktyubinsk 30.22 48 LR LR 14 29 06.7
comp=Z,172nm,20.3s,MS3.7,baz=137,slow=40
ARU Arti 32.79 37⇓ *iP* **P 14 15 27.7 -0.8**
ARU *e* 14 16 34.2
ARU *e*PPP 14 16 54.2
ARU *e* 14 18 12.1
ARU *eS* **S 14 20 42.4 -3.0**
ARU *e*SS SS 14 22 38.1 -28
ARU pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
ARU Arti 32.79 37 *iP* **P 14 15 27.7 -0.8**
comp=Z,7.0nm,1.5s,mb4.4
ARU Arti 32.79 37 *e*PcP PcP 14 18 12.1 -1.5
ARCES ARCESS Array B 35.00 2 P **P 14 15 44.8 -3.0**
comp=Z,2.5nm,0.5s,mb4.4,baz=186,slow=8.5,SNR=17
ARCES LR LR 14 31 21.9
comp=Z,376nm,18.6s,MS4.2,baz=92,slow=39
KK31 Karatay Array 37.89 62 *iP* **P 14 16 12.0 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
KK31 Karatay Array 37.89 62 *iP* **P 14 16 12.0 -0.4**
comp=Z,3.0nm,0.4s,mb4.4
KKAR Karatay Array 37.89 62 P **P 14 16 12.0 -0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
LIC Lamto 38.01 228 *eP* **P 14 16 15.1 +1.7**
comp=Z,28nm,1.1s,mb4.6
LIC *e*MLR
comp=Z,158nm,20.2s
LIC Lamto 38.01 228 *eP* **P 14 16 15.1 +1.7**
comp=Z,14nm,1.1s,mb4.6
LIC LR LR
comp=Z,80nm,20.3s,MS3.5
LIC Lamto 38.01 228 *eP* **P 14 16 15.1 +1.7**
comp=Z,14nm,1.1s,mb4.6
KBL Kabul 38.05 76 *eP* **P 14 16 14.6 +0.8**
KBL Kabul 38.05 76 *eP* **P 14 16 14.6 +0.8**
KMBO Kilima Mbogo 38.16 156 LR LR 14 33 19.4
comp=Z,98nm,18.6s,MS3.6,baz=31,slow=38
BRVK Borovoye 38.23 46 *eP* **P 14 16 12.3 -3.0**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
BRVK Borovoye 38.23 46 *eP* **P 14 16 12.3 -3.0**
comp=Z,8.1nm,1.0s,mb4.4
BRVK Borovoye 38.23 46 *eP* **P 14 16 12.3 -3.0**
comp=Z,8.1nm,1.0s,mb4.4
BVAR Borovoye Array 38.29 46 P **P 14 16 13.2 -2.6**
comp=Z,0.8nm,0.4s,mb3.8,baz=247,slow=10,SNR=6.5
CHKZ Chkalovo 38.53 45 P **P 14 16 16.3 -1.5**
CHKZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
CHKZ Chkalovo 38.53 45 P **P 14 16 16.3 -1.5**
comp=Z,10.0nm,1.1s,mb4.5
AAK Ala-Archa 40.85 63⇑ *eP* **P 14 16 36.2 -0.9**
AAK pmax pmax
comp=Z,10.0nm,1.4s,mb4.2
AAK Ala-Archa 40.85 63 *eP* **P 14 16 36.0 -1.1**
comp=Z,5.6nm,0.9s,mb4.2
AAK Ala-Archa 40.85 63 *eP* **P 14 16 36.2 -0.9**
comp=Z,10.0nm,1.4s,mb4.2
FRU Bishkek 40.91 62 *eP* **P 14 16 36.0 -1.7**
FRU pmax pmax
comp=Z,130nm,2.8s,mb5.1
FRU Bishkek 40.91 62 *eP* **P 14 16 36.0 -1.7**
comp=Z,130nm,2.8s,mb5.1
KURK Kurchatov 43.20 50 *eP* **P 14 16 54.6 -1.8**
comp=Z,4.8nm,0.8s,mb4.3
KURK Kurchatov 43.20 50 *eP* **P 14 16 55.5 -0.9**
MK31 Makanchi Array 45.88 56 *eP* **P 14 17 16.7 -1.1**
MKAR Makanchi Array 45.88 56 *iP* **P 14 17 16.6 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
NVS Novosibirsk 46.00 45 *eP* **P 14 17 16.8 -1.9**
NVS *eS* **S 14 23 59.3 -4.4**
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.6s
NVS pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
NVS smax
comp=N,10.0nm,1.8s
NVS smax
comp=E,3.0nm,0.9s
NDI New Delhi 46.48 82 *ex* **P 14 17 23.0 +0.6**
ZAL Zalesovo 46.93 46 P **P 14 17 24.1 -1.8**
comp=E,2.7nm,0.5s,mb4.4,baz=202,slow=8.5,SNR=12
ZAL LR LR 14 39 25.8
comp=E,110nm,19.6s,MS3.8,baz=203,slow=39
LSZ Lusaka 49.92 173 P **P 14 17 51.5 +2.5**
comp=E,0.7nm,0.5s,mb4.0,baz=357,slow=5.4,SNR=4.3
LSZ LR LR 14 39 22.6
comp=E,96nm,20.9s,MS3.8,baz=171,slow=36
LSZ Lusaka 49.92 173 P **P 14 17 51.5 +2.5**
LSZ LR LR 14 39 22.6
KOLN Koldanda 52.02 80 *eP* **P 14 18 04.8 -0.1**
comp=E,22nm,0.9s,mb5.1
HYB Hyderabad 52.56 94 *iP* **P 14 18 09.0 +0.2**
HYB Hyderabad 52.56 94 *eP* **P 14 18 09.0 +0.2**
GKN Gorkha 52.77 79 *eP* **P 14 18 10.2 -0.2**
comp=E,35nm,0.8s,mb5.3
DMN Daman 53.31 79 *eP* **P 14 18 14.6 +0.2**
comp=E,77nm,1.0s,mb5.6
KKN Kakani 53.38 79 *eP* **P 14 18 14.7 -0.2**
comp=E,28nm,0.8s,mb5.2
KKN Kakani 53.38 79 *eP* **P 14 18 14.7 -0.2**
KKN pmax pmax
comp=Z,28nm,0.8s,mb5.2
PKI Pulchoki 53.57 79 *eP* **P 14 18 16.3 0.0**
comp=Z,34nm,0.8s,mb5.3
PKI Pulchoki 53.57 79 *eP* **P 14 18 16.3 0.0**
PKI pmax pmax
comp=Z,34nm,0.8s,mb5.3
GUN Gumba 53.81 79 *eP* **P 14 18 18.1 0.0**
comp=Z,65nm,1.1s,mb5.5
LSA Lhasa 57.31 74 P **P 14 18 44.3 +1.1**
LSA Lhasa 57.31 74 *eP* **P 14 18 44.4 +1.2**
LSA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LSA Lhasa 57.31 74 *eP* **P 14 18 44.4 +1.1**
comp=Z,6.0nm,0.9s,mb4.6
LSA Lhasa 57.31 74 *eP* **P 14 18 44.4 +1.2**
comp=Z,6.0nm,0.9s,mb4.6
ZAK Zakamensk 58.73 48 *eP* **P 14 18 52.9 -0.2**
SHL Shillong 59.66 78 *eP* **P 14 18 59.0 -0.6**
GTA Gaotai 60.13 61 *eP* **P 14 19 03.3 +0.4**
GTA AP pP 14 19 08.3 +2.2
GTA XP sP 14 19 11.5 +4.2
GTA AMB AMB
comp=Z,4.0nm,1.3s,mb4.3
SONM Songino Array 61.50 50 P **P 14 19 11.6 -0.6**
comp=Z,1.6nm,0.9s,mb4.2,baz=286,slow=9.5,SNR=13
SONM LR LR 14 48 50.4
comp=Z,103nm,20.6s,MS4.0,baz=351,slow=39
ULN Ulaanbaatar 61.90 49 *eP* **P 14 19 14.2 -0.7**
comp=Z,4.5nm,0.9s,mb4.6
ULN Ulaanbaatar 61.90 49 *eP* **P 14 19 15.1 +0.2**
BOD Bodaibo 62.21 37 *eP* **P 14 19 14.0 -2.9**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
BOD Bodaibo 62.21 37 *eP* **P 14 19 14.0 -2.9**
comp=Z,4.0nm,1.1s,mb4.5
TIXI Tiksi 62.42 20⇑ *eP* **P 14 19 17.6 -0.8**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
TIXI Tiksi 62.42 20 *eP* **P 14 19 17.6 -0.8**
comp=Z,5.0nm,1.0s,mb4.6
BOSA Boshof 62.96 177 LR LR 14 51 03.9
comp=Z,152nm,19.6s,MS4.2,baz=5.3,slow=40
LZH Lanzhou 64.39 63 *eP* **P 14 19 32.0 +0.6**
LZH AP pP 14 19 36.5 +1.9
LZH XP sP 14 19 40.0 +4.2
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH Lanzhou 64.39 63 *eP* **P 14 19 32.0 +0.6**
comp=Z,15nm,1.0s,mb5.0
LZH pP pP 14 19 36.5 +1.9
LZH sP sP 14 19 40.0 +4.2
YAK Yakutsk 67.42 29⇑ *eP* **P 14 19 51.2 +0.3**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
HHC Hu-ho-hao-te 67.74 55 *eP* **P 14 19 51.0 -1.9**
HHC AP pP 14 20 01.0 +4.8
HHC XP sP 14 20 05.0 +7.6
HHC PP PP 14 22 21.3 -0.9
HHC S S 14 28 43.0 -7.6
HHC PS 14 29 10.5
HHC SCS ScS 14 29 43.8 -7.8
HHC SS SS 14 33 05.3 -6.4
HHC AMB AMB
comp=Z,11nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,118nm,5.0s
HHC LR LR
comp=N,216nm,20.2s,MS4.6
HHC LR LR
comp=E,357nm,21.4s,MS4.6
HHC LR LR
comp=Z,123nm,22.0s,MS4.1
HIA Hailar 68.94 44 *eP* **P 14 19 58.8 -1.6**
BILL Bilibino 74.10 13⇓ *eP* **P 14 20 31.1 -0.5**
BILL *eS* S 14 29 52.9 -12
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,200nm,20.0s,MS4.4
BILL Bilibino 74.10 13 *eP* **P 14 20 30.2 -1.4**
comp=Z,9.7nm,1.1s,mb4.7
SEY Seymchan 74.86 21⇑ *eP* **P 14 20 36.1 +0.1**
SNY Shenyang 75.08 49 ⇓P **P 14 20 34.5 -2.8**
SNY AMB AMB
comp=Z,11nm,1.0s,mb4.7
KLR Kul'dur 75.58 40 *eP* **P 14 20 36.9 -3.3**
PSI Prapat 77.24 95 P **P 14 20 50.6 +1.0**
comp=Z,3.8nm,0.8s,mb4.4,baz=303,slow=7.3,SNR=4.0
YKA Yellowknife Ar 77.26 341 P **P 14 20 49.3 -0.4**
comp=Z,2.6nm,0.9s,mb4.1,baz=33,slow=5.4,SNR=26
YKA LR LR 14 56 32.6
comp=Z,145nm,18.7s,MS4.3,baz=215,slow=37
YKA Yellowknife Ar 77.26 341⇑ *eP* **P 14 20 49.7 0.0**
YKA Yellowknife Ar 77.26 341 P **P 14 20 49.3 -0.4**
YKA LR LR 14 56 32.6
ULM Lac du Bonnet 79.51 325 P **P 14 21 01.9 -0.2**
comp=Z,3.9nm,1.0s,mb4.3,baz=26,slow=4.9,SNR=5.1
IMA2 Indian Mountai 79.58 358 *eP* **P 14 21 03.5 +1.0**
KSRS Korea Array 80.33 51 P **P 14 21 06.2 -0.3**
comp=Z,4.1nm,1.1s,mb4.3,baz=304,slow=4.7,SNR=9.6
KSRS LR LR 15 01 27.5
comp=Z,55nm,18.4s,MS3.9,baz=212,slow=39
DAWY Dawson 80.59 352 *eP* **P 14 21 08.4 +0.4**
JOW Kunigami 86.92 59 P **P 14 21 38.5 -1.8**
comp=Z,19nm,0.6s,mb5.5,baz=316,slow=28,SNR=2.5
MJAR Matsushiro Arr 87.29 47 P **P 14 21 41.6 -0.5**
comp=Z,0.8nm,0.5s,mb4.2,baz=326,slow=4.3,SNR=4.6
LPAZ La Paz 99.58 257 LR LR 15 08 05.9
comp=Z,57nm,20.6s,MS4.1,baz=187,slow=36
ASAR Alice Springs 120.11 99 PKP PKPdf 14 27 45.6 -0.6
comp=Z,0.7nm,0.8s,baz=296,slow=1.1,SNR=8.3

IDC 25 14:14:55.8±9.1,586S×15012E,h60km±68km,mb2.8/2, mb1 3.2/3,mb1mx3.0/13,mbtmp3.0/3,ML1.9/1,Error ellipse: s-maj=145.7km s-min=57.5km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**220**	P	Pn	14 16 02.4	-0.1
	0.4nm,0.3s,baz=22,slow=11,SNR=3.2						
PMG				S	Sn	14 16 56.1	+1.6
	1.9nm,0.3s,baz=144,slow=18,SNR=8.0						
WRA	**Warramunga Arr**	**20.77**	**226**	P	P	14 19 30.5	-1.2
	0.6nm,0.6s,baz=51,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**23.60**	**220**	P	P	14 20 01.2	0.0
	0.4nm,0.8s,baz=57,slow=8.7,SNR=6.8						
TORD	**Torodi Ar. Bea**	**148.06**	**285**	PKPbc	PKPbc	14 34 35.9	+1.3
	0.2nm,0.4s,baz=60,slow=3.6,SNR=5.7						

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*IDC **25** 14:15:40.2±1.2,3473N×2252E,h0km,mb3.5/6, mb1 3.6/10,mb1mx3.6/24,mbtmp3.5/10,ML3.1/3,Error ellipse: s-maj=28.5km s-min=18.9km az=168.0*
*ISCJB **25** 14:15:45.4±1.4,347N±0.1×226E±0.1,h64km±13km, mb3.5/6,Error ellipse: s-maj=20.3km s-min=12.2km az=63.7*
*NEIC **25** 14:15:46.2±1.3,3469N×2258E,h51km±13km, MD4.0(ATH),Error ellipse: s-maj=16.8km s-min=10.5km az=207.0*
*CSEM **25** 14:15:49.7±1.9,3495N×2296E,h25km,MD4.0,Error ellipse: s-maj=59.7km s-min=10.4km az=46.0*
*ATH **25** 14:15:50.1,3499N×2304E,h39km,MD4.0/6*
ISC 25 14:15:46.3±1.4,347N±01×226E±0.1,h53km±14km,n19, σ0§95/20,mb3.5/6,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.22**	**82**	*e*PN	**Pn**	**14 16 07.2**	**+0.2**
VAM	**Vamos**	**1.49**	**61**	*e*PN	**Pn**	**14 16 10.0**	**-0.6**
KYTH	**Kithira**	**1.63**	**12**	*e*PB	**Pn**	**14 16 12.5**	**0.0**
IDI	**Anoyia**	**1.96**	**72**	Pn	**Pn**	**14 16 17.7**	**+0.5**
	3.0nm,0.3s,baz=266,slow=15,SNR=16						
IDI				Sn	**Sn**	**14 16 48.8**	**+8.3**
	5.6nm,0.3s,baz=324,slow=22,SNR=4.7						
IDI	**Anoyia**	**1.96**	**72**	Pn	**Pn**	**14 16 17.6**	**+0.5**
VLI	**Veliai**	**2.04**	**7**	*e*PN	**Pn**	**14 16 19.5**	**+1.3**
ITM	**Ithomi**	**2.55**	**348**	*e*PB	**Pn**	**14 16 32.0**	**+6.9**
EVR	**Evrytania**	**4.27**	**352**	*e*PN	**Pn**	**14 16 50.5**	**+1.8**
BRTR	**Keskin Array B**	**10.13**	**57**	Pn	**Pn**	**14 18 08.9**	**-0.1**
	0.0nm,0.3s,baz=236,slow=17,SNR=3.2						
MMAI	**Mount Meron Ar**	**10.77**	**95**	Pn	**Pn**	**14 18 16.6**	**-1.1**
	1.1nm,0.3s,baz=300,slow=12,SNR=2.9						
GERES	**GERESS Array B**	**15.61**	**338**	Pn	**Pn**	**14 19 21.4**	**-1.5**
	baz=151,slow=12,SNR=3.2						
KHC	**Kasperske Hory**	**15.90**	**338**	*e*P	**Pn**	**14 19 24.5**	**-2.1**
KHC	**Kasperske Hory**	**15.90**	**338**	*e*P	**Pn**	**14 19 24.5**	**-2.1**
ESDC	**Sonseca Array**	**21.72**	**291**	P	**P**	**14 20 32.8**	**-0.1**
	1.3nm,0.9s,mb3.4,baz=90,slow=12,SNR=6.1						
HFS	**Hagfors**	**26.12**	**350**	P	**P**	**14 21 14.6**	**-0.5**
	1.2nm,0.7s,mb3.5,baz=187,slow=8.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**28.61**	**227**	P	**P**	**14 21 38.0**	**+0.4**
	0.3nm,0.5s,mb3.3,baz=32,slow=9.9,SNR=3.3						
ZAL	**Zalesovo**	**46.83**	**46**	P	**P**	**14 24 10.7**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=259,slow=3.3,SNR=3.8						
SONM	**Songino Array**	**61.40**	**50**	P	**P**	**14 25 57.5**	**+0.7**
	0.2nm,0.4s,mb3.6,baz=294,slow=7.2,SNR=2.6						
YKA	**Yellowknife Ar**	**77.24**	**341**	P	**P**	**14 27 35.8**	**+1.1**
	0.2nm,0.8s,mb3.1,baz=38,slow=6.4,SNR=4.3						

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*IDC **25** 14:18:38.9±1.0,3473N×2272E,h0km,mb3.8/12, mb1 3.9/19,mb1mx3.9/30,mbtmp3.8/19,ML3.7/4,Error ellipse: s-maj=19.8km s-min=16.3km az=161.0*
*CSEM **25** 14:18:42.8±0.2,3441N×2242E,h30km,MD4.0,Error ellipse: s-maj=8.1km s-min=2.1km az=39.0*
*ISCJB **25** 14:18:46.9±0.9,3471N±007×2275E±007,h79km±8km, mb3.6/12,Error ellipse: s-maj=12.8km s-min=7.7km az=78.9*
*NEIC **25** 14:18:47.0±1.0,3465N×2274E,h64km±9km,MD4.0(ATH), Error ellipse: s-maj=12.8km s-min=8.5km az=217.0*
*ATH **25** 14:18:50.7,3509N×2305E,h27km±5km,MD4.0/9*
ISC 25 14:18:47.9±0.8,3472N±007×2274E±007,h70km±8km,n52, σ1§35/53,mb3.6/12,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.12**	**84**	*e*PN	**Pn**	**14 19 07.5**	**-0.3**
VAM	**Vamos**	**1.38**	**60**	*e*PN	**Pn**	**14 19 10.6**	**-0.6**
KYTH	**Kithira**	**1.58**	**9**	*e*PN	**Pn**	**14 19 12.5**	**-1.3**
IDI	**Anoyia**	**1.86**	**72**	Pn	**Pn**	**14 19 16.8**	**-0.7**
	6.6nm,0.3s,baz=266,slow=16,SNR=13						
IDI				Sn	**Sn**	**14 19 47.2**	**+7.1**
	7.8nm,0.3s,baz=270,slow=18,SNR=3.0						
VLI	**Veliai**	**2.00**	**5**	*e*PN	**Pn**	**14 19 19.6**	**+0.1**
NPS	**Neapolis**	**2.42**	**76**	*e*PN	**Pn**	**14 19 26.2**	**+1.0**
ITM	**Ithomi**	**2.54**	**345**	*e*PB	**Pn**	**14 19 30.0**	**+3.2**
PTL	**Penteli**	**3.44**	**15**	*e*PN	**Pn**	**14 19 37.9**	**-1.2**
KARP	**Karpathos**	**3.72**	**76**	*e*PN	**Pn**	**14 19 44.4**	**+1.6**
KARP	**Karpathos**	**3.72**	**76**	P	**Pn**	**14 19 45.2**	**+2.4**
KAP	**Karpathos**	**3.73**	**76**	*e*Pn	**Pn**	**14 19 44.4**	**+1.4**
LKR	**Lokris**	**3.93**	**3**	*e*PN	**Pn**	**14 19 43.8**	**-1.9**
EVR	**Evrytania**	**4.25**	**350**	*e*PN	**Pn**	**14 19 52.0**	**+1.8**
JAN	**Janina**	**5.15**	**344**	P	**Pn**	**14 20 01.1**	**-1.3**
BRTR	**Keskin Array B**	**10.02**	**57**	Pn	**Pn**	**14 21 02.9**	**-6.1**
	baz=233,slow=15,SNR=2.0						
MMAI	**Mount Meron Ar**	**10.67**	**96**	Pn	**Pn**	**14 21 12.7**	**-5.1**
	0.6nm,0.3s,baz=275,slow=16,SNR=2.0						
MLR	**Muntele Rosu**	**11.03**	**12**	Pn	**Pn**	**14 21 19.3**	**-3.5**
	baz=215,slow=19,SNR=3.4						
EIL	**Elat**	**11.50**	**113**	*e*Pn	**Pn**	**14 21 30.1**	**+0.9**
EIL				Sn	**Sn**	**14 23 31.0**	**-4.8**
EIL	**Elat**	**11.50**	**113**	*e*Pn	**Pn**	**14 21 30.1**	**+0.9**
ASF	**Jabal al Asfar**	**12.10**	**98**	Pn	**Pn**	**14 21 34.9**	**-2.3**
	0.2nm,0.3s,baz=16,slow=19,SNR=2.2						
VYHS	**Vyhne**	**14.07**	**349**	*e*PN	**Pn**	**14 21 59.7**	**-4.0**
KOLS	**Kolonicke sedl**	**14.21**	**359**	*e*PN	**Pn**	**14 22 04.3**	**-1.2**
SET	**Setif**	**14.21**	**281**	P	**Pn**	**14 22 13.0**	**+7.4**
VRAC	**Vranov**	**15.27**	**345**	Pn	**Pn**	**14 22 17.1**	**-2.1**
	0.2nm,0.3s,baz=202,slow=5.4,SNR=2.9						
OKC	**Istrava-Krasne**	**15.48**	**349**	*e*P	**Pn**	**14 22 25.4**	**+3.4**
TREC	**Trest**	**15.52**	**342**	*e*P	**Pn**	**14 22 22.5**	**+0.1**
TREC				*ex*	x	14 22 25.6	
GERES	**GERESS Array B**	**15.62**	**337**	Pn	**Pn**	**14 22 19.2**	**-4.5**
	0.1nm,0.3s,baz=153,slow=12,SNR=4.6						
KHC	**Kasperske Hory**	**15.91**	**338**	*e*P	**Pn**	**14 22 30.1**	**+2.7**
KHC				*ex*	x	14 22 36.3	
DPC	**Dobruska-Polom**	**16.31**	**345**	*e*P	**Pn**	**14 22 34.4**	**+2.0**
PRU	**Pruhonice**	**16.40**	**341**	*e*P	**Pn**	**14 22 35.1**	**+1.6**
PRU				*ex*	x	14 22 40.1	
UPC	**Upice**	**16.52**	**345**	*e*P	**Pn**	**14 22 37.4**	**+2.3**
AKASG	**Malin Array Be**	**16.66**	**15**	Pn	**Pn**	**14 22 32.0**	**-4.8**
	baz=202,slow=11,SNR=3.6						
PVCC	**Panska Ves**	**16.89**	**342**	*e*P	**Pn**	**14 22 41.2**	**+1.6**
GRA1	**Grafenberg Arr**	**17.19**	**334**	*e*P	**Pn**	**14 22 44.4**	**+1.1**
GRF	**Grafenberg Arr**	**17.19**	**334**	*e*P	**Pn**	**14 22 44.4**	**+1.1**
DOU	**Dourbes**	**20.30**	**325**	P	**P**	**14 23 17.9**	**-0.1**
ESDC	**Sonseca Array**	**21.80**	**291**	P	**P**	**14 23 33.0**	**-1.1**
	1.5nm,0.8s,mb3.4,baz=92,slow=11,SNR=8.5						
MDT	**Midelt**	**22.79**	**273**	P	**P**	**14 23 42.9**	**-1.7**
	2.3nm,0.8s,mb3.6,baz=93,slow=7.2,SNR=6.0						
HFS	**Hagfors**	**26.10**	**350**	P	**P**	**14 24 14.5**	**-0.6**
	1.1nm,0.5s,mb3.6,baz=145,slow=14,SNR=7.9						
FINES	**FINESS Array B**	**26.83**	**4**	P	**P**	**14 24 19.8**	**-1.8**
	4.5nm,1.0s,mb3.9,baz=175,slow=16,SNR=2.3						
EKA	**Eskdalemuir Ar**	**27.29**	**327**	P	**P**	**14 24 24.7**	**-1.0**
	1.6nm,0.7s,mb3.7,baz=124,slow=8.3,SNR=6.1						
NOA	**NORSAR Array B**	**27.36**	**348**	P	**P**	**14 24 25.8**	**-0.6**
	1.0nm,0.8s,mb3.4,baz=159,slow=9.9,SNR=3.3						
TOA0	**Torodi Ar. Sit**	**28.71**	**227**	*e*P	**P**	**14 24 39.8**	**+1.4**
TORD	**Torodi Ar. Bea**	**28.71**	**227**	P	**P**	**14 24 37.9**	**-0.5**
	0.9nm,0.5s,mb3.6,baz=32,slow=9.3,SNR=9.5						
AKTK	**Aktyubinsk**	**30.01**	**48**	P	**P**	**14 24 49.7**	**-0.2**
AKTO	**Aktyubinsk**	**30.01**	**48**	P	**P**	**14 24 49.7**	**-0.2**
	0.8nm,0.6s,mb3.5,baz=262,slow=13,SNR=3.7						
ARCES	**ARCESS Array B**	**34.90**	**2**	P	**P**	**14 25 32.2**	**-0.4**
	2.8nm,0.8s,mb4.1,baz=187,slow=8.6,SNR=7.0						
ZAL	**Zalesovo**	**46.73**	**46**	P	**P**	**14 27 10.3**	**+0.4**
	1.0nm,0.4s,mb3.9,baz=202,slow=7.9,SNR=4.2						
ZAL	**Zalesovo**	**46.73**	**46**	P	**P**	**14 27 10.3**	**+0.4**
SONM	**Songino Array**	**61.30**	**50**	P	**P**	**14 28 56.3**	**+0.4**
	0.5nm,0.7s,mb3.7,baz=290,slow=10,SNR=4.0						
YKA	**Yellowknife Ar**	**77.24**	**341**	P	**P**	**14 30 35.1**	**+0.7**
	0.4nm,0.8s,mb3.2,baz=33,slow=5.8,SNR=7.5						
ASAR	**Alice Springs**	**119.94**	**99**	PKP	PKPdf	14 37 29.9	-0.3
	0.1nm,0.6s,baz=299,slow=1.0,SNR=4.6						

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*CSEM **25** 14:22:20.5±0.3,3431N×2254E,h2km,MD3.9,Error ellipse: s-maj=10.6km s-min=5.2km az=176.0*
*IDC **25** 14:22:22.6±1.2,3490N×2247E,h0km,mb3.7/9, mb1 3.8/14,mb1mx3.8/27,mbtmp3.7/14,ML3.7/4,Error ellipse: s-maj=24.7km s-min=17.4km az=151.0*
*ISCJB **25** 14:22:27.9±1.2,3458N±009×2275E±010,h73km±11km, mb3.5/9,Error ellipse: s-maj=17.2km s-min=11.6km az=70.2*
*NEIC **25** 14:22:28.5±1.2,3459N×2269E,h61km±12km, MD3.9(ATH),Error ellipse: s-maj=15.8km s-min=10.9km az=209.0*
*ATH **25** 14:22:30.3,3501N×2295E,h18km±6km,MD3.9/6*
ISC 25 14:22:27.5±1.5,344N±01×227E±0.1,h64km±12km,n30, σ1§14/31,mb3.6/9,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.23**	**70**	*e*PN	**Pn**	**14 22 48.5**	**-0.2**
VAM	**Vamos**	**1.59**	**51**	*e*PN	**Pn**	**14 22 51.5**	**-2.0**
KYTH	**Kithira**	**1.88**	**9**	*e*PN	**Pn**	**14 22 54.0**	**-3.3**
IDI	**Anoyia**	**2.01**	**64**	Pn	**Pn**

EVR Evrytania 4.54 351 *e*PN **Pn 14 23 32.0 -1.7**
VAE Valguarnera 7.36 297 Pn **Pn 14 24 04.4 -7.9**
3.1nm,0.3s,baz=132,slow=7.5,SNR=5.1
BRTR Keskin Array B 10.23 56 Pn **Pn 14 24 51.3 -0.2**
0.1nm,0.3s,baz=240,slow=13,SNR=3.6
MLR Muntele Rosu 11.33 12 Pn **Pn 14 24 59.3 -7.2**
0.6nm,0.3s,baz=125,slow=15,SNR=2.9
VRAC Vranov 15.54 345 Pn **Pn 14 26 02.3 -0.3**
0.2nm,0.3s,baz=162,slow=12,SNR=5.5
OKC Ostrava-Krasne 15.76 349 *e*P **Pn 14 26 07.3 +1.9**
TREC Trest 15.78 342 *e*P **Pn 14 26 07.5 +1.8**
GERES GERESS Array B 15.88 338 Pn **Pn 14 26 01.6 -5.3**
0.1nm,0.3s,baz=157,slow=17,SNR=3.9
KHC Kasperske Hory 16.17 338 *e*P **Pn 14 26 12.0 +1.4**
DPC Dobruska-Polom 16.58 346 *e*P **Pn 14 26 16.2 +0.4**
PRU Pruhonice 16.66 341 *e*P **Pn 14 26 17.5 +0.7**
UPC Upice 16.80 345 *e*P **Pn 14 26 19.0 +0.6**
AKASG Malin Array Be 16.95 14 Pn **Pn 14 26 13.0 -7.4**
0.3nm,0.3s,baz=211,slow=11,SNR=2.1
CLL Collm 18.27 340 *e*P **Pn 14 26 36.0 -0.5**
ESDC Sonseca Array 21.86 292 P **P 14 27 14.3 -0.5**
1.8nm,1.0s,mb3.5,baz=91,slow=10,SNR=7.1
MDT Midelt 22.76 274 P **P 14 27 24.4 0.0**
1.7nm,0.9s,mb3.5,baz=128,slow=10,SNR=4.3
HFS Hagfors 26.38 350 P **P 14 27 56.5 -1.2**
1.8nm,0.8s,mb3.7,baz=155,slow=19,SNR=3.6
EKA Eskdalemuir Ar 27.51 327 P **P 14 28 07.2 -0.7**
1.8nm,0.8s,mb3.7,baz=118,slow=10,SNR=4.0
NOA NORSAR Array B 27.64 348 P **P 14 28 07.5 -1.6**
0.6nm,0.6s,mb3.4,baz=160,slow=10.0,SNR=3.1
TORD Torodi Ar. Bea 28.47 227 P **P 14 28 20.8 +4.3**
0.7nm,0.6s,mb3.5,baz=34,slow=8.7,SNR=8.0
ARCES ARCESS Array B 35.20 2 P **P 14 29 13.6 -1.8**
2.6nm,0.9s,mb4.2,baz=204,slow=9.9,SNR=3.1
SONM Songino Array 61.52 50 P **P 14 32 39.3 +1.5**
0.2nm,0.5s,mb3.5,baz=302,slow=7.8,SNR=2.5
YKA Yellowknife Ar 77.50 341 P **P 14 34 16.7 +0.5**
0.4nm,0.9s,mb3.4,baz=30,slow=5.5,SNR=5.4
YKA Yellowknife Ar 77.50 341 P **P 14 34 16.7 +0.5**

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*IDC **25** 14:34:54.0±0.8, 1322N×12572E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, MS3.1/2, Ms1 3.1/2, ms1mx2.5/35, Error ellipse: s-maj=58.7km s-min=16.9km az=77.0*
*ISCJB **25** 14:34:57.4±2.8, 1334N±005×12593E±009, h31km±20km, mb3.9/12, MS3.4/1, Error ellipse: s-maj=14.4km s-min=7.5km az=12.2*
*MAN **25** 14:34:57.5, 1339N×12589E, h32km, mb2.8, ML4.2, MS2.9*
*NEIC **25** 14:35:06.3±0.5, 1313N×12573E, h100km, mb4.4/3, Error ellipse: s-maj=36.7km s-min=10.3km az=69.0*
ISC 25 14:34:59.1±2.9,**1331N**±005×**12591E**±009,**h30**km±21km, **n27**,σ1§**05**/27,**mb3.9**/12,**MS3.4**/1,**1C**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**1.45**	**237**	*e*P	**Pn**	**14 35 22.0**	**-1.3**
CNP				*e*S	**Sn**	**14 35 40.6**	**-0.6**
PLP	**Palo**	**2.32**	**203**	*e*P	**Pn**	**14 35 35.7**	**+0.5**
PLP				*i* S	**Sn**	**14 36 03.4**	**+0.7**
MSLP	**Maasin**	**3.32**	**198**	*e*P	**Pn**	**14 35 49.4**	**+0.4**
RCP	**Roxas**	**3.54**	**241**⇑	*e*P	**Pn**	**14 35 52.4**	**+0.3**
OTRP	**Odiongan**	**3.91**	**256**	*e*P	**Pn**	**14 35 59.3**	**+2.2**
BOAC	**Boac**	**3.96**	**273**	*e*P	**Pn**	**14 35 55.6**	**-2.1**
POLP	**Polilio Island**	**4.10**	**291**	*e*P	**Pn**	**14 36 01.4**	**+1.6**
GUIM	**Jordan**	**4.20**	**231**	*e*P	**Pn**	**14 36 01.3**	**+0.2**
PALP	**Palanan**	**5.02**	**318**	*e*P	**Pn**	**14 36 11.3**	**-1.1**
CAUP	**Cauayan**	**5.35**	**313**	*e*P	**Pn**	**14 36 15.7**	**-1.2**
GUMO	**Guam**	**18.45**	**87**	LR	LR	14 44 51.3	
	comp=Z,18nm,20.9s,baz=197,slow=32						
JHJ	**Hachijo jima 2**	**23.43**	**30**	LR	LR	14 48 06.1	
	comp=Z,126nm,20.4s,MS3.4,baz=50,slow=34						
KSRS	**Korea Array**	**24.11**	**4**	P	**P**	**14 40 12.4**	**+0.4**
	2.9nm,0.9s,mb3.7,baz=187,slow=11,SNR=10						
WRA	**Warramunga Arr**	**34.07**	**166**	P	**P**	**14 41 39.5**	**-1.3**
	0.7nm,0.7s,mb3.7,baz=343,slow=9.7,SNR=4.9						
ASAR	**Alice Springs**	**37.57**	**168**	P	**P**	**14 42 10.8**	**+0.1**
	0.7nm,0.7s,mb3.5,baz=354,slow=7.6,SNR=8.3						
ULN	**Ulaanbaatar**	**37.86**	**339**	*e*P	**P**	**14 42 14.4**	**+1.2**
	3.2nm,1.1s,mb4.0						
SONM	**Songino Array**	**38.07**	**339**	P	**P**	**14 42 15.7**	**+0.8**
	1.4nm,0.8s,mb3.7,baz=149,slow=8.3,SNR=11						
STKA	**Stephens Creek**	**47.38**	**162**	P	**P**	**14 43 29.6**	**-0.8**
	2.2nm,0.7s,mb4.2,baz=348,slow=15,SNR=4.6						
MK31	**Makanchi Array**	**49.42**	**321**	*e*P	**P**	**14 43 47.4**	**+1.3**
KURK	**Kurchatov**	**53.39**	**324**	*e*P	**P**	**14 44 15.8**	**0.0**
	5.1nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**58.99**	**324**	P	**P**	**14 44 55.0**	**-0.8**
	0.9nm,0.7s,mb3.9,baz=124,slow=8.0,SNR=5.1						
BVAR	**Borovoye Array**	**58.99**	**324**	P	**P**	**14 44 55.0**	**-0.8**
BRVK	**Borovoye**	**59.06**	**324**	P	**P**	**14 44 57.2**	**+0.9**
	2.3nm,0.8s,mb4.3						
INK	**Inuvik**	**81.61**	**22**	P	**P**	**14 47 14.4**	**+0.3**
	1.8nm,0.9s,mb4.0,baz=313,slow=8.9,SNR=9.0						
INK	**Inuvik**	**81.61**	**22**	*e*P	**P**	**14 47 14.5**	**+0.4**
FINES	**FINESS Array B**	**83.06**	**332**	P	**P**	**14 47 19.6**	**-2.1**
	1.3nm,0.9s,mb4.0,baz=56,slow=4.8,SNR=3.5						
YKA	**Yellowknife Ar**	**91.14**	**24**	P	**P**	**14 48 01.0**	**0.0**
	0.3nm,0.7s,mb3.7,baz=301,slow=4.5,SNR=5.6						

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*IDC **25** 14:48:49.0±1.0, 4709N×15306E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/23, mbtmp3.7/10, Error ellipse: s-maj=29.3km s-min=23.2km az=152.0*
*NEIC **25** 14:48:50.6±1.0, 4699N×15292E, h10km, Error ellipse: s-maj=27.3km s-min=23.6km az=149.0*
*ISCJB **25** 14:48:52.5±0.7, 470N±0.1×1530E±0.1, h35km, mb4.0/12, Error ellipse: s-maj=21.7km s-min=5.8km az=103.7*
*MOS **25** 14:48:53.2±3.1, 4676N×15327E, h33km, mb5.3/7, Error ellipse: s-maj=17.8km s-min=11.1km az=70.7*
*JMA **25** 14:48:55.0±0.6, 4710N×15296E, h30km, M4.2*
ISC 25 14:48:54.4±0.7,**470N**±01×**1531E**±01,**h35**km,**n37**, σ1§**49**/44,**mb4.0**/12,**1C**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.17**	**28**	*e*PN	**Pn**	**14 50 03.9**	**+8.4**
NEM2	**Nemuro 2**	**6.34**	**237**	P	**Pn**	**14 50 25.1**	**-0.2**
NEM2				*e*S	**Sn**	**14 51 31.5**	**-5.0**
JRA	**Rausu**	**6.38**	**244**	P	**Pn**	**14 50 29.4**	**+3.5**
JNK	**Nakash**	**6.82**	**243**	P	**Pn**	**14 50 33.8**	**+1.9**
JNK				*e*S	**Sn**	**14 51 48.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.05**	**273**	*e*PN	**Pn**	**14 50 42.1**	**+7.0**
JTKR	**Abashiri--Toko**	**7.12**	**248**	P	**Pn**	**14 50 38.8**	**+2.7**
JAK	**Akkeshi**	**7.17**	**239**	P	**Pn**	**14 50 36.2**	**-0.6**
JAK				*e*S	**Sn**	**14 51 52.8**	**-4.2**
JAR	**Ashorobuto**	**7.55**	**244**	P	**Pn**	**14 50 44.2**	**+2.2**
JAR				*e*S	**Sn**	**14 52 07.0**	**+0.6**
JOB	**Onbets**	**7.74**	**241**	P	**Pn**	**14 50 44.6**	**+0.1**
JOB				*e*S	**Sn**	**14 52 06.9**	**-4.0**
ASAJ	**Asahikawa**	**7.90**	**252**	Pn	**Pn**	**14 50 48.9**	**+2.2**
	0.5nm,0.3s,baz=67,slow=15,SNR=6.1						
ASAJ	**Asahikawa**	**7.90**	**252**	PN	**Pn**	**14 50 48.9**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.91**	**250**	P	**Pn**	**14 50 50.6**	**+3.7**
JCH	**Churui**	**8.19**	**241**	P	**Pn**	**14 50 50.6**	**-0.1**
ERM	**Erimo**	**8.67**	**238**	*e*PN	**Pn**	**14 50 59.6**	**+2.3**
JNBK	**Urakawa-nobuka**	**8.75**	**241**	P	**Pn**	**14 50 57.8**	**-0.6**
JNB	**Noboribetsu**	**9.69**	**246**	P	**Pn**	**14 51 12.8**	**+1.5**
JKB	**Kayabe**	**10.02**	**243**	P	**Pn**	**14 51 15.2**	**-0.6**
JKB				*e*S	**Sn**	**14 52 58.8**	**-8.1**
JANG	**Nango**	**10.68**	**236**	P	**Pn**	**14 51 22.0**	**-2.9**
JANG				*e*S	**Sn**	**14 53 12.3**	**-11**
JTH	**Tanohata**	**10.79**	**233**	*e*S	**Sn**	**14 53 14.3**	**-11**
JRG	**Rokugo**	**11.84**	**234**	P	**Pn**	**14 51 38.4**	**-2.4**
JIO	**Ouri**	**12.14**	**229**	*e*S	**Sn**	**14 53 46.6**	**-12**
MJAR	**Matsushiro Arr**	**15.23**	**232**	Pn	**Pn**	**14 52 29.6**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=47,slow=8.3,SNR=4.2						
KSRS	**Korea Array**	**20.85**	**252**	P	**P**	**14 53 34.1**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=55,slow=10,SNR=3.8						
BILL	**Bilibino**	**22.12**	**13**	*e*P	**P**	**14 53 53.1**	**+6.3**
BILL				*e**PP		14 54 27.3	
BILL				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.4						
INK	**Inuvik**	**41.43**	**33**	*e*P	**P**	**14 56 39.5**	**+2.0**
	comp=Z,41nm,0.8s,mb5.1						
YKA	**Yellowknife Ar**	**50.72**	**37**	P	**P**	**14 57 51.2**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=297,slow=7.3,SNR=8.4						
AKTK	**Aktyubinsk**	**58.51**	**312**	P	**P**	**14 58 46.8**	**-0.3**
AKTO	**Aktyubinsk**	**58.51**	**312**	P	**P**	**14 58 46.8**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=63,slow=2.3,SNR=3.2						
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**14 59 21.6**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=27,slow=9.0,SNR=5.0						
FINES	**FINESS Array B**	**63.76**	**335**	*i* P	**P**	**14 59 22.8**	**+0.1**
FINES				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PDAR	**Pinedale Array**	**64.61**	**54**	P	**P**	**14 59 28.8**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=323,slow=2.2,SNR=3.9						
OBN	**Obninsk**	**65.05**	**325**⇑	*e*P	**P**	**14 59 27.0**	**-4.2**
OBN				*e**PP	pP	15 00 04.4	+22
OBN				*e*S	S	15 08 10.2	-0.8
OBN				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
NOA	**NORSAR Array B**	**67.94**	**341**	P	**P**	**14 59 48.9**	**-0.7**
	comp=Z,1.0nm,0.9s,mb3.9,baz=28,slow=6.4,SNR=3.2						
HFS	**Hagfors**	**68.17**	**339**	P	**P**	**14 59 50.5**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=61,slow=3.7,SNR=6.6						
AKASG	**Malin Array Be**	**71.29**	**26**	P	**P**	**15 00 08.4**	**-1.9**
	comp=Z,0.4nm,0.3s,mb3.9,baz=37,slow=6.1,SNR=3.3						
ASAR	**Alice Springs**	**72.47**	**198**	P	**P**	**15 00 17.5**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=8.4,slow=5.1,SNR=5.4						
TXAR	**Lajitas Array**	**77.39**	**61**	P	**P**	**15 00 44.6**	**-1.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=301,slow=4.1,SNR=6.8						

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*IDC **25** 14:54:46.3±5.4, 2450S×17976E, h501km±59km, mb3.5/7, mb1 3.7/8, mb1mx3.5/15, mbtmp3.5/8, Error ellipse: s-maj=40.8km s-min=28.6km az=9.0*
*NEIC **25** 14:54:50.1±2.1, 2490S×17975E, h555km±24km, mb4.4/5, Error ellipse: s-maj=27.7km s-min=19.0km az=207.0*
*ISCJB **25** 14:54:51.4±2.7, 249S±0.1×1796E±0.2, h585km±33km, mb4.2/11, Error ellipse: s-maj=29.5km s-min=16.6km az=125.2*
ISC 25 14:54:50.3±2.4,**250S**±01×**1798E**±02,**h562**km±27km,**n22**, σ0§**99**/18,**mb4.1**/11,**3D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.61**	**281**	P	**P**	**14 57 35.5**	**+0.5**
	0.3nm,0.3s,baz=90,slow=18,SNR=4.8						
URZ	**Urewera**	**13.42**	**189**	P	**P**	**14 57 42.8**	**-0.5**
	0.8nm,0.3s,baz=301,slow=5.4,SNR=6.1						
URZ				S	**S**	**15 00 05.2**	**-0.4**
	0.5nm,0.3s,baz=224,slow=21,SNR=9.0						
CTA	**Charters Tower**	**31.33**	**272**⇓	*i*P	**P**	**15 00 25.8**	**+0.5**
	11nm,0.3s,mb4.9						
CTA	**Charters Tower**	**31.33**	**272**	P	**P**	**15 00 25.5**	**+0.2**
	16nm,0.4s,mb5.0,baz=95,slow=12,SNR=23						
CTAO	**Charters Tower**	**31.33**	**272**	*e*P	**P**	**15 00 25.9**	**+0.6**
	9.8nm,1.4s,mb4.2						
STKA	**Stephens Creek**	**34.17**	**250**⇓	*i*P	**P**	**15 00 50.3**	**+1.0**
	1.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**34.17**	**250**	P	**P**	**15 00 50.3**	**+1.1**
	2.0nm,0.6s,mb3.8,baz=91,slow=11,SNR=16						
PMG	**Port Moresby**	**34.71**	**291**	*e*P	**P**	**15 00 53.3**	**-0.4**
	15nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**41.70**	**262**	P	**P**	**15 01 51.0**	**+0.6**
	1.4nm,0.3s,mb3.9,baz=95,slow=7.6,SNR=113						
WB2	**Warramunga Arr**	**42.16**	**267**⇓	*i*P	**P**	**15 01 53.9**	**-0.2**
WRA	**Warramunga Arr**	**42.17**	**267**	P	**P**	**15 01 54.1**	**-0.1**
	4.9nm,0.3s,mb4.5,baz=100,slow=6.8,SNR=130						
KAKA	**Kakadu**	**46.25**	**276**	*e*P	**P**	**15 02 25.0**	**-0.5**
	3.6nm,0.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.58**	**267**	*e*P	**P**	**15 02 58.5**	**+0.8**
	8.8nm,0.6s,mb4.3						
JOW	**Kunigami**	**71.60**	**312**	P	**P**	**15 05 12.5**	**-2.7**
	24nm,0.4s,mb5.0,baz=137,slow=25,SNR=4.7						
MJAR	**Matsushiro Arr**	**72.71**	**326**	P	**P**	**15 05 20.1**	**-1.5**
	1.8nm,0.7s,mb3.6,baz=157,slow=6.8,SNR=4.6						
KSRS	**Korea Array**	**78.98**	**320**	P	**P**	**15 05 56.4**	**+0.1**
	0.7nm,0.6s,mb3.1,baz=125,slow=5.5,SNR=4.7						
TXAR	**Lajitas Array**	**91.16**	**58**	P	**P**	**15 06 58.0**	**+2.5**
	0.4nm,0.8s,mb3.4,baz=217,slow=6.1,SNR=4.2						
BVAR	**Borovoye Array**	**121.15**	**318**	PKP	PKPdf	15 12 40.2	+0.7
	0.4nm,0.4s,baz=82,slow=1.8,SNR=4.3						
ARCES	**ARCESS Array B**	**132.93**	**348**	PKP	PKPdf	15 13 01.7	-0.2
	8.3nm,1.1s,baz=42,slow=2.8,SNR=3.4						
HFS	**Hagfors**	**143.59**	**348**	PKP	PKPdf	15 13 19.8	-1.6
	1.7nm,0.4s,baz=66,slow=3.6,SNR=17						
AKASG	**Malin Array Be**	**145.79**	**326**	PKPbc	PKPbc	15 13 26.8	-0.1
	0.6nm,0.3s,baz=45,slow=4.2,SNR=7.1						
BRTR	**Keskin Array B**	**148.09**	**306**	PKPbc	PKPbc	15 13 34.4	+1.4
	0.5nm,0.4s,baz=63,slow=0.6,SNR=2.4						

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*SZGRF **25** 14:56:49.8, 3347N×22.10E, h33km, mb3.8, Central Mediterranean Sea*
*MOS **25** 14:56:51.5±1.6, 3410N×2238E, h35km, mb4.3/8, Error ellipse: s-maj=8.6km s-min=3.9km az=111.5*
*IDC **25** 14:56:52.5±1.1, 3473N×2252E, h0km, mb3.8/14, mb1 3.9/18, mb1mx3.8/28, mbtmp3.8/18, ML3.3/4, MS3.4/4, Ms1 3.4/4, ms1mx2.9/39, Error ellipse: s-maj=24.3km s-min=15.4km az=170.0*
*HLW **25** 14:56:53.9, 3491N×2258E, h33km, Mb3.6*
*ISCJB **25** 14:56:54.0±1.0, 3454N±004×2247E±004, h28km±7km, mb3.8/18, MS3.4/4, Error ellipse: s-maj=7.7km s-min=4.1km az=85.7*
*CSEM **25** 14:56:55.6±0.1, 3455N×2242E, h49km±1km, mb4.2/5, Error ellipse: s-maj=3.4km s-min=2.2km az=43.0*
*NEIC **25** 14:56:57.6±1.1, 3458N×2246E, h42km±10km, mb4.1/27, MD4.1(ATH), Error ellipse: s-maj=13.2km s-min=6.5km az=194.0*
*ATH **25** 14:57:00.5, 3504N×2284E, h14km±9km, MD4.1/8*
ISC 25 14:56:53.4±1.0,**3458N**±003×**2248E**±003,**h8**km±6km,**n164**, σ1§**28**/175,**mb3.8**/18,**MS3.4**/4,**4D**,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.35**	**78**	*e*PG	**Pg**	**14 57 20.0**	**+0.7**
VAM	**Vamos**	**1.64**	**59**	*e*PB	**Pb**	**14 57 22.8**	**-1.0**
KYTH	**Kithira**	**1.76**	**15**	*e*PB	**Pb**	**14 57 25.0**	**-0.9**
SIVA	**Sivas**	**1.97**	**76**	P	**Pb**	**14 57 30.3**	**+0.9**
IDI	**Anoyia**	**2.10**	**70**	Pn	**Pn**	**14 57 29.9**	**+1.0**
	3.8nm,0.3s,baz=274,slow=15,SNR=27						
VLI	**Veliai**	**2.17**	**10**	*e*PG	**Pg**	**14 57 32.5**	**-2.5**
ITM	**Ithomi**	**2.64**	**350**	*e*PG	**Pg**	**14 57 42.3**	**-1.6**
ITM	**Ithomi**	**2.64**	**350**	P	**Pn**	**14 57 38.3**	**+2.1**
ITM				Pg	**Pg**	**14 57 42.3**	**-1.6**
NPS	**Neapolis**	**2.67**	**74**	*e*PN	**Pb**	**14 57 40.5**	**-0.8**
NAIG	**Nisos Aigina**	**3.28**	**14**	*e*PN	**Pn**	**14 57 45.5**	**+0.5**
RLS	**Riolos of Patr**	**3.57**	**347**	*e*PN	**Pn**	**14 57 50.4**	**+1.4**
PTL	**Penteli**	**3.64**	**17**	*e*PN	**Pn**	**14 57 50.0**	**0.0**
SLUM		**3.84**	**142**	⇓P	**Pn**	**14 57 53.8**	**+1.1**
SLUM				S	**Sn**	**14 58 37.5**	**-0.5**
LKR	**Lokris**	**4.09**	**6**	*e*PN	**Pn**	**14 57 56.5**	**+0.3**
EVR	**Evrytania**	**4.37**	**353**	*e*PN	**Pn**	**14 58 02.7**	**+2.7**
HMAT	**Matruh**	**5.21**	**130**	⇓P	**Pn**	**14 58 12.2**	**+0.6**
JAN	**Janina**	**5.24**	**346**	⇓P	**Pn**	**14 58 13.9**	**+2.0**
SWA1		**5.96**	**152**	⇓P	**Pn**	**14 58 23.8**	**+1.9**
SWA1				S	**Sn**	**14 59 29.6**	**-0.8**
BIA	**Bitola**	**6.50**	**352**	*i* Pn	**Pn**	**14 58 28.6**	**-0.7**
BIA				*i* Sn	**Sn**	**14 59 40.1**	**-3.5**
BIA	**Bitola**	**6.50**	**352**	*i* Pn	**Pn**	**14 58 28.6**	**-0.7**
BIA				*i* Sn	**Sn**	**14 59 40.1**	**-3.5**
BIA	**Bitola**	**6.50**	**352**	*i* Pn	**Pn**	**14 58 28.6**	**-0.7**
BIA				*i* Sn	**Sn**	**14 59 40.0**	**-3.6**
KRUS	**Krusevo**	**6.85**	**352**	*i* Pn	**Pn**	**14 58 35.0**	**+0.9**
KRUS				*i* Sn	**Sn**	**14 59 48.2**	**-4.1**
KRUS	**Krusevo**	**6.85**	**352**	*i* Pn	**Pn**	**14 58 35.0**	**+0.9**
KRUS				*i* Sn	**Sn**	**14 59 48.2**	**-4.1**
KRUS	**Krusevo**	**6.85**	**352**	*i* Pn	**Pn**	**14 58 34.9**	**+0.8**
KRUS				*i* Sn	**Sn**	**14 59 48.2**	**-4.1**
AMAG	**Maghara**	**9.86**	**110**	P	**Pn**	**14 59 15.0**	**-0.4**
BRTR	**Keskin Array B**	**10.28**	**57**	Pn	**Pn**	**14 59 21.0**	**-0.2**
	0.1nm,0.3s,baz=256,slow=12,SNR=5.2						
MMAI	**Mount Meron Ar**	**10.87**	**95**	Pn	**Pn**	**14 59 28.6**	**-0.6**
	0.6nm,0.3s,baz=289,slow=10,SNR=3.2						
MMAI				LR	LR	15 04 40.8	
	comp=Z,50nm,20.8s,baz=270,slow=43						
STHS	**Stebnicka Huta**	**14.86**	**357**	*e*PN	**Pn**	**15 00 31.2**	**+7.5**
STHS	**Stebnicka Huta**	**14.86**	**357**	*e*Pn	**Pn**	**15 00 31.2**	**+7.5**
FRF	**La Foret Royal**	**15.20**	**311**	*e*P	**Pn**	**15 00 26.6**	**-1.7**
ANN	**Anapa**	**15.36**	**44**	*e*P	**Pn**	**15 00 26.1**	**-4.3**
ANN				*e*		15 00 40.4	
ANN	**Anapa**	**15.36**	**44**	*e*P	**Pn**	**15 00 26.1**	**-4.3**
ANN				pmax	pmax		
	comp=Z,126nm,1.4s						
OKC	**Ostrava-Krasne**	**15.58**	**350**	*e*P	**Pn**	**15 00 38.3**	**+5.0**
OKC	**Ostrava-Krasne**	**15.58**	**350**	*e*P	**Pn**	**15 00 38.3**	**+5.0**
TREC	**Trest**	**15.59**	**343**	*e*P	**Pn**	**15 00 38.0**	**+4.6**
GERES	**GERESS Array B**	**15.68**	**338**	Pn	**Pn**	**15 00 31.4**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=6.3						
MBDF	**Montbardon**	**15.76**	**315**	*e*P	**Pn**	**15 00 34.6**	**-1.0**
	comp=Z,20nm,1.0s						
MBDF	**Montbardon**	**15.76**	**315**	*e*P	**Pn**	**15 00 34.6**	**-1.0**
MBDF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MBDF	**Montbardon**	**15.76**	**315**	*e*P	**Pn**	**15 00 34.6**	**-1.0**
	comp=Z,9.9nm,1.0s						
FUR	**Furstenfeldbru**	**15.95**	**332**	*e*P	**Pn**	**15 00 42.6**	**+4.6**
	comp=Z,23nm,0.8s						
FUR	**Furstenfeldbru**	**15.95**	**332**	*e*P	**Pn**	**15 00 42.6**	**+4.6**
FUR				pmax	pmax		
	comp=Z,23nm,0.8s						
KHC	**Kasperske Hory**	**15.97**	**338**	*e*P	**Pn**	**15 00 42.9**	**+4.6**
KHC	**Kasperske Hory**	**15.97**	**338**	*e*P	**Pn**	**15 00 42.9**	**+4.6**
WET	**Wettzell**	**16.20**	**337**	*e*P	**Pn**	**15 00 45.1**	**+3.8**
	comp=Z,17nm,1.3s						
WET	**Wettzell**	**16.20**	**337**	*e*P	**Pn**	**15 00 45.1**	**+3.8**
	comp=Z,17nm,1.3s						
LPG	**La Plagne**	**16.22**	**317**	*e*P	**Pn**	**15 00 41.0**	**-0.6**
ORIF	**Oris-en-Rattie**	**16.39**	**314**	*e*P	**Pn**	**15 00 43.5**	**-0.2**
DPC	**Dobruska-Polom**	**16.40**	**346**	*e*P	**Pn**	**15 00 47.4**	**+3.6**
PRU	**Pruhonice**	**16.47**	**342**	*e*P	**Pn**	**15 00 44.8**	**+0.1**
PRU	**Pruhonice**	**16.47**	**342**	*e*P	**Pn**	**15 00 44.8**	**+0.1**
PRU	**Pruhonice**	**16.47**	**342**	*e*P	**Pn**	**15 00 44.8**	**+0.1**
UPC	**Upice**	**16.61**	**345**	*e*P	**Pn**	**15 00 49.6**	**+3.1**
AKASG	**Malin Array Be**	**16.85**	**15**	Pn	**Pn**	**15 00 44.5**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=2.5						
AKASG	**Malin Array Be**	**16.85**	**15**	*i* P	**Pn**	**15 00 53.2**	**+3.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSP	**Ksiaz**	**16.87**	**346**	*e*P	**Pn**	**15 00 49.9**	**+0.1**
ROTZ	**Rotzenmuhle**	**16.96**	**337**	*e*P	**Pn**	**15 00 53.6**	**+2.7**
	comp=Z,8.0nm,1.0s						
PVCC	**Panska Ves**	**16.96**	**342**	*e*P	**Pn**	**15 00 53.6**	**+2.7**
VIVF	**Saint-Julien-l**	**17.09**	**312**	*e*P	**Pn**	**15 00 52.0**	**-0.5**
MANZ	**Mandarg**	**17.18**	**337**	*e*P	**Pn**	**15 00 57.2**	**+3.5**
	comp=Z,22nm,1.4s						
GRA1	**Grafenberg Arr**	**17.23**	**335**	*e*P	**Pn**	**15 00 56.9**	**+2.6**
	comp=Z,54nm,1.5s						
GRF	**Grafenberg Arr**	**17.23**	**335**	*e*P	**Pn**	**15 00 56.9**	**+2.6**
	comp=Z,54nm,1.5s						
GRF	**Grafenberg Arr**	**17.23**	**335**	*e*P	**Pn**	**15 00 56.9**	**+2.6**
	comp=Z,54nm,1.5s						
GRF	**Grafenberg Arr**	**17.23**	**335**	*e*P	**Pn**	**15 00 56.9**	**+2.6**
	comp=Z,54nm,1.5s						
NKC	**Novy Kostel**	**17.29**	**338**	*e*P	**Pn**	**15 00 58.1**	**+3.1**
BFO	**Black Forest**	**17.32**	**327**	*e*P	**Pn**	**15 00 55.5**	**+0.1**
	comp=Z,8.0nm,1.2s						
BFO	**Black Forest**	**17.32**	**327**	*e*P	**Pn**	**15 00 55.5**	**+0.1**
	comp=Z,8.0nm,1.2s						
BFO	**Black Forest**	**17.32**	**327**	*e*P	**Pn**	**15 00 55.5**	**+0.1**
	comp=Z,8.0nm,1.2s						
WERN	**Wernitzgruen**	**17.36**	**338**	*e*P	**Pn**	**15 00 58.4**	**+2.5**
	comp=Z,10.0nm,1.2s						
GUNZ	**Gunzen**	**17.44**	**338**	*e*P	**Pn**	**15 01 00.6**	**+3.7**
	comp=Z,13nm,1.2s						
TANN	**Tannenbergstha**	**17

ETSF				pmax	pmax	
	comp=Z,22nm,1.5s					
ETSF	**Etsaut**	**19.76**	**302**	*e*P	**Pn**	**15 01 24.0 -1.2**
	comp=Z,22nm,1.5s					
GIVF	**Givet**	**20.20**	**326**	*e*P	**P**	**15 01 29.0 +0.5**
	comp=Z,18nm,0.9s					
GIVF	**Givet**	**20.20**	**326**	*e*P	**P**	**15 01 29.0 +0.5**
GIVF				pmax	pmax	
	comp=Z,9.0nm,0.9s					
GIVF	**Givet**	**20.20**	**326**	*e*P	**P**	**15 01 29.0 +0.5**
	comp=Z,8.9nm,0.9s					
SJPF	**Ste Jean**	**20.29**	**302**	*e*P	**P**	**15 01 31.1 +1.6**
	comp=Z,34nm,1.0s					
SJPF	**Ste Jean**	**20.29**	**302**	*e*P	**P**	**15 01 31.1 +1.6**
SJPF				pmax	pmax	
	comp=Z,17nm,1.0s					
SJPF	**Ste Jean**	**20.29**	**302**	*e*P	**P**	**15 01 31.1 +1.6**
	comp=Z,17nm,1.0s					
DOU	**Dourbes**	**20.30**	**325**	P	**P**	**15 01 30.2 +0.6**
DOU	**Dourbes**	**20.30**	**325**	P	**P**	**15 01 30.1 +0.5**
BAIF	**Baives**	**20.46**	**325**	*e*P	**P**	**15 01 31.5 +0.2**
	comp=Z,32nm,1.4s					
BAIF	**Baives**	**20.46**	**325**	*e*P	**P**	**15 01 31.5 +0.2**
BAIF				pmax	pmax	
	comp=Z,16nm,1.4s					
BAIF	**Baives**	**20.46**	**325**	*e*P	**P**	**15 01 31.5 +0.2**
	comp=Z,16nm,1.4s					
ESDC	**Sonseca Array**	**21.65**	**291**	P	**P**	**15 01 44.8 +0.6**
	comp=Z,2.1nm,0.8s,mb3.6,baz=93,slow=11,SNR=11					
LDF	**La Druitiere**	**21.85**	**317**	*e*P	**P**	**15 01 45.7 -0.6**
	comp=Z,44nm,1.5s,mb4.4					
LDF	**La Druitiere**	**21.85**	**317**	*e*P	**P**	**15 01 45.7 -0.6**
LDF				pmax	pmax	
	comp=Z,22nm,1.5s,mb4.4					
LDF	**La Druitiere**	**21.85**	**317**	*e*P	**P**	**15 01 45.7 -0.6**
	comp=Z,22nm,1.5s,mb4.4					
FLN	**La Foliniere**	**22.14**	**317**	*e*P	**P**	**15 01 49.0 -0.4**
	comp=Z,24nm,1.1s,mb4.2					
FLN	**La Foliniere**	**22.14**	**317**	*e*P	**P**	**15 01 49.0 -0.4**
FLN				pmax	pmax	
	comp=Z,12nm,1.1s,mb4.2					
FLN	**La Foliniere**	**22.14**	**317**	*e*P	**P**	**15 01 49.0 -0.4**
	comp=Z,12nm,1.1s,mb4.2					
MDT	**Midelt**	**22.59**	**273**	P	**P**	**15 01 55.3 +1.1**
	comp=Z,3.7nm,0.9s,mb3.8,baz=90,slow=9.9,SNR=8.4					
OBN	**Obninsk**	**22.75**	**21⇓**	*e*P	**P**	**15 01 53.2 -2.7**
OBN				*e*S	**S**	**15 06 05.2 0.0**
OBN				pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.0					
OBN				MLR	MLR	
	comp=Z,100nm,17.0s,MS3.3					
OBN	**Obninsk**	**22.75**	**21**	*e*P	**P**	**15 01 53.2 -2.7**
	comp=Z,7.0nm,1.1s,mb4.0					
ROSF	**Rostrenen**	**23.56**	**314**	*e*P	**P**	**15 02 03.8 -0.6**
	comp=Z,44nm,1.3s,mb4.4					
ROSF	**Rostrenen**	**23.56**	**314**	*e*P	**P**	**15 02 03.8 -0.6**
ROSF				pmax	pmax	
	comp=Z,22nm,1.3s,mb4.4					
ROSF	**Rostrenen**	**23.56**	**314**	*e*P	**P**	**15 02 03.8 -0.6**
	comp=Z,22nm,1.3s,mb4.4					
HFS	**Hagfors**	**26.21**	**350**	P	**P**	**15 02 27.6 -0.9**
	comp=Z,2.0nm,0.7s,mb3.8,baz=148,slow=12,SNR=9.0					
HFS				LR	LR	15 12 49.3
	comp=Z,86nm,19.7s,MS3.3,baz=48,slow=37					
KONO	**Kongsberg**	**26.48**	**345**	*e*P	**P**	**15 02 31.6 +0.6**
FINES	**FINESS Array B**	**26.99**	**4**	P	**P**	**15 02 34.4 -1.2**
	comp=Z,3.4nm,1.1s,mb3.8,baz=185,slow=9.6,SNR=2.9					
FINES				LR	LR	15 12 57.7
	comp=Z,96nm,18.2s,MS3.4,baz=342,slow=36					
EKA	**Eskdalemuir Ar**	**27.29**	**327**	P	**P**	**15 02 38.3 -0.1**
	comp=Z,3.2nm,0.9s,mb3.8,baz=133,slow=9.3,SNR=5.7					
NOA	**NORSAR Array B**	**27.46**	**348**	P	**P**	**15 02 38.4 -1.4**
	comp=Z,1.3nm,0.9s,mb3.5,baz=173,slow=13,SNR=2.8					
TORD	**Torodi Ar. Bea**	**28.46**	**227**	P	**P**	**15 02 50.2 +1.5**
	comp=Z,0.8nm,0.7s,mb3.4,baz=31,slow=7.1,SNR=7.5					
TORD	**Torodi Ar. Bea**	**28.46**	**227**	P	**P**	**15 02 50.2 +1.5**
AKTK	**Aktyubinsk**	**30.27**	**48**	P	**P**	**15 03 04.8 0.0**
AKTK	**Aktyubinsk**	**30.27**	**48**	P	**P**	**15 03 04.8 0.0**
AKTO	**Aktyubinsk**	**30.27**	**48**	P	**P**	**15 03 04.8 0.0**
	comp=Z,0.7nm,0.7s,mb3.5,baz=338,slow=11,SNR=2.4					
ARCES	**ARCESS Array B**	**35.05**	**2**	P	**P**	**15 03 45.6 -1.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=172,slow=9.8,SNR=5.4					
ARCES				LR	LR	15 20 11.6
	comp=Z,147nm,18.8s,MS3.8,baz=218,slow=40					
BVAR	**Borovoye Array**	**38.34**	**46**	P	**P**	**15 04 13.7 -1.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=294,slow=7.1,SNR=2.9					
KURK	**Kurchatov**	**43.26**	**50**	*e*P	**P**	**15 04 54.7 -0.5**
NVS	**Novosibirsk**	**46.05**	**45**	*e*P	**P**	**15 05 15.7 -1.9**
ZAL	**Zalesovo**	**46.98**	**46**	P	**P**	**15 05 22.6 -2.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=193,slow=6.3,SNR=4.2					
ZAL	**Zalesovo**	**46.98**	**46**	*i* P	**P**	**15 05 24.8 0.0**
ZAL				pmax	pmax	
	comp=Z,1.0nm,0.5s					
ZAL	**Zalesovo**	**46.98**	**46**	*i* P	**P**	**15 05 24.8 0.0**
	comp=Z,1.0nm,0.5s,mb4.0					
SONM	**Songino Array**	**61.55**	**50**	P	**P**	**15 07 10.0 -1.0**
	comp=Z,0.4nm,0.7s,mb3.6,baz=292,slow=7.6,SNR=3.5					
YKA	**Yellowknife Ar**	**77.31**	**341**	P	**P**	**15 08 48.0 -0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=36,slow=5.6,SNR=9.6					
YKA	**Yellowknife Ar**	**77.31**	**341**	P	**P**	**15 08 48.0 -0.4**
YKA	**Yellowknife Ar**	**77.31**	**341**	*e*P	**P**	**15 08 48.2 -0.2**
KSRS	**Korea Array**	**80.38**	**51**	P	**P**	**15 09 04.8 -0.5**
	comp=Z,0.9nm,0.9s,mb3.7,baz=292,slow=42,SNR=3.5					

NIED ***25*** *15:37:00,46.80N×153.00E,h32km,Mw4.5 Best double couple: M0:5.41000×10^15 NP1:φ0=224.00000°,δ=54.00000°, λ=127.00000°. NP2:φ0=353.00000°,δ=50.00000°,λ=51.00000°.*
BJI ***25*** *15:37:36.9,47.01N×135.56E,h6km,mB4.6,mb4.5,Ms4.0, Msz3.8*
IDC ***25*** *15:37:42.0±0.4,47.00N×152.69E,h0km,mb4.5/25, mb1 4.7/26,mb1mx4.7/28,mbtmp4.5/26,ML4.0/1,MS3.8/12, Ms1 3.8/12,ms1mx3.7/23,Error ellipse: s-maj=15.1km s-min=12.2km az=133.0*
NEIC ***25*** *15:37:43.7±0.2,47.01N×152.75E,h10km,mb4.8/66, MS4.4/3,Error ellipse: s-maj=6.3km s-min=4.0km az=152.0*
JMA ***25*** *15:37:47.8±0.8,46.83N×153.03E,h30km,M5.0*
MOS ***25*** *15:37:47.8±0.9,47.00N×152.79E,h51km,mb5.0/48,Error ellipse: s-maj=8.8km s-min=5.0km az=102.2*
ISCJB ***25*** *15:37:48.7±0.5,46.85N±0.04×152.75E±0.03,h64km±5km, mb4.7/104,Error ellipse: s-maj=6.6km s-min=3.2km az=158.3*
SKHL ***25*** *15:37:48.8±2.3,46.70N×153.10E,h74km±6km,mb5.2/5, ms4.0/2*
SZGRF ***25*** *15:37:50.8,47.37N×152.40E,h33km,mb4.9,Kuril Islands, Russia*

ISC 25 15:37:50.7±0.5,4699N±004×15263E±003,h64km±4km, h64km±5.7km:pP-P,n495,σ0=92/510,mb4.7/104,134C-82D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.75**	**244⇑**	*i*PN	**Pn**	**15 38 48.0**	**+2.0**
KUR				*i* S	**Sn**	**15 39 33.0**	**+4.1**
KUR				pmax	pmax		
	comp=Z,2μm,1.6s						
KUR				pmax	pmax		
	comp=N,370nm,0.7s						
KUR				pmax	pmax		
	comp=E,170nm,0.7s						
KUR				pmax	pmax		
	comp=Z,430nm,0.7s						
KUR				smax			
	comp=N,2μm,0.8s						
KUR				smax			
	comp=E,1μm,0.8s						
KUR				smax			
	comp=N,6μm,1.6s						
KUR				smax			
	comp=E,4μm,1.6s						
KUR	**Kuril'sk**	**3.75**	**244**	*i* P	**Pn**	**15 38 48.0**	**+2.0**
KUR				AMB	AMB	15 38 48.6	
	comp=E,2μm,1.6s						
KUR				AMB	AMB	15 38 57.0	
	comp=E,370nm,0.7s						
KUR				AMB	AMB	15 38 57.0	
	comp=E,170nm,0.7s						
KUR				AMB	AMB	15 38 57.0	
	comp=E,430nm,0.7s						
KUR				*i* S	**Sn**	**15 39 33.0**	**+4.1**
KUR				A		15 39 45.2	
	comp=E,2μm,0.8s						
KUR				A		15 39 45.2	
	comp=E,1μm,0.8s						
KUR				A		15 39 52.0	
	comp=E,6μm,1.6s						
KUR				A		15 39 52.0	
	comp=E,4μm,1.6s						
SKR	**Severo-Kuril's**	**4.36**	**31**	*e*PN	**Pn**	**15 38 53.5**	**-0.8**
SKR				*e*S	**Sn**	**15 39 39.5**	**-4.3**
SKR				pmax	pmax		
	comp=Z,140nm,0.6s						
SKR				smax			
	comp=N,550nm,0.3s						
SKR				smax			
	comp=E,450nm,0.5s						
SKR	**Severo-Kuril's**	**4.36**	**31**	*e*P	**Pn**	**15 38 53.5**	**-0.8**
SKR				AMB	AMB	15 38 55.7	
	comp=E,140nm,0.6s						
SKR				*e*S	**Sn**	**15 39 39.5**	**-4.3**
SKR				A		15 39 47.5	
	comp=E,550nm,0.3s						
SKR				A		15 39 47.5	
	comp=E,450nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.60**	**241**	*e*PN	**Pn**	**15 39 12.5**	**+1.2**
YUK				*e*S	**Sn**	**15 40 16.5**	**+2.3**
YUK				pmax	pmax		
	comp=Z,170nm,0.3s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,5μm,1.0s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.60**	**241**	*e*P	**Pn**	**15 39 12.5**	**+1.2**
YUK				AMB	AMB	15 39 14.1	
	comp=E,170nm,0.3s						
YUK				*e*S	**Sn**	**15 40 16.5**	**+2.3**
YUK				A		15 40 36.5	
	comp=E,5μm,1.0s						
YUK				A		15 40 37.5	
	comp=E,380nm,0.5s						
YUK				A		15 40 37.5	
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**6.07**	**236**	P	**Pn**	**15 39 16.8**	**-0.9**
NEM2				*e*S	**Sn**	**15 40 22.8**	**-2.9**
JRA	**Rausu**	**6.09**	**243**	P	**Pn**	**15 39 20.2**	**+2.1**
JNK	**Nakash**	**6.53**	**241**	P	**Pn**	**15 39 25.6**	**+1.5**
JNK				*e*S	**Sn**	**15 40 38.1**	**+0.9**
YSS	**Yuzh-Sakhalins**	**6.75**	**273⇑**	*e*PN	**Pn**	**15 39 31.0**	**+3.8**
YSS				*e*E		15 40 48.5	
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.75**	**273**	*e*P	**Pn**	**15 39 31.1**	**+4.0**
	comp=Z,44nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.75**	**273**	*e*P	**Pn**	**15 39 31.0**	**+3.8**
YSS				AMB	AMB	15 39 33.6	
	comp=Z,90nm,1.0s						
YSS				*e*S	**Sn**	**15 40 48.5**	**+5.9**
YSS				AMS	AMS	15 42 17.0	
	comp=Z,300nm,15.0s						
YSS				AMS	AMS	15 42 17.0	
	comp=Z,500nm,15.0s						
YSS				AMS	AMS	15 42 17.0	
	comp=Z,600nm,15.0s						
JTKR	**Abashiri--Toko**	**6.83**	**247**	P	**Pn**	**15 39 30.8**	**+2.6**
JAK	**Akkeshi**	**6.89**	**237**	P	**Pn**	**15 39 28.1**	**-1.0**
JAK				*e*S	**Sn**	**15 40 41.8**	**-4.3**
JMP	**Maruseppu**	**7.16**	**249**	P	**Pn**	**15 39 35.6**	**+2.9**
PET	**Petropavlovsk**	**7.18**	**31**	*e*PN	**Pn**	**15 39 28.8**	**-4.2**
PET				pmax	pmax		
	comp=Z,66nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
JAR	**Ashorobuto**	**7.27**	**243**	P	**Pn**	**15 39 35.7**	**+1.5**
JSE	**Soyaes**	**7.29**	**257**	P	**Pn**	**15 39 38.0**	**+3.6**
UGL	**Uglegorsk**	**7.38**	**290**	*e*P	**Pn**	**15 39 40.2**	**+4.5**
UGL				AMB	AMB	15 39 42.0	
	comp=Z,140nm,0.7s						
UGL				AMB	AMB	15 39 42.5	
	comp=Z,500nm,1.4s						
UGL				AMS	AMS	15 42 43.0	
	comp=Z,500nm,16.0s						
UGL				AMS	AMS	15 42 43.0	
	comp=Z,600nm,16.0s						
JOB	**Onbets**	**7.45**	**240**	P	**Pn**	**15 39 37.1**	**+0.4**
JOB				*e*S	**Sn**	**15 40 56.7**	**-3.1**
ASAJ	**Asahikawa**	**7.60**	**251**	Pn	**Pn**	**15 39 42.8**	**+4.0**
	comp=Z,8.0nm,0.3s,baz=92,slow=14,SNR=57						
ASAJ				LR	LR	15 42 28.4	
	comp=Z,458nm,21.2s,baz=324,slow=38						
ASAJ	**Asahikawa**	**7.60**	**251**	P	**Pn**	**15 39 42.7**	**+3.9**
JKK2	**Kamakawa 2**	**7.62**	**249**	P	**Pn**	**15 39 42.2**	**+3.3**
JWK2	**Keihoku**	**7.64**	**261**	P	**Pn**	**15 39 45.1**	**+5.9**
JCH	**Churui**	**7.91**	**240**	P	**Pn**	**15 39 42.4**	**-0.5**
JCH				*e*S	**Sn**	**15 41 06.7**	**-4.2**
JFR	**Furan**	**8.06**	**245**	P	**Pn**	**15 39 47.3**	**+2.2**
JAB	**Ashibetsu**	**8.12**	**248**	P	**Pn**	**15 39 49.4**	**+3.5**
JHR	**Hokuryu**	**8.33**	**251**	P	**Pn**	**15 39 52.4**	**+3.6**
JEM	**Erimo**	**8.39**	**237**	P	**Pn**	**15 39 49.4**	**-0.2**
ERM	**Erimo**	**8.40**	**237**	*e*PN	**Pn**	**15 39 50.0**	**+0.4**
ERM	**Erimo**	**8.40**	**237**	*e*P	**Pn**	**15 39 49.8**	**+0.2**
	comp=Z,127nm,0.5s						
JBT2	**Biratori 2**	**8.41**	**244**	P	**Pn**	**15 39 50.4**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.47**	**240**	P	**Pn**	**15 39 49.5**	**-1.1**
JNBK				*e*S	**Sn**	**15 41 21.2**	**-3.4**
JEW	**Eniwo**	**8.95**	**246**	P	**Pn**	**15 39 58.7**	**+1.5**
JNB	**Noboribetsu**	**9.40**	**245**	P	**Pn**	**15 40 03.0**	**-0.4**
JNB				*e*S	**Sn**	**15 41 45.4**	**-2.1**
JKB	**Kayabe**	**9.73**	**243**	P	**Pn**	**15 40 05.9**	**-2.0**
JKB				*e*S	**Sn**	**15 41 49.2**	**-6.4**
JSH	**Shimam**	**9.94**	**249**	P	**Pn**	**15 40 11.7**	**+1.0**
JYM2	**Yakumo 2**	**10.01**	**245**	P	**Pn**	**15 40 11.0**	**-0.7**
JOT	**Ohata**	**10.02**	**240**	P	**Pn**	**15 40 09.7**	**-2.2**
JSR	**Shiriuchi**	**10.31**	**242**	P	**Pn**	**15 40 14.3**	**-1.5**
JTM	**Tenmabayashi**	**10.39**	**238**	P	**Pn**	**15 40 14.0**	**-2.8**
JTM				*e*S	**Sn**	**15 42 02.3**	**-9.3**
JANG	**Nango**	**10.41**	**235**	P	**Pn**	**15 40 13.5**	**-3.6**
JANG				*e*S	**Sn**	**15 42 01.7**	**-10**
JTH	**Tanohata**	**10.52**	**232**	P	**Pn**	**15 40 14.4**	**-4.3**
JTH				*e*S	**Sn**	**15 42 01.7**	**-13**
JOSM	**Okushiri--Mats**	**10.59**	**247**	P	**Pn**	**15 40 19.0**	**-0.6**
OFUJ	**Ofunato**	**11.25**	**229**	P	**Pn**	**15 40 24.4**	**-4.2**
JRG	**Rokugo**	**11.57**	**233**	P	**Pn**	**15 40 29.2**	**-3.8**
JOG2	**Oga 2**	**11.70**	**237**	P	**Pn**	**15 40 31.6**	**-3.1**
JIO	**Ouri**	**11.89**	**228**	P	**Pn**	**15 40 32.3**	**-5.0**
JIO				*e*S	**Sn**	**15 42 36.2**	**-12**
HABR	**Khabarovsk**	**11.93**	**284⇑**	*i*PN	**Pn**	**15 40 44.1**	**+6.2**
HABR				*e*S	**Sn**	**15 43 00.1**	**+11**
HABR				pmax	pmax		
	comp=Z,29nm,1.3s						
HABR				pmax	pmax		
	comp=Z,27nm,1.0s						
JYA	**Atsumi**	**12.65**	**233**	P	**Pn**	**15 40 44.4**	**-3.3**
JYA				*e*S	**Sn**	**15 42 59.3**	**-7.5**
MA2	**Magadan**	**12.66**	**356⇑**	*e*PN	**Pn**	**15 40 49.0**	**+1.2**
MA2				pmax	pmax		
	comp=Z,32nm,1.0s						
MA2	**Magadan**	**12.66**	**356**	*e*P	**Pn**	**15 40 49.1**	**+1.3**
	comp=Z,64nm,0.6s						
JFK	**Kawauchi**	**12.96**	**226**	P	**Pn**	**15 40 47.2**	**-4.8**
JFK				*e*S	**Sn**	**15 43 02.3**	**-12**
JFY	**Yanaizu**	**13.53**	**230**	P	**Pn**	**15 40 55.7**	**-3.9**
KLR	**Kul'dur**	**14.12**	**287**	*e*P	**Pn**	**15 41 10.7**	**+3.2**
KLR				MLR	MLR		
	comp=Z,800nm,13.0s						
MAJO	**Matsushiro**	**14.96**	**231**	*e*P	**Pn**	**15 41 14.9**	**-3.5**
MAJO				pmax	pmax		
	comp=Z,14nm,0.6s						
MAJO	**Matsushiro**	**14.96**	**231**	*e*P	**Pn**	**15 41 14.9**	**-3.5**
	comp=Z,14nm,0.6s						
MAT	**Matsushiro**	**14.96**	**231**	P	**Pn**	**15 41 15.5**	**-2.9**
MJAR	**Matsushiro Arr**	**14.96**	**231**	Pn	**Pn**	**15 41 15.4**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=28,slow=13,SNR=10						
MJAR				LR	LR	15 46 40.9	
	comp=Z,195nm,21.2s,baz=50,slow=36						
SEY	**Seymchan**	**15.98**	**360⇑**	*e*P	**Pn**	**15 41 34.5**	**+3.1**
MDJ	**Mudanjiang**	**16.23**	**270**	P	**Pn**	**15 41 36.0**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,21nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,123nm,4.0s						
MDJ				LR	LR		
	comp=N,96nm,28.1s						
MDJ				LR	LR		
	comp=E,125nm,28.1s						
MDJ				LR	LR		
	comp=Z,183nm,24.6s						
MDJ	**Mudanjiang**	**16.23**	**270**	*e*P	**Pn**	**15 41 35.4**	**+0.9**
	comp=Z,15nm,0.8s						
CN2	**Changchun**	**19.31**	**270**	*e*P	**Pn**	**15 42 08.8**	**-3.3**
CN2				*e*AP	pP	15 42 16.0	-8.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,100nm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CLNS	**Chul'man**	**19.61**	**310**	*e*P	**Pn**	**15 42 17.3**	**+1.7**
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
YAK	**Yakutsk**	**19.94**	**327**	*e*P	**Pn**	**15 42 20.2**	**+0.7**
YAK				pmax	pmax		
	comp=Z,23nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK	**Yakutsk**	**19.94**	**327**	*e*P	**Pn**	**15 42 17.7**	**-1.8**
	comp=E,23nm,0.6s						
KSRS	**Korea Array**	**20.55**	**251**	P	**P**	**15 42 24.6**	**+0.6**
	comp=E,7.6nm,0.7s,baz=58,slow=11,SNR=23						
KSRS				PcP	PcP	15 46 33.0	+0.1
	comp=E,1.9nm,0.7s,baz=355,slow=1.9,SNR=8.6						
KSRS				LR	LR	15 51 24.8	
	comp=E,100nm,18.1s,baz=60,slow=40						
SNY	**Shenyang**	**21.32**	**267**	⇑P	**P**	**15 42 33.0**	**+0.8**
SNY				S	**S**	**15 46 22.8**	**-2.5**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
SNY				AMB	AMB		
	comp=Z,125nm,5.1s						
SNY				LR	LR		
	comp=N,163nm,10.5s						
SNY				LR	LR		
	comp=E,253nm,15.0s						
SNY				LR	LR		
	comp=Z,317nm,18.6s						
INCN	**Inchon**	**21.38**	**253**	*e*P	**P**	**15 42 34.2**	**+1.4**
	comp=Z,39nm,0.8s,mb4.8						
JNU	**Nakatsue**	**21.56**	**238**	P	**P**	**15 42 35.4**	**+0.5**
	comp=Z,13nm,0.9s,mb4.4,baz=254,slow=13,SNR=3.9						
JNU				LR	LR	15 50 56.5	
	comp=Z,177nm,19.1s,baz=74,slow=37						
HIA	**Hailar**	**21.97**	**288**	*e*P	**P**	**15 42 38.9**	**-0.3**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**21.97**	**288**	*e*P	**P**	**15 42 38.9**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.0						
BILL	**Bilibino**	**22.23**	**14⇑**	*e*P	**P**	**15 42 40.2**	**-1.8**
BILL				*e*S	**S**	**15 46 40.3**	**-2.8**
BILL				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s						
BILL	**Bilibino**	**22.23**	**14**	*e*P	**P**	**15 42 39.4**	**-2.6**
	comp=Z,3.7nm,0.4s,mb4.2						
BOD	**Bodaibo**	**25.58**	**309**	*e*P	**P**	**15 43 13.0**	**-0.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb3.7						
CIT	**Chita**	**25.64**	**296**	*e*P	**P**	**15 43 11.7**	**-2.6**
TIXI	**Tiksi**	**27.14**	**344**	*e*P	**P**	**15 43 29.0**	**+1.2**
BJI	**Beijing**	**27.15**	**269**	P	**P**	**15 43 31.0**	**+3.2**
BJI				S	**S**	**15 48 12.0**	**+10**
BJI				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=N,245nm,16.7s						
BJI				LR	LR		
	comp=E,113nm,17.8s						
BJI				LR	LR		
	comp=Z,69nm,24.9s						
BJI	**Beijing**	**27.15**	**269**	P	**P**	**15 43 30.9**	**+3.1**
BJI				S	**S**	**15 48 12.1**	**+10**
BJI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
BJI				MLR	MLR		
	comp=Z,70nm,24.9s						
BJI	**Beijing**	**27.15**	**269**	P	**P**	**15 43 30.9**	**+3.1**
	comp=Z,13nm,0.8s,mb4.5						
BJI				S	**S**	**15 48 12.1**	**+10**
BJI				LR	LR		
	comp=Z,70nm,24.9s						
BJT	**Baijiatuau**	**27.16**	**269**	*e*P	**P**	**15 43 30.8**	**+2.8**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**27.16**	**269**	*e*P	**P**	**15 43 30.8**	**+2.8**
	comp=Z,8.1nm,0.6s,mb4.4						
HHC	**Hu-ho-hao-te**	**29.94**	**273**	*e*P	**P**	**15 43 54.0**	**+1.3**
HHC				XP	sP	15 44 00.5	-15
HHC				PP	PP	15 44 53.0	-8.2
HHC				S	**S**	**15 48 50.8**	**+5.1**
HHC				SCS	ScS	15 54 30.0	+4.2
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,84nm,5.6s						
HHC				LR	LR		
	comp=N,143nm,19.0s						
HHC				LR	LR		
	comp=E,280nm,19.6s						
HHC				LR	LR		
	comp=Z,191nm,18.4s						
ULN	**Ulaanbaatar**	**30.50**	**289**	*e*P	**P**	**15 43 54.8**	**-2.8**
SONM	**Songino Array**	**30.94**	**289**	P	**P**	**15 44 00.8**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.8,baz=72,slow=7.3,SNR=9.5						
SONM				PcP	PcP	15 46 56.2	-0.3
	comp=Z,0.7nm,0.7s,baz=151,slow=2.0,SNR=3.9						
SONM				LR	LR	15 57 25.0	
	comp=Z,185nm,19.4s,baz=121,slow=38						
SONM	**Songino Array**	**30.94**	**289**	P	**P**	**15 44 00.8**	**-0.7**
SONM						15 46 56.2	
ZAK	**Zakamensk**	**32.27**	**295**	*e*P	**P**	**15 44 11.4**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
TTA	**Tatalina**	**32.46**	**42**	*e*P	**P**	**15 44 14.7**	**-0.2**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
TTA	**Tatalina**	**32.46**	**42**	*e*P	**P**	**15 44 14.7**	**-0.2**
	comp=Z,9.8nm,1.1s,mb4.5						
SVW2	**Sparrev

comp=Z,266nm,19.2s,baz=67,slow=39
ZAL Zalesovo 42.21 305 *i* P **P 15 45 37.5 +0.2**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL Zalesovo 42.21 305 P **P 15 45 36.4 -1.0**
ZAL PcP PcP 15 47 30.0 -0.4
ZAL LR LR 16 05 07.0
MK31 Makanchi Array 46.53 297 *e*P **P 15 46 11.1 -0.7**
KURK Kurchatov 46.95 303⇑ *e*P **P 15 46 15.1 0.0**
KURK Kurchatov 46.95 303 *e*P **P 15 46 14.0 -1.0**
comp=Z,2.5nm,0.4s,mb4.5
LSA Lhasa 49.93 273 P **P 15 46 41.0 +3.1**
LSA Lhasa 49.93 273 *e*P **P 15 46 40.1 +2.2**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
LSA Lhasa 49.93 273 *e*P **P 15 46 40.1 +2.2**
comp=Z,8.5nm,0.6s,mb5.0
BVAR Borovoye Array 50.45 309 P **P 15 46 41.2 -0.6**
comp=Z,1.6nm,0.4s,mb4.4,baz=57,slow=7.7,SNR=15
BVAR PcP PcP 15 47 59.0 -0.3
comp=Z,3.9nm,0.4s,baz=85,slow=3.1,SNR=17
BRVK Borovoye 50.49 309 *e*P **P 15 46 42.7 +0.5**
YKA Yellowknife Ar 50.93 37 P **P 15 46 45.1 -0.4**
comp=Z,2.2nm,0.5s,mb4.3,baz=296,slow=7.1,SNR=66
YKA PcP PcP 15 48 00.2 -0.8
comp=Z,1.7nm,0.5s,baz=303,slow=3.8,SNR=16
CHTO Chiang Mai 51.85 256 *e*P **P 15 46 53.8 +1.4**
CHTO pmax pmax
comp=Z,11nm,0.8s,mb4.8
CHTO Chiang Mai 51.85 256 *e*P **P 15 46 53.8 +1.4**
comp=Z,11nm,0.8s,mb4.8
SHL Shillong 52.04 268 *i* P **P 15 46 54.0 +0.2**
AAK Ala-Archa 53.43 296⇑ *e*P **P 15 47 04.1 +0.1**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
AAK Ala-Archa 53.43 296 *e*P **P 15 47 03.5 -0.5**
comp=Z,2.6nm,0.8s,mb4.2
JIRN Jiri 54.59 274 *e*P **P 15 47 13.0 +0.5**
ARU Arti 54.61 317⇑ *i*P **P 15 47 11.8 -0.8**
ARU *e* pP 15 47 29.6 +0.3
ARU *e* 15 48 13.6
ARU *e* 15 49 11.7
ARU *e*S **S 15 54 46.9 -0.6**
ARU *e*SS SS 15 58 30.1 -0.8
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
GUN Gumba 54.65 275 *e*P **P 15 47 14.1 +1.2**
comp=Z,14nm,0.5s,mb5.2
B06A Marblemount 54.75 54 ⇑P **P 15 47 12.8 -0.9**
baz=54
A07A Ashnola River, 55.07 53 ⇑P **P 15 47 15.0 -0.9**
baz=55
KKN Kakani 55.13 275 *e*P **P 15 47 18.1 +1.7**
comp=Z,16nm,0.5s,mb5.3
KKN Kakani 55.13 275 *e*P **P 15 47 18.1 +1.7**
KKN pmax pmax
comp=Z,16nm,0.5s,mb5.3
PKI Pulchoki 55.18 275 *e*P **P 15 47 18.1 +1.3**
comp=Z,28nm,0.9s,mb5.3
PKI Pulchoki 55.18 275 *e*P **P 15 47 18.1 +1.3**
PKI pmax pmax
comp=Z,28nm,0.9s,mb5.3
DMN Daman 55.37 275 *e*P **P 15 47 19.8 +1.7**
comp=Z,45nm,0.8s,mb5.5
GKN Gorkha 55.44 275 *e*P **P 15 47 19.8 +1.2**
comp=Z,23nm,0.5s,mb5.5
B07A Winthrop 55.54 54 ⇑P **P 15 47 18.2 -1.2**
baz=55
A08A Turner Farm, O 55.73 53 ⇓P **P 15 47 19.7 -1.0**
baz=55
D06A Cle Elum 55.85 55 ⇑P **P 15 47 20.5 -1.1**
baz=56
C07A Waterville 56.01 54 ⇓P **P 15 47 21.5 -1.2**
baz=56
B08A Colville Reser 56.03 53 ⇑P **P 15 47 22.2 -0.7**
baz=56
A09A Danville 56.09 53 ⇑P **P 15 47 22.8 -0.4**
baz=56,SNR=5.8
KOLN Koldanda 56.29 276 *e*P **P 15 47 25.8 +1.1**
comp=Z,21nm,0.8s,mb5.2
D07A Quincy 56.34 55 ⇑P **P 15 47 23.9 -1.2**
baz=56
EDM Edmonton 56.39 46 *e*P **P 15 47 25.0 -0.4**
J02A Umpqua 56.45 60 ⇑P **P 15 47 25.5 -0.3**
baz=56
C08A Higginbotham F 56.52 54 ⇓P **P 15 47 25.7 -0.6**
baz=56
HNR Honiara 56.55 171 LR LR 16 06 56.0
comp=Z,48nm,19.5s,baz=188,slow=31
B09A Rice 56.65 53 ⇓P **P 15 47 26.5 -0.7**
baz=56
E07A Sunnyside 56.77 56 ⇑P **P 15 47 27.6 -0.5**
baz=56
K02A Glendale 56.85 61 ⇓P **P 15 47 26.5 -2.2**
baz=56
I04A Tendick Farm, 56.89 59 ⇓P **P 15 47 28.9 0.0**
baz=57
KEV Kevo 57.00 340 *e*p **P 15 47 27.0 -2.8**
comp=Z,18nm,1.2s,mb5.0
KEV Kevo 57.00 340 *e*P **P 15 47 27.0 -2.8**
KEV pmax pmax
comp=Z,18nm,1.2s,mb5.0
D08A Wollman Farm, 57.01 55 ⇑P **P 15 47 28.6 -1.2**
baz=57
H05A Madras 57.09 58 ⇓P **P 15 47 29.9 -0.4**
baz=57
F07A Phinny Hill Vi 57.11 56 ⇑P **P 15 47 30.7 +0.2**
baz=57
E08A Dider Farm, El 57.26 55 ⇑P **P 15 47 31.0 -0.6**
baz=57
A11A Hall Mountain, 57.30 52 ⇓P **P 15 47 32.7 +0.8**
baz=57
D09A Jones Farm, Ri 57.34 54 ⇓P **P 15 47 32.1 -0.1**
baz=57
I05A Bend 57.35 59 ⇓P **P 15 47 32.7 +0.6**
baz=57
J04A Umpqua Nationa 57.39 60 ⇓P **P 15 47 33.9 +1.4**
baz=57
C10A Spilker Farm, 57.45 53 ⇓P **P 15 47 32.5 -0.4**
baz=57
ARCES ARCESS Array B 57.52 341 P **P 15 47 32.5 -0.9**
comp=Z,12nm,1.1s,mb4.8,baz=24,slow=7.5,SNR=12
ARCES PcP PcP 15 48 25.5 -0.8
comp=Z,5.1nm,0.8s,baz=29,slow=2.8,SNR=4.6
ARCES LR LR 16 17 37.0
comp=Z,152nm,18.4s,baz=203,slow=42
ARCES ARCESS Array B 57.52 341 P **P 15 47 32.5 -0.9**
ARCES 15 48 25.5
ARCES ARCESS Array B 57.52 341 P **P 15 47 32.5 -0.9**
ARCES PcP PcP 15 48 25.5 -0.8
ARCES LR LR 16 17 37.0
H06A Lindquist Farm 57.55 58 ⇓P **P 15 47 33.1 -0.5**
baz=57
B11A Sandpoint 57.60 52 ⇑P **P 15 47 33.8 -0.2**
baz=57
G07A Ruggs Ranch, H 57.63 57 ⇓P **P 15 47 33.8 -0.4**
baz=57
A12A Yaak River Ran 57.70 51 ⇓P **P 15 47 35.0 +0.3**
baz=57
G08A Pilot Rock 58.02 56 ⇑P **P 15 47 37.0 +0.1**
baz=58
I06A Prineville 58.09 58 ⇓P **P 15 47 37.9 +0.5**
baz=58
L04A Klamath Falls 58.15 61 ⇓P **P 15 47 38.4 +0.6**
baz=58
E10A Myers Farm, Un 58.35 54 ⇑P **P 15 47 38.5 -0.7**
baz=58
K05A Summer Lake 58.42 60 ⇑P **P 15 47 40.4 +0.8**
baz=58
I07A Izee 58.42 58 ⇓P **P 15 47 39.1 -0.6**
baz=58
F10A Beach Ranch, E 58.59 55 ⇓P **P 15 47 41.1 +0.3**
baz=58
H08A Prairie City 58.64 57 ⇓P **P 15 47 40.5 -0.7**
baz=58
B13A Whitefish 58.66 51 P **P 15 47 41.4 0.0**
baz=58,SNR=8.9
WDC Whiskeytown Da 58.72 63 ⇓P **P 15 47 41.0 -0.7**
baz=58
K06A Valley Falls 58.75 59 P **P 15 47 43.0 +1.0**
baz=58,SNR=5.2
L05A Lakeview 58.86 60 ⇓P **P 15 47 43.4 +0.7**
baz=58
E11A Bogner Ranch, 58.93 54 ⇑P **P 15 47 42.8 -0.4**
baz=59
C13A Hot Springs 59.02 52 ⇓P **P 15 47 44.2 +0.3**
baz=59

M05C Lookout 59.09 61 ⇓P **P 15 47 42.9 -1.4**
baz=59
H09A Durkee 59.13 56 ⇓P **P 15 47 44.1 -0.4**
baz=59
F11A Grangeville 59.24 54 ⇓P **P 15 47 45.9 +0.6**
baz=59
MOD Modoc 59.26 60 ⇑P **P 15 47 45.2 -0.3**
baz=59
K07A Rock Creek Ran 59.41 59 ⇑P **P 15 47 46.4 -0.1**
baz=59
D13A Huson 59.44 52 ⇑P **P 15 47 46.4 -0.3**
baz=59
J08A Circle Bar Ran 59.45 58 ⇓P **P 15 47 47.2 +0.4**
baz=59
I09A Lost Marbles R 59.50 57 ⇑P **P 15 47 47.4 +0.2**
baz=59
H10A Noah's Angus R 59.69 56 P **P 15 47 48.6 +0.1**
baz=59,SNR=7.4
L07A Adell 59.76 60 ⇑P **P 15 47 48.3 -0.7**
baz=59
K08A Mann Creek Ran 59.83 58 P **P 15 47 50.4 +1.0**
baz=60,SNR=5.5
J09A Fry Pan Ranch, 59.88 58 ⇓P **P 15 47 50.0 +0.3**
baz=60
D14A Greenough 59.96 52 P **P 15 47 50.5 +0.2**
baz=60,SNR=9.5
ORV Oroville 59.97 63 ⇓P **P 15 47 49.4 -1.0**
baz=60
E13A Victor 59.98 53 ⇓P **P 15 47 50.6 +0.1**
baz=60
H11A Donnelly 60.04 55 P **P 15 47 50.9 +0.1**
baz=60,SNR=8.6
O05C Quincy 60.08 62 ⇑P **P 15 47 50.2 -0.9**
baz=60
CHMT Chamberlain Mo 60.20 52 *e*P **P 15 47 51.5 -0.5**
L08A Fields 60.24 59 ⇓P **P 15 47 53.1 +0.9**
baz=60
N06A Buffalo Meadow 60.24 61 ⇑P **P 15 47 51.9 -0.4**
baz=60
M07A Soldier Meadow 60.25 60 ⇑P **P 15 47 53.0 +0.7**
baz=60,SNR=10
K09A Rome 60.29 58 ⇑P **P 15 47 52.9 +0.3**
baz=60
F13A Darby 60.31 54 P **P 15 47 52.5 -0.2**
baz=60,SNR=5.1
E14A Clinton 60.38 53 P **P 15 47 53.4 +0.2**
baz=60,SNR=7.4
D15A Lincoln 60.52 52 ⇓P **P 15 47 54.0 -0.1**
baz=60
O06A Flanigan 60.61 61 ⇑P **P 15 47 54.6 -0.2**
baz=60
M08A Happy Creek Ra 60.68 60 ⇓P **P 15 47 55.5 +0.3**
baz=60
K10A MacKenzie Ranc 60.74 58 ⇓P **P 15 47 56.2 +0.6**
baz=60
N07B Gerlach 60.74 60 ⇑P **P 15 47 56.5 +0.8**
baz=60
L09A Wilkinson Ranc 60.74 59 ⇑P **P 15 47 56.4 +0.7**
baz=60
H12A Diamond D Ranc 60.78 55 ⇑P **P 15 47 56.9 +1.0**
baz=60
G13A Cobalt 60.79 54 P **P 15 47 55.9 -0.1**
baz=60,SNR=9.4
F14A Wisdom 60.82 53 ⇓P **P 15 47 56.2 0.0**
baz=60
E15A Deer Lodge 60.84 52 P **P 15 47 56.4 +0.1**
baz=60,SNR=6.2
LAVA Lava Cap Winer 60.93 63 ⇓P **P 15 47 56.2 -0.8**
baz=61
MFID Camas Ranch 60.94 56 ⇑P **P 15 47 56.8 -0.2**
baz=61
JOF Joensuu 60.97 333 *e*p **P 15 47 55.5 -1.7**
comp=Z,8.8nm,0.9s,mb4.9
O07A Toulon 61.18 61 P **P 15 47 59.5 +0.9**
baz=61,SNR=5.2
N08A GE Springer Mi 61.24 60 P **P 15 47 59.8 +0.7**
baz=61,SNR=5.2
M09A Marrel Ranch, 61.24 59 ⇓P **P 15 47 59.2 +0.2**
baz=61
F15A Butte 61.28 53 P **P 15 47 59.7 +0.4**
baz=61,SNR=11
EGMT Eagleton 61.36 49 ⇑P **P 15 47 59.8 0.0**
baz=61
R05C Kirkwood Meado 61.37 63 ⇓P **P 15 47 59.4 -0.5**
baz=61
J12A Stokes Ranch, 61.46 56 P **P 15 48 01.3 +0.8**
baz=61,SNR=6.1
N09A Rock Creek Ran 61.55 60 ⇓P **P 15 48 01.4 +0.2**
baz=61
CMB Columbia Colle 61.60 64 ⇓P **P 15 48 01.6 +0.2**
baz=61
HLID Hailey 61.65 56 ⇑P **P 15 48 02.6 +0.8**
baz=61
KBL Kabul 61.67 291 *e*P **P 15 48 02.2 +0.3**
PACP Pacheco Peak 61.69 65 ⇓P **P 15 48 01.5 -0.5**
baz=61
G15A Dillon 61.71 53 P **P 15 48 02.5 +0.4**
baz=61,SNR=8.5
M10A I.L. Ranch, Tu 61.71 59 P **P 15 48 03.4 +1.2**
baz=61,SNR=6.2
R06C Coleville 61.86 63 ⇑P **P 15 48 03.6 +0.4**
baz=62
J13A Cove Ranch, Pi 61.89 56 ⇑P **P 15 48 04.0 +0.6**
baz=62
HAST UC Hastings Re 61.91 66 ⇓P **P 15 48 03.4 -0.1**
baz=62
K12A Draper Farm, C 61.96 57 ⇑P **P 15 48 05.0 +1.1**
baz=62
S06C San Francisco 62.02 64 ⇑P **P 15 48 03.7 -0.6**
baz=62
S05C Merced 62.07 64 ⇑P **P 15 48 04.3 -0.3**
baz=62
O09A Fish Creek Ran 62.18 60 ⇑P **P 15 48 05.8 +0.4**
baz=62
M11A Holland Ranch, 62.21 58 ⇑P **P 15 48 06.5 +1.0**
baz=62
N10A Dunphy 62.24 59 ⇓P **P 15 48 06.6 +0.9**
baz=62
R07C Lee Vining 62.38 63 ⇓P **P 15 48 07.6 +0.9**
baz=62
QLMT Earthquake Lak 62.50 53 *e*P **P 15 48 08.2 +0.6**
O10A Cortez Mining, 62.51 60 ⇑P **P 15 48 08.2 +0.6**
baz=62
Q08A Gabbs 62.57 62 ⇑P **P 15 48 08.0 +0.1**
baz=62
NVAR Mina Array Bea 62.62 62 P **P 15 48 08.7 +0.4**
comp=Z,2.0nm,0.5s,mb4.5,baz=301,slow=6.9,SNR=15
N11A Elko Archery C 62.63 59 ⇑P **P 15 48 08.8 +0.4**
baz=62
T06C Millerton Lake 62.66 64 ⇓P **P 15 48 08.2 -0.4**
baz=62
KCC Kaiser Creek 62.70 64 ⇓P **P 15 48 09.1 +0.3**
baz=62
M12A Wells 62.72 58 P **P 15 48 10.1 +1.1**
baz=62,SNR=5.7
V04C Ramage Ranch, 62.82 66 ⇑P **P 15 48 09.6 0.0**
baz=62
PKD Parkfield 62.83 66 ⇑P **P 15 48 09.7 0.0**
baz=62
GCMT Greycliff 62.84 51 *e*P **P 15 48 10.1 +0.3**
GCMT *e* pP 15 48 26.7 0.0
P10A Eureka 62.96 60 ⇓P **P 15 48 10.9 +0.4**
baz=63
N12A Clover Valley, 63.01 58 ⇓P **P 15 48 11.5 +0.6**
baz=63
KAF Kangasniemi 63.08 335 *e*p **P 15 48 10.1 -1.3**
comp=Z,9.1nm,0.7s,mb5.0,baz=38,slow=6.1
KAF Kangasniemi 63.08 335 *e*P **P 15 48 10.1 -1.3**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
O11A Cowboy Ranch, 63.11 59 ⇓P **P 15 48 12.4 +0.8**
baz=63
VIS Vishakhapatnam 63.18 268 *e*P **P 15 48 12.5 +0.5**
VIS AMb AMB 15 48 14.1
comp=Z,19nm,0.6s,mb5.4
AJM Ajmer 63.19 281 *e*P **P 15 48 12.3 +0.2**
AJM AMb AMB 15 48 13.6
comp=Z,12nm,1.1s,mb4.9
M13A Montello 63.19 57 ⇓P **P 15 48 12.5 +0.5**
baz=63
S08C White Mtn Res 63.29 63 ⇓P **P 15 48 13.9 +1.2**
baz=63
HELL Mitchell Peak, 63.30 64 P **P 15 48 12.7 -0.1**
baz=63,SNR=6.3
BHPL Bhopal 63.46 276 *e*P **P 15 48 14.1 +0.2**
BHPL AMb AMB 15 48 15.9
comp=Z,22nm,0.7s,mb5.4
R09A Tonopah 63.48 62 P **P 15 48 14.3 +0.3**

baz=63,SNR=5.3
N13A Wendover, West 63.49 58 ⇑P **P 15 48 14.6 +0.5**
baz=63
FINES FINESS Array B 63.68 334 P **P 15 48 14.6 -0.7**
comp=Z,6.0nm,0.4s,mb5.0,baz=39,slow=7.1,SNR=90
FINES PcP PcP 15 48 50.1 -0.9
comp=Z,1.8nm,0.4s,baz=63,slow=4.4,SNR=5.8
FINES LR LR 16 22 34.9
comp=Z,98nm,18.6s,baz=156,slow=42
FINES FINESS Array B 63.68 334 P **P 15 48 14.6 -0.7**
FINES 15 48 50.2
S09A Goldfield 63.72 62 ⇓P **P 15 48 15.7 +0.1**
baz=63
NGP Nagpur 63.76 273 *e*P **P 15 48 15.3 -0.5**
NGP AMb AMB 15 48 24.3
comp=Z,12nm,1.9s,mb4.6
VES Vestal, Richgr 63.80 65 ⇓P **P 15 48 16.0 -0.1**
baz=64
R10A Warm Springs 63.91 61 ⇓P **P 15 48 17.1 +0.3**
baz=64
Q11A Duckwater 63.94 60 ⇓P **P 15 48 17.1 0.0**
baz=64
PKM Peak Mountain 63.95 66 ⇓P **P 15 48 16.8 -0.3**
baz=64
P12A McGill 63.98 59 ⇑P **P 15 48 18.4 +1.1**
baz=64
GRAC Grapevine Rang 64.10 63 ⇑P **P 15 48 18.1 0.0**
baz=64
Q12A Willow Creek R 64.30 60 ⇓P **P 15 48 20.3 +0.9**
baz=64
MPMC Manual Prospec 64.64 64 P **P 15 48 21.8 +0.2**
baz=64,SNR=5.7
DUG Dugway 64.73 58 ⇑P **P 15 48 22.5 +0.3**
baz=64
FURC Furnace Creek, 64.76 63 ⇓P **P 15 48 22.4 +0.1**
baz=64
OSI Osito Adit 64.82 66 ⇓P **P 15 48 23.0 +0.3**
baz=64
PDAR Pinedale Array 64.88 54 P **P 15 48 23.1 0.0**
comp=Z,7.0nm,0.8s,mb4.8,baz=282,slow=1.6,SNR=66
LRMC Laurel Mountai 64.90 64 ⇓P **P 15 48 23.0 -0.3**
baz=65
OBN Obninsk 64.92 325⇓ *e*P **P 15 48 22.9 -0.5**
OBN *e*S **S 15 56 57.1 -3.0**
OBN pmax pmax
comp=Z,28nm,1.9s,mb5.0
EDW2 Edwards Air Fo 65.10 65 P **P 15 48 24.8 +0.2**
baz=65,SNR=7.0
JLU Jordanelle 65.25 57 *e*P **P 15 48 25.6 +0.1**
AKL Akola 65.45 274 *e*P **P 15 48 27.8 +0.9**
AKL AMb AMB 15 48 28.7
comp=Z,17nm,1.7s,mb4.8
DAU Daniels Canyon 65.48 57 *e*P **P 15 48 27.7 +0.7**
GSC Goldstone 65.56 64 ⇑P **P 15 48 26.7 -0.9**
baz=65
BFSC Mount Baldy St 65.73 65 ⇑P **P 15 48 28.9 +0.3**
baz=65
ARUT Antelope Range 65.95 60 *e*P **P 15 48 30.0 -0.1**
TUQ Turquoise Mtn. 66.01 63 P **P 15 48 30.8 +0.4**
baz=66,SNR=5.4
V11A Goodsprings 66.04 63 ⇑P **P 15 48 30.6 -0.1**
baz=66
HEC Hector,Ludlow 66.16 64 P **P 15 48 31.7 +0.3**
baz=66,SNR=5.4
V12A Nelson 66.47 62 ⇓P **P 15 48 33.8 +0.4**
baz=66
ULM Lac du Bonnet 66.56 41 P **P 15 48 33.0 -1.0**
comp=Z,2.8nm,0.6s,mb4.5,baz=324,slow=7.7,SNR=12
GMRC Granite Mounta 66.61 64 ⇑P **P 15 48 33.8 -0.5**
baz=66
HYB Hyderabad 66.66 271 *i* P **P 15 48 35.0 +0.4**
SRU San Rafael 66.77 57 *e*P **P 15 48 35.1 -0.2**
SRU pmax pmax
comp=Z,13nm,0.8s,mb5.0
SRU San Rafael 66.77 57 *e*P **P 15 48 35.1 -0.2**
comp=Z,13nm,0.8s,mb5.0
PFO Pinyon Flat Ob 66.89 65 ⇓P **P 15 48 35.0 -1.1**
baz=67
BELC Belle Mtn. 66.92 65 ⇓P **P 15 48 35.5 -0.8**
baz=67
109C Camp Elliot, M 66.97 66 ⇓P **P 15 48 35.5 -1.0**
baz=67
IRM Iron Mountain 67.33 64 ⇑P **P 15 48 38.6 -0.3**
baz=67
W13A Hualapai Mount 67.48 62 ⇑P **P 15 48 39.3 -0.5**
baz=67
BC3 Big Chuckw Mtn 67.48 64 ⇓P **P 15 48 39.8 0.0**
baz=67
X13A Yucca 67.85 63 ⇑P **P 15 48 42.0 -0.1**
baz=68
PDMCI Parker Dam,Lak 67.86 63 ⇑P **P 15 48 42.0 -0.1**
baz=68
W14A Seligman 67.88 62 P **P 15 48 43.0 +0.6**
baz=68,SNR=7.3
NB2 NORSAR Subarra 67.89 341 P **P 15 48 41.6 -0.8**
comp=Z,14nm,0.7s,mb5.1,baz=27,slow=6.5
NOA NORSAR Array B 67.89 341 P **P 15 48 41.8 -0.6**
comp=Z,11nm,0.6s,mb5.1,baz=27,slow=6.4,SNR=46
NOA LR LR 16 26 02.3
comp=Z,67nm,18.4s,baz=305,slow=43
Y12C Blythe 67.99 64 ⇓P **P 15 48 43.6 +0.5**
baz=68
Y13A Salome 68.38 63 ⇓P **P 15 48 45.2 -0.3**
baz=68
W15A Williams 68.40 61 ⇓P **P 15 48 46.4 +0.9**
baz=68
X14A Yava 68.50 62 ⇑P **P 15 48 47.4 +1.2**
baz=68
WB2 Warramunga Arr 68.63 198 *e*P **P 15 48 46.5 -0.5**
WRA Warramunga Arr 68.63 198 P **P 15 48 46.4 -0.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=15,slow=6.7,SNR=7.4
WUAZ Wupatki 68.70 61 ⇑P **P 15 48 48.2 +0.7**
baz=68
SMCO Snowmass 68.74 55 *e*P **P 15 48 47.9 +0.1**
comp=Z,10.0nm,0.8s,mb4.8
Y14A Wickenburg 68.80 63 ⇓P **P 15 48 48.0 -0.1**
baz=68
X15A Humboldt 68.89 62 P **P 15 48 49.3 +0.7**
baz=69,SNR=5.3
ISCO Idaho Springs 69.07 54 *e*P **P 15 48 49.6 -0.1**
ISCO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ISCO Idaho Springs 69.07 54 *e*P **P 15 48 49.6 -0.1**
comp=Z,7.2nm,0.8s,mb4.7
POO Poona 69.10 275 *e*x x 15 48 47.0
FITZ Fitzroy Crossi 69.20 207 *e*P **P 15 48 51.1 +0.5**
comp=Z,14nm,1.3s,mb4.7
FITZ Fitzroy Crossi 69.20 207 P **P 15 48 51.7 +1.2**
comp=Z,3.1nm,0.7s,mb4.3,baz=26,slow=18,SNR=5.4
MVCO Mesa Verde 69.23 58 ⇓P **P 15 48 51.3 +0.6**
baz=69
KAD Karad 69.72 274 *e*P **P 15 48 54.7 +0.9**
KAD AMb AMB 15 48 55.1
comp=Z,14nm,1.1s,mb4.8
SDCO Great Sand Dun 70.57 55 *e*P **P 15 48 58.9 0.0**
comp=Z,2.9nm,1.0s,mb4.2
SUW Suwalki 70.62 331 *e*P **P 15 48 58.4 -0.9**
AKASG Malin Array Be 71.16 326 P **P 15 49 01.8 -0.7**
comp=Z,10nm,0.4s,mb5.1,baz=33,slow=6.2,SNR=54
ANMO Albuquerque 71.99 58⇑ *e*P **P 15 49 07.0 -0.5**
SOC Sochi 72.11 315 *e*P **P 15 49 08.3 0.0**
SOC *e* pP 15 49 25.9 +0.3
SOC *e*PPP 15 53 40.5
SOC *e*S S 15 58 25.2 -0.3
SOC *e* 15 58 57.6
SOC *e*SSS 16 06 23.1
SOC pmax pmax
comp=Z,156nm,1.3s,mb5.8
ASAR Alice Springs 72.33 198 P **P 15 49 10.2 +0.6**
comp=Z,3.8nm,0.7s,mb4.4,baz=12,slow=6.1,SNR=70
KOD Kodaikanal 72.47 266 *e*P **P 15 49 10.5 +0.1**
KOD AMb AMB 15 49 12.4
comp=Z,17nm,1.5s,mb4.8
SCHQ Schefferville 73.22 23 P **P 15 49 14.0 -0.8**
comp=Z,1.7nm,0.7s,mb4.1,baz=6.4,slow=19,SNR=5.1
KWP Kalwaria 74.44 329 *e*P **P 15 49 22.6 +0.6**
OJC Ojcow 74.95 331 *e*P **P 15 49 24.8 -0.1**
STHS Stebnicka Huta 75.14 330 *e*P **P 15 49 26.9 +0.9**
STHS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
STHS Stebnicka Huta 75.14 330 *e*P **P 15 49 26.9 +0.9**
comp=Z,7.5nm,0.7s,mb4.7
KOLS Kolonicke sedl 75.19 329 *e*P **P 15 49 26.5 +0.2**
BURAR Bucovina Array 75.20 326⇑ *i*P **P 15 49 26.5 +0.1**
NIE Niedzica 75.46 330 *e*P **P 15 49 28.4 +0.6**
CRVS Cervenica-Dubn 75.50 329 *e*P **P 15 49 28.3 +0.2**
CRVS Cervenica-Dubn 75.50 329 *e*P **P 15 49 28.4 +0.3**

KSP **Ksiaz** 75.54 333 *e*P P 15 49 28.3 0.0
KSP **Ksiaz** 75.54 333 *e*P P 15 49 27.8 -0.5
UPC **Upice** 75.92 333⇓*e*P P 15 49 30.0 -0.5
DPC **Dobruska-Polom** 75.96 333⇓*i*P P 15 49 31.1 +0.4
MORC **Moravsky Berou** 76.07 332⇑*i*P P 15 49 31.5 +0.2
CLL **Collm** 76.11 335⇑*i*P P 15 49 30.8 -0.7
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLL **Collm** 76.11 335⇑*i*P P 15 49 30.8 -0.7
comp=Z,13nm,0.9s,mb4.9
KECS **Kecovo** 76.20 329 *e*P P 15 49 31.7 -0.3
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS **Kecovo** 76.20 329 *e*P P 15 49 31.7 -0.3
comp=Z,2.9nm,1.0s,mb4.2
BRG **Berggiesshubel** 76.22 334 *e*P P 15 49 30.9 -1.3
comp=Z,4.3nm,1.2s,mb4.2
BRG **Berggiesshubel** 76.22 334 *e*P P 15 49 30.9 -1.3
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
MLR **Muntele Rosu** 76.67 325 P P 15 49 35.8 +1.0
comp=Z,9.0nm,0.5s,mb4.9,baz=182,slow=1.8,SNR=12
MLR **Muntele Rosu** 76.67 325⇑P P 15 49 35.8 +1.1
MLR **Muntele Rosu** 76.67 325⇑*i*P P 15 49 35.8 +1.1
MALT **Malatya** 76.74 313⇑*i*P P 15 49 36.9 +1.8
VYHS **Vyhne** 76.75 330 *e*P P 15 49 35.3 +0.1
VYHS pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
VYHS **Vyhne** 76.75 330 *e*P P 15 49 35.3 +0.1
comp=Z,3.0nm,0.6s,mb4.4
VRAC **Vranov** 76.78 332⇑*i*P P 15 49 35.7 +0.3
PRU **Pruhonice** 76.82 334⇓*i*P P 15 49 35.6 0.0
PSZ **Piszkesteto** 76.89 330⇓*i*P P 15 49 36.7 +0.8
VOIR 77.07 325⇑*i*P P 15 49 38.0 +1.0
MOX **Moxa** 77.09 336 *e*P P 15 49 36.8 -0.3
comp=Z,25nm,1.8s,mb4.8
MOX **Moxa** 77.09 336 *e*P P 15 49 36.8 -0.3
MOX pmax pmax
comp=Z,25nm,1.8s,mb4.8
TREC **Trest** 77.14 333⇓*e*P P 15 49 37.2 -0.2
NKC **Novy Kostel** 77.23 335⇓*e*P P 15 49 37.4 -0.4
ZST **Bratislava** 77.59 331 *e*P P 15 49 40.7 +0.8
ZST pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZST **Bratislava** 77.59 331 *e*P P 15 49 40.7 +0.8
comp=Z,5.3nm,1.0s,mb4.4
TXAR **Lajitas Array** 77.67 60 P P 15 49 40.3 0.0
comp=Z,5.3nm,0.6s,mb4.6,baz=298,slow=4.8,SNR=68
KHC **Kasperske Hory** 77.88 334⇓*i*P P 15 49 41.8 +0.3
KHC pP 15 49 45.5
KHC **Kasperske Hory** 77.88 334⇓*i*P P 15 49 41.8 +0.3
KHC *e* 15 49 45.5
BR131 **Keskin Array S** 77.98 316 *e*P P 15 49 42.6 +0.6
comp=Z,3.3nm,0.8s,mb4.3
BRTR **Keskin Array B** 77.98 316 P P 15 49 42.6 +0.5
comp=Z,4.2nm,0.8s,mb4.4,baz=67,slow=4.9,SNR=13
BRTR **Keskin Array B** 77.98 316⇑*e*P P 15 49 42.9 +0.8
GRA1 **Grafenberg Arr** 78.06 336 *e*P P 15 49 42.5 0.0
comp=Z,8.0nm,0.9s,mb4.7
GRF **Grafenberg Arr** 78.06 336 *e*P P 15 49 42.5 0.0
comp=Z,8.0nm,0.9s,mb4.7
GRF **Grafenberg Arr** 78.06 336 *e*P P 15 49 42.5 0.0
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF **Grafenberg Arr** 78.06 336 *e*P P 15 49 42.5 0.0
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GERES **GERESS Array B** 78.09 334 P P 15 49 42.3 -0.3
comp=Z,2.2nm,0.5s,mb4.3,baz=35,slow=5.5,SNR=27
GERES LR LR 16 28 10.5
comp=Z,84nm,18.2s,baz=299,slow=39
CONA **Conrad Observa** 78.23 332⇓*i*P P 15 49 44.2 +0.8
comp=Z,5.3nm,0.7s,mb4.6
BZS **Buzias** 78.23 327 ⇓P P 15 49 43.1 -0.3
BZS **Buzias** 78.23 327⇓*i*P P 15 49 43.0 -0.4
MEM **Membach** 78.60 339 P P 15 49 45.1 -0.4
comp=Z,5.6nm,0.9s,mb4.5
TOD **Tromm** 78.81 337 *e*P P 15 49 45.1 -1.5
ABH **Alteburg** 78.89 338 *e*P P 15 49 45.4 -1.6
BCLA **Clavier** 78.95 339 P P 15 49 47.1 -0.3
JCT **Junction City** 79.08 57 *e*P P 15 49 47.2 -0.9
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
JCT **Junction City** 79.08 57 *e*P P 15 49 47.2 -0.9
comp=Z,4.9nm,0.6s,mb4.6
STKA **Stephens Creek** 79.13 190 P P 15 49 47.2 -1.1
comp=Z,1.7nm,0.8s,mb4.0,baz=132,slow=22,SNR=4.5
STKA LR LR 16 25 06.5
comp=Z,60nm,18.8s,baz=25,slow=36
GIVF **Givet** 79.36 340 *e*P P 15 49 49.0 -0.6
DOU **Dourbes** 79.42 340 P P 15 49 49.4 -0.5
BAIF **Baives** 79.55 340⇑*i*P P 15 49 50.1 -0.5
comp=Z,8.2nm,0.6s,mb4.6
BAIF **Baives** 79.55 340⇑*i*P P 15 49 50.1 -0.5
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BAIF **Baives** 79.55 340⇑*i*P P 15 49 50.1 -0.5
comp=Z,4.1nm,0.6s,mb4.5
WATA **Walderalm** 80.08 334⇑*i*P P 15 49 53.9 +0.3
comp=Z,16nm,1.2s,mb4.8
WATA **Walderalm** 80.08 334⇑*i*P P 15 49 53.9 +0.4
WATA pmax pmax
comp=Z,16nm,1.2s,mb4.8
BFO **Black Forest** 80.10 337 *e*P P 15 49 53.0 -0.6
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BFO **Black Forest** 80.10 337 *e*P P 15 49 53.0 -0.6
comp=Z,6.2nm,0.8s,mb4.6
WTTA **Wattenberg** 80.13 334⇑*i*P P 15 49 54.3 +0.6
comp=Z,15nm,0.5s,mb5.2
WTTA **Wattenberg** 80.13 334⇑*i*P P 15 49 54.3 +0.5
WTTA pmax pmax
comp=Z,15nm,0.5s,mb5.2
VTS **Vitosha** 80.18 325⇑*i*P P 15 49 54.3 +0.2
MOTA **Moosalm** 80.21 335⇑*i*P P 15 49 54.4 +0.2
comp=Z,7.3nm,1.0s,mb4.6
MOTA **Moosalm** 80.21 335⇑*i*P P 15 49 54.4 +0.2
MOTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SQTA **Sankt Quirin** 80.29 334⇑*i*P P 15 49 55.0 +0.3
comp=Z,4.7nm,0.9s,mb4.4
SQTA **Sankt Quirin** 80.29 334⇑*i*P P 15 49 55.0 +0.3
SQTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF **Champ du Feu** 80.31 337⇑*i*P P 15 49 54.3 -0.4
comp=Z,8.7nm,0.6s,mb4.6
CDF **Champ du Feu** 80.31 337⇑*i*P P 15 49 54.3 -0.4
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CDF **Champ du Feu** 80.31 337⇑*i*P P 15 49 54.3 -0.4
comp=Z,4.3nm,0.6s,mb4.6
ECH **Echery** 80.52 337 *e*P P 15 49 55.1 -0.8
MEZF **Maizieres J'vi** 80.79 339⇑*i*P P 15 49 57.1 -0.2
comp=Z,27nm,0.7s,mb5.0
MEZF **Maizieres J'vi** 80.79 339⇑*i*P P 15 49 57.1 -0.2
comp=Z,27nm,0.7s,mb5.3
THEF **They Montfort** 80.81 338 *e*P P 15 49 57.0 -0.4
MOF **Molkenrain** 80.86 337 *e*P P 15 49 57.0 -0.7
HAU **Haudompre** 80.92 338⇑*i*P P 15 49 57.5 -0.5
comp=Z,8.9nm,0.7s,mb4.5
HAU *e*MLR
comp=Z,170nm,20.0s
HAU **Haudompre** 80.92 338⇑*i*P P 15 49 57.5 -0.5
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HAU MLR MLR
comp=Z,170nm,20.0s
HAU **Haudompre** 80.92 338⇑*i*P P 15 49 57.5 -0.5
comp=Z,4.4nm,0.7s,mb4.5
HAU LR LR
comp=Z,170nm,20.0s
HINF **Hinteralfeld** 80.97 337⇑*i*P P 15 49 57.5 -0.8
comp=Z,7.2nm,0.7s,mb4.4
HINF **Hinteralfeld** 80.97 337⇑*i*P P 15 49 57.5 -0.8
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HINF **Hinteralfeld** 80.97 337⇑*i*P P 15 49 57.5 -0.8
comp=Z,3.6nm,0.7s,mb4.4
PMOR **Pomariorio Rec** 81.46 123 *e*T 17 19 41.4
comp=Z,14nm,0.2s
FLN **La Foliniere** 81.80 342 *e*P P 15 50 01.9 -0.8
FLN *e*MLR
comp=Z,121nm,18.0s
FLN **La Foliniere** 81.80 342 *e*P P 15 50 01.9 -0.8
FLN LR LR
comp=Z,120nm,18.0s
MCWV **Mont Chateau** 81.87 38 *e*P P 15 50 02.3 -0.8
comp=Z,5.1nm,0.6s,mb4.6
LDF **La Druitiere** 81.89 342 *e*P P 15 50 02.3 -0.8
LOR **Lormes** 82.23 339⇑*i*P P 15 50 04.5 -0.4
comp=Z,17nm,0.6s,mb4.8
LOR *e*MLR
comp=Z,146nm,18.2s
LOR **Lormes** 82.23 339⇑*i*P P 15 50 04.5 -0.4
LOR pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LOR MLR MLR
comp=Z,150nm,18.3s
LOR **Lormes** 82.23 339⇑*i*P P 15 50 04.5 -0.4
comp=Z,8.4nm,0.6s,mb4.8
LOR LR LR
comp=Z,150nm,18.3s
GRR **Gorron** 82.24 343 *e*P P 15 50 04.5 -0.5
comp=Z,34nm,1.2s,mb4.8
GRR **Gorron** 82.24 343 *e*P P 15 50 04.5 -0.5
GRR pmax pmax
comp=Z,17nm,1.2s,mb4.8
GRR **Gorron** 82.24 343 *e*P P 15 50 04.5 -0.5
comp=Z,17nm,1.2s,mb4.8
CABF **La Chapelle** 82.28 337 *e*P P 15 50 05.0 -0.2
comp=Z,4.7nm,0.7s,mb4.2
CABF **La Chapelle** 82.28 337 *e*P P 15 50 05.0 -0.2
CABF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
CABF **La Chapelle** 82.28 337 *e*P P 15 50 05.0 -0.2
comp=Z,2.3nm,0.7s,mb4.2
ASF **Jabal al Asfar** 82.28 310 P P 15 50 06.1 +0.9
comp=Z,5.1nm,0.9s,mb4.5,baz=330,slow=1.1,SNR=7.2
SSF **Saint Saulge** 82.51 339⇑*i*P P 15 50 06.0 -0.4
comp=Z,11nm,0.7s,mb4.7
SSF **Saint Saulge** 82.51 339⇑*i*P P 15 50 06.0 -0.4
SSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
SSF **Saint Saulge** 82.51 339⇑*i*P P 15 50 06.0 -0.4
comp=Z,5.6nm,0.7s,mb4.7
HYF **Humbligny** 82.53 340 *e*P P 15 50 06.4 -0.1
PPT **Papeete** 82.57 126 *e*LR LR 16 16 22.4
comp=Z,115nm,24.0s
PPT **Papeete** 82.57 126 *e*T 17 21 05.4
comp=Z,4.1nm,0.2s
SGMF **Saint Gilles** 82.70 344⇑*i*P P 15 50 07.0 -0.4
comp=Z,8.0nm,0.5s,mb4.7
SGMF **Saint Gilles** 82.70 344⇑*i*P P 15 50 07.0 -0.4
SGMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
SGMF **Saint Gilles** 82.70 344⇑*i*P P 15 50 07.0 -0.4
comp=Z,4.0nm,0.5s,mb4.7
ROSF **Rostrenen** 82.76 344 *e*P P 15 50 07.3 -0.4
comp=Z,13nm,0.7s,mb4.8
ROSF **Rostrenen** 82.76 344 *e*P P 15 50 07.3 -0.4
ROSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ROSF **Rostrenen** 82.76 344 *e*P P 15 50 07.3 -0.4
comp=Z,6.6nm,0.7s,mb4.8
AVF **Avril sur Loir** 82.80 339⇑*i*P P 15 50 07.6 -0.3
comp=Z,18nm,0.9s,mb4.8
AVF **Avril sur Loir** 82.80 339⇑*i*P P 15 50 07.6 -0.3
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
AVF **Avril sur Loir** 82.80 339⇑*i*P P 15 50 07.6 -0.3
comp=Z,9.1nm,0.9s,mb4.8
SMF **Signal de Mont** 82.82 339⇑*i*P P 15 50 07.7 -0.3
comp=Z,18nm,0.8s,mb4.8
SMF **Signal de Mont** 82.82 339⇑*i*P P 15 50 07.7 -0.3
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SMF **Signal de Mont** 82.82 339⇑*i*P P 15 50 07.7 -0.3
comp=Z,9.1nm,0.8s,mb4.9
LPL **La Plagne** 83.12 337⇑*i*P P 15 50 10.1 +0.6
LPG **La Plagne** 83.13 337⇑*i*P P 15 50 10.2 +0.6
comp=Z,15nm,0.8s,mb4.8
LPG **La Plagne** 83.13 337⇑*i*P P 15 50 10.2 +0.6
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
LPG **La Plagne** 83.13 337⇑*i*P P 15 50 10.2 +0.6
comp=Z,7.3nm,0.8s,mb4.8
BGF **Bois d'Agland** 83.14 340⇑*i*P P 15 50 09.3 -0.4
comp=Z,8.1nm,0.7s,mb4.6
BGF **Bois d'Agland** 83.14 340⇑*i*P P 15 50 09.3 -0.4
BGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BGF **Bois d'Agland** 83.14 340⇑*i*P P 15 50 09.3 -0.4
comp=Z,4.1nm,0.7s,mb4.6
PLDF **La Plantade** 83.51 339 *e*P P 15 50 11.8 +0.3
TCF **Toulx Ste Croi** 83.55 340⇑*i*P P 15 50 11.7 -0.1
comp=Z,18nm,1.0s,mb4.9
TCF **Toulx Ste Croi** 83.55 340⇑*i*P P 15 50 11.7 -0.1
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TCF **Toulx Ste Croi** 83.55 340⇑*i*P P 15 50 11.7 -0.1
comp=Z,8.9nm,1.0s,mb4.8
AGO **Saint Agoulin** 83.55 339 *e*P P 15 50 12.5 +0.7
MFF **Saint Martin d** 83.78 341 *e*P P 15 50 12.7 -0.3
comp=Z,7.5nm,0.7s,mb4.6
MFF **Saint Martin d** 83.78 341 *e*P P 15 50 12.7 -0.3
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MFF **Saint Martin d** 83.78 341 *e*P P 15 50 12.7 -0.3
comp=Z,3.8nm,0.7s,mb4.6
MBDF **Montbardon** 83.84 336⇑*i*P P 15 50 13.6 +0.4
comp=Z,6.5nm,0.6s,mb4.6
MBDF **Montbardon** 83.84 336⇑*i*P P 15 50 13.6 +0.4
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
MBDF **Montbardon** 83.84 336⇑*i*P P 15 50 13.6 +0.4
comp=Z,3.3nm,0.6s,mb4.6
ORIF **Oris-en-Rattie** 83.90 337⇑*i*P P 15 50 13.9 +0.3
comp=Z,14nm,0.7s,mb4.9
ORIF *e*MLR
comp=Z,93nm,20.8s
ORIF **Oris-en-Rattie** 83.90 337⇑*i*P P 15 50 13.9 +0.3
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
ORIF **Oris-en-Rattie** 83.90 337⇑*i*P P 15 50 13.9 +0.3
comp=Z,7.1nm,0.7s,mb4.9
VIVF **Saint-Julien-l** 84.28 338 *e*P P 15 50 15.7 +0.2
comp=Z,20nm,1.0s,mb4.9
VIVF **Saint-Julien-l** 84.28 338 *e*P P 15 50 15.7 +0.2
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VIVF **Saint-Julien-l** 84.28 338 *e*P P 15 50 15.7 +0.2
comp=Z,10nm,1.0s,mb4.9
SBF **Sospel** 84.45 335 *e*P P 15 50 16.4 +0.1
comp=Z,19nm,0.7s,mb5.0
SBF **Sospel** 84.45 335 *e*P P 15 50 16.4 +0.1
SBF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
SBF **Sospel** 84.45 335 *e*P P 15 50 16.4 +0.1
comp=Z,9.4nm,0.7s,mb5.0
CAF **Calviac** 84.86 339 *e*P P 15 50 18.7 +0.3
comp=Z,6.1nm,0.7s,mb4.5
CAF **Calviac** 84.86 339 *e*P P 15 50 18.7 +0.3
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
CAF **Calviac** 84.86 339 *e*P P 15 50 18.7 +0.3
comp=Z,3.0nm,0.7s,mb4.5
LMR **La Mourre** 85.19 336 *e*P P 15 50 19.8 -0.3
comp=Z,12nm,0.8s,mb4.8
LMR **La Mourre** 85.19 336 *e*P P 15 50 19.8 -0.3
LMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
LMR **La Mourre** 85.19 336 *e*P P 15 50 19.8 -0.3
comp=Z,5.8nm,0.8s,mb4.8
EIL **Elat** 85.28 309 *e*P P 15 50 21.3 +0.8
comp=Z,146nm,0.9s
TBI **Tubuai** 87.31 129 *e*T 17 27 01.1
comp=Z,18nm,0.2s
ESDC **Sonseca Array** 91.22 342 P P 15 50 47.3 -1.6
comp=Z,0.2nm,0.4s,mb3.8,baz=356,slow=3.7,SNR=7.3
TORD **Torodi Ar. Bea** 114.72 329 PKP PKiKP 15 56 22.5 -1.3
comp=Z,0.4nm,0.6s,baz=46,slow=1.6,SNR=4.6
VNDA **Vanda** 124.37 178 PKP PKPdf 15 56 40.7 -1.7
comp=Z,1.9nm,1.1s,baz=104,slow=12,SNR=5.7
VNDA **Vanda** 124.37 178 PKP PKPdf 15 56 40.7 -1.7
PLCA **Paso Flores** 148.56 95 PKPbc PKPbc 15 57 29.4 -0.9
comp=Z,6.1nm,0.9s,baz=250,slow=2.0,SNR=13
PLCA **Paso Flores** 148.56 95 PKPbc PKPbc 15 57 29.4 -0.9
SNAA **Sanae** 152.69 197 PKPbc PKPbc 15 57 37.7 -2.4
comp=Z,0.6nm,0.7s,baz=178,slow=3.1,SNR=11
SNAA **Sanae** 152.69 197 *e*PKPdf PKPbc 15 57 38.0 -2.1
SNAA *e* 15 57 48.8
VNA2 **Neumayer--Watz** 154.15 195 *e*PKPdf PKPdf 15 57 32.9 -2.2
VNA2 *e* 15 57 41.0
VNA2 *e* 15 57 55.9
VNA3 **Neumayer Olymp** 154.25 193 *e*PKPdf PKPdf 15 57 31.5 -3.7
VNA3 *e* 15 57 41.3
VNA3 *e* 15 57 55.3

NNC ***25*** *15:57:29.4±4.1, 42.40N×83.47E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=33.8km s-min=28.4km az=131.0*
BJI 25 15:57:25.4, 4200N×8367E, h19km, ML3.3, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.47**	**57**	*e*P		Pn	15 58 22.0	+3.6
WMQ				S		Sn	15 59 03.5	+4.5
WMQ				Smax				
	comp=N,75nm,0.6s							
WMQ				Smax				
	comp=E,93nm,0.5s							
MK31	**Makanchi Array**	**4.89**	**349**	⇑Pn		Pn	15 58 38.2	+0.3
	comp=E,0.4nm,0.3s,baz=155,slow=10,SNR=19							
MK31				⇑Pg		Pg	15 58 51.8	-7.3
	comp=E,11nm,0.6s,baz=158,slow=15,SNR=36							
MK31				⇓Lg			15 59 50.6	
	comp=E,43nm,0.6s,baz=157,slow=25,SNR=9.8							
TKM2	**Tokmak 2**	**6.04**	**281**	⇑Pn		Pn	15 58 57.4	+3.7
	comp=E,0.4nm,0.8s							
TKM2				Lg			16 00 32.7	
	comp=E,3.2nm,0.8s							
KURK	**Kurchatov**	**9.39**	**340**	⇑Pn		Pn	15 59 41.7	+2.1
	comp=E,4.3nm,1.8s							
KURK				Sn		Sn	16 01 20.4	-4.2
	comp=E,2.1nm,0.7s							
KURK				Lg			16 02 14.9	
	comp=E,9.8nm,1.0s							
GTA	**Gaotai**	**12.52**	**97**	P		Pn	16 00 22.3	-0.2

ISCJB ***25*** *16:12:24.3±0.5, 43.17N±0.03×064W±0.03, h12km, Error ellipse: s-maj=4.8km s-min=2.7km az=16.2*
LDG ***25*** *16:12:24.7±0.1, 43.12N×067W, h19km±1km, Md1.9/2, Ml1.6/1, Error ellipse: s-maj=2.0km s-min=1.0km az=22.0*
STR ***25*** *16:12:24.0±0.6, 42.94N×0.79W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***25*** *16:12:25.6±0.3, 43.14N×066W, h12km±1km, mbLg1.3/11, Error ellipse: s-maj=3.8km s-min=1.6km az=14.0, PRXIMO*
ISC 25 16:12:24.8±0.5, 4316N±004×066W±003, h16km±4km, n25, σ0§47/35, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ATE	**Arette**	**0.08**	**205**	Pg		**Pg**	**16 12 28.2**	**+0.2**
ATE				Sg		**Sg**	**16 12 30.4**	**+0.4**
REYF	**Montagne du Re**	**0.21**	**114**	P		**Pg**	**16 12 30.1**	**+0.4**
REYF				S		**Sg**	**16 12 33.6**	**+0.6**
ORDF	**Ordiarp**	**0.21**	**286**	Pg		**Pg**	**16 12 30.0**	**+0.3**
ORDF				Sg		**Sg**	**16 12 33.8**	**+0.7**
ORDF	**Ordiarp**	**0.21**	**286**	P		**Pg**	**16 12 29.9**	**+0.2**
ORDF				S		**Sg**	**16 12 33.8**	**+0.7**
ETSF	**Etsaut**	**0.27**	**165**	*e*Pg		**Pg**	**16 12 30.6**	**0.0**
ETSF				*e*Sg		**Sg**	**16 12 33.9**	**-0.7**
	69nm,0.2s							
ETSF	**Etsaut**	**0.27**	**165**	Pg		**Pg**	**16 12 30.6**	**0.0**
ETSF				Lg			16 12 33.9	
	34nm,0.2s							
LARF	**Larrau**	**0.27**	**244**	P		**Pg**	**16 12 30.6**	**-0.1**
LARF				S		**Sg**	**16 12 34.7**	**0.0**
SJPF	**Ste Jean**	**0.42**	**264**	*e*Pg		**Pg**	**16 12 33.0**	**-0.3**
SJPF				*e*Sg		**Sg**	**16 12 38.6**	**-0.4**
	6.8nm,0.2s							
SJPF	**Ste Jean**	**0.42**	**264**	Pg		**Pg**	**16 12 33.0**	**-0.3**
SJPF				Lg			16 12 38.6	
	3.4nm,0.2s							
VIEF	**Viey**	**0.57**	**118**	Pg		**Pg**	**16 12 35.7**	**-0.3**
VIEF				Sg		**Sg**	**16 12 43.3**	**-0.3**
VIEF	**Viey**	**0.57**	**118**	P		**Pg**	**16 12 35.7**	**-0.3**
VIEF				S		**Sg**	**16 12 43.3**	**-0.4**
IPRE	**Itoiz**	**0.62**	**236**	Pg		**Pg**	**16 12 37.5**	**+0.5**
	SNR=7.9							
IPRE				Lg			16 12 44.7	
	1.7nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**0.63**	**276**	Pg		**Pg**	**16 12 36.4**	**-0.7**
	0.6nm,0.1s,SNR=7.8							
EALK				Lg			16 12 45.1	
	2.7nm,0.2s,SNR=8.7							
ELIZ	**Elizondo**	**0.64**	**271**	Pg		**Pg**	**16 12 36.8**	**-0.6**
	1.7nm,0.2s,SNR=7.9							
ELIZ				Lg			16 12 45.5	
	2.5nm,0.2s,SNR=6.7							
IUSE	**Utxeti**	**0.69**	**253**	Pg		**Pg**	**16 12 37.9**	**-0.3**
	0.8nm,0.1s,SNR=7.9							
IUSE				Lg			16 12 46.6	
	1.1nm,0.1s,SNR=7.9							
EPF	**Esparros**	**0.74**	**99**	*e*Pg		**Pg**	**16 12 39.2**	**-0.1**
EPF				*e*Sg		**Sg**	**16 12 49.0**	**-0.1**
	2.5nm,0.2s							
EPF	**Esparros**	**0.74**	**99**	Pg		**Pg**	**16 12 39.2**	**-0.1**
EPF				Lg			16 12 49.0	
	1.2nm,0.2s							
EBIE	**Bielsa**	**0.75**	**128**	⇓Pg		**Pg**	**16 12 39.2**	**-0.2**
	1.9nm,0.3s,SNR=18							
EBIE				Lg			16 12 48.5	
	3.2nm,0.1s,SNR=13							
EARA	**Aranguren**	**0.78**	**241**	Pg		**Pg**	**16 12 40.5**	**+0.5**
	0.5nm,0.1s,SNR=7.9							
EARA				Lg			16 12 50.9	
	0.8nm,0.1s,SNR=7.9							
ESAC	**San Caprasio**	**1.44**	**174**	Pg		**Pg**	**16 12 51.9**	**-0.7**
	1.7nm,0.1s,SNR=7.9							
ESAC				Lg			16 13 09.9	
	2.6nm,0.1s,SNR=5.7							
ECRI	**Cripan**	**1.47**	**249**	Pg		**Pg**	**16 12 53.2**	**+0.1**
	2.0nm,0.2s,SNR=7.9							
ECRI				Lg			16 13 11.8	
	0.7nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**2.05**	**29**	*e*Sg		**Sg**	**16 13 30.5**	**-0.2**
	0.7nm,0.2s							
LFF	**La Frestale**	**2.05**	**29**	Lg			16 13 30.5	
	0.3nm,0.2s							
ERTA	**Horta de San J**	**2.32**	**161**	Pn		**Pn**	**16 13 03.7**	**+1.4**
	0.2nm,0.1s,SNR=7.9							
ERTA				Sn		**Sn**	**16 13 30.5**	**0.0**
	0.3nm,0.1s,SNR=4.0							
ERTA				Lg			16 13 37.1	
	1.5nm,0.3s,SNR=7.9							
ETOR	**Torete**	**2.56**	**205**	Sn		**Sn**	**16 13 36.5**	**+0.1**
	SNR=7.9							
ETOR				Lg			16 13 45.9	
	1.4nm,0.1s,SNR=7.9							

IDC ***25*** *16:43:38.9±1.4, 72.7S×155.56E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.0/7, ML3.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/21, Error ellipse: s-maj=50.9km s-min=22.9km az=118.0*
ISCJB ***25*** *16:43:49.4±1.8, 69S±0.1×154.84E±0.05, h82km±17km, mb4.1/11, Error ellipse: s-maj=21.5km s-min=8.8km az=177.8*
NEIC ***25*** *16:43:50.7±1.1, 69.5S×154.91E, h86km±10km, mb4.9/5, Error ellipse: s-maj=12.2km s-min=8.9km az=163.0*
ISC 25 16:43:51.4±1.5, 70S±01×15493E±007, h86km±14km, n24, σ1§02/24, mb4.1/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.50**	**116**	Pn		**Pn**	**16 45 11.3**	**+0.5**
	3.2nm,0.3s,baz=260,slow=9.1,SNR=3.3							
HNR				Sn		**Sn**	**16 46 17.9**	**+5.2**
	4.0nm,0.3s,baz=267,slow=12,SNR=2.4							
PMG	**Port Moresby**	**8.04**	**253**	Pn		**Pn**	**16 45 43.5**	**-1.9**
	1.4nm,0.3s,baz=40,slow=7.0,SNR=8.9							
PMG				Sn		**Sn**	**16 47 15.4**	**+0.7**
	0.3nm,0.3s,baz=74,slow=20,SNR=3.1							
PMG				LR		LR	16 48 41.9	
	comp=Z,125nm,18.4s,baz=228,slow=35							
PMG	**Port Moresby**	**8.04**	**253**	*e*Pn		**Pn**	**16 45 44.9**	**-0.5**
PMG				Sn		**Sn**	**16 47 15.4**	**+0.7**
PMG				LR		LR	16 48 41.9	
CTA	**Charters Tower**	**15.46**	**212**	Pn		**Pn**	**16 47 23.7**	**-0.8**
	0.1nm,0.3s,baz=8.0,slow=10.0,SNR=3.6							
CTA	**Charters Tower**	**15.46**	**212**	Pn		**Pn**	**16 47 23.7**	**-0.8**
CTAO	**Charters Tower**	**15.46**	**212**	P		**Pn**	**16 47 25.0**	**+0.5**
	5.3nm,1.0s							

GUMO	**Guam**	**22.80 334**	LR	LR	16 56 03.2	
	comp=Z,40nm,21.9s,baz=82,slow=32					
WB2	**Warramunga Arr**	**23.73 235**	*eP*	**P**	**16 48 55.6**	**0.0**
WRA	**Warramunga Arr**	**23.74 235**	P	**P**	**16 48 56.1**	**+0.4**
	1.4nm,0.6s,mb3.5,baz=59,slow=9.2,SNR=6.2					
ASAR	**Alice Springs**	**26.09 228**	P	**P**	**16 49 17.7**	**+0.7**
	1.1nm,0.7s,mb3.4,baz=58,slow=9.6,SNR=23					
STKA	**Stephens Creek**	**27.66 205**	P	**P**	**16 49 30.2**	**-0.9**
	2.1nm,1.0s,mb3.6,baz=51,slow=24,SNR=1.7					
STKA			LR	LR	17 00 36.7	
	comp=Z,51nm,19.1s,baz=27,slow=37					
SONM	**Songino Array**	**69.34 327**	P	**P**	**16 54 52.3**	**+2.5**
	0.4nm,0.4s,mb3.6,baz=139,slow=5.6,SNR=6.4					
JIRN	**Jiri**	**74.75 301**	*eP*	**P**	**16 55 22.0**	**-0.1**
GUN	**Gumba**	**75.09 301**	*eP*	**P**	**16 55 24.0**	**0.0**
	17nm,0.7s,mb4.9					
KKN	**Kakani**	**75.57 301**	*eP*	**P**	**16 55 26.4**	**-0.3**
	11nm,0.7s,mb4.7					
DMN	**Daman**	**75.66 301**	*eP*	**P**	**16 55 27.2**	**-0.1**
	16nm,0.7s,mb4.9					
GKN	**Gorkha**	**76.17 301**	*eP*	**P**	**16 55 29.6**	**-0.6**
	8.3nm,0.7s,mb4.6					
KOLN	**Koldanda**	**76.99 301**	*eP*	**P**	**16 55 34.1**	**-0.7**
	10.0nm,0.9s,mb4.5					
QSPA	**South Pole Qui**	**82.93 180**	*eP*	**P**	**16 56 07.4**	**+0.6**
MKAR	**Makanchi Array**	**83.40 319**	P	**P**	**16 56 12.1**	**+2.9**
	0.4nm,0.5s,mb3.5,baz=92,slow=7.2,SNR=4.5					
MKAR	**Makanchi Array**	**83.40 319**	P	**P**	**16 56 12.1**	**+2.9**
YKA	**Yellowknife Ar**	**96.41 28**	P	**P**	**16 57 08.9**	**-1.9**
	0.7nm,0.8s,mb4.2,baz=266,slow=4.4,SNR=16					
TOA0	**Torodi Ar. Sit**	**152.98 285**	*e*PKPbc	PKPbc	17 03 39.0	+0.2
TORD	**Torodi Ar. Bea**	**152.98 285**	PKPbc	PKPbc	17 03 39.0	+0.2
	2.1nm,0.8s,baz=58,slow=2.5,SNR=14					

KRSC 25 17:12:51.9±0.3, 5571N×16251E, h10km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.53**	**19**	*eP*	Pg	17 13 02.2	0.0
KBTR				*i S*	Sg	17 13 10.0	+0.9
ZLN	**Zelenaya**	**1.01**	**288**	*eP*	Pg	17 13 11.8	+0.5
ZLN				*i S*	Sg	17 13 25.3	+0.8
KLY	**Klyuchi**	**1.21**	**301**	*eP*	Pn	17 13 12.9	-1.9
KLY				*i S*	Sb	17 13 28.3	-2.1
KRSR	**Krestovskiy**	**1.21**	**296**	*eP*	Pn	17 13 14.1	-0.7
KRSR				*i S*	Sb	17 13 30.4	0.0
MKZ	**Mys Kozlova**	**1.24**	**201**	*eP*	Pn	17 13 15.3	0.0
MKZ				*eS*	Sb	17 13 32.4	+1.0
KMNR	**Kamenistaya**	**1.29**	**273**	*eP*	Pn	17 13 16.7	+0.8
KMNR				*i S*	Sb	17 13 33.9	+1.1
KPT	**Kopyto**	**1.32**	**282**	*i P*	Pn	17 13 16.6	+0.3
KPT				*i S*	Sb	17 13 35.5	+1.9
TUMR	**Tumrok**	**1.41**	**253**	*i P*	Pn	17 13 18.8	+1.2
TUMR				*i S*	Sn	17 13 38.2	+1.9
KOZ	**Kozyrevsk**	**1.53**	**284**	*i P*	Pn	17 13 20.4	+1.2
KOZ				*i S*	Sn	17 13 41.9	+2.8
SRDR	**Sredinnyy**	**1.68**	**292**	*i P*	Pn	17 13 22.2	+0.8
SRDR				*i S*	Sn	17 13 44.3	+1.3
KII	**Karymskiy**	**2.44**	**228**	*eP*	Pn	17 13 31.8	+0.1
KII				*i S*	Sn	17 14 01.6	0.0
NLC	**Nalytchevo**	**3.14**	**217**	P	Pn	17 13 43.0	+1.5
NLC				*i S*	Sn	17 14 19.6	+0.6
AVH	**Avacha**	**3.29**	**223**	*eP*	Pn	17 13 44.3	+0.8
AVH				*eS*	Sn	17 14 22.4	-0.3
GNL	**Ganaly**	**3.33**	**235**	*eP*	Pn	17 13 46.0	+2.0
PET	**Petropavlovsk**	**3.51**	**222**	P	Pn	17 13 47.9	+1.4
PET				*i S*	Sn	17 14 29.3	+1.2
RUS	**Russkaya**	**4.04**	**217**	P	Pn	17 13 55.9	+2.1
RUS				*i S*	Sn	17 14 43.6	+2.5

IDC 25 17:27:15.3±11.0, 472S×14521E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/14, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=160.3km s-min=60.3km az=11.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**158**	Pn	Pn	17 28 31.9	-0.2
	6.4nm,0.3s,baz=11,slow=4.7,SNR=47						
PMG				Sn	Sn	17 29 16.0	-15
	8.6nm,0.3s,baz=130,slow=21,SNR=14						
WRA	**Warramunga Arr**	**18.47**	**214**	P	Pn	17 31 31.2	-1.4
	0.1nm,0.3s,baz=39,slow=12,SNR=10.0						
ASAR	**Alice Springs**	**21.77**	**209**	P	P	17 32 09.4	+0.9
	0.6nm,0.8s,baz=40,slow=7.1,SNR=8.8						
STKA	**Stephens Creek**	**27.23**	**187**	P	P	17 33 01.4	+0.5
	0.5nm,0.3s,baz=20,slow=13,SNR=6.2						

*CSEM **25** 17:41:41.5±1.1, 3702N×2452W, h0km, ML2.6, Error ellipse: s-maj=5.6km s-min=4.0km az=86.0, After PDA*
*PDA **25** 17:41:41.5±1.1, 3702N×2452W, h0km, MD3.2, ML2.6, Error ellipse: s-maj=5.6km s-min=4.0km az=86.0*
SVSA 25 17:41:41.5±1.1, 3702N×2452W, h0km, MD3.2, ML2.6, Error ellipse: s-maj=5.6km s-min=4.0km az=86.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.44**	**268**	*eP*	Pg	17 41 49.2	-0.7
PSMN				*eS*	Sg	17 41 55.8	+0.2
MIRA	**Miradouro**	**0.98**	**322**	*eP*	Pg	17 41 57.1	-3.1
MIRA				*eS*	Sg	17 42 09.4	-3.5
FRA1	**Furnas**	**0.98**	**317**	*eP*	Pg	17 41 57.3	-3.1
FRA1				*eS*	Sg	17 42 09.8	-3.3
PCNG	**Congro**	**1.02**	**317**	*eS*	Sg	17 42 10.8	-3.6
PCNG							
	37nm,0.1s						
VIF	**Vila Franca**	**1.03**	**315**	*eS*	Sg	17 42 10.9	-3.8
VIF							
	46nm,0.2s						
PFAD	**Fenais da Ajud**	**1.04**	**322**	*eP*	Pg	17 41 58.2	-3.2
PFAD				*eS*	Sg	17 42 10.7	-4.2
PRCH	**Ribeira Ch**	**1.04**	**313**	*eS*	Sg	17 42 11.1	-3.9
PRCH							
	116nm,0.2s						
MESC	**Monte Escuro**	**1.07**	**317**	*eP*	Pg	17 41 58.4	-3.6
MESC				*eS*	Sg	17 42 12.0	-3.9
LFA	**Lagoa do Fogo**	**1.08**	**315**	*eP*	Pg	17 41 59.1	-3.0
PMAT	**Coroa da Mata**	**1.10**	**317**	*eS*	Sg	17 42 12.6	-4.2
PMAT							
	56nm,0.2s						
CML	**Cha da Macela**	**1.11**	**313**	*eS*	Sg	17 42 13.0	-4.2
PVER	**Pico Vermelho**	**1.11**	**315**	*eS*	Sg	17 42 12.9	-4.3
PVER							
	35nm,0.1s						
PDA	**Ponta Delgada**	**1.17**	**309**	*eS*	Sg	17 42 13.9	-5.1
FAC	**Faja de Cima**	**1.18**	**310**	*eS*	Sg	17 42 14.3	-5.0
PSET	**Sete Cidades**	**1.25**	**310**	*eP*	Pg	17 42 01.6	-3.9
PSET				*eS*	Sg	17 42 16.4	-5.3
PSET							
	72nm,0.3s						
PSET	**Sete Cidades**	**1.25**	**310**	*eP*	Pg	17 42 01.6	-3.9
PSET				*eS*	Sg	17 42 16.4	-5.3
PSAN	**Santo Antonio**	**1.27**	**311**	*eS*	Sg	17 42 17.0	-5.4
PFET	**Feteiras**	**1.29**	**309**	*eS*	Sg	17 42 17.2	-5.7
SET2	**Ginetes**	**1.32**	**309**	*eS*	Sg	17 42 18.0	-5.8
SET4	**Mosteiros**	**1.33**	**310**	*eS*	Sg	17 42 18.0	-6.3
PFAV	**Pico das Favas**	**2.64**	**311**	*eP*	Sn	17 42 52.1	-6.0
PSCM	**Serra do Cume**	**2.66**	**310**	*eP*	Pn	17 42 21.3	-4.2
PSCM				*eS*	Sn	17 42 50.9	-7.5
PSCM							
	42nm,0.3s						
PSCM	**Serra do Cume**	**2.66**	**310**	*eP*	Pn	17 42 21.3	-4.2
PSCM				*eS*	Sn	17 42 50.9	-7.5
PVNV	**Vila Nova**	**2.72**	**311**	*eP*	Sn	17 42 53.8	-6.2
PPAD	**Pico dos Padre**	**2.76**	**308**	*eP*	Sn	17 42 54.4	-6.6
ROSA	**Rosais**	**3.40**	**301**	*eP*	Pn	17 42 31.6	-4.2
PICO	**Pico**	**3.43**	**297**	*eP*	Pn	17 42 32.1	-4.1
PICO				*eS*	Sn	17 43 08.8	-8.8
CALA	**Caldeira**	**3.66**	**296**	*eP*	Pn	17 42 35.2	-4.2
CALA				*eS*	Sn	17 43 14.6	-8.7

IDC 25 18:12:33.8±57.0, 2322S×17613W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=1055.0km s-min=170.5km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.27**	**248**	P	P	18 19 56.0	+0.3
	2.0nm,0.9s,baz=72,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**45.65**	**259**	P	P	18 20 56.5	+0.4
	0.7nm,1.0s,baz=94,slow=7.2,SNR=8.5						
WRA	**Warramunga Arr**	**46.00**	**264**	P	P	18 20 58.7	-0.1
	0.7nm,0.6s,baz=105,slow=7.8,SNR=6.2						

*CSEM **25** 18:13:44.5, 3509N×2329E, h10km, MD3.7/5, After ATH*
*NEIC **25** 18:13:44.5, 3509N×2329E, h10km, MD3.7(ATH), After ATH.*
ATH 25 18:13:44.5, 3509N×2329E, h10km±5km, MD3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.70**	**111**	*e*PB	Pb	18 13 57.9	-0.9
VAM	**Vamos**	**0.81**	**67**	*e*PB	Pb	18 14 00.0	-0.6
KYTH	**Kithira**	**1.21**	**350**	*e*PG	Pg	18 14 07.0	-0.7
VLI	**Veliai**	**1.65**	**350**	*e*PB	Pb	18 14 15.9	+0.9
NPS	**Neapolis**	**1.91**	**84**	*e*PN	Pn	18 14 18.9	+1.8

IDC 25 18:24:30.9±0.9, 2224S×6863W, h116km±7km, mb3.6/6, mb1 3.8/7, mb1mx3.6/15, mbtmp3.5/7, Error ellipse: s-maj=29.3km s-min=18.3km az=73.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.94**	**5**	P	Pn	18 25 56.1	-0.3
	0.9nm,0.3s,baz=194,slow=6.8,SNR=19						
CFAA	**Coronel Fontan**	**9.33**	**178**	P	Pn	18 26 43.4	+1.0
	0.1nm,0.3s,baz=2.6,slow=16,SNR=8.4						
CFAA				S	Sn	18 28 24.1	-1.3
	0.1nm,0.3s,baz=331,slow=5.3,SNR=3.1						
SIV	**San Ignacio**	**9.47**	**50**	P	Pn	18 26 39.9	-4.4
	2.3nm,0.3s,baz=237,slow=13,SNR=49						
SIV				S	Sn	18 28 17.3	-11
	0.3nm,0.3s,baz=144,slow=23,SNR=3.1						
TXAR	**Lajitas Array**	**61.38**	**325**	P	P	18 34 34.6	0.0
	0.4nm,0.6s,baz=156,slow=7.8,SNR=6.8						
PDAR	**Pinedale Array**	**74.88**	**330**	P	P	18 35 60.0	+1.1
	0.4nm,0.6s,baz=140,slow=8.7,SNR=7.8						
ULM	**Lac du Bonnet**	**76.10**	**342**	P	P	18 36 05.0	-0.8
	0.6nm,0.4s,baz=144,slow=8.6,SNR=3.5						
NVAR	**Mina Array Bea**	**76.23**	**322**	P	P	18 36 06.7	+0.1
	0.4nm,0.6s,baz=144,slow=7.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**77.36**	**70**	P	P	18 36 13.7	+0.8
	2.5nm,0.5s,baz=257,slow=5.5,SNR=23						
TORD				pP	pP	18 36 42.6	+0.5
	2.1nm,0.8s,baz=255,slow=5.6,SNR=5.3						
YKA	**Yellowknife Ar**	**91.97**	**340**	P	P	18 37 26.3	-0.1
	0.9nm,0.6s,baz=134,slow=4.5,SNR=41						
YKA				pP	pP	18 37 56.1	-0.3
	0.4nm,0.5s,baz=137,slow=4.4,SNR=6.0						
YKA				sP	sP	18 38 08.8	+0.2
	0.2nm,0.5s,baz=135,slow=4.3,SNR=2.3						

*ISCJB **25** 18:24:34.1±1.7, 771S±007×11588E±008, h243km±17km, mb4.0/20, Error ellipse: s-maj=15.1km s-min=7.4km az=93.4*
*NEIC **25** 18:24:36.0±1.5, 781S×11585E, h250km±14km, mb4.2/7, Error ellipse: s-maj=10.7km s-min=6.6km az=54.0*
*IDC **25** 18:24:37.4±1.5, 782S×11590E, h261km±14km, mb3.8/16, mb1 3.9/18, mb1mx3.8/24, mbtmp3.8/18, Error ellipse: s-maj=13.7km s-min=7.7km az=57.0*
ISC 25 18:24:36.7±1.6, 783S±007×11589E±008, h255km±15km, n42, σ0°81/39, mb4.0/20, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.94**	**138**	*eP*	**Pn**	**18 27 43.5**	**-0.4**
	38nm,1.1s						
FITZ				*eS*	**S**	**18 30 15.6**	**-2.6**
FITZ	**Fitzroy Crossi**	**13.94**	**138**	P	**Pn**	**18 27 44.0**	**+0.1**
	1.5nm,0.3s,baz=324,slow=8.0,SNR=40						
FITZ				S	**S**	**18 30 16.8**	**-1.4**
	1.1nm,0.3s,baz=184,slow=20,SNR=6.5						
KAKA	**Kakadu**	**16.99**	**108**	*eP*	**P**	**18 28 17.9**	**-0.1**
	9.8nm,0.6s						
KAKA				*eS*	**S**	**18 31 17.2**	**-4.7**
PSI	**Prapat**	**19.95**	**301**	P	**P**	**18 28 49.9**	**+0.1**
	2.6nm,0.3s,baz=146,slow=9.7,SNR=13						
WRA	**Warramunga Arr**	**21.55**	**126**	P	**P**	**18 29 06.2**	**+0.1**
	2.2nm,0.3s,mb4.2,baz=312,slow=9.1,SNR=80						
WRA				S	**S**	**18 32 45.8**	**-1.2**
	3.0nm,1.0s,baz=298,slow=18,SNR=5.1						
WRA				ScP	ScP	18 36 10.4	+0.1
	0.9nm,0.8s,baz=325,slow=2.2,SNR=5.8						
WB2	**Warramunga Arr**	**21.56**	**126**	*eP*	**P**	**18 29 06.1**	**-0.1**
WB2				*eS*	**S**	**18 32 45.6**	**-1.6**
ASAR	**Alice Springs**	**23.38**	**134**	P	**P**	**18 29 23.2**	**+0.5**
	12nm,0.5s,mb4.7,baz=307,slow=8.4,SNR=280						
ASAR				PcP	PcP	18 33 02.0	+0.6
	1.1nm,0.6s,baz=339,slow=1.5,SNR=7.9						
ASAR				S	**S**	**18 33 17.7**	**+1.3**
	0.8nm,0.8s,baz=303,slow=15,SNR=3.2						
ASAR				ScP	ScP	18 36 14.8	-0.2
	0.4nm,0.4s,baz=317,slow=2.5,SNR=5.6						
MUN	**Mundaring**	**24.03**	**179**	*eP*	**P**	**18 29 38.6**	**+10**
NWAO	**Narrogin (SRO)**	**25.01**	**177**	P	**P**	**18 29 37.3**	**-0.2**
	11nm,0.8s,mb4.5,baz=345,slow=10,SNR=8.7						
CTA	**Charters Tower**	**31.82**	**116**	*eP*	**P**	**18 30 39.6**	**+1.8**
	4.0nm,1.0s,mb3.9						
CTAO	**Charters Tower**	**31.82**	**116**	*eP*	**P**	**18 30 39.7**	**+2.0**
	4.3nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**33.84**	**138**	*eP*	**P**	**18 30 56.0**	**+0.8**
	9.3nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**33.84**	**138**	P	**P**	**18 30 56.1**	**+0.9**
	9.9nm,0.6s,mb4.5,baz=312,slow=9.1,SNR=40						
GUMO	**Guam**	**35.79**	**54**	P	**P**	**18 31 12.5**	**+0.7**
	56nm,0.6s,mb5.3,baz=202,slow=23,SNR=3.6						
GUMO	**Guam**	**35.79**	**54**	P	**P**	**18 31 12.5**	**+0.7**
ARMA	**Armidale**	**40.28**	**129**	*eP*	**P**	**18 31 52.2**	**+3.0**
HNR	**Honiara**	**43.57**	**95**	P	**P**	**18 32 14.9**	**-0.8**
	25nm,0.6s,mb4.7,baz=142,slow=1.3,SNR=4.1						
LSA	**Lhasa**	**44.25**	**329**	*eP**	**P**	**18 32 20.5**	**-0.6**
	2.0nm,0.5s,mb3.7						
KSRS	**Korea Array**	**46.43**	**13**	P	**P**	**18 32 38.2**	**+0.1**
	2.1nm,0.9s,mb3.5,baz=194,slow=8.3,SNR=7.9						
MJAR	**Matsushiro Arr**	**48.86**	**24**	P	**P**	**18 32 56.6**	**-0.1**
	0.5nm,0.5s,mb3.1,baz=15,slow=30,SNR=4.3						
SONM	**Songino Array**	**56.05**	**352**	P	**P**	**18 33 49.7**	**+0.3**
	1.3nm,0.8s,mb3.5,baz=166,slow=8.4,SNR=11						
RPZ	**Rata Peaks**	**59.77**	**136**	P	**P**	**18 34 16.1**	**+1.0**
	7.6nm,0.6s,mb4.5,baz=238,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**62.05**	**335**	P	**P**	**18 34 30.1**	**-0.2**
	1.3nm,0.5s,mb3.8,baz=152,slow=7.3,SNR=47						
KURK	**Kurchatov**	**66.62**	**335**	*eP*	**P**	**18 34 59.1**	**-0.8**
	1.6nm,0.7s,mb3.8						
ZAL	**Zalesovo**	**66.89**	**341**	P	**P**	**18 35 00.7**	**-0.9**
	1.2nm,0.4s,mb3.8,baz=337,slow=5.4,SNR=7.3						
MAW	**Mawson**	**69.31**	**199**	P	**P**	**18 35 16.1**	**-0.5**
	11nm,0.9s,mb4.5,baz=353,slow=6.2,SNR=5.6						
VNDA	**Vanda**	**73.63**	**171**	P	**P**	**18 35 42.1**	**-0.2**
	0.9nm,0.7s,mb3.5,baz=355,slow=6.3,SNR=16						
AKTK	**Aktyubinsk**	**76.53**	**326**	P	**P**	**18 35 58.7**	**-0.2**
AKTO	**Aktyubinsk**	**76.53**	**326**	P	**P**	**18 35 58.7**	**-0.2**
	0.4nm,0.4s,mb3.4,baz=100,slow=6.6,SNR=3.9						
BOSA	**Boshof**	**86.86**	**242**	P	**P**	**18 36 53.0**	**+0.4**
	1.3nm,0.5s,mb3.9,baz=214,slow=2.8,SNR=6.0						
SNAA	**Sanae**	**91.28**	**196**	P	**P**	**18 37 13.3**	**0.0**
	0.8nm,0.5s,mb3.9,baz=186,slow=4.8,SNR=15						
SNAA	**Sanae**	**91.28**	**196**	*e*	**P**	**18 37 13.2**	**-0.1**
SNAA				*e*		18 37 14.1	
VNA2	**Neumayer--Watz**	**92.92**	**196**	*e*	**P**	**18 37 21.4**	**+0.5**
	baz=94,slow=3.2						
VNA2				*e*		18 37 22.7	
YKA	**Yellowknife Ar**	**114.36**	**23**	PKP	PKiKP	18 42 45.2	-0.9
	0.4nm,0.5s,baz=310,slow=1.9,SNR=19						
YKA	**Yellowknife Ar**	**114.36**	**23**	PKP	PKiKP	18 42 45.2	-0.9
TORD	**Torodi Ar. Bea**	**115.22**	**281**	PKP	PKPdf	18 42 47.8	+0.1
	0.4nm,0.7s,baz=316,slow=0.6,SNR=6.6						
NVAR	**Mina Array Bea**	**122.62**	**49**	PKP	PKPdf	18 43 03.4	+1.4
	0.4nm,0.6s,baz=251,slow=2.6,SNR=4.8						
PDAR	**Pinedale Array**	**127.12**	**41**	PKP	PKPdf	18 43 11.0	+0.4
	0.2nm,0.4s,baz=100,slow=1.7,SNR=4.4						
TXAR	**Lajitas Array**	**137.14**	**55**	PKP	PKPdf	18 43 32.0	+2.6
	0.1nm,0.4s,baz=112,slow=29,SNR=6.1						
CMIG	**Matias Romero**	**148.62**	**70**	PKPbc	PKPbc	18 43 53.8	+0.2
	2.7nm,0.7s,baz=355,slow=7.9,SNR=4.0						
LPAZ	**La Paz**	**155.71**	**171**	PKPab	PKPab	18 44 29.2	+1.4
	1.1nm,0.6s,baz=232,slow=3.8,SNR=6.6						
SIV	**San Ignacio**	**156.14**	**187**	PKPab	PKPab	18 44 30.3	+0.6
	0.7nm,0.6s,baz=146,slow=4.6,SNR=4.9						

*MOS **25** 18:39:51.0±1.4, 4451N×14928E, h33km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=52.0km az=163.2*
*JMA **25** 18:39:53.0±0.5, 4469N×14901E, h30km, M4.2*
*ISCJB **25** 18:39:55.0±1.1, 4395N±008×1490E±01, h84km±14km, mb3.5/3, Error ellipse: s-maj=15.9km s-min=8.4km az=97.5*
*IDC **25** 18:39:57.3±11.0, 4456N×14893E, h83km±117km, mb3.3/3, mb1 3.5/5, mb1mx3.2/23, mbtmp3.2/5, ML3.4/2, Error ellipse: s-maj=159.9km s-min=58.2km az=135.0*
ISC 25 18:39:56.2±1.1, 4404N±008×1490E±01, h81km±14km, n34, σ1°07/49, mb3.5/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.29**	**271**	*e*PN	**Pn**	**18 40 29.0**	**-3.0**
YUK				*eS*	**Sn**	**18 40 58.5**	**-0.9**
YUK				pmax	pmax		
	comp=Z,280nm,0.3s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,570nm,0.5s						
NEM2	**Nemuro 2**	**2.49**	**255**	P	**Pn**	**18 40 33.1**	**-1.5**
NEM2				*eS*	**Sn**	**18 41 02.9**	**-1.2**
JRA	**Rausu**	**2.83**	**269**	P	**Pn**	**18 40 37.9**	**-1.4**
JRA				*eS*	**Sn**	**18 41 11.0**	**-1.4**
JNK	**Nakash**	**3.16**	**263**	P	**Pn**	**18 40 42.4**	**-1.4**
JAK	**Akkeshi**	**3.33**	**253**	P	**Pn**	**18 40 45.3**	**-0.7**
JAK				*eS*	**Sn**	**18 41 24.7**	**+0.2**
JTKR	**Abashiri--Toko**	**3.71**	**271**	P	**Pn**	**18 40 50.4**	**-0.7**
JAR	**Ashorobuto**	**3.90**	**261**	P	**Pn**	**18 40 53.6**	**-0.1**
JAR				*eS*	**Sn**	**18 41 40.2**	**+1.9**
JOB	**Onbets**	**3.96**	**255**	P	**Pn**	**18 40 54.4**	**-0.2**
JOB				*eS*	**Sn**	**18 41 40.4**	**+0.6**
JMP	**Maruseppu**	**4.10**	**271**	P	**Pn**	**18 40 56.9**	**+0.4**
JCH	**Churui**	**4.38**	**253**	P	**Pn**	**18 41 00.0**	**-0.3**
JCH				*eS*	**Sn**	**18 41 50.7**	**+0.6**
JKK2	**Kamakawa 2**	**4.55**	**270**	P	**Pn**	**18 41 03.9**	**+1.3**
ASAJ	**Asahikawa**	**4.64**	**273**	P	**Pn**	**18 41 04.2**	**+0.2**
	comp=E,1.6nm,0.3s,baz=64,slow=23,SNR=15						
ASAJ				S	**Sn**	**18 42 12.1**	**+16**
	comp=E,0.4nm,0.3s,baz=155,slow=19,SNR=2.3						
JFR	**Furan**	**4.76**	**262**	P	**Pn**	**18 41 07.0**	**+1.5**
JEM	**Erimo**	**4.77**	**247**	P	**Pn**	**18 41 07.7**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.93**	**251**	P	**Pn**	**18 41 07.6**	**-0.1**
JBT2	**Biratori 2**	**5.03**	**258**	P	**Pn**	**18 41 09.8**	**+0.7**
JEW	**Eniwo**	**5.66**	**260**	P	**Pn**	**18 41 19.6**	**+1.9**
JNB	**Noboribetsu**	**6.05**	**258**	P	**Pn**	**18 41 23.7**	**+0.6**
JNB				*eS*	**Sn**	**18 42 32.0**	**+1.1**
JKB	**Kayabe**	**6.26**	**253**	P	**Pn**	**18 41 26.3**	**+0.4**
JKB				*eS*	**Sn**	**18 42 35.1**	**-0.9**
JYM2	**Yakumo 2**	**6.64**	**256**	P	**Pn**	**18 41 31.4**	**+0.3**
JANG	**Nango**	**6.68**	**239**	P	**Pn**	**18 41 31.6**	**-0.1**
JANG				*eS*	**Sn**	**18 42 45.3**	**-1.1**
JSH	**Shimam**	**6.71**	**261**	P	**Pn**	**18 41 33.8**	**+1.8**
JTH	**Tanohata**	**6.74**	**235**	P	**Pn**	**18 41 31.9**	**-0.6**
JTH				*eS*	**Sn**	**18 42 46.1**	**-1.6**
JTM	**Tenmabayashi**	**6.74**	**244**	P	**Pn**	**18 41 32.2**	**-0.3**
JTM				*eS*	**Sn**	**18 42 46.7**	**-1.0**
JSR	**Shiriuchi**	**6.82**	**251**	P	**Pn**	**18 41 33.4**	**-0.2**
JOSM	**Okushiri--Mats**	**7.28**	**258**	P	**Pn**	**18 41 40.1**	**+0.3**
OFUJ	**Ofunato**	**7.42**	**231**	P	**Pn**	**18 41 42.0**	**+0.2**
JRG	**Rokugo**	**7.81**	**236**	P	**Pn**	**18 41 48.5**	**+1.3**
JRG				*eS*	**Sn**	**18 43 14.3**	**+0.3**
JIO	**Ouri**	**8.04**	**229**	P	**Pn**	**18 41 51.6**	**+1.3**
JIO				*eS*	**Sn**	**18 43 18.8**	**-0.8**
KSRS	**Korea Array**	**17.28**	**255**	P	**Pn**	**18 43 53.7**	**+1.5**
	baz=71,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**54.79**	**34**	P	**P**	**18 49 15.1**	**-2.6**
	comp=E,0.5nm,0.5s,mb3.8,baz=299,slow=7.0,SNR=13						
YKA	**Yellowknife Ar**	**54.79**	**34**	P	**P**	**18 49 15.1**	**-2.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**68.67**	**51**	P	**P**	**18 50 50.0**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.2,baz=262,slow=1.8,SNR=3.2						
TXAR	**Lajitas Array**	**81.34**	**57**	P	**P**	**18 52 04.3**

KHZ	Kahutara	4.17	203	PN	Pn	18 53 10.9	-3.5
DSZ	Denniston Nort	4.37	223	PN	Pn	18 53 13.1	-3.9
LTZ	Lake Taylor	4.95	211	*e*P	Pn	18 53 20.4	-4.3
LTZ	Lake Taylor	4.95	211	PN	Pn	18 53 20.4	-4.3

ISCJB ***25*** *18:52:47.0±0.6, 52.1N±0.1×30.19W±0.09, h10km, mb3.9/25, MS3.6/7, Error ellipse: s-maj=18.9km s-min=7.7km az=21.8*
IDC ***25*** *18:52:47.7±0.8, 52.16N×3022W, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.8/26, mbtmp3.7/14, ML4.2/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/34, Error ellipse: s-maj=29.0km s-min=14.2km az=4.0*
NEIC ***25*** *18:52:48.8±0.5, 52.13N×30.15W, h10km, mb4.2/12, Error ellipse: s-maj=15.3km s-min=5.9km az=191.0*
CSEM ***25*** *18:52:49.3±0.1, 51.95N×3023W, h33km, mb4.3/11, Ms3.2, Error ellipse: s-maj=10.7km s-min=2.5km az=10.0*

ISC 25 18:52:48.7±0.6, 522N±01×3015W±009, h10km, n52, σ0§82/48, mb3.9/25, MS3.6/7, 1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.23**	**68**	Pn	**Pn**	**18 56 36.5**	**-0.3**
	0.5nm,0.3s,baz=268,slow=10,SNR=22						
ROSF	**Rostrenen**	**17.56**	**92**	*e*P	**Pn**	**18 56 54.2**	**+0.7**
MFF	**Saint Martin d**	**20.22**	**94**	*e*P	**P**	**18 57 24.2**	**+0.5**
	9.2nm,0.8s						
MFF	**Saint Martin d**	**20.22**	**94**	*e*P	**P**	**18 57 24.2**	**+0.5**
	4.6nm,0.8s						
BAIF	**Baives**	**21.55**	**82**	*e*P	**P**	**18 57 37.9**	**-0.3**
	17nm,0.9s,mb4.2						
BAIF	**Baives**	**21.55**	**82**	*e*P	**P**	**18 57 37.9**	**-0.3**
	8.4nm,0.9s,mb4.2						
HYF	**Humbligny**	**21.64**	**90**	*e*P	**P**	**18 57 39.1**	**0.0**
TCF	**Toulx Ste Croi**	**21.81**	**93**	*e*P	**P**	**18 57 40.7**	**-0.2**
	17nm,1.0s,mb4.2						
TCF	**Toulx Ste Croi**	**21.81**	**93**	*e*P	**P**	**18 57 40.7**	**-0.2**
	8.6nm,1.0s,mb4.2						
SCHQ	**Schefferville**	**21.83**	**292**	P	**P**	**18 57 41.0**	**-0.1**
	4.7nm,0.9s,mb3.9,baz=127,slow=12,SNR=3.9						
RJF	**Les Rejaudoux**	**21.86**	**96**	*e*P	**P**	**18 57 41.3**	**-0.1**
ESDC	**Sonseca Array**	**21.95**	**114**	P	**P**	**18 57 43.8**	**+1.5**
	1.7nm,0.8s,mb3.5,baz=314,slow=9.4,SNR=11						
BGF	**Bois d'Agland**	**22.08**	**92**	*e*P	**P**	**18 57 43.5**	**-0.3**
	36nm,1.0s,mb4.5						
BGF	**Bois d'Agland**	**22.08**	**92**	*e*P	**P**	**18 57 43.5**	**-0.3**
	18nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**22.26**	**90**	*e*P	**P**	**18 57 45.2**	**-0.6**
	8.6nm,0.9s,mb3.9						
SSF	**Saint Saulge**	**22.26**	**90**	*e*P	**P**	**18 57 45.2**	**-0.6**
	4.3nm,0.9s,mb3.9						
AVF	**Avril sur Loir**	**22.29**	**91**	*e*P	**P**	**18 57 44.7**	**-1.3**
	13nm,1.0s,mb4.0						
AVF	**Avril sur Loir**	**22.29**	**91**	*e*P	**P**	**18 57 44.7**	**-1.3**
	6.6nm,1.0s,mb4.0						
LOR	**Lormes**	**22.39**	**89**	*e*P	**P**	**18 57 46.7**	**-0.4**
	27nm,1.2s,mb4.2						
LOR	**Lormes**	**22.39**	**89**	*e*P	**P**	**18 57 46.7**	**-0.4**
	13nm,1.2s,mb4.2						
MEZF	**Maizieres J'vi**	**22.62**	**85**	*e*P	**P**	**18 57 49.1**	**-0.5**
	71nm,1.4s,mb4.6						
MEZF	**Maizieres J'vi**	**22.62**	**85**	*e*P	**P**	**18 57 49.1**	**-0.5**
	36nm,1.4s,mb4.6						
SMF	**Signal de Mont**	**22.65**	**91**	*e*P	**P**	**18 57 49.5**	**-0.4**
	8.0nm,1.0s,mb3.8						
SMF	**Signal de Mont**	**22.65**	**91**	*e*P	**P**	**18 57 49.5**	**-0.4**
	4.0nm,1.0s,mb3.8						
HAU	**Haudompre**	**23.62**	**86**	*e*P	**P**	**18 57 59.5**	**-0.5**
HINF	**Hinteralfeld**	**24.00**	**86**	*e*P	**P**	**18 58 04.0**	**+0.5**
NOA	**NORSAR Array B**	**24.05**	**52**	P	**P**	**18 58 04.4**	**+0.5**
	1.3nm,0.8s,mb3.4,baz=270,slow=9.6,SNR=3.2						
NOA				LR	LR	19 05 28.3	
	comp=Z,90nm,20.0s,MS3.2,baz=5.0,slow=32						
NOA	**NORSAR Array B**	**24.05**	**52**	P	**P**	**18 58 04.4**	**+0.5**
NOA				LR	LR	19 05 28.3	
HFS	**Hagfors**	**25.26**	**54**	P	**P**	**18 58 15.5**	**+0.6**
	1.2nm,0.8s,mb3.5,baz=159,slow=33,SNR=3.7						
HFS				LR	LR	19 06 33.3	
	comp=Z,193nm,18.6s,MS3.6,baz=252,slow=33						
CLL	**Collm**	**26.45**	**75**	⇓*i*P	**P**	**18 58 26.2**	**+0.5**
	comp=Z,8.0nm,0.9s,mb4.2						
BRG	**Berggiesshubel**	**27.15**	**75**	*e*(P)	**P**	**18 58 32.5**	**+0.4**
	comp=Z,6.9nm,1.4s,mb4.0						
GERES	**GERESS Array B**	**27.77**	**79**	P	**P**	**18 58 37.7**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.4,baz=292,slow=7.1,SNR=5.4						
GERES				LR	LR	19 08 14.8	
	comp=Z,87nm,20.0s,MS3.3,baz=287,slow=33						
VRAC	**Vranov**	**29.32**	**77**	LR	LR	19 08 23.4	
	comp=Z,74nm,21.8s,MS3.3,baz=163,slow=32						
FINES	**FINESS Array B**	**31.19**	**50**	P	**P**	**18 59 07.3**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.7,baz=269,slow=9.5,SNR=5.9						
FINES				LR	LR	19 12 40.9	
	comp=Z,98nm,18.1s,MS3.5,baz=336,slow=38						
AKASG	**Malin Array Be**	**36.14**	**68**	P	**P**	**18 59 48.6**	**-2.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=297,slow=8.3,SNR=6.7						
ULM	**Lac du Bonnet**	**39.96**	**294**	P	**P**	**19 00 21.5**	**-1.7**
	comp=Z,1.0nm,0.8s,mb3.6,baz=56,slow=5.1,SNR=3.1						
ULM	**Lac du Bonnet**	**39.96**	**294**	P	**P**	**19 00 21.5**	**-1.7**
YKA	**Yellowknife Ar**	**43.50**	**318**	P	**P**	**19 00 51.4**	**-0.8**
	comp=Z,0.5nm,0.8s,mb3.3,baz=62,slow=8.3,SNR=6.0						
YKA				PcP	PcP	19 02 39.8	-0.3
	comp=Z,0.1nm,0.4s,baz=61,slow=3.6,SNR=4.4						
YKA	**Yellowknife Ar**	**43.50**	**318**	P	**P**	**19 00 51.4**	**-0.8**
YKA				PcP	PcP	19 02 39.8	-0.3
YKA	**Yellowknife Ar**	**43.50**	**318**	P	**P**	**19 00 51.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**46.55**	**135**	P	**P**	**19 01 16.3**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=339,slow=8.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**46.55**	**135**	P	**P**	**19 01 16.3**	**-0.2**
INK	**Inuvik**	**47.29**	**331**	LR	LR	19 20 25.3	
	comp=Z,337nm,21.7s,MS4.3,baz=2.5,slow=35						
ARU	**Arti**	**48.49**	**48**	*e*P	**P**	**19 01 32.4**	**+0.9**
	comp=Z,8.1nm,0.9s,mb4.8						
ARU	**Arti**	**48.49**	**48**	*e*P	**P**	**19 01 32.4**	**+0.8**
	comp=Z,8.1nm,0.9s,mb4.8						
PDAR	**Pinedale Array**	**51.95**	**293**	P	**P**	**19 01 57.9**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=79,slow=7.7,SNR=5.8						
PDAR	**Pinedale Array**	**51.95**	**293**	P	**P**	**19 01 57.8**	**0.0**
TXAR	**Lajitas Array**	**57.55**	**277**	P	**P**	**19 02 39.6**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=59,slow=8.3,SNR=2.9						
MKAR	**Makanchi Array**	**65.74**	**44**	P	**P**	**19 03 35.0**	**+1.4**
	comp=Z,1.8nm,1.0s,mb4.1,baz=318,slow=7.3,SNR=9.4						
MKAR				LR	LR	19 31 56.7	
	comp=Z,49nm,18.0s,MS3.8,baz=138,slow=36						
SONM	**Songino Array**	**73.69**	**29**	P	**P**	**19 04 24.3**	**+1.7**
	comp=Z,0.9nm,0.9s,mb3.7,baz=335,slow=5.6,SNR=6.4						
WRA	**Warramunga Arr**	**145.63**	**26**	PKPbc	PKPbc	19 12 28.5	+1.0
	comp=Z,0.6nm,0.5s,baz=345,slow=3.5,SNR=6.4						
ASAR	**Alice Springs**	**149.03**	**29**	PKPbc	PKPbc	19 12 37.0	0.0
	comp=Z,0.8nm,0.9s,baz=352,slow=2.0,SNR=10.0						

IDC ***25*** *18:59:06.4±1.4, 2534N×12740E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=37.9km s-min=25.2km az=95.0*
NEIC ***25*** *18:59:07.8±0.9, 2535N×12742E, h10km, mb4.4/1, Error ellipse: s-maj=23.8km s-min=14.7km az=109.0*
ISCJB ***25*** *18:59:08.6±0.9, 2530N±005×12769E±005, h36km±11km, mb3.5/4, Error ellipse: s-maj=9.8km s-min=6.1km az=110.2*
JMA ***25*** *18:59:08.9±0.2, 2535N×12765E, h65km±4km, M3.0*

ISC 25 18:59:09.7±2.4, 2534N±005×12765E±005, h30km±20km, n16, σ0§88/23, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.80**	**6**	P	**Pn**	**18 59 24.8**	**0.0**
JJT2				S	**Sn**	**18 59 36.7**	**+1.0**
NAH1	**Naha**	**0.86**	**2**	P	**Pn**	**18 59 25.3**	**-0.4**
NAH1				S	**Sn**	**18 59 37.5**	**+0.3**
JKE	**Kume jima 2**	**1.25**	**322**	P	**Pn**	**18 59 30.5**	**-0.6**
JKE				S	**Sn**	**18 59 46.5**	**-0.4**
JAGN	**Aguni-jima**	**1.29**	**344**	P	**Pn**	**18 59 31.6**	**-0.1**
JAGN				S	**Sn**	**18 59 47.5**	**-0.4**
JOW	**Kunigami**	**1.59**	**21**	Pn	**Pn**	**18 59 36.9**	**+1.2**
	11nm,0.3s,baz=184,slow=17,SNR=16						
JOW	**Kunigami**	**1.59**	**21**	P	**Pn**	**18 59 35.3**	**-0.4**
JIH	**Iheya**	**1.71**	**10**	S	**Sn**	**18 59 57.8**	**-0.4**
JOGS	**Gusukube**	**2.12**	**255**	P	**Pn**	**18 59 43.3**	**+0.4**
JOGS				*e*S	**Sn**	**19 00 08.0**	**-0.2**
JMJ	**Miyako jima 2**	**2.20**	**257**	*e*S	**Sn**	**19 00 09.3**	**-1.0**
JTK	**Tokunoshima**	**2.70**	**25**	P	**Pn**	**18 59 51.5**	**+0.5**
JTK				*e*S	**Sn**	**19 00 22.0**	**-0.6**
JMZ	**Minamidaito 2**	**3.26**	**81**	P	**Pn**	**18 59 57.5**	**-1.2**
JMZ				S	**Sn**	**19 00 33.1**	**-3.3**
JNU	**Nakatsue**	**8.25**	**19**	Pn	**Pn**	**19 01 08.8**	**+1.5**
	1.3nm,0.3s,baz=181,slow=24,SNR=8.5						
SONM	**Songino Array**	**28.02**	**329**	P	**P**	**19 04 57.7**	**-0.3**
	0.5nm,0.7s,mb3.2,baz=141,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**41.74**	**313**	P	**P**	**19 06 55.6**	**-0.4**
	0.8nm,0.5s,mb3.6,baz=96,slow=9.6,SNR=27						
ASAR	**Alice Springs**	**49.09**	**172**	P	**P**	**19 07 55.6**	**+1.5**
	0.3nm,1.0s,mb3.3,baz=352,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	**73.38**	**331**	P	**P**	**19 10 40.2**	**+1.6**
	2.0nm,1.0s,mb4.0,baz=40,slow=5.4,SNR=5.0						

NEIC ***25*** *19:07:58.9, 2943S×7159W, h55km±7km, MD3.8(GUC), After GUC.*

GUC 25 19:07:58.9±0.5, 2943S×7159W, h55km±7km, MD3.8, ML3.4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.57**	**148**	*e*P	Pn	19 08 11.2	0.0
LSCH				*i* S	Sn	19 08 21.0	+0.8
LCO	**Las Campanas**	**0.88**	**62**	*e*P	Pn	19 08 16.3	+1.1
VACH	**Vallenar**	**1.12**	**41**	*e*P	Pn	19 08 18.8	+0.4
VACH				*i* S	Sn	19 08 34.0	+1.2
VACH				AML	AML	19 08 35.3	
	comp=N,2μm,0.1s						
VACH	**Vallenar**	**1.12**	**41**	*e*P	Pn	19 08 18.8	+0.4
VACH				*i* S	Sn	19 08 34.0	+1.2
OVCH	**Ovalle**	**1.23**	**164**	*e*P	Pn	19 08 20.2	+0.4
OVCH				*i* S	Sn	19 08 36.4	+1.1
CMCH	**Combarbala**	**1.81**	**164**	⇓*i*P	Pn	19 08 28.6	+0.9
CMCH				*i* S	Sn	19 08 50.7	+1.1
CMCH				AML	AML	19 08 59.0	
	comp=N,496nm,0.7s						
CMCH	**Combarbala**	**1.81**	**164**	⇓*i*P	Pn	19 08 28.6	+0.9
CMCH				*i* S	Sn	19 08 50.7	+1.1

IDC 25 19:21:14.3±2.0, 800S×12789E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=94.9km s-min=28.8km az=78.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.28**	**192**	Pn	Pn	19 23 44.0	+1.0
	0.3nm,0.3s,baz=123,slow=8.2,SNR=9.7						
FITZ				Sn	Sn	19 25 36.1	-2.8
	0.6nm,0.3s,baz=292,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**13.41**	**153**	Pn	Pn	19 24 25.0	-0.9
	0.6nm,0.3s,baz=323,slow=14,SNR=21						
WRA				Sn	Sn	19 26 50.7	-5.0
	0.4nm,0.3s,baz=337,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**16.61**	**160**	Pn	Pn	19 25 08.9	+0.4
	0.2nm,0.3s,baz=338,slow=11,SNR=21						
SONM	**Songino Array**	**58.76**	**343**	P	P	19 31 14.1	+0.1
	0.5nm,0.9s,baz=141,slow=6.1,SNR=2.4						

IDC 25 19:31:05.3±1.2, 2200N×14323E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/20, Error ellipse: s-maj=56.2km s-min=24.8km az=96.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.30**	**323**	LR	LR	19 42 26.8	
	comp=Z,24nm,21.0s,baz=40,slow=34						
SONM	**Songino Array**	**39.14**	**320**	P	P	19 38 34.4	-0.1
	0.8nm,0.9s,baz=120,slow=7.6,SNR=4.3						
WRA	**Warramunga Arr**	**42.58**	**192**	P	P	19 39 04.2	+1.3
	1.0nm,1.1s,baz=15,slow=9.6,SNR=3.8						
ASAR	**Alice Springs**	**46.29**	**192**	P	P	19 39 31.2	-1.3
	0.2nm,0.7s,baz=15,slow=8.7,SNR=4.3						
YKA	**Yellowknife Ar**	**76.17**	**28**	P	P	19 42 55.1	-0.1
	0.2nm,0.4s,baz=293,slow=5.8,SNR=12						

IDC 25 19:43:01.8±1.2, 2208N×14329E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=53.1km s-min=24.3km az=93.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.11**	**320**	P	P	19 50 30.9	+0.1
	0.5nm,0.8s,baz=123,slow=7.1,SNR=3.2						
WRA	**Warramunga Arr**	**42.67**	**192**	P	P	19 51 00.9	+0.7
	0.6nm,0.7s,baz=12,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**46.38**	**192**	P	P	19 51 29.4	-0.4
	0.2nm,0.6s,baz=20,slow=11,SNR=6.6						
YKA	**Yellowknife Ar**	**76.08**	**28**	P	P	19 54 51.0	-0.1
	0.4nm,0.7s,baz=292,slow=5.9,SNR=11						

IDC ***25*** *19:47:47.7±0.6, 21.97N×143.13E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.3/24, mbtmp4.2/18, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/28, Error ellipse: s-maj=23.4km s-min=13.2km az=87.0*
ISCJB ***25*** *19:47:50.3±3.3, 21.95N±005×143.15E±009, h24km±23km, mb4.3/36, MS3.9/2, Error ellipse: s-maj=14.7km s-min=8.2km az=170.1*
BJI ***25*** *19:47:51.5, 22.17N×143.18E, h23km, mB5.1, mb4.7*
MOS ***25*** *19:47:53.2±1.2, 2196N×14307E, h47km, mb4.7/15, Error ellipse: s-maj=19.0km s-min=9.2km az=111.5*
NEIC ***25*** *19:47:53.4±0.4, 2202N×14324E, h35km, mb4.6/8, Error ellipse: s-maj=13.0km s-min=9.5km az=75.0*

ISC 25 19:47:54.7±1.6, 2198N±005×14323E±009, h44km±13km, n62, σ1§14/62, mb4.3/36, MS3.9/2, 7C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.18**	**350**	Pn	**Pn**	**19 49 08.3**	**-1.4**
	13nm,0.3s,baz=277,slow=16,SNR=5.1						
CBIJ				Sn	**Sn**	**19 50 09.2**	**+1.0**
	8.8nm,0.3s,baz=285,slow=23,SNR=3.8						
GUMO	**Guam**	**8.49**	**169**	LR	LR	19 52 27.1	
	comp=Z,184nm,19.6s,baz=2.7,slow=33						
KSRS	**Korea Array**	**20.32**	**323**	P	**P**	**19 52 28.2**	**+1.4**
	5.6nm,0.8s,baz=141,slow=9.4,SNR=26						
KSRS				LR	LR	19 58 47.8	
	comp=Z,43nm,18.5s,MS2.8,baz=140,slow=32						
HABR	**Khabarovsk**	**27.24**	**348**	⇓*e*P	**P**	**19 53 37.0**	**+2.6**
HABR				*e*S	**S**	**19 58 11.5**	**+1.1**
HABR				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.6						
ULN	**Ulaanbaatar**	**38.78**	**321**	⇑*e*P	**P**	**19 55 14.8**	**0.0**
ULN	**Ulaanbaatar**	**38.78**	**321**	*e*P	**P**	**19 55 15.0**	**+0.2**
	comp=Z,12nm,1.4s,mb4.4						
SONM	**Songino Array**	**39.15**	**320**	P	**P**	**19 55 17.8**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.0,baz=127,slow=7.0,SNR=18						
GTA	**Gaotai**	**40.74**	**305**	*e*P	**P**	**19 55 32.0**	**+0.8**
GTA				AP	pP	19 55 35.5	-7.8
GTA				XP	sP	19 55 38.5	-10
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.6						
YAK	**Yakutsk**	**41.10**	**350**	⇑*e*P	**P**	**19 55 33.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
SEY	**Seymchan**	**41.41**	**6**	⇑*e*P	**P**	**19 55 36.8**	**+0.2**
BOD	**Bodaibo**	**41.60**	**337**	*e*P	**P**	**19 55 33.5**	**-4.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb3.8						
CTA	**Charters Tower**	**41.91**	**176**	*e*P	**P**	**19 55 41.8**	**+1.1**
	comp=Z,6.8nm,1.1s,mb4.2						
CTA	**Charters Tower**	**41.91**	**176**	P	**P**	**19 55 41.2**	**+0.5**
	comp=Z,9.1nm,1.0s,mb4.3,baz=13,slow=9.2,SNR=8.7						
CTA	**Charters Tower**	**41.91**	**176**	*e*P	**P**	**19 55 41.8**	**+1.1**
CTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZAK	**Zakamensk**	**42.15**	**322**	⇓*i*P	**P**	**19 55 42.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1						
WB2	**Warramunga Arr**	**42.55**	**192**	*e*P	**P**	**19 55 47.1**	**+1.1**
WRA	**Warramunga Arr**	**42.56**	**192**	P	**P**	**19 55 45.3**	**-0.7**
	comp=Z,2.3nm,0.8s,mb3.9,baz=13,slow=8.8,SNR=8.2						
FITZ	**Fitzroy Crossi**	**43.39**	**205**	*e*P	**P**	**19 55 55.2**	**+2.5**
	comp=Z,4.7nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**43.39**	**205**	P	**P**	**19 55 52.1**	**-0.7**
	comp=Z,2.4nm,0.9s,mb3.9,baz=0.0,slow=3.0,SNR=2.6						
ASAR	**Alice Springs**	**46.27**	**192**	P	**P**	**19 56 14.3**	**-1.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=18,slow=11,SNR=12						
LSA	**Lhasa**	**47.18**	**291**	*e*P	**P**	**19 56 24.8**	**+2.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**47.18**	**291**	*e*P	**P**	**19 56 24.8**	**+2.0**
	comp=Z,3.2nm,0.7s,mb4.4						
BILL	**Bilibino**	**48.24**	**11**	⇑*e*P	**P**	**19 56 29.2**	**-1.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BILL				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
TIXI	**Tiksi**	**50.38**	**354**	⇑*e*P	**P**	**19 56 46.7**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.3						
WMQ	**Urumqi**	**50.44**	**309**	P	**P**	**19 56 48.5**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.7						
GUN	**Gumba**	**51.94**	**289**	*e*P	**P**	**19 56 59.8**	**+0.8**
KKN	**Kakani**	**52.48**	**289**	*e*P	**P**	**19 57 04.1**	**+1.0**
DMN	**Daman**	**52.66**	**289**	*e*P	**P**	**19 57 06.1**	**+1.7**
GKN	**Gorkha**	**53.02**	**289**	*e*P	**P**	**19 57 07.2**	**+0.2**
	comp=Z,24nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**53.57**	**182**	P	**P**	**19 57 10.1**	**-1.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=327,slow=6.6,SNR=3.3						
STKA	**Stephens Creek**	**53.57**	**182**	P	**P**	**19 57 10.1**	**-1.0**
KOLN	**Koldanda**	**53.96**	**289**	*e*P	**P**	**19 57 14.2**	**+0.3**
	comp=Z,7.1nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**54.03**	**322**	P	**P**	**19 57 13.1**	**-1.3**
	comp=Z,3.0nm,0.9s,mb4.2,baz=13,slow=7.2,SNR=16						
ZAL	**Zalesovo**	**54.03**	**322**	P	**P**	**19 57 13.1**	**-1.3**
MKAR	**Makanchi Array**	**54.54**	**312**	P	**P**	**19 57 17.7**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=92,slow=9.4,SNR=12						
NVS	**Novosibirsk**	**55.11**	**322**	*e*P	**P**	**19 57 21.0**	**-1.2**
NVS				pmax	pmax		
	comp=Z,10.0nm,2.0s,mb4.5						
NVS				pmax	pmax		
	comp=N,4.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,11nm,2.0s						
KURK	**Kurchatov**	**57.30**	**317**	*e*P	**P**	**19 57 37.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
KURK	**Kurchatov**	**57.30**	**317**	*e*P	**P**	**19 57 37.2**	**-0.7**
	comp=Z,16nm,1.4s,mb4.9						
AAK	**Ala-Archa**	**60.03**	**307**	*e*P	**P**	**19 57 55.1**	**-1.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
BVAR	**Borovoye Array**	**62.49**	**319**	P	**P**	**19 58 12.4**	**-1.1**
	comp=Z,6.0nm,0.8s,mb4.8,baz=90,slow=7.2,SNR=5.7						
BRVK	**Borovoye**	**62.55**	**319**	*e*P	**P**	**19 58 13.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
BRVK	**Borovoye**	**62.55**	**319**	*e*P	**P**	**19 58 13.6**	**-0.3**
	comp=Z,12nm,1.0s,mb5.0						
KBL	**Kabul**	**65.24**	**299**	*e*P	**P**	**19 58 31.9**	**+0.3**
INK	**Inuvik**	**67.30**	**24**	P	**P**	**19 58 44.5**	**-0.3**
	comp=Z,5.1nm,1.1s,mb4.5,baz=257,slow=7.7,SNR=11						
INK	**Inuvik**	**67.30**	**24**	P	**P**	**19 58 44.5**	**-0.3**
ARU	**Arti**	**69.07**	**324**	⇓*i*P	**P**	**19 58 54.2**	**-1.6**
ARU				*e*PPP		20 03 02.9	
ARU				*e*S	S	20 07 51.3	-6.4
ARU				*e*SSS		20 15 29.4	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**76.19**	**28**	P	**P**	**19 59 38.2**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=292,slow=5.9,SNR=28						
YKA	**Yellowknife Ar**	**76.19**	**28**	P	**P**	**19 59 38.2**	**+0.1**
OBN	**Obninsk**	**81.28**	**326**	⇑*e*P	**P**	**20 00 05.5**	**-0.6**
OBN				*e*		20 03 12.4	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
KIV	**Kislovodsk**	**82.26**	**314**	*e*P	**P**	**20 00 11.7**	**+0.4**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
NVAR	**Mina Array Bea**	**82.94**	**52**	P	**P**	**20 00 16.1**	**+1.2**
	comp=Z,2.9nm,0.8s,mb4.3,baz=266,slow=5.6,SNR=13						
FINES	**FINESS Array B**	**82.95**	**334**	P	**P**	**20 00 13.3**	**-1.6**
	comp=Z,2.4nm,0.9s,mb4.2,baz=59,slow=7.4,SNR=4.4						
FINES	**FINESS Array B**	**82.95**	**334**	*i* P	**P**	**20 00 12.8**	**-2.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARUT	**Antelope Range**	**86.71**	**51**	*e*P	**P**	**20 00 35.6**	**+1.8**

ULHL				⇑S		Sg	20 01 06.5 +3.6
	356μm,0.3s						
KZA	**Kyzart**	**0.66**	**264**	⇑P		**Pg**	**20 01 10.1 -1.2**
	61μm,0.3s						
KZA				⇑S		Sg	20 01 18.9 -1.0
	328μm,0.2s						
TKM2	**Tokmak 2**	**0.86**	**333**	P		**Pg**	**20 01 15.4 +0.1**
	39μm,0.3s						
TKM2				⇓S		Sg	20 01 28.1 +1.6
	88μm,0.1s						
TKM2	**Tokmak 2**	**0.86**	**333**	⇓P		**Pg**	**20 01 15.3 0.0**
	650nm,0.3s						
TKM2				⇑S		Sg	20 01 28.1 +1.7
	17μm,0.6s						
TKM2	**Tokmak 2**	**0.86**	**333**	*i* P		**Pg**	**20 01 15.3 0.0**
KBK	**Karagaybulak**	**1.01**	**300**	P		**Pg**	**20 01 17.4 -0.7**
	50μm,0.4s						
KBK				⇓S		Sg	20 01 31.3 +0.1
	166μm,0.2s						
UCH	**Uchtor**	**1.20**	**274**	⇓P		**Pg**	**20 01 19.8 -2.0**
	15μm,0.3s						
UCH				⇓S		Sg	20 01 35.8 -1.5
	133μm,0.5s						
KNDC	**Almaty**	**1.23**	**30**	⇑P		**Pg**	**20 01 23.3 +0.9**
	43μm,0.6s						
KNDC				⇑S		Sg	20 01 41.6 +3.3
AAA	**Alma-Ata**	**1.27**	**28**	*e*PG		**Pg**	**20 01 23.0 -0.2**
AAK	**Ala-Archa**	**1.30**	**292**	*e*PG		**Pg**	**20 01 21.2 -2.5**
AAK				*e*S		Sg	20 01 39.0 -1.6
FRU	**Bishkek**	**1.31**	**302**κ	*i*PG		**Pg**	**20 01 22.0 -1.8**
FRU				*i* S		Sg	20 01 40.0 -0.8
FRU				pmax	pmax		
	comp=Z,230μm,6.0s						
FRU				smax			
	comp=Z,530μm,8.0s						
CHMS	**Chumysh**	**1.32**	**310**	P		**Pn**	**20 01 22.8 -1.5**
	comp=Z,13μm,0.2s,SNR=3946						
CHMS				⇑S		Sg	20 01 41.0 -0.2
	comp=Z,62μm,0.3s						
USP	**Ospenovka**	**1.64**	**313**	P		**Pn**	**20 01 28.4 -0.3**
	comp=Z,25μm,0.3s						
USP				⇓S		Sn	20 01 51.1 +0.7
	comp=Z,33μm,0.2s						
AML	**Almayashu**	**1.81**	**270**	⇓P		**Pn**	**20 01 30.9 -0.2**
	comp=Z,15μm,0.2s,SNR=8427						
AML				⇓S		Sn	20 01 55.2 +0.6
	comp=Z,374μm,0.6s						
EKS2	**Erkin-Say**	**1.81**	**287**	⇑P		**Pn**	**20 01 31.5 +0.4**
	comp=Z,17μm,0.3s						
EKS2				⇑S		Sn	20 01 56.2 +1.5
	comp=Z,144μm,0.7s						
KSH	**Kashi**	**2.64**	**183**⇑	*i*P		**Pn**	**20 01 45.0 +2.6**
KSH				S		Sn	20 02 17.5 +2.4
KSH				Smax			
	comp=N,336μm,0.9s						
KSH				Smax			
	comp=E,428μm,1.0s						
KK31	**Karatay Array**	**4.25**	**285**	⇓Pn		**Pn**	**20 02 05.1 +0.4**
	comp=E,10μm,0.9s,baz=105,slow=11						
KK31				⇑Lg			20 03 10.0
	comp=E,15μm,0.6s,baz=108,slow=24,SNR=9.5						
KK31	**Karatay Array**	**4.25**	**285**	*e*P		**Pn**	**20 02 05.6 +1.0**
KKAR	**Karatay Array**	**4.25**	**285**	*i* Pn		**Pn**	**20 02 05.5 +0.9**
KKAR							20 03 09.9
KKAR				pmax	pmax		
	comp=Z,9μm,0.9s						
TAS	**Tashkent**	**5.18**	**263**	*e*PN		**Pn**	**20 02 16.0 -1.4**
MK31	**Makanchi Array**	**6.40**	**41**	⇑Pn		**Pn**	**20 02 36.2 +2.0**
	comp=Z,1μm,0.8s,baz=215,slow=13						
MK31				⇓Lg			20 04 23.6
	comp=Z,6μm,0.9s,baz=222,slow=25,SNR=3.5						
MK31				⇑Rg			20 04 52.1
	comp=Z,139μm,10.2s						
MK31	**Makanchi Array**	**6.40**	**41**	*e*PN		**Pn**	**20 02 36.2 +2.0**
MK31				pmax	pmax		
	comp=Z,400nm,0.3s						
MK31	**Makanchi Array**	**6.40**	**41**	*e*Pn		**Pn**	**20 02 36.0 +1.8**
MKAR	**Makanchi Array**	**6.40**	**41**	Pn		**Pn**	**20 02 34.5 +0.3**
	comp=Z,15nm,0.3s,baz=217,slow=15,SNR=369						
MKAR				Lg			20 04 13.2
	comp=Z,212nm,0.3s,baz=225,slow=22,SNR=4.4						
MKAR	**Makanchi Array**	**6.40**	**41**	*e*PN		**Pn**	**20 02 36.2 +2.0**
MKAR				*e*			20 04 24.5
MKAR				pmax	pmax		
	comp=Z,140nm,0.4s						
WMQ	**Urumqi**	**8.64**	**75**	P		**Pn**	**20 03 06.0 +1.0**
WMQ				S		Sn	20 04 37.3 -5.8
WMQ				AMB	AMB		
	comp=Z,124nm,1.0s						
WMQ				Smax			
	comp=N,3μm,1.0s						
WMQ				Smax			
	comp=E,3μm,1.2s						
WMQ				LR	LR		
	comp=N,24μm,6.0s						
WMQ				LR	LR		
	comp=E,22μm,7.0s						
WMQ				LR	LR		
	comp=Z,28μm,18.0s						
KURK	**Kurchatov**	**8.74**	**10**	⇑Pn		**Pn**	**20 03 05.2 -1.0**
	comp=Z,2.8nm,0.2s						
KURK				⇓Lg			20 05 34.1
	comp=Z,23μm,1.7s						
KURK				Rg			20 06 09.9
	comp=Z,93μm,9.8s						
KURK	**Kurchatov**	**8.74**	**10**	⇓P		**Pn**	**20 03 06.7 +0.4**
	SNR=98						
KURK	**Kurchatov**	**8.74**	**10**⇑	*e*P		**Pn**	**20 03 05.3 -0.9**
KURK	**Kurchatov**	**8.74**	**10**	*e*Pn		**Pn**	**20 03 05.5 -0.8**
CHCP	**Chirah Chowk**	**8.78**	**196**	P		**Pn**	**20 03 08.3 +1.5**
KBL	**Kabul**	**9.41**	**218**	*e*Pn		**Pn**	**20 03 14.5 -1.0**
JMU	**Jammu**	**9.47**	**186**	*e*P		**Pn**	**20 03 22.5 +6.2**
JMU				*e*S		Sn	20 05 02.5 -0.9
DLH	**Dalhousie**	**9.60**	**181**	*e*P		**Pn**	**20 03 20.0 +2.0**
DLH				*ex*		x	20 05 16.0
THN	**Thein Dam**	**9.71**	**182**	*e*P		**Pn**	**20 03 18.6 -1.0**
THW	**Thamme Wali**	**9.97**	**202**	P		**Pn**	**20 03 21.8 -1.3**
PONG	**Pong**	**10.18**	**181**	*ex*		x	20 04 20.0
SARP	**Sargodha**	**10.58**	**196**	P		**Pn**	**20 03 29.7 -1.8**
SARP				S		Sn	20 05 26.0 -4.6
SDNR	**Sundarnagar**	**10.65**	**176**	*e*P		**Pn**	**20 03 31.0 -1.5**
SBDP	**Sheikh Budin**	**10.71**	**205**	P		**Pn**	**20 03 30.7 -2.5**
BHK	**Bhakra**	**10.72**	**179**	*e*P		**Pn**	**20 03 33.0 -0.4**
DRP	**Derazinda**	**11.41**	**206**	P		**Pn**	**20 03 40.8 -2.1**
BVA0	**Borovoye Array**	**11.54**	**342**	⇓Pn		**Pn**	**20 03 42.4 -2.2**
	comp=Z,34nm,0.6s,baz=152,slow=13,SNR=1718						
BVA0				⇑Lg			20 07 03.0
	comp=Z,6μm,2.2s						
BVA0				⇑Rg			20 07 38.9
	comp=Z,17μm,9.2s						
BVA0	**Borovoye Array**	**11.54**	**342**	*i* P		**Pn**	**20 03 42.7 -2.0**
BVA0				pmax	pmax		
	comp=Z,21nm,0.6s						
BVAR	**Borovoye Array**	**11.54**	**342**	Pn		**Pn**	**20 03 42.4 -2.3**
	comp=Z,24nm,0.3s,baz=145,slow=12,SNR=192						
BVAR				Sn		Sn	20 05 43.5 -11
	comp=Z,19nm,0.3s,baz=158,slow=20,SNR=3.0						
BVAR				Lg			20 06 58.7
	comp=Z,161nm,0.3s,baz=156,slow=26,SNR=7.6						
BVAR				LR	LR		20 08 28.2
	comp=Z,79μm,20.5s,baz=139,slow=39						
BVAR	**Borovoye Array**	**11.54**	**342**	P		**Pn**	**20 03 42.4 -2.3**
BVAR							20 05 43.5
BRVK	**Borovoye**	**11.60**	**342**	*e*P		**Pn**	**20 03 43.9 -1.5**
DDI	**Dehra Dun**	**11.91**	**172**	*e*P		**Pn**	**20 03 49.0 -0.7**
DDI				*ex*		x	20 06 38.0
CHKZ	**Chkalovo**	**12.10**	**344**	⇓Pn		**Pn**	**20 03 49.9 -2.5**
	comp=Z,104nm,0.7s						
CHKZ				⇑Lg			20 07 21.1
	comp=Z,16μm,2.7s						
CHKZ				⇑Rg			20 08 00.5
	comp=Z,3μm,1.9s						
PTH	**Pithoragarh**	**13.00**	**164**	*ex*		**Pn**	**20 04 06.8 +2.1**
PTH				*ex*		x	20 06 37.2
LGTI	**Lohaghat**	**13.11**	**164**	*i* P		**Pn**	**20 04 05.0 -1.1**
LGTI				*ex*		Sn	20 06 32.2 -0.3
ZAL	**Zalesovo**	**13.13**	**23**	Pn		**Pn**	**20 04 04.7 -1.7**
	comp=Z,48nm,0.3s,baz=257,slow=10,SNR=170						
ZAL				Sn		Sn	20 06 23.9 -9.1
	comp=Z,14nm,0.3s,baz=248,slow=16,SNR=3.0						
ZAL				Lg			20 07 52.3
	comp=Z,32nm,0.3s,baz=261,slow=21,SNR=3.3						
ZAL	**Zalesovo**	**13.13**	**23**	P		**Pn**	**20 04 04.7 -1.6**
ZAL							20 06 23.9
AB31	**Akbulak array**	**13.34**	**308**	⇓Pn		**Pn**	**20 04 06.0 -3.2**
	comp=Z,250nm,0.6s,baz=115,slow=12,SNR=3827						
AB31				⇑Sn		**Sn**	**20 06 36.5 -1.6**
	comp=Z,563nm,0.9s						
AB31				⇓Lg			20 08 02.2
	comp=Z,4μm,1.1s						
AB31	**Akbulak array**	**13.34**	**308**	*i* P		**Pn**	**20 04 05.9 -3.3**
NDI	**New Delhi**	**13.47**	**176**	*e*P		**Pn**	**20 04 08.0 -3.0**
	comp=Z,25nm,0.5s						
NDI				*e*P			20 04 08.2
NDI				AMb	AMB		20 04 16.8
	comp=Z,305nm,1.2s						
NDI				*e*S		**Sn**	**20 06 28.7 -13**
NVS	**Novosibirsk**	**13.53**	**18**	*e*P		**Pn**	**20 04 11.4 -0.5**
NVS				*e*S		**Sn**	**20 06 32.9 -10**
NVS				pmax	pmax		
	comp=N,175nm,0.6s						
NVS				pmax	pmax		
	comp=E,12nm,0.6s						
NVS				pmax	pmax		
	comp=Z,213nm,0.6s						
NVS				smax			
	comp=N,3μm,1.6s						
NVS				smax			
	comp=E,2μm,1.6s						
VAN	**Vannovskaya**	**14.42**	**259**	P		**Pn**	**20 04 19.1 -4.9**
AKTK	**Aktyubinsk**	**14.98**	**310**	Pn		**Pn**	**20 04 28.1 -3.5**
AKTK				Sn		**Sn**	**20 07 12.7 -5.5**
AKTK				LR	LR		20 11 13.0
AKTO	**Aktyubinsk**	**14.98**	**310**	⇑Pn		**Pn**	**20 04 26.8 -4.9**
	comp=E,13nm,0.8s						
AKTO				⇓Sn		**Sn**	**20 07 20.8 +2.5**
	comp=E,72nm,1.5s						
AKTO				⇑Lg			20 08 52.8
	comp=E,315nm,1.9s						
AKTO	**Aktyubinsk**	**14.98**	**310**	Pn		**Pn**	**20 04 28.1 -3.5**
	comp=E,8.4nm,0.3s,baz=110,slow=11,SNR=323						
AKTO				Sn		**Sn**	**20 07 12.7 -5.6**
	comp=E,5.0nm,0.3s,baz=12,slow=20,SNR=2.5						
AKTO				LR	LR		20 11 13.0
	comp=E,10μm,20.0s,baz=277,slow=41						
AKTO	**Aktyubinsk**	**14.98**	**310**	P		**Pn**	**20 04 28.2 -3.4**
AKTO							20 07 12.7
KOLN	**Koldanda**	**15.59**	**155**	*e*P		**Pn**	**20 04 34.8 -4.9**
	comp=E,562nm,0.9s						
KOLN	**Koldanda**	**15.59**	**155**	*e*P		**Pn**	**20 04 34.0 -5.7**
	comp=E,562nm,0.9s						
KOLN	**Koldanda**	**15.59**	**155**	*e*P		**Pn**	**20 04 34.0 -5.7**
	comp=E,562nm,0.9s						
AJM	**Ajmer**	**15.68**	**185**	*ex*		**Pn**	**20 04 36.0 -4.9**
AJM				AMb	AMB		20 04 42.9
	comp=Z,611nm,1.9s						
AJM				*i* x		**Sn**	**20 07 26.0 -9.3**
GKN	**Gorkha**	**15.73**	**151**	*e*P		**Pn**	**20 04 36.5 -5.0**
	comp=Z,261nm,0.5s						
GKN	**Gorkha**	**15.73**	**151**	*e*P		**Pn**	**20 04 37.8 -3.7**
	comp=Z,261nm,0.5s						
GKN	**Gorkha**	**15.73**	**151**	*e*P		**Pn**	**20 04 37.8 -3.7**
	comp=Z,261nm,0.5s						
KKN	**Kakani**	**16.16**	**150**	*e*P		**Pn**	**20 04 42.5 -4.6**
	comp=Z,195nm,0.6s						
KKN	**Kakani**	**16.16**	**150**	*e*P		**Pn**	**20 04 43.7 -3.4**
	comp=Z,504nm,1.0s						
KKN	**Kakani**	**16.16**	**150**	*e*P		**Pn**	**20 04 43.7 -3.4**
	comp=Z,504nm,1.0s						
DMN	**Daman**	**16.26**	**150**	*e*P		**Pn**	**20 04 43.8 -4.5**
	comp=Z,366nm,0.8s						
DMN	**Daman**	**16.26**	**150**	*e*P		**Pn**	**20 04 44.7 -3.6**
DMN	**Daman**	**16.26**	**150**	*e*P		**Pn**	**20 04 44.7 -3.6**
GUN	**Gumba**	**16.28**	**148**	*e*P		**Pn**	**20 04 45.5 -3.2**
	comp=Z,733nm,1.0s						
GUN	**Gumba**	**16.28**	**148**	*e*P		**Pn**	**20 04 45.6 -3.1**
	comp=Z,808nm,1.1s						
GUN	**Gumba**	**16.28**	**148**	*e*P		**Pn**	**20 04 45.6 -3.1**
	comp=Z,808nm,1.1s						
PKI	**Pulchoki**	**16.40**	**150**	*e*P		**Pn**	**20 04 46.5 -3.7**
	comp=Z,211nm,0.6s						
PKI	**Pulchoki**	**16.40**	**150**	*e*P		**Pn**	**20 04 46.6 -3.6**
	comp=Z,279nm,0.8s						
PKI	**Pulchoki**	**16.40**	**150**	*e*P		**Pn**	**20 04 46.6 -3.6**
	comp=Z,279nm,0.8s						
JIRN	**Jiri**	**16.63**	**147**	*e*P		**Pn**	**20 04 49.5 -3.6**
	comp=Z,339nm,0.5s						
JIRN	**Jiri**	**16.63**	**147**	*e*P		**Pn**	**20 04 50.6 -2.5**
	comp=Z,339nm,0.5s						
JIRN	**Jiri**	**16.63**	**147**	*e*P		**Pn**	**20 04 50.6 -2.5**
	comp=Z,339nm,0.5s						
ORR	**Orenburg**	**17.35**	**310**	*e*P		**Pn**	**20 05 00.6 -1.6**
ORR				S		**Sn**	**20 08 14.6 -1.2**
ORR				pmax	pmax		
	comp=Z,2μm,0.9s						
ORR				MLR	MLR		
	comp=Z,33μm,16.0s						
LSA	**Lhasa**	**17.36**	**131**	P		**Pn**	**20 05 03.0 +0.7**
LSA				AP	pP		20 05 12.0 +8.0
LSA				XP	sP		20 05 16.3 +12
LSA				S		**Sn**	**20 08 19.8 +3.8**
LSA				AMB	AMB		
	comp=Z,60nm,1.4s						
LSA				AMB	AMB		
	comp=Z,4μm,10.1s						
LSA				LR	LR		
	comp=N,8μm,14.6s						
LSA				LR	LR		
	comp=E,12μm,12.5s						
LSA				LR	LR		
	comp=Z,27μm,14.0s						
LSA	**Lhasa**	**17.36**	**131**	*e*P		**Pn**	**20 05 04.0 +1.7**
LSA				pmax	pmax		
	comp=Z,153nm,1.0s						
LSA	**Lhasa**	**17.36**	**131**	*e*P		**Pn**	**20 05 04.0 +1.7**
	comp=Z,153nm,1.0s						
ALBI	**Allahabad**	**17.44**	**163**	*e*P		**Pn**	**20 05 02.0 -1.4**
KRAR	**Krasnoyarsk**	**17.61**	**32***d*	*i*P		**Pn**	**20 05 04.7 -0.7**
KRAR				pmax	pmax		
	comp=Z,60nm,1.3s						
SVE	**Sverdlovsk**	**17.74**	**331**⇓	*e*P		**Pn**	**20 05 04.0 -3.0**
GTA	**Gaotai**	**18.14**	**91**	⇑P		**Pn**	**20 05 11.8 -0.1**
GTA				AP	pP		20 05 16.0 +3.4
GTA				XP	sP		20 05 18.5 +5.8
GTA				PP			20 05 27.0
GTA				S		**Sn**	**20 08 32.3 -2.5**
GTA				XS	sS		20 08 41.8 +0.6
GTA				SS			20 08 54.5
GTA				AMB	AMB		
	comp=Z,17nm,1.4s						
GTA				AMB	AMB		
	comp=Z,2μm,5.7s						
GTA				LR	LR		
	comp=N,27μm,19.0s						
GTA				LR	LR		
	comp=E,19μm,12.2s						
GTA				LR	LR		
	comp=Z,32μm,13.3s						
ARU	**Arti**	**18.23**	**328**	Pn		**Pn**	**20 05 11.2 -1.9**
	comp=Z,2μm,1.4s,SNR=65						
ARU	**Arti**	**18.23**	**328**⇓	*i*P		**Pn**	**20 05 10.3 -2.8**
ARU				*e*S		**Sn**	**20 08 33.1 -4.0**
ARU				pmax	pmax		
	comp=Z,269nm,1.1s						
ARU				MLR	MLR		
	comp=E,24μm,16.0s						
ARU				MLR	MLR		
	comp=Z,34μm,16.0s						
ARU				MLR	MLR		
	comp=N,17μm,18.0s						
ARU	**Arti**	**18.23**	**328**	*e*Pn		**Pn**	**20 05 10.8 -2.3**
	comp=N,595nm,1.1s						
SLGI	**Shiliguri**	**18.42**	**143**	*ex*		**Pn**	**20 05 11.5 -3.9**
BHPL	**Bhopal**	**18.89**	**176**	*e*P		**Pn**	**20 05 17.0 -4.1**
BHPL				AMb	AMB		20 05 29.3
	comp=Z,576nm,1.3s						
BHPL				*e*S		**Sn**	**20 08 49.7 -3.3**
JBP	**Jabalpur**	**19.20**	**169**	*e*P		**Pn**	**20 05 21.8 -3.2**
JBP				*ex*		x	20 05 36.1
	comp=Z,685nm,1.6s						
JBP				*ex*		**Sn**	**20 08 50.2 -10**
MOY	**Mondy**	**19.39**	**52**	*e*P		**Pn**	**20 05 28.5 +1.4**
MOY				pmax	pmax		
	comp=Z,512nm,3.0s						
BHJ	**Bhuj**	**19.61**	**198**	*e*P		**Pn**	**20 05 28.0 -1.7**
BHJ				AMb	AMB		20 05 37.0
	comp=Z,1μm,1.2s						
BHJ				*e*S		**Sn**	**20 09 07.7 -2.6**
BOK	**Bokaro**	**20.03**	**153**	*e*P		**P**	**20 05 32.9 -0.1**
BOK				AMb	AMB		20 05 42.7
	comp=Z,246nm,1.9s						
ZAK	**Zakamensk**	**20.41**	**57**	*e*P		**P**	**20 05 38.3 +1.1**
ZAK				pmax	pmax		
	comp=Z,129nm,1.2s						
BHV	**Bhavnagar**	**20.62**	**191**	*e*P		**P**	**20 05 40.0 +0.5**
TLY	**Talaya**	**20.96**	**54***d*	*i*P		**P**	**20 05 44.6 +1.4**
TLY				*e*			20 05 59.2
TLY				*e*PPP			20 06 09.3
TLY				*e*S		**S**	**20 09 38.1 +0.6**
TLY				*e*SSS			20 10 20.4
TLY				pmax	pmax		
	comp=Z,89nm,1.2s						
TLY				MLR	MLR		
	comp=Z,17μm,12.0s,MS5.7						
TLY	**Talaya**	**20.96**	**54**	*e*P		**P**	**20 05 44.1 +0.9**
SHL	**Shillong**	**21.04**	**137**	*i* P		**P**	**20 05 44.0 0.0**
SHL				*e*S		**S**	**20 09 37.5 -1.5**
MAK	**Makhachkala**	**21.06**	**282***d*	*i*P		**P**	**20 05 46.3 +2.0**
MAK				*i*			20 06 00.1
MAK				*i* S		**S**	**20 09 39.2 -0.2**
MAK				*i* SS			20 09 59.5
MAK				pmax	pmax		
	comp=Z,478nm,2.0s,mb5.5						
MAK				MLR	MLR		
	comp=Z,22μm,10.0s,MS5.8						
NGP	**Nagpur**	**21.09**	**172**	*e*P		**P**	**20 05 42.1 -2.4**
NGP				*ex*		x	20 05 55.2
	comp=Z,1μm,1.9s						
NGP				*e*S		**S**	**20 09 37.6 -2.3**
SOKR	**Solikamsk**	**21.14**	**332***d*	*i*P		**P**	**20 05 45.4 +0.3**
SOKR				pmax	pmax		
	comp=Z,610nm,1.2s,mb5.8						
SOKR				MLR	MLR		
	comp=Z,58μm,18.0s,MS6.0						
AKL	**Akola**	**21.40**	**178**⇓	*i*P		**P**	**20 05 47.1 -0.8**
AKL				*ex*		x	20 05 57.5
	comp=Z,1μm,1.4s						
AKL				*e*S		**S**	**20 09 44.6 -1.5**
IRK	**Irkutsk**	**21.50**	**52**⇑	*i*P		**P**	**20 05 50.6 +1.7**
IRK				*e*			20 06 06.1
IRK				pmax	pmax		
	comp=Z,418nm,3.2s						
SONM	**Songino Array**	**22.06**	**65**	P		**P**	**20 05 54.2 -0.8**
	comp=Z,28nm,0.9s,mb4.7,baz=270,slow=9.3,SNR=91						
SONM				LR	LR		20 15 25.6
	comp=Z,38μm,20.3s,MS5.8,baz=262,slow=39						
CAL	**Calcutta**	**22.06**	**149**	*e*P		**P**	**20 05 55.0 0.0**
CAL				*e*S		**S**	**20 10 00.7 +1.6**
AGT	**Agartala**	**22.14**	**141**	*i* P		**P**	**20 05 58.0 +2.2**
AGT				*i* x		x	20 06 30.0
LZH	**Lanzhou**	**22.29**	**97**	*e*P		**P**	**20 05 59.0 +1.6**
LZH				AP			20 06 07.3
LZH				S		**S**	**20 10 04.0 +0.6**
LZH				AMB	AMB		
	comp=Z,210nm,1.3s,mb5.4						
LZH				AMB	AMB		
	comp=Z,1μm,5.1s						
LZH				LR	LR		
	comp=E,19μm,13.2s						
LZH				LR	LR		
	comp=Z,29μm,14.5s,MS5.8						
LZH	**Lanzhou**	**22.29**	**97**	*e*P		**P**	**20 05 58.9 +1.5**
LZH				*PP			20 06 07.3
LZH				*SP	sP		20 06 13.2 +15
LZH							20 06 30.0
LZH				S		**S**	**20 10 04.1 +0.7**
LZH				*SS	sS		20 10 20.0 +16
LZH				*e*SS			20 10 50.0
LZH				pmax	pmax		
	comp=Z,210nm,1.3s,mb5.4						
LZH				MLR	MLR		
	comp=Z,29μm,14.5s,MS5.8						
LZH	**Lanzhou**	**22.29**	**97**	*e*P		**P**	**20 05 58.9 +1.5**
	comp=Z,210nm,1.3s,mb5.4						
LZH				pP			20 06 07.3
LZH				sP	sP		20 06 13.2 +15
LZH				PP			20 06 30.0
LZH				S		**S**	**20 10 04.1 +0.7**
LZH				sS	sS		20 10 20.0 +16
LZH				*e*SS			20 10 50.0
LZH				LR	LR		
	comp=Z,29μm,14.5s,MS5.8						
ULN	**Ulaanbaatar**	**22.50**	**65**⇑	*e*P		**P**	**20 06 01.3 +1.6**
ULN	**Ulaanbaatar**	**22.50**	**65**	*e*P		**P**	**20 06 01.2 +1.5**
	comp=Z,249nm,1.3s,mb5.6						
IMP	**Imphal**	**22.74**	**134**	*e*P		**P**	**20 06 03.0 +0.7**
IMP				*ex*		x	20 06 22.0
DGRG	**David-gareji**	**22.88**	**279**	P		**P**	**20 06 07.4 +3.6**
DGRG				S		**S**	**20 10 18.1 +3.6**
BANOM	**Banah**	**22.98**	**231**	⇓P		**P**	**20 06 04.4 -0.3**
	SNR=38						
MTA	**Mtatsminda**	**23.26**	**279**	P		**P**	**20 06 06.8 -0.9**
MTA				S		**S**	**20 10 20.9 +0.3**
BWNR	**Bhubaneshwar**	**23.28**	**156**	*ex*		x	20 05 41.0
BOM	**Bombay**	**23.35**	**188**	*e*P		**P**	**20 06 06.9 -1.9**
BOM				*ex*		x	20 06 15.0
	comp=Z,540nm,1.3s						
BOM				*ex*		**S**	**20 10 24.3 +2.1**
KZR	**Kazreti**	**23.60**	**279**	P		**P**	**20 06 17.2 +5.9**
POO	**Poona**	**23.63**	**185**	*e*P		**P**	**20 06 11.6 +0.1**
POO				AMb	AMB		20 06 20.7
	comp=Z,484nm,1.3s,mb5.9						
POO				AMb	AMB		20 06 25.8
	comp=Z,473nm,1.8s,mb5.7						
POO				*i* x	x		20 06 42.5
POO				*i* S		**S**	**20 10 28.0 +1.4**
POO				*i* x	x		20 17 06.5
LATR	**Latur**	**23.66**	**179**	*ex*		x	20 06 07.7
GOR	**Gori**	**23.70**	**280**	P		**P**	**20 06 13.5 +1.3**
HATD	**Hatta, Dubai**	**23.92**	**230**	⇓P		**P**	**20 06 14.2 0.0**
	SNR=25						
ASHO	**Ashiyiah**	**24.07**	**230**	⇓P		**P**	**20 06 15.7 +0.1**
	SNR=76						
ONI	**Oni**	**24.07**	**282**	P		**P**	**20 06 16.9 +1.3**
ONI				S		**S**	**20 10 36.8 +3.0**
WBK	**Wadi Bani Khal**	**24.20**	**222**	⇓P		**P**	**20 06 17.7 +0.9**
	SNR=25						
SMDO	**Samad**	**24.29**	**224**	⇑P		**P**	**20 06 17.9 +0.3**
	SNR=37						
KIV	**Kislovodsk**	**24.41**	**286**	P		**P**	**20 06 20.1 +1.5**
	SNR=30						
KIV	**Kislovodsk**	**24.41**	**286**	*e*P		**P**	**20 06 19.1 +0.4**
KIV				*e*			20 06 51.1
KIV				*e*S		**S**	**20 10 37.4 -1.9**
KIV				pmax	pmax		
	comp=Z,1μm,3.1s						
KIV				pmax	pmax		
	comp=Z,245nm,1.2s,mb5.6						
KIV				MLR	MLR		
	comp=Z,11μm,15.0s,MS5.5						
KIV	**Kislovodsk**	**24.41**	**286**	*e*P		**P**	**20 06 19.5 +0.8**
KIV				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
CLDR	**Caldiran**	**24.55**	**274**	P		**P**	**20 06 21.2 +1.3**
DIGO	**Kars**	**24.59**	**277**	*i* P		**P**	**20

KAD			AMb	AMB	20 06 33.2
	comp=Z,620nm,1.9s,mb6.0				
JMDO	**Jabal Madar**	**24.83 223**	⇓P	**P**	**20 06 23.7 +1.2**
	SNR=20				
ARQ	**Araqi**	**24.87 227**	⇑P	**P**	**20 06 24.1 +1.1**
	SNR=41				
PECR	**Pechory**	**24.98 316**	*e*P	**P**	**20 06 21.0 -2.9**
PECR			*i* S	**S**	**20 10 46.5 -2.1**
PECR			pmax	pmax	
	comp=Z,2μm,8.0s				
PECR			smax		
	comp=N,8μm,11.0s				
PECR			smax		
	comp=E,15μm,11.0s				
PECR			MLR	MLR	
	comp=Z,54μm,15.0s,MS6.2				
PECR			MLR	MLR	
	comp=N,13μm,10.0s				
PECR			MLR	MLR	
	comp=E,21μm,9.0s				
BSY	**Bisya**	**24.99 225**	⇓P	**P**	**20 06 25.5 +1.5**
	SNR=38				
AGRB	**Hanur-Agry**	**25.10 275**	P	**P**	**20 06 26.9 +1.9**
VANB	**Van**	**25.11 273**	P	**P**	**20 06 30.7 +5.7**
TVAN	**Van**	**25.11 273**	*i* P	**P**	**20 06 26.9 +1.8**
VIS	**Vishakhapatnam**	**25.12 164**	*e*P	**P**	**20 06 24.0 -1.1**
VIS			*e*P		20 06 24.8
VIS			AMb	AMB	20 06 34.8
	comp=Z,288nm,2.1s,mb5.6				
VIS			*i* x	x	20 10 56.2
VRHR	**Novokhopersk**	**25.13 303**	*e*P	**P**	**20 06 24.0 -1.2**
VRHR			*e*S	**S**	**20 10 50.6 -0.2**
VRHR			pmax	pmax	
	comp=Z,120nm,0.5s,mb5.9				
VRHR			pmax	pmax	
	comp=N,10.0nm,0.6s				
VRHR			pmax	pmax	
	comp=E,30nm,0.6s				
VRHR			smax		
	comp=N,1μm,7.0s				
VRHR			smax		
	comp=Z,2μm,7.7s				
VRHR			smax		
	comp=E,8μm,10.4s				
VRHR			MLR	MLR	
	comp=Z,16μm,12.0s,MS5.8				
VRHR			MLR	MLR	
	comp=N,13μm,13.0s,MS5.7				
VRHR			MLR	MLR	
	comp=E,12μm,14.0s,MS5.7				
HAKT	**HAKKARI**	**25.22 270**	*i* P	**P**	**20 06 26.5 +0.5**
BTO	**Baotou**	**25.39 82**	*e*P	**P**	**20 06 29.5 +1.9**
BTO			S	**S**	**20 10 54.0 -1.0**
BTO			LR	LR	
	comp=N,5μm,11.3s				
BTO			LR	LR	
	comp=E,2μm,8.3s				
CUKT	**Cukurca**	**25.40 270**	P	**P**	**20 06 27.8 +0.1**
ARTV	**Artvin**	**25.47 279**	*i* P	**P**	**20 06 29.3 +0.9**
BCA	**Borcka**	**25.63 280**	P	**P**	**20 06 30.4 +0.6**
MSL	**Mosul**	**26.15 268**	*ex*	x	20 06 36.0
MSL			*ex*	x	20 06 47.0
MSL			*ex*	x	20 07 00.0
MSL			*ex*	x	20 07 15.0
MSL			*ex*	x	20 11 06.0
MSL			*ex*	x	20 12 03.0
SIRT	**Sirnak**	**26.18 271**	*e*P	**P**	**20 06 35.6 +0.8**
ERZM	**Erzurum**	**26.21 277**	*i* P	**P**	**20 06 36.1 +1.0**
EZM	**Erzurum**	**26.22 277**	P	**P**	**20 06 38.1 +3.0**
BHD	**Baghdad**	**26.51 261**	*ex*	x	20 06 36.5
BHD			*ex*	x	20 11 08.0
VORD	**Divnogorie**	**26.58 302**	*e*P	**P**	**20 06 35.4 -3.0**
VORD			pmax	pmax	
	comp=E,210nm,0.9s				
VORD			pmax	pmax	
	comp=Z,150nm,0.9s,mb5.7				
VORD			pmax	pmax	
	comp=N,40nm,1.0s				
VORD			MLR	MLR	
	comp=Z,16μm,15.0s,MS5.7				
VORD			MLR	MLR	
	comp=N,11μm,12.0s,MS5.8				
VORD			MLR	MLR	
	comp=E,13μm,13.0s,MS5.8				
SOC	**Sochi**	**26.59 286***c*	*i*P	**P**	**20 06 38.0 -0.5**
SOC			*e**PP		20 06 45.7
SOC			*e*PPP		20 07 26.9
SOC			*e*S	**S**	**20 11 10.1 -3.9**
SOC			*e**SS	sS	20 11 24.5 +10
SOC			*e*SS		20 12 14.7
SOC			pmax	pmax	
	comp=Z,347nm,1.2s,mb6.0				
SOC			MLR	MLR	
	comp=Z,16μm,17.0s,MS5.6				
GOA	**Goa**	**26.64 185**	*e*P	**P**	**20 06 37.0 -2.0**
GOA			AMb	AMB	20 06 45.8
	comp=Z,375nm,1.1s,mb6.0				
BTMT	**Batman**	**26.65 273**	*e*P	**P**	**20 06 41.0 +2.0**
BNGL	**BINGOL**	**26.66 275**	*i* P	**P**	**20 06 38.1 -1.0**
VOR	**Voronezh**	**26.71 304**	*e*P	**P**	**20 06 38.5 -1.1**
VOR			pmax	pmax	
	comp=N,130nm,1.5s				
VOR			pmax	pmax	
	comp=E,650nm,1.5s				
VOR			pmax	pmax	
	comp=Z,730nm,1.5s,mb6.2				
XAN	**Xi'an**	**26.93 97**	P	**P**	**20 06 41.0 -0.5**
XAN			AP		20 06 47.5
XAN			S	**S**	**20 11 19.8 +0.5**
XAN			AMB	AMB	
	comp=Z,8.0nm,1.2s				
XAN			AMB	AMB	
	comp=Z,776nm,12.8s				
XAN			LR	LR	
	comp=N,7μm,12.8s,MS5.8				
XAN			LR	LR	
	comp=E,19μm,14.7s,MS5.8				
XAN			LR	LR	
	comp=Z,24μm,14.1s,MS5.9				
CIT	**Chita**	**27.05 56**	*e*P	**P**	**20 06 43.8 +1.2**
CIT			*e*		20 07 44.7
CIT			*e*		20 10 02.7
CIT			pmax	pmax	
	comp=Z,359nm,2.1s,mb5.7				
MACK	**Trabzon**	**27.11 280**	*i* P	**P**	**20 06 46.5 +3.4**
EZC	**Erzincan**	**27.40 277**	*e*P	**P**	**20 06 50.7 +4.9**
GUMT	**Gumushane**	**27.45 279**	*e*P	**P**	**20 06 47.9 +1.7**
MARD	**Mardin**	**27.48 272**	*i* P	**P**	**20 06 44.8 -1.7**
KELT	**Kelkit**	**27.70 278**	*i* P	**P**	**20 06 49.8 +1.3**
KMI	**Kunming**	**27.75 119**	⇑P	**P**	**20 06 49.0 +0.1**
KMI			AP		20 06 51.8
KMI			PP		20 07 39.5
KMI			PPP		20 07 53.5
KMI			S	**S**	**20 11 32.5 +0.1**
KMI			XS	sS	20 11 36.8 +3.9
KMI			SS		20 12 51.5
KMI			SSS		20 13 13.3
KMI			SCS	ScS	20 17 35.8 -3.6
KMI			AMB	AMB	
	comp=Z,44nm,1.1s,mb5.2				
KMI			AMB	AMB	
	comp=Z,1μm,3.9s				
KMI			LR	LR	
	comp=N,8μm,13.8s,MS5.7				
KMI			LR	LR	
	comp=E,14μm,16.2s,MS5.7				
KMI			LR	LR	
	comp=Z,21μm,17.0s,MS5.8				
KMI	**Kunming**	**27.75 119**	⇑P	**P**	**20 06 48.9 0.0**
KMI					20 07 39.5
KMI			PPP		20 07 53.4
KMI			S	**S**	**20 11 32.6 +0.2**
KMI			SS		20 12 51.4
KMI			SSS		20 13 13.2
KMI					20 17 35.8
KMI			pmax	pmax	
	comp=Z,44nm,1.1s,mb5.2				
KMI			MLR	MLR	
	comp=Z,21μm,17.0s,MS5.8				
KMI	**Kunming**	**27.75 119**	⇑P	**P**	**20 06 48.9 0.0**
	comp=Z,44nm,1.1s,mb5.2				
KMI			pP		20 06 51.8
KMI			sP	sP	20 06 52.8 +3.4
KMI			PP		20 07 39.5
KMI			PPP		20 07 53.4
KMI			S	**S**	**20 11 32.6 +0.2**
KMI			sS	sS	20 11 36.7 +3.8
KMI			SS		20 12 51.4
KMI			SSS		20 13 13.2
KMI			ScS	ScS	20 17 35.8 -3.6
KMI			LR	LR	
	comp=Z,21μm,17.0s,MS5.8				
PTK	**Pertek**	**27.98 276**	*e*P	**P**	**20 06 52.3 +1.3**
ANN	**Anapa**	**28.03 289**	*i* P	**P**	**20 06 52.5 +1.1**
MOS	**Moscow**	**28.29 312**	*e*P	**P**	**20 06 49.9 -3.8**
MOS			*e*		20 07 42.4
MOS			*e*PPP		20 07 51.2
MOS			*e*S	**S**	**20 11 37.6 -3.2**
MOS			*e*		20 13 14.5
MOS			pmax	pmax	
	comp=Z,327nm,1.8s,mb5.9				
MOS			MLR	MLR	
	comp=Z,24μm,14.6s,MS5.9				
MOS			MLR	MLR	
	comp=E,9μm,13.8s				
ELZG	**Elazig**	**28.41 275**	*i* P	**P**	**20 06 56.5 +1.7**
BOD	**Bodaibo**	**28.49 44**	⇓*i*P	**P**	**20 06 55.4 -0.1**
BOD			pmax	pmax	
	comp=Z,214nm,1.2s,mb5.8				
OBN	**Obninsk**	**28.76 310**	⇑*e*P	**P**	**20 06 57.5 -0.4**
OBN			*e*		20 07 45.7
OBN			*e*S	**S**	**20 11 46.6 -1.6**
OBN			pmax	pmax	
	comp=Z,246nm,1.7s,mb5.8				
OBN	**Obninsk**	**28.76 310**	*e*P	**P**	**20 06 57.2 -0.7**
	comp=Z,121nm,0.9s,mb5.7				
MYA	**Malataya**	**28.88 275**	*e*P	**P**	**20 07 01.0 +2.0**
MALT	**Malatya**	**28.88 275**	⇓*i*P	**P**	**20 07 00.8 +1.8**
URFA	**Urfa**	**28.89 273**	*e*P	**P**	**20 06 59.4 +0.4**
KLMR	**Klimovskoe**	**28.93 323**	*e*P	**P**	**20 06 58.6 -0.8**
KLMR			*e*S	**S**	**20 11 50.2 -0.6**
MNGI	**Mangalore**	**29.12 183**	*e*P	**P**	**20 07 01.4 +0.2**
MNGI			AMb	AMB	20 07 10.3
	comp=Z,352nm,1.9s,mb5.9				
MNGI			*i* x	x	20 11 59.6
MDRS	**Chennai**	**29.20 172**	⇑*i*P	**P**	**20 07 00.7 -1.1**
MDRS			*ex*	x	20 11 58.7
ENH	**Enshi**	**29.23 103**	PFAKE		20 07 10.0 +7.9
ENH			LR	LR	
	comp=Z,3.0nm,22.0s				
ATAB	**Bozova**	**29.27 274**	*i* P	**P**	**20 07 03.3 +0.9**
SVSK	**Karacayir**	**29.43 279**	*e*P	**P**	**20 07 05.5 +1.7**
GYA	**Guiyang**	**29.49 112**	⇑*i*P	**P**	**20 07 05.0 +0.6**
GYA			AP		20 07 09.5
GYA			XP	sP	20 07 12.3 +7.5
GYA			PP	PP	20 08 04.5 -6.3
GYA			PPP		20 08 18.5
GYA			PCP	PcP	20 10 13.3 +3.4
GYA			S	**S**	**20 11 59.0 -0.7**
GYA			SCP	ScP	20 13 54.0 +1.2
GYA			SCS	ScS	20 17 47.3 -0.1
GYA			AMB	AMB	
	comp=Z,120nm,1.0s,mb5.7				
GYA			AMB	AMB	
	comp=Z,990nm,7.5s				
GYA			LR	LR	
	comp=N,6μm,13.2s,MS5.5				
GYA			LR	LR	
	comp=E,4μm,15.2s,MS5.5				
GYA			LR	LR	
	comp=Z,3μm,13.5s,MS5.0				
SHAO	**Shalim**	**29.73 222**	⇑P	**P**	**20 07 07.2 +0.7**
KVT	**Kavak**	**29.80 282**	*e*P	**P**	**20 07 07.6 +0.5**
GZT	**Gaziantep**	**29.85 274**	*i* P	**P**	**20 07 08.7 +1.1**
BJI	**Beijing**	**30.07 80**	P	**P**	**20 07 10.3 +0.8**
BJI			PCP	PcP	20 10 15.8 +4.4
BJI			S	**S**	**20 12 04.0 -4.7**
BJI			AMB	AMB	
	comp=Z,9.0nm,1.4s				
BJI			AMB	AMB	
	comp=Z,528nm,4.6s				
BJI			LR	LR	
	comp=N,15μm,15.9s,MS5.8				
BJI			LR	LR	
	comp=E,11μm,15.9s,MS5.8				
BJI			LR	LR	
	comp=Z,12μm,17.1s,MS5.6				
BJI	**Beijing**	**30.07 80**	P	**P**	**20 07 10.2 +0.7**
BJI					20 10 15.8
BJI			S	**S**	**20 12 04.1 -4.6**
BJI			pmax	pmax	
	comp=Z,9.0nm,1.4s				
BJI			MLR	MLR	
	comp=Z,12μm,17.1s,MS5.6				
BJI	**Beijing**	**30.07 80**	P	**P**	**20 07 10.2 +0.7**
	comp=Z,9.0nm,1.4s				
BJI			PcP	PcP	20 10 15.8 +4.4
BJI			S	**S**	**20 12 04.1 -4.6**
BJI			LR	LR	
	comp=Z,12μm,17.1s,MS5.6				
BJT	**Baijiatuau**	**30.07 80**	*e*P	**P**	**20 07 10.6 +1.1**
BJT			pmax	pmax	
	comp=Z,34nm,0.8s				
BJT			MLR	MLR	
	comp=Z,15μm,19.0s				
BJT	**Baijiatuau**	**30.07 80**	*e*P	**P**	**20 07 10.6 +1.1**
	comp=Z,34nm,0.8s,mb5.2				
BJT			LR	LR	
	comp=Z,15μm,19.0s,MS5.7				
CHG	**Chiang Mai**	**30.28 133**	⇓P	**P**	**20 07 10.4 -1.0**
	comp=Z,31nm,1.1s,mb5.0				
CHTO	**Chiang Mai**	**30.28 133**	P	**P**	**20 07 09.8 -1.6**
CHTO			pmax	pmax	
	comp=Z,21nm,0.8s,mb5.0				
CHTO	**Chiang Mai**	**30.28 133**	*e*P	**P**	**20 07 09.7 -1.7**
	comp=Z,20nm,0.8s,mb5.0				
CHTO			LR	LR	
	comp=Z,4μm,20.0s,MS5.0				
KMRS	**Kahramanmaras**	**30.29 274**	*e*P	**P**	**20 07 11.7 +0.2**
SIM	**Simferopol'**	**30.33 290**	*e*P	**P**	**20 07 13.7 +1.9**
BOYT	**Boyabat**	**30.54 283**	*i* P	**P**	**20 07 13.1 -0.5**
CM31	**Chiang Mai Arr**	**30.57 134**	PFAKE		20 07 30.0 +16
CM31			LR	LR	
	comp=Z,5μm,21.0s,MS5.1				
BNN	**Bunyan**	**30.61 277**	*e*P	**P**	**20 07 15.4 +1.1**
BYBT	**Boyabat**	**30.62 283**	*e*P	**P**	**20 07 15.6 +1.2**
WHFO	**Wadi Hawf**	**30.77 225**	⇓P	**P**	**20 07 14.4 -1.3**
	SNR=18				
CTKT	**Corum**	**30.84 281**	*i* P	**P**	**20 07 20.7 +4.4**
RBK	**Rabkut**	**30.89 224**	⇑P	**P**	**20 07 15.4 -1.4**
	SNR=19				
HIA	**Hailar**	**30.92 62**	*e*P	**P**	**20 07 18.5 +1.4**
HIA			pmax	pmax	
	comp=Z,30nm,1.2s				
HIA			MLR	MLR	
	comp=Z,14μm,20.0s				
HIA	**Hailar**	**30.92 62**	*e*P	**P**	**20 07 18.5 +1.4**
	comp=Z,30nm,1.2s,mb5.1				
HIA			LR	LR	
	comp=Z,14μm,20.0s,MS5.6				
CORM	**Corum**	**31.08 281**	*e*P	**P**	**20 07 19.0 +0.5**
KOZT	**Kozan**	**31.10 275**	*e*P	**P**	**20 07 17.5 -1.1**
NANT	**Nan**	**31.26 131**	⇑P	**P**	**20 07 17.0 -3.1**
	comp=Z,422nm,1.0s,mb6.3				
CEYT	**Ceyhan**	**31.33 274**	*e*P	**P**	**20 07 22.4 +1.8**
AVNT	**Avonos**	**31.36 278**	*i* P	**P**	**20 07 21.9 +0.9**
CDAG	**Cicekdag**	**31.44 280**	*i* P	**P**	**20 07 23.5 +1.9**
BALT	**Daday**	**31.60 284**	*i* P	**P**	**20 07 23.8 +0.8**
CANT	**Cankiri**	**31.70 282**	*e*P	**P**	**20 07 27.8 +3.9**
KARA	**Karaisali**	**31.75 275**	*e*P	**P**	**20 07 23.4 -1.0**
KOD	**Kodaikanal**	**31.82 177**	*e*P	**P**	**20 07 24.9 -0.1**
KOD			AMb	AMB	20 07 31.5
	comp=Z,157nm,0.8s,mb6.0				
ELDT	**Eldivan**	**31.87 282**	*i* P	**P**	**20 07 25.9 +0.5**
BR131	**Keskin Array S**	**31.95 280**	*e*P	**P**	**20 07 26.7 +0.6**
	comp=Z,53nm,0.6s,mb5.6				
BR131			LR	LR	
	comp=Z,3μm,19.0s,MS5.0				
BRTR	**Keskin Array B**	**31.95 280**	P	**P**	**20 07 25.4 -0.7**
	comp=Z,36nm,0.8s,mb5.3,baz=87,slow=8.2,SNR=97				
BRTR	**Keskin Array B**	**31.95 280**	⇑*e*P	**P**	**20 07 26.2 +0.1**
KAMT	**Kaman**	**32.01 279**	*e*P	**P**	**20 07 27.0 +0.4**
TIA	**Tai'an**	**32.10 87**	⇓P	**P**	**20 07 28.8 +1.4**
TIA			S	**S**	**20 12 42.0 +1.5**
TIA			AMB	AMB	
	comp=Z,448nm,5.0s				
TIA			LR	LR	
	comp=N,2μm,12.0s,MS5.2				
TIA			LR	LR	
	comp=E,2μm,12.0s,MS5.2				
SAFT	**Safranbolu**	**32.19 283**	*e*P	**P**	**20 07 29.7 +1.4**
MERS	**Mersin**	**32.29 275**	*e*P	**P**	**20 07 30.0 +0.9**
ANTO	**Ankara**	**32.52 281**	P	**P**	**20 07 32.3 +1.2**
ANTO			pmax	pmax	
	comp=Z,61nm,0.8s,mb5.6				
ANTO	**Ankara**	**32.52 281**	*e*P	**P**	**20 07 33.4 +2.3**
ANTO			LR	LR	
	comp=Z,4μm,21.0s,MS5.1				
ANTO	**Ankara**	**32.52 281**	⇑*i*P	**P**	**20 07 33.0 +1.9**
WHN	**Wuhan**	**32.64 98**	⇑P	**P**	**20 07 33.3 +1.1**
WHN			S	**S**	**20 12 47.5 -1.5**
WHN			LR	LR	
	comp=Z,28μm,14.3s,MS6.1				
BHL	**Bhannes**	**32.68 269**	*e*P	**P**	**20 07 32.6 +0.1**
HRI	**Mount Hermon**	**32.91 268**	P	**P**	**20 07 35.6 +1.1**
AKASG	**Malin Array Be**	**32.95 301**	P	**P**	**20 07 33.5 -1.4**
	comp=Z,28nm,0.7s,mb5.3,baz=74,slow=8.3,SNR=77				
AKASG			LR	LR	20 24 05.7
	comp=Z,16μm,18.1s,MS5.8,baz=105,slow=42				
AKASG	**Malin Array Be**	**32.95 301**	*i* P	**P**	**20 07 34.4 -0.5**
AKASG			pmax	pmax	
	comp=Z,28nm,0.7s				
AKBB	**Malin Array Si**	**32.95 301**	*e*P	**P**	**20 07 34.2 -0.7**
KIEV	**Kiev**	**32.97 301**	P	**P**	**20 07 34.0 -1.0**
PUL	**Pulkovo**	**32.97 318**	P	**P**	**20 07 27.9 -7.1**
PUL			S	**S**	**20 12 42.7 -11**
PUL			MLR	MLR	
	comp=Z,23μm,18.0s,MS5.9				
PUL			MLR	MLR	
	comp=N,5μm,10.0s				
PUL			MLR	MLR	
	comp=E,24μm,21.0s				
KSHT	**Keshet**	**32.98 267**	P	**P**	**20 07 35.8 +0.6**
KSDI	**Kefar Szold**	**33.00 268**	P	**P**	**20 07 35.8 +0.5**
IKL	**Isikli**	**33.16 274**	*e*P	**P**	**20 07 35.1 -1.6**
JOF	**Joensuu**	**33.29 324**	*e*p	**P**	**20 07 37.5 -0.3**
	comp=E,69nm,0.8s,mb5.6				
MDU	**Mudurnu**	**33.49 283**	*e*P	**P**	**20 07 41.8 +2.3**
KONT	**Konya--Tatoy**	**33.49 278**	*e*P	**P**	**20 07 39.3 -0.3**
NST	**Nakhon Sawan**	**33.51 135**	P	**P**	**20 07 39.0 -0.7**
KIZT	**Kizilcal**	**33.52 279**	*e*P	**P**	**20 07 40.8 +1.0**
TRD	**Trivandrum**	**33.52 179**	*e*P	**P**	**20 07 38.9 -1.0**
TRD			AMb	AMB	20 07 48.5
	comp=Z,184nm,1.2s,mb5.9				
HMDT	**Nahal Hemdat**	**33.54 266**	P	**P**	**20 07 40.7 +0.7**
ERMK	**Ermenek**	**33.57 275**	*i* P	**P**	**20 07 38.9 -1.4**
HENT	**Hendek**	**33.61 283**	*i* P	**P**	**20 07 41.4 +0.7**
KIS	**Kishinev**	**33.64 295***κ*	*i*P	**P**	**20 07 41.5 +0.6**
KIS			*e*		20 08 56.0
KIS			*e*S	**S**	**20 12 59.0 -5.4**
KIS			pmax	pmax	
	comp=Z,700nm,1.8s,mb6.3				
KIS			pmax	pmax	
	comp=Z,2μm,2.0s,mb6.6				
KIS			MLR	MLR	
	comp=N,8μm,13.0s,MS5.9				
KIS			MLR	MLR	
	comp=Z,17μm,13.0s,MS6.0				
KIS			MLR	MLR	
	comp=E,14μm,15.0s,MS5.9				
KIS			MLR	MLR	
	comp=Z,19μm,12.0s				
KIS	**Kishinev**	**33.64 295**	⇓*i*P	**P**	**20 07 41.5 +0.6**
	comp=Z,2μm,2.0s,mb6.6				
KIS	**Kishinev**	**33.64 295**	*e*PcP	PcP	20 10 06.0 -15
KIS			*e*S	**S**	**20 12 59.0 -5.4**
KIS			*i* SS	SS	20 15 20.0 -9.3
KIS			*i* Li		20 17 34.0
KIS			*i* LQ		20 18 04.0
KIS			*i* LR	LR	20 21 00.0
	comp=Z,14μm,15.0s				
PBA	**Port Blair**	**33.67 150**	*ex*	x	20 07 34.7
MNK	**Minsk**	**33.73 308**	⇑*i*P	**P**	**20 07 38.0 -3.7**
MNK			*e*PPP		20 08 52.0
MNK			*e*		20 10 20.0
MNK			*e*S	**S**	**20 12 56.0 -10**
MNK			pmax	pmax	
	comp=Z,280nm,1.0s,mb6.2				
MNK			pmax	pmax	
	comp=E,490nm,1.5s				
MNK			MLR	MLR	
	comp=Z,62μm,13.0s,MS6.5				
MNK			MLR	MLR	
	comp=E,40μm,10.0s				
HDMB	**Hadim**	**33.76 276**	*e*P	**P**	**20 07 42.0 +0.1**
OFRI	**'Ofer**	**33.77 267**	P	**P**	**20 07 42.9 +0.9**
SLTI	**Sal'it**	**33.91 267**	P	**P**	**20 07 44.1 +0.9**
LVZ	**Lovozero**	**33.93 333**	P	**P**	**20 07 43.3 -0.1**
	comp=E,762nm,1.1s,mb6.5,SNR=5.3				
LVZ	**Lovozero**	**33.93 333**	*e*P	**P**	**20 07 42.8 -0.6**
LVZ			S	**S**	**20 13 04.7 -4.3**
LVZ			pmax	pmax	
	comp=E,50nm,1.0s				
LVZ			pmax	pmax	
	comp=Z,136nm,1.0s,mb5.8				
LVZ			pmax	pmax	
	comp=N,10.0nm,0.9s				
LVZ			MLR	MLR	
	comp=N,20μm,11.0s,MS6.3				
LVZ			MLR	MLR	
	comp=E,26μm,11.0s,MS6.3				
LVZ			MLR	MLR	
	comp=Z,50μm,11.0s,MS6.5				
LVZ	**Lovozero**	**33.93 333**	⇑*e*P	**P**	**20 07 43.8 +0.4**
ESKT	**Eskisehir**	**34.05 281**	*e*P	**P**	**20 07 45.3 +0.8**
ESKT	**Eskisehir**	**34.05 281**	*i* P	**P**	**20 07 44.0 -0.5**
CLNS	**Chul'man**	**34.11 47**	*e*P	**P**	**20 07 46.0 +1.0**
MZDA	**Masada**	**34.12 265**	P	**P**	**20 07 45.9 +0.8**
APA	**Apatity**	**34.20 332**	⇓*i*P	**P**	**20 07 44.6 -1.2**
APA			*i*		20 07 57.0
APA			*e*S	**S**	**20 13 06.0 -7.2**
APA			pmax	pmax	
	comp=Z,310nm,2.0s,mb5.9				
APA			MLR	MLR	
	comp=Z,10μm,10.0s,MS5.8				
BORA	**Eskisehir**	**34.22 282**	*i* P	**P**	**20 07 46.2 +0.3**
YTIR	**Yattir**	**34.28 265**	P	**P**	**20 07 47.8 +1.3**
IDID	**Didziasalis**	**34.38 310**	*e*P	**P**	**20 07 47.1 -0.2**
IDID			AMb	AMB	20 07 54.0
	comp=Z,26nm,1.3s,mb5.0				
TIRR	**Tirgusor**	**34.41 290**	⇑*i*P	**P**	**20 07 47.6 0.0**
DL2	**Dalian**	**34.43 80**	⇑*i*P	**P**	**20 07 49.0 +1.3**
DL2			PP	PP	20 09 06.0 +0.4
DL2			S	**S**	**20 13 17.5 +0.8**
DL2			SS	SS	20 15 24.5 -21
DL2			AMB	AMB	
	comp=Z,30nm,1.0s,mb5.2				
DL2			AMB	AMB	
	comp=Z,240nm,4.6s				
DL2			LR	LR	
	comp=N,4μm,14.0s,MS5.4				
DL2			LR	LR	
	comp=E,3μm,12.8s,MS5.4				
DL2			LR	LR	
	comp=Z,5μm,17.0s,MS5.3				
CFR	**Carcaliu**	**34.45 292**	P	**P**	**20 07 56.4 +8.5**
IAS	**Iasi**	**34.45 295**	P	**P**	**20 07 49.1 +1.2**
HRT	**Hereke**	**34.50 284**	*e*P	**P**	**20 07 49.2 +0.9**
ADVT	**Abdulvahap**	**34.57 283**	*e*P	**P**	**20 07 50.1 +1.2**
VSU	**Vasula**	**34.59 315**	P	**P**	**20 07 47.9 -1.3**
SHUT	**Suhut-Afyon**	**34.60 280**	*e*P	**P**	**20 07 50.9 +1.6**
ZFRI	**Zfri**	**34.64 264**	P	**P**	**20 07 50.7 +1.1**
IZAR	**Zarasai**	**34.67 311**	*e*P	**P**	**20 07 49.8 -0.1**
IZAR			AMb	AMB	20 07 56.6
	comp=Z,39nm,1.6s,mb5.1				
IIGN	**Ignalina**	**34.68 310**	*e*P	**P**	**20 07 49.8 -0.1**
IIGN			AMb	AMB	20 07 56.0
	comp=Z,30nm,1.4s,mb5.0				
RTMI	**Retamim**	**34.75 265**	P	**P**	**20 07 51.5 +1.0**
PSN	**Preselentsi**	**34.76 289**	*i* P	**P**	**20 07 52.3 +1.7**
IZI	**Iznik**	**34.79 283**	*e*P	**P**	**20 07 52.2 +1.3**
YLV	**Yalova**	**34.79 283**	*e*P	**P**	**20 07 51.1 +0.3**
ISK	**Istanbul-Kandi**	**34.86 284**	*e*P	**P**	**20 07 53.1 +1.6**
SVTA	**Shivta**	**34.87 265**	P	**P**	**20 07 52.3 +0.8**
PRNI	**Paran**	**34.88 264**	P	**P**	**20 07 52.8 +1.2**
ISP	**Isparta**	**34.89 278**	*e*P	**P**	**20 07 48.1 -3.7**
ISP	**Isparta**	**34.89 278**	P	**P**	**20 07 52.6 +0.9**
ISP	**Isparta**	**34.89 278**	⇑*i*P	**P**	**20 07 51.9 +0.2**
SNY	**Shenyang**	**34.91 74**	⇑P	**P**	**20 07 51.0 -0.9**
SNY			AP		20 08 00.8
SNY			XP	sP	20 08 05.0 +13
SNY			PP	PP	20 09 11.0 +0.1

SNY			S	**S**	**20 13 22.0**	**-2.1**
SNY			XS	sS	20 13 37.8	+13
SNY			AMB	AMB		
	comp=Z,387nm,4.4s					
SNY			LR	LR		
	comp=N,8µm,16.3s,MS5.9					
SNY			LR	LR		
	comp=E,15µm,12.9s,MS5.9					
SNY			LR	LR		
	comp=Z,14µm,12.7s,MS5.9					
GEMT	**Gemlik**	**34.96 283**	*e*P	**P**	**20 07 52.6**	**+0.3**
KMPD	**K-Podol'skiy**	**34.97 298**	P	**P**	**20 07 52.0**	**-0.4**
PALK	**Pallekele**	**34.97 172**	P	**P**	**20 07 52.1**	**-0.4**
	comp=Z,487nm,1.5s,mb6.2,SNR=5.1					
PALK	**Pallekele**	**34.97 172**	*e*P	**P**	**20 07 55.9**	**+3.5**
HRFI	**Mount Harif**	**35.02 263**	P	**P**	**20 07 53.1**	**+0.3**
KZIT	**Kziot**	**35.04 265**	P	**P**	**20 07 53.7**	**+0.6**
ULDT	**Uludag**	**35.10 283**	*i* P	**P**	**20 07 52.9**	**-0.7**
GDZ	**Gediz**	**35.20 281**	*i* P	**P**	**20 07 53.8**	**-0.6**
VRI	**Vrincioaia**	**35.27 293⇓**	*i* P	**P**	**20 07 56.1**	**+1.1**
EIL	**Elat**	**35.27 263**	P	**P**	**20 07 55.9**	**+0.9**
ELBA	**Catalca**	**35.29 285**	*i* P	**P**	**20 07 54.1**	**-1.1**
FIA1	**FINESS Array S**	**35.33 320**	*e*P	**P**	**20 07 54.6**	**-0.9**
FINES	**FINESS Array B**	**35.33 320**	P	**P**	**20 07 55.0**	**-0.6**
	comp=Z,7.5nm,0.4s,mb5.0,baz=106,slow=8.4,SNR=60					
FINES			LR	LR	20 22 43.2	
	comp=Z,21µm,18.2s,MS5.9,baz=101,slow=37					
KAF	**Kangasniemi**	**35.34 322**	*e*p	**P**	**20 07 53.5**	**-2.2**
	comp=Z,55nm,1.1s,mb5.4,baz=100,slow=8.7					
KAF	**Kangasniemi**	**35.34 322**	*e*P	**P**	**20 07 53.5**	**-2.2**
KAF			pmax	pmax		
	comp=Z,55nm,1.1s,mb5.4					
PRD	**Provadia**	**35.44 289**	*i* P	**P**	**20 08 00.6**	**+4.2**
CN2	**Changchun**	**35.70 70**	*e*P	**P**	**20 08 00.5**	**+1.8**
CN2			*e*AP		20 08 06.5	
CN2			*e*PP	PP	20 09 23.0	+3.4
CN2			PCP	PcP	20 10 30.3	+3.3
CN2			*e*S	**S**	**20 13 36.8**	**+0.6**
CN2			AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8					
CN2			AMB	AMB		
	comp=Z,600nm,5.0s					
CN2			LR	LR		
	comp=N,14µm,17.0s,MS6.0					
CN2			LR	LR		
	comp=E,17µm,17.0s,MS6.0					
CN2			LR	LR		
	comp=Z,22µm,18.0s,MS6.0					
ELL	**Elmali**	**35.75 277**	*e*P	**P**	**20 08 00.1**	**+0.9**
GOLH	**Golhisar**	**35.82 278**	*i* P	**P**	**20 07 59.1**	**-0.6**
MLR	**Muntele Rosu**	**35.88 293**	P	**P**	**20 08 01.9**	**+1.6**
MLR	**Muntele Rosu**	**35.88 293⇑**	*i*P	**P**	**20 08 01.5**	**+1.2**
NNT	**Nongplab**	**35.90 138**	P	**P**	**20 08 05.5**	**+5.0**
BNT	**Bandirma**	**35.91 284**	*e*P	**P**	**20 07 59.7**	**-0.8**
BURAR	**Bucovina Array**	**35.94 297⇑**	*i*P	**P**	**20 08 01.3**	**+0.5**
MEF	**Metsahovi**	**35.98 318**	P	**P**	**20 07 59.9**	**-1.2**
DENT	**Denizli**	**36.01 279**	*e*P	**P**	**20 08 03.9**	**+2.5**
BTOK	**Tokmak**	**36.02 283**	*i* P	**P**	**20 08 01.4**	**0.0**
BUC1	**Bucharest**	**36.10 291**	P	**P**	**20 08 07.9**	**+5.8**
BUC1	**Bucharest**	**36.10 291⇑**	*i*P	**P**	**20 08 06.2**	**+4.1**
MUKL	**Al Mukalla**	**36.16 228⇑**	*e*P	**P**	**20 08 01.9**	**-0.8**
MUKL			AMb	AMB	20 08 03.3	
	comp=Z,290nm,1.7s,mb5.8					
OUL	**Oulu**	**36.18 327**	P	**P**	**20 08 02.8**	**0.0**
AKAS	**Kas**	**36.18 276**	*i* P	**P**	**20 07 57.7**	**-5.2**
SNX	**Sinaia**	**36.21 293⇑**	*i*P	**P**	**20 08 02.0**	**-1.1**
MFT	**Murefte**	**36.23 285**	*e*P	**P**	**20 08 04.2**	**+0.9**
EDRB	**Edirne**	**36.28 287**	*e*P	**P**	**20 08 04.0**	**+0.2**
GZH	**Guangzhou**	**36.29 110**	P	**P**	**20 08 00.8**	**-3.0**
GZH			PP	PP	20 09 31.0	+4.8
GZH			S	**S**	**20 13 38.8**	**-6.6**
GZH			LR	LR		
	comp=N,6µm,12.4s,MS5.8					
GZH			LR	LR		
	comp=E,8µm,14.3s,MS5.8					
GZH			LR	LR		
	comp=Z,12µm,12.1s,MS5.9					
LVV	**L'vov**	**36.36 300**	*e*P	**P**	**20 08 04.5**	**+0.1**
LVV			*e*		20 09 24.7	
LVV			*e*		20 09 47.3	
LVV			*e*S	**S**	**20 13 42.5**	**-3.9**
LVV			*e*		20 16 04.9	
LVV			MLR	MLR		
	comp=Z,12µm,15.0s,MS5.8					
LVV			MLR	MLR		
	comp=N,4µm,14.0s,MS5.8					
LVV			MLR	MLR		
	comp=E,11µm,16.0s,MS5.8					
FETY	**Fethiye**	**36.40 277**	*e*P	**P**	**20 08 00.9**	**-3.9**
SUW	**Suwalki**	**36.47 308**	*e*P	**P**	**20 08 05.1**	**-0.2**
SUW			*e*pP		20 08 08.2	
SUW			L		20 26 10.2	
	comp=Z,18nm,15.5s					
SUW	**Suwalki**	**36.47 308**	*e*P	**P**	**20 08 04.4**	**-0.9**
SUW			pmax	pmax		
	comp=Z,150nm,1.0s,mb5.8					
SUW	**Suwalki**	**36.47 308**	*e*P	**P**	**20 08 05.1**	**-0.2**
SUW			*e*pP		20 08 08.2	
VOIR		**36.51 293⇑**	*i*P	**P**	**20 08 05.9**	**+0.2**
MTUR	**Matau**	**36.55 293⇑**	*i*P	**P**	**20 08 07.4**	**+1.4**
DALT	**Dalyan (Mudla)**	**36.68 278**	*e*P	**P**	**20 08 08.2**	**+1.1**
QIZ	**Qiongzhong**	**36.70 119**	P	**P**	**20 08 07.3**	**+0.1**
QIZ			XP	sP	20 08 12.3	+4.6
QIZ			PP	PP	20 09 33.0	+2.4
QIZ			PPP		20 09 54.0	
QIZ			S	**S**	**20 13 52.3**	**+0.8**
QIZ			XS	sS	20 13 57.0	+5.0
QIZ			SS	SS	20 16 18.0	-14
QIZ			SCS	ScS	20 18 20.0	-4.5
QIZ			AMB	AMB		
	comp=Z,96nm,1.3s,mb5.4					
QIZ			AMB	AMB		
	comp=Z,861nm,8.7s					
QIZ			LR	LR		
	comp=N,9µm,18.8s,MS5.8					
QIZ			LR	LR		
	comp=E,12µm,18.8s,MS5.8					
QIZ			LR	LR		
	comp=Z,14µm,20.0s,MS5.7					
QIZ	**Qiongzhong**	**36.70 119**	*e*P	**P**	**20 08 08.8**	**+1.6**
	comp=Z,198nm,1.4s,mb5.7					
ENEZ	**Enez**	**37.05 285**	*e*P	**P**	**20 08 09.3**	**-1.0**
KDAG	**Bornova**	**37.06 281**	*i* P	**P**	**20 08 09.6**	**-0.8**
IZM	**Izmir**	**37.06 281**	*e*P	**P**	**20 08 10.7**	**+0.4**
YAK	**Yakutsk**	**37.07 39**	*e*P	**P**	**20 08 11.1**	**+0.7**
YAK			*e**PP		20 08 17.1	
YAK			*e*		20 09 39.3	
YAK			*e*		20 10 34.3	
YAK			*e*S	**S**	**20 13 55.5**	**-1.7**
YAK			*e**SS	sS	20 14 11.1	+13
YAK			*e*SS	SS	20 16 28.2	-11
YAK			*e*		20 18 24.2	
YAK			pmax	pmax		
	comp=Z,97nm,0.8s,mb5.6					
YAK			pmax	pmax		
	comp=N,6.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,54nm,1.6s					
YAK			smax			
	comp=N,380nm,2.7s					
YAK			smax			
	comp=Z,567nm,5.5s					
YAK			smax			
	comp=E,583nm,4.2s					
YAK			MLR	MLR		
	comp=E,15µm,12.0s,MS6.1					
YAK			MLR	MLR		
	comp=Z,21µm,12.0s,MS6.1					
YAK			MLR	MLR		
	comp=N,7µm,10.0s,MS6.1					
YAK	**Yakutsk**	**37.07 39**	*e*P	**P**	**20 08 09.9**	**-0.5**
DIM	**Dimitrovgrad**	**37.08 287**	*i* P	**P**	**20 08 14.3**	**+3.8**
MLSB	**Milas**	**37.11 279**	*e*P	**P**	**20 08 11.6**	**+0.9**
AYVA	**Ayvalik**	**37.15 283**	*i* P	**P**	**20 08 10.0**	**-1.1**
KEV	**Kevo**	**37.23 334**	*e*P	**P**	**20 08 11.4**	**-0.4**
KEV			pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0					
KEV			MLR	MLR		
	comp=Z,39µm,19.0s,MS6.2					
KEV	**Kevo**	**37.23 334**	*e*P	**P**	**20 08 11.4**	**-0.4**
	comp=Z,29nm,0.9s,mb5.0					
KEV			LR	LR		
	comp=Z,39µm,19.0s,MS6.2					
BLCB	**Balcova**	**37.23 281**	*e*P	**P**	**20 08 09.6**	**-2.2**

EZN	**Ezine**	**37.24 284**	*e*P	**P**	**20 08 13.2**	**+1.4**
KWP	**Kalwaria**	**37.24 300**	*e*P	**P**	**20 08 13.0**	**+1.2**
KWP			*e*pP		20 08 15.8	
KWP			*e*PP	PP	20 09 37.8	+1.2
KWP			L		20 26 30.4	
	comp=Z,14nm,17.7s					
KWP	**Kalwaria**	**37.24 300**	*e*P	**P**	**20 08 13.0**	**+1.2**
KWP			*e*pP		20 08 15.8	
KWP			*e*PP	PP	20 09 37.8	+1.2
ARG	**Arkhangelos**	**37.28 277**	*e*P	**P**	**20 08 16.0**	**+3.8**
KDZ	**Kurdzhali**	**37.29 287**	*i* P	**P**	**20 08 14.3**	**+2.0**
RDO	**Rodhopi**	**37.36 286**	*e*P	**P**	**20 08 14.0**	**+1.1**
HKC	**Hong Kong**	**37.38 110**	P	**P**	**20 08 13.0**	**-0.1**
HKC			S	**S**	**20 14 03.0**	**+1.0**
SSE	**Sheshan**	**37.42 92**	P	**P**	**20 08 13.5**	**+0.1**
SSE			AP		20 08 16.5	
SSE			S	**S**	**20 14 01.0**	**-1.5**
SSE			AMB	AMB		
	comp=Z,86nm,1.0s,mb5.4					
SSE			AMB	AMB		
	comp=Z,521nm,5.6s					
SSE			LR	LR		
	comp=N,7µm,18.0s,MS5.7					
SSE			LR	LR		
	comp=E,8µm,18.0s,MS5.7					
SSE			LR	LR		
	comp=Z,11µm,15.0s,MS5.8					
SSE	**Sheshan**	**37.42 92**	P	**P**	**20 08 13.5**	**+0.1**
	comp=Z,86nm,1.0s,mb5.4					
SSE			pP		20 08 16.5	
SSE			S	**S**	**20 14 01.0**	**-1.5**
SSE			sS	sS	20 14 06.2	+3.1
SSE			SS	SS	20 16 44.4	-1.8
SSE			LR	LR		
	comp=Z,11µm,15.0s,MS5.8					
BOZC	**Bozcaada**	**37.43 284**	*i* P	**P**	**20 08 13.4**	**0.0**
BDRM	**Kayabasi**	**37.44 279**	*i* P	**P**	**20 08 13.5**	**-0.1**
DAT	**Datca**	**37.48 278**	*e*P	**P**	**20 08 12.9**	**-1.0**
KOLS	**Kolonicke sedl**	**37.64 299**	*e*P	**P**	**20 08 15.3**	**+0.1**
KOLS			*e*		20 09 39.0	
KOLS			pmax	pmax		
	comp=Z,53nm,1.2s,mb5.2					
KOLS	**Kolonicke sedl**	**37.64 299**	*e*P	**P**	**20 08 15.3**	**+0.1**
	comp=Z,53nm,1.2s,mb5.2					
KOLS			*e*PP	PP	20 09 39.0	-2.0
KOLS			*e*SS	SS	20 16 46.0	-4.6
ARCES	**ARCESS Array B**	**37.64 334**	P	**P**	**20 08 14.5**	**-0.8**
	comp=Z,37nm,0.9s,mb5.1,baz=101,slow=8.8,SNR=47					
ARCES			LR	LR	20 24 22.1	
ARCES	**ARCESS Array B**	**37.64 334**	P	**P**	**20 08 14.5**	**-0.8**
ARCES			LR	LR	20 24 22.1	
ARE0	**ARCESS Array S**	**37.64 334**	*e*P	**P**	**20 08 15.3**	**0.0**
PLD	**Plovdiv**	**37.66 288**	*i* P	**P**	**20 08 15.8**	**+0.4**
UZH	**Uzhgorod**	**37.68 299⇓**	*i*P	**P**	**20 08 16.0**	**+0.4**
UZH			*i*		20 08 25.0	
UZH			*e*		20 09 46.0	
UZH			*e*S	**S**	**20 14 04.0**	**-2.5**
UZH			*i* SS	SS	20 16 40.0	-11
UZH			MLR	MLR		
	comp=Z,17µm,13.0s,MS6.0					
RZN	**Rozhen**	**37.78 287**	*i* P	**P**	**20 08 17.8**	**+1.4**
DRGR		**37.78 296**	P	**P**	**20 08 17.8**	**+1.3**
DRGR		**37.78 296⇑**	*i*P	**P**	**20 08 16.5**	**0.0**
PGB	**Panagyurishte**	**37.90 289**	*i* P	**P**	**20 08 19.7**	**+2.3**
WAR	**Warsaw**	**37.92 305**	*e*P	**P**	**20 08 18.3**	**+0.7**
WAR			*e*pP		20 08 22.5	
WAR			L		20 26 54.0	
	comp=Z,15nm,17.7s					
GZR	**Gura Zlata**	**38.07 294**	P	**P**	**20 08 20.3**	**+1.3**
GZR	**Gura Zlata**	**38.07 294⇑**	*i*P	**P**	**20 08 20.1**	**+1.2**
CRVS	**Cervenica-Dubn**	**38.17 299**	*e*P	**P**	**20 08 19.4**	**-0.3**
CRVS			*e*PP	PP	20 09 38.3	-8.5
CRVS			*e*SS	SS	20 16 56.7	-4.7
STHS	**Stebnicka Huta**	**38.21 300**	*i* P	**P**	**20 08 20.1**	**0.0**
STHS			*e*		20 09 45.6	
STHS			pmax	pmax		
	comp=Z,29nm,0.7s,mb5.1					
STHS	**Stebnicka Huta**	**38.21 300**	*i* P	**P**	**20 08 20.1**	**0.0**
	comp=Z,29nm,0.7s,mb5.1					
STHS			*e*PP	PP	20 09 45.6	-1.7
STHS			*e*SS	SS	20 17 29.3	+27
KTK1	**Kautokeino**	**38.25 332**	*e*P	**P**	**20 08 20.7**	**+0.3**
KARP	**Karpathos**	**38.27 277**	*e*P	**P**	**20 08 17.0**	**-3.6**
MDJ	**Mudanjiang**	**38.36 68**	P	**P**	**20 08 21.5**	**+0.2**
MDJ			XP	sP	20 08 26.0	+4.2
MDJ			PCP	PcP	20 10 38.0	+2.9
MDJ			S	**S**	**20 14 18.0**	**+1.2**
MDJ			AMB	AMB		
	comp=Z,453nm,6.2s					
MDJ			LR	LR		
	comp=N,11µm,17.8s,MS5.9					
MDJ			LR	LR		
	comp=E,14µm,16.7s,MS5.9					
MDJ			LR	LR		
	comp=Z,18µm,17.4s,MS6.0					
MDJ	**Mudanjiang**	**38.36 68**	*e*P	**P**	**20 08 21.6**	**+0.3**
	comp=Z,26nm,1.1s,mb4.9					
MMB	**Musomiste**	**38.51 287**	*i* P	**P**	**20 08 26.6**	**+4.0**
VTS	**Vitosha**	**38.56 289**	*i* P	**P**	**20 08 24.6**	**+1.6**
VTS	**Vitosha**	**38.56 289⇑**	*i*P	**P**	**20 08 24.0**	**+1.0**
INCN	**Inchon**	**38.62 80**	*e*P	**P**	**20 08 25.5**	**+2.0**
	comp=Z,106nm,1.0s,mb5.4					
INCN			LR	LR		
	comp=Z,8µm,21.0s,MS5.5					
KLR	**Kul'dur**	**38.73 60**	*e*P	**P**	**20 08 20.6**	**-3.8**
KLR			*e*PPP		20 10 25.5	
KLR			*e*S	**S**	**20 14 20.0**	**-2.3**
KLR			pmax	pmax		
	comp=E,350nm,2.4s					
KLR			pmax	pmax		
	comp=Z,540nm,2.4s,mb5.8					
KLR			pmax	pmax		
	comp=Z,1µm,6.5s					
KLR			smax			
	comp=N,3µm,11.0s					
KLR			smax			
	comp=E,2µm,11.0s					
KLR			MLR	MLR		
	comp=Z,67µm,12.0s,MS6.7					
SRS	**Serrai**	**38.76 287**	*e*P	**P**	**20 08 25.1**	**+0.4**
DHBB	**Dhamar BB**	**38.79 234⇑**	*e*P	**P**	**20 08 24.4**	**-0.5**
BZS	**Buzias**	**38.81 294**	*i*P	**P**	**20 08 25.1**	**0.0**
BZS	**Buzias**	**38.81 294**	P	**P**	**20 08 25.7**	**+0.7**
BZS	**Buzias**	**38.81 294⇑**	*i*P	**P**	**20 08 25.0**	**-0.1**
NIE	**Niedzica**	**38.81 300**	*e*P	**P**	**20 08 26.1**	**+1.0**
NIE			*e*		20 08 30.0	
NIE	**Niedzica**	**38.81 300**	*e*P	**P**	**20 08 26.1**	**+1.0**
NIE			*e*		20 08 30.0	
LBOS		**38.82 233⇑**	*e*P	**P**	**20 08 25.0**	**-0.2**
APE	**Apeiranthos**	**38.84 280**	P	**P**	**20 08 25.4**	**0.0**
KKB	**Krupnik**	**38.88 288**	*i* P	**P**	**20 08 27.1**	**+1.4**
KECS	**Kecovo**	**38.89 299**	*e*P	**P**	**20 08 26.3**	**+0.5**
KECS			*e*		20 09 54.3	
KECS			*e*SS	SS	20 17 32.6	+17
KECS			pmax	pmax		
	comp=Z,36nm,0.9s,mb5.0					
KECS	**Kecovo**	**38.89 299**	*e*P	**P**	**20 08 26.2**	**+0.4**
KECS			*e*PP	PP	20 09 54.3	-0.4
KECS			*e*SS	SS	20 17 32.6	+17
KECS	**Kecovo**	**38.89 299**	*e*P	**P**	**20 08 26.3**	**+0.5**
	comp=Z,36nm,0.9s,mb5.0					
KECS			*e*PP	PP	20 09 54.3	-0.4
KECS			*e*SS	SS	20 17 32.6	+17
QZH	**Quanzhou**	**38.89 103⇑**	*i*P	**P**	**20 08 26.0**	**+0.2**
QZH			PP	PP	20 10 01.8	+7.1
QZH			S	**S**	**20 14 25.3**	**+0.5**
QZH			SS	SS	20 17 07.0	-8.8
QZH			LR	LR		
	comp=N,26µm,16.5s,MS6.2					
QZH			LR	LR		
	comp=E,17µm,14.8s,MS6.2					
QZH			LR	LR		
	comp=Z,20µm,12.6s,MS6.2					
OJC	**Ojcow**	**38.99 302**	*e*P	**P**	**20 08 26.1**	**-0.5**
OJC			*e*PP	PP	20 09 56.4	+0.6
OJC			*e*S	**S**	**20 14 18.7**	**-7.6**
OJC			*e*SS	SS	20 16 58.0	-20
OJC			L		20 25 26.8	
	comp=Z,70nm,17.4s					
OJC	**Ojcow**	**38.99 302**	*e*P	**P**	**20 08 26.1**	**-0.5**
OJC			*e*		20 09 56.4	
OJC			*e*S	**S**	**20 14 18.7**	**-7.6**

OJC			*e*SS	SS	20 16 58.0	-20
SOH	**Sokhos**	**39.03 286**	*e*P	**P**	**20 08 27.0**	**0.0**
TIXI	**Tiksi**	**39.03 24⇓**	*i*P	**P**	**20 08 22.8**	**-4.2**
TIXI			*e*S	**S**	**20 14 20.3**	**-6.6**
TIXI			*e*SS	SS	20 17 09.0	-10
TIXI			*e*		20 18 31.1	
TIXI			pmax	pmax		
	comp=Z,949nm,2.6s,mb6.0					
TIXI			pmax	pmax		
	comp=Z,162nm,0.9s,mb5.7					
TIXI			pmax	pmax		
	comp=N,37nm,1.4s					
TIXI			pmax	pmax		
	comp=E,80nm,1.2s					
TIXI			MLR	MLR		
	comp=N,10µm,13.0s,MS6.4					
TIXI			MLR	MLR		
	comp=E,37µm,13.0s,MS6.4					
TIXI			MLR	MLR		
	comp=Z,51µm,13.0s,MS6.5					
TIXI	**Tiksi**	**39.03 24⇑**	*e*P	**P**	**20 08 25.9**	**-1.1**
KNT	**Kendrikon**	**39.24 287**	*e*P	**P**	**20 08 28.4**	**-0.3**
THE	**Thessaloniki**	**39.37 286**	*e*P	**P**	**20 08 32.7**	**+2.9**
PSZ	**Piszkesteto**	**39.40 298⇑**	*i*P	**P**	**20 08 30.6**	**+0.6**
PSZ	**Piszkesteto**	**39.40 298⇑**	*e*P	**P**	**20 08 31.6**	**+1.6**
VAY	**Valandovo**	**39.42 287**	*i* P	**P**	**20 08 30.4**	**+0.2**
VAY	**Valandovo**	**39.42 287**	*i* P	**P**	**20 08 30.4**	**+0.2**
VAY	**Valandovo**	**39.42 287**	P	**P**	**20 08 31.2**	**+1.0**
SVIS	**Svilajnac**	**39.44 292⇑**	*i*P	**P**	**20 08 30.6**	**+0.2**
BARS	**Barje**	**39.46 290**	*e*P	**P**	**20 08 31.1**	**+0.6**
NPS	**Neapolis**	**39.53 277**	*e*P	**P**	**20 08 31.5**	**+0.3**
KS15	**Wonju Array Si**	**39.55 79**	*e*P	**P**	**20 08 32.6**	**+1.3**
STIP	**Stip**	**39.57 288**	*i* P	**P**	**20 08 32.2**	**+0.7**
STIP	**Stip**	**39.57 288**	*i* P	**P**	**20 08 32.2**	**+0.7**
KSRS	**Korea Array**	**39.57 79**	P	**P**	**20 08 30.6**	**-0.9**
	comp=Z,4.0nm,0.9s,baz=282,slow=8.5,SNR=14					
KSRS			PcP	PcP	20 10 36.6	-2.2
	comp=Z,16nm,1.0s,baz=299,slow=3.5,SNR=5.8					
KSRS			LR	LR	20 28 12.9	
	comp=Z,9µm,19.0s,MS5.6,baz=285,slow=41					
PKSN	**Nyarlorinc**	**39.66 297**	*e*P	**P**	**20 08 33.6**	**+1.4**
LIKS	**Likavka**	**39.66 300**	*e*P	**P**	**20 08 32.0**	**-0.2**
ATH	**Athens Observa**	**39.81 282**	*e*P	**P**	**20 08 34.0**	**+0.5**
BEO	**Belgrade**	**39.81 293⇑**	*i*P	**P**	**20 08 33.5**	**0.0**
PENC	**Penc**	**39.83 298⇓**	*e*P	**P**	**20 08 34.9**	**+1.3**
KVR	**Kavouri**	**39.83 282**	*e*P	**P**	**20 08 33.7**	**+0.1**
TRO	**Tromso**	**39.88 333**	*e*P	**P**	**20 08 32.5**	**-1.6**
TRO			*e*SS	SS	20 17 40.8	+5.0
TRO			AMS	AMS	20 26 06.3	
	comp=Z,23µm,18.0s,MS6.1					
TRO	**Tromso**	**39.88 333**	*e*P	**P**	**20 08 32.5**	**-1.6**
TRO			*e*		20 17 44.4	
TRO			LR	LR		
	comp=Z,23µm,18.0s,MS6.1					
GRUS	**Gruza**	**39.90 292⇑**	*i*P	**P**	**20 08 35.2**	**+1.0**
VYHS	**Vyhne**	**39.96 299**	*e*P	**P**	**20 08 34.9**	**+0.2**
VYHS			*e*		20 10 11.9	
VYHS			*e*SS	SS	20 17 28.8	-8.4
VYHS			pmax	pmax		
	comp=Z,167nm,2.0s,mb5.3					
VYHS			MLR	MLR		
	comp=Z,4µm,21.6s,MS5.2					
VYHS	**Vyhne**	**39.96 299**	*e*P	**P**	**20 08 34.9**	**+0.2**
VYHS			*e*PP	PP	20 10 11.8	+5.4
VYHS			*e*SS	SS	20 17 28.8	-8.4
VYHS	**Vyhne**	**39.96 299**	*e*P	**P**	**20 08 34.9**	**+0.2**
	comp=Z,166nm,2.0s,mb5.3					
VYHS			*e*PP	PP	20 10 11.9	+5.5
VYHS			*e*SS	SS	20 17 28.8	-8.4
VYHS			LR	LR		
	comp=Z,4µm,21.6s,MS5.2					
TRBA	**At Turbah**	**40.00 233⇑**	*e*P	**P**	**20 08 34.5**	**-0.6**
TRBA			AMb	AMB	20 08 35.6	
	comp=Z,290nm,2.2s,mb5.5					
SKO	**Skopje**	**40.00 289**	*i* P	**P**	**20 08 36.0**	**+0.9**
SKO			*i*		20 10 08.4	
SKO	**Skopje**	**40.00 289**	*i* P	**P**	**20 08 36.0**	**+0.9**
SKO			*i*		20 10 08.4	
RAC	**Raciborz**	**40.03 302**	*e*P	**P**	**20 08 35.4**	**+0.1**
RAC			MLR	MLR		
	comp=Z,8µm,19.5s,MS5.6					
GKP	**Gorka Klasztor**	**40.06 307**	*e*P	**P**	**20 08 35.2**	**-0.4**
GKP			*e*pP		20 08 39.3	
GKP			*e*S	**S**	**20 14 34.4**	**-8.0**
GKP			L		20 28 39.9	
	comp=Z,16nm,15.4s					
BUD	**Budapest**	**40.07 298**	P	**P**	**20 08 35.7**	**+0.1**
BUD	**Budapest**	**40.07 298⇑**	*e*P	**P**	**20 08 37.3**	**+1.7**
OKC	**Ostrava-Krasne**	**40.11 302⇑**	*e*P	**P**	**20 08 36.1**	**+0.1**
OKC			*e*pP		20 08 40.0	
OKC			*e*PP	PP	20 10 09.4	+1.4
OKC			*e*S	**S**	**20 14 44.4**	**+1.3**
OKC			AMS	AMS	20 26 00.0	
	comp=Z,10µm,14.3s					
OKC	**Ostrava-Krasne**	**40.11 302⇑**	*e*P	**P**	**20 08 36.1**	**+0.1**
OKC			*e*		20 08 40.0	
OKC			*e*PP	PP	20 10 09.4	+1.4
OKC			*e*S	**S**	**20 14 44.4**	**+1.3**
KRUS	**Krusevo**	**40.34 288**	*i* P	**P**	**20 08 39.2**	**+1.3**
KRUS	**Krusevo**	**40.34 288**	*i* P	**P**	**20 08 39.2**	**+1.3**
DIVS	**Divcibare**	**40.34 292⇑**	*i*P	**P**	**20 08 37.2**	**-0.6**
VLA	**Vladivostok**	**40.39 69**	*e*P	**P**	**20 08 41.4**	**+3.1**
VLA			*e*S	**S**	**20 14 44.3**	**-3.0**
VLA			pmax	pmax		
	comp=Z,43nm,1.2s,mb5.0					
VLA			MLR	MLR		
	comp=Z,19µm,20.0s,MS5.9					
BIA	**Bitola**	**40.41 287**	*e*P	**P**	**20 08 42.0**	**+3.5**
BIA	**Bitola**	**40.41 287**	*e*P	**P**	**20 08 42.0**	**+3.5**
AGG	**Agios Georgios**	**40.41 284**	*e*P	**P**	**20 08 39.3**	**+0.8**
FNA	**Florina**	**40.45 287**	*e*P	**P**	**20 08 39.1**	**+0.3**
MORC	**Moravsky Berou**	**40.50 302⇑**	*i*P	**P**	**20 08 39.6**	**+0.4**
VAM	**Vamos**	**40.51 278**	*e*P	**P**	**20 08 40.0**	**+0.7**
JAVC	**Velka Javorina**	**40.62 300**	P	**P**	**20 08 40.7**	**+0.5**
PKSM	**Moragy**	**40.65 296**	P	**P**	**20 08 38.5**	**-2.0**
OHR	**Ohrid**	**40.75 288**	*i* P	**P**	**20 08 40.5**	**-0.7**
OHR			*i*		20 10 19.7	
OHR	**Ohrid**	**40.75 288**	*i* P	**P**	**20 08 40.5**	**-0.7**
OHR			*i*		20 10 19.7	
IVA	**Berane**	**40.79 291⇓**	*i*P	**P**	**20 08 43.3**	**+1.7**
BBLS	**Bajina Basta -**	**40.81 292**	*e*P	**P**	**20 08 41.2**	**-0.5**
PVY	**Plav**	**40.83 290⇓**	*i*P	**P**	**20 08 43.8**	**+1.9**
EVR	**Evrytania**	**40.83 284**	*e*P	**P**	**20 08 41.5**	**-0.4**
GVD	**Gavdhos**	**40.84 277**	*e*P	**P**	**

BSD *i* S **S** **20 14 57.7 -0.9**
BSD MLR MLR
comp=Z,9µm,16.0s,MS5.7
DPC Dobruska-Polom 41.15 303⇑ *e*P **P** **20 08 45.1 +0.5**
DPC *e*PP PP 20 10 18.5 -0.8
DPC *e*S **S** **20 14 58.1 -0.5**
DPC AMS AMS 20 26 40.0
comp=Z,15µm,12.1s
DPC Dobruska-Polom 41.15 303⇑ *e*P **P** **20 08 45.1 +0.5**
DPC *e*PP PP 20 10 18.5 -0.8
DPC *e*S **S** **20 14 58.1 -0.5**
DPC LR LR
comp=Z,15µm,12.1s
ZST Bratislava 41.15 299 *e*P **P** **20 08 45.4 +0.8**
ZST *e* 20 10 21.5
ZST *e*S **S** **20 15 03.3 +4.7**
ZST pmax pmax
comp=Z,193nm,2.0s,mb5.5
ZST MLR MLR
comp=Z,14µm,14.6s,MS6.0
ZST Bratislava 41.15 299 *e*P **P** **20 08 45.4 +0.8**
ZST *e*PP PP 20 10 21.5 +2.1
ZST *e*S **S** **20 15 03.3 +4.7**
ZST *e*SS SS 20 18 04.8 +3.8
ZST Bratislava 41.15 299 *e*P **P** **20 08 45.4 +0.8**
comp=Z,193nm,2.0s,mb5.5
ZST *e*PP PP 20 10 21.5 +2.1
ZST *e*S **S** **20 15 03.3 +4.7**
ZST *e*SS SS 20 18 04.8 +3.8
ZST LR LR
comp=Z,14µm,14.6s,MS6.0
VRAC Vranov 41.21 301 P **P** **20 08 45.5 +0.4**
VRAC Vranov 41.21 301⇑ *i*P **P** **20 08 45.7 +0.6**
JAN Janina 41.24 286 *e*P **P** **20 08 45.5 +0.2**
UPC Upice 41.31 303⇑ *e*P **P** **20 08 46.2 +0.3**
UPC *e*PP PP 20 10 24.2 +3.1
HFA0 Hagfors New Ar 41.32 318 P **P** **20 08 44.3 -1.7**
UPM Unac-Piva 41.37 292⇓ *i*P **P** **20 08 48.0 +1.6**
TTG Podgorica 41.38 290⇓ *i*P **P** **20 08 46.4 -0.1**
ITM Ithomi 41.43 282 *e*P **P** **20 08 45.2 -1.7**
ITM Ithomi 41.43 282 P **P** **20 08 45.5 -1.4**
NKY Niksic 41.43 291⇓ *i*P **P** **20 08 46.8 -0.1**
ULC Ulcinj 41.54 290⇓ *i*P **P** **20 08 47.9 +0.1**
SOP Sopron 41.63 299 P **P** **20 08 48.4 -0.1**
SOP Sopron 41.63 299⇑ *e*P **P** **20 08 49.9 +1.4**
IGT Igoumenitsa 41.65 286 *e*P **P** **20 08 47.0 -1.8**
BUM Brajici-Budva 41.67 290⇓ *i*P **P** **20 08 48.8 -0.1**
BRY Bratogost 41.72 291⇓ *i*P **P** **20 08 50.8 +1.5**
LKD Levkas 41.74 284 *e*P **P** **20 08 47.8 -1.6**
HCY Herceg Novi 41.90 291⇓ *i*P **P** **20 08 53.0 +2.3**
TREC Trest 41.92 301⇑ *e*P **P** **20 08 51.1 +0.2**
TREC AMS AMS 20 30 30.0
comp=Z,12µm,12.4s
KEK Kerkira 41.97 286 *e*P **P** **20 08 50.0 -1.3**
CONA Conrad Observa 42.02 299⇑ *i*P **P** **20 08 52.5 +0.7**
comp=Z,139nm,1.5s,mb5.5,SNR=44
RGN Rugen 42.15 309 *e*P **P** **20 08 52.8 +0.1**
comp=Z,449nm,1.6s,mb6.0
KOGS Kog 42.18 297 *e*P **P** **20 08 53.6 +0.6**
KOGS *e*PP PP 20 10 32.5 +2.0
KOGS *e*S **S** **20 15 14.8 +1.0**
KOGS *e*SS SS 20 18 16.0 -5.3
PVCC Panska Ves 42.20 303⇑ *e*P **P** **20 08 53.0 -0.2**
PVCC *e*pP 20 08 57.6
PVCC *e*PP PP 20 10 34.0 +3.3
PVCC *e*S **S** **20 15 15.6 +1.4**
PVCC AMS AMS 20 27 10.0
comp=Z,18µm,17.6s
STON Ston 42.31 291 *i*P **P** **20 08 54.4 +0.3**
PRU Pruhonice 42.35 303⇑ *e*P **P** **20 08 54.7 +0.3**
PRU *e*pP 20 08 58.6
PRU *e*PP PP 20 10 31.5 -0.8
PRU *e*S **S** **20 15 17.9 +1.6**
PRU AMS AMS 20 27 20.0
comp=Z,16µm,15.4s
PRA Prague 42.40 303 ⇑P **P** **20 08 55.0 +0.2**
PRA PP PP 20 10 30.0 -2.8
ARSA Arzberg 42.43 298⇑ *i*P **P** **20 08 54.9 -0.1**
comp=Z,64nm,1.8s,mb5.1,SNR=18
COP Copenhagen 42.47 311 *e* PP 20 10 38.6 +5.0
COP *i*S **S** **20 15 20.7 +2.6**
COP *i* 20 18 13.1
COP
comp=Z,5µm,19.0s
COP Copenhagen 42.47 311 P **P** **20 08 55.2 -0.1**
NB2 NORSAR Subarra 42.48 319 P **P** **20 08 53.9 -1.5**
comp=Z,12nm,0.5s,mb4.9,baz=86,slow=8.6
NOA NORSAR Array B 42.48 319 P **P** **20 08 54.0 -1.5**
comp=Z,60nm,1.1s,mb5.2,baz=87,slow=8.1,SNR=45
NOA LR LR 20 27 12.5
comp=Z,20µm,19.6s,MS6.0,baz=75,slow=37
BRG Berggiesshubel 42.51 304 *e*P **P** **20 08 55.6 -0.1**
comp=Z,171nm,1.7s,mb5.5
BRG Berggiesshubel 42.51 304⇑ *i*P **P** **20 08 55.8 +0.1**
comp=Z,11nm,0.9s,mb4.6
BRG *i* 20 09 00.3
comp=Z,101nm,1.7s
BRG *i* 20 09 30.8
comp=Z,34nm,1.2s
BRG *i* 20 10 36.4
comp=Z,51nm,1.3s
BRG PP PP 20 10 38.0 +3.9
BRG S **S** **20 15 21.0 +2.2**
BRG SS SS 20 18 25.0 -3.0
BRG
comp=N,6µm,16.8s
BRG
comp=E,7µm,13.3s
BRG
comp=Z,10µm,14.1s
BRG Berggiesshubel 42.51 304⇑ *i*P **P** **20 08 55.8 +0.1**
BRG *i* 20 10 36.4
BRG S **S** **20 15 21.0 +2.2**
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.6
BRG MLR MLR
comp=Z,10µm,14.0s,MS5.9
BRG Berggiesshubel 42.51 304⇑ *i*P **P** **20 08 55.8 +0.1**
comp=Z,11nm,0.9s,mb4.6
BRG *i* 20 09 00.3
BRG *i* 20 09 30.8
BRG *i* 20 10 36.4
BRG PP PP 20 10 38.0 +3.9
BRG S **S** **20 15 21.0 +2.2**
BRG SS SS 20 18 25.0 -3.0
BRG LR LR
comp=Z,10µm,14.0s,MS5.9
NAO01 NORSAR Array S 42.65 319 *e*P **P** **20 08 55.3 -1.5**
KULM Kulim 42.70 142 *e*P **P** **20 08 56.1 -1.1**
GCIS Gornji Cirnik 42.76 296 *e*P **P** **20 08 57.6 -0.1**
GCIS *e*PP PP 20 10 43.2 +6.4
FBE Freiberg 42.86 304 *e*P **P** **20 08 58.5 -0.1**
PERS Pernice 42.87 298 *i*P **P** **20 08 58.9 +0.3**
CLL Collm 42.99 305⇑ *i*P **P** **20 08 59.3 -0.3**
comp=Z,155nm,1.6s,mb5.5
CLL *e*PP PP 20 10 40.7 +1.5
CLL *e*S **S** **20 15 22.0 -3.8**
CLL *e*SS SS 20 18 29.2 -8.1
CLL *e*ScS ScS 20 18 53.6 -8.0
CLL *e*LR LR 20 22 07.6
CLL *e*L 20 30 23.0
comp=Z,16µm,18.0s
CLL Collm 42.99 305⇑ *i*P **P** **20 08 59.3 -0.3**
CLL *i* 20 10 40.6
CLL *e*S **S** **20 15 24.0 -1.8**
CLL pmax pmax
comp=Z,44nm,0.9s,mb5.2
CLL MLR MLR
comp=Z,19µm,13.0s,MS6.2
CLL Collm 42.99 305⇑ *i*P **P** **20 08 59.3 -0.3**
comp=Z,44nm,0.9s,mb5.2
CLL *i*pP 20 09 03.3
CLL *i*PP PP 20 10 40.6 +1.4
CLL *e*S **S** **20 15 24.0 -1.8**
CLL LR LR
comp=Z,19µm,13.0s,MS6.2
CLL Collm 42.99 305⇑ *i*P **P** **20 08 59.3 -0.3**
comp=Z,44nm,0.9s,mb5.2
CLL *i*pP 20 09 03.3
CLL *e*x x 20 09 20.0
CLL *i*PP PP 20 10 40.6 +1.4
comp=Z,82nm,1.1s
CLL *e*x x 20 10 51.0

CLL *e*x x 20 10 57.0
CLL *i* (PPP) 20 11 07.1
CLL *e*S **S** **20 15 24.0 -1.8**
comp=N,2µm,16.6s
CLL *e*S **S** **20 15 24.0 -1.8**
comp=E,2µm,17.1s
CLL *e*x x 20 16 03.0
CLL *e*SS SS 20 18 22.0 -15
CLL *e*ScS ScS 20 18 53.0 -8.6
MOA Molln 43.08 300 *i*P **P** **20 09 00.7 +0.3**
comp=E,80nm,1.7s,mb5.2,SNR=27
BOJS Bojanci 43.12 296 *i*P **P** **20 09 00.6 -0.1**
BOJS *e*S **S** **20 15 28.8 +1.1**
GEC2 GERESS Array S 43.17 301 *e*P **P** **20 09 01.4 +0.4**
comp=Z,292nm,1.7s,mb5.7
GEC2 GERESS Array S 43.17 301 *e*P **P** **20 09 01.4 +0.4**
GEC2 pmax pmax
comp=Z,292nm,1.7s,mb5.7
GERES GERESS Array B 43.17 301 P **P** **20 09 01.5 +0.5**
comp=Z,26nm,1.1s,mb4.9,baz=63,slow=7.8,SNR=79
GERES LR LR 20 28 16.1
comp=Z,10µm,18.6s,MS5.7,baz=78,slow=38
KHC Kasperske Hory 43.17 302⇑ *e*P **P** **20 09 01.3 +0.3**
KHC pP 20 09 05.0
KHC *e*S **S** **20 15 29.4 +1.0**
KHC AMS AMS 20 27 40.0
comp=Z,12µm,12.7s
KHC Kasperske Hory 43.17 302⇑ *e*P **P** **20 09 01.3 +0.3**
KHC *e* 20 09 05.0
KHC *e*S **S** **20 15 29.4 +1.0**
KHC LR LR
comp=Z,12µm,12.7s,MS6.0
OBKA Obir 43.28 298⇑ *i*P **P** **20 09 02.3 +0.4**
comp=Z,98nm,1.4s,mb5.4,SNR=13
VISS Visnje 43.31 297 *e*P **P** **20 09 02.0 -0.1**
KONO Kongsberg 43.41 317 *e*P **P** **20 09 02.0 -1.1**
KONO *e*PP PP 20 10 43.2 -0.6
KONO *e*S **S** **20 15 29.4 -2.6**
KONO *e* 20 15 34.0
KONO *i* 20 18 44.4
KONO Kongsberg 43.41 317⇑ *e*P **P** **20 09 02.5 -0.5**
KONO Kongsberg 43.41 317 *e*P **P** **20 09 01.3 -1.8**
KONO LR LR
comp=Z,20µm,20.0s,MS6.0
DOMB Dombas 43.42 321 *e*P **P** **20 09 02.3 -0.8**
DOMB AMb AMB 20 09 09.5
comp=Z,102nm,0.9s,mb5.5
DOMB Dombas 43.42 321 *e*P **P** **20 09 02.1 -1.0**
comp=Z,102nm,0.9s,mb5.6
LJU Ljubljana 43.44 297 *e*P **P** **20 09 03.1 -0.1**
LJU *e*S **S** **20 15 34.0 +1.7**
LJU *e*SS SS 20 18 48.7 +2.5
LJU Ljubljana 43.44 297 *e*P **P** **20 09 03.1 -0.1**
LJU *e*S **S** **20 15 34.0 +1.6**
TANN Tannenbergstha 43.54 304 *e*P **P** **20 09 04.0 0.0**
NKC Novy Kostel 43.59 303⇑ *e*P **P** **20 09 04.5 0.0**
NKC *e*x x 20 09 08.7
NKC *e*PP PP 20 10 50.1 +4.4
NKC *e*S **S** **20 15 35.9 +1.3**
NKC AMS AMS 20 28 00.0
comp=Z,20µm,16.8s
NKC Novy Kostel 43.59 303⇑ *e*P **P** **20 09 04.5 0.0**
NKC *e* 20 09 08.7
NKC *e*PP PP 20 10 50.1 +4.4
NKC *e*S **S** **20 15 35.9 +1.3**
CEY Cerknica 43.60 297 P **P** **20 09 05.8 +1.3**
WET Wettzell 43.61 302 *e*P **P** **20 09 04.7 +0.1**
comp=Z,185nm,1.8s,mb5.5
WET Wettzell 43.61 302 *e*P **P** **20 09 04.7 +0.1**
WET pmax pmax
comp=Z,185nm,1.8s,mb5.5
WERN Wernitzgruen 43.62 303 *e*P **P** **20 09 04.8 +0.1**
WERD Werda 43.62 304 *e*P **P** **20 09 04.6 -0.1**
GUNZ Gunzen 43.63 304 *e*P **P** **20 09 04.8 0.0**
JNU Nakatsue 43.63 83 LR LR 20 28 48.3
comp=Z,25µm,18.2s,MS6.2,baz=159,slow=38
VOY Vojsko 43.86 297 *e*P **P** **20 09 06.3 -0.3**
VOY *e* 20 09 10.3
ROTZ Rotzenmuhle 43.86 303 *e*P **P** **20 09 07.0 +0.4**
MANZ Manzenberg 43.87 303 *e*P **P** **20 09 06.9 +0.2**
KBA Koelnbreinsper 43.90 299 *i*P **P** **20 09 07.2 +0.2**
comp=Z,107nm,1.7s,mb5.3,SNR=11
KBA Koelnbreinsper 43.90 299 *i*P **P** **20 09 07.2 +0.3**
KBA pmax pmax
comp=Z,107nm,1.7s,mb5.3
BSEG Bad Segeberg 44.00 309 *e*P **P** **20 09 07.9 +0.2**
MOX Moxa 44.00 304 *e*P **P** **20 09 07.6 -0.1**
comp=Z,160nm,1.7s,mb5.5
MOX Moxa 44.00 304 *e*P **P** **20 09 07.7 0.0**
comp=Z,182nm,1.9s,mb5.5
MOX *e* 20 10 49.8
MOX
comp=Z,11µm,17.0s
MOX Moxa 44.00 304 *e*P **P** **20 09 07.7 0.0**
MOX *e* 20 10 49.8
MOX pmax pmax
comp=Z,182nm,1.9s,mb5.5
MOX MLR MLR
comp=Z,11µm,17.0s,MS5.8
KBS Kingsbay 44.06 346 *e*P **P** **20 09 08.4 +0.2**
KBS *e*PP PP 20 10 50.4 -0.3
KBS *e*SS SS 20 18 58.7 +0.3
KBS AMS AMS 20 31 19.2
comp=Z,18µm,16.6s,MS6.0
MOL Molde 44.08 322 *e*P **P** **20 09 08.2 -0.2**
MOL AMS AMS 20 28 38.9
comp=Z,23µm,19.9s,MS6.1
MUD Monsted U'grnd 44.13 313 *i*P **P** **20 09 08.8 0.0**
comp=Z,48nm,1.1s,mb5.1
MUD *i* 20 10 49.1
MUD *i*S **S** **20 15 44.0 +1.5**
MUD *i* 20 18 56.4
MUD
comp=Z,10µm,18.0s
MUD Monsted U'grnd 44.13 313 *e*P **P** **20 09 08.8 0.0**
MUD *i*S **S** **20 15 44.0 +1.5**
MUD *i* 20 18 56.4
MUD pmax pmax
comp=Z,48nm,1.1s,mb5.1
MUD MLR MLR
comp=Z,10µm,18.0s,MS5.8
PSI Prapat 44.18 146 LR LR 20 30 17.9
comp=Z,4µm,20.3s,MS5.3,baz=298,slow=40
DESE Dese 44.37 237 *e*P **P** **20 09 11.5 +0.8**
DESE S **S** **20 15 45.8 -0.2**
CLZ Clausthal 44.45 306 *e*P **P** **20 09 11.2 -0.2**
comp=Z,133nm,1.8s,mb5.4
CLZ Clausthal 44.45 306 *e*P **P** **20 09 11.2 -0.2**
CLZ pmax pmax
comp=Z,133nm,1.8s,mb5.4
GRA1 Grafenberg Arr 44.50 303 *e*P **P** **20 09 12.4 +0.7**
comp=Z,739nm,2.3s,mb6.0
GRA1 *e*PP PP 20 11 01.8 +6.4
GRA1 *e*S **S** **20 15 48.7 +0.8**
GRA1 *e*SS SS 20 19 07.8 +0.9
GRA1 LR LR
comp=Z,7µm,20.6s,MS5.6
GRF Grafenberg Arr 44.50 303 *e*P **P** **20 09 12.4 +0.7**
comp=Z,739nm,2.3s,mb6.0
GRF *e*PP PP 20 11 01.8 +6.4
GRF *e*S **S** **20 15 48.7 +0.8**
GRF *e*SS SS 20 19 07.8 +0.9
GRF *e*L 20 28 19.1
comp=Z,7µm,20.6s
GRF Grafenberg Arr 44.50 303 *e*P **P** **20 09 12.4 +0.7**
GRF *e* 20 11 01.8
GRF *e*S **S** **20 15 48.7 +0.8**
GRF *e*SS SS 20 19 07.8 +0.9
GRF pmax pmax
comp=Z,739nm,2.3s,mb6.0
GRF MLR MLR
comp=Z,7µm,20.6s,MS5.6
GRF Grafenberg Arr 44.50 303 *e*P **P** **20 09 12.4 +0.7**
GRF *e* 20 11 01.8
GRF *e*S **S** **20 15 48.7 +0.8**
GRF *e*SS SS 20 19 07.8 +0.9
GRF pmax pmax
comp=Z,739nm,2.3s,mb6.0
GRF MLR MLR
comp=Z,7µm,20.6s,MS5.6
GRFO Grafenberg 44.50 303 *e*P **P** **20 09 12.4 +0.6**
GRFO MLR MLR
comp=Z,7µm,21.0s,MS5.6
ABTA Abfaltersbach 44.55 299⇓ *i*P **P** **20 09 11.7 -0.4**

comp=Z,42nm,1.5s,mb5.1
GRI Girifalco 44.73 287 P **P** **20 09 14.0 +0.4**
GTTG Gyttingen 44.77 306 *e*P **P** **20 09 13.9 0.0**
ODD1 Odda 44.87 318 *e*P **P** **20 09 14.0 -0.6**
ODD1 AMb AMB 20 09 20.8
comp=Z,96nm,1.4s,mb5.5
ODD1 Odda 44.87 318 *e*P **P** **20 09 14.0 -0.6**
comp=Z,96nm,1.4s,mb5.5
FUR Furstenfeldbru 44.91 301 *e*P **P** **20 09 15.5 +0.5**
comp=Z,902nm,2.0s,mb6.3
FUR Furstenfeldbru 44.91 301 *e*P **P** **20 09 15.5 +0.5**
FUR pmax pmax
comp=Z,902nm,2.0s,mb6.3
JOW Kunigami 44.94 93 LR LR 20 31 04.1
comp=Z,8µm,18.5s,MS5.7,baz=126,slow=40
WTTA Wattenberg 44.95 300 *i*P **P** **20 09 15.1 -0.3**
comp=Z,179nm,1.7s,mb5.7,SNR=31
WTTA Wattenberg 44.95 300 *i*P **P** **20 09 15.1 -0.3**
WTTA pmax pmax
comp=Z,179nm,1.7s,mb5.7
WATA Walderalm 44.97 300⇑ *i*P **P** **20 09 15.2 -0.3**
comp=Z,156nm,1.7s,mb5.7,SNR=8.2
WATA Walderalm 44.97 300⇑ *i*P **P** **20 09 15.2 -0.3**
WATA pmax pmax
comp=Z,156nm,1.7s,mb5.7
BLS5 Blasjo 45.03 317 *e*P **P** **20 09 17.0 +1.0**
BLS5 Blasjo 45.03 317 *e*P **P** **20 09 17.9 +1.9**
SQTA Sankt Quirin 45.24 300⇑ *i*P **P** **20 09 17.4 -0.3**
comp=Z,314nm,1.9s,mb5.9,SNR=20
SQTA Sankt Quirin 45.24 300⇑ *i*P **P** **20 09 17.4 -0.3**
SQTA pmax pmax
comp=Z,314nm,1.9s,mb5.9
MOTA Moosalm 45.27 300⇑ *i*P **P** **20 09 17.6 -0.3**
comp=Z,56nm,1.1s,mb5.4,SNR=36
MOTA Moosalm 45.27 300⇑ *i*P **P** **20 09 17.6 -0.3**
MOTA pmax pmax
comp=Z,56nm,1.1s,mb5.4
HLG Helgoland 45.34 310 *e*P **P** **20 09 18.5 +0.1**
RUND Rundenannen 45.41 319 *e*P **P** **20 09 21.3 +2.4**
RUND AMb AMB 20 09 28.1
comp=Z,715nm,1.7s,mb6.3
RUND Rundenannen 45.41 319 *e*P **P** **20 09 21.3 +2.4**
comp=Z,715nm,1.7s,mb6.3
BER Bergen 45.43 319 *e*P **P** **20 09 19.3 +0.2**
BER *e* 20 16 00.8
BER *e* 20 19 14.9
BER AMS AMS 20 29 21.0
comp=Z,21µm,16.3s,MS6.2
BER Bergen 45.43 319 *e*P **P** **20 09 19.3 +0.2**
BER *e* 20 16 00.8
RETA Reutte 45.45 300⇑ *i*P **P** **20 09 19.6 +0.4**
comp=Z,178nm,1.5s,mb5.8
HDH Heidenheim-Cha 45.46 302 P **P** **20 09 19.6 +0.2**
ASK Askoy 45.48 319 *e*P **P** **20 09 19.2 -0.3**
ASK AMb AMB 20 09 26.4
comp=Z,267nm,1.7s,mb5.9
ASK Askoy 45.48 319 *e*P **P** **20 09 19.2 -0.3**
comp=Z,267nm,1.7s,mb5.9
SIND Sindeldorf 45.61 303 P **P** **20 09 20.5 -0.1**
FETA Feichten 45.62 299⇓ *i*P **P** **20 09 20.5 -0.1**
comp=Z,53nm,1.3s,mb5.4
KMY Karmoy 45.68 317 *e*P **P** **20 09 21.2 +0.1**
KMY *e*pP 20 09 24.4
UBR Ueberruh 45.80 301 P **P** **20 09 22.7 +0.6**
IBBN Ibbenburen 45.89 307 *e*P **P** **20 09 22.5 -0.3**
TOD Tromm 46.03 303 *e*P **P** **20 09 24.4 +0.5**
STU Stuttgart 46.04 302 *e*P **P** **20 09 23.8 -0.2**
BUCH Bad Urach 46.04 302 P **P** **20 09 24.6 +0.6**
TNS Taunus Mts 46.06 304 *e*P **P** **20 09 24.0 -0.2**
comp=Z,83nm,1.6s,mb5.5
TNS Taunus Mts 46.06 304 *e*P **P** **20 09 24.0 -0.2**
TNS pmax pmax
comp=Z,83nm,1.6s,mb5.5
DAVA Damuels 46.08 300 *i*P **P** **20 09 23.8 -0.5**
comp=Z,130nm,0.9s,mb5.9,SNR=44
GUT Gutenstein 46.31 301 P **P** **20 09 26.6 +0.5**
LBG Lerchenberg 46.33 302 P **P** **20 09 26.7 +0.5**
WIT Witteveen 46.39 308 *e*P **P** **20 09 27.2 +0.4**
WIT *e*PP PP 20 11 16.7 +1.3
BUG Bochum--Univer 46.42 306 *e*P **P** **20 09 26.8 -0.2**
YSS Yuzh-Sakhalins 46.44 60 *e*P **P** **20 09 27.2 +0.1**
YSS *e* 20 09 35.0
YSS *e* 20 11 24.0
YSS *e*S **S** **20 16 13.0 -2.8**
YSS *e*SS SS 20 19 18.0 -23
YSS pmax pmax
comp=Z,800nm,3.0s
YSS pmax pmax
comp=Z,160nm,1.6s,mb5.8
YSS smax
comp=N,2µm,12.0s
YSS MLR MLR
comp=Z,13µm,17.0s,MS5.9
YSS MLR MLR
comp=N,5µm,11.0s
YSS MLR MLR
comp=E,13µm,18.0s
YSS Yuzh-Sakhalins 46.44 60 *e*P **P** **20 09 28.8 +1.7**
comp=E,120nm,1.5s,mb5.7
CSNT Castellina Chi 46.48 295 P **P** **20 09 27.0 -0.5**
comp=E,632nm,1.9s,mb6.3
SPAK Spaichingen-Ko 46.51 302 *e*P **P** **20 09 27.6 -0.1**
SISB Singen-Schiene 46.53 301 P **P** **20 09 28.5 +0.6**
TOLF Tolfa 46.53 293 P **P** **20 09 28.7 +0.8**
WTSB Winterswijk 46.55 307 *e*P **P** **20 09 27.9 -0.1**
comp=E,95nm,2.2s,mb5.5
WTSB *e*PP PP 20 11 20.2 +3.0
VDL Val di Lei 46.61 299 ⇑P **P** **20 09 28.3 -0.2**
FURI Furi 46.68 236 *e*P **P** **20 09 27.7 -1.3**
FURI S **S** **20 16 27.5 +8.2**
TUE Stuetta 46.70 299 P **P** **20 09 29.5 +0.4**
ABH Alteburg 46.72 304 *e*P **P** **20 09 29.6 +0.3**
BFO Black Forest 46.73 302 P **P** **20 09 29.8 +0.4**
comp=E,207nm,2.0s,mb5.9,SNR=19
BFO Black Forest 46.73 302 *e*P **P** **20 09 29.0 -0.4**
BFO pmax pmax
comp=Z,215nm,1.8s,mb6.0
BFO MLR MLR
comp=Z,1µm,19.0s,MS4.9
BFO Black Forest 46.73 302 *e*P **P** **20 09 29.0 -0.4**
comp=Z,215nm,1.8s,mb6.0
BFO LR LR
comp=Z,1µm,19.0s,MS4.9
BDI Bagni Di Lucca 46.73 296 P **P** **20 09 30.4 +1.0**
LLS Linth-Limmern 46.79 300 ⇑P **P** **20 09 29.1 -0.7**
SLE Schleitheim 46.81 301 ⇑P **P** **20 09 29.7 -0.3**
LANF Langenberg 46.84 303 *e*P **P** **20 09 30.2 -0.1**
MUO Muotathal 46.98 300 ⇑P **P** **20 09 31.0 -0.4**
FELD Feldberg im Sc 47.08 301 *e*P **P** **20 09 31.9 -0.3**
KIZ Kirchzarten 47.11 302 P **P** **20 09 32.4 0.0**
SULZ Sulz-Cheisache 47.13 301 ⇑P **P** **20 09 32.0 -0.5**
ASAJ Asahikawa 47.34 64 P **P** **20 09 34.4 +0.2**
comp=Z,8.9nm,0.8s,mb5.0,baz=278,slow=7.8,SNR=5.3
ASAJ LR LR 20 31 34.4
comp=Z,15µm,20.1s,MS6.0,baz=115,slow=39
ASAJ Asahikawa 47.34 64 P **P** **20 09 34.4 +0.2**
ASAJ pmax pmax
comp=Z,9.0nm,0.8s
ASAJ MLR MLR
comp=Z,15µm,20.2s
CDF Champ du Feu 47.36 302⇑ *i*P **P** **20 09 34.1 -0.2**
comp=Z,362nm,1.7s,mb5.9
CDF Champ du Feu 47.36 302⇑ *i*P **P** **20 09 34.1 -0.2**
CDF pmax pmax
comp=Z,181nm,1.7s,mb5.9
CDF Champ du Feu 47.36 302⇑ *i*P **P** **20 09 34.1 -0.2**
comp=Z,181nm,1.7s,mb5.9
MAJO Matsushiro 47.41 75 *e*P **P** **20 09 34.4 -0.3**
MAJO pmax pmax
comp=Z,46nm,1.0s,mb5.6
MAJO MLR MLR
comp=Z,6µm,20.0s,MS5.6
MAJO Matsushiro 47.41 75 *e*P **P** **20 09 34.4 -0.3**
comp=Z,46nm,1.0s,mb5.6
MAJO LR LR
comp=Z,6µm,20.0s,MS5.6
MAT Matsushiro 47.41 75 P **P** **20 09 34.2 -0.5**
MAT S **S** **20 16 27.0 -2.7**
MJAR Matsushiro Arr 47.41 75 P **P** **20 09 34.5 -0.2**
comp=Z,6.7nm,1.0s,mb4.7,baz=294,slow=8.0,SNR=12
MJAR LR LR 20 31 42.1
comp=Z,6µm,18.4s,MS5.6,baz=285,slow=39
HGN Heimansgroeve 47.43 306 *e*P **P** **20 09 34.6 -0.2**
comp=Z,66nm,2.7s,mb5.3
HGN *e*PP PP 20 11 25.2 -0.9

HGN *e*S **S** **20 16 25.4 -4.6**
HGN *e*SS SS 20 20 03.1 +5.5
MEM Membach 47.43 306 P **P** **20 09 34.6 -0.3**
comp=Z,19nm,1.6s,mb5.0
MA2 Magadan 47.48 42 *c iP* **P** **20 09 35.9 +0.6**
MA2 *e* 20 11 07.9
MA2 *e* 20 11 30.3
MA2 *e*S **S** **20 16 27.4 -3.4**
MA2 *e* 20 19 25.0
MA2 pmax pmax
comp=N,10.0nm,0.7s
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.4
MA2 Magadan 47.48 42 *eP* **P** **20 09 35.4 +0.1**
ECH Echery 47.50 302 *eP* **P** **20 09 34.8 -0.6**
SEY Seymchan 47.52 37⇑ *eP* **P** **20 09 36.3 +0.8**
BBS Basel-Blauen 47.54 301 *eP* **P** **20 09 35.2 -0.5**
BEBN Eben Emael 47.57 306 P **P** **20 09 35.9 -0.1**
MOF Molkenrain 47.64 302 *eP* **P** **20 09 36.5 0.0**
TGY Tagaytay City 47.65 112 P **P** **20 09 35.5 -1.0**
comp=Z,44nm,0.3s,baz=223,slow=19,SNR=3.7
WLF Walferdange 47.65 304 *eP* **P** **20 09 36.6 0.0**
WLF Walferdange 47.65 304 P **P** **20 09 36.5 -0.1**
comp=Z,51nm,1.9s,mb5.3
MMK Mattmark 47.74 299 ⇓P **P** **20 09 37.1 -0.2**
HINF Hinteralfeld 47.83 302⇑ *iP* **P** **20 09 37.8 -0.2**
LKBD Leukerbad 47.84 300 ⇑P **P** **20 09 36.9 -1.2**
BCLA Clavier 47.92 306 P **P** **20 09 38.5 -0.2**
comp=Z,37nm,2.2s,mb5.1
LOMF Lomont 48.01 301 *eP* **P** **20 09 36.7 -2.7**
HAU Haudompre 48.08 302⇑ *iP* **P** **20 09 39.7 -0.2**
comp=Z,59nm,0.8s,mb5.5
HAU *e*MLR
comp=Z,5μm,20.5s
HAU Haudompre 48.08 302⇑ *iP* **P** **20 09 39.7 -0.2**
HAU pmax pmax
comp=Z,29nm,0.8s,mb5.5
HAU MLR MLR
comp=Z,5μm,20.5s,MS5.5
HAU Haudompre 48.08 302⇑ *iP* **P** **20 09 39.7 -0.2**
comp=Z,29nm,0.8s,mb5.5
HAU LR LR
comp=Z,5μm,20.5s,MS5.5
DIX Grande Dixence 48.09 299 ⇑P **P** **20 09 39.7 -0.3**
THEF They Montfort 48.23 303 *eP* **P** **20 09 40.8 -0.3**
GIVF Givet 48.31 305⇑ *iP* **P** **20 09 41.9 +0.2**
comp=Z,178nm,1.4s,mb5.7
GIVF Givet 48.31 305⇑ *iP* **P** **20 09 41.9 +0.2**
GIVF pmax pmax
comp=Z,89nm,1.4s,mb5.7
GIVF Givet 48.31 305⇑ *iP* **P** **20 09 41.9 +0.2**
comp=Z,89nm,1.4s,mb5.7
UCC Uccle 48.37 306 P **P** **20 09 41.8 -0.3**
PGF Pioggiola 48.39 294⇑ *iP* **P** **20 09 42.3 0.0**
comp=Z,445nm,1.5s,mb6.1
PGF Pioggiola 48.39 294⇑ *iP* **P** **20 09 42.3 0.0**
PGF pmax pmax
comp=Z,223nm,1.5s,mb6.1
PGF Pioggiola 48.39 294⇑ *iP* **P** **20 09 42.3 0.0**
comp=Z,223nm,1.5s,mb6.1
EMV Vieux Emosson 48.43 300 ⇑P **P** **20 09 42.3 -0.3**
DOU Dourbes 48.45 305 P **P** **20 09 42.8 0.0**
SNF Seneffe 48.51 306 P **P** **20 09 43.0 -0.1**
ERM Erimo 48.54 66 *i* P **P** **20 09 43.5 0.0**
ERM MLR MLR
comp=Z,3μm,21.0s,MS5.3
ERM Erimo 48.54 66 *i* Pu **P** **20 09 43.5 0.0**
ERM LR LR
comp=Z,3μm,21.0s,MS5.3
LRW Lerwick 48.65 319 P **P** **20 09 42.4 -1.9**
LRW AMb AMB 20 09 43.0
comp=Z,104nm,1.7s,mb5.6
LRW Lerwick 48.65 319 *eP* **P** **20 09 42.4 -1.9**
LRW AMb AMB 20 09 43.0
comp=Z,104nm,1.7s,mb5.6
LRW AMS AMS 20 31 17.8
comp=Z,7μm,18.1s,MS5.7
BAIF Baives 48.70 305⇑ *iP* **P** **20 09 44.9 +0.2**
comp=Z,160nm,1.3s,mb5.6
BAIF Baives 48.70 305⇑ *iP* **P** **20 09 44.9 +0.2**
BAIF pmax pmax
comp=Z,80nm,1.3s,mb5.6
BAIF Baives 48.70 305⇑ *iP* **P** **20 09 44.9 +0.2**
comp=Z,80nm,1.3s,mb5.6
MEZF Maizieres J'vi 48.72 303⇑ *iP* **P** **20 09 45.1 +0.2**
comp=Z,531nm,1.6s,mb6.0
MEZF Maizieres J'vi 48.72 303⇑ *iP* **P** **20 09 45.1 +0.2**
comp=Z,531nm,1.6s,mb6.3
LPG La Plagne 48.74 299 *eP* **P** **20 09 45.2 +0.2**
LPL La Plagne 48.74 299 *eP* **P** **20 09 45.3 +0.3**
comp=Z,79nm,0.7s,mb5.6
LPL La Plagne 48.74 299 *eP* **P** **20 09 45.3 +0.3**
LPL pmax pmax
comp=Z,39nm,0.6s,mb5.6
LPL La Plagne 48.74 299 *eP* **P** **20 09 45.3 +0.3**
comp=Z,40nm,0.6s,mb5.6
RSL Roselend 48.75 299 *eP* **P** **20 09 44.6 -0.4**
CABF La Chapelle 48.75 300⇑ *iP* **P** **20 09 44.7 -0.4**
comp=Z,175nm,1.4s,mb5.6
CABF La Chapelle 48.75 300⇑ *iP* **P** **20 09 44.7 -0.4**
CABF pmax pmax
comp=Z,88nm,1.4s,mb5.6
CABF La Chapelle 48.75 300⇑ *iP* **P** **20 09 44.7 -0.4**
comp=Z,88nm,1.4s,mb5.6
SAOF Saorge 48.79 297 *eP* **P** **20 09 45.1 -0.3**
OG22 Abries 48.87 298 *eP* **P** **20 09 45.5 -0.5**
AUTN L'Aution 48.87 297 *eP* **P** **20 09 46.2 +0.2**
SBF Sospel 48.92 297 *eP* **P** **20 09 46.4 0.0**
comp=Z,484nm,1.3s,mb6.1
SBF Sospel 48.92 297 *eP* **P** **20 09 46.4 0.0**
SBF pmax pmax
comp=Z,242nm,1.3s,mb6.1
SBF Sospel 48.92 297 *eP* **P** **20 09 46.4 0.0**
comp=Z,242nm,1.3s,mb6.1
BNI Bardonecchia 48.95 298 P **P** **20 09 46.8 +0.2**
TOUF Mont Tournerai 48.98 297 *eP* **P** **20 09 47.0 +0.1**
REVF Revere 49.01 296 *eP* **P** **20 09 47.8 +0.7**
MBDF Montbardon 49.02 298 *eP* **P** **20 09 46.5 -0.6**
comp=Z,158nm,0.9s,mb5.7
MBDF Montbardon 49.02 298 *eP* **P** **20 09 46.5 -0.6**
MBDF pmax pmax
comp=Z,79nm,0.9s,mb5.7
MBDF Montbardon 49.02 298 *eP* **P** **20 09 46.5 -0.6**
comp=Z,79nm,0.9s,mb5.7
MVIF Mont Vial 49.09 297 *eP* **P** **20 09 47.0 -0.7**
JMIC Jan Mayen 49.12 334 *e*SS SS 20 20 28.1 +3.2
JMIC AMS AMS 20 30 53.6
comp=Z,7μm,18.3s,MS5.7
CALN Calern 49.32 297 *eP* **P** **20 09 50.1 +0.6**
OG05 Jujurieux 49.37 300 *eP* **P** **20 09 49.3 -0.5**
DGAR Diego Garcia 49.44 185 PFAKE 20 10 00.0 +10
DGAR LR LR
comp=Z,3μm,20.0s,MS5.2
ORIF Oris-en-Rattie 49.53 298 *eP* **P** **20 09 50.4 -0.6**
comp=Z,77nm,0.8s,mb5.4
ORIF *e*MLR
comp=Z,14μm,20.0s
ORIF Oris-en-Rattie 49.53 298 *eP* **P** **20 09 50.4 -0.6**
ORIF pmax pmax
comp=Z,39nm,0.8s,mb5.4
ORIF Oris-en-Rattie 49.53 298 *eP* **P** **20 09 50.4 -0.6**
comp=Z,39nm,0.8s,mb5.4
YUK Yuzh-Kuril'sk 49.54 63 *eP* **P** **20 09 54.0 +2.9**
YUK *e*SP 20 10 06.0
YUK *e* 20 11 17.0
YUK S **S** **20 16 54.0 -5.9**
YUK *e* 20 19 44.0
YUK pmax pmax
comp=Z,3μm,3.0s
YUK smax
comp=N,3μm,10.0s
YUK MLR MLR
comp=N,8μm,13.0s,MS6.3
YUK MLR MLR
comp=E,16μm,13.0s,MS6.3
YUK MLR MLR
comp=Z,19μm,13.0s,MS6.3
FRF La Foret Royal 49.56 297 *eP* **P** **20 09 50.9 -0.4**
comp=Z,307nm,1.4s,mb5.8
FRF La Foret Royal 49.56 297 *eP* **P** **20 09 50.9 -0.4**
FRF pmax pmax
comp=Z,153nm,1.4s,mb5.7
FRF La Foret Royal 49.56 297 *eP* **P** **20 09 50.9 -0.4**
comp=Z,153nm,1.4s,mb5.7
AEU East Anglia Un 49.60 309 *eP* **P** **20 09 50.8 -0.8**

LMR La Mourre 49.74 296⇑ *iP* **P** **20 09 52.3 -0.4**
comp=Z,351nm,1.6s,mb5.8
LMR La Mourre 49.74 296⇑ *iP* **P** **20 09 52.3 -0.4**
LMR pmax pmax
comp=Z,175nm,1.6s,mb5.7
LMR La Mourre 49.74 296⇑ *iP* **P** **20 09 52.3 -0.4**
comp=Z,175nm,1.6s,mb5.7
MENF Mencas 49.77 307 *eP* **P** **20 09 52.3 -0.5**
STOF St-Etienne Org 49.88 297 *eP* **P** **20 09 54.7 +1.0**
LOR Lormes 49.92 302⇑ *iP* **P** **20 09 53.0 -1.0**
comp=Z,96nm,1.4s,mb5.2
LOR *e*MLR
comp=Z,10μm,17.8s
LOR Lormes 49.92 302⇑ *iP* **P** **20 09 53.0 -1.0**
LOR pmax pmax
comp=Z,48nm,1.4s,mb5.2
LOR MLR MLR
comp=Z,10μm,17.8s,MS5.9
LOR Lormes 49.92 302⇑ *iP* **P** **20 09 53.0 -1.0**
comp=Z,48nm,1.4s,mb5.2
LOR LR LR
comp=Z,10μm,17.8s,MS5.9
TAVF Tavernes 49.93 297 *eP* **P** **20 09 54.7 +0.6**
OCF Saint Nazaire 50.04 298 *eP* **P** **20 09 55.2 +0.3**
OG26 St.-Nazaire-De 50.04 298 *eP* **P** **20 09 55.2 +0.3**
SMRF Simiane la Rot 50.10 297⇑ *iP* **P** **20 09 55.3 -0.1**
comp=Z,141nm,1.1s,mb5.5
SMRF Simiane la Rot 50.10 297⇑ *iP* **P** **20 09 55.3 -0.1**
comp=Z,141nm,1.1s,mb5.8
SMF Signal de Mont 50.17 301⇑ *iP* **P** **20 09 55.3 -0.6**
JHJ Hachijo jima 2 50.17 78 LR LR 20 32 39.6
comp=Z,6μm,18.1s,MS5.6,baz=278,slow=38
SSF Saint Saulge 50.22 302⇑ *iP* **P** **20 09 55.4 -0.9**
comp=Z,33nm,0.8s,mb5.0
SSF Saint Saulge 50.22 302⇑ *iP* **P** **20 09 55.4 -0.9**
SSF pmax pmax
comp=Z,17nm,0.8s,mb5.0
SSF Saint Saulge 50.22 302⇑ *iP* **P** **20 09 55.4 -0.9**
comp=Z,16nm,0.8s,mb5.0
MLA1 Latheron 50.25 318 *eP* **P** **20 09 55.8 -0.7**
MSEY Mahe Island 50.25 207 *eP* **P** **20 09 59.1 +2.5**
MSEY LR LR
comp=Z,1μm,19.0s,MS4.9
VIVF Saint-Julien-l 50.34 299 *eP* **P** **20 09 57.0 -0.2**
comp=Z,73nm,0.7s,mb5.4
VIVF Saint-Julien-l 50.34 299 *eP* **P** **20 09 57.0 -0.2**
VIVF pmax pmax
comp=Z,37nm,0.7s,mb5.4
VIVF Saint-Julien-l 50.34 299 *eP* **P** **20 09 57.0 -0.2**
comp=Z,37nm,0.7s,mb5.4
MCD Coleburn Disti 50.42 317 *eP* **P** **20 09 57.1 -0.8**
AVF Avril sur Loir 50.42 302⇑ *iP* **P** **20 09 57.3 -0.5**
PRAF Pradon 50.44 297 *eP* **P** **20 09 58.8 +0.8**
GELF Grande-Etoile 50.44 297 *eP* **P** **20 09 58.8 +0.8**
DAG Danmarks Havn 50.48 343⇑ *iP* **P** **20 09 56.8 -1.5**
comp=Z,21nm,0.9s,mb5.1
DAG
comp=Z,14μm,18.0s
DAG Danmarks Havn 50.48 343⇑ *eP* **P** **20 09 56.8 -1.5**
DAG pmax pmax
comp=Z,21nm,0.9s,mb5.1
DAG MLR MLR
comp=Z,14μm,18.0s,MS6.0
DAG MLR MLR
comp=E,10μm,17.0s
KKM Kota Kinabalu 50.53 124 *eP* **P** **20 10 00.3 +1.7**
PLDF La Plantade 50.58 301 *eP* **P** **20 09 58.5 -0.5**
XSO Sourhope Farm 50.58 314 *eP* **P** **20 09 58.5 -0.5**
ESY Stoneypath 50.63 314 *eP* **P** **20 09 58.4 -1.0**
COLF Collangettes 50.71 300 *eP* **P** **20 09 59.0 -1.0**
XAL Allendale 50.77 313 *eP* **P** **20 09 59.1 -1.3**
MVH1 Achvaich 50.78 317 *eP* **P** **20 09 59.3 -1.3**
KSM Kuching 50.80 134 *eP* **P** **20 10 00.1 -0.6**
BGF Bois d'Agland 50.84 302⇑ *iP* **P** **20 10 00.4 -0.6**
comp=E,107nm,1.1s,mb5.4
BGF Bois d'Agland 50.84 302⇑ *iP* **P** **20 10 00.4 -0.6**
BGF pmax pmax
comp=Z,54nm,1.1s,mb5.4
BGF Bois d'Agland 50.84 302⇑ *iP* **P** **20 10 00.4 -0.6**
comp=Z,54nm,1.1s,mb5.4
AGO Saint Agoulin 50.86 301 *eP* **P** **20 09 59.3 -1.8**
EDI Edinburgh 50.93 315 P **P** **20 10 00.8 -0.9**
EDI AMb AMB 20 10 07.1
comp=Z,107nm,1.4s,mb5.6
EDI Edinburgh 50.93 315 *eP* **P** **20 10 00.8 -0.9**
EDI AMb AMB 20 10 07.1
comp=Z,107nm,1.4s,mb5.6
EDI AMS AMS 20 33 02.4
comp=Z,10μm,18.7s,MS5.8
KBI1 Birley Grange 50.95 311 *eP* **P** **20 10 00.5 -1.3**
LHO Holmfirth 51.03 311 *eP* **P** **20 10 02.1 -0.3**
MDO Dochfour 51.03 317 *eP* **P** **20 10 00.9 -1.5**
SKP1 Kophill 51.09 309 *eP* **P** **20 10 01.8 -1.1**
EAU Auchinoon 51.09 315 *eP* **P** **20 10 02.3 -0.6**
LBL Lubilhac 51.11 300 *eP* **P** **20 10 02.9 -0.1**
ESK Eskdalemuir 51.15 314 P **P** **20 10 02.3 -1.0**
ESK AMb AMB 20 10 08.7
comp=Z,64nm,1.3s,mb5.4
ESK Eskdalemuir 51.15 314 *eP* **P** **20 10 02.3 -1.0**
ESK AMb AMB 20 10 08.7
comp=Z,64nm,1.3s,mb5.4
ESK AMS AMS 20 33 40.9
comp=Z,12μm,17.2s,MS6.0
ESK Eskdalemuir 51.15 314 *eP* **P** **20 10 02.5 -0.8**
ESK LR LR
comp=Z,2μm,20.0s,MS5.1
KEST Kesra 51.15 286 P **P** **20 10 03.0 -0.3**
comp=Z,31nm,1.2s,mb5.1,baz=336,slow=1.1,SNR=11
KEST LR LR 20 36 28.5
comp=Z,1μm,19.6s,MS4.9,baz=182,slow=42
LASF Ste Croix 51.19 298⇑ *iP* **P** **20 10 03.8 +0.2**
comp=Z,311nm,1.3s,mb5.8
KWE Weaver Farm 51.21 311 *eP* **P** **20 10 03.0 -0.8**
TCF Toulx Ste Croi 51.35 301⇑ *iP* **P** **20 10 04.5 -0.3**
comp=Z,605nm,1.9s,mb5.9
TCF Toulx Ste Croi 51.35 301⇑ *iP* **P** **20 10 04.5 -0.3**
TCF pmax pmax
comp=Z,303nm,1.9s,mb5.9
TCF Toulx Ste Croi 51.35 301⇑ *iP* **P** **20 10 04.5 -0.3**
comp=Z,303nm,1.9s,mb5.9
CKE Keswick 51.35 313 *eP* **P** **20 10 04.5 -0.4**
VERF Verneugheol 51.39 301 *eP* **P** **20 10 04.4 -0.7**
EAB Aberfoyle 51.45 315 *eP* **P** **20 10 04.4 -1.1**
KAC Achnashellach 51.49 317 *eP* **P** **20 10 04.8 -1.0**
FRNF Fournols 51.49 300 *eP* **P** **20 10 06.2 +0.3**
XDE Dent Fell 51.59 313 *eP* **P** **20 10 05.7 -0.9**
SSW Stow on the Wo 51.60 309 *eP* **P** **20 10 06.8 +0.1**
KSB Sheil Bridge 51.65 317 *eP* **P** **20 10 06.6 -0.5**
PGBU Glenifferbraes 51.66 315 P **P** **20 10 06.5 -0.6**
PGBU AMb AMB 20 10 12.8
comp=Z,44nm,1.4s,mb5.2
PGBU Glenifferbraes 51.66 315 *eP* **P** **20 10 06.5 -0.6**
PGBU AMb AMB 20 10 12.8
comp=Z,44nm,1.4s,mb5.2
PGBU AMS AMS 20 33 24.4
comp=Z,4μm,19.4s,MS5.4
GCD Castle Douglas 51.70 313 *eP* **P** **20 10 06.6 -0.8**
KPL Plockton 51.72 317 P **P** **20 10 05.7 -1.9**
KPL AMb AMB 20 10 12.1
comp=Z,88nm,2.0s,mb5.3
KPL Plockton 51.72 317 *eP* **P** **20 10 05.7 -1.9**
KPL AMb AMB 20 10 12.1
comp=Z,88nm,2.0s,mb5.3
KPL AMS AMS 20 33 29.8
comp=Z,13μm,19.8s,MS6.0
SWN1 Swindon 51.74 309 *eP* **P** **20 10 07.5 -0.3**
BILL Bilibino 51.77 29 *i* P **P** **20 10 08.0 0.0**
BILL MLR MLR
comp=Z,25μm,19.0s,MS6.3
BILL Bilibino 51.77 29 *i* P **P** **20 10 08.0 0.0**
BILL LR LR
comp=Z,25μm,19.0s,MS6.3
LDF La Druitiere 51.88 305⇑ *iP* **P** **20 10 08.0 -0.8**
comp=Z,88nm,1.0s,mb5.3
LDF La Druitiere 51.88 305⇑ *iP* **P** **20 10 08.0 -0.8**
LDF pmax pmax
comp=Z,44nm,1.0s,mb5.3
LDF La Druitiere 51.88 305⇑ *iP* **P** **20 10 08.0 -0.8**
comp=Z,44nm,1.0s,mb5.3
KAR1 Arisaig 51.96 316 *eP* **P** **20 10 08.3 -1.1**
HLM1 Long Mynd 51.98 310 *eP* **P** **20 10 08.8 -0.7**
CAF Calviac 52.00 300⇑ *iP* **P** **20 10 09.8 +0.1**
comp=Z,239nm,1.6s,mb5.6
CAF Calviac 52.00 300⇑ *iP* **P** **20 10 09.8 +0.1**
CAF pmax pmax
comp=Z,120nm,1.6s,mb5.6
CAF Calviac 52.00 300⇑ *iP* **P** **20 10 09.8 +0.1**
comp=Z,120nm,1.6s,mb5.6
FLN La Foliniere 52.03 305⇑ *iP* **P** **20 10 08.9 -1.0**
comp=Z,80nm,1.1s,mb5.3
FLN *e*MLR
comp=Z,8μm,17.5s
FLN La Foliniere 52.03 305⇑ *iP* **P** **20 10 08.9 -1.0**
FLN pmax pmax
comp=Z,40nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,8μm,17.5s,MS5.8
FLN La Foliniere 52.03 305⇑ *iP* **P** **20 10 08.9 -1.0**
comp=Z,40nm,1.1s,mb5.3
FLN LR LR
comp=Z,8μm,17.5s,MS5.8
GAL1 Galloway 52.12 314 *eP* **P** **20 10 09.6 -1.0**
RJF Les Rejaudoux 52.20 301⇑ *iP* **P** **20 10 11.3 +0.2**
RJF *e*MLR
comp=Z,6μm,22.0s
RJF Les Rejaudoux 52.20 301⇑ *iP* **P** **20 10 11.3 +0.2**
RJF LR LR
comp=Z,6μm,22.0s,MS5.6
GIM North Isle of 52.20 313 *eP* **P** **20 10 09.4 -1.8**
MCH1 Michaelchurch 52.25 310 P **P** **20 10 10.5 -1.0**
MCH1 AMb AMB 20 10 18.7
comp=Z,59nm,1.8s,mb5.2
MCH1 Michaelchurch 52.25 310 *eP* **P** **20 10 10.5 -1.0**
MCH1 *eP* 20 10 10.5
MCH1 AMb AMB 20 10 18.7
comp=Z,59nm,1.8s,mb5.2
MCH1 AMS AMS 20 34 41.0
comp=Z,3μm,17.0s,MS5.4
HGH Gray Hill 52.27 309 *eP* **P** **20 10 11.6 -0.2**
WIM Isle of Man 52.37 313 *eP* **P** **20 10 12.4 0.0**
GRR Gorron 52.41 305⇑ *iP* **P** **20 10 11.8 -0.9**
comp=Z,79nm,0.9s,mb5.3
GRR Gorron 52.41 305⇑ *iP* **P** **20 10 11.8 -0.9**
GRR pmax pmax
comp=Z,39nm,0.9s,mb5.3
GRR Gorron 52.41 305⇑ *iP* **P** **20 10 11.8 -0.9**
comp=Z,39nm,0.9s,mb5.3
GMK Mull of Kintyr 52.41 314 *eP* **P** **20 10 12.2 -0.5**
EJON La Jonquera 52.53 297 P **P** **20 10 15.5 +1.8**
comp=Z,239nm,1.9s,mb5.8
MTLF Montolieu 52.58 298⇑ *iP* **P** **20 10 13.8 -0.2**
YRC Rhoscolyn 52.65 312 *eP* **P** **20 10 13.0 -1.5**
YRE Yr Eifl 52.67 311 *eP* **P** **20 10 14.5 -0.2**
FILF Fillols 52.70 297 *eP* **P** **20 10 15.5 +0.6**
MFF Saint Martin d 52.70 303⇑ *iP* **P** **20 10 14.0 -0.9**
LFF La Frestale 52.85 300⇑ *iP* **P** **20 10 16.1 +0.1**
comp=Z,110nm,0.9s,mb5.5
LFF La Frestale 52.85 300⇑ *iP* **P** **20 10 16.1 +0.1**
LFF pmax pmax
comp=Z,55nm,0.9s,mb5.5
LFF La Frestale 52.85 300⇑ *iP* **P** **20 10 16.1 +0.1**
comp=Z,55nm,0.9s,mb5.5
GMM Mts of Mourne 53.02 313 *eP* **P** **20 10 15.6 -1.7**
HEX Exmoor 53.08 309 *eP* **P** **20 10 15.8 -1.9**
VALF Valcebollere 53.13 297 *eP* **P** **20 10 18.7 +0.7**
MLS Moulis 53.49 298 *eP* **P** **20 10 19.8 -0.9**
SGMF Saint Gilles 53.49 305⇑ *iP* **P** **20 10 20.2 -0.5**
comp=Z,92nm,0.9s,mb5.4
SGMF Saint Gilles 53.49 305⇑ *iP* **P** **20 10 20.2 -0.5**
SGMF pmax pmax
comp=Z,46nm,0.9s,mb5.4
SGMF Saint Gilles 53.49 305⇑ *iP* **P** **20 10 20.2 -0.5**
comp=Z,46nm,0.9s,mb5.4
HTL Hartland 53.50 309 AMS AMS 20 38 16.5
comp=Z,4μm,17.0s
HTL Hartland 53.50 309 AMS AMS 20 38 16.5
comp=Z,4μm,17.0s,MS5.5
EMIR Miracle 53.67 297 P **P** **20 10 24.6 +2.6**
comp=Z,558nm,2.4s,mb6.2
PET Petropavlovsk 53.75 48 *eP* **P** **20 10 21.3 -1.3**
PET *e* 20 12 24.0
PET *e*S **S** **20 17 52.1 -5.8**
PET *e*SS SS 20 21 35.3 -3.2
PET pmax pmax
comp=Z,1μm,3.2s
PET pmax pmax
comp=Z,500nm,4.8s
PET pmax pmax
comp=Z,200nm,16.4s
PET smax
comp=N,600nm,12.6s
PET MLR MLR
comp=Z,8μm,18.0s,MS5.8
PET MLR MLR
comp=Z,8μm,14.0s
ETOS Mallorca 53.80 294 P **P** **20 10 23.8 +0.8**
comp=Z,820nm,2.6s,mb6.3
ALE Alert 53.86 354 P **P** **20 10 23.0 -0.4**
comp=Z,84nm,1.0s,mb5.7,SNR=6.1
ROSF Rostrenen 53.89 306⇑ *iP* **P** **20 10 22.9 -0.8**
EPF Esparros 53.95 298⇑ *iP* **P** **20 10 24.0 -0.1**
comp=Z,116nm,1.3s,mb5.4
EPF Esparros 53.95 298⇑ *iP* **P** **20 10 24.0 -0.1**
EPF pmax pmax
comp=Z,58nm,1.3s,mb5.5
EPF Esparros 53.95 298⇑ *iP* **P** **20 10 24.0 -0.1**
comp=Z,58nm,1.3s,mb5.5
QUIF Quistinic 54.01 305⇑ *iP* **P** **20 10 23.7 -0.8**
comp=Z,157nm,1.2s,mb5.6
QUIF Quistinic 54.01 305⇑ *iP* **P** **20 10 23.7 -0.8**
QUIF pmax pmax
comp=Z,79nm,1.2s,mb5.6
QUIF Quistinic 54.01 305⇑ *iP* **P** **20 10 23.7 -0.8**
comp=Z,79nm,1.2s,mb5.6
RESF Ens 54.05 298 *eP* **P** **20 10 24.4 -0.4**
VIEF Viey 54.22 298 *eP* **P** **20 10 25.9 -0.2**
EBIE Bielsa 54.23 298 P **P** **20 10 28.0 +1.9**
comp=Z,365nm,2.3s,mb6.0
CRQ2 Rosemanowes 2 54.24 308 *eP* **P** **20 10 25.1 -1.1**
CMA1 Manaccan 54.25 308 *eP* **P** **20 10 24.7 -1.6**
ETSF Etsaut 54.60 299⇑ *iP* **P** **20 10 29.6 +0.8**
ATE Arette 54.60 299 *eP* **P** **20 10 28.3 -0.5**
ERTA Horta de San J 54.91 296 P **P** **20 10 31.4 +0.3**
comp=Z,292nm,1.7s,mb6.0
SJPF Ste Jean 54.93 299⇑ *iP* **P** **20 10 31.5 +0.3**
EALK Alkurruntz 55.06 299 P **P** **20 10 33.1 +0.9**
comp=Z,275nm,2.1s,mb5.9
ESAC San Caprasio 55.09 297 P **P** **20 10 33.0 +0.6**
comp=Z,566nm,2.0s,mb6.2
ELIZ Elizondo 55.10 299 P **P** **20 10 33.1 +0.6**
ELIZ pmax pmax
comp=Z,246nm,2.2s,mb5.8
ELIZ Elizondo 55.10 299 P **P** **20 10 33.1 +0.7**
comp=Z,246nm,2.2s,mb5.8
CBIJ Chichi jima 55.12 83 LR LR 20 35 24.7
comp=Z,3μm,19.1s,MS5.4,baz=339,slow=38
EIBI Ibiza 55.16 294 P **P** **20 10 34.2 +1.4**
comp=Z,277nm,2.0s,mb5.9
KMBO Kilima Mbogo 55.55 230 P **P** **20 10 34.3 -1.3**
comp=Z,31nm,1.0s,mb5.3,baz=31,slow=10.0,SNR=58
KMBO LR LR 20 37 22.0
comp=Z,5μm,18.8s,MS5.6,baz=36,slow=39
EMOS Mosqueruela 55.73 296 P **P** **20 10 38.3 +1.3**
comp=Z,362nm,2.1s,mb6.0
BORG Borgarnes 55.76 329 PFAKE 20 10 50.0 +13
BORG LR LR
comp=Z,1μm,20.0s,MS5.0
DAV Davao City (W) 55.84 114 PFAKE 20 10 50.0 +12
DAV LR LR
comp=Z,6μm,19.0s,MS5.7
ECRI Cripan 56.00 299 P **P** **20 10 40.1 +1.2**
ECRI pmax pmax
comp=Z,31nm,0.8s,mb5.4
ECRI Cripan 56.00 299 P **P** **20 10 40.1 +1.2**
comp=Z,30nm,0.8s,mb5.4
ELAN Lanestosa 56.30 300 P **P** **20 10 41.4 +0.3**
comp=Z,374nm,2.3s,mb6.0
EBEN Beniarda 56.38 294 P **P** **20 10 42.1 +0.5**
comp=Z,309nm,1.9s,mb6.0
ECHE Chera 56.44 295 P **P** **20 10 42.9 +0.8**
ECHE pmax pmax
comp=Z,31nm,1.1s,mb5.2
ECHE Chera 56.44 295 P **P** **20 10 42.9 +0.8**
comp=Z,31nm,1.1s,mb5.3
ETOR Torete 56.57 297 P **P** **20 10 43.1 +0.1**
ETOR pmax pmax
comp=Z,27nm,1.5s,mb5.1
ETOR Torete 56.57 297 P **P** **20 10 43.1 +0.2**
comp=Z,27nm,1.5s,mb5.1
ETOB Tobarra 57.31 295 P **P** **20 10 49.7 +1.5**
comp=Z,425nm,2.2s,mb6.1

EARI Arriondas 57.40 301 P **P** **20 10 48.8 -0.1**
comp=Z,509nm,2.3s,mb6.1
EVIA Vianos 57.95 295 P **P** **20 10 52.6 -0.2**
EVIA pmax pmax
comp=Z,88nm,1.1s,mb5.7
EVIA Vianos 57.95 295 P **P** **20 10 52.6 -0.2**
comp=Z,88nm,1.1s,mb5.7
GUD Guadarrama 58.04 298 P **P** **20 10 52.9 -0.5**
GUD pmax pmax
comp=Z,61nm,1.4s,mb5.4
GUD Guadarrama 58.04 298 P **P** **20 10 52.9 -0.5**
comp=Z,61nm,1.4s,mb5.4
ESDC Sonseca Array 58.40 297 P **P** **20 10 55.1 -0.8**
comp=Z,4.1nm,0.5s,mb4.7,baz=55,slow=6.8,SNR=37
ESDC LR LR 20 38 52.2
comp=Z,2µm,19.0s,MS5.2,baz=70,slow=39
ESLA Sonseca Array 58.40 297 *e*P **P** **20 10 55.2 -0.7**
comp=Z,86nm,1.8s,mb5.5
ESLA LR LR
comp=Z,19µm,22.0s,MS6.2
EHUE Huescar 58.44 294 P **P** **20 10 56.9 +0.8**
EHUE pmax pmax
comp=Z,188nm,1.8s,mb5.8
EHUE Huescar 58.44 294 P **P** **20 10 56.9 +0.8**
comp=Z,188nm,1.8s,mb5.8
ENIJ Nijar 58.61 293 P **P** **20 10 58.1 +0.7**
ENIJ pmax pmax
comp=Z,118nm,1.5s,mb5.7
ENIJ Nijar 58.61 293 P **P** **20 10 58.1 +0.7**
comp=Z,118nm,1.5s,mb5.7
EPON Pontenova 58.62 302 P **P** **20 10 56.9 -0.6**
comp=Z,316nm,2.4s,mb5.9
PAB San Pablo 58.73 297 *e*P **P** **20 10 57.5 -0.6**
PAB pmax pmax
comp=Z,127nm,1.6s,mb5.7
PAB San Pablo 58.73 297 *e*P **P** **20 10 57.5 -0.7**
comp=Z,127nm,1.6s,mb5.7
EQES Quesada 58.77 294 P **P** **20 10 59.1 +0.7**
comp=Z,19nm,0.7s,mb5.2
ECAL Calabor 59.06 300 P **P** **20 11 00.8 +0.3**
comp=Z,286nm,2.0s,mb6.0
EBAN Banos Encina 59.06 295 P **P** **20 11 01.1 +0.6**
EBAN pmax pmax
comp=Z,55nm,1.1s,mb5.5
EBAN Banos Encina 59.06 295 P **P** **20 11 01.1 +0.6**
comp=Z,55nm,1.1s,mb5.5
ERUA La Rua 59.09 301 P **P** **20 11 00.4 -0.3**
ERUA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ERUA La Rua 59.09 301 P **P** **20 11 00.4 -0.3**
comp=Z,6.3nm,0.6s,mb4.8
EBER Berja 59.12 294 P **P** **20 11 02.2 +1.4**
comp=Z,338nm,2.3s,mb6.0
PBRG Braganca 59.13 300 *e*P **P** **20 11 02.0 +1.0**
comp=Z,73nm,1.8s,mb5.4
ECOG Cogollos-Vega 59.38 294 P **P** **20 11 02.0 -0.7**
ECOG pmax pmax
comp=Z,71nm,1.8s,mb5.4
ECOG Cogollos-Vega 59.38 294 P **P** **20 11 02.0 -0.6**
comp=Z,71nm,1.8s,mb5.4
EADA Adamuz 59.59 296 P **P** **20 11 02.2 -1.9**
comp=Z,298nm,1.8s,mb6.0
EGUA Guajares 59.61 294 P **P** **20 11 04.6 +0.3**
EGUA pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
EGUA Guajares 59.61 294 P **P** **20 11 04.6 +0.3**
comp=Z,5.0nm,0.7s,mb4.7
ERON Agron 59.68 294 P **P** **20 11 02.8 -1.9**
comp=Z,16nm,0.7s,mb5.2
ELUQ Luque 59.70 295 P **P** **20 11 04.3 -0.6**
ELUQ pmax pmax
comp=Z,118nm,1.2s,mb5.8
ELUQ Luque 59.70 295 P **P** **20 11 04.3 -0.7**
comp=Z,118nm,1.2s,mb5.8
EALB Alboran 59.72 293 P **P** **20 11 05.4 +0.3**
comp=Z,670nm,1.9s,mb6.3
ELOJ Sierra Loja 59.84 294 P **P** **20 11 04.2 -1.7**
ELOJ pmax pmax
comp=Z,12nm,0.8s,mb5.0
ELOJ Sierra Loja 59.84 294 P **P** **20 11 04.2 -1.7**
comp=Z,12nm,0.8s,mb5.0
ELOB Lobios 59.95 301 P **P** **20 11 04.1 -2.5**
comp=Z,471nm,2.2s,mb6.1
PCAB Cabril 60.01 301 *e*P **P** **20 11 08.0 +1.0**
comp=Z,181nm,1.7s,mb5.8
PVRL Vila Real 60.03 300 *e*P **P** **20 11 09.7 +2.5**
comp=Z,76nm,1.7s,mb5.5
MTE Manteigas 60.38 299 *e*P **P** **20 11 10.5 +0.9**
comp=Z,123nm,1.7s,mb5.7
MTE *e*P 20 15 00.9
MTE *e*S **S** **20 19 28.4 +3.1**
MTE *e*SS SS 20 23 22.7 -0.1
MTE *e*LQ 20 29 46.5
MTE *e*LR LR 20 38 55.7
comp=Z,3µm,19.0s
PVIS Viseu 60.44 300 *e*P **P** **20 11 11.5 +1.5**
comp=Z,137nm,1.7s,mb5.7
EMIJ Mijas 60.58 294 P **P** **20 11 12.8 +1.8**
comp=Z,54nm,1.1s,mb5.6
PCBR Castelo Branco 60.63 299 *e*P **P** **20 11 12.8 +1.5**
comp=Z,74nm,1.6s,mb5.6
EBAD Badajoz 60.90 297 P **P** **20 11 11.2 -1.9**
comp=Z,360nm,2.0s,mb6.2
EJIF Jimena Fronter 61.11 294 P **P** **20 11 15.3 +0.8**
EJIF pmax pmax
comp=Z,114nm,1.4s,mb5.8
EJIF Jimena Fronter 61.11 294 P **P** **20 11 15.3 +0.7**
comp=Z,114nm,1.4s,mb5.8
ESPR Espera 61.14 295 P **P** **20 11 15.6 +0.8**
comp=Z,333nm,2.0s,mb6.1
EMIN Mina Concepcio 61.21 296 P **P** **20 11 13.6 -1.6**
comp=Z,421nm,2.1s,mb6.2
PESTR Estremoz 61.22 298 *e*P **P** **20 11 15.8 +0.5**
comp=Z,85nm,1.8s,mb5.6
PESTR *e*P 20 15 09.5
PESTR *e*S **S** **20 19 38.1 +2.0**
PESTR *e*SS SS 20 23 37.1 +1.1
PESTR *e*LQ 20 29 58.1
PESTR *e*LR LR 20 39 16.0
comp=Z,2µm,16.5s
TNA Tin City 61.80 25 *e*P **P** **20 11 19.5 +0.3**
comp=Z,100nm,1.5s,mb5.8
PBEJ Beja 61.86 297 *e*P **P** **20 11 20.4 +0.8**
comp=Z,108nm,1.5s,mb5.9
EGRO El Granado 61.87 296 P **P** **20 11 18.4 -1.3**
comp=Z,357nm,2.2s,mb6.2
PLOU Loures 62.24 298 *e*P **P** **20 11 23.5 +1.3**
comp=Z,139nm,1.4s,mb6.0
PMAFR Mafra 62.28 299 *e*pP pP 20 11 25.3 +2.5
PMAFR *e*P 20 15 15.2
PMAFR *e*S **S** **20 19 52.5 +3.0**
PMAFR *e*SS SS 20 23 55.0 +2.4
PMAFR *e*LQ 20 30 16.9
PMAFR *e*LR LR 20 39 58.2
comp=Z,2µm,17.1s
PTEO Sao Teotonio 62.69 297 *e*P **P** **20 11 26.4 +1.2**
comp=Z,162nm,2.0s,mb5.8
RES Resolute Bay 63.30 357 *e*P **P** **20 11 28.1 -1.1**
SFJD Kangerlussuaq 63.90 339 P **P** **20 11 31.3 -1.9**
SFJD pmax pmax
comp=Z,180nm,1.7s,mb6.0
SFJD Kangerlussuaq 63.90 339 *e*P **P** **20 11 30.9 -2.3**
comp=Z,180nm,1.8s,mb6.0
GUMO Guam 65.28 94 PFAKE 20 11 50.0 +7.8
GUMO LR LR
comp=Z,2µm,20.0s,MS5.3
IMA2 Indian Mountai 65.50 20 *e*P **P** **20 11 42.7 -0.9**
TTA Tatalina 67.31 23 *e*P **P** **20 11 54.8 -0.4**
INK Inuvik 67.64 11 P **P** **20 11 55.5 -1.9**
comp=Z,46nm,0.8s,mb5.8,baz=5.6,slow=8.0,SNR=213
INK LR LR 20 44 27.9
comp=Z,4µm,21.2s,MS5.6,baz=322,slow=38
INK Inuvik 67.64 11 P **P** **20 11 55.5 -1.8**
INK pmax pmax
comp=Z,46nm,0.8s
INK MLR MLR
comp=Z,4µm,21.2s
INK Inuvik 67.64 11 *e*P **P** **20 11 56.0 -1.3**
COLA College 67.91 19 P **P** **20 11 58.1 -0.9**
COLA pmax pmax
comp=Z,61nm,0.9s,mb5.8
COLA College 67.91 19 *e*P **P** **20 11 58.7 -0.3**
COLA LR LR
comp=Z,8µm,20.0s,MS5.9
MCK McKinley 68.59 20 *e*P **P** **20 12 01.4 -1.9**
MCK pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
MCK McKinley 68.59 20 *e*P **P** **20 12 01.4 -1.9**
comp=Z,6.9nm,0.7s,mb5.0
SVW2 Sparrevohn 68.87 24 *e*P **P** **20 12 05.8 +0.8**
EGAK Eagle 69.47 16 *e*P **P** **20 12 07.8 -1.0**
comp=Z,119nm,0.8s,mb6.2
EGAK LR LR
comp=Z,8µm,19.0s,MS6.0
TOA0 Torodi Ar. Sit 69.79 270 *e*P **P** **20 12 08.6 -2.1**
TORD Torodi Ar. Bea 69.79 270 P **P** **20 12 08.9 -1.8**
comp=Z,32nm,0.6s,mb5.6,baz=49,slow=4.5,SNR=153
TORD PKPPKP 20 40 15.6
comp=Z,1.5nm,1.0s,baz=272,slow=2.2,SNR=8.5
TORD LR LR 20 47 54.3
comp=Z,2µm,18.3s,MS5.4,baz=25,slow=40
PMR Palmer 70.31 21 *e*P **P** **20 12 12.8 -1.2**
PMR 20 12 19.1
PMR pmax pmax
comp=Z,57nm,0.8s,mb5.8
PMR Palmer 70.31 21 *e*P **P** **20 12 13.0 -1.0**
comp=Z,89nm,0.9s,mb5.9
SML Sawmill 70.34 21 *e*P **P** **20 12 13.3 -0.8**
DAWY Dawson 70.47 16 *e*P **P** **20 12 14.0 -0.9**
MENT Mentasta 70.52 18 *e*P **P** **20 12 15.7 +0.5**
SLKM Skilak Lake 70.91 22 *e*P **P** **20 12 16.1 -1.5**
MSKU Masuku 71.10 250 PFAKE 20 12 30.0 +11
MSKU LR LR
comp=Z,34nm,20.0s
CHGN Chignik 71.66 29 *e*P **P** **20 12 23.2 +1.1**
CFTV Fuerteventura 71.69 292 P **P** **20 12 22.0 -0.4**
comp=Z,60nm,1.2s,mb5.6
EYAK Cordova Ski Ar 72.08 20 *e*P **P** **20 12 24.5 -0.2**
LSZ Lusaka 72.20 229 LR LR 20 47 22.7
comp=Z,3µm,19.4s,MS5.6,baz=34,slow=39
LSZ Lusaka 72.20 229 *e*P **P** **20 12 24.0 -1.4**
LSZ pmax pmax
comp=Z,102nm,1.4s,mb5.8
LSZ Lusaka 72.20 229 *e*P **P** **20 12 24.0 -1.4**
comp=Z,102nm,1.4s,mb5.8
KDAK Kodiak Island 72.44 25 *e*P **P** **20 12 27.0 +0.2**
KDAK LR LR
comp=Z,2µm,19.0s,MS5.4
EOSO Osorio 72.92 292 P **P** **20 12 31.1 +1.5**
comp=Z,749nm,1.6s,mb6.6
EBAJ Bajamar 73.17 293 P **P** **20 12 32.3 +1.2**
comp=Z,565nm,2.3s,mb6.3
EGOM La Gomera 74.00 294 P **P** **20 12 36.2 +0.2**
comp=Z,337nm,1.6s,mb6.1
KAKA Kakadu 75.15 123 *e*P **P** **20 12 41.3 -1.4**
comp=Z,20nm,0.6s,mb5.3
YKA Yellowknife Ar 75.35 5 P **P** **20 12 41.6 -2.2**
comp=Z,22nm,0.6s,mb5.4,baz=349,slow=5.8,SNR=582
YKA PKPPKP 20 40 04.2
comp=Z,0.6nm,1.0s,baz=140,slow=2.6,SNR=4.0
YKA LR LR 20 49 38.7
comp=Z,5µm,20.0s,MS5.8,baz=190,slow=39
YKA Yellowknife Ar 75.35 5 *e*P **P** **20 12 42.5 -1.3**
FITZ Fitzroy Crossi 75.36 132 *e*P **P** **20 12 43.2 -0.7**
comp=Z,20nm,0.9s,mb5.1
FITZ *e*S S 20 22 21.3 -3.3
FITZ Fitzroy Crossi 75.36 132 LR LR 20 48 17.8
comp=Z,837nm,20.9s,MS5.0,baz=324,slow=38
SKAG Skagway 75.47 16 *e*P **P** **20 12 45.0 +0.5**
comp=Z,230nm,1.5s,mb6.0
SCHQ Schefferville 78.35 339 P **P** **20 13 00.1 -0.7**
comp=Z,6.6nm,0.9s,mb4.8,baz=17,slow=2.8,SNR=4.5
SCHQ LR LR 20 51 34.0
comp=Z,5µm,19.8s,MS5.8,baz=69,slow=39
FCC Fort Churchill 79.12 355 *e*P **P** **20 13 03.7 -1.4**
comp=Z,0.4nm,1.2s
LIC Lamto 79.30 269 *e*P **P** **20 13 04.1 -1.9**
LIC comp=Z,248nm,1.4s,mb5.8 *e*MLR
comp=Z,4µm,18.0s
LIC Lamto 79.30 269 *e*P **P** **20 13 04.1 -1.9**
comp=Z,124nm,1.4s,mb5.8
LIC LR LR
comp=Z,2µm,18.0s,MS5.4
TSUM Tsumeb 81.48 235 *e*P **P** **20 13 16.6 -1.1**
comp=Z,82nm,1.2s,mb5.6
LBTB Lobatse 81.50 225 LR LR 20 53 35.5
comp=Z,3µm,18.4s,MS5.7,baz=42,slow=39
LBTB Lobatse 81.50 225 *e*P **P** **20 13 16.8 -1.1**
LBTB pmax pmax
comp=Z,259nm,1.4s,mb6.2
LBTB Lobatse 81.50 225 *e*P **P** **20 13 16.8 -1.1**
comp=Z,259nm,1.4s,mb6.2
WRA Warramunga Arr 81.85 126 P **P** **20 13 17.6 -2.1**
comp=Z,6.5nm,0.6s,mb4.9,baz=325,slow=5.0,SNR=32
WRA PKKPbc PKKPbc 20 31 50.0 -0.3
comp=Z,2.2nm,0.8s,baz=143,slow=2.0,SNR=7.7
WRA PKPPKP 20 39 54.7
comp=Z,0.9nm,0.8s,baz=140,slow=2.6,SNR=3.7
WRA LR LR 20 55 16.7
comp=Z,812nm,21.7s,MS5.0,baz=280,slow=40
WB2 Warramunga Arr 81.86 126 *e*P **P** **20 13 18.2 -1.5**
MUN Mundaring 82.47 146 *e*P **P** **20 13 19.0 -3.9**
MUN *e*S S 20 23 35.2 -5.2
PMG Port Moresby 82.53 110 *e*P **P** **20 13 24.5 +1.2**
PMG pmax pmax
comp=Z,75nm,1.4s
PMG Port Moresby 82.53 110 *e*P **P** **20 13 24.5 +1.2**
comp=Z,75nm,1.4s,mb5.7
KLBR Kellerberrin 82.78 145 *e*P **P** **20 13 22.2 -2.3**
comp=Z,96nm,1.4s,mb5.8
FFC Flin Flon 83.48 359 *e*P **P** **20 13 27.0 -1.2**
FFC pmax pmax
comp=Z,100nm,1.1s,mb6.0
FFC MLR MLR
comp=Z,2µm,19.0s,MS5.6
FFC Flin Flon 83.48 359 *e*P **P** **20 13 27.0 -1.2**
comp=Z,100nm,1.1s,mb6.0
FFC LR LR
comp=Z,2µm,19.0s,MS5.6
NWAO Narrogin (SRO) 83.71 146 LR LR 20 50 39.3
comp=Z,3µm,19.4s,MS5.7,baz=144,slow=36
NWAO Narrogin (SRO) 83.71 146 *e*P **P** **20 13 27.4 -2.0**
NWAO pmax pmax
comp=Z,87nm,1.3s
NWAO Narrogin (SRO) 83.71 146 *e*P **P** **20 13 27.4 -1.9**
comp=Z,87nm,1.3s,mb5.8
ASAR Alice Springs 84.45 129 P **P** **20 13 29.9 -3.2**
comp=Z,3.9nm,0.9s,mb4.7,baz=325,slow=5.1,SNR=32
ASAR PKKPbc PKKPbc 20 31 44.5 +0.2
comp=Z,1.1nm,0.8s,baz=135,slow=2.3,SNR=7.1
BOSA Boshof 84.60 223 P **P** **20 13 31.3 -2.6**
comp=Z,13nm,0.9s,mb5.2,baz=51,slow=5.0,SNR=23
BOSA LR LR 20 53 08.9
comp=Z,2µm,18.7s,MS5.5,baz=28,slow=37
EDM Edmonton 84.65 6 *e*P **P** **20 13 32.9 -1.3**
FORT Forrest 86.90 137 *e*P **P** **20 13 44.0 -1.3**
comp=Z,38nm,0.7s,mb5.7
ULM Lac du Bonnet 87.71 355 P **P** **20 13 48.0 -1.3**
comp=Z,17nm,1.0s,mb5.3,baz=350,slow=5.9,SNR=13
ULM LR LR 20 56 28.4
comp=Z,3µm,19.5s,MS5.8,baz=2.3,slow=38
ULM Lac du Bonnet 87.71 355 P **P** **20 13 48.0 -1.3**
ULM LR LR 20 56 28.4
A07A Ashnola River, 88.03 11 ⇓P **P** **20 13 49.9 -0.9**
baz=88,SNR=21
A08A Turner Farm, O 88.27 10 ⇓P **P** **20 13 51.0 -0.9**
baz=88,SNR=7.4
A09A Danville 88.33 10 ⇑P **P** **20 13 51.3 -0.9**
baz=88
B06A Marblemount 88.39 12 ⇑P **P** **20 13 51.5 -1.0**
baz=88
B04A Port Angeles 88.51 13 ⇓P **P** **20 13 52.2 -0.8**
baz=88
B05A Bryant 88.54 12 ⇓P **P** **20 13 52.7 -0.5**
baz=88,SNR=7.0
A11A Hall Mountain, 88.61 8 ⇑P **P** **20 13 53.2 -0.3**
baz=88,SNR=5.3
JCW Jim Creek 88.63 12 P **P** **20 13 53.1 -0.5**
B07A Winthrop 88.64 11 ⇑P **P** **20 13 52.4 -1.2**
baz=88,SNR=23
A12A Yaak River Ran 88.70 8 ⇑P **P** **20 13 52.9 -1.0**
baz=88
WALA Waterton Lakes 88.74 7 *e*P **P** **20 13 53.1 -1.1**
comp=Z,110nm,1.2s,mb6.0
B08A Colville Reser 88.84 10 ⇑P **P** **20 13 53.9 -0.7**
baz=88,SNR=26
C04A Brinnon 88.93 13 ⇓P **P** **20 13 53.8 -1.2**
baz=88
B09A Rice 88.93 9 ⇑P **P** **20 13 53.8 -1.2**
baz=88,SNR=20
B11A Sandpoint 89.12 8 ⇑P **P** **20 13 54.9 -1.0**
baz=89
B12A Libby 89.17 8 ⇓P **P** **20 13 54.8 -1.3**
baz=89
NEW Newport 89.21 9 *e*P **P** **20 13 55.5 -0.8**
NEW pmax pmax
comp=Z,53nm,1.1s
NEW Newport 89.21 9 *e*P **P** **20 13 55.5 -0.8**
comp=Z,53nm,1.1s,mb5.7
LBNH Lisbon 89.35 338 PFAKE 20 14 10.0 +13
LBNH LR LR
comp=Z,4µm,19.0s,MS5.9
B13A Whitefish 89.37 7 ⇓P **P** **20 13 56.4 -0.7**
baz=89,SNR=15
C07A Waterville 89.40 11 ⇑P **P** **20 13 56.6 -0.7**
baz=89,SNR=8.3
WTV Waterville 89.41 11 P **P** **20 13 57.0 -0.2**
MSNY Massena 89.44 340 *e*P **P** **20 13 56.4 -1.0**
C08A Higginbotham F 89.44 10 ⇓P **P** **20 13 56.6 -0.9**
baz=89,SNR=24
CTA Charters Tower 89.47 118 *e*P **P** **20 13 56.9 -0.6**
comp=Z,23nm,1.2s,mb5.3
CTA *e*pP 20 14 04.9
CTA Charters Tower 89.47 118 *e*S SKSac 20 24 20.2 -8.7
CTA Charters Tower 89.47 118 *e*P **P** **20 13 56.9 -0.6**
CTA *e**PP 20 14 04.9
CTA *e*S SKSac 20 24 20.2 -8.7
CTA pmax pmax
comp=Z,23nm,1.2s
CTA Charters Tower 89.47 118 *e*P **P** **20 13 56.9 -0.6**
comp=Z,23nm,1.2s,mb5.3
CTA *e*pP 20 14 04.9
CTA *e*S SKSac 20 24 20.2 -8.7
CTAO Charters Tower 89.47 118 *e*P **P** **20 13 56.6 -0.9**
CTAO pmax pmax
comp=Z,241nm,1.8s,mb6.1
CTAO MLR MLR
comp=Z,2µm,22.0s,MS5.5
CTAO Charters Tower 89.47 118 *e*P **P** **20 13 56.6 -1.0**
comp=Z,241nm,1.8s,mb6.1
CTAO LR LR
comp=Z,2µm,22.0s,MS5.5
D05A Enumclaw 89.60 12 ⇓P **P** **20 13 58.3 +0.1**
baz=89,SNR=11
EYMN Ely 89.62 352 *e*P **P** **20 13 56.7 -1.5**
comp=Z,45nm,1.0s,mb5.7
EYMN LR LR
comp=Z,8µm,21.0s,MS6.1
C10A Spilker Farm, 89.63 9 ⇑P **P** **20 13 57.6 -0.7**
baz=89
LONY Lake Ozonia 89.72 340 *e*P **P** **20 13 58.5 -0.2**
comp=Z,92nm,1.3s,mb5.8
D06A Cle Elum 89.77 11 ⇓P **P** **20 13 58.3 -0.6**
baz=89
EPH Ephrata 89.80 11 P **P** **20 13 58.8 -0.3**
BSMT Bassoo Peak 89.86 7 P **P** **20 13 59.4 +0.1**
OD2 Odessa Site #2 89.88 10 P **P** **20 13 59.2 -0.2**
D07A Quincy 89.90 11 ⇑P **P** **20 13 59.2 -0.3**
baz=90,SNR=7.8
E03A Lebam 89.97 13 ⇓P **P** **20 13 59.6 -0.3**
baz=90
C13A Hot Springs 90.05 7 ⇑P **P** **20 13 59.7 -0.5**
baz=90,SNR=46
EGMT Eagleton 90.06 4 *e*P **P** **20 13 59.6 -0.7**
comp=Z,149nm,1.3s,mb6.1
EGMT LR LR
comp=Z,4µm,20.0s,MS5.8
EGMT Eagleton 90.06 4 ⇑P **P** **20 14 00.2 -0.1**
baz=90
E04A Onalaska 90.06 13 ⇓P **P** **20 13 59.4 -0.9**
baz=90
D08A Wollman Farm, 90.18 10 ⇑P **P** **20 14 00.2 -0.7**
baz=90,SNR=24
D09A Jones Farm, Ri 90.25 10 ⇑P **P** **20 14 00.1 -1.0**
baz=90,SNR=20
E05A Randle 90.25 12 ⇑P **P** **20 14 00.6 -0.6**
baz=90
D10A Wagner Farm, O 90.38 9 P **P** **20 14 01.3 -0.5**
baz=90,SNR=28
E06A Yakima 90.39 12 ⇑P **P** **20 14 00.8 -1.0**
baz=90,SNR=10.0
MXC Moxie City 90.46 11 P **P** **20 14 02.4 +0.3**
E07A Sunnyside 90.54 11 ⇓P **P** **20 14 01.3 -1.2**
baz=90,SNR=7.4
D13A Huson 90.64 7 ⇓P **P** **20 14 02.6 -0.4**
baz=90
E08A Dider Farm, El 90.71 10 ⇓P **P** **20 14 03.2 -0.1**
baz=90,SNR=23
D14A Greenough 90.74 7 P **P** **20 14 03.4 -0.1**
baz=90,SNR=23
HAWA Hanford 90.75 11 PFAKE 20 14 10.0 +6.5
HAWA LR LR
comp=Z,5µm,20.0s,MS5.9
F04A Amboy 90.75 13 ⇑P **P** **20 14 02.5 -1.0**
baz=90
HRV Harvard--Oak R 90.84 337 PFAKE 20 14 10.0 +6.1
HRV LR LR
comp=Z,4µm,20.0s,MS5.8
D15A Lincoln 90.86 6 ⇑P **P** **20 14 03.8 -0.2**
baz=90
CHMT Chamberlain Mo 90.93 6 *e*P **P** **20 14 03.4 -1.0**
F05A White Salmon 90.96 12 ⇑P **P** **20 14 04.4 -0.1**
baz=91
E10A Myers Farm, Un 90.97 9 ⇓P **P** **20 14 04.4 -0.1**
baz=91
F07A Phinny Hill Vi 91.18 11 ⇑P **P** **20 14 05.9 +0.5**
baz=91,SNR=16
E11A Bogner Ranch, 91.19 9 P **P** **20 14 05.5 -0.1**
baz=91,SNR=50
G03A Yamhill 91.21 14 ⇓P **P** **20 14 05.8 +0.1**
baz=91
E13A Victor 91.31 7 ⇓P **P** **20 14 06.7 +0.6**
baz=91,SNR=12
E14A Clinton 91.40 7 P **P** **20 14 06.5 0.0**
baz=91,SNR=24
F08A Pendleton 91.43 10 ⇓P **P** **20 14 06.8 +0.1**
baz=91,SNR=19
G04A Mulino 91.45 13 ⇓P **P** **20 14 07.3 +0.5**
baz=91,SNR=8.3
F10A Beach Ranch, E 91.45 9 P **P** **20 14 07.2 +0.5**
baz=91,SNR=19
E15A Deer Lodge 91.46 6 P **P** **20 14 07.0 +0.2**
baz=91,SNR=22
LAO LASA Array 91.52 2 *e*P **P** **20 14 08.3 +1.2**
comp=Z,215nm,1.3s,mb6.3
LAO LR LR
comp=Z,7µm,19.0s,MS6.1
G05A Wamic 91.61 12 ⇓P **P** **20 14 07.6 +0.1**
baz=91
F09A S2 Ranch, Elgi 91.63 10 ⇓P **P** **20 14 08.0 +0.4**
baz=91,SNR=6.6
F11A Grangeville 91.66 9 P **P** **20 14 07.5 -0.3**
baz=91,SNR=31
HNR Honiara 91.71 101 PFAKE 20 14 20.0 +12
HNR LR LR
comp=Z,1µm,21.0s,MS5.3
G06A Carlson Farm, 91.72 12 ⇑P **P** **20 14 08.3 +0.3**
baz=91,SNR=5.9
H03A Soap Creek Ran 91.83 14 ⇑P **P** **20 14 08.3 -0.2**
baz=91
G07A Ruggs Ranch, H 91.83 11 ⇓P **P** **20 14 08.8 +0.3**
baz=91,SNR=9.9
G08A Pilot Rock 91.91 11 ⇑P **P** **20 14 08.9 +0.1**
baz=92,SNR=5.8
COR Corvallis 91.91 14 PFAKE 20 14 20.0 +11
COR LR LR
comp=Z,3µm,20.0s,MS5.7
F13A Darby 91.95 7 P **P** **20 14 08.8 -0.2**
baz=92,SNR=41
H04A Detroit Lake 92.01 13 ⇓P **P** **20 14 09.3 -0.1**
baz=92
F14A Wisdom 92.01 7 ⇓P **P** **20 14 09.6 +0.2**
baz=92,SNR=11
F15A Butte 92.06 6 P **P** **20 14 09.9 +0.3**
baz=92,SNR=25
H06A Lindquist Farm 92.25 12 ⇑P **P** **20 14 10.2 -0.3**
baz=92,SNR=7.8
GCMT Greycliff 92.29 4 *e*P **P** **20 14 11.3 +0.6**
BOZ Bozeman (W) 92.31 5 *e*P **P** **20 14 10.7 -0.1**
BOZ pmax pmax
comp=Z,58nm,1.3s,mb5.8
BOZ MLR MLR
comp=Z,3µm,20.0s,MS5.8
BOZ Bozeman (W) 92.31 5 *e*P **P** **20 14 10.7 -0.1**
comp=Z,58nm,1.3s,mb5.8
BOZ LR LR
comp=Z,3µm,20.0s,MS5.8
BOZ Bozeman (W) 92.31 5 ⇓P **P** **20 14 11.1 +0.4**
baz=92

BINY Binghamton 92.34 340 PFAKE 20 14 20.0 +9.1
BINY LR LR
comp=Z,4μm,22.0s,MS5.9
I03A Eugene 92.51 14 ⇑P **P 20 14 12.2 +0.5**
baz=92
DLMT Dillon 92.52 6 *e*P **P 20 14 12.2 +0.5**
comp=Z,209nm,1.6s,mb6.3
BMO Blue Mountains 92.55 10 PFAKE 20 14 20.0 +8.1
BMO LR LR
comp=Z,5μm,20.0s,MS6.0
G13A Cobalt 92.65 7 P **P 20 14 12.3 0.0**
baz=92,SNR=29
I05A Bend 92.67 12 ⇓P **P 20 14 13.0 +0.7**
baz=92,SNR=6.8
H09A Durkee 92.69 10 ⇑P **P 20 14 12.6 +0.1**
baz=92
H08A Prairie City 92.70 11 ⇓P **P 20 14 12.8 +0.3**
baz=92,SNR=6.9
G15A Dillon 92.73 6 P **P 20 14 13.1 +0.4**
baz=92,SNR=20
H11A Donnelly 92.85 9 P **P 20 14 13.3 0.0**
baz=92,SNR=42
RLMT Red Lodge 92.98 4 *e*P **P 20 14 13.9 +0.1**
comp=Z,90nm,0.4s,mb6.5
I07A Izee 93.01 11 ⇓P **P 20 14 14.4 +0.4**
baz=93,SNR=10
MCMT McKenzie Canyo 93.03 6 *e*P **P 20 14 14.3 +0.2**
I06A Prineville 93.04 12 ⇓P **P 20 14 14.2 +0.1**
baz=93,SNR=7.7
H12A Diamond D Ranc 93.12 8 ⇓P **P 20 14 13.8 -0.7**
baz=93
QLMT Earthquake Lak 93.14 5 *e*P **P 20 14 15.2 +0.6**
J03A Ideyld Park 93.15 14 ⇓P **P 20 14 15.1 +0.5**
baz=93
I08A Drewsey 93.31 11 ⇓P **P 20 14 15.6 +0.2**
baz=93
J04A Umpqua Nationa 93.42 13 ⇑P **P 20 14 16.5 +0.7**
baz=93,SNR=7.5
LKWY Lake 93.47 5 *e*P **P 20 14 17.5 +1.4**
LKWY pmax pmax
comp=Z,15nm,0.7s,mb5.5
LKWY MLR MLR
comp=Z,7μm,20.0s,MS6.1
LKWY Lake 93.47 5 *e*P **P 20 14 17.5 +1.4**
comp=Z,15nm,0.7s,mb5.5
LKWY LR LR
comp=Z,7μm,20.0s,MS6.1
YFT Old Faithful 93.56 5 *e*P **P 20 14 18.2 +1.7**
I11A Placerville 93.64 9 P **P 20 14 17.2 +0.4**
baz=93,SNR=24
J07A Hines 93.73 11 ⇑P **P 20 14 17.8 +0.4**
baz=93,SNR=8.4
J08A Circle Bar Ran 93.87 11 P **P 20 14 18.6 +0.7**
baz=94,SNR=20
ALLY Alegheny Colle 93.87 342 *e*P **P 20 14 17.3 -0.6**
HUMO Hull Mountain 93.89 14 PFAKE 20 14 30.0 +12
HUMO LR LR
comp=Z,4μm,21.0s,MS5.8
HUMO Hull Mountain 93.89 14 ⇓P **P 20 14 18.5 +0.5**
baz=94
J09A Fry Pan Ranch, 93.97 10 P **P 20 14 18.6 +0.2**
baz=94,SNR=23
AAM Ann Arbor 93.98 345 PFAKE 20 14 30.0 +12
AAM LR LR
comp=Z,4μm,19.0s,MS5.9
J10A Berg Farm, Mel 94.02 9 ⇑P **P 20 14 18.7 0.0**
baz=94
K04A Chilquin 94.10 13 ⇑P **P 20 14 18.3 -0.6**
baz=94
RSSD Black Hills 94.11 0 *e*P **P 20 14 19.0 0.0**
K05A Summer Lake 94.13 12 ⇓P **P 20 14 18.8 -0.3**
baz=94
MFID Camas Ranch 94.14 9 ⇑P **P 20 14 19.0 -0.2**
baz=94,SNR=23
HLID Hailey 94.15 8 PFAKE 20 14 30.0 +11
HLID LR LR
comp=Z,3μm,20.0s,MS5.8
HLID Hailey 94.15 8 ⇑P **P 20 14 19.0 -0.2**
baz=94,SNR=17
K06A Valley Falls 94.16 12 ⇑P **P 20 14 19.5 +0.3**
baz=94
MOOW Moose Ponds 94.26 5 *e*P **P 20 14 20.6 +0.8**
comp=Z,32nm,1.3s,mb5.5
J13A Cove Ranch, Pi 94.33 8 ⇓P **P 20 14 20.3 +0.2**
baz=94,SNR=9.1
J12A Stokes Ranch, 94.39 8 ⇓P **P 20 14 20.7 +0.4**
baz=94,SNR=67
K07A Rock Creek Ran 94.41 11 ⇑P **P 20 14 20.7 +0.2**
baz=94,SNR=7.5
K08A Mann Creek Ran 94.48 11 ⇓P **P 20 14 20.4 -0.3**
baz=94,SNR=6.9
SNOW Snow King Moun 94.55 5 *e*P **P 20 14 20.3 -0.8**
comp=Z,25nm,0.9s,mb5.6
K09A Rome 94.61 10 ⇑P **P 20 14 20.9 -0.5**
baz=94,SNR=8.3
K10A MacKenzie Ranc 94.65 10 ⇑P **P 20 14 21.0 -0.5**
baz=94
WVOR Wild Horse Val 94.75 11 P **P 20 14 21.5 -0.5**
WVOR pmax pmax
comp=Z,31nm,1.0s,mb5.7
WVOR Wild Horse Val 94.75 11 *e*P **P 20 14 21.4 -0.6**
comp=Z,31nm,1.1s,mb5.7
YBH Yreka Blue Hor 94.78 14 ⇓P **P 20 14 22.1 -0.1**
baz=94
M04C Macdoel 94.89 13 ⇓P **P 20 14 22.1 -0.5**
baz=94
K12A Draper Farm, C 95.01 8 ⇑P **P 20 14 23.7 +0.6**
baz=95,SNR=9.1
MOD Modoc 95.02 12 PFAKE 20 14 30.0 +6.8
MOD LR LR
comp=Z,2μm,20.0s,MS5.6
MOD Modoc 95.02 12 ⇑P **P 20 14 23.9 +0.6**
baz=95,SNR=7.4
L08A Fields 95.03 11 ⇓P **P 20 14 23.5 +0.2**
baz=95
L07A Adell 95.06 12 ⇓P **P 20 14 23.8 +0.4**
baz=95
K13A Stover Farm, H 95.08 8 ⇑P **P 20 14 24.4 +0.9**
baz=95,SNR=7.7
M02C Callahan 95.09 14 ⇓P **P 20 14 24.0 +0.5**
baz=95
STKA Stephens Creek 95.09 129 *e*S SKKSac 20 25 23.0 0.0
STKA Stephens Creek 95.09 129 P **P 20 14 21.3 -2.2**
comp=Z,2.7nm,0.8s,mb4.7,baz=331,slow=14,SNR=4.8
STKA LR LR 21 04 36.1
comp=Z,2μm,19.1s,MS5.6,baz=208,slow=40
STKA Stephens Creek 95.09 129 *e*P **P 20 14 21.9 -1.6**
comp=Z,9.7nm,1.5s,mb5.0
STKA *e*S SKKSac 20 25 23.0 0.0
AHID Auburn Hatcher 95.22 5 *e*P **P 20 14 23.9 -0.2**
comp=Z,40nm,1.1s,mb5.8
AHID LR LR
comp=Z,4μm,19.0s,MS5.9
L09A Wilkinson Ranc 95.29 10 ⇑P **P 20 14 25.2 +0.8**
baz=95,SNR=6.0
BW06 Boulder Array 95.31 4 PFAKE 20 14 40.0 +15
BW06 LR LR
comp=Z,4μm,20.0s,MS5.9
PDAR Pinedale Array 95.31 4 P **P 20 14 23.9 -0.6**
comp=Z,3.3nm,0.7s,mb4.9,baz=35,slow=3.0,SNR=22
PDAR LR LR 21 03 08.2
comp=Z,4μm,18.3s,MS5.9,baz=0.1,slow=39
M03C McCloud 95.33 14 ⇓P **P 20 14 24.9 +0.3**
baz=95
M05C Lookout 95.42 13 ⇓P **P 20 14 24.9 -0.1**
baz=95
ASCN Ascension 95.62 264 PFAKE 20 14 40.0 +14
ASCN LR LR
comp=Z,305nm,19.0s,MS4.8
L13A Double Diamond 95.65 8 ⇑P **P 20 14 26.6 +0.5**
baz=95
M06C Likely Place G 95.68 13 ⇑P **P 20 14 26.1 -0.1**
baz=95
MCWV Mont Chateau 95.70 342 PFAKE 20 14 40.0 +14
MCWV LR LR
comp=Z,8μm,21.0s,MS6.1
M07A Soldier Meadow 95.70 12 ⇑P **P 20 14 27.3 +1.0**
baz=95
M08A Happy Creek Ra 95.76 11 ⇑P **P 20 14 27.9 +1.3**
baz=95
SCIA State Center 95.77 352 *e*P **P 20 14 26.2 -0.4**
comp=Z,45nm,0.8s,mb6.0
M09A Marrel Ranch, 95.91 10 ⇑P **P 20 14 27.3 0.0**
baz=96,SNR=10
M10A I.L. Ranch, Tu 95.93 10 ⇑P **P 20 14 27.9 +0.6**
baz=96,SNR=11
WDC Whiskeytown Da 95.93 14 ⇓P **P 20 14 27.7 +0.3**
baz=96
HVU Hansel Valley 96.07 7 *e*P **P 20 14 28.1 +0.1**
HVU pmax pmax
comp=Z,22nm,0.9s,mb5.7
HVU Hansel Valley 96.07 7 *e*P **P 20 14 28.1 +0.1**
comp=Z,22nm,0.9s,mb5.7
M11A Holland Ranch, 96.11 9 ⇑P **P 20 14 29.1 +0.9**
baz=96,SNR=11
M12A Wells 96.22 8 ⇑P **P 20 14 29.0 +0.4**
baz=96,SNR=8.5
N06A Buffalo Meadow 96.22 12 ⇑P **P 20 14 29.3 +0.6**
baz=96,SNR=7.6
N07B Gerlach 96.33 11 ⇑P **P 20 14 30.1 +1.0**
baz=96
HWUT Hardware Ranch 96.33 6 *e*P **P 20 14 29.6 +0.3**
HWUT LR LR
comp=Z,95nm,1.2s,mb6.2
HWUT LR LR
comp=Z,6μm,20.0s,MS6.1
M13A Montello 96.35 8 ⇑P **P 20 14 30.6 +1.3**
baz=96
N08A GE Springer Mi 96.44 11 ⇓P **P 20 14 30.5 +0.8**
baz=96,SNR=9.9
CBN Corbin 96.46 339 PFAKE 20 14 40.0 +10
CBN LR LR
comp=Z,4μm,19.0s,MS5.9
N09A Rock Creek Ran 96.46 10 ⇓P **P 20 14 30.3 +0.6**
baz=96
RWWY Rawlins 96.49 3 *e*P **P 20 14 31.4 +1.5**
comp=Z,71nm,1.0s,mb6.2
SPUT South Promonto 96.56 6 *e*P **P 20 14 24.5 -5.7**
N11A Elko Archery C 96.72 9 ⇑P **P 20 14 32.2 +1.3**
baz=96
N10A Dunphy 96.72 10 ⇑P **P 20 14 32.3 +1.3**
baz=96
N12A Clover Valley, 96.76 9 ⇓P **P 20 14 32.6 +1.5**
baz=96,SNR=12
O06A Flanigan 96.80 12 ⇑P **P 20 14 33.0 +1.7**
baz=96
GASB Alder Springs 96.80 15 ⇑P **P 20 14 32.9 +1.5**
baz=96
O05C Quincy 96.82 13 ⇑P **P 20 14 32.4 +1.0**
baz=96
ELK Elko 96.85 9 PFAKE 20 14 40.0 +8.5
ELK LR LR
comp=Z,5μm,20.0s,MS6.0
N13A Wendover, West 96.85 8 ⇑P **P 20 14 33.2 +1.6**
baz=96
BMN Battle Mountai 96.91 10 PFAKE 20 14 40.0 +8.2
BMN LR LR
comp=Z,3μm,20.0s,MS5.8
PHWY Pilot Hill 96.92 1 *e*P **P 20 14 31.4 -0.5**
O07A Toulon 96.95 12 ⇑P **P 20 14 32.7 +0.8**
baz=97,SNR=7.5
ORV Oroville 97.11 14 ⇑P **P 20 14 33.2 +0.4**
baz=97
O10A Cortez Mining, 97.14 10 ⇓P **P 20 14 33.2 +0.4**
baz=97
O09A Fish Creek Ran 97.17 10 ⇓P **P 20 14 34.1 +1.1**
baz=97,SNR=8.6
CTU Camp Tracy 97.23 6 *e*P **P 20 14 33.9 +0.6**
comp=Z,49nm,1.7s,mb5.9
JLU Jordanelle 97.34 6 *e*P **P 20 14 35.2 +1.5**
HOPS Hopland 97.37 15 PFAKE 20 14 40.0 +6.1
HOPS LR LR
comp=Z,4μm,19.0s,MS5.9
SUTB Sutter Butte 97.38 14 ⇓P **P 20 14 33.8 -0.1**
baz=97
O11A Cowboy Ranch, 97.40 9 ⇓P **P 20 14 34.6 +0.5**
baz=97,SNR=16
DAU Daniels Canyon 97.55 6 *e*P **P 20 14 35.8 +1.1**
BBSR BB Station 97.56 327 PFAKE 20 14 50.0 +15
BBSR LR LR
comp=Z,2μm,20.0s,MS5.6
DUG Dugway 97.64 7 *e*P **P 20 14 35.4 +0.3**
DUG pmax pmax
comp=Z,50nm,1.3s,mb6.1
DUG MLR MLR
comp=Z,4μm,19.0s,MS6.0
DUG Dugway 97.64 7 *e*P **P 20 14 35.4 +0.3**
comp=Z,50nm,1.3s,mb6.1
DUG LR LR
comp=Z,4μm,19.0s,MS6.0
DUG Dugway 97.64 7 ⇓P **P 20 14 36.5 +1.4**
baz=97
P10A Eureka 97.81 10 ⇓P **P 20 14 36.9 +1.0**
baz=97
Q04C Lincoln 97.83 14 ⇓P **P 20 14 36.8 +0.8**
baz=97
MPU Maple Canyon 97.91 6 PFAKE 20 14 50.0 +14
MPU LR LR
comp=Z,5μm,21.0s,MS6.0
NLU North Lily Min 97.94 6 *e*P **P 20 14 37.0 +0.5**
P11A Circle Ranch, 97.96 9 ⇓P **P 20 14 37.6 +1.0**
baz=98
P12A McGill 98.14 9 ⇑P **P 20 14 38.8 +1.4**
baz=98,SNR=6.2
BLA Blacksburg 98.16 341 PFAKE 20 14 50.0 +13
BLA LR LR
comp=Z,6μm,19.0s,MS6.1
MCCM Marconi Confer 98.23 15 PFAKE 20 14 50.0 +12
MCCM LR LR
comp=Z,2μm,20.0s,MS5.6
Q08A Gabbs 98.36 11 ⇑P **P 20 14 39.4 +1.1**
baz=98
ISCO Idaho Springs 98.41 1 *e*P **P 20 14 39.4 +0.8**
ISCO pmax pmax
comp=Z,22nm,1.2s,mb5.8
ISCO MLR MLR
comp=Z,4μm,19.0s,MS6.0
ISCO Idaho Springs 98.41 1 *e*P **P 20 14 39.4 +0.8**
comp=Z,22nm,1.2s,mb5.8
ISCO LR LR
comp=Z,4μm,19.0s,MS6.0
R06C Coleville 98.46 12 ⇓P **P 20 14 39.9 +1.1**
baz=98
Q09A Carvers 98.49 10 ⇓P **P 20 14 39.3 +0.4**
baz=98
Q12A Willow Creek R 98.58 9 ⇑P **P 20 14 39.6 +0.3**
baz=98,SNR=6.9
Q11A Duckwater 98.67 9 P **P 20 14 41.1 +1.4**
baz=98,SNR=6.3
NVAR Mina Array Bea 98.73 11 P **P 20 14 40.6 +0.6**
comp=Z,2.2nm,0.6s,mb5.1,baz=324,slow=4.6,SNR=14
CMB Columbia Colle 98.78 13 PFAKE 20 14 50.0 +10
CMB LR LR
comp=Z,4μm,20.0s,MS5.9
CMB Columbia Colle 98.78 13 ⇑P **P 20 14 41.4 +1.1**
baz=98
KSU1 Kansas State U 98.86 354 PFAKE 20 14 50.0 +9.4
KSU1 LR LR
comp=Z,6μm,20.0s,MS6.1
SRU San Rafael 98.89 5 *e*P **P 20 14 39.9 -0.8**
R07C Lee Vining 98.95 12 ⇓P **P 20 14 41.5 +0.6**
baz=99
R09A Tonopah 99.09 10 ⇓P **P 20 14 41.4 -0.2**
baz=99,SNR=8.6
CBKS Cedar Bluff 99.33 357 PFAKE 20 14 50.0 +7.3
CBKS LR LR
comp=Z,5μm,20.0s,MS6.0
MSU Marysvale 99.36 7 P **P 20 14 43.9 +1.1**
CNNC Cliffs of the 99.39 339 PFAKE 20 14 50.0 +7.1
CNNC LR LR
comp=Z,4μm,19.0s,MS6.0
S09A Goldfield 99.58 11 ⇑P **P 20 14 43.9 +0.2**
baz=99
PACP Pacheco Peak 99.63 14 ⇓P **P 20 14 44.6 +0.6**
baz=99
KCC Kaiser Creek 99.66 12 ⇑P Pdif 20 14 44.7 +0.5
baz=99
S08C White Mtn Res 99.66 11 ⇑P Pdif 20 14 44.3 +0.2
baz=99
T06C Millerton Lake 99.90 13 ⇓P Pdif 20 14 46.0 +0.7
baz=100
ARUT Antelope Range 99.96 8 P Pdif 20 14 50.3 +4.8
GRAC Grapevine Rang 100.27 11 ⇓P Pdif 20 14 48.1 +1.3
baz=100
HELL Mitchell Peak, 100.33 12 ⇑P Pdif 20 14 49.0 +1.8
baz=100
CWC Cottonwood Cre 100.71 12 ⇑P Pdif 20 14 50.1 +1.3
baz=100
FURC Furnace Creek, 100.86 11 ⇓P Pdif 20 14 51.3 +1.8
baz=100
DAC Darwin (Calif) 100.94 11 PFAKE 20 15 00.0 +10
DAC LR LR
comp=Z,2μm,20.0s,MS5.7
U10A Ash Meadows, A 100.98 10 ⇓P Pdif 20 14 51.8 +1.8
baz=101
MPMC Manual Prospec 101.17 11 ⇓P Pdif 20 14 52.2 +1.3
baz=101
U12A Valley of Fire 101.19 9 ⇑P Pdif 20 14 52.2 +1.2
baz=101
SHOC Shoshone 101.50 10 ⇑P Pdif 20 14 53.2 +0.9
baz=101
LRMC Laurel Mountai 101.72 11 ⇓P Pdif 20 14 54.9 +1.6
baz=101,SNR=6.9
V12A Nelson 101.85 9 ⇓P Pdif 20 14 55.7 +1.8
baz=102
PKM Peak Mountain 101.94 13 ⇑P Pdif 20 14 55.6 +1.3
baz=102
TUQ Turquoise Mtn. 102.00 10 ⇑P Pdif 20 14 56.4 +1.8
baz=102
GSC Goldstone 102.02 11 ⇑P Pdif 20 14 56.1 +1.4
baz=102
EDW2 Edwards Air Fo 102.26 12 ⇑P Pdif 20 14 57.0 +1.3
baz=102
WUAZ Wupatki 102.40 6 ⇑P Pdif 20 14 57.7 +1.4
baz=102
GOGA Godfrey 102.50 343 PFAKE 20 15 10.0 +13
GOGA LR LR
comp=Z,6μm,20.0s,MS6.1
W14A Seligman 102.55 8 ⇓P Pdif 20 14 58.8 +1.8
baz=102
GMRC Granite Mounta 102.68 10 ⇑P Pdif 20 14 59.0 +1.4
baz=102
BFSC Mount Baldy St 102.94 12 ⇑P Pdif 20 15 00.5 +1.8
baz=103
X13A Yucca 103.08 8 ⇑P Pdif 20 15 01.0 +1.6
baz=103
ANMO Albuquerque 103.23 2 PFAKE 20 15 10.0 +10
ANMO LR LR
comp=Z,4μm,20.0s,MS5.9
X14A Yava 103.30 8 ⇑P Pdif 20 15 03.2 +2.9
baz=103
AMTX Amarillo 103.31 358 PFAKE 20 15 10.0 +10
AMTX LR LR
comp=Z,10μm,19.0s,MS6.4
PDMCI Parker Dam,Lak 103.34 9 ⇓P Pdif 20 15 02.1 +1.6
baz=103
X15A Humboldt 103.35 7 ⇓P Pdif 20 15 02.5 +2.0
baz=103
IRM Iron Mountain 103.36 10 ⇓P Pdif 20 15 02.4 +1.8
baz=103
BELC Belle Mtn. 103.41 10 ⇓P Pdif 20 15 01.5 +0.7
baz=103
PFO Pinyon Flat Ob 103.73 11 ⇓P Pdif 20 15 03.7 +1.4
baz=103
BC3 Big Chuckw Mtn 103.82 10 ⇑P Pdif 20 15 04.1 +1.4
baz=103
Y12C Blythe 103.84 9 ⇓P Pdif 20 15 04.2 +1.4
baz=103
Y13A Salome 103.85 9 ⇓P Pdif 20 15 04.4 +1.6
baz=104
BRAL Brewton 105.57 345 PFAKE 20 19 30.0 +6.2
BRAL LR LR
comp=Z,6μm,21.0s,MS6.1
MNTX Cornudas Mount 106.50 1 PFAKE 20 19 40.0 +15
MNTX LR LR
comp=Z,5μm,21.0s,MS6.0
DWPF Disney 107.08 339 PFAKE 20 19 40.0 +13
DWPF LR LR
comp=Z,5μm,20.0s,MS6.0
JCT Junction City 107.63 356 PFAKE 20 19 40.0 +12
JCT LR LR
comp=Z,4μm,19.0s,MS6.0
LTX Lajitas 108.87 360 PFAKE 20 19 40.0 +10
LTX LR LR
comp=Z,13μm,19.0s,MS6.5
KVTX Kingsville 110.43 354 PFAKE 20 19 40.0 +7.2
KVTX LR LR
comp=Z,5μm,19.0s,MS6.1
CASY Casey 111.30 166 PFAKE 20 19 40.0 +5.5
CASY LR LR
comp=Z,3μm,20.0s,MS5.8
AFI Afiamalu 115.55 86 PFAKE 20 19 50.0 +7.4
AFI LR LR
comp=Z,910nm,22.0s,MS5.3
DRV Dumont d'Urvil 118.87 156 SP SP 20 30 54.0 -0.6
DRV SS SS 20 37 27.0 -0.8
CMIG Matias Romero 120.47 350 PKP PKPdf 20 19 51.4 -0.6
comp=Z,2.0nm,0.7s,baz=121,slow=19,SNR=2.5
CMIG Matias Romero 120.47 350 PKP PKPdf 20 19 51.4 -0.6
SDV Santo Domingo 120.79 321 *e*PKPdf PKPdf 20 19 53.4 +0.7
NVL N'lazarevskaya 121.60 201 *e*PKIKP PKPdf 20 19 57.4 +3.2
NVL *e* 20 31 24.9
NVL *e*SS SS 20 38 33.7 +31
NVL pmax pmax
comp=Z,23nm,1.0s
TGUH Tegucigalpa,Un 122.02 341 *e*PKPdf PKPdf 20 19 55.7 +0.7
JTS JuntasAbangare 125.00 337 PFAKE 20 20 10.0 +9.3
JTS LR LR
comp=Z,514nm,22.0s,MS5.2
ROSC El Rosal 126.04 323 PKP PKPdf 20 20 02.6 -0.1
comp=Z,28nm,0.9s,baz=111,slow=16,SNR=8.9
SNAA Sanae 126.10 203 *e*PKPdf PKPdf 20 20 00.4 -2.5
SNAA *e* 20 20 05.3
SNAA Sanae 126.10 203 *e*PKPdf PKPdf 20 20 00.4 -2.5
VNA2 Neumayer--Watz 127.15 204 *e*PKPdf PKPdf 20 20 01.2 -3.6
baz=9.9,slow=3.4
VNA2 *e* 20 20 06.0
VNA2 *e* 20 20 07.4
VNA2 *e* 20 20 09.4
VNA2 *e* 20 20 13.6
VNA2 *e* 20 20 16.7
VNA2 *e* 20 20 23.6
VNA3 Neumayer Olymp 127.95 204 *e*PKPdf PKPdf 20 19 59.8 -6.6
VNA3 *e* 20 20 05.3
VNA3 *e* 20 20 08.7
VNA3 *e* 20 12.8
VNA3 *e* 20 22.4
VNDA Vanda 129.83 164 PKP PKPdf 20 20 06.6 -3.4
comp=Z,3.6nm,1.1s,baz=54,slow=3.9,SNR=3.6
VNDA Vanda 129.83 164 PKP PKPdf 20 20 06.6 -3.4
TAOE Nuku Hiva Isla 134.00 54 *e*PP PP 20 22 50.1 +2.2
comp=Z,1μm,24.9s
PPT Papeete 134.11 72 *e*PP PP 20 22 54.7 +6.1
comp=Z,400nm,25.8s
PPT Papeete 134.11 72 *e*SS SS 20 40 32.7 -5.5
comp=Z,817nm,29.2s
PPT *e*LR LR 21 03 00.0
comp=Z,3μm,24.2s
SIV San Ignacio 135.06 292 PKP PKPdf 20 20 18.9 -0.9
comp=Z,13nm,0.8s,baz=109,slow=3.4,SNR=19
HOPE Hope Point 135.18 230 PFAKE 20 20 30.0 +10
HOPE LR LR
comp=Z,1.0nm,22.0s
TBI Tubuai 137.88 78 *e*PP PP 20 23 18.9 +6.6
comp=Z,201nm,26.5s
ATAH Atahualpa 138.36 320 PKP PKPdf 20 20 25.2 -0.7
comp=Z,5.3nm,0.8s,baz=7.4,slow=1.2,SNR=2.1
LPAZ La Paz 139.99 299 PKP PKPdf 20 20 26.8 -2.1
comp=Z,2.1nm,0.9s,baz=16,slow=7.8,SNR=4.4
ARE Arequipa 142.26 303 PKHKP 20 20 25.0
CEN1 Los Morros 146.36 293 ⇑*e*P PKPbc 20 20 42.4 +1.1
EFI East Falkland 147.77 237 *e*PKIKP PKPdf 20 20 42.8 +0.3
EFI MLR MLR
comp=Z,427nm,21.0s,MS5.2
RKT Rikitea 147.91 64 *e*PKPbc PKPbc 20 20 42.9 -2.8
comp=Z,1μm,2.0s
TRQA Tornquist 147.93 263 *e*PKPdf PKPdf 20 20 44.2 +1.4
PMSA Palmer Station 148.09 211 *e*PKPdf PKPdf 20 20 44.8 +1.8
CFAA Coronel Fontan 149.81 279 PKPbc PKPbc 20 20 46.4 -4.2
comp=Z,1.8nm,0.8s,baz=71,slow=2.5,SNR=17
LCO Las Campanas 150.20 285 *e*PKPbc PKPbc 20 20 50.9 -0.6
TLL Tololo Astrono 150.92 283 *e*P PKPbc 20 20 51.5 -1.7
FCH Farellones 152.16 277 *e*P PKPbc 20 20 54.8 -1.3
CLCH Cerro Calan 152.38 277 *e*P PKPbc 20 20 59.6 +3.0
PLCA Paso Flores 155.06 262 PKP PKPdf 20 20 53.6 0.0
comp=Z,6.2nm,1.1s,baz=332,slow=3.3,SNR=5.2
PLCA PKPbc PKPdf 20 21 02.7 +9.1
comp=Z,29nm,1.2s,baz=1.3,slow=1.2,SNR=12
PLCA Paso Flores 155.06 262 *e*PKPdf PKPdf 20 20 52.6 -1.0
PLCA PKP PKPdf 20 20 53.6 0.0
PLCA PKPbc PKPdf 20 21 02.7 +9.1

*LDG **25** 20:06:42.9±0.1,4343N×065W,h10km,Md2.1/2,Ml1.6/3,*
Error ellipse: s-maj=2.0km s-min=1.3km az=133.0
MDD 25 20:06:43.6±0.5,4342N×061W,h0km,mbLg1.0/7,Error ellipse: s-maj=4.4km s-min=2.8km az=177.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.53**	**176**	*e*Pg	Pg	20 06 53.2	-0.5
ETSF				*e*Sg	Sg	20 07 00.0	-0.6
	7.4nm,0.5s						
ETSF	**Etsaut**	**0.53**	**176**	Pg	Pg	20 06 53.2	-0.5
ETSF				Lg		20 07 00.0	
	3.7nm,0.5s						
SJPF	**Ste Jean**	**0.55**	**236**	*e*Pg	Pg	20 06 53.1	-1.0
SJPF				*e*Sg	Sg	20 06 59.9	-1.3
	5.9nm,0.5s						
SJPF	**Ste Jean**	**0.55**	**236**	Pg	Pg	20 06 53.1	-1.0
SJPF				Lg		20 06 59.9	
	3.0nm,0.5s						
EALK	**Alkurruntz**	**0.69**	**253**	Pg	Pg	20 06 56.3	-0.6
	5.5nm,0.7s,SNR=7.1						
EALK				Lg		20 07 06.9	
	4.0nm,0.3s,SNR=6.7						
ELIZ	**Elizondo**	**0.72**	**249**	Pg	Pg	20 06 56.4	-1.0
	2.5nm,0.2s,SNR=14						
ELIZ				Lg		20 07 08.1	
	1.6nm,0.2s,SNR=6.7						
EPF	**Esparros**	**0.80**	**119**	*e*Pg	Pg	20 06 58.7	-0.2
EPF				*e*Sg	Sg	20 07 09.1	-0.2
	2.2nm,0.2s						
EPF	**Esparros**	**0.80**	**119**	Pg	Pg	20 06 58.7	-0.2
EPF				Lg		20 07 09.1	
	1.1nm,0.2s						
IPRE	**Itoiz**	**0.83**	**222**	Lg		20 07 11.9	
	0.6nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.92**	**143**	Pg	Pg	20 07 00.7	-0.6
	SNR=7.9						
EBIE				Lg		20 07 13.8	
	0.2nm,0.1s,SNR=5.9						
ESAC	**San Caprasio**	**1.70**	**176**	Pg	Pg	20 07 15.8	-0.5
	12nm,0.8s,SNR=4.7						
ESAC				Lg		20 07 38.5	
	1.9nm,0.2s,SNR=4.8						
LFF	**La Frestale**	**1.80**	**32**	*e*Pg	Pg	20 07 16.7	-1.4
LFF				*e*Sg	Sg	20 07 40.1	-1.4
	2.2nm,0.3s						
LFF	**La Frestale**	**1.80**	**32**	Pg	Pg	20 07 16.7	-1.4
LFF				Lg		20 07 40.1	
	1.1nm,0.3s						
MTLF	**Montolieu**	**2.06**	**91**	*e*Pg	Pg	20 07 21.5	-1.7
MTLF				*e*Sg	Sg	20 07 49.3	-0.6
	0.8nm,0.3s						
MTLF	**Montolieu**	**2.06**	**91**	Pg	Pg	20 07 21.5	-1.7
MTLF				Lg		20 07 49.3	
	0.4nm,0.3s						
RJF	**Les Rejaudoux**	**2.42**	**38**	*e*Sg	Sg	20 07 59.4	-2.0
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.42**	**38**	Lg		20 07 59.4	
	0.2nm,0.2s						

NIED ***25*** *20:17:00, 37.80N×138.20E, h8km, Mw4.6 Best double couple: M0=8.43000×10^15 NP1:φ=268.00000°, δ=59.00000°, λ=91.00000°. NP2:φ=86.00000°, δ=31.00000°, λ=89.00000°.*
ISCJB ***25*** *20:17:15.0±0.7, 3786N±002×13815E±003, h15km±4km, mb4.7/45, Error ellipse: s-maj=3.8km s-min=3.6km az=5.5*
JMA ***25*** *20:17:15.4, 3787N×138.16E, h14km±1km, M4.9 Broadband fault plane solution: P waves. NP1: φ=92.00000°, δ=23.00000°, λ=97.00000°. NP2:φ=265.00000°, δ=67.00000°, λ=87.00000°. Principal axes: T Plg=68.0000°, Azm=169.0000°; N Plg=3.0000°, Azm=266.0000°; P Plg=22.0000°, Azm=357.0000°;*
JMA Felt IV J1.
MOS ***25*** *20:17:17.6±2.2, 3772N×13831E, h33km, mb5.0/20 Error ellipse: s-maj=11.7km s-min=6.0km az=96.1*
NEIC ***25*** *20:17:18.4±0.6, 3779N×138.16E, h37km±6km, mb5.0/23, MW4.5(NIED), Error ellipse: s-maj=6.7km s-min=5.1km az=113.0*
NEIC Recorded [4 JMA] in Niigata; [3 JMA] in Nagano; [2 JMA] in Gumma, Ishikawa and Toyama; [1 JMA] in Fukui, Fukushima, Gifu, Tochigi and Yamagata Prefectures.
IDC ***25*** *20:17:18.8±1.6, 3779N×138.16E, h41km±15km, mb4.2/19, mb1 4.3/23, mb1mx4.3/29, mbtmp4.2/23, ML3.9/4, MS3.8/2, Ms1 3.8/2, ms1mx3.4/27, Error ellipse: s-maj=15.0km s-min=9.1km az=70.0*

ISC 25 20:17:15.4±0.4, 3781N±002×13819E±003, h8km±3km, n123, σ1§43/130, mb4.7/45, 6C-9D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**0.23**	**14**	⇓P	Pg	20 17 19.8	-0.3
JSD				S	Sg	20 17 22.6	-0.6
JIZZ	**Izumozaki**	**0.50**	**124**	⇓P	Pg	20 17 26.4	+1.3
JIZZ				S	Sg	20 17 34.8	+3.2
JJN	**Nakama**	**0.71**	**182**	⇓P	Pg	20 17 30.3	+1.2
JJN				S	Sg	20 17 41.4	+3.1
JSZ	**Suzu**	**0.75**	**241**	⇓P	Pg	20 17 29.8	-0.1
JSZ				S	Sg	20 17 40.4	+0.8
JHK	**Hiroka**	**0.87**	**130**	⇓P	Pg	20 17 31.8	-0.3
JHK				S	Sg	20 17 44.0	+0.7
JNS	**Sasagawa**	**0.89**	**89**	⇑P	Pg	20 17 32.1	-0.5
JNS				*e*S	Sg	20 17 44.6	+0.4
JHG	**Hegura jima**	**1.01**	**272**	⇑P	Pg	20 17 33.5	-1.3
JHG				*e*S	Sg	20 17 47.2	-0.6
JAW	**Awa shima**	**1.05**	**52**	⇓P	Pg	20 17 33.7	-2.0
JAW				*e*S	Sg	20 17 48.6	-0.8
MAJO	**Matsushiro**	**1.27**	**179**	*e*P	Pn	20 17 38.3	-1.1
MAT	**Matsushiro**	**1.27**	**179**	P	Pn	20 17 38.3	-1.1
MAT				S	Sb	20 17 55.9	-0.1
MJAR	**Matsushiro Arr**	**1.27**	**179**	P	Pn	20 17 38.9	-0.5
	432nm,0.3s,baz=354,slow=16,SNR=1000						
MJAR				S	Sb	20 17 55.9	-0.1
	2μm,0.3s,baz=350,slow=34,SNR=99						
JHJ	**Hachijo jima 2**	**4.86**	**164**	P	Pn	20 18 29.2	+0.4
	119nm,0.3s,baz=36,slow=2.6,SNR=7.9						
JHJ				LR	LR	20 20 22.4	
	comp=Z,1μm,20.6s,baz=350,slow=38						
ERM	**Erimo**	**5.67**	**41**	*e*P	Pn	20 18 40.6	+0.6
ERM				pmax	pmax		
	comp=Z,93nm,0.9s						
ERM	**Erimo**	**5.67**	**41**	*e*P	Pn	20 18 40.6	+0.6
	comp=Z,92nm,0.9s						
ASAJ	**Asahikawa**	**7.12**	**27**	P	Pn	20 19 01.9	+2.0
	comp=Z,1.5nm,0.3s,baz=223,slow=13,SNR=17						
ASAJ				LR	LR	20 22 04.6	
	comp=Z,826nm,18.3s,baz=158,slow=40						
ASAJ	**Asahikawa**	**7.12**	**27**	P	Pn	20 19 02.0	+2.1
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,826nm,18.3s						
JNU	**Nakatsue**	**7.58**	**234**	P	Pn	20 19 06.8	+0.6
	comp=Z,0.7nm,0.3s,baz=238,slow=12,SNR=2.6						
KSRS	**Korea Array**	**8.15**	**271**	P	Pn	20 19 15.4	+1.4
	baz=87,slow=14,SNR=66						
KSRS				S	Sn	20 20 46.7	+0.3
	baz=86,slow=24,SNR=4.5						
YSS	**Yuzh-Sakhalins**	**9.74**	**19**	*d i*P	Pn	20 19 35.9	+0.2
YSS	**Yuzh-Sakhalins**	**9.74**	**19**	*e*P	Pn	20 19 36.1	+0.4
	comp=Z,75nm,0.9s						
HABR	**Khabarovsk**	**10.90**	**349**	*i*P	Pn	20 19 57.1	+5.5
HABR				S	Sn	20 22 02.3	+8.6
HABR				pmax	pmax		
	comp=Z,84nm,1.8s						
KLR	**Kul'dur**	**12.33**	**340**	*e*P	Pn	20 20 10.3	-0.9
BJT	**Baijiatuau**	**17.28**	**284**	P	Pn	20 21 16.9	-0.1
BJT				pmax	pmax		
	comp=Z,127nm,1.6s						
BJT	**Baijiatuau**	**17.28**	**284**	P	Pn	20 21 16.9	0.0
	comp=Z,127nm,1.6s						
HIA	**Hailar**	**17.55**	**317**	*e*P	Pn	20 21 24.5	+4.1
MA2	**Magadan**	**23.23**	**16**	⇑*e*P	P	20 22 22.6	-0.4
MA2				pmax	pmax		
	comp=Z,57nm,1.6s,mb4.8						
MA2	**Magadan**	**23.23**	**16**	*e*P	P	20 22 22.3	-0.7
	comp=Z,39nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**24.79**	**304**	*e*P	P	20 22 41.8	+4.1
YAK	**Yakutsk**	**24.81**	**350**	⇑*e*P	P	20 22 39.1	+1.2
YAK				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.7						
SONM	**Songino Array**	**25.22**	**304**	P	P	20 22 40.6	-1.0
	comp=Z,9.5nm,1.0s,mb4.3,baz=90,slow=6.8,SNR=8.2						
SEY	**Seymchan**	**26.60**	**15**	*e*P	P	20 22 54.7	+0.6
BILL	**Bilibino**	**34.05**	**18**	⇓*e*P	P	20 24 01.0	+1.0
BILL				*e*		20 25 17.0	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
TIXI	**Tiksi**	**34.25**	**355**	*e*P	P	20 24 02.3	+0.6
TIXI				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
CHTO	**Chiang Mai**	**39.04**	**252**	*e*P	P	20 24 41.6	-1.0
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
CHTO	**Chiang Mai**	**39.04**	**252**	*e*P	P	20 24 41.6	-1.0
	comp=Z,3.8nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**39.50**	**312**	P	P	20 24 44.8	-1.7
	comp=Z,1.4nm,0.8s,mb3.7,baz=292,slow=3.7,SNR=3.4						
ZAL				PcP	PcP	20 26 52.0	-2.0
	comp=Z,1.8nm,0.7s,baz=305,slow=4.9,SNR=4.2						
KURK	**Kurchatov**	**43.42**	**307**	*e*P	P	20 25 17.7	-0.9
JIRN	**Jiri**	**44.40**	**273**	*e*P	P	20 25 27.5	+1.0
GUN	**Gumba**	**44.54**	**273**	*e*P	P	20 25 26.4	-1.2
	comp=Z,32nm,1.0s,mb5.1						
KKN	**Kakani**	**45.06**	**273**	*e*P	P	20 25 30.3	-1.5
	comp=Z,17nm,1.0s,mb4.8						
KKN	**Kakani**	**45.06**	**273**	*e*P	P	20 25 30.3	-1.5
KKN				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
GKN	**Gorkha**	**45.48**	**274**	*e*P	P	20 25 33.2	-1.8
	comp=Z,23nm,1.1s,mb4.9						
KOLN	**Koldanda**	**46.40**	**274**	*e*P	P	20 25 41.8	-0.5
IMA2	**Indian Mountai**	**47.33**	**31**	*e*P	P	20 25 49.0	-0.6
BVAR	**Borovoye Array**	**48.14**	**311**	P	P	20 25 54.5	-1.4
	comp=Z,0.7nm,0.5s,mb3.9,baz=126,slow=7.4,SNR=4.1						
BVAR				PcP	PcP	20 27 21.5	-1.9
	comp=Z,3.5nm,0.6s,baz=108,slow=4.8,SNR=7.7						
COLA	**College**	**49.80**	**32**	*e*P	P	20 26 07.1	-1.5
ARU	**Arti**	**54.07**	**318**	⇑*i*P	P	20 26 42.7	+2.3
ARU				*e*		20 28 42.3	
ARU				*e*PPP		20 29 57.9	
ARU				*e*S	S	20 34 19.8	+2.9
ARU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
AKTK	**Aktyubinsk**	**56.23**	**311**	P	P	20 26 55.6	-0.5
AKTO	**Aktyubinsk**	**56.23**	**311**	P	P	20 26 55.6	-0.5
	comp=Z,2.3nm,0.8s,mb4.3,baz=70,slow=13,SNR=4.3						
FITZ	**Fitzroy Crossi**	**56.85**	**194**	*e*P	P	20 26 59.8	-0.7
	comp=Z,36nm,0.9s,mb5.4						
FITZ	**Fitzroy Crossi**	**56.85**	**194**	P	P	20 26 59.9	-0.6
	comp=Z,21nm,0.9s,mb5.2,baz=13,slow=9.1,SNR=18						
WB2	**Warramunga Arr**	**57.56**	**184**	*e*P	P	20 27 03.7	-1.8
WRA	**Warramunga Arr**	**57.56**	**184**	P	P	20 27 03.5	-2.0
	comp=Z,26nm,0.9s,mb5.2,baz=1.2,slow=7.3,SNR=104						
CTA	**Charters Tower**	**58.09**	**171**	*e*P	P	20 27 08.3	-0.9
	comp=Z,7.1nm,1.1s,mb4.6						
CTA	**Charters Tower**	**58.09**	**171**	*e*P	P	20 27 08.3	-0.9
CTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ASAR	**Alice Springs**	**61.28**	**184**	P	P	20 27 30.1	-1.0
	comp=Z,9.4nm,0.8s,mb5.0,baz=11,slow=7.1,SNR=69						
KEV	**Kevo**	**61.79**	**338**	*e*p	P	20 27 40.0	+5.4
	comp=Z,25nm,1.1s,mb5.2						
KEV	**Kevo**	**61.79**	**338**	*e*P	P	20 27 40.0	+5.4
KEV				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.3						
ARCES	**ARCESS Array B**	**62.35**	**339**	P	P	20 27 36.0	-2.4
	comp=Z,2.6nm,0.8s,mb4.4,baz=41,slow=6.0,SNR=2.5						
JOF	**Joensuu**	**64.05**	**331**	*e*p	P	20 27 51.3	+1.6
	comp=Z,19nm,1.2s,mb5.0						
YKA	**Yellowknife Ar**	**64.41**	**29**	P	P	20 27 49.9	-2.1
	comp=Z,3.6nm,0.7s,mb4.5,baz=304,slow=6.4,SNR=27						
KAF	**Kangasniemi**	**66.42**	**332**	*e*p	P	20 28 06.5	+1.4
	comp=Z,13nm,1.1s,mb4.9,baz=58,slow=6.1						
KAF	**Kangasniemi**	**66.42**	**332**	*e*P	P	20 28 06.5	+1.4
KAF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
FINES	**FINESS Array B**	**66.91**	**331**	P	P	20 28 07.7	-0.5
	comp=Z,2.8nm,0.7s,mb4.4,baz=29,slow=8.7,SNR=7.4						
FINES	**FINESS Array B**	**66.91**	**331**	*i* P	P	20 28 10.3	+2.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV	**Kislovodsk**	**68.44**	**309**	*e*P	P	20 28 19.9	+2.0
KIV				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
FORT	**Forrest**	**68.89**	**189**	*e*P	P	20 28 19.7	-0.9
	comp=Z,17nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**69.40**	**177**	*e*P	P	20 28 22.3	-1.5
	comp=Z,4.9nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**69.40**	**177**	P	P	20 28 22.1	-1.7
	comp=Z,5.3nm,0.7s,mb4.6,baz=319,slow=9.4,SNR=11						
KLBR	**Kellerberrin**	**71.63**	**198**	*e*P	P	20 28 36.1	-1.3
	comp=Z,38nm,1.3s,mb5.2						
AKASG	**Malin Array Be**	**72.09**	**321**	P	P	20 28 37.6	-2.6
	comp=Z,1.3nm,0.5s,mb4.1,baz=46,slow=5.9,SNR=7.9						
AKASG	**Malin Array Be**	**72.09**	**321**	*i* P	P	20 28 39.5	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**72.45**	**336**	P	P	20 28 39.4	-3.0
	comp=Z,11nm,1.1s,mb4.7,baz=42,slow=6.2						
NOA	**NORSAR Array B**	**72.45**	**336**	P	P	20 28 40.5	-1.9
	comp=Z,4.9nm,1.0s,mb4.4,baz=45,slow=5.7,SNR=3.4						
DLMT	**Dillon**	**75.57**	**43**	*e*P	P	20 28 59.8	-0.8
	comp=Z,22nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**76.40**	**310**	P	P	20 29 02.5	-2.8
	comp=Z,4.5nm,1.1s,mb4.3,baz=74,slow=4.4,SNR=5.3						
BRTR	**Keskin Array B**	**76.40**	**310**	*i* P	P	20 29 04.5	-0.8
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GCMT	**Greycliff**	**76.86**	**42**	*e*P	P	20 29 07.6	-0.3
PDAR	**Pinedale Array**	**78.92**	**44**	P	P	20 29 18.9	-0.5
	comp=Z,4.5nm,0.7s,mb4.5,baz=277,slow=0.8,SNR=16						
MSU	**Marysvale**	**80.22**	**49**	*e*P	P	20 29 26.4	-0.1
ULM	**Lac du Bonnet**	**80.23**	**32**	P	P	20 29 24.4	-2.1
	comp=Z,7.9nm,0.8s,mb4.7,baz=273,slow=3.7,SNR=6.2						
GERES	**GERESS Array B**	**80.67**	**327**	P	P	20 29 27.7	-1.2
	comp=Z,2.4nm,1.1s,mb4.1,baz=42,slow=5.5,SNR=7.7						
PFO	**Pinyon Flat Ob**	**80.72**	**55**	P	P	20 29 27.6	-1.5
	comp=Z,2.2nm,0.8s,mb4.2,baz=336,slow=4.5,SNR=7.0						
SRU	**San Rafael**	**80.80**	**47**	*e*P	P	20 29 29.2	-0.4
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
SRU	**San Rafael**	**80.80**	**47**	*e*P	P	20 29 29.2	-0.4
	comp=Z,5.7nm,0.7s,mb4.6						
GIVF	**Givet**	**83.29**	**332**	*e*P	P	20 29 45.1	+2.5
CDF	**Champ du Feu**	**83.70**	**330**	*e*P	P	20 29 47.0	+2.2
	comp=Z,11nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**83.70**	**330**	*e*P	P	20 29 47.0	+2.2
CDF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**83.70**	**330**	*e*P	P	20 29 47.0	+2.2
	comp=Z,5.6nm,0.9s,mb4.7						
HAU	**Haudompre**	**84.40**	**330**	*e*P	P	20 29 50.9	+2.6
	comp=Z,24nm,1.1s,mb4.9						
HAU	**Haudompre**	**84.40**	**330**	*e*P	P	20 29 50.9	+2.6
HAU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
HAU	**Haudompre**	**84.40**	**330**	*e*P	P	20 29 50.9	+2.6
	comp=Z,12nm,1.1s,mb4.9						
MEZF	**Maizieres J'vi**	**84.51**	**331**	*e*P	P	20 29 52.2	+3.3
LOR	**Lormes**	**85.98**	**331**	*e*P	P	20 29 58.9	+2.7
ANMO	**Albuquerque**	**86.01**	**48**	P	P	20 29 56.1	-0.3
	comp=Z,3.3nm,1.0s,mb4.5,baz=311,slow=7.8,SNR=10						
ANMO	**Albuquerque**	**86.01**	**48**	⇑*e*P	P	20 29 56.2	-0.2
LPL	**La Plagne**	**86.25**	**328**	*e*P	P	20 30 00.0	+2.4
LPG	**La Plagne**	**86.26**	**328**	*e*P	P	20 30 00.0	+2.4
SSF	**Saint Saulge**	**86.29**	**331**	*e*P	P	20 30 00.4	+2.7
	comp=Z,20nm,0.9s,mb5.0						
SSF	**Saint Saulge**	**86.29**	**331**	*e*P	P	20 30 00.4	+2.7
SSF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
SSF	**Saint Saulge**	**86.29**	**331**	*e*P	P	20 30 00.4	+2.7
	comp=Z,9.9nm,0.9s,mb5.0						
LDF	**La Druitiere**	**86.34**	**334**	*e*P	P	20 30 00.5	+2.5
	comp=Z,14nm,0.8s,mb5.0						
LDF	**La Druitiere**	**86.34**	**334**	*e*P	P	20 30 00.5	+2.5
LDF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
LDF	**La Druitiere**	**86.34**	**334**	*e*P	P	20 30 00.5	+2.5
	comp=Z,7.3nm,0.8s,mb5.0						
HYF	**Humbligny**	**86.45**	**331**	*e*P	P	20 30 01.7	+3.2
AVF	**Avril sur Loir**	**86.57**	**331**	*e*P	P	20 30 01.9	+2.8
	comp=Z,17nm,0.7s,mb5.1						
AVF	**Avril sur Loir**	**86.57**	**331**	*e*P	P	20 30 01.9	+2.8
AVF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.1						
AVF	**Avril sur Loir**	**86.57**	**331**	*e*P	P	20 30 01.9	+2.8
	comp=Z,8.6nm,0.7s,mb5.1						
GRR	**Gorron**	**86.77**	**334**	*e*P	P	20 30 02.9	+2.8
	comp=Z,19nm,0.8s,mb5.0						
GRR	**Gorron**	**86.77**	**334**	*e*P	P	20 30 02.9	+2.8
GRR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
GRR	**Gorron**	**86.77**	**334**	*e*P	P	20 30 02.9	+2.8
	comp=Z,9.4nm,0.8s,mb5.1						
ROSF	**Rostrenen**	**87.63**	**335**	*e*P	P	20 30 07.4	+3.1
	comp=Z,28nm,0.9s,mb5.2						
ROSF	**Rostrenen**	**87.63**	**335**	*e*P	P	20 30 07.4	+3.1
ROSF				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.2						
ROSF	**Rostrenen**	**87.63**	**335**	*e*P	P	20 30 07.4	+3.1
	comp=Z,14nm,0.9s,mb5.2						
MFF	**Saint Martin d**	**88.04**	**333**	*e*P	P	20 30 09.4	+3.2
	comp=Z,9.8nm,0.8s,mb4.8						
MFF	**Saint Martin d**	**88.04**	**333**	*e*P	P	20 30 09.4	+3.2
MFF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
MFF	**Saint Martin d**	**88.04**	**333**	*e*P	P	20 30 09.4	+3.2
	comp=Z,4.9nm,0.8s,mb4.8						
TORD	**Torodi Ar. Bea**	**114.94**	**312**	PKP	PKiKP	20 35 53.8	-3.0
	comp=Z,0.2nm,0.5s,baz=5.6,slow=2.7,SNR=4.8						
VNA2	**Neumayer–Watz**	**142.31**	**198**	*e*PKPdf	PKPdf	20 36 41.2	-7.3
	baz=91,slow=2.5						
VNA2				*e*		20 36 44.3	
VNA2				*e*		20 36 49.4	
VNA2				*e*		20 36 53.8	
VNA3	**Neumayer Olymp**	**142.62**	**196**	*e*PKPdf	PKPdf	20 36 41.7	-7.3
VNA3				*e*		20 36 44.6	
LPAZ	**La Paz**	**148.42**	**54**	PKPbc	PKPbc	20 37 01.6	-0.9
	comp=Z,4.3nm,0.8s,baz=310,slow=3.1,SNR=14						
PLCA	**Paso Flores**	**157.60**	**106**	PKPab	PKPab	20 37 43.9	-0.4
	comp=Z,1.6nm,0.8s,baz=225,slow=3.1,SNR=3.5						
PLCA	**Paso Flores**	**157.60**	**106**	PKP2	PKPab	20 37 43.9	-0.4
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

NNC ***25*** *20:21:16.0±2.0, 4209N×7598E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=16.6km s-min=9.8km az=12.0*
KNET ***25*** *20:21:16.8±0.5, 4216N×7598E, h10km±2km, ml3.0, Error ellipse: s-maj=3.2km s-min=1.8km az=148.0*
ISCJB ***25*** *20:21:17.5±0.9, 4212N±006×7603E±005, h10km, Error ellipse: s-maj=9.1km s-min=4.5km az=151.4*

ISC 25 20:21:17.7±0.9, 4214N±006×7603E±005, h10km, n12, σ0§95/21, 14C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.19**	**55**	P	Pg	20 21 21.3	-0.4
	1μm,0.1s,SNR=1101						
ULHL				⇑S	Sg	20 21 24.7	+0.3
	2μm,0.1s						
KZA	**Kyzart**	**0.59**	**264**	⇑P	Pg	20 21 27.8	-1.3
	105nm,0.1s,SNR=227						
KZA				⇑S	Sg	20 21 36.0	-0.8
	756nm,0.3s						
TKM2	**Tokmak 2**	**0.85**	**338**	P	Pg	20 21 33.2	-0.7
	199nm,0.1s,SNR=402						
TKM2				⇓S	Sg	20 21 45.2	+0.2
	2μm,0.1s						
TKM2	**Tokmak 2**	**0.85**	**338**	⇑P	Pg	20 21 33.2	-0.7
	2.1nm,0.2s						
TKM2				⇑S	Sg	20 21 45.0	0.0
	4.1nm,0.1s						
KBK	**Karagaybulak**	**0.96**	**303**	P	Pg	20 21 35.1	-1.0
	116nm,0.1s,SNR=283						
KBK				⇑S	Sg	20 21 48.2	-0.4
	633nm,0.2s						
CHMS	**Chumysh**	**1.28**	**313**	⇓P	Pn	20 21 40.7	-0.9
	49nm,0.2s,SNR=72						
CHMS				⇑S	Sb	20 21 58.0	-0.3
	195nm,0.3s						
KNDC	**Almaty**	**1.28**	**32**	⇑Pn	Pn	20 21 41.6	+0.1
	238nm,0.2s						
KNDC				⇑Lg		20 21 59.5	
	889nm,0.2s						
USP	**Ospenovka**	**1.60**	**315**	⇓P	Pn	20 21 46.2	+0.3
	94nm,0.2s,SNR=308						
USP				⇓S	Sn	20 22 07.8	+1.3
	108nm,0.2s						
AML	**Almayashu**	**1.74**	**271**	⇑P	Pn	20 21 48.7	+0.8
	58nm,0.1s,SNR=8.4						
AML				⇑S	Sn	20 22 11.8	+1.7
	291nm,0.2s						
EKS2	**Erkin-Say**	**1.75**	**288**	⇓P	Pn	20 21 49.1	+1.1
	31nm,0.2s,SNR=11						
EKS2				⇓S	Sn	20 22 13.6	+3.3
	110nm,0.4s						
KK31	**Karatay Array**	**4.19**	**285**	⇑Pn	Pb	20 22 30.6	-0.8
	2.5nm,0.3s,baz=88,slow=13,SNR=98						
KK31				Lg		20 23 27.4	
	7.0nm,0.3s,baz=96,slow=29,SNR=9.0						
MK31	**Makanchi Array**	**6.46**	**42**	⇑Pn	Pn	20 22 56.8	+4.1
	2.8nm,0.6s,baz=222,slow=15,SNR=29						
MK31				⇑Lg		20 24 41.1	
	0.9nm,0.2s,baz=229,slow=26,SNR=4.1						

SZGRF ***25*** *20:28:25.9, 4607N×15341E, h33km, mb4.6, Kuril Islands, Russia*

ASAJ pmax pmax
comp=Z,1.0nm,0.3s
JKK2 Kamakawa 2 7.50 252 P **Pn 20 30 20.1 +2.2**
JCH Churui 7.73 242 P **Pn 20 30 20.2 -0.9**
JCH *e*S **Sn 20 31 43.7 -3.5**
JEM Erimo 8.21 239 P **Pn 20 30 27.8 +0.2**
ERM Erimo 8.21 239 *e*PN **Pn 20 30 28.5 +0.9**
ERM Erimo 8.21 239 *e*P **Pn 20 30 27.3 -0.3**
comp=Z,35nm,0.6s
JBT2 Biratori 2 8.26 246 P **Pn 20 30 28.9 +0.6**
JNBK Urakawa-nobuka 8.29 242 P **Pn 20 30 27.5 -1.3**
JNB Noboribetsu 9.26 247 P **Pn 20 30 42.2 +0.2**
JKB Kayabe 9.57 244 P **Pn 20 30 44.8 -1.5**
JKB *e*S **Sn 20 32 26.2 -6.1**
JYM2 Yakumo 2 9.87 247 P **Pn 20 30 49.7 -0.6**
JSR Shiriuchi 10.15 244 P **Pn 20 30 52.5 -1.7**
JTM Tenmabayashi 10.20 239 P **Pn 20 30 52.3 -2.6**
JANG Nango 10.21 236 P **Pn 20 30 51.5 -3.4**
MJAR Matsushiro Arr 14.74 232 P **Pn 20 31 56.6 +0.4**
comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=5.2
YAK Yakutsk 20.24 328 *e*P **P 20 33 01.5 +0.1**
YAK pmax pmax
comp=Z,6.0nm,0.7s
KSRS Korea Array 20.44 252 P **P 20 33 04.3 +0.7**
comp=Z,3.0nm,0.7s,baz=55,slow=10,SNR=10
HIA Hailar 22.09 289 *e*P **P 20 33 18.5 -2.7**
BILL Bilibino 22.58 13⇑ *e*P **P 20 33 27.9 +1.4**
BILL *e*S **S 20 37 25.0 -4.9**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
ULN Ulaanbaatar 30.62 289 *e*P **P 20 34 37.7 -1.8**
SONM Songino Array 31.05 289 P **P 20 34 42.9 -0.4**
comp=Z,0.4nm,0.7s,mb3.4,baz=77,slow=7.2,SNR=3.1
IMA2 Indian Mountai 34.10 36 *e*P **P 20 35 09.9 -0.1**
COLA College 36.44 38 *e*P **P 20 35 29.6 -0.5**
INK Inuvik 41.93 32 P **P 20 36 15.6 -0.3**
comp=Z,1.4nm,0.6s,mb3.8,baz=291,slow=8.8,SNR=11
MKAR Makanchi Array 46.70 297 P **P 20 36 52.4 -1.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=68,slow=7.2,SNR=11
MKAR PcP PcP 20 38 26.6 -0.1
comp=Z,0.7nm,0.6s,baz=68,slow=4.0,SNR=5.2
KURK Kurchatov 47.15 304 *e*P **P 20 36 56.4 -1.1**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KURK Kurchatov 47.15 304 *e*P **P 20 36 56.4 -1.1**
comp=Z,3.9nm,0.9s,mb4.3
BVAR Borovoye Array 50.67 309 P **P 20 37 23.2 -1.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=60,slow=8.8,SNR=4.0
BVAR PcP PcP 20 38 40.5 -0.6
comp=Z,1.3nm,0.7s,baz=59,slow=5.0,SNR=5.2
YKA Yellowknife Ar 51.22 37 P **P 20 37 27.5 -1.0**
comp=Z,0.3nm,0.5s,mb3.5,baz=297,slow=7.0,SNR=12
YKA PcP PcP 20 38 42.1 -1.0
comp=Z,0.2nm,0.5s,baz=304,slow=3.7,SNR=6.6
JIRN Jiri 54.62 274 *e*P **P 20 37 55.4 +1.8**
comp=Z,19nm,0.6s,mb5.3
GUN Gumba 54.68 275 *e*P **P 20 37 55.4 +1.4**
comp=Z,11nm,0.7s,mb5.0
KKN Kakani 55.16 275 *e*P **P 20 37 59.4 +1.9**
comp=Z,18nm,0.6s,mb5.3
KKN Kakani 55.16 275 *e*P **P 20 37 59.4 +1.9**
KKN pmax pmax
comp=Z,18nm,0.6s,mb5.3
PKI Pulchoki 55.21 275 *e*P **P 20 37 59.2 +1.3**
comp=Z,14nm,0.6s,mb5.2
PKI Pulchoki 55.21 275 *e*P **P 20 37 59.2 +1.3**
PKI pmax pmax
comp=Z,14nm,0.6s,mb5.2
DMN Daman 55.40 275 *e*P **P 20 38 00.9 +1.7**
comp=Z,31nm,0.9s,mb5.3
GKN Gorkha 55.47 276 *e*P **P 20 38 01.0 +1.3**
comp=Z,25nm,0.7s,mb5.4
KOLN Koldanda 56.33 276 *e*P **P 20 38 07.5 +1.6**
comp=Z,23nm,0.9s,mb5.2
ARCES ARCESS Array B 57.85 341 P **P 20 38 15.4 -1.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=13,slow=8.3,SNR=2.6
ARCES ARCESS Array B 57.85 341 P **P 20 38 15.4 -1.2**
AKTK Aktyubinsk 58.55 312 P **P 20 38 22.6 +1.1**
AKTO Aktyubinsk 58.55 312 P **P 20 38 22.6 +1.1**
comp=Z,0.7nm,0.6s,mb3.9,baz=50,slow=7.9,SNR=3.3
JOF Joensuu 61.29 334 *e*p **P 20 38 37.6 -2.7**
comp=Z,7.0nm,1.1s,mb4.7
NVAR Mina Array Bea 62.78 62 P **P 20 38 52.0 +1.7**
comp=Z,0.2nm,0.6s,mb3.4,baz=306,slow=6.1,SNR=2.5
KAF Kangasniemi 63.41 335 *e*p **P 20 38 53.4 -1.0**
comp=Z,6.6nm,1.0s,mb4.7,baz=38,slow=6.2
KAF Kangasniemi 63.41 335 *e*P **P 20 38 53.4 -1.0**
KAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
FINES FINESS Array B 64.00 335 P **P 20 38 57.3 -1.0**
comp=Z,1.9nm,0.5s,mb4.4,baz=39,slow=8.5,SNR=22
FINES FINESS Array B 64.00 335 *i* P **P 20 38 57.2 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 65.09 54 P **P 20 39 05.4 0.0**
comp=Z,0.5nm,1.0s,mb3.5,baz=45,slow=0.8,SNR=3.5
ULM Lac du Bonnet 66.83 41 P **P 20 39 15.4 -1.2**
comp=Z,0.8nm,0.6s,mb4.0,baz=284,slow=4.2,SNR=3.5
NB2 NORSAR Subarra 68.23 341 P **P 20 39 24.7 -0.7**
comp=Z,1.6nm,0.6s,mb4.2,baz=28,slow=6.5
NOA NORSAR Array B 68.23 341 P **P 20 39 24.9 -0.5**
comp=Z,3.2nm,0.8s,mb4.4,baz=28,slow=6.2,SNR=9.9
AKASG Malin Array Be 71.46 326 P **P 20 39 44.4 -0.9**
comp=Z,2.5nm,0.5s,mb4.4,baz=27,slow=6.5,SNR=9.3
ASAR Alice Springs 71.99 198 P **P 20 39 49.5 +1.0**
comp=Z,0.7nm,0.6s,mb3.8,baz=10,slow=5.2,SNR=15
CLL Collm 76.43 335 *i* P **P 20 40 13.7 -0.6**
comp=Z,5.0nm,0.7s,mb4.5
KHC Kasperske Hory 78.20 334 *e*P **P 20 40 24.5 +0.3**
GRA1 Grafenberg Arr 78.39 336 *e*P **P 20 40 25.7 +0.5**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.39 336 *e*P **P 20 40 25.7 +0.5**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.39 336 *e*P **P 20 40 25.7 +0.5**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 78.39 336 *e*P **P 20 40 25.7 +0.5**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GERES GERESS Array B 78.41 334 P **P 20 40 25.5 +0.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=41,slow=7.0,SNR=11
CFAA Coronel Fontan 145.34 79 PKPbc PKPbc 20 48 01.9 -0.3
comp=Z,0.3nm,0.6s,baz=281,slow=4.0,SNR=8.2

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*ISCJB **25** 20:37:45.2±0.7, 68N×02×73.1W±02, h166km±17km, mb3.7/4, Error ellipse: s-maj=47.7km s-min=8.6km az=90.8*
*IDC **25** 20:37:45.7±0.7, 678N×7297W, h158km±10km, mb3.4/4, mb1 3.7/7, mb1mx3.4/20, mbtmp3.6/7, Error ellipse: s-maj=32.1km s-min=7.5km az=132.0*
*NEIC **25** 20:37:46.1±0.7, 670N×7300W, h167km±10km, mb3.7/1, Error ellipse: s-maj=25.7km s-min=9.5km az=134.0*
ISC 25 20:37:46.3±0.7, 68N±02×730W±02, h161km±16km, n12, σ0§84/13, mb3.7/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34**	**214**	P	**Pn**	**20 38 26.9**	**+0.9**
	83nm,0.3s,baz=88,slow=23,SNR=282						
ROSC				S	**Sn**	**20 38 56.9**	**+0.3**
	56nm,0.3s,baz=93,slow=17,SNR=12						
SDV	**Santo Domingo**	**3.13**	**49**	P	**Pn**	**20 38 36.3**	**+0.6**
	39nm,0.3s,baz=223,slow=3.6,SNR=86						
SDV				S	**Sn**	**20 39 13.2**	**-0.9**
	33nm,0.3s,baz=230,slow=21,SNR=12						
SDV	**Santo Domingo**	**3.13**	**49**	P	**Pn**	**20 38 36.3**	**+0.6**
SDV				S	**Sn**	**20 39 13.2**	**-0.9**
OTAV	**Otavalo**	**8.49**	**220**	*e*P	**Pn**	**20 39 44.2**	**-1.9**
	1.6nm,0.6s						
PCRV	**Puerto La Cruz**	**8.94**	**67**	P	**Pn**	**20 39 52.4**	**+0.4**
	0.8nm,0.3s,baz=275,slow=5.2,SNR=5.0						
ULM	**Lac du Bonnet**	**47.33**	**340**	P	**P**	**20 46 03.1**	**-0.6**
	1.1nm,0.4s,mb3.8,baz=141,slow=8.1,SNR=9.6						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**20 46 10.7**	**+0.8**
	3.4nm,1.0s,mb4.0,baz=244,slow=17,SNR=4.5						
PDAR	**Pinedale Array**	**48.15**	**324**	P	**P**	**20 46 10.8**	**+0.8**
	0.3nm,0.6s,mb3.1,baz=121,slow=12,SNR=2.6						
YKA	**Yellowknife Ar**	**63.31**	**340**	P	**P**	**20 47 57.4**	**-0.5**
	0.9nm,0.5s,mb3.8,baz=133,slow=6.6,SNR=55						
YKA	**Yellowknife Ar**	**63.31**	**340**	P	**P**	**20 47 57.4**	**-0.5**
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	PKPbc	20 57 15.6	0.0
	0.4nm,0.6s,baz=120,slow=4.0,SNR=7.2						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	20 57 19.0	+0.4
	0.2nm,0.4s,baz=109,slow=2.5,SNR=3.0						

IDC 25 20:38:54.5±1.0, 693N×7317W, h155km±68km, mb3.1/3, mb1 3.4/5, mb1mx3.1/19, mbtmp3.2/5, Error ellipse: s-maj=161.0km s-min=9.2km az=133.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.36**	**209**	P	Pn	20 39 34.3	+0.2
	27nm,0.3s,baz=90,slow=20,SNR=3.6						
ROSC				S	Sn	20 40 06.2	+1.5
	11nm,0.3s,baz=73,slow=19,SNR=2.8						
SDV	**Santo Domingo**	**3.17**	**52**	P	Pn	20 39 44.8	+0.6
	13nm,0.3s,baz=229,slow=19,SNR=4.0						
SDV				S	Sn	20 40 23.6	+0.8
	21nm,0.3s,baz=62,slow=20,SNR=4.6						
ULM	**Lac du Bonnet**	**47.17**	**340**	P	P	20 47 10.2	-1.2
	1.0nm,0.9s,baz=138,slow=8.5,SNR=2.9						
PDAR	**Pinedale Array**	**47.97**	**324**	P	P	20 47 18.5	+1.0
	0.3nm,0.8s,baz=125,slow=7.8,SNR=3.2						
YKA	**Yellowknife Ar**	**63.15**	**340**	P	P	20 49 05.9	+0.1
	0.4nm,0.5s,baz=131,slow=6.7,SNR=8.6						

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*NNC **25** 20:44:32.6±1.0, 42.11N×7597E, h0km, mb3.1, mpv2.4, Error ellipse: s-maj=7.2km s-min=4.3km az=32.0*
*KNET **25** 20:44:32.4±0.7, 42.12N×7597E, h15km±4km, ml2.1, Error ellipse: s-maj=5.9km s-min=3.1km az=147.0*
*ISCJB **25** 20:44:33.4±1.0, 42.10N±006×7603E±005, h10km, Error ellipse: s-maj=9.1km s-min=4.1km az=136.7*
ISC 25 20:44:33.8±0.9, 4213N±005×7602E±004, h10km, n12, σ0§99/22, 12C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.20**	**55**	⇑P	**Pg**	**20 44 37.5**	**-0.6**
	125nm,0.1s,SNR=47						
ULHL				⇓S	**Sg**	**20 44 40.7**	**-0.2**
	693nm,0.2s						
KZA	**Kyzart**	**0.57**	**265**	⇑P	**Pg**	**20 44 43.7**	**-1.2**
	24nm,0.2s,SNR=40						
KZA				⇑S	**Sg**	**20 44 51.9**	**-0.6**
	153nm,0.4s						
TKM2	**Tokmak 2**	**0.85**	**339**	⇓P	**Pg**	**20 44 49.4**	**-0.8**
	12nm,0.1s,SNR=21						
TKM2				⇓S	**Sg**	**20 45 01.4**	**+0.1**
	110nm,0.1s						
TKM2	**Tokmak 2**	**0.85**	**339**	⇓P	**Pg**	**20 44 49.2**	**-1.0**
	0.1nm,0.2s						
TKM2				⇑S	**Sg**	**20 45 01.4**	**+0.1**
	1.7nm,0.3s						
KBK	**Karagaybulak**	**0.95**	**304**	P	**Pg**	**20 44 51.2**	**-0.9**
	11nm,0.1s,SNR=30						
KBK				⇓S	**Sg**	**20 45 04.2**	**-0.3**
	77nm,0.2s						
UCH	**Uchtor**	**1.12**	**276**	⇓P	**Pb**	**20 44 54.2**	**-1.1**
	4.7nm,0.3s,SNR=8.0						
UCH				⇓S	**Sb**	**20 45 09.0**	**-1.0**
	12nm,0.2s						
CHMS	**Chumysh**	**1.28**	**313**	⇓P	**Pn**	**20 44 56.8**	**-0.9**
	2.6nm,0.1s,SNR=7.6						
CHMS				⇑S	**Sb**	**20 45 14.0**	**-0.4**
	16nm,0.2s						
KNDC	**Almaty**	**1.29**	**32**	⇑P	**Pn**	**20 44 57.5**	**-0.4**
	15nm,0.2s						
KNDC				⇑S	**Sb**	**20 45 15.6**	**+0.7**
	80nm,0.5s						
USP	**Ospenovka**	**1.60**	**316**	⇑P	**Pn**	**20 45 02.7**	**+0.6**
	2.6nm,0.1s,SNR=11						
USP				⇑S	**Sn**	**20 45 24.3**	**+1.5**
	22nm,0.2s						
AML	**Almayashu**	**1.73**	**271**	⇑P	**Pn**	**20 45 04.8**	**+0.9**
	3.1nm,0.1s,SNR=7.6						
AML				⇓S	**Sn**	**20 45 28.0**	**+2.0**
	28nm,0.4s						
EKS2	**Erkin-Say**	**1.74**	**289**	⇑P	**Pn**	**20 45 05.6**	**+1.5**
	2.3nm,0.1s,SNR=14						
KK31	**Karatay Array**	**4.18**	**285**	Pn	**Pn**	**20 45 39.3**	**+1.7**
	0.3nm,0.5s,baz=109,slow=17,SNR=11						
KK31				⇑Lg		20 46 43.7	
	0.4nm,0.3s,baz=110,slow=27,SNR=6.9						

IDC 25 20:56:01.8±10.0, 2150N×14735E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/21, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=377.0km s-min=25.8km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.96**	**334**	Pn	Pn	20 59 59.7	-0.8
	0.1nm,0.3s,baz=145,slow=11,SNR=4.6						
SONM	**Songino Array**	**42.00**	**319**	P	P	21 03 55.0	+0.3
	0.5nm,1.0s,baz=115,slow=6.8,SNR=3.0						
WRA	**Warramunga Arr**	**43.11**	**198**	P	P	21 04 03.5	-0.2
	0.4nm,0.3s,baz=18,slow=8.0,SNR=4.9						
ASAR	**Alice Springs**	**46.77**	**197**	P	P	21 04 33.2	+0.4
	0.2nm,0.4s,baz=16,slow=7.0,SNR=13						

KRSC 25 21:00:03.7±0.9, 5518N×16224E, h63km±66km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.69**	**205**	*i* P	Pn	21 00 18.8	+0.8
MKZ				*i* S	Sn	21 00 29.7	+1.2
KBTR	**Krutoberegovo**	**1.08**	**17**	*i* P	Pn	21 00 22.8	-0.1
KBTR				*i* S	Sn	21 00 37.2	0.0
ZLN	**Zelenaya**	**1.17**	**316**	*i* P	Pn	21 00 26.1	+2.1
ZLN				*i* S	Sn	21 00 42.2	+3.0
TUMR	**Tumrok**	**1.20**	**276**	*i* P	Pn	21 00 26.8	+2.3
TUMR				*i* S	Sn	21 00 43.2	+3.2
KMNR	**Kamenistaya**	**1.28**	**298**	*i* P	Pn	21 00 27.5	+2.0
KMNR				*i* S	Sn	21 00 45.1	+3.3
KPT	**Kopyto**	**1.39**	**305**	*i* P	Pn	21 00 28.8	+1.8
KPT				*i* S	Sn	21 00 46.8	+2.3
KRSR	**Krestovskiy**	**1.41**	**318**	*i* P	Pn	21 00 28.5	+1.3
KRSR				*i* S	Sn	21 00 46.8	+2.0
KLY	**Klyuchi**	**1.45**	**322**	*i* P	Pn	21 00 28.1	+0.4
KLY				*i* S	Sn	21 00 46.0	+0.2
SRKR	**Sorokina**	**1.60**	**338**	P	Pn	21 00 31.1	+1.4
SRKR				*i* S	Sn	21 00 51.1	+1.7
KOZ	**Kozyrevsk**	**1.60**	**304**	*e*P	Pn	21 00 32.0	+2.2
KOZ				*i* S	Sn	21 00 52.6	+3.0
SRDR	**Sredinnyy**	**1.83**	**310**	*e*P	Pn	21 00 34.4	+1.6
SRDR				*e*S	Sn	21 00 57.1	+2.2
KII	**Karymskiy**	**1.99**	**236**	*i* P	Pn	21 00 37.1	+2.1
KII				*i* S	Sn	21 01 01.3	+2.5
SPN	**Mys Shipunski**	**2.46**	**213**	*i* P	Pn	21 00 41.7	+0.3
SPN				*i* S	Sn	21 01 09.4	-1.0
NLC	**Nalytchevo**	**2.64**	**221**	*e*P	Pn	21 00 45.2	+1.4
NLC				*i* S	Sn	21 01 15.8	+1.2
AVH	**Avacha**	**2.81**	**228**	*e*P	Pn	21 00 48.8	+2.6
AVH				*e*S	Sn	21 01 21.3	+2.3
GNL	**Ganaly**	**2.92**	**241**	*e*P	Pn	21 00 50.6	+2.9
GNL				*e*S	Sn	21 01 24.2	+2.6
PET	**Petropavlovsk**	**3.02**	**226**	*e*P	Pn	21 00 51.0	+1.9
PET				*i* S	Sn	21 01 25.0	+0.9
RUS	**Russkaya**	**3.53**	**220**	*e*P	Pn	21 00 57.4	+1.4
RUS				*i* S	Sn	21 01 35.9	-0.6
GRL	**Gorelyy**	**3.61**	**225**	*e*P	Pn	21 01 00.3	+3.2

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*IDC **25** 21:01:29.0±0.7, 3299N×102.19E, h0km, mb3.9/17, mb1 4.1/18, mb1mx4.0/27, mbtmp3.9/18, ML3.7/1, MS4.1/2, Ms1 4.1/2, ms1mx3.3/29, Error ellipse: s-maj=21.6km s-min=15.4km az=42.0*
*BJI **25** 21:01:30.7, 3299N×102.34E, h20km, mB5.1, mb4.5, ML4.4, Ms4.6, Msz4.1*
*ISCJB **25** 21:01:31.2±0.9, 3297N±003×10220E±004, h27km±8km, mb4.0/26, MS4.1/3, Error ellipse: s-maj=5.8km s-min=5.3km az=167.5*
*MOS **25** 21:01:31.9±1.1, 3301N×102.19E, h33km, mb4.2/5, Error ellipse: s-maj=10.0km s-min=6.7km az=82.0*
*NEIC **25** 21:01:32.6±1.7, 3301N×102.16E, h21km±13km, mb4.5/10, Error ellipse: s-maj=7.7km s-min=5.3km az=142.0*
ISC 25 21:01:32.2±1.3, 3299N±003×10220E±004, h18km±9km, n80, σ1§10/88, mb4.0/26, MS4.1/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.46**	**147**	P	**Pn**	**21 02 12.3**	**+1.0**
CD2				PG	**Pb**	**21 02 14.0**	**-1.8**
CD2				SG	**Sb**	**21 02 44.0**	**-1.8**
CD2				Smax			
	comp=N,3μm,1.1s						
CD2				Smax			
	comp=E,5μm,1.1s						
LZH	**Lanzhou**	**3.37**	**23**	P	**Pn**	**21 02 25.0**	**+1.1**
LZH				PG	**Pb**	**21 02 32.8**	**+1.4**
LZH				SG	**Sg**	**21 03 20.3**	**-0.2**
LZH				Smax			
	comp=N,2μm,1.0s						
LZH				Smax			
	comp=E,3μm,1.1s						
LZH				LR	LR		
	comp=E,3μm,5.2s						
LZH				LR	LR		
	comp=Z,4μm,6.7s						
LZH	**Lanzhou**	**3.37**	**23**	Pn	**Pn**	**21 02 25.1**	**+1.2**
LZH				Pg	**Pb**	**21 02 32.8**	**+1.4**
LZH				Sg	**Sg**	**21 03 20.2**	**-0.3**
GTA	**Gaotai**	**6.69**	**344**	P	**Pn**	**21 03 10.5**	**+1.0**
GTA				SG	Sn	21 05 09.0	+44
GTA				Smax			
	comp=N,87nm,1.1s						
GTA				Smax			
	comp=E,118nm,1.2s						
GTA				LR	LR		
	comp=N,2μm,8.0s						
GTA				LR	LR		
	comp=E,5μm,9.9s						
GTA				LR	LR		
	comp=Z,1μm,9.9s						
GYA	**Guiyang**	**7.58**	**148**	P	**Pn**	**21 03 22.3**	**+0.7**
GYA				PG	Pn	21 03 43.0	+21
GYA				S	**Sn**	**21 04 48.3**	**+1.3**
GYA				Smax			
	comp=N,170nm,1.0s						
GYA				Smax			
	comp=E,240nm,1.0s						
GYA				LR	LR		
	comp=N,2μm,11.0s						
GYA				LR	LR		
	comp=E,4μm,11.1s						
GYA				LR	LR		
	comp=Z,1μm,9.9s						
KMI	**Kunming**	**7.85**	**176**	P	**Pn**	**21 03 26.3**	**+0.9**
KMI				PG	Pn	21 03 46.5	+21
KMI				S	**Sn**	**21 05 01.5**	**+7.7**
KMI				Smax			
	comp=N,49nm,2.0s						
KMI				Smax			
	comp=E,41nm,1.8s						
KMI				LR	LR		
	comp=N,1μm,9.5s						
KMI				LR	LR		
	comp=E,2μm,11.9s						
KMI				LR	LR		
	comp=Z,1μm,12.3s						
KMI	**Kunming**	**7.85**	**176**	P	**Pn**	**21 03 26.2**	**+0.8**
KMI						21 05 01.5	
KMI				pmax	pmax		
	comp=Z,49nm,2.0s						
KMI	**Kunming**	**7.85**	**176**	Pn	**Pn**	**21 03 26.2**	**+0.8**
	comp=Z,49nm,2.0s						
KMI				Pg	Pn	21 03 46.4	+21
KMI				Sn	**Sn**	**21 05 01.5**	**+7.7**
KMI				Sg	Sn	21 05 23.9	+30
BTO	**Baotou**	**9.85**	**37**	*e*P	**Pn**	**21 03 52.3**	**-0.5**
BTO				LR	LR		
	comp=N,929nm,10.2s						
BTO				LR	LR		
	comp=E,634nm,8.8s						
LSA	**Lhasa**	**10.00**	**254**	P	**Pn**	**21 03 54.0**	**-0.9**
LSA	**Lhasa**	**10.00**	**254**	*e*P	**Pn**	**21 03 55.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	**Lhasa**	**10.00**	**254**	*e*P	**Pn**	**21 03 55.9**	**+1.0**
	comp=Z,2.2nm,0.6s						
WHN	**Wuhan**	**10.62**	**100**	*e*P	**Pn**	**21 04 02.0**	**-1.4**
SHL	**Shillong**	**11.65**	**233**	*e*P	**Pn**	**21 04 17.0**	**-0.5**
TIA	**Tai'an**	**12.71**	**71**	*e*P	**Pn**	**21 04 35.0**	**+3.1**
BJT	**Baijiatuau**	**13.23**	**54**	*e*P	**Pn**	**21 04 40.3**	**+1.2**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJT	**Baijiatuau**	**13.23**	**54**	*e*P	**Pn**	**21 04 40.3**	**+1.1**
	comp=Z,5.6nm,0.6s						
BJI	**Beijing**	**13.25**	**54**	P	**Pn**	**21 04 40.3**	**+1.0**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.4s						
BJI				AMB	AMB		
	comp=Z,528nm,4.6s						
BJI				LR	LR		
	comp=N,1μm,7.0s						
BJI				LR	LR		
	comp=E,654nm,7.0s						
BJI	**Beijing**	**13.25**	**54**	P	**Pn**	**21 04 40.2**	**+0.9**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
BJI	**Beijing**	**13.25**	**54**	P	**Pn**	**21 04 40.2**	**+0.9**
	comp=Z,9.0nm,1.4s						
BJI				Lg		21 08 21.6	
CHTO	**Chiang Mai**	**14.42**	**192**	*e*P	**Pn**	**21 04 55.9**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,12nm,0.7s						
CHTO	**Chiang Mai**	**14.42**	**192**	*e*P	**Pn**	**21 04 55.9**	**+0.7**
	comp=Z,12nm,0.7s						
GUN	**Gumba**	**14.96**	**255**	*e*P	**Pn**	**21 05 03.8**	**+1.2**
	comp=Z,24nm,0.9s						
SONM	**Songino Array**	**15.16**	**11**	Pn	**Pn**	**21 05 03.4**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=188,slow=12,SNR=21						
SONM				Lg		21 09 35.0	
	baz=194,slow=30,SNR=2.6						
ULN	**Ulaanbaatar**	**15.30**	**12**	*e*P	**Pn**	**21 05 06.0**	**-1.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ULN	**Ulaanbaatar**	**15.30**	**12**	*e*P	**Pn**	**21 05 06.0**	**-1.1**
	comp=Z,3.8nm,0.6s						
PKI	**Pulchoki**	**15.48**	**254**	*e*P	**Pn**	**21 05 09.3**	**-0.1**
	comp=Z,24nm,0.8s						
PKI	**Pulchoki**	**15.48**	**254**	*e*P	**Pn**	**21 05 09.3**	**-0.1**
PKI				pmax	pmax		
	comp=Z,24nm,0.8s						
KKN	**Kakani**	**15.49**	**255**	*e*P	**Pn**	**21 05 09.4**	**-0.2**
	comp=Z,26nm,0.8s						
KKN	**Kakani**	**15.49**	**255**	*e*P	**Pn**	**21 05 09.4**	**-0.2**
KKN				pmax	pmax		
	comp=Z,26nm,0.8s						
WMQ	**Urumqi**	**15.67**	**318**	*e*P	**Pn**	**21 05 12.5**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
DMN	**Daman**	**15.71**	**255**	*e*P	**Pn**	**21 05 12.0**	**-0.4**
	comp=Z,36nm,0.8s						
GKN	**Gorkha**	**15.93**	**256**	*e*P	**Pn**	**21 05 13.4**	**-2.0**
KOLN	**Koldanda**	**16.87**	**257**	*e*P	**Pn**	**21 05 22.6**	**-4.7**
	comp=Z,63nm,1.0s						
ZAK	**Zakamensk**	**17.40**	**2**	*e*P	**Pn**	**21 05 32.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MK31	**Makanchi Array**	**20.50**	**318**	*e*P	**P**	**21 06 09.7**	**+0.6**
MKAR	**Makanchi Array**	**20.50**	**318**	P	**P**	**21 06 08.8**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=118,slow=11,SNR=13						
HIA	**Hailar**	**20.87**	**34**	*e*P	**P**	**21 06 13.5**	**+0.4**
HIA				pmax	pmax		
	comp=Z,17nm,0.9s						
HIA	**Hailar**	**20.87**	**34**	*e*P	**P**	**21 06 13.5**	**+0.4**
	comp=Z,17nm,0.9s						
CN2	**Changchun**	**21.11**	**53**	*e*P	**P**	**21 06 15.8**	**+0.1**
CN2				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.2						
KSRS	**Korea Array**	**21.45**	**71**	P	**P**	**21

comp=Z,298nm,19.6s,MS3.8,baz=235,slow=36
KURK Kurchatov 24.77 323 *e*P **P 21 06 52.5 -0.3**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
KURK Kurchatov 24.77 323 *e*P **P 21 06 52.5 -0.3**
comp=Z,4.3nm,0.9s,mb4.0
NVS Novosibirsk 25.60 334 *e*P **P 21 07 03.2 +2.9**
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,5.0nm,1.1s
NVS pmax pmax
comp=Z,6.0nm,1.1s,mb4.0
BOD Bodaibo 26.10 14 *e*P **P 21 07 04.3 -0.5**
BOD pmax pmax
comp=Z,3.0nm,1.4s,mb3.6
KLR Kul'dur 27.31 45 *e*P **P 21 07 13.8 -1.9**
KBL Kabul 27.55 282 *e*P **P 21 07 18.6 +0.8**
MJAR Matsushiro Arr 29.68 73 P **P 21 07 37.2 +0.4**
comp=Z,0.5nm,0.3s,mb3.7,baz=282,slow=11,SNR=4.1
MJAR Matsushiro Arr 29.68 73 P **P 21 07 37.2 +0.4**
BVAR Borovoye Array 30.31 321 LR LR 21 19 14.5
comp=Z,514nm,18.0s,MS4.2,baz=319,slow=35
AKTK Aktyubinsk 36.68 312 P **P 21 08 38.2 +0.4**
AKTO Aktyubinsk 36.68 312 P **P 21 08 38.2 +0.4**
comp=Z,1.4nm,0.6s,mb4.0,baz=94,slow=8.6,SNR=5.3
ARU Arti 37.96 321 *e*P **P 21 08 48.0 -0.7**
ARU Arti 37.96 321 *e*P **P 21 08 47.9 -0.7**
comp=Z,4.3nm,0.6s,mb4.4
TIXI Tiksi 41.24 12 *e*P **P 21 09 13.2 -2.8**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
TIXI MLR MLR
comp=Z,320nm,14.0s,MS4.3
AKASG Malin Array Be 54.92 312 P **P 21 11 00.7 -1.1**
comp=Z,0.8nm,0.4s,mb4.1,baz=65,slow=7.2,SNR=5.0
FINES FINESS Array B 55.10 325 P **P 21 11 01.9 -1.2**
comp=Z,4.1nm,1.0s,mb4.4,baz=91,slow=8.0,SNR=6.8
FINES FINESS Array B 55.10 325 P **P 21 11 01.9 -1.2**
WRA Warramunga Arr 60.94 145 P **P 21 11 42.9 -1.0**
comp=Z,1.0nm,0.7s,mb4.0,baz=339,slow=7.1,SNR=5.0
HFS Hagfors 61.31 325 P **P 21 11 44.8 -1.7**
comp=Z,1.5nm,0.6s,mb4.3,baz=94,slow=8.2,SNR=6.4
NOA NORSAR Array B 62.20 327 P **P 21 11 51.4 -1.1**
comp=Z,0.8nm,0.6s,mb4.0,baz=73,slow=6.8,SNR=4.1
ASAR Alice Springs 63.94 148 P **P 21 12 04.4 +0.4**
comp=Z,0.7nm,0.8s,mb3.8,baz=332,slow=6.2,SNR=7.0
ASAR Alice Springs 63.94 148 P **P 21 12 04.4 +0.4**
GERES GERESS Array B 65.08 313 P **P 21 12 09.8 -1.8**
comp=Z,0.4nm,0.6s,mb3.6,baz=64,slow=15,SNR=3.6
COLA College 68.43 26 *e*P **P 21 12 34.2 +1.3**
KMBO Kilima Mbogo 69.81 255 P **P 21 12 43.4 +2.0**
comp=Z,0.5nm,0.4s,mb3.8,baz=221,slow=24,SNR=4.2
LPG La Plagne 70.79 312 *e*P **P 21 12 47.6 +0.2**
comp=Z,8.2nm,0.9s,mb4.4
LPL La Plagne 70.79 312 *e*P **P 21 12 47.7 +0.3**
comp=Z,16nm,1.1s,mb4.6
INK Inuvik 70.91 19 P **P 21 12 48.3 +0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=341,slow=7.6,SNR=11
AVF Avril sur Loir 72.25 315 *e*P **P 21 12 56.0 -0.2**
YKA Yellowknife Ar 80.36 16 P **P 21 13 40.9 -1.3**
comp=Z,0.4nm,0.8s,mb3.4,baz=331,slow=5.3,SNR=7.6
YKA Yellowknife Ar 80.36 16 P **P 21 13 40.9 -1.3**
ESDC Sonseca Array 80.56 311 P **P 21 13 43.8 +0.5**
comp=Z,0.3nm,0.7s,mb3.4,baz=132,slow=38,SNR=3.8
ESDC Sonseca Array 80.56 311 P **P 21 13 43.8 +0.5**
TORD Torodi Ar. Bea 91.54 287 P **P 21 14 38.8 +1.1**
comp=Z,0.5nm,1.1s,mb3.8,baz=31,slow=1.5,SNR=3.0

NEIC ***25*** *21:08:31.8±0.6, 47.28N×152.71E, h10km, mb4.3/1, Error ellipse: s-maj=15.5km s-min=9.0km az=147.0*
JMA ***25*** *21:08:33.7±0.5, 46.27N×153.78E, h30km, M4.3*
ISCJB ***25*** *21:08:36.0±0.9, 46.96N±0.009×152.7E±0.1, h68km±9km, mb3.9/22, Error ellipse: s-maj=18.3km s-min=6.6km az=96.5*
IDC ***25*** *21:08:37.2±0.7, 47.12N×152.71E, h58km±6km, mb3.7/18, mb1 3.9/19, mb1mx3.8/27, mbtmp3.7/19, Error ellipse: s-maj=21.5km s-min=13.8km az=153.0*
MOS ***25*** *21:08:38.0±1.1, 47.13N×152.81E, h83km, mb4.4/3, Error ellipse: s-maj=15.5km s-min=8.8km az=81.6*

ISC 25 21:08:38.6±0.8, 4702N±008×1527E±01, h77km±7km, h60km±1.1km: pP-P, n66, σ1°09/74, mb3.9/22, 5C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.77**	**244**	*e*PN	**Pn**	**21 09 37.5**	**+3.1**
KUR				*e*S	**Sn**	**21 10 25.0**	**+7.4**
KUR				pmax	pmax		
	comp=Z,150nm,0.8s						
KUR				smax			
	comp=N,290nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
SKR	**Severo-Kuril's**	**4.32**	**31**	*e*PN	**Pn**	**21 09 38.0**	**-3.9**
SKR				*e*S	**Sn**	**21 10 25.5**	**-5.5**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,170nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
NEM2	**Nemuro 2**	**6.09**	**236**	P	**Pn**	**21 10 05.1**	**-0.9**
NEM2				*e*S	**Sn**	**21 11 12.0**	**-2.3**
JRA	**Rausu**	**6.12**	**243**	P	**Pn**	**21 10 08.2**	**+1.8**
JNK	**Nakash**	**6.56**	**241**	P	**Pn**	**21 10 13.5**	**+1.1**
JNK				*e*S	**Sn**	**21 11 28.1**	**+2.4**
JTKR	**Abashiri--Toko**	**6.86**	**247**	P	**Pn**	**21 10 21.8**	**+5.4**
JAK	**Akkeshi**	**6.92**	**237**	P	**Pn**	**21 10 16.5**	**-0.8**
JAK				*e*S	**Sn**	**21 11 32.7**	**-1.9**
PET	**Petropavlovsk**	**7.15**	**31**	*e*PN	**Pn**	**21 10 20.6**	**+0.2**
PET				pmax	pmax		
	comp=Z,19nm,0.5s						
PET				MLR	MLR		
	comp=Z,600nm,16.0s						
JAR	**Ashorobuto**	**7.29**	**243**	P	**Pn**	**21 10 23.9**	**+1.5**
JOB	**Onbets**	**7.48**	**240**	P	**Pn**	**21 10 24.8**	**-0.2**
JOB				*e*S	**Sn**	**21 11 47.9**	**-0.4**
ASAJ	**Asahikawa**	**7.63**	**251**	P	**Pn**	**21 10 31.1**	**+4.1**
	comp=Z,0.8nm,0.3s,baz=63,slow=14,SNR=8.1						
ASAJ	**Asahikawa**	**7.63**	**251**	P	**Pn**	**21 10 34.2**	**+7.2**
ASAJ	**Asahikawa**	**7.63**	**251**	PN	**Pn**	**21 10 31.1**	**+4.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.93**	**240**	P	**Pn**	**21 10 30.9**	**-0.2**
JCH				*e*S	**Sn**	**21 11 57.0**	**-2.3**
ERM	**Erimo**	**8.42**	**237**	*e*PN	**Pn**	**21 10 45.1**	**+7.3**
JEM	**Erimo**	**8.42**	**237**	P	**Pn**	**21 10 38.2**	**+0.4**
JBT2	**Biratori 2**	**8.44**	**244**	P	**Pn**	**21 10 39.6**	**+1.5**
JNBK	**Urakawa-nobuka**	**8.49**	**240**	P	**Pn**	**21 10 38.1**	**-0.7**
JNBK				*e*S	**Sn**	**21 12 10.0**	**-3.0**
JKB	**Kayabe**	**9.76**	**243**	P	**Pn**	**21 10 54.6**	**-1.4**
JANG	**Nango**	**10.44**	**235**	P	**Pn**	**21 11 02.1**	**-3.2**
JANG				*e*S	**Sn**	**21 12 52.0**	**-8.5**
JTH	**Tanohata**	**10.55**	**232**	*e*S	**Sn**	**21 12 53.8**	**-9.5**
MA2	**Magadan**	**12.63**	**356**	*e*PN	**Pn**	**21 11 35.0**	**-0.2**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MA2				pmax	pmax		
	comp=N,6.0nm,0.4s						
MJAR	**Matsushiro Arr**	**14.99**	**231**	P	**Pn**	**21 12 08.5**	**+2.3**
	comp=N,0.3nm,0.3s,baz=37,slow=9.3,SNR=7.8						
YAK	**Yakutsk**	**19.92**	**327**	*e*P	**Pn**	**21 13 07.0**	**+0.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSRS	**Korea Array**	**20.58**	**251**	P	**P**	**21 13 13.9**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=58,slow=9.3,SNR=3.2						
BILL	**Bilibino**	**22.20**	**14**	⇑*e*P	**P**	**21 13 30.0**	**+1.5**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.5						
BILL				MLR	MLR		
	comp=Z,300nm,15.0s						
SONM	**Songino Array**	**30.95**	**289**	P	**P**	**21 14 48.7**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.1,baz=64,slow=8.9,SNR=3.0						
IMA2	**Indian Mountai**	**33.78**	**36**	*e*P	**P**	**21 15 12.2**	**-0.8**
COLA	**College**	**36.13**	**39**	*e*P	**P**	**21 15 32.4**	**-0.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
COLA	**College**	**36.13**	**39**	*e*P	**P**	**21 15 32.4**	**-0.7**
	comp=Z,4.1nm,0.8s,mb4.4						
INK	**Inuvik**	**41.60**	**33**	P	**P**	**21 16 18.6**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.2,baz=278,slow=6.8,SNR=15						
INK	**Inuvik**	**41.60**	**33**	P	**P**	**21 16 18.6**	**-0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**41.60**	**33**	*e*P	**P**	**21 16 18.2**	**-0.6**
ZAL	**Zalesovo**	**42.21**	**305**	PcP	PcP	21 18 17.0	+0.4
	comp=Z,1.1nm,0.8s,baz=90,slow=2.3,SNR=7.6						
MKAR	**Makanchi Array**	**46.54**	**297**	P	**P**	**21 16 58.8**	**+0.4**
	comp=Z,0.5nm,0.8s,mb3.3,baz=74,slow=7.3,SNR=3.7						
MKAR				PcP	PcP	21 18 31.6	+0.1
	comp=Z,1.1nm,0.8s,baz=68,slow=5.0,SNR=6.6						
KURK	**Kurchatov**	**46.95**	**303**	*e*P	**P**	**21 17 00.9**	**-0.7**
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**21 17 28.0**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=43,slow=8.7,SNR=2.6						
BVAR				PcP	PcP	21 18 45.9	+0.3
	comp=Z,1.4nm,0.7s,baz=48,slow=2.2,SNR=7.1						
RES	**Resolute Bay**	**50.68**	**19**	*e*P	**P**	**21 17 29.1**	**-1.1**
YKA	**Yellowknife Ar**	**50.90**	**37**	P	**P**	**21 17 31.2**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=298,slow=7.2,SNR=14						
YKA				pP	pP	21 17 46.2	-4.8
	comp=Z,1.4nm,0.8s,baz=295,slow=7.0,SNR=8.8						
YKA				PcP	PcP	21 18 46.6	-0.6
	comp=Z,0.5nm,0.7s,baz=299,slow=3.7,SNR=5.6						
YKA	**Yellowknife Ar**	**50.90**	**37**	P	**P**	**21 17 31.2**	**-0.6**
YKA				pP	pP	21 17 46.2	-4.8
YKA				PcP	PcP	21 18 46.6	-0.6
JOF	**Joensuu**	**60.95**	**333**	*e*p	**P**	**21 18 39.8**	**-3.8**
	comp=Z,12nm,1.0s,mb4.9						
NVAR	**Mina Array Bea**	**62.59**	**62**	P	**P**	**21 18 54.9**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=290,slow=7.5,SNR=8.5						
NVAR				pP	pP	21 19 11.2	-3.2
	comp=Z,0.5nm,0.7s,baz=298,slow=8.2,SNR=2.9						
KAF	**Kangasniemi**	**63.07**	**335**	*e*p	**P**	**21 18 57.4**	**-0.3**
FINES	**FINESS Array B**	**63.66**	**334**	P	**P**	**21 19 01.1**	**-0.5**
	comp=Z,1.4nm,0.3s,mb4.2,baz=34,slow=7.5,SNR=22						
PDAR	**Pinedale Array**	**64.85**	**54**	P	**P**	**21 19 09.3**	**0.0**
	comp=Z,1.6nm,0.8s,mb3.9,baz=295,slow=1.8,SNR=9.6						
PDAR				pP	pP	21 19 25.5	-3.9
	comp=Z,0.5nm,0.7s,baz=262,slow=1.8,SNR=2.7						
NB2	**NORSAR Subarra**	**67.87**	**341**	P	**P**	**21 19 28.1**	**-0.6**
	comp=Z,1.2nm,0.6s,mb3.9,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.87**	**341**	P	**P**	**21 19 28.1**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.2,baz=27,slow=6.4,SNR=8.9						
HFS	**Hagfors**	**68.09**	**339**	P	**P**	**21 19 29.7**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.5,baz=53,slow=6.1,SNR=26						
AKASG	**Malin Array Be**	**71.15**	**326**	P	**P**	**21 19 48.5**	**-0.4**
	comp=Z,2.4nm,0.4s,mb4.3,baz=34,slow=6.3,SNR=16						
ASAR	**Alice Springs**	**72.36**	**198**	P	**P**	**21 19 57.3**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.5,baz=14,slow=5.5,SNR=5.5						
ASAR				pP	pP	21 20 12.8	-3.7
	comp=Z,0.6nm,0.6s,baz=12,slow=6.1,SNR=5.3						
BURAR	**Bucovina Array**	**75.19**	**326**	⇓*i*P	**P**	**21 20 13.0**	**+0.3**
EKA	**Eskdalemuir Ar**	**76.00**	**346**	P	**P**	**21 20 17.0**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=17,slow=4.7,SNR=3.7						
MORC	**Moravsky Berou**	**76.05**	**332**	⇑*i*P	**P**	**21 20 18.1**	**+0.5**
CLL	**Collm**	**76.09**	**335**	*i*P	**P**	**21 20 17.6**	**-0.2**
MLR	**Muntele Rosu**	**76.66**	**325**	P	**P**	**21 20 22.1**	**+1.0**
	comp=Z,3.1nm,0.6s,mb4.2,baz=201,slow=8.8,SNR=4.2						
MLR	**Muntele Rosu**	**76.66**	**325**	⇑*i*P	**P**	**21 20 22.4**	**+1.3**
VRAC	**Vranov**	**76.77**	**332**	P	**P**	**21 20 22.2**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.0,baz=49,slow=5.8,SNR=5.7						
VRAC	**Vranov**	**76.77**	**332**	⇑*i*P	**P**	**21 20 22.1**	**+0.4**
KHC	**Kasperske Hory**	**77.86**	**334**	*e*P	**P**	**21 20 27.5**	**-0.3**
BRTR	**Keskin Array B**	**77.98**	**316**	P	**P**	**21 20 28.7**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.5,baz=40,slow=6.4,SNR=3.9						
GERES	**GERESS Array B**	**78.08**	**334**	P	**P**	**21 20 28.8**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=40,slow=5.2,SNR=9.3						
CDF	**Champ du Feu**	**80.29**	**337**	⇑*i*P	**P**	**21 20 40.9**	**-0.1**
	comp=Z,4.8nm,0.8s,mb4.1						
GRR	**Gorron**	**82.22**	**343**	*e*P	**P**	**21 20 50.9**	**-0.3**
SMF	**Signal de Mont**	**82.80**	**339**	*e*P	**P**	**21 20 54.4**	**+0.1**
	comp=Z,20nm,1.2s,mb4.5						
LPG	**La Plagne**	**83.11**	**337**	*e*P	**P**	**21 20 56.9**	**+1.0**
CAF	**Calviac**	**84.84**	**339**	*e*P	**P**	**21 21 03.9**	**-0.8**

MAN 25 21:18:34.4, 1451N×12431E, h70km, mb2.7, ML4.2, MS5.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.90**	**252**	⇑*e*P	Pn	21 19 05.6	+0.9
GQP				*e*S	Sn	21 19 29.7	+2.0
CNP	**Catarman**	**2.02**	**170**	*e*P	Pn	21 19 07.3	+1.1
POLP	**Polilio Island**	**2.30**	**276**	*e*P	Pn	21 19 11.5	+1.4
POLP				*e*S	Sn	21 19 41.9	+4.5
BOAC	**Boac**	**2.61**	**247**	*e*P	Pn	21 19 14.6	+0.4
BOAC				*e*S	Sn	21 19 46.7	+1.9
BALP	**Baler**	**2.91**	**295**	*e*P	Pn	21 19 17.4	-0.9
CAUP	**Cauayan**	**3.40**	**316**	*e*P	Pn	21 19 26.0	+1.0

IDC ***25*** *21:33:39.0±1.4, 1309N×124.61E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=156.6km s-min=20.0km az=69.0*
MAN ***25*** *21:33:42.5, 1339N×124.92E, h28km, mb3.3, ML4.5, MS2.5*
ISCJB ***25*** *21:33:43.2±1.5, 1336N±007×1250E±0.1, h49km±15km, mb3.6/4, Error ellipse: s-maj=22.5km s-min=7.0km az=122.2*

ISC 25 21:33:42.4±2.1, 1337N±006×12504E±009, h20km±14km, n24, σ1°07/28, mb3.6/4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.93**	**203**	*e*P	**Pb**	**21 33 59.1**	**-0.7**
CNP				*e*S	**Sb**	**21 34 11.7**	**0.0**
CNP	**Catarman**	**0.93**	**203**	*e*P	**Pb**	**21 33 59.1**	**-0.7**
CNP				*e*S	**Sb**	**21 34 11.4**	**-0.2**
PLP	**Palo**	**2.19**	**182**	*e*P	**Pn**	**21 34 18.4**	**+0.7**
PLP				*e*S	**Sn**	**21 34 44.0**	**-0.1**
OCLP	**Ormoc**	**2.34**	**190**	*e*P	**Pn**	**21 34 21.6**	**+1.9**
OCLP	**Ormoc**	**2.34**	**190**	*e*P	**Pn**	**21 34 21.8**	**+2.1**
GQP	**Guinayangan**	**2.58**	**282**	⇓*e*P	**Pn**	**21 34 21.7**	**-1.2**
GQP				*e*S	**Sn**	**21 34 54.3**	**+0.7**
RCP	**Roxas**	**2.87**	**232**	⇑*e*P	**Pn**	**21 34 26.9**	**-0.1**
OTRP	**Odiongan**	**3.11**	**252**	*e*P	**Pn**	**21 34 29.5**	**-0.8**
OTRP	**Odiongan**	**3.11**	**252**	*e*P	**Pn**	**21 34 28.9**	**-1.3**
BOAC	**Boac**	**3.11**	**272**	*e*P	**Pn**	**21 34 28.4**	**-1.9**
BOAC	**Boac**	**3.11**	**272**	*e*P	**Pn**	**21 34 28.4**	**-1.8**
MSLP	**Maasin**	**3.22**	**183**	*e*P	**Pn**	**21 34 33.5**	**+1.7**
MSLP	**Maasin**	**3.22**	**183**	*e*P	**Pn**	**21 34 33.0**	**+1.2**
POLP	**Polilio Island**	**3.30**	**295**	*e*P	**Pn**	**21 34 34.3**	**+1.4**
POLP	**Polilio Island**	**3.30**	**295**	*e*P	**Pn**	**21 34 34.3**	**+1.5**
GUIM	**Jordan**	**3.63**	**222**	*e*P	**Pn**	**21 34 37.9**	**+0.5**
GUIM	**Jordan**	**3.63**	**222**	*e*P	**Pn**	**21 34 37.9**	**+0.4**
BALP	**Baler**	**4.10**	**306**	*e*P	**Pn**	**21 34 45.2**	**+1.3**
CAUP	**Cauayan**	**4.72**	**319**	*e*P	**Pn**	**21 34 51.0**	**-1.5**
CAUP	**Cauayan**	**4.72**	**319**	*e*P	**Pn**	**21 34 52.9**	**+0.4**
WRA	**Warramunga Arr**	**34.34**	**164**	P	**P**	**21 40 26.5**	**-1.2**
	0.2nm,0.4s,mb3.4,baz=342,slow=9.1,SNR=5.6						
SONM	**Songino Array**	**37.71**	**339**	P	**P**	**21 40 56.9**	**+0.4**
	0.8nm,0.6s,mb3.6,baz=155,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**37.81**	**167**	P	**P**	**21 40 55.9**	**-1.5**
	0.4nm,0.3s,mb3.6,baz=343,slow=7.0,SNR=17						
ASAR				PcP	PcP	21 43 13.0	-0.7
	0.2nm,0.5s,baz=340,slow=3.1,SNR=4.4						
MKAR	**Makanchi Array**	**48.85**	**322**	P	**P**	**21 42 26.4**	**0.0**
	0.8nm,0.5s,mb4.0,baz=114,slow=9.6,SNR=7.9						

ISCJB ***25*** *21:45:26.1±0.5, 4302N±006×028W±003, h10km, Error ellipse: s-maj=8.6km s-min=3.1km az=14.4*
MDD ***25*** *21:45:26.7±0.5, 4303N×028W, h10km±6km, mbLg0.4/2, Error ellipse: s-maj=4.1km s-min=1.8km az=7.0, PRXIMO*
CSEM ***25*** *21:45:26.4±0.1, 4303N×028W, h10km, ML2.2, Error ellipse: s-maj=3.0km s-min=0.9km az=177.0*
STR ***25*** *21:45:26.5±0.1, 4304N×028W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***25*** *21:45:26.2±0.1, 4303N×028W, h10km, Md1.7/2, Error ellipse: s-maj=3.3km s-min=1.0km az=178.0*

ISC 25 21:45:26.1±1.1, 4303N±007×028W±003, h14km±9km, n17, σ0°21/27, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.09**	**297**	P	**Pg**	**21 45 29.0**	**-0.1**
REYF				S	**Sg**	**21 45 31.3**	**+0.1**
ETSF	**Etsaut**	**0.24**	**238**	*e*Pg	**Pg**	**21 45 31.6**	**+0.3**
ETSF				*e*Sg	**Sg**	**21 45 34.4**	**-0.4**
	5.8nm,0.2s						
ETSF	**Etsaut**	**0.24**	**238**	*e*Pg	**Pg**	**21 45 31.6**	**+0.3**
ETSF				*e*Sg	**Sg**	**21 45 34.4**	**-0.4**
	2.9nm,0.2s						
LABF	**Labassere**	**0.26**	**86**	Pg	**Pg**	**21 45 31.4**	**-0.2**
LABF				Sg	**Sg**	**21 45 35.3**	**-0.1**
LABF	**Labassere**	**0.26**	**86**	P	**Pg**	**21 45 31.6**	**-0.1**
LABF				S	**Sg**	**21 45 35.4**	**0.0**
LABF	**Labassere**	**0.26**	**86**	Pg	**Pg**	**21 45 31.5**	**-0.1**
LABF				Sg	**Sg**	**21 45 35.3**	**-0.1**
VIEF	**Viey**	**0.27**	**123**	Sg	**Sg**	**21 45 35.6**	**0.0**
VIEF	**Viey**	**0.27**	**123**	P	**Pg**	**21 45 31.8**	**0.0**
VIEF				S	**Sg**	**21 45 35.7**	**+0.1**
ATE	**Arette**	**0.31**	**281**	Pg	**Pg**	**21 45 32.5**	**0.0**
ATE				Sg	**Sg**	**21 45 37.2**	**+0.3**
ATE	**Arette**	**0.31**	**281**	P	**Pg**	**21 45 32.5**	**0.0**
ATE				S	**Sg**	**21 45 37.2**	**+0.4**
EPF	**Esparros**	**0.46**	**89**	*e*Pg	**Pg**	**21 45 35.0**	**-0.1**
EPF				*e*Sg	**Sg**	**21 45 41.4**	**+0.1**
	2.1nm,0.2s						
EPF	**Esparros**	**0.46**	**89**	*e*Pg	**Pg**	**21 45 35.0**	**-0.1**
EPF				*e*Sg	**Sg**	**21 45 41.4**	**+0.1**
	1.0nm,0.2s						
EBIE	**Bielsa**	**0.46**	**137**	Pg	**Pg**	**21 45 35.5**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		21 45 41.8	
	0.7nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.70**	**277**	*e*Sg	**Sg**	**21 45 48.9**	**+0.1**
	0.7nm,0.2s						
SJPF	**Ste Jean**	**0.70**	**277**	*e*Sg	**Sg**	**21 45 48.9**	**+0.1**
	0.3nm,0.2s						
EALK	**Alkurruntz**	**0.92**	**282**	Pg	**Pg**	**21 45 43.5**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		21 45 56.3	
	0.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.31**	**186**	Lg		21 46 10.7	
	0.9nm,0.1s,SNR=7.9						

ISCJB ***25*** *22:21:55.2±0.7, 3789N±004×138.16E±004, h19km±12km, Error ellipse: s-maj=6.8km s-min=4.9km az=154.9*
JMA ***25*** *22:21:55.2, 37.87N×138.15E, h14km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs=76.0000°, δ36.0000°, λ.105.0000°. NP2: φs=239.0000°, δ55.0000°, λ.80.0000°. Principal axes: T Plg77.0000°, Azm114.0000°; N Plg9.0000°, Azm244.0000°; P Plg10.0000°, Azm336.0000°;*
JMA Felt II J1.

ISC 25 22:21:55.0±0.6, 3789N±004×13816E±004, h18km±5km, n9, σ0°54/18, 5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**0.17**	**28**	⇓P	**Pg**	**22 21 59.5**	**0.0**
JSD				S	**Sg**	**22 22 02.3**	**-0.3**
JIZZ	**Izumozaki**	**0.56**	**129**	⇓P	**Pg**	**22 22 06.2**	**0.0**
JIZZ				S	**Sg**	**22 22 14.7**	**+0.9**
JSZ	**Suzu**	**0.77**	**236**	⇓P	**Pb**	**22 22 09.4**	**-0.4**
JSZ				S	**Sb**	**22 22 20.0**	**+0.1**
JJN	**Nakama**	**0.78**	**180**	⇓P	**Pb**	**22 22 10.0**	**-0.1**
JJN				S	**Sb**	**22 22 21.4**	**+1.1**
JNS	**Sasagawa**	**0.92**	**94**	P	**Pb**	**22 22 12.0**	**-0.3**
JNS				S	**Sb**	**22 22 24.2**	**0.0**
JHK	**Hiroka**	**0.93**	**133**	⇓P	**Pb**	**22 22 11.7**	**-0.9**
JHK				S	**Sb**	**22 22 24.0**	**-0.6**
JHG	**Hegura jima**	**0.98**	**268**	P	**Pb**	**22 22 13.2**	**-0.3**
JHG				S	**Sb**	**22 22 26.8**	**+0.7**
JAW	**Awa shima**	**1.03**	**56**	P	**Pb**	**22 22 14.2**	**0.0**
JAW				S	**Sb**	**22 22 28.3**	**+0.9**
MAT	**Matsushiro**	**1.34**	**178**	P	**Pn**	**22 22 18.4**	**-0.4**
MAT				S	**Sn**	**22 22 35.8**	**-0.3**

ISCJB ***25*** *22:48:41.1±0.3, 3504S±003×7182W±005, h71km±3km, mb3.9/9, Error ellipse: s-maj=7.1km s-min=3.3km az=49.3*
IDC ***25*** *22:48:42.1±3.0, 3493S×7194W, h68km±24km, mb3.7/7, mb1 3.8/9, mb1mx3.7/15, mbtmp3.6/9, MS3.1/1, Ms1 3.1/1, ms1mx2.8/17, Error ellipse: s-maj=36.3km s-min=14.3km az=103.0*
NEIC ***25*** *22:48:42.1, 3503S×7176W, h58km, mb4.2/7, MD4.6(GUC), After GUC.*
GUC ***25*** *22:48:42.1±1.3, 3503S×7176W, h58km±7km, MD4.6, ML4.6*

ISC 25 22:48:41.9±0.3, 3502S±002×7186W±005, h64km±3km, n55, σ0°80/77, mb4.0/9, 8C-9D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.43**	**154**	*e*P	**Pn**	**22 48 53.0**	**-0.4**
TALC				*i*S	**Sn**	**22 49 01.0**	**-0.9**
TALC				AML	AML	22 49 01.6	
	comp=E,148μm,0.3s						
NICH	**Los Niches**	**0.52**	**89**	⇓*i*P	**Pn**	**22 48 53.9**	**-0.5**
NICH				*i*S	**Sn**	**22 49 01.9**	**-1.6**
CTCH	**Constitucion**	**0.55**	**235**	⇑*i*P	**Pn**	**22 48 55.6**	**+0.9**
CTCH				*i*S	**Sn**	**22 49

comp=N,168nm,18.2s,baz=16,slow=37
PLCA Paso Flores 5.80 170 P **Pn 22 50 06.5 +1.2**
PLCA LR LR 22 52 21.8
LCO Las Campanas 6.07 10 *e*Pn **Pn 22 50 08.1 -0.9**
comp=N,34nm,0.4s
LCO *e*Sn **Sn 22 51 14.4 -2.6**
TRQA Tornquist 8.52 114 *e*Pn **Pn 22 50 42.9 +0.5**
comp=N,15nm,0.6s
TRQA *e*Sn **Sn 22 52 17.8 +0.7**
LPAZ La Paz 18.95 11 P **Pn 22 52 58.3 -0.7**
comp=N,0.1nm,0.3s,baz=148,slow=9.5,SNR=3.2
LPAZ La Paz 18.95 11 *e*P **Pn 22 52 58.8 -0.2**
comp=N,4.8nm,0.8s
EFI East Falkland 19.39 153 *e*P **Pn 22 52 59.2 -5.1**
comp=N,87nm,1.3s
USHA Ushuaia 19.96 174 P **Pn 22 53 10.1 -0.9**
comp=N,9.1nm,0.8s,baz=351,slow=8.7,SNR=3.8
SIV San Ignacio 21.27 30 P **P 22 53 22.6 -0.3**
comp=N,1.2nm,0.5s,mb3.5,baz=227,slow=11,SNR=10
NNA Nana 23.37 348 *e*P **P 22 53 46.1 +1.4**
comp=N,14nm,1.0s,mb4.3
OTAV Otavalo 35.61 349 *e*P **P 22 55 33.5 +0.2**
comp=N,0.6nm,0.4s,mb3.9
SDV Santo Domingo 43.68 2 *e*P **P 22 56 40.1 -0.2**
comp=N,1.6nm,0.8s,mb3.8
VNA3 Neumayer Olymp 48.37 157 *e* **P 22 57 15.2 -2.1**
VNA3 *e* 22 57 23.8
VNA2 Neumayer--Watz 49.02 157 *e* **P 22 57 22.4 +0.1**
baz=277,slow=8.0
VNA2 *e* 22 57 25.5
VNA2 *e* 22 57 32.2
VNA2 *e* 22 57 44.1
SNAA Sanae 50.59 158 P **P 22 57 33.9 -0.3**
comp=N,0.6nm,0.6s,mb3.7,baz=328,slow=7.7,SNR=9.6
SNAA Sanae 50.59 158 *e* **P 22 57 34.8 +0.6**
SNAA Sanae 50.59 158 *e*P **P 22 57 34.5 +0.3**
comp=N,2.1nm,0.8s,mb4.1
MAW Mawson 72.17 163 P **P 23 00 00.1 +0.3**
comp=N,5.3nm,0.6s,mb4.7,baz=186,slow=9.2,SNR=3.2
MAW Mawson 72.17 163 *e*P **P 23 00 00.3 +0.4**
comp=N,6.7nm,0.7s,mb4.7
BOSA Boshof 79.47 117 P **P 23 00 41.9 +0.4**
comp=N,1.8nm,0.6s,mb4.2,baz=276,slow=4.8,SNR=9.0
TORD Torodi Ar. Bea 84.42 70 P **P 23 01 08.0 +0.6**
comp=N,0.9nm,0.6s,mb4.1,baz=252,slow=4.3,SNR=15
TORD pP pP 23 01 23.9 -1.3
comp=N,1.2nm,0.6s,baz=282,slow=3.7,SNR=8.7
TORD Torodi Ar. Bea 84.42 70 P **P 23 01 08.0 +0.6**
TORD pP pP 23 01 23.9 -1.3
PDAR Pinedale Array 84.73 333 P **P 23 01 07.8 -1.2**
comp=N,0.4nm,0.6s,mb3.7,baz=134,slow=7.4,SNR=4.4
PDAR pP pP 23 01 26.6 0.0
comp=N,0.3nm,0.7s,baz=158,slow=6.2,SNR=4.0
WRA Warramunga Arr 119.95 209 PKP PKPdf 23 07 25.1 0.0
comp=N,0.7nm,0.6s,baz=172,slow=1.8,SNR=4.7

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*STR **25** 22:52:54.2±0.1, 43.05N×009W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **25** 22:52:54.2±0.1, 43.01N×017E, h10km, Md1.8/2, Ml1.4/2, Error ellipse: s-maj=2.1km s-min=0.8km az=167.0*
MDD 25 22:52:54.6±0.7, 43.01N×017E, h9km±6km, mbLg1.0/3, Error ellipse: s-maj=3.7km s-min=2.6km az=171.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**295**	Pg	Pg	22 52 56.8	0.0
LABF				Sg	Sg	22 52 58.7	+0.3
LABF	**Labassere**	**0.08**	**295**	P	Pg	22 52 56.8	0.0
LABF				S	Sg	22 52 58.7	+0.3
EPF	**Esparros**	**0.12**	**82**	*e*Pg	Pg	22 52 57.2	-0.3
EPF				*e*Sg	Sg	22 52 59.4	0.0
	7.6nm,0.2s						
EPF	**Esparros**	**0.12**	**82**	Pg	Pg	22 52 57.2	-0.3
EPF				Lg		22 52 59.4	
	3.8nm,0.2s						
VIEF	**Viey**	**0.17**	**220**	Pg	Pg	22 52 58.0	-0.2
VIEF				Sg	Sg	22 53 00.7	0.0
VIEF	**Viey**	**0.17**	**220**	P	Pg	22 52 58.0	-0.2
VIEF				S	Sg	22 53 00.8	+0.1
EBIE	**Bielsa**	**0.33**	**184**	Pg	Pg	22 53 00.8	-0.3
	0.4nm,0.0s,SNR=7.9						
EBIE				Lg		22 53 05.4	
	1.9nm,0.1s,SNR=8.9						
ETSF	**Etsaut**	**0.55**	**258**	*e*Pg	Pg	22 53 04.7	-0.6
ETSF				*e*Sg	Sg	22 53 12.1	-0.4
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.55**	**258**	Pg	Pg	22 53 04.7	-0.6
ETSF				Lg		22 53 12.1	
	0.4nm,0.2s						
SJPF	**Ste Jean**	**1.03**	**276**	*e*Sg	Sg	22 53 26.7	-1.1
	1.0nm,0.4s						
SJPF	**Ste Jean**	**1.03**	**276**	Lg		22 53 26.7	
	0.5nm,0.4s						
ESAC	**San Caprasio**	**1.38**	**200**	Pg	Pg	22 53 21.2	+0.2
	0.7nm,0.1s,SNR=7.9						
ESAC				Lg		22 53 40.4	
	1.4nm,0.1s,SNR=4.9						
MTLF	**Montolieu**	**1.53**	**77**	*e*Pg	Pg	22 53 23.0	-1.0
MTLF				*e*Sg	Sg	22 53 42.7	-1.1
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.53**	**77**	Pg	Pg	22 53 23.0	-1.0
MTLF				Lg		22 53 42.7	
	0.4nm,0.3s						

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*ISCJB **25** 22:55:45.8±1.0, 42.10N±006×75.98E±004, h10km, Error ellipse: s-maj=8.7km s-min=4.1km az=144.0*
*NNC **25** 22:55:45.4±0.7, 42.12N×7592E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=5.4km s-min=3.1km az=14.0*
*KNET **25** 22:55:45.4±0.4, 42.17N×7592E, h3km±3km, ml2.4, Error ellipse: s-maj=2.7km s-min=1.8km az=164.0*
ISC 25 22:55:46.0±0.9, 4212N±005×7597E±004, h10km, n12, σ0=97/22, 12C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.24**	**58**	⇑P	**Pg**	**22 55 50.1**	**-0.8**
ULHL	558nm,0.1s,SNR=65			⇓S	**Sg**	**22 55 53.7**	**-0.5**
	649nm,0.2s						
KZA	**Kyzart**	**0.53**	**266**	⇑P	**Pg**	**22 55 55.8**	**-0.5**
KZA	50nm,0.2s,SNR=53			⇑S	**Sg**	**22 56 03.5**	**+0.1**
	136nm,0.2s						
TKM2	**Tokmak 2**	**0.85**	**341**	P	**Pg**	**22 56 01.6**	**-0.7**
TKM2	42nm,0.1s,SNR=40			⇑S	**Sg**	**22 56 13.5**	**+0.2**
	431nm,0.2s						
TKM2	**Tokmak 2**	**0.85**	**341**	⇑P	**Pg**	**22 56 01.6**	**-0.7**
TKM2	0.5nm,0.2s			⇓S	**Sg**	**22 56 13.4**	**+0.1**
	5.5nm,0.3s						
KBK	**Karagaybulak**	**0.93**	**306**	⇓P	**Pg**	**22 56 02.8**	**-1.0**
KBK	37nm,0.1s,SNR=148			⇓S	**Sg**	**22 56 14.6**	**-1.2**
	94nm,0.2s						
UCH	**Uchtor**	**1.08**	**276**	⇓P	**Pb**	**22 56 05.8**	**-1.0**
UCH	7.7nm,0.1s,SNR=8.3			⇑S	**Sg**	**22 56 20.6**	**-0.3**
	23nm,0.1s						
CHMS	**Chumysh**	**1.25**	**315**	⇓P	**Pn**	**22 56 08.9**	**-0.7**
CHMS	15nm,0.1s,SNR=16			⇓S	**Sb**	**22 56 25.7**	**-0.2**
	64nm,0.2s						
KNDC	**Almaty**	**1.32**	**34**	⇑P	**Pn**	**22 56 10.5**	**0.0**
KNDC	13nm,0.2s			⇑S	**Sb**	**22 56 28.8**	**+0.9**
	140nm,0.3s						
USP	**Ospenovka**	**1.57**	**317**	⇓P	**Pn**	**22 56 14.5**	**+0.5**
USP	36nm,0.1s,SNR=126			⇓S	**Sn**	**22 56 36.1**	**+1.7**
	36nm,0.2s						
AML	**Almayashu**	**1.69**	**271**	⇑P	**Pn**	**22 56 16.7**	**+1.1**
	10nm,0.1s,SNR=26						
EKS2	**Erkin-Say**	**1.71**	**289**	⇑P	**Pn**	**22 56 17.3**	**+1.5**
EKS2	15nm,0.3s,SNR=47			⇑S	**Sn**	**22 56 41.2**	**+3.5**
	17nm,0.2s						
KK31	**Karatay Array**	**4.14**	**286**	⇓Pn	**Pn**	**22 56 52.8**	**+3.5**
KK31	1.0nm,0.4s,baz=104,slow=16,SNR=51			⇑Lg		22 57 55.0	
	5.3nm,0.7s,baz=96,slow=28,SNR=8.0						

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*CSEM **25** 22:59:43.5, 67.19N×2066E, h4km, ML3.2, Mining explosion. After UPP*
*UPP **25** 22:59:43.5, 67.19N×2066E, h4km, ML3.2, Mining explosion.*
HEL 25 22:59:44.0±0.0, 6719N×2067E, h0km, ML1.7, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**209**	*i* P	Pg	22 59 45.2	-0.3
DUNU				*i* S	Sg	22 59 46.5	0.0
DUNU	**Dundret**	**0.08**	**209**	P	Pg	22 59 45.2	-0.3
	baz=114						
DUNU				S	Sg	22 59 46.5	0.0
MASU	**Masugnsbyn**	**0.58**	**62**	*i* P	Pg	22 59 54.5	-0.6
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	22 59 57.8	-1.1
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	22 59 59.6	-0.9
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	23 00 00.7	-1.1
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	23 00 01.2	-1.4
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	23 00 01.9	-1.3
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	23 00 01.9	-1.3
	baz=284						
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	23 00 14.6	-0.7
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	Pn	23 00 16.6	0.0
KIF				*e*S	Sn	23 00 40.8	+0.4
KIF				MSG		23 00 43.4	
	comp=Z,4.7nm,0.2s						
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	23 00 18.0	-0.2
SGF	**Sodankyl**	**2.29**	**81**	*e*P	Pn	23 00 23.0	0.0
SGF				*e*S	Sn	23 00 52.1	+0.3
SGF				MSG		23 00 56.7	
	comp=Z,3.2nm,0.2s						
KEV	**Kevo**	**3.48**	**39**	*e*P	Pn	23 00 39.1	-0.2
KEV				*e*S	Sn	23 01 20.7	-0.6
MSF	**Maaselka**	**3.59**	**107**	*e*P	Pn	23 00 41.1	+0.3
MSF				*e*S	Sn	23 01 23.6	-0.3
KU4	**Liikasenvaara**	**3.63**	**99**	*e*SG	Sg	23 01 36.0	-4.5

IDC 25 23:00:34.2±1.2, 2182N×14319E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=57.1km s-min=24.3km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.25**	**320**	P	P	23 08 04.4	0.0
	0.7nm,0.9s,baz=130,slow=7.2,SNR=5.2						
WRA	**Warramunga Arr**	**42.40**	**192**	P	P	23 08 28.9	-1.4
	0.5nm,0.9s,baz=16,slow=8.9,SNR=2.5						
ASAR	**Alice Springs**	**46.11**	**192**	P	P	23 09 01.8	+1.7
	0.5nm,0.6s,baz=19,slow=9.8,SNR=9.5						
YKA	**Yellowknife Ar**	**76.34**	**28**	P	P	23 12 25.0	-0.1
	0.3nm,0.6s,baz=294,slow=5.9,SNR=7.8						

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*ISCJB **25** 23:33:00.9±1.1, 42.10N±006×76.00E±005, h10km, Error ellipse: s-maj=9.5km s-min=4.3km az=142.6*
*KNET **25** 23:33:00.0±0.4, 42.14N×7596E, h14km±2km, ml2.1, Error ellipse: s-maj=2.8km s-min=1.7km az=152.0*
*NNC **25** 23:33:01.0±2.0, 42.14N×7597E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=12.9km s-min=9.6km az=19.0*
ISC 25 23:33:00.9±1.1, 4211N±006×7599E±004, h3km±7km, n10, σ0=69/19, 11C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.23**	**55**	⇑P	**Pg**	**23 33 05.5**	**+0.1**
ULHL	186nm,0.1s,SNR=24			⇑S	**Sg**	**23 33 09.1**	**+0.7**
	252nm,0.2s						
KZA	**Kyzart**	**0.55**	**266**	⇑P	**Pg**	**23 33 11.2**	**-0.2**
KZA	26nm,0.2s,SNR=63			⇓S	**Sg**	**23 33 18.9**	**+0.4**
	58nm,0.1s						
TKM2	**Tokmak 2**	**0.86**	**341**	⇓P	**Pg**	**23 33 17.0**	**-0.3**
TKM2	57nm,0.1s,SNR=141			⇑S	**Sg**	**23 33 28.8**	**+0.4**
	126nm,0.1s						
TKM2	**Tokmak 2**	**0.86**	**341**	⇑P	**Pg**	**23 33 16.9**	**-0.4**
TKM2	0.4nm,0.2s			⇑S	**Sg**	**23 33 28.9**	**+0.5**
	0.8nm,0.2s						
KBK	**Karagaybulak**	**0.94**	**306**	⇓P	**Pg**	**23 33 18.6**	**-0.3**
KBK	19nm,0.1s,SNR=59			⇑S	**Sg**	**23 33 31.6**	**+0.5**
	83nm,0.2s						
CHMS	**Chumysh**	**1.27**	**315**	⇓P	**Pg**	**23 33 24.2**	**-1.1**
CHMS	8.9nm,0.1s,SNR=19			⇑S	**Sg**	**23 33 41.2**	**-0.5**
	19nm,0.2s						
KNDC	**Almaty**	**1.32**	**33**	⇑P	**Pn**	**23 33 24.8**	**-1.4**
KNDC	37nm,1.4s			⇑S	**Sg**	**23 33 43.7**	**+0.5**
	70nm,0.3s						
USP	**Ospenovka**	**1.59**	**317**	⇓P	**Pn**	**23 33 29.8**	**-0.1**
USP	18nm,0.1s,SNR=47			⇑S	**Sn**	**23 33 51.0**	**0.0**
	16nm,0.2s						
AML	**Almayashu**	**1.70**	**271**	⇓P	**Pn**	**23 33 31.1**	**-0.3**
AML	7.3nm,0.1s,SNR=13			⇓S	**Sn**	**23 33 54.9**	**+1.1**
	34nm,0.3s						
KK31	**Karatay Array**	**4.16**	**286**	⇓Pn	**Pn**	**23 34 08.9**	**+3.6**
KK31	0.6nm,0.5s,baz=106,slow=16,SNR=22			Lg		23 35 11.2	
	2.1nm,0.5s,baz=100,slow=27,SNR=8.1						

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*ISCJB **25** 23:37:41.7±1.1, 31.70S±007×179.4W±0.1, h179km±11km, mb3.9/6, Error ellipse: s-maj=19.4km s-min=11.3km az=28.8*
*IDC **25** 23:37:43.0±10.0, 31.71S×179.26W, h182km±110km, mb3.8/3, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=103.0km s-min=50.3km az=174.0*
*NEIC **25** 23:37:42.9±0.9, 31.66S×179.32W, h180km±10km, mb4.0/4, Error ellipse: s-maj=15.6km s-min=11.6km az=98.0*
ISC 25 23:37:42.5±1.0, 3174S±007×1793W±0.1, h173km±10km, n16, σ0=88/16, mb3.9/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.76**	**27**	*e*Pn	**Pn**	**23 38 27.6**	**-0.2**
URZ	**Urewera**	**7.13**	**203**	P	**Pn**	**23 39 27.2**	**+2.9**
	0.3nm,0.3s,baz=288,slow=6.4,SNR=4.7						
URZ				S	**Sn**	**23 40 44.4**	**-0.2**
	3.3nm,0.3s,baz=331,slow=21,SNR=15						
SNZO	**South Karori**	**10.69**	**205**	*e*Pn	**Pn**	**23 40 10.1**	**-1.0**
	49nm,0.9s						
CTAO	**Charters Tower**	**32.93**	**282**	*e*P	**P**	**23 44 00.1**	**-0.3**
	6.6nm,1.5s,mb4.1						
STKA	**Stephens Creek**	**33.09**	**259**	P	**P**	**23 44 03.2**	**+1.4**
	3.6nm,1.0s,mb4.0,baz=106,slow=11,SNR=3.0						
PMG	**Port Moresby**	**38.19**	**298**	P	**P**	**23 44 45.1**	**-0.1**
ASAR	**Alice Springs**	**41.92**	**269**	P	**P**	**23 45 15.9**	**-0.1**
	1.4nm,0.4s,mb3.9,baz=106,slow=7.4,SNR=40						
WB2	**Warramunga Arr**	**43.02**	**274**	*e*P	**P**	**23 45 24.8**	**-0.1**
WRA	**Warramunga Arr**	**43.03**	**274**	P	**P**	**23 45 24.7**	**-0.2**
	2.7nm,0.3s,mb4.3,baz=113,slow=8.0,SNR=8.6						
NWAO	**Narrogin (SRO)**	**52.87**	**251**	P	**P**	**23 46 39.9**	**-0.5**
CASY	**Casey**	**53.43**	**208**	P	**P**	**23 46 44.3**	**-0.2**
GUMO	**Guam**	**56.65**	**317**	P	**P**	**23 47 07.9**	**+0.3**
PMSA	**Palmer Station**	**71.52**	**156**	*e*P	**P**	**23 48 43.0**	**-1.4**
SNAA	**Sanae**	**76.85**	**179**	P	**P**	**23 49 15.2**	**-0.1**
	0.8nm,0.8s,mb3.4						
PLCA	**Paso Flores**	**82.42**	**133**	*e*P	**P**	**23 49 46.9**	**+1.6**
	2.3nm,0.9s,mb3.8						
FINES	**FINESS Array B**	**145.99**	**338**	PKPbc	PKPbc	23 56 59.1	-2.7
	1.0nm,0.8s,baz=50,slow=4.3,SNR=3.8						

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*ISCJB **25** 23:41:11.8±1.2, 42.07N±007×76.06E±005, h10km, Error ellipse: s-maj=10.4km s-min=4.4km az=136.1*
*NNC **25** 23:41:11.4±0.9, 42.11N×7600E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=5.7km s-min=3.5km az=8.0*
*KNET **25** 23:41:11.6±0.6, 42.13N×7600E, h11km±4km, ml1.8, Error ellipse: s-maj=4.4km s-min=2.9km az=148.0*
ISC 25 23:41:11.9±1.1, 4208N±006×7605E±005, h10km, n11, σ0=77/20, 9C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.21**	**41**	⇓P	**Pg**	**23 41 15.9**	**-0.4**
ULHL	39nm,0.1s,SNR=25			⇑S	**Sg**	**23 41 19.1**	**-0.2**
	269nm,0.2s						
KZA	**Kyzart**	**0.60**	**270**	⇑P	**Pg**	**23 41 23.0**	**-0.5**
KZA	6.7nm,0.1s,SNR=16			⇑S	**Sg**	**23 41 31.2**	**0.0**
	24nm,0.2s						
TKM2	**Tokmak 2**	**0.90**	**338**	⇓P	**Pg**	**23 41 28.4**	**-0.8**
TKM2	14nm,0.1s,SNR=124			⇑S	**Sg**	**23 41 40.7**	**-0.2**
	36nm,0.1s						
TKM2	**Tokmak 2**	**0.90**	**338**	⇓P	**Pg**	**23 41 28.2**	**-1.0**
TKM2	0.2nm,0.2s			⇑S	**Sg**	**23 41 40.5**	**-0.5**
	0.5nm,0.3s						
KBK	**Karagaybulak**	**1.00**	**305**	⇓P	**Pg**	**23 41 30.4**	**-0.7**
KBK	8.0nm,0.1s,SNR=22			⇑S	**Sg**	**23 41 44.1**	**+0.1**
	39nm,0.2s						
UCH	**Uchtor**	**1.15**	**278**	⇓P	**Pb**	**23 41 33.1**	**-0.8**
UCH	1.1nm,0.1s,SNR=7.0			⇓S	**Sb**	**23 41 48.7**	**-0.2**
	5.3nm,0.2s						
KNDC	**Almaty**	**1.32**	**31**	⇓P	**Pn**	**23 41 36.3**	**0.0**
KNDC	16nm,0.7s			⇓S	**Sb**	**23 41 54.2**	**+0.5**
	13nm,0.3s						
CHMS	**Chumysh**	**1.33**	**314**	⇑P	**Pn**	**23 41 36.0**	**-0.4**
CHMS	3.2nm,0.2s,SNR=7.7			⇓S	**Sb**	**23 41 53.5**	**-0.4**
	9.8nm,0.1s						
USP	**Ospenovka**	**1.65**	**316**	⇓P	**Pn**	**23 41 41.7**	**+0.9**
USP	7.0nm,0.2s,SNR=19			⇓S	**Sn**	**23 42 03.6**	**+1.6**
	12nm,0.2s						
EKS2	**Erkin-Say**	**1.78**	**290**	⇓P	**Pn**	**23 41 44.8**	**+2.1**
	2.2nm,0.2s,SNR=11						
KK31	**Karatay Array**	**4.21**	**286**	⇑Pn	**Pn**	**23 42 20.7**	**+4.5**
	0.6nm,0.7s,baz=101,slow=14,SNR=7.3						
KK31				⇑Lg		23 43 22.9	
	0.5nm,0.4s,baz=100,slow=28,SNR=4.8						

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*NEIC **25** 23:42:00.3, 1701N×9530W, h112km, MD3.9(MEX), After MEX.*
MEX 25 23:42:00.7±0.7, 1702N×9532W, h108km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.42**	**80**	*i* P	Pn	23 42 15.7	-1.2
CMIG				*i* S	Sn	23 42 27.1	-1.8
OXX	**Oaxaca**	**1.35**	**273**	*i* P	Pn	23 42 24.3	-1.3
OXX				*i* S	Sn	23 42 43.2	-1.3
VHO	**Vista Hermosa**	**1.36**	**273**	*i* P	Pn	23 42 25.1	-0.6
VHO				*i* S	Sn	23 42 43.8	-0.8
HUIG	**Huatulco**	**1.46**	**212**	*i* P	Pn	23 42 25.0	-1.8
HUIG				*i* S	Sn	23 42 45.7	-1.0
TPIG	**Tehuac#an**	**2.40**	**306**	*i* P	Pn	23 42 38.4	-0.3
TPIG				*i* S	Sn	23 43 05.9	-1.9
UTMO	**Huajuapan**	**2.51**	**289**	*i* P	Pn	23 42 39.6	-0.6
UTMO				*i* S	Sn	23 43 07.8	-2.6
CCIG	**Comitan**	**3.13**	**103**	*i* P	Pn	23 42 49.0	+0.7
CCIG				*i* S	Sn	23 43 23.2	-2.0
CCIG	**Comitan**	**3.13**	**103**	*i* P	Pn	23 42 49.0	+0.7
CCIG				*i* S	Sn	23 43 21.7	-3.5
PPM	**Popocatepetl**	**3.75**	**303**	*i* P	Pn	23 42 58.1	+1.5
PPM				*i* S	Sn	23 43 36.7	-3.3
PPM	**Popocatepetl**	**3.75**	**303**	*i* P	Pn	23 42 58.1	+1.5
PPM				*i* S	Sn	23 43 24.3	-16

IDC 26 00:18:34.2±5.6, 732S×12636E, h270km±62km, mb2.8/1, mb1 3.0/3, mb1mx2.8/13, mbtmp2.8/3, Error ellipse: s-maj=226.4km s-min=16.9km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.74**	**149**	P	Pn	00 21 50.0	-0.5
	0.3nm,0.3s,baz=327,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**17.80**	**157**	P	P	00 22 23.9	+0.6
	0.3nm,0.3s,baz=333,slow=11,SNR=24						
ASAR				S	S	00 25 34.4	+0.8
	0.0nm,0.3s,baz=334,slow=21,SNR=6.5						
MKAR	**Makanchi Array**	**66.56**	**329**	P	P	00 28 55.5	0.0
	0.3nm,0.5s,baz=117,slow=6.1,SNR=4.6						

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*ISCJB **26** 00:19:04.5±1.2, 42.09N±007×76.02E±005, h10km, Error ellipse: s-maj=10.4km s-min=4.6km az=144.6*
*NNC **26** 00:19:04.3±0.6, 42.12N×7596E, h0km, mb3.0, mpv2.4, Error ellipse: s-maj=3.7km s-min=2.1km az=15.0*
*KNET **26** 00:19:04.4±0.6, 42.16N×7597E, h11km±4km, ml1.9, Error ellipse: s-maj=4.7km s-min=3.1km az=153.0*
ISC 26 00:19:04.9±1.1, 4211N±006×7601E±005, h10km, n10, σ0=79/18, 7C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.22**	**51**	P	**Pg**	**00 19 08.8**	**-0.6**
ULHL	95nm,0.1s,SNR=482			⇓S	**Sg**	**00 19 12.2**	**-0.3**
	436nm,0.2s						
KZA	**Kyzart**	**0.57**	**267**	⇓P	**Pg**	**00 19 15.0**	**-1.0**
KZA	12nm,0.1s,SNR=6.2			⇑S	**Sg**	**00 19 23.2**	**-0.2**
	66nm,0.2s						
TKM2	**Tokmak 2**	**0.87**	**339**	⇓P	**Pg**	**00 19 20.8**	**-0.9**
TKM2	19nm,0.2s,SNR=44			⇑S	**Sg**	**00 19 32.9**	**0.0**
	52nm,0.1s						
TKM2	**Tokmak 2**	**0.87**	**339**	⇓P	**Pg**	**00 19 20.7**	**-1.0**
TKM2	0.2nm,0.2s			⇑S	**Sg**	**00 19 32.5**	**-0.4**
	1.3nm,0.5s						
KBK	**Karagaybulak**	**0.96**	**305**	⇓P	**Pg**	**00 19 22.4**	**-1.0**
KBK	6.5nm,0.1s,SNR=19			⇑S	**Sg**	**00 19 36.0**	**+0.1**
	42nm,0.2s						
CHMS	**Chumysh**	**1.29**	**314**	⇑P	**Pn**	**00 19 28.6**	**-0.3**
CHMS	3.0nm,0.2s,SNR=5.4			⇓S	**Sb**	**00 19 45.2**	**-0.6**
	16nm,0.2s						
KNDC	**Almaty**	**1.31**	**32**	⇓P	**Pn**	**00 19 29.2**	**-0.1**
KNDC	8.1nm,0.2s			⇓S	**Sb**	**00 19 47.4**	**+0.9**
	20nm,0.3s						
USP	**Ospenovka**	**1.61**	**317**	⇓P	**Pn**	**00 19 33.8**	**+0.5**
USP	3.4nm,0.1s,SNR=8.5			⇓S	**Sn**	**00 19 55.2**	**+1.1**
	12nm,0.1s						
EKS2	**Erkin-Say**	**1.75**	**289**	⇓P	**Pn**	**00 19 37.0**	**+1.7**
	2.9nm,0.2s,SNR=13						
KK31	**Karatay Array**	**4.18**	**286**	⇑Pg	**Pb**	**00 20 19.7**	**+1.1**
	0.4nm,0.5s,baz=100,slow=15,SNR=4.4						
KK31				⇑Lg		00 21 14.2	
	0.4nm,0.3s,baz=94,slow=28,SNR=7.2						

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*ISCJB **26** 00:28:59.2±0.5, 6780N±003×202E±0.1, h0km, Error ellipse: s-maj=5.8km s-min=4.1km az=43.7*
*CSEM **26** 00:28:59.1±0.1, 6777N×2014E, h2km, ML2.5, Error ellipse: s-maj=3.1km s-min=2.5km az=77.0, Mining explosion.*
*UPP **26** 00:29:00.3, 6782N×2020E, h1km, ML2.5, Mining explosion.*
*HEL **26** 00:29:00.7±0.1, 6782N×2019E, h0km, ML2.5(UPP), ML2.1(BER), ML2.2(NAO), Explosion*
*NAO **26** 00:29:01.9±4.3, 6775N×2074E, ML2.2*
*IDC **26** 00:29:01.5±1.2, 6777N×2047E, h0km, mb1 3.0/3, mb1mx2.8/19, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=18.1km s-min=9.2km az=113.0*
*BER **26** 00:29:01.8±3.6, 6783N×2012E, h0km, ML2.1, ML2.2(NAO), Suspected explosion*
**ISC 26 00:28:59.9±0.5,

LANU	**Lannavaara**	**0.74**	**70**	*i* P		**Pg**	**00 29 13.5**	**-0.5**
SALU	**Saltoluokta**	**0.76**	**236**	*i* P		**Pg**	**00 29 14.9**	**+0.5**
MASU	**Masugnsbyn**	**0.80**	**116**	*i* P		**Pg**	**00 29 14.9**	**-0.3**
KIF	**Kilpisjarvi**	**1.22**	**11**	*e*P		**Pg**	**00 29 23.2**	**-0.1**
KIF				*e*S		**Sg**	**00 29 39.2**	**0.0**
PAJU	**Pajala**	**1.40**	**123**	*e*P		**Pn**	**00 29 25.3**	**-1.3**
KTK1	**Kautokeino**	**1.67**	**42**	*e*P		**Pn**	**00 29 31.0**	**+0.7**
KTK1				*e*Sg		**Sg**	**00 29 52.5**	**-0.8**
KTK1				AML		AML	00 29 55.5	
	comp=Z,18nm,0.4s							
KTK1	**Kautokeino**	**1.67**	**42**	*e*P		**Pn**	**00 29 31.0**	**+0.7**
	SNR=50							
KTK1				*e*Sg		**Sg**	**00 29 52.5**	**-0.9**
	SNR=90							
TRO	**Tromso**	**1.88**	**347**	*e*P		**Pn**	**00 29 33.1**	**-0.1**
TRO				*e*Sg		**Sg**	**00 29 58.5**	**-1.8**
TRO				AML		AML	00 30 00.7	
	comp=Z,27nm,0.4s							
TRO	**Tromso**	**1.88**	**347**	*e*P		**Pn**	**00 29 33.1**	**-0.2**
	SNR=50							
TRO				*e*Sg		**Sg**	**00 29 58.5**	**-1.8**
	SNR=90							
SGF	**Sodankyl**	**2.48**	**96**	*e*P		**Pn**	**00 29 41.8**	**+0.3**
SGF				*e*S		**Sn**	**00 30 13.7**	**+1.4**
ARA0	**ARCESS Array S**	**2.62**	**46**	Pn		**Pn**	**00 29 44.3**	**+0.9**
	baz=236,slow=14							
ARA0				Sn		**Sn**	**00 30 16.3**	**+0.4**
	baz=228,slow=28							
ARA0	**ARCESS Array S**	**2.62**	**46**	*e*P		**Pn**	**00 29 44.3**	**+0.9**
ARA0				*e*S		**Sn**	**00 30 16.3**	**+0.4**
ARCES	**ARCESS Array B**	**2.62**	**46**	Pn		**Pn**	**00 29 44.6**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=228,slow=15,SNR=8.6							
ARCES				Sn		**Sn**	**00 30 16.6**	**+0.7**
	comp=Z,5.1nm,0.3s,baz=227,slow=26,SNR=20							
MOR8	**Moi Rana**	**2.78**	**236**	*e*Sg		**Sg**	**00 30 23.6**	**-5.6**
MOR8				AML		AML	00 30 24.1	
	comp=Z,33nm,0.3s							
MOR8	**Moi Rana**	**2.78**	**236**	*e*Sg		**Sg**	**00 30 23.5**	**-5.6**
	SNR=90							
APA0	**Apatity Array**	**4.90**	**86**	Pn		**Pn**	**00 30 13.7**	**-1.1**
	baz=281,slow=22							
APA0				Sn		**Sn**	**00 31 08.1**	**-4.1**
	baz=290,slow=37							
APA0	**Apatity Array**	**4.90**	**86**	*e*P		**Pn**	**00 30 13.7**	**-1.1**
APA0				*e*S		**Sn**	**00 31 08.1**	**-4.1**
APA0	**Apatity Array**	**4.90**	**86**	Pn		**Pn**	**00 30 13.6**	**-1.2**
APA0				Sn		**Sn**	**00 31 08.1**	**-4.1**
	SNR=4.1							
FIA0	**FINESS Array S**	**6.88**	**155**	Sn		**Sn**	**00 31 59.2**	**-1.8**
	baz=349,slow=28							
FIA0				Lg			00 32 32.1	
	baz=335,slow=28							
FIA0	**FINESS Array S**	**6.88**	**155**	*e*S		**Sn**	**00 31 59.2**	**-1.8**
FIA0				*e*SG			00 32 32.1	
FINES	**FINESS Array B**	**6.88**	**155**	Pn		**Pn**	**00 30 43.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=6.2							
FINES				Sn		**Sn**	**00 31 58.3**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=358,slow=22,SNR=3.2							
FINES				Lg			00 32 34.5	
	comp=Z,0.3nm,0.3s,baz=351,slow=26,SNR=7.3							
NOA	**NORSAR Array B**	**7.81**	**214**	Pn		**Pn**	**00 30 54.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=16,slow=11,SNR=2.7							
NOA				Lg			00 33 07.2	
	comp=Z,0.4nm,0.3s,baz=89,slow=3.6,SNR=3.3							

*CSEM **26** 00:48:59.9±0.1,3922N×1616E,h12km,ML4.3/4,Error ellipse: s-maj=1.8km s-min=1.2km az=87.0*
*ISCJB **26** 00:49:00.5±0.3,3923N±002×16.14E±003,h4km±4km, Error ellipse: s-maj=4.2km s-min=2.9km az=4.7*
*NEIC **26** 00:49:00.2,3922N×1617E,h4km,ML3.3(ROM),After ROM.*
NEIC Felt [V] in the Carolei area and [IV] at Cosenza.
*ROM **26** 00:49:00.2±0.2,3922N×1617E,h4km±2km,Md3.1/4, Ml3.3/24,Error ellipse: s-maj=2.0km s-min=1.9km az=77.0*
ISC 26 00:49:01.1±0.3,3922N±002×1613E±003,h5km±3km,n45, σ1º08/57,4C-1D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARO	**Carolei**	**0.08**	**62**	*i*Pg		**Pg**	**00 49 02.0**	**-0.8**
CARO				Sg		**Sg**	**00 49 02.7**	**-1.2**
	93µm,0.4s							
GRI	**Girifalco**	**0.45**	**150⇑**	*e*Pg		**Pg**	**00 49 09.8**	**0.0**
GRI				Sg		**Sg**	**00 49 16.6**	**+0.9**
	2µm,0.6s							
SERS	**Sersale**	**0.47**	**112⇑**	*i*Pg		**Pg**	**00 49 09.6**	**-0.5**
SERS				Sg		**Sg**	**00 49 18.1**	**+1.9**
	1µm,0.5s							
TIP	**Timpagrande**	**0.49**	**94⇑**	*e*Pg		**Pg**	**00 49 09.9**	**-0.6**
TIP				Sg		**Sg**	**00 49 16.5**	**-0.4**
	4µm,1.4s							
JOPP	**Joppolo**	**0.64**	**197**	Pg		**Pg**	**00 49 13.8**	**+0.5**
JOPP				Sg		**Sg**	**00 49 25.2**	**+3.6**
	2µm,0.3s							
PLAC	**Placanica**	**0.80**	**162**	Pg		**Pg**	**00 49 16.6**	**+0.1**
ORI	**Oriolo Calabro**	**0.88**	**16**	Pg		**Pg**	**00 49 18.1**	**+0.1**
	922nm,0.4s							
SCHR	**S. Chirico Rap**	**0.98**	**358**	Pg		**Pg**	**00 49 19.7**	**-0.2**
	304nm,0.7s							
SIRI	**Monte Sirino -**	**0.98**	**348**	Pg		**Pg**	**00 49 19.5**	**-0.5**
SIRI				Sg		**Sg**	**00 49 34.6**	**+1.8**
	945nm,0.7s							
SCLL	**Scilla**	**1.01**	**199**	Pg		**Pg**	**00 49 20.1**	**-0.4**
	132nm,0.3s							
BULG	**Bulgheria - Ca**	**1.04**	**326**	Pg		**Pg**	**00 49 20.8**	**-0.2**
BULG				Sg		**Sg**	**00 49 36.3**	**+1.8**
	1µm,0.5s							
MSRU	**Castanea**	**1.07**	**207⇓**	*i*Pg		**Pg**	**00 49 21.0**	**-0.6**
MSRU				Sg		**Sg**	**00 49 36.8**	**+1.3**
	2µm,0.4s							
MTSN	**Montesano sull**	**1.09**	**345**	Pg		**Pg**	**00 49 21.0**	**-0.9**
	1µm,0.9s							
MSI	**Messina ING**	**1.11**	**204**	Pg		**Pg**	**00 49 21.5**	**-0.8**
MCEL	**Monticello**	**1.14**	**347**	Pg		**Pg**	**00 49 21.8**	**-1.0**
MCEL				Sg		**Sg**	**00 49 38.7**	**+1.1**
	593nm,0.8s							
SOI	**Samo**	**1.15**	**183**	Pg		**Pg**	**00 49 22.7**	**-0.3**
	421nm,0.4s							
CRAC	**Craco**	**1.17**	**11**	Pg		**Pn**	**00 49 24.4**	**+0.3**
	932nm,1.1s							
LLI	**Lipari**	**1.20**	**231**	Pg		**Pn**	**00 49 23.6**	**-1.0**
	2µm,0.6s							
SLNA	**Salina**	**1.21**	**238**	Pg		**Pn**	**00 49 24.1**	**-0.5**
	301nm,0.3s							
VPL	**Vulcano Piano**	**1.23**	**227**	Pg		**Pn**	**00 49 23.6**	**-1.3**
	998nm,0.5s							
MTTG	**Motta San Giov**	**1.26**	**196**	Pg		**Pn**	**00 49 23.9**	**-1.5**
	387nm,0.6s							
MPAZ	**Palizzi**	**1.27**	**184**	Pg		**Pn**	**00 49 24.4**	**-1.0**
	385nm,0.5s							
CMPR	**Campora**	**1.27**	**330**	Pg		**Pn**	**00 49 24.0**	**-1.5**
	578nm,0.8s							
IFIL	**Filicudi I Eol**	**1.38**	**242**	Pg		**Pn**	**00 49 26.1**	**-1.0**
	1µm,0.5s							
CDRU	**Civita di Ruta**	**1.42**	**334**	Pg		**Pn**	**00 49 26.0**	**-1.6**
	164nm,0.5s							
SGO	**Sicignano**	**1.48**	**335**	Pg		**Pn**	**00 49 26.9**	**-1.5**
	259nm,0.9s							
MRLC	**Muro Lucano**	**1.61**	**342**	Pg		**Pn**	**00 49 30.3**	**+0.1**
	154nm,0.8s							
SG1	**Sgolgore (BA)**	**1.68**	**14**	*e*Pn		**Pn**	**00 49 31.6**	**+0.5**
MNO	**Monte Soro**	**1.71**	**222**	Pg		**Pn**	**00 49 32.1**	**+0.6**
	319nm,0.6s							
MCRV	**Calabrutti - M**	**1.73**	**335**	Pg		**Pn**	**00 49 31.0**	**-0.8**
	127nm,0.7s							
CDT	**Castel del Mon**	**1.87**	**3**	*e*Pn		**Pn**	**00 49 34.6**	**+0.9**
PE1	**Pezze di Greco**	**1.87**	**32**	*e*Pn		**Pn**	**00 49 37.1**	**+3.3**
LCI	**Lecce**	**1.89**	**53**	Pg		**Pn**	**00 49 34.7**	**+0.7**
	95nm,1.0s							
GALF	**Gagliano Caste**	**1.94**	**220**	Pg		**Pn**	**00 49 36.5**	**+1.8**
	539nm,0.5s							
BAI	**Bari**	**1.97**	**17**	*e*Pn		**Pn**	**00 49 39.9**	**+4.7**
GIB	**Gibilmanna**	**2.05**	**234**	Pg		**Pn**	**00 49 36.1**	**-0.2**
	212nm,0.7s							
SSY	**Sortino**	**2.22**	**202**	Pg		**Pn**	**00 49 38.9**	**+0.3**
PZI	**Palazzolo**	**2.35**	**204**	Pg		**Pn**	**00 49 40.3**	**0.0**
	17nm,0.1s							
FAVR	**Favara**	**2.75**	**226**	Pg		**Pn**	**00 49 48.9**	**+3.1**
CLTB	**Caltabellotta**	**2.81**	**235**	Pg		**Pn**	**00 49 49.5**	**+2.8**
	23nm,0.4s							
KRUS	**Krusevo**	**4.46**	**60**	*i* Pn		**Pn**	**00 50 11.1**	**+1.6**
KRUS				*i* Sn		**Sn**	**00 51 01.1**	**-0.7**
KRUS	**Krusevo**	**4.46**	**60**	*i* Pn		**Pn**	**00 50 11.1**	**+1.6**
KRUS				*i* Sn		**Sn**	**00 51 01.1**	**-0.7**
KRUS	**Krusevo**	**4.46**	**60**	*i* Pn		**Pn**	**00 50 11.0**	**+1.6**
KRUS				*i* Sn		**Sn**	**00 51 01.0**	**-0.8**
BBLS	**Bajina Basta -**	**5.26**	**27**	*e*Pn		**Pn**	**00 50 21.8**	**+1.5**
DIVS	**Divcibare**	**5.67**	**29**	*e*Pn		**Pn**	**00 50 25.8**	**-0.2**

*ISK **26** 01:03:53.9,3754N×3745E,h4km,MD3.7,ML3.7*
*NEIC **26** 01:03:53.9,3754N×3745E,h4km,ML3.7(ISK),After ISK.*
*ISCJB **26** 01:03:54.3±0.3,3753N±004×3751E±003,h10km,Error ellipse: s-maj=5.5km s-min=3.1km az=126.7*
*CSEM **26** 01:03:54.3±0.1,3753N×3745E,h10km,MD3.7,Error ellipse: s-maj=2.5km s-min=1.7km az=174.0*
ISC 26 01:03:54.8±0.3,3752N±003×3754E±003,h10km,n36, σ1º12/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.16**	**173**	*i* P		**Pg**	**01 03 57.9**	**-0.4**
GZT				*i* S		**Sg**	**01 04 06.1**	**+5.3**
GAZ	**Gaziantep**	**0.43**	**217**	*i* PG		**Pg**	**01 04 02.5**	**-0.7**
GAZ				*i* SG		**Sg**	**01 04 08.9**	**-0.1**
KMRS	**Kahramanmaras**	**0.51**	**269**	*i* PG		**Pg**	**01 04 03.4**	**-1.2**
KMRS				*i* SG		**Sg**	**01 04 09.9**	**-1.4**
MYA	**Malataya**	**1.07**	**41**	PN		**Pg**	**01 04 14.6**	**-0.7**
KOZT	**Kozan**	**1.36**	**269**	PN		**Pn**	**01 04 18.9**	**-0.9**
ELZG	**Elazig**	**1.50**	**49**	*i* P		**Pn**	**01 04 22.3**	**+0.5**
ELZG				*i* S		**Sn**	**01 04 42.5**	**+1.1**
CEYT	**Ceyhan**	**1.52**	**251**	PN		**Pn**	**01 04 21.3**	**-0.6**
HTY	**Hatay**	**1.79**	**219**	PN		**Pn**	**01 04 26.0**	**+0.3**
BNN	**Bunyan**	**1.88**	**315**	PN		**Pn**	**01 04 26.5**	**-0.5**
KRTS	**Karatas**	**1.97**	**242**	PN		**Pn**	**01 04 28.7**	**+0.5**
KARA	**Karaisali**	**1.99**	**263**	PN		**Pn**	**01 04 29.1**	**+0.6**
PTK	**Pertek**	**2.00**	**46**	PN		**Pb**	**01 04 30.9**	**-0.4**
DIY	**Diyarbakir**	**2.17**	**79**	PN		**Pb**	**01 04 33.4**	**-0.6**
MERS	**Mersin**	**2.49**	**256**	PN		**Pn**	**01 04 36.1**	**+0.7**
MARD	**Mardin**	**2.59**	**94**	*i* P		**Pn**	**01 04 35.7**	**-1.0**
MARD				*i* S		**Sg**	**01 05 17.4**	**-0.5**
EZC	**Erzincan**	**2.85**	**38**	PN		**Pn**	**01 04 38.1**	**-2.2**
BEST	**Besiri**	**2.98**	**82**	*i* P		**Pg**	**01 04 50.4**	**-1.6**
BEST				*i* S		**Sg**	**01 05 28.4**	**-2.2**
BNGL	**BINGOL**	**3.19**	**62**	*i* P		**Pg**	**01 04 54.6**	**-1.2**
BNGL				*i* S		**Sg**	**01 05 37.8**	**+0.8**
BTMT	**Batman**	**3.20**	**77**	*e*PN		**Pn**	**01 04 45.8**	**+0.7**
GUMT	**Gumushane**	**3.31**	**27**	*e*PN		**Pn**	**01 04 47.6**	**+1.1**
IKL	**Isikli**	**3.34**	**249**	*e*PN		**Pn**	**01 04 48.0**	**+1.0**
HWQ	**Hawqa**	**3.48**	**202**	*e*P		**Pn**	**01 04 49.7**	**+0.7**
CORM	**Corum**	**3.49**	**320**	*e*PN		**Pn**	**01 04 48.9**	**-0.2**
KAMT	**Kaman**	**3.53**	**303**	*e*PN		**Pn**	**01 04 50.1**	**+0.5**
BR131	**Keskin Array S**	**3.77**	**307**	*e*Pn		**Pn**	**01 04 52.8**	**-0.1**
BR131				*e*Pg		**Pg**	**01 05 05.1**	**-1.8**
BR131	**Keskin Array S**	**3.77**	**307**	*e*Pn		**Pn**	**01 04 52.8**	**-0.1**
BR131	**Keskin Array S**	**3.77**	**307**	*e*Pg		**Pg**	**01 05 05.1**	**-1.8**
EZM	**Erzurum**	**3.83**	**50**	*e*PN		**Pn**	**01 04 56.2**	**+2.5**
BHL	**Bhannes**	**3.92**	**204**	*e*P		**Pn**	**01 04 55.6**	**+0.7**
HDMB	**Hadim**	**4.07**	**264**	*e*PN		**Pn**	**01 04 57.8**	**+0.8**
ANTO	**Ankara**	**4.39**	**304**	*e*PN		**Pn**	**01 05 02.7**	**+1.2**
BYBT	**Boyabat**	**4.49**	**332**	*e*PN		**Pn**	**01 05 03.8**	**+1.0**
MSL	**Mosul**	**4.62**	**104**	*ex*		x	01 05 19.0	
MSL				*ex*		x	01 05 31.0	
MSL				*ex*		x	01 05 43.5	
MSL				*ex*		x	01 06 23.5	
MSL				*ex*		x	01 06 40.5	
MSL				*ex*		x	01 06 54.0	
AGRB	**Hanur-Agry**	**4.74**	**63**	*e*PN		**Pn**	**01 05 09.8**	**+3.5**
CUKT	**Cukurca**	**4.84**	**91**	*e*PN		**Pn**	**01 05 10.7**	**+3.0**
HKR	**Hakkari**	**4.93**	**87**	*e*PN		**Pn**	**01 05 11.9**	**+3.0**

*MOS **26** 01:10:59.4±2.5,2474S×17730W,h45km,mb5.1/13,Error ellipse: s-maj=12.3km s-min=9.3km az=61.0*
*NEIC **26** 01:11:00.2±1.2,2478S×17720W,h51km±10km,mb5.1/27, Error ellipse: s-maj=9.5km s-min=6.8km az=135.0*
*GCMT **26** 01:11:00.2±0.2,2489S×17689W,h121km±1km,MW5.2/80, Moment Tensor Solution. s63,c95; s80,c128; Duration: 1s0 Moment tensor: Scale 10^16^Nm; Mrr1.26±.22; Mθθ-0.58±.25; Mφφ-0.67±.26; Mrθ-3.52±.16; Mφθ0.84±.25; Mφr-8.18±.15; Best double couple: M0:8.95100×10^16^ NP1:φs320.00000°,δ5.00000°,λ28.00000°. NP2: φs202.00000°,δ88.00000°,λ94.00000°. Principal axes: T 9.5530, Plg47.0000°, Azm117.0000°; N -1.1990, Plg4.0000°, Azm22.0000°; P -8.3500, Plg43.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **26** 01:11:02.4±1.6,2487S±007×17735W±006,h81km±14km, mb4.9/32 Error ellipse: s-maj=11.7km s-min=7.8km az=119.0*
*IDC **26** 01:11:08.4±0.8,2479S×17732W,h118km±6km,mb4.4/11, mb1 4.5/13,mb1mx4.5/16,mbtmp4.4/13,MS4.0/17, Ms1 4.0/17,ms1mx3.9/19,Error ellipse: s-maj=12.3km s-min=10.4km az=133.0*
*SZGRF **26** 01:11:09.7,2345S×17974E,h33km,South of Fiji Islands*
ISC 26 01:11:05.9±1.5,2487S±007×17727W±006,h99km±13km, n204,σ1º02/111,mb4.9/32,9C-2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.40**	**187**	P		**Pn**	**01 12 13.1**	**+2.7**
	74nm,0.3s,baz=162,slow=22,SNR=4.2							
RAO				S		**Sn**	**01 13 05.2**	**+4.7**
	346nm,0.3s,baz=255,slow=23,SNR=9.4							
RAO				LR		LR	01 13 26.7	
	comp=Z,874nm,19.4s,baz=41,slow=31							
RAO	**Raoul Island**	**4.40**	**187**	*e*Pn		**Pn**	**01 12 06.4**	**-4.0**
RAO				*e*Sn		**Sn**	**01 13 00.8**	**+0.4**
AFI	**Afiamalu**	**12.07**	**26**	P		**Pn**	**01 13 46.5**	**-7.9**
	24nm,0.3s,baz=75,slow=4.4,SNR=12							
AFI				S		Sn	01 15 47.6	-19
	22nm,0.3s,baz=159,slow=18,SNR=7.1							
PUZ	**Puketiti**	**13.70**	**195**	*e*SN		**Sn**	**01 16 31.9**	**-15**
URZ	**Urewera**	**14.17**	**198**	P		**Pn**	**01 14 22.1**	**+0.1**
	1.4nm,0.3s,baz=336,slow=20,SNR=14							
URZ				S		**Sn**	**01 16 49.2**	**-8.8**
	4.0nm,0.3s,baz=345,slow=20,SNR=8.3							
URZ	**Urewera**	**14.17**	**198**	*e*PN		**Pn**	**01 14 19.8**	**-2.2**
DZM	**Mont Dzumac**	**15.21**	**277**	P		**Pn**	**01 14 43.0**	**+7.9**
	3.2nm,0.3s,baz=72,slow=18,SNR=30							
DZM				LR		LR	01 18 23.4	
	comp=Z,574nm,19.8s,baz=183,slow=29							
NOUC	**Port Laguerre**	**15.32**	**277**	*e*P		**Pn**	**01 14 43.4**	**+6.8**
RAR	**Rarotonga**	**16.51**	**81**	P		**Pn**	**01 14 51.7**	**+0.4**
	7.5nm,0.3s,baz=250,slow=12,SNR=8.8							
RAR				S		S	01 17 36.0	-24
	3.8nm,0.3s,baz=70,slow=18,SNR=6.2							
RAR				LR		LR	01 20 07.3	
	comp=Z,815nm,18.0s,baz=277,slow=33							
MRZ	**Mangatainoka R**	**16.84**	**199**	SN		**Sn**	**01 17 43.9**	**-19**
SNZO	**South Karori**	**17.70**	**200**	*e*Pn		**Pn**	**01 15 02.1**	**-3.8**
	72nm,1.2s							
SNZO				*e*Sn		**Sn**	**01 18 07.2**	**-16**
TCW	**Tory Channel**	**17.75**	**201**	*e*SN		**Sn**	**01 18 04.2**	**-20**
NNZ	**Nelson**	**18.07**	**203**	*e*SN		**Sn**	**01 18 15.5**	**-16**
THZ	**Tophouse**	**18.72**	**203**	PN		**Pn**	**01 15 12.7**	**-5.3**
THZ				SN		**Sn**	**01 18 28.1**	**-19**
KHZ	**Kahutara**	**19.08**	**201**	PN		**Pn**	**01 15 16.2**	**-6.2**
KHZ				SN		Sn	01 18 35.0	-21
MQZ	**McQueen's Vall**	**20.52**	**201**	SN		**S**	**01 19 05.9**	**-14**
TBI	**Tubuai**	**25.41**	**92**	*e*LQ			01 21 07.6	
	545nm,23.5s							
TBI				*e*LR		LR	01 22 23.6	
	1µm,35.0s							
TBI	**Tubuai**	**25.41**	**92**	*e*T			01 41 55.0	
	50nm,0.3s							
PAE	**Paea**	**26.75**	**80**	*e*T			01 43 34.0	
	130nm,0.4s							
PPT	**Papeete**	**26.78**	**80**	*e*LQ			01 21 46.1	
	559nm,23.0s							
PPT				*e*LR		LR	01 23 03.4	
	2µm,32.0s							
PPT	**Papeete**	**26.78**	**80**	*e*T			01 43 36.9	
	13nm,0.3s							
PPT	**Papeete**	**26.78**	**80**	LR		LR	01 24 39.8	
	comp=Z,637nm,20.1s,baz=264,slow=30							
VAH	**Vaihoa**	**29.39**	**77**	*e*T			01 46 44.2	
	11nm,0.2s							
CNB	**Canberra Magne**	**30.56**	**242**	*e*P		**P**	**01 17 11.6**	**+1.6**
	18nm,1.2s,mb4.7							
CTA	**Charters Tower**	**33.98**	**271**	*e*P		**P**	**01 17 41.3**	**+1.5**
	26nm,0.4s,mb5.4							
CTA				*e*			01 18 11.3	
CTA	**Charters Tower**	**33.98**	**271**	P		**P**	**01 17 41.9**	**+2.1**
	33nm,0.5s,mb5.5,baz=101,slow=12							
CTA				LR		LR	01 29 03.5	
	comp=Z,362nm,19.7s,baz=82,slow=32							
CTA	**Charters Tower**	**33.98**	**271**	*e*P		**P**	**01 17 41.3**	**+1.5**
CTA				pmax		pmax		
	comp=Z,26nm,0.4s							
CTAO	**Charters Tower**	**33.98**	**271**	*e*P		**P**	**01 17 41.8**	**+2.0**
TAU	**Tasmania Unive**	**34.14**	**229**	*e*P		**P**	**01 17 42.1**	**+0.9**
TAU				pmax		pmax		
	comp=Z,15nm,0.7s,mb4.9							
TAU	**Tasmania Unive**	**34.14**	**229**	*e*P		**P**	**01 17 42.1**	**+0.9**
	comp=Z,15nm,0.7s,mb4.9							
STKA	**Stephens Creek**	**36.70**	**249**	*e*P		**P**	**01 18 03.9**	**+0.8**
	comp=Z,6.5nm,0.4s,mb4.9							
STKA				*e*			01 18 35.7	
STKA				*e*S		SS	01 26 36.5	+15
STKA	**Stephens Creek**	**36.70**	**249**	P		**P**	**01 18 04.3**	**+1.2**
	comp=Z,10.0nm,0.6s,mb5.0,baz=96,slow=9.8,SNR=49							
STKA				PcP		PcP	01 20 25.8	+2.0
	comp=Z,9.7nm,0.6s,baz=99,slow=5.4,SNR=12							
STKA				LR		LR	01 31 40.1	
	comp=Z,221nm,19.6s,baz=276,slow=34							
PMG	**Port Moresby**	**37.16**	**288**	P		**P**	**01 18 08.4**	**+1.3**
	comp=Z,15nm,0.6s,mb5.1,baz=91,slow=6.8,SNR=9.6							
PMG				LR		LR	01 30 26.0	
	comp=Z,200nm,19.3s,baz=160,slow=31							
PMG	**Port Moresby**	**37.16**	**288**	*e*P		**P**	**01 18 08.3**	**+1.2**
PMG				pmax		pmax		
	comp=Z,28nm,0.9s							
PMG	**Port Moresby**	**37.16**	**288**	*e*P		**P**	**01 18 08.3**	**+1.2**
	comp=Z,28nm,0.9s,mb5.2							
RKT	**Rikitea**	**38.57**	**96**	*e*T			01 58 21.8	
	comp=Z,8.5nm,0.4s							
TAOE	**Nuku Hiva Isla**	**38.77**	**72**	*e*LR		LR	01 28 34.8	
	comp=Z,2µm,30.8s							
ASAR	**Alice Springs**	**44.34**	**261**	P		**P**	**01 19 06.5**	**+0.5**
	comp=Z,10nm,0.4s,mb4.9,baz=93,slow=6.9,SNR=170							
ASAR				pP		pP	01 19 34.9	+5.5
	comp=Z,7.0nm,0.4s,baz=94,slow=6.8,SNR=4.9							
ASAR				PcP		PcP	01 20 49.1	+0.7
	comp=Z,3.8nm,0.5s,baz=118,slow=3.9,SNR=5.8							
ASAR				ScP		ScP	01 24 32.5	+1.2
	comp=Z,1.7nm,0.9s,baz=109,slow=4.9,SNR=5.2							
ASAR				S		**S**	**01 25 32.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=98,slow=15,SNR=7.3							
ASAR	**Alice Springs**	**44.34**	**261**	P		**P**	**01 19 06.6**	**+0.6**
ASAR							01 20 49.2	
ASAR				S		**S**	**01 25 32.9**	**+0.1**
WB2	**Warramunga Arr**	**44.82**	**266**	*e*P		**P**	**01 19 09.5**	**-0.3**
WB2				*e*			01 19 42.1	
WB2				*e*S		**S**	**01 25 35.0**	**-4.7**
WRA	**Warramunga Arr**	**44.83**	**266**	P		**P**	**01 19 10.4**	**+0.5**
	comp=Z,89nm,0.6s,mb5.7,baz=103,slow=8.2,SNR=210							
WRA				PcP		PcP	01 20 51.2	+1.1
	comp=Z,5.3nm,0.7s,baz=100,slow=3.8,SNR=5.1							
WRA				ScP		ScP	01 24 34.4	+1.0
	comp=Z,2.5nm,1.0s,baz=102,slow=4.1,SNR=5.1							
WRA				S		**S**	**01 25 35.0**	**-4.9**
	comp=Z,2.4nm,0.8s,baz=99,slow=14,SNR=6.1							
WRA				LR		LR	01 36 15.9	
	comp=Z,215nm,19.1s,baz=85,slow=34							
WRA	**Warramunga Arr**	**44.83**	**266**	P		**P**	**01 19 10.4**	**+0.5**
WRA							01 20 51.2	
WRA				S		**S**	**01 25 35.0**	**-4.9**
WRA	**Warramunga Arr**	**44.83**	**266**	P		**P**	**01 19 10.4**	**+0.5**
WRA				PcP		PcP	01 20 51.2	+1.1
WRA				ScP		ScP	01 24 34.4	+1.0
WRA				S		**S**	**01 25 35.0**	**-4.9**
WRA				LR		LR	01 36 15.9	
FORT	**Forrest**	**48.32**	**250**	*e*P		**P**	**01 19 36.7**	**-0.4**
	comp=Z,49nm,0.5s,mb5.6							
KAKA	**Kakadu**	**48.88**	**275**	*e*P		**P**	**01 19 40.5**	**-0.9**
	comp=Z,17nm,0.4s,mb5.3							
GUMO	**Guam**	**53.16**	**312**	P		**P**	**01 20 13.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.24**	**265**	*e*P		**P**	**01 20 14.4**	**+0.3**
	comp=Z,119nm,0.7s,mb6.0							
FITZ				*e*S		**S**	**01 27 35.6**	**-2.0**
FITZ	**Fitzroy

TMUT	**Trail Mountain**	**88.73**	**45**	*eP*	**P**	**01 23 49.7**	**+1.5**
MNTX	**Cornudas Mount**	**88.74**	**54**	*eP*	**P**	**01 23 49.0**	**+0.8**
	comp=Z,6.8nm,0.6s,mb4.8						
SRU	**San Rafael**	**89.07**	**46**	*eP*	**P**	**01 23 50.5**	**+0.7**
BNM	**Barren Site**	**89.08**	**51**	*eP*	**P**	**01 23 51.0**	**+1.1**
PMR	**Palmer**	**89.10**	**13**	*eP*	**P**	**01 23 53.2**	**+3.2**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
PMR	**Palmer**	**89.10**	**13**	*eP*	**P**	**01 23 53.2**	**+3.2**
	comp=Z,3.4nm,0.5s,mb4.6						
TTA	**Tatalina**	**89.12**	**10**	*eP*	**P**	**01 23 49.4**	**-0.7**
TTA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TTA	**Tatalina**	**89.12**	**10**	*eP*	**P**	**01 23 49.4**	**-0.7**
	comp=Z,8.0nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**89.61**	**51**	*eP*	**P**	**01 23 53.2**	**+0.8**
TNA	**Tin City**	**90.43**	**4**	*eP*	**P**	**01 23 56.7**	**+0.5**
	comp=Z,8.0nm,1.2s,mb4.7						
NEW	**Newport**	**90.52**	**35**	P	**P**	**01 23 56.4**	**-0.2**
MCK	**McKinley**	**91.08**	**12**	*eP*	**P**	**01 23 58.6**	**-0.6**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
MCK	**McKinley**	**91.08**	**12**	*eP*	**P**	**01 23 58.6**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**91.68**	**43**	P	**P**	**01 24 01.8**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.3,baz=210,slow=2.7,SNR=18						
PDAR				PKKPbc	PKKPbc	01 41 22.8	+2.3
	comp=Z,0.3nm,0.6s,baz=96,slow=4.1,SNR=3.8						
PDAR				LR	LR	01 58 26.0	
	comp=Z,128nm,20.8s,baz=172,slow=31						
SDCO	**Great Sand Dun**	**91.70**	**49**	*eP*	**P**	**01 24 02.0**	**-0.1**
	comp=Z,4.1nm,1.1s,mb4.6						
BOZ	**Bozeman (W)**	**92.02**	**40**	*eP*	**P**	**01 23 57.9**	**-5.7**
COLA	**College**	**92.32**	**12**	*eP*	**P**	**01 24 03.7**	**-1.2**
WALA	**Waterton Lakes**	**92.70**	**36**	P	**P**	**01 24 06.0**	**-0.6**
TRQA	**Tornquist**	**92.84**	**134**	*eP*	**P**	**01 24 07.7**	**+0.3**
	comp=Z,19nm,1.5s,mb5.2						
BILL	**Bilibino**	**93.44**	**354**	*eP*	**P**	**01 24 08.4**	**-1.7**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
BILL	**Bilibino**	**93.44**	**354**	*eP*	**P**	**01 24 09.3**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.8						
OTAV	**Otavalo**	**98.10**	**93**	*eP*	**P**	**01 24 31.5**	**+0.2**
INK	**Inuvik**	**98.30**	**15⇑**	*eP*	**P**	**01 24 31.1**	**-1.1**
INK	**Inuvik**	**98.30**	**15**	*e*PcP	PcP	01 24 31.1	-1.1
SONM	**Songino Array**	**99.47**	**318**	LR	LR	02 03 28.4	
	comp=Z,91nm,20.3s,baz=145,slow=32						
LPAZ	**La Paz**	**99.75**	**113**	LR	LR	02 01 29.9	
	comp=Z,40nm,18.8s,baz=302,slow=30						
LPAZ	**La Paz**	**99.75**	**113**	*eP*	Pdif	01 24 40.4	+1.7
YKA	**Yellowknife Ar**	**100.18**	**25**	P	Pdif	01 24 39.4	-1.1
	comp=Z,0.1nm,0.7s,baz=233,slow=4.7,SNR=5.5						
YKA				PKiKP	PKiKP	01 29 06.7	-0.8
	comp=Z,0.1nm,0.5s,baz=243,slow=1.6,SNR=3.5						
YKA				PKKPbc	PKKPbc	01 40 57.1	-0.4
	comp=Z,0.2nm,0.6s,baz=45,slow=2.6,SNR=9.1						
YKA	**Yellowknife Ar**	**100.18**	**25**	P	Pdif	01 24 39.4	-1.1
SDV	**Santo Domingo**	**108.73**	**89**	*e*PKiKP	PKiKP	01 29 24.7	+1.5
MKAR	**Makanchi Array**	**114.65**	**312**	PKP	PKiKP	01 29 33.3	-1.2
	comp=Z,1.3nm,0.7s,baz=153,slow=0.6,SNR=23						
KURK	**Kurchatov**	**117.62**	**316**	*e*PKIKP	PKPdf	01 29 38.6	-1.6
KBL	**Kabul**	**122.50**	**296**	*e*PKPdf	PKPdf	01 29 49.4	-0.2
BOSA	**Boshof**	**122.58**	**204**	PKP	PKPdf	01 29 51.0	+1.4
	comp=Z,1.1nm,0.6s,baz=182,slow=2.9,SNR=6.1						
BVAR	**Borovoye Array**	**122.82**	**318**	PKP	PKPdf	01 29 48.9	-1.3
	comp=Z,1.2nm,0.4s,baz=114,slow=2.0,SNR=16						
BRVK	**Borovoye**	**122.88**	**318**	*e*PKIKP	PKPdf	01 29 48.0	-2.3
SPB4	**Spitsbergen Ar**	**126.25**	**357**	*e*PKPdf	PKPdf	01 29 56.0	-0.8
ARCES	**ARCESS Array B**	**133.32**	**349**	PKP	PKPdf	01 30 10.4	+0.2
	comp=Z,2.0nm,0.5s,baz=32,slow=1.3,SNR=22						
FINES	**FINESS Array B**	**140.14**	**343**	PKhKP		01 30 15.5	
	comp=Z,0.9nm,0.5s,baz=50,slow=4.0,SNR=10						
FINES				PKP	PKPdf	01 30 22.9	+0.1
	comp=Z,2.3nm,0.8s,baz=54,slow=4.9,SNR=9.1						
FINES	**FINESS Array B**	**140.14**	**343**	PKP		01 30 15.5	
FINES				PKP	PKPdf	01 30 22.9	+0.1
NB2	**NORSAR Subarra**	**143.38**	**353**	PKP	PKPdf	01 30 25.0	-3.6
	comp=Z,1.1nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.38**	**353**	PKP	PKPdf	01 30 27.0	-1.6
	comp=Z,1.3nm,0.7s,baz=17,slow=4.6,SNR=6.2						
NAO01	**NORSAR Array S**	**143.61**	**353**	*e*PKPdf	PKPdf	01 30 26.4	-2.6
HFS	**Hagfors**	**143.94**	**351**	PKhKP		01 30 25.5	
	comp=Z,4.1nm,0.4s,baz=24,slow=3.4,SNR=58						
HFS				PKP	PKPdf	01 30 30.4	+0.9
	comp=Z,9.8nm,0.4s,baz=35,slow=3.5,SNR=34						
MALT	**Malatya**	**146.99**	**303⇑**	*i*P	PKPbc	01 30 37.6	+0.7
AKASG	**Malin Array Be**	**147.12**	**329**	PKPbc	PKPbc	01 30 36.0	-1.3
	comp=Z,18nm,0.5s,baz=43,slow=4.2,SNR=62						
AKBB	**Malin Array Si**	**147.12**	**329**	*e*PKIKP	PKPdf	01 30 36.0	+1.0
SUW	**Suwalki**	**147.14**	**338**	*e*PKIKP	PKPdf	01 30 35.0	0.0
SIM	**Simferopol'**	**147.69**	**316**	*e*PKP2	PKPbc	01 30 39.5	+0.7
SIM				pmax	pmax		
	comp=Z,27nm,0.8s						
ASF	**Jabal al Asfar**	**149.21**	**292**	PKPbc	PKPbc	01 30 43.5	+0.8
	comp=Z,5.8nm,0.7s,baz=258,slow=1.3,SNR=8.8						
BR131	**Keskin Array S**	**150.15**	**307**	*e*PKPdf	PKPdf	01 30 40.1	+0.2
BR131				*e*PKPbc	PKPbc	01 30 45.1	0.0
BRTR	**Keskin Array B**	**150.15**	**307**	PKPbc	PKPbc	01 30 44.9	-0.1
	comp=Z,2.3nm,0.6s,baz=150,slow=3.8,SNR=14						
BRTR				PKPab	PKPab	01 30 50.8	-0.5
	comp=Z,6.6nm,0.6s,baz=104,slow=2.8,SNR=21						
BRTR				PKKP		01 39 27.7	
	comp=Z,2.4nm,1.1s,baz=327,slow=8.9,SNR=3.7						
BRTR	**Keskin Array B**	**150.15**	**307**	PKIKP	PKPbc	01 30 44.9	-0.1
BRTR						01 30 50.8	
MMAI	**Mount Meron Ar**	**150.37**	**293**	PKPbc	PKPbc	01 30 46.4	+0.8
	comp=Z,13nm,0.6s,baz=77,slow=5.4,SNR=26						
BSEG	**Bad Segeberg**	**150.43**	**351**	*e*PKPbc	PKPbc	01 30 53.0	+7.3
ANTO	**Ankara**	**150.71**	**308**	*e*PKIKP	PKPdf	01 30 43.7	+2.9
ANTO				*e*		01 30 46.9	
ANTO	**Ankara**	**150.71**	**308⇑**	*i*P	PKPbc	01 30 47.1	+0.7
EIL	**Elat**	**151.02**	**287**	*e*PKPbc	PKPbc	01 30 48.0	+0.9
EIL				*e*PKPab	PKPab	01 30 56.2	+1.2
BURAR	**Bucovina Array**	**151.15**	**328⇑**	*i*P	PKPbc	01 30 48.7	+1.3
OJC	**Ojcow**	**151.45**	**337**	*e*PKP	PKPbc	01 30 47.7	-0.4
KOLS	**Kolonicke sedl**	**151.51**	**332**	*e*PKP	PKPbc	01 30 50.1	+1.9
KOLS				*e*		01 30 55.0	
STHS	**Stebnicka Huta**	**151.56**	**334**	*e*PKP	PKPbc	01 30 48.4	+0.1
STHS				*e*		01 30 55.4	
UZH	**Uzhgorod**	**151.74**	**332**	*e*PKP2	pPKPdf	01 31 09.8	+0.1
CRVS	**Cervenica-Dubn**	**151.88**	**333**	*e*PKP	PKPbc	01 30 51.2	+2.1
CRVS				*e*		01 30 56.2	
CRVS	**Cervenica-Dubn**	**151.88**	**333**	*e*PKP	PKPbc	01 30 51.2	+2.1
CRVS				*e*		01 30 56.3	
NIE	**Niedzica**	**151.91**	**335**	*e*PKP	PKPab	01 30 56.2	-2.5
MLR	**Muntele Rosu**	**152.19**	**324**	PKPbc	PKPbc	01 30 49.3	-0.5
	comp=Z,1.4nm,0.4s,baz=9.1,slow=2.8,SNR=3.6						
MLR				PKPab	PKPab	01 30 59.2	-0.7
	comp=Z,4.6nm,0.6s,baz=312,slow=5.9,SNR=5.4						
IBBN	**Ibbenburen**	**152.34**	**353**	*e*PKPbc	PKPab	01 30 58.3	-2.2
OKC	**Ostrava-Krasne**	**152.34**	**338**	*e*PKPbc	PKPbc	01 30 50.4	+0.3
OKC				*e*PKPab	PKPab	01 30 57.0	-3.5
UPC	**Upice**	**152.42**	**342**	*e*PKPbc	PKPbc	01 30 49.3	-1.0
UPC				*e*PKPab	PKPab	01 30 57.1	-3.7
UPC				*ex*	x	01 31 26.7	
UPC	**Upice**	**152.42**	**342**	*e*PKIKP	PKPbc	01 30 49.3	-1.0
UPC				*e*		01 30 57.1	
CLZ	**Clausthal**	**152.45**	**350**	*e*PKPdf	PKPbc	01 30 51.7	+1.3
CLZ				*e*PKPbc	PKPab	01 30 57.7	-3.2
CLL	**Collm**	**152.45**	**346**	*e*PKPdf	PKPbc	01 30 51.2	+0.8
CLL				*e*PKPbc	PKPab	01 30 57.0	-3.9
CLL	**Collm**	**152.45**	**346**	*i* PKIKP	PKPbc	01 30 51.1	+0.7
CLL				*i*		01 30 57.3	
CLL	**Collm**	**152.45**	**346**	*i* PKiKP	PKiKP	01 30 51.1	+0.5
	comp=Z,5.0nm,0.5s						
CLL				*i* PKPab	PKPab	01 30 57.3	-3.6
	comp=Z,33nm,0.8s						
CLL				*ex*	x	01 31 21.0	
DPC	**Dobruska-Polom**	**152.47**	**341**	*e*PKPbc	PKPbc	01 30 50.3	-0.1
DPC				*e*pPKP	pPKPdf	01 30 57.4	-13
DPC				*ex*	x	01 31 27.5	
DPC	**Dobruska-Polom**	**152.47**	**341**	*e*PKIKP	PKPbc	01 30 50.3	-0.1
DPC				*e*		01 30 57.4	
MORC	**Moravsky Berou**	**152.60**	**339⇑**	*i*P	PKPbc	01 30 52.0	+1.3
KECS	**Kecovo**	**152.60**	**334**	*e*PKP	PKPab	01 31 01.4	-0.2
BRG	**Berggiesshubel**	**152.64**	**344**	*e*PKPdf	PKPbc	01 31 51.7	+0.9
BRG				*e*PKPbc	PKPab	01 31 57.8	-3.9
BRG	**Berggiesshubel**	**152.64**	**344**	*e*PKP	PKPbc	01 30 50.8	0.0
	comp=Z,2.7nm,0.6s						
BRG				*i*		01 30 57.9	
	comp=Z,11nm,0.9s						
BRG				*e*		01 31 22.0	
	comp=Z,3.5nm,98.0s						
BRG	**Berggiesshubel**	**152.64**	**344**	*e*PKIKP	PKPbc	01 30 50.8	0.0
BRG				*i*		01 30 57.9	
PVCC	**Panska Ves**	**152.80**	**343**	*e*PKPbc	PKPbc	01 30 51.4	+0.3
PVCC				*e*pPKP	pPKPdf	01 30 57.3	-14
VYHS	**Vyhne**	**153.23**	**336**	*e*PKP	PKPbc	01 30 53.8	+1.7
VYHS				*e*		01 31 04.3	
PRU	**Pruhonice**	**153.30**	**343**	*e*pPKP	pPKPdf	01 30 58.8	-13
PRU				*e*PKPab	PKPab	01 31 05.3	+0.8
VRAC	**Vranov**	**153.31**	**340⇓**	*i*P	PKPab	01 31 04.4	-0.2
MOX	**Moxa**	**153.37**	**347**	*e*PKPbc	PKPbc	01 30 59.5	+7.1
TANN	**Tannenbergstha**	**153.41**	**346**	*e*PKPbc	PKPbc	01 30 59.6	+7.1
NKC	**Novy Kostel**	**153.59**	**346**	*e*PKPbc	PKPbc	01 30 54.9	+2.0
NKC				*e*pPKP	pPKPdf	01 31 00.2	-12
TREC	**Trest**	**153.66**	**341**	*e*pPKP	pPKPdf	01 30 59.2	-13
TREC				*e*PKPab	PKPab	01 31 05.3	-0.7
MANZ	**Manzenberg**	**153.89**	**346**	*e*PKPbc	PKPbc	01 31 00.7	+7.2
ZST	**Bratislava**	**154.10**	**338**	*e*PKP	PKPab	01 31 08.5	+0.6
ZST	**Bratislava**	**154.10**	**338**	*e*PKP	PKPab	01 31 08.6	+0.7
TNS	**Taunus Mts**	**154.31**	**352**	*e*PKPbc	PKPbc	01 31 02.0	+7.6
BZS	**Buzias**	**154.31**	**328⇑**	*i*P	PKPbc	01 30 53.3	-1.1
KHC	**Kasperske Hory**	**154.34**	**343**	*e*PKPdf	PKPdf	01 30 46.5	+0.4
KHC				*e*pPKP	pPKPdf	01 31 01.4	-12
KHC				*e*PKPab	PKPab	01 31 08.1	-0.8
KHC				*ex*	x	01 31 38.8	
KHC	**Kasperske Hory**	**154.34**	**343**	*e*PKIKP	pPKPdf	01 31 01.4	-12
KHC				*e*		01 31 08.1	
KHC	**Kasperske Hory**	**154.34**	**343**	*e*PKP	pPKPdf	01 31 01.4	-12
KHC				*e*		01 31 08.1	
KHC				*e*		01 31 38.8	
GRA1	**Grafenberg Arr**	**154.36**	**347**	*e*PKPbc	pPKPdf	01 31 02.3	-11
GRA1				*e*PKPab	PKPab	01 31 10.5	+1.5
GRF	**Grafenberg Arr**	**154.36**	**347**	*e*PKPbc	PKPbc	01 31 02.3	+7.8
GRF				*e*PKPab	PKPab	01 31 10.5	+1.5
GRF	**Grafenberg Arr**	**154.36**	**347**	*e*PKP2	PKPab	01 31 10.5	+1.5
GERES	**GERESS Array B**	**154.57**	**343**	PKP	PKPdf	01 30 45.8	-0.7
	comp=Z,0.5nm,0.8s,baz=289,slow=4.1,SNR=4.2						
GERES				PKPbc	PKPbc	01 30 54.8	-0.1
	comp=Z,0.5nm,0.5s,baz=327,slow=2.2,SNR=9.2						
GERES				PKPab	PKPab	01 31 11.1	+1.2
	comp=Z,1.2nm,0.7s,baz=28,slow=6.0,SNR=7.5						
CONA	**Conrad Observa**	**154.75**	**339⇑**	*i*PKPab	PKPab	01 31 11.5	+0.8
	comp=Z,7.8nm,0.7s						
GIVF	**Givet**	**154.76**	**357**	*e*PKP1	PKPbc	01 30 56.6	+1.2
WLF	**Walferdange**	**155.11**	**355**	*e*PKPbc	pPKPbc	01 31 04.9	-18
WLF				*e*PKPab	PKPab	01 31 13.0	+0.8
ARSA	**Arzberg**	**155.46**	**339⇑**	*i*P	PKPab	01 31 14.1	+0.3
	comp=Z,5.6nm,0.8s						
STU	**Stuttgart**	**155.61**	**350**	*e*PKPbc	PKPdf	01 31 04.6	+17
FUR	**Furstenfeldbru**	**155.79**	**346**	*e*PKPab	PKPab	01 31 15.8	+0.7
LDF	**La Druitiere**	**156.22**	**5**	*e*PKP1	PKPdf	01 31 00.2	+12
CDF	**Champ du Feu**	**156.24**	**352**	*e*PKP1	PKPdf	01 30 59.9	+11
	comp=Z,15nm,1.4s						
GRR	**Gorron**	**156.36**	**6**	*e*PKP1	PKPdf	01 31 00.4	+12
LEGS	**Legarje**	**156.66**	**337**	*e*P		01 31 18.4	
LOR	**Lormes**	**157.63**	**358**	*e*PKP1	PKPdf	01 31 02.7	+12
	comp=Z,3.4nm,0.6s						
SSF	**Saint Saulge**	**157.85**	**359**	*e*PKP1	PKPdf	01 31 03.0	+12
	comp=Z,9.7nm,1.1s						
ESDC	**Sonseca Array**	**164.20**	**19**	PKPab	PKPab	01 31 51.5	-0.3
	comp=Z,0.3nm,0.6s,baz=342,slow=3.0,SNR=4.7						
KEST	**Kesra**	**167.77**	**334**	PKPab	PKPab	01 32 07.2	-0.3
	comp=Z,2.0nm,0.6s,baz=150,slow=3.2,SNR=12						
TORD	**Torodi Ar. Bea**	**168.29**	**175**	PKP	PKPdf	01 31 00.9	+0.2
	comp=Z,1.2nm,0.7s,baz=284,slow=0.6,SNR=8.7						
TORD				pPKP	pPKPdf	01 31 33.2	+5.0
	comp=Z,0.9nm,0.7s,baz=239,slow=0.5,SNR=3.1						
TORD				PKPab	PKPab	01 32 10.8	+1.0
	comp=Z,2.3nm,0.6s,baz=189,slow=3.8,SNR=12						
TORD	**Torodi Ar. Bea**	**168.29**	**175**	PKP	PKPdf	01 31 00.9	+0.2
TORD				pPKP	pPKPdf	01 31 33.2	+5.0
TORD				PKPab	PKPab	01 32 10.8	+1.0

IDC 26 01:31:43.6±3.0, 347S×15143E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/15, mbtmp3.8/4, ML3.0/1, MS4.1/1, Ms1 4.1/1, ms1mx2.9/21, Error ellipse: s-maj=115.2km s-min=38.3km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.27**	**216**		Pn	Pn	01 33 33.4	+2.4
	1.5nm,0.3s,baz=44,slow=15,SNR=4.4							
PMG					Sn	Sn	01 34 53.4	-0.7
	0.8nm,0.3s,baz=151,slow=18,SNR=1.9							
WRA	**Warramunga Arr**	**23.37**	**224**	P		P	01 36 53.8	0.0
	1.0nm,0.4s,baz=51,slow=10,SNR=4.7							
ASAR	**Alice Springs**	**26.27**	**219**	P		P	01 37 20.8	+0.2
	0.5nm,0.4s,baz=55,slow=9.0,SNR=11							
FITZ	**Fitzroy Crossi**	**29.15**	**238**	P		P	01 37 47.1	+0.8
	2.6nm,0.8s,baz=58,slow=9.1,SNR=3.7							
RAO	**Raoul Island**	**38.77**	**135**	LR		LR	01 51 58.4	
	comp=Z,274nm,19.2s,baz=166,slow=31							
TORD	**Torodi Ar. Bea**	**148.59**	**290**	PKPbc		PKPbc	01 51 32.5	0.0
	0.2nm,0.3s,baz=84,slow=2.1,SNR=9.2							

LDG 26 01:37:44.7±0.1, 4354N×148W, h4km, Ml1.8/11, Error ellipse: s-maj=3.1km s-min=1.4km az=78.0

MDD 26 01:37:45.9±0.4, 4342N×156W, h36km±2km, mbLg1.3/8, 2C, Error ellipse: s-maj=4.9km s-min=4.0km az=127.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.20**	**169**		Pg	Pn	01 37 52.8	0.0
	SNR=12							
EALK					Lg		01 37 58.0	
	9.4nm,0.3s,SNR=7.9							
ELIZ	**Elizondo**	**0.25**	**175**	⇑	Pg	Pn	01 37 52.9	-0.5
	1.5nm,0.2s,SNR=18							
ELIZ					Lg		01 37 58.3	
	3.5nm,0.2s,SNR=20							
SJPF	**Ste Jean**	**0.39**	**141**	*e*	Pg	Pn	01 37 53.6	-1.5
SJPF				*e*	Sg	Sn	01 38 00.0	-1.3
	6.0nm,0.3s							
SJPF	**Ste Jean**	**0.39**	**141**		Pg	Pn	01 37 53.6	-1.5
SJPF					Lg		01 38 00.0	
	3.0nm,0.3s							
IUSE	**Utxeti**	**0.47**	**179**	⇑	Pg	Pn	01 37 55.4	-0.8
	1.3nm,0.1s,SNR=18							
IUSE					Lg		01 38 02.5	
	5.7nm,0.1s,SNR=7.9							
IPRE	**Itoiz**	**0.63**	**166**		Pg	Pn	01 37 57.8	-0.6
	1.2nm,0.1s,SNR=9.2							
IPRE					Lg		01 38 06.2	
	3.8nm,0.1s,SNR=7.9							
EARA	**Aranguren**	**0.64**	**181**		Pg	Pn	01 37 57.6	-0.9
	1.1nm,0.1s,SNR=6.7							
EARA					Lg		01 38 06.6	
	7.8nm,0.1s,SNR=6.5							
ETSF	**Etsaut**	**0.90**	**125**	*e*	Pg	Pn	01 38 01.2	-0.8
ETSF				*e*	Sg	Sn	01 38 13.8	0.0
	5.7nm,0.2s							
ETSF	**Etsaut**	**0.90**	**125**		Pg	Pn	01 38 01.2	-0.8
ETSF					Lg		01 38 13.8	
	2.8nm,0.2s							
ECRI	**Cripan**	**1.07**	**221**		Pg	Pn	01 38 03.9	-0.4
	0.7nm,0.2s,SNR=7.9							
ECRI					Lg		01 38 17.4	
	0.9nm,0.1s,SNR=7.9							
ELAN	**Lanestosa**	**1.38**	**263**		Pg	Pn	01 38 08.8	+0.1
	0.1nm,0.1s,SNR=5.8							
ELAN					Lg		01 38 24.3	
	0.5nm,0.2s,SNR=5.0							
EPF	**Esparros**	**1.44**	**105**	*e*	Pn	Pn	01 38 09.7	+0.2
EPF	**Esparros**	**1.44**	**105**	*e*	Pg	Pn	01 38 11.2	+1.7
EPF				*e*	Sn	Sn	01 38 28.1	+0.9
EPF				*e*	Sg	Sn	01 38 30.3	+3.1
	2.6nm,0.3s							
EPF	**Esparros**	**1.44**	**105**		Pn	Pn	01 38 09.7	+0.2
EPF					Pg	Pn	01 38 11.2	+1.7
EPF					Sn	Sn	01 38 28.1	+0.9
EBIE	**Bielsa**	**1.45**	**120**		Pn	Pn	01 38 10.8	+1.3
	0.3nm,0.1s,SNR=14							
EBIE					Sn	Sn	01 38 29.5	+2.2
	3.5nm,0.3s,SNR=12							
ESAC	**San Caprasio**	**1.88**	**154**		Lg		01 38 43.0	
	6.0nm,0.3s,SNR=7.9							
LFF	**La Frestale**	**2.25**	**47**	*e*	Sn	Sn	01 38 44.5	-2.6
	0.4nm,0.2s							
LFF	**La Frestale**	**2.25**	**47**		Sn	Sn	01 38 44.5	-2.6
	0.2nm,0.2s							
ETOR	**Torete**	**2.62**	**188**		Sn	Sn	01 38 51.4	-4.9
	4.1nm,0.2s,SNR=8.1							
EARI	**Arriondas**	**2.66**	**269**		Pg	Pn	01 38 25.6	-0.7
	0.1nm,0.1s,SNR=7.9							
EARI					Lg		01 38 55.2	
	0.0nm,0.0s,SNR=4.0							
MTLF	**Montolieu**	**2.75**	**90**	*e*	Pn	Pn	01 38 27.1	-0.5
MTLF				*e*	Sn	Sn	01 38 56.2	-3.4
	0.6nm,0.3s							
MTLF	**Montolieu**	**2.75**	**90**		Pn	Pn	01 38 27.1	-0.5
MTLF					Sn	Sn	01 38 56.2	-3.4
	0.3nm,0.3s							
RJF	**Les Rejaudoux**	**2.90**	**48**	*e*	Pn	Pn	01 38 28.3	-1.3
RJF				*e*	Sn	Sn	01 39 00.1	-3.1
	0.5nm,0.2s							
RJF	**Les Rejaudoux**	**2.90**	**48**		Pn	Pn	01 38 28.3	-1.3
RJF					Sn	Sn	01 39 00.1	-3.1
	0.2nm,0.2s							
CAF	**Calviac**	**3.01**	**59**	*e*	Pn	Pn	01 38 29.8	-1.3
CAF				*e*	Sn	Sn	01 39 01.9	-4.0
	0.4nm,0.2s							
CAF	**Calviac**	**3.01**	**59**		Pn	Pn	01 38 29.8	-1.3
CAF					Sn	Sn	01 39 01.9	-4.0
	0.2nm,0.2s							
MFF	**Saint Martin d**	**3.34**	**17**	*e*	Sn	Sn	01 39 10.2	-3.8
	0.4nm,0.2s							
MFF	**Saint Martin d**	**3.34**	**17**		Sn	Sn	01 39 10.2	-3.8
	0.2nm,0.2s							
TCF	**Toulx Ste Croi**	**3.93**	**42**	*e*	Pn	Pn	01 38 41.9	-1.8
TCF				*e*	Sn	Sn	01 39 24.5	-4.0
	0.2nm,0.2s							
TCF	**Toulx Ste Croi**	**3.93**	**42**		Pn	Pn	01 38 41.9	-1.8
TCF					Sn	Sn	01 39 24.5	-4.0
	0.1nm,0.2s							
SGMF	**Saint Gilles**	**4.89**	**352**	*e*	Sn	Sn	01 39 47.5	-4.7
	0.3nm,0.2s							
SGMF	**Saint Gilles**	**4.89**	**352**		Sn	Sn	01 39 47.5	-4.7
	0.2nm,0.2s							
ROSF	**Rostrenen**	**5.06**	**347**	*e*	Sn	Sn	01 39 52.1	-4.4
	0.2nm,0.1s							
ROSF	**Rostrenen**	**5.06**	**347**		Sn	Sn	01 39 52.1	-4.4
	0.1nm,0.1s							

IDC 26 01:51:08.8±5.0, 2376S×17655W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/15, mbtmp4.2/4, Error ellipse: s-maj=163.7km s-min=49.1km az=21.0
ISCJB 26 01:51:12.3±0.7, 238S±0.1×1766W±0.1, h35km, mb4.4/8, Error ellipse: s-maj=17.2km s-min=15.2km az=67.3
NEIC 26 01:51:13.5±0.5, 2373S×17648W, h35km, mb4.2/2, Error ellipse: s-maj=13.7km s-min=10.8km az=127.0

ISC 26 01:51:13.7±0.6, 2376S±009×1765W±01, h35km, n18, σ0.96/16, mb4.4/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.62**	**193**	*e*	Pn	**Pn**	**01 52 34.0**	**-0.8**
AFI	**Afiamalu**	**10.75**	**25**		Pn	**Pn**	**01 53 43.4**	**-1.8**
CTAO	**Charters Tower**	**34.72**	**269**	*e*	P	**P**	**01 58 02.4**	**+2.

0.8nm,0.7s,baz=84,slow=2.4,SNR=14

*IDC **26** 02:12:20.4±2.5, 1121S×16369E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.9/16, mbtmp4.0/7, ML4.3/2, MS3.5/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=49.1km s-min=34.5km az=114.0*
*ISCJB **26** 02:12:23.5±1.5, 114S±02×1638E±02, h35km, mb3.8/5, MS3.4/1, Error ellipse: s-maj=26.5km s-min=15.4km az=86.0*
*NEIC **26** 02:12:27.7±1.9, 1107S×16339E, h35km, Error ellipse: s-maj=36.7km s-min=23.6km az=107.0*

ISC 26 02:12:25.5±1.5, 114S±02×1638E±01, h35km, n9, σ0^{s}84/9, mb3.8/5, MS3.4/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.24**	**296**	Pn	**Pn**	**02 13 23.2**	**-4.4**
	82nm,0.3s,baz=92,slow=4.8,SNR=10						
HNR				Sn	**Sn**	**02 14 15.9**	**0.0**
	41nm,0.3s,baz=93,slow=23,SNR=5.8						
CTA	**Charters Tower**	**18.98**	**241**	P	**Pn**	**02 16 45.2**	**+0.6**
	0.2nm,0.3s,baz=72,slow=9.6,SNR=2.1						
STKA	**Stephens Creek**	**28.92**	**222**	LR	LR	02 27 57.0	
	comp=Z,88nm,18.6s,MS3.4,baz=25,slow=32						
WB2	**Warramunga Arr**	**29.57**	**250**	*e*P	**P**	**02 18 27.4**	**+0.4**
WRA	**Warramunga Arr**	**29.59**	**250**	P	**P**	**02 18 26.4**	**-0.7**
	1.0nm,0.6s,mb3.8,baz=79,slow=9.2,SNR=5.0						
ASAR	**Alice Springs**	**30.95**	**243**	P	**P**	**02 18 38.3**	**-0.8**
	1.6nm,0.7s,mb4.0,baz=64,slow=10,SNR=7.9						
FITZ	**Fitzroy Crossi**	**37.46**	**255**	P	**P**	**02 19 35.7**	**+0.2**
	1.9nm,0.8s,mb4.0,baz=91,slow=15,SNR=4.6						
SONM	**Songino Array**	**77.79**	**324**	P	**P**	**02 24 17.9**	**-1.1**
	0.5nm,0.8s,mb3.5,baz=138,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**92.44**	**317**	P	**P**	**02 25 34.2**	**+1.6**
	0.3nm,0.6s,mb3.8,baz=115,slow=5.1,SNR=2.0						

*IDC **26** 02:20:34.8±0.8, 2202N×143.11E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/20, mbtmp3.9/9, Error ellipse: s-maj=33.6km s-min=18.0km az=83.0*
*ISCJB **26** 02:20:38.5±0.7, 220N±0.1×1429E±02, h35km, mb4.0/12, Error ellipse: s-maj=29.0km s-min=14.2km az=150.3*
*NEIC **26** 02:20:40.3±0.6, 2204N×14301E, h35km, mb4.3/4, Error ellipse: s-maj=25.5km s-min=11.1km az=75.0*

ISC 26 02:20:40.3±0.7, 220N±01×1430E±02, h35km, n15, σ0^{s}81/15, mb4.0/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.16**	**323**	P	**P**	**02 25 16.5**	**+5.0**
	0.5nm,0.3s,baz=134,slow=8.7,SNR=3.0						
ULN	**Ulaanbaatar**	**38.61**	**321**	*e*P	**P**	**02 27 59.0**	**-1.0**
	1.2nm,0.7s,mb3.7						
SONM	**Songino Array**	**38.99**	**320**	P	**P**	**02 28 03.5**	**+0.4**
	1.3nm,0.7s,mb3.8,baz=126,slow=6.7,SNR=7.3						
CTA	**Charters Tower**	**41.98**	**175**	P	**P**	**02 28 29.5**	**+1.6**
	1.0nm,0.2s,mb4.0,baz=343,slow=8.1,SNR=5.8						
CTAO	**Charters Tower**	**41.98**	**175**	*e*P	**P**	**02 28 29.2**	**+1.4**
	6.7nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**42.56**	**192**	P	**P**	**02 28 32.6**	**-0.1**
	1.9nm,1.0s,mb3.8,baz=12,slow=8.7,SNR=5.8						
ASAR	**Alice Springs**	**46.27**	**192**	P	**P**	**02 29 00.7**	**-1.6**
	0.7nm,0.6s,mb3.8,baz=17,slow=10,SNR=17						
MKAR	**Makanchi Array**	**54.36**	**312**	P	**P**	**02 30 04.2**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=83,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**54.36**	**312**	P	**P**	**02 30 04.2**	**+0.7**
KURK	**Kurchatov**	**57.13**	**317**	*e*P	**P**	**02 30 23.8**	**+0.4**
	1.7nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**62.32**	**319**	P	**P**	**02 30 59.5**	**+0.5**
	2.0nm,0.8s,mb4.3,baz=88,slow=7.6,SNR=12						
BRVK	**Borovoye**	**62.38**	**319**	*e*P	**P**	**02 30 59.4**	**0.0**
	2.9nm,0.9s,mb4.4						
YKA	**Yellowknife Ar**	**76.24**	**28**	P	**P**	**02 32 24.5**	**-0.7**
	0.7nm,0.5s,mb3.8,baz=293,slow=5.9,SNR=21						
FINES	**FINESS Array B**	**82.82**	**334**	P	**P**	**02 33 00.3**	**-0.6**
	1.6nm,0.8s,mb4.1,baz=48,slow=2.8,SNR=3.8						
NVAR	**Mina Array Bea**	**83.06**	**51**	P	**P**	**02 33 02.6**	**+0.4**
	0.6nm,0.7s,mb3.7,baz=269,slow=6.5,SNR=5.8						

*ISCJB **26** 02:24:22.7±4.1, 230S±02×1794W±03, h295km±62km, mb4.1/5, Error ellipse: s-maj=49.8km s-min=33.6km az=18.7*
*NEIC **26** 02:24:26.2±1.8, 2283S×17924W, h334km±24km, mb4.9/1, Error ellipse: s-maj=27.1km s-min=15.2km az=123.0*
*IDC **26** 02:24:42.0±10.0, 2384S×17952W, h491km±119km, mb3.5/4, mb1 3.7/5, mb1mx3.3/14, mbtmp3.5/5, Error ellipse: s-maj=86.8km s-min=38.8km az=21.0*

ISC 26 02:24:24.0±2.9, 230S±02×1794W±03, h293km±51km, n10, σ0^{s}22/10, mb4.1/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.52**	**40**	Pn	**Pn**	**02 27 00.7**	**0.0**
AFI				*e*Sn	**S**	**02 29 18.9**	**+10**
URZ	**Urewera**	**15.54**	**190**	P	**Pn**	**02 27 49.0**	**+0.1**
	1.8nm,0.3s,baz=355,slow=4.0,SNR=11						
URZ				S	**S**	**02 30 22.2**	**-14**
	1.5nm,0.3s,baz=80,slow=22,SNR=18						
STKA	**Stephens Creek**	**35.63**	**247**	P	**P**	**02 30 53.9**	**-0.5**
	2.0nm,0.5s,mb3.9,baz=87,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**42.78**	**259**	P	**P**	**02 31 53.4**	**+0.1**
	4.2nm,0.6s,mb3.9,baz=94,slow=7.6,SNR=67						
WB2	**Warramunga Arr**	**43.06**	**265**	*e*P	**P**	**02 31 55.3**	**-0.1**
WRA	**Warramunga Arr**	**43.07**	**265**	P	**P**	**02 31 55.7**	**+0.2**
	4.9nm,0.4s,mb4.1,baz=102,slow=8.3,SNR=20						
FITZ	**Fitzroy Crossi**	**51.50**	**265**	P	**P**	**02 33 00.3**	**+0.2**
	1.2nm,0.4s,mb3.6,baz=98,slow=6.8,SNR=6.7						
CASY	**Casey**	**61.20**	**206**	*e*P	**P**	**02 34 08.1**	**0.0**
	30nm,0.8s,mb4.9						
HFS	**Hagfors**	**141.75**	**349**	PKP	PKPdf	02 43 15.9	-4.7
	1.0nm,0.5s,baz=67,slow=3.9,SNR=8.2						
AKASG	**Malin Array Be**	**144.50**	**328**	PKPbc	PKPdf	02 43 23.6	-1.9
	0.6nm,0.5s,baz=40,slow=3.8,SNR=6.0						

IDC 26 02:34:06.2±6.9, 2193N×14292E, h207km±65km, mb3.3/8, mb1 3.5/8, mb1mx3.4/20, mbtmp3.3/8, Error ellipse: s-maj=32.8km s-min=16.3km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.18**	**323**	P	P	02 38 25.4	+0.4
	1.8nm,0.7s,baz=147,slow=8.4,SNR=6.7						
WRA	**Warramunga Arr**	**42.45**	**192**	P	P	02 41 40.8	+0.1
	1.0nm,0.7s,baz=12,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**46.16**	**191**	P	P	02 42 09.9	-0.1
	0.4nm,0.6s,baz=17,slow=12,SNR=7.0						
MKAR	**Makanchi Array**	**54.36**	**313**	P	P	02 43 11.7	+0.1
	0.8nm,0.8s,baz=97,slow=7.9,SNR=4.2						
BVAR	**Borovoye Array**	**62.34**	**319**	P	P	02 44 06.8	+0.1
	2.2nm,0.8s,baz=92,slow=7.4,SNR=9.7						
YKA	**Yellowknife Ar**	**76.37**	**28**	P	P	02 45 31.7	-0.9
	0.6nm,0.5s,baz=292,slow=5.9,SNR=31						
FINES	**FINESS Array B**	**82.87**	**334**	P	P	02 46 07.1	-0.5
	0.8nm,0.7s,baz=70,slow=8.1,SNR=3.6						
NVAR	**Mina Array Bea**	**83.20**	**51**	P	P	02 46 10.6	+1.3
	0.7nm,0.7s,baz=266,slow=8.1,SNR=6.2						
LPAZ	**La Paz**	**150.16**	**85**	PKPbc	PKPbc	02 53 34.0	+1.5
	1.2nm,0.9s,baz=116,slow=1.7,SNR=4.6						
LPAZ				PKPab	PKPab	02 53 41.5	+2.3
	0.9nm,0.7s,baz=210,slow=3.0,SNR=4.7						

*ISCJB **26** 02:42:19.2±1.9, 175N±0.1×1454E±03, h156km±19km, mb3.4/7, Error ellipse: s-maj=48.9km s-min=18.0km az=7.4*
*IDC **26** 02:42:20.1±2.7, 1742N×14566E, h148km±24km, mb3.3/7, mb1 3.6/8, mb1mx3.3/19, mbtmp3.3/8, Error ellipse: s-maj=53.7km s-min=19.7km az=110.0*
*NEIC **26** 02:42:20.1±1.5, 1749N×14550E, h151km±14km, mb4.2/1, Error ellipse: s-maj=31.3km s-min=11.9km az=93.0*

ISC 26 02:42:19.9±1.8, 175N±01×1455E±03, h148km±17km, n12, σ0^{s}59/12, mb3.4/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.92**	**189**	P	**Pn**	**02 43 19.8**	**+0.7**
	5.2nm,0.3s,baz=20,slow=15,SNR=2.7						
GUMO				S	**Sn**	**02 44 04.6**	**-0.4**
	11nm,0.3s,baz=18,slow=20,SNR=3.8						
MAJO	**Matsushiro**	**20.03**	**343**	P	**P**	**02 46 40.8**	**-0.5**
	4.3nm,0.4s						
WRA	**Warramunga Arr**	**38.77**	**197**	P	**P**	**02 49 30.2**	**+0.3**
	0.5nm,0.4s,mb3.5,baz=27,slow=9.7,SNR=3.0						
ASAR	**Alice Springs**	**42.44**	**196**	P	**P**	**02 50 00.2**	**+0.2**
	0.2nm,0.5s,mb3.0,baz=18,slow=9.3,SNR=7.0						
STKA	**Stephens Creek**	**49.23**	**184**	P	**P**	**02 50 52.2**	**-1.0**
	1.5nm,0.7s,mb3.8,baz=18,slow=9.4,SNR=5.2						
STKA	**Stephens Creek**	**49.23**	**184**	P	**P**	**02 50 52.2**	**-1.0**
YKA	**Yellowknife Ar**	**79.15**	**28**	P	**P**	**02 54 07.4**	**-0.8**
	0.2nm,0.6s,mb2.9,baz=287,slow=5.2,SNR=7.9						
YKA	**Yellowknife Ar**	**79.15**	**28**	P	**P**	**02 54 07.4**	**-0.8**
NVAR	**Mina Array Bea**	**84.06**	**52**	P	**P**	**02 54 34.1**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=274,slow=7.0,SNR=3.5						
FINES	**FINESS Array B**	**87.88**	**335**	P	**P**	**02 54 53.5**	**+0.8**
	2.8nm,1.1s,mb4.0,baz=64,slow=3.2,SNR=2.6						
PDAR	**Pinedale Array**	**88.83**	**45**	P	**P**	**02 54 57.6**	**+0.5**
	0.1nm,0.6s,mb2.9,baz=303,slow=7.1,SNR=3.0						
LPAZ	**La Paz**	**147.85**	**93**	PKPbc	PKPbc	03 01 49.1	+1.7
	0.7nm,0.5s,baz=83,slow=2.8,SNR=4.5						

*ISCJB **26** 03:16:41.4±0.4, 4352N±003×156W±004, h44km±10km, Error ellipse: s-maj=5.4km s-min=4.7km az=72.4*
*MDD **26** 03:16:43.9±0.4, 4341N×152W, h40km±4km, mb2.4/5, Error ellipse: s-maj=5.0km s-min=4.4km az=137.0, PRXIMO*
*LDG **26** 03:16:43.0±0.1, 4354N×148W, h5km, Md2.2/2, Ml2.0/11, Error ellipse: s-maj=3.0km s-min=1.3km az=77.0*

ISC 26 03:16:42.5±0.4, 4348N±003×156W±004, h39km±9km, n33, σ0^{s}99/58, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.26**	**172**	P	**Pn**	**03 16 50.9**	**+0.7**
	0.4nm,0.1s,SNR=10						
EALK				S	**Sn**	**03 16 56.2**	**+0.6**
	5.9nm,0.1s,SNR=21						
ELIZ	**Elizondo**	**0.32**	**176**	⇑P	**Pn**	**03 16 51.2**	**+0.4**
	2.0nm,0.2s,SNR=18						
ELIZ				S	**Sn**	**03 16 56.4**	**-0.1**
	4.4nm,0.1s,SNR=28						
SJPF	**Ste Jean**	**0.44**	**146**	*e*Pg	**Pn**	**03 16 52.0**	**-0.3**
SJPF				*e*Sg	**Sn**	**03 16 58.2**	**-1.0**
	6.7nm,0.2s						
SJPF	**Ste Jean**	**0.44**	**146**	Pg	**Pn**	**03 16 52.0**	**-0.3**
SJPF				Lg		03 16 58.2	
	3.3nm,0.2s						
IUSE	**Utxeti**	**0.53**	**179**	P	**Pn**	**03 16 53.6**	**+0.1**
	2.2nm,0.1s,SNR=11						
IUSE				S	**Sn**	**03 17 00.5**	**-0.9**
	6.8nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.61**	**136**	P	**Pn**	**03 16 54.1**	**-0.5**
LARF				S	**Sn**	**03 17 01.9**	**-1.3**
IPRE	**Itoiz**	**0.69**	**168**	P	**Pn**	**03 16 55.6**	**-0.1**
	1.0nm,0.1s,SNR=11						
IPRE				S	**Sn**	**03 17 04.5**	**-0.7**
	8.9nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.71**	**181**	P	**Pn**	**03 16 56.0**	**0.0**
	2.6nm,0.1s,SNR=6.6						
EARA				S	**Sn**	**03 17 05.2**	**-0.4**
	15nm,0.1s,SNR=6.6						
ETSF	**Etsaut**	**0.93**	**128**	*e*Pg	**Pn**	**03 16 59.3**	**+0.2**
ETSF				*e*Sg	**Sn**	**03 17 12.0**	**+0.8**
	6.9nm,0.2s						
ETSF	**Etsaut**	**0.93**	**128**	Pg	**Pn**	**03 16 59.3**	**+0.2**
ETSF				Lg		03 17 12.0	
	3.5nm,0.2s						
ECRI	**Cripan**	**1.11**	**219**	P	**Pn**	**03 17 02.1**	**+0.6**
	0.4nm,0.1s,SNR=7.9						
ECRI				S	**Sn**	**03 17 14.6**	**-1.1**
	3.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.39**	**260**	P	**Pn**	**03 17 06.5**	**+1.2**
	0.1nm,0.2s,SNR=7.1						
ELAN				S	**Sn**	**03 17 23.3**	**+0.8**
	0.6nm,0.2s,SNR=5.0						
EPF	**Esparros**	**1.46**	**107**	*e*Pg	**Pn**	**03 17 09.6**	**+3.4**
EPF				*e*Sn	**Sn**	**03 17 26.4**	**+2.3**
EPF				*e*Sg	**Sn**	**03 17 28.6**	**+4.5**
	3.0nm,0.2s						
EBIE	**Bielsa**	**1.48**	**122**	P	**Pn**	**03 17 07.4**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EBIE				S	**Sn**	**03 17 27.7**	**+3.1**
	1.3nm,0.1s,SNR=5.0						
ESAC	**San Caprasio**	**1.93**	**155**	P	**Pn**	**03 17 17.4**	**+4.6**
	1.4nm,0.3s,SNR=4.0						
ESAC				S	**Sn**	**03 17 35.9**	**+0.1**
	1.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.21**	**48**	*e*Pn	**Pn**	**03 17 18.2**	**+1.7**
LFF				*e*Sn	**Sn**	**03 17 43.0**	**+0.4**
	0.6nm,0.2s						
LFF	**La Frestale**	**2.21**	**48**	Pn	**Pn**	**03 17 18.2**	**+1.7**
LFF				Sn	**Sn**	**03 17 43.0**	**+0.4**
	0.3nm,0.2s						
ETOR	**Torete**	**2.68**	**188**	P	**Pn**	**03 17 22.0**	**-1.1**
	0.6nm,0.2s,SNR=4.0						
ETOR				S	**Sn**	**03 17 50.6**	**-3.8**
	2.8nm,0.2s,SNR=8.2						
MTLF	**Montolieu**	**2.75**	**92**	*e*Pn	**Pn**	**03 17 25.2**	**+1.1**
MTLF				*e*Sn	**Sn**	**03 17 54.4**	**-1.7**
	0.4nm,0.3s						
MTLF	**Montolieu**	**2.75**	**92**	Pn	**Pn**	**03 17 25.2**	**+1.1**
MTLF				Sn	**Sn**	**03 17 54.4**	**-1.7**
	0.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.86**	**49**	*e*Pn	**Pn**	**03 17 26.5**	**+0.9**
RJF				*e*Sn	**Sn**	**03 17 58.3**	**-0.4**
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.86**	**49**	Pn	**Pn**	**03 17 26.5**	**+0.9**
RJF				Sn	**Sn**	**03 17 58.3**	**-0.4**
	0.6nm,0.2s						
CAF	**Calviac**	**2.98**	**60**	*e*Pn	**Pn**	**03 17 28.1**	**+0.9**
CAF				*e*Sn	**Sn**	**03 18 00.2**	**-1.5**
	1.0nm,0.2s						
CAF	**Calviac**	**2.98**	**60**	Pn	**Pn**	**03 17 28.1**	**+0.9**
CAF				Sn	**Sn**	**03 18 00.2**	**-1.5**
	0.5nm,0.2s						
MFF	**Saint Martin d**	**3.28**	**17**	*e*Sn	**Sn**	**03 18 08.6**	**-0.5**
	0.4nm,0.2s						
MFF	**Saint Martin d**	**3.28**	**17**	Sn	**Sn**	**03 18 08.6**	**-0.5**
	0.2nm,0.2s						
TCF	**Toulx Ste Croi**	**3.88**	**42**	*e*Pn	**Pn**	**03 17 40.1**	**+0.5**
TCF				*e*Sn	**Sn**	**03 18 22.7**	**-1.2**
	0.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.88**	**42**	Pn	**Pn**	**03 17 40.1**	**+0.5**
TCF				Sn	**Sn**	**03 18 22.7**	**-1.2**
	0.2nm,0.2s						
BGF	**Bois d'Agland**	**4.38**	**44**	*e*Pn	**Pn**	**03 17 47.0**	**+0.5**
SGMF	**Saint Gilles**	**4.83**	**352**	*e*Sn	**Sn**	**03 18 45.9**	**-1.3**
	0.3nm,0.2s						
SGMF	**Saint Gilles**	**4.83**	**352**	Sn	**Sn**	**03 18 45.9**	**-1.3**
	0.2nm,0.2s						
ROSF	**Rostrenen**	**5.00**	**347**	*e*Sn	**Sn**	**03 18 50.5**	**-1.1**
	0.3nm,0.2s						
ROSF	**Rostrenen**	**5.00**	**347**	Sn	**Sn**	**03 18 50.5**	**-1.1**
	0.2nm,0.2s						

IDC 26 03:17:16.2±2.5, 2233S×6845W, h100km±22km, mb3.5/4, mb1 3.6/6, mb1mx3.4/16, mbtmp3.4/6, Error ellipse: s-maj=36.1km s-min=21.8km az=88.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.01**	**3**	P	Pn	03 18 44.8	+2.2
	0.3nm,0.3s,baz=184,slow=8.4,SNR=8.0						
CFAA	**Coronel Fontan**	**9.24**	**179**	P	Pn	03 19 25.8	-0.8
	0.0nm,0.3s,baz=354,slow=13,SNR=7.6						
CFAA				S	Sn	03 21 03.2	-5.5
	0.0nm,0.3s,baz=195,slow=20,SNR=2.6						
SIV	**San Ignacio**	**9.39**	**49**	P	Pn	03 19 27.7	-0.8
	1.3nm,0.3s,baz=241,slow=12,SNR=25						
SIV				S	Sn	03 21 07.7	-4.6
	0.6nm,0.3s,baz=313,slow=23,SNR=7.1						
SNAA	**Sanae**	**61.36**	**161**	P	P	03 27 21.9	+0.5
	0.6nm,0.9s,baz=273,slow=7.0,SNR=3.2						
PDAR	**Pinedale Array**	**75.04**	**330**	P	P	03 28 47.1	+0.3
	0.1nm,0.5s,baz=136,slow=8.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	P	03 28 59.9	+0.7
	2.0nm,0.4s,baz=257,slow=5.6,SNR=57						
YKA	**Yellowknife Ar**	**92.11**	**340**	P	P	03 30 13.1	-1.1
	0.5nm,0.7s,baz=137,slow=4.4,SNR=19						
YKA				pP	pP	03 30 40.4	-0.2
	0.1nm,0.6s,baz=132,slow=4.3,SNR=6.2						

*ISCJB **26** 03:49:02.7±1.9, 238N±008×1286E±01, h243km±19km, mb4.1/18, Error ellipse: s-maj=20.6km s-min=8.8km az=121.4*
*IDC **26** 03:49:02.6±1.9, 235N×12838E, h223km±18km, mb3.6/10, mb1 3.8/10, mb1mx3.6/18, mbtmp3.6/10, Error ellipse: s-maj=27.8km s-min=9.2km az=74.0*
*NEIC **26** 03:49:03.7±2.1, 237N×12858E, h240km±22km, mb4.3/5, Error ellipse: s-maj=17.4km s-min=7.8km az=62.0*

ISC 26 03:49:04.0±1.9, 235N±008×1286E±01, h239km±20km, n30, σ0^{s}94/29, mb4.1/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.86**	**287**	*e*P	**Pn**	**03 51 57.8**	**-0.6**
KAKA	**Kakadu**	**15.45**	**166**	*e*P	**Pn**	**03 52 30.3**	**+0.3**
	6.5nm,0.5s						
KSM	**Kuching**	**18.28**	**268**	*e*P	**P**	**03 53 01.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**20.53**	**188**	*e*P	**P**	**03 53 23.1**	**-1.2**
	10nm,1.5s						
FITZ	**Fitzroy Crossi**	**20.53**	**188**	P	**P**	**03 53 23.2**	**-1.0**
	1.0nm,0.3s,baz=17,slow=9.5,SNR=9.5						
PMG	**Port Moresby**	**21.89**	**123**	P	**P**	**03 53 39.7**	**+1.9**
	4.5nm,0.2s,mb4.6,baz=240,slow=13,SNR=7.6						
PMG	**Port Moresby**	**21.89**	**123**	P	**P**	**03 53 36.8**	**-1.1**
	3.6nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**22.87**	**166**	P	**P**	**03 53 47.2**	**+0.5**
	9.0nm,0.7s,mb4.4,baz=344,slow=11,SNR=39						
WRA				S	**S**	**03 57 44.4**	**+6.4**
	1.4nm,0.9s,baz=335,slow=21,SNR=5.2						
WB2	**Warramunga Arr**	**22.87**	**166**	*e*P	**P**	**03 53 47.0**	**+0.2**
ASAR	**Alice Springs**	**26.38**	**169**	P	**P**	**03 54 19.0**	**+0.6**
	4.0nm,0.5s,mb4.3,baz=356,slow=8.1,SNR=144						
ASAR				PcP	PcP	03 57 38.3	+1.0
	1.8nm,0.4s,baz=351,slow=2.0,SNR=19						
ASAR				S	**S**	**03 58 33.7**	**+0.1**
	1.0nm,0.8s,baz=353,slow=20,SNR=5.3						
ASAR				ScP	ScP	04 00 55.5	+1.2
	0.3nm,0.6s,baz=342,slow=2.9,SNR=4.7						
CTA	**Charters Tower**	**28.25**	**143**	P	**P**	**03 54 40.2**	**+5.2**
	1.3nm,0.5s,mb3.8,baz=316,slow=9.8,SNR=3.6						
MJAR	**Matsushiro Arr**	**35.16**	**14**	P	**P**	**03 55 34.7**	**-0.5**
	1.7nm,0.6s,mb3.7,baz=185,slow=8.3,SNR=3.5						
STKA	**Stephens Creek**	**36.22**	**161**	*e*P	**P**	**03 55 44.3**	**+0.2**
	1.7nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**36.22**	**161**	P	**P**	**03 55 44.9**	**+0.8**
	2.6nm,0.3s,mb4.2,baz=339,slow=8.9,SNR=18						
STKA				PcP	PcP	03 58 04.7	+0.8
	1.5nm,0.4s,baz=333,slow=3.7,SNR=4.4						
STKA	**Stephens Creek**	**36.22**	**161**	*e*P	**P**	**03 55 44.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**36.69**	**196**	*e*P	**P**	**03 55 46.1**	**-2.1**
	14nm,1.1s,mb4.4						
JIRN	**Jiri**	**47.67**	**306**	*e*P	**P**	**03 57 17.3**	**+0.9**
	9.6nm,0.4s,mb4.5						
GUN	**Gumba**	**48.02**	**306**	*e*P	**P**	**03 57 20.0**	**+0.9**
	20nm,0.7s,mb4.6						
PKI	**Pulchoki**	**48.26**	**306**	*e*P	**P**	**03 57 19.4**	**-1.6**
	4.1nm,0.4s,mb4.1						
KKN	**Kakani**	**48.46**	**306**	*e*P	**P**	**03 57 21.9**	**-0.6**
GKN	**Gorkha**	**49.06**	**306**	*e*P	**P**	**03 57 29.1**	**+2.0**
	3.3nm,0.3s,mb4.2						
SONM	**Songino Array**	**49.19**	**340**	P	**P**	**03 57 28.2**	**+0.1**
	0.6nm,0.6s,mb3.1,baz=154,slow=7.3,SNR=3.1						
KOLN	**Koldanda**	**49.82**	**305**	*e*P	**P**	**03 57 33.5**	**+0.8**
	18nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**59.73**	**325**	P	**P**	**03 58 43.4**	**-0.2**
	1.7nm,0.4s,mb4.0,baz=115,slow=7.1,SNR=56						
KURK	**Kurchatov**	**63.89**	**327**	*e*P	**P**	**03 59 10.4**	**-0.9**
	3.2nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**69.47**	**327**	P	**P**	**03 59 46.0**	**-0.5**
	0.4nm,0.4s,mb3.4,baz=142,slow=5.9,SNR=3.7						
VNDA	**Vanda**	**81.84**	**173**	P	**P**	**04 00 56.1**	**-0.3**
	2.7nm,0.7s,mb4.0,baz=308,slow=5.7,SNR=16						
YKA	**Yellowknife Ar**	**99.97**	**25**	P	Pdif	04 02 20.8	-0.9
	0.1nm,0.4s,baz=297,slow=4.2,SNR=3.8						
YKA	**Yellowknife Ar**	**99.97**	**25**	P	Pdif	04 02 20.8	-0.9
TORD	**Torodi Ar. Bea**	**125.09**	**288**	PKP	PKPdf	04 07 36.8	+1.0
	0.2nm,0.4s,baz=73,slow=1.5,SNR=7.7						

*NEIC **26** 04:24:36.0±1.1, 383N×12607E, h35km, Error ellipse: s-maj=78.6km s-min=16.2km az=69.0*
*IDC **26** 04:24:40.1±11.0, 379N×126.15E, h73km±104km, mb3.7/5, mb1 3.9/5, mb1mx3.5/19, mbtmp3.7/5, Error ellipse: s-maj=101.8km s-min=26.9km az=62.0*
*ISCJB **26** 04:24:44.7±2.5, 36N±03×1259E±06, h133km±35km, mb3.9/5, Error ellipse: s-maj=113.0km s-min=21.3km az=140.3*

ISC 26 04:24:45.5±2.2, 36N±02×1258E±06, h117km±30km, n8, σ0^{s}06/7, mb3.9/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.33**	**351**	*e*P	**Pn**	**04 25 49.3**	**0.0**
FITZ	**Fitzroy

LSCH *i* S Sn 05 54 08.3 +0.8
PTCH Petorca 1.64 167 *e*P Pn 05 54 10.3 +1.2
PTCH *i* S Sn 05 54 30.5 +1.5
PTCH AML AML 05 54 34.0
comp=E,306nm,0.2s
PTCH Petorca 1.64 167 *e*P Pn 05 54 10.3 +1.2
PTCH *i* S Sn 05 54 30.5 +1.5
VACH Vallenar 2.14 14 *e*P Pn 05 54 16.6 +0.5

NEIC 26 05:59:27.3, 5869N×14415W, h7km, ML3.0(AEIC), ML3.5(PMR), After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNK	**Knik Glacier**	**3.48**	**324**	P	Pn	06 00 17.5	-4.4
SML	**Sawmill**	**3.76**	**328**	P	Pn	06 00 20.9	-4.8
PMR	**Palmer**	**3.83**	**322**	P	Pn	06 00 22.1	-4.6
GHO	**Glory Hole Cre**	**3.90**	**324**	P	Pn	06 00 23.7	-3.9
SKAG	**Skagway**	**4.62**	**77**	P	Pn	06 00 32.6	-5.0
TRF	**Thorofare Moun**	**5.63**	**331**	P	Pn	06 00 47.0	-4.4
KTH	**Kantishna Hill**	**5.88**	**329**	P	Pn	06 00 51.0	-3.9
SVW2	**Sparrevohn**	**6.24**	**298**	*e*P	Pn	06 00 55.7	-4.1

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*CSEM **26** 06:03:16.6, 1209N×4386E, h3km, ML4.1, After DHMR*
DHMR 26 06:03:16.6±2.0, 1209N×4386E, h4km±9km, ML4.1, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.16**	**12**	⇓*i*P	Pg	06 03 39.0	+0.1
TRBA				*i* S	Sg	06 03 54.5	+0.5
TRBA				AML	AML	06 03 56.5	
	comp=Z,4μm,0.4s						
ADEN	**Aden**	**1.29**	**58**	⇑*i*P	Pg	06 03 40.5	-0.9
ADEN				*i* S	Sg	06 03 59.1	+1.0
ADEN				AML	AML	06 04 05.7	
	comp=E,5μm,0.4s						
ADEN	**Aden**	**1.29**	**58**	⇑*i*P	Pg	06 03 40.5	-0.9
ADEN				*i* S	Sg	06 03 59.1	+1.0
UDYN	**Al 'Udayn**	**1.87**	**3**	*i* P	Pn	06 03 51.0	+1.6
UDYN				*i* S	Sn	06 04 17.1	+3.6
UDYN				AML	AML	06 04 24.2	
	comp=N,2μm,0.5s						
UDYN	**Al 'Udayn**	**1.87**	**3**	*i* P	Pn	06 03 51.0	+1.6
UDYN				*i* S	Sn	06 04 17.1	+3.6
LBOS		**2.23**	**37**	*i* P	Pn	06 03 56.8	+2.4
LBOS				*i* S	Sn	06 04 26.9	+4.6
BDHA	**Al Bayda'**	**2.51**	**41**	*i* P	Pn	06 04 00.4	+2.3
BDHA				*i* S	Sn	06 04 35.0	+5.8
BDHA				AML	AML	06 04 49.3	
	comp=N,1μm,0.6s						
BDHA	**Al Bayda'**	**2.51**	**41**	*i* P	Pn	06 04 00.4	+2.2
BDHA				*i* S	Sn	06 04 35.0	+5.8
DHBB	**Dhamar BB**	**2.52**	**12**	*i* P	Pn	06 04 01.5	+3.2
DHBB				*i* S	Sn	06 04 36.1	+6.5
HAJJ	**Hajjah**	**3.60**	**356**	⇓*i*P	Pn	06 04 14.3	+1.1
HAJJ				*i* S	Sn	06 05 02.0	+5.8
HAJJ				AML	AML	06 05 16.4	
	comp=N,622nm,0.5s						
HAJJ	**Hajjah**	**3.60**	**356**	⇓*i*P	Pn	06 04 14.3	+1.1
HAJJ				*i* S	Sn	06 05 02.0	+5.8

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*NIED **26** 06:15:00, 28.10N×128.10E, h5km, Mw4.1 Best double couple: M0 1.46000×10^15 NP1:φ=208.00000°, δ=85.00000°, λ=152.00000°. NP2:φ=300.00000°, δ=62.00000°, λ=5.00000°.*
*IDC **26** 06:15:42.5±2.9, 2787N×12779E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/21, mbtmp3.6/4, MS3.4/6, Ms1 3.4/6, ms1mx2.9/35, Error ellipse: s-maj=177.5km s-min=15.8km az=62.0*
*JMA **26** 06:15:42.8±0.3, 2807N×12807E, h8km±4km, M3.7*
*ISCJB **26** 06:15:43.9±1.4, 2805N±006×12808E±007, h25km±10km, mb3.5/4, MS3.5/3, Error ellipse: s-maj=12.1km s-min=7.6km az=85.1*
ISC 26 06:15:43.7±1.7, 2803N±005×12811E±007, h13km±10km, n15, σ0=58/14, mb3.5/4, MS3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.79**	**108**	P	**Pg**	**06 15 58.6**	**-0.3**
JTK				S	**Sg**	**06 16 09.6**	**+0.3**
JIH	**Iheya**	**1.00**	**187**	P	**Pb**	**06 16 02.4**	**-0.5**
JIH				S	**Sb**	**06 16 16.4**	**+0.4**
JOW	**Kunigami**	**1.21**	**173**	Pn	**Pn**	**06 16 05.5**	**-0.8**
	143nm,0.3s,baz=1.7,slow=16,SNR=12						
JOW				Sn	**Sn**	**06 16 21.2**	**-1.2**
	37nm,0.3s,baz=100,slow=28,SNR=12						
JOW	**Kunigami**	**1.21**	**173**	P	**Pn**	**06 16 05.6**	**-0.6**
JOW				S	**Sb**	**06 16 22.8**	**+1.0**
JAM	**Amami Oshima**	**1.38**	**74**	P	**Pn**	**06 16 08.3**	**-0.3**
JAM				S	**Sn**	**06 16 26.7**	**+0.1**
JNU	**Nakatsue**	**5.61**	**25**	LR	LR	06 19 10.5	
	comp=Z,777nm,18.9s,baz=247,slow=35						
KSRS	**Korea Array**	**9.40**	**359**	LR	LR	06 21 37.9	
	comp=Z,156nm,19.9s,baz=164,slow=37						
MJAR	**Matsushiro Arr**	**12.04**	**43**	LR	LR	06 23 25.6	
	comp=Z,119nm,22.0s,baz=290,slow=38						
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**06 21 16.5**	**+0.3**
	1.2nm,0.8s,mb3.5,baz=139,slow=10,SNR=10						
MKAR	**Makanchi Array**	**40.27**	**310**	P	**P**	**06 23 20.3**	**-0.1**
	0.6nm,0.7s,mb3.4,baz=100,slow=9.8,SNR=9.7						
ZAL	**Zalesovo**	**40.77**	**322**	LR	LR	06 42 30.8	
	comp=Z,48nm,18.9s,MS3.4,baz=66,slow=40						
PMG	**Port Moresby**	**41.53**	**151**	LR	LR	06 38 34.0	
	comp=Z,34nm,18.8s,MS3.2,baz=113,slow=33						
WRA	**Warramunga Arr**	**48.07**	**172**	P	**P**	**06 24 23.0**	**+0.2**
	0.6nm,0.6s,mb3.8,baz=351,slow=8.1,SNR=6.3						
BVAR	**Borovoye Array**	**48.87**	**317**	LR	LR	06 46 36.3	
	comp=Z,92nm,18.8s,MS3.8,baz=139,slow=38						
ASAR	**Alice Springs**	**51.70**	**173**	P	**P**	**06 24 51.3**	**+0.9**
	0.2nm,0.7s,mb3.1,baz=3.6,slow=15,SNR=4.1						

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*NEIC **26** 06:33:21.8±0.3, 2237S×6575W, mb4.5/49, Error ellipse: s-maj=9.0km s-min=6.8km az=101.0*
*ISCJB **26** 06:33:21.4±0.2, 2238S±004×6553W±004, h288km, mb4.3/63, Error ellipse: s-maj=5.6km s-min=4.8km az=123.3*
*GUC **26** 06:33:21.3±0.6, 2286S×6576W, h257km, MD4.3*
*BJI **26** 06:33:22.8, 2240S×6570W, h288km*
*IDC **26** 06:33:22.3±0.6, 2218S×6562W, h280km±4km, mb3.8/14, mb1 4.1/18, mb1mx4.0/20, mbtmp3.9/18, Error ellipse: s-maj=15.9km s-min=9.4km az=78.0*
*LDG **26** 06:33:25.3±0.3, 2156S×6544W, h300km, Mb4.6/22, Ms3.1/1, Error ellipse: s-maj=39.3km s-min=12.6km az=152.0*
ISC 26 06:33:23.0±0.2, 2233S±004×6545W±004, h290km, h290km±1.4km: pP-P, n312, σ0=76/308, mb4.3/62, 81C-78D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**4.51**	**256**	*i* P	**Pn**	**06 34 30.6**	**-3.7**
CEN1				⇓*i*P		06 34 30.6	
CEN1				*i* S	**S**	**06 35 22.9**	**-8.6**
CPN1	**Cerro Paranal**	**5.09**	**242**	⇑*i*P	**Pn**	**06 34 35.9**	**-5.3**
CPN1				*i* S	**S**	**06 35 32.0**	**-12**
LPAZ	**La Paz**	**6.52**	**337**	P	**Pn**	**06 34 55.5**	**-2.9**
	7.6nm,0.3s,baz=138,slow=7.3,SNR=199						
LPAZ				S	**S**	**06 36 07.5**	**-7.7**
	4.8nm,0.3s,baz=280,slow=19,SNR=19						
LPAZ	**La Paz**	**6.52**	**337**	*e*Pn	**Pn**	**06 34 55.5**	**-2.8**
	27nm,0.6s						
LPAZ				*e*S	**S**	**06 36 07.8**	**-7.4**
CPCH	**Copiapo**	**6.70**	**221**	⇑*i*P	**Pn**	**06 34 53.6**	**-6.9**
CPCH				*i* S	**S**	**06 36 07.5**	**-12**
CDCH	**Caldera**	**6.80**	**225**	⇓*i*P	**Pn**	**06 34 55.4**	**-6.3**
CDCH				*i* S	**S**	**06 36 06.9**	**-14**
SIV	**San Ignacio**	**7.54**	**34**	P	**Pn**	**06 35 09.6**	**-1.2**
	42nm,0.3s,baz=225,slow=11,SNR=716						
ARE	**Arequipa**	**8.16**	**315**	⇓*i*P	**Pn**	**06 35 12.0**	**-6.4**
ARE				*e*S	**S**	**06 36 38.0**	**-14**
LCO	**Las Campanas**	**8.17**	**214**	*e*Pn	**Pn**	**06 35 14.0**	**-4.5**
	85nm,0.5s						
LCO				*e*S	**S**	**06 36 32.5**	**-20**
TLL	**Tololo Astrono**	**9.16**	**211**	*e*P	**Pn**	**06 35 27.0**	**-3.8**
CFAA	**Coronel Fontan**	**9.57**	**194**	P	**Pn**	**06 35 32.1**	**-3.7**
	1.5nm,0.3s,baz=14,slow=12,SNR=232						
CFAA				S	**S**	**06 37 13.6**	**-10**
	3.0nm,0.3s,baz=274,slow=20,SNR=16						
PTCH	**Petorca**	**11.03**	**205**	⇓*i*P	**Pn**	**06 35 55.7**	**+1.9**
PEL	**Peldehue**	**11.72**	**202**	*e*P	**Pn**	**06 35 59.5**	**-2.8**
FCH	**Farellones**	**11.76**	**200**	*e*P	**Pn**	**06 36 02.2**	**-0.5**
NNA	**Nana**	**14.97**	**312**	P	**Pn**	**06 36 36.6**	**-4.8**
	5.3nm,0.3s,baz=168,slow=20,SNR=12						
NNA				S	**S**	**06 39 15.9**	**-8.0**
	2.5nm,0.3s,baz=220,slow=20,SNR=5.8						
NNA	**Nana**	**14.97**	**312**	P	**Pn**	**06 36 36.6**	**-4.7**
NNA				S	**S**	**06 39 15.8**	**-8.0**
TRQA	**Tornquist**	**15.96**	**170**	*e*P	**Pn**	**06 36 48.6**	**-4.3**
	14nm,0.8s						
PLCA	**Paso Flores**	**18.85**	**192**	P	**P**	**06 37 21.6**	**-0.6**
	4.4nm,0.3s,baz=11,slow=11,SNR=43						
PLCA	**Paso Flores**	**18.85**	**192**	*e*P	**P**	**06 37 21.3**	**-0.9**
	20nm,0.5s						
ATAH	**Atahualpa**	**19.70**	**319**	P	**P**	**06 37 31.1**	**-0.1**
	0.6nm,0.3s,baz=151,slow=5.8,SNR=6.9						
OTAV	**Otavalo**	**25.76**	**329**	*e*P	**P**	**06 38 27.4**	**-0.3**
	1.7nm,0.6s,mb3.6						
ROSC	**El Rosal**	**28.38**	**341**	P	**P**	**06 38 53.2**	**+2.3**
	6.7nm,0.4s,mb4.4,baz=100,slow=18,SNR=9.5						
ROSC	**El Rosal**	**28.38**	**341**	*e*P	**P**	**06 38 54.1**	**+3.2**
SDV	**Santo Domingo**	**31.44**	**350**	*e*P	**P**	**06 39 15.4**	**-2.3**
	10nm,0.4s,mb4.7						
USHA	**Ushuaia**	**32.53**	**183**	P	**P**	**06 39 27.6**	**+0.4**
	7.3nm,0.7s,mb4.3,baz=333,slow=8.3,SNR=11						
CPD	**Cerro la Pandu**	**40.12**	**359**	*e*P	**P**	**06 40 29.6**	**-1.5**
VNA3	**Neumayer Olymp**	**58.27**	**162**	*e*P	**P**	**06 42 49.5**	**+1.8**
VNA1	**Neumayer--Stat**	**58.44**	**161**	*e*P	**P**	**06 42 49.3**	**+0.5**
VNA2	**Neuyer--Watz**	**58.81**	**161**	*e*P	**P**	**06 42 53.2**	**+1.8**
	baz=300,slow=7.5						
SNAA	**Sanae**	**60.45**	**161**	P	**P**	**06 43 04.0**	**+1.4**
	4.7nm,0.7s,mb4.1,baz=283,slow=6.5,SNR=52						
SNAA	**Sanae**	**60.45**	**161**	*e*P	**P**	**06 43 03.9**	**+1.4**
SNAA	**Sanae**	**60.45**	**161**	*e*P	**P**	**06 43 03.4**	**+0.8**
	14nm,0.8s,mb4.5						
WVT	**Waverly**	**61.88**	**340**	*e*P	**P**	**06 43 09.8**	**-2.3**
	9.7nm,0.8s,mb4.5						
WVT				*e*pP	pP	06 44 13.7	-2.3
JCT	**Junction City**	**62.01**	**327**	*e*P	**P**	**06 43 11.3**	**-1.6**
	4.4nm,0.6s,mb4.3						
MIAR	**Mount Ida**	**62.56**	**334**	*e*P	**P**	**06 43 14.9**	**-1.6**
	2.3nm,0.6s,mb4.0						
LTX	**Lajitas**	**63.19**	**323**	*e*P	**P**	**06 43 19.3**	**-1.4**
	1.4nm,0.6s,mb3.8						
MAIT	**Maitri**	**64.88**	**159**	*e*P	**P**	**06 43 30.6**	**-1.0**
WMOK	**Wichita Mounta**	**64.99**	**330**	*e*P	**P**	**06 43 29.2**	**-3.1**
	1.1nm,0.5s,mb3.7						
LIC	**Lamto**	**65.56**	**72**	⇑*i*P	**P**	**06 43 36.4**	**+0.4**
	21nm,0.6s,mb4.8,baz=254						
LIC	**Lamto**	**65.56**	**72**	⇑*i*P	**P**	**06 43 36.4**	**+0.4**
	10nm,0.6s,mb4.7						
MNTX	**Cornudas Mount**	**65.94**	**323**	*e*P	**P**	**06 43 36.0**	**-2.3**
	5.6nm,0.9s,mb4.3						
LPM	**Los Pinos Moun**	**68.60**	**324**	*e*P	**P**	**06 43 54.3**	**-0.7**
CBKS	**Cedar Bluff**	**68.79**	**332**	*e*P	**P**	**06 43 55.6**	**-0.5**
	15nm,1.0s,mb4.7						
ANMO	**Albuquerque**	**68.99**	**325**	*e*P	**P**	**06 43 56.9**	**-0.4**
	3.8nm,0.9s,mb4.1						
116A	**Eloy**	**70.23**	**320**	⇓P	**P**	**06 44 05.1**	**+0.2**
	baz=70						
SDCO	**Great Sand Dun**	**70.64**	**327**	*e*P	**P**	**06 44 07.4**	**+0.1**
	2.4nm,0.6s,mb4.0						
SDCO				*e*pP	pP	06 45 14.5	+1.3
115A	**Sonoran Desert**	**70.64**	**319**	⇓P	**P**	**06 44 08.4**	**+1.0**
	baz=71						
MVCO	**Mesa Verde**	**71.78**	**325**	*e*P	**P**	**06 44 14.1**	**0.0**
	12nm,1.1s,mb4.4						
MVCO	**Mesa Verde**	**71.78**	**325**	⇑P	**P**	**06 44 14.5**	**+0.3**
	baz=72						
X15A	**Humboldt**	**71.89**	**321**	P	**P**	**06 44 15.2**	**+0.3**
	baz=72,SNR=6.3						
Y14A	**Wickenburg**	**71.97**	**320**	⇑P	**P**	**06 44 15.3**	**+0.1**
	baz=72						
WUAZ	**Wupatki**	**72.12**	**322**	⇓P	**P**	**06 44 17.0**	**+0.8**
	baz=72						
X14A	**Yava**	**72.27**	**320**	⇑P	**P**	**06 44 17.5**	**+0.5**
	baz=72						
Y13A	**Salome**	**72.38**	**319**	P	**P**	**06 44 17.7**	**+0.1**
	baz=72,SNR=6.1						
W15A	**Williams**	**72.40**	**321**	⇑P	**P**	**06 44 18.6**	**+0.8**
	baz=72						
SMCO	**Snowmass**	**72.47**	**327**	*e*P	**P**	**06 44 18.5**	**+0.3**
	3.0nm,0.5s,mb4.2						
Y12C	**Blythe**	**72.75**	**319**	⇑P	**P**	**06 44 19.8**	**-0.1**
	baz=73						
PDMCI	**Parker Dam,Lak**	**72.90**	**319**	⇓P	**P**	**06 44 21.1**	**+0.4**
	baz=73						
W14A	**Seligman**	**72.90**	**321**	⇑P	**P**	**06 44 21.4**	**+0.6**
	baz=73						
X13A	**Yucca**	**72.91**	**320**	P	**P**	**06 44 20.8**	**0.0**
	baz=73,SNR=5.3						
SWSC	**Sam W. Stewart**	**73.00**	**317**	⇑P	**P**	**06 44 21.7**	**+0.4**
	baz=73						
DVTC	**Desert V Tower**	**73.00**	**317**	⇑P	**P**	**06 44 21.9**	**+0.5**
	baz=73						
BC3	**Big Chuckw Mtn**	**73.26**	**318**	⇑P	**P**	**06 44 23.1**	**+0.2**
	baz=73						
W13A	**Hualapai Mount**	**73.29**	**320**	P	**P**	**06 44 23.5**	**+0.5**
	baz=73,SNR=5.7						
MONP	**Monument Peak**	**73.36**	**317**	⇓P	**P**	**06 44 23.5**	**+0.1**
	baz=74						
IRM	**Iron Mountain**	**73.42**	**319**	⇑P	**P**	**06 44 24.1**	**+0.3**
	baz=74						
BELC	**Belle Mtn.**	**73.83**	**318**	⇑P	**P**	**06 44 26.4**	**+0.2**
	baz=74						
PFO	**Pinyon Flat Ob**	**73.85**	**318**	P	**P**	**06 44 26.4**	**+0.1**
	1.6nm,0.8s,mb3.7,baz=121,slow=2.8						
PFO	**Pinyon Flat Ob**	**73.85**	**318**	⇓P	**P**	**06 44 26.6**	**+0.3**
	baz=74						
W12A	**Cal Nev Ari**	**74.02**	**320**	⇑P	**P**	**06 44 27.5**	**+0.3**
	baz=74						
GMRC	**Granite Mounta**	**74.14**	**319**	P	**P**	**06 44 28.0**	**+0.1**
	baz=74,SNR=10						
SRU	**San Rafael**	**74.25**	**325**	*e*P	**P**	**06 44 28.4**	**-0.2**
	6.8nm,0.8s,mb4.3						
SRU				*e*pP	pP	06 45 34.6	-0.5
V12A	**Nelson**	**74.30**	**320**	P	**P**	**06 44 29.1**	**+0.3**
	baz=74,SNR=5.9						
BBRC	**Big Bear Sol-O**	**74.58**	**318**	⇑P	**P**	**06 44 30.9**	**+0.4**
	baz=75						
SYO	**Syowa Base**	**74.58**	**159**	⇑*e*P	**P**	**06 44 31.6**	**+1.1**
SYO	**Syowa Base**	**74.58**	**159**	⇑*e*PcP	PcP	06 44 42.2	-1.1
HEC	**Hector,Ludlow**	**74.59**	**319**	P	**P**	**06 44 31.0**	**+0.5**
	baz=75,SNR=6.3						
U12A	**Valley of Fire**	**74.59**	**321**	P	**P**	**06 44 30.9**	**+0.4**
	baz=75,SNR=8.7						
TOA0	**Torodi Ar. Sit**	**74.64**	**69**	*e*P	**P**	**06 44 31.0**	**+0.3**
TOA0				*e*pP	pP	06 45 37.9	+0.5
TORD	**Torodi Ar. Bea**	**74.64**	**69**	P	**P**	**06 44 31.2**	**+0.4**
	30nm,0.6s,mb5.1,baz=254,slow=5.5,SNR=442						
TORD				pP	pP	06 45 37.5	+0.2
	6.1nm,0.7s,baz=252,slow=4.9,SNR=3.6						
MSU	**Marysvale**	**74.71**	**324**	*e*P	**P**	**06 44 31.4**	**+0.2**
MSU				*e*pP	pP	06 45 39.6	+1.8
V11A	**Goodsprings**	**74.72**	**320**	⇓P	**P**	**06 44 31.6**	**+0.4**
	baz=75						
TUQ	**Turquoise Mtn.**	**74.74**	**319**	⇓P	**P**	**06 44 31.9**	**+0.5**
	baz=75						
BFSC	**Mount Baldy St**	**75.02**	**317**	⇑P	**P**	**06 44 33.2**	**+0.2**
	baz=75						
GSC	**Goldstone**	**75.19**	**319**	P	**P**	**06 44 34.2**	**+0.3**
	baz=75,SNR=5.4						
SHOC	**Shoshone**	**75.27**	**319**	⇑P	**P**	**06 44 34.1**	**-0.3**
	baz=75						
DECC	**Green Verdugo**	**75.45**	**317**	⇓P	**P**	**06 44 35.4**	**0.0**
	baz=76						
DAU	**Daniels Canyon**	**75.59**	**326**	*e*P	**P**	**06 44 36.6**	**+0.4**
EDW2	**Edwards Air Fo**	**75.64**	**318**	⇓P	**P**	**06 44 36.3**	**-0.2**
	baz=76						
U10A	**Ash Meadows, A**	**75.65**	**320**	⇑P	**P**	**06 44 37.3**	**+0.8**
	baz=76						
LRMC	**Laurel Mountai**	**75.85**	**318**	⇓P	**P**	**06 44 37.7**	**+0.1**
	baz=76						
FURC	**Furnace Creek,**	**76.00**	**320**	P	**P**	**06 44 39.1**	**+0.6**
	baz=76,SNR=6.1						
MPMC	**Manual Prospec**	**76.11**	**319**	⇓P	**P**	**06 44 39.2**	**+0.1**
	baz=76						
DUG	**Dugway**	**76.26**	**325**	⇑P	**P**	**06 44 40.4**	**+0.4**
	baz=76						
ISA	**Isabella**	**76.45**	**318**	⇓P	**P**	**06 44 41.5**	**+0.5**
	baz=77						
PDAR	**Pinedale Array**	**76.47**	**328**	P	**P**	**06 44 40.5**	**-0.6**
	1.2nm,0.5s,mb3.8,baz=128,slow=8.4,SNR=20						
Q12A	**Willow Creek R**	**76.56**	**323**	⇑P	**P**	**06 44 42.0**	**+0.4**
	baz=77						
VNDA	**Vanda**	**76.58**	**189**	P	**P**	**06 44 42.5**	**+0.8**
	2.9nm,0.8s,mb4.1,baz=136,slow=4.7,SNR=11						
HWUT	**Hardware Ranch**	**76.62**	**326**	*e*P	**P**	**06 44 41.5**	**-0.4**
	2.3nm,0.6s,mb4.1						
GRAC	**Grapevine Rang**	**76.66**	**320**	⇑P	**P**	**06 44 42.4**	**+0.3**
	baz=77						
CWC	**Cottonwood Cre**	**76.72**	**319**	⇓P	**P**	**06 44 42.9**	**+0.4**
	baz=77						
TSUM	**Tsumeb**	**76.72**	**105**	*e*P	**P**	**06 44 44.0**	**+1.5**
	9.9nm,0.6s,mb4.7						
PKM	**Peak Mountain**	**76.81**	**317**	⇓P	**P**	**06 44 43.4**	**+0.4**
	baz=77						
SCHQ	**Schefferville**	**76.85**	**359**	P	**P**	**06 44 41.9**	**-1.4**
	3.7nm,0.8s,mb4.2,baz=216,slow=8.7,SNR=5.6						
R10A	**Warm Springs**	**76.89**	**321**	P	**P**	**06 44 44.5**	**+1.0**
	baz=77,SNR=8.1						
Q11A	**Duckwater**	**76.89**	**322**	⇓P	**P**	**06 44 44.1**	**+0.7**
	baz=77						
P12A	**McGill**	**76.90**	**323**	⇓P	**P**	**06 44 44.2**	**+0.7**
	baz=77						
VES	**Vestal, Richgr**	**76.94**	**318**	⇓P	**P**	**06 44 43.9**	**+0.1**
	baz=77						
S09A	**Goldfield**	**77.05**	**320**	⇑P	**P**	**06 44 44.7**	**+0.4**
	baz=77						
ULM	**Lac du Bonnet**	**77.12**	**341**	P	**P**	**06 44 43.2**	**-1.5**
	1.2nm,0.5s,mb3.9,baz=155,slow=5.2,SNR=6.5						
ULM				pP	pP	06 45 50.1	-1.6
	2.6nm,0.8s,baz=160,slow=8.9,SNR=3.7						
SMMC	**Simmler**	**77.18**	**317**	⇑P	**P**	**06 44 45.6**	**+0.5**
	baz=77						
TIN	**Tinemaha**	**77.21**	**319**	⇑P	**P**	**06 44 46.0**	**+0.8**
	baz=77						
R09A	**Tonopah**	**77.30**	**321**	⇓P	**P**	**06 44 45.8**	**+0.1**
	baz=77						
RCTC	**Rector, Farmer**	**77.34**	**318**	⇓P	**P**	**06 44 45.5**	**-0.4**
	baz=78						
HELL	**Mitchell Peak,**	**77.45**	**318**	⇑P	**P**	**06 44 46.4**	**-0.2**
	baz=78						
S08C	**White Mtn Res**	**77.47**	**320**	⇑P	**P**	**06 44 47.2**	**+0.6**
	baz=78						
N13A	**Wendover, West**	**77.47**	**324**	⇓P	**P**	**06 44 46.7**	**0.0**
	baz=78						
O11A	**Cowboy Ranch,**	**77.77**	**323**	⇓P	**P**	**06 44 48.6**	**+0.3**
	baz=78						
M13A	**Montello**	**77.81**	**325**	⇓P	**P**	**06 44 48.5**	**0.0**
	baz=78						
P10A	**Eureka**	**77.88**	**322**	⇓P	**P**	**06 44 49.8**	**+0.9**
	baz=78						
N12A	**Clover Valley,**	**77.93**	**324**	⇓P	**P**	**06 44 49.3**	**+0.2**
	baz=78						
PKD	**Parkfield**	**77.93**	**317**	⇑P	**P**	**06 44 48.8**	**-0.3**
	baz=78						
R08A	**Mina**	**77.98**	**320**	⇑P	**P**	**06 44 50.1**	**+0.6**
	baz=78						
KCC	**Kaiser Creek**	**78.05**	**319**	⇑P	**P**	**06 44 49.1**	**-0.7**
	baz=78						
T06C	**Milleton Lake**	**78.08**	**318**	⇑P	**P**	**06 44 49.8**	**-0.2**
	baz=78						
NVAR	**Mina Array Bea**	**78.15**	**320**	P	**P**	**06 44 49.4**	**-1.0**
	1.1nm,0.6s,mb3.8,baz=128,slow=5.3,SNR=10.0						
L13A	**Double Diamond**	**78.20**	**325**	P	**P**	**06 44 51.0**	**+0.3**
	baz=78,SNR=10						
P09A	**Austin**	**78.22**	**322**	⇓P	**P**	**06 44 50.9**	**+0.1**
	baz=78						
Q08A	**Gabbs**	**78.22**	**321**	P	**P**	**06 44 50.5**	**-0.3**
	baz=78,SNR=6.0						
M12A	**Wells**	**78.25**	**324**	P	**P**	**06 44 51.0**	**+0.1**
	baz=78,SNR=9.1						
N11A	**Elko Archery C**	**78.28**	**323**	⇑P	**P**	**06 44 51.4**	**+0.3**
	baz=78						
U04C	**Hernandez Rese**	**78.34**	**317**	⇓P	**P**	**06 44 51.6**	**+0.2**
	baz=78						
O10A	**Cortez Mining,**	**78.35**	**323**	⇑P	**P**	**06 44 51.6**	**+0.1**
	baz=78						
N10A	**Dunphy**	**78.65**	**323**	⇑P	**P**	**06 44 53.2**	**+0.1**
	baz=79						
O09A	**Fish Creek Ran**	**78.66**	**322**	⇑P	**P**	**06 44 53.4**	**+0.2**
	baz=79						
K13A	**Stover Farm, H**	**78.67**	**326**	⇓P	**P**	**06 44 53.7**	**+0.4**
	baz=79						
S05C	**Merced**	**78.68**	**318**	⇑P	**P**	**06 44 53.4**	**+0.1**
	baz=79						
S06C	**San Francisco**	**78.73**	**319**	⇓P	**P**	**06 44 53.6**	**0.0**
	baz=79						
M11A	**Holland Ranch,**	**78.74**	**324**	⇑P	**P**	**06 44 54.1**	**+0.5**
	baz=79						
HAST	**UC Hastings Re**	**78.84**	**317**	⇓P	**P**	**06 44 54.4**	**+0.3**
	baz=79						
P08A	**Dixie Valley**	**78.86**	**321**	⇑P	**P**	**06 44 54.6**	**+0.4**
	baz=79						
R06C	**Coleville**	**78.90**	**320**	⇑P	**P**	**06 44 55.4**	**+0.9**
	baz=79						
K12A	**Draper Farm, C**	**79.09**	**325**	P	**P**	**06 44 56.2**	**+0.7**
	baz=79,SNR=10						
M10A	**I.L. Ranch, Tu**	**79.21**	**323**	⇓P	**P**	**06 44 56.6**	**+0.5**
	baz=79						
J13A	**Cove Ranch, Pi**	**79.25**	**326**	⇓P	**P**

	baz=81						
E14A	Clinton	81.05	329	⇓P	P	06 45 06.3	+0.4
	baz=81						
K08A	Mann Creek Ran	81.09	323	⇓P	P	06 45 06.4	+0.2
	baz=81						
H11A	Donnelly	81.11	326	⇑P	P	06 45 06.0	-0.3
	baz=81						
M06C	Likely Place G	81.23	321	⇓P	P	06 45 06.9	+0.1
	baz=81						
E13A	Victor	81.41	328	P	P	06 45 07.9	+0.1
	baz=82,SNR=9.4						
H10A	Noah's Angus R	81.41	326	⇓P	P	06 45 08.0	+0.2
	baz=82						
K07A	Rock Creek Ran	81.49	323	⇓P	P	06 45 08.9	+0.7
	baz=82						
J08A	Circle Bar Ran	81.50	324	⇓P	P	06 45 08.6	+0.3
	baz=82						
I09A	Lost Marbles R	81.52	325	P	P	06 45 08.4	0.0
	baz=82,SNR=5.2						
D14A	Greenough	81.54	329	⇑P	P	06 45 08.4	-0.1
	baz=82						
G11A	Walters Elk Ra	81.72	327	⇑P	P	06 45 09.6	+0.2
	baz=82						
P01C	Double 8 Ranch	81.85	319	⇑P	P	06 45 10.1	0.0
	baz=82						
I08A	Drewsey	81.92	324	⇑P	P	06 45 10.7	+0.2
	baz=82						
H09A	Durkee	81.94	325	⇑P	P	06 45 10.8	+0.3
	baz=82						
L05A	Lakeview	81.97	322	⇓P	P	06 45 11.0	+0.3
	baz=82						
D13A	Huson	82.00	329	⇑P	P	06 45 10.8	-0.1
	baz=82						
PCBR	Castelo Branco	82.12	41	eP	P	06 45 11.7	+0.2
E11A	Bogner Ranch,	82.35	327	⇓P	P	06 45 12.2	-0.5
	baz=82						
H08A	Prairie City	82.38	325	⇓P	P	06 45 12.9	+0.1
	baz=82						
K05A	Summer Lake	82.44	322	⇓P	P	06 45 12.9	-0.3
	baz=83						
C13A	Hot Springs	82.47	329	⇑P	P	06 45 13.3	0.0
	baz=83						
I07A	Izee	82.54	324	⇓P	P	06 45 13.8	+0.1
	baz=83						
MAW	Mawson	82.59	162	P	P	06 45 14.5	+0.6
	6.9nm,0.8s,mb4.6,baz=198,slow=6.6,SNR=7.7						
F10A	Beach Ranch, E	82.60	326	⇑P	P	06 45 13.9	-0.1
	baz=83						
L04A	Klamath Falls	82.66	321	⇓P	P	06 45 14.2	-0.1
	baz=83						
M02C	Callahan	82.73	320	⇓P	P	06 45 14.1	-0.5
	baz=83						
I06A	Prineville	82.84	324	⇑P	P	06 45 15.5	+0.3
	baz=83						
PVRL	Vila Real	82.86	40	eP	P	06 45 16.0	+0.7
E10A	Myers Farm, Un	82.89	327	⇓P	P	06 45 15.6	+0.2
	baz=83						
B13A	Whitefish	82.92	330	⇓P	P	06 45 15.6	0.0
	baz=83						
PCAB	Cabril	82.94	39	eP	P	06 45 16.1	+0.4
G08A	Pilot Rock	83.04	325	⇓P	P	06 45 16.1	-0.1
	baz=83						
F08A	Pendleton	83.28	326	⇓P	P	06 45 17.0	-0.4
	baz=83						
D10A	Wagner Farm, O	83.36	327	⇑P	P	06 45 17.1	-0.7
	baz=84						
G07A	Ruggs Ranch, H	83.41	325	⇓P	P	06 45 18.2	+0.1
	baz=84						
H06A	Lindquist Farm	83.42	324	⇓P	P	06 45 18.3	+0.2
	baz=84						
J04A	Umpqua Nationa	83.45	322	⇑P	P	06 45 18.6	+0.3
	baz=84						
B12A	Libby	83.51	329	⇑P	P	06 45 18.6	0.0
	baz=84						
PBRG	Braganca	83.76	40	eP	P	06 45 20.6	+0.7
ECAL	Calabor	83.84	40	P	P	06 45 19.8	-0.4
	7.3nm,0.6s,mb4.7						
B11A	Sandpoint	83.86	329	⇓P	P	06 45 20.0	-0.4
	baz=84						
A12A	Yaak River Ran	83.87	329	⇑P	P	06 45 20.3	-0.1
	baz=84						
ERUA	La Rua	83.88	39	P	P	06 45 20.7	+0.2
	9.8nm,0.6s,mb4.8						
D09A	Jones Farm, Ri	83.89	327	⇑P	P	06 45 20.2	-0.3
	baz=84						
PAB	San Pablo	83.89	43	eP	P	06 45 21.2	+0.7
	4.1nm,0.6s,mb4.4						
E08A	Dider Farm, El	83.89	326	⇓P	P	06 45 20.3	-0.2
	baz=84						
D08A	Wollman Farm,	84.19	326	⇓P	P	06 45 21.7	-0.3
	baz=84						
ESDC	Sonseca Array	84.21	43	P	P	06 45 22.3	+0.2
	1.6nm,0.5s,mb4.1,baz=233,slow=4.5,SNR=17						
ESLA	Sonseca Array	84.21	43	eP	P	06 45 22.9	+0.8
	1.4nm,1.0s,mb3.8						
A11A	Hall Mountain,	84.22	329	⇑P	P	06 45 22.0	-0.2
	baz=84						
EPON	Pontenova	84.45	39	P	P	06 45 24.0	+0.7
	5.8nm,0.6s,mb4.6						
B09A	Rice	84.72	328	⇑P	P	06 45 25.2	+0.6
	baz=85						
D07A	Quincy	84.83	326	⇑P	P	06 45 25.4	+0.2
	baz=85						
E06A	Yakima	84.93	325	⇑P	P	06 45 26.1	+0.4
	baz=85						
C07A	Waterville	85.20	326	⇓P	P	06 45 26.4	-0.6
	baz=85						
B08A	Colville Reser	85.27	327	⇓P	P	06 45 26.9	-0.4
	baz=85						
D06A	Cle Elum	85.28	326	⇓P	P	06 45 27.3	-0.1
	baz=85						
A09A	Danville	85.31	328	⇓P	P	06 45 27.1	-0.4
	baz=86						
EARI	Arriondas	85.56	39	P	P	06 45 28.7	-0.1
	7.5nm,0.9s,mb4.5						
A08A	Turner Farm, O	85.63	328	⇑P	P	06 45 28.8	-0.3
	baz=86						
B07A	Winthrop	85.73	327	⇓P	P	06 45 28.8	-0.8
	baz=86						
D05A	Enumclaw	85.88	325	⇓P	P	06 45 29.7	-0.6
	baz=86						
C05A	Tolt Reservoir	86.04	326	⇓P	P	06 45 30.0	-1.1
	baz=86						
A07A	Ashnola River,	86.24	327	⇑P	P	06 45 32.0	-0.1
	baz=86						
B06A	Marblemount	86.46	326	⇑P	P	06 45 32.1	-1.0
	baz=87						
B05A	Bryant	86.61	326	⇓P	P	06 45 33.0	-0.9
	baz=87						
ECRI	Cripan	86.78	41	P	P	06 45 35.3	+0.6
	4.6nm,0.4s,mb4.7						
A05A	Maple Falls	87.07	327	⇑P	P	06 45 35.4	-0.7
	baz=87						
LSZ	Lusaka	87.58	105	eP	P	06 45 41.4	+2.9
	9.6nm,1.2s,mb4.5						
ERTA	Horta de San J	87.65	44	P	P	06 45 36.5	-2.3
	4.7nm,0.8s,mb4.4						
SJPF	Ste Jean	87.84	41	eP	P	06 45 40.1	+0.3
	11nm,0.8s,mb4.5						
SJPF	Ste Jean	87.84	41	eP	P	06 45 40.1	+0.3
	5.6nm,0.8s,mb4.5						
ETSF	Etsaut	88.14	42	eP	P	06 45 41.6	+0.5
	9.5nm,0.8s,mb4.4						
ETSF	Etsaut	88.14	42	eP	P	06 45 41.6	+0.5
	4.8nm,0.8s,mb4.4						
EBIE	Bielsa	88.46	42	P	P	06 45 42.9	+0.3
	4.0nm,0.8s,mb4.3						
EPF	Esparros	88.76	42	eP	P	06 45 44.4	+0.3
	7.8nm,0.8s,mb4.3						
EPF	Esparros	88.76	42	eP	P	06 45 44.4	+0.3
	3.9nm,0.8s,mb4.3						
QUIF	Quistinic	89.42	37	eP	P	06 45 46.2	-0.9
ROSF	Rostrenen	89.60	36	eP	P	06 45 46.6	-1.4
	16nm,0.7s,mb4.6						
SGMF	Saint Gilles	89.94	37	eP	P	06 45 48.4	-1.2
LFF	La Frestale	90.03	41	eP	P	06 45 49.7	-0.2
MTLF	Montolieu	90.09	42	eP	P	06 45 50.1	-0.2
MFF	Saint Martin d	90.39	39	eP	P	06 45 51.3	-0.4
	22nm,0.8s,mb4.8						
MFF	Saint Martin d	90.39	39	eP	P	06 45 51.3	-0.4
	11nm,0.8s,mb4.7						
RJF	Les Rejaudoux	90.68	41	eP	P	06 45 52.3	-0.7
	9.2nm,0.9s,mb4.3						
RJF	Les Rejaudoux	90.68	41	eP	P	06 45 52.3	-0.7
	4.6nm,0.9s,mb4.3						
CAF	Calviac	90.82	41	eP	P	06 45 53.4	-0.2
	12nm,1.0s,mb4.4						
CAF	Calviac	90.82	41	eP	P	06 45 53.4	-0.2
	6.2nm,1.0s,mb4.4						
GRR	Gorron	90.96	37	eP	P	06 45 53.2	-1.1
	20nm,0.7s,mb4.8						
GRR	Gorron	90.96	37	eP	P	06 45 53.2	-1.1
	10nm,0.7s,mb4.8						
FLN	La Foliniere	91.37	37	eP	P	06 45 55.3	-0.9
	5.5nm,0.6s,mb4.3						
FLN	La Foliniere	91.37	37	eP	P	06 45 55.3	-0.9
	2.8nm,0.6s,mb4.3						
LDF	La Druitiere	91.48	37	eP	P	06 45 55.7	-1.0
	19nm,0.7s,mb4.7						
LDF	La Druitiere	91.48	37	eP	P	06 45 55.7	-1.0
	9.7nm,0.7s,mb4.7						
TCF	Toulx Ste Croi	91.61	40	eP	P	06 45 56.6	-0.7
	9.0nm,0.9s,mb4.4						
TCF	Toulx Ste Croi	91.61	40	eP	P	06 45 56.6	-0.7
	4.5nm,0.9s,mb4.4						
BGF	Bois d'Agland	92.13	40	eP	P	06 45 59.2	-0.5
VIVF	Saint-Julien-l	92.39	42	eP	P	06 46 00.9	0.0
	17nm,1.2s,mb4.6						
AVF	Avril sur Loir	92.55	40	eP	P	06 46 00.2	-1.4
SMF	Signal de Mont	92.76	40	eP	P	06 46 02.1	-0.5
	9.6nm,0.8s,mb4.5						
SMF	Signal de Mont	92.76	40	eP	P	06 46 02.1	-0.5
	4.8nm,0.8s,mb4.5						
SSF	Saint Saulge	92.77	40	eP	P	06 46 01.6	-1.0
YKA	Yellowknife Ar	93.06	339	P	P	06 46 02.8	-1.2
	1.1nm,0.6s,mb4.0,baz=128,slow=4.5,SNR=70						
YKA				pP	pP	06 47 10.6	-2.6
	1.2nm,0.7s,baz=124,slow=4.3,SNR=7.6						
LOR	Lormes	93.08	40	eP	P	06 46 03.1	-1.0
	5.4nm,0.8s,mb4.2						
ORIF	Oris-en-Rattie	93.17	42	eP	P	06 46 05.0	+0.5
	6.6nm,0.6s,mb4.4						
ORIF	Oris-en-Rattie	93.17	42	eP	P	06 46 05.0	+0.5
	3.3nm,0.6s,mb4.4						
MBDF	Montbardon	93.63	43	eP	P	06 46 07.1	+0.5
	6.9nm,0.8s,mb4.4						
MBDF	Montbardon	93.63	43	eP	P	06 46 07.1	+0.5
	3.5nm,0.8s,mb4.4						
LPL	La Plagne	93.98	42	eP	P	06 46 08.8	+0.6
	10nm,0.8s,mb4.6						
LPL	La Plagne	93.98	42	eP	P	06 46 08.8	+0.6
	5.3nm,0.8s,mb4.6						
LPG	La Plagne	93.98	42	eP	P	06 46 09.0	+0.8
	4.9nm,0.6s,mb4.5						
LPG	La Plagne	93.98	42	eP	P	06 46 09.0	+0.8
	2.5nm,0.6s,mb4.4						
CABF	La Chapelle	94.10	41	eP	P	06 46 08.5	-0.2
	13nm,1.1s,mb4.6						
CABF	La Chapelle	94.10	41	eP	P	06 46 08.5	-0.2
	6.5nm,1.0s,mb4.6						
HAU	Haudompre	94.91	40	eP	P	06 46 11.6	-0.8
GIVF	Givet	95.03	37	eP	P	06 46 12.3	-0.7
HINF	Hinteralfeld	95.13	40	eP	P	06 46 12.4	-1.0
CDF	Champ du Feu	95.65	40	eP	P	06 46 15.1	-0.7
GERES	GERESS Array B	99.70	41	P	Pdif	06 46 34.2	+0.2
	0.6nm,0.7s,baz=198,slow=3.5,SNR=4.5						
CTA	Charters Tower	127.69	219	PKP	PKPdf	06 51 54.6	+0.7
	2.9nm,1.0s,baz=14,slow=4.8,SNR=4.2						
ASAR	Alice Springs	130.56	204	PKP	PKPdf	06 52 00.1	+0.8
	3.8nm,0.7s,baz=128,slow=1.7,SNR=36						
ASAR				SKPbc	SKPbc	06 54 57.3	+2.0
	2.9nm,0.9s,baz=146,slow=3.6,SNR=14						
WRA	Warramunga Arr	133.75	206	PKhKP		06 51 58.9	
	0.5nm,0.5s,baz=153,slow=1.4,SNR=5.1						
WRA				PKP	PKPdf	06 52 06.5	+1.1
	2.8nm,0.4s,baz=157,slow=1.6,SNR=18						
WRA				SKPbc	SKPbc	06 55 08.0	+1.6
	4.7nm,1.1s,baz=155,slow=3.0,SNR=12						
BVAR	Borovoye Array	134.61	36	PKP	PKPdf	06 52 07.3	+0.3
	1.1nm,0.7s,baz=110,slow=3.9,SNR=4.0						
BVAR				SKPbc	SKPbc	06 55 11.6	+2.4
	0.7nm,0.6s,baz=291,slow=5.7,SNR=4.5						
ZAL	Zalesovo	141.25	28	PKhKP		06 52 13.2	
	0.8nm,0.5s,baz=329,slow=9.3,SNR=3.1						
ZAL				PKP	PKPdf	06 52 20.7	+1.6
	1.1nm,0.8s,baz=178,slow=8.7,SNR=5.8						
ZAL				SKPbc	SKPbc	06 55 29.1	+1.0
	1.9nm,0.9s,baz=174,slow=4.0,SNR=7.0						
MK31	Makanchi Array	144.33	39	ePKPdf	PKPdf	06 52 24.4	-0.1
MKAR	Makanchi Array	144.33	39	PKP	PKPdf	06 52 23.9	-0.7
	4.6nm,0.3s,baz=321,slow=3.4,SNR=66						
MKAR				SKPbc	SKPbc	06 55 38.0	+2.4
	2.1nm,0.9s,baz=287,slow=2.3,SNR=9.5						
HYB	Hyderabad	145.85	92	i PKP	PKPdf	06 52 30.5	+3.3
WMQ	Urumqi	149.16	40	ePKP	PKPdf	06 52 32.5	-0.1
SONM	Songino Array	153.72	12	PKP	PKPdf	06 52 40.5	+0.9
	0.3nm,0.5s,baz=270,slow=1.4,SNR=3.0						
SONM				PKPbc	PKPbc	06 52 49.9	+2.3
	0.9nm,0.5s,baz=305,slow=1.5,SNR=9.4						
SONM				pPKPbc	pPKPbc	06 53 59.7	-0.5
	2.7nm,0.9s,baz=332,slow=1.3,SNR=8.0						
HHC	Hu-ho-hao-te	161.37	7	ePKP	PKPdf	06 52 50.0	+1.1
LZH	Lanzhou	163.43	32	ePKP	PKPdf	06 52 50.5	-0.5
LZH				PKP2	PKPab	06 53 45.3	+1.5
CD2	Chengdu	167.12	46	ePKP	PKPdf	06 52 49.0	-5.0

*ISCJB **26** 06:39:12.1±1.8, 3673N±010×709E±02, h100km, Error ellipse: s-maj=24.8km s-min=8.9km az=122.7*
*NNC **26** 06:39:18.9±23.0, 3725N×7073E, h148km±422km, mb2.6, mpv3.3, Error ellipse: s-maj=213.5km s-min=115.1km az=14.0*

ISC 26 06:39:13.7±1.8, 3676N±010×709E±02, h100km, n12, σ0°76/14, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.79	21	P	Pn	06 40 37.6	+0.6
	SNR=20						
DLH	Dalhousie	5.93	134	eP	Sn	06 41 45.0	-0.5
UCH	Uchtor	6.14	26	P	Pn	06 40 42.2	+0.4
	SNR=7.1						
KZA	Kyzart	6.29	31	P	Pn	06 40 44.4	+0.5
	SNR=6.7						
EKS2	Erkin-Say	6.30	20	P	Pn	06 40 44.7	+0.7
	SNR=24						
KK31	Karatay Array	6.35	357	⇓P	Pn	06 40 45.0	+0.4
	4.5nm,0.4s,baz=178,slow=12,SNR=75						
KK31				⇓S	Sn	06 41 52.5	-3.2
	3.1nm,0.5s,baz=187,slow=26,SNR=5.6						
AAK	Ala-Archa	6.49	24	P	Pn	06 40 47.1	+0.5
	SNR=17						
ULHL	Ulahol	6.87	35	P	Sx	06 41 37.8	
	SNR=6.0						
CHMS	Chumysh	6.91	24	P	Pn	06 40 52.2	0.0
	SNR=12						
USP	Ospenovka	7.07	22	P	Pn	06 40 54.1	-0.3
	SNR=7.0						
TKM2	Tokmak 2	7.14	29	⇑P	Pn	06 40 54.7	-0.7
	0.4nm,0.6s						
TKM2				⇑S	Sn	06 42 09.2	-5.8
	0.4nm,0.7s						
AB31	Akbulak array	14.82	331	⇑P	Pn	06 42 37.9	-0.1
	0.4nm,0.3s,baz=149,slow=11,SNR=24						
AB31				⇑S	Sn	06 45 09.6	-12
	1.2nm,0.8s,baz=310,slow=4.1,SNR=3.5						

*NNC **26** 06:45:38.5±4.4, 4204N×7603E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=27.0km s-min=15.2km az=12.0*
*ISCJB **26** 06:45:40.9±1.1, 4208N±006×7605E±005, h10km, Error ellipse: s-maj=9.8km s-min=4.3km az=130.6*
*KNET **26** 06:45:40.2±0.6, 4212N×7599E, h13km±3km, ml2.3, Error ellipse: s-maj=3.9km s-min=2.4km az=132.0*

ISC 26 06:45:41.2±1.0, 4210N±006×7604E±005, h10km, n13, σ1°05/23, 13C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.21	47	⇑P	Pg	06 45 45.1	-0.5
	225nm,0.1s,SNR=1726						
ULHL				⇑S	Sg	06 45 48.5	0.0
	672nm,0.1s						
KZA	Kyzart	0.59	268	⇑P	Pg	06 45 51.8	-0.8
	20nm,0.1s,SNR=98						
KZA				⇑S	Sg	06 45 59.9	-0.4
	58nm,0.1s						
TKM2	Tokmak 2	0.88	338	⇓P	Pg	06 45 57.4	-0.7
	39nm,0.1s,SNR=30						
TKM2				⇑S	Sg	06 46 09.7	+0.1
	125nm,0.1s						
TKM2	Tokmak 2	0.88	338	⇑P	Pg	06 45 57.2	-1.0
	0.5nm,0.2s						
TKM2				⇑S	Sg	06 46 09.5	-0.2
	0.8nm,0.2s						
KBK	Karagaybulak	0.98	305	P	Pg	06 45 59.3	-0.7
	43nm,0.1s,SNR=113						
KBK				⇓S	Sg	06 46 12.5	-0.3
	92nm,0.2s						
UCH	Uchtor	1.14	277	⇑P	Pb	06 46 01.6	-1.4
	4.4nm,0.1s,SNR=15						
UCH				⇑S	Sb	06 46 17.2	-0.6
	20nm,0.1s						
AAK	Ala-Archa	1.26	295	⇓P	Pn	06 46 04.0	-0.8
	21nm,0.2s						
CHMS	Chumysh	1.31	314	⇓P	Pn	06 46 04.9	-0.6
	10.0nm,0.1s,SNR=7.2						
CHMS				⇓S	Sb	06 46 22.3	-0.3
	36nm,0.2s						
KNDC	Almaty	1.31	31	⇑P	Pn	06 46 01.9	-3.6
	10nm,0.2s						
KNDC				⇓S	Sb	06 46 23.4	+0.8
	44nm,0.3s						
USP	Ospenovka	1.62	316	⇓P	Pn	06 46 10.5	+0.6
	20nm,0.2s,SNR=70						
USP				⇑S	Sn	06 46 32.4	+1.6
	34nm,0.2s						
AML	Almayashu	1.74	272	⇓P	Pn	06 46 12.9	+1.4
	6.8nm,0.1s,SNR=13						
AML				⇑S	Sn	06 46 36.2	+2.5
	33nm,0.2s						
EKS2	Erkin-Say	1.77	289	⇓P	Pn	06 46 13.7	+1.9
	9.8nm,0.2s,SNR=23						
KK31	Karatay Array	4.20	286	⇑Pg	Pb	06 46 59.2	+4.0
	0.5nm,0.3s,baz=94,slow=16,SNR=4.6						
KK31				Lg		06 47 54.0	
	3.7nm,0.5s,baz=96,slow=28,SNR=5.4						

*NEIC **26** 06:52:15.6, 1560N×9879W, h16km, MD4.1(MEX), After MEX.*

MEX 26 06:52:16.5±0.8, 1569N×9880W, h14km±25km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.95	42	i P	Pb	06 52 31.1	-3.5
PNIG				i S	Sb	06 52 43.4	-3.7
CAIG	El Cayaco	1.96	314	i P	Pn	06 52 46.4	-2.8
CAIG				i S	Sn	06 53 08.1	-5.3
UTMO	Huajuapan	2.33	24	eP	Pn	06 52 51.3	-3.0
UTMO				i S	Sn	06 53 18.5	-4.3
MEIG	Mezcala	2.36	341	i P	Pn	06 52 51.2	-3.6
MEIG				i S	Sn	06 53 19.5	-3.9
VHO	Vista Hermosa	2.41	55	i P	Pn	06 52 54.0	-1.4
VHO				i S	Sn	06 53 21.5	-3.2
OXX	Oaxaca	2.42	55	i P	Pn	06 52 51.5	-4.1
PLIG	Platanillo	2.77	346	i P	Pn	06 52 59.0	-1.4
PLIG				i S	Sn	06 53 31.7	-2.0
TPIG	Tehuac#an	3.04	27	i P	Pn	06 53 01.5	-2.6
TPIG				i S	Sn	06 53 38.1	-2.2
SZVM	Salazar	3.66	351	eP	Pn	06 53 10.4	-2.1
SZVM				i S	Sn	06 53 55.7	+0.2
IIO	Organos	3.88	1	i P	Pn	06 53 12.7	-3.0
IIO				i S	Sn	06 53 59.5	-1.5
MOIG	Morelia	4.58	330	eP	Pn	06 53 27.3	+2.1
MOIG				i S	Sn	06 54 16.1	-2.0
MOIG	Morelia	4.58	330	i P	Pn	06 53 32.7	+7.4
MOIG				i S	Sn	06 54 29.7	+12

*IDC **26** 07:03:40.9±1.0, 4697N×15567E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.9/24, mbtmp3.8/14, Error ellipse: s-maj=25.2km s-min=19.7km az=121.0*
*ISCJB **26** 07:03:44.5±0.8, 470N±0.1×1556E±02, h35km, mb3.8/15, Error ellipse: s-maj=20.9km s-min=12.6km az=91.6*
*MOS **26** 07:03:44.2±1.1, 4708N×15550E, h33km, mb4.0/9, Error ellipse: s-maj=22.3km s-min=12.9km az=90.9*

ISC 26 07:03:46.1±0.8, 470N±01×1556E±02, h35km, n27, σ0°89/27, mb3.8/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.68	5	ePN	Pn	07 04 36.5	-4.0
KUR	Kuril'sk	5.66	254	PN	Pn	07 05 06.0	-1.7
BILL	Bilibino	21.77	11	eP	P	07 08 34.5	-0.2
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
KSRS	Korea Array	22.51	255	P	P	07 08 43.7	+1.2
	comp=Z,0.8nm,0.5s,mb3.4,baz=62,slow=11,SNR=3.3						
SONM	Songino Array	32.85	290	P	P	07 10 15.7	-0.7
	comp=Z,0.5nm,0.7s,mb3.6,baz=109,slow=8.0,SNR=3.6						
SONM	Songino Array	32.85	290	P	P	07 10 15.7	-0.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	40.51	33	P	P	07 11 20.6	-1.0
	comp=Z,0.9nm,0.9s,mb3.4,baz=282,slow=4.0,SNR=3.4						
INK	Inuvik	40.51	33	P	P	07 11 20.6	-1.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAL	Zalesovo	43.84	306	P	P	07 11 48.3	-0.5
	comp=Z,1.6nm,0.3s,mb4.2,baz=71,slow=17,SNR=4.5						
ZAL	Zalesovo	43.84	306	P	P	07 11 48.3	-0.5
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	Makanchi Array	48.32	298	P	P	07 12 24.8	+0.7
	comp=Z,1.5nm,0.7s,mb4.1,baz=69,slow=8.5,SNR=9.8						
MKAR	Makanchi Array	48.32	298	P	P	07 12 24.8	+0.8
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	49.68	38	P	P	07 12 34.2	-0.2
	comp=Z,0.2nm,0.5s,mb3.4,baz=295,slow=7.1,SNR=7.5						
BVAR	Borovoye Array	51.99	310	P	P	07 12 51.9	0.0
	comp=Z,1.9nm,0.4s,mb4.4,baz=57,slow=7.2,SNR=15						
BVAR	Borovoye Array	51.99	310	P	P	07 12 51.9	0.0
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKTO	Aktyubinsk	59.80	313	P	P	07 13 48.2	+0.4
	comp=Z,1.2nm,0.6s,mb4.1,baz=156,slow=2.1,SNR=3.5						
AKTO	Aktyubinsk	59.80	313	P	P	07 13 48.2	+0.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	FINESS Array B	64.51	336	P	P	07 14 19.3	0.0
	comp=Z,1.2nm,0.5s,mb4.2,baz=32,slow=8.5,SNR=14						
FINES	FINESS Array B	64.51	336	P	P	07 14 19.3	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	68.51	342	P	P	07 14 46.2	+1.3
	comp=Z,1.4nm,0.9s,mb3.9,baz=26,slow=6.6,SNR=3.2						
WRA	War

LCCH	**Las Cruces**	**0.98**	**175**	⇑*i*P	Pn	07 09 20.1	+0.3
PEL	**Peldehue**	**1.05**	**128**	⇑*i*P	Pn	07 09 21.9	+1.1
PEL				*i* S	Sn	07 09 36.2	+2.0
PEL				AML	AML	07 09 38.3	
	comp=E,2μm,0.2s						
RCDM	**Rinconada Maip**	**1.23**	**144**	⇑*i*P	Pn	07 09 24.2	+1.0
RCDM				*i* S	Sn	07 09 40.5	+1.8
RCDM				AML	AML	07 09 42.5	
	comp=E,927nm,0.2s						
RCDM	**Rinconada Maip**	**1.23**	**144**	⇑*i*P	Pn	07 09 24.2	+1.0
RCDM				*i* S	Sn	07 09 40.5	+1.8
STL	**Santa Lucia**	**1.28**	**138**	*e*P	Pn	07 09 24.2	+0.4
STL				*i* S	Sn	07 09 41.6	+1.8
DSCH	**Colegio Aleman**	**1.29**	**135**	⇓*i*P	Pn	07 09 24.9	+0.9
DSCH				*i* S	Sn	07 09 42.1	+1.9
TACH	**Talagante**	**1.31**	**152**	*e*P	Pn	07 09 25.2	+0.9
CLCH	**Cerro Calan**	**1.31**	**134**	⇓*e*P	Pn	07 09 25.7	+1.4
CLCH				*i* S	Sn	07 09 42.6	+2.0
FCH	**Farellones**	**1.43**	**126**	⇓*i*P	Pn	07 09 27.6	+1.7
CMCH	**Combarbala**	**1.43**	**24**	⇑*i*P	Pn	07 09 27.0	+1.1
CMCH				*i* S	Sn	07 09 46.0	+2.5
CMCH				AML	AML	07 09 50.0	
	comp=E,2μm,0.5s						
CMCH	**Combarbala**	**1.43**	**24**	⇑*i*P	Pn	07 09 27.0	+1.1
CMCH				*i* S	Sn	07 09 46.0	+2.5
LNV	**Longovilo**	**1.48**	**172**	*e*P	Pn	07 09 26.5	0.0
PCH	**Pirque**	**1.49**	**140**	*e*P	Pn	07 09 28.3	+1.6
CHCH	**Chadas Angostu**	**1.67**	**150**	*i* P	Pn	07 09 30.8	+1.6
CHCH				*i* S	Sn	07 09 52.2	+2.7
CICH	**Cipreses**	**2.10**	**151**	*e*P	Pn	07 09 37.0	+1.9
SFDO	**San Fernando**	**2.19**	**166**	*e*P	Pn	07 09 37.7	+1.4
TLL	**Tololo Astrono**	**2.43**	**18**	*e*P	Pn	07 09 44.2	+4.6

*KNET **26** 07:17:31.1±0.6,42.13N×7604E,h12km±4km,ml2.2, Error ellipse: s-maj=4.9km s-min=2.7km az=128.0*
*ISCJB **26** 07:17:32.2±1.0,42.10N±006×76.10E±005,h10km, Error ellipse: s-maj=9.1km s-min=4.1km az=134.1*
*NNC **26** 07:17:37.9±5.2,4238N×76.11E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=35.0km s-min=16.8km az=2.0*
ISC 26 07:17:32.6±0.9,4213N±005×7608E±005,h10km,n14, σ1§19/26,10C-15D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.17**	**44**	⇑P	**Pg**	**07 17 35.1**	**-1.1**
	179nm,0.1s,SNR=158						
ULHL				⇑S	**Sg**	**07 17 38.0**	**-0.7**
	2μm,0.1s						
KZA	**Kyzart**	**0.62**	**266**	⇑P	**Pg**	**07 17 43.2**	**-1.4**
	14nm,0.2s,SNR=51						
KZA				⇓S	**Sg**	**07 17 52.2**	**-0.5**
	65nm,0.2s						
TKM2	**Tokmak 2**	**0.87**	**336**	P	**Pg**	**07 17 48.3**	**-1.1**
	54nm,0.2s,SNR=102						
TKM2				⇑S	**Sg**	**07 18 00.9**	**+0.2**
	39nm,0.1s						
TKM2	**Tokmak 2**	**0.87**	**336**	⇑P	**Pg**	**07 17 48.2**	**-1.2**
	0.3nm,0.2s						
TKM2				⇓S	**Sg**	**07 18 00.7**	**-0.1**
	1.5nm,0.4s						
KBK	**Karagaybulak**	**0.99**	**303**	⇓P	**Pg**	**07 17 50.6**	**-1.1**
	13nm,0.1s,SNR=24						
KBK				⇑S	**Sg**	**07 18 04.7**	**+0.1**
	63nm,0.2s						
UCH	**Uchtor**	**1.17**	**276**	⇓P	**Pb**	**07 17 53.4**	**-1.5**
	4.2nm,0.2s,SNR=20						
UCH				⇓S	**Sb**	**07 18 09.6**	**-0.5**
	28nm,0.3s						
KNDC	**Almaty**	**1.27**	**30**	⇓P	**Pn**	**07 17 59.6**	**+3.3**
	28nm,0.5s						
KNDC				⇓S	**Sb**	**07 18 13.1**	**+0.1**
	42nm,0.3s						
AAK	**Ala-Archa**	**1.28**	**294**	⇓P	**Pn**	**07 17 55.4**	**-1.2**
	5.4nm,0.1s,SNR=16						
AAK				⇓S	**Sb**	**07 18 12.8**	**-0.5**
	61nm,0.3s						
CHMS	**Chumysh**	**1.32**	**312**	⇑P	**Pn**	**07 17 56.5**	**-0.5**
	6.7nm,0.3s,SNR=7.3						
CHMS				⇓S	**Sb**	**07 18 14.1**	**-0.1**
	42nm,0.4s						
USP	**Ospenovka**	**1.63**	**315**	P	**Pn**	**07 18 01.9**	**+0.6**
	6.0nm,0.2s,SNR=5.3						
USP				⇓S	**Sn**	**07 18 24.4**	**+2.0**
	29nm,0.2s						
AML	**Almayashu**	**1.78**	**271**	⇑P	**Pn**	**07 18 04.2**	**+0.9**
	13nm,0.2s,SNR=7.8						
AML				⇓S	**Sn**	**07 18 28.2**	**+2.3**
	55nm,0.4s						
EKS2	**Erkin-Say**	**1.79**	**288**	⇓P	**Pn**	**07 18 05.1**	**+1.5**
	2.9nm,0.2s,SNR=11						
KK31	**Karatay Array**	**4.23**	**285**	⇑Pn	**Pb**	**07 18 48.4**	**+1.5**
	0.7nm,0.5s,baz=92,slow=15,SNR=5.2						
KK31				⇓Sn	**Sb**	**07 19 44.5**	**+6.4**
	1.1nm,0.4s,baz=99,slow=27,SNR=8.4						
MK31	**Makanchi Array**	**6.44**	**41**	⇓Pn	**Pn**	**07 19 10.6**	**+3.2**
	0.2nm,0.6s						
MK31				⇑Lg		07 20 51.0	
	0.4nm,0.6s,baz=215,slow=28,SNR=3.6						

*IDC **26** 07:18:51.4±1.0,3951N×7444E,h0km,mb3.7/8, mb1 3.8/10,mb1mx3.6/23,mbtmp3.6/10,ML3.3/2, Error ellipse: s-maj=33.7km s-min=19.5km az=56.0*
*ISCJB **26** 07:18:58.6±2.7,397N±02×742E±01,h64km±21km, mb3.6/8, Error ellipse: s-maj=34.6km s-min=15.9km az=31.8*
*NNC **26** 07:19:01.9±3.6,4031N×7395E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=40.1km s-min=18.3km az=165.0*
ISC 26 07:19:00.9±2.5,398N±02×743E±01,h69km±20km,n23, σ1§03/23,mb3.5/8,3C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.42**	**350**	P	**Pn**	**07 19 38.0**	**-0.2**
	SNR=98						
KZA	**Kyzart**	**2.45**	**18**	P	**Pn**	**07 19 38.0**	**-0.5**
	SNR=94						
UCH	**Uchtor**	**2.49**	**4**	P	**Pn**	**07 19 38.6**	**-0.5**
	SNR=90						
AAK	**Ala-Archa**	**2.89**	**3**	P	**Pn**	**07 19 46.6**	**+2.0**
	SNR=110						
ULHL	**Ulahol**	**2.91**	**30**	P	**Pn**	**07 19 45.3**	**+0.5**
	SNR=56						
EKS2	**Erkin-Say**	**2.94**	**353**	P	**Pn**	**07 19 47.2**	**+2.1**
	SNR=27						
KBK	**Karagaybulak**	**2.95**	**10**	P	**Pn**	**07 19 44.9**	**-0.5**
	SNR=46						
CHMS	**Chumysh**	**3.27**	**6**	P	**Pn**	**07 19 49.3**	**-0.4**
	SNR=15						
TKM2	**Tokmak 2**	**3.33**	**17**	P	**Pn**	**07 19 49.7**	**-0.8**
	SNR=12						
TKM2	**Tokmak 2**	**3.33**	**17**	⇓Pn	**Pn**	**07 19 49.2**	**-1.3**
	2.4nm,0.4s						
TKM2				⇑Lg		07 20 32.0	
	8.9nm,0.7s						
USP	**Ospenovka**	**3.52**	**3**	P	**Pn**	**07 19 57.5**	**+4.4**
	SNR=12						
KNDC	**Almaty**	**4.02**	**29**	⇑Pn	**Pn**	**07 20 01.2**	**+1.3**
	46nm,0.5s						
KNDC				⇑Lg		07 20 59.1	
	202nm,0.9s						
KK31	**Karatay Array**	**4.38**	**321**	Pn	**Pn**	**07 20 04.0**	**-1.0**
	0.6nm,0.2s,baz=129,slow=12,SNR=11						
KK31				⇓Lg		07 21 05.3	
	22nm,0.5s,baz=133,slow=28,SNR=4.5						
BVAR	**Borovoye Array**	**13.55**	**350**	Pn	**Pn**	**07 22 06.7**	**-3.1**
	0.1nm,0.3s,baz=177,slow=8.7,SNR=2.3						
BVAR				Lg		07 26 03.8	
	0.2nm,0.3s,baz=162,slow=29,SNR=3.6						
AKTO	**Aktyubinsk**	**15.64**	**318**	Pn	**Pn**	**07 22 36.0**	**-1.1**
	0.2nm,0.3s,baz=134,slow=14,SNR=3.4						
FINES	**FINESS Array B**	**36.34**	**323**	P	**P**	**07 25 58.5**	**+0.5**
	1.4nm,0.7s,mb4.0,baz=116,slow=8.7,SNR=7.3						
ARCES	**ARCESS Array B**	**39.20**	**335**	P	**P**	**07 26 22.0**	**-0.2**
	3.0nm,0.9s,mb4.1,baz=96,slow=9.2,SNR=3.6						
GERES	**GERESS Array B**	**43.24**	**303**	P	**P**	**07 26 57.1**	**+1.8**
	0.2nm,0.5s,mb3.1,baz=64,slow=7.7,SNR=3.2						
NOA	**NORSAR Array B**	**43.41**	**321**	P	**P**	**07 26 56.8**	**+0.2**
	1.0nm,0.8s,mb3.6,baz=90,slow=7.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**68.35**	**269**	P	**P**	**07 29 55.4**	**+0.6**
	1.0nm,0.6s,mb3.9,baz=50,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**77.86**	**4**	P	**P**	**07 30 50.3**	**-0.6**
	0.2nm,0.6s,mb3.0,baz=348,slow=5.6,SNR=7.9						
WRA	**Warramunga Arr**	**81.61**	**124**	P	**P**	**07 31 11.0**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=300,slow=7.1,SNR=3.6						
ASAR	**Alice Springs**	**84.08**	**127**	P	**P**	**07 31 23.3**	**-0.7**
	0.2nm,0.7s,mb3.0,baz=324,slow=5.0,SNR=6.0						

*CSEM **26** 07:27:28.8±0.8,3866N×2854W,h5km±5km,ML1.3, Error ellipse: s-maj=2.4km s-min=1.5km az=155.0, After PDA*
*PDA **26** 07:27:28.8±0.8,3866N×2854W,h5km±5km,MD2.6,ML1.3, Error ellipse: s-maj=2.4km s-min=1.5km az=155.0*
SVSA 26 07:27:28.8±0.8,3866N×2854W,h5km±5km,MD2.6,ML1.3, Error ellipse: s-maj=2.4km s-min=1.5km az=155.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.13**	**258**	*i* P	Pg	07 27 31.2	-0.2
PCED				*e*S	Sg	07 27 33.4	+0.2
PCED							
	26nm,0.1s						
PCED	**Cedros**	**0.13**	**258**	*e*S	Sg	07 27 33.4	+0.2
CALA	**Caldeira**	**0.14**	**240**	*i* P	Pg	07 27 31.6	-0.1
CALA				*e*S	Sg	07 27 34.0	+0.3
CALA	**Caldeira**	**0.14**	**240**	*e*S	Sg	07 27 34.0	+0.3
HOR	**Horta**	**0.14**	**208**	*e*P	Pg	07 27 31.1	-0.6
HOR				*e*S	Sg	07 27 33.6	-0.1
PICO	**Pico**	**0.18**	**149**	*e*P	Pg	07 27 32.2	-0.2
PICO				*e*S	Sg	07 27 34.8	0.0
PCND	**Candelaria**	**0.20**	**161**	*e*P	Pg	07 27 32.3	-0.4
PCND				*e*S	Sg	07 27 35.5	+0.2
PCND							
	15nm,0.2s						
ROSA	**Rosais**	**0.24**	**75**	*i* P	Pg	07 27 33.3	-0.3
ROSA				*e*S	Sg	07 27 36.6	-0.2
ROSA	**Rosais**	**0.24**	**75**	*e*S	Sg	07 27 36.6	-0.2
PMAN	**Manadas**	**0.35**	**93**	*e*P	Pg	07 27 34.9	-0.8
PMAN				*e*S	Sg	07 27 40.2	-0.1
PMAN							
	34nm,0.2s						
PMAN	**Manadas**	**0.35**	**93**	*e*P	Pg	07 27 34.9	-0.8
PMAN				*e*S	Sg	07 27 40.2	-0.1

*IDC **26** 07:28:58.5±0.5,3835S×11183E,h0km,mb4.6/14, mb1 4.8/15,mb1mx4.8/16,mbtmp4.7/15,ML3.0/1,MS4.2/12, Ms1 4.2/12,ms1mx4.1/23, Error ellipse: s-maj=21.4km s-min=13.5km az=126.0*
*ISCJB **26** 07:28:59.2±0.3,3830S±005×11202E±006,h13km, mb4.8/43,MS4.3/22, Error ellipse: s-maj=8.1km s-min=5.8km az=88.8*
*MOS **26** 07:29:00.6±2.2,3830S×11206E,h10km,mb5.1/12, Error ellipse: s-maj=16.7km s-min=9.1km az=74.6*
*BJI **26** 07:29:00.4,3820S×11200E,h10km,mB5.1,mb4.9,Ms4.9, Msz4.4*
*GCMT **26** 07:29:01.5±0.2,3839S×11207E,h12km,MW5.2/68, Moment Tensor Solution. s61,c84; s68,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r6.77±.19; $M_{\theta\theta}$-0.30±.12; $M_{\phi\phi}$-6.47±.16; $M_{r\theta}$-0.99±.32; $M_{\phi\theta}$-1.78±.11; $M_{\theta r}$-1.80±.36; Best double couple: $M_0$7.16000×10^{16} NP1:φ8±11.00000°, δ37.00000°, λ83.00000°. NP2: φ±199.00000°, δ53.0000°, λ95.00000°. Principal axes: T 7.0890, Plg81.0000°, Azm132.0000°; N 0.1400, Plg4.0000°, Azm16.0000°; P -7.2320, Plg8.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 07:29:01.5±0.2,3822S×11203E,h10km,mb5.0/28, MS4.6/3 Error ellipse: s-maj=10.0km s-min=7.0km az=140.0*
ISC 26 07:29:01.0±0.3,3835S±005×11200E±007,h14km, h14km±1.7km:pP-P,n343,σ1§22/126,mb4.8/43,MS4.3/22, 53C-56D,Southwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKGY	**Rocky Gully**	**5.48**	**49**	*e*P	**Pn**	**07 30 21.3**	**-0.8**
RKGY				*e*S	**Sn**	**07 31 18.6**	**-6.3**
	652nm,0.4s						
RKGY	**Rocky Gully**	**5.48**	**49**	*e*P	**Pn**	**07 30 21.3**	**-0.8**
	652nm,0.4s						
RKGY				*e*S	**Sn**	**07 31 18.6**	**-6.3**
NWAO	**Narrogin (SRO)**	**6.88**	**40**	Pn	**Pn**	**07 30 41.7**	**+0.2**
	14nm,0.3s,baz=207,slow=13,SNR=82						
NWAO				Sn	**Sn**	**07 31 52.3**	**-7.3**
	29nm,0.3s,baz=232,slow=13,SNR=3.3						
NWAO	**Narrogin (SRO)**	**6.88**	**40**	*e*P	**Pn**	**07 30 41.9**	**+0.4**
NWAO				*e*		07 31 52.8	
NWAO				pmax	pmax		
	comp=Z,205nm,0.6s						
NWAO	**Narrogin (SRO)**	**6.88**	**40**	*e*Pn	**Pn**	**07 30 41.9**	**+0.5**
	comp=Z,205nm,0.6s						
NWAO				*e*Sn	**Sn**	**07 31 52.8**	**-6.7**
MUN	**Mundaring**	**7.23**	**30**	*e*P	**Pn**	**07 30 46.2**	**0.0**
MUN				*e*S	**Sn**	**07 32 01.5**	**-6.5**
KLBR	**Kellerberrin**	**8.23**	**37**	*e*P	**Pn**	**07 30 59.5**	**-0.4**
KLBR				*e*S	**Sn**	**07 32 23.3**	**-9.3**
	comp=Z,122nm,0.5s						
KLBR	**Kellerberrin**	**8.23**	**37**	*e*P	**Pn**	**07 30 59.5**	**-0.4**
	comp=Z,122nm,0.5s						
KLBR				*e*S	**Sn**	**07 32 23.3**	**-9.3**
BLDU	**Ballidu**	**8.63**	**28**	*e*P	**Pn**	**07 31 04.7**	**-0.8**
	comp=Z,19nm,0.3s						
BLDU				*e*S	**Sn**	**07 32 34.8**	**-7.9**
MORW	**Morawa**	**9.85**	**21**	*e*P	**Pn**	**07 31 20.8**	**-1.3**
MORW				*e*S	**Sn**	**07 33 04.5**	**-7.9**
	comp=Z,59nm,0.4s						
MORW	**Morawa**	**9.85**	**21**	*e*P	**Pn**	**07 31 20.8**	**-1.3**
	comp=Z,59nm,0.4s						
MORW				*e*S	**Sn**	**07 33 04.5**	**-7.9**
KMBL	**Kambalda**	**10.69**	**52**	*e*P	**Pn**	**07 31 31.5**	**-2.2**
KMBL				*e*S	**Sn**	**07 33 21.0**	**-12**
	comp=Z,403nm,0.5s						
KMBL	**Kambalda**	**10.69**	**52**	*e*P	**Pn**	**07 31 31.5**	**-2.2**
	comp=Z,403nm,0.5s						
KMBL				*e*S	**Sn**	**07 33 21.0**	**-12**
FORT	**Forrest**	**15.22**	**65**	*e*P	**Pn**	**07 32 32.6**	**-2.8**
	comp=Z,255nm,0.6s						
FORT				*e*S	**Sn**	**07 35 12.2**	**-12**
GIRL	**Giralia**	**15.77**	**8**	*e*P	**Pn**	**07 32 40.6**	**-2.0**
	comp=Z,553nm,0.8s						
GIRL				*e*S	**Sn**	**07 35 26.0**	**-11**
BBOO	**Buckleboo**	**20.31**	**82**	*e*P	**P**	**07 33 41.8**	**+5.3**
	comp=Z,48nm,0.8s						
BBOO				*e*		07 33 45.8	
BBOO				*e*S	**S**	**07 37 09.9**	**-14**
FITZ	**Fitzroy Crossi**	**23.43**	**34**	*e*P	**P**	**07 34 08.0**	**-1.8**
	comp=Z,32nm,0.9s,mb4.8						
FITZ				*e*S	**S**	**07 38 18.0**	**-4.3**
FITZ	**Fitzroy Crossi**	**23.43**	**34**	P	**P**	**07 34 09.3**	**-0.5**
	comp=Z,4.0nm,0.8s,mb3.9,baz=204,slow=11,SNR=4.4						
FITZ				S	**S**	**07 38 14.8**	**-7.5**
	comp=Z,4.2nm,0.8s,baz=106,slow=19,SNR=2.3						
FITZ				LR	LR	07 42 53.9	
	comp=Z,338nm,19.5s,MS3.8,baz=214,slow=36						
ARPS	**Mount Arapiles**	**23.66**	**95**	*e*P	**P**	**07 34 12.7**	**+0.6**
	comp=Z,8.6nm,2.0s,mb3.8						
ARPS				*e*		07 34 17.4	
ASAR	**Alice Springs**	**23.72**	**58**	P	**P**	**07 34 13.5**	**+0.9**
	comp=Z,26nm,0.8s,mb4.7,baz=226,slow=8.9,SNR=180						
ASAR				S	**S**	**07 38 21.5**	**-5.6**
	comp=Z,2.1nm,0.9s,baz=217,slow=20,SNR=2.6						
STKA	**Stephens Creek**	**24.99**	**84**	*e*P	**P**	**07 34 24.8**	**+0.6**
	comp=Z,13nm,1.1s,mb4.4						
STKA				*e*		07 34 29.2	
STKA	**Stephens Creek**	**24.99**	**84**	P	**P**	**07 34 25.0**	**+0.8**
	comp=Z,26nm,1.1s,mb4.7,baz=243,slow=7.4,SNR=18						
STKA				S	**S**	**07 38 41.7**	**-5.9**
	comp=Z,2.2nm,0.7s,baz=346,slow=18,SNR=1.5						
STKA				LR	LR	07 42 48.5	
	comp=Z,590nm,20.7s,MS4.1,baz=212,slow=33						
WRA	**Warramunga Arr**	**26.66**	**53**	P	**P**	**07 34 40.1**	**+0.8**
	comp=Z,7.1nm,0.8s,mb4.3,baz=222,slow=8.8,SNR=39						
WRA				S	**S**	**07 39 27.1**	**+13**
	comp=Z,1.1nm,0.6s,baz=228,slow=17,SNR=2.6						
WRA				LR	LR	07 45 25.1	
	comp=Z,995nm,21.4s,MS4.3,baz=220,slow=37						
WB2	**Warramunga Arr**	**26.67**	**53**	*e*P	**P**	**07 34 39.3**	**-0.1**
WB2				*e*	pP	07 34 44.3	+0.5
WB2				*e*S	**S**	**07 39 30.2**	**+16**
CMSA	**Cobar Meteorol**	**28.33**	**86**	*e*P	**P**	**07 34 55.3**	**+1.0**
	comp=Z,14nm,1.1s,mb4.5						
CMSA				*e*	pP	07 34 59.1	+0.4
QLP	**Quilpie**	**29.47**	**76**	*e*P	**P**	**07 35 05.8**	**+1.3**
QLP				*e*	pP	07 35 09.5	+0.7
QIS	**Mount Isa**	**29.70**	**61**	*e*P	**P**	**07 35 06.7**	**+0.2**
	comp=Z,14nm,1.1s,mb4.6						
KAKA	**Kakadu**	**31.34**	**41**	*e*P	**P**	**07 35 18.4**	**-2.6**
	comp=Z,12nm,0.9s,mb4.7						
ARMA	**Armidale**	**33.45**	**88**	*e*P	**P**	**07 35 41.9**	**+2.5**
ARMA				*e*	pP	07 35 45.8	+2.0
MTSU	**Mount Surprise**	**34.61**	**64**	*e*P	**P**	**07 35 50.3**	**+0.8**
	comp=Z,41nm,1.3s,mb5.2						
CTA	**Charters Tower**	**34.73**	**68**	*e*P	**P**	**07 35 52.0**	**+1.4**
	comp=Z,6.4nm,1.2s,mb4.4						
CTA	**Charters Tower**	**34.73**	**68**	*e*P	**P**	**07 35 52.0**	**+1.4**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CTAO	**Charters Tower**	**34.73**	**68**	*e*P	**P**	**07 35 52.1**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.0						
CTAO	**Charters Tower**	**34.73**	**68**	*e*P	**P**	**07 35 52.1**	**+1.5**
	comp=Z,27nm,1.5s,mb5.0						
MAW	**Mawson**	**39.84**	**207**	*e*P	**P**	**07 36 32.7**	**-1.2**
	comp=Z,6.7nm,0.6s,mb4.5						
MAW	**Mawson**	**39.84**	**207**	P	**P**	**07 36 33.3**	**-0.6**
	comp=Z,8.2nm,0.8s,mb4.5,baz=76,slow=8.9,SNR=11						
MAW				LR	LR	07 50 19.0	
	comp=Z,406nm,18.2s,MS4.3,baz=342,slow=32						
MAW	**Mawson**	**39.84**	**207**	*e*P	**P**	**07 36 32.7**	**-1.2**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PSI	**Prapat**	**42.69**	**341**	LR	LR	07 51 57.8	
	comp=Z,274nm,19.4s,MS4.2,baz=352,slow=32						
PMG	**Port Moresby**	**42.72**	**57**	LR	LR	07 54 43.0	
	comp=Z,642nm,18.7s,MS4.5,baz=211,slow=36						
VNDA	**Vanda**	**44.49**	**166**	P	**P**	**07 37 11.2**	**-0.6**
	comp=Z,12nm,0.8s,mb4.7,baz=290,slow=9.5,SNR=28						
VNDA				LR	LR	07 53 09.5	
	comp=Z,259nm,19.0s,MS4.2,baz=310,slow=33						
VNDA	**Vanda**	**44.49**	**166**	*e*P	**P**	**07 37 11.6**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,24nm,1.1s						
VNDA	**Vanda**	**44.49**	**166**	*e*P	**P**	**07 37 11.6**	**-0.3**
	comp=Z,24nm,1.1s,mb4.8						
SBA	**Scott Base**	**45.58**	**166**	*e*P	**P**	**07 37 20.9**	**+0.4**
SBA				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
SBA	**Scott Base**	**45.58**	**166**	*e*P	**P**	**07 37 20.9**	**+0.4**
	comp=Z,18nm,0.9s,mb5.0						
DGAR	**Diego Garcia**	**47.12**	**300**	P	**P**	**07 37 26.0**	**-6.6**
	comp=Z,620nm,0.3s,SNR=6.9						
SYO	**Syowa Base**	**48.55**	**207**	⇓*e*P	**P**	**07 37 42.6**	**-1.1**
SYO	**Syowa Base**	**48.55**	**207**	⇑*e*pP	pP	07 37 46.1	-2.1
HNR	**Honiara**	**51.67**	**69**	LR	LR	07 58 41.5	
	comp=Z,217nm,20.3s,MS4.2,baz=181,slow=34						
QIZ	**Qiongzhong**	**57.10**	**358**	P	**P**	**07 38 48.3**	**+1.4**
QIZ				PP	PP	07 40 59.3	+5.6
QIZ				S	**S**	**07 46 44.0**	**+2.5**
QIZ				SS	SS	07 50 33.5	+3.3
QIZ				LR	LR		
	comp=Z,239nm,15.1s,MS4.4						
NVL	**N'lazarevskaya**	**57.52**	**203**	⇑*i*P	**P**	**07 38 48.8**	**-1.1**
NVL				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
MAIT	**Maitri**	**57.55**	**203**	*e*P	**P**	**07 38 46.5**	**-3.5**
CM31	**Chiang Mai Arr**	**57.82**	**345**	*e*P	**P**	**07 38 52.9**	**+1.0**
	comp=Z,12nm,1.1s,mb4.8						
SNAA	**Sanae**	**61.21**	**199**	P	**P**	**07 39 14.7**	**-0.7**
	comp=Z,8.6nm,0.8s,mb5.0,baz=131,slow=8.5,SNR=66						
SNAA	**Sanae**	**61.21**	**199**	*e*P	**P**	**07 39 14.3**	**-1.0**
SNAA				*e*	pP	07 39 17.7	-2.3
SNAA				*e*		07 39 24.3	
SNAA				*e*		07 39 30.6	
SNAA				*e*		07 39 44.9	
SNAA	**Sanae**	**61.21**	**199**	*e*P	**P**	**07 39 14.5**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,24nm,0.8s						
SNAA	**Sanae**	**61.21**	**199**	*e*P	**P**	**07 39 14.5**	**-0.8**
	comp=Z,24nm,0.8s,mb5.4						
VNA2	**Neumayer--Watz**	**62.83**	**199**	*e*P	**P**	**07 39 25.2**	**-1.0**
	baz=134,slow=6.3						
VNA2				*e*	pP	07 39 28.0	-2.9
VNA2				*e*		07 39 35.2	
VNA2				*e*		07 39 40.2	
VNA2				*e*		07 39 54.1	
VNA2				*e*		07 40 33.2	
VNA3	**Neumayer Olymp**	**63.19**	**198**	*e*P	**P**	**07 39 28.1**	**-0.5**
VNA3				*e*	pP	07 39 30.6	-2.6
VNA3				*e*		07 39 37.9	
VNA3				*e*		07 39 43.2	
VNA3				*e*		07 39 58.0	
VNA1	**Neumayer--Stat**	**63.23**	**199**	*e*P	**P**	**07 39 35.5**	**+6.6**
VNA1				*e*	pP	07 39 38.3	+4.8
VNA1				*e*		07 39 44.1	
VNA1				*e*		07 39 51.7	
KMI	**Kunming**	**63.73**	**351**	P	**P**	**07 39 36.0**	**+3.8**
KMI				AP	pP	07 39 41.3	+4.5
KMI				XP	sP	07 39 43.8	+5.3
KMI				S	**S**	**07 48 11.3**	**+5.0**
KMI				XS	sS	07 48 17.5	+3.6
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
KMI				AMB	AMB		
	comp=Z,52nm,6.6s						
KMI				LR	LR		
	comp=N,248nm,16.5s,MS4.6						
KMI				LR	LR		
	comp=E,215nm,18.2s,MS4.6						
KMI				LR	LR		
	comp=Z,327nm,20.0s,MS4.5						
KMI	**Kunming**	**63.73**	**351**	P	**P**	**07 39 36.1**	**+3.9**
KMI				*PP	pP	07

comp=Z,71nm,1.1s,mb5.5
PKI Pulchoki 70.14 335 *e*P **P 07 40 12.4 -0.6**
PKI pmax pmax
comp=Z,71nm,1.1s,mb5.5
DMN Daman 70.28 335 *e*P **P 07 40 13.4 -0.4**
GUN Gumba 70.30 336 *e*P **P 07 40 14.1 +0.1**
comp=Z,121nm,0.8s,mb5.9
KKN Kakani 70.39 335 *e*P **P 07 40 14.3 -0.2**
comp=Z,53nm,1.0s,mb5.4
KKN Kakani 70.39 335 *e*P **P 07 40 14.3 -0.2**
KKN pmax pmax
comp=Z,53nm,1.0s,mb5.4
LSA Lhasa 70.44 341 P **P 07 40 14.3 -0.5**
LSA Lhasa 70.44 341 *e*P **P 07 40 15.8 +1.0**
LSA pmax pmax
comp=Z,22nm,1.0s,mb5.0
LSA Lhasa 70.44 341 *e*P **P 07 40 15.8 +1.0**
comp=Z,22nm,1.0s,mb5.0
BOSA Boshof 70.51 249 P **P 07 40 14.7 -0.6**
comp=Z,8.5nm,1.1s,mb4.6,baz=115,slow=9.3,SNR=7.6
BOSA LR LR 08 04 25.9
comp=Z,107nm,20.9s,MS4.1,baz=128,slow=30
GKN Gorkha 70.80 335 *e*P **P 07 40 16.7 -0.3**
comp=Z,86nm,0.8s,mb5.7
KOLN Koldanda 70.94 334 *e*P **P 07 40 17.5 -0.4**
comp=Z,110nm,1.4s,mb5.6
NDI New Delhi 74.19 329 *e*x x 07 40 36.0
LZH Lanzhou 74.44 353 *e*P **P 07 40 39.5 +0.8**
LZH AP pP 07 40 47.5 +4.1
LZH XP sP 07 40 50.8 +5.7
LZH PP PP 07 43 29.3 +4.3
LZH AMB AMB
comp=Z,27nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,115nm,7.7s
LZH LR LR
comp=E,477nm,14.7s
LZH LR LR
comp=Z,689nm,18.2s,MS5.0
LZH Lanzhou 74.44 353 *e*P **P 07 40 39.6 +0.9**
LZH *PP pP 07 40 47.5 +4.1
LZH *SP sP 07 40 50.7 +5.6
LZH 07 43 29.2
LZH *e*S S 07 50 13.5 +0.5
LZH 07 50 41.7
LZH PS 07 50 52.5
LZH *e*SS SS 07 55 05.2 +5.8
LZH pmax pmax
comp=Z,27nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,690nm,18.2s,MS5.0
LZH Lanzhou 74.44 353 *e*P **P 07 40 39.6 +0.9**
comp=Z,27nm,1.5s,mb5.0
LZH pP pP 07 40 47.5 +4.1
LZH sP sP 07 40 50.7 +5.6
LZH PP PP 07 43 29.2 +4.2
LZH *e*S S 07 50 13.5 +0.5
LZH sS sS 07 50 24.6 +3.8
LZH SKS 07 50 41.7
LZH PS 07 50 52.5
LZH *e*SS SS 07 55 05.2 +5.8
LZH LR LR
comp=Z,690nm,18.2s,MS5.0
KSRS Korea Array 76.84 13 P **P 07 40 53.6 +1.2**
comp=Z,8.8nm,1.2s,mb4.6,baz=182,slow=6.9,SNR=12
KMBO Kilima Mbogo 77.36 279 P **P 07 40 55.0 -0.3**
comp=Z,5.9nm,1.0s,mb4.5,baz=99,slow=4.6,SNR=8.5
KMBO LR LR 08 07 32.6
comp=Z,54nm,20.8s,MS3.8,baz=97,slow=30
KMBO Kilima Mbogo 77.36 279 *e*P **P 07 40 56.0 +0.7**
KMBO pmax pmax
comp=Z,14nm,1.3s
KMBO Kilima Mbogo 77.36 279 *e*P **P 07 40 56.0 +0.7**
comp=Z,14nm,1.3s,mb4.8
BJI Beijing 78.10 3 P **P 07 41 01.3 +1.8**
BJI S S 07 50 56.5 +3.3
BJI AMB AMB
comp=Z,11nm,1.8s,mb4.5
BJI LR LR
comp=N,141nm,29.4s,MS4.2
BJI LR LR
comp=E,88nm,30.5s,MS4.2
BJI LR LR
comp=Z,291nm,40.2s
BJI Beijing 78.10 3 P **P 07 41 01.2 +1.7**
BJI S S 07 50 56.5 +3.3
BJI pmax pmax
comp=Z,11nm,1.8s,mb4.5
BJI MLR MLR
comp=Z,290nm,40.2s,MS4.3
BJI Beijing 78.10 3 P **P 07 41 01.2 +1.7**
comp=Z,11nm,1.8s,mb4.5
BJI S S 07 50 56.5 +3.3
BJI LR LR
comp=Z,290nm,40.2s,MS4.3
GTA Gaotai 78.18 350 *e*P **P 07 41 00.8 +0.9**
GTA AP pP 07 41 05.3 +0.7
GTA XP sP 07 41 08.5 +2.1
GTA PP PP 07 43 59.5 +3.0
GTA S S 07 50 55.0 +0.9
GTA XS sS 07 51 06.3 +4.4
GTA AMB AMB
comp=Z,16nm,1.5s,mb4.7
GTA AMB AMB
comp=Z,314nm,4.6s
GTA LR LR
comp=N,150nm,16.4s,MS4.5
GTA LR LR
comp=E,149nm,20.3s,MS4.5
GTA LR LR
comp=Z,135nm,16.4s,MS4.4
MJAR Matsushiro Arr 78.35 21 P **P 07 41 00.7 -0.1**
comp=Z,1.8nm,0.6s,mb4.2,baz=186,slow=6.7,SNR=6.7
HHC Hu-ho-hao-te 78.82 360 *e*P **P 07 41 07.0 +3.6**
HHC AP pP 07 41 11.8 +3.7
HHC XP sP 07 41 14.0 +4.1
HHC PCP PcP 07 41 15.8 +3.6
HHC PP PP 07 44 08.3 +6.5
HHC S S 07 51 05.3 +4.4
HHC XS sS 07 51 13.3 +4.6
HHC SKS 07 51 17.3
HHC SCS ScS 07 51 26.5 +1.9
HHC AMB AMB
comp=Z,12nm,0.8s,mb4.9
HHC AMB AMB
comp=Z,201nm,5.0s
HHC LR LR
comp=N,220nm,13.7s,MS5.0
HHC LR LR
comp=E,445nm,17.1s,MS5.0
HHC LR LR
comp=Z,133nm,25.9s
TSUM Tsumeb 81.68 252 *e*P **P 07 41 19.7 +0.9**
comp=Z,8.1nm,1.1s,mb4.6
TBI Tubuai 82.17 113 *e*S S 07 51 34.0 -2.0
comp=Z,88nm,27.2s
TBI *e*LR LR 08 07 06.1
comp=Z,156nm,40.0s
CN2 Changchun 82.67 10 *e*P **P 07 41 26.5 +2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
KBL Kabul 82.74 325 *e*P **P 07 41 24.4 0.0**
MDJ Mudanjiang 84.10 13 P **P 07 41 35.0 +3.6**
MDJ AMB AMB
comp=Z,9.0nm,1.3s,mb4.7
MDJ AMB AMB
comp=Z,127nm,6.7s
WMQ Urumqi 84.70 343 P **P 07 41 37.5 +3.1**
WMQ XP sP 07 41 44.3 +3.4
WMQ PP PP 07 44 55.0 +4.7
WMQ SKS 07 51 58.5
WMQ S S 07 52 03.0 +1.4
WMQ XS sS 07 52 11.0 +1.6
WMQ SS SS 07 57 37.5 +4.5
WMQ AMB AMB
comp=Z,11nm,0.7s,mb5.1
WMQ AMB AMB
comp=Z,94nm,3.0s
WMQ LR LR
comp=N,160nm,32.0s,MS4.2
WMQ LR LR
comp=E,24nm,30.0s,MS4.2
WMQ LR LR
comp=Z,75nm,38.0s
PPT Papeete 85.67 109 *e*S S 07 52 08.7 -2.5
comp=Z,110nm,25.2s
PPT *e*SS SS 07 57 29.9 -18
comp=Z,106nm,27.8s
PPT *e*LR LR 08 08 44.5
comp=Z,503nm,30.8s,baz=228
PPT Papeete 85.67 109 LR LR 08 12 44.4
comp=Z,110nm,20.2s,MS4.2,baz=123,slow=31
ULN Ulaanbaatar 85.94 357 *e*P **P 07 41 41.4 +0.7**
ULN pmax pmax
comp=Z,37nm,1.6s,mb5.4
ULN Ulaanbaatar 85.94 357 *e*P **P 07 41 41.4 +0.7**
comp=Z,37nm,1.6s,mb5.4
SONM Songino Array 85.95 356 P **P 07 41 39.9 -0.7**
comp=Z,5.1nm,1.1s,mb4.7,baz=167,slow=3.2,SNR=12
USHA Ushuaia 87.19 180 LR LR 08 18 48.8
comp=Z,222nm,19.6s,MS4.6,baz=164,slow=34
ZAK Zakamensk 88.68 354 *e*P **P 07 41 51.0 -2.9**
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.4
MKAR Makanchi Array 88.84 340 P **P 07 41 53.8 -0.8**
comp=Z,2.5nm,0.7s,mb4.7,baz=143,slow=6.6,SNR=17
ZAL Zalesovo 94.86 344 P **P 07 42 21.2 -1.3**
comp=Z,0.8nm,0.5s,mb4.4,baz=180,slow=4.4,SNR=4.7
TAOE Nuku Hiva Isla 98.26 108 *e*LR LR 08 14 35.5
comp=Z,1μm,30.7s
TORD Torodi Ar. Bea 113.92 268 PKiKP PKiKP 07 47 38.9 -0.6
comp=Z,1.1nm,1.0s,baz=336,slow=1.7,SNR=4.4
TORD PP PP 07 48 35.3 +2.3
comp=Z,0.8nm,1.0s,baz=173,slow=2.5,SNR=3.7
AKASG Malin Array Be 114.45 316 PKP PKiKP 07 47 38.4 -2.0
comp=Z,0.2nm,0.3s,baz=103,slow=1.6,SNR=5.3
FINES FINESS Array B 121.00 326 PKhKP 07 47 48.5
comp=Z,0.5nm,0.3s,baz=237,slow=13,SNR=5.3
FINES PKKPbc PKKPbc 07 57 56.2 +0.5
comp=Z,2.1nm,0.9s,baz=14,slow=2.4,SNR=4.0
DPC Dobruska-Polom 121.62 312 *e*PKPdf PKPdf 07 47 57.1 +2.9
TREC Trest 121.70 310 *e*PKPdf PKPdf 07 47 57.4 +3.0
KSP Ksiaz 121.83 312 *e*PKIKP PKPdf 07 47 54.1 -0.5
GERES GERESS Array B 122.60 309 PKP PKPdf 07 47 54.6 -1.5
comp=Z,1.7nm,0.8s,baz=116,slow=3.1,SNR=8.8
PVCC Panska Ves 122.72 311 *e*PKPdf PKPdf 07 47 59.3 +3.0
SVW2 Sparrevohn 123.79 36 *e*PKPdf PKPdf 07 47 58.3 -0.1
NKC Novy Kostel 123.88 310 *e*PKPdf PKPdf 07 48 01.0 +2.4
CLL Collm 123.93 312 *i* PKPdf PKPdf 07 47 57.5 -1.2
CLL *i* (pPKPdf) 07 48 07.6
GRA1 Grafenberg Arr 124.42 309 *e*PKP PKPdf 07 47 58.4 -1.2
GRF Grafenberg Arr 124.42 309 *e*PKIKP PKPdf 07 47 58.4 -1.2
MBDF Montbardon 125.49 302 *e*PKIKP PKPdf 07 48 05.3 +3.6
comp=Z,13nm,1.0s
SIV San Ignacio 125.56 188 PP PP 07 49 57.3 +4.2
comp=Z,2.0nm,1.2s,baz=157,slow=8.2,SNR=4.4
LPG La Plagne 125.78 303 *e*PKIKP PKPdf 07 48 05.8 +3.6
comp=Z,6.1nm,0.7s
LPL La Plagne 125.80 303 *e*PKIKP PKPdf 07 48 05.7 +3.5
ORIF Oris-en-Rattie 126.15 302 *e*PKIKP PKPdf 07 48 05.9 +3.0
ORIF *e*MLR
comp=Z,118nm,18.2s
CDF Champ du Feu 126.43 307 *e*PKIKP PKPdf 07 48 04.9 +1.4
HINF Hinteralfeld 126.50 306 *e*PKIKP PKPdf 07 48 06.0 +2.4
comp=Z,4.7nm,0.7s
CABF La Chapelle 126.60 304 *e*PKIKP PKPdf 07 48 06.2 +2.4
comp=Z,15nm,1.0s
HAU Haudompre 126.89 306 *e*PKIKP PKPdf 07 48 07.2 +2.9
HAU *e*MLR
comp=Z,98nm,18.5s
HAU Haudompre 126.89 306 *e*PKPdf PKPdf 07 48 07.2 +2.9
HAU LR LR
comp=Z,100nm,18.5s,MS4.5
SSF Saint Saulge 128.42 304 *e*PKIKP PKPdf 07 48 10.5 +3.2
GIVF Givet 128.48 308 *e*PKIKP PKPdf 07 48 10.8 +3.4
BGF Bois d'Agland 128.70 303 *e*PKIKP PKPdf 07 48 07.9 +0.1
BAIF Baives 128.85 308 *e*PKIKP PKPdf 07 48 11.6 +3.5
EPF Esparros 129.26 298 *e*PKIKP PKPdf 07 48 11.7 +2.8
ESDC Sonseca Array 131.19 293 PKP PKPdf 07 48 12.7 +0.2
comp=Z,0.4nm,0.5s,baz=66,slow=2.4,SNR=3.5
INK Inuvik 134.00 28 *e*PKIKP PKPdf 07 48 16.8 -1.0
PTRM Twissleman Ran 138.67 77 *e*PKPdf PKPdf 07 48 28.7 +2.2
PKM Peak Mountain 138.71 78 ⇓P PKPdf 07 48 23.5 -3.1
baz=139
CIS Catalina Islan 139.27 81 ⇑P PKPdf 07 48 24.9 -2.7
baz=140,SNR=5.1
T06C Millerton Lake 139.49 75 ⇑P PKPdf 07 48 24.8 -3.2
baz=140
S06C San Francisco 139.65 74 ⇓P PKPdf 07 48 24.2 -4.1
baz=140
ISA Isabella 140.01 78 ⇑P PKPdf 07 48 25.5 -3.4
baz=140
EDW2 Edwards Air Fo 140.12 79 ⇓P PKPdf 07 48 26.4 -2.7
baz=140,SNR=6.2
LRMC Laurel Mountai 140.55 78 ⇑P PKPdf 07 48 27.4 -2.5
baz=141
MONP Monument Peak 140.62 83 ⇓P PKPdf 07 48 28.2 -1.8
baz=141
PFO Pinyon Flat Ob 140.86 82 ⇓P PKPdf 07 48 26.6 -3.8
baz=141
OTAV Otavalo 140.88 163 *e*PKPdf PKPdf 07 48 29.6 -0.9
MPMC Manual Prospec 140.89 78 ⇑P PKPdf 07 48 26.8 -3.7
baz=141
NVAR Mina Array Bea 140.98 74 PKhKP 07 48 22.9
comp=Z,0.2nm,0.4s,baz=345,slow=11,SNR=4.7
O07A Toulon 141.00 71 ⇑P PKPdf 07 48 26.4 -4.3
baz=141
M07A Soldier Meadow 141.07 69 ⇑P PKPdf 07 48 26.7 -4.1
baz=141
N07B Gerlach 141.08 70 ⇓P PKPdf 07 48 28.6 -2.2
baz=141
L07A Adell 141.08 68 ⇑P PKPdf 07 48 28.2 -2.7
baz=141
R08A Mina 141.10 74 ⇓P PKPdf 07 48 28.3 -2.6
baz=141
SWSC Sam W. Stewart 141.13 83 ⇑P PKPdf 07 48 28.0 -2.9
baz=141
GSC Goldstone 141.17 79 ⇓P PKPdf 07 48 27.8 -3.3
baz=141
GRAC Grapevine Rang 141.27 76 ⇑P PKPdf 07 48 27.5 -3.7
baz=142
K07A Rock Creek Ran 141.29 67 ⇑P PKPdf 07 48 27.4 -3.8
baz=142
BELC Belle Mtn. 141.35 81 ⇓P PKPdf 07 48 27.2 -4.2
baz=142
A07A Ashnola River, 141.36 57 ⇓P PKPdf 07 48 26.8 -4.6
baz=142
Q08A Gabbs 141.37 73 ⇓P PKPdf 07 48 27.1 -4.2
baz=142
D07A Quincy 141.46 60 ⇓P PKPdf 07 48 28.0 -3.6
baz=142
FURC Furnace Creek, 141.50 77 ⇓P PKPdf 07 48 27.9 -3.7
baz=142
S09A Goldfield 141.60 75 ⇑P PKPdf 07 48 28.1 -3.7
baz=142
BC3 Big Chuckw Mtn 141.66 82 ⇑P PKPdf 07 48 28.6 -3.3
baz=142
M08A Happy Creek Ra 141.66 69 ⇓P PKPdf 07 48 28.9 -3.0
baz=142
N08A GE Springer Mi 141.70 70 ⇓P PKPdf 07 48 28.7 -3.3
baz=142
SHOC Shoshone 141.77 78 ⇓P PKPdf 07 48 29.2 -2.9
baz=142
R09A Tonopah 141.86 74 ⇓P PKPdf 07 48 29.2 -3.0
baz=142
GMRC Granite Mounta 141.88 80 ⇑P PKPdf 07 48 29.5 -2.8
baz=142
U10A Ash Meadows, A 141.89 78 ⇑P PKPdf 07 48 29.5 -2.8
baz=142
TUQ Turquoise Mtn. 141.90 79 ⇓P PKPdf 07 48 29.8 -2.5
baz=142
G08A Pilot Rock 141.93 63 ⇓P PKPdf 07 48 29.1 -3.3
baz=142
J08A Circle Bar Ran 141.97 66 ⇓P PKPdf 07 48 28.5 -3.9
baz=142
I08A Drewsey 142.00 65 ⇑P PKPdf 07 48 30.3 -2.2
baz=142
B08A Colville Reser 142.00 58 ⇓P PKPdf 07 48 30.1 -2.4
baz=142
E08A Dider Farm, El 142.01 61 ⇓P PKPdf 07 48 30.4 -2.2
baz=142
H08A Prairie City 142.02 64 ⇓P PKPdf 07 48 30.4 -2.2
baz=142
IRM Iron Mountain 142.07 81 ⇓P PKPdf 07 48 30.7 -2.0
baz=142
A08A Turner Farm, O 142.08 57 ⇑P PKPdf 07 48 30.6 -2.1
baz=142
F08A Pendleton 142.12 62 ⇓P PKPdf 07 48 30.0 -2.7
baz=142
P09A Austin 142.15 72 ⇓P PKPdf 07 48 30.2 -2.6
baz=142
C08A Higginbotham F 142.15 59 ⇑P PKPdf 07 48 30.4 -2.4
baz=142
N09A Rock Creek Ran 142.16 70 ⇑P PKPdf 07 48 29.7 -3.1
baz=142
D08A Wollman Farm, 142.16 60 ⇓P PKPdf 07 48 30.3 -2.5
baz=142
O09A Fish Creek Ran 142.26 71 ⇑P PKPdf 07 48 30.3 -2.6
baz=142
L09A Wilkinson Ranc 142.30 68 ⇑P PKPdf 07 48 29.9 -3.2
baz=142
M09A Marrel Ranch, 142.34 69 ⇓P PKPdf 07 48 30.4 -2.7
baz=142
K09A Rome 142.39 67 ⇓P PKPdf 07 48 29.9 -3.3
baz=143
V11A Goodsprings 142.41 79 ⇑P PKPdf 07 48 29.9 -3.3
baz=143
Y12C Blythe 142.41 82 ⇑P PKPdf 07 48 30.0 -3.2
baz=143
R10A Warm Springs 142.45 75 ⇑P PKPdf 07 48 31.7 -1.6
baz=143
J09A Fry Pan Ranch, 142.48 66 ⇓P PKPdf 07 48 30.2 -3.2
baz=143
A09A Danville 142.53 57 ⇑P PKPdf 07 48 30.3 -3.2
baz=143
D09A Jones Farm, Ri 142.58 60 ⇓P PKPdf 07 48 30.5 -3.1
baz=143
I09A Lost Marbles R 142.59 65 ⇓P PKPdf 07 48 30.5 -3.1
baz=143
U11A Corn Creek 142.62 78 ⇑P PKPdf 07 48 32.6 -1.0
baz=143
W12A Cal Nev Ari 142.67 80 ⇑P PKPdf 07 48 32.4 -1.3
baz=143
P10A Eureka 142.67 72 ⇑P PKPdf 07 48 32.4 -1.3
baz=143
NEE2 Needles Airpor 142.69 81 ⇓P PKPdf 07 48 32.1 -1.7
baz=143
H09A Durkee 142.75 64 ⇑P PKPdf 07 48 32.3 -1.5
baz=143
B09A Rice 142.79 58 ⇓P PKPdf 07 48 31.9 -2.0
baz=143
O10A Cortez Mining, 142.80 71 ⇓P PKPdf 07 48 32.8 -1.1
baz=143
V12A Nelson 142.82 79 ⇓P PKPdf 07 48 33.1 -0.9
baz=143
N10A Dunphy 142.89 71 ⇓P PKPdf 07 48 32.9 -1.2
baz=143
PDMCI Parker Dam,Lak 142.90 82 ⇓P PKPdf 07 48 32.6 -1.6
baz=143
YKA Yellowknife Ar 142.94 34 PKhKP 07 48 30.2
comp=Z,1.1nm,0.8s,baz=293,slow=3.3,SNR=20
Y13A Salome 142.98 83 ⇑P PKPdf 07 48 32.8 -1.4
baz=143
K10A MacKenzie Ranc 143.02 67 ⇓P PKPdf 07 48 32.6 -1.8
baz=143
M10A I.L. Ranch, Tu 143.03 69 ⇑P PKPdf 07 48 32.8 -1.5
baz=143
Q11A Duckwater 143.09 74 ⇑P PKPdf 07 48 33.2 -1.2
baz=143
P11A Circle Ranch, 143.19 73 ⇓P PKPdf 07 48 32.8 -1.8
baz=143
J10A Berg Farm, Mel 143.21 66 ⇓P PKPdf 07 48 32.7 -2.0
baz=143
F10A Beach Ranch, E 143.22 62 ⇓P PKPdf 07 48 32.2 -2.4
baz=143
X13A Yucca 143.24 81 ⇑P PKPdf 07 48 33.0 -1.7
baz=143
U12A Valley of Fire 143.28 78 ⇑P PKPdf 07 48 33.4 -1.3
baz=144
D10A Wagner Farm, O 143.28 60 ⇑P PKPdf 07 48 32.6 -2.2
baz=144
C10A Spilker Farm, 143.32 59 ⇓P PKPdf 07 48 33.2 -1.7
baz=144
E10A Myers Farm, Un 143.35 61 ⇑P PKPdf 07 48 33.1 -1.8
baz=144
W13A Hualapai Mount 143.37 81 ⇓P PKPdf 07 48 33.8 -1.1
baz=144
H10A Noah's Angus R 143.39 64 ⇓P PKPdf 07 48 32.7 -2.3
baz=144
O11A Cowboy Ranch, 143.39 72 ⇑P PKPdf 07 48 33.9 -1.1
baz=144
NEW Newport 143.47 58 *e*PKIKP PKPdf 07 48 33.9 -1.2
N11A Elko Archery C 143.48 71 ⇓P PKPdf 07 48 33.0 -2.1
baz=144
Z14A Wintersburg 143.51 84 ⇓P PKPdf 07 48 33.6 -1.6
baz=144
M11A Holland Ranch, 143.56 70 ⇓P PKPdf 07 48 34.4 -0.9
baz=144
Y14A Wickenburg 143.66 83 ⇑P PKPdf 07 48 34.2 -1.2
baz=144
Q12A Willow Creek R 143.76 74 ⇑P PKPdf 07 48 35.5 -0.1
baz=144,SNR=9.4
P12A McGill 143.80 73 ⇓P PKPdf 07 48 34.7 -1.0
baz=144
G11A Walters Elk Ra 143.82 63 ⇑P PKPdf 07 48 33.8 -1.9
baz=144
115A Sonoran Desert 143.83 85 ⇑P PKPdf 07 48 35.0 -0.7
baz=144
I11A Placerville 143.86 66 P PKPdf 07 48 33.8 -2.0
baz=144,SNR=7.2
MFID Camas Ranch 143.88 66 P PKPdf 07 48 34.5 -1.3
baz=144,SNR=7.8
H11A Donnelly 143.93 64 P PKPdf 07 48 35.1 -0.8
baz=144,SNR=23
X14A Yava 143.93 82 ⇑P PKPdf 07 48 34.9 -1.0
baz=144
F11A Grangeville 143.95 62 ⇑P PKPdf 07 48 35.0 -1.0
baz=144
E11A Bogner Ranch, 143.96 61 P PKPdf 07 48 33.5 -2.4
baz=144,SNR=9.5
B11A Sandpoint 143.98 58 ⇑P PKPdf 07 48 34.5 -1.5
baz=144
A11A Hall Mountain, 144.00 57 P PKPdf 07 48 35.2 -0.8
baz=144,SNR=14
N12A Clover Valley, 144.01 71 P PKPdf 07 48 35.3 -0.7
baz=144,SNR=11
W14A Seligman 144.03 81 ⇑P PKPdf 07 48 35.5 -0.6
baz=144
116A Eloy 144.19 86 ⇓P PKPdf 07 48 36.1 -0.3
baz=144
M12A Wells 144.21 70 P PKPdf 07 48 36.1 -0.3
baz=144,SNR=8.0
J12A Stokes Ranch, 144.38 67 P PKPdf 07 48 36.3 -0.4
baz=145,SNR=40
K12A Draper Farm, C 144.43 68 P PKPdf 07 48 36.2 -0.5
baz=145,SNR=18
X15A Humboldt 144.45 82 ⇑P PKPdf 07 48 36.4 -0.4
baz=145
A12A Yaak River Ran 144.47 57 P PKPdf 07 48 36.4 -0.5
baz=145,SNR=6.8
CCUT Cedar City 144.49 77 *e*PKPdf PKPdf 07 48 37.4 +0.5
B12A Libby 144.50 58 ⇓P PKPdf 07 48 36.1 -0.8
baz=145
ARUT Antelope Range 144.50 76 *e*PKIKP PKPdf 07 48 37.2 +0.3
N13A Wendover, West 144.63 71 P PKPdf 07 48 37.2 0.0
baz=145,SNR=11
W15A Williams 144.65 81 ⇑P PKPdf 07 48 37.2 +0.1
baz=145
H12A Diamond D Ranc 144.73 65 P PKPdf 07 48 37.0 -0.3
baz=145,SNR=18
M13A Montello 144.75 70 P PKPdf 07 48 37.5 +0.1
baz=145,SNR=61
TUC Tucson 144.82 87 *e*PKIKP PKPdf 07 48 37.7 +0.2
HLID Hailey 144.92 66 *e*PKPbc PKPdf 07 48 37.9 +0.2
HLID Hailey 144.92 66 P PKPdf 07 48 38.0 +0.3
baz=145,SNR=26
BSMT Bassoo Peak 145.02 59 *e*P PKPdf 07 48 37.1 -0.7
K13A Stover Farm, H 145.03 68 P PKPdf 07 48 38.7 +0.8
baz=145,SNR=26
L13A Double Diamond 145.04 69 P PKPbc 07 48 38.8 +1.5
baz=145,SNR=24
J13A Cove Ranch, Pi 145.07 67 ⇑P PKPbc 07 48 38.8 +1.4
baz=145,SNR=26
C13A Hot Springs 145.15 59 P PKPbc 07 48 37.2 -0.4
baz=145,SNR=9.8
D13A Huson 145.21 60 ⇑P PKPbc 07 48 37.5 -0.3
baz=145,SNR=9.9
F13A Darby 145.22 63 ⇓P PKPbc 07 48 38.3 +0.4
baz=145
G13A Cobalt 145.22 64 P PKPbc 07 48 38.6 +0.8
baz=145,SNR=100
B13A Whitefish 145.24 58 P PKPbc 07 48 38.3 +0.4
baz=145,SNR=54
E13A Victor 145.36 61 P PKPbc 07 48 38.2 -0.1
baz=146,SNR=12
WUAZ Wupatki 145.45 81 *e*PKPdf PKPdf 07 48 39.7 +1.2
WUAZ Wupatki 145.45 81 ⇓P PKPbc 07 48 40.1 +1.5
baz=146
BGU Big Grassy Mou 145.51 71 *e*PKPdf PKPdf 07 48 39.4 +0.8
DUG Dugway 145.53 73 *e*PKIKP PKPdf 07 48 40.1 +1.4

DUG	Dugway	145.53	73	⇑P	PKPdf	07 48 40.3	+1.6
	baz=146						
MSO	Missoula	145.55	61	*e*PKPdf	PKPdf	07 48 38.7	0.0
WALA	Waterton Lakes	145.61	57	*e*PKPdf	PKPdf	07 48 39.7	+0.9
MSU	Marysvale	145.64	76	*e*PKIKP	PKPdf	07 48 41.5	+2.6
EDM	Edmonton	145.69	49	*e*PKIKP	PKPdf	07 48 38.6	-0.4
E14A	Clinton	145.84	61	P	PKPdf	07 48 40.3	+1.1
	baz=146,SNR=22						
HVU	Hansel Valley	145.85	70	*e*PKP2	PKPab	07 48 40.5	+0.3
D14A	Greenough	145.86	60	P	PKPdf	07 48 39.8	+0.5
	baz=146,SNR=55						
F14A	Wisdom	145.89	63	P	PKPdf	07 48 40.4	+1.1
	baz=146,SNR=8.9						
SPUT	South Promonto	146.01	71	*e*PKPdf	PKPdf	07 48 35.4	-4.1
CHMT	Chamberlain Mo	146.03	61	*e*PKPdf	PKPdf	07 48 40.6	+1.1
NLU	North Lily Min	146.04	73	*e*PKPdf	PKPdf	07 48 41.6	+2.1
NOQ	North Oquirrh	146.14	72	*e*PKPdf	PKPdf	07 48 41.1	+1.3
ROSC	El Rosal	146.17	169	PKPbc	PKPbc	07 48 41.3	+0.6
	comp=Z,14nm,1.0s,baz=163,slow=3.4,SNR=14						
ROSC	El Rosal	146.17	169	*e*PKPdf	PKPdf	07 48 41.9	+2.1
MCMT	McKenzie Canyo	146.18	64	*e*PKPdf	PKPdf	07 48 41.6	+1.8
DLMT	Dillon	146.40	63	*e*PKPdf	PKPdf	07 48 42.2	+2.1
CTU	Camp Tracy	146.43	72	*e*PKPbc	PKPbc	07 48 42.3	+0.8
E15A	Deer Lodge	146.43	62	P	PKPdf	07 48 42.2	+2.0
	baz=147,SNR=32						
G15A	Dillon	146.46	64	P	PKPdf	07 48 42.2	+2.0
	baz=147,SNR=34						
F15A	Butte	146.50	63	⇓P	PKPdf	07 48 42.6	+2.2
	baz=147,SNR=28						
LRM	Limekiln Ridge	146.53	63	*e*P	PKPdf	07 48 44.1	+3.7
D15A	Lincoln	146.53	60	P	PKPdf	07 48 42.6	+2.2
	baz=147,SNR=5.9						
TMUT	Trail Mountain	146.56	75	*e*PKPbc	PKPbc	07 48 43.5	+1.5
JLU	Jordanelle	146.63	72	*e*PKPdf	PKPdf	07 48 42.9	+2.3
HWUT	Hardware Ranch	146.72	70	*e*PKPdf	PKPdf	07 48 42.5	+1.8
DAU	Daniels Canyon	146.74	73	*e*PKP2	PKPab	07 48 43.5	-0.2
SRU	San Rafael	147.04	75	*e*PKIKP	PKPdf	07 48 42.1	+0.9
SRU				*e*		07 48 44.5	
BOZ	Bozeman (W)	147.09	63	*e*PKP2	PKPab	07 48 44.8	-0.2
BOZ	Bozeman (W)	147.09	63	⇓P	PKPdf	07 48 43.1	+1.8
	baz=147,SNR=17						
QLMT	Earthquake Lak	147.19	65	*e*PKPbc	PKPbc	07 48 45.4	+1.6
AHID	Auburn Hatcher	147.22	68	*e*PKPdf	PKPdf	07 48 42.6	+1.0
DCID1	Drake Creek	147.25	67	*e*PKPbc	PKPbc	07 48 45.4	+1.4
REDW	Red Top Meadow	147.47	67	*e*PKPdf	PKPdf	07 48 43.4	+1.4
IIO	Organos	147.48	116	*i* P	PKPdf	07 48 46.3	+4.3
YMR	Madison River	147.50	65	*e*PKPdf	PKPdf	07 48 44.2	+2.2
SNOW	Snow King Moun	147.55	67	*e*PKPdf	PKPdf	07 48 43.8	+1.7
SNOW				*e*PKPbc	PKPbc	07 48 46.3	+1.5
SNOW				*e*PKPab	PKPab	07 48 48.7	+1.8
YFT	Old Faithful	147.58	65	*e*PKPbc	PKPbc	07 48 47.3	+2.5
MOOW	Moose Ponds	147.59	67	*e*PKPdf	PKPdf	07 48 43.0	+0.9
MOOW				*e*PKPbc	PKPbc	07 48 45.3	+0.5
MOOW				*e*PKPab	PKPab	07 48 48.0	+1.1
LKWY	Lake	147.90	65	*e*PKP2	PKPab	07 48 48.2	0.0
MVCO	Mesa Verde	148.15	79	*e*PKPdf	PKPdf	07 48 45.1	+2.1
MVCO				*e*PKPbc	PKPbc	07 48 48.9	+2.5
MVCO				*e*PKPab	PKPab	07 48 51.0	+1.8
MVCO	Mesa Verde	148.15	79	⇑P	PKPdf	07 48 45.6	+2.5
	baz=148						
JTS	JuntasAbangare	148.20	147	PKPbc	PKPbc	07 48 46.1	-0.4
	comp=Z,22nm,1.0s,baz=290,slow=3.3,SNR=7.4						
CMIG	Matias Romero	148.34	125	PKPbc	PKPbc	07 48 47.4	+0.5
	comp=Z,13nm,0.8s,baz=321,slow=1.0,SNR=4.4						
BW06	Boulder Array	148.35	69	*e*PKPdf	PKPdf	07 48 44.0	+0.6
BW06				*e*PKPbc	PKPbc	07 48 47.3	+0.4
BW06				*e*PKPab	PKPab	07 48 50.8	+0.8
PDAR	Pinedale Array	148.35	69	PKP	PKPdf	07 48 42.4	-1.0
	comp=Z,6.7nm,1.2s,baz=266,slow=7.1,SNR=5.2						
PDAR				PKPbc	PKPbc	07 48 47.1	+0.2
	comp=Z,8.7nm,0.7s,baz=108,slow=3.3,SNR=71						
EGMT	Eagleton	148.40	59	*e*PKPbc	PKPbc	07 48 47.0	0.0
LAZ	Ladron	148.40	85	*e*PKPbc	PKPbc	07 48 47.7	+0.7
LENM	Lemitar	148.46	85	*e*PKPbc	PKPbc	07 48 48.2	+1.1
GCMT	Greycliff	148.47	63	*e*PKPbc	PKPbc	07 48 48.5	+1.4
BNM	Barren Site	148.72	86	*e*PKPdf	PKPdf	07 48 45.8	+1.8
BNM				*e*PKPbc	PKPbc	07 48 49.4	+1.5
BNM				*e*PKPab	PKPab	07 48 52.5	+1.0
LPM	Los Pinos Moun	148.77	85	*e*PKPbc	PKPbc	07 48 48.9	+0.9
MNTX	Cornudas Mount	148.83	91	*e*PKPdf	PKPdf	07 48 45.4	+1.2
MNTX				*e*PKPbc	PKPbc	07 48 48.3	+0.2
ANMO	Albuquerque	149.11	84	*e*PKPbc	PKPbc	07 48 50.0	+1.2
ANMO				*e*PKPab	PKPab	07 48 54.5	+1.5
LTX	Lajitas	149.20	96	*e*PKP2	PKPab	07 48 50.3	-3.1
SMCO	Snowmass	149.75	76	*e*PKPbc	PKPbc	07 48 51.6	+1.2
RWWY	Rawlins	149.96	71	*e*PKPbc	PKPbc	07 48 51.3	+0.4
TGUH	Tegucigalpa,Un	150.39	140	*e*PKPbc	PKPbc	07 48 53.0	+1.1
SDV	Santo Domingo	150.57	175	PKPbc	PKPbc	07 48 50.3	-2.0
	comp=Z,3.4nm,0.3s,baz=218,slow=23,SNR=5.1						
SDV	Santo Domingo	150.57	175	*e*PKPdf	PKPdf	07 48 49.2	+2.2
SDV				*e*PKPab	PKPab	07 49 02.0	+2.9
SDCO	Great Sand Dun	150.59	79	*e*PKPbc	PKPbc	07 48 54.0	+1.6
LAO	LASA Array	150.85	61	*e*PKPbc	PKPbc	07 48 54.0	+1.0
ISCO	Idaho Springs	150.90	75	*e*PKIKP	PKPdf	07 48 54.7	+7.2
RSSD	Black Hills	152.45	66	*e*PKPdf	PKPdf	07 48 51.9	+2.1
RSSD				*e*PKPab	PKPab	07 49 10.0	+3.1
JCT	Junction City	152.71	97	*e*PKIKP	PKPdf	07 48 51.7	+1.5
WMOK	Wichita Mounta	155.07	89	*e*PKIKP	PKPdf	07 48 54.3	+0.8
WMOK				*e*		07 49 02.9	
ULM	Lac du Bonnet	156.92	50	PKPab	PKPab	07 49 25.2	-0.7
	comp=Z,8.3nm,0.9s,baz=299,slow=5.2,SNR=8.8						

*ISCJB **26** 07:46:35.0±1.3, 908N±006×1264E±0.1, h70km±12km, mb3.8/9, Error ellipse: s-maj=19.2km s-min=9.0km az=159.5*
*MAN **26** 07:46:36.6, 912N×12618E, h14km, mb3.8, ML4.9, MS1.5*
*IDC **26** 07:46:37.9±8.6, 909N×12607E, h81km±81km, mb3.6/9, mb1 3.8/9, mb1mx3.6/20, mbtmp3.6/9, Error ellipse: s-maj=55.1km s-min=16.6km az=74.0*
ISC 26 07:46:36.4±1.3, 909N±006×1263E±01, h67km±12km, n19, σ0§94/22, mb3.8/9, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.71	261	*e*P	Pn	07 46 49.0	-2.1
BUTP				*e*S	Sn	07 47 00.6	-1.4
CGP	Cagayan de Oro	1.73	249	⇑*i*P	Pn	07 47 04.2	-0.2
CGP				*e*S	Sn	07 47 25.4	-0.1
BUKP	Musuan	1.73	226	*e*P	Pn	07 47 05.1	+0.7
MSLP	Maasin	1.78	306	*e*P	Pn	07 47 05.4	+0.3
PLP	Palo	2.46	327	*e*P	Pn	07 47 13.6	-0.6
PLP				*e*S	Sn	07 47 44.4	+1.3
TBP	Tagbilaran	2.51	284	*e*P	Pn	07 47 15.5	+0.7
LLP	Lapu-Lapu	2.63	298	⇓*e*P	Pn	07 47 16.9	+0.4
LLP				*e*S	Sn	07 47 48.3	+1.0
DCPH	Dipolog City	2.98	261	⇓*e*P	Pn	07 47 21.6	+0.2
SNPH	Sibulan	3.06	275	*e*P	Pn	07 47 23.0	+0.6
KSRS	Korea Array	28.28	3	P	P	07 52 23.5	+0.1
	0.6nm,0.4s,mb3.5,baz=183,slow=9.6,SNR=5.2						
WRA	Warramunga Arr	29.91	165	P	P	07 52 38.8	+1.0
	0.7nm,0.5s,mb3.5,baz=350,slow=9.7,SNR=5.5						
ASAR	Alice Springs	33.38	167	P	P	07 53 09.3	+0.9
	0.3nm,0.3s,mb3.6,baz=346,slow=7.5,SNR=14						
STKA	Stephens Creek	43.27	161	P	P	07 54 32.0	+0.7
	1.1nm,0.5s,mb3.9,baz=186,slow=4.4,SNR=5.3						
MKAR	Makanchi Array	53.00	323	P	P	07 55 45.6	-0.7
	1.2nm,0.6s,mb4.1,baz=130,slow=7.8,SNR=16						
BVAR	Borovoye Array	62.67	326	P	P	07 56 52.9	-1.1
	0.4nm,0.5s,mb3.6,baz=106,slow=9.4,SNR=3.4						
ARCES	ARCESS Array B	85.32	340	P	P	07 59 05.2	-0.9
	2.1nm,0.7s,mb4.2,baz=72,slow=6.8,SNR=5.3						
FINES	FINESS Array B	86.95	332	P	P	07 59 12.0	-2.2
	2.9nm,1.0s,mb4.2,baz=72,slow=4.5,SNR=5.1						
YKA	Yellowknife Ar	94.81	24	P	P	07 59 51.1	+0.4
	0.2nm,0.5s,mb3.8,baz=299,slow=4.3,SNR=9.6						
TORD	Torodi Ar. Bea	120.75	291	PKP	PKPdf	08 05 21.4	+0.6
	0.3nm,0.6s,baz=66,slow=2.4,SNR=4.1						

*TIR **26** 07:49:34.6, 3954N×2057E, h21km, Ml3.7*
*IDC **26** 07:49:36.2±1.2, 3973N×2055E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=25.9km s-min=18.9km az=67.0*
*ISCJB **26** 07:49:38.2±0.4, 3967N±002×2042E±002, h4km±3km, mb3.7/7, Error ellipse: s-maj=2.9km s-min=2.4km az=36.0*
*ROM **26** 07:49:38.2±0.6, 3955N×2051E, h10km, Md3.2/2, Ml3.5/11, Error ellipse: s-maj=9.4km s-min=5.2km az=65.0*
*NEIC **26** 07:49:38.9, 3975N×2045E, h14km, MD3.6(PDG), ML3.5(ROM), ML4.1(ATH), After ATH.*
*ATH **26** 07:49:38.9, 3975N×2045E, h14km±2km, MD3.8/16, ML4.1*
*PDG **26** 07:49:39.1±0.4, 3974N×2046E, h4km±1km*
*CSEM **26** 07:49:39.3±0.0, 3978N×2044E, h2km, ML3.6, Error ellipse: s-maj=1.2km s-min=0.9km az=13.0*
*THE **26** 07:49:39.4, 3972N×2044E, h10km, ML3.6*
*NAO **26** 07:49:48.5, 3970N×2042E, h33km, mb3.3*
ISC 26 07:49:38.8±0.4, 3966N±002×2043E±002, h0km±3km, n113, σ1§21/151, mb3.8/7, 15C-14D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.14	212	*e*Pg	Pg	07 49 43.0	+1.4
IGT				*e*Sg	Sg	07 49 47.0	+3.5
JAN	Janina	0.32	90	⇑*i*PB	Pg	07 49 45.3	+0.3
JAN				*e*SB	Sg	07 49 50.2	+1.0
SRN	Sarande	0.40	304	*i* Pg	Pg	07 49 46.4	-0.1
SRN				*i* Sg	Sg	07 49 53.0	+1.3
KEK	Kerkira	0.49	277	*e*PB	Pg	07 49 48.4	+0.2
KEK				*e*SB	Sg	07 49 56.6	+2.0
LSK	Leskovik	0.51	15	*i* Pg	Pg	07 49 47.4	-1.2
LSK				*i* Sg	Sg	07 49 54.3	-0.9
MEV	Metsovon	0.63	78	*e*Pg	Pg	07 49 50.1	-0.7
MEV				*e*Sg	Sg	07 49 59.5	+0.5
TPE	Tepelena	0.72	333	*i* Pg	Pg	07 49 52.4	-0.1
TPE				*i* Sg	Sg	07 50 04.8	+3.0
LKD	Levkas	0.96	170	*e*Pg	Pg	07 49 57.7	+0.5
LKD	Levkas	0.96	170	P	Pg	07 49 57.6	+0.4
KBN	Korca	1.00	16	*i* Pg	Pg	07 49 56.7	-1.3
KBN				*i* Sg	Sg	07 50 11.7	+0.6
KZN	Kozani	1.22	57	*e*PG	Pg	07 50 00.4	-1.7
KZN				*e*SB	Sb	07 50 17.2	-1.7
THL	Klokotos Trika	1.23	94	*e*PB	Pb	07 50 01.9	-0.9
THL				*e*SB	Sb	07 50 19.0	-0.1
EVR	Evrytania	1.30	124	*e*PG	Pg	07 50 04.0	+0.3
EVR				*e*SB	Sb	07 50 22.4	+1.2
FNA	Florina	1.34	32	*e*Pg	Pg	07 50 02.1	-2.4
OHR	Ohrid	1.48	11	*i* Pn	Pn	07 50 04.6	-2.0
OHR				*i* Sn	Sn	07 50 27.2	+0.5
OHR	Ohrid	1.48	11	*i* Pn	Pn	07 50 04.6	-2.0
OHR				*i* Sn	Sn	07 50 27.2	+0.5
OHR	Ohrid	1.48	11	*i* Pn	Pn	07 50 04.5	-2.1
OHR				*i* Sn	Sn	07 50 27.1	+0.5
SCTE	Santa Cesarea	1.57	286	Pn	Pn	07 50 07.7	-0.1
SCTE				Sn	Sn	07 50 29.2	+0.4
	719nm,0.7s						
AGG	Agios Georgios	1.60	113	*e*Pb	Pb	07 50 08.8	-0.4
TIR	Tirane	1.74	346	Pn	Pn	07 50 10.5	+0.3
	1μm,1.0s						
RLS	Riolos of Patr	1.79	153	*e*PN	Pn	07 50 12.8	+2.0
RLS				*e*SN	Sn	07 50 37.5	+3.3
KRUS	Krusevo	1.82	20	*i* Pn	Pn	07 50 12.3	+1.1
KRUS				*i* Sn	Sn	07 50 37.1	+2.0
KRUS	Krusevo	1.82	20	*i* Pn	Pn	07 50 12.3	+1.1
KRUS				*i* Sn	Sn	07 50 37.1	+2.0
KRUS	Krusevo	1.82	20	*i* Pn	Pn	07 50 12.3	+1.0
KRUS				*i* Sn	Sn	07 50 37.0	+2.0
LCI	Lecce	1.91	292	Pn	Pn	07 50 13.7	+1.2
	92nm,0.3s						
GRG	Griva	1.99	49	*e*Pb	Pb	07 50 13.0	-2.8
XOR	Xorichti	2.15	97	*e*Pn	Pn	07 50 16.5	+0.6
THE	Thessaloniki	2.17	63	*e*Pn	Pn	07 50 16.4	+0.2
THE	Thessaloniki	2.17	63	P	Pn	07 50 16.2	+0.1
LKR	Lokris	2.23	116	*e*PN	Pn	07 50 18.9	+1.9
HORT	Hortiatis	2.25	64	*e*Pn	Pn	07 50 17.3	+0.1
VAY	Valandovo	2.33	44	*i* Pn	Pn	07 50 18.7	+0.4
KNT	Kendrikon	2.41	51	*e*Pn	Pn	07 50 18.9	-0.5
PLG	Polygyros	2.42	72	*e*PN	Pn	07 50 19.8	+0.2
STIP	Stip	2.43	33	*i* Pn	Pn	07 50 20.2	+0.4
STIP	Stip	2.43	33	*i* Pn	Pn	07 50 20.2	+0.4
STIP	Stip	2.43	33	*i* Pn	Pn	07 50 20.1	+0.4
SKO	Skopje	2.44	18	*i* Pn	Pn	07 50 21.0	+1.3
ULC	Ulcinj	2.47	339	⇓*i*Pn	Pn	07 50 20.0	-0.2
ULC				*e*Sn	Sn	07 50 52.9	+1.8
PAIG	Paliouri	2.52	83	*e*Pn	Pn	07 50 20.4	-0.5
SOH	Sokhos	2.52	62	*e*Pn	Pn	07 50 21.3	+0.4
SOH				*e*Sn	Sn	07 50 53.5	+1.2
PE1	Pezze di Greco	2.57	297	*e*Pn	Pn	07 50 21.7	+0.1
ITM	Ithomi	2.74	154	*e*PN	Pn	07 50 25.5	+1.6
MGER	Gerania Oros	2.77	126	*e*PB	Pb	07 50 26.5	-2.6
NOCI	Noci	2.82	295	Pn	Pn	07 50 24.2	-0.8
TIP	Timpagrande	2.88	262	Pn	Pn	07 50 25.2	-0.7
	156nm,1.1s						
BUM	Brajici-Budva	2.89	337	⇓*i*Pn	Pn	07 50 25.3	-0.7
BUM				*e*Sn	Sn	07 51 02.7	+1.4
TTG	Podgorica	2.91	343	⇓*i*Pn	Pn	07 50 26.4	+0.2
TTG				*e*Sn	Sn	07 51 02.9	+1.0
PVY	Plav	2.96	353	⇓*i*Pn	Pn	07 50 26.5	-0.4
PVY				*e*Sn	Sn	07 51 04.1	+1.0
SERS	Sersale	2.97	259	Pn	Pn	07 50 26.0	-1.1
	70nm,0.7s						
KKB	Krupnik	2.99	42	*i* P	Pn	07 50 27.0	-0.3
NAIG	Nisos Aigina	3.05	127	*e*PB	Pb	07 50 30.5	-3.4
ATH	Athens Observa	3.07	122	*e*PN	Pn	07 50 29.5	+1.1
BAI	Bari	3.08	299	*e*Pn	Pn	07 50 28.2	-0.4
SG1	Sgolgore (BA)	3.11	294	*e*Pn	Pn	07 50 27.8	-1.2
PTL	Penteli	3.12	120	*e*PN	Pn	07 50 29.0	-0.2
HCY	Herceg Novi	3.15	333	⇑*i*Pn	Pn	07 50 29.1	-0.4
HCY				*e*Sn	Sn	07 51 08.9	+1.1
MMB	Musomiste	3.17	51	*i* P	Pn	07 50 28.4	-1.4
KVR	Kavouri	3.19	124	*e*PN	Pn	07 50 31.5	+1.5
GRI	Girifalco	3.23	256	Pn	Pn	07 50 29.3	-1.3
	34nm,0.4s						
IVA	Berane	3.24	353	⇑*i*Pn	Pn	07 50 31.2	+0.4
IVA				*e*Sn	Sn	07 51 10.3	+0.3
CARO	Carolei	3.29	264	Pn	Pn	07 50 31.9	+0.5
	199nm,0.7s						
BARS	Barje	3.33	18	⇑*i*Pn	Pn	07 50 34.1	+2.0
NKY	Niksic	3.33	342	⇓*i*Pn	Pn	07 50 32.5	+0.4
NKY				*e*Sn	Sn	07 51 12.9	+0.6
VLI	Veliai	3.54	145	*e*PN	Pn	07 50 36.5	+1.6
BRY	Bratogost	3.54	337	⇓*i*Pn	Pn	07 50 35.1	+0.1
BRY				*e*Sn	Sn	07 51 17.6	+0.2
SIRI	Monte Sirino -	3.55	280	Pn	Pn	07 50 36.5	+1.4
VTS	Vitosha	3.60	35	*i* P	Pn	07 50 35.7	-0.1
MCEL	Monticello	3.62	282	Pn	Pn	07 50 36.8	+0.8
MTSN	Montesano sull	3.65	281	Pn	Pn	07 50 37.0	+0.6
	72nm,0.5s						
JOPP	Joppolo	3.69	255	Pn	Pn	07 50 36.2	-0.8
JOPP				Sn	Sn	07 51 18.1	-3.0
	112nm,0.9s						
UPM	Unac-Piva	3.72	343	⇑*i*Pn	Pn	07 50 37.7	+0.2
UPM				*e*Sn	Sn	07 51 22.5	+0.5
PLE	Pljevlja	3.75	348	⇓*i*Pn	Pn	07 50 38.0	+0.1
PLE				*e*Sn	Sn	07 51 23.1	+0.4
SOI	Samo	3.77	247	Pn	Pn	07 50 37.6	-0.4
	54nm,0.6s						
STON	Ston	3.82	328	*i* Pn	Pn	07 50 36.2	-2.5
STON				*i* Sn	Sn	07 51 18.9	-5.3
RZN	Rozhen	3.84	57	*i* P	Pn	07 50 39.3	+0.3
SCLL	Scilla	3.93	251	Pn	Pn	07 50 39.8	-0.6
	18nm,0.5s						
KYTH	Kithira	3.95	148	*e*PN	Pn	07 50 43.0	+2.5
CMPR	Campora	4.00	281	Pn	Pn	07 50 41.6	+0.4
	91nm,1.2s						
CDRU	Civita di Ruta	4.02	284	Pn	Pn	07 50 42.2	+0.7
	40nm,0.7s						
SGO	Sicignano	4.03	285	Pn	Pn	07 50 42.2	+0.5
	16nm,0.2s						
MSRU	Castanea	4.08	252	Pn	Pn	07 50 41.2	-1.2
MCRV	Calabrutti - M	4.18	287	Pn	Pn	07 50 43.9	+0.1
	53nm,0.7s						
RGNG	Rignano Grg	4.20	300	Pn	Pn	07 50 43.3	-0.7
GRUS	Gruza	4.24	3	⇓*i*Pn	Pn	07 50 43.3	-1.1
FG5	Orsara di Pugl	4.26	294	Pn	Pn	07 50 45.6	+0.8
	55nm,0.5s						
BBLS	Bajina Basta -	4.28	350	⇑*i*Pn	Pn	07 50 45.4	+0.4
DIVS	Divcibare	4.45	356	⇓*i*Pn	Pn	07 50 46.1	-1.3
ALN	Alexandroupoli	4.47	72	*e*Pn	Pn	07 50 48.1	+0.4
IDI	Anoyia	5.62	140	Pn	Pn	07 50 58.8	-4.7
	0.3nm,0.3s,baz=18,slow=17,SNR=1.7						
IDI				Sn	Sn	07 52 03.3	-5.5
	4.3nm,0.3s,baz=103,slow=23,SNR=9.9						
GZR	Gura Zlata	5.99	16	⇑*i*P	Pn	07 51 09.5	+0.9
BZS	Buzias	6.02	8	⇑*i*P	Pn	07 51 08.1	-0.9
NRCA	Norcia	6.36	302	Pn	Pn	07 51 13.4	-0.3
	141nm,2.0s						
NVLJ	Novalja	6.41	322	*i* Pn	Pn	07 51 13.4	-1.0
NVLJ				*i* Sn	Sn	07 52 22.3	-6.0
VOIR		6.71	29	⇑*i*P	Pn	07 51 20.0	+1.5
MLR	Muntele Rosu	7.11	33	Pn	Pn	07 51 27.2	+3.2
	0.6nm,0.3s,baz=192,slow=5.8,SNR=6.1						
MLR	Muntele Rosu	7.11	33	⇑*i*P	Pn	07 51 27.1	+3.1
PLOR	Plostina	7.70	34	⇑*i*P	Pn	07 51 33.7	+1.7
OBKA	Obir	8.09	330	⇑*i*Pn	Pn	07 51 35.3	-2.1
OBKA				⇓*i*Sn	Sn	07 53 03.2	-6.3
PSZ	Piszkesteto	8.27	357	⇓*i*P	Pn	07 51 39.3	-0.6
MOA	Molln	9.32	333	⇑*i*Pn	Pn	07 51 53.3	-1.0
MOA				⇓*i*Sn	Sn	07 53 32.2	-7.7
WTTA	Wattenberg	9.93	323	⇑*i*Pn	Pn	07 52 01.7	-0.9
WTTA				⇑*i*Sn	Sn	07 53 48.0	-6.7
WATA	Walderalm	10.01	323	⇓*i*Pn	Pn	07 52 02.1	-1.7
WATA				⇓*i*Sn	Sn	07 53 49.4	-7.3
GERES	GERESS Array B	10.37	335	Pn	Pn	07 52 06.9	-1.9
	0.1nm,0.3s,baz=163,slow=15,SNR=5.2						
HFS	Hagfors	20.93	351	P	P	07 54 19.1	-3.8
	1.4nm,0.5s,baz=163,slow=10,SNR=6.8						
FINES	FINESS Array B	22.09	7	P	P	07 54 31.6	-3.8
	3.6nm,0.9s,mb3.8,baz=180,slow=13,SNR=4.7						
NB2	NORSAR Subarra	22.16	348	P	P	07 54 32.5	-3.6
	comp=Z,1.7nm,0.9s,mb3.5,baz=161,slow=11						
NOA	NORSAR Array B	22.16	348	P	P	07 54 32.5	-3.6
	comp=Z,1.7nm,0.8s,mb3.6,baz=159,slow=9.5,SNR=4.2						
EKA	Eskdalemuir Ar	22.20	323	P	P	07 54 33.6	-2.9
	comp=Z,1.2nm,0.6s,mb3.5,baz=117,slow=11,SNR=5.8						
TORD	Torodi Ar. Bea	31.15	217	P	P	07 55 58.1	-1.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=32,slow=9.9,SNR=6.7						
MKAR	Makanchi Array	44.60	60	P	P	07 57 49.2	-3.5
	comp=Z,1.6nm,0.8s,mb4.0,baz=280,slow=6.8,SNR=11						
ZAL	Zalesovo	44.76	49	P	P	07 57 51.0	-2.9
	comp=Z,1.1nm,0.5s,mb4.0,baz=148,slow=1.9,SNR=3.0						
YKA	Yellowknife Ar	71.98	340	P	P	08 01 01.4	-2.8
	comp=Z,0.2nm,0.7s,mb3.3,baz=29,slow=6.1,SNR=3.8						

*NEIC **26** 07:57:55.6±0.3, 4632N×15436E, h10km, mb4.8/51, Error ellipse: s-maj=8.2km s-min=4.1km az=166.0*
*SKHL **26** 07:57:57.7±0.4, 4560N×15460E, h68km±12km, mb5.0/4, ms4.5/2*
*BJI **26** 07:57:57.4, 4644N×15379E, h10km, mB4.8, mb4.6, Ms4.2, Msz3.9*
*ISCJB **26** 07:57:57.2±0.2, 4627N±005×15438E±003, h35km, mb4.6/89, MS4.0/22, Error ellipse: s-maj=7.3km s-min=2.6km az=165.8*
*IDC **26** 07:57:58.6±6.3, 4627N×15433E, h33km±47km, mb4.1/22, mb1 4.2/23, mb1mx4.2/27, mbtmp4.1/23, ML4.2/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/34, Error ellipse: s-maj=15.7km s-min=13.1km az=123.0*
*MOS **26** 07:57:59.1±1.3, 4631N×15430E, h51km, mb5.0/40, Error ellipse: s-maj=8.2km s-min=6.3km az=104.3*
*SZGRF **26** 07:58:03.7, 4635N×15245E, h33km, mb5.0, Kuril Islands, Russia*
ISC 26 07:57:59.5±0.2, 4635N±005×15430E±003, h37km, h37km±1.1km: pP-P, n393, σ0§79/397, mb4.6/89, MS4.0/22, 96C-65D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.50	15	*e*PN	Pn

comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS smax
comp=N,14nm,1.0s
CLNS smax
comp=E,21nm,1.0s
CLNS smax
comp=Z,4.0nm,0.7s
CLNS MLR MLR
comp=Z,600nm,14.0s,MS4.1
CLNS MLR MLR
comp=N,100nm,11.0s
CLNS MLR MLR
comp=E,1µm,17.0s
YAK Yakutsk 21.10 327 *e*P **P 08 02 48.4 +7.7**
YAK pmax pmax
comp=Z,14nm,0.8s,mb4.3
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.1s
KSRS Korea Array 21.47 255 P **P 08 02 43.8 -0.9**
comp=E,5.7nm,1.0s,mb3.9,baz=62,slow=12,SNR=11
KSRS PcP PcP 08 06 46.8 0.0
comp=E,1.1nm,0.7s,baz=5.7,slow=1.3,SNR=5.5
SNY Shenyang 22.44 270 ⇑P **P 08 02 54.5 -0.6**
SNY AP 08 03 04.0
SNY XP sP 08 03 08.3 -1.0
SNY S **S 08 06 48.8 -11**
SNY XS sS 08 07 03.5 -12
SNY AMB AMB
comp=Z,23nm,1.5s,mb4.4
SNY AMB AMB
comp=Z,119nm,4.2s
SNY LR LR
comp=E,425nm,19.6s
SNY LR LR
comp=Z,222nm,16.2s,MS3.7
BILL Bilibino 22.61 12 ⇓*i*P **P 08 02 58.0 +1.2**
BILL *i* 08 03 09.6
BILL *e* 08 03 23.6
BILL *e*S **S 08 07 02.0 -0.4**
BILL pmax pmax
comp=Z,30nm,1.6s,mb4.5
BILL MLR MLR
comp=Z,200nm,16.0s,MS3.6
BILL Bilibino 22.61 12 *e*P **P 08 02 58.7 +1.9**
comp=Z,45nm,1.1s,mb4.8
BOD Bodaibo 26.87 310 *e*P **P 08 03 34.8 -1.9**
BOD pmax pmax
comp=Z,11nm,1.4s,mb4.2
TIXI Tiksi 28.08 343 *e*P **P 08 03 46.1 -1.4**
TIXI *e*S **S 08 08 30.5 +0.6**
TIXI pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
TIXI MLR MLR
comp=Z,189nm,15.0s,MS3.8
TIXI Tiksi 28.08 343 *e*P **P 08 03 48.2 +0.7**
comp=Z,7.0nm,1.1s,mb4.2
BJI Beijing 28.29 271 P **P 08 03 53.8 +4.4**
BJI S **S 08 08 34.5 +1.3**
BJI AMB AMB
comp=Z,20nm,0.9s,mb4.8
BJI LR LR
comp=N,97nm,17.2s,MS3.6
BJI LR LR
comp=E,94nm,15.7s,MS3.6
BJI LR LR
comp=Z,652nm,37.8s
BJI Beijing 28.29 271 P **P 08 03 53.8 +4.4**
comp=Z,20nm,0.9s,mb4.8
BJI S **S 08 08 34.6 +1.4**
BJI LR LR
comp=Z,650nm,37.8s,MS4.0
BJT Baijiatuau 28.31 271 *e*P **P 08 03 52.0 +2.5**
BJT pmax pmax
comp=Z,22nm,1.0s
BJT Baijiatuau 28.31 271 *e*P **P 08 03 52.0 +2.5**
comp=Z,22nm,1.0s,mb4.7
HHC Hu-ho-hao-te 31.14 275 *e*P **P 08 04 16.0 +1.4**
HHC AP pP 08 04 25.5 +0.5
HHC XP sP 08 04 29.5 +0.1
HHC PP PP 08 05 19.5 -5.8
HHC PCP PcP 08 07 11.3 +2.2
HHC S **S 08 09 18.5 +0.6**
HHC SCP ScP 08 10 50.8 +1.6
HHC PCS PcS 08 10 55.0 +1.7
HHC SS SS 08 11 04.0 -28
HHC SCS ScS 08 14 46.8 +0.4
HHC LR LR
comp=N,3µm,17.8s,MS5.1
HHC LR LR
comp=E,2µm,16.7s,MS5.1
HHC LR LR
comp=Z,196nm,19.0s,MS3.8
ULN Ulaanbaatar 31.80 290 P **P 08 04 22.3 +1.9**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ULN Ulaanbaatar 31.80 290 P **P 08 04 22.3 +1.9**
comp=Z,2.2nm,0.6s,mb4.2
TTA Tatalina 32.18 41 *e*P **P 08 04 23.9 +0.1**
TTA pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
TTA Tatalina 32.18 41 *e*P **P 08 04 23.9 +0.1**
comp=Z,9.1nm,0.7s,mb4.7
SONM Songino Array 32.24 290 P **P 08 04 23.4 -0.9**
comp=Z,1.0nm,0.6s,mb3.8,baz=76,slow=8.9,SNR=6.4
SONM PcP PcP 08 07 10.7 -1.4
comp=Z,0.9nm,0.6s,baz=135,slow=4.3,SNR=4.7
SONM LR LR 08 19 17.6
comp=Z,197nm,19.5s,MS3.8,baz=92,slow=40
SONM Songino Array 32.24 290 P **P 08 04 23.4 -0.8**
SONM 08 07 10.7
TLY Talaya 33.09 298 *e*P **P 08 04 34.4 +2.7**
TLY *e*S **S 08 09 41.9 -6.3**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,292nm,15.0s,MS4.1
ZAK Zakamensk 33.59 296 *e*P **P 08 04 35.4 -0.6**
IMA2 Indian Mountai 33.65 35 *e*P **P 08 04 36.4 -0.2**
MCK McKinley 35.43 40 *e*P **P 08 04 51.4 -0.6**
MCK pmax pmax
comp=Z,12nm,1.2s,mb4.7
MCK McKinley 35.43 40 *e*P **P 08 04 51.4 -0.6**
comp=Z,12nm,1.2s,mb4.7
SML Sawmill 35.70 43 *e*P **P 08 04 54.0 -0.3**
COLA College 35.94 38 *e*P **P 08 04 56.3 -0.1**
COLA pmax pmax
comp=Z,20nm,0.8s,mb5.1
COLA College 35.94 38 *e*P **P 08 04 56.3 -0.1**
comp=Z,20nm,0.8s,mb5.1
XAN Xi'an 36.30 267 P **P 08 04 59.3 -0.1**
XAN AMB AMB
comp=Z,7.0nm,1.5s,mb4.4
LZH Lanzhou 38.72 273 ⇓P **P 08 05 22.0 +2.1**
LZH AP pP 08 05 32.3 +1.9
LZH PP PP 08 06 52.3 +3.3
LZH *e*S **S 08 11 16.5 +2.0**
LZH AMB AMB
comp=Z,25nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,89nm,5.1s
LZH LR LR
comp=N,638nm,13.2s
LZH LR LR
comp=Z,886nm,17.5s,MS4.6
LZH Lanzhou 38.72 273 ⇓P **P 08 05 22.1 +2.2**
LZH *SP sP 08 05 36.2 +1.4
LZH 08 06 52.3
LZH *e*S **S 08 11 16.5 +2.0**
LZH SS SS 08 14 00.5 -5.3
LZH pmax pmax
comp=Z,25nm,1.3s,mb4.8
LZH MLR MLR
comp=Z,890nm,17.5s,MS4.6
LZH Lanzhou 38.72 273 ⇓P **P 08 05 22.1 +2.2**
comp=Z,25nm,1.3s,mb4.8
LZH pP pP 08 05 32.3 +1.9
LZH sP sP 08 05 36.2 +1.4
LZH PP PP 08 06 52.3 +3.3
LZH *e*S **S 08 11 16.5 +2.0**
LZH sS sS 08 11 33.2 +1.4
LZH SS SS 08 14 00.5 -5.3
LZH LR LR
comp=Z,890nm,17.5s,MS4.6
EGAK Eagle 38.81 38 *e*P **P 08 05 19.9 -0.8**
comp=Z,27nm,0.9s,mb5.0
EGAK *e* pP 08 05 30.7 -0.4
DAWY Dawson 39.63 39 *e*P **P 08 05 27.1 -0.4**
GTA Gaotai 39.84 280 *e*P **P 08 05 31.0 +1.7**
GTA AP pP 08 05 35.3 -4.5
GTA XP sP 08 05 38.0 -6.2
GTA PCP PcP 08 07 36.0 +1.3
GTA S **S 08 11 35.5 +4.2**
GTA XS sS 08 11 43.5 -5.2
GTA AMB AMB
comp=Z,9.0nm,1.6s,mb4.2
GTA AMB AMB
comp=Z,118nm,4.2s
GTA LR LR
comp=N,163nm,14.5s,MS4.1
GTA LR LR
comp=E,104nm,15.7s,MS4.1
GTA LR LR
comp=Z,155nm,15.7s,MS4.0
INK Inuvik 41.55 32 P **P 08 05 43.8 +0.4**
comp=Z,6.3nm,0.6s,mb4.4,baz=296,slow=7.1,SNR=73
INK Inuvik 41.55 32 *e*P **P 08 05 43.8 +0.4**
comp=Z,451nm,0.9s
INK *e* pP 08 05 54.5 +0.5
CD2 Chengdu 41.66 267 *e*P **P 08 05 45.5 +1.2**
CD2 PP PP 08 07 25.3 +4.3
CD2 S **S 08 11 59.3 +0.9**
CD2 SS SS 08 14 59.8 -4.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=N,120nm,14.2s
CD2 LR LR
comp=Z,110nm,13.2s,MS3.9
GYA Guiyang 42.43 259 ⇑*i*P **P 08 05 50.8 +0.2**
GYA AP pP 08 05 54.8 -6.4
GYA XP sP 08 05 57.5 -8.0
GYA PP PP 08 07 35.8 +6.5
GYA PCP PcP 08 07 47.3 +4.1
GYA SCP ScP 08 11 37.0 +6.0
GYA S **S 08 12 16.0 +6.2**
GYA SCS ScS 08 15 53.8 +4.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.6s
GYA LR LR
comp=N,370nm,16.8s,MS4.5
GYA LR LR
comp=E,360nm,15.9s,MS4.5
GYA LR LR
comp=Z,320nm,16.0s,MS4.3
ZAL Zalesovo 43.52 306 P **P 08 05 58.9 -0.5**
comp=Z,1.3nm,0.6s,mb3.8,baz=48,slow=9.1,SNR=4.5
ZAL PcP PcP 08 07 47.3 +0.5
comp=Z,2.1nm,0.7s,baz=277,slow=0.6,SNR=7.2
DLBC Dease Lake 45.29 46 *e*P **P 08 06 14.8 +1.3**
DLBC *e* pP 08 06 26.0 +1.9
WMQ Urumqi 45.83 292 *e*P **P 08 06 21.3 +3.5**
WMQ PP PP 08 08 09.0 +3.5
WMQ S **S 08 13 02.5 +3.3**
WMQ SCS ScS 08 16 11.8 +1.0
WMQ SS SS 08 16 18.3 -5.7
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
WMQ LR LR
comp=N,178nm,20.0s,MS4.0
WMQ LR LR
comp=E,61nm,23.0s,MS4.0
WMQ LR LR
comp=Z,129nm,16.0s
KMI Kunming 45.98 261 P **P 08 06 21.5 +2.5**
KMI AP pP 08 06 31.5 +1.8
KMI AMB AMB
comp=Z,12nm,0.7s,mb4.9
KMI Kunming 45.98 261 P **P 08 06 21.4 +2.4**
KMI *SP sP 08 06 35.3 +1.3
KMI pmax pmax
comp=Z,12nm,0.7s,mb4.9
KMI Kunming 45.98 261 P **P 08 06 21.4 +2.4**
comp=Z,12nm,0.7s,mb4.9
KMI pP pP 08 06 31.6 +1.9
KMI sP sP 08 06 35.3 +1.3
MKAR Makanchi Array 47.85 298 P **P 08 06 33.8 +0.2**
comp=Z,4.0nm,0.8s,mb4.5,baz=65,slow=7.8,SNR=42
MKAR PcP PcP 08 08 01.7 -0.1
comp=Z,2.1nm,0.8s,baz=57,slow=4.5,SNR=4.2
MKAR LR LR 08 29 14.3
comp=Z,144nm,18.8s,MS4.0,baz=116,slow=39
MKAR Makanchi Array 47.85 298 P **P 08 06 33.8 +0.2**
MKAR 08 08 01.7
YKW3 Yellowknife Ar 50.72 37 *e*P **P 08 06 55.7 +0.2**
YKA Yellowknife Ar 50.75 37 P **P 08 06 55.4 -0.4**
comp=Z,2.4nm,0.6s,mb4.3,baz=294,slow=7.0,SNR=43
YKA PcP PcP 08 08 11.4 -1.0
comp=Z,0.6nm,0.7s,baz=311,slow=3.0,SNR=3.0
YKA Yellowknife Ar 50.75 37 P **P 08 06 55.4 -0.4**
YKA PcP PcP 08 08 11.4 -1.0
RES Resolute Bay 50.95 19 *e*P **P 08 06 57.2 -0.1**
comp=Z,316nm,0.9s
RES *e* pP 08 07 06.0 -2.1
LSA Lhasa 51.11 274 *e*P **P 08 07 00.9 +2.4**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 51.11 274 *e*P **P 08 07 00.8 +2.4**
comp=Z,7.8nm,0.6s,mb4.8
CHKZ Chkalovo 51.31 311 P **P 08 06 59.3 -0.6**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BVA0 Borovoye Array 51.74 310 *i* P **P 08 07 02.7 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
BVAR Borovoye Array 51.74 310 P **P 08 07 03.3 +0.2**
comp=Z,3.3nm,0.6s,mb4.4,baz=60,slow=8.8,SNR=14
BVAR PcP PcP 08 08 15.0 -1.1
comp=Z,2.4nm,0.8s,baz=66,slow=3.6,SNR=3.8
BVAR LR LR 08 28 27.1
comp=Z,159nm,18.2s,MS4.1,baz=315,slow=35
BVAR Borovoye Array 51.74 310 P **P 08 07 03.3 +0.1**
BVAR 08 08 15.0
BRVK Borovoye 51.78 310 P **P 08 07 02.6 -0.8**
BRVK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
SHL Shillong 53.18 270 *e*P **P 08 07 14.0 +0.2**
A07A Ashnola River, 54.52 54 ⇑P **P 08 07 23.4 -0.2**
baz=54
A08A Turner Farm, O 55.19 53 ⇓P **P 08 07 28.2 -0.2**
baz=55
B08A Colville Reser 55.48 54 ⇑P **P 08 07 29.7 -0.8**
baz=55
A09A Danville 55.56 53 P **P 08 07 31.2 0.0**
baz=55,SNR=5.0
J02A Umpqua 55.76 61 ⇑P **P 08 07 32.7 +0.1**
baz=56
JIRN Jiri 55.79 276 *e*P **P 08 07 34.4 +1.6**
GUN Gumba 55.85 276 *e*P **P 08 07 34.5 +1.3**
ARU Arti 55.85 318 *e*P **P 08 07 32.8 -0.4**
ARU *e* 08 08 26.0
ARU *e* 08 09 37.2
ARU *e*S **S 08 15 18.8 +0.8**
ARU *e*SS SS 08 19 05.6 +1.6
H04A Detroit Lake 55.86 59 ⇑P **P 08 07 32.2 -1.1**
baz=56
PMG Port Moresby 55.87 189 LR LR 08 27 36.1
comp=Z,64nm,19.5s,MS3.7,baz=69,slow=32
C08A Higginbotham F 55.96 54 ⇓P **P 08 07 33.2 -0.8**
baz=56
EDM Edmonton 56.00 46 *e*P **P 08 07 34.1 -0.2**
EDM *e* pP 08 07 44.7 -0.5
G05A Wamic 56.06 58 ⇓P **P 08 07 34.8 +0.1**
baz=56
B09A Rice 56.11 53 ⇑P **P 08 07 35.4 +0.4**
baz=56
J03A Ideyld Park 56.12 61 ⇑P **P 08 07 34.4 -0.8**
baz=56
E07A Sunnyside 56.18 56 ⇑P **P 08 07 35.6 +0.1**
baz=56
KKN Kakani 56.34 276 *e*P **P 08 07 38.7 +2.0**
PKI Pulchoki 56.39 276 *e*P **P 08 07 38.4 +1.4**
D08A Wollman Farm, 56.43 55 ⇓P **P 08 07 36.6 -0.8**
baz=56
H05A Madras 56.45 58 ⇑P **P 08 07 37.3 -0.2**
baz=56
G06A Carlson Farm, 56.46 58 ⇑P **P 08 07 37.4 -0.2**
baz=56
F07A Phinny Hill Vi 56.51 57 ⇓P **P 08 07 37.4 -0.5**
baz=56
DMN Daman 56.57 276 *e*P **P 08 07 40.0 +1.6**
comp=Z,85nm,1.3s,mb5.6
GKN Gorkha 56.65 277 *e*P **P 08 07 40.4 +1.5**
comp=Z,93nm,1.2s,mb5.7
E08A Dider Farm, El 56.67 56 ⇑P **P 08 07 38.6 -0.5**
baz=56
I05A Bend 56.70 59 ⇑P **P 08 07 38.8 -0.5**
baz=56
D09A Jones Farm, Ri 56.78 55 ⇑P **P 08 07 39.0 -0.8**
baz=56
A11A Hall Mountain, 56.79 52 ⇑P **P 08 07 40.3 +0.4**
baz=56
H06A Lindquist Farm 56.92 58 ⇑P **P 08 07 41.3 +0.4**
baz=57
G07A Ruggs Ranch, H 57.01 57 ⇓P **P 08 07 41.6 +0.1**
baz=57
B11A Sandpoint 57.08 52 ⇓P **P 08 07 41.8 -0.2**
baz=57
A12A Yaak River Ran 57.19 52 ⇓P **P 08 07 43.1 +0.4**
baz=57
F08A Pendleton 57.23 56 ⇓P **P 08 07 43.4 +0.4**
baz=57
D10A Wagner Farm, O 57.36 54 ⇓P **P 08 07 43.5 -0.5**
baz=57
G08A Pilot Rock 57.41 57 ⇑P **P 08 07 44.1 -0.2**
baz=57
I06A Prineville 57.45 59 ⇑P **P 08 07 45.0 +0.4**
baz=57
L04A Klamath Falls 57.45 61 ⇑P **P 08 07 43.3 -1.3**
baz=57
B12A Libby 57.49 52 ⇓P **P 08 07 45.3 +0.4**
baz=57
KOLN Koldanda 57.51 277 *e*P **P 08 07 46.7 +1.7**
comp=Z,40nm,1.0s,mb5.4
M04C Macdoel 57.71 62 ⇑P **P 08 07 47.2 +0.8**
baz=57
K05A Summer Lake 57.74 60 ⇑P **P 08 07 47.7 +1.1**
baz=58
E10A Myers Farm, Un 57.78 55 ⇑P **P 08 07 45.8 -1.1**
baz=58
I07A Izee 57.78 58 ⇑P **P 08 07 47.7 +0.8**
baz=58
F10A Beach Ranch, E 58.01 55 ⇓P **P 08 07 48.3 -0.2**
baz=58
H08A Prairie City 58.02 57 ⇑P **P 08 07 49.0 +0.4**
baz=58
K06A Valley Falls 58.08 60 ⇑P **P 08 07 50.1 +1.1**
baz=58
B13A Whitefish 58.16 52 P **P 08 07 49.6 0.0**
baz=58,SNR=7.1
L05A Lakeview 58.17 61 ⇑P **P 08 07 50.7 +1.1**
baz=58
E11A Bogner Ranch, 58.37 54 ⇑P **P 08 07 50.5 -0.5**
baz=58
M05C Lookout 58.38 62 ⇑P **P 08 07 51.3 +0.2**
baz=58
I08A Drewsey 58.43 58 ⇓P **P 08 07 52.5 +1.1**
baz=58
ARCES ARCESS Array B 58.49 341 P **P 08 07 51.8 -0.1**
comp=Z,9.5nm,0.8s,mb4.9,baz=27,slow=8.3,SNR=7.6
C13A Hot Springs 58.50 52 ⇑P **P 08 07 51.5 -0.5**
baz=58
H09A Durkee 58.52 57 ⇓P **P 08 07 52.2 +0.2**
baz=58
MOD Modoc 58.58 61 ⇑P **P 08 07 52.9 +0.5**
baz=58
BMO Blue Mountains 58.62 56 *e*P **P 08 07 53.0 +0.2**
comp=Z,5.9nm,1.0s,mb4.6
F11A Grangeville 58.67 55 ⇓P **P 08 07 53.2 +0.1**
baz=58
K07A Rock Creek Ran 58.75 59 ⇑P **P 08 07 54.1 +0.5**
baz=58
J08A Circle Bar Ran 58.81 58 ⇑P **P 08 07 54.0 -0.1**
baz=58
I09A Lost Marbles R 58.88 57 ⇑P **P 08 07 55.0 +0.5**
baz=59
D13A Huson 58.91 53 ⇑P **P 08 07 54.9 +0.1**
baz=59
H10A Noah's Angus R 59.09 56 ⇓P **P 08 07 56.2 +0.2**
baz=59
K08A Mann Creek Ran 59.17 59 ⇑P **P 08 07 56.8 +0.2**
baz=59
MCCM Marconi Confer 59.21 66 ⇑P **P 08 07 56.6 -0.3**
baz=59
ORV Oroville 59.23 64 ⇓P **P 08 07 56.1 -0.9**
baz=59
J09A Fry Pan Ranch, 59.24 58 ⇓P **P 08 07 57.9 +0.8**
baz=59
AB31 Akbulak array 59.31 311 *i* P **P 08 07 57.6 +0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
O05C Quincy 59.35 63 ⇑P **P 08 07 57.5 -0.4**
baz=59
MSO Missoula 59.35 53 *e*P **P 08 07 57.9 +0.1**
comp=Z,7.0nm,1.1s,mb4.6
D14A Greenough 59.44 52 P **P 08 07 58.2 -0.2**
baz=59,SNR=8.6
E13A Victor 59.45 53 P **P 08 07 58.7 +0.2**
baz=59,SNR=5.9
H11A Donnelly 59.45 56 P **P 08 07 58.6 +0.1**
baz=59,SNR=7.8
N06A Buffalo Meadow 59.54 62 ⇑P **P 08 07 59.7 +0.5**
baz=59
M07A Soldier Meadow 59.56 61 ⇑P **P 08 07 59.2 -0.1**
baz=59
AKTK Aktyubinsk 59.60 313 P **P 08 07 59.8 +0.2**
AKTK LR LR 08 35 37.9
AKTO Aktyubinsk 59.60 313 P **P 08 07 59.8 +0.2**
comp=Z,2.7nm,0.6s,mb4.4,baz=61,slow=4.5,SNR=11
AKTO LR LR 08 35 37.9
comp=Z,117nm,18.1s,MS4.1,baz=240,slow=38
K09A Rome 59.65 59 ⇑P **P 08 07 58.6 -1.3**
baz=59
CHMT Chamberlain Mo 59.68 53 *e*P **P 08 07 59.8 -0.3**
CHMT *e* pP 08 08 10.3 -0.8
F13A Darby 59.76 54 ⇓P **P 08 07 59.6 -1.0**
baz=60
J10A Berg Farm, Mel 59.77 57 ⇓P **P 08 08 00.9 +0.2**
baz=60
E14A Clinton 59.85 53 ⇑P **P 08 08 01.1 -0.1**
baz=60
O06A Flanigan 59.90 62 ⇑P **P 08 08 01.5 -0.1**
baz=60
I11A Placerville 59.95 57 ⇓P **P 08 08 01.6 -0.4**
baz=60
M08A Happy Creek Ra 60.00 60 ⇑P **P 08 08 02.3 -0.1**
baz=60
D15A Lincoln 60.01 52 ⇑P **P 08 08 01.9 -0.5**
baz=60
N07B Gerlach 60.05 61 ⇑P **P 08 08 02.9 +0.2**
baz=60
L09A Wilkinson Ranc 60.09 59 ⇓P **P 08 08 02.8 -0.1**
baz=60
K10A MacKenzie Ranc 60.10 58 ⇑P **P 08 08 02.6 -0.4**
baz=60
LAVA Lava Cap Winer 60.19 64 ⇑P **P 08 08 03.0 -0.6**
baz=60
H12A Diamond D Ranc 60.20 55 ⇓P **P 08 08 03.6 -0.1**
baz=60
G13A Cobalt 60.23 55 P **P 08 08 03.6 -0.3**
baz=60,SNR=13
F14A Wisdom 60.28 54 ⇓P **P 08 08 04.4 +0.2**
baz=60
E15A Deer Lodge 60.31 53 P **P 08 08 04.6 +0.2**
baz=60,SNR=6.6
MFID Camas Ranch 60.33 57 P **P 08 08 04.8 +0.2**
baz=60,SNR=8.6
O07A Toulon 60.48 62 ⇓P **P 08 08 06.1 +0.6**
baz=60
N08A GE Springer Mi 60.55 61 ⇑P **P 08 08 06.3 +0.2**
baz=60
M09A Marrel Ranch, 60.58 60 ⇓P **P 08 08 06.5 +0.2**
baz=60
F15A Butte 60.75 53 P **P 08 08 07.7 +0.3**
baz=60,SNR=11
LRM Limekiln Ridge 60.78 53 *e*P **P 08 08 08.2 +0.6**
CMB Columbia Colle 60.84 64 ⇑P **P 08 08 08.1 0.0**
baz=61
J12A Stokes Ranch, 60.85 57 ⇓P **P 08 08 08.6 +0.5**
baz=61
N09A Rock Creek Ran 60.88 60 ⇑P **P 08 08 08.5 +0.3**

baz=61
EGMT Eagleton 60.90 50 eP P 08 08 08.9 +0.5
EGMT Eagleton 60.90 50 ⇑P P 08 08 07.4 -1.1
baz=61
PACP Pacheco Peak 60.91 66 ⇓P P 08 08 07.6 -0.9
baz=61
HLID Hailey 61.05 56 eP P 08 08 09.6 +0.1
comp=Z,15nm,1.6s,mb4.9
HLID Hailey 61.05 56 ⇑P P 08 08 09.1 -0.4
baz=61
M10A I.L. Ranch, Tu 61.06 59 ⇓P P 08 08 09.2 -0.4
baz=61
R06C Coleville 61.13 63 ⇑P P 08 08 08.8 -1.2
baz=61
G15A Dillon 61.16 54 ⇓P P 08 08 10.4 +0.2
baz=61
MCMT McKenzie Canyo 61.17 54 eP P 08 08 09.9 -0.3
S06C San Francisco 61.27 64 ⇑P P 08 08 11.3 +0.3
baz=61
J13A Cove Ranch, Pi 61.29 56 ⇑P P 08 08 11.3 +0.2
baz=61
K12A Draper Farm, C 61.34 57 ⇑P P 08 08 11.6 +0.2
baz=61
O09A Fish Creek Ran 61.50 61 ⇓P P 08 08 13.4 +0.9
baz=61
M11A Holland Ranch, 61.56 59 ⇓P P 08 08 13.8 +0.9
baz=61
K13A Stover Farm, H 61.81 57 ⇑P P 08 08 14.8 +0.2
baz=62
O10A Cortez Mining, 61.84 60 ⇓P P 08 08 15.4 +0.6
baz=62
Q08A Gabbs 61.85 62 ⇑P P 08 08 15.5 +0.6
baz=62
NVAR Mina Array Bea 61.89 63 P P 08 08 15.2 0.0
comp=Z,2.9nm,0.7s,mb4.5,baz=297,slow=6.3,SNR=20
T06C Millerton Lake 61.90 65 ⇑P P 08 08 16.2 +1.0
baz=62
P09A Austin 61.91 61 ⇓P P 08 08 16.2 +0.9
baz=62
QLMT Earthquake Lak 61.96 54 eP P 08 08 16.1 +0.5
QLMT e pP 08 08 27.4 +0.8
N11A Elko Archery C 61.97 59 ⇑P P 08 08 16.2 +0.6
baz=62
JOF Joensuu 62.05 334 ep P 08 08 15.3 -0.9
comp=Z,0.5nm,0.3s,mb4.1
M12A Wells 62.09 58 ⇓P P 08 08 17.0 +0.6
baz=62
L13A Double Diamond 62.24 57 ⇑P P 08 08 17.4 0.0
baz=62
P10A Eureka 62.28 61 ⇑P P 08 08 18.0 +0.3
baz=62
Q09A Carvers 62.33 62 ⇓P P 08 08 17.5 -0.6
baz=62
N12A Clover Valley, 62.36 59 ⇑P P 08 08 18.9 +0.6
baz=62
O11A Cowboy Ranch, 62.44 60 ⇓P P 08 08 18.5 -0.3
baz=62
HELL Mitchell Peak, 62.53 65 ⇓P P 08 08 18.6 -0.8
baz=62
S08C White Mtn Res 62.55 64 ⇑P P 08 08 20.2 +0.7
baz=62
M13A Montello 62.56 58 P P 08 08 20.1 +0.5
baz=62,SNR=5.3
RCTC Rector, Farmer 62.63 65 ⇑P P 08 08 21.1 +1.0
baz=62
LKWY Lake 62.70 53 eP P 08 08 22.0 +1.4
LKWY pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LKWY Lake 62.70 53 eP P 08 08 22.0 +1.5
comp=Z,5.0nm,0.8s,mb4.7
R09A Tonopah 62.77 62 P P 08 08 20.8 -0.2
baz=62,SNR=8.9
N13A Wendover, West 62.85 58 ⇓P P 08 08 21.9 +0.3
baz=63
DCID1 Drake Creek 62.88 54 eP P 08 08 22.5 +0.8
KBL Kabul 62.97 293 eP P 08 08 22.3 0.0
S09A Goldfield 63.00 63 ⇑P P 08 08 22.9 +0.4
baz=63
MOOW Moose Ponds 63.02 54 eP P 08 08 23.7 +1.0
comp=Z,11nm,1.2s,mb4.9
VES Vestal, Richgr 63.03 66 ⇑P P 08 08 22.8 +0.1
baz=63
PKM Peak Mountain 63.15 67 ⇓P P 08 08 24.3 +0.8
baz=63
SNOW Snow King Moun 63.20 54 eP P 08 08 25.1 +1.3
R10A Warm Springs 63.21 62 ⇓P P 08 08 24.0 +0.1
baz=63
REDW Red Top Meadow 63.21 54 eP P 08 08 25.0 +1.1
Q11A Duckwater 63.25 61 ⇑P P 08 08 24.2 0.0
baz=63
CWC Cottonwood Cre 63.27 64 ⇑P P 08 08 24.5 +0.1
baz=63
P12A McGill 63.31 60 ⇑P P 08 08 24.9 +0.3
baz=63
GRAC Grapevine Rang 63.36 64 ⇓P P 08 08 25.1 +0.1
baz=63
AHID Auburn Hatcher 63.45 55 eP P 08 08 26.0 +0.5
comp=Z,5.8nm,1.0s,mb4.7
ISA Isabella 63.52 65 ⇑P P 08 08 26.1 +0.1
baz=63
SPUT South Promonto 63.60 57 eP P 08 08 23.8 -2.7
LAO LASA Array 63.60 49 eP P 08 08 27.1 +0.6
Q12A Willow Creek R 63.63 60 ⇓P P 08 08 26.7 0.0
baz=63
MPMC Manual Prospec 63.88 64 ⇑P P 08 08 28.5 +0.1
baz=64
HWUT Hardware Ranch 63.92 56 eP P 08 08 29.1 +0.5
comp=Z,4.4nm,0.9s,mb4.5
HWUT e pP 08 08 38.9 -0.8
FURC Furnace Creek, 64.02 64 P P 08 08 29.1 -0.1
baz=64,SNR=9.5
DUG Dugway 64.09 58 eP P 08 08 29.5 -0.3
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
DUG Dugway 64.09 58 eP P 08 08 29.5 -0.3
comp=Z,5.3nm,0.9s,mb4.6
DUG Dugway 64.09 58 ⇑P P 08 08 29.8 0.0
baz=64
LRMC Laurel Mountai 64.13 65 ⇓P P 08 08 29.6 -0.4
baz=64
KAF Kangasniemi 64.14 336 ep P 08 08 27.6 -2.5
BW06 Boulder Array 64.32 54 eP P 08 08 30.8 -0.4
comp=Z,6.3nm,0.9s,mb4.7
PDAR Pinedale Array 64.32 54 P P 08 08 30.9 -0.3
comp=Z,4.0nm,0.8s,mb4.5,baz=292,slow=1.9,SNR=28
EDW2 Edwards Air Fo 64.32 66 P P 08 08 31.2 -0.1
baz=64,SNR=7.0
U10A Ash Meadows, A 64.38 63 ⇓P P 08 08 31.7 +0.1
baz=64
NLU North Lily Min 64.68 58 eP P 08 08 34.4 +0.8
SHOC Shoshone 64.74 64 ⇓P P 08 08 33.9 -0.1
baz=64
FINES FINESS Array B 64.75 335 P P 08 08 33.2 -0.8
comp=Z,5.0nm,0.8s,mb4.6,baz=42,slow=6.9,SNR=12
GSC Goldstone 64.80 65 ⇑P P 08 08 33.3 -1.0
baz=64
MPU Maple Canyon 64.90 58 eP P 08 08 35.8 +0.8
BFSC Mount Baldy St 64.94 66 ⇓P P 08 08 34.6 -0.7
baz=65
U11A Corn Creek 64.96 63 ⇑P P 08 08 35.5 +0.1
baz=65
SCI San Clemente I 65.19 68 ⇓P P 08 08 36.5 -0.4
baz=65
TUQ Turquoise Mtn. 65.26 64 ⇓P P 08 08 37.5 +0.2
baz=65
ARUT Antelope Range 65.27 61 eP P 08 08 37.7 +0.3
V11A Goodsprings 65.31 63 ⇑P P 08 08 37.2 -0.5
baz=65
BBRC Big Bear Sol-O 65.39 66 ⇓P P 08 08 38.1 -0.1
baz=65
HEC Hector,Ludlow 65.40 65 ⇑P P 08 08 38.1 -0.1
baz=65
U12A Valley of Fire 65.47 62 ⇓P P 08 08 38.9 +0.1
baz=65
MSU Marysvale 65.55 59 eP P 08 08 39.8 +0.5
MURC Murrieta 65.65 66 ⇑P P 08 08 39.8 -0.1
baz=65
V12A Nelson 65.74 63 ⇓P P 08 08 40.3 -0.1
baz=66
GMRC Granite Mounta 65.85 64 ⇑P P 08 08 41.3 +0.2
baz=66
W12A Cal Nev Ari 66.00 64 ⇓P P 08 08 42.3 +0.2
baz=66
OBN Obninsk 66.10 326 eP P 08 08 40.2 -2.6
OBN i 08 09 01.9
OBN pmax pmax
comp=Z,33nm,1.3s,mb5.2

PFO Pinyon Flat Ob 66.11 66 ⇑P P 08 08 42.5 -0.4
baz=66
SRU San Rafael 66.14 58 eP P 08 08 43.3 +0.3
SRU e pP 08 08 54.1 -0.1
SRU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
SRU San Rafael 66.14 58 eP P 08 08 43.3 +0.2
comp=Z,8.3nm,0.7s,mb4.9
SRU e pP 08 08 54.0 -0.1
BELC Belle Mtn. 66.14 65 ⇓P P 08 08 42.4 -0.7
baz=66
109C Camp Elliot, M 66.17 67 ⇑P P 08 08 42.6 -0.7
baz=66
ULM Lac du Bonnet 66.29 41 P P 08 08 42.8 -1.2
comp=Z,1.1nm,0.5s,mb4.1,baz=289,slow=6.6,SNR=3.6
RSSD Black Hills 66.45 50 eP P 08 08 44.5 -0.6
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
RSSD Black Hills 66.45 50 eP P 08 08 44.5 -0.6
comp=Z,8.4nm,1.0s,mb4.7
NEE2 Needles Airpor 66.51 64 ⇓P P 08 08 45.3 -0.1
baz=66
IRM Iron Mountain 66.57 65 ⇑P P 08 08 45.8 -0.1
baz=66
MONP Monument Peak 66.60 66 ⇑P P 08 08 44.1 -1.9
baz=66
BC3 Big Chuckw Mtn 66.71 65 ⇑P P 08 08 46.9 +0.2
baz=66
W13A Hualapai Mount 66.75 63 ⇓P P 08 08 46.8 -0.1
baz=66
X13A Yucca 67.11 64 P P 08 08 49.1 -0.1
baz=67,SNR=5.7
PDMCI Parker Dam,Lak 67.11 64 ⇑P P 08 08 49.1 -0.1
baz=67
W14A Seligman 67.16 63 P P 08 08 49.9 +0.3
baz=67,SNR=15
Y12C Blythe 67.23 65 ⇑P P 08 08 49.4 -0.7
baz=67
PHWY Pilot Hill 67.58 53 eP P 08 08 53.3 +1.1
W15A Williams 67.69 62 ⇑P P 08 08 53.4 +0.5
baz=67
X14A Yava 67.77 63 ⇓P P 08 08 53.7 +0.2
baz=68
WUAZ Wupatki 68.01 61 eP P 08 08 55.4 +0.5
comp=Z,5.0nm,1.0s,mb4.5
WUAZ Wupatki 68.01 61 ⇓P P 08 08 55.4 +0.5
baz=68
Y14A Wickenburg 68.06 64 P P 08 08 55.0 -0.2
baz=68,SNR=5.7
SMCO Snowmass 68.16 56 eP P 08 08 55.8 0.0
comp=Z,5.4nm,0.8s,mb4.6
X15A Humboldt 68.17 63 P P 08 08 56.5 +0.6
baz=68,SNR=6.2
WRA Warramunga Arr 68.41 200 P P 08 08 56.2 -1.3
comp=Z,3.9nm,0.9s,mb4.4,baz=18,slow=6.6,SNR=13
ISCO Idaho Springs 68.51 55 eP P 08 08 58.3 +0.3
ISCO e pP 08 09 09.1 -0.1
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ISCO Idaho Springs 68.51 55 eP P 08 08 58.3 +0.3
comp=Z,4.2nm,0.8s,mb4.4
ISCO e pP 08 09 09.1 -0.1
MVCO Mesa Verde 68.59 58 eP P 08 08 58.3 -0.3
comp=Z,4.6nm,0.9s,mb4.4
MVCO Mesa Verde 68.59 58 ⇑P P 08 08 58.4 -0.1
baz=68
NB2 NORSAR Subarra 68.86 342 P P 08 08 59.7 -0.6
comp=Z,17nm,1.1s,mb4.9,baz=27,slow=6.2
NOA NORSAR Array B 68.86 342 P P 08 08 59.5 -0.7
comp=Z,3.4nm,0.8s,mb4.3,baz=27,slow=6.3,SNR=7.9
NOA LR LR 08 46 31.9
comp=Z,77nm,18.1s,MS4.0,baz=280,slow=42
HFS Hagfors 69.11 340 P P 08 09 01.0 -0.8
comp=Z,4.4nm,0.5s,mb4.7,baz=36,slow=5.5,SNR=13
HFS LR LR 08 43 41.0
comp=Z,128nm,18.2s,MS4.2,baz=248,slow=40
116A Eloy 69.78 64 ⇑P P 08 09 05.4 -0.6
baz=70
SDCO Great Sand Dun 69.98 56 eP P 08 09 07.1 0.0
comp=Z,2.0nm,0.7s,mb4.2
POO Poona 70.31 276 ex x 08 09 06.0
ANMO Albuquerque 71.34 59 eP P 08 09 15.0 -0.4
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 71.34 59 eP P 08 09 15.0 -0.4
comp=Z,4.5nm,0.8s,mb4.5
KIV Kislovodsk 71.66 315 eP P 08 09 16.3 -1.1
KIV pmax pmax
comp=Z,15nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,106nm,17.0s,MS4.2
ASAR Alice Springs 72.10 200 P P 08 09 19.9 -0.1
comp=Z,5.6nm,1.0s,mb4.4,baz=13,slow=5.8,SNR=27
AKASG Malin Array Be 72.33 327 P P 08 09 20.6 -0.8
comp=Z,3.3nm,0.7s,mb4.4,baz=34,slow=6.1,SNR=8.6
MNTX Cornudas Mount 74.25 61 eP P 08 09 32.6 -0.1
WMOK Wichita Mounta 75.93 54 eP P 08 09 41.8 -0.6
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WMOK Wichita Mounta 75.93 54 eP P 08 09 41.8 -0.6
comp=Z,3.8nm,0.9s,mb4.3
OJC Ojcow 76.06 332 eP P 08 09 34.3 -8.8
BURAR Bucovina Array 76.37 327 ⇑iP P 08 09 45.3 +0.5
KSP Ksiaz 76.62 334 eP P 08 09 46.1 -0.2
EKA Eskdalemuir Ar 76.91 347 P P 08 09 46.3 -1.7
comp=Z,1.2nm,0.9s,mb3.8,baz=37,slow=6.5,SNR=3.3
LTX Lajitas 76.97 61 eP P 08 09 48.0 -0.3
LTX e pP 08 09 59.0 -0.6
LTX pmax pmax
comp=Z,11nm,0.6s,mb5.0
LTX Lajitas 76.97 61 eP P 08 09 48.0 -0.3
comp=Z,11nm,0.6s,mb5.0
LTX e pP 08 09 59.0 -0.6
UPC Upice 77.00 334 ePCP PcP 08 10 01.7 +2.4
DPC Dobruska-Polom 77.04 334 ePCP PcP 08 10 00.1 +0.6
CLL Collm 77.16 336 ⇑iP P 08 09 49.2 -0.1
CLL i *PP pP 08 09 59.7 -0.9
CLL pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CLL Collm 77.16 336 ⇑iP P 08 09 49.2 -0.1
comp=Z,8.0nm,1.2s,mb4.5
CLL i pP pP 08 09 59.7 -0.9
CLL Collm 77.16 336 ⇑iP P 08 09 49.2 -0.1
comp=Z,8.0nm,1.2s,mb4.5
CLL i PcP PcP 08 09 59.7 -0.3
CLL i pPcP 08 10 03.9
CLL i x x 08 10 08.8
BRG Berggiesshubel 77.28 336 eP PcP 08 10 01.8 +1.2
comp=Z,2.1nm,1.0s
BRG e 08 10 11.4
comp=Z,12nm,1.6s
BRG Berggiesshubel 77.28 336 eP PcP 08 10 01.8 +1.3
BRG e 08 10 11.4
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
PVCC Panska Ves 77.41 335 eP P 08 09 51.2 +0.5
PVCC ePCP PcP 08 10 03.3 +2.2
MLR Muntele Rosu 77.86 326 ⇑iP P 08 09 52.8 -0.4
VRAC Vranov 77.88 333 ⇑iP P 08 09 54.1 +0.8
PSZ Piszkesteto 78.01 331 ⇓iP P 08 09 54.2 +0.1
VOIR 78.25 326 ⇓iP P 08 09 56.3 +0.9
JCT Junction City 78.45 58 eP P 08 09 56.0 -0.5
JCT e pP 08 10 07.0 -0.8
JCT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
JCT Junction City 78.45 58 eP P 08 09 56.0 -0.5
comp=Z,9.9nm,1.1s,mb4.7
JCT e pP 08 10 07.0 -0.8
STKA Stephens Creek 78.71 191 P P 08 09 56.9 -1.0
comp=Z,3.7nm,1.1s,mb4.2,baz=346,slow=8.3,SNR=3.1
KHC Kasperske Hory 78.95 335 eP P 08 09 59.5 +0.3
KHC ePCP PcP 08 10 10.5 +2.7
GRA1 Grafenberg Arr 79.11 337 eP P 08 10 00.6 +0.5
comp=Z,19nm,1.3s,mb4.9
GRF Grafenberg Arr 79.11 337 eP P 08 10 00.6 +0.5
comp=Z,19nm,1.3s,mb4.9
GRF Grafenberg Arr 79.11 337 eP P 08 10 00.6 +0.5
comp=Z,19nm,1.3s,mb4.9
GRF Grafenberg Arr 79.11 337 eP P 08 10 00.6 +0.5
GRF pmax pmax
comp=Z,19nm,1.3s,mb4.9
GERES GERESS Array B 79.17 335 P P 08 10 00.6 +0.1
comp=Z,0.8nm,0.8s,mb3.7,baz=46,slow=5.8,SNR=4.5
BR131 Keskin Array S 79.24 318 eP P 08 10 02.7 +1.9
BRTR Keskin Array B 79.24 318 P P 08 10 01.6 +0.8
comp=Z,1.2nm,0.9s,mb3.8,baz=10,slow=4.3,SNR=2.5
BZS Buzias 79.38 328 ⇓iP P 08 10 01.4 -0.2
MEM Membach 79.60 340 P P 08 10 09.3 +6.5
comp=Z,4.9nm,0.8s,mb4.5
BCLA Clavier 79.94 340 E P 08 10 10.4 +5.8
PPT Papeete 81.27 127 LR LR 08 43 16.5
comp=Z,125nm,19.6s,MS4.3,baz=17,slow=34
CDF Champ du Feu 81.33 338 eP P 08 10 11.1 -1.0
comp=Z,42nm,1.4s,mb4.9
CDF Champ du Feu 81.33 338 eP P 08 10 11.1 -1.0
CDF pmax pmax
comp=Z,21nm,1.4s,mb4.9
CDF Champ du Feu 81.33 338 eP P 08 10 11.1 -1.0
comp=Z,21nm,1.4s,mb4.9
VTS Vitosha 81.36 326 ⇑iP P 08 10 12.8 +0.6
MEZF Maizieres J'vi 81.79 340 eP P 08 10 14.0 -0.5
HAU Haudompre 81.94 339 eP P 08 10 14.3 -1.0
HINF Hinteralfeld 81.99 339 eP P 08 10 14.3 -1.3
comp=Z,12nm,1.0s,mb4.5
HINF Hinteralfeld 81.99 339 eP P 08 10 14.3 -1.3
HINF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
HINF Hinteralfeld 81.99 339 eP P 08 10 14.3 -1.3
comp=Z,6.2nm,1.0s,mb4.5
GRR Gorron 83.18 344 eP P 08 10 20.9 -0.9
LOR Lormes 83.23 340 eP P 08 10 21.2 -0.8
comp=Z,15nm,0.7s,mb4.8
LOR Lormes 83.23 340 eP P 08 10 21.2 -0.8
LOR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
LOR Lormes 83.23 340 eP P 08 10 21.2 -0.8
comp=Z,7.4nm,0.7s,mb4.8
CABF La Chapelle 83.30 339 eP P 08 10 22.0 -0.4
SSF Saint Saulge 83.51 340 eP P 08 10 22.6 -0.8
comp=Z,11nm,0.8s,mb4.8
SSF Saint Saulge 83.51 340 eP P 08 10 22.6 -0.8
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
SSF Saint Saulge 83.51 340 eP P 08 10 22.6 -0.8
comp=Z,5.7nm,0.8s,mb4.8
AVF Avril sur Loir 83.80 340 eP P 08 10 24.2 -0.7
comp=Z,18nm,0.8s,mb5.0
AVF Avril sur Loir 83.80 340 eP P 08 10 24.2 -0.7
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
AVF Avril sur Loir 83.80 340 eP P 08 10 24.2 -0.7
comp=Z,8.9nm,0.8s,mb5.0
SMF Signal de Mont 83.82 340 eP P 08 10 24.4 -0.6
comp=Z,44nm,1.3s,mb5.1
SMF Signal de Mont 83.82 340 eP P 08 10 24.4 -0.6
SMF pmax pmax
comp=Z,22nm,1.3s,mb5.1
SMF Signal de Mont 83.82 340 eP P 08 10 24.4 -0.6
comp=Z,22nm,1.3s,mb5.1
LPL La Plagne 84.15 338 eP P 08 10 27.1 +0.4
comp=Z,19nm,1.0s,mb4.9
LPL La Plagne 84.15 338 eP P 08 10 27.1 +0.4
LPL pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
LPL La Plagne 84.15 338 eP P 08 10 27.1 +0.4
comp=Z,9.7nm,1.0s,mb4.9
LPG La Plagne 84.17 338 eP P 08 10 27.3 +0.5
comp=Z,20nm,0.9s,mb4.9
LPG La Plagne 84.17 338 eP P 08 10 27.3 +0.5
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
LPG La Plagne 84.17 338 eP P 08 10 27.3 +0.5
comp=Z,9.8nm,0.9s,mb4.9
TCF Toulx Ste Croi 84.53 341 eP P 08 10 28.0 -0.7
comp=Z,15nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.53 341 eP P 08 10 28.0 -0.7
TCF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.53 341 eP P 08 10 28.0 -0.7
comp=Z,7.7nm,0.9s,mb4.8
MBDF Montbardon 84.88 337 eP P 08 10 30.2 -0.2
comp=Z,12nm,0.9s,mb4.7
MBDF Montbardon 84.88 337 eP P 08 10 30.2 -0.2
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MBDF Montbardon 84.88 337 eP P 08 10 30.2 -0.2
comp=Z,6.3nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.93 338 eP P 08 10 30.7 0.0
comp=Z,12nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.93 338 eP P 08 10 30.7 0.0
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.93 338 eP P 08 10 30.7 0.0
comp=Z,5.8nm,0.7s,mb4.8
SBF Sospel 85.50 337 eP P 08 10 32.7 -0.8
comp=Z,44nm,1.0s,mb5.2
SBF Sospel 85.50 337 eP P 08 10 32.7 -0.8
SBF pmax pmax
comp=Z,22nm,1.0s,mb5.2
SBF Sospel 85.50 337 eP P 08 10 32.7 -0.8
comp=Z,22nm,1.0s,mb5.2
CFAA Coronel Fontan 144.26 81 PKP PKPdf 08 17 28.2 -3.2
comp=Z,0.1nm,0.5s,baz=306,slow=2.4,SNR=5.5
PLCA Paso Flores 147.35 97 PKPbc PKPbc 08 17 37.9 -1.3
comp=Z,4.8nm,0.9s,baz=186,slow=2.7,SNR=5.3
SNAA Sanae 152.39 195 PKPbc PKPbc 08 17 48.0 -3.5
comp=Z,0.7nm,1.0s,baz=297,slow=11,SNR=3.0
SNAA PKPab PKPab 08 17 58.8 -2.9
comp=Z,2.2nm,0.9s,baz=133,slow=3.8,SNR=12
SNAA Sanae 152.39 195 ePKPdf PKPdf 08 17 48.8 +4.1
SNAA Sanae 152.39 195 ePKPdf PKPdf 08 17 48.8 +4.1
SNAA e 08 17 59.8
SNAA e 08 18 03.5
VNA2 Neumayer--Watz 153.82 194 ePKPdf PKPdf 08 17 52.0 +5.3
baz=256,slow=1.8
VNA2 Neumayer--Watz 153.82 194 ePKPdf PKPdf 08 17 52.0 +5.3
baz=316,slow=14
VNA2 e 08 18 05.9
VNA2 e 08 18 09.8
VNA3 Neumayer Olymp 153.88 192 ePKPdf PKPdf 08 17 52.0 +5.2
VNA3 Neumayer Olymp 153.88 192 ePKPdf PKPdf 08 17 52.0 +5.2
VNA3 e 08 18 05.7
VNA3 e 08 18 09.3

IDC 26 08:07:01.4±5.7,3001S×17724W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.8/12,mbtmp3.8/3,Error ellipse: s-maj=225.4km s-min=51.2km az=150.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.21	256	P	P	08 13 58.1	+0.9
	2.4nm,0.8s,baz=106,slow=7.4,SNR=4.9						
ASAR	Alice Springs	43.79	266	P	P	08 15 08.0	-0.8
	0.4nm,0.7s,baz=107,slow=7.1,SNR=5.7						
WRA	Warramunga Arr	44.74	271	P	P	08 15 16.6	+0.2
	0.6nm,0.4s,baz=112,slow=7.7,SNR=3.9						
FINES	FINESS Array B	145.00	341	PKPbc	PKPbc	08 26 38.8	-1.1
	1.9nm,0.8s,baz=66,slow=4.7,SNR=7.6						

*NEIC **26** 08:13:02.2,3842S×17791E,h23km,ML3.8(WEL),After WEL.*

WEL 26 08:13:01.4±0.1,3841S×17789E,h29km±1km,ML3.8/14, 2D,Error ellipse: s-maj=1.3km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	0.30	285	P	Pb	08 13 08.5	-0.3
MWZ				S	Sb	08 13 14.1	+0.4
MWZ	Matawai	0.30	285	⇓P*	Pb	08 13 08.5	-0.3
MWZ				S*	Sb	08 13 13.9	+0.2
MWZ				S*	Sb	08 13 14.1	+0.4
PUZ	Puketiti	0.44	40	P	Pb	08 13 10.8	-0.1
PUZ				S	Sb	08 13 18.5	+1.1
PUZ	Puketiti	0.44	40	⇓P*	Pb	08 13 10.8	-0.1
PUZ				eS*	Sb	08 13 17.6	+0.2
KNZ	Kokohu	0.63	196	P	Pb	08 13 13.8	-0.2
KNZ				S	Sb	08 13 25.0	+2.5
KNZ	Kokohu	0.63	196	P*	Pb	08 13 13.8	-0.2
KNZ				S*	Sb	08 13 24.5	+2.0
URZ	Urewera	0.63	284	P	Pb	08 13 14.2	+0.2
URZ	Urewera	0.63	284	P*	Pb	08 13 14.2	+0.2
URZ				eS*	Sb	08 13 23.9	+1.4
MXZ	Matakaoa Point	0.91	21	P	Pn	08 13 18.4	+0.2
MXZ				S	Sn	08 13 33.3	+3.0
MXZ	Matakaoa Point	0.91	21	PN	Pn	08 13 18.4	+0.1
MXZ				eSN	Sn	08 13 32.7	+2.4

EDRZ	**Edgecumbe**	**0.96 288**	P	Pn	08 13 20.0	+1.1
EDRZ	**Edgecumbe**	**0.96 288**	PN	Pn	08 13 20.0	+1.1
WIZ	**White Island**	**1.04 328**	P	Pn	08 13 20.7	+0.6
WIZ	**White Island**	**1.04 328**	PN	Pn	08 13 20.7	+0.6
MARZ	**Manawahe**	**1.05 293**	P	Pn	08 13 21.0	+0.8
MARZ	**Manawahe**	**1.05 293**	PN	Pn	08 13 21.0	+0.9
MKRZ	**Makatiti**	**1.15 283**	P	Pn	08 13 23.6	+2.0
BKZ	**Black Stump Fm**	**1.33 235**	P	Pn	08 13 24.4	+0.4
BKZ	**Black Stump Fm**	**1.33 235**	PN	Pn	08 13 24.4	+0.4
KARZ	**Kaharoa**	**1.36 286**	P	Pn	08 13 24.8	+0.4
NGZ	**Ngauruhoe**	**1.95 246**	P	Pn	08 13 33.9	+1.4
WPVZ	**Whakapapa**	**2.00 246**	*e*P	Pn	08 13 33.4	+0.2
WNVZ	**Wahianoa**	**2.01 242**	P	Pn	08 13 35.0	+1.6
TSZ	**Takapari Road**	**2.23 222**	P	Pn	08 13 34.9	-1.5
WAZ	**Wanganui**	**2.63 238**	*e*P	Pn	08 13 43.2	+1.3
MRZ	**Mangatainoka R**	**2.87 218**	P	Pn	08 13 43.0	-2.2
MRZ	**Mangatainoka R**	**2.87 218**	SN	Sn	08 14 16.5	-2.3
KIW	**Kapiti Island**	**3.36 222**	P	Pn	08 13 49.4	-2.5

IDC ***26*** *08:19:59.5±0.7, 2333N×12152E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/28, Error ellipse: s-maj=30.4km s-min=16.4km az=75.0*
NIED ***26*** *08:20:00, 2330N×12140E, h29km, Mw4.0 Best double couple: Mo1.31000×1015 NP1:φs312.00000°, δ70.00000°, λ-148.00000°. NP2:φs210.00000°, δ60.00000°, λ-24.00000°.*
NEIC ***26*** *08:20:01.3±0.9, 2326N×12154E, h10km, ML4.6(TAP), Error ellipse: s-maj=23.8km s-min=11.6km az=82.0*
NEIC Recorded [3 TAP] in Hua-lien, [2 TAP] in T'ai-tung and [1 TAP] in Chia-i Counties.
ISCJB ***26*** *08:20:03.1±1.1, 2322N±008×12140E±004, h36km±10km, mb3.8/10, Error ellipse: s-maj=12.9km s-min=5.6km az=8.6*
JMA ***26*** *08:20:03.7±0.2, 2327N×12143E, h86km, M4.0*
BJI ***26*** *08:20:05.9, 2334N×12094E, h12km, mB4.6, mb4.4, ML4.0, Ms4.1, Msz3.8*

ISC 26 08:20:04.3±2.0, 2326N±007×12141E±003, h31km±15km, n26, σ0§84/34, mb3.8/10, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.93**	**11**	*e*Pn	**Pn**	**08 20 18.6**	**-2.6**
YHNB	**Yeheng**	**1.40**	**359**	*e*Pn	**Pn**	**08 20 27.5**	**-0.2**
TATO	**Taipei**	**1.71**	**2**	*e*Pn	**Pn**	**08 20 32.2**	**+0.3**
YOJ	**Yonaguni jima**	**1.89**	**51**	P	**Pn**	**08 20 34.6**	**+0.2**
YOJ				S	**Sn**	**08 20 57.7**	**+0.5**
HATJ	**Hateruma jima**	**2.34**	**70**	P	**Pn**	**08 20 40.5**	**0.0**
HATJ				S	**Sn**	**08 21 08.0**	**-0.2**
IRIF	**Iriomote-Funau**	**2.38**	**63**	P	**Pn**	**08 20 41.3**	**+0.1**
IRIF				S	**Sn**	**08 21 10.3**	**+1.0**
JKRS	**Kuro-shima**	**2.58**	**67**	P	**Pn**	**08 20 44.1**	**+0.3**
JKRS				S	**Sn**	**08 21 14.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.73**	**66**	P	**Pn**	**08 20 45.7**	**-0.3**
JIJ				S	**Sn**	**08 21 17.5**	**-0.5**
QZH	**Quanzhou**	**3.07**	**304**	P	**Pn**	**08 20 51.0**	**+0.4**
QZH				S	**Sn**	**08 21 26.5**	**+0.2**
QZH	comp=N,840nm,0.5s			Smax			
QZH	comp=E,660nm,0.7s			Smax			
JTJ	**Tarama**	**3.31**	**65**	P	**Pn**	**08 20 54.0**	**0.0**
JTJ				S	**Sn**	**08 21 33.2**	**+0.9**
JMJ	**Miyako jima 2**	**3.88**	**66**	P	**Pn**	**08 21 01.8**	**+0.1**
JMJ				*e*S	**Sn**	**08 21 46.6**	**+0.5**
JOW	**Kunigami**	**7.17**	**59**	Pn	**Pn**	**08 21 45.0**	**-2.0**
JOW	comp=E,6.6nm,0.3s,baz=132,slow=17,SNR=11			Sn	**Sn**	**08 23 04.5**	**-2.8**
WHN	comp=E,1.5nm,0.3s,baz=130,slow=29,SNR=2.0 **Wuhan**	**9.60**	**321**	⇑P	**Pn**	**08 22 21.0**	**+0.7**
KSRS	**Korea Array**	**15.22**	**20**	Pn	**Pn**	**08 23 38.5**	**+1.7**
MJAR	baz=117,slow=38,SNR=5.6 **Matsushiro Arr**	**19.64**	**44**	LR	LR	08 32 49.5	
SONM	comp=E,106nm,18.0s,baz=90,slow=39 **Songino Array**	**27.30**	**338**	P	**P**	**08 25 46.5**	**+0.5**
WRA	comp=E,0.3nm,0.5s,mb3.1,baz=150,slow=9.9,SNR=3.4 **Warramunga Arr**	**44.75**	**163**	P	**P**	**08 28 14.1**	**-0.7**
ASAR	comp=E,0.8nm,0.5s,mb3.8,baz=343,slow=8.9,SNR=2.2 **Alice Springs**	**48.20**	**165**	P	**P**	**08 28 42.6**	**+0.8**
ASAR	comp=E,0.4nm,0.3s,mb3.9,baz=329,slow=6.9,SNR=2.2			PcP	PcP	08 30 09.2	+0.4
STKA	comp=E,0.4nm,0.6s,baz=5.7,slow=2.8,SNR=4.1 **Stephens Creek**	**58.13**	**160**	P	**P**	**08 29 55.7**	**+0.8**
FINES	comp=E,1.6nm,0.6s,mb4.2,baz=338,slow=9.1,SNR=8.0 **FINESS Array B**	**72.34**	**330**	P	**P**	**08 31 27.2**	**+0.1**
INK	comp=E,1.2nm,0.6s,mb4.0,baz=62,slow=6.4,SNR=8.2 **Inuvik**	**74.00**	**22**	P	**P**	**08 31 35.6**	**-1.2**
HFS	comp=E,0.5nm,0.6s,mb3.6,baz=315,slow=4.3,SNR=3.0 **Hagfors**	**78.47**	**331**	P	**P**	**08 32 02.0**	**-0.2**
NB2	comp=E,2.8nm,0.9s,mb4.2,baz=106,slow=3.2,SNR=6.1 **NORSAR Subarra**	**79.13**	**332**	P	**P**	**08 32 05.5**	**-0.3**
NOA	comp=Z,0.1nm,0.6s,mb2.9,baz=62,slow=6.2 **NORSAR Array B**	**79.13**	**332**	P	**P**	**08 32 05.7**	**-0.2**
GERES	comp=Z,1.3nm,0.8s,mb3.9,baz=39,slow=7.6,SNR=3.7 **GERESS Array B**	**83.68**	**321**	P	**P**	**08 32 29.3**	**-0.6**
YKA	comp=Z,1.1nm,0.9s,mb4.0,baz=31,slow=3.1,SNR=5.2 **Yellowknife Ar**	**83.74**	**23**	P	**P**	**08 32 29.9**	**-0.3**
	comp=Z,0.2nm,0.7s,mb3.4,baz=312,slow=4.9,SNR=7.6						

IDC 26 08:26:05.9±1.0, 2191N×14319E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/20, mbtmp3.7/8, Error ellipse: s-maj=35.6km s-min=23.0km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.34**	**323**	P	P	08 30 48.0	+4.3
SONM	0.4nm,0.3s,baz=140,slow=9.6,SNR=4.5 **Songino Array**	**39.17**	**320**	P	P	08 33 35.5	+0.1
WRA	0.4nm,0.5s,baz=138,slow=9.0,SNR=4.5 **Warramunga Arr**	**42.49**	**192**	P	P	08 34 02.8	0.0
ASAR	0.6nm,0.9s,baz=16,slow=9.6,SNR=2.8 **Alice Springs**	**46.20**	**192**	P	P	08 34 32.7	+0.2
ZAL	0.2nm,0.6s,baz=15,slow=8.3,SNR=5.5 **Zalesovo**	**54.05**	**322**	P	P	08 35 32.0	-0.1
MKAR	1.0nm,0.3s,baz=83,slow=11,SNR=3.7 **Makanchi Array**	**54.55**	**313**	P	P	08 35 36.0	+0.3
BVAR	0.3nm,0.7s,baz=97,slow=9.9,SNR=3.9 **Borovoye Array**	**62.51**	**319**	P	P	08 36 31.0	-0.2
YKA	1.5nm,0.8s,baz=94,slow=6.7,SNR=5.1 **Yellowknife Ar**	**76.27**	**28**	P	P	08 37 56.1	-0.2
NVAR	0.3nm,0.4s,baz=293,slow=5.9,SNR=12 **Mina Array Bea**	**83.01**	**51**	P	P	08 38 33.8	+0.8
	0.2nm,0.5s,baz=270,slow=7.2,SNR=3.1						

ISCJB ***26*** *08:36:44.4±1.0, 2982N±004×36.19E±007, h0km, Error ellipse: s-maj=8.8km s-min=6.1km az=42.1*
CSEM ***26*** *08:36:45.2±0.3, 2978N×36.17E, h2km, ML1.7, Error ellipse: s-maj=6.3km s-min=2.8km az=118.0, Mining explosion.*
GII ***26*** *08:36:45.2±0.3, 2986N×36.14E, h0km±6km, ML1.7/4*
HLW ***26*** *08:36:47.3, 2975N×36.15E, h5km, Mb2.7*

ISC 26 08:36:44.4±1.0, 2981N±005×3623E±007, h0km, n17, σ0§75/23, 4C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.03**	**266**	Pg	**Pg**	**08 37 04.2**	**0.0**
HRFI	**Mount Harif**	**1.06**	**282**	Pg	**Pg**	**08 37 04.3**	**-0.5**
EIL	**Elat**	**1.12**	**263**	Pg	**Pg**	**08 37 06.1**	**+0.1**
EIL				Sg	**Sg**	**08 37 22.3**	**+1.8**
ZFRI	**Zfri**	**1.18**	**309**	Pg	**Pg**	**08 37 06.3**	**-0.6**
PRNI	**Paran**	**1.19**	**297**	Pg	**Pg**	**08 37 06.4**	**-0.9**
PRNI				Sg	**Sg**	**08 37 23.5**	**+0.8**
HBST	**Basata**	**1.44**	**246**	⇑P	**Pn**	**08 37 12.1**	**+0.4**
MZDA	**Masada**	**1.67**	**334**	Pn	**Pn**	**08 37 14.7**	**-0.3**
MZDA				Sn	**Sn**	**08 37 37.4**	**+0.4**
HDHB	**Dhahab**	**1.78**	**233**	⇓P	**Pn**	**08 37 16.6**	**+0.2**
SVTA	**Shivta**	**1.78**	**309**	Pn	**Pn**	**08 37 16.7**	**+0.2**
YTIR	**Yattir**	**1.82**	**328**	Pn	**Pn**	**08 37 17.0**	**0.0**
DSI	**Dead Sea**	**1.90**	**337**	Pn	**Pn**	**08 37 18.3**	**+0.2**
DRGI	**Dragot**	**1.92**	**338**	Pn	**Pn**	**08 37 17.9**	**-0.4**
HNKL	**Nakhl**	**1.96**	**274**	⇑P	**Pn**	**08 37 19.5**	**+0.6**
HNKL				S	**Sn**	**08 37 42.9**	**-1.3**
HKAT	**Jabal Katrina**	**2.34**	**237**	⇑P	**Pn**	**08 37 24.2**	**0.0**
HKAT				S	**Sn**	**08 37 52.0**	**-1.7**
TR1		**2.69**	**229**	⇓P	**Pn**	**08 37 29.2**	**+0.2**
AMAG	**Maghara**	**2.75**	**288**	⇑P	**Pn**	**08 37 30.6**	**+0.9**
AMAG				S	**Sn**	**08 38 02.6**	**-1.0**
SUZ		**2.96**	**271**	P	**Pn**	**08 37 33.5**	**+0.9**

NEIC ***26*** *08:38:04.6, 3342S×7100W, h72km, MD3.8(GUC), After GUC.*

GUC 26 08:38:04.6±0.7, 3342S×7100W, h72km, n3km, MD3.8, ML3.5, 8C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.17**	**115**	⇓*i*P	Pn	08 38 15.3	0.0
RCDM				*i* S	Sn	08 38 23.2	+0.1
RCDM				AML	AML	08 38 23.6	
RCDM	comp=E,39μm,0.1s **Rinconada Maip**	**0.17**	**115**	⇓*i*P	Pn	08 38 15.3	0.0
RCDM				*i* S	Sn	08 38 23.2	+0.1
TACH	**Talagante**	**0.24**	**169**	⇑*i*P	Pn	08 38 15.8	+0.2
TACH				*i* S	Sn	08 38 23.6	-0.1
STL	**Santa Lucia**	**0.30**	**94**	*i* P	Pn	08 38 15.4	-0.6
STL				*i* S	Sn	08 38 23.7	-0.6
DSCH	**Colegio Aleman**	**0.36**	**87**	⇑*i*P	Pn	08 38 15.9	-0.4
DSCH				AML	AML	08 38 25.4	
PEL	comp=E,1μm,0.5s **Peldehue**	**0.38**	**44**	⇓*i*P	Pn	08 38 16.8	+0.3
PEL				*i* S	Sn	08 38 25.5	+0.3
PEL				AML	AML	08 38 28.1	
CLCH	comp=N,2μm,0.2s **Cerro Calan**	**0.38**	**87**	⇑*i*P	Pn	08 38 17.0	+0.4
CLCH				*i* S	Sn	08 38 26.1	+0.7
CLCH				AML	AML	08 38 26.9	
ROCH	comp=E,4μm,0.2s **El Roble**	**0.44**	**358**	⇑*i*P	Pn	08 38 17.4	+0.3
PCH	**Pirque**	**0.45**	**117**	⇓*i*P	Pn	08 38 17.4	+0.3
PCH				*i* S	Sn	08 38 26.2	-0.1
LCCH	**Las Cruces**	**0.48**	**263**	*e*P	Pn	08 38 17.2	-0.2
LCCH				*i* S	Sn	08 38 26.9	0.0
CHCH	**Chadas Angostu**	**0.59**	**151**	⇓*i*P	Pn	08 38 18.7	+0.3
FCH	**Farellones**	**0.60**	**82**	⇑*i*P	Pn	08 38 19.0	+0.5
FCH				*i* S	Sn	08 38 28.8	0.0
LNV	**Longovilo**	**0.64**	**213**	⇓*i*P	Pn	08 38 19.0	+0.1
IHA	**Instituto Hidr**	**0.67**	**306**	⇑*i*P	Pn	08 38 19.6	+0.3
IHA				*i* S	Sn	08 38 30.8	+0.7
CACH	**El Canelo**	**0.77**	**155**	*e*P	Pn	08 38 21.4	+0.9
JACH	**Jahuel**	**0.81**	**25**	⇑*i*P	Pn	08 38 21.2	+0.3
JACH				*i* S	Sn	08 38 33.3	+0.4
PACH	**Papudo**	**0.95**	**337**	*e*P	Pn	08 38 22.7	+0.1
CICH	**Cipreses**	**1.02**	**152**	*e*P	Pn	08 38 24.0	+0.6
CICH				*i* S	Sn	08 38 39.0	+1.5
PTCH	**Petorca**	**1.15**	**3**	*e*P	Pn	08 38 25.5	+0.4
PTCH				*i* S	Sn	08 38 41.0	+0.6
PTCH				AML	AML	08 38 41.9	
PTCH	comp=N,3μm,0.2s **Petorca**	**1.15**	**3**	*e*P	Pn	08 38 25.5	+0.4
PTCH				*i* S	Sn	08 38 41.0	+0.6
SFDO	**San Fernando**	**1.20**	**181**	*e*P	Pn	08 38 26.2	+0.6
SFDO				*i* S	Sn	08 38 42.0	+0.7
NICH	**Los Niches**	**1.59**	**187**	*e*P	Pn	08 38 30.7	-0.1
NICH				*i* S	Sn	08 38 51.3	+0.6
TALC	**Talca**	**2.05**	**195**	⇑*e*P	Pn	08 38 37.6	+0.7
TALC				*i* S	Sn	08 39 02.2	+0.8

CSEM ***26*** *08:47:56.4±4.0, 7338N×679E, h30km, ML2.6, Error ellipse: s-maj=169.4km s-min=25.5km az=59.0*
BER ***26*** *08:47:58.8±2.5, 7360N×833E, h10km, ML2.6(NAO)*

NAO 26 08:47:59.2±4.8, 7360N×922E, ML2.6, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**4.92**	**17**	Pn	Pn	08 49 13.3	-1.1
KBS	baz=197,slow=10 **Kingsbay**	**5.40**	**6**	Pn	Pn	08 49 16.5	-4.5
ARA0	**ARCESS Array S**	**6.56**	**120**	Pn	Pn	08 49 37.0	+0.1
ARA0	baz=316,slow=16			Sn	Sn	08 50 49.0	-3.4
	baz=308,slow=22						

JMA 26 09:13:52.8±0.1, 2474N×12270E, h101km±1km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.40**	**134**	P	Pn	09 14 08.0	0.0
YOJ				S	Sn	09 14 19.5	+0.2
IRIF	**Iriomote-Funau**	**1.02**	**113**	P	Pn	09 14 13.5	0.0
IRIF				S	Sn	09 14 29.4	+0.3
HATJ	**Hateruma jima**	**1.22**	**124**	P	Pn	09 14 15.8	+0.1
HATJ				S	Sn	09 14 33.2	+0.2
JKRS	**Kuro-shima**	**1.29**	**112**	P	Pn	09 14 17.0	+0.4
JKRS				S	Sn	09 14 35.2	+0.6
JIJ	**Ishigaki jima**	**1.37**	**106**	P	Pn	09 14 17.5	0.0
JIJ				S	Sn	09 14 35.7	-0.4
JTJ	**Tarama**	**1.82**	**93**	P	Pn	09 14 23.7	+0.6
JTJ				S	Sn	09 14 46.7	+0.5
JMJ	**Miyako jima 2**	**2.36**	**88**	*e*S	Sn	09 14 59.1	+0.5
JKE	**Kume jima 2**	**4.01**	**66**	P	Pn	09 14 53.2	+1.0
JKE				*e*S	Sn	09 15 39.5	+1.3

IDC 26 09:15:08.6±2.4, 124S×12933E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=143.6km s-min=28.2km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.22**	**166**	P	Pn	09 19 34.0	-1.0
ASAR	0.2nm,0.3s,baz=345,slow=11,SNR=7.0 **Alice Springs**	**22.73**	**169**	P	P	09 20 12.3	+0.2
MKAR	0.7nm,0.4s,baz=346,slow=10,SNR=17 **Makanchi Array**	**63.10**	**326**	P	P	09 25 38.4	+0.5
	0.3nm,0.9s,baz=130,slow=7.9,SNR=2.5						

IDC 26 09:26:58.3±9.0, 647S×15131E, h91km±63km, mb3.1/2, mb1 3.2/3, mb1mx3.0/14, mbtmp3.1/3, ML2.2/1, Error ellipse: s-maj=117.1km s-min=57.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**234**	P	Pn	09 28 11.7	+0.3
PMG	0.6nm,0.3s,baz=36,slow=13,SNR=2.7			S	Sn	09 29 09.3	+0.9
WRA	0.6nm,0.3s,baz=359,slow=20,SNR=2.4 **Warramunga Arr**	**21.24**	**229**	P	P	09 31 36.4	-0.4
ASAR	1.0nm,0.9s,baz=54,slow=10,SNR=5.3 **Alice Springs**	**23.93**	**223**	P	P	09 32 04.5	+0.7
TORD	1.2nm,0.9s,baz=62,slow=9.5,SNR=9.5 **Torodi Ar. Bea**	**149.36**	**285**	PKPbc	PKPbc	09 46 37.3	+0.7
	0.3nm,0.8s,baz=46,slow=4.2,SNR=2.8						

ISCJB ***26*** *09:48:38.5±3.0, 966S×007×12591E±008, h10km±18km, mb4.1/9, MS2.9/2, Error ellipse: s-maj=15.4km s-min=9.7km az=110.9*
IDC ***26*** *09:48:39.2±0.8, 967S×12582E, h0km, mb4.0/6, mb1 4.4/9, mb1mx4.2/16, mbtmp4.3/9, ML4.9/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/20, Error ellipse: s-maj=50.0km s-min=17.1km az=74.0*
NEIC ***26*** *09:48:41.1±0.7, 965S×12567E, h10km, mb4.6/4, Error ellipse: s-maj=20.8km s-min=11.4km az=70.0*

ISC 26 09:48:45.0±1.9, 978S±008×1258E±01, h46km±19km, n23, σ1§12/28, mb4.0/8, MS2.9/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.13**	**115**	*e*P	**Pn**	**09 50 29.2**	**+2.4**
KAKA	57nm,0.3s			*e*S	**Sn**	**09 51 46.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**8.27**	**181**	*e*P	**Pn**	**09 50 42.3**	**-0.1**
FITZ	47nm,0.4s			*e*S	**Sn**	**09 52 09.4**	**-5.1**
FITZ	**Fitzroy Crossi**	**8.27**	**181**	Pn	**Pn**	**09 50 42.7**	**+0.3**
FITZ	9.3nm,0.3s,baz=13,slow=11,SNR=150			Sn	**Sn**	**09 52 08.4**	**-6.1**
FITZ	22nm,0.3s,baz=204,slow=20,SNR=21			LR	LR	09 54 29.4	
WRA	comp=Z,67nm,19.5s,baz=265,slow=42 **Warramunga Arr**	**13.04**	**142**	Pn	**Pn**	**09 51 46.3**	**-1.2**
WRA	4.8nm,0.3s,baz=326,slow=14,SNR=144			Sn	**Sn**	**09 54 03.8**	**-7.3**
	6.1nm,0.3s,baz=320,slow=25,SNR=10.0						
WB2	**Warramunga Arr**	**13.04**	**142**	*e*P	**Pn**	**09 51 46.0**	**-1.7**
WB2				*e*S	**Sn**	**09 54 04.5**	**-6.8**
ASAR	**Alice Springs**	**15.83**	**152**	Pn	**Pn**	**09 52 23.6**	**-1.1**
ASAR	9.7nm,0.3s,baz=321,slow=11,SNR=829			Sn	**Sn**	**09 55 10.1**	**-8.9**
FORT	2.6nm,0.3s,baz=313,slow=19,SNR=14 **Forrest**	**21.00**	**175**	*e*P	**P**	**09 53 28.2**	**+3.7**
FORT	25nm,0.6s			*e*S	**S**	**09 57 08.2**	**-7.6**
CTA	**Charters Tower**	**22.23**	**120**	*e*P	**P**	**09 53 44.4**	**+6.7**
CTA	4.1nm,0.9s,mb3.9 **Charters Tower**	**22.23**	**120**	LR	LR	10 02 49.0	
KLBR	comp=Z,24nm,21.1s,MS2.6,baz=230,slow=38 **Kellerberrin**	**22.95**	**198**	*e*P	**P**	**09 53 46.5**	**+1.2**
KLBR	66nm,1.9s,mb4.7			*e*S	**S**	**09 57 50.8**	**-1.3**
MUN	**Mundaring**	**23.81**	**201**	*e*P	sP	09 54 08.3	-2.8
MUN				*e*S	**S**	**09 58 13.9**	**+7.8**
NWAO	**Narrogin (SRO)**	**24.35**	**198**	P	**P**	**09 53 59.8**	**+1.2**
NWAO	10nm,1.2s,mb4.1,baz=35,slow=12,SNR=3.1 **Narrogin (SRO)**	**24.35**	**198**	*e*P	**P**	**09 54 00.9**	**+2.3**
STKA	13nm,1.2s,mb4.2 **Stephens Creek**	**26.41**	**149**	*e*P	**P**	**09 54 22.5**	**+5.2**
STKA	2.4nm,0.4s,mb4.1 **Stephens Creek**	**26.41**	**149**	P	**P**	**09 54 18.3**	**+1.0**
STKA	2.1nm,0.9s,mb3.7,baz=325,slow=12,SNR=2.8			LR	LR	10 06 24.5	
STKA	comp=Z,71nm,19.2s,MS3.2,baz=26,slow=40 **Stephens Creek**	**26.41**	**149**	*e*P	**P**	**09 54 23.9**	**+6.7**
KSRS	**Korea Array**	**47.03**	**2**	P	**P**	**09 57 11.7**	**-0.1**
SONM	0.4nm,0.5s,mb3.6,baz=173,slow=40,SNR=2.7 **Songino Array**	**59.89**	**345**	P	**P**	**09 58 45.5**	**-0.6**
MK31	0.7nm,0.9s,mb3.7,baz=157,slow=8.5,SNR=4.1 **Makanchi Array**	**68.38**	**329**	*e*P	**P**	**09 59 41.3**	**-0.4**
MKAR	**Makanchi Array**	**68.38**	**329**	P	**P**	**09 59 41.5**	**-0.2**
ZAL	1.3nm,0.6s,mb4.1,baz=130,slow=7.8,SNR=21 **Zalesovo**	**72.32**	**336**	P	**P**	**10 00 06.3**	**+0.4**
YKA	0.6nm,0.4s,mb3.9,baz=5.0,slow=6.8,SNR=3.1 **Yellowknife Ar**	**112.06**	**26**	PKiKP	PKiKP	10 07 16.6	+1.4
TORD	0.1nm,0.4s,baz=291,slow=2.1,SNR=8.0 **Torodi Ar. Bea**	**125.21**	**279**	PKP	PKPdf	10 07 43.3	+2.8
	0.3nm,0.5s,baz=72,slow=3.1,SNR=3.6						

CSEM ***26*** *10:38:25.0, 6762N×2196E, h10km, ML2.5, After UPP*
UPP ***26*** *10:38:25.0, 6762N×2196E, h10km, ML2.5*

HEL 26 10:38:25.3±0.0, 6761N×2196E, h5km±1km, ML2.5(UPP), Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.16**	**175**	*i* P	Pg	10 38 28.2	-0.3
MASU				*i* S	Sg	10 38 30.4	-0.1
LANU	**Lannavaara**	**0.44**	**1**	*i* P	Pg	10 38 33.1	-0.6
LANU				*i* S	Sg	10 38 39.7	+0.3
LANU	**Lannavaara**	**0.44**	**1**	P	Pg	10 38 33.1	-0.6
LANU	baz=318			S	Sg	10 38 39.7	+0.3
DUNU	**Dundret**	**0.73**	**228**	*i* P	Pg	10 38 38.5	-0.9
PAJU	**Pajala**	**0.74**	**143**	*i* P	Pg	10 38 38.6	-0.9
KIF	**Kilpisjarvi**	**1.46**	**343**	*e*P	Pn	10 38 51.8	-0.5
KIF				*e*S	Sn	10 39 10.9	-0.9
SGF	**Sodankyl**	**1.76**	**94**	*e*P	Pn	10 38 57.7	+1.2
SGF				*e*S	Sn	10 39 16.1	-3.2

ISCJB ***26*** *10:40:00.7±0.2, 5498N±002×333W±003, h10km, mb3.9/1, Error ellipse: s-maj=2.9km s-min=2.2km az=151.5*
IDC ***26*** *10:40:02.4±2.3, 5509N×366W, h0km, mb4.1/1, mb1 3.7/4, mb1mx3.4/21, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=14.4km s-min=4.0km az=50.0*
CSEM ***26*** *10:40:02.7±0.0, 5509N×368W, h10km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.0km az=79.0*
LDG ***26*** *10:40:02.8±0.1, 5510N×363W, h10km, Ml3.9/21, Error ellipse: s-maj=3.0km s-min=2.3km az=73.0*
BGS ***26*** *10:40:04.0±1.1, 5509N×364W, h8km±5km, ML3.6*
NEIC ***26*** *10:40:04.4, 5509N×363W, h8km, ML3.6(BGS), After BGS.*
NEIC Felt [V] at Dumfries. Felt widely in the Dumfries-Galloway area.
BER ***26*** *10:40:05.2±2.6, 5508N×368W, h15km, MD3.2, ML3.4, ML3.6(BGS)*
SZGRF ***26*** *10:40:06.8, 5539N×330W, h10km, mb4.1, United Kingdom*

ISC 26 10:40:02.4±0.2, 5505N±001×351W±003, h10km, n137, σ1§32/203, mb3.9/1, 21C-7D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWH	**Wardlaw**	**0.15**	**326**	⇑*i*P	**Pg**	**10 40 06.2**	**+0.4**
BCC1	**Chapelcross**	**0.17**	**101**	*e*P	**Pg**	**10 40 09.1**	**+3.1**
BCC1				*e*S	**Sg**	**10 40 12.5**	**+3.9**
GCD	**Castle Douglas**	**0.31**	**234**	⇑*i*P	**Pg**	**10 40 09.4**	**+0.8**
GCD	**Castle Douglas**	**0.31**	**234**	⇑*i*P	**Pg**	**10 40 09.4**	**+0.8**
ESK	3μm,0.3s **Eskdalemuir**	**0.32**	**33**	⇑*i*P	**Pg**	**10 40 10.1**	**+1.4**
ESK				*e*S	**Sg**	**10 40 14.5**	**+1.5**
ESK	comp=E,4μm,0.2s			AML	AML	10 40 15.6	
ESK	comp=N,3μm,0.3s **Eskdalemuir**	**0.32**	**33**	*e*Pg	**Pg**	**10 40 09.9**	**+1.2**
ESK				P		10 40 10.1	
ESK				*e*Sg	**Sg**	**10 40 13.8**	**+0.8**
ESK				S	**Sg**	**10 40 14.5**	**+1.5**
ESK	**Eskdalemuir**	**0.32**	**33**	*e*Pg	**Pg**	**10 40 09.9**	**+1.2**
ESK	**Eskdalemuir**	**0.32**	**33**	⇑*i*P	**Pg**	**10 40 10.1**	**+1.4**
BBO1	SNR=103 **Bothel**	**0.35**	**154**	⇓*i*P	**Pg**	**10 40 12.5**	**+3.2**
EKA	**Eskdalemuir Ar**	**0.35**	**35**	Pg	**Pg**	**10 40 09.6**	**+0.3**
EKA	comp=N,125nm,0.3s,baz=228,slow=18,SNR=1912			Lg		10 40 15.2	
CKE	comp=N,186nm,0.3s,baz=230,slow=36,SNR=36 **Keswick**	**0.52**	**153**	⇓*i

EDI AML AML 10 40 35.6
comp=E,5µm,0.4s
EDI AML AML 10 40 35.7
comp=N,3µm,0.6s
EDI Edinburgh 0.90 12 P **Pg 10 40 20.4 +0.8**
EDI S **Sg 10 40 31.5 +0.2**
GIM North Isle of 0.94 217⇑ *i*P **Pg 10 40 21.2 +0.7**
GIM *e*S **Sg 10 40 33.8 +1.1**
PGBU Glenifferbraes 0.95 324⇓ *i*P **Pg 10 40 20.3 -0.3**
PGBU *e*S **Sg 10 40 31.8 -1.1**
PGBU *e*S **Sg 10 40 31.8 -1.1**
PGBU AML AML 10 40 34.8
comp=E,2µm,0.3s
PGBU AML AML 10 40 34.8
comp=N,2µm,0.3s
ESY Stoneypath 1.01 30⇑ *e*P **Pg 10 40 22.4 +0.6**
WIM Isle of Man 1.13 217 *e*P **Pb 10 40 24.3 +0.3**
EBH Black Hill 1.20 360⇑ *e*P **Pn 10 40 25.4 +0.2**
EBH Black Hill 1.20 360 P **Pn 10 40 25.2 -0.1**
EBH P 10 40 25.4
EBH Black Hill 1.20 360 P **Pn 10 40 25.2 0.0**
GMK Mull of Kintyr 1.23 285⇓ *i*P **Pn 10 40 25.0 -0.6**
GMK *e*S **Sb 10 40 39.7 -2.0**
EAB Aberfoyle 1.24 338⇓ *e*P **Pn 10 40 25.4 -0.3**
EAB Aberfoyle 1.24 338 P **Pn 10 40 25.4 -0.3**
ELO Logie Almond 1.43 355⇑ *e*P **Pn 10 40 28.6 +0.2**
GCL Cushendall 1.51 272 *e*P **Pn 10 40 28.8 -0.7**
EDU Dundee 1.53 10 *e*P **Pn 10 40 30.1 +0.4**
GMM Mts of Mourne 1.64 241 *e*P **Pn 10 40 30.9 -0.3**
LDU Leeds Universi 1.69 137 *e*P **Pn 10 40 34.9 +2.9**
LDU *e*S **Sn 10 40 58.6 +5.0**
LDU AML AML 10 41 05.5
comp=Z,597nm,0.4s
LDU Leeds Universi 1.69 137 P **Pn 10 40 34.9 +2.9**
LDU S **Sn 10 40 58.6 +5.0**
WCB1 Church Bay 1.78 200 *e*P **Pn 10 40 33.6 +0.4**
LHO Holmfirth 1.79 147⇑ *e*P **Pn 10 40 35.1 +1.8**
YRC Rhoscolyn 1.91 200 *e*P **Pn 10 40 35.4 +0.5**
YRE Yr Eifl 2.14 195 *e*P **Pn 10 40 38.9 +0.7**
KAR1 Arisaig 2.28 326 *e*P **Pn 10 40 39.9 -0.2**
comp=Z,274nm,0.6s
HLM1 Long Mynd 2.56 171 *e*P **Pn 10 40 45.4 +1.4**
HLM1 Long Mynd 2.56 171 *e*P **Pn 10 40 45.3 +1.4**
KPL Plockton 2.59 333 *e*P **Pn 10 40 44.4 +0.1**
KPL *e*S **Sn 10 41 13.1 -2.8**
KPL AML AML 10 41 22.2
comp=E,347nm,0.6s
KPL AML AML 10 41 29.0
comp=N,274nm,0.6s
KPL Plockton 2.59 333 P **Pn 10 40 44.4 +0.1**
KPL S **Sn 10 41 13.1 -2.8**
KAC Achnashellach 2.65 339 *e*P **Pn 10 40 45.0 -0.2**
HTR Trewern Hill 2.98 177 *e*P **Pn 10 40 51.5 +1.8**
MCH1 Michaelchurch 3.07 174 P **Pn 10 40 52.8 +1.8**
MCH1 AML AML 10 41 45.7
comp=N,139nm,0.6s
MCH1 AML AML 10 41 46.0
comp=N,135nm,0.4s
MCH1 Michaelchurch 3.07 174 *e*P **Pn 10 40 52.7 +1.7**
MCH1 *e*P 10 40 52.8
MCH1 AML AML 10 41 45.7
comp=N,139nm,0.6s
MCH1 AML AML 10 41 46.0
comp=E,135nm,0.4s
MCH1 Michaelchurch 3.07 174 *e*P **Pn 10 40 52.7 +1.7**
MCH1 *e*P 10 40 52.8
MCH1 AML AML 10 41 45.7
comp=N,139nm,0.6s
MCH1 AML AML 10 41 46.0
comp=E,135nm,0.4s
MCH1 Michaelchurch 3.07 174 *e*P **Pn 10 40 52.7 +1.7**
MCH1 *e*P 10 40 52.8
MCH1 AML AML 10 41 45.7
comp=N,139nm,0.6s
MCH1 AML AML 10 41 46.0
comp=E,135nm,0.4s
MCH1 Michaelchurch 3.07 174 *e*P **Pn 10 40 52.7 +1.7**
comp=E,135nm,0.4s
WOL Wolverton 3.99 159 *e*P **Pn 10 41 05.7 +2.2**
HTL Hartland 4.10 189 *e*P **Pn 10 41 06.8 +1.6**
VAL Valentia 5.09 235 *e*P **Pn 10 41 18.6 0.0**
LRW Lerwick 5.25 13 *e*P **Pn 10 41 19.5 -1.4**
KMY Karmoy 6.33 45 *e*P **Pn 10 41 35.6 -0.1**
KMY *e*S **Sn 10 42 45.0 -3.2**
SNF Seneffe 6.56 131 P **Pn 10 41 42.1 +3.2**
SNF Seneffe 6.56 131 P **Pn 10 41 42.0 +3.2**
FLN La Foliniere 6.57 162 *e*Pn **Pn 10 41 38.0 -1.0**
baz=346
FLN *e*Sn **Sn 10 42 50.1 -3.8**
ROSF Rostrenen 6.72 179 *e*Pn **Pn 10 41 41.1 0.0**
ROSF *e*Sn **Sn 10 42 52.6 -5.2**
comp=E,13nm,0.3s
SNART Snartemo 6.76 56 *e*P **Pn 10 41 41.2 -0.4**
SNART *e*S **Sn 10 42 54.6 -4.1**
LDF La Druitiere 6.80 161 *e*Pn **Pn 10 41 41.5 -0.6**
LDF *e*Sn **Sn 10 42 54.1 -5.4**
SGMF Saint Gilles 6.83 175 *e*Pn **Pn 10 41 42.8 +0.2**
SGMF *e*Sn **Sn 10 42 55.4 -5.0**
comp=E,11nm,0.5s
BAIF Baives 6.86 134 *e*Pn **Pn 10 41 43.6 +0.6**
SNR=1.0
BAIF *e*Sn **Sn 10 42 57.2 -3.9**
SNR=1.0
BAIF *e*Sg **Sg 10 43 39.8 -2.8**
comp=E,72nm,1.1s
GRR Gorron 6.87 165 *e*Pn **Pn 10 41 42.3 -0.8**
SNR=1.0
GRR *e*Sn **Sn 10 42 55.5 -5.9**
WTSB Winterswijk 6.88 112 *e*Pn **Pn 10 41 46.7 +3.5**
comp=E,11nm,0.7s
WTSB *e*Sn **Sn 10 42 59.4 -2.2**
WTSB Winterswijk 6.88 112 *e*Pn **Pn 10 41 46.7 +3.4**
comp=E,11nm,0.7s
BLS5 Blasjo 6.96 47 *e*P **Pn 10 41 45.2 +0.9**
BLS5 *e*S **Sn 10 43 00.2 -3.3**
DOU Dourbes 7.00 132 P **Pn 10 41 46.1 +1.3**
EGD Espegrend 7.02 38 *e*P **Pn 10 41 44.9 -0.3**
BCLA Clavier 7.08 127 P **Pn 10 41 47.4 +1.5**
GIVF Givet 7.09 131 *e*P **Pn 10 41 50.2 +4.0**
GIVF *e*Sn **Sn 10 43 02.3 -4.5**
SNR=1.0
GIVF *e*Sg **Sg 10 43 47.3 -2.6**
comp=E,58nm,0.8s
GIVF Givet 7.09 131 *e*Pn **Pn 10 41 45.4 -0.8**
GIVF *e*P 10 41 50.2
GIVF *e*Sn **Sn 10 43 02.3 -4.5**
GIVF *e*Sg **Sg 10 43 47.3 -2.6**
GIVF Givet 7.09 131 *e*P **Pn 10 41 50.2 +4.0**
HGN Heimansgroeve 7.14 123 *e*Pn **Pn 10 41 48.2 +1.4**
comp=E,6.8nm,0.3s,baz=290
HGN *e*Sn **Sn 10 43 03.7 -4.3**
QUIF Quistinic 7.15 178 *e*Pn **Pn 10 41 46.0 -0.9**
QUIF *e*Sn **Sn 10 43 02.9 -5.3**
comp=E,14nm,0.4s
ASK Askoy 7.16 37 *e*P **Pn 10 41 45.8 -1.3**
RUND Rundenannen 7.17 38 *e*P **Pn 10 41 49.1 +1.8**
IBBN Ibbenburen 7.23 108 *e*Pn **Pn 10 41 52.2 +4.1**
MEM Membach 7.28 124 P **Pn 10 41 49.8 +1.1**
ODD1 Odda 7.32 44 *e*P **Pn 10 41 49.5 +0.2**
BUG Bochum--Univer 7.41 115 *e*Pn **Pn 10 41 54.6 +4.1**
BUG *e*Sn **Sn 10 43 14.1 -0.5**
HYA Hoyanger 7.99 36 *e*P **Pn 10 41 58.6 +0.1**
HYA *e*S **Sn 10 43 24.0 -4.9**
HYA Hoyanger 7.99 36 *e*P **Pn 10 41 57.9 -0.6**
HYA *e*S **Sn 10 43 24.0 -4.9**
WLF Walferdange 8.00 128 *e*Sn **Sn 10 43 32.0 +2.9**
WLF Walferdange 8.00 128 P **Pn 10 41 55.2 -3.5**
BSEG Bad Segeberg 8.13 92 *e*Pn **Pn 10 42 02.0 +1.6**
BSEG *e*Sn **Sn 10 43 29.2 -3.1**
MEZF Maizieres J'vi 8.43 138 *e*Pn **Pn 10 42 05.6 +1.1**
baz=310,SNR=1.0
MEZF *e*Sn **Sn 10 43 32.2 -7.5**
comp=E,11nm,0.4s
KONO Kongsberg 8.45 52 *e*Pn **Pn 10 42 01.9 -2.9**
KONO *e*Sn **Sn 10 43 32.4 -7.8**
NRDL Niedersach Rie 8.46 102 *e*Pn **Pn 10 42 07.6 +2.6**
SFTF Sexfontaines 8.67 139 *e*Pn **Pn 10 42 08.9 +1.1**
baz=316
SFTF *e*Sn **Sn 10 43 40.6 -5.0**
HYF Humbligny 8.69 151 *e*Sn **Sn 10 43 40.2 -6.0**
MFF Saint Martin d 8.72 165 *e*Pn **Pn 10 42 07.3 -1.2**
MFF *e*Sn **Sn 10 43 40.3 -6.6**
comp=E,7.3nm,0.5s
TNS Taunus Mts 8.73 119 *e*Pn **Pn 10 42 12.3 +3.7**
CLZ Clausthal 8.88 105 *e*Pn **Pn 10 42 12.6 +1.8**
CLZ *e*Sn **Sn 10 43 50.1 -0.8**
LOR Lormes 9.06 146 *e*Pn **Pn 10 42 11.8 -1.3**
baz=333
LOR *e*Sn **Sn 10 43 49.1 -6.0**
comp=E,6.2nm,0.4s,SNR=1.0
SSF Saint Saulge 9.13 148 *e*Pn **Pn 10 42 13.8 -0.4**
SNR=1.0
SSF *e*Sn **Sn 10 43 51.1 -5.9**
comp=E,5.9nm,0.5s,SNR=1.0
AVF Avril sur Loir 9.33 150 *e*Pn **Pn 10 42 17.4 +0.5**
SNR=1.0
AVF *e*Sn **Sn 10 43 53.6 -8.3**
comp=E,3.4nm,0.4s,SNR=1.0
HAU Haudompre 9.35 135 *e*Pn **Pn 10 42 16.6 -0.5**
SNR=1.0
HAU *e*Sn **Sn 10 43 55.7 -6.5**
comp=E,6.0nm,0.3s
BGF Bois d'Agland 9.40 152 *e*Pn **Pn 10 42 17.8 -0.1**
BGF *e*Sn **Sn 10 43 54.1 -9.5**
comp=E,17nm,0.4s,SNR=1.0
CDF Champ du Feu 9.42 130 *e*Pn **Pn 10 42 18.6 +0.4**
SNR=1.0
TCF Toulx Ste Croi 9.49 155 *e*Pn **Pn 10 42 18.3 -0.8**
TCF *e*Sn **Sn 10 43 59.3 -6.5**
comp=E,8.8nm,0.6s
NAO01 NORSAR Array S 9.59 47 *e*Pn **Pn 10 42 16.7 -3.9**
NAO01 *e*Sn **Sn 10 43 57.4 -11**
SMF Signal de Mont 9.61 148 *e*Pn **Pn 10 42 17.5 -3.2**
SMF *e*Sn **Sn 10 44 01.9 -6.7**
comp=E,3.1nm,0.4s
HINF Hinteralfeld 9.70 134 *e*Pn **Pn 10 42 21.0 -1.0**
SNR=1.0
HINF *e*Sn **Sn 10 44 04.6 -6.4**
comp=E,3.8nm,0.3s
NOA NORSAR Array B 9.83 46 Pn **Pn 10 42 22.0 -1.7**
comp=E,0.2nm,0.3s,baz=240,slow=12,SNR=2.8
NOA Sn **Sn 10 44 09.5 -4.7**
comp=E,0.2nm,0.3s,baz=65,slow=13,SNR=2.6
MOX Moxa 10.15 110 *e*Pn **Pn 10 42 30.8 +2.7**
RJF Les Rejaudoux 10.27 160 *e*Pn **Pn 10 42 28.8 -1.0**
SNR=1.0
RJF *e*Sn **Sn 10 44 17.9 -7.0**
comp=E,9.5nm,0.4s
CABF La Chapelle 10.39 140 *e*Pn **Pn 10 42 31.9 +0.5**
SNR=1.0
CABF *e*Sn **Sn 10 44 20.7 -7.2**
comp=E,2.8nm,0.3s,SNR=1.0
GRA1 Grafenberg Arr 10.47 115 *e*Pn **Pn 10 42 36.9 +4.3**
GRF Grafenberg Arr 10.47 115 *e*Pn **Pn 10 42 36.9 +4.3**
GRFO Grafenberg 10.47 115 *e*Pn **Pn 10 42 37.1 +4.5**
LFF La Frestale 10.48 163 *e*Pn **Pn 10 42 31.4 -1.3**
HFS Hagfors 10.53 54 Pn **Pn 10 42 32.2 -1.2**
comp=E,0.1nm,0.3s,baz=245,slow=14,SNR=4.2
HFS Sn **Sn 10 44 25.8 -5.5**
comp=E,0.4nm,0.3s,baz=238,slow=21,SNR=4.2
CAF Calviac 10.74 158 *e*Pn **Pn 10 42 35.4 -0.9**
SNR=1.0
CAF *e*Sn **Sn 10 44 28.7 -7.9**
comp=E,11nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 11.47 149 *e*Pn **Pn 10 42 45.7 -0.5**
VIVF *e*Sn **Sn 10 44 46.8 -7.6**
comp=E,2.0nm,0.3s
LPL La Plagne 11.56 141 *e*Pn **Pn 10 42 46.8 -0.6**
SNR=1.0
LPG La Plagne 11.58 141 *e*Pn **Pn 10 42 47.7 0.0**
ORIF Oris-en-Rattie 11.79 145 *e*Pn **Pn 10 42 50.0 -0.6**
KHC Kasperske Hory 12.05 112 *e*P **Pn 10 43 01.0 +6.9**
MBDF Montbardon 12.26 143 *e*Pn **Pn 10 42 56.0 -1.0**
GEC2 GERESS Array S 12.28 113 *e*Pn **Pn 10 43 01.3 +4.0**
GEC2 GERESS Array S 12.28 113 *e*Pn **Pn 10 43 01.3 +4.0**
GERES GERESS Array B 12.28 113 Pn **Pn 10 43 00.9 +3.5**
comp=E,0.7nm,0.3s,baz=300,slow=14,SNR=23
EPF Esparros 12.29 167 *e*Pn **Pn 10 42 56.4 -1.0**
MTLF Montolieu 12.29 160 *e*Pn **Pn 10 42 56.3 -1.2**
MTLF *e*Sn **Sn 10 45 05.6 -9.0**
comp=E,1.4nm,0.3s
ETSF Etsaut 12.31 170 *e*Pn **Pn 10 42 56.4 -1.3**
FINES FINESS Array B 16.73 56 P **Pn 10 43 56.9 +0.1**
comp=E,0.1nm,0.3s,baz=266,slow=11,SNR=4.1
BRTR Keskin Array B 29.03 106 P **P 10 46 05.8 +3.2**
comp=E,2.8nm,1.1s,mb3.9,baz=343,slow=9.5,SNR=3.8

NEIC ***26*** *10:39:59.7±0.4, 46.96N×152.92E, h10km, mb4.9/9, Error ellipse: s-maj=12.2km s-min=8.4km az=136.0*
BJI ***26*** *10:39:59.9, 47.00N×152.90E, h12km, mB4.6, mb4.4*
NIED ***26*** *10:40:00, 47.00N×153.20E, h35km, Mw4.2 Best double couple: M0=2.50000×10^15 NP1:φ=132.00000°, δ=88.00000°, λ=-23.00000°. NP2:φ=223.00000°, δ=67.00000°, λ=-177.00000°.*
JMA ***26*** *10:40:01.9±0.7, 46.98N×153.22E, h30km, M4.7*
SZGRF ***26*** *10:40:02.0, 46.44N×152.71E, h33km, mb4.9, Kuril Islands, Russia*
SKHL ***26*** *10:40:03.6±1.4, 46.60N×153.30E, h75km±12km, mb5.0/4, ms3.9/1*
MOS ***26*** *10:40:03.8±1.0, 46.86N×153.07E, h59km, mb5.0/7, Error ellipse: s-maj=11.0km s-min=7.5km az=101.2*
ISCJB ***26*** *10:40:05.4±0.9, 46.57N±0.07×152.95E±0.09, h82km±8km, mb4.3/28, Error ellipse: s-maj=14.6km s-min=6.6km az=98.8*
IDC ***26*** *10:40:05.1±0.6, 46.92N×152.79E, h52km±5km, mb4.0/19, mb1 4.2/20, mb1mx4.1/25, mbtmp4.0/20, MS3.6/4, Ms1 3.6/4, ms1mx2.9/34, Error ellipse: s-maj=17.4km s-min=12.2km az=125.0*
ISC 26 10:40:06.7±0.8, 46.67N±0.07×152.94E±0.09, h78km±6km, h55km±3.3km; pP-P, n114, σ1.9 34/126, mb4.3/28, 8C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**250**⇑	*i*PN		**Pn**	**10 41 04.5**	**+1.4**
KUR				*e*S		**Sn**	**10 41 50.0**	**+3.2**
KUR				pmax		pmax		
	comp=Z,150nm,0.7s							
KUR				smax				
	comp=N,400nm,0.5s							
KUR				smax				
	comp=E,250nm,0.5s							
KUR	**Kuril'sk**	**3.82**	**250**	*i* P		**Pn**	**10 41 04.5**	**+1.4**
KUR				AMB		AMB	10 41 05.0	
	comp=E,150nm,0.7s							
KUR				*e*S		**Sn**	**10 41 50.0**	**+3.2**
KUR				A			10 42 05.2	
	comp=E,400nm,0.5s							
KUR				A			10 42 05.2	
	comp=E,250nm,0.5s							
SKR	**Severo-Kuril's**	**4.53**	**26**	*e*PN		**Pn**	**10 41 07.5**	**-5.3**
SKR				*e*S		**Sn**	**10 41 54.5**	**-10**
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,310nm,0.5s							
SKR				smax				
	comp=Z,150nm,0.5s							
SKR				smax				
	comp=E,150nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.64**	**245**	*e*PN		**Pn**	**10 41 29.5**	**+1.6**
YUK				*e*S		**Sn**	**10 42 35.5**	**+4.1**
YUK				pmax		pmax		
	comp=Z,350nm,0.3s							
YUK				smax				
	comp=E,390nm,0.5s							
YUK				smax				
	comp=N,320nm,0.4s							
YUK				smax				
	comp=E,2µm,1.0s							
YUK	**Yuzh-Kuril'sk**	**5.64**	**245**	*e*P		**Pn**	**10 41 29.5**	**+1.6**
YUK				AMB		AMB	10 41 31.2	
	comp=E,350nm,0.3s							
YUK				*e*S		**Sn**	**10 42 35.5**	**+4.1**
YUK				A			10 42 50.5	
	comp=E,320nm,0.5s							
YUK				A			10 42 50.5	
	comp=E,390nm,0.5s							
YUK				A			10 42 51.6	
	comp=E,2µm,1.0s							

NEM2 Nemuro 2 6.08 240 P **Pn 10 41 33.3 -0.6**
NEM2 *e*S **Sn 10 42 40.9 -1.1**
JRA Rausu 6.15 246 P **Pn 10 41 36.9 +2.0**
JNK Nakash 6.58 245 P **Pn 10 41 42.0 +1.2**
JNK *e*S **Sn 10 42 56.5 +2.1**
JAK Akkeshi 6.92 241 P **Pn 10 41 44.8 -0.5**
JAK *e*S **Sn 10 43 01.1 -1.4**
JTKR Abashiri--Toko 6.92 250 P **Pn 10 41 47.4 +2.1**
YSS Yuzh-Sakhalins 7.00 276 *e*PN **Pn 10 41 48.0 +1.5**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,500nm,16.0s
JMP Maruseppu 7.26 252 P **Pn 10 41 53.1 +3.1**
JAR Ashorobuto 7.33 246 P **Pn 10 41 52.7 +1.8**
JAR *e*S **Sn 10 43 13.4 +0.9**
PET Petropavlovsk 7.35 28 *e*PN **Pn 10 41 52.1 +0.8**
PET pmax pmax
comp=Z,41nm,0.9s
PET MLR MLR
comp=Z,100nm,20.0s
JOB Onbets 7.49 243 P **Pn 10 41 53.9 +0.7**
JOB *e*S **Sn 10 43 15.6 -1.0**
UGL Uglegorsk 7.70 292 *e*PN **Pn 10 41 57.0 +0.9**
UGL pmax pmax
comp=Z,57nm,0.9s
UGL MLR MLR
comp=N,400nm,16.0s
UGL MLR MLR
comp=E,400nm,16.0s
UGL MLR MLR
comp=Z,500nm,16.0s
JKK2 Kamakawa 2 7.72 252 P **Pn 10 41 59.2 +2.9**
ASAJ Asahikawa 7.72 254 P **Pn 10 41 58.2 +1.9**
comp=Z,2.2nm,0.3s,baz=84,slow=13,SNR=13
ASAJ LR LR 10 44 46.5
comp=Z,221nm,20.9s,baz=174,slow=37
ASAJ Asahikawa 7.72 254 P **Pn 10 41 59.6 +3.3**
JCH Churui 7.94 243 P **Pn 10 41 59.2 -0.1**
JCH *e*S **Sn 10 43 25.7 -1.9**
JFR Furan 8.14 248 P **Pn 10 42 04.2 +2.2**
JAB Ashibetsu 8.22 251 P **Pn 10 42 06.0 +2.9**
JNBK Urakawa-nobuka 8.50 243 P **Pn 10 42 06.3 -0.7**
JNBK *e*S **Sn 10 43 38.2 -3.1**
JNB Noboribetsu 9.47 248 P **Pn 10 42 20.1 -0.2**
JNB *e*S **Sn 10 44 03.4 -1.7**
JKB Kayabe 9.79 245 P **Pn 10 42 23.7 -0.8**
JKB *e*S **Sn 10 44 08.1 -4.5**
JSH Shimam 10.03 251 P **Pn 10 42 28.8 +1.0**
JYM2 Yakumo 2 10.08 248 P **Pn 10 42 28.1 -0.4**
JTM Tenmabayashi 10.41 240 P **Pn 10 42 30.4 -2.6**
JTM *e*S **Sn 10 44 20.4 -7.4**
JANG Nango 10.41 237 P **Pn 10 42 30.1 -2.9**
JANG *e*S **Sn 10 44 19.3 -8.5**
JTH Tanohata 10.50 234 P **Pn 10 42 32.4 -1.9**
JTH *e*S **Sn 10 44 21.5 -8.6**
JOSM Okushiri--Mats 10.67 249 P **Pn 10 42 36.3 -0.3**
OFUJ Ofunato 11.21 231 P **Pn 10 42 41.1 -2.9**
OFUJ *e*S **Sn 10 44 38.2 -9.3**
JRG Rokugo 11.56 235 P **Pn 10 42 47.1 -1.6**
JRG *e*S **Sn 10 44 48.8 -7.2**
JIO Ouri 11.84 230 P **Pn 10 42 50.4 -2.1**
JIO *e*S **Sn 10 44 54.4 -8.3**
MA2 Magadan 12.99 355 *e*PN **Pn 10 43 05.4 -2.7**
MA2 pmax pmax
comp=N,4.0nm,0.4s
MA2 pmax pmax
comp=Z,6.0nm,0.4s
KLR Kul'dur 14.43 288 *e*P **Pn 10 43 26.1 -0.8**
MJAR Matsushiro Arr 14.94 233 P **Pn 10 43 32.8 -0.7**
comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=5.2
CLNS Chul'man 19.98 311 *e*P **Pn 10 44 32.9 -2.2**
CLNS pmax pmax
comp=Z,10.0nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS MLR MLR
comp=Z,200nm,14.0s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,600nm,11.0s
YAK Yakutsk 20.33 328 *e*P **P 10 44 39.3 +2.8**
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.3s
KSRS Korea Array 20.66 253 P **P 10 44 41.5 +1.4**
comp=E,2.9nm,0.8s,baz=52,slow=11,SNR=10
KSRS PcP PcP 10 48 45.4 -1.9
comp=E,1.2nm,0.9s,baz=71,slow=0.8,SNR=2.8
JNU Nakatsue 21.58 239 LR LR 10 53 14.7
comp=E,192nm,18.3s,baz=82,slow=36
SONM Songino Array 31.25 289 P **P 10 46 18.3 -0.5**
comp=E,0.4nm,0.8s,mb3.2,baz=55,slow=7.6,SNR=2.6
SONM LR LR 10 59 34.7
comp=E,122nm,19.1s,baz=175,slow=38
IMA2 Indian Mountai 33.94 36 *e*P **P 10 46 42.0 -0.4**
XAN Xi'an 35.39 265 P **P 10 46 55.5 +0.6**
XAN AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
INK Inuvik 41.78 32 P **P 10 47 48.1 -0.3**
comp=Z,4.9nm,0.7s,mb4.3,baz=286,slow=6.9,SNR=34
INK pP pP 10 48 00.6 -6.6
comp=Z,3.1nm,0.7s,baz=290,slow=9.9,SNR=5.8
ZAL Zalesovo 42.58 306 PcP PcP 10 49 45.8 -0.1
comp=Z,0.9nm,0.7s,baz=42,slow=2.5,SNR=5.5
MKAR Makanchi Array 46.88 297 P **P 10 48 28.1 -0.9**
comp=Z,1.1nm,0.7s,mb3.7,baz=60,slow=6.3,SNR=10
MKAR PcP PcP 10 50 00.3 -0.4
comp=Z,1.0nm,0.8s,baz=64,slow=4.5,SNR=4.3
BVAR Borovoye Array 50.82 309 P **P 10 48 58.6 -0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=66,slow=12,SNR=4.3
BVAR PcP PcP 10 50 15.0 0.0
comp=Z,1.0nm,0.4s,baz=82,slow=3.1,SNR=6.0
BVAR LR LR 11 12 17.7
comp=Z,98nm,18.1s,baz=38,slow=38
BVAR Borovoye Array 50.82 309 P **P 10 48 58.6 -0.6**
BVAR 10 50 15.0
YKA Yellowknife Ar 51.06 37 P **P 10 49 00.8 -0.2**
comp=Z,3.3nm,0.8s,mb4.4,baz=296,slow=7.1,SNR=50
YKA pP pP 10 49 15.2 -5.2
comp=Z,2.6nm,0.6s,baz=298,slow=7.2,SNR=16
YKA PcP PcP 10 50 15.8 0.0
comp=Z,0.9nm,0.8s,baz=304,slow=3.8,SNR=5.6
YKA Yellowknife Ar 51.06 37 P **P 10 49 00.8 -0.2**
YKA pP pP 10 49 15.2 -5.2
YKA PcP PcP 10 50 15.8 0.0
KKN Kakani 55.38 275 *e*P **P 10 49 35.7 +3.0**
DMN Daman 55.61 275 *e*P **P 10 49 36.6 +2.2**
comp=Z,20nm,0.7s,mb5.2
GKN Gorkha 55.68 276 *e*P **P 10 49 37.0 +2.1**
comp=Z,20nm,0.8s,mb5.2
KOLN Koldanda 56.54 276 *e*P **P 10 49 43.2 +2.2**
ARCES ARCESS Array B 57.89 341 P **P 10 49 49.2 -1.3**
comp=Z,2.9nm,0.8s,mb4.3,baz=28,slow=6.2,SNR=5.0
JOF Joensuu 61.35 334 *e*p **P 10 50 10.5 -3.8**
comp=Z,0.4nm,0.3s,mb3.9
KAF Kangasniemi 63.47 335 *e*p **P 10 50 26.8 -1.6**
comp=Z,0.5nm,0.3s,mb3.9,baz=38,slow=6.1
KAF Kangasniemi 63.47 335 *e*P **P 10 50 26.8 -1.6**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
FINES FINESS Array B 64.06 335 P **P 10 50 31.0 -1.3**
comp=Z,3.2nm,0.4s,mb4.5,baz=41,slow=7.6,SNR=33
PDAR Pinedale Array 64.89 54 P **P 10 50 38.8 +1.1**
comp=Z,2.9nm,0.8s,mb4.2,baz=294,slow=1.7,SNR=22
PDAR pP pP 10 50 53.0 -4.7
comp=Z,1.0nm,0.9s,baz=296,slow=2.1,SNR=4.6
ULM Lac du Bonnet 66.66 41 P **P 10 50 48.6 -0.4**
comp=Z,1.2nm,0.6s,mb3.9,baz=304,slow=7.4,SNR=4.2
NB2 NORSAR Subarra 68.27 341 P **P 10 50 57.6 -1.6**
comp=Z,4.0nm,0.6s,mb4.4,baz=28,slow=6.5
NOA NORSAR Array B 68.27 341 P **P 10 50 58.2 -1.1**
comp=Z,8.4nm,0.8s,mb4.6,baz=27,slow=6.3,SNR=18
WRA Warramunga Arr 68.40 199 P **P 10 51 01.6 +1.6**
comp=Z,0.9nm,0.9s,mb3.6,baz=17,slow=6.7,SNR=4.4
WRA pP pP 10 51 16.4 -3.9
comp=Z,1.5nm,0.8s,baz=21,slow=6.8,SNR=6.5
HFS Hagfors 68.49 339 P **P 10 50 59.3 -1.3**
comp=Z,8.3nm,0.5s,mb4.9,baz=53,slow=5.7,SNR=41

AKASG Malin Array Be 71.55 326 P **P 10 51 17.9 -1.4**
comp=Z,5.4nm,0.3s,mb4.8,baz=34,slow=6.2,SNR=19
ASAR Alice Springs 72.09 198 P **P 10 51 26.3 +3.7**
comp=Z,1.3nm,0.7s,mb3.8,baz=11,slow=5.3,SNR=18
ASAR pP pP 10 51 40.0 -3.0
comp=Z,1.6nm,0.5s,baz=12,slow=5.4,SNR=9.0
STHS Stebnicka Huta 75.53 300 *e*PKP **P 10 51 43.2 +0.5**
KOLS Kolonicke sedl 75.57 329 *e*PKP **P 10 51 42.9 0.0**
BURAR Bucovina Array 75.59 326 ⇓*i*P **P 10 51 43.1 +0.1**
UPC Upice 76.30 333 *e*P **P 10 51 46.7 -0.4**
DPC Dobruska-Polom 76.34 333 *e*P **P 10 51 47.0 -0.3**
CLL Collm 76.49 335 *i* P **P 10 51 47.1 -1.0**
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CLL Collm 76.49 335 *i* P **P 10 51 47.1 -1.0**
comp=Z,9.0nm,1.0s,mb4.5
KECS Kecovo 76.58 330 *e*PKP **P 10 51 48.0 -0.7**
KECS *e* pP 10 52 07.1 -2.2
MLR Muntele Rosu 77.06 325 P **P 10 51 52.6 +1.2**
comp=Z,7.0nm,0.8s,mb4.5,baz=179,slow=5.6,SNR=6.0
MLR Muntele Rosu 77.06 325 ⇑P **P 10 51 51.9 +0.6**
MLR Muntele Rosu 77.06 325 ⇑*i*P **P 10 51 51.9 +0.5**
MALT Malatya 77.12 313 ⇑*i*P **P 10 51 54.1 +2.4**
VYHS Vyhne 77.14 331 *e*PKP **P 10 51 51.4 -0.4**
VRAC Vranov 77.17 332 P **P 10 51 52.0 0.0**
comp=Z,3.4nm,0.6s,mb4.3,baz=46,slow=6.5,SNR=5.8
VRAC Vranov 77.17 332 P **P 10 51 52.0 +0.1**
VRAC pmax pmax
comp=Z,3.0nm,0.6s
VRAC Vranov 77.17 332 ⇑*i*P **P 10 51 52.6 +0.7**
PRU Pruhonice 77.21 334 *e*P **P 10 51 51.9 -0.3**
PSZ Piszkesteto 77.27 330 ⇑*i*P **P 10 51 52.7 +0.2**
VOIR 77.46 325 ⇑*i*P **P 10 51 54.5 +0.9**
KHC Kasperske Hory 78.26 334 *e*P **P 10 51 58.1 +0.1**
KHC pP PcP 10 52 02.0 -5.2
BRTR Keskin Array B 78.37 317 P **P 10 51 59.5 +0.9**
comp=Z,1.7nm,0.8s,mb3.8,baz=37,slow=5.1,SNR=4.8
GRA1 Grafenberg Arr 78.45 336 *e*P **P 10 51 58.8 -0.2**
comp=Z,13nm,1.1s,mb4.6
GRF Grafenberg Arr 78.45 336 *e*P **P 10 51 58.8 -0.2**
comp=Z,13nm,1.1s,mb4.6
GRF Grafenberg Arr 78.45 336 *e*P **P 10 51 58.8 -0.2**
GRF pmax pmax
comp=Z,13nm,1.1s,mb4.6
GRF Grafenberg Arr 78.45 336 *e*P **P 10 51 58.8 -0.2**
GRF pmax pmax
comp=Z,13nm,1.1s,mb4.6
GERES GERESS Array B 78.48 334 P **P 10 51 59.0 -0.2**
comp=Z,1.5nm,0.7s,mb3.8,baz=29,slow=4.9,SNR=13
GERES GERESS Array B 78.48 334 P **P 10 51 59.0 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.7s
BZS Buzias 78.62 327 ⇑*i*P **P 10 51 59.8 -0.2**
VTS Vitosha 80.57 325 ⇓*i*P **P 10 52 11.3 +0.7**
CDF Champ du Feu 80.69 338 *e*P **P 10 52 11.0 -0.2**
comp=Z,16nm,1.1s,mb4.5
CDF Champ du Feu 80.69 338 *e*P **P 10 52 11.0 -0.2**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
CDF Champ du Feu 80.69 338 *e*P **P 10 52 11.0 -0.2**
comp=Z,8.3nm,1.1s,mb4.5
PMOR Pomariorio Ree 81.11 123 *e*T 12 21 40.1
comp=Z,7.6nm,0.2s
PPT Papeete 82.20 126 *e*LR LR 11 18 21.6
comp=Z,61nm,25.8s
GRR Gorron 82.61 343 *e*P **P 10 52 21.0 -0.3**
SMF Signal de Mont 83.20 339 *e*P **P 10 52 24.5 +0.1**
comp=Z,18nm,1.1s,mb4.5
SMF Signal de Mont 83.20 339 *e*P **P 10 52 24.5 +0.1**
SMF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
SMF Signal de Mont 83.20 339 *e*P **P 10 52 24.5 +0.1**
comp=Z,9.3nm,1.1s,mb4.5
LPG La Plagne 83.51 337 *e*P **P 10 52 27.0 +1.0**
comp=Z,18nm,1.2s,mb4.5
LPG La Plagne 83.51 337 *e*P **P 10 52 27.0 +1.0**
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
LPG La Plagne 83.51 337 *e*P **P 10 52 27.0 +1.0**
comp=Z,8.8nm,1.2s,mb4.5
CAF Calviac 85.24 340 *e*P **P 10 52 34.3 -0.4**
TBI Tubuai 86.94 129 *e*T 12 28 59.6
comp=Z,7.3nm,0.2s
PLCA Paso Flores 148.32 95 PKPbc PKPbc 10 59 45.4 +1.5
comp=Z,2.1nm,0.8s,baz=248,slow=4.5,SNR=3.0
PLCA Paso Flores 148.32 95 PKPbc PKPbc 10 59 45.4 +1.5
SNAA Sanae 152.44 196 PKPbc PKPbc 10 59 54.1 +0.3
comp=Z,0.2nm,0.6s,baz=252,slow=6.4,SNR=5.2

*IDC **26** 10:51:03.4±7.4, 5738S×2587W, h88km±66km, mb3.9/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.6/1, MS3.3/1, Ms1 3.2/1, ms1mx2.5/19, Error ellipse: s-maj=36.1km s-min=26.4km az=74.0*

NEIC 26 10:50:56.4±0.7, 5720S×2580W, h30km, Error ellipse: s-maj=23.6km s-min=16.7km az=77.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.37**	**156**	P	Pn	10 54 56.9	+0.4
	0.2nm,0.3s,baz=315,slow=14,SNR=13						
PMSA	**Palmer Station**	**19.76**	**232**	*e*P	Pn	10 55 23.7	-1.7
	91nm,0.7s						
VNDA	**Vanda**	**45.45**	**182**	P	P	10 59 11.8	-0.7
	2.1nm,0.6s,baz=178,slow=5.4,SNR=14						
BOSA	**Boshof**	**45.53**	**73**	LR	LR	11 13 51.4	
	comp=Z,42nm,21.9s,baz=51,slow=30						
LPAZ	**La Paz**	**51.67**	**304**	P	P	11 00 02.3	+2.0
	2.1nm,0.5s,baz=134,slow=6.6,SNR=7.7						
TORD	**Torodi Ar. Bea**	**73.70**	**28**	P	P	11 02 28.8	+1.6
	1.7nm,0.6s,baz=199,slow=6.5,SNR=17						
PDAR	**Pinedale Array**	**121.60**	**301**	PKP	PKPdf	11 09 44.6	-2.4
	0.2nm,0.6s,baz=157,slow=4.9,SNR=3.2						
AHID	**Auburn Hatcher**	**122.33**	**300**	*e*PKPdf	PKPdf	11 09 46.4	-2.0
FINES	**FINESS Array B**	**125.05**	**27**	PKP	PKPdf	11 09 52.0	-1.6
	1.5nm,0.8s,baz=202,slow=1.5,SNR=3.1						
FINES	**FINESS Array B**	**125.05**	**27**	PKP	PKPdf	11 09 52.0	-1.6
YKA	**Yellowknife Ar**	**137.54**	**317**	PKP	PKPdf	11 10 15.4	-1.8
	0.7nm,0.5s,baz=130,slow=2.0,SNR=31						
INK	**Inuvik**	**147.18**	**319**	PKPbc	PKPbc	11 10 34.8	-1.7
	1.7nm,0.4s,baz=101,slow=3.6,SNR=34						
SONM	**Songino Array**	**150.02**	**87**	PKPbc	PKPbc	11 10 42.3	-1.6
	0.9nm,0.6s,baz=230,slow=3.2,SNR=9.2						

*NIED **26** 10:55:00, 3770N×14190E, h41km, Mw4.3 Best double couple: M0=2.87000×10^15 NP1:φ=24.00000°, δ=72.00000°, λ=94.00000°. NP2:φ=191.00000°, δ=19.00000°, λ=77.00000°.*
*BJI **26** 10:55:33.7, 3770N×14157E, h23km, mB4.4, mb4.5*
*ISCJB **26** 10:55:34.6±0.8, 3775N±003×14193E±007, h45km±6km, mb4.2/17, Error ellipse: s-maj=10.3km s-min=4.9km az=38.2*
*JMA **26** 10:55:35.6±0.1, 3776N×14183E, h40km±2km, M4.1 Broadband fault plane solution: P waves. NP1: φ=208.00000°, δ=30.00000°, λ=68.00000°. NP2:φ=53.00000°, δ=63.00000°, λ=102.00000°. Principal axes: T Plg70.0000°, Azm349.0000°; N Plg11.0000°, Azm227.0000°; P Plg17.0000°, Azm134.0000°;*
JMA Felt II J1.
*NEIC **26** 10:55:35.7, 3776N×14183E, h40km, MG4.3(JMA), After JMA.*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi and Tochigi Prefectures.
*IDC **26** 10:55:37.9±2.1, 3780N×14195E, h57km±18km, mb3.8/12, mb1 3.9/16, mb1mx3.8/25, mbtmp3.8/16, ML3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=18.5km s-min=11.7km az=111.0*

ISC 26 10:55:36.2±0.8, 3777N±003×14186E±007, h39km±6km, n43, σ0°81/53, mb4.2/17, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.80**	**330**	⇓P	**Pn**	**10 55 50.3**	**-0.6**
JIO				S	**Sn**	**10 56 00.3**	**-1.3**
JMM	**Marumori**	**0.85**	**277**	⇓P	**Pn**	**10 55 51.0**	**-0.7**
JMM				S	**Sn**	**10 56 02.0**	**-0.9**
JFK	**Kawauchi**	**0.88**	**243**	⇓P	**Pn**	**10 55 51.2**	**-0.8**
JFK				S	**Sn**	**10 56 02.3**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.07**	**232**	⇓P	**Pn**	**10 55 54.0**	**-0.7**
ONAJ				S	**Sn**	**10 56 07.0**	**-1.4**
JOU	**Okura**	**1.12**	**303**	⇓P	**Pn**	**10 55 55.1**	**-0.2**
JOU				*e*S	**Sn**	**10 56 09.4**	**-0.1**
JFT	**Otama**	**1.23**	**259**	⇓P	**Pn**	**10 55 57.3**	**+0.4**
JFT				*e*S	**Sn**	**10 56 12.9**	**+0.6**
JMK	**Ichinoseki**	**1.29**	**337**	⇓P	**Pn**	**10 55 57.5**	**-0.2**
JYS	**Shiratake**	**1.49**	**288**	⇓P	**Pn**	**10 56 00.6**	**+0.2**
JYK	**Kaneyama**	**1.65**	**315**	⇓P	**Pn**	**10 56 02.6**	**0.0**
JFY	**Yanaizu**	**1.75**	**259**	P	**Pn**	**10 56 04.5**	**+0.5**
JOM	**Ohasama**	**1.76**	**346**	⇓P	**Pn**	**10 56 04.4**	**+0.2**
JOM				*e*S	**Sn**	**10 56 25.7**	**+0.3**
MJAR	**Matsushiro Arr**	**3.16**	**248**	P	**Pn**	**10 56 25.0**	**+1.6**
	8.5nm,0.3s,baz=62,slow=11,SNR=53						
MJAR				S	**Sn**	**10 57 04.7**	**+4.8**
	8.6nm,0.3s,baz=328,slow=32,SNR=5.2						
MJAR				LR	LR	10 57 52.4	
	comp=Z,507nm,20.8s,baz=100,slow=42						
MAJO	**Matsushiro**	**3.16**	**248**	*e*Pn	**Pn**	**10 56 25.3**	**+1.8**
MAT	**Matsushiro**	**3.16**	**248**	P	**Pn**	**10 56 24.8**	**+1.4**
MAT				*e*S	**Sn**	**10 57 02.0**	**+2.1**
JHJ	**Hachijo jima 2**	**4.94**	**201**	P	**Pn**	**10 56 48.4**	**+0.6**
	8.1nm,0.3s,baz=76,slow=19,SNR=2.6						
JHJ				S	**Sn**	**10 57 42.6**	**-1.0**
	40nm,0.3s,baz=90,slow=20,SNR=3.9						
ASAJ	**Asahikawa**	**6.37**	**5**	P	**Pn**	**10 57 07.2**	**-0.3**
	2.1nm,0.3s,baz=224,slow=8.2,SNR=11						
ASAJ				S	**Sn**	**10 58 20.3**	**+1.4**
	1.4nm,0.3s,baz=9.2,slow=20,SNR=3.5						
KSRS	**Korea Array**	**11.06**	**273**	P	**Pn**	**10 58 16.4**	**+4.7**
	baz=86,slow=14,SNR=13						
KSRS				LR	LR	11 02 07.8	
	comp=Z,163nm,19.3s,baz=49,slow=35						
ULN	**Ulaanbaatar**	**27.25**	**303**	*e*P	**P**	**11 01 17.2**	**+0.6**
	2.7nm,0.8s,mb3.8						
SONM	**Songino Array**	**27.68**	**303**	P	**P**	**11 01 21.0**	**+0.6**
	5.0nm,0.8s,mb4.2,baz=99,slow=8.5,SNR=40						
GYA	**Guiyang**	**31.70**	**260**	⇓*i*P	**P**	**11 01 55.5**	**-0.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GTA	**Gaotai**	**32.69**	**286**	*e*P	**P**	**11 02 05.0**	**+0.2**
GTA				AP	pP	11 02 09.5	-6.1
GTA				XP	sP	11 02 12.5	-7.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**42.50**	**275**	P	**P**	**11 03 28.0**	**+0.4**
MK31	**Makanchi Array**	**44.04**	**302**	*e*P	**P**	**11 03 40.1**	**+0.1**
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**11 03 40.1**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.0,baz=86,slow=10,SNR=21						
GUN	**Gumba**	**47.44**	**275**	*e*P	**P**	**11 04 07.6**	**+0.7**
PKI	**Pulchoki**	**47.97**	**275**	*e*P	**P**	**11 04 11.1**	**+0.1**
KKN	**Kakani**	**47.97**	**275**	*e*P	**P**	**11 04 11.6**	**+0.6**
	comp=Z,23nm,0.8s,mb5.2						
GKN	**Gorkha**	**48.38**	**276**	*e*P	**P**	**11 04 14.5**	**+0.4**
	comp=Z,34nm,0.8s						
KOLN	**Koldanda**	**49.30**	**276**	*e*P	**P**	**11 04 21.6**	**+0.4**
	comp=Z,18nm,1.0s,mb5.1						
BVAR	**Borovoye Array**	**50.35**	**312**	P	**P**	**11 04 28.8**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=64,slow=7.3,SNR=8.5						
WRA	**Warramunga Arr**	**57.83**	**188**	P	**P**	**11 05 23.4**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.4,baz=5.6,slow=7.1,SNR=41						
AKTK	**Aktyubinsk**	**58.45**	**312**	P	**P**	**11 05 27.4**	**-0.7**
AKTO	**Aktyubinsk**	**58.45**	**312**	P	**P**	**11 05 27.4**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=78,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**61.56**	**188**	P	**P**	**11 05 49.6**	**+0.2**
	comp=Z,1.0nm,0.8s,mb4.0,baz=8.6,slow=6.0,SNR=10						
YKA	**Yellowknife Ar**	**63.00**	**30**	P	**P**	**11 05 58.7**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.5,baz=302,slow=6.1,SNR=6.8						
YKA	**Yellowknife Ar**	**63.00**	**30**	P	**P**	**11 05 58.7**	**-0.3**
FINES	**FINESS Array B**	**68.33**	**332**	P	**P**	**11 06 31.1**	**-2.3**
	comp=Z,1.9nm,0.9s,mb4.1,baz=52,slow=13,SNR=3.8						
NOA	**NORSAR Array B**	**73.65**	**337**	P	**P**	**11 07 05.5**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=41,slow=5.9,SNR=3.7						
AKASG	**Malin Array Be**	**73.94**	**322**	P	**P**	**11 07 06.7**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.1,baz=45,slow=5.7,SNR=8.0						
AKASG	**Malin Array Be**	**73.94**	**322**	P	**P**	**11 07 06.7**	**-0.6**
PDAR	**Pinedale Array**	**76.90**	**46**	P	**P**	**11 07 24.9**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=186,slow=1.5,SNR=4.1						
GERES	**GERESS Array B**	**82.28**	**328**	P	**P**	**11 07 53.2**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=39,slow=6.1,SNR=10.0						
LPAZ	**La Paz**	**146.02**	**59**	PKPbc	PKPbc	11 15 12.9	+1.1
	comp=Z,1.3nm,0.7s,baz=28,slow=8.5,SNR=3.8						

IDC 26 10:57:51.8±1.0, 4599N×15487E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/22, mbtmp3.8/7, ML3.7/1, MS3.9/4, Ms1 3.9/4, ms1mx3.1/34, Error ellipse: s-maj=35.6km s-min=21.7km az=117.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.89**	**262**	Pn	Pn	11 00 02.6	+1.2
	0.9nm,0.3s,baz=90,slow=12,SNR=2.4						
INK	**Inuvik**	**41.64**	**32**	P	P	11 05 41.5	-0.3
	0.8nm,0.5s,baz=155,slow=2.8,SNR=5.0						
MKAR	**Makanchi Array**	**48.37**	**299**	P	P	11 06 35.4	+0.1
	0.5nm,0.6s,baz=73,slow=8.0,SNR=3.8						
YKA	**Yellowknife Ar**	**50.80**	**37**	P	P	11 06 53.6	-0.3
	0.7nm,0.8s,baz=297,slow=7.2,SNR=5.9						
FINES	**FINESS Array B**	**65.24**	**336**	P	P	11 08 33.4	-1.7
	3.1nm,1.0s,baz=45,slow=7.2,SNR=3.5						
FINES				LR	LR	11 40 18.4	
	comp=Z,96nm,18.2s,baz=171,slow=39						
WRA	**Warramunga Arr**	**68.21**	**201**	P	P	11 08 54.0	-0.1
	1.6nm,0.7s,baz=21,slow=6.9,SNR=12						
FITZ	**Fitzroy Crossi**	**69.07**	**210**	LR	LR	11 36 41.9	
	comp=Z,41nm,20.2s,baz=88,slow=34						
NOA	**NORSAR Array B**	**69.33**	**342**	LR	LR	11 42 32.7	
	comp=Z,84nm,18.1s,baz=0.0,slow=39						
ASAR	**Alice Springs**	**71.90**	**200**	P	P	11 09 16.6	-0.1
	0.7nm,0.8s,baz=19,slow=6.2,SNR=6.6						
PPT	**Papeete**	**80.73**	**127**	LR	LR	11 39 21.8	
	comp=Z,86nm,19.2s,baz=85,slow=31						

*IDC **26** 11:10:21.6±2.0, 1408N×9267W, h0km, mb3.9/6, mb1 4.2/9, mb1mx4.0/23, mbtmp3.9/9, ML3.5/3, Error ellipse: s-maj=48.2km s-min=21.5km az=31.0*
*ISCJB **26** 11:10:22.9±1.0, 1429N±009×9254W±007, h10km, mb4.0/7, Error ellipse: s-maj=13.4km s-min=9.5km az=47.1*
*NEIC **26** 11:10:24.9±1.3, 1415N×9266W, h15km, Error ellipse: s-maj=27.0km s-min=13.3km az=212.0*

ISC 26 11:10:25.0±1.0, 1427N±009×9260W±007, h10km, n15, σ1°19/19, mb4.0/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.56**	**322**	Pn	**Pn**	**11 11 19.2**	**-1.1**
	2.3nm,0.3s,baz=140,slow=11,SNR=59						
CMIG				Sn	**Sn**	**11 12 01.8**	**-0.7**
	2.6nm,0.3s,baz=93,slow=20,SNR=4.5						
CMIG	**Matias Romero**	**3.56**	**322**	Pn	**Pn**	**11 11 19.2**	**-1.1**
CMIG				Sn	**Sn**	**11 12 01.8**	**-0.7**
TEIG	**Tepich**	**7.22**	**34**	Pn	**Pn**	**11 12 12.8**	**+2.3**
	2.0nm,0.3s,baz=156,slow=20,SNR=13						
TEIG				Sn	**Sn**	**11 13 32.0**	**-0.6**
	baz=165,slow=20,SNR=2.0						
JTS	**JuntasAbangare**	**8.46**	**117**	Pn	**Pn**	**11 12 26.7**	**-0.8**
	0.3nm,0.3s,baz=328,slow=19,SNR=3.2						
JTS				Sn	**Sn**	**11 13 55.5**	**-7.5**
	1.4nm,0.3s,baz=231,slow=21,SNR=12						
JTS				Lg		11 14 49.4	
	baz=272,slow=18,SNR=5.8						
TKL	**Tuckaleechee C**	**22.73**	**19**	P	**P**	**11 15 26.7**	**-0.3**
	9.1nm,1.2s,mb4.1,baz=169,slow=23,SNR=5.3						
TKL	**Tuckaleechee C**	**22.73**	**19**	P	**P**	**11 15 26.7**	**-0.3**
ANMO	**Albuquerque**	**24.09**	**331**	P	**P**	**11 15 41.8**	**+1.2**
	0.5nm,0.4s,mb3.3,baz=141,slow=6.6,SNR=3.9						
PDAR	**Pinedale Array**	**31.93**	**336**	P	**P**	**11 16 50.1**	**-0.6**
	0.5nm,0.9s,mb3.4,baz=138,slow=11,SNR=4.3						
SNOW	**Snow King Moun**	**32.99**	**335**	*e*P	**P**	**11 17 01.3**	**+1.2**
	30nm,1.9s,mb4.9						
NVAR	**Mina Array Bea**	**33.10**	**321**	P	**P**	**11 17 02.2**	**+1.3**
	0.7nm,0.7s,mb3.7,baz=136,slow=9.6,SNR=6.8						
NVAR	**Mina Array Bea**	**33.10**	**321**	P	**P**	**11 17 02.2**	**+1.3**
MCMT	**McKenzie Canyo**	**34.98**	**335**	*e*P	**P**	**11 17 18.9**	**+1.6**
YKA	**Yellowknife Ar**	**50.63**	**347**	P	**P**	**11 19 22.8**	**-1.3**
	4.9nm,0.9s,mb4.4,baz=149,slow=7.5,SNR=58						
YKA				PcP	PcP	11 20 38.3	-3.3
	0.5nm,0.9s,baz=152,slow=3.3,SNR=3.8						
YKA	**Yellowknife Ar**	**50.63**	**347**	P	**P**	**11 19 22.8**	**-1.3**
YKA				PcP	PcP	11 20 38.4	-3.3
INK	**Inuvik**	**60.02**	**344**	P	**P**	**11 20 30.3**	**-1.5**
	2.5nm,0.8s,mb4.3,baz=106,slow=10,SNR=10						

*IDC **26** 11:10:49.9±0.8, 4350N×8465E, h0km, mb3.8/11, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML3.9/3, Error ellipse: s-maj=20.7km s-min=11.4km az=64.0*
*MOS **26** 11:10:53.8±1.1, 4356N×8448E, h33km, mb4.6/4, Error ellipse: s-maj=12.8km s-min=7.1km az=120.3*
*NEIC **26** 11:10:54.9±1.9, 4349N×8451E, h30km±14km, mb4.4/6, Error ellipse: s-maj=9.6km s-min=6.1km az=62.0*
*BJI **26** 11:10:54.0, 4358N×8432E, h13km, mB4.7, mb3.9, ML4.2, Ms4.2*
*NNC **26** 11:10:56.6±2.5, 4372N×8424E, h24km±13km, mb4.1, mpv4.0, Error ellipse: s-maj=23.1km s-min=9.3km az=104.0*
*ISCJB **26** 11:10:56.3±0.6, 4380N±004×8433E±005, h41km±6km, mb4.0/16, Error ellipse: s-maj=7.4km s-min=5.4km az=24.5*

ISC 26 11:10:58.6±0.5, 4380N±004×8436E±005, h48km±5km, n77, σ0°86/92, mb4.0/16, 8C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.42**	**88**	P	**Pn**	**11 11 34.8**	**-0.8**
WMQ				S	**Sn**	**11 12 06.3**	**+2.4**
WMQ				Smax			
	comp=N,1μm,0.5s						
WMQ				Smax			
	comp=E,1μm,0.7s						
MK31	**Makanchi Array**	**3.33**	**335**	⇑Pn	**Pn**	**11 11 50.0**	**+1.8**
	comp=E,3.6nm,0.2s,baz=150,slow=14,SNR=3164						
MK31				⇓Pg	**Pn**	**11 11 58.9**	**+11**
	comp=E,40nm,0.4s						
MK31				Sn	**Sn**	**11 12 33.3**	**+6.8**
	comp=E,38nm,0.3s,baz=173,slow=23,SNR=3.9						
MK31				⇓Lg		11 12 44.3	
	comp=E,719nm,0.6s,baz=153,slow=29,SNR=13						
MK31	**Makanchi Array**	**3.33**	**335**	*e*Pn	**Pn**	**11 11 50.1**	**+1.9**
MK31				*e*Sn	**Sn**	**11 12 33.1**	**+6.6**
MKAR	**Makanchi Array**	**3.33**	**335**	Pn	**Pn**	**11 11 50.1**	**+1.9**
	comp=E,7.9nm,0.3s,baz=148,slow=14,SNR=370						
MKAR				Pg	**Pn**	**11 11 58.4**	**+10**
	comp=E,59nm,0.3s,baz=150,slow=17,SNR=66						
MKAR				Sn	**Sn**	**11 12 33.5**	**+7.0**
	comp=E,66nm,0.3s,baz=151,slow=20,SNR=6.6						
MKAR				Lg		11 12 45.4	
	comp=E,216nm,0.3s,baz=151,slow=30,SNR=9.7						
MKAR	**Makanchi Array**	**3.33**	**335**	P	**Pn**	**11 11 50.0**	**+1.8**
MKAR						11 12 33.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax			
	comp=Z,12nm,0.3s						
MKAR	**Makanchi Array**	**3.33**	**335**	Pn	**Pn**	**11 11 50.1**	**+1.9**
MKAR				Pg	**Pn**	**11 11 58.4**	**+10**
MKAR				Sn	**Sn**	**11 12 33.5**	**+7.0**
MKAR				Lg		11 12 45.4	
KNDC	**Almaty**	**5.41**	**266**	⇑Pn	**Pn**	**11 12 16.8**	**+0.1**
	comp=Z,48nm,0.5s						
KNDC				⇓Lg		11 13 46.4	
	comp=Z,388nm,0.9s						
AAA	**Alma-Ata**	**5.41**	**267**	*i* P	**Pn**	**11 12 17.8**	**+1.1**
ULHL	**Ulahol**	**6.15**	**258**	P	**Pn**	**11 12 26.5**	**-0.3**
	SNR=14						
TKM2	**Tokmak 2**	**6.45**	**265**	P	**Pn**	**11 12 31.4**	**+0.5**
	SNR=73						
TKM2	**Tokmak 2**	**6.45**	**265**	⇑Pn	**Pn**	**11 12 31.2**	**+0.3**
	comp=Z,2.5nm,0.5s						
TKM2				⇑Lg		11 14 16.2	
	comp=Z,3.3nm,0.5s						
KZA	**Kyzart**	**6.90**	**259**	P	**Pn**	**11 12 37.7**	**+0.6**
	SNR=33						
KBK	**Karagaybulak**	**6.97**	**264**	P	**Pn**	**11 12 37.9**	**-0.1**
	SNR=31						
CHMS	**Chumysh**	**7.04**	**267**	P	**Pn**	**11 12 39.2**	**+0.1**
	SNR=15						
FRU	**Bishkek**	**7.17**	**266**	*e*P	**Pn**	**11 12 40.0**	**-0.8**
USP	**Ospenovka**	**7.19**	**269**	P	**Pn**	**11 12 41.4**	**+0.4**
	SNR=11						
AAK	**Ala-Archa**	**7.30**	**264**	P	**Pn**	**11 12 42.5**	**-0.1**
	SNR=15						
UCH	**Uchtor**	**7.38**	**261**	P	**Pn**	**11 12 44.2**	**+0.4**
	SNR=30						
EKS2	**Erkin-Say**	**7.81**	**265**	P	**Pn**	**11 12 50.1**	**+0.5**
	SNR=13						
KURK	**Kurchatov**	**7.95**	**333**	⇑Pn	**Pn**	**11 12 51.0**	**-0.5**
	comp=Z,3.1nm,0.5s						
KURK				⇑Lg		11 15 09.5	
	comp=Z,69nm,0.6s						
KK31	**Karatay Array**	**10.10**	**271**	⇓Pn	**Pn**	**11 13 20.4**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=76,slow=13,SNR=35						
KK31				⇓Lg		11 16 13.9	
	comp=Z,20nm,0.7s,baz=73,slow=27,SNR=2.6						
KKAR	**Karatay Array**	**10.10**	**271**	*e*P	**Pn**	**11 13 20.3**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
ZAL	**Zalesovo**	**10.15**	**1**	Pn	**Pn**	**11 13 21.4**	**-0.3**
	baz=299,slow=9.2						
ZAL				Sn	**Sn**	**11 15 13.7**	**-0.4**
	comp=Z,4.2nm,0.3s,baz=275,slow=12,SNR=5.8						
ZAL				Lg		11 16 20.9	
	baz=181,slow=23,SNR=1.0						
ZAL	**Zalesovo**	**10.15**	**1**	P	**Pn**	**11 13 21.4**	**-0.3**
ZAL						11 15 13.7	
NVS	**Novosibirsk**	**11.08**	**357**	*e*P	**Pn**	**11 13 26.0**	**-8.3**
NVS				*e*		11 15 33.7	
GTA	**Gaotai**	**12.37**	**105**	*e*P	**Pn**	**11 13 52.3**	**+0.4**
GTA				AP		11 13 56.5	
GTA				XP		11 13 59.3	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.

comp=Z,0.3nm,0.3s,baz=22,slow=19,SNR=4.9
ARU Arti 20.67 317 ⇓*i*P **P 11 15 38.7 +4.4**
ARU *e* 11 15 51.4
ARU *e*S **S 11 19 18.9 -3.7**
ARU *e*SS 11 19 34.2
ARU pmax pmax
comp=Z,2.0nm,0.7s
BOD Bodaibo 23.16 42 *e*P **P 11 16 01.3 +0.4**
JOF Joensuu 35.67 321 *e*p **P 11 17 52.4 +0.3**
comp=Z,1.7nm,0.3s,mb4.5
AKASG Malin Array Be 37.30 301 P **P 11 18 06.0 +0.1**
comp=Z,2.3nm,0.5s,mb4.2,baz=65,slow=8.4,SNR=7.7
BRTR Keskin Array B 37.57 282 P **P 11 18 07.5 -0.8**
comp=Z,0.8nm,0.6s,mb3.6,baz=90,slow=6.6,SNR=3.6
KAF Kangasniemi 37.92 320 *e*p **P 11 18 11.9 +0.6**
comp=Z,0.5nm,0.2s,mb3.9,baz=91,slow=8.4
KAF Kangasniemi 37.92 320 *e*P **P 11 18 11.9 +0.6**
KAF pmax pmax
comp=Z,1.0nm,0.2s,mb4.2
FINES FINESS Array B 38.02 318 P **P 11 18 12.2 +0.1**
comp=Z,1.3nm,0.4s,mb4.0,baz=102,slow=8.3,SNR=11
ARCES ARCESS Array B 38.98 331 P **P 11 18 20.5 +0.4**
comp=Z,7.5nm,1.0s,mb4.4,baz=336,slow=11,SNR=7.7
ARCES ARCESS Array B 38.98 331 P **P 11 18 20.5 +0.4**
OJC Ojcow 43.25 302 *e*P **P 11 18 56.2 +1.0**
NB2 NORSAR Subarra 45.20 319 P **P 11 19 10.9 +0.1**
comp=Z,1.3nm,0.4s,mb4.1,baz=78,slow=7.9
NOA NORSAR Array B 45.20 319 P **P 11 19 11.1 +0.3**
comp=Z,1.3nm,0.3s,mb4.2,baz=77,slow=7.9,SNR=6.5
CLL Collm 46.99 306 *i* P **P 11 19 25.3 +0.4**
GERES GERESS Array B 47.45 302 P **P 11 19 29.5 +1.1**
comp=Z,0.3nm,0.5s,mb3.5,baz=61,slow=8.0,SNR=3.7
LPG La Plagne 53.16 301 *e*P **P 11 20 13.0 +1.4**
comp=Z,8.9nm,0.6s,mb4.6
LPG La Plagne 53.16 301 *e*P **P 11 20 13.0 +1.4**
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LPG La Plagne 53.16 301 *e*P **P 11 20 13.0 +1.4**
comp=Z,4.4nm,0.6s,mb4.6
LPL La Plagne 53.17 301 *e*P **P 11 20 12.9 +1.2**
comp=Z,6.8nm,0.4s,mb4.6
LPL La Plagne 53.17 301 *e*P **P 11 20 12.9 +1.2**
LPL pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
LPL La Plagne 53.17 301 *e*P **P 11 20 12.9 +1.2**
comp=Z,3.4nm,0.4s,mb4.6
MBDF Montbardon 53.51 300 *e*P **P 11 20 14.4 +0.2**
ORIF Oris-en-Rattie 53.98 301 *e*P **P 11 20 17.8 +0.2**
SMF Signal de Mont 54.41 303 *e*P **P 11 20 20.8 +0.1**
comp=Z,2.1nm,0.5s,mb4.1
SMF Signal de Mont 54.41 303 *e*P **P 11 20 20.8 +0.1**
SMF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
SMF Signal de Mont 54.41 303 *e*P **P 11 20 20.8 +0.1**
comp=Z,1.0nm,0.4s,mb4.1
LDF La Druitiere 55.81 307 *e*P **P 11 20 30.6 -0.2**
FLN La Foliniere 55.93 307 *e*P **P 11 20 32.2 +0.5**
SGMF Saint Gilles 57.38 308 *e*P **P 11 20 42.2 +0.2**
ROSF Rostrenen 57.75 308 *e*P **P 11 20 44.8 +0.2**
QUIF Quistinic 57.91 308 *e*P **P 11 20 45.9 +0.2**
INK Inuvik 64.68 15 P **P 11 21 31.2 -0.3**
comp=Z,0.4nm,0.5s,mb3.7,baz=343,slow=3.2,SNR=3.3
YKA Yellowknife Ar 72.97 9 P **P 11 22 21.7 -1.3**
comp=Z,0.1nm,0.5s,mb3.0,baz=340,slow=6.0,SNR=4.9
TORD Torodi Ar. Bea 75.76 275 P **P 11 22 38.4 -0.9**
comp=Z,1.0nm,0.5s,mb4.0,baz=39,slow=5.3,SNR=18
WRA Warramunga Arr 78.21 133 P **P 11 22 50.1 -3.0**
comp=Z,0.2nm,0.5s,mb3.4,baz=338,slow=5.8,SNR=6.7
WRA Warramunga Arr 78.21 133 P **P 11 22 50.1 -3.0**
ASAR Alice Springs 81.05 135 P **P 11 23 04.1 -4.3**
comp=Z,0.5nm,0.8s,mb3.5,baz=329,slow=4.4,SNR=5.8

NIED ***26*** *11:12:00,4550N×150.10E,h71km,Mw3.7 Best double couple: M0:4.27000×10^14 NP1:φs:197.00000°,δ82.00000°, λ:91.00000°. NP2:φs:9.00000°,δ:8.00000°,λ:83.00000°.*
MOS ***26*** *11:12:11.1±3.2,4415N×151.10E,h49km,mb4.0/1,Error ellipse: s-maj=38.3km s-min=27.4km az=6.4*
JMA ***26*** *11:12:20.8±0.5,4546N×15006E,h30km,M4.2*
SKHL ***26*** *11:12:21.5±2.2,4500N×15030E,h64km±18km,mb4.3/1*
ISCJB ***26*** *11:12:22.8±1.2,447N±02×150.1E±0.1,h127km±15km, mb3.6/4,Error ellipse: s-maj=27.1km s-min=11.3km az=129.4*
IDC ***26*** *11:12:25.5±6.8,4561N×14981E,h106km±72km,mb3.3/4, mb1 3.5/6,mb1mx3.3/22,mbtmp3.3/6,ML3.6/2,Error ellipse: s-maj=106.4km s-min=42.0km az=143.0*

ISC 26 11:12:23.3±1.1,448N±02×1502E±01,h111km±16km,n35, σ0:97/49,mb3.6/4,1C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.71**	**287**	⇑*i*PN	**Pn**	**11 12 47.2**	**-5.6**
KUR				pmax	pmax		
	comp=Z,220nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,1.5s						
KUR	**Kuril'sk**	**1.71**	**287**	*e*P	**Pn**	**11 12 47.2**	**-5.6**
KUR				AMB	AMB	11 12 47.5	
	comp=Z,90nm,0.7s						
KUR				AMB	AMB	11 12 47.5	
	comp=Z,220nm,0.7s						
KUR				AMB	AMB	11 12 48.0	
	comp=Z,2μm,1.5s						
KUR				*e*S	**Sn**	**11 13 05.8**	**-9.4**
KUR				A		11 13 07.2	
	comp=Z,2μm,0.5s						
KUR				A		11 13 07.2	
	comp=Z,680nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.19**	**258**	*e*P	**Pn**	**11 13 11.1**	**-0.7**
YUK				*e*S	**Sn**	**11 13 50.5**	**+1.3**
YUK				A		11 13 57.5	
	comp=Z,570nm,0.5s						
YUK				A		11 13 57.5	
	comp=Z,770nm,0.5s						
YUK				A		11 13 58.0	
	comp=Z,2μm,0.8s						
YUK				A		11 13 58.0	
	comp=Z,3μm,0.8s						
NEM2	**Nemuro 2**	**3.50**	**248**	P	**Pn**	**11 13 15.6**	**-0.3**
NEM2				*e*S	**Sn**	**11 13 55.7**	**-0.9**
JRA	**Rausu**	**3.73**	**259**	P	**Pn**	**11 13 18.8**	**-0.2**
JRA				*e*S	**Sn**	**11 14 04.0**	**+1.9**
JNK	**Nakash**	**4.11**	**255**	P	**Pn**	**11 13 24.4**	**+0.3**
JNK				*e*S	**Sn**	**11 14 10.4**	**-0.9**
JAK	**Akkeshi**	**4.35**	**248**	P	**Pn**	**11 13 27.1**	**-0.2**
JAK				*e*S	**Sn**	**11 14 16.6**	**-0.4**
JTKR	**Abashiri--Toko**	**4.58**	**262**	P	**Pn**	**11 13 30.6**	**+0.2**
JAR	**Ashorobuto**	**4.86**	**255**	P	**Pn**	**11 13 34.8**	**+0.6**
JAR				*e*S	**Sn**	**11 14 30.3**	**+1.0**
JMP	**Maruseppu**	**4.96**	**264**	P	**Pn**	**11 13 35.8**	**+0.3**
JMP				*e*S	**Sn**	**11 14 31.2**	**-0.5**
JOB	**Onbets**	**4.96**	**250**	P	**Pn**	**11 13 35.9**	**+0.3**
JOB				*e*S	**Sn**	**11 14 31.5**	**-0.3**
JCH	**Churui**	**5.40**	**249**	P	**Pn**	**11 13 41.2**	**-0.3**
JCH				*e*S	**Sn**	**11 14 41.7**	**-0.7**
JKK2	**Kamakawa 2**	**5.42**	**263**	P	**Pn**	**11 13 42.2**	**+0.5**
ASAJ	**Asahikawa**	**5.48**	**266**	P	**Pn**	**11 13 42.9**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=114,slow=8.7,SNR=8.9						
ASAJ	**Asahikawa**	**5.48**	**266**	P	**Pn**	**11 13 42.5**	**-0.1**
ASAJ	**Asahikawa**	**5.48**	**266**	PN	**Pn**	**11 13 42.9**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JFR	**Furan**	**5.71**	**256**	P	**Pn**	**11 13 46.1**	**+0.4**
JEM	**Erimo**	**5.81**	**244**	P	**Pn**	**11 13 48.1**	**+1.0**
JEM				*e*S	**Sn**	**11 14 53.2**	**+0.7**
JNBK	**Urakawa-nobuka**	**5.95**	**248**	P	**Pn**	**11 13 48.2**	**-0.8**
JNBK				*e*S	**Sn**	**11 14 55.3**	**-0.5**
JBT2	**Biratori 2**	**6.00**	**253**	P	**Pn**	**11 13 49.7**	**0.0**
JBT2				*e*S	**Sn**	**11 14 57.1**	**0.0**
JNB	**Noboribetsu**	**7.03**	**254**	*e*S	**Sn**	**11 15 19.9**	**-2.0**
JKB	**Kayabe**	**7.27**	**250**	P	**Pn**	**11 14 05.8**	**-1.1**
JKB				*e*S	**Sn**	**11 15 23.2**	**-4.6**
JYM2	**Yakumo 2**	**7.62**	**253**	P	**Pn**	**11 14 11.4**	**-0.2**
JSH	**Shimam**	**7.65**	**257**	P	**Pn**	**11 14 13.2**	**+1.2**
JANG	**Nango**	**7.76**	**239**	P	**Pn**	**11 14 12.8**	**-0.7**
JANG				*e*S	**Sn**	**11 15 34.7**	**-5.0**
JTM	**Tenmabayashi**	**7.80**	**243**	P	**Pn**	**11 14 14.4**	**+0.4**
JTM				*e*S	**Sn**	**11 15 35.3**	**-5.3**
JTH	**Tanohata**	**7.83**	**235**	*e*S	Sx	11 15 36.3	
JIO	**Ouri**	**9.14**	**229**	*e*S	Sx	11 16 10.4	
KSRS	**Korea Array**	**18.27**	**254**	P	**P**	**11 16 31.1**	**+2.9**
	baz=60,slow=11,SNR=3.7						
INK	**Inuvik**	**44.42**	**31**	P	**P**	**11 20 20.4**	**-2.6**
	comp=Z,1.3nm,1.0s,mb3.6,baz=254,slow=11,SNR=3.2						
INK	**Inuvik**	**44.42**	**31**	P	**P**	**11 20 20.4**	**-2.5**
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**53.73**	**35**	P	**P**	**11 21 31.9**	**-2.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=299,slow=6.9,SNR=5.1						
YKA	**Yellowknife Ar**	**53.73**	**35**	P	**P**	**11 21 31.9**	**-2.0**
NVAR	**Mina Array Bea**	**65.18**	**60**	P	**P**	**11 22 54.8**	**+2.2**
	comp=Z,0.5nm,0.6s,mb3.5,baz=299,slow=4.0,SNR=4.7						
PDAR	**Pinedale Array**	**67.58**	**52**	P	**P**	**11 23 08.3**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=287,slow=1.2,SNR=7.6						

IDC 26 11:29:50.8±2.9,780S×11594E,h0km,mb3.2/4,mb1 3.5/4, mb1mx3.4/17,mbtmp3.3/4,Error ellipse: s-maj=164.6km s-min=21.9km az=53.0,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**126**	P	P	11 34 42.2	+0.7
	0.7nm,0.6s,baz=300,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**23.36**	**135**	P	P	11 35 00.8	-0.1
	0.2nm,0.4s,baz=312,slow=8.6,SNR=16						
SONM	**Songino Array**	**56.03**	**352**	P	P	11 39 31.2	-0.1
	0.2nm,0.4s,baz=170,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**62.05**	**334**	P	P	11 40 13.3	+0.3
	0.1nm,0.6s,baz=150,slow=7.1,SNR=2.6						

ISCJB ***26*** *11:30:51.9±0.5,4017N±004×10623E±004,h10km, mb3.3/2,Error ellipse: s-maj=6.2km s-min=4.2km az=143.3*
IDC ***26*** *11:30:52.5±1.3,4011N×10592E,h0km,mb3.4/2, mb1 3.4/4,mb1mx3.3/21,mbtmp3.2/4,ML2.9/2,Error ellipse: s-maj=50.1km s-min=20.3km az=77.0*
BJI ***26*** *11:30:54.7,4029N×10583E,h15km,ML3.7,Ms3.1, Msz3.1*

ISC 26 11:30:53.7±0.5,4009N±004×10613E±004,h10km,n9, σ1:40/19,mb3.3/2,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**3.02**	**79**	*e*PG	**Pg**	**11 31 51.5**	**0.0**
BTO				SG	**Sg**	**11 32 30.5**	**-0.1**
HHC	**Hu-ho-hao-te**	**4.21**	**78**	*e*PG	**Pg**	**11 32 11.3**	**-3.1**
HHC				SG	**Sg**	**11 33 07.8**	**-1.1**
HHC				Smax			
	comp=N,133nm,0.5s						
HHC				Smax			
	comp=E,91nm,0.6s						
LZH	**Lanzhou**	**4.39**	**205**	PG	**Pb**	**11 32 12.0**	**+1.2**
LZH				S	**Sn**	**11 32 55.0**	**+3.6**
LZH				SG	**Sg**	**11 33 12.3**	**-2.2**
LZH				Smax			
	comp=N,104nm,1.0s						
LZH				Smax			
	comp=E,116nm,1.2s						
LZH				LR	LR		
	comp=E,197nm,7.8s						
LZH				LR	LR		
	comp=Z,215nm,9.6s						
GTA	**Gaotai**	**4.92**	**264**	P	**Pn**	**11 32 07.8**	**+0.2**
GTA				PG	**Pb**	**11 32 20.0**	**+0.2**
GTA				S	**Sn**	**11 33 01.8**	**-2.7**
GTA				SG	**Sb**	**11 33 19.5**	**+0.5**
GTA				Smax			
	comp=N,138nm,0.8s						
GTA				Smax			
	comp=E,57nm,0.8s						
XAN	**Xi'an**	**6.44**	**159**	PG	**Pg**	**11 32 56.8**	**-0.1**
XAN				S	**Sn**	**11 33 44.5**	**+2.5**
XAN				SG	**Sg**	**11 34 16.5**	**-3.8**
XAN				Smax			
	comp=N,41nm,1.4s						
XAN				Smax			
	comp=E,32nm,1.3s						
SONM	**Songino Array**	**7.74**	**1**	Pn	**Pn**	**11 32 47.9**	**+1.5**
	comp=E,0.5nm,0.3s,baz=182,slow=14,SNR=18						
SONM				Sn	**Sn**	**11 34 14.6**	**+0.4**
	comp=E,0.4nm,0.3s,baz=187,slow=18,SNR=3.6						
SONM				Lg		11 34 56.2	
	comp=E,0.8nm,0.3s,baz=183,slow=29,SNR=4.3						
MKAR	**Makanchi Array**	**18.52**	**299**	P	**Pn**	**11 35 08.3**	**-2.0**
	comp=E,0.0nm,0.3s,baz=100,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**65.26**	**151**	P	**P**	**11 41 36.4**	**+0.9**
	comp=E,0.1nm,0.4s,mb3.2,baz=342,slow=7.1,SNR=5.4						
ASAR	**Alice Springs**	**68.51**	**153**	P	**P**	**11 41 57.4**	**+1.2**
	comp=E,0.3nm,0.5s,mb3.4,baz=338,slow=6.4,SNR=9.2						

HLW ***26*** *11:57:36.6,3144N×3579E,h20km,Mb2.8*
GII ***26*** *11:57:40.5±0.2,3113N×3518E,h0km,ML2.4/4*
ISCJB ***26*** *11:57:41.1±0.4,3112N±002×3519E±005,h0km,Error ellipse: s-maj=6.0km s-min=2.9km az=33.7*
CSEM ***26*** *11:57:41.0±0.1,3113N×3518E,h2km,ML2.4,Error ellipse: s-maj=1.9km s-min=1.1km az=113.0,Mining explosion.*

ISC 26 11:57:41.7±0.4,3112N±002×3520E±005,h0km,n21, σ1:04/30,4D,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.23**	**37**	Pg	**Pg**	**11 57 45.9**	**-0.2**
MZDA				Sg	**Sg**	**11 57 50.6**	**+1.5**
MZDA				T		11 58 58.5	
MZDA	**Masada**	**0.23**	**37**	Pg	**Pg**	**11 57 45.9**	**-0.2**
MZDA				Sg	**Sg**	**11 57 50.6**	**+1.5**
YTIR	**Yattir**	**0.25**	**344**	Pg	**Pg**	**11 57 46.1**	**-0.3**
MASH	**Mash'abbe Sade**	**0.38**	**250**	Pg	**Pg**	**11 57 48.4**	**-0.4**
RTMI	**Retamim**	**0.44**	**261**	Pg	**Pg**	**11 57 50.0**	**-0.1**
DSI	**Dead Sea**	**0.47**	**19**	Pg	**Pg**	**11 57 51.4**	**+0.7**
DRGI	**Dragot**	**0.50**	**20**	Pg	**Pg**	**11 57 51.5**	**+0.3**
SVTA	**Shivta**	**0.53**	**249**	Pg	**Pg**	**11 57 51.5**	**-0.3**
ZFRI	**Zfri**	**0.57**	**182**	Pg	**Pg**	**11 57 52.5**	**-0.1**
KZIT	**Kziot**	**0.72**	**253**	Pg	**Pg**	**11 57 55.2**	**-0.3**
KZIT				Sg	**Sg**	**11 58 06.2**	**+1.3**
PRNI	**Paran**	**0.79**	**192**	Pg	**Pg**	**11 57 56.6**	**-0.1**
PRNI				Sg	**Sg**	**11 58 08.7**	**+1.7**
KRMI	**Paran Flat**	**1.08**	**202**	Pg	**Pg**	**11 58 02.4**	**0.0**
HRFI	**Mount Harif**	**1.09**	**187**	Pg	**Pg**	**11 58 02.0**	**-0.6**
HRFI				Sg	**Sg**	**11 58 18.9**	**+2.1**
SLTI	**Sal'it**	**1.12**	**353**	Pg	**Pg**	**11 58 02.0**	**-1.1**
SLTI				Sg	**Sg**	**11 58 18.9**	**+1.3**
AQBJ	**Aqaba**	**1.40**	**185**	Pn	**Pn**	**11 58 07.0**	**-1.4**
EIL	**Elat**	**1.47**	**188**	Pn	**Pn**	**11 58 07.9**	**-1.5**
EIL				Sn	**Sn**	**11 58 29.9**	**+0.7**
HNKL	**Nakhl**	**1.59**	**222**	⇓*e*P	**Pn**	**11 58 10.3**	**-0.7**
HNKL				S	**Sn**	**11 58 35.4**	**+3.1**
AMAG	**Maghara**	**1.78**	**255**	⇓P	**Pn**	**11 58 13.1**	**-0.5**
MMA2	**Mount Meron ar**	**1.89**	**5**	Pn	**Pn**	**11 58 15.1**	**-0.1**
HDHB	**Dhahab**	**2.45**	**192**	⇓*e*P	**Pn**	**11 58 20.6**	**-2.2**
HKAT	**Jabal Katrina**	**2.80**	**202**	⇓P	**Pn**	**11 58 26.4**	**-1.3**
HKAT				S	**Sn**	**11 59 02.7**	**+0.6**

NEIC ***26*** *12:06:29.4,1588N×9891W,h20km,MD4.2(MEX),After MEX.*

MEX 26 12:06:29.5±0.7,1589N×9890W,h21km±24km,MD4.2,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.90**	**56**	*i* P	Pb	12 06 43.3	-3.0
PNIG				*i* S	Sb	12 06 54.7	-3.2
ACX	**Acapulco**	**1.37**	**315**	*i* P	Pn	12 06 50.5	-2.9
ACX				*i* S	Sn	12 07 06.5	-4.5
CAIG	**El Cayaco**	**1.74**	**311**	*i* P	Pn	12 06 55.8	-2.7
CAIG				*i* S	Sn	12 07 15.8	-4.2
CAIG	**El Cayaco**	**1.74**	**311**	*i* P	Pn	12 06 57.7	-0.8
CAIG				*i* S	Sn	12 07 15.8	-4.2
MEIG	**Mezcala**	**2.13**	**341**	*e*P	Pn	12 07 02.5	-1.4
MEIG				*i* S	Sn	12 07 27.1	-2.7
UTMO	**Huajuapan**	**2.20**	**29**	*i* P	Pn	12 07 03.0	-1.7
UTMO				*i* S	Sn	12 07 29.0	-2.3
VHO	**Vista Hermosa**	**2.39**	**60**	*i* P	Pn	12 07 05.8	-1.6
VHO				*i* S	Sn	12 07 34.2	-1.8
OXX	**Oaxaca**	**2.40**	**60**	*i* P	Pn	12 07 05.2	-2.4
OXX				*i* S	Sn	12 07 34.3	-2.1
PLIG	**Platanillo**	**2.55**	**347**	*e*P	Pn	12 07 09.4	-0.2
PLIG				*i* S	Sn	12 07 36.8	-3.2
HUIG	**Huatulco**	**2.69**	**92**	*i* P	Pn	12 07 10.7	-0.9
HUIG				*i* S	Sn	12 07 38.9	-4.7
TPIG	**Tehuac#an**	**2.91**	**30**	*e*P	Pn	12 07 13.7	-0.9
TPIG				*i* S	Sn	12 07 45.7	-3.3
SZVM	**Salazar**	**3.44**	**352**	*e*P	Pn	12 07 23.8	+1.9
SZVM				*i* S	Sn	12 08 00.1	-2.0
IIO	**Organos**	**3.68**	**3**	*i* P	Pn	12 07 33.9	+8.6
IIO				*i* S	Sn	12 08 19.2	+11
PTVM	**Pico Tres Padr**	**3.69**	**357**	*i* P	Pn	12 07 23.4	-1.8
PTVM				*i* S	Sn	12 08 03.0	-5.0
PTVM	**Pico Tres Padr**	**3.69**	**357**	*i* P	Pn	12 07 31.4	+6.2
PTVM				*i* S	Sn	12 08 11.5	+3.4
CMIG	**Matias Romero**	**4.04**	**72**	*i* P	Pn	12 07 27.5	-2.5
CMIG				*i* S	Sn	12 08 15.1	-1.6
MOIG	**Morelia**	**4.35**	**330**	*i* P	Pn	12 07 37.3	+2.9
MOIG				*i* S	Sn	12 08 25.8	+1.4
MOIG	**Morelia**	**4.35**	**330**	*i* P	Pn	12 07 44.7	+10
MOIG				*i* S	Sn	12 08 36.3	+12

NIED ***26*** *12:20:00,4160N×142.10E,h47km,Mw3.7 Best double couple: M0:3.52000×10^14 NP1:φs:22.00000°,δ72.00000°, λ:85.00000°. NP2:φs:217.00000°,δ:19.00000°,λ:104.00000°.*
ISCJB ***26*** *12:20:50.4±0.4,4156N±003×14209E±004,h68km±5km, mb3.7/6,Error ellipse: s-maj=6.3km s-min=4.1km az=78.5*
JMA ***26*** *12:20:50.7±0.1,4156N×14209E,h65km±3km,M3.5 Broadband fault plane solution: P waves. NP1: φs:151.00000°,δ:14.00000°,λ:36.00000°. NP2:φs:26.00000°, δ:82.00000°,λ:101.00000°. Principal axes: T Plg52.0000°, Azm309.0000°; N Plg11.0000°, Azm204.0000°; P Plg36.0000°, Azm106.0000°;*
JMA Felt I J1.
NEIC ***26*** *12:20:50.8,4156N×14209E,h65km,MG3.5(JMA),After JMA.*
IDC ***26*** *12:20:52.6±1.9,4163N×14221E,h74km±17km,mb3.5/6, mb1 3.6/9,mb1mx3.4/24,mbtmp3.5/9,Error ellipse: s-maj=26.5km s-min=13.8km az=108.0*

ISC 26 12:20:51.2±0.4,4156N±003×14208E±004,h61km±5km, n24,σ0:75/38,mb3.8/6,4C-5D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.80**	**257**	⇓P	**Pn**	**12 21 06.6**	**-0.1**
JOT				*e*S	**Sn**	**12 21 18.3**	**+0.2**
JKB	**Kayabe**	**0.85**	**293**	⇓P	**Pn**	**12 21 06.9**	**-0.4**
JKB				*e*S	**Sn**	**12 21 18.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.88**	**35**	P	**Pn**	**12 21 06.8**	**-0.9**
JNBK				*e*S	**Sn**	**12 21 19.1**	**-0.7**
ERM	**Erimo**	**0.92**	**60**	*e*Pn	**Pn**	**12 21 07.7**	**-0.6**
ERM				*e*Sn	**Sn**	**12 21 22.8**	**+1.9**
JEM	**Erimo**	**0.92**	**60**	⇑P	**Pn**	**12 21 07.8**	**-0.5**
JEM				*e*S	**Sn**	**12 21 19.7**	**-1.2**
JANG	**Nango**	**1.26**	**200**	⇑P	**Pn**	**12 21 12.6**	**-0.1**
JANG				*e*S	**Sn**	**12 21 28.3**	**-0.4**
JEW	**Eniwo**	**1.36**	**340**	⇓P	**Pn**	**12 21 14.2**	**+0.2**
JEW				*e*S	**Sn**	**12 21 31.2**	**0.0**
JCH	**Churui**	**1.42**	**42**	⇓P	**Pn**	**12 21 15.2**	**+0.4**
JCH				*e*S	**Sn**	**12 21 33.0**	**+0.4**
JFR	**Furan**	**1.65**	**13**	P	**Pn**	**12 21 17.8**	**0.0**
JFR				*e*S	**Sn**	**12 21 37.2**	**-0.8**
JOSM	**Okushiri--Mats**	**2.02**	**286**	⇓P	**Pn**	**12 21 22.6**	**-0.3**
JOSM				*e*S	**Sn**	**12 21 46.2**	**-0.8**
JAR	**Ashorobuto**	**2.14**	**35**	P	**Pn**	**12 21 24.6**	**+0.1**
JAR				*e*S	**Sn**	**12 21 49.2**	**-0.7**
JSK	**Shakotan**	**2.15**	**327**	P	**Pn**	**12 21 24.9**	**+0.2**
JOM	**Ohasama**	**2.17**	**196**	⇑P	**Pn**	**12 21 25.8**	**+0.9**
JOM				*e*S	**Sn**	**12 21 51.5**	**+0.8**
JHR	**Hokuryu**	**2.20**	**353**	⇑P	**Pn**	**12 21 26.3**	**+1.0**
JHR				*e*S	**Sn**	**12 21 53.4**	**+2.0**
ASAJ	**Asahikawa**	**2.58**	**8**	P	**Pn**	**12 21 31.6**	**+1.1**
	10nm,0.3s,baz=218,slow=14,SNR=70						
ASAJ				S	**Sn**	**12 22 00.8**	**-0.1**
	5.1nm,0.3s,baz=332,slow=22,SNR=8.8						
MJAR	**Matsushiro Arr**	**5.85**	**212**	P	**Pn**	**12 22 19.6**	**+4.4**
	0.5nm,0.3s,baz=22,slow=13,SNR=4.2						
KSRS	**Korea Array**	**11.68**	**254**	P	**Pn**	**12 23 40.1**	**+5.2**
	baz=65,slow=14,SNR=6.5						
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**12 26 18.4**	**+0.5**
	0.8nm,0.5s,mb3.5,baz=85,slow=8.1,SNR=7.9						
ZAL	**Zalesovo**	**39.39**	**308**	P	**P**	**12 28 15.1**	**+0.3**
	1.0nm,0.4s,mb3.9,baz=119,slow=1.8,SNR=4.0						
BVAR	**Borovoye Array**	**48.00**	**309**	P	**P**	**12 29 23.6**	**-0.3**
	1.2nm,0.3s,mb4.3,baz=80,slow=9.6,SNR=16						
AKTK	**Aktyubinsk**	**56.10**	**310**	P	**P**	**12 30 20.6**	**-3.6**
YKA	**Yellowknife Ar**	**59.66**	**32**	P	**P**	**12 30 49.3**	**+0.3**
	0.1nm,0.4s,mb3.2,baz=306,slow=6.6,SNR=3.0						
WRA	**Warramunga Arr**	**61.61**	**188**	P	**P**	**12 31 01.5**	**-0.8**
	0.3nm,0.8s,mb3.5,baz=6.1,slow=7.4,SNR=11						
FINES	**FINESS Array B**	**65.07**	**332**	P	**P**	**12 31 24.8**	**-0.4**
	2.6nm,0.8s,mb4.3,baz=48,slow=8.9,SNR=6.7						

IDC ***26*** *12:22:40.9±0.6,2478N×9864E,h0km,mb4.2/17, mb1 4.3/17,mb1mx4.1/26,mbtmp4.2/17,Error ellipse: s-maj=24.1km s-min=14.3km az=57.0*
ISCJB ***26*** *12:22:41.9±1.1,2478N±005×9858E±004,h20km±9km, mb4.2/18,Error ellipse: s-maj=9.0km s-min=6.6km az=1.1*
NEIC ***26*** *12:22:42.4±0.4,2480N×9864E,h10km,mb4.4/2,Error ellipse: s-maj=10.9km s-min=7.6km az=219.0*
BJI ***26*** *12:22:43.2,2491N×9881E,h20km,mB4.5,mb4.1,ML4.3, Ms4.0,Msz4.0*

ISC 26 12:22:43.7±2.0,2479N±005×9864E±004,h17km±13km, n43,σ0:97/47,mb4.2/18,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.73**	**84**	PG	**Pb**	**12 23 47.5**	**-1.6**
KMI				SG	**Sb**	**12 24 34.8**	**+0.7**
KMI				Smax			
	comp=N,1μm,1.0s						
KMI				Smax			
	comp=E,523nm,0.8s						
KMI				LR	LR		
	comp=N,3μm,7.1s						
KMI				LR	LR		
	comp=E,3μm,7.

ZAL	Zalesovo	30.90	344	P	P	12 29 00.5	+1.2
BVAR	Borovoye Array	35.32	330	P	P	12 29 38.5	+0.6
	comp=E,1.9nm,0.6s,mb4.2,baz=131,slow=10,SNR=8.7						
BRVK	Borovoye	35.39	330	*e*P	P	12 29 39.1	+0.6
	comp=E,3.1nm,0.7s,mb4.3						
AKTO	Aktyubinsk	40.38	320	P	P	12 30 20.6	-0.1
	comp=E,2.1nm,0.8s,mb4.0,baz=147,slow=5.6,SNR=7.1						
ASAJ	Asahikawa	40.49	50	P	P	12 30 21.2	-0.2
	comp=E,14nm,0.7s,mb4.8,baz=284,slow=10,SNR=12						
EIL	Elat	56.23	290	*e*P	P	12 32 22.5	-0.3
	comp=E,122nm,0.4s						
WRA	Warramunga Arr	56.42	139	P	P	12 32 23.3	-0.9
	comp=E,3.9nm,0.9s,mb4.4,baz=328,slow=7.5,SNR=16						
AKASG	Malin Array Be	58.33	316	P	P	12 32 36.5	-1.2
	comp=E,1.2nm,0.4s,mb4.2,baz=78,slow=6.5,SNR=8.0						
AKASG	Malin Array Be	58.33	316	P	P	12 32 36.5	-1.3
ASAR	Alice Springs	59.06	142	P	P	12 32 44.1	+1.3
	comp=E,1.4nm,0.9s,mb4.0,baz=327,slow=6.2,SNR=8.6						
FINES	FINESS Array B	60.23	328	P	P	12 32 50.6	-0.3
	comp=E,6.7nm,1.2s,mb4.6,baz=126,slow=2.6,SNR=3.9						
ARCES	ARCESS Array B	61.12	337	P	P	12 32 56.6	-0.3
	comp=E,2.1nm,0.6s,mb4.4,baz=82,slow=8.9,SNR=6.5						
KMBO	Kilima Mbogo	64.72	256	P	P	12 33 22.2	+1.3
	comp=E,0.5nm,0.3s,mb4.0,baz=64,slow=20,SNR=4.1						
NOA	NORSAR Array B	67.41	328	P	P	12 33 37.2	-1.0
	comp=E,0.7nm,0.7s,mb3.8,baz=140,slow=3.5,SNR=3.3						
GERES	GERESS Array B	68.53	315	P	P	12 33 44.7	-0.5
	comp=E,0.6nm,0.7s,mb3.6,baz=68,slow=7.4,SNR=6.4						
STKA	Stephens Creek	69.70	142	P	P	12 33 53.1	+0.7
	comp=E,3.1nm,0.8s,mb4.3,baz=296,slow=7.9,SNR=4.9						
LPG	La Plagne	74.02	313	*e*P	P	12 34 16.8	-1.6
	comp=E,7.7nm,0.9s,mb4.3						
LPG	La Plagne	74.02	313	*e*P	P	12 34 16.8	-1.6
	comp=E,3.8nm,0.9s,mb4.3						
LPL	La Plagne	74.03	313	*e*P	P	12 34 17.5	-0.9
LBTB	Lobatse	86.27	240	P	P	12 35 24.9	+0.5
	comp=E,3.8nm,1.0s,mb4.6,baz=279,slow=3.9,SNR=4.4						
LBTB	Lobatse	86.27	240	P	P	12 35 24.9	+0.5
TORD	Torodi Ar. Bea	90.74	285	P	P	12 35 46.3	+0.7
	comp=E,0.5nm,0.8s,mb3.9,baz=42,slow=4.3,SNR=3.5						
JCT	Junction City	122.27	19	*e*P	PKPdf	12 41 38.1	+0.5
SDV	Santo Domingo	144.93	341	*e*PKPdf	PKPdf	12 42 18.5	-1.3

ISCJB ***26*** *12:24:09.7±0.6, 4936N±003×688E±006, h0km, Error ellipse: s-maj=5.8km s-min=4.1km az=147.1*
LDG ***26*** *12:24:10.1±0.3, 4942N×680E, h1km, Md2.4/1, Ml2.4/4, Error ellipse: s-maj=4.7km s-min=2.3km az=133.0, Suspected Mining induced.*
BGR ***26*** *12:24:11.3±0.4, 4937N×684E, h1km, ML1.8/2, Error ellipse: s-maj=8.9km s-min=4.4km az=34.0*
ISC 26 12:24:10.6±0.6, 4937N±003×685E±006, h0km, n8, σ0:59/13, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.54**	**303**	*e*Pg	**Pg**	**12 24 22.3**	**+1.2**
WLF				*e*Sg	**Sg**	12 24 27.6	-0.5
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**12 24 30.5**	**-1.4**
CDF				*e*Sg	**Sg**	**12 24 43.4**	**+0.7**
	9.7nm,0.4s						
TNS	**Taunus Mts**	**1.34**	**50**	*e*Sg	**Sg**	**12 24 54.0**	**+0.2**
MEM	**Membach**	**1.35**	**337**	P	**Pg**	**12 24 36.5**	**-0.1**
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**12 24 37.3**	**-0.3**
HAU				*e*Sg	**Sg**	**12 24 55.8**	**0.0**
	6.3nm,0.2s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**12 24 38.1**	**+0.1**
BFO				*e*Sg	**Sg**	**12 24 56.4**	**-0.1**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**12 24 40.1**	**-0.3**
HINF				*e*Sg	**Sg**	**12 25 01.1**	**+0.5**
	8.5nm,0.3s						
GEC2	**GERESS Array S**	**4.53**	**94**	*e*(Pn)	**Pn**	**12 25 20.4**	**-0.1**

NIED ***26*** *12:26:00, 2160N×12080E, h17km, Mw6.9 Best double couple: M0:2.51000×10^19 NP1:φs327.00000°, δ64.00000°, λ-85.00000°. NP2:φs135.00000°, δ26.00000°, λ-101.00000°.*
BGS ***26*** *12:26:10.7, 2016N×12208E, h10km, mb6.3, MS7.4*
JMA ***26*** *12:26:18.8±0.3, 2165N×12075E, h0km, M6.9*
JMA Felt I J1.
ISCJB ***26*** *12:26:19.5±0.1, 2184N±001×12053E±001, h6km, mb6.4/311, MS7.2/213, Error ellipse: s-maj=1.7km s-min=1.5km az=83.5*
BJI ***26*** *12:26:19.3, 2186N×12060E, h10km, mB7.0, mb6.0, ML6.4, Ms7.4, Ms7.4*
IDC ***26*** *12:26:19.1±0.3, 2186N×12065E, h0km, mb6.2/31, mb1 6.2/35, mb1mx6.2/36, mbtmp6.2/35, ML5.3/4, MS7.0/8, Ms1 7.0/8, ms1mx6.6/38, Error ellipse: s-maj=7.7km s-min=7.1km az=153.0*
NEIC ***26*** *12:26:21.1±0.1, 2180N×12055E, h10km, mb6.4/210, ME7.0, MS7.3/150, MW7.1, MW7.0(MOS), Error ellipse: s-maj=2.9km s-min=2.5km az=45.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^19Nm; Mrr-1.52; Mθθ-0.01; Mφφ 1.53; Mrθ2.54; Mφφ0.32; Mφr-4.83; Best double couple: M0:5.70000×10^19 NP1:φs334.00000°, δ83.00000°, λ-98.00000°. NP2:φs206.00000°, δ11.00000°, λ-39.00000°. Principal axes: T 5.3800, Plg38.0000°, Azm72.0000°; N 0.5400, Plg8.0000°, Azm335.0000°; P -5.9200, Plg51.0000°, Azm235.0000°; Complex event observed on broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Two people killed, over forty injured and several buildings damaged or destroyed. Undersea telecommunication cables were cut, disrupting voice and internet communication in much of East and Southeast Asia. Felt [V] at Kao-hsiung and [III] at T'ai-nan and Taipei. Also felt [IV] at Quanzhou and Xiamen; [III] at Fuzhou, Guangzhou, Hong Kong, Jiulong, Shating, Shenzhen and Yuanlong; [II] at Quanwan, China. Felt [IV PIVS] at Basco, Batan Islands and [II PIVS] at Pasuquin and Santo Domingo, Luzon, Philippines. Recorded [5 TAP] in P'ing-tung; [4 TAP] in Chang-hua, Chia-i, Kao-hsiung, Nan-t'ou, P'eng-hu, T'ai-nan, T'ai-tung and Yun-lin; [3 TAP] in Hua-lien, T'ai-chung and I-lan; [2 TAP] in Miao-li and T'ao-yuan; [1 TAP] in Hsin-chu and T'ai-pei Counties. Recorded [1 JMA] on Iriomote-jima, Ryukyu Islands.
GCMT ***26*** *12:26:21.1±0.1, 2181N×12052E, h20km, MW7.0/107, Moment Tensor Solution. s103, c270; s107, c477; Duration: 76 Moment tensor: Scale 10^19Nm; Mrr-3.16±.02; Mθθ0.42±.02; Mφφ2.74±.02; Mrθ1.23±.07; Mθφ-1.23±.01; Mφr-1.55±.08; Best double couple: M0:3.77600×10^19 NP1:φs165.00000°, δ30.00000°, λ-76.00000°. NP2:φs329.00000°, δ61.00000°, λ-98.00000°. Principal axes: T 3.8000, Plg15.0000°, Azm65.0000°; N -0.0480, Plg7.0000°, Azm333.0000°; P -3.7530, Plg73.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***26*** *12:26:23.3±1.0, 2188N×12059E, h33km, mb6.7/101, MS7.2/76 Error ellipse: s-maj=5.9km s-min=3.3km az=118.7*
SZGRF ***26*** *12:26:26.5, 2204N×12101E, h44km, mb6.7, MS7.4, Taiwan region*
ISC 26 12:26:21.2±0.1, 2186N±001×12055E±001, h7km, h7km±1.0km:pP-P, n1965, σ1:96/1736, mb6.4/307, MS7.2/213, 396C-370D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.94**	**137**	*e*P	**Pn**	**12 26 52.2**	**-2.4**
BBP				*e*S	**Sn**	**12 27 14.8**	**-4.4**
NACB	**Ninganchiao**	**2.49**	**23**	*e*Pn	**Pn**	**12 27 01.8**	**-0.4**
NACB				*e*Sn	**Sn**	**12 27 34.8**	**+1.8**
YHNB	**Yeheng**	**2.90**	**15**	*e*Pn	**Pn**	**12 27 08.9**	**+1.1**
YHNB				*e*Sn	**Sn**	**12 27 42.9**	**+0.1**
TATO	**Taipei**	**3.22**	**15**	Pn	**Pn**	**12 27 13.1**	**+0.9**
TATO	**Taipei**	**3.22**	**15**	⇓P	**Pn**	**12 27 12.6**	**+0.4**
	SNR=345						
TATO	**Taipei**	**3.22**	**15**	*e*Pn	**Pn**	**12 27 13.1**	**+0.9**
TATO				*e*Sn	**Sn**	**12 27 48.4**	**-2.3**
YOJ	**Yonaguni jima**	**3.44**	**41**	⇑P	**Pn**	**12 27 15.9**	**+0.6**
YOJ				*e*S	**Sn**	**12 27 58.1**	**+1.8**
PIP	**Pasuquin**	**3.52**	**179**	⇓*e*P	**Pn**	**12 27 15.6**	**-0.8**
PIP				*e*S	**Sn**	**12 27 54.2**	**-4.1**
QZH	**Quanzhou**	**3.55**	**330**	⇑*i*P	**Pn**	**12 27 16.3**	**-0.5**
QZH				S	**Sn**	**12 27 56.8**	**-2.2**
QZH				Smax			
	comp=N,54μm,0.7s						
QZH				Smax			
	comp=E,66μm,0.8s						
QZH				LR	LR		
	comp=N,2946μm,12.4s						
QZH				LR	LR		
	comp=E,4903μm,16.7s						
QZH				LR	LR		
	comp=Z,5532μm,15.3s						
HATJ	**Hateruma jima**	**3.71**	**53**	P	**Pn**	**12 27 18.9**	**-0.1**
HATJ				S	**Sn**	**12 28 03.1**	**+0.1**
IRIF	**Iriomote-Funau**	**3.83**	**49**	⇑P	**Pn**	**12 27 20.8**	**+0.2**
IRIF				*e*S	**Sn**	**12 28 08.6**	**+2.8**
SGCP	**Mt. Cagua**	**3.87**	**158**	*e*P	**Pn**	**12 27 20.4**	**-0.8**
JKRS	**Kuro-shima**	**3.97**	**53**	P	**Pn**	**12 27 22.6**	**0.0**
JKRS				*e*S	**Sn**	**12 28 09.8**	**+0.4**
APYP	**Conner**	**4.04**	**171**	*e*P	**Pn**	**12 27 24.7**	**+1.3**
JIJ	**Ishigaki jima**	**4.14**	**52**	P	**Pn**	**12 27 25.1**	**+0.2**
JIJ				S	**Sn**	**12 28 12.4**	**-1.2**
ABRA	**Dolores**	**4.20**	**178**	*e*P	**Pn**	**12 27 25.6**	**-0.1**
CVP	**Callao Caves**	**4.31**	**164**	⇑*i*P	**Pn**	**12 27 27.6**	**+0.3**
JTJ	**Tarama**	**4.72**	**53**	P	**Pn**	**12 27 32.8**	**0.0**
JTJ				*e*S	**Sn**	**12 28 27.5**	**-0.3**
CAUP	**Cauayan**	**5.04**	**166**	*e*P	**Pn**	**12 27 39.4**	**+2.1**
PALP	**Palanan**	**5.09**	**159**	⇓*e*P	**Pn**	**12 27 38.3**	**+0.3**
PALP				*e*S	**Sn**	**12 28 35.7**	**-1.4**
PALP	**Palanan**	**5.09**	**159**	*e*P	**Pn**	**12 27 39.3**	**+1.2**
JMJ	**Miyako jima 2**	**5.26**	**55**	P	**Pn**	**12 27 40.8**	**+0.5**
JMJ				*e*S	**Sn**	**12 28 41.8**	**+0.6**
JOGS	**Gusukube**	**5.32**	**56**	P	**Pn**	**12 27 41.4**	**+0.3**
JOGS				*e*S	**Sn**	**12 28 43.3**	**+0.7**
BCPH	**Baguio City Da**	**5.45**	**180**	⇓*e*P	**Pn**	**12 27 46.7**	**+3.8**
BCPH				*e*S	**Sn**	**12 28 45.6**	**-0.4**
BOLP	**Bolinao**	**5.49**	**186**	*e*P	**Pn**	**12 27 44.5**	**+1.1**
HKC	**Hong Kong**	**5.93**	**275**	⇑*i*P	**Pn**	**12 27 48.0**	**-1.4**
SCZP	**Santa Cruz**	**6.08**	**186**	*e*P	**Pn**	**12 27 52.8**	**+1.2**
BALP	**Baler**	**6.17**	**171**	*e*P	**Pn**	**12 27 53.9**	**+1.1**
PCPH	**Palayan**	**6.29**	**175**	⇑*e*P	**Pn**	**12 27 54.8**	**+0.3**
PCPH				*e*S	**Sn**	**12 29 06.2**	**-0.3**
GZH	**Guangzhou**	**6.77**	**282**	P	**Pn**	**12 27 58.0**	**-3.0**
GZH				S	**Sn**	**12 29 12.0**	**-6.4**
GZH				LR	LR		
	comp=N,791μm,12.1s						
GZH				LR	LR		
	comp=E,1068μm,16.5s						
GZH				LR	LR		
	comp=Z,1573μm,16.5s						
POLP	**Polilio Island**	**7.22**	**169**	*e*P	**Pn**	**12 28 08.3**	**+1.1**
JKE	**Kume jima 2**	**7.23**	**51**	⇓P	**Pn**	**12 28 06.1**	**-1.2**
JKE				*e*S	**Sn**	**12 29 27.4**	**-2.2**
JAGN	**Aguni-jima**	**7.71**	**51**	P	**Pn**	**12 28 14.2**	**+0.2**
TGY	**Tagaytay City**	**7.73**	**177**	Pn	**Pn**	**12 28 14.1**	**-0.1**
	comp=Z,50nm,0.3s,baz=312,slow=1.2,SNR=13						
TGY				Sn	**Sn**	**12 29 36.1**	**-5.9**
	comp=Z,205nm,0.3s,baz=298,slow=2.8,SNR=3.7						
NAH1	**Naha**	**7.83**	**55**	P	**Pn**	**12 28 16.5**	**+0.9**
NAH1				S	**Sn**	**12 29 42.8**	**-1.7**
JJT2	**Tamagusuku 2**	**7.84**	**56**	P	**Pn**	**12 28 17.6**	**+1.9**
LUBP	**Lubang**	**8.09**	**182**	*e*P	**Pn**	**12 28 20.6**	**+1.5**
GQP	**Guinayangan**	**8.12**	**167**	⇑*e*P	**Pn**	**12 28 22.1**	**+2.6**
GQP				*e*S	**Sn**	**12 29 45.2**	**-6.4**
BOAC	**Boac**	**8.45**	**171**	*e*P	**Pn**	**12 28 23.8**	**-0.3**
JIH	**Iheya**	**8.50**	**51**	P	**Pn**	**12 28 23.7**	**-1.0**
JIH				*e*S	**Sn**	**12 29 57.3**	**-3.6**
JOW	**Kunigami**	**8.61**	**53**	Pn	**Pn**	**12 28 24.4**	**-1.8**
	comp=Z,156nm,0.3s,baz=225,slow=9.6,SNR=124						
JOW	**Kunigami**	**8.61**	**53**	P	**Pn**	**12 28 25.7**	**-0.6**
JOW				*e*S	**Sn**	**12 29 58.2**	**-5.4**
SSE	**Sheshan**	**9.21**	**3**	P	**Pn**	**12 28 34.3**	**-0.2**
SSE				S	**Sn**	**12 30 20.5**	**+2.1**
SSE				AMB	AMB		
	comp=Z,294nm,0.7s						
SSE				AMB	AMB		
	comp=Z,99μm,12.0s						
SSE				LR	LR		
	comp=N,847μm,22.4s						
SSE				LR	LR		
	comp=E,2391μm,22.4s						
SSE				LR	LR		
	comp=Z,1962μm,18.4s						
SSE	**Sheshan**	**9.21**	**3**	P	**Pn**	**12 28 34.3**	**-0.2**
	comp=Z,294nm,0.7s						
SSE				S	**Sn**	**12 30 20.5**	**+2.1**
OTRP	**Odiongan**	**9.55**	**171**	*e*P	**Pn**	**12 28 39.5**	**+0.3**
JTK	**Tokunoshima**	**9.64**	**51**	P	**Pn**	**12 28 38.5**	**-1.9**
BUSP	**Coron**	**9.81**	**182**	*e*P	**Pn**	**12 28 42.9**	**+0.1**
KALP	**Kalibo**	**10.27**	**170**	⇓*e*P	**Pn**	**12 28 57.2**	**+8.2**
WHN	**Wuhan**	**10.28**	**329**	P	**Pn**	**12 28 49.0**	**-0.1**
WHN				S	**Sn**	**12 30 40.0**	**-4.5**
WHN				LR	LR		
	comp=Z,3015μm,14.3s						
QIZ	**Qiongzhong**	**10.42**	**256**	P	**Pn**	**12 28 50.3**	**-0.8**
QIZ				S	**Sn**	**12 30 41.3**	**-6.8**
QIZ				LR	LR		
	comp=E,2465μm,17.7s						
QIZ				LR	LR		
	comp=Z,3338μm,17.7s						
QIZ	**Qiongzhong**	**10.42**	**256**	*e*Pn	**Pn**	**12 28 50.3**	**-0.8**
	comp=Z,510nm,3.0s						
QIZ				*e*Sn	**Sn**	**12 30 40.7**	**-7.4**
RCP	**Roxas**	**10.46**	**168**	⇓*e*P	**Pn**	**12 28 55.3**	**+3.7**
JAM	**Amami Oshima**	**10.48**	**50**	P	**Pn**	**12 28 48.5**	**-3.4**
JAM				*e*S	**Sn**	**12 30 43.1**	**-6.4**
JMZ	**Minamidaito 2**	**10.53**	**66**	P	**Pn**	**12 28 50.0**	**-2.6**
ENPP	**El Nido**	**10.65**	**186**	*e*P	**Pn**	**12 28 54.5**	**+0.2**
JZK	**Kikaishima**	**10.69**	**51**	P	**Pn**	**12 28 53.7**	**-1.0**
CUYO	**Cuyo Island**	**10.96**	**178**	*e*P	**Pn**	**12 29 00.7**	**+2.2**
GUIM	**Jordan**	**11.35**	**170**	*e*P	**Pn**	**12 29 06.9**	**+3.1**
OCLP	**Ormoc**	**11.44**	**159**	*e*P	**Pn**	**12 29 08.8**	**+3.8**
JNN	**Nakanoshima**	**11.56**	**45**	P	**Pn**	**12 29 05.1**	**-1.5**
LLP	**Lapu-Lapu**	**11.94**	**164**	⇓*e*P	**Pn**	**12 29 14.2**	**+2.2**
	comp=Z,256μm,1.0s						
PPR	**Puerto Princes**	**12.14**	**189**	*e*P	**Pn**	**12 29 14.8**	**+0.2**
MSLP	**Maasin**	**12.38**	**160**	*e*P	**Pn**	**12 29 19.3**	**+1.5**
TBP	**Tagbilaran**	**12.52**	**165**	*e*P	**Pn**	**12 29 20.7**	**+0.9**
SNPH	**Sibulan**	**12.72**	**168**	*e*P	**Pn**	**12 29 25.5**	**+3.0**
JSJ	**Shimokoshiki**	**12.75**	**38**	P	**Pn**	**12 29 22.4**	**-0.5**
SCPH	**Surigao**	**12.92**	**158**	*e*P	**Pn**	**12 29 29.7**	**+4.5**
JFU	**Fukue jima 2**	**12.98**	**32**	P	**Pn**	**12 29 27.7**	**+1.5**
BATP	**Bataraza**	**13.26**	**192**	*e*P	**Pn**	**12 29 30.6**	**+0.7**
GYA	**Guiyang**	**13.47**	**293**	⇑*i*P	**Pn**	**12 29 32.5**	**-0.3**
GYA				AP		12 29 36.5	
GYA				XP		12 29 39.5	
GYA				S	**Sn**	**12 31 55.8**	**-6.9**
GYA				AMB	AMB		
	comp=Z,3μm,1.3s						
GYA				AMB	AMB		
	comp=Z,51μm,11.1s						
GYA				LR	LR		
	comp=N,1100μm,16.7s						
GYA				LR	LR		
	comp=E,1631μm,17.4s						
GYA				LR	LR		
	comp=Z,2230μm,18.6s						
DCPH	**Dipolog City**	**13.48**	**168**	⇑*e*P	**Pn**	**12 29 35.1**	**+2.2**
JHD	**Hondo**	**13.57**	**37**	P	**Pn**	**12 29 36.1**	**+2.0**
JZO	**Okuchi**	**13.59**	**39**	P	**Pn**	**12 29 35.1**	**+0.6**
BUTP	**Butuan**	**13.72**	**158**	*e*P	**Pn**	**12 29 44.4**	**+8.2**
JUR	**Ureshino**	**13.95**	**35**	P	**Pn**	**12 29 41.4**	**+2.1**
JNU	**Nakatsue**	**14.47**	**37**	Pn	**Pn**	**12 29 45.4**	**-1.1**
	comp=Z,6.1nm,0.3s,baz=233,slow=19,SNR=45						
JNU				Sn	**Sn**	**12 32 30.7**	**+3.5**
	baz=205,slow=20,SNR=0.9						
BUKP	**Musuan**	**14.57**	**162**	*e*P	**Pn**	**12 29 48.7**	**+0.9**
TIA	**Tai'an**	**14.60**	**349**	⇑P	**Pn**	**12 29 50.3**	**+2.0**
TIA				S	**Sn**	**12 32 40.5**	**+10**
TIA				AMB	AMB		
	comp=Z,2μm,2.0s						
TIA				AMB	AMB		
	comp=Z,9μm,5.0s						
TIA				LR	LR		
	comp=N,780μm,13.0s						
TIA				LR	LR		
	comp=E,654μm,13.0s						
CTBH	**Cotabato--PC H**	**14.99**	**166**	⇑*e*P	**Pn**	**12 29 59.8**	**+6.3**
KCP	**Kidapawan**	**15.41**	**163**	⇑*e*P	**Pn**	**12 30 05.1**	**+6.0**
DAV	**Davao City (W)**	**15.49**	**161**	⇓P	**Pn**	**12 30 03.7**	**+3.6**
	SNR=71						
DAV	**Davao City (W)**	**15.49**	**161**	*e*P	**Pn**	**12 30 04.2**	**+4.0**
	comp=E,2μm,0.9s						
DAV				*e*S	sS	12 33 12.9	+2.0
MATI	**Mati**	**15.82**	**159**	*e*P	**Pn**	**12 30 04.9**	**+0.4**
XAN	**Xi'an**	**15.88**	**322**	P	**Pn**	**12 30 08.0**	**+2.8**
XAN				S	**Sn**	**12 33 10.3**	**+8.9**
XAN				AMB	AMB		
	comp=Z,513nm,1.3s						
XAN				LR	LR		
	comp=N,614μm,18.9s						
XAN				LR	LR		
	comp=E,576μm,20.9s						
XAN				LR	LR		
	comp=Z,1330μm,20.9s						
KKM	**Kota Kinabalu**	**16.27**	**196**	P	**Pn**	**12 30 14.1**	**+3.8**
KKM	**Kota Kinabalu**	**16.27**	**196**	*e*P	**Pn**	**12 30 10.7**	**+0.4**
KKM				*e*S	**Sn**	**12 33 09.5**	**-1.6**
INCN	**Inchon**	**16.43**	**17**	*e*Pn	**Pn**	**12 30 12.6**	**+0.3**
	comp=Z,3μm,1.5s						
KMI	**Kunming**	**16.65**	**285**	P	**Pn**	**12 30 16.0**	**+0.9**
KMI				XP	sP	12 30 22.5	+2.2
KMI				PP		12 30 30.5	
KMI				S	**Sn**	**12 33 18.3**	**-1.9**
KMI				XS	sS	12 33 25.0	-10
KMI				SS		12 33 37.0	
KMI				AMB	AMB		
	comp=Z,444nm,2.0s						
KMI				AMB	AMB		
	comp=Z,8μm,3.7s						
KMI				LR	LR		
	comp=N,702μm,14.4s						
KMI				LR	LR		
	comp=E,735μm,16.9s						
KMI				LR	LR		
	comp=Z,804μm,16.9s						
KMI	**Kunming**	**16.65**	**285**	P	**Pn**	**12 30 15.9**	**+0.8**
KMI				S	**Sn**	**12 33 18.3**	**-1.9**
KMI				pmax	pmax		
	comp=Z,444nm,2.0s						
KMI	**Kunming**	**16.65**	**285**	P	**Pn**	**12 30 15.9**	**+0.8**
	comp=Z,444nm,2.0s						
KMI				sP	sP	12 30 22.6	+2.3
KMI				PP		12 30 30.5	
KMI				PPP		12 30 37.5	
KMI				S	**Sn**	**12 33 18.3**	**-1.9**
KMI				sS	sS	12 33 25.0	-10
KMI				SS		12 33 37.1	
JMN	**Monobe**	**16.68**	**42**	P	**Pn**	**12 30 10.6**	**-4.8**
KS15	**Wonju Array Si**	**16.77**	**21**	*e*Pn	**Pn**	**12 30 16.9**	**+0.3**
KSRS	**Korea Array**	**16.80**	**21**	Pn	**Pn**	**12 30 16.9**	**-0.1**
	baz=201,slow=9.0,SNR=70						
KSRS				Sn	**Sn**	**12 33 24.8**	**+1.1**
	baz=33,slow=39,SNR=2.7						
KSRS				PcP	PcP	12 35 05.0	0.0
	baz=189,slow=1.7,SNR=4.1						
KSRS				P3KPbc		13 05 29.8	
	baz=14,slow=4.2,SNR=7.3						
DL2	**Dalian**	**17.01**	**3**	⇑*i*P	**Pn**	**12 30 21.3**	**+1.7**
DL2				S	**Sn**	**12 33 31.0**	**+2.1**
DL2				AMB	AMB		
	comp=Z,1μm,1.5s						
DL2				AMB	AMB		
	comp=Z,47μm,8.3s						
DL2				LR	LR		
	comp=N,709μm,17.1s						
DL2				LR	LR		
	comp=E,212μm,15.4s						
DL2				LR	LR		
	comp=Z,772μm,18.0s						
JJS	**Sakaide**	**17.14**	**41**	P	**Pn**	**12 30 16.1**	**-5.2**
CD2	**Chengdu**	**17.51**	**304**	⇓*i*P	**Pn**	**12 30 25.8**	**-0.1**
CD2				AP	pP	12 30 29.5	+0.5
CD2				XP	sP	12 30 32.8	+3.0
CD2				S	**Sn**	**12 33 40.8**	**-0.3**
CD2				XS	sS	12 33 45.8	-6.5
CD2				SS		12 34 01.8	
CD2				AMB	AMB		
	comp=Z,3μm,1.0s						
CD2				AMB	AMB		
	comp=Z,158μm,10.3s						
CD2				LR	LR		
	comp=N,1553μm,16.5s						
CD2				LR	LR		
	comp=E,1043μm,13.3s						
CD2				LR	LR		
	comp=Z,1768μm,14.4s						
KKTK	**Khon Kaen**	**17.62**	**255**	⇑P	**Pn**	**12 30 29.0**	**+1.7**
TSM	**Tawau**	**17.66**	**189**	P	**Pn**	**12 30 31.1**	**+3.4**
JAJ2	**Tsuna**	**17.76**	**42**	P	**Pn**	**12 30 32.0**	**+3.0**
JKS	**Kasai**	**18.11**	**41**	P	**Pn**	**12 30 36.4**	**+3.1**
JMIK	**Miki**	**18.12**	**42**	P	**Pn**	**12 30 37.1**	**+3.7**
BJT	**Baijiatuau**	**18.48**	**349**	P	**Pn**	**12 30 39.3**	**+1.5**
BJT				pmax	pmax		
	comp=Z,870nm,0.7s						
BJT	**Baijiatuau**	**18.48**	**349**	*e*P	**Pn**	**12 30 40.2**	**+2.5**
	comp=Z,873nm,0.6s						
BJT				*e*S	**Sn**	**12 34 10.2**	**+5.7**
BJI	**Beijing**	**18.50**	**349**	P	**Pn**	**12 30 39.5**	**+1.5**
BJI				S	**Sn**	**12 33 59.0**	**-5.9**
BJI				AMB	AMB		
	comp=Z,1μm,0.9s						
BJI				AMB	AMB		
	comp=Z,80μm,8.1s						
BJI				LR	LR		
	comp=N,691μm,20.2s						
BJI				LR	LR		
	comp=E,831μm,22.5s						
BJI				LR	LR		
	comp=Z,574μm,23.3s						
BJI	**Beijing**	**18.50**	**349**	P	**Pn**	**12 30 39.6**	**+1.6**
BJI				S	**Sn**	**12 33 59.0**	**-5.9**
BJI				pmax	pmax		
	comp=Z,1μm,0.9s						
BJI	**Beijing**	**18.50**	**349**	P	**Pn**	**12 30 39.6**	**+1.6**
	comp=Z,1μm,0.9s						
BJI				S	**Sn**	**12 33 59.0**	**-5.9**
NANT	**Nan**	**18.86**	**264**	⇓P	**Pn**	**12 30 41.0**	**-1.4**
JFM	**Mihama**	**19.17**	**41**	P	**Pn**	**12 30 46.3**	**+0.1**
JFM				S	**Sn**	**12 34 27.7**	**+6.6**
JGM	**Miyama**	**19.73**	**42**	S	**Sn**	**12 34 38.2**	**+3.4**
JAO	**Obara**	**19.80**	**44**	P	**Pn**	**12 30 54.4**	**+0.6**
JKG	**Kaga**	**19.88**	**40**	S	**Sn**	**12 34 38.9**	**+0.7**
JSG	**Sagara**	**20.07**	**

LZH				S	S	12 34 43.0	-2.7
LZH				sS	sS	12 34 49.1	+0.4
LZH				SS		12 35 12.5	
LZH				LR	LR		
	comp=Z,651µm,12.9s,MS7.2						
CBIJ	Chichi jima	20.36	71	P	P	12 30 57.0	-1.3
	comp=Z,1µm,0.5s,baz=224,slow=5.7,SNR=22						
CBIJ				S	S	12 34 41.8	-5.0
	comp=Z,275nm,1.1s,baz=235,slow=20,SNR=1.4						
JHJ	Hachijo jima 2	20.38	53	P	P	12 30 58.0	-0.5
	comp=Z,7µm,0.9s,baz=234,slow=7.9,SNR=23						
JHJ				S	S	12 34 48.7	+1.5
	comp=Z,140nm,0.4s,baz=84,slow=22,SNR=1.6						
JHJ				LR	LR	12 39 58.3	
	comp=Z,665µm,18.1s,MS7.0,baz=250,slow=40						
HHC	Hu-ho-hao-te	20.40	340	eP	P	12 31 01.3	+2.6
HHC				AP		12 31 05.3	
HHC				XP	sP	12 31 08.3	+6.8
HHC				PP		12 31 22.5	
HHC				S	S	12 34 50.0	+2.6
HHC				XS	sS	12 34 53.3	+2.8
HHC				PCP	PcP	12 35 12.8	+1.6
HHC				SS		12 35 15.8	
HHC				SCP	ScP	12 38 47.3	-0.8
HHC				AMB	AMB		
	comp=Z,1µm,2.8s						
HHC				AMB	AMB		
	comp=Z,36µm,6.4s						
HHC				LR	LR		
	comp=N,1005µm,17.6s,MS7.3						
HHC				LR	LR		
	comp=E,355µm,14.9s,MS7.3						
HHC				LR	LR		
	comp=Z,1151µm,17.4s,MS7.3						
JGN	Niukaw	20.44	42	P	P	12 30 58.3	-0.9
JGN				S	S	12 34 47.1	-1.2
CHTO	Chiang Mai	20.48	265	eP	P	12 31 01.4	+1.8
CHTO				pmax	pmax		
	comp=Z,32nm,1.5s						
CHTO				MLR	MLR		
	comp=Z,926µm,20.0s,MS7.1						
CHTO	Chiang Mai	20.48	265	eP	P	12 31 01.4	+1.8
	comp=Z,32nm,1.5s						
CHTO				LR	LR		
	comp=Z,926µm,20.0s,MS7.1						
CM31	Chiang Mai Arr	20.56	264	eP	P	12 31 01.7	+1.2
	comp=Z,751nm,0.8s						
CM31				LR	LR		
	comp=Z,894µm,20.0s,MS7.1						
JJH	Hakui	20.58	40	P	P	12 30 59.6	-1.1
JTT	Ttatey	20.70	41	P	P	12 31 01.9	-0.1
JTT				S	S	12 34 54.3	+0.9
BTO	Baotou	20.71	337	eP	P	12 31 03.3	+1.2
BTO				S	S	12 34 55.0	+1.4
BTO				LR	LR		
	comp=N,216µm,16.7s,MS6.7						
BTO				LR	LR		
	comp=E,159µm,19.8s,MS6.7						
JNT	Takato	20.74	44	P	P	12 31 03.3	+0.8
JNT				S	S	12 34 56.7	+2.4
JNG	Nsakai	21.05	43	P	P	12 31 04.9	-0.9
MAJO	Matsushiro	21.20	43	eP	P	12 31 07.9	+0.5
MAJO				eS	S	12 35 04.5	+1.2
MAJO				e		12 35 19.4	
MAJO				pmax	pmax		
	comp=Z,2µm,1.0s,mb6.4						
MAJO				MLR	MLR		
	comp=Z,903µm,22.0s,MS7.1						
MAJO	Matsushiro	21.20	43	eP	P	12 31 07.9	+0.5
	comp=Z,2µm,1.0s,mb6.4						
MAJO				eS	S	12 35 04.5	+1.2
MAJO				ePcP	PcP	12 35 19.4	+6.6
MAJO				LR	LR		
	comp=Z,903µm,22.0s,MS7.1						
MAT	Matsushiro	21.20	43	P	P	12 31 06.1	-1.3
MAT				S	S	12 35 01.0	-2.3
MAT	Matsushiro	21.20	43	P	P	12 31 04.8	-2.6
MAT				S	S	12 35 01.1	-2.2
MJAR	Matsushiro Arr	21.20	43	P	P	12 31 06.5	-0.9
	comp=Z,144nm,0.5s,mb5.5,baz=230,slow=7.4,SNR=133						
MJAR				S	S	12 35 05.6	+2.2
	comp=Z,18nm,0.9s,baz=230,slow=7.7,SNR=5.2						
MJAR				ScP	ScP	12 38 49.7	-0.3
	comp=Z,27nm,1.1s,baz=208,slow=2.0,SNR=6.7						
MJAR				P3KPbc		13 05 09.2	
	comp=Z,4.3nm,1.1s,baz=46,slow=1.8,SNR=4.8						
MJAR	Matsushiro Arr	21.20	43	P	P	12 31 06.5	-0.9
MJAR				S	S	12 35 05.6	+2.3
MJAR	Matsushiro Arr	21.20	43	P	P	12 31 06.5	-0.9
MJAR				S	S	12 35 05.5	+2.2
MJAR				ScP	ScP	12 38 49.7	-0.3
JSZ	Suzu	21.27	39	S	S	12 35 06.2	+1.4
JHG	Hegura jima	21.29	38	P	P	12 31 08.1	-0.2
JHG				S	S	12 35 03.5	-1.6
JRY	Ryogami san	21.32	45	P	P	12 31 08.5	-0.2
JGK	Kuni	21.48	43	P	P	12 31 11.3	+0.8
JJN	Nakama	21.53	41	P	P	12 31 09.8	-1.1
JJN				S	S	12 35 09.6	-0.2
NNT	Nongplab	21.89	248	P	P	12 31 17.0	+2.2
JAG	Ashikaga	21.93	44	P	P	12 31 13.8	-1.4
JKT	Katashina	22.00	43	P	P	12 31 14.3	-1.7
JIZZ	Izumozaki	22.14	41	P	P	12 31 16.7	-0.7
JHK	Hiroka	22.15	42	P	P	12 31 16.6	-1.0
JSD	Sado	22.20	39	P	P	12 31 15.6	-2.5
JSD				S	S	12 35 18.4	-4.4
CN2	Changchun	22.25	9	⇑P	P	12 31 17.0	-1.7
CN2				eS	S	12 35 16.5	-7.4
CN2				AMB	AMB		
	comp=Z,230nm,0.9s,mb5.6						
CN2				AMB	AMB		
	comp=Z,67µm,13.0s						
JSB	Shiboa	22.55	44	P	P	12 31 20.1	-1.7
KSM	Kuching	22.59	208	eP	P	12 31 21.4	-0.9
PCI	Palu	22.64	182	P	P	12 31 22.7	-0.1
JNS	Sasagawa	22.69	41	P	P	12 31 21.2	-2.1
JAW	Awa shima	23.06	40	P	P	12 31 25.6	-1.6
VLA	Vladivostok	23.21	21d	iP	P	12 31 28.6	-0.3
VLA				e*SP	sP	12 31 32.9	+1.3
VLA				eS	S	12 35 38.7	-2.2
VLA				pmax	pmax		
	comp=Z,358nm,1.0s,mb5.8						
VLA				MLR	MLR		
	comp=Z,723µm,17.8s,MS7.2						
VLA	Vladivostok	23.21	21⇑	iP	P	12 31 28.3	-0.6
MDJ	Mudanjiang	23.89	16	P	P	12 31 35.8	+0.3
MDJ				AP		12 31 39.0	
MDJ				PCP	PcP	12 35 17.3	-0.9
MDJ				S	S	12 35 53.5	+1.6
MDJ				XS	sS	12 35 59.0	+3.8
MDJ				SCP	ScP	12 38 54.8	-2.2
MDJ				AMB	AMB		
	comp=Z,693nm,1.3s,mb5.9						
MDJ				AMB	AMB		
	comp=Z,32µm,11.5s						
MDJ				LR	LR		
	comp=N,1096µm,19.0s,MS7.5						
MDJ				LR	LR		
	comp=E,792µm,17.9s,MS7.5						
MDJ				LR	LR		
	comp=Z,1477µm,18.1s,MS7.5						
MDJ	Mudanjiang	23.89	16	eP	P	12 31 34.3	-1.2
	comp=Z,592nm,0.9s,mb6.0						
MDJ				ePcP	PcP	12 35 20.0	+1.8
MDJ				LR	LR		
	comp=Z,1535µm,19.0s,MS7.5						
SNG	Songkhla	24.14	236	P	P	12 31 39.0	+1.1
GUMO	Guam	24.56	106	P	P	12 31 39.7	-1.9
	comp=Z,1µm,0.8s,mb6.5,baz=204,slow=6.0,SNR=33						
GUMO				S	S	12 36 04.9	+2.1
	comp=Z,165nm,1.1s,baz=44,slow=18,SNR=3.6						
GUMO				LR	LR	12 39 26.1	
	comp=Z,390µm,21.7s,MS6.9,baz=127,slow=32						
GUMO	Guam	24.56	106	eP	P	12 31 40.7	-0.9
GUMO				LR	LR		
	comp=Z,386µm,21.0s,MS6.9						
IMP	Imphal	24.60	282	eP	P	12 31 42.0	0.0
IMP				ex	x	12 35 42.0	
GTA	Gaotai	24.88	319	P	P	12 31 45.0	+0.4
GTA				AP		12 31 49.5	
GTA				XP	sP	12 31 52.5	+5.1
GTA				PCP	PcP	12 35 23.0	+2.6
GTA				S	S	12 36 09.0	+1.1
GTA				XS	sS	12 36 18.8	+7.5
GTA				AMB	AMB		

	comp=Z,498nm,2.4s,mb5.6						
GTA				AMB	AMB		
	comp=Z,36µm,6.9s						
GTA				LR	LR		
	comp=N,265µm,23.7s,MS7.0						
GTA				LR	LR		
	comp=E,477µm,19.1s,MS7.0						
GTA				LR	LR		
	comp=Z,730µm,20.3s,MS7.2						
KULM	Kulim	25.35	232	eP	P	12 31 48.6	-0.2
KULM				ePcP	PcP	12 35 22.6	+1.1
IPM	Ipoh	25.63	230	P	P	12 31 51.5	+0.1
IPM	Ipoh	25.63	230	P	P	12 31 50.5	-0.8
KGM	Kluang	25.89	223	P	P	12 31 55.5	+1.8
AAI	Ambon	26.47	163	P	P	12 31 57.8	-1.2
SHL	Shillong	26.48	284	iP	P	12 32 00.0	+1.0
SHL				eS	S	12 36 36.0	+2.8
AGT	Agartala	27.05	280	iP	P	12 32 05.0	+0.8
AGT				ix	x	12 35 12.0	
HIA	Hailar	27.35	359	eP	P	12 32 05.7	-1.2
HIA				e		12 35 27.8	
HIA				pmax	pmax		
	comp=Z,1µm,1.0s						
HIA				MLR	MLR		
	comp=Z,789µm,19.0s						
HIA	Hailar	27.35	359	eP	P	12 32 05.7	-1.2
	comp=Z,1µm,1.0s,mb6.4						
HIA				ePcP	PcP	12 35 27.8	+1.7
HIA				LR	LR		
	comp=Z,789µm,19.0s,MS7.3						
LSA	Lhasa	27.54	293	P	P	12 32 11.3	+2.7
LSA				S	S	12 36 51.3	+1.3
LSA				SCS	ScS	12 42 56.0	-3.3
LSA				LR	LR		
	comp=N,287µm,19.3s,MS7.2						
LSA				LR	LR		
	comp=E,472µm,15.4s,MS7.2						
LSA				LR	LR		
	comp=Z,721µm,14.9s,MS7.4						
LSA	Lhasa	27.54	293	eP	P	12 32 10.5	+1.9
LSA				e		12 35 29.4	
LSA				pmax	pmax		
	comp=Z,2µm,1.3s,mb6.5						
LSA				MLR	MLR		
	comp=Z,627µm,20.0s,MS7.2						
LSA	Lhasa	27.54	293	eP	P	12 32 10.4	+1.8
	comp=Z,2µm,1.3s,mb6.5						
LSA				ePcP	PcP	12 35 29.4	+2.9
LSA				LR	LR		
	comp=Z,627µm,20.0s,MS7.2						
ERM	Erimo	27.63	38	P	P	12 32 10.4	+0.9
	comp=Z,10µm,0.9s,mb7.4,SNR=83						
ERM	Erimo	27.63	38	eP	P	12 32 09.3	-0.2
ERM				e		12 35 28.4	
ERM				pmax	pmax		
	comp=Z,2µm,1.0s,mb6.8						
ERM	Erimo	27.63	38	eP	P	12 32 09.3	-0.2
	comp=Z,2µm,1.0s,mb6.8						
ERM				ePcP	PcP	12 35 28.4	+1.7
ULN	Ulaanbaatar	28.12	341	eP	P	12 32 13.8	0.0
ULN				e		12 35 29.6	
ULN				pmax	pmax		
	comp=Z,23nm,0.5s						
ULN				MLR	MLR		
	comp=Z,981µm,19.0s,MS7.4						
ULN	Ulaanbaatar	28.12	341	eP	P	12 32 13.8	0.0
	comp=Z,23nm,0.5s						
ULN				ePcP	PcP	12 35 29.6	+1.7
ULN				LR	LR		
	comp=Z,981µm,19.0s,MS7.4						
PSI	Prapat	28.29	231	P	P	12 32 15.7	+0.4
	comp=Z,233nm,0.9s,mb5.8,baz=20,slow=4.1,SNR=40						
PSI				S	S	12 37 06.5	+4.6
	comp=Z,22nm,1.0s,baz=207,slow=8.0,SNR=1.3						
PSI				ScP	ScP	12 39 11.7	+1.9
	comp=Z,26nm,1.0s,baz=211,slow=22,SNR=7.4						
PSI	Prapat	28.29	231	P	P	12 32 15.7	+0.4
PSI				S	S	12 37 06.5	+4.6
SONM	Songino Array	28.30	340	P	P	12 32 15.2	-0.2
	comp=Z,68nm,0.6s,mb5.5,baz=160,slow=7.9,SNR=137						
SONM				PcP	PcP	12 35 31.3	+3.0
	comp=Z,62nm,1.0s,baz=159,slow=3.8,SNR=6.0						
SONM				S	S	12 37 04.5	+2.5
	comp=Z,22nm,1.2s,baz=178,slow=15,SNR=1.9						
SONM				ScP	ScP	12 39 13.9	+4.0
	comp=Z,18nm,0.8s,baz=151,slow=3.3,SNR=3.8						
SONM				P3KPbc		13 04 36.7	
	comp=Z,7.8nm,1.2s,baz=319,slow=2.8,SNR=10						
SONM	Songino Array	28.30	340	P	P	12 32 15.2	-0.2
SONM						12 35 31.3	
SONM				S	S	12 37 04.5	+2.5
SONM	Songino Array	28.30	340	P	P	12 32 15.2	-0.2
SONM				PcP	PcP	12 35 31.3	+3.0
SONM				S	S	12 37 04.5	+2.5
SONM				ScP	ScP	12 39 13.9	+4.0
SONM				e		13 04 36.7	
PBA	Port Blair	28.44	254	eP	P	12 32 14.5	-2.1
PBA				ex	x	12 32 33.5	
	comp=Z,844nm,0.7s						
PBA				eS	S	12 37 04.5	+0.3
ASAJ	Asahikawa	28.72	34	P	P	12 32 18.9	-0.3
	comp=Z,314nm,0.5s,mb6.3,baz=240,slow=14,SNR=86						
ASAJ				S	S	12 37 06.3	-2.3
	comp=Z,55nm,1.2s,baz=140,slow=7.7,SNR=1.5						
KLR	Kul'dur	28.72	15⇓	iP	P	12 32 14.9	-4.3
KLR				pmax	pmax		
	comp=N,580nm,1.8s						
KLR				pmax	pmax		
	comp=Z,3µm,1.8s,mb6.7						
HABR	Khabarovsk	28.97	20⇑	iP	P	12 32 20.2	-1.2
HABR				eS	S	12 37 11.6	-1.0
HABR				pmax	pmax		
	comp=Z,989nm,1.6s,mb6.3						
HABR				MLR	MLR		
	comp=Z,772µm,20.5s,MS7.3						
BSI	Banda Aceh	29.35	240	P	P	12 32 24.2	-0.6
GTK	Gangtok	29.49	287	ex	x	12 32 10.0	
SLGI	Shiliguri	29.63	286	eP	P	12 32 28.8	+1.6
PPI	Padang Panjang	29.64	224	P	P	12 32 26.8	-0.5
CAL	Calcutta	29.80	277	eP	P	12 32 30.4	+1.6
CAL				ex	x	12 37 44.1	
YUK	Yuzh-Kuril'sk	30.45	37⇑	iP	P	12 32 33.0	-1.4
YUK				ePPP		12 33 41.0	
YUK				eS	S	12 37 25.0	-11
YUK				pmax	pmax		
	comp=Z,770nm,0.5s,mb6.7						
YUK				pmax	pmax		
	comp=N,820nm,0.7s						
YUK				pmax	pmax		
	comp=E,960nm,0.8s						
YUK				smax			
	comp=N,4µm,1.3s						
YUK				MLR	MLR		
	comp=E,390µm,22.0s,MS7.3						
YUK				MLR	MLR		
	comp=Z,575µm,22.0s,MS7.2						
YUK				MLR	MLR		
	comp=N,588µm,19.0s,MS7.3						
CIT	Chita	30.59	351	eP	P	12 32 35.2	-0.5
CIT				e		12 32 46.6	
CIT				e		12 33 29.4	
CIT				e		12 33 55.8	
CIT				e		12 35 35.8	
CIT				e		12 39 16.2	
CIT				pmax	pmax		
	comp=Z,1µm,2.6s,mb6.3						
NBBI	Negara	30.60	192	P	P	12 32 35.2	-0.6
KLI	Kotabumi	30.69	212	P	P	12 32 37.3	+0.7
DNP	Denpasar	30.80	190	P	P	12 32 37.4	-0.2
YSS	Yuzh-Sakhalins	30.81	30α	iP	P	12 32 36.0	-1.7
YSS				i *SP	sP	12 32 44.0	+3.5
YSS				i PPP		12 33 52.0	
YSS				e		12 35 34.0	
YSS				i S	S	12 37 34.0	-7.4
YSS				e		12 37 52.0	
YSS				e		12 39 23.0	
YSS				pmax	pmax		
	comp=Z,1µm,1.1s,mb6.6						
YSS				pmax	pmax		
	comp=Z,11µm,12.0s						
YSS				smax			
	comp=E,22µm,12.0s						
YSS				MLR	MLR		
	comp=N,499µm,19.0s,MS7.3						
YSS				MLR	MLR		

	comp=Z,429µm,19.0s,MS7.1						
YSS				MLR	MLR		
	comp=E,292µm,18.0s,MS7.3						
YSS	Yuzh-Sakhalins	30.81	30	eP	P	12 32 37.0	-0.7
YSS				ePcP	PcP	12 35 35.1	+0.3
YSS				LR	LR		
	comp=Z,394µm,20.0s,MS7.1						
SBJI	Serang	31.19	209	P	P	12 32 41.4	+0.4
ZAK	Zakamensk	31.53	339	eP	P	12 32 43.5	-0.5
ZAK				e		12 35 39.2	
ZAK				pmax	pmax		
	comp=Z,151nm,1.1s,mb5.7						
GUN	Gumba	31.95	288	eP	P	12 32 47.8	+0.2
PKI	Pulchoki	32.35	287	eP	P	12 32 51.0	-0.2
	comp=Z,5µm,1.5s,mb7.1						
PKI	Pulchoki	32.35	287	eP	P	12 32 51.0	-0.2
PKI				pmax	pmax		
	comp=Z,5µm,1.5s,mb7.1						
BWNR	Bhubaneshwar	32.41	274	ex	x	12 32 24.0	
BWNR				ex	x	12 40 18.0	
KKN	Kakani	32.47	288	eP	P	12 32 52.4	+0.2
	comp=Z,6µm,1.6s,mb7.2						
KKN	Kakani	32.47	288	eP	P	12 32 52.4	+0.2
KKN				pmax	pmax		
	comp=Z,6µm,1.6s,mb7.2						
TLY	Talaya	32.53	340	P	P	12 32 53.0	+0.2
	comp=Z,1µm,0.9s,mb6.9,SNR=79						
TLY	Talaya	32.53	340d	iP	P	12 32 52.9	+0.1
TLY				e		12 34 07.7	
TLY				eS	S	12 38 05.8	-2.4
TLY				pmax	pmax		
	comp=Z,373nm,1.4s,mb6.1						
TLY				MLR	MLR		
	comp=Z,612µm,18.0s,MS7.3						
TLY	Talaya	32.53	340	eP	P	12 32 52.7	-0.1
	comp=Z,444nm,1.0s,mb6.3						
DMN	Daman	32.62	287	eP	P	12 32 53.6	+0.1
	comp=Z,3µm,1.2s,mb7.1						
IRK	Irkutsk	32.83	341	eP	P	12 32 54.8	-0.6
IRK				e		12 33 09.9	
IRK				e		12 34 19.1	
IRK				e		12 38 19.1	
IRK				pmax	pmax		
	comp=Z,1µm,2.5s,mb6.4						
GKN	Gorkha	33.05	288	eP	P	12 32 56.7	-0.6
	comp=Z,5µm,1.6s,mb7.2						
MOY	Mondy	33.40	338	eP	P	12 33 00.4	0.0
MOY				e		12 40 51.2	
MOY				pmax	pmax		
	comp=Z,2µm,3.1s						
KOLN	Koldanda	33.96	288	eP	P	12 33 03.0	-2.2
WMQ	Urumqi	34.88	317	P	P	12 33 14.0	+0.8
WMQ				XP	sP	12 33 20.5	+4.4
WMQ				PP	PP	12 34 32.0	-0.2
WMQ				PCP	PcP	12 35 46.0	-0.1
WMQ				S	S	12 38 45.5	+0.8
WMQ				XS	sS	12 38 51.0	+2.9
WMQ				SCP	ScP	12 39 30.8	-1.2
WMQ				PCS	PcS	12 39 32.5	-0.3
WMQ				SS	SS	12 40 59.0	-17
WMQ				AMB	AMB		
	comp=Z,294nm,1.3s,mb6.0						
WMQ				AMB	AMB		
	comp=Z,11µm,4.0s						
WMQ				LR	LR		
	comp=N,257µm,14.0s,MS7.3						
WMQ				LR	LR		
	comp=E,336µm,17.0s,MS7.3						
WMQ				LR	LR		
	comp=Z,293µm,20.0s,MS7.0						
NRGR	Nerungri	34.88	4	iP	P	12 33 14.2	+0.9
CLNS	Chul'man	35.08	4	eP	P	12 33 13.8	-1.1
VIS	Vishakhapatnam	35.20	270	eP	P	12 33 17.2	+1.1
VIS				AMb	AMB	12 33 24.1	
	comp=Z,2µm,1.6s,mb6.9						
XMIS	Christmas Isla	35.31	206	P	P	12 33 15.0	-1.9
BLSP	Bilaspur	35.55	278	ex	x	12 35 04.1	
BLSP				AMb	AMB	12 35 10.5	
	comp=Z,3µm,1.8s,mb6.8						
BLSP				AMS	AMS	12 54 27.1	
	comp=Z,218µm,19.9s,MS6.9						
ALBI	Allahabad	35.58	283	eP	P	12 33 18.0	-1.3
MMPI	Merauke	35.88	145	P	P	12 33 20.5	-1.3
BOD	Bodaibo	36.23	354⇑	iP	P	12 33 23.2	-1.6
BOD				e		12 34 52.9	
BOD				e		12 35 49.6	
BOD				pmax	pmax		
	comp=Z,193nm,1.7s,mb5.8						
KAKA	Kakadu	36.29	160	eP	P	12 33 21.7	-3.6
	comp=Z,834nm,0.6s,mb6.8						
LGTI	Lohaghat	36.96	290	eP	P	12 33 32.2	+1.1
LGTI				ex	x	12 34 47.0	
PTH	Pithoragarh	36.99	290	eP	P	12 33 33.1	+1.8
PTH				ex	x	12 41 25.9	
JBP	Jabalpur	37.41	280⇓	iP	P	12 33 36.7	+1.8
JBP				eS	S	12 39 26.1	+2.8
JBP				ex	x	12 54 45.4	
	comp=Z,188µm,17.8s						
NGP	Nagpur	38.53	277⇓	iP	P	12 33 44.5	+0.2
NGP				AMb	AMB	12 33 51.1	
	comp=Z,2µm,2.4s,mb6.3						
NGP				ex	x	12 33 51.9	
	comp=Z,2µm,1.8s						
NGP				eS	S	12 39 43.5	+3.2
NGP				AMP		12 51 22.8	
	comp=Z,305µm,20.2s						
DDI	Dehra Dun	38.90	292	eP	P	12 33 48.6	+1.2
MDRS	Chennai	39.33	264	eP	P	12 33 52.4	+1.4
MDRS				AMb	AMB	12 33 58.2	
	comp=Z,2µm,1.3s,mb6.7						
MDRS				AMS	AMS	12 52 35.9	
	comp=Z,175µm,14.5s,MS7.0						
NDI	New Delhi	39.60	289	eP	P	12 33 52.3	-1.0
NDI				AMb	AMB	12 33 59.6	
	comp=Z,640nm,2.2s,mb6.0						
MK31	Makanchi Array	39.63	318	eP	P	12 33 53.1	-0.4
MK31	Makanchi Array	39.63	318	eP	P	12 33 53.6	0.0
MK31				ePcP	PcP	12 36 01.9	+1.4
MKAR	Makanchi Array	39.63	318	P	P	12 33 53.1	-0.4
	comp=Z,180nm,0.6s,mb6.0,baz=112,slow=9.3,SNR=498						
MKAR				PcP	PcP	12 36 01.1	+0.5
	comp=Z,173nm,0.9s,baz=108,slow=4.0,SNR=5.4						
MKAR				ScP	ScP	12 39 52.2	+2.5
	comp=Z,6.0nm,0.8s,baz=108,slow=4.7,SNR=2.2						
MKAR				P3KPbc		13 03 48.0	
	comp=Z,2.1nm,0.9s,baz=291,slow=3.8,SNR=8.0						
MKAR	Makanchi Array	39.63	318	P	P	12 33 53.2	-0.3
MKAR						12 36 01.1	
MKAR						12 39 52.2	
MKAR	Makanchi Array	39.63	318	P	P	12 33 53.1	-0.4
MKAR				PcP	PcP	12 36 01.1	+0.5
MKAR				ScP	ScP	12 39 52.2	+2.5
MKAR				e		13 03 48.0	
HYB	Hyderabad	39.71	271⇑	iP	P	12 33 55.5	+1.3
	comp=Z,277nm,0.8s,mb6.0						
HYB				eS	S	12 40 00.0	+1.9
HYB				LR	LR		
	comp=Z,259nm,20.0s						
HYB	Hyderabad	39.71	271⇑	eP	P	12 33 55.5	+1.3
HYB				eS	S	12 40 00.0	+1.9
HYB				pmax	pmax		
	comp=Z,277nm,0.8s,mb6.0						
HYB	Hyderabad	39.71	271⇑	eP	P	12 33 55.5	+1.3
	comp=Z,277nm,0.8s,mb6.0						
HYB				eS	S	12 40 00.0	+1.9
BHPL	Bhopal	39.74	280	eP	P	12 33 54.9	+0.5
BHPL				AMb	AMB	12 34 03.5	
	comp=Z,902nm,1.5s,mb6.3						
BHPL				AMS	AMS	12 55 02.0	
	comp=Z,186µm,18.2s,MS7.0						
BHPL				AMS	AMS	12 55 04.1	
	comp=Z,179µm,16.8s						
SDNR	Sundarnagar	39.88	293	eP	P	12 33 57.5	+1.9
SKR	Severo-Kuril's	39.97	35	eP	P	12 33 54.0	-2.4
SKR				e		12 35 38.0	
SKR				e		12 36 01.2	
SKR				eS	S	12 40 00.0	-2.1
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,490nm,1.0s,mb6.2						
SKR				pmax	pmax		

comp=N,6μm,10.0s
SKR pmax pmax
comp=E,8μm,10.0s
SKR pmax pmax
comp=Z,13μm,10.0s
SKR pmax pmax
comp=N,8μm,12.0s
SKR pmax pmax
comp=E,16μm,12.0s
SKR pmax pmax
comp=Z,10μm,12.0s
SKR smax
comp=N,58μm,24.0s
SKR smax
comp=E,53μm,20.0s
SKR MLR MLR
comp=N,126μm,20.0s,MS7.0
SKR MLR MLR
comp=E,163μm,20.0s,MS7.0
SKR MLR MLR
comp=Z,361μm,20.0s,MS7.2
FITZ Fitzroy Crossi 40.03 172⇓ *i* P **P 12 33 54.3 -2.6**
comp=Z,552nm,1.0s,mb6.2
FITZ *e*PCP PcP 12 35 38.7 -23
FITZ *e*S **S 12 39 48.2 -15**
AKL Akola 40.48 277⇑ *i* P **P 12 34 02.2 +1.6**
AKL *e*x x 12 34 09.2
comp=Z,2μm,1.4s
AKL *i* S **S 12 40 09.4 -0.2**
PMG Port Moresby 40.59 137 ScP ScP 12 39 53.6 +0.1
comp=Z,36nm,0.9s,baz=306,slow=8.7,SNR=4.4
PMG S **S 12 40 08.4 -2.9**
comp=Z,38nm,1.1s,baz=175,slow=16,SNR=4.7
PMG Port Moresby 40.59 137 *e*P **P 12 34 00.6 -0.9**
PMG MLR MLR
comp=Z,104μm,22.0s
YAK Yakutsk 40.63 7 *c i* P **P 12 34 00.0 -1.9**
YAK *e**PP pP 12 34 11.1 +7.2
YAK *i* 12 36 04.4
YAK *i* S **S 12 40 07.7 -4.2**
YAK *i* *SS sS 12 40 27.2 +12
YAK *e*SS SS 12 43 09.9 -2.0
YAK *e*SSS 12 43 35.3
YAK *i* 12 44 04.4
YAK pmax pmax
comp=Z,1μm,0.9s,mb6.5
YAK pmax pmax
comp=N,876nm,1.6s
YAK pmax pmax
comp=E,175nm,1.2s
YAK smax
comp=E,48μm,15.2s
YAK smax
comp=Z,24μm,9.4s
YAK smax
comp=N,75μm,17.0s
YAK MLR MLR
comp=Z,1036μm,20.0s,MS7.7
YAK MLR MLR
comp=N,627μm,17.0s,MS7.5
YAK MLR MLR
comp=E,187μm,19.0s,MS7.5
YAK Yakutsk 40.63 7 *e*P **P 12 34 01.1 -0.7**
YAK *e*PcP PcP 12 36 04.1 +0.4
YAK LR LR
comp=Z,769μm,20.0s,MS7.6
PALK Pallekele 41.05 255 P **P 12 34 06.6 +1.3**
comp=Z,3μm,1.3s,mb6.8,SNR=28
COCO West Island 41.07 217 P **P 12 34 08.9 +3.4**
comp=Z,2μm,1.6s,mb6.5,SNR=6.3
LATR Latur 41.34 273 *e*P **P 12 34 05.2 -2.5**
KSH Kashi 41.71 305 P **P 12 34 13.3 +2.6**
KSH AP pP 12 34 18.3 +5.5
KSH XP sP 12 34 20.0 +6.4
KSH PP PP 12 35 54.0 +7.0
KSH PCP PcP 12 36 09.5 +2.2
KSH SCP ScP 12 39 58.3 +0.4
KSH PCS PcS 12 40 00.0 +1.3
KSH S **S 12 40 32.0 +4.1**
KSH XS sS 12 40 39.5 +8.2
KSH AMB AMB
comp=Z,4μm,1.7s,mb6.8
KSH AMB AMB
comp=Z,34μm,4.0s
KSH LR LR
comp=N,901μm,16.3s,MS7.9
KSH LR LR
comp=E,899μm,13.3s,MS7.9
KSH LR LR
comp=Z,1149μm,19.6s
AAA Alma-Ata 41.91 311 *i* P **P 12 34 14.3 +2.0**
AAA *i* S **S 12 40 35.3 +4.5**
AAA pmax pmax
comp=Z,21μm,6.6s
AAA smax
comp=N,46μm,14.3s
AAA MLR MLR
comp=Z,340μm,14.3s,MS7.4
AJM Ajmer 41.96 286 *e*P **P 12 34 13.4 +0.6**
AJM AMb AMB 12 34 20.1
comp=Z,2μm,1.4s,mb6.5
AJM AMS AMS 12 54 17.7
comp=Z,233μm,18.2s,MS7.1
ULHL Ulahol 42.13 309 P **P 12 34 15.4 +1.2**
SNR=89
PET Petropavlovsk 42.56 33 *α i* P **P 12 34 16.1 -1.5**
PET *e* 12 35 57.5
PET *e* 12 36 10.2
PET *i* S **S 12 40 33.7 -6.8**
PET pmax pmax
comp=Z,728nm,1.0s,mb6.4
PET pmax pmax
comp=Z,14μm,8.8s
PET smax
comp=E,21μm,15.1s
PET smax
comp=N,104nm,1.3s
PET MLR MLR
comp=Z,250μm,21.0s,MS7.1
TKM2 Tokmak 2 42.76 310 P **P 12 34 20.3 +1.0**
SNR=149
KZA Kyzart 42.80 309 P **P 12 34 21.1 +1.5**
SNR=307
KOD Kodaikanal 42.84 261 *e*P **P 12 34 22.5 +2.5**
KOD AMb AMB 12 34 28.8
comp=Z,1μm,1.5s,mb6.4
KBK Karagaybulak 43.16 310 P **P 12 34 23.9 +1.4**
SNR=102
NVS Novosibirsk 43.16 329⇑ *i* P **P 12 34 22.3 -0.3**
NVS *i* *PP pP 12 34 32.8 +8.2
NVS *i* 12 36 05.4
NVS *i* 12 36 19.6
NVS *i* S **S 12 40 48.5 -0.9**
NVS pmax pmax
comp=Z,2μm,2.2s,mb6.4
NVS pmax pmax
comp=N,2μm,2.0s
NVS pmax pmax
comp=E,1μm,2.0s
NVS smax
comp=N,322nm,2.3s
NVS smax
comp=E,625nm,2.1s
MA2 Magadan 43.35 22 *c i* P **P 12 34 22.5 -1.5**
MA2 *i* 12 36 08.5
MA2 *i* S **S 12 40 46.9 -5.1**
MA2 pmax pmax
comp=Z,1μm,0.9s,mb6.5
MA2 MLR MLR
comp=Z,103μm,18.2s,MS6.8
MA2 Magadan 43.35 22 *e*P **P 12 34 22.6 -1.5**
comp=Z,694nm,0.9s,mb6.4
MA2 LR LR
comp=Z,623μm,19.0s,MS7.5
UCH Uchtor 43.37 309 P **P 12 34 26.3 +2.1**
SNR=274
CHMS Chumysh 43.38 310 P **P 12 34 24.8 +0.5**
SNR=67
FRU Bishkek 43.44 310⇓ *e*P **P 12 34 25.5 +0.7**
FRU *i* S **S 12 40 56.0 +2.6**
FRU *i* SS SS 12 44 22.0 +15
FRU pmax pmax
comp=Z,5μm,2.9s,mb6.7
FRU pmax pmax
comp=Z,30μm,16.0s
FRU MLR MLR
comp=Z,46μm,18.0s,MS6.4
AAK Ala-Archa 43.48 309 P **P 12 34 25.7 +0.6**
SNR=67
AAK Ala-Archa 43.48 309 P **P 12 34 24.5 -0.6**
comp=Z,538nm,0.8s,mb6.3,SNR=51
AAK Ala-Archa 43.48 309 *e*P **P 12 34 24.8 -0.3**
AAK *e* 12 36 13.1
AAK pmax pmax
comp=Z,494nm,1.5s,mb6.0
AAK Ala-Archa 43.48 309 *e*P **P 12 34 24.8 -0.4**
comp=Z,494nm,1.5s,mb6.0
AAK *e*PcP PcP 12 36 13.1 -0.1
KURK Kurchatov 43.52 322 P **P 12 34 25.1 -0.3**
comp=Z,3μm,1.1s,mb6.9
KURK Kurchatov 43.52 322 *e*P **P 12 34 25.0 -0.4**
KURK *e* 12 36 14.3
KURK pmax pmax
comp=Z,166nm,0.9s,mb5.8
KURK Kurchatov 43.52 322 *e*P **P 12 34 25.0 -0.4**
comp=Z,166nm,0.9s,mb5.8
KURK *e*PcP PcP 12 36 14.3 +1.0
USP Ospenovka 43.63 310 P **P 12 34 26.9 +0.6**
SNR=102
WRA Warramunga Arr 43.68 161 P **P 12 34 23.8 -2.9**
comp=Z,905nm,0.9s,mb6.5,baz=341,slow=8.2,SNR=247
WRA S **S 12 40 50.3 -6.7**
comp=Z,168nm,1.0s,baz=343,slow=15,SNR=20
WRA P4KPbc 13 12 24.5
comp=Z,1.0nm,0.9s,baz=343,slow=4.3,SNR=5.2
WRA Warramunga Arr 43.68 161 P **P 12 34 23.8 -2.9**
WRA S **S 12 40 50.3 -6.7**
WB2 Warramunga Arr 43.69 161⇓ *i* P **P 12 34 23.5 -3.3**
WB2 *i* S **S 12 40 50.6 -6.4**
WB2 *e*PKPPKP 13 05 58.9
POO Poona 43.82 274 *e*P **P 12 34 28.5 +0.6**
POO AMb AMB 12 34 35.0
comp=Z,1μm,1.8s,mb6.2
POO AMS AMS 12 53 41.0
comp=Z,174μm,21.5s,MS6.9
AML Almayashu 43.94 309 P **P 12 34 30.6 +1.8**
SNR=156
TRD Trivandrum 43.95 259 *e*P **P 12 34 29.8 +0.9**
TRD AMb AMB 12 34 37.0
comp=Z,854nm,1.8s,mb6.2
TRD AMS AMS 12 53 44.0
comp=E,296μm,19.7s,MS7.3
TRD AMS AMS 12 53 49.6
comp=N,192μm,18.1s,MS7.3
TRD AMS AMS 12 55 34.2
comp=Z,259μm,19.5s,MS7.2
EKS2 Erkin-Say 44.00 309 P **P 12 34 30.4 +1.0**
SNR=71
MNGI Mangalore 44.38 266 *i* P **P 12 34 32.9 +0.5**
MNGI AMb AMB 12 34 40.5
comp=Z,2μm,1.7s,mb6.5
MNGI *i* S **S 12 41 05.0 -2.2**
MNGI *e*x x 12 54 52.9
comp=Z,174μm,18.9s
GOA Goa 44.58 270 *e*P **P 12 34 32.6 -1.4**
GOA AMb AMB 12 34 39.1
comp=Z,1μm,2.0s,mb6.4
GIRL Giralia 44.66 188 P **P 12 34 34.1 -0.5**
BOM Bombay 44.71 275 *i* P **P 12 34 35.3 +0.4**
BOM *e*x x 12 34 42.8
comp=Z,846nm,1.2s
BOM *e*x x 12 39 10.1
BHV Bhavnagar 44.78 279 *e*P **P 12 34 36.0 +0.4**
SEY Seymchan 46.35 19⇑ *e*P **P 12 34 46.0 -2.0**
KBL Kabul 46.66 297 *e*P **P 12 34 51.4 +0.9**
KBL *e*PcP PcP 12 36 24.3 +0.2
BHJ Bhuj 46.82 282 *e*P **P 12 34 53.1 +1.5**
BHJ AMb AMB 12 34 59.7
comp=Z,2μm,1.5s,mb6.8
BHJ *e*x x 12 42 43.5
BHJ AMS AMS 12 57 05.5
comp=Z,168μm,18.8s,MS7.0
ASAR Alice Springs 47.09 163 P **P 12 34 51.4 -2.3**
comp=Z,210nm,0.9s,mb6.1,baz=344,slow=6.7,SNR=392
ASAR ScP ScP 12 40 18.1 -1.9
comp=Z,12nm,0.8s,baz=352,slow=1.9,SNR=3.5
ASAR S **S 12 41 45.4 -0.7**
comp=Z,69nm,1.1s,baz=355,slow=20,SNR=11
ASAR PKPPKP 13 06 09.5
comp=Z,7.3nm,0.9s,baz=134,slow=2.9,SNR=4.8
ASAR P4KPbc 13 12 43.6
comp=Z,2.9nm,1.0s,baz=350,slow=4.2,SNR=11
ASAR Alice Springs 47.09 163 P **P 12 34 51.4 -2.3**
ASAR S **S 12 41 45.4 -0.7**
ASAR Alice Springs 47.09 163 P **P 12 34 51.4 -2.3**
ASAR ScP ScP 12 40 18.1 -1.9
ASAR S **S 12 41 45.4 -0.7**
ASAR P'P' 13 06 09.5
CTA Charters Tower 48.68 147 *e*P **P 12 35 04.7 -1.4**
comp=Z,390nm,0.8s,mb6.5
CTA *e*S **S 12 42 08.0 -0.7**
CTA *e*PKPPKP 13 05 37.0
CTA Charters Tower 48.68 147 *e*P **P 12 35 04.7 -1.4**
CTA *e*S **S 12 42 08.0 -0.7**
CTA pmax pmax
comp=Z,390nm,0.8s
CTAO Charters Tower 48.68 147 *e*P **P 12 35 05.8 -0.3**
CTAO pmax pmax
comp=Z,716nm,1.0s,mb6.7
CTAO MLR MLR
comp=Z,208μm,20.0s,MS7.1
CTAO Charters Tower 48.68 147 *e*P **P 12 35 05.8 -0.3**
comp=Z,716nm,1.0s,mb6.7
CTAO LR LR
comp=Z,208μm,20.0s,MS7.1
BVAR Borovoye Array 49.11 322 P **P 12 35 09.2 -0.2**
comp=Z,230nm,0.5s,mb6.5,baz=110,slow=9.0,SNR=367
BVAR PcP PcP 12 36 32.6 -0.3
comp=Z,246nm,0.9s,baz=92,slow=4.6,SNR=6.2
BVAR ScP ScP 12 40 28.8 +0.3
comp=Z,12nm,0.9s,baz=128,slow=2.4,SNR=2.4
BVAR S **S 12 42 12.5 -2.3**
comp=Z,7.8nm,0.9s,baz=128,slow=9.6,SNR=2.1
BVAR PKPPKP 13 05 57.4
comp=Z,2.1nm,0.9s,baz=211,slow=1.7,SNR=4.1
BVAR P4KPbc 13 12 43.9
comp=Z,5.6nm,0.9s,baz=123,slow=4.0,SNR=14
BVAR Borovoye Array 49.11 322 P **P 12 35 09.2 -0.2**
BVAR 12 36 32.6
BVAR S **S 12 42 12.5 -2.3**
BVAR Borovoye Array 49.11 322 P **P 12 35 09.2 -0.2**
BVAR PcP PcP 12 36 32.6 -0.3
BVAR ScP ScP 12 40 28.8 +0.3
BVAR S **S 12 42 12.5 -2.3**
BVAR P'P' 13 05 57.4
BRVK Borovoye 49.18 322 P **P 12 35 10.8 +0.8**
comp=Z,5μm,0.7s,mb7.6
BRVK Borovoye 49.18 322 *e*P **P 12 35 09.5 -0.5**
BRVK *e* 12 36 34.8
BRVK pmax pmax
comp=Z,493nm,0.7s,mb6.7
BRVK Borovoye 49.18 322 *e*P **P 12 35 09.5 -0.5**
comp=Z,493nm,0.7s,mb6.7
BRVK *e*PcP PcP 12 36 34.8 +1.6
HNR Honiara 49.61 125 *e*P **P 12 35 12.6 -0.6**
HNR *e* 12 36 38.4
HNR pmax pmax
comp=Z,2μm,1.3s,mb6.9
HNR MLR MLR
comp=Z,116μm,20.0s,MS6.9
HNR Honiara 49.61 125 *e*P **P 12 35 12.6 -0.6**
comp=Z,2μm,1.3s,mb6.9
HNR *e*PcP PcP 12 36 38.4 +3.6
HNR LR LR
comp=Z,116μm,20.0s,MS6.9
TIXI Tiksi 50.03 3 *e*P **P 12 35 09.6 -6.8**
TIXI *e* 12 37 05.1
TIXI *e*S **S 12 42 16.8 -11**
TIXI *e* 12 44 58.4
TIXI *e*SS SS 12 45 49.8 -11
TIXI pmax pmax
comp=Z,566nm,0.9s,mb6.6
TIXI pmax pmax
comp=N,396nm,1.7s
TIXI pmax pmax
comp=E,57nm,0.8s
TIXI pmax pmax
comp=Z,9μm,3.1s
TIXI smax
comp=N,31μm,11.9s
TIXI smax
comp=E,33μm,13.2s
TIXI MLR MLR
comp=Z,631μm,19.0s,MS7.6
TIXI MLR MLR
comp=N,495μm,18.0s,MS7.6
TIXI MLR MLR
comp=E,125μm,17.0s,MS7.6
TIXI Tiksi 50.03 3 *e*P **P 12 35 14.5 -2.0**
TIXI LR LR
comp=Z,657μm,19.0s,MS7.7
SMY Shemya 50.99 39 *e*P **P 12 35 23.3 -0.3**
SMY pmax pmax
comp=Z,1μm,1.4s,mb6.6
SMY Shemya 50.99 39 *e*P **P 12 35 23.3 -0.3**
comp=Z,1μm,1.4s,mb6.6
FORT Forrest 52.84 172⇓ *i*P **P 12 35 34.9 -2.5**
comp=Z,1μm,0.9s,mb6.8
KLBR Kellerberrin 53.22 183 *e*P **P 12 35 37.2 -3.0**
comp=Z,686nm,1.0s,mb6.5
MUN Mundaring 53.70 185 *e*P **P 12 35 41.6 -2.2**
AMKA Amchitka 53.81 42 *e*P **P 12 35 43.8 -0.8**
BILL Bilibino 54.06 19 *c i* P **P 12 35 44.8 -1.6**
BILL *i* 12 35 58.2
BILL *i* 12 36 50.7
BILL *i* 12 37 51.2
BILL *i* S **S 12 43 19.6 -3.4**
BILL *i* SS SS 12 47 01.0 -3.3
BILL pmax pmax
comp=Z,425nm,1.0s,mb6.3
BILL MLR MLR
comp=Z,473μm,19.0s,MS7.6
BILL Bilibino 54.06 19 *e*P **P 12 35 44.0 -2.4**
comp=Z,782nm,1.1s,mb6.5
BILL *e*PcP PcP 12 36 52.0 +0.7
BILL LR LR
comp=Z,454μm,20.0s,MS7.5
NWAO Narrogin (SRO) 54.57 183 PKPPKP 13 05 58.6
comp=Z,7.5nm,1.1s,baz=182,slow=4.3,SNR=5.3
NWAO Narrogin (SRO) 54.57 183 *e*P **P 12 35 47.4 -2.8**
NWAO MLR MLR
comp=Z,45μm,22.0s
DGAR Diego Garcia 55.40 244 P **P 12 35 55.6 -0.5**
comp=Z,2μm,1.3s,mb7.0,SNR=6.0
DGAR Diego Garcia 55.40 244 *e*P **P 12 35 55.4 -0.7**
DGAR *e* 12 37 02.8
DGAR pmax pmax
comp=Z,1μm,1.5s,mb6.8
DGAR MLR MLR
comp=Z,31μm,19.0s,MS6.4
DGAR Diego Garcia 55.40 244 *e*P **P 12 35 55.4 -0.7**
comp=Z,1μm,1.5s,mb6.8
DGAR *e*PcP PcP 12 37 02.8 +6.3
DGAR LR LR
comp=Z,31μm,19.0s,MS6.4
ABKT Ailbek 55.48 302 P **P 12 35 58.7 +2.0**
comp=Z,4μm,0.9s,mb7.5
VAN Vannovskaya 55.49 302 *e*P **P 12 35 58.0 +1.2**
SVE Sverdlovsk 55.57 325 *e*P **P 12 35 59.0 +1.6**
AKTK Aktyubinsk 56.03 317 P **P 12 36 01.0 +0.3**
AKTK P'P' 13 06 00.7
AKTK ⇑*e* 13 06 13.6
AKTO Aktyubinsk 56.03 317 P **P 12 36 01.0 +0.3**
comp=Z,178nm,0.9s,mb6.1,baz=94,slow=7.5,SNR=138
AKTO PKPPKP 13 06 00.7
comp=Z,2.4nm,0.8s,baz=234,slow=2.4,SNR=3.7
AKTO PKP2bc 13 06 13.6
comp=Z,20nm,1.2s,baz=287,slow=2.3,SNR=5.2
MIDW Midway 56.09 70 *e*P **P 12 36 01.5 +0.4**
MIDW LR LR
comp=Z,85μm,21.0s,MS6.8
ARU Arti 56.61 324 P **P 12 36 04.6 -0.2**
comp=Z,4μm,1.1s,mb7.4,SNR=83
ARU Arti 56.61 324⇑ *i*P **P 12 36 04.2 -0.6**
ARU *e* 12 37 01.9
ARU *e* 12 38 12.8
ARU *e*PPP 12 39 28.6
ARU *e*S **S 12 43 57.3 +0.1**
ARU pmax pmax
comp=Z,738nm,1.0s,mb6.7
ARU MLR MLR
comp=E,145μm,19.0s,MS7.1
ARU MLR MLR
comp=Z,161μm,19.0s,MS7.1
ARU MLR MLR
comp=N,56μm,18.0s,MS7.1
ARU Arti 56.61 324 *e*P **P 12 36 03.9 -1.0**
comp=N,2μm,1.4s,mb6.9
ARU LR LR
comp=Z,54μm,21.0s,MS6.6
WBK Wadi Bani Khal 56.62 283 P **P 12 36 06.7 +1.8**
SNR=71
STKA Stephens Creek 57.11 159 *e*P **P 12 36 07.0 -1.4**
comp=Z,1μm,2.0s,mb6.6
STKA *e*S **S 12 43 49.8 -14**
STKA Stephens Creek 57.11 159 P **P 12 36 07.0 -1.3**
comp=Z,521nm,0.9s,mb6.6,baz=338,slow=7.1,SNR=98
STKA P4KPbc 13 13 24.5
comp=Z,4.2nm,0.9s,baz=353,slow=8.7,SNR=4.7
BIDO Bidbid 57.20 285 P **P 12 36 10.2 +1.2**
SNR=100
SMDO Samad 57.36 284 P **P 12 36 11.3 +1.1**
SNR=52
JMDO Jabal Madar 57.46 283 P **P 12 36 11.6 +0.8**
SNR=64
HOQ Hoqain 57.92 285 P **P 12 36 15.3 +1.2**
SNR=87
SOKR Solikamsk 58.14 327 *d i* P **P 12 36 15.5 -0.1**
SOKR S **S 12 44 15.1 -2.2**
SOKR pmax pmax
comp=Z,2μm,2.6s,mb6.6
SOKR MLR MLR
comp=Z,405μm,17.0s,MS7.6
BSY Bisya 58.19 284 P **P 12 36 17.2 +1.2**
SNR=125
ORR Orenburg 58.20 318 *i* P **P 12 36 16.0 0.0**
ORR S **S 12 44 34.4 +16**
ORR pmax pmax
comp=Z,850nm,1.3s,mb6.6
ORR MLR MLR
comp=Z,260μm,19.0s,MS7.4
BANOM Banah 58.37 288 P **P 12 36 19.4 +2.2**
SNR=7.0
ARQ Araqi 58.68 285 P **P 12 36 20.8 +1.4**
SNR=62
HATD Hatta, Dubai 58.73 286 P **P 12 36 21.1 +1.4**
SNR=29
ASHO Ashiyiah 58.82 286 P **P 12 36 21.7 +1.4**
SNR=11
ADE Adelaide 59.09 163 *e*P **P 12 36 21.7 -0.5**
ARMA Armidale 59.95 149 *e*P **P 12 36 27.8 -0.4**
DZM Mont Dzumac 62.53 131 *e*P **P 12 36 45.4 -0.2**
DZM Mont Dzumac 62.53 131 PKPPKP 13 05 50.5
comp=Z,9.6nm,1.0s,baz=81,slow=18,SNR=4.0
RIV Riverview 62.59 151 *e*P **P 12 36 46.7 +0.6**
UNV Unalaska Valle 62.64 40 *e*P **P 12 36 44.8 -1.5**
comp=Z,293nm,0.6s,mb6.6
UNV *e*PcP PcP 12 37 24.4 -0.8
UNV LR LR
comp=Z,325μm,21.0s,MS7.5
TNA Tin City 62.67 26 *e*P **P 12 36 45.6 -1.0**
comp=Z,434nm,1.6s,mb6.3
TNA *e*PP PP 12 39 05.6 +1.2
TNA LR LR
comp=Z,135μm,20.0s,MS7.1
AKUT Akutan 63.07 39 *e*P **P 12 36 48.9 -0.4**
comp=Z,176nm,0.7s,mb6.3
AKUT *e*PcP PcP 12 37 25.6 -1.4
CNB Canberra Magne 63.09 154 *e*P **P 12 36 48.7 -0.7**
comp=Z,3μm,1.2s,mb7.2
MAK Makhachkala 63.23 308 *i* P **P 12 36 51.3 +1.0**
MAK *e*S **S 12 45 25.1 +2.7**
MAK *e* 12 46 37.9
MAK *e*SS SS 12 49 32.5 +4.0
MAK pmax pmax
comp=Z,1μm,2.4s,mb6.7
MAK pmax pmax
comp=N,1μm,1.6s
MAK pmax pmax
comp=E,923nm,1.6s
MAK pmax pmax
comp=Z,7μm,3.4s
MAK smax
comp=E,50μm,8.0s
MAK smax
comp=N,64μm,14.9s
MAK MLR MLR

comp=Z,203μm,18.0s,MS7.3
MAK MLR MLR
comp=N,113μm,20.0s,MS7.5
MAK MLR MLR
comp=E,257μm,19.0s,MS7.5
FALS False Pass 64.43 38 *eP* **P 12 36 58.3 +0.1**
PECR Pechory 64.62 323*c iP* **P 12 36 58.6 -0.9**
PECR pmax pmax
comp=E,6μm,10.0s
PECR pmax pmax
comp=Z,21μm,10.0s
PECR MLR MLR
comp=Z,51μm,19.0s,MS6.7
PECR MLR MLR
comp=E,24μm,17.0s
DGRG David-gareji 64.98 307 P **P 12 37 03.3 +1.5**
UMR Umm Al-Rimmam 65.12 293 *eP* **P 12 37 02.1 -0.7**
UMR AMb AMB 12 37 08.1
comp=Z,674nm,0.9s,mb6.7
KBD Kabd 65.22 293 *eP* **P 12 37 03.3 0.0**
KBD AMb AMB 12 37 20.9
comp=Z,4μm,1.5s,mb7.2
MTA Mtatsminda 65.38 307 P **P 12 37 05.1 +0.7**
MIB Mutribah 65.39 294 *eP* **P 12 37 03.5 -1.0**
MIB AMb AMB 12 37 09.8
comp=Z,925nm,0.8s,mb6.9
RDF Al-Radifah 65.40 293 *eP* **P 12 37 03.7 -0.8**
RDF AMb AMB 12 37 09.8
comp=Z,2μm,0.8s,mb7.1
NAY Al-Naaiem 65.59 293 *eP* **P 12 37 04.8 -1.0**
NAY AMb AMB 12 37 10.9
comp=Z,546nm,1.2s,mb6.5
KZR Kazreti 65.71 307 P **P 12 37 08.0 +1.5**
GOR Gori 65.85 307 P **P 12 37 09.3 +1.8**
SDPT Sand Point 66.09 38 *eP* **P 12 37 08.2 -0.8**
comp=Z,230nm,0.6s,mb6.4
GOF Gofitskoye 66.20 311⇓*iP* **P 12 37 15.0 +5.3**
GOF pmax pmax
comp=Z,650nm,0.8s,mb6.7
ONI Oni 66.24 308 P **P 12 37 11.8 +1.9**
VRHR Novokhopersk 66.43 318 *eP* **P 12 37 10.4 -0.7**
VRHR *eS* S 12 45 59.0 -2.7
VRHR pmax pmax
comp=Z,170nm,0.5s,mb6.3
VRHR pmax pmax
comp=N,200nm,0.4s
VRHR pmax pmax
comp=E,110nm,0.7s
VRHR smax
comp=N,13μm,11.8s
VRHR smax
comp=Z,8μm,13.8s
VRHR smax
comp=E,8μm,10.4s
VRHR MLR MLR
comp=Z,83μm,17.0s,MS7.0
VRHR MLR MLR
comp=N,115μm,20.0s,MS7.1
VRHR MLR MLR
comp=E,61μm,20.0s,MS7.1
CLDR Caldiran 66.43 304 P **P 12 37 12.8 +1.6**
KIV Kislovodsk 66.60 310 P **P 12 37 13.4 +1.2**
comp=E,7μm,0.9s,mb7.7
KIV Kislovodsk 66.60 310*c iP* **P 12 37 12.8 +0.6**
KIV *e* 12 37 43.3
KIV *e* 12 39 42.9
KIV *eS* S 12 46 01.9 -1.9
KIV pmax pmax
comp=Z,9μm,2.9s,mb7.3
KIV pmax pmax
comp=Z,1μm,0.8s,mb6.9
KIV MLR MLR
comp=Z,162μm,18.0s,MS7.3
KIV Kislovodsk 66.60 310 *eP* **P 12 37 12.7 +0.4**
comp=Z,1μm,0.9s,mb6.9
KIV LR LR
comp=Z,45μm,19.0s,MS6.7
KARS Kars 66.81 306 P **P 12 37 15.2 +1.6**
HKR Hakkari 66.84 303 P **P 12 37 15.1 +1.3**
HAKT HAKKARI 66.87 303 *i* P **P 12 37 14.4 +0.5**
TVAN Van 66.93 304 *i* P **P 12 37 16.0 +1.7**
VANB Van 66.93 304 P **P 12 37 20.9 +6.5**
CUKT Cukurca 67.00 302 P **P 12 37 14.2 -0.6**
AGRB Hanur-Agry 67.06 305 P **P 12 37 16.1 +0.9**
BHD Baghdad 67.15 298 *i x* x 12 37 12.0
BHD *i x* x 12 46 09.0
CHGN Chignik 67.17 37 *eP* **P 12 37 14.3 -1.6**
ARTV Artvin 67.59 307 *i* P **P 12 37 19.9 +1.4**
MSL Mosul 67.59 301 *i x* x 12 37 20.0
MSL *i x* x 12 46 16.5
MSL *i x* x 12 46 40.5
TTA Tatalina 67.81 29 *eP* **P 12 37 18.6 -1.3**
TTA Tatalina 67.81 29 *eP* **P 12 37 18.7 -1.2**
MUKL Al Mukalla 67.83 277⇓*eP* **P 12 37 21.0 +0.9**
MUKL AMb AMB 12 37 25.3
comp=Z,4μm,1.8s,mb7.1
VORD Divnogorie 67.90 318 *eP* **P 12 37 18.3 -2.2**
VORD *eS* S 12 46 09.8 -10
VORD pmax pmax
comp=Z,180nm,1.1s,mb6.0
VORD pmax pmax
comp=N,150nm,0.6s
VORD pmax pmax
comp=E,230nm,0.6s
VORD smax
comp=N,28μm,14.4s
VORD smax
comp=Z,10μm,18.0s
VORD smax
comp=E,7μm,7.3s
VORD MLR MLR
comp=N,45μm,16.0s,MS7.1
VORD MLR MLR
comp=Z,60μm,16.0s,MS6.9
VORD MLR MLR
comp=E,78μm,18.0s,MS7.1
SVW2 Sparrevohn 68.17 31 *eP* **P 12 37 21.7 -0.5**
ERZM Erzurum 68.24 306 *i* P **P 12 37 23.3 +0.7**
EZM Erzurum 68.24 306 P **P 12 37 24.1 +1.5**
MOS Moscow 68.28 323*k iP* **P 12 37 22.1 -0.8**
MOS *e* 12 39 55.4
MOS *e*PPP 12 41 33.3
MOS *eS* S 12 46 22.6 -1.4
MOS pmax pmax
comp=N,311nm,1.5s
MOS pmax pmax
comp=E,225nm,1.5s
MOS pmax pmax
comp=Z,1μm,1.5s,mb6.7
MOS MLR MLR
comp=Z,142μm,17.1s,MS7.3
MOS MLR MLR
comp=N,129μm,19.8s,MS7.2
MOS MLR MLR
comp=E,70μm,17.9s,MS7.2
LVZ Lovozero 68.42 336 P **P 12 37 24.1 +0.4**
comp=E,1μm,0.9s,mb6.8,SNR=7.8
LVZ Lovozero 68.42 336 *eP* **P 12 37 22.7 -1.0**
LVZ S S 12 46 18.3 -7.3
LVZ pmax pmax
comp=N,519nm,2.8s
LVZ pmax pmax
comp=Z,5μm,2.8s,mb7.1
LVZ pmax pmax
comp=E,2μm,3.0s
LVZ pmax pmax
comp=E,77nm,0.9s
LVZ pmax pmax
comp=Z,144nm,0.9s,mb6.0
LVZ pmax pmax
comp=N,49nm,0.8s
LVZ smax
comp=Z,10μm,10.5s
LVZ smax
comp=N,24μm,9.9s
LVZ smax
comp=E,11μm,9.6s
LVZ MLR MLR
comp=E,113μm,17.0s
LVZ MLR MLR
comp=Z,174μm,17.0s,MS7.4
LVZ MLR MLR
comp=N,249μm,24.0s
LVZ Lovozero 68.42 336⇑*eP* **P 12 37 25.6 +1.9**
BTMT Batman 68.47 304 P **P 12 37 25.2 +1.1**
IMA2 Indian Mountai 68.53 26 *eP* **P 12 37 24.0 -0.5**

BNGL BINGOL 68.58 305 *i* P **P 12 37 26.4 +1.6**
SOC Sochi 68.78 310*d iP* **P 12 37 26.2 +0.2**
SOC *e* 12 37 50.7
SOC *e* 12 39 59.5
SOC *e*PPP 12 41 38.8
SOC *i* S S 12 46 30.2 +0.3
SOC pmax pmax
comp=Z,444nm,1.0s,mb6.3
SOC pmax pmax
comp=Z,7μm,3.0s
SOC MLR MLR
comp=Z,194μm,17.0s,MS7.4
SOC Sochi 68.78 310 *i* P **P 12 37 26.9 +0.9**
MSEY Mahe Island 68.88 256 P **P 12 37 27.1 +0.5**
comp=Z,3μm,1.1s,mb7.1,SNR=22
MSEY Mahe Island 68.88 256 *eP* **P 12 37 27.4 +0.8**
comp=Z,703nm,1.1s,mb6.5
MSEY LR LR
comp=Z,22μm,21.0s,MS6.4
APA Apatity 68.92 336⇑*iP* **P 12 37 27.0 +0.1**
APA *i* 12 37 49.0
APA *i* 12 40 00.0
APA *i* PPP 12 41 45.0
APA *i* S S 12 46 27.0 -4.6
APA *e* 12 46 46.0
APA pmax pmax
comp=Z,20μm,9.0s
APA MLR MLR
comp=Z,310μm,20.0s,MS7.5
OBN Obninsk 68.96 322 P **P 12 37 26.4 -0.7**
comp=Z,3μm,1.5s,mb7.0,SNR=16
OBN Obninsk 68.96 322⇓*iP* **P 12 37 26.1 -1.0**
OBN *i* 12 37 37.1
OBN *i* 12 55.2
OBN *e* 12 39 58.6
OBN *i* S S 12 46 27.8 -4.2
OBN pmax pmax
comp=Z,5207μm,2.3s
OBN pmax pmax
comp=Z,768nm,1.1s,mb6.5
OBN MLR MLR
comp=Z,180μm,15.0s,MS7.4
OBN Obninsk 68.96 322 *eP* **P 12 37 26.3 -0.8**
comp=Z,1μm,1.4s,mb6.7
OBN LR LR
comp=Z,55μm,19.0s,MS6.8
TAU Tasmania Unive 69.01 159 P **P 12 37 28.1 +0.6**
comp=Z,7μm,1.4s,mb7.4,SNR=43
TAU Tasmania Unive 69.01 159 *eP* **P 12 37 27.8 +0.3**
TAU pmax pmax
comp=Z,3μm,1.5s,mb7.0
TAU MLR MLR
comp=Z,13μm,20.0s,MS6.2
TAU Tasmania Unive 69.01 159 *eP* **P 12 37 27.8 +0.4**
comp=Z,3μm,1.5s,mb7.0
TAU LR LR
comp=Z,13μm,20.0s,MS6.2
BINT Bingol 69.11 305 P **P 12 37 29.3 +1.2**
MARD Mardin 69.20 303 *i* P **P 12 37 29.4 +0.8**
KTUT Trabzon 69.23 307 P **P 12 37 27.3 -1.5**
MACK Trabzon 69.24 307 *i* P **P 12 37 29.5 +0.6**
EZC Erzincan 69.44 306 P **P 12 37 33.1 +3.0**
DIY Diyarbakir 69.51 304 P **P 12 37 31.1 +0.6**
GUMT Gumushane 69.55 306 P **P 12 37 31.8 +1.0**
KELT Kelkit 69.78 306 *i* P **P 12 37 33.5 +1.3**
PTK Pertek 69.94 305 P **P 12 37 34.5 +1.4**
KDAK Kodiak Island 70.14 35 P **P 12 37 33.2 -1.2**
comp=Z,3μm,1.2s,mb7.0,SNR=35
ANN Anapa 70.16 311*d iP* **P 12 37 34.3 -0.3**
ANN *e* 12 37 50.4
ANN *e* 12 40 17.4
ANN *e*PPP 12 41 54.4
ANN *eS* S 12 46 45.5 -0.8
ANN pmax pmax
comp=Z,1μm,0.9s,mb6.8
ANN MLR MLR
comp=N,121μm,21.0s,MS7.2
ANN MLR MLR
comp=E,105μm,21.0s,MS7.2
ANN MLR MLR
comp=Z,189μm,21.0s,MS7.3
ANN Anapa 70.16 311 *i* P **P 12 37 34.2 -0.4**
BSHR Al Beshri 70.32 301⇑P **P 12 37 39.7 +4.2**
ELZG Elazig 70.34 304 *i* P **P 12 37 36.9 +1.3**
GRSN GIRESUNGRSN 70.35 307 *i* P **P 12 37 35.5 -0.2**
JOF Joensuu 70.43 331 *ep* **P 12 37 34.5 -1.7**
comp=Z,532nm,0.8s,mb6.5
URFA Urfa 70.70 303 P **P 12 37 38.4 +0.6**
MYA Malataya 70.80 304 P **P 12 37 39.3 +0.8**
MALT Malatya 70.80 304⇓*iP* **P 12 37 40.2 +1.7**
SLKM Skilak Lake 70.86 32 *eP* **P 12 37 36.2 -2.6**
MCK McKinley 70.86 28 *eP* **P 12 37 37.4 -1.4**
MCK *e* 12 40 12.9
MCK pmax pmax
comp=Z,695nm,1.6s,mb6.3
MCK MLR MLR
comp=Z,82μm,22.0s,MS6.9
MCK McKinley 70.86 28 *eP* **P 12 37 37.4 -1.4**
comp=Z,695nm,1.6s,mb6.3
MCK *e*PP PP 12 40 12.9 -2.8
MCK LR LR
comp=Z,82μm,22.0s,MS6.9
KEV Kevo 70.91 338 *ep* **P 12 37 38.0 -1.1**
comp=Z,150nm,0.7s,mb6.0
KEV Kevo 70.91 338 *eP* **P 12 37 38.0 -1.1**
KEV pmax pmax
comp=Z,150nm,0.7s,mb6.0
ATAB Bozova 71.10 304 *i* P **P 12 37 41.0 +0.8**
COLA College 71.11 27 *eP* **P 12 37 39.8 -0.5**
COLA *e* 12 40 18.6
COLA pmax pmax
comp=Z,186nm,0.8s,mb6.1
COLA MLR MLR
comp=Z,147μm,20.0s,MS7.2
COLA College 71.11 27 *eP* **P 12 37 39.8 -0.6**
comp=Z,186nm,0.8s,mb6.1
COLA *e*PP PP 12 40 18.6 +0.7
COLA LR LR
comp=Z,147μm,20.0s,MS7.2
PMR Palmer 71.18 30 *eP* **P 12 37 39.5 -1.2**
PMR pmax pmax
comp=Z,730nm,1.3s,mb6.5
PMR Palmer 71.18 30 *eP* **P 12 37 39.7 -1.0**
comp=Z,452nm,1.2s,mb6.3
JHLN Al Jahlan 71.41 302⇑P **P 12 37 42.7 +0.6**
ARCES ARCESS Array B 71.46 338 P **P 12 37 41.5 -0.9**
comp=Z,42nm,0.6s,mb5.5,baz=71,slow=4.0,SNR=39
ARE0 ARCESS Array S 71.46 338 *eP* **P 12 37 42.7 +0.2**
PUL Pulkovo 71.49 328 *eP* **P 12 37 42.0 -0.6**
PUL S S 12 46 54.1 -7.6
PUL pmax pmax
comp=E,5μm,3.0s
PUL pmax pmax
comp=Z,6μm,3.0s
PUL pmax pmax
comp=E,492nm,0.8s
PUL pmax pmax
comp=Z,548nm,0.8s,mb6.5
PUL pmax pmax
comp=N,469nm,1.0s
PUL MLR MLR
comp=Z,504μm,20.0s,MS7.8
PUL MLR MLR
comp=N,169μm,25.0s
PUL MLR MLR
comp=E,362μm,18.0s
PUL Pulkovo 71.49 328⇑*eP* **P 12 37 42.5 -0.1**
LBOS 71.51 278⇓*eP* **P 12 37 44.0 +1.3**
LBOS AMb AMB 12 37 47.1
comp=Z,5μm,1.5s,mb7.2
LBOS ⇑*iS* S 12 47 04.1 +2.3
SML Sawmill 71.51 30 *eP* **P 12 37 42.1 -0.6**
SML *e* 12 40 26.3
SVSK Karacayir 71.52 306 P **P 12 37 43.0 +0.1**
SPB4 Spitsbergen Ar 71.62 348 *eP* **P 12 37 43.1 -0.4**
SLMH Al Salmeh 71.68 302⇑P **P 12 37 43.1 -0.7**
GZT Gaziantep 71.69 304 *i* P **P 12 37 44.6 +0.8**
TOKT Tokat 71.77 307 P **P 12 37 44.4 +0.1**
KVT Kavak 71.96 308 P **P 12 37 45.1 -0.3**
GAZ Gaziantep 72.01 303 P **P 12 37 46.4 +0.6**
DHBB Dhamar BB 72.07 279 *eP* **P 12 37 47.5 +1.3**
DHBB AMb AMB 12 37 49.9
comp=Z,2μm,1.3s,mb6.9
DHBB *i* S S 12 47 10.7 +2.3

BJO Bjornoya 72.09 344 *eP* **P 12 37 46.1 -0.2**
BJO *eS* S 12 47 09.2 +0.5
BJO AMS AMS 13 16 06.3
comp=Z,175μm,14.7s,MS7.5
BJO1 Bjornoya 72.14 344 *eP* **P 12 37 46.1 -0.5**
KMRS Kahramanmaras 72.17 304 P **P 12 37 47.1 +0.5**
KBS Kingsbay 72.18 349⇓*iP* **P 12 37 46.4 -0.4**
KBS AMb AMB 12 38 05.6
comp=Z,351nm,3.0s,mb5.8
KBS *eS* S 12 47 09.1 -0.6
KBS AMS AMS 13 14 17.2
comp=Z,267μm,16.4s,MS7.6
KBS Kingsbay 72.18 349 *eP* **P 12 37 47.8 +1.0**
comp=Z,380nm,1.3s,mb6.2
KBS LR LR
comp=Z,473μm,19.0s,MS7.8
KTK1 Kautokeino 72.37 338 *eP* **P 12 37 48.6 +0.6**
KTK1 AMb AMB 12 38 07.0
comp=Z,822nm,1.6s,mb6.4
KTK1 Kautokeino 72.37 338 *eP* **P 12 37 48.6 +0.6**
comp=Z,822nm,1.6s,mb6.4
DIKM Dikmen 72.40 308 P **P 12 37 46.0 -2.2**
SIM Simferopol' 72.44 312*d iP* **P 12 37 48.4 +0.1**
SIM *e* 12 40 37.0
SIM *eS* S 12 47 10.0 -2.5
SIM pmax pmax
comp=Z,6μm,11.0s
SIM MLR MLR
comp=Z,178μm,23.0s,MS7.3
DRWC Darouich 72.57 303⇑P **P 12 37 49.5 +0.4**
BNN Bunyan 72.64 305 P **P 12 37 49.2 -0.3**
RABH Abou Rabah 72.69 301⇑P **P 12 37 53.4 +3.5**
ROOS tl_alroos 72.70 300⇑P **P 12 37 51.4 +1.5**
BOYT Boyabat 72.72 308 *i* P **P 12 37 50.2 +0.3**
TRBA At Turbah 72.75 278⇓*eP* **P 12 37 51.5 +1.2**
BYBT Boyabat 72.80 308 P **P 12 37 49.9 -0.6**
KFRA Kufra 72.82 302⇑P **P 12 37 51.4 +0.8**
YOZ Yozgat 72.84 306 *eP* **P 12 37 50.8 +0.1**
KAF Kangasniemi 72.87 331 *ep* **P 12 37 49.0 -1.9**
comp=Z,5μm,2.5s,mb7.0,baz=73,slow=5.6
KAF Kangasniemi 72.87 331 *eP* **P 12 37 49.0 -1.9**
KAF pmax pmax
comp=Z,5μm,2.5s,mb7.0
BTCH Batrach 72.88 302⇑P **P 12 37 50.9 0.0**
COBT Iskenderun 72.91 303 *i* P **P 12 37 52.0 +0.9**
CTKT Corum 72.99 307 *i* P **P 12 37 51.4 -0.2**
KOZT Kozan 73.00 304 P **P 12 37 49.3 -2.4**
EYAK Cordova Ski Ar 73.01 31 *eP* **P 12 37 51.5 -0.2**
WRDH Warideh 73.05 302⇑P **P 12 37 51.3 -0.7**
HTY Hatay 73.11 303 *eP* **P 12 37 52.7 +0.4**
FIA1 FINESS Array S 73.14 330 *eP* **P 12 37 51.4 -1.1**
FINES FINESS Array B 73.15 330 P **P 12 37 51.5 -1.0**
comp=Z,93nm,0.8s,mb5.8,baz=83,slow=3.8,SNR=99
FINES FINESS Array B 73.15 330 P **P 12 37 51.5 -1.1**
SLNF Slenfeh 73.17 302⇑P **P 12 37 53.0 +0.3**
CEYT Ceyhan 73.18 304 *eP* **P 12 37 52.9 +0.2**
CORM Corum 73.22 307 P **P 12 37 50.2 -2.8**
BZK Bozkurt 73.24 309 *eP* **P 12 37 51.1 -1.9**
BIDA Albida 73.25 301⇑P **P 12 37 52.7 -0.5**
ARNB Al Arnab 73.30 302⇑P **P 12 37 53.9 +0.4**
HAWK Haweek 73.31 301⇑P **P 12 37 55.1 +1.6**
MENT Mentasta 73.33 28 *eP* **P 12 37 53.8 +0.2**
MARH Ras Al Marh 73.38 300⇑P **P 12 37 55.6 +1.7**
AVNT Avonos 73.41 306 *i* P **P 12 37 53.8 -0.3**
TOS Tosya 73.45 308 *eP* **P 12 37 54.9 +0.5**
ASF Jabal al Asfar 73.54 298 P **P 12 37 55.3 +0.5**
comp=Z,200nm,1.0s,mb6.0,baz=307,slow=1.8,SNR=52
ASF S S 12 47 27.5 +2.4
comp=Z,16nm,0.9s,baz=122,slow=12,SNR=1.4
CDAG Cicekdag 73.56 307 *i* P **P 12 37 55.3 +0.3**
KRTS Karatas 73.58 303 *eP* **P 12 37 53.6 -1.5**
TOTH TOTAH 73.60 300⇑P **P 12 37 56.1 +0.9**
KARA Karaisali 73.65 304 *eP* **P 12 37 55.4 -0.1**
TRO Tromso 73.66 339 *eP* **P 12 37 53.5 -2.1**
TRO AMb AMB 12 38 04.7
comp=Z,406nm,1.7s,mb6.1
TRO *eS* S 12 47 23.4 -3.0
TRO *eSS* SS 12 52 09.5 -0.1
TRO AMS AMS 13 18 21.2
comp=Z,224μm,17.8s,MS7.5
TRO Tromso 73.66 339 *eP* **P 12 37 53.5 -2.1**
comp=Z,406nm,1.7s,mb6.1
BALT Daday 73.79 309 *i* P **P 12 37 57.0 +0.6**
CANT Cankiri 73.86 308 *eP* **P 12 37 55.6 -1.1**
EGAK Eagle 73.91 26 *eP* **P 12 37 55.7 -1.4**
comp=Z,49nm,0.4s,mb5.8
EGAK LR LR
comp=Z,134μm,22.0s,MS7.2
BRBR Barbar 73.97 300⇑P **P 12 37 58.4 +1.0**
ELDT Eldivan 74.03 308 *i* P **P 12 37 57.9 +0.2**
MNK Minsk 74.03 323*deP* **P 12 37 54.0 -3.7**
MNK *e* 12 38 12.0
MNK *e* 12 40 40.0
MNK *e*PPP 12 42 28.0
MNK *eS* S 12 47 20.0 -11
MNK pmax pmax
comp=Z,38μm,10.0s
MNK MLR MLR
comp=Z,208μm,16.0s,MS7.5
MNK MLR MLR
comp=N,214μm,16.0s
RCY Rachaya 74.06 300 *eP* **P 12 37 58.9 +1.0**
BHL Bhannes 74.08 301 *eP* **P 12 37 59.1 +1.1**
BR131 Keskin Array S 74.08 307 *eP* **P 12 37 57.5 -0.5**
comp=N,126nm,0.8s,mb5.9
BR131 LR LR
comp=Z,35μm,20.0s,MS6.6
BRTR Keskin Array B 74.08 307 P **P 12 37 57.6 -0.4**
comp=Z,157nm,1.0s,mb5.9,baz=103,slow=6.7,SNR=90
BRTR LR LR 13 16 52.0
comp=Z,42μm,20.5s,MS6.7,baz=236,slow=41
KAMT Kaman 74.11 306 *eP* **P 12 37 57.6 -0.6**
TCHB Talchebab 74.16 299⇑P **P 12 37 59.3 +0.9**
MERS Mersin 74.17 304 *eP* **P 12 37 56.8 -1.7**
HRI Mount Hermon 74.19 300 P **P 12 37 59.8 +1.2**
AKASG Malin Array Be 74.21 319 P **P 12 37 57.4 -1.4**
comp=Z,228nm,0.9s,mb6.1,baz=60,slow=5.7,SNR=139
AKBB Malin Array Si 74.21 319 *eP* **P 12 37 57.4 -1.4**
AKBB *e*PP PP 12 41 01.8 +17
SAFT Safranbolu 74.38 309 *eP* **P 12 37 59.5 -0.2**
IDID Didziasalis 74.42 324 *eP* **P 12 37 59.4 -0.6**
IDID AMb AMB 12 38 04.1
comp=Z,217nm,1.2s,mb6.0
ATD Arta Tunnel 74.48 276 P **P 12 38 02.2 +1.8**
comp=Z,144nm,0.9s,mb5.9,baz=31,slow=1.9,SNR=35
ATD PP PP 12 40 49.8 +3.1
comp=Z,32nm,1.0s,baz=280,slow=8.0,SNR=2.6
ATD Arta Tunnel 74.48 276 P **P 12 38 02.2 +1.8**
ATD PP PP 12 40 49.8 +3.1
MMAI Mount Meron Ar 74.52 300 P **P 12 38 01.8 +1.2**
comp=Z,167nm,1.0s,mb5.9,baz=81,slow=6.8,SNR=38
MMAI S S 12 47 40.1 +3.9
comp=Z,3.5nm,0.6s,baz=327,slow=42,SNR=1.9
IZAR Zarasai 74.57 324 *eP* **P 12 38 00.2 -0.7**
IZAR AMb AMB 12 38 05.0
comp=Z,190nm,1.4s,mb5.8
ANTO Ankara 74.67 307 *eP* **P 12 38 01.0 -0.4**
ANTO LR LR
comp=Z,82μm,22.0s,MS7.0
ANTO Ankara 74.67 307⇑*iP* **P 12 38 01.8 +0.4**
IIGN Ignalina 74.70 324 *eP* **P 12 38 00.9 -0.7**
IIGN AMb AMB 12 38 19.2
comp=Z,188nm,1.2s,mb5.9
KIP Kipapa 74.74 73 *eP* **P 12 38 02.1 +0.3**
KIP pmax pmax
comp=Z,431nm,1.1s,mb6.3
KIP MLR MLR
comp=Z,169μm,22.0s,MS7.3
KIP Kipapa 74.74 73 *eP* **P 12 38 02.1 +0.2**
comp=Z,431nm,1.1s,mb6.3
KIP LR LR
comp=Z,169μm,22.0s,MS7.3
HON Honolulu 74.78 73 *eP* **P 12 38 02.8 +0.7**
DRGI Dragot 74.93 298 P **P 12 38 03.7 +0.7**
DSI Dead Sea 74.95 298 P **P 12 38 04.0 +1.0**
IKL Isikli 74.99 303 *eP* **P 12 38 00.3 -3.0**
SLTI Sal'it 75.03 299 P **P 12 38 04.3 +0.8**
MZDA Masada 75.03 298 P **P 12 38 04.4 +0.8**
YTIR Yattir 75.22 298 P **P 12 38 06.7 +2.1**
KDZE Karadeniz Ereo 75.26 309 *eP* **P 12 38 01.5 -3.3**
AFI Afiamalu 75.28 112 *eP* **P 12 38 05.1 +0.1**
AFI pmax pmax
comp=Z,2μm,1.4s,mb6.9
AFI MLR MLR

comp=Z,60µm,22.0s,MS6.8
AFI Afiamalu 75.28 112 *e*P **P 12 38 05.1 +0.1**
comp=Z,2µm,1.4s,mb6.9
AFI LR LR
comp=Z,60µm,22.0s,MS6.8
ZFRI Zfri 75.40 297 P **P 12 38 05.8 +0.1**
KIS Kishinev 75.48 315κ *i*P **P 12 38 04.0 -2.1**
KIS *i* 12 38 22.0
KIS *i* S S 12 47 42.0 -4.8
KIS *i* PS 12 48 16.0
KIS pmax pmax
comp=Z,4µm,3.0s
KIS pmax pmax
comp=N,600nm,2.0s
KIS pmax pmax
comp=E,2µm,2.5s
KIS pmax pmax
comp=N,2µm,10.0s
KIS pmax pmax
comp=E,6µm,10.0s
KIS pmax pmax
comp=Z,13µm,10.0s
KIS smax
comp=N,15µm,16.0s
KIS smax
comp=E,12µm,16.0s
KIS MLR MLR
comp=Z,185µm,19.0s,MS7.4
KIS MLR MLR
comp=E,138µm,20.0s
KIS MLR MLR
comp=Z,189µm,19.0s
KIS Kishinev 75.48 315⇓ *i*P **P 12 38 04.0 -2.1**
comp=Z,4µm,3.0s
KIS Kishinev 75.48 315 *i* PcP PcP 12 38 22.0 +2.8
KIS Kishinev 75.48 315 *i* PP PP 12 41 14.0 +19
comp=Z,5µm,13.0s
KONT Konya--Tatoy 75.52 305 *e*P **P 12 38 03.8 -2.5**
INK Inuvik 75.59 22 P **P 12 38 05.1 -1.7**
comp=Z,278nm,1.1s,mb6.1,baz=290,slow=6.8,SNR=157
INK S S 12 47 45.2 -2.8
comp=Z,70nm,1.1s,baz=103,slow=26,SNR=4.6
INK Inuvik 75.59 22 *e*P **P 12 38 04.8 -2.0**
comp=Z,13µm,1.0s,mb7.8
MASH Mash'abbe Sade 75.60 298 P **P 12 38 07.0 +0.2**
PRNI Paran 75.61 297 P **P 12 38 07.3 +0.5**
KIZT Kizilcal 75.62 306 *e*P **P 12 38 06.2 -0.7**
RTMI Retamim 75.66 298 P **P 12 38 07.4 +0.3**
MDU Mudurnu 75.66 308 *e*P **P 12 38 06.6 -0.6**
HRFI Mount Harif 75.67 297 P **P 12 38 07.9 +0.7**
HDMB Hadim 75.71 304 *e*P **P 12 38 03.6 -3.8**
SVTA Shivta 75.75 298 P **P 12 38 07.5 -0.2**
HENT Hendek 75.79 308 *i*P **P 12 38 07.7 -0.2**
ALE Alert 75.81 0 P **P 12 38 08.0 0.0**
comp=Z,2µm,1.6s,mb6.8
OUZ Omahuta 75.84 138 *e*P **P 12 38 09.6 +1.4**
OUZ Omahuta 75.84 138 P* **P 12 38 09.5 +1.3**
EIL Elat 75.85 297 P **P 12 38 08.6 +0.4**
KZIT Kziot 75.94 298 P **P 12 38 09.0 +0.2**
LOF Lofoten 76.02 338 *e*P **P 12 38 11.1 +1.9**
ESKT Eskisehir 76.20 307 *e*P **P 12 38 08.8 -1.5**
ESKT Eskisehir 76.20 307 *i*P **P 12 38 09.7 -0.6**
GPA Golpazari 76.38 308 *e*P **P 12 38 10.2 -1.1**
CFR Carcaliu 76.46 313 P **P 12 38 16.6 +4.9**
TIRR Tirgusor 76.49 313 P **P 12 38 11.3 -0.6**
TIRR pmax pmax
comp=Z,390nm,1.0s,mb6.3
TIRR Tirgusor 76.49 313 *e*P **P 12 38 11.2 -0.7**
comp=Z,388nm,1.0s,mb6.3
TIRR Tirgusor 76.49 313⇓ *i*P **P 12 38 11.9 0.0**
MOR8 Moi Rana 76.49 336 *e*P **P 12 38 11.1 -0.8**
MOR8 AMb AMB 12 38 30.3
comp=Z,672nm,1.3s,mb6.4
MOR8 Moi Rana 76.49 336 *e*P **P 12 38 11.1 -0.8**
comp=Z,672nm,1.3s,mb6.4
HRT Hereke 76.68 309 *e*P **P 12 38 13.0 0.0**
SHUT Suhut-Afyon 76.71 306 *e*P **P 12 38 13.0 -0.2**
HARR Harsova 76.75 313 P **P 12 38 17.2 +3.9**
ADVT Abdulvahap 76.75 308 *e*P **P 12 38 12.3 -1.0**
WCZ Waipu Caves 76.77 138 *e*P **P 12 38 11.5 -2.0**
WCZ Waipu Caves 76.77 138 P* **P 12 38 14.2 +0.7**
SUW Suwalki 76.78 323 *e*P **P 12 38 12.7 -0.8**
SUW *e*pP pP 12 38 13.9 -1.8
SUW Suwalki 76.78 323 *e*S S 12 47 58.9 -2.3
SUW Suwalki 76.78 323 *e*S S 12 47 58.9 -2.3
PSN Preselentsi 76.88 312 *i*P **P 12 38 14.2 +0.1**
ALT Altintas 76.89 307 *e*P **P 12 38 13.7 -0.5**
STOK Stokkvaagen 76.95 337 *e*P **P 12 38 13.4 -1.1**
ISP Isparta 76.95 306 *e*P **P 12 38 12.3 -2.2**
ISP Isparta 76.95 306 *e*P **P 12 38 12.6 -1.9**
IZI Iznik 76.97 308 *e*P **P 12 38 14.4 -0.2**
YLV Yalova 76.97 309 *e*P **P 12 38 13.1 -1.5**
KLYT Kilyos 77.01 309 *e*P **P 12 38 11.5 -3.3**
TKTP Tekketepe 77.04 306 *i*P **P 12 38 15.0 0.0**
ISK Istanbul-Kandi 77.05 309 *e*P **P 12 38 11.5 -3.6**
ISK Istanbul-Kandi 77.05 309 *e*P **P 12 38 14.2 -0.9**
ANTB Antalya 77.13 305 *e*P **P 12 38 11.7 -3.8**
GEMT Gemlik 77.15 308 *e*P **P 12 38 14.5 -1.1**
VRI Vrincioaia 77.19 314⇓ P **P 12 38 10.8 -5.1**
VRI P 12 38 16.8
VRI Vrincioaia 77.19 314⇓ *i*P **P 12 38 10.8 -5.1**
ULDT Uludag 77.28 308 *i*P **P 12 38 16.2 -0.1**
GDZ Gediz 77.34 307 *i*P **P 12 38 16.6 -0.1**
POHA Pohakuloa 77.47 74 PFAKE 12 38 30.0 +13
POHA LR LR
comp=Z,80µm,21.0s,MS7.0
ELBA Catalca 77.48 309 *i*P **P 12 38 17.2 -0.2**
KHL Karahalli 77.55 306 *e*P **P 12 38 17.0 -0.9**
KHU Kahuku 77.55 74 *e*P **P 12 38 18.7 +0.8**
PRD Provadia 77.57 312 *i*P **P 12 38 18.8 +0.9**
DESE Dese 77.58 277 *e*P **P 12 38 20.5 +2.5**
DESE S PP 12 41 17.9 +5.1
BURAR Bucovina Array 77.63 316 P **P 12 38 19.2 +0.9**
BURAR Bucovina Array 77.63 316⇓ *i*P **P 12 38 18.4 +0.1**
LVV L'vov 77.65 319⇑ *i*P **P 12 38 18.5 +0.1**
LVV *e* 12 38 27.3
LVV *e*S S 12 48 09.1 -1.5
LVV *e* 12 48 59.7
LVV MLR MLR
comp=E,68µm,18.8s,MS7.1
LVV MLR MLR
comp=Z,98µm,18.8s,MS7.2
LVV MLR MLR
comp=N,50µm,20.2s,MS7.1
HPO Honuapo 77.66 74 *e*P **P 12 38 19.5 +1.0**
ELL Elmali 77.74 305 *e*P **P 12 38 18.0 -0.9**
DST Dursunbey 77.81 308 *e*P **P 12 38 17.1 -2.2**
MLR Muntele Rosu 77.83 314 PKPPKP 13 05 26.2
comp=N,17nm,1.2s,baz=344,slow=1.9,SNR=6.8
MLR Muntele Rosu 77.83 314 P **P 12 38 20.7 +1.3**
MLR Muntele Rosu 77.83 314⇓ *i*P **P 12 38 19.8 +0.4**
GOLH Golhisar 77.86 305 *i*P **P 12 38 19.1 -0.4**
RAO Raoul Island 78.06 128 P **P 12 38 13.2 -7.5**
RAO Raoul Island 78.06 128 PFAKE 12 38 30.0 +9.3
RAO LR LR
comp=Z,51µm,22.0s,MS6.8
BNT Bandirma 78.09 309 *e*P **P 12 38 19.8 -1.0**
DENT Denizli 78.09 306 *e*P **P 12 38 21.0 +0.1**
AKAS Kas 78.14 304 *i*P **P 12 38 20.2 -0.9**
KUZ Kuaotunu 78.14 138 *e*P **P 12 38 21.0 -0.1**
KUZ Kuaotunu 78.14 138 P* **P 12 38 20.7 -0.4**
BUC1 Bucharest 78.14 313 P **P 12 38 22.1 +0.9**
BTOK Tokmak 78.20 308 *i*P **P 12 38 21.4 -0.1**
MANT Manisa 78.22 307 *i*P **P 12 38 13.4 -8.1**
SKAG Skagway 78.31 30 *e*P **P 12 38 22.5 +0.4**
comp=Z,609nm,1.0s,mb6.5
JMB Yambol 78.37 311 *e*P **P 12 38 21.6 -0.8**
JMB Yambol 78.37 311 *i*P **P 12 38 22.9 +0.5**
FETY Fethiye 78.41 305 *e*P **P 12 38 19.5 -3.1**
MFT Murefte 78.42 309 *e*P **P 12 38 20.5 -2.2**
VOIR 78.45 314⇓ *i*P **P 12 38 22.4 -0.4**
EDRB Edirne 78.46 310 *e*P **P 12 38 21.9 -1.0**
MTUR Matau 78.51 314⇓ *i*P **P 12 38 23.6 +0.4**
SART Tekirdag 78.52 309 *i*P **P 12 38 23.1 -0.1**
RKY Sarkoy-Tekirda 78.52 309 *e*P **P 12 38 19.2 -4.1**
KWP Kalwaria 78.53 319 *e*P **P 12 38 23.2 -0.1**
KWP *e*pP pP 12 38 25.6 +0.1
KWP Kalwaria 78.53 319 *e*S S 12 48 18.1 -1.9
KWP Kalwaria 78.53 319 *e*S S 12 48 18.1 -1.9
DAG Danmarks Havn 78.56 351⇓ *i*P **P 12 38 21.9 -1.6**
comp=Z,4µm,2.2s,mb7.0
DAG Danmarks Havn 78.56 351⇓ *e*P **P 12 38 21.9 -1.6**
DAG pmax pmax
comp=Z,4µm,2.2s,mb7.0
SZH Strazhica 78.56 312 *i*P **P 12 38 23.6 +0.1**
WAR Warsaw 78.61 322 *e*P **P 12 38 24.0 +0.3**
WAR *e*PcP PcP 12 38 32.8 +0.1
WAR L 13 15 08.4
comp=Z,162nm,22.7s
WAR Warsaw 78.61 322 *e*S S 12 48 18.4 -2.5
AKS Akhisar 78.64 307 *e*P **P 12 38 26.6 +2.7**
DALT Dalyan (Mudla) 78.71 305 *e*P **P 12 38 20.2 -4.1**
HIZ Hauiti 78.72 139 *e*P **P 12 38 24.9 +0.5**
HIZ Hauiti 78.72 139 P* **P 12 38 24.6 +0.2**
ZIMR 78.82 313 P **P 12 38 25.5 +0.6**
YER Yerkesik 78.86 306 *e*P **P 12 38 21.3 -3.8**
QRZ Quartz Range 78.87 142 *e*P **P 12 38 24.4 -0.8**
QRZ Quartz Range 78.87 142 P* **P 12 38 24.4 -0.7**
LPK Lapseki 78.93 309 *e*P **P 12 38 27.7 +2.2**
PVL Pavlikeni 78.99 312 *i*P **P 12 38 25.8 0.0**
KOLS Kolonicke sedl 79.03 318 *e*P **P 12 38 25.7 -0.4**
KOLS *e*S S 12 48 27.0 +1.5
UZH Uzhgorod 79.13 318 *e*P **P 12 38 26.0 -0.6**
UZH *e*S S 12 48 24.0 -2.5
UZH MLR MLR
comp=Z,48µm,19.5s,MS6.8
MLSB Milas 79.19 306 *e*P **P 12 38 26.6 -0.3**
FOZ Fox Glacier 79.19 146 *e*P **P 12 38 25.5 -1.4**
FOZ Fox Glacier 79.19 146 P* **P 12 38 25.5 -1.4**
KDAG Bornova 79.20 307 *i*P **P 12 38 27.0 0.0**
FURI Furi 79.24 275 *e*P **P 12 38 30.1 +2.9**
DIM Dimitrovgrad 79.24 311 *i*P **P 12 38 27.3 +0.1**
ENEZ Enez 79.24 310 *e*P **P 12 38 27.3 +0.1**
ALN Alexandroupoli 79.27 310 *e*P **P 12 38 26.9 -0.4**
SIT Sitka 79.27 33 *e*P **P 12 38 28.1 +0.8**
SIT pmax pmax
comp=Z,690nm,1.0s,mb6.5
SIT Sitka 79.27 33 *e*P **P 12 38 28.3 +1.0**
comp=Z,801nm,1.3s,mb6.5
ARG Arkhangelos 79.28 305 *e*P **P 12 38 29.3 +1.9**
HFS Hagfors 79.29 331 LR LR 13 17 03.3
comp=Z,322µm,20.7s,MS7.6,baz=57,slow=38
AYVA Ayvalik 79.33 308 *i*P **P 12 38 27.1 -0.6**
BLCB Balcova 79.38 307 *e*P **P 12 38 27.4 -0.5**
BLCB Balcova 79.38 307 *e*P **P 12 38 28.1 +0.2**
EZN Ezine 79.42 309 *e*P **P 12 38 27.9 -0.3**
KDZ Kurdzhali 79.46 311 *i*P **P 12 38 28.0 -0.4**
STHS Stebnicka Huta 79.49 319 *e*P **P 12 38 28.4 -0.2**
STHS pmax pmax
comp=Z,232nm,1.1s,mb6.0
STHS Stebnicka Huta 79.49 319 *e*P **P 12 38 28.4 -0.2**
comp=Z,232nm,1.1s,mb6.0
BDRM Kayabasi 79.51 306 *i*P **P 12 38 28.3 -0.4**
DRGR 79.51 316 P **P 12 38 28.8 +0.1**
DRGR 79.51 316⇓ *i*P **P 12 38 28.9 +0.2**
DAT Datca 79.52 305 *e*P **P 12 38 24.6 -4.1**
RDO Rodhopi 79.55 310 *e*P **P 12 38 28.3 -0.6**
CRVS Cervenica-Dubn 79.55 319 *e*P **P 12 38 28.9 0.0**
CRVS *e*S S 12 48 31.2 +0.3
WTVZ West Tongariro 79.55 140 P **P 12 38 28.3 -0.6**
WTVZ West Tongariro 79.55 140 P* **P 12 38 28.3 -0.6**
WAZ Wanganui 79.59 140 *e*P **P 12 38 29.7 +0.6**
WAZ Wanganui 79.59 140 P* **P 12 38 29.7 +0.6**
NNZ Nelson 79.61 142 *e*P **P 12 38 27.0 -2.2**
NNZ Nelson 79.61 142 P* **P 12 38 27.0 -2.2**
BOZC Bozcaada 79.62 309 *i*P **P 12 38 28.9 -0.3**
DUWZ D'Urville Isla 79.65 142 P* **P 12 38 28.3 -1.1**
PRK Paraskevi 79.66 308 *e*P **P 12 38 29.2 -0.3**
THZ Tophouse 79.70 143 *e*P **P 12 38 28.4 -1.3**
THZ Tophouse 79.70 143 P* **P 12 38 28.2 -1.5**
URLA Izmir 79.72 307 *i*P **P 12 38 28.4 -1.4**
SMG Samos 79.75 306 *e*P **P 12 38 30.2 +0.2**
PLD Plovdiv 79.81 311 *e*P **P 12 38 30.5 +0.3**
PLD Plovdiv 79.81 311 *i*P **P 12 38 29.8 -0.5**
RZN Rozhen 79.94 311 *i*P **P 12 38 31.6 +0.6**
GZR Gura Zlata 79.97 315 P **P 12 38 31.6 +0.4**
NB2 NORSAR Subarra 79.99 332 P **P 12 38 29.8 -1.5**
comp=Z,425nm,0.9s,mb6.4,baz=63,slow=5.6
NOA NORSAR Array B 79.99 332 P **P 12 38 29.8 -1.5**
comp=Z,210nm,0.8s,mb6.1,baz=61,slow=5.4,SNR=184
NOA PP PP 12 41 33.7 +0.7
comp=Z,23nm,0.9s,baz=69,slow=7.6,SNR=4.0
NOA S S 12 48 34.9 -0.7
comp=Z,9.5nm,0.9s,baz=139,slow=19,SNR=1.8
NOA PKKPbc PKKPbc 12 57 18.4 +2.4
comp=Z,1.5nm,0.7s,baz=246,slow=2.3,SNR=3.7
NOA NORSAR Array B 79.99 332 P **P 12 38 29.8 -1.5**
NOA 12 41 33.7
NOA S S 12 48 34.9 -0.7
NOA NORSAR Array B 79.99 332 P **P 12 38 29.8 -1.5**
NOA PP PP 12 41 33.7 +0.7
NOA S S 12 48 34.9 -0.7
NOA PKKPbc PKKPbc 12 57 18.4 +2.4
RPZ Rata Peaks 80.02 145 *e*P **P 12 38 29.6 -1.8**
RPZ Rata Peaks 80.02 145 P* **P 12 38 29.5 -1.9**
LBZ Lake Benmore 80.03 146 *e*P **P 12 38 29.9 -1.6**
LBZ Lake Benmore 80.03 146 *e*P* **P 12 38 29.9 -1.5**
PGB Panagyurishte 80.03 312 *i*P **P 12 38 30.9 -0.6**
LTZ Lake Taylor 80.03 144 *e*P **P 12 38 30.5 -1.0**
LTZ Lake Taylor 80.03 144 P* **P 12 38 30.5 -1.0**
NIE Niedzica 80.06 319 *e*P **P 12 38 31.9 +0.3**
NIE *e*PP PP 12 41 33.6 +0.1
OJC Ojcow 80.07 320 *e*P **P 12 38 31.4 -0.3**
OJC *e*PP PP 12 41 32.1 -1.5
OJC *e*S S 12 48 31.1 -5.3
OJC *e*SS SS 12 53 33.8 -13
OJC L 13 24 22.3
comp=Z,408nm,21.5s
OJC Ojcow 80.07 320 *e*P **P 12 38 31.4 -0.3**
OJC *e* 12 41 32.1
OJC *e*S S 12 48 31.1 -5.3
OJC MLR MLR
comp=Z,408µm,21.5s,MS7.7
BKZ Black Stump Fm 80.13 139 *e*P **P 12 38 30.5 -1.5**
BKZ Black Stump Fm 80.13 139 P* **P 12 38 30.5 -1.5**
EAZ Earnscleugh 80.17 147 *e*P **P 12 38 28.3 -4.0**
EAZ Earnscleugh 80.17 147 *e*P* **P 12 38 30.8 -1.5**
NAO01 NORSAR Array S 80.22 332 *e*P **P 12 38 31.2 -1.4**
NAO01 LR LR
comp=Z,413µm,20.0s,MS7.8
LIA Limnos Island 80.23 309 *e*P **P 12 38 29.0 -3.5**
KARP Karpathos 80.24 304 *e*P **P 12 38 32.7 +0.1**
MWZ Matawai 80.25 138 *e*P **P 12 38 31.3 -1.4**
MWZ Matawai 80.25 138 P* **P 12 38 31.0 -1.7**
KECS Kecovo 80.30 318 *e*P **P 12 38 32.5 -0.5**
KECS *e* 12 38 48.4
KECS *e* 12 41 33.1
KECS pmax pmax
comp=Z,334nm,1.4s,mb6.1
KECS Kecovo 80.30 318 *e*P **P 12 38 32.5 -0.5**
comp=Z,334nm,1.4s,mb6.1
KECS *e* 12 38 48.4
KECS *e*PP PP 12 41 33.1 -2.5
GKP Gorka Klasztor 80.35 324 *e*P **P 12 38 32.8 -0.4**
GKP *e*pP pP 12 38 34.9 -0.5
GKP L 13 17 07.8
comp=Z,266nm,22.0s
GKP Gorka Klasztor 80.35 324 *e*S S 12 48 38.0 -1.4
TSZ Takapari Road 80.37 140 *e*P **P 12 38 31.8 -1.5**
TSZ Takapari Road 80.37 140 P* **P 12 38 31.8 -1.5**
DJES Djerdap 80.40 314⇓ *i*P **P 12 38 33.2 -0.3**
SNZO South Karori 80.43 142 *e*P **P 12 38 32.6 -1.1**
SNZO LR LR
comp=Z,898nm,1.4s,mb6.5
DOMB Dombas 80.43 334 *e*P **P 12 38 33.4 -0.2**
DOMB *e*pP pP 12 38 35.1 -0.7
DOMB AMb AMB 12 38 36.2
comp=Z,529nm,0.9s,mb6.5
DOMB Dombas 80.43 334 *e*P **P 12 38 33.4 -0.2**
comp=Z,529nm,0.9s,mb6.5
KHZ Kahutara 80.49 143 *e*P **P 12 38 32.0 -2.0**
KHZ Kahutara 80.49 143 P* **P 12 38 32.0 -2.0**
PUZ Puketiti 80.55 137 *e*P **P 12 38 32.1 -2.2**
PUZ Puketiti 80.55 137 P* **P 12 38 32.1 -2.2**
BZS Buzias 80.64 315 P **P 12 38 34.7 -0.1**
BZS Buzias 80.64 315⇓ *i*P **P 12 38 34.4 -0.4**
NVR Nevrokopi 80.66 311 *e*P **P 12 38 34.1 -0.8**
APZ The Paps 80.67 149 P* **P 12 38 34.1 -0.8**
MMB Musomiste 80.67 311 *i*P **P 12 38 34.6 -0.3**
VTS Vitosha 80.67 312 *e*P **P 12 38 34.8 -0.2**
VTS Vitosha 80.67 312 *i*P **P 12 38 35.1 +0.2**
VTS Vitosha 80.67 312⇓ *i*P **P 12 38 35.7 +0.8**
ODZ Otahua Downs 80.72 147 *e*P **P 12 38 34.7 -0.5**
ODZ Otahua Downs 80.72 147 P* **P 12 38 34.7 -0.5**
OSL Oslo 80.72 331 *e*P **P 12 38 34.9 -0.3**
OSL AMb AMB 12 38 37.5
comp=Z,511nm,0.8s,mb6.5
OSL Oslo 80.72 331 *e*P **P 12 38 34.9 -0.3**
comp=Z,511nm,0.8s,mb6.5
CRLZ Canterbury Las 80.76 144 *e*P **P 12 38 34.5 -0.9**
CRLZ Canterbury Las 80.76 144 P* **P 12 38 34.8 -0.6**
KNZ Kokohu 80.76 138 *e*P **P 12 38 33.5 -1.9**
KNZ Kokohu 80.76 138 P* **P 12 38 33.5 -1.9**
MOL Molde 80.79 334 *e*P **P 12 38 36.8 +1.2**
MOL AMb AMB 12 38 56.3
comp=Z,684nm,1.7s,mb6.3
MOL *e*PP PP 12 41 38.6 -1.0
MOL *e*S S 12 48 43.4 -0.5
MOL *e*S S 12 48 43.9 -0.1
MOL *e*SS SS 12 53 57.6 +0.4
MOL AMS AMS 13 26 09.5
comp=Z,185µm,19.0s,MS7.5
MOL Molde 80.79 334 *e*P **P 12 38 36.8 +1.2**
comp=Z,684nm,1.7s,mb6.3
BSD Bornholm Skovb 80.84 326⇓ *i*P **P 12 38 34.9 -0.9**
comp=Z,488nm,1.0s,mb6.4
BSD *i* S S 12 48 39.1 -5.4
BSD *i* 12 49 03.1
BSD
comp=Z,279µm,19.0s
BSD Bornholm Skovb 80.84 326⇓ *i*P **P 12 38 34.9 -0.9**
BSD *i* S S 12 48 39.1 -5.4
BSD pmax pmax
comp=Z,490nm,1.0s,mb6.4
BSD MLR MLR
comp=Z,280µm,19.0s,MS7.6
BSD Bornholm Skovb 80.84 326 *e*S SS 12 53 58.7 +0.8
TUZ Tuapeka 80.84 148 P* **P 12 38 36.2 +0.3**
MQZ McQueen's Vall 80.86 145 *e*P **P 12 38 34.3 -1.7**
MQZ McQueen's Vall 80.86 145 P* **P 12 38 34.3 -1.7**
PSZ Piszkesteto 80.88 318⇓ *i*P **P 12 38 36.2 +0.1**
PSZ Piszkesteto 80.88 318⇓ *e*P **P 12 38 36.4 +0.3**
JMIC Jan Mayen 80.91 345 *e*P **P 12 38 37.5 +1.3**
JMIC *e*S S 12 48 45.2 0.0
JMIC *e*SS SS 12 54 02.2 +3.1
JMIC AMS AMS 13 18 07.7
comp=Z,159µm,19.8s,MS7.4
BFZ Birch Farm 80.93 140 *e*P **P 12 38 33.9 -2.4**
BFZ Birch Farm 80.93 140 P* **P 12 38 33.9 -2.4**
LIKS Likavka 80.93 319 *e*P **P 12 38 36.8 +0.5**
LIKS pmax pmax
comp=Z,210nm,0.9s,mb6.1
LIKS Likavka 80.93 319 *e*P **P 12 38 36.8 +0.5**
comp=Z,210nm,0.9s,mb6.1
SRS Serrai 80.93 311 *e*P **P 12 38 35.4 -1.0**
OUR Ouranopolis 80.94 310 *e*P **P 12 38 35.3 -1.1**
APE Apeiranthos 80.95 306 P **P 12 38 37.6 +1.2**
SYZ Scrubby Hill 81.01 148 P* **P 12 38 36.2 -0.5**
KKB Krupnik 81.02 311 *i*P **P 12 38 36.5 -0.3**
WRAK Wrangell Islan 81.03 33 *e*P **P 12 38 36.6 -0.3**
comp=Z,745nm,1.5s,mb6.4
WRAK LR LR
comp=Z,83µm,21.0s,MS7.1
RES Resolute Bay 81.04 9 *e*P **P 12 38 35.8 -1.1**
comp=Z,28µm,1.3s
RAC Raciborz 81.07 320 *e*P **P 12 38 37.6 +0.5**
RAC *e*S S 12 48 48.2 +1.3
RAC MLR MLR
comp=Z,104µm,19.3s,MS7.2
BOLS Boljevac 81.08 314⇓ *i*P **P 12 38 36.8 -0.3**
OKC Ostrava-Krasne 81.20 320 *e*P **P 12 38 37.8 +0.1**
OKC *e*x x 12 38 52.5
OKC *e*PP PP 12 41 43.0 0.0
OKC *e*S S 12 48 46.8 -1.4
OKC *e*x x 13 05 01.0
OKC AMS AMS 13 21 00.0
comp=Z,92µm,16.5s
OKC Ostrava-Krasne 81.20 320 *e*P **P 12 38 37.8 +0.1**
OKC *e*pP pP 12 38 52.5 +13
OKC *e*PP PP 12 41 43.0 0.0
OKC *e*S S 12 48 46.8 -1.4
SOH Sokhos 81.21 310 *e*P **P 12 38 37.1 -0.6**
DLBC Dease Lake 81.24 30 *e*P **P 12 38 38.6 +0.6**
SANT Santorini 81.25 306 *e*P **P 12 38 36.4 -1.6**
THR1 Thera Island 81.25 306 *e*P **P 12 38 37.4 -0.6**
THR3 Thira Island, 81.28 306 *e*P **P 12 38 37.8 -0.4**
PKSN Nyarlorinc 81.29 317⇓ *e*P **P 12 38 38.4 +0.2**
PKSN ⇓ *e*P pP 12 38 38.6 -1.8
PAIG Paliouri 81.30 309 *e*P **P 12 38 37.5 -0.8**
THR6 Thira Island, 81.30 306 *e*P **P 12 38 36.2 -2.1**
PLG Polygyros 81.30 310 *e*P **P 12 38 37.6 -0.7**
PLG Polygyros 81.30 310 *e*P **P 12 38 37.6 -0.7**
PENC Penc 81.31 318⇓ *e*P **P 12 38 38.6 +0.2**
VYHS Vyhne 81.31 319 *e*P **P 12 38 38.5 +0.1**
VYHS *e* 12 38 52.7
VYHS *e* 12 41 40.5
VYHS *e*S S 12 48 48.1 -1.3
VYHS pmax pmax
comp=Z,368nm,1.1s,mb6.2
VYHS MLR MLR
comp=Z,84µm,23.4s,MS7.0
VYHS Vyhne 81.31 319 *e*P **P 12 38 38.5 +0.1**
VYHS *e* 12 38 52.7
VYHS *e*PP PP 12 41 40.5 -3.4
VYHS *e*S S 12 48 48.1 -1.3
VYHS Vyhne 81.31 319 *e*P **P 12 38 38.5 +0.1**
comp=Z,368nm,1.1s,mb6.2
VYHS *e* 12 38 52.7
VYHS *e*PP PP 12 41 40.5 -3.4
VYHS *e*S S 12 48 48.1 -1.3
VYHS LR LR
comp=Z,84µm,23.4s,MS7.0
KONO Kongsberg 81.36 331⇓ *i*P **P 12 38 37.2 -1.4**
KONO *e*PP PP 12 41 43.6 -0.7
KONO *e*S S 12 48 49.6 -0.3
KONO *e*SS SS 12 54 06.5 +0.8
KONO Kongsberg 81.36 331 *e*P **P 12 38 37.9 -0.7**
KONO *e* 12 41 44.5
KONO pmax pmax
comp=Z,206nm,1.0s,mb6.0
KONO MLR MLR
comp=Z,391µm,20.0s,MS7.8
KONO Kongsberg 81.36 331 *e*P **P 12 38 37.9 -0.7**
comp=Z,206nm,1.0s,mb6.0
KONO *e*PP PP 12 41 44.5 +0.2
KONO LR LR
comp=Z,391µm,20.0s,MS7.8
SVIS Svilajnac 81.40 314⇓ *i*P **P 12 38 40.1 +1.3**
KNT Kendrikon 81.41 311 *e*P **P 12 38 38.2 -0.7**
HORT Hortiatis 81.47 310 *e*P **P 12 38 38.4 -0.8**
NPS Neapolis 81.52 304 *e*P **P 12 38 39.9 +0.4**
BARS Barje 81.54 313⇓ *i*P **P 12 38 40.7 +1.2**
THE Thessaloniki 81.55 310 *e*P **P 12 38 38.8 -0.9**
VAY Valandovo 81.58 311 *e*P **P 12 38 38.8 -1.0**
VAY Valandovo 81.58 311 *i*P **P 12 38 38.6 -1.1**
VAY Valandovo 81.58 311 *i*P **P 12 38 38.6 -1.1**
MORC Moravsky Berou 81.58 320 P **P 12 38 39.7 -0.1**
MORC Moravsky Berou 81.58 320⇓ *i*P **P 12 38 40.1 +0.3**
BUD Budapest 81.59 318⇓ *e*P **P 12 38 40.0 +0.2**
PKS6 Bocsa 81.60 317⇓ *e*P **P 12 38 39.7 -0.2**
BEO Belgrade 81.70 315⇓ *i*P **P 12 38 39.9 -0.5**
BEO Belgrade 81.70 315 P **P 12 38 42.1 +1.7**
STIP Stip 81.71 312 *i*P **P 12 38 39.4 -1.1**
STIP Stip 81.71 312 *i*P **P 12 38 39.4 -1.1**
NEO Neokhori 81.85 309 *e*P **P 12 38 39.8 -1.4**
COP Copenhagen 81.86 327⇓ *i*P **P 12 38 41.2 0.0**
comp=Z,306nm,1.0s,mb6.2
COP *i* 12 41 52.4
COP *i* S S 12 48 55.0 -0.1
COP *i* 12 49 03.7
COP
comp=Z,205µm,20.0s
COP Copenhagen 81.86 327⇓ *i*P **P 12 38 41.2 0.0**
COP *i* 12 41 52.4
COP *i* S S 12 48 55.0 -0.1
COP pmax pmax
comp=Z,310nm,1.0s,mb6.2
COP MLR MLR
comp=Z,200µm,20.0s,MS7.5
KSP Ksiaz 81.88 322 *e*P **P 12 38 41.5 +0.2**
KSP *e*pP pP 12 38 43.9 +0.4
KSP Ksiaz 81.88 322⇑ *i*P **P 12 38 41.3 0.0**
KSP *e* 12 38 56.2
KSP *e* 12 41 45.0
KSP *e*S S 12 48 50.5 -4.8
KSP *e*SS SS 12 54 10.0 -3.4

KSP MLR MLR
comp=Z,284µm,21.4s,MS7.6
KSP Ksiaz 81.88 322⇑ *i*P **P 12 38 41.3 0.0**
KSP *i* PP pP 12 38 43.8 +0.3
KSP *e* 12 38 56.2
KSP *e*PP PP 12 41 45.0 -3.6
KSP *e*S S 12 48 50.5 -4.8
KSP *e*SS SS 12 54 10.0 -3.4
KSP *e* 12 58 57.0
KSP LR LR
comp=Z,284µm,21.4s,MS7.6
KSP L 13 19 36.3
comp=Z,243nm,20.7s
KSP Ksiaz 81.88 322 *e*S S 12 48 54.6 -0.7
GRUS Gruza 81.89 314⇓ *i*P **P 12 38 41.2 -0.2**
RGN Rugen 81.91 326 *e*P **P 12 38 41.7 +0.2**
comp=Z,521nm,1.2s,mb6.3
ATH Athens Observa 81.98 308 *e*P **P 12 38 36.1 -5.8**
PKSG 82.02 318⇓ *e*P **P 12 38 42.0 -0.1**
HYA Hoyanger 82.06 334 *e*P **P 12 38 42.5 +0.2**
HYA *e*pP pP 12 38 44.8 +0.3
HYA AMb AMB 12 38 47.7
comp=Z,472nm,2.1s,mb6.0
HYA Hoyanger 82.06 334 *e*P **P 12 38 42.5 +0.2**
comp=Z,472nm,2.1s,mb6.0
DPC Dobruska-Polom 82.06 321 *e*P **P 12 38 42.4 +0.1**
DPC *e*x x 12 38 55.5
DPC *e*PP PP 12 41 57.5 +7.4
DPC *e*S S 12 48 54.5 -2.7
DPC *e*PKPPKP 13 05 12.0
DPC AMS AMS 13 19 10.0
comp=Z,174µm,19.5s
DPC Dobruska-Polom 82.06 321 *e*P **P 12 38 42.4 +0.1**
DPC *e*pP pP 12 38 55.5 +11
DPC *e*PP PP 12 41 57.5 +7.4
DPC *e*S S 12 48 54.5 -2.7
DPC LR LR
comp=Z,174µm,19.5s,MS7.4
IDI Anoyia 82.06 305 P **P 12 38 41.6 -0.7**
comp=Z,132nm,0.8s,mb5.9,baz=40,slow=8.0,SNR=22
IDI S S 12 48 56.9 -0.3
comp=Z,26nm,0.9s,baz=155,slow=4.9,SNR=1.7
SKO Skopje 82.12 312 *e*P **P 12 38 43.2 +0.6**
SKO Skopje 82.12 312 *i* P **P 12 38 42.9 +0.3**
SKO Skopje 82.12 312 *i* P **P 12 38 42.9 +0.3**
UPC Upice 82.18 321⇓ *i*P **P 12 38 43.1 +0.2**
UPC *e*x x 12 38 56.1
UPC *e*x x 13 04 45.3
UPC Upice 82.18 321⇓ *i*P **P 12 38 43.1 +0.2**
UPC *e*pP pP 12 38 56.1 +11
OPO Ambohidratompo 82.23 247 P **P 12 38 42.9 -0.3**
comp=Z,184nm,0.9s,mb6.0,baz=61,slow=4.5,SNR=44
LKR Lokris 82.25 308 *e*P **P 12 38 41.2 -2.1**
DIVS Divcibare 82.29 314⇓ *i*P **P 12 38 43.4 -0.1**
DIVS Divcibare 82.29 314 *e*P **P 12 38 43.6 +0.1**
PKSM Moragy 82.34 317 P **P 12 38 43.1 -0.6**
VRAC Vranov 82.34 320 P **P 12 38 44.0 +0.2**
VRAC Vranov 82.34 320⇓ *i*P **P 12 38 44.5 +0.7**
KRUS Krusevo 82.48 311 *i* P **P 12 38 43.5 -1.1**
KRUS Krusevo 82.48 311 *i* P **P 12 38 43.5 -1.1**
ZST Bratislava 82.49 319 *e*P **P 12 38 44.9 +0.3**
ZST *e* 12 39 02.3
ZST *e* 12 41 57.4
ZST pmax pmax
comp=Z,151nm,1.2s,mb5.8
ZST MLR MLR
comp=Z,99µm,21.1s,MS7.2
ZST Bratislava 82.49 319 *e*P **P 12 38 44.9 +0.3**
ZST *e* 12 39 02.3
ZST *e*PP PP 12 41 57.4 +3.8
ZST *e*S S 12 49 16.4 +15
ZST Bratislava 82.49 319 *e*P **P 12 38 44.9 +0.3**
comp=Z,151nm,1.2s,mb5.8
ZST *e* 12 39 02.3
ZST *e*PP PP 12 41 57.4 +3.8
ZST *e*S S 12 49 16.4 +15
ZST LR LR
comp=Z,99µm,21.1s,MS7.2
KZN Kozani 82.52 310 *e*P **P 12 38 43.7 -1.0**
ODD1 Odda 82.53 332 *e*P **P 12 38 43.1 -1.7**
ODD1 AMb AMB 12 38 48.5
comp=Z,332nm,1.5s,mb6.2
ODD1 Odda 82.53 332 *e*P **P 12 38 43.1 -1.7**
comp=Z,332nm,1.5s,mb6.1
VAM Vamos 82.55 305 *e*P **P 12 38 43.5 -1.4**
KRUC Moravsky 82.56 320 P **P 12 38 44.9 0.0**
BIA Bitola 82.56 311 *i* P **P 12 38 42.6 -2.3**
BIA Bitola 82.56 311 *i* P **P 12 38 42.6 -2.3**
BIA Bitola 82.56 311 P **P 12 38 46.8 +1.9**
RUE Ruedersdorf 82.59 324 *e*P **P 12 38 45.3 +0.2**
comp=Z,734nm,1.3s,mb6.5
RUE *e*pP pP 12 38 57.7 +10
AGG Agios Georgios 82.60 309 *e*P **P 12 38 43.2 -2.0**
FNA Florina 82.62 311 *e*P **P 12 38 43.6 -1.6**
THL Klokotos Trika 82.62 310 *e*P **P 12 38 42.9 -2.4**
SUE Sulen 82.71 334 *e*P **P 12 38 45.9 +0.2**
SUE *e*pP pP 12 38 47.5 -0.4
SUE AMb AMB 12 38 50.3
comp=Z,556nm,1.9s,mb6.3
SUE Sulen 82.71 334 *e*P **P 12 38 45.9 +0.2**
comp=Z,556nm,1.9s,mb6.3
RHK3 Tenkes 82.71 317⇓ *e*P **P 12 38 45.3 -0.4**
BBLS Bajina Basta - 82.77 314⇓ *i*P **P 12 38 46.8 +0.8**
RUND Rundenannen 82.80 333 *e*P **P 12 38 48.1 +1.9**
RUND AMb AMB 12 38 52.9
comp=Z,2µm,1.7s,mb7.0
RUND Rundenannen 82.80 333 *e*P **P 12 38 48.1 +1.9**
comp=Z,2µm,1.7s,mb7.0
BER Bergen 82.83 333 *e*P **P 12 38 45.6 -0.8**
BER *e*P pP 12 38 47.7 -0.8
BER AMb AMB 12 38 51.8
comp=Z,574nm,1.7s,mb6.3
BER AMb AMB 12 39 04.8
comp=Z,549nm,0.6s,mb6.8
BER *e*SKS 12 49 06.3
BER *e*SS SS 12 54 28.1 +0.5
BER AMS AMS 13 20 08.4
comp=Z,409µm,18.2s,MS7.8
BER Bergen 82.83 333 *e*P **P 12 38 47.7 +1.4**
BER pmax pmax
comp=Z,549nm,0.6s,mb6.8
BER Bergen 82.83 333 *e*P **P 12 38 47.7 +1.4**
comp=Z,549nm,0.6s,mb6.8
IVA Berane 82.83 313⇓ *i*P **P 12 38 46.5 +0.2**
ASK Askoy 82.84 333 *e*P **P 12 38 46.2 -0.2**
ASK AMb AMB 12 38 51.4
comp=Z,842nm,2.5s,mb6.3
ASK Askoy 82.84 333 *e*P **P 12 38 46.2 -0.2**
comp=Z,842nm,2.5s,mb6.3
BLS5 Blasjo 82.86 332 *e*P **P 12 38 46.4 0.0**
BLS5 *e*pP pP 12 38 48.8 +0.2
BLS5 AMb AMB 12 38 49.7
comp=Z,278nm,0.9s,mb6.3
BLS5 Blasjo 82.86 332 *e*P **P 12 38 46.4 0.0**
comp=Z,278nm,0.9s,mb6.3
MCQ Macquarie Isla 82.89 159 *e*P **P 12 38 42.2 -4.4**
PVY Plav 82.89 313⇓ *i*P **P 12 38 45.9 -0.7**
OHR Ohrid 82.89 311 *e*P **P 12 38 45.2 -1.5**
OHR Ohrid 82.89 311 *i* P **P 12 38 44.9 -1.8**
OHR Ohrid 82.89 311 *i* P **P 12 38 44.9 -1.8**
EGD Espegrend 82.94 333 *e*P **P 12 38 47.2 +0.3**
EGD *e*pP pP 12 38 49.7 +0.6
VKA Vienna 82.94 319 *i* P **P 12 38 48.2 +1.3**
PLE Pljevlja 82.99 314⇓ *i*P **P 12 38 48.2 +1.0**
TREC Trest 83.00 320⇓ *i*P **P 12 38 47.6 +0.4**
TREC *e*x x 12 38 59.8
TREC *e*PP PP 12 41 59.8 +2.0
TREC *e*S S 12 49 04.4 -2.4
TREC *e*PKPPKP 13 05 06.1
TREC AMS AMS 13 20 00.0
comp=Z,126µm,19.8s
TREC Trest 83.00 320⇓ *i*P **P 12 38 47.6 +0.4**
TREC *e**PP pP 12 38 59.8 +10
TREC *e* 12 41 59.8
TREC *e*S S 12 49 04.4 -2.4
TREC MLR MLR
comp=Z,126µm,19.8s,MS7.3
PVCC Panska Ves 83.00 322⇓ *i*P **P 12 38 47.5 +0.3**
PVCC *e*x x 12 38 59.3
PVCC *e*PP PP 12 41 57.9 +0.1
PVCC *e*S S 12 49 05.8 -1.0
PVCC *e*PKPPKP 13 05 09.2
PVCC AMS AMS 13 17 20.0
comp=Z,154µm,23.1s
PVCC Panska Ves 83.00 322⇓ *i*P **P 12 38 47.5 +0.3**
PVCC *e*pP pP 12 38 59.3 +10
PVCC *e*PP PP 12 41 57.9 +0.1
PVCC *e*S S 12 49 05.8 -1.0
PVCC LR LR
comp=Z,154µm,23.1s,MS7.3
VLI Veliai 83.02 307 *e*P **P 12 38 45.8 -1.5**
EVR Evrytania 83.02 309 *e*P **P 12 38 45.5 -1.8**
SOP Sopron 83.04 319⇓ *e*P **P 12 38 47.6 +0.2**
SNART Snartemo 83.08 331 *e*P **P 12 38 47.4 -0.3**
SNART AMb AMB 12 38 52.3
comp=Z,294nm,1.9s,mb6.0
MEV Metsovon 83.10 310 *e*P **P 12 38 46.6 -1.1**
MUD Monsted U'grnd 83.11 329⇓ *i*P **P 12 38 47.8 0.0**
comp=Z,334nm,0.9s,mb6.4
MUD *i* 12 42 03.0
MUD *i* S S 12 48 54.4 -13
MUD
comp=Z,387µm,18.0s
MUD Monsted U'grnd 83.11 329⇓ *i*P **P 12 38 47.8 0.0**
MUD *i* 12 42 03.0
MUD pmax pmax
comp=Z,330nm,0.9s,mb6.4
MUD MLR MLR
comp=Z,390µm,18.0s,MS7.8
BRG Berggiesshubel 83.21 322 *e*P **P 12 38 48.5 +0.2**
comp=Z,619nm,1.5s,mb6.4
BRG Berggiesshubel 83.21 322 *i* P **P 12 38 48.4 +0.1**
comp=Z,44nm,1.0s,mb5.4
BRG *i* PCP PcP 12 38 50.4 -2.5
comp=Z,626nm,1.5s
BRG *i* 12 39 03.8
comp=Z,862nm,1.8s
BRG PP PP 12 42 14.1 +15
comp=Z,142nm,1.6s
BRG S S 12 49 10.0 +1.1
BRG PS 12 49 58.0
BRG SS SS 12 54 36.0 +2.8
BRG *e*PKKP PKKPbc 12 57 10.1 +1.4
comp=Z,36nm,1.9s
BRG *e*PKPPKP 13 05 14.8
comp=Z,39nm,2.1s
BRG
comp=N,70µm,19.9s
BRG
comp=E,129µm,18.9s
BRG
comp=Z,117µm,17.5s
BRG Berggiesshubel 83.21 322 *i* P **P 12 38 48.4 +0.1**
BRG *i* 12 39 03.8
BRG S S 12 49 10.0 +1.1
BRG PS 12 49 58.0
BRG SS SS 12 54 36.0 +2.8
BRG pmax pmax
comp=Z,440nm,1.0s,mb6.4
BRG MLR MLR
comp=Z,117µm,17.5s,MS7.3
BRG Berggiesshubel 83.21 322 *i* P **P 12 38 48.4 +0.1**
comp=Z,44nm,1.0s,mb5.5
BRG *i* PcP PcP 12 38 50.4 -2.5
BRG *i* 12 39 03.8
BRG PP PP 12 42 14.1 +15
BRG S S 12 49 10.0 +1.1
BRG PS 12 49 58.0
BRG SS SS 12 54 36.0 +2.8
BRG *e*PKKP PKKPbc 12 57 10.1 +1.4
BRG *e*P'P' 13 05 14.8
BRG LR LR
comp=Z,117µm,17.5s,MS7.3
PRU Pruhonice 83.25 321 *e*P **P 12 38 48.4 -0.1**
PRU *e*x x 12 39 00.3
PRU *e*PP PP 12 41 52.4 -7.5
PRU *e*S S 12 49 06.3 -3.0
PRU AMS AMS 13 23 20.0
comp=Z,124µm,17.4s
PRU Pruhonice 83.25 321 *e*P **P 12 38 48.4 -0.1**
PRU *e**PP pP 12 39 00.3 +10
PRU *e*S S 12 49 06.3 -3.0
PRU MLR MLR
comp=Z,124µm,17.4s,MS7.3
PRA Prague 83.28 321 ⇓P **P 12 38 48.0 -0.7**
PRA *e*x x 12 39 02.0
CONA Conrad Observa 83.36 319 *i* P **P 12 38 49.0 -0.1**
comp=Z,5µm,3.1s,SNR=113
UPM Unac-Piva 83.36 314⇓ *i*P **P 12 38 48.6 -0.5**
JAN Janina 83.42 310 *e*P **P 12 38 48.6 -0.8**
TTG Podgorica 83.44 313⇓ *i*P **P 12 38 47.5 -1.9**
STAV Stavanger 83.44 332 *e*P **P 12 38 48.6 -0.9**
STAV AMb AMB 12 38 54.0
comp=Z,388nm,1.7s,mb6.2
STAV Stavanger 83.44 332 *e*P **P 12 38 48.6 -0.9**
comp=Z,388nm,1.7s,mb6.2
NKY Niksic 83.46 313⇓ *i*P **P 12 38 48.0 -1.6**
KMY Karmoy 83.49 332 *e*P **P 12 38 49.3 -0.4**
CLL Collm 83.54 323 *e*P **P 12 38 49.4 -0.6**
comp=Z,837nm,1.2s,mb6.7
CLL *e* 12 39 04.9
CLL *e*PP PP 12 42 03.5 +1.2
CLL *e*S S 12 49 08.5 -3.8
CLL *e*PS 12 50 06.0
CLL *e*PPS 12 50 27.0
CLL *e*SS SS 12 54 42.7 +4.6
CLL *e*PKKPbc PKKPbc 12 57 09.4 +1.5
CLL *e*SSS 12 58 11.1
CLL *e*PKPPKPdf 13 05 13.0
CLL *e*L 13 21 46.6
comp=Z,316µm,18.0s
CLL Collm 83.54 323⇓ *i*P **P 12 38 49.7 -0.3**
CLL *i* 12 38 56.0
CLL *e*S S 12 49 10.0 -2.3
CLL pmax pmax
comp=Z,124nm,1.0s,mb6.0
CLL MLR MLR
comp=Z,274µm,18.0s,MS7.7
CLL Collm 83.54 323⇓ *i*P **P 12 38 49.7 -0.3**
comp=Z,124nm,1.0s,mb6.0
CLL *i* pP pP 12 38 51.9 -0.3
CLL *i* 12 38 56.0
CLL *e*S S 12 49 10.0 -2.3
CLL *i* PKKP PKKPbc 12 57 09.7 +1.8
CLL *e*P'P' 13 05 13.0
CLL LR LR
comp=Z,274µm,18.0s,MS7.7
CLL Collm 83.54 323⇓ *i*P **P 12 38 49.7 -0.3**
comp=Z,124nm,1.0s,mb6.0
CLL *i* pP pP 12 38 51.9 -0.3
CLL *e*Plp pP 12 38 51.0 -1.2
comp=Z,822nm,1.2s
CLL *i* pPcP 12 38 56.0
CLL *i* x x 12 39 04.9
CLL *e*PP PP 12 42 03.0 +0.7
comp=Z,14µm,12.7s
CLL *e*x x 12 42 17.0
CLL *e*S S 12 49 10.0 -2.3
CLL *e*ScS ScS 12 49 34.0 +8.4
CLL *e*PS 12 50 04.0
CLL *e*PPS 12 50 19.0
CLL *e*SS SS 12 54 54.0 +16
CLL *i* PKKPbc PKKPbc 12 57 09.7 +1.8
CLL *i* x x 12 57 22.2
CLL *e*x x 12 59 24.0
CLL *e*PKPPKPdf 13 05 13.0
CLL Lm 13 21 00.0
comp=Z,343nm,1.9s
CLL Lm 13 21 00.0
comp=N,178µm,19.0s
CLL Lm 13 21 00.0
comp=E,211µm,20.2s
CLL Lm 13 21 00.0
comp=Z,274µm,18.0s
ITM Ithomi 83.59 307 *e*P **P 12 38 48.8 -1.5**
RLS Riolos of Patr 83.59 308 *e*P **P 12 38 49.7 -0.6**
ULC Ulcinj 83.63 313⇓ *i*P **P 12 38 49.3 -1.1**
BRY Bratogost 83.73 314⇓ *i*P **P 12 38 50.3 -0.6**
BUM Brajici-Budva 83.73 313⇓ *i*P **P 12 38 49.3 -1.7**
BSEG Bad Segeberg 83.76 326 *e*P **P 12 38 51.4 +0.3**
comp=Z,331nm,1.1s,mb6.4
IGT Igoumenitsa 83.84 310 *e*P **P 12 38 49.7 -1.8**
ARSA Ärzberg 83.86 319 *i* P **P 12 38 51.2 -0.4**
comp=Z,5µm,3.2s,SNR=140
LKD Levkas 83.93 309 *e*P **P 12 38 50.4 -1.6**
HCY Herceg Novi 83.94 313⇓ *i*P **P 12 38 51.4 -0.7**
SISC Sisak 84.09 317 P **P 12 38 52.7 0.0**
KEK Kerkira 84.14 310 *e*P **P 12 38 50.6 -2.5**
KMBO Kilima Mbogo 84.19 266 P **P 12 38 54.5 +1.2**
comp=Z,281nm,1.0s,mb6.4,baz=54,slow=6.1,SNR=136
KMBO S S 12 49 19.9 +1.1
comp=Z,9.3nm,1.0s,baz=97,slow=20,SNR=1.6
KMBO LR LR 13 15 32.7
comp=Z,119µm,21.2s,MS7.2,baz=52,slow=35
KMBO Kilima Mbogo 84.19 266 *e*P **P 12 38 54.9 +1.6**
KMBO LR LR
comp=Z,117µm,21.0s,MS7.2
KHC Kasperske Hory 84.20 321 *e*P **P 12 38 53.0 -0.3**
KHC *e*x x 12 39 05.7
KHC *e*PP PP 12 42 06.7 -0.9
KHC *e*x x 12 42 26.5
KHC *e*S S 12 49 16.3 -2.6
KHC *e*PKPPKP 13 05 11.9
KHC AMS AMS 13 20 40.0
comp=Z,192µm,20.3s
KHC Kasperske Hory 84.20 321 *e*P **P 12 38 53.0 -0.3**
KHC *e*pP pP 12 39 05.7 +10
KHC *e*PP PP 12 42 06.7 -0.9
KHC *e*S S 12 49 16.3 -2.6
KHC LR LR
comp=Z,192µm,20.3s,MS7.5
GEC2 GERESS Array S 84.25 321 *e*P **P 12 38 53.4 -0.2**
GERES GERESS Array B 84.25 321 P **P 12 38 53.3 -0.4**
comp=Z,233nm,0.9s,mb6.3,baz=63,slow=4.3,SNR=334
GERES S S 12 49 17.8 -1.6
comp=Z,2.1nm,0.7s,baz=225,slow=15,SNR=1.8
GERES PKP2bc 13 04 41.7
comp=Z,0.8nm,0.9s,baz=122,slow=1.7,SNR=3.6
GERES GERESS Array B 84.25 321 P **P 12 38 53.3 -0.3**
GERES S S 12 49 17.8 -1.6
GERES GERESS Array B 84.25 321 P **P 12 38 53.3 -0.4**
GERES S S 12 49 17.8 -1.6
GERES ⇑*e* 13 04 41.7
STON Ston 84.31 314 *i* P **P 12 38 52.9 -1.0**
NKC Novy Kostel 84.35 322 *e*P **P 12 38 53.6 -0.5**
NKC *e*PP PP 12 42 04.6 -4.2
NKC *e*S S 12 49 18.6 -1.8
NKC *e*PKPPKP 13 05 05.7
NKC AMS AMS 13 21 50.0
comp=Z,191µm,18.7s
NKC Novy Kostel 84.35 322 *e*P **P 12 38 53.6 -0.5**
NKC *e*PP PP 12 42 04.6 -4.2
NKC *e*S S 12 49 18.6 -1.8
MOA Molln 84.36 319 *i* P **P 12 38 54.1 -0.1**
comp=Z,6µm,2.8s,mb7.3,SNR=149
WET Wettzell 84.60 321 *e*P **P 12 38 55.9 +0.5**
comp=Z,622nm,1.7s,mb6.5
WET Wettzell 84.60 321 *e*P **P 12 38 55.9 +0.5**
WET pmax pmax
comp=Z,622nm,1.7s,mb6.5
MOX Moxa 84.63 323 *e*P **P 12 38 55.7 +0.2**
comp=Z,504nm,1.5s,mb6.4
MOX Moxa 84.63 323 *e*P **P 12 38 54.9 -0.6**
comp=Z,2µm,2.0s,mb6.8
MOX *e* 12 39 10.5
MOX
comp=Z,74µm,20.0s
MOX Moxa 84.63 323 *e*P **P 12 38 54.9 -0.6**
MOX *e* 12 39 10.5
MOX pmax pmax
comp=Z,2µm,2.0s,mb6.8
MOX MLR MLR
comp=Z,74µm,20.0s,MS7.1
OBKA Obir 84.78 318 *i* P **P 12 38 55.7 -0.6**
comp=Z,6µm,3.2s,SNR=105
BOJS Bojanci 84.78 317 *e*P **P 12 38 56.8 +0.5**
BOJS *e*PP PP 12 42 13.7 +1.3
HLG Helgoland 84.88 327 *e*P **P 12 38 56.9 +0.1**
comp=Z,2µm,2.7s,mb6.9
LJU Ljubljana 85.00 318 *i* P **P 12 38 57.1 -0.3**
LJU *e*PP PP 12 42 21.9 +7.7
GORS Gorjuse 85.21 318 *e*P **P 12 38 58.1 -0.4**
KBA Koelnbreinsper 85.27 319 *i* P **P 12 38 58.2 -0.6**
comp=Z,4µm,3.4s,SNR=75
KBA Koelnbreinsper 85.27 319 *i* P **P 12 38 58.2 -0.5**
KBA pmax pmax
comp=Z,4µm,3.4s
YKW3 Yellowknife Ar 85.28 22 *e*P **P 12 38 57.8 -1.0**
GRA1 Grafenberg Arr 85.30 322 *e*P **P 12 38 59.3 +0.4**
comp=Z,2µm,1.9s,mb6.9
GRA1 *e*pP pP 12 39 12.4 +11
GRA1 LR LR
comp=Z,152µm,20.9s,MS7.4
GRF Grafenberg Arr 85.30 322 *e*P **P 12 38 59.3 +0.4**
comp=Z,2µm,1.9s,mb6.9
GRF *e*pP pP 12 39 12.4 +11
GRF *e*L 13 26 21.9
comp=Z,153µm,20.9s
GRFO Grafenberg 85.30 322 *e*P **P 12 38 58.1 -0.8**
GRFO pmax pmax
comp=Z,1µm,1.5s,mb6.7
GRFO MLR MLR
comp=Z,155µm,20.0s,MS7.4
GRFO Grafenberg 85.30 322 *e*P **P 12 38 58.1 -0.8**
comp=Z,1µm,1.5s,mb6.7
GRFO *e*PP PP 12 42 34.0 +17
GRFO LR LR
comp=Z,155µm,20.0s,MS7.4
YKA Yellowknife Ar 85.33 22 P **P 12 38 57.2 -1.8**
comp=Z,117nm,0.8s,mb6.0,baz=314,slow=4.4,SNR=276
YKA PKiKP PKiKP 12 44 09.2 -0.8
comp=Z,2.6nm,0.6s,baz=315,slow=1.6,SNR=5.0
YKA S S 12 49 19.9 -10
comp=Z,8.3nm,1.0s,baz=332,slow=4.6,SNR=2.2
YKA PKKPbc PKKPbc 12 57 02.1 -1.6
comp=Z,2.6nm,0.7s,baz=138,slow=2.5,SNR=14
YKA LR LR 13 23 31.2
comp=Z,147µm,21.4s,MS7.3,baz=235,slow=40
YKA Yellowknife Ar 85.33 22 P **P 12 38 57.2 -1.8**
JAVS Javornik 85.36 318 *i* P **P 12 38 58.9 -0.3**
JAVS *e*PP PP 12 42 22.5 +5.4
VOY Vojsko 85.40 318⇑ *e*P **P 12 38 58.7 -0.7**
NVLJ Novalja 85.44 316 *i* P **P 12 38 58.8 -0.8**
DRE Drenchia 85.49 318⇓ *i*P **P 12 38 59.0 -0.9**
PTCC Patocco-Chiusa 85.57 318 P **P 12 38 59.5 -0.7**
comp=Z,552nm,1.5s,mb6.6
PLRO Paularo 85.63 319⇓ *i*P **P 12 38 59.0 -1.5**
LRW Lerwick 85.64 335 P **P 12 38 59.8 -0.8**
LRW AMb AMB 12 39 03.6
comp=Z,316nm,1.3s,mb6.4
LRW Lerwick 85.64 335 *e*P **P 12 38 59.8 -0.8**
LRW *e*P 12 38 59.8
LRW AMb AMB 12 39 03.6
comp=Z,316nm,1.3s,mb6.4
LRW *e*S S 12 49 27.6 -5.5
LRW AMS AMS 13 26 29.3
comp=Z,49µm,18.4s,MS6.9
LRW Lerwick 85.64 335 S S 12 49 27.6 -5.5
LRW Lerwick 85.64 335 AMS AMS 13 32 13.3
comp=Z,40µm,17.7s,MS6.9
COLI Coloredo 85.67 318⇓ *i*P **P 12 39 00.0 -0.8**
GMNA Gemona 85.70 318 P **P 12 39 00.2 -0.7**
comp=Z,1µm,1.0s,mb7.1
BAD Bernadia 85.71 318⇑ *e*P **P 12 39 00.0 -1.0**
ZOU Zoufplan 85.73 319⇑ *i*P **P 12 39 02.0 +0.9**
WAL1 Walls 85.73 335 *e*P **P 12 39 00.1 -1.0**
BUA Buia 85.79 318⇓ *e*P **P 12 39 00.0 -1.4**
MPRI Monte Prat 85.87 318⇓ *e*P **P 12 39 01.0 -0.7**
IBBN Ibbenburen 85.91 325 *e*P **P 12 39 01.9 0.0**
comp=Z,509nm,1.1s,mb6.7
ABTA Abfaltersbach 85.92 319⇓ *i*P **P 12 39 01.1 -0.9**
comp=Z,3µm,4.0s
CSMI Casera Mimoias 85.95 319⇓ *e*P **P 12 39 02.0 -0.1**
FGMS Monte Sant'Ang 85.97 313 P **P 12 39 03.0 +0.7**
comp=Z,2µm,1.7s,mb7.0
FUR Furstenfeldbru 86.00 321 *e*P **P 12 39 02.8 +0.4**
comp=Z,1µm,1.4s,mb7.0
FUR Furstenfeldbru 86.00 321 *e*P **P 12 39 02.8 +0.4**
FUR pmax pmax
comp=Z,1µm,1.4s,mb7.0
MLNI Malnisio 86.14 318⇓ *i*P **P 12 39 02.0 -1.1**
WTTA Wattenberg 86.21 320 *i* P **P 12 39 02.8 -0.6**
comp=Z,3µm,2.2s,mb7.2,SNR=143
WTTA Wattenberg 86.21 320 *i* P **P 12 39 02.8 -0.6**
WTTA pmax pmax
comp=Z,3µm,2.2s,mb7.2
WATA Walderalm 86.21 320⇓ *i*P **P 12 39 02.3 -1.1**
comp=Z,434nm,1.3s,mb6.5,SNR=80
WATA Walderalm 86.21 320⇓ *i*P **P 12 39 02.4 -1.0**
WATA pmax pmax
comp=Z,435nm,1.3s,mb6.5
WIT Witteveen 86.22 326⇓ *e*P **P 12 39 04.1 +0.6**
WIT *e*P 12 46 55.4

WIT ex x 12 47 14.2
SIND Sindeldorf 86.39 322 P **P 12 39 04.2 -0.1**
HDH Heidenheim-Cha 86.42 321 P **P 12 39 04.5 0.0**
SQTA Sankt Quirin 86.49 320⇑*i*P **P 12 39 03.8 -1.0**
comp=Z,413nm,1.2s,mb6.5,SNR=91
MOTA Moosalm 86.49 320⇑*i*P **P 12 39 03.6 -1.2**
comp=Z,326nm,1.3s,mb6.4,SNR=119
MOTA Moosalm 86.49 320⇑*i*P **P 12 39 03.6 -1.2**
MOTA pmax pmax
comp=Z,326nm,1.3s,mb6.4
WTSB Winterswijk 86.59 325⇓*e*P **P 12 39 05.2 -0.2**
comp=Z,964nm,2.6s,mb6.6
WTSB *e*P 12 46 56.4
comp=Z,460nm,2.2s
WTSB ex x 12 47 15.5
TNS Taunus Mts 86.60 323 *e*P **P 12 39 05.7 +0.3**
comp=Z,2µm,2.7s,mb6.8
TNS Taunus Mts 86.60 323 *e*P **P 12 39 05.7 +0.3**
TNS pmax pmax
comp=Z,2µm,2.7s,mb6.8
BUG Bochum–Univer 86.62 325 *e*P **P 12 39 05.3 -0.1**
comp=Z,481nm,1.5s,mb6.5
RETA Reutte 86.63 320⇓*i*P **P 12 39 05.1 -0.4**
TOD Tromm 86.71 323 *e*P **P 12 39 05.5 -0.4**
CTI Castel Tesino 86.78 319 P **P 12 39 05.6 -0.6**
comp=Z,469nm,1.2s,mb6.6
APPI Appiano 86.83 319 P **P 12 39 05.2 -1.3**
SWS Schriesheim-Wi 86.83 323 P **P 12 39 08.4 +1.9**
FETA Feichten 86.87 320⇑*i*P **P 12 39 06.5 -0.2**
GRI Girifalco 86.90 311 P **P 12 39 07.4 +0.6**
STU Stuttgart 86.91 322 *e*P **P 12 39 06.9 0.0**
comp=Z,2µm,3.0s
UBR Ueberruh 86.92 321 P **P 12 39 06.4 -0.5**
BUCH Bad Urach 86.98 322 P **P 12 39 07.7 +0.5**
CING Cingoli 87.05 316 P **P 12 39 08.3 +0.7**
MIDA Miranda 87.15 314 P **P 12 39 08.2 +0.2**
LBG Lerchenberg 87.19 322 P **P 12 39 08.4 +0.2**
DAVA Damuels 87.25 320 *i* P **P 12 39 08.3 -0.2**
comp=Z,4µm,3.4s,SNR=50
KTD Kalmit 87.26 323 *e*P **P 12 39 08.7 +0.1**
ABH Alteburg 87.27 323 *e*P **P 12 39 08.9 +0.3**
SNTG Esanatoglia 87.28 316 P **P 12 39 09.2 +0.6**
comp=Z,3µm,1.7s,mb7.2
GUT Gutenstein 87.31 321 P **P 12 39 10.3 +1.5**
FUORN Ofenpass 87.35 320 *e*P **P 12 39 02.5 -6.5**
comp=Z,7µm,2.8s,mb7.4
FUORN Ofenpass 87.35 320 *e*P **P 12 39 08.7 -0.3**
AQU L'Aquila 87.39 315 P **P 12 39 10.0 +0.8**
AQU pmax pmax
comp=Z,2µm,1.6s,mb7.0
AQU L'Aquila 87.39 315 P **P 12 39 10.0 +0.8**
comp=Z,2µm,1.6s,mb7.0
LIENZ Alp Oberkamor 87.47 321 *e*P **P 12 39 03.8 -5.8**
comp=Z,5µm,3.2s
LIENZ Alp Oberkamor 87.47 321 *e*P **P 12 39 08.9 -0.7**
RFI Roccamonfina 87.48 314 P **P 12 39 10.3 +0.7**
comp=Z,278nm,1.9s,mb6.2
SPAK Spaichingen-Ko 87.48 321 *e*P **P 12 39 09.2 -0.4**
DAVOX Davos 87.50 320 *e*P **P 12 39 04.4 -5.3**
comp=Z,5µm,3.2s
DAVOX Davos 87.50 320 *e*P **P 12 39 09.3 -0.4**
SISB Singen-Schiene 87.59 321 P **P 12 39 10.2 +0.1**
BERNI Berninapass 87.59 320 *e*P **P 12 39 04.7 -5.5**
comp=Z,6µm,3.1s
BERNI Berninapass 87.59 320 *e*P **P 12 39 09.8 -0.4**
LANF Langenberg 87.59 323 *e*P **P 12 39 10.5 +0.3**
BFO Black Forest 87.63 322 P **P 12 39 10.4 +0.1**
comp=Z,401nm,1.5s,mb6.4,SNR=45
BFO Black Forest 87.63 322 *e*P **P 12 39 10.2 -0.1**
comp=Z,1µm,2.8s,mb6.7
BFO Black Forest 87.63 322 *e*P **P 12 39 10.2 -0.1**
BFO pmax pmax
comp=Z,1µm,2.8s,mb6.7
SCLL Scilla 87.64 310 P **P 12 39 10.1 -0.3**
comp=Z,401nm,1.3s,mb6.5
STEIN Stein am Rhein 87.65 321 *e*P **P 12 39 07.6 -2.9**
comp=Z,4µm,2.8s,mb7.1
STEIN Stein am Rhein 87.65 321 *e*P **P 12 39 09.4 -1.1**
WEIN Weingarten 87.65 321 *e*P **P 12 39 07.7 -2.8**
comp=Z,4µm,2.8s,mb7.1
WEIN Weingarten 87.65 321 *e*P **P 12 39 09.4 -1.1**
MLA1 Latheron 87.66 334 *e*P **P 12 39 09.7 -0.8**
PLONS Plons 87.66 320 *e*P **P 12 39 08.3 -2.2**
comp=Z,5µm,3.1s
PLONS Plons 87.66 320 *e*P **P 12 39 09.7 -0.8**
HGN Heimansgroeve 87.69 325 *e*P **P 12 39 10.3 -0.3**
comp=Z,606nm,3.0s,mb6.3
HGN *e*PP PP 12 42 35.5 -0.5
HGN *e*P 12 47 03.4
comp=Z,324nm,2.1s
HGN ex x 12 47 20.7
HGN *e*S S 12 49 49.6 -3.5
HGN *e*SS SS 12 55 59.0 +20
MEM Membach 87.73 325 P **P 12 39 10.8 0.0**
comp=Z,198nm,2.8s,mb5.8
WILA Wila 87.76 321 *e*P **P 12 39 08.7 -2.3**
comp=Z,4µm,3.4s
WILA Wila 87.76 321 *e*P **P 12 39 10.0 -1.0**
TRULL Truellikon 87.77 321 *e*P **P 12 39 08.9 -2.1**
comp=Z,3µm,2.7s,mb7.1
TRULL Truellikon 87.77 321 *e*P **P 12 39 09.9 -1.1**
BEBN Eben Emael 87.81 325 P **P 12 39 11.0 -0.2**
comp=Z,206nm,3.0s
SLE Schleitheim 87.82 321 *e*P **P 12 39 09.3 -2.0**
comp=Z,3µm,3.3s
SLE Schleitheim 87.82 321 *e*P **P 12 39 10.0 -1.3**
STR Strasbourg 87.82 322 *e*P **P 12 39 11.3 0.0**
CERT Cerreto 87.85 315 P **P 12 39 11.3 -0.1**
FLACH Flaach 87.88 321 *e*P **P 12 39 10.4 -1.1**
VDL Val di Lei 87.89 320 *e*P **P 12 39 09.4 -2.2**
comp=Z,5µm,3.1s
VDL Val di Lei 87.89 320 *e*P **P 12 39 11.2 -0.4**
ZUR Zurich 87.97 321 *e*P **P 12 39 09.7 -2.3**
comp=Z,4µm,3.4s
ZUR Zurich 87.97 321 *e*P **P 12 39 10.8 -1.2**
LLS Linth-Limmern 87.98 320 *e*P **P 12 39 09.8 -2.2**
comp=Z,4µm,3.3s
LLS Linth-Limmern 87.98 320 *e*P **P 12 39 11.4 -0.6**
FNVD Fontana Vidola 88.01 317 P **P 12 39 13.7 +1.6**
FELD Feldberg im Sc 88.05 322⇓*e*P **P 12 39 11.9 -0.4**
KIZ Kirchzarten 88.06 322 P **P 12 39 12.2 -0.2**
MCD Coleburn Disti 88.08 333 *e*P **P 12 39 11.7 -0.8**
MME1 Meikle Cairn 88.12 333 *e*P **P 12 39 11.8 -0.9**
LIBD Limburg 88.14 322 P **P 12 39 11.2 -1.6**
MUO Muotathal 88.14 321 *e*P **P 12 39 09.9 -2.9**
comp=Z,5µm,3.3s
MUO Muotathal 88.14 321 *e*P **P 12 39 12.1 -0.7**
WLF Walferdange 88.16 324 *e*P **P 12 39 13.2 +0.3**
comp=Z,305nm,1.2s,mb6.4
WLF Walferdange 88.16 324 P **P 12 39 12.7 -0.1**
comp=Z,272nm,1.3s,mb6.3
SULZ Sulz-Cheisache 88.16 321 *e*P **P 12 39 10.0 -2.9**
comp=Z,4µm,3.4s
SULZ Sulz-Cheisache 88.16 321 *e*P **P 12 39 11.6 -1.3**
CDF Champ du Feu 88.19 322⇑*i*P **P 12 39 11.8 -1.2**
comp=Z,1µm,1.4s,mb6.6
CDF Champ du Feu 88.19 322⇑*i*P **P 12 39 11.8 -1.2**
comp=Z,513nm,1.4s,mb6.6
CASY Casey 88.19 184 *e*P **P 12 39 11.0 -2.0**
BCLA Clavier 88.21 325 P **P 12 39 12.5 -0.6**
ROM9 Roma 88.22 315 P **P 12 39 13.1 0.0**
CSNT Castellina Chi 88.23 317 P **P 12 39 12.6 -0.6**
comp=Z,7µm,2.9s,mb7.4
MVH1 Achvaich 88.24 334 *e*P **P 12 39 12.5 -0.7**
GSCL Gusciola 88.25 318 P **P 12 39 14.1 +0.8**
comp=Z,870nm,1.2s,mb6.9
BNALP Bannalp 88.32 321 *e*P **P 12 39 10.5 -3.1**
comp=Z,4µm,3.7s
BNALP Bannalp 88.32 321 *e*P **P 12 39 12.8 -0.8**
ERBM Eremo 88.33 318 P **P 12 39 14.7 +1.0**
comp=Z,2µm,1.5s,mb7.2
RSC Scourie 88.36 335 *e*P **P 12 39 13.2 -0.6**
ECH Echery 88.36 322 *e*P **P 12 39 13.5 -0.3**
FUSIO Fusio 88.39 320 *e*P **P 12 39 10.4 -3.5**
comp=Z,4µm,2.8s,mb7.1
FUSIO Fusio 88.39 320 *e*P **P 12 39 13.3 -0.6**
MUGIO Muggio 88.43 319 *e*P **P 12 39 10.8 -3.3**
comp=Z,3µm,3.3s
MUGIO Muggio 88.43 319 *e*P **P 12 39 12.5 -1.6**
BALST Balsthal 88.51 321 *e*P **P 12 39 10.8 -3.7**
comp=Z,3µm,3.0s
BALST Balsthal 88.51 321 *e*P **P 12 39 13.3 -1.2**
UCC Uccle 88.51 325 P **P 12 39 13.9 -0.6**
HASLI Hasliberg 88.54 321 *e*P **P 12 39 11.0 -3.7**
comp=Z,4µm,3.1s
HASLI Hasliberg 88.54 321 *e*P **P 12 39 13.7 -1.0**
BBS Basel-Blauen 88.55 321 *e*P **P 12 39 14.3 -0.4**
REB Eisghbrachaidh 88.56 335 *e*P **P 12 39 13.5 -1.2**
MOF Molkenrain 88.56 322 *e*P **P 12 39 14.6 -0.2**
GRFL Gerfalco 88.59 316 P **P 12 39 14.7 -0.2**
comp=Z,713nm,1.6s,mb6.8
VAI Varese 88.62 320 P **P 12 39 14.0 -1.1**
VAI pmax pmax
comp=Z,314nm,1.2s,mb6.5
VAI Varese 88.62 320 P **P 12 39 14.0 -1.1**
comp=Z,314nm,1.2s,mb6.5
MDO Dochfour 88.62 334 *e*P **P 12 39 14.0 -1.1**
GIVF Givet 88.64 325⇑*i*P **P 12 39 14.0 -1.2**
comp=Z,815nm,1.5s,mb6.5
GIVF Givet 88.64 325⇑*i*P **P 12 39 14.0 -1.2**
comp=Z,407nm,1.5s,mb6.5
SNF Seneffe 88.71 325 P **P 12 39 14.9 -0.6**
RAR Rarotonga 88.74 113 LR LR 13 14 52.9
comp=Z,25µm,21.4s,MS6.6,baz=302,slow=33
RAR Rarotonga 88.74 113 PFAKE 12 39 30.0 +14
RAR LR LR
comp=Z,1.0nm,21.0s
HINF Hinteralfeld 88.74 322⇑*i*P **P 12 39 14.0 -1.6**
comp=Z,592nm,1.3s,mb6.4
HINF Hinteralfeld 88.74 322⇑*i*P **P 12 39 14.0 -1.6**
comp=Z,296nm,1.3s,mb6.5
BOURR Bourrignon 88.75 321 *e*P **P 12 39 11.2 -4.4**
comp=Z,4µm,3.4s
BOURR Bourrignon 88.75 321 *e*P **P 12 39 14.5 -1.1**
DOU Dourbes 88.77 325 P **P 12 39 14.7 -1.0**
BORG Borgarnes 88.80 345 *e*P **P 12 39 18.1 +2.2**
comp=Z,2µm,2.5s,mb7.0
BORG LR LR
comp=Z,46µm,20.0s,MS6.9
AWI1 Witton 88.84 328 *e*P **P 12 39 16.0 -0.1**
ESY Stoneypath 88.86 332 *e*P **P 12 39 15.1 -1.1**
HMDC Modica 88.88 310 P **P 12 39 17.0 +0.7**
WIMIS Wimmis 88.89 321 *e*P **P 12 39 11.4 -4.9**
comp=Z,3µm,3.4s
WIMIS Wimmis 88.89 321 *e*P **P 12 39 15.4 -0.9**
VAE Valguarnera 88.91 310 P **P 12 39 17.0 +0.6**
comp=Z,117nm,0.9s,mb6.2,baz=214,slow=0.8,SNR=22
VAE PP PP 12 42 45.2 -0.5
comp=Z,16nm,0.5s,baz=234,slow=20,SNR=6.8
VAE S S 12 49 57.2 -7.5
comp=Z,14nm,0.7s,baz=136,slow=21,SNR=1.7
VAE Valguarnera 88.91 310 P **P 12 39 17.0 +0.6**
VAE PP PP 12 42 45.2 -0.5
VAE S S 12 49 57.2 -7.4
HAU Haudompre 88.93 322⇑*i*P **P 12 39 15.0 -1.5**
comp=Z,557nm,1.2s,mb6.5
HAU *e*MLR
comp=Z,254µm,21.5s
HAU Haudompre 88.93 322⇑*i*P **P 12 39 15.0 -1.5**
HAU pmax pmax
comp=Z,279nm,1.2s,mb6.5
HAU MLR MLR
comp=Z,254µm,21.5s,MS7.6
HAU Haudompre 88.93 322⇑*i*P **P 12 39 15.0 -1.5**
comp=Z,279nm,1.2s,mb6.5
HAU LR LR
comp=Z,254µm,21.5s,MS7.6
RRR Ruhna Reidh 88.94 334 *e*P **P 12 39 14.7 -1.9**
CSLB Castelbuono 88.95 311 P **P 12 39 16.5 -0.1**
comp=Z,98nm,1.0s,mb6.1
ABA1 Baconsthorpe 88.96 328 *e*P **P 12 39 15.4 -1.2**
LWH Whinny Nab 88.96 330 *e*P **P 12 39 15.6 -1.1**
XSO Sourhope Farm 88.96 331 *e*P **P 12 39 15.6 -1.0**
KAC Achnashellach 88.97 334 *e*P **P 12 39 14.9 -1.8**
BAIF Baives 89.00 325⇑*i*P **P 12 39 15.6 -1.2**
comp=Z,265nm,1.1s,mb6.2
BAIF Baives 89.00 325⇑*i*P **P 12 39 15.6 -1.2**
comp=Z,133nm,1.1s,mb6.2
LOMF Lomont 89.00 321 *e*P **P 12 39 16.7 -0.1**
MMK Mattmark 89.01 320 *e*P **P 12 39 11.6 -5.3**
comp=Z,5µm,2.7s,mb7.4
MMK Mattmark 89.01 320 *e*P **P 12 39 16.6 -0.3**
THEF They Montfort 89.02 323 *e*P **P 12 39 16.7 -0.2**
LKBD Leukerbad 89.04 320 *e*P **P 12 39 12.1 -4.9**
comp=Z,2µm,2.9s,mb7.0
LKBD Leukerbad 89.04 320 *e*P **P 12 39 16.1 -0.9**
AEU East Anglia Un 89.07 328 *e*P **P 12 39 15.8 -1.4**
EDI Edinburgh 89.10 332 P **P 12 39 16.9 -0.4**
EDI AMb AMB 12 39 22.8
comp=Z,419nm,2.1s,mb6.4
EDI Edinburgh 89.10 332 AMS AMS 13 24 07.9
EDI AMS AMS 13 30 47.0
EDI Edinburgh 89.10 332 *e*P **P 12 39 16.9 -0.4**
EDI AMb AMB 12 39 22.8
comp=Z,419nm,2.1s,mb6.4
EDI AMS AMS 13 24 07.9
comp=Z,326µm,19.4s,MS7.8
EDI Edinburgh 89.10 332 AMS AMS 13 30 47.0
comp=Z,143µm,20.9s,MS7.4
EBL Broad Law 89.14 332 *e*P **P 12 39 16.2 -1.2**
KSB Sheil Bridge 89.21 334 *e*P **P 12 39 17.2 -0.6**
ORO Oropa 89.22 320 P **P 12 39 16.9 -1.0**
ORO pmax pmax
comp=Z,620nm,1.8s,mb6.6
ORO Oropa 89.22 320 P **P 12 39 16.9 -1.0**
comp=Z,620nm,1.8s,mb6.6
USI Ustica 89.22 312 P **P 12 39 19.3 +1.4**
comp=Z,445nm,1.0s,mb6.8
KPL Plockton 89.22 334 P **P 12 39 17.2 -0.7**
KPL AMb AMB 12 39 20.0
comp=Z,294nm,1.1s,mb6.5
KPL Plockton 89.22 334 *e*P **P 12 39 17.2 -0.7**
KPL AMb AMB 12 39 20.0
comp=Z,294nm,1.1s,mb6.5
KPL AMS AMS 13 25 48.2
comp=Z,131µm,18.1s,MS7.4
KPL Plockton 89.22 334 AMS AMS 13 29 24.0
comp=Z,83µm,18.3s,MS7.2
TORNY Torny 89.23 321 *e*P **P 12 39 12.5 -5.4**
comp=Z,3µm,3.3s
TORNY Torny 89.23 321 *e*P **P 12 39 16.9 -1.0**
SENIN Lac Senin 89.24 320 *e*P **P 12 39 12.8 -5.2**
comp=Z,3µm,3.2s
SENIN Lac Senin 89.24 320 *e*P **P 12 39 17.3 -0.7**
RRH Rhenigidale 89.25 335 *e*P **P 12 39 17.3 -0.7**
EAU Auchinoon 89.27 332 *e*P **P 12 39 17.2 -0.9**
DIX Grande Dixence 89.32 320 *e*P **P 12 39 13.3 -5.1**
comp=Z,3µm,2.8s,mb7.1
DIX Grande Dixence 89.32 320 *e*P **P 12 39 18.2 -0.2**
XAL Allendale 89.34 331 *e*P **P 12 39 17.5 -1.0**
MEZF Maizieres J'vi 89.39 323⇑*i*P **P 12 39 17.7 -1.0**
comp=Z,957nm,1.4s,mb6.6,baz=67
MEZF Maizieres J'vi 89.39 323⇑*i*P **P 12 39 17.7 -1.0**
comp=Z,957nm,1.4s,mb6.9
GRYON Gryon 89.41 320 *e*P **P 12 39 13.3 -5.5**
comp=Z,2µm,3.1s
GRYON Gryon 89.41 320 *e*P **P 12 39 17.9 -0.9**
BRANT Les Verrieres 89.43 321 *e*P **P 12 39 13.7 -5.1**
comp=Z,3µm,3.0s
BRANT Les Verrieres 89.43 321 *e*P **P 12 39 17.9 -0.9**
EAB Aberfoyle 89.43 333 *e*P **P 12 39 18.4 -0.4**
AIGLE Aigle 89.46 321 *e*P **P 12 39 14.5 -4.5**
comp=Z,3µm,3.1s
AIGLE Aigle 89.46 321 *e*P **P 12 39 18.0 -1.0**
EKA Eskdalemuir Ar 89.47 332 PKKPbc PKKPbc 12 56 53.7 -0.1
comp=Z,4.2nm,0.7s,baz=251,slow=2.5,SNR=8.1
DRV Dumont d'Urvil 89.47 172 P **P 12 39 16.0 -3.0**
DRV Dumont d'Urvil 89.47 172 PP PP 12 42 46.0 -4.2
DRV S S 12 49 44.0 -26
DRV SS SS 12 56 02.0 -3.0
ESK Eskdalemuir 89.50 332 P **P 12 39 18.0 -1.2**
comp=Z,909nm,1.0s,mb7.1,SNR=21
ESK Eskdalemuir 89.50 332 P **P 12 39 18.1 -1.0**
ESK AMb AMB 12 39 23.6
comp=Z,424nm,2.4s,mb6.3
ESK Eskdalemuir 89.50 332 AMS AMS 13 24 20.2
ESK AMS AMS 13 29 27.0
ESK Eskdalemuir 89.50 332 *e*P **P 12 39 18.1 -1.0**
ESK AMb AMB 12 39 23.6
comp=Z,424nm,2.4s,mb6.3
ESK AMS AMS 13 24 20.2
comp=Z,348µm,19.8s,MS7.8
ESK Eskdalemuir 89.50 332 *e*P **P 12 39 17.9 -1.3**
ESK pmax pmax
comp=Z,226nm,1.1s,mb6.4
ESK MLR MLR
comp=Z,92µm,20.0s,MS7.2
ESK Eskdalemuir 89.50 332 *e*P **P 12 39 17.9 -1.2**
comp=Z,226nm,1.1s,mb6.4
ESK LR LR
comp=Z,92µm,20.0s,MS7.2
ESK Eskdalemuir 89.50 332 AMS AMS 13 29 27.0
comp=Z,164µm,20.0s,MS7.5
SALAN Lac Salanfe 89.55 320 *e*P **P 12 39 15.4 -4.0**
comp=Z,2µm,2.7s,mb7.0
SALAN Lac Salanfe 89.55 320 *e*P **P 12 39 18.6 -0.8**
KAR1 Arisaig 89.57 334 *e*P **P 12 39 18.8 -0.8**
PGC Sidney 89.60 37 *e*P **P 12 39 19.5 -0.1**
OG01 Vacheresse 89.62 321 *e*P **P 12 39 19.7 -0.1**
EMV Vieux Emosson 89.64 320 *e*P **P 12 39 15.4 -4.4**
comp=Z,3µm,3.3s
EMV Vieux Emosson 89.64 320 *e*P **P 12 39 19.1 -0.7**
LDU Leeds Universi 89.70 330 *e*P **P 12 39 20.0 -0.1**
CLTB Caltabellotta 89.71 311 P **P 12 39 21.0 +0.8**
comp=Z,234nm,1.0s,mb6.5
PGBU Glenifferbraes 89.73 332 P **P 12 39 18.9 -1.4**
PGBU AMb AMB 12 39 27.2
comp=Z,196nm,1.3s,mb6.3
PGBU Glenifferbraes 89.73 332 AMS AMS 13 24 36.4
PGBU AMS AMS 13 31 14.9
comp=Z,59µm,20.8s
PGBU Glenifferbraes 89.73 332 *e*P **P 12 39 18.9 -1.4**
PGBU AMb AMB 12 39 27.2
comp=Z,196nm,1.3s,mb6.3
PGBU AMS AMS 13 24 36.4
comp=Z,113µm,18.5s,MS7.3
PGBU Glenifferbraes 89.73 332 AMS AMS 13 31 14.9
comp=Z,59µm,20.8s,MS7.0
STW Striped Peak 89.75 37 P **P 12 39 21.6 +1.3**
GIMEL Gimel 89.76 321 *e*P **P 12 39 16.7 -3.7**
comp=Z,3µm,3.3s
GIMEL Gimel 89.76 321 *e*P **P 12 39 19.6 -0.8**
MENF Mencas 89.80 326 *e*P **P 12 39 20.2 -0.4**
FIN Finale Ligure 89.81 318 P **P 12 39 20.0 -0.6**
FIN pmax pmax
comp=Z,1µm,1.6s,mb7.0
FIN Finale Ligure 89.81 318 P **P 12 39 20.0 -0.6**
comp=Z,1µm,1.6s,mb7.0
CABF La Chapelle 89.82 321⇑*i*P **P 12 39 19.5 -1.2**
comp=Z,729nm,1.7s,mb6.4
CABF La Chapelle 89.82 321⇑*i*P **P 12 39 19.5 -1.2**
CABF pmax pmax
comp=Z,364nm,1.7s,mb6.4
CABF La Chapelle 89.82 321⇑*i*P **P 12 39 19.5 -1.2**
comp=Z,364nm,1.7s,mb6.4
B04A Port Angeles 89.89 37 ⇓P **P 12 39 22.3 +1.2**
baz=90
B04A ⇑SKSac SKSac 12 49 52.1 -0.2
baz=90
CKE Keswick 89.92 331 *e*P **P 12 39 20.0 -1.2**
A04A Legoe Bay, Lum 89.97 36 ⇑P **P 12 39 22.7 +1.4**
baz=90
A04A ⇑SKSac SKSac 12 49 51.0 -1.7
baz=90
LHO Holmfirth 90.00 330 *e*P **P 12 39 20.3 -1.2**
RSL Roselend 90.00 320 *e*P **P 12 39 21.4 -0.1**
LPG La Plagne 90.02 320⇑*i*P **P 12 39 21.2 -0.4**
comp=Z,512nm,0.8s,mb6.6
LPG La Plagne 90.02 320⇑*i*P **P 12 39 21.2 -0.4**
LPG pmax pmax
comp=Z,256nm,0.8s,mb6.6
LPG La Plagne 90.02 320⇑*i*P **P 12 39 21.2 -0.4**
comp=Z,256nm,0.8s,mb6.6
KBI1 Birley Grange 90.02 329 *e*P **P 12 39 20.6 -1.0**
LPL La Plagne 90.02 320⇑*i*P **P 12 39 21.1 -0.5**
comp=Z,1µm,1.1s,mb6.8
LPL La Plagne 90.02 320⇑*i*P **P 12 39 21.1 -0.5**
LPL pmax pmax
comp=Z,549nm,1.1s,mb6.8
LPL La Plagne 90.02 320⇑*i*P **P 12 39 21.1 -0.5**
comp=Z,549nm,1.1s,mb6.8
GCD Castle Douglas 90.11 332 *e*P **P 12 39 20.7 -1.3**
VDB Vedder Mountai 90.13 36 P **P 12 39 22.4 +0.3**
XDE Dent Fell 90.14 331 *e*P **P 12 39 22.0 -0.2**
PGF Pioggiola 90.15 317⇑*i*P **P 12 39 21.6 -0.6**
comp=Z,1µm,1.1s,mb6.9
PGF Pioggiola 90.15 317⇑*i*P **P 12 39 21.6 -0.6**
comp=Z,674nm,1.1s,mb6.9
A05A Maple Falls 90.15 36 ⇑P **P 12 39 22.7 +0.5**
baz=90
A05A ⇑SKSac SKSac 12 49 50.8 -3.0
baz=90
IMI Imperia 90.16 318 P **P 12 39 22.1 -0.2**
comp=Z,459nm,1.2s,mb6.7
CORF Corte 90.18 316 *e*P **P 12 39 22.7 +0.3**
OG22 Abries 90.26 319 *e*P **P 12 39 22.5 -0.2**
KWE Weaver Farm 90.32 329 *e*P **P 12 39 21.3 -1.7**
SAOF Saorge 90.32 318 *e*P **P 12 39 23.0 0.0**
C04A Brinnon 90.38 37 ⇓P **P 12 39 24.5 +1.2**
baz=90
C04A ⇓SKSac SKSac 12 49 53.6 -1.5
baz=90
AUTN L'Aution 90.40 318 *e*P **P 12 39 23.7 +0.3**
MBDF Montbardon 90.42 319⇑*i*P **P 12 39 22.0 -1.5**
comp=Z,565nm,1.3s,mb6.4
MBDF Montbardon 90.42 319⇑*i*P **P 12 39 22.0 -1.5**
comp=Z,283nm,1.3s,mb6.4
GAL1 Galloway 90.45 332 *e*P **P 12 39 23.3 -0.3**
SBF Sospel 90.46 318⇑*i*P **P 12 39 22.4 -1.3**
comp=Z,913nm,1.0s,mb6.7
SBF Sospel 90.46 318⇑*i*P **P 12 39 22.4 -1.3**
SBF pmax pmax
comp=Z,457nm,1.0s,mb6.8
SBF Sospel 90.46 318⇑*i*P **P 12 39 22.4 -1.3**
comp=Z,456nm,1.0s,mb6.8
OG05 Jujurieux 90.50 321 *e*P **P 12 39 23.8 0.0**
TOUF Mont Tournerai 90.50 318 *e*P **P 12 39 23.8 0.0**
GMK Mull of Kintyr 90.52 333 *e*P **P 12 39 23.5 -0.5**
SURF Saint Ours 90.52 319 *e*P **P 12 39 24.1 +0.2**
MIR Mirnyy 90.55 191⇓*i*P **P 12 39 24.0 -0.1**
MIR pmax pmax
comp=Z,2µm,2.0s,mb7.2
MIR pmax pmax
comp=Z,8µm,10.0s
MIR MLR MLR
comp=E,6µm,18.0s,MS6.4
MIR MLR MLR
comp=Z,33µm,18.0s,MS6.8
MIR MLR MLR
comp=N,12µm,19.0s,MS6.4
GDM Grand'Maison 90.56 320 *e*P **P 12 39 24.6 +0.5**
B05A Bryant 90.56 36 ⇑P **P 12 39 25.3 +1.2**
baz=90
B05A ⇓SKSac SKSac 12 49 54.1 -2.0
baz=90
REVF Revere 90.57 318 *e*P **P 12 39 23.7 -0.5**
SKP1 Kophill 90.62 328 *e*P **P 12 39 24.1 -0.3**
MVIF Mont Vial 90.62 318 *e*P **P 12 39 24.5 +0.1**
E03A Lebam 90.69 38 ⇓P **P 12 39 25.4 +0.7**
baz=90
E03A ⇓SKSac SKSac 12 49 56.5 -0.4
baz=90
GIM North Isle of 90.72 331 *e*P **P 12 39 24.1 -0.8**
LOR Lormes 90.75 323⇑*i*P **P 12 39 23.5 -1.5**
comp=N,603nm,1.2s,mb6.5,baz=61
LOR *e*MLR
comp=Z,215µm,20.0s
LOR Lormes 90.75 323⇑*i*P **P 12 39 23.5 -1.5**
LOR pmax pmax
comp=Z,301nm,1.2s,mb6.5
LOR MLR MLR
comp=Z,215µm,20.0s,MS7.6
LOR Lormes 90.75 323⇑*i*P **P 12 39 23.5 -1.5**
comp=Z,301nm,1.2s,mb6.5
LOR LR LR
comp=Z,215µm,20.0s,MS7.6
B06A Marblemount 90.75 36 ⇓P **P 12 39 25.4 +0.4**
baz=91
B06A ⇑SKSac SKSac 12 49 55.3 -1.9
baz=91
GRN Grenoble 90.76 320 *e*P **P 12 39 25.6 +0.5**
D04A Dobbs Creek Ra 90.81 38 ⇑P **P 12 39 26.4 +1.1**
baz=91
D04A ⇑SKSac SKSac 12 49 58.4 +0.9
baz=91
ORIF Oris-en-Rattie 90.85 320⇑*i*P **P 12 39 24.7 -0.8**
comp=Z,2µm,1.6s,mb6.8
ORIF *e*MLR
comp=Z,290µm,20.8s
ORIF Oris-en-Rattie 90.85 320⇑*i*P **P 12 39 24.7 -0.8**
comp=Z,802nm,1.6s,mb6.8
CALN Calern 90.86 318 *e*P **P 12 39 25.6 +0.1**
WIM Isle of Man 90.90 331 *e*P **P 12 39 25.3 -0.4**
SSW Stow on the Wo 90.98 329 *e*P **P 12 39 24.7 -1.3**
OG25 Le Caire 91.03 319 *e*P **P 12 39 26.4 +0.1**
A07A Ashnola River, 91.04 35 ⇓P **P 12 39 27.1 +0.7**

baz=91
A07A ⇑SKSac SKSac 12 49 55.9 -2.9
baz=91
SBD1 Bryn Du 91.06 330 *e*P **P 12 39 25.7 -0.7**
SSF Saint Saulge 91.06 322⇑*i*P **P 12 39 25.1 -1.4**
comp=Z,245nm,1.0s,mb6.2
SSF Saint Saulge 91.06 322⇑*i*P **P 12 39 25.1 -1.4**
comp=Z,123nm,1.0s,mb6.2
SMF Signal de Mont 91.10 322⇑*i*P **P 12 39 25.3 -1.4**
comp=Z,1μm,1.4s,mb6.8
SMF Signal de Mont 91.10 322⇑*i*P **P 12 39 25.3 -1.4**
comp=Z,620nm,1.4s,mb6.8
FRF La Foret Royal 91.11 318⇑*i*P **P 12 39 25.5 -1.2**
comp=Z,1μm,1.4s,mb6.8
FRF La Foret Royal 91.11 318⇑*i*P **P 12 39 25.5 -1.2**
FRF pmax pmax
comp=Z,712nm,1.4s,mb6.8
FRF La Foret Royal 91.11 318⇑*i*P **P 12 39 25.5 -1.2**
comp=Z,712nm,1.4s,mb6.8
C05A Tolt Reservoir 91.11 37 ⇑P **P 12 39 27.9 +1.2**
baz=91
C05A ⇑SKSac SKSac 12 49 56.6 -2.6
baz=91
HLM1 Long Mynd 91.12 329 *e*P **P 12 39 25.8 -0.9**
E04A Onalaska 91.15 38 ⇓P **P 12 39 27.7 +0.9**
baz=91
E04A ⇑SKSac SKSac 12 49 57.2 -2.3
baz=91
SFJD Kangerlussuaq 91.16 357 S S 12 50 09.4 -16
comp=Z,7.3nm,0.6s,baz=105,slow=5.7,SNR=2.3
SFJD Kangerlussuaq 91.16 357 *e*P **P 12 39 26.0 -1.0**
comp=Z,588nm,1.1s,mb6.8
SFJD LR LR
comp=Z,97μm,20.0s,MS7.2
SWN1 Swindon 91.23 328 *e*P **P 12 39 26.7 -0.5**
AVF Avril sur Loir 91.30 322⇑*i*P **P 12 39 26.2 -1.4**
comp=Z,807nm,1.3s,mb6.6
AVF Avril sur Loir 91.30 322⇑*i*P **P 12 39 26.2 -1.4**
AVF pmax pmax
comp=Z,403nm,1.3s,mb6.6
AVF Avril sur Loir 91.30 322⇑*i*P **P 12 39 26.2 -1.4**
comp=Z,403nm,1.3s,mb6.6
LMR La Mourre 91.31 318⇑*i*P **P 12 39 26.6 -1.0**
comp=Z,2μm,1.3s,mb6.9
LMR La Mourre 91.31 318⇑*i*P **P 12 39 26.6 -1.0**
comp=Z,768nm,1.3s,mb6.9
STOF St-Etienne Org 91.33 319 *e*P **P 12 39 28.3 +0.6**
WCB1 Church Bay 91.35 331 *e*P **P 12 39 26.9 -0.8**
GMM Mts of Mourne 91.41 332 *e*P **P 12 39 27.9 -0.2**
HYF Humbligny 91.43 323⇑*i*P **P 12 39 27.4 -0.8**
TAVF Tavernes 91.44 319 *e*P **P 12 39 28.5 +0.3**
YRC Rhoscolyn 91.44 331 *e*P **P 12 39 28.1 -0.2**
H02A Toledo 91.46 40 ⇑P **P 12 39 29.0 +0.7**
baz=91
WRW Wenatchee Ridg 91.46 36 P **P 12 39 28.9 +0.6**
MCH1 Michaelchurch 91.51 329 P **P 12 39 27.6 -1.0**
MCH1 AMb AMB 12 39 31.3
comp=Z,161nm,2.0s,mb6.0
MCH1 Michaelchurch 91.51 329 AMS AMS 13 25 13.5
MCH1 Michaelchurch 91.51 329 *e*P **P 12 39 27.6 -1.0**
MCH1 *e*P 12 39 27.6
MCH1 AMb AMB 12 39 31.3
comp=Z,161nm,2.0s,mb6.0
MCH1 AMS AMS 13 25 13.5
comp=Z,107μm,19.2s,MS7.3
B07A Winthrop 91.53 35 ⇓P **P 12 39 29.0 +0.4**
baz=91
B07A ⇓SKSac SKSac 12 50 00.3 -1.3
baz=91
SMRF Simiane la Rot 91.54 319⇑*i*P **P 12 39 28.0 -0.7**
comp=Z,1μm,1.5s,mb6.6
SMRF Simiane la Rot 91.54 319⇑*i*P **P 12 39 28.0 -0.7**
comp=Z,1μm,1.5s,mb6.9
YRE Yr Eifl 91.55 330 *e*P **P 12 39 28.4 -0.3**
PLDF La Plantade 91.61 322 *e*P **P 12 39 29.3 +0.3**
VIVF Saint-Julien-l 91.61 320⇑*i*P **P 12 39 27.8 -1.2**
comp=Z,838nm,1.4s,mb6.6
VIVF Saint-Julien-l 91.61 320⇑*i*P **P 12 39 27.8 -1.2**
VIVF pmax pmax
comp=Z,419nm,1.4s,mb6.6
VIVF Saint-Julien-l 91.61 320⇑*i*P **P 12 39 27.8 -1.2**
comp=Z,419nm,1.4s,mb6.6
HGH Gray Hill 91.64 329 *e*P **P 12 39 28.9 -0.2**
A08A Turner Farm, O 91.69 35 ⇓P **P 12 39 30.2 +0.8**
baz=92
A08A ⇑SKSac SKSac 12 50 01.4 -1.2
baz=92
PUYF Puyloubier 91.70 319 *e*P **P 12 39 29.6 +0.2**
E05A Randle 91.72 38 ⇓P **P 12 39 30.2 +0.7**
baz=92
E05A ⇓SKSac SKSac 12 50 00.5 -2.2
baz=92
BGF Bois d'Agland 91.72 322⇑*i*P **P 12 39 28.2 -1.3**
comp=Z,597nm,1.4s,mb6.4
BGF Bois d'Agland 91.72 322⇑*i*P **P 12 39 28.2 -1.3**
comp=Z,298nm,1.4s,mb6.4
WPW White Pass 91.76 37 P **P 12 39 30.6 +0.9**
COLF Collangettes 91.82 321 *e*P **P 12 39 29.5 -0.5**
BERF Bertagne 91.83 318 *e*P **P 12 39 30.1 +0.1**
AGO Saint Agoulin 91.84 322 *e*P **P 12 39 30.0 -0.1**
TREF Trevaresse 91.85 319 *e*P **P 12 39 30.9 +0.8**
H03A Soap Creek Ran 91.88 40 ⇑P **P 12 39 31.0 +0.8**
baz=92
H03A ⇓SKSac SKSac 12 50 02.3 -1.3
baz=92
PRAF Pradon 91.88 319 *e*P **P 12 39 30.4 +0.1**
EDM Edmonton 91.91 29 *e*P **P 12 39 30.5 +0.1**
COR Corvallis 91.92 40 *e*P **P 12 39 31.2 +0.7**
COR pmax pmax
comp=Z,526nm,1.0s,mb6.8
COR MLR MLR
comp=Z,13μm,19.0s,MS6.4
COR Corvallis 91.92 40 *e*P **P 12 39 31.2 +0.8**
comp=Z,526nm,1.0s,mb6.8
COR LR LR
comp=Z,13μm,19.0s,MS6.4
I02A Mapleton 91.93 41 ⇑P **P 12 39 31.1 +0.7**
baz=92
I02A ⇓SKSac SKSac 12 50 01.2 -2.7
baz=92
GELF Grande-Etoile 91.95 319 *e*P **P 12 39 30.2 -0.4**
B08A Colville Reser 92.01 35 ⇓P **P 12 39 31.6 +0.7**
baz=92
B08A ⇑SKSac SKSac 12 50 01.8 -2.5
baz=92
C07A Waterville 92.01 36 ⇑P **P 12 39 31.5 +0.7**
baz=92
C07A ⇓SKSac SKSac 12 50 00.8 -3.6
baz=92
TBM Table Mountain 92.02 37 P **P 12 39 31.7 +0.8**
A09A Danville 92.04 34 ⇑P **P 12 39 31.6 +0.6**
baz=92
A09A ⇑SKSac SKSac 12 50 02.6 -1.9
baz=92
G04A Mulino 92.06 39 ⇓P **P 12 39 32.0 +0.9**
baz=92
G04A ⇓SKSac SKSac 12 50 02.1 -2.6
baz=92
PYM Petit Puy Mans 92.08 322 *e*P **P 12 39 31.2 0.0**
LDF La Druitiere 92.16 325⇑*i*P **P 12 39 29.8 -1.7**
E06A Yakima 92.17 37 ⇓P **P 12 39 32.2 +0.6**
baz=92
E06A ⇑SKSac SKSac 12 50 03.6 -1.6
baz=92
K01A Sixes 92.18 42 ⇓P **P 12 39 31.9 +0.2**
baz=92
K01A ⇑SKSac SKSac 12 50 04.5 -0.9
baz=92
EBG Ellensburg 92.19 37 P **P 12 39 32.6 +0.9**
KEBM Edson Butte 92.23 42 *e*P **P 12 39 32.6 +0.8**
TCF Toulx Ste Croi 92.23 322⇑*i*P **P 12 39 30.8 -1.1**
comp=Z,1μm,1.5s,mb6.7
TCF Toulx Ste Croi 92.23 322⇑*i*P **P 12 39 30.8 -1.1**
comp=Z,573nm,1.5s,mb6.7
LBL Lubilhac 92.24 321 *e*P **P 12 39 32.3 +0.4**
FLN La Foliniere 92.25 325⇑*i*P **P 12 39 30.1 -1.9**
comp=Z,242nm,1.3s,mb6.1,baz=51
FLN *e*MLR
comp=Z,351μm,21.5s
FLN La Foliniere 92.25 325⇑*i*P **P 12 39 30.1 -1.9**
FLN pmax pmax
comp=Z,121nm,1.3s,mb6.1
FLN MLR MLR
comp=Z,351μm,21.5s,MS7.8
FLN La Foliniere 92.25 325⇑*i*P **P 12 39 30.1 -1.9**
comp=Z,121nm,1.3s,mb6.1
FLN LR LR
comp=Z,351μm,21.5s,MS7.8
I03A Eugene 92.28 40 ⇑P **P 12 39 32.6 +0.5**
baz=92
I03A ⇓SKSac SKSac 12 50 04.9 -1.0
baz=92
DLF Lyons Farm 92.30 331 *e*P **P 12 39 28.7 -3.5**
D07A Quincy 92.35 36 ⇓P **P 12 39 32.5 0.0**
baz=92
D07A ⇑SKSac SKSac 12 50 03.1 -3.2
baz=92
VERF Verneugheol 92.39 322 *e*P **P 12 39 32.6 0.0**
J02A Umpqua 92.43 41 ⇓P **P 12 39 32.7 -0.1**
baz=92
J02A ⇑SKSac SKSac 12 50 04.9 -1.8
baz=92
EPH Ephrata 92.46 36 P **P 12 39 33.2 +0.3**
HOOD Mount Hood Mea 92.48 39 *e*P **P 12 39 34.6 +1.6**
HEX Exmoor 92.49 329 *e*P **P 12 39 31.3 -1.8**
C08A Higginbotham F 92.51 36 ⇑P **P 12 39 33.4 +0.3**
baz=92
C08A ⇓SKSac SKSac 12 50 04.1 -3.0
baz=92
LASF Ste Croix 92.53 320⇑*i*P **P 12 39 32.4 -0.8**
comp=Z,1μm,1.6s,mb6.7
H04A Detroit Lake 92.53 39 ⇓P **P 12 39 33.1 -0.2**
baz=92
H04A ⇑SKSac SKSac 12 50 04.6 -2.7
baz=92
MXC Moxie City 92.53 37 P **P 12 39 34.2 +1.0**
DCN Croghan 92.59 332 *e*P **P 12 39 29.9 -3.6**
B09A Rice 92.60 35 ⇓P **P 12 39 33.9 +0.4**
baz=92
B09A ⇓SKSac SKSac 12 50 06.3 -1.4
baz=92
KBO Bosley Butte 92.66 42 *e*P **P 12 39 37.2 +3.4**
GRR Gorron 92.67 325⇑*i*P **P 12 39 32.2 -1.7**
comp=Z,164nm,1.1s,mb6.1
GRR Gorron 92.67 325⇑*i*P **P 12 39 32.2 -1.7**
comp=Z,82nm,1.1s,mb6.1
G05A Wamic 92.72 39 ⇓P **P 12 39 34.4 +0.3**
baz=92
G05A ⇓SKSac SKSac 12 50 06.9 -1.5
baz=92
E07A Sunnyside 92.79 37 ⇓P **P 12 39 35.3 +0.8**
baz=93
E07A ⇓SKSac SKSac 12 50 07.2 -1.5
baz=93
J03A Ideyld Park 92.80 41 ⇑P **P 12 39 34.8 +0.3**
baz=93
J03A ⇓SKSac SKSac 12 50 05.9 -2.9
baz=93
K02A Glendale 92.81 42 ⇑P **P 12 39 34.9 +0.3**
baz=93
K02A ⇓SKSac SKSac 12 50 06.6 -2.2
baz=93
HTL Hartland 92.87 329 P **P 12 39 34.4 -0.4**
HTL AMb AMB 12 39 41.6
comp=Z,86nm,1.1s,mb6.1
HTL Hartland 92.87 329 *e*P **P 12 39 34.4 -0.4**
HTL AMb AMB 12 39 41.6
comp=Z,86nm,1.1s,mb6.1
HTL AMS AMS 13 26 24.1
comp=Z,109μm,18.2s,MS7.3
M01C Crescent City 92.92 43 ⇓P **P 12 39 35.8 +0.8**
baz=93
M01C ⇓SKSac SKSac 12 50 08.2 -1.2
baz=93
DYA Yadsworthy 92.96 328 *e*P **P 12 39 34.5 -0.7**
D08A Wollman Farm, 93.01 36 ⇓P **P 12 39 36.0 +0.5**
baz=93
D08A ⇓SKSac SKSac 12 50 07.8 -2.1
baz=93
WRD Warden 93.04 36 P **P 12 39 35.9 +0.3**
HAWA Hanford 93.07 37 *e*P **P 12 39 36.3 +0.6**
comp=Z,72nm,0.8s,mb6.2
HAWA LR LR
comp=Z,63μm,21.0s,MS7.0
L02A Cave Junction 93.08 42 ⇓P **P 12 39 36.3 +0.6**
baz=93
L02A ⇓SKSac SKSac 12 50 09.3 -1.0
baz=93
CAF Calviac 93.10 321⇑*i*P **P 12 39 35.3 -0.6**
comp=Z,705nm,1.5s,mb6.6
CAF Calviac 93.10 321⇑*i*P **P 12 39 35.3 -0.6**
CAF pmax pmax
comp=Z,353nm,1.5s,mb6.6
CAF Calviac 93.10 321⇑*i*P **P 12 39 35.3 -0.6**
comp=Z,353nm,1.5s,mb6.6
H05A Madras 93.11 39 ⇓P **P 12 39 36.6 +0.7**
baz=93
H05A ⇑SKSac SKSac 12 50 09.4 -1.1
baz=93
G06A Carlson Farm, 93.12 38 ⇑P **P 12 39 36.7 +0.7**
baz=93
G06A ⇑SKSac SKSac 12 50 10.1 -0.4
baz=93
F07A Phinny Hill Vi 93.14 37 ⇑P **P 12 39 37.1 +1.0**
baz=93
F07A ⇑SKSac SKSac 12 50 08.8 -1.9
baz=93
RJF Les Rejaudoux 93.20 322⇑*i*P **P 12 39 35.8 -0.5**
comp=Z,1μm,1.3s,mb6.8
RJF *e*MLR
comp=Z,198μm,20.5s
RJF Les Rejaudoux 93.20 322⇑*i*P **P 12 39 35.8 -0.5**
comp=Z,514nm,1.3s,mb6.8
RJF LR LR
comp=Z,198μm,20.5s,MS7.5
A11A Hall Mountain, 93.20 34 ⇑P **P 12 39 37.8 +1.5**
baz=93
A11A ⇑SKSac SKSac 12 50 09.0 -2.0
baz=93
HUMO Hull Mountain 93.23 41 *e*P **P 12 39 36.5 +0.1**
comp=Z,140nm,1.2s,mb6.3
HUMO LR LR
comp=Z,47μm,20.0s,MS6.9
HUMO Hull Mountain 93.23 41 ⇓P **P 12 39 37.5 +1.1**
baz=93
HUMO ⇑SKSac SKSac 12 50 08.5 -2.6
baz=93
NEW Newport 93.24 34 PFAKE 12 39 50.0 +13
NEW LR LR
comp=Z,96μm,19.0s,MS7.3
E08A Dider Farm, El 93.27 37 ⇑P **P 12 39 37.5 +0.8**
baz=93
E08A ⇑SKSac SKSac 12 50 10.4 -0.9
baz=93
KEST Kesra 93.33 311 P **P 12 39 36.8 -0.2**
comp=Z,57nm,0.9s,mb6.0,baz=338,slow=1.2,SNR=29
KEST S S 12 50 23.7 -21
comp=Z,3.2nm,1.1s,baz=170,slow=21,SNR=1.6
D09A Jones Farm, Ri 93.34 36 ⇓P **P 12 39 37.4 +0.4**
baz=93
D09A ⇑SKSac SKSac 12 50 09.3 -2.4
baz=93
I05A Bend 93.37 39 ⇓P **P 12 39 38.0 +0.9**
baz=93
I05A ⇑SKSac SKSac 12 50 11.3 -0.6
baz=93
MFF Saint Martin d 93.37 324⇑*i*P **P 12 39 36.0 -1.1**
comp=Z,460nm,1.2s,mb6.5
MFF Saint Martin d 93.37 324⇑*i*P **P 12 39 36.0 -1.1**
MFF pmax pmax
comp=Z,230nm,1.2s,mb6.5
MFF Saint Martin d 93.37 324⇑*i*P **P 12 39 36.0 -1.1**
comp=Z,230nm,1.2s,mb6.5
J04A Umpqua Nationa 93.39 41 ⇑P **P 12 39 38.1 +0.9**
baz=93
J04A ⇓SKSac SKSac 12 50 10.3 -1.7
baz=93
C10A Spilker Farm, 93.42 35 ⇓P **P 12 39 37.8 +0.5**
baz=93
C10A ⇑SKSac SKSac 12 50 10.4 -1.8
baz=93
CSA1 St Austell 93.48 328 *e*P **P 12 39 37.0 -0.7**
B11A Sandpoint 93.53 34 ⇓P **P 12 39 38.7 +0.8**
baz=93
B11A ⇑SKSac SKSac 12 50 10.5 -2.3
baz=93
JCC Jacoby Creek 93.53 43 ⇑P **P 12 39 38.6 +0.7**
baz=93
JCC ⇑SKSac SKSac 12 50 11.7 -1.1
baz=93
A12A Yaak River Ran 93.58 33 ⇑P **P 12 39 39.0 +0.9**
baz=93
A12A ⇑SKSac SKSac 12 50 10.4 -2.7
baz=93
H06A Lindquist Farm 93.58 39 ⇑P **P 12 39 38.8 +0.7**
baz=93
H06A ⇑SKSac SKSac 12 50 11.5 -1.6
baz=93
SGMF Saint Gilles 93.65 326⇑*i*P **P 12 39 36.7 -1.7**
comp=Z,270nm,1.3s,mb6.2
SGMF Saint Gilles 93.65 326⇑*i*P **P 12 39 36.7 -1.7**
comp=Z,135nm,1.3s,mb6.2
G07A Ruggs Ranch, H 93.66 38 ⇓P **P 12 39 39.3 +0.9**
baz=94
G07A ⇑SKSac SKSac 12 50 12.6 -0.9
baz=94
LCHF La Chataignera 93.66 324 *e*P **P 12 39 38.4 0.0**
KHMM Horse Mountain 93.69 43 *e*P **P 12 39 43.9 +5.3**
CCA1 Carnmenellis 93.75 328 *e*P **P 12 39 37.8 -1.1**
F08A Pendleton 93.84 37 ⇓P **P 12 39 40.1 +0.8**
baz=94
F08A ⇓SKSac SKSac 12 50 13.4 -1.1
baz=94
LFF La Frestale 93.86 322⇑*i*P **P 12 39 38.8 -0.6**
comp=Z,700nm,1.5s,mb6.6
LFF La Frestale 93.86 322⇑*i*P **P 12 39 38.8 -0.6**
comp=Z,350nm,1.5s,mb6.6
YBH Yreka Blue Hor 93.86 42 *e*P **P 12 39 39.8 +0.4**
YBH pmax pmax
comp=Z,176nm,1.2s
YBH MLR MLR
comp=Z,62μm,20.0s
YBH Yreka Blue Hor 93.86 42 *e*P **P 12 39 39.8 +0.4**
comp=Z,176nm,1.2s,mb6.4
YBH LR LR
comp=Z,62μm,20.0s,MS7.1
YBH Yreka Blue Hor 93.86 42 ⇑P **P 12 39 40.4 +1.0**
baz=94
YBH ⇓SKSac SKSac 12 50 13.2 -1.4
baz=94
D10A Wagner Farm, O 93.91 35 ⇑P **P 12 39 40.1 +0.5**
baz=94
D10A ⇑SKSac SKSac 12 50 10.9 -4.0
baz=94
B12A Libby 93.91 34 ⇑P **P 12 39 40.8 +1.2**
baz=94
B12A ⇑SKSac SKSac 12 50 13.3 -1.6
baz=94
MATF Mathat 93.91 323 *e*P **P 12 39 40.0 +0.4**
MTLF Montolieu 93.92 320⇑*i*P **P 12 39 38.6 -1.1**
comp=Z,745nm,1.9s,mb6.5
MTLF Montolieu 93.92 320⇑*i*P **P 12 39 38.6 -1.1**
comp=Z,373nm,1.9s,mb6.5
LRDF Laroque-de-Fa 93.96 319 *e*P **P 12 39 39.8 0.0**
M02C Callahan 93.96 42 ⇓P **P 12 39 40.9 +1.1**
baz=94
M02C ⇑SKSac SKSac 12 50 13.3 -1.8
baz=94
ROSF Rostrenen 93.97 326⇑*i*P **P 12 39 38.2 -1.7**
comp=Z,102nm,0.8s,mb6.0
ROSF Rostrenen 93.97 326⇑*i*P **P 12 39 38.2 -1.7**
ROSF pmax pmax
comp=Z,51nm,0.8s,mb6.0
ROSF Rostrenen 93.97 326⇑*i*P **P 12 39 38.2 -1.7**
comp=Z,51nm,0.8s,mb6.0
K04A Chilquin 93.97 41 ⇓P **P 12 39 40.4 +0.5**
baz=94
K04A ⇑SKSac SKSac 12 50 13.0 -2.2
baz=94
SJAF Saint Jean de 94.01 319 *e*P **P 12 39 39.8 -0.3**
EJON La Jonquera 94.02 319 P **P 12 39 41.6 +1.4**
comp=Z,13nm,0.9s,mb5.4
O01C Eel River Cons 94.03 44 ⇓P **P 12 39 41.3 +1.1**
baz=94
O01C ⇓SKSac SKSac 12 50 13.7 -1.9
baz=94
G08A Pilot Rock 94.04 38 ⇑P **P 12 39 40.9 +0.7**
baz=94
G08A ⇓SKSac SKSac 12 50 13.6 -2.0
baz=94
I06A Prineville 94.12 39 ⇓P **P 12 39 41.5 +1.0**
baz=94
I06A ⇑SKSac SKSac 12 50 14.7 -1.3
baz=94
L04A Klamath Falls 94.12 41 ⇑P **P 12 39 41.4 +0.8**
baz=94
L04A ⇑SKSac SKSac 12 50 14.7 -1.3
baz=94
FILF Fillols 94.16 319 *e*P **P 12 39 40.8 0.0**
QUIF Quistinic 94.18 326⇑*i*P **P 12 39 38.8 -2.1**
comp=Z,175nm,1.3s,mb6.0
QUIF Quistinic 94.18 326⇑*i*P **P 12 39 38.8 -2.1**
comp=Z,88nm,1.3s,mb6.0
CMAH Djebel Manchou 94.22 312 P **P 12 39 43.0 +2.0**
CGMA Guelma 94.32 312 P **P 12 39 41.0 -0.5**
CARF Carcanieres 94.35 319 *e*P **P 12 39 41.0 -0.6**
E10A Myers Farm, Un 94.35 36 ⇑P **P 12 39 42.1 +0.4**
baz=94
E10A ⇓SKSac SKSac 12 50 15.0 -2.3
baz=94
ABSA Djebel Ababsia 94.36 312 P **P 12 39 43.5 +1.8**
M04C Macdoel 94.38 42 ⇑P **P 12 39 42.7 +1.0**
baz=94
M04C ⇑SKSac SKSac 12 50 16.6 -0.8
baz=94
WALA Waterton Lakes 94.38 32 *e*P **P 12 39 42.1 +0.3**
comp=Z,436nm,1.3s,mb6.7
F09A S2 Ranch, Elgi 94.38 37 ⇓P **P 12 39 42.8 +1.0**
baz=94
F09A ⇓SKSac SKSac 12 50 16.6 -0.9
baz=94
OLEF Ile d'Oleron 94.43 324 *e*P **P 12 39 43.5 +1.5**
KCPM Cahto Peak 94.43 44 *e*P **P 12 39 43.7 +1.7**
I07A Izee 94.45 39 ⇓P **P 12 39 42.7 +0.6**
baz=94
I07A ⇑SKSac SKSac 12 50 16.9 -0.9
baz=94
CAEH 'Ain El Ouahch 94.53 312 P **P 12 39 44.0 +1.5**
B13A Whitefish 94.54 33 ⇓P **P 12 39 43.2 +0.6**
baz=94
B13A ⇓SKSac SKSac 12 50 15.2 -3.2
baz=94
VALF Valcebollere 94.58 319 *e*P **P 12 39 43.1 +0.4**
F10A Beach Ranch, E 94.60 36 ⇓P **P 12 39 43.8 +1.0**
baz=94
F10A ⇓SKSac SKSac 12 50 17.2 -1.4
baz=94
WDC Whiskeytown Da 94.61 43 *e*P **P 12 39 42.8 0.0**
WDC pmax pmax
comp=Z,103nm,1.1s,mb6.2
WDC MLR MLR
comp=Z,56μm,21.0s,MS7.0
WDC Whiskeytown Da 94.61 43 *e*P **P 12 39 42.8 -0.1**
comp=Z,103nm,1.1s,mb6.2
WDC LR LR
comp=Z,56μm,21.0s,MS7.0
WDC Whiskeytown Da 94.61 43 ⇑P **P 12 39 43.4 +0.5**
baz=94
WDC ⇓SKSac SKSac 12 50 16.6 -2.0
baz=94
H08A Prairie City 94.67 38 ⇑P **P 12 39 43.7 +0.6**
baz=94
H08A ⇓SKSac SKSac 12 50 19.0 0.0
baz=94
P01C Double 8 Ranch 94.71 44 ⇑P **P 12 39 44.7 +1.4**
baz=94
P01C ⇓SKSac SKSac 12 50 17.8 -1.4
baz=94
BSMT Bassoo Peak 94.72 34 *e*P **P 12 39 44.4 +1.0**
FCC Fort Churchill 94.72 17 *e*P **P 12 39 42.0 -1.4**
FCC pmax pmax
comp=Z,193nm,1.1s,mb6.4
FCC Fort Churchill 94.72 17 *e*P **P 12 39 42.0 -1.4**
comp=Z,193nm,1.1s,mb6.4
K06A Valley Falls 94.76 40 ⇓P **P 12 39 44.4 +0.9**
baz=95
K06A ⇑SKSac SKSac 12 50 18.3 -1.1
baz=95
CKFL Kef-Lekhel 94.82 312 P **P 12 39 46.0 +2.2**
VAL Valentia 94.87 332⇓*i*S S 12 51 00.0 +1.6
SALF Salau 94.87 320 *e*P **P 12 39 43.3 -0.7**
E11A Bogner Ranch, 94.91 36 ⇑P **P 12 39 44.8 +0.5**
baz=95
E11A ⇑SKSac SKSac 12 50 17.2 -3.1
baz=95
C13A Hot Springs 94.94 34 ⇓P **P 12 39 45.1 +0.7**
baz=95
C13A ⇑SKSac SKSac 12 50 15.9 -4.5
baz=95
J07A Hines 94.98 39 ⇓P **P 12 39 45.1 +0.6**
baz=95

J07A ⇑SKSac SKSac 12 50 20.4 -0.3
baz=95
GASB Alder Springs 95.01 44 ⇓P P 12 39 45.2 +0.5
baz=95
GASB ⇑SKSac SKSac 12 50 19.9 -0.9
baz=95
M05C Lookout 95.04 42 ⇓P P 12 39 45.3 +0.5
baz=95
M05C ⇑SKSac SKSac 12 50 19.3 -1.7
baz=95
CASM Ain Smara 95.05 312 P P 12 39 46.5 +1.7
I08A Drewsey 95.09 39 ⇓P P 12 39 46.1 +1.0
baz=95
I08A ⇓SKSac SKSac 12 50 20.5 -0.7
baz=95
HOPS Hopland 95.14 45 eP P 12 39 48.0 +2.7
comp=Z,173nm,1.3s,mb6.3
HOPS LR LR
comp=Z,103µm,20.0s,MS7.3
HOPS Hopland 95.14 45 ⇓P P 12 39 45.7 +0.4
baz=95
HOPS ⇓SKSac SKSac 12 50 20.2 -1.4
baz=95
H09A Durkee 95.15 38 ⇑P P 12 39 46.2 +0.9
baz=95
H09A ⇑SKSac SKSac 12 50 20.1 -1.5
baz=95
EMIR Miracle 95.16 319 P P 12 39 46.5 +1.2
comp=Z,30nm,0.8s,mb5.8
CTEI Djebel Teioual 95.21 312 P P 12 39 45.0 -0.6
EPF Esparros 95.22 320 ⇑iP P 12 39 43.9 -1.7
comp=Z,138nm,1.3s,mb5.9
EPF Esparros 95.22 320 ⇑iP P 12 39 43.9 -1.7
EPF pmax pmax
comp=Z,69nm,1.3s,mb5.9
EPF Esparros 95.22 320 ⇑iP P 12 39 43.9 -1.7
comp=Z,69nm,1.3s,mb5.9
F11A Grangeville 95.24 36 ⇑P P 12 39 46.7 +1.0
baz=95
F11A ⇓SKSac SKSac 12 50 18.7 -3.3
baz=95
BMO Blue Mountains 95.24 37 eP P 12 39 45.8 +0.1
BMO pmax pmax
comp=Z,97nm,1.1s,mb6.2
BMO MLR MLR
comp=Z,82µm,20.0s,MS7.2
BMO Blue Mountains 95.24 37 eP P 12 39 45.8 +0.1
comp=Z,97nm,1.1s,mb6.2
BMO LR LR
comp=Z,82µm,20.0s,MS7.2
MOD Modoc 95.25 41 eP P 12 39 46.4 +0.6
comp=Z,101nm,1.2s,mb6.1
MOD LR LR
comp=Z,44µm,20.0s,MS6.9
MOD Modoc 95.25 41 ⇑P P 12 39 46.4 +0.6
baz=95
MOD ⇑SKSac SKSac 12 50 20.2 -1.9
baz=95
O03C Acorn Hollow, 95.26 43 ⇑P P 12 39 46.3 +0.5
baz=95
O03C ⇓SKSac SKSac 12 50 19.9 -2.2
baz=95
DFRA Djebel Bou Aff 95.32 313 P P 12 39 47.5 +1.4
RESF Ens 95.35 320 eP P 12 39 46.9 +0.7
LABF Labassere 95.36 321 eP P 12 39 46.4 +0.1
D13A Huson 95.38 34 ⇑P P 12 39 47.0 +0.6
baz=95
D13A ⇓SKSac SKSac 12 50 18.3 -4.5
baz=95
K07A Rock Creek Ran 95.42 40 ⇑P P 12 39 47.3 +0.8
baz=95
K07A ⇓SKSac SKSac 12 50 21.3 -1.7
baz=95
J08A Circle Bar Ran 95.48 39 ⇓P P 12 39 47.7 +0.9
baz=95
J08A ⇑SKSac SKSac 12 50 22.3 -1.0
baz=95
G11A Walters Elk Ra 95.48 36 ⇓SKSac SKSac 12 50 20.5 -2.8
baz=95
FFC Flin Flon 95.48 23 P P 12 39 46.2 -0.6
comp=Z,608nm,0.7s,mb7.1,SNR=29
FFC Flin Flon 95.48 23 eP P 12 39 46.1 -0.7
FFC pmax pmax
comp=Z,69nm,0.6s,mb6.3
FFC Flin Flon 95.48 23 eP P 12 39 46.1 -0.8
comp=Z,69nm,0.6s,mb6.3
VIEF Viey 95.49 320 eP P 12 39 49.2 +2.3
VIEF Viey 95.49 320 eP P 12 39 47.3 +0.4
VIEF eP pP 12 39 49.2 +0.1
I09A Lost Marbles R 95.53 38 ⇓P P 12 39 47.8 +0.8
baz=95
I09A ⇓SKSac SKSac 12 50 22.5 -1.1
baz=95
EBIE Bielsa 95.54 320 P P 12 39 49.1 +2.1
comp=Z,15nm,0.9s,mb5.4
M06C Likely Place G 95.54 42 ⇓P P 12 39 48.1 +1.0
baz=95
M06C ⇓SKSac SKSac 12 50 22.6 -1.0
baz=95
ETOS Mallorca 95.58 317 P P 12 39 49.7 +2.4
comp=Z,33nm,0.9s,mb5.8
MNRC McLaughlin Nat 95.62 44 ⇓P P 12 39 48.5 +1.0
baz=95
MNRC ⇑SKSac SKSac 12 50 22.6 -1.4
baz=95
REYF Montagne du Re 95.63 321 eP P 12 39 46.7 -0.8
O04C Chester 95.67 43 ⇓P P 12 39 48.2 +0.5
baz=96
O04C ⇑SKSac SKSac 12 50 22.9 -1.5
baz=96
NSHM Saint Helena R 95.71 45 eP P 12 39 47.1 -0.8
H10A Noah's Angus R 95.72 37 ⇓P P 12 39 48.1 +0.2
baz=96
H10A ⇓SKSac SKSac 12 50 21.9 -2.6
baz=96
EGRA Graus 95.73 320 P P 12 39 47.2 -0.7
comp=Z,145nm,2.0s,mb6.1
ELFS Eagle Lake Fie 95.73 42 ⇓P P 12 39 48.5 +0.6
baz=96
ELFS ⇑SKSac SKSac 12 50 23.8 -0.8
baz=96
MCCM Marconi Confer 95.74 45 eP P 12 39 48.8 +0.8
comp=Z,169nm,0.8s,mb6.5
MCCM LR LR
comp=Z,79µm,21.0s,MS7.2
MCCM Marconi Confer 95.74 45 ⇓P P 12 39 48.4 +0.4
baz=96
MCCM ⇓SKSac SKSac 12 50 22.1 -2.5
baz=96
L07A Adell 95.76 40 ⇓P P 12 39 48.6 +0.5
baz=96
L07A ⇓SKSac SKSac 12 50 23.6 -1.2
baz=96
CMER Merouana 95.79 312 P P 12 39 49.0 +0.8
ATE Arette 95.80 321 eP P 12 39 48.3 0.0
ATE Arette 95.80 321 eP P 12 39 47.8 -0.5
ATE Arette 95.80 321 eP P 12 39 47.8 -0.5
ATE eP pP 12 39 48.3 -2.2
MSO Missoula 95.82 34 eP P 12 39 48.3 0.0
comp=Z,58nm,1.0s,mb6.0
MSO LR LR
comp=Z,88µm,20.0s,MS7.2
ETSF Etsaut 95.83 321 eP P 12 39 47.8 -0.6
comp=Z,167nm,1.1s,mb6.1
ETSF Etsaut 95.83 321 eP P 12 39 47.8 -0.6
comp=Z,83nm,1.1s,mb6.1
SET Setif 95.83 313 P P 12 39 50.0 +1.6
ORV Oroville 95.84 43 ⇑P P 12 39 48.2 -0.3
baz=96
ORV ⇓SKSac SKSac 12 50 22.6 -2.6
baz=96
SUTB Sutter Butte 95.84 44 ⇓P P 12 39 48.4 -0.1
baz=96
SUTB ⇑SKSac SKSac 12 50 22.3 -3.0
baz=96
K08A Mann Creek Ran 95.85 39 ⇓P P 12 39 48.9 +0.4
baz=96
K08A ⇑SKSac SKSac 12 50 24.3 -0.9
baz=96
CKHR Kef el Ahmar 95.85 312 P P 12 39 48.5 0.0
ORDF Ordiarp 95.86 321 eP P 12 39 48.6 +0.1
D14A Greenough 95.88 34 ⇑P P 12 39 48.5 -0.1
baz=96
D14A ⇑SKSac SKSac 12 50 21.9 -3.5
baz=96
FARB Farallon Islan 95.90 46 ⇑SKSac SKSac 12 50 21.8 -3.7
baz=96
CVS Carmenet Viney 95.90 45 ⇑P P 12 39 49.0 +0.2
baz=96
CVS ⇓SKSac SKSac 12 50 23.9 -1.6
baz=96
J09A Fry Pan Ranch, 95.91 39 ⇑P P 12 39 49.1 +0.3
baz=96
J09A ⇓SKSac SKSac 12 50 23.9 -1.7
baz=96
WVOR Wild Horse Val 95.94 40 eP P 12 39 49.0 +0.1
comp=Z,96nm,1.3s,mb6.1
WVOR LR LR
comp=Z,75µm,22.0s,MS7.1
E13A Victor 95.94 35 ⇑P P 12 39 48.9 0.0
baz=96
E13A ⇓SKSac SKSac 12 50 21.9 -3.9
baz=96
OHCM Honcut 95.98 44 eP P 12 39 48.1 -1.0
O05C Quincy 95.98 43 ⇓P P 12 39 49.7 +0.6
baz=96
O05C ⇑SKSac SKSac 12 50 23.2 -2.8
baz=96
OSSF Osses 96.02 321 eP P 12 39 48.6 -0.7
Q03C Winters 96.03 44 ⇑P P 12 39 49.7 +0.4
baz=96
Q03C ⇑SKSac SKSac 12 50 24.5 -1.7
baz=96
H11A Donnelly 96.06 37 ⇑P P 12 39 50.1 +0.6
baz=96
H11A ⇑SKSac SKSac 12 50 23.1 -3.2
baz=96
SJPF Ste Jean 96.09 321 eP P 12 39 49.0 -0.6
CHMT Chamberlain Mo 96.12 34 eP P 12 39 49.7 0.0
EALK Alkurruntz 96.19 321 P P 12 39 51.9 +1.9
comp=Z,34nm,1.2s,mb5.7
N06A Buffalo Meadow 96.20 42 ⇓P P 12 39 50.5 +0.3
baz=96
N06A ⇑SKSac SKSac 12 50 25.6 -1.5
baz=96
ELIZ Elizondo 96.23 321 P P 12 39 52.8 +2.6
comp=Z,5.8nm,0.7s
M07A Soldier Meadow 96.24 41 ⇑P P 12 39 50.9 +0.7
baz=96
M07A ⇑SKSac SKSac 12 50 26.4 -0.9
baz=96
L08A Fields 96.26 40 ⇑P P 12 39 50.8 +0.4
baz=96
L08A ⇓SKSac SKSac 12 50 25.8 -1.6
baz=96
PPT Papeete 96.27 106 eSKSac SKSac 12 50 23.9 -3.6
comp=Z,20µm,20.2s
PPT eS S 12 51 08.4 -2.1
comp=Z,68µm,18.8s
PPT eSP SP 12 52 27.7 -2.0
comp=Z,40µm,23.0s
PPT eLR LR 13 10 53.0
comp=Z,94µm,21.0s,baz=296
PPT Papeete 96.27 106 LR LR 13 18 23.5
comp=Z,43µm,20.6s,MS6.9,baz=288,slow=32
PPT Papeete 96.27 106 eP P 12 39 51.4 +1.0
comp=Z,90nm,1.4s,mb6.0
PPT eSKSac SKSac 12 50 23.9 -3.6
PPT eS S 12 51 08.4 -2.1
PPT eSP SP 12 52 27.7 -2.0
F13A Darby 96.28 35 ⇑P P 12 39 50.8 +0.4
baz=96
F13A ⇑SKSac SKSac 12 50 23.4 -4.1
baz=96
PAE Paea 96.30 106 eP P 12 39 51.3 +0.8
comp=Z,94nm,1.1s,mb6.1
PAE Paea 96.30 106 eP P 12 39 51.3 +0.8
PAE pmax pmax
comp=Z,94nm,1.1s,mb6.1
E14A Clinton 96.32 34 ⇓P P 12 39 50.5 -0.1
baz=96
E14A ⇑SKSac SKSac 12 50 23.9 -3.8
baz=96
Q04C Lincoln 96.33 44 ⇑P P 12 39 50.6 -0.1
baz=96
Q04C ⇑SKSac SKSac 12 50 26.2 -1.6
baz=96
BEKR Beckwourth 96.39 43 ⇓P P 12 39 51.0 0.0
baz=96
BEKR ⇓SKSac SKSac 12 50 25.8 -2.3
baz=96
D15A Lincoln 96.41 33 ⇑P P 12 39 51.2 +0.1
baz=96
D15A ⇓SKSac SKSac 12 50 24.7 -3.5
baz=96
J10A Berg Farm, Mel 96.42 38 ⇑P P 12 39 51.4 +0.3
baz=96
J10A ⇓SKSac SKSac 12 50 27.3 -1.0
baz=96
ERTA Horta de San J 96.45 319 P P 12 39 52.7 +1.5
comp=Z,50nm,1.2s,mb5.8
ESAC San Caprasio 96.48 320 P P 12 39 53.5 +2.1
comp=Z,34nm,0.9s,mb5.8
BDM Black Diamond 96.51 45 ⇑P P 12 39 51.8 +0.3
baz=96
BDM ⇑SKSac SKSac 12 50 27.4 -1.3
baz=96
O06A Flanigan 96.55 42 ⇑P P 12 39 52.4 +0.7
baz=96
O06A ⇓SKSac SKSac 12 50 27.9 -1.1
baz=96
P05C Yuba Gap, Truc 96.56 43 ⇓P P 12 39 52.4 +0.7
baz=96
P05C ⇓SKSac SKSac 12 50 27.2 -1.8
baz=96
JRSC Jasper Ridge 96.57 45 ⇓P P 12 39 52.6 +0.9
baz=96
JRSC ⇓SKSac SKSac 12 50 26.6 -2.4
baz=96
I11A Placerville 96.58 37 ⇑P P 12 39 52.8 +1.0
baz=96
I11A ⇑SKSac SKSac 12 50 26.6 -2.6
baz=96
TVO Taravao 96.63 106 eP P 12 39 53.0 +0.9
comp=Z,125nm,1.0s,mb6.3
M08A Happy Creek Ra 96.68 40 ⇑P P 12 39 53.0 +0.8
baz=96
M08A ⇑SKSac SKSac 12 50 28.4 -1.2
baz=96
N07B Gerlach 96.72 41 ⇓P P 12 39 53.2 +0.8
baz=96
N07B ⇓SKSac SKSac 12 50 29.0 -0.8
baz=96
L09A Wilkinson Ranc 96.76 40 ⇓P P 12 39 53.7 +1.1
baz=97
L09A ⇓SKSac SKSac 12 50 28.8 -1.2
baz=97
BNLO Ben Lomond (Sa 96.76 46 ⇓P P 12 39 53.3 +0.6
baz=97
BNLO ⇑SKSac SKSac 12 50 27.8 -2.2
baz=97
K10A MacKenzie Ranc 96.77 39 ⇓P P 12 39 53.4 +0.7
baz=97
K10A ⇑SKSac SKSac 12 50 29.1 -0.9
baz=97
WENL Wente Brothers 96.77 45 ⇓P P 12 39 53.1 +0.5
baz=97
WENL ⇑SKSac SKSac 12 50 28.9 -1.2
baz=97
ATAF Djebel Tarf 96.77 313 P P 12 39 53.8 +1.1
F14A Wisdom 96.78 35 ⇑P P 12 39 53.2 +0.5
baz=97
F14A ⇓SKSac SKSac 12 50 27.4 -2.7
baz=97
LAVA Lava Cap Winer 96.78 44 ⇑P P 12 39 52.5 -0.2
baz=97
LAVA ⇑SKSac SKSac 12 50 27.9 -2.3
baz=97
G13A Cobalt 96.79 36 ⇑P P 12 39 53.1 +0.4
baz=97
G13A ⇑SKSac SKSac 12 50 26.0 -4.1
baz=97
P06A Stead Airport, 96.79 43 ⇑P P 12 39 53.0 +0.2
baz=97
P06A ⇓SKSac SKSac 12 50 29.3 -0.9
baz=97
H12A Diamond D Ranc 96.80 36 ⇑P P 12 39 52.9 +0.1
baz=97
H12A ⇑SKSac SKSac 12 50 27.8 -2.4
baz=97
PMOR Pomariorio Ree 96.88 103 eP P 12 39 53.6 +0.4
comp=Z,202nm,1.2s,mb6.4
EIBI Ibiza 96.94 317 P P 12 39 55.5 +2.0
comp=Z,16nm,0.7s,mb5.6
R04C Big Horse Ranc 96.94 44 ⇑P P 12 39 53.4 -0.1
baz=97
R04C ⇑SKSac SKSac 12 50 28.3 -2.7
baz=97
AKET Djebel Ketaf 96.94 313 P P 12 39 55.8 +2.3
MFID Camas Ranch 96.97 38 ⇑P P 12 39 53.6 0.0
baz=97
MFID ⇓SKSac SKSac 12 50 30.4 -0.7
baz=97
HRY Holter Researc 96.98 33 eP P 12 39 51.5 -2.2
WCN Washoe City 97.10 43 ⇓P P 12 39 54.4 +0.2
baz=97
WCN ⇑SKSac SKSac 12 50 29.6 -2.1
baz=97
S04C Ingram Canyon, 97.11 45 ⇓P P 12 39 54.5 +0.2
baz=97
S04C ⇑SKSac SKSac 12 50 29.4 -2.5
baz=97
EGMT Eagleton 97.12 31 eP P 12 39 53.7 -0.6
comp=Z,135nm,1.2s,mb6.2
EGMT LR LR
comp=Z,121µm,22.0s,MS7.3
EGMT Eagleton 97.12 31 ⇓P P 12 39 54.3 0.0
baz=97
EGMT ⇓SKSac SKSac 12 50 29.2 -2.7
baz=97
O07A Toulon 97.14 42 ⇓P P 12 39 54.6 +0.2
baz=97
O07A ⇓SKSac SKSac 12 50 31.6 -0.4
baz=97
ECRI Cripan 97.14 321 P P 12 39 57.0 +2.6
ECRI pmax pmax
comp=Z,818nm,3.3s
ECRI Cripan 97.14 321 P P 12 39 57.0 +2.6
comp=Z,818nm,3.3s
ADJB Djebel Djouab 97.18 313 P P 12 39 57.0 +2.4
VAH Vaihoa 97.20 103 eP P 12 39 54.8 +0.2
comp=Z,121nm,1.2s,mb6.2
F15A Butte 97.22 34 ⇑P P 12 39 55.1 +0.4
baz=97
F15A ⇓SKSac SKSac 12 50 30.1 -2.3
baz=97
N08A GE Springer Mi 97.23 41 ⇑P P 12 39 54.9 +0.2
baz=97
N08A ⇓SKSac SKSac 12 50 30.9 -1.6
baz=97
R05C Kirkwood Meado 97.24 43 ⇑P P 12 39 54.9 +0.1
baz=97
R05C ⇓SKSac SKSac 12 50 31.3 -1.2
baz=97
M09A Marrel Ranch, 97.25 40 ⇓P P 12 39 54.9 +0.1
baz=97
M09A ⇑SKSac SKSac 12 50 31.3 -1.2
baz=97
LRM Limekiln Ridge 97.26 34 eP P 12 39 55.1 +0.2
ELAN Lanestosa 97.28 322 P P 12 39 56.5 +1.5
comp=Z,21nm,0.9s,mb5.6
EMOS Mosqueruela 97.29 319 P P 12 39 57.0 +1.9
comp=Z,17nm,0.9s,mb5.5
PACP Pacheco Peak 97.42 45 ⇑P P 12 39 55.7 +0.1
baz=97
PACP ⇑SKSac SKSac 12 50 31.5 -2.0
baz=97
CMB Columbia Colle 97.42 44 eP P 12 39 55.6 0.0
CMB pmax pmax
comp=Z,152nm,1.0s,mb6.4
CMB MLR MLR
comp=Z,77µm,22.0s,MS7.2
CMB Columbia Colle 97.42 44 eP P 12 39 55.6 0.0
comp=Z,152nm,1.0s,mb6.4
CMB LR LR
comp=Z,77µm,22.0s,MS7.2
CMB Columbia Colle 97.42 44 ⇓P P 12 39 55.7 +0.1
baz=97
CMB ⇓SKSac SKSac 12 50 31.5 -2.0
baz=97
SAO San Andreas Ge 97.45 46 eP P 12 39 58.3 +2.5
SAO pmax pmax
comp=Z,44nm,1.1s,mb5.8
SAO MLR MLR
comp=Z,53µm,21.0s,MS7.0
SAO San Andreas Ge 97.45 46 eP P 12 39 58.3 +2.6
comp=Z,44nm,1.1s,mb5.8
SAO LR LR
comp=Z,53µm,21.0s,MS7.0
DLMT Dillon 97.48 35 eP P 12 39 56.1 +0.2
comp=Z,214nm,1.4s,mb6.4
J12A Stokes Ranch, 97.48 37 ⇓P P 12 39 56.0 +0.1
baz=97
J12A ⇓SKSac SKSac 12 50 32.7 -1.1
baz=97
EMHD Djebel Mahouad 97.49 314 P P 12 39 57.0 +1.1
P07A Fallon 97.50 42 ⇑P P 12 39 56.4 +0.4
baz=97
P07A ⇑SKSac SKSac 12 50 33.2 -0.7
baz=97
O08A Rochester Mine 97.51 41 ⇓P P 12 39 56.2 +0.2
baz=97
O08A ⇓SKSac SKSac 12 50 32.9 -1.0
baz=97
N09A Rock Creek Ran 97.55 40 ⇑P P 12 39 56.5 +0.3
baz=97
N09A ⇑SKSac SKSac 12 50 33.8 -0.4
baz=97
HAST UC Hastings Re 97.59 46 ⇑P P 12 39 56.6 +0.2
baz=97
HAST ⇑SKSac SKSac 12 50 33.0 -1.4
baz=97
HLID Hailey 97.67 37 eP P 12 39 57.3 +0.6
comp=Z,67nm,1.1s,mb6.1
HLID LR LR
comp=Z,110µm,20.0s,MS7.3
HLID Hailey 97.67 37 ⇑P P 12 39 57.3 +0.6
baz=98
HLID ⇑SKSac SKSac 12 50 33.5 -1.2
baz=98
G15A Dillon 97.67 35 ⇑P P 12 39 57.4 +0.7
baz=98
G15A ⇑SKSac SKSac 12 50 33.2 -1.6
baz=98
LSZ Lusaka 97.69 257 eP P 12 39 55.2 -1.6
LSZ pmax pmax
comp=Z,122nm,1.0s,mb6.4
LSZ MLR MLR
comp=Z,134µm,20.0s,MS7.4
LSZ Lusaka 97.69 257 eP P 12 39 55.2 -1.6
comp=Z,122nm,1.0s,mb6.4
LSZ LR LR
comp=Z,134µm,20.0s,MS7.4
MCMT McKenzie Canyo 97.70 35 eP P 12 39 57.5 +0.7
R06C Coleville 97.74 43 ⇑P P 12 39 57.6 +0.5
baz=98
R06C ⇓SKSac SKSac 12 50 33.6 -1.5
baz=98
BOZ Bozeman (W) 97.80 34 eP P 12 39 58.8 +1.5
BOZ MLR MLR
comp=Z,28µm,22.0s,MS6.7
BOZ Bozeman (W) 97.80 34 ⇓P P 12 39 57.7 +0.4
baz=98
BOZ ⇓SKSac SKSac 12 50 33.0 -2.4
baz=98
S05C Merced 97.86 45 ⇑P P 12 39 58.0 +0.4
baz=98
S05C ⇑SKSac SKSac 12 50 33.4 -2.3
baz=98
S06C San Francisco 97.86 44 ⇓P P 12 39 57.8 +0.2
baz=98
S06C ⇑SKSac SKSac 12 50 34.5 -1.2
baz=98
T05C Eagle Field, D 97.89 45 ⇑P P 12 39 57.9 +0.2
baz=98
T05C ⇓SKSac SKSac 12 50 34.6 -1.2
baz=98
Q07A Schurz 97.91 43 ⇓P P 12 39 57.5 -0.3
baz=98
Q07A ⇑SKSac SKSac 12 50 34.3 -1.6
baz=98
J13A Cove Ranch, Pi 97.91 37 ⇑P P 12 39 58.4 +0.6
baz=98
J13A ⇑SKSac SKSac 12 50 35.3 -0.6
baz=98
P08A Dixie Valley 97.91 42 ⇓P P 12 39 58.2 +0.4
baz=98
P08A ⇑SKSac SKSac 12 50 36.8 +0.8
baz=98
LRV Little Rabbit 97.93 46 P P 12 39 58.7 +0.8
ETOR Torete 97.98 320 P P 12 39 59.3 +1.2
ETOR pmax pmax
comp=Z,110nm,0.7s,mb6.5

ETOR Torete 97.98 320 P **P 12 39 59.3 +1.2**
comp=Z,11nm,0.7s,mb5.5
K12A Draper Farm, C 97.98 38 ⇓P **P 12 39 58.6 +0.5**
baz=98
K12A ⇑SKSac SKSac 12 50 35.6 -0.7
baz=98
BMN Battle Mountai 97.99 41 *e*P **P 12 39 59.1 +0.9**
BMN pmax pmax
comp=Z,122nm,1.4s,mb6.2
BMN MLR MLR
comp=Z,63µm,22.0s,MS7.1
BMN Battle Mountai 97.99 41 *e*P **P 12 39 59.1 +0.9**
comp=Z,122nm,1.4s,mb6.2
BMN LR LR
comp=Z,63µm,22.0s,MS7.1
V03C Hunter Liggett 98.01 46 ⇓P **P 12 39 58.8 +0.6**
baz=98
V03C ⇑SKSac SKSac 12 50 34.8 -1.6
baz=98
ECHE Chera 98.06 318 P **P 12 39 59.6 +1.1**
ECHE pmax pmax
comp=Z,366nm,3.0s
ECHE Chera 98.06 318 P **P 12 39 59.6 +1.1**
comp=Z,366nm,3.0s
U04C Hernandez Rese 98.12 46 ⇓P **P 12 39 59.9 +1.2**
baz=98
U04C ⇓SKSac SKSac 12 50 35.6 -1.3
baz=98
EBEN Beniarda 98.12 317 P **P 12 40 00.9 +2.1**
comp=Z,19nm,1.1s,mb5.5
O09A Fish Creek Ran 98.17 41 ⇓P **P 12 40 00.2 +1.2**
baz=98
O09A ⇑SKSac SKSac 12 50 36.2 -1.1
baz=98
M11A Holland Ranch, 98.23 39 ⇑P **P 12 40 00.5 +1.3**
baz=98
M11A ⇓SKSac SKSac 12 50 37.1 -0.5
baz=98
EARI Arriondas 98.24 323 P **P 12 40 02.1 +2.8**
comp=Z,15nm,0.9s,mb5.5
N10A Dunphy 98.25 40 ⇓P **P 12 40 00.6 +1.3**
baz=98
N10A ⇓SKSac SKSac 12 50 37.9 +0.2
baz=98
R07C Lee Vining 98.25 43 ⇓P **P 12 40 00.7 +1.3**
baz=98
R07C ⇓SKSac SKSac 12 50 38.3 +0.6
baz=98
TBI Tubuai 98.39 112 *e*PP PP 12 44 02.9 +3.0
comp=Z,3µm,26.8s
TBI Tubuai 98.39 112 *e*SKSac SKSac 12 50 35.4 -3.0
comp=Z,23µm,34.8s
TBI *e*SP SP 12 52 56.5 +3.8
comp=Z,33µm,33.8s
TBI *e*LR LR 13 11 45.8
comp=Z,109µm,32.8s,baz=298
EBNR Beni Rached 98.39 314 P **P 12 40 01.6 +1.6**
K13A Stover Farm, H 98.44 37 ⇑P **P 12 40 01.7 +1.5**
baz=98
K13A ⇑SKSac SKSac 12 50 38.4 -0.3
baz=98
QLMT Earthquake Lak 98.45 35 *e*P **P 12 40 00.4 +0.2**
T06C Millerton Lake 98.46 45 ⇓P **P 12 40 00.8 +0.5**
baz=98
T06C ⇓SKSac SKSac 12 50 37.5 -1.2
baz=98
V04C Ramage Ranch, 98.47 46 ⇑P **P 12 40 00.8 +0.4**
baz=98
V04C ⇓SKSac SKSac 12 50 37.9 -0.9
baz=98
Q08A Gabbs 98.50 42 ⇓P **P 12 40 01.0 +0.5**
baz=98
Q08A ⇑SKSac SKSac 12 50 37.3 -1.6
baz=98
O10A Cortez Mining, 98.51 40 ⇑P **P 12 40 00.9 +0.3**
baz=98
O10A ⇓SKSac SKSac 12 50 37.7 -1.3
baz=98
PKD Parkfield 98.52 46 ⇑P **P 12 40 00.9 +0.3**
baz=98
PKD ⇑SKSac SKSac 12 50 37.8 -1.2
baz=98
NVAR Mina Array Bea 98.53 43 P **P 12 40 00.2 -0.4**
comp=Z,10nm,0.6s,mb5.5,baz=297,slow=5.4,SNR=40
NVAR PKiKP PKiKP 12 44 33.5 +1.0
comp=Z,11nm,0.9s,baz=314,slow=1.4,SNR=5.8
NVAR S SKSac 12 50 40.0 +1.0
comp=Z,2.2nm,1.0s,baz=61,slow=46,SNR=3.1
KCC Kaiser Creek 98.53 44 ⇓P **P 12 40 00.9 +0.3**
baz=98
KCC ⇑SKSac SKSac 12 50 38.1 -0.9
baz=98
U05C Westside ANR, 98.57 45 ⇑P **P 12 40 01.3 +0.5**
baz=98
U05C ⇓SKSac SKSac 12 50 38.4 -0.9
baz=98
ECHA Ech Chlef 98.57 314 P **P 12 40 02.8 +2.0**
P09A Austin 98.58 41 ⇓P **P 12 40 01.1 +0.2**
baz=98
P09A ⇑SKSac SKSac 12 50 38.3 -1.0
baz=98
N11A Elko Archery C 98.64 40 ⇑P **P 12 40 01.6 +0.4**
baz=98
N11A ⇑SKSac SKSac 12 50 39.7 0.0
baz=98
MLAC Mammoth Lakes 98.66 44 ⇑P **P 12 40 02.0 +0.9**
baz=98
MLAC ⇓SKSac SKSac 12 50 39.4 -0.3
baz=98
R08A Mina 98.70 43 ⇓P **P 12 40 02.1 +0.7**
baz=98
R08A ⇓SKSac SKSac 12 50 39.9 0.0
baz=98
GCMT Greycliff 98.71 33 *e*P **P 12 40 01.8 +0.4**
MAW Mawson 98.72 199 *e*PDIF **P 12 40 00.9 -0.6**
comp=Z,29nm,1.0s,mb5.8
MAW Mawson 98.72 199 P **P 12 39 59.2 -2.3**
comp=Z,60nm,1.2s,mb6.0,baz=50,slow=6.7,SNR=16
MAW PP PP 12 43 59.1 -3.4
comp=Z,24nm,1.2s,baz=65,slow=4.1,SNR=3.0
MAW PKKPbc PKKPbc 12 56 28.5 -0.9
comp=Z,20nm,0.9s,baz=289,slow=6.4,SNR=9.6
MAW Mawson 98.72 199 *e*P **P 12 40 00.9 -0.6**
MAW pmax pmax
comp=Z,29nm,1.0s
M12A Wells 98.75 39 ⇑P **P 12 40 01.9 +0.3**
baz=99
M12A ⇑SKSac SKSac 12 50 39.8 -0.4
baz=99
YMR Madison River 98.81 34 *e*P **P 12 40 02.8 +1.0**
comp=Z,85nm,1.3s,mb6.1
YMR LR LR
comp=Z,105µm,21.0s,MS7.3
EANR 'Ain N'Sour 98.87 314 P **P 12 40 03.5 +1.4**
L13A Double Diamond 98.88 38 ⇓P **P 12 40 02.5 +0.3**
baz=99
L13A ⇑SKSac SKSac 12 50 41.4 +0.5
baz=99
PTRM Twissleman Ran 98.90 46 *e*P **P 12 40 03.0 +0.7**
P10A Eureka 98.95 41 ⇓P **P 12 40 02.8 +0.3**
baz=99
P10A ⇓SKSac SKSac 12 50 41.0 -0.2
baz=99
ELK Elko 98.98 40 *e*P **P 12 40 03.8 +1.2**
ELK MLR MLR
comp=Z,85µm,20.0s
Q09A Carvers 98.98 42 ⇑P **P 12 40 02.9 +0.2**
baz=99
Q09A ⇓SKSac SKSac 12 50 40.1 -1.2
baz=99
V05C Boulder Hill, 98.98 46 ⇓P **P 12 40 02.7 +0.1**
baz=99
V05C ⇓SKSac SKSac 12 50 39.9 -1.5
baz=99
ETOB Tobarra 98.99 318 P **P 12 40 04.3 +1.6**
comp=Z,6.9nm,0.8s
YFT Old Faithful 99.02 35 *e*P **P 12 40 05.3 +2.5**
N12A Clover Valley, 99.03 39 ⇓P **P 12 40 03.1 +0.2**
baz=99
N12A ⇓SKSac SKSac 12 50 41.0 -0.6
baz=99
ETRT Tiaret 99.05 314 P **P 12 40 03.6 +0.7**
HELL Mitchell Peak, 99.09 45 ⇑P **P 12 40 03.2 0.0**
baz=99
HELL ⇑SKSac SKSac 12 50 39.3 -2.6
baz=99
O11A Cowboy Ranch, 99.12 40 ⇑P **P 12 40 03.6 +0.3**
baz=99
O11A ⇑SKSac SKSac 12 50 39.7 -2.4
baz=99
S08C White Mtn Res 99.16 44 ⇑P **P 12 40 04.2 +0.7**
baz=99
S08C ⇑SKSac SKSac 12 50 43.1 +0.8
baz=99
RCTC Rector, Farmer 99.17 45 ⇑SKSac SKSac 12 50 39.6 -2.7
baz=99
LKWY Lake 99.17 34 *e*Pdif **P 12 40 06.0 +2.5**
comp=Z,60nm,1.3s,mb6.0
LKWY LR LR
comp=Z,136µm,20.0s,MS7.5
M13A Montello 99.22 38 ⇓P **P 12 40 04.2 +0.5**
baz=99
M13A ⇓SKSac SKSac 12 50 42.9 +0.3
baz=99
SMMC Simmler 99.24 46 ⇓P **P 12 40 03.8 +0.1**
baz=99
SMMC ⇑SKSac SKSac 12 50 41.7 -0.9
baz=99
EMUR La Murta 99.28 317 P **P 12 40 05.3 +1.3**
comp=Z,7.0nm,0.6s,mb5.4
EPON Pontenova 99.28 324 P **P 12 40 04.9 +0.9**
comp=Z,26nm,1.1s,mb5.7
GUD Guadarrama 99.33 321 P **P 12 40 06.0 +1.8**
GUD pmax pmax
comp=Z,53nm,1.4s,mb5.9
GUD Guadarrama 99.33 321 P **P 12 40 06.0 +1.8**
comp=Z,53nm,1.4s,mb5.9
RLMT Red Lodge 99.38 33 *e*P **P 12 40 04.8 +0.4**
comp=Z,46nm,1.1s,mb5.9
RLMT LR LR
comp=Z,140µm,22.0s,MS7.4
TIN Tinemaha 99.39 44 ⇑P **P 12 40 04.2 -0.2**
baz=99
TIN ⇑SKSac SKSac 12 50 42.7 -0.7
baz=99
R09A Tonopah 99.41 42 ⇑P **P 12 40 05.1 +0.5**
baz=99
R09A ⇑SKSac SKSac 12 50 42.8 -0.8
baz=99
TPH Tonopah 99.42 43 *e*P **P 12 40 05.2 +0.6**
TPH pmax pmax
comp=Z,99nm,1.2s,mb6.2
TPH MLR MLR
comp=Z,77µm,20.0s,MS7.2
TPH Tonopah 99.42 43 *e*Pdif **P 12 40 05.2 +0.6**
comp=Z,99nm,1.2s,mb6.2
TPH LR LR
comp=Z,77µm,20.0s,MS7.2
P11A Circle Ranch, 99.42 41 ⇑P **P 12 40 04.8 +0.2**
baz=99
P11A ⇑SKSac SKSac 12 50 42.1 -1.5
baz=99
N13A Wendover, West 99.52 39 ⇑P **P 12 40 05.7 +0.6**
baz=99
N13A ⇓SKSac SKSac 12 50 43.2 -0.9
baz=99
VES Vestal, Richgr 99.55 45 ⇓P **P 12 40 04.7 -0.5**
baz=99
VES ⇓SKSac SKSac 12 50 42.0 -2.2
baz=99
MOOW Moose Ponds 99.55 35 *e*Pdif **P 12 40 06.1 +0.9**
EVIA Vianos 99.58 318 P **P 12 40 07.7 +2.4**
comp=Z,9.1nm,0.9s
PKM Peak Mountain 99.60 46 ⇑P **P 12 40 05.6 +0.2**
baz=99
PKM ⇓SKSac SKSac 12 50 44.0 -0.4
baz=99
S09A Goldfield 99.63 43 ⇓P Pdif 12 40 05.8 +0.3
baz=100
S09A ⇓SKSac SKSac 12 50 44.8 +0.2
baz=100
SNOW Snow King Moun 99.74 35 *e*Pdif Pdif 12 40 07.2 +1.2
HVU Hansel Valley 99.75 37 *e*Pdif Pdif 12 40 06.2 +0.2
REDW Red Top Meadow 99.75 35 *e*Pdif Pdif 12 40 06.9 +0.8
LAO LASA Array 99.76 31 *e*Pdif Pdif 12 40 06.5 +0.4
LAO LR LR
comp=Z,141µm,21.0s,MS7.4
ESDC Sonseca Array 99.83 320 P Pdif 12 40 05.5 -0.9
comp=Z,7.6nm,0.9s,baz=40,slow=4.8,SNR=12
ESDC PP PP 12 44 09.0 -1.9
comp=Z,5.3nm,0.8s,baz=48,slow=7.6,SNR=4.6
ESDC Sonseca Array 99.83 320 P Pdif 12 40 08.0 +1.6
comp=Z,5.3nm,0.8s
ESLA Sonseca Array 99.83 320 *e*Pdif Pdif 12 40 07.5 +1.1
comp=Z,7.2nm,1.3s
ESLA LR LR
comp=Z,549µm,20.0s,MS8.1
CWC Cottonwood Cre 99.85 44 ⇓P Pdif 12 40 06.6 +0.1
baz=100
CWC ⇓SKSac SKSac 12 50 45.1 -0.6
baz=100
R10A Warm Springs 99.86 42 ⇓P Pdif 12 40 07.1 +0.6
baz=100
R10A ⇓SKSac SKSac 12 50 46.1 +0.4
baz=100
ERUA La Rua 99.90 323 P Pdif 12 40 08.4 +1.7
comp=Z,283nm,2.4s
Q11A Duckwater 99.92 41 ⇑P Pdif 12 40 07.8 +1.0
baz=100
Q11A ⇓SKSac SKSac 12 50 45.0 -1.0
baz=100
SBC Santa Barbara 99.93 47 ⇓P Pdif 12 40 07.6 +0.8
baz=100
SBC ⇑SKSac SKSac 12 50 44.4 -1.6
baz=100
GRAC Grapevine Rang 99.97 44 ⇓P Pdif 12 40 07.3 +0.3
baz=100
GRAC ⇑SKSac SKSac 12 50 45.3 -1.0
baz=100
ECAL Calabor 99.98 323 P Pdif 12 40 08.8 +1.7
comp=Z,9.1nm,0.7s
P12A McGill 99.98 40 ⇓P Pdif 12 40 07.9 +0.8
baz=100
P12A ⇓SKSac SKSac 12 50 44.9 -1.4
baz=100
AHID Auburn Hatcher 100.02 36 *e*Pdif Pdif 12 40 11.3 +4.1
AHID LR LR
comp=Z,86µm,20.0s,MS7.2
ISA Isabella 100.05 45 ⇑P Pdif 12 40 07.9 +0.5
baz=100
ISA ⇓SKSac SKSac 12 50 44.9 -1.7
baz=100
PBRG Braganca 100.07 323 *e*PP PP 12 44 12.3 -0.4
ARVC Arvin 100.13 46 ⇓P Pdif 12 40 07.8 0.0
baz=100
ARVC ⇑SKSac SKSac 12 50 46.7 -0.4
baz=100
PAB San Pablo 100.14 320 PFAKE 12 40 20.0 +12
PAB LR LR
comp=Z,148µm,20.0s,MS7.5
EHUE Huescar 100.14 318 P Pdif 12 40 09.4 +1.6
comp=Z,71nm,1.8s
BGU Big Grassy Mou 100.16 38 *e*Pdif Pdif 12 40 07.3 -0.6
SPUT South Promonto 100.24 38 *e*Pdif Pdif 12 40 02.9 -5.3
BSC Santa Cruz Isl 100.24 47 ⇓P Pdif 12 40 08.5 +0.3
baz=100
BSC ⇑SKSac SKSac 12 50 46.5 -1.1
baz=100
DAC Darwin (Calif) 100.26 44 *e*P Pdif 12 40 07.5 -0.8
DAC MLR MLR
comp=Z,50µm,21.0s,MS7.0
Q12A Willow Creek R 100.30 41 ⇑P Pdif 12 40 08.8 +0.3
baz=100
Q12A ⇑SKSac SKSac 12 50 47.0 -0.9
baz=100
STS Santiago 100.34 325 P Pdif 12 40 10.1 +1.4
comp=Z,317nm,2.8s
EQES Quesada 100.45 318 P Pdif 12 40 09.8 +0.7
comp=Z,7.8nm,1.0s
MPMC Manual Prospec 100.46 44 ⇑P Pdif 12 40 09.9 +0.8
baz=100
MPMC ⇓SKSac SKSac 12 50 48.5 -0.2
baz=100
OSI Osito Adit 100.50 46 ⇑P Pdif 12 40 09.9 +0.5
baz=100
OSI ⇓SKSac SKSac 12 50 48.7 -0.2
baz=100
HWUT Hardware Ranch 100.54 37 *e*Pdif Pdif 12 40 10.3 +0.8
HWUT LR LR
comp=Z,103µm,20.0s,MS7.3
BLG Laguna Peak 100.56 47 ⇓P Pdif 12 40 09.6 -0.1
baz=100
BLG ⇓SKSac SKSac 12 50 47.9 -1.2
baz=100
FURC Furnace Creek, 100.62 44 ⇑P Pdif 12 40 10.0 +0.1
baz=100
FURC ⇑SKSac SKSac 12 50 48.5 -1.0
baz=100
EBAN Banos Encina 100.67 319 P Pdif 12 40 12.0 +1.9
comp=Z,4.5nm,0.5s
LRMC Laurel Mountai 100.67 45 ⇑P Pdif 12 40 10.2 0.0
baz=100
LRMC ⇓SKSac SKSac 12 50 49.1 -0.6
baz=100
SNCC San Nicolas Is 100.74 48 ⇓P Pdif 12 40 10.4 0.0
baz=101
SNCC ⇓SKSac SKSac 12 50 49.4 -0.6
baz=101
DUG Dugway 100.76 39 *e*Pdif Pdif 12 40 11.2 +0.7
DUG LR LR
comp=Z,63µm,20.0s,MS7.1
DUG Dugway 100.76 39 ⇑P Pdif 12 40 10.7 +0.2
baz=101
DUG ⇓SKSac SKSac 12 50 50.1 0.0
baz=101
EDW2 Edwards Air Fo 100.83 46 ⇑P Pdif 12 40 11.0 +0.2
baz=101
EDW2 ⇓SKSac SKSac 12 50 49.8 -0.7
baz=101
PCAB Cabril 100.85 323 *e*PP PP 12 44 18.6 0.0
BW06 Boulder Array 100.85 35 *e*Pdif Pdif 12 40 10.1 -0.8
comp=Z,22nm,1.2s
BW06 *e*Pdif Pdif 12 40 13.6 +2.6
BW06 LR LR
comp=Z,65µm,20.0s,MS7.1
PDAR Pinedale Array 100.85 35 P Pdif 12 40 09.7 -1.2
comp=Z,8.0nm,1.0s,baz=292,slow=1.4,SNR=19
PDAR PP PP 12 44 17.2 -1.4
comp=Z,12nm,1.1s,baz=286,slow=1.8,SNR=3.5
PDAR PKiKP PKiKP 12 44 35.3 -1.3
comp=Z,10nm,0.9s,baz=316,slow=4.1,SNR=5.9
PDAR S SKSac 12 50 51.5 +1.0
comp=Z,2.2nm,0.9s,baz=291,slow=4.5,SNR=2.3
PDAR Pinedale Array 100.85 35 P Pdif 12 40 09.7 -1.2
PDAR PP PP 12 44 17.2 -1.4
NOQ North Oquirrh 100.86 38 *e*Pdif Pdif 12 40 12.1 +1.1
EBER Berja 100.89 317 P Pdif 12 40 14.0 +2.9
comp=Z,121nm,2.2s
PVRL Vila Real 100.97 323 *e*PP PP 12 44 19.8 +0.3
DECC Green Verdugo 100.97 46 ⇓SKSac SKSac 12 50 50.1 -1.1
baz=101
U10A Ash Meadows, A 100.99 43 ⇑P Pdif 12 40 11.6 0.0
baz=101
U10A ⇑SKSac SKSac 12 50 51.5 +0.3
baz=101
CTU Camp Tracy 101.04 38 *e*Pdif Pdif 12 40 12.5 +0.7
EADA Adamuz 101.15 319 P Pdif 12 40 13.3 +1.0
comp=Z,3.5nm,0.9s
JLU Jordanelle 101.27 38 *e*Pdif Pdif 12 40 13.7 +0.9
ULM Lac du Bonnet 101.30 23 P Pdif 12 40 11.1 -1.8
comp=Z,24nm,1.1s,baz=338,slow=4.2,SNR=12
ULM PP PP 12 44 20.4 -1.7
comp=Z,7.1nm,1.0s,baz=336,slow=12,SNR=2.2
ULM S SKSac 12 50 50.5 -2.3
comp=Z,7.3nm,1.0s,baz=145,slow=21,SNR=5.8
ULM Lac du Bonnet 101.30 23 *e*Pdif Pdif 12 40 12.3 -0.7
comp=Z,56nm,1.2s
ULM LR LR
comp=Z,171µm,22.0s,MS7.5
ULM Lac du Bonnet 101.30 23 S 12 58 47.5
comp=Z,3.0nm,0.8s,baz=155,slow=20,SNR=3.8
FMP Fort Macarthur 101.31 47 ⇑P Pdif 12 40 12.9 -0.1
baz=101
FMP ⇑SKSac SKSac 12 50 51.9 -0.9
baz=101
SHOC Shoshone 101.34 44 ⇓P Pdif 12 40 12.8 -0.3
baz=101
SHOC ⇑SKSac SKSac 12 50 53.1 +0.2
baz=101
NLU North Lily Min 101.34 39 *e*Pdif Pdif 12 40 11.9 -1.3
GSC Goldstone 101.36 45 ⇓P Pdif 12 40 13.4 +0.2
baz=101
GSC ⇓SKSac SKSac 12 50 53.2 +0.2
baz=101
CIS Catalina Islan 101.42 47 ⇓P Pdif 12 40 13.7 +0.3
baz=101
CIS ⇑SKSac SKSac 12 50 52.7 -0.5
baz=101
BFSC Mount Baldy St 101.43 46 ⇑P Pdif 12 40 13.4 -0.1
baz=101
BFSC ⇑SKSac SKSac 12 50 52.4 -0.9
baz=101
PVIS Viseu 101.44 323 *e*Pdif Pdif 12 40 13.2 -0.4
PVIS *e*P 12 44 35.8
MTE Manteigas 101.45 322 *e*Pdif Pdif 12 40 14.1 +0.5
MTE Manteigas 101.45 322 *e*PP PP 12 44 22.4 -0.8
MTE Manteigas 101.45 322 *e*PP PP 12 44 23.3 +0.1
MTE *e*SKSac SKSac 12 50 52.5 -1.0
MTE Manteigas 101.45 322 *e*LQ 13 16 06.3
MTE *e*LR LR 13 22 24.1
comp=Z,150µm,20.0s
RRX Edison Barstow 101.48 45 ⇓P Pdif 12 40 13.8 0.0
baz=101
RRX ⇑SKSac SKSac 12 50 54.5 +0.9
baz=101
DAU Daniels Canyon 101.51 38 *e*Pdif Pdif 12 40 15.1 +1.2
MPU Maple Canyon 101.56 38 *e*Pdif Pdif 12 40 15.4 +1.3
MPU LR LR
comp=Z,134µm,20.0s,MS7.5
SCI San Clemente I 101.56 47 ⇑SKSac SKSac 12 50 54.5 +0.5
baz=101
U11A Corn Creek 101.59 43 ⇓P Pdif 12 40 14.0 -0.2
baz=101
U11A ⇓SKSac SKSac 12 50 54.9 +0.8
baz=101
PCBR Castelo Branco 101.79 322 *e*PP PP 12 44 24.7 -1.0
TAOE Nuku Hiva Isla 101.83 95 *e*PP PP 12 44 28.6 +2.5
comp=Z,9µm,25.0s
TAOE Nuku Hiva Isla 101.83 95 *e*SKSac SKSac 12 50 49.9 -5.4
comp=Z,55µm,38.6s
TAOE *e*S Sdif 12 51 52.9 -4.6
comp=Z,70µm,25.3s
TAOE *e*SS SS 12 59 00.2 -0.3
comp=Z,87µm,26.4s
TAOE *e*LR LR 13 13 28.7
comp=Z,365µm,28.3s,baz=298
TUQ Turquoise Mtn. 101.85 44 ⇑P Pdif 12 40 15.0 -0.3
baz=102
TUQ ⇑SKSac SKSac 12 50 55.3 0.0
baz=102
BBRC Big Bear Sol-O 101.91 46 ⇑P Pdif 12 40 15.3 -0.3
baz=102
BBRC ⇑SKSac SKSac 12 50 54.6 -1.1
baz=102
V11A Goodsprings 101.92 43 ⇑P Pdif 12 40 15.5 -0.2
baz=102
V11A ⇓SKSac SKSac 12 50 57.0 +1.4
baz=102
ARUT Antelope Range 101.94 41 *e*P Pdif 12 40 16.3 +0.5
HEC Hector,Ludlow 101.95 45 ⇓P Pdif 12 40 15.7 -0.1
baz=102
HEC ⇑SKSac SKSac 12 50 56.1 +0.3
baz=102
VNDA Vanda 102.10 172 P Pdif 12 40 14.1 -2.4
comp=Z,8.3nm,1.2s,baz=309,slow=6.6,SNR=6.3
VNDA PP PP 12 44 26.4 -1.6
comp=Z,172nm,1.3s,baz=330,slow=8.7,SNR=11
VNDA S SKSac 12 50 52.1 -4.4
comp=Z,3.5nm,0.9s,baz=298,slow=11,SNR=1.5
VNDA PKKPbc PKKPbc 12 56 20.1 +0.4
comp=Z,28nm,0.9s,baz=176,slow=1.4,SNR=15
VNDA Vanda 102.10 172 P Pdif 12 40 17.2 +0.7
VNDA pmax pmax
comp=Z,34nm,1.3s
VNDA Vanda 102.10 172 *e*Pdif Pdif 12 40 16.6 +0.1
comp=Z,35nm,0.8s
VNDA LR LR
comp=Z,40µm,21.0s,MS6.9
VNDA Vanda 102.10 172 S 12 58 53.2
comp=Z,0.7nm,0.6s,baz=74,slow=8.5,SNR=2.5
MURC Murrieta 102.11 46 ⇓P Pdif 12 40 15.9 -0.6
baz=102
MURC ⇑SKSac SKSac 12 50 57.6 +1.0
baz=102
U12A Valley of Fire 102.12 43 ⇓P Pdif 12 40 16.2 -0.4
baz=102
U12A ⇑SKSac SKSac 12 50 57.2 +0.6
baz=102
MSU Marysvale 102.23 40 *e*P Pdif 12 40 18.4 +1.3
EBAD Badajoz 102.23 321 P Pdif 12 40 18.6 +1.5
comp=Z,2.8nm,1.0s
V12A Nelson 102.36 43 ⇓P Pdif 12 40 16.9 -0.7
baz=102

V12A ⇑SKSac SKSac 12 50 58.6 +0.9
baz=102
GMRC Granite Mounta 102.42 44 ⇑P Pdif 12 40 17.9 0.0
baz=102
GMRC ⇑SKSac SKSac 12 50 59.6 +1.6
baz=102
PESTR Estremoz 102.50 321 *e*Pdif Pdif 12 40 17.7 -0.6
PESTR Estremoz 102.50 321 *e*PP PP 12 44 30.5 -0.6
PESTR Estremoz 102.50 321 *e*PP PP 12 44 30.9 -0.2
PESTR *e*SKSac SKSac 12 50 58.4 0.0
PESTR Estremoz 102.50 321 *e*LQ 13 16 06.3
PESTR *e*LR LR 13 23 09.4
comp=Z,133μm,18.0s
PFO Pinyon Flat Ob 102.61 46 *e*P Pdif 12 40 19.2 +0.5
PFO pmax pmax
comp=Z,59nm,1.3s
PFO MLR MLR
comp=Z,22μm,20.0s,MS6.7
PFO Pinyon Flat Ob 102.61 46 *e*Pdif Pdif 12 40 19.2 +0.5
comp=Z,59nm,1.3s
PFO LR LR
comp=Z,22μm,20.0s,MS6.7
PFO Pinyon Flat Ob 102.61 46 ⇑P Pdif 12 40 18.9 +0.1
baz=102
PFO ⇓SKSac SKSac 12 51 00.5 +1.5
baz=102
W12A Cal Nev Ari 102.61 44 ⇑P Pdif 12 40 18.2 -0.6
baz=102
W12A ⇓SKSac SKSac 12 51 00.5 +1.5
baz=102
BELC Belle Mtn. 102.67 45 ⇑P Pdif 12 40 19.3 +0.2
baz=102
BELC ⇑SKSac SKSac 12 50 59.7 +0.5
baz=102
EMIN Mina Concepcio 102.68 320 P Pdif 12 40 20.2 +1.2
comp=Z,55nm,2.2s
RSSD Black Hills 102.69 31 *e*Pdif Pdif 12 40 18.7 -0.4
comp=Z,65nm,1.4s
RSSD LR LR
comp=Z,21μm,20.0s,MS6.7
ESPR Espera 102.76 319 P Pdif 12 40 21.6 +2.1
comp=Z,7.0nm,0.8s
SRU San Rafael 102.80 38 *e*P Pdif 12 40 20.6 +1.0
SBA Scott Base 103.04 171 *e*P Pdif 12 40 20.2 -0.5
SBA MLR MLR
comp=Z,33μm,22.0s,MS6.8
MONP Monument Peak 103.06 46 ⇑P Pdif 12 40 21.0 +0.2
baz=103
MONP ⇑SKSac SKSac 12 51 02.5 +1.4
baz=103
NEE2 Needles Airpor 103.10 44 ⇓P Pdif 12 40 20.9 0.0
baz=103
NEE2 ⇓SKSac SKSac 12 51 01.9 +0.7
baz=103
IRM Iron Mountain 103.13 45 ⇑P Pdif 12 40 21.1 0.0
baz=103
IRM ⇓SKSac SKSac 12 51 01.8 +0.4
baz=103
LBTB Lobatse 103.20 248 Pdiff Pdif 12 40 20.4 -0.9
comp=Z,7.0nm,0.9s,baz=88,slow=4.8,SNR=8.4
LBTB PP PP 12 44 35.1 -1.2
comp=Z,19nm,1.1s,baz=133,slow=3.6,SNR=4.4
PBEJ Beja 103.22 321 *e*Pdif Pdif 12 40 21.1 -0.4
PBEJ Beja 103.22 321 *e*PP PP 12 44 36.1 -0.3
BC3 Big Chuckw Mtn 103.24 45 ⇓P Pdif 12 40 21.7 +0.1
baz=103
BC3 ⇓SKSac SKSac 12 51 02.9 +1.0
baz=103
SCHQ Schefferville 103.36 4 Pdiff Pdif 12 40 22.6 +0.5
comp=Z,8.3nm,0.9s,baz=359,slow=6.7,SNR=5.5
SCHQ PP PP 12 44 34.5 -3.0
comp=Z,20nm,0.8s,baz=344,slow=8.6,SNR=10.0
SCHQ S SKSac 12 51 02.4 -0.1
comp=Z,9.3nm,0.9s,baz=188,slow=17,SNR=3.2
SCHQ Schefferville 103.36 4 *e*Pdif Pdif 12 40 22.5 +0.5
comp=Z,226nm,2.0s
SCHQ LR LR
comp=Z,247μm,22.0s,MS7.7
W13A Hualapai Mount 103.36 43 ⇑P Pdif 12 40 22.4 +0.3
baz=103
W13A ⇓SKSac SKSac 12 51 03.1 +0.6
baz=103
PLOU Loures 103.39 322 *e*Pdif Pdif 12 40 22.3 +0.1
PLOU Loures 103.39 322 *e*PP PP 12 44 38.9 +1.2
DVTC Desert V Tower 103.41 46 ⇓P Pdif 12 40 22.5 +0.1
baz=103
DVTC ⇓SKSac SKSac 12 51 04.4 +1.7
baz=103
PMAFR Mafra 103.42 322 *e*Pdif Pdif 12 40 22.8 +0.4
PMAFR Mafra 103.42 322 *e*PP PP 12 44 37.7 -0.2
PMAFR Mafra 103.42 322 *e*PP PP 12 44 38.3 +0.4
PMAFR Mafra 103.42 322 *e*LQ 13 17 03.7
PMAFR *e*LR LR 13 23 29.6
comp=Z,137μm,20.0s
SWSC Sam W. Stewart 103.45 46 ⇑P Pdif 12 40 23.1 +0.6
baz=103
SWSC ⇓SKSac SKSac 12 51 04.9 +2.1
baz=103
PDMCI Parker Dam,Lak 103.70 44 ⇓P Pdif 12 40 24.3 +0.7
baz=104
PDMCI ⇑SKSac SKSac 12 51 04.9 +0.9
baz=104
X13A Yucca 103.72 44 ⇓P Pdif 12 40 24.2 +0.6
baz=104
X13A ⇑SKSac SKSac 12 51 05.7 +1.6
baz=104
Y12C Blythe 103.79 45 ⇓P Pdif 12 40 24.4 +0.3
baz=104
Y12C ⇑SKSac SKSac 12 51 06.1 +1.6
baz=104
W14A Seligman 103.80 43 ⇓P Pdif 12 40 24.5 +0.4
baz=104
W14A ⇓SKSac SKSac 12 51 06.4 +1.9
baz=104
PTEO Sao Teotonio 104.05 321 *e*P Pdif 12 40 27.2 +2.1
PTEO *e*P 12 44 54.2
PV10 Paradox Valley 104.15 38 *e*Pdif Pdif 12 40 26.9 +1.3
Y13A Salome 104.21 44 ⇓P Pdif 12 40 26.1 +0.2
baz=104
Y13A ⇑SKSac SKSac 12 51 07.9 +1.5
baz=104
W15A Williams 104.34 42 ⇓P Pdif 12 40 27.1 +0.6
baz=104
W15A ⇓SKSac SKSac 12 51 10.6 +3.6
baz=104
X14A Yava 104.40 43 ⇑P Pdif 12 40 27.0 +0.3
baz=104
X14A ⇓SKSac SKSac 12 51 09.1 +1.8
baz=104
BOSA Boshof 104.58 245 Pdiff Pdif 12 40 26.4 -1.1
comp=Z,11nm,1.1s,baz=56,slow=2.2,SNR=7.7
BOSA PP PP 12 44 45.9 -0.6
comp=Z,30nm,1.2s,baz=82,slow=8.8,SNR=4.2
BOSA S SKSac 12 51 08.4 +0.3
comp=Z,2.5nm,0.9s,baz=221,slow=21,SNR=1.4
BOSA PKKPbc PKKPbc 12 56 11.4 -1.0
comp=Z,8.1nm,0.9s,baz=220,slow=4.8,SNR=4.7
BOSA Boshof 104.58 245 P Pdif 12 40 27.7 +0.2
BOSA pmax pmax
comp=Z,27nm,1.1s
BOSA Boshof 104.58 245 *e*Pdif Pdif 12 40 27.1 -0.4
comp=Z,27nm,1.2s
BOSA LR LR
comp=Z,90μm,21.0s,MS7.3
PV01 Paradox Valley 104.58 38 *e*Pdif Pdif 12 40 28.7 +1.1
Y14A Wickenburg 104.66 44 ⇑P Pdif 12 40 28.3 +0.4
baz=104
Y14A ⇓SKSac SKSac 12 51 08.9 +0.4
baz=104
WUAZ Wupatki 104.67 42 *e*Pdif Pdif 12 40 29.3 +1.4
WUAZ LR LR
comp=Z,46μm,19.0s,MS7.0
WUAZ Wupatki 104.67 42 ⇓P Pdif 12 40 28.2 +0.3
baz=104
WUAZ ⇑SKSac SKSac 12 51 10.6 +2.1
baz=104
SMCO Snowmass 104.75 36 *e*Pdif Pdif 12 40 29.1 +0.7
comp=Z,27nm,0.9s
SMCO *e*Pdif Pdif 12 40 32.3 +4.0
EYMN Ely 104.79 22 *e*Pdif Pdif 12 40 29.6 +1.2
EYMN LR LR
comp=Z,170μm,20.0s,MS7.6
X15A Humboldt 104.80 43 ⇓P Pdif 12 40 28.8 +0.3
baz=105
X15A ⇓SKSac SKSac 12 51 11.2 +2.1
baz=105
ISCO Idaho Springs 105.05 35 PFAKE 12 45 00.0 +16
ISCO LR LR
comp=Z,100μm,21.0s,MS7.3
Z14A Wintersburg 105.06 44 ⇑SKSac SKSac 12 51 12.4 +2.1
baz=105
MVCO Mesa Verde 105.26 39 *e*Pdif Pdif 12 40 34.7 +4.2
comp=Z,42nm,1.3s
MVCO LR LR
comp=Z,69μm,20.0s,MS7.2
MVCO Mesa Verde 105.26 39 ⇑P PKiKP 12 44 44.8 +0.1
baz=105
MVCO ⇑SKSac SKSac 12 51 10.1 -1.0
baz=105
115A Sonoran Desert 105.95 44 ⇓P PKiKP 12 44 45.5 -0.4
baz=106
115A ⇑SKSac SKSac 12 51 15.3 +1.1
baz=106
MSKU Masuku 106.32 275 PFAKE 12 45 00.0 +13
MSKU LR LR
comp=Z,31nm,21.0s
116A Eloy 106.38 44 ⇑P PKiKP 12 44 47.0 +0.3
baz=106
116A ⇑SKSac SKSac 12 51 18.0 +1.9
baz=106
SDCO Great Sand Dun 106.58 37 *e*Pdif Pdif 12 40 39.7 +3.3
SDCO LR LR
comp=Z,175μm,21.0s,MS7.6
SYO Syowa Base 107.02 202 ‖ *e*Pdiff Pdif 12 40 37.6 -0.8
SYO Syowa Base 107.02 202 ‖ *e*Pdiff 12 40 41.2
ANMO Albuquerque 108.01 39 *e*P Pdif 12 40 48.5 +5.7
ANMO Albuquerque 108.01 39 *e*Pdif Pdif 12 40 47.2 +4.4
ANMO LR LR
comp=Z,62μm,20.0s,MS7.2
TSUM Tsumeb 108.54 256 PFAKE 12 45 00.0 +9.3
TSUM LR LR
comp=Z,93μm,20.0s,MS7.3
CBKS Cedar Bluff 108.81 32 PFAKE 12 45 00.0 +8.7
CBKS LR LR
comp=Z,133μm,19.0s,MS7.5
SCIA State Center 109.28 26 *e*PKPdf PKiKP 12 44 52.4 +0.2
SCIA LR LR
comp=Z,144μm,22.0s,MS7.5
SUR Sutherland 109.28 242 PFAKE 12 45 00.0 +7.9
SUR LR LR
comp=Z,35μm,19.0s,MS7.0
GLMI Grayling 109.77 19 PFAKE 12 45 20.0 +27
GLMI LR LR
comp=Z,165μm,21.0s,MS7.6
KSU1 Kansas State U 110.09 30 PFAKE 12 45 00.0 +6.3
KSU1 LR LR
comp=Z,148μm,20.0s,MS7.6
TOA0 Torodi Ar. Sit 110.67 294 *e*Pdif Pdif 12 40 56.0 +1.4
TORD Torodi Ar. Bea 110.67 294 Pdiff Pdif 12 40 55.9 +1.3
comp=Z,4.9nm,0.9s,baz=57,slow=3.3,SNR=10
TORD PKiKP PKiKP 12 44 53.1 -1.7
comp=Z,18nm,0.9s,baz=19,slow=3.0,SNR=14
TORD PP PP 12 45 29.7 -1.5
comp=Z,34nm,1.1s,baz=58,slow=6.1,SNR=5.4
TORD PKKPbc PKKPbc 12 55 52.8 -0.6
comp=Z,11nm,0.8s,baz=291,slow=2.1,SNR=8.5
TORD PKKPab PKKPab 12 56 04.7 +0.8
comp=Z,21nm,0.8s,baz=259,slow=4.3,SNR=8.7
TORD Torodi Ar. Bea 110.67 294 Pdif Pdif 12 40 55.9 +1.3
TORD PKPdf PKiKP 12 44 53.1 -1.7
TORD PP PP 12 45 29.7 -1.5
TORD PKKPbc PKKPbc 12 55 52.8 -0.6
TORD PKKPab PKKPab 12 56 04.7 +0.8
MNTX Cornudas Mount 110.93 41 *e*PKPdf PKiKP 12 44 53.4 -1.8
MNTX LR LR
comp=Z,73μm,20.0s,MS7.3
PMPS Porto Santo 111.62 322 *e*PP PP 12 45 39.0 +1.0
QSPA South Pole Qui 111.67 180 PFAKE 12 45 10.0 +13
QSPA LR LR
comp=Z,417μm,20.0s,MS8.0
PMAR Madeira 112.19 322 *e*PP PP 12 45 43.9 +1.8
AAM Ann Arbor 112.35 19 PFAKE 12 45 10.0 +12
AAM LR LR
comp=Z,233μm,22.0s,MS7.7
LONY Lake Ozonia 112.41 12 PFAKE 12 45 10.0 +12
LONY LR LR
comp=Z,181μm,22.0s,MS7.6
WMOK Wichita Mounta 112.44 34 *e*PKPdf PKiKP 12 44 57.4 -0.7
WMOK LR LR
comp=Z,88μm,20.0s,MS7.3
PDA Ponta Delgada 112.72 331 *i* PP PP 12 45 47.0 +1.1
PDA *i* SS SS 13 01 10.0 -18
PDA Ponta Delgada 112.72 331 *i* LR LR 13 19 44.0
NCB Newcomb 113.10 12 PFAKE 12 45 10.0 +11
NCB LR LR
comp=Z,161μm,22.0s,MS7.6
LBNH Lisbon 113.24 10 PFAKE 12 45 10.0 +10
LBNH LR LR
comp=Z,149μm,20.0s,MS7.6
LTX Lajitas 113.64 42 P Pdif 12 41 14.5 +6.7
LTX Lajitas 113.64 42 *e*Pdif Pdif 12 41 10.6 +2.8
LTX LR LR
comp=Z,112μm,21.0s,MS7.4
FVM French Village 113.73 26 *e*PKPdf PKiKP 12 45 00.4 -0.2
BLO Bloomington 114.21 23 *e*PKPdf PKiKP 12 45 01.9 +0.4
BINY Binghamton 114.45 13 *e*PKPdf PKiKP 12 45 02.8 +0.8
BINY LR LR
comp=Z,119μm,22.0s,MS7.5
SIUC Southern Illin 114.45 26 *e*PKPdf PKiKP 12 45 01.7 -0.2
USIN University of 114.85 24 *e*PKPdf PKiKP 12 45 02.6 -0.1
HRV Harvard--Oak R 114.99 10 PFAKE 12 45 10.0 +7.0
HRV LR LR
comp=Z,110μm,20.0s,MS7.5
JCT Junction City 115.11 38 *e*PKIKP PKiKP 12 45 03.2 0.0
JCT MLR MLR
comp=Z,123μm,21.0s,MS7.5
WCI Wyandotte Cave 115.13 23 PKIKP PKiKP 12 45 02.2 -1.1
WCI Wyandotte Cave 115.13 23 *e*PKPdf PKiKP 12 45 02.9 -0.4
WCI LR LR
comp=Z,30μm,20.0s,MS6.9
WES Weston 115.14 10 PFAKE 12 45 10.0 +6.7
WES LR LR
comp=Z,94μm,20.0s,MS7.4
MIAR Mount Ida 115.20 31 *e*PKIKP PKiKP 12 45 03.4 0.0
MIAR MLR MLR
comp=Z,120μm,21.0s,MS7.5
SSPA Standing Stone 115.50 15 *e*PKPdf PKPdf 12 45 03.2 -0.7
SSPA LR LR
comp=Z,34μm,22.0s,MS6.9
UALR University of 115.59 30 *e*PKPdf PKPdf 12 45 03.2 -0.9
UTMT University of 115.78 26 *e*PKPdf PKPdf 12 45 04.7 +0.2
PTCN Pitcairn Islan 115.80 108 PFAKE 12 45 20.0 +15
PTCN LR LR
comp=Z,48μm,22.0s,MS7.1
MCWV Mont Chateau 115.90 17 PFAKE 12 45 20.0 +15
MCWV LR LR
comp=Z,109μm,20.0s,MS7.5
WVT Waverly 116.38 25 *e*PKPdf PKPdf 12 45 04.7 -1.0
WVT LR LR
comp=Z,168μm,20.0s,MS7.7
MVL Millersville 116.47 14 *e*PKPdf PKPdf 12 45 06.1 +0.2
NVL N'lazarevskaya 116.62 201 *de*PKIKP PKPdf 12 45 04.0 -2.1
NVL *i* 12 46 10.8
NVL *i* 12 51 56.6
NVL *i* PS PS 12 55 58.7 +2.7
NVL *i* SS SS 13 02 20.9 +1.4
NVL pmax pmax
comp=Z,40nm,1.1s
NVL MLR MLR
comp=Z,28μm,21.0s,MS6.9
MAIT Maitri 116.65 201 *e*PKP PKPdf 12 45 01.6 -4.6
NATX Nacogdoches 116.91 33 *e*PKPdf PKPdf 12 45 06.7 0.0
NATX LR LR
comp=Z,109μm,20.0s,MS7.5
OXF Oxford 117.12 28 *e*PKIKP PKPdf 12 45 06.1 -1.0
OXF MLR MLR
comp=Z,140μm,20.0s,MS7.6
PLAL Pickwick Lake 117.28 26 *e*PKPdf PKPdf 12 45 05.2 -2.2
PLAL LR LR
comp=Z,132μm,21.0s,MS7.5
TZTN Tazewell 117.61 22 *e*PKPdf PKPdf 12 45 07.6 -0.4
TZTN LR LR
comp=Z,193μm,20.0s,MS7.7
ELN Prospectdale 117.89 19 *e*PKPdf PKPdf 12 45 07.9 -0.7
CBN Corbin 117.92 16 PFAKE 12 45 20.0 +11
CBN LR LR
comp=Z,189μm,22.0s,MS7.7
BLA Blacksburg 118.01 19 PKIKP PKPdf 12 45 08.7 -0.1
BLA Blacksburg 118.01 19 *e*PKPdf PKPdf 12 45 07.9 -0.9
BLA LR LR
comp=Z,157μm,21.0s,MS7.6
TKL Tuckaleechee C 118.33 22 PP PP 12 46 25.3 0.0
baz=328,slow=6.0
KVTX Kingsville 118.41 39 *e*PKPdf PKPdf 12 45 11.7 +2.1
KVTX LR LR
comp=Z,87μm,19.0s,MS7.4
CJM Chamela 119.37 51 *i* P PKPdf 12 45 11.9 +0.5
LIC Lamto 119.83 291 *e*PKIKP PKPdf 12 45 11.1 -1.2
comp=Z,266nm,1.0s,baz=66
LIC *e*MLR
comp=Z,87μm,21.5s
LIC Lamto 119.83 291 *e*PKPdf PKPdf 12 45 11.1 -1.2
LIC LR LR
comp=Z,44μm,21.5s,MS7.1
JSC Jenkinsville 120.44 21 *e*PKIKP PKPdf 12 45 13.5 0.0
CNNC Cliffs of the 120.58 17 PFAKE 12 45 30.0 +16
CNNC LR LR
comp=Z,122μm,20.0s,MS7.5
SNAA Sanae 120.86 198 PKKPbc PKKPbc 12 55 17.7 0.0
comp=Z,17nm,1.1s,baz=141,slow=3.7,SNR=4.6
SNAA SKKPbc 12 59 07.9
comp=Z,5.9nm,0.9s,baz=237,slow=5.3,SNR=4.4
SNAA Sanae 120.86 198 *e*PKPdf PKPdf 12 45 13.2 -1.1
SNAA *e* 12 45 15.4
SNAA *e* 12 45 17.8
SNAA *e* 12 45 27.9
SNAA *e* 12 45 31.9
SNAA *e* 12 46 40.1
SNAA *e* 12 46 56.3
BRAL Brewton 121.13 28 *e*PKPdf PKPdf 12 45 15.1 +0.3
BRAL LR LR
comp=Z,58μm,19.0s,MS7.2
COW Cow Castle Cre 121.44 21 *e*PKPdf PKPdf 12 45 16.4 +1.0
NHSC New Hope 121.87 20 PFAKE 12 45 30.0 +14
NHSC LR LR
comp=Z,98μm,21.0s,MS7.4
MOIG Morelia 121.96 48 *i* P PKPdf 12 45 17.4 +1.1
VNA2 Neumayer--Watz 122.51 198 *e*PKPdf PKPdf 12 45 15.7 -1.7
baz=67,slow=1.1
VNA2 *e* 12 45 17.1
VNA2 *e* 12 45 21.5
VNA2 *e* 12 45 25.1
VNA2 *e* 12 45 30.9
VNA2 *e* 12 45 35.3
VNA2 *e* 12 46 19.0
VNA2 *e* 12 46 50.8
VNA2 *e* 12 47 08.2
VNA2 *e* 12 47 22.2
VNA1 Neumayer--Stat 122.90 198 *e*PKPdf PKPdf 12 45 17.2 -1.0
VNA1 *e* 12 45 19.5
VNA1 *e* 12 45 22.5
VNA1 *e* 12 45 32.0
VNA1 *e* 12 45 37.2
VNA1 *e* 12 46 56.8
VNA1 *e* 12 47 13.2
VNA3 Neumayer Olymp 122.98 197 *e*PKPdf PKPdf 12 45 17.0 -1.4
VNA3 *e* 12 45 19.1
VNA3 *e* 12 45 22.2
VNA3 *e* 12 45 25.8
VNA3 *e* 12 45 31.0
VNA3 *e* 12 45 35.8
VNA3 *e* 12 46 18.6
VNA3 *e* 12 46 54.7
VNA3 *e* 12 47 11.2
IIO Organos 123.69 46 *i* P PKPdf 12 45 21.3 +1.6
PLIG Platanillo 124.00 47 *i* P PKPdf 12 45 20.8 +0.5
CAIG El Cayaco 124.38 49 *i* P PKPdf 12 45 21.6 +0.6
BBSR BB Station 125.84 5 *e*PKPdf PKPdf 12 45 24.4 +0.6
BBSR LR LR
comp=Z,79μm,21.0s,MS7.4
DWPF Disney 125.97 24 *e*PKPdf PKPdf 12 45 24.1 0.0
DWPF LR LR
comp=Z,41μm,20.0s,MS7.1
PNIG Pinotepa 126.32 48 *i* P PKPdf 12 45 25.8 +1.1
VHO Vista Hermosa 126.80 46 *i* P PKPdf 12 45 26.1 +0.5
CMIG Matias Romero 128.01 45 PKP PKPdf 12 45 28.5 +0.5
comp=Z,97nm,0.9s,baz=316,slow=2.1,SNR=5.2
CMIG Matias Romero 128.01 45 *i* P PKPdf 12 45 26.7 -1.3
HUIG Huatulco 128.14 47 *i* P PKPdf 12 45 29.5 +1.3
TEIG Tepich 129.57 36 *e*PKPdf PKPdf 12 45 32.8 +1.9
TEIG LR LR
comp=Z,65μm,21.0s,MS7.3
SOR Soroa 130.03 29 *e*P PKPdf 12 45 32.9 +1.1
CCIG Comitan 130.37 43 *i* P PKPdf 12 45 32.9 +0.5
MGV Manicaragua 131.93 26 *e*P PKPdf 12 45 36.4 +1.0
ASCN Ascension 134.45 281 PFAKE 12 45 50.0 +10
ASCN LR LR
comp=Z,9μm,21.0s,MS6.5
RPN Rapa Nui 134.54 107 *e*PKPdf PKPdf 12 45 42.6 +2.2
RPN LR LR
comp=Z,10μm,21.0s,MS6.5
LMGC Las Mercedes 134.94 24 *e*P PKPdf 12 45 40.4 -0.7
MOAC Moa 135.10 21 *e*P PKPdf 12 45 45.3 +3.9
MOAC *e*S PP 12 48 24.1 +7.6
comp=N,5.8nm,2.7s
MOAC *e*
comp=E,3.3nm,5.5s
RCC Rio Carpintero 135.47 22 *e*P PKPdf 12 45 36.1 -6.0
TRIS Tristan da Cun 136.69 239 PFAKE 12 46 00.0 +16
TRIS LR LR
comp=Z,32μm,22.0s,MS7.0
PMSA Palmer Station 137.00 177 PFAKE 12 46 00.0 +15
PMSA LR LR
comp=Z,39μm,21.0s,MS7.1
JTS JuntasAbangare 139.41 41 PKhKP 12 45 40.1
comp=Z,39nm,0.9s,baz=328,slow=7.7,SNR=21
JTS PKP PKPdf 12 45 48.1 -1.2
comp=Z,28nm,0.6s,baz=13,slow=17,SNR=12
JTS JuntasAbangare 139.41 41 PKP PKPdf 12 45 48.1 -1.3
SJG San Juan 139.73 10 PKP PKPdf 12 45 49.0 -1.0
comp=Z,15nm,0.2s,baz=4.3,slow=21,SNR=7.4
SJG PP PP 12 48 45.3 0.0
comp=Z,7.3nm,0.4s,baz=338,slow=20,SNR=1.4
SJG SKPbc SKPbc 12 49 27.3 +1.2
comp=Z,35nm,0.8s,baz=284,slow=20,SNR=5.0
SJG San Juan 139.73 10 PKP PKPdf 12 45 49.0 -1.0
SJG PP PP 12 48 45.3 0.0
SJG SKPbc SKPbc 12 49 27.3 +1.2
SJG LR LR
comp=Z,69μm,22.0s,MS7.4
MTP Monte Pirata 139.84 9 *e*PKPdf PKPdf 12 45 43.5 -6.6
CPD Cerro la Pandu 139.84 10 *e*PKPdf PKPdf 12 45 43.5 -6.6
DSHT Scott's Head 143.10 3 *e*P PKPdf 12 45 55.5 -0.5
BCIP Isla Barro Col 143.25 35 *e*PKPdf PKPdf 12 45 53.6 -2.6
PAYG Puerto Ayora 143.31 59 *e*PKPdf PKPdf 12 45 57.1 +0.8
PAYG LR LR
comp=Z,39μm,19.0s,MS7.2
FDF Fort de France 143.59 3 *e*P PKPdf 12 45 54.9 -2.0
MVM Montagne Vaucl 143.78 2 *e*P PKPdf 12 45 55.5 -1.6
BIM Bigot 143.81 3 *e*P PKPdf 12 45 56.2 -1.0
SLB Belfond 144.50 3 *e*P PKPdf 12 45 59.1 +0.7
SLB Belfond 144.50 3 *e*P PKPdf 12 45 59.2 +0.8
SFAN Fancy Village 144.93 3 *e*P PKPdf 12 45 59.0 -0.2
SSV Crater Summit 144.99 3 *e*P PKPdf 12 45 58.5 -0.7
SVV Soufriere Volc 145.00 3 *e*P PKPdf 12 45 59.9 +0.7
BHS Barnard House 145.02 3 *e*P PKPbc 12 45 60.0 +1.3
BHS Barnard House 145.02 3 *e*P PKPbc 12 45 59.7 +1.0
BHS *e*P 12 45 60.0
SVB Belmont 145.04 3 *e*P PKPbc 12 45 58.9 +0.2
FCV Fort Charlotte 145.15 3 *e*P PKPbc 12 46 00.2 +1.1
FCV Fort Charlotte 145.15 3 *e*P PKPbc 12 45 60.0 +0.9
FCV *e*P 12 46 00.2
BBSP Saint Philip 145.25 0 *e*P PKPbc 12 46 01.9 +2.5
GRCU Cariacou 145.82 3 *e*P PKPbc 12 46 04.3 +3.1
GRSS Sisters 145.99 4 *e*P PKPdf 12 45 59.6 -1.4
GRIC Isle de Caille 146.00 4 *e*P PKPdf 12 46 02.0 +1.0
GRHS Sauteurs 146.06 4 *e*P PKPdf 12 46 01.6 +0.5
GRW Mount Saint Ca 146.12 4 *e*P PKPdf 12 46 02.1 +0.9
TPR Prospect 147.13 2 *e*P PKPdf 12 46 06.6 +3.7
SDV Santo Domingo 147.53 21 PKPbc PKPbc 12 46 03.8 -2.3
comp=Z,1μm,0.8s,baz=356,slow=1.8,SNR=125
SDV Santo Domingo 147.53 21 *e*PKPdf PKPdf 12 46 03.8 +0.2
SDV *e*PKPbc PKPbc 12 46 06.6 +0.4
SDV LR LR
comp=Z,40μm,21.0s,MS7.2
TCE Chacachacare 147.56 4 *e*P PKPbc 12 46 05.9 -0.3
TRN Trinidad (W) 147.63 4 *e*P PKPbc 12 46 06.9 +0.4
PCRV Puerto La Cruz 147.76 10 PKPbc PKPbc 12 46 04.2 -2.6
comp=Z,182nm,0.7s,baz=6.6,slow=1.6,SNR=55
TBH Brigand Hill 147.81 3 *e*P PKPbc 12 46 08.1 +1.1
TPP Pointe-a-Pierr 147.96 4 *e*P PKPbc 12 46 08.0 +0.7
ALNG Atlantic LNG 148.08 4 *e*P PKPbc 12 46 07.5 -0.1
BUAY Buenos Aires 148.15 4 *e*P PKPbc 12 46 09.3 +1.4
ROSC El Rosal 149.71 30 PKPbc PKPbc 12 46 10.0 -1.8
comp=Z,275nm,0.9s,baz=101,slow=7.9,SNR=52

ROSC	**El Rosal**	**149.71**	**30**	*e*PKPdf	PKPdf	12 46 09.0	+1.9
ROSC				*e*PKPbc	PKPbc	12 46 14.9	+3.1
ROSC				*e*PKPab	PKPab	12 46 18.4	+1.4
EFI	**East Falkland**	**150.22**	**182**	*e*PKIKP	PKPbc	12 46 11.6	-1.4
EFI				MLR	MLR		
comp=Z,10μm,21.0s,MS6.6							
OTAV	**Otavalo**	**151.26**	**43**	*e*PKPdf	PKPdf	12 46 10.7	+1.2
OTAV				*e*PKPbc	PKPbc	12 46 16.4	+0.9
OTAV				*e*PKPab	PKPab	12 46 23.4	0.0
RCBR	**Riachuelo**	**152.19**	**302**	*e*PKPdf	PKPdf	12 46 11.3	+0.3
RCBR				*e*PKPbc	PKPbc	12 46 17.2	-0.4
ATAH	**Atahualpa**	**156.49**	**54**	PKP	PKPdf	12 46 19.0	+2.0
comp=Z,52nm,1.0s,baz=302,slow=0.2,SNR=78							
PLCA	**Paso Flores**	**158.97**	**156**	PKP	PKPdf	12 46 19.2	-0.8
comp=Z,7.6nm,1.1s,baz=280,slow=2.0,SNR=11							
PLCA				PKPab	PKPab	12 46 56.5	+0.2
comp=Z,159nm,1.1s,baz=218,slow=2.7,SNR=5.7							
PLCA	**Paso Flores**	**158.97**	**156**	*e*PKPdf	PKPdf	12 46 21.1	+1.1
PLCA				LR	LR		
comp=Z,46μm,22.0s,MS7.3							
NNA	**Nana**	**160.70**	**62**	PKP	PKPdf	12 46 21.9	-0.1
comp=Z,82nm,0.9s,baz=323,slow=4.0,SNR=31							
NNA	**Nana**	**160.70**	**62**	*e*PKPdf	PKPdf	12 46 22.5	+0.5
NNA				LR	LR		
comp=Z,10μm,21.0s							
CCHI	**Chillan**	**161.67**	**146**	⇓*e*P	PKPdf	12 46 22.0	-1.0
CAM3	**Guarapari**	**162.32**	**270**	⇓*i*P	PKPdf	12 46 23.2	-0.4
CAM3				*i*		12 46 25.2	
CAM3				*i*		12 46 29.0	
CAM3				*i*		12 46 38.3	
CAM3				*i*		12 47 12.7	
CAM3				*i*		12 47 24.5	
TRQA	**Tornquist**	**163.72**	**173**	*e*PKPdf	PKPdf	12 46 25.3	+0.3
TRQA				LR	LR		
comp=Z,76μm,22.0s							
CAM4	**Nova Friburgo**	**164.34**	**265**	⇓*i*P	PKPdf	12 46 25.7	+0.2
CAM4				*i*		12 46 27.6	
CAM4				*i*		12 46 34.6	
CAM4				*i*		12 47 24.4	
CAM4				*i*		12 47 24.5	
FCH	**Farellones**	**165.09**	**142**	⇓*e*P	PKPdf	12 46 25.0	-1.3
MDZ	**Mendoza**	**166.22**	**145**	PKP	PKPdf	12 46 27.1	-0.1
MDZ				*e*		12 47 25.5	
MDZ				PP	PP	12 51 14.4	-1.0
MDZ				PPP		12 54 30.6	
MDZ				SKKS	SKKSac	12 58 16.7	+13
MDZ				PS		13 03 14.4	
MDZ				SS	SS	13 11 23.6	-33
MDZ				SSP		13 12 12.1	
TLL	**Tololo Astrono**	**166.87**	**131**	⇓*e*P	PKPdf	12 46 26.6	-1.1
LPA	**La Plata**	**166.94**	**186**	*de*PKP	PKPdf	12 46 24.0	-3.7
LPA				*e*pPKP	PKPab	12 47 32.0	+0.8
LPA				*e*PP	PP	12 51 16.0	-3.1
LPA							
comp=Z,83μm,22.0s							
ARE	**Arequipa**	**167.43**	**67**	*e*PKIKP	PKPdf	12 46 31.0	+2.9
CFAA	**Coronel Fontan**	**167.53**	**143**	PKP	PKPdf	12 46 27.3	-0.9
comp=Z,2.1nm,1.0s,baz=246,slow=1.3,SNR=41							
CFAA				PKPab	PKPab	12 47 33.8	0.0
CFAA				PP	PP	12 51 22.8	+0.6
comp=Z,1.5nm,0.9s,baz=265,slow=3.0,SNR=5.2							
CFAA	**Coronel Fontan**	**167.53**	**143**	PKP	PKPdf	12 46 27.3	-0.9
CFAA				PKPab	PKPab	12 47 33.8	0.0
CFAA				PP	PP	12 51 22.8	+0.6
LCO	**Las Campanas**	**167.60**	**127**	*e*PKPdf	PKPdf	12 46 30.0	+1.8
LCO				LR	LR		
comp=Z,63μm,22.0s							
CEN1	**Los Morros**	**169.96**	**101**	⇓*e*P	PKPdf	12 46 32.2	+2.5
LPAZ	**La Paz**	**170.10**	**57**	PKP	PKPdf	12 46 31.1	+1.4
comp=Z,58nm,1.2s,baz=12,slow=2.5,SNR=92							
LPAZ				PKPab	PKPab	12 47 47.2	+2.0
comp=Z,44nm,1.0s,baz=329,slow=11,SNR=5.7							
LPAZ				PP	PP	12 51 39.6	+4.5
comp=Z,36nm,1.2s,baz=225,slow=2.5,SNR=4.2							
LPAZ	**La Paz**	**170.10**	**57**	*e*PKIKP	PKPdf	12 46 30.9	+1.1
LPAZ	**La Paz**	**170.10**	**57**	*e*PKPdf	PKPdf	12 46 30.8	+1.0
LPAZ				LR	LR		
comp=Z,85μm,22.0s							
SIV	**San Ignacio**	**173.96**	**15**	PKP	PKPdf	12 46 31.9	+0.4
comp=Z,29nm,0.9s,baz=112,slow=0.6,SNR=55							
SIV				PKPab	PKPab	12 48 02.1	-0.3
comp=Z,42nm,0.8s,baz=354,slow=5.2,SNR=8.5							
SIV				PP	PP	12 51 53.6	-0.7
comp=Z,32nm,1.1s,baz=313,slow=3.7,SNR=7.4							

NIED ***26*** *12:34:00, 21.80N×120.70E, h5km, Mw6.6 Best double couple: M0=9.44000×10^18 NP1:φs=37.00000°, δ=74.00000°, λ=-154.00000°. NP2:φs=299.00000°, δ=65.00000°, λ=-18.00000°.*

BGS ***26*** *12:34:07.2, 21.65N×122.60E, h10km, mb5.9, MS7.2*

BJI ***26*** *12:34:10.4, 21.87N×120.73E, h10km, mB7.2, mb6.3, ML6.9, Ms7.1, Msz6.8*

JMA ***26*** *12:34:11.9±0.4, 21.82N×120.69E, h0km, M7.2*

JMA Felt I J1.

ISCJB ***26*** *12:34:12.9±0.6, 22.02N±0.01×120.49E±0.01, h12km±3km, mb6.3/217, MS7.1/84, Error ellipse: s-maj=2.3km s-min=2.1km az=83.5*

IDC ***26*** *12:34:12.3±0.3, 21.95N×120.51E, h0km, mb5.9/31, mb1 5.9/34, mb1mx5.9/35, mbtmp5.9/34, ML5.0/3, MS6.9/16, Ms1 6.9/16, ms1mx6.7/41, Error ellipse: s-maj=8.2km s-min=7.4km az=69.0*

NEIC ***26*** *12:34:13.8±0.1, 21.97N×120.49E, h10km, mb6.5/113, MS7.1/61, Error ellipse: s-maj=4.1km s-min=3.7km az=9.0*

NEIC Felt throughout Taiwan. Also felt along the coast of southeastern China from Shantou to Fuzhou. Felt [V PIVS] at Basco, Batan Islands; [II PIVS] at Pasuquin and [I PIVS] at Baguio, Luzon, Philippines. Recorded [5 TAP] in Kao-hsiung and P'ing-tung; [4 TAP] in Chang-hua, Chia-i, Nan-t'ou, P'eng-hu, T'ai-nan, T'ai-tung and Yun-lin; [3 TAP] in Hua-lien; [2 TAP] in Hsin-chu; [1 TAP] in Kin-men Counties. Recorded [1 JMA] on Iriomote-jima, Ishigaki-jima, Tarama-shima and Yonaguni-jima, Ryukyu Islands.

GCMT ***26*** *12:34:13.8±0.1, 22.02N×120.40E, h33km, MW6.9/100, Moment Tensor Solution. s77,c141; s100,c436; Duration: 6±9 Moment tensor: Scale 10^19Nm; Mrr=0.38±.02; Mθθ=2.21±.02; Mφφ=-1.83±.02; Mrθ=2.11±.05; Mrφ=-0.81±.01; Mθφ=0.14±.04; Best double couple: M0=2.87200×10^19 NP1:φs=151.00000°, δ=48.00000°, λ=0.00000°. NP2:φs=61.00000°, δ=90.00000°, λ=138.00000°. Principal axes: T 3.4680, Plg28.0000°, Azm8.0000°; N -1.1880, Plg48.0000°, Azm241.0000°; P -2.2770, Plg28.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***26*** *12:34:16.3±1.1, 22.16N×120.58E, h33km, mb6.6/68, MS7.1/31 Error ellipse: s-maj=7.2km s-min=3.8km az=115.5*

SZGRF ***26*** *12:34:23.4, 23.30N×120.46E, h33km, mb7.1, Taiwan*

ISC 26 12:34:17.3±0.6, 2203N±001×12050E±001, h30km±4km, h26km±3.3km; pP-P, n1324, σ19 17/1264, mb6.3/217, MS7.1/84, 209C-133D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.36**	**25**	*e*Pn	**Pn**	**12 34 53.3**	**-0.6**
NACB				*e*Sn	**Sn**	**12 35 24.0**	**+2.1**
YHNB	**Yeheng**	**2.75**	**17**	*e*Pn	**Pn**	**12 34 58.9**	**-0.4**
YHNB				*e*Sn	**Sn**	**12 35 31.7**	**+0.3**
TATO	**Taipei**	**3.07**	**17**	*e*Pn	**Pn**	**12 35 04.2**	**+0.5**
TATO				*e*Sn	**Sn**	**12 35 45.0**	**+5.6**
YOJ	**Yonaguni jima**	**3.35**	**43**	⇑P	**Pn**	**12 35 07.6**	**+0.1**
YOJ				*e*S	**Sn**	**12 35 48.8**	**+2.6**
QZH	**Quanzhou**	**3.39**	**329**	P	**Pn**	**12 35 06.8**	**-1.3**
QZH				S	**Sn**	**12 35 46.8**	**-0.4**
QZH				Smax			
comp=N,124μm,1.0s							
QZH				Smax			
comp=E,192μm,1.0s							
QZH				LR	LR		
comp=N,1075μm,8.1s							
QZH				LR	LR		
comp=E,1387μm,11.0s							
QZH				LR	LR		
comp=Z,1662μm,12.6s							
HATJ	**Hateruma jima**	**3.65**	**56**	P	**Pn**	**12 35 11.0**	**-0.7**
HATJ				*e*S	**Sn**	**12 35 53.9**	**+0.1**
PIP	**Pasuquin**	**3.69**	**178**	⇓*e*P	**Pn**	**12 35 15.0**	**+2.8**
PIP				*e*S	**Sn**	**12 35 54.6**	**-0.1**
IRIF	**Iriomote-Funau**	**3.76**	**52**	⇑P	**Pn**	**12 35 13.1**	**0.0**
IRIF				*e*S	**Sn**	**12 35 59.1**	**+2.8**
JKRS	**Kuro-shima**	**3.91**	**55**	P	**Pn**	**12 35 15.5**	**+0.3**
JKRS				*e*S	**Sn**	**12 36 02.0**	**+1.9**
SGCP	**Mt. Cagua**	**4.04**	**159**	*e*P	**Pn**	**12 35 15.5**	**-1.5**
JIJ	**Ishigaki jima**	**4.08**	**55**	⇑P	**Pn**	**12 35 16.9**	**-0.7**
JIJ				*e*S	**Sn**	**12 36 05.0**	**+0.7**
APYP	**Conner**	**4.21**	**170**	*e*P	**Pn**	**12 35 19.2**	**-0.1**
ABRA	**Dolores**	**4.36**	**177**	*e*P	**Pn**	**12 35 22.6**	**+1.2**
CVP	**Callao Caves**	**4.48**	**164**	⇑*i*P	**Pn**	**12 35 21.7**	**-1.4**
JTJ	**Tarama**	**4.66**	**55**	⇑P	**Pn**	**12 35 25.2**	**-0.3**
JTJ				*e*S	**Sn**	**12 36 20.1**	**+1.6**
JMJ	**Miyako jima 2**	**5.20**	**57**	⇑P	**Pn**	**12 35 32.4**	**-0.6**
JMJ				*e*S	**Sn**	**12 36 33.0**	**+1.0**
CAUP	**Cauayan**	**5.21**	**166**	*e*P	**Pn**	**12 35 37.0**	**+3.9**
JOGS	**Gusukube**	**5.26**	**58**	⇑P	**Pn**	**12 35 33.9**	**0.0**
JOGS				*e*S	**Sn**	**12 36 36.7**	**+3.2**
PALP	**Palanan**	**5.26**	**159**	⇓*e*P	**Pn**	**12 35 34.1**	**+0.2**
PALP				*e*S	**Sn**	**12 36 35.5**	**+2.0**
PALP	**Palanan**	**5.26**	**159**	*e*P	**Pn**	**12 35 36.0**	**+2.1**
BCPH	**Baguio City Da**	**5.62**	**179**	⇓*e*P	**Pn**	**12 35 41.7**	**+3.0**
BCPH				*e*S	**Sn**	**12 36 46.0**	**+3.8**
BOLP	**Bolinao**	**5.65**	**186**	*e*P	**Pn**	**12 35 42.5**	**+3.4**
SCZP	**Santa Cruz**	**6.25**	**185**	*e*P	**Pn**	**12 35 50.4**	**+3.0**
BALP	**Baler**	**6.34**	**171**	*e*P	**Pn**	**12 35 51.0**	**+2.4**
PCPH	**Palayan**	**6.46**	**175**	⇓*e*P	**Pn**	**12 35 50.9**	**+0.7**
PCPH				*e*S	**Sn**	**12 37 05.4**	**+2.5**
JKE	**Kume jima 2**	**7.16**	**52**	⇑P	**Pn**	**12 35 58.4**	**-1.5**
JKE				*e*S	**Sn**	**12 37 23.0**	**+2.9**
POLP	**Polilio Island**	**7.39**	**169**	*e*P	**Pn**	**12 36 02.3**	**-0.7**
JAGN	**Aguni-jima**	**7.64**	**52**	P	**Pn**	**12 36 05.5**	**-1.0**
NAH1	**Naha**	**7.77**	**56**	P	**Pn**	**12 36 08.4**	**+0.1**
NAH1				*e*S	**Sn**	**12 37 38.6**	**+3.3**
JJT2	**Tamagusuku 2**	**7.79**	**57**	P	**Pn**	**12 36 09.3**	**+0.8**
TGY	**Tagaytay City**	**7.90**	**177**	Pn	**Pn**	**12 36 14.9**	**+4.9**
comp=Z,561nm,0.3s,baz=172,slow=1.6,SNR=23							
TGY				Sn	**Sn**	**12 37 42.6**	**+4.3**
comp=Z,464nm,0.3s,baz=203,slow=0.9,SNR=3.0							
TGY	**Tagaytay City**	**7.90**	**177**	⇓*e*P	**Pn**	**12 36 15.2**	**+5.2**
LUBP	**Lubang**	**8.25**	**182**	*e*P	**Pn**	**12 36 18.4**	**+3.5**
GQP	**Guinayangan**	**8.29**	**167**	⇓*e*P	**Pn**	**12 36 17.9**	**+2.5**
GQP				*e*S	**Sn**	**12 37 42.8**	**-5.2**
JIH	**Iheya**	**8.43**	**52**	P	**Pn**	**12 36 15.0**	**-2.3**
JIH				*e*S	**Sn**	**12 37 49.2**	**-2.2**
JOW	**Kunigami**	**8.55**	**54**	Pn	**Pn**	**12 36 16.2**	**-2.7**
comp=Z,43nm,0.3s,baz=273,slow=6.3,SNR=55							
JOW				Sn	**Sn**	**12 37 57.0**	**+2.8**
comp=Z,96nm,0.3s,baz=179,slow=28,SNR=2.8							
JOW				LR	LR	12 39 50.8	
comp=Z,789μm,20.6s,baz=236,slow=39							
JOW	**Kunigami**	**8.55**	**54**	P	**Pn**	**12 36 16.1**	**-2.8**
JOW				*e*S	**Sn**	**12 37 55.2**	**+0.9**
BOAC	**Boac**	**8.62**	**171**	*e*P	**Pn**	**12 36 19.1**	**-0.9**
SSE	**Sheshan**	**9.05**	**4**	P	**Pn**	**12 36 25.5**	**-0.3**
SSE				S	**Sn**	**12 38 08.8**	**+2.1**
SSE				AMB	AMB		
comp=Z,1μm,0.7s							
SSE				AMB	AMB		
comp=Z,83μm,11.1s							
SSE				LR	LR		
comp=N,416μm,21.7s							
SSE				LR	LR		
comp=E,978μm,21.7s							
SSE				LR	LR		
comp=Z,759μm,16.8s							
SSE	**Sheshan**	**9.05**	**4**	P	**Pn**	**12 36 25.6**	**-0.2**
comp=Z,1μm,0.7s							
SSE				S	**Sn**	**12 38 08.8**	**+2.1**
JTK	**Tokunoshima**	**9.57**	**52**	P	**Pn**	**12 36 29.2**	**-3.8**
JTK				*e*S	**Sn**	**12 38 16.5**	**-3.0**
OTRP	**Odiongan**	**9.72**	**171**	*e*P	**Pn**	**12 36 36.7**	**+1.6**
BUSP	**Coron**	**9.97**	**182**	*e*P	**Pn**	**12 36 39.2**	**+0.7**
WHN	**Wuhan**	**10.11**	**328**	P	**Pn**	**12 36 39.0**	**-1.4**
WHN				LR	LR		
comp=Z,1187μm,19.8s							
JAM	**Amami Oshima**	**10.41**	**51**	P	**Pn**	**12 36 40.6**	**-3.8**
JAM				*e*S	**Sn**	**12 38 35.1**	**-4.8**
QIZ	**Qiongzhong**	**10.42**	**255**	P	**Pn**	**12 36 42.8**	**-1.8**
QIZ				S	**Sn**	**12 38 38.8**	**-1.5**
QIZ				LR	LR		
comp=N,1006μm,19.9s							
QIZ				LR	LR		
comp=Z,805μm,18.5s							
QIZ	**Qiongzhong**	**10.42**	**255**	*e*Pn	**Pn**	**12 36 41.8**	**-2.8**
QIZ				*e*Sn	**Sn**	**12 38 38.0**	**-2.3**
KALP	**Kalibo**	**10.44**	**170**	⇓*e*P	**Pn**	**12 36 52.7**	**+7.8**
JMZ	**Minamidaito 2**	**10.51**	**67**	P	**Pn**	**12 36 43.1**	**-2.7**
JZK	**Kikaishima**	**10.62**	**52**	P	**Pn**	**12 36 47.3**	**0.0**
RCP	**Roxas**	**10.63**	**168**	*e*P	**Pn**	**12 36 49.8**	**+2.3**
ENPP	**El Nido**	**10.81**	**186**	*e*P	**Pn**	**12 36 49.0**	**-1.0**
CUYO	**Cuyo Island**	**11.13**	**177**	*e*P	**Pn**	**12 36 56.0**	**+1.7**
JNN	**Nakanoshima**	**11.47**	**45**	P	**Pn**	**12 36 55.1**	**-3.9**
GUIM	**Jordan**	**11.52**	**170**	*e*P	**Pn**	**12 37 02.1**	**+2.5**
OCLP	**Ormoc**	**11.61**	**160**	*e*P	**Pn**	**12 37 02.2**	**+1.4**
PLP	**Palo**	**11.62**	**158**	*e*P	**Pn**	**12 37 06.8**	**+5.7**
LLP	**Lapu-Lapu**	**12.11**	**164**	⇓*e*P	**Pn**	**12 37 07.4**	**-0.3**
comp=Z,2396μm,1.1s							
PPR	**Puerto Princes**	**12.30**	**188**	*e*P	**Pn**	**12 37 08.7**	**-1.6**
MSLP	**Maasin**	**12.55**	**160**	*e*P	**Pn**	**12 37 14.8**	**+1.1**
JSJ	**Shimokoshiki**	**12.64**	**39**	P	**Pn**	**12 37 14.0**	**-1.0**
TBP	**Tagbilaran**	**12.69**	**165**	*e*P	**Pn**	**12 37 15.7**	**+0.1**
SCPH	**Surigao**	**13.09**	**158**	*e*P	**Pn**	**12 37 22.2**	**+1.1**
GYA	**Guiyang**	**13.37**	**292**	⇑*i*P	**Pn**	**12 37 27.0**	**+2.1**
GYA				AP		12 37 31.0	
GYA				XP		12 37 33.8	
GYA				PP		12 37 36.8	
GYA				AMB	AMB		
comp=Z,3μm,1.2s							
GYA				AMB	AMB		
comp=Z,43μm,10.4s							
GYA				LR	LR		
comp=N,346μm,18.0s							
GYA				LR	LR		
comp=E,480μm,18.0s							
GYA				LR	LR		
comp=Z,602μm,17.1s							
BATP	**Bataraza**	**13.41**	**192**	*e*P	**Pn**	**12 37 25.3**	**-0.2**
BUTP	**Butuan**	**13.89**	**158**	*e*P	**Pn**	**12 37 32.9**	**+0.9**
JNU	**Nakatsue**	**14.37**	**38**	Pn	**Pn**	**12 37 37.5**	**-1.0**
comp=Z,7.1nm,0.3s,baz=247,slow=20,SNR=12							
JNU				Sn	**Sn**	**12 40 18.7**	**+1.9**
comp=Z,1.5nm,0.3s,baz=240,slow=19,SNR=1.3							
JNU				LR	LR	12 42 14.7	
comp=Z,749μm,20.4s,baz=270,slow=33							
BUKP	**Musuan**	**14.74**	**162**	*e*P	**Pn**	**12 37 48.2**	**+4.6**
CTBH	**Cotabato--PC H**	**15.16**	**166**	⇓*e*P	**Pn**	**12 37 52.2**	**+3.0**
KCP	**Kidapawan**	**15.58**	**163**	*e*P	**Pn**	**12 37 59.7**	**+5.1**
DMPH	**Davao City--Mi**	**15.63**	**161**	*e*P	**Pn**	**12 37 55.2**	**0.0**
DAV	**Davao City (W)**	**15.66**	**161**	*e*P	**Pn**	**12 37 59.1**	**+3.4**
comp=Z,3μm,1.2s							
DAV				*e*S	**Sn**	**12 41 03.8**	**+16**
XAN	**Xi'an**	**15.72**	**322**	P	**Pn**	**12 38 00.8**	**+4.3**
XAN				AMB	AMB		
comp=Z,2μm,2.5s							
XAN				LR	LR		
comp=N,106μm,16.4s							
XAN				LR	LR		
comp=E,323μm,14.5s							
XAN				LR	LR		
comp=Z,443μm,14.9s							
INCN	**Inchon**	**16.29**	**18**	*e*P	**Pn**	**12 38 03.8**	**+0.1**
KKM	**Kota Kinabalu**	**16.42**	**195**	P	**Pn**	**12 38 09.5**	**+4.1**
KKM	**Kota Kinabalu**	**16.42**	**195**	*e*P	**Pn**	**12 38 06.0**	**+0.5**
KMI	**Kunming**	**16.57**	**284**	P	**Pn**	**12 38 05.0**	**-2.3**
KMI				AP	pP	12 38 12.8	-4.8
KMI				XP	sP	12 38 17.5	-4.0
KMI				PP		12 38 20.5	
KMI				S	**Sn**	**12 41 13.0**	**+2.7**
KMI				AMB	AMB		
comp=Z,438nm,1.9s							
KMI				LR	LR		
comp=N,186μm,19.6s							
KMI				LR	LR		
comp=E,242μm,20.5s							
KMI				LR	LR		
comp=Z,299μm,15.7s							
KMI	**Kunming**	**16.57**	**284**	P	**Pn**	**12 38 04.9**	**-2.4**
KMI				S	**Sn**	**12 41 13.1**	**+2.8**
KMI				pmax	pmax		
comp=Z,438nm,1.9s							
KMI	**Kunming**	**16.57**	**284**	P	**Pn**	**12 38 04.9**	**-2.4**
comp=Z,438nm,1.9s							
KMI				pP	pP	12 38 12.7	-4.9
KMI				sP	sP	12 38 17.4	-4.1
KMI				PP		12 38 20.6	
KMI				PPP		12 38 28.5	
KMI				S	**Sn**	**12 41 13.1**	**+2.8**
KMI				sS	sS	12 41 30.9	-3.0
KSRS	**Korea Array**	**16.66**	**21**	Pn	**Pn**	**12 38 07.1**	**-1.3**
baz=202,slow=12,SNR=32							
KSRS				Sn	**Sn**	**12 41 22.9**	**+10**
baz=134,slow=36,SNR=3.1							
DL2	**Dalian**	**16.85**	**3**	P	**Pn**	**12 38 11.8**	**+0.9**
DL2				*e*S	**Sn**	**12 41 22.8**	**+5.7**
DL2				AMB	AMB		
comp=Z,4μm,1.2s							
DL2				LR	LR		
comp=N,262μm,15.3s							
DL2				LR	LR		
comp=E,177μm,15.3s							
DL2				LR	LR		
comp=Z,342μm,16.5s							
CD2	**Chengdu**	**17.39**	**304**	⇑*i*P	**Pn**	**12 38 21.0**	**+3.4**
CD2				S	**Sn**	**12 41 34.5**	**+4.4**
CD2				XS	sS	12 41 46.8	-3.8
CD2				SS		12 41 58.5	
CD2				AMB	AMB		
comp=Z,4μm,0.9s							
CD2				AMB	AMB		
comp=Z,486μm,10.7s							
CD2				LR	LR		
comp=N,952μm,10.6s							
CD2				LR	LR		
comp=E,422μm,10.0s							
CD2				LR	LR		
comp=Z,483μm,13.2s							
KKTK	**Khon Kaen**	**17.62**	**254**	⇓P	**Pn**	**12 38 21.0**	**+0.5**
JWZ	**Kozaga**	**17.66**	**46**	P	**Pn**	**12 38 20.9**	**0.0**
JAJ2	**Tsuna**	**17.67**	**43**	P	**Pn**	**12 38 22.0**	**+0.9**
TSM	**Tawau**	**17.81**	**189**	P	**Pn**	**12 38 25.4**	**+2.5**
BJT	**Baijiatuau**	**18.31**	**349**	*e*P	**Pn**	**12 38 28.9**	**0.0**
BJI	**Beijing**	**18.33**	**349**	P	**Pn**	**12 38 31.3**	**+2.2**
BJI				S	**Sn**	**12 41 55.8**	**+2.9**
BJI				AMB	AMB		
comp=Z,1μm,0.9s							
BJI				LR	LR		
comp=N,469μm,19.6s							
BJI				LR	LR		
comp=E,678μm,21.3s							
BJI				LR	LR		
comp=Z,481μm,22.3s							
BJI	**Beijing**	**18.33**	**349**	P	**Pn**	**12 38 31.2**	**+2.1**
BJI				S	**Sn**	**12 41 55.7**	**+2.8**
BJI				pmax	pmax		
comp=Z,1μm,0.9s							
BJI	**Beijing**	**18.33**	**349**	P	**Pn**	**12 38 31.2**	**+2.1**
comp=Z,1μm,0.9s							
BJI				S	**Sn**	**12 41 55.7**	**+2.8**
JAO	**Obara**	**19.72**	**44**	P	**Pn**	**12 38 44.4**	**-1.5**
JAO				S	**Sn**	**12 42 30.4**	**+4.0**
SNY	**Shenyang**	**19.91**	**7**	⇑P	**Pn**	**12 38 50.5**	**+2.4**
SNY				AP	pP	12 38 54.8	+0.4
SNY				XP	sP	12 38 57.3	-1.0
SNY				*e*XS	sS	12 42 32.0	-10
SNY				AMB	AMB		
comp=Z,3μm,2.5s							
SNY				LR	LR		
comp=N,520μm,16.8s							
SNY				LR	LR		
comp=E,157μm,20.4s							
SNY				LR	LR		
comp=Z,513μm,16.8s							
JGF	**Kuroka**	**19.98**	**44**	P	**Pn**	**12 38 46.6**	**-2.4**
JGF				S	**Sn**	**12 42 33.7**	**+0.8**
LZH	**Lanzhou**	**20.16**	**318**	⇓P	**P**	**12 38 48.3**	**-0.8**
LZH				AP		12 38 57.0	
LZH				XP	sP	12 39 01.5	+0.5
LZH				PP		12 39 08.3	
LZH				S	**S**	**12 42 28.0**	**-5.8**
LZH				XS	sS	12 42 41.5	-5.2
LZH				AMB	AMB		
comp=Z,7μm,1.4s							
LZH				AMB	AMB		
comp=Z,45μm,6.6s							
LZH				LR	LR		
comp=N,189μm,13.6s							
LZH				LR	LR		
comp=Z,319μm,15.2s,MS6.8							
LZH	**Lanzhou**	**20.16**	**318**	⇓P	**P**	**12 38 48.2**	**-0.9**
LZH				*SP	sP	12 39 01.5	+0.5
LZH						12 39 08.3	
LZH				PPP		12 39 12.6	
LZH				S	**S**	**12 42 28.1**	**-5.7**
LZH				*SS	sS	12 42 41.5	-5.2
LZH				SS		12 42 57.4	
LZH				pmax	pmax		
comp=Z,7μm,1.4s							
LZH				MLR	MLR		
comp=Z,319μm,15.2s,MS6.8							
LZH	**Lanzhou**	**20.16**	**318**	⇓P	**P**	**12 38 48.2**	**-0.9**
comp=Z,7μm,1.4s							
LZH				pP		12 38 57.0	
LZH				sP	sP	12 39 01.5	+0.5
LZH				PP		12 39 08.3	
LZH				PPP		12 39 12.6	
LZH				S	**S**	**12 42 28.1**	**-5.7**
LZH				sS	sS	12 42 41.5	-5.2
LZH				SS		12 42 57.4	
LZH				LR	LR		
comp=Z,319μm,15.2s,MS6.8							
JNY	**Yasuok**	**20.17**	**45**	P	**P**	**12 38 48.1**	**-1.0**
HHC	**Hu-ho-hao-te**	**20.23**	**340**	*e*P	**P**	**12 38 52.3**	**+2.5**
HHC				AP		12 38 56.5	
HHC				XP	sP	12 38 59.3	-2.5
HHC				PP		12 39 12.5	
HHC				S	**S**	**12 42 34.3**	**-0.9**
HHC				SS		12 43 03.8	
HHC				PCP	PcP	12 43 05.8	+2.7
HHC				AMB	AMB		
comp=Z,6μm,1.2s							
HHC				LR	LR		
comp=N,572μm,20.4s,MS7.0							
HHC				LR	LR		
comp=E,192μm,15.7s,MS7.0							
HHC				LR	LR		
comp=Z,557μm,21.2s							
JHJ	**Hachijo jima 2**	**20.32**	**53**	P	**P**	**12 38 52.2**	**+1

VLA pmax pmax
comp=Z,427nm,0.8s,mb5.9
VLA MLR MLR
comp=Z,526μm,20.0s,MS7.0
VLA Vladivostok 23.07 22⇓ eP P 12 39 18.0 -2.3
MDJ Mudanjiang 23.74 16 P **P 12 39 26.0 -0.9**
MDJ AP 12 39 29.0
MDJ XP sP 12 39 30.3 -9.0
MDJ PCP PcP 12 43 07.5 -2.6
MDJ S **S 12 43 43.3 +3.2**
MDJ AMB AMB
comp=Z,266nm,1.0s,mb5.6
MDJ LR LR
comp=N,520μm,20.0s,MS7.1
MDJ LR LR
comp=E,413μm,18.4s,MS7.1
MDJ LR LR
comp=Z,702μm,18.6s,MS7.2
MDJ Mudanjiang 23.74 16 *e*P **P 12 39 25.7 -1.2**
MDJ LR LR
comp=Z,733μm,19.0s,MS7.2
SNG Songkhla 24.20 235 P **P 12 39 28.0 -3.1**
IMP Imphal 24.52 282 *e*P **P 12 39 35.0 +1.0**
GUMO Guam 24.65 106 P **P 12 39 34.0 -1.2**
comp=Z,2μm,1.2s,mb6.6,baz=192,slow=5.6,SNR=26
GUMO LR LR 12 49 03.3
comp=Z,115μm,19.6s,MS6.4,baz=107,slow=36
GUMO Guam 24.65 106 *e*P **P 12 39 33.5 -1.6**
GUMO LR LR
comp=Z,168μm,20.0s,MS6.5
GTA Gaotai 24.73 319 *e*P **P 12 39 37.3 +1.4**
GTA AP 12 39 41.5
GTA XP sP 12 39 44.5 -3.8
GTA S **S 12 44 01.5 +5.5**
GTA XS sS 12 44 08.0 -2.4
GTA AMB AMB
comp=Z,237nm,1.8s,mb5.4
GTA AMB AMB
comp=Z,67μm,6.5s
GTA LR LR
comp=N,193μm,14.9s,MS6.9
GTA LR LR
comp=E,170μm,14.1s,MS6.9
GTA LR LR
comp=Z,204μm,18.7s,MS6.7
KULM Kulim 25.41 232 *e*P **P 12 39 43.1 +1.0**
IPM Ipoh 25.70 230 P **P 12 39 43.9 -0.8**
KGM Kluang 25.98 222 P **P 12 39 46.9 -0.4**
SHL Shillong 26.39 283 *e*P **P 12 39 54.0 +3.0**
SHL AMb AMB 12 40 17.6
comp=Z,10μm,1.2s,mb7.2
SHL *ex* x 12 44 34.0
HIA Hailar 27.19 359 *e*P **P 12 39 56.3 -1.8**
HIA MLR MLR
comp=Z,789μm,19.0s
LSA Lhasa 27.44 292 *e*P **P 12 40 01.9 +1.5**
LSA MLR MLR
comp=Z,318μm,20.0s,MS6.9
ERM Erimo 27.53 38 P **P 12 40 00.6 -0.6**
comp=Z,5μm,1.0s,mb7.1,SNR=40
ERM Erimo 27.53 38 *e*P **P 12 40 00.5 -0.7**
ERM pmax pmax
comp=Z,958nm,0.8s,mb6.5
ERM Erimo 27.53 38 *e*P **P 12 40 00.5 -0.8**
comp=Z,958nm,0.8s,mb6.5
ULN Ulaanbaatar 27.95 340 *e*P **P 12 40 05.2 +0.3**
ULN pmax pmax
comp=Z,1μm,1.3s,mb6.4
ULN MLR MLR
comp=Z,981μm,19.0s,MS7.4
ULN Ulaanbaatar 27.95 340 *e*P **P 12 40 05.2 +0.3**
comp=Z,1μm,1.3s,mb6.4
ULN LR LR
comp=Z,981μm,19.0s,MS7.4
SONM Songino Array 28.13 340 P **P 12 40 06.1 -0.4**
comp=Z,241nm,1.0s,mb5.8,baz=155,slow=10,SNR=23
SONM ScP ScP 12 47 00.7 +1.8
comp=Z,9.8nm,1.0s,baz=168,slow=7.4,SNR=2.0
SONM LR LR 12 52 20.0
comp=Z,595μm,21.0s,MS7.2,baz=152,slow=39
SONM P3KPbc 13 12 29.9
comp=Z,4.0nm,1.2s,baz=310,slow=5.7,SNR=6.6
SONM Songino Array 28.13 340 P **P 12 40 06.1 -0.4**
SONM ScP ScP 12 47 00.7 +1.8
SONM LR LR 12 52 20.0
SONM *e* 13 12 29.9
PSI Prapat 28.36 231 P **P 12 40 10.3 +1.7**
comp=Z,152nm,0.8s,mb5.7,baz=9.1,slow=5.4,SNR=17
PSI ScP ScP 12 47 05.9 +6.3
comp=Z,17nm,1.0s,baz=205,slow=22,SNR=3.4
PBA Port Blair 28.45 253 *e*P **P 12 40 08.4 -1.0**
KLR Kul'dur 28.58 16 *e*P **P 12 40 08.5 -2.0**
ASAJ Asahikawa 28.61 34 P **P 12 40 09.1 -1.7**
comp=Z,344nm,1.0s,mb6.0,baz=240,slow=13,SNR=34
ASAJ LR LR 12 52 17.3
comp=Z,472μm,20.5s,MS7.1,baz=240,slow=38
HABR Khabarovsk 28.84 20 *e*P **P 12 40 13.5 +0.7**
HABR S **S 12 45 06.8 +5.9**
HABR pmax pmax
comp=Z,722nm,1.2s,mb6.3
SLGI Shiliguri 29.55 286 *e*P **P 12 40 19.6 +0.5**
CIT Chita 30.42 352 *e*P **P 12 40 27.0 +0.1**
CIT pmax pmax
comp=Z,3μm,2.6s,mb6.5
YSS Yuzh-Sakhalins 30.69 31 *e*P **P 12 40 27.8 -1.5**
YSS Yuzh-Sakhalins 30.69 31 *e*P **P 12 40 27.5 -1.8**
YSS LR LR
comp=Z,431nm,21.0s,MS7.1
ZAK Zakamensk 31.36 339 *e*P **P 12 40 35.6 +0.4**
ZAK *e* 12 47 21.1
ZAK pmax pmax
comp=Z,162nm,1.2s,mb5.7
JIRN Jiri 31.57 287 *e*P **P 12 40 37.0 0.0**
comp=Z,2μm,1.1s,mb6.9
GUN Gumba 31.85 288 *e*P **P 12 40 41.3 +1.8**
comp=Z,2μm,1.0s,mb6.8
PKI Pulchoki 32.26 287 *e*P **P 12 40 44.0 +1.0**
comp=Z,2μm,1.5s,mb6.8
PKI Pulchoki 32.26 287 *e*P **P 12 40 44.0 +1.0**
PKI pmax pmax
comp=Z,2μm,1.5s,mb6.8
TLY Talaya 32.36 340 *e*P **P 12 40 44.8 +0.9**
TLY pmax pmax
comp=Z,699nm,1.5s,mb6.3
TLY MLR MLR
comp=Z,468μm,23.0s,MS7.1
TLY Talaya 32.36 340 *e*P **P 12 40 43.8 -0.2**
KKN Kakani 32.38 287 *e*P **P 12 40 45.0 +0.9**
comp=Z,1μm,1.4s,mb6.6
DMN Daman 32.53 287 *e*P **P 12 40 46.7 +1.3**
comp=Z,2μm,1.4s,mb6.8
IRK Irkutsk 32.66 341 *e*P **P 12 40 46.6 0.0**
IRK pmax pmax
comp=Z,2μm,2.6s,mb6.6
GKN Gorkha 32.95 288 *e*P **P 12 40 49.7 +0.5**
comp=Z,2μm,1.3s,mb6.8
KOLN Koldanda 33.87 287 *e*P **P 12 40 57.6 +0.5**
comp=Z,2μm,1.4s,mb6.9
WMQ Urumqi 34.73 317 P **P 12 41 06.5 +1.9**
WMQ PP PP 12 42 22.5 -1.1
WMQ PCP PcP 12 43 41.3 +3.4
WMQ S **S 12 46 35.8 +3.0**
WMQ XS sS 12 46 43.0 -4.4
WMQ AMB AMB
comp=Z,649nm,1.2s,mb6.4
WMQ AMB AMB
comp=Z,12μm,3.0s
WMQ LR LR
comp=N,128μm,13.0s,MS7.0
WMQ LR LR
comp=E,148μm,15.0s,MS7.0
WMQ LR LR
comp=Z,124μm,18.0s,MS6.7
CLNS Chul'man 34.91 4 *e*P **P 12 41 06.1 -0.1**
CLNS *e**PP pP 12 41 14.4 -0.6
CLNS *e*PPP 12 42 27.2
CLNS *e* 12 43 41.7
CLNS *e*S **S 12 46 32.8 -2.8**
CLNS pmax pmax
comp=E,50nm,1.0s
CLNS pmax pmax
comp=Z,208nm,1.0s,mb6.0
CLNS pmax pmax
comp=N,141nm,1.1s
CLNS smax
comp=N,35μm,14.4s
CLNS smax
comp=Z,22μm,14.1s
CLNS smax
comp=E,113μm,14.9s
CLNS MLR MLR
comp=E,129μm,14.0s,MS6.9
CLNS MLR MLR
comp=Z,171μm,14.0s,MS7.0
CLNS MLR MLR
comp=N,62μm,13.0s,MS6.9
BOD Bodaibo 36.06 354 *e*P **P 12 41 15.2 -0.8**
BOD *e* 12 42 35.7
BOD pmax pmax
comp=Z,251nm,1.1s,mb6.1
KAKA Kakadu 36.46 160 *e*P **P 12 41 15.7 -3.7**
comp=Z,908nm,0.7s,mb6.8
LGTI Lohaghat 36.86 290 *i* P **P 12 41 25.0 +2.1**
LGTI *ex* x 12 42 35.5
JOSI Joshimath 37.51 292 *e*P **P 12 41 31.4 +3.0**
JOSI AMb AMB 12 41 42.3
comp=Z,3μm,1.0s,mb7.1
NGP Nagpur 38.47 277 *e*P **P 12 41 36.5 +0.1**
NGP AMb AMB 12 41 56.7
comp=Z,2μm,1.1s,mb6.7
KLP Kalpa 38.69 293 *e*P **P 12 41 40.4 +2.1**
KLP AMb AMB 12 41 45.8
comp=Z,1μm,0.8s,mb6.6
DDI Dehra Dun 38.80 291 *ex* x 12 42 01.0
AGRA Agra 38.89 286 *e*P **P 12 41 38.6 -1.4**
AGRA AMb AMB 12 41 44.7
comp=Z,731nm,2.4s,mb6.0
MK31 Makanchi Array 39.48 318 *e*P **P 12 41 44.6 -0.3**
MKAR Makanchi Array 39.48 318 P **P 12 41 45.3 +0.4**
comp=Z,200nm,0.6s,mb6.0,baz=111,slow=7.8,SNR=56
MKAR P3KPbc 13 11 41.5
comp=Z,1.5nm,0.7s,baz=305,slow=3.9,SNR=7.1
MKAR PKP2bc 13 14 31.9
comp=Z,2.5nm,1.1s,baz=294,slow=3.3,SNR=3.9
MKAR Makanchi Array 39.48 318 P **P 12 41 45.3 +0.4**
MKAR *e* 13 11 41.5
MKAR ⇑*e* 13 14 31.9
NDI New Delhi 39.51 289 *ex* **P 12 41 44.0 -1.1**
NDI *eP* 12 41 46.4
NDI AMb AMB 12 41 50.7
comp=Z,542nm,1.6s,mb6.0
AYAN Aya Nagar 39.59 288 *e*P **P 12 41 45.9 +0.1**
AYAN AMb AMB 12 41 51.1
comp=Z,288nm,1.6s,mb5.8
SONA Sohna 39.63 288 *e*P **P 12 41 47.4 +1.3**
SONA AMb AMB 12 41 51.2
comp=Z,376nm,1.9s,mb5.8
HYB Hyderabad 39.66 271 *i* P **P 12 41 48.0 +1.6**
comp=Z,258nm,0.8s,mb6.0
HYB *e*S **S 12 47 55.0 +7.2**
HYB Hyderabad 39.66 271 *e*P **P 12 41 48.0 +1.6**
comp=Z,258nm,0.8s,mb6.0
HYB *e*S **S 12 47 55.0 +7.2**
BHPL Bhopal 39.67 280 *e*P **P 12 41 46.5 0.0**
BHPL AMb AMB 12 41 53.1
comp=Z,537nm,1.8s,mb6.0
SKR Severo-Kuril's 39.86 35 *e*P **P 12 41 45.9 -2.2**
SKR *e* pP 12 41 55.0 -2.0
SKR *e* 12 43 55.0
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,250nm,1.0s
SKR pmax pmax
comp=Z,670nm,1.0s,mb6.3
FITZ Fitzroy Crossi 40.20 172 *e*P **P 12 41 46.5 -4.4**
comp=Z,378nm,0.9s,mb6.1
FITZ *e*S **S 12 48 02.0 +6.2**
FITZ Fitzroy Crossi 40.20 172 LR LR 13 00 19.7
comp=Z,44μm,20.5s,MS6.3,baz=354,slow=39
RTK Rohtak 40.21 289 *e*P **P 12 41 51.9 +0.9**
RTK AMb AMB 12 41 57.4
comp=Z,2μm,1.3s,mb6.6
AKL Akola 40.42 276⇓ *i*P **P 12 41 54.4 +1.7**
AKL *ex* x 12 42 14.4
comp=Z,2μm,1.3s
AKL *i* x x 12 47 29.1
YAK Yakutsk 40.47 7*c i*P **P 12 41 51.5 -1.6**
YAK *e**PP pP 12 42 00.6 -1.5
YAK *e* 12 43 24.2
YAK *e* 12 43 50.5
YAK *e*S **S 12 48 01.1 +1.2**
YAK *e**SS sS 12 48 18.1 +3.5
YAK *e* 12 51 55.5
YAK pmax pmax
comp=Z,2μm,0.9s,mb6.9
YAK pmax pmax
comp=N,2μm,1.5s
YAK pmax pmax
comp=E,1μm,1.2s
YAK pmax pmax
comp=Z,33μm,11.3s
YAK MLR MLR
comp=Z,345μm,20.0s,MS7.2
YAK MLR MLR
comp=N,229μm,18.0s,MS7.2
YAK MLR MLR
comp=E,124μm,14.0s,MS7.2
YAK Yakutsk 40.47 7 *e*P **P 12 41 51.0 -2.1**
YAK LR LR
comp=Z,769μm,20.0s,MS7.5
DLH Dalhousie 40.68 295 *e*P **P 12 41 56.0 +1.1**
PMG Port Moresby 40.74 137 P **P 12 41 54.0 -1.3**
comp=Z,442nm,0.9s,mb6.1,baz=340,slow=4.6,SNR=22
PMG ScP ScP 12 47 50.2 +6.5
comp=Z,19nm,0.8s,baz=344,slow=7.1,SNR=3.4
PMG S **S 12 48 09.7 +5.8**
comp=Z,28nm,1.0s,baz=264,slow=20,SNR=6.4
PMG LR LR 12 55 57.5
comp=Z,99μm,21.2s,MS6.6,baz=160,slow=32
PMG PKKP 13 05 53.0
comp=Z,4.3nm,0.4s,baz=79,slow=6.4,SNR=5.7
PMG Port Moresby 40.74 137 *e*P **P 12 41 54.1 -1.3**
PMG pmax pmax
comp=Z,710nm,1.0s
PMG Port Moresby 40.74 137 *e*P **P 12 41 53.9 -1.5**
comp=Z,712nm,0.9s,mb6.3
PMG LR LR
comp=Z,104μm,22.0s,MS6.7
KHET Khetri 40.76 288 *e*P **P 12 41 56.8 +1.3**
KHET AMb AMB 12 42 00.6
comp=Z,184nm,1.3s,mb5.5
PALK Pallekele 41.05 255 P **P 12 42 00.8 +2.9**
comp=Z,856nm,0.9s,mb6.4,SNR=8.4
LATR Latur 41.28 273 *e*P **P 12 42 00.1 +0.3**
KSH Kashi 41.58 305 *e*P **P 12 42 05.5 +3.3**
KSH AP pP 12 42 10.0 -1.2
KSH XP sP 12 42 12.5 -2.4
KSH PP PP 12 43 46.0 +7.4
KSH PCP PcP 12 44 02.3 +3.2
KSH SCP ScP 12 47 50.5 +3.5
KSH PCS PcS 12 47 51.5 +1.1
KSH S **S 12 48 21.8 +5.5**
KSH XS sS 12 48 29.3 -1.8
KSH SS SS 12 51 22.5 +0.7
KSH SCS ScS 12 52 05.3 +1.8
KSH AMB AMB
comp=Z,2μm,1.3s,mb6.5
KSH AMB AMB
comp=Z,31μm,4.3s
KSH LR LR
comp=N,985μm,16.3s,MS7.9
KSH LR LR
comp=E,899μm,13.3s,MS7.9
KSH LR LR
comp=Z,1149μm,19.6s
AJM Ajmer 41.88 286 *e*P **P 12 42 03.6 -1.1**
AJM AMb AMB 12 42 11.1
comp=Z,933nm,1.8s,mb6.1
ULHL Ulahol 41.99 309 P **P 12 42 07.6 +2.0**
SNR=19
PET Petropavlovsk 42.45 34⇑ *i*P **P 12 42 07.1 -2.2**
PET *e*S **S 12 48 25.5 -3.6**
PET *e* 12 52 04.7
PET pmax pmax
comp=Z,948nm,1.0s,mb6.4
PET MLR MLR
comp=Z,115μm,19.0s,MS6.8
PET MLR MLR
comp=Z,100μm,19.0s
TKM2 Tokmak 2 42.62 310 P **P 12 42 12.3 +1.5**
SNR=14
KZA Kyzart 42.67 309 P **P 12 42 13.9 +2.8**
SNR=13
KOD Kodaikanal 42.83 261 *e*P **P 12 42 14.6 +2.1**
KOD AMb AMB 12 42 29.4
comp=Z,754nm,1.7s,mb6.2
NVS Novosibirsk 43.00 329 *e*P **P 12 42 13.2 -0.6**
NVS *i* *PP pP 12 42 26.5 +3.7
NVS *e* 12 43 56.0
NVS *i* S **S 12 48 35.9 -1.4**
NVS pmax pmax
comp=E,2μm,2.3s
NVS pmax pmax
comp=Z,3μm,2.3s,mb6.6
NVS pmax pmax
comp=N,2μm,2.2s
NVS smax
comp=N,328nm,2.2s
NVS smax
comp=E,980nm,2.8s
KBK Karagaybulak 43.02 309 P **P 12 42 15.8 +1.8**
SNR=15
MA2 Magadan 43.21 22*c i*P **P 12 42 13.6 -1.9**
MA2 *e* 12 44 06.8
MA2 *e*S **S 12 48 37.8 -2.6**
MA2 pmax pmax
comp=Z,1μm,0.9s,mb6.7
MA2 Magadan 43.21 22 *e*P **P 12 42 11.6 -3.9**
comp=Z,852nm,0.9s,mb6.5
MA2 LR LR
comp=Z,623μm,19.0s,MS7.5
UCH Uchtor 43.23 309 P **P 12 42 18.7 +3.0**
SNR=23
CHMS Chumysh 43.24 310 P **P 12 42 16.9 +1.1**
SNR=14
AAK Ala-Archa 43.34 309 P **P 12 42 17.7 +1.1**
SNR=7.5
AAK Ala-Archa 43.34 309 *e*P **P 12 42 17.3 +0.7**
KURK Kurchatov 43.36 322 *e*P **P 12 42 16.9 +0.2**
USP Ospenovka 43.49 310 P **P 12 42 21.7 +3.9**
SNR=9.2
AML Almayashu 43.81 308 P **P 12 42 22.5 +2.2**
SNR=28
WRA Warramunga Arr 43.85 161 P **P 12 42 18.4 -2.3**
comp=Z,300nm,0.8s,mb6.1,baz=343,slow=8.9,SNR=21
WRA ScP ScP 12 47 58.9 +2.7
comp=Z,9.6nm,1.0s,baz=345,slow=4.9,SNR=2.6
WRA S **S 12 48 48.8 -0.9**
comp=Z,66nm,1.0s,baz=343,slow=15,SNR=7.6
WRA PKKP 13 05 53.8
comp=Z,7.7nm,0.8s,baz=104,slow=2.0,SNR=8.9
WRA P3KPbc 13 11 25.2
comp=Z,1.9nm,1.1s,baz=157,slow=2.4,SNR=4.8
WRA PKPPKP 13 13 59.4
comp=Z,2.7nm,0.7s,baz=106,slow=2.4,SNR=12
WRA Warramunga Arr 43.85 161 P **P 12 42 18.4 -2.3**
WRA ScP ScP 12 47 58.9 +2.7
WRA S **S 12 48 48.8 -0.9**
WRA PKKP 13 05 53.8
WRA *e* 13 11 25.2
WRA P'P' 13 13 59.4
WB2 Warramunga Arr 43.86 161⇓ *i*P **P 12 42 18.6 -2.1**
WB2 *e*S **S 12 48 47.1 -2.7**
EKS2 Erkin-Say 43.86 309 P **P 12 42 22.1 +1.3**
SNR=7.5
TRD Trivandrum 43.94 259 *e*P **P 12 42 24.3 +3.0**
TRD AMb AMB 12 42 38.2
comp=Z,682nm,1.2s,mb6.3
MNGI Mangalore 44.35 266 *e*P **P 12 42 26.1 +1.4**
MNGI AMb AMB 12 42 41.1
comp=Z,546nm,2.0s,mb5.9
GOA Goa 44.54 270 *e*P **P 12 42 28.7 +2.5**
GOA AMb AMB 12 42 32.2
comp=Z,462nm,0.4s,mb6.6
JASL Jaisalmer 45.18 287 *ex* **P 12 42 26.2 -5.1**
SEY Seymchan 46.21 20⇑ *e*P **P 12 42 38.0 -1.4**
BHJ Bhuj 46.74 282 *e*P **P 12 42 44.6 +1.0**
BHJ AMb AMB 12 42 51.3
comp=Z,486nm,1.3s,mb6.3
ASAR Alice Springs 47.26 163 P **P 12 42 46.1 -1.5**
comp=Z,82nm,0.8s,mb5.7,baz=344,slow=6.9,SNR=19
ASAR ScP ScP 12 48 11.7 +1.4
comp=Z,10nm,0.9s,baz=336,slow=3.2,SNR=2.9
ASAR S **S 12 49 42.1 +3.3**
comp=Z,21nm,1.0s,baz=350,slow=13,SNR=4.8
ASAR ScS ScS 12 52 40.9 +1.4
comp=Z,3.9nm,0.9s,baz=348,slow=7.7,SNR=4.7
ASAR PKKP 13 05 47.0
comp=Z,4.6nm,0.9s,baz=118,slow=2.3,SNR=4.6
ASAR PKPPKP 13 13 54.5
comp=Z,5.5nm,0.8s,baz=120,slow=2.7,SNR=12
ASAR PKP2ab 13 15 06.3
comp=Z,6.3nm,1.0s,baz=157,slow=3.3,SNR=4.5
ASAR Alice Springs 47.26 163 P **P 12 42 46.1 -1.5**
ASAR S **S 12 49 42.2 +3.4**
ASAR 12 52 40.9
CTA Charters Tower 48.84 147⇓ *i*P **P 12 42 59.0 -0.9**
comp=Z,805nm,1.4s,mb6.6
CTA *e*S **S 12 50 00.6 -0.7**
CTA Charters Tower 48.84 147 LR LR 13 02 16.4
comp=Z,217μm,20.9s,MS7.1,baz=330,slow=34
CTA PKKP 13 05 38.4
comp=Z,4.9nm,1.0s,baz=92,slow=4.5,SNR=3.9
CTA Charters Tower 48.84 147⇓ *i*P **P 12 42 59.0 -0.9**
CTA *e*S **S 12 50 00.6 -0.7**
CTA pmax pmax
comp=Z,805nm,1.4s
CTAO Charters Tower 48.84 147 *e*P **P 12 42 59.3 -0.6**
CTAO MLR MLR
comp=Z,208μm,20.0s,MS7.1
BVAR Borovoye Array 48.96 322 P **P 12 43 00.5 -0.3**
comp=Z,173nm,0.6s,mb6.3,baz=103,slow=7.3,SNR=53
BVAR ScP ScP 12 48 25.6 +8.2
comp=Z,14nm,0.9s,baz=65,slow=4.2,SNR=2.9
BRVK Borovoye 49.03 322 *e*P **P 12 43 01.4 +0.1**
HNR Honiara 49.74 125 LR LR 13 00 59.2
comp=Z,114μm,19.7s,MS6.9,baz=356,slow=32
HNR Honiara 49.74 125 *e*P **P 12 43 07.2 +0.5**
comp=Z,3μm,1.4s,mb7.1
HNR LR LR
comp=Z,116μm,20.0s,MS6.9
TIXI Tiksi 49.87 3 *e*P **P 12 43 05.5 -2.2**
TIXI *e*S **S 12 50 14.4 -1.3**
TIXI pmax pmax
comp=Z,16μm,4.1s
TIXI pmax pmax
comp=Z,932nm,1.0s,mb6.8
TIXI pmax pmax
comp=N,468nm,1.5s
TIXI pmax pmax
comp=E,143nm,0.9s
TIXI MLR MLR
comp=N,224μm,18.0s,MS7.3
TIXI MLR MLR
comp=Z,326μm,18.0s,MS7.4
TIXI MLR MLR
comp=E,73μm,15.0s,MS7.3
TIXI Tiksi 49.87 3⇑ *e*P **P 12 43 06.4 -1.3**
TIXI LR LR
comp=Z,657μm,19.0s,MS7.7
SMY Shemya 50.88 39 *e*P **P 12 43 16.7 +1.3**
comp=Z,1μm,1.3s,mb6.7
FORT Forrest 53.01 172 *e*P **P 12 43 29.6 -1.6**
comp=Z,976nm,0.8s,mb6.8
FORT *e*S **S 12 51 00.3 +1.4**
KLBR Kellerberrin 53.38 183 *e*P **P 12 43 31.6 -2.4**
comp=Z,554nm,0.7s,mb6.6
KLBR *e*S **S 12 51 04.3 +0.3**
AMKA Amchitka 53.72 42 *e*P **P 12 43 36.0 -0.4**
MUN Mundaring 53.86 185⇓ *i*P **P 12 43 35.1 -2.4**
MUN *e*S **S 12 51 11.8 +1.3**
BILL Bilibino 53.92 19*c i*P **P 12 43 36.0 -1.9**
BILL *i* pP 12 43 44.2 -2.9
BILL *i* S **S 12 51 10.6 -0.7**
BILL pmax pmax
comp=Z,434nm,1.2s,mb6.3
BILL MLR MLR
comp=Z,182μm,18.0s,MS7.2
BILL Bilibino 53.92 19 *e*P **P 12 43 35.0 -2.9**
BILL LR LR
comp=Z,454μm,20.0s,MS7.5
NWAO Narrogin (SRO) 54.74 183 *e*P **P 12 43 42.6 -1.2**
comp=Z,702nm,0.9s,mb6.7
NWAO LR LR
comp=Z,45μm,22.0s,MS6.5

Code	Station	Dist	Azi	Phase	ISC	Time	Res
ABKT	**Ailbek**	**55.36**	**302**	P	**P**	**12 43 50.2**	**+1.9**
	comp=Z,2µm,0.8s,mb7.2,SNR=15						
AKTK	**Aktyubinsk**	**55.88**	**317**	P	**P**	**12 43 52.2**	**+0.1**
AKTK				PKKP		13 05 32.5	
AKTK				⇑*e*		13 14 08.3	
AKTO	**Aktyubinsk**	**55.88**	**317**	P	**P**	**12 43 52.2**	**+0.1**
	comp=Z,145nm,0.9s,mb6.0,baz=112,slow=6.5,SNR=22						
AKTO				PKKP		13 05 32.5	
	comp=Z,1.0nm,0.6s,baz=174,slow=10,SNR=3.5						
AKTO				PKP2bc		13 14 08.3	
	comp=Z,19nm,1.2s,baz=278,slow=2.5,SNR=6.4						
MIDW	**Midway**	**56.07**	**70**	*e*P	**P**	**12 43 52.2**	**-1.2**
MIDW				LR	LR		
	comp=Z,85µm,21.0s,MS6.8						
ARU	**Arti**	**56.45**	**324**	P	**P**	**12 43 55.9**	**-0.3**
	comp=Z,4µm,1.1s,SNR=18						
ARU	**Arti**	**56.45**	**324**	⇑*i*P	**P**	**12 43 55.8**	**-0.4**
ARU				*e*		12 44 50.3	
ARU				*e*PPP		12 47 14.0	
ARU				*e*S	**S**	**12 51 48.8**	**+3.5**
ARU				pmax	pmax		
	comp=Z,871nm,1.2s,mb6.7						
ARU	**Arti**	**56.45**	**324**	*e*P	**P**	**12 43 55.1**	**-1.1**
STKA	**Stephens Creek**	**57.28**	**159**	⇓*i*P	**P**	**12 44 00.4**	**-1.6**
	comp=Z,395nm,0.9s,mb6.4						
STKA				*e*S	**S**	**12 51 53.8**	**-2.4**
STKA				*e*PKPPKP		13 13 25.4	
STKA	**Stephens Creek**	**57.28**	**159**	P	**P**	**12 44 00.5**	**-1.5**
	comp=Z,192nm,0.9s,mb6.1,baz=347,slow=12,SNR=19						
STKA				S	**S**	**12 51 59.4**	**+3.3**
	comp=Z,30nm,1.2s,baz=189,slow=21,SNR=4.1						
STKA				PKKP		13 05 35.9	
	comp=Z,7.8nm,0.9s,baz=147,slow=5.8,SNR=6.0						
STKA				LR	LR	13 08 55.5	
	comp=Z,68µm,21.4s,MS6.7,baz=335,slow=36						
ADE	**Adelaide**	**59.26**	**163**	*e*P	**P**	**12 44 15.0**	**-0.9**
ARMA	**Armidale**	**60.12**	**149**	*e*P	**P**	**12 44 21.5**	**-0.3**
ARMA				*e*S	**S**	**12 52 36.9**	**+3.9**
UNV	**Unalaska Valle**	**62.54**	**40**	*e*P	**P**	**12 44 39.1**	**+1.0**
	comp=Z,326nm,0.9s,mb6.5						
UNV				LR	LR		
	comp=Z,325µm,21.0s,MS7.5						
TNA	**Tin City**	**62.54**	**26**	*e*P	**P**	**12 44 37.4**	**-0.8**
	comp=Z,278nm,1.4s,mb6.2						
TNA				LR	LR		
	comp=Z,135µm,20.0s,MS7.1						
NOUC	**Port Laguerre**	**62.59**	**131**	*e*P	**P**	**12 44 37.0**	**-1.5**
DZM	**Mont Dzumac**	**62.67**	**131**	*e*P	**P**	**12 44 38.4**	**-0.6**
DZM	**Mont Dzumac**	**62.67**	**131**	LR	LR	13 07 48.1	
	comp=Z,138µm,21.8s,MS7.1,baz=316,slow=32						
DZM				PKP2bc		13 13 45.6	
	comp=Z,5.5nm,1.1s,baz=268,slow=16,SNR=3.2						
RIV	**Riverview**	**62.76**	**151**	*e*P	**P**	**12 44 39.5**	**-0.1**
MAK	**Makhachkala**	**63.10**	**308**	*e*P	**P**	**12 44 44.2**	**+2.3**
MAK				*e*S	**S**	**12 53 17.2**	**+6.4**
MAK				pmax	pmax		
	comp=Z,766nm,2.6s,mb6.4						
MAK				pmax	pmax		
	comp=N,538nm,1.4s						
MAK				pmax	pmax		
	comp=E,341nm,1.2s						
MAK				smax			
	comp=E,12µm,6.3s						
MAK				smax			
	comp=N,65µm,11.3s						
CNB	**Canberra Magne**	**63.26**	**154**	*e*P	**P**	**12 44 42.0**	**-0.9**
	comp=N,679nm,0.8s,mb6.8						
FALS	**False Pass**	**64.33**	**39**	*e*P	**P**	**12 44 50.9**	**+0.9**
KBD	**Kabd**	**65.12**	**293**	*e*P	**P**	**12 44 54.4**	**-0.7**
KBD				AMb	AMB	12 45 13.0	
	comp=Z,2µm,1.5s,mb7.0						
MIB	**Mutribah**	**65.29**	**294**	*e*P	**P**	**12 44 55.4**	**-0.8**
MIB				AMb	AMB	12 45 02.5	
	comp=Z,481nm,0.7s,mb6.6						
RDF	**Al-Radifah**	**65.30**	**293**	*e*P	**P**	**12 44 56.0**	**-0.3**
RDF				AMb	AMB	12 45 20.4	
	comp=Z,799nm,0.7s,mb6.9						
NAY	**Al-Naaiem**	**65.49**	**293**	*e*P	**P**	**12 44 56.7**	**-0.8**
NAY				AMb	AMB	12 45 03.7	
	comp=Z,243nm,0.6s,mb6.4						
SDPT	**Sand Point**	**65.98**	**38**	*e*P	**P**	**12 44 58.1**	**-2.6**
	comp=Z,116nm,0.7s,mb6.0						
GOF	**Gofitskoye**	**66.06**	**311**	⇓*i*P	**P**	**12 45 07.5**	**+6.3**
GOF				*i* S	S	12 54 04.0	+17
GOF				pmax	pmax		
	comp=Z,520nm,1.1s,mb6.5						
VRHR	**Novokhopersk**	**66.28**	**317**	*e*P	**P**	**12 45 01.4**	**-1.2**
VRHR				*e*S	S	12 53 53.2	+3.3
VRHR				pmax	pmax		
	comp=E,220nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,340nm,0.6s,mb6.5						
VRHR				pmax	pmax		
	comp=N,50nm,0.4s						
VRHR				smax			
	comp=N,29µm,12.9s						
VRHR				smax			
	comp=Z,8µm,10.8s						
VRHR				smax			
	comp=E,17µm,17.3s						
CLDR	**Caldiran**	**66.30**	**304**	*e*P	**P**	**12 44 59.7**	**-3.1**
KIV	**Kislovodsk**	**66.46**	**310**	*e*P	**P**	**12 45 04.4**	**+0.6**
KIV	**Kislovodsk**	**66.46**	**310**	*e*P	**P**	**12 45 04.4**	**+0.6**
DIGO	**Kars**	**66.50**	**306**	*i* P	**P**	**12 45 07.6**	**+3.6**
KARS	**Kars**	**66.68**	**306**	*e*P	**P**	**12 45 02.2**	**-3.0**
HKR	**Hakkari**	**66.71**	**303**	*e*P	**P**	**12 45 04.7**	**-0.7**
HAKT	**HAKKARI**	**66.74**	**303**	*i* P	**P**	**12 45 09.5**	**+4.0**
TVAN	**Van**	**66.80**	**304**	*i* P	**P**	**12 45 11.0**	**+5.1**
VANB	**Van**	**66.80**	**304**	*e*P	**P**	**12 45 06.6**	**+0.6**
CUKT	**Cukurca**	**66.88**	**302**	*e*P	**P**	**12 45 06.8**	**+0.3**
AGRB	**Hanur-Agry**	**66.94**	**305**	*e*P	**P**	**12 45 02.6**	**-4.2**
BHD	**Baghdad**	**67.04**	**298**	*i* x	x	12 45 08.5	
BHD				*i* x	x	12 53 56.0	
CHGN	**Chignik**	**67.06**	**37**	*e*P	**P**	**12 45 05.4**	**-2.2**
ARTV	**Artvin**	**67.45**	**307**	*i* P	**P**	**12 45 12.2**	**+2.0**
MSL	**Mosul**	**67.47**	**301**	*i* x	x	12 45 13.0	
MSL				*i* x	x	12 54 10.0	
MSL				*i* x	x	12 54 32.5	
TTA	**Tatalina**	**67.68**	**29**	*e*P	**P**	**12 45 10.4**	**-1.1**
TTA	**Tatalina**	**67.68**	**29**	*e*P	**P**	**12 45 10.5**	**-1.0**
SVW2	**Sparrevohn**	**68.06**	**31**	*e*P	**P**	**12 45 13.6**	**-0.3**
ERZM	**Erzurum**	**68.11**	**305**	*i* P	**P**	**12 45 15.9**	**+1.7**
EZM	**Erzurum**	**68.11**	**305**	*e*P	**P**	**12 45 14.3**	**+0.1**
MOS	**Moscow**	**68.12**	**323**	*e*P	**P**	**12 45 14.7**	**+0.4**
MOS				*e*		12 45 38.2	
MOS				*e*		12 47 49.2	
MOS				*e*S	S	12 54 15.9	+3.8
MOS				pmax	pmax		
	comp=Z,682nm,1.5s,mb6.5						
MOS	**Moscow**	**68.12**	**323**	*e*P	**P**	**12 45 14.6**	**+0.3**
LVZ	**Lovozero**	**68.25**	**336**	P	**P**	**12 45 18.5**	**+3.4**
	comp=Z,1µm,1.2s,mb6.8,SNR=5.3						
LVZ	**Lovozero**	**68.25**	**336**	⇑*e*P	**P**	**12 45 15.1**	**0.0**
BTMT	**Batman**	**68.35**	**304**	*e*P	**P**	**12 45 15.0**	**-0.8**
IMA2	**Indian Mountai**	**68.40**	**26**	*e*P	**P**	**12 45 15.2**	**-0.9**
BNGL	**BINGOL**	**68.46**	**305**	*i* P	**P**	**12 45 17.1**	**+0.7**
SOC	**Sochi**	**68.64**	**310**	*c i*P	**P**	**12 45 20.4**	**+2.8**
SOC				*e*		12 45 47.4	
SOC				*e*		12 47 56.3	
SOC				*e*S	S	12 54 22.6	+4.3
SOC				pmax	pmax		
	comp=Z,307nm,1.0s,mb6.2						
SOC	**Sochi**	**68.64**	**310**	*i* P	**P**	**12 45 19.9**	**+2.3**
APA	**Apatity**	**68.75**	**336**	⇓*i*P	**P**	**12 45 16.5**	**-1.7**
APA				*e*S	S	12 54 16.0	-3.6
APA				pmax	pmax		
	comp=Z,500nm,1.2s,mb6.3						
APA				pmax	pmax		
	comp=Z,20µm,13.0s						
APA				MLR	MLR		
	comp=Z,160µm,20.0s,MS7.2						
OBN	**Obninsk**	**68.80**	**322**	*e*P	**P**	**12 45 17.9**	**-0.7**
OBN				*i*	pP	12 45 25.7	-2.3
OBN				*e*		12 45 41.8	
OBN				*i*		12 47 59.5	
OBN				*e*S		12 54 43.0	
OBN				pmax	pmax		
	comp=Z,544nm,1.2s,mb6.4						
OBN				MLR	MLR		
	comp=Z,118µm,19.0s,MS7.1						
OBN	**Obninsk**	**68.80**	**322**	*e*P	**P**	**12 45 19.1**	**+0.5**
MSEY	**Mahe Island**	**68.88**	**256**	P	**P**	**12 45 19.2**	**+0.2**
	comp=Z,1µm,1.0s,mb6.7,SNR=5.8						
MSEY	**Mahe Island**	**68.88**	**256**	*e*P	**P**	**12 45 19.0**	**0.0**

Code	Station	Dist	Azi	Phase	ISC	Time	Res
	comp=Z,225nm,1.0s,mb6.0						
MARD	**Mardin**	**69.08**	**303**	*i* P	**P**	**12 45 20.6**	**+0.4**
KTUT	**Trabzon**	**69.10**	**307**	*e*P	**P**	**12 45 18.5**	**-1.9**
MACK	**Trabzon**	**69.10**	**307**	*i* P	**P**	**12 45 17.9**	**-2.5**
TAU	**Tasmania Unive**	**69.18**	**159**	P	**P**	**12 45 20.1**	**-0.8**
	comp=Z,3µm,1.3s,mb7.1,SNR=9.5						
TAU	**Tasmania Unive**	**69.18**	**159**	*e*P	**P**	**12 45 21.0**	**+0.1**
TAU				pmax	pmax		
	comp=Z,4µm,1.8s,mb7.1						
TAU	**Tasmania Unive**	**69.18**	**159**	*e*P	**P**	**12 45 21.0**	**+0.1**
	comp=Z,4µm,1.8s,mb7.1						
EZC	**Erzincan**	**69.31**	**306**	*e*P	**P**	**12 45 24.6**	**+2.9**
DIY	**Diyarbakir**	**69.38**	**304**	*e*P	**P**	**12 45 22.3**	**+0.1**
GUMT	**Gumushane**	**69.42**	**306**	*e*P	**P**	**12 45 22.7**	**+0.4**
KELT	**Kelkit**	**69.65**	**306**	*i* P	**P**	**12 45 28.1**	**+4.3**
PTK	**Pertek**	**69.81**	**305**	*e*P	**P**	**12 45 23.8**	**-1.0**
ANN	**Anapa**	**70.02**	**311**	*e*P	**P**	**12 45 25.6**	**-0.5**
ANN				*e*		12 45 44.3	
ANN				*e*S	S	12 54 37.2	+2.6
ANN				pmax	pmax		
	comp=Z,653nm,1.1s,mb6.5						
ELZG	**Elazig**	**70.21**	**304**	*i* P	**P**	**12 45 28.5**	**+1.2**
GRSN	**GIRESUNGRSN**	**70.22**	**307**	*i* P	**P**	**12 45 25.6**	**-1.7**
JOF	**Joensuu**	**70.27**	**331**	*e*p	**P**	**12 45 26.4**	**-1.2**
	comp=Z,449nm,0.9s,mb6.4						
URFA	**Urfa**	**70.57**	**303**	*e*P	**P**	**12 45 29.7**	**+0.2**
MYA	**Malataya**	**70.67**	**304**	*e*P	**P**	**12 45 30.7**	**+0.6**
MALT	**Malatya**	**70.67**	**304**	⇓*i*P	**P**	**12 45 31.2**	**+1.1**
KEV	**Kevo**	**70.74**	**338**	*e*p	**P**	**12 45 29.9**	**-0.6**
	comp=Z,114nm,0.6s,mb6.0						
KEV	**Kevo**	**70.74**	**338**	*e*P	**P**	**12 45 29.9**	**-0.6**
KEV				pmax	pmax		
	comp=Z,114nm,0.6s,mb6.0						
MCK	**McKinley**	**70.74**	**28**	*e*P	**P**	**12 45 29.1**	**-1.4**
MCK				pmax	pmax		
	comp=Z,527nm,1.4s,mb6.3						
MCK				MLR	MLR		
	comp=Z,82µm,22.0s,MS6.9						
MCK	**McKinley**	**70.74**	**28**	*e*P	**P**	**12 45 29.1**	**-1.3**
	comp=Z,527nm,1.4s,mb6.3						
MCK				LR	LR		
	comp=Z,82µm,22.0s,MS6.9						
SLKM	**Skilak Lake**	**70.74**	**32**	*e*P	**P**	**12 45 30.6**	**+0.1**
ATAB	**Bozova**	**70.97**	**304**	*i* P	**P**	**12 45 32.6**	**+0.7**
COLA	**College**	**70.99**	**27**	*e*P	**P**	**12 45 30.9**	**-1.1**
COLA				MLR	MLR		
	comp=Z,147µm,20.0s,MS7.2						
PMR	**Palmer**	**71.06**	**30**	*e*P	**P**	**12 45 29.9**	**-2.5**
PMR					pP	12 45 39.2	-2.7
PMR				pmax	pmax		
	comp=Z,390nm,1.1s,mb6.2						
PMR	**Palmer**	**71.06**	**30**	*e*P	**P**	**12 45 30.7**	**-1.7**
	comp=Z,122nm,0.6s,mb6.0						
ARCES	**ARCESS Array B**	**71.30**	**338**	P	**P**	**12 45 33.3**	**-0.6**
	comp=Z,28nm,0.5s,mb5.4,baz=73,slow=4.9,SNR=23						
ARCES				LR	LR	13 16 12.6	
	comp=Z,194µm,20.8s,MS7.3,baz=67,slow=35						
ARE0	**ARCESS Array S**	**71.30**	**338**	*e*P	**P**	**12 45 34.1**	**+0.2**
PUL	**Pulkovo**	**71.33**	**328**	⇑*e*P	**P**	**12 45 34.5**	**+0.5**
SML	**Sawmill**	**71.39**	**30**	*e*P	**P**	**12 45 33.1**	**-1.3**
SML	**Sawmill**	**71.39**	**30**	*e*P	**P**	**12 45 33.4**	**-1.0**
SVSK	**Karacayir**	**71.39**	**306**	*e*P	**P**	**12 45 35.4**	**+1.0**
SPB4	**Spitsbergen Ar**	**71.45**	**348**	*e*P	**P**	**12 45 34.4**	**-0.3**
GZT	**Gaziantep**	**71.56**	**304**	*i* P	**P**	**12 45 36.5**	**+1.0**
TOKT	**Tokat**	**71.63**	**307**	*e*P	**P**	**12 45 35.1**	**-0.8**
KVT	**Kavak**	**71.82**	**308**	*e*P	**P**	**12 45 35.5**	**-1.5**
GAZ	**Gaziantep**	**71.88**	**303**	*e*P	**P**	**12 45 36.1**	**-1.3**
KBS	**Kingsbay**	**72.01**	**349**	*e*P	**P**	**12 45 38.1**	**-0.1**
KBS				pmax	pmax		
	comp=Z,220nm,1.1s,mb6.0						
KBS				MLR	MLR		
	comp=Z,473µm,19.0s,MS7.8						
KBS	**Kingsbay**	**72.01**	**349**	*e*P	**P**	**12 45 38.1**	**-0.1**
	comp=Z,220nm,1.1s,mb6.0						
KBS				LR	LR		
	comp=Z,473µm,19.0s,MS7.8						
KMRS	**Kahramanmaras**	**72.04**	**304**	*e*P	**P**	**12 45 35.4**	**-3.0**
KTK1	**Kautokeino**	**72.20**	**338**	*e*P	**P**	**12 45 39.5**	**+0.2**
KTK1				AMb	AMB	12 46 05.0	
	comp=Z,616nm,1.7s,mb6.2						
KTK1	**Kautokeino**	**72.20**	**338**	*e*P	**P**	**12 45 41.5**	**+2.2**
	comp=Z,616nm,1.7s,mb6.3						
DIKM	**Dikmen**	**72.27**	**308**	*e*P	**P**	**12 45 34.2**	**-5.4**
SIM	**Simferopol'**	**72.29**	**312**	*e*P	**P**	**12 45 39.5**	**-0.3**
SIM				*e*S	S	12 55 01.0	+0.1
SIM				pmax	pmax		
	comp=Z,341nm,1.0s,mb6.2						
BNN	**Bunyan**	**72.51**	**305**	*e*P	**P**	**12 45 40.8**	**-0.4**
BOYT	**Boyabat**	**72.58**	**308**	*i* P	**P**	**12 45 40.8**	**-0.8**
KAF	**Kangasniemi**	**72.71**	**331**	*e*p	**P**	**12 45 41.4**	**-0.9**
	comp=Z,355nm,1.1s,mb6.2,baz=70,slow=5.3						
KAF	**Kangasniemi**	**72.71**	**331**	*e*P	**P**	**12 45 41.4**	**-0.9**
KAF				pmax	pmax		
	comp=Z,355nm,1.1s,mb6.2						
YOZ	**Yozgat**	**72.71**	**306**	*e*P	**P**	**12 45 39.8**	**-2.5**
COBT	**Iskenderun**	**72.79**	**303**	*i* P	**P**	**12 45 43.2**	**+0.5**
CTKT	**Corum**	**72.86**	**307**	*i* P	**P**	**12 45 43.6**	**+0.4**
KOZT	**Kozan**	**72.87**	**304**	*e*P	**P**	**12 45 44.1**	**+0.8**
EYAK	**Cordova Ski Ar**	**72.89**	**31**	*e*P	**P**	**12 45 43.1**	**-0.3**
FIA1	**FINESS Array S**	**72.98**	**330**	*e*P	**P**	**12 45 43.4**	**-0.6**
HTY	**Hatay**	**72.98**	**303**	*e*P	**P**	**12 45 43.1**	**-0.9**
FINES	**FINESS Array B**	**72.98**	**330**	P	**P**	**12 45 42.9**	**-1.0**
	comp=Z,161nm,0.9s,mb6.0,baz=87,slow=6.5,SNR=28						
CEYT	**Ceyhan**	**73.05**	**304**	*e*P	**P**	**12 45 42.6**	**-1.8**
CORM	**Corum**	**73.09**	**307**	*e*P	**P**	**12 45 35.5**	**-9.0**
MENT	**Mentasta**	**73.21**	**28**	*e*P	**P**	**12 45 44.4**	**-0.9**
AVNT	**Avonos**	**73.28**	**306**	*i* P	**P**	**12 45 45.8**	**+0.1**
TOS	**Tosya**	**73.32**	**308**	*e*P	**P**	**12 45 46.2**	**+0.2**
ASF	**Jabal al Asfar**	**73.42**	**298**	P	**P**	**12 45 47.2**	**+0.6**
	comp=Z,91nm,0.9s,mb5.7,baz=271,slow=1.3,SNR=17						
ASF				S	S	12 55 22.6	+8.8
	comp=Z,1.2nm,0.4s,baz=177,slow=21,SNR=2.4						
CDAG	**Cicekdag**	**73.42**	**306**	*i* P	**P**	**12 45 46.9**	**+0.3**
TRO	**Tromso**	**73.49**	**339**	*e*P	**P**	**12 45 46.3**	**-0.6**
TRO				AMb	AMB	12 46 08.2	
	comp=Z,454nm,1.8s,mb6.1						
TRO	**Tromso**	**73.49**	**339**	*e*P	**P**	**12 45 46.3**	**-0.6**
	comp=Z,454nm,1.8s,mb6.1						
KARA	**Karaisali**	**73.52**	**304**	*e*P	**P**	**12 45 45.3**	**-1.9**
BALT	**Daday**	**73.65**	**309**	*i* P	**P**	**12 45 48.6**	**+0.7**
EGAK	**Eagle**	**73.78**	**26**	*e*P	**P**	**12 45 47.1**	**-1.5**
	comp=Z,230nm,1.0s,mb6.1						
EGAK				LR	LR		
	comp=Z,134µm,22.0s,MS7.2						
ELDT	**Eldivan**	**73.90**	**308**	*i* P	**P**	**12 45 48.8**	**-0.6**
BR131	**Keskin Array S**	**73.94**	**307**	*e*P	**P**	**12 45 50.3**	**+0.7**
BR131				LR	LR		
	comp=Z,35µm,20.0s,MS6.6						
BRTR	**Keskin Array B**	**73.94**	**307**	P	**P**	**12 45 49.4**	**-0.2**
	comp=Z,117nm,0.9s,mb5.8,baz=114,slow=3.2,SNR=40						
BRTR				PKKPbc	PKKPbc	13 05 25.9	+4.6
	comp=Z,1.4nm,0.8s,baz=238,slow=4.2,SNR=2.9						
BRTR				PKPPKP		13 13 27.1	
	comp=Z,0.4nm,0.5s,baz=300,slow=37,SNR=2.5						
KAMT	**Kaman**	**73.98**	**306**	*e*P	**P**	**12 45 48.7**	**-1.1**
AKASG	**Malin Array Be**	**74.06**	**319**	P	**P**	**12 45 49.1**	**-1.2**
	comp=Z,46nm,0.5s,mb5.6,baz=60,slow=6.1,SNR=30						
AKASG				PKKPbc	PKKPbc	13 05 26.9	+5.8
	comp=Z,2.6nm,0.9s,baz=261,slow=2.6,SNR=6.9						
AKASG				PKPPKP		13 13 23.6	
	comp=Z,0.2nm,0.2s,baz=261,slow=2.5,SNR=4.0						
AKBB	**Malin Array Si**	**74.06**	**319**	*e*P	**P**	**12 45 49.1**	**-1.2**
AKBB	**Malin Array Si**	**74.06**	**319**	*e*P	**P**	**12 45 49.0**	**-1.3**
SAFT	**Safranbolu**	**74.24**	**308**	*e*P	**P**	**12 45 49.0**	**-2.4**
IDID	**Didziasalis**	**74.26**	**324**	*e*P	**P**	**12 45 51.2**	**-0.3**
IDID				AMb	AMB	12 45 58.0	
	comp=Z,7µm,0.7s						
MMAI	**Mount Meron Ar**	**74.40**	**300**	P	**P**	**12 45 51.8**	**-0.5**
	comp=Z,29nm,0.8s,baz=72,slow=9.1,SNR=11						
IZAR	**Zarasai**	**74.41**	**324**	*e*P	**P**	**12 45 51.9**	**-0.4**
IZAR				AMb	AMB	12 45 58.3	
	comp=Z,5µm,0.7s						
ANTO	**Ankara**	**74.53**	**307**	*e*P	**P**	**12 45 52.9**	**-0.1**
ANTO				pmax	pmax		
	comp=Z,270nm,0.9s,mb6.2						
ANTO	**Ankara**	**74.53**	**307**	*e*P	**P**	**12 45 49.9**	**-3.2**
ANTO				*e*P		12 45 53.1	
ANTO				LR	LR		
	comp=Z,82µm,22.0s,MS7.0						
ANTO	**Ankara**	**74.53**	**307**	⇓*i*P	**P**	**12 45 53.6**	**+0.6**
IIGN	**Ignalina**	**74.54**	**324**	*e*P	**P**	**12 45 52.7**	**-0.4**
IIGN				AMb	AMB	12 45 57.5	
	comp=Z,3µm,1.1s,mb7.2						
KIP	**Kipapa**	**74.73**	**73**	*e*P	**P**	**12 45 54.2**	**0.0**

Code	Station	Dist	Azi	Phase	ISC	Time	Res
KIP				pmax	pmax		
	comp=Z,280nm,1.0s,mb6.2						
KIP	**Kipapa**	**74.73**	**73**	*e*P	**P**	**12 45 54.4**	**+0.2**
	comp=Z,278nm,1.0s,mb6.1						
KIP				LR	LR		
	comp=Z,62µm,20.0s,MS6.9						
IKL	**Isikli**	**74.86**	**303**	*e*P	**P**	**12 45 49.8**	**-5.1**
PHNC	**Paralimni**	**74.94**	**302**	P	**P**	**12 45 59.7**	**+4.3**
	comp=Z,2.7nm,0.9s						
KIS	**Kishinev**	**75.33**	**315**	*e*P	**P**	**12 45 55.0**	**-2.6**
KIS				*i*		12 46 15.0	
AFI	**Afiamalu**	**75.38**	**112**	P	**P**	**12 45 58.0**	**+0.1**
AFI				pmax	pmax		
	comp=Z,1µm,1.3s,mb6.6						
AFI	**Afiamalu**	**75.38**	**112**	*e*P	**P**	**12 45 58.4**	**+0.5**
	comp=Z,1µm,1.4s,mb6.6						
AFI				LR	LR		
	comp=Z,60µm,22.0s,MS6.8						
INK	**Inuvik**	**75.45**	**22**	P	**P**	**12 45 57.4**	**-1.0**
	comp=Z,164nm,0.8s,mb6.0,baz=299,slow=6.5,SNR=35						
INK	**Inuvik**	**75.45**	**22**	*e*P	**P**	**12 45 56.2**	**-2.1**
KIZT	**Kizilcal**	**75.49**	**306**	*e*P	**P**	**12 45 56.6**	**-1.9**
CSS	**Prodhromos**	**75.50**	**302**	*e*P	**P**	**12 45 58.0**	**-0.6**
MDU	**Mudurnu**	**75.53**	**308**	*e*P	**P**	**12 45 57.1**	**-1.7**
MAMC	**Mammari**	**75.53**	**302**	P	**P**	**12 45 59.7**	**+0.9**
HDMB	**Hadim**	**75.58**	**304**	*e*P	**P**	**12 46 00.8**	**+1.7**
ALE	**Alert**	**75.64**	**0**	P	**P**	**12 46 00.0**	**+0.6**
	comp=Z,1µm,2.1s,mb6.4,SNR=18						
HENT	**Hendek**	**75.65**	**308**	*i* P	**P**	**12 45 59.2**	**-0.3**
EIL	**Elat**	**75.74**	**296**	*e*P	**P**	**12 46 00.5**	**+0.5**
LOF	**Lofoten**	**75.86**	**338**	*e*	**P**	**12 46 05.3**	**+4.7**
SZAC	**Souni-Zanaja**	**75.91**	**302**	P	**P**	**12 46 01.1**	**+0.1**
ALFC	**Alevga**	**76.02**	**302**	P	**P**	**12 46 00.9**	**-0.7**
	comp=Z,5.4nm,0.9s						
ESKT	**Eskisehir**	**76.07**	**307**	*e*P	**P**	**12 45 58.8**	**-3.1**
ESKT	**Eskisehir**	**76.07**	**307**	*i* P	**P**	**12 46 01.2**	**-0.7**
GPA	**Golpazari**	**76.24**	**308**	*e*P	**P**	**12 46 01.4**	**-1.4**
PPCY	**Paphos**	**76.30**	**302**	P	**P**	**12 46 03.9**	**+0.7**
MOR8	**Moi Rana**	**76.32**	**336**	*e*P	**P**	**12 46 02.5**	**-0.8**
MOR8				AMb	AMB	12 46 24.5	
	comp=Z,407nm,1.9s,mb6.0						
MOR8	**Moi Rana**	**76.32**	**336**	*e*P	**P**	**12 46 03.2**	**-0.1**
	comp=Z,407nm,1.9s,mb6.0						
TIRR	**Tirgusor**	**76.34**	**313**	*e*P	**P**	**12 46 03.0**	**-0.4**
TIRR				pmax	pmax		
	comp=Z,192nm,1.0s,mb6.0						
TIRR	**Tirgusor**	**76.34**	**313**	*e*P	**P**	**12 46 03.0**	**-0.4**
	comp=Z,192nm,1.0s,mb6.0						
TIRR	**Tirgusor**	**76.34**	**313**	⇑*i*P	**P**	**12 46 03.5**	**+0.1**
SHUT	**Suhut-Afyon**	**76.58**	**306**	*e*P	**P**	**12 45 59.7**	**-5.0**
ADVT	**Abdulvahap**	**76.61**	**308**	*e*P	**P**	**12 46 01.3**	**-3.7**
SUW	**Suwalki**	**76.63**	**323**	*e*P	**P**	**12 46 04.0**	**-1.0**
SUW				*e*pP	pP	12 46 06.6	-8.0
SUW				L		13 17 20.2	
	comp=Z,179nm,21.0s						
SUW	**Suwalki**	**76.63**	**323**	*e*P	**P**	**12 46 04.0**	**-1.0**
SUW				*e*pP	pP	12 46 06.6	-8.0
PSN	**Preselentsi**	**76.73**	**312**	*i* P	**P**	**12 46 07.0**	**+1.4**
ALT	**Altintas**	**76.75**	**307**	*e*P	**P**	**12 46 03.6**	**-2.2**
ISP	**Isparta**	**76.82**	**306**	*e*P	**P**	**12 46 03.0**	**-3.2**
ISP				P		12 46 07.4	
ISP	**Isparta**	**76.82**	**306**	⇓*i*P	**P**	**12 46 07.4**	**+1.3**
YLV	**Yalova**	**76.84**	**309**	*e*P	**P**	**12 46 00.1**	**-6.1**
TKTP	**Tekketepe**	**76.91**	**306**	*i* P	**P**	**12 46 05.7**	**-0.9**
ISK	**Istanbul-Kandi**	**76.91**	**309**	*e*P	**P**	**12 46 07.2**	**+0.6**
WCZ	**Waipu Caves**	**76.92**	**138**	P*	**P**	**12 46 06.9**	**+0.2**
ANTB	**Antalya**	**77.00**	**305**	*e*P	**P**	**12 46 02.3**	**-4.8**
GEMT	**Gemlik**	**77.01**	**308**	*e*P	**P**	**12 46 02.9**	**-4.3**
VRI	**Vrincioaia**	**77.05**	**314**	⇓*i*P	**P**	**12 46 08.3**	**+0.9**
ULDT	**Uludag**	**77.14**	**308**	*i* P	**P**	**12 46 08.0**	**+0.1**
GDZ	**Gediz**	**77.21**	**307**	*i* P	**P**	**12 46 06.8**	**-1.5**
ELBA	**Catalca**	**77.34**	**309**	*i* P	**P**	**12 46 07.6**	**-1.4**
PRD	**Provadia**	**77.43**	**312**	*i* P	**P**	**12 46 08.7**	**-0.8**
POHA	**Pohakuloa**	**77.46**	**74**	*e*P	**P**	**12 46 11.1**	**+1.4**
POHA				LR	LR		
	comp=Z,80µm,21.0s,MS7.0						
BURAR	**Bucovina Array**	**77.48**	**316**	⇑*i*P	**P**	**12 46 10.1**	**+0.3**
LVV	**L'vov**	**77.50**	**319**	*i* P	**P**	**12 46 12.8**	**+2.9**
LVV				*e*		12 46 27.5	
LVV				*e*S	S	12 56 01.1	+2.1
LVV				*e*		12 56 42.1	
KHU	**Kahuku**	**77.55**	**74**	*e*P	**P**	**12 46 10.9**	**+0.7**
KHU				*e*	pP	12 46 21.6	+1.8
ELL	**Elmali**	**77.61**	**305**	*e*P	**P**	**12 46 12.8**	**+2.2**
GOLH	**Golhisar**	**77.73**	**305**	*i* P	**P**	**12 46 10.6**	**-0.6**
DENT	**Denizli**	**77.96**	**306**	*e*P	**P**	**12 46 12.1**	**-0.4**
BTOK	**Tokmak**	**78.07**	**308**	*i* P	**P**	**12 46 13.2**	**+0.2**
SKAG	**Skagway**	**78.19**	**30**	*e*P	**P**	**12 46 13.5**	**-0.3**
	comp=Z,426nm,0.9s,mb6.4						
JMB	**Yambol**	**78.23**	**311**	*e*P	**P**	**12 46 14.1**	**+0.1**
KUZ	**Kuaotunu**	**78.29**	**138**	P*	**P**	**12 46 12.4**	**-1.9**
VOIR		**78.30**	**314**	⇓*i*P	**P**	**12 46 14.2**	**-0.2**
KWP	**Kalwaria**	**78.37**	**319**	*e*P	**P**	**12 46 14.9**	**+0.1**
KWP				*e*pP	pP	12 46 18.4	-6.0
KWP				L		13 18 29.1	
	comp=Z,174nm,21.6s						
KWP	**Kalwaria**	**78.37**	**319**	*e*P	**P**	**12 46 14.9**	**+0.1**
KWP				*e**PP	pP	12 46 18.4	-6.0
KWP	**Kalwaria**	**78.37**	**319**	*e*P	**P**	**12 46 14.9**	**+0.1**
KWP				*e*pP	pP	12 46 18.4	-6.0
SART	**Tekirdag**	**78.38**	**309**	*i* P	**P**	**12 46 17.8**	**+3.0**
RKY	**Sarkoy-Tekirda**	**78.39**	**309**	*e*P	**P**	**12 46 06.2**	**-8.7**
DAG	**Danmarks Havn**	**78.39**	**351**	⇑*i*P	**P**	**12 46 11.4**	**-3.5**
	comp=Z,281nm,1.2s,mb6.1						
DAG	**Danmarks Havn**	**78.39**	**351**	⇑*e*P	**P**	**12 46 11.4**	**-3.5**
DAG				pmax	pmax		
	comp=Z,280nm,1.2s,mb6.1						
SZH	**Strazhica**	**78.42**	**312**	*i* P	**P**	**12 46 13.8**	**-1.2**
WAR	**Warsaw**	**78.45**	**322**	*e*P	**P**	**12 46 18.4**	**+3.2**
AKS	**Akhisar**	**78.51**	**307**	*e*P	**P**	**12 46 14.1**	**-1.5**
DALT	**Dalyan (Mudla)**	**78.58**	**305**	*e*P	**P**	**12 46 07.3**	**-8.6**
YER	**Yerkesik**	**78.73**	**305**	*e*P	**P**	**12 46 08.9**	**-7.8**
PVL	**Pavlikeni**	**78.85**	**312**	*i* P	**P**	**12 46 18.2**	**+0.8**
HIZ	**Hauiti**	**78.88**	**139**	P*	**P**	**12 46 14.0**	**-3.6**
KOLS	**Kolonicke sedl**	**78.88**	**318**	*e*P	**P**	**12 46 17.4**	**-0.2**
KOLS				*e*		12 49 22.4	
UZH	**Uzhgorod**	**78.98**	**318**	⇓*i*P	**P**	**12 46 18.0**	**-0.1**
UZH				*i*		12 46 24.7	
UZH				*i*		12 46 33.0	
QRZ	**Quartz Range**	**79.03**	**142**	P*	**P**	**12 46 17.0**	**-1.4**
MLSB	**Milas**	**79.06**	**306**	*e*P	**P**	**12 46 15.4**	**-3.2**
KDAG	**Bornova**	**79.07**	**307**	*i* P	**P**	**12 46 15.9**	**-2.7**
ENEZ	**Enez**	**79.11**	**310**	*e*P	**P**	**12 46 15.1**	**-3.7**
ALN	**Alexandroupoli**	**79.13**	**310**	*e*P	**P**	**12 46 18.0**	**-0.9**
ARG	**Arkhangelos**	**79.15**	**305**	*e*P	**P**	**12 46 21.6**	**+2.6**
SIT	**Sitka**	**79.15**	**33**	*e*P	**P**	**12 46 18.9**	**-0.2**
SIT				*e*	pP	12 46 29.3	+0.7
SIT				pmax	pmax		
	comp=Z,510nm,1.0s,mb6.4						
SIT				MLR	MLR		
	comp=Z,143µm,22.0s,MS7.3						
SIT	**Sitka**	**79.15**	**33**	*e*P	**P**	**12 46 18.9**	**-0.1**
	comp=Z,510nm,1.0s,mb6.4						
SIT				*e*PcP	PcP	12 46 29.3	+1.9
SIT				LR	LR		
	comp=Z,143µm,22.0s,MS7.3						
AYVA	**Ayvalik**	**79.19**	**308**	*i* P	**P**	**12 46 18.5**	**-0.8**
VRZ	**Vera Road**	**79.21**	**140**	P*	**P**	**12 46 19.2**	**-0.2**
BLCB	**Balcova**	**79.24**	**307**	*e*P	**P**	**12 46 21.0**	**+1.4**
BLCB	**Balcova**	**79.24**	**307**	*e*P	**P**	**12 46 22.3**	**+2.8**
KDZ	**Kurdzhali**	**79.32**	**311**	*i* P	**P**	**12 46 22.6**	**+2.6**
STHS	**Stebnicka Huta**	**79.34**	**319**	*e*P	**P**	**12 46 20.6**	**+0.5**
STHS				pmax	pmax		
	comp=Z,133nm,1.2s,mb5.7						
STHS	**Stebnicka Huta**	**79.34**	**319**	*e*P	**P**	**12 46 20.6**	**+0.5**
	comp=Z,133nm,1.2s,mb5.8						
STHS				*e*		13 13 29.5	
BDRM	**Kayabasi**	**79.38**	**306**	*i* P	**P**	**12 46 20.2**	**-0.1**
CRVS	**Cervenica-Dubn**	**79.39**	**318**	*e*P	**P**	**12 46 21.9**	**+1.5**
CRVS				*e*S	S	12 56 34.9	+16
CRVS				*e*		12 56 39.4	
RDO	**Rodhopi**	**79.41**	**310**	*e*P	**P**	**12 46 19.8**	**-0.7**
BOZC	**Bozcaada**	**79.48**	**309**	*i* P	**P**	**12 46 20.6**	**-0.3**
PRK	**Paraskevi**	**79.52**	**308**	*e*P	**P**	**12 46 20.6**	**-0.5**
URLA	**Izmir**	**79.58**	**307**	*i* P	**P**	**12 46 19.7**	**-1.7**
SMG	**Samos**	**79.62**	**306**	*e*P	**P**	**12 46 23.4**	**+1.8**
PLD	**Plovdiv**	**79.67**	**311**	*e*P	**P**	**12 46 25.1**	**+3.2**
PLD	**Plovdiv**	**79.67**	**311**	*i* P	**P**	**12 46 23.3**	**+1.4**
WPVZ	**Whakapapa**	**79.73**	**140**	P*	**P**	**12 46 21.3**	**-1.0**
NGZ	**Ngauruhoe**	**79.75**	**140**	P*	**P**	**12 46 21.7**	**-0.6**
NNZ	**Nelson**	**79.77**	**142**	P*	**P**	**12 46 19.6**	**-2.8**
MTVZ	**Mangateitei**	**79.80**	**140**	P*	**P**	**12 46 21.5**	**-1.1**

GZR Gura Zlata 79.82 315⇓iP P 12 46 22.9 +0.2
NB2 NORSAR Subarra 79.83 332 P P 12 46 21.5 -1.2
comp=Z,294nm,1.2s,mb6.1,baz=61,slow=5.3
NOA NORSAR Array B 79.83 332 P P 12 46 21.7 -1.1
comp=Z,73nm,1.0s,mb5.6,baz=63,slow=5.3,SNR=24
NOA PP PP 12 49 28.4 +4.2
comp=Z,43nm,1.1s,baz=69,slow=7.6,SNR=3.7
NOA PKKPbc PKKPbc 13 05 13.8 +5.2
comp=Z,3.9nm,1.1s,baz=249,slow=2.3,SNR=2.8
NOA NORSAR Array B 79.83 332 P P 12 46 21.7 -1.0
NOA 12 49 28.5
NOA NORSAR Array B 79.83 332 P P 12 46 21.7 -1.1
NOA PP PP 12 49 28.4 +4.2
NOA PKKPbc PKKPbc 13 05 13.8 +5.2
WNVZ Wahianoa 79.84 140 P* P 12 46 21.6 -1.2
THZ Tophouse 79.86 143 P* P 12 46 20.3 -2.6
comp=Z,28nm,0.6s,mb5.3
PGB Panagyurishte 79.88 312 i P P 12 46 23.3 +0.3
NIE Niedzica 79.91 319 eP P 12 46 23.7 +0.5
NIE ePP PP 12 49 29.3 +4.4
OJC Ojcow 79.91 320 eP P 12 46 23.2 0.0
MOVZ Moawhango 79.98 140 P* P 12 46 21.8 -1.8
NAO01 NORSAR Array S 80.06 332 eP P 12 46 24.3 +0.3
NAO01 ePcP PcP 12 46 30.3 -1.0
NAO01 LR LR
comp=Z,413µm,20.0s,MS7.8
LIA Limnos Island 80.09 309 eP P 12 46 20.6 -3.6
URZ Urewera 80.10 138 LR LR 13 18 18.9
comp=Z,77µm,21.1s,MS7.0,baz=113,slow=33
URZ Urewera 80.10 138 P* P 12 46 22.4 -1.8
KARP Karpathos 80.11 304 eP P 12 46 21.7 -2.6
KECS Kecovo 80.15 318 eP P 12 46 24.5 0.0
KECS e 12 49 29.6
KECS eS S 12 56 30.7 +3.5
KECS pmax pmax
comp=Z,123nm,1.2s,mb5.7
KECS Kecovo 80.15 318 eP P 12 46 24.5 0.0
KECS ePP PP 12 49 29.6 +2.7
KECS e 12 49 29.8
KECS eS S 12 56 30.7 +3.5
KECS e 13 13 21.3
KECS Kecovo 80.15 318 eP P 12 46 24.5 0.0
comp=Z,123nm,1.2s,mb5.7
KECS ePP PP 12 49 29.6 +2.7
KECS e 12 49 29.8
KECS eS S 12 56 30.7 +3.5
KECS e 13 13 21.3
RPZ Rata Peaks 80.17 145 P* P 12 46 22.7 -1.9
comp=Z,159nm,0.7s,mb6.1
LBZ Lake Benmore 80.19 146 P* P 12 46 22.8 -1.8
comp=Z,82nm,0.7s,mb5.8
LTZ Lake Taylor 80.19 144 P* P 12 46 22.9 -1.9
GKP Gorka Klasztor 80.19 324 eP P 12 46 25.7 +1.0
DJES Djerdap 80.26 314⇑iP P 12 46 24.0 -1.1
DOMB Dombas 80.26 334 eP P 12 46 24.7 -0.4
DOMB AMb AMB 12 46 47.5
comp=Z,461nm,1.9s,mb6.1
DOMB Dombas 80.26 334 eP P 12 46 24.7 -0.4
comp=Z,461nm,1.9s,mb6.1
BKZ Black Stump Fm 80.28 139 P* P 12 46 23.2 -2.0
MWZ Matawai 80.40 138 P* P 12 46 23.4 -2.5
NVR Nevrokopi 80.52 311 eP P 12 46 27.7 +1.2
MMB Musomiste 80.53 311 i P P 12 46 26.2 -0.3
VTS Vitosha 80.53 312 eP P 12 46 27.0 +0.5
VTS Vitosha 80.53 312 i P P 12 46 26.9 +0.4
VTS Vitosha 80.53 312⇑iP P 12 46 27.4 +0.9
OSL Oslo 80.55 331 eP P 12 46 25.9 -0.7
OSL AMb AMB 12 46 48.6
comp=Z,458nm,1.9s,mb6.1
OSL Oslo 80.55 331 eP P 12 46 25.9 -0.7
comp=Z,458nm,1.9s,mb6.1
SNZO South Karori 80.58 142 eP P 12 46 26.4 -0.4
comp=Z,668nm,1.4s,mb6.4
SNZO LR LR
comp=Z,42µm,22.0s,MS6.8
MOL Molde 80.62 334 eP P 12 46 27.3 +0.3
MOL Molde 80.62 334 eP P 12 46 28.9 +1.9
BSD Bornholm Skovb 80.68 326 i P P 12 46 26.3 -1.0
comp=Z,404nm,1.1s,mb6.3
BSD i S 12 56 22.3 -10
BSD Bornholm Skovb 80.68 326 i P P 12 46 26.3 -1.0
BSD i 12 56 22.3
BSD pmax pmax
comp=Z,400nm,1.1s,mb6.3
PUZ Puketiti 80.70 137 P* P 12 46 24.1 -3.3
PSZ Piszkesteto 80.73 318 ⇓P P 12 46 27.9 +0.3
PSZ ⇑eP 12 46 31.3
PSZ Piszkesteto 80.73 318⇓iP P 12 46 27.9 +0.3
PSZ Piszkesteto 80.73 318⇑ePcP PcP 12 46 31.3 -3.0
LIKS Likavka 80.78 319 eP P 12 46 29.3 +1.4
LIKS pmax pmax
comp=Z,129nm,0.9s,mb5.9
LIKS Likavka 80.78 319 eP P 12 46 29.3 +1.4
LIKS Likavka 80.78 319 eP P 12 46 29.3 +1.4
comp=Z,129nm,0.9s,mb5.9
SRS Serrai 80.79 311 eP P 12 46 27.0 -0.9
OUR Ouranopolis 80.80 310 eP P 12 46 26.6 -1.3
KKB Krupnik 80.88 311 i P P 12 46 28.1 -0.3
RES Resolute Bay 80.88 9 eP P 12 46 26.7 -1.7
comp=Z,14µm,1.1s
WRAK Wrangell Islan 80.91 33 eP P 12 46 30.4 +1.8
comp=Z,631nm,1.5s,mb6.3
WRAK LR LR
comp=Z,83µm,21.0s,MS7.1
RAC Raciborz 80.92 320 eP P 12 46 29.9 +1.3
RAC MLR MLR
comp=Z,81µm,18.5s,MS7.1
BOLS Boljevac 80.93 314⇓iP P 12 46 28.8 +0.2
MQZ McQueen's Vall 81.02 145 P* P 12 46 27.3 -1.8
PXZ Pawanui 81.04 140 P* P 12 46 26.5 -2.8
OKC Ostrava-Krasne 81.04 320 eP P 12 46 29.2 -0.1
OKC ex x 12 46 48.3
BFZ Birch Farm 81.08 140 P* P 12 46 27.7 -1.8
DLBC Dease Lake 81.11 30 eP P 12 46 29.8 +0.2
PKSN Nyarlorinc 81.14 317 eP P 12 46 30.8 +1.0
PAIG Paliouri 81.16 309 eP P 12 46 29.0 -0.9
PENC Penc 81.16 318⇑eP P 12 46 30.0 +0.1
VYHS Vyhne 81.16 319 eP P 12 46 30.2 +0.3
VYHS e 12 49 36.0
VYHS e 12 56 38.8
VYHS pmax pmax
comp=Z,285nm,1.2s,mb6.1
VYHS Vyhne 81.16 319 eP P 12 46 30.2 +0.3
comp=Z,285nm,1.2s,mb6.1
VYHS ePP PP 12 49 33.2 -2.1
VYHS e 12 49 36.0
VYHS e 12 56 38.8
VYHS eS SKSac 12 56 47.5 +0.7
VYHS e 13 13 08.7
VYHS e 13 16 40.3
PLG Polygyros 81.17 310 eP P 12 46 29.2 -0.7
PLG Polygyros 81.17 310 eP P 12 46 31.0 +1.1
THR6 Thira Island, 81.17 306 eP P 12 46 28.9 -1.1
KONO Kongsberg 81.19 331 eP P 12 46 30.6 +0.5
KONO pmax pmax
comp=Z,802nm,1.8s,mb6.3
KONO MLR MLR
comp=Z,391µm,20.0s,MS7.8
KONO Kongsberg 81.19 331 eP P 12 46 30.6 +0.5
comp=Z,802nm,1.8s,mb6.3
KONO LR LR
comp=Z,391µm,20.0s,MS7.8
SVIS Svilajnac 81.25 314⇑iP P 12 46 32.5 +2.1
HORT Hortiatis 81.33 310 eP P 12 46 32.9 +2.1
NPS Neapolis 81.39 304 eP P 12 46 31.2 +0.1
BARS Barje 81.40 313⇑iP P 12 46 31.4 +0.3
VAY Valandovo 81.44 311 eP P 12 46 29.8 -1.6
VAY Valandovo 81.44 311 i P P 12 46 29.9 -1.5
VAY Valandovo 81.44 311 i P P 12 46 29.9 -1.5
BUD Budapest 81.44 318⇑eP P 12 46 34.3 +2.9
BUD Budapest 81.44 318⇑ePcP PcP 12 46 34.3 -3.1
PKS6 Bocsa 81.45 317 eP P 12 46 32.6 +1.2
BEO Belgrade 81.56 315⇑iP P 12 46 29.9 -2.1
STIP Stip 81.57 311 i P P 12 46 30.9 -1.2
STIP Stip 81.57 311 i P P 12 46 30.9 -1.2
COP Copenhagen 81.70 327 i P P 12 46 33.0 +0.3
comp=Z,144nm,0.9s,mb5.9
COP Copenhagen 81.70 327 i P P 12 46 33.0 +0.3
COP pmax pmax
comp=Z,140nm,0.9s,mb5.9
NEO Neokhori 81.71 309 eP P 12 46 31.8 -1.0
KSP Ksiaz 81.72 322 eP P 12 46 32.9 0.0
KSP Ksiaz 81.72 322 eP P 12 46 32.7 -0.2
KSP e 12 46 49.6
GRUS Gruza 81.74 314⇑iP P 12 46 32.4 -0.6
ATH Athens Observa 81.84 308 eP P 12 46 32.9 -0.6
PKSG 81.87 318 eP P 12 46 34.9 +1.2
HYA Hoyanger 81.89 333⇓iP P 12 46 35.5 +1.7
HYA AMb AMB 12 46 40.5
comp=Z,297nm,2.3s,mb5.8
HYA Hoyanger 81.89 333⇓iP P 12 46 35.5 +1.7
comp=Z,297nm,2.3s,mb5.8
DPC Dobruska-Polom 81.91 321 eP P 12 46 34.1 +0.3
DPC ex x 12 46 49.8
IDI Anoyia 81.94 305 P P 12 46 34.0 0.0
comp=Z,52nm,0.5s,mb5.7,baz=70,slow=6.0,SNR=28
SKO Skopje 81.98 312 eP P 12 46 34.7 +0.5
SKO Skopje 81.98 312 i P P 12 46 34.7 +0.5
SKO Skopje 81.98 312 i P P 12 46 34.7 +0.5
UPC Upice 82.02 321 eP P 12 46 34.4 0.0
UPC ex x 12 46 51.7
LKR Lokris 82.12 308 eP P 12 46 33.8 -1.1
DIVS Divcibare 82.14 314⇑iP P 12 46 34.9 -0.2
VRAC Vranov 82.18 320 PKKPbc PKKPbc 13 05 06.5 +3.3
comp=Z,2.0nm,0.8s,baz=287,slow=4.7,SNR=3.3
VRAC Vranov 82.18 320⇓iP P 12 46 36.2 +0.9
PKSM Moragy 82.19 317⇑eP P 12 46 38.2 +2.9
OPO Ambohidratompo 82.26 246 P P 12 46 35.9 +0.2
comp=Z,55nm,0.9s,mb5.5,baz=58,slow=5.3,SNR=20
ZST Bratislava 82.34 319 eP P 12 46 36.1 0.0
ZST eS S 12 56 53.1 +3.2
ZST pmax pmax
comp=Z,73nm,0.9s,mb5.6
ZST Bratislava 82.34 319 eP P 12 46 36.1 0.0
comp=Z,73nm,0.9s,mb5.6
ZST eS S 12 56 53.1 +3.2
KRUS Krusevo 82.34 311 i P P 12 46 35.7 -0.4
KRUS Krusevo 82.34 311 i P P 12 46 35.7 -0.4
ODD1 Odda 82.36 332 eP P 12 46 34.9 -1.3
ODD1 epP pP 12 46 39.1 -6.8
KZN Kozani 82.38 310 eP P 12 46 35.1 -1.2
VAM Vamos 82.42 305 eP P 12 46 37.7 +1.2
BIA Bitola 82.42 311 i P P 12 46 36.0 -0.6
BIA Bitola 82.42 311 i P P 12 46 36.0 -0.6
AGG Agios Georgios 82.46 309 eP P 12 46 34.8 -2.0
FNA Florina 82.48 311 eP P 12 46 35.5 -1.3
THL Klokotos Trika 82.49 310 eP P 12 46 34.1 -2.8
SUE Sulen 82.54 334 eP P 12 46 37.1 0.0
SUE Sulen 82.54 334 eP P 12 46 39.8 +2.6
RHK3 Tenkes 82.56 316⇑eP P 12 46 36.9 -0.4
BBLS Bajina Basta - 82.62 314⇑iP P 12 46 38.3 +0.7
RUND Rundenannen 82.63 333 eP P 12 46 38.7 +1.1
BER Bergen 82.66 333 eP P 12 46 39.5 +1.7
BER AMb AMB 12 46 59.6
comp=Z,649nm,1.6s,mb6.4
BER Bergen 82.66 333 eP P 12 46 39.5 +1.7
comp=Z,649nm,1.6s,mb6.4
ASK Askoy 82.67 333 eP P 12 46 37.3 -0.6
ASK epP pP 12 46 41.2 -6.3
ASK AMb AMB 12 46 59.1
comp=Z,764nm,2.0s,mb6.4
ASK Askoy 82.67 333 eP P 12 46 37.3 -0.6
comp=Z,764nm,2.0s,mb6.4
IVA Berane 82.69 313⇓iP P 12 46 38.9 +1.0
BLS5 Blasjo 82.69 332 eP P 12 46 38.0 +0.1
BLS5 AMb AMB 12 47 01.1
comp=Z,217nm,1.9s,mb5.9
BLS5 Blasjo 82.69 332 eP P 12 46 38.0 +0.1
comp=Z,217nm,1.8s,mb5.9
PVY Plav 82.74 313⇓iP P 12 46 38.6 +0.4
OHR Ohrid 82.75 311 i P P 12 46 36.5 -1.7
OHR Ohrid 82.75 311 i P P 12 46 36.5 -1.7
EGD Espegrend 82.77 333 eP P 12 46 40.8 +2.4
VKA Vienna 82.79 319 i P P 12 46 40.1 +1.7
PLE Pljevlja 82.84 314⇓iP P 12 46 39.2 +0.4
PVCC Panska Ves 82.84 322 eP P 12 46 38.8 +0.1
PVCC ex x 12 46 57.4
TREC Trest 82.84 320 eP P 12 46 38.8 +0.1
TREC ex x 12 46 55.9
EVR Evrytania 82.88 309 eP P 12 46 40.5 +1.6
VLI Veliai 82.88 307 eP P 12 46 38.8 -0.1
SOP Sopron 82.89 319⇑eP P 12 46 42.0 +3.1
SOP Sopron 82.89 319⇑ePcP PcP 12 46 42.0 -1.7
SNART Snartemo 82.92 331 eP P 12 46 38.1 -1.0
SNART AMb AMB 12 47 01.9
comp=Z,264nm,1.8s,mb6.0
MUD Monsted U'grnd 82.94 329 i P P 12 46 40.3 +1.0
comp=Z,268nm,1.0s,mb6.2
MUD eS S 12 56 53.8 -2.3
MUD Monsted U'grnd 82.94 329 i P P 12 46 40.3 +1.0
MUD eS S 12 56 53.8 -2.3
MUD pmax pmax
comp=Z,270nm,1.0s,mb6.2
BRG Berggiesshubel 83.05 322 eP P 12 46 39.8 0.0
comp=Z,3µm,2.6s,mb6.9
BRG Berggiesshubel 83.05 322 i P P 12 46 39.9 +0.1
comp=Z,170nm,1.6s,mb5.8
BRG i 12 46 58.2
comp=Z,2µm,2.6s
BRG i PP PP 12 49 46.3 -4.5
comp=Z,96nm,1.8s
BRG S S 12 56 56.0 -1.2
BRG ePKKP PKKPbc 13 05 02.4 +1.1
comp=Z,19nm,1.9s
BRG ePKPPKP 13 13 09.6
comp=Z,8.8nm,1.3s
BRG Berggiesshubel 83.05 322 i P P 12 46 39.9 +0.1
BRG i 12 46 58.2
BRG i 12 49 46.3
BRG S S 12 56 56.0 -1.2
BRG pmax pmax
comp=Z,170nm,1.5s,mb5.8
MCQ Macquarie Isla 83.05 159 eP P 12 46 40.2 +0.4
PRU Pruhonice 83.10 321 eP P 12 46 39.9 -0.1
PRU ex x 12 46 57.4
PRA Prague 83.12 321 P P 12 46 41.0 +0.8
PRA ex x 12 47 00.0
CONA Conrad Observa 83.21 319⇑iP P 12 46 41.2 +0.6
comp=Z,141nm,1.3s,mb5.8,SNR=9.4
UPM Unac-Piva 83.22 314⇓iP P 12 46 38.7 -2.0
STAV Stavanger 83.28 332 eP P 12 46 40.6 -0.4
JAN Janina 83.28 310 eP P 12 46 42.1 +1.1
TTG Podgorica 83.29 313⇓iP P 12 46 38.8 -2.3
NKY Niksic 83.32 313⇓iP P 12 46 39.6 -1.5
KMY Karmoy 83.33 332 eP P 12 46 40.9 -0.4
KMY AMb AMB 12 47 03.9
comp=Z,544nm,1.9s,mb6.3
KMY Karmoy 83.33 332 eP P 12 46 40.9 -0.4
comp=Z,544nm,1.9s,mb6.3
CLL Collm 83.39 323 eP P 12 46 41.3 -0.2
comp=Z,506nm,1.3s,mb6.4
CLL epP pP 12 46 45.4 -5.8
CLL e 12 47 00.7
CLL ePP PP 12 49 58.6 +5.0
CLL eS S 12 56 54.8 -5.8
CLL eSS SS 13 02 32.6 +6.4
CLL ePKKPbc PKKPbc 13 05 01.1 +0.6
CLL eL 13 29 41.9
comp=Z,184µm,20.0s
CLL Collm 83.39 323⇑iP P 12 46 41.2 -0.3
CLL eS S 12 56 57.0 -3.6
CLL pmax pmax
comp=Z,291nm,1.4s,mb6.1
CLL MLR MLR
comp=Z,184µm,17.9s,MS7.5
CLL Collm 83.39 323⇑iP P 12 46 41.2 -0.3
comp=Z,291nm,1.4s,mb6.1
CLL i 12 46 45.8
CLL eS S 12 56 57.0 -3.6
CLL ePKKP PKKPbc 13 05 04.0 +3.5
CLL LR LR
comp=Z,184µm,17.9s,MS7.5
CLL Collm 83.39 323⇑iP P 12 46 41.2 -0.3
comp=Z,291nm,1.4s,mb6.1
CLL i pP pP 12 46 45.8 -5.4
CLL i pPcP pP 12 46 49.4 -1.8
CLL i x x 12 46 59.5
CLL ePP PP 12 49 51.0 -2.6
CLL ex x 12 50 08.0
CLL eS S 12 56 57.0 -3.6
CLL eSS SS 13 03 06.0 +40
CLL ePKKPbc PKKPbc 13 05 04.0 +3.5
CLL ePKPPKPdf 13 13 12.0
CLL eSKPPKPbc 13 16 32.0
CLL Lm 13 28 00.0
comp=N,101µm,18.1s
CLL Lm 13 28 00.0
comp=E,136µm,21.0s
ITM Ithomi 83.46 307 eP P 12 46 40.5 -1.4
ULC Ulcinj 83.49 313⇓iP P 12 46 40.8 -1.3
BRY Bratogost 83.59 314⇓iP P 12 46 41.0 -1.6
BUM Brajici-Budva 83.59 313⇓iP P 12 46 41.7 -0.9
BSEG Bad Segeberg 83.60 326 eP P 12 46 42.5 -0.1
comp=Z,5µm,2.9s,mb7.1
BSEG Bad Segeberg 83.60 326 eP P 12 46 42.6 0.0
IGT Igoumenitsa 83.70 310 eP P 12 46 41.6 -1.5
ARSA Arzberg 83.70 319 i P P 12 46 42.8 -0.4
comp=Z,151nm,1.2s,mb6.0,SNR=42
LKD Levkas 83.80 309 eP P 12 46 42.4 -1.3
HCY Herceg Novi 83.80 313⇓iP P 12 46 43.5 -0.2
KEK Kerkira 84.00 310 eP P 12 46 43.5 -1.2
KHC Kasperske Hory 84.04 321 eP P 12 46 44.8 -0.1
KHC ex x 12 47 01.5
GROS Grobnik 84.06 318 eP P 12 46 44.5 -0.4
GEC2 GERESS Array S 84.10 321 eP P 12 46 45.2 0.0
comp=Z,4µm,3.0s
GEC2 GERESS Array S 84.10 321 eP P 12 46 45.2 0.0
GEC2 pmax pmax
comp=Z,4µm,3.0s
GERES GERESS Array B 84.10 321 P P 12 46 45.1 0.0
comp=Z,96nm,0.8s,mb6.0,baz=66,slow=3.6,SNR=39
GERES S S 12 57 09.7 +1.9
comp=Z,1.8nm,0.6s,baz=204,slow=2.9,SNR=6.1
GERES PKKPbc PKKPbc 13 05 01.6 +2.8
comp=Z,1.9nm,0.8s,baz=250,slow=3.8,SNR=3.6
GERES PKPPKP 13 13 09.1
comp=Z,3.8nm,1.1s,baz=163,slow=1.4,SNR=7.8
GERES LR LR 13 23 43.8
comp=Z,111µm,21.0s,MS7.2,baz=222,slow=35
GERES GERESS Array B 84.10 321 P P 12 46 45.1 -0.1
GERES S S 12 57 09.7 +1.9
TANN Tannenbergstha 84.10 322 eP P 12 46 45.0 -0.2
KMBO Kilima Mbogo 84.16 266 P P 12 46 47.0 +1.6
comp=Z,32nm,0.9s,mb5.5,baz=49,slow=6.3,SNR=24
KMBO S S 12 57 14.1 +5.8
comp=Z,0.6nm,0.3s,baz=237,slow=16,SNR=2.4
KMBO PKPPKP 13 13 07.1
comp=Z,0.6nm,0.4s,baz=78,slow=24,SNR=3.8
KMBO Kilima Mbogo 84.16 266 eP P 12 46 46.6 +1.1
KMBO pmax pmax
comp=Z,627nm,1.6s
KMBO MLR MLR
comp=Z,117µm,21.0s
KMBO Kilima Mbogo 84.16 266 eP P 12 46 46.6 +1.2
comp=Z,627nm,1.6s,mb6.5
KMBO LR LR
comp=Z,117µm,21.0s,MS7.2
NKC Novy Kostel 84.19 322 eP P 12 46 45.5 -0.2
NKC ex x 12 47 02.1
MOA Molln 84.21 319 i P P 12 46 46.0 +0.3
comp=Z,583nm,1.2s,mb6.6,SNR=35
NRDL Niedersach Rie 84.41 325 eP P 12 46 46.6 -0.2
WET Wettzell 84.44 321 eP P 12 46 47.2 +0.3
comp=Z,3µm,2.7s,mb7.0
WET Wettzell 84.44 321 eP P 12 46 47.2 +0.3
WET pmax pmax
comp=Z,3µm,2.7s,mb7.0
MOX Moxa 84.47 323 eP P 12 46 46.9 -0.2
comp=Z,4µm,2.7s,mb7.0
MOX Moxa 84.47 323 eP P 12 46 46.8 -0.3
comp=Z,537nm,1.8s,mb6.4
MOX e 12 47 05.2
comp=Z,1µm,2.0s
MOX Moxa 84.47 323 eP P 12 46 46.8 -0.3
MOX e 12 47 05.2
MOX pmax pmax
comp=Z,537nm,1.8s,mb6.4
ROTZ Rotzenmuhle 84.55 322 eP P 12 46 47.8 +0.4
CLZ Clausthal 84.58 324 eP P 12 46 47.8 +0.2
comp=Z,2µm,1.9s,mb6.9
CLZ Clausthal 84.58 324 eP P 12 46 47.8 +0.2
CLZ pmax pmax
comp=Z,2µm,1.9s,mb6.9
OBKA Obir 84.63 318 i P P 12 46 47.7 -0.2
comp=Z,267nm,1.2s,mb6.2,SNR=35
BOJS Bojanci 84.63 317 eP P 12 46 51.2 +3.3
LJU Ljubljana 84.85 318 eP P 12 46 48.8 -0.2
LCI Lecce 84.94 311 P P 12 46 50.7 +1.3
comp=Z,786nm,1.7s,mb6.6
KBA Koelnbreinsper 85.11 319 i P P 12 46 49.9 -0.4
comp=Z,410nm,1.3s,mb6.4,SNR=41
KBA Koelnbreinsper 85.11 319 i P P 12 46 49.9 -0.4
KBA pmax pmax
comp=Z,410nm,1.3s,mb6.4
GRA1 Grafenberg Arr 85.14 322 eP P 12 46 50.4 -0.1
comp=Z,3µm,2.1s,mb7.0
GRF Grafenberg Arr 85.14 322 eP P 12 46 50.4 -0.1
comp=Z,3µm,2.1s,mb7.0
GRF Grafenberg Arr 85.14 322 eP P 12 46 50.4 -0.1
GRF pmax pmax
comp=Z,3µm,2.1s,mb7.0
GRF Grafenberg Arr 85.14 322 eP P 12 46 50.4 -0.1
GRF pmax pmax
comp=Z,3µm,2.1s,mb7.0
YKW3 Yellowknife Ar 85.14 22 eP P 12 46 49.4 -1.0
YKW3 ePKKPbc PKKPbc 13 05 01.9 +5.5
GRFO Grafenberg 85.15 322 eP P 12 46 50.6 +0.1
GRFO MLR MLR
comp=Z,155µm,20.0s,MS7.4
YKA Yellowknife Ar 85.19 22 P P 12 46 49.0 -1.7
comp=Z,53nm,0.7s,mb5.8,baz=313,slow=5.0,SNR=66
YKA PP PP 12 50 14.4 +6.1
comp=Z,16nm,1.0s,baz=312,slow=7.5,SNR=5.2
YKA S S 12 57 17.0 -1.7
comp=Z,3.6nm,0.8s,baz=130,slow=2.5,SNR=6.9
YKA PKKP PKKPbc 13 04 48.1 -8.1
comp=Z,1.2nm,0.8s,baz=159,slow=2.5,SNR=4.9
YKA PKPPKP 13 12 56.3
comp=Z,1.0nm,0.9s,baz=137,slow=2.1,SNR=7.8
YKA Yellowknife Ar 85.19 22 P P 12 46 49.0 -1.7
YKA 12 50 14.4
YKA S S 12 57 17.0 -1.7
YKA Yellowknife Ar 85.19 22 P P 12 46 49.0 -1.7
YKA PP PP 12 50 14.4 +6.1
YKA S S 12 57 17.0 -1.7
YKA PKKP PKKPbc 13 04 48.1 -8.1
YKA P'P' 13 12 56.4
JAVS Javornik 85.21 318 eP P 12 46 50.2 -0.6
VOY Vojsko 85.25 318 eP P 12 46 50.5 -0.5
PTCC Patocco-Chiusa 85.42 318 P P 12 46 52.7 +0.9
comp=Z,3µm,3.0s
LRW Lerwick 85.47 335 P P 12 46 51.2 -0.9
LRW AMb AMB 12 46 58.2
comp=Z,190nm,2.3s,mb5.8
LRW Lerwick 85.47 335 eP P 12 46 51.2 -0.9
LRW eP 12 46 51.2
LRW AMb AMB 12 46 58.2
comp=Z,190nm,2.3s,mb5.8
WAL1 Walls 85.57 335 eP P 12 46 51.5 -1.0
IBBN Ibbenburen 85.75 325 eP P 12 46 53.2 -0.3
FUR Furstenfeldbru 85.84 321 eP P 12 46 54.2 +0.3
comp=Z,3µm,1.8s,mb7.2
FUR Furstenfeldbru 85.84 321 eP P 12 46 54.2 +0.3
FUR pmax pmax
comp=Z,3µm,1.8s,mb7.2
WTTA Wattenberg 86.06 320 i P P 12 46 54.5 -0.5
comp=Z,407nm,1.2s,mb6.5,SNR=20
WTTA Wattenberg 86.06 320 i P P 12 46 54.5 -0.5
WTTA pmax pmax
comp=Z,407nm,1.2s,mb6.5
WATA Walderalm 86.06 320⇑iP P 12 46 54.5 -0.5
comp=Z,260nm,1.4s,mb6.3,SNR=21
WATA Walderalm 86.06 320⇑iP P 12 46 54.5 -0.5
WATA pmax pmax
comp=Z,260nm,1.4s,mb6.3
WATA Walderalm 86.06 320⇑iP P 12 46 54.5 -0.5
comp=Z,260nm,1.4s,mb6.3
ORI Oriolo Calabro 86.20 312 P P 12 46 58.8 +3.1
SQTA Sankt Quirin 86.33 320⇓iP P 12 46 55.8 -0.6
comp=Z,246nm,1.2s,mb6.3,SNR=34
SQTA Sankt Quirin 86.33 320⇓iP P 12 46 55.8 -0.6
SQTA pmax pmax
comp=Z,246nm,1.2s,mb6.3
MOTA Moosalm 86.34 320 i P P 12 46 55.9 -0.5
comp=Z,173nm,1.1s,mb6.2,SNR=25
MOTA Moosalm 86.34 320 i P P 12 46 55.9 -0.5
MOTA pmax pmax
comp=Z,173nm,1.1s,mb6.2
FG4 Candela 86.38 313 P P 12 46 57.7 +1.1
comp=Z,11µm,2.9s
TNS Taunus Mts 86.44 323 eP P 12 46 56.9 0.0

comp=Z,3µm,2.9s,mb7.1
TNS **Taunus Mts** 86.44 323 *eP* P 12 46 56.9 0.0
TNS pmax pmax
comp=Z,3µm,2.9s,mb7.1
BUG **Bochum--Univer** 86.46 325 *eP* P 12 46 56.7 -0.3
RETA **Reutte** 86.47 320⇑*iP* P 12 46 56.4 -0.7
comp=Z,93nm,1.2s,mb5.9
TOD **Tromm** 86.56 323 *eP* P 12 46 58.7 +1.2
APPI **Appiano** 86.68 319 P P 12 47 01.2 +3.1
FETA **Feichten** 86.72 320⇑*iP* P 12 46 58.2 -0.1
comp=Z,232nm,1.2s,mb6.3
STU **Stuttgart** 86.75 322 *eP* P 12 46 58.9 +0.5
CING **Cingoli** 86.91 316 P P 12 47 00.1 +0.9
MIDA **Miranda** 87.00 314 P P 12 47 01.4 +1.8
DAVA **Damuels** 87.09 320⇑*iP* P 12 46 60.0 -0.1
comp=Z,107nm,1.1s,mb6.0,SNR=8.9
KTD **Kalmit** 87.11 323 *eP* P 12 47 02.9 +2.8
ABH **Alteburg** 87.12 323 *eP* P 12 46 58.2 -2.0
FUORN **Ofenpass** 87.19 320 *eP* P 12 46 54.6 -6.0
comp=Z,4µm,3.1s
FUORN **Ofenpass** 87.19 320 *eP* P 12 47 00.9 +0.3
AQU **L'Aquila** 87.24 315 P P 12 47 02.8 +2.0
AQU pmax pmax
comp=Z,1µm,1.6s,mb6.9
AQU **L'Aquila** 87.24 315 P P 12 47 02.8 +2.0
comp=Z,1µm,1.6s,mb6.9
LIENZ **Alp Oberkamor** 87.32 320 *eP* P 12 46 59.8 -1.4
comp=Z,3µm,3.6s
LIENZ **Alp Oberkamor** 87.32 320 *eP* P 12 47 01.0 -0.2
MABI **Malga Bissina** 87.32 319 P P 12 47 03.8 +2.6
RFI **Roccamonfina** 87.34 314 P P 12 47 04.2 +2.9
comp=Z,78nm,1.6s,mb5.7
DAVOX **Davos** 87.34 320 *eP* P 12 47 00.9 -0.4
comp=Z,2µm,3.0s,mb6.9
DAVOX **Davos** 87.34 320 *eP* P 12 47 01.5 +0.2
FIU **Minerbio Fiu** 87.40 317 P P 12 47 05.0 +3.4
LANF **Langenberg** 87.44 323 *eP* P 12 47 04.5 +2.8
BERNI **Berninapass** 87.44 320 *eP* P 12 47 01.4 -0.3
comp=Z,4µm,3.5s
BERNI **Berninapass** 87.44 320 *eP* P 12 47 02.0 +0.3
BADI **Badiali** 87.46 316 P P 12 47 03.8 +2.0
BFO **Black Forest** 87.47 322 P P 12 47 04.0 +2.1
comp=Z,262nm,1.4s,mb6.3,SNR=6.6
BFO **Black Forest** 87.47 322 *eP* P 12 47 02.5 +0.6
comp=Z,3µm,3.1s
BFO **Black Forest** 87.47 322 *eP* P 12 47 02.5 +0.6
BFO pmax pmax
comp=Z,3µm,3.1s
STEIN **Stein am Rhein** 87.50 321 *eP* P 12 47 01.3 -0.7
comp=Z,2µm,2.9s,mb6.8
WEIN **Weingarten** 87.50 321 *eP* P 12 47 01.5 -0.5
comp=Z,1µm,2.5s,mb6.8
SCLL **Scilla** 87.50 310 P P 12 47 04.6 +2.5
comp=Z,750nm,1.9s,mb6.6
PLONS **Plons** 87.51 320 *eP* P 12 47 01.5 -0.6
comp=Z,2µm,3.2s
PLONS **Plons** 87.51 320 *eP* P 12 47 01.9 -0.2
MEM **Membach** 87.57 325 P P 12 47 02.7 +0.3
comp=Z,144nm,1.3s,mb6.0
WILA **Wila** 87.60 321 *eP* P 12 47 01.9 -0.6
comp=Z,2µm,3.1s
WILA **Wila** 87.60 321 *eP* P 12 47 02.0 -0.5
BEBN **Eben Emael** 87.65 325 P P 12 47 05.3 +2.6
STR **Strasbourg** 87.66 322 *eP* P 12 47 05.5 +2.7
CERT **Cerreto** 87.71 315 P P 12 47 05.9 +2.9
TUE **Stuetta** 87.81 320 P P 12 47 07.1 +3.5
ZUR **Zurich** 87.82 321 *eP* P 12 47 02.1 -1.5
comp=Z,2µm,3.5s
ZUR **Zurich** 87.82 321 *eP* P 12 47 02.9 -0.7
LLS **Linth-Limmern** 87.83 320 *eP* P 12 47 02.2 -1.4
comp=Z,2µm,3.2s
LLS **Linth-Limmern** 87.83 320 *eP* P 12 47 03.5 -0.1
FNVD **Fontana Vidola** 87.86 317 P P 12 47 08.1 +4.4
FELD **Feldberg im Sc** 87.89 322⇓*eP* P 12 47 07.8 +3.9
MCD **Coleburn Disti** 87.91 333⇑*eP* P 12 47 02.7 -1.3
MME1 **Meikle Cairn** 87.96 333 *eP* P 12 47 03.8 -0.5
MUO **Muotathal** 87.99 321 *eP* P 12 47 02.9 -1.5
comp=Z,2µm,3.2s
MUO **Muotathal** 87.99 321 *eP* P 12 47 04.2 -0.2
WLF **Walferdange** 88.00 324 P P 12 47 04.7 +0.2
comp=Z,565nm,2.6s,mb6.3
SULZ **Sulz-Cheisache** 88.01 321 *eP* P 12 47 02.9 -1.6
comp=Z,2µm,3.3s
SULZ **Sulz-Cheisache** 88.01 321 *eP* P 12 47 03.7 -0.8
CDF **Champ du Feu** 88.03 322⇑*iP* P 12 47 04.0 -0.6
comp=Z,1µm,1.8s,mb6.5
CDF **Champ du Feu** 88.03 322⇑*iP* P 12 47 04.0 -0.6
comp=Z,628nm,1.8s,mb6.5
BCLA **Clavier** 88.06 325 P P 12 47 04.1 -0.6
comp=Z,344nm,2.6s,mb6.1
CSNT **Castellina Chi** 88.08 317 P P 12 47 06.9 +2.1
comp=Z,2µm,1.8s,mb7.0
BNALP **Bannalp** 88.16 320 *eP* P 12 47 03.8 -1.4
comp=Z,2µm,4.1s
BNALP **Bannalp** 88.16 320 *eP* P 12 47 04.9 -0.3
ECH **Echery** 88.20 322 *eP* P 12 47 07.1 +1.7
FUSIO **Fusio** 88.23 320 *eP* P 12 47 03.5 -2.0
comp=Z,2µm,3.5s
FUSIO **Fusio** 88.23 320 *eP* P 12 47 05.4 -0.1
MUGIO **Muggio** 88.28 319 *eP* P 12 47 03.7 -2.0
comp=Z,2µm,4.1s
MUGIO **Muggio** 88.28 319 *eP* P 12 47 04.4 -1.3
VLC **Villacollemand** 88.32 317 P P 12 47 09.7 +3.7
UCC **Uccle** 88.35 325 P P 12 47 05.3 -0.8
CASY **Casey** 88.36 184 *eP* P 12 47 04.3 -1.8
HASLI **Hasliberg** 88.38 320 *eP* P 12 47 04.2 -2.0
comp=Z,2µm,3.3s
HASLI **Hasliberg** 88.38 320 *eP* P 12 47 05.9 -0.3
REB **Eisgbhrachaidh** 88.39 334 *eP* P 12 47 05.0 -1.3
BBS **Basel-Blauen** 88.39 321 *eP* P 12 47 07.2 +0.9
MOF **Molkenrain** 88.41 322 *eP* P 12 47 06.4 0.0
SSY **Sortino** 88.45 310 P P 12 47 10.8 +4.2
MDO **Dochfour** 88.46 334 *eP* P 12 47 05.0 -1.6
GIVF **Givet** 88.49 325 *eP* P 12 47 06.1 -0.6
SNF **Seneffe** 88.55 325 P P 12 47 06.2 -0.9
comp=Z,284nm,2.7s,mb6.1
HINF **Hinteralfeld** 88.59 322 *eP* P 12 47 06.3 -0.9
BOB **Bobbio (Coli)** 88.61 318 P P 12 47 10.9 +3.6
DOU **Dourbes** 88.61 325 P P 12 47 06.8 -0.5
comp=Z,254nm,2.8s,mb6.1
MAON **Monte Argentar** 88.69 316 P P 12 47 10.9 +3.2
ESY **Stoneypath** 88.69 332 *eP* P 12 47 06.7 -1.0
WIMIS **Wimmis** 88.74 321 *eP* P 12 47 04.4 -3.5
comp=Z,2µm,4.3s
WIMIS **Wimmis** 88.74 321 *eP* P 12 47 07.4 -0.5
RRR **Rubha Reidh** 88.77 334⇑*eP* P 12 47 05.9 -2.1
VAE **Valguarnera** 88.77 310 P P 12 47 08.0 -0.1
comp=Z,27nm,0.8s,mb5.6,baz=329,slow=3.9,SNR=3.9
VAE S S 12 57 46.3 -6.9
comp=Z,8.2nm,0.8s,baz=257,slow=15,SNR=1.9
VAE **Valguarnera** 88.77 310 P P 12 47 08.0 -0.1
VAE S S 12 57 46.3 -6.9
HAU **Haudompre** 88.77 322⇑*iP* P 12 47 07.1 -1.0
ABA1 **Baconsthorpe** 88.79 328 *eP* P 12 47 07.4 -0.8
LWH **Whinny Nab** 88.80 330 *eP* P 12 47 07.5 -0.7
XSO **Sourhope Farm** 88.80 331 *eP* P 12 47 06.6 -1.6
KAC **Achnashellach** 88.80 334 *eP* P 12 47 06.2 -2.0
BAIF **Baives** 88.84 325⇑*iP* P 12 47 07.7 -0.7
RAR **Rarotonga** 88.84 113 PFAKE 12 47 20.0 +12
RAR LR LR
comp=Z,1.0nm,21.0s
LOMF **Lomont** 88.85 321 *eP* P 12 47 10.4 +2.0
MMK **Mattmark** 88.86 320 *eP* P 12 47 04.9 -3.6
comp=Z,3µm,3.6s
MMK **Mattmark** 88.86 320 *eP* P 12 47 08.7 +0.2
THEF **They Montfort** 88.86 323 *eP* P 12 47 09.2 +0.7
AEU **East Anglia Un** 88.91 328 *eP* P 12 47 07.5 -1.2
EDI **Edinburgh** 88.94 332 P P 12 47 08.4 -0.4
EDI AMb AMB 12 47 15.5
comp=Z,187nm,1.8s,mb6.1
EDI **Edinburgh** 88.94 332 *eP* P 12 47 08.4 -0.4
EDI AMb AMB 12 47 15.5
comp=Z,187nm,1.8s,mb6.1
EBL **Broad Law** 88.97 332⇑*eP* P 12 47 08.3 -0.7
KSB **Sheil Bridge** 89.05 334 *eP* P 12 47 07.4 -2.0
KPL **Plockton** 89.05 334 P P 12 47 08.0 -1.4
KPL AMb AMB 12 47 15.0
comp=Z,90nm,2.0s,mb5.8
KPL **Plockton** 89.05 334 *eP* P 12 47 08.0 -1.4
KPL AMb AMB 12 47 15.0
comp=Z,90nm,2.0s,mb5.8
TORNY **Torny** 89.07 321 *eP* P 12 47 05.4 -4.1
comp=Z,3µm,4.3s
TORNY **Torny** 89.07 321 *eP* P 12 47 09.0 -0.5

RRH **Rhenigidale** 89.08 335 *eP* P 12 47 08.1 -1.4
EAU **Auchinoon** 89.10 332 *eP* P 12 47 08.7 -0.9
DIX **Grande Dixence** 89.17 320 *eP* P 12 47 05.9 -4.0
comp=Z,2µm,4.5s
DIX **Grande Dixence** 89.17 320 *eP* P 12 47 10.3 +0.4
XAL **Allendale** 89.18 331 *eP* P 12 47 08.7 -1.2
MEZF **Maizieres J'vi** 89.24 323 *eP* P 12 47 09.8 -0.5
baz=69
GRYON **Gryon** 89.26 320 *eP* P 12 47 07.4 -3.0
comp=Z,1µm,3.3s
GRYON **Gryon** 89.26 320 *eP* P 12 47 10.1 -0.3
EAB **Aberfoyle** 89.26 333 *eP* P 12 47 09.5 -0.9
BRANT **Les Verrieres** 89.27 321 *eP* P 12 47 07.4 -3.0
comp=Z,2µm,4.5s
BRANT **Les Verrieres** 89.27 321 *eP* P 12 47 10.1 -0.3
EKA **Eskdalemuir Ar** 89.30 332 PKKPbc PKKPbc 13 04 49.0 +2.6
comp=Z,3.0nm,0.8s,baz=247,slow=3.4,SNR=5.5
AIGLE **Aigle** 89.30 321 *eP* P 12 47 08.7 -1.9
comp=Z,2µm,3.2s
AIGLE **Aigle** 89.30 321 *eP* P 12 47 10.0 -0.6
ESK **Eskdalemuir** 89.33 332 P P 12 47 09.8 -1.0
ESK AMb AMB 12 47 16.5
comp=Z,187nm,2.0s,mb6.1
ESK **Eskdalemuir** 89.33 332 *eP* P 12 47 09.8 -1.0
ESK AMb AMB 12 47 16.5
comp=Z,187nm,2.0s,mb6.1
ESK **Eskdalemuir** 89.33 332 *eP* P 12 47 10.1 -0.6
comp=Z,1µm,2.0s,mb7.0
SALAN **Lac Salanfe** 89.40 320 *eP* P 12 47 09.2 -1.8
comp=Z,1µm,3.2s
SALAN **Lac Salanfe** 89.40 320 *eP* P 12 47 10.7 -0.3
KAR1 **Arisaig** 89.40 334⇑*eP* P 12 47 09.8 -1.3
OG01 **Vacheresse** 89.47 321 *eP* P 12 47 12.3 +0.9
EMV **Vieux Emosson** 89.48 320 *eP* P 12 47 10.3 -1.1
comp=Z,1µm,3.0s
EMV **Vieux Emosson** 89.48 320 *eP* P 12 47 11.3 -0.1
PGC **Sidney** 89.49 37 *eP* P 12 47 12.1 +0.7
POB1 **Observatory** 89.52 332 *eP* P 12 47 10.8 -0.8
PGBU **Glenifferbraes** 89.57 332 P P 12 47 11.0 -0.8
PGBU AMb AMB 12 47 16.7
comp=Z,117nm,1.3s,mb6.0
PGBU **Glenifferbraes** 89.57 332 *eP* P 12 47 11.0 -0.8
PGBU AMb AMB 12 47 16.7
comp=Z,117nm,1.3s,mb6.0
MENF **Mencas** 89.64 326 *eP* P 12 47 10.3 -1.9
STW **Striped Peak** 89.64 37 P P 12 47 14.3 +2.2
CABF **La Chapelle** 89.67 321 *eP* P 12 47 11.7 -0.6
CKE **Keswick** 89.75 331 *eP* P 12 47 11.8 -0.9
B04A **Port Angeles** 89.79 37 ⇑P P 12 47 12.8 0.0
baz=90
LHO **Holmfirth** 89.83 330⇑*eP* P 12 47 12.2 -0.9
RSL **Roselend** 89.84 320 *eP* P 12 47 13.0 -0.1
KBI1 **Birley Grange** 89.86 329⇑*eP* P 12 47 11.8 -1.4
A04A **Legoe Bay, Lum** 89.86 36 ⇓P P 12 47 13.2 0.0
baz=90
LPG **La Plagne** 89.87 320⇑*iP* P 12 47 13.4 +0.2
comp=Z,940nm,1.2s,mb6.7
LPG **La Plagne** 89.87 320⇑*iP* P 12 47 13.4 +0.2
comp=Z,470nm,1.2s,mb6.7
LPL **La Plagne** 89.87 320⇑*iP* P 12 47 13.3 +0.1
comp=Z,1µm,1.4s,mb6.7
LPL **La Plagne** 89.87 320⇑*iP* P 12 47 13.3 +0.1
comp=Z,603nm,1.4s,mb6.7
GCD **Castle Douglas** 89.95 332⇑*eP* P 12 47 12.7 -0.9
XDE **Dent Fell** 89.98 331 *eP* P 12 47 13.0 -0.7
PGF **Pioggiola** 90.00 317⇑*iP* P 12 47 13.8 0.0
comp=Z,894nm,1.1s,mb6.7
PGF **Pioggiola** 90.00 317⇑*iP* P 12 47 13.8 0.0
PGF pmax pmax
comp=Z,447nm,1.1s,mb6.7
PGF **Pioggiola** 90.00 317⇑*iP* P 12 47 13.8 0.0
comp=Z,447nm,1.1s,mb6.7
CORF **Corte** 90.03 316 *eP* P 12 47 14.0 0.0
A05A **Maple Falls** 90.04 36 ⇑P P 12 47 14.7 +0.6
baz=90
OG22 **Abries** 90.11 319 *eP* P 12 47 15.4 +1.1
KWE **Weaver Farm** 90.16 329 *eP* P 12 47 14.3 -0.2
SAOF **Saorge** 90.17 318 *eP* P 12 47 14.3 -0.3
AUTN **L'Aution** 90.25 318 *eP* P 12 47 14.8 -0.2
MBDF **Montbardon** 90.26 319 *eP* P 12 47 14.3 -0.8
comp=Z,511nm,1.5s,mb6.3
MBDF **Montbardon** 90.26 319 *eP* P 12 47 14.3 -0.8
comp=Z,256nm,1.5s,mb6.3
C04A **Brinnon** 90.28 37 ⇑P P 12 47 15.4 +0.3
baz=90
GAL1 **Galloway** 90.28 332 *eP* P 12 47 14.2 -0.9
SBF **Sospel** 90.31 318⇑*iP* P 12 47 14.6 -0.7
comp=Z,460nm,0.9s,mb6.5
SBF **Sospel** 90.31 318⇑*iP* P 12 47 14.6 -0.7
comp=Z,230nm,0.9s,mb6.5
OG05 **Jujurieux** 90.34 321 *eP* P 12 47 16.4 +1.0
TOUF **Mont Tournerai** 90.35 318 *eP* P 12 47 15.5 +0.1
GMK **Mull of Kintyr** 90.35 333 *eP* P 12 47 14.6 -0.9
SURF **Saint Ours** 90.37 319 *eP* P 12 47 17.2 +1.7
GDM **Grand'Maison** 90.40 320 *eP* P 12 47 15.9 +0.2
REVF **Revere** 90.42 318 *eP* P 12 47 16.8 +1.0
B05A **Bryant** 90.45 36 ⇑P P 12 47 15.6 -0.3
baz=90
SKP1 **Kophill** 90.45 328 *eP* P 12 47 14.5 -1.5
MVIF **Mont Vial** 90.47 318 *eP* P 12 47 15.8 -0.2
GIM **North Isle of** 90.55 331⇑*eP* P 12 47 15.7 -0.7
LOR **Lormes** 90.59 322⇑*iP* P 12 47 15.7 -0.9
comp=Z,1µm,1.8s,mb6.6,baz=58
LOR **Lormes** 90.59 322⇑*iP* P 12 47 15.7 -0.9
comp=Z,545nm,1.8s,mb6.6
E03A **Lebam** 90.59 38 ⇓P P 12 47 16.6 0.0
baz=90
GRN **Grenoble** 90.61 320 *eP* P 12 47 18.6 +2.0
B06A **Marblemount** 90.64 36 ⇑P P 12 47 17.1 +0.3
baz=90
RPW **Rockport** 90.67 36 P P 12 47 17.4 +0.5
ORIF **Oris-en-Rattie** 90.70 320⇑*iP* P 12 47 16.9 -0.2
comp=Z,341nm,1.1s,mb6.3
ORIF **Oris-en-Rattie** 90.70 320⇑*iP* P 12 47 16.9 -0.2
comp=Z,170nm,1.1s,mb6.3
CALN **Calern** 90.70 318 *eP* P 12 47 13.1 -4.0
D04A **Dobbs Creek Ra** 90.71 38 ⇓P P 12 47 18.0 +0.8
baz=90
WIM **Isle of Man** 90.74 331 *eP* P 12 47 16.5 -0.8
GCL **Cushendall** 90.76 333 *eP* P 12 47 16.2 -1.2
SSW **Stow on the Wo** 90.81 328 *eP* P 12 47 16.3 -1.3
OG25 **Le Caire** 90.88 319 *eP* P 12 47 17.8 -0.1
SBD1 **Bryn Du** 90.89 330⇑*eP* P 12 47 18.2 +0.2
HTW **Haystack Looko** 90.90 37 P P 12 47 18.8 +0.8
SSF **Saint Saulge** 90.90 322⇑*iP* P 12 47 17.3 -0.7
comp=Z,438nm,1.5s,mb6.3
SSF **Saint Saulge** 90.90 322⇑*iP* P 12 47 17.3 -0.7
SSF pmax pmax
comp=Z,219nm,1.5s,mb6.3
SSF **Saint Saulge** 90.90 322⇑*iP* P 12 47 17.3 -0.7
comp=Z,219nm,1.5s,mb6.3
A07A **Ashnola River,** 90.93 35 ⇓P P 12 47 18.4 +0.2
baz=91
SMF **Signal de Mont** 90.95 322⇑*iP* P 12 47 17.6 -0.6
FRF **La Foret Royal** 90.96 318⇑*iP* P 12 47 17.7 -0.6
comp=Z,569nm,1.3s,mb6.5
FRF **La Foret Royal** 90.96 318⇑*iP* P 12 47 17.7 -0.6
FRF pmax pmax
comp=Z,285nm,1.3s,mb6.4
FRF **La Foret Royal** 90.96 318⇑*iP* P 12 47 17.7 -0.6
comp=Z,285nm,1.3s,mb6.4
HLM1 **Long Mynd** 90.96 329⇑*eP* P 12 47 18.4 +0.1
SFJD **Kangerlussuaq** 91.00 357 PP PP 12 50 57.7 +2.9
comp=Z,99nm,1.1s,baz=353,slow=11,SNR=4.0
SFJD **Kangerlussuaq** 91.00 357 *eP* P 12 47 17.5 -1.0
SFJD pmax pmax
comp=Z,483nm,1.3s,mb6.7
SFJD MLR MLR
comp=Z,97µm,20.0s,MS7.2
SFJD **Kangerlussuaq** 91.00 357 *eP* P 12 47 17.5 -1.0
comp=Z,483nm,1.3s,mb6.7
SFJD LR LR
comp=Z,97µm,20.0s,MS7.2
C05A **Tolt Reservoir** 91.00 37 ⇑P P 12 47 18.7 +0.2
baz=91
E04A **Onalaska** 91.05 38 ⇑P P 12 47 18.7 0.0
baz=91
SWN1 **Swindon** 91.07 328 *eP* P 12 47 18.8 0.0
AVF **Avril sur Loir** 91.14 322⇑*iP* P 12 47 18.4 -0.7
LMR **La Mourre** 91.16 318⇑*iP* P 12 47 19.0 -0.2
comp=Z,783nm,1.2s,mb6.6
LMR **La Mourre** 91.16 318⇑*iP* P 12 47 19.0 -0.2
LMR pmax pmax
comp=Z,391nm,1.2s,mb6.6
LMR **La Mourre** 91.16 318⇑*iP* P 12 47 19.0 -0.2

comp=Z,391nm,1.2s,mb6.6
STOF **St-Etienne Org** 91.17 319 *eP* P 12 47 20.0 +0.7
WCB1 **Church Bay** 91.18 331 *eP* P 12 47 18.3 -1.1
HYF **Humbligny** 91.27 323⇑*iP* P 12 47 19.7 -0.1
YRC **Rhoscolyn** 91.28 331 *eP* P 12 47 19.7 -0.1
TAVF **Tavernes** 91.29 319 *eP* P 12 47 20.3 +0.5
MCH1 **Michaelchurch** 91.35 329 P P 12 47 18.9 -1.2
MCH1 AMb AMB 12 47 29.6
comp=Z,119nm,1.4s,mb6.0
MCH1 **Michaelchurch** 91.35 329⇑*eP* P 12 47 18.9 -1.2
MCH1 *eP* 12 47 18.9
MCH1 AMb AMB 12 47 29.6
comp=Z,119nm,1.4s,mb6.0
MCH1 AMS AMS 13 33 09.1
comp=Z,55µm,18.3s,MS7.0
WRW **Wenatchee Ridg** 91.36 36 P P 12 47 21.1 +1.0
YRE **Yr Eifl** 91.39 330 *eP* P 12 47 19.4 -0.9
SMRF **Simiane la Rot** 91.39 319 *eP* P 12 47 20.3 0.0
comp=Z,877nm,1.8s,mb6.5
SMRF **Simiane la Rot** 91.39 319 *eP* P 12 47 20.3 0.0
comp=Z,877nm,1.8s,mb6.8
B07A **Winthrop** 91.42 35 ⇓P P 12 47 20.6 +0.2
baz=91
PLDF **La Plantade** 91.45 322 *eP* P 12 47 20.1 -0.5
VIVF **Saint-Julien-l** 91.45 320 *eP* P 12 47 20.3 -0.3
HGH **Gray Hill** 91.48 329 *eP* P 12 47 21.0 +0.3
BGF **Bois d'Agland** 91.56 322 *eP* P 12 47 20.5 -0.6
A08A **Turner Farm, O** 91.58 35 ⇑P P 12 47 21.3 +0.1
baz=91
E05A **Randle** 91.61 38 ⇑P P 12 47 20.7 -0.6
baz=91
COLF **Collangettes** 91.66 321 *eP* P 12 47 23.4 +1.8
AGO **Saint Ãgouiin** 91.69 322 *eP* P 12 47 23.4 +1.7
PRAF **Pradon** 91.73 319 *eP* P 12 47 24.2 +2.3
H03A **Soap Creek Ran** 91.78 40 ⇓P P 12 47 21.8 -0.3
baz=92
EDM **Edmonton** 91.79 29 *eP* P 12 47 21.4 -0.7
GELF **Grande-Etoile** 91.80 319 *eP* P 12 47 24.8 +2.6
COR **Corvallis** 91.82 40 *eP* P 12 47 24.6 +2.3
COR pmax pmax
comp=Z,571nm,1.5s,mb6.7
COR MLR MLR
comp=Z,13µm,19.0s,MS6.4
COR **Corvallis** 91.82 40 *eP* P 12 47 24.6 +2.3
comp=Z,571nm,1.5s,mb6.7
COR LR LR
comp=Z,13µm,19.0s,MS6.4
I02A **Mapleton** 91.83 41 ⇑P P 12 47 22.0 -0.3
baz=92
B08A **Colville Reser** 91.90 35 ⇓P P 12 47 22.7 +0.1
baz=92
C07A **Waterville** 91.90 36 ⇓P P 12 47 23.3 +0.6
baz=92
TBM **Table Mountain** 91.91 37 P P 12 47 23.0 +0.3
A09A **Danville** 91.93 34 ⇑P P 12 47 22.4 -0.4
baz=92
PYM **Petit Puy Mans** 91.93 322 *eP* P 12 47 24.3 +1.5
WTV **Waterville** 91.96 36 P P 12 47 23.6 +0.7
G04A **Mulino** 91.97 39 ⇓P P 12 47 22.9 0.0
baz=92
LDF **La Druitiere** 92.00 325 *eP* P 12 47 22.0 -1.1
E06A **Yakima** 92.06 37 ⇓P P 12 47 23.6 +0.2
baz=92
TCF **Toulx Ste Croi** 92.08 322⇑*iP* P 12 47 23.2 -0.3
LBL **Lubilhac** 92.08 321 *eP* P 12 47 24.2 +0.7
FLN **La Foliniere** 92.09 325 *eP* P 12 47 22.2 -1.3
baz=52
DLF **Lyons Farm** 92.13 331 *eP* P 12 47 20.4 -3.3
KEBM **Edson Butte** 92.14 42 *eP* P 12 47 24.6 +0.8
I03A **Eugene** 92.18 40 ⇑P P 12 47 23.9 0.0
baz=92
VERF **Verneugheol** 92.23 322 *eP* P 12 47 25.8 +1.6
D07A **Quincy** 92.24 36 ⇓P P 12 47 23.6 -0.6
baz=92
J02A **Umpqua** 92.33 41 ⇑P P 12 47 23.8 -0.9
baz=92
LASF **Ste Croix** 92.37 320 *eP* P 12 47 24.5 -0.3
HOOD **Mount Hood Mea** 92.38 39 *eP* P 12 47 27.4 +2.5
C08A **Higginbotham F** 92.40 36 ⇓P P 12 47 24.6 -0.4
baz=92
MXC **Moxie City** 92.43 37 P P 12 47 25.3 +0.2
H04A **Detroit Lake** 92.43 39 ⇑P P 12 47 23.6 -1.5
baz=92
B09A **Rice** 92.49 35 ⇓P P 12 47 24.7 -0.7
baz=92
GRR **Gorron** 92.51 325 *eP* P 12 47 24.6 -0.9
G05A **Wamic** 92.62 39 ⇓P P 12 47 25.6 -0.3
baz=92
E07A **Sunnyside** 92.68 37 ⇓P P 12 47 25.6 -0.6
baz=92
HTL **Hartland** 92.70 329 P P 12 47 25.4 -1.0
HTL AMb AMB 12 47 35.3
comp=Z,56nm,1.1s,mb5.9
HTL **Hartland** 92.70 329 *eP* P 12 47 25.4 -1.0
HTL AMb AMB 12 47 35.3
comp=Z,56nm,1.1s,mb5.9
HTL AMS AMS 13 29 01.3
comp=Z,91µm,18.3s,MS7.3
DYA **Yadsworthy** 92.80 328 *eP* P 12 47 27.0 +0.2
D08A **Wollman Farm,** 92.90 36 ⇑P P 12 47 27.6 +0.3
baz=93
CAF **Calviac** 92.95 321 *eP* P 12 47 27.5 0.0
HAWA **Hanford** 92.96 37 *eP* P 12 47 28.2 +0.7
HAWA LR LR
comp=Z,63µm,21.0s,MS7.0
L02A **Cave Junction** 92.98 42 ⇓P P 12 47 27.6 0.0
baz=93
H05A **Madras** 93.01 39 ⇑P P 12 47 27.7 -0.1
baz=93
G06A **Carlson Farm,** 93.02 38 ⇑P P 12 47 27.2 -0.6
baz=93
F07A **Phinny Hill Vi** 93.03 37 ⇑P P 12 47 27.2 -0.6
baz=93
RJF **Les Rejaudoux** 93.04 322⇑*iP* P 12 47 28.2 +0.3
A11A **Hall Mountain,** 93.09 34 ⇑P P 12 47 29.0 +0.8
baz=93
NEW **Newport** 93.13 34 *eP* P 12 47 28.7 +0.4
NEW pmax pmax
comp=Z,78nm,0.8s
NEW MLR MLR
comp=Z,96µm,19.0s
NEW **Newport** 93.13 34 *eP* P 12 47 28.7 +0.3
comp=Z,78nm,0.8s,mb6.2
NEW LR LR
comp=Z,96µm,19.0s,MS7.3
HUMO **Hull Mountain** 93.13 41 *eP* P 12 47 30.0 +1.7
comp=Z,119nm,1.2s,mb6.2
HUMO LR LR
comp=Z,47µm,20.0s,MS6.9
HUMO **Hull Mountain** 93.13 41 ⇑P P 12 47 28.9 +0.6
baz=93
E08A **Dider Farm, El** 93.17 37 ⇑P P 12 47 28.7 +0.2
baz=93
KEST **Kesra** 93.19 311 P P 12 47 30.3 +1.7
comp=Z,18nm,0.9s,mb5.5,baz=312,slow=3.1,SNR=7.9
KEST LR LR 13 30 22.2
comp=Z,27µm,21.1s,MS6.7,baz=147,slow=36
MFF **Saint Martin d** 93.21 324 *eP* P 12 47 28.3 -0.4
D09A **Jones Farm, Ri** 93.23 36 ⇑P P 12 47 28.4 -0.4
baz=93
I05A **Bend** 93.27 39 ⇓P P 12 47 29.2 +0.2
baz=93
J04A **Umpqua Nationa** 93.29 41 ⇓P P 12 47 28.5 -0.6
baz=93
C10A **Spilker Farm,** 93.31 35 ⇑P P 12 47 28.8 -0.4
baz=93
CSA1 **St Austell** 93.32 328 *eP* P 12 47 28.8 -0.4
B11A **Sandpoint** 93.42 34 ⇑P P 12 47 29.2 -0.4
baz=93
JCC **Jacoby Creek** 93.44 43 ⇑P P 12 47 29.8 0.0
baz=93
A12A **Yaak River Ran** 93.47 33 ⇓P P 12 47 29.8 -0.1
baz=93
H06A **Lindquist Farm** 93.48 39 ⇓P P 12 47 30.2 +0.2
baz=93
SGMF **Saint Gilles** 93.49 326 *eP* P 12 47 28.9 -1.1
comp=Z,158nm,1.1s,mb6.0
SGMF **Saint Gilles** 93.49 326 *eP* P 12 47 28.9 -1.1
SGMF pmax pmax
comp=Z,79nm,1.1s,mb6.1
SGMF **Saint Gilles** 93.49 326 *eP* P 12 47 28.9 -1.1
comp=Z,79nm,1.1s,mb6.1
LCHF **La Chataignera** 93.50 324 *eP* P 12 47 31.6 +1.6
G07A **Ruggs Ranch, H** 93.55 38 ⇓P P 12 47 30.8 +0.5
baz=93
LFF **La Frestale** 93.70 322 *eP* P 12 47 31.0 0.0

F08A Pendleton 93.74 37 ⇑P P 12 47 31.3 +0.2
baz=94
MTLF Montolieu 93.77 320⇑iP P 12 47 30.8 -0.5
YBH Yreka Blue Hor 93.77 42 eP P 12 47 33.0 +1.7
YBH LR LR
comp=Z,62μm,20.0s,MS7.1
YBH Yreka Blue Hor 93.77 42 ⇑P P 12 47 31.2 0.0
baz=94
B12A Libby 93.80 34 ⇓P P 12 47 31.6 +0.2
baz=94
D10A Wagner Farm, O 93.80 35 ⇑P P 12 47 31.9 +0.5
baz=94
ROSF Rostrenen 93.81 326⇑iP P 12 47 30.3 -1.2
comp=Z,105nm,1.0s,mb5.9
ROSF Rostrenen 93.81 326⇑iP P 12 47 30.3 -1.2
ROSF pmax pmax
comp=Z,53nm,1.0s,mb5.9
ROSF Rostrenen 93.81 326⇑iP P 12 47 30.3 -1.2
comp=Z,53nm,1.0s,mb5.9
M02C Callahan 93.87 42 ⇑P P 12 47 31.4 -0.3
baz=94
K04A Chilquin 93.88 41 ⇓P P 12 47 31.7 0.0
baz=94
G08A Pilot Rock 93.94 38 ⇑P P 12 47 31.7 -0.4
baz=94
I06A Prineville 94.02 39 ⇓P P 12 47 32.6 +0.2
baz=94
QUIF Quistinic 94.02 326 eP P 12 47 30.9 -1.5
L04A Klamath Falls 94.03 41 ⇑P P 12 47 31.8 -0.6
baz=94
CMAH Djebel Manchou 94.08 312 P P 12 47 38.0 +5.3
CGMA Guelma 94.17 312 P P 12 47 37.0 +3.9
ABSA Djebel Ababsia 94.22 312 P P 12 47 38.5 +5.2
E10A Myers Farm, Un 94.24 36 ⇓P P 12 47 32.7 -0.7
baz=94
WALA Waterton Lakes 94.26 32 eP P 12 47 35.2 +1.7
comp=Z,392nm,1.4s,mb6.7
F09A S2 Ranch, Elgi 94.28 37 ⇓P P 12 47 33.2 -0.4
baz=94
M04C Macdoel 94.28 42 ⇑P P 12 47 33.0 -0.6
baz=94
I07A Izee 94.35 39 ⇑P P 12 47 33.8 -0.1
baz=94
CAEH 'Ain El Ouahch 94.39 312 P P 12 47 41.0 +6.9
VALF Valcebollere 94.43 319 eP P 12 47 34.3 0.0
B13A Whitefish 94.43 33 ⇓P P 12 47 34.2 -0.2
baz=94
F10A Beach Ranch, E 94.49 36 ⇑P P 12 47 34.2 -0.4
baz=94
WDC Whiskeytown Da 94.52 43 eP P 12 47 35.7 +1.0
WDC MLR MLR
comp=Z,56μm,21.0s,MS7.0
WDC Whiskeytown Da 94.52 43 ⇑P P 12 47 34.4 -0.3
baz=94
H08A Prairie City 94.57 38 ⇑P P 12 47 35.4 +0.5
baz=94
FCC Fort Churchill 94.58 17 eP P 12 47 34.9 -0.1
FCC pmax pmax
comp=Z,179nm,1.3s,mb6.3
FCC Fort Churchill 94.58 17 eP P 12 47 34.9 -0.1
comp=Z,179nm,1.3s,mb6.3
BSMT Bassoo Peak 94.60 34 eP P 12 47 37.2 +2.1
P01C Double 8 Ranch 94.62 44 ⇑P P 12 47 35.5 +0.3
baz=94
K06A Valley Falls 94.66 40 ⇑P P 12 47 35.9 +0.5
baz=94
CKFL Kef-Lekhel 94.67 312 P P 12 47 39.5 +4.1
E11A Bogner Ranch, 94.81 36 ⇑P P 12 47 36.5 +0.4
baz=95
C13A Hot Springs 94.83 34 ⇑P P 12 47 36.3 +0.1
baz=95
J07A Hines 94.88 39 ⇑P P 12 47 36.6 +0.2
baz=95
CASM Ain Smara 94.91 312 P P 12 47 40.5 +4.0
GASB Alder Springs 94.92 44 ⇑P P 12 47 37.1 +0.5
baz=95
M05C Lookout 94.95 42 ⇓P P 12 47 37.2 +0.5
baz=95
I08A Drewsey 94.99 38 ⇓P P 12 47 36.5 -0.4
baz=95
H09A Durkee 95.05 37 ⇑P P 12 47 37.3 +0.2
baz=95
HOPS Hopland 95.06 44 PFAKE 12 47 50.0 +13
HOPS LR LR
comp=Z,103μm,20.0s,MS7.3
HOPS Hopland 95.06 44 ⇑P P 12 47 37.7 +0.6
baz=95
EPF Esparros 95.06 320 eP P 12 47 36.2 -1.0
HATC Hat Creek Radi 95.06 42 P P 12 47 37.7 +0.5
baz=95
CTEI Djebel Teioual 95.07 312 P P 12 47 41.0 +3.8
F11A Grangeville 95.13 36 ⇓P P 12 47 37.4 -0.1
baz=95
BMO Blue Mountains 95.14 37 PFAKE 12 47 50.0 +12
BMO LR LR
comp=Z,82μm,20.0s,MS7.2
MOD Modoc 95.15 41 eP P 12 47 39.0 +1.3
MOD LR LR
comp=Z,44μm,20.0s,MS6.9
MOD Modoc 95.15 41 ⇑P P 12 47 37.7 +0.1
baz=95
O03C Acorn Hollow, 95.17 43 ⇓P P 12 47 37.4 -0.3
baz=95
DFRA Djebel Bou Aff 95.18 313 P P 12 47 41.0 +3.3
D13A Huson 95.26 34 ⇑P P 12 47 37.1 -1.0
baz=95
K07A Rock Creek Ran 95.32 40 ⇑P P 12 47 38.1 -0.3
baz=95
FFC Flin Flon 95.35 23 eP P 12 47 37.5 -1.0
FFC pmax pmax
comp=Z,383nm,1.5s,mb6.6
FFC Flin Flon 95.35 23 eP P 12 47 37.5 -1.1
comp=Z,383nm,1.5s,mb6.6
G11A Walters Elk Ra 95.37 36 ⇓P P 12 47 38.8 +0.1
baz=95
J08A Circle Bar Ran 95.38 39 ⇓P P 12 47 38.8 +0.2
baz=95
I09A Lost Marbles R 95.43 38 ⇓P P 12 47 39.0 +0.2
baz=95
M06C Likely Place G 95.45 42 ⇑P P 12 47 39.1 +0.1
baz=95
MNRC McLaughlin Nat 95.53 44 ⇑P P 12 47 39.3 0.0
baz=95
O04C Chester 95.58 43 ⇓P P 12 47 40.7 +1.1
baz=95
H10A Noah's Angus R 95.61 37 ⇑P P 12 47 39.9 +0.1
baz=95
NSHM Saint Helena R 95.62 45 eP P 12 47 40.8 +1.1
ELFS Eagle Lake Fie 95.63 42 ⇓P P 12 47 40.0 +0.2
baz=95
CMER Merouana 95.65 312 P P 12 47 42.0 +2.1
MCCM Marconi Confer 95.65 45 ⇑P P 12 47 40.4 +0.5
baz=96
L07A Adell 95.67 40 ⇑P P 12 47 40.4 +0.5
baz=96
ETSF Etsaut 95.67 321 eP P 12 47 39.9 -0.1
SET Setif 95.69 313 P P 12 47 43.0 +2.9
MSO Missoula 95.70 34 eP P 12 47 41.6 +1.5
MSO LR LR
comp=Z,90μm,21.0s,MS7.2
K08A Mann Creek Ran 95.75 39 ⇓P P 12 47 40.8 +0.5
baz=96
ORV Oroville 95.75 43 ⇓P P 12 47 40.7 +0.3
baz=96
SUTB Sutter Butte 95.76 44 ⇓P P 12 47 40.3 -0.1
baz=96
D14A Greenough 95.77 34 ⇑P P 12 47 39.9 -0.5
baz=96
J09A Fry Pan Ranch, 95.80 39 ⇑P P 12 47 39.6 -1.0
baz=96
E13A Victor 95.83 35 ⇓P P 12 47 40.8 +0.1
baz=96
WVOR Wild Horse Val 95.84 40 eP P 12 47 42.1 +1.4
WVOR pmax pmax
comp=Z,145nm,1.6s,mb6.2
WVOR MLR MLR
comp=Z,73μm,22.0s,MS7.1
WVOR Wild Horse Val 95.84 40 eP P 12 47 42.1 +1.3
comp=Z,145nm,1.6s,mb6.2
WVOR LR LR
comp=Z,73μm,22.0s,MS7.1
OHCM Honcut 95.89 43 eP P 12 47 41.5 +0.5
O05C Quincy 95.89 43 ⇓P P 12 47 41.5 +0.5
baz=96
SJPF Ste Jean 95.93 321 eP P 12 47 41.4 +0.2
Q03C Winters 95.94 44 ⇑P P 12 47 41.2 -0.1
baz=96

H11A Donnelly 95.95 37 ⇓P P 12 47 41.7 +0.4
baz=96
CHMT Chamberlain Mo 96.01 34 P P 12 47 43.2 +1.7
N06A Buffalo Meadow 96.11 42 ⇑P P 12 47 42.2 +0.2
baz=96
M07A Soldier Meadow 96.14 41 ⇓P P 12 47 42.6 +0.5
baz=96
L08A Fields 96.16 40 ⇑P P 12 47 41.8 -0.4
baz=96
F13A Darby 96.17 35 ⇓P P 12 47 42.7 +0.4
baz=96
E14A Clinton 96.21 34 ⇑P P 12 47 43.1 +0.7
baz=96
Q04C Lincoln 96.24 44 ⇑P P 12 47 42.5 -0.1
baz=96
D15A Lincoln 96.30 33 ⇑P P 12 47 43.2 +0.4
baz=96
BEKR Beckwourth 96.30 43 ⇑P P 12 47 43.9 +1.1
baz=96
J10A Berg Farm, Mel 96.32 38 ⇑P P 12 47 42.5 -0.4
baz=96
PPT Papeete 96.36 106 eP P 12 47 38.7 -4.4
comp=Z,77nm,1.5s,mb5.9
BDM Black Diamond 96.42 45 ⇓P P 12 47 43.6 +0.2
baz=96
O06A Flanigan 96.46 42 ⇑P P 12 47 43.5 -0.1
baz=96
P05C Yuba Gap, Truc 96.47 43 ⇑P P 12 47 43.5 -0.1
baz=96
I11A Placerville 96.48 37 ⇑P P 12 47 44.1 +0.4
baz=96
JRSC Jasper Ridge 96.48 45 ⇓P P 12 47 44.2 +0.5
baz=96
M08A Happy Creek Ra 96.58 40 ⇓P P 12 47 43.7 -0.4
baz=96
N07B Gerlach 96.62 41 ⇓P P 12 47 44.8 +0.5
baz=96
L09A Wilkinson Ranc 96.66 40 ⇓P P 12 47 45.2 +0.7
baz=96
K10A MacKenzie Ranc 96.66 39 ⇓P P 12 47 44.3 -0.2
baz=96
F14A Wisdom 96.67 35 ⇑P P 12 47 44.6 +0.1
baz=96
G13A Cobalt 96.68 36 ⇓P P 12 47 44.9 +0.4
baz=96
BNLO Ben Lomond (Sa 96.68 46 ⇓P P 12 47 44.8 +0.2
baz=96
WENL Wente Brothers 96.68 45 ⇓P P 12 47 45.7 +1.1
baz=96
H12A Diamond D Ranc 96.69 36 ⇓P P 12 47 45.0 +0.4
baz=96
LAVA Lava Cap Winer 96.70 44 ⇓P P 12 47 44.6 -0.1
baz=96
P06A Stead Airport, 96.70 43 ⇑P P 12 47 44.8 +0.2
baz=96
R04C Big Horse Ranc 96.85 44 ⇓P P 12 47 46.1 +0.8
baz=97
MFID Camas Ranch 96.86 38 ⇓P P 12 47 46.1 +0.7
baz=97
PMOR Pomariorio Ree 96.95 103 eP P 12 47 41.1 -4.7
comp=Z,44nm,1.0s,mb5.8
EGMT Eagleton 97.00 31 eP P 12 47 47.0 +1.0
comp=Z,133nm,1.4s,mb6.2
EGMT LR LR
comp=Z,121μm,22.0s,MS7.3
EGMT Eagleton 97.00 31 ⇓P P 12 47 47.4 +1.4
baz=97
WCN Washoe City 97.00 43 ⇑P P 12 47 46.8 +0.8
baz=97
S04C Ingram Canyon, 97.03 45 ⇑P P 12 47 46.9 +0.8
baz=97
O07A Toulon 97.05 42 ⇑P P 12 47 47.7 +1.5
baz=97
F15A Butte 97.11 34 ⇑P P 12 47 47.2 +0.6
baz=97
N08A GE Springer Mi 97.13 41 ⇓P P 12 47 48.1 +1.5
baz=97
LRM Limekiln Ridge 97.14 34 eP P 12 47 49.2 +2.5
R05C Kirkwood Meado 97.15 43 ⇑P P 12 47 46.9 +0.2
baz=97
M09A Marrel Ranch, 97.15 40 ⇑P P 12 47 48.3 +1.6
baz=97
VAH Vaihoa 97.28 103 eP P 12 47 42.8 -4.5
comp=Z,47nm,0.9s,mb5.9
PACP Pacheco Peak 97.33 45 ⇑P P 12 47 48.6 +1.1
baz=97
CMB Columbia Colle 97.34 44 eP P 12 47 47.7 +0.2
CMB pmax pmax
comp=Z,128nm,1.5s,mb6.1
CMB Columbia Colle 97.34 44 eP P 12 47 47.7 +0.1
comp=Z,128nm,1.5s,mb6.1
CMB Columbia Colle 97.34 44 ⇓P P 12 47 48.5 +1.0
baz=97
DLMT Dillon 97.37 35 eP P 12 47 48.9 +1.2
comp=Z,294nm,1.6s,mb6.5
J12A Stokes Ranch, 97.38 37 ⇓P P 12 47 48.7 +1.0
baz=97
P07A Fallon 97.41 42 ⇑P P 12 47 48.6 +0.7
baz=97
O08A Rochester Mine 97.41 41 ⇓P P 12 47 47.5 -0.4
baz=97
N09A Rock Creek Ran 97.46 40 ⇑P P 12 47 48.5 +0.4
baz=97
HAST UC Hastings Re 97.51 46 ⇑P P 12 47 48.2 -0.1
baz=97
G15A Dillon 97.56 35 ⇓P P 12 47 48.6 +0.1
baz=97
HLID Hailey 97.56 37 eP P 12 47 49.5 +1.0
HLID LR LR
comp=Z,117μm,21.0s,MS7.3
HLID Hailey 97.56 37 ⇑P P 12 47 48.6 +0.1
baz=97
R06C Coleville 97.65 43 ⇓P P 12 47 50.2 +1.3
baz=98
LSZ Lusaka 97.69 257 eP P 12 47 48.2 -0.9
BOZ Bozeman (W) 97.69 34 ePKKPbc PKKPbc 13 04 36.8 +12
BOZ LR LR
comp=Z,26μm,19.0s,MS6.7
BOZ Bozeman (W) 97.69 34 ⇓P P 12 47 49.2 0.0
baz=98
S05C Merced 97.77 45 ⇓P P 12 47 50.4 +0.9
baz=98
S06C San Francisco 97.77 44 ⇑P P 12 47 50.7 +1.2
baz=98
T05C Eagle Field, D 97.80 45 ⇓P P 12 47 50.1 +0.5
baz=98
J13A Cove Ranch, Pi 97.80 37 ⇑P P 12 47 49.7 +0.1
baz=98
Q07A Schurz 97.81 43 ⇑P P 12 47 51.9 +2.2
baz=98
K12A Draper Farm, C 97.88 38 ⇓P P 12 47 51.8 +1.8
baz=98
BMN Battle Mountai 97.89 41 eP P 12 47 52.6 +2.5
V03C Hunter Liggett 97.92 46 ⇑P P 12 47 51.8 +1.6
baz=98
U04C Hernandez Rese 98.03 46 ⇑P P 12 47 51.4 +0.8
baz=98
O09A Fish Creek Ran 98.07 41 ⇑P P 12 47 52.4 +1.5
baz=98
M11A Holland Ranch, 98.13 39 ⇓P P 12 47 52.6 +1.5
baz=98
R07C Lee Vining 98.16 43 ⇑P P 12 47 51.4 +0.1
baz=98
K13A Stover Farm, H 98.34 37 ⇓P P 12 47 52.4 +0.3
baz=98
T06C Millerton Lake 98.37 45 ⇑P P 12 47 53.2 +1.0
baz=98
V04C Ramage Ranch, 98.39 46 ⇑P P 12 47 53.3 +1.0
baz=98
Q08A Gabbs 98.41 42 ⇑P P 12 47 53.3 +1.0
baz=98
O10A Cortez Mining, 98.42 40 ⇑P P 12 47 53.6 +1.2
baz=98
PKD Parkfield 98.43 46 ⇑P P 12 47 53.6 +1.2
baz=98
NVAR Mina Array Bea 98.43 43 P P 12 47 53.9 +1.4
comp=Z,7.7nm,0.8s,mb5.3,baz=309,slow=2.6,SNR=8.1
NVAR PKKPbc PKKPbc 13 04 27.6 +5.2
comp=Z,1.2nm,0.6s,baz=197,slow=4.8,SNR=3.6
KCC Kaiser Creek 98.44 44 ⇓P P 12 47 52.6 +0.1
baz=98
P09A Austin 98.48 41 ⇓P P 12 47 53.7 +1.0
baz=98
U05C Westside ANR, 98.49 45 ⇓P P 12 47 53.7 +1.0
baz=98
N11A Elko Archery C 98.55 40 ⇓P P 12 47 54.5 +1.5
baz=98
R08A Mina 98.61 43 ⇓P P 12 47 54.2 +1.0

baz=98
M12A Wells 98.65 39 ⇓P P 12 47 55.2 +1.8
baz=98
YMR Madison River 98.70 34 PFAKE 12 48 10.0 +16
YMR LR LR
comp=Z,105μm,21.0s,MS7.3
L13A Double Diamond 98.78 38 ⇑P P 12 47 55.8 +1.8
baz=99
PTRM Twissleman Ran 98.82 46 eP P 12 47 56.0 +1.8
P10A Eureka 98.85 41 ⇓P P 12 47 55.6 +1.2
baz=99
MAW Mawson 98.86 199 P P 12 47 54.9 +0.5
comp=Z,12nm,0.8s,mb5.5,baz=76,slow=10,SNR=4.7
MAW PKKPbc PKKPbc 13 04 22.2 +0.9
comp=Z,7.9nm,1.0s,baz=137,slow=3.9,SNR=3.9
MAW Mawson 98.86 199 ePdif P 12 47 51.4 -3.0
MAW P 12 47 54.9
MAW PKKPbc PKKPbc 13 04 22.2 +0.9
N12A Clover Valley, 98.94 39 ⇓P P 12 47 56.5 +1.8
baz=99
HELL Mitchell Peak, 99.01 45 ⇓P P 12 47 56.3 +1.3
baz=99
O11A Cowboy Ranch, 99.02 40 ⇓P P 12 47 55.5 +0.4
baz=99
LKWY Lake 99.06 34 PFAKE 12 48 10.0 +15
LKWY LR LR
comp=Z,136μm,20.0s,MS7.4
S08C White Mtn Res 99.07 43 ⇑P P 12 47 57.2 +1.8
baz=99
RCTC Rector, Farmer 99.08 45 ⇑P P 12 47 56.9 +1.6
baz=99
M13A Montello 99.12 38 ⇑P P 12 47 56.4 +0.9
baz=99
SMMC Simmler 99.16 46 ⇓P P 12 47 56.4 +0.7
baz=99
RLMT Red Lodge 99.26 33 PFAKE 12 48 10.0 +14
RLMT LR LR
comp=Z,137μm,21.0s,MS7.4
TIN Tinemaha 99.30 44 ⇑P P 12 47 56.7 +0.4
baz=99
R09A Tonopah 99.32 42 ⇓P P 12 47 56.2 -0.2
baz=99
P11A Circle Ranch, 99.32 41 ⇑P P 12 47 55.4 -1.1
baz=99
N13A Wendover, West 99.42 39 ⇑P P 12 47 56.3 -0.5
baz=99
VES Vestal, Richgr 99.46 45 ⇓P P 12 47 56.6 -0.5
baz=99
PKM Peak Mountain 99.52 46 ⇑P P 12 47 56.6 -0.7
baz=99
S09A Goldfield 99.54 43 ⇑P P 12 47 58.4 +1.0
baz=99
LAO LASA Array 99.64 31 PFAKE 12 48 10.0 +12
LAO LR LR
comp=Z,141μm,21.0s,MS7.4
ESDC Sonseca Array 99.68 320 PP PP 12 52 01.9 -0.3
comp=Z,13nm,1.0s,baz=52,slow=8.5,SNR=6.0
ESDC PKKPbc PKKPbc 13 04 24.5 +5.5
comp=Z,1.7nm,0.7s,baz=276,slow=1.1,SNR=5.9
CWC Cottonwood Cre 99.76 44 ⇓P Pdif 12 48 00.2 +1.8
baz=100
SBC Santa Barbara 99.85 47 ⇑P Pdif 12 48 00.4 +1.6
baz=100
AHID Auburn Hatcher 99.91 36 PFAKE 12 48 10.0 +11
AHID LR LR
comp=Z,86μm,20.0s,MS7.2
PBRG Braganca 99.91 323 ePP PP 12 52 06.1 +2.0
ISA Isabella 99.96 45 ⇑P Pdif 12 47 60.0 +0.7
baz=100
SPUT South Promonto 100.14 38 ePdif Pdif 12 48 08.4 +8.4
MPMC Manual Prospec 100.37 44 ⇑P Pdif 12 48 02.4 +1.3
baz=100
FURC Furnace Creek, 100.53 44 ⇑P Pdif 12 48 02.5 +0.7
baz=100
LRMC Laurel Mountai 100.59 45 ⇑P Pdif 12 48 03.6 +1.6
baz=100
DUG Dugway 100.66 39 eP Pdif 12 48 03.8 +1.4
DUG MLR MLR
comp=Z,63μm,20.0s,MS7.1
PCAB Cabril 100.69 323 ePP PP 12 52 12.2 +2.2
BW06 Boulder Array 100.74 35 PFAKE 12 48 10.0 +7.2
BW06 LR LR
comp=Z,64μm,20.0s,MS7.1
PDAR Pinedale Array 100.74 35 P Pdif 12 48 05.0 +2.2
comp=Z,2.9nm,0.9s,baz=219,slow=3.8,SNR=3.5
PDAR PKKPbc PKKPbc 13 04 16.9 +1.0
comp=Z,1.0nm,0.8s,baz=134,slow=4.3,SNR=3.7
EDW2 Edwards Air Fo 100.75 46 ⇓P Pdif 12 48 03.7 +1.0
baz=101
PVRL Vila Real 100.81 323 ePP PP 12 52 13.2 +2.3
ULM Lac du Bonnet 101.17 23 P Pdif 12 48 05.6 +0.9
comp=Z,8.3nm,0.7s,baz=328,slow=5.7,SNR=8.4
ULM PP PP 12 52 11.9 -1.6
comp=Z,11nm,1.0s,baz=331,slow=7.2,SNR=3.6
ULM PKKPbc PKKPbc 13 04 16.0 +1.3
comp=Z,6.3nm,0.9s,baz=333,slow=0.7,SNR=5.7
ULM Lac du Bonnet 101.17 23 ePdif Pdif 12 48 04.8 +0.1
GSC Goldstone 101.27 45 ⇑P Pdif 12 48 06.4 +1.3
baz=101
PVIS Viseu 101.29 323 ePP PP 12 52 17.5 +3.0
MTE Manteigas 101.30 322 ePP PP 12 52 16.2 +1.7
BFSC Mount Baldy St 101.34 46 ⇓P Pdif 12 48 06.4 +1.0
baz=101
MPU Maple Canyon 101.45 38 ePKKPbc PKKPbc 13 04 17.8 +3.9
PCBR Castelo Branco 101.63 322 ePP PP 12 52 19.1 +2.0
ARUT Antelope Range 101.84 41 P Pdif 12 48 10.1 +2.5
TMUT Trail Mountain 102.18 39 ePKKPbc PKKPbc 13 04 13.6 +1.8
VNDA Vanda 102.27 172 PP PP 12 52 19.8 -2.0
comp=Z,36nm,1.2s,baz=326,slow=11,SNR=5.6
VNDA PKKPbc PKKPbc 13 04 13.3 +1.8
comp=Z,4.1nm,0.9s,baz=277,slow=1.8,SNR=5.2
GMRC Granite Mounta 102.33 44 ⇓P Pdif 12 48 11.3 +1.5
baz=102
PESTR Estremoz 102.34 321 ePP PP 12 52 24.4 +2.0
PFO Pinyon Flat Ob 102.52 46 ⇑P Pdif 12 48 13.1 +2.4
baz=102
RSSD Black Hills 102.57 31 ePdif Pdif 12 48 17.0 +6.2
RSSD LR LR
comp=Z,21μm,20.0s,MS6.7
SCHQ Schefferville 103.20 4 PP PP 12 52 29.0 +0.2
comp=Z,36nm,0.8s,baz=3.0,slow=7.1,SNR=9.8
SCHQ PKKPbc PKKPbc 13 04 09.1 +0.3
comp=Z,7.1nm,1.0s,baz=111,slow=4.5,SNR=4.4
SBA Scott Base 103.21 171 ePP PP 12 52 31.6 +2.7
PMAFR Mafra 103.26 322 ePP PP 12 52 31.4 +2.1
PV10 Paradox Valley 104.05 38 Pdif Pdif 12 48 19.3 +1.9
MDT Midelt 104.37 315 PP PP 12 52 38.4 +0.9
comp=Z,15nm,1.0s,baz=45,slow=5.1,SNR=5.4
MDT PKKPbc PKKPbc 13 04 07.5 +2.2
comp=Z,16nm,1.1s,baz=231,slow=3.5,SNR=5.6
BOSA Boshof 104.61 245 Pdiff Pdif 12 48 25.6 +5.6
comp=Z,15nm,1.1s,baz=93,slow=3.1,SNR=3.7
BOSA PP PP 12 52 41.5 +2.2
comp=Z,4.3nm,1.0s,baz=76,slow=4.7,SNR=2.8
BOSA PKKPbc PKKPbc 13 04 04.9 +0.3
comp=Z,2.6nm,0.9s,baz=172,slow=8.6,SNR=4.1
BOSA Boshof 104.61 245 ePdif Pdif 12 48 26.8 +6.9
comp=Z,20nm,1.2s
ANMO Albuquerque 107.91 39 ePKKPab PKKPab 13 04 15.8 +7.4
LPM Los Pinos Moun 108.26 40 ePP PP 12 53 01.6 -4.5
TORD Torodi Ar. Bea 110.56 294 PKiKP PKiKP 12 52 47.5 +0.8
comp=Z,14nm,0.9s,baz=59,slow=1.7,SNR=7.8
TORD PP PP 12 53 24.1 +1.2
comp=Z,14nm,1.0s,baz=56,slow=4.7,SNR=5.1
TORD PKKPbc PKKPbc 13 03 45.4 -0.5
comp=Z,3.5nm,0.8s,baz=222,slow=2.6,SNR=5.6
MNTX Cornudas Mount 110.83 41 ePKPdf PKiKP 12 52 49.6 +2.3
WMOK Wichita Mounta 112.33 34 ePKIKP PKiKP 12 52 50.9 +0.8
EMMW East Machias 113.19 6 ePP PP 12 53 37.0 -4.8
LTX Lajitas 113.54 42 ePKPdf PKiKP 12 52 53.6 +1.2
LTX ePKIKP PKiKP 12 52 53.8 +1.4
BLO Bloomington 114.08 23 ePKIKP PKiKP 12 53 00.7 +7.2
SIUC Southern Illin 114.33 26 ePKKPbc PKKPbc 13 03 35.5 +2.1
WCI Wyandotte Cave 114.99 23 PKIKP PKiKP 12 52 56.1 +0.9
JCT Junction City 115.01 38 ePKIKP PKiKP 12 52 55.2 0.0
MIAR Mount Ida 115.08 31 ePKIKP PKiKP 12 52 56.0 +0.6
MIAR e 13 03 29.8
UALR University of 115.47 30 ePKiKP PKiKP 12 52 57.0 +0.9
UALR ePKKPab PKKPab 13 03 36.1 +1.2
WVT Waverly 116.25 25 PKIKP PKPdf 12 52 56.7 -0.9
WVT Waverly 116.25 25 ePKPdf PKPdf 12 52 56.8 -0.9
MVL Millersville 116.32 14 ePKPdf PKPdf 12 53 02.9 +5.1
NVL N'lazarevskaya 116.76 201 dePKIKP PKPdf 12 52 55.5 -3.1
NVL i 12 54 11.4
NVL i 12 59 46.7
NVL pmax pmax

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     comp=Z,53nm,1.1s
NVL                                  MLR     MLR
     comp=Z,24µm,19.0s,MS6.8
NATX Nacogdoches      116.80  33 ePKPdf   PKPdf   12 52 58.9 +0.2
OXF  Oxford           116.99  28 ePKIKP   PKPdf   12 52 59.7 +0.7
PLAL Pickwick Lake    117.15  26 ePKPdf   PKPdf   12 52 59.5 +0.2
PLAL                             ePKKPbc  PKKPbc  13 03 25.0 +1.5
TZTN Tazewell         117.47  22 ePKPdf   PKPdf   12 53 01.3 +1.3
TZTN                             ePP      PP      12 54 17.4 +5.6
ELN  Prospectdale     117.75  19 ePKPdf   PKPdf   12 53 01.5 +1.0
TKL  Tuckaleechee C   118.19  22 PKP      PKPdf   12 53 02.5 +1.2
     comp=Z,21nm,0.6s,baz=182,slow=4.5,SNR=11
TKL                              PKKPbc  PKKPbc  13 03 23.1 +3.3
     comp=Z,10nm,0.9s,baz=183,slow=9.8,SNR=4.6
LIC  Lamto            119.73 291 ePKIKP   PKPdf   12 53 02.2 -2.1
     comp=Z,173nm,1.1s,baz=63
JSC  Jenkinsville     120.30  21 ePKIKP   PKPdf   12 53 06.5 +1.1
GOGA Godfrey          120.32  23 ePKIKP   PKPdf   12 53 06.3 +0.9
SNAA Sanae            121.00 198 PKP      PKPdf   12 53 06.4 -0.3
     comp=Z,11nm,1.2s,baz=131,slow=5.2,SNR=12
SNAA                             PKKPbc  PKKPbc  13 03 09.7 +0.2
     comp=Z,8.0nm,1.1s,baz=313,slow=5.1,SNR=7.8
SNAA                             SKKPbc          13 07 04.3
     comp=Z,7.3nm,1.2s,baz=304,slow=4.7,SNR=5.0
SNAA Sanae            121.00 198 ePKPdf   PKPdf   12 53 02.1 -4.7
SNAA                             e               12 53 11.5
SNAA                             e               12 53 23.8
SNAA                             e               12 53 33.5
SNAA                             e               12 53 39.9
SNAA                             e               12 54 39.7
SNAA                             e               12 54 53.0
SNAA                             e               12 55 19.8
SNAA Sanae            121.00 198 ePKPdf   PKPdf   12 53 09.4 +2.7
BRAL Brewton          121.00  28 ePKPdf   PKPdf   12 53 05.0 -1.8
VNA2 Neumayer--Watz   122.65 198 ePKPdf   PKPdf   12 53 06.8 -3.1
     baz=58,slow=1.0
VNA2                             e               12 53 12.1
VNA2                             e               12 53 15.8
VNA2                             e               12 53 19.7
VNA2                             e               12 53 27.8
VNA2                             e               12 53 37.3
VNA2                             e               12 53 43.6
VNA2                             e               12 54 50.8
VNA2                             e               12 55 04.3
VNA2                             e               12 55 24.6
VNA1 Neumayer--Stat   123.04 198 ePKPdf   PKPdf   12 53 08.7 -2.0
VNA1                             e               12 53 14.0
VNA1                             e               12 53 17.2
VNA1                             e               12 53 28.7
VNA1                             e               12 53 44.6
VNA1                             e               12 54 54.5
VNA1                             e               12 55 09.4
VNA1                             e               12 55 27.8
VNA3 Neumayer Olymp   123.13 197 ePKPdf   PKPdf   12 53 07.6 -3.2
VNA3                             e               12 53 12.9
VNA3                             e               12 53 16.4
VNA3                             e               12 53 28.2
VNA3                             e               12 53 37.9
VNA3                             e               12 54 53.4
VNA3                             e               12 55 07.1
VNA3                             e               12 55 25.7
BBSR BB Station       125.68   5 ePKPdf   PKPdf   12 53 19.1 +3.4
CMIG Matias Romero    127.92  45 PKP      PKPdf   12 53 20.9 +0.9
     comp=Z,34nm,0.9s,baz=301,slow=2.9,SNR=10
TEIG Tepich           129.46  36 PKP      PKPdf   12 53 25.5 +2.6
     comp=Z,28nm,1.1s,baz=294,slow=5.8,SNR=2.7
SOR  Soroa            129.91  29 eP       PKPdf   12 53 25.0 +1.2
MGV  Manicaragua      131.80  26 eP       PKPdf   12 53 29.6 +2.2
RPN  Rapa Nui         134.63 107 PKP      PKPdf   12 53 33.9 +1.2
     comp=Z,37nm,0.9s,baz=90,slow=4.8,SNR=2.9
RPN                              SKPbc   SKPbc   12 57 02.0 +1.5
     comp=Z,25nm,0.8s,baz=117,slow=5.4,SNR=3.6
TGUH Tegucigalpa,Un   134.97  40 ePKPdf   PKPdf   12 53 27.7 -5.6
JTS  JuntasAbangare   139.32  40 PKhKP            12 53 30.6
     comp=Z,12nm,0.6s,baz=319,slow=11,SNR=4.8
JTS                              PKP     PKPdf   12 53 43.6 +2.3
     comp=Z,30nm,0.8s,baz=314,slow=5.3,SNR=8.4
JTS                              SKPbc   SKPbc   12 57 23.7 +9.2
     comp=Z,35nm,1.2s,baz=258,slow=16,SNR=5.1
JTS  JuntasAbangare   139.32  40 ePKIKP   PKPdf   12 53 43.8 +2.4
SJG  San Juan         139.58  10 PKP      PKPdf   12 53 42.9 +1.0
     comp=Z,18nm,0.8s,baz=306,slow=23,SNR=3.6
SJG                              SKPbc   SKPbc   12 57 21.1 +5.9
     comp=Z,23nm,0.7s,baz=11,slow=15,SNR=4.8
SJG  San Juan         139.58  10 ePKPdf   PKPdf   12 53 44.3 +2.4
HUMP Col San Antoni   139.60   9 ePKPdf   pPKPdf  12 53 50.6 -1.3
MTP  Monte Pirata     139.68   9 ePKPdf   PKPdf   12 53 42.3 +0.3
CPD  Cerro la Pandu   139.69   9 ePKIKP   PKPdf   12 53 41.5 -0.5
DEG  La Desirade      141.86   2 eP       PKPdf   12 53 48.3 +2.3
SCG  Saint Claude     142.12   3 eP       PKPdf   12 53 46.3 -0.1
TBG  Guadaloupe-3     142.29   3 eP       PKPdf   12 53 48.2 +1.5
BCIP Isla Barro Col   143.13  35 ePKPdf   PKPdf   12 53 45.8 -2.4
PAYG Puerto Ayora     143.27  59 ePKPdf   PKPdf   12 53 50.3 +1.8
SLB  Belfond          144.33   3 eP       PKPdf   12 53 52.0 +1.7
SVV  Soufriere Volc   144.83   3 eP       PKPdf   12 53 51.5 +0.3
SVV  Soufriere Volc   144.83   3 eP       PKPdf   12 53 51.2 +0.1
SVV                              eP              12 53 51.5
GRW  Mount Saint Ca   145.96   4 eP       PKPdf   12 53 55.0 +1.8
USHA Ushuaia          146.56 171 PKPbc   PKPbc   12 53 54.8 -0.8
     comp=Z,60nm,1.0s,baz=193,slow=2.2,SNR=10
TPR  Prospect         146.97   2 eP       PKPdf   12 53 58.0 +3.2
SDV  Santo Domingo    147.39  21 PKPbc   PKPbc   12 53 58.4 +0.3
     comp=Z,540nm,0.9s,baz=66,slow=0.4,SNR=41
SDV  Santo Domingo    147.39  21 ePKPdf   PKPdf   12 53 56.0 +0.4
SDV                              ePKPbc  PKPbc   12 54 00.5 +2.5
TCE  Chacachacare     147.40   4 eP       PKPdf   12 53 59.4 +3.8
TRN  Trinidad (W)     147.47   3 eP       PKPdf   12 53 58.4 +2.7
PCRV Puerto La Cruz   147.60   9 PKPbc    PKPbc   12 53 58.1 -0.5
     comp=Z,126nm,1.0s,baz=198,slow=1.1,SNR=17
TBH  Brigand Hill     147.65   3 eP       PKPbc   12 54 00.6 +1.8
TPP  Pointe-a-Pierr   147.80   4 eP       PKPdf   12 53 58.9 +2.7
ROSC El Rosal         149.59  30 PKPbc    PKPbc   12 54 05.1 +1.4
     comp=Z,75nm,0.9s,baz=223,slow=1.3,SNR=8.3
ROSC El Rosal         149.59  30 ePKPdf   PKPdf   12 54 01.4 +2.3
ROSC                             ePKPbc  PKPbc   12 54 05.9 +2.2
ROSC                             ePKPab  PKPab   12 54 10.8 +2.0
EFI  East Falkland    150.39 182 ePKIKP   PKPdf   12 54 00.7 +0.3
EFI                              e               12 54 08.4
EFI                              e               12 54 11.5
OTAV Otavalo          151.17  42 ePKPdf   PKPdf   12 54 02.8 +1.2
OTAV                             ePKPbc  PKPbc   12 54 08.8 +1.3
OTAV                             ePKPab  PKPab   12 54 17.6 +2.3
RCBR Riachuelo        152.07 302 ePKPdf   PKPdf   12 54 03.3 +0.4
RCBR                             ePKPbc  PKPbc   12 54 11.7 +2.2
RCBR                             ePKPab  PKPab   12 54 19.8 +0.7
ATAH Atahualpa        156.43  53 PKP      PKPdf   12 54 11.2 +2.1
     comp=Z,40nm,1.2s,baz=322,slow=1.8,SNR=3.9
ATAH                             PKPab   PKPab   12 54 40.1 +2.5
     comp=Z,68nm,0.8s,baz=42,slow=4.2,SNR=7.1
PLCA Paso Flores      159.14 156 PKP      PKPdf   12 54 13.4 +1.0
     comp=Z,7.6nm,1.0s,baz=250,slow=6.0,SNR=3.4
PLCA                             PKPab   PKPab   12 54 49.2 -0.1
     comp=Z,30nm,0.9s,baz=214,slow=4.2,SNR=6.5
PLCA Paso Flores      159.14 156 ePKPdf   PKPdf   12 54 13.0 +0.6
NNA  Nana             160.66  62 PKP      PKPdf   12 54 16.7 +2.5
     comp=Z,47nm,0.8s,baz=347,slow=2.0,SNR=7.2
NNA  Nana             160.66  62 ePKPdf   PKPdf   12 54 17.2 +3.1
TRQA Tornquist        163.88 173 ePKPdf   PKPdf   12 54 19.0 +1.6
CFAA Coronel Fontan   167.69 143 PKP      PKPdf   12 54 22.3 +1.8
     comp=Z,2.7nm,0.9s,baz=346,slow=2.1,SNR=4.0
CFAA                             PKPab   PKPab   12 55 28.6 +1.7
     comp=Z,11nm,1.1s,baz=196,slow=3.6,SNR=4.5
CFAA                             PP      PP      12 59 18.1 +2.8
     comp=Z,1.4nm,0.9s,baz=184,slow=3.5,SNR=3.1
CFAA Coronel Fontan   167.69 143 PKP      PKPdf   12 54 22.3 +1.8
CFAA                             PKPab   PKPab   12 55 28.6 +1.7
CFAA                             PP      PP      12 59 18.1 +2.8
LPAZ La Paz           170.05  56 PKP      PKPdf   12 54 24.9 +3.0
     comp=Z,18nm,1.0s,baz=50,slow=5.6,SNR=4.7
LPAZ                             PKPab   PKPab   12 55 38.9 +1.6
     comp=Z,48nm,1.1s,baz=315,slow=3.9,SNR=3.6
LPAZ                             PP      PP      12 59 32.7 +5.4
     comp=Z,15nm,1.1s,baz=20,slow=7.9,SNR=2.6
LPAZ La Paz           170.05  56 ePKPdf   PKPdf   12 54 23.4 +1.5
SIV  San Ignacio      173.81  14 PKP      PKPdf   12 54 25.6 +1.9
     comp=Z,32nm,1.0s,baz=37,slow=0.5,SNR=5.7
SIV                              PKPab   PKPab   12 55 56.1 +2.1
     comp=Z,32nm,0.8s,baz=357,slow=2.1,SNR=5.7
SIV                              PP      PP      12 59 46.7 +0.8
     comp=Z,23nm,1.1s,baz=356,slow=7.6,SNR=4.6
```

*IDC **26** 12:40:19.6±1.1, 2186N×12061E, h0km, mb4.8/6, mb1 5.0/6, mb1mx4.6/20, mbtmp4.8/6, Error ellipse: s-maj=44.3km s-min=21.8km az=66.0*
*NEIC **26** 12:40:21.7±0.5, 2164N×12085E, h10km, mb5.5/8, Error ellipse: s-maj=10.4km s-min=9.6km az=107.0*
NEIC Recorded [3 TAP] in P'ing-tung and [1 TAP] in Chang-hua, Kao-hsiung, P'eng-hu, T'ai-nan and T'ai-tung Counties.
*MOS **26** 12:40:22.9±0.8, 2184N×12091E, h33km, mb5.5/4, Error ellipse: s-maj=17.6km s-min=13.3km az=37.0*
*ISCJB **26** 12:40:23.6±1.1, 2165N±005×12083E±006, h41km±11km, mb5.0/10, MS5.3/1, Error ellipse: s-maj=9.4km s-min=8.1km az=32.7*
*BJI **26** 12:40:29.5, 2255N×12027E, h10km, mB5.5, mb5.5, Ms5.7, Msz5.6*

ISC 26 12:40:25.8±0.9, 2168N±005×12085E±006, h43km±10km, n42, σ1°25/41, mb5.0/10, MS5.3/1, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.57**	**15**	*e*Pn	**Pn**	**12 41 04.4**	**-0.6**
NACB				*e*Sn	**Sn**	**12 41 35.1**	**0.0**
YHNB	**Yeheng**	**3.01**	**9**	*e*Pn	**Pn**	**12 41 11.1**	**+0.1**
YHNB				*e*Sn	**Sn**	**12 41 45.5**	**-0.4**
TATO	**Taipei**	**3.33**	**10**	*e*Pn	**Pn**	**12 41 17.5**	**+2.1**
QIZ	**Qiongzhong**	**10.65**	**258**	*e*Pn	**Pn**	**12 42 55.6**	**-0.2**
ENH	**Enshi**	**13.32**	**312**	Pn	**Pn**	**12 43 31.6**	**-0.6**
	0.5nm,0.4s						
DAV	**Davao City (W)**	**15.23**	**162**	Pn	**Pn**	**12 43 56.1**	**-1.8**
KMI	**Kunming**	**16.97**	**285**	P	**Pn**	**12 44 20.8**	**+0.8**
KMI				AMB	AMB		
	comp=Z,784nm,2.0s						
KMI	**Kunming**	**16.97**	**285**	P	**Pn**	**12 44 20.7**	**+0.7**
KMI				pmax	pmax		
	comp=Z,784nm,2.0s						
KMI	**Kunming**	**16.97**	**285**	P	**Pn**	**12 44 20.7**	**+0.7**
	comp=Z,784nm,2.0s						
CD2	**Chengdu**	**17.85**	**305**	*e*P	**Pn**	**12 44 30.5**	**-0.4**
CD2				AMB	AMB		
	comp=Z,40nm,0.8s						
LZH	**Lanzhou**	**20.63**	**318**	*e*P	**P**	**12 45 01.5**	**-0.1**
LZH				AP		12 45 05.5	
LZH				XP	sP	12 45 08.5	-9.0
LZH				PP		12 45 23.0	
LZH				AMB	AMB		
	comp=Z,305nm,1.3s						
LZH				AMB	AMB		
	comp=Z,1µm,5.4s						
LZH				LR	LR		
	comp=E,5µm,8.7s						
LZH				LR	LR		
	comp=Z,8µm,12.6s,MS5.3						
LZH	**Lanzhou**	**20.63**	**318**	*e*P	**P**	**12 45 01.5**	**-0.1**
LZH						12 45 23.1	
LZH				*e*S	**S**	**12 48 47.0**	**-2.8**
LZH				SS		12 49 18.5	
LZH				pmax	pmax		
	comp=Z,305nm,1.3s						
LZH				MLR	MLR		
	comp=Z,8µm,12.6s,MS5.3						
LZH	**Lanzhou**	**20.63**	**318**	*e*P	**P**	**12 45 01.5**	**-0.1**
	comp=Z,305nm,1.3s						
LZH				pP		12 45 05.6	
LZH				sP	sP	12 45 08.5	-9.0
LZH				PP		12 45 23.1	
LZH				*e*S	**S**	**12 48 47.0**	**-2.8**
LZH				sS	sS	12 48 53.6	-13
LZH				SS		12 49 18.5	
LZH				LR	LR		
	comp=Z,8µm,12.6s,MS5.3						
HHC	**Hu-ho-hao-te**	**20.66**	**340**	*e*P	**P**	**12 45 04.3**	**+2.4**
HHC				AP		12 45 08.5	
HHC				XP	sP	12 45 11.3	-6.6
HHC				AMB	AMB		
	comp=Z,169nm,0.7s						
CHTO	**Chiang Mai**	**20.75**	**266**	*e*P	**P**	**12 45 03.2**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,2µm,1.9s						
CHTO	**Chiang Mai**	**20.75**	**266**	*e*P	**P**	**12 45 03.1**	**+0.4**
	comp=Z,2µm,1.9s						
CM31	**Chiang Mai Arr**	**20.82**	**265**	*e*P	**P**	**12 45 03.2**	**-0.4**
MAJO	**Matsushiro**	**21.14**	**42**	*e*P	**P**	**12 45 06.2**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,46nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**21.14**	**42**	*e*P	**P**	**12 45 06.2**	**-0.9**
	comp=Z,46nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**21.14**	**42**	P	**P**	**12 45 06.7**	**-0.4**
	comp=Z,13nm,1.0s,baz=249,slow=9.0,SNR=4.3						
MDJ	**Mudanjiang**	**23.99**	**15**	P	**P**	**12 45 38.0**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,53nm,1.7s,mb4.7						
MDJ	**Mudanjiang**	**23.99**	**15**	P	**P**	**12 45 38.4**	**+2.1**
GUMO	**Guam**	**24.24**	**105**	*e*P	**P**	**12 45 36.5**	**-2.1**
KULM	**Kulim**	**25.46**	**233**	*e*P	**P**	**12 45 48.4**	**-1.3**
LSA	**Lhasa**	**27.87**	**293**	*e*P	**P**	**12 46 11.9**	**+0.5**
WMQ	**Urumqi**	**35.21**	**317**	*e*P	**P**	**12 47 18.0**	**+2.2**
MKAR	**Makanchi Array**	**39.35**	**318**	P	**P**	**12 47 51.5**	**-4.5**
	comp=Z,48nm,1.1s,mb5.1,baz=117,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**43.42**	**161**	P	**P**	**12 48 26.0**	**+1.7**
	comp=Z,19nm,0.8s,mb4.9,baz=344,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**	**46.83**	**164**	P	**P**	**12 48 53.1**	**+1.7**
	comp=Z,21nm,1.1s,mb5.0,baz=349,slow=7.5,SNR=4.8						
CTAO	**Charters Tower**	**48.38**	**147**	*e*P	**P**	**12 49 05.3**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.5						
CTAO	**Charters Tower**	**48.38**	**147**	*e*P	**P**	**12 49 05.3**	**+2.0**
	comp=Z,60nm,1.3s,mb5.5						
BVAR	**Borovoye Array**	**49.43**	**322**	P	**P**	**12 49 10.2**	**-1.2**
	comp=Z,8.4nm,0.6s,mb5.0,baz=104,slow=8.5,SNR=6.4						
ARU	**Arti**	**56.93**	**324**	*e*P	**P**	**12 50 05.4**	**-1.1**
ARU				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.4						
ARU	**Arti**	**56.93**	**324**	*e*P	**P**	**12 50 05.4**	**-1.1**
	comp=Z,44nm,1.2s,mb5.4						
BHD	**Baghdad**	**67.49**	**298**	*i* x	x	12 51 21.5	
BHD				*i* x	x	13 00 19.0	
COLA	**College**	**71.15**	**27**	*e*P	**P**	**12 51 38.7**	**-1.2**
COLA				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
COLA	**College**	**71.15**	**27**	*e*P	**P**	**12 51 38.7**	**-1.2**
	comp=Z,27nm,1.4s,mb5.0						
GERES	**GERESS Array B**	**84.57**	**321**	P	**P**	**12 52 54.0**	**-0.5**
	comp=Z,7.3nm,0.8s,mb4.9,baz=57,slow=4.9,SNR=4.5						
SMCO	**Snowmass**	**104.73**	**37**	*e*P	Pdif	12 54 30.4	+3.0
	comp=Z,27nm,0.6s						
SYO	**Syowa Base**	**106.96**	**202**	*e*Pdiff	Pdif	12 54 38.8	+1.5
SDV	**Santo Domingo**	**147.60**	**22**	*e*PKPbc	PKPbc	13 08 07.1	+1.7
SDV				*e*PKPab	PKPab	13 00 08.5	+0.9
NNA	**Nana**	**160.53**	**63**	*e*PKPdf	PKPdf	13 00 24.4	+3.7

IDC 26 12:45:58.3±4.0, 2207N×12074E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/20, mbtmp4.2/3, Error ellipse: s-maj=316.5km s-min=26.0km az=60.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.59**	**318**	P	P	12 53 31.3	-0.1
	1.5nm,0.8s,baz=111,slow=7.9,SNR=2.3						
WRA	**Warramunga Arr**	**43.82**	**161**	P	P	12 54 05.9	-0.1
	1.8nm,0.6s,baz=342,slow=9.0,SNR=5.2						
ASAR	**Alice Springs**	**47.23**	**163**	P	P	12 54 33.4	+0.4
	2.0nm,0.5s,baz=345,slow=7.0,SNR=13						

IDC 26 12:48:00.2±1.1, 2203N×12093E, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.0/20, mbtmp4.2/4, Error ellipse: s-maj=69.8km s-min=23.6km az=68.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.75**	**318**	P	P	12 55 34.4	-0.1
	1.4nm,0.9s,baz=111,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**43.72**	**162**	P	P	12 56 07.0	0.0
	5.0nm,0.7s,baz=343,slow=9.0,SNR=10.0						
ASAR	**Alice Springs**	**47.14**	**164**	P	P	12 56 34.5	+0.4
	2.5nm,0.5s,baz=349,slow=7.9,SNR=15						
YKA	**Yellowknife Ar**	**85.04**	**23**	P	P	13 00 37.4	-0.2
	1.4nm,0.9s,baz=315,slow=5.0,SNR=6.6						

*NEIC **26** 12:48:14.9, 16.14N×9772W, h15km, MD3.7(MEX), After MEX.*
MEX 26 12:48:13.7±0.7, 1604N×9770W, h20km±28km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.54**	**311**	*i* P	Pb	12 48 22.6	-1.9
PNIG				*i* S	Sb	12 48 30.1	-1.7
VHO	**Vista Hermosa**	**1.39**	**42**	*e*P	Pn	12 48 35.1	-2.8
VHO				*i* S	Sn	12 48 52.2	-3.4
OXX	**Oaxaca**	**1.40**	**42**	*i* P	Pn	12 48 34.5	-3.6
OXX				*i* S	Sn	12 48 51.3	-4.6
HUIG	**Huatulco**	**1.56**	**100**	*i* P	Pn	12 48 38.1	-2.1
HUIG				*i* S	Sn	12 48 56.4	-3.4
HUIG	**Huatulco**	**1.56**	**100**	*i* P	Pn	12 48 38.8	-1.4
HUIG				*i* S	Sn	12 48 59.1	-0.7
UTMO	**Huajuapan**	**1.79**	**357**	*i* P	Pn	12 48 41.5	-1.9
UTMO				*i* S	Sn	12 49 02.6	-2.9
ACX	**Acapulco**	**2.28**	**292**	*i* P	Pn	12 48 52.5	+2.3
TPIG	**Tehuac#an**	**2.39**	**8**	*i* P	Pn	12 48 53.2	+1.4
TPIG				*i* S	Sn	12 49 17.6	-2.8
MEIG	**Mezcala**	**2.63**	**316**	*e*P	Pn	12 48 52.9	-2.0
MEIG				*i* S	Sn	12 49 23.5	-2.7
CMIG	**Matias Romero**	**2.90**	**68**	*i* P	Pn	12 48 54.0	-4.7
CMIG				*i* S	Sn	12 49 30.2	-2.7
CMIG	**Matias Romero**	**2.90**	**68**	*i* P	Pn	12 49 01.2	+2.5
CMIG				*i* S	Sn	12 49 25.8	-7.1
PLIG	**Platanillo**	**2.91**	**324**	*i* P	Pn	12 48 57.7	-1.1
PLIG				*i* S	Sn	12 49 30.0	-3.2
PLIG	**Platanillo**	**2.91**	**324**	*i* P	Pn	12 49 05.4	+6.6
PLIG				*i* S	Sn	12 49 36.6	+3.5

IDC 26 12:53:30.0±4.8, 2232N×12116E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=365.1km s-min=28.5km az=60.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.67**	**318**	P	P	13 01 03.7	-0.1
	0.3nm,0.5s,baz=115,slow=9.2,SNR=4.3						
WRA	**Warramunga Arr**	**43.93**	**162**	P	P	13 01 38.2	-0.4
	0.4nm,0.6s,baz=343,slow=9.0,SNR=3.4						
ASAR	**Alice Springs**	**47.36**	**164**	P	P	13 02 06.3	+0.6
	0.8nm,0.9s,baz=342,slow=6.9,SNR=8.6						

IDC 26 12:55:00.7±7.1, 5725N×14598E, h82km±57km, mb3.5/2, mb1 3.5/4, mb1mx3.4/14, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=59.2km s-min=48.9km az=51.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.85**	**162**	P	Pn	12 55 59.5	+2.0
	6.5nm,0.3s,baz=336,slow=5.4,SNR=29						
PMG				S	Sn	12 56 41.4	-0.2
	14nm,0.3s,baz=140,slow=22,SNR=14						
WRA	**Warramunga Arr**	**18.12**	**218**	P	Pn	12 59 07.6	+0.8
	0.2nm,0.3s,baz=36,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**21.30**	**212**	P	P	12 59 40.8	+0.2
	0.4nm,0.7s,baz=52,slow=8.6,SNR=4.9						
STKA	**Stephens Creek**	**26.35**	**188**	P	P	13 00 29.2	+0.3
	1.9nm,0.9s,baz=8.4,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.04**	**284**	PKP	PKPdf	13 14 26.1	-0.5
	0.4nm,0.5s,baz=75,slow=3.0,SNR=4.6						

IDC 26 12:55:43.4±5.1, 2227N×12141E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=391.0km s-min=28.4km az=60.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.87**	**317**	P	P	13 03 18.7	0.0
	1.1nm,0.9s,baz=113,slow=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**43.81**	**162**	P	P	13 03 50.4	-0.6
	0.8nm,0.6s,baz=343,slow=8.9,SNR=4.0						
ASAR	**Alice Springs**	**47.25**	**164**	P	P	13 04 19.4	+1.1
	0.4nm,0.8s,baz=341,slow=6.9,SNR=4.3						

IDC 26 12:57:47.3±9.2, 6375S×15144E, h68km±66km, mb3.2/2, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=106.4km s-min=57.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**234**	P	Pn	12 59 03.0	+0.4
	1.3nm,0.3s,baz=294,slow=21,SNR=4.3						
PMG				S	Sn	13 00 01.6	+0.2
	6.9nm,0.3s,baz=179,slow=14,SNR=8.0						
WRA	**Warramunga Arr**	**21.40**	**229**	P	P	13 02 31.1	+1.7
	0.5nm,0.5s,baz=56,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**24.09**	**223**	P	P	13 02 56.6	+0.2
	1.1nm,0.6s,baz=56,slow=9.2,SNR=17						
TORD	**Torodi Ar. Bea**	**149.46**	**285**	PKPbc	PKPbc	13 17 28.9	+0.2
	0.4nm,0.7s,baz=94,slow=3.2,SNR=5.3						

IDC 26 12:58:07.2±1.1, 2187N×12059E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/21, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=41.3km s-min=21.3km az=82.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**16.77**	**21**	Pn	Pn	13 02 05.1	+1.7
	baz=202,slow=13,SNR=3.7						
MJAR	**Matsushiro Arr**	**21.16**	**42**	P	P	13 02 54.3	+0.4
	3.0nm,0.9s,baz=233,slow=8.6,SNR=6.0						
MKAR	**Makanchi Array**	**39.65**	**318**	P	P	13 05 40.8	+0.2
	0.9nm,0.8s,baz=101,slow=7.0,SNR=3.3						
WRA	**Warramunga Arr**	**43.68**	**161**	P	P	13 06 13.7	0.0
	2.4nm,0.6s,baz=343,slow=9.1,SNR=9.5						
ASAR	**Alice Springs**	**47.08**	**163**	P	P	13 06 41.2	+0.5
	1.0nm,0.3s,baz=345,slow=7.0,SNR=25						
YKA	**Yellowknife Ar**	**85.30**	**22**	P	P	13 10 44.8	-1.1
	0.8nm,1.0s,baz=309,slow=4.8,SNR=5.5						

IDC 26 13:03:59.8±5.7, 2233N×12157E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=434.1km s-min=26.9km az=60.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.92**	**317**	P	P	13 11 35.5	0.0
	0.8nm,1.0s,baz=111,slow=8.8,SNR=3.2						
WRA	**Warramunga Arr**	**43.83**	**163**	P	P	13 12 07.6	0.0
	0.3nm,0.7s,baz=344,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**47.27**	**165**	P	P	13 12 35.2	+0.3
	0.5nm,0.7s,baz=348,slow=8.3,SNR=4.9						

*IDC **26** 13:07:20.0±0.8, 2205N×12073E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/22, mbtmp3.9/10, ML3.4/1, Error ellipse: s-maj=42.3km s-min=18.3km az=70.0*
*BJI **26** 13:07:20.3, 2183N×12035E, h10km, ML3.5*
*NEIC **26** 13:07:21.5±0.6, 2189N×12044E, h10km, MG3.5(JMA), Error ellipse: s-maj=19.5km s-min=11.1km az=88.0*
*ISCJB **26** 13:07:24.5±1.5, 2192N±008×12064E±007, h45km±13km, mb3.8/9, Error ellipse: s-maj=13.4km s-min=10.5km az=140.5*
*JMA **26** 13:07:26.2±0.3, 2181N×12089E, h123km, M3.5*
ISC 26 13:07:25.6±1.5, 2194N±008×12056E±007, h38km±14km, n20, σ0°84/28, mb3.8/9, Taiwan region

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

JIJ	Ishigaki jima	4.09	53	P	Pn	13 08 25.5	0.0
JIJ				eS	Sn	13 09 10.6	-1.5
JTJ	Tarama	4.66	54	P	Pn	13 08 33.6	+0.1
JTJ				eS	Sn	13 09 25.7	-0.6
KSRS	Korea Array	16.72	21	Pn	Pn	13 11 12.0	-4.9
	baz=313,slow=37,SNR=2.5						
GTA	Gaotai	24.84	319	eP	P	13 12 45.8	+1.5
GTA				AP		13 12 50.0	
GTA				XP	sP	13 12 53.0	-6.4
SONM	Songino Array	28.24	340	P	P	13 13 14.6	-0.3
	comp=E,1.5nm,0.9s,mb3.6,baz=163,slow=6.6,SNR=3.6						
MKAR	Makanchi Array	39.58	318	P	P	13 14 53.1	0.0
	comp=E,0.8nm,0.7s,mb3.6,baz=109,slow=11,SNR=6.8						
ZAL	Zalesovo	41.84	329	P	P	13 15 11.2	-0.6
	comp=E,1.7nm,0.9s,mb3.7,baz=343,slow=7.5,SNR=4.7						
WRA	Warramunga Arr	43.75	161	P	P	13 15 27.2	0.0
	comp=E,1.1nm,0.5s,mb3.8,baz=343,slow=9.1,SNR=6.2						
ASAR	Alice Springs	47.15	163	P	P	13 15 54.9	+0.8
	comp=E,0.6nm,0.4s,mb3.9,baz=344,slow=7.2,SNR=12						
FINES	FINESS Array B	73.09	330	P	P	13 18 52.4	+0.5
	comp=E,2.6nm,0.9s,mb4.1,baz=214,slow=9.2,SNR=3.3						
INK	Inuvik	75.52	22	P	P	13 19 04.8	-1.2
	comp=E,1.8nm,0.8s,mb4.1,baz=303,slow=5.2,SNR=10						
GERES	GERESS Array B	84.21	321	P	P	13 19 52.8	-0.2
	comp=E,0.3nm,0.7s,mb3.5,baz=70,slow=4.4,SNR=5.4						
YKA	Yellowknife Ar	85.25	22	P	P	13 19 58.1	-0.1
	comp=E,0.8nm,0.7s,mb4.0,baz=316,slow=4.8,SNR=16						

*IDC **26** 13:11:25.6±0.8,2185N×12059E,h0km,mb4.0/11,*
mb1 4.2/11,mb1mx4.0/23,mbtmp4.0/11,Error ellipse:
s-maj=63.0km s-min=14.2km az=67.0
*BJI **26** 13:11:25.5,2176N×12030E,h10km,ML3.7*
*NEIC **26** 13:11:27.4±0.6,2177N×12049E,h10km,MG3.4(JMA),*
Error ellipse: s-maj=20.9km s-min=9.7km az=85.0
*ISCJB **26** 13:11:29.2±0.5,2181N±005×12058E±005,h35km,*
mb3.9/11,Error ellipse: s-maj=9.1km s-min=5.1km
az=95.6
*JMA **26** 13:11:32.0±0.3,2186N×12074E,h115km,M3.4*
ISC 26 13:11:30.9±0.5,2184N±005×12052E±005,h35km,n24,
σ0°89/32,mb3.9/11,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.52	23	Pn	Pn	13 12 09.9	+0.6
YHNB	Yeheng	2.92	15	ePn	Pn	13 12 14.9	0.0
YHNB				eSg	Sn	13 12 49.6	+0.9
YOJ	Yonaguni jima	3.47	41	P	Pn	13 12 23.3	+0.9
YOJ				eS	Sn	13 13 02.3	0.0
QZH	Quanzhou	3.56	331	P	Pn	13 12 22.0	-1.6
QZH				S	Sn	13 12 59.5	-5.0
QZH				Smax			
	comp=N,150nm,0.8s						
QZH				Smax			
	comp=E,150nm,0.8s						
HATJ	Hateruma jima	3.75	53	P	Pn	13 12 26.6	+0.4
HATJ				eS	Sn	13 13 08.3	-0.7
IRIF	Iriomote-Funau	3.86	49	P	Pn	13 12 28.2	+0.5
IRIF				eS	Sn	13 13 12.5	+0.7
JKRS	Kuro-shima	4.00	53	eS	Sn	13 13 14.6	-0.8
JIJ	Ishigaki jima	4.17	52	P	Pn	13 12 32.3	+0.2
JIJ				eS	Sn	13 13 18.3	-1.3
JTJ	Tarama	4.75	53	P	Pn	13 12 40.4	+0.4
JTJ				eS	Sn	13 13 33.1	-0.7
GZH	Guangzhou	6.75	282	P	Pn	13 13 04.0	-3.5
GZH				S	Sn	13 14 12.0	-11
GZH				Smax			
	comp=N,58nm,1.0s						
GZH				Smax			
	comp=E,52nm,1.1s						
KSRS	Korea Array	16.82	21	Pn	Pn	13 15 27.1	+3.4
	baz=177,slow=9.4,SNR=3.2						
SONM	Songino Array	28.31	340	P	P	13 17 21.3	+0.1
	comp=E,0.3nm,0.4s,mb3.3,baz=20,slow=43,SNR=4.0						
SONM	Songino Array	28.31	340	P	P	13 17 21.2	+0.1
MKAR	Makanchi Array	39.63	318	P	P	13 18 60.0	+0.8
	comp=E,1.1nm,0.6s,mb3.7,baz=113,slow=9.7,SNR=11						
FITZ	Fitzroy Crossi	40.01	172	P	P	13 19 01.9	-0.4
	comp=E,4.8nm,0.7s,mb4.3,baz=119,slow=1.8,SNR=3.4						
ZAL	Zalesovo	41.90	329	P	P	13 19 18.8	+0.9
	comp=E,1.5nm,0.8s,mb3.7,baz=342,slow=7.2,SNR=8.4						
WRA	Warramunga Arr	43.67	161	P	P	13 19 31.1	-1.1
	comp=E,6.7nm,1.1s,mb4.3,baz=345,slow=8.6,SNR=14						
ASAR	Alice Springs	47.07	163	P	P	13 20 00.4	+1.2
	comp=E,2.0nm,0.9s,mb4.0,baz=344,slow=7.2,SNR=23						
BVAR	Borovoye Array	49.12	322	P	P	13 20 15.1	+0.1
	comp=E,0.8nm,0.6s,mb4.0,baz=92,slow=10,SNR=6.4						
BVAR	Borovoye Array	49.12	322	P	P	13 20 15.1	+0.1
STKA	Stephens Creek	57.10	159	P	P	13 21 14.3	+0.6
	comp=E,1.5nm,0.9s,mb4.0,baz=333,slow=14,SNR=3.2						
HFS	Hagfors	79.30	331	P	P	13 23 33.0	+0.1
	comp=E,3.2nm,0.8s,mb4.3,baz=111,slow=7.9,SNR=3.5						
GERES	GERESS Array B	84.25	321	P	P	13 23 57.7	-1.2
	comp=E,0.5nm,0.6s,mb3.8,baz=208,slow=14,SNR=6.8						
YKA	Yellowknife Ar	85.36	22	P	P	13 24 04.4	-0.1
	comp=E,0.3nm,0.7s,mb3.5,baz=312,slow=4.7,SNR=6.2						

*IDC **26** 13:13:27.0±0.5,2167N×12054E,h0km,mb4.3/22,*
mb1 4.4/22,mb1mx4.4/29,mbtmp4.3/22,Error ellipse:
s-maj=23.1km s-min=11.7km az=65.0
*NEIC **26** 13:13:28.6±0.3,2163N×12057E,h10km,mb4.5/3,Error*
ellipse: s-maj=7.9km s-min=6.2km az=65.0
*MOS **26** 13:13:29.7±0.9,2160N×12062E,h33km,mb5.0/3,Error*
ellipse: s-maj=18.9km s-min=11.3km az=129.4
*ISCJB **26** 13:13:30.6±1.1,2169N±006×12065E±004,h38km±10km,*
mb4.5/30,Error ellipse: s-maj=9.4km s-min=6.8km
az=161.4
*JMA **26** 13:13:31.1±0.3,2173N×12102E,h0km,M4.6*
*BJI **26** 13:13:34.0,2224N×120.10E,h10km,mB4.7,mb4.5,ML3.9,*
Ms4.0,Msz3.9
ISC 26 13:13:32.6±1.0,2171N±006×12064E±004,h36km±9km,
n55,σ0°86/67,mb4.5/30,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.61	20	ePn	Pn	13 14 13.0	+0.8
NACB				eSg	Sn	13 14 53.4	+11
YHNB	Yeheng	3.03	13	ePn	Pn	13 14 19.1	+1.2
YHNB				eSg	Sn	13 15 00.3	+7.3
YOJ	Yonaguni jima	3.51	38	P	Pn	13 14 25.3	+0.7
YOJ				eS	Sn	13 15 05.7	+0.9
QZH	Quanzhou	3.73	330	P	Pn	13 14 25.3	-2.3
QZH				S	Sn	13 15 02.3	-8.0
QZH				Smax			
	comp=N,281nm,0.8s						
QZH				Smax			
	comp=E,662nm,1.4s						
HATJ	Hateruma jima	3.74	51	P	Pn	13 14 27.8	0.0
HATJ				eS	Sn	13 15 09.0	-1.6
IRIF	Iriomote-Funau	3.87	47	P	Pn	13 14 29.5	0.0
IRIF				eS	Sn	13 15 12.9	-0.8
JKRS	Kuro-shima	4.00	50	P	Pn	13 14 31.6	+0.2
JKRS				eS	Sn	13 15 16.8	-0.2
JIJ	Ishigaki jima	4.18	50	P	Pn	13 14 34.2	+0.5
JIJ				eS	Sn	13 15 19.5	-1.8
JTJ	Tarama	4.75	51	P	Pn	13 14 41.8	+0.2
JTJ				eS	Sn	13 15 35.0	-0.4
JOGS	Gusukube	5.34	54	P	Pn	13 14 50.4	+0.7
JOGS				eS	Sn	13 15 50.2	+0.3
GZH	Guangzhou	6.88	283	P	Pn	13 15 06.0	-5.0
GZH				S	Sn	13 16 15.8	-12
GZH				Smax			
	comp=N,165nm,0.8s						
GZH				Smax			
	comp=E,99nm,0.8s						
GYA	Guiyang	13.61	293	P	Pn	13 16 42.0	-1.0
GYA				S	Sn	13 19 02.3	-11
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,70nm,4.2s						
GYA				LR	LR		
	comp=N,340nm,12.4s						
GYA				LR	LR		
	comp=E,410nm,12.8s						
GYA				LR	LR		
	comp=Z,480nm,11.8s						
KSRS	Korea Array	16.91	20	Pn	Pn	13 17 28.2	+1.9
	baz=198,slow=12,SNR=5.8						
CHTO	Chiang Mai	20.55	266	eP	P	13 18 08.6	+0.7
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	Chiang Mai	20.55	266	eP	P	13 18 08.6	+0.7
	comp=Z,6.9nm,0.8s						
MJAR	Matsushiro Arr	21.26	42	P	P	13 18 16.9	+1.3
	comp=Z,1.4nm,0.7s,mb3.4,baz=259,slow=21,SNR=4.5						
GTA	Gaotai	25.06	319	eP	P	13 18 53.3	-0.1
GTA				AP	pP	13 18 57.3	-6.3
GTA				XP	sP	13 19 00.5	-7.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
SONM	Songino Array	28.48	340	P	P	13 19 24.1	-0.1
	comp=Z,1.0nm,0.8s,mb3.5,baz=157,slow=10,SNR=3.6						
ASAJ	Asahikawa	28.80	34	P	P	13 19 28.6	+1.6
	comp=Z,6.0nm,0.9s,mb4.3,baz=268,slow=18,SNR=4.9						
GUN	Gumba	32.07	288	eP	P	13 19 56.3	+0.4
	comp=Z,40nm,0.9s,mb5.2						
PKI	Pulchoki	32.47	288	eP	P	13 19 59.7	+0.3
KKN	Kakani	32.60	288	eP	P	13 20 00.5	0.0
	comp=Z,30nm,1.0s,mb5.2						
KKN	Kakani	32.60	288	eP	P	13 20 00.5	0.0
KKN				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
DMN	Daman	32.74	288	eP	P	13 20 01.8	0.0
	comp=Z,34nm,1.0s,mb5.2						
GKN	Gorkha	33.18	288	eP	P	13 20 05.1	-0.5
	comp=Z,33nm,1.2s,mb5.2						
KOLN	Koldanda	34.08	288	eP	P	13 20 13.5	0.0
	comp=Z,36nm,1.0s,mb5.3						
MKAR	Makanchi Array	39.80	318	P	P	13 21 01.8	-0.3
	comp=Z,2.6nm,0.6s,mb4.1,baz=112,slow=8.5,SNR=20						
PMG	Port Moresby	40.42	137	P	P	13 21 05.6	-1.5
	comp=Z,6.7nm,0.7s,mb4.5,baz=117,slow=19,SNR=2.8						
ZAL	Zalesovo	42.07	329	P	P	13 21 20.7	-0.1
	comp=Z,5.3nm,0.7s,mb4.3,baz=357,slow=7.4,SNR=25						
ZAL	Zalesovo	42.07	329	P	P	13 21 20.7	-0.1
WRA	Warramunga Arr	43.51	161	P	P	13 21 32.0	-0.4
	comp=Z,7.6nm,0.5s,mb4.7,baz=343,slow=9.0,SNR=59						
WB2	Warramunga Arr	43.51	161	eP	P	13 21 32.0	-0.4
KBL	Kabul	46.81	297	eP	P	13 21 59.7	+1.1
ASAR	Alice Springs	46.91	163	P	P	13 22 00.2	+0.8
	comp=Z,1.9nm,0.5s,mb4.3,baz=349,slow=7.2,SNR=16						
CTA	Charters Tower	48.50	147	P	P	13 22 13.1	+1.3
	comp=Z,1.8nm,0.5s,mb4.3,baz=328,slow=5.7,SNR=3.6						
CTA	Charters Tower	48.50	147	P	P	13 22 13.1	+1.3
BVAR	Borovoye Array	49.29	322	P	P	13 22 17.7	0.0
	comp=Z,4.4nm,0.6s,mb4.7,baz=104,slow=7.3,SNR=15						
BRVK	Borovoye	49.36	322	eP	P	13 22 18.4	+0.1
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
BRVK	Borovoye	49.36	322	eP	P	13 22 18.4	+0.1
	comp=Z,7.0nm,0.7s,mb4.8						
NWAO	Narrogin (SRO)	54.42	184	P	P	13 22 54.2	-1.8
	comp=Z,2.3nm,0.8s,mb4.2,baz=328,slow=10,SNR=3.6						
AKTK	Aktyubinsk	56.21	317	P	P	13 23 08.1	-0.8
AKTO	Aktyubinsk	56.21	317	P	P	13 23 08.1	-0.8
	comp=Z,0.8nm,0.5s,mb4.0,baz=109,slow=8.7,SNR=3.8						
STKA	Stephens Creek	56.94	159	eP	P	13 23 14.3	+0.2
	comp=Z,2.9nm,0.5s,mb4.6						
STKA	Stephens Creek	56.94	159	P	P	13 23 14.8	+0.7
	comp=Z,3.5nm,0.5s,mb4.6,baz=331,slow=8.6,SNR=14						
KIV	Kislovodsk	66.76	310	eP	P	13 24 20.4	+0.3
KIV				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
FINES	FINESS Array B	73.32	330	P	P	13 24 59.5	-0.8
	comp=Z,3.3nm,0.9s,mb4.3,baz=113,slow=4.4,SNR=3.8						
BRTR	Keskin Array B	74.24	307	P	P	13 25 06.2	+0.4
	comp=Z,1.9nm,0.9s,mb4.0,baz=117,slow=7.6,SNR=4.9						
INK	Inuvik	75.70	22	P	P	13 25 13.2	-1.0
	comp=Z,1.1nm,0.6s,mb4.0,baz=316,slow=8.4,SNR=12						
MLR	Muntele Rosu	78.00	314	P	P	13 25 26.9	-0.2
	comp=Z,3.7nm,0.7s,mb4.4,baz=266,slow=16,SNR=4.1						
HFS	Hagfors	79.47	331	P	P	13 25 34.6	-0.6
	comp=Z,4.5nm,0.7s,mb4.5,baz=123,slow=5.5,SNR=6.0						
NB2	NORSAR Subarra	80.17	332	P	P	13 25 37.3	-1.7
	comp=Z,5.8nm,1.0s,mb4.5,baz=62,slow=5.6						
NOA	NORSAR Array B	80.17	332	P	P	13 25 38.5	-0.5
	comp=Z,2.6nm,0.7s,mb4.3,baz=60,slow=5.6,SNR=7.4						
KMBO	Kilima Mbogo	84.26	267	P	P	13 26 01.6	+1.2
	comp=Z,3.7nm,0.8s,mb4.6,baz=46,slow=11,SNR=9.7						
GERES	GERESS Array B	84.43	321	P	P	13 26 01.6	+0.4
	comp=Z,1.9nm,0.8s,mb4.3,baz=66,slow=5.0,SNR=12						
YKA	Yellowknife Ar	85.44	22	P	P	13 26 06.8	+0.4
	comp=Z,1.0nm,0.8s,mb4.0,baz=309,slow=4.8,SNR=16						

*ISCJB **26** 13:22:52.7±0.7,3408N±003×3562E±005,h8km±6km,*
Error ellipse: s-maj=7.0km s-min=4.7km az=29.4
*CSEM **26** 13:22:53.0±0.1,3407N×3572E,h8km,ML3.0,Error*
ellipse: s-maj=3.9km s-min=1.6km az=110.0
*GRAL **26** 13:22:53.6±0.8,3410N×3564E,h0km±73km,MD3.0*
*NSSC **26** 13:22:53,3408N×3569E,h9km±1km*
ISC 26 13:22:53.0±0.7,3408N±003×3563E±005,h8km±5km,n28,
σ0°65/51,14D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.18	174	i Pg	Pg	13 22 56.5	-0.3
BHL				i Sg	Sg	13 22 59.4	+0.1
HWQ	Hawqa	0.33	53	i Pg	Pg	13 22 59.0	-0.5
HWQ				i Sg	Sg	13 23 03.6	-0.2
RCY	Rachaya	0.61	165	i Pg	Pg	13 23 04.8	-0.1
RCY				i Sg	Sg	13 23 13.5	+0.5
RCY	Rachaya	0.61	165	i Pg	Pg	13 23 04.8	-0.1
RCY				i Sg	Sg	13 23 13.5	+0.6
MATL	Matirih	0.64	203	i Pg	Pg	13 23 05.8	+0.4
MARH	Ras Al Marh	0.71	94	↑P	Pg	13 23 06.0	-0.7
MARH				↓S	Sg	13 23 17.0	+1.1
MARH	Ras Al Marh	0.71	94	↑i P	Pg	13 23 06.6	-0.1
MARH				↓i S	Sg	13 23 17.1	+1.2
BRBR	Barbar	0.72	158	↑P	Pg	13 23 06.0	-0.9
BRBR				↑S	Sg	13 23 17.0	+0.7
BRBR	Barbar	0.72	158	↑i P	Pg	13 23 06.9	0.0
BRBR				↑i S	Sg	13 23 17.5	+1.2
HAWK	Haweek	0.78	55	↓P	Pg	13 23 07.0	-1.0
HAWK				↓S	Sg	13 23 19.0	+0.9
HAWK	Haweek	0.78	55	↓i P	Pg	13 23 07.9	-0.1
HAWK				↓i S	Sg	13 23 19.5	+1.4
TOTH	TOTAH	0.98	137	↑P	Pg	13 23 11.0	-0.8
TOTH	TOTAH	0.98	137	↑i P	Pg	13 23 11.2	-0.6
BIDA	Albida	1.09	31	↑P	Pg	13 23 13.0	-1.0
BIDA				↑S	Sg	13 23 28.0	-0.1
BIDA	Albida	1.09	31	↑i P	Pg	13 23 13.4	-0.6
BIDA				↑i S	Sg	13 23 29.0	+0.9
RABH	Abou Rabah	1.35	74	↑P	Pn	13 23 18.0	-0.1
RABH				↑S	Sb	13 23 35.0	-1.0
RABH	Abou Rabah	1.35	74	↑i P	Pn	13 23 18.3	+0.2
RABH				↑i S	Sb	13 23 35.3	-0.7
ROOS	tl_alroos	1.38	86	↑P	Pn	13 23 18.0	-0.5
ROOS				↓S	Sb	13 23 36.0	-0.7
ROOS	tl_alroos	1.38	86	↑i P	Pn	13 23 18.6	+0.1
ROOS				↓i S	Sb	13 23 36.2	-0.5
KFRA	Kufra	1.48	40	↓P	Pn	13 23 19.0	-1.0
KFRA				↑S	Sn	13 23 39.0	-0.5
KFRA	Kufra	1.48	40	↓i P	Pn	13 23 19.5	-0.5
KFRA				↑i S	Sn	13 23 39.8	+0.3
WRDH	Wardeh	1.56	24	↑P	Pn	13 23 21.0	0.0
WRDH				↓S	Sn	13 23 42.0	+0.6
WRDH	Wardeh	1.56	24	↑i P	Pn	13 23 21.6	+0.6
WRDH				↓i S	Sn	13 23 42.5	+1.1
SLNF	Slenfeh	1.59	18	↑P	Pn	13 23 21.0	-0.4
SLNF				↑S	Sn	13 23 43.0	+0.9
SLNF	Slenfeh	1.59	18	↑i P	Pn	13 23 21.5	+0.1
SLNF				↑i S	Sn	13 23 43.1	+1.0
ARNB	Al Arnab	1.80	9	↑P	Pn	13 23 24.0	-0.3
ARNB				↑S	Sn	13 23 48.0	+0.7
BTCH	Batrach	2.07	19	↓P	Pn	13 23 27.0	-1.0
BTCH	Batrach	2.07	19	↓i P	Pn	13 23 27.6	-0.4

*IDC **26** 13:29:31.9±0.7,2190N×12058E,h0km,mb4.0/13,*
mb1 4.1/14,mb1mx4.1/22,mbtmp4.0/14,ML3.2/1,Error
ellipse: s-maj=30.6km s-min=14.6km az=69.0
*BJI **26** 13:29:32.8,2200N×12032E,h12km,ML3.8*
*NEIC **26** 13:29:33.5±0.5,2186N×12053E,h10km,MG4.0(JMA),*
Error ellipse: s-maj=13.6km s-min=8.2km az=94.0
*ISCJB **26** 13:29:35.7±1.3,2187N±007×12058E±006,h39km±11km,*
mb3.9/13,Error ellipse: s-maj=11.9km s-min=9.0km
az=156.1
*JMA **26** 13:29:35.4±0.2,2164N×121.13E,h0km,M4.0*
ISC 26 13:29:36.9±2.2,2190N±006×12051E±005,h33km±16km,
n27,σ1°03/36,mb3.9/13,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.47	24	Pn	Pn	13 30 14.0	-0.9
NACB				eSg	Sn	13 30 45.3	+1.4
YHNB	Yeheng	2.87	16	ePn	Pn	13 30 21.0	+0.7
TATO	Taipei	3.19	16	ePn	Pn	13 30 24.6	-0.2
YOJ	Yonaguni jima	3.43	42	P	Pn	13 30 29.7	+1.6
YOJ				eS	Sn	13 31 10.6	+3.0
QZH	Quanzhou	3.50	330	P	Pn	13 30 28.0	-1.0
QZH				S	Sn	13 31 05.3	-4.0
QZH				Smax			
	comp=N,250nm,0.9s						
QZH				Smax			
	comp=E,370nm,0.5s						
HATJ	Hateruma jima	3.72	54	P	Pn	13 30 31.9	-0.1
HATJ				eS	Sn	13 31 13.5	-1.1
IRIF	Iriomote-Funau	3.83	50	P	Pn	13 30 33.9	+0.4
IRIF				eS	Sn	13 31 17.6	+0.3
JKRS	Kuro-shima	3.98	54	P	Pn	13 30 35.7	+0.2
JKRS				eS	Sn	13 31 20.1	-0.8
JIJ	Ishigaki jima	4.15	53	P	Pn	13 30 37.9	0.0
JIJ				eS	Sn	13 31 23.4	-1.8
JTJ	Tarama	4.72	54	P	Pn	13 30 46.0	+0.2
JTJ				eS	Sn	13 31 38.8	-0.6
GZH	Guangzhou	6.73	281	P	Pn	13 31 09.8	-3.5
GZH				S	Sn	13 32 19.5	-9.3
GZH				Smax			
	comp=N,54nm,1.0s						
GZH				Smax			
	comp=E,44nm,0.7s						
KSRS	Korea Array	16.77	21	Pn	Pn	13 33 29.8	+0.6
	baz=199,slow=9.9,SNR=3.3						
MJAR	Matsushiro Arr	21.20	43	P	P	13 34 19.5	-0.1
	comp=E,1.9nm,0.8s,mb3.5,baz=224,slow=8.5,SNR=3.9						
GTA	Gaotai	24.83	319	eP	P	13 34 55.0	-1.1
GTA				AP		13 34 59.0	
GTA				XP	sP	13 35 02.5	-7.0
SONM	Songino Array	28.25	340	P	P	13 35 27.1	+0.2
	comp=E,1.0nm,0.7s,mb3.5,baz=161,slow=11,SNR=6.4						
MKAR	Makanchi Array	39.58	318	P	P	13 37 05.7	+0.7
	comp=E,1.5nm,0.6s,mb3.9,baz=113,slow=9.6,SNR=18						
ZAL	Zalesovo	41.85	329	P	P	13 37 24.3	+0.7
	comp=E,1.9nm,0.8s,mb3.8,baz=3.5,slow=8.7,SNR=13						
WRA	Warramunga Arr	43.73	161	P	P	13 37 38.5	-0.5
	comp=E,1.7nm,0.9s,mb3.8,baz=333,slow=11,SNR=16						
ASAR	Alice Springs	47.13	163	P	P	13 38 06.1	+0.2
	comp=E,0.8nm,0.4s,mb4.0,baz=340,slow=7.0,SNR=25						
BVAR	Borovoye Array	49.06	322	P	P	13 38 21.5	+0.7
	comp=E,1.2nm,0.6s,mb4.1,baz=102,slow=8.5,SNR=9.6						
STKA	Stephens Creek	57.16	159	P	P	13 39 20.6	+0.2
	comp=E,1.0nm,0.7s,mb3.9,baz=325,slow=13,SNR=2.3						
ARCES	ARCESS Array B	71.42	338	P	P	13 40 52.2	-1.7
	comp=E,8.4nm,0.9s,mb4.7,baz=42,slow=11,SNR=3.0						
NOA	NORSAR Array B	79.94	332	P	P	13 41 41.8	-0.7
	comp=E,0.6nm,0.6s,mb3.7,baz=65,slow=5.2,SNR=2.8						
KMBO	Kilima Mbogo	84.16	266	P	P	13 42 06.7	+2.0
	comp=E,0.4nm,0.3s,mb4.0,baz=43,slow=23,SNR=4.3						
KMBO	Kilima Mbogo	84.16	266	P	P	13 42 06.7	+2.0
GERES	GERESS Array B	84.20	321	P	P	13 42 05.8	+0.9
	comp=E,1.1nm,0.8s,mb4.0,baz=57,slow=4.9,SNR=7.5						
YKA	Yellowknife Ar	85.31	22	P	P	13 42 10.0	-0.4
	comp=E,1.0nm,0.9s,mb4.0,baz=314,slow=4.7,SNR=15						

IDC 26 13:36:52.4±1.1,2200N×12070E,h0km,mb3.5/5,
mb1 3.8/5,mb1mx3.5/20,mbtmp3.5/5,Error ellipse:
s-maj=69.4km s-min=22.6km az=68.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.62	318	P	P	13 44 25.5	-0.2
	0.1nm,0.5s,baz=107,slow=9.5,SNR=3.1						
WRA	Warramunga Arr	43.76	161	P	P	13 44 60.0	+0.4
	0.8nm,0.6s,baz=343,slow=9.1,SNR=9.7						
ASAR	Alice Springs	47.17	163	P	P	13 45 27.1	+0.5
	0.1nm,0.3s,baz=346,slow=6.6,SNR=6.7						
STKA	Stephens Creek	57.19	159	P	P	13 46 40.5	-0.6
	2.2nm,0.9s,baz=352,slow=14,SNR=3.4						
YKA	Yellowknife Ar	85.15	23	P	P	13 49 30.4	0.0
	0.3nm,0.9s,baz=310,slow=4.9,SNR=3.8						

MEX 26 13:38:44.9±0.5,1670N×9958W,h4km±11km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.37	298	i P	Pg	13 38 51.2	-0.8
ACX				i S	Sg	13 38 56.8	0.0
CAIG	El Cayaco	0.75	298	i P	Pg	13 38 58.6	-0.7
CAIG				i S	Sg	13 39 07.6	-1.4
MEIG	Mezcala	1.22	358	eP	Pg	13 39 05.2	-3.2
MEIG				i S	Sg	13 39 20.8	-3.4
PLIG	Platanillo	1.69	2	i P	Pn	13 39 12.1	-3.1
PLIG				i S	Sn	13 39 32.4	-4.8
UTMO	Huajuapan	2.04	56	i P	Pn	13 39 15.0	-4.9
UTMO				i S	Sn	13 39 41.7	-4.0

*IDC **26** 13:39:17.0±2.5,2202N×12109E,h0km,mb3.6/5,*
*mb1 3.8/5,mb1mx3.5/20,mbtmp3.6/5,Error ellip

0.2nm,0.6s,baz=118,slow=9.7,SNR=4.5
WRA Warramunga Arr 42.65 162 P P 13 56 20.3 0.0
0.7nm,0.8s,baz=343,slow=9.0,SNR=3.5
ASAR Alice Springs 46.08 164 P P 13 56 48.1 +0.3
0.2nm,0.4s,baz=344,slow=7.0,SNR=10

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*ISCJB **26** 13:51:13.9±0.5, 6178N±004×151.11W±008, h91km±6km, mb3.5/3, Error ellipse: s-maj=6.3km s-min=6.1km az=133.1*
*NEIC **26** 13:51:15.8, 6175N×151.12W, h74km, MG3.3(AEIC), After AEIC.*
*IDC **26** 13:51:17.6±7.0, 6182N×15086W, h104km±61km, mb3.3/3, mb1 3.3/5, mb1mx3.1/21, mbtmp3.1/5, Error ellipse: s-maj=47.9km s-min=26.9km az=42.0*
ISC 26 13:51:14.9±0.5, 6177N±004×15112W±008, h84km±6km, n23, σ0§55/38, mb3.5/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.76**	**143**	P	**Pn**	**13 51 31.2**	**-0.3**
RC01	**Rabbit Creek A**	**0.95**	**135**	P	**Pn**	**13 51 33.4**	**-0.3**
RC01				S	**Sn**	**13 51 47.8**	**+0.2**
PMR	**Palmer**	**0.96**	**100**	P	**Pn**	**13 51 33.2**	**-0.6**
PMR				S	**Sn**	**13 51 47.5**	**-0.4**
GHO	**Glory Hole Cre**	**1.04**	**89**	P	**Pn**	**13 51 34.6**	**-0.1**
SML	**Sawmill**	**1.32**	**87**	*e*Pn	**Pn**	**13 51 37.8**	**-0.3**
SML				P		13 51 37.9	
SML				*e*Sn	**Sn**	**13 51 56.1**	**+0.4**
SLKM	**Skilak Lake**	**1.34**	**161**	P	**Pn**	**13 51 38.1**	**-0.2**
SLKM				*e*Pn	**Pn**	**13 51 38.1**	**-0.2**
SLKM				*e*Sg	**Sn**	**13 51 56.5**	**+0.5**
SLKM				S	**Sn**	**13 51 56.5**	**+0.5**
TRF	**Thorofare Moun**	**1.73**	**12**	P	**Pn**	**13 51 43.7**	**+0.3**
TRF				S	**Sn**	**13 52 05.3**	**+0.4**
KTH	**Kantishna Hill**	**1.79**	**3**	P	**Pn**	**13 51 45.1**	**+0.9**
SEW	**Seward**	**1.86**	**153**	P	**Pn**	**13 51 45.6**	**+0.6**
MCK	**McKinley**	**2.21**	**26**	P	**Pn**	**13 51 50.3**	**+0.6**
SVW2	**Sparrevohn**	**2.25**	**254**	P	**Pn**	**13 51 49.6**	**-0.6**
SVW2				*e*Pn	**Pn**	**13 51 49.6**	**-0.6**
SVW2				*e*Sg	**Sn**	**13 52 16.7**	**-0.5**
TTA	**Tatalina**	**2.56**	**299**	*e*P	**Pn**	**13 51 54.0**	**-0.4**
TTA				*e*Pn	**Pn**	**13 51 54.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**2.88**	**113**	*e*Pn	**Pn**	**13 51 59.3**	**+0.7**
EYAK				*e*Pg	**Pn**	**13 52 04.5**	**+5.9**
EYAK				*e*Sg	**Sn**	**13 52 43.7**	**+11**
COLA	**College**	**3.45**	**24**	P	**Pn**	**13 52 06.0**	**-0.3**
MENT	**Mentasta**	**3.64**	**68**	*e*P	**Pn**	**13 52 09.1**	**+0.1**
IMA2	**Indian Mountai**	**4.46**	**346**	P	**Pn**	**13 52 20.3**	**+0.2**
IMA2				*e*Pn	**Pn**	**13 52 20.4**	**+0.3**
IMA2				*e*Sg	**Sn**	**13 53 11.2**	**+0.3**
EGAK	**Eagle**	**5.41**	**52**	*e*Pn	**Pn**	**13 52 33.0**	**-0.1**
EGAK				P		13 52 33.0	
DAWY	**Dawson**	**5.83**	**62**	*e*Pn	**Pn**	**13 52 39.0**	**+0.2**
INK	**Inuvik**	**9.88**	**41**	P	**Pn**	**13 53 34.1**	**+0.1**
	0.1nm,0.3s,baz=244,slow=15,SNR=10.0						
INK				S	**Sn**	**13 55 21.2**	**-1.9**
	0.1nm,0.3s,baz=326,slow=32,SNR=2.3						
YKA	**Yellowknife Ar**	**16.95**	**71**	P	**Pn**	**13 55 06.8**	**+0.2**
	0.1nm,0.3s,baz=283,slow=10,SNR=7.6						
PDAR	**Pinedale Array**	**31.00**	**108**	P	**P**	**13 57 24.4**	**+0.1**
	0.5nm,1.0s,mb3.2,baz=317,slow=4.0,SNR=5.3						
SONM	**Songino Array**	**54.49**	**306**	P	**P**	**14 00 34.8**	**+0.9**
	0.3nm,0.7s,mb3.4,baz=20,slow=4.7,SNR=3.7						
FINES	**FINESS Array B**	**57.09**	**2**	P	**P**	**14 00 51.6**	**-0.9**
	1.5nm,0.8s,mb4.0,baz=348,slow=6.1,SNR=3.8						

IDC 26 13:53:09.0±4.1, 2213N×12131E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.3/3, MS4.7/1, Ms1 4.7/1, ms1mx4.3/26, Error ellipse: s-maj=314.3km s-min=25.9km az=60.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**7.89**	**52**	LR	LR	13 58 00.3	
	comp=Z,6μm,19.7s,baz=133,slow=37						
MKAR	**Makanchi Array**	**39.90**	**318**	P	P	14 00 44.5	-0.1
	0.1nm,0.5s,baz=125,slow=7.2,SNR=2.7						
WRA	**Warramunga Arr**	**43.71**	**162**	P	P	14 01 15.7	0.0
	0.7nm,0.6s,baz=343,slow=9.1,SNR=9.2						
ASAR	**Alice Springs**	**47.14**	**164**	P	P	14 01 43.4	+0.4
	0.3nm,0.5s,baz=345,slow=7.4,SNR=8.6						

IDC 26 13:53:42.8±1.0, 2192N×12059E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=76.9km s-min=20.1km az=67.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.61**	**318**	P	P	14 01 16.3	+0.3
	0.3nm,0.6s,baz=103,slow=9.9,SNR=3.3						
ZAL	**Zalesovo**	**41.87**	**329**	P	P	14 01 34.1	-0.5
	0.9nm,0.7s,baz=346,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**43.72**	**161**	P	P	14 01 49.6	-0.2
	3.7nm,0.8s,baz=344,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**47.13**	**163**	P	P	14 02 17.1	+0.4
	0.9nm,0.5s,baz=345,slow=7.3,SNR=24						
STKA	**Stephens Creek**	**57.15**	**159**	P	P	14 03 31.4	+0.1
	0.9nm,0.5s,baz=319,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**85.26**	**22**	P	P	14 06 21.3	-0.1
	0.3nm,0.9s,baz=315,slow=4.6,SNR=5.1						

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*NEIC **26** 13:55:29.2, 1578N×9883W, h5km, MD4.1(MEX), After MEX.*
MEX 26 13:55:29.0±1.0, 1574N×9892W, h16km±30km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.00**	**50**	*i* P	Pb	13 55 44.1	-3.8
PNIG				*i* S	Sb	13 55 56.7	-4.1
ACX	**Acapulco**	**1.47**	**320**	*i* P	Pn	13 55 50.3	-4.6
CAIG	**El Cayaco**	**1.83**	**315**	*i* P	Pn	13 55 58.1	-1.8
CAIG				*i* S	Sn	13 56 16.9	-5.7
CAIG	**El Cayaco**	**1.83**	**315**	*i* P	Pn	13 55 58.5	-1.3
CAIG				*i* S	Sn	13 56 20.9	-1.8
MEIG	**Mezcala**	**2.27**	**343**	*i* P	Pn	13 56 03.9	-2.0
MEIG				*i* S	Sn	13 56 29.2	-4.3
UTMO	**Huajuapan**	**2.33**	**27**	*i* P	Pn	13 56 04.2	-2.5
UTMO				*i* S	Sn	13 56 31.2	-3.8
VHO	**Vista Hermosa**	**2.48**	**57**	*i* P	Pn	13 56 06.8	-1.9
VHO				*i* S	Sn	13 56 34.7	-4.0
PLIG	**Platanillo**	**2.69**	**348**	*e*P	Pn	13 56 09.2	-2.5
PLIG				*i* S	Sn	13 56 39.2	-4.7
PLIG	**Platanillo**	**2.69**	**348**	*e*P	Pn	13 56 10.3	-1.4
PLIG				*i* S	Sn	13 56 43.8	-0.1
TPIG	**Tehuac#an**	**3.05**	**29**	*e*P	Pn	13 56 13.4	-3.1
TPIG				*i* S	Sn	13 56 50.2	-2.5
PPM	**Popocatepetl**	**3.32**	**5**	*i* P	Pn	13 56 22.8	+2.5
PPM				*i* S	Sn	13 56 58.3	-1.0
PPM	**Popocatepetl**	**3.32**	**5**	*i* P	Pn	13 56 24.3	+4.1
PPM				*i* S	Sn	13 57 07.2	+7.9
SZVM	**Salazar**	**3.59**	**353**	*e*P	Pn	13 56 21.9	-2.1
SZVM				*i* S	Sn	13 57 01.2	-4.8
IIO	**Organos**	**3.83**	**3**	*i* P	Pn	13 56 33.7	+6.4
IIO				*i* S	Sn	13 57 17.6	+5.6
CMIG	**Matias Romero**	**4.10**	**70**	*e*P	Pn	13 56 28.3	-2.6
CMIG				*i* S	Sn	13 57 14.7	-3.9
CMIG	**Matias Romero**	**4.10**	**70**	*e*P	Pn	13 56 28.3	-2.6
CMIG				*i* S	Sn	13 57 16.5	-2.1

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*IDC **26** 13:56:06.9±0.7, 2172N×12069E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.0/15, ML3.7/1, MS5.0/1, Ms1 5.0/1, ms1mx3.7/40, Error ellipse: s-maj=27.5km s-min=14.6km az=72.0*
*NEIC **26** 13:56:08.3±0.5, 2165N×12068E, h10km, mb4.4/2, Error ellipse: s-maj=16.3km s-min=9.2km az=83.0*
*ISCJB **26** 13:56:10.0±1.2, 2168N±007×12067E±005, h34km±11km, mb3.9/15, MS4.5/2, Error ellipse: s-maj=11.4km s-min=8.0km az=147.3*
*BJI **26** 13:56:11.5, 2203N×120.14E, h10km, mB4.5, mb4.4, ML4.1, Ms4.1, Msz4.0*
*JMA **26** 13:56:11.3±0.2, 2156N×12085E, h54km, M4.4*
ISC 26 13:56:11.1±2.1, 2171N±006×12062E±005, h28km±16km, n35, σ0§95/43, mb3.9/15, MS4.4/2, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.62**	**20**	*e*Pn	**Pn**	**13 56 50.2**	**-1.2**
YHNB	**Yeheng**	**3.03**	**13**	*e*Pn	**Pn**	**13 56 57.2**	**+0.1**
TATO	**Taipei**	**3.35**	**14**	*e*Pn	**Pn**	**13 57 03.0**	**+1.5**
YOJ	**Yonaguni jima**	**3.52**	**38**	P	**Pn**	**13 57 04.8**	**+1.0**
YOJ				*e*S	**Sn**	**13 57 45.3**	**+0.8**
QZH	**Quanzhou**	**3.73**	**330**	*i* P	**Pn**	**13 57 04.5**	**-2.2**
QZH				S	**Sn**	**13 57 40.8**	**-8.8**
QZH				Smax			
	comp=N,240nm,0.6s						
QZH				Smax			
	comp=E,490nm,1.0s						
HATJ	**Hateruma jima**	**3.75**	**51**	P	**Pn**	**13 57 07.5**	**+0.4**
HATJ				*e*S	**Sn**	**13 57 49.2**	**-1.1**
IRIF	**Iriomote-Funau**	**3.88**	**47**	P	**Pn**	**13 57 09.4**	**+0.6**
IRIF				*e*S	**Sn**	**13 57 53.1**	**-0.3**
JKRS	**Kuro-shima**	**4.01**	**50**	P	**Pn**	**13 57 10.7**	**+0.1**
JKRS				*e*S	**Sn**	**13 57 56.0**	**-0.7**
JIJ	**Ishigaki jima**	**4.18**	**50**	P	**Pn**	**13 57 13.4**	**+0.4**
JIJ				*e*S	**Sn**	**13 57 59.9**	**-1.0**
JTJ	**Tarama**	**4.76**	**51**	P	**Pn**	**13 57 21.2**	**+0.3**
JTJ				*e*S	**Sn**	**13 58 15.0**	**0.0**
JOGS	**Gusukube**	**5.35**	**54**	*e*S	**Sn**	**13 58 30.3**	**+0.7**
GZH	**Guangzhou**	**6.88**	**283**	P	**Pn**	**13 57 45.0**	**-5.0**
GZH				S	**Sn**	**13 58 55.5**	**-12**
GZH				Smax			
	comp=N,145nm,0.8s						
GZH				Smax			
	comp=E,123nm,0.7s						
GYA	**Guiyang**	**13.60**	**293**	P	**Pn**	**13 59 20.5**	**-1.5**
GYA				S	**Sn**	**14 01 41.8**	**-10**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
GYA				AMB	AMB		
	comp=Z,70nm,4.0s						
GYA				LR	LR		
	comp=N,430nm,11.4s						
GYA				LR	LR		
	comp=E,490nm,12.7s						
GYA				LR	LR		
	comp=Z,380nm,11.6s						
KSRS	**Korea Array**	**16.92**	**20**	Pn	**Pn**	**14 00 05.5**	**-0.3**
	baz=198,slow=12,SNR=8.8						
CBIJ	**Chichi jima**	**20.35**	**70**	LR	LR	14 07 36.0	
	comp=Z,4μm,20.4s,MS4.8,baz=159,slow=34						
LZH	**Lanzhou**	**20.48**	**318**	*e*P	**P**	**14 00 47.5**	**+0.9**
LZH				AP		14 00 51.5	
LZH				XP	sP	14 00 54.5	-3.4
LZH				PP		14 01 08.0	
LZH				AMB	AMB		
	comp=Z,21nm,1.1s						
LZH				AMB	AMB		
	comp=Z,59nm,4.8s						
LZH				LR	LR		
	comp=N,326nm,9.3s						
LZH				LR	LR		
	comp=Z,512nm,12.7s,MS4.1						
LZH	**Lanzhou**	**20.48**	**318**	*e*P	**P**	**14 00 47.5**	**+0.9**
	comp=Z,21nm,1.1s						
LZH				pP		14 00 51.6	
LZH				sP	sP	14 00 54.5	-3.4
LZH				PP		14 01 07.9	
MJAR	**Matsushiro Arr**	**21.27**	**42**	P	**P**	**14 00 54.9**	**-0.2**
	comp=Z,2.3nm,0.7s,mb3.6,baz=235,slow=8.2,SNR=4.9						
GTA	**Gaotai**	**25.05**	**319**	*e*P	**P**	**14 01 33.5**	**+0.6**
GTA				AP	pP	14 01 37.5	-3.6
GTA				XP	sP	14 01 41.0	-3.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.8s,mb3.5						
SONM	**Songino Array**	**28.47**	**340**	P	**P**	**14 02 05.3**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.3,baz=154,slow=9.7,SNR=5.4						
ASAJ	**Asahikawa**	**28.81**	**34**	P	**P**	**14 02 07.3**	**+0.6**
	comp=Z,2.6nm,0.4s,mb4.3,baz=349,slow=26,SNR=6.9						
MKAR	**Makanchi Array**	**39.79**	**318**	P	**P**	**14 03 41.5**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=113,slow=9.7,SNR=9.7						
ZAL	**Zalesovo**	**42.07**	**329**	P	**P**	**14 04 00.3**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.5,baz=13,slow=7.0,SNR=5.3						
WRA	**Warramunga Arr**	**43.51**	**161**	P	**P**	**14 04 12.1**	**+0.1**
	comp=Z,6.4nm,0.6s,mb4.5,baz=344,slow=9.1,SNR=57						
WB2	**Warramunga Arr**	**43.51**	**161**	*e*P	**P**	**14 04 10.0**	**-2.0**
ASAR	**Alice Springs**	**46.91**	**163**	P	**P**	**14 04 39.9**	**+0.8**
	comp=Z,1.8nm,0.8s,mb4.0,baz=342,slow=6.5,SNR=24						
BVAR	**Borovoye Array**	**49.28**	**322**	P	**P**	**14 04 57.4**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=107,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**56.94**	**159**	*e*P	**P**	**14 05 54.2**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**56.94**	**159**	P	**P**	**14 05 53.7**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.5,baz=348,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**73.32**	**330**	P	**P**	**14 07 42.0**	**+2.0**
	comp=Z,3.4nm,1.0s,mb4.2,baz=191,slow=16,SNR=2.8						
INK	**Inuvik**	**75.71**	**22**	P	**P**	**14 07 52.4**	**-1.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=289,slow=6.7,SNR=9.9						
NOA	**NORSAR Array B**	**80.17**	**332**	P	**P**	**14 08 17.7**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=61,slow=5.5,SNR=2.4						
GERES	**GERESS Array B**	**84.42**	**321**	P	**P**	**14 08 41.7**	**+0.8**
	comp=Z,0.4nm,0.7s,mb3.6,baz=46,slow=3.9,SNR=3.9						
YKA	**Yellowknife Ar**	**85.45**	**22**	P	**P**	**14 08 45.4**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.0,baz=312,slow=4.7,SNR=19						
YKA	**Yellowknife Ar**	**85.45**	**22**	P	**P**	**14 08 45.4**	**-0.6**

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*IDC **26** 14:09:27.9±1.5, 2194N×12066E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, Error ellipse: s-maj=122.9km s-min=25.6km az=77.0*
*NEIC **26** 14:09:29.4±0.9, 2190N×12053E, h10km, MG3.2(JMA), Error ellipse: s-maj=38.6km s-min=11.6km az=92.0*
*ISCJB **26** 14:09:32.7±1.6, 220N±0.1×12062E±0.10, h48km±17km, mb3.5/4, Error ellipse: s-maj=20.2km s-min=12.7km az=120.7*
*JMA **26** 14:09:33.8±0.3, 2175N×12089E, h116km, M3.2*
ISC 26 14:09:33.7±1.7, 220N±01×1206E±01, h40km±18km, n13, σ0§67/18, mb3.5/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.40**	**23**	*e*Pn	**Pn**	**14 10 09.2**	**-1.4**
YHNB	**Yeheng**	**2.80**	**16**	*e*Pn	**Pn**	**14 10 15.8**	**-0.2**
YOJ	**Yonaguni jima**	**3.36**	**42**	P	**Pn**	**14 10 25.2**	**+1.5**
HATJ	**Hateruma jima**	**3.65**	**55**	P	**Pn**	**14 10 27.9**	**+0.2**
HATJ				*e*S	**Sn**	**14 11 08.8**	**-0.7**
IRIF	**Iriomote-Funau**	**3.76**	**50**	P	**Pn**	**14 10 29.6**	**+0.4**
IRIF				*e*S	**Sn**	**14 11 13.1**	**+0.9**
JKRS	**Kuro-shima**	**3.91**	**54**	P	**Pn**	**14 10 31.4**	**+0.2**
JKRS				*e*S	**Sn**	**14 11 16.2**	**+0.4**
JIJ	**Ishigaki jima**	**4.08**	**53**	P	**Pn**	**14 10 33.5**	**-0.1**
JIJ				*e*S	**Sn**	**14 11 19.1**	**-0.9**
JTJ	**Tarama**	**4.66**	**54**	P	**Pn**	**14 10 41.8**	**+0.3**
JTJ				*e*S	**Sn**	**14 11 33.9**	**-0.3**
SONM	**Songino Array**	**28.21**	**340**	P	**P**	**14 15 22.6**	**0.0**
	0.3nm,0.7s,mb3.1,baz=158,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**43.77**	**161**	P	**P**	**14 17 34.4**	**-0.9**
	1.4nm,0.7s,mb3.8,baz=345,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**47.18**	**163**	P	**P**	**14 18 02.6**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=343,slow=5.9,SNR=3.6						
YKA	**Yellowknife Ar**	**85.24**	**22**	P	**P**	**14 22 06.4**	**+0.4**
	0.2nm,0.6s,mb3.4,baz=315,slow=5.0,SNR=6.4						
YKA	**Yellowknife Ar**	**85.24**	**22**	P	**P**	**14 22 06.4**	**+0.3**

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*IDC **26** 14:15:06.3±0.9, 2174N×12076E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=57.8km s-min=18.1km az=73.0*
*ISCJB **26** 14:15:08.0±1.9, 219N±0.1×12009E±007, h39km±22km, mb3.7/6, Error ellipse: s-maj=20.2km s-min=11.0km az=160.8*
*NEIC **26** 14:15:07.8±0.8, 2174N×12074E, h10km, MG3.5(JMA), Error ellipse: s-maj=31.0km s-min=10.9km az=88.0*
*BJI **26** 14:15:08.6, 2205N×12021E, h10km, ML3.6*
ISC 26 14:15:10.6±1.7, 220N±01×12013E±008, h47km±21km, n14, σ1§09/16, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.58**	**31**	*e*Pn	**Pn**	**14 15 50.4**	**+0.5**
YHNB	**Yeheng**	**2.93**	**23**	*e*Pn	**Pn**	**14 15 55.1**	**+0.5**
TATO	**Taipei**	**3.25**	**22**	Pn	**Pn**	**14 15 58.3**	**-0.8**
QZH	**Quanzhou**	**3.29**	**335**	P	**Pn**	**14 15 58.8**	**-0.8**
QZH				S	**Sn**	**14 16 35.5**	**-1.9**
QZH				Smax			
	comp=N,90nm,0.8s						
QZH				Smax			
	comp=E,90nm,0.6s						
GZH	**Guangzhou**	**6.37**	**281**	P	**Pn**	**14 16 44.0**	**+2.1**
GZH				S	**Sn**	**14 17 53.3**	**-0.1**
GZH				Smax			
	comp=N,44nm,0.8s						
GZH				Smax			
	comp=E,33nm,0.7s						
KSRS	**Korea Array**	**16.85**	**22**	Pn	**Pn**	**14 19 03.9**	**+0.8**
	baz=201,slow=12,SNR=5.1						
SONM	**Songino Array**	**28.08**	**340**	P	**P**	**14 21 05.1**	**+7.4**
	comp=E,0.6nm,0.7s,mb3.4,baz=157,slow=8.8,SNR=6.3						
MKAR	**Makanchi Array**	**39.30**	**318**	P	**P**	**14 22 40.4**	**+5.5**
	comp=E,0.5nm,0.9s,mb3.3,baz=108,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	**39.30**	**318**	P	**P**	**14 22 40.4**	**+5.5**
WRA	**Warramunga Arr**	**43.90**	**161**	P	**P**	**14 23 11.2**	**-1.4**
	comp=E,1.9nm,0.8s,mb3.9,baz=343,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**47.29**	**163**	P	**P**	**14 23 39.5**	**+0.1**
	comp=E,0.4nm,0.3s,mb3.8,baz=345,slow=7.4,SNR=17						
STKA	**Stephens Creek**	**57.34**	**158**	P	**P**	**14 24 53.1**	**-0.8**
	comp=E,2.0nm,0.7s,mb4.2,baz=340,slow=9.2,SNR=5.4						
YKA	**Yellowknife Ar**	**85.39**	**22**	P	**P**	**14 27 44.4**	**+1.5**
	comp=E,0.8nm,0.9s,mb3.9,baz=312,slow=4.7,SNR=13						
YKA	**Yellowknife Ar**	**85.39**	**22**	P	**P**	**14 27 44.4**	**+1.5**

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*NEIC **26** 14:24:14.3±4.8, 652S×152.00E, h99km±29km, mb4.2/1, Error ellipse: s-maj=47.6km s-min=34.5km az=80.0*
*ISCJB **26** 14:24:15.4±5.3, 67S±04×1519E±03, h104km±36km, mb3.4/3, Error ellipse: s-maj=64.2km s-min=42.9km az=142.7*
*IDC **26** 14:24:16.1±8.9, 661S×15182E, h101km±63km, mb3.3/3, mb1 3.4/4, mb1mx3.2/14, mbtmp3.3/4, ML2.5/1, MS4.1/1, Ms1 4.1/1, ms1mx3.4/24, Error ellipse: s-maj=70.3km s-min=56.5km az=102.0*
ISC 26 14:24:16.4±5.2, 67S±04×1519E±03, h99km±34km, n9, σ0§46/10, mb3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**240**	P	**Pn**	**14 25 34.6**	**-0.1**
	0.9nm,0.3s,baz=148,slow=11,SNR=4.6						
PMG				S	**Sn**	**14 26 34.9**	**-1.0**
	2.4nm,0.3s,baz=64,slow=9.7,SNR=5.1						
PMG				LR	LR	14 27 42.2	
	comp=Z,2μm,21.0s,baz=55,slow=38						
PMG	**Port Moresby**	**5.42**	**240**	*e*Pn	**Pn**	**14 25 35.0**	**+0.2**
PMG				*e*Sn	**Sn**	**14 26 36.6**	**+0.8**
PMG				LR	LR	14 27 42.1	
KAKA	**Kakadu**	**20.10**	**251**	*e*P	**P**	**14 28 41.8**	**-0.3**
	16nm,1.4s						
WB2	**Warramunga Arr**	**21.54**	**231**	*e*P	**P**	**14 28 57.9**	**+0.3**
WRA	**Warramunga Arr**	**21.55**	**231**	P	**P**	**14 28 58.2**	**+0.6**
	1.4nm,0.7s,mb3.4,baz=55,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**24.16**	**224**	P	**P**	**14 29 23.1**	**-0.2**
	0.4nm,0.5s,mb3.0,baz=57,slow=9.0,SNR=24						
STKA	**Stephens Creek**	**26.83**	**200**	P	**P**	**14 29 47.2**	**-0.3**
	2.8nm,1.1s,mb3.7,baz=0.0,slow=12,SNR=2.6						
STKA	**Stephens Creek**	**26.83**	**200**	P	**P**	**14 29 47.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**150.00**	**285**	PKPbc	PKPbc	14 43 55.0	-0.3
	0.4nm,0.6s,baz=100,slow=1.8,SNR=3.0						

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*IDC **26** 14:39:44.0±0.9, 2178N×12078E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/20, mbtmp3.7/8, Error ellipse: s-maj=66.0km s-min=18.1km az=65.0*
*NEIC **26** 14:39:45.9±2.3, 2173N×12066E, h12km±14km, MG3.2(JMA), Error ellipse: s-maj=19.1km s-min=9.8km az=72.0*
*ISCJB **26** 14:39:49.2±1.5, 2180N±009×12077E±008, h51km±14km, mb3.6/8, Error ellipse: s-maj=15.3km s-min=11.9km az=125.5*
*JMA **26** 14:39:50.9±0.4, 2183N×12087E, h110km, M3.2*
ISC 26 14:39:50.4±1.6, 2181N±009×12072E±009, h45km±16km, n18, σ0§55/24, mb3.6/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.49**	**19**	*e*Pn	**Pn**	**14 40 27.5**	**-1.0**
YHNB	**Yeheng**	**2.92**	**12**	*e*Pn	**Pn**	**14 40 33.7**	**-0.6**
TATO	**Taipei**	**3.23**	**13**	*e*Pg	**Pn**	**14 40 49.6**	**+11**
YOJ	**Yonaguni jima**	**3.38**	**38**	P	**Pn**	**14 40 41.5**	**+0.8**
YOJ				*e*S	**Sn**	**14 41 19.5**	**-0.1**
HATJ	**Hateruma jima**	**3.62**	**51**	P	**Pn**	**14 40 44.5**	**+0.5**
HATJ				*e*S	**Sn**	**14 41 24.8**	**-0.7**
IRIF	**Iriomote-Funau**	**3.75**	**47**	P	**Pn**	**14 40 46.2**	**+0.5**
IRIF				*e*S	**Sn**	**14 41 29.4**	**+0.9**
JKRS	**Kuro-shima**	**3.88**	**51**	P	**Pn**	**14 40 48.0**	**+0.5**
JKRS				*e*S	**Sn**	**14 41 32.1**	**+0.3**
JIJ	**Ishigaki jima**	**4.05**	**50**	P	**Pn**	**14 40 49.6**	**-0.3**
JIJ				*e*S	**Sn**	**14 41 35.1**	**-1.0**
JTJ	**Tarama**	**4.63**	**52**	P	**Pn**	**14 40 58.4**	**+0.6**
JTJ				*e*S	**Sn**	**14 41 50.1**	**-0.1**
SONM	**Songino Array**	**28.41**	**339**	P	**P**	**14 45 40.2**	**-0.4**
	0.2nm,0.5s,mb3.0,baz=159,slow=8.7,SNR=2.1						
MK31	**Makanchi Array**	**39.78**	**318**	*e*P	**P**	**14 47 18.4**	**-0.4**
MKAR	**Makanchi Array**	**39.78**	**318**	P	**P**	**14 47 18.9**	**0.0**
	0.6nm,0.7s,mb3.5,baz=112,slow=8.8,SNR=5.8						
ZAL	**Zalesovo**	**42.03**	**329**	P	**P**	**14 47 37.8**	**+0.4**
	1.2nm,0.8s,mb3.6,baz=349,slow=7.3,SNR=5.7						
WRA	**Warramunga Arr**	**43.58**	**161**	P	**P**	**14 47 49.4**	**-0.6**

ellipse: s-maj=4.5km s-min=3.7km az=94.0
NSSP ***26*** *14:49:21.5, 39.12N×44.15E, h10km, ML3.0*
ISC 26 14:48:29.8±0.4, 3934N±003×4390E±004, h10km, n21, σ1⚥28/34, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.74**	**289**	PG	**Pg**	**14 48 42.8**	**-1.2**
TVAN	**Van**	**0.90**	**205**	*i* P	**Pg**	**14 48 46.0**	**-1.0**
TVAN				*i* S	**Sg**	**14 49 03.9**	**+5.1**
ERE	**Yerevan**	**0.94**	**28**	P	**Pg**	**14 48 40.0**	**-7.8**
ERE				S	**Sg**	**14 48 52.0**	**-8.0**
VANT	**Van**	**0.98**	**204**	PN	**Pn**	**14 48 48.8**	**-0.8**
VANT				SN	**Sn**	**14 49 04.6**	**+1.1**
KARS	**Kars**	**1.41**	**334**	PN	**Pn**	**14 48 54.8**	**-0.7**
STE	**Stepanavan**	**1.69**	**12**	P	**Pn**	**14 48 56.0**	**-3.4**
STE				S	**Sn**	**14 49 23.0**	**+1.9**
KDR	**Kadzharan**	**1.72**	**96**	P	**Pn**	**14 49 00.2**	**+0.4**
KDR				S	**Sn**	**14 49 21.6**	**-0.2**
HKR	**Hakkari**	**1.77**	**184**	PN	**Pn**	**14 48 59.6**	**-0.8**
HAKT	**HAKKARI**	**1.79**	**185**	*i* P	**Pn**	**14 48 59.6**	**-1.1**
HAKT				*i* S	**Sg**	**14 49 29.5**	**+2.2**
MGRZ	**Megri**	**1.88**	**103**	P	**Pn**	**14 49 01.7**	**-0.2**
MGRZ				S	**Sn**	**14 49 24.5**	**-1.1**
XTNZ	**Xhotanan**	**1.93**	**91**	⇓P	**Pn**	**14 49 03.0**	**+0.4**
XTNZ				S	**Sn**	**14 49 24.2**	**-2.7**
ERZM	**Erzurum**	**2.03**	**287**	*i* P	**Pg**	**14 49 07.0**	**-1.8**
ERZM				*i* S	**Sg**	**14 49 44.4**	**+9.2**
EZM	**Erzurum**	**2.04**	**287**	*e*PN	**Pn**	**14 49 05.2**	**+1.1**
EGVZ	**Egvard**	**2.06**	**92**	P	**Pn**	**14 49 05.6**	**+1.2**
EGVZ				S	**Sn**	**14 49 31.4**	**+1.2**
CUKT	**Cukurca**	**2.10**	**186**	PN	**Pn**	**14 49 04.4**	**-0.6**
SIRT	**Sirnak**	**2.17**	**212**	*e*PN	**Pn**	**14 49 06.9**	**+1.0**
BNGL	**BINGOL**	**2.17**	**260**	*i* P	**Pg**	**14 49 11.1**	**-0.3**
BNGL				*i* S	**Sg**	**14 49 46.6**	**+7.1**
BTMT	**Batman**	**2.21**	**239**	*e*PN	**Pb**	**14 49 10.1**	**+0.4**
DGRG	**David-gareji**	**2.39**	**28**	P	**Pn**	**14 49 07.6**	**-1.4**
DGRG				S	**Sn**	**14 49 41.7**	**+3.5**
MTA	**Mtatsminda**	**2.44**	**16**	P	**Pn**	**14 49 09.1**	**-0.6**
MTA				S	**Sn**	**14 49 41.9**	**+2.3**
PTK	**Pertek**	**3.53**	**264**	*e*PN	**Pn**	**14 49 26.7**	**+2.0**

IDC ***26*** *14:53:16.8±0.4, 2180N×12057E, h0km, mb4.6/21, mb1 4.7/24, mb1mx4.7/29, mbtmp4.6/24, ML4.2/3, Error ellipse: s-maj=19.6km s-min=10.6km az=67.0*
SZGRF ***26*** *14:53:18.5, 2172N×12183E, h34km, mb5.2, Taiwan region*
NEIC ***26*** *14:53:18.0±0.2, 2177N×12063E, h10km, mb4.9/36, Error ellipse: s-maj=4.8km s-min=4.1km az=92.0*
ISCJB ***26*** *14:53:19.5±1.0, 2177N±003×12060E±003, h31km±7km, mb4.8/60, MS4.8/2, Error ellipse: s-maj=4.9km s-min=3.6km az=81.5*
MOS ***26*** *14:53:19.9±0.9, 2179N×12063E, h33km, mb4.9/23, Error ellipse: s-maj=12.0km s-min=5.6km az=118.9*
BJI ***26*** *14:53:20.1, 2205N×12035E, h14km, mB5.1, mb4.4, ML4.2, Ms4.6, Msz4.5*
JMA ***26*** *14:53:22.3±0.5, 2185N×12069E, h127km, M4.6*
ISC 26 14:53:21.4±1.1, 2179N±003×12059E±003, h31km±8km, h34km±1.2km: pP-P, n198, σ0⚥97/210, mb4.8/60, MS4.8/2, 13C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.55**	**21⇑**	*e*Pn	**Pn**	**14 53 59.4**	**-1.2**
YHNB	**Yeheng**	**2.96**	**14⇑**	*e*Pn	**Pn**	**14 54 05.8**	**-0.4**
TATO	**Taipei**	**3.28**	**14**	*e*Pn	**Pn**	**14 54 10.1**	**-0.6**
PIP	**Pasuquin**	**3.44**	**180⇑**	*e*P	**Pn**	**14 54 11.0**	**-1.8**
PIP				*e*S	**Sn**	**14 54 48.2**	**-4.3**
YOJ	**Yonaguni jima**	**3.47**	**39**	P	**Pn**	**14 54 14.1**	**+0.9**
YOJ				*e*S	**Sn**	**14 54 54.3**	**+1.0**
QZH	**Quanzhou**	**3.64**	**330**	P	**Pn**	**14 54 13.8**	**-1.8**
QZH				S	**Sn**	**14 54 52.0**	**-5.5**
QZH				Smax			
	comp=N,490nm,0.9s						
QZH				Smax			
	comp=E,560nm,0.8s						
QZH				LR	LR		
	comp=N,3μm,9.8s						
QZH				LR	LR		
	comp=E,4μm,11.3s						
QZH				LR	LR		
	comp=Z,8μm,23.4s						
HATJ	**Hateruma jima**	**3.73**	**52**	P	**Pn**	**14 54 17.4**	**+0.7**
HATJ				*e*S	**Sn**	**14 55 00.0**	**+0.4**
SGCP	**Mt. Cagua**	**3.78**	**159**	*e*P	**Pn**	**14 54 17.5**	**0.0**
IRIF	**Iriomote-Funau**	**3.85**	**48**	P	**Pn**	**14 54 19.3**	**+0.9**
IRIF				*e*S	**Sn**	**14 55 03.4**	**+0.9**
APYP	**Conner**	**3.95**	**171**	*e*P	**Pn**	**14 54 19.8**	**0.0**
JKRS	**Kuro-shima**	**3.98**	**52**	P	**Pn**	**14 54 21.4**	**+1.1**
ABRA	**Dolores**	**4.12**	**178**	*e*P	**Pn**	**14 54 21.9**	**-0.2**
JIJ	**Ishigaki jima**	**4.16**	**51**	P	**Pn**	**14 54 23.2**	**+0.5**
JIJ				*e*S	**Sn**	**14 55 09.2**	**-1.0**
JTJ	**Tarama**	**4.73**	**52**	P	**Pn**	**14 54 30.3**	**-0.2**
JTJ				*e*S	**Sn**	**14 55 24.2**	**-0.1**
CAUP	**Cauayan**	**4.95**	**166**	*e*P	**Pn**	**14 54 37.5**	**+3.9**
PALP	**Palanan**	**5.00**	**159**	*e*P	**Pn**	**14 54 34.0**	**-0.3**
JMJ	**Miyako jima 2**	**5.27**	**54**	P	**Pn**	**14 54 37.5**	**-0.5**
JOGS	**Gusukube**	**5.33**	**55**	P	**Pn**	**14 54 39.8**	**+1.1**
JOGS				*e*S	**Sn**	**14 55 38.5**	**-0.5**
BALP	**Baler**	**6.08**	**171**	*e*P	**Pn**	**14 54 51.0**	**+1.9**
GZH	**Guangzhou**	**6.83**	**282**	P	**Pn**	**14 54 54.8**	**-4.6**
GZH				Smax			
	comp=N,342nm,1.0s						
GZH				Smax			
	comp=E,410nm,0.6s						
JKE	**Kume jima 2**	**7.24**	**50**	P	**Pn**	**14 55 04.1**	**-1.0**
TGY	**Tagaytay City**	**7.65**	**177**	Pn	**Pn**	**14 55 16.4**	**+5.8**
	comp=E,14nm,0.3s,baz=122,slow=13,SNR=1.8						
JOW	**Kunigami**	**8.62**	**53**	Pn	**Pn**	**14 55 21.6**	**-2.3**
	comp=E,6.8nm,0.3s,baz=192,slow=15,SNR=6.5						
QIZ	**Qiongzhong**	**10.45**	**257**	P	**Pn**	**14 55 51.5**	**+2.5**
QIZ				S	**Sn**	**14 57 41.0**	**-3.9**
QIZ				LR	LR		
	comp=E,3μm,16.9s						
QIZ				LR	LR		
	comp=Z,4μm,17.5s						
QIZ	**Qiongzhong**	**10.45**	**257**	*e*Pn	**Pn**	**14 55 47.0**	**-2.0**
	comp=Z,43nm,0.8s						
GYA	**Guiyang**	**13.54**	**293⇑**	*i* P	**Pn**	**14 56 29.3**	**-2.0**
GYA				S	**Sn**	**14 58 53.0**	**-7.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s						
GYA				AMB	AMB		
	comp=Z,100nm,4.0s						
GYA				LR	LR		
	comp=N,2μm,13.9s						
GYA				LR	LR		
	comp=E,2μm,21.5s						
GYA				LR	LR		
	comp=Z,3μm,14.5s						
JNU	**Nakatsue**	**14.51**	**37**	Pn	**Pn**	**14 56 44.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=203,slow=12,SNR=3.5						
JNU	**Nakatsue**	**14.51**	**37**	P	**Pn**	**14 56 43.7**	**-0.8**
KMI	**Kunming**	**16.71**	**285**	P	**Pn**	**14 57 09.5**	**-3.7**
KMI				AP	pP	14 57 13.3	-10
KMI				XP	sP	14 57 16.5	-11
KMI				AMB	AMB		
	comp=Z,3.0nm,1.2s						
KMI	**Kunming**	**16.71**	**285**	P	**Pn**	**14 57 09.6**	**-3.6**
KMI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KMI	**Kunming**	**16.71**	**285**	P	**Pn**	**14 57 09.6**	**-3.6**
	comp=Z,3.0nm,1.2s						
KMI				pP	pP	14 57 13.3	-10
KMI				sP	sP	14 57 16.5	-11
KSRS	**Korea Array**	**16.86**	**20**	Pn	**Pn**	**14 57 15.3**	**+0.4**
	baz=201,slow=12,SNR=21						
JHS	**Saijyo**	**17.14**	**37**	P	**Pn**	**14 57 22.9**	**+4.3**
CD2	**Chengdu**	**17.60**	**305**	*e*P	**Pn**	**14 57 25.5**	**+1.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
BJT	**Baijiatuau**	**18.56**	**349**	*e*P	**Pn**	**14 57 37.3**	**+1.3**
BJT				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	**Baijiatuau**	**18.56**	**349**	*e*P	**Pn**	**14 57 37.3**	**+1.3**
	comp=Z,22nm,0.8s						
BJI	**Beijing**	**18.58**	**349**	P	**Pn**	**14 57 37.5**	**+1.2**
BJI				AMB	AMB		
	comp=Z,14nm,1.0s						
BJI	**Beijing**	**18.58**	**349**	P	**Pn**	**14 57 37.5**	**+1.2**
	comp=Z,14nm,1.0s						
JWT	**Wachi**	**18.68**	**41**	P	**Pn**	**14 57 38.5**	**+1.1**
NANT	**Nan**	**18.89**	**265**	P	**Pn**	**14 57 38.0**	**-2.0**
JGF	**Kuroka**	**20.10**	**43**	P	**P**	**14 57 54.3**	**+1.9**
SNY	**Shenyang**	**20.14**	**6**	⇓P	**P**	**14 57 56.0**	**+3.1**
SNY				AP		14 58 02.3	
SNY				XP	sP	14 58 05.5	+0.4
SNY				AMB	AMB		
	comp=Z,13nm,2.5s						
SNY				LR	LR		
	comp=E,10μm,13.2s						
SNY				LR	LR		
	comp=Z,11μm,17.1s,MS5.3						
LZH	**Lanzhou**	**20.40**	**318**	*e*P	**P**	**14 57 56.0**	**+0.3**
LZH				AP		14 58 00.0	
LZH				XP	sP	14 58 03.3	-4.6
LZH				*e*S	**S**	**15 01 35.5**	**-7.0**
LZH				XS	sS	15 01 44.3	-11
LZH				SS		15 02 03.5	
LZH				AMB	AMB		
	comp=Z,37nm,1.3s						
LZH				AMB	AMB		
	comp=Z,93nm,4.8s						
LZH				LR	LR		
	comp=E,567nm,9.5s						
LZH				LR	LR		
	comp=Z,1μm,12.9s,MS4.4						
LZH	**Lanzhou**	**20.40**	**318**	*e*P	**P**	**14 57 56.0**	**+0.3**
LZH				*e*S	**S**	**15 01 35.4**	**-7.1**
LZH				*SS	sS	15 01 44.2	-12
LZH				SS		15 02 03.5	
LZH				pmax	pmax		
	comp=Z,37nm,1.3s						
LZH				MLR	MLR		
	comp=Z,1μm,12.9s,MS4.4						
LZH	**Lanzhou**	**20.40**	**318**	*e*P	**P**	**14 57 56.0**	**+0.3**
	comp=Z,37nm,1.3s						
LZH				pP		14 58 00.1	
LZH				sP	sP	14 58 03.2	-4.7
LZH				PP		14 58 55.3	
LZH				*e*S	**S**	**15 01 35.4**	**-7.1**
LZH				sS	sS	15 01 44.2	-12
LZH				SS		15 02 03.5	
LZH				LR	LR		
	comp=Z,1μm,12.9s,MS4.4						
CHG	**Chiang Mai**	**20.52**	**266**	⇑P	**P**	**14 57 58.1**	**+1.2**
CHTO	**Chiang Mai**	**20.52**	**266**	*e*P	**P**	**14 57 57.9**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,22nm,1.0s						
CHTO	**Chiang Mai**	**20.52**	**266**	*e*P	**P**	**14 57 57.9**	**+1.0**
	comp=Z,22nm,1.0s						
CM31	**Chiang Mai Arr**	**20.59**	**265**	*e*P	**P**	**14 57 58.5**	**+0.8**
JOD2	**Odawara 2**	**21.03**	**46**	P	**P**	**14 58 07.5**	**+5.0**
MAJO	**Matsushiro**	**21.23**	**42**	*e*P	**P**	**14 58 04.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**21.23**	**42**	*e*P	**P**	**14 58 04.4**	**-0.3**
	comp=Z,17nm,0.8s,mb4.4						
MAT	**Matsushiro**	**21.23**	**42**	P	**P**	**14 58 04.6**	**0.0**
MAT	**Matsushiro**	**21.23**	**42**	P	**P**	**14 58 04.7**	**+0.1**
MJAR	**Matsushiro Arr**	**21.23**	**42**	P	**P**	**14 58 04.9**	**+0.3**
	comp=Z,14nm,0.8s,mb4.3,baz=229,slow=11,SNR=18						
JRY	**Ryogami san**	**21.35**	**44**	P	**P**	**14 58 08.4**	**+2.5**
JSD	**Sado**	**22.23**	**39**	P	**P**	**14 58 15.8**	**+0.5**
CN2	**Changchun**	**22.32**	**9**	*e*P	**P**	**14 58 14.5**	**-1.9**
JYA	**Atsumi**	**23.45**	**40**	P	**P**	**14 58 27.7**	**-0.5**
JMM	**Marumori**	**23.67**	**43**	P	**P**	**14 58 28.4**	**-1.8**
MDJ	**Mudanjiang**	**23.95**	**16**	*e*P	**P**	**14 58 32.5**	**-0.3**
	comp=Z,14nm,0.9s,mb4.4						
JOM	**Ohasama**	**24.96**	**40**	P	**P**	**14 58 40.8**	**-1.2**
GTA	**Gaotai**	**24.97**	**319**	*e*P	**P**	**14 58 42.5**	**+0.4**
GTA				AP		14 58 49.5	
GTA				XP	sP	14 58 52.8	-2.0
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.1						
JTM	**Tenmabayashi**	**25.68**	**38**	P	**P**	**14 58 48.5**	**0.0**
JOT	**Ohata**	**26.06**	**37**	P	**P**	**14 58 51.5**	**-0.5**
JSH	**Shimam**	**26.40**	**34**	P	**P**	**14 58 54.2**	**-0.8**
SHL	**Shillong**	**26.54**	**284**	*e*P	**P**	**14 58 57.0**	**+0.7**
JEW	**Eniwo**	**27.28**	**35**	P	**P**	**14 59 01.4**	**-1.5**
HIA	**Hailar**	**27.43**	**359**	*e*P	**P**	**14 59 03.8**	**-0.5**
HIA				pmax	pmax		
	comp=Z,17nm,0.9s						
HIA	**Hailar**	**27.43**	**359**	*e*P	**P**	**14 59 03.8**	**-0.5**
	comp=Z,17nm,0.9s,mb4.6						
LSA	**Lhasa**	**27.61**	**293**	P	**P**	**14 59 08.0**	**+2.1**
LSA	**Lhasa**	**27.61**	**293**	*e*P	**P**	**14 59 07.6**	**+1.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**27.61**	**293**	*e*P	**P**	**14 59 07.5**	**+1.6**
	comp=Z,9.4nm,0.8s,mb4.5						
JEM	**Erimo**	**27.67**	**38**	P	**P**	**14 59 07.7**	**+1.3**
ULN	**Ulaanbaatar**	**28.21**	**341**	*e*P	**P**	**14 59 11.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**28.21**	**341**	*e*P	**P**	**14 59 11.2**	**0.0**
	comp=Z,8.2nm,0.9s,mb4.4						
SONM	**Songino Array**	**28.39**	**340**	P	**P**	**14 59 13.0**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.1,baz=161,slow=12,SNR=16						
SONM				PcP	PcP	15 02 25.1	+0.4
	comp=Z,1.3nm,0.9s,baz=138,slow=5.4,SNR=3.7						
ASAJ	**Asahikawa**	**28.76**	**34**	P	**P**	**14 59 16.9**	**+0.8**
	comp=Z,11nm,0.8s,mb4.6,baz=240,slow=19,SNR=8.7						
ASAJ	**Asahikawa**	**28.76**	**34**	P	**P**	**14 59 18.2**	**+2.0**
HABR	**Khabarovsk**	**29.03**	**20**	*e*P	**P**	**14 59 09.9**	**-8.7**
HABR				*e*S	**S**	**15 03 58.0**	**-10**
YSS	**Yuzh-Sakhalins**	**30.86**	**30**	*e*P	**P**	**14 59 32.0**	**-2.7**
YSS				*e*	pP	14 59 40.0	-3.7
YSS	**Yuzh-Sakhalins**	**30.86**	**30**	P	**P**	**14 59 32.9**	**-1.9**
	comp=Z,35nm,1.0s,mb5.1						
GUN	**Gumba**	**32.01**	**288**	*e*P	**P**	**14 59 45.6**	**+0.7**
	comp=Z,45nm,1.0s,mb5.3						
PKI	**Pulchoki**	**32.41**	**287**	*e*P	**P**	**14 59 48.8**	**+0.4**
KKN	**Kakani**	**32.54**	**288**	*e*P	**P**	**14 59 49.6**	**+0.1**
	comp=Z,33nm,1.1s,mb5.2						
KKN	**Kakani**	**32.54**	**288**	*e*P	**P**	**14 59 49.6**	**+0.1**
KKN				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
DMN	**Daman**	**32.68**	**287**	*e*P	**P**	**14 59 50.9**	**+0.1**
	comp=Z,30nm,0.9s,mb5.2						
GKN	**Gorkha**	**33.11**	**288**	*e*P	**P**	**14 59 54.2**	**-0.3**
	comp=Z,45nm,1.2s,mb5.3						
MOY	**Mondy**	**33.49**	**338**	*e*P	**P**	**14 59 58.1**	**+0.3**
KOLN	**Koldanda**	**34.02**	**288**	*e*P	**P**	**15 00 02.2**	**-0.2**
	comp=Z,34nm,0.9s,mb5.3						
KAKA	**Kakadu**	**36.20**	**160**	*e*P	**P**	**15 00 20.1**	**-1.1**
	comp=Z,23nm,0.6s,mb5.3						
MK31	**Makanchi Array**	**39.72**	**318**	*e*P	**P**	**15 00 50.9**	**+0.1**
MKAR	**Makanchi Array**	**39.72**	**318**	P	**P**	**15 00 50.8**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.3,baz=113,slow=9.6,SNR=39						
MKAR				PcP	PcP	15 02 57.1	+0.1
	comp=Z,2.4nm,0.8s,baz=186,slow=1.2,SNR=4.7						
PMG	**Port Moresby**	**40.50**	**137**	P	**P**	**15 00 57.5**	**+0.2**
	comp=Z,6.8nm,0.8s,mb4.3,baz=323,slow=9.6,SNR=3.1						
YAK	**Yakutsk**	**40.70**	**7**	*e*P	**P**	**15 00 58.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK	**Yakutsk**	**40.70**	**7**	*e*P	**P**	**15 00 57.5**	**-1.5**
	comp=E,22nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**41.98**	**329**	P	**P**	**15 01 09.7**	**+0.1**
	comp=E,4.5nm,0.8s,mb4.2,baz=358,slow=8.8,SNR=29						
ZAL				PcP	PcP	15 03 04.4	0.0
	comp=E,1.0nm,0.6s,baz=26,slow=8.8,SNR=3.0						
NVS	**Novosibirsk**	**43.25**	**329**	*i* P	**P**	**15 01 18.9**	**-1.0**
NVS				*i* *PP	pP	15 01 29.8	+0.7
NVS				*e*		15 03 04.2	
NVS				*e*S	**S**	**15 07 42.2**	**-2.7**
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
NVS				pmax	pmax		
	comp=N,7.0nm,1.3s						
NVS				smax			
	comp=N,9.0nm,1.8s						
NVS				smax			
	comp=E,21nm,2.6s						
MA2	**Magadan**	**43.40**	**22**	*e*P	**P**	**15 01 20.0**	**-1.1**
MA2				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**43.59**	**161**	P	**P**	**15 01 22.4**	**-0.2**
	comp=Z,38nm,0.7s,mb5.2,baz=343,slow=9.0,SNR=205						
WRA				S	**S**	**15 07 48.3**	**-1.6**
	comp=Z,1.7nm,0.9s,baz=346,slow=15,SNR=4.6						
WB2	**Warramunga Arr**	**43.60**	**161**	⇓*i*P	**P**	**15 01 22.3**	**-0.3**
KBL	**Kabul**	**46.74**	**297**	*e*P	**P**	**15 01 48.3**	**+0.7**
ASAR	**Alice Springs**	**47.00**	**163**	P	**P**	**15 01 50.0**	**+0.4**
	comp=Z,8.0nm,0.4s,mb5.0,baz=344,slow=6.9,SNR=437						
ASAR				PcP	PcP	15 03 21.8	+0.3
	comp=Z,2.3nm,0.6s,baz=339,slow=3.0,SNR=5.9						
CTA	**Charters Tower**	**48.59**	**147**	*e*P	**P**	**15 02 03.0**	**+1.1**
	comp=Z,8.2nm,0.8s,mb4.8						
CTA	**Charters Tower**	**48.59**	**147**	P	**P**	**15 02 03.5**	**+1.6**
	comp=Z,11nm,0.8s,mb4.9,baz=334,slow=9.4,SNR=15						
CTA	**Charters Tower**	**48.59**	**147**	*e*P	**P**	**15 02 03.0**	**+1.1**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BVAR	**Borovoye Array**	**49.20**	**322**	P	**P**	**15 02 06.6**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.7,baz=101,slow=8.3,SNR=26						
BVAR				PcP	PcP	15 03 29.4	-0.1
	comp=Z,2.1nm,0.5s,baz=123,slow=2.8,SNR=6.0						
BRVK	**Borovoye**	**49.27**	**322**	*e*P	**P**	**15 02 06.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**49.27**	**322**	*e*P	**P**	**15 02 06.8**	**-0.3**
	comp=Z,10.0nm,0.9s,mb4.8						
TIXI	**Tiksi**	**50.11**	**3**	*e*P	**P**	**15 02 09.9**	**-3.6**
TIXI				*e*		15 03 30.3	
TIXI				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
TIXI	**Tiksi**	**50.11**	**3**	*e*P	**P**	**15 02 12.5**	**-1.1**
	comp=Z,15nm,1.2s,mb4.9						
FORT	**Forrest**	**52.75**	**172**	*e*P	**P**	**15 02 32.4**	**-0.9**
	comp=Z,36nm,0.7s,mb5.4						
KLBR	**Kellerberrin**	**53.14**	**183**	*e*P	**P**	**15 02 35.6**	**-0.6**
	comp=Z,19nm,0.7s,mb5.1						
MUN	**Mundaring**	**53.62**	**185**	⇓*i*P	**P**	**15 02 39.3**	**-0.4**
BILL	**Bilibino**	**54.12**	**19**	*e*P	**P**	**15 02 41.4**	**-1.9**
BILL				*i*		15 02 53.5	
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BILL	**Bilibino**	**54.12**	**19**	*e*P	**P**	**15 02 42.0**	**-1.3**
	comp=Z,7.9nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**54.50**	**183**	P	**P**	**15 02 46.0**	**-0.1**
	comp=Z,17nm,0.7s,mb5.1,baz=347,slow=6.4,SNR=11						
ARU	**Arti**	**56.70**	**324**	⇓*i*P	**P**	**15 03 01.4**	**-0.5**
ARU				*e*		15 05 03.9	
ARU				*e*S	**S**	**15 10 55.7**	**+3.3**
ARU				*e*		15 12 46.5	
ARU				*e*SS	SS	15 14 39.6	-0.8
ARU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**57.02**	**159**	⇓*i*P	**P**	**15 03 04.5**	**+0.3**
	comp=Z,8.7nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**57.02**	**159**	P	**P**	**15 03 04.8**	**+0.6**
	comp=Z,12nm,0.6s,mb5.1,baz=340,slow=5.9,SNR=56						
ORR	**Orenburg**	**58.29**	**318**	*e*P	**P**	**15 03 13.3**	**+0.2**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
CNB	**Canberra Magne**	**63.00**	**154**	*e*P	**P**	**15 03 46.2**	**+1.0**
	comp=Z,32nm,0.7s,mb5.5						
MAK	**Makhachkala**	**63.32**	**308**	*e*P	**P**	**15 03 45.8**	**-1.5**
MIB	**Mutribah**	**65.47**	**294**	*e*P	**P**	**15 04 01.3**	**-0.1**
MIB				AMb	AMB	15 04 01.7	
	comp=Z,16nm,0.5s,mb5.3						
RDF	**Al-Radifah**	**65.47**	**293**	*e*P	**P**	**15 04 01.1**	**-0.3**
RDF				AMb	AMB	15 04 01.8	
	comp=Z,39nm,0.7s,mb5.6						
NAY	**Al-Naaiem**	**65.67**	**293**	*e*P	**P**	**15 04 02.1**	**-0.5**
NAY				AMb	AMB	15 04 02.9	
	comp=Z,13nm,0.6s,mb5.1						
KIV	**Kislovodsk**	**66.68**	**310**	*e*P	**P**	**15 04 09.0**	**-0.2**
KIV				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.4						
KIV	**Kislovodsk**	**66.68**	**310**	*e*P	**P**	**15 04 10.3**	**+1.1**
	comp=Z,8.4nm,0.6s,mb5.0						
BHD	**Baghdad**	**67.23**	**298**	*i* x	x	15 04 10.0	
BHD				*i* x	x	15 13 07.0	
IMA2	**Indian Mountai**	**68.58**	**26**	*e*P	**P**	**15 04 19.3**	**-1.9**
ANN	**Anapa**	**70.25**	**311**	*e*P	**P**	**15 04 30.3**	**-1.2**
ANN				pmax	pmax		
	comp=Z,91nm,1.4s,mb5.5						
MALT	**Malatya**	**70.89**	**304⇑**	*i*P	**P**	**15 04 37.4**	**+2.1**
ARCES	**ARCESS Array B**	**71.55**	**338**	P	**P**	**15 04 38.8**	**-0.6**
	comp=Z,6.9nm,0.9s,mb4.6,baz=66,slow=9.4,SNR=5.1						
FINES	**FINESS Array B**	**73.24**	**330**	P	**P**	**15 04 49.1**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=69,slow=6.3,SNR=9.9						
BRTR	**Keskin Array B**	**74.16**	**307**	P	**P**	**15 04 55.8**	**+1.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=79,slow=6.4,SNR=8.0						
AKASG	**Malin Array Be**	**74.30**	**319**	P	**P**	**15 04 54.8**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.4,baz=62,slow=5.7,SNR=11						
SUW	**Suwalki**	**76.88**	**323**	*e*P	**P**	**15 05 10.0**	**-0.4**
SUW				*e*	pP	15 05 20.0	-0.2
SUW				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
SUW

YKA	**Yellowknife Ar**	**85.38**	**22**	P	**P**	**15 05 55.7**	**+0.1**
GRA1	**Grafenberg Arr**	**85.39**	**322**	*e*P	**P**	**15 05 55.7**	**0.0**
	comp=Z,41nm,2.0s,mb5.2						
GRA1				*e*pP	pP	15 06 05.6	0.0
GRF	**Grafenberg Arr**	**85.39**	**322**	*e*P	**P**	**15 05 55.7**	**0.0**
	comp=Z,41nm,2.0s,mb5.2						
GRF				*e*pP	pP	15 06 05.6	0.0
GRF	**Grafenberg Arr**	**85.39**	**322**	*e*P	**P**	**15 05 55.7**	**0.0**
GRF				*e**PP	pP	15 06 05.6	0.0
GRF				pmax	pmax		
	comp=Z,41nm,2.0s,mb5.2						
GRF	**Grafenberg Arr**	**85.39**	**322**	*e*P	**P**	**15 05 55.7**	**0.0**
GRF				*e**PP	pP	15 06 05.6	0.0
GRF				pmax	pmax		
	comp=Z,41nm,2.0s,mb5.2						
CASY	**Casey**	**88.12**	**184**	*e*P	**P**	**15 06 09.1**	**+0.1**
CDF	**Champ du Feu**	**88.28**	**322**	*e*P	**P**	**15 06 09.9**	**+0.2**
BAIF	**Baives**	**89.09**	**325**	*e*P	**P**	**15 06 13.7**	**+0.2**
LPG	**La Plagne**	**90.11**	**320**	*e*P	**P**	**15 06 18.4**	**+0.1**
	comp=Z,10nm,0.9s,mb4.9						
LPG	**La Plagne**	**90.11**	**320**	*e*P	**P**	**15 06 18.4**	**+0.1**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
LPG	**La Plagne**	**90.11**	**320**	*e*P	**P**	**15 06 18.4**	**+0.1**
	comp=Z,5.3nm,0.9s,mb4.9						
LPL	**La Plagne**	**90.11**	**320**	*e*P	**P**	**15 06 18.3**	**0.0**
PGF	**Pioggiola**	**90.24**	**317**	*e*P	**P**	**15 06 18.2**	**-0.7**
	comp=Z,19nm,0.8s,mb5.1						
PGF	**Pioggiola**	**90.24**	**317**	*e*P	**P**	**15 06 18.2**	**-0.7**
PGF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.2						
PGF	**Pioggiola**	**90.24**	**317**	*e*P	**P**	**15 06 18.2**	**-0.7**
	comp=Z,9.3nm,0.8s,mb5.2						
LOR	**Lormes**	**90.83**	**323**	*e*P	**P**	**15 06 21.6**	**-0.1**
AVF	**Avril sur Loir**	**91.39**	**322**	*e*P	**P**	**15 06 23.7**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**91.39**	**322**	*e*P	**P**	**15 06 23.7**	**-0.6**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**91.39**	**322**	*e*P	**P**	**15 06 23.7**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.7						
CAF	**Calviac**	**93.19**	**321**	*e*P	**P**	**15 06 32.6**	**0.0**
VNA2	**Neumayer--Watz**	**122.45**	**198**	*e*PKPdf	PKPdf	15 12 12.5	-1.0
	baz=22,slow=1.1						
VNA2				*e*		15 12 16.1	
VNA2				*e*		15 12 25.4	
VNA2				*e*		15 12 37.0	
VNA2				*e*		15 12 40.9	
SDV	**Santo Domingo**	**147.59**	**21**	*e*PKPdf	PKPdf	15 13 00.3	+0.5
SDV				*e*PKPbc	PKPbc	15 13 03.2	+0.7
ROSC	**El Rosal**	**149.76**	**31**	PKPbc	PKPbc	15 13 07.7	-0.4
	comp=Z,4.7nm,0.4s,baz=252,slow=20,SNR=2.6						
PLCA	**Paso Flores**	**158.88**	**156**	PKPab	PKPab	15 13 53.2	+1.0
	comp=Z,3.1nm,0.9s,baz=232,slow=8.1,SNR=2.9						

NIED ***26*** *15:19:00, 4830N×15550E, h11km, Mw5.9 Best double couple: M0=9.42000×10^17 NP1:φ=225.00000°, δ70.00000°, λ88.00000°. NP2:φ=52.00000°, δ20.00000°, λ96.00000°.*
BJI ***26*** *15:19:41.7, 4849N×15521E, h17km, mB5.7, mb5.2, Ms5.7, Msz5.5*
IDC ***26*** *15:19:43.6±0.4, 4836N×15483E, h0km, mb5.3/32, mb1 5.4/33, mb1mx5.4/34, mbtmp5.3/33, ML4.5/1, MS5.4/3, Ms1 5.4/3, ms1mx4.8/19, Error ellipse: s-maj=13.8km s-min=10.9km az=128.0*
ISCJB ***26*** *15:19:45.2±0.1, 4827N±002×15487E±002, h22km, mb5.6/296, MS5.6/44, Error ellipse: s-maj=3.2km s-min=1.7km az=145.5*
NEIC ***26*** *15:19:45.2±0.1, 4832N×15484E, h10km, mb5.7/195, MS5.8/19, Error ellipse: s-maj=3.2km s-min=2.2km az=164.0*
NEIC Felt [II] at Severo-Kuril'sk.
GCMT ***26*** *15:19:45.2±0.4, 48.19N×155.17E, h38km, MW6.0/64, Moment Tensor Solution. s44,c51; s64,c94; Duration: 2s4 Moment tensor: Scale 10^18Nm; Mrr1.29±.07; Mθθ-0.59±.04; Mφφ-0.70±.04; Mrθ0.39±.05; Mrφ-0.42±.02; Mθφ0.23±.04; Best double couple: M0=1.26400×10^18 NP1:φ=217.00000°, δ35.00000°, λ82.00000°. NP2: φ=47.00000°, δ55.00000°, λ96.00000°. Principal axes: T 1.3790, Plg79.0000°, Azm338.0000°; N -0.2350, Plg5.0000°, Azm224.0000°; P -1.1500, Plg10.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SKHL ***26*** *15:19:47.8±3.5, 4830N×15520E, h51km±20km, mb6.1/4, mbh6.3/2, mbv6.4/4, ms5.8/3, msh6.6/4*
MOS ***26*** *15:19:49.8±1.0, 4848N×15472E, h58km, mb5.7/103, MS5.6/29, Error ellipse: s-maj=8.1km s-min=6.4km az=90.1*
MOS Felt (II) at Severo-Kuril'sk.
BGS ***26*** *15:19:51.3, 49.14N×152.96E, h10km, mb5.5, MS5.4*
SZGRF ***26*** *15:20:02.4, 4994N×15387E, h50km, mb5.9, Kuril Islands, Russia*

ISC 26 15:19:47.4±0.1, 4840N±002×15477E±002, h23km, h23km±3.3km: pP-P, n1162, d0§81/1178, mb5.6/296, MS5.6/44, 358C-118D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.45**	**20κ**	*i*PN	**Pn**	**15 20 26.4**	**+0.5**
SKR				*e*S	**Sn**	**15 20 52.4**	**-2.7**
SKR				pmax	pmax		
	comp=Z,20nm,2.0s						
SKR				pmax	pmax		
	comp=N,18μm,2.0s						
SKR				pmax	pmax		
	comp=E,14μm,2.0s						
SKR				pmax	pmax		
	comp=N,1μm,0.5s						
SKR				pmax	pmax		
	comp=Z,4μm,0.5s						
SKR				pmax	pmax		
	comp=E,2μm,0.8s						
SKR				smax			
	comp=N,96μm,2.0s						
SKR				smax			
	comp=E,150μm,4.0s						
SKR	**Severo-Kuril's**	**2.45**	**20**	*i* P	**Pn**	**15 20 26.4**	**+0.5**
SKR				AMB	AMB	15 20 30.0	
	comp=E,18μm,2.0s						
SKR				AMB	AMB	15 20 30.0	
	comp=E,14μm,2.0s						
SKR				AMB	AMB	15 20 30.0	
	comp=E,20μm,2.0s						
SKR				AMB	AMB	15 20 30.6	
	comp=E,1μm,0.5s						
SKR				AMB	AMB	15 20 30.6	
	comp=E,2μm,0.5s						
SKR				AMB	AMB	15 20 30.6	
	comp=E,4μm,0.5s						
SKR				*e*S	**Sn**	**15 20 52.4**	**-2.7**
SKR				A		15 21 02.0	
	comp=E,96μm,2.0s						
SKR				A		15 21 02.0	
	comp=E,150μm,2.0s						
PET	**Petropavlovsk**	**5.25**	**27⇑**	*i*PN	**Pn**	**15 21 05.2**	**+0.8**
PET				*i* S	**Sn**	**15 22 03.4**	**-0.7**
PET				pmax	pmax		
	comp=Z,1μm,0.6s						
PET				smax			
	comp=E,23μm,0.8s						
PET				smax			
	comp=N,51μm,1.8s						
PET				MLR	MLR		
	comp=Z,38μm,17.0s						
PET				MLR	MLR		
	comp=Z,45μm,17.0s						
PET	**Petropavlovsk**	**5.25**	**27⇑**	*i*P	**Pn**	**15 21 05.3**	**+0.9**
KUR	**Kuril'sk**	**5.70**	**239**	*i* P	**Pn**	**15 21 14.7**	**+4.0**
KUR				AMB	AMB	15 21 18.0	
	comp=Z,650nm,0.8s						
KUR				AMB	AMB	15 21 18.0	
	comp=Z,540nm,0.8s						
KUR				AMB	AMB	15 21 18.0	
	comp=Z,2μm,0.8s						
KUR				AMB	AMB	15 21 28.0	
	comp=Z,5μm,12.0s						
KUR				AMB	AMB	15 21 28.0	
	comp=Z,18μm,12.0s						
KUR				*e*S	**Sn**	**15 22 22.0**	**+6.7**
KUR				A		15 22 29.6	
	comp=Z,34μm,2.0s						
KUR				A		15 22 29.6	
	comp=Z,25μm,2.0s						
KUR				A		15 22 52.0	
	comp=Z,6μm,0.8s						
KUR				A		15 22 52.0	
	comp=Z,3μm,0.8s						
KUR				AMS	AMS	15 23 54.0	
	comp=Z,24μm,12.0s						
KUR				AMS	AMS	15 23 54.0	
	comp=Z,34μm,12.0s						
KUR				AMS	AMS	15 23 54.0	
	comp=Z,40μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**7.56**	**238**	*e*P	**Pn**	**15 21 38.4**	**+2.1**
YUK				AMB	AMB	15 21 42.0	
	comp=Z,470nm,0.4s						
YUK				AMB	AMB	15 21 42.0	
	comp=Z,710nm,0.4s						
YUK				AMB	AMB	15 21 42.0	
	comp=Z,2μm,0.4s						
YUK				AMB	AMB	15 21 44.0	
	comp=Z,3μm,1.0s						
YUK				AMB	AMB	15 21 44.0	
	comp=Z,4μm,1.0s						
YUK				AMB	AMB	15 21 44.0	
	comp=Z,4μm,1.0s						
YUK				A		15 23 27.0	
	comp=Z,15μm,2.0s						
YUK				A		15 23 27.0	
	comp=Z,10μm,2.0s						
YUK				A		15 23 34.5	
	comp=Z,4μm,0.7s						
YUK				A		15 23 34.5	
	comp=Z,3μm,0.7s						
YUK				AMS	AMS	15 24 28.0	
	comp=Z,48μm,16.0s						
YUK				AMS	AMS	15 24 28.0	
	comp=Z,33μm,16.0s						
YUK				AMS	AMS	15 24 28.0	
	comp=Z,56μm,16.0s						
JRA	**Rausu**	**8.05**	**240**	P	**Pn**	**15 21 45.4**	**+2.5**
NEM2	**Nemuro 2**	**8.06**	**235**	P	**Pn**	**15 21 42.3**	**-0.8**
NEM2				*e*S	**Sn**	**15 23 10.3**	**-3.2**
YSS	**Yuzh-Sakhalins**	**8.24**	**264**	*de*PN	**Pn**	**15 21 50.0**	**+4.5**
YSS				*e*S	**Sn**	**15 23 22.5**	**+4.6**
YSS				pmax	pmax		
	comp=Z,180nm,0.8s						
YSS				pmax	pmax		
	comp=Z,2μm,5.0s						
YSS				smax			
	comp=N,160nm,0.6s						
YSS				MLR	MLR		
	comp=Z,36μm,17.0s						
YSS				MLR	MLR		
	comp=E,34μm,18.0s						
YSS	**Yuzh-Sakhalins**	**8.24**	**264**	*e*Pn	**Pn**	**15 21 50.6**	**+5.0**
	comp=E,294nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.24**	**264**	*e*P	**Pn**	**15 21 50.0**	**+4.5**
YSS				AMB	AMB	15 21 53.4	
	comp=E,180nm,0.8s						
YSS				AMB	AMB	15 21 56.0	
	comp=E,2μm,5.0s						
YSS				*e*S	**Sn**	**15 23 22.5**	**+4.6**
YSS				A		15 23 25.0	
	comp=E,160nm,0.6s						
YSS				AMS	AMS	15 24 46.0	
	comp=E,34μm,18.0s						
YSS				AMS	AMS	15 24 46.0	
	comp=E,36μm,18.0s						
JNK	**Nakash**	**8.49**	**239**	P	**Pn**	**15 21 50.7**	**+1.7**
JNK				*e*S	**Sn**	**15 23 25.9**	**+1.8**
JTKR	**Abashiri--Toko**	**8.74**	**244**	P	**Pn**	**15 21 55.4**	**+3.0**
JAK	**Akkeshi**	**8.88**	**236**	P	**Pn**	**15 21 54.4**	**+0.1**
JAK				*e*S	**Sn**	**15 23 30.3**	**-3.3**
JMP	**Maruseppu**	**9.05**	**245**	P	**Pn**	**15 22 00.1**	**+3.5**
JSE	**Soyaes**	**9.06**	**252**	P	**Pn**	**15 22 02.4**	**+5.7**
OKH	**Okha**	**9.07**	**309**	*i* PN	**Pn**	**15 22 00.0**	**+3.1**
OKH				*e*S	**Sn**	**15 23 49.8**	**+11**
OKH				pmax	pmax		
	comp=Z,7μm,10.0s						
OKH				smax			
	comp=N,8μm,4.5s						
OKH	**Okha**	**9.07**	**309**	*i* P	**Pn**	**15 22 00.0**	**+3.1**
OKH				*e*P		15 22 05.8	
OKH				*e*S	**Sn**	**15 23 49.8**	**+11**
OKH				A		15 23 52.0	
	comp=N,8μm,4.5s						
JAR	**Ashorobuto**	**9.22**	**240**	P	**Pn**	**15 22 01.0**	**+2.1**
JAR				*e*S	**Sn**	**15 23 43.3**	**+1.4**
JWK2	**Keihoku**	**9.35**	**256**	P	**Pn**	**15 22 07.9**	**+7.2**
JOB	**Onbets**	**9.42**	**238**	P	**Pn**	**15 22 02.4**	**+0.6**
JOB				*e*S	**Sn**	**15 23 44.0**	**-3.0**
ASAJ	**Asahikawa**	**9.46**	**248**	Pn	**Pn**	**15 22 07.1**	**+4.9**
	comp=N,28nm,0.3s,baz=77,slow=14,SNR=200						
ASAJ				LR	LR	15 25 31.3	
	comp=N,39μm,19.4s,baz=71,slow=37						
ASAJ	**Asahikawa**	**9.46**	**248**	P	**Pn**	**15 22 07.0**	**+4.8**
ASAJ	**Asahikawa**	**9.46**	**248**	PN	**Pn**	**15 22 07.1**	**+4.9**
ASAJ				pmax	pmax		
	comp=Z,28nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,39μm,19.4s						
JKK2	**Kamakawa 2**	**9.49**	**246**	P	**Pn**	**15 22 06.7**	**+4.0**
JSS	**Shosan**	**9.78**	**251**	P	**Pn**	**15 22 13.5**	**+6.9**
JCH	**Churui**	**9.88**	**238**	P	**Pn**	**15 22 07.5**	**-0.4**
JCH				*e*S	**Sn**	**15 23 53.0**	**-5.1**
JFR	**Furan**	**9.99**	**243**	P	**Pn**	**15 22 12.3**	**+2.8**
JAB	**Ashibetsu**	**10.01**	**245**	P	**Pn**	**15 22 13.7**	**+3.9**
JHR	**Hokuryu**	**10.19**	**248**	P	**Pn**	**15 22 18.0**	**+5.8**
JBT2	**Biratori 2**	**10.35**	**242**	P	**Pn**	**15 22 15.2**	**+0.8**
ERM	**Erimo**	**10.38**	**236**	Pn	**Pn**	**15 22 15.0**	**+0.1**
	comp=Z,2μm,0.4s,SNR=48						
ERM	**Erimo**	**10.38**	**236**	*e*PN	**Pn**	**15 22 15.2**	**+0.3**
ERM				pmax	pmax		
	comp=Z,169nm,0.6s						
ERM	**Erimo**	**10.38**	**236**	*e*Pn	**Pn**	**15 22 15.2**	**+0.3**
	comp=Z,169nm,0.6s						
JEM	**Erimo**	**10.38**	**236**	P	**Pn**	**15 22 15.0**	**+0.1**
JNBK	**Urakawa-nobuka**	**10.44**	**239**	P	**Pn**	**15 22 14.3**	**-1.3**
JNBK				*e*S	**Sn**	**15 24 07.6**	**-4.2**
JEW	**Eniwo**	**10.86**	**244**	P	**Pn**	**15 22 23.5**	**+2.1**
JSK	**Shakotan**	**11.17**	**248**	P	**Pn**	**15 22 29.0**	**+3.4**
JNB	**Noboribetsu**	**11.32**	**244**	P	**Pn**	**15 22 27.4**	**-0.3**
JNB				*e*S	**Sn**	**15 24 30.4**	**-3.1**
MA2	**Magadan**	**11.44**	**350**	*c i*PN	**Pn**	**15 22 32.2**	**+2.8**
MA2				*e*S	**Sn**	**15 24 40.5**	**+4.1**
MA2				pmax	pmax		
	comp=Z,400nm,1.1s						
MA2				MLR	MLR		
	comp=Z,397μm,15.5s						
MA2	**Magadan**	**11.44**	**350**	*e*Pn	**Pn**	**15 22 31.9**	**+2.5**
	comp=Z,926nm,1.6s						
JKB	**Kayabe**	**11.68**	**241**	P	**Pn**	**15 22 31.4**	**-1.2**
JKB				*e*S	**Sn**	**15 24 35.5**	**-6.7**
JSH	**Shimam**	**11.82**	**246**	P	**Pn**	**15 22 36.0**	**+1.5**
JYM2	**Yakumo 2**	**11.93**	**244**	P	**Pn**	**15 22 36.2**	**+0.2**
JSR	**Shiriuchi**	**12.26**	**241**	P	**Pn**	**15 22 39.2**	**-1.4**
JTM	**Tenmabayashi**	**12.37**	**237**	P	**Pn**	**15 22 39.2**	**-2.9**
JTM				*e*S	**Sn**	**15 24 49.0**	**-10**
JANG	**Nango**	**12.41**	**235**	P	**Pn**	**15 22 38.9**	**-3.7**
JANG				*e*S	**Sn**	**15 24 48.2**	**-12**
JOSM	**Okushiri--Mats**	**12.49**	**245**	P	**Pn**	**15 22 43.6**	**-0.1**
JTH	**Tanohata**	**12.53**	**232**	P	**Pn**	**15 22 41.0**	**-3.3**
JTH				*e*S	**Sn**	**15 24 52.1**	**-11**
SMY	**Shemya**	**13.02**	**63**	*e*PN	**Pn**	**15 22 46.9**	**-4.0**
SMY				pmax	pmax		
	comp=Z,370nm,0.5s						
SMY	**Shemya**	**13.02**	**63**	*e*P	**Pn**	**15 22 49.5**	**-1.4**
	comp=Z,219nm,0.4s						
HABR	**Khabarovsk**	**13.10**	**278**	*i*PN	**Pn**	**15 22 59.9**	**+7.9**
HABR				pmax	pmax		
	comp=Z,259nm,2.3s						
HABR				MLR	MLR		
	comp=Z,20μm,14.2s						
OFUJ	**Ofunato**	**13.27**	**230**	P	**Pn**	**15 22 50.0**	**-4.4**
OFUJ				*e*S	**Sn**	**15 25 09.3**	**-12**
JRG	**Rokugo**	**13.58**	**234**	P	**Pn**	**15 22 55.3**	**-3.3**
JRG				*e*S	**Sn**	**15 25 20.3**	**-8.4**
JOG2	**Oga 2**	**13.68**	**237**	P	**Pn**	**15 22 57.1**	**-2.8**
JIO	**Ouri**	**13.91**	**229**	P	**Pn**	**15 22 58.9**	**-4.2**
JIO				*e*S	**Sn**	**15 25 24.3**	**-12**
SEY	**Seymchan**	**14.63**	**356**	*i*P	**Pn**	**15 23 14.7**	**+1.8**
JYA	**Atsumi**	**14.65**	**234**	P	**Pn**	**15 23 10.7**	**-2.6**
JYA				*e*S	**Sn**	**15 25 48.8**	**-6.1**
KLR	**Kul'dur**	**15.18**	**282⇓**	*i*P	**Pn**	**15 23 21.8**	**+1.5**
KLR				pmax	pmax		
	comp=Z,300nm,1.8s						
JFY	**Yanaizu**	**15.54**	**231**	P	**Pn**	**15 23 22.1**	**-3.0**
VLA	**Vladivostok**	**16.79**	**260**	*e*P	**Pn**	**15 23 40.9**	**-0.1**
VLA				pmax	pmax		
	comp=Z,202nm,1.4s						
VLA				MLR	MLR		
	comp=Z,10μm,14.7s						
VLA	**Vladivostok**	**16.79**	**260⇑**	*e*P	**Pn**	**15 23 41.9**	**+0.9**
MJAR	**Matsushiro Arr**	**16.98**	**232**	Pn	**Pn**	**15 23 41.1**	**-2.3**
	comp=Z,1.7nm,0.3s,baz=30,slow=12,SNR=34						
MAJO	**Matsushiro**	**16.98**	**232**	*e*P	**Pn**	**15 23 41.4**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,158nm,1.1s						
MAJO	**Matsushiro**	**16.98**	**232**	*e*Pn	**Pn**	**15 23 41.4**	**-2.0**
	comp=Z,158nm,1.1s						
MAT	**Matsushiro**	**16.98**	**232**	P	**Pn**	**15 23 41.5**	**-1.9**
MAT				*e*S	**Sn**	**15 26 53.0**	**+1.6**
MDJ	**Mudanjiang**	**17.71**	**267**	P	**Pn**	**15 23 53.3**	**+0.8**
MDJ				AP	pP	15 23 56.8	-2.8
MDJ				XP	sP	15 23 58.0	-4.6
MDJ				S	**Sn**	**15 27 08.5**	**-0.7**
MDJ				XS	sS	15 27 23.8	-2.3
MDJ				PCP	PcP	15 28 27.3	-2.7
MDJ				SCP	ScP	15 32 02.8	-0.9
MDJ				SCS	ScS	15 35 43.8	-0.1
MDJ				AMB	AMB		
	comp=Z,59nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,4μm,11.2s						
MDJ				LR	LR		
	comp=N,9μm,17.5s						
MDJ				LR	LR		
	comp=E,8μm,20.0s						
MDJ				LR	LR		
	comp=Z,15μm,20.9s						
MDJ	**Mudanjiang**	**17.71**	**267**	*e*P	**Pn**	**15 23 53.0**	**+0.5**
	comp=Z,128nm,0.8s						
YAK	**Yakutsk**	**19.60**	**323**	*c i*P	**Pn**	**15 24 13.1**	**-2.3**
YAK				*e*S	**Sn**	**15 27 55.5**	**+0.7**
YAK				pmax	pmax		
	comp=Z,216nm,1.4s						
YAK				pmax	pmax		
	comp=N,210nm,1.5s						
YAK				pmax	pmax		
	comp=E,241nm,1.3s						
YAK				smax			
	comp=N,1μm,3.0s						
YAK				smax			
	comp=Z,1μm,5.3s						
YAK				smax			
	comp=E,651nm,3.1s						
YAK				MLR	MLR		
	comp=Z,14μm,12.0s						
YAK				MLR	MLR		
	comp=N,11μm,14.0s						
YAK				MLR	MLR		
	comp=E,9μm,14.0s						
YAK	**Yakutsk**	**19.60**	**323**	*e*Pn	**Pn**	**15 24 13.0**	**-2.4**
	comp=E,298nm,0.8s						
CLNS	**Chul'man**	**19.87**	**306**	*e*P	**Pn**	**15 24 18.9**	**+0.3**
NRGR	**Nerungri**	**19.93**	**306**	*e*P	**Pn**	**15 24 20.2**	**+0.9**
NRGR				S	**Sn**	**15 27 55.9**	**-6.7**
NRGR				smax			
	comp=N,241nm,1.5s						
BILL	**Bilibino**	**20.54**	**12c**	*i*P	**P**	**15 24 22.3**	**-1.9**
BILL				*i*		15 24 41.0	
BILL				*i* S	**S**	**15 28 10.8**	**-2.0**
BILL				pmax	pmax		
	comp=Z,137nm,1.6s						
BILL				MLR	MLR		
	comp=Z,24μm,18.0s,MS5.6						
BILL	**Bilibino**	**20.54**	**12⇑**	*i*P	**P**	**15 24 21.9**	**-2.2**
	comp=Z,128nm,0.9s						
BILL				LR	LR		
	comp=Z,18μm,19.0s,MS5.5						
CN2	**Changchun**	**20.78**	**268**	*e*P	**P**	**15 24 25.3**	**-1.5**
CN2				AMB	AMB		
	comp=Z,2μm,6.0s						
CN2				LR	LR		
	comp=N,8μm,18.0s,MS5.4						
CN2				LR	LR		
	comp=E,11μm,18.0s,MS5.4						
CN2				LR	LR		
	comp=Z,12μm,19.0s,MS5.3						
KSRS	**Korea Array**	**22.38**	**251**	P	**P**	**15 24 45.0**	**+0.9**
	comp=Z,168nm,0.9s,mb5.5,baz=49,slow=10,SNR=93						
KSRS				PcP	PcP	15 28 38.7	+0.2
	comp=Z,9.2nm,0.9s,baz=287,slow=0.1,SNR=5.5						
SNY	**Shenyang**	**22.87**	**265**	⇓P	**P**	**15 24 48.8**	**-0.3**
SNY				AP		15 24 53.3	
SNY				XP	sP	15 24 56.5	-2.1
SNY				AMB	AMB		
	comp=Z,32nm,2.0s,mb4.4						
SNY				AMB	AMB		
	comp=Z,882nm,6.9s						
SNY				LR	LR		
	comp=E,10μm,14.1s						
SNY				LR	LR		
	comp=Z,12μm,17.2s,MS5.4						
HIA	**Hailar**	**22.96**	**285**	*e*P	**P**	**15 24 48.9**	**-1.2**
HIA				pmax	pmax		
	comp=Z,81nm,1.1s						
HIA				MLR	MLR		
	comp=Z,27μm,19.0s						
HIA	**Hailar**	**22.96**	**285**	*e*P	**P**	**15 24 48.9**	**-1.2**
	comp=Z,81nm,1.1s,mb5.1						
HIA				LR	LR		
	comp=Z,27μm,19.0s,MS5.7						
INCN	**Inchon**	**23.18**	**252**	⇓P	**P**	**15 24 53.6**	**+1.2**
	SNR=8.5						
INCN	**Inchon**	**23.18**	**252**	*e*P	**P**	**15 24 52.7**	**+0.2**
	comp=Z,253nm,1.3s,mb5.5						
JNU	**Nakatsue**	**23.54**	**238**	P	**P**	**15 24 56.6**	**+0.6**
	comp=Z,80nm,1.1s,mb5.1,baz=269,slow=24,SNR=6.1						
DL2	**Dalian**	**25.62**	**261⇑**	*i*P	**P**	**15 25 15.5**	**+0.5**
DL2				*e*S	**S**	**15 29 45.0**	**+3.2**
DL2				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.3						
DL2				AMB	AMB		
	comp=Z,570nm,6.4s						
DL2				LR	LR		
	comp=N,3μm,14.4s,MS5.0						
DL2				LR	LR		
	comp=E,3μm,15.0s,MS5.0						
DL2				LR	LR		
	comp=Z,4μm,14.1s,MS5.0						
BOD	**Bodaibo**	**25.85**	**307**	*e*P	**P**	**15 25 15.2**	**-2.0**
BOD				*e*		15 25 28.4	
BOD				*e*		15 26 10.7	
BOD				pmax	pmax		
	comp=Z,12nm,0.9s						
TNA	**Tin City**	**26.04**	**35⇑**	*i*P	**P**	**15 25 18.9**	**0.0**
	comp=Z,241nm,1.1s,mb5.6						
TIXI	**Tiksi**	**26.23**	**342**	*e*P	**P**	**15 25 16.9**	**-3.7**
TIXI				*e*S	**S**	**15 29 44.8**	**-6.7**
TIXI				pmax	pmax		
	comp=Z,71nm,1.3s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,15μm,14.0s,MS5.7						
TIXI	**Tiksi**	**26.23**	**342⇑**	*e*P	**P**	**15 25 17.9**	**-2.6**
	comp=Z,59nm,0.8s,mb5.2						
CIT	**Chita**	**26.37**	**294**	*e*P	**P**	**15 25 21.5**	**-0.4**
CIT				*e*		15 25 37.5	
CIT				*e*		15 26 21.6	
CIT				*e*		15 29 57.3	
BJI	**Beijing**	**28.64**	**268**	P	**P**	**15 25 41.8**	**-0.4**
BJI				AMB	AMB		
	comp=Z,19nm,2.3s						
BJI				AMB	AMB		
	comp=Z,713nm,6.9s						
BJI				LR	LR		
	comp=N,8μm,17.9s,MS5.5						
BJI				LR	LR		
	comp=E,9μm,17.9s,MS5.5						
BJI				LR	LR		
	comp=Z,7μm,23.5s						
BJI	**Beijing**	**28.64**	**268**	P	**P**	**15 25 41.8**	**-0.4**
	comp=Z,19nm,2.3s						
BJI				S	**S**	**15 30 27.4**	**-2.2**
BJI				LR	LR		
	comp=Z,7μm,23.5s,MS5.2	

TTA	**Tatalina**	**30.44**	**43**	*eP*	**P**	**15 25 58.0**	**-0.2**
SVW2	**Sparrevohn**	**30.54**	**47**	*eP*	**P**	**15 25 59.2**	**+0.2**
HHC	**Hu-ho-hao-te**	**31.32**	**272**	*eP*	**P**	**15 26 05.5**	**-0.4**
HHC				AP	pP	15 26 10.0	-2.9
HHC				XP	sP	15 26 12.8	-2.9
HHC				PP	PP	15 27 08.5	-8.3
HHC				PCP	PcP	15 29 00.8	+1.2
HHC				S	**S**	**15 31 14.0**	**+2.4**
HHC				SCP	ScP	15 32 42.5	+1.3
HHC				PCS	PcS	15 32 43.5	-0.4
HHC				SCS	ScS	15 36 37.8	-0.9
HHC				AMB	AMB		
	comp=Z,49nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,1μm,6.2s						
HHC				LR	LR		
	comp=N,10μm,15.5s,MS5.7						
HHC				LR	LR		
	comp=E,6μm,15.8s,MS5.7						
HHC				LR	LR		
	comp=Z,16μm,20.0s,MS5.7						
ULN	**Ulaanbaatar**	**31.45**	**287**	⇓P	**P**	**15 26 07.3**	**+0.3**
	SNR=9.4						
ULN	**Ulaanbaatar**	**31.45**	**287**	⇑*i*P	**P**	**15 26 06.3**	**-0.7**
IMA2	**Indian Mountai**	**31.81**	**37**	*eP*	**P**	**15 26 10.3**	**+0.1**
SONM	**Songino Array**	**31.88**	**288**	P	**P**	**15 26 09.7**	**-1.2**
	comp=Z,9.4nm,0.8s,mb4.7,baz=66,slow=7.3,SNR=39						
SONM				PcP	PcP	15 29 01.0	-0.1
	comp=Z,8.5nm,0.9s,baz=112,slow=2.9,SNR=6.2						
IRK	**Irkutsk**	**31.94**	**296**	*eP*	**P**	**15 26 10.3**	**-1.1**
IRK				*e*		15 27 34.8	
IRK				pmax	pmax		
	comp=Z,56nm,2.1s,mb5.0						
KDAK	**Kodiak Island**	**32.20**	**53**	*eP*	**P**	**15 26 11.9**	**-1.7**
	comp=Z,76nm,1.1s,mb5.4						
TLY	**Talaya**	**32.45**	**295**	*eP*	**P**	**15 26 15.7**	**-0.2**
TLY				*e*		15 27 45.9	
TLY				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.0						
TLY				MLR	MLR		
	comp=Z,20μm,16.0s,MS5.9						
TLY	**Talaya**	**32.45**	**295**	P	**P**	**15 26 14.3**	**-1.6**
	comp=Z,11nm,0.6s,mb4.9						
BTO	**Baotou**	**32.47**	**273**	*eP*	**P**	**15 26 16.0**	**0.0**
ZAK	**Zakamensk**	**33.03**	**293**	*eP*	**P**	**15 26 19.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
SLKM	**Skilak Lake**	**33.17**	**48**	P	**P**	**15 26 21.9**	**-0.3**
SLKM	**Skilak Lake**	**33.17**	**48**	*eP*	**P**	**15 26 20.4**	**-1.8**
PMR	**Palmer**	**33.64**	**46**	P	**P**	**15 26 28.0**	**+1.8**
PMR				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
PMR	**Palmer**	**33.64**	**46**	*eP*	**P**	**15 26 24.5**	**-1.8**
	comp=Z,13nm,0.7s,mb5.0						
PMR				LR	LR		
	comp=Z,7μm,21.0s,MS5.3						
MCK	**McKinley**	**33.67**	**42**	P	**P**	**15 26 26.0**	**-0.5**
MCK				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5						
MCK	**McKinley**	**33.67**	**42**	*eP*	**P**	**15 26 25.6**	**-0.9**
	comp=Z,70nm,1.2s,mb5.5						
SML	**Sawmill**	**34.01**	**45**	P	**P**	**15 26 29.2**	**-0.2**
SML	**Sawmill**	**34.01**	**45**	*eP*	**P**	**15 26 28.9**	**-0.5**
MOY	**Mondy**	**34.05**	**296**	*eP*	**P**	**15 26 29.3**	**-0.5**
MOY				pmax	pmax		
	comp=Z,77nm,2.9s,mb5.1						
COLA	**College**	**34.15**	**40**	⇑*i*P	**P**	**15 26 30.8**	**+0.2**
COLA	**College**	**34.15**	**40**	*eP*	**P**	**15 26 30.6**	**0.0**
	comp=Z,167nm,1.1s,mb5.9						
COLA				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
WHN	**Wuhan**	**35.44**	**255**	⇑P	**P**	**15 26 42.0**	**+0.2**
MENT	**Mentasta**	**36.06**	**43**	*eP*	**P**	**15 26 47.2**	**+0.1**
QZH	**Quanzhou**	**36.77**	**244**	P	**P**	**15 26 54.5**	**+1.3**
QZH				S	**S**	**15 32 38.0**	**+2.2**
QZH				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.6						
QZH				AMB	AMB		
	comp=Z,2μm,4.6s						
QZH				LR	LR		
	comp=N,11μm,20.6s,MS5.7						
QZH				LR	LR		
	comp=E,3μm,18.0s,MS5.7						
QZH				LR	LR		
	comp=Z,9μm,24.8s						
XAN	**Xi'an**	**36.79**	**264**	P	**P**	**15 26 53.0**	**-0.3**
XAN				S	**S**	**15 32 40.5**	**+4.5**
XAN				AMB	AMB		
	comp=Z,24nm,2.0s,mb4.7						
XAN				LR	LR		
	comp=N,2μm,20.0s,MS5.4						
XAN				LR	LR		
	comp=E,6μm,20.6s,MS5.4						
XAN				LR	LR		
	comp=Z,10μm,21.2s,MS5.6						
EGAK	**Eagle**	**37.01**	**40**	*eP*	**P**	**15 26 54.2**	**-1.0**
	comp=Z,66nm,0.9s,mb5.5						
DAWY	**Dawson**	**37.85**	**41**	*eP*	**P**	**15 27 02.1**	**-0.3**
LZH	**Lanzhou**	**38.97**	**271**	⇑P	**P**	**15 27 12.5**	**+0.7**
LZH				AP	pP	15 27 22.5	+3.7
LZH				XP	sP	15 27 27.5	+5.9
LZH				AMB	AMB		
	comp=Z,165nm,1.2s,mb5.6						
LZH				AMB	AMB		
	comp=Z,677nm,5.6s						
LZH				LR	LR		
	comp=N,6μm,12.6s						
LZH				LR	LR		
	comp=Z,11μm,17.5s,MS5.8						
LZH	**Lanzhou**	**38.97**	**271**	⇑P	**P**	**15 27 12.5**	**+0.7**
LZH				*SP	sP	15 27 27.5	+5.9
LZH						15 28 46.1	
LZH				S	**S**	**15 33 07.6**	**-1.6**
LZH				SS	SS	15 35 51.2	-10
LZH				pmax	pmax		
	comp=Z,165nm,1.2s,mb5.6						
LZH				MLR	MLR		
	comp=Z,11μm,17.5s,MS5.8						
LZH	**Lanzhou**	**38.97**	**271**	⇑P	**P**	**15 27 12.5**	**+0.7**
	comp=Z,165nm,1.2s,mb5.6						
LZH				pP	pP	15 27 22.4	+3.6
LZH				sP	sP	15 27 27.5	+5.9
LZH				PP	PP	15 28 46.1	+4.9
LZH				S	**S**	**15 33 07.6**	**-1.6**
LZH				sS	sS	15 33 23.9	+3.2
LZH				SS	SS	15 35 51.2	-10
LZH				LR	LR		
	comp=Z,11μm,17.5s,MS5.8						
INK	**Inuvik**	**39.66**	**34**	P	**P**	**15 27 17.8**	**+0.3**
	comp=Z,34nm,0.7s,mb5.2,baz=287,slow=6.7,SNR=344						
INK	**Inuvik**	**39.66**	**34**	*eP*	**P**	**15 27 17.8**	**+0.3**
	comp=Z,1μm,0.7s,mb6.8						
GTA	**Gaotai**	**39.84**	**278**	*eP*	**P**	**15 27 19.3**	**+0.3**
GTA				AP	pP	15 27 26.3	+0.3
GTA				XP	sP	15 27 30.0	+1.1
GTA				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.8						
GTA				AMB	AMB		
	comp=Z,3μm,8.4s						
GTA				LR	LR		
	comp=N,9μm,17.5s,MS5.9						
GTA				LR	LR		
	comp=E,11μm,19.0s,MS5.9						
GTA				LR	LR		
	comp=Z,18μm,16.4s,MS6.0						
SKAG	**Skagway**	**40.71**	**47**	*eP*	**P**	**15 27 27.5**	**+1.2**
	comp=Z,133nm,1.6s,mb5.3						
CD2	**Chengdu**	**42.15**	**265**	*eP*	**P**	**15 27 37.0**	**-1.0**
CD2				AP	pP	15 27 41.5	-3.6
CD2				XP	sP	15 27 44.0	-3.9
CD2				PP	PP	15 29 17.5	+1.8
CD2				S	**S**	**15 33 53.0**	**-3.5**
CD2				SS	SS	15 36 56.5	-8.0
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,70nm,5.4s						
ZAL	**Zalesovo**	**42.59**	**305**	P	**P**	**15 27 41.4**	**-0.2**
	comp=Z,3.2nm,0.4s,baz=69,slow=6.5,SNR=16						
ZAL				PcP	PcP	15 29 33.5	-0.2
	comp=Z,11nm,0.9s,baz=7.3,slow=4.7,SNR=6.1						
ZAL	**Zalesovo**	**42.59**	**305**	P	**P**	**15 27 41.4**	**-0.2**
ZAL				PcP	PcP	15 29 33.5	-0.2
NVS	**Novosibirsk**	**43.09**	**307**	*i* P	**P**	**15 27 44.0**	**-1.7**
NVS				*i* *PP	pP	15 27 59.2	+6.4
NVS				*i*		15 29 34.4	
NVS				*i* S	**S**	**15 34 10.0**	**-0.4**
NVS				*i* SSS		15 37 40.3	
NVS				pmax	pmax		
	comp=N,34nm,2.0s						
NVS				pmax	pmax		
	comp=E,48nm,2.0s						
NVS				pmax	pmax		
	comp=Z,56nm,2.0s,mb5.0						
NVS				smax			
	comp=N,13nm,1.9s						
NVS				smax			
	comp=E,22nm,2.3s						
GYA	**Guiyang**	**43.17**	**257**	⇑*i*P	**P**	**15 27 46.8**	**+0.5**
GYA				AP	pP	15 27 50.8	-2.6
GYA				XP	sP	15 27 54.0	-2.2
GYA				PP	PP	15 29 28.5	+1.7
GYA				S	**S**	**15 34 11.0**	**-0.6**
GYA				SCS	ScS	15 37 45.5	+0.3
GYA				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.3						
GYA				AMB	AMB		
	comp=Z,180nm,5.8s						
GYA				LR	LR		
	comp=N,3μm,16.8s,MS5.5						
GYA				LR	LR		
	comp=E,3μm,15.9s,MS5.5						
GYA				LR	LR		
	comp=Z,2μm,16.0s,MS5.2						
DLBC	**Dease Lake**	**43.65**	**47**	*eP*	**P**	**15 27 50.3**	**+0.2**
TGY	**Tagaytay City**	**44.14**	**231**	P	**P**	**15 27 54.6**	**+0.5**
	comp=Z,135nm,0.3s,baz=295,slow=21,SNR=3.1						
WMQ	**Urumqi**	**45.39**	**291**	P	**P**	**15 28 04.5**	**+0.4**
WMQ				PP	PP	15 29 52.5	+2.1
WMQ				S	**S**	**15 34 43.3**	**-0.5**
WMQ				XS	sS	15 34 52.3	-3.2
WMQ				SCS	ScS	15 37 59.0	-0.3
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,579nm,4.5s						
WMQ				LR	LR		
	comp=N,7μm,16.0s,MS6.0						
WMQ				LR	LR		
	comp=E,11μm,16.0s,MS6.0						
WMQ				LR	LR		
	comp=Z,8μm,22.0s						
QIZ	**Qiongzhong**	**46.53**	**247**	P	**P**	**15 28 13.5**	**+0.4**
QIZ				*e*S	**S**	**15 35 00.3**	**+0.1**
QIZ	**Qiongzhong**	**46.53**	**247**	P	**P**	**15 28 14.3**	**+1.3**
	comp=Z,28nm,1.0s,mb5.1						
KMI	**Kunming**	**46.65**	**259**	P	**P**	**15 28 14.8**	**+0.8**
KMI				AP	pP	15 28 21.8	+0.7
KMI				XP	sP	15 28 24.3	+0.3
KMI				PP	PP	15 30 06.0	+2.3
KMI				SCP	ScP	15 33 39.0	-0.7
KMI				S	**S**	**15 35 05.0**	**+3.1**
KMI				XS	sS	15 35 16.0	+2.3
KMI				SS	SS	15 38 25.3	-2.9
KMI				AMB	AMB		
	comp=Z,61nm,1.4s,mb5.3						
KMI				AMB	AMB		
	comp=Z,1μm,4.4s						
KMI				LR	LR		
	comp=N,3μm,19.0s,MS5.5						
KMI				LR	LR		
	comp=E,4μm,20.3s,MS5.5						
KMI				LR	LR		
	comp=Z,6μm,22.8s,MS5.5						
KMI	**Kunming**	**46.65**	**259**	P	**P**	**15 28 14.8**	**+0.8**
KMI						15 30 06.0	
KMI				PPP		15 30 51.4	
KMI				S	**S**	**15 35 04.9**	**+3.0**
KMI				*SS	sS	15 35 16.1	+2.4
KMI				pmax	pmax		
	comp=Z,61nm,1.4s,mb5.3						
KMI				MLR	MLR		
	comp=Z,6μm,22.8s,MS5.5						
KMI	**Kunming**	**46.65**	**259**	P	**P**	**15 28 14.8**	**+0.8**
	comp=Z,61nm,1.4s,mb5.3						
KMI				pP	pP	15 28 21.8	+0.7
KMI				sP	sP	15 28 24.2	+0.2
KMI				PP	PP	15 30 06.0	+2.3
KMI				PPP		15 30 51.4	
KMI				ScP	ScP	15 33 38.9	-0.8
KMI				S	**S**	**15 35 04.9**	**+3.0**
KMI				sS	sS	15 35 16.1	+2.4
KMI				SS	SS	15 38 25.3	-2.9
KMI				LR	LR		
	comp=Z,6μm,22.8s,MS5.5						
MKAR	**Makanchi Array**	**47.19**	**297**	P	**P**	**15 28 17.2**	**-1.0**
	comp=Z,21nm,0.7s,mb5.2,baz=64,slow=8.2,SNR=51						
KURK	**Kurchatov**	**47.40**	**303**	P	**P**	**15 28 19.1**	**-0.8**
	comp=Z,352nm,1.1s,mb6.2,SNR=18						
KURK	**Kurchatov**	**47.40**	**303**	⇓P	**P**	**15 28 20.0**	**+0.1**
	SNR=14						
KURK	**Kurchatov**	**47.40**	**303**	*eP*	**P**	**15 28 19.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.5						
KURK	**Kurchatov**	**47.40**	**303**	*eP*	**P**	**15 28 19.0**	**-0.9**
	comp=Z,54nm,0.9s,mb5.5						
ALE	**Alert**	**47.99**	**6**	P	**P**	**15 28 24.9**	**+0.5**
	comp=Z,278nm,0.9s,mb6.3,SNR=22						
RES	**Resolute Bay**	**48.91**	**19**	P	**P**	**15 28 31.7**	**+0.2**
RES	**Resolute Bay**	**48.91**	**19**	*eP*	**P**	**15 28 31.5**	**-0.1**
	comp=Z,3μm,0.8s						
YKA	**Yellowknife Ar**	**48.93**	**38**	P	**P**	**15 28 31.5**	**-0.2**
	comp=Z,43nm,0.9s,mb5.5,baz=297,slow=7.6,SNR=289						
YKA				PKP2ab		16 00 23.2	
	comp=Z,0.2nm,0.8s,baz=136,slow=4.4,SNR=3.9						
POHA	**Pohakuloa**	**48.96**	**108**	*eP*	**P**	**15 28 32.2**	**+0.3**
BVAR	**Borovoye Array**	**50.69**	**309**	P	**P**	**15 28 44.8**	**-0.2**
	comp=Z,19nm,0.6s,mb5.2,baz=58,slow=8.3,SNR=24						
BRVK	**Borovoye**	**50.72**	**309**	P	**P**	**15 28 45.2**	**-0.1**
	comp=Z,227nm,0.6s,mb6.3,SNR=9.3						
BRVK	**Borovoye**	**50.72**	**309**	*i* P	**P**	**15 28 45.1**	**-0.2**
KBS	**Kingsbay**	**51.04**	**351**	⇑*e*P	**P**	**15 28 48.7**	**+1.0**
SPB4	**Spitsbergen Ar**	**51.19**	**350**	*eP*	**P**	**15 28 48.0**	**-0.8**
LSA	**Lhasa**	**51.31**	**273**	*eP*	**P**	**15 28 51.4**	**+1.7**
LSA				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.3						
LSA	**Lhasa**	**51.31**	**273**	*eP*	**P**	**15 28 51.4**	**+1.7**
	comp=Z,28nm,0.6s,mb5.4						
B04A	**Port Angeles**	**51.88**	**58**	⇑P	**P**	**15 28 53.6**	**-0.4**
	baz=52						
A05A	**Maple Falls**	**52.16**	**56**	⇓P	**P**	**15 28 55.8**	**-0.3**
	baz=52						
C04A	**Brinnon**	**52.37**	**58**	⇓P	**P**	**15 28 57.4**	**-0.2**
	baz=52						
NANT	**Nan**	**52.47**	**255**	⇑P	**P**	**15 28 56.8**	**-1.5**
B05A	**Bryant**	**52.56**	**57**	⇓P	**P**	**15 28 58.7**	**-0.4**
	baz=52						
E03A	**Lebam**	**52.69**	**59**	⇓P	**P**	**15 28 59.6**	**-0.4**
	baz=52						
IMP	**Imphal**	**52.70**	**266**	*eP*	**P**	**15 28 59.0**	**-1.1**
B06A	**Marblemount**	**52.76**	**56**	⇑P	**P**	**15 29 00.0**	**-0.5**
	baz=52						
KKTK	**Khon Kaen**	**52.93**	**251**	P	**P**	**15 29 02.0**	**+0.2**
C05A	**Tolt Reservoir**	**53.10**	**57**	⇓P	**P**	**15 29 02.7**	**-0.3**
	baz=53						
E04A	**Onalaska**	**53.14**	**59**	⇑P	**P**	**15 29 03.2**	**-0.1**
	baz=53						
SHL	**Shillong**	**53.54**	**269**	*i* P	**P**	**15 29 07.0**	**+0.7**
SHL				*ex*	x	15 38 49.0	
B07A	**Winthrop**	**53.54**	**56**	P	**P**	**15 29 06.0**	**-0.3**
	baz=53,SNR=8.0						
CHG	**Chiang Mai**	**53.59**	**257**	⇑P	**P**	**15 29 07.9**	**+1.3**
CHTO	**Chiang Mai**	**53.59**	**257**	⇑P	**P**	**15 29 08.1**	**+1.4**
	SNR=33						
CHTO	**Chiang Mai**	**53.59**	**257**	P	**P**	**15 29 07.8**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.5						
CHTO	**Chiang Mai**	**53.59**	**257**	*eP*	**P**	**15 29 07.6**	**+0.9**
	comp=Z,50nm,0.7s,mb5.5						
A08A	**Turner Farm, O**	**53.73**	**55**	⇑P	**P**	**15 29 07.4**	**-0.2**
	baz=54						
FRU	**Bishkek**	**53.92**	**296**	*eP*	**P**	**15 29 08.0**	**-1.1**
FRU				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.5						
C07A	**Waterville**	**54.01**	**56**	⇓P	**P**	**15 29 09.2**	**-0.6**
	baz=54,SNR=5.3						
B08A	**Colville Reser**	**54.03**	**55**	P	**P**	**15 29 09.4**	**-0.5**
	baz=54,SNR=23						
G04A	**Mulino**	**54.07**	**60**	⇓P	**P**	**15 29 09.6**	**-0.6**
	baz=54						
AAK	**Ala-Archa**	**54.11**	**296**	P	**P**	**15 29 09.9**	**-0.6**
AAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
AAK	**Ala-Archa**	**54.11**	**296**	*eP*	**P**	**15 29 09.7**	**-0.8**
	comp=Z,25nm,1.0s,mb5.1						
AAK				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
E06A	**Yakima**	**54.16**	**58**	⇑P	**P**	**15 29 11.3**	**+0.5**
	baz=54						
D07A	**Quincy**	**54.35**	**57**	⇑P	**P**	**15 29 12.1**	**-0.1**
	baz=54						
EDM	**Edmonton**	**54.37**	**48**	P	**P**	**15 29 12.2**	**-0.1**
EDM	**Edmonton**	**54.37**	**48**	*eP*	**P**	**15 29 11.9**	**-0.4**
J02A	**Umpqua**	**54.50**	**62**	⇓P	**P**	**15 29 14.0**	**+0.7**
	baz=54						
H04A	**Detroit Lake**	**54.54**	**60**	⇓P	**P**	**15 29 13.4**	**-0.2**
	baz=54						
ARU	**Arti**	**54.56**	**317**	P	**P**	**15 29 13.0**	**-0.7**
	comp=Z,160nm,0.4s,mb6.4,SNR=5.4						
ARU	**Arti**	**54.56**	**317**	*eP*	**P**	**15 29 13.0**	**-0.7**
ARU				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.4						
ARU	**Arti**	**54.56**	**317**	*eP*	**P**	**15 29 13.0**	**-0.7**
	comp=Z,43nm,1.0s,mb5.4						
G05A	**Wamic**	**54.72**	**59**	⇓P	**P**	**15 29 15.4**	**+0.5**
	baz=54						
J03A	**Ideyld Park**	**54.86**	**62**	⇑P	**P**	**15 29 16.0**	**+0.2**
	baz=55						
K02A	**Glendale**	**54.91**	**63**	⇑P	**P**	**15 29 16.0**	**-0.2**
	baz=55						
D08A	**Wollman Farm,**	**55.01**	**56**	⇑P	**P**	**15 29 16.6**	**-0.4**
	baz=55,SNR=12						
DAG	**Danmarks Havn**	**55.04**	**358**	⇑*i*P	**P**	**15 29 16.5**	**-0.7**
	comp=Z,10nm,0.5s,mb5.1						
DAG	**Danmarks Havn**	**55.04**	**358**	⇑*i*P	**P**	**15 29 16.5**	**-0.7**
DAG				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.1						
AGT	**Agartala**	**55.10**	**267**	*i* P	**P**	**15 29 20.0**	**+2.4**
AGT				*i* x	x	15 30 19.0	
G06A	**Carlson Farm,**	**55.11**	**59**	⇓P	**P**	**15 29 17.7**	**0.0**
	baz=55						
H05A	**Madras**	**55.12**	**60**	⇑P	**P**	**15 29 17.8**	**0.0**
	baz=55						
NST	**Nakhon Sawan**	**55.13**	**253**	P	**P**	**15 29 20.0**	**+2.1**
L02A	**Cave Junction**	**55.20**	**64**	⇑P	**P**	**15 29 18.2**	**-0.1**
	baz=55						
E08A	**Dider Farm, El**	**55.27**	**57**	⇓P	**P**	**15 29 18.4**	**-0.4**
	baz=55						
NEW	**Newport**	**55.29**	**54**	P	**P**	**15 29 19.1**	**+0.1**
NEW				pmax	pmax		
	comp=Z,100nm,1.7s						
NEW	**Newport**	**55.29**	**54**	*eP*	**P**	**15 29 18.6**	**-0.5**
	comp=Z,101nm,1.8s,mb5.5						
NEW				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
HUMO	**Hull Mountain**	**55.32**	**63**	⇑P	**P**	**15 29 19.3**	**+0.1**
	baz=55						
D09A	**Jones Farm, Ri**	**55.35**	**56**	⇓P	**P**	**15 29 18.7**	**-0.7**
	baz=55,SNR=7.6						
I05A	**Bend**	**55.38**	**60**	⇑P	**P**	**15 29 20.0**	**+0.3**
	baz=55						
J04A	**Umpqua Nationa**	**55.44**	**62**	⇓P	**P**	**15 29 20.0**	**0.0**
	baz=55						
C10A	**Spilker Farm,**	**55.45**	**55**	⇑P	**P**	**15 29 19.7**	**-0.4**
	baz=55						
B11A	**Sandpoint**	**55.60**	**54**	P	**P**	**15 29 21.4**	**+0.2**
	baz=55,SNR=12						
G07A	**Ruggs Ranch, H**	**55.65**	**59**	⇓P	**P**	**15 29 20.6**	**-0.9**
	baz=55						
F08A	**Pendleton**	**55.83**	**58**	⇑P	**P**	**15 29 22.5**	**-0.4**
	baz=56						
D10A	**Wagner Farm, O**	**55.92**	**56**	P	**P**	**15 29 23.0**	**-0.6**
	baz=56,SNR=19						
YBH	**Yreka Blue Hor**	**55.99**	**64**	⇑P	**P**	**15 29 24.5**	**+0.5**
	baz=56						
B12A	**Libby**	**55.99**	**53**	⇓P	**P**	**15 29 23.9**	**-0.2**
	baz=56						
K04A	**Chilquin**	**56.04**	**62**	⇑P	**P**	**15 29 25.0**	**+0.6**
	baz=56						
M02C	**Callahan**	**56.11**	**64**	⇓P	**P**	**15 29 25.4**	**+0.5**
	baz=56						
I06A	**Prineville**	**56.12**	**60**	⇑P	**P**	**15 29 25.5**	**+0.5**
	baz=56						
KEV	**Kevo**	**56.16**	**341**	*ep*	**P**	**15 29 24.8**	**-0.4**
L04A	**Klamath Falls**	**56.21**	**63**	⇓P	**P**	**15 29 26.1**	**+0.5**
	baz=56,SNR=5.4						
APA	**Apatity**	**56.27**	**337**	⇑*e*P	**P**	**15 29 19.0**	**-7.0**
APA				*e*S	**S**	**15 37 00.0**	**-15**
APA				pmax	pmax		
	comp=Z,54nm,1.4s,mb5.4						
APA				MLR	MLR		
	comp=Z,14μm,18.0s,MS6.1						
E10A	**Myers Farm, Un**	**56.35**	**56**	⇓P	**P**	**15 29 26.7**	**0.0**
	baz=56,SNR=15						
F09A	**S2 Ranch, Elgi**	**56.37**	**57**	⇑P	**P**	**15 29 27.3**	**+0.5**
	baz=56						
I07A	**Izee**	**56.45**	**60**	⇓P	**P**	**15 29 27.5**	**+0.2**
	baz=56						
M04C	**Macdoel**	**56.48**	**63**	⇓P	**P**	**15 29 27.9**	**+0.4**
	baz=56						
WALA	**Waterton Lakes**	**56.53**	**52**	*eP*	**P**	**15 29 27.7**	**-0.2**
	comp=Z,121nm,1.4s,mb5.7						
F10A	**Beach Ranch, E**	**56.59**	**57**	⇓P	**P**	**15 29 28.3**	**0.0**
	baz=56						
B13A	**Whitefish**	**56.65**	**53**	⇓P	**P**	**15 29 28.9**	**+0.2**
	baz=56						
H08A	**Prairie City**	**56.66**	**59**	⇓P	**P**	**15 29 28.9**	**+0.1**
	baz=56						
ARCES	**ARCESS Array B**	**56.66**	**341**	P	**P**	**15 29 27.9**	**-0.9**
	comp=Z,17nm,0.9s,mb5.1,baz=35,slow=7.5,SNR=9.7						
WDC	**Whiskeytown Da**	**56.79**	**65**	⇓P	**P**	**15 29 30.0**	**+0.3**
	baz=57						
K06A	**Valley Falls**	**56.79**	**61**	⇓P	**P**	**15 29 30.1**	**+0.3**
	baz=57,SNR=8.5						
AAI	**Ambon**	**56.83**	**212**	P	**P**	**15 29 30.0**	**0.0**
P01C	**Double 8 Ranch**	**56.99**	**66**	⇓P	**P**	**15 29 31.0**	**-0.2**
	baz=57						
C13A	**Hot Springs**	**57.01**	**54**	⇓P	**P**	**15 29 31.7**	**+0.4**
	baz=57						
H09A	**Durkee**	**57.14**	**58**	⇓P	**P**	**15 29 32.6**	**+0.4**
	baz=57						
M05C	**Lookout**	**57.15**	**63**	⇓P	**P**	**15 29 32.5**	**+0.3**
	baz=57						
BMO	**Blue Mountains**	**57.23**	**58**	*eP*	**P**	**15 29 32.8**	**-0.1**
	comp=Z,46nm,1.2s,mb5.4						
F11A	**Grangeville**	**57.24**	**56**	⇓P	**P**	**15 29 32.7**	**-0.2**
	baz=57						
GASB	**Alder Springs**	**57.25**	**66**	⇓P	**P**	**15 29 33.0**	**0.0**
	baz=57						
MOD	**Modoc**	**57.31**	**62**	*eP*	**P**	**15 29 34.1**	**+0.7**
	comp=Z,39nm,1.3s,mb5.3						
MOD	**Modoc**	**57.31**	**62**	⇑P	**P**	**15 29 33.1**	**-0.3**
	baz=57						

O05C Quincy 58.15 64 ⇑P P 15 29 39.2 -0.1
baz=58
CHMT Chamberlain Mo 58.19 54 eP P 15 29 39.2 -0.4
OHCM Honcut 58.20 65 eP P 15 29 39.3 -0.3
CVS Carmenet Viney 58.23 67 ⇑P P 15 29 40.4 +0.5
baz=58
M07A Soldier Meadow 58.30 62 ⇓P P 15 29 40.8 +0.5
baz=58,SNR=11
F13A Darby 58.31 55 ⇓P P 15 29 40.3 -0.1
baz=58
Q03C Winters 58.31 66 ⇓P P 15 29 40.0 -0.4
baz=58
J10A Berg Farm, Mel 58.42 59 ⇓P P 15 29 41.1 0.0
baz=58
AKTK Aktyubinsk 58.46 312 P P 15 29 41.4 -0.1
AKTO Aktyubinsk 58.46 312 P P 15 29 41.4 -0.1
comp=Z,2.8nm,0.6s,mb4.5,baz=63,slow=8.6,SNR=2.9
D15A Lincoln 58.51 53 ⇑P P 15 29 42.2 +0.4
baz=58
BEKR Beckwourth 58.54 64 ⇓P P 15 29 42.1 0.0
baz=58
O06A Flanigan 58.67 63 ⇑P P 15 29 43.1 +0.1
baz=58
M08A Happy Creek Ra 58.72 61 ⇑P P 15 29 44.0 +0.7
baz=58,SNR=9.2
P05C Yuba Gap, Truc 58.75 65 ⇓P P 15 29 43.4 -0.1
baz=58
FFC Flin Flon 58.76 41 P P 15 29 43.5 0.0
comp=Z,489nm,0.8s,mb6.6,SNR=19
L09A Wilkinson Ranc 58.78 61 ⇓P P 15 29 44.3 +0.6
baz=59
N07B Gerlach 58.79 62 ⇓P P 15 29 43.9 +0.1
baz=59
MFID Camas Ranch 58.96 58 P P 15 29 45.2 +0.3
baz=59,SNR=14
LAVA Lava Cap Winer 59.01 65 ⇓P P 15 29 45.3 0.0
baz=59
WENL Wente Brothers 59.11 67 ⇑P P 15 29 45.8 -0.2
baz=59
BNLO Ben Lomond (Sa 59.17 68 ⇓P P 15 29 46.2 -0.2
baz=59
O07A Toulon 59.24 63 P P 15 29 47.5 +0.6
baz=59,SNR=9.8
WCN Washoe City 59.26 64 ⇓P P 15 29 47.8 +0.8
baz=59
FCC Fort Churchill 59.27 34 P P 15 29 46.8 -0.3
FCC pmax pmax
comp=Z,58nm,0.9s,mb5.6
FCC Fort Churchill 59.27 34 eP P 15 29 46.5 -0.6
comp=Z,58nm,0.9s,mb5.6
F15A Butte 59.28 54 ⇑P P 15 29 47.4 +0.3
baz=59
EGMT Eagleton 59.34 51 eP P 15 29 47.5 -0.1
comp=Z,62nm,1.0s,mb5.6
EGMT Eagleton 59.34 51 P P 15 29 47.7 +0.1
baz=59,SNR=29
R05C Kirkwood Meado 59.45 65 ⇓P P 15 29 48.6 +0.3
baz=59
S04C Ingram Canyon, 59.45 67 ⇑P P 15 29 48.7 +0.3
baz=59
J12A Stokes Ranch, 59.48 58 ⇓P P 15 29 49.1 +0.6
baz=59
DLMT Dillon 59.52 55 eP P 15 29 48.6 -0.2
comp=Z,127nm,1.5s,mb5.7
HLID Hailey 59.66 57 eP P 15 29 49.8 0.0
comp=Z,61nm,0.9s,mb5.6
HLID Hailey 59.66 57 ⇑P P 15 29 50.4 +0.5
baz=59,SNR=27
CMB Columbia Colle 59.68 66 ⇑P P 15 29 49.8 -0.1
baz=60
MCMT McKenzie Canyo 59.73 55 eP P 15 29 49.7 -0.5
PACP Pacheco Peak 59.79 67 ⇓P P 15 29 51.4 +0.7
baz=60
BOZ Bozeman (W) 59.87 54 eP P 15 29 51.7 +0.5
BOZ pmax pmax
comp=Z,89nm,1.2s,mb5.7
BOZ Bozeman (W) 59.87 54 eP P 15 29 51.7 +0.5
comp=Z,88nm,1.2s,mb5.7
BOZ Bozeman (W) 59.87 54 ⇑P P 15 29 52.0 +0.8
baz=60
R06C Coleville 59.94 65 ⇑P P 15 29 52.0 +0.3
baz=60
K12A Draper Farm, C 59.98 58 ⇓P P 15 29 52.2 +0.3
baz=60
HAST UC Hastings Re 60.03 68 ⇓P P 15 29 52.2 -0.1
baz=60
BMN Battle Mountai 60.04 62 eP P 15 29 52.4 0.0
BMN pmax pmax
comp=Z,17nm,0.8s,mb5.1
BMN Battle Mountai 60.04 62 eP P 15 29 52.4 0.0
comp=Z,17nm,0.8s,mb5.1
Q07A Schurz 60.06 64 ⇓P P 15 29 52.6 +0.1
baz=60
S06C San Francisco 60.11 65 ⇓P P 15 29 52.7 -0.2
baz=60
S05C Merced 60.16 66 P P 15 29 53.3 +0.1
baz=60,SNR=5.1
O09A Fish Creek Ran 60.23 62 P P 15 29 54.4 +0.6
baz=60,SNR=14
N10A Dunphy 60.28 61 ⇑P P 15 29 54.5 +0.5
baz=60
JOF Joensuu 60.35 334 ep P 15 29 54.0 -0.5
K13A Stover Farm, H 60.43 58 ⇑P P 15 29 55.8 +0.7
baz=60
V03C Hunter Liggett 60.46 68 ⇓P P 15 29 55.6 +0.3
baz=60
QLMT Earthquake Lak 60.50 55 eP P 15 29 55.8 +0.3
U04C Hernandez Rese 60.52 67 ⇑P P 15 29 55.7 +0.1
baz=60
O10A Cortez Mining, 60.56 61 ⇓P P 15 29 56.6 +0.7
baz=60,SNR=7.9
Q08A Gabbs 60.63 63 ⇑P P 15 29 56.8 +0.3
baz=60
P09A Austin 60.66 62 ⇓P P 15 29 57.0 +0.4
baz=60
N11A Elko Archery C 60.66 61 ⇑P P 15 29 57.0 +0.4
baz=60
NVAR Mina Array Bea 60.69 64 P P 15 29 56.8 0.0
comp=Z,7.6nm,0.6s,mb5.0,baz=300,slow=7.2,SNR=39
T06C Millerton Lake 60.76 66 ⇓P P 15 29 56.9 -0.4
baz=61
KCC Kaiser Creek 60.79 66 ⇑P P 15 29 57.2 -0.3
baz=61
GCMT Greycliff 60.82 53 eP P 15 29 58.4 +0.6
YMR Madison River 60.86 55 eP P 15 29 56.8 -1.2
comp=Z,114nm,1.3s,mb5.8
R08A Mina 60.86 64 ⇓P P 15 29 58.2 +0.2
baz=61
V04C Ramage Ranch, 60.93 68 ⇑P P 15 29 58.8 +0.3
baz=61
PKD Parkfield 60.94 68 ⇓P P 15 29 58.5 0.0
baz=61
ELK Elko 61.00 60 P P 15 29 59.7 +0.8
ELK pmax pmax
comp=Z,13nm,0.8s
ELK Elko 61.00 60 eP P 15 29 59.2 +0.2
comp=Z,14nm,0.8s,mb5.1
P10A Eureka 61.01 62 ⇓P P 15 29 59.3 +0.3
baz=61
N12A Clover Valley, 61.04 60 ⇓P P 15 29 59.6 +0.4
baz=61
YFT Old Faithful 61.07 55 eP P 15 30 01.7 +2.2
Q09A Carvers 61.09 63 ⇑P P 15 29 60.0 +0.3
baz=61
O11A Cowboy Ranch, 61.15 61 ⇓P P 15 30 00.3 +0.3
baz=61
M13A Montello 61.22 59 ⇑P P 15 30 01.1 +0.6
baz=61
PTRM Twissleman Ran 61.33 68 P P 15 30 01.6 +0.4
V05C Boulder Hill, 61.38 67 ⇑P P 15 30 01.9 +0.4
baz=61
P11A Circle Ranch, 61.47 62 ⇑P P 15 30 02.6 +0.4
baz=61
RLMT Red Lodge 61.48 53 eP P 15 30 02.9 +0.7
comp=Z,96nm,1.1s,mb5.8
R09A Tonopah 61.55 64 P P 15 30 02.6 -0.1
baz=61,SNR=32
TPH Tonopah 61.56 64 P P 15 30 03.3 +0.5
TPH pmax pmax
comp=Z,38nm,1.0s,mb5.5
TPH Tonopah 61.56 64 eP P 15 30 03.1 +0.4
comp=Z,38nm,1.0s,mb5.5
MOOW Moose Ponds 61.58 55 eP P 15 30 03.4 +0.5
comp=Z,48nm,1.3s,mb5.5
TIN Tinemaha 61.62 65 ⇓P P 15 30 03.7 +0.5
baz=61
SMMC Simmler 61.68 68 ⇑P P 15 30 03.7 +0.1
baz=62

SNOW Snow King Moun 61.76 55 eP P 15 30 05.4 +1.3
comp=Z,77nm,1.1s,mb5.7
REDW Red Top Meadow 61.77 56 eP P 15 30 05.1 +0.9
comp=Z,168nm,1.3s,mb6.0
MOR8 Moi Rana 61.78 343 eP P 15 30 02.1 -2.1
S09A Goldfield 61.79 64 P P 15 30 04.4 +0.1
baz=62,SNR=16
VES Vestal, Richgr 61.90 67 P P 15 30 04.7 -0.4
baz=62,SNR=6.9
R10A Warm Springs 61.97 63 ⇑P P 15 30 05.6 +0.1
baz=62
Q11A Duckwater 61.99 62 P P 15 30 06.2 +0.6
baz=62,SNR=7.3
P12A McGill 62.02 61 ⇑P P 15 30 06.0 +0.2
baz=62
AHID Auburn Hatcher 62.03 56 eP P 15 30 06.7 +0.8
comp=Z,93nm,1.5s,mb5.7
PKM Peak Mountain 62.07 68 ⇓P P 15 30 06.3 +0.2
baz=62
CWC Cottonwood Cre 62.12 66 ⇓P P 15 30 06.8 +0.3
baz=62
GRAC Grapevine Rang 62.18 65 ⇓P P 15 30 07.3 +0.4
baz=62
Q12A Willow Creek R 62.35 62 P P 15 30 08.4 +0.4
baz=62,SNR=18
ISA Isabella 62.39 67 P P 15 30 07.9 -0.5
baz=62,SNR=7.4
KAF Kangasniemi 62.41 335 ep P 15 30 07.5 -1.0
comp=Z,12nm,0.8s,mb5.1,baz=35,slow=6.2
KAF Kangasniemi 62.41 335 eP P 15 30 07.5 -1.0
KAF pmax pmax
comp=Z,12nm,0.8s,mb5.1
KBL Kabul 62.50 292 eP P 15 30 08.2 -0.9
ARVC Arvin 62.52 67 ⇑P P 15 30 09.2 0.0
baz=62
HWUT Hardware Ranch 62.53 58 eP P 15 30 09.1 -0.2
comp=Z,34nm,1.0s,mb5.4
MPMC Manual Prospec 62.73 66 ⇓P P 15 30 10.9 +0.3
baz=62,SNR=18
DUG Dugway 62.76 59 P P 15 30 11.0 +0.2
DUG pmax pmax
comp=Z,68nm,1.2s,mb5.7
DUG Dugway 62.76 59 eP P 15 30 10.9 +0.1
comp=Z,68nm,1.2s,mb5.7
DUG Dugway 62.76 59 P P 15 30 11.3 +0.5
baz=62,SNR=38
KULM Kulim 62.79 245 eP P 15 30 11.9 +0.8
FURC Furnace Creek, 62.84 65 ⇑P P 15 30 11.5 +0.2
baz=63,SNR=8.1
NOQ North Oquirrh 62.85 59 eP P 15 30 12.2 +0.8
comp=Z,50nm,0.9s,mb5.6
BW06 Boulder Array 62.88 55 eP P 15 30 11.3 -0.3
comp=Z,75nm,1.1s,mb5.7
PDAR Pinedale Array 62.88 55 P P 15 30 11.8 +0.2
comp=Z,40nm,1.0s,mb5.5,baz=290,slow=1.8,SNR=196
PDAR PKPPKP 15 59 11.8
comp=Z,0.7nm,0.9s,baz=270,slow=0.6,SNR=3.8
PDAR PKP2bc 15 59 24.1
comp=Z,1.2nm,1.0s,baz=282,slow=2.9,SNR=4.0
PDAR Pinedale Array 62.88 55 P P 15 30 11.8 +0.2
PDAR P'P' 15 59 11.8
PDAR ⇑e 15 59 24.1
OSI Osito Adit 62.93 68 ⇓P P 15 30 11.6 -0.3
baz=63
LRMC Laurel Mountai 62.99 66 ⇑P P 15 30 11.9 -0.4
baz=63,SNR=9.5
FIA1 FINESS Array S 63.02 335 eP P 15 30 11.8 -0.7
FINES FINESS Array B 63.02 335 P P 15 30 11.7 -0.8
comp=Z,18nm,0.8s,mb5.3,baz=39,slow=6.8,SNR=39
CTU Camp Tracy 63.03 58 eP P 15 30 12.9 +0.3
comp=Z,17nm,0.9s,mb5.2
BLG Laguna Peak 63.05 68 ⇑P P 15 30 12.2 -0.6
baz=63
U10A Ash Meadows, A 63.19 65 ⇓P P 15 30 14.0 +0.3
baz=63
EDW2 Edwards Air Fo 63.20 67 ⇑P P 15 30 13.4 -0.3
baz=63,SNR=26
JLU Jordanelle 63.26 58 eP P 15 30 14.4 +0.2
SFJD Kangerlussuaq 63.32 11 P P 15 30 14.3 -0.2
SFJD pmax pmax
comp=Z,69nm,1.0s,mb5.7
SFJD Kangerlussuaq 63.32 11 eP P 15 30 13.9 -0.6
comp=Z,69nm,1.0s,mb5.7
NLU North Lily Min 63.34 59 eP P 15 30 14.9 +0.3
DECC Green Verdugo 63.41 68 ⇓P P 15 30 14.7 -0.4
baz=63
DAU Daniels Canyon 63.50 58 P P 15 30 17.1 +1.4
DAU Daniels Canyon 63.50 58 eP P 15 30 16.4 +0.7
MPU Maple Canyon 63.55 59 eP P 15 30 16.4 +0.3
comp=Z,34nm,1.0s,mb5.3
SHOC Shoshone 63.56 65 ⇑P P 15 30 16.1 0.0
baz=63,SNR=6.6
GSC Goldstone 63.65 66 ⇑P P 15 30 16.5 -0.1
baz=63,SNR=10.0
MOS Moscow 63.71 326 eP P 15 30 16.2 -0.9
MOS e 15 30 50.4
MOS e 15 34 18.6
MOS MLR MLR
comp=Z,6μm,19.1s,MS5.8
U11A Corn Creek 63.76 64 ⇑P P 15 30 17.6 +0.2
baz=64
BFSC Mount Baldy St 63.83 67 ⇑P P 15 30 17.5 -0.4
baz=64,SNR=11
CIS Catalina Islan 63.93 68 ⇑P P 15 30 18.0 -0.6
baz=64
KAKA Kakadu 63.99 204 eP P 15 30 18.2 -0.7
comp=Z,65nm,1.1s,mb5.6
KAKA ePCP PcP 15 31 03.7 +9.5
ARUT Antelope Range 63.99 62 P P 15 30 19.6 +0.6
ARUT Antelope Range 63.99 62 eP P 15 30 18.5 -0.5
TUQ Turquoise Mtn. 64.09 65 ⇓P P 15 30 19.4 -0.2
baz=64,SNR=16
V11A Goodsprings 64.12 65 ⇓P P 15 30 19.7 -0.1
baz=64
SCI San Clemente I 64.13 69 ⇓P P 15 30 19.4 -0.4
baz=64
CCUT Cedar City 64.20 62 eP P 15 30 20.3 -0.1
MSU Marysvale 64.25 60 P P 15 30 21.9 +1.3
MSU Marysvale 64.25 60 eP P 15 30 21.0 +0.4
HEC Hector,Ludlow 64.25 66 ⇓P P 15 30 20.3 -0.3
baz=64,SNR=11
U12A Valley of Fire 64.25 64 ⇑P P 15 30 21.0 +0.3
baz=64
TMUT Trail Mountain 64.28 59 eP P 15 30 20.9 +0.1
AJM Ajmer 64.34 282 eP P 15 30 22.3 +1.0
AJM AMb AMB 15 30 24.4
comp=Z,68nm,1.1s,mb5.6
ULM Lac du Bonnet 64.54 42 P P 15 30 21.8 -0.8
comp=Z,30nm,0.8s,mb5.4,baz=318,slow=7.2,SNR=74
ULM LR LR 16 01 49.9
comp=Z,3μm,19.8s,MS5.4,baz=332,slow=39
ULM Lac du Bonnet 64.54 42 eP P 15 30 21.7 -0.9
comp=Z,46nm,0.8s,mb5.6
V12A Nelson 64.54 64 ⇑P P 15 30 22.5 -0.1
baz=64,SNR=7.0
MURC Murrieta 64.55 67 ⇑P P 15 30 22.1 -0.4
baz=64
OBN Obninsk 64.58 326 eP P 15 30 21.0 -1.8
OBN i 15 30 54.4
OBN i 15 32 42.8
OBN pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
OBN MLR MLR
comp=Z,7μm,19.0s,MS5.9
OBN Obninsk 64.58 326⇑eP P 15 30 20.2 -2.6
OBN LR LR
comp=Z,7μm,19.0s,MS5.9
VIS Vishakhapatnam 64.68 268 eP P 15 30 24.4 +1.0
VIS AMb AMB 15 30 25.8
comp=Z,123nm,0.9s,mb5.9
GMRC Granite Mounta 64.69 66 P P 15 30 23.4 -0.1
baz=64,SNR=20
BHPL Bhopal 64.74 277 eP P 15 30 24.5 +0.7
BHPL AMb AMB 15 30 25.9
comp=Z,178nm,0.6s,mb6.2
SRU San Rafael 64.79 59 P P 15 30 24.4 +0.2
SRU pmax pmax
comp=Z,75nm,0.9s,mb5.7
SRU San Rafael 64.79 59 eP P 15 30 23.8 -0.4
comp=Z,75nm,0.9s,mb5.7
W12A Cal Nev Ari 64.82 65 ⇓P P 15 30 24.1 -0.2
baz=65
RWWY Rawlins 64.89 55 eP P 15 30 24.5 -0.3
comp=Z,36nm,0.9s,mb5.4
RSSD Black Hills 64.91 51 eP P 15 30 24.9 0.0
RSSD pmax pmax
comp=Z,106nm,0.8s,mb5.9

RSSD Black Hills 64.91 51 eP P 15 30 24.9 -0.1
comp=Z,106nm,0.8s,mb5.9
PFO Pinyon Flat Ob 65.00 67 P P 15 30 25.0 -0.5
PFO Pinyon Flat Ob 65.00 67 ⇓P P 15 30 25.3 -0.2
baz=65
BELC Belle Mtn. 65.01 66 ⇓P P 15 30 25.0 -0.6
baz=65,SNR=12
109C Camp Elliot, M 65.08 68 ⇓P P 15 30 25.9 -0.2
baz=65
NGP Nagpur 65.11 274 i P P 15 30 26.0 -0.3
NGP ex x 15 30 27.8
comp=Z,246nm,1.1s
NGP eS S 15 39 09.6 +2.0
NEE2 Needles Airpor 65.33 65 ⇓P P 15 30 27.6 -0.1
baz=65
IRM Iron Mountain 65.42 66 ⇑P P 15 30 28.1 -0.2
baz=65,SNR=25
MONP Monument Peak 65.50 68 ⇓P P 15 30 28.5 -0.4
baz=65,SNR=6.5
BC3 Big Chuckw Mtn 65.58 66 P P 15 30 28.7 -0.6
baz=65,SNR=18
PSI Prapat 65.80 245 P P 15 30 31.8 +1.1
comp=Z,29nm,0.9s,mb5.3,baz=28,slow=2.3,SNR=21
SWSC Sam W. Stewart 65.86 67 ⇓P P 15 30 30.8 -0.2
baz=66
DVTC Desert V Tower 65.86 68 ⇑P P 15 30 30.8 -0.3
baz=66,SNR=8.2
X13A Yucca 65.92 65 ⇑P P 15 30 31.3 -0.3
baz=66
PDMCI Parker Dam,Lak 65.94 65 P P 15 30 31.3 -0.3
baz=66,SNR=17
W14A Seligman 65.95 64 P P 15 30 32.1 +0.4
baz=66,SNR=24
Y12C Blythe 66.08 66 ⇑P P 15 30 32.7 +0.1
baz=66
PV10 Paradox Valley 66.14 59 eP P 15 30 33.4 +0.4
Y13A Salome 66.46 65 P P 15 30 35.0 0.0
baz=66,SNR=9.1
W15A Williams 66.46 63 ⇑P P 15 30 35.6 +0.7
baz=66,SNR=13
X14A Yava 66.57 64 ⇓P P 15 30 36.3 +0.6
baz=66
PV01 Paradox Valley 66.58 59 eP P 15 30 35.2 -0.4
SMCO Snowmass 66.75 57 eP P 15 30 37.0 +0.2
comp=Z,37nm,0.8s,mb5.5
WUAZ Wupatki 66.75 62 eP P 15 30 37.0 +0.1
comp=Z,73nm,1.5s,mb5.5
WUAZ Wupatki 66.75 62 P P 15 30 37.5 +0.6
baz=66,SNR=16
AKL Akola 66.78 275⇑iP P 15 30 37.6 +0.6
AKL ex x 15 30 39.8
comp=Z,251nm,1.1s
X15A Humboldt 66.95 64 ⇓P P 15 30 38.7 +0.6
baz=67
NB2 NORSAR Subarra 67.02 342 P P 15 30 37.7 -0.8
comp=Z,26nm,0.8s,mb5.3,baz=25,slow=6.5
NOA NORSAR Array B 67.02 342 P P 15 30 38.0 -0.5
comp=Z,16nm,0.8s,mb5.1,baz=25,slow=6.4,SNR=38
ISCO Idaho Springs 67.07 56 P P 15 30 39.4 +0.6
ISCO pmax pmax
comp=Z,65nm,1.0s,mb5.6
ISCO Idaho Springs 67.07 56 eP P 15 30 39.3 +0.4
comp=Z,65nm,1.0s,mb5.6
BORG Borgarnes 67.15 358 LR LR 16 00 22.4
comp=Z,2μm,18.4s,MS5.4,baz=328,slow=36
BORG Borgarnes 67.15 358 eP P 15 30 40.3 +0.9
comp=Z,46nm,0.7s,mb5.6
MVCO Mesa Verde 67.26 59 eP P 15 30 40.0 0.0
comp=Z,46nm,1.1s,mb5.4
MVCO Mesa Verde 67.26 59 ⇑P P 15 30 40.6 +0.6
baz=67,SNR=14
NAO01 NORSAR Array S 67.27 342 eP P 15 30 39.2 -0.9
comp=Z,9.2nm,0.8s,mb4.9
Z14A Wintersburg 67.30 65 P P 15 30 40.5 +0.1
baz=67,SNR=6.5
GSI Gunungsitoli 67.80 245 P P 15 30 44.1 +0.6
HYB Hyderabad 68.08 272 i P P 15 30 45.5 +0.3
comp=Z,70nm,1.0s,mb5.7
HYB Hyderabad 68.08 272 eP P 15 30 45.5 +0.3
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.7
HYB Hyderabad 68.08 272 eP P 15 30 45.5 +0.3
comp=Z,70nm,1.0s,mb5.7
EYMN Ely 68.19 42 eP P 15 30 44.9 -0.9
comp=Z,56nm,0.8s,mb5.6
115A Sonoran Desert 68.19 65 ⇓P P 15 30 46.3 +0.4
baz=68
SDCO Great Sand Dun 68.58 57 eP P 15 30 48.6 +0.3
comp=Z,91nm,1.5s,mb5.5
CTA Charters Tower 68.60 189 eP P 15 30 47.4 -1.1
comp=Z,7.7nm,1.0s,mb4.6
CTA Charters Tower 68.60 189 eP P 15 30 47.4 -1.1
CTA pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 68.60 189 P P 15 30 47.1 -1.4
116A Eloy 68.61 65 ⇑P P 15 30 48.7 +0.2
baz=68
KONO Kongsberg 68.63 342 P P 15 30 49.8 +1.2
KONO pmax pmax
comp=Z,34nm,1.0s,mb5.2
KONO Kongsberg 68.63 342 eP P 15 30 48.8 +0.1
comp=Z,34nm,1.0s,mb5.2
LATR Latur 68.69 274 eP P 15 30 48.2 -0.9
ASK Askoy 68.71 344⇓iP P 15 30 49.3 +0.2
ASK AMb AMB 15 30 52.1
comp=Z,185nm,1.3s,mb5.8
ASK Askoy 68.71 344 eP P 15 30 49.3 +0.1
RUND Rundenannen 68.74 344 eP P 15 30 51.6 +2.2
BER Bergen 68.77 344 eP P 15 30 50.8 +1.2
EGD Espegrend 68.90 344 eP P 15 30 51.3 +0.9
ODD1 Odda 68.97 343⇓iP P 15 30 50.3 -0.5
ODD1 Odda 68.97 343 eP P 15 30 50.7 -0.1
BLS5 Blasjo 69.46 343 eP P 15 30 54.8 +1.0
BLS5 AMb AMB 15 30 58.9
comp=Z,34nm,1.2s,mb5.2
BLS5 Blasjo 69.46 343 eP P 15 30 55.4 +1.6
comp=Z,34nm,1.2s,mb5.2
KMY Karmoy 69.89 344⇓iP P 15 30 56.9 +0.5
KMY AMb AMB 15 31 00.8
comp=Z,90nm,1.7s,mb5.4
KMY Karmoy 69.89 344 eP P 15 30 56.9 +0.5
comp=Z,90nm,1.7s,mb5.4
ANMO Albuquerque 70.02 60 P P 15 30 57.7 +0.4
ANMO pmax pmax
comp=Z,12nm,0.7s
ANMO Albuquerque 70.02 60 eP P 15 30 57.1 -0.1
comp=Z,12nm,0.7s,mb4.9
SUW Suwalki 70.08 332 eP P 15 30 56.2 -1.4
SUW epP pP 15 31 07.6 +2.6
SUW Suwalki 70.08 332 P P 15 30 57.3 -0.3
SUW pmax pmax
comp=Z,110nm,1.2s,mb5.7
LENM Lemitar 70.28 61 eP P 15 30 59.0 +0.2
SNART Snartemo 70.32 343⇓iP P 15 30 59.7 +0.6
SNART AMb AMB 15 31 03.3
comp=Z,82nm,1.4s,mb5.5
POO Poona 70.41 276 eP P 15 30 60.0 +0.3
WB2 Warramunga Arr 70.44 200⇑iP P 15 30 58.9 -0.9
WRA Warramunga Arr 70.44 200 P P 15 30 59.0 -0.8
comp=Z,67nm,0.9s,mb5.5,baz=18,slow=6.5,SNR=155
KIV Kislovodsk 70.44 315 P P 15 31 01.6 +1.7
KIV pmax pmax
comp=Z,14nm,0.8s,mb4.9
KIV Kislovodsk 70.44 315 P P 15 31 01.6 +1.8
comp=Z,14nm,0.8s,mb5.0
BNM Barren Site 70.49 60 eP P 15 31 00.6 +0.4
AKASG Malin Array Be 70.79 327 P P 15 31 01.0 -1.0
comp=Z,12nm,0.6s,mb5.0,baz=33,slow=6.0,SNR=40
AKBB Malin Array Si 70.79 327 P P 15 31 01.2 -0.8
AKBB Malin Array Si 70.79 327 eP P 15 31 00.8 -1.2
CBKS Cedar Bluff 70.95 53 P P 15 31 02.5 -0.5
CBKS pmax pmax
comp=Z,91nm,1.1s,mb5.6
CBKS Cedar Bluff 70.95 53 eP P 15 31 02.4 -0.6
comp=Z,91nm,1.2s,mb5.6
MTA Mtatsminda 71.12 312 P P 15 31 04.1 +0.1
FITZ Fitzroy Crossi 71.13 209 eP P 15 31 04.1 +0.1
comp=Z,105nm,1.0s,mb5.7
SCHQ Schefferville 71.35 24 P P 15 31 05.5 +0.2
comp=Z,60nm,0.9s,mb5.5,baz=350,slow=6.2,SNR=41
SCHQ Schefferville 71.35 24 eP P 15 31 05.0 -0.3
comp=Z,64nm,0.8s,mb5.6
BSD Bornholm Skovb 71.49 337 i P P 15 31 06.1 -0.1
comp=Z,57nm,0.9s,mb5.5
BSD
comp=Z,1μm,19.0s

BSD Bornholm Skovb 71.49 337 *e*P **P 15 31 06.1 -0.1**
BSD pmax pmax
comp=Z,57nm,0.9s,mb5.5
BSD MLR MLR
comp=Z,1µm,19.0s,MS5.2
COP Copenhagen 71.60 339 *i* P **P 15 31 06.9 0.0**
comp=Z,34nm,0.7s,mb5.4
COP Copenhagen 71.60 339 *e*P **P 15 31 06.9 0.0**
COP pmax pmax
comp=Z,34nm,0.7s,mb5.4
MUD Monsted U'grnd 71.65 341 *i* P **P 15 31 07.6 +0.4**
comp=Z,72nm,1.3s,mb5.4
MUD Monsted U'grnd 71.65 341 *i* P **P 15 31 07.6 +0.4**
MUD pmax pmax
comp=Z,72nm,1.3s,mb5.4
SCIA State Center 71.96 47 *e*P **P 15 31 08.4 -0.7**
comp=Z,156nm,0.7s,mb6.0
SOC Sochi 72.12 316⇑*i*P **P 15 31 09.5 -0.5**
SOC *e*S S 15 40 31.1 +0.3
SOC pmax pmax
comp=Z,44nm,0.9s,mb5.4
ANN Anapa 72.20 318 *e*P **P 15 31 07.9 -2.6**
ANN *e*S S 15 40 30.5 -1.2
ANN pmax pmax
comp=Z,78nm,1.5s,mb5.4
WAR Warsaw 72.27 332 *e*P **P 15 31 10.7 -0.2**
WAR L 16 03 11.4
comp=Z,7.4nm,25.7s
KSU1 Kansas State U 72.38 51 *e*P **P 15 31 09.7 -1.9**
comp=Z,63nm,0.8s,mb5.6
GKP Gorka Klasztor 72.49 335 *e*P **P 15 31 11.1 -1.1**
MVH1 Achvaich 72.62 348⇑*e*P **P 15 31 12.5 -0.5**
MCD Coleburn Disti 72.83 348⇑*e*P **P 15 31 13.0 -1.3**
MNTX Cornudas Mount 72.98 61 *e*P **P 15 31 14.7 -0.4**
comp=Z,62nm,1.3s,mb5.4
MME1 Meikle Cairn 73.05 348⇑*e*P **P 15 31 14.7 -0.8**
MDO Dochfour 73.12 348⇑*e*P **P 15 31 15.5 -0.5**
KAC Achnashellach 73.18 349⇑*e*P **P 15 31 15.9 -0.5**
LVV L'vov 73.36 329 *e*P **P 15 31 17.1 -0.3**
LVV *e*S S 15 40 45.2 +0.2
LVV MLR MLR
comp=Z,4µm,16.0s,MS5.8
KPL Plockton 73.38 349 P **P 15 31 16.9 -0.6**
KPL AMb AMB 15 31 18.7
comp=Z,136nm,1.6s,mb5.6
KPL Plockton 73.38 349⇑*e*P **P 15 31 16.9 -0.6**
KPL AMb AMB 15 31 18.7
comp=Z,136nm,1.6s,mb5.6
KPL AMS AMS 16 01 18.3
comp=Z,2µm,20.9s,MS5.4
KSB Sheil Bridge 73.48 349⇑*e*P **P 15 31 17.7 -0.4**
SIM Simferopol' 73.52 320 *e*P **P 15 31 18.6 +0.3**
SIM pmax pmax
comp=Z,32nm,0.9s,mb5.2
BSEG Bad Segeberg 73.70 339 *e*P **P 15 31 19.3 -0.1**
comp=Z,413nm,2.3s,mb6.0
KAR1 Arisaig 73.82 349⇑*e*P **P 15 31 19.7 -0.4**
KWP Kalwaria 73.97 330 *e*P **P 15 31 20.7 -0.3**
KIS Kishinev 74.00 325 *e*P **P 15 31 20.0 -1.1**
KIS *e* 15 31 41.0
KIS MLR MLR
comp=N,3µm,16.0s,MS6.0
KIS MLR MLR
comp=E,5µm,16.0s,MS6.0
KIS MLR MLR
comp=Z,6µm,16.0s,MS6.0
ASAR Alice Springs 74.14 200 P **P 15 31 21.9 0.0**
comp=Z,41nm,1.0s,mb5.3,baz=15,slow=5.2,SNR=154
ERZM Erzurum 74.17 313 *i* P **P 15 31 23.6 +1.5**
EAB Aberfoyle 74.33 348⇑*e*P **P 15 31 22.7 -0.4**
ESY Stoneypath 74.34 347⇑*e*P **P 15 31 22.2 -0.9**
OJC Ojcow 74.41 332 *e*P **P 15 31 23.5 0.0**
EDI Edinburgh 74.42 347 P **P 15 31 23.1 -0.5**
EDI AMb AMB 15 31 25.7
comp=Z,102nm,1.3s,mb5.6
EDI Edinburgh 74.42 347⇑*e*P **P 15 31 23.1 -0.5**
EDI AMb AMB 15 31 25.7
comp=Z,102nm,1.3s,mb5.6
EDI AMS AMS 16 12 34.3
comp=Z,2µm,18.6s,MS5.4
WMOK Wichita Mounta 74.48 55 P **P 15 31 23.6 -0.3**
WMOK pmax pmax
comp=Z,40nm,0.8s,mb5.4
WMOK Wichita Mounta 74.48 55 *e*P **P 15 31 23.1 -0.8**
comp=Z,40nm,0.8s,mb5.4
EAU Auchinoon 74.54 347⇑*e*P **P 15 31 23.9 -0.4**
EBL Broad Law 74.55 347⇑*e*P **P 15 31 23.7 -0.7**
STHS Stebnicka Huta 74.64 331 *e*P **P 15 31 25.6 +0.7**
STHS pmax pmax
comp=Z,40nm,0.9s,mb5.3
STHS Stebnicka Huta 74.64 331 *e*P **P 15 31 25.6 +0.7**
comp=Z,40nm,0.9s,mb5.3
XSO Sourhope Farm 74.70 347⇑*e*P **P 15 31 24.6 -0.6**
PGBU Glenifferbraes 74.72 348⇑*e*P **P 15 31 25.2 -0.1**
PGBU AMb AMB 15 31 27.6
comp=Z,178nm,1.8s,mb5.7
KOLS Kolonicke sedl 74.72 330 *e*P **P 15 31 25.3 0.0**
HAKT HAKKARI 74.80 310 *i* P **P 15 31 25.8 0.0**
BURAR Bucovina Array 74.82 327⇓*i*P **P 15 31 26.5 +0.6**
KSP Ksiaz 74.92 334 *e*P **P 15 31 26.0 -0.5**
KSP *e*pP pP 15 31 34.3 +0.4
KSP Ksiaz 74.92 334⇑*e*P **P 15 31 26.4 -0.1**
KSP *e*PP pP 15 31 38.8 +4.9
KSP LR LR
comp=Z,13µm,19.5s,MS6.2
NIE Niedzica 74.94 331 *e*P **P 15 31 27.7 +1.1**
UZH Uzhgorod 74.97 330⇓*i*P **P 15 31 26.0 -0.8**
UZH *i* 15 31 37.0
ESK Eskdalemuir 75.01 347 P **P 15 31 26.0 -1.0**
comp=Z,317nm,0.7s,mb6.4,SNR=13
ESK Eskdalemuir 75.01 347 P **P 15 31 26.3 -0.7**
ESK AMb AMB 15 31 30.1
comp=Z,74nm,2.7s,mb5.1
ESK Eskdalemuir 75.01 347⇑*e*P **P 15 31 26.3 -0.7**
ESK AMb AMB 15 31 30.1
comp=Z,74nm,2.7s,mb5.1
ESK AMS AMS 16 11 57.6
comp=Z,2µm,18.7s,MS5.4
ESK Eskdalemuir 75.01 347 P **P 15 31 26.7 -0.3**
ESK pmax pmax
comp=Z,24nm,0.6s,mb5.3
ESK Eskdalemuir 75.01 347 *e*P **P 15 31 26.4 -0.6**
comp=Z,24nm,0.6s,mb5.3
CRVS Cervenica-Dubn 75.02 330 *e*P **P 15 31 27.7 +0.7**
NRDL Niedersach Rie 75.08 339 *e*P **P 15 31 26.7 -0.7**
comp=Z,88nm,1.3s,mb5.5
OKC Ostrava-Krasne 75.25 333 *e*P **P 15 31 28.4 0.0**
OKC AMS AMS 16 09 50.0
comp=Z,7µm,19.8s
UPC Upice 75.30 334 *e*P **P 15 31 28.9 +0.3**
XAL Allendale 75.30 346⇑*e*P **P 15 31 28.1 -0.6**
GMK Mull of Kintyr 75.32 349⇑*e*P **P 15 31 28.6 -0.2**
DPC Dobruska-Polom 75.35 334 *e*P **P 15 31 29.4 +0.5**
DPC *e*PCP PcP 15 31 44.6 +2.5
DPC AMS AMS 16 08 20.0
comp=Z,6µm,18.4s
CLL Collm 75.42 336 *e*P **P 15 31 28.6 -0.7**
comp=Z,152nm,1.3s,mb5.8
CLL Collm 75.42 336⇑*i*P **P 15 31 28.8 -0.5**
CLL *e* pP 15 31 36.0 -0.8
CLL pmax pmax
comp=Z,151nm,1.3s,mb5.8
CLL MLR MLR
comp=Z,7µm,20.8s,MS6.0
CLL Collm 75.42 336⇑*i*P **P 15 31 28.8 -0.5**
comp=Z,151nm,1.3s,mb5.8
CLL *e* pP 15 31 36.0 -0.8
CLL LR LR
comp=Z,7µm,20.8s,MS6.0
CLL Collm 75.42 336⇑*i*P **P 15 31 28.8 -0.5**
comp=Z,151nm,1.3s,mb5.8
CLL *e*sP sP 15 31 36.0 -3.5
CLL *i* sPcP 15 31 48.5
CLL Lm 16 07 00.0
comp=Z,7µm,20.8s
MORC Moravsky Berou 75.49 333 P **P 15 31 30.2 +0.4**
MORC Moravsky Berou 75.49 333⇑*i*P **P 15 31 30.3 +0.5**
BRG Berggiesshubel 75.56 336 *e*P **P 15 31 29.6 -0.5**
comp=Z,80nm,1.3s,mb5.5
BRG Berggiesshubel 75.56 336⇑*i*P **P 15 31 29.9 -0.2**
comp=Z,48nm,1.3s,mb5.2
BRG *i* 15 31 48.5
BRG *e* 15 42 00.6
comp=Z,45nm,1.9s
BRG *e* 15 42 00.6
comp=Z,23nm,2.1s
BRG
comp=N,3µm,21.4s
BRG
comp=E,1µm,16.4s
BRG
comp=Z,4µm,21.6s
BRG Berggiesshubel 75.56 336⇑*i*P **P 15 31 29.9 -0.2**
BRG *i* 15 31 48.5
BRG *e* 15 42 00.6
BRG pmax pmax
comp=Z,48nm,1.3s,mb5.3
BRG MLR MLR
comp=Z,4µm,21.6s,MS5.7
BRG Berggiesshubel 75.56 336⇑*i*P **P 15 31 29.9 -0.2**
comp=Z,48nm,1.3s,mb5.3
BRG *i* 15 31 48.5
BRG *e* 15 42 00.6
BRG LR LR
comp=Z,4µm,21.6s,MS5.7
GCD Castle Douglas 75.56 347⇑*e*P **P 15 31 29.5 -0.6**
WIT Witteveen 75.58 341 *e*P **P 15 31 30.9 +0.7**
CLZ Clausthal 75.61 338 *e*P **P 15 31 30.5 +0.1**
comp=Z,270nm,1.6s,mb5.9
CLZ Clausthal 75.61 338 *e*P **P 15 31 30.5 +0.1**
CLZ pmax pmax
comp=Z,270nm,1.6s,mb5.9
GCL Cushendall 75.65 349⇑*e*P **P 15 31 30.8 +0.1**
GAL1 Galloway 75.67 348 P **P 15 31 30.3 -0.5**
GAL1 AMb AMB 15 31 32.7
comp=Z,128nm,2.0s,mb5.5
GAL1 Galloway 75.67 348⇑*e*P **P 15 31 30.2 -0.5**
GAL1 ⇑*e*P 15 31 30.3
GAL1 AMb AMB 15 31 32.7
comp=Z,128nm,2.0s,mb5.5
GAL1 AMS AMS 16 02 50.5
comp=Z,2µm,20.6s,MS5.5
PVCC Panska Ves 75.69 335 *e*P **P 15 31 31.1 +0.2**
PVCC AMS AMS 16 07 20.0
comp=Z,7µm,21.3s
KECS Kecovo 75.70 331 *e*P **P 15 31 31.0 0.0**
KECS pmax pmax
comp=Z,20nm,1.0s,mb5.0
KECS Kecovo 75.70 331 *e*P **P 15 31 31.0 0.0**
comp=Z,20nm,1.0s,mb5.0
CKE Keswick 75.70 347⇑*e*P **P 15 31 30.8 -0.2**
LTX Lajitas 75.71 62 P **P 15 31 31.1 +0.1**
LTX pmax pmax
comp=Z,72nm,0.9s,mb5.6
LTX Lajitas 75.71 62 *e*P **P 15 31 30.9 -0.1**
comp=Z,72nm,0.8s,mb5.7
VRI Vrincioaia 75.74 325 P **P 15 31 32.2 +1.1**
VRI Vrincioaia 75.74 325⇑*i*P **P 15 31 32.3 +1.1**
CFR Carcaliu 75.77 324 P **P 15 31 32.6 +1.2**
IBBN Ibbenburen 75.81 340 *e*P **P 15 31 31.2 -0.3**
comp=Z,131nm,1.3s,mb5.7
XDE Dent Fell 75.84 347⇑*e*P **P 15 31 31.3 -0.4**
SLM Saint Louis 75.93 47 P **P 15 31 32.3 0.0**
SLM pmax pmax
comp=Z,26nm,0.7s,mb5.3
SLM Saint Louis 75.93 47 *e*P **P 15 31 31.3 -1.0**
comp=Z,26nm,0.6s,mb5.3
BOYT Boyabat 76.01 318 *i* P **P 15 31 34.3 +1.6**
AAM Ann Arbor 76.05 41 P **P 15 31 33.3 +0.4**
AAM pmax pmax
comp=Z,46nm,0.9s,mb5.4
AAM Ann Arbor 76.05 41 *e*P **P 15 31 33.1 +0.2**
comp=Z,46nm,0.8s,mb5.5
PRA Prague 76.14 335 P **P 15 31 33.0 -0.5**
PRU Pruhonice 76.18 335 *e*P **P 15 31 33.8 +0.1**
PRU *ex* x 15 31 52.9
PRU AMS AMS 16 06 50.0
comp=Z,7µm,20.9s
GIM North Isle of 76.19 348⇑*e*P **P 15 31 33.1 -0.7**
VRAC Vranov 76.19 333 P **P 15 31 34.1 +0.3**
VRAC Vranov 76.19 333⇓*i*P **P 15 31 34.8 +1.0**
VYHS Vyhne 76.22 332 *e*P **P 15 31 34.3 +0.4**
VYHS pmax pmax
comp=Z,54nm,1.3s,mb5.3
VYHS MLR MLR
comp=Z,4µm,25.3s,MS5.6
VYHS Vyhne 76.22 332 *e*P **P 15 31 34.3 +0.4**
comp=Z,54nm,1.3s,mb5.3
VYHS LR LR
comp=Z,4µm,25.3s,MS5.6
TIRR Tirgusor 76.26 324 P **P 15 31 34.5 +0.3**
TIRR pmax pmax
comp=Z,50nm,1.1s,mb5.4
TIRR Tirgusor 76.26 324 *e*P **P 15 31 33.9 -0.3**
comp=Z,50nm,1.1s,mb5.4
TIRR Tirgusor 76.26 324⇓*i*P **P 15 31 33.9 -0.3**
WTSB Winterswijk 76.34 340⇑*e*P **P 15 31 34.3 -0.3**
comp=Z,129nm,1.3s,mb5.7
WTSB *ex* x 15 31 58.1
FVM French Village 76.35 48 P **P 15 31 33.9 -0.7**
FVM pmax pmax
comp=Z,18nm,0.7s,mb5.1
FVM French Village 76.35 48 *e*P **P 15 31 33.8 -0.8**
comp=Z,18nm,0.6s,mb5.2
MLR Muntele Rosu 76.35 326 P **P 15 31 35.5 +0.9**
comp=Z,46nm,0.8s,mb5.5,baz=353,slow=4.7,SNR=39
MLR Muntele Rosu 76.35 326 P **P 15 31 35.5 +0.8**
MLR Muntele Rosu 76.35 326⇑*i*P **P 15 31 34.8 +0.2**
TANN Tannenbergstha 76.37 336 *e*P **P 15 31 34.7 -0.1**
comp=Z,169nm,1.9s,mb5.7
MOX Moxa 76.39 337 *e*P **P 15 31 34.6 -0.3**
comp=Z,112nm,1.3s,mb5.6
MOX Moxa 76.39 337 *e*P **P 15 31 34.8 -0.1**
comp=Z,233nm,2.0s,mb5.8
MOX *e* 15 31 54.5
MOX *e* 15 32 36.1
MOX
comp=Z,5µm,22.0s
MOX Moxa 76.39 337 *e*P **P 15 31 34.8 -0.1**
MOX *e* 15 31 54.5
MOX pmax pmax
comp=Z,233nm,2.0s,mb5.8
MOX MLR MLR
comp=Z,5µm,22.0s,MS5.8
PSZ Piszkesteto 76.39 331⇓*i*P **P 15 31 36.1 +1.2**
PSZ Piszkesteto 76.39 331⇑*e*P **P 15 31 35.1 +0.2**
DRGR 76.41 328⇑*i*P **P 15 31 35.1 +0.1**
ELZG Elazig 76.43 313 *i* P **P 15 31 36.9 +1.8**
GMM Mts of Mourne 76.45 349⇑*e*P **P 15 31 34.5 -0.7**
MARD Mardin 76.47 311 *i* P **P 15 31 36.1 +0.8**
KRUC Moravsky 76.47 333 P **P 15 31 35.4 0.0**
LHO Holmfirth 76.52 346⇑*e*P **P 15 31 35.1 -0.5**
TREC Trest 76.53 334 *e*P **P 15 31 35.7 0.0**
TREC *ex* x 15 31 56.0
TREC AMS AMS 16 11 00.0
comp=Z,8µm,18.6s
NKC Novy Kostel 76.54 336 *e*P **P 15 31 35.8 +0.1**
NKC AMS AMS 16 08 10.0
comp=Z,6µm,21.5s
BALT Daday 76.59 319 *i* P **P 15 31 36.7 +0.7**
AWI1 Witton 76.62 344⇑*e*P **P 15 31 35.7 -0.5**
ABA1 Baconsthorpe 76.63 344⇑*e*P **P 15 31 35.9 -0.3**
PENC Penc 76.70 331⇓*e*P **P 15 31 37.9 +1.3**
CTKT Corum 76.70 317 *i* P **P 15 31 37.4 +0.8**
BUG Bochum--Univer 76.72 340 *e*P **P 15 31 36.3 -0.5**
comp=Z,127nm,1.3s,mb5.7
BUG Bochum--Univer 76.72 340 P **P 15 31 36.0 -0.8**
VOIR 76.73 326⇓*i*P **P 15 31 37.7 +0.9**
KBI1 Birley Grange 76.74 346⇑*e*P **P 15 31 36.4 -0.5**
MALT Malatya 76.84 314 P **P 15 31 39.2 +1.8**
MALT Malatya 76.84 314⇓*i*P **P 15 31 39.5 +2.1**
MANZ Manzenberg 76.86 336 *e*P **P 15 31 37.5 0.0**
comp=Z,70nm,1.3s,mb5.4
AEU East Anglia Un 76.87 344 *e*P **P 15 31 36.5 -1.1**
KWE Weaver Farm 77.02 346⇑*e*P **P 15 31 38.2 -0.2**
ZST Bratislava 77.03 332 *e*P **P 15 31 39.4 +0.9**
ZST pmax pmax
comp=Z,103nm,1.4s,mb5.6
ZST MLR MLR
comp=Z,8µm,19.9s,MS6.0
ZST Bratislava 77.03 332 *e*P **P 15 31 39.4 +0.9**
ZST Bratislava 77.03 332 *e*P **P 15 31 39.4 +0.9**
comp=Z,103nm,1.4s,mb5.6
ZST LR LR
comp=Z,8µm,19.9s,MS6.0
ROTZ Rotzenmuhle 77.03 336 *e*P **P 15 31 38.7 +0.2**
comp=Z,131nm,1.4s,mb5.7
JCT Junction City 77.10 59 P **P 15 31 38.6 -0.3**
JCT pmax pmax
comp=Z,62nm,1.0s,mb5.5
JCT Junction City 77.10 59 *e*P **P 15 31 38.4 -0.5**
comp=Z,62nm,1.1s,mb5.5
SIUC Southern Illin 77.15 47 *e*P **P 15 31 38.7 -0.5**
comp=Z,56nm,1.0s,mb5.5
KHC Kasperske Hory 77.23 335 *e*P **P 15 31 39.5 -0.1**
KHC *e*pP pP 15 31 44.5 -2.6
KHC *ex* x 15 32 01.5
KHC AMS AMS 16 08 20.0
comp=Z,8µm,20.6s
HATD Hatta, Dubai 77.27 293⇓⇓P **P 15 31 40.5 +0.7**
SNR=7.6
BLO Bloomington 77.28 44 P **P 15 31 39.9 0.0**
BLO pmax pmax
comp=Z,17nm,0.6s,mb5.2
BLO Bloomington 77.28 44 *e*P **P 15 31 39.6 -0.2**
comp=Z,17nm,0.6s,mb5.1
BUC1 Bucharest 77.28 325 P **P 15 31 40.3 +0.4**
PKSN Nyarlorinc 77.29 330⇓*e*P **P 15 31 41.1 +1.1**
MSNY Massena 77.34 34 *e*P **P 15 31 39.6 -0.6**
GRA1 Grafenberg Arr 77.36 337 *e*P **P 15 31 40.6 +0.2**
comp=Z,498nm,1.9s,mb6.1
GRA1 *e*pP pP 15 31 54.2 +6.4
GRA1 *e*sP sP 15 32 00.6 +10
GRF Grafenberg Arr 77.36 337 *e*P **P 15 31 40.6 +0.2**
comp=Z,498nm,1.9s,mb6.1
GRF *e*pP pP 15 31 54.2 +6.4
GRF *e*sP sP 15 32 00.6 +10
GRF Grafenberg Arr 77.36 337 *e*P **P 15 31 40.6 +0.2**
GRF *e**PP pP 15 31 54.2 +6.4
GRF *e**SP sP 15 32 00.6 +10
GRF pmax pmax
comp=Z,498nm,1.9s,mb6.1
GRF Grafenberg Arr 77.36 337 *e*P **P 15 31 40.6 +0.2**
GRF *e**PP pP 15 31 54.2 +6.4
GRF *e**SP sP 15 32 00.6 +10
GRF pmax pmax
comp=Z,498nm,1.9s,mb6.1
GRFO Grafenberg 77.36 337 P **P 15 31 40.5 +0.1**
GRFO pmax pmax
comp=Z,360nm,1.6s,mb6.0
GRFO Grafenberg 77.36 337 *e*P **P 15 31 40.4 0.0**
comp=Z,362nm,1.6s,mb6.0
SMDO Samad 77.38 290⇑P **P 15 31 41.3 +0.9**
SNR=8.5
WET Wettzell 77.41 335 *e*P **P 15 31 40.9 +0.3**
comp=Z,145nm,1.3s,mb5.8
WET Wettzell 77.41 335 *e*P **P 15 31 40.9 +0.3**
WET pmax pmax
comp=Z,145nm,1.3s,mb5.8
MIAR Mount Ida 77.42 52 P **P 15 31 40.2 -0.5**
MIAR pmax pmax
comp=Z,44nm,0.8s,mb5.4
MIAR Mount Ida 77.42 52 *e*P **P 15 31 39.9 -0.7**
comp=Z,44nm,0.8s,mb5.4
ELDT Eldivan 77.42 318 *i* P **P 15 31 41.4 +0.8**
ASHO Ashiyiah 77.42 293⇓⇓P **P 15 31 41.1 +0.4**
SNR=8.8
DLF Lyons Farm 77.45 349⇑*e*P **P 15 31 40.6 -0.2**
GEC2 GERESS Array S 77.45 335 *e*P **P 15 31 40.7 -0.2**
comp=Z,86nm,1.4s,mb5.5
GEC2 GERESS Array S 77.45 335 *e*P **P 15 31 40.7 -0.2**
GEC2 pmax pmax
comp=Z,86nm,1.4s,mb5.5
GERES GERESS Array B 77.45 335 P **P 15 31 40.9 0.0**
comp=Z,16nm,0.6s,mb5.1,baz=34,slow=5.2,SNR=172
HOQ Hoqain 77.46 291⇓⇓P **P 15 31 41.8 +0.9**
SNR=15
DCN Croghan 77.50 349 *e*P **P 15 31 41.0 -0.1**
ATAB Bozova 77.57 313 *i* P **P 15 31 42.6 +1.1**
TNS Taunus Mts 77.58 339 *e*P **P 15 31 41.4 -0.1**
comp=Z,103nm,1.2s,mb5.6
TNS Taunus Mts 77.58 339 *e*P **P 15 31 41.4 -0.1**
TNS pmax pmax
comp=Z,103nm,1.2s,mb5.6
GZR Gura Zlata 77.59 328 P **P 15 31 42.0 +0.3**
GZR Gura Zlata 77.59 328⇑*i*P **P 15 31 41.7 0.0**
CONA Conrad Observa 77.65 333 *i* P **P 15 31 42.7 +0.7**
comp=Z,43nm,0.9s,mb5.4,SNR=23
SOP Sopron 77.65 333⇑*e*P **P 15 31 42.7 +0.7**
HGN Heimansgroeve 77.66 340⇑*e*P **P 15 31 41.7 -0.3**
comp=Z,159nm,1.5s,mb5.7
HGN *ex* x 15 32 04.0
BEBN Eben Emael 77.69 341 P **P 15 31 42.1 0.0**
CDAG Cicekdag 77.70 317 *i* P **P 15 31 42.0 -0.2**
USIN University of 77.70 46 *e*P **P 15 31 42.3 0.0**
comp=Z,101nm,0.9s,mb5.8
BHD Baghdad 77.73 307 *i* x x 15 31 40.0
BHD *i* x x 15 41 33.0
LONY Lake Ozonia 77.77 34 *e*P **P 15 31 41.3 -1.3**
comp=Z,14nm,0.7s,mb5.0
MEM Membach 77.79 340 P **P 15 31 42.7 -0.1**
comp=Z,80nm,1.4s,mb5.5
BZS Buzias 77.81 328 P **P 15 31 42.6 -0.2**
BZS Buzias 77.81 328⇑*i*P **P 15 31 42.8 -0.1**
JMDO Jabal Madar 77.85 290⇓⇓P **P 15 31 43.9 +0.8**
SNR=21
UALR University of 77.88 51 *e*P **P 15 31 42.1 -1.2**
comp=Z,195nm,2.1s,mb5.7
BR131 Keskin Array S 77.94 318 *e*P **P 15 31 43.9 +0.2**
comp=Z,8.9nm,0.3s,mb5.2
BRTR Keskin Array B 77.94 318 P **P 15 31 43.6 0.0**
comp=Z,37nm,0.9s,mb5.3,baz=56,slow=3.5,SNR=63
UCC Uccle 77.97 341 P **P 15 31 43.7 -0.1**
GZT Gaziantep 78.02 314 *i* P **P 15 31 44.4 +0.4**
SSW Stow on the Wo 78.04 345⇑*e*P **P 15 31 43.9 -0.2**
TOD Tromm 78.06 338 *e*P **P 15 31 44.3 +0.1**
ALLY Alegheny Colle 78.08 39 *e*P **P 15 31 43.8 -0.6**
SIND Sindeldorf 78.09 338 P **P 15 31 44.8 +0.4**
SKP1 Kophill 78.09 345⇑*e*P **P 15 31 43.6 -0.8**
ABH Alteburg 78.11 339 *e*P **P 15 31 44.5 0.0**
BCLA Clavier 78.12 341 P **P 15 31 44.6 +0.1**
ZIMR 78.12 325 P **P 15 31 44.6 0.0**
ARQ Araqi 78.13 292⇑⇑P **P 15 31 45.5 +0.9**
SNR=11
WCI Wyandotte Cave 78.14 45 P **P 15 31 44.4 -0.3**
WCI pmax pmax
comp=Z,70nm,0.8s,mb5.6
WCI Wyandotte Cave 78.14 45 *e*P **P 15 31 44.2 -0.5**
comp=Z,70nm,0.8s,mb5.6
AVNT Avonos 78.16 316 *i* P **P 15 31 43.0 -1.8**
MCH1 Michaelchurch 78.20 346 P **P 15 31 44.6 -0.4**
MCH1 AMb AMB 15 31 47.6
comp=Z,77nm,1.3s,mb5.5
MCH1 Michaelchurch 78.20 346⇑*e*P **P 15 31 44.6 -0.4**
MCH1 AMb AMB 15 31 47.6
comp=Z,77nm,1.3s,mb5.5
MCH1 AMS AMS 16 12 52.8
comp=Z,2µm,19.2s,MS5.4
SWS Schriesheim-Wi 78.20 338 P **P 15 31 45.6 +0.6**
ANTO Ankara 78.21 318 P **P 15 31 45.9 +0.9**
SNR=5.4
ANTO Ankara 78.21 318 *e*P **P 15 31 45.1 0.0**
comp=Z,49nm,0.9s,mb5.4
ANTO Ankara 78.21 318⇑*i*P **P 15 31 46.8 +1.7**
SZH Strazhica 78.24 324 *i* P **P 15 31 44.5 -0.7**
SNF Seneffe 78.26 341 P **P 15 31 45.3 -0.1**
PKSM Moragy 78.30 331 P **P 15 31 44.7 -0.9**
ARSA Arzberg 78.36 333 *i* P **P 15 31 46.3 +0.4**
comp=Z,48nm,1.0s,mb5.4,SNR=24
NCB Newcomb 78.46 34 *e*P **P 15 31 45.6 -0.8**
comp=Z,32nm,0.9s,mb5.2
SWN1 Swindon 78.47 345⇑*e*P **P 15 31 46.5 0.0**
KTD Kalmit 78.50 338 *e*P **P 15 31 46.7 0.0**
ARMA Armidale 78.51 183 *e*P **P 15 31 47.4 +0.7**
GIVF Givet 78.53 341⇑*i*P **P 15 31 46.6 -0.2**
comp=Z,257nm,1.4s,mb5.7
GIVF Givet 78.53 341⇑*i*P **P 15 31 46.6 -0.2**
GIVF pmax pmax
comp=Z,128nm,1.4s,mb5.7
GIVF Givet 78.53 341⇑*i*P **P 15 31 46.6 -0.2**
comp=Z,128nm,1.4s,mb5.7
DOU Dourbes 78.58 341 P **P 15 31 46.9 -0.2**
WLF Walferdange 78.64 340 *e*P **P 15 31 47.8 +0.4**
comp=Z,233nm,1.7s,mb5.8
WLF Walferdange 78.64 340 P **P 15 31 47.7 +0.3**
HDH Heidenheim-Cha 78.64 337 P **P 15 31 48.1 +0.6**
MENF Mencas 78.65 343 *e*P **P 15 31 47.6 +0.1**
JMB Yambol 78.66 324 *e*P **P 15 31 47.3 -0.2**
BAIF Baives 78.70 341⇑*i*P **P 15 31 47.7 -0.1**
comp=Z,311nm,1.6s,mb5.7
BAIF Baives 78.70 341⇑*i*P **P 15 31 47.7 -0.1**
BAIF pmax pmax
comp=Z,155nm,1.6s,mb5.7
BAIF Baives 78.70 341⇑*i*P **P 15 31 47.7 -0.1**
comp=Z,155nm,1.6s,mb5.7
RHK3 Tenkes 78.71 331⇓*e*P **P 15 31 47.7 -0.1**

UMR **Umm Al-Rimmam** 78.72 302 *eP* P 15 31 48.0 0.0
STU **Stuttgart** 78.73 338 *eP* P 15 31 47.7 -0.3
comp=Z,657nm,2.5s,mb6.1
FUR **Furstenfeldbru** 78.74 336 *eP* P 15 31 48.1 +0.1
comp=Z,1µm,2.5s,mb6.3
FUR **Furstenfeldbru** 78.74 336 *eP* P 15 31 48.1 +0.1
FUR pmax pmax
comp=Z,1µm,2.5s,mb6.3
MIB **Mutribah** 78.75 302 *eP* P 15 31 48.1 +0.1
MIB AMb AMB 15 31 49.7
comp=Z,171nm,0.9s,mb6.0
LANF **Langenberg** 78.89 339 *eP* P 15 31 49.0 +0.2
LBG **Lerchenberg** 78.93 338 P P 15 31 49.6 +0.5
NATX **Nacogdoches** 78.98 54 *eP* P 15 31 49.4 0.0
comp=Z,85nm,0.8s,mb5.7
BUCH **Bad Urach** 78.99 337 P P 15 31 50.3 +0.9
KBD **Kabd** 79.02 302 *eP* P 15 31 49.4 -0.2
KBD AMb AMB 15 31 51.4
comp=Z,456nm,0.9s,mb6.4
PERS **Pernice** 79.03 333 *i P* P 15 31 49.6 +0.1
WVT **Waverly** 79.08 47 P P 15 31 49.5 -0.4
WVT pmax pmax
comp=Z,22nm,1.0s,mb5.0
WVT **Waverly** 79.08 47 *eP* P 15 31 49.4 -0.5
comp=Z,22nm,0.9s,mb5.1
SVIS **Svilajnac** 79.10 328⇑*iP* P 15 31 49.2 -0.8
KBA **Koelnbreinsper** 79.16 334 *i P* P 15 31 51.1 +0.8
comp=Z,202nm,1.1s,mb6.0,SNR=44
KBA **Koelnbreinsper** 79.16 334 *i P* P 15 31 51.1 +0.8
KBA pmax pmax
comp=Z,202nm,1.1s,mb6.0
ACCN **Adirondack Com** 79.17 34 *eP* P 15 31 48.5 -1.8
NAY **Al-Naaiem** 79.22 302 *eP* P 15 31 50.6 0.0
NAY AMb AMB 15 31 52.3
comp=Z,116nm,1.0s,mb5.8
HEX **Exmoor** 79.22 346⇑*eP* P 15 31 50.4 -0.3
VAL **Valentia** 79.22 351 *eP* P 15 31 49.1 -1.6
STR **Strasbourg** 79.26 338 *eP* P 15 31 51.0 +0.1
RDF **Al-Radifah** 79.29 302 *eP* P 15 31 51.4 +0.4
RDF AMb AMB 15 31 53.0
comp=Z,319nm,1.0s,mb6.2
COBT **Iskenderun** 79.31 314 *i P* P 15 31 52.2 +1.0
OBKA **Obir** 79.31 333⇑*iP* P 15 31 51.3 +0.1
comp=Z,42nm,0.9s,mb5.4,SNR=8.9
ESKT **Eskisehir** 79.35 319 *i P* P 15 31 50.8 -0.6
BFO **Black Forest** 79.36 338 P P 15 31 51.3 -0.1
comp=Z,340nm,1.0s,mb6.2,SNR=21
BFO **Black Forest** 79.36 338 *eP* P 15 31 51.2 -0.2
comp=Z,112nm,1.3s,mb5.6
BFO **Black Forest** 79.36 338 *eP* P 15 31 51.2 -0.2
BFO pmax pmax
comp=Z,112nm,1.3s,mb5.6
GUT **Gutenstein** 79.40 337 P P 15 31 52.2 +0.6
HTL **Hartland** 79.40 347 P P 15 31 51.6 0.0
HTL AMb AMB 15 31 51.9
comp=Z,61nm,1.8s,mb5.2
HTL **Hartland** 79.40 347 *eP* P 15 31 51.6 0.0
HTL AMb AMB 15 31 51.9
comp=Z,61nm,1.8s,mb5.2
HTL AMS AMS 16 13 52.8
comp=Z,1µm,19.0s,MS5.3
WATA **Walderalm** 79.42 336⇑*iP* P 15 31 52.4 +0.7
comp=Z,149nm,1.2s,mb5.8,SNR=51
WATA **Walderalm** 79.42 336⇑*iP* P 15 31 52.4 +0.7
WATA pmax pmax
comp=Z,149nm,1.2s,mb5.8
DIM **Dimitrovgrad** 79.42 324 *i P* P 15 31 51.7 -0.1
SPAK **Spaichingen-Ko** 79.45 338 *eP* P 15 31 51.9 0.0
WTTA **Wattenberg** 79.47 335 *i P* P 15 31 52.8 +0.8
comp=Z,177nm,1.0s,mb6.0,SNR=110
WTTA **Wattenberg** 79.47 335 *i P* P 15 31 52.8 +0.8
WTTA pmax pmax
comp=Z,177nm,1.0s,mb6.0
UBR **Ueberruh** 79.50 337 P P 15 31 52.8 +0.6
RETA **Reutte** 79.50 336⇑*iP* P 15 31 52.8 +0.6
comp=Z,71nm,1.1s,mb5.5
CESS **Cesta pri Krsk** 79.52 332 *eP* P 15 31 52.0 -0.2
MOTA **Moosalm** 79.54 336⇓*iP* P 15 31 53.0 +0.6
comp=Z,166nm,1.1s,mb5.9,SNR=65
MOTA **Moosalm** 79.54 336⇓*iP* P 15 31 53.0 +0.6
MOTA pmax pmax
comp=Z,166nm,1.1s,mb5.9
CDF **Champ du Feu** 79.54 339⇑*iP* P 15 31 52.4 0.0
comp=Z,355nm,1.4s,mb5.8
CDF **Champ du Feu** 79.54 339⇑*iP* P 15 31 52.4 0.0
CDF pmax pmax
comp=Z,177nm,1.4s,mb5.8
CDF **Champ du Feu** 79.54 339⇑*iP* P 15 31 52.4 0.0
comp=Z,177nm,1.4s,mb5.8
ULDT **Uludag** 79.57 321 *i P* P 15 31 52.8 +0.3
OXF **Oxford** 79.58 49 P P 15 31 52.2 -0.4
OXF pmax pmax
comp=Z,91nm,1.0s,mb5.7
OXF **Oxford** 79.58 49 *eP* P 15 31 52.0 -0.7
comp=Z,91nm,1.0s,mb5.7
SQTA **Sankt Quirin** 79.63 336⇑*iP* P 15 31 53.6 +0.8
comp=Z,187nm,1.2s,mb5.9,SNR=49
SQTA **Sankt Quirin** 79.63 336⇑*iP* P 15 31 53.6 +0.7
SQTA pmax pmax
comp=Z,187nm,1.2s,mb5.9
GRUS **Gruza** 79.63 328⇑*iP* P 15 31 52.3 -0.5
ABTA **Abfaltersbach** 79.69 335⇑*iP* P 15 31 53.1 -0.2
comp=Z,44nm,1.0s,mb5.3
DIVS **Divcibare** 79.70 329⇑*iP* P 15 31 52.7 -0.5
DIVS **Divcibare** 79.70 329 *eP* P 15 31 50.5 -2.8
PLD **Plovdiv** 79.70 325 *eP* P 15 31 53.0 -0.2
PLD **Plovdiv** 79.70 325 P P 15 31 53.5 +0.2
LJU **Ljubljana** 79.74 333 *eP* P 15 31 52.6 -0.8
ECH **Echery** 79.75 339 *eP* P 15 31 53.8 +0.3
FVI **Forni Avoltri** 79.75 334 P P 15 31 53.6 +0.1
FVI pmax pmax
comp=Z,254nm,2.2s,mb5.8
FVI **Forni Avoltri** 79.75 334 P P 15 31 53.6 +0.1
comp=Z,254nm,2.2s,mb5.8
SEST **Monte Rota** 79.78 335 P P 15 31 54.6 +0.9
SISB **Singen-Schiene** 79.80 337 P P 15 31 54.3 +0.5
KIZ **Kirchzarten** 79.81 338 P P 15 31 54.1 +0.3
KDZ **Kurdzhali** 79.81 324 *i P* P 15 31 53.0 -0.9
STEIN **Stein am Rhein** 79.83 337⇑*iP* P 15 31 52.8 -1.2
comp=Z,835nm,1.9s,mb6.3
STEIN **Stein am Rhein** 79.83 337⇑*iP* P 15 31 54.1 +0.1
SLE **Schleitheim** 79.84 338⇑*iP* P 15 31 53.4 -0.6
comp=Z,917nm,2.7s,mb6.2
SLE **Schleitheim** 79.84 338⇑*iP* P 15 31 53.7 -0.3
VTS **Vitosha** 79.85 326 *eP* P 15 31 53.2 -0.9
VTS **Vitosha** 79.85 326 *i P* P 15 31 54.0 -0.1
VTS **Vitosha** 79.85 326⇓*iP* P 15 31 54.6 +0.5
DYA **Yadsworthy** 79.86 346⇑*eP* P 15 31 54.0 -0.1
MCWV **Mont Chateau** 79.86 40 *eP* P 15 31 53.7 -0.4
comp=Z,52nm,1.1s,mb5.4
FELD **Feldberg im Sc** 79.86 338⇑*eP* P 15 31 54.1 0.0
PLAL **Pickwick Lake** 79.88 48 *eP* P 15 31 53.3 -0.9
comp=Z,13nm,0.6s,mb5.0
TRULL **Truellikon** 79.90 337⇑*iP* P 15 31 53.7 -0.6
comp=Z,674nm,1.9s,mb6.2
TRULL **Truellikon** 79.90 337⇑*iP* P 15 31 54.4 +0.1
DAVA **Damuels** 79.92 337 *i P* P 15 31 54.9 +0.5
comp=Z,129nm,1.0s,mb5.8,SNR=70
WEIN **Weingarten** 79.94 337⇑*iP* P 15 31 55.0 +0.5
comp=Z,648nm,1.9s,mb6.2
WEIN **Weingarten** 79.94 337⇑*iP* P 15 31 54.6 +0.1
FETA **Feichten** 79.94 336⇑*iP* P 15 31 55.5 +0.9
comp=Z,102nm,1.2s,mb5.6
VOY **Vojsko** 79.94 333 *eP* P 15 31 53.6 -1.0
MEZF **Maizieres J'vi** 79.98 340⇑*iP* P 15 31 54.9 +0.1
comp=Z,513nm,1.5s,mb5.9
MEZF **Maizieres J'vi** 79.98 340⇑*iP* P 15 31 54.9 +0.1
comp=Z,513nm,1.5s,mb6.2
FLACH **Flaach** 80.00 338⇑*iP* P 15 31 54.9 0.0
BOJS **Bojanci** 80.01 332 *eP* P 15 31 54.7 -0.2
JAVS **Javornik** 80.02 333 *eP* P 15 31 53.8 -1.2
LIENZ **Alp Oberkamor** 80.02 337⇑*iP* P 15 31 54.6 -0.4
comp=Z,474nm,2.0s,mb6.1
LIENZ **Alp Oberkamor** 80.02 337⇑*iP* P 15 31 55.3 +0.3
THEF **They Montfort** 80.02 339 *eP* P 15 31 55.1 +0.1
WILA **Wila** 80.06 337⇑*iP* P 15 31 54.6 -0.6
comp=Z,654nm,2.0s,mb6.2
WILA **Wila** 80.06 337⇑*iP* P 15 31 55.4 +0.2
CSA1 **St Austell** 80.08 347⇑*eP* P 15 31 55.0 -0.3
MOF **Molkenrain** 80.10 339 *eP* P 15 31 55.5 +0.1
BBLS **Bajina Basta -** 80.10 329⇑*iP* P 15 31 56.7 +1.3
HAU **Haudompre** 80.14 339⇑*iP* P 15 31 55.5 -0.2
comp=Z,169nm,1.1s,mb5.6
HAU *e*MLR
comp=Z,6µm,22.2s
HAU **Haudompre** 80.14 339⇑*iP* P 15 31 55.5 -0.2
HAU pmax pmax
comp=Z,85nm,1.1s,mb5.6
HAU MLR MLR
comp=Z,6µm,22.3s,MS5.9
HAU **Haudompre** 80.14 339⇑*iP* P 15 31 55.5 -0.2
comp=Z,84nm,1.1s,mb5.6
HAU LR LR
comp=Z,6µm,22.3s,MS5.9
SULZ **Sulz-Cheisache** 80.16 338⇑*iP* P 15 31 54.9 -0.8
comp=Z,636nm,1.9s,mb6.2
SULZ **Sulz-Cheisache** 80.16 338⇑*iP* P 15 31 55.8 +0.1
ZUR **Zurich** 80.19 337⇑*iP* P 15 31 55.7 -0.2
comp=Z,652nm,1.9s,mb6.2
ZUR **Zurich** 80.19 337⇑*iP* P 15 31 56.0 +0.1
RDO **Rodhopi** 80.19 324 *eP* P 15 31 56.8 +0.9
HINF **Hinteralfeld** 80.20 339⇑*iP* P 15 31 55.7 -0.3
comp=Z,232nm,1.5s,mb5.6
HINF **Hinteralfeld** 80.20 339⇑*iP* P 15 31 55.7 -0.3
HINF pmax pmax
comp=Z,116nm,1.5s,mb5.6
HINF **Hinteralfeld** 80.20 339⇑*iP* P 15 31 55.7 -0.3
comp=Z,116nm,1.5s,mb5.6
ALN **Alexandroupoli** 80.20 323 *eP* P 15 31 54.9 -1.1
ALN **Alexandroupoli** 80.20 323 P P 15 31 56.3 +0.3
PLONS **Plons** 80.28 337⇑*iP* P 15 31 55.3 -1.1
comp=Z,592nm,2.4s,mb6.1
PLONS **Plons** 80.28 337⇑*iP* P 15 31 56.6 +0.2
APPI **Appiano** 80.30 335 P P 15 31 56.1 -0.4
CRQ2 **Rosemanowes 2** 80.31 347⇑*eP* P 15 31 56.3 -0.3
BBS **Basel-Blauen** 80.37 338 *eP* P 15 31 56.8 -0.1
DAVOX **Davos** 80.39 336⇑*iP* P 15 31 55.4 -1.6
comp=Z,523nm,1.8s,mb6.2
DAVOX **Davos** 80.39 336⇑*iP* P 15 31 57.7 +0.7
FUORN **Ofenpass** 80.44 336⇑*iP* P 15 31 55.6 -1.6
comp=Z,676nm,2.0s,mb6.2
FUORN **Ofenpass** 80.44 336⇑*iP* P 15 31 58.2 +1.0
BALST **Balsthal** 80.44 338⇑*iP* P 15 31 55.8 -1.5
comp=Z,944nm,1.8s,mb6.4
BALST **Balsthal** 80.44 338⇑*iP* P 15 31 57.5 +0.2
BOURR **Bourrignon** 80.50 338⇑*iP* P 15 31 55.8 -1.8
comp=Z,1µm,3.2s
BOURR **Bourrignon** 80.50 338⇑*iP* P 15 31 57.7 +0.1
MMB **Musomiste** 80.52 325 *i P* P 15 31 57.0 -0.7
KKB **Krupnik** 80.52 326 *i P* P 15 31 57.0 -0.7
BRMO **Bormio** 80.54 336 P P 15 31 58.6 +0.8
MUO **Muotathal** 80.54 337⇑*iP* P 15 31 56.5 -1.3
comp=Z,494nm,1.7s,mb6.2
MUO **Muotathal** 80.54 337⇑*iP* P 15 31 58.2 +0.4
LLS **Linth-Limmern** 80.56 337⇑*iP* P 15 31 56.6 -1.3
comp=Z,720nm,3.2s
LLS **Linth-Limmern** 80.56 337⇑*iP* P 15 31 58.3 +0.4
CTI **Castel Tesino** 80.58 335 P P 15 31 57.5 -0.5
CTI pmax pmax
comp=Z,130nm,1.4s,mb5.7
CTI **Castel Tesino** 80.58 335 P P 15 31 57.5 -0.5
comp=Z,130nm,1.4s,mb5.7
TAOE **Nuku Hiva Isla** 80.59 115 *e*LR LR 15 56 55.2
comp=Z,21µm,22.8s,baz=323
LOMF **Lomont** 80.64 339 *eP* P 15 31 58.8 +0.5
BNALP **Bannalp** 80.69 337⇑*iP* P 15 31 57.7 -0.9
comp=Z,991nm,3.8s
BNALP **Bannalp** 80.69 337⇑*iP* P 15 31 58.9 +0.3
BERNI **Berninapass** 80.69 336⇑*iP* P 15 31 57.5 -1.1
comp=Z,693nm,2.2s,mb6.2
BERNI **Berninapass** 80.69 336⇑*iP* P 15 31 59.4 +0.8
VDL **Val di Lei** 80.77 337⇑*iP* P 15 31 57.7 -1.3
comp=Z,577nm,1.9s,mb6.2
VDL **Val di Lei** 80.77 337⇑*iP* P 15 31 59.8 +0.8
STKA **Stephens Creek** 80.78 191⇑*iP* P 15 31 57.9 -1.2
comp=Z,12nm,1.0s,mb4.8
STKA **Stephens Creek** 80.78 191 P P 15 31 58.2 -0.8
comp=Z,15nm,0.9s,mb4.9,baz=350,slow=7.9,SNR=18
TKTP **Tekketepe** 80.80 319 *i P* P 15 31 59.2 0.0
TUE **Stuetta** 80.82 337 P P 15 32 00.2 +0.9
HASLI **Hasliberg** 80.86 337⇑*iP* P 15 31 57.9 -1.6
comp=Z,891nm,2.4s,mb6.3
HASLI **Hasliberg** 80.86 337⇑*iP* P 15 31 59.8 +0.3
FLN **La Foliniere** 80.88 344⇑*iP* P 15 31 59.4 -0.2
comp=Z,276nm,1.3s,mb5.7
FLN *e*MLR
comp=Z,5µm,20.5s
FLN **La Foliniere** 80.88 344⇑*iP* P 15 31 59.4 -0.2
FLN pmax pmax
comp=Z,138nm,1.3s,mb5.7
FLN MLR MLR
comp=Z,5µm,20.5s,MS5.8
FLN **La Foliniere** 80.88 344⇑*iP* P 15 31 59.4 -0.2
comp=Z,138nm,1.3s,mb5.7
FLN LR LR
comp=Z,5µm,20.5s,MS5.8
MABI **Malga Bissina** 80.89 336 P P 15 31 59.8 +0.2
LDF **La Druitiere** 80.97 343⇑*iP* P 15 31 59.9 -0.2
comp=Z,193nm,1.4s,mb5.5
LDF **La Druitiere** 80.97 343⇑*iP* P 15 31 59.9 -0.2
LDF pmax pmax
comp=Z,97nm,1.4s,mb5.5
LDF **La Druitiere** 80.97 343⇑*iP* P 15 31 59.9 -0.2
comp=Z,97nm,1.4s,mb5.5
SRS **Serrai** 80.97 325 *eP* P 15 31 59.4 -0.7
SRS **Serrai** 80.97 325 P P 15 32 00.2 +0.1
STIP **Stip** 81.01 326 *eP* P 15 31 59.8 -0.5
STIP **Stip** 81.01 326 *i* PKP P 15 31 59.0 -1.3
STIP **Stip** 81.01 326 *i* PKP P 15 31 59.0 -1.3
FUSIO **Fusio** 81.01 337⇑*iP* P 15 31 58.2 -2.1
comp=Z,610nm,1.8s,mb6.2
FUSIO **Fusio** 81.01 337⇑*iP* P 15 32 00.9 +0.6
PMOR **Pomariorio Ree** 81.04 125 *e*T 17 01 03.7
comp=Z,27nm,0.2s
SKO **Skopje** 81.04 327 *eP* P 15 32 01.1 +0.6
SKO **Skopje** 81.04 327 *i* PKP P 15 32 01.0 +0.5
SKO **Skopje** 81.04 327 *i* PKP P 15 32 01.0 +0.5
SKO **Skopje** 81.04 327 P P 15 32 01.7 +1.2
WIMIS **Wimmis** 81.08 338⇑*iP* P 15 31 58.2 -2.5
comp=Z,336nm,3.0s
WIMIS **Wimmis** 81.08 338⇑*iP* P 15 32 00.8 +0.1
BRANT **Les Verrieres** 81.11 339⇑*iP* P 15 31 58.3 -2.5
comp=Z,517nm,2.1s,mb6.1
BRANT **Les Verrieres** 81.11 339⇑*iP* P 15 32 01.2 +0.3
TORNY **Torny** 81.15 338⇑*iP* P 15 31 58.9 -2.1
comp=Z,926nm,3.1s
TORNY **Torny** 81.15 338⇑*iP* P 15 32 01.4 +0.4
VAY **Valandovo** 81.19 326 *eP* P 15 32 00.7 -0.6
VAY **Valandovo** 81.19 326 *i* PKP P 15 32 00.6 -0.6
VAY **Valandovo** 81.19 326 *i* PKP P 15 32 00.6 -0.6
VAY **Valandovo** 81.19 326 P P 15 32 00.8 -0.4
KNT **Kendrikon** 81.20 325 *eP* P 15 32 01.8 +0.5
KNT **Kendrikon** 81.20 325 P P 15 32 01.6 +0.3
GRR **Gorron** 81.31 344⇑*iP* P 15 32 01.9 0.0
comp=Z,373nm,1.3s,mb5.8
GRR **Gorron** 81.31 344⇑*iP* P 15 32 01.9 0.0
GRR pmax pmax
comp=Z,186nm,1.3s,mb5.9
GRR **Gorron** 81.31 344⇑*iP* P 15 32 01.9 0.0
comp=Z,186nm,1.3s,mb5.9
LKBD **Leukerbad** 81.34 338⇑*iP* P 15 31 59.4 -2.7
comp=Z,440nm,2.0s,mb6.0
LKBD **Leukerbad** 81.34 338⇑*iP* P 15 32 02.4 +0.3
MUGIO **Muggio** 81.41 337⇑*iP* P 15 31 59.5 -2.9
comp=Z,927nm,2.8s,mb6.2
MUGIO **Muggio** 81.41 337⇑*iP* P 15 32 02.1 -0.3
LOR **Lormes** 81.41 340⇑*iP* P 15 32 02.4 0.0
comp=Z,288nm,1.3s,mb5.8
LOR *e*MLR
comp=Z,8µm,21.5s
LOR **Lormes** 81.41 340⇑*iP* P 15 32 02.4 0.0
LOR pmax pmax
comp=Z,144nm,1.3s,mb5.7
LOR MLR MLR
comp=Z,8µm,21.5s,MS6.0
LOR **Lormes** 81.41 340⇑*iP* P 15 32 02.4 0.0
comp=Z,144nm,1.3s,mb5.7
LOR LR LR
comp=Z,8µm,21.5s,MS6.0
SENIN **Lac Senin** 81.45 338⇑*iP* P 15 31 59.8 -2.8
comp=Z,650nm,3.3s
SENIN **Lac Senin** 81.45 338⇑*iP* P 15 32 03.1 +0.5
ELN **Prospectdale** 81.49 42 *eP* P 15 32 02.4 -0.4
PRK **Paraskevi** 81.51 322 *eP* P 15 32 04.0 +1.0
CABF **La Chapelle** 81.51 339⇑*iP* P 15 32 03.3 +0.3
comp=Z,280nm,1.4s,mb5.7
CABF **La Chapelle** 81.51 339⇑*iP* P 15 32 03.3 +0.3
CABF pmax pmax
comp=Z,140nm,1.4s,mb5.7
CABF **La Chapelle** 81.51 339⇑*iP* P 15 32 03.3 +0.3
comp=Z,140nm,1.4s,mb5.7
VAI **Varese** 81.53 337 P P 15 32 03.0 -0.1
VAI pmax pmax
comp=Z,1µm,2.3s,mb6.4
VAI **Varese** 81.53 337 P P 15 32 03.0 -0.1
comp=Z,1µm,2.3s,mb6.4
GIMEL **Gimel** 81.54 339⇑*iP* P 15 31 59.8 -3.3
comp=Z,529nm,3.8s
GIMEL **Gimel** 81.54 339⇑*iP* P 15 32 03.4 +0.3
AIGLE **Aigle** 81.55 338⇑*iP* P 15 32 00.8 -2.4
comp=Z,716nm,4.0s
AIGLE **Aigle** 81.55 338⇑*iP* P 15 32 03.4 +0.2
STON **Ston** 81.57 330 P P 15 32 02.9 -0.3
MMK **Mattmark** 81.57 337⇑*iP* P 15 32 00.9 -2.4
comp=Z,618nm,1.9s,mb6.2
MMK **Mattmark** 81.57 337⇑*iP* P 15 32 04.1 +0.8
GRYON **Gryon** 81.60 338⇑*iP* P 15 32 01.2 -2.2
comp=Z,619nm,3.0s
GRYON **Gryon** 81.60 338⇑*iP* P 15 32 03.8 +0.4
HORT **Hortiatis** 81.61 325 P P 15 32 03.6 +0.1
OG01 **Vacheresse** 81.63 338 *eP* P 15 32 03.8 +0.2
KRUS **Krusevo** 81.64 327 *i* PKP P 15 32 03.9 +0.2
KRUS **Krusevo** 81.64 327 *i* PKP P 15 32 03.9 +0.2
BLA **Blacksburg** 81.65 41 P P 15 32 04.0 +0.3
BLA pmax pmax
comp=Z,33nm,1.0s,mb5.2
BLA **Blacksburg** 81.65 41 *eP* P 15 32 03.7 +0.1
comp=Z,33nm,1.0s,mb5.2
PLG **Polygyros** 81.67 325 *eP* P 15 32 02.1 -1.7
PLG **Polygyros** 81.67 325 *eP* P 15 32 03.0 -0.8
HYF **Humbligny** 81.68 341⇑*iP* P 15 32 04.2 +0.4
DIX **Grande Dixence** 81.68 338⇑*iP* P 15 32 01.4 -2.5
comp=Z,522nm,1.9s,mb6.1
DIX **Grande Dixence** 81.68 338⇑*iP* P 15 32 04.8 +0.9
SSF **Saint Saulge** 81.69 341⇑*iP* P 15 32 03.7 -0.2
comp=Z,121nm,0.9s,mb5.5
SSF **Saint Saulge** 81.69 341⇑*iP* P 15 32 03.7 -0.2
SSF pmax pmax
comp=Z,60nm,0.9s,mb5.5
SSF **Saint Saulge** 81.69 341⇑*iP* P 15 32 03.7 -0.2
comp=Z,60nm,0.9s,mb5.5
SALAN **Lac Salanfe** 81.73 338⇑*iP* P 15 32 01.4 -2.7
comp=Z,571nm,3.0s,mb6.0
SALAN **Lac Salanfe** 81.73 338⇑*iP* P 15 32 04.6 +0.5
SGMF **Saint Gilles** 81.74 345⇑*iP* P 15 32 04.4 +0.2
comp=Z,312nm,1.4s,mb5.8
SGMF **Saint Gilles** 81.74 345⇑*iP* P 15 32 04.4 +0.2
SGMF pmax pmax
comp=Z,156nm,1.4s,mb5.8
SGMF **Saint Gilles** 81.74 345⇑*iP* P 15 32 04.4 +0.2
comp=Z,156nm,1.4s,mb5.8
ROSF **Rostrenen** 81.78 345⇑*iP* P 15 32 04.6 +0.2
comp=Z,395nm,1.4s,mb5.9
ROSF **Rostrenen** 81.78 345⇑*iP* P 15 32 04.6 +0.2
ROSF pmax pmax
comp=Z,198nm,1.4s,mb5.8
ROSF **Rostrenen** 81.78 345⇑*iP* P 15 32 04.6 +0.2
comp=Z,198nm,1.4s,mb5.8
EMV **Vieux Emosson** 81.83 338⇑*iP* P 15 32 01.4 -3.2
comp=Z,893nm,2.7s,mb6.2
EMV **Vieux Emosson** 81.83 338⇑*iP* P 15 32 05.2 +0.6
BIA **Bitola** 81.91 326 *i* PKP P 15 32 04.2 -0.9
BIA **Bitola** 81.91 326 *i* PKP P 15 32 04.2 -0.9
ORO **Oropa** 81.96 337 P P 15 32 06.1 +0.8
ORO pmax pmax
comp=Z,81nm,1.1s,mb5.6
ORO **Oropa** 81.96 337 P P 15 32 06.1 +0.8
comp=Z,80nm,1.1s,mb5.6
AVF **Avril sur Loir** 81.98 341⇑*iP* P 15 32 05.5 +0.1
comp=Z,324nm,1.3s,mb5.8
AVF **Avril sur Loir** 81.98 341⇑*iP* P 15 32 05.5 +0.1
AVF pmax pmax
comp=Z,162nm,1.3s,mb5.8
AVF **Avril sur Loir** 81.98 341⇑*iP* P 15 32 05.5 +0.1
comp=Z,162nm,1.3s,mb5.8
SMF **Signal de Mont** 82.01 340⇑*iP* P 15 32 05.7 +0.1
comp=Z,662nm,1.6s,mb6.0
SMF **Signal de Mont** 82.01 340⇑*iP* P 15 32 05.7 +0.1
SMF pmax pmax
comp=Z,331nm,1.6s,mb6.0
SMF **Signal de Mont** 82.01 340⇑*iP* P 15 32 05.7 +0.1
comp=Z,331nm,1.6s,mb6.0
OHR **Ohrid** 82.03 327 *i* PKP P 15 32 04.7 -1.0
OHR **Ohrid** 82.03 327 *i* PKP P 15 32 04.7 -1.0
OHR **Ohrid** 82.03 327 P P 15 32 05.4 -0.3
FNA **Florina** 82.10 326 *eP* P 15 32 05.7 -0.4
FNA **Florina** 82.10 326 P P 15 32 06.1 0.0
SALA **Sala** 82.13 311 ⇑P P 15 32 04.7 -1.5
QUIF **Quistinic** 82.17 345⇑*iP* P 15 32 06.5 +0.1
comp=Z,371nm,1.7s,mb5.7
QUIF **Quistinic** 82.17 345⇑*iP* P 15 32 06.5 +0.1
QUIF pmax pmax
comp=Z,186nm,1.7s,mb5.7
QUIF **Quistinic** 82.17 345⇑*iP* P 15 32 06.5 +0.1
comp=Z,186nm,1.7s,mb5.7
OG05 **Jujurieux** 82.20 339 *eP* P 15 32 07.2 +0.6
PPT **Papeete** 82.24 127 *e*LR LR 15 57 43.5
comp=Z,6µm,22.0s,baz=321
PPT **Papeete** 82.24 127 *e*T 17 02 34.0
comp=Z,7.8nm,0.2s
RSL **Roselend** 82.25 338 *eP* P 15 32 07.3 +0.5
BGF **Bois d'Agland** 82.31 341⇑*iP* P 15 32 07.3 +0.1
comp=Z,314nm,1.6s,mb5.7
BGF **Bois d'Agland** 82.31 341⇑*iP* P 15 32 07.3 +0.1
BGF pmax pmax
comp=Z,157nm,1.6s,mb5.7
BGF **Bois d'Agland** 82.31 341⇑*iP* P 15 32 07.3 +0.1
comp=Z,157nm,1.6s,mb5.7
PAE **Paea** 82.31 127 *e*T 17 02 39.6
comp=Z,14nm,0.3s
FORT **Forrest** 82.37 203 *eP* P 15 32 07.9 +0.4
comp=Z,150nm,0.9s,mb5.9
LPL **La Plagne** 82.38 338⇑*iP* P 15 32 08.6 +1.1
comp=Z,287nm,1.2s,mb5.8
LPL **La Plagne** 82.38 338⇑*iP* P 15 32 08.6 +1.1
LPL pmax pmax
comp=Z,143nm,1.2s,mb5.8
LPL **La Plagne** 82.38 338⇑*iP* P 15 32 08.6 +1.1
comp=Z,143nm,1.2s,mb5.8
LPG **La Plagne** 82.39 338⇑*iP* P 15 32 08.8 +1.2
comp=Z,512nm,1.4s,mb6.0
LPG **La Plagne** 82.39 338⇑*iP* P 15 32 08.8 +1.2
LPG pmax pmax
comp=Z,256nm,1.4s,mb6.0
LPG **La Plagne** 82.39 338⇑*iP* P 15 32 08.8 +1.2
comp=Z,256nm,1.4s,mb6.0
FSSB **Fossombrone** 82.40 333 P P 15 32 08.1 +0.5
comp=Z,108nm,1.0s,mb5.7
GSCL **Gusciola** 82.43 335 P P 15 32 08.9 +1.1
comp=Z,70nm,0.9s,mb5.6
ASF **Jabal al Asfar** 82.48 311 P P 15 32 09.1 +1.0
comp=Z,27nm,0.9s,mb5.2,baz=209,slow=0.5,SNR=18
MMAI **Mount Meron Ar** 82.55 312 P P 15 32 08.9 +0.5
comp=Z,78nm,1.0s,mb5.7,baz=24,slow=7.3,SNR=22
PLDF **La Plantade** 82.69 340 *eP* P 15 32 09.9 +0.7
BDI **Bagni Di Lucca** 82.70 335 P P 15 32 09.3 +0.1
TCF **Toulx Ste Croi** 82.70 341⇑*iP* P 15 32 09.5 +0.3
comp=Z,295nm,1.3s,mb5.8
TCF **Toulx Ste Croi** 82.70 341⇑*iP* P 15 32 09.5 +0.3
TCF pmax pmax
comp=Z,148nm,1.3s,mb5.9
TCF **Toulx Ste Croi** 82.70 341⇑*iP* P 15 32 09.5 +0.3
comp=Z,148nm,1.3s,mb5.8
CRE **Caprese Michel** 82.71 334 P P 15 32 09.9 +0.7
AGO **Saint Agoulin** 82.73 341 *eP* P 15 32 10.4 +1.1
GDM **Grand'Maison** 82.83 338 *eP* P 15 32 10.6 +0.8
BNI **Bardonecchia** 82.83 338 P P 15 32 11.0 +1.1
BDRM **Kayabasi** 82.87 320 *i P* P 15 32 09.7 -0.3
GRN **Grenoble** 82.88 339 *eP* P 15 32 11.4 +1.3
MFF **Saint Martin d** 82.89 343⇑*iP* P 15 32 10.4 +0.2
comp=Z,306nm,1.4s,mb5.8
MFF **Saint Martin d** 82.89 343⇑*iP* P 15 32 10.4 +0.2
MFF pmax pmax
comp=Z,153nm,1.4s,mb5.8
MFF **Saint Martin d** 82.89 343⇑*iP* P 15 32 10.4 +0.2
comp=Z,153nm,1.4s,mb5.8
LCHF **La Chataignera** 82.94 343 *eP* P 15 32 10.7 +0.3
OG22 **Abries** 82.97 338 *eP* P 15 32 13.0 +2.4
PYM **Petit Puy Mans** 83.04 341 *eP* P 15 32 11.6 +0.6
COLF **Collangettes** 83.11 340 *eP* P 15 32 11.9 +0.6
MBDF **Montbardon** 83.11 338⇑*iP* P 15 32 11.8 +0.5
comp=Z,153nm,1.0s,mb5.7
MBDF **Montbardon** 83.11 338⇑*iP* P 15 32 11.8 +0.5
MBDF pmax pmax
comp=Z,77nm,1.0s,mb5.7

MBDF Montbardon 83.11 338⇑*iP* P 15 32 11.8 +0.5
comp=Z,77nm,1.0s,mb5.7
ORIF Oris-en-Rattie 83.15 338⇑*iP* P 15 32 12.4 +0.9
comp=Z,284nm,1.2s,mb5.9
ORIF *e*MLR
comp=Z,4μm,21.5s
ORIF Oris-en-Rattie 83.15 338⇑*iP* P 15 32 12.4 +0.9
ORIF pmax pmax
comp=Z,142nm,1.2s,mb5.9
ORIF Oris-en-Rattie 83.15 338⇑*iP* P 15 32 12.4 +0.9
comp=Z,142nm,1.2s,mb5.9
VERF Verneugheol 83.16 341 *eP* P 15 32 11.8 +0.2
DOI San Damiano 83.19 337 P P 15 32 10.4 -1.4
SURF Saint Ours 83.33 338 *eP* P 15 32 13.2 +0.8
LBL Lubilhac 83.48 340 *eP* P 15 32 14.1 +0.9
VIVF Saint-Julien-l 83.50 339⇑*iP* P 15 32 14.0 +0.7
comp=Z,430nm,1.5s,mb6.1
VIVF Saint-Julien-l 83.50 339⇑*iP* P 15 32 14.0 +0.7
VIVF pmax pmax
comp=Z,215nm,1.5s,mb6.1
VIVF Saint-Julien-l 83.50 339⇑*iP* P 15 32 14.0 +0.7
comp=Z,215nm,1.5s,mb6.1
PTL Penteli 83.51 323 *eP* P 15 32 12.5 -0.9
SAOF Saorge 83.60 337 *eP* P 15 32 13.8 0.0
OG25 Le Caire 83.62 338 *eP* P 15 32 14.3 +0.4
AUTN L'Aution 83.62 337 *eP* P 15 32 13.8 -0.1
TOUF Mont Tournerai 83.65 337 *eP* P 15 32 14.3 +0.2
JSC Jenkinsville 83.70 44 P P 15 32 14.9 +0.5
JSC Jenkinsville 83.70 44 *eP* P 15 32 14.5 +0.1
SBF Sospel 83.74 337⇑*iP* P 15 32 14.5 -0.1
comp=Z,276nm,1.0s,mb6.0
SBF Sospel 83.74 337⇑*iP* P 15 32 14.5 -0.1
SBF pmax pmax
comp=Z,138nm,1.0s,mb6.0
SBF Sospel 83.74 337⇑*iP* P 15 32 14.5 -0.1
comp=Z,138nm,1.0s,mb6.0
OLEF Ile d'Oleron 83.75 343 *eP* P 15 32 15.6 +1.0
MVIF Mont Vial 83.78 337 *eP* P 15 32 15.1 +0.3
RJF Les Rejaudoux 83.79 341⇑*iP* P 15 32 15.0 +0.2
comp=Z,169nm,1.2s,mb5.8
RJF *e*MLR
comp=Z,7μm,20.5s
RJF Les Rejaudoux 83.79 341⇑*iP* P 15 32 15.0 +0.2
RJF pmax pmax
comp=Z,84nm,1.2s,mb5.8
RJF MLR MLR
comp=Z,7μm,20.5s,MS6.0
RJF Les Rejaudoux 83.79 341⇑*iP* P 15 32 15.0 +0.2
comp=Z,84nm,1.2s,mb5.8
RJF LR LR
comp=Z,7μm,20.5s,MS6.0
MGER Gerania Oros 83.80 323 *eP* P 15 32 14.5 -0.4
REVF Revere 83.88 337 *eP* P 15 32 15.2 0.0
MTCE Montecelio 83.93 333 P P 15 32 15.1 -0.4
CALN Calern 83.99 337 *eP* P 15 32 15.9 +0.1
STOF St-Etienne Org 84.01 338 *eP* P 15 32 17.1 +1.2
CAF Calviac 84.03 341⇑*iP* P 15 32 16.7 +0.7
comp=Z,246nm,1.4s,mb5.8
CAF Calviac 84.03 341⇑*iP* P 15 32 16.7 +0.7
CAF pmax pmax
comp=Z,123nm,1.4s,mb5.8
CAF Calviac 84.03 341⇑*iP* P 15 32 16.7 +0.7
comp=Z,123nm,1.4s,mb5.8
SMRF Simiane la Rot 84.11 338⇑*iP* P 15 32 17.3 +0.8
comp=Z,189nm,1.2s,mb5.6
SMRF Simiane la Rot 84.11 338⇑*iP* P 15 32 17.3 +0.8
comp=Z,189nm,1.2s,mb6.1
LKD Levkas 84.19 326 P P 15 32 17.2 +0.4
VILF Villemus 84.19 338 *eP* P 15 32 18.3 +1.4
FRF La Foret Royal 84.23 337⇑*iP* P 15 32 17.0 -0.1
comp=Z,387nm,1.5s,mb6.0
FRF La Foret Royal 84.23 337⇑*iP* P 15 32 17.0 -0.1
FRF pmax pmax
comp=Z,194nm,1.5s,mb6.0
FRF La Foret Royal 84.23 337⇑*iP* P 15 32 17.0 -0.1
comp=Z,194nm,1.5s,mb6.0
LFF La Frestale 84.30 342⇑*iP* P 15 32 17.8 +0.4
comp=Z,121nm,1.1s,mb5.7
LFF La Frestale 84.30 342⇑*iP* P 15 32 17.8 +0.4
LFF pmax pmax
comp=Z,61nm,1.1s,mb5.6
LFF La Frestale 84.30 342⇑*iP* P 15 32 17.8 +0.4
comp=Z,61nm,1.1s,mb5.6
TAVF Tavernes 84.33 338 *eP* P 15 32 19.1 +1.6
PRAF Pradon 84.37 338 *eP* P 15 32 19.5 +1.7
LASF Ste Croix 84.43 339⇑*iP* P 15 32 18.8 +0.7
comp=Z,270nm,1.8s,mb5.8
LMR La Mourre 84.48 337⇑*iP* P 15 32 18.5 +0.2
comp=Z,330nm,1.1s,mb6.1
LMR La Mourre 84.48 337⇑*iP* P 15 32 18.5 +0.2
LMR pmax pmax
comp=Z,165nm,1.1s,mb6.1
LMR La Mourre 84.48 337⇑*iP* P 15 32 18.5 +0.2
comp=Z,165nm,1.1s,mb6.1
TREF Trevaresse 84.49 338 *eP* P 15 32 20.2 +1.8
PUYF Puyloubier 84.50 338 *eP* P 15 32 19.5 +1.1
PGF Pioggiola 84.54 335⇑*iP* P 15 32 18.6 0.0
comp=Z,429nm,1.7s,mb6.0
PGF Pioggiola 84.54 335⇑*iP* P 15 32 18.6 0.0
PGF pmax pmax
comp=Z,214nm,1.7s,mb6.0
PGF Pioggiola 84.54 335⇑*iP* P 15 32 18.6 0.0
comp=Z,214nm,1.7s,mb6.0
ABTO Aybut 84.58 290 ⇓*iP* P 15 32 20.0 +1.1
SNR=6.0
BERF Bertagne 84.70 338 *eP* P 15 32 20.9 +1.4
GELF Grande-Etoile 84.70 338 *eP* P 15 32 20.8 +1.3
CORF Corte 84.73 335 *eP* P 15 32 19.7 +0.1
ITM Ithomi 85.03 324 *eP* P 15 32 19.5 -1.6
VLI Veliai 85.03 323 *eP* P 15 32 20.0 -1.1
IDI Anoyia 85.46 321 P P 15 32 23.4 +0.2
comp=Z,49nm,0.9s,mb5.6,baz=31,slow=6.1,SNR=6.4
EIL Elat 85.48 311 *eP* P 15 32 23.1 -0.2
comp=Z,4μm,1.8s
MTLF Montolieu 85.50 340⇑*iP* P 15 32 24.1 +0.6
comp=Z,35nm,0.9s,mb5.3
MTLF Montolieu 85.50 340⇑*iP* P 15 32 24.1 +0.6
MTLF pmax pmax
comp=Z,17nm,0.9s,mb5.3
MTLF Montolieu 85.50 340⇑*iP* P 15 32 24.1 +0.6
comp=Z,18nm,0.9s,mb5.3
FILF Fillols 86.17 340 *eP* P 15 32 27.8 +1.0
EJON La Jonquera 86.20 340 P P 15 32 27.3 +0.4
comp=Z,218nm,1.9s,mb6.1
EPF Esparros 86.21 342⇑*iP* P 15 32 26.8 -0.2
comp=Z,26nm,0.9s,mb5.2
EPF Esparros 86.21 342⇑*iP* P 15 32 26.8 -0.2
EPF pmax pmax
comp=Z,13nm,0.9s,mb5.2
EPF Esparros 86.21 342⇑*iP* P 15 32 26.8 -0.2
comp=Z,13nm,0.9s,mb5.2
KLBR Kellerberrin 86.25 211 *eP* P 15 32 25.9 -1.3
comp=Z,39nm,0.9s,mb5.6
EALK Alkurruntz 86.41 343 P P 15 32 28.1 +0.2
comp=Z,27nm,0.7s,mb5.6
RESF Ens 86.42 341 *eP* P 15 32 29.5 +1.5
VALF Valcebollere 86.44 340 *eP* P 15 32 29.3 +1.2
SJPF Ste Jean 86.45 343⇑*iP* P 15 32 28.9 +0.7
comp=Z,30nm,1.0s,mb5.2
SJPF Ste Jean 86.45 343⇑*iP* P 15 32 28.9 +0.7
SJPF pmax pmax
comp=Z,15nm,1.0s,mb5.2
SJPF Ste Jean 86.45 343⇑*iP* P 15 32 28.9 +0.7
comp=Z,15nm,1.0s,mb5.2
ELIZ Elizondo 86.46 343 P P 15 32 28.3 +0.1
ELIZ pmax pmax
comp=Z,23nm,1.0s,mb5.4
ELIZ Elizondo 86.46 343 P P 15 32 28.3 +0.1
comp=Z,23nm,1.0s,mb5.4
ETSF Etsaut 86.52 342⇑*iP* P 15 32 29.1 +0.6
comp=Z,27nm,0.8s,mb5.2
ETSF Etsaut 86.52 342⇑*iP* P 15 32 29.1 +0.6
ETSF pmax pmax
comp=Z,13nm,0.8s,mb5.2
ETSF Etsaut 86.52 342⇑*iP* P 15 32 29.1 +0.6
comp=Z,13nm,0.8s,mb5.2
EBIE Bielsa 86.58 342 P P 15 32 28.9 +0.1
comp=Z,44nm,0.9s,mb5.7
ELAN Lanestosa 86.76 344 P P 15 32 28.0 -1.6
comp=Z,95nm,1.3s,mb5.9
EARI Arriondas 87.00 346 P P 15 32 28.5 -2.3
comp=Z,65nm,1.5s,mb5.6
EMIR Miracle 87.02 340 P P 15 32 30.4 -0.6
comp=Z,71nm,1.1s,mb5.8
TBI Tubuai 87.09 130 *e*LR LR 15 59 27.2
comp=Z,8μm,22.8s,baz=325
TBI Tubuai 87.09 130 *eT* 17 08 37.4
comp=Z,9.5nm,0.2s
MUN Mundaring 87.14 212 *eP* P 15 32 30.7 -0.8
EPON Pontenova 87.28 347 P P 15 32 31.0 -1.2
comp=Z,541nm,2.5s,mb6.3
ESAC San Caprasio 87.63 342 P P 15 32 33.9 0.0
comp=Z,81nm,1.1s,mb5.9
NWAO Narrogin (SRO) 87.64 211 P P 15 32 33.3 -0.7
NWAO pmax pmax
comp=Z,46nm,1.0s
NWAO Narrogin (SRO) 87.64 211 *eP* P 15 32 33.0 -0.9
comp=Z,46nm,1.0s,mb5.7
ETOS Mallorca 88.76 339 P P 15 32 38.1 -1.1
comp=Z,43nm,1.0s,mb5.7
ETOR Torete 88.83 343 P P 15 32 38.6 -0.9
ETOR pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
ETOR Torete 88.83 343 P P 15 32 38.6 -0.9
comp=Z,9.6nm,1.3s,mb5.0
EMOS Mosqueruela 88.94 341 P P 15 32 38.8 -1.2
comp=Z,75nm,1.9s,mb5.7
ESDC Sonseca Array 90.30 344 P P 15 32 45.5 -1.0
comp=Z,7.8nm,0.9s,mb5.0,baz=10,slow=4.4,SNR=25
ESDC Sonseca Array 90.30 344 P P 15 32 45.0 -1.5
comp=Z,13nm,1.0s,mb5.2
ESLA Sonseca Array 90.30 344 *eP* P 15 32 45.7 -0.8
comp=Z,7.8nm,1.2s,mb4.9
EBEN Beniarda 90.47 341 P P 15 32 47.2 -0.1
comp=Z,217nm,2.1s,mb6.1
KEST Kesra 90.75 333 P P 15 32 48.5 0.0
comp=Z,8.0nm,0.9s,mb5.1,baz=327,slow=3.8,SNR=6.7
ETOB Tobarra 90.82 342 P P 15 32 48.5 -0.3
comp=Z,136nm,2.2s,mb5.9
EVIA Vianos 91.02 342 P P 15 32 50.2 +0.4
EVIA pmax pmax
comp=Z,11nm,0.9s,mb5.2
EVIA Vianos 91.02 342 P P 15 32 50.2 +0.4
comp=Z,11nm,0.9s,mb5.2
EBAD Badajoz 91.73 346 P P 15 32 49.9 -3.2
comp=Z,52nm,2.0s,mb5.5
EHUE Huescar 91.83 342 P P 15 32 52.3 -1.3
EHUE pmax pmax
comp=Z,13nm,1.2s,mb5.1
EHUE Huescar 91.83 342 P P 15 32 52.3 -1.2
comp=Z,13nm,1.2s,mb5.1
EADA Adamuz 91.88 344 P P 15 32 52.3 -1.5
comp=Z,22nm,1.0s,mb5.4
EQES Quesada 91.94 343 P P 15 32 53.2 -0.8
comp=Z,87nm,1.6s,mb5.8
EMIN Mina Concepcio 92.64 345 P P 15 32 55.7 -1.6
comp=Z,51nm,1.6s,mb5.7
ATD Arta Tunnel 95.50 294 P P 15 33 11.8 +1.4
comp=Z,9.9nm,0.8s,mb5.3,baz=274,slow=20,SNR=3.5
ATD Arta Tunnel 95.50 294 P P 15 33 11.8 +1.4
TORD Torodi Ar. Bea 114.22 331 PKP PKiKP 15 38 23.9 -1.1
comp=Z,1.3nm,0.8s,baz=350,slow=2.0,SNR=6.0
TORD PKKPbc PKKPbc 15 49 02.8 -2.1
comp=Z,0.4nm,0.6s,baz=210,slow=3.2,SNR=3.9
TORD Torodi Ar. Bea 114.22 331 PKP PKiKP 15 38 23.9 -1.1
TORD PKKPbc PKKPbc 15 49 02.8 -2.1
VNDA Vanda 125.72 178 PKP PKPdf 15 38 44.4 -2.6
comp=Z,4.9nm,0.9s,baz=310,slow=4.8,SNR=11
VNDA Vanda 125.72 178 PKP PKPdf 15 38 44.4 -2.6
LPAZ La Paz 132.58 63 PKP PKPdf 15 39 00.8 +0.7
comp=Z,3.8nm,0.9s,baz=17,slow=3.2,SNR=10
LPAZ La Paz 132.58 63 PKIKP PKPdf 15 39 00.8 +0.7
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
LPAZ La Paz 132.58 63 *e*PKPdf PKPdf 15 39 00.5 +0.4
MAW Mawson 134.20 212 PKP PKPdf 15 39 00.9 -2.2
comp=Z,9.4nm,1.0s,baz=343,slow=6.1,SNR=6.6
BOSA Boshof 136.72 278 PKP PKPdf 15 39 06.8 -1.1
comp=Z,4.3nm,0.9s,baz=324,slow=2.6,SNR=3.9
SYO Syowa Base 142.91 213⇑*eP* PKPdf 15 39 13.0 -6.1
SYO Syowa Base 142.91 213⇓*eP*PKiKP PKiKP 15 39 25.0 +2.7
PLCA Paso Flores 147.21 94 PKPbc PKPbc 15 39 25.9 -2.8
comp=Z,36nm,0.8s,baz=296,slow=3.5,SNR=38
PLCA Paso Flores 147.21 94 *e*PKPdf PKPdf 15 39 25.8 -0.7
PLCA *e*PKPbc PKPbc 15 39 27.7 -1.1
TRQA Tornquist 151.54 82 *e*PKPbc PKPbc 15 39 38.0 -1.6
NVL N'lazarevskaya 151.60 205*c iP*KIKP PKPdf 15 39 36.5 +3.0
NVL *i* 15 39 46.6
NVL pmax pmax
comp=Z,71nm,1.0s
MAIT Maitri 151.63 205 *e*PKPdf PKPdf 15 39 35.2 +1.7
USHA Ushuaia 152.77 120 PKPbc PKPbc 15 39 40.7 -1.6
comp=Z,15nm,0.9s,baz=355,slow=1.8,SNR=3.9
SNAA Sanae 154.45 196 PKP PKPdf 15 39 34.9 -2.7
comp=Z,0.7nm,0.9s,baz=232,slow=8.1,SNR=4.9
SNAA PKPbc PKPbc 15 39 43.7 -2.3
comp=Z,4.8nm,0.9s,baz=171,slow=0.5,SNR=23
SNAA PKPab PKPab 15 39 58.6 -1.8
comp=Z,12nm,0.9s,baz=142,slow=3.3,SNR=20
SNAA PP PP 15 43 33.7 -1.8
comp=Z,4.8nm,1.3s,baz=157,slow=4.7,SNR=4.5
SNAA Sanae 154.45 196 *e*PKPdf PKPdf 15 39 34.4 -3.2
SNAA *e* 15 39 43.4
SNAA *e* 15 39 58.1
SNAA *e* 15 40 01.5
SNAA *e* 15 40 10.3
SNAA *e* 15 40 18.4
SNAA *e* 15 40 32.5
SNAA *e* 15 40 48.0
SNAA *e* 15 40 59.2
SNAA *e* 15 43 35.4
SNAA Sanae 154.45 196 *e*PKPdf PKPdf 15 39 33.9 -3.7
SNAA *e*PKPbc PKPbc 15 39 43.5 -2.5
VNA2 Neumayer--Watz 155.88 194 *e*PKPdf PKPdf 15 39 36.7 -2.9
baz=107,slow=1.4
VNA2 *e* 15 39 47.2
VNA2 *e* 15 40 04.5
VNA2 *e* 15 40 07.9
VNA2 *e* 15 40 16.3
VNA2 *e* 15 40 24.6
VNA2 *e* 15 40 44.2
VNA2 *e* 15 40 54.3
VNA2 *e* 15 41 05.6
VNA2 *e* 15 43 43.6
VNA3 Neumayer Olymp 155.95 192 *e*PKPdf PKPdf 15 39 36.5 -3.2
VNA3 *e* 15 39 46.7
VNA3 *e* 15 40 04.4
VNA3 *e* 15 40 07.9
VNA3 *e* 15 40 16.6
VNA3 *e* 15 40 24.6
VNA3 *e* 15 40 42.8
VNA3 *e* 15 40 54.0
VNA3 *e* 15 41 05.4

*NEIC **26** 15:20:38.1±0.5,46.36N×154.74E,h10km,mb5.4/6,Error ellipse: s-maj=14.0km s-min=10.7km az=176.0*
*BJI **26** 15:20:38.0,46.40N×154.70E,h10km,mB5.9,mb5.3,Ms5.7,Msz5.6*
*IDC **26** 15:20:43.6±1.1,46.35N×154.61E,h49km±7km,mb4.8/17,mb1 4.9/17,mb1mx4.8/23,mbtmp4.8/17,MS5.2/1,Ms1 5.2/1,ms1mx4.3/21,Error ellipse: s-maj=23.5km s-min=16.3km az=4.0*
*ISCJB **26** 15:20:45.0±5.2,46.06N±0.1×154.6E±0.1,h69km±46km,mb5.1/28,Error ellipse: s-maj=23.2km s-min=13.2km az=128.1*

ISC 26 15:20:45.2±3.8,**466N**±01×**1547E**±01,**h58**km±34km,**h52**km±3.6km:**pP-P**,**n48**,σ0=**96**/**43**,**mb5.2**/28,**MS5.5**/2,
2C-2D,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAK	**Yakutsk**	**21.02**	**326**	*eP*	**P**	**15 25 24.4**	**+0.4**
KSRS	**Korea Array**	**21.77**	**255**	P	**P**	**15 25 32.8**	**+0.7**
86nm,0.9s,mb5.2,baz=57,slow=10,SNR=7.1							
BILL	**Bilibino**	**22.31**	**12**	*eP*	**P**	**15 25 37.3**	**-0.5**
SNY	**Shenyang**	**22.69**	**269**	⇑P	**P**	**15 25 40.0**	**-1.8**
SNY				AP		15 25 43.3	
SNY				XP	sP	15 25 45.8	-16
SNY				AMB	AMB		
comp=Z,53nm,0.7s,mb5.1							
SNY				LR	LR		
comp=E,10μm,12.0s							
SNY				LR	LR		
comp=Z,10μm,17.7s							
BJI	**Beijing**	**28.53**	**271**	P	**P**	**15 26 38.5**	**+3.2**
BJI				AMB	AMB		
comp=Z,50nm,0.8s,mb5.3							
BJI	**Beijing**	**28.53**	**271**	P	**P**	**15 26 38.4**	**+3.1**
comp=Z,50nm,0.8s,mb5.3							
BJT	**Baijiatuau**	**28.55**	**271**	P	**P**	**15 26 36.7**	**+1.3**
comp=Z,62nm,0.8s,mb5.4							
ULN	**Ulaanbaatar**	**31.94**	**290**	*eP*	**P**	**15 27 06.4**	**+1.0**
comp=Z,17nm,0.8s,mb4.9							
SONM	**Songino Array**	**32.38**	**290**	P	**P**	**15 27 08.6**	**-0.7**
comp=Z,12nm,0.8s,mb4.8,baz=60,slow=6.1,SNR=11							
LZH	**Lanzhou**	**38.95**	**273**	⇑*iP*	**P**	**15 28 10.0**	**+4.5**
LZH				PP	PP	15 29 43.5	+7.8
LZH				S	**S**	**15 34 05.0**	**+5.0**
LZH				XS	sS	15 34 21.3	-3.5
LZH				SS	SS	15 36 48.5	-5.0
LZH				AMB	AMB		
comp=Z,178nm,1.3s,mb5.6							
LZH				AMB	AMB		
comp=Z,712nm,5.5s							
LZH				LR	LR		
comp=N,9μm,13.6s							
LZH				LR	LR		
comp=Z,11μm,17.7s,MS5.8							
INK	**Inuvik**	**41.21**	**32**	P	**P**	**15 28 24.6**	**+0.3**
comp=Z,25nm,0.8s,mb4.9,baz=269,slow=8.2,SNR=4.1							
INK	**Inuvik**	**41.21**	**32**	*eP*	**P**	**15 28 24.4**	**+0.1**
comp=Z,3μm,1.1s,mb6.8							
ZAL	**Zalesovo**	**43.57**	**306**	P	**P**	**15 28 42.8**	**-0.6**
comp=Z,15nm,0.4s,mb5.0,baz=51,slow=5.9,SNR=8.9							
MK31	**Makanchi Array**	**47.95**	**298**	*eP*	**P**	**15 29 17.7**	**-0.3**
MKAR	**Makanchi Array**	**47.95**	**298**	P	**P**	**15 29 17.5**	**-0.5**
comp=Z,21nm,0.5s,mb5.4,baz=64,slow=7.4,SNR=12							
YKA	**Yellowknife Ar**	**50.41**	**37**	P	**P**	**15 29 37.4**	**+0.7**
comp=Z,10nm,0.6s,mb5.0,baz=295,slow=7.1,SNR=6.5							
YKA				pP	pP	15 29 49.5	-2.5
comp=Z,6.2nm,0.5s,baz=294,slow=7.2,SNR=1.5							
YKA	**Yellowknife Ar**	**50.41**	**37**	P	**P**	**15 29 37.4**	**+0.7**
YKA				pP	pP	15 29 49.5	-2.5
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**15 29 47.1**	**+0.2**
comp=Z,12nm,0.5s,mb5.1,baz=56,slow=8.0,SNR=6.7							
BVAR				pP	pP	15 30 01.3	-0.9
comp=Z,8.8nm,0.5s,baz=67,slow=5.0,SNR=2.6							
BRVK	**Borovoye**	**51.80**	**310**	*eP*	**P**	**15 29 47.7**	**+0.5**
comp=Z,54nm,0.9s,mb5.5							
EDM	**Edmonton**	**55.65**	**47**	*eP*	**P**	**15 30 15.4**	**+0.1**
KSH	**Kashi**	**55.68**	**293**	P	**P**	**15 30 21.0**	**+5.4**
KSH				AP	pP	15 30 25.8	-5.2
KSH				XP	sP	15 30 27.8	-10
KSH				AMB	AMB		
comp=Z,269nm,1.0s,mb6.2							
KSH				AMB	AMB		
comp=Z,3μm,8.2s							
KEV	**Kevo**	**57.83**	**341**	*ep*	**P**	**15 30 30.0**	**-0.8**
comp=Z,3.0nm,0.3s,mb4.8							
KEV	**Kevo**	**57.83**	**341**	*eP*	**P**	**15 30 29.9**	**-0.8**
ARCES	**ARCESS Array B**	**58.34**	**341**	P	**P**	**15 30 34.0**	**-0.3**
comp=Z,22nm,0.7s,mb5.3,baz=28,slow=6.7,SNR=10							
AKTK	**Aktyubinsk**	**59.61**	**313**	P	**P**	**15 30 43.5**	**+0.4**
AKTO	**Aktyubinsk**	**59.61**	**313**	P	**P**	**15 30 43.5**	**+0.4**
comp=Z,13nm,0.6s,mb5.1,baz=60,slow=5.6,SNR=7.3							
JOF	**Joensuu**	**61.93**	**334**	*ep*	**P**	**15 30 56.2**	**-2.7**
MOR8	**Moi Rana**	**63.48**	**343**	*eP*	**P**	**15 31 09.1**	**-0.1**
MOR8				*eP*		15 31 09.5	
PDAR	**Pinedale Array**	**63.98**	**55**	P	**P**	**15 31 13.1**	**+0.6**
comp=Z,7.5nm,0.9s,mb4.7,baz=326,slow=2.9,SNR=12							
KAF	**Kangasniemi**	**64.02**	**336**	*ep*	**P**	**15 31 11.5**	**-1.2**
comp=Z,30nm,0.8s,mb5.4							
FINES	**FINESS Array B**	**64.62**	**335**	P	**P**	**15 31 15.9**	**-0.7**
comp=Z,41nm,0.7s,mb5.6,baz=33,slow=8.2,SNR=13							
FINES				pP	pP	15 31 30.7	-1.7
comp=Z,44nm,0.7s,baz=44,slow=8.5,SNR=6.8							
ULM	**Lac du Bonnet**	**65.94**	**42**	P	**P**	**15 31 25.4**	**+0.2**
comp=Z,8.4nm,0.6s,mb4.9,baz=290,slow=10,SNR=5.3							
ULM	**Lac du Bonnet**	**65.94**	**42**	*eP*	**P**	**15 31 25.3**	**+0.1**
comp=Z,14nm,0.8s,mb5.0							
NOA	**NORSAR Array B**	**68.70**	**342**	P	**P**	**15 31 44.8**	**+2.1**
comp=Z,9.2nm,0.6s,mb4.9,baz=26,slow=6.4,SNR=8.7							
AKASG	**Malin Array Be**	**72.25**	**327**	P	**P**	**15 32 03.0**	**-1.3**
comp=Z,5.5nm,0.4s,mb4.8,baz=33,slow=5.9,SNR=4.6							
CLL	**Collm**	**77.03**	**336**	⇓*iP*	**P**	**15 32 31.7**	**-0.3**
comp=Z,39nm,0.8s,mb5.4							
CLL	**Collm**	**77.03**	**336**	⇓*iP*	**P**	**15 32 31.7**	**-0.3**
comp=Z,39nm,0.8s,mb5.4							
MLR	**Muntele Rosu**	**77.79**	**326**	P	**P**	**15 32 37.6**	**+1.4**
comp=Z,30nm,0.6s,mb5.4,baz=198,slow=4.1,SNR=8.6							
STKA	**Stephens Creek**	**79.00**	**191**	P	**P**	**15 32 41.5**	**-1.4**
comp=Z,6.3nm,0.8s,mb4.6,baz=326,slow=6.6,SNR=3.5							
STKA	**Stephens Creek**	**79.00**	**191**	P	**P**	**15 32 41.5**	**-1.4**
GERES	**GERESS Array B**	**79.05**	**335**	P	**P**	**15 32 43.5**	**+0.3**
comp=Z,6.3nm,0.6s,mb4.7,baz=41,slow=6.0,SNR=5.5							
RAR	**Rarotonga**	**79.06**	**137**	LR	LR	16 00 02.9	
comp=Z,1μm,21.7s,MS5.3,slow=30							
MMAI	**Mount Meron Ar**	**83.70**	**312**	P	**P**	**15 33 08.0**	**+0.3**
comp=Z,22nm,0.6s,mb5.5,baz=36,slow=7.2,SNR=5.4							
TORD	**Torodi Ar. Bea**	**115.75**	**331**	PKP	PKPdf	15 39 20.2	-0.9
comp=Z,0.9nm,0.6s,baz=341,slow=1.2,SNR=5.4							
TORD				PP	PP	15 40 21.9	-2.8
comp=Z,2.7nm,0.9s,baz=7.1,slow=8.1,SNR=4.4							
TORD				PKKPbc	PKKPbc	15 49 48.0	-4.9
comp=Z,0.3nm,0.4s,baz=227,slow=2.1,SNR=4.8							
TORD	**Torodi Ar. Bea**	**115.75**	**331**	PKP	PKPdf	15 39 20.2	-0.9
TORD				PP	PP	15 40 21.9	-2.8
TORD				PKKPbc	PKKPbc	15 49 48.0	-4.9
PLCA	**Paso Flores**	**147.14**	**96**	PKPbc	PKPbc	15 40 21.0	-0.8
comp=Z,14nm,0.9s,baz=280,slow=7.7,SNR=5.0							
PMSA	**Palmer Station**	**152.25**	**145**	PKPbc	PKPbc	15 40 31.2	-3.2
comp=Z,40nm,1.0s,baz=158,slow=11,SNR=2.4							
SNAA	**Sanae**	**152.70**	**195**	PKPbc	PKPbc	15 40 31.3	-4.1
comp=Z,2.6nm,0.7s,baz=72,slow=6.4,SNR=2.9							

*BJI **26** 15:23:55.3,3629N×7093E,h130km,mb4.8*
*IDC **26** 15:24:00.9±5.0,3641N×7150E,h114km±45km,mb3.8/11,mb1 4.0/15,mb1mx3.9/26,mbtmp3.9/15,Error ellipse: s-maj=22.5km s-min=17.3km az=1.0*
*ISCJB **26** 15:24:03.1±0.4,3658N±003×7150E±005,h144km±6km,mb4.1/13,Error ellipse: s-maj=6.4km s-min=4.3km az=165.9*
*NEIC **26** 15:24:03.5±0.8,3657N×7162E,h131km±9km,mb4.5/11,Error ellipse: s-maj=8.6km s-min=6.0km az=59.0*
*NNC **26** 15:24:13.5±11.0,3744N×7149E,h236km±142km,mb2.9,mpv4.0,Error ellipse: s-maj=123.9km s-min=73.3km az=20.0*

ISC 26 15:24:04.1±0.3,**3658N**±003×**7151E**±005,**h141**km±5km,
n63,σ0=**98**/**71**,**mb4.1**/13,**4C-2D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.86**	**225**	*ePn*	**Pn**	**15 24 49.4**	**+0.1**
KBL				*e*Sn	**Sn**	**15 25 23.6**	**-0.5**
CHCP	**Chirah Chowk**	**3.25**	**153**	P	**Pn**	**15 24 56.0**	**+1.7**
THW	**Thamme Wali**	**3.78**	**177**	P	**Pn**	**15 25 01.6**	**+0.4**
SBDP	**Sheikh Budin**	**4.31**	**188**	P	**Pn**	**15 25 07.5**	**-0.7**
KSH	**Kashi**	**4.58**	**49**	P	**Pn**	**15 25 13.8**	**+2.0**
KSH				S	**Sn**	**15 26 04.3**	**-0.2**
KSH				Smax			
comp=N,2μm,0.3s							
KSH				Smax			
comp=E,2μm,0.4s							
SARP	**Sargodha**	**4.75**	**168**	P	**Pn**	**15 25 14.0**	**0.0**
THN	**Thein Dam**	**5.40**	**139**	*eP*	**Pn**	**15 25 23.1**	**+0.4**
THN				*e*S	**Sn**	**15 26 24.3**	**+0.3**
DLH	**Dalhousie**	**5.46**	**136**	*eP*	**Pn**	**15 25 25.0**	**+1.6**
DLH				*ex*	x	15 26 28.0	
AML	**Almayashu**	**5.80**	**16**	P	**Pn**	**15 25 27.9**	**-0.1**
SNR=97							
UCH	**Uchtor**	**6.10**	**22**	P	**Pn**	**15 25 32.3**	**+0.2**
SNR=69							
KZA	**Kyzart**	**6.21**	**27**	P	**Pn**	**15 25 33.3**	**-0.2**
SNR=56							
EKS2	**Erkin-Say**	**6.32**	**15**	P	**Pn**	**15 25 34.9**	**-0.1**
SNR=50							
AAK	**Ala-Archa**	**6.47**	**20**	P	**Pn**	**15 25 37.2**	**+0.2**
SNR=82							
AAK	**Ala-Archa**	**6.47**	**20**	*ePn*	**Pn**	**15 25 36.0**	**-1.0**
comp=E,34nm,2.3s							
KK31	**Karatay Array**	**6.56**	**354**	P	**Pn**	**15 25 37.1**	**-1.1**
comp=E,47nm,0.5s,baz=180,slow=13,SNR=561							
KK31				⇑S	**Sn**	**15 26 45.5**	**-6.3**
comp=E,51nm,0.4s,baz=248,slow=80,SNR=4.6							
KBK	**Karagaybulak**	**6.62**	**23**	P	**Pn**	**15 25 39.5**	**+0.4**
SNR=7.2							
ULHL	**Ulahol**	**6.74**	**31**	P	**Pn**	**15 25 40.7**	**+0.1**
SNR=28							
SDNR	**S

CHMS	Chumysh	6.88	20	P	Pn	15 25 42.4	-0.1
	SNR=18						
USP	Ospenovka	7.06	18	P	Pn	15 25 45.3	+0.3
	SNR=13						
TKM2	Tokmak 2	7.07	25	P	Pn	15 25 45.5	+0.4
	SNR=13						
TKM2	Tokmak 2	7.07	25	⇑P	Pn	15 25 45.0	-0.1
	comp=E,1.8nm,0.7s						
TKM2				⇓S	Sn	15 26 59.6	-4.6
	comp=E,5.9nm,0.9s						
SMLA	Simla	7.19	137	*e*P	Pn	15 25 45.5	-1.2
SMLA				*e*x	x	15 25 53.5	
KLP	Kalpa	7.53	130	*e*P	Pn	15 25 51.8	+0.6
KLP				*e*x	x	15 27 08.3	
KLP				AML	AML	15 27 15.4	
	comp=E,121nm,0.2s						
KLP				AML	AML	15 27 15.8	
	comp=N,97nm,0.4s						
JOSI	Joshimath	9.01	130	*e*P	Pn	15 26 11.3	+0.3
JOSI				*e*S	Sn	15 27 45.1	-5.7
KHET	Khetri	9.23	156	*e*P	Pn	15 26 12.4	-1.6
KHET				*e*S	Sn	15 27 47.7	-8.4
KHET				AML	AML	15 27 50.1	
	comp=E,24nm,0.6s						
KHET				AML	AML	15 27 50.4	
	comp=N,27nm,0.6s						
NDI	New Delhi	9.23	147	*e*S	Sn	15 27 50.0	-6.1
SONA	Sohna	9.55	149	*e*P	Pn	15 26 18.3	+0.1
SONA				*e*S	Sn	15 27 55.7	-8.2
SONA				AML	AML	15 27 58.6	
	comp=N,18nm,0.3s						
SONA				AML	AML	15 27 59.2	
	comp=E,27nm,0.7s						
AJM	Ajmer	10.42	164	*i* x	x	15 27 59.0	
MK31	Makanchi Array	12.99	35	*e*Pn	Pn	15 27 00.7	-2.7
MKAR	Makanchi Array	12.99	35	P	Pn	15 27 02.5	-1.0
	comp=E,0.3nm,0.3s,baz=220,slow=14,SNR=36						
KOLN	Koldanda	13.48	127	*e*P	Pn	15 27 08.4	-1.3
	comp=E,7.5nm,0.3s						
GKN	Gorkha	14.01	124	*e*P	Pn	15 27 15.6	-0.8
	comp=E,20nm,0.4s						
KKN	Kakani	14.57	123	*e*P	Pn	15 27 22.1	-1.5
	comp=E,13nm,0.5s						
DMN	Daman	14.58	124	*e*P	Pn	15 27 23.3	-0.3
	comp=E,11nm,0.3s						
PKI	Pulchoki	14.80	123	*e*P	Pn	15 27 26.6	+0.2
	comp=E,9.9nm,0.4s						
GUN	Gumba	14.91	121	*e*P	Pn	15 27 26.9	-0.8
KURK	Kurchatov	15.03	18	*e*P	Pn	15 27 30.9	+1.7
	comp=E,8.1nm,0.8s						
AB31	Akbulak array	15.22	330	⇑P	Pn	15 27 30.4	-1.2
	comp=E,1.4nm,0.3s						
AB31				⇓S	S	15 30 06.1	-21
	comp=E,12nm,0.6s						
BVAR	Borovoye Array	16.46	358	P	Pn	15 27 45.2	-1.7
	comp=E,0.5nm,0.3s,baz=169,slow=10,SNR=17						
BRVK	Borovoye	16.50	357	*e*P	Pn	15 27 47.1	-0.2
	comp=E,22nm,0.6s						
AKTK	Aktyubinsk	16.92	329	P	Pn	15 27 52.5	+0.1
AKTO	Aktyubinsk	16.92	329	P	Pn	15 27 52.5	+0.1
	comp=E,0.9nm,0.3s,baz=139,slow=10,SNR=37						
LSA	Lhasa	17.81	107	P	Pn	15 28 05.7	+2.6
	comp=E,4.0nm,0.8s						
ZAL	Zalesovo	19.66	24	P	P	15 28 22.8	+0.8
	comp=E,3.5nm,0.3s,baz=46,slow=6.8,SNR=4.3						
ZAL	Zalesovo	19.66	24	P	P	15 28 22.8	+0.8
ARU	Arti	21.69	340	*e*P	P	15 28 45.1	+1.4
	comp=E,18nm,1.6s,mb4.2						
BRTR	Keskin Array B	29.80	288	P	P	15 29 58.2	+0.6
	comp=E,1.2nm,0.6s,mb3.8,baz=89,slow=11,SNR=4.3						
AKASG	Malin Array Be	33.21	309	P	P	15 30 28.2	+0.7
	comp=E,0.4nm,0.4s,mb3.5,baz=81,slow=6.8,SNR=4.9						
MLR	Muntele Rosu	35.10	299	P	P	15 30 45.0	+1.2
	comp=E,4.3nm,0.8s,mb4.2,baz=127,slow=10,SNR=5.8						
FINES	FINESS Array B	37.65	326	P	P	15 31 04.7	-0.7
	comp=E,8.5nm,0.8s,mb4.4,baz=108,slow=8.9,SNR=3.0						
MOA	Molln	42.95	304	*i* P	P	15 31 45.2	-3.9
	comp=E,40nm,0.9s,mb5.0,SNR=42						
BERN	Bernov	43.85	307	⇑P	P	15 31 59.4	+3.1
NOA	NORSAR Array B	44.56	323	P	P	15 32 01.9	0.0
	comp=E,16nm,0.9s,mb4.7,baz=97,slow=7.7,SNR=5.6						
NOA	NORSAR Array B	44.56	323	P	P	15 32 01.9	-0.1
KMBO	Kilima Mbogo	49.19	228	P	P	15 32 38.7	+0.9
	comp=E,1.0nm,0.5s,mb3.8,baz=45,slow=16,SNR=3.8						
KMBO	Kilima Mbogo	49.19	228	P	P	15 32 38.7	+0.9
TORD	Torodi Ar. Bea	66.13	269	P	P	15 34 34.4	-1.8
	comp=E,3.4nm,0.5s,mb4.4,baz=50,slow=6.0,SNR=50						
INK	Inuvik	73.76	9	P	P	15 35 23.7	+0.8
	comp=E,1.9nm,0.5s,mb4.0,baz=329,slow=4.6,SNR=7.8						
INK	Inuvik	73.76	9	*e*P	P	15 35 23.3	+0.4
	comp=E,60nm,0.5s,mb5.6						
YKA	Yellowknife Ar	81.15	3	P	P	15 36 04.2	+0.3
	comp=E,1.9nm,0.6s,mb3.9,baz=350,slow=5.5,SNR=16						
WRA	Warramunga Arr	81.69	122	P	P	15 36 06.1	-0.6
	comp=E,0.5nm,0.4s,mb3.5,baz=325,slow=4.9,SNR=16						
ASAR	Alice Springs	83.97	125	P	P	15 36 18.2	-0.2
	comp=E,0.6nm,0.6s,mb3.5,baz=306,slow=5.2,SNR=5.2						

ISCJB ***26*** *15:28:44.4±3.3, 133N±0.1×1460E±03, h62km±27km, mb3.8/7, Error ellipse: s-maj=40.8km s-min=19.3km az=0.5*
IDC ***26*** *15:28:44.3±4.0, 1335N×14609E, h47km±35km, mb3.6/7, mb1 3.8/7, mb1mx3.5/22, mbtmp3.6/7, Error ellipse: s-maj=35.3km s-min=19.9km az=81.0*
NEIC ***26*** *15:28:45.0±3.0, 1336N×14597E, h52km±24km, Error ellipse: s-maj=36.0km s-min=12.8km az=92.0*
ISC 26 15:28:43.8±4.1, 134N±01×1461E±02, h42km±35km, n11, σ0°54/13, mb3.8/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.23	280	P	Pn	15 29 04.1	-0.4
	130nm,0.3s,baz=134,slow=6.0,SNR=73						
GUMO				S	Sn	15 29 20.3	+0.4
	271nm,0.3s,baz=0.0,slow=20,SNR=33						
GUMO	Guam	1.23	280	*e*Pn	Pn	15 29 04.0	-0.5
GUMO				S	Sn	15 29 20.3	+0.4
WB2	Warramunga Arr	35.08	199	P	P	15 35 33.2	+0.3
WRA	Warramunga Arr	35.09	200	P	P	15 35 32.4	-0.5
	0.9nm,0.7s,mb3.8,baz=24,slow=9.0,SNR=4.7						
ASAR	Alice Springs	38.71	198	P	P	15 36 04.0	+0.3
	0.7nm,0.9s,mb3.4,baz=22,slow=6.6,SNR=2.8						
MKAR	Makanchi Array	62.48	316	P	P	15 39 03.3	+0.4
	0.4nm,0.3s,mb4.0,baz=91,slow=8.8,SNR=7.6						
BVAR	Borovoye Array	70.84	322	P	P	15 39 56.0	-0.2
	1.2nm,0.6s,mb4.0,baz=106,slow=7.1,SNR=7.0						
INK	Inuvik	74.09	22	P	P	15 40 16.0	+0.5
	0.8nm,1.0s,mb3.6,baz=292,slow=5.4,SNR=3.5						
INK	Inuvik	74.09	22	P	P	15 40 16.0	+0.5
YKA	Yellowknife Ar	82.48	28	P	P	15 41 02.3	+0.4
	0.4nm,0.8s,mb3.4,baz=284,slow=5.2,SNR=4.9						
FINES	FINESS Array B	91.86	335	P	P	15 41 46.2	-1.2
	0.5nm,0.4s,mb4.2,baz=67,slow=6.4,SNR=7.5						

ISCJB ***26*** *15:31:39.9±0.6, 3912N±005×2172E±006, h10km±7km, Error ellipse: s-maj=9.7km s-min=4.7km az=83.9*
CSEM ***26*** *15:31:39.3, 3909N×2160E, h4km, MD3.2/3, After ATH*
ATH ***26*** *15:31:39.3, 3909N×2160E, h4km, MD3.2/3*
THE ***26*** *15:31:41.0, 3937N×2195E, h17km, ML2.5*
ISC 26 15:31:40.1±0.6, 3911N±005×2170E±006, h13km±6km, n10, σ0°79/14, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.21	156	⇓*i*PG	Pg	15 31 44.1	-0.6
EVR				*e*SG	Sg	15 31 47.5	-0.3
AGG	Agios Georgios	0.50	100	*e*Pg	Pg	15 31 49.6	-0.2
AGG				*e*Sg	Sg	15 31 57.4	+0.9
THL	Klokotos Trika	0.52	28	*e*PG	Pg	15 31 50.4	+0.2
MEV	Metsovon	0.77	332	*e*Pg	Pg	15 31 54.2	-0.8
MEV				*e*Sg	Sg	15 32 04.6	-0.5
JAN	Janina	0.86	310	*e*P	Pg	15 31 56.7	+0.1
LKR	Lokris	1.11	114	*e*PB	Pb	15 32 01.8	+0.7
IGT	Igoumenitsa	1.14	292	*e*Pg	Pg	15 32 02.8	+0.7
IGT				*e*Sg	Sg	15 32 20.3	+3.3
KZN	Kozani	1.20	3	*e*P	Pn	15 32 02.0	-0.5
ATH	Athens Observa	1.95	125	*e*P	Pn	15 32 13.5	+0.8
NAIG	Nisos Aigina	1.95	133	*e*P	Pn	15 32 11.5	-1.2

IDC ***26*** *15:41:15.0±0.7, 2205N×12042E, h0km, mb4.1/14, mb1 4.3/16, mb1mx4.2/25, mbtmp4.1/16, ML3.7/2, MS5.0/1, Ms1 5.0/1, ms1mx3.8/29, Error ellipse: s-maj=27.0km s-min=14.6km az=66.0*
ISCJB ***26*** *15:41:16.1±3.1, 2203N±008×12046E±008, h19km±22km, mb4.1/16, Error ellipse: s-maj=14.1km s-min=12.1km az=19.7*
NEIC ***26*** *15:41:16.7±0.4, 2203N×12045E, h10km, mb3.9/3, Error ellipse: s-maj=8.5km s-min=7.1km az=125.0*
BJI ***26*** *15:41:17.9, 2233N×12041E, h10km, mb4.4, ML4.3*
ISC 26 15:41:19.7±3.1, 2210N±008×12047E±008, h29km±22km, n28, σ0°71/28, mb4.1/16, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.31	26	*e*Pn	Pn	15 41 55.7	-0.1
YHNB	Yeheng	2.69	18	*e*Pn	Pn	15 42 01.1	+0.1
TATO	Taipei	3.01	18	*e*Pn	Pn	15 42 07.0	+1.5
QZH	Quanzhou	3.32	329	P	Pn	15 42 08.5	-1.1
QZH				Smax			
	comp=N,2μm,0.6s						
QZH				Smax			
	comp=E,930nm,0.8s						
JOW	Kunigami	8.53	55	Pn	Pn	15 43 21.3	+0.1
	comp=E,3.3nm,0.3s,baz=95,slow=18,SNR=4.9						
GYA	Guiyang	13.32	292	P	Pn	15 44 26.0	-0.7
KSRS	Korea Array	16.61	21	Pn	Pn	15 45 09.0	-1.3
	baz=196,slow=12,SNR=3.3						
CHTO	Chiang Mai	20.43	265	P	P	15 45 55.5	+0.9
	comp=E,7.2nm,1.4s						
MJAR	Matsushiro Arr	21.08	43	P	P	15 46 01.8	+0.3
	comp=E,5.4nm,0.9s,mb3.9,baz=228,slow=8.7,SNR=9.8						
LSA	Lhasa	27.39	292	*e*P	P	15 47 04.0	+1.5
	comp=E,1.3nm,0.6s,mb3.6						
ULN	Ulaanbaatar	27.88	340	*e*P	P	15 47 07.3	+0.4
SONM	Songino Array	28.06	340	P	P	15 47 08.8	+0.3
	comp=E,2.4nm,0.7s,mb3.9,baz=158,slow=10,SNR=19						
MK31	Makanchi Array	39.41	318	*e*P	P	15 48 46.8	-0.1
MKAR	Makanchi Array	39.41	318	P	P	15 48 47.0	+0.1
	comp=E,3.7nm,0.6s,mb4.3,baz=114,slow=9.7,SNR=43						
ZAL	Zalesovo	41.66	329	P	P	15 49 06.1	+0.6
	comp=E,1.7nm,0.7s,mb3.8,baz=334,slow=6.8,SNR=8.6						
WRA	Warramunga Arr	43.92	161	P	P	15 49 23.1	-0.8
	comp=E,1.7nm,0.5s,mb4.1,baz=345,slow=8.8,SNR=24						
ASAR	Alice Springs	47.33	163	P	P	15 49 50.9	+0.1
	comp=E,0.7nm,0.3s,mb4.0,baz=344,slow=6.9,SNR=43						
BVAR	Borovoye Array	48.89	322	P	P	15 50 03.1	+0.3
	comp=E,1.3nm,0.5s,mb4.2,baz=107,slow=8.4,SNR=14						
BRVK	Borovoye	48.96	322	*e*P	P	15 50 03.0	-0.3
BILL	Bilibino	53.86	20	*e*P	P	15 50 40.1	0.0
	comp=E,3.1nm,1.0s,mb4.2						
STKA	Stephens Creek	57.35	159	P	P	15 51 05.2	+0.1
	comp=E,2.5nm,0.8s,mb4.3,baz=339,slow=5.7,SNR=5.5						
FINES	FINESS Array B	72.91	330	P	P	15 52 45.4	-0.7
	comp=E,2.5nm,0.8s,mb4.2,baz=50,slow=6.4,SNR=9.4						
MLR	Muntele Rosu	77.62	314	P	P	15 53 13.8	+0.6
	comp=E,2.2nm,0.8s,mb4.2,baz=249,slow=9.9,SNR=3.2						
NOA	NORSAR Array B	79.76	332	P	P	15 53 23.6	-1.3
	comp=E,1.2nm,0.8s,mb3.9,baz=88,slow=0.9,SNR=3.6						
VRAC	Vranov	82.12	320	P	P	15 53 36.6	-0.9
	comp=E,2.8nm,0.7s,mb4.3,baz=93,slow=7.7,SNR=4.9						
GERES	GERESS Array B	84.03	321	P	P	15 53 47.5	+0.1
	comp=E,1.6nm,0.8s,mb4.2,baz=70,slow=4.4,SNR=10						
YKA	Yellowknife Ar	85.14	22	P	P	15 53 53.3	+0.3
	comp=E,0.8nm,0.6s,mb4.0,baz=309,slow=4.7,SNR=21						
YKA	Yellowknife Ar	85.14	22	P	P	15 53 53.3	+0.3

NIED ***26*** *15:41:00, 2190N×12060E, h11km, Mw5.4 Best double couple: M0:1.38000×10^17 NP1:φs352.00000°, δ68.00000°, λ-72.00000°. NP2:φs131.00000°, δ28.00000°, λ-127.00000°.*
BJI ***26*** *15:41:41.7, 2214N×12033E, h13km, mB5.6, mb4.8, ML5.1, Ms5.3, Msz5.2*
ISCJB ***26*** *15:41:41.8±0.8, 2208N±002×12042E±002, h12km±5km, mb5.3/154, MS5.2/15, Error ellipse: s-maj=3.8km s-min=2.9km az=108.9*
SZGRF ***26*** *15:41:43.0, 2165N×12143E, h33km, mb5.7, Taiwan region*
NEIC ***26*** *15:41:44.8±1.1, 2207N×12041E, h23km±7km, mb5.4/99, ML5.5(TAP), Error ellipse: s-maj=3.9km s-min=3.3km az=90.0*
NEIC Recorded [4 TAP] at Kao-hsiung; [3 TAP] in P'ing-tung and T'ai-nan; [2 TAP] in Chang-hua, P'eng-hu, T'ai-nan, T'ai-tung and Yun-lin Counties.
MOS ***26*** *15:41:44.8±0.8, 2210N×12046E, h33km, mb5.6/73, MS5.2/7, Error ellipse: s-maj=8.1km s-min=3.9km az=117.3*
JMA ***26*** *15:41:45.5±0.3, 2188N×12059E, h103km, M5.2*
IDC ***26*** *15:41:46.4±2.6, 2204N×12044E, h35km±18km, mb4.8/27, mb1 4.9/30, mb1mx4.8/34, mbtmp4.8/30, ML4.5/3, MS5.2/3, Ms1 5.2/3, ms1mx4.5/29, Error ellipse: s-maj=15.6km s-min=10.5km az=59.0*
ISC 26 15:41:45.9±0.8, 2211N±002×12041E±002, h28km±5km, h34km±3.7km: pP-P, n503, σ0°92/521, mb5.3/154, MS5.2/15, 28C-40D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.33	28	*e*Pn	Pn	15 42 21.7	-0.6
NACB				Sn	Sn	15 42 49.6	-0.3
YHNB	Yeheng	2.70	19	*e*Pn	Pn	15 42 27.5	+0.1
TATO	Taipei	3.02	19	*e*Pn	Pn	15 42 32.6	+0.7
QZH	Quanzhou	3.28	330	⇑*i*P	Pn	15 42 34.3	-1.1
QZH				S	Sn	15 43 09.3	-4.2
QZH				Smax			
	comp=N,3μm,0.8s						
QZH				Smax			
	comp=E,6μm,1.1s						
QZH				LR	LR		
	comp=N,21μm,10.8s						
QZH				LR	LR		
	comp=E,13μm,9.2s						
QZH				LR	LR		
	comp=Z,46μm,16.6s						
YOJ	Yonaguni jima	3.35	45	P	Pn	15 42 37.7	+1.4
YOJ				S	Sn	15 43 17.1	+2.0
HATJ	Hateruma jima	3.68	57	P	Pn	15 42 41.1	+0.3
HATJ				S	Sn	15 43 23.9	+0.7
PIP	Pasuquin	3.77	177	⇑*e*P	Pn	15 42 40.0	-2.1
PIP				*e*S	Sn	15 43 20.5	-4.9
IRIF	Iriomote-Funau	3.77	53	P	Pn	15 42 43.0	+0.9
IRIF				S	Sn	15 43 27.9	+2.3
JKRS	Kuro-shima	3.93	57	P	Pn	15 42 45.0	+0.7
JKRS				S	Sn	15 43 31.2	+1.7
JIJ	Ishigaki jima	4.10	56	P	Pn	15 42 47.0	+0.3
JIJ				S	Sn	15 43 32.9	-0.8
JTJ	Tarama	4.68	57	P	Pn	15 42 54.8	+0.2
JTJ				S	Sn	15 43 48.8	+0.9
JMJ	Miyako jima 2	5.23	58	P	Pn	15 43 02.7	+0.5
JMJ				S	Sn	15 44 02.3	+0.8
JOGS	Gusukube	5.29	59	P	Pn	15 43 03.1	+0.1
JOGS				S	Sn	15 44 04.3	+1.3
PALP	Palanan	5.36	159	*e*P	Pn	15 43 05.9	+1.9
BCPH	Baguio City Da	5.70	178	⇑*e*P	Pn	15 43 09.6	+1.0
BCPH				*e*S	Sn	15 44 10.6	-2.5
BOLP	Bolinao	5.71	185	*e*P	Pn	15 43 06.9	-1.9
SCZP	Santa Cruz	6.31	184	*e*P	Pn	15 43 16.4	-0.7
BALP	Baler	6.43	170	*e*P	Pn	15 43 21.0	+2.4
GZH	Guangzhou	6.61	280	P	Pn	15 43 16.8	-4.3
GZH				Smax			
	comp=N,1μm,0.6s						
GZH				Smax			
	comp=E,971nm,0.8s						
JKE	Kume jima 2	7.17	53	P	Pn	15 43 28.1	-0.8
POLP	Polillo Island	7.48	169	*e*P	Pn	15 43 33.9	+0.8
TGY	Tagaytay City	7.98	176	Pn	Pn	15 43 42.5	+2.7
	comp=E,39nm,0.3s,baz=264,slow=10,SNR=2.1						
LUBP	Lubang	8.33	181	*e*P	Pn	15 43 49.9	+5.2
JIH	Iheya	8.45	53	P	Pn	15 43 45.7	-0.6
JOW	Kunigami	8.57	55	Pn	Pn	15 43 46.8	-1.2
	comp=E,22nm,0.3s,baz=229,slow=8.7,SNR=20						
JOW	Kunigami	8.57	55	P	Pn	15 43 47.5	-0.5
JOW				S	Sn	15 45 21.3	-2.3
SSE	Sheshan	8.98	4	P	Pn	15 43 52.5	-1.2
SSE				AMB	AMB		
	comp=Z,53nm,0.7s						
SSE				AMB	AMB		
	comp=Z,4μm,10.9s						
SSE				LR	LR		
	comp=N,5μm,16.3s						
SSE				LR	LR		
	comp=E,9μm,16.3s						
SSE				LR	LR		
	comp=Z,12μm,17.2s						
SSE	Sheshan	8.98	4	P	Pn	15 43 52.6	-1.1
	comp=Z,53nm,0.7s						
JTK	Tokunoshima	9.59	52	P	Pn	15 44 00.1	-1.9
JTK				S	Sn	15 45 46.9	-1.8
QIZ	Qiongzhong	10.37	255	P	Pn	15 44 10.8	-1.8
QIZ				*e*S	Sn	15 46 06.5	-1.3
QIZ				LR	LR		
	comp=E,8μm,16.2s						
QIZ				LR	LR		
	comp=Z,16μm,17.1s						
QIZ	Qiongzhong	10.37	255	*e*P	Pn	15 44 10.8	-1.8
	comp=Z,245nm,0.8s						
JAM	Amami Oshima	10.42	51	P	Pn	15 44 10.4	-3.0
JMZ	Minamidaito 2	10.55	67	P	Pn	15 44 13.8	-1.4
LLP	Lapu-Lapu	12.21	163	⇑*e*P	Pn	15 44 41.1	+3.2
GYA	Guiyang	13.27	292	⇓*i*P	Pn	15 44 51.0	-1.3
GYA				AP		15 44 55.3	
GYA				XP		15 44 58.8	
GYA				PP		15 45 02.5	
GYA				S	Sn	15 47 09.5	-9.3
GYA				AMB	AMB		
	comp=Z,130nm,0.8s						
GYA				AMB	AMB		
	comp=Z,160nm,4.2s						
GYA				LR	LR		
	comp=N,6μm,13.2s						
GYA				LR	LR		
	comp=E,21μm,14.4s						
GYA				LR	LR		
	comp=Z,27μm,15.6s						
JNU	Nakatsue	14.36	38	Pn	Pn	15 45 07.5	+0.3
	comp=Z,0.9nm,0.3s,baz=234,slow=12,SNR=3.4						
JNU				LR	LR	15 52 12.8	
	comp=Z,15μm,18.1s,baz=90,slow=44						
XAN	Xi'an	15.61	322	P	Pn	15 45 22.3	-1.6
XAN				LR	LR		
	comp=N,3μm,15.9s						
XAN				LR	LR		
	comp=E,5μm,16.4s						
XAN				LR	LR		
	comp=Z,8μm,16.1s						
KKM	Kota Kinabalu	16.48	195	*e*Pn	Pn	15 45 36.0	+1.0
KMI	Kunming	16.48	284	P	Pn	15 45 30.5	-4.4
KMI				AP	pP	15 45 36.8	-8.2
KMI				XP	sP	15 45 41.3	-7.3
KMI				PP		15 45 45.0	
KMI				S	Sn	15 48 32.5	-4.4
KMI				AMB	AMB		
	comp=Z,426nm,4.4s						
KMI				LR	LR		
	comp=N,6μm,18.4s						
KMI				LR	LR		
	comp=E,11μm,15.6s						
KMI				LR	LR		
	comp=Z,12μm,14.2s						
KMI	Kunming	16.48	284	P	Pn	15 45 30.5	-4.4
	comp=Z,9.0nm,2.0s						
KMI				pP	pP	15 45 36.7	-8.3
KMI				sP	sP	15 45 41.2	-7.4
KMI				PP		15 45 45.1	
KMI				PPP		15 45 55.5	
KMI				S	Sn	15 48 32.6	-4.3
KMI				sS	sS	15 48 53.8	-6.5
KSRS	Korea Array	16.61	21	Pn	Pn	15 45 36.2	-0.5
	baz=202,slow=12,SNR=26						
KSRS				LR	LR	15 53 36.6	
	comp=Z,7μm,18.6s,baz=210,slow=43						
CD2	Chengdu	17.28	304	P	Pn	15 45 44.0	-1.0
CD2				S	Sn	15 48 57.8	+1.4
CD2				XS	sS	15 49 04.8	-12
CD2				AMB	AMB		
	comp=Z,20nm,0.9s						
CD2				LR	LR		
	comp=N,9μm,13.3s						
CD2				LR	LR		
	comp=E,8μm,10.6s						
CD2				LR	LR		
	comp=Z,9μm,10.8s						
BJT	Baijiatuau	18.22	350	*e*P	Pn	15 45 57.8	+1.2
BJT				pmax	pmax		
	comp=Z,83nm,1.2s						
BJT	Baijiatuau	18.22	350	*e*P	Pn	15 45 57.8	+1.1
	comp=Z,83nm,1.2s						
BJI	Beijing	18.24	350	P	Pn	15 45 58.5	+1.6
BJI				AMB	AMB		
	comp=Z,43nm,1.5s						
BJI	Beijing	18.24	350	P	Pn	15 45 58.6	+1.7
BJI				pmax	pmax		
	comp=Z,43nm,1.5s						
BJI	Beijing	18.24	350	P	Pn	15 45 58.6	+1.7
	comp=Z,43nm,1.5s						
NANT	Nan	18.76	263	⇑P	Pn	15 46 02.0	-1.2
SNY	Shenyang	19.84	7	⇑P	Pn	15 46 14.3	-1.9
SNY				AP	pP	15 46 18.5	-3.6
SNY				XP	sP	15 46 22.0	-3.8
SNY				PP		15 46 36.8	
SNY				S	Sn	15 49 51.5	-6.9
SNY				XS	sS	15 49 59.8	-8.8
SNY				AMB	AMB		
	comp=Z,31nm,1.8s						
SNY				LR	LR		
	comp=N,6μm,15.7s						
SNY				LR	LR		
	comp=E,2μm,13.3s						
SNY				LR	LR		
	comp=Z,8μm,15.6s						
LZH	Lanzhou	20.05	318	⇓P	P	15 46 18.3	+1.6
LZH				AP		15 46 22.3	
LZH				XP	sP	15 46 25.5	-2.5
LZH				PP		15 46 38.0	
LZH				S	S	15 49 58.5	-2.1
LZH				XS	sS	15 50 04.3	-8.5
LZH				SS		15 50 26.8	
LZH				AMB	AMB		
	comp=Z,97nm,1.2s						
LZH				AMB	AMB		
	comp=Z,354nm,4.3s						
LZH				LR	LR		
	comp=N,2μm,10.2s						
LZH				LR	LR		
	comp=Z,5μm,14.5s,MS5.0						
LZH	Lanzhou	20.05	318	⇓P	P	15 46 18.2	+1.5
LZH						15 46 38.0	
LZH				S	S	15 49 58.5	-2.1
LZH				SS		15 50 26.7	
LZH				pmax	pmax		
	comp=Z,97nm,1.2s						
LZH				MLR	MLR		
	comp=Z,5μm,14.5s,MS5.0						
LZH	Lanzhou	20.05	318	⇓P	P	15 46 18.2	+1.5
	comp=Z,97nm,1.2s						
LZH				pP		15 46 22.3	
LZH				sP	sP	15 46 25.6	-2.4
LZH				PP		15 46 38.0	
LZH				S	S	15 49 58.5	-2.1
LZH				sS	sS	15 50 04.3	-8.5
LZH				SS		15 50 26.7	
LZH				LR	LR		
	comp=Z,5μm,14.5s,MS5.0				

CHTO	**Chiang Mai**	**20.38**	**265**	⇓P	**P**	**15 46 21.7**	**+1.4**
	SNR=52						
CHTO	**Chiang Mai**	**20.38**	**265**	*e*P	**P**	**15 46 20.1**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,450nm,1.8s						
CHTO	**Chiang Mai**	**20.38**	**265**	*e*Pn	**P**	**15 46 20.1**	**-0.2**
	comp=Z,450nm,1.8s						
BTO	**Baotou**	**20.44**	**337**	*e*P	**P**	**15 46 22.3**	**+1.4**
MAJO	**Matsushiro**	**21.11**	**43**	*e*P	**P**	**15 46 28.4**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,37nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**21.11**	**43**	*e*P	**P**	**15 46 28.4**	**+0.2**
	comp=Z,37nm,0.8s,mb4.8						
MAT	**Matsushiro**	**21.11**	**43**	P	**P**	**15 46 28.3**	**+0.1**
MJAR	**Matsushiro Arr**	**21.11**	**43**	P	**P**	**15 46 28.1**	**-0.1**
	comp=Z,22nm,0.6s,mb4.7,baz=234,slow=7.1,SNR=38						
NNT	**Nongplab**	**21.87**	**248**	P	**P**	**15 46 38.2**	**+1.9**
CN2	**Changchun**	**22.04**	**10**	*e*P	**P**	**15 46 37.0**	**-1.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
CN2				LR	LR		
	comp=N,6μm,16.0s,MS5.2						
CN2				LR	LR		
	comp=E,6μm,16.0s,MS5.2						
CN2				LR	LR		
	comp=Z,8μm,16.0s,MS5.2						
MDJ	**Mudanjiang**	**23.69**	**16**	P	**P**	**15 46 54.3**	**-1.0**
MDJ				AP		15 46 57.3	
MDJ				S	**S**	**15 51 07.0**	**-1.3**
MDJ				XS	sS	15 51 15.8	-6.0
MDJ				SCP	ScP	15 54 15.3	+0.2
MDJ				AMB	AMB		
	comp=Z,55nm,1.1s,mb4.9						
MDJ				LR	LR		
	comp=N,8μm,18.2s,MS5.3						
MDJ				LR	LR		
	comp=E,4μm,17.4s,MS5.3						
MDJ				LR	LR		
	comp=Z,8μm,17.4s,MS5.3						
MDJ	**Mudanjiang**	**23.69**	**16**	*e*P	**P**	**15 46 54.5**	**-0.7**
	comp=Z,60nm,1.0s,mb5.0						
GTA	**Gaotai**	**24.62**	**319**	*e*P	**P**	**15 47 02.3**	**-1.5**
GTA				AP		15 47 09.5	
GTA				XP	sP	15 47 13.3	-2.2
GTA				PCP	PcP	15 50 42.5	+1.6
GTA				S	**S**	**15 51 23.3**	**0.0**
GTA				XS	sS	15 51 30.0	-6.9
GTA				PCS	PcS	15 54 20.8	-0.1
GTA				AMB	AMB		
	comp=Z,49nm,2.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,5μm,4.9s						
GTA				LR	LR		
	comp=N,4μm,14.4s,MS5.1						
GTA				LR	LR		
	comp=E,2μm,17.5s,MS5.1						
GTA				LR	LR		
	comp=Z,3μm,17.9s,MS4.9						
GUMO	**Guam**	**24.74**	**106**	LR	LR	15 55 42.5	
	comp=Z,4μm,19.3s,MS4.9,baz=351,slow=35						
KULM	**Kulim**	**25.40**	**232**	*e*P	**P**	**15 47 11.5**	**+0.7**
SHL	**Shillong**	**26.30**	**283**	*e*P	**P**	**15 47 20.0**	**+1.0**
SHL				*e*S	**S**	**15 51 40.0**	**-10**
AGT	**Agartala**	**26.89**	**279**	*i* P	**P**	**15 47 28.0**	**+3.7**
HIA	**Hailar**	**27.11**	**359**	*e*P	**P**	**15 47 25.7**	**-0.6**
HIA				pmax	pmax		
	comp=Z,47nm,1.0s						
HIA	**Hailar**	**27.11**	**359**	*e*P	**P**	**15 47 25.7**	**-0.6**
	comp=Z,47nm,1.0s,mb5.0						
LSA	**Lhasa**	**27.34**	**292**	P	**P**	**15 47 29.5**	**+1.2**
LSA	**Lhasa**	**27.34**	**292**	*e*P	**P**	**15 47 29.5**	**+1.2**
LSA				pmax	pmax		
	comp=Z,31nm,0.9s,mb4.8						
LSA	**Lhasa**	**27.34**	**292**	*e*P	**P**	**15 47 29.5**	**+1.2**
	comp=Z,32nm,0.9s,mb4.8						
ERM	**Erimo**	**27.52**	**39**	⇓*e*P	**P**	**15 47 31.3**	**+1.3**
ULN	**Ulaanbaatar**	**27.85**	**341**	⇓P	**P**	**15 47 32.7**	**-0.2**
	SNR=19						
ULN	**Ulaanbaatar**	**27.85**	**341**	*e*P	**P**	**15 47 33.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**27.85**	**341**	*e*P	**P**	**15 47 33.4**	**+0.4**
	comp=Z,16nm,0.6s,mb4.8						
SONM	**Songino Array**	**28.03**	**340**	P	**P**	**15 47 34.5**	**-0.1**
	comp=Z,20nm,0.6s,mb4.9,baz=157,slow=9.7,SNR=86						
SONM				PcP	PcP	15 50 49.5	+0.6
	comp=Z,2.6nm,1.0s,baz=158,slow=1.8,SNR=5.0						
PSI	**Prapat**	**28.35**	**230**	P	**P**	**15 47 37.9**	**+0.5**
	comp=Z,8.6nm,0.9s,mb4.4,baz=26,slow=5.7,SNR=8.7						
PSI				PcP	PcP	15 50 49.8	+0.1
	comp=Z,1.8nm,0.3s,baz=191,slow=6.7,SNR=3.7						
ASAJ	**Asahikawa**	**28.59**	**35**	P	**P**	**15 47 39.7**	**+0.2**
	comp=Z,14nm,0.4s,mb5.0,baz=239,slow=16,SNR=15						
HABR	**Khabarovsk**	**28.79**	**20**	*e*P	**P**	**15 47 39.7**	**-1.6**
HABR				S	**S**	**15 52 27.7**	**-1.5**
CIT	**Chita**	**30.33**	**352**	*e*P	**P**	**15 47 56.0**	**+1.0**
CIT				*e*		15 50 55.1	
CIT				*e*		15 58 25.7	
CIT				pmax	pmax		
	comp=Z,47nm,2.6s,mb4.8						
YSS	**Yuzh-Sakhalins**	**30.66**	**31**	⇑*e*P	**P**	**15 47 57.0**	**-0.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**30.66**	**31**	*e*P	**P**	**15 47 57.2**	**-0.7**
	comp=Z,31nm,0.8s,mb5.2						
ZAK	**Zakamensk**	**31.26**	**339**	⇓*i* P	**P**	**15 48 02.6**	**-0.6**
ZAK				*e*		15 50 57.4	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
GUN	**Gumba**	**31.76**	**288**	*e*P	**P**	**15 48 08.0**	**+0.5**
	comp=Z,92nm,1.1s,mb5.5						
PKI	**Pulchoki**	**32.16**	**287**	*e*P	**P**	**15 48 11.7**	**+0.6**
TLY	**Talaya**	**32.26**	**340**	P	**P**	**15 48 12.0**	**0.0**
	comp=Z,274nm,0.6s,mb6.3,SNR=7.2						
TLY	**Talaya**	**32.26**	**340**	*e*P	**P**	**15 48 12.5**	**+0.5**
TLY				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.2						
TLY				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.1						
TLY	**Talaya**	**32.26**	**340**	*e*P	**P**	**15 48 11.9**	**-0.1**
	comp=Z,30nm,0.7s,mb5.2						
KKN	**Kakani**	**32.28**	**287**	*e*P	**P**	**15 48 11.7**	**-0.4**
	comp=Z,52nm,1.2s,mb5.2						
KKN	**Kakani**	**32.28**	**287**	*e*P	**P**	**15 48 11.7**	**-0.4**
KKN				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.2						
DMN	**Daman**	**32.43**	**287**	*e*P	**P**	**15 48 13.2**	**-0.2**
	comp=Z,47nm,1.0s,mb5.3						
IRK	**Irkutsk**	**32.56**	**341**	*e*P	**P**	**15 48 13.8**	**-0.8**
IRK				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.5						
GKN	**Gorkha**	**32.86**	**288**	*e*P	**P**	**15 48 16.7**	**-0.5**
	comp=Z,52nm,1.1s,mb5.4						
MOY	**Mondy**	**33.13**	**338**	*e*P	**P**	**15 48 19.5**	**-0.1**
MOY				pmax	pmax		
	comp=Z,77nm,2.2s,mb5.2						
KOLN	**Koldanda**	**33.77**	**287**	*e*P	**P**	**15 48 24.7**	**-0.4**
	comp=Z,62nm,1.1s,mb5.5						
WMQ	**Urumqi**	**34.62**	**316**	P	**P**	**15 48 33.3**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
WMQ				LR	LR		
	comp=N,4μm,13.0s,MS5.5						
WMQ				LR	LR		
	comp=E,5μm,15.0s,MS5.5						
WMQ				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
CLNS	**Chul'man**	**34.84**	**4**	*e*P	**P**	**15 48 33.1**	**-1.3**
CLNS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
BOD	**Bodaibo**	**35.98**	**354**	*e*P	**P**	**15 48 41.4**	**-2.8**
KAKA	**Kakadu**	**36.56**	**160**	*e*P	**P**	**15 48 47.1**	**-2.0**
	comp=E,51nm,0.9s,mb5.3						
MK31	**Makanchi Array**	**39.37**	**318**	*e*P	**P**	**15 49 12.9**	**+0.1**
MKAR	**Makanchi Array**	**39.37**	**318**	P	**P**	**15 49 12.5**	**-0.4**
	comp=E,30nm,0.7s,mb5.2,baz=114,slow=10.0,SNR=92						
MKAR				PcP	PcP	15 51 21.1	+0.2
	comp=E,3.4nm,0.7s,baz=220,slow=2.7,SNR=5.1						
HYB	**Hyderabad**	**39.58**	**271**	*i* P	**P**	**15 49 16.5**	**+1.9**
HYB	**Hyderabad**	**39.58**	**271**	*e*P	**P**	**15 49 16.5**	**+1.9**
SKR	**Severo-Kuril's**	**39.85**	**35**	*e*P	**P**	**15 49 17.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**40.28**	**172**	⇓*i* P	**P**	**15 49 18.8**	**-1.7**
	comp=E,12nm,0.7s,mb4.7						
YAK	**Yakutsk**	**40.41**	**7***d*	*i* P	**P**	**15 49 21.2**	**-0.3**
YAK				*i* *PP	pP	15 49 32.3	+2.4
YAK				*i*		15 51 23.2	
YAK				*e*S	**S**	**15 55 25.2**	**-2.7**
YAK				*e**SS	sS	15 55 38.3	-3.6
YAK				*e*SS	SS	15 58 19.1	-8.4
YAK				*e*SSS		15 58 52.5	
YAK				pmax	pmax		
	comp=Z,89nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,44nm,1.4s						
YAK				pmax	pmax		
	comp=E,12nm,1.3s						
YAK				smax			
	comp=E,299nm,3.3s						
YAK				MLR	MLR		
	comp=E,2μm,17.0s,MS5.4						
YAK				MLR	MLR		
	comp=Z,6μm,17.0s,MS5.5						
YAK				MLR	MLR		
	comp=N,4μm,18.0s,MS5.4						
YAK	**Yakutsk**	**40.41**	**7**	⇓*i* P	**P**	**15 49 20.4**	**-1.1**
	comp=N,100nm,0.8s,mb5.6						
THN	**Thein Dam**	**40.79**	**294**	*e*P	**P**	**15 49 23.4**	**-1.2**
	comp=N,1.4nm,0.7s						
PMG	**Port Moresby**	**40.85**	**137**	*e*P	**P**	**15 49 24.7**	**-0.4**
PMG				pmax	pmax		
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**40.85**	**137**	*e*P	**P**	**15 49 24.7**	**-0.4**
	comp=Z,19nm,0.9s,mb4.7						
KSH	**Kashi**	**41.47**	**305**	P	**P**	**15 49 32.5**	**+2.3**
KSH				AP	pP	15 49 37.0	-1.7
KSH				XP	sP	15 49 39.5	-2.7
KSH				PP	PP	15 51 12.0	+5.7
KSH				PCP	PcP	15 51 29.8	+2.2
KSH				SCP	ScP	15 55 17.3	+1.7
KSH				PCS	PcS	15 55 20.3	+1.4
KSH				S	**S**	**15 55 48.5**	**+4.7**
KSH				XS	sS	15 55 56.8	-1.0
KSH				SS	SS	15 58 48.3	-0.3
KSH				SCS	ScS	15 59 33.5	+1.6
KSH				AMB	AMB		
	comp=Z,104nm,0.8s,mb5.5						
KSH				AMB	AMB		
	comp=Z,1μm,2.9s,mb6.1						
KSH				LR	LR		
	comp=N,4μm,9.4s						
KSH				LR	LR		
	comp=E,6μm,11.0s						
KSH				LR	LR		
	comp=Z,8μm,17.1s						
ZAL	**Zalesovo**	**41.63**	**329**	P	**P**	**15 49 31.5**	**0.0**
	comp=Z,12nm,0.8s,mb4.6,baz=351,slow=7.1,SNR=45						
ZAL				PcP	PcP	15 51 27.8	-0.3
	comp=Z,3.0nm,0.5s,baz=5.6,slow=4.3,SNR=4.4						
ZAL	**Zalesovo**	**41.63**	**329**	P	**P**	**15 49 31.5**	**0.0**
ZAL				PcP	PcP	15 51 27.8	-0.3
ULHL	**Ulahol**	**41.88**	**309**	P	**P**	**15 49 35.2**	**+1.6**
	SNR=6.0						
PET	**Petropavlovsk**	**42.42**	**34**	*e*P	**P**	**15 49 36.4**	**-1.6**
PET				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.3						
PET				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.2						
TKM2	**Tokmak 2**	**42.52**	**310**	P	**P**	**15 49 39.8**	**+1.0**
	SNR=7.3						
KZA	**Kyzart**	**42.56**	**309**	P	**P**	**15 49 41.0**	**+1.8**
	SNR=12						
NVS	**Novosibirsk**	**42.90**	**329**	⇓*i* P	**P**	**15 49 41.1**	**-0.7**
NVS				*e*		15 51 30.8	
NVS				*i* S	**S**	**15 56 04.5**	**-0.3**
NVS				pmax	pmax		
	comp=Z,105nm,1.7s,mb5.3						
NVS				pmax	pmax		
	comp=N,68nm,1.6s						
NVS				pmax	pmax		
	comp=E,74nm,1.6s						
NVS				smax			
	comp=N,28nm,2.4s						
NVS				smax			
	comp=E,22nm,2.0s						
KBK	**Karagaybulak**	**42.91**	**309**	P	**P**	**15 49 43.4**	**+1.4**
	SNR=12						
UCH	**Uchtor**	**43.13**	**309**	P	**P**	**15 49 45.4**	**+1.7**
	SNR=13						
CHMS	**Chumysh**	**43.14**	**310**	P	**P**	**15 49 44.8**	**+1.0**
	SNR=10						
MA2	**Magadan**	**43.17**	**22**	*e*P	**P**	**15 49 43.5**	**-0.6**
MA2				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
MA2	**Magadan**	**43.17**	**22**	*e*P	**P**	**15 49 43.5**	**-0.6**
	comp=Z,29nm,0.8s,mb5.1						
FRU	**Bishkek**	**43.19**	**310**	*e*P	**P**	**15 49 44.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.1						
AAK	**Ala-Archa**	**43.23**	**309**	P	**P**	**15 49 45.6**	**+1.0**
	SNR=8.1						
AAK	**Ala-Archa**	**43.23**	**309**	P	**P**	**15 49 44.8**	**+0.2**
	comp=Z,69nm,0.9s,mb5.4,SNR=5.5						
AAK	**Ala-Archa**	**43.23**	**309**	*e*P	**P**	**15 49 44.3**	**-0.3**
AAK				pmax	pmax		
	comp=Z,37nm,1.5s,mb4.9						
AAK	**Ala-Archa**	**43.23**	**309**	*e*P	**P**	**15 49 44.3**	**-0.3**
	comp=Z,37nm,1.5s,mb4.9						
KURK	**Kurchatov**	**43.25**	**322**	P	**P**	**15 49 44.3**	**-0.4**
	comp=Z,138nm,0.9s,mb5.7,SNR=13						
KURK	**Kurchatov**	**43.25**	**322**	⇓P	**P**	**15 49 44.6**	**-0.1**
	SNR=22						
KURK	**Kurchatov**	**43.25**	**322**	*i* P	**P**	**15 49 44.4**	**-0.3**
USP	**Ospenovka**	**43.38**	**310**	P	**P**	**15 49 46.3**	**+0.5**
	SNR=8.6						
AML	**Almayashu**	**43.70**	**308**	P	**P**	**15 49 49.9**	**+1.6**
	SNR=17						
EKS2	**Erkin-Say**	**43.75**	**309**	P	**P**	**15 49 49.7**	**+0.9**
	SNR=10						
WRA	**Warramunga Arr**	**43.95**	**161**	P	**P**	**15 49 49.4**	**-1.0**
	comp=Z,33nm,0.9s,mb5.1,baz=345,slow=8.6,SNR=9.3						
WRA				S	**S**	**15 56 16.2**	**-4.0**
	comp=Z,20nm,1.3s,baz=341,slow=14,SNR=13						
WB2	**Warramunga Arr**	**43.95**	**161**	⇓*i* P	**P**	**15 49 49.4**	**-1.0**
WB2				*e*S	**S**	**15 56 16.5**	**-3.8**
SEY	**Seymchan**	**46.16**	**20**	⇓*e*P	**P**	**15 50 07.9**	**0.0**
KBL	**Kabul**	**46.44**	**297**	*e*P	**P**	**15 50 10.6**	**+0.5**
KBL				*e*		15 50 21.6	
ASAR	**Alice Springs**	**47.35**	**163**	P	**P**	**15 50 16.8**	**-0.5**
	comp=Z,22nm,0.8s,mb5.1,baz=336,slow=6.5,SNR=54						
ASAR				ScP	ScP	15 55 39.8	+0.1
	comp=Z,2.1nm,1.0s,baz=342,slow=2.9,SNR=6.8						
ASAR				S	**S**	**15 57 08.9**	**-0.3**
	comp=Z,8.0nm,1.3s,baz=351,slow=22,SNR=9.9						
BVAR	**Borovoye Array**	**48.85**	**322**	P	**P**	**15 50 28.4**	**-0.4**
	comp=Z,12nm,0.5s,mb5.2,baz=108,slow=8.1,SNR=70						
BVAR				PcP	PcP	15 51 52.9	-0.2
	comp=Z,7.0nm,0.6s,baz=108,slow=3.9,SNR=8.2						
BRVK	**Borovoye**	**48.92**	**322**	P	**P**	**15 50 29.5**	**+0.2**
	comp=Z,198nm,0.8s,mb6.2,SNR=12						
BRVK	**Borovoye**	**48.92**	**322**	⇓P	**P**	**15 50 29.5**	**+0.1**
	SNR=14						
BRVK	**Borovoye**	**48.92**	**322**	*e*P	**P**	**15 50 29.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
BRVK	**Borovoye**	**48.92**	**322**	*e*P	**P**	**15 50 29.2**	**-0.2**
	comp=Z,28nm,0.8s,mb5.3						
CTA	**Charters Tower**	**48.95**	**147**	⇓*i* P	**P**	**15 50 30.2**	**+0.6**
	comp=Z,25nm,0.9s,mb5.2						
CTA				*e*sP	sP	15 50 42.9	+1.3
CTA				*e*S	**S**	**15 57 32.9**	**+1.1**
CTA	**Charters Tower**	**48.95**	**147**	⇓*i* P	**P**	**15 50 30.2**	**+0.6**
CTA				*e**SP	sP	15 50 42.9	+1.3
CTA				*e*S	**S**	**15 57 32.9**	**+1.1**
CTA				pmax	pmax		
	comp=Z,25nm,0.9s						
CTAO	**Charters Tower**	**48.95**	**147**	*e*P	**P**	**15 50 29.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.5						
CTAO	**Charters Tower**	**48.95**	**147**	*e*P	**P**	**15 50 29.9**	**+0.3**
	comp=Z,57nm,1.1s,mb5.5						
TIXI	**Tiksi**	**49.80**	**3**	*e*P	**P**	**15 50 32.1**	**-4.0**
TIXI				*e*		15 50 47.4	
TIXI				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.5						
TIXI				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.3						
TIXI	**Tiksi**	**49.80**	**3**	*e*P	**P**	**15 50 35.1**	**-1.0**
	comp=Z,69nm,1.3s,mb5.5						
FORT	**Forrest**	**53.09**	**172**	*e*P	**P**	**15 51 00.3**	**-0.4**
	comp=Z,84nm,0.8s,mb5.7						
FORT				*e*sP	sP	15 51 14.2	+1.4
FORT				*e*PCP	PcP	15 51 58.2	-11
KLBR	**Kellerberrin**	**53.45**	**183**	*e*P	**P**	**15 51 02.3**	**-1.1**
	comp=Z,38nm,0.8s,mb5.4						
KLBR				*e*sP	sP	15 51 13.2	-2.2
BILL	**Bilibino**	**53.87**	**20***d*	*i* P	**P**	**15 51 05.8**	**-0.6**
BILL				*i*		15 51 19.7	
BILL				*i*		15 52 11.7	
BILL				*e*S	**S**	**15 58 42.1**	**+2.4**
BILL				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
BILL				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.4						
BILL	**Bilibino**	**53.87**	**20**	*e*P	**P**	**15 51 05.4**	**-1.0**
	comp=Z,19nm,0.9s,mb5.0						
MUN	**Mundaring**	**53.93**	**184**	*e*P	**P**	**15 51 05.9**	**-0.9**
MUN				*e*PCP	PcP	15 52 11.7	-0.3
NWAO	**Narrogin (SRO)**	**54.81**	**183**	*e*P	**P**	**15 51 12.3**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,130nm,1.4s						
NWAO	**Narrogin (SRO)**	**54.81**	**183**	*e*P	**P**	**15 51 12.3**	**-0.9**
	comp=Z,130nm,1.4s,mb5.8						
ABKT	**Ailbek**	**55.25**	**302**	P	**P**	**15 51 17.5**	**+1.0**
	comp=Z,147nm,0.7s,mb6.1,SNR=7.3						
AKTK	**Aktyubinsk**	**55.78**	**317**	P	**P**	**15 51 20.0**	**-0.2**
AKTO	**Aktyubinsk**	**55.78**	**317**	P	**P**	**15 51 20.0**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.6,baz=109,slow=7.3,SNR=12						
ARU	**Arti**	**56.35**	**324**	P	**P**	**15 51 24.4**	**+0.1**
	comp=Z,214nm,1.0s,mb6.1,SNR=8.7						
ARU	**Arti**	**56.35**	**324**	⇓*i* P	**P**	**15 51 23.6**	**-0.7**
ARU				*e*PPP		15 54 42.8	
ARU				*e*S	**S**	**15 59 13.5**	**+0.6**
ARU				*e*		16 01 08.2	
ARU				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.3						
ARU	**Arti**	**56.35**	**324**	*e*P	**P**	**15 51 23.9**	**-0.4**
	comp=Z,104nm,1.5s,mb5.6						
STKA	**Stephens Creek**	**57.38**	**159**	*e*P	**P**	**15 51 31.3**	**-0.3**
	comp=Z,13nm,0.6s,mb5.1						
STKA				*e*sP	sP	15 51 43.0	-0.8
STKA				*e*S	**S**	**15 59 26.6**	**+0.1**
STKA	**Stephens Creek**	**57.38**	**159**	P	**P**	**15 51 31.4**	**-0.2**
	comp=Z,16nm,0.7s,mb5.2,baz=333,slow=7.6,SNR=32						
ORR	**Orenburg**	**57.94**	**318**	*e*P	**P**	**15 51 35.5**	**-0.1**
ORR				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
ARMA	**Armidale**	**60.22**	**149**	⇓*i* P	**P**	**15 51 52.5**	**+1.1**
CNB	**Canberra Magne**	**63.36**	**154**	*e*P	**P**	**15 52 13.0**	**+0.5**
	comp=Z,52nm,1.0s,mb5.6						
CNB				*e*sP	sP	15 52 27.7	+3.0
KBD	**Kabd**	**65.02**	**293**	*e*P	**P**	**15 52 23.1**	**-0.3**
KBD				AMb	AMB	15 52 23.9	
	comp=Z,92nm,0.6s,mb6.0						
MIB	**Mutribah**	**65.19**	**294**	*e*P	**P**	**15 52 23.8**	**-0.7**
MIB				AMb	AMB	15 52 27.7	
	comp=Z,46nm,0.7s,mb5.6						
RDF	**Al-Radifah**	**65.19**	**293**	*e*P	**P**	**15 52 24.3**	**-0.2**
RDF				AMb	AMB	15 52 24.9	
	comp=Z,58nm,0.6s,mb5.8						
NAY	**Al-Naaiem**	**65.39**	**293**	*e*P	**P**	**15 52 25.0**	**-0.8**
NAY				AMb	AMB	15 52 27.2	
	comp=Z,29nm,0.6s,mb5.5						
KIV	**Kislovodsk**	**66.35**	**310**	⇓P	**P**	**15 52 32.7**	**+0.8**
	SNR=5.8						
KIV	**Kislovodsk**	**66.35**	**310**	*e*P	**P**	**15 52 32.1**	**+0.1**
KIV				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.5						
KIV	**Kislovodsk**	**66.35**	**310**	*i* P	**P**	**15 52 32.0**	**0.0**
TTA	**Tatalina**	**67.66**	**29**	*e*P	**P**	**15 52 40.9**	**+0.6**
MOS	**Moscow**	**68.01**	**323**	*e*P	**P**	**15 52 38.9**	**-3.6**
MOS				MLR	MLR		
	comp=Z,2μm,18.7s,MS5.3						
SVW2	**Sparrevohn**	**68.03**	**31**	*e*P	**P**	**15 52 43.0**	**+0.4**
IMA2	**Indian Mountai**	**68.37**	**26**	*e*P	**P**	**15 52 45.2**	**+0.5**
APA	**Apatity**	**68.65**	**336**	⇓*i* P	**P**	**15 52 46.4**	**-0.1**
APA				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
APA				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.5						
OBN	**Obninsk**	**68.69**	**322**	*e*P	**P**	**15 52 45.8**	**-1.0**
OBN				*e*		15 53 12.5	
OBN				pmax	pmax		
	comp=Z,89nm,1.6s,mb5.5						
OBN	**Obninsk**	**68.69**	**322**	*e*P	**P**	**15 52 45.3**	**-1.4**
	comp=Z,11nm,0.6s,mb5.0						
ANN	**Anapa**	**69.92**	**311**	*e*P	**P**	**15 52 52.8**	**-1.5**
ANN				*e*S	S	16 02 01.4	-1.0
ANN				pmax	pmax		
	comp=Z,214nm,1.6s,mb5.8						
KDAK	**Kodiak Island**	**70.01**	**35**	P	**P**	**15 52 53.3**	**-1.6**
	comp=Z,259nm,0.6s,mb6.3,SNR=14						
KDAK	**Kodiak Island**	**70.01**	**35**	*e*P	**P**	**15 52 54.3**	**-0.6**
	comp=Z,92nm,1.2s,mb5.6						
JOF	**Joensuu**	**70.17**	**331**	*e*p	**P**	**15 52 53.2**	**-2.7**
	comp=Z,20nm,0.6s,mb5.2						
MALT	**Malatya**	**70.57**	**304**	⇑*i* P	**P**	**15 53 00.1**	**+1.8**
KEV	**Kevo**	**70.64**	**338**	*e*p	**P**	**15 52 57.3**	**-1.4**
	comp=Z,6.3nm,0.6s,mb4.7						
KEV	**Kevo**	**70.64**	**338**	*e*P	**P**	**15 52 57.3**	**-1.4**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
COLA	**College**	**70.95**	**27**	*e*P	**P**	**15 53 00.2**	**-0.5**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
COLA	**College**	**70.95**	**27**	*e*P	**P**	**15 53 00.2**	**-0.5**
	comp=Z,10nm,0.6s,mb4.9						
PMR	**Palmer**	**71.03**	**30**	*e*P	**P**	**15 53 00.3**	**-0.8**
PMR				pmax	pmax		
	comp=Z,18nm,0.6

DAG Danmarks Havn 78.30 351⇑ iP P 15 53 42.1 -1.2
DAG pmax pmax
comp=Z,13nm,0.9s,mb4.9
PVL Pavlikeni 78.74 312 eP P 15 53 47.0 +1.3
KOLS Kolonicke sedl 78.78 318 eP P 15 53 45.0 -0.9
UZH Uzhgorod 78.87 318⇑ iP P 15 53 46.2 -0.2
UZH i pP 15 53 56.5 +1.0
HFS Hagfors 79.03 331 P P 15 53 46.5 -0.7
comp=Z,16nm,0.7s,mb5.0,baz=72,slow=5.3,SNR=17
STHS Stebnicka Huta 79.23 319 eP P 15 53 48.5 +0.1
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
STHS Stebnicka Huta 79.23 319 eP P 15 53 48.5 +0.1
comp=Z,7.4nm,1.1s,mb4.5
DRGR 79.26 316⇑ iP P 15 53 49.2 +0.7
CRVS Cervenica-Dubn 79.29 318 eP P 15 53 49.2 +0.5
GZR Gura Zlata 79.71 315 P P 15 53 52.1 +1.1
GZR Gura Zlata 79.71 315⇑ iP P 15 53 52.3 +1.3
NB2 NORSAR Subarra 79.72 332 P P 15 53 49.9 -1.2
comp=Z,26nm,1.0s,mb5.1,baz=60,slow=5.6
NOA NORSAR Array B 79.72 332 P P 15 53 49.5 -1.5
comp=Z,12nm,0.8s,mb4.9,baz=62,slow=5.4,SNR=25
NIE Niedzica 79.80 319 eP P 15 53 52.5 +1.0
OJC Ojcow 79.81 320 eP P 15 53 51.4 -0.1
KECS Kecovo 80.04 318 i P P 15 53 53.3 +0.5
KECS pmax pmax
comp=Z,23nm,1.7s,mb4.8
KECS Kecovo 80.04 318 i P P 15 53 53.3 +0.5
comp=Z,23nm,1.7s,mb4.8
GKP Gorka Klasztor 80.09 324 eP P 15 53 52.9 -0.1
GKP L 16 09 17.9
comp=Z,10nm,18.4s
BZS Buzias 80.39 315⇓ iP P 15 53 54.3 -0.4
MMB Musomiste 80.42 311 eP P 15 53 56.0 +1.2
VTS Vitosha 80.42 312 eP P 15 53 55.0 +0.2
VTS Vitosha 80.42 312⇑ iP P 15 53 55.8 +1.0
PSZ Piszkesteto 80.62 318⇑ eP P 15 53 56.5 +0.6
KKB Krupnik 80.77 311 eP P 15 53 56.0 -0.7
OKC Ostrava-Krasne 80.94 320 eP P 15 53 57.7 +0.1
VYHS Vyhne 81.05 319 eP P 15 53 58.3 +0.1
VYHS pmax pmax
comp=Z,55nm,1.8s,mb5.2
VYHS Vyhne 81.05 319 eP P 15 53 58.3 +0.1
comp=Z,55nm,1.8s,mb5.2
MORC Moravsky Berou 81.32 320⇑ iP P 15 54 00.4 +0.8
VAY Valandovo 81.33 311 i P P 15 53 58.4 -1.3
VAY Valandovo 81.33 311 i P P 15 53 58.4 -1.3
BUD Budapest 81.33 318⇓ eP P 15 54 00.0 +0.3
STIP Stip 81.46 311 i P P 15 53 59.7 -0.7
STIP Stip 81.46 311 i P P 15 53 59.7 -0.7
KSP Ksiaz 81.61 322 eP P 15 54 01.5 +0.3
KSP L 16 11 14.5
comp=Z,12nm,19.5s
KSP Ksiaz 81.61 322 eP P 15 54 01.1 -0.1
GRUS Gruza 81.63 314⇑ iP P 15 54 01.3 0.0
DPC Dobruska-Polom 81.80 321 eP P 15 54 02.4 +0.2
IDI Anoyia 81.83 305 P P 15 54 01.9 -0.5
comp=Z,22nm,0.9s,mb5.1,baz=267,slow=22,SNR=3.7
SKO Skopje 81.87 312 i P P 15 54 03.0 +0.4
SKO Skopje 81.87 312 i P P 15 54 03.0 +0.4
UPC Upice 81.91 321 eP P 15 54 03.4 +0.6
DIVS Divcibare 82.03 314⇓ iP P 15 54 03.7 +0.3
VRAC Vranov 82.08 320 P P 15 54 04.0 +0.4
comp=Z,22nm,0.7s,mb5.2,baz=74,slow=5.2,SNR=39
VRAC Vranov 82.08 320 P P 15 54 04.3 +0.7
VRAC Vranov 82.08 320⇓ iP P 15 54 03.5 -0.1
PKSM Moragy 82.08 317⇑ eP P 15 54 04.0 +0.4
ZST Bratislava 82.23 319 eS S 16 04 10.9 -7.0
ZST Bratislava 82.23 319 eS S 16 04 10.9 -7.0
KRUS Krusevo 82.23 311 i P P 15 54 03.6 -0.8
KRUS Krusevo 82.23 311 i P P 15 54 03.6 -0.8
BIA Bitola 82.31 311 i P P 15 54 03.4 -1.4
BIA Bitola 82.31 311 i P P 15 54 03.4 -1.4
RHK3 Tenkes 82.46 316⇑ eP P 15 54 05.7 +0.1
BBLS Bajina Basta - 82.51 314⇑ iP P 15 54 06.1 +0.2
OHR Ohrid 82.64 311 i P P 15 54 05.2 -1.4
OHR Ohrid 82.64 311 i P P 15 54 05.2 -1.4
TREC Trest 82.74 320 eP P 15 54 07.0 -0.1
PVCC Panska Ves 82.74 322 eP P 15 54 07.0 -0.1
SOP Sopron 82.78 319⇑ eP P 15 54 07.9 +0.6
BRG Berggiesshubel 82.94 322 eP P 15 54 08.3 +0.2
comp=Z,132nm,1.9s,mb5.6
BRG Berggiesshubel 82.94 322 i P P 15 54 08.5 +0.3
comp=Z,79nm,1.9s,mb5.4
BRG Berggiesshubel 82.94 322 i P P 15 54 08.5 +0.4
BRG pmax pmax
comp=Z,79nm,1.9s,mb5.4
PRU Pruhonice 82.99 321 eP P 15 54 08.6 +0.2
CONA Conrad Observa 83.10 319⇑ iP P 15 54 10.0 +1.0
comp=Z,16nm,1.2s,mb4.9
CLL Collm 83.28 323 eP P 15 54 09.6 -0.3
comp=Z,126nm,1.8s,mb5.7
CLL Collm 83.28 323⇓ iP P 15 54 09.6 -0.3
CLL pmax pmax
comp=Z,126nm,1.8s,mb5.7
CLL Collm 83.28 323⇓ iP P 15 54 09.6 -0.3
comp=Z,126nm,1.8s,mb5.7
BSEG Bad Segeberg 83.49 326 eP P 15 54 11.1 +0.1
comp=Z,52nm,1.5s,mb5.3
ARSA Arzberg 83.60 319⇑ iP P 15 54 12.0 +0.5
comp=Z,15nm,1.3s,mb5.0
KHC Kasperske Hory 83.93 321 eP P 15 54 13.0 -0.2
KHC epP pP 15 54 23.5 +1.2
GEC2 GERESS Array S 83.99 320 eP P 15 54 13.7 +0.2
comp=Z,41nm,1.1s,mb5.5
GEC2 GERESS Array S 83.99 320 eP P 15 54 13.7 +0.2
GEC2 pmax pmax
comp=Z,41nm,1.1s,mb5.5
GERES GERESS Array B 83.99 320 P P 15 54 13.5 0.0
comp=Z,13nm,0.8s,mb5.1,baz=69,slow=4.4,SNR=60
TANN Tannenbergstha 83.99 322 eP P 15 54 13.6 +0.1
KMBO Kilima Mbogo 84.08 266 P P 15 54 15.5 +1.5
comp=Z,26nm,1.3s,mb5.2,baz=45,slow=7.0,SNR=30
KMBO Kilima Mbogo 84.08 266 eP P 15 54 16.0 +2.0
KMBO pmax pmax
comp=Z,97nm,1.6s
KMBO Kilima Mbogo 84.08 266 eP P 15 54 16.0 +2.0
comp=Z,97nm,1.6s,mb5.7
NKC Novy Kostel 84.08 322 eP P 15 54 14.0 0.0
MOA Molln 84.10 319⇓ iP P 15 54 14.8 +0.7
comp=Z,39nm,0.9s,mb5.5,SNR=18
DOBS Dobrina 84.11 318 eP P 15 54 13.9 -0.2
PERS Pernice 84.11 318 eP P 15 54 13.3 -0.9
NRDL Niedersach Rie 84.30 325 eP P 15 54 15.1 0.0
WET Wettzell 84.34 321 eP P 15 54 15.7 +0.4
comp=Z,69nm,1.6s,mb5.5
WET Wettzell 84.34 321 eP P 15 54 15.7 +0.4
WET pmax pmax
comp=Z,69nm,1.6s,mb5.5
MOX Moxa 84.36 323 eP P 15 54 15.5 +0.1
comp=Z,76nm,1.6s,mb5.6
MOX Moxa 84.36 323 eP P 15 54 15.4 0.0
comp=Z,66nm,1.6s,mb5.5
MOX e 15 55 02.6
MOX Moxa 84.36 323 eP P 15 54 15.4 0.0
MOX pmax pmax
comp=Z,66nm,1.6s,mb5.5
MANZ Manzenberg 84.39 322 eP P 15 54 16.1 +0.5
ROTZ Rotzenmuhle 84.44 322 eP P 15 54 16.3 +0.5
CLZ Clausthal 84.48 324 eP P 15 54 16.3 +0.3
comp=Z,105nm,1.5s,mb5.8
CLZ Clausthal 84.48 324 eP P 15 54 16.3 +0.3
CLZ pmax pmax
comp=Z,105nm,1.5s,mb5.8
BOJS Bojanci 84.53 317 eP P 15 54 16.9 +0.7
LJU Ljubljana 84.74 318 i P P 15 54 17.2 -0.1
KBA Koelnbreinsper 85.00 319 i P P 15 54 18.7 0.0
comp=Z,22nm,0.7s,mb5.4,SNR=7.9
KBA Koelnbreinsper 85.00 319 i P P 15 54 18.7 0.0
KBA pmax pmax
comp=Z,22nm,0.7s,mb5.4
GRA1 Grafenberg Arr 85.04 322 eP P 15 54 19.3 +0.5
comp=Z,137nm,1.7s,mb5.8
GRF Grafenberg Arr 85.04 322 eP P 15 54 19.3 +0.5
comp=Z,137nm,1.7s,mb5.8
GRF Grafenberg Arr 85.04 322 eP P 15 54 19.3 +0.5
GRF pmax pmax
comp=Z,137nm,1.7s,mb5.8
GRF Grafenberg Arr 85.04 322 eP P 15 54 19.3 +0.5
GRF pmax pmax
comp=Z,137nm,1.7s,mb5.8
GRFO Grafenberg 85.04 322 eP P 15 54 19.4 +0.6
GRFO pmax pmax
comp=Z,173nm,1.8s,mb5.9
GRFO Grafenberg 85.04 322 eP P 15 54 19.4 +0.6
comp=Z,173nm,1.8s,mb5.9
JAVS Javornik 85.10 318 eP P 15 54 18.1 -1.0
VOY Vojsko 85.14 318 eP P 15 54 19.5 +0.2
YKA Yellowknife Ar 85.15 22 P P 15 54 19.1 -0.2
comp=Z,22nm,0.8s,mb5.3,baz=317,slow=4.8,SNR=117
YKA PKKPbc PKKPbc 16 12 22.8 -2.4
comp=Z,0.7nm,0.7s,baz=127,slow=2.2,SNR=17
YKA Yellowknife Ar 85.15 22 P P 15 54 19.1 -0.2
YKA PKKPbc PKKPbc 16 12 22.8 -2.4
PTCC Patocco-Chiusa 85.31 318 P P 15 54 19.9 -0.3
comp=Z,35nm,1.5s,mb5.3
FVI Forni Avoltri 85.57 319 P P 15 54 21.1 -0.4
FVI pmax pmax
comp=Z,77nm,1.5s,mb5.7
FVI Forni Avoltri 85.57 319 P P 15 54 21.1 -0.4
comp=Z,77nm,1.5s,mb5.7
IBBN Ibbenburen 85.64 325 eP P 15 54 21.8 0.0
comp=Z,50nm,1.0s,mb5.7
FUR Furstenfeldbru 85.73 321 eP P 15 54 22.8 +0.5
comp=Z,120nm,1.2s,mb6.0
FUR Furstenfeldbru 85.73 321 eP P 15 54 22.8 +0.5
FUR pmax pmax
comp=Z,120nm,1.2s,mb6.0
SEST Monte Rota 85.84 319 P P 15 54 22.6 -0.2
comp=Z,183nm,2.4s,mb5.9
WIT Witteveen 85.95 326 eP P 15 54 23.7 +0.3
WTTA Wattenberg 85.95 320 i P P 15 54 23.3 -0.1
comp=Z,46nm,0.7s,mb5.8,SNR=14
WTTA Wattenberg 85.95 320 i P P 15 54 23.3 -0.1
WTTA pmax pmax
comp=Z,46nm,0.7s,mb5.8
WATA Walderalm 85.95 320⇓ iP P 15 54 23.1 -0.3
comp=Z,39nm,1.3s,mb5.5,SNR=14
WATA Walderalm 85.95 320⇓ iP P 15 54 23.1 -0.3
WATA pmax pmax
comp=Z,39nm,1.3s,mb5.5
SQTA Sankt Quirin 86.23 320⇓ iP P 15 54 24.4 -0.3
comp=Z,29nm,1.0s,mb5.5,SNR=16
SQTA Sankt Quirin 86.23 320⇓ iP P 15 54 24.4 -0.3
SQTA pmax pmax
comp=Z,29nm,1.0s,mb5.5
MOTA Moosalm 86.23 320⇓ iP P 15 54 24.4 -0.3
comp=Z,21nm,1.0s,mb5.3
MOTA Moosalm 86.23 320⇓ iP P 15 54 24.4 -0.3
MOTA pmax pmax
comp=Z,21nm,1.0s,mb5.3
WTSB Winterswijk 86.33 325 eP P 15 54 24.7 -0.5
comp=Z,51nm,2.0s,mb5.4
TNS Taunus Mts 86.34 323 eP P 15 54 25.4 +0.1
comp=Z,53nm,1.8s,mb5.5
TNS Taunus Mts 86.34 323 eP P 15 54 25.4 +0.1
TNS pmax pmax
comp=Z,53nm,1.8s,mb5.5
BUG Bochum--Univer 86.35 325 eP P 15 54 25.2 -0.1
comp=Z,65nm,1.4s,mb5.7
TOD Tromm 86.45 323 eP P 15 54 26.3 +0.5
CTI Castel Tesino 86.52 319 P P 15 54 26.0 -0.2
FETA Feichten 86.61 320⇑ iP P 15 54 26.9 +0.3
comp=Z,39nm,1.2s,mb5.5
STU Stuttgart 86.65 322 eP P 15 54 26.7 -0.1
DAVA Damelis 86.98 320⇑ iP P 15 54 28.8 +0.4
comp=Z,22nm,1.2s,mb5.3
ABH Alteburg 87.01 323 eP P 15 54 29.3 +0.7
SNTG Esanatoglia 87.02 316 P P 15 54 29.8 +1.2
BRMO Bormio 87.09 319 P P 15 54 29.6 +0.7
LANF Langenberg 87.33 322 eP P 15 54 30.1 0.0
BFO Black Forest 87.36 322 eP P 15 54 29.9 -0.4
comp=Z,31nm,1.6s,mb5.3
BFO Black Forest 87.36 322 eP P 15 54 29.9 -0.4
BFO pmax pmax
comp=Z,31nm,1.6s,mb5.3
SFI Santa Sofia 87.42 317 P P 15 54 32.3 +1.8
SFI pmax pmax
comp=Z,30nm,0.8s,mb5.6
SFI Santa Sofia 87.42 317 P P 15 54 32.3 +1.8
comp=Z,30nm,0.8s,mb5.6
HGN Heimansgroeve 87.42 325 eP P 15 54 29.8 -0.7
comp=Z,26nm,1.8s,mb5.2
MEM Membach 87.47 324 P P 15 54 30.9 +0.1
VMG Vicchio 87.58 317 P P 15 54 33.3 +2.0
comp=Z,154nm,1.3s,mb6.1
ZCCA Zocca 87.75 317 P P 15 54 34.5 +2.4
comp=Z,56nm,1.0s,mb5.8
FELD Feldberg im Sc 87.78 321 eP P 15 54 32.5 +0.2
WLF Walferdange 87.89 324 eP P 15 54 33.1 +0.3
WLF Walferdange 87.89 324 P P 15 54 33.2 +0.4
CDF Champ du Feu 87.92 322 eP P 15 54 32.3 -0.7
comp=Z,32nm,1.0s,mb5.2
CDF Champ du Feu 87.92 322 eP P 15 54 32.3 -0.7
CDF pmax pmax
comp=Z,16nm,1.0s,mb5.2
CDF Champ du Feu 87.92 322 eP P 15 54 32.3 -0.7
comp=Z,16nm,1.0s,mb5.2
BCLA Clavier 87.95 325 P P 15 54 33.2 +0.1
comp=Z,21nm,2.0s,mb5.0
GSCL Gusciola 88.00 318 P P 15 54 34.8 +1.5
comp=Z,37nm,1.0s,mb5.6
ERBM Eremo 88.07 318 P P 15 54 35.4 +1.7
comp=Z,115nm,1.3s,mb6.0
ECH Echery 88.09 322 eP P 15 54 33.6 -0.2
UCC Uccle 88.24 325 P P 15 54 34.5 +0.1
BBS Basel-Blauen 88.28 321 eP P 15 54 34.7 0.0
MOF Molkenrain 88.30 322 eP P 15 54 33.2 -1.5
VAI Varese 88.36 319 P P 15 54 34.4 -0.6
GIVF Givet 88.38 324 eP P 15 54 34.4 -0.7
comp=Z,61nm,1.3s,mb5.4
GIVF Givet 88.38 324 eP P 15 54 34.4 -0.7
GIVF pmax pmax
comp=Z,31nm,1.3s,mb5.4
GIVF Givet 88.38 324 eP P 15 54 34.4 -0.7
comp=Z,31nm,1.3s,mb5.4
CASY Casey 88.43 184 eP P 15 54 35.2 -0.1
SNF Seneffe 88.44 325 P P 15 54 35.5 +0.1
comp=Z,14nm,1.9s,mb4.9
HINF Hinteralfeld 88.48 322 eP P 15 54 34.5 -1.1
comp=Z,16nm,0.9s,mb5.0
HINF Hinteralfeld 88.48 322 eP P 15 54 34.5 -1.1
HINF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
HINF Hinteralfeld 88.48 322 eP P 15 54 34.5 -1.1
comp=Z,8.2nm,0.9s,mb5.0
DOU Dourbes 88.50 325 P P 15 54 35.8 +0.1
BAIF Baives 88.73 325 eP P 15 54 36.1 -0.7
comp=Z,52nm,1.4s,mb5.4
BAIF Baives 88.73 325 eP P 15 54 36.1 -0.7
BAIF pmax pmax
comp=Z,26nm,1.4s,mb5.4
BAIF Baives 88.73 325 eP P 15 54 36.1 -0.7
comp=Z,26nm,1.4s,mb5.4
MEZF Maizieres J'vi 89.13 323 eP P 15 54 38.2 -0.4
comp=Z,35nm,0.9s,mb5.4
MEZF Maizieres J'vi 89.13 323 eP P 15 54 38.2 -0.4
comp=Z,35nm,0.9s,mb5.7
EKA Eskdalemuir Ar 89.20 332 P P 15 54 38.9 -0.1
comp=Z,4.7nm,0.7s,mb4.9,baz=42,slow=2.4,SNR=16
CABF La Chapelle 89.56 321 eP P 15 54 40.0 -0.7
comp=Z,25nm,1.2s,mb5.1
CABF La Chapelle 89.56 321 eP P 15 54 40.0 -0.7
CABF pmax pmax
comp=Z,13nm,1.2s,mb5.1
CABF La Chapelle 89.56 321 eP P 15 54 40.0 -0.7
comp=Z,13nm,1.2s,mb5.1
LPG La Plagne 89.76 320 eP P 15 54 41.8 +0.2
comp=Z,80nm,0.9s,mb5.8
LPG La Plagne 89.76 320 eP P 15 54 41.8 +0.2
LPG pmax pmax
comp=Z,40nm,0.9s,mb5.8
LPG La Plagne 89.76 320 eP P 15 54 41.8 +0.2
comp=Z,40nm,0.9s,mb5.8
LPL La Plagne 89.76 320 eP P 15 54 41.7 +0.1
comp=Z,73nm,0.9s,mb5.7
LPL La Plagne 89.76 320 eP P 15 54 41.7 +0.1
LPL pmax pmax
comp=Z,36nm,0.9s,mb5.7
LPL La Plagne 89.76 320 eP P 15 54 41.7 +0.1
comp=Z,36nm,0.9s,mb5.7
PGF Pioggiola 89.89 317 eP P 15 54 42.2 0.0
comp=Z,101nm,0.9s,mb5.8
PGF Pioggiola 89.89 317 eP P 15 54 42.2 0.0
PGF pmax pmax
comp=Z,51nm,0.9s,mb5.8
PGF Pioggiola 89.89 317 eP P 15 54 42.2 0.0
comp=Z,50nm,0.9s,mb5.8
SAOF Saorge 90.06 318 eP P 15 54 43.5 +0.5
MBDF Montbardon 90.16 319 eP P 15 54 42.4 -1.0
comp=Z,39nm,1.2s,mb5.3
MBDF Montbardon 90.16 319 eP P 15 54 42.4 -1.0
MBDF pmax pmax
comp=Z,19nm,1.2s,mb5.3
MBDF Montbardon 90.16 319 eP P 15 54 42.4 -1.0
comp=Z,19nm,1.2s,mb5.3
SBF Sospel 90.20 318 eP P 15 54 43.0 -0.7
comp=Z,98nm,0.9s,mb5.9
SBF Sospel 90.20 318 eP P 15 54 43.0 -0.7
SBF pmax pmax
comp=Z,49nm,0.9s,mb5.8
SBF Sospel 90.20 318 eP P 15 54 43.0 -0.7
comp=Z,49nm,0.9s,mb5.8
TOUF Mont Tournerai 90.24 318 eP P 15 54 44.4 +0.6
REVF Revere 90.31 318 eP P 15 54 44.4 +0.2
MVIF Mont Vial 90.36 318 eP P 15 54 44.8 +0.4
LOR Lormes 90.48 322 eP P 15 54 44.1 -0.9
comp=Z,37nm,1.0s,mb5.4
LOR Lormes 90.48 322 eP P 15 54 44.1 -0.9
LOR pmax pmax
comp=Z,19nm,1.0s,mb5.4
LOR Lormes 90.48 322 eP P 15 54 44.1 -0.9
comp=Z,18nm,1.0s,mb5.4
ORIF Oris-en-Rattie 90.59 320 eP P 15 54 45.2 -0.3
comp=Z,36nm,0.9s,mb5.4
ORIF Oris-en-Rattie 90.59 320 eP P 15 54 45.2 -0.3
ORIF pmax pmax
comp=Z,18nm,0.9s,mb5.4
ORIF Oris-en-Rattie 90.59 320 eP P 15 54 45.2 -0.3
comp=Z,18nm,0.9s,mb5.4
CALN Calern 90.60 318 eP P 15 54 46.1 +0.6
OG25 Le Caire 90.77 319 eP P 15 54 46.8 +0.5
SSF Saint Saulge 90.80 322 eP P 15 54 45.6 -0.8
comp=Z,39nm,1.3s,mb5.3
SSF Saint Saulge 90.80 322 eP P 15 54 45.6 -0.8
SSF pmax pmax
comp=Z,19nm,1.3s,mb5.3
SSF Saint Saulge 90.80 322 eP P 15 54 45.6 -0.8
comp=Z,19nm,1.3s,mb5.3
SMF Signal de Mont 90.84 322 eP P 15 54 46.0 -0.6
FRF La Foret Royal 90.85 318 eP P 15 54 46.1 -0.6
comp=Z,57nm,1.0s,mb5.6
FRF La Foret Royal 90.85 318 eP P 15 54 46.1 -0.6
FRF pmax pmax
comp=Z,29nm,1.0s,mb5.6
FRF La Foret Royal 90.85 318 eP P 15 54 46.1 -0.6
comp=Z,29nm,1.0s,mb5.6
AVF Avril sur Loir 91.03 322 eP P 15 54 46.8 -0.7
comp=Z,33nm,0.8s,mb5.4
AVF Avril sur Loir 91.03 322 eP P 15 54 46.8 -0.7
AVF pmax pmax
comp=Z,16nm,0.8s,mb5.4
AVF Avril sur Loir 91.03 322 eP P 15 54 46.8 -0.7
comp=Z,16nm,0.8s,mb5.4
LMR La Mourre 91.05 318 eP P 15 54 47.2 -0.4
comp=Z,156nm,1.4s,mb5.9
LMR La Mourre 91.05 318 eP P 15 54 47.2 -0.4
LMR pmax pmax
comp=Z,78nm,1.4s,mb5.8
LMR La Mourre 91.05 318 eP P 15 54 47.2 -0.4
comp=Z,78nm,1.4s,mb5.8
STOF St-Etienne Org 91.07 319 eP P 15 54 48.3 +0.6
HYF Humbligny 91.17 323 eP P 15 54 48.1 0.0
TAVF Tavernes 91.18 319 eP P 15 54 48.8 +0.6
SMRF Simiane la Rot 91.28 319 eP P 15 54 48.6 -0.1
comp=Z,40nm,1.1s,mb5.4
SMRF Simiane la Rot 91.28 319 eP P 15 54 48.6 -0.1
comp=Z,40nm,1.1s,mb5.7
PLDF La Plantade 91.34 321 eP P 15 54 49.8 +0.8
VIVF Saint-Julien-l 91.34 320 eP P 15 54 48.5 -0.5
comp=Z,50nm,1.3s,mb5.4
VIVF Saint-Julien-l 91.34 320 eP P 15 54 48.5 -0.5
VIVF pmax pmax
comp=Z,25nm,1.3s,mb5.4
VIVF Saint-Julien-l 91.34 320 eP P 15 54 48.5 -0.5
comp=Z,25nm,1.3s,mb5.4
BGF Bois d'Agland 91.45 322 eP P 15 54 48.9 -0.6
comp=Z,38nm,1.2s,mb5.3
BGF Bois d'Agland 91.45 322 eP P 15 54 48.9 -0.6
BGF pmax pmax
comp=Z,19nm,1.2s,mb5.3
BGF Bois d'Agland 91.45 322 eP P 15 54 48.9 -0.6
comp=Z,19nm,1.2s,mb5.3
AGO Saint Agoulin 91.58 322 eP P 15 54 51.4 +1.3
PRAF Pradon 91.62 319 eP P 15 54 51.1 +0.8
GELF Grande-Etoile 91.69 319 eP P 15 54 51.1 +0.5
EDM Edmonton 91.76 29 eP P 15 54 51.8 +0.9
LDF La Druitiere 91.89 325 eP P 15 54 50.4 -1.1
TCF Toulx Ste Croi 91.97 322 eP P 15 54 51.5 -0.4
comp=Z,102nm,1.4s,mb5.6
TCF Toulx Ste Croi 91.97 322 eP P 15 54 51.5 -0.4
TCF pmax pmax
comp=Z,51nm,1.4s,mb5.7
TCF Toulx Ste Croi 91.97 322 eP P 15 54 51.5 -0.4
comp=Z,51nm,1.4s,mb5.7
LBL Lubilhac 91.97 321 eP P 15 54 52.6 +0.7
FLN La Foliniere 91.98 325 eP P 15 54 50.7 -1.2
LASF Ste Croix 92.26 320 eP P 15 54 52.9 -0.3
comp=Z,129nm,1.8s,mb5.7
GRR Gorron 92.41 325 eP P 15 54 52.7 -1.2
comp=Z,52nm,1.4s,mb5.4
GRR Gorron 92.41 325 eP P 15 54 52.7 -1.2
GRR pmax pmax
comp=Z,26nm,1.4s,mb5.4
GRR Gorron 92.41 325 eP P 15 54 52.7 -1.2
comp=Z,26nm,1.4s,mb5.4
CAF Calviac 92.84 321 eP P 15 54 55.9 0.0
RJF Les Rejaudoux 92.94 322 eP P 15 54 56.4 +0.1
comp=Z,199nm,1.5s,mb6.0
RJF Les Rejaudoux 92.94 322 eP P 15 54 56.4 +0.1
RJF pmax pmax
comp=Z,100nm,1.5s,mb6.0
RJF Les Rejaudoux 92.94 322 eP P 15 54 56.4 +0.1
comp=Z,100nm,1.5s,mb6.0
KEST Kesra 93.08 311 P P 15 54 57.9 +0.9
comp=Z,3.6nm,0.9s,mb4.8,baz=219,slow=5.3,SNR=5.3
MFF Saint Martin d 93.10 324 eP P 15 54 56.7 -0.4
comp=Z,47nm,1.2s,mb5.5
MFF Saint Martin d 93.10 324 eP P 15 54 56.7 -0.4
MFF pmax pmax
comp=Z,24nm,1.2s,mb5.5
MFF Saint Martin d 93.10 324 eP P 15 54 56.7 -0.4
comp=Z,24nm,1.2s,mb5.5
LFF La Freslate 93.59 322 eP P 15 54 59.3 -0.1
MTLF Montolieu 93.66 320 eP P 15 54 59.3 -0.4
comp=Z,13nm,0.9s,mb5.0
MTLF Montolieu 93.66 320 eP P 15 54 59.3 -0.4
MTLF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
MTLF Montolieu 93.66 320 eP P 15 54 59.3 -0.4
comp=Z,6.6nm,0.9s,mb5.1
FFC Flin Flon 95.31 23 P P 15 55 07.1 -0.1
comp=Z,96nm,0.8s,mb6.3,SNR=5.8
ETSF Etsaut 95.56 321 eP P 15 55 08.4 0.0
comp=Z,26nm,1.4s,mb5.2
ETSF Etsaut 95.56 321 eP P 15 55 08.4 0.0
ETSF pmax pmax
comp=Z,13nm,1.4s,mb5.2
ETSF Etsaut 95.56 321 eP P 15 55 08.4 0.0
comp=Z,13nm,1.4s,mb5.2
PDAR Pinedale Array 100.72 35 P Pdif 15 55 30.6 -0.9
comp=Z,0.4nm,0.8s,baz=134,slow=2.6,SNR=2.6
ULM Lac du Bonnet 101.13 23 P Pdif 15 55 32.9 -0.5
comp=Z,1.4nm,0.5s,baz=331,slow=3.0,SNR=4.3
VNDA Vanda 102.35 172 PP PP 15 59 51.4 0.0
comp=Z,14nm,1.4s,baz=326,slow=10,SNR=4.2
TORD Torodi Ar. Bea 110.46 294 PKiKP PKiKP 16 00 14.8 -0.7
comp=Z,1.1nm,0.8s,baz=28,slow=2.5,SNR=5.9
TORD PKKPbc PKKPbc 16 11 15.6 +0.5
comp=Z,1.6nm,0.7s,baz=256,slow=2.7,SNR=11
TORD PKKPab PKKPab 16 11 26.2 +0.3
comp=Z,3.2nm,0.8s,baz=252,slow=4.5,SNR=13
VNA2 Neumayer–Watz 122.70 198 ePKPdf PKPdf 16 00 37.8 -1.1
baz=48,slow=1.0
VNA2 e 16 00 39.6
VNA2 e 16 00 49.9
VNA2 e 17 54 09.4
VNA2 e 17 54 16.7
VNA2 e 17 54 21.2
VNA2 e 17 54 24.4
VNA3 Neumayer Olymp 123.17 197 ePKPdf PKPdf 16 00 38.4 -1.4
VNA3 e 16 00 40.4
VNA3 e 16 00 49.7
SDV Santo Domingo 147.35 21 PKP PKPdf 16 01 25.2 +0.9
comp=Z,68nm,1.1s,baz=234,slow=23,SNR=27
SDV PKPbc PKPbc 16 01 27.6 +0.8

comp=Z,74nm,1.1s,baz=21,slow=8.6,SNR=28
PCRV Puerto La Cruz 147.54 9 PKPbc PKPbc 16 01 26.0 -1.4
comp=Z,12nm,0.7s,baz=16,slow=2.3,SNR=3.7
ROSC El Rosal 149.56 30 PKP PKPdf 16 01 29.9 +1.9
comp=Z,12nm,0.5s,baz=87,slow=19,SNR=7.8
ROSC PKPbc PKPbc 16 01 34.9 +2.3
comp=Z,12nm,0.5s,baz=66,slow=5.5,SNR=24
ROSC El Rosal 149.56 30 PKP PKPdf 16 01 29.9 +1.9
ROSC *e*PKPbc PKPbc 16 01 34.6 +2.1
ROSC PKPbc PKPbc 16 01 34.9 +2.3
OTAV Otavalo 151.16 42 *e*PKPdf PKPdf 16 01 33.0 +2.5
ATAH Atahualpa 156.45 53 PKP PKPdf 16 01 40.4 +2.4
comp=Z,4.1nm,0.7s,baz=132,slow=14,SNR=7.4
CFAA Coronel Fontan 167.79 143 PKP PKPdf 16 01 49.5 0.0
comp=Z,0.2nm,0.4s,baz=223,slow=6.5,SNR=4.4
CFAA PKPab PKPab 16 02 56.0 -0.2
comp=Z,0.2nm,0.5s,baz=46,slow=23,SNR=3.6
CFAA Coronel Fontan 167.79 143 PKP PKPdf 16 01 49.5 0.0
CFAA PKPab PKPab 16 02 56.0 -0.2
LPAZ La Paz 170.07 56 PKP PKPdf 16 01 53.1 +2.3
comp=Z,6.4nm,1.1s,baz=13,slow=4.0,SNR=17
LPAZ PKPab PKPab 16 03 06.5 +0.2
comp=Z,3.3nm,0.8s,baz=1.3,slow=8.2,SNR=6.2
LPAZ La Paz 170.07 56 *e*PKPdf PKPdf 16 01 53.0 +2.1
SIV San Ignacio 173.76 13 PKP PKPdf 16 01 53.8 +1.2
comp=Z,12nm,1.1s,baz=315,slow=1.2,SNR=25
SIV PKPab PKPab 16 03 22.3 -0.4
comp=Z,4.6nm,1.0s,baz=339,slow=2.3,SNR=8.0
SIV PP PP 16 07 11.8 -2.7
comp=Z,1.2nm,0.8s,baz=3.7,slow=2.3,SNR=5.9

*NEIC **26** 15:55:13.0±0.6, 4836N×15470E, h10km, Error ellipse: s-maj=19.0km s-min=15.8km az=119.0*
*ISCJB **26** 15:55:17.6±1.4, 485N±0.1×1550E±02, h59km±12km, mb3.6/9, Error ellipse: s-maj=27.1km s-min=6.8km az=82.6*
*MOS **26** 15:55:17.4±1.2, 4846N×15487E, h59km, mb4.0/1, Error ellipse: s-maj=30.4km s-min=14.0km az=68.8*
*IDC **26** 15:55:21.9±4.7, 4838N×15469E, h82km±43km, mb3.3/9, mb1 3.5/10, mb1mx3.4/24, mbtmp3.3/10, ML3.6/1, Error ellipse: s-maj=27.2km s-min=19.7km az=120.0*
ISC 26 15:55:19.8±1.2, 485N±01×1549E±02, h65km±10km, n14, σ1°04/17, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.33**	**19**	*e*PN	**Pn**	**15 55 54.3**	**-1.5**
SKR				*e*S	**Sn**	**15 56 22.9**	**-0.4**
SKR				pmax	pmax		
	comp=Z,100nm,0.3s						
SKR				smax			
	comp=N,490nm,0.4s						
SKR				smax			
	comp=E,240nm,0.4s						
SKR				smax			
	comp=Z,140nm,0.5s						
PET	**Petropavlovsk**	**5.12**	**26**	*e*PN	**Pn**	**15 56 33.6**	**-0.3**
PET				*e*S	**Sn**	**15 57 33.0**	**+1.3**
PET				pmax	pmax		
	comp=Z,28nm,0.7s						
PET				smax			
	comp=E,144nm,0.5s						
KUR	**Kuril'sk**	**5.82**	**239**	*e*PN	**Pn**	**15 56 43.0**	**-0.5**
KUR				*e*S	**Sn**	**15 57 51.0**	**+2.2**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR				smax			
	comp=N,190nm,1.0s						
KUR				smax			
	comp=E,130nm,1.0s						
ASAJ	**Asahikawa**	**9.57**	**247**	P	**Pn**	**15 57 35.2**	**+0.5**
	comp=E,0.7nm,0.3s,baz=115,slow=8.3,SNR=9.3						
ASAJ	**Asahikawa**	**9.57**	**247**	PN	**Pn**	**15 57 35.3**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.49**	**251**	P	**P**	**16 00 12.4**	**-1.4**
	comp=Z,3.0nm,1.0s,mb3.7,baz=40,slow=8.1,SNR=4.8						
MKAR	**Makanchi Array**	**47.22**	**297**	P	**P**	**16 03 45.1**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=58,slow=7.3,SNR=5.0						
YKA	**Yellowknife Ar**	**48.80**	**38**	P	**P**	**16 03 58.8**	**+0.4**
	comp=Z,0.4nm,0.9s,mb3.5,baz=294,slow=7.1,SNR=4.4						
BVAR	**Borovoye Array**	**50.69**	**309**	P	**P**	**16 04 12.3**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=56,slow=7.7,SNR=2.9						
PDAR	**Pinedale Array**	**62.75**	**56**	P	**P**	**16 05 39.9**	**+1.7**
	comp=Z,0.6nm,0.9s,mb3.7,baz=241,slow=1.5,SNR=4.3						
WRA	**Warramunga Arr**	**70.56**	**201**	P	**P**	**16 06 26.9**	**-1.1**
	comp=Z,0.7nm,0.9s,mb3.6,baz=14,slow=5.8,SNR=4.4						
ASAR	**Alice Springs**	**74.25**	**200**	P	**P**	**16 06 49.4**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=15,slow=5.6,SNR=5.5						
EKA	**Eskdalemuir Ar**	**74.92**	**347**	P	**P**	**16 06 54.6**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=28,slow=4.9,SNR=4.8						
GERES	**GERESS Array B**	**77.40**	**335**	P	**P**	**16 07 08.6**	**+0.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=39,slow=5.1,SNR=3.8						

*IDC **26** 15:56:30.8±0.9, 2184N×12071E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.6/7, Error ellipse: s-maj=68.4km s-min=17.8km az=66.0*
*NEIC **26** 15:56:32.5±0.6, 2173N×12051E, h10km, MG3.2(JMA), Error ellipse: s-maj=17.5km s-min=10.2km az=84.0*
*ISCJB **26** 15:56:36.2±1.6, 2180N±009×12074E±008, h55km±15km, mb3.5/7, Error ellipse: s-maj=15.8km s-min=12.4km az=139.2*
*JMA **26** 15:56:36.1±0.4, 2161N×12091E, h93km, M3.2*
ISC 26 15:56:37.4±1.7, 2181N±010×12068E±009, h48km±17km, n16, σ0°64/21, mb3.5/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.50**	**19**	*e*Pn	**Pn**	**15 57 15.4**	**-0.1**
YHNB	**Yeheng**	**2.92**	**12**	*e*Pn	**Pn**	**15 57 21.0**	**-0.3**
YOJ	**Yonaguni jima**	**3.40**	**39**	P	**Pn**	**15 57 28.3**	**+0.4**
YOJ				*e*S	**Sn**	**15 58 09.5**	**+2.6**
HATJ	**Hateruma jima**	**3.65**	**52**	S	**Sn**	**15 58 12.0**	**-1.0**
IRIF	**Iriomote-Funau**	**3.77**	**48**	P	**Pn**	**15 57 33.1**	**+0.2**
IRIF				S	**Sn**	**15 58 16.7**	**+0.7**
JKRS	**Kuro-shima**	**3.90**	**51**	P	**Pn**	**15 57 34.9**	**+0.1**
JKRS				S	**Sn**	**15 58 18.6**	**-0.7**
JIJ	**Ishigaki jima**	**4.08**	**51**	P	**Pn**	**15 57 36.8**	**-0.3**
JIJ				S	**Sn**	**15 58 23.4**	**-0.2**
JTJ	**Tarama**	**4.65**	**52**	P	**Pn**	**15 57 44.7**	**-0.3**
JTJ				S	**Sn**	**15 58 37.3**	**-0.4**
SONM	**Songino Array**	**28.39**	**340**	P	**P**	**16 02 26.7**	**-0.4**
	0.5nm,1.1s,mb3.1,baz=153,slow=9.7,SNR=3.6						
MK31	**Makanchi Array**	**39.75**	**318**	P	**P**	**16 04 05.9**	**+0.6**
MKAR	**Makanchi Array**	**39.75**	**318**	P	**P**	**16 04 05.0**	**-0.3**
	0.4nm,0.5s,mb3.4,baz=112,slow=9.4,SNR=7.0						
ZAL	**Zalesovo**	**42.01**	**329**	P	**P**	**16 04 23.1**	**-0.7**
	1.0nm,0.7s,mb3.6,baz=4.6,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**43.59**	**161**	P	**P**	**16 04 36.6**	**-0.1**
	1.1nm,0.6s,mb3.7,baz=342,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**47.00**	**163**	P	**P**	**16 05 04.2**	**+0.6**
	0.3nm,0.5s,mb3.5,baz=340,slow=6.9,SNR=16						
BVAR	**Borovoye Array**	**49.23**	**322**	P	**P**	**16 05 21.1**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=108,slow=8.5,SNR=7.4						
YKA	**Yellowknife Ar**	**85.33**	**23**	P	**P**	**16 09 09.4**	**+0.2**
	0.3nm,0.8s,mb3.5,baz=316,slow=5.3,SNR=5.9						

*STR **26** 15:57:41.9±0.1, 4299N×053W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **26** 15:57:42.1±0.1, 4309N×053W, h10km, ML1.8, Error ellipse: s-maj=2.4km s-min=1.3km az=3.0*
*LDG **26** 15:57:42.4±0.1, 4308N×053W, h2km, Md1.3/3, Error ellipse: s-maj=2.6km s-min=1.3km az=3.0*
MDD 26 15:57:42.3±0.9, 4308N×053W, h9km±7km, mbLg0.0/1, Error ellipse: s-maj=4.7km s-min=2.4km az=9.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.10**	**96**	Pg	Pg	15 57 44.6	-0.2
REYF				Sg	Sg	15 57 46.5	0.0
REYF	**Montagne du Re**	**0.10**	**96**	P	Pg	15 57 44.6	-0.2
REYF				S	Sg	15 57 46.6	0.0
ATE	**Arette**	**0.12**	**273**	Pg	Pg	15 57 45.0	-0.2
ATE				Sg	Sg	15 57 47.4	+0.3
ATE	**Arette**	**0.12**	**273**	P	Pg	15 57 45.0	-0.1
ATE				S	Sg	15 57 47.3	+0.2
ETSF	**Etsaut**	**0.18**	**187**	*e*Pg	Pg	15 57 46.2	0.0
ETSF				*e*Sg	Sg	15 57 48.6	-0.1
	2.4nm,0.2s						
ETSF	**Etsaut**	**0.18**	**187**	*e*Pg	Pg	15 57 46.2	0.0
ETSF				*e*Sg	Sg	15 57 48.6	-0.1
	1.2nm,0.2s						
SJPF	**Ste Jean**	**0.51**	**274**	*e*Sg	Sg	15 57 58.6	-0.3
	0.5nm,0.2s						
SJPF	**Ste Jean**	**0.51**	**274**	*e*Sg	Sg	15 57 58.6	-0.3
	0.2nm,0.2s						
EBIE	**Bielsa**	**0.63**	**128**	Pg	Pg	15 57 54.4	-0.2
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		15 58 02.5	
	0.3nm,0.0s,SNR=7.9						
EPF	**Esparros**	**0.64**	**94**	*e*Sg	Sg	15 58 03.0	0.0
	0.6nm,0.1s						
EPF	**Esparros**	**0.64**	**94**	*e*Sg	Sg	15 58 03.0	0.0
	0.3nm,0.1s						

*IDC **26** 16:01:46.5±1.0, 2213N×12058E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.5/21, mbtmp3.4/6, Error ellipse: s-maj=66.8km s-min=20.6km az=67.0*
*NEIC **26** 16:01:48.1±0.7, 2200N×12029E, h10km, MG3.4(JMA), Error ellipse: s-maj=21.5km s-min=12.2km az=90.0*
*ISCJB **26** 16:01:51.2±1.6, 2204N±010×12048E±008, h48km±16km, mb3.3/6, Error ellipse: s-maj=16.9km s-min=12.1km az=132.3*
*JMA **26** 16:01:51.6±0.3, 2188N×12066E, h110km, M3.4*
ISC 26 16:01:52.3±1.7, 2205N±010×12042E±009, h41km±17km, n14, σ0°66/20, mb3.3/6, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.37**	**27**	*e*Pn	**Pn**	**16 02 29.0**	**+0.3**
YHNB	**Yeheng**	**2.75**	**18**	*e*Pn	**Pn**	**16 02 33.5**	**-0.4**
YOJ	**Yonaguni jima**	**3.38**	**44**	P	**Pn**	**16 02 43.1**	**+0.6**
YOJ				S	**Sn**	**16 03 23.0**	**+1.6**
HATJ	**Hateruma jima**	**3.70**	**57**	P	**Pn**	**16 02 46.6**	**-0.3**
HATJ				S	**Sn**	**16 03 29.2**	**-0.1**
IRIF	**Iriomote-Funau**	**3.80**	**53**	P	**Pn**	**16 02 48.4**	**+0.1**
IRIF				S	**Sn**	**16 03 32.5**	**+0.8**
JKRS	**Kuro-shima**	**3.96**	**56**	P	**Pn**	**16 02 50.5**	**+0.1**
JKRS				S	**Sn**	**16 03 35.5**	**0.0**
JIJ	**Ishigaki jima**	**4.13**	**55**	P	**Pn**	**16 02 52.4**	**-0.4**
JIJ				S	**Sn**	**16 03 38.8**	**-1.0**
JTJ	**Tarama**	**4.70**	**56**	P	**Pn**	**16 03 00.3**	**-0.4**
JTJ				S	**Sn**	**16 03 53.2**	**-0.8**
SONM	**Songino Array**	**28.09**	**340**	P	**P**	**16 07 38.6**	**-1.3**
	0.2nm,0.6s,mb2.9,baz=162,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**39.41**	**318**	P	**P**	**16 09 18.1**	**0.0**
	0.4nm,0.6s,mb3.3,baz=113,slow=8.7,SNR=5.0						
WRA	**Warramunga Arr**	**43.90**	**161**	P	**P**	**16 09 54.6**	**-0.2**
	0.7nm,1.0s,mb3.3,baz=344,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**47.30**	**163**	P	**P**	**16 10 22.4**	**+0.8**
	0.2nm,0.4s,mb3.4,baz=346,slow=7.0,SNR=13						
BVAR	**Borovoye Array**	**48.90**	**322**	P	**P**	**16 10 34.8**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=105,slow=8.5,SNR=4.5						
YKA	**Yellowknife Ar**	**85.20**	**22**	P	**P**	**16 14 24.3**	**-0.1**
	0.2nm,0.7s,mb3.4,baz=312,slow=4.6,SNR=3.5						

*MAN **26** 16:06:54.2, 563N×12431E, h596km, mb3.6, ML4.7, MS5.1*
*ISCJB **26** 16:06:59.9±0.3, 595N±005×12407E±006, h542km±4km, mb4.4/32, Error ellipse: s-maj=10.8km s-min=6.1km az=118.1*
*BJI **26** 16:07:01.2, 590N×12390E, h553km, mb4.4*
*IDC **26** 16:07:02.7±1.1, 587N×12400E, h560km±14km, mb3.6/15, mb1 3.7/16, mb1mx3.5/27, mbtmp3.7/16, Error ellipse: s-maj=21.5km s-min=6.8km az=65.0*
*NEIC **26** 16:07:02.3±0.7, 587N×12394E, h554km±9km, mb4.5/15, Error ellipse: s-maj=11.5km s-min=4.6km az=56.0*
ISC 26 16:07:01.0±0.3, 595N±005×12406E±006, h536km±4km, n74, σ0°76/75, mb4.4/32, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.47**	**44**	*e*P	**P**	**16 08 08.6**	**+1.4**
BUKP	**Musuan**	**2.16**	**27**	*e*P	**P**	**16 08 10.0**	**-0.1**
MATI	**Mati**	**2.39**	**65**	*e*P	**P**	**16 08 09.6**	**-1.7**
DCPH	**Dipolog City**	**2.71**	**345↑**	*e*P	**P**	**16 08 13.2**	**+0.1**
BUTP	**Butuan**	**3.38**	**27**	*e*P	**P**	**16 08 17.2**	**-0.1**
SCPH	**Surigao**	**4.06**	**20**	*e*P	**P**	**16 08 21.9**	**-0.4**
MSLP	**Maasin**	**4.23**	**11**	*e*P	**P**	**16 08 23.9**	**+0.3**
GUIM	**Jordan**	**4.87**	**343**	*e*P	**P**	**16 08 26.4**	**-2.5**
OCLP	**Ormoc**	**5.10**	**6**	*e*P	**P**	**16 08 31.3**	**+0.5**
CUYO	**Cuyo Island**	**5.73**	**328**	*e*P	**P**	**16 08 36.1**	**-0.3**
TSM	**Tawau**	**6.38**	**255**	P	**P**	**16 08 43.0**	**+0.5**
OTRP	**Odiongan**	**6.69**	**343**	*e*P	**P**	**16 08 45.2**	**-0.1**
BATP	**Bataraza**	**6.83**	**295**	*e*P	**P**	**16 08 46.7**	**0.0**
ENPP	**El Nido**	**6.95**	**319**	*e*P	**P**	**16 08 47.8**	**-0.1**
BUSP	**Coron**	**7.12**	**328**	*e*P	**P**	**16 08 49.4**	**-0.2**
KKM	**Kota Kinabalu**	**7.81**	**271**	P	**P**	**16 08 56.6**	**+0.2**
KKM	**Kota Kinabalu**	**7.81**	**271**	*e*P	**P**	**16 08 55.8**	**-0.6**
LUBP	**Lubang**	**8.60**	**334**	*e*P	**P**	**16 09 04.5**	**+0.2**
TGY	**Tagaytay City**	**8.67**	**339**	P	**P**	**16 09 08.1**	**+3.1**
	35nm,0.3s,baz=188,slow=8.5,SNR=3.6						
POLP	**Polilio Island**	**8.97**	**347**	*e*P	**P**	**16 09 07.7**	**-0.4**
KSM	**Kuching**	**14.43**	**253**	*e*P	**P**	**16 10 04.3**	**-0.4**
KAKA	**Kakadu**	**20.32**	**156**	*e*P	**P**	**16 11 00.1**	**-0.5**
	28nm,0.6s						
KGM	**Kluang**	**21.06**	**260**	P	**P**	**16 11 07.4**	**+0.1**
IPM	**Ipoh**	**22.99**	**267**	P	**P**	**16 11 24.7**	**+0.1**
KULM	**Kulim**	**23.31**	**270**	*e*P	**P**	**16 11 27.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.95**	**176**	*e*P	**P**	**16 11 32.9**	**-0.2**
	8.2nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.95**	**176**	P	**P**	**16 11 33.0**	**-0.1**
	2.7nm,0.5s,mb4.1,baz=22,slow=7.7,SNR=16						
PSI	**Prapat**	**25.26**	**264**	P	**P**	**16 11 44.7**	**0.0**
	8.2nm,0.6s,mb4.5,baz=84,slow=6.3,SNR=9.0						
CM31	**Chiang Mai Arr**	**27.47**	**299**	*e*P	**P**	**16 12 05.1**	**+1.0**
	3.1nm,0.6s,mb4.1						
PMG	**Port Moresby**	**27.61**	**123**	P	**P**	**16 12 05.2**	**-0.2**
	9.5nm,0.8s,mb4.5,baz=160,slow=1.6,SNR=4.8						
PMG	**Port Moresby**	**27.61**	**123**	*e*P	**P**	**16 12 05.0**	**-0.4**
CHTO	**Chiang Mai**	**27.61**	**300**	*e*P	**P**	**16 12 05.5**	**+0.1**
	12nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**27.64**	**159**	P	**P**	**16 12 05.3**	**-0.4**
	15nm,0.4s,mb5.0,baz=342,slow=9.2,SNR=339						
WRA				S	**S**	**16 16 05.3**	**-4.6**
	2.7nm,0.7s,baz=345,slow=14,SNR=7.5						
WRA				ScP	ScP	16 17 54.8	-0.5
	1.9nm,0.6s,baz=340,slow=3.1,SNR=11						
WB2	**Warramunga Arr**	**27.65**	**159↑**	*i*P	**P**	**16 12 05.3**	**-0.4**
ASAR	**Alice Springs**	**30.96**	**162**	P	**P**	**16 12 34.9**	**+0.5**
	14nm,0.5s,mb4.8,baz=344,slow=7.0,SNR=540						
ASAR				S	**S**	**16 16 59.7**	**-1.5**
	6.7nm,0.8s,baz=335,slow=13,SNR=30						
ASAR				ScP	ScP	16 18 05.7	-0.4
	1.6nm,0.5s,baz=343,slow=3.5,SNR=7.5						
XAN	**Xi'an**	**31.28**	**335**	P	**P**	**16 12 37.0**	**-0.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
CTA	**Charters Tower**	**33.85**	**140↑**	*i*P	**P**	**16 12 59.9**	**+1.0**
	comp=Z,5.6nm,0.6s,mb4.3						
CTA	**Charters Tower**	**33.85**	**140**	P	**P**	**16 12 60.0**	**+1.1**
	comp=Z,7.6nm,0.6s,mb4.4,baz=326,slow=11,SNR=14						
FORT	**Forrest**	**36.72**	**174**	*e*P	**P**	**16 13 22.8**	**0.0**
	comp=Z,10nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**37.81**	**189**	*e*P	**P**	**16 13 31.0**	**-0.7**
	comp=Z,4.7nm,0.3s,mb4.5						
MUN	**Mundaring**	**38.45**	**191**	*e*P	**P**	**16 13 36.1**	**-0.8**
LSA	**Lhasa**	**38.99**	**311**	P	**P**	**16 13 43.3**	**+2.0**
LSA	**Lhasa**	**38.99**	**311**	*e*P	**P**	**16 13 42.7**	**+1.4**
	comp=Z,4.9nm,0.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**39.20**	**189**	P	**P**	**16 13 43.1**	**+0.2**
	comp=Z,6.3nm,0.5s,mb4.4,baz=18,slow=6.4,SNR=17						
NWAO	**Narrogin (SRO)**	**39.20**	**189**	*e*P	**P**	**16 13 43.0**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.3						
GTA	**Gaotai**	**39.85**	**330**	*e*P	**P**	**16 13 49.5**	**+1.3**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**41.16**	**157↑**	*i*P	**P**	**16 13 59.3**	**+0.6**
	comp=Z,9.8nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**41.16**	**157**	P	**P**	**16 13 59.5**	**+0.8**
	comp=Z,13nm,0.7s,mb4.6,baz=332,slow=7.2,SNR=37						
GUN	**Gumba**	**42.28**	**306**	*e*P	**P**	**16 14 08.3**	**+0.8**
	comp=Z,32nm,0.7s,mb5.0						
PKI	**Pulchoki**	**42.53**	**305**	*e*P	**P**	**16 14 09.6**	**+0.2**
KKN	**Kakani**	**42.72**	**305**	*e*P	**P**	**16 14 10.9**	**0.0**
	comp=Z,26nm,0.9s,mb4.8						
DMN	**Daman**	**42.79**	**305**	*e*P	**P**	**16 14 11.8**	**+0.3**
GKN	**Gorkha**	**43.33**	**305**	*e*P	**P**	**16 14 15.8**	**+0.1**
	comp=Z,9.7nm,0.6s,mb4.5						
KOLN	**Koldanda**	**44.09**	**304**	*e*P	**P**	**16 14 22.0**	**+0.5**
	comp=Z,42nm,0.5s,mb5.2						
SONM	**Songino Array**	**44.39**	**343**	P	**P**	**16 14 24.3**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.5,baz=156,slow=8.5,SNR=9.1						
SONM				PcP	PcP	16 15 54.7	-1.3
	comp=Z,0.3nm,0.4s,baz=158,slow=4.7,SNR=3.9						
ARMA	**Armidale**	**44.78**	**145**	*e*P	**P**	**16 14 28.8**	**+1.9**
CNB	**Canberra Magne**	**47.45**	**152**	*e*P	**P**	**16 14 48.6**	**+1.4**
	comp=Z,21nm,1.1s,mb4.6						
MK31	**Makanchi Array**	**54.23**	**326**	*e*P	**P**	**16 15 36.8**	**+0.4**
MKAR	**Makanchi Array**	**54.23**	**326**	P	**P**	**16 15 36.9**	**+0.4**
	comp=Z,7.3nm,0.4s,mb4.4,baz=120,slow=8.0,SNR=177						
MKAR				PcP	PcP	16 16 31.8	-0.6
	comp=Z,1.5nm,0.5s,baz=108,slow=4.6,SNR=6.6						
MKAR				ScP	ScP	16 19 37.9	-1.3
	comp=Z,1.9nm,0.6s,baz=120,slow=4.7,SNR=11						
MKAR	**Makanchi Array**	**54.23**	**326**	P	**P**	**16 15 36.9**	**+0.4**
MKAR				PcP	PcP	16 16 31.8	-0.6
MKAR				ScP	ScP	16 19 37.9	-1.3
ZAL	**Zalesovo**	**57.43**	**334**	P	**P**	**16 15 58.2**	**-0.3**
	comp=Z,1.5nm,0.5s,mb3.5,baz=338,slow=4.7,SNR=6.2						
KURK	**Kurchatov**	**58.46**	**328**	*e*P	**P**	**16 16 05.3**	**-0.2**
	comp=Z,13nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**64.03**	**327**	P	**P**	**16 16 41.7**	**-0.4**
	comp=Z,1.5nm,0.4s,mb3.7,baz=145,slow=8.7,SNR=20						
BRVK	**Borovoye**	**64.10**	**327**	*e*P	**P**	**16 16 41.8**	**-0.7**
AKTK	**Aktyubinsk**	**70.28**	**322**	P	**P**	**16 17 20.2**	**-0.2**
AKTO	**Aktyubinsk**	**70.28**	**322**	P	**P**	**16 17 20.2**	**-0.2**
	comp=Z,7.9nm,0.7s,mb4.4,baz=101,slow=8.7,SNR=22						
QRN	**Al-Qurain**	**75.03**	**298**	*e*P	**P**	**16 17 47.3**	**-0.5**
QRN				AMb	AMB	16 17 47.8	
	comp=Z,49nm,0.4s,mb5.3						
RDF	**Al-Radifah**	**75.35**	**298**	*e*P	**P**	**16 17 49.0**	**-0.6**
RDF				AMb	AMB	16 17 49.5	
	comp=Z,23nm,0.6s,mb4.8						
MIB	**Mutribah**	**75.56**	**299**	*e*P	**P**	**16 17 50.0**	**-0.7**
MIB				AMb	AMB	16 17 51.4	
	comp=Z,40nm,0.7s,mb5.0						
NAY	**Al-Naaiem**	**75.63**	**299**	*e*P	**P**	**16 17 50.4**	**-0.8**
NAY				AMb	AMB	16 17 51.6	
	comp=Z,13nm,0.5s,mb4.6						
BRTR	**Keskin Array B**	**86.57**	**309**	P	**P**	**16 18 46.4**	**-1.0**
	comp=Z,1.0nm,0.8s,mb3.5,baz=111,slow=5.4,SNR=5.5						
FINES	**FINESS Array B**	**88.63**	**332**	P	**P**	**16 18 55.5**	**-1.6**
	comp=Z,1.1nm,0.6s,mb3.9,baz=62,slow=5.9,SNR=8.1						
FINES	**FINESS Array B**	**88.63**	**332**	P	**P**	**16 18 55.5**	**-1.6**
TORD	**Torodi Ar. Bea**	**119.70**	**289**	PKP	PKPdf	16 24 49.6	-0.5
	comp=Z,0.6nm,0.5s,baz=68,slow=1.5,SNR=8.4						
TORD				PP	PP	16 26 12.3	-10
	comp=Z,0.6nm,0.9s,baz=68,slow=5.2,SNR=3.6						

*IDC **26** 16:10:29.3±0.7, 2196N×12063E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.1/24, mbtmp4.0/15, ML3.7/2, Error ellipse: s-maj=23.5km s-min=15.0km az=74.0*
*NEIC **26** 16:10:30.8±0.4, 2196N×12063E, h10km, mb4.6/2, Error ellipse: s-maj=10.0km s-min=6.9km az=100.0*
*MOS **26** 16:10:32.7±0.7, 2208N×12073E, h33km, mb4.9/2, Error ellipse: s-maj=26.4km s-min=15.0km az=95.6*
*ISCJB **26** 16:10:33.0±0.9, 2195N±005×12059E±007, h41km±9km, mb4.0/15, Error ellipse: s-maj=11.4km s-min=6.5km az=65.3*
*JMA **26** 16:10:33.4±0.3, 2187N×12062E, h67km, M4.6*
*BJI **26** 16:10:37.1, 2279N×11977E, h10km, mb4.4, ML3.5*
ISC 26 16:10:33.0±1.8, 2198N±005×12050E±005, h24km±14km, n36, σ0°88/44, mb4.0/15, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.41**	**25**	*e*P	**Pn**	**16 11 09.7**	**-1.1**
YHNB	**Yeheng**	**2.80**	**17**	*e*Pn	**Pn**	**16 11 15.7**	**-0.5**
TATO	**Taipei**	**3.12**	**17**	*e*P	**Pn**	**16 11 21.1**	**+0.5**
YOJ	**Yonaguni jima**	**3.38**	**43**	P	**Pn**	**16 11 25.1**	**+0.8**
YOJ				S	**Sn**	**16 12 04.6**	**+1.0**
HATJ	**Hateruma jima**	**3.68**	**55**	P	**Pn**	**16 11 28.8**	**+0.4**
HATJ				S	**Sn**	**16 12 10.3**	**-0.7**
IRIF	**Iriomote-Funau**	**3.79**	**51**	P	**Pn**	**16 11 30.6**	**+0.8**
IRIF				S	**Sn**	**16 12 14.0**	**+0.4**
JKRS	**Kuro-shima**	**3.94**	**55**	P	**Pn**	**16 11 32.7**	**+0.8**
JKRS				S	**Sn**	**16 12 18.2**	**+0.9**
JIJ	**Ishigaki jima**	**4.11**	**54**	P	**Pn**	**16 11 34.6**	**+0.4**
JIJ				S	**Sn**	**16 12 20.6**	**-0.9**
**APY

SMLA			*e*S		**Sn**	**16 26 31.5 +5.0**
KLP	**Kalpa**	**2.68 129**	*e*P		**Pn**	**16 26 04.7 +2.6**
KLP			*e*S		**Sn**	**16 26 37.0 +3.7**
KLP			AML	AML		16 26 52.8
	comp=E,1μm,0.3s					
KLP			AML	AML		16 26 53.1
	comp=N,812nm,0.7s					
JOSI	**Joshimath**	**4.17 129**	*e*P		**Pn**	**16 26 24.4 +1.9**
JOSI			*e*S		**Sn**	**16 27 12.0 +2.1**
JOSI			AML	AML		16 27 28.7
	comp=E,236nm,0.4s					
JOSI			AML	AML		16 27 29.6
	comp=N,264nm,0.7s					
NDI	**New Delhi**	**4.71 165**	*e*P		**Pn**	**16 26 33.1 +3.2**
NDI			*e*S		**Sn**	**16 27 21.9 -1.4**
NDI			*e*x		x	16 27 25.0
NDI			AML	AML		16 27 48.0
	comp=E,74nm,0.6s					
NDI			AML	AML		16 27 48.7
	comp=N,56nm,1.4s					
AYAN	**Aya Nagar**	**4.89 166**	*e*P		**Pn**	**16 26 34.8 +2.5**
AYAN			*e*S		**Sn**	**16 27 28.6 +1.0**
AYAN			AML	AML		16 27 51.4
	comp=Z,43nm,0.6s					
SONA	**Sohna**	**5.11 167**	*e*P		**Pn**	**16 26 37.7 +2.4**
SONA			*e*S		**Sn**	**16 27 32.9 0.0**
SONA			AML	AML		16 28 10.5
	comp=E,64nm,0.6s					
SONA			AML	AML		16 28 11.3
	comp=N,49nm,0.3s					
KHET	**Khetri**	**5.16 180**	*e*P		**Pn**	**16 26 36.9 +0.8**
KHET			*e*S		**Sn**	**16 27 33.4 -1.0**
KHET			AML	AML		16 27 59.0
	comp=E,58nm,0.5s					
KHET			AML	AML		16 27 59.5
	comp=N,296nm,0.2s					
PTH	**Pithoragarh**	**5.27 133**	*e*P		**Pn**	**16 26 46.1 +8.5**
PTH			*e*S		**Sn**	**16 27 41.2 +4.1**
LGTI	**Lohaghat**	**5.36 134**	*e*x		**Pn**	**16 26 45.3 +6.5**
LGTI			*e*x		x	16 28 06.3
KBL	**Kabul**	**5.77 285**	*e*Pn		**Pn**	**16 26 45.8 +1.4**
KSH	**Kashi**	**6.25 1**	P		**Pn**	**16 26 55.0 +4.0**
KSH			S		**Sn**	**16 27 58.8 -2.4**
KSH			Smax			
	comp=N,110nm,0.8s					
KSH			Smax			
	comp=E,48nm,0.5s					
AGRA	**Agra**	**6.28 162**	*e*S		**Sn**	**16 28 00.1 -1.7**
AGRA			AML	AML		16 28 47.8
	comp=E,91nm,0.4s					
AGRA			AML	AML		16 28 49.7
	comp=N,78nm,0.3s					
AJM	**Ajmer**	**6.83 189**	*e*P		**Pn**	**16 26 59.0 +0.1**
AJM			*i* S		**Sn**	**16 28 13.0 -2.3**
KOLN	**Koldanda**	**8.66 127**	*e*P		**Pn**	**16 27 21.8 -2.2**
	comp=N,5.1nm,0.2s					
KOLN			*e*S		**Sn**	**16 28 55.0 -5.4**
GKN	**Gorkha**	**9.23 122**	*e*P		**Pn**	**16 27 30.5 -1.4**
	comp=N,9.9nm,0.2s					
GKN			*e*S		**Sn**	**16 29 09.8 -4.6**
AAK	**Ala-Archa**	**9.42 354**	*e*Pn		**Pn**	**16 27 34.7 +0.2**
	comp=N,2.4nm,0.5s					
DMN	**Daman**	**9.80 123**	*e*P		**Pn**	**16 27 37.9 -1.7**
	comp=N,15nm,0.5s					
KKN	**Kakani**	**9.81 121**	*e*P		**Pn**	**16 27 38.8 -1.1**
	comp=N,13nm,0.5s					
PKI	**Pulchoki**	**10.04 122**	*e*P		**Pn**	**16 27 41.4 -1.5**
	comp=N,8.8nm,0.3s					
GUN	**Gumba**	**10.18 119**	*e*P		**Pn**	**16 27 44.6 -0.3**
	comp=N,11nm,0.3s					
JIRN	**Jiri**	**10.55 119**	*e*P		**Pn**	**16 27 48.9 -1.0**
	comp=N,17nm,0.4s					
MK31	**Makanchi Array**	**14.40 18**	*e*Pn		**Pn**	**16 28 42.0 -0.5**
MKAR	**Makanchi Array**	**14.40 18**	Pn		**Pn**	**16 28 41.7 -0.8**
	comp=N,0.3nm,0.3s,baz=202,slow=13,SNR=12					
MKAR	**Makanchi Array**	**14.40 18**	Pn		**Pn**	**16 28 41.7 -0.8**
KURK	**Kurchatov**	**17.57 6**	*e*P		**Pn**	**16 29 23.6 +0.5**
	comp=N,0.8nm,0.3s					
BVAR	**Borovoye Array**	**20.14 350**	P		**P**	**16 29 52.1 +0.1**
	comp=N,1.6nm,0.6s,baz=157,slow=11,SNR=19					
BRVK	**Borovoye**	**20.19 350**	*e*P		**P**	**16 29 53.2 +0.7**
	comp=N,2.5nm,0.6s					
AKTK	**Aktyubinsk**	**21.59 328**	P		**P**	**16 30 07.7 +0.1**
AKTO	**Aktyubinsk**	**21.59 328**	P		**P**	**16 30 07.7 +0.1**
	comp=N,4.9nm,0.6s,mb4.1,baz=126,slow=10,SNR=16					
ZAL	**Zalesovo**	**21.64 15**	P		**P**	**16 30 09.2 +1.0**
	comp=N,1.3nm,0.3s,mb3.8,baz=293,slow=5.6,SNR=6.7					
SONM	**Songino Array**	**27.21 49**	P		**P**	**16 31 01.7 +0.4**
	comp=N,0.2nm,0.4s,mb3.0,baz=264,slow=7.1,SNR=2.5					
FINES	**FINESS Array B**	**42.37 327**	P		**P**	**16 33 11.1 -0.4**
	comp=N,4.2nm,1.0s,mb4.0,baz=150,slow=7.9,SNR=4.5					
TOA0	**Torodi Ar. Sit**	**69.71 273**	*e*P		**P**	**16 36 25.8 -1.2**
TORD	**Torodi Ar. Bea**	**69.71 273**	P		**P**	**16 36 26.4 -0.5**
	comp=N,1.0nm,0.5s,mb4.0,baz=48,slow=5.9,SNR=19					
WRA	**Warramunga Arr**	**76.91 125**	P		**P**	**16 37 09.9 +0.5**
	comp=N,1.3nm,0.6s,mb4.0,baz=325,slow=5.5,SNR=37					
WB2	**Warramunga Arr**	**76.92 125**	*e*P		**P**	**16 37 10.2 +0.8**
BOSA	**Boshof**	**77.99 224**	P		**P**	**16 37 14.7 -0.7**
	comp=N,0.9nm,0.6s,mb3.9,baz=109,slow=17,SNR=4.3					
ASAR	**Alice Springs**	**79.15 128**	P		**P**	**16 37 22.6 +0.8**
	comp=N,0.7nm,0.6s,mb3.7,baz=313,slow=5.0,SNR=15					
YKA	**Yellowknife Ar**	**84.22 5**	P		**P**	**16 37 48.3 -0.2**
	comp=N,0.3nm,0.6s,mb3.6,baz=345,slow=5.2,SNR=12					
YKA	**Yellowknife Ar**	**84.22 5**	P		**P**	**16 37 48.3 -0.2**

IDC 26 16:31:30.6±8.0, 2252N×12186E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=606.4km s-min=26.4km az=60.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.97**	**317**	P	P	16 39 06.7	0.0
	0.3nm,0.8s,baz=112,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**43.93**	**163**	P	P	16 39 39.0	-0.1
	0.9nm,0.7s,baz=345,slow=8.4,SNR=6.0						
ASAR	**Alice Springs**	**47.38**	**165**	P	P	16 40 06.8	+0.4
	0.3nm,0.7s,baz=341,slow=7.0,SNR=7.1						

*ISCJB **26** 16:41:54.7±0.6, 2192N±006×12048E±005, h10km, mb3.8/11, Error ellipse: s-maj=9.2km s-min=5.3km az=114.5*
*IDC **26** 16:41:54.5±0.8, 2195N×12059E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.9/21, mbtmp3.8/10, ML3.2/1, Error ellipse: s-maj=34.2km s-min=17.1km az=69.0*
*NEIC **26** 16:41:56.0±0.4, 2194N×12059E, h10km, MG3.3(JMA), Error ellipse: s-maj=10.8km s-min=6.4km az=89.0*
*JMA **26** 16:41:59.0±0.4, 2181N×12070E, h137km, M3.3*
*BJI **26** 16:42:00.4, 2224N×11994E, h10km, mb3.9, ML3.7*
ISC 26 16:41:56.4±0.6, 2196N±006×12046E±005, h10km, n26, σ1°04/35, mb3.8/11, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.44**	**25**	*e*Pn	**Pn**	**16 42 35.5**	**-0.8**
NACB				*e*Sn	**Sn**	**16 43 04.4**	**-1.8**
YHNB	**Yeheng**	**2.83**	**17**	*e*Pn	**Pn**	**16 42 41.6**	**0.0**
TATO	**Taipei**	**3.15**	**17**	*e*Pn	**Pn**	**16 42 45.4**	**-0.6**
YOJ	**Yonaguni jima**	**3.43**	**43**	P	**Pn**	**16 42 51.5**	**+1.7**
YOJ				S	**Sn**	**16 43 31.9**	**+1.5**
QZH	**Quanzhou**	**3.43**	**330⇑**	*i*P	**Pn**	**16 42 49.3**	**-0.5**
QZH				S	**Sn**	**16 43 25.3**	**-5.2**
QZH				Smax			
	comp=N,200nm,0.4s						
QZH				Smax			
	comp=E,170nm,0.6s						
HATJ	**Hateruma jima**	**3.73**	**55**	P	**Pn**	**16 42 54.7**	**+0.8**
HATJ				S	**Sn**	**16 43 37.6**	**-0.2**
IRIF	**Iriomote-Funau**	**3.83**	**51**	P	**Pn**	**16 42 56.1**	**+0.7**
IRIF				S	**Sn**	**16 43 41.4**	**+1.0**
JKRS	**Kuro-shima**	**3.98**	**55**	P	**Pn**	**16 42 58.4**	**+1.0**
JKRS				S	**Sn**	**16 43 44.4**	**+0.3**
JIJ	**Ishigaki jima**	**4.15**	**54**	P	**Pn**	**16 43 00.1**	**+0.3**
JIJ				S	**Sn**	**16 43 46.3**	**-2.1**
JTJ	**Tarama**	**4.73**	**55**	P	**Pn**	**16 43 08.7**	**+1.0**
JTJ				S	**Sn**	**16 44 00.5**	**-2.1**
GZH	**Guangzhou**	**6.67**	**281**	P	**Pn**	**16 43 31.3**	**-3.1**
GZH				S	**Sn**	**16 44 38.3**	**-12**
GZH				Smax			
	comp=N,75nm,0.7s						
GZH				Smax			
	comp=E,55nm,0.8s						
KSRS	**Korea Array**	**16.74**	**21**	Pn	**Pn**	**16 45 51.5**	**+0.7**
	baz=199,slow=10,SNR=3.5						
MJAR	**Matsushiro Arr**	**21.19**	**43**	P	**P**	**16 46 40.5**	**-1.4**
	comp=E,2.0nm,0.8s,mb3.5,baz=241,slow=7.6,SNR=3.3						
GTA	**Gaotai**	**24.76**	**319**	*e*P	**P**	**16 47 20.0**	**+1.9**
GTA				AP		16 47 27.0	
GTA				XP	sP	16 47 30.3	+7.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb3.8						
SONM	**Songino Array**	**28.18**	**340**	P	**P**	**16 47 49.3**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.5,baz=160,slow=9.4,SNR=8.0						
MK31	**Makanchi Array**	**39.50**	**318**	*e*P	**P**	**16 49 27.5**	**+0.5**
MKAR	**Makanchi Array**	**39.50**	**318**	P	**P**	**16 49 27.6**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.7,baz=112,slow=10,SNR=14						
YAK	**Yakutsk**	**40.55**	**7**	P	**P**	**16 49 35.3**	**-0.5**
	comp=Z,9.1nm,0.5s,mb4.7						
ZAL	**Zalesovo**	**41.77**	**329**	P	**P**	**16 49 46.0**	**+0.2**
	comp=Z,1.9nm,0.9s,mb3.7,baz=5.4,slow=7.1,SNR=9.8						
WRA	**Warramunga Arr**	**43.80**	**161**	P	**P**	**16 50 01.3**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.0,baz=343,slow=8.9,SNR=12						
WB2	**Warramunga Arr**	**43.80**	**161**	*e*P	**P**	**16 50 01.7**	**-0.6**
ASAR	**Alice Springs**	**47.20**	**163**	P	**P**	**16 50 29.3**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=343,slow=6.8,SNR=27						
BVAR	**Borovoye Array**	**48.99**	**322**	P	**P**	**16 50 43.1**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=124,slow=5.6,SNR=5.2						
GERES	**GERESS Array B**	**84.13**	**321**	P	**P**	**16 54 28.1**	**+0.5**
	comp=Z,1.3nm,0.8s,mb4.1,baz=58,slow=3.8,SNR=9.6						
YKA	**Yellowknife Ar**	**85.27**	**22**	P	**P**	**16 54 32.8**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.4,baz=314,slow=4.9,SNR=7.3						
YKA	**Yellowknife Ar**	**85.27**	**22**	P	**P**	**16 54 32.8**	**-0.5**

*IDC **26** 16:44:23.5±1.0, 2174N×12057E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.7/21, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=54.2km s-min=18.8km az=69.0*
*NEIC **26** 16:44:25.0±0.6, 2176N×12064E, h10km, MG3.8(JMA), Error ellipse: s-maj=21.0km s-min=9.9km az=91.0*
*ISCJB **26** 16:44:27.9±1.5, 2183N±008×12064E±008, h43km±14km, mb3.5/6, Error ellipse: s-maj=14.1km s-min=11.1km az=122.9*
*JMA **26** 16:44:29.2±0.2, 2180N×12076E, h115km, M3.8*
ISC 26 16:44:29.0±1.6, 2184N±009×12058E±008, h36km±16km, n17, σ0°80/24, mb3.5/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.51**	**22**	*e*Pn	**Pn**	**16 45 06.1**	**-1.1**
NACB				*e*Sn	**Sn**	**16 45 34.6**	**-2.0**
YHNB	**Yeheng**	**2.91**	**14**	*e*Pn	**Pn**	**16 45 12.7**	**-0.2**
TATO	**Taipei**	**3.23**	**15**	*e*Pn	**Pn**	**16 45 16.7**	**-0.5**
YOJ	**Yonaguni jima**	**3.44**	**40**	P	**Pn**	**16 45 20.9**	**+0.8**
YOJ				S	**Sn**	**16 46 01.0**	**+1.4**
HATJ	**Hateruma jima**	**3.71**	**53**	P	**Pn**	**16 45 24.0**	**+0.3**
HATJ				S	**Sn**	**16 46 06.0**	**-0.1**
IRIF	**Iriomote-Funau**	**3.82**	**49**	P	**Pn**	**16 45 26.0**	**+0.7**
IRIF				S	**Sn**	**16 46 09.9**	**+0.9**
JKRS	**Kuro-shima**	**3.96**	**52**	P	**Pn**	**16 45 27.8**	**+0.6**
JKRS				S	**Sn**	**16 46 12.0**	**-0.5**
JIJ	**Ishigaki jima**	**4.13**	**52**	P	**Pn**	**16 45 29.9**	**+0.3**
JIJ				S	**Sn**	**16 46 16.0**	**-0.7**
JTJ	**Tarama**	**4.71**	**53**	P	**Pn**	**16 45 37.8**	**+0.3**
JTJ				S	**Sn**	**16 46 30.4**	**-0.5**
KSRS	**Korea Array**	**16.81**	**21**	Pn	**Pn**	**16 48 21.6**	**0.0**
	baz=199,slow=12,SNR=5.2						
SONM	**Songino Array**	**28.34**	**340**	P	**P**	**16 50 21.3**	**+1.9**
	0.4nm,0.6s,mb3.2,baz=150,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**39.67**	**318**	P	**P**	**16 51 57.6**	**+0.2**
	0.2nm,0.4s,mb3.2,baz=103,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**43.65**	**161**	P	**P**	**16 52 29.1**	**-0.9**
	2.3nm,0.8s,mb4.0,baz=344,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**47.05**	**163**	P	**P**	**16 52 56.5**	**-0.4**
	0.7nm,0.7s,mb3.7,baz=344,slow=7.5,SNR=12						
BVAR	**Borovoye Array**	**49.15**	**322**	P	**P**	**16 53 13.0**	**-0.2**
	0.3nm,0.4s,mb3.7,baz=110,slow=6.3,SNR=4.1						
YKA	**Yellowknife Ar**	**85.34**	**22**	P	**P**	**16 57 02.2**	**-0.2**
	0.1nm,0.6s,mb3.1,baz=316,slow=4.4,SNR=5.4						
YKA	**Yellowknife Ar**	**85.34**	**22**	P	**P**	**16 57 02.2**	**-0.2**

*NEIC **26** 16:51:42.8, 3760S×17620E, h272km, MG4.6(WEL), After WEL.*
WEL 26 16:51:41.5±0.3, 3767S×17638E, h290km±3km, ML4.6/24, 3C-1D, Error ellipse: s-maj=3.5km s-min=3.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.40**	**144**	P	Pn	16 52 18.6	-0.1
MARZ	**Manawahe**	**0.40**	**144**	PN	Pn	16 52 18.6	0.0
URZ	**Urewera**	**0.83**	**136**	P	Pn	16 52 19.6	-0.4
URZ	**Urewera**	**0.83**	**136**	⇑PN	Pn	16 52 19.6	-0.4
URZ				SN	S	16 52 50.0	-0.5
MWZ	**Matawai**	**1.13**	**127**	P	Pn	16 52 21.6	+0.2
MWZ				S	S	16 52 52.4	-0.7
MWZ	**Matawai**	**1.13**	**127**	PN	Pn	16 52 21.6	+0.3
HATZ	**Hinemaiaia**	**1.25**	**190**	P	Pn	16 52 22.0	0.0
HATZ	**Hinemaiaia**	**1.25**	**190**	PN	Pn	16 52 22.0	-0.1
HATZ				SN	S	16 52 54.7	+0.5
HIZ	**Hauiti**	**1.47**	**234**	P	Pn	16 52 23.6	+0.2
HIZ				S	S	16 52 25.5	-31
HIZ	**Hauiti**	**1.47**	**234**	PN	Pn	16 52 23.6	+0.2
BKZ	**Black Stump Fm**	**1.50**	**177**	P	Pn	16 52 23.8	+0.2
BKZ	**Black Stump Fm**	**1.50**	**177**	⇑PN	Pn	16 52 23.8	+0.2
BKZ				SN	S	16 52 56.1	-1.0
MXZ	**Matakaoa Point**	**1.54**	**87**	P	Pn	16 52 23.9	+0.1
MXZ	**Matakaoa Point**	**1.54**	**87**	PN	Pn	16 52 23.8	-0.1
KRVZ	**Karewarewa**	**1.54**	**209**	PN	Pn	16 52 23.9	0.0
PUZ	**Puketiti**	**1.54**	**106**	P	Pn	16 52 24.3	+0.4
PUZ				S	S	16 52 57.0	-0.6
PUZ	**Puketiti**	**1.54**	**106**	PN	Pn	16 52 24.0	+0.1
WTVZ	**West Tongariro**	**1.58**	**203**	P	Pn	16 52 24.2	+0.1
WTVZ	**West Tongariro**	**1.58**	**203**	PN	Pn	16 52 24.2	0.0
WTVZ				SN	S	16 52 57.8	-0.2
TWVZ	**Taurewa**	**1.59**	**207**	P	Pn	16 52 24.2	0.0
TWVZ	**Taurewa**	**1.59**	**207**	PN	Pn	16 52 24.2	0.0
OTVZ	**Oturere**	**1.60**	**200**	PN	Pn	16 52 24.7	+0.4
NGZ	**Ngauruhoe**	**1.63**	**202**	P	Pn	16 52 24.5	0.0
NGZ	**Ngauruhoe**	**1.63**	**202**	PN	Pn	16 52 24.5	0.0
WPVZ	**Whakapapa**	**1.67**	**203**	P	Pn	16 52 24.9	+0.1
WPVZ	**Whakapapa**	**1.67**	**203**	PN	Pn	16 52 24.8	0.0
KNZ	**Kokohu**	**1.69**	**143**	PN	Pn	16 52 25.4	+0.4
TUVZ	**Tukino**	**1.70**	**199**	P	Pn	16 52 25.3	+0.3
TUVZ	**Tukino**	**1.70**	**199**	PN	Pn	16 52 25.3	+0.3
FWVZ	**Far West T-bar**	**1.71**	**202**	P	Pn	16 52 25.3	+0.2
FWVZ	**Far West T-bar**	**1.71**	**202**	PN	Pn	16 52 25.3	+0.1
TRVZ	**Turoa**	**1.76**	**201**	PN	Pn	16 52 25.8	+0.3
WNVZ	**Wahianoa**	**1.77**	**200**	P	Pn	16 52 25.6	+0.1
WNVZ	**Wahianoa**	**1.77**	**200**	PN	Pn	16 52 25.6	+0.1
MOVZ	**Moawhango**	**1.81**	**196**	P	Pn	16 52 25.5	-0.3
MOVZ	**Moawhango**	**1.81**	**196**	PN	Pn	16 52 25.5	-0.3
MTVZ	**Mangateitei**	**1.86**	**202**	PN	Pn	16 52 26.2	0.0
VRZ	**Vera Road**	**1.94**	**221**	P	Pn	16 52 26.8	0.0
VRZ	**Vera Road**	**1.94**	**221**	PN	Pn	16 52 26.8	0.0
RAEZ	**Rainy Point**	**2.25**	**223**	P	Pn	16 52 29.4	0.0
RAEZ	**Rainy Point**	**2.25**	**223**	PN	Pn	16 52 29.4	0.0
WAZ	**Wanganui**	**2.35**	**207**	P	Pn	16 52 30.0	-0.3
WAZ	**Wanganui**	**2.35**	**207**	PN	Pn	16 52 29.9	-0.5
PXZ	**Pawanui**	**2.39**	**171**	PN	Pn	16 52 30.8	+0.1
NEZ	**North Egmont**	**2.40**	**227**	P	Pn	16 52 31.2	+0.4
TSZ	**Takapari Road**	**2.41**	**188**	P	Pn	16 52 30.5	-0.4
TSZ	**Takapari Road**	**2.41**	**188**	PN	Pn	16 52 30.5	-0.4
NRZ	**Ngariki Road**	**2.54**	**228**	P	Pn	16 52 31.9	-0.2
BFZ	**Birch Farm**	**3.01**	**182**	PN	Pn	16 52 36.1	-0.5
MRZ	**Mangatainoka R**	**3.06**	**191**	P	Pn	16 52 36.1	-1.0
MRZ	**Mangatainoka R**	**3.06**	**191**	⇑PN	Pn	16 52 36.1	-1.0
TIWZ	**Tintock**	**3.13**	**187**	PN	Pn	16 52 37.2	-0.7
KIW	**Kapiti Island**	**3.39**	**199**	P	Pn	16 52 39.1	-1.4
KIW	**Kapiti Island**	**3.39**	**199**	PN	Pn	16 52 39.1	-1.4
MTW	**Mount Morrison**	**3.56**	**191**	P	Pn	16 52 40.8	-1.5
MTW	**Mount Morrison**	**3.56**	**191**	PN	Pn	16 52 40.8	-1.5
CAW	**Cannon Point**	**3.58**	**196**	P	Pn	16 52 41.2	-1.4
CAW	**Cannon Point**	**3.58**	**196**	PN	Pn	16 52 41.2	-1.4
DUWZ	**D'Urville Isla**	**3.67**	**211**	PN	Pn	16 52 41.6	-1.9
TRWZ	**Traveller**	**3.77**	**188**	PN	Pn	16 52 43.4	-1.1
PAWZ	**Paruwai Farm**	**3.78**	**191**	P	Pn	16 52 43.4	-1.4
MRW	**Makara Radio**	**3.79**	**200**	P	Pn	16 52 43.0	-1.8
MRW	**Makara Radio**	**3.79**	**200**	PN	Pn	16 52 43.0	-1.8
WEL	**Wellington**	**3.82**	**198**	P	Pn	16 52 43.7	-1.5
WEL	**Wellington**	**3.82**	**198**	PN	Pn	16 52 43.7	-1.5
MSWZ	**Moikau Station**	**3.85**	**193**	P	Pn	16 52 43.9	-1.5
MSWZ	**Moikau Station**	**3.85**	**193**	PN	Pn	16 52 43.9	-1.6
SNZO	**South Karori**	**3.86**	**199**	P	Pn	16 52 44.0	-1.6
SNZO	**South Karori**	**3.86**	**199**	PN	Pn	16 52 44.0	-1.6
TCW	**Tory Channel**	**3.90**	**204**	P	Pn	16 52 44.4	-1.6
TCW	**Tory Channel**	**3.90**	**204**	PN	Pn	16 52 44.4	-1.6
BHW	**Baring Head**	**3.92**	**197**	P	Pn	16 52 44.4	-1.8
BHW	**Baring Head**	**3.92**	**197**	PN	Pn	16 52 44.4	-1.8
TUWZ	**Tuamarina**	**4.21**	**206**	PN	Pn	16 52 47.4	-2.0
NNZ	**Nelson**	**4.24**	**212**	P	Pn	16 52 47.2	-2.6
NNZ	**Nelson**	**4.24**	**212**	⇓PN	Pn	16 52 47.2	-2.7
QRZ	**Quartz Range**	**4.35**	**222**	P	Pn	16 52 47.5	-3.5
QRZ	**Quartz Range**	**4.35**	**222**	PN	Pn	16 52 47.5	-3.5
BSWZ	**Blackbirch Sta**	**4.48**	**205**	P	Pn	16 52 51.0	-1.6
BSWZ	**Blackbirch Sta**	**4.48**	**205**	PN	Pn	16 52 51.0	-1.6
THZ	**Tophouse**	**4.89**	**212**	*e*P	Pn	16 52 54.1	-3.2
THZ	**Tophouse**	**4.89**	**212**	PN	Pn	16 52 54.1	-3.2
KHZ	**Kahutara**	**5.22**	**204**	*e*P	Pn	16 52 58.9	-2.3
KHZ	**Kahutara**	**5.22**	**204**	PN	Pn	16 52 58.9	-2.3
LTZ	**Lake Taylor**	**6.00**	**210**	P	Pn	16 53 07.3	-3.2
LTZ	**Lake Taylor**	**6.00**	**210**	PN	Pn	16 53 07.3	-3.2
CRLZ	**Canterbury Las**	**6.56**	**205**	*e*P	Pn	16 53 14.0	-3.3
CRLZ	**Canterbury Las**	**6.56**	**205**	PN	Pn	16 53 14.0	-3.2
MQZ	**McQueen's Vall**	**6.67**	**204**	*e*P	Pn	16 53 14.9	-3.7
RPZ	**Rata Peaks**	**7.27**	**212**	PN	Pn	16 53 22.7	-3.3
FOZ	**Fox Glacier**	**7.78**	**219**	*e*P	Pn	16 53 27.0	-5.3
LBZ	**Lake Benmore**	**8.18**	**213**	*e*P	Pn	16 53 33.6	-3.6
ODZ	**Otahua Downs**	**8.54**	**208**	*e*P	Pn	16 53 39.1	-2.5
ODZ	**Otahua Downs**	**8.54**	**208**	PN	Pn	16 53 39.1	-2.5
WKZ	**Wanaka**	**9.05**	**215**	*e*P	Pn	16 53 42.7	-5.2

*ISCJB **26** 16:53:23.9±0.7, 178S±01×137W±01, h10km, mb4.4/15, Error ellipse: s-maj=18.2km s-min=15.5km az=15.4*
*IDC **26** 16:53:24.5±1.1, 1774S×1365W, h0km, mb4.2/10, mb1 4.2/10, mb1mx4.1/20, mbtmp4.2/10, Error ellipse: s-maj=28.4km s-min=23.0km az=55.0*
*NEIC **26** 16:53:25.6±0.6, 1777S×1370W, h10km, mb4.6/3, Error ellipse: s-maj=16.1km s-min=13.4km az=190.0*
ISC 26 16:53:26.0±0.7, 178S±01×137W±01, h10km, n18, σ0°87/18, mb4.4/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**29.69**	**98**	*e*P	**P**	**16 59 31.4**	**-0.6**
	5.6nm,1.1s,mb4.2						
TOA0	**Torodi Ar. Sit**	**34.29**	**27**	*e*P	**P**	**17 00 12.4**	**0.0**
TORD	**Torodi Ar. Bea**	**34.29**	**27**	P	**P**	**17 00 11.9**	**-0.4**
	1.7nm,0.9s,mb4.0,baz=210,slow=8.6,SNR=7.9						
BOSA	**Boshof**	**37.25**	**114**	P	**P**	**17 00 37.0**	**-0.8**
	2.0nm,0.8s,mb4.0,baz=293,slow=7.7,SNR=3.5						
BOSA	**Boshof**	**37.25**	**114**	P	**P**	**17 00 37.0**	**-0.8**
MATP	**Matopo**	**39.89**	**101**	P	**P**	**17 01 00.0**	**0.0**
	5.5nm,0.9s,mb4.3,baz=272,slow=9.9,SNR=12						
LSZ	**Lusaka**	**40.19**	**93**	P	**P**	**17 01 03.1**	**+0.7**
	5.2nm,0.7s,mb4.4,baz=255,slow=7.1,SNR=11						
LSZ	**Lusaka**	**40.19**	**93**	*e*P	**P**	**17 01 03.5**	**+1.0**
	13nm,1.2s,mb4.5						
SIV	**San Ignacio**	**45.26**	**265**	P	**P**	**17 01 44.8**	**+1.1**
	0.9nm,0.8s,mb3.7,baz=98,slow=15,SNR=2.7						
NNA	**Nana**	**61.05**	**266**	*e*P	**P**	**17 03 38.9**	**-1.0**
	17nm,0.6s,mb5.3						
MAW	**Mawson**	**68.58**	**156**	P	**P**	**17 04 29.1**	**+0.1**
	3.0nm,0.7s,mb4.3,baz=304,slow=3.6,SNR=4.3						
GERES	**GERESS Array B**	**70.68**	**19**	P	**P**	**17 04 40.9**	**-1.1**
	0.4nm,0.7s,mb3.5,baz=209,slow=4.4,SNR=6.3						
BRTR	**Keskin Array B**	**72.26**	**37**	P	**P**	**17 04 53.0**	**+

JOGS Gusukube 5.33 55 P **Pn 17 36 32.2 +0.6**
JOGS S **Sn 17 37 33.0 +1.3**
BCPH Baguio City Da 5.37 180⇓*e*P 17 37 01.1
BCPH *e*S **Sn 17 37 32.0 -0.8**
BOLP Bolinao 5.41 187 *e*P **Pn 17 36 32.7 0.0**
SCZP Santa Cruz 6.01 186 *e*P **Pn 17 36 40.5 -0.5**
BALP Baler 6.08 171 *e*P **Pn 17 36 40.7 -1.2**
PCPH Palayan 6.21 175⇓*e*P **Pn 17 36 44.0 +0.4**
PCPH *e*S **Sn 17 37 56.0 +2.6**
GZH Guangzhou 6.83 282 P **Pn 17 36 47.3 -4.9**
GZH Smax
comp=N,696nm,0.8s
GZH Smax
comp=E,541nm,1.1s
POLP Polillo Island 7.13 169 *e*P **Pn 17 36 56.4 0.0**
JKE Kume jima 2 7.25 50 P **Pn 17 36 56.4 -1.5**
JKE *e*S **Sn 17 38 20.7 +1.7**
TGY Tagaytay City 7.64 177 Pn **Pn 17 37 03.3 -0.1**
comp=E,35nm,0.3s,baz=174,slow=7.8,SNR=1.7
TGY Sn **Sn 17 38 28.3 -0.5**
comp=E,35nm,0.3s,baz=73,slow=7.4,SNR=1.8
LUBP Lubang 8.01 182 *e*P **Pn 17 37 10.6 +2.1**
JIH Iheya 8.51 51 P **Pn 17 37 13.8 -1.5**
JOW Kunigami 8.62 53 Pn **Pn 17 37 15.2 -1.6**
comp=E,6.3nm,0.3s,baz=227,slow=16,SNR=18
JOW Kunigami 8.62 53 P **Pn 17 37 16.8 0.0**
SSE Sheshan 9.29 3 P **Pn 17 37 25.3 -0.7**
SSE S **Sn 17 39 11.3 +2.0**
SSE AMB AMB
comp=Z,37nm,0.8s
SSE AMB AMB
comp=Z,240nm,5.5s
SSE LR LR
comp=N,4μm,20.4s
SSE LR LR
comp=E,5μm,20.4s
SSE LR LR
comp=Z,6μm,16.2s
SSE Sheshan 9.29 3 P **Pn 17 37 25.3 -0.7**
comp=Z,37nm,0.8s
SSE S **Sn 17 39 11.2 +1.9**
OTRP Odiongan 9.47 171 *e*P **Pn 17 37 35.6 +7.2**
JTK Tokunoshima 9.66 50 P **Pn 17 37 29.1 -2.0**
BUSP Coron 9.73 182 *e*P **Pn 17 37 31.6 -0.5**
WHN Wuhan 10.37 329 P **Pn 17 37 44.0 +3.3**
WHN S **Sn 17 39 31.8 -3.9**
WHN LR LR
comp=Z,14μm,14.0s
QIZ Qiongzhong 10.45 257 P **Pn 17 37 39.3 -2.5**
QIZ *e*S **Sn 17 39 41.5 +3.9**
QIZ LR LR
comp=E,8μm,16.1s
QIZ LR LR
comp=Z,12μm,15.4s
QIZ Qiongzhong 10.45 257 *e*Pn **Pn 17 37 38.9 -2.9**
comp=Z,46nm,0.8s
JAM Amami Oshima 10.50 49 P **Pn 17 37 40.0 -2.5**
ENPP El Nido 10.58 186 *e*P **Pn 17 37 42.3 -1.3**
BATP Bataraza 13.19 192 *e*P **Pn 17 38 24.7 +5.4**
GYA Guiyang 13.54 293⇑*i*P **Pn 17 38 22.8 -1.3**
GYA AP 17 38 26.8
GYA XP 17 38 29.8
GYA PP 17 38 33.0
GYA AMB AMB
comp=Z,50nm,1.0s
GYA AMB AMB
comp=Z,330nm,5.7s
GYA LR LR
comp=N,3μm,12.6s
GYA LR LR
comp=E,5μm,15.5s
GYA LR LR
comp=Z,6μm,15.8s
BUKP Musuan 14.48 162 *e*P **Pn 17 38 43.3 +6.4**
JNU Nakatsue 14.51 37 Pn **Pn 17 38 36.1 -1.2**
comp=Z,0.9nm,0.3s,baz=223,slow=19,SNR=4.3
TIA Tai'an 14.69 349⇓P **Pn 17 38 40.0 +0.2**
TIA LR LR
comp=N,1μm,9.0s
TIA LR LR
comp=E,3μm,15.0s
XAN Xi'an 15.97 322 P **Pn 17 38 58.0 +1.5**
XAN S **Sn 17 41 56.3 +3.9**
XAN AMB AMB
comp=Z,16nm,1.5s
XAN LR LR
comp=N,2μm,18.0s
XAN LR LR
comp=E,4μm,18.1s
XAN LR LR
comp=Z,6μm,15.7s
KKM Kota Kinabalu 16.21 196 P **Pn 17 39 01.1 +1.6**
KKM Kota Kinabalu 16.21 196 *e*Pn **Pn 17 39 00.7 +1.1**
KMI Kunming 16.71 285 P **Pn 17 39 05.3 -0.7**
KMI AP pP 17 39 09.3 -7.6
KMI XP sP 17 39 11.3 -10
KMI PP 17 39 17.8
KMI S **Sn 17 42 06.8 -3.7**
KMI SS 17 42 27.5
KMI AMB AMB
comp=Z,14nm,1.7s
KMI AMB AMB
comp=Z,275nm,3.3s
KMI LR LR
comp=N,3μm,17.1s
KMI LR LR
comp=E,3μm,13.7s
KMI LR LR
comp=Z,3μm,14.1s
KMI Kunming 16.71 285 P **Pn 17 39 05.3 -0.7**
comp=Z,14nm,1.7s
KMI pP pP 17 39 09.2 -7.7
KMI sP sP 17 39 11.2 -10
KMI PP 17 39 17.8
KMI PPP 17 39 24.4
KMI S **Sn 17 42 06.7 -3.8**
KMI sS sS 17 42 11.7 -23
KMI SS 17 42 27.5
KMI SSS 17 42 39.5
KSRS Korea Array 16.86 20 Pn **Pn 17 39 06.9 -0.9**
baz=203,slow=12,SNR=37
KSRS LR LR 17 46 49.6
comp=Z,4μm,18.3s,baz=203,slow=42
DL2 Dalian 17.09 3⇑P **Pn 17 39 11.3 +0.6**
DL2 *e*S **Sn 17 42 22.3 +2.7**
DL2 AMB AMB
comp=Z,70nm,1.3s
DL2 AMB AMB
comp=Z,300nm,4.6s
DL2 LR LR
comp=N,2μm,12.8s
DL2 LR LR
comp=E,1μm,11.8s
DL2 LR LR
comp=Z,2μm,15.7s
TSM Tawau 17.58 189 P **Pn 17 39 19.3 +2.5**
CD2 Chengdu 17.60 305 P **Pn 17 39 16.0 -1.0**
CD2 AP pP 17 39 18.8 -7.9
CD2 XP sP 17 39 25.3 -5.7
CD2 S **Sn 17 42 28.5 -3.4**
CD2 AMB AMB
comp=Z,40nm,0.5s
CD2 AMB AMB
comp=Z,370nm,6.3s
CD2 LR LR
comp=N,5μm,13.3s
CD2 LR LR
comp=E,6μm,12.5s
CD2 LR LR
comp=Z,6μm,14.4s
KKTK Khon Kaen 17.64 255⇑P **Pn 17 39 18.5 +1.0**
BJT Baijiatuau 18.57 349 *e*P **Pn 17 39 28.8 0.0**
BJT pmax pmax
comp=Z,124nm,0.8s
BJT Baijiatuau 18.57 349 *e*P **Pn 17 39 28.8 0.0**
comp=Z,124nm,0.8s
BJI Beijing 18.59 349 P **Pn 17 39 29.0 -0.1**
BJI S **Sn 17 42 55.0 -0.8**
BJI AMB AMB
comp=Z,150nm,0.9s
BJI AMB AMB
comp=Z,769nm,3.2s
BJI LR LR
comp=N,3μm,16.3s
BJI LR LR
comp=E,6μm,20.9s
BJI LR LR
comp=Z,2μm,14.8s
BJI Beijing 18.59 349 P **Pn 17 39 29.1 0.0**
comp=Z,150nm,0.9s
BJI S **Sn 17 42 55.1 -0.7**
NANT Nan 18.89 265⇓P **Pn 17 39 30.7 -2.1**
SNY Shenyang 20.14 6⇑P **P 17 39 43.3 -2.4**
SNY AP 17 39 46.8
SNY XP sP 17 39 49.5 -10
SNY PP 17 40 04.5
SNY S **S 17 43 21.8 -8.2**
SNY AMB AMB
comp=Z,26nm,2.5s
SNY AMB AMB
comp=Z,407nm,3.7s
SNY LR LR
comp=N,3μm,18.0s,MS4.9
SNY LR LR
comp=E,2μm,13.2s,MS4.9
SNY LR LR
comp=Z,4μm,18.0s,MS4.8
NST Nakhon Sawan 20.30 256 P **P 17 39 48.8 +1.5**
CBIJ Chichi jima 20.35 71 LR LR 17 46 33.6
comp=Z,1μm,19.3s,MS4.3,baz=173,slow=34
JHJ Hachijo jima 2 20.40 52 LR LR 17 47 36.4
comp=Z,2μm,19.2s,MS4.5,baz=93,slow=37
LZH Lanzhou 20.40 318⇓P **P 17 39 50.0 +1.6**
LZH AP 17 39 54.0
LZH XP sP 17 39 57.3 -4.5
LZH PP 17 40 10.5
LZH S **S 17 43 33.3 -1.8**
LZH XS sS 17 43 39.0 -10
LZH SS 17 44 03.0
LZH AMB AMB
comp=Z,89nm,1.2s
LZH AMB AMB
comp=Z,332nm,4.5s
LZH LR LR
comp=N,2μm,10.3s
LZH LR LR
comp=Z,4μm,13.8s,MS5.0
LZH Lanzhou 20.40 318⇓P **P 17 39 50.0 +1.6**
LZH 17 40 10.6
LZH S **S 17 43 33.2 -1.9**
LZH SS 17 44 02.9
LZH pmax pmax
comp=Z,89nm,1.2s
LZH MLR MLR
comp=Z,4μm,13.8s,MS5.0
LZH Lanzhou 20.40 318⇓P **P 17 39 50.0 +1.6**
comp=Z,89nm,1.2s
LZH pP 17 39 54.1
LZH sP sP 17 39 57.2 -4.6
LZH PP 17 40 10.6
LZH S **S 17 43 33.2 -1.9**
LZH sS sS 17 43 39.0 -10
LZH SS 17 44 02.9
LZH LR LR
comp=Z,4μm,13.8s,MS5.0
HHC Hu-ho-hao-te 20.49 340 *e*P **P 17 39 51.0 +1.6**
HHC PP 17 40 12.5
HHC S **S 17 43 36.0 -0.8**
HHC PCP PcP 17 44 02.0 +1.8
HHC SS 17 44 06.5
HHC SCS ScS 17 51 20.0 +2.9
HHC AMB AMB
comp=Z,57nm,1.3s
HHC AMB AMB
comp=Z,444nm,5.3s
HHC LR LR
comp=N,4μm,16.7s,MS5.0
HHC LR LR
comp=E,5μm,18.9s,MS5.0
HHC LR LR
comp=Z,4μm,15.1s,MS4.9
CHG Chiang Mai 20.52 266⇓P **P 17 39 50.5 +0.8**
CHTO Chiang Mai 20.52 266⇓P **P 17 39 50.8 +1.1**
SNR=30
CHTO Chiang Mai 20.52 266 *e*P **P 17 39 50.3 +0.6**
CHTO pmax pmax
comp=Z,74nm,1.3s
CHTO Chiang Mai 20.52 266 *e*P **P 17 39 50.3 +0.6**
comp=Z,74nm,1.3s
BTO Baotou 20.80 337 *e*P **P 17 39 57.3 +4.6**
MAJO Matsushiro 21.23 42 *e*P **P 17 39 53.6 -3.8**
MAJO pmax pmax
comp=Z,58nm,0.8s,mb5.0
MAJO Matsushiro 21.23 42 *e*P **P 17 39 53.6 -3.8**
comp=Z,58nm,0.8s,mb5.0
MAT Matsushiro 21.23 42 P **P 17 39 56.2 -1.2**
MAT S **S 17 43 54.2 +2.7**
MJAR Matsushiro Arr 21.23 42 P **P 17 39 56.9 -0.5**
comp=Z,45nm,0.9s,mb4.8,baz=232,slow=8.6,SNR=25
NNT Nongplab 21.90 249 P **P 17 40 06.8 +2.2**
CN2 Changchun 22.33 9 *e*P **P 17 40 07.0 -2.1**
CN2 *e*S **S 17 44 10.5 -2.3**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,4μm,18.0s,MS4.9
CN2 LR LR
comp=E,3μm,18.0s,MS4.9
CN2 LR LR
comp=Z,4μm,19.0s,MS4.9
KSM Kuching 22.53 208 *e*P **P 17 40 10.2 -1.1**
VLA Vladivostok 23.27 21 *e*P **P 17 40 17.7 -1.4**
VLA pmax pmax
comp=Z,77nm,0.9s,mb5.1
VLA MLR MLR
comp=Z,3μm,18.7s,MS4.7
MDJ Mudanjiang 23.95 16 P **P 17 40 25.5 0.0**
MDJ PCP PcP 17 44 06.0 -1.2
MDJ S **S 17 44 39.5 -0.4**
MDJ SCP ScP 17 47 45.5 +2.6
MDJ SCS ScS 17 51 34.0 +4.0
MDJ AMB AMB
comp=Z,55nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,325nm,7.2s
MDJ LR LR
comp=N,3μm,15.9s,MS5.0
MDJ LR LR
comp=E,4μm,18.1s,MS5.0
MDJ LR LR
comp=Z,4μm,17.5s,MS4.9
MDJ Mudanjiang 23.95 16⇑*e*P **P 17 40 23.8 -1.7**
comp=Z,65nm,1.1s,mb5.0
GUMO Guam 24.50 105 P **P 17 40 29.9 -0.5**
comp=Z,123nm,0.7s,mb5.4,baz=172,slow=3.7,SNR=6.0
GUMO LR LR 17 49 55.5
comp=Z,1μm,18.0s,MS4.4,baz=67,slow=36
GUMO Guam 24.50 105 P **P 17 40 29.9 -0.5**
GUMO LR LR 17 49 55.5
GTA Gaotai 24.97 319 *e*P **P 17 40 35.3 +0.5**
GTA AP 17 40 42.5
GTA XP sP 17 40 46.0 -2.7
GTA PP 17 41 13.3
GTA S **S 17 44 58.3 +2.1**
GTA XS sS 17 45 04.5 -7.9
GTA SS 17 45 58.0
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
GTA AMB AMB
comp=Z,170nm,5.7s
GTA LR LR
comp=N,2μm,17.1s,MS4.9
GTA LR LR
comp=E,3μm,14.5s,MS4.9
GTA LR LR
comp=Z,4μm,13.7s,MS5.1
KULM Kulim 25.33 233 *e*P **P 17 40 37.9 -0.1**
IPM Ipoh 25.61 231 P **P 17 40 40.4 -0.2**
KGM Kluang 25.86 223 P **P 17 40 43.8 +1.0**
SHL Shillong 26.54 284 *e*P **P 17 40 49.0 0.0**
SHL *e*S **S 17 45 30.0 +9.0**
HIA Hailar 27.43 359⇑*e*P **P 17 40 55.0 -2.0**
HIA pmax pmax
comp=Z,144nm,1.1s
HIA Hailar 27.43 359⇑*e*P **P 17 40 55.0 -2.1**
comp=Z,144nm,1.1s,mb5.4
LSA Lhasa 27.61 293⇑*e*P **P 17 40 58.9 +0.3**
LSA pmax pmax
comp=Z,28nm,0.9s,mb4.9
LSA Lhasa 27.61 293⇑*e*P **P 17 40 58.9 +0.2**
comp=Z,28nm,0.9s,mb4.9
ERM Erimo 27.67 38 P **P 17 41 00.7 +1.5**
comp=Z,558nm,0.8s,mb6.2,SNR=7.0
ERM Erimo 27.67 38⇑*i*P **P 17 41 00.3 +1.1**
ERM pmax pmax
comp=Z,113nm,1.1s,mb5.4
ERM Erimo 27.67 38⇑*i*P **P 17 41 00.2 +1.1**
comp=Z,114nm,1.1s,mb5.4
ULN Ulaanbaatar 28.21 341⇑*e*P **P 17 41 03.6 -0.4**
ULN pmax pmax
comp=Z,171nm,2.5s,mb5.2
ULN Ulaanbaatar 28.21 341⇑*e*P **P 17 41 03.6 -0.3**
comp=Z,171nm,2.5s,mb5.2
PSI Prapat 28.28 231 P **P 17 41 04.5 0.0**
comp=Z,6.5nm,0.6s,mb4.5,baz=18,slow=8.4,SNR=10
PSI LR LR 17 52 29.8
comp=Z,2μm,18.6s,MS4.8,baz=136,slow=37
SONM Songino Array 28.39 340 P **P 17 41 05.1 -0.4**
comp=Z,12nm,0.9s,mb4.5,baz=158,slow=10,SNR=33
SONM PcP PcP 17 44 17.9 +0.4
comp=Z,1.6nm,1.1s,baz=164,slow=6.6,SNR=3.0
SONM LR LR 17 54 14.1
comp=Z,2μm,19.7s,MS4.7,baz=152,slow=40
SONM Songino Array 28.39 340 P **P 17 41 05.1 -0.5**
SONM 17 44 17.9
ASAJ Asahikawa 28.76 34 P **P 17 41 07.9 -1.0**
comp=Z,45nm,0.9s,mb5.2,baz=232,slow=15,SNR=18
ASAJ LR LR 17 53 54.7
comp=Z,1μm,18.9s,MS4.6,baz=122,slow=39
KLR Kul'dur 28.79 15 *e*P **P 17 41 05.8 -3.3**
KLR pmax pmax
comp=Z,97nm,1.6s,mb5.3
HABR Khabarovsk 29.04 20⇑*i*P **P 17 41 09.9 -1.4**
HABR *e*S **S 17 46 02.2 +1.8**
HABR pmax pmax
comp=Z,68nm,1.6s,mb5.1
HABR MLR MLR
comp=Z,1μm,16.2s,MS4.7
CIT Chita 30.67 351 *e*P **P 17 41 21.6 -4.2**
CIT *e* pP 17 41 33.4 -2.3
CIT *e* 17 42 40.0
CIT *e* 17 44 28.7
CIT pmax pmax
comp=Z,58nm,2.4s,mb5.0
YSS Yuzh-Sakhalins 30.86 30⇑*i*P **P 17 41 26.9 -0.5**
YSS *i* 17 41 32.9
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,800nm,17.0s,MS4.5
YSS Yuzh-Sakhalins 30.86 30⇑*i*P **P 17 41 26.2 -1.2**
comp=Z,116nm,1.0s,mb5.7
YSS *e* 17 41 31.4
ZAK Zakamensk 31.62 339 *e*P **P 17 41 33.1 -1.1**
ZAK *e* 17 44 30.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
JIRN Jiri 31.72 288 *e*P **P 17 41 36.1 +1.0**
comp=Z,170nm,1.2s,mb5.8
GUN Gumba 32.01 288 *e*P **P 17 41 38.3 +0.7**
comp=Z,162nm,1.1s,mb5.8
PKI Pulchoki 32.41 287 *e*P **P 17 41 41.2 +0.1**
comp=Z,136nm,1.4s,mb5.6
PKI Pulchoki 32.41 287 *e*P **P 17 41 41.2 +0.1**
PKI pmax pmax
comp=Z,136nm,1.4s,mb5.6
KKN Kakani 32.54 288 *e*P **P 17 41 42.1 -0.1**
comp=Z,111nm,1.2s,mb5.7
KKN Kakani 32.54 288 *e*P **P 17 41 42.1 -0.1**
KKN pmax pmax
comp=Z,111nm,1.2s,mb5.7
TLY Talaya 32.62 340 *e*P **P 17 41 44.0 +1.1**
TLY *e*SS SS 17 49 12.5 -5.0
TLY pmax pmax
comp=Z,70nm,0.9s,mb5.6
TLY MLR MLR
comp=Z,2μm,17.0s,MS4.9
DMN Daman 32.68 287 *e*P **P 17 41 43.7 +0.2**
comp=Z,129nm,1.2s,mb5.7
GKN Gorkha 33.11 288 *e*P **P 17 41 46.0 -1.2**
comp=Z,119nm,1.2s,mb5.7
MOY Mondy 33.49 338 *e*P **P 17 41 50.4 -0.1**
MOY pmax pmax
comp=Z,53nm,3.6s
KOLN Koldanda 34.02 288 *e*P **P 17 41 55.2 +0.1**
comp=Z,122nm,1.1s,mb5.7
WMQ Urumqi 34.97 317 P **P 17 42 04.5 +1.2**
WMQ PP PP 17 43 22.5 -0.5
WMQ S **S 17 47 36.0 +3.2**
WMQ SS SS 17 49 50.0 -15
WMQ AMB AMB
comp=Z,25nm,1.5s,mb4.9
WMQ AMB AMB
comp=Z,299nm,4.5s
WMQ LR LR
comp=N,1μm,19.0s,MS4.9
WMQ LR LR
comp=E,1μm,15.0s,MS4.9
WMQ LR LR
comp=Z,995nm,17.0s,MS4.6
KAKA Kakadu 36.20 160 *e*P **P 17 42 12.7 -1.2**
comp=Z,17nm,0.6s,mb5.2
BOD Bodaibo 36.31 354 *e*P **P 17 42 12.3 -2.6**
BOD *e* 17 43 34.4
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MK31 Makanchi Array 39.72 318 *e*P **P 17 42 43.2 -0.4**
MKAR Makanchi Array 39.72 318 P **P 17 42 43.5 0.0**
comp=Z,3.6nm,0.6s,mb4.3,baz=114,slow=9.5,SNR=40
MKAR LR LR 18 00 40.5
comp=Z,2μm,18.2s,MS4.9,baz=224,slow=38
HYB Hyderabad 39.75 271 *i* P **P 17 42 45.0 +1.1**
HYB Hyderabad 39.75 271 *e*P **P 17 42 45.0 +1.1**
FITZ Fitzroy Crossi 39.94 173 *e*P **P 17 42 44.5 -0.9**
comp=Z,21nm,0.9s,mb4.9
PMG Port Moresby 40.50 137 P **P 17 42 49.6 -0.5**
comp=Z,27nm,0.9s,mb4.9,baz=358,slow=6.3,SNR=11
PMG Port Moresby 40.50 137 *e*P **P 17 42 48.5 -1.6**
PMG pmax pmax
comp=Z,28nm,0.9s
PMG Port Moresby 40.50 137 *e*P **P 17 42 48.5 -1.6**
comp=Z,28nm,0.9s,mb4.9
YAK Yakutsk 40.71 7*c i*P **P 17 42 50.5 -1.3**
YAK *e**PP pP 17 43 00.0 -1.8
YAK *e* 17 44 52.5
YAK *e*S **S 17 48 59.5 -0.2**
YAK *e**SS sS 17 49 13.1 -3.2
YAK *e*SS SS 17 52 01.1 +0.1
YAK *e* 17 52 48.4
YAK pmax pmax
comp=N,78nm,1.2s
YAK pmax pmax
comp=Z,135nm,1.2s,mb5.5
YAK pmax pmax
comp=E,21nm,1.4s
YAK smax
comp=E,97nm,5.5s
YAK smax
comp=N,154nm,5.0s
YAK MLR MLR
comp=Z,2μm,17.0s,MS5.1
YAK MLR MLR
comp=N,2μm,15.0s,MS5.1
YAK MLR MLR
comp=E,1μm,19.0s,MS5.1
YAK Yakutsk 40.71 7⇑*i*P **P 17 42 49.9 -1.9**
comp=E,130nm,0.8s,mb5.6
THN Thein Dam 41.07 295 *e*P **P 17 42 53.1 -1.7**
comp=E,0.7nm,0.9s
KSH Kashi 41.79 305 *e*P **P 17 43 04.0 +3.3**
KSH AP pP 17 43 08.3 -2.4
KSH XP sP 17 43 11.0 -3.8
KSH PP PP 17 44 44.0 +6.4
KSH PCP PcP 17 44 58.0 +1.6
KSH SCP ScP 17 48 47.3 +3.3
KSH PCS PcS 17 48 49.3 +1.4
KSH S **S 17 49 23.5 +7.7**
KSH XS sS 17 49 30.0 -2.4
KSH AMB AMB
comp=Z,26nm,0.5s,mb5.1
KSH AMB AMB
comp=Z,862nm,2.6s,mb5.9
KSH LR LR
comp=N,4μm,13.4s,MS5.7

KSH LR LR
comp=E,6µm,14.3s,MS5.7
KSH LR LR
comp=Z,5µm,15.8s,MS5.5
ZAL Zalesovo 41.99 329 P **P** **17 43 02.5 +0.2**
comp=Z,6.3nm,0.9s,mb4.2,baz=10,slow=6.7,SNR=29
ZAL PcP PcP 17 44 56.7 -0.3
comp=Z,1.5nm,0.6s,baz=51,slow=4.3,SNR=2.6
ZAL LR LR 18 02 43.3
comp=Z,1µm,18.9s,MS4.9,baz=343,slow=39
ZAL Zalesovo 41.99 329 P **P** **17 43 02.5 +0.2**
ZAL 17 44 56.7
ZAL Zalesovo 41.99 329 P **P** **17 43 02.5 +0.2**
ZAL PcP PcP 17 44 56.7 -0.3
ZAL LR LR 18 02 43.3
PET Petropavlovsk 42.60 33 *e*P **P** **17 43 05.7 -1.6**
PET *e* 17 49 24.8
PET pmax pmax
comp=Z,17nm,0.7s,mb4.9
PET MLR MLR
comp=Z,1µm,20.0s,MS4.7
NVS Novosibirsk 43.26 329 *i* P **P** **17 43 12.0 -0.6**
NVS *i* S **S** **17 49 36.5 -0.9**
NVS pmax pmax
comp=Z,72nm,1.7s,mb5.1
NVS pmax pmax
comp=N,60nm,1.6s
NVS pmax pmax
comp=E,51nm,1.8s
NVS smax
comp=N,23nm,2.2s
NVS smax
comp=E,38nm,2.0s
MA2 Magadan 43.41 22 *e*P **P** **17 43 12.3 -1.5**
MA2 *e* pP 17 43 23.4 -0.5
MA2 *e*PPP 17 45 01.8
MA2 *e*S **S** **17 49 38.3 -1.3**
MA2 *e*SS SS 17 52 49.1 -5.1
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.2
MA2 Magadan 43.41 22 *e*P **P** **17 43 12.4 -1.4**
comp=Z,61nm,0.9s,mb5.3
MA2 *e* pP 17 43 23.2 -0.7
MA2 *e*PcP PcP 17 45 01.6 -0.1
FRU Bishkek 43.52 310 *e*P **P** **17 43 14.0 -0.7**
FRU *e* pP 17 43 25.0 +0.2
FRU MLR MLR
comp=Z,2µm,14.0s,MS5.0
AAK Ala-Archa 43.56 310 ⇓P **P** **17 43 24.8 +10**
SNR=7.2
WRA Warramunga Arr 43.59 161 P **P** **17 43 15.2 0.0**
comp=Z,27nm,0.7s,mb5.1,baz=343,slow=9.0,SNR=186
WRA S **S** **17 49 40.5 -1.7**
comp=Z,10nm,1.0s,baz=340,slow=14,SNR=11
WB2 Warramunga Arr 43.59 161 *e*P **P** **17 43 15.0 -0.3**
WB2 *e* pP 17 43 23.1 -2.3
WB2 *e*S **S** **17 49 39.9 -2.4**
KURK Kurchatov 43.61 322 *e*P **P** **17 43 16.6 +1.2**
KURK pmax pmax
comp=Z,57nm,1.1s,mb5.2
KURK Kurchatov 43.61 322 *e*P **P** **17 43 16.6 +1.2**
comp=Z,57nm,1.1s,mb5.2
KBL Kabul 46.74 297 ⇓*i*P **P** **17 43 41.1 +0.9**
ASAR Alice Springs 46.99 163 P **P** **17 43 42.5 +0.3**
comp=Z,9.5nm,0.7s,mb4.9,baz=346,slow=7.2,SNR=230
ASAR ScP ScP 17 49 11.1 +5.8
comp=Z,0.7nm,0.8s,baz=330,slow=3.2,SNR=3.4
ASAR S **S** **17 50 33.5 +2.1**
comp=Z,2.5nm,1.0s,baz=359,slow=18,SNR=9.9
CTA Charters Tower 48.59 147 ⇓*i*P **P** **17 43 55.7 +1.1**
comp=Z,15nm,1.0s,mb5.0
CTA *e*sP sP 17 44 06.5 -2.4
CTA Charters Tower 48.59 147 P **P** **17 43 55.5 +0.9**
comp=Z,19nm,0.9s,mb5.1,baz=328,slow=9.4,SNR=12
CTA Charters Tower 48.59 147 ⇓*i*P **P** **17 43 55.7 +1.1**
CTA *e**SP sP 17 44 06.5 -2.4
CTA pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 48.59 147 ⇑*i*P **P** **17 43 55.5 +0.9**
CTAO *e* pP 17 44 05.6 +0.8
CTAO pmax pmax
comp=Z,25nm,0.9s,mb5.2
CTAO Charters Tower 48.59 147 ⇑*i*P **P** **17 43 55.5 +0.9**
comp=Z,25nm,0.9s,mb5.2
CTAO *e* pP 17 44 05.6 +0.8
BVAR Borovoye Array 49.20 322 P **P** **17 43 59.5 +0.2**
comp=Z,3.3nm,0.6s,mb4.5,baz=105,slow=8.6,SNR=25
BVAR PcP PcP 17 45 22.3 +0.2
comp=Z,3.8nm,0.8s,baz=137,slow=3.5,SNR=4.4
BVAR LR LR 18 06 57.3
comp=Z,676nm,18.2s,MS4.7,baz=226,slow=39
BVAR Borovoye Array 49.20 322 P **P** **17 43 59.5 +0.2**
BVAR 17 45 22.3
BRVK Borovoye 49.27 322 P **P** **17 44 00.9 +1.0**
comp=Z,61nm,0.8s,mb5.7,SNR=9.3
BRVK Borovoye 49.27 322 *e*P **P** **17 43 59.6 -0.3**
BRVK *e* pP 17 44 10.4 +0.3
BRVK pmax pmax
comp=Z,34nm,1.0s,mb5.3
BRVK Borovoye 49.27 322 *e*P **P** **17 43 59.6 -0.3**
comp=Z,34nm,1.0s,mb5.3
BRVK *e* pP 17 44 10.4 +0.3
TIXI Tiksi 50.11 3 ⇑*i*P **P** **17 44 04.3 -1.9**
TIXI pmax pmax
comp=Z,104nm,1.7s,mb5.6
TIXI Tiksi 50.11 3 ⇑*i*P **P** **17 44 04.3 -1.9**
comp=Z,104nm,1.7s,mb5.6
FORT Forrest 52.75 172 *e*P **P** **17 44 25.8 -0.2**
comp=Z,59nm,0.8s,mb5.6
KLBR Kellerberrin 53.14 183 *e*P **P** **17 44 28.2 -0.6**
comp=Z,36nm,0.8s,mb5.4
MUN Mundaring 53.62 185 *e*P **P** **17 44 31.1 -1.3**
BILL Bilibino 54.12 19*c i*P **P** **17 44 34.6 -1.4**
BILL *i* pP 17 44 45.0 -1.3
BILL *i* 17 45 40.6
BILL pmax pmax
comp=Z,46nm,1.0s,mb5.4
BILL MLR MLR
comp=Z,1µm,19.0s,MS5.0
BILL Bilibino 54.12 19 ⇑*i*P **P** **17 44 34.5 -1.5**
comp=Z,41nm,0.9s,mb5.4
BILL *e*PcP PcP 17 45 39.9 -0.6
NWAO Narrogin (SRO) 54.49 183 ⇓*i*P **P** **17 44 38.7 -0.1**
NWAO pmax pmax
comp=Z,83nm,1.3s
NWAO Narrogin (SRO) 54.49 183 ⇓*i*P **P** **17 44 38.6 -0.1**
comp=Z,83nm,1.3s,mb5.5
ABKT Ailbek 55.56 302 P **P** **17 44 48.1 +1.6**
comp=Z,112nm,0.9s,mb5.9,SNR=6.9
AKTK Aktyubinsk 56.12 317 P **P** **17 44 50.9 +0.4**
AKTK LR LR 18 10 45.2
AKTO Aktyubinsk 56.12 317 P **P** **17 44 50.9 +0.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=107,slow=12,SNR=6.7
AKTO LR LR 18 10 45.2
comp=Z,944nm,19.6s,MS4.9,baz=283,slow=38
ARU Arti 56.71 324 ⇑*i*P **P** **17 44 54.3 -0.3**
ARU *e* 17 45 47.1
ARU *e*S **S** **17 52 47.9 +3.0**
ARU *e*SS SS 17 56 33.6 +0.7
ARU pmax pmax
comp=Z,40nm,1.7s,mb5.2
ARU Arti 56.71 324 *e*P **P** **17 44 54.4 -0.3**
comp=Z,29nm,1.0s,mb5.3
STKA Stephens Creek 57.02 159 *e*P **P** **17 44 57.0 +0.1**
comp=Z,17nm,0.6s,mb5.3
STKA *e* pP 17 45 08.7 +1.5
STKA Stephens Creek 57.02 159 P **P** **17 44 57.8 +0.9**
comp=Z,21nm,0.6s,mb5.3,baz=337,slow=6.9,SNR=69
ORR Orenburg 58.29 318 *e*P **P** **17 45 06.9 +1.1**
ORR pmax pmax
comp=Z,30nm,1.1s,mb5.2
ARMA Armidale 59.86 149 *e*P **P** **17 45 18.3 +1.6**
ARMA *e* pP 17 45 29.1 +2.0
DZM Mont Dzumac 62.44 131 P **P** **17 45 34.0 -0.1**
comp=Z,7.8nm,0.9s,mb4.8,baz=306,slow=18,SNR=7.0
CNB Canberra Magne 63.00 154 *e*P **P** **17 45 39.6 +1.7**
comp=Z,38nm,0.9s,mb5.5
UMR Umm Al-Rimmam 65.20 293 *e*P **P** **17 45 51.9 -0.4**
MIB Mutribah 65.47 294 *e*P **P** **17 45 53.9 -0.1**
MIB AMb AMB 17 45 54.6
comp=Z,24nm,0.7s,mb5.3
RDF Al-Radifah 65.47 293 *e*P **P** **17 45 54.0 -0.1**
RDF AMb AMB 17 45 54.7
comp=Z,33nm,0.7s,mb5.5
NAY Al-Naaiem 65.67 293 *e*P **P** **17 45 55.0 -0.4**
NAY AMb AMB 17 45 55.8
comp=Z,17nm,0.7s,mb5.2
KIV Kislovodsk 66.68 310 ⇓P sP 17 46 12.3 -4.0
SNR=5.5
KIV Kislovodsk 66.68 310 *e*P **P** **17 46 02.6 +0.8**
KIV pmax pmax
comp=Z,29nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,543nm,18.0s,MS4.8
KIV Kislovodsk 66.68 310 *e*P **P** **17 46 02.9 +1.1**
comp=Z,60nm,1.0s,mb5.6
KIV *e* pP 17 46 11.7 -0.7
TTA Tatalina 67.86 29 *e*P **P** **17 46 09.3 0.0**
SVW2 Sparrevohn 68.22 31 *e*P **P** **17 46 11.2 -0.4**
MOS Moscow 68.37 323 *e*P **P** **17 46 20.8 +8.3**
MOS pmax pmax
comp=Z,76nm,1.3s,mb5.6
IMA2 Indian Mountai 68.58 26 *e*P **P** **17 46 13.5 -0.4**
APA Apatity 69.01 336⇑*e*P **P** **17 46 15.8 -0.7**
APA pmax pmax
comp=Z,45nm,1.5s,mb5.2
OBN Obninsk 69.05 322 *e*P **P** **17 46 20.9 +4.2**
OBN *e* 17 46 41.1
OBN pmax pmax
comp=Z,55nm,1.3s,mb5.3
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.7
ANN Anapa 70.25 311 *e*P **P** **17 46 25.9 +1.8**
ANN *e**PP pP 17 46 32.8 -2.0
ANN *e*S S 17 55 38.1 +4.5
ANN pmax pmax
comp=Z,166nm,1.7s,mb5.7
JOF Joensuu 70.53 331 *e*p **P** **17 46 23.8 -2.0**
comp=Z,37nm,1.2s,mb5.2
MALT Malatya 70.89 304 ⇑*i*P **P** **17 46 30.4 +2.4**
MCK McKinley 70.92 28 *e*P **P** **17 46 27.4 -0.8**
MCK pmax pmax
comp=Z,36nm,1.4s,mb5.1
MCK McKinley 70.92 28 *e*P **P** **17 46 27.4 -0.8**
comp=Z,36nm,1.4s,mb5.1
KEV Kevo 71.00 338 *e*p **P** **17 46 28.9 +0.2**
COLA College 71.17 27 *e*P **P** **17 46 28.6 -1.1**
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
COLA College 71.17 27 *e*P **P** **17 46 28.6 -1.1**
comp=Z,10nm,0.8s,mb4.8
PMR Palmer 71.22 30 *e*P **P** **17 46 28.9 -1.2**
PMR pmax pmax
comp=Z,65nm,1.4s,mb5.4
PMR Palmer 71.22 30 *e*P **P** **17 46 28.9 -1.2**
comp=Z,65nm,1.4s,mb5.4
SML Sawmill 71.56 30 *e*P **P** **17 46 31.1 -1.0**
SIM Simferopol' 72.52 312 P **P** **17 46 45.8 +7.9**
SIM pmax pmax
comp=Z,41nm,1.0s,mb5.3
SIM MLR MLR
comp=Z,400nm,17.0s,MS4.8
KAF Kangasniemi 72.97 331 *e*p **P** **17 46 39.1 -1.4**
FINES FINESS Array B 73.24 330 P **P** **17 46 41.6 -0.5**
comp=Z,3.9nm,0.7s,mb4.4,baz=62,slow=3.9,SNR=12
FINES LR LR 18 23 47.1
comp=Z,593nm,18.4s,MS4.9,baz=44,slow=40
MENT Mentasta 73.39 28 *e*P **P** **17 46 43.1 +0.1**
ASF Jabal al Asfar 73.62 299 P **P** **17 46 44.3 -0.1**
comp=Z,3.3nm,0.7s,mb4.4,baz=86,slow=10,SNR=4.9
BRTR Keskin Array B 74.16 307 P **P** **17 46 48.5 +1.0**
comp=Z,5.2nm,1.1s,mb4.4,baz=123,slow=4.6,SNR=7.6
AKASG Malin Array Be 74.30 319 P **P** **17 46 47.4 -0.9**
comp=Z,4.4nm,0.9s,mb4.4,baz=60,slow=5.8,SNR=12
AKBB Malin Array Si 74.30 319 *e*P **P** **17 46 47.5 -0.8**
MMAI Mount Meron Ar 74.60 300 LR LR 18 23 46.7
comp=Z,263nm,20.0s,MS4.5,baz=130,slow=39
DAWY Dawson 74.92 27⇑*e*P **P** **17 46 51.6 -0.3**
KIS Kishinev 75.57 315 *e*P **P** **17 47 04.0 +8.4**
INK Inuvik 75.65 22 *e*P **P** **17 46 55.2 -0.9**
comp=Z,1µm,1.0s
ALE Alert 75.89 0 P **P** **17 46 57.3 -0.2**
comp=Z,81nm,1.5s,mb5.4,SNR=7.0
EIL Elat 75.93 297 *e*P **P** **17 46 58.0 +0.4**
comp=Z,1µm,1.8s
TIRR Tirgusor 76.57 313 ⇑*i*P pP 17 47 12.3 +0.2
SUW Suwalki 76.88 323 *e*P **P** **17 47 01.4 -1.7**
SUW pmax pmax
comp=Z,113nm,0.9s,mb5.8
SUW Suwalki 76.88 323 *e*P **P** **17 47 01.4 -1.7**
comp=Z,113nm,0.9s,mb5.8
VRI Vrincioaia 77.28 314 ⇑*i*P **P** **17 47 06.9 +1.5**
BURAR Bucovina Array 77.72 316 ⇑*i*P **P** **17 47 08.7 +0.9**
LVV L'vov 77.74 319 *e*P **P** **17 47 16.7 +8.8**
MLR Muntele Rosu 77.92 314 P **P** **17 47 10.2 +1.2**
comp=Z,5.4nm,0.7s,mb4.6,baz=194,slow=7.4,SNR=5.9
MLR Muntele Rosu 77.92 314 ⇑P **P** **17 47 10.3 +1.3**
MLR Muntele Rosu 77.92 314 ⇑*i*P **P** **17 47 10.3 +1.4**
SKAG Skagway 78.36 30 *e*P **P** **17 47 12.4 +1.0**
comp=Z,85nm,1.1s,mb5.6
DAG Danmarks Havn 78.65 351 ⇓*i*P **P** **17 47 12.0 -0.9**
comp=Z,8.7nm,0.6s,mb4.9
DAG Danmarks Havn 78.65 351⇓*e*P **P** **17 47 12.0 -0.9**
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KOLS Kolonicke sedl 79.12 318 *e*P **P** **17 47 15.4 -0.2**
KOLS *e*pP pP 17 47 29.7 +3.4
UZH Uzhgorod 79.22 318 *e*P **P** **17 47 25.0 +8.9**
HFS Hagfors 79.39 331 P **P** **17 47 16.5 -0.5**
comp=Z,6.3nm,0.7s,mb4.6,baz=101,slow=4.7,SNR=7.4
HFS LR LR 18 25 32.0
comp=Z,1µm,20.3s,MS5.2,baz=59,slow=38
STHS Stebnicka Huta 79.58 319 *e*P **P** **17 47 18.9 +0.8**
STHS *e* pP 17 47 29.4 +0.6
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
STHS Stebnicka Huta 79.58 319 *e*P **P** **17 47 18.9 +0.8**
comp=Z,9.1nm,1.0s,mb4.7
STHS *e* pP 17 47 29.4 +0.6
DRGR 79.60 316 ⇑*i*P **P** **17 47 19.5 +1.3**
CRVS Cervenica-Dubn 79.64 319 *e*P **P** **17 47 22.6 +4.3**
URZ Urewera 79.85 138 P **P** **17 47 19.5 0.0**
comp=Z,2.3nm,0.5s,mb4.3,baz=346,slow=1.0,SNR=3.5
RPZ Rata Peaks 79.92 145 P **P** **17 47 20.1 +0.2**
comp=Z,30nm,0.9s,mb5.2,baz=226,slow=3.6,SNR=10
GZR Gura Zlata 80.05 315 ⇓*i*P **P** **17 47 24.2 +3.6**
NB2 NORSAR Subarra 80.08 332 P **P** **17 47 19.9 -0.9**
comp=Z,2.8nm,0.8s,mb4.2,baz=60,slow=5.3
NOA NORSAR Array B 80.08 332 P **P** **17 47 20.0 -0.7**
comp=Z,4.7nm,0.8s,mb4.5,baz=62,slow=5.3,SNR=11
NOA LR LR 18 26 31.6
comp=Z,916nm,18.8s,MS5.2,baz=180,slow=38
NOA NORSAR Array B 80.08 332 P **P** **17 47 20.0 -0.7**
NOA LR LR 18 26 31.6
NIE Niedzica 80.15 319 *e*P **P** **17 47 22.1 +1.0**
OJC Ojcow 80.16 320 *e*P **P** **17 47 21.5 +0.3**
KECS Kecovo 80.39 318 *e*P **P** **17 47 21.4 -1.0**
KECS *e* 17 47 27.5
KECS *e* pP 17 47 33.6 +0.4
KECS *e* 17 50 24.5
KECS pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
KECS Kecovo 80.39 318 *e*P **P** **17 47 21.4 -1.0**
comp=Z,9.4nm,1.2s,mb4.6
KECS *e* 17 47 27.5
KECS *e* pP 17 47 33.6 +0.4
KECS *e*PP PP 17 50 24.5 -1.1
BZS Buzias 80.73 315 ⇑*i*P **P** **17 47 24.6 +0.3**
VTS Vitosha 80.76 312 ⇓*i*P **P** **17 47 25.8 +1.4**
PSZ Piszkesteto 80.97 318 ⇑*i*P **P** **17 47 26.1 +0.6**
PSZ Piszkesteto 80.97 318⇓*e*P **P** **17 47 28.4 +2.9**
RES Resolute Bay 81.11 9 *e*P **P** **17 47 25.4 -0.8**
comp=Z,1µm,1.2s
DLBC Dease Lake 81.28 30 *e*P **P** **17 47 27.7 +0.5**
OKC Ostrava-Krasne 81.29 320 *e*P **P** **17 47 27.9 +0.7**
OKC *e*pP pP 17 47 37.1 -0.9
VYHS Vyhne 81.40 319 *e*P **P** **17 47 28.4 +0.6**
VYHS *e* pP 17 47 39.4 +0.8
VYHS pmax pmax
comp=Z,23nm,1.2s,mb5.0
VYHS Vyhne 81.40 319 *e*P **P** **17 47 28.4 +0.6**
comp=Z,23nm,1.2s,mb5.0
VYHS *e* pP 17 47 39.4 +0.8
VAY Valandovo 81.66 311 *e*P pP 17 47 38.8 -1.1
VAY Valandovo 81.66 311 *e*P pP 17 47 38.8 -1.1
MORC Moravsky Berou 81.67 320 ⇓*i*P **P** **17 47 30.3 +1.1**
BUD Budapest 81.68 318 *e*PcP PcP 17 47 35.1 +0.1
STIP Stip 81.80 312 *e*P pP 17 47 39.5 -1.2
STIP Stip 81.80 312 *e*P pP 17 47 39.5 -1.2
KSP Ksiaz 81.97 322 *e*P **P** **17 47 31.1 +0.3**
KSP *e*PcP PcP 17 47 36.2 -0.1
KSP *e*pP pP 17 47 40.8 -0.8
DPC Dobruska-Polom 82.15 321 *e*P **P** **17 47 32.8 +1.0**
DPC *e*pP pP 17 47 41.8 -0.8
SKO Skopje 82.21 312 *e*P pP 17 47 42.8 0.0
SKO Skopje 82.21 312 *e*P pP 17 47 42.8 0.0
UPC Upice 82.27 321 *e*P **P** **17 47 33.1 +0.7**
UPC *e*pP pP 17 47 42.2 -1.0
DIVS Divcibare 82.38 314 ⇓*i*P **P** **17 47 33.2 +0.3**
VRAC Vranov 82.43 320 P **P** **17 47 34.3 +1.1**
comp=Z,8.4nm,0.9s,mb4.7,baz=67,slow=4.0,SNR=10
VRAC LR LR 18 25 15.2
comp=Z,317nm,19.0s,MS4.7,baz=166,slow=36
VRAC Vranov 82.43 320 ⇓P **P** **17 47 34.1 +0.9**
VRAC Vranov 82.43 320 ⇓*i*P **P** **17 47 34.1 +0.9**
KRUS Krusevo 82.57 311 *e*P pP 17 47 44.5 -0.2
KRUS Krusevo 82.57 311 *e*P pP 17 47 44.5 -0.2
ZST Bratislava 82.58 319 *e*P pP 17 47 45.8 +1.0
ZST Bratislava 82.58 319 *e*pP pP 17 47 45.8 +1.0
BIA Bitola 82.65 311 *e*P pP 17 47 44.6 -0.5
BIA Bitola 82.65 311 *e*P pP 17 47 44.6 -0.5
OHR Ohrid 82.98 311 *e*P pP 17 47 45.4 -1.5
OHR Ohrid 82.98 311 *e*P pP 17 47 45.4 -1.5
TREC Trest 83.09 320 *e*P **P** **17 47 40.3 +3.7**
PVCC Panska Ves 83.09 322 *e*P **P** **17 47 36.4 -0.3**
PVCC *e*pP pP 17 47 47.5 0.0
SOP Sopron 83.13 319⇓*e*PcP PcP 17 47 42.0 +0.6
BRG Berggiesshubel 83.30 322 *e*P **P** **17 47 40.5 +2.8**
comp=Z,2.9nm,0.9s,mb4.3
BRG *e* 17 47 43.2
comp=Z,11nm,1.4s
BRG *i* pP 17 47 48.9 +0.4
comp=Z,22nm,1.4s
BRG
comp=N,315nm,17.6s
BRG
comp=E,429nm,18.4s
BRG
comp=Z,438nm,17.6s
BRG Berggiesshubel 83.30 322 *e*P **P** **17 47 40.5 +2.8**
BRG *i* pP 17 47 48.9 +0.4
BRG pmax pmax
comp=Z,30nm,0.9s,mb5.3
BRG MLR MLR
comp=Z,440nm,17.6s,MS4.9
BRG Berggiesshubel 83.30 322 *e*P **P** **17 47 40.5 +2.8**
comp=Z,2.9nm,0.9s,mb4.3
BRG *e* 17 47 43.2
BRG *i* pP 17 47 48.9 +0.4
BRG LR LR
comp=Z,440nm,17.6s,MS4.9
PRU Pruhonice 83.34 321 *e*P **P** **17 47 38.6 +0.6**
PRU *e*pP pP 17 47 49.1 +0.3
PRU Pruhonice 83.34 321 *e*P **P** **17 47 38.6 +0.6**
PRU *e*pP pP 17 47 49.1 +0.3
CONA Conrad Observa 83.45 319 ⇓*i*P **P** **17 47 39.2 +0.8**
comp=Z,7.0nm,1.2s,mb4.6
CONA ⇑*i*pP pP 17 47 50.1 +0.8
comp=Z,19nm,1.1s
CLL Collm 83.63 323 *i* P **P** **17 47 39.4 0.0**
CLL *e* pP 17 47 50.0 -0.2
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
CLL Collm 83.63 323 *i* P **P** **17 47 39.4 0.0**
comp=Z,9.0nm,1.1s,mb4.8
CLL *i* 17 47 44.5
CLL *e* pP 17 47 50.0 -0.2
CLL Collm 83.63 323 *i* P **P** **17 47 39.4 0.0**
comp=Z,9.0nm,1.1s,mb4.8
CLL *i* PcP PcP 17 47 44.5 +0.9
CLL *e*pP pP 17 47 50.0 -0.2
comp=Z,47nm,1.3s
CLL *e*PP PP 17 50 57.0 +4.7
KMBO Kilima Mbogo 84.23 266 P **P** **17 47 45.2 +2.7**
comp=Z,8.9nm,1.0s,mb4.9,baz=40,slow=7.0,SNR=17
KMBO LR LR 18 23 58.1
comp=Z,298nm,21.5s,MS4.6,baz=279,slow=35
KMBO Kilima Mbogo 84.23 266 *e*P **P** **17 47 44.9 +2.4**
KMBO pmax pmax
comp=Z,75nm,1.6s
KMBO Kilima Mbogo 84.23 266 *e*P **P** **17 47 44.9 +2.4**
comp=Z,75nm,1.6s,mb5.6
KHC Kasperske Hory 84.29 321 *e*P **P** **17 47 43.3 +0.5**
KHC *e*pP pP 17 47 53.6 0.0
KHC Kasperske Hory 84.29 321 *e*P **P** **17 47 43.3 +0.5**
KHC *e*pP pP 17 47 53.6 0.0
GEC2 GERESS Array S 84.34 321 *e*P **P** **17 47 42.7 -0.4**
GERES GERESS Array B 84.34 321 P **P** **17 47 43.7 +0.7**
comp=Z,3.7nm,0.8s,mb4.5,baz=67,slow=4.5,SNR=27
NKC Novy Kostel 84.44 322 *e*P **P** **17 47 44.0 +0.5**
NKC *e*pP pP 17 47 50.8 -3.6
NKC Novy Kostel 84.44 322 *e*P **P** **17 47 44.0 +0.5**
NKC *e*pP pP 17 47 50.8 -3.6
MOA Molln 84.45 320 ⇑*i*P **P** **17 47 43.6 0.0**
comp=Z,9.4nm,1.6s,mb4.7
MOA ⇑*i* 17 47 49.1
comp=Z,27nm,1.4s
MOA Molln 84.45 320 ⇓*i*P **P** **17 47 42.9 -0.7**
comp=Z,9.4nm,1.6s,mb4.7
MOA ⇑*i*pP pP 17 47 49.1 -5.3
comp=Z,27nm,1.4s
PERS Pernice 84.46 318 *e*P **P** **17 47 44.2 +0.6**
MOX Moxa 84.72 323 *e*P **P** **17 47 45.4 +0.4**
MOX *e* pP 17 47 55.6 -0.2
comp=Z,45nm,1.7s
MOX
comp=Z,400nm,20.0s
MOX Moxa 84.72 323 *e*P **P** **17 47 45.4 +0.4**
MOX *e* pP 17 47 55.6 -0.2
MOX pmax pmax
comp=Z,45nm,1.7s,mb5.3
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.8
MOX Moxa 84.72 323 *e*P **P** **17 47 45.4 +0.4**
comp=Z,45nm,1.7s,mb5.3
MOX *e* pP 17 47 55.6 -0.2
MOX LR LR
comp=Z,400nm,20.0s,MS4.8
BOJS Bojanci 84.87 317 *e*P **P** **17 47 48.1 +2.4**
VISS Visnje 85.00 317 *i* P **P** **17 47 47.1 +0.7**
YKA Yellowknife Ar 85.39 22 P **P** **17 47 47.7 -0.6**
comp=Z,20nm,1.0s,mb5.2,baz=313,slow=4.8,SNR=120
YKA PKiKP PKiKP 17 52 57.7 -1.2
comp=Z,0.2nm,0.6s,baz=310,slow=1.6,SNR=4.4
YKA PKKPbc PKKPbc 18 05 52.1 -0.3
comp=Z,0.2nm,0.6s,baz=129,slow=2.4,SNR=6.9
YKA LR LR 18 29 30.7
comp=Z,340nm,18.6s,MS4.8,baz=235,slow=38
YKA Yellowknife Ar 85.39 22 P **P** **17 47 47.7 -0.6**
GRA1 Grafenberg Arr 85.39 322 *e*P **P** **17 47 48.2 -0.1**
comp=Z,121nm,2.0s,mb5.7
GRF Grafenberg Arr 85.39 322 *e*P **P** **17 47 48.2 -0.1**
comp=Z,121nm,2.0s,mb5.7
GRF Grafenberg Arr 85.39 322 *e*P **P** **17 47 48.2 -0.1**
GRF pmax pmax
comp=Z,121nm,2.0s,mb5.7
GRF Grafenberg Arr 85.39 322 *e*P **P** **17 47 48.2 -0.1**
GRF pmax pmax
comp=Z,121nm,2.0s,mb5.7
GRFO Grafenberg 85.39 322 *e*P **P** **17 47 47.7 -0.6**
GRFO pmax pmax
comp=Z,38nm,1.3s,mb5.4
GRFO Grafenberg 85.39 322 *e*P **P** **17 47 47.7 -0.7**
comp=Z,38nm,1.3s,mb5.4
WTTA Wattenberg 86.30 320 ⇑*i*P **P** **17 47 53.0 +0.2**
comp=Z,14nm,1.2s,mb5.1
WTTA ⇑*i* pP 17 48 04.0 +0.3
comp=Z,32nm,1.2s
WTTA Wattenberg 86.30 320 ⇓*i*P **P** **17 47 52.8 0.0**
comp=Z,14nm,1.2s,mb5.1
WTTA ⇑*i*pP pP 17 48 04.0 +0.3
comp=Z,32nm,1.2s
WTTA Wattenberg 86.30 320 ⇑*i*P **P** **17 47 53.0 +0.2**
WTTA *i* pP 17 48 04.0 +0.3
WTTA pmax pmax
comp=Z,14nm,1.2s,mb5.1
CASY Casey 88.12 184 *e*P **P** **17 48 01.8 +0.1**
comp=Z,20nm,1.0s,mb5.3
CDF Champ du Feu 88.28 322 *e*P **P** **17 48 02.0 -0.4**
comp=Z,34nm,1.4s,mb5.1
CDF Champ du Feu 88.28 322 *e*P **P** **17 48 02.0 -0.4**
CDF pmax pmax
comp=Z,17nm,1.4s,mb5.1
CDF Champ du Feu 88.28 322 *e*P **P** **17 48 02.0 -0.4**

comp=Z,17nm,1.4s,mb5.1
GIVF Givet 88.74 325 *e*P **P 17 48 04.1 -0.4**
comp=Z,52nm,1.5s,mb5.3
GIVF Givet 88.74 325 *e*P **P 17 48 04.1 -0.4**
GIVF pmax pmax
comp=Z,26nm,1.5s,mb5.3
GIVF Givet 88.74 325 *e*P **P 17 48 04.1 -0.4**
comp=Z,26nm,1.5s,mb5.3
HINF Hinterlafeld 88.83 322 *e*P **P 17 48 04.3 -0.7**
comp=Z,18nm,1.3s,mb5.0
HINF Hinterlafeld 88.83 322 *e*P **P 17 48 04.3 -0.7**
HINF pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
HINF Hinterlafeld 88.83 322 *e*P **P 17 48 04.3 -0.7**
comp=Z,9.1nm,1.3s,mb5.0
HAU Haudompre 89.02 322 *e*P **P 17 48 05.3 -0.6**
comp=Z,17nm,1.0s,mb5.0
HAU *e*MLR
comp=Z,594nm,18.2s
HAU Haudompre 89.02 322 *e*P **P 17 48 05.3 -0.6**
HAU pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,590nm,18.3s,MS5.0
HAU Haudompre 89.02 322 *e*P **P 17 48 05.3 -0.6**
comp=Z,8.7nm,1.0s,mb5.0
HAU LR LR
comp=Z,590nm,18.3s,MS5.0
BAIF Baives 89.09 325⇑*i*P **P 17 48 05.9 -0.3**
MEZF Maizieres J'vi 89.49 323 *e*P **P 17 48 08.0 -0.1**
comp=Z,64nm,1.4s,mb5.5
MEZF Maizieres J'vi 89.49 323 *e*P **P 17 48 08.0 -0.1**
comp=Z,64nm,1.4s,mb5.8
EKA Eskdalemuir Ar 89.56 332 P **P 17 48 08.3 -0.1**
comp=Z,2.0nm,0.8s,mb4.5,baz=39,slow=6.8,SNR=4.9
LPG La Plagne 90.11 320⇑*i*P **P 17 48 11.6 +0.6**
comp=Z,36nm,1.2s,mb5.3
LPG La Plagne 90.11 320⇑*i*P **P 17 48 11.6 +0.6**
LPG pmax pmax
comp=Z,18nm,1.2s,mb5.3
LPG La Plagne 90.11 320⇑*i*P **P 17 48 11.6 +0.6**
comp=Z,18nm,1.2s,mb5.3
LPL La Plagne 90.11 320⇑*i*P **P 17 48 11.4 +0.4**
comp=Z,46nm,1.3s,mb5.3
LPL La Plagne 90.11 320⇑*i*P **P 17 48 11.4 +0.4**
LPL pmax pmax
comp=Z,23nm,1.3s,mb5.3
LPL La Plagne 90.11 320⇑*i*P **P 17 48 11.4 +0.4**
comp=Z,23nm,1.3s,mb5.3
PGF Pioggiola 90.24 317 *e*P **P 17 48 12.0 +0.4**
comp=Z,65nm,1.2s,mb5.5
PGF Pioggiola 90.24 317 *e*P **P 17 48 12.0 +0.4**
PGF pmax pmax
comp=Z,33nm,1.2s,mb5.5
PGF Pioggiola 90.24 317 *e*P **P 17 48 12.0 +0.4**
comp=Z,33nm,1.2s,mb5.5
MBDF Montbardon 90.51 319 *e*P **P 17 48 12.4 -0.4**
comp=Z,26nm,1.2s,mb5.1
MBDF Montbardon 90.51 319 *e*P **P 17 48 12.4 -0.4**
MBDF pmax pmax
comp=Z,13nm,1.2s,mb5.1
MBDF Montbardon 90.51 319 *e*P **P 17 48 12.4 -0.4**
comp=Z,13nm,1.2s,mb5.1
SBF Sospel 90.55 318 *e*P **P 17 48 12.7 -0.3**
comp=Z,40nm,1.0s,mb5.4
SBF Sospel 90.55 318 *e*P **P 17 48 12.7 -0.3**
SBF pmax pmax
comp=Z,20nm,1.0s,mb5.4
SBF Sospel 90.55 318 *e*P **P 17 48 12.7 -0.3**
comp=Z,20nm,1.0s,mb5.4
LOR Lormes 90.84 323⇑*i*P **P 17 48 13.8 -0.6**
comp=Z,34nm,1.3s,mb5.2
LOR *e*MLR
comp=Z,716nm,19.2s
LOR Lormes 90.84 323⇑*i*P **P 17 48 13.8 -0.6**
LOR pmax pmax
comp=Z,17nm,1.3s,mb5.2
LOR MLR MLR
comp=Z,720nm,19.3s,MS5.1
LOR Lormes 90.84 323⇑*i*P **P 17 48 13.8 -0.6**
comp=Z,17nm,1.3s,mb5.2
LOR LR LR
comp=Z,720nm,19.3s,MS5.1
ORIF Oris-en-Rattie 90.94 320 *e*P **P 17 48 15.0 +0.2**
ORIF *e*MLR
comp=Z,765nm,20.8s
SSF Saint Saulge 91.15 322 *e*P **P 17 48 15.4 -0.4**
comp=Z,27nm,1.3s,mb5.1
SSF Saint Saulge 91.15 322 *e*P **P 17 48 15.4 -0.4**
SSF pmax pmax
comp=Z,13nm,1.3s,mb5.1
SSF Saint Saulge 91.15 322 *e*P **P 17 48 15.4 -0.4**
comp=Z,13nm,1.3s,mb5.1
SMF Signal de Mont 91.19 322 *e*P **P 17 48 15.6 -0.4**
comp=Z,53nm,1.3s,mb5.4
SMF Signal de Mont 91.19 322 *e*P **P 17 48 15.6 -0.4**
SMF pmax pmax
comp=Z,27nm,1.3s,mb5.4
SMF Signal de Mont 91.19 322 *e*P **P 17 48 15.6 -0.4**
comp=Z,27nm,1.3s,mb5.4
FRF La Foret Royal 91.20 318 *e*P **P 17 48 15.9 -0.1**
comp=Z,57nm,1.4s,mb5.4
FRF La Foret Royal 91.20 318 *e*P **P 17 48 15.9 -0.1**
FRF pmax pmax
comp=Z,29nm,1.4s,mb5.4
FRF La Foret Royal 91.20 318 *e*P **P 17 48 15.9 -0.1**
comp=Z,29nm,1.4s,mb5.4
AVF Avril sur Loir 91.39 322⇑*i*P **P 17 48 16.4 -0.5**
comp=Z,44nm,1.3s,mb5.3
AVF Avril sur Loir 91.39 322⇑*i*P **P 17 48 16.4 -0.5**
AVF pmax pmax
comp=Z,22nm,1.3s,mb5.3
AVF Avril sur Loir 91.39 322⇑*i*P **P 17 48 16.4 -0.5**
comp=Z,22nm,1.3s,mb5.3
LMR La Mourre 91.40 318 *e*P **P 17 48 17.1 +0.1**
comp=Z,63nm,1.3s,mb5.5
LMR La Mourre 91.40 318 *e*P **P 17 48 17.1 +0.1**
LMR pmax pmax
comp=Z,32nm,1.3s,mb5.5
LMR La Mourre 91.40 318 *e*P **P 17 48 17.1 +0.1**
comp=Z,32nm,1.3s,mb5.5
HYF Humbligny 91.52 323 *e*P **P 17 48 17.8 +0.3**
SMRF Simiane la Rot 91.63 319 *e*P **P 17 48 18.3 +0.3**
comp=Z,90nm,1.7s,mb5.5
SMRF Simiane la Rot 91.63 319 *e*P **P 17 48 18.3 +0.3**
comp=Z,90nm,1.7s,mb5.8
VIVF Saint-Julien-l 91.70 320⇑*i*P **P 17 48 18.2 -0.1**
comp=Z,23nm,1.3s,mb5.1
VIVF Saint-Julien-l 91.70 320⇑*i*P **P 17 48 18.2 -0.1**
VIVF pmax pmax
comp=Z,11nm,1.3s,mb5.0
VIVF Saint-Julien-l 91.70 320⇑*i*P **P 17 48 18.2 -0.1**
comp=Z,11nm,1.3s,mb5.0
BGF Bois d'Agland 91.81 322⇑*i*P **P 17 48 18.6 -0.3**
EDM Edmonton 91.96 29 *e*P **P 17 48 20.0 +0.4**
EDM *e* pP 17 48 31.9 +1.4
TCF Toulx Ste Croi 92.33 322⇑*i*P **P 17 48 21.1 -0.1**
comp=Z,61nm,1.6s,mb5.4
TCF Toulx Ste Croi 92.33 322⇑*i*P **P 17 48 21.1 -0.1**
TCF pmax pmax
comp=Z,30nm,1.6s,mb5.4
TCF Toulx Ste Croi 92.33 322⇑*i*P **P 17 48 21.1 -0.1**
comp=Z,30nm,1.6s,mb5.4
FLN La Foliniere 92.34 325 *e*P **P 17 48 20.7 -0.6**
FLN *e*MLR
comp=Z,990nm,19.2s
FLN La Foliniere 92.34 325 *e*P **P 17 48 20.7 -0.6**
FLN LR LR
comp=Z,990nm,19.3s,MS5.3
LASF Ste Croix 92.61 320 *e*P **P 17 48 22.7 +0.1**
RJF Les Rejaudoux 93.29 322⇑*i*P **P 17 48 26.3 +0.6**
comp=Z,91nm,1.6s,mb5.7
RJF *e*MLR
comp=Z,564nm,17.5s
RJF Les Rejaudoux 93.29 322⇑*i*P **P 17 48 26.3 +0.6**
RJF pmax pmax
comp=Z,46nm,1.6s,mb5.7
RJF MLR MLR
comp=Z,560nm,17.5s,MS5.1
RJF Les Rejaudoux 93.29 322⇑*i*P **P 17 48 26.3 +0.6**
comp=Z,46nm,1.6s,mb5.7
RJF LR LR
comp=Z,560nm,17.5s,MS5.1
MTLF Montolieu 94.01 320 *e*P **P 17 48 28.9 -0.1**
comp=Z,19nm,1.3s,mb5.1
MTLF Montolieu 94.01 320 *e*P **P 17 48 28.9 -0.1**
MTLF pmax pmax
comp=Z,9.0nm,1.3s,mb5.0
MTLF Montolieu 94.01 320 *e*P **P 17 48 28.9 -0.1**
comp=Z,9.3nm,1.3s,mb5.0
PPT Papeete 96.20 106 LR LR 18 23 06.7
comp=Z,217nm,20.9s,MS4.6,baz=47,slow=30
NVAR Mina Array Bea 98.56 43 P **P 17 48 50.7 +1.1**
comp=Z,0.4nm,0.3s,mb4.5,baz=347,slow=3.3,SNR=4.6
PDAR Pinedale Array 100.89 35 P Pdif 17 49 02.0 +1.9
comp=Z,0.3nm,0.8s,baz=254,slow=5.5,SNR=2.6
TORD Torodi Ar. Bea 110.74 294 PKiKP PKiKP 17 53 45.3 +1.6
comp=Z,0.9nm,0.9s,baz=38,slow=1.6,SNR=3.9
TORD PP PP 17 54 21.6 +0.7
comp=Z,1.4nm,1.0s,baz=68,slow=4.5,SNR=5.0
TORD PKKPbc PKKPbc 18 04 52.5 +11
comp=Z,2.4nm,0.8s,baz=252,slow=4.9,SNR=12
TORD Torodi Ar. Bea 110.74 294 PKPdf PKiKP 17 53 45.3 +1.6
TORD PP PP 17 54 21.6 +0.7
TORD PKKPbc PKKPbc 18 04 52.5 +11
CMIG Matias Romero 128.04 45 PKP PKPdf 17 54 18.0 +1.2
comp=Z,3.9nm,0.7s,baz=0.0,slow=0.0
CMIG Matias Romero 128.04 45 PKP PKPdf 17 54 18.0 +1.2
GRGR Grenville 146.22 4 *e*P PKPdf 17 54 51.7 +1.5
SDV Santo Domingo 147.59 21 PKPbc PKPbc 17 54 54.7 -0.5
comp=Z,84nm,0.8s,baz=225,slow=23,SNR=44
SDV Santo Domingo 147.59 21 *e*P PKPdf 17 54 54.1 +1.6
PCRV Puerto La Cruz 147.83 10 PKPbc PKPbc 17 54 55.1 -0.7
comp=Z,9.6nm,0.6s,baz=138,slow=5.5,SNR=5.5
ROSC El Rosal 149.76 31 PKP PKPdf 17 54 58.2 +2.2
comp=Z,6.5nm,0.3s,baz=89,slow=23,SNR=4.2
ROSC PKPbc PKPbc 17 55 04.0 +3.2
comp=Z,8.7nm,0.3s,baz=87,slow=22,SNR=9.0
ROSC El Rosal 149.76 31 *e*P PKPdf 17 54 58.5 +2.5
ATAH Atahualpa 156.50 54 PKP PKPdf 17 55 08.2 +2.5
comp=Z,3.4nm,0.6s,baz=288,slow=5.6,SNR=3.9
LPAZ La Paz 170.11 58 PKP PKPdf 17 55 21.9 +3.3
comp=Z,2.4nm,1.1s,baz=224,slow=3.0,SNR=5.1
LPAZ PKPab PKPab 17 56 34.4 +0.2
comp=Z,3.3nm,1.1s,baz=354,slow=11,SNR=4.6
SIV San Ignacio 174.03 16 PKP PKPdf 17 55 22.5 +2.1
comp=Z,0.7nm,0.5s,baz=266,slow=5.2,SNR=4.6
SIV PKPab PKPab 17 56 50.7 -0.9
comp=Z,2.2nm,0.8s,baz=342,slow=4.5,SNR=6.5
SIV PP PP 18 00 41.4 -2.1
comp=Z,2.4nm,1.1s,baz=9.5,slow=6.1,SNR=5.1

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*IDC **26** 17:42:08.1±1.4,34.10N×139.26E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/21,mbtmp3.6/4,ML3.8/2,Error ellipse: s-maj=37.0km s-min=15.3km az=61.0*
*NEIC **26** 17:42:08.3±1.4,34.09N×139.49E,h10km,MG3.0(JMA), Error ellipse: s-maj=26.3km s-min=14.0km az=88.0*
*ISCJB **26** 17:42:09.2±0.6,34.19N±004×139.24E±009,h10km, mb3.3/2,Error ellipse: s-maj=10.3km s-min=4.8km az=156.8*
*JMA **26** 17:42:10.0,34.24N×139.22E,h12km±1km,M3.0*
JMA Felt II J1.
ISC 26 17:42:09.6±0.6,3420N±004×13930E±009,h10km,n12, σ1§02/18,mb3.3/2,1C-2D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.14**	**266**	P	**Pg**	**17 42 12.8**	**+0.1**
NJJJ	**Nii jima 2**	**0.21**	**356**	⇑P	**Pg**	**17 42 14.0**	**+0.1**
NJJJ				S	**Sg**	**17 42 16.9**	**+0.1**
JIM2	**Oshima 3**	**0.53**	**12**	P	**Pg**	**17 42 19.9**	**0.0**
JIZS	**Izushimoda**	**0.63**	**326**	⇓P	**Pg**	**17 42 20.7**	**-1.0**
JIZS				S	**Sg**	**17 42 29.0**	**-1.0**
KTJJ	**Kamata 2**	**0.75**	**345**	⇓P	**Pg**	**17 42 23.0**	**-1.1**
KTJJ				S	**Sg**	**17 42 32.7**	**-1.3**
JHJ	**Hachijo jima 2**	**1.15**	**159**	Pn	**Pn**	**17 42 31.6**	**-0.1**
45nm,0.3s,baz=267,slow=21,SNR=3.8							
JHJ				Sn	**Sn**	**17 42 47.5**	**+0.1**
167nm,0.3s,baz=55,slow=21,SNR=7.9							
MJAR	**Matsushiro Arr**	**2.50**	**339**	Pn	**Pn**	**17 42 50.9**	**+0.5**
4.4nm,0.3s,baz=163,slow=14,SNR=26							
MJAR				Sn	**Sn**	**17 43 25.0**	**+4.0**
4.3nm,0.3s,baz=160,slow=25,SNR=9.1							
MAJO	**Matsushiro**	**2.51**	**339**	*e*Pn	**Pn**	**17 42 51.7**	**+1.3**
MAT	**Matsushiro**	**2.51**	**339**	P	**Pn**	**17 42 51.7**	**+1.3**
MAT				S	**Sn**	**17 43 23.4**	**+2.4**
JNU	**Nakatsue**	**7.10**	**264**	Pn	**Pn**	**17 43 54.3**	**+0.7**
2.7nm,0.3s,baz=232,slow=19,SNR=13							
MKAR	**Makanchi Array**	**44.23**	**304**	P	**P**	**17 50 19.1**	**+0.1**
0.5nm,0.9s,mb3.2,baz=86,slow=9.0,SNR=3.5							
WRA	**Warramunga Arr**	**54.04**	**186**	P	**P**	**17 51 32.3**	**-1.9**
0.3nm,0.7s,mb3.4,baz=360,slow=7.3,SNR=2.8							

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*IDC **26** 17:49:36.9±2.1,34.05N×139.33E,h0km,mb3.3/2, mb1 3.7/4,mb1mx3.4/21,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=52.8km s-min=23.7km az=75.0*
*ISCJB **26** 17:49:38.4±1.1,34.20N±005×139.24E±009,h10km, mb3.3/2,Error ellipse: s-maj=11.8km s-min=6.3km az=44.5*
*NEIC **26** 17:49:38.0±1.4,34.07N×139.41E,h10km,MG3.0(JMA), Error ellipse: s-maj=26.4km s-min=14.1km az=90.0*
*JMA **26** 17:49:39.1,34.24N×139.22E,h11km±1km,M3.0*
JMA Felt II J1.
ISC 26 17:49:39.2±1.0,3423N±004×13926E±009,h10km,n12, σ0§97/19,mb3.3/2,2C-2D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.11**	**247**	P	**Pg**	**17 49 41.9**	**0.0**
NJJJ	**Nii jima 2**	**0.17**	**8**	⇑P	**Pg**	**17 49 43.1**	**+0.1**
NJJJ				S	**Sg**	**17 49 45.6**	**+0.1**
JIM2	**Oshima 3**	**0.51**	**17**	⇑P	**Pg**	**17 49 49.2**	**+0.1**
JIM2				S	**Sg**	**17 49 56.2**	**+0.4**
JIZS	**Izushimoda**	**0.58**	**328**	⇓P	**Pg**	**17 49 49.9**	**-0.6**
JIZS				eS	**Sg**	**17 49 57.6**	**-0.5**
KTJJ	**Kamata 2**	**0.71**	**347**	⇓P	**Pg**	**17 49 52.1**	**-0.9**
KTJJ				eS	**Sg**	**17 50 01.8**	**-0.5**
JOD2	**Odawara 2**	**1.04**	**352**	P	**Pg**	**17 49 58.1**	**-1.1**
JOD2				S	**Sg**	**17 50 12.1**	**-0.7**
MJAR	**Matsushiro Arr**	**2.46**	**340**	Pn	**Pn**	**17 50 21.3**	**+1.9**
3.4nm,0.3s,baz=161,slow=14,SNR=26							
MJAR				Sn	**Sn**	**17 50 53.9**	**+4.4**
3.6nm,0.3s,baz=201,slow=24,SNR=7.2							
MAJO	**Matsushiro**	**2.46**	**340**	*e*P	**Pn**	**17 50 20.7**	**+1.3**
MAT	**Matsushiro**	**2.46**	**340**	P	**Pn**	**17 50 20.8**	**+1.4**
MAT				S	**Sn**	**17 50 53.1**	**+3.6**
JNU	**Nakatsue**	**7.07**	**263**	Pn	**Pn**	**17 51 23.3**	**+0.6**
1.0nm,0.3s,baz=175,slow=25,SNR=5.0							
MKAR	**Makanchi Array**	**44.18**	**304**	P	**P**	**17 57 48.0**	**-0.2**
0.4nm,0.9s,mb3.1,baz=86,slow=9.6,SNR=2.8							
WRA	**Warramunga Arr**	**54.07**	**186**	P	**P**	**17 59 02.0**	**-2.0**
0.4nm,0.8s,mb3.4,baz=1.4,slow=7.5,SNR=3.5							

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*ISCJB **26** 18:19:23.5±0.3,51.39N±002×6.59E±003,h0km,Error ellipse: s-maj=3.3km s-min=2.1km az=97.3*
*BUG **26** 18:19:24.2,51.43N×6.53E,h1km,ML2.3*
*BNS **26** 18:19:25.4±0.8,51.52N×6.60E,h1km,ML2.6*
*BGR **26** 18:19:25.6±0.6,51.46N×6.56E,h10km,ML2.5/2,Error ellipse: s-maj=7.8km s-min=3.3km az=122.0*
*NEIC **26** 18:19:25.0±0.4,51.49N×6.53E,h10km,ML2.6(SZGRF), ML2.8(STR),ML3.2(LDG),Error ellipse: s-maj=5.8km s-min=3.0km az=161.0*
*LDG **26** 18:19:26.1±0.1,51.46N×6.59E,h1km,Ml3.2/20,Error ellipse: s-maj=2.5km s-min=1.7km az=149.0,Suspected Mining induced.*
*CSEM **26** 18:19:26.1±0.1,51.47N×6.58E,h1km,ML3.3/20,Error ellipse: s-maj=1.8km s-min=1.0km az=158.0*
*PRU **26** 18:19:27.4,51.46N×6.79E,h0km*
*STR **26** 18:19:28.4±1.4,51.44N×8.03E,h5km±1km,Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 26 18:19:24.5±0.3,5143N±002×654E±003,h0km,n103, σ1§24/206,3D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.27**	**108**	*e*Pg	**Pg**	**18 19 30.4**	**+0.9**
RODG	**Roetgen-Dahlhe**	**0.37**	**218**	*e*Pg	**Pg**	**18 19 34.0**	**+2.5**
RODG				*e*Sg	**Sg**	**18 19 40.0**	**+3.8**
920nm,0.2s							
RODG	**Roetgen-Dahlhe**	**0.37**	**218**	Pg	**Pg**	**18 19 34.0**	**+2.5**
RODG				Sg	**Sg**	**18 19 40.0**	**+3.7**
920nm,0.2s							

BUG Bochum--Univer 0.46 89⇓*i*Pg **Pg 18 19 33.8 +0.6**
BUG Sg **Sg 18 19 40.9 +1.8**
BUG Bochum--Univer 0.46 89 *e*Pg **Pg 18 19 33.7 +0.5**
BUG *e*Sg **Sg 18 19 40.5 +1.4**
WTSB Winterswijk 0.56 17 *e*Pg **Pg 18 19 34.9 -0.3**
100nm,0.2s
WTSB *e*Sg **Sg 18 19 41.6 -0.8**
BNS Bensberg 0.62 139⇓*i*Pg **Pg 18 19 38.3 +2.0**
HOBG Hohbusch 0.67 132⇓*e*Pg **Pg 18 19 39.1 +1.7**
HGN Heimansgroeve 0.77 210 *e*Pn **Pn 18 19 41.2 -1.5**
baz=40
HGN *e*Pg **Pg 18 19 42.6 +3.3**
84nm,0.1s
HGN *e*Sg **Sg 18 19 52.1 +2.8**
DREG Dreilaegerbach 0.80 194 *e*Pg **Pg 18 19 42.3 +2.6**
KLL Kalltalsperre 0.80 191 *e*Pg **Pg 18 19 42.5 +2.7**
KLL *e*Sg **Sg 18 19 53.7 +3.4**
278nm,0.1s
KLL Kalltalsperre 0.80 191 Pg **Pg 18 19 42.5 +2.6**
KLL Sg **Sg 18 19 53.7 +3.5**
278nm,0.1s
BEBN Eben Emael 0.84 221 P **Pg 18 19 42.8 +2.2**
BEBN S **Sg 18 19 53.7 +2.3**
comp=N,64nm,0.0s
STB Steinbach 0.86 167 *e*Pg **Pg 18 19 43.2 +2.2**
STB *e*Sg **Sg 18 19 56.3 +4.1**
comp=N,224nm,0.3s
HILG Hillesheim 1.15 176 *e*Pg **Pg 18 19 48.3 +1.9**
IBBN Ibbenburen 1.16 40 *e*Pg **Pg 18 19 46.2 -0.4**
IBBN *e*Sg **Sg 18 20 01.3 -0.3**
IBBN Ibbenburen 1.16 40 *e*Pg **Pg 18 19 46.2 -0.4**
IBBN *e*Sg **Sg 18 20 01.7 +0.1**
IBBN Ibbenburen 1.16 40 Pg **Pg 18 19 46.2 -0.4**
IBBN *e*Sg **Sg 18 20 01.7 +0.1**
BGG Burgeitz 1.33 157 *e*Pg **Pg 18 19 50.4 +0.5**
ABH Alteburg 1.68 157 P **Pn 18 19 55.8 +0.7**
ABH S **Sn 18 20 17.9 +0.5**
SNF Seneffe 1.70 238 P **Pn 18 19 55.6 +0.2**
SNF S **Sn 18 20 17.8 0.0**
comp=Z,31nm,0.0s
TNS Taunus Mts 1.71 134 *e*Pn **Pn 18 19 55.8 +0.2**
TNS *e*Sg **Sg 18 20 21.3 +1.7**
TNS Taunus Mts 1.71 134 *e*Pn **Pn 18 19 55.8 +0.2**
TNS *e*Sg **Sg 18 20 21.3 +1.8**
GIVF Givet 1.72 220 *e*Pg **Pg 18 19 58.8 +1.3**
SNR=1.0
GIVF *e*Sn **Sn 18 20 18.0 -0.4**
SNR=1.0
GIVF *e*Sg **Sg 18 20 22.0 +2.2**
comp=Z,94nm,0.3s
GIVF Givet 1.72 220 *e*Pn **Pn 18 19 56.3 +0.6**
GIVF *e*Pg **Pg 18 19 58.8 +1.3**
GIVF *e*Sn **Sn 18 20 18.0 -0.4**
GIVF *e*Sg **Sg 18 20 22.0 +2.2**
GIVF Givet 1.72 220 *e*Pg **Pg 18 19 58.8 +1.3**
SNR=1.0
GIVF *e*Sn **Sn 18 20 18.0 -0.4**
SNR=1.0
GIVF *e*Sg **Sg 18 20 22.0 +2.2**
comp=Z,47nm,0.3s
WLF Walferdange 1.79 188 *e*Pg **Pg 18 19 59.2 +0.4**
WLF *e*Sg **Sg 18 20 22.8 +0.8**
WLF Walferdange 1.79 188 P **Pn 18 19 59.1 +2.5**
WLF S **Sn 18 20 22.8 +2.8**
comp=E,49nm,0.0s
DOU Dourbes 1.82 223 P **Pn 18 19 57.5 +0.4**
DOU S **Sn 18 20 21.4 +0.5**
comp=E,32nm,0.0s
BAIF Baives 2.02 228 *e*Pg **Pg 18 20 04.5 +1.2**
SNR=1.0
BAIF *e*Sn **Sn 18 20 25.5 -0.3**
SNR=1.0
BAIF *e*Sg **Sg 18 20 30.8 +1.3**
comp=E,35nm,0.3s
BAIF Baives 2.02 228 *e*Pn **Pn 18 20 00.2 +0.4**
BAIF *e*Pg **Pg 18 20 04.5 +1.2**
BAIF *e*Sn **Sn 18 20 25.5 -0.3**
BAIF *e*Sg **Sg 18 20 30.8 +1.3**
BAIF Baives 2.02 228 *e*Pg **Pg 18 20 04.5 +1.2**
SNR=1.0
BAIF *e*Sn **Sn 18 20 25.5 -0.3**
SNR=1.0
BAIF *e*Sg **Sg 18 20 30.8 +1.3**
comp=E,18nm,0.3s
GTTG Gvttingen 2.14 86 *e*Pn **Pn 18 20 01.0 -0.5**
GTTG *e*Sg **Sg 18 20 32.5 -0.8**
TOD Tromm 2.33 141 P **Pn 18 20 02.5 -1.6**
CLZ Clausthal 2.42 79 *e*Pn **Pn 18 20 04.7 -0.6**
CLZ *e*Sg **Sg 18 20 40.0 -2.3**
CLZ Clausthal 2.42 79 *e*Pn **Pn 18 20 03.9 -1.4**
CLZ *e*Sg **Sg 18 20 40.4 -1.9**
CLZ Clausthal 2.42 79 Pn **Pn 18 20 04.7 -0.6**
CLZ Sg **Sg 18 20 40.0 -2.3**
CLZ *e*Sg **Sg 18 20 40.4 -1.9**
LANF Langenberg 2.59 161 P **Pn 18 20 08.8 +1.2**
CDF Champ du Feu 3.06 171 *e*Pn **Pn 18 20 13.0 -1.1**
SNR=1.0
CDF *e*Sn **Sn 18 20 49.4 -2.0**
CDF *e*Sg **Sg 18 21 01.8 -1.1**
comp=E,12nm,0.4s,SNR=1.0
CDF Champ du Feu 3.06 171 *e*Pn **Pn 18 20 13.0 -1.1**
SNR=1.0
CDF *e*Sn **Sn 18 20 49.4 -2.0**
CDF *e*Sg **Sg 18 21 01.8 -1.1**
comp=E,6.2nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 3.09 199 *e*Pn **Pn 18 20 14.9 +0.4**
baz=19,SNR=1.0
MEZF *e*Sn **Sn 18 20 51.1 -1.0**
SNR=1.0
MEZF *e*Sg **Sg 18 21 03.0 -0.7**
comp=E,21nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 3.09 199 *e*Pn **Pn 18 20 14.9 +0.4**
SNR=1.0
MEZF *e*Sn **Sn 18 20 51.1 -1.0**
SNR=1.0
MEZF *e*Sg **Sg 18 21 03.0 -0.7**
comp=E,10nm,0.3s,SNR=1.0
THEF They Montfort 3.23 187 P **Pg 18 20 23.6 -2.8**
THEF S **Sg 18 21 08.5 +0.2**
MOX Moxa 3.30 102 *e*Pn **Pn 18 20 17.6 +0.2**
MOX Moxa 3.30 102 *e*PN **Pn 18 20 17.5 +0.1**
MOX *e*SG **Sg 18 21 08.8 -1.7**
MOX Moxa 3.30 102 *e*Pn **Pn 18 20 17.5 +0.1**
MOX *e*Sg **Sg 18 21 08.8 -1.7**
MOX Moxa 3.30 102 Pn **Pn 18 20 17.6 +0.2**
MOX *e*Sg **Sg 18 21 08.8 -1.7**
BFO Black Forest 3.31 159 *e*Pn **Pn 18 20 18.2 +0.6**
BFO *e*Sg **Sg 18 21 10.9 -0.1**
BFO Black Forest 3.31 159 *e*Pn **Pn 18 20 17.7 +0.1**
BFO *e*Sn **Sn 18 20 56.6 -1.1**
BFO *e*Sg **Sg 18 21 12.0 +1.0**
BFO Black Forest 3.31 159 *e*Pn **Pn 18 20 17.7 +0.1**
BFO Black Forest 3.31 159 Pn **Pn 18 20 18.2 +0.6**
BFO *e*Sn **Sn 18 20 56.6 -1.1**
BFO Sg **Sg 18 21 10.9 -0.1**
SFTF Sexfontaines 3.38 197 *e*Pn **Pn 18 20 18.2 -0.2**
baz=19
SFTF Sexfontaines 3.38 197 *e*Pg **Pg 18 20 29.2 0.0**
baz=25
SFTF *e*Sg **Sg 18 21 12.3 -0.6**
comp=E,20nm,0.3s
SFTF Sexfontaines 3.38 197 *e*Pn **Pn 18 20 18.2 -0.2**
SFTF *e*Pg **Pg 18 20 29.2 0.0**
SFTF *e*Sg **Sg 18 21 12.3 -0.6**
SFTF Sexfontaines 3.38 197 *e*Pg **Pg 18 20 29.2 0.0**
SFTF *e*Sg **Sg 18 21 12.3 -0.6**
comp=E,9.9nm,0.3s
HAU Haudompre 3.43 182 *e*Pg **Pg 18 20 29.5 -0.8**
SNR=1.0
HAU *e*Sg **Sg 18 21 14.1 -0.7**
comp=E,15nm,0.3s,SNR=1.0
HAU Haudompre 3.43 182 *e*Pn **Pn 18 20 19.1 -0.1**
HAU *e*Pg **Pg 18 20 29.5 -0.8**
HAU *e*Sg **Sg 18 21 14.1 -0.7**
HAU Haudompre 3.43 182 *e*Pg **Pg 18 20 29.5 -0.8**
SNR=1.0
HAU *e*Sg **Sg 18 21 14.1 -0.7**
comp=E,7.6nm,0.3s,SNR=1.0
GRA1 Grafenberg Arr 3.46 118 *e*Pn **Pn 18 20 19.8 +0.3**
GRA1 Grafenberg Arr 3.46 118 Pn **Pn 18 20 19.8 +0.3**
GRA1 Grafenberg Arr 3.46 118 Pg **Pg 18 20 31.2 +0.5**
GRF Grafenberg Arr 3.46 118 *e*Pn **Pn 18 20 19.8 +0.2**
GRF *e*Pg **Pg 18 20 31.2 +0.5**
HINF Hinteralfeld 3.63 177 *e*Pn **Pn 18 20 21.9 0.0**

SNR=1.0
HINF *e*Sg **Sg** **18 21 20.2 -0.8**
comp=E,6.8nm,0.3s,SNR=1.0
HINF Hinteralfeld 3.63 177 *e*Pn **Pn** **18 20 21.9 0.0**
SNR=1.0
HINF *e*Sg **Sg** **18 21 20.2 -0.8**
comp=E,3.4nm,0.3s,SNR=1.0
FELD Feldberg im Sc 3.69 164 P **Pn** **18 20 23.1 +0.4**
WERD Werda 3.78 103 *e*Pn **Pn** **18 20 24.0 0.0**
GUNZ Gunzen 3.82 104 *e*Pn **Pn** **18 20 24.8 +0.2**
TANN Tannenbergstha 3.88 103 *e*Pn **Pn** **18 20 25.7 +0.3**
NKC Novy Kostel 3.93 105 *e*PN **Pn** **18 20 25.8 -0.3**
CLL Collm 4.05 89 *e*Pg **Pg** **18 20 41.0 -1.1**
CLL *e*Sg **Sg** **18 21 30.0 -4.7**
LOR Lormes 4.52 204 *e*Pn **Pn** **18 20 34.0 -0.2**
baz=31,SNR=1.0
LOR *e*Sn **Sn** **18 21 24.4 -3.1**
SNR=1.0
LOR *e*Sg **Sg** **18 21 47.3 -2.5**
comp=E,11nm,0.4s,SNR=1.0
LOR Lormes 4.52 204 *e*Pn **Pn** **18 20 34.0 -0.2**
SNR=1.0
LOR *e*Sn **Sn** **18 21 24.4 -3.1**
SNR=1.0
LOR *e*Sg **Sg** **18 21 47.3 -2.5**
comp=E,5.3nm,0.4s,SNR=1.0
WET Wettzell 4.67 117 *e*Pg **Pg** **18 20 54.7 +0.8**
BRG Berggiesshubel 4.69 94 SG **Sg** **18 21 52.2 -3.1**
comp=E,1.1nm,0.8s
BRG Berggiesshubel 4.69 94 Pg **Pn** **18 20 37.3 +0.8**
BRG *i* **Pg** **18 20 54.0 -0.5**
BRG Sg **Sg** **18 21 52.2 -3.1**
SSF Saint Saulge 4.81 206 *e*Pn **Pn** **18 20 37.7 -0.4**
SNR=1.0
SSF *e*Sn **Sn** **18 21 30.2 -4.3**
SNR=1.0
SSF *e*Sg **Sg** **18 21 56.3 -2.6**
comp=E,14nm,0.4s,SNR=1.0
SSF Saint Saulge 4.81 206 *e*Pn **Pn** **18 20 37.7 -0.4**
SNR=1.0
SSF *e*Sn **Sn** **18 21 30.2 -4.3**
SNR=1.0
SSF *e*Sg **Sg** **18 21 56.3 -2.6**
comp=E,7.2nm,0.4s,SNR=1.0
CABF La Chapelle 4.84 184 *e*Pn **Pn** **18 20 39.0 +0.5**
CABF *e*Sg **Sg** **18 21 58.4 -1.5**
comp=E,14nm,0.7s
CABF La Chapelle 4.84 184 *e*Pn **Pn** **18 20 39.0 +0.5**
CABF *e*Sg **Sg** **18 21 58.4 -1.5**
comp=E,7.2nm,0.7s
HYF Humbligny 4.89 213 *e*Pn **Pn** **18 20 39.9 +0.7**
HYF *e*Sn **Sn** **18 21 33.2 -3.3**
HYF *e*Sg **Sg** **18 22 00.9 -0.6**
KHC Kasperske Hory 5.07 114 *e*PN **Pn** **18 20 42.6 +0.9**
KHC *e*PG **Pg** **18 20 55.0 -6.6**
KHC *ex* x 18 22 04.5
KHC Kasperske Hory 5.07 114 *e*Pn **Pn** **18 20 42.6 +0.9**
KHC *e*Pn **Pn** **18 20 42.9 +1.2**
KHC Kasperske Hory 5.07 114 *e*Pn **Pn** **18 20 42.9 +1.2**
AVF Avril sur Loir 5.10 205 *e*Pn **Pn** **18 20 41.6 -0.5**
SNR=1.0
AVF *e*Sg **Sg** **18 22 07.7 -0.5**
comp=E,9.2nm,0.6s
AVF Avril sur Loir 5.10 205 *e*Pn **Pn** **18 20 41.6 -0.5**
SNR=1.0
AVF *e*Sg **Sg** **18 22 07.7 -0.5**
comp=E,4.6nm,0.6s
SMF Signal de Mont 5.11 201 *e*Pn **Pn** **18 20 42.3 0.0**
SNR=1.0
SMF *e*Sg **Sg** **18 22 06.8 -1.9**
comp=E,6.0nm,0.3s,SNR=1.0
SMF Signal de Mont 5.11 201 *e*Pn **Pn** **18 20 42.3 0.0**
SNR=1.0
SMF *e*Sg **Sg** **18 22 06.8 -1.9**
comp=E,3.0nm,0.3s,SNR=1.0
LDF La Druitiere 5.15 239 *e*Pn **Pn** **18 20 43.1 +0.3**
SNR=1.0
LDF *e*Sn **Sn** **18 21 40.3 -2.7**
comp=E,5.8nm,0.4s,SNR=1.0
LDF La Druitiere 5.15 239 *e*Pn **Pn** **18 20 43.1 +0.3**
SNR=1.0
LDF *e*Sn **Sn** **18 21 40.3 -2.7**
comp=E,2.9nm,0.4s,SNR=1.0
FLN La Foliniere 5.25 242 *e*Pn **Pn** **18 20 44.1 -0.1**
baz=63,SNR=1.0
FLN *e*Sn **Sn** **18 21 41.8 -3.6**
comp=E,4.4nm,0.3s,SNR=1.0
FLN La Foliniere 5.25 242 *e*Pn **Pn** **18 20 44.1 -0.1**
SNR=1.0
FLN *e*Sn **Sn** **18 21 41.8 -3.6**
comp=E,2.2nm,0.3s,SNR=1.0
BGF Bois d'Agland 5.45 208 *e*Pn **Pn** **18 20 47.1 +0.1**
SNR=1.0
BGF *e*Sn **Sn** **18 21 46.6 -3.8**
SNR=1.0
BGF *e*Sg **Sg** **18 22 16.4 -3.2**
comp=E,18nm,0.4s,SNR=1.0
BGF Bois d'Agland 5.45 208 *e*Pn **Pn** **18 20 47.1 +0.1**
SNR=1.0
BGF *e*Sn **Sn** **18 21 46.6 -3.8**
SNR=1.0
BGF *e*Sg **Sg** **18 22 16.4 -3.2**
comp=E,8.8nm,0.4s,SNR=1.0
GRR Gorron 5.67 240 *e*Pn **Pn** **18 20 49.6 -0.4**
SNR=1.0
GRR *e*Sn **Sn** **18 21 51.8 -3.9**
comp=E,11nm,0.3s,SNR=1.0
GRR Gorron 5.67 240 *e*Pn **Pn** **18 20 49.6 -0.4**
SNR=1.0
GRR *e*Sn **Sn** **18 21 51.8 -3.9**
comp=E,5.4nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 5.89 211 *e*Sn **Sn** **18 21 55.8 -5.4**
SNR=1.0
TCF *e*Sg **Sg** **18 22 31.8 -1.8**
comp=E,4.0nm,0.3s
TCF Toulx Ste Croi 5.89 211 *e*Sn **Sn** **18 21 55.8 -5.4**
SNR=1.0
TCF *e*Sg **Sg** **18 22 31.8 -1.8**
comp=E,2.0nm,0.3s
LPL La Plagne 5.92 179 *e*Pn **Pn** **18 20 53.2 -0.3**
LPG La Plagne 5.94 179 *e*Pn **Pn** **18 20 53.8 +0.1**
MFF Saint Martin d 6.53 225 *e*Pn **Pn** **18 21 01.4 -0.4**
MFF *e*Sn **Sn** **18 22 11.4 -5.7**
comp=E,2.5nm,0.2s,SNR=1.0
MFF Saint Martin d 6.53 225 *e*Pn **Pn** **18 21 01.4 -0.4**
MFF *e*Sn **Sn** **18 22 11.4 -5.7**
comp=E,1.2nm,0.2s,SNR=1.0
SGMF Saint Gilles 6.69 245 *e*Pn **Pn** **18 21 03.0 -1.0**
QUIF Quistinic 7.21 245 *e*Pn **Pn** **18 21 10.4 -0.8**

ISCJB ***26*** *18:24:57.0±1.7, 423N±0.1×786E±0.1, h33km±18km, Error ellipse: s-maj=20.8km s-min=12.7km az=114.5*
NNC ***26*** *18:24:57.9±1.4, 4226N×7806E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=10.9km s-min=7.6km az=13.0*
KNET ***26*** *18:24:59.7±0.8, 4223N×7781E, h0km±2km, ml2.8, Error ellipse: s-maj=8.5km s-min=4.0km az=178.0*
ISC 26 18:24:57.9±2.1, 424N±01×784E±02, h13km±26km, n12, σ1§10/20, 14C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.34**	**308**	⇓P	**Pn**	**18 25 20.9**	**-1.4**
	3.7nm,0.2s						
KNDC				⇑S	**Sn**	**18 25 39.0**	**-1.1**
	36nm,0.3s						
ULHL	**Ulahol**	**1.61**	**265**	P	**Pn**	**18 25 22.1**	**-4.0**
	27nm,0.1s,SNR=224						
ULHL				⇑S	**Sn**	**18 25 39.7**	**-7.0**
	63nm,0.1s						
TKM2	**Tokmak 2**	**2.14**	**285**	⇓P	**Pn**	**18 25 32.7**	**-0.6**
	0.8nm,0.4s						
TKM2				⇑S	**Sn**	**18 25 58.3**	**-1.4**
	4.7nm,0.5s						
KZA	**Kyzart**	**2.37**	**263**	⇑P	**Pn**	**18 25 35.4**	**-1.0**
	9.7nm,0.2s,SNR=38						
KZA				⇑S	**Sn**	**18 26 03.3**	**-2.0**
	46nm,0.3s						
KBK	**Karagaybulak**	**2.57**	**277**	P	**Pn**	**18 25 39.5**	**+0.3**
	9.6nm,0.1s,SNR=16						
KBK				⇑S	**Sn**	**18 26 10.2**	**-0.2**
	58nm,0.2s						
CHMS	**Chumysh**	**2.76**	**284**	⇑P	**Pn**	**18 25 42.5**	**+0.6**
	8.3nm,0.2s,SNR=12						
CHMS				⇑S	**Sn**	**18 26 16.1**	**+1.0**
	28nm,0.3s						
UCH	**Uchtor**	**2.89**	**268**	⇓P	**Pn**	**18 25 44.4**	**+0.8**
	5.0nm,0.2s,SNR=9.5						
UCH				⇓S	**Sn**	**18 26 19.0**	**+0.7**
	18nm,0.2s						
AAK	**Ala-Archa**	**2.90**	**276**	⇓P	**Pn**	**18 25 44.3**	**+0.5**
	9.4nm,0.2s,SNR=15						
AAK				⇑S	**Sn**	**18 26 19.9**	**+1.3**
	56nm,0.4s						
USP	**Ospenovka**	**3.00**	**288**	⇑S	**Sn**	**18 26 23.8**	**+2.7**
	30nm,0.3s						
MK31	**Makanchi Array**	**5.20**	**31**	⇑Pn	**Pn**	**18 26 23.8**	**+8.4**
	0.3nm,0.2s						
MK31				⇑Lg		18 27 46.1	
	1.9nm,0.6s						
KK31	**Karatay Array**	**5.86**	**280**	⇓Pg	**Pb**	**18 26 40.0**	**+0.1**
	1.0nm,0.5s,baz=87,slow=18,SNR=16						
KK31				⇑Lg		18 27 50.8	
	2.1nm,0.6s,baz=82,slow=30,SNR=4.7						
KURK	**Kurchatov**	**8.33**	**1**	⇑Pn	**Pn**	**18 26 59.0**	**+0.7**
	4.1nm,2.5s						
KURK				⇓Lg		18 29 25.7	
	2.4nm,1.3s						

CASC 26 18:40:28.5±2.6, 1218N×8898W, h20km±23km, MD4.1, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.42**	**29**	*e*P	x	18 41 04.1	
VSM				*e*S	x	18 41 24.0	
SNVI	**San Vicente**	**1.43**	**5**	*e*P	x	18 41 04.1	
SNVI				*e*S	x	18 41 23.3	
LCBS	**La Ceiba**	**1.47**	**360**	*e*P	x	18 41 04.3	
LCBS				*e*S	x	18 41 25.6	
BOQS	**Boqueron**	**1.57**	**349⇑**	*e*P	x	18 41 05.8	
BOQS				*e*S	x	18 41 26.0	
SBLS	**San Blas**	**1.77**	**339**	*e*P	x	18 41 08.3	
SBLS				*e*S	x	18 41 31.1	
RBDL	**Robledal**	**2.04**	**340**	*e*P	x	18 41 12.9	
RBDL				*e*S	x	18 41 37.6	
TELN	**Telica**	**2.14**	**78**	*e*P	Pn	18 41 04.7	+1.7
MOMJ	**Momotombo**	**2.39**	**84**	*e*P	Pn	18 41 05.8	-0.7
MGAN	**Managua**	**2.67**	**90**	*e*P	Pn	18 41 09.9	-0.5
MGAN				*e*S	Sn	18 41 42.4	+0.3
TICN	**Ticuantepe**	**2.69**	**93**	*e*P	Pn	18 41 10.6	0.0
APON	**Apoyo**	**2.86**	**95**	*e*P	Pn	18 41 14.9	+1.9
CONN	**Concepcion**	**3.34**	**100**	*e*P	Pn	18 41 19.0	-0.5
JCR	**Jicaral**	**4.45**	**121**	*e*P	Pn	18 41 34.5	-0.3
PRS1	**Puriscal**	**5.07**	**115**	*e*P	Pn	18 41 44.4	+1.0
PRS1				*e*S	Sn	18 42 44.3	+2.9
LAJ	**Bijagual**	**5.29**	**115**	*e*P	Pn	18 41 43.1	-3.3
LCR2	**La Lucha 2**	**5.45**	**116**	*e*P	Pn	18 41 49.9	+1.4

IDC 26 18:56:00.8±11.0, 1888S×16922E, h217km±114km, mb3.3/2, mb1 3.4/3, mb1mx3.1/13, mbtmp3.2/3, Error ellipse: s-maj=252.3km s-min=58.4km az=170.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.10**	**219**	P	Pn	18 57 04.5	+0.1
	1.3nm,0.3s,baz=18,slow=20,SNR=16						
WRA	**Warramunga Arr**	**32.88**	**262**	P	P	19 02 14.3	0.0
	0.2nm,0.4s,baz=95,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**33.20**	**255**	P	P	19 02 17.6	+0.5
	1.6nm,0.4s,baz=80,slow=9.0,SNR=67						
ASAR				pP	pP	19 03 02.9	+1.7
	0.4nm,0.8s,baz=83,slow=8.3,SNR=2.2						
GERES	**GERESS Array B**	**144.17**	**332**	PKP	PKPdf	19 15 10.2	-0.4
	0.3nm,0.7s,baz=35,slow=5.3,SNR=3.8						

IDC 26 19:03:04.0±1.1, 2159N×12008E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, MS2.9/1, Ms1 2.9/1, ms1mx2.7/20, Error ellipse: s-maj=73.4km s-min=22.5km az=67.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**14.95**	**38**	LR	LR	19 12 37.5	
	comp=Z,54nm,21.9s,baz=97,slow=38						
MKAR	**Makanchi Array**	**39.55**	**319**	P	P	19 10 36.7	+0.1
	0.3nm,0.6s,baz=110,slow=9.9,SNR=3.6						
ZAL	**Zalesovo**	**41.91**	**329**	P	P	19 10 55.7	-0.4
	1.2nm,0.3s,baz=128,slow=2.5,SNR=3.1						
WRA	**Warramunga Arr**	**43.57**	**160**	P	P	19 11 09.4	-0.3
	0.7nm,0.8s,baz=342,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**46.95**	**163**	P	P	19 11 37.0	+0.5
	0.1nm,0.5s,baz=342,slow=7.2,SNR=8.3						
YKA	**Yellowknife Ar**	**85.74**	**22**	P	P	19 15 44.9	-0.1
	0.1nm,0.6s,baz=292,slow=6.8,SNR=3.8						

NEIC ***26*** *19:22:41.7, 1597N×9868W, h10km, MD3.9(MEX), After MEX.*
MEX 26 19:22:40.6±0.6, 1596N×9877W, h10km±33km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.75**	**55**	*i* P	Pg	19 22 53.2	-1.8
PNIG				*i* S	Sg	19 23 03.3	-1.6
PNIG	**Pinotepa**	**0.75**	**55**	*i* P	Pg	19 22 53.2	-1.8
PNIG				*i* S	Sg	19 23 03.8	-1.1
UTMO	**Huajuapan**	**2.08**	**26**	*e*P	Pn	19 23 12.0	-3.5
UTMO				*i* S	Sn	19 23 38.0	-3.4
MEIG	**Mezcala**	**2.12**	**337**	*i* P	Pn	19 23 13.2	-2.9
MEIG				*i* S	Sn	19 23 37.9	-4.5
VHO	**Vista Hermosa**	**2.24**	**60**	*i* P	Pn	19 23 15.7	-2.1
VHO				*i* S	Sn	19 23 41.7	-3.9
VHO	**Vista Hermosa**	**2.24**	**60**	*i* P	Pn	19 23 16.2	-1.6
VHO				*i* S	Sn	19 23 40.5	-5.0
OXX	**Oaxaca**	**2.26**	**60**	*i* P	Pn	19 23 17.0	-1.0
PLIG	**Platanillo**	**2.52**	**344**	*i* P	Pn	19 23 18.9	-2.6
PLIG				*i* S	Sn	19 23 48.6	-3.7
PLIG	**Platanillo**	**2.52**	**344**	*i* P	Pn	19 23 21.6	0.0
PLIG				*i* S	Sn	19 23 49.2	-3.1
IIO	**Organos**	**3.61**	**1**	*i* P	Pn	19 23 41.4	+4.8
IIO				*i* S	Sn	19 24 18.7	-0.6

IDC ***26*** *19:30:11.1±0.7, 486N×9602E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/23, mbtmp4.0/13, ML4.3/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/31, Error ellipse: s-maj=37.8km s-min=12.0km az=50.0*
ISCJB ***26*** *19:30:16.6±1.0, 471N±006×9603E±007, h45km±9km, mb4.2/24, MS3.8/8, Error ellipse: s-maj=13.7km s-min=7.0km az=105.9*
NEIC ***26*** *19:30:16.4±0.7, 477N×9608E, h30km, mb4.3/9, Error ellipse: s-maj=22.3km s-min=11.1km az=55.0*
BJI ***26*** *19:30:16.9, 477N×9571E, h28km, mB4.5, mb4.4, Ms4.1, Msz3.9*
ISC 26 19:30:19.0±1.3, 472N±006×9604E±009, h49km±12km, n44, σ1§52/49, mb4.2/24, MS3.8/8, 3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.07**	**316**	P	**Pn**	**19 30 34.4**	**-3.2**
	0.0nm,0.0s						
PSI	**Prapat**	**3.45**	**123**	Pn	**Pn**	**19 31 10.4**	**+0.3**
	24nm,0.3s,baz=321,slow=14,SNR=118						
PSI				Sn	**Sn**	**19 31 49.2**	**-0.5**
	11nm,0.3s,baz=270,slow=22,SNR=3.4						
PSI				Lg		19 32 05.0	
	30nm,0.3s,baz=164,slow=5.1,SNR=10						
PSI				LR	LR	19 32 47.8	
	comp=Z,907nm,20.6s,baz=189,slow=43						
PSI	**Prapat**	**3.45**	**123**	Pn	**Pn**	**19 31 10.4**	**+0.3**
PSI				Sn	**Sn**	**19 31 49.2**	**-0.5**
PSI				Lg		19 32 05.0	
PSI				LR	LR	19 32 47.8	
KULM	**Kulim**	**4.63**	**83**	*e*Pn	**Pn**	**19 31 22.9**	**-3.4**
KULM				*e*Sn	**Sn**	**19 32 13.0**	**-5.8**
PPI	**Padang Panjang**	**6.73**	**140**	P	**Pn**	**19 31 59.0**	**+3.8**
	0.0nm,0.0s						
KSM	**Kuching**	**14.61**	**102**	Pn	**Pn**	**19 33 44.5**	**+1.9**
SHL	**Shillong**	**21.11**	**350**	*e*P	**P**	**19 35 01.0**	**+1.6**
HYB	**Hyderabad**	**21.27**	**308**	*i* P	**P**	**19 35 03.0**	**+1.9**
HYB	**Hyderabad**	**21.27**	**308**	*e*P	**P**	**19 35 03.0**	**+1.9**
KMI	**Kunming**	**21.29**	**17**	P	**P**	**19 35 03.5**	**+2.2**
KMI				AP		19 35 10.8	
KMI				XP	sP	19 35 13.8	-5.1
KMI				PP		19 35 27.3	
KMI				S	**S**	**19 38 50.5**	**-4.4**
KMI				XS	sS	19 39 06.3	-7.3
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb3.8						
KMI				AMB	AMB		
	comp=Z,98nm,6.1s						
KMI				LR	LR		
	comp=N,274nm,12.4s,MS3.9						
KMI				LR	LR		
	comp=E,183nm,13.1s,MS3.9						
KMI				LR	LR		
	comp=Z,244nm,14.6s,MS3.7						
KMI	**Kunming**	**21.29**	**17**	P	**P**	**19 35 03.6**	**+2.3**
	comp=Z,6.0nm,1.3s,mb3.8						
KMI				pP		19 35 10.7	
KMI				sP	sP	19 35 13.8	-5.1
KMI				PP		19 35 27.3	
KMI				S	**S**	**19 38 50.6**	**-4.3**
KMI				sS	sS	19 39 06.3	-7.3
KMI				SSS		19 39 39.4	
KMI				LR	LR		
	comp=Z,240nm,14.6s,MS3.7						
GYA	**Guiyang**	**23.89**	**24**	P	**P**	**19 35 30.5**	**+2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**25.28**	**350**	*e*P	**P**	**19 35 40.8**	**+0.3**
	comp=Z,5.6nm,0.7s,mb4.2						
XAN	**Xi'an**	**31.54**	**21**	P	**P**	**19 36 37.3**	**+0.9**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.6						
LZH	**Lanzhou**	**32.04**	**12**	*e*P	**P**	**19 36 43.5**	**+2.7**
LZH				AP	pP	19 36 53.3	-0.3
LZH				XP	sP	19 36 57.0	-2.4
LZH				PP	PP	19 37 50.3	-3.5
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,53nm,5.3s						
LZH				LR	LR		
	comp=N,372nm,13.0s						
LZH				LR	LR		
	comp=Z,496nm,17.4s,MS4.2						
LZH	**Lanzhou**	**32.04**	**12**	*e*P	**P**	**19 36 43.5**	**+2.7**
	comp=Z,19nm,1.2s,mb4.8						
LZH				pP	pP	19 36 53.2	-0.4
LZH				sP	sP	19 36 56.9	-2.5
LZH				PP	PP	19 37 50.2	-3.6
LZH				LR	LR		
	comp=Z,500nm,17.4s,MS4.3						
FITZ	**Fitzroy Crossi**	**36.96**	**129**	LR	LR	19 52 25.8	
	comp=Z,71nm,21.1s,MS3.4,baz=296,slow=36						
HHC	**Hu-ho-hao-te**	**38.58**	**19**	*e*P	**P**	**19 37 37.3**	**+0.3**
HHC				AP	pP	19 37 47.0	-3.1
HHC				XP	sP	19 37 51.0	-4.8
HHC				PP	PP	19 39 09.0	+3.0
HHC				PCP	PcP	19 39 50.5	+1.8
HHC				S	**S**	**19 43 30.5**	**+0.9**
HHC				SCP	ScP	19 43 34.5	+1.9
HHC				PCS	PcS	19 43 39.0	+1.0
HHC				XS	sS	19 43 47.0	-4.5
HHC				SS	SS	19 46 12.3	-8.6
HHC				SCS	ScS	19 47 43.8	+0.8
HHC				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,74nm,2.9s,mb4.9						
HHC				LR	LR		
	comp=N,110nm,12.7s,MS4.1						
HHC				LR	LR		
	comp=E,167nm,15.5s,MS4.1						
HHC				LR	LR		
	comp=Z,189nm,11.1s,MS4.2						
WMQ	**Urumqi**	**39.63**	**351**	*e*P	**P**	**19 37 46.5**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
WMQ				LR	LR		
	comp=N,66nm,18.0s,MS3.7						
WMQ				LR	LR		
	comp=E,72nm,17.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,98nm,18.0s,MS3.7						
MUN	**Mundaring**	**41.23**	**154**	*e*P	**P**	**19 37 59.2**	**+0.2**
KLBR	**Kellerberrin**	**41.62**	**152**	*e*P	**P**	**19 38 02.7**	**+0.5**
	comp=Z,5.4nm,0.5s,mb4.4						
AAK	**Ala-Archa**	**42.33**	**336**	P	**P**	**19 38 09.0**	**+1.0**
	comp=Z,4.8nm,1.2s,mb4.0						
NWAO	**Narrogin (SRO)**	**42.49**	**153**	P	**P**	**19 38 09.9**	**+0.6**
	comp=Z,3.8nm,0.5s,mb4.3,baz=312,slow=11,SNR=7.5						
NWAO				LR	LR	19 55 20.8	
	comp=Z,59nm,20.5s,MS3.5,baz=337,slow=35						
NWAO	**Narrogin (SRO)**	**42.49**	**153**	*e*P	**P**	**19 38 09.8**	**+0.5**
	comp=Z,3.9nm,0.6s,mb4.2						
MK31	**Makanchi Array**	**43.57**	**346**	*e*P	**P**	**19 38 15.7**	**-2.3**
MKAR	**Makanchi Array**	**43.57**	**346**	P	**P**	**19 38 16.1**	**-1.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=156,slow=8.3,SNR=12						
MKAR				LR	LR	19 57 51.4	
	comp=Z,87nm,19.2s,MS3.7,baz=254,slow=38						
SONM	**Songino Array**	**43.87**	**10**	P	**P**	**19 38 19.8**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.6,baz=191,slow=9.2,SNR=8.3						
ULN	**Ulaanbaatar**	**44.02**	**11**	*e*P	**P**	**19 38 21.4**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**44.92**	**124**	P	**P**	**19 38 27.9**	**-0.9**
	comp=Z,2.1nm,0.5s,mb4.2,baz=301,slow=9.3,SNR=43						
WB2	**Warramunga Arr**	**44.93**	**124**	⇓*i* P	**P**	**19 38 28.0**	**-0.8**
ASAR	**Alice Springs**	**46.46**	**129**	P	**P**	**19 38 40.8**	**-0.2**
	comp=Z,5.0nm,0.6s,mb4.6,baz=301,slow=7.3,SNR=148						
FORT	**Forrest**	**46.71**	**141**	⇓*i* P	**P**	**19 38 43.2**	**+0.3**
	comp=Z,17nm,0.6s,mb5.2						
ZAL	**Zalesovo**	**49.92**	**351**	P	**P**	**19 39 03.5**	**-4.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=183,slow=3.0,SNR=2.9						
BVAR	**Borovoye Array**	**52.57**	**341**	P	**P**	**19 39 25.0**	**-2.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=148,slow=8.7,SNR=3.3						
AKTK	**Aktyubinsk**	**55.61**	**331**	P	**P**	**19 39 47.1**	**-2.5**
AKTO	**Aktyubinsk**	**55.61**	**331**	P	**P**	**19 39 47.1**	**-2.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=112,slow=10.0,SNR=5.8						
STKA	**Stephens Creek**	**56.58**	**133**	⇓*i* P	**P**	**19 39 56.2**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**56.58**	**133**	P	**P**	**19 39 56.2**	**-0.3**
	comp=Z,2.4nm,0.5s,mb4.5,baz=298,slow=7.8,SNR=15						
STKA	**Stephens Creek**	**56.58**	**133**	P	**P**	**19 39 56.2**	**-0.3**
KMBO	**Kilima Mbogo**	**59.02**	**266**	P	**P**	**19 40 17.4**	**+3.8**
	comp=Z,2.8nm,0.8s,mb4.3,baz=51,slow=12,SNR=8.2						
KMBO				LR	LR	20 01 57.9	
	comp=Z,58nm,18.0s,MS3.8,baz=104,slow=32						
KMBO	**Kilima Mbogo**	**59.02**	**266**	*e*P	**P**	**19 40 17.1**	**+3.5**
	comp=Z,2.6nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**65.92**	**312**	P	**P**	**19 40 57.4**	**-2.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=122,slow=6.7,SNR=3.8						
GERES	**GERESS Array B**	**81.42**	**319**	P	**P**	**19 42 29.7**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=119,slow=9.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**93.16**	**283**	P	**P**	**19 43 29.4**	**+1.7**
	comp=Z,1.0nm,0.6s,mb4.4,baz=90,slow=4.9,SNR=12						

IDC 26 19:47:40.3±1.6, 260N×12507E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=112.1km s-min=22.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.58**	**178**	*e*P	P	19 52 22.7	+2.0
	5.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.58**	**178**	P	P	19 52 22.9	+2.2
	2.7nm,0.3s,baz=12,slow=12,SNR=20						
WRA	**Warramunga Arr**	**24.18**	**158**	P	P	19 52 58.5	+0.2
	2.0nm,0.5s,baz=333,slow=10,SNR=36						
WB2	**Warramunga Arr**	**24.19**	**158**	*e*P	P	19 52 58.1	-0.2
ASAR	**Alice Springs**	**27.49**	**162**	P	P	19 53 27.9	-0.4
	0.5nm,0.4s,baz=344,slow=7.1,SNR=18						
**ST

PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.01**	**94**	⇑Pg	Pg	19 55 53.7	-0.2
	26nm,0.0s,SNR=18						
IPRE				Lg		19 55 54.1	
	283nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.15**	**257**	⇑Pg	Pg	19 55 56.4	-0.2
	7.1nm,0.0s,SNR=18						
EARA				Lg		19 55 59.3	
	221nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.19**	**318**	⇑Pg	Pg	19 55 56.9	-0.3
	4.5nm,0.1s,SNR=18						
IUSE				Lg		19 56 00.0	
	16nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**20**	*e*Pg	Pg	19 55 59.6	-0.3
SJPF				*e*Sg	Sg	19 56 04.4	+0.3
	38nm,0.4s						
SJPF	**Ste Jean**	**0.33**	**20**	Pg	Pg	19 55 59.6	-0.3
SJPF				Lg		19 56 04.4	
	19nm,0.4s						
LARF	**Larrau**	**0.37**	**51**	P	Pg	19 56 00.7	0.0
LARF				S	Sg	19 56 06.6	+1.2
ELIZ	**Elizondo**	**0.37**	**343**	Pg	Pg	19 56 00.6	-0.2
	1.4nm,0.1s,SNR=19						
ELIZ				Lg		19 56 05.0	
	8.8nm,0.2s,SNR=5.0						
EALK	**Alkurruntz**	**0.42**	**347**	Pg	Pg	19 56 01.3	-0.4
	0.5nm,0.1s,SNR=13						
EALK				Lg		19 56 08.0	
	32nm,0.3s,SNR=5.0						
OSSF	**Osses**	**0.46**	**11**	Pg	Pg	19 56 01.7	-0.7
OSSF				Sg	Sg	19 56 07.2	-1.1
OSSF	**Osses**	**0.46**	**11**	P	Pg	19 56 01.9	-0.5
OSSF				S	Sg	19 56 08.2	-0.1
ORDF	**Ordiarp**	**0.52**	**38**	Pg	Pg	19 56 03.3	-0.3
ORDF				Sg	Sg	19 56 11.0	+0.7
ORDF	**Ordiarp**	**0.52**	**38**	P	Pg	19 56 03.5	-0.1
ORDF				S	Sg	19 56 10.9	+0.6
ATE	**Arette**	**0.57**	**60**	Pg	Pg	19 56 04.4	-0.1
ATE				Sg	Sg	19 56 12.8	+0.9
ATE	**Arette**	**0.57**	**60**	P	Pg	19 56 04.5	0.0
ATE				S	Sg	19 56 12.1	+0.2
ETSF	**Etsaut**	**0.61**	**81**	*e*Pg	Pg	19 56 05.1	-0.2
ETSF				*e*Sg	Sg	19 56 14.5	+1.3
	13nm,0.3s						
ETSF	**Etsaut**	**0.61**	**81**	Pg	Pg	19 56 05.1	-0.2
ETSF				Lg		19 56 14.5	
	6.6nm,0.3s						
ECRI	**Cripan**	**0.86**	**257**	Pg	Pg	19 56 11.2	+1.1
	0.3nm,0.1s,SNR=7.9						
ECRI				Lg		19 56 23.1	
	2.1nm,0.2s,SNR=7.9						
LABF	**Labassere**	**1.09**	**77**	S	Sg	19 56 30.3	+1.6
EBIE	**Bielsa**	**1.13**	**96**	Pg	Pg	19 56 15.9	+0.7
	0.3nm,0.2s,SNR=12						
EBIE				Lg		19 56 32.2	
	1.6nm,0.2s,SNR=11						
ESAC	**San Caprasio**	**1.28**	**148**	Pg	Pg	19 56 18.4	+0.3
	3.7nm,0.2s,SNR=21						
ESAC				Lg		19 56 36.7	
	21nm,0.3s,SNR=15						
EPF	**Esparros**	**1.28**	**79**	*e*Pn	Pn	19 56 17.7	-1.1
EPF	**Esparros**	**1.28**	**79**	*e*Pg	Pg	19 56 19.1	+0.9
EPF				*e*Sg	Sg	19 56 37.1	+2.3
	11nm,0.3s						
EPF	**Esparros**	**1.28**	**79**	Pn	Pn	19 56 17.7	-1.1
EPF				Pg	Pg	19 56 19.1	+0.9
ELAN	**Lanestosa**	**1.57**	**286**	Pg	Pg	19 56 23.1	-0.6
	0.3nm,0.1s,SNR=7.9						
ELAN				Lg		19 56 45.4	
	0.9nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.05**	**195**	Pg	Pg	19 56 30.0	-2.9
	1.2nm,0.2s,SNR=7.9						
ETOR				Lg		19 56 58.7	
	4.2nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.25**	**145**	Pg	Pg	19 56 35.7	-1.0
	0.1nm,0.1s,SNR=4.0						
ERTA				Lg		19 57 06.0	
	1.4nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.33**	**112**	Pn	Pn	19 56 31.6	-1.5
	0.2nm,0.1s,SNR=4.0						
EMIR				Sn	Sn	19 57 01.4	-1.1
	SNR=7.9						
EMIR				Lg		19 57 09.3	
	0.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.53**	**164**	Pg	Pg	19 56 40.4	-1.8
	0.1nm,0.1s,SNR=4.0						
EMOS				Lg		19 57 16.3	
	0.4nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.62**	**35**	*e*Sg	Sg	19 57 15.9	-2.1
	1.6nm,0.3s						
LFF	**La Frestale**	**2.62**	**35**	Lg		19 57 15.9	
	0.8nm,0.3s						
MTLF	**Montolieu**	**2.69**	**77**	*e*Sg	Sg	19 57 21.0	+1.0
	1.1nm,0.3s						
MTLF	**Montolieu**	**2.69**	**77**	Lg		19 57 21.0	
	0.6nm,0.3s						

IDC 26 19:57:56.7±1.7, 652S×12957E, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=86.2km s-min=24.6km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.13**	**198**	Pn	Pn	20 00 52.4	+1.7
	0.4nm,0.3s,baz=34,slow=13,SNR=20						
FITZ				Sn	Sn	20 02 56.2	-11
	0.5nm,0.3s,baz=269,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**14.12**	**161**	Pn	Pn	20 01 16.7	-1.2
	0.3nm,0.3s,baz=342,slow=14,SNR=23						
WRA				Sn	Sn	20 03 39.2	-16
	1.6nm,0.3s,baz=334,slow=23,SNR=16						
ASAR	**Alice Springs**	**17.55**	**167**	P	Pn	20 02 02.6	0.0
	0.4nm,0.3s,baz=344,slow=10,SNR=49						
ASAR				S	Sn	20 05 04.5	-14
	0.3nm,0.3s,baz=358,slow=29,SNR=6.1						
SONM	**Songino Array**	**57.85**	**342**	P	P	20 07 50.7	+0.6
	0.2nm,0.4s,baz=152,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	20 08 55.0	-0.1
	0.7nm,0.4s,baz=112,slow=8.5,SNR=16						

*IDC **26** 20:09:56.3±5.9, 1634S×7150W, h105km±24km, mb3.1/2, mb1 3.2/5, mb1mx3.2/18, mbtmp3.1/5, Error ellipse: s-maj=172.7km s-min=23.5km az=20.0*

NEIC 26 20:09:47.9, 1671S×7191W, h45km, MG3.9(LIM), 1C, After LIM., Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.47**	**59**	⇑*i*P	Pn	20 09 59.2	+0.7
ARE				*i*S	Sn	20 10 06.7	+0.7
LPAZ	**La Paz**	**3.65**	**84**	P	Pn	20 10 47.0	+5.2
	1.4nm,0.3s,baz=259,slow=12,SNR=30						
NNA	**Nana**	**6.70**	**314**	P	Pn	20 11 31.7	+8.0
	1.7nm,0.3s,baz=129,slow=14,SNR=10						
NNA	**Nana**	**6.70**	**314**	P	Pn	20 11 31.7	+8.0
SIV	**San Ignacio**	**10.43**	**88**	P	Pn	20 12 17.3	+2.5
	0.2nm,0.3s,baz=279,slow=13,SNR=2.8						
TORD	**Torodi Ar. Bea**	**78.53**	**72**	P	P	20 21 42.6	-1.8
	0.4nm,0.5s,baz=248,slow=5.4,SNR=5.0						
YKA	**Yellowknife Ar**	**85.76**	**342**	P	P	20 22 22.3	0.0
	0.1nm,0.5s,baz=136,slow=5.1,SNR=7.4						
SONM	**Songino Array**	**148.93**	**2**	PKPbc	PKPbc	20 29 31.9	+1.1
	0.2nm,0.5s,baz=42,slow=0.3,SNR=2.3						

*ISCJB **26** 20:20:28.7±1.3, 4206N±007×7601E±005, h10km, Error ellipse: s-maj=10.6km s-min=4.4km az=144.5*
*KNET **26** 20:20:29.1±0.5, 4216N×7595E, h5km±7km, ml2.0, Error ellipse: s-maj=3.7km s-min=2.1km az=166.0*
*NNC **26** 20:20:33.8±5.8, 4232N×7605E, h0km, mb2.6, mpv2.0, Error ellipse: s-maj=37.1km s-min=20.0km az=2.0*

ISC 26 20:20:29.2±1.1, 4209N±006×7601E±005, h10km, n11, σ0?71/21, 17C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.23**	**49**	P	**Pg**	**20 20 33.6**	**-0.4**
	37nm,0.1s,SNR=332						
ULHL				⇑S	**Sg**	**20 20 37.1**	**-0.2**
	375nm,0.1s						
KZA	**Kyzart**	**0.56**	**269**	⇑P	**Pg**	**20 20 39.8**	**-0.4**
	4.7nm,0.1s,SNR=39						
KZA				⇑S	**Sg**	**20 20 47.7**	**+0.1**
	20nm,0.1s						
TKM2	**Tokmak 2**	**0.88**	**340**	⇓P	**Pg**	**20 20 45.5**	**-0.8**
	7.6nm,0.1s,SNR=5.6						
TKM2				⇑S	**Sg**	**20 20 57.7**	**-0.1**
	79nm,0.1s						
TKM2	**Tokmak 2**	**0.88**	**340**	⇑P	**Pg**	**20 20 45.3**	**-0.9**
	0.1nm,0.3s						
TKM2				⇑S	**Sg**	**20 20 57.4**	**-0.4**
	1.1nm,0.3s						
KBK	**Karagaybulak**	**0.97**	**306**	⇓P	**Pg**	**20 20 47.2**	**-0.6**
	7.7nm,0.1s,SNR=20						
KBK				⇑S	**Sg**	**20 21 00.2**	**-0.2**
	43nm,0.2s						
AAK	**Ala-Archa**	**1.24**	**296**	⇑P	**Pn**	**20 20 51.9**	**-0.8**
	5.9nm,0.3s,SNR=8.6						
AAK				⇑S	**Sb**	**20 21 08.3**	**-0.6**
	40nm,0.4s						
CHMS	**Chumysh**	**1.30**	**315**	⇑P	**Pn**	**20 20 53.4**	**0.0**
	1.9nm,0.1s,SNR=8.0						
CHMS				⇑S	**Sb**	**20 21 09.9**	**-0.5**
	16nm,0.1s						
KNDC	**Almaty**	**1.33**	**32**	⇑P	**Pn**	**20 20 53.6**	**-0.2**
	7.3nm,0.4s						
KNDC				⇑S	**Sb**	**20 21 12.2**	**+0.8**
	34nm,0.3s						
USP	**Ospenovka**	**1.62**	**317**	⇑P	**Pn**	**20 20 58.8**	**+1.1**
	3.1nm,0.1s,SNR=13						
USP				⇑S	**Sn**	**20 21 20.4**	**+1.7**
	11nm,0.1s						
EKS2	**Erkin-Say**	**1.75**	**290**	P	**Pg**	**20 21 02.9**	**+0.1**
	SNR=9.8						
KK31	**Karatay Array**	**4.18**	**286**	⇑Pn	**Pb**	**20 21 44.2**	**+1.3**
	baz=94,slow=16,SNR=4.9						
KK31				⇑Sn	**Sb**	**20 22 39.0**	**+5.6**
	0.9nm,0.5s,baz=94,slow=30,SNR=5.6						

IDC 26 20:38:35.0±60.0, 2333S×17548W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=1118.0km s-min=170.4km az=88.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.78**	**248**	P	P	20 46 01.2	0.0
	0.6nm,0.3s,baz=84,slow=9.2,SNR=6.4						
ASAR	**Alice Springs**	**46.22**	**259**	P	P	20 47 01.8	0.0
	0.4nm,0.3s,baz=92,slow=7.2,SNR=25						
WRA	**Warramunga Arr**	**46.59**	**264**	P	P	20 47 05.4	+0.8
	1.2nm,0.3s,baz=102,slow=8.2,SNR=106						

IDC 26 20:55:47.9±4.3, 2245S×16949E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.7/13, mbtmp3.7/4, ML3.2/1, MS3.2/1, Ms1 3.1/1, ms1mx2.3/29, Error ellipse: s-maj=121.3km s-min=53.1km az=154.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.85**	**277**	*e*P	Pn	20 56 34.6	0.0
DZM				*e*S	Sn	20 57 06.2	-3.5
DZM	**Mont Dzumac**	**2.85**	**277**	Pn	Pn	20 56 34.8	+0.1
	3.3nm,0.3s,baz=85,slow=19,SNR=80						
DZM				Sn	Sn	20 57 05.6	-4.0
	8.8nm,0.3s,baz=65,slow=20,SNR=7.1						
STKA	**Stephens Creek**	**26.47**	**243**	LR	LR	21 12 15.5	
	comp=Z,46nm,18.5s,baz=161,slow=37						
ASAR	**Alice Springs**	**32.72**	**261**	P	P	21 02 23.2	+1.0
	0.8nm,0.7s,baz=85,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**32.83**	**268**	P	P	21 02 22.4	-0.7
	0.6nm,0.9s,baz=102,slow=7.9,SNR=5.0						
SONM	**Songino Array**	**89.92**	**323**	P	P	21 08 49.1	+0.1
	0.6nm,0.8s,baz=111,slow=3.0,SNR=4.3						

*LDG **26** 21:05:27.7±0.1, 4389N×786E, h2km, Md2.5/1, Ml2.5/10, Error ellipse: s-maj=1.6km s-min=1.2km az=71.0*
*GEN **26** 21:05:28.8, 4388N×775E, h7km, ML2.0*
*CSEM **26** 21:05:28.7±0.1, 4391N×778E, h10km, ML2.4/10, Error ellipse: s-maj=1.6km s-min=1.2km az=156.0*
*STR **26** 21:05:28.7±0.2, 4395N×780E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **26** 21:05:28.6±0.4, 4393N±002×773E±003, h5km, Error ellipse: s-maj=3.2km s-min=2.6km az=131.1*
*NEIC **26** 21:05:28.7, 4395N×780E, h5km, MD2.3(STR), MD2.3(ROM), MD2.5(LDG), After STR.*
*ROM **26** 21:05:28.8±0.2, 4397N×777E, h3km, Md2.3/3, Ml1.8/1, Error ellipse: s-maj=2.8km s-min=1.4km az=31.0*

ISC 26 21:05:28.3±0.4, 4389N±002×778E±003, h16km±2km, n47, σ0?67/87, 1C, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEGI	**Negi**	**0.07**	**231**	P	**Pg**	**21 05 30.6**	**-0.8**
IMI	**Imperia**	**0.08**	**77**	⇑*i*Pg	**Pg**	**21 05 31.3**	**-0.2**
IMI				Sg	**Sg**	**21 05 32.8**	**-0.9**
	170nm,0.1s						
SAOF	**Saorge**	**0.19**	**300**	Pg	**Pg**	**21 05 32.5**	**-0.3**
SAOF				Sg	**Sg**	**21 05 35.6**	**-0.3**
MONE	**Monesi**	**0.19**	**355**	P	**Pg**	**21 05 32.8**	**-0.1**
SBF	**Sospel**	**0.25**	**263**	*e*Pg	**Pg**	**21 05 33.9**	**0.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**21 05 37.8**	**+0.2**
	174nm,0.3s						
SBF	**Sospel**	**0.25**	**263**	*e*Pg	**Pg**	**21 05 33.9**	**0.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**21 05 37.8**	**+0.2**
	87nm,0.3s						
AUTN	**L'Aution**	**0.27**	**292**	Pg	**Pg**	**21 05 34.4**	**+0.1**
AUTN				Sg	**Sg**	**21 05 38.6**	**+0.3**
RORO		**0.30**	**43**	P	**Pg**	**21 05 35.7**	**+1.0**
LUCF	**Luceram**	**0.31**	**270**	Pg	**Pg**	**21 05 35.2**	**+0.3**
REVF	**Revere**	**0.34**	**243**	Pg	**Pg**	**21 05 36.1**	**+0.8**
REVF				Sg	**Sg**	**21 05 41.6**	**+1.6**
TOUF	**Mont Tournerai**	**0.40**	**288**	Pg	**Pg**	**21 05 36.9**	**+0.4**
TOUF				Sg	**Sg**	**21 05 42.5**	**+0.5**
ROB	**Roburent**	**0.41**	**9**	P	**Pg**	**21 05 37.1**	**+0.5**
ENR	**Entracque**	**0.42**	**322**	P	**Pg**	**21 05 37.0**	**+0.1**
FIN	**Finale Ligure**	**0.44**	**44**	Pg	**Pg**	**21 05 38.0**	**+0.8**
FIN				Sg	**Sg**	**21 05 43.9**	**+0.7**
	24nm,0.3s						
MVIF	**Mont Vial**	**0.45**	**271**	Pg	**Pg**	**21 05 37.7**	**+0.3**
STV	**Sta Anna Valdi**	**0.48**	**317**	Pg	**Pg**	**21 05 38.1**	**+0.2**
STV				Sg	**Sg**	**21 05 44.2**	**-0.2**
CALN	**Calern**	**0.66**	**258**	Pg	**Pg**	**21 05 41.8**	**+0.6**
DOI	**San Damiano**	**0.72**	**328**	Pg	**Pg**	**21 05 42.9**	**+0.5**
DOI				Sg	**Sg**	**21 05 52.1**	**+0.1**
	34nm,0.2s						
PZZ	**Prazzo**	**0.78**	**322**	P	**Pb**	**21 05 43.7**	**+0.2**
PCP	**Pian Castagno**	**0.85**	**40**	P	**Pb**	**21 05 46.0**	**+1.3**
FRF	**La Foret Royal**	**0.89**	**248**	*e*Pn	**Pn**	**21 05 46.2**	**+0.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**21 05 57.2**	**0.0**
	30nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.89**	**248**	*e*Pg	**Pg**	**21 05 45.5**	**0.0**
FRF				*e*Pn	**Pn**	**21 05 46.2**	**+0.1**
FRF				*e*Sg	**Sg**	**21 05 57.2**	**0.0**
FRF	**La Foret Royal**	**0.89**	**248**	*e*Pn	**Pn**	**21 05 46.2**	**+0.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**21 05 57.2**	**0.0**
	15nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.08**	**239**	*e*Pn	**Pn**	**21 05 49.1**	**+0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**21 06 03.0**	**-0.3**
	27nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.08**	**239**	*e*Pg	**Pg**	**21 05 48.7**	**-0.5**
LMR				*e*Pn	**Pn**	**21 05 49.1**	**+0.4**
LMR				*e*Sg	**Sg**	**21 06 03.0**	**-0.3**
LMR	**La Mourre**	**1.08**	**239**	*e*Pn	**Pn**	**21 05 49.1**	**+0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**21 06 03.0**	**-0.3**
	14nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.10**	**319**	*e*Pg	**Pg**	**21 05 49.0**	**-0.7**
MBDF				*e*Sg	**Sg**	**21 06 04.0**	**-0.1**
	13nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**1.10**	**319**	*e*Pg	**Pg**	**21 05 49.0**	**-0.7**
MBDF				*e*Sg	**Sg**	**21 06 04.0**	**-0.1**
	6.6nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.59**	**274**	*e*Pg	**Pg**	**21 05 58.7**	**-0.3**
SMRF				*e*Sg	**Sg**	**21 06 19.6**	**-0.1**
	14nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.59**	**274**	*e*P	**Pn**	**21 05 57.8**	**+2.0**
SMRF				*e*Pg	**Pg**	**21 05 58.7**	**-0.3**
SMRF				*e*Sg	**Sg**	**21 06 19.6**	**-0.1**
SMRF	**Simiane la Rot**	**1.59**	**274**	*e*Pg	**Pg**	**21 05 58.7**	**-0.3**
SMRF				*e*Sg	**Sg**	**21 06 19.6**	**-0.1**
	7.2nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**1.61**	**146**	*e*Pn	**Pn**	**21 05 55.0**	**-1.1**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**21 06 14.3**	**-2.2**
	3.7nm,0.2s						
PGF	**Pioggiola**	**1.61**	**146**	*e*Pn	**Pn**	**21 05 55.0**	**-1.1**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**21 06 14.3**	**-2.2**
	1.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.71**	**308**	*e*Pg	**Pg**	**21 06 00.4**	**-0.7**
ORIF				*e*Sg	**Sg**	**21 06 22.6**	**-0.6**
	11nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.71**	**308**	*e*Pg	**Pg**	**21 06 00.4**	**-0.7**
ORIF				*e*Sg	**Sg**	**21 06 22.6**	**-0.6**
	5.7nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**1.77**	**336**	*e*Pg	**Pg**	**21 06 01.6**	**-0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**21 06 24.6**	**-0.6**
	4.8nm,0.4s						
LPG	**La Plagne**	**1.77**	**336**	*e*Pn	**Pn**	**21 05 58.9**	**+0.7**
LPG				*e*Pg	**Pg**	**21 06 01.6**	**-0.6**
LPG				*e*Sg	**Sg**	**21 06 24.6**	**-0.6**
LPG	**La Plagne**	**1.77**	**336**	*e*Pg	**Pg**	**21 06 01.6**	**-0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**21 06 24.6**	**-0.6**
	2.4nm,0.4s						
LPL	**La Plagne**	**1.79**	**336**	*e*Pg	**Pg**	**21 06 02.0**	**-0.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**21 06 25.1**	**-0.8**
	3.2nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.79**	**336**	*e*Pg	**Pg**	**21 06 02.0**	**-0.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**21 06 25.1**	**-0.8**
	1.6nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.43**	**294**	*e*Pg	**Pg**	**21 06 13.5**	**-1.4**
VIVF				*e*Sg	**Sg**	**21 06 45.6**	**-0.7**
	3.0nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.43**	**294**	*e*Pn	**Pn**	**21 06 07.6**	**+0.3**
VIVF				*e*Pg	**Pg**	**21 06 13.5**	**-1.4**
VIVF				*e*Sg	**Sg**	**21 06 45.6**	**-0.7**
VIVF	**Saint-Julien-l**	**2.43**	**294**	*e*Pg	**Pg**	**21 06 13.5**	**-1.4**
VIVF				*e*Sg	**Sg**	**21 06 45.6**	**-0.7**
	1.5nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.84**	**275**	*e*Pn	**Pn**	**21 06 13.0**	**+0.1**
LASF				*e*Sn	**Sn**	**21 06 46.7**	**0.0**
	0.8nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.84**	**275**	*e*Pn	**Pn**	**21 06 13.0**	**+0.1**
LASF				*e*Sn	**Sn**	**21 06 46.7**	**0.0**
	0.4nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**4.08**	**264**	*e*Pn	**Pn**	**21 06 29.8**	**-0.1**
CAF	**Calviac**	**4.22**	**286**	*e*Pn	**Pn**	**21 06 32.0**	**0.0**

*IDC **26** 21:06:26.6±0.7, 3147S×17967E, h425km±7km, mb3.6/6, mb1 3.7/9, mb1mx3.6/17, mbtmp3.6/9, Error ellipse: s-maj=17.5km s-min=11.2km az=146.0*
*ISCJB **26** 21:06:27.4±0.6, 3168S±005×1794E±0.1, h431km±9km, mb4.0/7, Error ellipse: s-maj=17.2km s-min=7.3km az=32.3*
*NEIC **26** 21:06:27.2±0.5, 3157S×17974E, h434km±6km, mb4.7/3, Error ellipse: s-maj=11.3km s-min=7.4km az=108.0*

ISC 26 21:06:29.3±0.8, 3179S±006×1794E±01, h438km±10km, n78, σ1?26/66, mb4.0/7, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.41**	**43**	P	**P**	**21 07 32.8**	**-5.8**
	73nm,0.3s,baz=90,slow=20,SNR=5.3						
RAO				S	**S**	**21 08 24.2**	**-11**
	225nm,0.3s,baz=80,slow=23,SNR=7.6						
MXZ	**Matakaoa Point**	**5.83**	**189**	P	**P**	**21 08 02.6**	**+1.2**
MXZ				S	**S**	**21 09 15.6**	**-1.1**
MXZ	**Matakaoa Point**	**5.83**	**189**	PN	**P**	**21 08 02.6**	**+1.2**
MXZ				SN	**S**	**21 09 15.6**	**-1.0**
PUZ	**Puketiti**	**6.34**	**188**	*e*P	**P**	**21 08 06.8**	**+0.1**
PUZ				S	**S**	**21 09 25.9**	**-0.4**
PUZ	**Puketiti**	**6.34**	**188**	PN	**P**	**21 08 06.8**	**+0.1**
PUZ				SN	**S**	**21 09 25.9**	**-0.4**
MWZ	**Matawai**	**6.71**	**193**	P	**P**	**21 08 11.0**	**+0.3**
MWZ	**Matawai**	**6.71**	**193**	PN	**P**	**21 08 11.0**	**+0.4**
MWZ				SN	**S**	**21 09 33.4**	**-0.2**
URZ	**Urewera**	**6.73**	**196**	P	**P**	**21 08 11.4**	**+0.5**
	50nm,0.3s,baz=28,slow=4.1,SNR=133						
URZ				S	**S**	**21 09 36.6**	**+2.8**
	92nm,0.3s,baz=238,slow=22,SNR=20						
URZ	**Urewera**	**6.73**	**196**	*e*P	**P**	**21 08 11.1**	**+0.3**
URZ	**Urewera**	**6.73**	**196**	PN	**P**	**21 08 11.1**	**+0.3**
URZ				SN	**S**	**21 09 32.6**	**-1.2**
KNZ	**Kokohu**	**7.36**	**191**	*e*P	**P**	**21 08 19.4**	**+1.9**
KNZ	**Kokohu**	**7.36**	**191**	PN	**P**	**21 08 19.4**	**+1.9**
KNZ				SN	**S**	**21 09 45.2**	**-0.9**
BKZ	**Black Stump Fm**	**7.74**	**197**	*e*PN	**P**	**21 08 21.4**	**-0.3**
BKZ				SN	**S**	**21 09 50.4**	**-3.4**
PXZ	**Pawanui**	**8.48**	**194**	PN	**P**	**21 08 29.3**	**-0.5**
PXZ				SN	**S**	**21 10 07.4**	**-1.3**
TSZ	**Takapari Road**	**8.72**	**198**	PN	**P**	**21 08 33.2**	**+0.9**
BFZ	**Birch Farm**	**9.24**	**195**	*e*P	**P**	**21 08 40.0**	**+2.0**
BFZ	**Birch Farm**	**9.24**	**195**	PN	**P**	**21 08 40.0**	**+1.9**
BFZ				SN	**S**	**21 10 23.7**	**-0.2**
MRZ	**Mangatainoka R**	**9.38**	**198**	P	**P**	**21 08 41.3**	**+1.7**
MRZ	**Mangatainoka R**	**9.38**	**198**	PN	**P**	**21 08 41.0**	**+1.4**
CAW	**Cannon Point**	**9.94**	**199**	P	**P**	**21 08 46.3**	**+0.6**
CAW	**Cannon Point**	**9.94**	**199**	PN	**P**	**21 08 45.8**	**0.0**
**TRW

YKA	Yellowknife Ar	107.65	26	PKiKP	PKiKP	21 24 02.1	-3.3
	0.2nm,0.5s,baz=263,slow=1.6,SNR=7.9						
MKAR	Makanchi Array	116.98	310	PKP	PKPdf	21 24 20.3	-2.9
	0.5nm,0.6s,baz=148,slow=0.7,SNR=8.8						
BVAR	Borovoye Array	125.85	315	PKP	PKPdf	21 24 38.0	-2.2
	2.2nm,0.5s,baz=129,slow=2.1,SNR=12						
AKTK	Aktyubinsk	133.39	311	PKP	PKPdf	21 24 53.1	-1.4
AKTO	Aktyubinsk	133.39	311	PKP	PKPdf	21 24 53.1	-1.4
	1.6nm,0.6s,baz=38,slow=1.8,SNR=7.6						
JOF	Joensuu	142.86	336	*e*pkp	PKPdf	21 25 04.8	-7.0
	1.2nm,0.3s						
KAF	Kangasniemi	145.07	338	*e*pkp	PKPdf	21 25 12.1	-3.6
	5.6nm,0.4s,baz=44,slow=2.9						
FINES	FINESS Array B	145.64	338	PKPbc	PKPbc	21 25 14.9	-3.0
	22nm,0.7s,baz=57,slow=4.5,SNR=141						
NB2	NORSAR Subarra	149.74	349	PKP	PKPdf	21 25 25.7	+2.4
	comp=Z,6.1nm,1.0s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.74	349	PKPbc	PKPbc	21 25 25.1	-3.5
	comp=Z,5.4nm,0.8s,baz=16,slow=4.2,SNR=11						
NOA				PKPab	PKPab	21 25 32.3	-3.4
	comp=Z,5.8nm,0.8s,baz=22,slow=3.0,SNR=12						
AKASG	Malin Array Be	151.00	319	PKPbc	PKPbc	21 25 29.6	-2.0
	comp=Z,2.8nm,0.5s,baz=57,slow=2.5,SNR=14						
AKASG				PKPab	PKPab	21 25 37.9	-3.0
	comp=Z,0.8nm,0.4s,baz=52,slow=4.5,SNR=4.1						
BRTR	Keskin Array B	151.27	296	PKPbc	PKPbc	21 25 30.8	-1.4
	comp=Z,2.1nm,0.5s,baz=146,slow=3.9,SNR=15						
CLL	Collm	158.09	337	⇑*i*PKPab	PKPab	21 26 08.5	-2.8
	comp=Z,7.0nm,0.7s						
BRG	Berggiesshubel	158.12	335	*e*P	PKPab	21 26 09.1	-2.4
	comp=Z,2.4nm,0.8s						
GERES	GERESS Array B	159.85	332	PKPab	PKPab	21 26 16.5	-2.5
	comp=Z,0.9nm,0.6s,baz=40,slow=4.7,SNR=9.7						
TORD	Torodi Ar. Bea	161.33	187	PKP	PKPdf	21 25 38.2	-0.4
	comp=Z,0.4nm,0.8s,baz=209,slow=1.4,SNR=3.8						
TORD				PKPab	PKPab	21 26 25.9	+0.4
	comp=Z,0.3nm,0.4s,baz=177,slow=3.7,SNR=6.8						
BAIF	Baives	161.41	350	*e*PKP2	PKPab	21 26 20.7	-5.1
	comp=Z,11nm,1.0s						
CDF	Champ du Feu	162.37	343	*e*PKP2	PKPab	21 26 26.3	-3.7
	comp=Z,5.2nm,0.9s						
HAU	Haudompre	162.97	344	*e*PKP2	PKPab	21 26 28.8	-3.9
LOR	Lormes	164.18	349	*e*PKP2	PKPab	21 26 34.0	-4.0
CABF	La Chapelle	164.34	343	*e*PKP2	PKPab	21 26 35.1	-3.6
	comp=Z,22nm,1.3s						
SSF	Saint Saulge	164.44	350	*e*PKP2	PKPab	21 26 35.1	-4.0
	comp=Z,6.5nm,0.9s						
AVF	Avril sur Loir	164.72	350	*e*PKP2	PKPab	21 26 36.3	-4.1
	comp=Z,6.6nm,1.0s						
SMF	Signal de Mont	164.78	348	*e*PKP2	PKPab	21 26 36.8	-3.9
	comp=Z,14nm,1.0s						
LPL	La Plagne	165.17	340	*e*PKP2	PKPab	21 26 39.9	-2.5
	comp=Z,2.9nm,0.6s						
LPG	La Plagne	165.18	340	*e*PKP2	PKPab	21 26 39.8	-2.6
	comp=Z,7.1nm,0.9s						
TCF	Toulx Ste Croi	165.37	352	*e*PKP2	PKPab	21 26 39.2	-4.0
ORIF	Oris-en-Rattie	165.96	341	*e*PKP2	PKPab	21 26 42.9	-3.0
	comp=Z,8.8nm,0.8s						

*IDC **26** 21:06:46.3±0.9, 2195N×12053E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.7/7, MS3.2/1, Ms1 3.2/1, ms1mx2.0/30, Error ellipse: s-maj=57.4km s-min=19.4km az=71.0*
*NEIC **26** 21:06:47.8±0.7, 2183N×12030E, h10km, MG3.1(JMA), Error ellipse: s-maj=22.0km s-min=11.1km az=96.0*
*ISCJB **26** 21:06:50.5±3.1, 219N±0.1×1204E±03, h41km±27km, mb3.6/7, Error ellipse: s-maj=49.3km s-min=20.1km az=142.9*

ISC 26 21:06:53.1±2.8, 219N±01×1205E±03, h49km±26km, n11, σ0§60/10, mb3.6/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.44	24	*e*Pn	Pn	21 07 29.8	-0.6
YHNB	Yeheng	2.83	16	*e*Pn	Pn	21 07 35.5	-0.3
TATO	Taipei	3.15	16	*e*Pn	Pn	21 07 41.3	+1.1
KSRS	Korea Array	16.73	21	LR	LR	21 18 35.3	
	comp=Z,85nm,18.4s,baz=215,slow=42						
SONM	Songino Array	28.22	340	P	P	21 12 40.6	-0.6
	0.2nm,0.5s,mb3.0,baz=152,slow=8.5,SNR=3.5						
MKAR	Makanchi Array	39.55	318	P	P	21 14 19.3	+0.1
	0.4nm,0.7s,mb3.3,baz=105,slow=9.2,SNR=4.3						
WRA	Warramunga Arr	43.77	161	P	P	21 14 53.0	-0.7
	2.0nm,0.6s,mb4.0,baz=343,slow=9.0,SNR=11						
ASAR	Alice Springs	47.17	163	P	P	21 15 21.3	+0.6
	1.0nm,0.4s,mb4.1,baz=346,slow=7.1,SNR=17						
INK	Inuvik	75.53	22	P	P	21 18 31.8	-0.5
	0.7nm,0.9s,mb3.6,baz=324,slow=8.7,SNR=3.8						
GERES	GERESS Array B	84.17	321	P	P	21 19 19.3	+0.2
	0.2nm,0.6s,mb3.4,baz=48,slow=6.0,SNR=4.0						
YKA	Yellowknife Ar	85.27	22	P	P	21 19 25.2	+0.7
	0.3nm,0.8s,mb3.5,baz=310,slow=4.9,SNR=5.3						

*FUNV **26** 21:07:09.5, 1138N×6147W, h13km, MW2.4*
*ISCJB **26** 21:07:11.5±1.2, 1133N±004×6149W±005, h59km±16km, Error ellipse: s-maj=8.3km s-min=7.1km az=15.2*
*NEIC **26** 21:07:12.0, 1133N×6144W, h25km, MD3.0(TRN), After TRN.*
*TRN **26** 21:07:12.0, 1133N×6144W, h25km, MD3.0*

ISC 26 21:07:11.7±1.3, 1132N±004×6148W±005, h62km±16km, n12, σ0§96/22, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.67	174	*e*P	Pn	21 07 25.4	-0.3
TRN				*e*S	Sn	21 07 34.7	-1.3
TCE	Chacachacare	0.68	204	*e*P	Pn	21 07 25.9	+0.2
TCE				*e*S	Sn	21 07 36.5	+0.5
TPR	Prospect	0.70	101	*e*P	Pn	21 07 24.6	-1.3
TPR	Prospect	0.70	101	*e*P	Pn	21 07 24.8	-1.2
TPR				*e*S	Sn	21 07 35.3	-1.1
TPR	Prospect	0.70	101	*e*P	Pn	21 07 24.8	-1.2
TPR				*e*S	Sn	21 07 35.3	-1.1
GRW	Mount Saint Ca	0.85	348	*e*P	Pn	21 07 28.0	+0.2
GRW				*e*S	Sn	21 07 41.0	+1.2
TBH	Brigand Hill	0.93	154	*e*P	Pn	21 07 30.5	+1.7
TBH				*e*S	Sn	21 07 44.3	+2.9
GUIV	Guiria	0.99	228	*e*P	Pn	21 07 28.7	-1.0
GUIV				*e*S	Sn	21 07 42.3	-0.7
TPP	Pointe-a-Pierr	1.00	179	*e*P	Pn	21 07 30.2	+0.4
TPP				*e*S	Sn	21 07 44.2	+1.1
ITEV	Isla Los Testi	1.62	271	*e*P	Pn	21 07 37.7	-0.4
ITEV				*e*S	Sn	21 07 58.0	+0.1
CRUV	Carupano	1.84	250	⇑*e*P	Pn	21 07 40.2	-0.8
CRUV				*e*S	Sn	21 08 03.7	+0.4
GUNV	Guanoco	1.85	231	*e*P	Pn	21 07 40.9	-0.1

MAN 26 21:08:52.9, 955N×12572E, h18km, mb1.9, ML3.7, MS3.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.33	315	*e*P	Pg	21 09 00.9	+1.1
SCPH				*e*S	Sg	21 09 09.9	+5.4
BUTP	Butuan	0.59	190	*e*P	Pg	21 09 04.6	0.0
MSLP	Maasin	1.03	304	*e*P	Pb	21 09 11.4	-0.7

WEL 26 21:09:40.0±0.3, 4571S×16711E, h12km, ML4.0/9, 4C-1D, Error ellipse: s-maj=3.2km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.23	8	⇑P*	Pg	21 09 45.2	+0.3
DCZ				S*	Sg	21 09 49.0	+0.8
WHZ	Wether Hill Ro	0.62	108	⇓P*	Pb	21 09 51.5	-1.2
WHZ				S*	Sb	21 09 59.6	-1.7
MLZ	Mavora Lakes	0.83	65	⇑P*	Pb	21 09 54.5	-1.8
MLZ				S*	Sb	21 10 05.1	-2.4
MSZ	Milford Sound	1.19	30	P*	Pb	21 10 00.5	-1.9
APZ	The Paps	1.28	152	S*	Sb	21 10 19.2	-1.2
WKZ	Wanaka	1.61	58	⇑PN	Pn	21 10 08.5	+0.2
WKZ				SN	Sn	21 10 29.0	+0.1
EAZ	Earnscleugh	1.62	74	⇑PN	Pn	21 10 08.4	+0.1
SYZ	Scrubby Hill	1.64	121	*e*PN	Pn	21 10 07.6	-1.0
TUZ	Tuapeka	1.78	99	PN	Pn	21 10 10.3	-0.3
ODZ	Otahua Downs	2.58	76	PN	Pn	21 10 20.4	-1.1

IDC 26 21:50:35.2±1.1, 2207N×14307E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=43.0km s-min=20.9km az=84.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	21.99	359	LR	LR	22 04 41.0	
	comp=Z,62nm,18.5s,baz=28,slow=38						
SONM	Songino Array	38.98	320	P	P	21 58 04.1	+0.9
	1.0nm,0.8s,baz=128,slow=7.2,SNR=9.5						
WRA	Warramunga Arr	42.62	192	P	P	21 58 34.0	+0.9
	2.4nm,1.2s,baz=12,slow=8.9,SNR=7.3						
ASAR	Alice Springs	46.33	192	P	P	21 59 02.3	-0.5
	0.3nm,0.5s,baz=19,slow=9.6,SNR=8.1						
ZAL	Zalesovo	53.86	321	P	P	21 59 58.8	-1.2
	0.6nm,0.3s,baz=18,slow=5.8,SNR=2.8						
MKAR	Makanchi Array	54.37	312	P	P	22 00 04.3	+0.5
	0.4nm,0.6s,baz=91,slow=8.5,SNR=5.5						
YKA	Yellowknife Ar	76.18	28	P	P	22 02 25.3	+0.1
	0.6nm,0.5s,baz=293,slow=5.9,SNR=14						
FINES	FINESS Array B	82.80	334	P	P	22 03 00.7	-0.6
	2.2nm,1.0s,baz=76,slow=5.9,SNR=2.6						
PDAR	Pinedale Array	87.21	45	LR	LR	22 43 42.0	
	comp=Z,108nm,18.5s,baz=153,slow=36						

*ISCJB **26** 22:15:57.7±0.3, 4991N±002×1832E±002, h0km, Error ellipse: s-maj=3.5km s-min=1.8km az=34.1*
*CSEM **26** 22:15:58.9±0.1, 4991N×1841E, h1km, ML3.2/5, Error ellipse: s-maj=2.4km s-min=1.4km az=176.0*
*IDC **26** 22:15:59.4±1.1, 4968N×1854E, h0km, mb1 3.3/5, mb1mx3.1/19, mbtmp3.2/5, ML2.9/5, Error ellipse: s-maj=18.6km s-min=8.2km az=147.0*
*NEIC **26** 22:16:00.2, 4995N×1842E, h10km, ML2.6(BRA), ML2.8(PRU), ML2.8(BUC), ML3.0(SZGRF), After PRU.*
*BGR **26** 22:16:00.9±0.6, 4987N×1841E, h1km, ML3.0/6, Error ellipse: s-maj=8.9km s-min=5.6km az=169.0*

ISC 26 22:15:58.9±0.3, 4990N±002×1841E±002, h0km, n80, σ1§22/124, 23C-3D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.18	249	*e*Pg	Pg	22 16 04.7	+2.3
OKC				*e*Sg	Sg	22 16 08.4	+3.7
OKC	Ostrava-Krasne	0.18	249	*e*PG	Pg	22 16 04.7	+2.3
OKC				*e*SG	Sg	22 16 08.3	+3.6
	730nm,0.6s						
RAC	Raciborz	0.23	323	⇓*i*Pg	Pg	22 16 06.5	+3.2
RAC				*e*Sg	Sg	22 16 11.5	+5.3
MORC	Moravsky Berou	0.57	258	*e*Sg	Sg	22 16 20.2	+2.8
MORC	Moravsky Berou	0.57	258	⇑P	Pg	22 16 11.7	+1.8
MORC	Moravsky Berou	0.57	258	⇑*i*P	Pg	22 16 11.7	+1.8
MORC	Moravsky Berou	0.57	258	*e*Pg	Pg	22 16 11.4	+1.5
MORC				Sg	Sg	22 16 20.2	+2.8
OJC	Ojcow	0.95	70	*e*Pg	Pg	22 16 17.0	-0.2
OJC				*e*Sg	Sg	22 16 32.7	+3.2
OJC	Ojcow	0.95	70	*e*Pg	Pg	22 16 16.8	-0.3
LIKS	Líkavka	0.97	152	*e*SN	Sn	22 16 33.3	-0.9
JAVC	Velka Javorina	1.15	205	P	Pg	22 16 22.3	+1.4
JAVC	Velka Javorina	1.15	205	P	Pg	22 16 22.3	+1.3
VRAC	Vranov	1.32	244	Pg	Pg	22 16 25.0	+0.8
	23nm,0.3s,baz=69,slow=15,SNR=227						
VRAC				Lg		22 16 43.7	
	14nm,0.3s,baz=324,slow=19,SNR=14						
VRAC	Vranov	1.32	244	⇑P	Pg	22 16 25.4	+1.1
VRAC	Vranov	1.32	244	⇑*i*P	Pg	22 16 25.4	+1.1
VRAC	Vranov	1.32	244	*e*Pg	Pg	22 16 24.8	+0.5
VRAC	Vranov	1.32	244	⇑P	Pg	22 16 25.4	+1.1
VRAC				*e*Sg	Sg	22 16 43.5	+2.1
NIE	Niedzica	1.33	111	*e*Pg	Pg	22 16 24.0	-0.4
NIE				*e*Sg	Sg	22 16 42.1	+0.4
DPC	Dobruska-Polom	1.42	289	*e*Pg	Pg	22 16 26.8	+0.7
DPC	Dobruska-Polom	1.42	289	*e*PG	Pg	22 16 26.6	+0.5
DPC				*e*SG	Sg	22 16 45.8	+1.4
	55nm,0.4s						
DPC	Dobruska-Polom	1.42	289	Pg	Pg	22 16 26.8	+0.7
DPC				*e*Sg	Sg	22 16 45.8	+1.4
	55nm,0.4s						
VYHS	Vyhne	1.44	169	*e*PN	Pn	22 16 25.5	-0.7
VYHS				*e*SN	Sn	22 16 45.8	0.0
KRUC	Moravsky	1.56	238	P	Pn	22 16 28.4	+0.5
KRUC	Moravsky	1.56	238	P	Pn	22 16 28.4	+0.5
KSP	Ksiaz	1.65	306	*e*Pg	Pg	22 16 29.8	-0.7
KSP				*e*Sg	Sg	22 16 53.0	+1.1
KSP	Ksiaz	1.65	306	*e*Pg	Pg	22 16 29.9	-0.6
KSP				*e*Sg	Sg	22 16 54.6	+2.7
KSP	Ksiaz	1.65	306	Pg	Pg	22 16 29.9	-0.6
KSP				*e*Sg	Sg	22 16 53.0	+1.1
UPC	Upice	1.65	292	*e*PG	Pg	22 16 29.8	-0.8
UPC				*e*SG	Sg	22 16 53.0	+0.9
STHS	Stebnicka Huta	1.91	104	*e*PN	Pn	22 16 32.5	-0.2
STHS				*e*SN	Sn	22 16 59.5	+2.1
ZST	Bratislava	1.91	207	*e*PN	Pn	22 16 32.9	+0.2
ZST				*e*SN	Sn	22 16 57.1	-0.4
KECS	Kecovo	1.97	135	*e*PN	Pn	22 16 32.8	-0.7
KECS				*e*SN	Sn	22 16 58.6	-0.3
TREC	Trest	2.00	253	*e*PN	Pn	22 16 34.3	+0.4
TREC				*e*PG	Pg	22 16 35.9	-1.3
TREC				*e*SG	Sg	22 17 02.9	-0.1
PENC	Penc	2.19	164	⇓*e*Pn	Pn	22 16 36.8	+0.2
PENC				*e*Sn	Sn	22 17 03.9	-0.5
PSZ	Piszkesteto	2.21	153	⇑P	Pn	22 16 36.5	-0.4
PSZ				⇑*e*P		22 16 41.4	
PSZ	Piszkesteto	2.21	153	⇑*i*P	Pn	22 16 36.5	-0.4
PSZ	Piszkesteto	2.21	153	⇑*e*PB	Pb	22 16 41.4	+1.6
CRVS	Cervenica-Dubn	2.23	115	*e*PN	Pn	22 16 41.1	+3.9
CRVS				*e*SN	Sn	22 17 08.3	+2.9
PRU	Pruhonice	2.50	273	*e*PG	Pg	22 16 44.8	-2.0
PRU				*e*SG	Sg	22 17 17.7	-1.5
	49nm,0.8s						
SOP	Sopron	2.54	210	⇓*e*Pn	Pn	22 16 41.9	+0.6
PVCC	Panska Ves	2.54	286	*e*PG	Pg	22 16 46.2	-1.5
PRA	Prague	2.57	275	SG	Sg	22 17 20.0	-1.5
CONA	Conrad Observa	2.59	221	⇑*e*Pn	Pn	22 16 41.7	-0.4
	SNR=9.2						
CONA				⇑*i*Sg	Sg	22 17 20.9	-1.3
	12nm,0.4s						
KOLS	Kolonicke sedl	2.70	110	*e*PG	Pg	22 16 51.1	+0.3
BRG	Berggiesshubel	3.02	290	*e*Pg	Pg	22 16 55.7	-1.0
BRG				*e*Sg	Sg	22 17 37.0	+1.1
BRG	Berggiesshubel	3.02	290	PG	Pg	22 16 55.7	-1.1
BRG				*i*		22 17 19.7	
BRG	Berggiesshubel	3.02	290	SG	Sg	22 17 36.2	+0.3
	29nm,1.1s						
BRG	Berggiesshubel	3.02	290	Pg	Pg	22 16 55.7	-1.1
BRG				*i*		22 17 19.7	
BRG				Sg	Sg	22 17 36.2	+0.3
BRG	Berggiesshubel	3.02	290	Pg	Pg	22 16 55.7	-1.1
BRG				Sg	Sg	22 17 37.0	+1.1
KHC	Kasperske Hory	3.24	258	*ex*	x	22 16 30.0	
KHC				*e*PN	Pn	22 16 51.2	+0.2
KHC				*e*PG	Pg	22 16 58.5	-2.5
KHC				*e*SG	Sg	22 17 43.7	+0.7
	27nm,0.6s						
GEC2	GERESS Array S	3.25	253	*e*Pg	Pg	22 17 00.5	-0.8
GEC2				*e*Sg	Sg	22 17 42.6	-0.9
GEC2	GERESS Array S	3.25	253	*e*Pg	Pg	22 17 00.5	-0.8
GEC2				*e*Sg	Sg	22 17 42.6	-0.8
GERES	GERESS Array B	3.25	253	Pn	Pn	22 16 50.4	-0.8
	0.3nm,0.3s,baz=64,slow=13,SNR=17						
GERES				Pg	Pg	22 17 00.1	-1.1
	1.7nm,0.3s,baz=65,slow=16,SNR=42						
GERES				Lg		22 17 41.6	
	2.3nm,0.3s,baz=68,slow=26,SNR=10						
GERES	GERESS Array B	3.25	253	Pg	Pg	22 17 00.1	-1.2
ARSA	Arzberg	3.27	217	⇑*i*Sg	Sg	22 17 44.1	0.0
	comp=Z,7.8nm,0.7s						
ARSA	Arzberg	3.27	217	⇑*i*Pn	Pn	22 16 50.8	-0.6
ARSA				⇑*i*Sg	Sg	22 17 48.9	+4.8
	7.8nm,0.7s						
ARSA	Arzberg	3.27	217	⇑*i*Pn	Pn	22 16 50.8	-0.6
ARSA				*i* Sg	Sg	22 17 44.1	0.0
ARSA	Arzberg	3.27	217	Pn	Pn	22 16 50.8	-0.7
ARSA				Sg	Sg	22 17 44.1	0.0
	7.8nm,0.7s						
FBE	Freiberg	3.39	289	*e*Sg	Sg	22 17 49.5	+1.7
MOA	Molln	3.42	235	⇑*i*Pn	Pn	22 16 53.4	0.0
MOA				⇑*i*Sg	Sg	22 17 48.9	+0.1
	19nm,0.7s						
MOA	Molln	3.42	235	Pn	Pn	22 16 53.4	-0.1
MOA				Sg	Sg	22 17 48.9	+0.1
	19nm,0.7s						
WET	Wettzell	3.68	260	P	Pn	22 16 57.6	+0.5
WET	Wettzell	3.68	260	P	Pn	22 16 57.6	+0.5
WET				Sg	Sg	22 17 56.9	-0.3
CLL	Collm	3.72	294	*e*Pg	Pg	22 17 10.0	-0.2
CLL				*i* Sg	Sg	22 17 59.1	+0.7
	comp=Z,57nm,1.2s						
CLL	Collm	3.72	294	Pg	Pg	22 17 12.2	+2.0
CLL				*i* Sg	Sg	22 17 59.1	+0.7
NKC	Novy Kostel	3.85	277	*e*PG	Pg	22 17 10.1	-2.7
NKC				*e*SG	Sg	22 18 03.1	+0.4
	comp=Z,17nm,0.5s						
TANN	Tannenbergstha	3.86	280	*e*Pg	Pg	22 17 11.3	-1.6
TANN				*e*Sg	Sg	22 18 02.6	-0.3
TANN	Tannenbergstha	3.86	280	*e*Pg	Pg	22 17 11.3	-1.6
TANN				*e*Sg	Sg	22 18 02.6	-0.3
MOX				*e*SG	Sg	22 18 23.6	+2.7
MOX	Moxa	4.42	282	*e*PG	Pg	22 17 24.0	+0.4
GRA1	Grafenberg Arr	4.66	270	Sg	Sg	22 18 27.4	-1.2
GRF	Grafenberg Arr	4.66	270	*e*Sg	Sg	22 18 27.4	-1.2
BZS	Buzias	4.80	152	⇑P	Pn	22 17 12.4	-0.1
BZS	Buzias	4.80	152	⇑*i*P	Pn	22 17 12.4	-0.1
BURAR	Bucovina Array	5.05	114	⇑P	Pn	22 17 16.0	+0.1
BURAR	Bucovina Array	5.05	114	⇑*i*P	Pn	22 17 16.0	+0.1
GZR	Gura Zlata	5.39	145	⇑P	Pn	22 17 21.5	+0.9
GZR	Gura Zlata	5.39	145	⇑*i*P	Pn	22 17 21.5	+0.9
AKASG	Malin Array Be	6.98	79	Pn	Pn	22 17 39.9	-2.5
	comp=Z,0.4nm,0.3s,baz=259,slow=14,SNR=4.2						
AKASG				Pg	Pg	22 18 05.9	-6.7
	comp=Z,0.5nm,0.3s,baz=270,slow=16,SNR=3.5						
HFS	Hagfors	10.60	347	Pn	Pn	22 18 31.0	-1.1
	comp=Z,0.1nm,0.3s,baz=149,slow=20,SNR=3.2						
NOA	NORSAR Array B	11.87	343	Pn	Pn	22 18 47.3	-2.2
	comp=Z,0.2nm,0.3s,baz=159,slow=11,SNR=2.3						
FINES	FINESS Array B	12.34	17	Pn	Pn	22 18 52.7	-3.2
	comp=Z,0.2nm,0.3s,baz=188,slow=12,SNR=7.9						

*ISCJB **26** 22:29:13.7±3.9, 6.1S±0.1×1507E±02, h42km±32km, mb3.7/10, Error ellipse: s-maj=28.6km s-min=17.8km az=8.5*
*NEIC **26** 22:29:14.2±0.7, 607S×1508E, h35km, mb4.0/4, Error ellipse: s-maj=18.2km s-min=9.6km az=113.0*
*IDC **26** 22:29:16.8±6.7, 607S×1509E, h52km±54km, mb3.6/7, mb1 3.8/8, mb1mx3.7/15, mbtmp3.6/8, ML2.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/27, Error ellipse: s-maj=53.9km s-min=30.8km az=102.0*

ISC 26 22:29:15.0±3.6, 61S±01×1509E±02, h41km±30km, n23, σ0§82/22, mb3.7/10, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.93	228	P	Pn	22 30 28.1	+1.6
	0.7nm,0.3s,baz=40,slow=14,SNR=3.4						
PMG				S	Sn	22 31 21.4	-0.9
	4.9nm,0.3s,baz=85,slow=22,SNR=6.1						
PMG	Port Moresby	4.93	228	*e*Pn	Pn	22 30 24.6	-1.9
PMG				*e*Sn	Sn	22 31 21.6	-0.7
CTA	Charters Tower	14.61	197	LR	LR	22 37 55.8	
	comp=Z,61nm,19.9s,baz=52,slow=36						
KAKA	Kakadu	19.32	249	*e*P	Pn	22 33 39.7	+1.7
	14nm,1.2s						
WB2	Warramunga Arr	21.14	228	⇓*i*P	P	22 33 56.4	0.0
WRA	Warramunga Arr	21.15	228	P	P	22 33 56.1	-0.4
	2.5nm,0.4s,mb3.9,baz=51,slow=10,SNR=15						
ASAR	Alice Springs	23.91	221	P	P	22 34 25.4	+0.5
	2.2nm,0.5s,mb3.9,baz=56,slow=9.2,SNR=27						
STKA	Stephens Creek	27.07	198	P	P	22 34 54.2	+0.5
	2.1nm,0.7s,mb3.8,baz=348,slow=10,SNR=4.3						
STKA	Stephens Creek	27.07	198	P	P	22 34 54.2	+0.5
FITZ	Fitzroy Crossi	27.35	242	P	P	22 34 56.3	+0.1
	2.9nm,0.8s,mb3.8,baz=83,slow=8.1,SNR=2.4						
KKM	Kota Kinabalu	36.63	289	P	P	22 36 16.7	-0.7
YHNB	Yeheng	41.95	318	*e*P	P	22 37 02.4	+0.6
KULM	Kulim	51.39	282	P	P	22 38 15.3	-0.4
ENH	Enshi	53.66	315	*e*P	P	22 38 32.5	+0.1
	0.3nm,0.3s,mb3.7						
SONM	Songino Array	66.41	329	P	P	22 40 00.7	+0.8
	0.2nm,0.5s,mb3.4,baz=146,slow=4.3,SNR=2.3						
LSA	Lhasa	67.40	306	*e*P	P	22 40 07.1	+1.0
	0.6nm,0.4s,mb4.0						
TNA	Tin City	77.56	16	*e*P	P	22 41 06.6	-0.1
	0.8nm,0.5s,mb3.9						
MKAR	Makanchi Array	80.04	320	P	P	22 41 19.3	-1.0
	0.2nm,0.5s,mb3.3,baz=104,slow=5.8,SNR=3.6						
KURK	Kurchatov	83.61	322	*e*P	P	22 41 37.5	-1.5
QSPA	South Pole Qui	83.87	180	P	P	22 41

comp=Z,163nm,1.7s,mb5.2
SBA MLR MLR
PTCN Pitcairn Islan 65.59 99 PFAKE 22 49 10.0 +22
PTCN LR LR
comp=Z,1µm,14.0s,MS5.3
KKM Kota Kinabalu 66.69 326 eP P 22 48 57.5 +2.3
KKM eS S 22 57 47.6 +0.6
GUMO Guam 69.09 358 LR LR 23 16 08.8
comp=Z,610nm,18.6s,MS4.9,baz=357,slow=33
GUMO Guam 69.09 358 eP P 22 49 08.6 -1.7
GUMO eS S 22 58 13.1 -2.5
GUMO MLR MLR
comp=Z,1µm,21.0s,MS5.2
PSI Prapat 70.40 308 P P 22 49 19.1 +0.7
comp=Z,11nm,0.8s,mb4.8,baz=208,slow=8.9,SNR=4.5
PSI LR LR 23 15 14.2
comp=Z,2µm,21.8s,MS5.4,baz=149,slow=32
EFI East Falkland 70.92 164 P P 22 49 25.5 +4.0
EFI eS S 22 58 45.1 +8.1
EFI MLR MLR
comp=Z,476nm,22.0s,MS4.7
KULM Kulim 71.86 310 eP P 22 49 26.0 -1.2
RPN Rapa Nui 75.10 116 P P 22 49 51.6 +5.3
RPN eS S 22 59 34.1 +9.4
RPN LR LR
comp=Z,580nm,20.0s,MS4.9
PLCA Paso Flores 78.67 152 P P 22 50 06.4 -0.1
comp=Z,4.1nm,0.9s,mb4.4,baz=160,slow=12,SNR=3.5
QIZ Qiongzhong 80.93 324 P P 22 50 19.0 +0.3
QIZ S S 23 00 29.8 +2.3
QIZ AMB AMB
comp=Z,15nm,1.0s,mb4.9
QIZ AMB AMB
comp=Z,124nm,3.6s
QIZ LR LR
comp=N,489nm,20.8s
QIZ LR LR
comp=Z,669nm,24.7s,MS4.9
QIZ Qiongzhong 80.93 324 eP P 22 50 19.4 +0.7
QIZ ePP PP 22 53 43.1 +20
QIZ LR LR
comp=Z,517nm,21.0s,MS4.9
SUR Sutherland 81.07 224 P P 22 50 23.9 +4.4
comp=Z,11nm,0.8s,mb4.9,baz=167,slow=6.0,SNR=6.9
SUR Sutherland 81.07 224 P P 22 50 23.9 +4.4
SUR LR LR
comp=Z,427nm,21.0s,MS4.8
NACB Ninganchiao 82.54 336 P P 22 50 23.5 -3.7
NACB eS S 23 00 52.8 +8.6
BOSA Boshof 82.57 229 P P 22 50 27.7 +0.3
comp=Z,3.1nm,1.0s,mb4.3,baz=137,slow=9.1,SNR=3.4
BOSA LR LR 23 20 56.5
comp=Z,843nm,20.7s,MS5.1,baz=153,slow=31
BOSA Boshof 82.57 229 P P 22 50 27.7 +0.3
BOSA LR LR 23 20 56.5
CBIJ Chichi jima 82.61 355 LR LR 23 22 01.7
comp=Z,991nm,21.7s,MS5.1,baz=143,slow=32
YHNB Yeheng 83.07 336 P P 22 50 37.3 +7.4
YHNB eS S 23 01 23.7 +34
TRQA Tornquist 83.30 157 eP P 22 50 39.0 +7.9
comp=Z,9.2nm,1.1s,mb4.7
TRQA LR LR
comp=Z,1µm,21.0s,MS5.3
TATO Taipei 83.34 337 P P 22 50 37.7 +6.4
TATO ePP PP 22 53 34.4 -8.7
JOW Kunigami 83.82 343 LR LR 23 26 24.4
comp=Z,790nm,20.8s,MS5.1,baz=180,slow=35
CHTO Chiang Mai 84.73 315 eP P 22 50 37.8 -0.6
CHTO pmax pmax
comp=Z,14nm,1.0s,mb5.0
CHTO MLR MLR
comp=Z,1µm,22.0s,MS5.2
CHTO Chiang Mai 84.73 315 eP P 22 50 37.8 -0.6
comp=Z,14nm,1.0s,mb5.0
CHTO LR LR
comp=Z,1µm,22.0s,MS5.2
TRIS Tristan da Cun 85.93 196 PFAKE 22 51 10.0 +26
TRIS LR LR
comp=Z,4µm,19.0s,MS5.8
MIDW Midway 88.91 31 eP P 22 51 01.7 +2.9
KMI Kunming 89.01 321 P P 22 50 59.5 +0.3
KMI AP pP 22 51 04.3 +1.7
KMI XP sP 22 51 06.3 +2.5
KMI PP PP 22 54 29.5 +0.6
KMI S S 23 01 46.3 -1.3
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,206nm,6.1s
KMI LR LR
comp=N,869nm,20.5s,MS5.2
KMI LR LR
comp=E,476nm,19.5s,MS5.2
KMI LR LR
comp=Z,1µm,17.5s,MS5.3
KMI Kunming 89.01 321 P P 22 50 59.6 +0.4
comp=Z,6.0nm,1.3s,mb4.8
KMI pP pP 22 51 04.2 +1.6
KMI sP sP 22 51 06.2 +2.4
KMI PP PP 22 54 29.4 +0.5
KMI PPP 22 56 32.0
KMI SKS 23 01 33.1
KMI S S 23 01 46.3 -1.3
KMI SSS 23 11 18.1
KMI LR LR
comp=Z,1µm,17.5s,MS5.3
POHA Pohakuloa 89.35 52 P P 22 51 03.8 +3.0
LCO Las Campanas 89.58 147 PFAKE 22 51 20.0 +18
LCO LR LR
comp=Z,745nm,21.0s,MS5.1
JNU Nakatsue 89.61 346 LR LR 23 28 58.4
comp=Z,1µm,18.8s,MS5.4,baz=218,slow=34
ENH Enshi 91.54 328 P P 22 51 14.0 +3.0
ENH LR LR
comp=Z,3.0nm,20.0s
MJAR Matsushiro Arr 92.24 353 LR LR 23 33 58.7
comp=Z,396nm,20.3s,MS4.8,baz=205,slow=36
MAJO Matsushiro 92.24 353 PFAKE 22 51 30.0 +16
MAJO LR LR
comp=Z,2µm,22.0s,MS5.6
LSZ Lusaka 92.83 238 eP P 22 51 17.5 +0.5
comp=Z,7.4nm,1.3s,mb5.0
LSZ LR LR
comp=Z,2µm,22.0s,MS5.5
CD2 Chengdu 93.95 324 eP P 22 51 23.5 +1.3
CD2 AP pP 22 51 28.5 +3.0
CD2 XP sP 22 51 30.8 +4.1
CD2 SKS 23 01 56.3
CD2 S S 23 02 28.8 -3.6
CD2 XS sS 23 02 37.8 -0.2
CD2 AMB AMB
comp=Z,60nm,0.6s
CD2 AMB AMB
comp=Z,250nm,5.4s
CD2 LR LR
comp=N,390nm,20.4s,MS4.9
CD2 LR LR
comp=E,230nm,18.4s,MS4.9
CD2 LR LR
comp=Z,300nm,19.2s,MS4.8
TSUM Tsumeb 94.11 227 PFAKE 22 51 40.0 +17
TSUM LR LR
comp=Z,1µm,20.0s,MS5.4
KSRS Korea Array 94.28 345 LR LR 23 34 53.7
comp=Z,426nm,18.5s,MS4.9,baz=169,slow=36
INCN Inchon 94.51 344 PFAKE 22 51 40.0 +15
INCN LR LR
comp=Z,795nm,19.0s,MS5.2
LSA Lhasa 97.59 313 P P 22 51 43.3 +4.5
LSA MLR MLR
comp=Z,556nm,19.0s,MS5.1
LZH Lanzhou 98.68 326 eP P 22 51 43.5 -0.1
LZH AP pP 22 51 46.8 -0.2
LZH PP PP 22 55 46.8 +2.3
LZH SKS 23 02 19.5
LZH eS S 23 03 08.8 -4.3
LZH XS sS 23 03 16.5 -2.2
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,139nm,9.3s
LZH LR LR
comp=N,591nm,16.5s
LZH LR LR
comp=Z,1µm,19.2s,MS5.4
LZH Lanzhou 98.68 326 eP P 22 51 43.5 -0.1
LZH 22 55 46.7
LZH 23 02 19.5
LZH eS S 23 03 08.8 -4.3
LZH PS PS 23 04 40.6 +1.4
LZH SS SS 23 09 57.8 -0.7
LZH pmax pmax
comp=Z,31nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,1µm,19.2s,MS5.4
LZH Lanzhou 98.68 326 eP P 22 51 43.5 -0.1
comp=Z,31nm,1.5s,mb5.6
LZH pP pP 22 51 46.8 -0.2
LZH sP sP 22 51 48.2 0.0
LZH PP PP 22 55 46.7 +2.2
LZH SKS 23 02 19.5
LZH eS S 23 03 08.8 -4.3
LZH sS sS 23 03 16.5 -2.2
LZH PS PS 23 04 40.6 +1.4
LZH SS SS 23 09 57.8 -0.7
LZH LR LR
comp=Z,1µm,19.2s,MS5.4
BJT Baijiatuau 98.99 336 eP P 22 51 49.0 +4.0
BJT MLR MLR
comp=Z,743nm,21.0s
KMBO Kilima Mbogo 100.22 253 PFAKE 22 52 10.0 +20
KMBO LR LR
comp=Z,512nm,19.0s,MS5.0
HHC Hu-ho-hao-te 100.89 333 eP Pdif 22 51 56.0 +2.5
HHC AP 22 52 00.8
HHC PP PP 22 56 06.5 +5.2
HHC SKS 23 02 33.5
HHC S Sdif 23 03 30.5 -1.1
HHC XS 23 03 38.8
HHC AMB AMB
comp=Z,11nm,0.8s
HHC AMB AMB
comp=Z,136nm,3.9s
HHC LR LR
comp=N,487nm,20.2s,MS5.2
HHC LR LR
comp=E,635nm,22.6s,MS5.2
HHC LR LR
comp=Z,723nm,29.7s
MDJ Mudanjiang 101.09 347 P Pdif 22 51 56.5 +2.1
MDJ AP 22 52 04.5
MDJ PP PP 22 56 00.0 -2.9
MDJ S Sdif 23 03 33.0 -0.3
MDJ AMB AMB
comp=Z,6.0nm,1.3s
MDJ AMB AMB
comp=Z,98nm,4.2s
MDJ LR LR
comp=N,444nm,33.9s
MDJ LR LR
comp=E,378nm,25.1s
MDJ LR LR
comp=Z,641nm,32.5s,MS4.9
MDJ Mudanjiang 101.09 347 PFAKE 22 52 10.0 +16
MDJ LR LR
comp=Z,519nm,20.0s,MS5.0
YSS Yuzh-Sakhalins 102.39 357 P Pdif 22 52 00.8 +0.6
YSS MLR MLR
comp=Z,809nm,21.0s,MS5.2
NNA Nana 103.13 136 ePdif Pdif 22 52 09.0 +5.5
NNA LR LR
comp=Z,183nm,20.0s,MS4.6
PAYG Puerto Ayora 107.09 118 PFAKE 22 56 50.0 +20
PAYG LR LR
comp=Z,1µm,19.0s,MS5.5
HIA Hailar 107.13 342 ePKiKP PKiKP 22 56 31.3 +0.8
SMY Shemya 110.35 17 PFAKE 22 56 50.0 +13
SMY LR LR
comp=Z,2µm,19.0s,MS5.6
WMQ Urumqi 111.20 318 ePDIF Pdif 22 52 41.0 +1.7
WMQ PKP PKiKP 22 56 39.8 +1.7
WMQ PP PP 22 57 21.0 +3.6
WMQ PKS 23 00 15.3
WMQ SKS SKSdf 23 03 51.0 +0.7
WMQ SKKS SKKSac 23 04 15.0 -5.4
WMQ S Sdif 23 04 54.5 -3.2
WMQ PP PP
comp=Z,27nm,12.0s
WMQ LR LR
comp=N,589nm,30.0s,MS5.0
WMQ LR LR
comp=E,257nm,31.0s,MS5.0
WMQ LR LR
comp=Z,548nm,34.0s,MS4.9
MSKU Masuku 111.50 231 PFAKE 22 57 00.0 +21
MSKU LR LR
comp=Z,39nm,21.0s
TLY Talaya 112.98 332 PFAKE 22 57 00.0 +18
TLY LR LR
comp=Z,117nm,20.0s,MS4.5
OTAV Otavalo 113.47 129 ePKiKP PKiKP 22 56 49.1 +6.7
OTAV LR LR
comp=Z,266nm,19.0s,MS4.9
ASCN Ascension 114.75 200 PFAKE 22 57 00.0 +15
ASCN LR LR
comp=Z,415nm,20.0s,MS5.0
AAK Ala-Archa 115.65 309 PFAKE 22 57 00.0 +13
AAK LR LR
comp=Z,191nm,21.0s,MS4.7
MKAR Makanchi Array 115.77 316 PKP PKPdf 22 56 48.0 +1.1
comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=3.5
MKAR Makanchi Array 115.77 316 PKP PKPdf 22 56 48.0 +1.1
YAK Yakutsk 118.23 351 ePKIKP PKPdf 22 56 53.3 +1.7
RCBR Riachuelo 118.60 176 PKPdf PKPdf 22 56 59.4 +7.1
RCBR LR LR
comp=Z,953nm,22.0s,MS5.4
JTS JuntasAbangare 119.17 117 PFAKE 22 57 10.0 +17
JTS LR LR
comp=Z,193nm,19.0s,MS4.8
KURK Kurchatov 120.37 317 ePKIKP PKPdf 22 57 00.2 +4.5
KURK MLR MLR
comp=Z,128nm,21.0s,MS4.5
TGUH Tegucigalpa,Un 121.17 113 PFAKE 22 57 10.0 +13
TGUH LR LR
comp=Z,424nm,21.0s,MS5.1
CMB Columbia Colle 121.62 68 ePKIKP PKPdf 22 57 02.3 +4.2
CMB MLR MLR
comp=Z,815nm,19.0s,MS5.4
TUC Tucson 122.54 79 PFAKE 22 57 20.0 +20
TUC LR LR
comp=Z,937nm,20.0s,MS5.4
BILL Bilibino 124.26 9⇑ iPKIKP PKPdf 22 57 08.5 +5.3
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 124.26 9 PFAKE 22 57 20.0 +17
BILL LR LR
comp=Z,473nm,20.0s,MS5.2
LTX Lajitas 124.29 87 PFAKE 22 57 20.0 +17
LTX LR LR
comp=Z,801nm,19.0s,MS5.4
MOD Modoc 124.52 65 PFAKE 22 57 20.0 +16
MOD LR LR
comp=Z,547nm,19.0s,MS5.2
SDV Santo Domingo 124.58 133 PFAKE 22 57 20.0 +16
SDV LR LR
comp=Z,277nm,20.0s,MS4.9
WUAZ Wupatki 124.60 76 PFAKE 22 57 20.0 +16
WUAZ LR LR
comp=Z,865nm,19.0s,MS5.4
BMN Battle Mountai 125.05 68 PFAKE 22 57 20.0 +15
BMN LR LR
comp=Z,753nm,19.0s,MS5.4
BRVK Borovoye 125.49 314 ePKIKP PKPdf 22 57 09.3 +3.8
BRVK MLR MLR
comp=Z,168nm,21.0s,MS4.7
TNA Tin City 125.66 21 PFAKE 22 57 20.0 +14
TNA LR LR
comp=Z,353nm,19.0s,MS5.0
KVTX Kingsville 126.19 93 PFAKE 22 57 20.0 +13
KVTX LR LR
comp=Z,982nm,20.0s,MS5.5
ELK Elko 126.32 69 PFAKE 22 57 20.0 +13
ELK LR LR
comp=Z,917nm,19.0s,MS5.5
MSU Marysvale 126.35 73 ePKIKP PKPdf 22 57 09.0 +1.8
EIL Elat 126.37 270 ePKPdf PKPdf 22 57 12.5 +5.3
ANMO Albuquerque 126.91 80 PKIKP PKPdf 22 57 11.9 +3.7
PMR Palmer 127.16 33 PFAKE 22 57 20.0 +11
PMR LR LR
comp=Z,1µm,21.0s,MS5.5
SBA MLR MLR
SBA Scott Base 23.23 170 eP P 22 43 18.4 +6.9
comp=Z,163nm,1.7s,mb5.2
SBA LR LR
comp=Z,1µm,21.0s,MS4.4
STKA Stephens Creek 24.18 348 eP P 22 43 20.7 0.0
comp=Z,28nm,1.0s,mb4.7
STKA eS S 22 47 39.7 +0.9
STKA Stephens Creek 24.18 348 P P 22 43 20.5 -0.1
comp=Z,32nm,0.9s,mb4.8,baz=170,slow=8.5,SNR=45
STKA LR LR 22 50 28.7
comp=Z,4µm,21.0s,MS4.9,baz=79,slow=31
ARMA Armidale 25.50 9 eP P 22 43 33.2 +0.6
URZ Urewera 26.53 61 P P 22 43 41.3 -0.6
comp=Z,13nm,0.8s,mb4.5,baz=231,slow=6.6,SNR=8.1
URZ LR LR 22 53 34.6
comp=Z,8µm,18.3s,MS5.3,baz=217,slow=35
FORT Forrest 28.41 323 eP P 22 43 57.8 -1.0
comp=Z,47nm,0.8s,mb5.2
NWAO Narrogin (SRO) 30.91 305 P P 22 44 19.1 -1.8
comp=Z,8.2nm,0.9s,mb4.5,baz=180,slow=4.0,SNR=3.4
NWAO LR LR 22 53 51.6
comp=Z,13µm,21.6s,MS5.5,baz=136,slow=31
NWAO Narrogin (SRO) 30.91 305 eP P 22 44 19.0 -1.9
NWAO pmax pmax
comp=Z,18nm,1.2s
NWAO MLR MLR
comp=Z,10µm,20.0s
NWAO Narrogin (SRO) 30.91 305 eP P 22 44 19.0 -1.9
comp=Z,18nm,1.2s,mb4.8
NWAO LR LR
comp=Z,10µm,20.0s,MS5.5
KLBR Kellerberrin 31.79 307 eP P 22 44 27.5 -1.2
comp=Z,46nm,1.2s,mb5.2
MUN Mundaring 32.18 305 eP P 22 44 33.7 +1.6
MUN eS S 22 49 49.8 +5.0
ASAR Alice Springs 33.52 337 P P 22 44 43.0 -0.8
comp=Z,6.7nm,0.8s,mb4.6,baz=166,slow=10.0,SNR=59
ASAR PcP PcP 22 47 24.6 0.0
comp=Z,2.6nm,0.8s,baz=134,slow=2.5,SNR=6.4
ASAR ScP ScP 22 51 07.8 -1.3
comp=Z,1.0nm,1.0s,baz=166,slow=2.6,SNR=4.3
ASAR Alice Springs 33.52 337 P P 22 44 43.1 -0.7
ASAR 22 47 24.6
CTA Charters Tower 35.60 358 eP P 22 45 01.4 -0.5
comp=Z,13nm,0.9s,mb4.9
CTA eS S 22 50 42.0 +4.1
CTA Charters Tower 35.60 358 P P 22 45 00.3 -1.6
comp=Z,16nm,0.9s,mb4.9,baz=176,slow=8.7,SNR=16
CTA LR LR 22 58 31.9
comp=Z,10µm,18.3s,MS5.6,baz=184,slow=35
CTA Charters Tower 35.60 358 eP P 22 45 01.4 -0.5
CTA pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 35.60 358 eP P 22 45 01.4 -0.5
CTAO pmax pmax
comp=Z,34nm,1.2s,mb5.2
CTAO MLR MLR
comp=Z,10µm,20.0s,MS5.6
CTAO Charters Tower 35.60 358 eP P 22 45 01.4 -0.5
comp=Z,34nm,1.2s,mb5.2
CTAO LR LR
comp=Z,10µm,20.0s,MS5.6
RAO Raoul Island 36.23 58 LR LR 22 58 01.8
comp=Z,3µm,20.1s,MS5.0,baz=184,slow=33
RAO Raoul Island 36.23 58 eP P 22 45 06.9 -0.3
DZM Mont Dzumac 36.53 31 P P 22 45 10.1 +0.4
comp=Z,9.9nm,0.9s,mb4.7,baz=191,slow=8.4,SNR=7.5
DZM LR LR 22 57 19.9
comp=Z,6µm,18.9s,MS5.4,baz=208,slow=32
WB2 Warramunga Arr 37.04 340 eP P 22 45 11.9 -2.2
WRA Warramunga Arr 37.04 340 P P 22 45 12.9 -1.3
comp=Z,16nm,0.6s,mb5.0,baz=165,slow=7.7,SNR=106
WRA PcP PcP 22 47 37.8 +2.9
comp=Z,1.3nm,0.5s,baz=163,slow=2.7,SNR=4.7
WRA LR LR 22 57 36.8
comp=Z,2µm,19.8s,MS5.0,baz=160,slow=32
WRA Warramunga Arr 37.04 340 P P 22 45 12.9 -1.3
WRA 22 47 37.8
MAW Mawson 38.47 218 P P 22 45 27.4 +1.2
comp=Z,7.7nm,0.8s,mb4.5,baz=123,slow=10,SNR=7.4
MAW LR LR 23 00 56.7
comp=Z,8µm,18.2s,MS5.6,baz=84,slow=36
MAW Mawson 38.47 218 eP P 22 45 27.8 +1.6
MAW LR LR
comp=Z,10µm,19.0s,MS5.7
FITZ Fitzroy Crossi 40.99 328 eP P 22 45 46.9 -0.4
comp=Z,27nm,1.0s,mb4.8
FITZ eS S 22 52 00.8 +1.4
FITZ Fitzroy Crossi 40.99 328 P P 22 45 46.3 -0.9
comp=Z,5.1nm,0.7s,mb4.2,baz=156,slow=15,SNR=6.2
FITZ LR LR 23 01 05.5
comp=Z,2µm,19.3s,MS5.0,baz=168,slow=34
KAKA Kakadu 44.45 339 eP P 22 46 14.0 -1.3
comp=Z,24nm,0.6s,mb5.1
SYO Syowa Base 44.97 209⇑ eP P 22 46 19.8 +0.3
PMG Port Moresby 46.21 360 LR LR 23 04 39.5
comp=Z,6µm,18.7s,MS5.6,baz=358,slow=35
PMG Port Moresby 46.21 360 eP P 22 46 29.5 +0.2
PMG pmax pmax
comp=Z,23nm,1.1s
PMG MLR MLR
comp=Z,6µm,19.0s
PMG Port Moresby 46.21 360 eP P 22 46 29.5 +0.2
comp=Z,23nm,1.1s,mb5.0
PMG LR LR
comp=Z,6µm,19.0s,MS5.6
HNR Honiara 47.26 17 LR LR 23 01 55.5
comp=Z,1µm,21.8s,MS4.9,baz=178,slow=30
HNR Honiara 47.26 17 eP P 22 46 38.0 +0.5
HNR MLR MLR
comp=Z,2µm,22.0s,MS4.9
NVL N'lazarevskaya 49.87 198 c iP P 22 46 58.4 +0.8
NVL pmax pmax
comp=Z,39nm,1.2s,mb5.3
SNAA Sanae 51.16 192 P P 22 47 06.7 -0.6
comp=Z,6.2nm,0.9s,mb4.5,baz=166,slow=8.6,SNR=22
SNAA Sanae 51.16 192 eP P 22 47 07.9 +0.6
SNAA e pP 22 47 12.7 +2.2
SNAA e 22 47 15.6
SNAA e 22 47 21.8
SNAA Sanae 51.16 192 eP P 22 47 06.6 -0.7
RAR Rarotonga 52.09 71 LR LR 23 03 55.2
comp=Z,1µm,20.3s,MS5.0,baz=207,slow=30
VNA3 Neumayer Olymp 52.26 189 eP P 22 47 15.1 -0.5
VNA3 e 22 47 20.3
VNA3 e 22 47 23.5
AFI Afiamalu 52.29 54 LR LR 23 06 28.4
comp=Z,937nm,20.6s,MS4.8,baz=202,slow=33
AFI Afiamalu 52.29 54 PFAKE 22 47 30.0 +14
AFI LR LR
comp=Z,2µm,20.0s,MS5.1
VNA2 Neumayer--Watz 52.35 190 eP P 22 47 15.7 -0.6
baz=160,slow=6.7
VNA2 e 22 47 21.0
VNA2 e 22 47 24.4
VNA2 e 22 47 28.6
VNA1 Neumayer--Stat 52.70 190 eP P 22 47 19.6 +0.8
VNA1 e pP 22 47 24.4 +2.4
VNA1 e 22 47 27.3
VNA1 e 22 47 33.5
TBI Tubuai 56.03 82 eS S 22 55 33.9 +2.4
comp=Z,739nm,27.8s
TBI eSS SS 22 59 18.0 +0.4
comp=Z,638nm,26.8s
TBI eLQ 23 01 41.2
comp=Z,2µm,30.2s
TBI eLR LR 23 03 51.6
comp=Z,1µm,33.0s,baz=216
PMSA Palmer Station 57.45 165 eP pP 22 48 05.1 +8.7
PMSA LR LR
comp=Z,2µm,20.0s,MS5.2
PPT Papeete 60.60 78 eS S 22 56 33.5 +2.4
comp=Z,1µm,26.5s
PPT eSS SS 23 00 37.9 +8.6
comp=Z,820nm,26.2s
PPT eLQ 23 03 34.6
comp=Z,4µm,26.8s
PPT eLR LR 23 06 18.2
comp=Z,2µm,22.2s,baz=220
PPT Papeete 60.60 78 LR LR 23 09 00.6
comp=Z,2µm,18.9s,MS5.2,baz=220,slow=31
KSM Kuching 64.48 318 eP P 22 48 41.3 +0.3
DAV Davao City (W) 65.12 336 PFAKE 22 49 00.0 +15
DAV LR LR

MVCO Mesa Verde 127.42 77 PFAKE 22 57 30.0 +21
MVCO LR LR
comp=Z,880nm,19.0s,MS5.5
MPU Maple Canyon 127.72 72 PFAKE 22 57 30.0 +20
MPU LR LR
comp=Z,2μm,20.0s,MS5.7
TIXI Tiksi 127.75 353 *i* PKIKP PKPdf 22 57 08.5 -1.3
TIXI *e*SS SS 23 16 11.1 -12
TIXI pmax pmax
comp=Z,3.0nm,1.3s
PV01 Paradox Valley 128.05 76 PKPdf PKPdf 22 57 13.4 +3.0
SIT Sitka 128.56 43 PFAKE 22 57 30.0 +19
SIT LR LR
comp=Z,3μm,21.0s,MS5.9
MCK McKinley 128.86 31 *e*PKIKP PKPdf 22 57 11.3 -0.7
IMA2 Indian Mountai 129.37 27 *e*PKPdf PKPdf 22 57 15.1 +2.1
SDCO Great Sand Dun 129.46 79 PKPdf PKPdf 22 57 17.3 +4.2
TORD Torodi Ar. Bea 129.85 226 PKP PKPdf 22 57 15.0 +1.2
comp=Z,1.0nm,0.8s,baz=150,slow=1.5,SNR=4.2
COLA College 130.04 30 PFAKE 22 57 30.0 +16
COLA LR LR
comp=Z,1μm,19.0s,MS5.5
NEW Newport 130.58 61 *e*PKIKP PKPdf 22 57 19.3 +4.1
BW06 Boulder Array 130.76 71 PFAKE 22 57 30.0 +14
BW06 LR LR
comp=Z,882nm,20.0s,MS5.5
PDAR Pinedale Array 130.76 71 PKP PKPdf 22 57 16.6 +1.0
comp=Z,0.5nm,0.9s,baz=253,slow=0.9,SNR=3.1
ISCO Idaho Springs 130.85 77 PFAKE 22 57 30.0 +14
ISCO LR LR
comp=Z,995nm,19.0s,MS5.5
MSO Missoula 131.22 64 PFAKE 22 57 30.0 +14
MSO LR LR
comp=Z,791nm,19.0s,MS5.4
KIV Kislovodsk 132.31 289 *i* PKIKP PKPdf 22 57 20.9 +2.4
KIV pmax pmax
comp=Z,17nm,1.2s
KIV Kislovodsk 132.31 289 PKPdf PKPdf 22 57 24.1 +5.6
KIV LR LR
comp=Z,167nm,20.0s,MS4.7
RLMT Red Lodge 132.51 69 PFAKE 22 57 30.0 +11
RLMT LR LR
comp=Z,436nm,20.0s,MS5.2
GCMT Greycliff 132.74 68 *e*Pdif Pdif 22 54 16.4 +1.2
MIAR Mount Ida 133.87 91 PFAKE 22 57 40.0 +19
MIAR LR LR
comp=Z,629nm,22.0s,MS5.3
EGMT Eagleton 134.15 66 PFAKE 22 57 40.0 +18
EGMT LR LR
comp=Z,612nm,20.0s,MS5.3
BRTR Keskin Array B 134.41 278 PKP PKPdf 22 57 24.1 +1.7
comp=Z,1.7nm,1.0s,baz=157,slow=4.1,SNR=2.8
RSSD Black Hills 134.65 74 *e*PKIKP PKPdf 22 57 26.8 +3.9
SJG San Juan 134.74 133 PFAKE 22 57 40.0 +17
SJG LR LR
comp=Z,352nm,19.0s,MS5.1
BRAL Brewton 134.91 100 PFAKE 22 57 40.0 +17
BRAL LR LR
comp=Z,2μm,22.0s,MS5.8
ANTO Ankara 134.98 278 PFAKE 22 57 40.0 +16
ANTO LR LR
comp=Z,611nm,22.0s,MS5.3
KSU1 Kansas State U 135.38 84 PFAKE 22 57 40.0 +16
KSU1 LR LR
comp=Z,1μm,20.0s,MS5.6
INK Inuvik 136.57 32 PKP PKPdf 22 57 26.6 +0.1
comp=Z,3.1nm,0.7s,baz=294,slow=3.1,SNR=11
INK Inuvik 136.57 32 *e*PKPdf PKPdf 22 57 27.0 +0.5
PLAL Pickwick Lake 137.29 95 *e*PKPdf PKPdf 22 57 32.1 +4.3
PLAL LR LR
comp=Z,365nm,20.0s,MS5.1
SCIA State Center 139.19 84 PFAKE 22 57 50.0 +19
SCIA LR LR
comp=Z,625nm,19.0s,MS5.4
YKA Yellowknife Ar 140.14 46 PKhKP 22 57 26.6
comp=Z,0.4nm,0.6s,baz=239,slow=2.9,SNR=7.9
YKA Yellowknife Ar 140.14 46 PKP 22 57 26.6
OBN Obninsk 142.17 299 *i* PKHKP PKPdf 22 57 37.0 +0.3
OBN pmax pmax
comp=Z,5.0nm,1.2s
OBN MLR MLR
comp=Z,600nm,23.0s,MS5.3
OBN Obninsk 142.17 299 PKPdf PKPdf 22 57 39.7 +3.0
ULM Lac du Bonnet 142.79 71 PKhKP 22 57 32.6
comp=Z,0.7nm,0.5s,baz=194,slow=4.2,SNR=2.7
CNNC Cliffs of the 143.15 105 PFAKE 22 58 00.0 +22
CNNC LR LR
comp=Z,335nm,21.0s,MS5.1
BLA Blacksburg 143.19 100 PFAKE 22 58 00.0 +22
BLA LR LR
comp=Z,835nm,20.0s,MS5.5
AKASG Malin Array Be 143.66 289 PKhKP 22 57 34.6
comp=Z,3.2nm,0.7s,baz=91,slow=3.0,SNR=17
BURAR Bucovina Array 144.12 282⇑*i*P PKPdf 22 57 39.5 -0.6
BZS Buzias 144.96 277⇓*i*P PKPdf 22 57 40.7 -0.9
DRGR 145.04 279⇑*i*P PKPbc 22 57 42.9 +1.8
KEST Kesra 145.18 253 PKPbc PKPbc 22 57 42.9 +1.3
comp=Z,12nm,1.0s,baz=293,slow=3.0,SNR=23
CBN Corbin 145.59 102 PFAKE 22 58 00.0 +17
CBN LR LR
comp=Z,728nm,21.0s,MS5.4
LVV L'vov 146.00 284 *e*PKIKP PKPbc 22 57 46.6 +2.5
KOLS Kolonicke sedl 146.49 282 *e*PKP PKPbc 22 57 47.4 +1.8
KWP Kalwaria 146.63 283 *e*PKP PKPbc 22 57 46.9 +0.9
CRVS Cervenica-Dubn 146.93 281 *e*PKP PKPbc 22 57 51.7 +4.9
PKSM Moragy 146.99 275⇑*e*PKHKP PKPdf 22 57 47.2 +2.2
SSPA Standing Stone 146.99 98 PFAKE 22 58 00.0 +15
SSPA LR LR
comp=Z,720nm,21.0s,MS5.4
KECS Kecovo 147.24 280 *e*PKHKP PKPbc 22 57 48.3 +0.6
KECS *e* 22 57 53.8
KECS Kecovo 147.24 280 *e*PKP PKPbc 22 57 48.3 +0.6
KECS *e* 22 57 53.8
KECS *e* 22 58 06.6
PSZ Piszkesteto 147.26 279⇑*i*P PKPab 22 57 53.2 +3.7
PSZ Piszkesteto 147.26 279⇑*e*PKP PKPbc 22 57 50.3 +2.5
STHS Stebnicka Huta 147.32 282 *e*PKP PKPdf 22 57 48.0 +2.4
STHS *e* 22 58 04.3
BUD Budapest 147.50 277⇑*e*PKP2 PKPab 22 57 55.4 +4.9
BUD Budapest 147.50 277⇑*e*PKP PKPab 22 57 55.4 +4.9
BBSR BB Station 147.72 123 PFAKE 22 58 00.0 +14
BBSR LR LR
comp=Z,463nm,19.0s,MS5.3
JOF Joensuu 147.83 309 *e*p PKPdf 22 57 47.2 +0.8
NIE Niedzica 147.84 281 *e*P PKPbc 22 57 51.2 +1.8
NRCA Norcia 148.04 266 PKP PKPbc 22 57 51.4 +1.5
VYHS Vyhne 148.17 279 *e*PKP PKPbc 22 57 50.3 +0.1
SUW Suwalki 148.51 291 *e*PKP PKPbc 22 57 51.6 +0.5
SUW Suwalki 148.51 291 *e*PKHKP PKPdf 22 57 48.8 +1.3
OJC Ojcow 148.54 282 *e*PKP PKPbc 22 57 51.2 0.0
EMHD Djebel Mahouad 148.92 246 P PKPbc 22 57 55.0 +2.8
SOP Sopron 149.00 276⇑*e*PKIKP PKPbc 22 57 52.7 +0.3
SOP Sopron 149.00 276⇑*e*PKP PKPbc 22 57 52.7 +0.3
OKC Ostrava-Krasne 149.26 281 *e*PKPbc PKPbc 22 57 57.0 +4.0
SFI Santa Sofia 149.43 266 PKIKP PKPbc 22 58 00.1 +6.6
MORC Moravsky Berou 149.56 280⇑*i*P PKPbc 22 57 54.5 +0.7
FINES FINESS Array B 149.76 305 PKPbc PKPdf 22 57 52.1 +2.6
comp=Z,3.8nm,0.7s,baz=88,slow=3.2,SNR=22
KAF Kangasniemi 149.84 307 *e*p PKPdf 22 57 51.3 +1.6
comp=Z,7.5nm,0.7s
VRAC Vranov 149.85 279⇓*i*P PKPbc 22 57 55.0 +0.5
RES Resolute Bay 149.91 28 *e*PKIKP PKPdf 22 57 51.3 +1.5
PTCC Patocco-Chiusa 150.09 271 PKP PKPbc 22 57 57.3 +2.2
PGF Pioggiola 150.17 261 *e*PKIKP PKPbc 22 57 57.7 +2.4
GSCL Gusciola 150.42 266 PKP PKPbc 22 57 58.8 +2.9
TREC Trest 150.47 278 *e*PKPdf PKPbc 22 57 55.1 -0.9
FVI Forni Avoltri 150.52 271 PKIKP PKPbc 22 57 57.1 +1.0
DPC Dobruska-Polom 150.53 280 *e*PKPdf PKPbc 22 57 56.6 +0.5
DPC *e*PKPbc PKPab 22 58 03.3 +0.5
ABTA Abfaltersbach 150.76 271⇑*i*PKPdf PKPbc 22 57 55.8 -0.8
comp=Z,21nm,0.9s
UPC Upice 150.78 280 *e*PKPdf PKPbc 22 57 57.8 +1.1
UPC *e*PKPbc PKPab 22 58 04.2 +0.4
KSP Ksiaz 150.79 281 *e*PKP PKPbc 22 57 57.5 +0.8
KSP Ksiaz 150.79 281 *e*PKP PKPbc 22 57 56.9 +0.1
CTI Castel Tesino 150.84 269 PKIKP PKPbc 22 57 57.5 +0.6
GEC2 GERESS Array S 151.23 276 *e*PKIKP PKPbc 22 57 56.4 -1.4
GERES GERESS Array B 151.23 276 PKP PKPdf 22 57 53.0 +1.1
comp=Z,4.2nm,0.8s,baz=191,slow=1.0,SNR=7.9
GERES PKPbc PKPbc 22 57 56.1 -1.7
comp=Z,5.1nm,0.8s,baz=161,slow=2.4,SNR=36
PRU Pruhonice 151.35 278 *e*PKPdf PKPbc 22 57 59.5 +1.5
PRU *e*PKPbc PKPab 22 58 04.6 -1.6

KHC Kasperske Hory 151.45 276 *e*PKPdf PKPbc 22 57 58.6 +0.3
KHC *e*PKPbc PKPab 22 58 03.7 -2.9
PVCC Panska Ves 151.60 279 *e*PKPdf PKPbc 22 57 58.5 -0.1
PVCC *e*PKPbc PKPab 22 58 06.0 -1.2
WATA Walderalm 151.62 272⇑*i*P PKPbc 22 57 57.7 -0.9
comp=Z,38nm,1.4s
SQTA Sankt Quirin 151.76 271⇑*i*P PKPbc 22 57 57.1 -1.9
comp=Z,38nm,1.2s
BRMO Bormio 151.81 269 PKP PKPbc 22 57 59.1 0.0
WES Weston 151.82 102 PFAKE 22 58 10.0 +17
WES LR LR
comp=Z,1μm,21.0s,MS5.7
MOTA Moosalm 151.89 271⇑*i*P PKPbc 22 57 57.7 -1.6
comp=Z,35nm,1.2s
SBF Sospel 151.89 262 *e*PKIKP PKPbc 22 57 58.8 -0.5
comp=Z,110nm,1.3s
FETA Feichten 151.92 270⇑*i*PKPdf PKPbc 22 57 58.3 -1.1
comp=Z,32nm,1.1s
LMR La Mourre 152.07 260 *e*PKIKP PKPbc 22 57 59.6 -0.1
BRG Berggiesshubel 152.11 280 *e*P PKPbc 22 57 58.0 -1.8
comp=Z,2.4nm,1.0s
BRG *i* 22 58 06.2
comp=Z,21nm,1.7s
FRF La Foret Royal 152.14 261 *e*PKIKP PKPbc 22 57 59.5 -0.4
comp=Z,46nm,1.2s
VAI Varese 152.36 267 PKIKP PKPbc 22 57 59.7 -0.7
NKC Novy Kostel 152.64 278 *e*PKPdf PKPbc 22 58 00.7 -0.3
NKC *e*PKPab PKPab 22 58 13.4 +1.8
MBDF Montbardon 152.80 263 *e*PKIKP PKPbc 22 58 01.1 -0.2
comp=Z,19nm,0.8s
CLL Collm 152.84 280 *e*PKIKP PKPbc 22 58 01.0 -0.4
CLL *e* 22 58 08.0
CLL Collm 152.84 280 *e*PKPdf PKPbc 22 58 01.0 -0.4
comp=Z,8.0nm,1.2s
CLL *e*PKPbc PKPbc 22 58 08.0 +6.6
comp=Z,17nm,1.5s
CLL *e*PKPab PKPab 22 58 19.0 +6.6
SMRF Simiane la Rot 153.00 260 *e*PKIKP PKPbc 22 58 01.6 -0.2
GRA1 Grafenberg Arr 153.06 276 *e*PKP PKPbc 22 58 01.3 -0.6
GRF Grafenberg Arr 153.06 276 *e*PKIKP PKPbc 22 58 01.3 -0.6
GRFO Grafenberg 153.06 276 PFAKE 22 58 10.0 +15
GRFO LR LR
comp=Z,610nm,22.0s,MS5.4
LPG La Plagne 153.28 264 *e*PKIKP PKPbc 22 58 02.8 +0.4
comp=Z,41nm,1.4s
LPL La Plagne 153.30 264 *e*PKIKP PKPbc 22 58 02.7 +0.3
MOX Moxa 153.31 278 *e*PKP pPKPbc 22 58 07.7 +1.8
ORIF Oris-en-Rattie 153.42 262 *e*PKIKP PKPbc 22 58 02.6 -0.1
comp=Z,13nm,1.0s
BFO Black Forest 153.99 271 PFAKE 22 58 10.0 +14
BFO LR LR
comp=Z,166nm,19.0s,MS4.9
CABF La Chapelle 154.31 266 *e*PKIKP PKPbc 22 58 03.4 -1.2
HINF Hinteralfeld 154.55 269 *e*PKIKP PKPbc 22 58 03.6 -1.5
CDF Champ du Feu 154.63 270 *e*PKIKP PKPbc 22 58 03.7 -1.6
ESDC Sonseca Array 155.09 242 PKP PKPdf 22 57 59.2 +1.7
comp=Z,0.1nm,0.3s,baz=123,slow=1.5,SNR=3.0
ESDC PKPab PKPab 22 58 21.9 -0.1
comp=Z,2.4nm,0.9s,baz=143,slow=3.5,SNR=7.0
PAB San Pablo 155.19 241 PFAKE 22 58 10.0 +12
PAB LR LR
comp=Z,703nm,19.0s,MS5.5
CAF Calviac 155.55 258 *e*PKIKP PKPdf 22 58 03.5 +5.4
TCF Toulx Ste Croi 156.30 261 *e*PKIKP PKPdf 22 58 05.1 +6.1
NB2 NORSAR Subarra156.72 301 P PKPab 22 58 27.1 -1.8
comp=Z,10nm,1.1s,baz=98,slow=4.6
NOA NORSAR Array B 156.72 301 PKPab PKPab 22 58 27.5 -1.4
comp=Z,1.3nm,0.8s,baz=99,slow=2.2,SNR=3.6
NOA NORSAR Array B 156.72 301 PKPab PKPab 22 58 27.5 -1.4
SCHQ Schefferville 160.67 78 PFAKE 22 58 20.0 +16
SCHQ LR LR
comp=Z,1μm,20.0s
ESK Eskdalemuir 163.33 281 PFAKE 22 58 20.0 +13
ESK LR LR
comp=Z,244nm,19.0s

NIED ***26*** *22:54:00,2190N×12070E,h38km,Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs136.00000°,δ85.00000°, λ-105.00000°. NP2:φs27.00000°,δ16.00000°, λ-20.00000°.*
BJI ***26*** *22:54:31.1,2201N×12024E,h11km,mB4.3,mb4.4,ML3.7, Ms4.2,Msz3.7*
ISCJB ***26*** *22:54:32.4±1.2,2189N±008×12055E±006,h47km±16km, mb3.9/2,Error ellipse: s-maj=13.7km s-min=7.9km az=132.1*
NEIC ***26*** *22:54:33.8±4.0,2224N×12024E,h10km,mb3.9/2,Error ellipse: s-maj=89.7km s-min=12.3km az=142.0*
JMA ***26*** *22:54:34.9±0.3,2192N×12072E,h105km,M4.2*
ISC 26 22:54:33.9±1.0,2191N±008×12050E±006,h38km±16km, n14,σ0°79/25,mb3.9/2,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.46**	**24**	*e*Pn	**Pn**	**22 55 10.9**	**-0.7**
NACB				*e*Sn	**Sn**	**22 55 40.3**	**-0.1**
YHNB	**Yeheng**	**2.86**	**16**	*e*Pn	**Pn**	**22 55 17.0**	**0.0**
YHNB				*e*Sn	**Sn**	**22 55 50.2**	**+0.1**
TATO	**Taipei**	**3.18**	**16**	*e*Pn	**Pn**	**22 55 21.9**	**+0.5**
TATO				*e*Sn	**Sn**	**22 55 59.3**	**+1.2**
YOJ	**Yonaguni jima**	**3.43**	**42**	P	**Pn**	**22 55 25.5**	**+0.7**
YOJ				*e*S	**Sn**	**22 56 04.7**	**+0.5**
QZH	**Quanzhou**	**3.49**	**330**	P	**Pn**	**22 55 24.8**	**-0.8**
QZH				S	**Sn**	**22 56 01.3**	**-4.4**
QZH				Smax			
	comp=N,160nm,0.8s						
QZH				Smax			
	comp=E,190nm,0.8s						
HATJ	**Hateruma jima**	**3.71**	**54**	P	**Pn**	**22 55 29.1**	**+0.3**
HATJ				S	**Sn**	**22 56 10.1**	**-1.2**
IRIF	**Iriomote-Funau**	**3.82**	**50**	P	**Pn**	**22 55 30.8**	**+0.5**
IRIF				*e*S	**Sn**	**22 56 14.0**	**0.0**
JKRS	**Kuro-shima**	**3.97**	**54**	P	**Pn**	**22 55 32.5**	**+0.2**
JKRS				*e*S	**Sn**	**22 56 16.9**	**-0.7**
JIJ	**Ishigaki jima**	**4.14**	**53**	P	**Pn**	**22 55 34.8**	**+0.2**
JIJ				*e*S	**Sn**	**22 56 20.9**	**-0.9**
JTJ	**Tarama**	**4.72**	**54**	P	**Pn**	**22 55 42.9**	**+0.4**
JTJ				*e*S	**Sn**	**22 56 36.1**	**+0.1**
GZH	**Guangzhou**	**6.72**	**281**	P	**Pn**	**22 56 07.0**	**-3.1**
GZH				S	**Sn**	**22 57 14.3**	**-11**
GZH				Smax			
	comp=N,74nm,0.8s						
GZH				Smax			
	comp=E,49nm,0.9s						
QIZ	**Qiongzhong**	**10.40**	**256**	Pn	**Pn**	**22 57 01.5**	**+1.1**
KURK	**Kurchatov**	**43.45**	**322**	P	**P**	**23 02 33.9**	**+0.7**
	comp=E,0.8nm,0.6s,mb3.6						
BRVK	**Borovoye**	**49.12**	**322**	*e*P	**P**	**23 03 17.1**	**-0.7**
	comp=E,1.6nm,0.6s,mb4.2						

LDG ***26*** *22:55:21.6±0.2,4160N×261E,h10km,Ml2.0/9,Error ellipse: s-maj=3.0km s-min=2.1km az=145.0*
MDD 26 22:55:22.7±0.8,4162N×259E,h11km,mbLg1.6/5,1C, Error ellipse: s-maj=6.7km s-min=4.0km az=130.0, PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.18**	**321**	P	Pg	22 55 26.4	-0.3
CFON				S	Sg	22 55 29.8	+0.5
	13nm,0.2s						
CBRU	**Bruguera**	**0.73**	**336**	P	Pg	22 55 36.4	-0.4
CBRU				S	Sg	22 55 46.4	0.0
	0.9nm,0.1s						
EMIR	**Miracle**	**0.84**	**291**	Pg	Pg	22 55 38.2	-0.8
	1.2nm,0.1s,SNR=17						
EMIR				Lg		22 55 50.1	
	3.9nm,0.1s,SNR=23						
EJON	**La Jonquera**	**0.86**	**15**	⇑Pg	Pg	22 55 38.8	-0.5
	0.5nm,0.1s,SNR=18						
EJON				Lg		22 55 50.6	
	3.2nm,0.1s,SNR=13						
CGAR	**Garraf**	**1.14**	**254**	P	Pb	22 55 33.1	-11
MTLF	**Montolieu**	**1.74**	**351**	*e*Pn	Pn	22 55 50.3	-2.6
MTLF	**Montolieu**	**1.74**	**351**	*e*Pg	Pg	22 55 54.3	-1.8
MTLF				*e*Sg	Sg	22 56 17.3	-1.4
	2.5nm,0.2s						
MTLF	**Montolieu**	**1.74**	**351**	Pn	Pn	22 55 50.3	-2.6
MTLF				Pg	Pg	22 55 54.3	-1.8
MTLF				Lg		22 56 17.3	
	1.2nm,0.2s						
ERTA	**Horta de San J**	**1.82**	**249**	Pg	Pg	22 55 56.9	-0.9
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		22 56 20.5	
	0.6nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**2.10**	**301**	Pg	Pg	22 56 01.6	-1.5
	0.1nm,0.1s,SNR=4.0						
EBIE				Lg		22 56 28.0	
	0.4nm,0.1s,SNR=7.4						
EPF	**Esparros**	**2.18**	**311**	*e*Pg	Pg	22 56 02.0	-2.6
EPF				*e*Sg	Sg	22 56 30.6	-2.2
	1.7nm,0.2s						
EPF	**Esparros**	**2.18**	**311**	Pg	Pg	22 56 02.0	-2.6
EPF				Lg		22 56 30.6	
	0.9nm,0.2s						
ESAC	**San Caprasio**	**2.29**	**274**	Pg	Pg	22 56 03.8	-2.8
	1.2nm,0.3s,SNR=7.0						
ESAC				Lg		22 56 34.2	
	4.1nm,0.1s,SNR=6.2						
LASF	**Ste Croix**	**2.62**	**20**	*e*Pg	Pg	22 56 10.3	-2.7
LASF				*e*Sg	Sg	22 56 43.9	-3.2
	1.1nm,0.3s						
LASF	**Ste Croix**	**2.62**	**20**	Pg	Pg	22 56 10.3	-2.7
LASF				Lg		22 56 43.9	
	0.6nm,0.3s						
EMOS	**Mosqueruela**	**2.63**	**243**	Pg	Pg	22 56 12.0	-1.3
	0.1nm,0.1s,SNR=4.0						
EMOS				Lg		22 56 47.8	
	0.2nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.66**	**300**	*e*Pn	Pn	22 56 02.9	-2.7
ETSF				*e*Sg	Sg	22 56 45.2	-3.0
	1.1nm,0.3s						
ETSF	**Etsaut**	**2.66**	**300**	Pn	Pn	22 56 02.9	-2.7
ETSF				Lg		22 56 45.2	
	0.6nm,0.3s						
SJPF	**Ste Jean**	**3.19**	**299**	*e*Sg	Sg	22 57 02.3	-3.0
	1.4nm,0.3s						
SJPF	**Ste Jean**	**3.19**	**299**	Lg		22 57 02.3	
	0.7nm,0.3s						
CAF	**Calviac**	**3.32**	**354**	*e*Pg	Pg	22 56 23.4	-3.0
CAF				*e*Sg	Sg	22 57 06.3	-3.2
	0.7nm,0.2s						
CAF	**Calviac**	**3.32**	**354**	Pg	Pg	22 56 23.4	-3.0
CAF				Lg		22 57 06.3	
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**3.57**	**25**	*e*Sg	Sg	22 57 14.4	-3.1
	1.0nm,0.3s						
VIVF	**Saint-Julien-l**	**3.57**	**25**	Lg		22 57 14.4	
	0.0nm,0.3s						
LFF	**La Frestale**	**3.58**	**338**	*e*Sg	Sg	22 57 14.5	-3.2
	0.7nm,0.2s						
LFF	**La Frestale**	**3.58**	**338**	Lg		22 57 14.5	
	0.3nm,0.2s						
RJF	**Les Rejaudoux**	**3.76**	**348**	*e*Pn	Pn	22 56 17.7	-3.0
RJF				*e*Sg	Sg	22 57 20.3	-3.3
	1.0nm,0.3s						
RJF	**Les Rejaudoux**	**3.76**	**348**	Pn	Pn	22 56 17.7	-3.0
RJF				Lg		22 57 20.3	
	0.5nm,0.3s						

BJI ***26*** *22:56:29.7,238N×12583E,h109km,mB5.2,mb4.8*
MOS ***26*** *22:56:30.6±1.2,301N×12561E,h71km,mb5.4/30,Error ellipse: s-maj=10.0km s-min=5.4km az=114.3*
ISCJB ***26*** *22:56:34.5±0.2,289N±002×12566E±004,h107km, mb5.1/92,Error ellipse: s-maj=5.4km s-min=3.0km az=147.1*
IDC ***26*** *22:56:35.2±1.1,292N×12558E,h104km±9km,mb4.8/30, mb1 4.8/30,mb1mx4.8/31,mbtmp4.8/30,Error ellipse: s-maj=12.5km s-min=6.3km az=74.0*
GCMT ***26*** *22:56:36.2±0.3,303N×12588E,h101km±2km,MW5.4/69, Moment Tensor Solution. s46,c58; s69,c115; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.65±.05; Mθθ-0.47±.04; Mφφ-0.18±.05; Mrθ0.45±.03; Mrφ0.80±.04; Mθr-1.04±.03; Best double couple: M0 1.48500×10^17 NP1:φs277.00000°,δ29.00000°,λ35.00000°. NP2: φs155.00000°,δ74.00000°,λ114.00000°. Principal axes: T 1.3580, Plg55.0000°, Azm95.0000°; N 0.2530, Plg23.0000°, Azm328.0000°; P -1.6120, Plg25.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *22:56:36.2±0.2,293N×12557E,mb5.1/46 Error ellipse: s-maj=6.8km s-min=4.4km az=66.0*
NEIC Felt [II] at Manado and in the Kepulauan Sangihe.
ISC 26 22:56:36.4±0.2,291N±002×12572E±004,h109km, h109km±1.7km:pP-P,n302,σ1921/278,mb5.1/92,23C-10D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**3.24**	**346**⇓	*e*P	**Pn**	**22 57 28.2**	**+2.6**
GSPH				*e*S	**Sn**	**22 58 05.7**	**+2.1**
MATI	**Mati**	**4.04**	**8**	*e*P	**Pn**	**22 57 36.1**	**-0.1**
KCP	**Kidapawan**	**4.12**	**351**	*e*P	**Pn**	**22 57 37.9**	**+0.6**
KCP				*e*S	**Sn**	**22 58 27.9**	**+3.4**
DAV	**Davao City (W)**	**4.13**	**358**	*e*P	**Pn**	**22 57 38.5**	**+1.0**
DAV	**Davao City (W)**	**4.13**	**358**	*e*Pg	**Pn**	**22 57 38.9**	**+1.4**
DAV				*e*Sn	**Sn**	**22 58 26.8**	**+1.9**
CTBH	**Cotabato--PC H**	**4.52**	**341**⇑	*i*P	**Pn**	**22 57 44.5**	**+1.7**
CTBH				*i*S	**Sn**	**22 58 35.6**	**+1.3**
BUKP	**Musuan**	**4.98**	**352**	*e*P	**Pn**	**22 57 49.4**	**+0.5**
BUTP	**Butuan**	**6.02**	**359**	*e*P	**Pn**	**22 58 03.5**	**+0.5**
DCPH	**Dipolog City**	**6.10**	**337**	*e*P	**Pn**	**22 58 06.5**	**+2.3**
SCPH	**Surigao**	**6.83**	**358**	*e*P	**Pn**	**22 58 15.0**	**+1.1**
PCI	**Palu**	**7.00**	**237**	P	**Pn**	**22 58 18.1**	**+1.9**
	1μm,0.9s						
AAI	**Ambon**	**7.01**	**159**	P	**Pn**	**22 58 15.8**	**-0.6**
	732nm,0.5s						
MSLP	**Maasin**	**7.22**	**353**	*e*P	**Pn**	**22 58 19.1**	**-0.2**
LLP	**Lapu-Lapu**	**7.56**	**347**⇑	*e*P	**Pn**	**22 58 24.8**	**+0.9**
LLP				*e*S	**Sn**	**23 00 00.6**	**+13**
TSM	**Tawau**	**7.95**	**280**	P	**Pn**	**22 58 32.1**	**+2.9**
TARAI	**Tarakan**	**8.14**	**273**	P	**Pn**	**22 58 36.8**	**+5.0**
	445nm,0.7s						
RCP	**Roxas**	**9.08**	**341**	*e*P	**Pn**	**22 58 47.9**	**+3.4**
KKM	**Kota Kinabalu**	**9.97**	**289**	P	**Pn**	**22 59 03.5**	**+6.9**
KKM	**Kota Kinabalu**	**9.97**	**289**	*e*Pn	**Pn**	**22 59 02.0**	**+5.4**
KMMI	**Kalianget**	**15.35**	**230**	P	**Pn**	**23 00 09.9**	**+2.9**
	176nm,0.8s						
DNP	**Denpasar**	**15.57**	**222**	P	**Pn**	**23 00 14.1**	**+4.4**
	576nm,1.0s						
JAY	**Jayapura**	**15.92**	**110**	P	**Pn**	**23 00 13.9**	**-0.3**
	187nm,0.9s						
KAKA	**Kakadu**	**16.90**	**157**	*e*P	**Pn**	**23 00 23.9**	**-2.3**
	155nm,0.6s						
KAKA				*e*S	**S**	**23 03 21.2**	**-13**
KRKI	**Karangkates**	**17.20**	**230**	P	**Pn**	**23 00 33.9**	**+4.0**
	568nm,0.8s						
MMPI	**Merauke**	**18.48**	**128**	P	**P**	**23 00 46.2**	**+2.4**
	1μm,0.8s						
TPI	**Tanjungpandan**	**18.91**	**253**	P	**P**	**23 00 52.5**	**+4.0**
	118nm,0.9s						
BJII	**Banjamegara**	**18.94**	**237**	P	**P**	**23 00 49.1**	**+0.3**
	209nm,1.0s						
LEM	**Lembang**	**20.49**	**242**	P	**P**	**23 01 08.0**	**+2.4**
	626nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.88**	**180**	*e*P	**P**	**23 01 09.7**	**-0.1**
	80nm,0.8s						
FITZ				*e*S	**S**	**23 04 53.3**	**-3.1**
FITZ				*e*SCP	ScP	23 08 42.2	+1.9
FITZ	**Fitzroy Crossi**	**20.88**	**180**	P	**P**	**23 01 10.2**	**+0.4**
	32nm,0.4s,baz=13,slow=9.7,SNR=120						
FITZ				S	**S**	**23 04 53.7**	**-2.7**
	34nm,0.8s,baz=163,slow=21,SNR=6.6						
SBJI	**Serang**	**21.52**	**245**	P	**P**	**23 01 20.3**	**+3.7**
	386nm,0.9s,mb5.7						
GUMO	**Guam**	**21.70**	**60**	P	**P**	**23 01 17.8**	**-0.6**
	166nm,0.7s,mb5.5,baz=194,slow=10,SNR=8.0						
GUMO	**Guam**	**21.70**	**60**	P	**P**	**23 01 17.8**	**-0.6**
QIZ	**Qiongzhong**	**22.31**	**317**	P	**P**	**23 01 24.5**	**-0.4**
QIZ				AP		23 01 46.0	
QIZ				S	**S**	**23 05 22.0**	**-0.5**
QIZ				XS	sS	23 05 54.5	-4.6
QIZ				AMB	AMB		
	comp=Z,20nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,238nm,6.3s						
QIZ	**Qiongzhong**	**22.31**	**317**	*e*P	**P**	**23 01 23.2**	**-1.7**
	comp=Z,13nm,0.8s						
KGM	**Kluang**	**22.39**	**268**	P	**P**	**23

comp=Z,1μm,14.1s
JOW Kunigami 23.91 6 P **P 23 01 39.8 -0.3**
comp=Z,97nm,0.7s,mb5.2,baz=179,slow=8.9,SNR=14
WRA Warramunga Arr 24.24 160 P **P 23 01 42.7 -0.4**
comp=Z,123nm,0.7s,mb5.4,baz=341,slow=9.7,SNR=193
WRA S **S 23 05 57.0 +3.3**
comp=Z,54nm,0.8s,baz=332,slow=20,SNR=17
WRA ScP ScP 23 08 49.6 +0.6
comp=Z,14nm,0.8s,baz=337,slow=3.2,SNR=8.1
WRA Warramunga Arr 24.24 160 P **P 23 01 42.7 -0.4**
WRA S **S 23 05 57.0 +3.3**
WB2 Warramunga Arr 24.24 160 *e*P **P 23 01 42.5 -0.6**
WB2 *e*S **S 23 05 58.4 +4.6**
WB2 *e*SCP ScP 23 08 50.4 +1.4
PMG Port Moresby 24.62 120 P **P 23 01 46.3 -0.3**
comp=Z,76nm,0.8s,mb5.2,baz=301,slow=6.8,SNR=29
PMG Port Moresby 24.62 120 *e*P **P 23 01 46.2 -0.3**
PMG pmax pmax
comp=Z,76nm,0.8s
PMG Port Moresby 24.62 120 *e*P **P 23 01 46.2 -0.3**
comp=Z,76nm,0.8s,mb5.2
IPM Ipoh 24.69 274 P **P 23 01 54.1 +6.9**
KULM Kulim 25.11 276 *e*P **P 23 01 56.2 +5.3**
KULM *e* pP 23 02 15.1 +0.4
PPI Padang Panjang 25.53 263 P **P 23 01 59.6 +4.8**
comp=Z,28nm,0.8s,mb4.8
KKTK Khon Kaen 26.17 302 P **P 23 02 02.0 +1.5**
PSI Prapat 26.76 270 P **P 23 02 05.2 -0.6**
comp=Z,12nm,0.9s,mb4.4,baz=85,slow=4.9,SNR=7.8
PSI ScP ScP 23 08 56.6 +0.4
comp=Z,19nm,0.8s,baz=161,slow=1.2,SNR=14
ASAR Alice Springs 27.60 164 P **P 23 02 13.4 +0.1**
comp=Z,8.8nm,0.5s,mb4.6,baz=342,slow=6.8,SNR=192
ASAR PcP PcP 23 05 29.4 +1.2
comp=Z,14nm,0.8s,baz=351,slow=4.1,SNR=7.3
ASAR S **S 23 06 46.6 -0.1**
comp=Z,9.9nm,0.8s,baz=351,slow=21,SNR=7.9
SSE Sheshan 28.36 352 P **P 23 02 21.3 +1.2**
SSE S **S 23 07 02.8 +4.1**
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,259nm,7.9s
SSE LR LR
comp=N,269nm,23.8s
SSE LR LR
comp=E,279nm,23.8s
SSE LR LR
comp=Z,265nm,25.0s
SSE Sheshan 28.36 352 P **P 23 02 21.2 +1.1**
comp=Z,41nm,0.7s,mb5.1
SSE S **S 23 07 02.7 +4.0**
SSE LR LR
comp=Z,260nm,25.0s
NANT Nan 29.13 305 ⇓P **P 23 02 27.3 +0.4**
comp=Z,115nm,0.8s,mb5.6
JNU Nakatsue 30.44 9 P **P 23 02 38.5 0.0**
comp=Z,18nm,0.5s,mb4.9,baz=199,slow=20,SNR=7.0
CTA Charters Tower 30.48 139 *e*P **P 23 02 39.1 +0.3**
comp=Z,17nm,0.8s,mb4.7
CTA *e*SCP ScP 23 09 10.5 +2.6
CTA Charters Tower 30.48 139 P **P 23 02 39.4 +0.5**
comp=Z,22nm,0.8s,mb4.8,baz=320,slow=9.9,SNR=30
CTA ScP ScP 23 09 08.2 +0.3
comp=Z,16nm,1.0s,baz=237,slow=1.0,SNR=8.4
CTA Charters Tower 30.48 139 *e*P **P 23 02 39.1 +0.3**
CTA pmax pmax
comp=Z,17nm,0.8s
CTAO Charters Tower 30.48 139 *e*P **P 23 02 39.9 +1.1**
CTAO pmax pmax
comp=Z,23nm,0.8s,mb4.9
CTAO Charters Tower 30.48 139 *e*P **P 23 02 39.9 +1.1**
comp=Z,23nm,0.8s,mb4.9
CHG Chiang Mai 30.59 303 ⇓P **P 23 02 41.5 +1.6**
comp=Z,20nm,0.7s,mb5.0
CHTO Chiang Mai 30.59 303 *e*P **P 23 02 39.9 0.0**
CHTO *e* pP 23 03 04.2 +0.2
CHTO pmax pmax
comp=Z,11nm,0.6s,mb4.8
CHTO Chiang Mai 30.59 303 *e*P **P 23 02 39.9 0.0**
comp=Z,11nm,0.6s,mb4.8
CHTO *e* pP 23 03 04.2 +0.1
KMI Kunming 31.26 317 P **P 23 02 47.0 +1.3**
KMI AP pP 23 03 11.5 +1.6
KMI XP sP 23 03 26.5 +4.0
KMI PP PP 23 03 51.5 -6.8
KMI S **S 23 07 45.3 +1.1**
KMI XS sS 23 08 25.5 -0.8
KMI SS SS 23 09 42.0 -20
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.3
KMI AMB AMB
comp=Z,92nm,6.8s
KMI LR LR
comp=N,681nm,17.6s
KMI LR LR
comp=E,657nm,23.9s
KMI LR LR
comp=Z,445nm,18.8s
KMI Kunming 31.26 317 P **P 23 02 47.1 +1.4**
comp=Z,8.0nm,1.3s,mb4.3
KMI pP pP 23 03 11.5 +1.6
KMI sP sP 23 03 26.4 +3.9
KMI PP PP 23 03 51.6 -6.7
KMI PPP 23 04 11.8
KMI S **S 23 07 45.2 +1.0**
KMI sS sS 23 08 25.4 -0.9
KMI SS SS 23 09 42.1 -20
KMI SSS 23 10 06.0
KMI LR LR
comp=Z,450nm,18.8s
FORT Forrest 33.58 176 *e*P **P 23 03 05.5 -0.5**
comp=Z,168nm,0.6s,mb6.0
FORT *e*SCP ScP 23 09 20.3 +1.9
INCN Inchon 34.41 1 *e*P **P 23 03 13.1 -0.1**
comp=Z,40nm,0.7s,mb5.4
KSRS Korea Array 34.43 3 P **P 23 03 13.6 +0.2**
comp=Z,16nm,0.5s,mb5.1,baz=182,slow=9.7,SNR=52
KSRS PcP PcP 23 05 47.2 +0.8
comp=Z,11nm,0.7s,baz=190,slow=2.5,SNR=15
KSRS ScP ScP 23 09 21.6 +0.1
comp=Z,4.6nm,0.8s,baz=188,slow=3.4,SNR=8.5
XAN Xi'an 34.71 335 P **P 23 03 14.0 -1.7**
XAN LR LR
comp=N,161nm,16.3s
XAN LR LR
comp=E,349nm,20.6s
XAN LR LR
comp=Z,548nm,18.6s
CD2 Chengdu 34.72 326 *e*P **P 23 03 15.0 -0.8**
CD2 XP sP 23 03 53.0 +0.1
CD2 PP PP 23 04 39.5 +2.9
CD2 S **S 23 08 43.5 +5.6**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
KLBR Kellerberrin 35.14 192 *e*P **P 23 03 19.6 +0.2**
comp=Z,22nm,0.6s,mb5.2
KLBR *e*pP pP 23 03 46.2 +2.3
KLBR *e*SCP ScP 23 09 25.9 +1.9
MJAR Matsushiro Arr 35.39 18 P **P 23 03 20.3 -1.3**
comp=Z,21nm,0.9s,mb5.0,baz=192,slow=8.9,SNR=25
MJAR PcP PcP 23 05 50.6 +1.4
comp=Z,10nm,0.8s,baz=183,slow=2.6,SNR=8.6
MAJO Matsushiro 35.39 18 *e*P **P 23 03 20.6 -1.0**
MAT Matsushiro 35.39 18 P **P 23 03 20.1 -1.5**
MUN Mundaring 35.85 194 *e*P **P 23 03 26.0 +0.4**
MUN *e*pP pP 23 03 50.6 +0.5
DL2 Dalian 36.02 355 P **P 23 03 28.5 +1.6**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
HNR Honiara 36.24 110 P **P 23 03 28.6 -0.3**
comp=Z,288nm,0.7s,mb6.3,baz=283,slow=0.2,SNR=23
HNR Honiara 36.24 110 *e*P **P 23 03 28.9 0.0**
NWAO Narrogin (SRO) 36.54 192 P **P 23 03 31.8 +0.4**
comp=Z,7.6nm,0.3s,mb5.1,baz=25,slow=8.6,SNR=26
STKA Stephens Creek 37.74 158 ⇑*i*P **P 23 03 42.0 +0.4**
comp=Z,58nm,0.8s,mb5.5
STKA *e*pP pP 23 04 07.5 +1.2
STKA *e*S **S 23 09 23.6 -0.3**
STKA *e*SCP ScP 23 09 35.6 +1.9
STKA Stephens Creek 37.74 158 P **P 23 03 42.6 +1.1**
comp=Z,71nm,0.7s,mb5.6,baz=331,slow=8.3,SNR=157
STKA ScP ScP 23 09 33.4 -0.3
comp=Z,8.5nm,0.8s,baz=338,slow=5.4,SNR=5.1
BJT Baijiatuau 37.94 348 *e*P **P 23 03 41.6 -1.6**
BJT *e* pP 23 04 07.4 -0.5
BJT *e*S **S 23 09 24.9 -1.9**
BJT pmax pmax
comp=Z,15nm,0.6s
BJT Baijiatuau 37.94 348 *e*P **P 23 03 41.6 -1.6**
comp=Z,15nm,0.6s,mb5.0
BJT *e* pP 23 04 07.4 -0.5
BJT *e*S **S 23 09 24.9 -1.9**
BJT *e*ScP ScP 23 09 34.3 -0.1
BJI Beijing 37.96 348 P **P 23 03 41.5 -1.8**
BJI S **S 23 09 27.0 -0.1**
BJI AMB AMB
comp=Z,3.0nm,0.6s,mb4.3
BJI LR LR
comp=N,425nm,14.9s
BJI LR LR
comp=E,419nm,14.6s
BJI LR LR
comp=Z,254nm,29.1s
BJI Beijing 37.96 348 P **P 23 03 41.5 -1.8**
comp=Z,3.0nm,0.6s,mb4.3
BJI S **S 23 09 27.0 -0.1**
BJI LR LR
comp=Z,250nm,29.1s
LZH Lanzhou 38.71 331 ⇑P **P 23 03 50.0 +0.4**
LZH AP pP 23 04 15.5 +1.1
LZH XP sP 23 04 28.5 +1.6
LZH PP PP 23 05 25.3 +4.9
LZH PCP PcP 23 06 00.5 +1.2
LZH SCP ScP 23 09 35.5 -1.8
LZH S **S 23 09 39.3 +0.9**
LZH PCS PcS 23 09 48.3 -0.5
LZH XS sS 23 10 23.5 +2.1
LZH SS SS 23 12 27.3 -6.0
LZH SCS ScS 23 13 46.5 -1.8
LZH AMB AMB
comp=Z,59nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,197nm,5.2s
LZH LR LR
comp=N,857nm,13.2s
LZH LR LR
comp=Z,1μm,17.5s
LZH Lanzhou 38.71 331 ⇑P **P 23 03 50.1 +0.5**
LZH *PP pP 23 04 15.4 +1.0
LZH 23 05 25.3
LZH PPP 23 05 49.7
LZH 23 06 00.4
LZH S **S 23 09 39.2 +0.8**
LZH SS SS 23 12 27.3 -6.0
LZH 23 13 46.5
LZH pmax pmax
comp=Z,59nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,1μm,17.5s
LZH Lanzhou 38.71 331 ⇑P **P 23 03 50.1 +0.5**
comp=Z,59nm,1.3s,mb5.3
LZH pP pP 23 04 15.4 +1.0
LZH sP sP 23 04 28.5 +1.6
LZH PP PP 23 05 25.3 +4.9
LZH PPP 23 05 49.7
LZH PcP PcP 23 06 00.4 +1.1
LZH ScP ScP 23 09 35.4 -1.9
LZH S **S 23 09 39.2 +0.8**
LZH PcS PcS 23 09 48.3 -0.5
LZH sS sS 23 10 23.5 +2.1
LZH SS SS 23 12 27.3 -6.0
LZH ScS ScS 23 13 46.5 -1.8
LZH LR LR
comp=Z,1μm,17.5s
SNY Shenyang 38.79 357 ⇑P **P 23 03 49.5 -0.8**
SNY AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
SNY AMB AMB
comp=Z,131nm,3.5s
SNY LR LR
comp=E,676nm,20.4s
SNY LR LR
comp=Z,399nm,20.4s
SHL Shillong 39.56 308 *e*P **P 23 03 58.0 +1.3**
SHL *e*S **S 23 09 47.0 -4.2**
SHL *e*x x 23 13 52.0
ADE Adelaide 39.61 163 *e*P **P 23 03 59.0 +1.9**
HHC Hu-ho-hao-te 39.87 343 *e*P **P 23 04 01.5 +2.2**
HHC AP pP 23 04 26.8 +2.6
HHC XP sP 23 04 39.8 +3.2
HHC PP PP 23 05 39.0 +6.0
HHC PCP PcP 23 06 05.3 +2.3
HHC SCP ScP 23 09 42.5 +0.7
HHC PCS PcS 23 09 54.0 +0.7
HHC S **S 23 09 58.8 +3.0**
HHC XS sS 23 10 42.8 +3.9
HHC SS SS 23 12 54.0 -2.4
HHC SCS ScS 23 13 55.0 -0.1
HHC AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
HHC AMB AMB
comp=Z,125nm,4.2s
HHC LR LR
comp=N,178nm,20.2s
HHC LR LR
comp=E,716nm,23.8s
HHC LR LR
comp=Z,190nm,22.6s
CN2 Changchun 40.72 360 ⇓P **P 23 04 06.0 -0.3**
CN2 *e*XP sP 23 04 46.3 +2.6
CN2 PCP PcP 23 06 07.0 +1.3
CN2 *e*S **S 23 10 10.0 +1.6**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.8
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,700nm,21.0s
ARMA Armidale 41.36 145 *e*P **P 23 04 12.8 +1.2**
MDJ Mudanjiang 41.67 4 P **P 23 04 14.3 +0.2**
MDJ AP pP 23 04 38.0 -1.1
MDJ XP sP 23 04 50.5 -1.1
MDJ PP PP 23 05 52.0 -0.5
MDJ S **S 23 10 22.5 -0.1**
MDJ XS sS 23 11 07.5 +1.6
MDJ SS SS 23 13 32.0 0.0
MDJ AMB AMB
comp=Z,38nm,0.7s,mb5.2
MDJ AMB AMB
comp=Z,129nm,4.5s
MDJ LR LR
comp=N,424nm,34.4s
MDJ LR LR
comp=E,337nm,30.8s
MDJ LR LR
comp=Z,691nm,30.1s
MDJ Mudanjiang 41.67 4 *e*P **P 23 04 13.8 -0.2**
comp=Z,25nm,0.7s,mb5.0
MDJ *e*pP pP 23 04 38.1 -1.1
MDJ *e*sP sP 23 04 50.9 -0.6
LSA Lhasa 42.23 313 P **P 23 04 19.5 +0.9**
LSA Lhasa 42.23 313 *e*P **P 23 04 19.0 +0.4**
LSA *e* pP 23 04 46.6 +2.8
LSA *e* 23 06 12.8
LSA pmax pmax
comp=Z,24nm,0.6s,mb5.1
LSA Lhasa 42.23 313 *e*P **P 23 04 19.0 +0.4**
comp=Z,24nm,0.6s,mb5.1
LSA *e* pP 23 04 46.6 +2.9
LSA *e*PcP PcP 23 06 12.8 +2.1
GTA Gaotai 43.29 330 *e*P **P 23 04 26.8 -0.4**
GTA PCP PcP 23 06 15.3 +1.1
GTA SCS ScS 23 14 15.5 -0.4
GTA AMB AMB
comp=Z,5.0nm,0.6s,mb4.4
GTA AMB AMB
comp=Z,173nm,5.7s
GTA LR LR
comp=N,475nm,16.0s
GTA LR LR
comp=E,310nm,22.0s
GTA LR LR
comp=Z,462nm,17.5s
ASAJ Asahikawa 43.67 18 P **P 23 04 30.6 +0.4**
comp=Z,78nm,0.7s,mb5.6,baz=234,slow=12,SNR=65
CNB Canberra Magne 44.02 152 *e*P **P 23 04 35.2 +2.2**
comp=Z,24nm,1.0s,mb4.9
JIRN Jiri 45.04 307 *e*P **P 23 04 41.4 +0.2**
comp=Z,34nm,0.7s,mb5.2
GUN Gumba 45.40 307 *e*P **P 23 04 44.5 +0.5**
comp=Z,52nm,0.7s,mb5.4
PKI Pulchoki 45.63 307 *e*P **P 23 04 45.7 -0.1**
KKN Kakani 45.82 307 *e*P **P 23 04 47.3 0.0**
comp=Z,19nm,0.5s,mb5.0
KKN Kakani 45.82 307 *e*P **P 23 04 47.3 0.0**
KKN pmax pmax
comp=Z,19nm,0.5s,mb5.1
DMN Daman 45.89 306 *e*P **P 23 04 48.0 +0.2**
YSS Yuzh-Sakhalins 46.30 16 ⇑*i*P **P 23 04 51.3 +0.3**
YSS pmax pmax
comp=Z,50nm,0.7s,mb5.3
YSS Yuzh-Sakhalins 46.30 16 *e*P **P 23 04 50.8 -0.3**
comp=Z,36nm,0.6s,mb5.3
YSS *e*PcP PcP 23 06 23.9 -0.7
GKN Gorkha 46.43 307 *e*P **P 23 04 51.2 -0.9**
KLR Kul'dur 46.43 5 *e*P **P 23 04 49.8 -2.3**
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.0
HIA Hailar 46.46 355 *e*P **P 23 04 51.5 -0.8**
HIA *e* pP 23 05 15.9 -1.9
HIA *e* 23 06 24.9
HIA pmax pmax
comp=Z,5.0nm,0.7s
HIA Hailar 46.46 355 *e*P **P 23 04 51.5 -0.9**
comp=Z,4.7nm,0.7s,mb4.3
HIA *e* pP 23 05 15.9 -1.9
HIA *e*PcP PcP 23 06 24.9 -0.3
NOUC Port Laguerre 46.80 124 *e*P **P 23 04 56.4 +1.4**
DZM Mont Dzumac 46.91 124 P **P 23 04 57.2 +1.4**
comp=Z,19nm,0.8s,mb4.9,baz=280,slow=3.2,SNR=23
KOLN Koldanda 47.17 306 *e*P **P 23 04 57.6 -0.2**
comp=Z,43nm,0.5s,mb5.4
SONM Songino Array 47.76 342 P **P 23 05 01.2 -1.2**
comp=Z,3.7nm,0.6s,mb4.4,baz=160,slow=7.9,SNR=32
SONM PcP PcP 23 06 27.8 -2.0
comp=Z,5.7nm,0.7s,baz=149,slow=3.3,SNR=5.5
SONM ScP ScP 23 10 12.9 -1.1
comp=Z,1.5nm,0.8s,baz=155,slow=4.7,SNR=4.4
SONM Songino Array 47.76 342 P **P 23 05 01.2 -1.2**
SONM 23 06 27.8
HYB Hyderabad 48.45 291 *i* P **P 23 05 08.0 +0.3**
HYB *e*pP pP 23 05 35.0 +1.6
HYB *e*S **S 23 11 58.0 -2.2**
HYB Hyderabad 48.45 291 *e*P **P 23 05 08.0 +0.3**
CIT Chita 49.98 350 *e*P **P 23 05 14.5 -4.9**
CIT *e* pP 23 05 40.2 -5.0
CIT *e* 23 06 37.8
CIT pmax pmax
comp=Z,36nm,2.8s,mb4.8
ZAK Zakamensk 50.97 342 *e*P **P 23 05 26.8 0.0**
TLY Talaya 51.99 343 *e*P **P 23 05 36.5 +2.1**
TLY pmax pmax
comp=Z,25nm,1.1s,mb5.2
MOY Mondy 52.81 341 *e*P **P 23 05 40.8 +0.4**
WMQ Urumqi 52.82 326 P **P 23 05 40.3 -0.2**
WMQ XP sP 23 06 21.5 +2.8
WMQ PCP PcP 23 06 48.0 -0.4
WMQ PP PP 23 07 42.5 +1.6
WMQ SCP ScP 23 10 32.5 -3.2
WMQ PCS PcS 23 10 46.0 -1.2
WMQ S **S 23 12 57.8 -2.9**
WMQ SCS ScS 23 15 15.5 -3.9
WMQ SS SS 23 16 36.5 -4.2
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,331nm,5.0s
WMQ LR LR
comp=N,833nm,22.0s
WMQ LR LR
comp=E,393nm,23.0s
WMQ LR LR
comp=Z,324nm,20.0s
NRGR Nerungri 53.59 359 *e*P **P 23 05 47.1 +0.9**
NRGR S **S 23 13 02.0 -9.1**
NRGR smax
comp=N,9.0nm,0.4s
CLNS Chul'man 53.77 359 *e*P **P 23 05 46.2 -1.3**
CLNS pmax pmax
comp=N,26nm,0.7s
CLNS pmax pmax
comp=E,14nm,0.7s
CLNS pmax pmax
comp=Z,48nm,0.7s,mb5.6
BOD Bodaibo 55.53 352 *e*P **P 23 05 58.7 -1.5**
BOD pmax pmax
comp=Z,14nm,0.8s,mb5.0
MK31 Makanchi Array 57.65 326 *e*P **P 23 06 13.8 -1.4**
MK31 *e* pP 23 06 41.8 +0.1
MK31 *e* 23 07 06.4
MK31 Makanchi Array 57.65 326 *e*P **P 23 06 13.8 -1.4**
MK31 *e* pP 23 06 41.8 +0.2
MK31 *e*PcP PcP 23 07 06.4 -0.7
MK31 *e*ScP ScP 23 10 56.5 -0.4
MKAR Makanchi Array 57.65 326 P **P 23 06 13.8 -1.4**
comp=Z,7.4nm,0.5s,mb5.0,baz=122,slow=7.8,SNR=69
MKAR ScP ScP 23 10 56.4 -0.5
comp=Z,2.1nm,0.6s,baz=114,slow=5.8,SNR=4.7
MKAR PKP2bc 23 36 07.5
comp=Z,0.5nm,0.7s,baz=285,slow=2.4,SNR=3.9
MKAR Makanchi Array 57.65 326 P **P 23 06 13.8 -1.4**
MKAR ScP ScP 23 10 56.4 -0.5
MKAR ⇑*e* 23 36 07.5
KSH Kashi 57.91 316 P **P 23 06 18.0 +1.0**
KSH AP pP 23 06 44.0 +0.5
KSH XP sP 23 06 57.5 +2.0
KSH PCP PcP 23 07 10.0 +1.9
KSH PP PP 23 08 28.8 +2.4
KSH SCP ScP 23 10 57.0 -1.1
KSH PCS PcS 23 11 08.0 -1.6
KSH S **S 23 14 07.0 -1.5**
KSH XS sS 23 14 53.8 -0.1
KSH SCS ScS 23 15 52.5 -3.5
KSH SS SS 23 18 00.0 -0.9
KSH AMB AMB
comp=Z,30nm,0.8s,mb5.4
KSH AMB AMB
comp=Z,656nm,6.5s
KSH LR LR
comp=N,2μm,6.8s
KSH LR LR
comp=E,2μm,6.2s
KSH LR LR
comp=Z,2μm,17.9s
YAK Yakutsk 59.05 2 *e*P **P 23 06 24.2 -0.7**
YAK *i* *PP pP 23 06 47.4 -4.1
YAK *i* 23 07 12.1
YAK *e*S **S 23 14 21.2 -2.0**
YAK *e* 23 16 02.2
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK pmax pmax
comp=Z,154nm,0.8s,mb6.1
YAK pmax pmax
comp=N,23nm,0.9s
YAK smax
comp=N,108nm,2.1s
YAK smax
comp=E,279nm,3.5s
YAK Yakutsk 59.05 2 *e*P **P 23 06 24.8 -0.2**
YAK *e* pP 23 06 47.4 -4.1
YAK PcP PcP 23 07 12.3 -0.3
KZA Kyzart 59.54 318 P **P 23 06 28.7 +0.5**
SNR=9.6
MA2 Magadan 59.74 14 *c i*P **P 23 06 30.2 +0.5**
MA2 *e* pP 23 06 58.2 +1.9
MA2 *e* 23 07 16.7
MA2 pmax pmax
comp=N,40nm,0.6s
MA2 pmax pmax
comp=Z,90nm,0.6s,mb6.0
MA2 Magadan 59.74 14 *e*P **P 23 06 30.3 +0.6**
comp=Z,82nm,0.6s,mb5.9
MA2 *e* pP 23 06 57.5 +1.3
MA2 *e*PcP PcP 23 07 15.8 +0.4
UCH Uchtor 60.09 318 P **P 23 06 32.0 -0.1**
SNR=19
AAK Ala-Archa 60.29 319 P **P 23 06 31.4 -1.9**

SNR=5.1
AAK Ala-Archa 60.29 319 *e*P **P 23 06 32.0 -1.4**
AAK *e* 23 07 17.2
AAK pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
AAK Ala-Archa 60.29 319 *e*P **P 23 06 32.0 -1.4**
comp=Z,2.7nm,0.4s,mb4.6
AAK *e*PcP PcP 23 07 17.2 -0.4
USP Ospenovka 60.56 319 P **P 23 06 34.6 -0.7**
SNR=13
AML Almayashu 60.60 318 P **P 23 06 35.3 -0.3**
SNR=12
EKS2 Erkin-Say 60.77 318 P **P 23 06 36.6 -0.1**
SNR=12
ZAL Zalesovo 60.86 334 P **P 23 06 34.5 -2.8**
comp=Z,4.2nm,0.4s,mb4.8,baz=4.9,slow=4.4,SNR=9.4
ZAL PKP2bc 23 35 56.6
comp=Z,1.0nm,0.5s,baz=129,slow=5.2,SNR=3.0
ZAL Zalesovo 60.86 334 P **P 23 06 34.5 -2.8**
ZAL ⇑*e* 23 35 56.6
KBL Kabul 61.22 308 *e*P **P 23 06 38.6 -1.1**
KBL *e* pP 23 07 06.3 -0.2
KBL *e*PcP PcP 23 07 20.9 -0.5
KURK Kurchatov 61.89 328 P **P 23 06 42.3 -1.9**
comp=Z,234nm,0.6s,mb6.4,SNR=31
KURK Kurchatov 61.89 328 *e*P **P 23 06 42.3 -1.9**
KURK *e* pP 23 07 10.6 -0.4
KURK pmax pmax
comp=Z,23nm,0.6s,mb5.4
KURK Kurchatov 61.89 328 *e*P **P 23 06 42.3 -1.9**
comp=Z,23nm,0.6s,mb5.4
KURK *e* pP 23 07 10.6 -0.4
NVS Novosibirsk 62.15 334 *i*P **P 23 06 43.3 -2.6**
NVS *e* 23 07 04.0
NVS *e* 23 07 20.8
NVS pmax pmax
comp=Z,11nm,1.2s,mb4.8
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=E,7.0nm,1.3s
URZ Urewera 62.65 136 P **P 23 06 49.4 +0.1**
comp=E,23nm,0.8s,mb5.2,baz=344,slow=3.3,SNR=17
AFI Afiamalu 64.17 107 P **P 23 07 00.3 +1.0**
comp=E,46nm,0.8s,mb5.3,baz=42,slow=2.4,SNR=11
AFI Afiamalu 64.17 107 *e*P **P 23 07 01.0 +1.7**
AFI *e* 23 07 34.8
AFI pmax pmax
comp=Z,39nm,0.7s,mb5.3
AFI Afiamalu 64.17 107 *e*P **P 23 07 01.0 +1.7**
comp=Z,39nm,0.7s,mb5.3
AFI *e*PcP PcP 23 07 34.8 +1.4
BVAR Borovoye Array 67.45 327 P **P 23 07 18.7 -1.7**
comp=Z,3.8nm,0.5s,mb4.5,baz=135,slow=8.4,SNR=33
BRVK Borovoye 67.53 327 P **P 23 07 19.9 -0.9**
comp=Z,90nm,0.4s,mb6.0,SNR=11
BRVK Borovoye 67.53 327 *e*P **P 23 07 19.0 -1.8**
BRVK *e* pP 23 07 45.0 -3.0
BRVK pmax pmax
comp=Z,13nm,0.6s,mb4.9
BRVK Borovoye 67.53 327 *e*P **P 23 07 19.0 -1.8**
comp=Z,13nm,0.6s,mb4.9
BRVK *e*PcP PcP 23 07 45.0 -2.3
TIXI Tiksi 68.67 1 *e*P **P 23 07 24.2 -3.8**
TIXI *e*S S 23 16 52.1 +30
TIXI pmax pmax
comp=Z,27nm,0.6s,mb5.2
TIXI Tiksi 68.67 1 *e*P **P 23 07 25.9 -2.0**
TIXI *e*PcP PcP 23 07 51.2 -0.9
CASY Casey 69.89 186 *e*P **P 23 07 35.8 +0.3**
BILL Bilibino 70.60 15 *e*P **P 23 07 39.0 -0.8**
BILL *e* 23 08 00.5
BILL pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
BILL Bilibino 70.60 15 *e*P **P 23 07 39.0 -0.8**
comp=Z,8.5nm,0.6s,mb4.8
BILL *e*PcP PcP 23 08 00.5 +0.2
BILL *e* 23 08 18.4
UNV Unalaska Valle 74.67 35 *e*P **P 23 08 04.2 +0.3**
ARU Arti 75.08 328 ⇓*i*P **P 23 08 03.8 -2.5**
ARU *e* 23 08 15.9
ARU *e* pP 23 08 31.2 -2.8
ARU *e* 23 10 51.4
ARU *e*S S 23 17 33.9 -1.8
ARU *e* 23 18 04.5
ARU *e*SS SS 23 22 23.4 -3.3
ARU pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
ARU Arti 75.08 328 *e*P **P 23 08 04.1 -2.2**
comp=Z,8.6nm,0.6s,mb4.7
ARU *e*PcP PcP 23 08 16.1 -3.3
ORR Orenburg 75.96 323 *e*P **P 23 08 10.0 -1.3**
ORR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
HON Honolulu 76.17 69 P **P 23 08 14.0 +1.5**
TNA Tin City 77.73 23 *e*P **P 23 08 21.9 +0.7**
comp=Z,5.4nm,0.7s,mb4.4
SDPT Sand Point 78.43 34 *e*P **P 23 08 24.9 -0.2**
comp=Z,143nm,0.5s,mb6.0
SVW2 Sparrevohn 82.00 29 *e*P **P 23 08 45.2 +1.0**
TTA Tatalina 82.08 27 *e*P **P 23 08 45.7 +1.0**
MAW Mawson 82.64 200 ⇓*i*P **P 23 08 47.4 -0.2**
comp=Z,4.9nm,0.6s,mb4.5
MAW Mawson 82.64 200 P **P 23 08 47.3 -0.3**
comp=Z,5.8nm,0.6s,mb4.6,baz=86,slow=9.4,SNR=11
MAW Mawson 82.64 200 ⇓*i*P **P 23 08 47.4 -0.2**
MAW pmax pmax
comp=Z,5.0nm,0.6s
VNDA Vanda 82.75 173 P **P 23 08 48.1 -0.1**
comp=Z,9.8nm,0.8s,mb4.7,baz=324,slow=5.9,SNR=20
KDAK Kodiak Island 83.12 32 P **P 23 08 51.9 +1.9**
comp=Z,285nm,0.7s,mb6.2,SNR=13
KDAK Kodiak Island 83.12 32 *e*P **P 23 08 51.1 +1.1**
IMA2 Indian Mountai 83.53 24 *e*P **P 23 08 53.5 +1.3**
VRHR Novokhopersk 84.03 321 *e*P **P 23 08 53.8 -0.9**
VRHR pmax pmax
comp=Z,60nm,0.5s,mb5.7
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.4s
SLKM Skilak Lake 84.55 30 *e*P **P 23 08 57.1 -0.2**
PMR Palmer 85.14 29 *e*P **P 23 09 00.6 +0.3**
PMR *e**PP pP 23 09 29.1 +0.6
PMR pmax pmax
comp=Z,18nm,0.6s,mb5.2
PMR Palmer 85.14 29 *e*P **P 23 09 00.6 +0.3**
comp=Z,18nm,0.6s,mb5.2
PMR *e*pP pP 23 09 29.1 +0.6
MCK McKinley 85.34 26 *e*P **P 23 09 02.0 +0.7**
MCK *e* pP 23 09 27.9 -1.6
MCK pmax pmax
comp=Z,12nm,0.8s,mb4.9
MCK McKinley 85.34 26 *e*P **P 23 09 02.0 +0.7**
comp=Z,12nm,0.8s,mb4.9
MCK *e* pP 23 09 27.9 -1.7
SML Sawmill 85.53 28 *e*P **P 23 09 03.3 +1.1**
SML *e* pP 23 09 30.2 -0.3
SML *e* 23 12 19.8
PPT Papeete 85.83 108 *e*LR LR 23 36 28.8
comp=Z,210nm,29.0s
COLA College 85.86 25 *e*P **P 23 09 03.6 -0.2**
COLA *e* pP 23 09 31.6 -0.5
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 85.86 25 *e*P **P 23 09 03.6 -0.3**
comp=Z,7.5nm,0.8s,mb4.7
COLA *e* pP 23 09 31.6 -0.5
MALT Malatya 86.08 308 ⇑*i*P **P 23 09 05.0 +0.1**
TBI Tubuai 86.39 113 *e*LR LR 23 36 38.3
comp=Z,351nm,36.8s
ANN Anapa 86.75 315 *e*P **P 23 09 07.9 -0.3**
ANN pmax pmax
comp=Z,96nm,1.3s,mb5.6
OBN Obninsk 87.14 325 P **P 23 09 08.0 -2.1**
comp=Z,633nm,0.5s,SNR=11
OBN Obninsk 87.14 325 *e*P **P 23 09 08.8 -1.3**
OBN *i* pP 23 09 34.3 -4.2
OBN pmax pmax
comp=Z,50nm,0.6s,mb5.6
OBN Obninsk 87.14 325 *e*P **P 23 09 08.7 -1.4**
comp=Z,54nm,0.6s,mb5.7
OBN *e*PP PP 23 12 33.5 -1.6
MENT Mentasta 87.69 27 *e*P **P 23 09 13.2 +0.5**
APA Apatity 88.22 337 ⇑*e*P **P 23 09 16.0 +0.8**
APA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
KMBO Kilima Mbogo 88.52 269 P **P 23 09 17.6 +0.9**
comp=Z,2.1nm,0.7s,mb4.3,baz=54,slow=15,SNR=4.3
KMBO Kilima Mbogo 88.52 269 *e*P **P 23 09 18.3 +1.6**
KMBO *e* 23 12 46.0
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 88.52 269 *e*P **P 23 09 18.3 +1.6**
comp=Z,4.2nm,1.0s,mb4.4
KMBO *e*PP PP 23 12 46.0 -0.2
EGAK Eagle 88.72 25 *e*P **P 23 09 17.6 0.0**
comp=Z,8.1nm,0.7s,mb4.9
JOF Joensuu 89.44 333 *e*p **P 23 09 18.4 -2.6**
comp=Z,34nm,0.7s,mb5.5
DAWY Dawson 89.55 26 *e*P **P 23 09 22.1 +0.7**
BRTR Keskin Array B 89.76 310 P **P 23 09 20.9 -1.6**
comp=Z,3.3nm,0.8s,mb4.5,baz=128,slow=4.4,SNR=11
INK Inuvik 91.29 21 P **P 23 09 27.3 -2.3**
comp=Z,6.7nm,0.9s,mb4.8,baz=273,slow=3.5,SNR=27
INK PKiKP PKiKP 23 14 20.6 -0.7
comp=Z,1.7nm,0.7s,baz=346,slow=3.3,SNR=5.0
INK PKKPbc PKKPbc 23 26 51.7 +0.9
comp=Z,0.9nm,0.7s,baz=127,slow=2.4,SNR=4.6
INK Inuvik 91.29 21 *e*P **P 23 09 29.4 -0.2**
comp=Z,413nm,1.1s,mb6.5
INK *e* 23 09 33.5
SYO Syowa Base 91.31 201 ⇑*e*P **P 23 09 29.0 -0.6**
KAF Kangasniemi 91.85 332 *e*p **P 23 09 29.8 -2.3**
comp=Z,13nm,0.5s,mb5.4,baz=76,slow=4.2
KAF Kangasniemi 91.85 332 *e*P **P 23 09 29.8 -2.3**
KAF pmax pmax
comp=Z,13nm,0.5s,mb5.4
AKASG Malin Array Be 91.88 321 P **P 23 09 30.2 -2.1**
comp=Z,19nm,0.7s,mb5.5,baz=67,slow=4.7,SNR=56
AKASG Malin Array Be 91.88 321 P **P 23 09 30.2 -2.1**
AKBB Malin Array Si 91.88 321 *e*P **P 23 09 30.4 -1.9**
AKBB *e* pP 23 09 58.4 -2.4
FINES FINESS Array B 92.07 332 P **P 23 09 31.2 -1.9**
comp=Z,18nm,0.8s,mb5.4,baz=73,slow=4.5,SNR=33
WRAK Wrangell Islan 94.18 33 *e*P **P 23 09 44.3 +1.4**
comp=Z,20nm,0.7s,mb5.5
WRAK *e* pP 23 10 12.6 +1.2
VRI Vrincioaia 94.18 316 ⇑*i*P **P 23 09 43.4 +0.5**
PLOR Plostina 94.24 316 ⇓*i*P **P 23 09 44.0 +0.8**
MLR Muntele Rosu 94.78 316 ⇑*i*P **P 23 09 45.3 -0.3**
BURAR Bucovina Array 94.93 318 ⇓*i*P **P 23 09 45.6 -0.7**
DLBC Dease Lake 94.96 31 *e*P **P 23 09 47.9 +1.5**
SUW Suwalki 95.00 325 *e*P **P 23 09 45.6 -1.0**
comp=Z,83nm,0.7s,mb6.3
KOLS Kolonicke sedl 96.61 320 *e*P **P 23 09 53.4 -0.6**
UZH Uzhgorod 96.66 319 ⇓*i*P **P 23 09 55.0 +0.8**
DRGR 96.76 318 ⇑*i*P **P 23 09 54.8 +0.1**
GZR Gura Zlata 96.99 316 ⇑*i*P **P 23 09 56.2 +0.5**
CRVS Cervenica-Dubn 97.14 320 *i*P **P 23 09 56.8 +0.4**
STHS Stebnicka Huta 97.17 320 *e*P **P 23 09 56.6 +0.1**
STHS pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
STHS Stebnicka Huta 97.17 320 *e*P **P 23 09 56.6 +0.1**
comp=Z,7.4nm,0.6s,mb5.3
VTS Vitosha 97.22 313 ⇑*i*P **P 23 09 54.8 -1.9**
BZS Buzias 97.75 317 ⇑*i*P **P 23 09 57.4 -1.7**
NIE Niedzica 97.76 321 *e*P **P 23 09 59.0 -0.2**
KECS Kecovo 97.87 320 *e*P **P 23 09 58.6 -1.0**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
KECS Kecovo 97.87 320 *e*P **P 23 09 58.6 -1.0**
comp=Z,4.9nm,0.8s,mb5.1
OJC Ojcow 97.89 321 *e*P **P 23 09 59.0 -0.7**
DAG Danmarks Havn 97.92 352 *i*P **P 23 09 57.0 -2.9**
comp=Z,8.2nm,0.7s,mb5.4
DAG Danmarks Havn 97.92 352 *e*P **P 23 09 57.0 -2.9**
DAG pmax pmax
comp=Z,8.0nm,0.7s,mb5.4
LSZ Lusaka 98.02 255 P **P 23 09 59.4 -0.9**
comp=Z,3.4nm,0.9s,mb4.9,baz=110,slow=3.6,SNR=9.0
PSZ Piszkesteto 98.39 319 ⇑*i*P **P 23 10 01.1 -0.9**
RES Resolute Bay 98.79 10 *e*P **P 23 10 03.8 +0.1**
comp=Z,219nm,0.7s
VYHS Vyhne 98.93 320 PDIF **P 23 10 04.2 -0.2**
VYHS Vyhne 98.93 320 *e*P **P 23 10 04.2 -0.2**
NB2 NORSAR Subarra 99.06 333 P **P 23 10 02.7 -2.3**
comp=Z,6.6nm,0.7s,mb5.3,baz=70,slow=4.6
NOA NORSAR Array B 99.06 333 P **P 23 10 02.3 -2.6**
comp=Z,5.7nm,0.7s,mb5.2,baz=70,slow=4.4,SNR=23
NOA PKKPbc PKKPbc 23 26 29.5 -0.6
comp=Z,1.5nm,0.9s,baz=251,slow=2.3,SNR=4.1
MORC Moravsky Berou 99.41 321 ⇑*i*P Pdif 23 10 06.2 -0.3
KSP Ksiaz 99.88 323 *e*P Pdif 23 10 07.6 -1.0
DPC Dobruska-Polom 100.00 322 *e*PDIF Pdif 23 10 09.1 -0.1
VRAC Vranov 100.14 321 ⇑*i*P Pdif 23 10 10.3 +0.5
UPC Upice 100.15 322 *e*PDIF Pdif 23 10 09.6 -0.2
BOSA Boshof 100.57 242 PKKPbc PKKPbc 23 26 24.3 -1.5
comp=Z,2.5nm,0.9s,baz=352,slow=6.0,SNR=4.8
YKA Yellowknife Ar 100.66 24 P Pdif 23 10 12.2 +0.2
comp=Z,3.1nm,0.8s,baz=300,slow=4.6,SNR=60
YKA PP PP 23 14 23.2 +2.8
comp=Z,0.2nm,0.8s,baz=302,slow=7.5,SNR=4.6
YKA PKiKP PKiKP 23 14 35.8 -1.9
comp=Z,0.9nm,0.6s,baz=312,slow=1.8,SNR=17
YKA PKKPbc PKKPbc 23 26 22.6 -2.9
comp=Z,0.4nm,0.6s,baz=121,slow=2.7,SNR=9.7
YKA Yellowknife Ar 100.66 24 P Pdif 23 10 12.2 +0.2
YKA PP PP 23 14 23.2 +2.8
TREC Trest 100.83 321 *e*PDIF Pdif 23 10 13.4 +0.5
TREC Trest 100.83 321 *i*P Pdif 23 10 13.4 +0.5
PVCC Panska Ves 101.02 323 *e*PDIF Pdif 23 10 14.7 +1.0
PRU Pruhonice 101.20 322 *e*PDIF Pdif 23 10 14.1 -0.4
BRG Berggiesshubel 101.28 323 *e*P Pdif 23 10 14.6 -0.3
comp=Z,5.9nm,0.8s
BRG Berggiesshubel 101.28 323 *e*P Pdif 23 10 14.6 -0.3
BRG pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 101.70 324 *e*P Pdif 23 10 16.0 -0.7
KHC Kasperske Hory 102.07 322 *e*PDIF Pdif 23 10 19.0 +0.6
GERES GERESS Array B 102.09 321 P Pdif 23 10 18.2 -0.3
comp=Z,1.0nm,0.6s,baz=69,slow=4.9,SNR=14
GERES PKKPbc PKKPbc 23 26 20.4 -1.1
comp=Z,0.2nm,0.5s,baz=208,slow=2.6,SNR=3.8
PTCN Pitcairn Islan 104.08 115 *e*Pdif Pdif 23 10 35.4 +8.1
NEW Newport 105.49 38 Pdiff Pdif 23 10 32.6 -0.9
comp=Z,0.9nm,0.3s,baz=135,slow=17,SNR=4.0
NEW PKiKP PKiKP 23 14 47.9 +1.4
comp=Z,1.7nm,0.7s,baz=122,slow=3.8,SNR=4.0
NEW Newport 105.49 38 Pdif Pdif 23 10 32.6 -0.9
NEW PKPdif PKiKP 23 14 47.9 +1.4
NVAR Mina Array Bea 108.20 48 Pdiff Pdif 23 10 45.5 -0.1
comp=Z,0.8nm,0.3s,baz=34,slow=18,SNR=4.0
NVAR PKiKP PKiKP 23 14 54.5 +2.9
comp=Z,1.2nm,0.6s,baz=272,slow=5.1,SNR=3.6
REDW Red Top Meadow 111.52 41 *e*PKiKP PKiKP 23 14 59.2 +1.4
PDAR Pinedale Array 112.63 41 PKiKP PKiKP 23 15 00.9 +1.0
comp=Z,1.6nm,0.6s,baz=45,slow=1.5,SNR=12
PDAR PKKPbc PKKPbc 23 25 56.1 +7.6
comp=Z,0.8nm,0.7s,baz=121,slow=5.8,SNR=6.5
MSU Marysvale 112.65 46 *e*PKiKP PKiKP 23 15 02.8 +2.8
WUAZ Wupatki 114.42 49 *e*PKiKP PKiKP 23 15 04.2 +0.8
PV10 Paradox Valley 114.95 45 *e*PKiKP PKiKP 23 15 07.8 +3.4
PV01 Paradox Valley 115.38 45 *e*PKPdif PKPdif 23 15 06.9 +1.7
RSSD Black Hills 115.45 38 *e*PKiKP PKPdif 23 15 06.6 +1.3
ULM Lac du Bonnet 116.16 28 PKP PKPdif 23 15 06.0 -0.7
comp=Z,2.6nm,0.6s,baz=296,slow=2.4,SNR=11
ESDC Sonseca Array 117.39 318 PKKPbc PKKPbc 23 25 34.1 +1.9
comp=Z,0.3nm,0.6s,baz=261,slow=2.7,SNR=4.5
ANMO Albuquerque 118.31 47 PKP PKPdif 23 15 13.2 +2.4
comp=Z,8.0nm,0.8s,baz=217,slow=4.6,SNR=19
MNTX Cornudas Mount 120.55 50 *e*PKPdif PKPdif 23 15 17.0 +1.9
CBKS Cedar Bluff 121.05 41 *e*PKiKP PKPdif 23 15 17.2 +1.1
SCHQ Schefferville 121.52 8 PKP PKPdif 23 15 16.9 -0.1
comp=Z,9.9nm,0.6s,baz=20,slow=1.6,SNR=23
AMTX Amarillo 121.81 45 *e*PKPdif PKPdif 23 15 19.4 +1.9
TOA0 Torodi Ar. Sit 122.20 287 *e*PKPdif PKPdif 23 15 18.7 +0.3
TORD Torodi Ar. Bea 122.20 287 PKP PKPdif 23 15 17.7 -0.6
comp=Z,4.3nm,0.8s,baz=80,slow=1.5,SNR=28
TORD SKP 23 18 45.4
comp=Z,1.2nm,0.7s,baz=63,slow=1.5,SNR=4.1
TORD PKKPbc PKKPbc 23 25 17.0 +2.5
comp=Z,3.8nm,0.8s,baz=268,slow=3.9,SNR=21
TORD Torodi Ar. Bea 122.20 287 PKP PKPdif 23 15 17.7 -0.7
TORD SKP 23 18 45.4
TORD PKKPbc PKKPbc 23 25 17.0 +2.5
KSU1 Kansas State U 122.88 39 *e*PKPdif PKPdif 23 15 20.6 +1.0
WMOK Wichita Mounta 123.92 44 *e*PKIKP PKPdif 23 15 22.7 +1.1
JCT Junction City 125.36 49 *e*PKIKP PKPdif 23 15 26.0 +1.6
JCT *e* 23 15 53.2
FVM French Village 127.33 36 *e*PKIKP PKPdif 23 15 28.6 +0.5
MIAR Mount Ida 127.56 41 *e*PKIKP PKPdif 23 15 30.2 +1.6
WVT Waverly 130.11 36 *e*PKPdif PKPdif 23 15 34.5 +1.1
WVT *e*SKPbc SKPbc 23 18 46.7 +0.5
PLAL Pickwick Lake 130.75 37 *e*PKPdif PKPdif 23 15 35.0 +0.4
PLAL *e*SKPbc SKPbc 23 18 49.7 +1.0
TKL Tuckaleechee C 132.74 33 PKP PKPdif 23 15 40.0 +1.6
comp=Z,13nm,0.6s,baz=68,slow=3.1,SNR=16
TKL SKPbc SKPbc 23 18 55.3 -0.4
comp=Z,7.6nm,0.9s,baz=169,slow=4.5,SNR=4.5
TKL Tuckaleechee C 132.74 33 PKP PKPdif 23 15 40.0 +1.6
TKL SKPbc SKPbc 23 18 55.3 -0.4
ELN Prospectdale 133.09 29 *e*PKPdif PKPdif 23 15 41.3 +2.2
BRAL Brewton 134.04 40 *e*PKPdif PKPdif 23 15 44.5 +3.6
CMIG Matias Romero 135.27 62 PKP PKPdif 23 15 45.4 +2.2
comp=Z,8.5nm,0.7s,baz=328,slow=3.1,SNR=9.0
PLCA Paso Flores 139.59 161 PKhKP 23 15 43.8
comp=Z,3.2nm,0.7s,baz=246,slow=4.3,SNR=7.4
PLCA SKPbc SKPbc 23 19 18.2 +1.6
comp=Z,6.5nm,0.9s,baz=176,slow=1.7,SNR=6.8
TRQA Tornquist 144.32 170 *e*PKPdif PKPdif 23 15 59.6 0.0
JTS JuntasAbangare 146.76 66 PKPbc PKPbc 23 16 04.9 -0.8
comp=Z,17nm,0.6s,baz=343,slow=8.4,SNR=9.9
LCO Las Campanas 149.71 151 *e*PKP PKPbc 23 16 15.4 +2.1
CPD Cerro la Pandu 156.24 28 *e*PKP2 PKPab 23 16 47.7 +1.3
ROSC El Rosal 158.54 69 PKP PKPdif 23 16 23.1 +2.2
comp=Z,9.1nm,0.6s,baz=294,slow=22,SNR=9.2
SDV Santo Domingo 159.92 54 *e*PKPdif PKPdif 23 16 23.4 +0.9
LPAZ La Paz 160.97 135 PKP PKPdif 23 16 26.8 +3.2
comp=Z,4.6nm,0.9s,baz=277,slow=1.3,SNR=13
LPAZ PKPab PKPab 23 17 08.9 +1.9
comp=Z,5.3nm,0.8s,baz=190,slow=5.9,SNR=9.2

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*CSEM **26** 23:30:52.8, 67.18N×2064E, h5km, ML3.2, Mining explosion. After UPP*
*UPP **26** 23:30:52.8, 67.18N×2064E, h5km, ML3.2, Mining explosion.*
HEL 26 23:30:53.2±0.0, 6717N×2064E, h0km, ML3.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**210**	*i* P	Pg	23 30 54.1	-0.2
DUNU				*i* S	Sg	23 30 55.1	+0.1
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	Pg	23 31 04.0	-0.7
KUA	**Kurravaara**	**0.80**	**352**	*i* P	Pg	23 31 07.4	-1.1
SALU	**Saltoluokta**	**0.85**	**285**	*i* P	Pg	23 31 08.7	-0.9
SALU	**Saltoluokta**	**0.85**	**285**	P	Pg	23 31 08.7	-0.9
				baz=113			
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	23 31 09.9	-1.2
PAJU	**Pajala**	**0.98**	**97**	*e*P	Pg	23 31 10.7	-1.3
SJUU	**Sjulsmark**	**1.71**	**166**	*e*P	Pn	23 31 23.6	-0.7
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pn	23 31 26.6	+0.5
KIF				*e*SG	Sg	23 31 51.4	-1.1
LILU	**Lilltraesk**	**1.92**	**190**	*e*P	Pn	23 31 27.0	-0.2
SGF	**Sodankyl**	**2.30**	**80**	*e*P	Pn	23 31 33.2	+0.9
SGF				*e*SG	Sg	23 32 04.1	-3.0

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*IDC **26** 23:34:05.8±1.3, 2189N×12080E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, Error ellipse: s-maj=154.4km s-min=17.4km az=65.0*
*ISCJB **26** 23:34:07.2±4.0, 2184N±006×1207E±01, h21km±29km, mb3.6/9, Error ellipse: s-maj=20.6km s-min=9.6km az=5.2*
*NEIC **26** 23:34:07.3±0.4, 2185N×12069E, h10km, mb3.8/2, Error ellipse: s-maj=13.3km s-min=7.1km az=85.0*
ISC 26 23:34:08.2±4.1, 2187N±005×1207E±01, h14km±26km, n16, σ0554/18, mb3.6/9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.43**	**19**	Pn	**Pn**	**23 34 47.5**	**+0.1**
NACB				*e*S	**Sn**	**23 35 16.6**	**-0.3**
YHNB	**Yeheng**	**2.85**	**12**	*e*Pn	**Pn**	**23 34 52.9**	**-0.2**
YHNB				*e*Sn	**Sn**	**23 35 27.3**	**0.0**
TATO	**Taipei**	**3.17**	**13**	Pn	**Pn**	**23 34 57.8**	**+0.2**
MAJO	**Matsushiro**	**21.09**	**42**	P	**P**	**23 38 52.0**	**0.0**
ULN	**Ulaanbaatar**	**28.16**	**340**	*e*P	**P**	**23 39 58.9**	**-1.0**
	0.5nm,0.6s,mb3.3						
SONM	**Songino Array**	**28.34**	**339**	P	**P**	**23 40 02.2**	**+0.6**
	0.3nm,0.7s,mb3.0,baz=154,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**39.72**	**318**	P	**P**	**23 41 40.6**	**+0.5**
	0.4nm,0.5s,mb3.4,baz=112,slow=9.9,SNR=6.7						
ZAL	**Zalesovo**	**41.97**	**329**	P	**P**	**23 41 57.8**	**-0.8**
	1.3nm,0.8s,mb3.6,baz=344,slow=9.9,SNR=6.0						
KURK	**Kurchatov**	**43.60**	**322**	P	**P**	**23 42 11.7**	**-0.1**
WRA	**Warramunga Arr**	**43.64**	**161**	P	**P**	**23 42 11.6**	**-0.6**
	1.0nm,0.5s,mb3.8,baz=344,slow=9.1,SNR=5.0						
WB2	**Warramunga Arr**	**43.65**	**161**	*e*P	**P**	**23 42 11.9**	**-0.3**
ASAR	**Alice Springs**	**47.05**	**163**	P	**P**	**23 42 40.0**	**+0.7**
	0.4nm,0.7s,mb3.5,baz=341,slow=6.6,SNR=5.5						
BRVK	**Borovoye**	**49.27**	**322**	*e*P	**P**	**23 42 56.5**	**+0.2**
	1.6nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**57.07**	**159**	P	**P**	**23 43 53.4**	**-0.4**
	1.3nm,0.8s,mb4.0,baz=341,slow=9.6,SNR=2.6						
INK	**Inuvik**	**75.52**	**22**	P	**P**	**23 45 53.3**	**+1.2**
GERES	**GERESS Array B**	**84.34**	**321**	P	**P**	**23 46 39.9**	**+0.1**
	0.4nm,0.7s,mb3.7,baz=46,slow=5.8,SNR=4.5						

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*CSEM **26** 23:42:43.3±0.1, 4482N×1086E, h12km, ML2.6/6, Error ellipse: s-maj=2.0km s-min=1.1km az=110.0*
*ISCJB **26** 23:42:43.3±0.3, 4485N±002×1072E±004, h11km±3km, Error ellipse: s-maj=4.4km s-min=2.6km az=29.6*
*LDG **26** 23:42:44.2±0.4, 4486N×1092E, h10km, Ml2.7/6, Error ellipse: s-maj=8.7km s-min=3.1km az=92.0*
*NEIC **26** 23:42:44.0, 4483N×1079E, h9km, ML2.5(ROM), ML2.7(LDG), After ROM.*
*ROM **26** 23:42:44.0±0.1, 4483N×1079E, h9km±1km, Md2.7/16, Ml2.5/11, Error ellipse: s-maj=2.7km s-min=2.2km az=7.0*
*PRU **26** 23:42:48.7, 4520N×1082E, h0km*
ISC 26 23:42:44.1±0.3, 4485N±002×1075E±003, h11km±2km, n55, σ1929/80, 5C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOVE	**Novellara**	**0.06**	**206**	⇑*i*Pg	**Pg**	**23 42 45.9**	**-0.4**
NOVE				Sg	**Sg**	**23 42 49.0**	**+1.1**
	7µm,0.2s						
SBPO	**S.Benedetto Po**	**0.23**	**31**	Pg	**Pg**	**23 42 49.7**	**+0.7**
	195nm,0.4s						
RAVA	**Ravarino**	**0.28**	**109**	Pg	**Pg**	**23 42 49.6**	**-0.2**
RAVA				Sg	**Sg**	**23 42 55.2**	**+1.6**
	633nm,0.4s						
ERBM	**Eremo**	**0.49**	**209**	Pg	**Pg**	**23 42 53.7**	**-0.1**
GSCL	**Gusciola**	**0.51**	**193**	Pg	**Pg**	**23 42 54.2**	**+0.1**
	24nm,0.3s						
ZCCA	**Zocca**	**0.52**	**162**	Pg	**Pg**	**23 42 54.9**	**+0.5**
	65nm,0.5s						
SARO	**Sassorosso**	**0.71**	**201**	P	**Pg**	**23 43 00.5**	**+2.6**
PZZT	**Monte Pizzetto**	**0.72**	**174**	Pg	**Pg**	**23 42 57.0**	**-1.1**
FNVD	**Fontana Vidola**	**0.73**	**159**	Pg	**Pg**	**23 42 57.5**	**-0.8**
VLC	**Villacollemand**	**0.74**	**201**	Pg	**Pg**	**23 42 57.9**	**-0.5**
VLC				Sg	**Sg**	**23 43 09.6**	**+1.6**
BACM		**0.75**	**221**	P	**Pg**	**23 43 02.1**	**+3.5**
SALO	**Salr**	**0.79**	**348**	Pg	**Pg**	**23 42 59.8**	**+0.5**
	182nm,0.4s						
CODM		**0.79**	**235**	P	**Pg**	**23 43 02.3**	**+2.9**
BDI	**Bagni Di Lucca**	**0.79**	**188**	Pg	**Pg**	**23 42 58.7**	**-0.8**
BDI				Sg	**Sg**	**23 43 11.1**	**+1.2**
	64nm,0.6s						
VINC	**Vinca**	**0.83**	**211**	P	**Pg**	**23 43 02.8**	**+2.7**
TEOL	**Teolo**	**0.83**	**52**	⇓*i*Pg	**Pg**	**23 42 59.6**	**-0.6**
TEOL				*i* Sg	**Sg**	**23 43 11.1**	**+0.2**
SEI	**Scarperia**	**0.91**	**151**	Pg	**Pg**	**23 43 02.1**	**+0.5**
	58nm,0.3s						
MAGA	**Magasa**	**0.93**	**355**	Pg	**Pg**	**23 43 01.7**	**-0.4**
MAGA				Sg	**Sg**	**23 43 16.9**	**+2.7**
	701nm,0.4s						
BOB	**Bobbio (Coli)**	**0.93**	**265**	Pg	**Pg**	**23 43 02.6**	**+0.5**
MAIM		**0.95**	**191**	Pg	**Pg**	**23 43 01.8**	**-0.7**
	63nm,0.8s						
VMG	**Vicchio**	**1.05**	**147**	Pg	**Pg**	**23 43 04.2**	**-0.2**
	9.0nm,0.3s						
MDI	**Monti di Nese**	**1.18**	**322**	Pg	**Pg**	**23 43 06.2**	**-0.7**
MDI				Sg	**Sg**	**23 43 23.4**	**+1.1**
	120nm,0.3s						
MABI	**Malga Bissina**	**1.22**	**352**	Pg	**Pg**

CTI	**Castel Tesino**	**1.36**	**28**	Pg	**Pg**	**23 43 08.0**	**-2.2**
CTI				Sg	**Sg**	**23 43 26.6**	**-1.2**
	81nm,0.3s						
CSNT	**Castellina Chi**	**1.43**	**164**	Pg	**Pg**	**23 43 09.5**	**-2.1**
	13nm,0.6s						
BRMO	**Bormio**	**1.65**	**351**	Pg	**Pg**	**23 43 14.4**	**-1.4**
	5.0nm,0.3s						
CAE	**Caneva**	**1.66**	**45**	⇓*i*Pg	**Pg**	**23 43 14.4**	**-1.5**
CAE	**Caneva**	**1.66**	**45**	*i*Pg	**Pg**	**23 43 14.4**	**-1.6**
APPI	**Appiano**	**1.66**	**11**	Pg	**Pg**	**23 43 13.3**	**-2.8**
	51nm,0.3s						
VAI	**Varese**	**1.73**	**307**	Pg	**Pg**	**23 43 17.2**	**-0.1**
	16nm,0.3s						
FUORN	**Ofenpass**	**1.80**	**349**	Pg	**Pg**	**23 43 16.8**	**-1.9**
SQTA	**Sankt Quirin**	**2.39**	**7**	⇓*i*Pn	**Pn**	**23 43 24.4**	**+1.1**
SQTA				⇑*i*Sn	**Sn**	**23 43 54.7**	**+2.1**
WTTA	**Wattenberg**	**2.49**	**14**	⇑*i*Pn	**Pn**	**23 43 25.5**	**+0.9**
WTTA				⇓*i*Sn	**Sn**	**23 43 56.9**	**+1.9**
MOTA	**Moosalm**	**2.51**	**5**	⇓*i*Pn	**Pn**	**23 43 25.9**	**+1.1**
MOTA				⇑*i*Sn	**Sn**	**23 43 58.1**	**+2.7**
DAVA	**Damuels**	**2.51**	**346**	⇓*i*Pn	**Pn**	**23 43 26.2**	**+1.4**
DAVA				⇓*i*Sn	**Sn**	**23 43 58.1**	**+2.6**
WATA	**Walderalm**	**2.55**	**13**	⇑*i*Pn	**Pn**	**23 43 27.0**	**+1.6**
WATA				⇓*i*Sn	**Sn**	**23 43 58.3**	**+1.8**
SBF	**Sospel**	**2.57**	**249**	*e*Pn	**Pn**	**23 43 25.8**	**+0.1**
PGF	**Pioggiola**	**2.63**	**210**	*e*Pn	**Pn**	**23 43 25.8**	**-0.7**
PGF				*e*Sn	**Sn**	**23 43 57.3**	**-1.0**
	3.8nm,0.3s						
PGF	**Pioggiola**	**2.63**	**210**	*e*Pn	**Pn**	**23 43 25.8**	**-0.7**
PGF				*e*Sn	**Sn**	**23 43 57.3**	**-1.0**
	1.9nm,0.3s						
MBDF	**Montbardon**	**2.84**	**269**	*e*Pn	**Pn**	**23 43 28.3**	**-1.0**
LPG	**La Plagne**	**2.90**	**284**	*e*Pn	**Pn**	**23 43 29.0**	**-1.2**
FRF	**La Foret Royal**	**3.22**	**248**	*e*Pn	**Pn**	**23 43 34.4**	**-0.2**
FRF				*e*Sn	**Sn**	**23 44 12.8**	**-0.2**
	3.0nm,0.2s						
FRF	**La Foret Royal**	**3.22**	**248**	*e*Pn	**Pn**	**23 43 34.4**	**-0.2**
FRF				*e*Sn	**Sn**	**23 44 12.8**	**-0.2**
	1.5nm,0.2s						
LMR	**La Mourre**	**3.41**	**245**	*e*Pn	**Pn**	**23 43 37.1**	**-0.1**
LMR				*e*Sn	**Sn**	**23 44 16.6**	**-1.1**
	3.8nm,0.3s						
LMR	**La Mourre**	**3.41**	**245**	*e*Pn	**Pn**	**23 43 37.1**	**-0.1**
LMR				*e*Sn	**Sn**	**23 44 16.6**	**-1.1**
	1.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.46**	**273**	*e*Pn	**Pn**	**23 43 38.2**	**+0.2**
CABF	**La Chapelle**	**3.71**	**300**	*e*Pn	**Pn**	**23 43 40.8**	**-0.6**
HINF	**Hinteralfeld**	**4.01**	**319**	*e*Sn	**Sn**	**23 44 29.4**	**-3.1**
	1.9nm,0.2s						
HINF	**Hinteralfeld**	**4.01**	**319**	*e*Sn	**Sn**	**23 44 29.4**	**-3.1**
	0.9nm,0.2s						
CDF	**Champ du Feu**	**4.29**	**327**	*e*Pn	**Pn**	**23 43 49.0**	**-0.4**
CDF				*e*Sn	**Sn**	**23 44 36.1**	**-3.3**
	1.0nm,0.2s						
CDF	**Champ du Feu**	**4.29**	**327**	*e*Pn	**Pn**	**23 43 49.0**	**-0.4**
CDF				*e*Sn	**Sn**	**23 44 36.1**	**-3.3**
	0.5nm,0.2s						
HAU	**Haudompre**	**4.38**	**318**	*e*Pn	**Pn**	**23 43 50.1**	**-0.5**
HAU				*e*Sn	**Sn**	**23 44 38.0**	**-3.7**
	6.1nm,0.3s						
HAU	**Haudompre**	**4.38**	**318**	*e*Pn	**Pn**	**23 43 50.1**	**-0.5**
HAU				*e*Sn	**Sn**	**23 44 38.0**	**-3.7**
	3.0nm,0.3s						
KHC	**Kasperske Hory**	**4.70**	**23**	*e*PN	**Pn**	**23 43 54.7**	**-0.3**
KHC				*e*SN	**Sn**	**23 44 46.4**	**-3.1**

*ISCJB **26** 23:45:34.9±3.9, 362N±0.1×688E±02, h87km±75km, Error ellipse: s-maj=23.4km s-min=15.7km az=126.3*
*NNC **26** 23:45:38.2±6.8, 3677N×6860E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=64.6km s-min=52.5km az=112.0*

ISC 26 23:45:36.0±3.3, 361N±01×687E±02, h92km±62km, n9, σ0§62/11, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.11**	**11**	⇑Pn	**Pn**	**23 47 17.8**	**+0.5**
	0.5nm,0.3s,baz=201,slow=17,SNR=15						
KK31				⇓Sn	**Sn**	**23 48 36.2**	**-0.3**
	1.3nm,0.3s,baz=191,slow=33						
TKM2	**Tokmak 2**	**8.63**	**36**	⇓Pn	**Pn**	**23 47 37.4**	**-0.6**
	0.2nm,0.5s						
TKM2				⇑Sn	**Sn**	**23 49 13.9**	**+0.3**
	0.8nm,0.8s						
AB31	**Akbulak array**	**14.59**	**337**	⇓Pn	**Pn**	**23 48 57.8**	**0.0**
	0.5nm,0.4s						
KOLN	**Koldanda**	**15.14**	**119**	*e*P	**Pn**	**23 49 05.7**	**+0.9**
GKN	**Gorkha**	**15.75**	**116**	*e*P	**Pn**	**23 49 11.3**	**-1.1**
	5.5nm,0.3s						
KKN	**Kakani**	**16.34**	**116**	*e*P	**Pn**	**23 49 18.9**	**-0.9**
	9.6nm,0.5s						
PKI	**Pulchoki**	**16.56**	**116**	*e*P	**Pn**	**23 49 23.2**	**+0.7**
GUN	**Gumba**	**16.71**	**115**	*e*P	**Pn**	**23 49 24.7**	**+0.3**
	7.9nm,0.5s						
JIRN	**Jiri**	**17.08**	**115**	*e*P	**Pn**	**23 49 28.9**	**0.0**
	18nm,0.6s						

NEIC 27 00:15:04.8±1.0, 180N×9748E, h30km, mb3.8/3, Error ellipse: s-maj=23.9km s-min=17.5km az=88.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.69**	**42**	*e*Pn	Pn	00 16 11.8	-1.8
KKM	**Kota Kinabalu**	**19.16**	**77**	P	Pn	00 19 27.8	+1.1
NWAO	**Narrogin (SRO)**	**39.26**	**153**	P	P	00 22 30.1	-0.5
	6.9nm,0.9s						
WB2	**Warramunga Arr**	**42.12**	**123**	P	P	00 22 55.4	+1.1
MK31	**Makanchi Array**	**46.73**	**346**	*e*P	P	00 23 28.5	-2.7
KURK	**Kurchatov**	**51.29**	**345**	*e*P	P	00 24 06.6	+0.6
	0.4nm,0.4s						
BRVK	**Borovoye**	**55.85**	**341**	*e*P	P	00 24 39.9	+0.4
	0.3nm,0.4s						
CASY	**Casey**	**68.57**	**174**	P	P	00 26 03.6	-1.1

IDC 27 00:19:25.4±4.3, 588S×15086E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/13, mbtmp3.5/2, Error ellipse: s-maj=185.2km s-min=51.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**226**	Sn	Sn	00 21 41.7	-0.2
	2.7nm,0.3s,baz=76,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**21.29**	**227**	P	P	00 24 13.9	+0.4
	1.2nm,0.6s,baz=53,slow=10.0,SNR=3.8						
ASAR	**Alice Springs**	**24.07**	**221**	P	P	00 24 42.5	+0.3
	0.7nm,0.4s,baz=57,slow=9.3,SNR=22						
TORD	**Torodi Ar. Bea**	**148.77**	**286**	PKPbc	PKPbc	00 39 15.4	+0.7
	0.2nm,0.6s,baz=106,slow=3.9,SNR=4.3						

*CSEM **27** 00:21:33.0, 6783N×20.19E, h15km, ML3.2, Mining explosion. After UPP*
*UPP **27** 00:21:33.0, 6783N×20.19E, h15km, ML3.2, Mining explosion.*

HEL 27 00:21:33.4±0.1, 6783N×2019E, h0km, ML3.2(UPP), 1C, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**24**	*i*P	Pg	00 21 35.7	-0.3
KUA				*i*S	Sg	00 21 37.6	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i*P	Pg	00 21 41.3	-0.5
LANU	**Lannavaara**	**0.71**	**71**	*i*P	Pg	00 21 46.2	-0.8
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 21 46.2	-0.9
	baz=308						
DUNU	**Dundret**	**0.73**	**168**	*i*P	Pg	00 21 46.3	-1.0
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 21 46.3	-1.1
	baz=66						
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	00 21 47.7	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i*P	Pg	00 21 47.6	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	00 21 55.2	-1.2
KIF				*e*SB	Sb	00 22 12.5	-0.5
PAJU	**Pajala**	**1.39**	**124**	⇑*e*P	Pn	00 21 58.1	-1.9
SGF	**Sodankyl**	**2.46**	**96**	*e*PG	Pg	00 22 17.1	-3.3
SGF				*e*SG	Sg	00 22 48.6	-3.6
KEV	**Kevo**	**3.14**	**49**	*e*S	Sn	00 23 02.7	+0.4
OUL	**Oulu**	**3.58**	**138**	*e*	Sg	00 23 29.9	+1.4
KU6	**Riekki**	**4.23**	**111**	*e*SG	Sg	00 23 43.6	-5.6

IDC 27 00:22:14.4±2.1, 681S×12889E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=91.9km s-min=27.6km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.66**	**195**	Pn	Pn	00 25 02.1	0.0
	0.4nm,0.3s,baz=25,slow=11,SNR=10						
FITZ				Sn	Sn	00 26 57.6	-15
	0.7nm,0.3s,baz=289,slow=19,SNR=8.1						
WRA	**Warramunga Arr**	**14.09**	**158**	Pn	Pn	00 25 34.5	-0.7
	0.4nm,0.3s,baz=341,slow=12,SNR=3.8						
WRA				Sn	Sn	00 27 59.0	-13
	0.5nm,0.3s,baz=336,slow=22,SNR=4.4						
ASAR	**Alice Springs**	**17.44**	**164**	P	Pn	00 26 20.1	+1.1
	0.2nm,0.3s,baz=338,slow=10,SNR=10.0						
ASAR				S	Sn	00 29 20.4	-13
	0.2nm,0.3s,baz=331,slow=18,SNR=4.7						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	00 33 12.1	+0.2
	0.4nm,0.7s,baz=111,slow=7.3,SNR=3.8						

*ISCJB **27** 00:25:17.1±0.6, 4305N±006×020W±003, h14km±4km, Error ellipse: s-maj=10.3km s-min=3.8km az=9.8*
*STR **27** 00:25:17.6±0.0, 4304N×0.19W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 00:25:17.8±0.1, 4303N×020W, h5km, Md2.1/2, Ml1.3/1, Error ellipse: s-maj=2.3km s-min=0.8km az=3.0*
*MDD **27** 00:25:18.1±0.5, 4304N×020W, h8km±7km, mbLg1.3/3, Error ellipse: s-maj=3.8km s-min=1.9km az=7.0, PRXIMO*

ISC 27 00:25:17.2±0.8, 4308N±006×019W±003, h13km±7km, n17, σ0§56/26, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.15**	**267**	Pg	**Pg**	**00 25 21.0**	**+0.1**
REYF				Sg	**Sg**	**00 25 23.5**	**-0.1**
REYF	**Montagne du Re**	**0.15**	**267**	P	**Pg**	**00 25 21.0**	**+0.1**
REYF				S	**Sg**	**00 25 23.7**	**+0.1**
LABF	**Labassere**	**0.19**	**99**	Pg	**Pg**	**00 25 21.9**	**+0.3**
LABF				Sg	**Sg**	**00 25 25.0**	**+0.4**
LABF	**Labassere**	**0.19**	**99**	P	**Pg**	**00 25 22.0**	**+0.4**
LABF				S	**Sg**	**00 25 25.0**	**+0.4**
VIEF	**Viey**	**0.25**	**141**	Pg	**Pg**	**00 25 22.4**	**-0.1**
VIEF				Sg	**Sg**	**00 25 25.8**	**-0.3**
VIEF	**Viey**	**0.25**	**141**	P	**Pg**	**00 25 22.5**	**0.0**
VIEF				S	**Sg**	**00 25 25.9**	**-0.2**
ETSF	**Etsaut**	**0.33**	**237**	*e*Pg	**Pg**	**00 25 23.8**	**-0.1**
ETSF				*e*Sg	**Sg**	**00 25 27.2**	**-1.2**
	11nm,0.3s						
ETSF	**Etsaut**	**0.33**	**237**	Pg	**Pg**	**00 25 23.8**	**-0.1**
ETSF				Lg		00 25 27.2	
	5.5nm,0.3s						
ATE	**Arette**	**0.38**	**272**	Pg	**Pg**	**00 25 24.9**	**+0.1**
ATE				Sg	**Sg**	**00 25 30.3**	**+0.4**
ATE	**Arette**	**0.38**	**272**	P	**Pg**	**00 25 24.8**	**0.0**
ATE				S	**Sg**	**00 25 30.4**	**+0.5**
EPF	**Esparros**	**0.39**	**97**	*e*Pg	**Pg**	**00 25 25.4**	**+0.4**
EPF				*e*Sg	**Sg**	**00 25 30.7**	**+0.4**
	1.9nm,0.2s						
EPF	**Esparros**	**0.39**	**97**	Pg	**Pg**	**00 25 25.4**	**+0.4**
EPF				Lg		00 25 30.7	
	0.9nm,0.2s						
EBIE	**Bielsa**	**0.46**	**148**	Pg	**Pg**	**00 25 26.2**	**-0.1**
	0.2nm,0.0s,SNR=21						
EBIE				Lg		00 25 32.2	
	2.0nm,0.0s,SNR=7.4						
ESAC	**San Caprasio**	**1.37**	**189**	Pg	**Pg**	**00 25 44.5**	**+0.9**
	0.9nm,0.1s,SNR=7.9						
ESAC				Lg		00 26 01.9	
	1.5nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.72**	**132**	Lg		00 26 13.3	
	0.4nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**1.78**	**81**	*e*Pn	**Pn**	**00 25 47.7**	**+0.1**
MTLF				*e*Sg	**Sg**	**00 26 13.0**	**-1.4**
	0.4nm,0.2s						
ERTA	**Horta de San J**	**2.15**	**169**	Lg		00 26 24.8	
	SNR=7.9						

*LDG **27** 00:28:31.9±0.6, 4284N×147W, h2km, Md1.5/2, Ml1.7/1, Error ellipse: s-maj=10.8km s-min=5.7km az=47.0*
*MDD **27** 00:28:31.8±0.3, 4280N×138W, h0km, mbLg1.0/8, 1C, Error ellipse: s-maj=3.4km s-min=1.9km az=16.0, PRXIMO, Pyrenees*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.02**	**66**	⇑Pg	Pg	00 28 32.0	-0.1
	12nm,0.0s,SNR=18						
IPRE				Lg		00 28 32.5	
	76nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.15**	**260**	Pg	Pg	00 28 34.7	0.0
	12nm,0.1s,SNR=9.5						
EARA				Lg		00 28 38.0	
	36nm,0.1s,SNR=14						
IUSE	**Utxeti**	**0.19**	**320**	Pg	Pg	00 28 35.3	-0.2
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg		00 28 38.5	
	2.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**20**	*e*Pg	Pg	00 28 38.1	-0.1
SJPF				*e*Sg	Sg	00 28 43.0	+0.5
	3.9nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**20**	Pg	Pg	00 28 38.1	-0.1
SJPF				Lg		00 28 43.0	
	1.9nm,0.3s						
ELIZ	**Elizondo**	**0.38**	**343**	Pg	Pg	00 28 39.6	+0.5
	0.9nm,0.2s,SNR=4.0						
ELIZ				Lg		00 28 44.6	
	1.2nm,0.2s,SNR=4.0						
EALK	**Alkurruntz**	**0.43**	**347**	Pg	Pg	00 28 38.5	-1.5
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		00 28 45.3	
	3.1nm,0.2s,SNR=4.0						
ETSF	**Etsaut**	**0.61**	**80**	*e*Pg	Pg	00 28 43.8	+0.3
ETSF				*e*Sg	Sg	00 28 53.1	+1.7
	0.9nm,0.3s						
ETSF	**Etsaut**	**0.61**	**80**	Pg	Pg	00 28 43.8	+0.3
ETSF				Lg		00 28 53.1	
	0.4nm,0.3s						
EBIE	**Bielsa**	**1.12**	**95**	Pg	Pg	00 28 55.5	+2.2
	0.5nm,0.2s,SNR=7.9						
EBIE				Lg		00 29 12.0	
	1.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.27**	**148**	Pg	Pg	00 28 56.8	+0.7
	1.1nm,0.2s,SNR=4.0						
ESAC				Lg		00 29 12.9	
	2.6nm,0.2s,SNR=4.0						
EPF	**Esparros**	**1.28**	**79**	*e*Pg	Pg	00 28 57.2	+0.8
EPF				*e*Sg	Sg	00 29 14.4	+1.4
	1.8nm,0.3s						
EPF	**Esparros**	**1.28**	**79**	Lg		00 29 14.4	
	0.9nm,0.3s						

*ISCJB **27** 00:34:19.7±0.5, 9.14S×007×10735E±007, h10km, mb4.3/18, Error ellipse: s-maj=12.0km s-min=7.6km az=106.1*
*IDC **27** 00:34:20.2±2.5, 9.10S×10735E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/24, Error ellipse: s-maj=127.5km s-min=18.0km az=50.0*
*BJI **27** 00:34:20.7, 9.10S×107.40E, h10km, mb4.3*
*NEIC **27** 00:34:21.7±0.4, 905S×107.41E, h10km, mb4.6/10, Error ellipse: s-maj=13.1km s-min=6.1km az=51.0*

ISC 27 00:34:22.0±0.5, 911S±006×10735E±007, h10km, n38, σ0§93/37, mb4.3/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.29**	**7**	P	**Pb**	**00 35 03.5**	**+0.2**
	0.0nm,0.0s						
CBJI	**Citeko**	**2.72**	**349**	P	**Pn**	**00 35 04.2**	**-1.5**
	0.0nm,0.0s						
BJII	**Banjamegara**	**2.93**	**53**	P	**Pg**	**00 35 19.1**	**+1.0**
	0.0nm,0.0s						
SBJI	**Serang**	**3.21**	**338**	P	**Pn**	**00 35 14.1**	**+1.7**
	0.0nm,0.0s						
PSI	**Prapat**	**14.51**	**324**	LR	LR	00 43 36.0	
	comp=Z,137nm,19.0s,baz=314,slow=38						
KULM	**Kulim**	**15.79**	**335**	Pn	**Pn**	**00 38 03.5**	**-0.8**
KKM	**Kota Kinabalu**	**17.46**	**31**	*e*Pn	**Pn**	**00 38 24.8**	**-0.7**
NWAO	**Narrogin (SRO)**	**25.40**	**160**	P	**P**	**00 39 50.1**	**+0.6**
QIZ	**Qiongzhong**	**28.07**	**5**	P	**P**	**00 40 12.9**	**-0.7**

WRA	**Warramunga Arr**	**28.21**	**115**	P	**P**	**00 40 13.9**	**-0.9**
	0.3nm,0.8s,baz=285,slow=13,SNR=2.5						
WB2	**Warramunga Arr**	**28.22**	**115**	P	**P**	**00 40 13.8**	**-1.1**
CHTO	**Chiang Mai**	**28.96**	**343**	*e*P	**P**	**00 40 22.0**	**+0.5**
	7.2nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**29.22**	**123**	P	**P**	**00 40 25.2**	**+1.4**
	0.5nm,0.8s,mb3.3,baz=303,slow=8.6,SNR=3.4						
BAKI	**Biak**	**29.68**	**76**	P	**P**	**00 40 32.8**	**+5.0**
	90nm,0.8s						
NACB	**Ninganchiao**	**35.89**	**23**	*e*P	**P**	**00 41 21.1**	**-1.1**
YHNB	**Yeheng**	**36.26**	**22**	P	**P**	**00 41 24.9**	**-0.4**
SHL	**Shillong**	**37.62**	**337**	*e*P	**P**	**00 41 38.0**	**+1.2**
STKA	**Stephens Creek**	**38.99**	**130**	P	**P**	**00 41 48.3**	**-0.1**
	2.2nm,0.9s,mb3.9,baz=307,slow=9.8,SNR=4.1						
PMG	**Port Moresby**	**39.27**	**94**	P	**P**	**00 41 50.9**	**+0.1**
LSA	**Lhasa**	**41.62**	**339**	P	**P**	**00 42 11.3**	**+1.1**
LSA	**Lhasa**	**41.62**	**339**	*e*P	**P**	**00 42 11.5**	**+1.3**
	10nm,1.0s,mb4.4						
JIRN	**Jiri**	**41.91**	**331**	*e*P	**P**	**00 42 12.5**	**0.0**
	10nm,0.7s,mb4.6						
GUN	**Gumba**	**42.27**	**331**	*e*P	**P**	**00 42 16.4**	**+0.9**
	52nm,1.4s,mb5.0						
DMN	**Daman**	**42.39**	**330**	*e*P	**P**	**00 42 16.7**	**+0.2**
	7.5nm,0.6s,mb4.5						
XAN	**Xi'an**	**42.94**	**2**	P	**P**	**00 42 21.8**	**+0.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.2						
GKN	**Gorkha**	**42.95**	**330**	*e*P	**P**	**00 42 20.7**	**-0.3**
	comp=Z,13nm,0.9s,mb4.7						
KOLN	**Koldanda**	**43.28**	**329**	*e*P	**P**	**00 42 22.0**	**-1.7**
	comp=Z,11nm,0.7s,mb4.7						
GTA	**Gaotai**	**48.78**	**352**	*e*P	**P**	**00 43 09.3**	**+2.3**
GTA				AP	pP	00 43 14.3	+4.1
GTA				XP	sP	00 43 16.8	+5.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.3						
SONM	**Songino Array**	**56.70**	**359**	P	**P**	**00 44 05.7**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.8,baz=171,slow=6.8,SNR=6.4						
MK31	**Makanchi Array**	**59.98**	**340**	*e*P	**P**	**00 44 28.3**	**-0.2**
MK31				*e*		00 44 38.1	
MKAR	**Makanchi Array**	**59.98**	**340**	P	**P**	**00 44 28.3**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.3,baz=140,slow=7.8,SNR=22						
MKAR	**Makanchi Array**	**59.98**	**340**	P	**P**	**00 44 28.3**	**-0.3**
KURK	**Kurchatov**	**64.59**	**340**	*e*P	**P**	**00 44 58.4**	**-1.1**
	comp=Z,9.2nm,1.3s,mb4.7						
KURK				*e*PcP	PcP	00 45 32.3	-1.1
ZAL	**Zalesovo**	**65.65**	**346**	P	**P**	**00 45 06.4**	**+0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=9.5,slow=16,SNR=2.4						
BVAR	**Borovoye Array**	**69.44**	**337**	P	**P**	**00 45 29.7**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=137,slow=8.9,SNR=12						
BRVK	**Borovoye**	**69.50**	**337**	*e*P	**P**	**00 45 29.1**	**-1.5**
	comp=Z,1.1nm,0.5s,mb4.0						
KIV	**Kislovodsk**	**78.67**	**318**	*e*P	**P**	**00 46 24.7**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.2						
EIL	**Elat**	**79.49**	**302**	P	**P**	**00 46 29.2**	**+0.4**

*IDC **27** 00:39:28.9±2.8, 5.16S×143.14E, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.1/14, mbtmp4.1/6, ML4.1/1, Error ellipse: s-maj=96.8km s-min=23.9km az=103.0*
*ISCJB **27** 00:39:32.0±0.5, 522S×007×143.1E±0.1, h33km, mb4.0/7, Error ellipse: s-maj=14.3km s-min=9.6km az=3.7*
*NEIC **27** 00:39:34.0±0.4, 522S×143.10E, h35km, mb4.2/4, Error ellipse: s-maj=10.4km s-min=7.1km az=95.0*

ISC 27 00:39:29.2±7.6, 52S±01×14312E±010, h2km±49km, n20, σ0§54/18, mb4.0/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.95**	**234**	*e*P	**Pn**	**00 42 33.2**	**-1.1**
	17nm,0.6s						
CTAO	**Charters Tower**	**15.16**	**169**	*e*Pn	**Pn**	**00 43 04.6**	**+0.1**
WB2	**Warramunga Arr**	**17.00**	**209**	*e*P	**Pn**	**00 43 28.6**	**+0.4**
WRA	**Warramunga Arr**	**17.01**	**209**	P	**Pn**	**00 43 29.0**	**+0.7**
	0.8nm,0.3s,baz=27,slow=12,SNR=31						
HNR	**Honiara**	**17.23**	**105**	*e*P	**Pn**	**00 43 30.6**	**-0.5**
	21nm,0.6s						
ASAR	**Alice Springs**	**20.44**	**205**	P	**P**	**00 44 08.5**	**+0.6**
	6.5nm,0.7s,baz=32,slow=12,SNR=56						
FITZ	**Fitzroy Crossi**	**21.39**	**232**	P	**P**	**00 44 17.9**	**-0.3**
	4.6nm,0.9s,mb3.8,baz=42,slow=13,SNR=5.0						
YHNB	**Yeheng**	**36.41**	**325**	P	**P**	**00 46 35.7**	**+0.5**
TAU	**Tasmania Unive**	**37.79**	**175**	P	**P**	**00 46 47.0**	**+0.1**
SONM	**Songino Array**	**61.83**	**333**	P	**P**	**00 49 51.0**	**+1.2**
	0.3nm,0.6s,mb3.6,baz=145,slow=5.3,SNR=3.0						
MK31	**Makanchi Array**	**74.40**	**321**	*e*P	**P**	**00 51 08.7**	**-0.1**
MKAR	**Makanchi Array**	**74.40**	**321**	P	**P**	**00 51 08.7**	**0.0**
	1.2nm,0.5s,mb4.1,baz=105,slow=7.7,SNR=15						
AAK	**Ala-Archa**	**78.00**	**315**	*e*P	**P**	**00 51 29.0**	**-0.2**
	0.4nm,0.4s,mb3.7						
KURK	**Kurchatov**	**78.24**	**324**	*e*P	**P**	**00 51 30.1**	**-0.4**
	1.2nm,0.7s,mb3.9						
MAW	**Mawson**	**81.55**	**202**	P	**P**	**00 51 47.9**	**-0.6**
BVAR	**Borovoye Array**	**83.82**	**325**	P	**P**	**00 52 00.1**	**-0.2**
	2.1nm,0.8s,mb4.3,baz=103,slow=6.4,SNR=14						
BRVK	**Borovoye**	**83.89**	**325**	*e*P	**P**	**00 51 60.0**	**-0.7**
	1.5nm,0.5s,mb4.4						
MCK	**McKinley**	**85.03**	**24**	*e*P	**P**	**00 52 06.7**	**+0.3**
MCK				*e*PcP	PcP	00 52 10.5	+0.8

Error ellipse: s-maj=13.9km s-min=8.6km az=3.2
*IDC **27** 00:52:34.9±2.7, 6.18S×14773E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/22, Error ellipse: s-maj=62.9km s-min=31.7km az=92.0*
*NEIC **27** 00:52:39.3±0.4, 621S×14779E, h35km, mb4.1/4, Error ellipse: s-maj=8.7km s-min=6.8km az=88.0*

ISC 27 00:52:36.1±0.7, 614S±006×14776E±010, h10km, n16, σ0§63/16, mb4.0/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.30**	**190**	Pn		**Pn**		**00 53 28.6**	**+0.7**
	19nm,0.3s,baz=348,slow=8.0,SNR=20								
PMG				Sn		**Sn**		**00 54 08.2**	**+1.1**
	8.1nm,0.3s,baz=209,slow=20,SNR=4.8								
PMG				LR		LR		00 55 04.2	
	comp=Z,209nm,19.0s,baz=217,slow=46								
HNR	**Honiara**	**12.51**	**106**	Pn		**Pn**		**00 55 33.8**	**-0.3**
CTAO	**Charters Tower**	**13.94**	**186**	*e*Pn		**Pn**		**00 55 53.7**	**-0.1**
WB2	**Warramunga Arr**	**18.92**	**222**	*e*P		**Pn**		**00 56 56.5**	**-1.1**
WRA	**Warramunga Arr**	**18.93**	**222**	P		**Pn**		**00 56 56.4**	**-1.3**
	0.5nm,0.3s,baz=48,slow=11,SNR=4.1								
ASAR	**Alice Springs**	**21.94**	**216**	P		**P**		**00 57 29.6**	**-0.3**
	1.7nm,0.5s,mb3.8,baz=51,slow=9.1,SNR=12								
FITZ	**Fitzroy Crossi**	**24.64**	**239**	P		**P**		**00 57 57.0**	**+0.2**
	1.7nm,0.3s,mb4.1,baz=53,slow=9.8,SNR=8.3								
STKA	**Stephens Creek**	**26.25**	**192**	P		**P**		**00 58 10.9**	**-0.5**
	1.1nm,0.5s,mb3.6,baz=322,slow=6.8,SNR=4.1								
KSM	**Kuching**	**38.15**	**280**	P		**P**		**00 59 55.8**	**+0.3**
KULM	**Kulim**	**48.38**	**283**	P		**P**		**01 01 18.2**	**0.0**
ENH	**Enshi**	**51.54**	**317**	*e*P		**P**		**01 01 42.5**	**+0.4**
	0.3nm,0.3s,mb3.7								
LSA	**Lhasa**	**64.93**	**307**	*e*P		**P**		**01 03 16.8**	**+0.9**
	1.5nm,0.3s,mb4.5								
KURK	**Kurchatov**	**81.78**	**323**	P		**P**		**01 04 55.0**	**-0.1**
AAK	**Ala-Archa**	**81.98**	**314**	*e*P		**P**		**01 04 56.7**	**+0.4**
	0.4nm,0.4s,mb3.7								
COLA	**College**	**84.98**	**23**	*e*P		**P**		**01 05 11.4**	**-0.2**
	1.4nm,0.4s,mb4.4								
TORD	**Torodi Ar. Bea**	**145.86**	**284**	PKPbc		PKPbc		01 12 16.6	+0.9
	0.4nm,0.4s,baz=82,slow=3.4,SNR=13								

*ISCJB **27** 01:01:51.3±0.7, 874S±005×133.18E±0.10, h10km, mb3.3/2, MS4.0/1, Error ellipse: s-maj=13.7km s-min=6.3km az=158.2*
*IDC **27** 01:01:51.7±2.4, 867S×13328E, h0km, mb3.6/1, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, ML3.9/3, MS4.0/1, Ms1 4.0/1, ms1mx2.7/26, Error ellipse: s-maj=61.0km s-min=25.6km az=87.0*
*NEIC **27** 01:01:53.0±0.6, 868S×13326E, h10km, mb3.3/2, Error ellipse: s-maj=17.4km s-min=7.2km az=70.0*

ISC 27 01:01:53.3±0.7, 865S±005×13323E±010, h10km, n14, σ0§92/17, mb3.3/2, MS4.0/1, Arafura Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.27**	**175**	Pn		**Pn**		**01 04 35.5**	**+1.1**
	0.6nm,0.3s,baz=356,slow=13,SNR=9.5								
WRA				Sn		**Sn**		**01 06 42.0**	**+1.5**
	1.6nm,0.3s,baz=359,slow=23,SNR=6.6								
WB2	**Warramunga Arr**	**11.28**	**175**	*e*Pn		**Pn**		**01 04 34.1**	**-0.4**
WB2				*e*Sn		**Sn**		**01 06 40.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.94**	**217**	Pn		**Pn**		**01 04 42.8**	**-0.8**
	1.0nm,0.3s,baz=38,slow=11,SNR=29								
FITZ				Sn		**Sn**		**01 06 56.2**	**-0.7**
	3.2nm,0.3s,baz=178,slow=15,SNR=12								
ASAR	**Alice Springs**	**14.94**	**178**	Pn		**Pn**		**01 05 23.4**	**-1.2**
	0.4nm,0.3s,baz=353,slow=11,SNR=15								
ASAR				Sn		**Sn**		**01 08 13.0**	**+2.9**
	0.5nm,0.3s,baz=0.3,slow=27,SNR=5.8								
CTAO	**Charters Tower**	**16.97**	**133**	*e*P		**Pn**		**01 05 48.9**	**-1.9**
	1.0nm,0.6s								
KKM	**Kota Kinabalu**	**22.38**	**310**	P		**P**		**01 06 52.1**	**+0.4**
KSM	**Kuching**	**24.96**	**293**	*e*P		**P**		**01 07 16.4**	**-0.4**
QIZ	**Qiongzhong**	**35.89**	**320**	*e*P		**P**		**01 08 53.4**	**-0.1**
ENH	**Enshi**	**44.92**	**330**	*e*P		**P**		**01 10 08.6**	**+0.4**
	0.2nm,0.5s,mb3.2								
MJAR	**Matsushiro Arr**	**45.20**	**6**	LR		LR		01 29 58.2	
	comp=Z,155nm,18.2s,MS4.0,baz=0.0,slow=37								
CASY	**Casey**	**59.62**	**190**	P		**P**		**01 11 57.3**	**-0.1**
MKAR	**Makanchi Array**	**71.37**	**326**	P		**P**		**01 13 13.9**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=118,slow=7.3,SNR=3.2								
KURK	**Kurchatov**	**75.60**	**328**	*e*P		**P**		**01 13 38.9**	**+0.6**
BRVK	**Borovoye**	**81.24**	**327**	*e*P		**P**		**01 14 09.6**	**+0.1**

*NEIC **27** 01:06:59.2, 1851N×103.15W, h25km, MD4.0(MEX), After MEX.*

MEX 27 01:06:58.4±0.8, 1843N×10316W, h41km±12km, MD4.1, 1C, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.23**	**232**	⇑*i*P		Pn		01 07 04.2	-1.9
MMIG				*i*S		Sn		01 07 10.1	-1.3
SFJM	**Santa Fe**	**2.05**	**3**	*i*P		Pn		01 07 28.8	-1.5
SFJM				*i*S		Sn		01 07 52.7	-2.0
CJM	**Chamela**	**2.08**	**301**	*i*P		Pn		01 07 29.4	-1.3
CJM				*i*S		Sn		01 07 54.0	-1.4
MOIG	**Morelia**	**2.24**	**56**	*i*P		Pn		01 07 32.3	-0.6
MOIG				*i*S		Sn		01 07 58.0	-1.3
MOIG	**Morelia**	**2.24**	**56**	*i*P		Pn		01 07 33.3	+0.4
MOIG				*i*S		Sn		01 07 60.0	+0.7
CAIG	**El Cayaco**	**3.08**	**116**	*i*P		Pn		01 07 44.1	-0.3
CAIG				*i*S		Sn		01 08 18.8	-1.2
CAIG	**El Cayaco**	**3.08**	**116**	*i*P		Pn		01 07 53.8	+9.3
CAIG				*i*S		Sn		01 08 30.1	+10
MEIG	**Mezcala**	**3.40**	**98**	*e*P		Pn		01 07 50.0	+1.2
MEIG				*i*S		Sn		01 08 27.4	-0.5
PLIG	**Platanillo**	**3.47**	**90**	*i*P		Pn		01 07 53.8	+4.0
PLIG				*i*S		Sn		01 08 26.9	-2.7
PLIG	**Platanillo**	**3.47**	**90**	*i*P		Pn		01 07 59.0	+9.2
PLIG				*i*S		Sn		01 08 41.9	+12
SZVM	**Salazar**	**3.68**	**75**	*e*P		Pn		01 07 53.2	+0.4
SZVM				*i*S		Sn		01 08 35.8	+0.9

NNC 27 01:07:18.5±4.1, 5975N×6061E, h0km, mb3.5, mpv3.2, 1C-6D, Error ellipse: s-maj=35.0km s-min=23.5km az=151.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHKZ	**Chkalovo**	**8.20**	**134**	⇓Pn		Pn		01 09 18.8	+0.1
	4.2nm,1.6s								
CHKZ				⇓Sn		Sn		01 10 54.9	+2.8
	4.9nm,1.8s								
BVA0	**Borovoye Array**	**8.64**	**137**	⇓Pn		Pn		01 09 25.4	+0.6
	0.4nm,0.7s,baz=313,slow=14								
BVA0				⇓Sn		Sn		01 11 02.6	-0.3
	2.6nm,2.1s,baz=326,slow=24								
BVAR	**Borovoye Array**	**8.64**	**137**	Pn		Pn		01 09 25.4	+0.6
	0.4nm,0.7s								
BVAR				Sn		Sn		01 11 02.6	-0.4
	2.6nm,2.1s,baz=326								
AB31	**Akbulak array**	**10.53**	**182**	⇑Pn		Pn		01 09 49.6	-1.0
	0.4nm,0.5s								
AB31				⇓Sn		Sn		01 11 50.5	+1.4
	0.3nm,0.5s								
AB31				⇓Lg				01 12 51.9	
	4.5nm,0.8s								

JMA 27 01:13:29.9±0.3, 2171N×12075E, h94km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.44**	**37**	P		Pn		01 14 22.4	+1.0
YOJ				*e*S		Sn		01 15 02.8	+1.6
HATJ	**Hateruma jima**	**3.66**	**50**	*e*S		Sn		01 15 07.9	+1.4
IRIF	**Iriomote-Funau**	**3.79**	**46**	P		Pn		01 14 27.0	+0.9
IRIF				*e*S		Sn		01 15 11.6	+2.0
JKRS	**Kuro-shima**	**3.92**	**49**	P		Pn		01 14 29.2	+1.4
JKRS				*e*S		Sn		01 15 14.0	+1.3
JIJ	**Ishigaki jima**	**4.09**	**49**	P		Pn		01 14 31.3	+1.1
JIJ				*e*S		Sn		01 15 17.6	+0.6
JTJ	**Tarama**	**4.66**	**51**	P		Pn		01 14 39.3	+1.4
JTJ				*e*S		Sn		01 15 32.8	+2.0

NDI 27 01:14:09.0±2.8, 1066N×7622E, h5km, ML3.7, Southern India

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOD	**Kodaikanal**	**1.30**	**109**	*e*P		Pn		01 14 33.0	-0.7
KOD				*e*S		Sg		01 14 52.0	+1.4
TRD	**Trivandrum**	**2.26**	**161**	*e*P		Pn		01 14 48.9	+2.0
TRD				*e*S		Sn		01 15 16.7	+1.6
TRD				AML		AML		01 15 21.7	
	comp=E,512nm,0.1s								
TRD				AML		AML		01 15 21.7	
	comp=N,2μm,0.2s								
MNGI	**Mangalore**	**2.65**	**329**	*e*P		Pn		01 14 54.1	+1.7
MNGI				*e*S		Sn		01 15 26.6	+1.7
MNGI				*ex*		x		01 15 33.1	
	comp=E,388nm,0.4s								
GOA	**Goa**	**5.34**	**334**	*e*S		Sn		01 16 27.6	-3.7
GOA				AML		AML		01 16 57.3	
	comp=N,65nm,0.4s								
GOA				AML		AML		01 16 57.7	
	comp=E,155nm,0.3s								

*ISCJB **27** 01:26:41.8±3.3, 29N±0.1×1255E±0.1, h91km±33km, mb3.8/6, Error ellipse: s-maj=27.4km s-min=10.7km az=115.7*
*IDC **27** 01:26:43.0±3.9, 292N×12549E, h82km±34km, mb3.5/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, Error ellipse: s-maj=98.4km s-min=13.4km az=69.0*
*NEIC **27** 01:26:43.1±1.7, 290N×12548E, h87km±16km, mb4.2/2, Error ellipse: s-maj=15.6km s-min=6.6km az=59.0*

ISC 27 01:26:42.3±2.2, 293N±009×1255E±01, h75km±22km, n18, σ0§65/19, mb3.8/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.78**	**289**	*e*Pn		**Pn**		**01 29 00.3**	**+0.3**
KSM	**Kuching**	**15.27**	**265**	*e*Pn		**Pn**		**01 30 13.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.90**	**180**	P		**P**		**01 31 19.4**	**+0.9**
	1.7nm,0.4s,baz=16,slow=12,SNR=7.4								
YHNB	**Yeheng**	**21.98**	**350**	*e*P		**P**		**01 31 30.3**	**+0.3**
WRA	**Warramunga Arr**	**24.32**	**160**	P		**P**		**01 31 52.5**	**-0.3**
	3.5nm,0.3s,mb4.1,baz=335,slow=10,SNR=9.4								
WRA				S		**S**		**01 36 08.0**	**+1.3**
	1.7nm,0.7s,baz=332,slow=20,SNR=6.1								
WB2	**Warramunga Arr**	**24.33**	**159**	*e*P		**P**		**01 31 52.3**	**-0.6**
PMG	**Port Moresby**	**24.80**	**120**	P		**P**		**01 31 58.1**	**+0.9**
KULM	**Kulim**	**24.92**	**276**	*e*P		**P**		**01 31 58.7**	**+0.4**
ASAR	**Alice Springs**	**27.67**	**163**	P		**P**		**01 32 23.2**	**+0.2**
	0.4nm,0.4s,mb3.3,baz=345,slow=6.8,SNR=11								
ASAR				S		**S**		**01 37 08.4**	**+8.9**
	0.7nm,0.8s,baz=353,slow=16,SNR=5.8								
CTAO	**Charters Tower**	**30.62**	**139**	P		**P**		**01 32 48.4**	**-0.8**
STKA	**Stephens Creek**	**37.84**	**157**	*e*P		**P**		**01 33 51.6**	**+0.1**
	2.0nm,0.6s,mb4.1								
STKA	**Stephens Creek**	**37.84**	**157**	P		**P**		**01 33 51.9**	**+0.3**
	2.2nm,0.5s,mb4.3,baz=340,slow=5.5,SNR=12								
SONM	**Songino Array**	**47.68**	**343**	P		**P**		**01 35 11.8**	**+0.6**
	0.2nm,0.6s,mb3.1,baz=149,slow=8.1,SNR=2.3								
TAU	**Tasmania Unive**	**49.70**	**159**	P		**P**		**01 35 25.2**	**-1.4**
MKAR	**Makanchi Array**	**57.53**	**326**	P		**P**		**01 36 23.8**	**0.0**
	0.3nm,0.3s,mb3.8,baz=120,slow=8.0,SNR=15								
KURK	**Kurchatov**	**61.77**	**328**	*e*P		**P**		**01 36 52.4**	**-0.5**
	1.1nm,0.5s,mb4.1								
BRVK	**Borovoye**	**67.41**	**328**	P		**P**		**01 37 29.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.02**	**287**	PKP		PKPdf		01 45 28.0	-0.1
	0.2nm,0.6s,baz=94,slow=1.1,SNR=5.3								

*SZGRF **27** 01:26:18.7, 1945S×178.17W, h33km, Fiji Islands region*
*ISCJB **27** 01:27:19.4±0.9, 179S±02×1786W±02, h552km±18km, mb3.8/8, Error ellipse: s-maj=33.0km s-min=11.5km az=95.2*
*IDC **27** 01:27:19.8±2.0, 1790S×17860W, h540km±23km, mb3.2/5, mb1 3.5/6, mb1mx3.3/15, mbtmp3.3/6, Error ellipse: s-maj=89.4km s-min=15.0km az=151.0*
*NEIC **27** 01:27:19.2±1.1, 1781S×17871W, h528km±14km, mb4.0/4, Error ellipse: s-maj=27.7km s-min=11.3km az=145.0*

ISC 27 01:27:20.3±0.9, 179S±02×1785W±02, h553km±17km, n76, σ0§55/18, mb3.8/8, 7C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**59**	P		**P**		**01 29 14.1**	**-0.3**
	5.9nm,0.3s,baz=82,slow=17,SNR=12								
AFI	**Afiamalu**	**7.63**	**59**	*e*P		**P**		**01 29 14.3**	**0.0**
	15nm,0.4s								
AFI				*e*S		**S**		**01 30 48.2**	**+0.2**
RAO	**Raoul Island**	**11.28**	**177**	*e*P		**P**		**01 29 50.9**	**-0.4**
CTA	**Charters Tower**	**33.33**	**261**	P		**P**		**01 33 12.7**	**0.0**
	baz=105,slow=11								
CTAO	**Charters Tower**	**33.33**	**261**	*e*P		**P**		**01 33 12.6**	**-0.1**
	1.7nm,0.5s,mb3.8								
TAU	**Tasmania Unive**	**38.14**	**222**	P		**P**		**01 33 52.9**	**+0.3**
STKA	**Stephens Creek**	**38.52**	**241**	P		**P**		**01 33 55.4**	**-0.2**
	2.1nm,0.4s,mb4.0,baz=90,slow=6.1,SNR=13								
STKA	**Stephens Creek**	**38.52**	**241**	P		**P**		**01 33 55.4**	**-0.2**
WB2	**Warramunga Arr**	**44.50**	**260**	*e*P		**P**		**01 34 43.0**	**+0.2**
WRA	**Warramunga Arr**	**44.52**	**260**	P		**P**		**01 34 43.0**	**+0.1**
	0.4nm,0.3s,mb3.4,baz=16,slow=29,SNR=4.7								
ASAR	**Alice Springs**	**44.67**	**254**	P		**P**		**01 34 44.6**	**+0.5**
	4.9nm,0.5s,mb4.3,baz=89,slow=8.3,SNR=56								
ASAR				PcP		PcP		01 36 15.8	+1.1
	0.7nm,0.4s,baz=102,slow=3.9,SNR=5.0								
NWAO	**Narrogin (SRO)**	**59.10**	**242**	*e*P		**P**		**01 36 27.5**	**-0.3**
	17nm,1.4s,mb4.1								
MCK	**McKinley**	**84.59**	**13**	*e*P		**P**		**01 38 55.2**	**-0.4**
	1.5nm,0.8s,mb3.6								
COLA	**College**	**85.83**	**13**	*e*P		**P**		**01 39 00.6**	**-0.9**
PDAR	**Pinedale Array**	**87.45**	**43**	P		**P**		**01 39 10.7**	**+1.5**
	0.7nm,0.5s,mb3.5,baz=221,slow=2.7,SNR=7.7								
YKA	**Yellowknife Ar**	**94.40**	**25**	P		**P**		**01 39 40.7**	**-0.5**
	0.2nm,0.7s,mb3.4,baz=244,slow=4.4,SNR=8.8								
YKA	**Yellowknife Ar**	**94.40**	**25**	P		**P**		**01 39 40.7**	**-0.5**
MKAR	**Makanchi Array**	**109.07**	**314**	PKiKP		PKiKP		01 44 46.8	-0.5
	0.4nm,0.5s,baz=193,slow=0.3,SNR=8.8								
BVAR	**Borovoye Array**	**116.80**	**321**	PKP		PKPdf		01 45 01.6	-0.4
	0.9nm,0.4s,baz=122,slow=2.2,SNR=8.0								
BRVK	**Borovoye**	**116.86**	**321**	PKPdf		PKPdf		01 45 01.6	-0.6
KIV	**Kislovodsk**	**136.80**	**316**	*e*PKPdf		PKPdf		01 45 38.0	-2.0
BURAR	**Bucovina Array**	**144.59**	**332**	⇑*i*P		PKPdf		01 45 55.3	+1.3
BRTR	**Keskin Array B**	**144.72**	**315**	PKP		PKPdf		01 45 55.5	+1.2
	1.9nm,0.7s,baz=55,slow=2.2,SNR=13								
CLZ	**Clausthal**	**145.44**	**350**	*e*PKPbc		PKPbc		01 45 57.4	+0.6
OKC	**Ostrava-Krasne**	**145.46**	**341**	*e*PKP		PKPdf		01 45 57.2	+1.7
CLL	**Collm**	**145.47**	**347**	*e*PKPbc		PKPbc		01 45 57.4	+0.6
CLL	**Collm**	**145.47**	**347**	*i* PKPbc		PKPbc		01 45 57.4	+0.6
	comp=Z,8.0nm,0.7s								
UPC	**Upice**	**145.49**	**344**	*e*PKP		PKPbc		01 45 58.4	+1.5
DPC	**Dobruska-Polom**	**145.54**	**343**	*e*PKP		PKPbc		01 45 57.8	+0.7
BRG	**Berggiesshubel**	**145.67**	**346**	*e*PKPbc		PKPbc		01 45 57.9	+0.5
BRG	**Berggiesshubel**	**145.67**	**346**	*e*P		PKPdf		01 45 57.7	+1.8
	comp=Z,2.4nm,0.8s								
DRGR		**146.31**	**333**	⇓*i*P		PKPbc		01 46 00.1	+0.9
PRU	**Pruhonice**	**146.34**	**345**	*e*PKP		PKPbc		01 45 59.7	+0.4
TANN	**Tannenbergstha**	**146.42**	**347**	*e*PKPbc		PKPbc		01 46 00.1	+0.6
TREC	**Trest**	**146.73**	**343**	*e*PKP		PKPbc		01 45 59.8	-0.6
ROTZ	**Rotzenmuhle**	**147.09**	**347**	*e*PKPbc		PKPbc		01 46 02.3	+1.0
TNS	**Taunus Mts**	**147.31**	**352**	*e*PKPbc		PKPbc		01 46 02.5	+0.6
GRA1	**Grafenberg Arr**	**147.36**	**348**	*e*PKPbc		PKPbc		01 46 02.7	+0.7
GRF	**Grafenberg Arr**	**147.36**	**348**	*e*PKPbc		PKPbc		01 46 02.7	+0.7
GZR	**Gura Zlata**	**147.37**	**332**	⇓*i*P		PKPbc		01 46 02.5	+0.5
KHC	**Kasperske Hory**	**147.38**	**345**	*e*PKP		PKPbc		01 46 02.8	+0.7
KHC				*ex*		x		01 46 06.8	
GEC2	**GERESS Array S**	**147.61**	**345**	*e*PKPbc		PKPbc		01 46 03.5	+0.8
GERES	**GERESS Array B**	**147.61**	**345**	PKPbc		PKPbc		01 46 03.2	+0.6
	comp=Z,2.5nm,0.5s,baz=25,slow=2.9,SNR=46								
BZS	**Buzias**	**147.71**	**333**	⇓*i*P		PKPbc		01 46 03.1	+0.2
GIVF	**Givet**	**147.80**	**356**	*e*PKP1		PKPbc		01 46 03.3	+0.2
	comp=Z,4.1nm,0.4s								
CONA	**Conrad Observa**	**147.85**	**342**	⇑*i*PKPbc		PKPbc		01 46 04.2	+0.9
	comp=Z,1.4nm,0.4s								
BAIF	**Baives**	**147.88**	**357**	*e*PKP1		PKPbc		01 46 03.4	0.0
WLF	**Walferdange**	**148.12**	**354**	*e*PKPbc		PKPbc		01 46 05.3	+1.3
BFO	**Black Forest**	**149.17**	**351**	*e*PKPbc		PKPbc		01 46 07.2	+0.7
FLN	**La Foliniere**	**149.21**	**3**	*e*PKP1		PKPbc		01 46 06.9	+0.3
	comp=Z,5.1nm,0.5s								
CDF	**Champ du Feu**	**149.24**	**352**	*e*PKP1		PKPbc		01 46 07.3	+0.6
	comp=Z,5.7nm,0.6s								
MEZF	**Maizieres J'vi**	**149.38**	**355**	*e*PKP1		PKPbc		01 46 07.7	+0.7
LDF	**La Druitiere**	**149.40**	**2**	*e*PKP1		PKPbc		01 46 07.1	0.0
	comp=Z,6.1nm,0.4s								
WATA	**Walderalm**	**149.53**	**346**	⇑*i*P		PKPbc		01 46 07.7	+0.4
	comp=Z,2.7nm,0.5s								
GRR	**Gorron**	**149.57**	**3**	*e*PKP1		PKPbc		01 46 07.9	+0.4
	comp=Z,8.2nm,0.5s								
WTTA	**Wattenberg**	**149.58**	**346**	⇑*i*P		PKPbc		01 46 08.2	+0.7
	comp=Z,4.7nm,0.3s								
MOTA	**Moosalm**	**149.62**	**347**	⇑*i*P		PKPbc		01 46 07.9	+0.3
	comp=Z,1.4nm,0.3s								
SQTA	**Sankt Quirin**	**149.72**	**347**	⇓*i*P		PKPbc		01 46 08.4	+0.6
	comp=Z,3.1nm,0.5s								
HAU	**Haudompre**	**149.75**	**353**	*e*PKP1		PKPbc		01 46 08.2	+0.3
	comp=Z,4.2nm,0.5s								
ABTA	**Abfaltersbach**	**149.86**	**345**	⇑*i*PKPbc		PKPbc		01 46 08.1	0.0
	comp=Z,2.5nm,0.5s								
DAVA	**Damuels**	**149.92**	**349**	⇑*i*P		PKPbc		01 46 08.8	+0.5
	comp=Z,1.8nm,0.6s								
LOR	**Lormes**	**150.68**	**357**	*e*PKP1		PKPbc		01 46 10.7	+0.6
	comp=Z,6.2nm,0.4s								
SSF	**Saint Saulge**	**150.91**	**357**	*e*PKP1		PKPbc		01 46 11.3	+0.7
	comp=Z,6.7nm,0.5s								
CABF	**La Chapelle**	**151.15**	**353**	*e*PKP1		PKPbc		01 46 11.7	+0.5
	comp=Z,11nm,0.9s								
AVF	**Avril sur Loir**	**151.18**	**357**	*e*PKP1		PKPbc		01 46 11.4	+0.2
SMF	**Signal de Mont**	**151.30**	**357**	*e*PKP1		PKPbc		01 46 11.9	+0.4
MFF	**Saint Martin d**	**151.38**	**2**	*e*PKP1		PKPbc		01 46 12.1	+0.4
	comp=Z,8.6nm,0.6s								
BGF	**Bois d'Agland**	**151.44**	**358**	*e*PKP1		PKPbc		01 46 12.4	+0.6
TCF	**Toulx Ste Croi**	**151.72**	**359**	*e*PKP1		PKPbc		01 46 12.8	+0.4
LPL	**La Plagne**	**152.15**	**352**	*e*PKP1		PKPbc		01 46 14.7	+1.3
LPG	**La Plagne**	**152.17**	**352**	*e*PKP1		PKPbc		01 46 14.8	+1.4
RJF	**Les Rejaudoux**	**152.71**	**360**	*e*PKP1		PKPbc		01 46 16.0	+1.4
ORIF	**Oris-en-Rattie**	**152.85**	**353**	*e*PKP1		PKPbc		01 46 15.8	+0.9
MBDF	**Montbardon**	**152.92**	**352**	*e*PKP1		PKPbc		01 46 16.3	+1.2
	comp=Z,6.7nm,0.8s								
LFF	**La Frestale**	**153.07**	**1**	*e*PKP1		PKPbc		01 46 16.9	+1.5
CAF	**Calviac**	**153.09**	**359**	*e*PKP1		PKPbc		01 46 16.1	+0.7
	comp=Z,2.3nm,0.5s								

*IDC **27** 01:40:37.9±0.7, 1928N×7921W, h0km, mb4.1/11, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, ML4.7/5, MS3.7/9, Ms1 3.7/9, ms1mx3.5/21, Error ellipse: s-maj=19.7km s-min=15.3km az=62.0*
*ISCJB **27** 01:40:39.1±1.4, 1929N±003×79.15W±003, h15km±9km, mb4.3/32, MS3.8/4, Error ellipse: s-maj=6.0km s-min=4.1km az=93.3*
*NEIC **27** 01:40:40.4±0.2, 1936N×7911W, h10km, mb4.4/25, Error ellipse: s-maj=5.9km s-min=4.3km az=210.0*
*SSNC **27** 01:40:40.7, 1907N×7921W, h50km, MD3.9, ML5.0*
*JSN **27** 01:40:43.6±0.4, 1922N×7879W, h0km±198km, MD4.5*

ISC 27 01:40:39.0±1.7, 1935N±004×7911W±003, h0km±11km, n102, σ1§00/114, mb4.4/32, MS3.8/4, 1C-4D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CVJ	**Coleyville**	**1.86**	**127**	⇓*e*P		**Pn**		**01 41 10.7**	**-1.3**
MCJ	**Malvern**	**1.95**	**136**	⇓*e*P		**Pn**		**01 41 12.5**	**-0.8**
MCJ				*e*S		**Sn**		**01 41 34.1**	**-4.4**
LMGC	**Las Mercedes**	**2.11**	**70**	*e*P		**Pn**		**01 41 16.3**	**+0.9**
LMGC				*e*S		**Sn**		**01 41 41.6**	**-0.7**
	comp=N,11μm,0.2s								
LMGC				*e*					
	comp=E,11μm,0.2s								
CCCC	**Cccc**	**2.23**	**34**	*e*P		**Pn**		**01 41 21.3**	**

ANMO	Albuquerque	28.75	308	P		P		01 46 39.3 +1.2
SDCO	Great Sand Dun	29.40	314	eP		P		01 46 45.2 +1.4
	comp=E,1.0nm,0.6s,mb3.8							
PV10	Paradox Valley	32.14	313	P		P		01 47 08.4 +0.3
RSSD	Black Hills	32.31	325	eP		P		01 47 10.4 +0.8
WUAZ	Wupatki	32.67	306	eP		P		01 47 14.9 +2.2
	comp=E,8.2nm,0.8s,mb4.7							
ULM	Lac du Bonnet	33.60	340	P		P		01 47 19.2 -1.6
	comp=E,0.8nm,0.5s,mb3.9,baz=1.4,slow=20,SNR=2.0							
ULM				LR		LR		02 01 01.3
	comp=E,179nm,19.6s,MS3.8,baz=129,slow=36							
PDAR	Pinedale Array	34.69	319	P		P		01 47 29.6 -0.7
	comp=E,0.7nm,0.6s,mb3.8,baz=116,slow=10,SNR=7.6							
DUG	Dugway	35.57	313	eP		P		01 47 38.9 +1.0
	comp=E,5.7nm,1.0s,mb4.4							
SCHQ	Schefferville	36.64	12	P		P		01 47 46.4 -0.7
	comp=E,5.0nm,0.9s,mb4.2,baz=29,slow=14,SNR=3.7							
MCMT	McKenzie Canyo	37.80	320	eP		P		01 47 57.7 +0.8
SIV	San Ignacio	39.34	152	P		P		01 48 08.7 -1.2
	comp=E,3.6nm,0.8s,mb4.0,baz=340,slow=8.2,SNR=21							
EDM	Edmonton	42.91	330	eP		P		01 48 39.1 -0.1
YKA	Yellowknife Ar	49.56	339	P		P		01 49 30.5 -1.1
	comp=E,0.6nm,0.7s,mb3.6,baz=127,slow=8.5,SNR=18							
YKA				LR		LR		02 10 30.2
	comp=E,144nm,19.6s,MS4.0,baz=145,slow=36							
RES	Resolute Bay	56.02	355	eP		P		01 50 17.6 -1.8
	comp=E,48nm,0.7s,mb5.6							
INK	Inuvik	59.34	339	eP		P		01 50 41.7 -1.0
	comp=E,72nm,0.9s,mb5.7							
PLCA	Paso Flores	60.30	173	P		P		01 50 47.4 -1.9
	comp=E,2.6nm,0.7s,mb4.4,baz=23,slow=4.0,SNR=3.9							
PLCA	Paso Flores	60.30	173	P		P		01 50 47.4 -1.9
ROSF	Rostrenen	66.46	45	eP		P		01 51 30.6 +0.5
QUIF	Quistinic	66.55	45	eP		P		01 51 31.0 +0.3
ESDC	Sonseca Array	66.66	54	P		P		01 51 31.1 -0.3
	comp=E,2.9nm,0.9s,mb4.5,baz=289,slow=6.0,SNR=12							
GRR	Gorron	68.06	45	eP		P		01 51 40.8 +0.5
FLN	La Foliniere	68.28	44	eP		P		01 51 42.1 +0.5
SJPF	Ste Jean	68.32	50	eP		P		01 51 43.1 +1.2
LDF	La Druitiere	68.53	44	eP		P		01 51 43.8 +0.6
ETSF	Etsaut	68.83	51	eP		P		01 51 46.2 +1.1
	comp=E,12nm,1.1s,mb4.7							
ETSF	Etsaut	68.83	51	eP		P		01 51 46.2 +1.1
	comp=E,6.0nm,1.1s,mb4.7							
EPF	Esparros	69.47	50	eP		P		01 51 49.4 +0.3
	comp=E,7.9nm,0.9s,mb4.6							
EPF	Esparros	69.47	50	eP		P		01 51 49.4 +0.3
	comp=E,4.0nm,0.9s,mb4.7							
LFF	La Frestale	69.51	48	eP		P		01 51 50.0 +0.7
	comp=E,13nm,0.6s,mb4.9							
LFF	La Frestale	69.51	48	eP		P		01 51 50.0 +0.7
	comp=E,6.7nm,0.6s,mb5.0							
TCF	Toulx Ste Croi	70.36	47	eP		P		01 51 54.8 +0.3
CAF	Calviac	70.45	48	eP		P		01 51 55.6 +0.5
	comp=E,6.2nm,0.7s,mb4.6							
CAF	Calviac	70.45	48	eP		P		01 51 55.6 +0.5
	comp=E,3.1nm,0.7s,mb4.5							
BGF	Bois d'Agland	70.76	46	eP		P		01 51 57.2 +0.2
MTLF	Montolieu	70.79	50	eP		P		01 51 57.4 +0.3
AVF	Avril sur Loir	71.07	46	eP		P		01 51 58.9 0.0
	comp=E,6.2nm,0.9s,mb4.4							
AVF	Avril sur Loir	71.07	46	eP		P		01 51 58.9 0.0
	comp=E,3.1nm,0.9s,mb4.4							
SSF	Saint Saulge	71.14	46	eP		P		01 51 59.3 0.0
	comp=E,3.2nm,0.5s,mb4.4							
SSF	Saint Saulge	71.14	46	eP		P		01 51 59.3 0.0
	comp=E,1.6nm,0.5s,mb4.4							
LOR	Lormes	71.35	46	eP		P		01 52 00.5 0.0
	comp=E,1.5nm,0.4s,mb4.1							
LOR	Lormes	71.35	46	eP		P		01 52 00.5 0.0
	comp=E,0.8nm,0.4s,mb4.2							
SMF	Signal de Mont	71.43	46	eP		P		01 52 01.0 0.0
VIVF	Saint-Julien-l	72.29	48	eP		P		01 52 06.7 +0.5
	comp=E,13nm,0.9s,mb4.8							
VIVF	Saint-Julien-l	72.29	48	eP		P		01 52 06.7 +0.5
	comp=E,6.4nm,0.9s,mb4.8							
SMRF	Simiane la Rot	73.08	49	eP		P		01 52 11.1 +0.2
ORIF	Oris-en-Rattie	73.12	48	eP		P		01 52 11.6 +0.4
CDF	Champ du Feu	73.43	44	eP		P		01 52 13.2 +0.2
NOA	NORSAR Array B	73.44	31	LR		LR		02 24 28.3
	comp=E,74nm,18.2s,MS4.0,baz=50,slow=36							
LPL	La Plagne	73.60	47	eP		P		01 52 14.5 +0.5
	comp=E,1.9nm,0.6s,mb4.0							
LPL	La Plagne	73.60	47	eP		P		01 52 14.5 +0.5
	comp=E,0.9nm,0.6s,mb4.0							
LPG	La Plagne	73.62	47	eP		P		01 52 14.7 +0.6
FRF	La Foret Royal	73.92	49	eP		P		01 52 16.3 +0.4
	comp=E,12nm,1.2s,mb4.5							
FRF	La Foret Royal	73.92	49	eP		P		01 52 16.3 +0.4
	comp=E,6.1nm,1.2s,mb4.5							
TORD	Torodi Ar. Bea	77.21	80	P		P		01 52 33.9 -0.9
	comp=E,1.1nm,0.9s,mb4.0,baz=296,slow=4.5,SNR=5.8							
GERES	GERESS Array B	77.49	43	P		P		01 52 36.0 -0.3
	comp=E,0.8nm,0.8s,mb3.9,baz=284,slow=5.4,SNR=6.9							
KEST	Kesra	77.75	56	P		P		01 52 39.1 +1.3
	comp=E,2.1nm,1.0s,mb4.2,baz=267,slow=5.7,SNR=5.3							
KAF	Kangasniemi	80.06	27	epkp		P		01 52 49.2 -1.2
FINES	FINESS Array B	80.22	28	P		P		01 52 51.4 +0.1
	comp=E,2.6nm,0.6s,mb4.4,baz=269,slow=3.0,SNR=16							
FINES	FINESS Array B	80.22	28	P		P		01 52 51.4 +0.1
KBL	Kabul	118.44	80	PKPdf		PKPdf		01 59 29.6 +1.2
WB2	Warramunga Arr	148.51	263	ePKPdf		PKPdf		02 00 25.8 +1.8
WRA	Warramunga Arr	148.52	263	PKPbc		PKPbc		02 00 26.4 -1.2
	comp=E,2.7nm,0.8s,baz=79,slow=2.4,SNR=12							
ASAR	Alice Springs	149.03	256	PKPbc		PKPbc		02 00 27.7 -1.2
	comp=E,3.7nm,0.8s,baz=89,slow=2.3,SNR=34							

IDC ***27*** *01:54:53.1±1.0, 3124N×9341E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, ML3.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=40.9km s-min=21.7km az=56.0*

NEIC ***27*** *01:54:56.7±3.9, 3126N×9343E, h24km±29km, mb3.5/3, Error ellipse: s-maj=10.6km s-min=9.4km az=71.0*

BJI ***27*** *01:54:56.0, 3127N×9326E, h14km, mb3.9, ML3.2*

ISCJB ***27*** *01:54:57.6±1.7, 3135N±007×9348E±0.10, h46km±18km, mb3.7/6, Error ellipse: s-maj=14.0km s-min=10.8km az=153.9*

ISC 27 01:54:58.9±1.4, 3138N±006×9347E±009, h40km±16km, n22, σ1§09/26, mb3.7/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	2.61	231	PG	Pn	01 55 38.0	-0.6
LSA				SG	Sn	01 56 09.5	+0.5
LSA				Smax			
	comp=N,110nm,0.8s						
LSA				Smax			
	comp=E,140nm,0.9s						
LSA	Lhasa	2.61	231	ePn	Pn	01 55 36.9	-1.7
LSA				ePg	Pn	01 55 41.8	+3.2
LSA				eSn	Sn	01 56 07.2	-1.8
LSA				eSg	Sn	01 56 13.2	+4.2
SHL	Shillong	5.96	194	eP	Pn	01 56 26.5	+1.9
MKAR	Makanchi Array	17.64	334	P	Pn	01 59 01.5	-0.1
	comp=E,0.1nm,0.3s,baz=142,slow=14,SNR=5.5						
MKAR	Makanchi Array	17.64	334	P	Pn	01 59 01.5	-0.1
AAK	Ala-Archa	18.82	312	eP	Pn	01 59 15.0	-1.0
	comp=E,2.9nm,1.0s						
SONM	Songino Array	19.17	27	P	Pn	01 59 19.7	-0.5
	comp=E,0.1nm,0.3s,baz=213,slow=13,SNR=17						
SONM				LR	LR	02 07 34.7	
	comp=E,61nm,18.2s,baz=274,slow=39						
SONM	Songino Array	19.17	27	P	Pn	01 59 19.7	-0.5
SONM				LR	LR	02 07 34.7	
ULN	Ulaanbaatar	19.46	28	eP	Pn	01 59 22.4	-1.2
	comp=E,0.8nm,0.5s						
KURK	Kurchatov	22.25	335	eP	P	01 59 53.2	+0.9
	comp=E,3.2nm,0.8s,mb3.8						
YHNB	Yeheng	25.48	98	eP	P	02 00 21.3	-2.0
NACB	Ninganchiao	25.85	99	P	P	02 00 27.7	+1.1
BRVK	Borovoye	27.42	329	P	P	02 00 40.9	+0.1
MAJO	Matsushiro	37.21	70	P	P	02 02 08.6	+2.3
YAK	Yakutsk	38.53	27	eP	P	02 02 18.3	+0.8
	comp=E,14nm,0.3s						
AKASG	Malin Array Be	50.49	312	P	P	02 03 53.2	+0.3
	comp=E,0.2nm,0.3s,mb3.6,baz=82,slow=6.0,SNR=4.2						
WRA	Warramunga Arr	64.36	137	P	P	02 05 30.3	-0.4
	comp=E,0.7nm,0.9s,mb3.7,baz=317,slow=8.8,SNR=3.5						
ASAR	Alice Springs	67.04	140	P	P	02 05 48.0	0.0
	comp=E,0.6nm,0.6s,mb3.8,baz=324,slow=6.7,SNR=9.3						
NWAO	Narrogin (SRO)	67.79	159	eP	P	02 05 51.5	-1.1
CTAO	Charters Tower	71.98	128	P	P	02 06 17.4	-1.0
YKA	Yellowknife Ar	83.77	13	P	P	02 07 24.7	+0.8
	comp=E,0.3nm,0.8s,mb3.5,baz=332,slow=5.0,SNR=4.7						
TORD	Torodi Ar. Bea	84.76	282	P	P	02 07 29.4	+0.4
	comp=E,0.8nm,0.8s,mb3.9,baz=40,slow=5.5,SNR=4.4						

ISCJB ***27*** *01:56:14.5±0.3, 4484N±002×1060E±004, h9km±3km, Error ellipse: s-maj=5.4km s-min=3.1km az=35.3*

VIE ***27*** *01:56:15.2±0.5, 4481N×1087E, h10km, ML2.3/5, Error ellipse: s-maj=4.2km s-min=3.4km az=111.0 50 km NW of Bologna*

ROM ***27*** *01:56:15.0±0.2, 4484N×1079E, h9km±2km, Md2.5/14, Ml2.1/10, Error ellipse: s-maj=3.3km s-min=2.7km az=20.0*

LDG ***27*** *01:56:15.5±0.2, 4486N×1085E, h10km, Ml2.4/10, Error ellipse: s-maj=4.0km s-min=1.8km az=91.0*

ISC 27 01:56:15.2±0.3, 4484N±002×1063E±004, h8km±3km, n37, σ1§07/56, 8C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOVE	Novellara	0.08	123	Pg	Pg	01 56 16.8	-0.5
NOVE				Sg	Sg	01 56 19.9	+1.1
	4μm,0.2s						
SBPO	S.Benedetto Po	0.30	45	Pg	Pg	01 56 20.8	-0.3
	103nm,0.3s						
RAVA	Ravarino	0.36	103	Pg	Pg	01 56 20.5	-1.8
RAVA				Sg	Sg	01 56 26.1	-1.0
	268nm,0.4s						
ERBM	Eremo	0.45	200	Pg	Pg	01 56 24.8	+0.9
	63nm,1.0s						
GSCL	Gusciola	0.49	183	Pg	Pg	01 56 25.2	+0.5
	11nm,0.2s						
ZCCA	Zocca	0.55	153	Pg	Pg	01 56 26.2	+0.4
	5.0nm,0.7s						
BDI	Bagni Di Lucca	0.78	182	Pg	Pg	01 56 29.7	-0.5
BDI				Sg	Sg	01 56 42.2	+1.9
	43nm,0.6s						
SALO	Salr	0.78	355	Pg	Pg	01 56 30.9	+0.7
SALO				Sg	Sg	01 56 44.5	+4.1
	99nm,0.4s						
MAIM		0.93	186	Pg	Pg	01 56 33.1	0.0
MAGA	Magasa	0.94	0	Pg	Pg	01 56 32.3	-0.9
MAGA				Sg	Sg	01 56 46.8	+1.5
	439nm,0.6s						
MDI	Monti di Nese	1.14	326	Pg	Pg	01 56 37.4	+0.4
MABI	Malga Bissina	1.22	356	Pg	Pg	01 56 37.7	-0.9
CTI	Castel Tesino	1.41	30	Pg	Pg	01 56 39.0	-3.2
	39nm,0.3s						
CSNT	Castellina Chi	1.45	160	Pg	Pg	01 56 40.8	-2.2
	6.0nm,0.4s						
BRMO	Bormio	1.65	354	Pg	Pg	01 56 45.6	-1.2
	1.0nm,0.3s						
VAI	Varese	1.67	309	Pg	Pg	01 56 48.5	+1.4
	11nm,0.3s						
APPI	Appiano	1.69	14	Pg	Pg	01 56 44.3	-3.3
	28nm,0.3s						
SQTA	Sankt Quirin	2.42	9	⇓iPn	Pn	01 56 55.6	+0.7
SQTA				⇑iSn	Sn	01 57 26.0	+1.3
SBF	Sospel	2.49	248	ePn	Pn	01 56 56.3	+0.4
SBF				eSn	Sn	01 57 26.6	+0.2
	2.5nm,0.3s						
DAVA	Damuels	2.50	348	⇑iPn	Pn	01 56 56.5	+0.4
DAVA				⇑iSn	Sn	01 57 29.5	+2.7
WTTA	Wattenberg	2.52	16	⇑iPn	Pn	01 56 56.5	+0.1
WTTA				⇓iSn	Sn	01 57 27.7	+0.4
MOTA	Moosalm	2.53	7	⇑iPn	Pn	01 56 57.0	+0.5
MOTA				⇑iSn	Sn	01 57 29.2	+1.8
PGF	Pioggiola	2.58	208	ePn	Pn	01 56 56.9	-0.2
PGF				eSn	Sn	01 57 28.0	-0.6
	3.1nm,0.2s						
WATA	Walderalm	2.58	14	⇑iPn	Pn	01 56 57.2	0.0
WATA				⇑iSn	Sn	01 57 29.6	+0.9
MBDF	Montbardon	2.75	269	ePn	Pn	01 56 59.5	0.0
MBDF				eSn	Sn	01 57 33.5	+0.7
	1.2nm,0.3s						
LPG	La Plagne	2.82	285	ePn	Pn	01 57 00.2	-0.3
LPL	La Plagne	2.83	285	ePn	Pn	01 57 01.2	+0.5
FRF	La Foret Royal	3.13	247	ePn	Pn	01 57 04.9	+0.1
FRF				eSn	Sn	01 57 42.7	+0.3
	1.7nm,0.2s						
LMR	La Mourre	3.33	245	ePn	Pn	01 57 07.8	+0.4
LMR				eSn	Sn	01 57 47.2	+0.1
	1.6nm,0.2s						
ORIF	Oris-en-Rattie	3.38	273	ePn	Pn	01 57 08.5	+0.4
CABF	La Chapelle	3.64	301	ePn	Pn	01 57 11.8	+0.1
CABF				eSn	Sn	01 57 53.4	-1.4
	0.7nm,0.3s						
HINF	Hinteralfeld	3.96	320	eSn	Sn	01 58 00.4	-2.4
	1.6nm,0.3s						
VIVF	Saint-Julien-l	4.23	272	ePn	Pn	01 57 20.2	+0.3
CDF	Champ du Feu	4.25	328	ePn	Pn	01 57 19.8	-0.4
CDF				eSn	Sn	01 58 06.8	-3.2
	0.5nm,0.2s						
HAU	Haudompre	4.33	318	ePn	Pn	01 57 20.8	-0.5
HAU				eSn	Sn	01 58 09.4	-2.5
	4.1nm,0.3s						
LOR	Lormes	5.30	300	ePn	Pn	01 57 34.5	-0.1
LOR				eSn	Sn	01 58 32.8	-3.0
	1.1nm,0.3s						
BGF	Bois d'Agland	5.71	290	ePn	Pn	01 57 40.2	-0.1

NIED ***27*** *02:19:00, 2170N×12070E, h14km, Mw3.9 Best double couple: M0 6.95000×1014 NP1:φs151.00000°, δ78.00000°, λ101.00000°. NP2:φs288.00000°, δ16.00000°, λ48.00000°.*

ISCJB ***27*** *02:19:10.6±0.8, 2167N±007×12071E±009, h10km, mb3.7/5, Error ellipse: s-maj=14.2km s-min=6.5km az=76.4*

IDC ***27*** *02:19:11.6±1.0, 2191N×12185E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, MS3.1/1, Ms1 3.1/1, ms1mx2.2/29, Error ellipse: s-maj=71.2km s-min=19.8km az=70.0*

NEIC ***27*** *02:19:13.6±0.8, 2181N×12181E, h10km, MG3.5(JMA), Error ellipse: s-maj=50.5km s-min=10.6km az=78.0*

JMA ***27*** *02:19:14.9±0.4, 2175N×12073E, h118km, M3.5*

ISC 27 02:19:14.3±2.6, 2173N±008×12062E±010, h27km±21km, n18, σ1§02/21, mb3.7/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.59	20	ePn	Pn	02 19 52.7	-1.7
YHNB	Yeheng	3.01	13	ePn	Pn	02 19 57.9	-2.3
TATO	Taipei	3.33	14	ePn	Pn	02 20 04.9	+0.4
YOJ	Yonaguni jima	3.50	39	P	Pn	02 20 07.4	+0.5
YOJ				eS	Sn	02 20 48.9	+1.5
HATJ	Hateruma jima	3.74	51	P	Pn	02 20 10.8	+0.6
HATJ				eS	Sn	02 20 52.0	-1.4
IRIF	Iriomote-Funau	3.86	47	P	Pn	02 20 12.4	+0.5
IRIF				S	Sn	02 20 57.1	+0.7
JKRS	Kuro-shima	4.00	51	P	Pn	02 20 14.4	+0.6
JKRS				eS	Sn	02 21 00.3	+0.5
JIJ	Ishigaki jima	4.17	50	P	Pn	02 20 16.3	+0.1
JIJ				S	Sn	02 21 02.7	-1.3
JTJ	Tarama	4.74	52	P	Pn	02 20 24.4	+0.4
JTJ				eS	Sn	02 21 18.1	0.0
KSRS	Korea Array	16.90	20	LR	LR	02 30 11.4	
	comp=Z,70nm,18.6s,baz=3.9,slow=40						
SONM	Songino Array	28.45	340	P	P	02 25 08.7	+1.8
	0.5nm,0.6s,mb3.3,baz=150,slow=9.0,SNR=4.7						
MKAR	Makanchi Array	39.77	318	P	pP	02 26 52.4	-0.4
	0.5nm,0.7s,baz=114,slow=10,SNR=5.4						
MKAR	Makanchi Array	39.77	318	P	pP	02 26 52.4	-0.4
WRA	Warramunga Arr	43.53	161	P	P	02 27 14.6	-1.0
	1.5nm,0.8s,mb3.8,baz=344,slow=9.1,SNR=6.2						
ASAR	Alice Springs	46.94	163	P	P	02 27 42.8	+0.2
	0.3nm,0.3s,mb3.7,baz=343,slow=6.8,SNR=6.9						
STKA	Stephens Creek	56.96	159	P	P	02 28 58.0	+0.7
	0.7nm,0.6s,mb3.9,baz=342,slow=20,SNR=4.5						
YKA	Yellowknife Ar	85.42	22	P	P	02 31 48.3	-1.1
	0.7nm,1.0s,mb3.8,baz=310,slow=4.8,SNR=7.9						
YKA	Yellowknife Ar	85.42	22	P	P	02 31 48.3	-1.1

NEIC ***27*** *02:19:18.5, 1575N×9442W, h43km, MD3.9(MEX), After MEX.*

MEX 27 02:19:18.4±0.6, 1575N×9441W, h40km±273km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.41	341	iP	Pn	02 19 40.2	-1.4
CMIG				iS	Sn	02 19 56.7	-2.2
HUIG	Huatulco	1.64	271	iP	Pn	02 19 43.1	-1.5
HUIG				iS	Sn	02 20 02.0	-2.5
CCIG	Comitan	2.25	76	iP	Pn	02 19 52.3	-0.8
CCIG				iS	Sn	02 20 17.1	-2.5
TUIG	Tuzandepetl	2.27	360	iP	Pn	02 19 51.6	-1.8
TUIG				iS	Sn	02 20 18.5	-1.7
OXX	Oaxaca	2.59	301	iP	Pn	02 20 01.7	+4.0
TEIG	Tepich	7.34	52	iP	Pn	02 21 01.6	-1.4
TEIG				iS	Sn	02 22 21.3	-3.8
TEIG	Tepich	7.34	52	iP	Pn	02 21 01.8	-1.3
TEIG				iS	Sn	02 22 18.9	-6.2

NIED ***27*** *02:30:00, 2200N×12060E, h44km, Mw5.6 Best double couple: M0 2.38000×1017 NP1:φs211.00000°, δ83.00000°, λ-171.00000°. NP2:φs120.00000°, δ81.00000°, λ-7.00000°.*

BJI ***27*** *02:30:35.1, 2208N×12046E, h12km, mB5.6, mb5.4, ML5.5, Ms5.3, Msz5.1*

NEIC ***27*** *02:30:36.5±0.1, 2200N×12048E, h10km, mb5.5/114, MW5.5, ML5.9(TAP), Error ellipse: s-maj=3.2km s-min=2.7km az=101.0, Moment Tensor Solution. s6 Moment tensor: Scale 1017Nm; Mrr0.15; Mθθ1.69; Mφφ-1.83; Mrθ0.95; Mθφ-0.10; Mφr0.73; Best double couple: M0 2.10000×1017 NP1:φs45.00000°, δ86.00000°, λ146.00000°. NP2:φs138.00000°, δ56.00000°, λ5.00000°. Principal axes: T 2.1600, Plg26.0000°, Azm356.0000°; N -0.0400, Plg56.0000°, Azm220.0000°; P -2.1200, Plg20.0000°, Azm97.0000°;*

NEIC Felt in much of Taiwan. Recorded [4 TAP] in P'ing-tung; [3 TAP] in T'ai-nan and T'ai-tung; [2 TAP] in Chang-hua, Chia-i, Kao-hsiung, Nan-t'ou, P'eng-hu and Yun-lin; [1 TAP] in Hua-lien, I-lan, Miao-li and T'ai-chung Counties.

GCMT ***27*** *02:30:36.5±0.1, 2200N×12033E, h32km, MW5.6/95, Moment Tensor Solution. s79,c126; s95,c217; Duration: 1§5 Moment tensor: Scale 1017Nm; Mrr0.30±.04; Mθθ2.48±.03; Mφφ-2.78±.04; Mrθ0.92±.06; Mθφ0.08±.03; Mφr0.45±.06; Best double couple: M0 2.83500×1017 NP1:φs136.00000°, δ70.00000°, λ9.00000°. NP2:φs43.00000°, δ82.00000°, λ159.00000°. Principal axes: T 2.8240, Plg20.0000°, Azm357.0000°; N 0.0180, Plg68.0000°, Azm202.0000°; P -2.8450, Plg8.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***27*** *02:30:38.2±3.2, 2200N×12048E, h20km±20km, mb5.0/18, mb1 5.1/21, mb1mx5.0/25, mbtmp5.0/21, ML4.7/3, MS4.8/24, Ms1 4.8/24, ms1mx4.7/37 Error ellipse: s-maj=17.2km s-min=12.1km az=71.0*

MOS ***27*** *02:30:38.4±0.8, 2203N×12051E, h33km, mb5.8/90, MS5.1/32, Error ellipse: s-maj=7.4km s-min=3.6km az=118.7*

ISCJB ***27*** *02:30:39.1±0.1, 2197N±001×12052E±002, h41km, mb5.4/183, MS5.0/71, Error ellipse: s-maj=2.5km s-min=2.0km az=42.1*

JMA ***27*** *02:30:41.2±0.3, 2200N×12060E, h75km, M5.8*

SZGRF ***27*** *02:30:41.2, 2287N×12123E, h33km, mb5.7, MS5.1, Taiwan region*

ISC 27 02:30:41.2±0.1, 2201N±001×12052E±002, h43km, h43km±2.8km: pP-P, n591, σ0§94/634, mb5.4/183, MS5.0/71, 142C-34D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.37	25	ePn	Pn	02 31 16.6	-0.9
NACB				eSn	Sn	02 31 45.6	+0.3
YHNB	Yeheng	2.76	16	ePn	Pn	02 31 22.3	-0.6
YHNB				eSn	Sn	02 31 55.1	+0.2
TATO	Taipei	3.08	17	Pn	Pn	02 31 26.4	-0.8
TATO	Taipei	3.08	17	ePn	Pn	02 31 26.1	-1.2
TATO				eSn	Sn	02 32 03.4	+0.6
YOJ	Yonaguni jima	3.35	43	P	Pn	02 31 31.7	+0.8
YOJ				S	Sn	02 32 10.3	+0.9
QZH	Quanzhou	3.41	329	⇑iP	Pn	02 31 28.8	-3.0
QZH				S	Sn	02 32 04.0	-7.0
QZH				Smax			
	comp=N,11μm,1.1s						
QZH				Smax			
	comp=E,9μm,1.2s						
QZH				LR	LR		
	comp=N,48μm,12.2s						
QZH				LR	LR		
	comp=E,80μm,11.7s						
QZH				LR	LR		
	comp=Z,51μm,21.0s						
HATJ	Hateruma jima	3.65	55	P	Pn	02 31 35.8	+0.7
HATJ				eS	Sn	02 32 16.6	-0.3
PIP	Pasuquin	3.67	178	⇓eP	Pn	02 31 32.7	-2.6
PIP				eS	Sn	02 32 12.7	-4.7
IRIF	Iriomote-Funau	3.75	51	P	Pn	02 31 37.3	+0.8
IRIF				eS	Sn	02 32 20.5	+1.1
JKRS	Kuro-shima	3.90	55	P	Pn	02 31 39.5	+0.9
JKRS				eS	Sn	02 32 23.9	+0.8
SGCP	Mt. Cagua	4.02	159	eP	Pn	02 31 38.7	-1.4
JIJ	Ishigaki jima	4.08	54	P	Pn	02 31 41.1	+0.2
JIJ				S	Sn	02 32 27.1	-0.3
APYP	Conner	4.18	170	eP	Pn	02 31 41.0	-1.4
ABRA	Dolores	4.34	178	eP	Pn	02 31 42.5	-2.1
JTJ	Tarama	4.65	55	P	Pn	02 31 49.7	+0.8
JTJ				S	Sn	02 32 42.1	+0.5
CAUP	Cauayan	5.19	166	eP	Pn	02 31 58.4	+2.2
JMJ	Miyako jima 2	5.20	57	P	Pn	02 31 57.0	+0.6
JMJ				eS	Sn	02 32 56.2	+1.2
PALP	Palanan	5.24	160	eP	Pn	02 31 56.8	-0.1
JOGS	Gusukube	5.26	58	P	Pn	02 31 58.3	+1.1
JOGS				S	Sn	02 32 58.0	+1.5
BCPH	Baguio City Da	5.60	179	⇓eP	Pn	02 32 00.3	-1.6
BCPH				eS	Sn	02 33 02.3	-2.6
BOLP	Bolinao

QIZ S **Sn** **02 35 04.0 +0.4**
QIZ LR LR
comp=N,12μm,20.9s
QIZ LR LR
comp=Z,9μm,17.1s
QIZ Qiongzhong 10.43 255 *e*Pn **Pn** **02 33 05.3 -2.8**
comp=Z,559nm,1.1s
JMZ Minamidaito 2 10.50 67 P **Pn** **02 33 07.0 -2.0**
JMZ *e*S **Sn** **02 34 56.4 -8.8**
ENPP El Nido 10.80 186 *e*P **Pn** **02 33 12.2 -0.9**
CUYO Cuyo Island 11.11 177 *e*P **Pn** **02 33 19.8 +2.4**
GUIM Jordan 11.49 170 *e*P **Pn** **02 33 24.6 +1.9**
OCLP Ormoc 11.58 160 *e*P **Pn** **02 33 25.0 +1.2**
MSLP Maasin 12.52 160 *e*P **Pn** **02 33 38.5 +1.8**
TBP Tagbilaran 12.67 165 *e*P **Pn** **02 33 39.4 +0.8**
GYA Guiyang 13.39 292⇓*i*P **Pn** **02 33 46.5 -2.0**
GYA AP 02 33 50.5
GYA XP 02 33 53.8
GYA PP 02 33 57.0
GYA AMB AMB
comp=Z,240nm,1.0s
GYA AMB AMB
comp=Z,430nm,5.4s
GYA LR LR
comp=N,7μm,10.5s
GYA LR LR
comp=E,12μm,12.4s
GYA LR LR
comp=Z,12μm,11.9s
BATP Bataraza 13.40 192 *e*P **Pn** **02 33 47.3 -1.3**
CGP Cagayan de Oro 14.07 163⇓*e*P **Pn** **02 33 57.7 0.0**
JNU Nakatsue 14.37 37 Pn **Pn** **02 34 04.9 +3.0**
comp=Z,1.1nm,0.3s,baz=257,slow=21,SNR=3.1
TIA Tai'an 14.45 349⇑P **Pn** **02 34 03.8 +0.8**
TIA AP pP 02 34 10.0 -9.1
TIA AMB AMB
comp=Z,643nm,1.7s
TIA LR LR
comp=N,3μm,10.0s
TIA LR LR
comp=E,4μm,8.0s
BUKP Musuan 14.72 162 *e*P **Pn** **02 34 07.5 +1.0**
CTBH Cotabato--PC H 15.14 166⇑*e*P **Pn** **02 34 18.7 +6.7**
XAN Xi'an 15.74 322 P **Pn** **02 34 18.0 -1.8**
XAN S **S** **02 37 19.0 -7.4**
XAN AMB AMB
comp=Z,96nm,1.7s
XAN AMB AMB
comp=Z,683nm,6.0s
XAN LR LR
comp=N,7μm,11.2s
XAN LR LR
comp=E,4μm,13.6s
XAN LR LR
comp=Z,8μm,14.6s
MATI Mati 15.97 159 *e*P **Pn** **02 34 24.4 +1.7**
INCN Inchon 16.30 18 *e*P **Pn** **02 34 26.5 -0.4**
KKM Kota Kinabalu 16.41 195 *e*P **Pn** **02 34 28.4 +0.1**
KMI Kunming 16.59 284 P **Pn** **02 34 28.5 -2.1**
KMI AP pP 02 34 31.0 -12
KMI PP 02 34 40.5
KMI S **S** **02 37 30.0 -14**
KMI SS 02 37 47.8
KMI AMB AMB
comp=Z,56nm,2.0s
KMI AMB AMB
comp=Z,1μm,3.9s
KMI LR LR
comp=N,4μm,20.4s
KMI LR LR
comp=E,4μm,16.1s
KMI LR LR
comp=Z,5μm,14.7s
KMI Kunming 16.59 284 P **Pn** **02 34 28.4 -2.2**
KMI S **S** **02 37 29.9 -14**
KMI pmax pmax
comp=Z,56nm,2.0s
KMI Kunming 16.59 284 P **Pn** **02 34 28.4 -2.2**
comp=Z,56nm,2.0s
KMI pP pP 02 34 31.1 -12
KMI PP 02 34 40.5
KMI PPP 02 34 48.7
KMI S **S** **02 37 29.9 -14**
KMI sS sS 02 37 34.6 -25
KMI SS 02 37 47.7
KMI SSS 02 38 03.7
KSRS Korea Array 16.67 21 Pn **Pn** **02 34 31.6 0.0**
baz=204,slow=13,SNR=32
KSRS LR LR 02 41 54.0
comp=Z,7μm,19.6s,baz=206,slow=40
DL2 Dalian 16.87 3⇑*i*P **Pn** **02 34 34.8 +0.8**
DL2 AMB AMB
comp=Z,220nm,1.4s
DL2 AMB AMB
comp=Z,1μm,6.5s
DL2 LR LR
comp=N,2μm,15.5s
DL2 LR LR
comp=E,4μm,16.5s
DL2 LR LR
comp=Z,3μm,18.0s
CD2 Chengdu 17.41 304 P **Pn** **02 34 38.5 -2.3**
CD2 AP pP 02 34 42.0 -10
CD2 XP sP 02 34 44.5 -13
CD2 S **S** **02 37 49.5 -11**
CD2 XS sS 02 37 53.5 -23
CD2 SS 02 38 15.3
CD2 AMB AMB
comp=Z,100nm,1.2s
CD2 AMB AMB
comp=Z,500nm,3.7s
CD2 LR LR
comp=N,10μm,11.0s
CD2 LR LR
comp=E,7μm,11.0s
CD2 LR LR
comp=Z,9μm,9.6s
BJT Baijiatuau 18.33 349 *e*P **Pn** **02 34 52.2 +0.2**
BJT pmax pmax
comp=Z,189nm,0.9s
BJT Baijiatuau 18.33 349 *e*P **Pn** **02 34 52.1 +0.1**
comp=Z,189nm,0.9s
BJI Beijing 18.35 349 P **Pn** **02 34 52.3 0.0**
BJI S **S** **02 38 16.3 -3.1**
BJI AMB AMB
comp=Z,208nm,1.2s
BJI AMB AMB
comp=Z,4μm,3.5s
BJI LR LR
comp=N,6μm,23.4s
BJI LR LR
comp=E,7μm,19.5s
BJI LR LR
comp=Z,6μm,22.0s
BJI Beijing 18.35 349 P **Pn** **02 34 52.3 0.0**
comp=Z,208nm,1.2s
BJI S **S** **02 38 16.2 -3.2**
SNY Shenyang 19.92 7⇑P **Pn** **02 35 09.0 -2.2**
SNY S **S** **02 38 50.0 -1.1**
SNY AMB AMB
comp=Z,143nm,1.7s
SNY AMB AMB
comp=Z,2μm,3.6s
SNY LR LR
comp=N,5μm,14.4s
SNY LR LR
comp=Z,6μm,15.0s
LZH Lanzhou 20.18 318⇑*i*P **P** **02 35 13.5 +1.4**
LZH AP 02 35 17.5
LZH XP sP 02 35 20.8 -7.0
LZH PP 02 35 33.5
LZH S **S** **02 38 54.5 -1.7**
LZH XS sS 02 39 00.5 -12
LZH SS 02 39 23.5
LZH AMB AMB
comp=Z,766nm,1.5s
LZH AMB AMB
comp=Z,2μm,5.4s
LZH LR LR
comp=E,7μm,7.6s
LZH LR LR
comp=Z,10μm,13.2s,MS5.3
LZH Lanzhou 20.18 318⇑*i*P **P** **02 35 13.5 +1.4**
LZH 02 35 33.4
LZH PPP 02 35 42.8
LZH S **S** **02 38 54.5 -1.7**
LZH SS 02 39 23.5
LZH pmax pmax
comp=Z,766nm,1.5s
LZH MLR MLR
comp=Z,10μm,13.2s,MS5.3
LZH Lanzhou 20.18 318⇑*i*P **P** **02 35 13.5 +1.4**
comp=Z,766nm,1.5s
LZH pP 02 35 17.6
LZH sP sP 02 35 20.7 -7.1
LZH PP 02 35 33.4
LZH PPP 02 35 42.8
LZH S **S** **02 38 54.5 -1.7**
LZH sS sS 02 39 00.6 -12
LZH SS 02 39 23.5
LZH LR LR
comp=Z,10μm,13.2s,MS5.3
HHC Hu-ho-hao-te 20.25 340 *e*P **P** **02 35 14.0 +1.2**
HHC AP 02 35 20.8
HHC XP sP 02 35 24.5 -4.0
HHC PP 02 35 34.8
HHC S **S** **02 39 00.5 +2.9**
HHC XS sS 02 39 04.3 -10
HHC SS 02 39 22.3
HHC PCP PcP 02 39 28.5 +3.1
HHC SCS ScS 02 46 43.0 +2.0
HHC AMB AMB
comp=Z,651nm,1.2s
HHC LR LR
comp=N,7μm,17.7s,MS5.2
HHC LR LR
comp=E,7μm,15.3s,MS5.2
HHC LR LR
comp=Z,6μm,22.2s
NST Nakhon Sawan 20.29 255 P **P** **02 35 13.5 +0.3**
JHJ Hachijo jima 2 20.32 53 LR LR 02 42 48.2
comp=Z,2μm,19.3s,MS4.5,baz=84,slow=36
CBIJ Chichi jima 20.34 71 P **P** **02 35 17.1 +3.3**
comp=Z,204nm,0.9s,baz=270,slow=20,SNR=3.5
CBIJ LR LR 02 41 45.5
comp=Z,2μm,20.5s,MS4.5,baz=183,slow=33
CHG Chiang Mai 20.46 265⇓P **P** **02 35 15.4 +0.3**
comp=Z,150nm,1.5s
CHTO Chiang Mai 20.46 265⇓P **P** **02 35 15.5 +0.4**
SNR=76
CHTO Chiang Mai 20.46 265⇓*i*P **P** **02 35 15.2 +0.1**
CHTO pmax pmax
comp=Z,266nm,1.3s
CHTO Chiang Mai 20.46 265⇓*i*P **P** **02 35 15.2 +0.1**
comp=Z,266nm,1.3s
BTO Baotou 20.56 337 *e*P **P** **02 35 16.0 -0.1**
JNG Nsakai 20.96 43 P **P** **02 35 21.0 +0.6**
JNG S **S** **02 39 15.9 +4.3**
MAJO Matsushiro 21.11 43 *e*P **P** **02 35 22.4 +0.3**
MAJO Matsushiro 21.11 43 *e*P **P** **02 35 22.2 +0.2**
comp=Z,241nm,1.4s,mb5.3
MAT Matsushiro 21.11 43 P **P** **02 35 22.3 +0.2**
MAT S **S** **02 39 17.3 +2.8**
MAT Matsushiro 21.11 43 P **P** **02 35 22.0 -0.1**
MAT S **S** **02 39 16.4 +1.9**
MJAR Matsushiro Arr 21.11 43 P **P** **02 35 22.5 +0.5**
comp=Z,28nm,0.8s,mb4.6,baz=231,slow=10.0,SNR=33
JRY Ryogami san 21.24 45 P **P** **02 35 24.7 +1.3**
JRY S **S** **02 39 20.5 +3.4**
CN2 Changchun 22.11 10⇑P **P** **02 35 30.5 -2.3**
CN2 *e*S **S** **02 39 28.5 -5.6**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb4.9
CN2 LR LR
comp=N,6μm,18.0s,MS5.1
CN2 LR LR
comp=E,3μm,18.0s,MS5.1
CN2 LR LR
comp=Z,6μm,19.0s,MS5.0
KSM Kuching 22.70 207 *e*P **P** **02 35 38.5 -0.6**
VLA Vladivostok 23.09 22 *e*P **P** **02 35 42.5 -0.6**
VLA *e**PP 02 35 50.3
VLA *e*S **S** **02 39 51.0 0.0**
VLA pmax pmax
comp=Z,453nm,2.5s,mb5.5
VLA MLR MLR
comp=Z,4μm,17.9s,MS4.9
VLA Vladivostok 23.09 22⇑*e*P **P** **02 35 43.5 +0.4**
MDJ Mudanjiang 23.75 16 P **P** **02 35 49.3 -0.2**
MDJ AP 02 35 55.0
MDJ XP sP 02 35 58.0 -8.0
MDJ PCP PcP 02 39 32.5 +0.2
MDJ S **S** **02 40 05.8 +4.0**
MDJ SCP ScP 02 43 08.0 +0.9
MDJ PCS PcS 02 43 11.5 -0.4
MDJ SCS ScS 02 46 55.3 +1.4
MDJ AMB AMB
comp=Z,110nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,659nm,6.6s
MDJ LR LR
comp=N,4μm,17.7s,MS5.0
MDJ LR LR
comp=E,4μm,19.7s,MS5.0
MDJ LR LR
comp=Z,6μm,15.8s,MS5.1
MDJ Mudanjiang 23.75 16⇑*i*P **P** **02 35 48.6 -0.9**
comp=Z,141nm,1.1s,mb5.3
SNG Songkhla 24.21 235 P **P** **02 35 54.0 +0.3**
comp=Z,126nm,0.8s,mb5.4
GUMO Guam 24.63 106 P **P** **02 35 57.3 -0.2**
comp=Z,199nm,0.9s,mb5.6,baz=33,slow=19,SNR=4.7
GUMO LR LR 02 45 21.9
comp=Z,2μm,19.5s,MS4.6,baz=101,slow=36
GUMO Guam 24.63 106 *e*P **P** **02 35 56.3 -1.2**
GUMO pmax pmax
comp=Z,290nm,1.1s,mb5.7
GUMO Guam 24.63 106 *e*P **P** **02 35 56.3 -1.2**
comp=Z,290nm,1.1s,mb5.7
GTA Gaotai 24.75 319 P **P** **02 35 58.5 -0.1**
GTA AP 02 36 05.5
GTA XP sP 02 36 09.3 -5.8
GTA PP 02 36 36.5
GTA S **S** **02 40 19.5 +1.6**
GTA XS sS 02 40 30.8 -6.2
GTA AMB AMB
comp=Z,147nm,1.4s,mb5.3
GTA AMB AMB
comp=Z,1μm,5.3s
GTA LR LR
comp=N,3μm,15.6s,MS5.0
GTA LR LR
comp=E,2μm,16.0s,MS5.0
GTA LR LR
comp=Z,4μm,14.1s,MS5.0
KULM Kulim 25.42 232 *e*P **P** **02 36 04.4 -0.3**
SHL Shillong 26.41 283 *e*P **P** **02 36 13.0 -0.7**
SHL *e*x x 02 41 45.0
AGT Agartala 27.00 280 *i*P **P** **02 36 20.0 +1.1**
AGT *i*x x 02 37 07.0
HIA Hailar 27.20 359⇑*e*P **P** **02 36 19.3 -1.5**
HIA pmax pmax
comp=Z,471nm,1.4s
HIA Hailar 27.20 359⇑*e*P **P** **02 36 19.3 -1.5**
comp=Z,471nm,1.4s,mb5.8
LSA Lhasa 27.46 292 *e*P **P** **02 36 24.1 +1.0**
LSA pmax pmax
comp=Z,41nm,0.8s,mb5.0
LSA Lhasa 27.46 292 *e*P **P** **02 36 24.1 +1.0**
comp=Z,41nm,0.8s,mb5.0
ERM Erimo 27.54 38 *e*P **P** **02 36 24.6 +0.8**
ERM pmax pmax
comp=Z,279nm,1.4s,mb5.7
ERM Erimo 27.54 38 *e*P **P** **02 36 24.6 +0.8**
comp=Z,279nm,1.4s,mb5.7
ULN Ulaanbaatar 27.97 340⇑P **P** **02 36 27.9 +0.3**
SNR=59
ULN Ulaanbaatar 27.97 340⇑*i*P **P** **02 36 27.5 -0.2**
ULN pmax pmax
comp=Z,187nm,1.4s,mb5.5
ULN MLR MLR
comp=Z,6μm,21.0s,MS5.2
ULN Ulaanbaatar 27.97 340⇑*i*P **P** **02 36 27.5 -0.2**
comp=Z,187nm,1.4s,mb5.5
ULN *e*ScP ScP 02 43 30.9 +12
ULN LR LR
comp=Z,6μm,21.0s,MS5.2
SONM Songino Array 28.15 340 P **P** **02 36 29.2 0.0**
comp=Z,65nm,1.1s,mb5.2,baz=161,slow=8.0,SNR=169
SONM ScP ScP 02 43 22.9 +3.0
comp=Z,2.5nm,1.1s,baz=143,slow=2.5,SNR=3.9
SONM LR LR 02 48 37.6
comp=Z,6μm,20.7s,MS5.2,baz=151,slow=38
PSI Prapat 28.37 231 P **P** **02 36 30.9 -0.3**
comp=Z,12nm,0.9s,mb4.5,baz=45,slow=8.2,SNR=8.2
PSI LR LR 02 47 01.1
comp=Z,1μm,20.6s,MS4.5,baz=40,slow=35
PSI Prapat 28.37 231 P **P** **02 36 30.9 -0.3**
PSI LR LR 02 47 01.1
PBA Port Blair 28.46 253 *e*P **P** **02 36 28.3 -3.7**
PBA AMb AMB 02 36 30.3
comp=Z,99nm,1.3s,mb5.3
PBA *e*S **S** **02 41 16.1 -0.3**
KLR Kul'dur 28.59 15 *e*P **P** **02 36 29.0 -4.2**
KLR *e* 02 37 31.5
KLR *e*S **S** **02 41 13.5 -5.0**
KLR pmax pmax
comp=N,25nm,1.2s
KLR pmax pmax
comp=E,38nm,1.2s
KLR pmax pmax
comp=Z,100nm,1.2s,mb5.4
KLR smax
comp=N,600nm,6.0s
KLR smax
comp=E,1μm,6.0s
KLR MLR MLR
comp=E,2μm,14.0s
KLR MLR MLR
comp=Z,10μm,14.0s,MS5.6
ASAJ Asahikawa 28.61 34 P **P** **02 36 33.4 0.0**
comp=Z,97nm,1.2s,mb5.4,baz=248,slow=15,SNR=13
ASAJ LR LR 02 48 34.6
comp=Z,4μm,21.6s,MS5.0,baz=240,slow=38
HABR Khabarovsk 28.84 20 *e*P **P** **02 36 35.0 -0.4**
HABR *e*S **S** **02 41 25.7 +3.2**
HABR pmax pmax
comp=Z,141nm,1.6s,mb5.5
HABR MLR MLR
comp=Z,1μm,15.4s,MS4.7
CAL Calcutta 29.76 277 *e*P **P** **02 36 48.3 +4.7**
CAL *e*S **S** **02 41 42.5 +5.7**
CIT Chita 30.44 351 *e*P **P** **02 36 48.3 -1.2**
CIT *e* pP 02 36 57.3 -3.7
CIT *e* 02 37 06.0
CIT *e* 02 37 51.9
CIT pmax pmax
comp=Z,197nm,1.9s,mb5.5
YSS Yuzh-Sakhalins 30.70 31⇑*e*P **P** **02 36 52.1 +0.3**
YSS *i* *SP sP 02 37 03.0 -5.4
YSS *e*PPP 02 38 11.0
YSS *e*S **S** **02 41 50.0 -1.6**
YSS *e* 02 42 03.0
YSS *e*SSS 02 43 54.0
YSS pmax pmax
comp=N,70nm,1.1s
YSS pmax pmax
comp=Z,100nm,1.1s,mb5.6
YSS MLR MLR
comp=Z,1μm,21.0s,MS4.6
YSS MLR MLR
comp=N,1μm,19.0s
YSS Yuzh-Sakhalins 30.70 31 *e*P **P** **02 36 52.2 +0.4**
comp=N,130nm,1.1s,mb5.7
ZAK Zakamensk 31.39 339 *e*P **P** **02 36 57.2 -0.7**
ZAK pmax pmax
comp=Z,24nm,1.3s,mb4.9
JIRN Jiri 31.59 287 *e*P **P** **02 37 00.1 +0.4**
comp=Z,172nm,1.2s,mb5.8
GUN Gumba 31.88 288 *e*P **P** **02 37 02.5 +0.3**
comp=Z,181nm,1.1s,mb5.8
PKI Pulchoki 32.28 287 *e*P **P** **02 37 05.6 -0.1**
comp=Z,117nm,1.3s,mb5.5
PKI Pulchoki 32.28 287 *e*P **P** **02 37 05.6 -0.1**
PKI pmax pmax
comp=Z,117nm,1.3s,mb5.5
TLY Talaya 32.38 340 *e*P **P** **02 37 06.6 0.0**
TLY *e*PPP 02 38 20.1
TLY *e*S **S** **02 42 24.3 +6.4**
TLY *e*SS SS 02 44 14.0 -24
TLY *e*SSS 02 44 41.0
TLY pmax pmax
comp=Z,118nm,1.8s,mb5.4
TLY MLR MLR
comp=Z,5μm,22.0s,MS5.2
TLY Talaya 32.38 340⇑*i*P **P** **02 37 06.3 -0.3**
comp=Z,26nm,0.7s,mb5.2
TLY LR LR
comp=Z,1μm,21.0s,MS4.6
KKN Kakani 32.40 287 *e*P **P** **02 37 06.5 -0.3**
comp=Z,134nm,1.2s,mb5.6
KKN Kakani 32.40 287 *e*P **P** **02 37 06.5 -0.3**
KKN pmax pmax
comp=Z,135nm,1.2s,mb5.7
DMN Daman 32.55 287 *e*P **P** **02 37 08.3 +0.2**
comp=Z,143nm,1.1s,mb5.8
IRK Irkutsk 32.68 341 *e*P **P** **02 37 08.4 -0.9**
IRK *e* 02 38 22.6
IRK pmax pmax
comp=Z,176nm,2.0s,mb5.6
GKN Gorkha 32.98 288 *e*P **P** **02 37 11.5 -0.3**
comp=Z,162nm,1.3s,mb5.8
MOY Mondy 33.25 338 *e*P **P** **02 37 13.9 -0.4**
MOY pmax pmax
comp=Z,201nm,2.0s,mb5.7
KOLN Koldanda 33.89 287 *e*P **P** **02 37 19.4 -0.4**
comp=Z,134nm,1.2s,mb5.8
NRGR Nerungri 34.74 4 *e*P **P** **02 37 27.3 +0.1**
NRGR S **S** **02 43 03.8 +9.4**
NRGR smax
comp=N,53nm,0.8s
WMQ Urumqi 34.76 317 P **P** **02 37 27.5 +0.2**
WMQ AP pP 02 37 35.0 -3.9
WMQ PP PP 02 38 45.0 -1.6
WMQ PCP PcP 02 40 00.8 +0.6
WMQ S **S** **02 42 55.0 +0.3**
WMQ SCP ScP 02 43 43.3 +1.2
WMQ PCS PcS 02 43 46.0 -0.8
WMQ SS SS 02 45 09.8 -17
WMQ SCS ScS 02 47 45.0 -0.4
WMQ AMB AMB
comp=Z,37nm,1.4s,mb5.1
WMQ AMB AMB
comp=Z,312nm,3.6s
WMQ LR LR
comp=N,2μm,10.0s
WMQ LR LR
comp=E,2μm,9.0s
WMQ LR LR
comp=Z,2μm,18.0s
CLNS Chul'man 34.93 4 *e*P **P** **02 37 26.6 -2.2**
VIS Vishakhapatnam 35.18 270 *i*P **P** **02 37 26.5 -4.4**
VIS *i*S **S** **02 43 03.5 +2.4**
BOD Bodaibo 36.08 354 *e*P **P** **02 37 36.0 -2.7**
BOD *e* 02 39 03.4
BOD pmax pmax
comp=Z,13nm,1.5s,mb4.6
KAKA Kakadu 36.44 160 *e*P **P** **02 37 40.3 -1.4**
comp=Z,34nm,0.8s,mb5.3
PTH Pithoragarh 36.91 290 *e*P **P** **02 37 48.8 +3.0**
JBP Jabalpur 37.36 280 *i*P **P** **02 37 50.1 +0.6**
JBP *e*x x 02 37 53.0
comp=Z,68nm,1.5s
JBP *e*x x 02 43 28.4
NGP Nagpur 38.48 277 *i*P **P** **02 37 58.0 -1.1**
NGP *e*x x 02 38 01.9
comp=Z,76nm,1.5s
NGP *e*S **S** **02 43 53.8 +2.3**
MDRS Chennai 39.31 264 *e*x **P** **02 38 05.7 -0.3**
MDRS *e*x x 02 39 44.7
MK31 Makanchi Array 39.50 318 P **P** **02 38 07.5 0.0**
MK31 Makanchi Array 39.50 318⇑*i*P **P** **02 38 07.3 -0.2**
MK31 *e*PcP PcP 02 40 14.7 +0.2
MKAR Makanchi Array 39.50 318 P **P** **02 38 07.5 -0.1**
comp=Z,36nm,0.9s,mb5.1,baz=111,slow=9.0,SNR=181
MKAR LR LR 02 55 58.0
comp=Z,3μm,18.2s,MS5.1,baz=111,slow=38
MKAR Makanchi Array 39.50 318 *i*P **P** **02 38 07.4 -0.1**
MKAR pmax pmax
comp=Z,41nm,0.8s
MKAR Makanchi Array 39.50 318 P **P** **02 38 07.5 -0.1**
MKAR LR LR 02 55 58.0
KRAR Krasnoyarsk 39.65 336*c*i*P **P** **02 38 08.3 -0.5**
KRAR pmax pmax
comp=Z,256nm,1.3s,mb5.8

KRAR MLR MLR
comp=Z,2µm,19.0s,MS5.0
HYB Hyderabad 39.68 271 *i* P **P 02 38 09.5 +0.5**
HYB *e*S **S 02 44 12.0 +2.5**
HYB Hyderabad 39.68 271 *e*P **P 02 38 09.5 +0.5**
HYB *e*S **S 02 44 12.0 +2.5**
FITZ Fitzroy Crossi 40.18 172 *e*P **P 02 38 11.7 -1.5**
comp=Z,23nm,0.9s,mb4.9
FITZ *e*S **S 02 44 16.6 -0.4**
YAK Yakutsk 40.49 7*c i*P **P 02 38 14.3 -1.4**
YAK *e**PP pP 02 38 22.5 -5.0
YAK *e* 02 40 17.5
YAK *e*S **S 02 44 18.1 -3.5**
YAK *i* *SS sS 02 44 32.1 -9.1
YAK *e*SS SS 02 47 12.7 -9.4
YAK *e*SSS 02 47 56.5
YAK *e* 02 48 18.6
YAK pmax pmax
comp=Z,341nm,0.9s,mb6.1
YAK pmax pmax
comp=N,255nm,1.3s
YAK pmax pmax
comp=E,50nm,1.1s
YAK smax
comp=N,419nm,3.2s
YAK smax
comp=E,298nm,2.5s
YAK MLR MLR
comp=Z,4µm,21.0s,MS5.2
YAK MLR MLR
comp=N,3µm,23.0s
YAK MLR MLR
comp=E,1µm,14.0s
YAK Yakutsk 40.49 7⇑*i*P **P 02 38 14.5 -1.2**
comp=E,262nm,0.8s,mb6.0
PMG Port Moresby 40.72 137⇓*i*P **P 02 38 17.1 -0.5**
PMG pmax pmax
comp=Z,56nm,1.0s
PMG MLR MLR
comp=Z,643nm,19.0s
PMG Port Moresby 40.72 137⇓*i*P **P 02 38 17.1 -0.6**
comp=Z,56nm,1.0s,mb5.2
PMG LR LR
comp=Z,643nm,19.0s,MS4.5
THN Thein Dam 40.91 295 *e*P **P 02 38 18.1 -1.1**
KSH Kashi 41.60 305 P **P 02 38 27.5 +2.6**
KSH AP pP 02 38 32.0 -4.7
KSH XP sP 02 38 34.5 -7.2
KSH PP PP 02 40 06.3 +4.8
KSH PCP PcP 02 40 26.0 +4.6
KSH SCP ScP 02 44 13.8 +5.8
KSH PCS PcS 02 44 15.5 +2.7
KSH S **S 02 44 43.5 +5.4**
KSH SS SS 02 47 43.3 -0.9
KSH SCS ScS 02 48 29.0 +4.4
KSH AMB AMB
comp=Z,394nm,1.4s,mb5.8
KSH AMB AMB
comp=Z,2µm,5.2s
KSH LR LR
comp=N,4µm,10.1s,MS5.9
KSH LR LR
comp=E,7µm,10.3s,MS5.9
KSH LR LR
comp=Z,6µm,17.2s
ZAL Zalesovo 41.76 329 P **P 02 38 26.4 +0.3**
comp=Z,50nm,1.0s,mb5.1,baz=356,slow=7.6,SNR=187
ZAL LR LR 02 57 41.8
comp=Z,2µm,18.6s,MS5.1,baz=342,slow=39
ZAL Zalesovo 41.76 329 *i* P **P 02 38 26.3 +0.2**
ZAL pmax pmax
comp=Z,50nm,1.0s
AJM Ajmer 41.90 286 *i* P **P 02 38 27.0 -0.3**
ULHL Ulahol 42.02 309 P **P 02 38 29.9 +1.6**
SNR=9.8
PET Petropavlovsk 42.45 34⇓*i*P **P 02 38 31.4 -0.4**
PET *e*S **S 02 44 50.4 -0.2**
PET pmax pmax
comp=Z,86nm,1.4s,mb5.2
PET MLR MLR
comp=Z,2µm,20.0s,MS5.0
TKM2 Tokmak 2 42.65 310 P **P 02 38 34.4 +1.0**
SNR=26
TKM2 Tokmak 2 42.65 310 P **P 02 38 34.0 +0.6**
TKM2 pmax pmax
comp=Z,76nm,1.3s,mb5.3
KZA Kyzart 42.69 309 P **P 02 38 36.2 +2.4**
SNR=27
NVS Novosibirsk 43.02 329⇑*i*P **P 02 38 35.8 -0.7**
NVS *e* 02 40 17.2
NVS *i* S **S 02 44 57.4 -1.7**
NVS pmax pmax
comp=N,245nm,1.8s
NVS pmax pmax
comp=E,205nm,1.8s
NVS pmax pmax
comp=Z,287nm,1.8s,mb5.7
NVS pmax pmax
comp=Z,72nm,2.0s,mb5.1
NVS pmax pmax
comp=N,60nm,1.7s
NVS pmax pmax
comp=E,41nm,1.7s
NVS smax
comp=N,53nm,2.2s
NVS smax
comp=E,104nm,2.2s
KBK Karagaybulak 43.05 309 P **P 02 38 37.8 +1.2**
SNR=13
MA2 Magadan 43.22 22*c i*P **P 02 38 37.4 -0.6**
MA2 *e* 02 40 26.9
MA2 *e*S **S 02 45 00.3 -1.6**
MA2 pmax pmax
comp=N,60nm,1.0s
MA2 pmax pmax
comp=E,50nm,1.0s
MA2 pmax pmax
comp=Z,140nm,1.0s,mb5.7
MA2 MLR MLR
comp=Z,2µm,18.0s,MS5.1
MA2 Magadan 43.22 22⇑*i*P **P 02 38 37.2 -0.8**
comp=Z,92nm,1.0s,mb5.5
MA2 *e*PcP PcP 02 40 26.9 +0.2
UCH Uchtor 43.26 309 P **P 02 38 40.2 +1.9**
SNR=45
CHMS Chumysh 43.27 310 P **P 02 38 39.5 +1.0**
SNR=15
FRU Bishkek 43.32 310 *e*P **P 02 38 37.0 -1.9**
FRU *e* 02 38 52.0
FRU pmax pmax
comp=Z,80nm,1.6s,mb5.2
FRU MLR MLR
comp=Z,3µm,16.0s,MS5.3
AAK Ala-Archa 43.36 309 P **P 02 38 40.0 +0.8**
SNR=10
AAK Ala-Archa 43.36 309 P **P 02 38 38.8 -0.4**
comp=Z,68nm,1.5s,mb5.2,SNR=8.1
AAK Ala-Archa 43.36 309 ⇑P **P 02 38 39.1 -0.1**
SNR=8.5
AAK Ala-Archa 43.36 309*c i*P **P 02 38 39.1 -0.1**
AAK pmax pmax
comp=Z,20nm,1.3s,mb4.7
AAK MLR MLR
comp=Z,3µm,19.0s,MS5.2
AAK Ala-Archa 43.36 309 *e*P **P 02 38 39.0 -0.3**
comp=Z,29nm,1.4s,mb4.8
KURK Kurchatov 43.38 322 P **P 02 38 39.0 -0.4**
comp=Z,506nm,1.2s,mb6.1,SNR=23
KURK Kurchatov 43.38 322 P **P 02 38 39.1 -0.3**
SNR=46
KURK Kurchatov 43.38 322⇑*i*P **P 02 38 38.9 -0.5**
KURK pmax pmax
comp=Z,223nm,1.4s,mb5.7
KURK MLR MLR
comp=Z,233nm,19.0s,MS4.1
KURK Kurchatov 43.38 322⇑*i*P **P 02 38 38.9 -0.5**
comp=Z,223nm,1.4s,mb5.7
KURK LR LR
comp=Z,233nm,19.0s,MS4.1
USP Ospenovka 43.51 310 P **P 02 38 41.4 +1.0**
SNR=18
POO Poona 43.79 274 *ex* **P 02 38 39.0 -3.6**
AML Almayashu 43.83 308 P **P 02 38 44.8 +1.8**
SNR=27
WRA Warramunga Arr 43.83 161 P **P 02 38 42.4 -0.5**
comp=Z,30nm,0.9s,mb5.0,baz=344,slow=8.7,SNR=68
WRA S **S 02 45 08.3 -2.6**
comp=Z,6.3nm,1.0s,baz=346,slow=14,SNR=15
WB2 Warramunga Arr 43.84 161 *e*P **P 02 38 42.3 -0.7**
WB2 *e*S **S 02 45 08.1 -2.8**
EKS2 Erkin-Say 43.89 309 P **P 02 38 44.9 +1.5**
SNR=11
TRD Trivandrum 43.95 259⇑*i x* x 02 39 11.4
TRD *i x* x 02 43 17.4
SEY Seymchan 46.22 20⇓*i*P **P 02 39 02.1 +0.2**
KKAR Karatay Array 46.33 309 P **P 02 39 02.7 -0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KBL Kabul 46.57 297⇑*i*P **P 02 39 05.4 +0.7**
KBL *e*PcP PcP 02 40 38.9 +0.6
KBL *e*PP PP 02 40 55.9 +1.3
ASAR Alice Springs 47.23 163 P **P 02 39 09.9 +0.1**
comp=Z,10nm,0.9s,mb4.8,baz=335,slow=6.3,SNR=40
ASAR ScP ScP 02 44 33.5 +2.4
comp=Z,2.2nm,1.0s,baz=324,slow=2.2,SNR=4.3
CTA Charters Tower 48.82 147⇓*i*P **P 02 39 22.9 +0.8**
comp=Z,38nm,1.1s,mb5.3
CTA *i* S **S 02 46 24.9 +2.6**
CTA Charters Tower 48.82 147 LR LR 02 58 34.4
comp=Z,1µm,20.5s,MS4.9,baz=333,slow=34
CTA Charters Tower 48.82 147⇓*i*P **P 02 39 22.9 +0.8**
CTA *i* S **S 02 46 24.9 +2.6**
CTA pmax pmax
comp=Z,38nm,1.1s
CTAO Charters Tower 48.82 147⇓*i*P **P 02 39 22.7 +0.6**
CTAO pmax pmax
comp=Z,88nm,1.2s,mb5.7
CTAO MLR MLR
comp=Z,1µm,21.0s,MS4.9
CTAO Charters Tower 48.82 147⇓*i*P **P 02 39 22.7 +0.6**
comp=Z,88nm,1.2s,mb5.7
CTAO LR LR
comp=Z,1µm,21.0s,MS4.9
BVA0 Borovoye Array 48.98 322 P **P 02 39 22.8 -0.6**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BRVK Borovoye 49.05 322 P **P 02 39 23.5 -0.4**
comp=Z,351nm,0.8s,mb6.4,SNR=31
BRVK Borovoye 49.05 322 P **P 02 39 24.2 +0.3**
SNR=19
BRVK Borovoye 49.05 322 *e*P **P 02 39 23.6 -0.3**
BRVK pmax pmax
comp=Z,89nm,1.1s,mb5.7
BRVK Borovoye 49.05 322⇑*i*P **P 02 39 23.7 -0.2**
comp=Z,88nm,1.1s,mb5.7
BRVK LR LR
comp=Z,293nm,21.0s,MS4.2
CHKZ Chkalovo 49.07 323 P **P 02 39 23.3 -0.8**
CHKZ pmax pmax
comp=Z,66nm,1.0s,mb5.6
HNR Honiara 49.72 125 LR LR 02 57 54.6
comp=Z,653nm,21.9s,MS4.6,baz=359,slow=33
TIXI Tiksi 49.89 3 *e*P **P 02 39 23.2 -7.1**
TIXI *e**PP pP 02 39 41.8 -0.5
TIXI *e* 02 41 20.2
TIXI *e*PPP 02 42 17.1
TIXI *e*S **S 02 46 28.9 -8.4**
TIXI *e* 02 49 09.9
TIXI *e*SS SS 02 50 03.7 -6.7
TIXI pmax pmax
comp=Z,145nm,1.9s,mb5.7
TIXI MLR MLR
comp=Z,2µm,17.0s,MS5.3
TIXI Tiksi 49.89 3⇑*i*P **P 02 39 28.6 -1.7**
comp=Z,173nm,1.4s,mb5.9
TIXI *e*PP PP 02 41 24.4 -0.9
TIXI LR LR
comp=Z,4µm,19.0s,MS5.4
FORT Forrest 52.98 172 *e*P **P 02 39 53.9 +0.5**
comp=Z,42nm,0.6s,mb5.5
KLBR Kellerberrin 53.36 183 *e*P **P 02 39 56.5 +0.3**
comp=Z,20nm,0.7s,mb5.2
MUN Mundaring 53.84 185 *e*P pP 02 40 10.8 -1.1
BILL Biiibino 53.93 19⇑*i*P **P 02 39 59.4 -1.0**
BILL pmax pmax
comp=Z,147nm,1.6s,mb5.7
BILL Biiibino 53.93 19⇑*i*P **P 02 39 59.4 -1.0**
comp=Z,146nm,1.6s,mb5.7
AB31 Akbulak array 54.53 316 P **P 02 40 05.0 +0.2**
AB31 pmax pmax
comp=Z,81nm,1.5s,mb5.5
NWAO Narrogin (SRO) 54.72 183 LR LR 03 03 13.1
comp=Z,399nm,21.8s,MS4.5,baz=120,slow=36
NWAO Narrogin (SRO) 54.72 183 *e*P **P 02 40 05.8 -0.3**
NWAO pmax pmax
comp=Z,35nm,1.0s
NWAO Narrogin (SRO) 54.72 183 *e*P **P 02 40 05.8 -0.3**
comp=Z,35nm,1.0s,mb5.3
ABKT Ailbek 55.38 302 P **P 02 40 12.0 +1.1**
comp=Z,238nm,0.8s,mb6.3,SNR=6.5
ARU Arti 56.48 324 P **P 02 40 18.6 -0.1**
comp=Z,489nm,1.2s,mb6.4,SNR=21
ARU Arti 56.48 324⇑*i*P **P 02 40 18.3 -0.4**
ARU *e* 02 41 10.2
ARU *e* 02 42 19.3
ARU *e*S **S 02 48 09.5 +2.6**
ARU *e*SS SS 02 51 51.2 -3.3
ARU pmax pmax
comp=Z,89nm,1.2s,mb5.7
ARU MLR MLR
comp=E,400nm,19.0s,MS4.6
ARU MLR MLR
comp=Z,900nm,19.0s,MS4.9
ARU MLR MLR
comp=N,100nm,15.0s,MS4.6
ARU Arti 56.48 324⇑*i*P **P 02 40 18.0 -0.8**
comp=N,66nm,0.9s,mb5.7
STKA Stephens Creek 57.26 159 *e*P **P 02 40 24.3 0.0**
comp=N,8.3nm,0.6s,mb4.9
STKA *e*pP pP 02 40 36.8 +0.3
STKA Stephens Creek 57.26 159 P **P 02 40 24.7 +0.4**
comp=N,10.0nm,0.6s,mb5.0,baz=338,slow=5.9,SNR=23
STKA LR LR 03 05 12.5
comp=N,539nm,19.3s,MS4.7,baz=115,slow=36
SOKR Solikamsk 58.00 327⇓*i*P **P 02 40 29.5 0.0**
SOKR pmax pmax
comp=Z,110nm,1.7s,mb5.6
SOKR MLR MLR
comp=Z,4µm,17.0s,MS5.6
ORR Orenburg 58.07 318 *e*P **P 02 40 30.1 +0.1**
ORR MLR MLR
comp=Z,1µm,17.0s,MS5.1
TNA Tin City 62.55 26 *e*P **P 02 41 01.0 +0.4**
CNB Canberra Magne 63.24 154 *e*P **P 02 41 06.4 +1.2**
comp=Z,46nm,1.0s,mb5.6
CNB *i* pP pP 02 41 19.2 +1.7
KBD Kabd 65.14 293 *e*P **P 02 41 17.6 0.0**
KBD AMb AMB 02 41 18.2
comp=Z,243nm,1.0s,mb6.2
MIB Mutribah 65.31 294 *e*P **P 02 41 18.4 -0.3**
MIB AMb AMB 02 41 19.6
comp=Z,47nm,0.7s,mb5.6
RDF Al-Radifah 65.32 293 *e*P **P 02 41 18.7 0.0**
RDF AMb AMB 02 41 19.7
comp=Z,79nm,0.7s,mb5.8
NAY Al-Naaiem 65.51 293 *e*P **P 02 41 19.8 -0.2**
NAY AMb AMB 02 41 20.8
comp=Z,28nm,0.7s,mb5.4
VRHR Novokhopersk 66.30 317 *e*P **P 02 41 24.7 -0.4**
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,70nm,0.9s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.6s
KIV Kislovodsk 66.48 310 P **P 02 41 27.6 +1.3**
comp=N,570nm,0.9s,mb6.6,SNR=12
KIV Kislovodsk 66.48 310 ⇑P **P 02 41 27.4 +1.1**
SNR=12
KIV Kislovodsk 66.48 310 *e*P **P 02 41 26.6 +0.3**
KIV *e*S S 02 50 14.9 +1.2
KIV pmax pmax
comp=Z,113nm,1.0s,mb5.8
KIV pmax pmax
comp=Z,425nm,2.5s,mb6.0
KIV MLR MLR
comp=Z,732nm,18.0s,MS4.9
KIV Kislovodsk 66.48 310⇑*i*P **P 02 41 26.9 +0.6**
comp=Z,91nm,0.9s,mb5.8
KLMR Klimovskoe 66.67 328 *e*P **P 02 41 26.3 -1.2**
KLMR pmax pmax
comp=Z,162nm,1.5s,mb5.8
TTA Tatalina 67.69 29 *e*P **P 02 41 33.2 -0.7**
TTA pP 02 41 46.6 +0.2
TTA Tatalina 67.69 29 *e*P **P 02 41 34.4 +0.5**
SVW2 Sparrevohn 68.06 31 *e*P **P 02 41 36.2 -0.1**
MOS Moscow 68.14 323 *e*P **P 02 41 34.9 -1.9**
MOS *e* pP 02 41 46.5 -2.8
MOS *e* 02 51 11.4
MOS pmax pmax
comp=Z,182nm,1.6s,mb5.9
MOS MLR MLR
comp=Z,1µm,21.0s,MS5.1
APA Apatity 68.77 336⇑*i*P **P 02 41 39.0 -1.7**
APA pmax pmax
comp=Z,110nm,1.3s,mb5.6
OBN Obninsk 68.83 322⇑*e*P **P 02 41 40.0 -1.0**
OBN *e* 02 41 56.4
OBN *e*S S 02 50 40.4 -1.4
OBN *e* 02 51 18.7
OBN pmax pmax
comp=Z,144nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,600nm,17.0s,MS4.9
OBN Obninsk 68.83 322⇑*i*P **P 02 41 40.0 -1.0**
OBN LR LR
comp=Z,600nm,17.0s,MS4.9
KDAK Kodiak Island 70.03 35 P **P 02 41 48.7 +0.2**
comp=Z,186nm,1.1s,mb5.9,SNR=8.0
KDAK Kodiak Island 70.03 35 *e*P **P 02 41 48.2 -0.2**
comp=Z,31nm,0.9s,mb5.2
KDAK LR LR
comp=Z,148nm,20.0s,MS4.2
ANN Anapa 70.05 311 *e*P **P 02 41 47.4 -1.2**
ANN *e*S S 02 50 57.8 +1.6
ANN pmax pmax
comp=Z,146nm,1.1s,mb5.8
JOF Joensuu 70.29 331 *ep* **P 02 41 49.3 -0.8**
comp=Z,47nm,0.9s,mb5.4
MALT Malatya 70.70 304⇓*i*P **P 02 41 54.0 +1.4**
MCK McKinley 70.75 28 *e*P **P 02 41 52.8 0.0**
MCK pmax pmax
comp=Z,21nm,1.2s,mb4.9
MCK McKinley 70.75 28 *e*P **P 02 41 52.8 -0.1**
comp=Z,21nm,1.2s,mb5.0
KEV Kevo 70.76 338 *ep* **P 02 41 52.6 -0.3**
comp=Z,9.4nm,0.6s,mb4.9
KEV Kevo 70.76 338 *e*P **P 02 41 52.6 -0.3**
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
COLA College 70.99 27⇑*i*P **P 02 41 54.7 +0.3**
COLA College 70.99 27 *e*P **P 02 41 54.3 -0.1**
comp=Z,17nm,0.9s,mb5.0
COLA LR LR
comp=Z,585nm,20.0s,MS4.8
PMR Palmer 71.06 30 *e*P **P 02 41 54.1 -0.7**
PMR pmax pmax
comp=Z,12nm,0.6s,mb5.0
PMR MLR MLR
comp=Z,600nm,21.0s,MS4.8
PMR Palmer 71.06 30 *e*P **P 02 41 54.1 -0.7**
comp=Z,12nm,0.6s,mb5.0
PMR LR LR
comp=Z,600nm,21.0s,MS4.8
SIM Simferopol' 72.32 312 *e*P **P 02 42 02.0 -0.3**
SIM pmax pmax
comp=Z,65nm,1.0s,mb5.5
SIM MLR MLR
comp=Z,630nm,21.3s,MS4.9
KAF Kangasniemi 72.73 331 *ep* **P 02 42 03.6 -1.2**
baz=74,slow=5.6
FINES FINESS Array B 73.00 330 P **P 02 42 06.3 -0.1**
comp=Z,28nm,0.9s,mb5.2,baz=77,slow=8.6,SNR=39
FINES LR LR 03 17 11.6
comp=Z,962nm,18.7s,MS5.1,baz=258,slow=38
MENT Mentasta 73.22 28 *e*P **P 02 42 07.6 -0.1**
EGAK Eagle 73.79 26 *e*P **P 02 42 10.4 -0.6**
comp=Z,16nm,0.9s,mb5.0
MNK Minsk 73.90 323 *e*P **P 02 42 20.0 +8.3**
BRTR Keskin Array B 73.97 307 P **P 02 42 12.6 +0.5**
comp=Z,19nm,1.0s,mb5.0,baz=99,slow=7.6,SNR=42
AKASG Malin Array Be 74.08 319 P **P 02 42 11.8 -0.9**
comp=Z,15nm,0.8s,mb5.0,baz=61,slow=5.6,SNR=60
AKASG LR LR 03 16 52.2
comp=Z,917nm,19.6s,MS5.1,baz=50,slow=38
AKASG Malin Array Be 74.08 319 P **P 02 42 11.8 -0.9**
AKASG LR LR 03 16 52.2
AKBB Malin Array Si 74.08 319 *e*P **P 02 42 11.8 -0.9**
ANTO Ankara 74.56 307 P **P 02 42 16.0 +0.5**
ANTO Ankara 74.56 307 *e*P **P 02 42 15.5 0.0**
comp=Z,78nm,1.3s,mb5.5
ANTO Ankara 74.56 307⇑*i*P **P 02 42 15.9 +0.4**
DAWY Dawson 74.74 27 *e*P **P 02 42 16.4 -0.1**
KIS Kishinev 75.35 315 *e*P **P 02 42 18.0 -2.1**
INK Inuvik 75.46 22⇑*i*P **P 02 42 20.0 -0.7**
comp=Z,3µm,1.5s
EIL Elat 75.76 296 *e*P **P 02 42 23.6 +1.2**
IAS Iasi 76.12 315 P **P 02 42 24.7 +0.2**
CFR Carcaliu 76.34 313 P **P 02 42 30.9 +5.2**
TIRR Tirgusor 76.37 313⇓*i*P **P 02 42 25.9 0.0**
SUW Suwalki 76.65 323 *e*P **P 02 42 27.2 -0.3**
ISP Isparta 76.85 306⇓*i*P **P 02 42 28.7 +0.1**
VRI Vrincioaia 77.07 314 P **P 02 42 31.4 +1.6**
VRI Vrincioaia 77.07 314⇑*i*P **P 02 42 30.6 +0.8**
PLOR Plostina 77.13 314⇑*i*P **P 02 42 30.7 +0.5**
BURAR Bucovina Array 77.50 316⇑*i*P **P 02 42 32.3 +0.1**
LVV L'vov 77.53 319 *e*P **P 02 42 31.6 -0.8**
MLR Muntele Rosu 77.71 314 P **P 02 42 34.4 +1.0**
MLR Muntele Rosu 77.71 314⇑*i*P **P 02 42 34.1 +0.7**
SKAG Skagway 78.20 30 *e*P **P 02 42 36.4 +0.3**
comp=Z,54nm,1.0s,mb5.4
SKAG LR LR
comp=Z,900nm,23.0s,MS5.0
VOIR 78.32 314⇑*i*P **P 02 42 36.9 +0.1**
KWP Kalwaria 78.40 319 *e*P **P 02 42 38.0 +0.8**
DAG Danmarks Havn 78.41 351⇓*i*P **P 02 42 36.2 -1.1**
comp=Z,27nm,1.0s,mb5.1
DAG Danmarks Havn 78.41 351⇓*i*P **P 02 42 36.2 -1.1**
DAG pmax pmax
comp=Z,27nm,1.0s,mb5.1
SZH Strazhica 78.44 312 *i* P **P 02 42 37.7 +0.2**
WAR Warsaw 78.48 322 *e*P **P 02 42 38.4 +0.7**
ZIMR 78.70 313 P **P 02 42 39.7 +0.8**
KOLS Kolonicke sedl 78.91 318 *e*P **P 02 42 40.1 +0.1**
UZH Uzhgorod 79.00 318⇓*i*P **P 02 42 40.0 -0.5**
UZH *e* 02 42 48.0
UZH *e* 02 42 56.0
UZH *e*S S 02 52 35.0 -1.2
UZH MLR MLR
comp=Z,2µm,16.0s,MS5.4
ALN Alexandroupoli 79.15 310 *e*P **P 02 42 41.6 +0.3**
STHS Stebnicka Huta 79.36 319 *e*P **P 02 42 43.0 +0.5**
STHS pmax pmax
comp=Z,16nm,1.3s,mb4.8
STHS Stebnicka Huta 79.36 319 *e*P **P 02 42 42.9 +0.4**
STHS Stebnicka Huta 79.36 319 *e*P **P 02 42 43.0 +0.5**
comp=Z,16nm,1.3s,mb4.8
DRGR 79.39 316⇑*i*P **P 02 42 42.9 +0.2**
CRVS Cervenica-Dubn 79.42 318 *e*P **P 02 42 43.6 +0.8**
PLD Plovdiv 79.69 311 *i* P **P 02 42 44.5 +0.2**
GZR Gura Zlata 79.84 315⇑*i*P **P 02 42 45.7 +0.6**
NB2 NORSAR Subarra 79.85 332 P **P 02 42 44.3 -0.9**
comp=Z,42nm,1.2s,mb5.2,baz=60,slow=5.6
NOA NORSAR Array B 79.85 332 P **P 02 42 44.6 -0.6**
comp=Z,17nm,1.0s,mb4.9,baz=62,slow=5.2,SNR=18
NOA LR LR 03 21 21.6
comp=Z,2µm,20.2s,MS5.4,baz=65,slow=38
PGB Panagyurishte 79.91 312 *i* P **P 02 42 45.9 +0.4**
NIE Niedzica 79.93 319 *e*P **P 02 42 46.4 +0.8**
OJC Ojcow 79.94 320 *e*P **P 02 42 45.9 +0.3**
URZ Urewera 80.07 138 LR LR 03 14 35.3
comp=Z,572nm,19.1s,MS4.9,baz=162,slow=33
RPZ Rata Peaks 80.15 145 LR LR 03 15 18.5
comp=Z,536nm,20.8s,MS4.9,baz=119,slow=33
KECS Kecovo 80.17 318 *i* P **P 02 42 47.2 +0.3**
KECS *e* 02 45 46.7
KECS pmax pmax
comp=Z,19nm,1.5s,mb4.8
KECS Kecovo 80.17 318 *i* P **P 02 42 47.2 +0.3**
comp=Z,19nm,1.5s,mb4.8
KECS *e*PP PP 02 45 46.7 -2.9
GKP Gorka Klasztor 80.22 324 *e*P **P 02 42 47.3 +0.2**
BZS Buzias 80.52 315 P **P 02 42 49.2 +0.5**
BZS Buzias 80.52 315⇓*i*P **P 02 42 48.5 -0.3**
MMB Musomiste 80.55 311 *i* P **P 02 42 49.0 +0.1**
VTS Vitosha 80.56 312 *e*P **P 02 42 49.7 +0.7**

VTS Vitosha 80.56 312 *i* P **P 02 42 49.6 +0.6**
VTS Vitosha 80.56 312⇑ *i* P **P 02 42 49.8 +0.8**
BSD Bornholm Skovb 80.70 326 *i* P **P 02 42 49.4 -0.3**
comp=Z,68nm,1.0s,mb5.5
BSD
comp=Z,940nm,19.0s
BSD Bornholm Skovb 80.70 326 *e*P **P 02 42 49.4 -0.3**
BSD pmax pmax
comp=Z,68nm,1.0s,mb5.5
BSD MLR MLR
comp=Z,940nm,19.0s,MS5.2
PSZ Piszkesteto 80.75 318⇑ *i*P **P 02 42 50.3 +0.3**
PSZ Piszkesteto 80.75 318⇑ *e*P **P 02 42 50.0 0.0**
RES Resolute Bay 80.89 9 *e*P **P 02 42 50.3 -0.5**
comp=Z,2μm,1.1s
KKB Krupnik 80.90 311 *i* P **P 02 42 50.0 -0.8**
OKC Ostrava-Krasne 81.07 320⇑ *e*P **P 02 42 52.1 +0.4**
OKC *ex* x 02 43 07.6
DLBC Dease Lake 81.12 30 *e*P **P 02 42 53.4 +1.4**
PENC Penc 81.18 318⇓ *e*P **P 02 42 53.1 +0.8**
VYHS Vyhne 81.18 319 *e*P **P 02 42 52.9 +0.6**
VYHS pmax pmax
comp=Z,32nm,1.2s,mb5.1
VYHS Vyhne 81.18 319 *e*P **P 02 42 52.9 +0.6**
comp=Z,32nm,1.2s,mb5.1
MORC Moravsky Berou 81.45 320⇑ *i*P **P 02 42 54.2 +0.5**
VAY Valandovo 81.46 311 *e*P **P 02 42 52.0 -1.8**
VAY Valandovo 81.46 311 *i* P **P 02 42 53.1 -0.7**
VAY Valandovo 81.46 311 *i* P **P 02 42 53.1 -0.7**
BUD Budapest 81.47 318⇑ *e*P **P 02 42 54.1 +0.3**
STIP Stip 81.59 311 *e*P **P 02 42 54.1 -0.4**
STIP Stip 81.59 311 *i* P **P 02 42 53.6 -0.8**
STIP Stip 81.59 311 *i* P **P 02 42 53.6 -0.8**
KSP Ksiaz 81.74 322 *e*P **P 02 42 55.9 +0.6**
KSP Ksiaz 81.74 322⇑ *e*P **P 02 42 55.6 +0.3**
KSP *e*pP pP 02 43 10.9 +2.9
GRUS Gruza 81.77 314⇑ *i*P **P 02 42 55.6 +0.2**
DPC Dobruska-Polom 81.93 321⇑ *i*P **P 02 42 56.9 +0.6**
DPC *ex* x 02 43 11.8
SKO Skopje 82.00 312 *i* P **P 02 42 57.4 +0.8**
SKO Skopje 82.00 312 *i* P **P 02 42 57.4 +0.8**
UPC Upice 82.05 321⇑ *e*P **P 02 42 56.9 0.0**
UPC *ex* x 02 43 09.9
DIVS Divcibare 82.17 314⇑ *i*P **P 02 42 58.2 +0.7**
DIVS Divcibare 82.17 314 *e*P **P 02 42 57.5 0.0**
VRAC Vranov 82.21 320 P **P 02 42 58.7 +1.0**
VRAC Vranov 82.21 320⇑ *i*P **P 02 42 58.6 +0.9**
PKSM Moragy 82.21 317⇑ *e*P **P 02 42 57.9 +0.2**
ZST Bratislava 82.36 319 *e*P **P 02 42 59.4 +0.9**
ZST pmax pmax
comp=Z,11nm,1.0s,mb4.7
ZST MLR MLR
comp=Z,700nm,18.0s,MS5.1
ZST Bratislava 82.36 319 *e*P **P 02 42 59.4 +0.9**
comp=Z,11nm,1.0s,mb4.8
ZST LR LR
comp=Z,700nm,18.0s,MS5.1
BIA Bitola 82.45 311 *i* P **P 02 42 57.2 -1.8**
BIA Bitola 82.45 311 *i* P **P 02 42 57.2 -1.8**
RUE Ruedersdorf 82.45 324 *e*P **P 02 42 59.4 +0.4**
comp=Z,155nm,1.7s,mb5.7
RHK3 Tenkes 82.59 317⇓ *e*P **P 02 42 59.9 +0.2**
BBLS Bajina Basta - 82.64 314⇓ *i*P **P 02 43 01.6 +1.6**
OHR Ohrid 82.78 311 *i* P **P 02 42 58.6 -2.1**
OHR Ohrid 82.78 311 *i* P **P 02 42 58.6 -2.1**
PVCC Panska Ves 82.87 322⇑ *i*P **P 02 43 01.7 +0.5**
PVCC *ex* x 02 43 16.4
TREC Trest 82.87 320⇑ *i*P **P 02 43 01.3 +0.1**
TREC *ex* x 02 43 15.7
SOP Sopron 82.91 319⇑ *e*P **P 02 43 01.7 +0.3**
SOP Sopron 82.91 319⇑ *e*PcP PcP 02 43 01.7 -4.3
MUD Monsted U'grnd 82.97 329 *i* P **P 02 43 01.7 0.0**
comp=Z,38nm,1.1s,mb5.3
MUD
comp=Z,3μm,18.0s
MUD Monsted U'grnd 82.97 329 *e*P **P 02 43 01.7 0.0**
MUD pmax pmax
comp=Z,38nm,1.1s,mb5.3
MUD MLR MLR
comp=Z,3μm,18.0s,MS5.7
BRG Berggiesshubel 83.07 322 *e*P **P 02 43 02.2 0.0**
comp=Z,107nm,1.7s,mb5.6
BRG Berggiesshubel 83.07 322 *i* P **P 02 43 02.4 +0.2**
comp=Z,64nm,1.7s,mb5.4
BRG *i* pP 02 43 17.1 +2.1
comp=Z,68nm,2.0s
BRG
comp=N,357nm,19.3s
BRG
comp=E,464nm,18.6s
BRG
comp=Z,743nm,19.3s
BRG Berggiesshubel 83.07 322 *i* P **P 02 43 02.4 +0.2**
BRG *i* pP 02 43 17.1 +2.1
BRG pmax pmax
comp=Z,64nm,1.7s,mb5.4
BRG MLR MLR
comp=Z,740nm,19.3s,MS5.1
BRG Berggiesshubel 83.07 322 *i* P **P 02 43 02.4 +0.2**
comp=Z,64nm,1.7s,mb5.4
BRG *i* pP 02 43 17.1 +2.1
BRG LR LR
comp=Z,740nm,19.3s,MS5.1
PRU Pruhonice 83.12 321⇑ *e*P **P 02 43 02.6 +0.1**
PRU *ex* x 02 43 17.4
PRU AMS AMS 03 24 20.0
comp=Z,1μm,23.0s
FBE Freiberg 83.39 322 *e*P **P 02 43 04.1 +0.3**
comp=Z,130nm,1.4s,mb5.8
CLL Collm 83.41 323 *e*P **P 02 43 03.5 -0.4**
comp=Z,84nm,1.4s,mb5.6
CLL Collm 83.41 323⇑ *i*P **P 02 43 03.7 -0.2**
CLL *i* pP 02 43 18.0 +1.3
CLL pmax pmax
comp=Z,82nm,1.3s,mb5.6
CLL MLR MLR
comp=Z,1μm,20.0s,MS5.3
CLL Collm 83.41 323⇑ *i*P **P 02 43 03.7 -0.2**
comp=Z,82nm,1.3s,mb5.6
CLL *i* pP 02 43 18.0 +1.3
CLL LR LR
comp=Z,1μm,20.0s,MS5.3
CLL Collm 83.41 323⇑ *i*P **P 02 43 03.7 -0.2**
comp=Z,82nm,1.3s,mb5.6
CLL *i* x x 02 43 18.0
CLL Lm 03 23 00.0
comp=N,1μm,19.5s
CLL Lm 03 23 00.0
comp=E,1μm,21.0s
CLL Lm 03 23 00.0
comp=Z,1μm,20.0s
KOGS Kog 83.62 318 *e*P **P 02 43 05.0 -0.1**
BSEG Bad Segeberg 83.62 326 *e*P **P 02 43 04.3 -0.7**
comp=Z,64nm,1.5s,mb5.5
BSEG *e*PP PP 02 46 17.6 -0.4
ARSA Arzberg 83.73 319⇑ *i*P **P 02 43 05.8 +0.2**
comp=Z,18nm,1.1s,mb5.1,SNR=9.5
KHC Kasperske Hory 84.06 321⇑ *e*P **P 02 43 07.6 +0.3**
KHC *ex* x 02 43 22.2
KHC AMS AMS 03 19 10.0
comp=Z,900nm,23.8s
GEC2 GERESS Array S 84.12 321 *e*P **P 02 43 07.8 +0.2**
comp=Z,54nm,1.1s,mb5.6
GEC2 GERESS Array S 84.12 321 P **P 02 43 07.7 +0.1**
GERES GERESS Array B 84.12 321 P **P 02 43 08.3 +0.7**
comp=Z,18nm,0.8s,mb5.2,baz=67,slow=4.5,SNR=131
GERES LR LR 03 26 41.5
comp=Z,549nm,19.7s,MS4.9,baz=238,slow=40
TANN Tannenbergstha 84.12 322 *e*P **P 02 43 07.7 +0.1**
comp=Z,77nm,1.6s,mb5.6
KMBO Kilima Mbogo 84.17 266 P **P 02 43 09.9 +2.1**
comp=Z,9.4nm,1.0s,mb4.9,baz=44,slow=6.2,SNR=19
KMBO LR LR 03 19 36.8
comp=Z,296nm,20.1s,MS4.7,baz=281,slow=35
KMBO Kilima Mbogo 84.17 266 *i* P **P 02 43 10.5 +2.7**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 84.17 266 *e*P **P 02 43 10.1 +2.3**
comp=Z,19nm,1.2s,mb5.1
WERD Werda 84.19 322 *e*P **P 02 43 08.0 0.0**
comp=Z,90nm,1.6s,mb5.7
WERD *es*P sP 02 43 22.3 -3.3
NKC Novy Kostel 84.22 322⇑ *i*P **P 02 43 08.2 +0.1**
GUNZ Gunzen 84.22 322 *e*P **P 02 43 08.2 +0.1**
comp=Z,95nm,1.5s,mb5.7

WERN Wernitzgruen 84.23 322 *e*P **P 02 43 08.5 +0.4**
comp=Z,73nm,1.3s,mb5.7
MOA Molln 84.23 319 *i* P **P 02 43 08.7 +0.6**
comp=Z,63nm,1.3s,mb5.6,SNR=26
PERS Pernice 84.25 318 *e*P **P 02 43 08.3 +0.1**
WET Wettzell 84.47 321 *e*P **P 02 43 09.3 0.0**
comp=Z,72nm,1.5s,mb5.6
WET Wettzell 84.47 321 *e*P **P 02 43 09.3 0.0**
WET pmax pmax
comp=Z,72nm,1.5s,mb5.6
MOX Moxa 84.49 323 *e*P **P 02 43 09.6 +0.1**
comp=Z,90nm,1.5s,mb5.7
MOX *es*P sP 02 43 24.1 -3.0
MOX Moxa 84.49 323 *e*P **P 02 43 09.6 +0.1**
comp=Z,99nm,1.7s,mb5.7
MOX
comp=Z,800nm,20.0s
MOX Moxa 84.49 323 *e*P **P 02 43 09.6 +0.1**
MOX pmax pmax
comp=Z,99nm,1.7s,mb5.7
MOX MLR MLR
comp=Z,800nm,20.0s,MS5.1
MANZ Manzenberg 84.52 322 *e*P **P 02 43 10.0 +0.4**
comp=Z,65nm,1.5s,mb5.5
ROTZ Rotzenmuhle 84.57 322 *e*P **P 02 43 10.5 +0.7**
comp=Z,84nm,1.3s,mb5.7
CLZ Clausthal 84.61 324 *e*P **P 02 43 10.2 +0.2**
comp=Z,102nm,1.4s,mb5.8
CLZ Clausthal 84.61 324 *e*P **P 02 43 10.2 +0.2**
CLZ pmax pmax
comp=Z,102nm,1.4s,mb5.8
BOJS Bojanci 84.66 317 *e*P **P 02 43 10.8 +0.5**
LJU Ljubljana 84.87 318 *e*P **P 02 43 11.7 +0.3**
GTTG Gvttingen 84.97 324 *e*P **P 02 43 12.2 +0.3**
comp=Z,111nm,1.6s,mb5.7
KBA Koelnbreinsper 85.14 319⇑ *i*P **P 02 43 12.7 0.0**
comp=Z,31nm,1.0s,mb5.4,SNR=13
KBA Koelnbreinsper 85.14 319⇑ *i*P **P 02 43 12.7 0.0**
KBA pmax pmax
comp=Z,31nm,1.0s,mb5.4
YKW3 Yellowknife Ar 85.15 22 *e*P **P 02 43 13.0 +0.2**
GRA1 Grafenberg Arr 85.17 322 *e*P **P 02 43 13.3 +0.4**
comp=Z,107nm,1.6s,mb5.7
GRA1 *e*pP pP 02 43 23.0 -2.7
GRA1 *es*P sP 02 43 27.8 -2.7
GRA1 *e*PP PP 02 46 29.7 -0.9
GRA1 LR LR
comp=Z,900nm,19.7s,MS5.2
GRF Grafenberg Arr 85.17 322 *e*P **P 02 43 13.3 +0.4**
comp=Z,107nm,1.6s,mb5.7
GRF *e*pP pP 02 43 23.0 -2.7
GRF *es*P sP 02 43 27.8 -2.7
GRF *e*PP PP 02 46 29.7 -0.9
GRF *e*L 03 24 11.4
comp=Z,857nm,19.7s
GRF Grafenberg Arr 85.17 322 *e*P **P 02 43 13.3 +0.4**
GRF *e**PP pP 02 43 23.0 -2.7
GRF *e**SP sP 02 43 27.8 -2.7
GRF *e* 02 46 29.7
GRF pmax pmax
comp=Z,107nm,1.6s,mb5.7
GRF MLR MLR
comp=Z,900nm,19.7s,MS5.2
GRF Grafenberg Arr 85.17 322 *e*P **P 02 43 13.3 +0.4**
GRF *e**PP pP 02 43 23.0 -2.7
GRF *e**SP sP 02 43 27.8 -2.7
GRF *e* 02 46 29.7
GRF pmax pmax
comp=Z,107nm,1.6s,mb5.7
GRF MLR MLR
comp=Z,900nm,19.7s,MS5.2
GRFO Grafenberg 85.17 322 *e*P **P 02 43 13.1 +0.2**
GRFO pmax pmax
comp=Z,112nm,1.7s,mb5.7
GRFO MLR MLR
comp=Z,853nm,19.0s,MS5.2
GRFO Grafenberg 85.17 322 *e*P **P 02 43 13.1 +0.2**
comp=Z,112nm,1.7s,mb5.7
GRFO LR LR
comp=Z,853nm,19.0s,MS5.2
YKA Yellowknife Ar 85.20 22 P **P 02 43 12.5 -0.5**
comp=Z,14nm,0.9s,mb5.1,baz=314,slow=4.8,SNR=128
YKA LR LR 03 26 44.7
comp=Z,663nm,18.8s,MS5.0,baz=260,slow=40
YKA Yellowknife Ar 85.20 22 *i* P **P 02 43 12.5 -0.5**
YKA pmax pmax
comp=Z,14nm,0.9s
VOY Vojsko 85.27 316⇑ *e*P **P 02 43 13.3 -0.1**
VOY *e* pP 02 43 23.7 -2.5
VOY *e* pP 02 43 28.3 +2.1
CADS Cadrg 85.28 318 *e*P **P 02 43 12.8 -0.6**
PTCC Patocco-Chiusa 85.44 318 P **P 02 43 14.1 -0.1**
comp=Z,44nm,1.7s,mb5.3
GMNA Gemona 85.57 318 P **P 02 43 14.9 0.0**
FVI Forni Avoltri 85.70 319 P **P 02 43 15.3 -0.2**
FVI pmax pmax
comp=Z,56nm,1.4s,mb5.6
FVI Forni Avoltri 85.70 319 P **P 02 43 15.3 -0.2**
comp=Z,56nm,1.4s,mb5.6
IBBN Ibbenburen 85.77 325 *e*P **P 02 43 16.0 +0.1**
comp=Z,87nm,1.4s,mb5.8
ABTA Abfaltersbach 85.80 319⇑ *i*P **P 02 43 15.3 -0.7**
comp=Z,44nm,1.3s,mb5.5
FUR Furstenfeldbru 85.87 321 *e*P **P 02 43 16.7 +0.4**
comp=Z,133nm,1.3s,mb6.0
FUR *es*P sP 02 43 31.1 -2.9
FUR Furstenfeldbru 85.87 321 *e*P **P 02 43 16.7 +0.4**
FUR *e**SP sP 02 43 31.1 -2.9
FUR pmax pmax
comp=Z,133nm,1.3s,mb6.0
WIT Witteveen 86.08 326 *e*P **P 02 43 18.2 +0.8**
WTTA Wattenberg 86.08 320⇑ *i*P **P 02 43 17.3 -0.1**
comp=Z,49nm,1.0s,mb5.7,SNR=14
WTTA Wattenberg 86.08 320⇑ *i*P **P 02 43 17.3 -0.1**
WTTA pmax pmax
comp=Z,49nm,1.0s,mb5.7
WATA Walderalm 86.08 320⇓ *i*P **P 02 43 17.1 -0.3**
comp=Z,33nm,1.2s,mb5.4,SNR=17
WATA Walderalm 86.08 320⇓ *i*P **P 02 43 17.2 -0.2**
WATA pmax pmax
comp=Z,33nm,1.2s,mb5.4
SQTA Sankt Quirin 86.36 320⇑ *i*P **P 02 43 18.6 -0.1**
comp=Z,40nm,1.1s,mb5.5,SNR=19
SQTA Sankt Quirin 86.36 320⇑ *i*P **P 02 43 18.6 -0.2**
SQTA pmax pmax
comp=Z,40nm,1.1s,mb5.6
MOTA Moosalm 86.36 320⇓ *i*P **P 02 43 18.7 -0.1**
comp=Z,29nm,1.2s,mb5.4
MOTA Moosalm 86.36 320⇓ *i*P **P 02 43 18.7 -0.1**
MOTA pmax pmax
comp=Z,29nm,1.2s,mb5.4
WTSB Winterswijk 86.45 325 *e*P **P 02 43 19.0 -0.3**
comp=Z,47nm,1.7s,mb5.5
TNS Taunus Mts 86.47 323 *e*P **P 02 43 19.3 0.0**
comp=Z,59nm,1.6s,mb5.6
TNS Taunus Mts 86.47 323 *e*P **P 02 43 19.3 0.0**
TNS pmax pmax
comp=Z,59nm,1.6s,mb5.6
BUG Bochum--Univer 86.48 325 *e*P **P 02 43 19.0 -0.4**
comp=Z,71nm,1.4s,mb5.7
BUG *es*P sP 02 43 33.8 -3.2
BUG *e*PP PP 02 46 40.9 -0.3
CTI Castel Tesino 86.65 319 P **P 02 43 20.0 -0.2**
FETA Feichten 86.74 320⇑ *i*P **P 02 43 20.8 +0.1**
comp=Z,36nm,1.1s,mb5.5
STU Stuttgart 86.78 322 *e*P **P 02 43 20.9 +0.1**
comp=Z,36nm,1.5s,mb5.4
GRI Girifalco 86.78 311 P **P 02 43 22.0 +1.2**
DAVA Damuels 87.12 320⇑ *i*P **P 02 43 22.5 +0.1**
comp=Z,24nm,1.2s,mb5.3,SNR=10.0
SNTG Esanatoglia 87.15 316 P **P 02 43 23.2 +0.6**
NRCA Norcia 87.23 315 P **P 02 43 24.4 +1.4**
BFO Black Forest 87.50 322 *e*P **P 02 43 23.8 -0.5**
comp=Z,16nm,1.4s,mb5.1
BFO *es*P sP 02 43 38.7 -3.3
BFO Black Forest 87.50 322 P **P 02 43 24.5 +0.2**
BFO pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
SFI Santa Sofia 87.55 317 P **P 02 43 26.4 +1.9**
SFI pmax pmax
comp=Z,107nm,1.9s,mb5.8
SFI Santa Sofia 87.55 317 P **P 02 43 26.4 +1.9**
comp=Z,107nm,1.9s,mb5.8
HGN Heimansgroeve 87.56 325 *e*P **P 02 43 23.9 -0.7**
comp=Z,32nm,1.6s,mb5.3
HGN Heimansgroeve 87.56 325 *e*S S 02 53 56.6 -6.2

MEM Membach 87.60 325 P **P 02 43 25.2 +0.4**
comp=Z,14nm,1.8s,mb4.9
BEBN Eben Emael 87.67 325 P **P 02 43 25.7 +0.6**
VMG Vicchio 87.71 317 P **P 02 43 27.3 +2.0**
comp=Z,126nm,1.2s,mb6.0
SEI Scarperia 87.79 317 P **P 02 43 28.2 +2.5**
comp=Z,308nm,1.5s,mb6.3
ZCCA Zocca 87.88 317 P **P 02 43 28.4 +2.3**
comp=Z,106nm,1.4s,mb5.9
MCD Coleburn Disti 87.93 333 *e*P **P 02 43 25.7 -0.7**
WLF Walferdange 88.02 324 *e*P **P 02 43 27.1 +0.3**
comp=Z,40nm,1.3s,mb5.5
WLF Walferdange 88.02 324 P **P 02 43 27.3 +0.5**
CDF Champ du Feu 88.06 322⇑ *i*P **P 02 43 26.8 -0.2**
comp=Z,77nm,1.5s,mb5.4
CDF Champ du Feu 88.06 322⇑ *i*P **P 02 43 26.8 -0.2**
CDF pmax pmax
comp=Z,39nm,1.5s,mb5.4
CDF Champ du Feu 88.06 322⇑ *i*P **P 02 43 26.8 -0.2**
comp=Z,39nm,1.5s,mb5.4
BCLA Clavier 88.08 325 P **P 02 43 27.3 +0.3**
MVH1 Achvaich 88.09 334 *e*P **P 02 43 26.0 -1.1**
GSCL Gusciola 88.13 318 P **P 02 43 27.9 +0.6**
comp=Z,66nm,1.3s,mb5.7
ERBM Eremo 88.20 318 P **P 02 43 29.5 +1.8**
comp=Z,154nm,1.5s,mb6.0
CASY Casey 88.34 184 *e*P **P 02 43 28.0 -0.3**
comp=Z,54nm,1.1s,mb5.7
CASY LR LR
comp=Z,326nm,20.0s,MS4.7
UCC Uccle 88.37 325 P **P 02 43 28.0 -0.5**
GIVF Givet 88.51 325⇑ *i*P **P 02 43 28.9 -0.2**
comp=Z,52nm,1.3s,mb5.4
GIVF Givet 88.51 325⇑ *i*P **P 02 43 28.9 -0.2**
GIVF pmax pmax
comp=Z,26nm,1.3s,mb5.4
GIVF Givet 88.51 325⇑ *i*P **P 02 43 28.9 -0.2**
comp=Z,26nm,1.3s,mb5.4
SNF Seneffe 88.57 325 P **P 02 43 29.3 -0.1**
HINF Hinteralfeld 88.61 322⇑ *i*P **P 02 43 29.0 -0.6**
comp=Z,37nm,1.4s,mb5.2
HINF Hinteralfeld 88.61 322⇑ *i*P **P 02 43 29.0 -0.6**
HINF pmax pmax
comp=Z,19nm,1.4s,mb5.2
HINF Hinteralfeld 88.61 322⇑ *i*P **P 02 43 29.0 -0.6**
comp=Z,18nm,1.4s,mb5.2
DOU Dourbes 88.64 325 P **P 02 43 29.5 -0.2**
HAU Haudompre 88.80 322⇑ *i*P **P 02 43 29.9 -0.6**
comp=Z,11nm,0.8s,mb4.9
HAU *e*MLR
comp=Z,1μm,22.5s
HAU Haudompre 88.80 322⇑ *i*P **P 02 43 29.9 -0.6**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,1μm,22.5s,MS5.3
HAU Haudompre 88.80 322⇑ *i*P **P 02 43 29.9 -0.6**
comp=Z,5.3nm,0.8s,mb4.9
HAU LR LR
comp=Z,1μm,22.5s,MS5.3
XSO Sourhope Farm 88.82 331 *e*P **P 02 43 30.2 -0.3**
BAIF Baives 88.86 325⇑ *i*P **P 02 43 30.5 -0.3**
comp=Z,62nm,1.5s,mb5.4
BAIF Baives 88.86 325⇑ *i*P **P 02 43 30.5 -0.3**
BAIF pmax pmax
comp=Z,31nm,1.5s,mb5.4
BAIF Baives 88.86 325⇑ *i*P **P 02 43 30.5 -0.3**
comp=Z,31nm,1.5s,mb5.4
EDI Edinburgh 88.96 332 *e*P **P 02 43 31.6 +0.3**
EDI AMb AMB 02 43 36.6
comp=Z,31nm,1.9s,mb5.3
XAL Allendale 89.20 331 *e*P **P 02 43 31.8 -0.6**
MEZF Maizieres J'vi 89.26 323⇑ *i*P **P 02 43 32.6 0.0**
comp=Z,107nm,1.5s,mb5.7
MEZF Maizieres J'vi 89.26 323⇑ *i*P **P 02 43 32.6 0.0**
comp=Z,107nm,1.5s,mb6.0
ESK Eskdalemuir 89.35 332 *e*P **P 02 43 32.5 -0.5**
ESK AMb AMB 02 43 37.4
comp=Z,38nm,1.4s,mb5.5
ESK Eskdalemuir 89.35 332 *e*P **P 02 43 33.2 +0.1**
ESK pmax pmax
comp=Z,23nm,1.1s,mb5.4
ESK Eskdalemuir 89.35 332 *e*P **P 02 43 33.2 +0.1**
comp=Z,23nm,1.1s,mb5.4
DRV Dumont d'Urvil 89.62 172 SP SP 02 55 29.0 +1.7
DRV SS SS 03 00 21.0 +2.1
CABF La Chapelle 89.69 321⇑ *i*P **P 02 43 34.5 -0.2**
LHO Holmfirth 89.86 330⇑ *e*P **P 02 43 34.5 -0.9**
LPG La Plagne 89.89 320⇑ *i*P **P 02 43 36.1 +0.5**
comp=Z,71nm,1.1s,mb5.6
LPG La Plagne 89.89 320⇑ *i*P **P 02 43 36.1 +0.5**
LPG pmax pmax
comp=Z,36nm,1.1s,mb5.6
LPG La Plagne 89.89 320⇑ *i*P **P 02 43 36.1 +0.5**
comp=Z,36nm,1.1s,mb5.6
LPL La Plagne 89.89 320⇑ *i*P **P 02 43 36.0 +0.4**
comp=Z,70nm,1.1s,mb5.6
LPL La Plagne 89.89 320⇑ *i*P **P 02 43 36.0 +0.4**
LPL pmax pmax
comp=Z,35nm,1.1s,mb5.6
LPL La Plagne 89.89 320⇑ *i*P **P 02 43 36.0 +0.4**
comp=Z,35nm,1.1s,mb5.6
PGF Pioggiola 90.03 317 *e*P **P 02 43 36.7 +0.5**
comp=Z,76nm,0.9s,mb5.7
PGF Pioggiola 90.03 317 *e*P **P 02 43 36.7 +0.5**
PGF pmax pmax
comp=Z,38nm,0.9s,mb5.7
PGF Pioggiola 90.03 317 *e*P **P 02 43 36.7 +0.5**
comp=Z,38nm,0.9s,mb5.7
MBDF Montbardon 90.29 319⇑ *i*P **P 02 43 37.0 -0.4**
SBF Sospel 90.33 318 *e*P **P 02 43 37.5 -0.2**
comp=Z,63nm,1.0s,mb5.6
SBF Sospel 90.33 318 *e*P **P 02 43 37.5 -0.2**
SBF pmax pmax
comp=Z,32nm,1.0s,mb5.6
SBF Sospel 90.33 318 *e*P **P 02 43 37.5 -0.2**
comp=Z,32nm,1.0s,mb5.6
LOR Lormes 90.61 323⇑ *i*P **P 02 43 38.5 -0.4**
comp=Z,62nm,1.3s,mb5.5
LOR *e*MLR
comp=Z,1μm,21.8s
LOR Lormes 90.61 323⇑ *i*P **P 02 43 38.5 -0.4**
LOR pmax pmax
comp=Z,31nm,1.3s,mb5.5
LOR MLR MLR
comp=Z,1μm,21.8s,MS5.3
LOR Lormes 90.61 323⇑ *i*P **P 02 43 38.5 -0.4**
comp=Z,31nm,1.3s,mb5.5
LOR LR LR
comp=Z,1μm,21.8s,MS5.3
ORIF Oris-en-Rattie 90.72 320⇑ *i*P **P 02 43 39.7 +0.2**
comp=Z,136nm,1.6s,mb5.7
ORIF *e*MLR
comp=Z,558nm,21.2s
ORIF Oris-en-Rattie 90.72 320⇑ *i*P **P 02 43 39.7 +0.2**
ORIF pmax pmax
comp=Z,68nm,1.6s,mb5.7
ORIF Oris-en-Rattie 90.72 320⇑ *i*P **P 02 43 39.7 +0.2**
comp=Z,68nm,1.6s,mb5.7
SSF Saint Saulge 90.93 322⇑ *i*P **P 02 43 40.0 -0.4**
comp=Z,35nm,1.2s,mb5.3
SSF Saint Saulge 90.93 322⇑ *i*P **P 02 43 40.0 -0.4**
SSF pmax pmax
comp=Z,18nm,1.2s,mb5.3
SSF Saint Saulge 90.93 322⇑ *i*P **P 02 43 40.0 -0.4**
comp=Z,18nm,1.2s,mb5.3
SMF Signal de Mont 90.97 322⇑ *i*P **P 02 43 40.3 -0.3**
comp=Z,91nm,1.3s,mb5.6
SMF Signal de Mont 90.97 322⇑ *i*P **P 02 43 40.3 -0.3**
SMF pmax pmax
comp=Z,46nm,1.3s,mb5.7
SMF Signal de Mont 90.97 322⇑ *i*P **P 02 43 40.3 -0.3**
comp=Z,46nm,1.3s,mb5.7
FRF La Foret Royal 90.98 318⇑ *i*P **P 02 43 40.6 -0.1**
comp=Z,115nm,1.5s,mb5.7
FRF La Foret Royal 90.98 318⇑ *i*P **P 02 43 40.6 -0.1**
FRF pmax pmax
comp=Z,57nm,1.5s,mb5.7
FRF La Foret Royal 90.98 318⇑ *i*P **P 02 43 40.6 -0.1**
comp=Z,58nm,1.5s,mb5.7
AVF Avril sur Loir 91.17 322⇑ *i*P **P 02 43 41.2 -0.3**
comp=Z,99nm,1.4s,mb5.7
AVF Avril sur Loir 91.17 322⇑ *i*P **P 02 43 41.2 -0.3**
AVF pmax pmax
comp=Z,49nm,1.4s,mb5.6
AVF Avril sur Loir 91.17 322⇑ *i*P **P 02 43 41.2 -0.3**
comp=Z,49nm,1.4s,mb5.7

LMR	**La Mourre**	**91.19**	**318⇑**	*i*P	**P**	**02 43 41.7**	**+0.1**
	comp=Z,117nm,1.3s,mb5.8						
LMR	**La Mourre**	**91.19**	**318⇑**	*i*P	**P**	**02 43 41.7**	**+0.1**
LMR				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.8						
LMR	**La Mourre**	**91.19**	**318**	*i*P	**P**	**02 43 41.7**	**+0.1**
	comp=Z,59nm,1.3s,mb5.8						
HYF	**Humbligny**	**91.30**	**323**	*i*P	**P**	**02 43 42.5**	**+0.4**
SMRF	**Simiane la Rot**	**91.41**	**319**	*e*P	**P**	**02 43 43.1**	**+0.4**
	comp=Z,70nm,1.4s,mb5.5						
SMRF	**Simiane la Rot**	**91.41**	**319**	*e*P	**P**	**02 43 43.1**	**+0.4**
	comp=Z,70nm,1.4s,mb5.8						
VIVF	**Saint-Julien-l**	**91.48**	**320**	*e*P	**P**	**02 43 43.0**	**0.0**
	comp=Z,84nm,1.5s,mb5.5						
VIVF	**Saint-Julien-l**	**91.48**	**320**	*e*P	**P**	**02 43 43.0**	**0.0**
VIVF				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.5						
VIVF	**Saint-Julien-l**	**91.48**	**320**	*e*P	**P**	**02 43 43.0**	**0.0**
	comp=Z,42nm,1.5s,mb5.5						
BGF	**Bois d'Agland**	**91.59**	**322⇑**	*i*P	**P**	**02 43 43.3**	**-0.2**
	comp=Z,35nm,1.4s,mb5.2						
BGF	**Bois d'Agland**	**91.59**	**322⇑**	*i*P	**P**	**02 43 43.3**	**-0.2**
BGF				pmax	pmax		
	comp=Z,18nm,1.4s,mb5.2						
BGF	**Bois d'Agland**	**91.59**	**322⇑**	*i*P	**P**	**02 43 43.3**	**-0.2**
	comp=Z,18nm,1.4s,mb5.2						
EDM	**Edmonton**	**91.79**	**29**	*e*P	**P**	**02 43 44.8**	**+0.4**
EDM				*e*	pP	02 43 57.8	+0.5
LDF	**La Druitiere**	**92.02**	**325**	*e*P	**P**	**02 43 44.8**	**-0.7**
	comp=Z,38nm,1.4s,mb5.2						
LDF	**La Druitiere**	**92.02**	**325**	*e*P	**P**	**02 43 44.8**	**-0.7**
LDF				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.2						
LDF	**La Druitiere**	**92.02**	**325**	*e*P	**P**	**02 43 44.8**	**-0.7**
	comp=Z,19nm,1.4s,mb5.2						
TCF	**Toulx Ste Croi**	**92.10**	**322⇑**	*i*P	**P**	**02 43 45.5**	**-0.3**
	comp=Z,86nm,1.4s,mb5.6						
TCF	**Toulx Ste Croi**	**92.10**	**322⇑**	*i*P	**P**	**02 43 45.5**	**-0.3**
TCF				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.6						
TCF	**Toulx Ste Croi**	**92.10**	**322⇑**	*i*P	**P**	**02 43 45.5**	**-0.3**
	comp=Z,43nm,1.4s,mb5.6						
LASF	**Ste Croix**	**92.39**	**320**	*e*P	**P**	**02 43 47.6**	**+0.4**
	comp=Z,60nm,1.5s,mb5.4						
CAF	**Calviac**	**92.97**	**321⇑**	*i*P	**P**	**02 43 50.4**	**+0.5**
	comp=Z,46nm,1.4s,mb5.4						
CAF	**Calviac**	**92.97**	**321⇑**	*i*P	**P**	**02 43 50.4**	**+0.5**
CAF				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.4						
CAF	**Calviac**	**92.97**	**321⇑**	*i*P	**P**	**02 43 50.4**	**+0.5**
	comp=Z,23nm,1.4s,mb5.4						
RJF	**Les Rejaudoux**	**93.07**	**322**	*e*P	**P**	**02 43 50.9**	**+0.6**
	comp=Z,167nm,1.5s,mb6.0						
RJF				*e*MLR			
	comp=Z,864nm,22.2s						
RJF	**Les Rejaudoux**	**93.07**	**322**	*e*P	**P**	**02 43 50.9**	**+0.6**
RJF				pmax	pmax		
	comp=Z,83nm,1.5s,mb5.9						
RJF				MLR	MLR		
	comp=Z,860nm,22.3s,MS5.2						
RJF	**Les Rejaudoux**	**93.07**	**322**	*e*P	**P**	**02 43 50.9**	**+0.6**
	comp=Z,83nm,1.5s,mb6.0						
RJF				LR	LR		
	comp=Z,860nm,22.3s,MS5.2						
NEW	**Newport**	**93.13**	**34**	*e*P	**P**	**02 43 51.7**	**+1.1**
NEW				*e*	pP	02 44 04.4	+0.9
NEW				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NEW				MLR	MLR		
	comp=Z,413nm,19.0s						
NEW	**Newport**	**93.13**	**34**	*e*P	**P**	**02 43 51.7**	**+1.1**
	comp=Z,9.6nm,0.9s,mb5.2						
NEW				*e*	pP	02 44 04.4	+0.8
NEW				LR	LR		
	comp=Z,413nm,19.0s,MS4.9						
KEST	**Kesra**	**93.21**	**311**	P	**P**	**02 43 51.0**	**+0.1**
	comp=Z,3.1nm,1.0s,mb4.7,baz=354,slow=3.6,SNR=6.9						
KEST				LR	LR	03 32 19.3	
	comp=Z,165nm,21.2s,MS4.5,baz=344,slow=40						
MFF	**Saint Martin d**	**93.23**	**324**	*e*P	**P**	**02 43 51.1**	**0.0**
	comp=Z,106nm,1.5s,mb5.8						
MFF	**Saint Martin d**	**93.23**	**324**	*e*P	**P**	**02 43 51.1**	**0.0**
MFF				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.8						
MFF	**Saint Martin d**	**93.23**	**324**	*e*P	**P**	**02 43 51.1**	**0.0**
	comp=Z,53nm,1.5s,mb5.8						
LFF	**La Frestale**	**93.72**	**322**	*e*P	**P**	**02 43 53.9**	**+0.6**
	comp=Z,173nm,1.8s,mb5.9						
LFF	**La Frestale**	**93.72**	**322**	*e*P	**P**	**02 43 53.9**	**+0.6**
LFF				pmax	pmax		
	comp=Z,87nm,1.8s,mb5.9						
LFF	**La Frestale**	**93.72**	**322**	*e*P	**P**	**02 43 53.9**	**+0.6**
	comp=Z,86nm,1.8s,mb5.9						
MTLF	**Montolieu**	**93.79**	**320**	*e*P	**P**	**02 43 53.7**	**+0.1**
ROSF	**Rostrenen**	**93.83**	**326**	*e*P	**P**	**02 43 52.3**	**-1.5**
	comp=Z,35nm,1.1s,mb5.4						
ROSF	**Rostrenen**	**93.83**	**326**	*e*P	**P**	**02 43 52.3**	**-1.5**
ROSF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.4						
ROSF	**Rostrenen**	**93.83**	**326**	*e*P	**P**	**02 43 52.3**	**-1.5**
	comp=Z,17nm,1.1s,mb5.4						
WALA	**Waterton Lakes**	**94.27**	**32**	*e*P	**P**	**02 43 57.4**	**+1.6**
FCC	**Fort Churchill**	**94.59**	**17**	*e*P	**P**	**02 43 57.0**	**-0.3**
FFC	**Flin Flon**	**95.36**	**23**	*e*P	**P**	**02 44 00.4**	**-0.4**
FFC				*e*	pP	02 44 14.0	+0.2
FFC				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.2						
FFC				MLR	MLR		
	comp=Z,176nm,19.0s,MS4.5						
FFC	**Flin Flon**	**95.36**	**23**	*e*P	**P**	**02 44 00.4**	**-0.4**
	comp=Z,11nm,1.0s,mb5.3						
FFC				*e*	pP	02 44 14.0	+0.3
FFC				LR	LR		
	comp=Z,176nm,19.0s,MS4.5						
PPT	**Papeete**	**96.34**	**106**	*e*S	S	02 55 18.2	-3.8
	comp=Z,417nm,24.2s						
PPT				*e*SS	SS	03 01 49.0	-6.1
	comp=Z,160nm,28.0s						
PPT				*e*LQ		03 10 54.6	
	comp=Z,1μm,36.0s						
PPT				*e*LR	LR	03 15 10.5	
	comp=Z,1μm,34.5s,baz=292						
PPT	**Papeete**	**96.34**	**106**	LR	LR	03 22 53.2	
	comp=Z,325nm,18.1s,MS4.8,baz=284,slow=32						
HLID	**Hailey**	**97.57**	**37**	*e*P	**P**	**02 44 12.5**	**+1.7**
	comp=Z,4.9nm,1.1s,mb5.0						
BOZ	**Bozeman (W)**	**97.69**	**34**	*e*P	**P**	**02 44 11.2**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb5.0						
BOZ	**Bozeman (W)**	**97.69**	**34**	*e*P	**P**	**02 44 11.2**	**-0.2**
	comp=Z,5.4nm,0.9s,mb5.1						
LSZ	**Lusaka**	**97.70**	**257**	*e*P	**P**	**02 44 11.0**	**-0.4**
LSZ				*e*	pP	02 44 23.6	-0.8
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb5.0						
LSZ	**Lusaka**	**97.70**	**257**	*e*P	**P**	**02 44 11.0**	**-0.4**
	comp=Z,5.0nm,0.9s,mb5.0						
LSZ				*e*	pP	02 44 23.6	-0.8
TBI	**Tubuai**	**98.46**	**112**	*e*S	S	02 55 34.9	-5.3
	comp=Z,336nm,26.5s						
TBI				*e*SS	SS	03 02 27.6	+2.5
	comp=Z,125nm,28.0s						
TBI				*e*LQ		03 12 10.6	
	comp=Z,461nm,32.8s						
TBI				*e*LR	LR	03 16 21.4	
	comp=Z,692nm,34.8s,baz=294						
MAW	**Mawson**	**98.85**	**199**	LR	LR	03 25 04.5	
	comp=Z,170nm,21.2s,MS4.5,baz=238,slow=33						
TAOE	**Nuku Hiva Isla**	**101.87**	**95**	*e*LR	LR	03 17 45.6	
	comp=Z,2μm,28.2s						
MNTX	**Cornudas Mount**	**110.83**	**41**	*e*PKP	PKiKP	02 49 11.9	+2.4
JCT	**Junction City**	**115.01**	**38**	*e*PKIKP	PKiKP	02 49 18.3	+0.9
TEIG	**Tepich**	**129.47**	**36**	*e*PKPdf	PKPdf	02 49 46.8	+1.6
PMSA	**Palmer Station**	**137.15**	**177**	*e*PKPdf	PKPdf	02 49 59.5	-0.1
GRGR	**Grenville**	**146.00**	**4**	*e*PKPdf	PKPdf	02 50 16.8	+1.4
SDV	**Santo Domingo**	**147.41**	**21**	*e*PKPdf	PKPdf	02 50 19.1	+1.4
SDV				*e*PKPbc	PKPbc	02 50 21.4	+1.1
ROSC	**El Rosal**	**149.60**	**30**	PKPbc	PKPbc	02 50 28.4	+2.5
	comp=Z,17nm,0.8s,baz=112,slow=2.5,SNR=16						
ROSC	**El Rosal**	**149.60**	**30**	*e*PKPdf	PKPdf	02 50 23.4	+2.1
ROSC				*e*PKPbc	PKPbc	02 50 28.3	+2.3
ROSC				PKPbc	PKPbc	02 50 28.4	+2.5
OTAV	**Otavalo**	**151.17**	**42**	*e*PKPdf	PKPdf	02 50 26.1	+2.4
OTAV				*e*PKPbc	PKPbc	02 50 31.6	+2.0

IDC 27 02:47:35.8±57.0, 1075S×11058E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.8/3, Error ellipse: s-maj=960.8km s-min=178.4km az=131.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.64**	**115**	P	P	02 52 58.4	+0.5
	0.7nm,0.5s,baz=287,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**25.66**	**123**	P	P	02 53 07.5	+0.2
	0.6nm,0.7s,baz=301,slow=9.6,SNR=7.0						
STKA	**Stephens Creek**	**35.52**	**131**	P	P	02 54 34.5	+0.2
	5.8nm,0.6s,baz=310,slow=8.3,SNR=26						

BJI 27 02:53:57.0, 504S×12159E, h30km, mB5.2, mb4.7
IDC 27 02:54:01.2±0.6, 404S×12154E, h0km, mb4.4/13, mb1 4.4/14, mb1mx4.3/20, mbtmp4.4/14, ML3.6/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/30, Error ellipse: s-maj=29.0km s-min=13.8km az=54.0
ISCJB 27 02:54:04.4±4.1, 4.1S±0.1×1216E±0.1, h35km±40km, mb4.6/27, MS4.1/1, Error ellipse: s-maj=22.3km s-min=10.8km az=97.5
NEIC 27 02:54:07.0±1.8, 4.12S×12156E, h42km±18km, mb4.8/16, Error ellipse: s-maj=14.6km s-min=6.9km az=47.0
NEIC Felt [IV] at Kolaka.

ISC 27 02:54:06.9±2.9, 41S±0.1×1216E±0.1, h37km±29km, n42, σ0=87/41, mb4.6/27, MS4.1/1, 1C, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.48**	**165**	*e*P	**Pn**	**02 57 36.0**	**+6.8**
	16nm,1.4s						
FITZ	**Fitzroy Crossi**	**14.48**	**165**	Pn	**Pn**	**02 57 28.7**	**-0.5**
	0.2nm,0.3s,baz=1.7,slow=9.7,SNR=4.6						
FITZ				LR	LR	03 03 32.0	
	comp=Z,123nm,18.5s,baz=347,slow=39						
FITZ	**Fitzroy Crossi**	**14.48**	**165**	Pn	**Pn**	**02 57 28.7**	**-0.5**
FITZ				*e*P		02 57 36.0	
FITZ				LR	LR	03 03 32.0	
WRA	**Warramunga Arr**	**20.06**	**143**	P	**P**	**02 58 35.8**	**-1.1**
	13nm,0.9s,baz=316,slow=12,SNR=19						
WB2	**Warramunga Arr**	**20.07**	**143**	*e*P	**P**	**02 58 36.4**	**-0.6**
ASAR	**Alice Springs**	**22.80**	**150**	P	**P**	**02 59 07.2**	**+0.8**
	2.3nm,0.4s,mb3.9,baz=336,slow=11,SNR=52						
PSI	**Prapat**	**23.68**	**286**	P	**P**	**02 59 14.2**	**-0.9**
	34nm,1.0s,mb4.8,baz=85,slow=4.8,SNR=12						
PMG	**Port Moresby**	**25.91**	**103**	P	**P**	**02 59 36.8**	**+1.4**
	9.2nm,0.7s,mb4.4,baz=296,slow=10,SNR=4.0						
PMG	**Port Moresby**	**25.91**	**103**	*e*P	**P**	**02 59 36.7**	**+1.3**
	14nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**31.87**	**316**	*e*P	**P**	**03 00 29.6**	**+1.1**
	6.8nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**33.41**	**148**	*e*P	**P**	**03 00 42.3**	**+0.3**
	9.0nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**33.41**	**148**	P	**P**	**03 00 42.0**	**+0.1**
	12nm,0.7s,mb4.9,baz=313,slow=8.7,SNR=17						
XAN	**Xi'an**	**39.76**	**343**	P	**P**	**03 01 35.5**	**-0.5**
XAN				AP	pP	03 01 42.0	-4.6
XAN				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.1						
SHL	**Shillong**	**41.23**	**317**	*e*P	**P**	**03 01 48.0**	**-0.2**
MJAR	**Matsushiro Arr**	**43.28**	**20**	P	**P**	**03 02 04.5**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.2,baz=189,slow=8.2,SNR=7.8						
MJAR				LR	LR	03 16 29.5	
	comp=Z,245nm,20.9s,MS4.1,baz=25,slow=31						
MJAR	**Matsushiro Arr**	**43.28**	**20**	P	**P**	**03 02 04.5**	**-0.4**
MJAR				LR	LR	03 16 29.5	
LSA	**Lhasa**	**44.50**	**321**	*e*P	**P**	**03 02 16.1**	**+1.4**
	comp=Z,5.3nm,0.6s,mb4.5						
JIRN	**Jiri**	**46.50**	**315**	*e*P	**P**	**03 02 31.2**	**+0.7**
	comp=Z,35nm,1.1s,mb5.2						
GUN	**Gumba**	**46.87**	**315**	*e*P	**P**	**03 02 34.0**	**+0.6**
	comp=Z,44nm,0.9s,mb5.4						
PKI	**Pulchoki**	**47.00**	**314**	*e*P	**P**	**03 02 34.7**	**+0.3**
KKN	**Kakani**	**47.22**	**314**	*e*P	**P**	**03 02 36.6**	**+0.5**
	comp=Z,32nm,1.1s,mb5.2						
DMN	**Daman**	**47.24**	**314**	*e*P	**P**	**03 02 36.7**	**+0.4**
	comp=Z,39nm,1.1s,mb5.3						
GTA	**Gaotai**	**47.72**	**337**	⇑P	**P**	**03 02 41.0**	**+1.1**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
GKN	**Gorkha**	**47.81**	**314**	*e*P	**P**	**03 02 40.8**	**+0.1**
	comp=Z,26nm,0.9s,mb5.3						
KOLN	**Koldanda**	**48.42**	**313**	*e*P	**P**	**03 02 45.9**	**+0.5**
	comp=Z,21nm,0.9s,mb5.2						
MDJ	**Mudanjiang**	**49.00**	**8**	*e*P	**P**	**03 02 50.6**	**+0.7**
	comp=Z,16nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**53.28**	**348**	*e*P	**P**	**03 03 21.4**	**-0.6**
	comp=Z,4.2nm,0.8s,mb4.4						
SONM	**Songino Array**	**53.40**	**347**	P	**P**	**03 03 22.3**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.1,baz=163,slow=8.7,SNR=13						
RPZ	**Rata Peaks**	**58.74**	**140**	P	**P**	**03 04 01.6**	**+0.6**
	comp=Z,33nm,1.0s,mb5.3,baz=29,slow=4.7,SNR=4.5						
MK31	**Makanchi Array**	**61.39**	**330**	*e*P	**P**	**03 04 18.7**	**-0.5**
MKAR	**Makanchi Array**	**61.39**	**330**	P	**P**	**03 04 17.9**	**-1.3**
	comp=Z,2.0nm,0.8s,mb4.3,baz=126,slow=7.2,SNR=13						
KBL	**Kabul**	**62.58**	**312**	*e*P	**P**	**03 04 26.6**	**-0.6**
AAK	**Ala-Archa**	**63.05**	**323**	*e*P	**P**	**03 04 29.7**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**65.47**	**337**	P	**P**	**03 04 46.9**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.3,baz=320,slow=4.5,SNR=12						
ZAL	**Zalesovo**	**65.47**	**337**	P	**P**	**03 04 46.9**	**+0.8**
KURK	**Kurchatov**	**65.84**	**332**	*e*P	**P**	**03 04 47.2**	**-1.3**
	comp=Z,4.2nm,0.8s,mb4.5						
BRVK	**Borovoye**	**71.35**	**330**	*e*P	**P**	**03 05 22.0**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.1						
KMBO	**Kilima Mbogo**	**84.30**	**269**	P	**P**	**03 06 37.2**	**+2.3**
	comp=Z,2.2nm,1.0s,mb4.2,baz=46,slow=12,SNR=4.7						
KMBO	**Kilima Mbogo**	**84.30**	**269**	*e*P	**P**	**03 06 36.2**	**+1.4**
	comp=Z,2.5nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**91.02**	**310**	P	**P**	**03 07 06.3**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.8,baz=186,slow=24,SNR=2.5						
AKASG	**Malin Array Be**	**94.65**	**320**	P	**P**	**03 07 22.3**	**-1.7**
	comp=Z,0.4nm,0.4s,mb4.2,baz=73,slow=4.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**120.04**	**283**	PKP	PKPdf	03 12 53.9	+0.3
	comp=Z,0.8nm,0.9s,baz=146,slow=1.9,SNR=10						

JMA 27 03:02:24.6±0.3, 2178N×12073E, h125km, M3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.40**	**38**	P	Pn	03 03 16.9	+0.7
HATJ	**Hateruma jima**	**3.63**	**51**	P	Pn	03 03 19.9	+0.6
HATJ				*e*S	Sn	03 04 02.9	+1.3
IRIF	**Iriomote-Funau**	**3.75**	**47**	P	Pn	03 03 21.6	+0.6
IRIF				*e*S	Sn	03 04 05.6	+1.0
JKRS	**Kuro-shima**	**3.89**	**50**	P	Pn	03 03 23.8	+1.1
JKRS				*e*S	Sn	03 04 08.6	+0.9
JIJ	**Ishigaki jima**	**4.06**	**50**	P	Pn	03 03 25.7	+0.7
JIJ				*e*S	Sn	03 04 12.7	+0.8
JTJ	**Tarama**	**4.63**	**51**	P	Pn	03 03 33.6	+0.9
JTJ				*e*S	Sn	03 04 27.1	+1.6

IDC 27 03:05:56.8±1.9, 570S×15042E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/16, mbtmp4.0/6, Error ellipse: s-maj=44.1km s-min=29.8km az=154.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**221**	Pn	Pn	03 07 11.9	+0.1
	0.6nm,0.3s,baz=14,slow=21,SNR=2.3						
PMG				Sn	Sn	03 08 10.9	+1.8
	2.8nm,0.3s,baz=81,slow=22,SNR=4.2						
HNR	**Honiara**	**10.14**	**112**	Pn	Pn	03 08 24.7	+1.0
	7.7nm,0.3s,baz=270,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**21.09**	**226**	P	P	03 10 42.6	-0.2
	2.1nm,0.8s,baz=53,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**23.92**	**220**	P	P	03 11 11.7	-0.7
	0.8nm,0.5s,baz=58,slow=9.0,SNR=19						
FITZ	**Fitzroy Crossi**	**27.16**	**241**	P	P	03 11 43.6	+1.9
	4.3nm,1.0s,baz=112,slow=19,SNR=2.7						
STKA	**Stephens Creek**	**27.32**	**197**	P	P	03 11 43.7	+0.4
	0.7nm,0.5s,baz=349,slow=16,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.30**	**286**	PKPbc	PKPbc	03 25 44.9	0.0
	0.5nm,0.6s,baz=39,slow=2.5,SNR=7.0						

NIED 27 03:17:00, 40.10N×142.40E, h32km, Mw4.0 Best double couple: M0=1.16000×10^15 NP1:φ=12.00000°, δ=72.00000°, λ=81.00000°. NP2:φ=219.00000°, δ=20.00000°, λ=116.00000°.
ISCJB 27 03:17:29.2±0.6, 40.14N±0.003×142.48E±0.06, h46km±4km, mb4.3/34, Error ellipse: s-maj=8.1km s-min=5.0km az=40.7
MOS 27 03:17:29.8±0.8, 40.17N×142.45E, h51km, mb4.6/14, Error ellipse: s-maj=12.2km s-min=7.4km az=94.1
JMA 27 03:17:30.1±0.1, 40.11N×142.43E, h35km±1km, M4.3
JMA Felt I J1.
IDC 27 03:17:31.6±2.4, 40.12N×142.46E, h53km±20km, mb3.7/15, mb1 3.9/17, mb1mx3.8/24, mbtmp3.7/17, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/33, Error ellipse: s-maj=21.8km s-min=13.2km az=103.0
NEIC 27 03:17:33.0±0.7, 40.10N×142.44E, h68km±6km, mb4.6/16, MW4.0(NIED), Error ellipse: s-maj=9.6km s-min=5.9km az=126.0
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.
BJI 27 03:17:36.2, 4006N×14145E, h67km, mB4.9, mb4.4

ISC 27 03:17:30.1±0.5, 4014N±003×14248E±005, h40km±4km, n83, σ0=96/96, mb4.3/34, 2C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.51**	**247**	⇓P	**Pn**	**03 17 40.2**	**-0.8**
JTH				S	**Sn**	**03 17 47.6**	**-1.1**
MIYJ	**Miyakonagasawa**	**0.76**	**222**	⇓P	**Pn**	**03 17 43.3**	**-1.1**
MIYJ				S	**Sn**	**03 17 52.3**	**-2.3**
JANG	**Nango**	**0.77**	**288**	⇓P	**Pn**	**03 17 44.0**	**-0.5**
JANG				S	**Sn**	**03 17 53.5**	**-1.4**
JKZ	**Kuzumaki**	**0.89**	**260**	⇓P	**Pn**	**03 17 46.0**	**-0.2**
JKZ				S	**Sn**	**03 17 56.8**	**-1.1**
JOM	**Ohasama**	**1.13**	**234**	⇓P	**Pn**	**03 17 49.4**	**-0.1**
JOM				S	**Sn**	**03 18 03.9**	**+0.1**
OFUJ	**Ofunato**	**1.23**	**211**	⇑P	**Pn**	**03 17 50.7**	**-0.1**
OFUJ				S	**Sn**	**03 18 05.7**	**-0.5**
JTM	**Tenmabayashi**	**1.25**	**301**	⇓P	**Pn**	**03 17 51.6**	**+0.5**
JTM				S	**Sn**	**03 18 07.1**	**+0.4**
JAH	**Hinai**	**1.41**	**272**	⇓P	**Pn**	**03 17 53.9**	**+0.6**
JAH				S	**Sn**	**03 18 11.5**	**+0.9**
JMK	**Ichinoseki**	**1.54**	**220**	⇑P	**Pn**	**03 17 55.2**	**+0.2**
JMK				S	**Sn**	**03 18 14.5**	**+0.8**
ERM	**Erimo**	**1.94**	**15**	*e*P	**Pn**	**03 18 04.1**	**+3.6**
ASAJ	**Asahikawa**	**3.97**	**1**	P	**Pn**	**03 18 30.7**	**+2.2**
	4.9nm,0.3s,baz=216,slow=10,SNR=12						
ASAJ				S	**Sn**	**03 19 15.3**	**+1.5**
	1.6nm,0.3s,baz=163,slow=14,SNR=2.5						
ASAJ				LR	LR	03 20 37.8	
	comp=Z,339nm,20.8s,baz=186,slow=47						
ASAJ	**Asahikawa**	**3.97**	**1**	P	**Pn**	**03 18 30.7**	**+2.2**
ASAJ				S	**Sn**	**03 19 15.3**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.63**	**32**	*e*P	**Pn**	**03 18 38.2**	**+0.7**
YUK				*e*S	**Sn**	**03 19 28.0**	**-2.1**
YUK				smax			
	comp=N,840nm,0.6s						
YUK				smax			
	comp=E,240nm,0.6s						
MJAR	**Matsushiro Arr**	**4.92**	**224**	P	**Pn**	**03 18 44.0**	**+2.5**
	comp=E,6.2nm,0.3s,baz=33,slow=13,SNR=87						
MAJO	**Matsushiro**	**4.92**	**224**	*e*P	**Pn**	**03 18 43.5**	**+2.0**
MAT	**Matsushiro**	**4.92**	**224**	P	**Pn**	**03 18 43.8**	**+2.3**
MAT				*e*S	**Sn**	**03 19 42.8**	**+5.7**
KUR	**Kuril'sk**	**6.45**	**36**	*i*P	**Pn**	**03 19 03.5**	**+1.0**
KUR				*i*S	**Sn**	**03 20 12.5**	**-2.4**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,50nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
KSRS	**Korea Array**	**11.67**	**261**	P	**Pn**	**03 20 21.3**	**+7.3**
	baz=67,slow=14,SNR=8.8						
KSRS				LR	LR	03 24 07.7	
	comp=E,144nm,19.9s,baz=360,slow=34						
YAK	**Yakutsk**	**23.25**	**345**	*e*P	**P**	**03 22 32.8**	**-1.2**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=N,5.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
BOD	**Bodaibo**	**25.43**	**324**	*e*P	**P**	**03 22 53.4**	**-0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**26.44**	**299**	*e*P	**P**	**03 23 02.8**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**26.44**	**299**	*e*P	**P**	**03 23 02.8**	**-0.3**
	comp=Z,1.8nm,0.5s,mb3.9						
SONM	**Songino Array**	**26.88**	**299**	P	**P**	**03 23 07.8**	**+0.7**
	comp=Z,2.0nm

GERES	**GERESS Array B**	80.50	329	P		**P**	03 29 38.2	+0.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=42,slow=6.1,SNR=7.0							
LOR	**Lormes**	85.50	333	*e*P		**P**	03 30 03.5	-0.2
	comp=Z,12nm,1.1s,mb4.6							
LOR	**Lormes**	85.50	333	*e*P		**P**	03 30 03.5	-0.2
LOR				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.6							
LOR	**Lormes**	85.50	333	*e*P		**P**	03 30 03.5	-0.2
	comp=Z,6.3nm,1.1s,mb4.7							
SSF	**Saint Saulge**	85.80	333	*e*P		**P**	03 30 05.3	+0.1
	comp=Z,5.3nm,1.0s,mb4.4							
SSF	**Saint Saulge**	85.80	333	*e*P		**P**	03 30 05.3	+0.1
SSF				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.5							
SSF	**Saint Saulge**	85.80	333	*e*P		**P**	03 30 05.3	+0.1
	comp=Z,2.7nm,1.0s,mb4.4							
LPL	**La Plagne**	85.95	331	*e*P		**P**	03 30 06.2	+0.2
	comp=Z,5.1nm,0.8s,mb4.5							
LPL	**La Plagne**	85.95	331	*e*P		**P**	03 30 06.2	+0.2
LPL				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.6							
LPL	**La Plagne**	85.95	331	*e*P		**P**	03 30 06.2	+0.2
	comp=Z,2.5nm,0.8s,mb4.5							
LPG	**La Plagne**	85.96	331	*e*P		**P**	03 30 06.4	+0.4
	comp=Z,10nm,1.0s,mb4.7							
LPG	**La Plagne**	85.96	331	*e*P		**P**	03 30 06.4	+0.4
LPG				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.7							
LPG	**La Plagne**	85.96	331	*e*P		**P**	03 30 06.4	+0.4
	comp=Z,5.2nm,1.0s,mb4.7							
SMF	**Signal de Mont**	86.04	333	*e*P		**P**	03 30 06.3	-0.1
GRR	**Gorron**	86.05	336	*e*P		**P**	03 30 05.6	-0.9
AVF	**Avril sur Loir**	86.08	333	*e*P		**P**	03 30 06.6	0.0
	comp=Z,8.9nm,0.8s,mb4.8							
AVF	**Avril sur Loir**	86.08	333	*e*P		**P**	03 30 06.6	0.0
AVF				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.7							
AVF	**Avril sur Loir**	86.08	333	*e*P		**P**	03 30 06.6	0.0
	comp=Z,4.4nm,0.8s,mb4.7							
MFF	**Saint Martin d**	87.41	335	*e*P		**P**	03 30 12.6	-0.5
	comp=Z,4.8nm,0.8s,mb4.5							
MFF	**Saint Martin d**	87.41	335	*e*P		**P**	03 30 12.6	-0.5
MFF				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.4							
MFF	**Saint Martin d**	87.41	335	*e*P		**P**	03 30 12.6	-0.5
	comp=Z,2.4nm,0.8s,mb4.5							
CAF	**Calviac**	88.15	333	*e*P		**P**	03 30 16.6	0.0
	comp=Z,8.7nm,1.0s,mb4.6							
CAF	**Calviac**	88.15	333	*e*P		**P**	03 30 16.6	0.0
CAF				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.6							
CAF	**Calviac**	88.15	333	*e*P		**P**	03 30 16.6	0.0
	comp=Z,4.3nm,1.0s,mb4.6							
TORD	**Torodi Ar. Bea**	115.68	317	PKP	PKPdf		03 36 07.3	-0.7
	comp=Z,0.6nm,1.1s,baz=52,slow=1.2,SNR=4.8							

*ISCJB **27** 03:29:35.7±0.8, 1063N±009×6250W±003, h65km±9km, Error ellipse: s-maj=14.4km s-min=5.0km az=1.2*
*FUNV **27** 03:29:36.9, 1069N×6242W, h58km, MW2.6*
*NEIC **27** 03:29:37.3, 1069N×6245W, h60km, MD3.0(TRN), After TRN.*
*TRN **27** 03:29:37.3, 1069N×6245W, h60km, MD3.0*

ISC 27 03:29:36.7±0.8, 1065N±008×6249W±003, h58km±10km, n10, σ0°57/19, 2C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	0.26	91	⇑*i*P		**Pn**	03 29 46.1	-0.2
GUIV				*e*S		**Sn**	03 29 53.0	-0.3
GUNV	**Guanoco**	0.66	223	*e*P		**Pn**	03 29 51.1	+0.7
TCE	**Chacachacare**	0.73	86	*e*P		**Pn**	03 29 52.0	+0.8
TCE				*e*S		**Sn**	03 30 01.8	+0.1
CRUV	**Carupano**	0.73	272	⇓*e*P		**Pn**	03 29 51.2	-0.1
CRUV				*e*S		**Sn**	03 30 01.8	0.0
ITEV	**Isla Los Testi**	0.94	318	⇓*e*P		**Pn**	03 29 53.9	0.0
ITEV				*e*S		**Sn**	03 30 06.8	+0.3
TRN	**Trinidad (W)**	1.07	90	⇑*i*P		**Pn**	03 29 56.0	+0.4
TRN				*e*S		**Sn**	03 30 08.6	-0.9
TBH	**Brigand Hill**	1.41	97	*e*P		**Pn**	03 30 00.8	+0.7
TBH				*e*S		**Sn**	03 30 17.8	+0.1
TPR	**Prospect**	1.77	72	*e*P		**Pn**	03 30 04.2	-0.7
TPR				*e*S		**Sn**	03 30 26.2	0.0
CUPV	**Cœpira**	3.30	260	*e*P		**Pn**	03 30 26.5	+0.7
CUPV				*e*S		**Sn**	03 31 03.4	-0.4
BAUV	**El Baul**	5.73	253	*e*P		**Pn**	03 30 58.0	-1.2
BAUV				*e*S		**Sn**	03 31 59.2	-4.2

*IDC **27** 03:45:39.9±1.0, 2184N×12067E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/19, mbtmp3.5/6, Error ellipse: s-maj=74.8km s-min=19.5km az=68.0*
*NEIC **27** 03:45:41.5±0.7, 2171N×12038E, h10km, MG3.2(JMA), Error ellipse: s-maj=26.0km s-min=10.9km az=88.0*
*ISCJB **27** 03:45:45.9±1.6, 2181N±0.10×12069E±009, h60km±17km, mb3.5/6, Error ellipse: s-maj=17.2km s-min=14.0km az=127.8*
*JMA **27** 03:45:46.6±0.5, 2176N×12083E, h125km, M3.2*

ISC 27 03:45:47.1±1.7, 218N±01×1206E±01, h54km±17km, n16, σ0°62/20, mb3.5/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	2.50	21	*e*Pn		**Pn**	03 46 25.4	+0.1
YHNB	**Yeheng**	2.91	13	*e*Pn		**Pn**	03 46 30.5	-0.4
YOJ	**Yonaguni jima**	3.41	39	P		**Pn**	03 46 38.5	+0.7
HATJ	**Hateruma jima**	3.67	52	P		**Pn**	03 46 41.3	0.0
HATJ				*e*S		**Sn**	03 47 22.6	-0.7
IRIF	**Iriomote-Funau**	3.79	48	P		**Pn**	03 46 43.0	0.0
IRIF				*e*S		**Sn**	03 47 27.7	+1.5
JKRS	**Kuro-shima**	3.93	52	P		**Pn**	03 46 45.2	+0.3
JIJ	**Ishigaki jima**	4.10	51	P		**Pn**	03 46 47.1	-0.1
JIJ				*e*S		**Sn**	03 47 33.3	-0.6
JTJ	**Tarama**	4.67	52	P		**Pn**	03 46 54.8	-0.3
JTJ				*e*S		**Sn**	03 47 47.7	-0.3
SONM	**Songino Array**	28.36	340	P		**P**	03 51 35.2	-0.8
	0.2nm,0.3s,mb3.2,baz=209,slow=29,SNR=2.9							
MKAR	**Makanchi Array**	39.70	318	P		**P**	03 53 14.3	+0.3
	0.2nm,0.4s,mb3.2,baz=126,slow=12,SNR=3.6							
WRA	**Warramunga Arr**	43.63	161	P		**P**	03 53 44.9	-1.2
	1.1nm,0.5s,mb3.8,baz=342,slow=8.8,SNR=5.5							
ASAR	**Alice Springs**	47.03	163	P		**P**	03 54 13.8	+0.7
	0.4nm,0.5s,mb3.6,baz=344,slow=6.9,SNR=7.1							
STKA	**Stephens Creek**	57.05	159	P		**P**	03 55 27.9	+0.4
	0.6nm,0.5s,mb3.9,baz=333,slow=16,SNR=3.2							
STKA	**Stephens Creek**	57.05	159	P		**P**	03 55 27.9	+0.4
YKA	**Yellowknife Ar**	85.33	23	P		**P**	03 58 18.8	+0.5
	0.3nm,0.9s,mb3.4,baz=312,slow=4.3,SNR=5.2							
YKA	**Yellowknife Ar**	85.33	23	P		**P**	03 58 18.8	+0.5

*ISCJB **27** 03:47:24.0±0.9, 3114S±005×684W±0.1, h150km±19km, Error ellipse: s-maj=16.5km s-min=6.3km az=148.9*
*NEIC **27** 03:47:24.6±1.1, 3116S×6820W, h110km±45km, MD3.9(GUC), Error ellipse: s-maj=15.9km s-min=6.5km az=72.0*
*GUC **27** 03:47:24.8±0.6, 3115S×6847W, h150km, MD3.9, ML4.0*

ISC 27 03:47:24.7±0.9, 3114S±005×684W±01, h150km±20km, n20, σ0°72/33, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	1.78	193	*e*P		**Pn**	03 47 55.2	-2.1
MDZ				*e*			03 48 17.9	
MDZ				S		**Sn**	03 48 23.2	+0.9
CMCH	**Combarbala**	2.24	269	⇑*i*P		**Pn**	03 48 02.4	-0.2
CMCH				*i* S		**Sn**	03 48 31.4	-0.5
CMCH				AML	AML		03 48 32.7	
	comp=N,1μm,0.4s							
CMCH	**Combarbala**	2.24	269	⇑*i*P		**Pn**	03 48 02.4	-0.2
CMCH				*i* S		**Sn**	03 48 31.4	-0.5
TLL	**Tololo Astrono**	2.30	294	*e*P		**Pn**	03 48 04.2	+0.8
TLL				*i* S		**Sn**	03 48 33.4	+0.3
TLL				AML	AML		03 48 37.1	
	comp=E,283nm,0.2s							
TLL	**Tololo Astrono**	2.30	294	*e*P		**Pn**	03 48 04.2	+0.8
TLL				*i* S		**Sn**	03 48 33.4	+0.3
JACH	**Jahuel**	2.42	230	*i* P		**Pn**	03 48 05.5	+0.7
PTCH	**Petorca**	2.44	242	*e*P		**Pn**	03 48 04.7	-0.3
PTCH				*i* S		**Sn**	03 48 35.6	-0.5
PTCH				AML	AML		03 48 37.7	
	comp=N,1μm,0.4s							
PTCH	**Petorca**	2.44	242	*e*P		**Pn**	03 48 04.7	-0.3
PTCH				*i* S		**Sn**	03 48 35.6	-0.5
OVCH	**Ovalle**	2.48	282	*e*P		**Pn**	03 48 05.1	-0.4
OVCH				*i* S		**Sn**	03 48 35.9	-1.1
FCH	**Farellones**	2.71	216	*e*P		**Pn**	03 48 09.3	+0.9
FCH				*i* S		**Sn**	03 48 42.9	+0.8
LSCH	**La Serena**	2.76	296	⇑*i*P		**Pn**	03 48 08.9	0.0
PEL	**Peldehue**	2.79	224	*e*P		**Pn**	03 48 09.5	+0.2
PEL				*i* S		**Sn**	03 48 43.4	-0.5
PEL				AML	AML		03 48 45.3	
	comp=E,407nm,0.3s							
ROCH	**El Roble**	2.88	230	*e*P		**Pn**	03 48 11.0	+0.5
CLCH	**Cerro Calan**	2.89	218	*e*P		**Pn**	03 48 11.1	+0.4
CLCH				*i* S		**Sn**	03 48 46.0	-0.2
CLCH				AML	AML		03 48 48.8	
	comp=N,220nm,0.3s							
LCO	**Las Campanas**	2.92	316	*e*Pn		**Pn**	03 48 11.9	+0.9
LCO				*e*Sn		**Sn**	03 48 37.0	-10
PCH	**Pirque**	3.06	215	*e*P		**Pn**	03 48 13.0	+0.3
VACH	**Vallenar**	3.28	321	*e*P		**Pn**	03 48 16.4	+0.8
VACH				*i* S		**Sn**	03 48 54.5	-0.6
TACH	**Talagante**	3.31	220	⇑*i*P		**Pn**	03 48 15.7	-0.2
CHCH	**Chadas Angostu**	3.38	214	*i* P		**Pn**	03 48 17.0	+0.2
TRQA	**Tornquist**	8.69	144	*e*Pn		**Pn**	03 49 25.7	-1.4

*ISCJB **27** 03:49:58.7±0.3, 3457N±003×2540E±005, h56km±6km, mb3.5/5, Error ellipse: s-maj=7.1km s-min=4.3km az=113.0*
*HLW **27** 03:49:58.4, 3476N×2543E, h33km, Mb3.6*
*IDC **27** 03:49:58.3±2.5, 3465N×2537E, h30km±17km, mb3.4/5, mb1 3.4/10, mb1mx3.3/23, mbtmp3.3/10, ML3.2/4, Error ellipse: s-maj=24.0km s-min=17.8km az=8.0*
*CSEM **27** 03:49:58.4±0.1, 3454N×2541E, h47km±1km, MD3.6, Error ellipse: s-maj=2.8km s-min=1.8km az=34.0*
*THE **27** 03:49:59.9, 3462N×2523E, h4km*
*ATH **27** 03:49:59.6, 3463N×2524E, h30km±2km, MD3.6/10*
*NEIC **27** 03:49:59.6, 3463N×2524E, h30km, MD3.6(ATH), After ATH.*

ISC 27 03:50:00.3±0.3, 3461N±003×2537E±004, h50km±7km, n46, σ1°17/55, mb3.5/5, 4C-7D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	0.56	9	*e*Pg		**Pn**	03 50 11.3	-0.9
SIVA	**Sivas**	0.62	312	*e*Pg		**Pn**	03 50 10.2	-2.7
SIVA	**Sivas**	0.62	312	P		**Pn**	03 50 10.4	-2.5
SIVA	**Sivas**	0.62	312	*e*Pg		**Pn**	03 50 10.2	-2.7
NPS	**Neapolis**	0.68	17	*e*PN		**Pn**	03 50 13.8	+0.1
NPS				*e*SN		**Sn**	03 50 23.2	-0.3
IDI	**Anoyia**	0.78	330	Pg		**Pn**	03 50 13.1	-2.0
	219nm,0.3s,baz=157,slow=15,SNR=303							
IDI				Lg			03 50 22.8	
	343nm,0.3s,baz=276,slow=18,SNR=19							
IDI	**Anoyia**	0.78	330	Pg		**Pn**	03 50 13.1	-2.0
IDI				Lg			03 50 22.8	
ZKR	**Zakros**	0.86	54	*e*Pg		**Pn**	03 50 18.3	+2.2
ZKR	**Zakros**	0.86	54	P		**Pn**	03 50 18.7	+2.6
GVD	**Gavdhos**	1.08	283	*e*PN		**Pn**	03 50 18.0	-1.1
GVD				*e*SN		**Sn**	03 50 32.0	-1.0
GVD	**Gavdhos**	1.08	283	*e*Pg		**Pn**	03 50 18.2	-0.9
GVD				*e*Sn		**Sn**	03 50 32.0	-1.0
VAM	**Vamos**	1.25	310	*e*PN		**Pn**	03 50 21.2	-0.1
VAM				*e*SN		**Sn**	03 50 37.5	+0.5
KARN	**Karanos**	1.43	304	*e*Pg		**Pn**	03 50 23.1	-0.7
KARN				*e*Sg		**Sn**	03 50 42.6	+1.1
KARP	**Karpathos**	1.74	57	*e*PB		**Pn**	03 50 31.4	+3.4
THR6	**Thira Island,**	1.74	1	*e*Pb		**Pn**	03 50 28.9	+0.8
APE	**Apeiranthos**	2.46	3	*e*PN		**Pn**	03 50 40.0	+2.1
KYTH	**Kithira**	2.53	312	*e*PN		**Pn**	03 50 39.5	+0.6
ARG	**Arkhangelos**	2.76	54	*e*PN		**Pn**	03 50 44.5	+2.5
VLI	**Veliai**	2.89	317	*e*PN		**Pn**	03 50 43.5	-0.3
PTL	**Penteli**	3.64	341	*e*PN		**Pn**	03 50 55.0	+0.9
MGER	**Gerania Oros**	3.78	334	*e*PN		**Pn**	03 50 57.5	+1.6
HMAT	**Matruh**	3.79	157	⇓P		**Pn**	03 50 56.3	+0.1
HMAT				S		**Sn**	03 51 39.1	-0.4
SWA1		5.34	177	⇑P		**Pn**	03 51 18.4	+1.1
SWA1				S		**Sn**	03 52 16.3	-1.2
HSAF	**As Saff**	7.23	132	⇑P		**Pn**	03 51 43.2	0.0
HSAF	**As Saff**	7.23	132	P		**Pn**	03 51 43.2	-0.1
GLL	**Jalalah**	7.35	131	⇓P		**Pn**	03 51 45.1	+0.1
AMAG	**Maghara**	7.70	119	⇓P		**Pn**	03 51 49.8	0.0
HFRF	**Wahat Farafira**	7.85	160	⇓P		**Pn**	03 51 52.5	+0.6
SUZ		7.91	125	⇓P		**Pn**	03 51 52.9	+0.3
SUZ				S		**Sn**	03 53 15.6	-5.0
BRTR	**Keskin Array B**	8.34	50	Pn		**Pn**	03 51 57.5	-1.0
	0.1nm,0.3s,baz=356,slow=7.0,SNR=3.3							
MMAI	**Mount Meron Ar**	8.50	98	Pn		**Pn**	03 51 59.9	-0.8
	1.3nm,0.3s,baz=304,slow=12,SNR=2							
MMAI				Sn		**Sn**	03 53 32.6	-2.6
	4.5nm,0.3s,baz=250,slow=26,SNR=11							
GRB	**Gharib**	8.94	133	⇓P		**Pn**	03 52 07.0	+0.2
GRB	**Gharib**	8.94	133	P		**Pn**	03 52 06.9	+0.1
HDK1	**Dakhla**	9.69	158	⇑P		**Pn**	03 52 18.1	+1.1
ASF	**Jabal al Asfar**	9.94	101	Pn		**Pn**	03 52 18.4	-2.0
	0.1nm,0.3s,baz=280,slow=6.1,SNR=2.9							
AKRG	**Al Kharijah**	10.10	153	⇑P		**Pn**	03 52 23.7	+1.1
GTR	**Jabal at Tayr**	10.12	152	⇓P		**Pn**	03 52 23.9	+1.0
AKASG	**Malin Array Be**	16.33	9	Pn		**Pn**	03 53 44.7	-1.4
	0.7nm,0.3s,baz=201,slow=11,SNR=3.1							
AKASG	**Malin Array Be**	16.33	9	Pn		**Pn**	03 53 44.6	-1.4
GERES	**GERESS Array B**	16.65	332	Pn		**Pn**	03 53 48.8	-1.3
	0.1nm,0.3s,baz=141,slow=11,SNR=3.4							
EKA	**Eskdalemuir Ar**	28.59	325	P		**P**	03 55 52.8	+1.3
	1.3nm,0.8s,mb3.7,baz=116,slow=13,SNR=4.0							
TORD	**Torodi Ar. Bea**	30.27	231	P		**P**	03 56 07.0	+0.6
	0.7nm,0.3s,mb3.8,baz=33,slow=8.6,SNR=48							
MKAR	**Makanchi Array**	43.94	56	P		**P**	03 58 02.8	+0.6
	0.2nm,0.3s,mb3.3,baz=266,slow=7.8,SNR=4.5							
SONM	**Songino Array**	59.70	50	P		**P**	03 59 59.2	-0.4
	0.4nm,0.5s,mb3.7,baz=273,slow=5.9,SNR=4.2							
YKA	**Yellowknife Ar**	78.03	342	P		**P**	04 01 51.5	-1.9
	0.1nm,0.5s,mb3.0,baz=34,slow=5.2,SNR=4.3							
YKA	**Yellowknife Ar**	78.03	342	P		**P**	04 01 51.5	-1.9

MDD 27 03:55:13.1±1.6, 3228N×1165W, h0km, mb3.5/4, Error ellipse: s-maj=140.0km s-min=10.1km az=121.0, PRXIMO SIN SOLUCIN, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFAM	**Famara**	3.53	208	S	Sn	03 56 48.6	-3.1
	5.4nm,0.1s,SNR=7.9						
EFAM	**Famara**	3.53	208	S	Sn	03 56 48.6	-3.0
	5.4nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	4.12	209	S	Sn	03 57 02.1	-4.1
	2.5nm,0.1s,SNR=7.9						
CFTV	**Fuerteventura**	4.39	209	S	Sn	03 57 08.6	-4.1
	0.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	6.26	32	P	Pn	03 56 46.0	-0.7
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	03 57 50.1	-8.9
	0.6nm,0.1s,SNR=7.9						
EGRO	**El Granado**	6.26	32	P	Pn	03 56 46.0	-0.7
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	03 57 50.1	-8.9
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	6.83	35	P	Pn	03 56 53.9	-0.6
	0.0nm,0.0s,SNR=7.9						
EMIN				S	Sn	03 58 05.6	-7.4
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	6.83	35	P	Pn	03 56 53.9	-0.6
	SNR=7.9						
EMIN				S	Sn	03 58 05.6	-7.4
	0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	7.49	29	P	Pn	03 57 02.0	-1.5
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	03 58 21.2	-7.9
	0.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	7.49	29	P	Pn	03 57 02.0	-1.5
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	03 58 21.2	-7.9
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	8.24	43	P	Pn	03 57 13.9	0.0
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	03 58 38.5	-9.3
	SNR=7.9						
EADA	**Adamuz**	8.24	43	P	Pn	03 57 13.9	0.0
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	03 58 38.5	-9.3
	0.5nm,0.1s,SNR=7.9						

*ISCJB **27** 04:05:53.2±0.8, 921N±005×8424W±003, h16km±8km, mb3.4/3, MS4.2/1, Error ellipse: s-maj=8.7km s-min=4.4km az=55.0*
*IDC **27** 04:05:53.5±1.1, 1012N×8380W, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML3.1/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/19, Error ellipse: s-maj=27.8km s-min=12.2km az=13.0*
*CASC **27** 04:05:54.2±2.3, 926N×8419W, h18km±5km, MD4.1*
*NEIC **27** 04:05:56.6±1.4, 1005N×8400W, h24km±14km, Error ellipse: s-maj=19.2km s-min=7.9km az=216.0*

ISC 27 04:05:52.6±0.9, 921N±005×8426W±003, h12km±5km, n36, σ0°94/45, mb3.4/3, MS4.2/1, 6C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	0.58	25	*e*P		**Pg**	04 06 04.4	+0.5
BUS	**Buena Vista**	0.60	55	⇓*i*P		**Pg**	04 06 04.8	+0.6
LAJ	**Bijagual**	0.66	12	⇓*e*P		**Pg**	04 06 05.5	+0.1
OCM	**Ochomogo**	0.74	23	⇓*i*P		**Pg**	04 06 06.8	0.0
SJS	**Escuela Geolog**	0.75	15	*e*P		**Pg**	04 06 07.2	+0.1
SJS				*e*S		**Sg**	04 06 16.4	-0.4
PRS1	**Puriscal**	0.77	356	⇓*e*P		**Pg**	04 06 06.3	-1.1
CGA2	**Cerro Gallo 2**	0.82	346	⇑*e*P		**Pg**	04 06 09.1	+0.6
IRZ2	**Volcan Irazu 2**	0.83	25	⇓*i*P		**Pg**	04 06 08.8	+0.2
EPA	**Esparza**	0.84	336	⇓*e*P		**Pg**	04 06 09.5	+0.7
EPA				*e*S		**Sg**	04 06 20.2	+0.5
ICR	**Volcan Irazu**	0.87	29	⇑*i*P		**Pg**	04 06 09.4	0.0
PICA	**Picada**	0.93	30	*e*P		**Pg**	04 06 12.1	+1.5
PICA				*e*S		**Sg**	04 06 21.5	-1.2
VTU	**Volcan Turrial**	0.94	31	⇓*e*P		**Pg**	04 06 10.5	-0.2
VTU				*e*S		**Sg**	04 06 22.3	-0.7
POA2	**Poas 2**	0.96	0	⇓*e*P		**Pg**	04 06 11.1	+0.1
CAO	**Cobano**	0.97	300	⇓*e*P		**Pg**	04 06 11.0	-0.2
JCR	**Jicaral**	1.05	307	⇑*e*P		**Pg**	04 06 12.4	-0.5
JCR				*e*S		**Sg**	04 06 28.5	+1.9
JTS	**JuntasAbangare**	1.27	327	Pg		**Pg**	04 06 14.9	-2.1
	394nm,0.3s,baz=90,slow=13,SNR=2256							
JTS				Lg			04 06 32.1	
	204nm,0.3s,baz=278,slow=23,SNR=15							
JTS	**JuntasAbangare**	1.27	327	⇑*e*P		**Pn**	04 06 15.2	-1.0
JTS				*e*S		**Sb**	04 06 31.7	-1.1
FORC	**Fortuna**	1.31	342	⇓*i*P		**Pn**	04 06 17.4	+0.6
FORC				*i* S		**Sb**	04 06 35.0	+0.9
VACR	**Volcan Arenal**	1.32	342	⇑*e*P		**Pn**	04 06 17.4	+0.6
CTCR	**Cotoan**	1.51	102	*e*P		**Pn**	04 06 19.2	-0.3
CTCR				*e*S		**Sn**	04 06 39.4	+0.3
BRU2	**Volcan**	1.60	105	*e*P		**Pn**	04 06 20.6	-0.1
BRU	**Baru**	1.72	103	*e*P		**Pn**	04 06 23.2	+0.8
CNI	**Changuinola**	1.73	83	⇑*i*P		**Pn**	04 06 23.1	+0.6
LIM1	**Limonal**	1.77	326	*e*P		**Pn**	04 06 24.6	+1.5
LIM1				*e*S		**Sn**	04 06 47.0	+1.4
DVD	**David**	1.94	113	*e*P		**Pn**	04 06 25.0	-0.5
BCIP	**Isla Barro Col**	4.36	90	*e*Pn		**Pn**	04 06 59.3	+0.6
BCIP	**Isla Barro Col**	4.36	90	*e*P		**Pn**	04 06 59.4	+0.7
BCIP				*e*S		**Sn**	04 07 33.1	-16
TGUH	**Tegucigalpa,Un**	5.65	329	*e*Pg		**Pb**	04 07 28.8	-2.3
ROSC	**El Rosal**	10.76	113	Pn		**Pn**	04 08 31.1	+4.7
	0.6nm,0.3s,baz=270,slow=19,SNR=2.9							
TEIG	**Tepich**	11.62	341	Pn		**Pn**	04 08 31.3	-6.9
	1.0nm,0.3s,baz=246,slow=22,SNR=6.4							
CMIG	**Matias Romero**	12.97	308	Pn		**Pn**	04 08 55.5	-1.2
	0.2nm,0.3s,baz=73,slow=11,SNR=2.6							
CFAA	**Coronel Fontan**	43.39	160	P

8.0nm,0.7s,mb4.2,baz=182,slow=9.1,SNR=12
TKL LR LR 04 48 05.3
comp=Z,550nm,20.0s,baz=236,slow=39
ATAH Atahualpa 23.12 150 LR LR 04 46 27.3
comp=Z,180nm,18.6s,baz=136,slow=33
MNTX Cornudas Mount 23.26 324 *eP* **P 04 38 26.6 -1.8**
30nm,1.1s,mb4.5
SIUC Southern Illin 24.29 1 *eP* **P 04 38 39.0 +1.2**
38nm,0.8s,mb4.8
USIN University of 24.60 4 *eP* **P 04 38 42.1 +1.4**
17nm,0.4s,mb4.8
WCI Wyandotte Cave 24.99 6 *eP* **P 04 38 45.5 +1.4**
39nm,0.7s,mb5.0
ANMO Albuquerque 26.31 328 P **P 04 38 55.8 -0.3**
0.9nm,0.7s,baz=143,slow=10,SNR=5.5
ANMO Albuquerque 26.31 328 *eP* **P 04 38 56.5 +0.4**
1.3nm,0.7s,mb3.5
CBKS Cedar Bluff 26.89 343 *eP* **P 04 39 01.5 +0.2**
8.4nm,0.9s,mb4.3
116A Eloy 27.75 317 ⇑P **P 04 39 08.5 -0.5**
baz=28
115A Sonoran Desert 28.18 317 ⇑P **P 04 39 13.2 +0.3**
baz=28
MVCO Mesa Verde 29.10 328 ⇑P **P 04 39 20.9 -0.1**
baz=29
X15A Humboldt 29.32 320 ⇓P **P 04 39 21.8 -1.1**
baz=29
Y14A Wickenburg 29.46 318 ⇓P **P 04 39 24.4 +0.2**
baz=30
WUAZ Wupatki 29.47 322 ⇑P **P 04 39 24.7 +0.4**
baz=30
X14A Yava 29.72 319 ⇓P **P 04 39 26.7 +0.2**
baz=30
W15A Williams 29.79 321 ⇓P **P 04 39 27.9 +0.8**
baz=30
SMCO Snowmass 29.92 332 *eP* **P 04 39 28.6 +0.4**
1.8nm,0.7s,mb3.8
Y13A Salome 29.93 317 ⇑P **P 04 39 29.0 +0.7**
baz=30
PV10 Paradox Valley 30.27 329 *eP* **P 04 39 31.3 -0.1**
W14A Seligman 30.32 320 ⇑P **P 04 39 32.4 +0.7**
baz=30
X13A Yucca 30.40 318 ⇑P **P 04 39 32.5 0.0**
baz=30
PDMCI Parker Dam,Lak 30.42 317 ⇓P **P 04 39 33.0 +0.3**
baz=30
W13A Hualapai Mount 30.75 319 ⇑P **P 04 39 35.5 0.0**
baz=31,SNR=5.5
SWSC Sam W. Stewart 30.77 314 ⇓P **P 04 39 35.5 -0.2**
baz=31
BC3 Big Chuckw Mtn 30.93 315 ⇑P **P 04 39 37.2 +0.1**
baz=31
IRM Iron Mountain 31.01 316 ⇓P **P 04 39 39.0 +1.1**
baz=31
GMRC Granite Mounta 31.72 317 ⇑P **P 04 39 44.0 -0.1**
baz=32
V12A Nelson 31.76 319 P **P 04 39 45.6 +1.2**
baz=32,SNR=5.9
MSU Marysvale 32.02 326 *eP* **P 04 39 47.4 +0.6**
V11A Goodsprings 32.20 319 ⇓P **P 04 39 49.2 +0.9**
baz=32
ARUT Antelope Range 32.23 323 *eP* **P 04 39 49.0 +0.4**
DAU Daniels Canyon 32.93 329 *eP* **P 04 39 55.2 +0.6**
RSSD Black Hills 33.04 341 *eP* **P 04 39 56.2 +0.6**
3.2nm,0.7s,mb4.3
LRMC Laurel Mountai 33.48 316 ⇑P **P 04 40 00.7 +1.3**
baz=34
FURC Furnace Creek, 33.50 318 ⇓P **P 04 40 02.2 +0.5**
baz=34
DUG Dugway 33.57 327 *eP* **P 04 39 60.0 -0.3**
2.1nm,0.8s,mb4.0
DUG Dugway 33.57 327 ⇑P **P 04 40 00.2 -0.1**
baz=34
MPMC Manual Prospec 33.67 317 ⇓P **P 04 40 01.1 0.0**
baz=34
Q12A Willow Creek R 33.88 324 ⇓P **P 04 40 03.7 +0.8**
baz=34
BW06 Boulder Array 33.97 333 *eP* **P 04 40 03.1 -0.7**
4.1nm,1.2s,mb4.1
PDAR Pinedale Array 33.97 333 P **P 04 40 03.0 -0.7**
0.6nm,0.7s,mb3.5,baz=124,slow=11,SNR=5.7
PDAR PcP PcP 04 42 39.5 -0.5
0.7nm,0.7s,baz=130,slow=3.7,SNR=4.5
HWUT Hardware Ranch 33.99 330 *eP* **P 04 40 03.5 -0.4**
7.3nm,1.0s,mb4.5
ISA Isabella 34.11 316 ⇓P **P 04 40 05.8 +0.9**
baz=34
GRAC Grapevine Rang 34.15 319 ⇓P **P 04 40 06.3 +1.1**
baz=34
P12A McGill 34.22 324 ⇑P **P 04 40 05.9 +0.1**
baz=34,SNR=6.2
Q11A Duckwater 34.23 323 ⇓P **P 04 40 06.7 +0.7**
baz=34,SNR=7.6
R10A Warm Springs 34.27 321 ⇑P **P 04 40 07.2 +0.9**
baz=34
S09A Goldfield 34.49 320 ⇑P **P 04 40 08.5 +0.4**
baz=34
VES Vestal, Richgr 34.62 315 ⇑P **P 04 40 09.3 0.0**
baz=35
PKM Peak Mountain 34.64 314 ⇓P **P 04 40 09.8 +0.4**
baz=35
R09A Tonopah 34.71 321 ⇑P **P 04 40 11.4 +1.3**
baz=35
N13A Wendover, West 34.79 327 ⇓P **P 04 40 10.8 0.0**
baz=35
S08C White Mtn Res 34.95 319 ⇑P **P 04 40 12.8 +0.6**
baz=35
HELL Mitchell Peak, 35.05 317 ⇓P **P 04 40 14.0 +1.0**
baz=35
O11A Cowboy Ranch, 35.09 324 ⇓P **P 04 40 13.8 +0.4**
baz=35
M13A Montello 35.12 327 P **P 04 40 13.9 +0.3**
baz=35,SNR=12
N12A Clover Valley, 35.23 326 ⇓P **P 04 40 14.2 -0.4**
baz=35
MOOW Moose Ponds 35.28 333 *eP* **P 04 40 14.7 -0.3**
2.8nm,0.9s,mb4.1
R08A Mina 35.42 320 ⇑P **P 04 40 17.2 +1.0**
baz=35
L13A Double Diamond 35.53 328 ⇓P **P 04 40 17.0 -0.1**
baz=36
M12A Wells 35.56 327 ⇓P **P 04 40 16.8 -0.6**
baz=36,SNR=6.4
NVAR Mina Array Bea 35.59 320 P **P 04 40 18.5 +0.9**
6.6nm,0.7s,mb4.7,baz=141,slow=7.5,SNR=19
NVAR PcP PcP 04 42 46.9 +2.2
0.8nm,0.5s,baz=125,slow=4.7,SNR=2.9
NVAR Mina Array Bea 35.59 320 P **P 04 40 18.5 +0.8**
NVAR PcP PcP 04 42 46.9 +2.2
N11A Elko Archery C 35.60 325 ⇑P **P 04 40 18.1 +0.4**
baz=36
KCC Kaiser Creek 35.60 317 ⇑P **P 04 40 18.9 +1.2**
baz=36
Q08A Gabbs 35.62 321 ⇑P **P 04 40 19.1 +1.2**
baz=36
O10A Cortez Mining, 35.68 324 ⇑P **P 04 40 19.2 +0.8**
baz=36
O09A Fish Creek Ran 36.00 323 ⇑P **P 04 40 21.9 +0.8**
baz=36
K13A Stover Farm, H 36.01 329 ⇑P **P 04 40 20.8 -0.5**
baz=36
M11A Holland Ranch, 36.05 326 ⇑P **P 04 40 21.6 0.0**
baz=36
YMR Madison River 36.11 334 *eP* **P 04 40 19.7 -2.4**
9.7nm,0.8s,mb4.8
S06C San Francisco 36.26 318 ⇑P **P 04 40 24.5 +1.1**
baz=36
LPAZ La Paz 36.36 143 LR LR 04 55 13.1
comp=Z,57nm,19.5s,baz=262,slow=36
R06C Coleville 36.37 319 ⇑P **P 04 40 25.1 +0.8**
baz=36
K12A Draper Farm, C 36.42 328 ⇓P **P 04 40 25.0 +0.3**
baz=36
J13A Cove Ranch, Pi 36.61 330 ⇑P **P 04 40 26.3 0.0**
baz=37
HAST UC Hastings Re 36.61 314 ⇑P **P 04 40 27.7 +1.3**
baz=37
N09A Rock Creek Ran 36.63 324 ⇓P **P 04 40 27.1 +0.5**
baz=37
CMB Columbia Colle 36.70 318 ⇑P **P 04 40 28.0 +0.9**
baz=37
HLID Hailey 36.85 330 *eP* **P 04 40 27.7 -0.7**
9.6nm,1.6s,mb4.5
HLID Hailey 36.85 330 ⇓P **P 04 40 28.2 -0.1**
baz=37
N08A GE Springer Mi 36.94 323 ⇓P **P 04 40 29.9 +0.7**
baz=37
J12A Stokes Ranch, 36.96 329 ⇑P **P 04 40 29.1 -0.2**
baz=37
M09A Marrel Ranch, 36.96 324 ⇑P **P 04 40 29.7 +0.3**
baz=37
O07A Toulon 37.00 322 ⇓P **P 04 40 30.0 +0.4**
baz=37
MCMT McKenzie Canyo 37.06 332 *eP* **P 04 40 30.8 +0.6**
ULM Lac du Bonnet 37.16 353 P **P 04 40 30.0 -1.0**
7.5nm,0.7s,mb4.7,baz=171,slow=9.7,SNR=20
ULM LR LR 05 00 06.4
comp=Z,143nm,18.1s,baz=196,slow=44
ULM Lac du Bonnet 37.16 353 *eP* **P 04 40 29.4 -1.6**
9.2nm,0.8s,mb4.8
G15A Dillon 37.16 333 ⇓P **P 04 40 31.6 +0.6**
baz=37
LAVA Lava Cap Winer 37.33 318 ⇓P **P 04 40 33.2 +0.8**
baz=37
MFID Camas Ranch 37.45 328 ⇑P **P 04 40 33.3 -0.2**
baz=38
L09A Wilkinson Ranc 37.48 325 ⇑P **P 04 40 33.6 -0.1**
baz=38
M08A Happy Creek Ra 37.51 324 ⇑P **P 04 40 34.3 +0.3**
baz=38
K10A MacKenzie Ranc 37.55 327 ⇓P **P 04 40 33.4 -0.9**
baz=38
F15A Butte 37.70 334 ⇓P **P 04 40 35.0 -0.5**
baz=38
BEKR Beckwourth 37.73 320 ⇓P **P 04 40 36.2 +0.3**
baz=38
H12A Diamond D Ranc 37.79 330 ⇑P **P 04 40 35.4 -1.0**
baz=38,SNR=5.9
G13A Cobalt 37.90 331 ⇑P **P 04 40 36.8 -0.4**
baz=38
M07A Soldier Meadow 37.93 323 ⇓P **P 04 40 39.1 +1.5**
baz=38
L08A Fields 37.97 325 ⇓P **P 04 40 38.0 +0.1**
baz=38
F14A Wisdom 38.06 333 ⇓P **P 04 40 38.2 -0.4**
baz=38
O05C Quincy 38.13 320 ⇓P **P 04 40 40.3 +1.0**
baz=38
E15A Deer Lodge 38.22 334 ⇓P **P 04 40 38.9 -1.1**
baz=38
ORV Oroville 38.27 319 ⇑P **P 04 40 40.3 -0.1**
baz=38
WVOR Wild Horse Val 38.29 325 *eP* **P 04 40 40.2 -0.3**
8.9nm,1.0s,mb4.5
EGMT Eagleton 38.40 338 ⇓P **P 04 40 41.1 -0.3**
baz=39
K08A Mann Creek Ran 38.40 325 ⇓P **P 04 40 41.4 -0.1**
baz=38
J09A Fry Pan Ranch, 38.41 327 P **P 04 40 41.9 +0.3**
baz=38,SNR=9.1
L07A Adell 38.43 324 ⇑P **P 04 40 41.9 +0.1**
baz=38
H11A Donnelly 38.47 329 P **P 04 40 41.9 -0.2**
baz=39,SNR=6.4
F13A Darby 38.47 332 ⇑P **P 04 40 41.4 -0.7**
baz=39
E14A Clinton 38.58 333 ⇓P **P 04 40 42.1 -0.9**
baz=39
D15A Lincoln 38.66 335 ⇓P **P 04 40 43.4 -0.2**
baz=39
H10A Noah's Angus R 38.75 329 ⇓P **P 04 40 43.9 -0.5**
baz=39
K07A Rock Creek Ran 38.80 325 P **P 04 40 45.1 +0.3**
baz=39,SNR=5.5
J08A Circle Bar Ran 38.81 326 P **P 04 40 44.8 -0.1**
baz=39,SNR=6.0
I09A Lost Marbles R 38.83 327 ⇑P **P 04 40 44.6 -0.5**
baz=39,SNR=5.6
E13A Victor 38.90 333 ⇑P **P 04 40 44.2 -1.5**
baz=39
M05C Lookout 39.09 322 ⇓P **P 04 40 47.2 0.0**
baz=39
G11A Walters Elk Ra 39.09 330 P **P 04 40 46.5 -0.8**
baz=39,SNR=5.9
D14A Greenough 39.10 334 ⇑P **P 04 40 45.8 -1.5**
baz=39
I08A Drewsey 39.23 327 ⇑P **P 04 40 48.2 -0.3**
baz=39
D13A Huson 39.52 333 ⇓P **P 04 40 50.4 -0.5**
baz=40
E11A Bogner Ranch, 39.76 331 ⇑P **P 04 40 51.1 -1.7**
baz=40
I07A Izee 39.85 326 ⇓P **P 04 40 53.2 -0.4**
baz=40
F10A Beach Ranch, E 39.97 330 P **P 04 40 53.9 -0.7**
baz=40,SNR=5.2
F09A S2 Ranch, Elgi 40.12 329 ⇓P **P 04 40 55.2 -0.6**
baz=40
B13A Whitefish 40.52 335 ⇓P **P 04 40 57.3 -1.8**
baz=41
SIV San Ignacio 40.64 135 P **P 04 41 00.6 +0.6**
2.8nm,0.6s,mb4.2,baz=305,slow=8.2,SNR=26
D09A Jones Farm, Ri 41.27 330 ⇑P **P 04 41 03.9 -1.3**
baz=41
A12A Yaak River Ran 41.45 334 ⇓P **P 04 41 06.3 -0.4**
baz=42
D08A Wollman Farm, 41.57 330 ⇓P **P 04 41 06.7 -1.0**
baz=42
F06A Goldendale 41.64 327 ⇑P **P 04 41 08.0 -0.2**
baz=42
E07A Sunnyside 41.69 329 ⇑P **P 04 41 08.1 -0.6**
baz=42
H04A Detroit Lake 41.72 325 ⇑P **P 04 41 08.1 -0.8**
baz=42
A11A Hall Mountain, 41.77 334 ⇑P **P 04 41 09.3 -0.1**
baz=42
C08A Higginbotham F 42.14 331 ⇑P **P 04 41 11.6 -0.7**
baz=42
B09A Rice 42.17 332 ⇓P **P 04 41 11.6 -1.0**
baz=42
A09A Danville 42.77 332 ⇑P **P 04 41 16.9 -0.6**
baz=43
A07A Ashnola River, 43.66 331 ⇓P **P 04 41 24.0 -0.6**
baz=44
B06A Marblemount 43.83 330 ⇓P **P 04 41 24.9 -1.0**
baz=44
EDM Edmonton 44.00 340 *eP* **P 04 41 26.2 -1.1**
SCHQ Schefferville 45.12 19 P **P 04 41 36.5 +0.3**
14nm,0.7s,mb4.8,baz=215,slow=7.8,SNR=21
SCHQ LR LR 05 00 29.0
comp=Z,294nm,18.1s,baz=351,slow=36
FCC Fort Churchill 45.47 357 *eP* **P 04 41 38.0 -1.0**
5.9nm,1.0s,mb4.3
YKA Yellowknife Ar 52.20 346 P **P 04 42 29.3 -1.1**
3.9nm,0.7s,mb4.5,baz=147,slow=7.7,SNR=86
YKA PcP PcP 04 43 40.8 -0.2
0.4nm,0.7s,baz=150,slow=4.0,SNR=5.0
YKA LR LR 05 10 22.1
comp=Z,135nm,18.4s,baz=10.0,slow=43
YKA Yellowknife Ar 52.20 346 P **P 04 42 29.3 -1.1**
YKA PcP PcP 04 43 40.8 -0.2
YKA LR LR 05 10 22.1
PLCA Paso Flores 56.65 163 LR LR 05 03 05.2
comp=Z,158nm,21.4s,baz=5.8,slow=31
RCBR Riachuelo 56.74 106 *eP* **P 04 43 06.4 +3.1**
13nm,0.8s,mb5.0
RES Resolute Bay 61.41 358 *eP* **P 04 43 34.5 -1.2**
168nm,0.6s
INK Inuvik 61.71 343 LR LR 05 11 46.8
comp=Z,129nm,18.1s,baz=189,slow=38
JMIC Jan Mayen 74.62 20 LR LR 05 19 22.0
comp=Z,127nm,19.2s,baz=86,slow=37
ROSF Rostrenen 77.83 43 *eP* **P 04 45 16.8 +0.3**
55nm,1.3s,mb4.8
ROSF Rostrenen 77.83 43 *eP* **P 04 45 16.8 +0.3**
28nm,1.3s,mb4.8
QUIF Quistinic 77.95 43 *eP* **P 04 45 17.2 0.0**
SGMF Saint Gilles 78.32 43 *eP* **P 04 45 19.0 -0.2**
ESDC Sonseca Array 78.40 52 P **P 04 45 20.8 +1.1**
0.8nm,0.6s,mb3.6,baz=288,slow=5.7,SNR=8.3
GRR Gorron 79.42 43 *eP* **P 04 45 25.3 0.0**
9.9nm,0.8s,mb4.4
GRR Gorron 79.42 43 *eP* **P 04 45 25.3 0.0**
4.9nm,0.8s,mb4.4
FLN La Foliniere 79.62 42 *eP* **P 04 45 25.9 -0.4**
FLN *e*MLR
comp=Z,110nm,18.8s
FLN La Foliniere 79.62 42 *eP* **P 04 45 25.9 -0.4**
FLN LR LR
comp=Z,110nm,18.8s
LDF La Druitiere 79.88 42 *eP* **P 04 45 27.7 0.0**
SJPF Ste Jean 79.94 48 *eP* **P 04 45 27.9 -0.2**
MFF Saint Martin d 80.17 44 *eP* **P 04 45 29.4 +0.1**
ETSF Etsaut 80.46 48 *eP* **P 04 45 30.8 -0.1**
EPF Esparros 81.09 48 *eP* **P 04 45 34.0 -0.2**
RJF Les Rejaudoux 81.53 46 *eP* **P 04 45 36.4 -0.1**
RJF *e*MLR
comp=Z,151nm,17.5s
RJF Les Rejaudoux 81.53 46 *eP* **P 04 45 36.4 -0.1**
RJF LR LR
comp=Z,150nm,17.5s
TCF Toulx Ste Croi 81.82 44 *eP* **P 04 45 37.7 -0.4**
BGF Bois d'Agland 82.20 44 *eP* **P 04 45 39.8 -0.3**
MTLF Montolieu 82.38 47 *eP* **P 04 45 40.8 -0.2**
SSF Saint Saulge 82.55 44 *eP* **P 04 45 41.7 -0.2**
comp=Z,1.6nm,0.5s,mb3.8
SSF Saint Saulge 82.55 44 *eP* **P 04 45 41.7 -0.2**
comp=Z,0.8nm,0.5s,mb3.8
LOR Lormes 82.75 43 *eP* **P 04 45 42.7 -0.2**
comp=Z,3.0nm,0.7s,mb3.9
LOR *e*MLR
comp=Z,99nm,17.2s
LOR Lormes 82.75 43 *eP* **P 04 45 42.7 -0.2**
comp=Z,1.5nm,0.7s,mb3.9
LOR LR LR
comp=Z,100nm,17.3s
BILL Bilibino 82.90 338 *eP* **P 04 45 43.3 -0.3**
MEZF Maizieres J'vi 83.27 42 *eP* **P 04 45 45.3 -0.3**
comp=Z,6.2nm,0.7s,mb4.3
MEZF Maizieres J'vi 83.27 42 *eP* **P 04 45 45.3 -0.3**
comp=Z,6.2nm,0.7s,mb4.5
NB2 NORSAR Subarra 83.67 29 P **P 04 45 48.7 +1.0**
comp=Z,1.2nm,0.8s,mb3.8,baz=290,slow=5.1
NOA NORSAR Array B 83.67 29 P **P 04 45 47.8 +0.1**
comp=Z,1.4nm,0.7s,mb3.9,baz=291,slow=5.0,SNR=5.7
NOA LR LR 05 24 47.0
comp=Z,102nm,18.4s,baz=0.0,slow=37
VIVF Saint-Julien-l 83.81 46 *eP* **P 04 45 47.8 -0.5**
comp=Z,5.4nm,0.9s,mb4.1
VIVF Saint-Julien-l 83.81 46 *eP* **P 04 45 47.8 -0.5**
comp=Z,2.7nm,0.9s,mb4.1
HAU Haudompre 84.23 42 *eP* **P 04 45 50.3 -0.2**
HAU *e*MLR
comp=Z,90nm,20.2s
HAU Haudompre 84.23 42 *eP* **P 04 45 50.3 -0.2**
HAU LR LR
comp=Z,90nm,20.3s
HINF Hinteralfeld 84.60 42 *eP* **P 04 45 51.6 -0.8**
ORIF Oris-en-Rattie 84.63 45 *eP* **P 04 45 52.4 -0.1**
ORIF *e*MLR
comp=Z,120nm,17.8s
CDF Champ du Feu 84.74 42 *eP* **P 04 45 52.7 -0.3**
LPL La Plagne 85.07 45 *eP* **P 04 45 54.1 -0.6**
comp=Z,2.1nm,0.7s,mb3.9
LPL La Plagne 85.07 45 *eP* **P 04 45 54.1 -0.6**
comp=Z,1.0nm,0.7s,mb3.9
LPG La Plagne 85.09 45 *eP* **P 04 45 53.9 -0.9**
comp=Z,5.2nm,1.0s,mb4.1
LPG La Plagne 85.09 45 *eP* **P 04 45 53.9 -0.9**
comp=Z,2.6nm,1.0s,mb4.1
HFS Hagfors 85.11 29 LR LR 05 23 32.4
comp=Z,173nm,19.4s,baz=69,slow=36
MBDF Montbardon 85.29 45 *eP* **P 04 45 55.5 -0.3**
comp=Z,10nm,1.1s,mb4.4
MBDF Montbardon 85.29 45 *eP* **P 04 45 55.5 -0.3**
comp=Z,5.1nm,1.1s,mb4.4
TORD Torodi Ar. Bea 88.38 77 P **P 04 46 12.3 +1.5**
comp=Z,0.6nm,0.6s,mb3.8,baz=294,slow=5.0,SNR=6.5
TORD LR LR 05 23 15.4
comp=Z,57nm,18.0s,baz=350,slow=34
GERES GERESS Array B 88.70 40 P **P 04 46 13.9 +1.6**
comp=Z,0.9nm,0.3s,mb4.3,baz=297,slow=3.0,SNR=11
GERES LR LR 05 26 10.5
comp=Z,78nm,18.2s,baz=301,slow=36
FINES FINESS Array B 90.16 26 LR LR 05 25 01.4
comp=Z,170nm,18.0s,baz=350,slow=34
VAE Valguarnera 92.89 51 LR LR 05 25 31.4
comp=Z,108nm,18.6s,baz=120,slow=34
BOSA Boshof 118.08 115 PKP PKPdf 04 52 09.7 +4.4
comp=Z,3.9nm,0.8s,baz=288,slow=2.5,SNR=7.2
LZH Lanzhou 129.21 346 *e*PKP PKPdf 04 52 25.0 -1.7
LZH pPKP pPKPdf 04 52 45.8 -5.2
LZH sPKP 04 52 54.7
LZH LR LR
comp=Z,190nm,20.2s
WRA Warramunga Arr 137.36 255 PKP PKPdf 04 52 46.1 +4.1
comp=Z,1.0nm,0.9s,baz=84,slow=1.7,SNR=4.2
ASAR Alice Springs 137.51 250 PKhKP 04 52 40.2
comp=Z,0.4nm,0.6s,baz=103,slow=3.7,SNR=4.6
ASAR PKP PKPdf 04 52 46.8 +4.5
comp=Z,0.2nm,0.3s,baz=100,slow=2.8,SNR=4.1
FITZ Fitzroy Crossi 145.66 257 PKPbc PKPbc 04 53 02.9 +5.6
baz=15,slow=3.2

NEIC 27 04:42:44.7,3845S×17604E,h169km,MG4.5(WEL),After WEL.
WEL 27 04:42:45.7±0.3,3848S×17606E,h161km±2km,ML4.5/24,
Error ellipse: s-maj=1.8km s-min=1.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**0.18**	**58**	P	Pn	04 43 07.5	+0.3
PATZ	**Paeroa**	**0.18**	**58**	PN	Pn	04 43 07.5	+0.3
WHTZ	**Whakaora**	**0.20**	**203**	P	Pn	04 43 07.5	+0.3
WHTZ	**Whakaora**	**0.20**	**203**	PN	Pn	04 43 07.5	+0.3
UTU	**Utuhina**	**0.32**	**19**	P	Pn	04 43 07.7	+0.2
UTU				S	Sn	04 43 24.9	+0.7
UTU	**Utuhina**	**0.32**	**19**	PN	Pn	04 43 07.7	+0.2
UTU				SN	Sn	04 43 24.9	+0.7
WATZ	**Wairara**	**0.34**	**228**	P	Pn	04 43 07.7	+0.1
WATZ	**Wairara**	**0.34**	**228**	PN	Pn	04 43 07.7	+0.1
HATZ	**Hinemaiaia**	**0.41**	**177**	P	Pn	04 43 07.8	-0.1
HATZ	**Hinemaiaia**	**0.41**	**177**	PN	Pn	04 43 07.8	-0.1
RATZ	**Rangitukua**	**0.45**	**210**	P	Pn	04 43 07.9	-0.1
RATZ	**Rangitukua**	**0.45**	**210**	PN	Pn	04 43 07.9	-0.1
KARZ	**Kaharoa**	**0.48**	**18**	PN	Pn	04 43 08.0	-0.1
KARZ				SN	Sn	04 43 25.2	-0.1
RITZ	**Rihia Road**	**0.52**	**198**	PN	Pn	04 43 08.7	+0.4
KATZ	**Kakaramea**	**0.57**	**210**	P	Pn	04 43 08.7	+0.1
KATZ	**Kakaramea**	**0.57**	**210**	PN	Pn	04 43 08.7	+0.1
EDRZ	**Edgecumbe**	**0.65**	**55**	P	Pn	04 43 08.7	-0.3
EDRZ	**Edgecumbe**	**0.65**	**55**	PN	Pn	04 43 08.7	-0.3
KRVZ	**Karewarewa**	**0.70**	**208**	PN	Pn	04 43 09.3	0.0
WTVZ	**West Tongariro**	**0.74**	**210**	P	Pn	04 43 09.5	0.0
WTVZ	**West Tongariro**	**0.74**	**210**	PN	Pn	04 43 09.5	0.0
OTVZ	**Oturere**	**0.75**	**204**	PN	Pn	04 43 10.0	+0.3
TGRZ	**Tauranga**	**0.76**	**12**	P	Pn	04 43 09.5	-0.2
TGRZ				S	Sn	04 43 28.2	+0.1
TGRZ	**Tauranga**	**0.76**	**12**	PN	Pn	04 43 09.5	-0.3
TGRZ				SN	Sn	04 43 28.2	+0.2
BKZ	**Black Stump Fm**	**0.77**	**154**	P	Pn	04 43 10.0	+0.3
BKZ	**Black Stump Fm**	**0.77**	**154**	PN	Pn	04 43 10.0	+0.2
BKZ				SN	Sn	04 43 27.2	-0.9
TWVZ	**Taurewa**	**0.77**	**219**	P	Pn	04 43 09.7	0.0
TWVZ	**Taurewa**	**0.77**	**219**	PN	Pn	04 43 09.7	0.0
NGZ	**Ngauruhoe**	**0.78**	**207**	P	Pn	04 43 10.1	+0.2
NGZ	**Ngauruhoe**	**0.78**	**207**	PN	Pn	04 43 10.1	+0.2
WPVZ	**Whakapapa**	**0.83**	**209**	P	Pn	04 43 10.4	+0.2
WPVZ	**Whakapapa**	**0.83**	**209**	PN	Pn	04 43 10.4	+0.2
TUVZ	**Tukino**	**0.85**	**202**	P	Pn	04 43 10.7	+0.4
TUVZ	**Tukino**	**0.85**	**202**	PN	Pn	04 43 10.7	+0.3
URZ	**Urewera**	**0.85**	**76**	P	Pn	04 43 09.9	-0.4
URZ	**Urewera**	**0.85**	**76**	PN	Pn	04 43 09.9	-0.5
TOZ	**Tahuroa Road**	**0.87**	**329**	P	Pn	04 43 10.3	-0.1
TOZ	**Tahuroa Road**	**0.87**	**329**	PN	Pn	04 43 10.3	-0.2
FWVZ	**Far West T-bar**	**0.87**	**207**	P	Pn	04 43 10.4	-0.1
FWVZ	**Far West T-bar**	**0.87**	**207**	PN	Pn	04 43 10.4	0.0
DRZ	**Dome Shelter**	**0.89**	**206**	P	Pn	04 43 11.1	+0.5
DRZ	**Dome Shelter**	**0.89**	**206**	PN	Pn	04 43 11.1	+0.6
TRVZ	**Turoa**	**0.91**	**206**	PN	Pn	04 43 10.9	+0.1
WNVZ	**Wahianoa**	**0.92**	**203**	P	Pn	04 43 11.1	+0.2
WNVZ	**Wahianoa**	**0.92**	**203**	PN	Pn	04 43 11.1	+0.2
HIZ	**Hauiti**	**0.95**	**267**	P	Pn	04 43 10.8	-0.2
HIZ	**Hauiti**	**0.95**	**267**	PN	Pn	04 43 10.8	-0.2
MOVZ	**Moawhango**	**0.96**	**194**	P	Pn	04 43 11.0	-0.1
MOVZ	**Moawhango**	**0.96**	**194**	PN	Pn	04 43 11.0	-0.2
PKVZ	**Pokaka**	**0.98**	**214**	PN	Pn	04 43 11.3	0.0
MTVZ	**Mangateitei**	**1.02**	**207**	PN	Pn	04 43 11.7	+0.1
MWZ	**Matawai**	**1.16**	**83**	P	Pn	04 43 12.8	0.0
MWZ	**Matawai**	**1.16**	**83**	PN	Pn	04 43 12.8	-0.1
VRZ	**Vera Road**	**1.21**	**237**	P	Pn	04 43 12.9	-0.3
VRZ	**Vera Road**	**1.21**	**237**	PN	Pn	04 43 12.9	-0.3
KNZ	**Kokohu**	**1.37**	**114**	P	Pn	04 43 15.1	+0.3
KNZ	**Kokohu**	**1.37**	**114**	PN	Pn	04 43 15.1	+0.3
WAZ	**Wanganui**	**1.53**	**213**	P	Pn	04 43 16.1	-0.2
WAZ	**Wanganui**	**1.53**	**213**	PN	Pn	04 43 16.1	-0.2
RAEZ	**Rainy Point**	**1.53**	**238**	P	Pn	04 43 16.8	+0.4

RAEZ	**Rainy Point**	**1.53 238**	PN	Pn	04 43 16.8	+0.4
TSZ	**Takapari Road**	**1.58 183**	P	Pn	04 43 16.8	-0.1
TSZ	**Takapari Road**	**1.58 183**	PN	Pn	04 43 16.8	-0.1
TSZ			SN	Sn	04 43 38.9	-1.9
PXZ	**Pawanui**	**1.67 158**	PN	Pn	04 43 18.1	+0.2
PXZ			SN	Sn	04 43 42.4	-0.1
NEZ	**North Egmont**	**1.73 242**	P	Pn	04 43 18.5	+0.1
NEZ	**North Egmont**	**1.73 242**	PN	Pn	04 43 18.5	+0.1
PUZ	**Puketiti**	**1.77 78**	P	Pn	04 43 18.5	-0.5
PUZ	**Puketiti**	**1.77 78**	PN	Pn	04 43 18.5	-0.4
NRZ	**Ngariki Road**	**1.87 242**	P	Pn	04 43 19.5	-0.5
NRZ	**Ngariki Road**	**1.87 242**	PN	Pn	04 43 19.5	-0.4
MXZ	**Matakaoa Point**	**2.00 63**	P	Pn	04 43 21.1	-0.3
MXZ	**Matakaoa Point**	**2.00 63**	PN	Pn	04 43 21.1	-0.3
BFZ	**Birch Farm**	**2.21 176**	P	Pn	04 43 23.1	-0.7
BFZ	**Birch Farm**	**2.21 176**	PN	Pn	04 43 23.1	-0.7
MRZ	**Mangatainoka R**	**2.21 190**	P	Pn	04 43 22.9	-1.0
MRZ	**Mangatainoka R**	**2.21 190**	PN	Pn	04 43 22.9	-1.0
TIWZ	**Tintock**	**2.30 183**	PN	Pn	04 43 24.0	-0.9
KIW	**Kapiti Island**	**2.54 200**	P	Pn	04 43 26.1	-1.7
KIW	**Kapiti Island**	**2.54 200**	PN	Pn	04 43 26.1	-1.7
MTW	**Mount Morrison**	**2.71 189**	PN	Pn	04 43 28.1	-1.8
CAW	**Cannon Point**	**2.74 196**	P	Pn	04 43 28.4	-1.8
DUWZ	**D'Urville Isla**	**2.85 215**	PN	Pn	04 43 29.4	-2.2
TRWZ	**Traveller**	**2.93 185**	PN	Pn	04 43 30.8	-1.8
MRW	**Makara Radio**	**2.94 200**	P	Pn	04 43 30.6	-2.1
PAWZ	**Paruwai Farm**	**2.94 189**	P	Pn	04 43 30.7	-2.0
WEL	**Wellington**	**2.98 199**	P	Pn	04 43 31.1	-2.0
WEL	**Wellington**	**2.98 199**	PN	Pn	04 43 31.1	-2.1
MSWZ	**Moikau Station**	**3.00 192**	P	Pn	04 43 31.3	-2.1
MSWZ	**Moikau Station**	**3.00 192**	PN	Pn	04 43 31.3	-2.1
SNZO	**South Karori**	**3.01 200**	P	Pn	04 43 31.4	-2.2
TCW	**Tory Channel**	**3.06 206**	P	Pn	04 43 31.8	-2.4
BHW	**Baring Head**	**3.07 197**	P	Pn	04 43 32.0	-2.3
TUWZ	**Tuamarina**	**3.37 208**	PN	Pn	04 43 35.6	-2.5
NNZ	**Nelson**	**3.43 216**	P	Pn	04 43 36.1	-2.7
QRZ	**Quartz Range**	**3.60 228**	P	Pn	04 43 37.6	-3.4
BSWZ	**Blackbirch Sta**	**3.64 207**	P	Pn	04 43 38.9	-2.7
BSWZ	**Blackbirch Sta**	**3.64 207**	PN	Pn	04 43 38.9	-2.7
THZ	**Tophouse**	**4.08 215**	P	Pn	04 43 43.9	-3.3
THZ	**Tophouse**	**4.08 215**	PN	Pn	04 43 43.9	-3.3
KHZ	**Kahutara**	**4.38 205**	P	Pn	04 43 48.3	-2.8
DSZ	**Denniston Nort**	**4.62 224**	P	Pn	04 43 49.9	-4.3
LTZ	**Lake Taylor**	**5.18 213**	*e*P	Pn	04 43 57.4	-4.2
LTZ	**Lake Taylor**	**5.18 213**	PN	Pn	04 43 57.4	-4.1
MQZ	**McQueen's Vall**	**5.82 205**	*e*P	Pn	04 44 05.4	-4.7
LBZ	**Lake Benmore**	**7.37 215**	*e*P	Pn	04 44 26.3	-4.3
LBZ	**Lake Benmore**	**7.37 215**	PN	Pn	04 44 26.3	-4.3
ODZ	**Otahua Downs**	**7.71 210**	*e*P	Pn	04 44 30.2	-4.9

IDC 27 04:52:53.5±8.9, 646S×15159E, h62km±64km, mb3.6/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.7/5, ML2.8/1, Error ellipse: s-maj=59.7km s-min=53.0km az=93.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**236**	P	Pn	04 54 11.0	+1.3
	2.3nm,0.3s,baz=48,slow=12,SNR=5.7						
PMG				S	Sn	04 55 09.8	+0.7
	8.8nm,0.3s,baz=111,slow=17,SNR=8.4						
WRA	**Warramunga Arr**	**21.45**	**230**	P	P	04 57 36.5	-0.2
	1.9nm,0.8s,baz=54,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**24.12**	**223**	P	P	04 58 04.5	+1.1
	1.9nm,0.6s,baz=52,slow=9.1,SNR=18						
STKA	**Stephens Creek**	**26.95**	**199**	P	P	04 58 28.3	-0.8
	1.5nm,0.7s,baz=20,slow=12,SNR=4.1						
FITZ	**Fitzroy Crossi**	**27.82**	**243**	P	P	04 58 37.3	+0.4
	3.2nm,1.0s,baz=54,slow=11,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.62**	**285**	PKPbc	PKPbc	05 12 36.8	+0.8
	0.5nm,0.6s,baz=78,slow=2.6,SNR=13						

NIED ***27*** *05:02:00, 28.70N×130.20E, h20km, Mw4.3 Best double couple: M*$_0$*3.66000×10*^{15} *NP1:*ϕ_s*37.00000°,* δ*80.00000°,* λ*85.00000°. NP2:*ϕ_s*243.00000°,* δ*11.00000°,* λ*116.00000°.*
BJI ***27*** *05:02:23.8, 28.18N×130.66E, h34km, mB4.4, mb4.4, Ms4.0, Msz3.8*
SZGRF ***27*** *05:02:27.1, 25.06N×126.66E, h33km, mb4.4, Ryukyu Islands, Japan*
MOS ***27*** *05:02:29.3±1.0, 28.67N×130.14E, h33km, mb4.8/15, Error ellipse: s-maj=15.4km s-min=7.3km az=117.1*
JMA ***27*** *05:02:30.8±0.2, 28.70N×130.21E, h56km±4km, M4.2*
JMA Felt I J1.
ISCJB ***27*** *05:02:31.2±0.6, 28.73N±004×130.23E±006, h48km±4km, mb4.4/38, MS3.8/4, Error ellipse: s-maj=10.4km s-min=4.2km az=52.9*
IDC ***27*** *05:02:32.8±1.5, 28.78N×130.12E, h44km±13km, mb4.0/16, mb1 4.2/18, mb1mx4.1/26, mbtmp4.1/18, ML3.8/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/28, Error ellipse: s-maj=19.7km s-min=8.9km az=107.0*
NEIC ***27*** *05:02:32.4±0.9, 28.71N×130.15E, h44km±8km, mb4.4/14, Error ellipse: s-maj=8.3km s-min=6.3km az=90.0*
NEIC Recorded [1 JMA] on Kikaiga-shima.
ISC 27 05:02:32.0±0.6, 2871N±004×13025E±006, h41km±4km, n96, σ**0.86/102, mb4.4/38, MS3.8/4, 6C-4D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.46**	**211**	P	Pn	05 02 41.9	-0.5
JAM	**Amami Oshima**	**0.64**	**242**	P	Pn	05 02 43.5	-1.2
JAM				*e*S	Sn	05 02 53.2	-0.5
JNN	**Nakanoshima**	**1.17**	**344**	P	Pn	05 02 51.2	-0.7
JNN				*e*S	Sn	05 03 08.1	+1.4
JTK	**Tokunoshima**	**1.47**	**231**	P	Pn	05 02 56.1	+0.1
JTK				S	Sn	05 03 15.5	+1.5
JKC	**Kuchinoerabu**	**1.74**	**359**	P	Pn	05 02 59.7	-0.1
JTN	**Tanegashima 3**	**2.04**	**18**	P	Pn	05 03 03.5	-0.3
JTN				*e*S	Sn	05 03 28.2	+0.2
JTSR	**Tashiro 2**	**2.52**	**13**	P	Pn	05 03 10.0	-0.4
JTSR				*e*S	Sn	05 03 39.5	-0.3
JOW	**Kunigami**	**2.56**	**223**	P	Pn	05 03 11.0	0.0
	24nm,0.3s,baz=101,slow=21,SNR=30						
JOW				S	Sn	05 03 41.7	+0.8
	46nm,0.3s,baz=75,slow=20,SNR=7.5						
JOW	**Kunigami**	**2.56**	**223**	P	Pn	05 03 10.5	-0.5
JIH	**Iheya**	**2.62**	**231**	P	Pn	05 03 11.2	-0.6
JNU	**Nakatsue**	**4.43**	**7**	P	Pn	05 03 37.5	+0.8
	8.9nm,0.3s,baz=222,slow=19,SNR=14						
JNU				S	Sn	05 04 26.4	-0.6
	6.3nm,0.3s,baz=248,slow=12,SNR=4.7						
KSRS	**Korea Array**	**8.93**	**348**	P	Pn	05 04 40.9	+2.4
	baz=163,slow=15,SNR=7.4						
KSRS				LR	LR	05 08 17.9	
	comp=Z,253nm,18.8s,baz=162,slow=39						
CN2	**Changchun**	**15.54**	**347**	*e*P	Pn	05 06 13.3	+5.1
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				LR	LR		
	comp=N,400nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
ASAJ	**Asahikawa**	**18.27**	**29**	LR	LR	05 13 44.9	
	comp=Z,108nm,20.1s,baz=158,slow=37						
XAN	**Xi'an**	**18.95**	**292**	P	Pn	05 06 49.5	-1.1
XAN				AMB	AMB		
	comp=Z,14nm,0.7s						
HABR	**Khabarovsk**	**20.08**	**9**	P	P	05 07 03.1	+1.2
HABR				*e*S	S	05 10 45.3	+0.1
LZH	**Lanzhou**	**23.43**	**295**	*e*P	P	05 07 33.5	-4.0
LZH				AP		05 07 43.0	
LZH				XP	sP	05 07 47.3	-6.0
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.4						
LZH				LR	LR		
	comp=E,317nm,14.2s						
LZH				LR	LR		
	comp=Z,468nm,17.9s,MS4.0						
LZH	**Lanzhou**	**23.43**	**295**	*e*P	P	05 07 33.6	-3.9
LZH				*PP		05 07 43.1	
LZH				*SP	sP	05 07 47.2	-6.1
LZH				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.4						
LZH				MLR	MLR		
	comp=Z,470nm,17.9s,MS4.0						
LZH	**Lanzhou**	**23.43**	**295**	*e*P	P	05 07 33.6	-3.9
	comp=Z,26nm,1.5s,mb4.4						
LZH				pP		05 07 43.1	
LZH				sP	sP	05 07 47.2	-6.1
LZH				LR	LR		
	comp=Z,470nm,17.9s,MS4.0						
ULN	**Ulaanbaatar**	**26.23**	**323**	*c*P	P	05 08 03.1	+0.1
ULN	**Ulaanbaatar**	**26.23**	**323**	*e*P	P	05 08 02.6	-0.4
	comp=Z,1.8nm,0.5s,mb3.9						
SONM	**Songino Array**	**26.56**	**322**	P	P	05 08 05.6	-0.4
	comp=Z,1.1nm,0.3s,mb3.8,baz=137,slow=10,SNR=18						
SONM				LR	LR	05 19 57.8	
	comp=Z,185nm,19.3s,MS3.6,baz=145,slow=40						
GTA	**Gaotai**	**27.26**	**301**	*e*P	P	05 08 14.3	+2.0
GTA				AP	pP	05 08 18.3	-5.2
GTA				XP	sP	05 08 21.0	-7.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
YAK	**Yakutsk**	**33.32**	**360**	⇑*e*P	P	05 09 06.4	+0.5
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**34.03**	**281**	*e*P	P	05 09 12.5	+0.5
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**34.03**	**281**	*e*P	P	05 09 12.5	+0.5
	comp=Z,2.9nm,0.6s,mb4.4						
SEY	**Seymchan**	**37.14**	**17**	⇓*i*P	P	05 09 38.8	+0.1
JIRN	**Jiri**	**38.68**	**279**	*e*P	P	05 09 51.5	-0.2
GUN	**Gumba**	**38.90**	**280**	*e*P	P	05 09 54.2	+0.7
	comp=Z,12nm,0.3s,mb5.1						
PKI	**Pulchoki**	**39.38**	**279**	*e*P	P	05 09 57.4	-0.1
	comp=Z,9.2nm,0.5s,mb4.8						
PKI	**Pulchoki**	**39.38**	**279**	*e*P	P	05 09 57.4	-0.1
PKI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
KKN	**Kakani**	**39.44**	**280**	*e*P	P	05 09 58.5	+0.4
DMN	**Daman**	**39.63**	**280**	*e*P	P	05 10 00.0	+0.4
GKN	**Gorkha**	**39.95**	**280**	*e*P	P	05 10 02.5	+0.2
KOLN	**Koldanda**	**40.90**	**280**	*e*P	P	05 10 10.4	+0.3
	comp=Z,5.9nm,0.4s,mb4.6						
MK31	**Makanchi Array**	**41.28**	**309**	*e*P	P	05 10 12.4	-0.9
MKAR	**Makanchi Array**	**41.28**	**309**	P	P	05 10 12.2	-1.1
	comp=Z,1.9nm,0.6s,mb3.9,baz=96,slow=10,SNR=25						
MKAR				PcP	PcP	05 12 11.8	+0.5
	comp=Z,0.6nm,0.7s,baz=84,slow=5.1,SNR=3.7						
ZAL	**Zalesovo**	**41.43**	**320**	P	P	05 10 14.0	-0.4
	comp=Z,7.7nm,0.4s,mb4.7,baz=110,slow=8.8,SNR=23						
ZAL	**Zalesovo**	**41.43**	**320**	P	P	05 10 14.0	-0.4
NVS	**Novosibirsk**	**42.58**	**321**	*e*P	P	05 10 23.9	0.0
TIXI	**Tiksi**	**42.99**	**359**	⇑*e*P	P	05 10 26.3	-0.9
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
TIXI	**Tiksi**	**42.99**	**359**	*e*P	P	05 10 26.1	-1.1
	comp=Z,4.3nm,0.7s,mb4.3						
KURK	**Kurchatov**	**44.31**	**314**	*e*P	P	05 10 37.1	-0.7
KURK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
KURK	**Kurchatov**	**44.31**	**314**	*e*P	P	05 10 37.1	-0.7
	comp=Z,3.1nm,0.4s,mb4.4						
BILL	**Bilibino**	**44.76**	**18**	⇑*e*P	P	05 10 41.0	-0.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**46.58**	**303**	*e*P	P	05 10 55.0	-0.8
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**46.58**	**303**	*e*P	P	05 10 55.0	-0.7
	comp=Z,1.4nm,0.4s,mb4.2						
HNR	**Honiara**	**47.55**	**139**	LR	LR	05 27 42.4	
	comp=Z,41nm,18.2s,MS3.4,baz=0.3,slow=32						
WRA	**Warramunga Arr**	**48.53**	**175**	P	P	05 11 11.6	+0.7
	comp=Z,3.5nm,0.6s,mb4.5,baz=354,slow=8.4,SNR=8.9						
WB2	**Warramunga Arr**	**48.53**	**175**	*e*P	P	05 11 11.2	+0.2
BVAR	**Borovoye Array**	**49.66**	**317**	P	P	05 11 19.6	+0.1
	comp=Z,11nm,0.5s,mb5.1,baz=93,slow=9.7,SNR=72						
BVAR				PcP	PcP	05 12 40.0	-0.4
	comp=Z,1.1nm,0.6s,baz=64,slow=3.4,SNR=3.6						
BRVK	**Borovoye**	**49.73**	**317**	*e*P	P	05 11 19.6	-0.5
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
BRVK	**Borovoye**	**49.73**	**317**	*e*P	P	05 11 19.6	-0.5
	comp=Z,14nm,0.6s,mb5.2						
CTAO	**Charters Tower**	**50.92**	**160**	*e*P	P	05 11 27.7	-1.4
CTAO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CTAO	**Charters Tower**	**50.92**	**160**	*e*P	P	05 11 27.7	-1.4
	comp=Z,1.5nm,0.5s,mb4.2						
KBL	**Kabul**	**51.75**	**293**	*e*P	P	05 11 36.1	+0.8
ASAR	**Alice Springs**	**52.19**	**176**	P	P	05 11 38.8	+0.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=8.1,slow=14,SNR=23						
ARU	**Arti**	**56.58**	**321**	⇓*i*P	P	05 12 09.7	-0.8
ARU				*e*		05 14 15.2	
ARU				*e*S	S	05 19 54.6	-4.8
ARU				*e*SS	SS	05 23 46.0	-1.2
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
AKTO	**Aktyubinsk**	**57.39**	**314**	LR	LR	05 41 36.1	
	comp=Z,122nm,18.4s,MS4.0,baz=125,slow=41						
ORR	**Orenburg**	**59.28**	**315**	*e*P	P	05 12 29.5	+0.1
ORR				pmax	pmax		
	comp=Z,60nm,3.3s						
INK	**Inuvik**	**65.91**	**24**	P	P	05 13 14.3	+0.7
	comp=Z,0.9nm,0.6s,mb4.0,baz=244,slow=5.9,SNR=9.6						
INK	**Inuvik**	**65.91**	**24**	P	P	05 13 14.3	+0.7
JOF	**Joensuu**	**68.75**	**331**	*e*p	P	05 13 29.9	-1.7
	comp=Z,5.9nm,0.3s,mb5.0						
JOF	**Joensuu**	**68.75**	**331**	*e*P	P	05 13 29.9	-1.7
JOF				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.0						
KIV	**Kislovodsk**	**69.05**	**309**	⇑*e*P	P	05 13 30.0	-3.4
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KAF	**Kangasniemi**	**71.20**	**331**	*e*p	P	05 13 45.3	-1.3
	comp=Z,4.0nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**71.20**	**331**	*e*P	P	05 13 45.3	-1.3
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**71.59**	**331**	P	P	05 13 47.9	-1.1
	comp=Z,3.3nm,0.4s,mb4.6,baz=69,slow=6.0,SNR=33						
RES	**Resolute Bay**	**72.78**	**11**	*e*P	P	05 13 56.2	+0.1
	comp=Z,28nm,0.3s,mb5.7						
AKASG	**Malin Array Be**	**74.81**	**320**	P	P	05 14 07.2	-0.8
	comp=Z,4.5nm,0.4s,mb4.7,baz=60,slow=6.4,SNR=9.4						
AKASG	**Malin Array Be**	**74.81**	**320**	*i*P	P	05 14 08.0	0.0
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKBB	**Malin Array Si**	**74.81**	**320**	*e*P	P	05 14 07.5	-0.5
YKA	**Yellowknife Ar**	**75.53**	**26**	P	P	05 14 12.6	+0.5
	comp=Z,0.6nm,0.7s,mb3.6,baz=299,slow=5.7,SNR=16						
BRTR	**Keskin Array B**	**76.92**	**308**	P	P	05 14 20.9	+0.8
	comp=Z,2.9nm,0.6s,mb4.4,baz=98,slow=4.6,SNR=20						
HFS	**Hagfors**	**77.45**	**333**	P	P	05 14 21.5	-1.5
	comp=Z,1.5nm,0.5s,mb4.2,baz=76,slow=6.3,SNR=8.8						
NOA	**NORSAR Array B**	**77.88**	**334**	P	P	05 14 24.1	-1.3
	comp=Z,1.1nm,0.7s,mb3.9,baz=50,slow=5.6,SNR=3.2						
VRI	**Vrincioaia**	**78.56**	**316**	⇓*i*P	P	05 14 31.3	+2.2
BURAR	**Bucovina Array**	**78.59**	**318**	⇓*i*P	P	05 14 29.7	+0.4
MLR	**Muntele Rosu**	**79.22**	**316**	⇑*i*P	P	05 14 33.1	+0.3
BSEG	**Bad Segeberg**	**82.74**	**329**	*e*P	P	05 14 51.8	+0.3
CLL	**Collm**	**83.13**	**326**	*e*P	P	05 14 53.5	0.0
CLL	**Collm**	**83.13**	**326**	*i*P	P	05 14 53.4	-0.1
	comp=Z,27nm,1.7s,mb5.0						
TANN	**Tannenbergstha**	**83.95**	**325**	*e*P	P	05 14 58.0	+0.2
CLZ	**Clausthal**	**84.07**	**327**	*e*P	P	05 14 59.2	+0.9
KHC	**Kasperske Hory**	**84.18**	**324**	*e*P	P	05 14 59.5	+0.6
GEC2	**GERESS Array S**	**84.29**	**324**	*e*P	P	05 14 59.6	+0.1
GERES	**GERESS Array B**	**84.29**	**324**	P	P	05 14 59.9	+0.4
	comp=Z,1.2nm,0.7s,mb4.2,baz=47,slow=4.7,SNR=15						
ROTZ	**Rotzenmuhle**	**84.49**	**325**	*e*P	P	05 15 01.2	+0.7
GRA1	**Grafenberg Arr**	**85.03**	**325**	*e*P	P	05 15 04.1	+0.9
	comp=Z,3.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**85.03**	**325**	*e*P	P	05 15 04.1	+0.9
	comp=Z,3.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**85.03**	**325**	*e*P	P	05 15 04.1	+0.9
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**85.03**	**325**	*e*P	P	05 15 04.1	+0.9
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
FCC	**Fort Churchill**	**85.39**	**21**	*e*P	P	05 15 05.1	+0.1
FCC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
FCC	**Fort Churchill**	**85.39**	**21**	*e*P	P	05 15 05.1	+0.1
	comp=Z,0.9nm,0.6s,mb4.1						
EKA	**Eskdalemuir Ar**	**87.29**	**335**	P	P	05 15 13.3	-1.0
	comp=Z,1.0nm,0.6s,mb4.2,baz=46,slow=5.1,SNR=4.3						
PDAR	**Pinedale Array**	**90.11**	**40**	P	P	05 15 29.6	+1.9
	comp=Z,0.3nm,0.8s,mb3.7,baz=316,slow=5.1,SNR=2.9						

IDC 27 05:09:16.1±8.3, 628S×15133E, h73km±58km, mb3.6/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=85.0km s-min=36.5km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**233**	P	Pn	05 10 31.4	+0.5
	2.3nm,0.3s,baz=52,slow=8.6,SNR=5.8						
PMG				S	Sn	05 11 30.0	+0.8
	2.1nm,0.3s,baz=17,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**21.38**	**229**	P	P	05 13 57.4	-0.1
	2.2nm,0.9s,baz=54,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**24.08**	**222**	P	P	05 14 24.8	+0.1
	2.6nm,0.7s,baz=54,slow=9.1,SNR=20						
FITZ	**Fitzroy Crossi**	**27.68**	**243**	P	P	05 14 57.9	+0.8
	2.0nm,0.7s,baz=84,slow=10,SNR=3.4						
SONM	**Songino Array**	**66.81**	**329**	P	P	05 20 00.1	+0.1
	0.5nm,0.6s,baz=126,slow=2.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.33**	**285**	PKPbc	PKPbc	05 28 57.2	+0.7
	0.6nm,0.6s,baz=99,slow=2.4,SNR=7.0						

ISCJB ***27*** *05:19:31.8±4.0, 473N±05×1542E±06, h43km±15km, mb3.9/7, Error ellipse: s-maj=99.5km s-min=12.0km az=99.4*
MOS ***27*** *05:19:32.4±0.6, 47.37N×154.05E, h45km, mb4.2/6, Error ellipse: s-maj=28.4km s-min=20.4km az=92.4*
IDC ***27*** *05:20:44.6±6.7, 49.44N×149.95E, h552km±144km, mb2.8/8, mb1 2.9/8, mb1mx2.7/21, mbtmp2.8/8, Error ellipse: s-maj=169.3km s-min=22.1km az=171.0*
ISC 27 05:19:33.2±4.1, 473N±05×1543E±06, h46km±14km, n17, σ**0.50/17, mb3.9/7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.61**	**18**	*e*PN	Pn	05 20 26.7	+0.1
KUR	**Kuril'sk**	**4.93**	**248**	*e*PN	Pn	05 20 44.0	-0.6
KUR				*e*S	Sn	05 21 41.0	+0.7
SONM	**Songino Array**	**31.95**	**289**	P	P	05 25 54.3	-0.3
	0.3nm,0.5s,mb3.3,baz=66,slow=7.0,SNR=2.7						
ZAL	**Zalesovo**	**43.00**	**306**	P	P	05 27 27.3	-0.6
	0.7nm,0.3s,mb3.8,baz=61,slow=5.1,SNR=3.3						
ZAL	**Zalesovo**	**43.00**	**306**	P	P	05 27 27.3	-0.6
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.45**	**297**	P	P	05 28 02.8	-0.4
	comp=Z,1.1nm,0.8s,mb3.8,baz=69,slow=8.1,SNR=5.9						
MKAR	**Makanchi Array**	**47.45**	**297**	P	P	05 28 02.8	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.01**	**37**	P	Px	05 28 48.5	
	comp=Z,0.2nm,0.5s,baz=295,slow=7.1,SNR=9.9						
BVAR	**Borovoye Array**	**51.17**	**310**	P	P	05 28 31.6	0.0
	comp=Z,1.2nm,0.5s,mb4.0,baz=54,slow=8.7,SNR=8.3						
BVAR	**Borovoye Array**	**51.17**	**310**	P	P	05 28 31.6	0.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.92**	**335**	P	P	05 30 01.2	-0.1
	comp=Z,1.2nm,0.5s,mb4.2,baz=36,slow=7.8,SNR=10						
FINES	**FINESS Array B**	**63.92**	**335**	P	P	05 30 01.2	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**68.00**	**342**	P	P	05 30 28.2	+0.7
	comp=Z,1.0nm,0.5s,mb4.1,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**68.00**	**342**	P	P	05 30 28.6	+1.0
	comp=Z,1.4nm,0.6s,mb4.1,baz=26,slow=6.4,SNR=4.8						
NOA	**NORSAR Array B**	**68.00**	**342**	P	P	05 30 28.6	+1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.58**	**327**	P	P	05 30 49.9	+0.4
	comp=Z,0.6nm,0.4s,mb3.9,baz=34,slow=5.8,SNR=6.4						
AKASG	**Malin Array Be**	**71.58**	**327**	P	P	05 30 49.9	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

IDC ***27*** *05:21:10.2±2.1, 37.16N×74.55E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/22, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=45.1km s-min=30.0km az=154.0*
ISCJB ***27*** *05:21:11.8±3.3, 3738N±008×7433E±009, h15km±26km, mb3.2/3, Error ellipse: s-maj=13.

RDO				*e*SB	**Sb**	**05 24 17.2**	**-1.2**
MFT	**Murefte**	**1.68**	**39**	*e*PN	**Pn**	**05 23 55.7**	**-0.1**
MRMT	**Marmara Adasi**	**1.72**	**49**	*e*PN	**Pn**	**05 23 56.7**	**+0.3**
EDC	**Edincik**	**1.74**	**60**	*e*PN	**Pn**	**05 23 56.3**	**-0.4**
SMG	**Samos**	**1.94**	**157**	*e*PG	**Pg**	**05 24 02.3**	**-0.4**
SMG				*e*SN	**Sn**	**05 24 27.8**	**+3.6**
KCT	**Karacabey**	**2.05**	**67**	*e*PN	**Pn**	**05 24 01.4**	**+0.4**
DST	**Dursunbey**	**2.12**	**86**	*e*PN	**Pn**	**05 24 01.6**	**-0.4**
NVR	**Nevrokopi**	**2.41**	**321**	*e*PN	**Pn**	**05 24 07.7**	**+1.8**
EDRB	**Edirne**	**2.44**	**15**	*e*PN	**Pn**	**05 24 06.4**	**+0.1**
CTT	**Catalca**	**2.55**	**49**	*e*PN	**Pn**	**05 24 08.6**	**+0.8**
ULDT	**Uludag**	**2.59**	**75**	*i* P	**Pn**	**05 24 12.5**	**+4.2**
ULDT				*i* S	**Sn**	**05 24 44.3**	**+4.1**
YLV	**Yalova**	**2.88**	**67**	*e*PN	**Pn**	**05 24 13.3**	**+0.9**
ADVT	**Abdulvahap**	**3.11**	**71**	*e*PN	**Pn**	**05 24 16.9**	**+1.4**

*NEIC **27** 05:31:24.5, 3659N×963W, h20km, MN2.5(MDD), After MDD.*
*INMG **27** 05:31:24.9±1.1, 3662N×960W, h14km±21km, ML1.9, Error ellipse: s-maj=18.7km s-min=4.4km az=50.0*

MDD 27 05:31:23.6±1.9, 3666N×954W, h0km, mbLg2.3/6, Error ellipse: s-maj=16.6km s-min=10.9km az=73.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.10**	**36**	*e*P	Pg	05 31 45.1	+0.3
PTEO				*e*S	Sg	05 32 00.2	+1.1
PTEO				A		05 32 00.8	
	10.0nm,0.3s						
PTEO	**Sao Teotonio**	**1.10**	**36**	P	Pg	05 31 45.1	+0.3
PTEO				S	Sg	05 32 00.2	+1.1
	5.0nm,0.3s						
EGRO	**El Granado**	**1.86**	**61**	P	Pn	05 31 56.6	-0.2
	0.2nm,0.0s,SNR=11						
EGRO				S	Sn	05 32 18.5	-2.5
	3.0nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.91**	**44**	*e*Pn	Pn	05 31 55.9	-1.5
PBEJ				*e*Sn	Sn	05 32 19.9	-2.3
PBEJ				A		05 32 21.1	
	2.2nm,0.1s						
PBEJ	**Beja**	**1.91**	**44**	Pn	Pn	05 31 55.9	-1.5
PBEJ				Sn	Sn	05 32 19.9	-2.3
	1.1nm,0.1s						
MOE	**Montemor**	**2.09**	**26**	*e*Sn	Sn	05 32 23.9	-2.7
PLOU	**Loures**	**2.25**	**8**	*e*Sn	Sn	05 32 27.3	-3.2
PMAFR	**Mafra**	**2.31**	**5**	*e*Pn	Pn	05 32 01.1	-1.8
PMAFR				*e*Sn	Sn	05 32 28.5	-3.4
PMAFR				A		05 32 30.2	
	19nm,0.2s						
EMIN	**Mina Concepcio**	**2.54**	**63**	P	Pn	05 32 04.7	-1.5
	0.3nm,0.1s,SNR=7.1						
EMIN				S	Sn	05 32 34.4	-3.4
	1.0nm,0.1s						
PESTR	**Estremoz**	**2.69**	**34**	*e*Sn	Sn	05 32 38.3	-3.2
EBAD	**Badajoz**	**2.90**	**43**	P	Pn	05 32 09.2	-1.9
	0.2nm,0.1s,SNR=6.7						
EBAD				S	Sn	05 32 43.3	-3.3
	1.1nm,0.1s,SNR=6.1						
ESPR	**Espera**	**2.96**	**85**	P	Pn	05 32 10.6	-1.4
	1.5nm,0.1s,SNR=5.6						
ESPR				S	Sn	05 32 44.9	-3.3
	18nm,0.3s						
EJIF	**Jimena Fronter**	**3.28**	**92**	P	Pn	05 32 14.3	-2.0
	2.4nm,0.1s,SNR=4.0						
PCBR	**Castelo Branco**	**3.57**	**26**	*e*Pn	Pn	05 32 18.7	-1.6
PCBR				*e*Sn	Sn	05 32 59.9	-3.2
MTE	**Manteigas**	**4.05**	**22**	*e*Sn	Sn	05 33 11.1	-4.0
EADA	**Adamuz**	**4.23**	**68**	P	Pn	05 32 28.4	-0.9
	0.2nm,0.1s,SNR=6.3						
EADA				S	Sn	05 33 14.1	-5.3
	0.7nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.25**	**17**	*e*Pn	Pn	05 32 28.5	-1.2
PVIS				*e*Sn	Sn	05 33 15.4	-4.6
EQES	**Quesada**	**5.29**	**76**	S	Sn	05 33 41.0	-4.4
	0.3nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.33**	**54**	P	Pn	05 32 43.2	-1.3
	0.5nm,0.1s,baz=238,slow=14,SNR=3.8						
ESDC				S	Sn	05 33 42.7	-3.8
	0.6nm,0.2s,baz=238,slow=23,SNR=7.9						
ELOB	**Lobios**	**5.33**	**12**	S	Sn	05 33 40.4	-6.2
	1.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.71**	**22**	S	Sn	05 33 51.9	-4.0
	1.2nm,0.2s,SNR=7.9						

MEX 27 05:32:43.7±0.6, 1625N×9891W, h20km±53km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.77**	**79**	*i* P	Pb	05 32 56.5	-1.9
PNIG				*i* S	Sb	05 33 05.2	-3.1
ACX	**Acapulco**	**1.15**	**303**	*i* P	Pn	05 33 01.0	-3.6
MEIG	**Mezcala**	**1.80**	**338**	*i* P	Pn	05 33 11.4	-2.2
MEIG				*i* S	Sn	05 33 32.9	-3.0
UTMO	**Huajuapan**	**1.90**	**34**	*i* P	Pn	05 33 12.0	-2.9
UTMO				*i* S	Sn	05 33 35.0	-3.2
PLIG	**Platanillo**	**2.21**	**345**	*i* P	Pn	05 33 16.7	-2.5
PLIG				*i* S	Sn	05 33 42.2	-3.7
VHO	**Vista Hermosa**	**2.24**	**68**	*i* P	Pn	05 33 16.7	-3.0
VHO				*i* S	Sn	05 33 43.9	-2.9
TPIG	**Tehuac#an**	**2.62**	**34**	*i* S	Sn	05 33 53.0	-3.0

*ISCJB **27** 05:41:42.2±0.5, 1076N±003×6183W±003, h60km±6km, Error ellipse: s-maj=5.8km s-min=4.2km az=64.7*
*FUNV **27** 05:41:42.9, 1085N×6170W, h36km, MW2.8*
*NEIC **27** 05:41:45.2, 1090N×6170W, h30km, MD2.9(TRN), After TRN.*
*TRN **27** 05:41:45.2, 1090N×6170W, h30km, MD2.9*

ISC 27 05:41:43.3±0.5, 1078N±003×6183W±003, h52km±7km, n25, σ1§18/46, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.11**	**136**	*e*P	**Pn**	**05 41 51.7**	**+0.4**
TCE				*e*S	**Sn**	**05 41 56.1**	**-1.0**
GUIV	**Guiria**	**0.41**	**251**	‖*e*P	**Pn**	**05 41 54.3**	**+0.7**
GUIV				*e*S	**Sn**	**05 42 02.2**	**+1.2**
TRN	**Trinidad (W)**	**0.44**	**107**	*e*P	**Pn**	**05 41 53.7**	**-0.3**
TRN				*e*S	**Sn**	**05 42 00.7**	**-0.9**
TPP	**Pointe-a-Pierr**	**0.59**	**141**	*e*P	**Pn**	**05 41 58.3**	**+2.5**
TPP				*e*S	**Sn**	**05 42 13.7**	**+9.0**
TBH	**Brigand Hill**	**0.81**	**111**	*e*P	**Pn**	**05 42 00.3**	**+1.8**
TBH				*e*S	**Sn**	**05 42 10.3**	**+0.7**
TPR	**Prospect**	**1.11**	**68**	*e*P	**Pn**	**05 42 01.3**	**-1.3**
TPR				*e*S	**Sn**	**05 42 15.7**	**-1.2**
GUNV	**Guanoco**	**1.25**	**241**	*e*P	**Pn**	**05 42 05.6**	**+1.2**
GRW	**Mount Saint Ca**	**1.38**	**7**	*e*P	**Pn**	**05 42 04.7**	**-1.5**
GRW				*e*S	**Sn**	**05 42 23.6**	**+0.2**
CRUV	**Carupano**	**1.39**	**266**	*e*P	**Pn**	**05 42 06.2**	**0.0**
CRUV				*e*S	**Sn**	**05 42 22.6**	**-0.9**
ITEV	**Isla Los Testi**	**1.40**	**294**	*e*P	**Pn**	**05 42 06.2**	**-0.3**
ITEV				*e*S	**Sn**	**05 42 23.8**	**0.0**
GRHS	**Sauteurs**	**1.45**	**7**	*e*P	**Pn**	**05 42 05.7**	**-1.4**
GRHS				*e*S	**Sn**	**05 42 21.5**	**-3.5**
GRSS	**Sisters**	**1.53**	**8**	*e*P	**Pn**	**05 42 07.0**	**-1.2**
GRSS				*e*S	**Sn**	**05 42 26.3**	**-0.6**
FCV	**Fort Charlotte**	**2.43**	**14**	*e*P	**Pn**	**05 42 20.9**	**+0.3**
FCV				*e*S	**Sn**	**05 42 50.7**	**+1.6**
SVB	**Belmont**	**2.54**	**13**	*e*P	**Pn**	**05 42 22.8**	**+0.7**
SVB				*e*S	**Sn**	**05 42 49.1**	**-2.8**
SVV	**Soufriere Volc**	**2.60**	**13**	*e*P	**Pn**	**05 42 23.4**	**+0.6**
BHS	**Barnard House**	**2.60**	**15**	*e*P	**Pn**	**05 42 24.1**	**+1.3**
BHS				*e*S	**Sn**	**05 42 56.3**	**+3.2**
SSV	**Crater Summit**	**2.61**	**14**	*e*P	**Pn**	**05 42 23.6**	**+0.6**
SSV				*e*S	**Sn**	**05 42 55.3**	**+1.9**
SSV	**Crater Summit**	**2.61**	**14**	*e*P	**Pn**	**05 42 23.2**	**+0.2**
SSV				*e*P		05 42 23.6	
SSV				*e*S	**Sn**	**05 42 55.3**	**+1.9**
RIOV	**Rio Grande**	**2.69**	**180**	*e*P	**Pn**	**05 42 24.2**	**+0.2**
RIOV				*e*S	**Sn**	**05 42 54.8**	**-0.7**
PCRV	**Puerto La Cruz**	**2.82**	**258**	*e*P	**Pn**	**05 42 26.7**	**+0.8**
SLB				*e*S	**Sn**	**05 43 06.0**	**-0.2**
SLB	**Belfond**	**3.13**	**14**	*e*S	**Sn**	**05 43 04.0**	**-2.1**
CUPV	**Cœpira**	**3.96**	**260**	*e*P	**Pn**	**05 42 42.3**	**+0.9**
LUEV	**Luepa**	**4.92**	**176**	*e*P	**Pn**	**05 42 53.4**	**-1.2**
LUEV				*e*S	**Sn**	**05 43 44.8**	**-5.4**
CAOV	**Caicara del Or**	**5.61**	**233**	*e*P	**Pn**	**05 43 04.1**	**0.0**
CAOV				*e*S	**Sn**	**05 44 03.2**	**-3.9**
BAUV	**El Baul**	**6.38**	**254**	*e*P	**Pn**	**05 43 14.3**	**-0.4**
BAUV				*e*S	**Sn**	**05 44 23.2**	**-3.1**

*IDC **27** 06:06:46.6±0.7, 969S×107.40E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.2/9, ML3.7/1, MS3.5/5, Ms1 3.5/5, ms1mx3.0/25, Error ellipse: s-maj=25.3km s-min=17.6km az=55.0*
*NEIC **27** 06:06:48.4±0.3, 972S×10741E, h10km, mb4.9/8, Error ellipse: s-maj=14.4km s-min=5.8km az=45.0*
*ISCJB **27** 06:06:49.9±0.5, 974S±010×1074E±0.1, h33km, mb4.5/15, MS3.6/4, Error ellipse: s-maj=18.5km s-min=8.5km az=91.9*

ISC 27 06:06:53.4±5.9, 98S±01×1074E±01, h46km±57km, n30, σ0§65/24, mb4.5/15, MS3.6/4, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.09**	**325**	LR	LR	06 17 57.1	
	comp=Z,101nm,18.0s,baz=321,slow=45						
FITZ	**Fitzroy Crossi**	**19.50**	**117**	P	**Pn**	**06 11 17.5**	**-0.7**
	0.2nm,0.3s,baz=253,slow=10,SNR=4.5						
KAKA	**Kakadu**	**24.69**	**99**	*e*P	**P**	**06 12 10.2**	**+0.2**
	14nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**24.76**	**160**	LR	LR	06 20 22.2	
	comp=Z,106nm,20.8s,MS3.3,baz=342,slow=33						
WRA	**Warramunga Arr**	**27.86**	**114**	P	**P**	**06 12 38.4**	**-0.1**
	2.8nm,0.7s,mb4.0,baz=286,slow=11,SNR=10						
WRA				PcP	PcP	06 15 54.6	+1.0
	0.6nm,0.6s,baz=296,slow=1.7,SNR=3.9						
WB2	**Warramunga Arr**	**27.87**	**114**	*e*P	**P**	**06 12 38.5**	**-0.2**
ASAR	**Alice Springs**	**28.80**	**122**	P	**P**	**06 12 47.3**	**+0.3**
	1.6nm,0.8s,mb3.8,baz=301,slow=8.5,SNR=9.1						
ASAR				PcP	PcP	06 15 56.8	+0.9
	0.7nm,0.6s,baz=300,slow=2.2,SNR=10						
STKA	**Stephens Creek**	**38.51**	**130**	*e*P	**P**	**06 14 11.5**	**+0.3**
	5.1nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**38.51**	**130**	P	**P**	**06 14 11.5**	**+0.3**
	6.7nm,0.8s,mb4.4,baz=306,slow=9.1,SNR=16						
CTA	**Charters Tower**	**38.79**	**110**	*e*P	**P**	**06 14 15.3**	**+1.7**
	2.4nm,0.6s,mb4.1						
LSA	**Lhasa**	**42.25**	**339**	*e*P	**P**	**06 14 43.1**	**+1.0**
PKI	**Pulchoki**	**42.81**	**331**	*e*P	**P**	**06 14 46.5**	**-0.1**
GUN	**Gumba**	**42.87**	**331**	*e*P	**P**	**06 14 47.6**	**+0.5**
	28nm,0.6s,mb5.2						
DMN	**Daman**	**42.99**	**330**	*e*P	**P**	**06 14 48.2**	**+0.1**
	17nm,0.6s,mb4.9						
KKN	**Kakani**	**43.06**	**331**	*e*P	**P**	**06 14 48.6**	**0.0**
	22nm,0.9s,mb4.9						
GKN	**Gorkha**	**43.55**	**330**	*e*P	**P**	**06 14 52.6**	**0.0**
	12nm,0.5s,mb4.8						
KOLN	**Koldanda**	**43.87**	**329**	*e*P	**P**	**06 14 55.3**	**+0.1**
	18nm,0.7s,mb4.9						
MJAR	**Matsushiro Arr**	**54.39**	**30**	P	**P**	**06 16 14.2**	**-1.4**
	1.1nm,0.4s,mb4.1,baz=207,slow=7.5,SNR=3.6						
SONM	**Songino Array**	**57.34**	**359**	P	**P**	**06 16 36.6**	**-0.1**
	1.0nm,0.6s,mb4.0,baz=177,slow=8.6,SNR=10.0						
MK31	**Makanchi Array**	**60.61**	**340**	*e*P	**P**	**06 16 59.1**	**-0.4**
MK31				*e*pP	pP	06 17 09.9	-2.6
MKAR	**Makanchi Array**	**60.61**	**340**	P	**P**	**06 16 58.9**	**-0.5**
	2.9nm,0.6s,mb4.6,baz=140,slow=7.8,SNR=36						
MKAR				LR	LR	06 47 35.9	
	comp=Z,51nm,18.7s,MS3.7,baz=356,slow=40						
MKAR	**Makanchi Array**	**60.61**	**340**	P	**P**	**06 16 58.9**	**-0.5**
MKAR				LR	LR	06 47 35.9	
MAW	**Mawson**	**64.87**	**197**	P	**P**	**06 17 27.3**	**-0.5**
	3.1nm,0.9s,mb4.3,baz=119,slow=19,SNR=2.8						
MAW				LR	LR	06 38 58.0	
	comp=Z,64nm,21.0s,MS3.8,baz=240,slow=30						
SYO	**Syowa Base**	**73.08**	**200**	‖*e*P	**P**	**06 18 17.8**	**-0.9**
MATP	**Matopo**	**76.36**	**251**	P	**P**	**06 18 38.4**	**+0.7**
	2.3nm,0.7s,mb4.2,baz=122,slow=5.8,SNR=8.2						
MATP	**Matopo**	**76.36**	**251**	P	**P**	**06 18 38.4**	**+0.7**
BOSA	**Boshof**	**78.58**	**243**	LR	LR	06 48 55.9	
	comp=Z,25nm,20.3s,MS3.5,baz=14,slow=32						
YKA	**Yellowknife Ar**	**119.28**	**21**	PKP	PKPdf	06 25 36.9	-0.6
	0.4nm,0.6s,baz=332,slow=1.6,SNR=21						
JCT	**Junction City**	**147.31**	**47**	*e*PKPab	PKPab	06 26 33.9	+0.2
WVT	**Waverly**	**150.31**	**25**	*e*PKPbc	PKPbc	06 26 40.2	+0.7

*ISCJB **27** 06:20:10.2±3.1, 215N±02×121.1E±03, h29km±29km, mb3.8/3, Error ellipse: s-maj=53.0km s-min=8.1km az=57.2*
*JMA **27** 06:20:10.8±0.4, 2169N×12093E, h138km, M3.0*
*IDC **27** 06:20:23.0±1.3, 1959N×12170E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=57.4km s-min=23.7km az=86.0*
*NEIC **27** 06:20:28.3±1.0, 1958N×12178E, h35km, Error ellipse: s-maj=40.3km s-min=16.1km az=93.0*

ISC 27 06:20:10.8±3.1, 215N±02×1211E±03, h20km±25km, n12, σ0§61/15, mb3.8/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.45**	**31**	P	**Pn**	**06 21 02.9**	**-0.5**
YOJ				*e*S	**Sn**	**06 21 43.7**	**0.0**
HATJ	**Hateruma jima**	**3.59**	**44**	P	**Pn**	**06 21 05.4**	**+0.1**
HATJ				*e*S	**Sn**	**06 21 47.6**	**+0.5**
IRIF	**Iriomote-Funau**	**3.74**	**40**	*e*S	**Sn**	**06 21 52.0**	**+1.1**
JKRS	**Kuro-shima**	**3.85**	**44**	P	**Pn**	**06 21 09.2**	**+0.4**
JKRS				*e*S	**Sn**	**06 21 53.0**	**-0.5**
JIJ	**Ishigaki jima**	**4.02**	**44**	P	**Pn**	**06 21 11.2**	**0.0**
JIJ				*e*S	**Sn**	**06 21 56.1**	**-1.7**
JTJ	**Tarama**	**4.58**	**46**	P	**Pn**	**06 21 19.0**	**+0.1**
JTJ				*e*S	**Sn**	**06 22 11.9**	**+0.3**
MJAR	**Matsushiro Arr**	**21.15**	**41**	P	Px	06 25 21.8	
	2.3nm,0.4s,baz=229,slow=13,SNR=6.7						
WRA	**Warramunga Arr**	**43.18**	**162**	P	**P**	**06 28 09.8**	**-0.4**
	1.8nm,0.6s,mb4.0,baz=343,slow=9.0,SNR=7.3						
ASAR	**Alice Springs**	**46.59**	**164**	P	**P**	**06 28 37.5**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=336,slow=6.7,SNR=8.7						
STKA	**Stephens Creek**	**56.59**	**159**	P	**P**	**06 29 52.5**	**+0.3**
	1.3nm,0.9s,mb4.0,baz=349,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**56.59**	**159**	P	**P**	**06 29 52.5**	**+0.3**
NOA	**NORSAR Array B**	**80.54**	**332**	P	Px	06 32 47.4	
	0.5nm,0.7s,baz=74,slow=5.1,SNR=2.7						

*CSEM **27** 06:49:53.9±0.5, 3129N×679W, h2km, MD3.4, Error ellipse: s-maj=12.0km s-min=8.1km az=152.0*
*MDD **27** 06:49:54.4±2.0, 3140N×7.13W, h0km, mb4.4/1, Error ellipse: s-maj=18.5km s-min=13.3km az=164.0*
*NEIC **27** 06:49:54.2, 3144N×708W, h0km, MG3.8(MDD), After MDD.*
*INMG **27** 06:49:56.3±0.4, 3160N×648W, h6km±21km, Error ellipse: s-maj=19.0km s-min=10.9km az=4.0*
*CNRM **27** 06:49:56.2, 3131N×686W, h3km, MD3.4*
*ISCJB **27** 06:49:58.1±1.0, 3186N±006×724W±005, h10km, Error ellipse: s-maj=8.4km s-min=6.2km az=27.2*

ISC 27 06:49:58.5±1.0, 3173N±006×713W±005, h10km, n21, σ1§01/33, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZC	**Tazercounte**	**0.68**	**53**	P	**Pg**	**06 50 12.0**	**+0.3**
TZC				S	**Sg**	**06 50 25.0**	**+4.4**
TZC	**Tazercounte**	**0.68**	**53**	*i* P	**Pg**	**06 50 12.0**	**+0.3**
KIB	**El Ksiba**	**1.25**	**47**	P	**Pn**	**06 50 20.5**	**-1.5**
KIB				S	**Sb**	**06 50 40.0**	**+1.7**
KIB	**El Ksiba**	**1.25**	**47**	*i* P	**Pn**	**06 50 20.5**	**-1.5**
CIA	**Chichaoua**	**1.40**	**264**	*i* P	**Pn**	**06 50 24.5**	**+0.4**
CZD	**Col de Zad**	**2.19**	**53**	P	**Pn**	**06 50 34.5**	**-0.4**
CZD				S	**Sn**	**06 51 02.0**	**-0.1**
CZD	**Col de Zad**	**2.19**	**53**	*i* P	**Pn**	**06 50 34.5**	**-0.4**
MIF	**Mishlifen**	**2.32**	**43**	P	**Pn**	**06 50 36.0**	**-0.7**
MIF				S	**Sn**	**06 51 05.0**	**-0.2**
MIF	**Mishlifen**	**2.32**	**43**	*e*P	**Pn**	**06 50 36.0**	**-0.7**
TGT	**Taghat**	**2.91**	**36**	P	**Pn**	**06 50 46.0**	**+1.2**
TGT				S	**Sn**	**06 51 23.0**	**+3.1**
TGT	**Taghat**	**2.91**	**36**	*e*P	**Pn**	**06 50 46.0**	**+1.2**
EGRO	**El Granado**	**5.79**	**357**	P	**Pn**	**06 51 24.9**	**+0.4**
	3.2nm,0.2s,SNR=7.3						
EGRO				S	**Sn**	**06 52 30.8**	**-0.1**
	1.1nm,0.4s						
PTEO	**Sao Teotonio**	**5.95**	**348**	*e*Pn	**Pn**	**06 51 27.8**	**+1.3**
PTEO				*e*Sn	**Sn**	**06 52 36.7**	**+2.0**
EMIN	**Mina Concepcio**	**6.03**	**3**	P	**Pn**	**06 51 27.2**	**-0.6**
	0.3nm,0.1s,SNR=8.7						
EMIN				S	**Sn**	**06 52 35.2**	**-1.6**
	1.9nm,0.2s						
PBEJ	**Beja**	**6.31**	**355**	*e*Pn	**Pn**	**06 51 31.8**	**+0.3**
PBEJ				*e*Sn	**Sn**	**06 52 43.8**	**+0.2**
EADA	**Adamuz**	**6.75**	**17**	P	**Pn**	**06 51 36.8**	**-0.8**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**06 52 53.6**	**-0.9**
	0.8nm,0.2s,SNR=7.9						
MOE	**Montemor**	**6.85**	**352**	*e*Sn	**Sn**	**06 52 57.9**	**+1.0**
EBAD	**Badajoz**	**7.01**	**1**	P	**Pn**	**06 51 40.9**	**-0.2**
	0.4nm,0.3s,SNR=9.3						
EBAD				S	**Sn**	**06 52 58.7**	**-2.1**
	1.6nm,0.2s						
PESTR	**Estremoz**	**7.13**	**357**	*e*Pn	**Pn**	**06 51 43.1**	**+0.3**
PESTR				*e*Sn	**Sn**	**06 53 03.3**	**-0.5**
PCBR	**Castelo Branco**	**8.09**	**358**	*e*Pn	**Pn**	**06 51 56.2**	**+0.2**
KBS	**Kingsbay**	**47.99**	**5**	*e*P	**P**	**06 58 36.7**	**-0.8**

WEL 27 07:37:17.1±0.2, 4518S×16732E, h115km±1km, ML3.5/9, Error ellipse: s-maj=2.1km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.32**	**202**	PN	Pn	07 37 33.1	-0.4
DCZ				SN	Sn	07 37 45.0	-0.7
MLZ	**Mavora Lakes**	**0.62**	**106**	PN	Pn	07 37 35.0	-0.2
MLZ				SN	Sn	07 37 48.6	-0.3
MSZ	**Milford Sound**	**0.67**	**40**	PN	Pn	07 37 35.5	-0.1
MSZ				SN	Sn	07 37 48.9	-0.6
WHZ	**Wether Hill Ro**	**0.83**	**148**	PN	Pn	07 37 37.1	+0.1
WHZ				SN	Sn	07 37 51.2	-0.9
WKZ	**Wanaka**	**1.25**	**74**	PN	Pn	07 37 41.2	-0.1
WKZ				SN	Sn	07 37 59.0	-0.7
EAZ	**Earnscleugh**	**1.41**	**93**	PN	Pn	07 37 42.7	-0.3
APZ	**The Paps**	**1.71**	**164**	PN	Pn	07 37 46.5	-0.2
TUZ	**Tuapeka**	**1.80**	**116**	PN	Pn	07 37 47.5	-0.2
SYZ	**Scrubby Hill**	**1.86**	**137**	PN	Pn	07 37 48.4	-0.1
LBZ	**Lake Benmore**	**2.19**	**70**	PN	Pn	07 37 50.8	-1.8
FOZ	**Fox Glacier**	**2.35**	**47**	PN	Pn	07 37 53.9	-0.7
ODZ	**Otahua Downs**	**2.36**	**88**	PN	Pn	07 37 53.3	-1.4
HHSZ	**Highcliff Hill**	**2.41**	**108**	PN	Pn	07 37 54.9	-0.5
RPZ	**Rata Peaks**	**3.05**	**63**	PN	Pn	07 38 01.2	-2.6
WVZ	**Waitaha Valley**	**3.24**	**51**	PN	Pn	07 38 03.8	-2.5

IDC 27 07:50:46.9±3.0, 620S×15151E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, ML2.3/1, Error ellipse: s-maj=151.5km s-min=37.8km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**233**	Pn	Pn	07 52 09.1	+1.0
	0.6nm,0.3s,baz=73,slow=11,SNR=2.2						
PMG				Sn	Sn	07 53 10.8	+0.4
	1.7nm,0.3s,baz=197,slow=20,SNR=4.5						
WRA	**Warramunga Arr**	**27.58**	**229**	P	P	07 55 38.2	+0.4
	0.7nm,0.8s,baz=54,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**24.25**	**222**	P	P	07 56 05.7	+0.2
	0.6nm,0.7s,baz=51,slow=10,SNR=6.5						
TORD	**Torodi Ar. Bea**	**149.47**	**285**	PKPbc	PKPbc	08 10 38.7	+0.7
	0.2nm,0.4s,baz=61,slow=3.9,SNR=3.0						

*IDC **27** 07:56:46.5±1.0, 2183N×12083E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.2/35, Error ellipse: s-maj=71.1km s-min=21.0km az=64.0*
*ISCJB **27** 07:56:47.5±8.6, 217N±02×1206E±03, h16km±62km, mb3.7/6, Error ellipse: s-maj=54.2km s-min=20.6km az=137.6*
*NEIC **27** 07:56:48.2±0.6, 2175N×12066E, h10km, Error ellipse: s-maj=22.5km s-min=11.1km az=89.0*

ISC 27 07:56:52.1±3.5, 218N±02×1208E±04, h36km±35km, n10, σ0§53/9, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.48**	**18**	*e*Pn	**Pn**	**07 57 30.8**	**+0.9**
YHNB	**Yeheng**	**2.91**	**11**	*e*Pn	**Pn**	**07 57 34.9**	**-0.9**
KSRS	**Korea Array**	**16.78**	**20**	LR	LR	08 08 20.6	
	comp=Z,45nm,18.6s,baz=215,slow=42						
MKAR	**Makanchi Array**	**39.80**	**318**	P	**P**	**08 04 21.5**	**0.0**
	0.7nm,0.7s,mb3.5,baz=115,slow=8.2,SNR=6.3						
WRA	**Warramunga Arr**	**43.57**	**161**	P	**P**	**08 04 51.9**	**-0.5**
	1.5nm,0.6s,mb3.9,baz=343,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**46.98**	**163**	P	**P**	**08 05 19.9**	**+0.5**
	0.2nm,0.4s,mb3.4,baz=341,slow=6.8,SNR=6.0						
BVAR	**Borovoye Array**	**49.27**	**322**	P	**P**	**08 05 37.1**	**0.0**
	0.7nm,0.5s,mb3.9,baz=98,slow=11,SNR=4.5						
GERES	**GERESS

VNA2 e 08 30 35.3
VNA2 e 08 30 38.4
VNA2 e 08 30 48.1
VNA2 e 08 32 52.5
VNA2 e 08 32 58.1
VNA2 e 08 33 00.0
VNA2 e 08 33 06.4
SNAA Sanae 15.85 154 Pn **Pn 08 30 51.0 0.0**
0.3nm,0.3s,baz=330,slow=14,SNR=7.1
SNAA Sn **Sn 08 33 32.1 -15**
0.2nm,0.3s,baz=323,slow=18,SNR=4.6
SNAA LR LR 08 35 43.5
comp=Z,48nm,20.8s,baz=28,slow=32
SNAA Sanae 15.85 154 eP **Pn 08 30 51.0 0.0**
SNAA e 08 30 57.9
SNAA e 08 30 59.8
SNAA e 08 31 09.3
PMSA Palmer Station 18.99 235 LR LR 08 37 19.2
comp=Z,184nm,21.0s,baz=144,slow=32
USHA Ushuaia 23.58 261 P **P 08 32 20.4 +1.3**
7.9nm,0.6s,mb4.4,baz=105,slow=9.0,SNR=12
USHA LR LR 08 39 25.1
comp=Z,187nm,21.8s,MS3.5,baz=69,slow=31
USHA Ushuaia 23.58 261 P **P 08 32 20.4 +1.3**
USHA LR LR 08 39 25.1
PLCA Paso Flores 33.49 282 P **P 08 33 46.5 -1.0**
4.3nm,1.0s,mb4.3,baz=162,slow=10,SNR=6.2
PLCA LR LR 08 47 25.1
comp=Z,187nm,18.6s,MS3.8,baz=167,slow=36
MAW Mawson 37.39 141 P **P 08 34 20.8 -0.2**
3.2nm,0.9s,mb4.0,baz=33,slow=19,SNR=6.3
MAW LR LR 08 47 51.4
comp=Z,111nm,21.1s,MS3.6,baz=62,slow=33
CFAA Coronel Fontan 39.56 294 P **P 08 34 38.7 -0.7**
0.5nm,0.5s,mb3.4,baz=165,slow=6.0,SNR=9.5
CFAA Coronel Fontan 39.56 294 P **P 08 34 38.7 -0.7**
VNDA Vanda 43.88 182 P **P 08 35 16.3 +1.6**
5.3nm,0.6s,mb4.5,baz=189,slow=5.9,SNR=27
VNDA LR LR 08 51 51.1
comp=Z,59nm,19.8s,MS3.5,baz=20,slow=34
BOSA Boshof 45.81 71 P **P 08 35 29.9 -0.1**
0.9nm,0.6s,mb4.0,baz=198,slow=13,SNR=2.9
BOSA LR LR 08 51 19.2
comp=Z,46nm,18.4s,MS3.5,baz=50,slow=32
BOSA Boshof 45.81 71 P **P 08 35 29.9 -0.1**
BOSA LR LR 08 51 19.2
LBTB Lobatse 48.97 69 P **P 08 35 55.3 +0.6**
2.0nm,0.9s,mb4.2,baz=224,slow=10,SNR=2.9
LPAZ La Paz 52.75 305 P **P 08 36 23.1 -0.1**
1.4nm,0.6s,mb4.1,baz=148,slow=8.4,SNR=9.4
TOA0 Torodi Ar. Sit 75.00 27 eP **P 08 38 49.9 +0.1**
TORD Torodi Ar. Bea 75.00 27 P **P 08 38 50.4 +0.6**
5.5nm,0.6s,mb4.8,baz=200,slow=6.3,SNR=58
TORD LR LR 09 04 36.2
comp=Z,43nm,18.4s,MS3.8,baz=335,slow=30
STKA Stephens Creek 89.03 169 P **P 08 40 03.1 -0.4**
2.3nm,0.7s,mb4.5,baz=157,slow=8.2,SNR=6.4
ASAR Alice Springs 96.08 161 P **P 08 40 35.0 -1.0**
1.0nm,0.6s,mb4.5,baz=184,slow=4.1,SNR=25
WRA Warramunga Arr 99.80 161 P Pdif 08 40 51.1 -1.6
0.3nm,0.7s,baz=196,slow=4.5,SNR=2.9
SCHQ Schefferville 118.06 334 PKP PKPdf 08 45 53.4 -1.9
2.8nm,0.8s,baz=70,slow=12,SNR=3.2
SCHQ Schefferville 118.06 334 PKP PKPdf 08 45 53.4 -2.0
PDAR Pinedale Array 122.59 300 PKP PKPdf 08 46 02.5 -1.6
0.9nm,0.5s,baz=132,slow=4.9,SNR=16
NOA NORSAR Array B 122.83 20 PKP PKPdf 08 46 02.5 -2.0
0.6nm,0.6s,baz=251,slow=1.6,SNR=3.0
ULM Lac du Bonnet 122.88 314 PKP PKPdf 08 46 02.5 -2.1
2.3nm,0.5s,baz=237,slow=2.2,SNR=8.9
NVAR Mina Array Bea 123.31 290 PKP PKPdf 08 46 05.4 -0.1
1.3nm,0.6s,baz=148,slow=2.7,SNR=5.4
FINES FINESS Array B 126.35 28 PKP PKPdf 08 46 08.9 -2.4
1.3nm,0.5s,baz=140,slow=3.2,SNR=13
YKA Yellowknife Ar 138.83 315 PKP PKPdf 08 46 33.3 -1.5
5.2nm,0.6s,baz=128,slow=2.3,SNR=130
YKA Yellowknife Ar 138.83 315 PKP PKPdf 08 46 33.3 -1.5
INK Inuvik 148.51 317 ePKPbc PKPbc 08 46 53.1 -2.1
DAWY Dawson 149.30 308 ePKPbc PKPbc 08 46 55.2 -2.1
SONM Songino Array 149.84 90 PKPbc PKPbc 08 46 57.2 -1.4
1.9nm,0.5s,baz=215,slow=3.6,SNR=10
EGAK Eagle 150.27 309 ePKPbc PKPbc 08 46 57.3 -2.3
MCK McKinley 153.20 305 ePKPbc PKPbc 08 47 04.9 -1.5

*IDC **27** 08:44:28.4±1.1, 7333N×744E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.6/21, mbtmp3.6/8, ML3.2/3, MS3.6/14, Ms1 3.6/14, ms1mx3.4/31, Error ellipse: s-maj=34.0km s-min=18.2km az=64.0*
*CSEM **27** 08:44:29.6, 7336N×750E, h10km, mb3.7/1, After NEIC*
*NEIC **27** 08:44:29.6±0.9, 7336N×750E, h10km, mb3.7/1, Error ellipse: s-maj=24.7km s-min=13.3km az=71.0*
*ISCJB **27** 08:44:31.6±1.5, 731N±0.1×87E±03, h10km, mb3.4/6, MS3.6/10, Error ellipse: s-maj=19.2km s-min=13.0km az=2.1*
*HEL **27** 08:44:41.0±0.2, 7365N×1161E, h10km, ML3.7, mb3.7(NEIC)*
ISC 27 08:44:33.7±1.4, 731N±01×87E±03, h10km, n30, σ1§46/26, mb3.4/6, MS3.6/10, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**5.67**	**130**	eP	**Pn**	**08 45 59.6**	**+1.6**
KIF				MPN		08 46 01.5	
	comp=Z,10nm,0.4s						
KIF				eS	**Sn**	**08 47 03.2**	**0.0**
JMIC	**Jan Mayen**	**5.71**	**257**	LR	LR	08 46 46.8	
	comp=Z,294nm,19.8s,baz=111,slow=26						
KEV	**Kevo**	**6.72**	**111**	eP	**Pn**	**08 46 12.4**	**+0.1**
KEV				eS	**Sn**	**08 47 21.6**	**-7.3**
SGF	**Sodankyl**	**8.24**	**124**	eP	**Pn**	**08 46 35.0**	**+1.8**
SGF				eS	**Sn**	**08 48 02.0**	**-4.2**
KU4	**Liikasenvaara**	**9.83**	**123**	eP	**Pn**	**08 46 55.1**	**+0.1**
OUL	**Oulu**	**10.05**	**134**	eP	**Pn**	**08 47 01.0**	**+2.9**
KU6	**Riekki**	**10.18**	**123**	eP	**Pn**	**08 47 00.3**	**+0.5**
KU6				MPN		08 47 02.7	
	comp=Z,2.4nm,0.4s						
KU6				eS	**Sn**	**08 48 46.9**	**-7.1**
KJN	**Kajaani**	**11.31**	**133**	eP	**Pn**	**08 47 17.3**	**+2.0**
KJN				MPN		08 47 20.1	
	comp=Z,4.3nm,0.4s						
KJN				eS	**Sn**	**08 49 17.4**	**-4.4**
NOA	**NORSAR Array B**	**12.13**	**174**	Pn	**Pn**	**08 47 25.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=356,slow=13,SNR=2.7						
NOA				LR	LR	08 51 36.2	
	comp=Z,149nm,18.7s,baz=0.0,slow=34						
JOF	**Joensuu**	**13.13**	**129**	eP	**Pn**	**08 47 39.6**	**-0.5**
JOF				MPN		08 47 40.5	
	comp=Z,1.2nm,0.4s						
HFS	**Hagfors**	**13.14**	**169**	Pn	**Pn**	**08 47 41.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=356,slow=12,SNR=7.1						
HFS				LR	LR	08 52 11.9	
	comp=Z,222nm,18.5s,baz=71,slow=34						
FINES	**FINESS Array B**	**13.38**	**142**	Pn	**Pn**	**08 47 44.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=352,slow=10.0,SNR=4.5						
FINES				LR	LR	08 52 35.4	
	comp=Z,161nm,20.9s,baz=335,slow=35						
FINES	**FINESS Array B**	**13.38**	**142**	Pn	**Pn**	**08 47 44.4**	**+0.7**
FINES				LR	LR	08 52 35.4	
FINES	**FINESS Array B**	**13.38**	**142**	Pn	**Pn**	**08 47 44.3**	**+0.7**
FINES				LR	LR	08 52 35.4	
SFJD	**Kangerlussuaq**	**20.29**	**283**	LR	LR	08 56 03.5	
	comp=Z,63nm,21.2s,MS3.0,baz=58,slow=35						
CLL	**Collm**	**21.93**	**173**	esP	**P**	**08 49 33.0**	**+5.9**
BRG	**Berggiesshubel**	**22.40**	**171**	e(P)	**P**	**08 49 32.9**	**+0.7**
	comp=Z,2.3nm,0.9s,mb3.6						
VRAC	**Vranov**	**24.11**	**167**	LR	LR	08 58 49.5	
	comp=Z,94nm,18.5s,MS3.3,baz=355,slow=35						
AKASG	**Malin Array Be**	**24.17**	**147**	P	**P**	**08 49 49.8**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.6,baz=344,slow=9.6,SNR=3.6						
GERES	**GERESS Array B**	**24.41**	**172**	P	**P**	**08 49 50.6**	**-1.6**
	comp=Z,1.0nm,0.9s,mb3.2,baz=4.1,slow=5.6,SNR=5.8						
GERES				LR	LR	08 59 47.3	
	comp=Z,101nm,18.3s,MS3.3,baz=265,slow=37						
MLR	**Muntele Rosu**	**28.79**	**154**	LR	LR	09 02 27.8	
	comp=Z,149nm,18.9s,MS3.6,baz=270,slow=37						
ZAL	**Zalesovo**	**35.65**	**80**	LR	LR	09 09 35.1	
	comp=Z,79nm,18.3s,MS3.5,baz=298,slow=42						
YKA	**Yellowknife Ar**	**39.45**	**322**	P	**P**	**08 51 55.2**	**-8.8**
	comp=Z,0.2nm,0.6s,mb3.0,baz=20,slow=8.8,SNR=6.2						
YKA				PcP	PcP	08 54 05.9	-5.9
	comp=Z,0.2nm,0.7s,baz=9.3,slow=2.9,SNR=5.8						
YKA				LR	LR	09 07 55.2	
	comp=Z,100nm,18.5s,MS3.7,baz=45,slow=36						
YKA	**Yellowknife Ar**	**39.45**	**322**	P	**P**	**08 51 55.2**	**-8.8**
YKA				PcP	PcP	08 54 05.9	-5.9
YKA				LR	LR	09 07 55.1	
YKA	**Yellowknife Ar**	**39.45**	**322**	PcP	PcP	08 54 05.9	-5.9
MKAR	**Makanchi Array**	**41.28**	**88**	P	**P**	**08 52 17.6**	**-1.5**
	comp=Z,0.3nm,0.6s,mb3.1,baz=331,slow=6.8,SNR=3.8						
MKAR				LR	LR	09 13 19.1	
	comp=Z,57nm,18.6s,MS3.5,baz=355,slow=42						
NEW	**Newport**	**53.36**	**318**	LR	LR	09 15 44.1	
	comp=Z,131nm,18.0s,MS4.0,baz=247,slow=35						
PDAR	**Pinedale Array**	**56.99**	**309**	LR	LR	09 17 33.3	
	comp=Z,75nm,19.1s,MS3.8,baz=294,slow=35						
TORD	**Torodi Ar. Bea**	**60.04**	**188**	P	**P**	**08 54 39.2**	**-1.4**
	comp=Z,0.9nm,0.9s,mb3.8,baz=356,slow=6.1,SNR=4.7						
YBH	**Yreka Blue Hor**	**60.72**	**320**	LR	LR	09 23 30.9	
	comp=Z,90nm,18.3s,MS4.0,baz=4.2,slow=39						

*CSEM **27** 08:44:51.9, 1365N×4579E, h8km, ML3.5, After DHMR*
DHMR 27 08:44:51.9±1.2, 1365N×4579E, h8km±4km, ML3.5, 3C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**0.39**	**327**	⇑iP	Pg	08 44 58.7	-0.8
BDHA				i S	Sg	08 45 05.0	+0.3
BDHA				AML	AML	08 45 05.1	
	comp=N,5μm,0.6s						
LBOS		**0.57**	**293**	⇑iP	Pg	08 45 02.7	-0.2
LBOS				i S	Sg	08 45 11.9	+1.6
ADEN	**Aden**	**1.17**	**222**	i P	Pb	08 45 13.7	-0.5
ADEN				i S	Sg	08 45 29.9	+0.5
DHBB	**Dhamar BB**	**1.64**	**304**	⇑iP	Pn	08 45 22.0	+1.0
DHBB				i S	Sn	08 45 45.0	+2.8
TRBA	**At Turbah**	**1.68**	**256**	i P	Pn	08 45 22.3	+0.8
TRBA				i S	Sn	08 45 45.4	+2.2
TRBA				AML	AML	08 45 52.1	
	comp=Z,548nm,0.3s						
TRBA	**At Turbah**	**1.68**	**256**	i P	Pn	08 45 22.3	+0.8
TRBA				i S	Sn	08 45 45.4	+2.2
	comp=Z,274nm,0.3s						
HAJJ	**Hajjah**	**2.94**	**314**	i P	Pn	08 45 42.5	+3.6
HAJJ				i S	Sn	08 46 20.8	+6.4

IDC 27 08:45:02.8±14.0, 1720S×17856W, h451km±172km, mb3.3/5, mb1 3.5/5, mb1mx3.3/14, mbtmp3.3/5, Error ellipse: s-maj=128.2km s-min=48.3km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.85**	**240**	P	P	08 51 47.8	+0.1
	1.3nm,0.5s,baz=92,slow=10,SNR=10						
WRA	**Warramunga Arr**	**44.62**	**259**	P	P	08 52 33.8	+0.2
	1.3nm,0.5s,baz=96,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**44.85**	**254**	P	P	08 52 35.5	+0.3
	11nm,0.6s,baz=88,slow=8.4,SNR=193						
PDAR	**Pinedale Array**	**86.94**	**44**	P	P	08 56 58.9	+0.1
	0.3nm,0.6s,baz=238,slow=5.2,SNR=3.0						
YKA	**Yellowknife Ar**	**93.75**	**25**	P	P	08 57 30.1	-0.2
	0.1nm,0.6s,baz=238,slow=4.8,SNR=4.6						
GERES	**GERESS Array B**	**146.89**	**345**	PKPbc	PKPbc	09 03 53.0	-0.6
	1.0nm,0.5s,baz=21,slow=3.0,SNR=13						

IDC 27 08:46:07.0±9.6, 482S×15408E, h100km±66km, mb3.6/2, mb1 3.9/3, mb1mx3.4/15, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=101.5km s-min=52.6km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.24**	**236**	P	Pn	08 48 04.3	+0.7
	4.8nm,0.3s,baz=21,slow=6.4,SNR=13						
PMG				S	Sn	08 49 33.9	-1.0
	1.8nm,0.3s,baz=128,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	**24.40**	**230**	P	P	08 51 16.7	+0.8
	3.8nm,0.4s,baz=59,slow=9.2,SNR=54						
ASAR	**Alice Springs**	**27.00**	**224**	P	P	08 51 40.2	+0.8
	0.5nm,0.5s,baz=55,slow=9.0,SNR=11						
TORD	**Torodi Ar. Bea**	**151.52**	**289**	PKPbc	PKPbc	09 05 49.9	+0.6
	0.6nm,0.7s,baz=92,slow=2.8,SNR=4.6						
TORD				PKPab	PKPab	09 05 58.2	+0.2
	0.5nm,0.6s,baz=89,slow=4.2,SNR=4.3						

*CSEM **27** 08:47:15.1, 4314N×4662E, h11km, mb3.9, After OBN*
MOS 27 08:47:15.9±1.0, 4314N×4662E, h11km, mb3.9/1, 1D, Error ellipse: s-maj=12.3km s-min=9.9km az=133.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.07**	**174**	ePG	Pg	08 47 18.7	+0.5
DLMR				eS	Sg	08 47 22.7	+2.8
DBC	**Dubki**	**0.20**	**128**	⇓iPG	Pg	08 47 21.0	+0.9
DBC				i S	Sg	08 47 27.0	+4.1
KRNR	**Karanay**	**0.38**	**146**	i PG	Pg	08 47 25.3	+1.9
KRNR				i S	Sg	08 47 33.8	+5.4
UNCR	**Uncukul**	**0.45**	**163**	ePg	Pg	08 47 26.0	+1.4
KMKR	**Kumukh**	**1.07**	**161**	ePG	Pg	08 47 37.5	+1.0
KMKR				i S	Sb	08 47 55.5	+5.1
SNJR	**Sundja**	**1.33**	**268**	i Pg	Pg	08 47 41.5	+0.1
SNJR				i Sg	Sg	08 48 00.6	+2.0
VLKR	**Vladikavkaz**	**1.43**	**267**	i Pg	Pg	08 47 42.8	-0.5
VLKR				i Sg	Sg	08 48 02.7	+0.9
ARNR	**Ardon**	**1.71**	**272**	i Pn	Pn	08 47 47.0	+1.3
ARNR				i Sg	Sg	08 48 10.0	-1.0
LACR	**Lac**	**1.73**	**260**	i Pn	Pn	08 47 46.2	+0.2
LACR				i Sg	Sg	08 48 08.8	-2.9
KORR	**Kora**	**1.87**	**269**	i Pn	Pn	08 47 48.8	+1.0
ZEI	**Tsey**	**2.03**	**260**	i Pn	Pn	08 47 50.2	+0.2
DIGR	**Digorskoe uzhe**	**2.24**	**265**	i Pn	Pn	08 47 53.5	+0.6
DIGR				i Sn	Sn	08 48 21.4	+0.8

*IDC **27** 08:49:31.8±0.5, 1037S×12364E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.5/17, mbtmp4.5/15, ML4.6/1, MS4.0/13, Ms1 4.0/13, ms1mx3.8/26, Error ellipse: s-maj=19.2km s-min=11.7km az=85.0*
*ISCJB **27** 08:49:33.3±2.2, 1034S±004×12394E±005, h25km±16km, mb4.8/36, MS4.0/15, Error ellipse: s-maj=9.8km s-min=5.9km az=114.0*
*BJI **27** 08:49:33.7, 1024S×124.17E, h33km, mB5.2, mb4.9, Ms4.3, Msz3.9*
*MOS **27** 08:49:35.5±0.9, 1027S×12373E, h33km, mb5.0/6, Error ellipse: s-maj=16.2km s-min=9.0km az=114.9*
*NEIC **27** 08:49:37.0±0.2, 1039S×12378E, h35km, mb5.1/10, MS4.7/1, Error ellipse: s-maj=10.0km s-min=5.5km az=57.0*
ISC 27 08:49:35.6±2.3, 1032S±005×12390E±005, h24km±16km, h29km±2.6km: pP-P, n98, σ0§90/96, mb4.8/36, MS4.0/15, 5C-5D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.92**	**168**	eP	**Pn**	**08 51 26.5**	**-2.7**
	150nm,0.6s						
FITZ				eS	**Sn**	**08 52 48.3**	**-10**
FITZ	**Fitzroy Crossi**	**7.92**	**168**	Pn	**Pn**	**08 51 27.0**	**-2.2**
	5.9nm,0.3s,baz=4.2,slow=9.4,SNR=101						
FITZ				Sn	**Sn**	**08 52 50.1**	**-7.9**
	12nm,0.3s,baz=149,slow=13,SNR=12						
FITZ				LR	LR	08 55 12.9	
	comp=Z,452nm,18.3s,baz=348,slow=43						
KAKA	**Kakadu**	**8.70**	**107**	eP	**Pn**	**08 51 40.2**	**+0.2**
	84nm,0.4s						
KAKA				eS	**Sn**	**08 53 17.5**	**+0.2**
PCI	**Palu**	**10.19**	**336**	P	**Pn**	**08 52 06.0**	**+5.7**
	120nm,1.2s						
WRA	**Warramunga Arr**	**13.89**	**135**	Pn	**Pn**	**08 52 45.7**	**-5.2**
	4.2nm,0.3s,baz=307,slow=15,SNR=74						
WRA				Sn	**Sn**	**08 55 14.8**	**-10**
	14nm,0.3s,baz=298,slow=20,SNR=12						
WRA				LR	LR	08 58 23.6	
	comp=Z,502nm,21.5s,baz=315,slow=38						
WB2	**Warramunga Arr**	**13.90**	**135**	eP	**Pn**	**08 52 45.5**	**-5.5**
WB2				eS	**Sn**	**08 55 09.8**	**-15**
BJII	**Banjamegara**	**14.33**	**281**	P	**Pn**	**08 52 59.1**	**+2.2**
	59nm,1.2s						
BAKI	**Biak**	**15.15**	**54**	P	**Pn**	**08 53 15.6**	**+7.6**
	277nm,1.4s						
ASAR	**Alice Springs**	**16.35**	**146**	Pn	**Pn**	**08 53 20.2**	**-3.4**
	10.0nm,0.3s,baz=318,slow=12,SNR=158						
ASAR				Sn	**Sn**	**08 56 12.1**	**-12**
	4.2nm,0.3s,baz=307,slow=21,SNR=10.0						
KSM	**Kuching**	**17.89**	**310**	ePn	**Pn**	**08 53 43.6**	**+0.8**
KKM	**Kota Kinabalu**	**17.97**	**334**	eP	**Pn**	**08 53 45.8**	**+2.1**
FORT	**Forrest**	**20.72**	**170**	eP	**P**	**08 54 13.7**	**-0.6**
	79nm,0.7s						
FORT				eS	**S**	**08 57 57.8**	**-6.7**
KLBR	**Kellerberrin**	**21.92**	**194**	eP	**P**	**08 54 27.5**	**+0.4**
	43nm,1.1s,mb4.8						
KLBR				eS	**S**	**08 58 20.5**	**-7.5**
PMG	**Port Moresby**	**22.93**	**90**	P	**P**	**08 54 40.2**	**+2.3**
	6.3nm,0.6s,mb4.2,baz=262,slow=14,SNR=2.8						
NWAO	**Narrogin (SRO)**	**23.32**	**194**	P	**P**	**08 54 40.5**	**-1.5**
	9.1nm,0.9s,mb4.2,baz=29,slow=12,SNR=4.2						
NWAO				S	**S**	**08 58 53.8**	**+0.9**
	10.0nm,0.8s,baz=233,slow=15,SNR=2.8						
NWAO				LR	LR	09 05 06.1	
	comp=Z,347nm,18.9s,MS3.8,baz=262,slow=40						
NWAO	**Narrogin (SRO)**	**23.32**	**194**	eP	**P**	**08 54 41.5**	**-0.5**
NWAO				LR	LR	09 05 06.1	
CTA	**Charters Tower**	**23.63**	**117**	⇑iP	**P**	**08 54 46.8**	**+1.8**
	30nm,1.5s,mb4.5						
CTA				eS	**S**	**08 59 09.4**	**+11**
CTA	**Charters Tower**	**23.63**	**117**	P	**P**	**08 54 47.0**	**+2.0**
	12nm,0.5s,mb4.5,baz=286,slow=12,SNR=28						
CTA				LR	LR	09 04 31.2	
	comp=Z,336nm,20.8s,MS3.8,baz=109,slow=38						
CTA	**Charters Tower**	**23.63**	**117**	⇑iP	**P**	**08 54 46.8**	**+1.8**
CTA				pmax	pmax		
	comp=Z,30nm,1.5s						
CTAO	**Charters Tower**	**23.63**	**117**	eP	**P**	**08 54 44.1**	**-0.9**
STKA	**Stephens Creek**	**26.99**	**145**	eP	**P**	**08 55 16.4**	**+0.9**
	comp=Z,6.7nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**26.99**	**145**	P	**P**	**08 55 16.2**	**+0.7**
	comp=Z,5.5nm,0.7s,mb4.2,baz=311,slow=8.1,SNR=11						
STKA				LR	LR	09 06 19.6	
	comp=Z,391nm,20.3s,MS4.0,baz=127,slow=37						
GUMO	**Guam**	**31.58**	**42**	LR	LR	09 07 12.0	
	comp=Z,156nm,18.2s,MS3.7,baz=228,slow=33						
CHTO	**Chiang Mai**	**38.00**	**320**	eP	**P**	**08 56 51.7**	**+0.1**
KMI	**Kunming**	**40.82**	**330**	P	**P**	**08 57 16.3**	**+1.1**
KMI				AP	pP	08 57 26.3	+3.8
KMI				S	**S**	**09 03 33.0**	**+8.2**
KMI				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.5						
KMI				AMB	AMB		
	comp=Z,88nm,3.9s						
KMI				LR	LR		
	comp=N,159nm,15.8s,MS4.2						
KMI				LR	LR		
	comp=E,168nm,15.0s,MS4.2						
KMI				LR	LR		
	comp=Z,164nm,24.9s						
KMI	**Kunming**	**40.82**	**330**	P	**P**	**08 57 16.2**	**+1.0**
KMI				*PP	pP	08 57 26.2	+3.7
KMI				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.5						
KMI				MLR	MLR		
	comp=Z,160nm,24.9s,MS3.8						
KMI	**Kunming**	**40.82**	**330**	P	**P**	**08 57 16.2**	**+1.0**
	comp=Z,19nm,1.5s,mb4.5						
KMI				pP	pP	08 57 26.2	+3.7
KMI				S	**S**	**09 03 33.0**	**+8.2**
KMI				LR	LR		
	comp=Z,160nm,24.9s,MS3.8						
CD2	**Chengdu**	**45.33**	**335**	P	**P**	**08 57 51.0**	**-0.6**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
CD2				AMB	AMB		
	comp=Z,190nm,5.2s						
XAN	**Xi'an**	**46.35**	**343**	P	**P**	**08 57 58.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
SHL	**Shillong**	**47.37**	**319**	eP	**P**	**08 58 06.0**	**-1.7**
KSRS	**Korea Array**	**47.67**	**4**	P	**P**	**08 58 10.7**	**+0.6**
	comp=Z,3.7nm,1.0s,mb4.4,baz=163,slow=9.1,SNR=5.6						
KSRS				LR	LR	09 18 27.7	
	comp=Z,71nm,18.5s,MS3.7,baz=169,slow=36						
MAT	**Matsushiro**	**48.52**	**15**	P	**P**	**08 58 15.9**	**-0.7**
MJAR	**Matsushiro Arr**	**48.52**	**15**	P	**P**	**08 58 16.1**	**-0.5**
	comp=Z,5.4nm,0.7s,mb4.7,baz=194,slow=8.1,SNR=9.4						
LZH	**Lanzhou**	**49.88**	**339**	⇑P	**P**	**08 58 27.0**	**0.0**
LZH				AP	pP	08 58 37.0	+2.6
LZH				XP	sP	08 58 41.3	+4.0
LZH				LR	LR		
	comp=N,413nm,14.3s						
LZH				LR	LR		
	comp=Z,625nm,18.0s,MS4.7						
LZH	**Lanzhou**	**49.88**	**339**	⇑P	**P**	**08 58 27.1**	**+0.1**
LZH				*PP	pP	08 58 37.0	+2.6
LZH				*SP	sP	08 58 41.2	+3.9
LZH				MLR	MLR		
	comp=Z,630nm,18.0s,MS4.7						
LZH	**Lanzhou**	**49.88**	**339**	⇑P	**P**	**08 58 27.1**	**+0.1**
LZH				pP	pP	08 58 37.0	+2.6
LZH				sP	sP	08 58 41.2	+3.9
LZH				ePP	PP	09 00 55.6	+34
LZH				LR	LR		
	comp=Z,630nm,18.0s,MS4.7						
LSA	**Lhasa**	**50.78**	**323**	P	**P**	**08 58 33.8**	**0.0**
LSA	**Lhasa**	**50.78**	**323**	eP	**P**	**08 58 34.0**	**+0.3**
JIRN	**Jiri**	**52.53**	**317**	eP	**P**	**08 58 45.9**	**-1.0**
	comp=Z,38nm,1.0s,mb5.3						
HYB	**Hyderabad**	**52.60**	**301**	i P	**P**	**08 58 46.5**	**-0.9**
HYB	**Hyderabad**	**52.60**	**301**	eP	**P**	**08 58 46.5**	**-0.9**
GUN	**Gumba**	**52.90**	**317**	eP	**P**	**08 58 49.4**	**-0.2**
	comp=Z,100nm,1.1s,mb5.7						
PKI	**Pulchoki**	**53.00**	**316**	eP	**P**	**08 58 49.9**	**-0.5**
	comp=Z,15nm,0.4s,mb5.2						
KKN	**Kakani**	**53.23**	**316**	eP	**P**	**08 58 52.0**	**0.0**
DMN	**Daman**	**53.23**	**316**	eP	**P**	**08 58 51.9**	**-0.2**
	comp=Z,27nm,0.9s,mb5.2						
GKN	**Gorkha**	**53.80**	**316**	eP	**P**	**08 58 55.6**	**-0.7**
	comp=Z,29nm,0.8s,mb5.3						
GTA	**Gaotai**	**54.31**	**337**	P	**P**	**08 59 00.0**	**+0.1**
GTA				AP	pP	08 59 07.5	+0.1
GTA				XP	sP	08 59 11.0	+0.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
KOLN	**Koldanda**	**54.37**	**315**	eP	**P**	**08 59 00.1**	**-0.3**
	comp=Z,30nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**54.92**	**5**	P	**P**	**08 59 03.8**	**-0.6**
MDJ				AP	pP	08 59 12.0	+0.1
MDJ				XP	sP	08 59 17.8	+3.1
MDJ				AMB	AMB		
	comp=Z,

comp=Z,66nm,19.2s,MS3.9,baz=352,slow=40
BOD Bodaibo 68.38 354 *e* **P 09 00 34.2 -1.0**
BOD pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
KBL Kabul 68.46 313 *e*P **P 09 00 35.6 0.0**
AAK Ala-Archa 69.36 323 *e*P **P 09 00 40.8 -0.5**
MAW Mawson 69.69 201 P **P 09 00 42.8 -0.5**
comp=Z,1.3nm,0.5s,mb4.2,baz=77,slow=7.7,SNR=8.8
MAW LR LR 09 28 53.6
comp=Z,216nm,19.5s,MS4.4,baz=64,slow=34
VNDA Vanda 69.97 172 P **P 09 00 45.2 +0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=342,slow=5.6,SNR=9.9
VNDA LR LR 09 28 01.4
comp=Z,206nm,19.8s,MS4.4,baz=1.1,slow=33
VNDA Vanda 69.97 172 P **P 09 00 45.2 +0.2**
VNDA LR LR 09 28 01.4
ZAL Zalesovo 72.06 337 P **P 09 00 57.2 -0.5**
comp=Z,8.7nm,0.8s,mb4.7,baz=335,slow=4.9,SNR=41
ZAL LR LR 09 37 13.3
comp=Z,76nm,19.9s,MS4.0,baz=162,slow=40
ZAL Zalesovo 72.06 337 P **P 09 00 57.2 -0.5**
ZAL LR LR 09 37 13.3
YAK Yakutsk 72.27 3 *e*P **P 09 00 58.5 -0.4**
YAK pmax pmax
comp=Z,48nm,1.7s,mb5.2
KURK Kurchatov 72.37 332 ⇓P **P 09 00 59.7 +0.1**
SNR=7.2
KURK Kurchatov 72.37 332 *e*P **P 09 00 59.3 -0.3**
MA2 Magadan 72.93 14 *e*P **P 09 01 03.4 +0.5**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 Magadan 72.93 14 *e*P **P 09 01 03.5 +0.7**
NVS Novosibirsk 73.35 337 *i* P **P 09 01 03.8 -1.5**
NVS pmax pmax
comp=Z,32nm,1.6s,mb5.0
NVS pmax pmax
comp=N,20nm,1.5s
NVS pmax pmax
comp=E,21nm,1.5s
HATD Hatta, Dubai 74.69 299 ⇓P **P 09 01 14.3 +1.1**
SNR=5.8
ASHO Ashiyiah 74.71 299 ⇓P **P 09 01 14.4 +1.1**
SNR=6.7
BANOM Banah 74.91 300 ⇓P **P 09 01 16.1 +1.6**
SEY Seymchan 76.27 13 *i* P **P 09 01 22.1 -0.1**
TIXI Tiksi 81.85 2 *e*P **P 09 01 52.0 -0.8**
TIXI pmax pmax
comp=Z,17nm,1.3s,mb4.8
BILL Bilibino 83.77 15 *e*P **P 09 02 03.2 +0.4**
BILL pmax pmax
comp=Z,10.0nm,1.6s,mb4.7
ARU Arti 85.40 330 ⇓*i*P **P 09 02 10.8 -0.2**
ARU *e* 09 05 26.5
ARU *e*S S 09 12 31.3 -9.3
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
KMBO Kilima Mbogo 86.50 269 P **P 09 02 16.6 +0.2**
comp=Z,1.9nm,0.9s,mb4.3,baz=39,slow=6.6,SNR=4.3
SNAA Sanae 91.00 195 *e*P **P 09 02 38.6 +0.9**
SNAA *e* pP 09 02 46.4 +0.8
BOSA Boshof 92.59 240 P **P 09 02 45.5 +0.4**
comp=Z,0.9nm,0.6s,mb4.4,baz=108,slow=6.4,SNR=3.1
VNA2 Neumayer--Watz 92.60 194 *e*P **P 09 02 46.0 +0.8**
baz=138,slow=4.6
VNA2 *e* pP 09 02 54.1 +1.1
LVZ Lovozero 99.20 337 *e*P **P 09 03 15.0 -0.2**
LVZ pmax pmax
comp=Z,31nm,1.1s,mb5.8
PMSA Palmer Station 104.88 176 *e*Pdif Pdif 09 03 40.8 +0.4
YKA Yellowknife Ar 113.35 26 PKiKP PKiKP 09 08 11.6 +0.3
comp=Z,0.3nm,0.8s,baz=301,slow=2.1,SNR=4.9
TORD Torodi Ar. Bea 123.44 279 PKP PKPdf 09 08 30.0 -0.8
comp=Z,1.1nm,0.6s,baz=132,slow=0.5,SNR=8.9
PDAR Pinedale Array 123.50 45 PKP PKPdf 09 08 32.1 +1.3
comp=Z,0.9nm,0.9s,baz=243,slow=0.3,SNR=5.6
ANMO Albuquerque 128.11 54 *i* PKIKP PKPdf 09 08 43.5 +3.8
TKL Tuckaleechee C 144.39 41 PKP PKPdf 09 09 08.7 -1.0
comp=Z,2.3nm,0.7s,baz=73,slow=17,SNR=4.1
BRAL Brewton 144.67 50 *e*PKPdf PKPdf 09 09 11.5 +1.3
BLA Blacksburg 145.40 35 *e*PKIKP PKPdf 09 09 13.0 +1.5
MVL Millersville 145.40 28 *e*PKPdf PKPdf 09 09 13.2 +1.7
GOGA Godfrey 145.95 43 *e*PKP2 PKPab 09 09 15.8 +2.2
TEIG Tepich 147.50 69 PKPbc PKPbc 09 09 20.2 +2.6
comp=Z,19nm,1.1s,baz=180,slow=13,SNR=3.5
LPAZ La Paz 151.01 156 PKPbc PKPbc 09 09 29.7 +3.3
comp=Z,5.0nm,1.0s,baz=109,slow=0.4,SNR=15

OTT 27 09:01:12.6±0.8, 6565N×9056W, h18km, MN2.6/3, Wager Bay. 220km southwest from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**2.93**	**194**	PN	Pn	09 01 58.0	-0.2
YRTN				SN	Sn	09 02 32.7	-0.3
YRTN				SG	Sg	09 02 44.0	-2.8
YRTN				Trac		09 02 50.1	
	comp=Z,13nm,0.3s						
ILON	**Igloolik, Nuna**	**5.02**	**38**	PN	Pn	09 02 26.9	-0.1
ILON				SN	Sn	09 03 17.5	-7.0
ILON				SG	Sg	09 03 39.6	-14
ILON				Trac		09 03 41.9	
	comp=Z,12nm,0.5s						
FCC	**Fort Churchill**	**7.11**	**195**	SN	Sn	09 04 12.0	-3.9
FCC				LG		09 04 53.1	
FCC				Trac		09 05 00.5	
	comp=Z,2.6nm,0.5s						
AKVQ	**Akulik**	**7.40**	**125**	SN	Sn	09 04 14.9	-8.1
AKVQ				LG		09 04 59.9	
YKW3	**Yellowknife Ar**	**10.93**	**265**	PN	Pn	09 03 46.5	-1.5
YKW3				SN	Sn	09 05 37.5	-12
YKW3				LG		09 06 41.3	
YKW3				Trac		09 06 51.7	
	comp=Z,0.3nm,0.4s						

*IDC **27** 09:06:30.0±8.8, 1092S×124.10E, h141km±105km, mb3.4/1, mb1 3.2/4, mb1mx3.1/15, mbtmp3.1/4, ML3.5/3, Error ellipse: s-maj=83.5km s-min=44.6km az=26.0*

NEIC 27 09:06:21.2±1.1, 1029S×12428E, h35km, Error ellipse: s-maj=36.7km s-min=14.1km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.87**	**171**	*e*P	Pn	09 08 13.4	+0.2
	5.2nm,0.3s						
FITZ				*e*S	Sx	09 09 31.4	
FITZ	**Fitzroy Crossi**	**7.87**	**171**	P	Pn	09 08 13.5	+0.4
	0.5nm,0.3s,baz=62,slow=21,SNR=10						
FITZ				S	Sn	09 09 37.1	-4.0
	1.6nm,0.3s,baz=175,slow=15,SNR=10						
WRA	**Warramunga Arr**	**13.64**	**136**	P	Pn	09 09 32.4	+0.3
	0.3nm,0.3s,baz=307,slow=15,SNR=5.1						
WRA				S	Sn	09 12 00.4	-1.9
	1.2nm,0.3s,baz=295,slow=23,SNR=11						
WB2	**Warramunga Arr**	**13.65**	**136**	*e*P	Pn	09 09 32.6	+0.4
WB2				*e*S	Sn	09 11 57.9	-4.7
ASAR	**Alice Springs**	**16.16**	**147**	P	Pn	09 10 05.4	-0.2
	0.3nm,0.3s,baz=315,slow=11,SNR=19						
ASAR				S	Sx	09 13 01.0	
	0.4nm,0.3s,baz=318,slow=23,SNR=9.3						
MKAR	**Makanchi Array**	**68.06**	**330**	P	P	09 17 17.3	+0.1
	0.7nm,0.6s,baz=140,slow=8.1,SNR=6.6						
MKAR	**Makanchi Array**	**68.06**	**330**	P	P	09 17 17.3	+0.1

CASC 27 09:14:07.5±2.4, 1242N×8643W, h0km±3km, MD4.2, ML3.6, 2C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAVN	**Gruta Xavier**	**0.29**	**160**	*e*P	Pg	09 14 14.2	+1.2
MGAN	**Managua**	**0.33**	**147**	⇓*e*P	Pg	09 14 15.0	+1.3
TEL3	**Telica 3**	**0.43**	**290**	*e*P	Pg	09 14 17.4	+1.6
TELN	**Telica**	**0.43**	**295**	⇓*e*P	Pg	09 14 17.6	+1.8
TELN				*e*S	Sg	09 14 25.8	+4.3
BOAB	**BOACO BROADBAN**	**0.75**	**88**	⇑*e*P	Pg	09 14 22.3	+0.5
BOAB				*e*S	Sg	09 14 33.9	+2.5
BOAB				*i*		09 14 34.5	
	comp=N,1μm,0.1s						
CONN	**Concepcion**	**1.16**	**137**	⇓*i*P	Pg	09 14 29.3	-0.4
MADN	**Villa Maderas**	**1.33**	**139**	⇓*e*P	Pg	09 14 32.1	-1.0
CNCH	**Conchagua**	**1.61**	**302**	⇓*e*P	x	09 14 54.6	
CNCH				*e*S	x	09 15 18.5	
BLLM	**Bellamira**	**2.04**	**300**	*e*P	x	09 15 01.8	
BLLM				*e*S	x	09 15 28.8	
SNVI	**San Vicente**	**2.63**	**297**	*e*P	x	09 15 10.7	
SNVI				*e*S	x	09 15 45.0	
LCBS	**La Ceiba**	**2.77**	**297**	*e*P	x	09 15 11.5	
LCBS				*e*S	x	09 15 46.6	
LFRS	**El Faro**	**2.83**	**295**	*e*P	x	09 15 10.8	
LFRS				*e*S	x	09 15 48.5	
BOQS	**Boqueron**	**3.07**	**295**	*e*P	x	09 15 16.0	
BOQS				*e*S	x	09 15 54.8	
PRS1	**Puriscal**	**3.19**	**139**	*e*P	Pn	09 15 00.1	+1.2
LAJ	**Bijagual**	**3.40**	**138**	*e*P	Pn	09 15 01.1	-0.7
SBLS	**San Blas**	**3.42**	**295**	⇑*e*P	x	09 15 20.6	
SBLS				*e*S	x	09 16 03.3	
RTR	**El Retiro**	**3.46**	**295**	*e*P	x	09 15 20.7	
RTR				*e*S	x	09 16 03.7	
LCR2	**La Lucha 2**	**3.57**	**138**	*e*P	Pn	09 15 04.0	-0.1

*NEIC **27** 09:14:31.2, 1577N×9456W, h20km, MD4.0(MEX), After MEX.*

MEX 27 09:14:31.0±0.7, 1579N×9457W, h54km±48km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.33**	**347**	*i* P	Pn	09 14 51.6	-1.7
CMIG				*i* S	Sn	09 15 08.1	-1.8
HUIG	**Huatulco**	**1.48**	**269**	*i* P	Pn	09 14 53.8	-1.5
HUIG				*i* S	Sn	09 15 11.7	-2.0
CCIG	**Comitan**	**2.39**	**78**	*e*P	Pn	09 15 06.4	-1.3
CCIG				*i* S	Sn	09 15 34.6	-1.1
CCIG	**Comitan**	**2.39**	**78**	*e*P	Pn	09 15 06.4	-1.3
CCIG				*i* S	Sn	09 15 36.7	+1.0
OXX	**Oaxaca**	**2.44**	**302**	*i* P	Pn	09 15 10.3	+2.0
OXX				*i* S	Sn	09 15 35.5	-1.4
VHO	**Vista Hermosa**	**2.44**	**302**	*i* P	Pn	09 15 08.8	+0.5
VHO				*i* S	Sn	09 15 34.5	-2.5
VHO	**Vista Hermosa**	**2.44**	**302**	*i* P	Pn	09 15 09.6	+1.2
VHO				*i* S	Sn	09 15 37.8	+0.8
TPIG	**Tehuac#an**	**3.74**	**315**	*i* P	Pn	09 15 24.7	-1.5
TPIG				*i* S	Sn	09 16 06.3	-2.6

*SZGRF **27** 09:17:01.3, 1587S×17307W, h33km, Tonga Islands*
*MOS **27** 09:17:05.2±1.6, 1593S×17393W, h76km, mb5.2/14, Error ellipse: s-maj=11.2km s-min=9.8km az=17.6*
*ISCJB **27** 09:17:10.7±0.2, 1626S±006×17397W±005, h141km, mb4.6/46, Error ellipse: s-maj=9.0km s-min=6.3km az=140.9*
*BJI **27** 09:17:11.0, 1630S×17390W, h141km, mB5.2, mb4.9*
*NEIC **27** 09:17:12.6±0.3, 1629S×17391W, mb4.8/26, Error ellipse: s-maj=12.3km s-min=7.9km az=159.0*
*IDC **27** 09:17:12.3±0.6, 1618S×17403W, h137km±5km, mb4.3/16, mb1 4.4/16, mb1mx4.4/18, mbtmp4.3/16, MS3.9/7, Ms1 3.8/7, ms1mx3.5/28, Error ellipse: s-maj=16.7km s-min=9.8km az=127.0*

ISC 27 09:17:12.5±0.2, 1622S±006×17393W±005, h143km, h143km±2.6km; pP-P, n253, σ1s12/101, mb4.6/46, 20C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.09**	**42**	P	**Pn**	**09 17 53.9**	**-6.8**
	235nm,0.3s,baz=208,slow=1.7,SNR=320						
AFI				S	**Sn**	**09 18 26.1**	**-12**
	588nm,0.3s,baz=176,slow=22,SNR=16						
RAR	**Rarotonga**	**14.30**	**113**	P	**Pn**	**09 20 27.4**	**-0.9**
	1.3nm,0.3s,baz=251,slow=9.7,SNR=5.1						
RAR				S	**Sn**	**09 22 59.4**	**-7.2**
	6.2nm,0.3s,baz=127,slow=20,SNR=2.4						
NOUC	**Port Laguerre**	**19.57**	**250**	*e*P	**P**	**09 21 28.1**	**-0.9**
PAE	**Paea**	**23.33**	**97**	*e*P	**P**	**09 22 05.4**	**-2.3**
	69nm,1.1s,mb5.0						
PAE	**Paea**	**23.33**	**97**	*e*P	**P**	**09 22 05.4**	**-2.3**
PAE				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.0						
PPT	**Papeete**	**23.34**	**97**	*e*LR	LR	09 27 34.6	
	comp=Z,463nm,32.8s						
PPT	**Papeete**	**23.34**	**97**	P	**P**	**09 22 05.8**	**-1.9**
	comp=Z,26nm,0.8s,mb4.7,baz=226,slow=6.1,SNR=3.6						
PPT				LR	LR	09 29 56.0	
	comp=Z,258nm,18.2s,baz=56,slow=33						
PPT	**Papeete**	**23.34**	**97**	*e*P	**P**	**09 22 05.8**	**-1.9**
PPT				pmax	pmax		
	comp=Z,69nm,1.4s						
PPT	**Papeete**	**23.34**	**97**	*e*P	**P**	**09 22 05.8**	**-1.9**
	comp=Z,69nm,1.4s,mb4.9						
PPT				*e*P		09 22 09.3	
PPT				LR	LR	09 29 56.0	
URZ	**Urewera**	**23.34**	**198**	P	**P**	**09 22 06.4**	**-1.4**
	comp=Z,13nm,0.3s,mb4.8,baz=314,slow=1.2,SNR=41						
URZ				S	**S**	**09 26 11.8**	**+2.3**
	comp=Z,2.7nm,0.4s,baz=246,slow=20,SNR=6.2						
TVO	**Taravao**	**23.64**	**97**	*e*P	**P**	**09 22 08.7**	**-1.8**
	comp=Z,83nm,1.0s,mb5.2						
TVO	**Taravao**	**23.64**	**97**	*e*P	**P**	**09 22 08.7**	**-1.8**
TVO				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.2						
TBI	**Tubuai**	**24.07**	**111**	*e*LR	LR	09 28 01.9	
	comp=Z,23nm,34.0s						
PMOR	**Pomariorio Ree**	**25.10**	**91**	*e*P	**P**	**09 22 22.0**	**-1.7**
	comp=Z,23nm,0.9s,mb4.7						
HNR	**Honiara**	**26.34**	**282**	LR	LR	09 30 09.9	
	comp=Z,170nm,20.5s,baz=177,slow=30						
HNR	**Honiara**	**26.34**	**282**	*e*P	**P**	**09 22 34.7**	**-0.2**
RPZ	**Rata Peaks**	**30.24**	**202**	P	**P**	**09 23 09.0**	**-0.6**
	comp=Z,16nm,0.9s,mb4.7,baz=342,slow=20,SNR=2.9						
CTA	**Charters Tower**	**37.97**	**258**	*e*P	**P**	**09 24 15.7**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.0						
CTA	**Charters Tower**	**37.97**	**258**	*e*P	**P**	**09 24 15.7**	**-0.5**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CTAO	**Charters Tower**	**37.97**	**258**	*e*P	**P**	**09 24 16.6**	**+0.4**
PMG	**Port Moresby**	**38.50**	**275**	P	**P**	**09 24 21.9**	**+1.4**
	comp=Z,37nm,1.0s,mb5.0,baz=128,slow=2.7,SNR=6.6						
PMG	**Port Moresby**	**38.50**	**275**	*e*P	**P**	**09 24 21.4**	**+0.8**
PMG	**Port Moresby**	**38.50**	**275**	*e*P	**P**	**09 24 20.2**	**-0.4**
STKA	**Stephens Creek**	**43.20**	**241**	⇑*i*P	**P**	**09 24 58.9**	**-0.2**
	comp=Z,7.1nm,0.6s,mb4.5						
STKA				*e*	pP	09 25 32.1	+1.1
STKA	**Stephens Creek**	**43.20**	**241**	P	**P**	**09 24 59.0**	**-0.1**
	comp=Z,5.8nm,0.5s,mb4.5,baz=82,slow=7.1,SNR=15						
STKA				pP	pP	09 25 30.4	-0.6
	comp=Z,16nm,0.9s,baz=75,slow=9.4,SNR=6.0						
STKA				PcP	PcP	09 26 47.7	+1.9
	comp=Z,2.1nm,0.7s,baz=72,slow=3.2,SNR=2.9						
STKA				LR	LR	09 39 23.7	
	comp=Z,76nm,20.3s,baz=208,slow=31						
WB2	**Warramunga Arr**	**49.16**	**257**	*e*P	**P**	**09 25 44.5**	**-1.2**
WRA	**Warramunga Arr**	**49.17**	**257**	P	**P**	**09 25 44.9**	**-0.9**
	comp=Z,7.6nm,0.8s,mb4.4,baz=94,slow=6.4,SNR=48						
WRA				pP	pP	09 26 18.1	-0.4
	comp=Z,6.6nm,1.0s,baz=91,slow=7.5,SNR=3.9						
WRA				PcP	PcP	09 27 08.0	+1.2
	comp=Z,3.9nm,0.8s,baz=89,slow=3.6,SNR=5.4						
ASAR	**Alice Springs**	**49.38**	**253**	P	**P**	**09 25 45.6**	**-1.7**
	comp=Z,13nm,0.5s,mb4.8,baz=87,slow=8.1,SNR=225						
ASAR				pP	pP	09 26 19.8	-0.3
	comp=Z,16nm,0.7s,baz=85,slow=8.6,SNR=2.3						
ASAR				ScP	ScP	09 30 53.3	+3.9
	comp=Z,1.6nm,1.0s,baz=84,slow=4.1,SNR=5.6						
KAKA	**Kakadu**	**51.94**	**266**	⇓*i*P	**P**	**09 26 06.8**	**+0.3**
	comp=Z,18nm,0.6s,mb4.9						
KNA	**Kununurra**	**54.93**	**262**	P	**P**	**09 26 28.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**57.55**	**259**	*e*P	**P**	**09 26 46.9**	**0.0**
	comp=Z,9.5nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**57.55**	**259**	P	**P**	**09 26 47.3**	**+0.4**
	comp=Z,2.6nm,0.6s,mb4.2,baz=125,slow=5.3,SNR=5.3						
VNDA	**Vanda**	**62.52**	**186**	P	**P**	**09 27 22.3**	**+1.5**
	comp=Z,17nm,0.9s,mb4.9,baz=6.2,slow=6.3,SNR=32						
VNDA	**Vanda**	**62.52**	**186**	*e*P	**P**	**09 27 22.0**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,19nm,1.0s						
VNDA	**Vanda**	**62.52**	**186**	*e*P	**P**	**09 27 22.0**	**+1.2**
	comp=Z,19nm,1.0s,mb4.9						
KLBR	**Kellerberrin**	**63.41**	**242**	*e*P	**P**	**09 27 26.2**	**-0.5**
	comp=Z,10nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**69.23**	**320**	P	**P**	**09 28 03.0**	**-0.7**
	comp=Z,1.0nm,0.4s,mb3.9,baz=152,slow=2.4,SNR=4.5						
YBH	**Yreka Blue Hor**	**74.55**	**37**	P	**P**	**09 28 36.6**	**+1.2**
	comp=Z,8.7nm,0.9s,mb4.4,baz=213,slow=18,SNR=12						
NVAR	**Mina Array Bea**	**75.27**	**42**	P	**P**	**09 28 40.4**	**+0.9**
	comp=Z,2.3nm,0.8s,mb3.9,baz=234,slow=12,SNR=12						
NVAR				pP	pP	09 29 15.1	+0.2
	comp=Z,1.9nm,0.8s,baz=235,slow=12,SNR=3.2						
NVAR	**Mina Array Bea**	**75.27**	**42**	P	**P**	**09 28 40.4**	**+0.9**
NVAR				pP	pP	09 29 15.1	+0.2
KSRS	**Korea Array**	**76.39**	**316**	P	**P**	**09 28 46.8**	**+0.9**
	comp=Z,2.0nm,0.9s,mb3.8,baz=18,slow=25,SNR=4.3						
KSRS				LR	LR	09 59 23.2	
	comp=Z,30nm,20.6s,baz=190,slow=33						
SVW2	**Sparrevohn**	**78.44**	**9**	*e*P	**P**	**09 28 56.2**	**-1.1**
SLKM	**Skilak Lake**	**78.81**	**12**	*e*P	**P**	**09 28 58.8**	**-0.5**
MSU	**Marysvale**	**79.36**	**45**	*e*P	**P**	**09 29 02.8**	**+0.5**
DUG	**Dugway**	**79.80**	**43**	*e*P	**P**	**09 29 05.4**	**+0.7**
PMR	**Palmer**	**80.02**	**12**	*e*P	**P**	**09 29 04.7**	**-1.2**
PMR				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.7						
PMR	**Palmer**	**80.02**	**12**	*e*P	**P**	**09 29 04.7**	**-1.2**
	comp=Z,24nm,1.4s,mb4.6						
TTA	**Tatalina**	**80.13**	**8**	*e*P	**P**	**09 29 05.2**	**-1.3**
HLID	**Hailey**	**80.57**	**39**	*e*P	**P**	**09 29 09.1**	**+0.3**
	comp=Z,6.3nm,1.0s,mb4.2						
SRU	**San Rafael**	**80.78**	**45**	*e*P	**P**	**09 29 11.1**	**+1.2**
MA2	**Magadan**	**80.78**	**343**	*e*P	**P**	**09 29 06.7**	**-3.3**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.2						
KLR	**Kul'dur**	**80.92**	**327**	*e*P	**P**	**09 29 08.0**	**-2.7**
MNTX	**Cornudas Mount**	**81.11**	**53**	*e*P	**P**	**09 29 13.2**	**+1.5**
LTX	**Lajitas**	**81.48**	**56**	*e*P	**P**	**09 29 15.2**	**+1.5**
LTX				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
LTX	**Lajitas**	**81.48**	**56**	*e*P	**P**	**09 29 15.2**	**+1.5**
	comp=Z,7.5nm,1.2s,mb4.2						
PV01	**Paradox Valley**	**81.65**	**46**	*e*P	**P**	**09 29 15.8**	**+1.2**
PV01				*e*PcP	PcP	09 29 20.6	+0.7
TNA	**Tin City**	**81.65**	**3**	*e*P	**P**	**09 29 13.8**	**-0.7**
	comp=Z,27nm,1.2s,mb4.8						
ANMO	**Albuquerque**	**81.71**	**50**	⇑*e*P	**P**	**09 29 17.1**	**+2.3**
ANMO	**Albuquerque**	**81.71**	**50**	*e*P	**P**	**09 29 16.2**	**+1.3**
	comp=Z,10nm,1.3s,mb4.3						
ANMO				*e*PcP	PcP	09 29 21.8	+1.5
MCK	**McKinley**	**82.01**	**11**	*e*P	**P**	**09 29 15.7**	**-0.7**
MCK				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.8						
MCK	**McKinley**	**82.01**	**11**	*e*P	**P**	**09 29 15.7**	**-0.8**
	comp=Z,23nm,0.9s,mb4.8						
MCMT	**McKenzie Canyo**	**82.20**	**39**	*e*P	**P**	**09 29 18.4**	**+1.0**
MCMT				*e*PcP	PcP	09 29 23.2	+0.8
MENT	**Mentasta**	**82.36**	**13**	*e*P	**P**	**09 29 17.7**	**-0.5**
DLMT	**Dillon**	**82.64**	**39**	*e*P	**P**	**09 29 20.4**	**+0.8**
	comp=Z,18nm,1.4s,mb4.6						
REDW	**Red Top Meadow**	**82.68**	**41**	*e*P	**P**	**09 29 21.0**	**+1.1**
	comp=Z,14nm,1.3s,mb4.5						
QLMT	**Earthquake Lak**	**83.07**	**39**	*e*P	**P**	**09 29 23.0**	**+1.1**
QLMT				*e*PcP	PcP	09 29 27.9	+1.7
CHMT	**Chamberlain Mo**	**83.08**	**37**	*e*P	**P**	**09 29 22.4**	**+0.4**
CHMT				*e*PcP	PcP	09 29 27.4	+1.2
SEY	**Seymchan**	**83.17**	**345**	*i* P	**P**	**09 29 20.8**	**-1.6**
PDAR	**Pinedale Array**	**83.20**	**42**	P	**P**	**09 29 23.1**	**+0.5**
	comp=Z,4.6nm,0.8s,mb4.2,baz=214,slow=3.3,SNR=37						
PDAR				pP	pP	09 29 58.3	-0.3
	comp=Z,2.1nm,0.8s,baz=218,slow=3.1,SNR=3.2						
SMCO	**Snowmass**	**83.24**	**46**	*e*P	**P**	**09 29 24.3**	**+1.6**
	comp=Z,11nm,1.0s,mb4.5						
COLA	**College**	**83.25**	**11**	*e*P	**P**	**09 29 22.2**	**-0.6**
COLA				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.2						
COLA	**College**	**83.25**	**11**	*e*P	**P**	**09 29 22.1**	**-0.7**
	comp=Z,46nm,0.9s,mb5.2						
YMR	**Madison River**	**83.27**	**40**	*e*P	**P**	**09 29 23.5**	**+0.6**
	comp=Z,9.8nm,0.6s,mb4.7						
IMA2	**Indian Mountai**	**83.43**	**8**	*e*P	**P**	**09 29 23.5**	**-0.3**
DAWY	**Dawson**	**84.33**	**15**	*e*P	**P**	**09 29 27.9**	**-0.4**
BILL	**Bilibino**	**85.25**	**353**	*ote*P	**P**	**09 29 31.8**	**-1.1**
BILL				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
BILL	**Bilibino**	**85.25**	**353**	*e*P	**P**	**09 29 32.1**	**-0.8**
	comp=Z,27nm,1.3s,mb4.8						
BJI	**Beijing**	**85.66**	**314**	P	**P**	**09 29 35.0**	**0.0**
BJI				S	S	09 39 55.5	+0.3
BJI				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.4						
BJI				LR	LR		
	comp=N,263nm,14.7s						
BJI				LR	LR		
	comp=E,263nm,15.8s						
BJI				LR	LR		
	comp=Z,183nm,25.5s						
BJI	**Beijing**	**85.66**	**314**	P	**P**	**09 29 35.1**	**+0.1**
	comp=Z,11nm,1.5s,mb4.4						
BJI				S	S	09 39 55.6	+0.4
BJI				LR	LR		
	comp=Z,180nm,25.5s						
EDM	**Edmonton**	**86.44**	**32**	*e*P	**P**	**09 29 38.6**	**-0.2**
MAW	**Mawson**	**86.86**	**199**	P	**P**	**09 29 41.8**	**+1.0**
	comp=Z,6.4nm,0.6s,mb4.7,baz=127,slow=7.1,SNR=17						
MAW				LR	LR	10 08 34.3	
	comp=Z,57nm,18.8s,baz=219,slow=36						
GYA	**Guiyang**	**87.98**	**298**	P	**P**	**09 29 48.0**	**+1.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,430nm,20.7s						
GYA				LR	LR		
	comp=E,480nm,20.6s						
GYA				LR	LR		
	comp=Z,490nm,21.0s						
XAN	**Xi'an**	**88.70**	**306**	P	**P**	**09 29 50.0**	**+0.5**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.4						
INK	**Inuvik**	**89.18**	**14**	*e*P	**P**	**09 29 51.2**	**-0.6**
	comp=Z,94nm,1.7s,mb5.4						
HHC	**Hu-ho-hao-te**	**89.21**	**313**	*e*P	**P**	**09 29 51.0**	**-0.9**
HHC				S	S	09 40 34.8	+5.8
HHC				SS	SS	09 46 31.8	+5.6
HHC				AMB	AMB		
	comp=Z,24nm,0.4s,mb5.5

SYO	**Syowa Base**	**91.70 191**	⇑*eX*			09 30 02.8	
SYO	**Syowa Base**	**91.70 191**	⇓esp			09 30 22.2	
CD2	**Chengdu**	**91.80 302**	*eP*	**P**		**09 30 06.0**	**+2.0**
CD2			PP	PP		09 33 46.8	+2.0
CD2			AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8						
CD2			LR	LR			
	comp=N,180nm,15.6s						
CD2			LR	LR			
	comp=E,120nm,13.2s						
CD2			LR	LR			
	comp=Z,140nm,10.8s						
VNA3	**Neumayer Olymp**	**92.09 175**	*eP*	**P**		**09 30 06.2**	**+0.9**
SNAA	**Sanae**	**92.12 177**	*eP*	**P**		**09 30 06.1**	**+0.6**
VNA2	**Neumayer--Watz**	**92.58 176**	*eP*	**P**		**09 30 08.8**	**+1.2**
LZH	**Lanzhou**	**93.30 306**	*eP*	**P**		**09 30 12.5**	**+1.6**
LZH			PP	PP		09 33 58.8	+2.3
LZH			*e*SS	SS		09 47 32.3	+7.2
LZH			AMB	AMB			
	comp=Z,21nm,1.5s,mb5.0						
LZH			AMB	AMB			
	comp=Z,109nm,8.7s						
LZH			LR	LR			
	comp=E,336nm,17.2s						
LZH			LR	LR			
	comp=Z,493nm,19.5s						
LZH	**Lanzhou**	**93.30 306**	*eP*	**P**		**09 30 12.5**	**+1.6**
LZH						09 33 58.7	
LZH						09 40 42.1	
LZH			*e*S	S		09 41 13.7	+7.8
LZH			PS	PS		09 42 35.6	-1.9
LZH			*e*SS	SS		09 47 32.3	+7.2
LZH			pmax	pmax			
	comp=Z,21nm,1.5s,mb5.0						
LZH			MLR	MLR			
	comp=Z,490nm,19.5s						
LZH	**Lanzhou**	**93.30 306**	*eP*	**P**		**09 30 12.5**	**+1.6**
	comp=Z,21nm,1.5s,mb5.0						
LZH			pP	pP		09 30 23.6	-24
LZH			sP	sP		09 30 27.5	-35
LZH			PP	PP		09 33 58.7	+2.2
LZH			SKS			09 40 42.1	
LZH			*e*S	S		09 41 13.7	+7.8
LZH			sS	sS		09 41 31.5	-38
LZH			PS	PS		09 42 35.6	-1.9
LZH			*e*SS	SS		09 47 32.3	+7.2
LZH			LR	LR			
	comp=Z,490nm,19.5s						
ULN	**Ulaanbaatar**	**94.70 318**	*eP*	**P**		**09 30 17.5**	**+0.2**
SONM	**Songino Array**	**95.11 318**	P	**P**		**09 30 19.0**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.9,baz=103,slow=3.2,SNR=3.7						
SONM			LR	LR		10 09 05.2	
	comp=Z,85nm,19.0s,baz=7.2,slow=33						
TIXI	**Tiksi**	**95.65 344**	*eP*	**P**		**09 30 20.6**	**-1.0**
TIXI			pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**111.03 314**	PKiKP	PKiKP		09 35 28.4	-0.3
	comp=Z,0.8nm,0.5s,baz=83,slow=1.6,SNR=13						
MKAR	**Makanchi Array**	**111.03 314**	PKPdf	PKiKP		09 35 28.4	-0.3
JOF	**Joensuu**	**130.13 345**	*e*pkp	PKPdf		09 36 03.1	-2.2
KAF	**Kangasniemi**	**131.97 347**	*e*pkp	PKPdf		09 36 07.2	-1.6
FINES	**FINESS Array B**	**132.62 347**	PKP	PKPdf		09 36 10.7	+0.7
	comp=Z,4.7nm,0.8s,baz=49,slow=3.9,SNR=12						
OBN	**Obninsk**	**134.65 336**	*i* PKIKP	PKPdf		09 36 15.0	+1.2
OBN			pmax	pmax			
	comp=Z,9.0nm,0.8s						
NB2	**NORSAR Subarra**	**135.08 356**	PKPdf	PKPdf		09 36 15.8	+1.2
	comp=Z,3.6nm,1.1s,baz=6.6,slow=1.8						
NOA	**NORSAR Array B**	**135.08 356**	PKP	PKPdf		09 36 15.7	+1.1
	comp=Z,1.7nm,0.9s,baz=349,slow=2.0,SNR=4.1						
AKASG	**Malin Array Be**	**140.89 337**	PKhKP			09 36 19.5	
	comp=Z,0.5nm,0.3s,baz=36,slow=4.2,SNR=5.6						
AKASG			PKP	PKPdf		09 36 26.3	+1.0
	comp=Z,0.5nm,0.4s,baz=38,slow=2.5,SNR=4.1						
AKASG	**Malin Array Be**	**140.89 337**	PKIKP	PKPdf		09 36 26.3	+1.0
AKASG	**Malin Array Be**	**140.89 337**	PKP	PKPdf		09 36 26.3	+1.0
LVV	**L'vov**	**143.46 340**	*e*PKIKP	PKPdf		09 36 32.2	+2.3
KWP	**Kalwaria**	**144.04 342**	*e*PKP	PKPdf		09 36 29.3	-1.6
MALT	**Malatya**	**144.07 314**	⇓*i* P	PKPdf		09 36 31.3	+0.4
CLZ	**Clausthal**	**144.29 355**	*e*PKPbc	PKPdf		09 36 30.2	-1.1
OJC	**Ojcow**	**144.31 345**	*e*PKP	PKPdf		09 36 30.2	-1.2
KSP	**Ksiaz**	**144.49 349**	*e*PKP	PKPdf		09 36 31.4	-0.3
KSP	**Ksiaz**	**144.49 349**	*e*PKP	PKPdf		09 36 30.6	-1.1
CLL	**Collm**	**144.56 352**	*e*PKPbc	PKPdf		09 36 30.3	-1.5
CLL	**Collm**	**144.56 352**	⇑*i* PKPdf	PKPdf		09 36 30.4	-1.4
	comp=Z,10.0nm,0.9s						
CLL			*i* pPKPdf	pPKPdf		09 37 07.4	-2.6
STHS	**Stebnicka Huta**	**144.66 343**	*i* PKP	PKPdf		09 36 32.0	0.0
KOLS	**Kolonicke sedl**	**144.79 341**	*e*PKP	PKPdf		09 36 32.1	-0.1
BUG	**Bochum--Univer**	**144.85 359**	*e*PKPbc	PKPdf		09 36 31.5	-0.8
BRG	**Berggiesshubel**	**144.85 351**	*e*PKPbc	PKPdf		09 36 31.0	-1.3
BRG	**Berggiesshubel**	**144.85 351**	*e*PKP	PKPdf		09 36 31.5	-0.8
	comp=Z,6.5nm,1.1s						
UPC	**Upice**	**144.87 349**	*e*PKP	PKPdf		09 36 32.1	-0.2
UPC			*ex*	x		09 36 38.6	
FBE	**Freiberg**	**144.89 352**	*e*PKPbc	PKPdf		09 36 32.0	-0.4
BURAR	**Bucovina Array**	**144.93 337**	⇑*i* P	PKPdf		09 36 32.6	+0.2
DPC	**Dobruska-Polom**	**144.96 349**	*e*PKP	PKPdf		09 36 32.8	+0.3
UZH	**Uzhgorod**	**145.05 341**	*e*PKHKP			09 36 31.0	
UZH			*i*			09 36 33.0	
CRVS	**Cervenica-Dubn**	**145.06 342**	*e*PKP	PKPdf		09 36 32.8	+0.1
OKC	**Ostrava-Krasne**	**145.06 346**	*e*PKP	PKPdf		09 36 32.7	0.0
PVCC	**Panska Ves**	**145.09 351**	*e*PKP	PKPdf		09 36 32.6	-0.1
MORC	**Moravsky Berou**	**145.25 347**	⇑*i* P	PKPdf		09 36 33.8	+0.8
UBBA	**Unterbreizbach**	**145.34 356**	*e*PKPbc	PKPbc		09 36 33.1	-0.2
MOX	**Moxa**	**145.37 354**	*e*PKPbc	PKPbc		09 36 33.1	-0.3
MOX	**Moxa**	**145.37 354**	*e*PKP	PKPdf		09 36 33.4	+0.2
	comp=Z,31nm,1.2s						
UCC	**Uccle**	**145.47 2**	PKP	PKPdf		09 36 34.3	+1.0
WERD	**Werda**	**145.49 353**	*e*PKPbc	PKPbc		09 36 33.8	+0.1
TANN	**Tannenbergstha**	**145.50 353**	*e*PKPbc	PKPbc		09 36 33.9	+0.1
BEBN	**Eben Emael**	**145.50 0**	PKP	PKPdf		09 36 34.0	+0.6
GUNZ	**Gunzen**	**145.56 353**	*e*PKPbc	PKPbc		09 36 34.2	+0.2
PRU	**Pruhonice**	**145.62 350**	*e*PKP	PKPdf		09 36 34.6	+1.0
PRU			*ex*	x		09 36 41.7	
WERN	**Wernitzgruen**	**145.63 353**	*e*PKPbc	PKPbc		09 36 34.4	+0.2
NKC	**Novy Kostel**	**145.68 353**	*e*PKP	PKPdf		09 36 34.8	+1.1
MEM	**Membach**	**145.69 0**	PKP	PKPdf		09 36 34.5	+0.8
KECS	**Kecovo**	**145.72 343**	*i* PKP	PKPdf		09 36 35.0	+1.2
VRI	**Vrincioaia**	**145.76 334**	⇑*i* P	PKPdf		09 36 35.3	+1.4
SNF	**Seneffe**	**145.76 2**	PKP	PKPdf		09 36 35.3	+1.4
PLOR	**Plostina**	**145.81 334**	⇓*i* P	PKPdf		09 36 35.4	+1.5
BCLA	**Clavier**	**145.88 1**	PKP	PKPdf		09 36 35.5	+1.4
VRAC	**Vranov**	**145.90 348**	PKP2	PKPab		09 36 35.6	-0.1
MANZ	**Manzenberg**	**145.96 353**	*e*PKPbc	PKPbc		09 36 35.7	+0.5
TNS	**Taunus Mts**	**146.03 357**	*e*PKPbc	PKPbc		09 36 35.7	+0.3
JAVC	**Velka Javorina**	**146.09 346**	PKP2	PKPbc		09 36 35.8	+0.2
TREC	**Trest**	**146.13 349**	*e*PKP	PKPdf		09 36 35.8	+1.3
VYHS	**Vyhne**	**146.15 345**	*i* PKP	PKPbc		09 36 36.5	+0.8
ROTZ	**Rotzenmuhle**	**146.17 353**	*e*PKPbc	PKPbc		09 36 36.4	+0.6
GIVF	**Givet**	**146.18 1**	*e*PKP1	PKPbc		09 36 36.3	+0.5
DOU	**Dourbes**	**146.19 2**	PKP	PKPdf		09 36 36.1	+1.5
BAIF	**Baives**	**146.21 2**	*e*PKP1	PKPbc		09 36 36.5	+0.6
	comp=Z,14nm,0.6s						
GRA1	**Grafenberg Arr**	**146.35 354**	*e*PKPbc	PKPbc		09 36 36.8	+0.5
GRF	**Grafenberg Arr**	**146.35 354**	*e*PKPbc	PKPbc		09 36 36.8	+0.5
GRFO	**Grafenberg**	**146.35 354**	*e*PKP2	PKPab		09 36 37.3	-0.1
MLR	**Muntele Rosu**	**146.39 334**	⇓*i* P	PKPbc		09 36 37.5	+1.1
PSZ	**Piszkesteto**	**146.40 343**	⇓*i* P	PKPbc		09 36 37.5	+1.0
ABH	**Alteburg**	**146.40 358**	PKP	PKPdf		09 36 36.6	+1.7
BRTR	**Keskin Array B**	**146.46 320**	PKPbc	PKPbc		09 36 37.8	+1.1
	comp=Z,12nm,0.9s,baz=100,slow=2.7,SNR=38						
SMOL	**Smolenice**	**146.47 346**	*e*PKP	PKPbc		09 36 37.9	+1.2
DRGR		**146.52 339**	⇓*i* P	PKPbc		09 36 37.0	+0.2
KHC	**Kasperske Hory**	**146.60 351**	*e*PKP	PKPbc		09 36 37.5	+0.4
KHC			*ex*	x		09 36 45.8	
KHC			*e*pPKP	pPKPdf		09 37 11.0	-2.5
TOD	**Tromm**	**146.62 357**	PKP2	PKPbc		09 36 37.3	+0.2
WLF	**Walferdange**	**146.64 360**	*e*PKPbc	PKPbc		09 36 38.0	+0.8
WLF	**Walferdange**	**146.64 360**	PKP	PKPbc		09 36 38.2	+1.1
WET	**Wettzell**	**146.69 352**	*e*PKPbc	PKPbc		09 36 37.8	+0.5
VOIR		**146.80 335**	⇓*i* P	PKPbc		09 36 38.8	+1.2
ZST	**Bratislava**	**146.84 346**	*e*PKP	PKPbc		09 36 39.0	+1.3
GEC2	**GERESS Array S**	**146.87 351**	*e*PKPbc	PKPbc		09 36 38.2	+0.4
GERES	**GERESS Array B**	**146.87 351**	PKPbc	PKPbc		09 36 38.1	+0.3
	comp=Z,7.6nm,0.8s,baz=29,slow=3.0,SNR=49						
ROSF	**Rostrenen**	**147.06 11**	*e*PKP1	PKPbc		09 36 38.5	+0.2
FLN	**La Foliniere**	**147.10 8**	*e*PKP1	PKPbc		09 36 38.6	+0.1
	comp=Z,45nm,0.8s						
SGMF	**Saint Gilles**	**147.27 11**	*e*PKP1	PKPbc		09 36 39.1	+0.2
	comp=Z,39nm,0.9s						
LANF	**Langenberg**	**147.29 358**	PKP	PKPbc		09 36 39.5	+0.5
LDF	**La Druitiere**	**147.31 8**	*e*PKP1	PKPbc		09 36 39.1	+0.1
	comp=Z,21nm,0.8s						
CONA	**Conrad Observa**	**147.36 348**	*i* PKPab	PKPab		09 36 40.2	-1.2
	comp=Z,9.2nm,0.7s,SNR=13						
GRR	**Gorron**	**147.41 9**	*e*PKP1	PKPbc		09 36 39.7	+0.4
	comp=Z,57nm,0.9s						
QUIF	**Quistinic**	**147.48 12**	*e*PKP1	PKPbc		09 36 39.9	+0.4
GZR	**Gura Zlata**	**147.71 338**	⇓*i* P	PKPbc		09 36 40.3	+0.2
MOA	**Molln**	**147.74 350**	*i* P	PKPbc		09 36 40.8	+0.6
	comp=Z,9.1nm,0.8s,SNR=7.2						
MEZF	**Maizieres J'vi**	**147.79 1**	*e*PKP1	PKPbc		09 36 40.8	+0.5
CDF	**Champ du Feu**	**147.88 358**	*e*PKP1	PKPbc		09 36 41.2	+0.6
	comp=Z,30nm,0.8s						
BFO	**Black Forest**	**147.92 357**	*e*PKPbc	PKPbc		09 36 41.0	+0.3
BFO	**Black Forest**	**147.92 357**	*e*PKPbc	PKPbc		09 36 41.3	+0.7
BZS	**Buzias**	**147.92 339**	⇑*i* P	PKPbc		09 36 41.0	+0.3
THEF	**They Montfort**	**148.08 0**	PKP	PKPbc		09 36 41.6	+0.5
HAU	**Haudompre**	**148.30 360**	*e*PKP1	PKPbc		09 36 42.3	+0.6
	comp=Z,37nm,0.8s						
FELD	**Feldberg im Sc**	**148.39 358**	PKP	PKPbc		09 36 42.3	+0.4
HINF	**Hinteralfeld**	**148.48 359**	*e*PKP1	PKPbc		09 36 42.5	+0.4
	comp=Z,8.1nm,0.7s						
WATA	**Walderalm**	**148.64 353**	⇑*i* P	PKPbc		09 36 42.9	+0.4
	comp=Z,6.9nm,1.0s						
KBA	**Koelnbreinsper**	**148.64 350**	⇑*i* P	PKPbc		09 36 43.5	+1.0
	comp=Z,5.3nm,0.6s						
MOTA	**Moosalm**	**148.68 353**	⇑*i* P	PKPbc		09 36 43.1	+0.5
	comp=Z,11nm,1.1s						
WTTA	**Wattenberg**	**148.70 353**	⇑*i* P	PKPbc		09 36 43.3	+0.7
	comp=Z,18nm,0.6s,SNR=17						
PERS	**Pernice**	**148.75 348**	*i* PKPbc	PKPbc		09 36 42.9	+0.1
SQTA	**Sankt Quirin**	**148.79 353**	⇑*i* P	PKPbc		09 36 43.5	+0.6
	comp=Z,11nm,1.1s						
DAVA	**Damuels**	**148.86 355**	⇑*i* P	PKPbc		09 36 44.0	+0.9
	comp=Z,15nm,0.8s						
LOMF	**Lomont**	**148.95 359**	PKP	PKPbc		09 36 43.8	+0.5
LOR	**Lormes**	**148.98 3**	*e*PKP1	PKPbc		09 36 44.2	+0.8
	comp=Z,20nm,0.6s						
FETA	**Feichten**	**149.04 354**	⇑*i* PKiKP	PKiKP		09 36 44.6	-0.2
	comp=Z,18nm,1.1s						
ABTA	**Abfaltersbach**	**149.09 351**	⇑*i* PKPbc	PKPbc		09 36 43.5	-0.2
	comp=Z,14nm,0.8s						
SSF	**Saint Saulge**	**149.17 3**	*e*PKP1	PKPbc		09 36 44.8	+0.9
	comp=Z,38nm,0.8s						
MFF	**Saint Martin d**	**149.26 8**	*e*PKP1	PKPbc		09 36 44.6	+0.5
	comp=Z,21nm,0.9s						
AVF	**Avril sur Loir**	**149.43 4**	*e*PKP1	PKPbc		09 36 45.1	+0.6
	comp=Z,24nm,0.9s						
LJU	**Ljubljana**	**149.43 348**	*i* PKPbc	PKPbc		09 36 44.9	+0.4
CRES	**Cresnjev**	**149.45 347**	*i* PKPbc	PKPbc		09 36 44.9	+0.4
SMF	**Signal de Mont**	**149.60 3**	*e*PKP1	PKPbc		09 36 45.6	+0.7
BGF	**Bois d'Agland**	**149.63 4**	*e*PKP1	PKPbc		09 36 45.9	+0.9
	comp=Z,38nm,0.9s						
CABF	**La Chapelle**	**149.69 360**	*e*PKP1	PKPbc		09 36 46.5	+1.3
	comp=Z,94nm,1.0s						
BOJS	**Bojanci**	**149.80 347**	*i* PKPbc	PKPbc		09 36 47.2	+1.8
DIVS	**Divcibare**	**149.81 340**	⇑*i* PKP	PKPbc		09 36 46.1	+0.7
TCF	**Toulx Ste Croi**	**149.84 5**	*e*PKP1	PKPbc		09 36 46.0	+0.5
	comp=Z,19nm,0.9s						
CTI	**Castel Tesino**	**149.89 352**	PKP2	PKPbc		09 36 46.4	+0.8
VTS	**Vitosha**	**149.89 334**	⇑*i* P	PKPbc		09 36 46.7	+1.1
AGO	**Saint Agoulin**	**150.15 4**	PKP	PKPbc		09 36 47.5	+1.2
BBLS	**Bajina Basta -**	**150.20 340**	*e*PKP	PKPbc		09 36 47.8	+1.4
OG05	**Julurieux**	**150.26 1**	PKP	PKPbc		09 36 47.5	+1.0
PLDF	**La Plantade**	**150.26 3**	PKP	PKPbc		09 36 47.5	+1.0
PYM	**Petit Puy Mans**	**150.44 4**	PKP	PKPbc		09 36 48.4	+1.5
RJF	**Les Rejaudoux**	**150.75 7**	*e*PKP1	PKPbc		09 36 48.8	+1.1
	comp=Z,13nm,0.8s						
LPL	**La Plagne**	**150.78 359**	*e*PKP1	PKPbc		09 36 49.6	+1.8
	comp=Z,26nm,0.8s						
LPG	**La Plagne**	**150.80 359**	*e*PKP1	PKPbc		09 36 49.7	+1.9
	comp=Z,25nm,0.7s						
LBL	**Lubilhac**	**150.97 4**	PKP	PKPbc		09 36 49.6	+1.4
LFF	**La Frestale**	**151.01 8**	*e*PKP1	PKPbc		09 36 49.3	+1.0
	comp=Z,37nm,0.8s						
CAF	**Calviac**	**151.18 6**	*e*PKP1	PKPbc		09 36 49.9	+1.2
	comp=Z,28nm,1.0s						
ORIF	**Oris-en-Rattie**	**151.39 0**	*e*PKP1	PKPbc		09 36 50.4	+1.3
	comp=Z,14nm,0.8s						
VIVF	**Saint-Julien-l**	**151.42 2**	*e*PKP1	PKPbc		09 36 50.5	+1.3
	comp=Z,31nm,0.9s						
MBDF	**Montbardon**	**151.57 359**	*e*PKP1	PKPbc		09 36 50.7	+1.1
	comp=Z,19nm,0.7s						
LASF	**Ste Croix**	**152.16 3**	*e*PKP1	PKPbc		09 36 52.2	+1.3
	comp=Z,24nm,0.8s						
SMRF	**Simiane la Rot**	**152.32 1**	*e*PKP1	PKPbc		09 36 52.6	+1.3
	comp=Z,23nm,0.7s						
SBF	**Sospel**	**152.42 358**	*e*PKP1	PKPbc		09 36 52.6	+1.1
SJPF	**Ste Jean**	**152.47 12**	*e*PKP1	PKPbc		09 36 52.8	+1.2
FRF	**La Foret Royal**	**152.74 359**	*e*PKP1	PKPbc		09 36 53.3	+1.1
MTLF	**Montolieu**	**152.76 6**	*e*PKP1	PKPbc		09 36 53.6	+1.4
ETSF	**Etsaut**	**152.81 11**	*e*PKP1	PKPbc		09 36 53.7	+1.4
	comp=Z,16nm,0.9s						
EPF	**Esparros**	**152.83 9**	*e*PKP1	PKPbc		09 36 53.7	+1.3
LMR	**La Mourre**	**152.97 359**	*e*PKP1	PKPbc		09 36 54.0	+1.3
PGF	**Pioggiola**	**153.64 355**	*e*PKP1	PKPbc		09 36 55.4	+1.2
	comp=Z,22nm,0.9s						
ESDC	**Sonseca Array**	**155.04 19**	PKPab	PKPab		09 37 14.1	+0.8
	comp=Z,1.6nm,0.7s,baz=325,slow=3.7,SNR=8.0						
TORD	**Torodi Ar. Bea**	**174.78 125**	PKP	PKPdf		09 37 05.2	+0.2
	comp=Z,0.9nm,1.0s,baz=162,slow=0.9,SNR=3.2						
TORD			pPKP	pPKPdf		09 37 43.5	+0.1
	comp=Z,1.0nm,0.9s,baz=323,slow=0.5,SNR=3.7						
TORD			PKPab	PKPab		09 38 40.7	+0.7
	comp=Z,1.3nm,0.9s,baz=254,slow=4.4,SNR=5.0						
TORD			pPKPab	pPKPab		09 39 15.8	-0.8
	comp=Z,1.7nm,1.1s,baz=261,slow=4.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**174.78 125**	PKP	PKPdf		09 37 05.2	+0.2
TORD			pPKP	pPKPdf		09 37 43.5	+0.1
TORD			PKPab	PKPab		09 38 40.7	+0.6
TORD			pPKPab	pPKPab		09 39 15.8	-0.8

IDC 27 09:17:57.5±2.5, 671S×10574E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=89.4km s-min=22.4km az=56.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.71 118**		P	P	09 24 14.6	+0.5
	1.5nm,0.8s,baz=293,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**31.88 125**		P	P	09 24 24.9	+0.6
	0.3nm,0.3s,baz=300,slow=7.8,SNR=15						
KSRS	**Korea Array**	**48.57 24**		P	P	09 26 41.9	-0.6
	1.5nm,0.7s,baz=216,slow=8.7,SNR=4.0						
SONM	**Songino Array**	**54.31 1**		P	P	09 27 26.6	+1.1
	0.4nm,0.4s,baz=178,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**57.20 341**		P	P	09 27 46.3	0.0
	0.6nm,0.5s,baz=154,slow=8.7,SNR=9.3						
TXAR	**Lajitas Array**	**144.30 47**		PKP	PKPdf	09 37 34.4	-1.1
	0.7nm,0.6s,baz=329,slow=1.6						

*CSEM **27** 09:24:50.7±1.0, 3876N×2899W, h7km±114km, ML2.2, Error ellipse: s-maj=70.1km s-min=10.1km az=115.0, After PDA*

*PDA **27** 09:24:50.7±1.0, 3876N×2899W, h7km±114km, MD3.1, ML2.2, Error ellipse: s-maj=70.1km s-min=10.1km az=115.0*

SVSA 27 09:24:50.7±1.0, 3876N×2899W, h7km±114km, MD3.1, ML2.2, Error ellipse: s-maj=70.1km s-min=10.1km az=115.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.23 139**		*i* P	Pg	09 24 55.1	-0.1
PTCA				*i* S	Sg	09 24 58.4	+0.1
PTCA							
	98nm,0.2s						
PTCA	**Ponta do Capel**	**0.23 139**		*i* S	Sg	09 24 58.4	+0.1
PCED	**Cedros**	**0.26 119**		*i* P	Pg	09 24 55.3	-0.5
PCED				*e*S	Sg	09 24 59.0	-0.2
PCED							
	446nm,0.2s						
PCED	**Cedros**	**0.26 119**		*e*S	Sg	09 24 59.0	-0.2
CALA	**Caldeira**	**0.28 128**		*i* P	Pg	09 24 55.6	-0.7
CALA				*e*S	Sg	09 25 00.1	+0.1
CALA	**Caldeira**	**0.28 128**		*e*S	Sg	09 25 00.1	+0.1
HOR	**Horta**	**0.36 129**		*e*P	Pg	09 24 56.8	-0.9
HOR				*e*S	Sg	09 25 01.2	-1.3
PCND	**Candelaria**	**0.50 125**		*e*S	Sg	09 25 05.5	-1.4
PCND							
	28nm,0.2s						
PICO	**Pico**	**0.51 120**		*e*P	Pg	09 24 59.7	-0.8
PICO				*e*S	Sg	09 25 06.0	-1.2
PTEI	**Pico do Teixo**	**0.56 118**		*e*S	Sg	09 25 07.2	-1.6
PTEI							
	37nm,0.2s						
ROSA	**Rosais**	**0.58 93**		*e*P	Pg	09 25 00.5	-1.5

*NIED **27** 09:39:00, 4730N×14300E, h11km, Mw3.7 Best double couple: M0:3.50000×10^14 NP1:φs355.00000°, δ72.00000°, λ-130.00000°. NP2:φs245.00000°, δ44.00000°, λ-27.00000°.*

*JMA **27** 09:39:05.5±0.3, 4733N×14303E, h36km, M3.7*

*SKHL **27** 09:39:06.7±0.2, 4720N×14260E, h10km, mb4.5/3*

*MOS **27** 09:39:06.6±1.6, 4698N×14256E, h14km, mb4.3/2, Error ellipse: s-maj=25.9km s-min=18.7km az=105.9*

MOS Felt (IV) at Sanatornyi, Sinegorsk, Ozhidaevo; (III) at Bikov, Novoaleksandrovsk, Yuzhno-Sakhalinsk; (II-III) at Lugovoye, Uglezabodsk.

*NEIC **27** 09:39:07.7±0.7, 4706N×14245E, h10km, MG3.7(JMA), Error ellipse: s-maj=23.7km s-min=10.6km az=26.0*

NEIC Felt [IV] at Ozhidayevo and Sinegorsk; [III] at Bykov, Lugovoye, Novoaleksandrovsk, Uglezavodsk and Yuzhno-Sakhalinsk.

*IDC **27** 09:39:07.2±1.1, 4705N×142.16E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=32.7km s-min=25.6km az=161.0*

*ISCJB **27** 09:39:08.8±0.6, 4703N±004×1427E±02, h22km±4km, mb3.7/7, Error ellipse: s-maj=19.5km s-min=5.7km az=164.4*

ISC 27 09:39:07.6±0.8, 4711N±004×1425E±01, h9km±7km, n28, σ1§15/34, mb3.7/7, 4D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.22 134**		κ *i* PN	**Pg**	**09 39 12.0**	**-0.1**
YSS				*i*		09 39 15.6	
YSS				pmax	pmax		
	comp=N,3μm,0.2s						
YSS				pmax	pmax		
	comp=Z,2μm,0.2s						
YSS				smax			
	comp=N,19μm,0.3s						
YSS				smax			
	comp=E,19μm,0.3s						
YSS				smax			
	comp=N,13μm,0.3s						
YSS				smax			
	comp=E,9μm,0.2s						
YSS	**Yuzh-Sakhalins**	**0.22 134**		*e*Pg	**Pg**	**09 39 12.1**	**0.0**
YSS				*e*Sn	**Sg**	**09 39 15.8**	**+0.7**
YSS	**Yuzh-Sakhalins**	**0.22 134**		⇓*i* Pg	**Pg**	**09 39 12.0**	**-0.1**
YSS				⇓*i* Pg	**Pg**	**09 39 12.1**	**0.0**
YSS				AMB	AMB	09 39 12.5	
	comp=E,3μm,0.2s						
YSS				AMB	AMB	09 39 12.5	
	comp=E,2μm,0.2s						
YSS				*i* Sg	**Sg**	**09 39 15.6**	**+0.5**
YSS				A		09 39 16.0	
	comp=E,19μm,0.3s						
YSS				A		09 39 16.0	
	comp=E,19μm,0.3s						
YSS				A		09 39 16.0	
	comp=E,9μm,0.2s						
YSS				A		09 39 16.0	
	comp=E,13μm,0.3s						
YSS				AMS	AMS	09 39 26.0	
	comp=E,4μm,3.0s						
YSS				AMS	AMS	09 39 26.0	
	comp=E,5μm,3.0s						
YSS				AMS	AMS	09 39 26.0	
	comp=E,4μm,3.0s					

*IDC **27** 09:49:56.2±1.2, 1016S×12439E, h0km, mb4.3/3, mb1 4.3/6, mb1mx4.0/16, mbtmp4.2/6, ML3.9/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/21, Error ellipse: s-maj=107.6km s-min=24.0km az=64.0*
*ISCJB **27** 09:49:58.7±0.8, 1043S±0.10×1244E±0.1, h35km, mb4.2/3, MS3.4/2, Error ellipse: s-maj=23.6km s-min=7.0km az=112.7*
*NEIC **27** 09:50:01.1±0.6, 1025S×12439E, h35km, Error ellipse: s-maj=34.6km s-min=8.8km az=59.0*
ISC 27 09:50:01.0±0.8, 1042S±009×1243E±01, h35km, n13, σ1§36/14, mb4.2/3, MS3.4/2, Timer region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.74**	**171**	*e*S	**Sn**	**09 53 16.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**7.74**	**171**	Pn	**Pn**	**09 51 53.3**	**+2.2**
	1.4nm,0.3s,baz=254,slow=20,SNR=2.5						
FITZ				Sn	**Sn**	**09 53 16.2**	**-1.2**
	4.1nm,0.3s,baz=147,slow=14,SNR=8.7						
FITZ				LR	LR	09 54 37.6	
	comp=Z,102nm,19.2s,baz=336,slow=35						
WRA	**Warramunga Arr**	**13.51**	**136**	Pn	**Pn**	**09 53 11.1**	**+1.0**
	0.4nm,0.3s,baz=312,slow=16,SNR=8.5						
WRA				Sn	**Sn**	**09 55 38.0**	**-0.9**
	1.8nm,0.3s,baz=304,slow=24,SNR=13						
WB2	**Warramunga Arr**	**13.52**	**136**	*e*P	**Pn**	**09 53 12.2**	**+2.0**
WB2				*e*S	**Sn**	**09 55 38.2**	**-0.9**
ASAR	**Alice Springs**	**16.02**	**146**	Pn	**Pn**	**09 53 45.8**	**+2.2**
	0.5nm,0.3s,baz=321,slow=12,SNR=8.0						
ASAR				Sn	**Sn**	**09 56 39.2**	**-0.9**
	0.7nm,0.3s,baz=317,slow=23,SNR=8.1						
STKA	**Stephens Creek**	**26.66**	**146**	LR	LR	10 06 45.8	
	comp=Z,57nm,21.0s,MS3.1,baz=208,slow=38						
MK31	**Makanchi Array**	**68.20**	**330**	*e*P	**P**	**10 00 56.8**	**-1.0**
MKAR	**Makanchi Array**	**68.20**	**330**	P	**P**	**10 00 56.8**	**-1.0**
	4.4nm,0.7s,mb4.6,baz=137,slow=7.6,SNR=32						
MAW	**Mawson**	**69.75**	**201**	LR	LR	10 25 21.5	
	comp=Z,51nm,20.7s,MS3.8,baz=180,slow=30						
ZAL	**Zalesovo**	**72.33**	**337**	P	**P**	**10 01 21.8**	**-1.3**
	2.0nm,0.6s,mb4.2,baz=5.7,slow=4.1,SNR=9.7						
ZAL	**Zalesovo**	**72.33**	**337**	P	**P**	**10 01 21.8**	**-1.3**
BVAR	**Borovoye Array**	**78.08**	**330**	P	**P**	**10 01 57.1**	**+1.0**
	1.5nm,1.1s,mb3.8,baz=134,slow=6.2,SNR=3.2						
TMUT	**Trail Mountain**	**123.04**	**50**	*e*PKPdf	PKPdf	10 08 54.1	+0.5

*IDC **27** 09:50:30.8±0.8, 2190N×12094E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/21, mbtmp4.0/10, MS3.4/1, Ms1 3.4/1, ms1mx2.3/29, Error ellipse: s-maj=43.9km s-min=16.4km az=71.0*
*NEIC **27** 09:50:32.6±0.6, 2174N×12063E, h10km, MG3.9(JMA), Error ellipse: s-maj=21.9km s-min=9.4km az=88.0*
*JMA **27** 09:50:35.6±0.1, 2172N×12123E, h0km, M3.9*
*ISCJB **27** 09:50:36.6±1.4, 2181N±008×12084E±008, h56km±13km, mb3.9/10, Error ellipse: s-maj=13.8km s-min=11.4km az=117.0*
ISC 27 09:50:38.1±1.4, 2184N±008×12079E±008, h54km±14km, n20, σ0§72/25, mb3.9/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.44**	**18**	*e*Pn	**Pn**	**09 51 15.2**	**-0.2**
YHNB	**Yeheng**	**2.87**	**11**	*e*Pn	**Pn**	**09 51 20.5**	**-0.8**
TATO	**Taipei**	**3.19**	**12**	*e*Pn	**Pn**	**09 51 25.1**	**-0.5**
YOJ	**Yonaguni jima**	**3.32**	**38**	P	**Pn**	**09 51 28.5**	**+1.1**
YOJ				*e*S	**Sn**	**09 52 07.3**	**+1.7**
HATJ	**Hateruma jima**	**3.55**	**51**	P	**Pn**	**09 51 30.5**	**-0.2**
HATJ				*e*S	**Sn**	**09 52 10.5**	**-0.9**
IRIF	**Iriomote-Funau**	**3.68**	**47**	P	**Pn**	**09 51 32.5**	**+0.1**
IRIF				*e*S	**Sn**	**09 52 15.0**	**+0.6**
JKRS	**Kuro-shima**	**3.81**	**51**	*e*S	**Sn**	**09 52 17.2**	**-0.5**
JIJ	**Ishigaki jima**	**3.98**	**50**	P	**Pn**	**09 51 36.5**	**-0.1**
JIJ				*e*S	**Sn**	**09 52 21.2**	**-0.8**
JTJ	**Tarama**	**4.55**	**52**	P	**Pn**	**09 51 44.6**	**+0.2**
JTJ				*e*S	**Sn**	**09 52 36.3**	**+0.3**
MKAR	**Makanchi Array**	**39.79**	**318**	P	**P**	**09 58 05.9**	**+0.1**
	0.9nm,0.7s,mb3.6,baz=114,slow=8.6,SNR=7.3						
FITZ	**Fitzroy Crossi**	**39.98**	**173**	P	**P**	**09 58 09.2**	**+1.8**
	1.1nm,0.3s,mb4.0,baz=277,slow=16,SNR=5.6						
ZAL	**Zalesovo**	**42.03**	**329**	P	**P**	**09 58 23.9**	**-0.4**
	0.8nm,0.6s,mb3.5,baz=2.7,slow=9.6,SNR=3.5						
WRA	**Warramunga Arr**	**43.59**	**161**	P	**P**	**09 58 35.5**	**-1.4**
	3.3nm,0.6s,mb4.2,baz=344,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**47.00**	**163**	P	**P**	**09 59 03.9**	**+0.1**
	2.9nm,1.1s,mb4.1,baz=342,slow=7.4,SNR=3.8						
BVAR	**Borovoye Array**	**49.27**	**322**	P	**P**	**09 59 21.4**	**+0.1**
	0.9nm,0.6s,mb4.0,baz=94,slow=5.9,SNR=4.6						
STKA	**Stephens Creek**	**57.01**	**159**	P	**P**	**10 00 17.9**	**-0.3**
	0.7nm,0.4s,mb4.0,baz=344,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**57.01**	**159**	P	**P**	**10 00 17.9**	**-0.3**
INK	**Inuvik**	**75.53**	**22**	P	**P**	**10 02 16.2**	**-0.5**
	1.2nm,0.7s,mb4.0,baz=306,slow=7.3,SNR=12						
GERES	**GERESS Array B**	**84.41**	**321**	P	**P**	**10 03 05.2**	**+0.5**
	0.4nm,0.6s,mb3.7,baz=48,slow=2.0,SNR=4.5						
YKA	**Yellowknife Ar**	**85.26**	**23**	P	**P**	**10 03 09.0**	**+0.1**
	0.9nm,0.7s,mb4.0,baz=314,slow=4.7,SNR=24						

*ISCJB **27** 09:59:59.9±0.6, 3934N±003×2349E±004, h14km±4km, Error ellipse: s-maj=5.9km s-min=4.7km az=48.8*
*THE **27** 09:59:59.9, 3929N×2352E, h11km, ML2.5*
*NEIC **27** 09:59:59.9, 3929N×2352E, h12km, ML2.6(THE), After THE.*
*CSEM **27** 10:00:00.0±0.1, 3933N×2352E, h8km, ML3.0, Error ellipse: s-maj=2.3km s-min=2.0km az=171.0*
*ATH **27** 10:00:00.1, 3934N×2348E, h16km±3km, MD2.9/8, ML3.0*
ISC 27 10:00:00.2±0.6, 3935N±003×2349E±005, h15km±4km, n16, σ1§16/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.21**	**258**	*e*PB	**Pg**	**10 00 04.6**	**-0.4**
NEO				*e*SB	**Sg**	**10 00 08.0**	**-0.3**
XOR	**Xorichti**	**0.23**	**274**	*e*Pg	**Pg**	**10 00 05.1**	**-0.2**
XOR				*e*Sg	**Sg**	**10 00 09.0**	**+0.1**
AOS	**Alonnisos**	**0.35**	**121**	*e*Pg	**Pg**	**10 00 05.9**	**-1.5**
PAIG	**Paliouri**	**0.59**	**14**	*e*Pg	**Pg**	**10 00 12.6**	**+0.7**
PAIG				*e*Sg	**Sg**	**10 00 22.2**	**+2.5**
LKR	**Lokris**	**0.80**	**209**	*e*PN	**Pn**	**10 00 14.6**	**-2.4**
LKR				*e*SN	**Sn**	**10 00 25.6**	**-3.0**
AGG	**Agios Georgios**	**0.96**	**250**	*e*Pg	**Pg**	**10 00 17.9**	**-0.9**
AGG				*e*Sg	**Sg**	**10 00 32.4**	**+1.0**
PLG	**Polygyros**	**1.02**	**358**	*e*PN	**Pn**	**10 00 19.3**	**-0.7**
PLG				*e*SN	**Sn**	**10 00 33.3**	**-0.8**
OUR	**Ouranopolis**	**1.05**	**21**	*e*Pg	**Pg**	**10 00 19.8**	**-0.7**
LIT	**Litokhoron**	**1.07**	**314**	*e*Pg	**Pg**	**10 00 22.0**	**+1.0**
THL	**Klokotos Trika**	**1.16**	**281**	*e*PN	**Pn**	**10 00 21.7**	**-0.3**
THL				*e*SN	**Sn**	**10 00 38.6**	**+1.0**
PTL	**Penteli**	**1.33**	**167**	*e*PN	**Pn**	**10 00 25.0**	**+0.7**
EVR	**Evrytania**	**1.38**	**252**	*e*PN	**Pn**	**10 00 25.4**	**+0.4**
ATH	**Athens Observa**	**1.39**	**173**	*e*PN	**Pn**	**10 00 26.6**	**+1.5**
KVR	**Kavouri**	**1.54**	**172**	*e*PN	**Pn**	**10 00 28.0**	**+0.9**
NAIG	**Nisos Aigina**	**1.59**	**180**	*e*PN	**Pn**	**10 00 30.0**	**+2.1**
GRG	**Griva**	**1.81**	**333**	*e*Pb	**Pb**	**10 00 31.5**	**-1.5**
GRG				*e*Sb	**Sb**	**10 00 55.2**	**-0.3**

*ISCJB **27** 10:20:05.3±0.2, 5559N±002×11022E±003, h10km, mb3.8/11, Error ellipse: s-maj=3.6km s-min=2.1km az=110.6*
*IDC **27** 10:20:05.6±0.9, 5575N×11025E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.8/24, mbtmp3.8/12, ML3.7/2, Error ellipse: s-maj=24.9km s-min=18.1km az=71.0*
*MOS **27** 10:20:05.8±1.0, 5577N×11009E, h9km, mb4.6/1, Error ellipse: s-maj=9.7km s-min=6.5km az=66.3*
*NEIC **27** 10:20:07.0±1.1, 5580N×11026E, h10km, mb4.1/2, Error ellipse: s-maj=18.9km s-min=9.1km az=97.0*
*BYKL **27** 10:20:07.9±0.2, 5568N×110.17E, h7km±3km*
ISC 27 10:20:06.8±0.2, 5565N±002×11022E±003, h10km, n84, σ1§62/147, mb3.8/11, 22C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.41**	**288**	*e*PG	**Pg**	**10 20 14.4**	**-0.3**
NIZ				*e*		10 20 19.8	
NIZ				pmax	pmax		
	comp=Z,835nm,0.7s						
NIZ				smax			
	comp=N,4μm,0.2s						
NIZ	**Nizh Angarsk**	**0.41**	**288**	⇑*i*Pg	**Pg**	**10 20 14.4**	**-0.3**
NIZ				Pmax		10 20 14.6	
	comp=N,345nm,0.6s						
NIZ				*e*Sg	**Sg**	**10 20 19.0**	**-1.1**
NIZ				Smax		10 20 22.3	
	comp=N,3μm,0.3s						
KMO	**Kumora**	**0.60**	**66**	*e*PG	**Pg**	**10 20 18.2**	**-0.2**
KMO				*e*		10 20 26.2	
KMO				pmax	pmax		
	comp=Z,172nm,0.3s						
KMO				smax			
	comp=N,3μm,1.2s						
KMO	**Kumora**	**0.60**	**66**	⇑*i*Pg	**Pg**	**10 20 18.2**	**-0.2**
KMO				Pmax		10 20 19.1	
	comp=N,169nm,0.4s						
KMO				*e*Sg	**Sg**	**10 20 26.4**	**+0.1**
KMO				Smax		10 20 28.3	
	comp=N,3μm,1.2s						
YLYR	**Ulyunkhan**	**0.94**	**145**	*e*PG	**Pg**	**10 20 25.7**	**+0.8**
YLYR				*e*		10 20 38.5	
YLYR				smax			
	comp=N,2.0nm,0.4s						
YLYR	**Ulyunkhan**	**0.94**	**145**	*i* Pg	**Pg**	**10 20 25.6**	**+0.7**
YLYR				Pmax		10 20 26.5	
	comp=N,136nm,0.1s						
YLYR				*e*Sg	**Sg**	**10 20 39.8**	**+2.6**
YLYR				*e*		10 20 45.6	
YLYR				max		10 20 47.2	
	comp=N,2μm,0.5s						
YOA	**Uoyan**	**0.97**	**60**	⇓*i*PG	**Pg**	**10 20 26.4**	**+0.9**
YOA				*e*		10 20 39.0	
YOA				pmax	pmax		
	comp=Z,231nm,0.3s						
YOA				smax			
	comp=N,3μm,0.4s						
YOA	**Uoyan**	**0.97**	**60**	*e*Pg	**Pg**	**10 20 26.4**	**+0.9**
YOA				Pmax		10 20 26.8	
	comp=N,159nm,0.2s						
YOA				*e*Sg	**Sg**	**10 20 41.1**	**+2.9**
YOA				Smax		10 20 46.7	
	comp=N,3μm,0.4s						
SVKR	**Severomuysk**	**1.94**	**75**	*e*PN	**Pn**	**10 20 42.2**	**+2.5**
SVKR				*e*		10 20 43.0	
SVKR				*e*		10 21 09.4	
SVKR				smax			
	comp=N,8.0nm,0.7s						
SVKR	**Severomuysk**	**1.94**	**75**	⇑*i*Pg	**Pg**	**10 20 42.3**	**-1.6**
SVKR				Pmax		10 20 48.1	
	comp=N,384nm,0.5s						
SVKR				*e*Sg	**Sg**	**10 21 08.8**	**-0.2**
SVKR				Smax		10 21 12.1	
	comp=N,8μm,0.7s						
UKT	**Uakit**	**1.94**	**93**	*e*PN	**Pn**	**10 20 42.5**	**+2.7**
UKT				*e*		10 21 08.6	
UKT				pmax	pmax		
	comp=Z,454nm,0.5s						
UKT				smax			
	comp=N,1μm,0.6s						
UKT	**Uakit**	**1.94**	**93**	⇓*i*Pg	**Pg**	**10 20 42.6**	**-1.4**
	comp=N,143nm,0.8s						
UKT				⇑*i*Pg	**Pg**	**10 20 42.6**	**-1.4**
	comp=N,414nm,0.8s						
UKT				⇑*i*Pg	**Pg**	**10 20 42.6**	**-1.4**
	comp=N,378nm,0.8s						
UKT				Pmax		10 20 43.5	
	comp=N,456nm,1.0s						
UKT				*e*Sg	**Sg**	**10 21 09.1**	**0.0**
UKT				Smax		10 21 13.1	
	comp=N,2μm,0.7s						
SYVR	**Suvo**	**2.00**	**184**	*e*PN	**Pn**	**10 20 44.2**	**+3.6**
SYVR				*e*		10 21 12.7	
SYVR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SYVR				smax			
	comp=E,5.0nm,0.7s						
SYVR	**Suvo**	**2.00**	**184**	⇓*i*Pg	**Pg**	**10 20 44.3**	**-0.8**
	comp=E,273nm,0.8s						
SYVR				⇓*i*Pg	**Pg**	**10 20 44.3**	**-0.8**
	comp=E,108nm,0.8s						
SYVR				⇑*i*Pg	**Pg**	**10 20 44.3**	**-0.8**
	comp=E,375nm,0.8s						
SYVR				Pmax		10 20 44.9	
	comp=E,563nm,0.8s						
SYVR				*e*Sg	**Sg**	**10 21 12.1**	**+1.1**
SYVR				Smax		10 21 15.0	
	comp=E,5μm,0.9s						
OGRR	**Ongureny**	**2.52**	**218**	*e*PN	**Pn**	**10 20 50.4**	**+2.6**
OGRR				*e*		10 20 54.2	
OGRR				*e*		10 21 26.4	
OGRR				smax			
	comp=E,1.0nm,0.9s						
OGRR	**Ongureny**	**2.52**	**218**	*e*Pn	**Pn**	**10 20 50.4**	**+2.6**
OGRR				*e*Pg	**Pg**	**10 20 53.5**	**-1.6**
OGRR				Pmax		10 20 56.2	
	comp=E,76nm,0.4s						
OGRR				*e*Sg	**Sg**	**10 21 26.4**	**-1.5**
OGRR				Smax		10 21 31.2	
	comp=E,531nm,0.4s						
MXMB	**Maximikha**	**2.54**	**200**	⇑*i*Pn	**Pn**	**10 20 48.6**	**+0.6**
MXMB				*e*Pg	**Pg**	**10 20 53.4**	**-2.1**
MXMB				Pmax		10 20 59.5	
	comp=E,174nm,0.8s						
MXMB				*e*Sg	**Sg**	**10 21 27.6**	**-0.8**
MXMB				Smax		10 21 33.8	
	comp=E,2μm,0.8s						
BOD	**Bodaibo**	**3.01**	**42**	*e*PN	**Pn**	**10 20 55.5**	**+1.0**
BOD				*e*		10 21 01.6	
BOD				*e*S	**Sn**	**10 21 32.7**	**+2.1**
BOD	**Bodaibo**	**3.01**	**42**	⇑*i*Pn	**Pn**	**10 20 56.0**	**+1.5**
BOD				*e*Pg	**Pg**	**10 21 02.3**	**-2.2**
BOD				Pmax		10 21 08.2	
	comp=E,53nm,0.5s						
BOD				*e*Sn	**Sn**	**10 21 32.9**	**+2.3**
BOD				*e*Sg	**Sg**	**10 21 41.3**	**-2.2**
BOD				Smax		10 21 48.7	
	comp=E,408nm,0.9s						
NLYR	**Nelyaty**	**3.19**	**72**	⇑*i*Pn	**Pn**	**10 20 58.8**	**+1.9**
NLYR				⇑*i*Pg	**Pg**	**10 21 06.3**	**-1.5**
NLYR				*e*Sg	**Sg**	**10 21 47.4**	**-1.7**
ZRHB	**Zarechye**	**3.59**	**212**	*e*	**Pb**	**10 21 10.5**	**+0.2**
ZRHB				*e*Sg	**Sg**	**10 21 59.7**	**-2.3**
ZRHB				Smax		10 22 14.5	
	comp=E,1μm,1.2s						
TRG	**Tyrgan**	**3.68**	**220**	*e*PN	**Pn**	**10 21 06.3**	**+2.6**
TRG				*e*		10 21 15.1	
TRG				*e*		10 22 03.0	
TRG				pmax	pmax		
	comp=Z,54nm,0.4s						
TRG				smax			
	comp=E,422nm,0.5s						
TRG	**Tyrgan**	**3.68**	**220**	⇓*i*Pn	**Pn**	**10 21 06.2**	**+2.5**
TRG				max		10 21 10.4	
	comp=E,79nm,0.6s						
TRG				*e*Sn	**Sn**	**10 21 48.1**	**+0.9**
TRG				*e*Sg	**Sg**	**10 22 01.5**	**-3.5**
TRG				Smax		10 22 09.2	
	comp=E,425nm,0.7s						
TRTB	**Turuntaevo**	**3.75**	**205**	⇑*i*Pn	**Pn**	**10 21 07.4**	**+2.7**
TRTB				*e*		10 21 10.3	
TRTB				*e*Pg	**Pg**	**10 21 16.5**	**-2.1**
TRTB				Pmax		10 21 21.8	
	comp=E,63nm,0.6s						
TRTB				*e*Sn	**Sn**	**10 21 51.2**	**+2.3**
TRTB				*e*Sg	**Sg**	**10 22 04.4**	**-2.9**
TRTB				Smax		10 22 12.4	
	comp=E,294nm,0.9s						
UUDB	**Ulan-Yde**	**4.08**	**203**	*e*Pn	**Pn**	**10 21 09.7**	**+0.5**
UUDB				*e*Pg	**Pg**	**10 21 21.5**	**-3.5**
UUDB				Pmax		10 21 26.2	
	comp=E,52nm,0.6s						
UUDB				*e*Sn	**Sn**	**10 21 58.6**	**+1.6**
UUDB				*e*Sg	**Sg**	**10 22 15.2**	**-2.6**
UUDB				Smax		10 22 24.1	
	comp=E,329nm,1.0s						
CIT	**Chita**	**4.13**	**150**	*e*PN	**Pg**	**10 21 22.7**	**-3.3**
CIT				*e*		10 22 16.7	
CIT				pmax	pmax		
	comp=Z,204nm,1.4s						
CIT				smax			
	comp=N,293nm,1.2s						
CIT	**Chita**	**4.13**	**150**	⇑*i*Pn	**Pn**	**10 21 12.1**	**+2.2**
CIT				⇑*i*Pg	**Pg**	**10 21 22.8**	**-3.2**
CIT				Pmax		10 21 23.5	
	comp=N,204nm,1.4s						
CIT				*e*Sn	**Sn**	**10 22 00.7**	**+2.4**
CIT				*e*Sg	**Sg**	**10 22 16.4**	**-3.1**
CIT				Smax		10 22 26.3	
	comp=N,298nm,1.3s						
FFNB	**Fofonovo**	**4.15**	**211**	*e*Pn	**Pn**	**10 21 12.6**	**+2.5**
FFNB				*e*Pg	**Pg**	**10 21 22.6**	**-3.6**
FFNB				*e*Sn	**Sn**	**10 21 59.1**	**+0.4**
FFNB				*e*Sg	**Sg**	**10 22 15.2**	**-4.8**
KAB	**Kabansk**	**4.18**	**212**	*e*Sg	**Sg**	**10 22 18.4**	**-2.6**
KAB				Smax		10 22 31.7	
	comp=N,1μm,0.9s						
CRS	**Chara**	**4.66**	**71**	*e*PN	**Pn**	**10 21 19.4**	**+2.3**
CRS				*e*		10 21 33.3	
CRS				*e*		10 22 32.8	
CRS				pmax	pmax		
	comp=Z,76nm,1.0s						
CRS				smax			
	comp=E,273nm,1.6s						
CRS	**Chara**	**4.66**	**71**	⇑*i*Pn	**Pn**	**10 21 19.1**	**+2.0**
CRS				⇑*i*Pg	**Pg**	**10 21 33.0**	**-3.0**
CRS				Pmax		10 21 34.3	
	comp=E,77nm,1.0s						
CRS				*e*		10 21 42.9	
CRS				*e*Sg	**Sg**	**10 22 33.0**	**-3.3**
CRS				Smax		10 22 38.1	
	comp=E,274nm,1.5s						
IRK	**Irkutsk**	**4.90**	**228**	*e*PN	**Pn**	**10 21 22.2**	**+1.8**
IRK				*e*S	**Sn**	**10 22 16.2**	**-1.0**
IRK				*e*S	**Sg**	**10 22 39.4**	**-4.6**
IRK				smax			
	comp=N,736nm,0.4s						
IRK	**Irkutsk**	**4.90**	**228**	*e*	**Pn**	**10 21 27.8**	**+7.4**
IRK				*e*		10 22 19.7	
IRK				*e*Sg	**Sg**	**10 22 41.1**	**-2.9**
IRK				Smax		10 22 44.0	
	comp=N,744nm,0.6s						
LSTR	**Listvyanka**	**4.96**	**222**	*e*Pn	**Pn**	**10 21 23.4**	**+2.2**
LSTR				max		10 21 28.3	
	comp=N,33nm,0.6s						
LSTR				*e*Sn	**Sn**	**10 22 18.5**	**-0.1**
LSTR				*e*Sg	**Sg**	**10 22 39.5**	**-6.4**
LSTR				Smax		10 22 44.1	
	comp=N,195nm,1.4s						
TLY	**Talaya**	**5.58**	**227**	*e*PN	**Pn**	**10 21 30.9**	**+1.2**
TLY				*e*		10 22 35.2	
TLY				pmax	pmax		
	comp=Z,16nm,0.5s						
TLY	**Talaya**	**5.58**	**227**	*e*Pn	**Pn**	**10 21 30.9**	**+1.1**
	comp=Z,16nm,0.5s						
TLY				*e*Sn	**Sn**	**10 22 35.2**	**+1.3**
TLY	**Talaya**	**5.58**	**227**	⇑*i*Pn	**Pn**	**10 21 31.0**	**+1.3**
TLY				*e*Pg	**Pg**	**10 21 47.5**	**-6.0**
TLY				Pmax		10 21 51.5	
	comp=Z,20nm,0.6s						
TLY				*e*Sn	**Sn**	**10 22 32.9**	**-1.0**
TLY				*e*Sg	**Sg**	**10 23 00.2**	**-5.6**
TLY				Smax		10 23 06.2	
	comp=Z,128nm,0.7s						
KHNR	**Khani**	**5.58**	**73**	*e*Pg	**Pg**	**10 21 49.2**	**-4.5**
KHNR				*e*Sn	**Sn**	**10 22 32.2**	**-1.8**
KHNR				*e*Sg	**Sg**	**10 23 02.3**	**-3.7**
TUP	**Tupik**	**5.73**	**98**	*e*PN	**Pn**	**10 21 33.4**	**+1.6**
TUP				*e*		10 21 50.9	
TUP				*e*S	**Sn**	**10 22 37.9**	**+0.3**
TUP				*e*		10 23 06.1	
TUP				pmax	pmax		
	comp=Z,36nm,0.7s						
TUP				smax			
	comp=N,332nm,1.5s						
TUP	**Tupik**	**5.73**	**98**	*e*Pn	**Pn**	**10 21 34.0**	**+2.1**
TUP				⇑*i*Pg	**Pg**	**10 21 50.8**	**-5.7**
TUP				Pmax		10 21 53.4	
	comp=N,17nm,0.6s						
TUP				*e*Sn	**Sn**	**10 22 38.0**	**+0.4**
TUP				*e*Sg	**Sg**	**10 23 05.0**	**-5.7**
TUP				Smax		10 23 14.1	
	comp=N,297nm,1.3s						
ARS	**Arshan**	**5.94**	**234**	*e*PN	**Pn**	**10 21 36.5**	**+1.7**
ARS				*e*S	**Sn**	**10 22 41.3**	**-1.6**
ARS	**Arshan**	**5.94**	**234**	⇑*i*Pn	**Pn**	**10 21 36.5**	**+1.7**
ARS				max		10 21 37.1	
	comp=N,60nm,0.6s						
ARS				*e*Sn	**Sn**	**10 22 43.1**	**+0.2**
ARS				*e*Sg	**Sg**	**10 23 11.7**	**-5.8**
ARS				Smax		10 23 19.8	
	comp=N,725nm,0.8s						
KPC	**Khapcheranga**	**6.10**	**167**	*e*PN	**Pn**	**10 21 39.0**	**+2.1**
KPC				*e*		10 21 58.2	
KPC				*e*		10 23 18.5	
KPC				pmax	pmax		
	comp=Z,38nm,0.6s						
KPC				smax			
	comp=E,216nm,1.2s						
KPC	**Khapcheranga**	**6.10**	**167**	*e*Pn	**Pn**	**10 21 39.0**	**+2.1**
KPC				*e*Pg	**Pg**	**10 21 58.2**	**-5.3**
KPC				Pmax		10 22 00.2	
	comp=E,39nm,1.0s						
KPC				*e*Sn	**Sn**	**10 22 46.6**	**-0.1**
KPC				*e*Sg	**Sg**	**10 23 18.5**	**-4.0**
KPC				Smax		10 23 30.5	
	comp=E,216nm,1.3s						
ZAK	**Zakamensk**	**6.73**	**221**	*e*PN	**Pn**	**10 21 47.8**	**+2.1**
ZAK				*e*		10 22 07.6	
ZAK				*e*S	**Sn**	**10 23 04.0**	**+1.6**
ZAK				*e*		10 23 35.2	
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZAK				smax			
	comp=N,160nm,1.3s						
ZAK	**Zakamensk**	**6.73**	**221**	⇓*i*Pn	**Pn**	**10 21 48.9**	**+3.2**
ZAK				max		10 21 52.8	
	comp=N,15nm,0.7s						
ZAK				*e*		10 23 05.7	
ZAK				*e*Sg	**Sg**	**10 23 37.6**	**-5.3**
ZAK				Smax		10 23 40.4	
	comp=N,160nm,1.6s						
MOY	**Mondy**	**6.78**	**238**	⇑*i*PN	**Pn**	**10 21 49.3**	**+3.0**
MOY				*e*		10 22 10.3	
MOY				*e*		10 23 36.0	
MOY				pmax	pmax		
	comp=Z,23nm,0.6s						
MOY				smax			
	comp=E,196nm,1.5s						
MOY	**Mondy**	**6.78**	**238**	⇑*i*Pn	**Pn**	**10 21 49.4**	**+3.1**
MOY				max		10 21 49.9	
	comp=E,99nm,1.0s						
MOY				*e*Sn	**Sn**	**10 23 03.6**	**0.0**
MOY				*e*Sg	**Sg**	**10 23 36.3**	**-8.1**
MOY				Smax		10 23 42.4	
	comp=E,197nm,1.4s						
ORL	**Orlik**	**6.87**	**247**	*e*PN	**Pn**	**10 21 50.1**	**+2.6**
ORL				*e*S	**Sg**	**10 23 41.5**	**-5.8**
ORL				smax			
	comp=N,231nm,0.8s						
ORL	**Orlik**	**6.87**	**247**	⇑*i*Pn	**Pn**	**10 21 50.1**	**+2.6**
ORL		

TIXI pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 19.47 269 *eP* **Pn 10 24 34.3 -0.5**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 19.47 269 *eP* **Pn 10 24 34.3 -0.5**
comp=Z,7.9nm,0.8s
MK31 Makanchi Array 19.50 255 *eP* **Pn 10 24 34.7 -0.5**
MKAR Makanchi Array 19.50 255 P **Pn 10 24 34.6 -0.5**
comp=Z,0.8nm,0.3s,baz=61,slow=10,SNR=32
MKAR Makanchi Array 19.50 255 *i P* **Pn 10 24 35.5 +0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 23.15 280 P **P 10 25 13.1 -0.1**
comp=Z,2.2nm,0.6s,mb3.8,baz=70,slow=13,SNR=11
BRVK Borovoye 23.20 280 *eP* **P 10 25 13.7 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
BRVK Borovoye 23.20 280 *eP* **P 10 25 13.7 -0.1**
comp=Z,4.5nm,0.7s,mb4.0
KAF Kangasniemi 40.95 314 *ep* **P 10 27 47.3 -2.2**
FINES FINESS Array B 41.39 314 P **P 10 27 52.2 -0.9**
comp=Z,2.6nm,0.8s,mb3.9,baz=79,slow=8.6,SNR=9.5
AKASG Malin Array Be 46.20 300 P **P 10 28 31.4 -0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=44,slow=8.6,SNR=6.6
AKASG Malin Array Be 46.20 300 P **P 10 28 31.4 -0.4**
HFS Hagfors 47.08 317 P **P 10 28 37.6 -1.1**
comp=Z,1.6nm,0.4s,mb4.3,baz=74,slow=11,SNR=7.5
NB2 NORSAR Subarra 47.43 319 P **P 10 28 41.2 -0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=51,slow=7.9
NOA NORSAR Array B 47.43 319 P **P 10 28 40.7 -0.8**
comp=Z,1.0nm,0.6s,mb3.9,baz=52,slow=7.8,SNR=3.3
NOA NORSAR Array B 47.43 319 P **P 10 28 40.7 -0.8**
GERES GERESS Array B 54.84 307 P **P 10 29 37.3 +0.3**
comp=Z,0.2nm,0.5s,mb3.4,baz=66,slow=4.5,SNR=3.6
YKA Yellowknife Ar 57.11 23 P **P 10 29 52.4 -0.9**
comp=Z,0.4nm,0.7s,mb3.5,baz=330,slow=7.3,SNR=7.3
YKA Yellowknife Ar 57.11 23 P **P 10 29 52.4 -1.0**
WRA Warramunga Arr 78.03 157 P **P 10 32 06.2 +0.7**
comp=Z,1.0nm,0.7s,mb3.8,baz=349,slow=6.3,SNR=6.9
ASAR Alice Springs 81.54 158 P **P 10 32 25.1 +0.6**
comp=Z,0.4nm,0.8s,mb3.4,baz=347,slow=5.1,SNR=4.6
TORD Torodi Ar. Bea 89.39 293 P **P 10 33 04.0 +0.4**
comp=Z,0.3nm,0.8s,mb3.7,baz=20,slow=4.6,SNR=2.2

*ISCJB **27** 10:26:29.4±6.6, 28N±0.1×934E±0.1, h31km±47km, mb3.9/7, MS3.4/1, Error ellipse: s-maj=27.1km s-min=13.1km az=58.2*
*IDC **27** 10:26:31.5±1.1, 285N×933.4E, h33km±5km, mb3.7/7, mb1 3.9/8, mb1mx3.6/23, mbtmp3.7/8, ML4.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=38.1km s-min=14.7km az=49.0*
ISC 27 10:26:30.4±6.7, 28N±0.1×934E±0.1, h24km±48km, h34km±.6km: pP-P, n10, σ0°73/10, mb3.9/7, MS3.4/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.56**	**90**	Pn	**Pn**	**10 27 51.4**	**-0.2**
	6.2nm,0.3s,baz=314,slow=8.6,SNR=19						
PSI				Sn	**Sn**	**10 28 54.6**	**-0.1**
	3.0nm,0.3s,baz=143,slow=20,SNR=5.0						
PSI				LR	LR	10 29 28.4	
	comp=Z,58nm,19.2s,baz=276,slow=32						
SHL	**Shillong**	**22.64**	**357**	*eP*	**P**	**10 31 30.0**	**+0.3**
MKAR	**Makanchi Array**	**44.83**	**349**	P	**P**	**10 34 42.5**	**0.0**
	1.5nm,0.7s,mb3.9,baz=169,slow=9.3,SNR=12						
MKAR				pP	pP	10 34 51.8	+2.0
	3.6nm,0.7s,baz=169,slow=8.6,SNR=17						
WRA	**Warramunga Arr**	**46.16**	**121**	P	**P**	**10 34 53.6**	**+0.5**
	2.1nm,0.6s,mb4.3,baz=298,slow=8.8,SNR=19						
WRA				pP	pP	10 35 04.0	+3.7
	1.2nm,0.7s,baz=299,slow=8.8,SNR=6.2						
SONM	**Songino Array**	**46.21**	**12**	P	**P**	**10 34 54.0**	**+0.5**
	0.6nm,0.5s,mb3.8,baz=181,slow=8.7,SNR=3.9						
SONM				pP	pP	10 35 03.5	+2.8
	1.7nm,0.6s,baz=189,slow=9.2,SNR=6.5						
ASAR	**Alice Springs**	**47.45**	**126**	P	**P**	**10 35 04.4**	**+1.2**
	0.9nm,0.9s,mb3.7,baz=305,slow=7.1,SNR=5.9						
BVAR	**Borovoye Array**	**53.51**	**343**	P	**P**	**10 35 48.0**	**-1.0**
	0.8nm,0.6s,mb3.8,baz=141,slow=9.3,SNR=3.3						
BVAR				pP	pP	10 35 57.9	+1.6
	1.8nm,0.7s,baz=140,slow=7.8,SNR=5.8						
KMBO	**Kilima Mbogo**	**56.23**	**267**	LR	LR	10 55 01.3	
	comp=Z,32nm,19.2s,MS3.4,baz=88,slow=30						
STKA	**Stephens Creek**	**57.31**	**131**	P	**P**	**10 36 14.8**	**-1.5**
	4.4nm,1.1s,mb4.4,baz=312,slow=12,SNR=4.1						
GERES	**GERESS Array B**	**81.06**	**319**	P	**P**	**10 38 43.6**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=121,slow=5.1,SNR=4.1						
GERES				pP	pP	10 38 53.9	+2.8
	0.9nm,0.6s,baz=104,slow=5.6,SNR=6.5						

IDC 27 10:40:55.0±2.6, 1091S×12325E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=247.1km s-min=33.9km az=52.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.96**	**131**	Pn	Pn	10 44 13.1	-0.8
	0.1nm,0.3s,baz=303,slow=12,SNR=5.4						
WRA				Sn	Sn	10 46 40.2	-9.4
	0.3nm,0.3s,baz=314,slow=26,SNR=10						
ASAR	**Alice Springs**	**16.25**	**143**	Pn	Pn	10 44 45.9	+1.3
	0.1nm,0.3s,baz=318,slow=12,SNR=4.9						
ASAR				Sn	Sn	10 47 39.6	-5.8
	0.1nm,0.3s,baz=314,slow=22,SNR=4.3						
MKAR	**Makanchi Array**	**68.10**	**331**	P	P	10 51 56.7	+0.1
	0.2nm,0.5s,baz=133,slow=7.2,SNR=5.1						

*IDC **27** 10:56:15.0±6.3, 2270N×122.10E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=453.7km s-min=29.7km az=60.0*
*JMA **27** 10:56:20.5±0.5, 2177N×121.04E, h0km, M3.9*
*ISCJB **27** 10:56:22.6±2.0, 219N±0.1×1207E±0.1, h51km±23km, mb3.3/3, Error ellipse: s-maj=25.9km s-min=16.0km az=96.7*
ISC 27 10:56:23.5±2.2, 219N±0.1×1206E±0.1, h39km±26km, n9, σ0°46/13, mb3.3/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.35**	**40**	P	**Pn**	**10 57 14.0**	**+0.7**
HATJ	**Hateruma jima**	**3.62**	**53**	P	**Pn**	**10 57 16.2**	**-0.8**
HATJ				*eS*	**Sn**	**10 57 58.3**	**-0.2**
IRIF	**Iriomote-Funau**	**3.73**	**49**	P	**Pn**	**10 57 18.8**	**+0.2**
IRIF				*eS*	**Sn**	**10 58 01.2**	**-0.1**
JKRS	**Kuro-shima**	**3.88**	**53**	P	**Pn**	**10 57 20.6**	**+0.1**
JIJ	**Ishigaki jima**	**4.05**	**52**	P	**Pn**	**10 57 22.8**	**-0.1**
JIJ				*eS*	**Sn**	**10 58 08.6**	**-0.4**
JTJ	**Tarama**	**4.62**	**53**	P	**Pn**	**10 57 30.7**	**-0.1**
JTJ				*eS*	**Sn**	**10 58 23.9**	**+0.7**
MKAR	**Makanchi Array**	**39.65**	**318**	P	**P**	**11 03 51.3**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=102,slow=7.6,SNR=2.4						
WRA	**Warramunga Arr**	**43.70**	**161**	P	**P**	**11 04 23.9**	**-0.6**
	0.5nm,0.9s,mb3.2,baz=344,slow=8.5,SNR=4.7						
WRA				pP	pP	11 04 35.3	-0.4
	0.5nm,0.5s,baz=343,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**47.10**	**163**	P	**P**	**11 04 52.2**	**+0.7**
	0.2nm,0.3s,mb3.5,baz=343,slow=6.9,SNR=13						
ASAR				pP	pP	11 05 03.5	+0.6
	0.3nm,0.4s,baz=78,slow=8.4,SNR=8.6						

IDC 27 11:05:22.3±2.4, 1078S×12360E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.5/14, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=220.7km s-min=32.9km az=52.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.79**	**133**	Pn	Pn	11 08 38.2	-0.8
	0.1nm,0.3s,baz=306,slow=15,SNR=8.3						
WRA				Sn	Sn	11 11 06.8	-6.1
	0.3nm,0.3s,baz=171,slow=25,SNR=9.6						
ASAR	**Alice Springs**	**16.15**	**144**	Pn	Pn	11 09 11.9	+1.3
	0.2nm,0.3s,baz=319,slow=12,SNR=10						
ASAR				Sn	Sn	11 12 05.2	-5.1
	0.1nm,0.3s,baz=312,slow=21,SNR=3.5						
MKAR	**Makanchi Array**	**68.15**	**331**	P	P	11 16 24.4	+0.1
	0.7nm,0.6s,baz=138,slow=5.7,SNR=6.5						

CSEM 27 11:19:06.8±0.3, 3762N×345W, h0km, mb3.5/1, Error ellipse: s-maj=3.1km s-min=1.7km az=108.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.35**	**59**	Pg	Pg	11 19 13.1	-0.3
	1.0nm,0.1s,SNR=15						
EQES				Lg		11 19 18.5	
	1.8nm,0.1s,SNR=9.9						
EQUE	**Quentar**	**0.42**	**179**	Pg	Pg	11 19 14.3	-0.5
	0.8nm,0.1s,SNR=7.6						
EQUE				Lg		11 19 20.2	
	4.4nm,0.2s,SNR=14						
EBAN	**Banos Encina**	**0.60**	**334**	Pg	Pg	11 19 17.1	-1.3
	7.1nm,0.3s,SNR=7.9						
EBAN				Lg		11 19 26.5	
	10.0nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**0.70**	**74**	Pg	Pg	11 19 20.3	0.0
	0.3nm,0.1s,SNR=7.9						
EHUE				Lg		11 19 28.9	
	1.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.85**	**148**	Lg		11 19 34.5	
	3.7nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.05**	**302**	Pg	Pg	11 19 26.4	-0.5
	SNR=7.9						
EADA				Lg		11 19 42.2	
	11nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**1.26**	**36**	Pg	Pg	11 19 29.0	-1.9
	2.6nm,0.2s,SNR=7.9						
EVIA				Lg		11 19 46.1	
	SNR=7.9						
EMIJ	**Mijas**	**1.50**	**226**	Lg		11 19 56.1	
	0.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**1.81**	**55**	Lg		11 20 04.6	
	0.9nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.09**	**349**	Pn	Pn	11 19 43.5	+0.5
	1.3nm,0.1s,SNR=5.7						
ESDC				Lg		11 20 12.2	
	127μm,0.1s,SNR=7.9						
ETOR	**Torete**	**3.37**	**18**	Lg		11 20 54.8	
	1.1nm,0.1s,SNR=7.9						

*IDC **27** 11:26:34.5±1.1, 1307N×12339E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, ML4.4/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/29, Error ellipse: s-maj=49.8km s-min=16.2km az=58.0*
*MAN **27** 11:26:35.8, 1313N×12323E, h1km, mb3.7, ML4.8, MS6.9*
MAN F IRIGA CITY - INTENSITY II.
*ISCJB **27** 11:26:39.1±0.6, 1312N±0.005×12325E±0.007, h49km±9km, mb3.9/6, MS3.2/4, Error ellipse: s-maj=11.5km s-min=6.2km az=126.1*
ISC 27 11:26:39.9±1.6, 1310N±0.005×12327E±0.006, h34km±14km, n31, σ1°05/33, mb3.9/6, MS3.2/4, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.13**	**315**	*eP*	**Pn**	**11 26 55.1**	**-4.3**
GQP				*eS*	**Sn**	**11 27 10.4**	**-3.3**
OTRP	**Odiongan**	**1.42**	**239**	*eP*	**Pn**	**11 27 02.8**	**-0.6**
BOAC	**Boac**	**1.43**	**285**	*eP*	**Pn**	**11 27 00.8**	**-2.6**
BOAC				*eS*	**Sn**	**11 27 22.5**	**+1.4**
CNP	**Catarman**	**1.48**	**113**	*eP*	**Pn**	**11 27 04.0**	**-0.2**
RCP	**Roxas**	**1.61**	**198**	*eP*	**Pn**	**11 27 05.8**	**-0.2**
KALP	**Kalibo**	**1.68**	**213**	*eP*	**Pn**	**11 27 08.0**	**+1.1**
POLP	**Polillo Island**	**2.07**	**322**	*eP*	**Pn**	**11 27 11.1**	**-0.5**
OCLP	**Ormoc**	**2.42**	**147**	*eP*	**Pn**	**11 27 17.1**	**0.0**
TGY	**Tagaytay City**	**2.48**	**294**	Pn	**Pn**	**11 27 17.7**	**-0.2**
	74nm,0.3s,baz=118,slow=5.7,SNR=17						
TGY				Sn	**Sn**	**11 27 52.9**	**+6.1**
	64nm,0.3s,baz=267,slow=9.1,SNR=4.2						
TGY	**Tagaytay City**	**2.48**	**294**	*eP*	**Pn**	**11 27 15.0**	**-2.8**
TGY				*eS*	**Sn**	**11 27 54.0**	**+7.1**
GUIM	**Jordan**	**2.55**	**195**	*eP*	**Pn**	**11 27 20.5**	**+1.7**
LLP	**Lapu-Lapu**	**2.85**	**166**	*eP*	**Pn**	**11 27 26.7**	**+3.7**
LLP				*eS*	**Sn**	**11 28 04.8**	**+8.7**
LUBP	**Lubang**	**3.01**	**282**	*eP*	**Pn**	**11 27 24.3**	**-0.8**
BALP	**Baler**	**3.10**	**328**	*eP*	**Pn**	**11 27 27.7**	**+1.3**
CUYO	**Cuyo Island**	**3.14**	**225**	*eP*	**Pn**	**11 27 27.0**	**+0.1**
BUSP	**Coron**	**3.19**	**250**	*eP*	**Pn**	**11 27 27.7**	**0.0**
PCPH	**Palayan**	**3.23**	**320**	*eP*	**Pn**	**11 27 28.2**	**0.0**
MSLP	**Maasin**	**3.33**	**152**	*eP*	**Pn**	**11 27 34.9**	**+5.3**
SNPH	**Sibulan**	**3.73**	**180**	*eP*	**Pn**	**11 27 35.5**	**+0.4**
CAUP	**Cauayan**	**4.07**	**340**	*eP*	**Pn**	**11 27 40.6**	**+0.8**
BOLP	**Bolinao**	**4.60**	**316**	*eP*	**Pb**	**11 27 59.3**	**-0.6**
APYP	**Conner**	**5.12**	**338**	*eP*	**Pn**	**11 27 55.5**	**+1.3**
GUMO	**Guam**	**21.02**	**86**	LR	LR	11 37 30.7	
	comp=Z,69nm,18.9s,MS3.1,baz=230,slow=31						
KSRS	**Korea Array**	**24.61**	**9**	LR	LR	11 40 07.1	
	comp=Z,55nm,21.5s,MS3.0,baz=340,slow=33						
PSI	**Prapat**	**26.16**	**249**	LR	LR	11 41 24.2	
	comp=Z,76nm,18.3s,MS3.3,baz=219,slow=34						
WRA	**Warramunga Arr**	**34.59**	**161**	P	**P**	**11 33 24.7**	**-0.9**
	1.6nm,0.8s,mb4.0,baz=342,slow=9.2,SNR=6.5						
SONM	**Songino Array**	**37.38**	**341**	P	**P**	**11 33 50.3**	**+0.9**
	1.0nm,0.8s,mb3.7,baz=159,slow=9.3,SNR=4.2						
ASAR	**Alice Springs**	**37.99**	**164**	P	**P**	**11 33 53.8**	**-0.9**
	1.3nm,0.9s,mb3.6,baz=344,slow=7.0,SNR=8.2						
MKAR	**Makanchi Array**	**48.01**	**323**	P	**P**	**11 35 14.7**	**-0.9**
	0.7nm,0.7s,mb3.8,baz=120,slow=8.6,SNR=6.2						
STKA	**Stephens Creek**	**48.05**	**159**	P	**P**	**11 35 15.0**	**-0.9**
	2.3nm,0.7s,mb4.3,baz=314,slow=5.9,SNR=5.1						
STKA				LR	LR	11 58 17.1	
	comp=Z,48nm,18.9s,MS3.5,baz=24,slow=40						
BVAR	**Borovoye Array**	**57.68**	**325**	P	**P**	**11 36 27.6**	**+0.6**
	0.4nm,0.3s,mb3.9,baz=115,slow=10.0,SNR=5.1						

MEX 27 11:27:53.6±0.5, 1590N×9652W, h46km±10km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.42**	**109**	*i P*	Pn	11 28 02.0	-1.6
HUIG				*i S*	Sn	11 28 09.0	-1.7
VHO	**Vista Hermosa**	**1.18**	**350**	*i P*	Pn	11 28 12.2	-1.5
VHO				*i S*	Sn	11 28 26.6	-2.0
CMIG	**Matias Romero**	**1.96**	**53**	*i P*	Pn	11 28 23.0	-1.4
CMIG				*i S*	Sn	11 28 46.4	-1.4
UTMO	**Huajuapan**	**2.28**	**327**	*i P*	Pn	11 28 27.7	-1.0
UTMO				*i S*	Sn	11 28 54.6	-0.9
PPM	**Popocatepetl**	**3.73**	**328**	*eP*	Pn	11 28 54.7	+6.0
PPM				*i S*	Sn	11 29 36.6	+5.2

KRSC 27 11:44:37.1±1.7, 5525N×16603E, h20km±20km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**2.58**	**256**	*eP*	Pn	11 45 19.5	+1.8
MKZ				*eS*	Sn	11 45 50.4	+2.0
KLY	**Klyuchi**	**3.22**	**292**	S	Sn	11 46 00.9	-3.3
KRSR	**Krestovskiy**	**3.24**	**290**	S	Sn	11 46 06.9	+2.2
KMNR	**Kamenistaya**	**3.33**	**281**	P	Pn	11 45 30.1	+2.0
KMNR				S	Sn	11 46 08.5	+1.4
TUMR	**Tumrok**	**3.37**	**273**	P	Pn	11 45 30.5	+2.0
TUMR				S	Sn	11 46 09.1	+1.2
KOZ	**Kozyrevsk**	**3.58**	**286**	S	Sn	11 46 15.3	+2.1
SPN	**Mys Shipunski**	**4.14**	**241**	P	Pn	11 45 41.6	+2.5
SPN				*eS*	Sn	11 46 28.7	+1.8
NLC	**Nalytchevo**	**4.44**	**245**	*eP*	Pn	11 45 46.0	+2.7
NLC				*eS*	Sn	11 46 37.1	+2.7
AVH	**Avacha**	**4.71**	**248**	*eP*	Pn	11 45 51.0	+3.9
AVH				S	Sn	11 46 44.0	+2.9
GNL	**Ganaly**	**4.97**	**255**	*eP*	Pn	11 45 54.5	+4.0
GNL				S	Sn	11 46 50.6	+3.2
RUS	**Russkaya**	**5.27**	**241**	P	Pn	11 45 57.7	+3.0
RUS				S	Sn	11 46 56.1	+1.3
GRL	**Gorelyy**	**5.42**	**243**	P	Pn	11 46 00.5	+3.7

IDC 27 11:47:02.7±2.2, 901S×11326E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=133.3km s-min=23.1km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**120**	P	P	11 52 11.2	+1.2
	0.5nm,0.6s,baz=296,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.54**	**129**	P	P	11 52 23.7	-0.3
	0.9nm,0.7s,baz=302,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**34.77**	**135**	P	P	11 53 54.7	-0.1
	1.0nm,0.8s,baz=318,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**62.04**	**336**	P	P	11 57 25.2	+0.3
	0.5nm,0.5s,baz=152,slow=7.7,SNR=9.9						

*IDC **27** 12:05:53.5±1.7, 445S×144.17E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML3.3/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/19, Error ellipse: s-maj=47.2km s-min=22.3km az=92.0*
*ISCJB **27** 12:05:56.5±3.7, 46S±0.1×144.4E±0.1, h41km±40km, mb3.8/4, MS3.3/3, Error ellipse: s-maj=23.9km s-min=19.5km az=7.2*
ISC 27 12:05:58.3±2.7, 46S±0.1×1443E±0.1, h38km±30km, n13, σ0°69/9, mb3.8/4, MS3.3/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.58**	**150**	Pn	**Pn**	**12 07 19.8**	**+1.0**
	3.3nm,0.3s,baz=341,slow=12,SNR=9.3						
PMG				Sn	**Sn**	**12 08 20.8**	**-0.8**
	1.0nm,0.3s,baz=308,slow=19,SNR=2.9						
PMG				LR	LR	12 09 39.3	
	comp=Z,209nm,21.2s,baz=351,slow=39						
KAKA	**Kakadu**	**14.28**	**235**	*eP*	**Pn**	**12 09 17.2**	**-0.6**
	18nm,0.6s						
CTA	**Charters Tower**	**15.56**	**173**	LR	LR	12 14 41.0	
	comp=Z,65nm,21.3s,baz=234,slow=34						
GUMO	**Guam**	**18.03**	**2**	LR	LR	12 15 31.1	
	comp=Z,81nm,18.6s,baz=92,slow=32						
WB2	**Warramunga Arr**	**18.13**	**212**	*eP*	**Pn**	**12 10 08.0**	**+1.0**
WRA	**Warramunga Arr**	**18.14**	**212**	P	**Pn**	**12 10 06.2**	**-1.0**
	0.1nm,0.3s,baz=34,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**21.50**	**207**	P	**P**	**12 10 44.1**	**+0.3**
	2.9nm,0.9s,mb3.7,baz=26,slow=12,SNR=19						
FITZ	**Fitzroy Crossi**	**22.71**	**232**	P	**P**	**12 10 57.2**	**+0.5**
	1.1nm,0.4s,mb3.6,baz=48,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**27.31**	**185**	LR	LR	12 23 48.8	
	comp=Z,96nm,19.5s,MS3.4,baz=25,slow=39						
NWAO	**Narrogin (SRO)**	**37.91**	**219**	LR	LR	12 29 48.1	
	comp=Z,63nm,18.4s,MS3.5,baz=41,slow=38						
KSRS	**Korea Array**	**44.49**	**341**	P	**P**	**12 14 05.8**	**-0.2**
	2.8nm,0.8s,mb4.0,baz=165,slow=9.3,SNR=5.3						
KSRS				LR	LR	12 29 26.3	
	comp=Z,24nm,20.4s,MS3.1,baz=325,slow=32						
MKAR	**Makanchi Array**	**74.70**	**321**	P	**P**	**12 17 33.7**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=101,slow=7.6,SNR=7.8						
TORD	**Torodi Ar. Bea**	**142.15**	**286**	PKhKP		12 25 20.7	
	0.4nm,0.7s,baz=98,slow=3.2,SNR=3.5						
TORD				PKP	PKPdf	12 25 29.5	+3.1
	0.5nm,0.8s,baz=76,slow=1.6,SNR=2.9						

IDC 27 12:43:55.1±3.9, 1656S×6922W, h193km±11km, mb3.3/2, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, Error ellipse: s-maj=121.1km s-min=35.0km az=16.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.08**	**76**	P	Pn	12 44 25.5	+0.7
	24nm,0.3s,baz=262,slow=7.1,SNR=416						
LPAZ				S	Sn	12 44 49.1	+1.4
	5.3nm,0.3s,baz=61,slow=18,SNR=10.0						
SIV	**San Ignacio**	**7.85**	**87**	P	Pn	12 45 47.8	+1.5
	0.5nm,0.3s,baz=274,slow=13,SNR=9.6						
TORD	**Torodi Ar. Bea**	**76.03**	**72**	P	P	12 55 21.1	+0.1
	1.2nm,0.8s,baz=248,slow=4.9,SNR=5.8						
YKA	**Yellowknife Ar**	**86.45**	**341**	P	P	12 56 15.7	-0.1
	0.3nm,0.5s,baz=136,slow=5.0,SNR=13						
STKA	**Stephens Creek**	**123.49**	**212**	*eP*	PKPdf	13 02 32.2	+2.9
	1.4nm,0.5s						

*IDC **27** 12:51:42.2±0.8, 1025S×12388E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.1/15, mbtmp4.1/8, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/26, Error ellipse: s-maj=48.6km s-min=18.0km az=61.0*
*ISCJB **27** 12:51:46.8±2.4, 1069S±0.008×12394E±0.10, h74km±24km, mb4.0/7, Error ellipse: s-maj=16.3km s-min=13.1km az=152.4*
ISC 27 12:51:42.4±4.0, 1057S±0.007×12377E±0.009, h11km±25km, n18, σ1°60/18, mb4.1/7, MS3.1/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.70**	**167**	*eP*	**Pn**	**12 53 37.3**	**+2.8**
	13nm,0.3s						
FITZ				*eS*	**Sn**	**12 55 01.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**7.70**	**167**	Pn	**Pn**	**12 53 37.7**	**+3.3**
	1.7nm,0.3s,baz=357,slow=8.0,SNR=65						
FITZ				Sn	**Sn**	**12 55 00.8**	**-0.9**
	6.7nm,0.3s,baz=111,slow=7.5,SNR=14						
KAKA	**Kakadu**	**8.75**	**105**	*eP*	**Pn**	**12 53 50.0**	**+1.1**
	14nm,0.3s						
KAKA				*eS*	**Sn**	**12 55 27.7**	**+0.2**
WRA	**Warramunga Arr**	**13.80**	**134**	Pn	**Pn**	**12 54 55.7**	**-2.3**
	1.0nm,0.3s,baz=305,slow=12,SNR=47						
WRA				Sn	Sx	12 57 23.7	
	6.6nm,0.3s,baz=296,slow=23,SNR=18						
WB2	**Warramunga Arr**	**13.81**	**134**	*eP*	**Pn**	**12 54 55.4**	**-2.7**
WB2				*eS*	Sx	12 57 17.8	
ASAR	**Alice Springs**	**16.21**	**145**	Pn	**Pn**	**12 55 29.4**	**-0.7**
	1.1nm,0.3s,baz=317,slow=11,SNR=90						
ASAR				Sn	**Sn**	**12 58 23.9**	**-6.0**
	2.1nm,0.3s,baz=310,slow=22,SNR=14						
NWAO	**Narrogin (SRO)**	**23.05**	**194**	LR	LR	13 07 40.8	
	comp=Z,59nm,18.3s,MS3.1,baz=319,slow=41						
CTA	**Charters Tower**	**23.63**	**116**	P	**P**	**12 56 56.4**	**+2.7**
	8.7nm,0.9s,mb4.2,baz=264,slow=14,SNR=5.2						
CTA				LR	LR	13 06 50.4	
	comp=Z,46nm,19.3s,MS3.0,baz=95,slow=38						
STKA	**

ASAR Sn **Sn** **13 06 51.9 +1.0**
0.8nm,0.3s,baz=311,slow=22,SNR=11
MKAR Makanchi Array 68.52 330 P **P** **13 11 09.7 0.0**
3.2nm,0.7s,mb4.2,baz=136,slow=7.6,SNR=26
ZAL Zalesovo 72.66 337 P **P** **13 11 34.6 -0.3**
1.9nm,0.5s,mb4.1,baz=33,slow=1.9,SNR=8.5

IDC 27 13:08:12.8±1.6, 635N×7717W, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.5/18, mbtmp3.8/3, ML3.3/2, Error ellipse: s-maj=47.6km s-min=26.3km az=28.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.19**	**118**	Pn	Pn	13 09 05.3	+1.1
	13nm,0.3s,baz=2.4,slow=2.5,SNR=9.6						
ROSC				Sn	Sn	13 09 44.1	+1.1
	9.0nm,0.3s,baz=88,slow=22,SNR=6.6						
SDV	**Santo Domingo**	**6.95**	**68**	Pn	Pn	13 09 56.1	+0.2
	5.0nm,0.3s,baz=248,slow=19,SNR=15						
YKA	**Yellowknife Ar**	**62.37**	**341**	P	P	13 18 36.9	-0.3
	0.3nm,0.7s,baz=135,slow=6.3,SNR=7.3						
ASAR	**Alice Springs**	**145.53**	**237**	PKPbc	PKPbc	13 27 53.1	+0.2
	0.8nm,0.8s,baz=125,slow=4.1,SNR=7.5						

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*IDC **27** 13:11:55.2±2.6, 1109S×12308E, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=229.7km s-min=31.2km az=52.0*
*ISCJB **27** 13:12:05.5±2.8, 106S±0.1×1243E±02, h100km±31km, mb3.8/2, Error ellipse: s-maj=32.0km s-min=12.7km az=93.8*

ISC 27 13:12:08.1±3.9, 107S±02×1244E±01, h110km±46km, n6, σ0§73/10, mb3.8/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.49**	**171**	*e*P	**Pn**	**13 13 54.0**	**-0.6**
	4.3nm,0.4s						
FITZ				*e*S	**Sn**	**13 15 18.2**	**+0.2**
WRA	**Warramunga Arr**	**13.32**	**135**	Pn	**Pn**	**13 15 12.8**	**+0.1**
	0.3nm,0.3s,baz=304,slow=12,SNR=19						
WRA				Sn	**Sn**	**13 17 38.9**	**-0.4**
	0.8nm,0.3s,baz=297,slow=23,SNR=15						
WB2	**Warramunga Arr**	**13.33**	**135**	*e*P	**Pn**	**13 15 13.6**	**+0.8**
WB2				*e*S	**Sn**	**13 17 39.3**	**-0.2**
ASAR	**Alice Springs**	**15.80**	**146**	Pn	**Pn**	**13 15 46.2**	**+1.9**
	0.3nm,0.3s,baz=315,slow=11,SNR=26						
ASAR				Sn	**Sn**	**13 18 38.6**	**-0.8**
	0.2nm,0.3s,baz=317,slow=21,SNR=8.7						
MKAR	**Makanchi Array**	**68.43**	**330**	P	**P**	**13 22 57.8**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=136,slow=7.9,SNR=9.2						
ZAL	**Zalesovo**	**72.56**	**337**	P	**P**	**13 23 22.8**	**-0.4**
	0.8nm,0.5s,mb3.8,baz=21,slow=7.1,SNR=4.5						

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*IDC **27** 13:16:56.6±1.1, 2215N×12121E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.5/5, Error ellipse: s-maj=72.8km s-min=21.7km az=70.0*
*BJI **27** 13:16:58.7, 2213N×12031E, h12km, ML3.4*
*ISCJB **27** 13:17:00.5±1.5, 2201N±0.1×12059E±007, h47km±16km, mb3.3/5, Error ellipse: s-maj=17.4km s-min=10.4km az=146.4*
*JMA **27** 13:17:03.0±0.3, 2194N×12095E, h119km, M3.6*

ISC 27 13:17:01.8±1.5, 221N±01×12054E±007, h41km±17km, n12, σ0§98/19, mb3.3/5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.25**	**44**	P	**Pn**	**13 17 52.0**	**+1.8**
YOJ				*e*S	**Sn**	**13 18 29.1**	**+1.5**
QZH	**Quanzhou**	**3.32**	**328**	P	**Pn**	**13 17 50.5**	**-0.7**
QZH				S	**Sn**	**13 18 26.8**	**-2.6**
QZH				Smax			
	comp=N,70nm,0.5s						
QZH				Smax			
	comp=E,130nm,0.8s						
HATJ	**Hateruma jima**	**3.57**	**57**	P	**Pn**	**13 17 54.8**	**+0.2**
HATJ				*e*S	**Sn**	**13 18 34.9**	**-0.6**
IRIF	**Iriomote-Funau**	**3.67**	**53**	P	**Pn**	**13 17 56.6**	**+0.7**
IRIF				*e*S	**Sn**	**13 18 38.4**	**+0.5**
JKRS	**Kuro-shima**	**3.82**	**56**	P	**Pn**	**13 17 58.6**	**+0.5**
JKRS				*e*S	**Sn**	**13 18 40.5**	**-1.2**
JIJ	**Ishigaki jima**	**3.99**	**55**	P	**Pn**	**13 18 00.6**	**+0.2**
JIJ				*e*S	**Sn**	**13 18 44.2**	**-1.7**
JTJ	**Tarama**	**4.57**	**56**	P	**Pn**	**13 18 08.6**	**+0.2**
JTJ				*e*S	**Sn**	**13 18 59.5**	**-0.7**
SONM	**Songino Array**	**28.05**	**340**	P	**P**	**13 22 50.3**	**+1.2**
	comp=E,0.2nm,0.3s,mb3.2,baz=159,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**39.43**	**318**	P	**P**	**13 24 32.5**	**+4.8**
	comp=E,0.3nm,0.6s,mb3.2,baz=116,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**43.94**	**161**	P	**P**	**13 25 03.9**	**-0.7**
	comp=E,0.7nm,0.5s,mb3.6,baz=344,slow=9.0,SNR=8.6						
ASAR	**Alice Springs**	**47.34**	**163**	P	**P**	**13 25 31.1**	**-0.4**
	comp=E,0.4nm,0.9s,mb3.4,baz=338,slow=6.6,SNR=3.8						
YKA	**Yellowknife Ar**	**85.08**	**22**	P	**P**	**13 29 33.3**	**+0.1**
	comp=E,0.1nm,0.6s,mb3.1,baz=316,slow=4.3,SNR=7.2						

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*JMA **27** 13:38:38.0±0.3, 4712N×14295E, h0km, M3.3*
*SKHL **27** 13:38:39.6±0.5, 4710N×14260E, h10km, mb4.1/3*
*IDC **27** 13:38:39.1±2.1, 4709N×14190E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=93.5km s-min=23.5km az=101.0*
*ISCJB **27** 13:38:39.9±0.5, 4710N±002×14295E±009, h10km, mb3.3/3, Error ellipse: s-maj=9.0km s-min=3.3km az=170.5*
*MOS **27** 13:38:40.3±1.2, 4699N×14287E, h15km, mb4.0/1, Error ellipse: s-maj=59.2km s-min=25.2km az=78.1*
MOS Felt (II) at Sanatornyi, Sinegorsk, Novoaleksandrovsk.
*NEIC **27** 13:38:41.0±1.3, 4693N×14255E, h10km, MG3.0(SKHL), Error ellipse: s-maj=21.3km s-min=20.1km az=79.0*
NEIC Felt [II] at Novoaleksandrovsk, Sanatornyy and Sinegorsk.

ISC 27 13:38:41.1±0.5, 4709N±003×14293E±009, h10km, n21, σ0§95/31, mb3.3/3, 3D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.18**	**221**	*i*PN	**Pg**	**13 38 44.5**	**-0.4**
YSS				*i*		13 38 47.9	
YSS				pmax	pmax		
	comp=Z,1μm,0.3s						
YSS				pmax	pmax		
	comp=N,1μm,0.2s						
YSS				pmax	pmax		
	comp=E,1μm,0.2s						
YSS				smax			
	comp=N,10μm,0.3s						
YSS				smax			
	comp=E,9μm,0.3s						
YSS				smax			
	comp=N,6800μm,0.3s						
YSS				smax			
	comp=E,4700μm,0.2s						
YSS	**Yuzh-Sakhalins**	**0.18**	**221**	*i* Pndr	**Pg**	**13 38 44.5**	**-0.4**
YSS				*i*		13 38 47.9	
YSS	**Yuzh-Sakhalins**	**0.18**	**221**	⇓*i*Pg	**Pg**	**13 38 44.5**	**-0.4**
YSS				AMB	AMB	13 38 44.9	
	comp=E,1μm,0.3s						
YSS				AMB	AMB	13 38 44.9	
	comp=E,1μm,0.2s						
YSS				AMB	AMB	13 38 44.9	
	comp=E,1μm,0.2s						
YSS				*i* Sg	**Sg**	**13 38 47.9**	**+0.4**
YSS				A		13 38 48.4	
	comp=E,5μm,0.2s						
YSS				A		13 38 48.4	
	comp=E,7μm,0.3s						
YSS				AMS	AMS	13 39 06.0	
	comp=E,1μm,3.5s						
JWK2	**Keihoku**	**1.91**	**202**	P	**Pn**	**13 39 12.8**	**-0.9**
JWK2				*e*S	**Sn**	**13 39 37.9**	**+0.1**
UGL	**Uglegorsk**	**2.07**	**344**	*e*Pb	**Pn**	**13 39 15.7**	**-0.2**
UGL				AMB	AMB	13 39 18.5	
	comp=E,55nm,0.6s						
UGL				*e*Pg	**Pg**	**13 39 20.0**	**-0.8**
UGL				AMB	AMB	13 39 24.5	
	comp=E,74nm,0.3s						
UGL				AMB	AMB	13 39 24.5	
	comp=E,55nm,0.3s						
UGL				*e*Sg	**Sg**	**13 39 47.5**	**-0.2**
UGL				A		13 39 52.5	
	comp=E,147nm,0.4s						
UGL				A		13 39 52.5	
	comp=E,122nm,0.4s						
UGL				A		13 39 52.5	
	comp=E,89nm,0.4s						
JSE	**Soyaes**	**2.14**	**187**	P	**Pn**	**13 39 16.4**	**-0.5**
ASAJ	**Asahikawa**	**2.98**	**185**	Pn	**Pn**	**13 39 28.1**	**-0.3**
	comp=E,6.1nm,0.3s,baz=10,slow=13,SNR=41						
ASAJ				Sn	**Sn**	**13 40 05.2**	**+1.0**
	comp=E,4.4nm,0.3s,baz=268,slow=32,SNR=7.1						
ASAJ	**Asahikawa**	**2.98**	**185**	P	**Pn**	**13 39 28.1**	**-0.3**
ASAJ				*e*S	**Sn**	**13 40 04.1**	**-0.1**
ASAJ	**Asahikawa**	**2.98**	**185**	PN	**Pn**	**13 39 28.1**	**-0.3**
ASAJ						13 40 05.2	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
JMP	**Maruseppu**	**3.10**	**174**	P	**Pn**	**13 39 29.2**	**-0.8**
JTKR	**Abashiri--Toko**	**3.19**	**167**	P	**Pn**	**13 39 30.4**	**-0.9**
JTKR				*e*S	**Sn**	**13 40 09.7**	**+0.2**
JKK2	**Kamakawa 2**	**3.22**	**182**	P	**Pn**	**13 39 31.3**	**-0.4**
TYV	**Tymovskoe**	**3.78**	**357**	*e*PN	**Pn**	**13 39 42.0**	**+2.6**
TYV				pmax	pmax		
	comp=N,5.0nm,0.7s						
TYV				pmax	pmax		
	comp=E,6.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TYV	**Tymovskoe**	**3.78**	**357**	*e*P	**Pn**	**13 39 40.5**	**+1.1**
TYV				AMB	AMB	13 39 50.0	
	comp=Z,5.0nm,0.7s						
TYV				AMB	AMB	13 39 50.0	
	comp=Z,6.0nm,0.7s						
TYV				AMB	AMB	13 39 50.0	
	comp=Z,8.0nm,0.7s						
TYV				*e*Sg	**Sg**	**13 40 48.0**	**+5.4**
TYV				A		13 41 04.0	
	comp=Z,7.0nm,0.5s						
TYV				A		13 41 04.0	
	comp=Z,8.0nm,0.5s						
JAR	**Ashorobuto**	**3.84**	**171**	P	**Pn**	**13 39 41.0**	**+0.8**
JAR				*e*S	**Sn**	**13 40 27.5**	**+2.1**
GRNR	**Gornyy**	**5.65**	**313**	*e*Sb	**Sn**	**13 41 18.0**	**+8.0**
GRNR				*e*Sg	**Sg**	**13 41 42.0**	**-0.5**
GRNR				A		13 41 47.0	
	comp=Z,9.0nm,0.3s						
GRNR				A		13 41 47.0	
	comp=Z,12nm,0.3s						
EKMR	**Ekimchan**	**8.77**	**317**	*e*S	**Sn**	**13 42 29.5**	**+2.7**
YKA	**Yellowknife Ar**	**54.68**	**34**	P	**P**	**13 48 10.5**	**+0.2**
	comp=Z,0.1nm,0.5s,mb3.1,baz=305,slow=6.9,SNR=3.6						
YKA	**Yellowknife Ar**	**54.68**	**34**	P	**P**	**13 48 10.5**	**+0.2**
PDAR	**Pinedale Array**	**69.97**	**48**	P	**P**	**13 49 57.0**	**+4.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=321,slow=3.8,SNR=4.7						
ASAR	**Alice Springs**	**70.89**	**189**	P	**P**	**13 49 57.2**	**-1.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=3.6,slow=6.9,SNR=6.0						

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*CSEM **27** 13:45:56.6, 4125N×4363E, h5km, ML3.2, After NSSP*
*NSSP **27** 13:45:56.6, 4125N×4363E, h5km, ML3.2*
*ISCJB **27** 13:46:01.2±0.3, 4104N±002×4384E±003, h10km, Error ellipse: s-maj=3.8km s-min=2.8km az=72.6*
*TIF **27** 13:46:02.0, 4102N×4396E, h8km±2km*
*NEIC **27** 13:46:04.0, 4101N×4370E, h12km, ML3.4(ISK), After ISK.*
*ISK **27** 13:46:04.0, 4101N×4370E, h12km, ML3.4*
*MOS **27** 13:46:24.1±1.3, 4231N×4417E, h9km, mb4.0/1, Error ellipse: s-maj=28.9km s-min=9.4km az=91.5*

ISC 27 13:46:01.8±0.3, 4103N±002×4386E±003, h10km, n24, σ1§09/36, 4C-4D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMZ	**Kamo**	**0.22**	**161**	⇓P	**Pg**	**13 46 07.6**	**+1.3**
KAMZ				S	**Sg**	**13 46 14.1**	**+4.8**
STE	**Stepanavan**	**0.39**	**95**	P	**Pg**	**13 46 09.5**	**+0.1**
STE				S	**Sg**	**13 46 20.5**	**+5.9**
HNAZ	**Hnaberd**	**0.46**	**151**	P	**Pg**	**13 46 10.5**	**-0.1**
HNAZ				S	**Sg**	**13 46 16.9**	**+0.2**
KZR	**Kazreti**	**0.55**	**50**	P	**Pg**	**13 46 12.5**	**+0.1**
KZR				S	**Sg**	**13 46 20.4**	**+0.8**
KARS	**Kars**	**0.71**	**234**	PG	**Pg**	**13 46 15.5**	**-0.1**
KARS				SG	**Sg**	**13 46 24.9**	**0.0**
DIGO	**Kars**	**0.72**	**211**	*i* P	**Pg**	**13 46 14.3**	**-1.3**
DIGO				*i* S	**Sg**	**13 46 24.9**	**-0.1**
MTA	**Mtatsminda**	**0.97**	**47**	P	**Pg**	**13 46 19.8**	**-0.5**
MTA				S	**Sg**	**13 46 33.6**	**+0.6**
GOR	**Gori**	**0.97**	**11**	P	**Pg**	**13 46 20.9**	**+0.5**
GOR				S	**Sg**	**13 46 34.9**	**+1.8**
ERE	**Yerevan**	**0.98**	**151**	P	**Pg**	**13 46 18.0**	**-2.6**
ERE				S	**Sg**	**13 46 33.0**	**-0.4**
DGRG	**David-gareji**	**1.22**	**69**	P	**Pn**	**13 46 25.2**	**+0.3**
DGRG				S	**Sg**	**13 46 43.7**	**+2.8**
ARTV	**Artvin**	**1.46**	**277**	*i* P	**Pn**	**13 46 28.9**	**+0.7**
ARTV				*i* S	**Sn**	**13 46 47.2**	**-0.2**
AGRB	**Hanur-Agry**	**1.60**	**205**	PN	**Pg**	**13 46 32.3**	**-0.1**
BCA	**Borcka**	**1.73**	**284**	*e*PN	**Pn**	**13 46 33.3**	**+1.4**
ZEI	**Tsey**	**1.74**	**1**	⇑*i*PG	**Pg**	**13 46 34.8**	**-0.3**
LACR	**Lac**	**1.82**	**10**	⇓*i*PG	**Pg**	**13 46 35.8**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.88**	**354**	⇑*i*PG	**Pg**	**13 46 37.1**	**-0.7**
CLDR	**Caldiran**	**1.89**	**179**	*e*PN	**Pg**	**13 46 37.4**	**-0.6**
KORR	**Kora**	**2.06**	**4**	⇓*i*PG	**Pg**	**13 46 40.0**	**-1.2**
VLKR	**Vladikavkaz**	**2.10**	**17**	⇓*i*PG	**Pg**	**13 46 40.6**	**-1.5**
SNJR	**Sundja**	**2.16**	**19**	⇑*i*PG	**Pg**	**13 46 41.2**	**-1.9**
ARNR	**Ardon**	**2.18**	**8**	⇑*i*PG	**Pg**	**13 46 41.6**	**-1.9**
ERZM	**Erzurum**	**2.21**	**240**	*i* P	**Pn**	**13 46 37.6**	**-0.8**
ERZM				*i* S	**Sn**	**13 47 07.6**	**+1.8**
EZM	**Erzurum**	**2.21**	**240**	*e*PN	**Pn**	**13 46 40.5**	**+2.0**
KIV	**Kislovodsk**	**3.05**	**344**	*e*PN	**Pg**	**13 47 01.1**	**+1.0**
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						

IDC 27 13:53:39.1±1.9, 1028S×12421E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.5/15, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=112.3km s-min=28.5km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.90**	**170**	Pn	Pn	13 55 36.0	+0.7
	0.2nm,0.3s,baz=358,slow=9.0,SNR=6.2						
FITZ				Sn	Sn	13 56 59.1	-6.3
	0.6nm,0.3s,baz=181,slow=13,SNR=8.0						
WRA	**Warramunga Arr**	**13.70**	**136**	Pn	Pn	13 56 54.1	-0.6
	0.1nm,0.3s,baz=308,slow=15,SNR=9.2						
WRA				Sn	Sn	13 59 22.4	-5.2
	0.4nm,0.3s,baz=295,slow=23,SNR=14						
ASAR	**Alice Springs**	**16.21**	**146**	Pn	Pn	13 57 28.5	+0.2
	0.1nm,0.3s,baz=327,slow=14,SNR=12						
ASAR				Sn	Sn	14 00 22.5	-6.2
	0.2nm,0.3s,baz=319,slow=21,SNR=7.2						
MKAR	**Makanchi Array**	**68.02**	**330**	P	P	14 04 40.3	+0.1
	0.5nm,0.8s,baz=136,slow=6.6,SNR=3.6						

IDC 27 13:59:11.7±1.3, 1059S×12375E, h0km, mb4.2/2, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=102.9km s-min=22.0km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.69**	**166**	*e*P	Pn	14 01 09.2	+4.2
	8.2nm,0.4s						
FITZ				*e*S	Sn	14 02 33.6	+0.8
FITZ	**Fitzroy Crossi**	**7.69**	**166**	Pn	Pn	14 01 06.5	+1.5
	0.3nm,0.3s,baz=355,slow=9.5,SNR=7.1						
FITZ				Sn	Sn	14 02 32.8	-0.1
	1.4nm,0.3s,baz=242,slow=17,SNR=16						
WRA	**Warramunga Arr**	**13.81**	**134**	Pn	Pn	14 02 27.7	-1.0
	0.2nm,0.3s,baz=304,slow=12,SNR=9.1						
WRA				Sn	Sn	14 04 56.2	-6.7
	1.2nm,0.3s,baz=295,slow=23,SNR=13						
ASAR	**Alice Springs**	**16.22**	**145**	Pn	Pn	14 03 01.3	+0.4
	0.4nm,0.3s,baz=317,slow=12,SNR=22						
ASAR				Sn	Sn	14 05 54.1	-7.3
	0.4nm,0.3s,baz=317,slow=21,SNR=9.7						
MKAR	**Makanchi Array**	**68.06**	**331**	P	P	14 10 13.3	+0.2
	1.8nm,0.6s,baz=140,slow=6.7,SNR=20						
ZAL	**Zalesovo**	**72.25**	**337**	P	P	14 10 38.4	-0.3
	1.0nm,0.5s,baz=318,slow=8.9,SNR=3.7						

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*NEIC **27** 14:04:15.4±0.7, 5.08N×94.10E, h30km, mb4.3/6, Error ellipse: s-maj=20.3km s-min=6.5km az=222.0*
*IDC **27** 14:04:17.1±4.8, 5.14N×9421E, h43km±46km, mb3.7/10, mb1 3.9/11, mb1mx3.7/23, mbtmp3.7/11, ML3.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/23, Error ellipse: s-maj=39.7km s-min=17.7km az=54.0*
*ISCJB **27** 14:04:18.0±2.7, 5.1N±0.1×943E±02, h68km±23km, mb3.9/16, Error ellipse: s-maj=34.4km s-min=12.1km az=105.4*

ISC 27 14:04:19.3±2.5, 52N±01×943E±02, h60km±22km, n24, σ0§70/24, mb4.0/16, MS3.0/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.20**	**117**	P	**Pn**	**14 05 33.7**	**-0.8**
	3.6nm,0.3s,baz=326,slow=14,SNR=7.2						
PSI				LR	LR	14 07 41.4	
	comp=Z,88nm,21.5s,baz=16,slow=39						
PSI	**Prapat**	**5.20**	**117**	P	**Pn**	**14 05 33.7**	**-0.8**
PSI				LR	LR	14 07 41.4	
KULM	**Kulim**	**6.34**	**89**	*e*P	**Pn**	**14 05 49.8**	**-0.4**
KSM	**Kuching**	**16.42**	**102**	*e*P	**Pn**	**14 08 07.5**	**+1.9**
JIRN	**Jiri**	**23.65**	**342**	*e*P	**P**	**14 09 25.8**	**+0.7**
	5.1nm,0.7s,mb4.1						
DMN	**Daman**	**23.96**	**340**	*e*P	**P**	**14 09 28.8**	**+0.9**
GUN	**Gumba**	**23.98**	**341**	*e*P	**P**	**14 09 28.9**	**+0.8**
	16nm,1.0s,mb4.4						
GKN	**Gorkha**	**24.48**	**339**	*e*P	**P**	**14 09 32.3**	**-0.4**
	9.5nm,0.7s,mb4.4						
LSA	**Lhasa**	**24.57**	**353**	*e*P	**P**	**14 09 34.3**	**+0.8**
	2.5nm,0.6s,mb3.9						
KOLN	**Koldanda**	**24.66**	**337**	*e*P	**P**	**14 09 34.4**	**+0.1**
	7.9nm,0.7s,mb4.4						
MK31	**Makanchi Array**	**42.73**	**348**	*e*P	**P**	**14 12 10.0**	**-0.5**
MKAR	**Makanchi Array**	**42.73**	**348**	P	**P**	**14 12 10.5**	**0.0**
	1.8nm,0.8s,mb3.9,baz=166,slow=8.4,SNR=8.6						
SONM	**Songino Array**	**43.75**	**12**	P	**P**	**14 12 18.1**	**-0.6**
	1.5nm,0.7s,mb3.8,baz=192,slow=8.7,SNR=12						
ULN	**Ulaanbaatar**	**43.92**	**12**	*e*P	**P**	**14 12 18.8**	**-1.2**
KSRS	**Korea Array**	**44.43**	**39**	P	**P**	**14 12 24.6**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=6.3,slow=6.8,SNR=3.1						
KSRS				LR	LR	14 31 49.8	
	comp=Z,17nm,19.2s,MS3.0,baz=235,slow=37						
WRA	**Warramunga Arr**	**46.63**	**124**	P	**P**	**14 12 41.6**	**+0.1**
	2.4nm,0.6s,mb4.3,baz=302,slow=9.3,SNR=25						
WB2	**Warramunga Arr**	**46.64**	**124**	*e*P	**P**	**14 12 41.3**	**-0.2**
KURK	**Kurchatov**	**47.24**	**346**	*e*P	**P**	**14 12 46.1**	**-0.2**
	1.6nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**48.12**	**128**	P	**P**	**14 12 53.0**	**0.0**
	0.7nm,0.6s,mb3.9,baz=301,slow=8.0,SNR=15						
ZAL	**Zalesovo**	**49.22**	**353**	P	**P**	**14 13 00.8**	**-0.8**
	1.3nm,0.4s,mb4.3,baz=308,slow=3.3,SNR=3.3						
BVAR	**Borovoye Array**	**51.57**	**342**	P	**P**	**14 13 18.8**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=152,slow=6.5,SNR=5.2						
BRTR	**Keskin Array B**	**64.30**	**312**	P	**P**	**14 14 48.3**	**0.0**
	1.1nm,0.9s,mb3.9,baz=116,slow=9.8,SNR=3.0						
FINES	**FINESS Array B**	**75.15**	**333**	P	**P**	**14 15 54.1**	**-1.0**
	2.4nm,0.8s,mb4.2,baz=66,slow=6.8,SNR=7.7						
GERES	**GERESS Array B**	**79.92**	**319**	P	**P**	**14 16 22.4**	**+0.8**
	0.5nm,0.6s,mb3.6,baz=122,slow=6.9,SNR=3.5						

IDC 27 14:09:46.7±33.0, 2329S×17828W, h520km±320km, mb3.2/4, mb1 3.3/4, mb1mx3.1/14, mbtmp3.2/4, Error ellipse: s-maj=213.5km s-min=87.5km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.06**	**269**	P	P	14 15 39.4	+0.5
	4.6nm,0.3s,baz=84,slow=11,SNR=34						
STKA	**Stephens Creek**	**36.41**	**247**	P	P	14 16 06.9	0.0
	1.0nm,0.8s,baz=84,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**43.69**	**260**	P	P	14 17 05.7	+0.4
	1.8nm,0.8s,baz=98,slow=7.7,SNR=36						
WRA	**Warramunga Arr**	**44.03**	**265**	P	P	14 17 07.7	-0.1
	0.7nm,0.3s,baz=103,slow=8.5,SNR=41						
AKASG	**Malin Array Be**	**145.29**	**329**	PKPbc	PKPbc	14 28 25.0	-1.0
	1.0nm,0.4s,baz=39,slow=3.8,SNR=4.5						

IDC 27 14:44:21.3±1.6, 1050S×12378E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.4/15, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=103.3km s-min=24.1km az=64.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.77**	**167**	Pn	Pn	14 46 17.3	+1.7
	0.1nm,0.3s,baz=359,slow=16,SNR=2.1						
FITZ				Sn	Sn	14 47 43.8	-0.4
	0.3nm,0.3s,baz=287,slow=22,SNR=6.5						
WRA	**Warramunga Arr**	**13.84**	**134**	Pn	Pn	14 47 37.9	-0.9
	0.1nm,0.3s,baz=308,slow=15,SNR=6.1						
WRA				Sn	Sn	14 50 07.4	-5.8
	0.2nm,0.3s,baz=295,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.27**	**145**	Pn	Pn	14 48 11.2	+0.1
	0.1nm,0.3s,baz=318,slow=12,SNR=7.9						
ASAR				Sn	Sn	14 51 05.3	-6.9
	0.1nm,0.3s,baz=315,slow=22,SNR=5.0						
MKAR	**Makanchi Array**	**68.00**	**331**	P	P	14 55 22.4	+0.1
	0.3nm,0.6s,baz=131,slow=6.9,SNR=4.1						

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*IDC **27** 15:13:19.2±0.8, 1040N×9262E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/23, mbtmp3.9/11, MS3.9/2, Ms1 3.9/2, ms1mx3.1/29, Error ellipse: s-maj=35.9km s-min=14.9km az=54.0*
*NEIC **27** 15:13:23.9±0.6, 1046N×9270E, h30km, Error ellipse: s-maj=17.9km s-min=11.1km az=58.0*
*ISCJB **27** 15:13:26.3±3.7, 106N±0.1×929E±0.1, h64km±32km, mb3.9/12, Error ellipse: s-maj=28.3km s-min=15.1km az=88.7*

ISC 27 15:13:30.1±2.4, 107N±01×930E±01, h78km±21km, n21, σ0§99/18, mb3.9/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.02**	**348**	*e*P	x	15 13 42.8	
PBA				*e*S	x	15 13 59.5	
PBA				*e*x	x	15 14 10.1	
	comp=N,3μm,0.3s						
P

comp=E,2.3nm,1.0s,mb4.0,baz=83,slow=6.0,SNR=3.4
GERES **GERESS Array B 75.00 318** P **P 15 25 02.6 -0.5**
comp=E,1.1nm,0.5s,mb3.8,baz=88,slow=5.7,SNR=16
HFS **Hagfors 75.49 329** LR LR 15 59 19.4
comp=E,421nm,20.2s,baz=231,slow=36
LPG **La Plagne 79.85 315** *e*P **P 15 25 30.0 -0.1**
comp=E,5.5nm,0.6s,mb4.2

IDC 27 15:29:15.7±2.2,391N×12729E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.6/18,mbtmp3.6/4,MS3.6/2,Ms1 3.6/2, ms1mx2.8/23,Error ellipse: s-maj=187.4km s-min=24.8km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.70**	**164**	P	P	15 34 37.8	-0.6
0.9nm,0.4s,baz=344,slow=9.6,SNR=17							
WB2	**Warramunga Arr**	**24.70**	**164**	*e*P	P	15 34 38.0	-0.4
ASAR	**Alice Springs**	**28.16**	**167**	P	P	15 35 10.5	+0.9
0.2nm,0.4s,baz=342,slow=11,SNR=8.7							
JNU	**Nakatsue**	**29.25**	**6**	LR	LR	15 47 08.7	
comp=Z,180nm,19.1s,baz=274,slow=37							
KSRS	**Korea Array**	**33.38**	**1**	LR	LR	15 49 41.0	
comp=Z,59nm,19.2s,baz=171,slow=37							
STKA	**Stephens Creek**	**38.11**	**160**	P	P	15 36 36.8	+0.5
1.1nm,0.7s,baz=343,slow=9.5,SNR=2.8							
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	15 39 08.4	+0.1
0.2nm,0.4s,baz=120,slow=7.3,SNR=5.6							

IDC 27 15:35:16.4±2.7,1128S×12302E,h0km,mb3.8/1, mb1 3.8/3,mb1mx3.6/14,mbtmp3.7/3,ML3.5/2,Error ellipse: s-maj=248.4km s-min=32.7km az=51.0,South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.89**	**130**	Pn	Pn	15 38 32.6	-2.0
0.2nm,0.3s,baz=303,slow=14,SNR=12							
WRA				Sn	Sn	15 41 00.2	-9.3
0.8nm,0.3s,baz=296,slow=23,SNR=14							
ASAR	**Alice Springs**	**16.10**	**141**	Pn	Pn	15 39 06.5	+2.5
0.4nm,0.3s,baz=316,slow=11,SNR=39							
ASAR				Sn	Sn	15 42 00.8	-2.4
0.3nm,0.3s,baz=317,slow=22,SNR=11							
MKAR	**Makanchi Array**	**68.31**	**331**	P	P	15 46 19.5	+0.1
0.6nm,0.5s,baz=141,slow=6.5,SNR=8.0							

*IDC **27** 15:38:07.8±0.9,2168N×12060E,h0km,mb3.9/8, mb1 4.0/9,mb1mx3.8/21,mbtmp3.9/9,ML3.4/1,Error ellipse: s-maj=37.9km s-min=19.6km az=75.0*
*NEIC **27** 15:38:07.8±5.5,2168N×12064E,h2km±35km, MG3.4(JMA),Error ellipse: s-maj=16.7km s-min=10.8km az=85.0*
*ISCJB **27** 15:38:11.5±1.4,2171N±008×12075E±008,h39km±13km, mb3.7/8,Error ellipse: s-maj=15.6km s-min=10.1km az=110.0*
*JMA **27** 15:38:12.8±0.5,2173N×12079E,h98km,M3.4*
ISC 27 15:38:12.9±2.4,2174N±008×**12068E**±007,**h34**km±18km, **n20**,σ0§65/26,**mb3.7**/8,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.57**	**19**	*e*P	**Pn**	15 38 51.8	-0.3
YHNB	**Yeheng**	**2.99**	**12**	*e*P	**Pn**	15 38 56.7	-1.1
TATO	**Taipei**	**3.31**	**13**	*e*P	**Pn**	15 39 02.0	-0.2
YOJ	**Yonaguni jima**	**3.46**	**38**	P	**Pn**	15 39 04.6	+0.3
YOJ				S	**Sn**	15 39 45.5	+1.5
HATJ	**Hateruma jima**	**3.69**	**51**	P	**Pn**	15 39 07.8	+0.3
HATJ				S	**Sn**	15 39 48.3	-1.4
IRIF	**Iriomote-Funau**	**3.81**	**47**	P	**Pn**	15 39 09.6	+0.4
IRIF				S	**Sn**	15 39 54.0	+1.1
JKRS	**Kuro-shima**	**3.95**	**50**	P	**Pn**	15 39 11.7	+0.7
JKRS				S	**Sn**	15 39 56.1	0.0
JIJ	**Ishigaki jima**	**4.12**	**50**	P	**Pn**	15 39 13.4	0.0
JIJ				S	**Sn**	15 39 59.4	-1.0
JTJ	**Tarama**	**4.69**	**51**	P	**Pn**	15 39 21.6	+0.3
JTJ				S	**Sn**	15 40 14.0	-0.5
KSRS	**Korea Array**	**16.87**	**20**	Pn	**Pn**	15 42 06.2	-0.1
baz=196,slow=12,SNR=2.8							
MAJO	**Matsushiro**	**21.21**	**42**	*e*P	**P**	15 42 55.0	-0.5
PSI	**Prapat**	**28.32**	**231**	P	**P**	15 44 02.9	-0.4
3.1nm,0.4s,mb4.3,baz=154,slow=4.7,SNR=4.1							
PSI	**Prapat**	**28.32**	**231**	P	**P**	15 44 02.9	-0.4
MKAR	**Makanchi Array**	**39.81**	**318**	P	**P**	15 45 42.5	-0.3
0.4nm,0.5s,mb3.4,baz=112,slow=9.3,SNR=4.7							
ZAL	**Zalesovo**	**42.07**	**329**	P	**P**	15 46 01.4	+0.1
1.5nm,0.3s,mb4.1,baz=132,slow=6.0,SNR=4.8							
WRA	**Warramunga Arr**	**43.52**	**161**	P	**P**	15 46 12.5	-0.6
0.4nm,0.6s,mb3.3,baz=342,slow=8.8,SNR=5.4							
ASAR	**Alice Springs**	**46.93**	**163**	P	**P**	15 46 40.8	+0.6
0.3nm,0.6s,mb3.4,baz=343,slow=6.8,SNR=5.8							
FINES	**FINESS Array B**	**73.32**	**330**	P	**P**	15 49 41.6	+0.7
1.6nm,0.8s,mb4.0,baz=335,slow=36,SNR=4.1							
GERES	**GERESS Array B**	**84.43**	**321**	P	**P**	15 50 42.2	+0.3
0.3nm,0.6s,mb3.6,baz=30,slow=8.0,SNR=2.8							
YKA	**Yellowknife Ar**	**85.39**	**23**	P	**P**	15 50 46.6	-0.1
0.2nm,0.7s,mb3.3,baz=311,slow=5.1,SNR=5.4							

*ISCJB **27** 16:24:33.1±0.7,4076N±004×2272E±007,h6km±13km, Error ellipse: s-maj=10.3km s-min=4.1km az=118.6*
*THE **27** 16:24:33.6,4076N×2273E,h4km,ML2.4*
*CSEM **27** 16:24:33.2±0.1,4075N×2268E,h10km,ML2.4,Error ellipse: s-maj=2.4km s-min=1.1km az=51.0*
*SKO **27** 16:24:33.0,4076N×2272E,h16km,M1.7,ML2.2*
*NEIC **27** 16:24:33.6,4076N×2273E,h5km,ML2.7(THE),After THE.*
ISC 27 16:24:33.6±0.7,4076N±004×**2271E**±007,**h7**km±12km,**n18**, σ0§45/29,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.23**	**123**	*e*Pg	**Pg**	16 24 38.2	+0.1
THE				*e*Sg	**Sg**	16 24 41.5	+0.2
THE	**Thessaloniki**	**0.23**	**123**	*e*Pg	**Pg**	16 24 38.2	0.0
THE				*e*Sg	**Sg**	16 24 41.5	+0.2
GRG	**Griva**	**0.31**	**310**	*e*Pg	**Pg**	16 24 39.8	+0.2
HORT	**Hortiatis**	**0.34**	**118**	*e*Pg	**Pg**	16 24 40.0	-0.2
HORT				*e*Sg	**Sg**	16 24 44.9	+0.3
KNT	**Kendrikon**	**0.43**	**19**	*e*Pg	**Pg**	16 24 42.1	+0.2
KNT				*e*Sg	**Sg**	16 24 48.0	+0.5
SOH	**Sokhos**	**0.49**	**82**	*e*Pg	**Pg**	16 24 43.0	-0.1
SOH				*e*Sg	**Sg**	16 24 49.7	+0.1
VAY	**Valandovo**	**0.57**	**349**	*e*Pg	**Pg**	16 24 44.1	-0.5
VAY				*e*Sg	**Sg**	16 24 52.0	-0.1
VAY	**Valandovo**	**0.57**	**349**	*i* Pg	**Pg**	16 24 44.3	-0.3
VAY				*i* Sg	**Sg**	16 24 52.0	-0.1
VAY				*e*Lg		16 24 52.1	
comp=E,126nm,0.6s							
VAY				*e*Lg		16 24 52.1	
comp=N,76nm,0.3s							
VAY	**Valandovo**	**0.57**	**349**	*i* Pg	**Pg**	16 24 44.3	-0.3
VAY				*i* Sg	**Sg**	16 24 52.0	-0.1
VAY				*e*Lg		16 24 52.1	
comp=E,126nm,0.6s							
VAY				*e*Lg		16 24 52.1	
comp=N,76nm,0.3s							
VAY	**Valandovo**	**0.57**	**349**	*i* Pg	**Pg**	16 24 44.3	-0.3
VAY				*e*Sg	**Sg**	16 24 52.0	-0.1
PLG	**Polygyros**	**0.68**	**124**	*e*Pg	**Pg**	16 24 46.3	-0.3
PLG				*e*Sg	**Sg**	16 24 55.6	+0.1
SRS	**Serrai**	**0.76**	**61**	*e*Pg	**Pg**	16 24 47.7	-0.5
OUR	**Ouranopolis**	**1.06**	**113**	*e*Pg	**Pg**	16 24 52.9	-0.9
PAIG	**Paliouri**	**1.11**	**138**	*e*Pg	**Pg**	16 24 54.3	-0.6
PAIG				*e*Sg	**Sg**	16 25 10.5	+1.1
KRUS	**Krusevo**	**1.26**	**299**	*e*Pn	**Pn**	16 24 58.2	+0.6
KRUS	**Krusevo**	**1.26**	**299**	*e*Pn	**Pn**	16 24 58.2	+0.6
KRUS	**Krusevo**	**1.26**	**299**	*e*Pn	**Pn**	16 24 58.2	+0.6
AGG	**Agios Georgios**	**1.76**	**190**	*e*Pb	**Pn**	16 25 04.2	-0.3

*MOS **27** 16:25:05.2±2.5,4950N×15700E,h5km,mb4.2/1,Error ellipse: s-maj=55.2km s-min=11.6km az=80.0*
KRSC 27 16:25:05.2±1.6,4950N×15702E,h5km±5km,**ML4.0,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.32**	**334**	*e*PN	Pn	16 25 24.0	-6.3
SKR				pmax	pmax		
comp=Z,60nm,0.5s							
MIPR	**Malaya Ipel'ka**	**2.79**	**357**	P	Pn	16 25 53.1	+2.7
RUS	**Russkaya**	**3.08**	**17**	*e*P	Pn	16 25 55.0	+0.5
RUS				*e*S	Sn	16 26 31.6	-0.2
GRL	**Gorelyy**	**3.13**	**12**	*e*P	Pn	16 25 56.2	+1.1
GRL				*i* S	Sn	16 26 33.5	+0.6
PET	**Petropavlovsk**	**3.67**	**16**	*e*PN	Pb	16 26 11.2	+0.6
PET				*e*S	Sn	16 26 49.2	+2.8
PET				smax			
comp=N,32nm,0.6s							
PET				smax			
comp=E,37nm,0.6s							
PET	**Petropavlovsk**	**3.67**	**16**	P	Pn	16 26 04.0	+1.3
PET				*i* S	Sn	16 26 47.0	+0.6
NLC	**Nalytchevo**	**3.96**	**21**	P	Pn	16 26 08.3	+1.8
NLC				*i* S	Sn	16 26 53.6	+0.3
SDLR	**Sedlovina**	**3.96**	**16**	*e*P	Pn	16 26 07.5	+0.9
SDLR				*i* S	Sn	16 26 52.9	-0.5
SPN	**Mys Shipunski**	**4.07**	**26**	*e*P	Pn	16 26 09.6	+1.6
SPN				*i* S	Sn	16 26 56.7	+0.7
GNL	**Ganaly**	**4.24**	**7**	*e*P	Pn	16 26 10.9	+0.5
KII	**Karymskiy**	**4.79**	**17**	P	Pn	16 26 20.1	+2.2
KII				*i* S	Sn	16 27 15.6	+1.8
MKZ	**Mys Kozlova**	**5.84**	**28**	*e*P	Pn	16 26 32.5	+0.1
MKZ				*e*S	Sn	16 27 37.2	-2.5
KMNR	**Kamenistaya**	**6.56**	**16**	P	Pn	16 26 43.3	+0.9
KBTR	**Krutoberegovo**	**7.58**	**25**	P	Pn	16 26 57.7	+1.4

*CSEM **27** 16:35:26.8,1199N×4382E,h11km,ML3.7,After DHMR*
DHMR 27 16:35:26.8±1.3,1199N×4382E,h12km±9km,**ML3.7,3C-1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.26**	**13⇑**	*e*P	Pn	16 35 50.3	0.0
TRBA				*i* S	Sb	16 36 08.0	+1.2
TRBA				AML	AML	16 36 12.7	
comp=E,1μm,0.3s							
ADEN	**Aden**	**1.38**	**56⇑**	*i*P	Pn	16 35 52.5	+0.6
ADEN				*i* S	Sn	16 36 11.2	+1.1
ADEN				AML	AML	16 36 17.7	
comp=E,2μm,0.7s							
ADEN	**Aden**	**1.38**	**56⇑**	*i*P	Pn	16 35 52.5	+0.6
ADEN				*i* S	Sn	16 36 11.2	+1.1
comp=E,765nm,0.7s							
LBOS		**2.33**	**37⇓**	*i*P	Pn	16 36 07.2	+2.3
LBOS				*i* S	Sn	16 36 39.6	+6.0
BDHA	**Al Bayda'**	**2.61**	**41**	*i* P	Pn	16 36 10.7	+1.9
BDHA				*i* S	Sn	16 36 46.5	+6.2
BDHA				AML	AML	16 36 59.0	
comp=E,456nm,0.5s							
BDHA	**Al Bayda'**	**2.61**	**41**	*i* P	Pn	16 36 10.7	+1.9
BDHA				*i* S	Sn	16 36 46.5	+6.2
comp=E,228nm,0.5s							
DHBB	**Dhamar BB**	**2.62**	**12**	*i* P	Pn	16 36 12.3	+3.3
DHBB				*i* S	Sn	16 36 47.4	+6.6
HAJJ	**Hajjah**	**3.69**	**357**	*i* S	Sn	16 37 12.7	+5.7

IDC 27 17:16:30.5±2.4,2611N×14135E,h80km±24km,**mb3.4/4, mb1 3.6/4,mb1mx3.2/18,mbtmp3.4/4,Error ellipse: s-maj=51.6km s-min=20.7km az=99.0,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.23**	**37**	P	Pn	17 16 51.8	-0.6
25nm,0.3s,baz=211,slow=19,SNR=4.4							
CBIJ				S	Sn	17 17 08.9	+0.1
44nm,0.3s,baz=264,slow=22,SNR=9.5							
WRA	**Warramunga Arr**	**46.28**	**189**	P	P	17 24 48.4	+0.3
0.7nm,0.3s,baz=11,slow=8.7,SNR=31							
ASAR	**Alice Springs**	**50.01**	**189**	P	P	17 25 16.9	+0.2
0.3nm,1.0s,baz=15,slow=6.8,SNR=4.7							
YKA	**Yellowknife Ar**	**73.36**	**28**	P	P	17 27 53.9	+0.2
0.3nm,0.6s,baz=293,slow=6.1,SNR=5.0							
FINES	**FINESS Array B**	**78.50**	**334**	P	P	17 28 22.0	-0.9
3.1nm,1.1s,baz=76,slow=5.9,SNR=4.7							

*IDC **27** 17:40:23.8±0.9,4676N×15540E,h0km,mb3.8/15, mb1 4.1/16,mb1mx4.0/24,mbtmp3.9/16,ML3.4/1,MS3.5/2, Ms1 3.4/2,ms1mx2.9/25,Error ellipse: s-maj=25.6km s-min=16.5km az=162.0*
*NEIC **27** 17:40:25.9±0.7,4688N×15543E,h10km,mb4.1/1,Error ellipse: s-maj=17.0km s-min=10.5km az=149.0*
*ISCJB **27** 17:40:26.8±1.8,467N±0.1×1554E±0.1,h37km±13km, mb4.0/21,MS3.4/3,Error ellipse: s-maj=21.2km s-min=11.2km az=108.1*
*MOS **27** 17:40:27.4±0.8,4672N×15527E,h38km,mb4.5/3,Error ellipse: s-maj=16.0km s-min=10.4km az=104.4*
ISC 27 17:40:29.7±1.5,468N±01×**1554E**±01,**h45**km±12km,**n41**, σ1§12/41,**mb4.0**/21,**MS3.4**/3,**6C,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.92**	**7**	*e*PN	**Pn**	17 41 27.5	+0.2
SKR				pmax	pmax		
comp=Z,60nm,0.5s							
KUR	**Kuril'sk**	**5.45**	**256**	*e*PN	**Pn**	17 41 46.5	-1.8
KUR				pmax	pmax		
comp=Z,90nm,0.7s							
ASAJ	**Asahikawa**	**9.36**	**258**	Pn	**Pn**	17 42 41.6	-0.4
comp=Z,0.4nm,0.3s,baz=294,slow=33,SNR=3.4							
MJAR	**Matsushiro Arr**	**16.37**	**237**	Pn	**Pn**	17 44 18.9	+2.6
comp=Z,0.1nm,0.3s,baz=33,slow=11,SNR=5.7							
YAK	**Yakutsk**	**21.13**	**325⇑**	*e*P	**P**	17 45 11.1	+0.4
BILL	**Bilibino**	**22.02**	**11**	*oe*P	**P**	17 45 21.4	+1.2
BILL				*e*		17 45 36.7	
BILL				pmax	pmax		
comp=Z,23nm,1.7s,mb4.3							
BILL				MLR	MLR		
comp=Z,100nm,16.0s,MS3.3							
BILL	**Bilibino**	**22.02**	**11**	*e*P	**P**	17 45 20.0	-0.2
comp=Z,4.6nm,0.6s,mb4.1							
KSRS	**Korea Array**	**22.29**	**255**	P	**P**	17 45 23.4	+0.3
comp=Z,1.9nm,0.8s,mb3.6,baz=58,slow=11,SNR=3.0							
TIXI	**Tiksi**	**27.87**	**342⇑**	*e*P	**P**	17 46 16.1	+1.0
ULN	**Ulaanbaatar**	**32.33**	**290**	*i* P	**P**	17 46 55.4	+0.8
SONM	**Songino Array**	**32.77**	**290**	P	**P**	17 46 57.3	-1.0
comp=Z,0.2nm,0.9s,mb3.0,baz=84,slow=4.5,SNR=3.6							
SONM				LR	LR	18 00 50.2	
comp=Z,60nm,18.4s,MS3.3,baz=274,slow=37							
INK	**Inuvik**	**40.78**	**33**	P	**P**	17 48 06.2	-0.2
comp=Z,0.7nm,0.4s,mb3.6,baz=300,slow=8.4,SNR=7.4							
INK	**Inuvik**	**40.78**	**33**	P	**P**	17 48 06.2	-0.2
ZAL	**Zalesovo**	**43.84**	**306**	P	**P**	17 48 30.7	-0.7
comp=Z,0.6nm,0.2s,mb3.9,baz=354,slow=9.2,SNR=2.6							
ZAL				LR	LR	18 07 25.3	
comp=Z,53nm,18.5s,MS3.5,baz=248,slow=37							
MK31	**Makanchi Array**	**48.28**	**298**	*e*P	**P**	17 49 07.0	+0.7
MKAR	**Makanchi Array**	**48.28**	**298**	P	**P**	17 49 06.8	+0.5
comp=Z,0.3nm,0.6s,mb3.5,baz=68,slow=7.4,SNR=5.6							
KURK	**Kurchatov**	**48.61**	**304**	*i* P	**P**	17 49 08.7	-0.2
YKA	**Yellowknife Ar**	**49.96**	**37**	P	**P**	17 49 18.9	-0.2
comp=Z,0.5nm,0.7s,mb3.7,baz=296,slow=7.4,SNR=6.6							
YKA	**Yellowknife Ar**	**49.96**	**37**	*i* P	**P**	17 49 18.8	-0.3
YKA	**Yellowknife Ar**	**49.96**	**37**	P	**P**	17 49 18.9	-0.2
BVAR	**Borovoye Array**	**52.01**	**310**	P	**P**	17 49 35.1	+0.6
comp=Z,1.4nm,0.6s,mb4.1,baz=59,slow=6.8,SNR=12							
BRVK	**Borovoye**	**52.05**	**310**	*e*P	**P**	17 49 36.0	+1.2
AAK	**Ala-Archa**	**55.19**	**297⇑**	*e*P	**P**	17 49 57.8	0.0
AAK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
ARCES	**ARCESS Array B**	**58.30**	**341**	P	**P**	17 50 20.4	+0.5
comp=Z,3.3nm,0.8s,mb4.4,baz=24,slow=10,SNR=3.2							
NVAR	**Mina Array Bea**	**61.04**	**64**	P	**P**	17 50 39.3	+0.6
comp=Z,1.5nm,0.8s,mb4.2,baz=297,slow=5.9,SNR=8.7							
PDAR	**Pinedale Array**	**63.46**	**55**	P	**P**	17 50 55.4	+0.5
comp=Z,1.2nm,0.9s,mb4.0,baz=270,slow=0.9,SNR=6.7							
FINES	**FINESS Array B**	**64.64**	**336**	P	**P**	17 51 03.5	+0.9
comp=Z,2.1nm,0.5s,mb4.4,baz=28,slow=7.7,SNR=14							
FINES	**FINESS Array B**	**64.64**	**336**	*i* P	**P**	17 51 03.5	+0.8
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
NOA	**NORSAR Array B**	**68.67**	**342**	P	**P**	17 51 28.1	-0.3
comp=Z,2.6nm,0.9s,mb4.2,baz=26,slow=6.6,SNR=3.6							
AKASG	**Malin Array Be**	**72.35**	**327**	P	**P**	17 51 51.7	+0.9
comp=Z,0.6nm,0.5s,mb3.8,baz=33,slow=5.8,SNR=4.1							
AKASG	**Malin Array Be**	**72.35**	**327**	P	**P**	17 51 51.7	+0.9
ASAR	**Alice Springs**	**72.77**	**201**	P	**P**	17 51 53.6	+0.3
comp=Z,0.5nm,0.7s,mb3.5,baz=20,slow=5.3,SNR=8.2							
CLL	**Collm**	**77.04**	**337**	*e*P	**P**	17 52 18.0	0.0
CLL				*es*P	pP	17 52 24.0	-7.2
KHC	**Kasperske Hory**	**78.85**	**336⇑**	*e*P	**P**	17 52 28.9	+0.9
GERES	**GERESS Array B**	**79.07**	**335**	P	**P**	17 52 30.2	+1.0
comp=Z,0.3nm,0.5s,mb3.5,baz=45,slow=6.2,SNR=5.5							
CDF	**Champ du Feu**	**81.18**	**339**	*e*P	**P**	17 52 37.7	-2.9
comp=Z,11nm,1.0s,mb4.4							
GRR	**Gorron**	**82.95**	**344**	*e*P	**P**	17 52 47.4	-2.5
comp=Z,66nm,1.5s,mb5.2							
SMF	**Signal de Mont**	**83.65**	**341**	*e*P	**P**	17 52 50.5	-2.9
comp=Z,29nm,1.3s,mb5.0							
LPL	**La Plagne**	**84.01**	**338**	*e*P	**P**	17 52 53.2	-2.1
LPG	**La Plagne**	**84.02**	**338**	*e*P	**P**	17 52 53.5	-1.9
comp=Z,11nm,1.1s,mb4.6							
CAF	**Calviac**	**85.67**	**341**	*e*P	**P**	17 53 00.3	-3.3

*IDC **27** 17:49:29.1±1.5,233N×9731E,h0km,mb3.4/5,mb1 3.6/5, mb1mx3.5/21,mbtmp3.4/5,Error ellipse: s-maj=35.9km s-min=20.4km az=43.0*
*ISCJB **27** 17:49:31.9±1.1,23N±01×9723E±009,h35km,mb3.4/5, Error ellipse: s-maj=19.6km s-min=12.9km az=0.0*
*NEIC **27** 17:49:33.7±1.2,233N×9738E,h30km,Error ellipse: s-maj=23.1km s-min=16.6km az=48.0*
ISC 27 17:49:34.3±1.2,23N±01×**9728E**±009,**h35**km,**n8**,σ1§01/9, **mb3.4**/5,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.71**	**74**	Pn	**Pn**	17 49 58.8	-2.7
6.4nm,0.3s,baz=315,slow=16,SNR=24							
PSI				Sn	**Sn**	17 50 22.9	+0.8
15nm,0.3s,baz=329,slow=18,SNR=7.3							
KULM	**Kulim**	**4.47**	**49**	P	**Pn**	17 50 39.2	-0.3
WRA	**Warramunga Arr**	**42.57**	**123**	P	**P**	17 57 27.0	+0.4
0.6nm,0.8s,mb3.4,baz=301,slow=9.3,SNR=4.3							
ASAR	**Alice Springs**	**44.02**	**128**	P	**P**	17 57 38.4	0.0
0.2nm,0.7s,mb2.9,baz=299,slow=7.7,SNR=5.4							
SONM	**Songino Array**	**46.01**	**9**	P	**P**	17 57 55.1	+1.0
0.1nm,0.6s,mb2.9,baz=185,slow=8.7,SNR=2.4							
MKAR	**Makanchi Array**	**46.17**	**346**	P	**P**	17 57 54.3	-1.1
0.3nm,0.4s,mb3.6,baz=153,slow=9.0,SNR=11							
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	17 58 44.2	+0.8
0.9nm,0.4s,mb4.0,baz=256,slow=2.5,SNR=4.0							
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	17 58 44.2	+0.8

*IDC **27** 18:14:05.1±0.8,5539N×16629E,h0km,mb3.9/11, mb1 4.2/11,mb1mx3.9/24,mbtmp3.9/11,MS3.2/2, Ms1 3.2/2,ms1mx2.8/37,Error ellipse: s-maj=26.7km s-min=16.8km az=165.0*
*MOS **27** 18:14:06.4±1.1,5553N×16628E,h19km,mb4.3/2,Error ellipse: s-maj=15.2km s-min=10.7km az=137.6*
*NEIC **27** 18:14:06.9±0.4,5546N×16631E,h10km,mb4.3/1,Error ellipse: s-maj=15.0km s-min=7.0km az=158.0*
*KRSC **27** 18:14:06.5±0.1,5537N×16629E,h21km±20km,ML4.4*
*ISCJB **27** 18:14:08.9±0.9,5538N±004×16624E±007,h42km±9km, mb3.9/13,MS3.2/1,Error ellipse: s-maj=7.6km s-min=6.4km az=131.2*
ISC 27 18:14:10.2±0.9,5541N±005×**16630E**±008,**h37**km±10km, **n46**,σ1§07/66,**mb3.9**/13,**MS3.2**/1,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**2.12**	**294**	*e*P	**Pn**	18 14 40.3	-2.8
KBTR				*i* S	**Sn**	18 15 04.1	-4.1
MKZ	**Mys Kozlova**	**2.77**	**254**	*e*P	**Pn**	18 14 51.6	-0.4
MKZ				*i* S	**Sn**	18 15 23.5	-0.7
SRKR	**Sorokina**	**3.14**	**296**	*e*P	**Pn**	18 14 56.4	-0.7
SRKR				*i* S	**Sn**	18 15 32.6	-0.7
ZLN	**Zelenaya**	**3.17**	**283**	*e*P	**Pn**	18 14 58.3	+0.8
ZLN				*i* S	**Sn**	18 15 35.4	+1.4
KLY	**Klyuchi**	**3.31**	**288**	*i* P	**Pn**	18 14 57.7	-1.7
KLY				*i* S	**Sn**	18 15 35.2	-2.3
BZMR	**Bezymyannaya**	**3.33**	**281**	*e*P	**Pn**	18 14 59.3	-0.4
BZMR				*i* S	**Sn**	18 15 38.0	-0.1
KRSR	**Krestovskiy**	**3.34**	**286**	*e*P	**Pn**	18 14 59.5	-0.3
KRSR				*i* S	**Sn**	18 15 37.7	-0.5
KMNR	**Kamenistaya**	**3.46**	**278**	*e*P	**Pn**	18 15 02.5	+1.0
KMNR				*i* S	**Sn**	18 15 43.6	+2.4
KPT	**Kopyto**	**3.49**	**282**	*e*P	**Pn**	18 15 02.1	+0.3
KPT				*i* S	**Sn**	18 15 44.3	+2.4
TUMR	**Tumrok**	**3.52**	**270**	*e*P	**Pn**	18 15 01.9	-0.4
TUMR				*i* S	**Sn**	18 15 42.7	+0.1
KOZR	**Kozyr**	**3.68**	**283**	PN	**Pn**	18 15 05.4	+0.9
KOZR				S	**Sn**	18 15 48.0	+1.4
KOZ	**Kozyrevsk**	**3.69**	**283**	*e*P	**Pn**	18 15 05.4	+0.7
KOZ				*i* S	**Sn**	18 15 48.0	+1.1
SRDR	**Sredinnyy**	**3.82**	**286**	*i* P	**Pn**	18 15 06.8	+0.4
SRDR				*e*S	**Sn**	18 15 49.0	-1.1
KII	**Karymskiy**	**4.20**	**254**	*e*P	**Pn**	18 15 12.3	+0.6
KII				*i* S	**Sn**	18 16 00.4	+0.8
SPN	**Mys Shipunski**	**4.35**	**240**	*e*P	**Pn**	18 15 13.0	-0.7
SPN

SZGRF ***27*** *18:38:26.1,2574N×14083E,h33km,mb4.8,Volcano Islands, Japan, region*
BJI ***27*** *18:39:09.7,2693N×14045E,h397km,mB4.9,mb4.4*
IDC ***27*** *18:39:12.6±0.5,2709N×14024E,h391km±5km,mb3.7/18, mb1 3.8/22,mb1mx3.8/26,mbtmp3.7/22,Error ellipse: s-maj=13.3km s-min=8.2km az=83.0*
MOS ***27*** *18:39:12.4±0.8,2708N×14020E,h407km,mb4.4/15,Error ellipse: s-maj=15.0km s-min=7.0km az=108.9*
ISCJB ***27*** *18:39:12.4±0.4,2711N×14034E±007,h406km±4km, mb4.2/42,Error ellipse: s-maj=10.0km s-min=6.3km az=158.3*
JMA ***27*** *18:39:13.9±0.3,2725N×14073E,h413km±4km,M4.6*
NEIC ***27*** *18:39:14.1±1.3,2713N×14026E,h408km±12km,mb4.5/13, Error ellipse: s-maj=8.6km s-min=6.7km az=110.0*

ISC 27 18:39:13.5±0.4,2716N±004×14041E±007,h401km±4km, h418km±7.3km:pP-P,n110,σ1906/116,mb4.2/42,7C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.58**	**92**	P	**Pn**	**18 40 06.6**	**-0.5**
	193nm,0.3s,baz=172,slow=4.6,SNR=27						
CBIJ				S	**S**	**18 40 49.0**	**-1.4**
	120nm,0.3s,baz=276,slow=23,SNR=9.6						
CBIJ	**Chichi jima**	**1.58**	**92**	P	**Pn**	**18 40 07.5**	**+0.4**
JHHJ	**Haha-jima-NKT**	**1.67**	**108**	P	**Pn**	**18 40 08.4**	**+0.9**
JHHJ				eS	**S**	**18 40 51.1**	**-0.1**
JHJ2	**Mitsune**	**5.96**	**355**	P	**Pn**	**18 40 46.7**	**+1.1**
JHJ2				eS	**S**	**18 41 59.3**	**-1.4**
JHJ	**Hachijo jima 2**	**5.97**	**355**	P	**Pn**	**18 40 46.8**	**+1.1**
	86nm,0.3s,baz=206,slow=14,SNR=13						
JHJ				S	**S**	**18 41 58.0**	**-2.8**
	33nm,0.3s,baz=73,slow=21,SNR=3.1						
BSO1	**Boso 1**	**7.49**	**4**	P	**P**	**18 41 03.1**	**0.0**
JWZ	**Kozaga**	**7.54**	**329**	P	**P**	**18 41 05.6**	**+2.0**
JIE	**Ise**	**7.88**	**337**	P	**P**	**18 41 09.7**	**+2.3**
JOD2	**Odawara 2**	**8.16**	**352**	P	**P**	**18 41 10.9**	**+0.4**
JOD2				eS	**S**	**18 42 43.5**	**-2.4**
JTO	**Tosashimizu**	**8.70**	**313**	P	**P**	**18 41 18.8**	**+2.2**
JRY	**Ryogami san**	**8.93**	**352**	P	**P**	**18 41 19.4**	**+0.4**
MJAR	**Matsushiro Arr**	**9.54**	**349**	P	**P**	**18 41 25.5**	**-0.4**
	2.4nm,0.3s,baz=165,slow=11,SNR=34						
MJAR				S	**S**	**18 43 09.8**	**-5.1**
	1.1nm,0.3s,baz=290,slow=26,SNR=3.5						
MJAR	**Matsushiro Arr**	**9.54**	**349**	P	**P**	**18 41 25.5**	**-0.4**
MJAR				S	**S**	**18 43 09.8**	**-5.1**
MAJO	**Matsushiro**	**9.54**	**349**	eP	**P**	**18 41 25.5**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,26nm,0.6s						
MAJO	**Matsushiro**	**9.54**	**349**	eP	**P**	**18 41 25.5**	**-0.4**
	comp=Z,26nm,0.6s						
MAT	**Matsushiro**	**9.54**	**349**	P	**P**	**18 41 25.3**	**-0.6**
MAT				S	**S**	**18 43 12.8**	**-2.1**
JHS	**Saijyo**	**10.01**	**323**	P	**P**	**18 41 33.7**	**+2.7**
JNU	**Nakatsue**	**10.17**	**308**	P	**P**	**18 41 36.5**	**+3.8**
	comp=Z,2.0nm,0.3s,baz=225,slow=19,SNR=8.7						
JMK	**Ichinoseki**	**11.78**	**3**	P	**P**	**18 41 52.7**	**+2.0**
KSRS	**Korea Array**	**14.71**	**317**	P	**P**	**18 42 23.1**	**+0.4**
	baz=132,slow=11,SNR=8.0						
JOSM	**Okushiri--Mats**	**14.91**	**357**	P	**P**	**18 42 26.7**	**+1.9**
ASAJ	**Asahikawa**	**17.02**	**5**	P	**P**	**18 42 49.6**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=17,slow=18,SNR=6.0						
ASAJ	**Asahikawa**	**17.02**	**5**	P	**P**	**18 42 49.7**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	**Khabarovsk**	**21.69**	**350**	eP	**P**	**18 43 33.0**	**-0.1**
HABR				S	**S**	**18 47 07.7**	**+3.2**
WHN	**Wuhan**	**23.06**	**285**	eP	**P**	**18 43 45.5**	**0.0**
HIA	**Hailar**	**27.24**	**330**	i P	**P**	**18 44 22.7**	**-0.1**
XAN	**Xi'an**	**27.88**	**292**	P	**P**	**18 44 28.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.4						
CD2	**Chengdu**	**32.17**	**286**	P	**P**	**18 45 05.0**	**-0.8**
CD2				AMB	AMB		
	comp=Z,60nm,0.5s,mb5.2						
ULN	**Ulaanbaatar**	**33.20**	**317⇑**	eP	**P**	**18 45 14.3**	**-0.3**
SONM	**Songino Array**	**33.58**	**317**	P	**P**	**18 45 17.8**	**-0.1**
	comp=Z,1.2nm,0.5s,mb3.5,baz=127,slow=8.2,SNR=23						
SONM				PcP	PcP	18 47 47.5	0.0
	comp=Z,0.7nm,0.6s,baz=131,slow=3.0,SNR=4.9						
YAK	**Yakutsk**	**35.60**	**351⇑**	eP	**P**	**18 45 35.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
GTA	**Gaotai**	**35.78**	**300**	eP	**P**	**18 45 36.3**	**-0.2**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb3.8						
BOD	**Bodaibo**	**35.84**	**336**	eP	**P**	**18 45 36.4**	**-0.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.7						
SEY	**Seymchan**	**36.64**	**9**	i P	**P**	**18 45 44.2**	**+0.6**
LSA	**Lhasa**	**43.14**	**285**	eP	**P**	**18 46 37.3**	**+0.9**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
LSA	**Lhasa**	**43.14**	**285**	eP	**P**	**18 46 37.3**	**+1.0**
	comp=Z,6.6nm,0.5s,mb4.2						
BILL	**Bilibino**	**43.76**	**14⇑**	eP	**P**	**18 46 42.8**	**+1.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
BILL	**Bilibino**	**43.76**	**14**	eP	**P**	**18 46 42.6**	**+1.3**
	comp=Z,7.2nm,0.8s,mb4.0						
TIXI	**Tiksi**	**45.00**	**355⇑**	eP	**P**	**18 46 49.9**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
WMQ	**Urumqi**	**45.26**	**306**	P	**P**	**18 46 53.3**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
PSI	**Prapat**	**46.47**	**246**	P	**P**	**18 47 02.1**	**-0.2**
	comp=Z,8.7nm,0.5s,mb4.3,baz=57,slow=1.4,SNR=9.7						
WRA	**Warramunga Arr**	**47.19**	**188**	P	**P**	**18 47 07.0**	**-0.7**
	comp=Z,3.6nm,0.3s,mb4.2,baz=7.0,slow=8.4,SNR=171						
WRA				pP	pP	18 48 27.1	-0.2
	comp=Z,0.6nm,0.8s,baz=9.4,slow=8.4,SNR=1.5						
FITZ	**Fitzroy Crossi**	**47.22**	**199**	P	**P**	**18 47 08.1**	**+0.2**
	comp=Z,1.1nm,0.4s,mb3.6,baz=277,slow=23,SNR=8.3						
JIRN	**Jiri**	**47.80**	**284**	eP	**P**	**18 47 13.2**	**+0.8**
	comp=Z,88nm,0.7s,mb5.2						
GUN	**Gumba**	**48.01**	**284**	eP	**P**	**18 47 14.7**	**+0.7**
ZAL	**Zalesovo**	**48.42**	**319**	P	**P**	**18 47 16.7**	**-0.3**
	comp=Z,1.6nm,0.5s,mb3.6,baz=20,slow=5.9,SNR=8.9						
ZAL				PcP	PcP	18 48 35.6	-0.6
	comp=Z,1.3nm,0.4s,baz=5.5,slow=4.8,SNR=6.5						
PKI	**Pulchoki**	**48.49**	**284**	eP	**P**	**18 47 17.6**	**0.0**
KKN	**Kakani**	**48.56**	**284**	eP	**P**	**18 47 18.1**	**0.0**
	comp=Z,28nm,0.7s,mb4.7						
KKN	**Kakani**	**48.56**	**284**	eP	**P**	**18 47 18.1**	**0.0**
KKN				pmax	pmax		
	comp=Z,28nm,0.7s,mb4.7						
DMN	**Daman**	**48.75**	**284**	eP	**P**	**18 47 19.6**	**+0.1**
	comp=Z,28nm,0.7s,mb4.7						
GKN	**Gorkha**	**49.07**	**285**	eP	**P**	**18 47 21.9**	**0.0**
	comp=Z,12nm,0.3s,mb4.7						
MK31	**Makanchi Array**	**49.22**	**310**	eP	**P**	**18 47 22.6**	**-0.4**
MKAR	**Makanchi Array**	**49.22**	**310**	P	**P**	**18 47 22.7**	**-0.3**
	comp=Z,2.6nm,0.5s,mb3.8,baz=86,slow=10,SNR=32						
MKAR				PcP	PcP	18 48 38.8	-0.4
	comp=Z,1.1nm,0.7s,baz=72,slow=7.8,SNR=4.2						
MKAR				ScP	ScP	18 51 54.7	-0.6
	comp=Z,0.3nm,0.5s,baz=80,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**49.22**	**310**	P	**P**	**18 47 22.7**	**-0.3**
MKAR					pP	18 48 38.8	-4.6
KOLN	**Koldanda**	**50.01**	**285**	eP	**P**	**18 47 29.2**	**+0.2**
	comp=Z,40nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**50.91**	**188**	P	**P**	**18 47 34.9**	**-0.7**
	comp=Z,0.8nm,0.3s,mb3.4,baz=359,slow=4.8,SNR=59						
ASAR				PcP	PcP	18 48 45.5	0.0
	comp=Z,0.9nm,0.8s,baz=14,slow=4.3,SNR=6.3						
KURK	**Kurchatov**	**51.81**	**315⇑**	i P	**P**	**18 47 41.1**	**-1.1**
KURK				i *P	pP	18 49 06.9	+3.4
KURK	**Kurchatov**	**51.81**	**315**	eP	**P**	**18 47 41.2**	**-1.0**
KURK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.2						
KURK	**Kurchatov**	**51.81**	**315**	eP	**P**	**18 47 41.2**	**-1.0**
	comp=Z,11nm,0.7s,mb4.2						
TKM2	**Tokmak 2**	**54.08**	**305**	P	**P**	**18 47 59.4**	**+0.9**
	SNR=7.7						
KZA	**Kyzart**	**54.42**	**304**	P	**P**	**18 48 02.6**	**+1.7**
	SNR=7.2						
KBK	**Karagaybulak**	**54.59**	**305**	P	**P**	**18 48 02.7**	**+0.6**
	SNR=9.5						
AAK	**Ala-Archa**	**54.92**	**305**	P	**P**	**18 48 04.7**	**+0.2**
	SNR=6.1						
AAK	**Ala-Archa**	**54.92**	**305⇑**	i P	**P**	**18 48 03.4**	**-1.1**
AAK				i *PP	pP	18 49 30.2	+3.2
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.7						
UCH	**Uchtor**	**54.95**	**304**	P	**P**	**18 48 06.2**	**+1.5**
	SNR=12						
AML	**Almayashu**	**55.57**	**304**	P	**P**	**18 48 10.4**	**+1.3**
	SNR=7.6						
BRVK	**Borovoye**	**56.99**	**317**	eP	**P**	**18 48 18.2**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**56.99**	**317**	eP	**P**	**18 48 18.2**	**-0.7**
	comp=Z,4.6nm,0.6s,mb4.0						
KBL	**Kabul**	**60.58**	**296**	eP	**P**	**18 48 43.1**	**-0.3**
ARU	**Arti**	**63.40**	**322⇓**	i P	**P**	**18 49 01.0**	**-0.9**
ARU				e		18 49 28.2	
ARU				e		18 51 24.1	
ARU				eS	**S**	**18 57 02.9**	**+0.8**
ARU				eSS	SS	19 01 23.3	+5.8
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
INK	**Inuvik**	**63.63**	**24**	P	**P**	**18 49 04.0**	**+0.6**
	comp=Z,1.7nm,0.5s,mb3.8,baz=282,slow=4.6,SNR=7.9						
NWAO	**Narrogin (SRO)**	**63.69**	**202**	P	**P**	**18 49 02.8**	**-0.9**
	comp=Z,3.8nm,0.6s,mb4.1,baz=243,slow=5.0,SNR=4.5						
RES	**Resolute Bay**	**72.37**	**13**	eP	**P**	**18 49 56.6**	**-0.4**
KEV	**Kevo**	**72.40**	**340**	ep	**P**	**18 49 56.3**	**-0.9**
	comp=Z,2.4nm,0.5s,mb4.0						
KEV	**Kevo**	**72.40**	**340**	eP	**P**	**18 49 56.3**	**-0.9**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
YKA	**Yellowknife Ar**	**72.83**	**28**	P	**P**	**18 50 00.1**	**+0.4**
	comp=Z,3.7nm,0.6s,mb4.1,baz=296,slow=5.8,SNR=66						
YKA	**Yellowknife Ar**	**72.83**	**28**	P	**P**	**18 50 00.1**	**+0.4**
ARCES	**ARCESS Array B**	**72.96**	**341**	P	**P**	**18 50 00.5**	**0.0**
	comp=Z,4.3nm,0.5s,mb4.2,baz=70,slow=8.1,SNR=30						
ARCES	**ARCESS Array B**	**72.96**	**341**	P	**P**	**18 50 00.5**	**0.0**
JOF	**Joensuu**	**74.32**	**333**	ep	**P**	**18 50 06.9**	**-1.4**
	comp=Z,5.2nm,0.4s,mb4.5						
JOF	**Joensuu**	**74.32**	**333**	eP	**P**	**18 50 06.9**	**-1.4**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.5						
OBN	**Obninsk**	**75.58**	**325**	P	**P**	**18 50 14.0**	**-1.4**
OBN				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.5						
KAF	**Kangasniemi**	**76.73**	**334**	ep	**P**	**18 50 20.2**	**-1.6**
	comp=Z,8.8nm,0.4s,mb4.7,baz=55,slow=5.1						
KAF	**Kangasniemi**	**76.73**	**334**	eP	**P**	**18 50 20.2**	**-1.6**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.8						
FIA1	**FINESS Array S**	**77.19**	**333**	eP	**P**	**18 50 23.5**	**-0.8**
FINES	**FINESS Array B**	**77.19**	**333**	P	**P**	**18 50 23.8**	**-0.6**
	comp=Z,7.1nm,0.3s,mb4.7,baz=71,slow=5.1,SNR=112						
FINES	**FINESS Array B**	**77.19**	**333**	i P	**P**	**18 50 23.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.4s						
FINES	**FINESS Array B**	**77.19**	**333**	P	**P**	**18 50 23.8**	**-0.6**
AKASG	**Malin Array Be**	**81.63**	**323**	P	**P**	**18 50 47.0**	**-1.0**
	comp=Z,3.7nm,0.7s,mb4.2,baz=49,slow=5.3,SNR=19						
NVAR	**Mina Array Bea**	**81.72**	**51**	P	**P**	**18 50 50.9**	**+2.4**
	comp=Z,1.8nm,0.6s,mb4.0,baz=288,slow=6.1,SNR=15						
NB2	**NORSAR Subarra**	**82.96**	**338**	P	**P**	**18 50 53.4**	**-1.4**
	comp=Z,3.4nm,0.6s,mb4.2,baz=50,slow=4.6						
NOA	**NORSAR Array B**	**82.96**	**338**	P	**P**	**18 50 53.7**	**-1.1**
	comp=Z,6.3nm,0.7s,mb4.5,baz=46,slow=4.9,SNR=17						
NOA	**NORSAR Array B**	**82.96**	**338**	P	**P**	**18 50 53.7**	**-1.1**
DUG	**Dugway**	**84.56**	**47**	eP	**P**	**18 51 04.4**	**+1.6**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
DUG	**Dugway**	**84.56**	**47**	eP	**P**	**18 51 04.4**	**+1.6**
	comp=Z,4.8nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**84.80**	**312**	P	**P**	**18 51 03.4**	**-0.6**
	comp=Z,2.2nm,0.8s,mb3.9,baz=93,slow=4.1,SNR=8.2						
PDAR	**Pinedale Array**	**85.28**	**44**	P	**P**	**18 51 07.2**	**+0.8**
	comp=Z,0.7nm,0.9s,mb3.4,baz=343,slow=1.5,SNR=4.8						
STHS	**Stebnicka Huta**	**86.55**	**325**	eP	**P**	**18 51 08.6**	**-3.9**
KSP	**Ksiaz**	**88.04**	**328**	eP	**P**	**18 51 18.8**	**-0.7**
VYHS	**Vyhne**	**88.36**	**325**	eP	**P**	**18 51 20.3**	**-0.7**
KHC	**Kasperske Hory**	**90.49**	**328**	eP	**P**	**18 51 30.5**	**-0.4**
KHC	**Kasperske Hory**	**90.49**	**328⇑**	eP	**P**	**18 51 30.0**	**-0.9**
GERES	**GERESS Array B**	**90.63**	**328**	P	**P**	**18 51 30.4**	**-1.1**
	comp=Z,1.7nm,0.8s,mb3.9,baz=45,slow=4.2,SNR=15						
GRA1	**Grafenberg Arr**	**91.17**	**330**	eP	**P**	**18 51 33.3**	**-0.7**
	comp=Z,4.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**91.17**	**330**	eP	**P**	**18 51 33.3**	**-0.7**
	comp=Z,4.0nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**91.17**	**330**	eP	**P**	**18 51 33.3**	**-0.7**
GRF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
TORD	**Torodi Ar. Bea**	**123.34**	**310**	PKP	PKPdf	18 57 23.5	0.0
	comp=Z,1.3nm,0.7s,baz=22,slow=2.7,SNR=8.5						
TORD	**Torodi Ar. Bea**	**123.34**	**310**	PKP	PKPdf	18 57 23.5	0.0
PLCA	**Paso Flores**	**151.13**	**126**	PKPbc	PKPbc	18 58 20.3	+0.4
	comp=Z,3.7nm,0.5s,baz=224,slow=2.8,SNR=13						
LPAZ	**La Paz**	**151.43**	**74**	PKPbc	PKPbc	18 58 23.1	+2.6
	comp=Z,3.3nm,0.7s,baz=305,slow=2.3,SNR=15						

IDC ***27*** *19:01:08.4±1.3,1312N×8827W,h0km,mb4.1/7,mb1 4.3/8, mb1mx4.0/19,mbtmp4.1/8,ML3.3/1,MS3.6/1,Ms1 3.5/1, ms1mx2.6/26,Error ellipse: s-maj=45.6km s-min=15.3km az=49.0*
ISCJB ***27*** *19:01:16.2±0.4,1294N±008×8836W±005,h89km±6km, mb4.1/8,Error ellipse: s-maj=14.5km s-min=4.3km az=63.5*
NEIC ***27*** *19:01:17.0±1.2,1287N×8828W,h84km±11km,mb3.8/1, Error ellipse: s-maj=20.2km s-min=11.1km az=221.0*
CASC ***27*** *19:01:16.8±2.3,1295N×8838W,h60km±30km,MD4.6, ML4.1,mb3.8(NEIC)*

ISC 27 19:01:17.5±0.4,1303N±008×8830W±005,h80km±7km,n46, σ1919/41,mb4.1/8,5C-9D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.40**	**4⇓**	eP	x	19 01 29.8	
BLLM	**Bellamira**	**0.41**	**9⇓**	eP	x	19 01 29.8	
CNCH	**Conchagua**	**0.52**	**62**	eP	x	19 01 30.9	
SNVI	**San Vicente**	**0.78**	**318⇓**	eP	x	19 01 32.2	
SNVI				eS	x	19 01 44.9	
LCBS	**La Ceiba**	**0.91**	**313⇓**	i P	x	19 01 33.4	
LCBS				eS	x	19 01 49.5	
LFRS	**El Faro**	**0.94**	**309⇓**	i P	x	19 01 33.5	
LFRS				eS	x	19 01 46.0	
LBRS	**Las Brisas**	**1.01**	**314⇓**	eP	x	19 01 34.9	
LFU	**La Fuente**	**1.06**	**312⇑**	eP	x	19 01 35.7	
LFU				eS	x	19 01 50.8	
BOQS	**Boqueron**	**1.18**	**306⇑**	eP	x	19 01 36.9	
BOQS				eS	x	19 01 53.4	
TGUH	**Tegucigalpa,Un**	**1.43**	**44**	eP	**Pn**	**19 01 43.4**	**+1.4**
TELN	**Telica**	**1.50**	**106⇓**	eP	**Pn**	**19 01 42.2**	**-0.6**
TELN				eS	**Sn**	**19 02 01.9**	**0.0**
SBLS	**San Blas**	**1.52**	**302⇑**	eP	x	19 01 41.4	
SBLS				eS	x	19 02 00.5	
SNJE	**San Jose**	**1.52**	**303⇓**	eP	x	19 01 40.8	
RTR	**El Retiro**	**1.56**	**304⇓**	eP	x	19 01 42.3	
MIRN	**Miramar**	**1.66**	**111**	eP	**Pn**	**19 01 44.1**	**-0.8**
MIRN				eS	**Sn**	**19 02 06.3**	**+0.6**
MTO2	**Montecristo 2**	**1.71**	**323⇓**	eP	x	19 01 45.0	
RBDL	**Robledal**	**1.72**	**309⇑**	eP	x	19 01 44.5	
MOMJ	**Momotombo**	**1.83**	**110**	eP	**Pn**	**19 01 46.6**	**-0.5**
MOMJ				eS	**Sn**	**19 02 09.4**	**-0.2**
COPN	**Copaltepe**	**1.87**	**117**	eP	**Pn**	**19 01 46.6**	**-1.1**
COPN				eS	**Sn**	**19 02 09.2**	**-1.5**
XAVN	**Gruta Xavier**	**2.12**	**114**	eP	**Pn**	**19 01 50.3**	**-0.7**
MGAN	**Managua**	**2.19**	**113**	eP	**Pn**	**19 01 51.3**	**-0.7**
MGAN				eS	**Sn**	**19 02 18.0**	**-0.2**
	comp=N,1μm,0.5s						
TICN	**Ticuantepe**	**2.25**	**116**	eP	**Pn**	**19 01 52.3**	**-0.5**
TICN				eS	**Sn**	**19 02 20.8**	**+1.0**
	comp=Z,3μm,0.3s						
PCG	**Pacaya**	**2.62**	**301**	eP	**Pn**	**19 01 57.5**	**-0.2**
PCG				eS	**Sn**	**19 02 31.0**	**+2.5**
FUG	**Fuego 3**	**2.84**	**300**	eP	**Pn**	**19 02 00.1**	**-0.6**
FUG				eS	**Sn**	**19 02 33.2**	**-0.7**
CONN	**Concepcion**	**2.99**	**119**	eP	**Pn**	**19 02 04.7**	**+1.9**
JAT	**Jato**	**3.48**	**292**	eP	**Pn**	**19 02 08.1**	**-1.3**
JTS	**JuntasAbangare**	**4.26**	**129**	Pn	**Pn**	**19 02 17.3**	**-2.7**
	comp=Z,1.7nm,0.3s,baz=303,slow=19,SNR=4.7						
JTS				Pg	**Pn**	**19 02 26.0**	**+6.0**
	comp=Z,13nm,0.3s,baz=301,slow=7.2,SNR=29						
JTS				Sn	**Sn**	**19 03 08.8**	**+0.2**
	comp=Z,4.0nm,0.3s,baz=168,slow=24,SNR=2.0						
JTS				Lg		19 03 24.5	
	comp=Z,7.2nm,0.3s,baz=318,slow=21,SNR=12						
JCR	**Jicaral**	**4.45**	**135**	eP	**Pn**	**19 02 22.5**	**0.0**
CGA2	**Cerro Gallo 2**	**4.81**	**128**	eP	**Pn**	**19 02 28.9**	**+1.5**
CGA2				eS	**Sn**	**19 03 23.5**	**+1.7**
PRS1	**Puriscal**	**4.95**	**127**	eP	**Pn**	**19 02 30.7**	**+1.4**
LAJ	**Bijagual**	**5.17**	**127**	eP	**Pn**	**19 02 30.5**	**-1.9**
LCR2	**La Lucha 2**	**5.33**	**127**	eP	**Pn**	**19 02 36.0**	**+1.4**
TEIG	**Tepich**	**7.16**	**0**	Pn	**Pn**	**19 03 02.9**	**+3.4**
	comp=Z,4.5nm,0.3s,baz=358,slow=24,SNR=27						
CMIG	**Matias Romero**	**7.53**	**303**	Pn	**Pn**	**19 03 04.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=146,slow=11,SNR=15						
CMIG				Sn	**Sn**	**19 04 21.9**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=144,slow=7.4,SNR=1.8						
SDV	**Santo Domingo**	**17.83**	**102**	P	**Pn**	**19 05 19.1**	**-1.1**
LTX	**Lajitas**	**21.60**	**321**	eP	**P**	**19 06 02.0**	**+1.2**
	comp=Z,3.3nm,0.7s,mb3.8						
TKL	**Tuckaleechee C**	**22.90**	**10**	P	**P**	**19 06 14.2**	**-0.3**
	comp=Z,7.4nm,0.8s,mb4.1,baz=169,slow=9.9,SNR=5.9						
PDAR	**Pinedale Array**	**34.87**	**332**	P	**P**	**19 08 01.9**	**+0.8**
	comp=Z,1.4nm,0.6s,mb3.9,baz=125,slow=13,SNR=3.3						
NVAR	**Mina Array Bea**	**36.72**	**319**	P	**P**	**19 08 18.8**	**+2.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=151,slow=6.7,SNR=5.4						
NVAR				PcP	PcP	19 10 39.2	+1.4
	comp=Z,0.8nm,0.5s,baz=131,slow=3.7,SNR=4.9						
ULM	**Lac du Bonnet**	**37.63**	**352**	P	**P**	**19 08 23.9**	**-0.6**
	comp=Z,4.4nm,0.7s,mb4.4,baz=143,slow=8.7,SNR=5.8						
ULM				LR	LR	19 26 41.9	
	comp=Z,76nm,18.1s,baz=58,slow=41						
SCHQ	**Schefferville**	**44.97**	**17**	P	**P**	**19 09 24.0**	**-0.6**
	comp=Z,3.4nm,0.8s,mb4.1,baz=221,slow=8.5,SNR=4.0						
YKA	**Yellowknife Ar**	**52.84**	**345**	P	**P**	**19 10 24.0**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=143,slow=7.5,SNR=39						
INK	**Inuvik**	**62.41**	**343**	P	**P**	**19 11 31.1**	**-0.8**
	comp=Z,1.7nm,0.9s,mb4.1,baz=151,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**138.62**	**255**	PKP	PKiKP	19 20 36.2	0.0
	comp=Z,0.4nm,0.7s,baz=87,slow=2.5,SNR=6.8						
ASAR	**Alice Springs**	**138.71**	**249**	PKhKP	PKPdf	19 20 34.1	-0.1
	comp=Z,0.4nm,0.7s,baz=84,slow=2.2,SNR=4.9						
ASAR				PKP	PKiKP	19 20 36.6	+0.3
	comp=Z,0.5nm,0.7s,baz=87,slow=2.3,SNR=5.8						
ASAR	**Alice Springs**	**138.71**	**249**	PKP	PKPdf	19 20 34.1	-0.1
ASAR				PKP	PKiKP	19 20 36.6	+0.3

WEL 27 19:05:46.5±0.2,3843S×17664E,h78km±2km,ML3.6/13, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAZ	**Tarawera**	**0.22**	**332**	P*	Pn	19 05 58.2	+0.1
PATZ	**Paeroa**	**0.30**	**278**	P*	Pn	19 05 58.5	0.0
EDRZ	**Edgecumbe**	**0.33**	**14**	P*	Pn	19 05 58.4	-0.3
URZ	**Urewera**	**0.41**	**66**	P*	Pn	19 05 58.8	-0.5
URZ				S*	Sn	19 06 08.6	-0.1
KARZ	**Kaharoa**	**0.51**	**322**	P*	Pn	19 05 59.7	-0.4
MWZ	**Matawai**	**0.71**	**83**	P*	Pn	19 06 01.9	-0.1
MWZ				S*	Sn	19 06 14.3	+0.7
BKZ	**Black Stump Fm**	**0.75**	**189**	P*	Pn	19 06 02.5	0.0
BKZ				S*	Sn	19 06 14.7	+0.3
RATZ	**Rangitukua**	**0.81**	**237**	P*	Pn	19 06 03.1	0.0
RITZ	**Rihia Road**	**0.82**	**228**	P*	Pn	19 06 03.7	+0.4
KNZ	**Kokohu**	**1.01**	**127**	PN	Pn	19 06 05.6	+0.1
KRVZ	**Karewarewa**	**1.03**	**229**	P*	Pn	19 06 06.0	+0.3
OTVZ	**Oturere**	**1.06**	**225**	P*	Pn	19 06 06.6	+0.5

*ISCJB **27** 19:07:18.6±0.6, 4237N±003×2.16E±004, h10km, Error ellipse: s-maj=5.1km s-min=3.8km az=145.7*
*MDD **27** 19:07:20.5±0.3, 4233N×2.15E, h0km, mbLg1.0/2, Error ellipse: s-maj=3.3km s-min=2.3km az=35.0, PRXIMO*
*STR **27** 19:07:20.0±0.1, 4235N×2.13E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 19:07:20.1±0.1, 4233N×2.14E, h6km, Md1.8/1, Ml1.7/5, Error ellipse: s-maj=1.5km s-min=1.4km az=18.0*

ISC 27 19:07:18.8±1.1, 4232N±005×217E±004, h13km±6km, n19, σ0§61/27, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.03**	**164**	P	**Pg**	**19 07 21.4**	**+0.4**
CBRU				S	**Sg**	**19 07 22.4**	**-0.3**
	46nm,0.1s						
VALF	**Valcebollere**	**0.14**	**307**	Pg	**Pg**	**19 07 22.5**	**+0.3**
VALF				Sg	**Sg**	**19 07 24.3**	**-0.4**
VALF	**Valcebollere**	**0.14**	**307**	P	**Pg**	**19 07 22.6**	**+0.4**
VALF				S	**Sg**	**19 07 24.4**	**-0.3**
CLLI	**Llivia**	**0.22**	**319**	P	**Pg**	**19 07 24.1**	**+0.6**
CLLI				S	**Sg**	**19 07 26.9**	**+0.2**
	3.5nm,0.2s						
FILF	**Fillols**	**0.38**	**50**	Pg	**Pg**	**19 07 26.0**	**-0.3**
FILF				Sg	**Sg**	**19 07 30.5**	**-1.0**
FILF	**Fillols**	**0.38**	**50**	P	**Pg**	**19 07 26.1**	**-0.2**
FILF				S	**Sg**	**19 07 30.3**	**-1.1**
EJON	**La Jonquera**	**0.55**	**76**	Lg		19 07 38.4	
	SNR=7.9						
CSOR	**Sort**	**0.77**	**275**	P	**Pg**	**19 07 34.5**	**+0.8**
MTLF	**Montolieu**	**1.02**	**2**	*e*Pg	**Pg**	**19 07 39.4**	**+0.9**
MTLF				*e*Sg	**Sg**	**19 07 53.0**	**+1.1**
	1.1nm,0.2s						
MTLF	**Montolieu**	**1.02**	**2**	Pg	**Pg**	**19 07 39.4**	**+0.9**
MTLF				Lg		19 07 53.0	
	0.6nm,0.2s						
EPF	**Esparros**	**1.53**	**299**	*e*Pg	**Pg**	**19 07 47.9**	**-0.2**
EPF				*e*Sg	**Sg**	**19 08 07.7**	**-0.2**
	0.8nm,0.2s						
EPF	**Esparros**	**1.53**	**299**	Pg	**Pg**	**19 07 47.9**	**-0.2**
EPF				Lg		19 08 07.7	
	0.4nm,0.2s						
EBIE	**Bielsa**	**1.54**	**285**	Pg	**Pg**	**19 07 47.7**	**-0.6**
	SNR=7.9						
EBIE				Lg		19 08 10.5	
	SNR=7.9						
ETSF	**Etsaut**	**2.10**	**287**	*e*Pg	**Pg**	**19 07 58.7**	**-0.3**
ETSF				*e*Sg	**Sg**	**19 08 25.6**	**-0.5**
	1.1nm,0.3s						
ETSF	**Etsaut**	**2.10**	**287**	Pg	**Pg**	**19 07 58.7**	**-0.3**
ETSF				Lg		19 08 25.6	
	0.6nm,0.3s						
LASF	**Ste Croix**	**2.15**	**34**	*e*Pg	**Pg**	**19 08 00.3**	**+0.3**
LASF				*e*Sg	**Sg**	**19 08 28.1**	**+0.2**
	0.4nm,0.2s						
LASF	**Ste Croix**	**2.15**	**34**	Pg	**Pg**	**19 08 00.3**	**+0.3**
LASF				Lg		19 08 28.1	
	0.2nm,0.2s						
CAF	**Calviac**	**2.61**	**358**	*e*Sg	**Sg**	**19 08 41.4**	**-1.2**
	0.8nm,0.2s						
CAF	**Calviac**	**2.61**	**358**	Lg		19 08 41.4	
	0.4nm,0.2s						

*IDC **27** 19:08:59.1±0.8, 4611N×15456E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, ML3.7/1, Error ellipse: s-maj=24.0km s-min=18.9km az=140.0*
*ISCJB **27** 19:09:00.3±4.3, 4611N±0.1×1546E±0.1, h18km±30km, mb4.0/16, Error ellipse: s-maj=23.2km s-min=10.7km az=132.1*
*NEIC **27** 19:09:00.6±0.6, 4609N×15453E, h10km, mb4.1/2, Error ellipse: s-maj=16.9km s-min=10.2km az=156.0*
*MOS **27** 19:09:04.1±0.9, 4607N×15436E, h47km, mb4.3/2, Error ellipse: s-maj=19.4km s-min=17.2km az=84.2*

ISC 27 19:09:02.9±4.4, 462N±01×1546E±01, h22km±30km, n28, σ0§81/29, mb4.0/16, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.80**	**261**	⇑*i*PN	**Pn**	**19 10 13.7**	**0.0**
KUR				*i* S	**Sn**	**19 11 08.0**	**-0.6**
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
ASAJ	**Asahikawa**	**8.72**	**261**	Pn	**Pn**	**19 11 07.2**	**-0.3**
	comp=E,0.9nm,0.3s,baz=70,slow=7.1,SNR=6.9						
ASAJ	**Asahikawa**	**8.72**	**261**	PN	**Pn**	**19 11 07.2**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**22.76**	**11**	⇓*e*P	**P**	**19 14 05.8**	**+2.3**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**22.76**	**11**	*e*P	**P**	**19 14 03.7**	**+0.2**
	comp=Z,3.5nm,0.6s,mb4.0						
SONM	**Songino Array**	**32.49**	**291**	P	**P**	**19 15 30.5**	**-1.2**
	comp=Z,0.3nm,0.7s,mb3.2,baz=68,slow=5.5,SNR=2.6						
EGAK	**Eagle**	**38.84**	**38**	*e*P	**P**	**19 16 25.7**	**-0.5**
	comp=Z,4.6nm,0.9s,mb4.2						
INK	**Inuvik**	**41.62**	**32**	P	**P**	**19 16 49.5**	**+0.4**
	comp=Z,1.5nm,0.5s,mb3.9,baz=300,slow=6.0,SNR=14						
MK31	**Makanchi Array**	**48.12**	**298**	*e*P	**P**	**19 17 40.3**	**-0.7**
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**19 17 41.2**	**+0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=64,slow=6.9,SNR=9.9						
MKAR	**Makanchi Array**	**48.12**	**298**	P	**P**	**19 17 41.2**	**+0.2**
YKA	**Yellowknife Ar**	**50.80**	**37**	P	**P**	**19 18 00.9**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=295,slow=7.0,SNR=7.9						
YKA	**Yellowknife Ar**	**50.80**	**37**	P	**P**	**19 18 00.9**	**-0.4**
BVAR	**Borovoye Array**	**52.02**	**310**	P	**P**	**19 18 10.6**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=51,slow=7.1,SNR=8.9						
JIRN	**Jiri**	**56.02**	**276**	*e*P	**P**	**19 18 41.1**	**+1.4**
	comp=Z,6.7nm,0.7s,mb4.8						
KKN	**Kakani**	**56.56**	**277**	*e*P	**P**	**19 18 45.0**	**+1.4**
	comp=Z,8.4nm,0.8s,mb4.8						
GKN	**Gorkha**	**56.87**	**277**	*e*P	**P**	**19 18 47.2**	**+1.4**
KOLN	**Koldanda**	**57.73**	**278**	*e*P	**P**	**19 18 53.4**	**+1.5**
	comp=Z,8.6nm,0.9s,mb4.8						
KBL	**Kabul**	**63.24**	**293**	*e*P	**P**	**19 19 29.3**	**-0.2**
PDAR	**Pinedale Array**	**64.27**	**54**	P	**P**	**19 19 36.1**	**-0.2**
	comp=Z,1.3nm,1.2s,mb3.9,baz=262,slow=1.4,SNR=3.7						
FINES	**FINESS Array B**	**65.01**	**335**	P	**P**	**19 19 40.1**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.3,baz=35,slow=7.0,SNR=4.4						
WRA	**Warramunga Arr**	**68.29**	**201**	P	**P**	**19 20 01.6**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=19,slow=6.8,SNR=8.7						
ASAR	**Alice Springs**	**71.98**	**200**	P	**P**	**19 20 24.4**	**-0.3**
	comp=Z,1.6nm,1.1s,mb3.9,baz=18,slow=6.6,SNR=5.3						
ASAR	**Alice Springs**	**71.98**	**200**	P	**P**	**19 20 24.4**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ASAR	**Alice Springs**	**71.98**	**200**	P	**P**	**19 20 24.4**	**-0.3**
AKASG	**Malin Array Be**	**72.61**	**327**	P	**P**	**19 20 27.6**	**-0.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=33,slow=5.6,SNR=4.3						
CLL	**Collm**	**77.43**	**336**	*e*P	**P**	**19 20 56.0**	**-0.2**
GERES	**GERESS Array B**	**79.44**	**335**	P	**P**	**19 21 06.9**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.3,baz=31,slow=12,SNR=3.7						

IDC 27 19:13:48.8±10.0, 4652N×15019E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=612.2km s-min=34.3km az=82.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**63.37**	**334**	P	P	19 24 19.2	-0.6
	1.4nm,0.6s,baz=46,slow=8.2,SNR=7.8						
AKASG	**Malin Array Be**	**70.59**	**325**	P	P	19 25 05.7	-0.2
	0.3nm,0.5s,baz=37,slow=6.0,SNR=4.1						
ASAR	**Alice Springs**	**71.39**	**196**	P	P	19 25 10.6	-0.1
	0.3nm,0.6s,baz=5.9,slow=5.7,SNR=5.0						

IDC 27 19:16:28.4±64.0, 1442S×16634E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=1086.0km s-min=108.4km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**7.64**	**180**	*e*P	Pn	19 18 26.2	+5.2
NOUC				*e*S	Sn	19 19 48.3	0.0
STKA	**Stephens Creek**	**28.52**	**228**	P	P	19 22 25.7	+0.1
	1.1nm,0.5s,baz=54,slow=9.9,SNR=8.2						
WRA	**Warramunga Arr**	**31.03**	**255**	P	P	19 22 48.6	+0.8
	0.5nm,1.0s,baz=86,slow=9.0,SNR=7.2						
ASAR	**Alice Springs**	**31.94**	**248**	P	P	19 22 55.9	+0.1
	0.5nm,0.5s,baz=76,slow=9.4,SNR=19						

*IDC **27** 19:36:02.4±1.0, 2181N×12058E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, MS3.3/3, Ms1 3.3/3, ms1mx2.7/36, Error ellipse: s-maj=63.1km s-min=21.3km az=65.0*
*NEIC **27** 19:36:03.9±0.6, 2181N×12058E, h10km, MG3.1(JMA), Error ellipse: s-maj=21.4km s-min=10.7km az=89.0*
*ISCJB **27** 19:36:06.0±0.7, 2182N±008×12062E±007, h35km, mb3.5/6, MS3.2/2, Error ellipse: s-maj=14.0km s-min=6.3km az=103.7*
*JMA **27** 19:36:08.3±0.3, 2180N×12081E, h116km, M3.1*

ISC 27 19:36:07.8±0.7, 2184N±008×12058E±008, h35km, n17, σ0§66/20, mb3.5/6, MS3.2/2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.50**	**22**	*e*P	**Pn**	**19 36 45.3**	**-0.7**
YHNB	**Yeheng**	**2.91**	**14**	*e*P	**Pn**	**19 36 50.4**	**-1.1**
YOJ	**Yonaguni jima**	**3.44**	**40**	P	**Pn**	**19 36 59.7**	**+0.9**
YOJ				*e*S	**Sn**	**19 37 39.3**	**+1.0**
HATJ	**Hateruma jima**	**3.70**	**53**	P	**Pn**	**19 37 02.7**	**+0.2**
HATJ				*e*S	**Sn**	**19 37 43.9**	**-1.0**
IRIF	**Iriomote-Funau**	**3.82**	**49**	P	**Pn**	**19 37 04.5**	**+0.4**
IRIF				*e*S	**Sn**	**19 37 48.1**	**+0.4**
JKRS	**Kuro-shima**	**3.96**	**52**	P	**Pn**	**19 37 06.6**	**+0.6**
JKRS				*e*S	**Sn**	**19 37 51.4**	**+0.2**
JIJ	**Ishigaki jima**	**4.13**	**52**	P	**Pn**	**19 37 08.4**	**0.0**
JIJ				*e*S	**Sn**	**19 37 54.3**	**-1.2**
JTJ	**Tarama**	**4.71**	**53**	P	**Pn**	**19 37 16.4**	**+0.1**
JTJ				*e*S	**Sn**	**19 38 09.7**	**+0.1**
KSRS	**Korea Array**	**16.81**	**21**	LR	LR	19 47 43.6	
	comp=Z,65nm,18.5s,baz=343,slow=42						
JHJ	**Hachijo jima 2**	**20.37**	**52**	LR	LR	19 48 28.5	
	comp=Z,63nm,18.2s,MS3.0,baz=67,slow=36						
SONM	**Songino Array**	**28.33**	**340**	P	**P**	**19 41 58.0**	**-0.3**
	0.2nm,0.6s,mb2.9,baz=154,slow=9.4,SNR=3.6						
MKAR	**Makanchi Array**	**39.66**	**318**	P	**P**	**19 43 36.4**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=117,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**43.65**	**161**	P	**P**	**19 44 09.5**	**+0.6**
	1.0nm,0.8s,mb3.6,baz=344,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**47.05**	**163**	P	**P**	**19 44 34.7**	**-1.2**
	0.3nm,0.4s,mb3.6,baz=346,slow=7.0,SNR=5.2						
BVAR	**Borovoye Array**	**49.15**	**322**	LR	LR	20 09 34.8	
	comp=Z,41nm,18.9s,MS3.5,baz=150,slow=41						
BRTR	**Keskin Array B**	**74.12**	**307**	P	**P**	**19 47 41.0**	**+0.6**
	1.0nm,0.9s,mb3.8,baz=38,slow=7.3,SNR=3.2						
YKA	**Yellowknife Ar**	**85.34**	**22**	P	**P**	**19 48 41.3**	**+0.1**
	0.3nm,0.7s,mb3.6,baz=314,slow=4.6,SNR=5.8						

*BJI **27** 19:48:04.5, 2146N×12078E, h10km, mb4.0, ML4.1*
*IDC **27** 19:48:11.0±0.8, 2192N×12075E, h0km, mb3.8/10, mb1 4.1/10, mb1mx3.9/21, mbtmp3.8/10, MS3.4/4, Ms1 3.4/4, ms1mx2.9/45, Error ellipse: s-maj=37.6km s-min=16.9km az=72.0*
*NEIC **27** 19:48:13.7±5.9, 2192N×12072E, h18km±37km, mb4.5/1, Error ellipse: s-maj=18.8km s-min=9.8km az=70.0*
*ISCJB **27** 19:48:14.3±1.3, 2190N±008×12060E±006, h34km±12km, mb4.0/11, MS3.3/3, Error ellipse: s-maj=13.5km s-min=9.4km az=141.3*
*MOS **27** 19:48:15.8±0.9, 2221N×12070E, h33km, mb4.4/1, Error ellipse: s-maj=35.9km s-min=20.8km az=102.4*
*JMA **27** 19:48:16.6±0.4, 2174N×12088E, h85km, M3.4*

ISC 27 19:48:15.5±2.4, 2193N±007×12056E±006, h30km±17km, n27, σ0§91/31, mb4.0/11, MS3.3/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.43**	**23**	*e*P	**Pn**	**19 48 52.0**	**-1.2**
YHNB	**Yeheng**	**2.83**	**15**	*e*P	**Pn**	**19 48 58.0**	**-0.7**
YOJ	**Yonaguni jima**	**3.38**	**41**	P	**Pn**	**19 49 07.8**	**+1.5**
YOJ				*e*S	**Sn**	**19 49 46.1**	**+0.7**
QZH	**Quanzhou**	**3.50**	**329**	P	**Pn**	**19 49 06.0**	**-1.9**
QZH				Smax			
	comp=N,140nm,0.6s						
QZH				Smax			
	comp=E,210nm,1.0s						
HATJ	**Hateruma jima**	**3.67**	**54**	P	**Pn**	**19 49 10.4**	**+0.2**
HATJ				*e*S	**Sn**	**19 49 51.7**	**-0.7**
IRIF	**Iriomote-Funau**	**3.77**	**50**	P	**Pn**	**19 49 12.3**	**+0.6**
IRIF				*e*S	**Sn**	**19 49 56.7**	**+1.6**
JKRS	**Kuro-shima**	**3.92**	**54**	P	**Pn**	**19 49 14.2**	**+0.5**
JKRS				*e*S	**Sn**	**19 49 58.3**	**-0.4**
JIJ	**Ishigaki jima**	**4.09**	**53**	P	**Pn**	**19 49 16.6**	**+0.5**
JIJ				*e*S	**Sn**	**19 50 01.9**	**-1.0**
JTJ	**Tarama**	**4.67**	**54**	P	**Pn**	**19 49 24.4**	**+0.4**
JTJ				*e*S	**Sn**	**19 50 16.4**	**-0.7**
GZH	**Guangzhou**	**6.77**	**281**	P	**Pn**	**19 49 48.0**	**-4.8**
GZH				Smax			
	comp=N,74nm,0.6s						
GZH				Smax			
	comp=E,55nm,0.8s						
KSRS	**Korea Array**	**16.73**	**21**	LR	LR	19 59 50.7	
	comp=E,199nm,18.2s,baz=210,slow=42						
MJAR	**Matsushiro Arr**	**21.14**	**43**	P	**P**	**19 52 57.0**	**-1.0**
	comp=E,2.0nm,0.8s,mb3.5,baz=232,slow=11,SNR=4.3						
SONM	**Songino Array**	**28.24**	**340**	P	**P**	**19 54 06.2**	**+0.3**
	comp=E,0.7nm,0.9s,mb3.3,baz=161,slow=9.2,SNR=3.8						
SONM				LR	LR	20 06 11.1	
	comp=E,78nm,20.3s,MS3.3,baz=170,slow=38						
MKAR	**Makanchi Array**	**39.58**	**318**	P	**P**	**19 55 44.6**	**+0.5**
	comp=E,0.4nm,0.8s,baz=94,slow=6.3,SNR=3.6						
MKAR				LR	LR	20 14 10.4	
	comp=E,54nm,18.9s,MS3.4,baz=170,slow=39						
ZAL	**Zalesovo**	**41.84**	**329**	P	**P**	**19 56 04.2**	**+1.5**
	comp=E,1.7nm,0.5s,mb3.9,baz=29,slow=7.2,SNR=8.3						
ZAL	**Zalesovo**	**41.84**	**329**	P	**P**	**19 56 04.2**	**+1.5**
WRA	**Warramunga Arr**	**43.74**	**161**	P	**P**	**19 56 16.6**	**-1.5**
	comp=E,2.7nm,1.0s,mb3.9,baz=344,slow=9.1,SNR=17						
ASAR	**Alice Springs**	**47.15**	**163**	P	**P**	**19 56 45.0**	**0.0**
	comp=E,0.7nm,0.5s,mb3.9,baz=340,slow=6.6,SNR=14						
BRVK	**Borovoye**	**49.14**	**322**	P	**P**	**19 57 01.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**49.14**	**322**	P	**P**	**19 57 01.0**	**+0.5**
	comp=Z,4.6nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**57.17**	**159**	P	**P**	**19 58 00.3**	**+0.7**
	comp=Z,0.8nm,0.4s,mb4.1,baz=353,slow=8.1,SNR=3.9						
MMAI	**Mount Meron Ar**	**74.50**	**300**	LR	LR	20 34 29.9	
	comp=Z,18nm,21.1s,MS3.3,baz=275,slow=37						
INK	**Inuvik**	**75.52**	**22**	P	**P**	**19 59 56.2**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.0,baz=288,slow=6.4,SNR=5.0						
INK	**Inuvik**	**75.52**	**22**	*e*P	**P**	**19 59 55.9**	**-1.1**
	comp=Z,90nm,1.0s						
RES	**Resolute Bay**	**80.97**	**9**	*e*P	**P**	**20 00 26.9**	**-0.3**
	comp=Z,54nm,0.9s,mb5.5						
GERES	**GERESS Array B**	**84.21**	**321**	P	**P**	**20 00 44.9**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.6,baz=62,slow=6.2,SNR=3.5						
YKA	**Yellowknife Ar**	**85.26**	**22**	P	**P**	**20 00 49.0**	**-0.4**
	comp=Z,1.4nm,1.0s,mb4.1,baz=315,slow=5.0,SNR=15						

*IDC **27** 20:00:09.3±3.9, 5921N×15348W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=93.3km s-min=30.7km az=171.0*
*ISCJB **27** 20:00:22.9±0.6, 5980N±007×1530W±0.1, h116km±6km, mb4.0/3, Error ellipse: s-maj=12.2km s-min=9.6km az=106.9*
*NEIC **27** 20:00:25.6, 5978N×15290W, h103km, MG3.1(AEIC), After AEIC.*

ISC 27 20:00:24.0±0.6, 5980N±007×1530W±01, h110km±6km, n21, σ0§54/22, mb4.0/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.48**	**210**	P	**Pn**	**20 00 40.9**	**+0.3**
AUL				S	**Sn**	**20 00 53.4**	**+0.1**
SLKM	**Skilak Lake**	**1.55**	**61**	P	**Pn**	**20 00 51.7**	**+0.4**
SEW	**Seward**	**1.79**	**79**	P	**Pn**	**20 00 54.3**	**-0.1**
SVW2	**Sparrevohn**	**1.84**	**316**	*e*P	**Pn**	**20 00 54.7**	**-0.2**
FIB	**Fire Island**	**1.95**	**44**	P	**Pn**	**20 00 57.2**	**+0.9**
KDAK	**Kodiak Island**	**2.03**	**174**	P	**Pn**	**20 00 56.9**	**-0.5**
RC01	**Rabbit Creek A**	**2.06**	**50**	P	**Pn**	**20 00 57.9**	**+0.2**
PMR	**Palmer**	**2.61**	**45**	P	**Pn**	**20 01 04.2**	**-0.6**
GHO	**Glory Hole Cre**	**2.80**	**43**	P	**Pn**	**20 01 07.1**	**-0.2**
TTA	**Tatalina**	**3.47**	**336**	*e*P	**Pn**	**20 01 15.5**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.68**	**75**	P	**Pn**	**20 01 19.1**	**0.0**
KTH	**Kantishna Hill**	**3.89**	**14**	P	**Pn**	**20 01 22.3**	**+0.4**
COLA	**College**	**5.62**	**23**	P	**Pn**	**20 01 44.8**	**-0.5**
IMA2	**Indian Mountai**	**6.31**	**357**	P	**Pn**	**20 01 55.5**	**+1.0**
COLD	**Coldfoot**	**7.56**	**8**	P	**Pn**	**20 02 11.5**	**0.0**
DAWY	**Dawson**	**7.70**	**50**	P	**Pn**	**20 02 12.7**	**-0.6**
INK	**Inuvik**	**11.99**	**37**	Pn	**Pn**	**20 03 10.4**	**-0.8**
	0.1nm,0.3s,baz=231,slow=18,SNR=4.7						
YKA	**Yellowknife Ar**	**18.52**	**65**	P	**P**	**20 04 32.5**	**+0.8**
	0.3nm,0.3s,baz=277,slow=9.9,SNR=34						
SONM	**Songino Array**	**54.93**	**306**	P	**P**	**20 09 43.8**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=47,slow=5.8,SNR=4.0						
ZAL	**Zalesovo**	**57.57**	**324**	P	**P**	**20 10 02.6**	**+0.5**
	4.9nm,0.2s,mb5.1,baz=195,slow=3.4,SNR=4.8						
MKAR	**Makanchi Array**	**64.60**	**321**	P	**P**	**20 10 48.9**	**-0.7**
	0.2nm,0.5s,mb3.2,baz=39,slow=7.3,SNR=4.4						

*IDC **27** 20:01:35.1±2.8, 4313N×105.13W, h0km, mb2.5/1, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, ML3.2/2, MS3.2/3, Ms1 3.1/3, ms1mx2.8/10, Error ellipse: s-maj=54.7km s-min=8.9km az=156.0*
*ISCJB **27** 20:01:37.0±0.8, 4366N±005×105.14W±0.10, h0km, Error ellipse: s-maj=10.3km s-min=6.7km az=168.4*
*NEIC **27** 20:01:38.9±0.7, 4363N×10520W, h0km, ML3.1, Error ellipse: s-maj=9.9km s-min=6.6km az=90.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.

ISC 27 20:01:38.7±0.7, 4365N±005×10517W±009, h0km, n26, σ0§85/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.35**	**185**	*e*Pn	**Pn**	**20 02 18.0**	**-0.6**
RWWY	**Rawlins**	**2.47**	**218**	*e*Pn	**Pn**	**20 02 20.4**	**+0.2**
LAO	**LASA Array**	**3.13**	**347**	*e*Pn	**Pn**	**20 02 28.8**	**-0.5**
RLMT	**Red Lodge**	**3.29**	**298**	*e*Pn	**Pn**	**20 02 31.6**	**+0.1**
PDAR	**Pinedale Array**	**3.33**	**256**	Pn	**Pn**	**20 02 31.4**	**-0.6**
	2.4nm,0.3s,baz=73,slow=16,SNR=58						
PDAR				Pg	**Pg**	**20 02 36.9**	**-5.6**
	5.9nm,0.3s,baz=72,slow=17,SNR=76						
PDAR				Lg		20 03 17.3	
	12nm,0.3s,baz=63,slow=32,SNR=16						
PDAR	**Pinedale Array**	**3.33**	**256**	Pn	**Pn**	**20 02 31.4**	**-0.6**
PDAR				Pg	**Pg**	**20 02 36.9**	**-5.6**
PDAR				Lg		20 03 17.3	
GCMT	**Greycliff**	**3.86**	**305**	*e*Pn	**Pn**	**20 02 39.6**	**+0.3**
ISCO	**Idaho Springs**	**3.86**	**185**	*e*Pn	**Pn**	**20 02 40.0**	**+0.7**
MOOW	**Moose Ponds**	**4.04**	**273**	*e*Pn	**Pn**	**20 02 41.9**	**+0.1**
REDW	**Red Top Meadow**	**4.14**	**268**	*e*Pn	**Pn**	**20 02 43.8**	**+0.6**
QLMT	**Earthquake Lak**	**4.65**	**287**	*e*P	**Pb**	**20 03 01.4**	**+0.3**
BOZ	**Bozeman (W)**	**5.02**	**296**	*e*Pn	**Pn**	**20 02 54.7**	**-0.6**
	3.9nm,0.6s						
HWUT	**Hardware Ranch**	**5.14**	**249**	*e*Pn	**Pn**	**20 02 55.8**	**-1.1**
	7.8nm,0.4s						
EGMT	**Eagleton**	**5.42**	**325**	*e*Pn	**Pn**	**20 03 01.1**	**+0.3**
	8.4nm,0.4s						
DAU	**Daniels Canyon**	**5.56**	**237**	*e*Pn	**Pn**	**20 03 03.7**	**+0.9**
JLU	**Jordanelle**	**5.57**	**239**	P	**Pn**	**20 03 12.3**	**+9.5**
MCMT	**McKenzie Canyo**	**5.64**	**285**	*e*Pn	**Pn**	**20 03 05.1**	**+1.3**
SPUT	**South Promonto**	**5.87**	**249**	*e*P	**Pn**	**20 03 01.3**	**-5.6**
SDCO	**Great Sand Dun**	**5.90**	**183**	*e*Pn	**Pn**	**20 03 08.9**	**+1.6**
HVU	**Hansel Valley**	**5.90**	**254**	Pn	**Pn**	**20 03 05.3**	**-2.1**
SRU	**San Rafael**	**6.06**	**223**	*e*Pn	**Pn**	**20 03 08.4**	**-1.1**
	6.4nm,0.5s						
CHMT	**Chamberlain Mo**	**6.57**	**303**	*e*Pn	**Pn**	**20 03 17.1**	**+0.5**
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**20 03 51.2**	**-0.9**
	0.6nm,0.3s,baz=227,slow=13,SNR=7.5						
ULM				Lg		20 06 27.8	
	0.5nm,0.3s,baz=142,slow=14,SNR=3.3						
ULM				LR	LR	20 07 50.3	
	comp=Z,106nm,19.1s,baz=142,slow=39						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**20 03 51.2**	**-0.9**
ULM				Lg		20 06 27.8	
ULM				LR	LR	20 07 50.3	
YKA	**Yellowknife Ar**	**19.67**	**347**	P	**Pn**	**20 06 11.3**	**+0.7**
	0.1nm,0.4s,baz=156,slow=11,SNR=3.8						
YKA				LR	LR	20 13 15.7	
	comp=Z,58nm,19.8s,baz=50,slow=35						
LPIG	**La Paz**	**19.95**	**194**	LR	LR	20 14 10.9	
	comp=Z,104nm,19.6s,baz=307,slow=39						

*NEIC **27** 20:15:38.6±0.1, 5725S×15442E, h355km, mb5.8/69, ME5.4, MW6.0, Error ellipse: s-maj=4.0km s-min=3.3km az=68.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.

comp=Z,1μm,0.9s,mb6.1
GUMO Guam 21.47 334 *e*P **P 20 19 59.7 -0.8**
comp=Z,1μm,0.8s,mb6.2
KAKA Kakadu 22.78 251⇓*i*P **P 20 20 11.6 -0.9**
comp=Z,773nm,0.6s,mb6.1
KAKA *e*S **S 20 23 51.1 -2.2**
WB2 Warramunga Arr 24.09 232⇓*i*P **P 20 20 24.3 +0.1**
WB2 *e*S **S 20 24 11.4 -2.5**
WB2 *i* SS SS 20 26 17.6 +4.5
WB2 *e*PCS PcS 20 27 35.0 +1.2
WRA Warramunga Arr 24.10 232 P **P 20 20 23.4 -0.9**
comp=Z,418nm,0.8s,mb5.7,baz=60,slow=9.8,SNR=342
WRA PcP PcP 20 23 54.2 +0.5
comp=Z,96nm,0.9s,baz=54,slow=2.6,SNR=7.2
WRA S **S 20 24 12.7 -1.3**
comp=Z,146nm,0.9s,baz=54,slow=15,SNR=7.4
WRA PKiKP PKiKP 20 31 35.4 -0.5
comp=Z,4.6nm,0.7s,baz=318,slow=1.2,SNR=31
WRA Warramunga Arr 24.10 232 P **P 20 20 23.4 -0.9**
WRA PcP PcP 20 23 54.2 +0.5
WRA S **S 20 24 12.7 -1.3**
ARMA Armidale 24.65 186⇓*i*P **P 20 20 30.2 +0.9**
ARMA *i* S **S 20 24 22.0 -0.7**
ARMA *e*SS SS 20 26 29.3 +4.7
FUNA Funafuti 24.69 98 *e*P **P 20 20 28.9 -0.8**
comp=Z,261nm,1.3s,mb5.3
ASAR Alice Springs 26.60 226 P **P 20 20 46.1 -0.5**
comp=Z,153nm,0.8s,mb5.3,baz=55,slow=9.0,SNR=894
ASAR PcP PcP 20 24 00.6 +1.1
comp=Z,115nm,0.8s,baz=60,slow=3.0,SNR=13
ASAR S **S 20 24 50.9 -2.5**
comp=Z,80nm,0.8s,baz=58,slow=15,SNR=8.1
ASAR ScP ScP 20 27 05.6 +2.3
comp=Z,32nm,0.8s,baz=62,slow=3.1,SNR=6.2
ASAR PKiKP PKiKP 20 31 36.7 -0.6
comp=Z,4.0nm,0.8s,baz=21,slow=1.1,SNR=4.6
ASAR P3KP 20 54 09.8
comp=Z,0.9nm,0.9s,baz=143,slow=0.6,SNR=4.5
ASAR Alice Springs 26.60 226 P **P 20 20 46.2 -0.4**
ASAR 20 24 00.6
ASAR S **S 20 24 50.9 -2.5**
ASAR Alice Springs 26.60 226 P **P 20 20 46.1 -0.5**
ASAR PcP PcP 20 24 00.6 +1.1
ASAR S **S 20 24 50.9 -2.5**
ASAR ScP ScP 20 27 05.6 +2.3
RIV Riverview 28.08 186 *e*P **P 20 21 00.5 +0.9**
RIV *e*PP PP 20 22 11.0 -1.4
STKA Stephens Creek 28.62 203⇓*i*P **P 20 21 04.0 -0.4**
comp=Z,132nm,0.6s,mb5.3
STKA *i* PP PP 20 22 14.4 -4.0
STKA *i* S **S 20 25 23.0 -2.0**
STKA *e*SS SS 20 27 33.6 -12
STKA Stephens Creek 28.62 203 P **P 20 21 04.0 -0.3**
comp=Z,205nm,0.7s,mb5.5,baz=9.8,slow=8.6,SNR=290
STKA PcP PcP 20 24 04.2 -0.3
comp=Z,71nm,0.9s,baz=71,slow=6.1,SNR=3.8
STKA ScP ScP 20 27 12.7 +3.2
comp=Z,81nm,0.9s,baz=41,slow=4.1,SNR=7.8
CNB Canberra Magne 29.76 188⇓*i*P **P 20 21 15.2 +0.7**
comp=Z,247nm,0.9s,mb5.4
FITZ Fitzroy Crossi 30.68 244⇓*i*P **P 20 21 21.5 -1.0**
comp=Z,2μm,0.9s,mb6.4
FITZ *e*PP PP 20 22 29.0 -12
FITZ *i* S **S 20 25 50.1 -7.0**
FITZ *e*SS SS 20 27 55.4 -32
FITZ Fitzroy Crossi 30.68 244 P **P 20 21 21.6 -0.9**
comp=Z,938nm,0.8s,mb6.1,baz=89,slow=7.0,SNR=586
FITZ PcP PcP 20 24 09.2 -0.6
comp=Z,115nm,0.8s,baz=144,slow=5.5,SNR=4.1
FITZ S **S 20 25 54.0 -3.1**
comp=Z,85nm,1.0s,baz=119,slow=20,SNR=4.5
MATI Mati 30.85 294 *e*P **P 20 21 23.4 -0.5**
DAV Davao City (W) 31.52 294 *e*P **P 20 21 29.8 +0.1**
comp=Z,378nm,0.8s,mb5.7
BUTP Butuan 32.27 297 *e*P **P 20 21 36.3 +0.1**
BUKP Musuan 32.31 295 *e*P **P 20 21 36.9 +0.3**
SCPH Surigao 32.74 298 *e*P **P 20 21 39.7 -0.6**
CGP Cagayan de Oro 32.88 295⇓*i*P **P 20 21 42.8 +1.4**
MSLP Maasin 33.45 298 *e*P **P 20 21 46.4 +0.1**
PLP Palo 33.83 300 *e*P **P 20 21 52.6 +3.1**
OCLP Ormoc 34.09 299 *e*P **P 20 21 51.8 -0.1**
DCPH Dipolog City 34.14 294⇓*e*P **P 20 21 52.8 +0.5**
AFI Afiamalu 34.20 106 P **P 20 21 52.7 0.0**
comp=Z,102nm,1.0s,mb5.0,baz=88,slow=22,SNR=8.6
AFI Afiamalu 34.20 106 *e*P **P 20 21 52.2 -0.5**
AFI pmax pmax
comp=Z,120nm,1.0s,mb5.1
AFI Afiamalu 34.20 106 *e*P **P 20 21 52.2 -0.5**
comp=Z,119nm,1.0s,mb5.1
LLP Lapu-Lapu 34.32 298⇑*e*P **P 20 21 53.8 0.0**
CBIJ Chichi jima 34.77 341 P **P 20 21 55.1 -2.4**
comp=Z,495nm,0.8s,mb5.8,baz=143,slow=3.5,SNR=11
RAO Raoul Island 35.01 135 P **P 20 22 00.5 +0.8**
comp=Z,328nm,0.8s,mb5.6,baz=297,slow=23,SNR=4.4
RAO ScP ScP 20 27 32.5 +1.1
comp=Z,162nm,0.3s,baz=308,slow=19,SNR=3.7
FORT Forrest 35.12 222⇓*i*P **P 20 22 00.0 -0.5**
comp=Z,692nm,0.6s,mb6.1
FORT *e*S **S 20 27 01.0 -4.1**
GUIM Jordan 35.67 297 *e*P **P 20 22 05.4 +0.2**
RCP Roxas 35.95 299⇓*e*P **P 20 22 08.1 +0.6**
OTRP Odiongan 36.94 299 *e*P **P 20 22 15.8 0.0**
CUYO Cuyo Island 37.16 296 *e*P **P 20 22 18.8 +1.1**
TAU Tasmania Unive 37.51 189 P **P 20 22 21.2 +0.7**
comp=Z,2μm,1.2s,mb6.1,SNR=23
TAU Tasmania Unive 37.51 189 *e*P **P 20 22 21.5 +1.0**
TAU pmax pmax
comp=Z,350nm,1.1s,mb5.5
TAU Tasmania Unive 37.51 189 *e*P **P 20 22 21.5 +1.0**
comp=Z,351nm,1.1s,mb5.5
BOAC Boac 37.60 301 *e*P **P 20 22 21.0 -0.3**
TSM Tawau 37.88 285 P **P 20 22 24.1 +0.5**
POLP Polilio Island 38.14 303 *e*P **P 20 22 25.9 +0.2**
URZ Urewera 38.32 151 P **P 20 22 26.9 -0.3**
comp=Z,22nm,0.5s,baz=313,slow=2.2,SNR=21
URZ ScP ScP 20 27 44.4 +0.7
comp=Z,21nm,0.7s,baz=34,slow=5.1,SNR=5.6
BUSP Coron 38.38 297 *e*P **P 20 22 28.2 +0.6**
MWZ Matawai 38.58 150 *e*P **P 20 22 30.6 +1.2**
MWZ Matawai 38.58 150 PN **P 20 22 30.9 +1.6**
TGY Tagaytay City 38.69 301 P **P 20 22 30.7 +0.5**
comp=Z,610nm,0.8s,baz=180,slow=4.4,SNR=21
TGY PcP PcP 20 24 35.0 +1.7
comp=Z,224nm,0.7s,baz=184,slow=8.0,SNR=3.7
TGY ScP ScP 20 27 46.6 +1.5
comp=Z,69nm,0.4s,baz=173,slow=10.0,SNR=3.8
ENPP El Nido 38.73 296 *e*P **P 20 22 31.9 +1.3**
PPR Puerto Princes 38.81 293⇓*i*P **P 20 22 32.5 +1.2**
BALP Baler 38.95 304 *e*P **P 20 22 32.3 -0.1**
PALP Palanan 38.95 306 *e*P **P 20 22 32.8 +0.4**
LUBP Lubang 39.10 300 *e*P **P 20 22 33.1 -0.6**
BATP Bataraza 39.31 291 *e*P **P 20 22 36.4 +1.0**
CAUP Cauayan 39.38 306 *e*P **P 20 22 36.7 +0.8**
THZ Tophouse 39.42 158 *e*P **P 20 22 36.5 +0.3**
THZ Tophouse 39.42 158 *e*PN **P 20 22 36.5 +0.3**
THZ SN **S 20 28 12.4 +2.8**
CVP Callao Caves 39.78 307⇑*i*P **P 20 22 38.2 -1.0**
WVZ Waitaha Valley 39.83 161 PN **P 20 22 39.4 -0.2**
WVZ PcP PcP 20 24 36.0 -1.0
SGCP Mt. Cagua 39.90 307 *e*P **P 20 22 42.0 +1.9**
KKM Kota Kinabalu 39.94 286 P **P 20 22 40.9 +0.4**
KKM Kota Kinabalu 39.94 286 *e*P **P 20 22 40.6 +0.1**
FOZ Fox Glacier 39.95 163 *e*P **P 20 22 40.6 0.0**
FOZ Fox Glacier 39.95 163 PN **P 20 22 41.4 +0.8**
LTZ Lake Taylor 40.08 160 *e*P **P 20 22 39.8 -1.8**
LTZ Lake Taylor 40.08 160 PN **P 20 22 42.4 +0.8**
BCPH Baguio City Da 40.10 304⇓*e*P **P 20 22 41.9 +0.1**
BCPH *e*S **P 20 22 41.9 +0.1**
KHZ Kahutara 40.22 158 *e*P **P 20 22 42.1 -0.7**
KHZ Kahutara 40.22 158 *e*PN **P 20 22 42.1 -0.6**
APYP Conner 40.33 306 *e*P **P 20 22 43.4 -0.3**
SCZP Santa Cruz 40.36 303 *e*P **P 20 22 42.9 -1.0**
RPZ Rata Peaks 40.51 161 P **P 20 22 44.6 -0.4**
comp=Z,221nm,0.8s,mb5.4,baz=1.5,slow=0.7,SNR=59
ABRA Dolores 40.65 306 *e*P **P 20 22 45.5 -0.7**
BOLP Bolinao 40.65 303 *e*P **P 20 22 45.3 -0.9**
LBZ Lake Benmore 40.85 163 *e*P **P 20 22 47.4 -0.4**
LBZ Lake Benmore 40.85 163 PN **P 20 22 47.4 -0.4**
JOW Kunigami 41.16 323 P **P 20 22 51.5 +1.3**
comp=Z,510nm,0.6s,mb5.9,baz=148,slow=9.1,SNR=103
KLBR Kellerberrin 42.87 229⇓*i*P **P 20 23 02.3 -1.7**
comp=Z,492nm,0.8s,mb5.7
KLBR *e* 20 24 47.2
KLBR *e*S **S 20 28 56.0 -3.9**

NACB Ninganchiao 43.73 314 *e*P **P 20 23 11.2 +0.4**
comp=Z,866nm,0.9s,mb5.9
NWAO Narrogin (SRO) 43.91 227 P **P 20 23 10.9 -1.3**
comp=Z,105nm,0.9s,mb5.0,baz=58,slow=7.1,SNR=41
NWAO Narrogin (SRO) 43.91 227 *e*P **P 20 23 10.6 -1.6**
NWAO pmax pmax
comp=Z,96nm,0.9s
NWAO Narrogin (SRO) 43.91 227 *e*P **P 20 23 10.6 -1.5**
comp=Z,96nm,0.9s,mb4.9
YHNB Yeheng 44.20 315 *e*P **P 20 23 15.2 +0.7**
comp=Z,897nm,0.9s,mb5.9
TATO Taipei 44.31 315 *e*P **P 20 23 15.6 +0.3**
comp=Z,831nm,1.1s,mb5.8
KSM Kuching 44.67 278 *e*P **P 20 23 17.9 -0.3**
MJAR Matsushiro Arr 44.77 341 P **P 20 23 17.8 -1.1**
comp=Z,170nm,0.8s,mb5.3,baz=163,slow=7.4,SNR=242
MJAR PcP PcP 20 24 53.3 -0.3
comp=Z,42nm,0.8s,baz=196,slow=1.1,SNR=6.3
MJAR Matsushiro Arr 44.77 341 P **P 20 23 17.8 -1.1**
MJAR PcP PcP 20 24 53.3 -0.3
MAJO Matsushiro 44.77 341 *e*P **P 20 23 17.9 -1.0**
MAJO pmax pmax
comp=Z,300nm,0.6s,mb5.6
MAJO Matsushiro 44.77 341 *e*P **P 20 23 17.9 -1.0**
comp=Z,302nm,0.6s,mb5.6
MAT Matsushiro 44.77 341 P **P 20 23 17.7 -1.2**
MAT S **S 20 29 22.0 -5.2**
QZH Quanzhou 46.37 313⇓*i*P **P 20 23 32.3 +1.0**
QZH AP pP 20 24 48.0 +2.0
QZH S **S 20 29 52.0 +2.2**
QZH XS sS 20 32 04.5 +0.5
QZH AMB AMB
comp=Z,2μm,1.0s,mb6.2
QZH AMB AMB
comp=Z,4μm,8.0s
QZH LR LR
comp=N,2μm,14.5s
QZH LR LR
comp=E,870nm,11.0s
QZH LR LR
comp=Z,3μm,16.9s
RAR Rarotonga 46.88 114 P **P 20 23 35.9 +0.7**
comp=Z,30nm,0.7s,baz=252,slow=7.6,SNR=5.2
SSE Sheshan 48.53 321⇓P **P 20 23 42.6 -5.1**
comp=Z,297nm,1.2s,mb5.4
SSE pP pP 20 24 57.9 -5.3
SSE PcP PcP 20 24 59.9 -7.1
SSE S **S 20 30 18.6 -1.4**
SSE sS sS 20 32 30.7 -4.7
SSE ScS ScS 20 32 56.3 -3.2
SSE LR LR
comp=Z,2μm,20.8s
MCQ Macquarie Isla 48.71 177 *e*P **P 20 23 49.8 +0.7**
GZH Guangzhou 49.36 307 P **P 20 23 55.0 +1.1**
GZH S **S 20 30 35.3 +3.8**
GZH AMB AMB
comp=Z,193nm,1.1s,mb5.2
GZH LR LR
comp=N,1μm,16.2s
GZH LR LR
comp=E,2μm,14.6s
GZH LR LR
comp=Z,3μm,21.8s
KSRS Korea Array 49.62 332 P **P 20 23 56.1 +0.3**
comp=Z,346nm,0.8s,mb5.6,baz=147,slow=7.5,SNR=481
INCN Inchon 50.26 331 *e*P **P 20 24 01.0 +0.4**
comp=Z,1μm,0.9s,mb6.1
QIZ Qiongzhong 50.39 300 P **P 20 24 02.8 +1.2**
QIZ XP sP 20 25 55.3 -3.9
QIZ PCS PcS 20 29 06.0 -5.7
QIZ S **S 20 30 47.5 +2.0**
QIZ XS sS 20 32 58.3 -3.6
QIZ SS SS 20 34 23.5 -1.2
QIZ AMB AMB
comp=Z,237nm,1.1s,mb5.3
QIZ AMB AMB
comp=Z,2μm,8.3s
QIZ Qiongzhong 50.39 300 *e*P **P 20 24 02.5 +0.9**
comp=Z,198nm,0.9s,mb5.3
KGM Kluang 51.65 277 P **P 20 24 11.1 +0.2**
WHN Wuhan 52.70 316⇓P **P 20 24 19.3 +0.8**
WHN S **S 20 31 20.5 +3.6**
WHN AMB AMB
comp=Z,1μm,1.0s,mb6.1
WHN AMB AMB
comp=Z,4μm,9.0s
WHN LR LR
comp=Z,2μm,15.7s
VLA Vladivostok 52.80 339*c i*P **P 20 24 19.2 0.0**
VLA *e* 20 26 23.0
VLA *e*S **S 20 31 19.0 +0.8**
VLA pmax pmax
comp=Z,902nm,1.2s,mb6.0
VLA Vladivostok 52.80 339⇑*i*P **P 20 24 19.2 0.0**
comp=Z,902nm,1.2s,mb6.0
VLA *e* 20 26 23.0
VLA *e*S **S 20 31 19.0 +0.8**
YSS Yuzh-Sakhalins 53.52 350⇓*i*P **P 20 24 24.3 -0.1**
YSS *e*S **S 20 31 26.0 -1.8**
YSS pmax pmax
comp=Z,140nm,1.1s,mb5.2
YSS smax
comp=E,3μm,8.0s
YSS Yuzh-Sakhalins 53.52 350⇓*i*P **P 20 24 24.3 -0.1**
comp=E,140nm,1.1s,mb5.2
YSS *e*S **S 20 31 26.0 -1.8**
DL2 Dalian 53.86 328 *i*P **P 20 24 27.0 +0.2**
DL2 XP sP 20 26 21.0 -4.3
DL2 S **S 20 31 32.5 +0.2**
DL2 SS SS 20 35 17.5 -2.0
DL2 AMB AMB
comp=Z,430nm,0.9s,mb5.8
DL2 AMB AMB
comp=Z,780nm,6.4s
KIP Kipapa 53.87 58 *i*P **P 20 24 24.5 -2.4**
IPM Ipoh 54.32 280 P **P 20 24 29.9 -0.3**
TIA Tai'an 54.48 323⇓P **P 20 24 30.8 -0.5**
KULM Kulim 54.84 281 *e*P **P 20 24 32.9 -0.9**
KULM *e*PcP PcP 20 25 31.0 +0.2
MDJ Mudanjiang 54.92 338 P **P 20 24 35.0 +0.6**
MDJ AP pP 20 25 49.3 -2.8
MDJ XP sP 20 26 29.8 -3.4
MDJ SCP ScP 20 28 50.0 -3.0
MDJ PCS PcS 20 29 33.0 +1.5
MDJ S **S 20 31 47.5 +1.1**
MDJ SCS ScS 20 33 43.8 -0.4
MDJ XS sS 20 34 01.8 -3.3
MDJ AMB AMB
comp=Z,254nm,1.2s,mb5.4
MDJ AMB AMB
comp=Z,1μm,7.7s
MDJ Mudanjiang 54.92 338 *e*P **P 20 24 34.2 -0.2**
comp=Z,652nm,1.5s,mb5.7
KHU Kahuku 55.08 62 *e*P **P 20 24 36.1 +0.6**
SNY Shenyang 55.13 332⇓P **P 20 24 35.5 -0.4**
SNY PP PP 20 26 44.0 +0.2
SNY S **S 20 31 42.0 -7.1**
SNY SCS ScS 20 33 46.5 +0.8
SNY AMB AMB
comp=Z,154nm,1.0s,mb5.3
SNY AMB AMB
comp=Z,2μm,3.5s
SNY LR LR
comp=N,1μm,14.3s
SNY LR LR
comp=Z,909nm,12.0s
SNG Songkhla 55.24 283 P **P 20 24 36.0 -0.7**
comp=Z,316nm,0.9s,mb5.7
POHA Pohakuloa 55.34 61 *e*P **P 20 24 38.6 +1.2**
comp=Z,194nm,1.2s,mb5.3
PPT Papeete 55.86 107 *e*S **S 20 31 57.0 -1.7**
comp=Z,3μm,27.2s
PAE Paea 55.86 107 *e*P **P 20 24 42.3 +1.3**
comp=Z,69nm,1.2s,mb4.9
PAE Paea 55.86 107 *e*P **P 20 24 42.3 +1.3**
PAE pmax pmax
comp=Z,69nm,1.2s,mb4.9
CN2 Changchun 55.87 335⇓P **P 20 24 41.0 -0.1**
CN2 PCP PcP 20 25 33.8 -1.0
CN2 *e*S **S 20 31 59.0 +0.1**
CN2 AMB AMB
comp=Z,470nm,1.1s,mb5.7
CN2 AMB AMB
comp=Z,2μm,3.0s
PSI Prapat 56.11 277 P **P 20 24 41.1 -1.7**

comp=Z,89nm,0.9s,mb5.1,baz=125,slow=3.8,SNR=28
PSI PcP PcP 20 25 35.3 -0.4
comp=Z,54nm,0.9s,baz=155,slow=4.6,SNR=5.5
TVO Taravao 56.19 107 *e*P **P 20 24 44.8 +1.5**
comp=Z,78nm,0.9s,mb5.0
TVO Taravao 56.19 107 *e*P **P 20 24 44.8 +1.5**
TVO pmax pmax
comp=Z,78nm,0.9s,mb5.0
SKR Severo-Kuril's 56.25 1 *e*P **P 20 24 39.5 -4.3**
SKR *e* 20 26 49.0
SKR *e*S **S 20 32 04.0 +0.2**
SKR *e*PS 20 32 12.0
SKR pmax pmax
comp=Z,180nm,1.0s,mb5.4
SKR pmax pmax
comp=Z,1μm,8.0s
SKR MLR MLR
comp=E,2μm,14.0s
SKR MLR MLR
comp=Z,2μm,14.0s
GYA Guiyang 56.30 307⇓*i*P **P 20 24 44.8 +0.7**
GYA AP pP 20 26 05.0 +2.8
GYA XP sP 20 26 45.8 +2.6
GYA PP PP 20 26 57.3 +3.1
GYA SCP ScP 20 28 58.0 -1.1
GYA PCS PcS 20 29 37.3 -0.3
GYA S **S 20 32 05.8 +1.4**
GYA SCS ScS 20 33 51.3 -2.9
GYA XS sS 20 34 24.0 +0.2
GYA SS SS 20 36 01.3 +3.5
GYA AMB AMB
comp=Z,300nm,0.9s,mb5.6
GYA AMB AMB
comp=Z,1μm,7.9s
GYA LR LR
comp=N,760nm,15.8s
GYA LR LR
comp=E,1μm,16.5s
GYA LR LR
comp=Z,1μm,16.1s
HABR Khabarovsk 56.64 345⇓*i*P **P 20 24 47.0 +0.5**
HABR *e* 20 25 34.8
HABR *e*S **S 20 32 11.9 +3.0**
HABR pmax pmax
comp=Z,690nm,1.6s,mb5.7
TBI Tubuai 56.65 114 *e*S **S 20 32 11.1 +2.1**
comp=Z,2μm,29.2s
PMOR Pomariorio Ree 57.30 104 *e*P **P 20 24 52.4 +1.4**
comp=Z,258nm,1.1s,mb5.5
PMOR *e*pP pP 20 26 05.5 -4.0
comp=Z,160nm,1.4s
NNT Nongplab 57.36 289 P **P 20 24 52.8 +1.3**
VAH Vaihoa 57.57 104 *e*P **P 20 24 54.1 +1.2**
comp=Z,144nm,1.0s,mb5.3
BJT Baijiatuau 57.61 326 *e*P **P 20 24 52.8 -0.4**
BJT pmax pmax
comp=Z,245nm,1.0s
BJT Baijiatuau 57.61 326 *e*P **P 20 24 52.8 -0.4**
comp=Z,245nm,1.0s,mb5.5
BJI Beijing 57.62 326 P **P 20 24 52.8 -0.5**
BJI PCP PcP 20 25 37.8 -3.9
BJI XP sP 20 26 51.8 -0.9
BJI S **S 20 32 21.0 -0.6**
BJI AMB AMB
comp=Z,170nm,1.3s,mb5.2
BJI Beijing 57.62 326 P **P 20 24 52.8 -0.5**
BJI 20 25 37.8
BJI S **S 20 32 20.9 -0.7**
BJI pmax pmax
comp=Z,170nm,1.3s,mb5.2
BJI Beijing 57.62 326 P **P 20 24 52.8 -0.5**
comp=Z,170nm,1.3s,mb5.2
BJI PcP PcP 20 25 37.8 -3.9
BJI sP sP 20 26 51.8 -0.9
BJI S **S 20 32 20.9 -0.7**
NST Nakhon Sawan 57.85 292⇑P **P 20 24 56.4 +1.6**
comp=Z,724nm,0.8s,mb6.1
KLR Kul'dur 58.26 343*α i*P **P 20 24 54.5 -3.1**
KLR *i* S **S 20 32 28.0 -1.7**
KLR pmax pmax
comp=N,900nm,8.0s
KLR pmax pmax
comp=E,700nm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
KLR pmax pmax
comp=N,100nm,1.2s
KLR pmax pmax
comp=E,320nm,1.2s
KLR pmax pmax
comp=Z,850nm,1.2s,mb6.0
KLR smax
comp=N,2μm,8.0s
KLR smax
comp=E,4μm,8.0s
NANT Nan 58.32 296⇓P **P 20 24 58.2 +0.2**
XAN Xi'an 58.47 316 P **P 20 24 59.0 -0.1**
XAN S **S 20 32 27.3 -5.1**
XAN AMB AMB
comp=Z,471nm,1.0s,mb5.8
XAN AMB AMB
comp=Z,2μm,12.7s
XAN LR LR
comp=E,561nm,23.7s
XAN LR LR
comp=Z,886nm,20.7s
PET Petropavlovsk 58.69 3*be*P **P 20 25 00.6 0.0**
PET *e* 20 25 46.0
PET *e*S **S 20 32 34.7 -0.5**
PET pmax pmax
comp=Z,101nm,0.5s,mb5.5
PET MLR MLR
comp=Z,600nm,19.0s
KMI Kunming 58.90 304 P **P 20 25 03.5 +1.5**
KMI PCP PcP 20 25 47.8 +1.0
KMI PP PP 20 27 18.3 +1.1
KMI S **S 20 32 40.3 +2.4**
KMI AMB AMB
comp=Z,406nm,1.0s,mb5.8
KMI AMB AMB
comp=Z,2μm,7.4s
KMI LR LR
comp=N,1μm,19.5s
KMI LR LR
comp=E,823nm,21.1s
KMI LR LR
comp=Z,1μm,22.0s
KMI Kunming 58.90 304 P **P 20 25 03.5 +1.5**
KMI 20 25 47.8
KMI *PP pP 20 26 17.7 -3.3
KMI *SP sP 20 26 55.2 -6.5
KMI 20 27 18.2
KMI S **S 20 32 40.3 +2.4**
KMI SSS 20 39 28.7
KMI pmax pmax
comp=Z,406nm,1.0s,mb5.8
KMI MLR MLR
comp=Z,1μm,22.0s
KMI Kunming 58.90 304 P **P 20 25 03.5 +1.5**
comp=Z,406nm,1.0s,mb5.8
KMI PcP PcP 20 25 47.8 +1.0
KMI pP pP 20 26 17.7 -3.3
KMI sP sP 20 26 55.2 -6.5
KMI PP PP 20 27 18.2 +1.0
KMI S **S 20 32 40.3 +2.4**
KMI sS sS 20 34 51.9 -6.8
KMI SSS 20 39 28.7
KMI LR LR
comp=Z,1μm,22.0s
CHG Chiang Mai 59.90 296⇓P **P 20 25 09.8 +1.1**
CHTO Chiang Mai 59.90 296 *e*P **P 20 25 09.2 +0.5**
CHTO pmax pmax
comp=Z,460nm,1.1s,mb5.8
CHTO Chiang Mai 59.90 296 *e*P **P 20 25 09.2 +0.5**
comp=Z,461nm,1.1s,mb5.8
CD2 Chengdu 60.62 310⇓*i*P **P 20 25 14.0 +0.4**
CD2 AP pP 20 26 35.0 +1.8
CD2 XP sP 20 27 13.0 -0.7
CD2 PP PP 20 27 36.5 +4.1
CD2 SCP ScP 20 29 19.5 +1.3
CD2 PCS PcS 20 29 56.0 -0.7
CD2 S **S 20 33 00.5 +0.7**
CD2 SCS ScS 20 34 23.0 -3.3
CD2 AMB AMB
comp=Z,960nm,0.7s,mb6.3

CD2 AMB AMB
comp=Z,3µm,5.5s
CD2 LR LR
comp=N,1µm,20.4s
CD2 LR LR
comp=E,1µm,16.2s
CD2 LR LR
comp=Z,1µm,20.4s
HHC Hu-ho-hao-te 60.80 324 eP P 20 25 15.5 +0.7
HHC PCP PcP 20 25 55.0 +0.6
HHC AP pP 20 26 37.5 +3.1
HHC XP sP 20 27 17.8 +2.9
HHC PP PP 20 27 38.0 +4.0
HHC SCP ScP 20 29 17.8 -1.2
HHC PCS PcS 20 29 57.0 -0.5
HHC S S 20 33 01.5 -0.5
HHC SCS ScS 20 34 24.8 -2.8
HHC XS sS 20 35 26.3 +2.6
HHC SS SS 20 37 11.5 +3.1
HHC AMB AMB
comp=Z,372nm,1.0s,mb5.8
HHC LR LR
comp=N,746nm,16.1s
HHC LR LR
comp=E,727nm,17.3s
HHC LR LR
comp=Z,949nm,23.1s
BTO Baotou 61.57 323 eP P 20 25 20.5 +0.6
DRV Dumont d'Urvil 61.60 186 P P 20 25 17.0 -3.1
DRV Dumont d'Urvil 61.60 186 PP PP 20 27 39.0 -2.0
DRV S S 20 33 07.0 -5.0
DRV L 20 41 00.0
DRV R 20 45 00.0
HIA Hailar 62.60 335 eP P 20 25 26.6 -0.1
HIA pmax pmax
comp=Z,727nm,0.9s
HIA Hailar 62.60 335 eP P 20 25 26.6 -0.1
comp=Z,727nm,0.9s,mb6.2
LZH Lanzhou 63.08 315⇓iP P 20 25 31.3 +1.5
LZH PCP PcP 20 26 05.3 +1.6
LZH AP pP 20 26 48.5 -1.6
LZH SCP 20 29 32.5
LZH PCS 20 30 07.8
LZH S S 20 33 33.5 +3.2
LZH SCS ScS 20 34 46.0 +1.1
LZH SS SS 20 37 49.5 +5.7
LZH AMB AMB
comp=Z,1µm,1.3s,mb6.3
LZH AMB AMB
comp=Z,4µm,4.4s
LZH Lanzhou 63.08 315⇓iP P 20 25 31.2 +1.4
LZH 20 26 05.3
LZH *PP pP 20 26 48.5 -1.6
LZH 20 29 32.5
LZH S S 20 33 33.5 +3.2
LZH 20 34 46.0
LZH SS SS 20 37 49.5 +5.7
LZH pmax pmax
comp=Z,1µm,1.3s,mb6.3
PBA Port Blair 63.78 286 eP P 20 25 31.8 -2.5
PBA AMb AMB 20 25 47.9
comp=Z,148nm,0.3s,mb6.0
MA2 Magadan 65.22 358d iP P 20 25 42.7 -0.8
MA2 e 20 26 13.6
MA2 i S S 20 33 55.5 -0.7
MA2 i 20 35 02.7
MA2 eSS SS 20 38 15.9 -1.0
MA2 eSSS 20 41 17.6
MA2 pmax pmax
comp=Z,400nm,1.2s,mb5.9
MA2 pmax pmax
comp=N,200nm,1.5s
MA2 Magadan 65.22 358 i P P 20 25 42.7 -0.8
MA2 e 20 26 13.6
MA2 i S S 20 33 55.5 -0.7
MA2 i 20 35 02.7
MA2 eSS SS 20 38 15.9 -1.0
MA2 eSSS 20 41 17.6
IMP Imphal 66.22 300 ex x 20 26 06.0
IMP ex x 20 32 12.0
NRGR Nerungri 66.81 343 i P P 20 25 54.3 +0.7
NRGR S S 20 34 19.6 +4.2
NRGR smax
comp=N,106nm,1.1s
CLNS Chul'man 66.92 343 eP P 20 25 53.5 -0.7
CLNS eS S 20 34 24.4 +7.8
CLNS e 20 35 14.7
CLNS pmax pmax
comp=Z,797nm,0.8s,mb6.5
CLNS pmax pmax
comp=N,341nm,1.0s
CLNS pmax pmax
comp=E,134nm,1.0s
CLNS smax
comp=N,29nm,1.3s
CLNS smax
comp=Z,9.0nm,0.9s
CLNS smax
comp=E,40nm,1.2s
CIT Chita 67.29 334 eP P 20 25 57.2 +0.6
CIT e 20 34 23.5
CIT pmax pmax
comp=Z,825nm,2.6s,mb6.0
GTA Gaotai 67.49 317⇓iP P 20 25 59.0 +1.2
GTA AP pP 20 27 23.0 +3.7
GTA XP sP 20 28 02.0 +2.6
GTA PP PP 20 28 37.0 +4.8
GTA S S 20 34 25.8 +2.4
GTA XS sS 20 36 52.8 +4.5
GTA SS SS 20 38 57.5 +5.4
GTA AMB AMB
comp=Z,370nm,1.0s,mb6.1
GTA AMB AMB
comp=Z,2µm,9.1s
GTA LR LR
comp=N,518nm,17.9s
GTA LR LR
comp=E,527nm,17.1s
GTA LR LR
comp=Z,591nm,19.0s
CASY Casey 67.58 198 eP P 20 25 57.7 -0.6
CASY i S S 20 34 22.3 -2.1
ULN Ulaanbaatar 67.70 328 i P P 20 26 00.2 +1.1
SONM Songino Array 68.03 327 P P 20 26 02.0 +0.9
comp=Z,570nm,0.6s,mb6.5,baz=142,slow=5.9,SNR=2256
SONM PKiKP PKiKP 20 32 18.5 -0.3
comp=Z,1.1nm,0.6s,baz=160,slow=1.1,SNR=6.3
SONM PKPPKP 20 54 14.8
comp=Z,9.5nm,1.0s,baz=289,slow=2.0,SNR=12
SHL Shillong 68.22 300 eP P 20 26 03.5 +1.2
SHL i S S 20 34 33.0 +1.0
AGT Agartala 68.27 298 i P P 20 26 05.0 +2.4
AGT i x x 20 27 30.0
SEY Seymchan 68.54 359⇓iP P 20 26 03.0 -1.2
FALS False Pass 69.81 24 eP P 20 26 11.8 -0.2
comp=Z,175nm,1.0s,mb5.7
RKT Rikitea 69.89 112 eP P 20 26 13.9 +1.4
comp=Z,167nm,1.1s,mb5.7
RKT Rikitea 69.89 112 eP P 20 26 13.9 +1.4
RKT pmax pmax
comp=Z,167nm,1.1s,mb5.7
LSA Lhasa 70.15 304 P P 20 26 12.5 -1.5
LSA S S 20 34 55.0 +0.7
LSA AMB AMB
comp=Z,420nm,1.1s,mb6.1
LSA AMB AMB
comp=Z,2µm,12.3s
LSA LR LR
comp=N,800nm,26.5s
LSA LR LR
comp=E,1µm,24.0s
LSA LR LR
comp=Z,2µm,26.5s
LSA Lhasa 70.15 304 eP P 20 26 15.5 +1.5
LSA pmax pmax
comp=Z,455nm,1.0s,mb6.2
LSA Lhasa 70.15 304 eP P 20 26 15.5 +1.5
comp=Z,455nm,1.0s,mb6.2
YAK Yakutsk 70.26 348d iP P 20 26 14.5 -0.2
YAK pmax pmax
comp=Z,2µm,1.4s,mb6.7
YAK Yakutsk 70.26 348 i P P 20 26 14.5 -0.2
comp=Z,2µm,1.4s,mb6.7
ZAK Zakamensk 71.19 328⇑iP P 20 26 20.4 +0.2
ZAK e 20 35 09.1
ZAK pmax pmax
comp=Z,379nm,1.0s,mb6.1
BOD Bodaibo 71.30 338⇑iP P 20 26 20.2 -0.7
BOD pmax pmax
comp=Z,385nm,1.1s,mb6.0
SLGI Shiliguri 71.53 300 eP P 20 26 22.5 +0.2
GTK Gangtok 71.55 301 ex x 20 26 05.0
TLY Talaya 71.75 329 P P 20 26 24.1 +0.6
comp=Z,2µm,0.9s,mb6.8,SNR=53
TLY Talaya 71.75 329d iP P 20 26 23.6 +0.1
TLY e 20 29 02.9
TLY eS S 20 35 14.7 +2.1
TLY pmax pmax
comp=Z,332nm,1.0s,mb6.0
TLY Talaya 71.75 329 i P P 20 26 23.6 +0.1
TLY e 20 29 02.9
TLY eS S 20 35 14.7 +2.1
IRK Irkutsk 71.77 330⇑iP P 20 26 23.0 -0.7
IRK eS S 20 35 14.0 +1.2
IRK pmax pmax
comp=Z,634nm,1.0s,mb6.3
VNDA Vanda 71.80 178 P P 20 26 23.8 0.0
comp=Z,128nm,0.8s,mb5.7,baz=334,slow=6.7,SNR=195
VNDA Vanda 71.80 178 eP P 20 26 23.5 -0.3
VNDA pmax pmax
comp=Z,130nm,0.9s
VNDA Vanda 71.80 178 eP P 20 26 23.5 -0.3
comp=Z,134nm,0.9s,mb5.7
BWNR Bhubaneshwar 72.21 293 ex x 20 25 59.0
SBA Scott Base 72.32 177 eP P 20 26 27.6 +0.7
SBA pmax pmax
comp=Z,130nm,0.9s,mb5.7
SBA Scott Base 72.32 177 eP P 20 26 27.6 +0.7
comp=Z,134nm,0.9s,mb5.7
BOK Bokaro 72.97 297 eP P 20 26 31.2 +0.5
BOK AMb AMB 20 26 32.9
comp=Z,529nm,0.4s,mb6.6
MOY Mondy 73.10 328 eP P 20 26 31.8 +0.4
MOY pmax pmax
comp=Z,546nm,1.3s,mb6.1
JIRN Jiri 73.70 301 eP P 20 26 35.6 +0.7
comp=Z,802nm,1.0s,mb6.4
VIS Vishakhapatnam 73.95 290 eP P 20 26 36.6 +0.3
VIS AMb AMB 20 26 37.8
comp=Z,370nm,1.5s,mb5.9
GUN Gumba 74.04 301 eP P 20 26 37.1 +0.3
comp=Z,1µm,0.8s,mb6.8
BILL Bilibino 74.12 5κ iP P 20 26 37.0 -0.3
BILL i S S 20 35 38.7 -0.3
BILL e 20 36 22.1
BILL eSS SS 20 40 37.1 +4.0
BILL eSSS 20 44 00.2
BILL pmax pmax
comp=Z,445nm,1.3s,mb6.0
BILL MLR MLR
comp=Z,200nm,15.0s
BILL Bilibino 74.12 5 i P P 20 26 37.0 -0.3
comp=Z,445nm,1.3s,mb6.0
BILL i S S 20 35 38.7 -0.3
BILL e 20 36 22.1
BILL eSS SS 20 40 37.1 +4.0
BILL eSSS 20 44 00.2
BILL LR LR
comp=Z,200nm,15.0s
PKI Pulchoki 74.35 301 eP P 20 26 38.7 +0.1
comp=Z,1µm,0.9s,mb6.5
PKI Pulchoki 74.35 301 eP P 20 26 38.7 +0.1
PKI pmax pmax
comp=Z,1µm,0.9s,mb6.6
KKN Kakani 74.52 301 eP P 20 26 39.3 -0.3
comp=Z,752nm,0.8s,mb6.5
KKN Kakani 74.52 301 eP P 20 26 39.3 -0.3
KKN pmax pmax
comp=Z,752nm,0.8s,mb6.5
DMN Daman 74.62 301 eP P 20 26 40.3 +0.2
comp=Z,2µm,1.0s
GKN Gorkha 75.12 301 eP P 20 26 42.6 -0.4
comp=Z,2µm,1.0s,mb6.8
KOLN Koldanda 75.95 300 eP P 20 26 47.1 -0.5
comp=Z,1µm,1.0s,mb6.5
BLSP Bilaspur 75.96 294 ex x 20 28 32.3
BLSP AMb AMB 20 28 34.4
comp=Z,410nm,0.8s,mb6.2
MDRS Chennai 76.03 285 eP P 20 26 47.8 -0.3
MDRS AMb AMB 20 26 49.7
comp=Z,256nm,0.4s,mb6.3
TNA Tin City 76.30 15 eP P 20 26 49.5 -0.1
comp=Z,60nm,0.9s,mb5.3
ALBI Allahabad 76.94 298 eP P 20 26 50.5 -2.6
SVW2 Sparrevohn 77.08 22 eP P 20 26 54.0 +0.1
WMQ Urumqi 77.58 317 P P 20 26 57.0 +0.4
WMQ AP pP 20 28 19.8 -1.0
WMQ XP sP 20 28 59.3 -0.8
WMQ PP PP 20 30 00.0 +2.5
WMQ S S 20 36 16.3 -0.2
WMQ SKS 20 36 29.0
WMQ SCS ScS 20 36 37.3 -2.4
WMQ XS sS 20 38 45.5 -0.3
WMQ SS SS 20 41 29.0 +3.9
WMQ AMB AMB
comp=Z,335nm,1.2s,mb6.0
WMQ AMB AMB
comp=Z,2µm,3.0s
WMQ LR LR
comp=N,727nm,16.0s
WMQ LR LR
comp=E,530nm,9.0s
WMQ LR LR
comp=Z,365nm,27.0s
TTA Tatalina 78.08 21 eP P 20 26 59.7 +0.3
TTA pmax pmax
comp=Z,120nm,1.1s,mb5.5
TTA Tatalina 78.08 21 eP P 20 26 58.7 -0.7
JBP Jabalpur 78.11 295⇓iP P 20 27 00.1 +0.5
JBP ex x 20 27 01.8
comp=Z,429nm,1.0s
JBP eS S 20 36 24.0 +1.8
KOD Kodaikanal 78.30 282 eP P 20 27 01.9 +1.3
KOD AMb AMB 20 27 03.6
comp=Z,514nm,0.7s,mb6.3
HYB Hyderabad 78.37 289 i P P 20 27 01.0 0.0
comp=Z,131nm,0.8s,mb5.7
HYB ePcP PcP 20 27 09.5 +0.8
HYB eS S 20 36 24.0 -0.9
HYB Hyderabad 78.37 289 eP P 20 27 01.0 0.0
HYB eS S 20 36 24.0 -0.9
HYB pmax pmax
comp=Z,131nm,0.8s,mb5.7
HYB Hyderabad 78.37 289 eP P 20 27 01.0 0.0
comp=Z,131nm,0.8s,mb5.7
HYB eS S 20 36 24.0 -0.9
TRD Trivandrum 78.56 280 eP P 20 27 02.8 +0.8
TRD AMb AMB 20 27 04.0
comp=Z,589nm,1.1s,mb6.2
NGP Nagpur 78.57 293⇓iP P 20 27 01.4 -0.7
NGP ex x 20 27 03.1
comp=Z,641nm,1.1s
SLKM Skilak Lake 78.86 25 eP P 20 27 03.0 -0.6
TIXI Tiksi 79.08 352 eP P 20 26 59.4 -5.4
TIXI eS S 20 36 25.0 -7.4
TIXI e 20 37 16.2
TIXI pmax pmax
comp=Z,207nm,1.4s,mb5.7
TIXI Tiksi 79.08 352 eP P 20 27 03.1 -1.7
comp=Z,369nm,1.4s,mb5.9
LGTI Lohaghat 79.21 301 eP P 20 27 05.5 0.0
LGTI ex x 20 28 28.3
PTH Pithoragarh 79.26 301 eP P 20 27 06.8 +1.1
PTH ex x 20 29 07.2
KRAR Krasnoyarsk 79.45 330d iP P 20 27 06.0 -0.7
KRAR pmax pmax
comp=Z,237nm,1.4s,mb5.7
PMR Palmer 79.90 24 eP P 20 27 08.6 -0.6
PMR pmax pmax
comp=Z,88nm,0.9s,mb5.5
PMR Palmer 79.90 24 eP P 20 27 08.6 -0.6
comp=Z,88nm,0.9s,mb5.5
SML Sawmill 80.34 24 eP P 20 27 11.2 -0.2
SML epP pP 20 28 37.6 +1.4
AKL Akola 80.36 292⇑iP P 20 27 11.8 +0.2
AKL ex x 20 27 13.1
comp=Z,949nm,1.1s
AKL i x x 20 36 43.2
LATR Latur 80.41 290 eP P 20 27 09.6 -2.2
BHPL Bhopal 80.44 295 eP P 20 27 11.3 -0.7
BHPL AMb AMB 20 27 12.9
comp=Z,398nm,0.4s,mb6.5
IMA2 Indian Mountai 80.83 19 eP P 20 27 13.7 -0.4
MNGI Mangalore 81.24 284 eP P 20 27 15.4 -0.8
MNGI AMb AMB 20 27 18.7
comp=Z,186nm,2.6s,mb5.3
DGAR Diego Garcia 81.37 263 P P 20 27 16.9 0.0
comp=Z,2µm,1.0s,SNR=7.7
NDI New Delhi 81.64 300 eP P 20 27 17.6 -0.7
NDI AMb AMB 20 27 19.3
comp=Z,628nm,1.4s,mb6.2
NDI ex x 20 36 55.5
MK31 Makanchi Array 82.15 319 eP P 20 27 20.9 0.0
MKAR Makanchi Array 82.15 319 P P 20 27 20.9 0.0
comp=Z,491nm,0.9s,mb6.4,baz=104,slow=4.5,SNR=1292
MKAR PKiKP PKiKP 20 32 38.8 -0.9
comp=Z,3.1nm,0.6s,baz=235,slow=1.5,SNR=9.3
MKAR PKKPbc PKKPbc 20 45 47.3 +1.0
comp=Z,5.8nm,0.9s,baz=300,slow=2.4,SNR=18
MKAR PKPPKP 20 53 46.6
comp=Z,1.0nm,0.9s,baz=266,slow=4.9,SNR=4.1
MKAR Makanchi Array 82.15 319 P P 20 27 20.9 0.0
COLA College 82.15 21 eP P 20 27 19.2 -1.7
COLA pmax pmax
comp=Z,99nm,0.8s,mb5.7
COLA College 82.15 21 eP P 20 27 19.2 -1.7
comp=Z,99nm,0.8s,mb5.7
SDNR Sundarnagar 82.41 303 eP P 20 27 21.6 -0.6
KAD Karad 82.47 288 eP P 20 27 21.8 -0.7
KAD AMb AMB 20 27 23.1
comp=Z,798nm,1.1s,mb6.5
GOA Goa 82.56 286 eP P 20 27 19.6 -3.3
GOA AMb AMB 20 27 22.5
comp=Z,200nm,1.2s,mb5.8
MENT Mentasta 82.77 24 eP P 20 27 23.9 -0.1
ZAL Zalesovo 82.89 326 P P 20 27 23.9 -0.8
comp=Z,186nm,0.4s,mb6.3,baz=359,slow=5.5,SNR=510
ZAL PKPPKP 20 53 48.4
comp=Z,1.4nm,0.3s,baz=170,slow=5.4,SNR=5.8
ZAL Zalesovo 82.89 326 i P P 20 27 23.8 -0.9
ZAL pmax pmax
comp=Z,186nm,0.4s
POO Poona 82.97 289 eP P 20 27 23.9 -1.2
POO AMb AMB 20 27 25.5
comp=Z,398nm,1.1s,mb6.2
DLH Dalhousie 83.45 304 eP P 20 27 27.0 -0.5
AJM Ajmer 83.49 297 eP P 20 27 27.2 -0.5
AJM AMb AMB 20 27 29.7
comp=Z,1µm,1.1s,mb6.6
THN Thein Dam 83.63 303 eP P 20 27 27.0 -1.4
THN eS S 20 37 13.3 -5.3
NVS Novosibirsk 84.05 327 i P P 20 27 29.1 -1.4
NVS i *PP pP 20 28 48.7 -7.4
NVS i S S 20 37 19.1 -3.7
NVS pmax pmax
comp=Z,343nm,1.5s,mb6.0
NVS pmax pmax
comp=N,102nm,1.1s
NVS pmax pmax
comp=E,269nm,1.1s
NVS smax
comp=N,49nm,1.5s
NVS smax
comp=E,21nm,1.1s
QSPA South Pole Qui 84.19 180 eP P 20 27 31.1 0.0
comp=E,495nm,0.9s,mb6.3
EGAK Eagle 84.61 23 eP P 20 27 33.5 +0.2
comp=E,188nm,1.2s,mb5.8
KSH Kashi 84.82 310 i P P 20 27 36.5 +2.2
KSH AP pP 20 29 04.5 +4.4
KSH XP sP 20 29 43.5 +4.4
KSH PP PP 20 31 02.0 +5.3
KSH SKS 20 37 22.3
KSH S S 20 37 33.5 +3.2
KSH XS sS 20 40 08.8 +6.2
KSH LR LR
comp=N,1µm,5.3s
KSH LR LR
comp=E,2µm,6.1s
KSH LR LR
comp=Z,1µm,6.6s
DAWY Dawson 85.01 24 eP P 20 27 35.6 +0.4
SKAG Skagway 85.07 29 eP P 20 27 35.4 -0.1
comp=Z,80nm,1.1s,mb5.5
ULHL Ulahol 85.19 313 P P 20 27 37.1 +1.0
SNR=23
MAW Mawson 85.31 203⇓iP P 20 27 36.0 -0.7
comp=Z,151nm,1.0s,mb5.8
MAW eS S 20 37 24.5 -11
MAW Mawson 85.31 203 P P 20 27 36.2 -0.5
comp=Z,173nm,0.9s,mb5.9,baz=93,slow=6.2,SNR=179
MAW Mawson 85.31 203 P P 20 27 35.9 -0.8
MAW pmax pmax
comp=Z,230nm,0.9s
KURK Kurchatov 85.55 322 P P 20 27 36.9 -1.0
comp=Z,1µm,0.3s
KURK Kurchatov 85.55 322 P P 20 27 36.7 -1.2
KURK pmax pmax
comp=Z,80nm,0.4s,mb5.9
WRAK Wrangell Islan 85.60 32 eP P 20 27 38.8 +0.6
comp=Z,147nm,1.5s,mb5.6
TKM2 Tokmak 2 85.80 314 P P 20 27 39.2 +0.1
SNR=146
KZA Kyzart 85.88 313 P P 20 27 40.8 +1.3
SNR=87
KBK Karagaybulak 86.21 313 P P 20 27 41.7 +0.6
SNR=7.0
CHMS Chumysh 86.42 314 P P 20 27 42.0 -0.1
SNR=111
UCH Uchtor 86.44 313 P P 20 27 43.2 +1.0
SNR=69
FRU Bishkek 86.48 313⇓iP P 20 27 42.0 -0.4
FRU pmax pmax
comp=Z,230nm,1.2s,mb5.9
AAK Ala-Archa 86.53 313 P P 20 27 43.4 +0.7
SNR=8.2
AAK Ala-Archa 86.53 313 P P 20 27 41.3 -1.4
comp=Z,721nm,0.7s,mb6.6
AAK Ala-Archa 86.53 313d iP P 20 27 41.6 -1.1
AAK pmax pmax
comp=Z,95nm,0.8s,mb5.7
AAK Ala-Archa 86.53 313 i P P 20 27 41.6 -1.1
comp=Z,95nm,0.8s,mb5.7
USP Ospenovka 86.65 314 P P 20 27 43.2 0.0
SNR=97
AML Almayashu 87.02 313 P P 20 27 45.9 +0.9
SNR=238
EKS2 Erkin-Say 87.06 313 P P 20 27 45.5 +0.3
SNR=120
DLBC Dease Lake 87.37 31 eP P 20 27 46.9 +0.3
BHJ Bhuj 87.50 294 eP P 20 27 47.2 -0.1
BHJ AMb AMB 20 27 50.2
comp=Z,582nm,1.5s,mb6.2
YBH Yreka Blue Hor 88.48 48 P P 20 27 52.0 +0.1
comp=Z,3.0nm,0.6s,baz=170,slow=6.1,SNR=5.3
INK Inuvik 88.78 21 P P 20 27 52.4 -0.9
comp=Z,13nm,0.5s,mb5.1,baz=258,slow=4.4,SNR=111
INK PKKP PKKPbc 20 45 26.4 -4.3
comp=Z,10nm,0.9s,baz=48,slow=3.7,SNR=7.0
INK PKPPKP 20 53 36.9
comp=Z,3.3nm,1.0s,baz=141,slow=7.1,SNR=5.2
INK Inuvik 88.78 21 P P 20 27 52.3 -0.9
INK Inuvik 88.78 21 eP P 20 27 52.2 -1.0
comp=Z,2µm,1.2s,mb6.8
KBL Kabul 89.47 305 eP P 20 27 55.3 -1.2
comp=Z,114nm,1.0s,mb5.7
KK31 Karatay Array 89.50 313 i P P 20 27 55.3 -1.3
KKAR Karatay Array 89.50 313 i P P 20 27 55.3 -1.3
KKAR pmax pmax
comp=Z,89nm,1.1s,mb5.5
BVA0 Borovoye Array 91.01 323 i P P 20 28 01.6 -2.0
BVA0 pmax pmax
comp=Z,44nm,1.1s,mb5.3
BRVK Borovoye 91.08 323 P P 20 28 02.1 -1.8
comp=Z,926nm,0.9s,mb6.7
BRVK Borovoye 91.08 323 eP P 20 28 02.0 -1.9
BRVK pmax pmax
comp=Z,159nm,1.0s,mb5.9
BRVK Borovoye 91.08 323 P P 20 28 02.1 -1.8
BRVK pmax pmax
comp=Z,160nm,1.0s,mb5.9
BRVK Borovoye 91.08 323 eP P 20 28 02.0 -1.9
comp=Z,159nm,1.0s,mb5.9
NVAR Mina Array Bea 91.39 52 P P 20 28 06.0 +0.7

comp=Z,17nm,1.0s,mb4.9,baz=252,slow=5.4,SNR=41
NVAR PKKPbc PKKPbc 20 45 26.5 +2.2
comp=Z,4.2nm,0.9s,baz=160,slow=1.3,SNR=7.7
NVAR PKPPKP 20 53 33.1
comp=Z,1.3nm,0.8s,baz=97,slow=5.7,SNR=4.9
DAC Darwin (Calif) 91.73 54 P **P 20 28 08.5 +1.6**
DAC pmax pmax
comp=Z,14nm,1.0s,mb4.8
DAC Darwin (Calif) 91.73 54 *eP* **P 20 28 08.2 +1.3**
comp=Z,14nm,1.0s,mb4.9
TPH Tonopah 92.20 52 P **P 20 28 10.9 +1.8**
TPH pmax pmax
comp=Z,14nm,0.9s,mb4.9
TPH Tonopah 92.20 52 *eP* **P 20 28 10.4 +1.4**
comp=Z,14nm,0.9s,mb4.9
PFO Pinyon Flat Ob 92.40 57 P **P 20 28 10.8 +0.8**
comp=Z,8.3nm,0.7s,mb4.8,baz=289,slow=5.4,SNR=5.4
PFO Pinyon Flat Ob 92.40 57 P **P 20 28 10.8 +0.8**
SYO Syowa Base 93.29 199 ⇑*iP* **P 20 28 12.3 -1.8**
YKA Yellowknife Ar 95.52 28 P **P 20 28 23.5 -0.7**
comp=Z,5.3nm,0.5s,mb4.9,baz=265,slow=4.7,SNR=123
YKA PKiKP PKiKP 20 33 01.7 -0.4
comp=Z,3.0nm,0.8s,baz=281,slow=1.6,SNR=12
YKA PKKPbc PKKPbc 20 45 12.9 -0.7
comp=Z,0.5nm,0.5s,baz=84,slow=2.7,SNR=4.8
YKA PKPPKP 20 53 16.5
comp=Z,0.7nm,0.9s,baz=85,slow=1.6,SNR=7.1
EDM Edmonton 95.90 37 P **P 20 28 26.0 0.0**
EDM Edmonton 95.90 37 *eP* **P 20 28 25.9 -0.1**
MCMT McKenzie Canyo 95.94 46 *eP* **P 20 28 26.3 +0.2**
BOZ Bozeman (W) 96.83 45 P **P 20 28 30.3 +0.1**
BOZ Bozeman (W) 96.83 45 *eP* **P 20 28 30.2 0.0**
comp=Z,2.9nm,0.8s
AB31 Akbulak array 97.29 319 *i* P **P 20 28 29.5 -2.7**
SRU San Rafael 97.50 51 P **P 20 28 34.3 +1.1**
SRU pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
SRU San Rafael 97.50 51 *eP* **P 20 28 31.5 -1.7**
comp=Z,7.4nm,0.6s,mb5.1
ARU Arti 98.05 326 ⇑*iP* **P 20 28 33.0 -2.6**
ARU *e* 20 32 39.3
ARU *e*PPP 20 34 44.0
ARU *e*PS PS 20 41 41.9 -1.5
ARU *e*SS SS 20 46 18.4 -2.6
ARU *e*SSS 20 50 07.6
ARU pmax pmax
comp=Z,64nm,1.2s,mb5.7
ARU Arti 98.05 326 ⇑*iP* **P 20 28 33.0 -2.6**
comp=Z,64nm,1.2s,mb5.7
ARU *e* 20 32 39.3
ARU *e*PPP 20 34 44.0
ARU *e*PS PS 20 41 41.9 -1.5
ARU *e*SS SS 20 46 18.4 -2.6
ARU *e*SSS 20 50 07.6
EGMT Eagleton 98.14 42 *eP* **P 20 28 35.5 -0.5**
comp=Z,4.1nm,0.6s,mb4.8
PDAR Pinedale Array 98.28 48 P **P 20 28 35.7 -1.0**
comp=Z,2.4nm,0.5s,mb4.7,baz=226,slow=2.4,SNR=22
PDAR PKKPbc PKKPbc 20 45 05.0 -1.1
comp=Z,1.4nm,0.5s,baz=98,slow=4.9,SNR=7.5
PDAR PKPPKP 20 53 14.2
comp=Z,1.8nm,1.0s,baz=35,slow=4.9,SNR=3.8
AKTK Aktyubinsk 98.53 320 P Pdif 20 28 35.6 -2.1
AKTK PKKPbc PKKPbc 20 45 05.3 -0.1
AKTO Aktyubinsk 98.53 320 P Pdif 20 28 35.6 -2.1
comp=Z,16nm,0.9s,baz=93,slow=5.7,SNR=38
AKTO PKKPbc PKKPbc 20 45 05.3 -0.1
comp=Z,2.2nm,0.9s,baz=347,slow=1.9,SNR=4.0
SOKR Solikamsk 98.84 329 ⇑*iP* Pdif 20 28 36.9 -2.2
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.5
MAIT Maitri 99.66 192 *eP* Pdif 20 28 38.6 -4.2
ORR Orenburg 100.53 321 *eP* Pdif 20 28 44.9 -1.8
ORR pmax pmax
comp=Z,80nm,0.9s
LAO LASA Array 100.57 44 *e*Pdif Pdif 20 28 47.1 +0.2
comp=Z,11nm,0.8s
RES Resolute Bay 100.93 15 *eP* Pdif 20 28 47.3 -1.1
RES pmax pmax
comp=Z,532nm,1.3s
RES Resolute Bay 100.93 15 *e*Pdif Pdif 20 28 47.2 -1.2
comp=Z,532nm,1.3s
SNAA Sanae 101.27 187 *e*Pdiff Pdif 20 28 48.7 -1.2
SNAA *e* 20 28 51.9
SNAA *e* 20 29 06.8
SNAA *e* 20 33 08.5
SNAA *e* 20 33 15.6
SNAA *e* 20 44 57.4
SNAA *e* 20 44 59.9
SNAA *e* 20 45 08.8
SNAA Sanae 101.27 187 P Pdif 20 28 48.6 -1.3
SNAA pmax pmax
comp=Z,17nm,1.0s
SNAA Sanae 101.27 187 *e*Pdif Pdif 20 28 48.6 -1.3
comp=Z,17nm,1.0s
VNA3 Neumayer Olymp 102.41 185 *e*Pdiff Pdif 20 28 54.6 -0.4
VNA3 *e* 20 28 57.8
VNA3 *e* 20 29 07.5
VNA2 Neumayer--Watz 102.50 186 *e*Pdiff Pdif 20 28 54.2 -1.2
baz=149,slow=2.6
VNA2 *e* 20 28 58.0
VNA2 *e* 20 29 08.3
VNA2 *e* 20 33 14.5
VNA2 *e* 20 33 23.3
VNA2 *e* 20 44 53.9
VNA2 *e* 20 44 55.7
VNA2 *e* 20 45 06.3
VNA1 Neumayer--Stat 102.85 186 *e*Pdiff Pdif 20 28 54.0 -2.9
VNA1 *e* 20 28 57.2
ULM Lac du Bonnet 106.96 39 Pdiff Pdif 20 29 11.5 -3.7
comp=Z,2.7nm,0.5s,baz=27,slow=18,SNR=8.7
ULM PKiKP PKiKP 20 33 21.8 -1.0
comp=Z,2.5nm,0.7s,baz=307,slow=2.7,SNR=6.0
ULM PKKPbc PKKPbc 20 44 40.2 -0.7
comp=Z,2.1nm,0.5s,baz=97,slow=7.2,SNR=4.5
ULM Lac du Bonnet 106.96 39 Pdif Pdif 20 29 11.5 -3.7
ULM PKPdif PKiKP 20 33 21.8 -1.0
ULM PKKPbc PKKPbc 20 44 40.2 -0.7
KLMR Klimovskoe 107.02 332 *eP* Pdif 20 29 13.5 -2.0
KLMR *e* 20 33 41.5
KLMR pmax pmax
comp=Z,71nm,1.4s
KEV Kevo 107.72 343 *e*pkp PKiKP 20 33 21.1 -3.1
DAG Danmarks Havn 108.96 358 ⇓*iP* Pdif 20 29 22.3 -1.8
comp=Z,11nm,1.0s
DAG Danmarks Havn 108.96 358 ⇓*iP* PKiKP 20 33 25.1 -1.4
comp=Z,9.2nm,0.9s
DAG Danmarks Havn 108.96 358 ⇓*iP* Pdif 20 29 22.3 -1.8
DAG pmax pmax
comp=Z,11nm,1.0s
KTK1 Kautokeino 109.24 343 *eP* PKiKP 20 33 27.4 +0.4
JOF Joensuu 109.75 336 *e*pkp PKiKP 20 33 26.9 -1.1
HKR Hakkari 109.90 308 *eP* PKiKP 20 33 28.9 +0.7
TRO Tromso 110.02 345 *eP* PKiKP 20 33 26.6 -1.9
OBN Obninsk 110.44 327 ⇑*eP* Pdif 20 29 29.1 -1.6
OBN *e* 20 34 08.4
OBN 20 39 30.0
OBN *e* 20 43 49.1
OBN *e*SS SS 20 49 20.5 +11
OBN pmax pmax
comp=Z,21nm,1.2s
OBN pmax pmax
comp=Z,55nm,1.6s
OBN Obninsk 110.44 327 *i* PKP PKiKP 20 33 26.9 -2.4
ARTV Artvin 110.69 312 *i* P PKiKP 20 33 29.8 0.0
ERZM Erzurum 111.35 311 *i* P PKiKP 20 33 32.1 +1.1
EZM Erzurum 111.36 311 *eP* PKiKP 20 33 32.6 +1.6
BTMT Batman 111.56 309 *eP* PKiKP 20 33 31.8 +0.4
BNGL BINGOL 111.69 310 *i* P PKiKP 20 33 33.3 +1.6
SOC Sochi 111.80 315 *eP* Pdif 20 29 34.1 -2.6
SOC *i* 20 34 21.1
SOC *e*PPP 20 36 54.1
SOC *e* 20 39 35.5
SOC *e*PS PS 20 43 48.9 -10
SOC pmax pmax
comp=Z,85nm,1.2s
KAF Kangasniemi 112.17 336 *e*PKP Pdif 20 29 35.4 -3.0
KAF *e*PKP PKiKP 20 33 31.1 -1.4
ATD Arta Tunnel 112.27 280 PKiKP PKiKP 20 33 34.1 +1.4
comp=Z,28nm,0.9s,baz=287,slow=2.3,SNR=8.7
EZC Erzincan 112.56 311 *eP* PKiKP 20 33 35.3 +2.0
FIA1 FINESS Array S 112.62 336 *e*PKiKP PKiKP 20 33 32.7 -0.7
FINES FINESS Array B 112.62 336 Pdiff Pdif 20 29 38.2 -2.2
comp=Z,1.4nm,0.3s,baz=90,slow=4.4,SNR=13
FINES PKiKP PKiKP 20 33 32.6 -0.8
comp=Z,8.6nm,0.3s,baz=110,slow=3.0,SNR=70
FINES PKKPbc PKKPbc 20 44 21.9 -0.9
comp=Z,6.8nm,0.9s,baz=151,slow=6.3,SNR=8.4
FINES FINESS Array B 112.62 336 P Pdif 20 29 38.2 -2.2
FINES 20 33 32.6
FINES FINESS Array B 112.62 336 Pdif Pdif 20 29 38.2 -2.2
FINES PKPdf PKiKP 20 33 32.6 -0.8
FINES PKKPbc PKKPbc 20 44 21.9 -0.9
GUMT Gumushane 112.66 311 *eP* PKiKP 20 33 34.7 +1.2
KELT Kelkit 112.89 311 *i* P PKiKP 20 33 34.4 +0.5
PTK Pertek 113.05 310 *eP* PKiKP 20 33 35.4 +1.1
ANN Anapa 113.09 316 *i* PKIKP PKiKP 20 33 35.1 +0.8
ANN pmax pmax
comp=Z,57nm,1.1s
ELZG Elazig 113.44 309 *i* P PKiKP 20 33 36.3 +1.3
MOR8 Moi Rana 113.65 343 *eP* PKiKP 20 33 34.1 -1.3
MOR8 AMb AMB 20 33 37.1
comp=Z,68nm,1.6s
MYA Malataya 113.91 309 *eP* PKiKP 20 33 36.8 +0.9
MALT Malatya 113.91 309 PKIKP PKiKP 20 33 36.9 +1.0
MALT Malatya 113.91 309 ⇓*iP* PKiKP 20 33 36.5 +0.6
GZT Gaziantep 114.78 308 *i* P PKiKP 20 33 38.2 +0.6
GAZ Gaziantep 115.09 308 *eP* PKPdf 20 33 38.7 +0.6
SIM Simferopol' 115.30 317 *d iP*KIKP PKPdf 20 33 38.0 -0.6
SIM *e* 20 34 46.0
SIM *e*PS PS 20 44 33.0 +2.2
SIM pmax pmax
comp=Z,210nm,9.5s
BNN Bunyan 115.76 310 *eP* PKPdf 20 33 39.8 +0.3
BOYT Boyabat 115.79 313 *i* P PKPdf 20 33 36.6 -2.9
BYBT Boyabat 115.87 313 *eP* PKPdf 20 33 37.6 -2.0
YOZ Yozgat 115.95 311 *eP* PKPdf 20 33 39.8 0.0
CTKT Corum 116.09 313 *i* P PKPdf 20 33 40.4 +0.3
HTY Hatay 116.16 307 *eP* PKPdf 20 33 41.0 +0.8
AKASG Malin Array Be 116.25 325 PKP PKPdf 20 33 40.0 -0.4
comp=Z,17nm,0.4s,baz=62,slow=2.3,SNR=102
AKASG PP PP 20 34 46.2 -5.9
comp=Z,19nm,1.0s,baz=57,slow=7.4,SNR=4.4
AKASG PKKPbc PKKPbc 20 44 10.2 -0.3
comp=Z,6.9nm,0.8s,baz=257,slow=3.9,SNR=23
AKBB Malin Array Si 116.25 325 *e*PKIKP PKPdf 20 33 39.7 -0.7
ASF Jabal al Asfar 116.32 303 PKP PKPdf 20 33 41.4 +0.9
comp=Z,22nm,0.9s,baz=346,slow=2.0,SNR=18
CORM Corum 116.33 312 *eP* PKPdf 20 33 39.3 -1.2
FKH Fakeheh 116.34 305 *eP* PKPdf 20 33 41.7 +1.1
SFJD Kangerlussuaq 116.50 11 PKKPbc PKKPbc 20 44 09.2 -0.5
comp=Z,9.5nm,0.7s,baz=125,slow=6.8,SNR=4.5
SFJD Kangerlussuaq 116.50 11 *i* P PKPdf 20 33 40.2 -0.7
comp=Z,29nm,0.6s
SFJD *e* 20 46 57.2
SFJD Kangerlussuaq 116.50 11 *i* PKIKP PKPdf 20 33 40.2 -0.7
SFJD pmax pmax
comp=Z,29nm,0.6s
SFJD Kangerlussuaq 116.50 11 *e*PKPdf PKPdf 20 33 39.9 -1.0
AVNT Avonos 116.52 311 *i* P PKPdf 20 33 40.5 -0.4
TOS Tosya 116.53 313 *eP* PKPdf 20 33 41.6 +0.7
BALT Daday 116.85 314 *i* P PKPdf 20 33 41.1 -0.5
KMBO Kilima Mbogo 116.93 266 PKP PKPdf 20 33 43.0 +1.3
comp=Z,22nm,1.0s,baz=44,slow=3.1,SNR=23
KMBO Kilima Mbogo 116.93 266 *e*PKPdf PKPdf 20 33 42.8 +1.1
CANT Cankiri 116.95 313 *eP* PKPdf 20 33 42.2 +0.5
BHL Bhannes 117.02 305 *eP* PKPdf 20 33 42.8 +0.9
ELDT Eldivan 117.12 313 *i* P PKPdf 20 33 42.4 +0.3
BRTR Keskin Array B 117.18 312 PKP PKPdf 20 33 41.8 -0.4
comp=Z,20nm,0.5s,baz=134,slow=4.5,SNR=72
BRTR PP PP 20 34 55.2 -3.3
comp=Z,24nm,1.1s,baz=95,slow=7.6,SNR=8.8
BRTR PKKPbc PKKPbc 20 44 08.3 +1.0
comp=Z,2.0nm,0.8s,baz=211,slow=2.2,SNR=7.3
KAMT Kaman 117.23 311 *eP* PKPdf 20 33 41.9 -0.3
MMAI Mount Meron Ar 117.40 304 PKP PKPdf 20 33 43.6 +1.0
comp=Z,14nm,0.5s,baz=78,slow=7.8,SNR=45
SAFT Safranbolu 117.44 314 *eP* PKPdf 20 33 42.7 +0.1
TEIG Tepich 117.55 70 PKP PKPdf 20 33 43.6 +0.8
comp=Z,7.3nm,0.8s,baz=341,slow=20,SNR=3.7
ANTO Ankara 117.77 312 *eP* PKPdf 20 33 42.5 -0.8
ANTO Ankara 117.77 312 PKIKP PKPdf 20 33 43.8 +0.5
ANTO Ankara 117.77 312 ⇓*iP* PKPdf 20 33 43.4 +0.1
SUW Suwalki 117.92 330 *e*PKP PKPdf 20 33 43.4 -0.2
PLCA Paso Flores 118.00 143 PKP PKPdf 20 33 43.9 +0.1
comp=Z,10nm,0.5s,baz=221,slow=1.9,SNR=44
PLCA PKKPbc PKKPbc 20 44 05.5 +1.1
comp=Z,13nm,0.9s,baz=51,slow=5.1,SNR=11
PLCA Paso Flores 118.00 143 PKIKP PKPdf 20 33 44.7 +0.9
PLCA Paso Flores 118.00 143 *e*PKPdf PKPdf 20 33 44.4 +0.6
KIS Kishinev 118.02 321 *e*PKP PKPdf 20 33 42.0 -1.8
HFS Hagfors 118.19 339 PKP PKPdf 20 33 42.3 -1.8
comp=Z,14nm,0.4s,baz=103,slow=4.7,SNR=68
HFS PKKPbc PKKPbc 20 44 04.0 +0.2
comp=Z,7.5nm,0.9s,baz=176,slow=2.4,SNR=11
DOMB Dombas 118.31 342 *eP* PKPdf 20 33 43.9 -0.4
DOMB AMb AMB 20 33 46.4
comp=Z,55nm,1.6s
MOL Molde 118.34 343 *eP* PKPdf 20 33 44.3 -0.1
NB2 NORSAR Subarra 118.38 341 PKPdf PKPdf 20 33 43.0 -1.5
comp=Z,7.2nm,0.5s,baz=44,slow=1.9
NB2 NORSAR Subarra 118.38 341 PKPdf PKPdf 20 33 43.0 -1.5
baz=44,slow=1.9
NOA NORSAR Array B 118.38 341 PKP PKPdf 20 33 43.5 -1.0
comp=Z,29nm,0.9s,baz=45,slow=1.9,SNR=61
NOA PP PP 20 35 04.2 -2.6
comp=Z,16nm,1.0s,baz=44,slow=6.9,SNR=5.1
NOA PKKPbc PKKPbc 20 44 03.5 +0.4
comp=Z,5.5nm,0.9s,baz=42,slow=3.6,SNR=12
NOA NORSAR Array B 118.38 341 PKIKP PKPdf 20 33 43.5 -1.0
NOA 20 35 04.2
NOA NORSAR Array B 118.38 341 PKP PKPdf 20 33 43.5 -1.0
NOA PP PP 20 35 04.2 -2.6
NOA PKKPbc PKKPbc 20 44 03.5 +0.4
EIL Elat 118.41 301 *e*PKPdf PKPdf 20 33 44.8 +0.3
NAO01 NORSAR Array S 118.64 341 *e*PKPdf PKPdf 20 33 44.5 -0.5
IAS Iasi 118.72 322 PKIKP PKPdf 20 33 45.2 +0.1
KIZT Kizilcal 118.73 311 *eP* PKPdf 20 33 45.3 +0.1
MDU Mudurnu 118.74 313 *eP* PKPdf 20 33 44.6 -0.5
HENT Hendek 118.85 314 *i* P PKPdf 20 33 44.8 -0.6
TZTN Tazewell 118.94 51 *e*PKPdf PKPdf 20 33 45.7 +0.1
CFR Carcaliu 119.18 319 PKIKP PKPdf 20 33 47.5 +1.5
TIRR Tirgusor 119.28 318 *e*PKIKP PKPdf 20 33 46.3 +0.1
TIRR Tirgusor 119.28 318 ⇓*iP* PKPdf 20 33 46.2 0.0
ESKT Eskisehir 119.30 312 *eP* PKPdf 20 33 46.4 +0.2
ESKT Eskisehir 119.30 312 *i* P PKPdf 20 33 46.0 -0.3
GPA Golpazari 119.45 313 *eP* PKPdf 20 33 46.7 +0.2
BORA Eskisehir 119.48 313 *i* P PKPdf 20 33 46.1 -0.5
HARR Harsova 119.51 319 PKIKP PKPdf 20 33 48.6 +2.0
LVV L'vov 119.61 325 *i* PKIKP PKPdf 20 33 46.2 -0.7
LVV *e* 20 35 14.4
HRT Hereke 119.74 314 *eP* PKPdf 20 33 46.8 -0.3
VRI Vrincioaia 119.80 320 PKIKP PKPdf 20 33 47.2 0.0
VRI Vrincioaia 119.80 320 ⇓*iP* PKPdf 20 33 46.5 -0.7
ADVT Abdulvahap 119.82 314 *eP* PKPdf 20 33 46.6 -0.7
SHUT Suhut-Afyon 119.82 311 *eP* PKPdf 20 33 47.7 +0.5
HYA Hoyanger 119.85 343 *eP* PKPdf 20 33 47.6 +0.3
HYA AMb AMB 20 33 49.9
comp=Z,88nm,1.5s
KONO Kongsberg 119.96 340 *eP* PKPdf 20 33 47.2 -0.3
BURAR Bucovina Array 119.97 323 ⇓*iP* PKPdf 20 33 47.7 +0.2
YLV Yalova 120.03 314 *eP* PKPdf 20 33 46.7 -0.9
IZI Iznik 120.04 314 *eP* PKPdf 20 33 47.2 -0.5
TKTP Tekketepe 120.15 311 *i* P PKPdf 20 33 47.3 -0.6
ULDT Uludag 120.35 314 *i* P PKPdf 20 33 48.3 0.0
BOSA Boshof 120.35 232 PKP PKPdf 20 33 49.0 +0.7
comp=Z,44nm,0.8s,baz=120,slow=2.1,SNR=79
BOSA PKKPbc PKKPbc 20 43 56.9 +0.9
comp=Z,1.0nm,0.5s,baz=240,slow=19,SNR=5.7
BOSA Boshof 120.35 232 *e*PKPdf PKPdf 20 33 49.1 +0.8
SUE Sulen 120.35 343 *eP* PKPdf 20 33 48.3 +0.1
GDZ Gediz 120.44 312 *i* P PKPdf 20 33 48.2 -0.2
KWP Kalwaria 120.45 326 *e*PKP PKPdf 20 33 48.5 0.0
MLR Muntele Rosu 120.46 320 PKP PKPdf 20 33 48.2 -0.3
comp=Z,47nm,0.9s,baz=27,slow=2.9,SNR=19
MLR Muntele Rosu 120.46 320 P PKPdf 20 33 48.9 +0.4
MLR Muntele Rosu 120.46 320 ⇓*iP* PKPdf 20 33 48.4 -0.1
CTT Catalca 120.50 315 *eP* PKPdf 20 33 48.6 +0.1
KHL Karahalli 120.66 311 *eP* PKPdf 20 33 48.1 -0.8
ASK Askoy 120.69 343 *eP* PKPdf 20 33 48.8 -0.2
RUND Rundenannen 120.70 343 *eP* PKPdf 20 33 51.2 +2.3
ODD1 Odda 120.72 342 *eP* PKPdf 20 33 48.0 -1.0
ODD1 AMb AMB 20 33 50.4
comp=Z,107nm,1.1s
EGD Espegrend 120.85 343 *eP* PKPdf 20 33 49.2 0.0
ELN Prospectdale 120.89 50 *e*PKPdf PKPdf 20 33 49.1 -0.2
SCHQ Schefferville 120.94 26 PKP PKPdf 20 33 49.6 +0.2
comp=Z,8.8nm,0.9s,baz=6.3,slow=6.0,SNR=7.4
SCHQ PKKPbc PKKPbc 20 43 53.5 -0.2
comp=Z,21nm,0.9s,baz=124,slow=4.6,SNR=13
VOIR 121.05 321 ⇓*iP* PKPdf 20 33 49.4 -0.2
KOLS Kolonicke sedl 121.05 325 *e*PKP PKPdf 20 33 50.5 +0.9
KOLS *e* 20 35 12.9
JTS JuntasAbangare 121.07 82 PKP PKPdf 20 33 50.5 +0.8
comp=Z,4.1nm,0.3s,baz=5.4,slow=6.9,SNR=6.4
JTS JuntasAbangare 121.07 82 *e*PKPdf PKPdf 20 33 50.4 +0.8
BSD Bornholm Skovb 121.12 334 *i* P PKPdf 20 33 49.5 -0.2
comp=Z,53nm,0.9s
BSD Bornholm Skovb 121.12 334 *i* PKIKP PKPdf 20 33 49.5 -0.2
BSD pmax pmax
comp=Z,53nm,0.9s
BNT Bandirma 121.14 314 *eP* PKPdf 20 33 49.3 -0.5
BLS5 Blasjo 121.16 342 ⇑*iP* PKPdf 20 33 50.4 +0.5
BLS5 AMb AMB 20 33 52.4
comp=Z,45nm,0.9s
BLS5 Blasjo 121.16 342 *eP* PKPdf 20 33 50.4 +0.6
EDC Edincik 121.19 314 *eP* PKPdf 20 33 49.2 -0.6
UZH Uzhgorod 121.19 325 ⇓*iP*KIKP PKPdf 20 33 49.7 -0.2
UZH *e* 20 35 25.0
DENT Denizli 121.21 311 *eP* PKPdf 20 33 50.0 +0.1
GKP Gorka Klasztor 121.24 332 *e*PKP PKPdf 20 33 50.1 +0.1
BTOK Tokmak 121.28 313 *i* P PKPdf 20 33 49.3 -0.8
JMB Yambol 121.28 317 *eP* PKPdf 20 33 50.1 0.0
JMB Yambol 121.28 317 P PKPdf 20 33 51.3 +1.2
MRMT Marmara Adasi 121.29 315 *eP* PKPdf 20 33 48.5 -1.5
MANT Manisa 121.32 312 *i* P PKPdf 20 33 49.9 -0.2
JSC Jenkinsville 121.34 53 PKIKP PKPdf 20 33 51.3 +1.1
JSC Jenkinsville 121.34 53 *e*PKPdf PKPdf 20 33 50.7 +0.6
STHS Stebnicka Huta 121.38 326 PDIF Pdif 20 30 20.5 +1.2
STHS Stebnicka Huta 121.38 326 *i* PKP PKPdf 20 33 51.0 +0.8
SZH Strazhica 121.40 318 P PKPdf 20 33 50.5 +0.2
CRVS Cervenica-Dubn 121.53 326 *e*PKP PKPdf 20 33 51.3 +0.8
CRVS *e* 20 35 13.4
ZIMR 121.61 319 PKIKP PKPdf 20 33 51.1 +0.4
LBTB Lobatse 121.62 236 *e*PKIKP PKPdf 20 33 51.2 +0.5
LHS Liberty Hill 121.65 53 PKIKP PKPdf 20 33 51.7 +0.9
LHS Liberty Hill 121.65 53 *e*PKPdf PKPdf 20 33 50.7 -0.1
KMY Karmoy 121.70 342 *eP* PKPdf 20 33 51.1 +0.3
KMY AMb AMB 20 33 52.9
comp=Z,94nm,1.4s
OJC Ojcow 121.73 328 *e*PKPdf PKPdf 20 33 50.8 -0.1
OJC *e*PP PP 20 35 26.7 -2.9
SNART Snartemo 121.76 340 ⇑*iP* PKPdf 20 33 50.8 -0.2
SNART AMb AMB 20 33 51.9
comp=Z,85nm,1.2s
COP Copenhagen 121.78 336 *i* P PKPdf 20 33 51.3 +0.3
comp=Z,66nm,0.9s
COP Copenhagen 121.78 336 *i* PKIKP PKPdf 20 33 51.3 +0.3
COP pmax pmax
comp=Z,66nm,0.9s
SUR Sutherland 121.85 226 *e*PKPdf PKPdf 20 33 52.6 +1.5
DRGR 121.86 323 PKIKP PKPdf 20 33 51.3 +0.1
DRGR 121.86 323 ⇓*iP* PKPdf 20 33 51.1 -0.1
NIE Niedzica 121.89 326 *e*PKP PKPdf 20 33 52.3 +1.1
LPK Lapseki 121.96 315 *eP* PKPdf 20 33 50.6 -0.8
ENEZ Enez 122.25 315 *eP* PKPdf 20 33 51.0 -0.9
ALN Alexandroupoli 122.27 315 *eP* PKPdf 20 33 51.3 -0.7
KECS Kecovo 122.30 325 *e*PKP PKPdf 20 33 52.0 0.0
KECS *e* 20 35 19.5
KDAG Bornova 122.31 312 *i* P PKPdf 20 33 51.4 -0.6
IZM Izmir 122.31 312 *eP* PKPdf 20 33 51.8 -0.2
ARG Arkhangelos 122.38 310 *eP* PKPdf 20 33 52.5 +0.3
ARG Arkhangelos 122.38 310 P PKPdf 20 33 53.0 +0.8
AYVA Ayvalik 122.41 313 *i* P PKPdf 20 33 51.4 -0.8
KDZ Kurdzhali 122.41 316 P PKPdf 20 33 51.7 -0.5
GZR Gura Zlata 122.49 321 ⇓*iP* PKPdf 20 33 52.2 -0.2
MUD Monsted U'grnd 122.50 338 *i* P PKPdf 20 33 52.0 -0.4
comp=Z,61nm,1.1s
MUD *i* 20 35 34.1
MUD Monsted U'grnd 122.50 338 *i* PKIKP PKPdf 20 33 52.0 -0.4
MUD *i* 20 35 34.1
MUD pmax pmax
comp=Z,61nm,1.1s
RDO Rodhopi 122.53 316 *eP* PKPdf 20 33 51.5 -0.9
RDO Rodhopi 122.53 316 P PKPdf 20 33 52.7 +0.3
BDRM Kayabasi 122.63 311 *i* P PKPdf 20 33 52.5 -0.1
BOZC Bozcaada 122.67 314 *i* P PKPdf 20 33 51.3 -1.4
LRW Lerwick 122.70 346 P PKPdf 20 33 52.4 -0.4
LRW Lerwick 122.70 346 *eP* PKPdf 20 33 52.4 -0.4
LRW *eP* 20 33 52.4
WAL1 Walls 122.70 346 *eP* PKPdf 20 33 52.1 -0.7
PLD Plovdiv 122.71 317 *eP* PKPdf 20 33 52.1 -0.7
PRK Paraskevi 122.73 313 *eP* PKPdf 20 33 52.0 -0.8
LIKS Likavka 122.76 327 *e*PKP PKPdf 20 33 54.0 +1.1
LSZ Lusaka 122.81 248 *e*PKIKP PKPdf 20 33 53.9 +0.9
URLA Izmir 122.81 312 *i* P PKPdf 20 33 52.5 -0.5
OKC Ostrava-Krasne 122.83 328 *e*PKPdf PKPdf 20 33 53.0 0.0
OKC *e*PP PP 20 35 37.0 +0.1
RZN Rozhen 122.87 317 P PKPdf 20 33 51.9 -1.2
PGB Panagyurishte 122.88 318 P PKPdf 20 33 53.1 0.0
PSZ Piszkesteto 122.94 325 ⇓*iP*KIKP PKPdf 20 33 53.1 -0.1
PSZ Piszkesteto 122.94 325 ⇓*eP* PKPdf 20 33 53.3 +0.1
PSZ Piszkesteto 122.94 325 ⇓*iP* PKPdf 20 33 53.0 -0.2
PSZ Piszkesteto 122.94 325 ⇓*e*PKP PKPdf 20 33 53.5 +0.3
BZS Buzias 123.10 322 PKIKP PKPdf 20 33 53.5 0.0
BZS Buzias 123.10 322 ⇓*iP* PKPdf 20 33 53.4 -0.1
MVL Millersville 123.17 45 *e*PKPdf PKPdf 20 33 53.6 0.0
MORC Moravsky Berou 123.18 328 ⇓*iP* PKPdf 20 33 54.2 +0.5
KSP Ksiaz 123.19 330 *e*PKIKP PKPdf 20 33 54.1 +0.4
KSP *e* 20 35 37.0
KSP *e*SS SS 20 51 56.0 +1.7
VYHS Vyhne 123.21 326 PDIF Pdif 20 30 27.7 +0.2
VYHS Vyhne 123.21 326 *i* PKP PKPdf 20 33 54.1 +0.3
VYHS *e* 20 35 28.1
VYHS Vyhne 123.21 326 *i* PKP PKPdf 20 33 54.1 +0.3
VYHS *e*PP PP 20 35 28.2 -11
LOS Limnos 123.32 315 *eP* PKPdf 20 33 53.6 -0.3
KARP Karpathos 123.34 309 *eP* PKPdf 20 33 53.5 -0.5
PENC Penc 123.35 325 ⇑*eP* PKPdf 20 33 54.7 +0.7
RUE Ruedersdorf 123.36 332 *e*PKPdf PKPdf 20 33 54.6 +0.6
DPC Dobruska-Polom 123.47 329 *e*PKPdf PKPdf 20 33 54.1 -0.2
DPC *e*pPKP pPKPdf 20 35 30.5 +4.5
VTS Vitosha 123.50 318 *eP* PKPdf 20 33 54.3 0.0
VTS Vitosha 123.50 318 P PKPdf 20 33 55.0 +0.7
VTS Vitosha 123.50 318 ⇓*iP* PKPdf 20 33 54.5 +0.2
MMB Musomiste 123.58 317 P PKPdf 20 33 54.3 -0.2
NVR Nevrokopi 123.59 317 *eP* PKPdf 20 33 54.0 -0.5
NVR Nevrokopi 123.59 317 P PKPdf 20 33 55.8 +1.3
MDZ Mendoza 123.72 136 *e*PKIKP PKPdf 20 33 55.4 +0.7
BSEG Bad Segeberg 123.88 335 *e*PKPdf PKPdf 20 33 55.1 +0.1
BSEG *e*SKPdf SKPdf 20 36 57.8 +3.6
KKB Krupnik 123.90 318 P PKPdf 20 33 54.7 -0.4
OUR Ouranopolis 123.93 316 *eP* PKPdf 20 33 54.1 -1.1
VRAC Vranov 123.96 328 PKP PKPdf 20 33 55.4 +0.2
comp=Z,50nm,1.0s,baz=77,slow=1.1,SNR=43
VRAC PP PP 20 35 40.9 -3.6
comp=Z,12nm,1.0s,baz=92,slow=4.3,SNR=4.1
VRAC Vranov 123.96 328 P PKPdf 20 33 55.4 +0.2
VRAC Vranov 123.96 328 ⇓*iP* PKPdf 20 33 55.3 +0.1
SMOL Smolenice 123.97 327 *e*PKP PKPdf 20 33 55.7 +0.5
SVIS Svilajnac 123.99 321 ⇓*iP*KP PKPdf 20 33 54.6 -0.6
BEO Belgrade 124.21 322 ⇓*iP*KP PKPdf 20 33 55.1 -0.6
PVCC Panska Ves 124.24 330 *e*PKPdf PKPdf 20 33 56.1 +0.4
PLG Polygyros 124.29 316 *eP* PKPdf 20 33 54.9 -0.9
PLG Polygyros 124.29 316 *eP* PKPdf 20 33 54.5 -1.3
BARS Barje 124.31 319 *e*PKP PKPdf 20 33 56.6 +0.8
PAIG Paliouri 124.31 315 *eP* PKPdf 20 33 55.0 -0.9
BRG Berggiesshubel 124.33 331 *e*PKPdf PKPdf 20 33 55.9 0.0
BRG Berggiesshubel 124.33 331 ⇓*iP*KP PKPdf 20 33 56.0 +0.1
comp=Z,77nm,1.1s
BRG *i* pPKP pPKPdf 20 35 27.5 -0.2
comp=Z,4.5nm,1.0s
BRG PP PP 20 35 46.0 -0.9
BRG *i* 20 36 55.5
comp=Z,23nm,1.6s
BRG *e* 20 43 41.3
comp=Z,3.4nm,1.1s
BRG *e* 20 45 47.0
BRG SS SS 20 52 15.0 +6.4
BRG Berggiesshubel 124.33 331 ⇓*iP*KIKP PKPdf 20 33 56.0 +0.1
BRG 20 35 46.0
BRG *e* 20 45 47.0
BRG SS SS 20 52 15.0 +6.4
BRG pmax pmax
comp=Z,5.0nm,1.2s
KNT Kendrikon 124.33 317 *eP* PKPdf 20 33 55.1 -0.8
ZST Bratislava 124.34 327 *e*PKP PKPdf 20 33 56.6 +0.7
ZST *e* 20 35 35.0

THR3	Thira Island,	124.39 311	eP	PKPdf	20 33 55.7	-0.4
THR6	Thira Island,	124.42 311	eP	PKPdf	20 33 55.8	-0.3
HORT	Hortiatis	124.44 316	eP	PKPdf	20 33 55.3	-0.8
VAY	Valandovo	124.48 317	eP	PKPdf	20 33 54.8	-1.4
VAY	Valandovo	124.48 317	⇓iP	PKPdf	20 33 54.8	-1.4
VAY	Valandovo	124.48 317	⇓iP	PKPdf	20 33 54.8	-1.4
LCO	Las Campanas	124.49 131	ePKPdf	PKPdf	20 33 56.9	+0.7
CLL	Collm	124.50 332	ePdiff	Pdif	20 30 32.3	-0.9
CLL			esPdiff		20 32 36.6	
CLL			ePKPdf	PKPdf	20 33 55.8	-0.4
	comp=Z,128nm,1.0s					
CLL			epPKPdf	pPKPdf	20 35 23.2	-4.8
CLL			ePP	PP	20 35 48.8	+0.8
CLL			eSKPdf	SKPdf	20 36 58.5	+3.2
CLL			ePKKPbc	PKKPbc	20 43 41.3	+1.1
	comp=Z,21nm,1.2s					
CLL			ePS	PS	20 45 52.8	+0.5
CLL			ePPS		20 47 31.2	
CLL			eSS	SS	20 52 18.1	+7.4
CLL			esSS		20 54 37.8	
CLL			e(SSS)		20 57 00.5	
CLL			eL		21 31 14.2	
	comp=Z,519nm,20.0s					
CLL	Collm	124.50 332	⇓eP	Pdif	20 30 32.0	-1.2
CLL			i		20 33 56.1	
CLL	Collm	124.50 332	ePdif	Pdif	20 30 32.0	-1.2
CLL			⇓iPKP	PKPdf	20 33 56.1	-0.1
CLL			epPKP	pPKPdf	20 35 23.0	-5.0
CLL			i SKP		20 36 58.3	
CLL			i PKKP	PKKPbc	20 43 41.4	+1.2
CLL	Collm	124.50 332	ePdif	Pdif	20 30 32.0	-1.2
CLL			⇓iPKPdf	PKPdf	20 33 56.1	-0.1
	comp=Z,128nm,1.0s					
CLL			epPKPdf	pPKPdf	20 35 23.0	-5.0
CLL			ePP	PP	20 35 47.0	-1.0
	comp=Z,600nm,10.7s					
CLL			i SKPdf	SKPdf	20 36 58.3	+3.0
	comp=Z,35nm,1.4s					
CLL			i PKKPbc	PKKPbc	20 43 41.4	+1.2
	comp=Z,20nm,1.1s					
CLL			eSS	SS	20 52 17.0	+6.3
GRUS	Gruza	124.51 321	⇓iPKP	PKPdf	20 33 56.2	0.0
TREC	Trest	124.54 329	ePKPdf	PKPdf	20 33 56.2	-0.1
TREC			ePP	PP	20 35 37.9	-10
PKSM	Moragy	124.57 324	⇓ePKIKP	PKPdf	20 33 56.2	-0.2
STIP	Stip	124.58 318	i P	PKPdf	20 33 55.5	-0.9
STIP	Stip	124.58 318	i P	PKPdf	20 33 55.5	-0.9
FBE	Freiberg	124.58 331	ePKPdf	PKPdf	20 33 56.3	-0.1
PRU	Pruhonice	124.60 330	ePKPdf	PKPdf	20 33 56.1	-0.3
PRU			ePP	PP	20 35 42.8	-5.9
NPS	Neapolis	124.63 309	eP	PKPdf	20 33 57.1	+0.6
NPS	Neapolis	124.63 309	P	PKPdf	20 33 57.8	+1.3
GRQ	Griva	124.76 317	eP	PKPdf	20 33 56.1	-0.6
TRQA	Tornquist	124.78 145	ePKPdf	PKPdf	20 33 56.9	+0.1
MLA1	Latheron	124.85 346	eP	PKPdf	20 33 55.9	-1.0
DIVS	Divcibare	124.86 321	⇓iPKP	PKPdf	20 33 57.4	+0.5
DIVS	Divcibare	124.86 321	eP	PKPdf	20 33 57.1	+0.1
CFAA	Coronel Fontan	124.88 135	PKKPbc	PKKPbc	20 43 38.7	-0.1
	comp=Z,0.8nm,0.8s,baz=51,slow=4.3,SNR=7.3					
XOR	Xorichti	124.89 315	eP	PKPdf	20 33 56.4	-0.6
NEO	Neokhori	124.89 315	eP	PKPdf	20 33 56.0	-1.0
NEO	Neokhori	124.89 315	P	PKPdf	20 33 57.5	+0.5
PTL	Penteli	124.93 313	eP	PKPdf	20 33 56.0	-1.0
SOP	Sopron	124.93 326	⇓ePKIKP	PKPdf	20 33 56.9	-0.2
SOP	Sopron	124.93 326	⇓ePKP	PKPdf	20 33 56.9	-0.2
SKO	Skopje	124.95 318	eP	PKPdf	20 33 57.6	+0.5
RHK3	Tenkes	124.98 324	⇑eP	PKPdf	20 33 57.3	+0.2
NRDL	Niedersach Rie	125.00 334	ePKPdf	PKPdf	20 33 57.4	+0.2
ATH	Athens Observa	125.06 313	eP	PKPdf	20 33 56.5	-0.8
KVR	Kavouri	125.08 313	eP	PKPdf	20 33 56.0	-1.3
CONA	Conrad Observa	125.17 327	i PKiKP	PKiKP	20 33 57.6	-0.3
	comp=Z,42nm,0.9s,SNR=26					
IDI	Anoyia	125.17 310	P	PKPdf	20 33 58.6	+1.1
RSC	Scourie	125.23 347	ePKPdf	PKPdf	20 33 57.0	-0.6
LKR	Lokris	125.31 314	eP	PKPdf	20 33 56.5	-1.3
LKR	Lokris	125.31 314	P	PKPdf	20 33 57.7	-0.1
NAIG	Nisos Aigina	125.31 313	eP	PKPdf	20 33 56.0	-1.8
SIVA	Sivas	125.33 309	eP	PKPdf	20 33 58.8	+1.0
BBLS	Bajina Basta -	125.34 321	⇓iPKP	PKPdf	20 33 59.9	+2.0
CLZ	Clausthal	125.34 334	ePKPdf	PKPdf	20 33 57.8	0.0
CLZ			eSKPdf	SKPdf	20 36 59.9	+3.0
TANN	Tannenbergstha	125.34 331	ePKPdf	PKPdf	20 33 57.3	-0.5
KRUS	Krusevo	125.35 318	i P	PKPdf	20 33 57.8	-0.1
KRUS	Krusevo	125.35 318	i P	PKPdf	20 33 57.8	-0.1
MVH1	Achvaich	125.39 346	⇑eP	PKPdf	20 33 56.9	-1.0
MGER	Gerania Oros	125.39 313	eP	PKPdf	20 33 57.0	-0.9
WERD	Werda	125.40 331	ePKPdf	PKPdf	20 33 57.4	-0.5
GUNZ	Gunzen	125.44 331	ePKPdf	PKPdf	20 33 58.2	+0.2
BIA	Bitola	125.46 317	i P	PKPdf	20 33 57.1	-0.9
BIA	Bitola	125.46 317	i P	PKPdf	20 33 57.1	-0.9
REB	Eisghbrachaidh	125.46 347	eP	PKPdf	20 33 57.2	-0.9
MCD	Coleburn Disti	125.47 345	eP	PKPdf	20 33 57.2	-0.9
WERN	Wernitzgruen	125.47 331	ePKPdf	PKPdf	20 33 57.9	-0.2
KZN	Kozani	125.48 316	eP	PKPdf	20 33 57.5	-0.6
IVA	Berane	125.53 320	⇓iPKP	PKPdf	20 33 58.1	-0.1
MOX	Moxa	125.59 332	ePKPdf	PKPdf	20 33 58.1	-0.2
MOX	Moxa	125.59 332	ePKP	PKPdf	20 33 58.5	+0.2
	comp=Z,68nm,1.2s					
MOX			e		20 35 42.8	
MOX						
	comp=Z,200nm,21.0s					
MOX	Moxa	125.59 332	ePKIKP	PKPdf	20 33 58.5	+0.2
MOX			pmax	pmax		
	comp=Z,31nm,1.2s					
MOX			MLR	MLR		
	comp=Z,68µm,21.0s					
MOX	Moxa	125.59 332	ePKP	PKPdf	20 33 58.5	+0.2
MOX			ePP	PP	20 35 42.8	-12
MOX			ePKS		20 37 54.0	
MOX			eSS	SS	20 52 35.0	+11
PVY	Plav	125.61 320	⇓iPKP	PKPdf	20 33 57.6	-0.8
PLE	Pljevlja	125.62 321	⇓iPKP	PKPdf	20 33 58.8	+0.4
KHC	Kasperske Hory	125.63 329	ePKPdf	PKPdf	20 33 58.4	0.0
KHC			x	x	20 34 04.5	
KHC			ePKKP		20 43 36.5	
KHC	Kasperske Hory	125.63 329	ePKP	PKPdf	20 33 58.4	0.0
KHC			e		20 34 04.5	
KHC			e		20 43 36.5	
THL	Klokotos Trika	125.63 315	eP	PKPdf	20 33 57.0	-1.4
MME1	Meikle Cairn	125.63 345	eP	PKPdf	20 33 57.0	-1.4
AGG	Agios Georgios	125.64 315	eP	PKPdf	20 33 58.0	-0.4
VAM	Vamos	125.66 310	eP	PKPdf	20 33 59.0	+0.6
VAM	Vamos	125.66 310	P	PKPdf	20 34 00.2	+1.8
GTTG	Gvttingen	125.73 333	ePKPdf	PKPdf	20 33 58.8	+0.2
GTTG			eSKPdf	SKPdf	20 37 01.6	+3.9
GEC2	GERESS Array S	125.74 329	ePKPdf	PKPdf	20 33 58.1	-0.5
GERES	GERESS Array B	125.74 329	PKP	PKPdf	20 33 57.9	-0.7
	comp=Z,66nm,0.8s,baz=64,slow=1.4,SNR=183					
GERES			PKKPbc		20 43 35.9	
	comp=Z,2.2nm,0.9s,baz=205,slow=2.8,SNR=9.4					
GERES			PKKP		20 44 17.5	
	comp=Z,1.0nm,0.6s,baz=143,slow=0.7,SNR=4.6					
ATAH	Atahualpa	125.75 103	PKP	PKPdf	20 34 00.8	+2.2
	comp=Z,45nm,0.8s,baz=253,slow=2.5,SNR=24					
ARSA	Arzberg	125.75 327	i P	PKPdf	20 33 58.6	0.0
	comp=Z,185nm,2.5s,SNR=16					
OHR	Ohrid	125.77 318	eP	PKPdf	20 33 57.7	-1.0
OHR	Ohrid	125.77 318	i P	PKPdf	20 33 57.6	-1.1
OHR	Ohrid	125.77 318	i P	PKPdf	20 33 57.6	-1.1
MANZ	Manzenberg	125.80 331	ePKPdf	PKPdf	20 33 58.9	+0.2
KOGS	Kog	125.82 325	ePKPdf	PKPdf	20 33 58.0	-0.7
KOGS			ePP	PP	20 35 55.3	-1.5
RRR	Rubha Reidh	125.82 347	eP	PKPdf	20 33 57.6	-1.2
MDO	Dochfour	125.86 346	eP	PKPdf	20 33 57.4	-1.4
KARN	Karanos	125.88 310	eP	PKPdf	20 33 59.5	+0.6
ROTZ	Rotzenmuhle	125.90 331	ePKPdf	PKPdf	20 33 58.7	-0.2
WET	Wettzell	125.97 330	ePKPdf	PKPdf	20 33 58.5	-0.5
UPM	Unac-Piva	125.99 321	⇓iPKP	PKPdf	20 33 59.0	-0.1
NNA	Nana	126.02 109	PKP	PKPdf	20 34 00.2	+1.0
	comp=Z,42nm,1.0s,baz=272,slow=4.8,SNR=13					
NNA	Nana	126.02 109	ePKPdf	PKPdf	20 34 00.8	+1.7
KAC	Achnashellach	126.03 347	eP	PKPdf	20 33 58.6	-0.6
EVR	Evrytania	126.05 315	eP	PKPdf	20 33 59.0	-0.2
EVR	Evrytania	126.05 315	P	PKPdf	20 34 00.8	+1.6
MOA	Molln	126.07 326	⇓iP	PKPdf	20 33 58.4	-0.8
	comp=Z,258nm,2.6s,SNR=11					
MEV	Metsovon	126.08 316	eP	PKPdf	20 33 59.9	+0.6
VLI	Veliai	126.12 312	eP	PKPdf	20 34 00.0	+0.7
NKY	Niksic	126.13 320	⇓iPKP	PKPdf	20 33 59.2	-0.2
TTG	Podgorica	126.15 320	⇓iPKP	PKPdf	20 33 58.8	-0.6
WIT	Witteveen	126.19 336	ePKP	PKPdf	20 33 59.7	+0.3
KYTH	Kithira	126.22 311	eP	PKPdf	20 33 58.0	-1.5
UBBA	Unterbreizbach	126.22 333	ePKPdf	PKPdf	20 33 59.0	-0.5
KPL	Plockton	126.26 347	eP	PKPdf	20 33 59.5	-0.1
KSB	Sheil Bridge	126.32 347	eP	PKPdf	20 33 58.5	-1.2
PERS	Pernice	126.34 326	i PKPdf	PKPdf	20 33 59.3	-0.4
BRY	Bratogost	126.37 321	⇓iPKP	PKPdf	20 33 59.6	-0.2
ULC	Ulcinj	126.39 319	⇓iPKP	PKPdf	20 33 59.8	-0.1
JAN	Janina	126.40 316	eP	PKPdf	20 34 00.5	+0.6
GRA1	Grafenberg Arr	126.42 331	ePKPdf	PKPdf	20 33 59.9	0.0
GRA1			ePP	PP	20 35 58.9	-1.8
GRA1			eSKPdf	SKPdf	20 37 02.5	+3.5
GRA1			eSS	SS	20 52 41.4	+6.8
GRF	Grafenberg Arr	126.42 331	ePKPdf	PKPdf	20 33 59.9	0.0
GRF			ePP	PP	20 35 58.9	-1.8
GRF			eSKPdf	SKPdf	20 37 02.5	+3.5
GRF			eSS	SS	20 52 41.4	+6.8
GRF	Grafenberg Arr	126.42 331	ePKIKP	PKPdf	20 33 59.9	0.0
GRF			e		20 35 58.9	
GRF			eSS	SS	20 52 41.4	+6.8
GRF	Grafenberg Arr	126.42 331	ePKIKP	PKPdf	20 33 59.9	0.0
GRF			e		20 35 58.9	
GRF			eSS	SS	20 52 41.4	+6.8
GRFO	Grafenberg	126.42 331	P	Pdif	20 30 42.1	+0.3
BUM	Brajici-Budva	126.45 320	⇓iPKP	PKPdf	20 33 59.5	-0.4
CRES	Cresnjev	126.63 325	ePKPdf	PKPdf	20 34 00.3	0.0
HCY	Herceg Novi	126.63 320	⇓iPKP	PKPdf	20 33 59.7	-0.6
RLS	Riolos of Patr	126.66 314	eP	PKPdf	20 34 00.5	+0.2
RLS	Riolos of Patr	126.66 314	P	PKPdf	20 34 01.9	+1.6
KAR1	Arisaig	126.68 347	eP	PKPdf	20 33 59.9	-0.5
ITM	Ithomi	126.69 313	eP	PKPdf	20 34 00.5	+0.1
ITM	Ithomi	126.69 313	P	PKPdf	20 34 01.0	+0.6
OBKA	Obir	126.73 326	⇓iP	PKPdf	20 33 60.0	-0.5
	comp=Z,111nm,1.7s,SNR=9.2					
ESY	Stoneypath	126.77 344	eP	PKPdf	20 33 59.7	-0.8
WTSB	Winterswijk	126.78 336	ePKP	PKPdf	20 34 00.7	+0.1
	comp=Z,157nm,1.3s					
IGT	Igoumenitsa	126.81 316	eP	PKPdf	20 34 00.1	-0.5
EDI	Edinburgh	126.92 344	eP	PKPdf	20 34 00.5	-0.3
BOJS	Bojanci	126.93 325	ePKPdf	PKPdf	20 34 01.0	+0.1
LKD	Levkas	126.96 315	eP	PKPdf	20 34 00.8	-0.1
BUG	Bochum--Univer	126.97 335	ePKPdf	PKPdf	20 34 01.0	0.0
EAB	Aberfoyle	126.98 345	eP	PKPdf	20 34 00.2	-0.8
EBL	Broad Law	127.01 344	eP	PKPdf	20 34 00.4	-0.7
LJU	Ljubljana	127.02 326	i PKPdf	PKPdf	20 34 01.2	+0.2
KBA	Koelnbreinsper	127.04 327	⇓iP	PKPdf	20 34 00.4	-0.6
	comp=Z,122nm,1.5s,SNR=19					
XSO	Sourhope Farm	127.04 344	eP	PKPdf	20 34 00.6	-0.5
EAU	Auchinoon	127.06 345	eP	PKPdf	20 34 00.0	-1.1
KEK	Kerkira	127.09 317	eP	PKPdf	20 34 01.0	-0.2
TNS	Taunus Mts	127.34 333	ePKPdf	PKPdf	20 34 01.7	0.0
CADS	Cadrg	127.35 326	ePKPdf	PKPdf	20 34 00.9	-0.8
PGBU	Glenifferbraes	127.36 345	eP	PKPdf	20 34 01.1	-0.6
VOY	Vojsko	127.38 326	ePKPdf	PKPdf	20 34 01.4	-0.3
VOY			e		20 34 13.3	
VOY			e		20 34 23.8	
FUR	Furstenfeldbru	127.41 330	ePKPdf	PKPdf	20 34 02.0	+0.2
EKA	Eskdalemuir Ar	127.43 344	PKP	PKPdf	20 34 00.3	-1.5
	comp=Z,28nm,0.7s,baz=8.8,slow=1.7,SNR=26					
EKA			SKPbc		20 36 45.3	
	comp=Z,4.0nm,0.6s,baz=5.9,slow=1.7,SNR=5.7					
EKA			PKKPbc		20 43 28.1	
	comp=Z,4.1nm,0.9s,baz=219,slow=3.9,SNR=7.0					
EKA			SKKPbc		20 46 40.7	
	comp=Z,1.5nm,0.7s,baz=180,slow=2.3,SNR=4.5					
PTCC	Patocco-Chiusa	127.45 327	PKP	PKPdf	20 34 01.5	-0.4
ESK	Eskdalemuir	127.46 344	eP	PKPdf	20 34 01.3	-0.6
ESK	Eskdalemuir	127.46 344	ePKPdf	PKPdf	20 34 01.6	-0.3
XAL	Allendale	127.58 343	eP	PKPdf	20 34 01.6	-0.5
GMNA	Gemona	127.60 327	PKP	PKPdf	20 34 02.0	-0.1
ABTA	Abfaltersbach	127.69 328	⇑iPKPdf	PKPdf	20 34 01.1	-1.2
	comp=Z,157nm,1.9s					
NVLJ	Novaljа	127.70 324	i P	PKPdf	20 34 00.9	-1.5
WATA	Walderalm	127.81 329	⇑iP	PKPdf	20 34 02.3	-0.3
	comp=Z,90nm,1.1s,SNR=30					
WTTA	Wattenberg	127.82 329	⇓iP	PKPdf	20 34 02.2	-0.4
	comp=Z,262nm,1.3s,SNR=35					
STU	Stuttgart	128.02 331	ePKPdf	PKPdf	20 34 03.1	+0.1
STU			eSKPdf	SKPdf	20 37 05.3	+3.3
HGN	Heimansgroeve	128.04 335	ePKP	PKPdf	20 34 02.2	-0.8
	comp=Z,51nm,1.1s					
MOTA	Moosalm	128.04 329	⇑iP	PKPdf	20 34 02.8	-0.2
	comp=Z,108nm,1.0s,SNR=39					
GMK	Mull of Kintyr	128.05 346	⇑eP	PKPdf	20 34 02.9	-0.1
SQTA	Sankt Quirin	128.07 329	⇓iP	PKPdf	20 34 03.2	+0.2
	comp=Z,99nm,1.0s,SNR=30					
CKE	Keswick	128.07 344	eP	PKPdf	20 34 02.2	-0.9
BEBN	Eben Emael	128.12 335	PKP	PKPdf	20 34 03.4	+0.2
RETA	Reutte	128.12 329	⇑iPKiKP	PKiKP	20 34 02.8	-1.0
	comp=Z,257nm,2.6s					
MEM	Membach	128.12 335	PKP	PKPdf	20 34 03.3	+0.2
ABA1	Baconsthorpe	128.19 340	eP	PKPdf	20 34 03.2	0.0
GAL1	Galloway	128.26 345	⇑eP	PKPdf	20 34 03.2	-0.2
GAL1			eP		20 34 03.2	
GCL	Cushendall	128.43 346	⇑eP	PKPdf	20 34 03.8	+0.1
FETA	Feichten	128.45 329	⇑iPKiKP	PKiKP	20 34 03.5	-0.9
	comp=Z,140nm,1.1s					
APPI	Appiano	128.54 328	PKP	PKPdf	20 34 02.5	-1.4
BCLA	Clavier	128.56 335	PKP	PKPdf	20 34 04.1	+0.1
CTI	Castel Tesino	128.60 327	PKIKP	PKPdf	20 34 04.5	+0.5
LHO	Holmfirth	128.61 342	⇑eP	PKPdf	20 34 03.4	-0.7
UCC	Uccle	128.66 336	PKP	PKPdf	20 34 04.0	-0.2
DAVA	Damuels	128.70 330	⇓iP	PKPdf	20 34 04.3	+0.1
	comp=Z,100nm,1.1s,SNR=16					
BFO	Black Forest	128.74 332	ePKPdf	PKPdf	20 34 04.1	-0.2
WLF	Walferdange	128.77 334	ePKPdf	PKPdf	20 34 04.7	+0.3
WLF	Walferdange	128.77 334	PKP	PKPdf	20 34 05.0	+0.6
WIM	Isle of Man	128.89 344	⇑eP	PKPdf	20 34 04.0	-0.6
SNF	Seneffe	128.91 336	PKP	PKPdf	20 34 04.5	-0.1
GIVF	Givet	129.00 335	ePKIKP	PKPdf	20 34 04.4	-0.4
	comp=Z,271nm,1.1s					
KWE	Weaver Farm	129.06 342	eP	PKPdf	20 34 04.6	-0.3
DOU	Dourbes	129.10 335	PKP	PKPdf	20 34 05.3	+0.3
CDF	Champ du Feu	129.18 332	ePKIKP	PKPdf	20 34 05.0	-0.2
	comp=Z,100nm,1.0s					
MABI	Malga Bissina	129.20 328	PKP	PKPdf	20 34 05.4	+0.2
FELD	Feldberg im Sc	129.22 331	⇑eP	PKPdf	20 34 05.6	+0.4
BAIF	Baives	129.29 336	ePKIKP	PKPdf	20 34 04.9	-0.5
	comp=Z,50nm,0.7s					
FG5	Orsara di Pugl	129.30 320	PKIKP	PKPdf	20 34 05.3	-0.1
ECH	Echery	129.37 332	PKP		20 33 59.0	
CING	Cingoli	129.38 324	PKP	PKPdf	20 34 06.1	+0.6
TIP	Timpagrande	129.42 317	PKP	PKPdf	20 34 05.8	+0.2
ARE	Arequipa	129.47 117	ePKIKP	PKPdf	20 34 08.0	+2.3
TUE	Stuetta	129.52 329	PKP	PKPdf	20 34 06.1	+0.3
WCB1	Church Bay	129.54 344	⇑eP	PKPdf	20 34 05.5	-0.3
SBD1	Bryn Du	129.59 343	eP	PKPdf	20 34 06.1	+0.1
MOF	Molkenrain	129.65 332	PKP		20 33 59.2	
YRC	Rhoscolyn	129.66 344	⇑eP	PKPdf	20 34 05.0	-1.0
MENF	Mencas	129.72 337	PKP		20 34 00.3	
MIDA	Miranda	129.73 321	PKP	PKPdf	20 34 06.0	-0.2
HINF	Hinteralfeld	129.80 332	ePKIKP	PKPdf	20 34 06.1	-0.2
	comp=Z,274nm,1.1s					
HLM1	Long Mynd	129.81 342	eP	PKPdf	20 34 05.7	-0.7
MURB	Monte Urbino	129.83 324	PKP	PKPdf	20 34 06.9	+0.5
AQU	L'Aquila	129.85 323	PKIKP	PKPdf	20 34 07.1	+0.7
YRE	Yr Eifl	129.86 344	⇑eP	PKPdf	20 34 06.7	+0.2
HAU	Haudompre	129.90 332	ePKIKP	PKPdf	20 34 06.2	-0.3
	comp=Z,149nm,0.8s					
HAU			eMLR			
	comp=Z,346nm,19.2s					
HAU	Haudompre	129.90 332	ePKPdf	PKPdf	20 34 06.2	-0.3
HAU			LR	LR		
	comp=Z,350nm,19.3s					
THEF	They Montfort	129.90 333	PKP		20 33 59.0	
SSW	Stow on the Wo	129.96 341	⇑eP	PKPdf	20 34 07.2	+0.5
FNVD	Fontana Vidola	130.08 326	PKP	PKPdf	20 34 07.7	+0.8
MEZF	Maizieres J'vi	130.12 334	ePKIKP	PKPdf	20 34 06.6	-0.3
	comp=Z,145nm,0.7s					
LOMF	Lomont	130.15 332	PKP		20 33 59.2	
MCH1	Michaelchurch	130.30 342	⇑eP	PKPdf	20 34 07.9	+0.6
MCH1			eP		20 34 07.9	
SWN1	Swindon	130.34 341	eP	PKPdf	20 34 06.8	-0.6
CERT	Cerreto	130.34 322	PKP	PKPdf	20 34 07.0	-0.4
SOI	Samo	130.44 316	PKIKP	PKPdf	20 34 08.3	+0.7
VLC	Villacollemand	130.49 326	PKP	PKPdf	20 34 07.6	0.0
HGH	Gray Hill	130.55 342	eP	PKPdf	20 34 07.8	0.0
BOB	Bobbio (Coli)	130.61 327	PKIKP	PKPdf	20 34 08.9	+1.0
TSUM	Tsumeb	130.81 239	ePKPdf	PKPdf	20 34 09.4	+1.2
TOLF	Tolfa	130.86 323	PKP	PKPdf	20 34 08.3	0.0
OG01	Vacheresse	130.95 331	PKP		20 34 01.4	
CABF	La Chapelle	131.03 331	ePKIKP	PKPdf	20 34 08.4	-0.3
	comp=Z,122nm,0.7s					
MAON	Monte Argentar	131.16 324	PKP	PKPdf	20 34 08.9	0.0
ROSC	El Rosal	131.43 89	PKP	PKPdf	20 34 11.3	+1.9
	comp=Z,24nm,0.5s,baz=84,slow=17,SNR=11					
ROSC			SKPbc	SKPbc	20 37 02.8	+3.8
	comp=Z,45nm,0.8s,baz=105,slow=16,SNR=15					
ROSC	El Rosal	131.43 89	ePKPdf	PKPdf	20 34 08.9	-0.5
LPL	La Plagne	131.50 330	ePKIKP	PKPdf	20 34 09.5	-0.1
	comp=Z,76nm,0.8s					
LPG	La Plagne	131.50 330	ePKIKP	PKPdf	20 34 09.6	0.0
	comp=Z,110nm,0.9s					
LOR	Lormes	131.57 333	ePKIKP	PKPdf	20 34 09.4	-0.3
	comp=Z,71nm,0.6s					
LOR			eMLR			
	comp=Z,437nm,22.2s					
LOR	Lormes	131.57 333	ePKPdf	PKPdf	20 34 09.4	-0.3
LOR			LR	LR		
	comp=Z,440nm,22.3s					
OG05	Jujurieux	131.75 331	PKP		20 34 01.8	
BNI	Bardonecchia	131.85 330	PKIKP	PKPdf	20 34 10.3	+0.1
SSF	Saint Sauige	131.89 334	ePKIKP	PKPdf	20 34 10.0	-0.3
	comp=Z,207nm,1.0s					
DOI	San Damiano	131.95 329	PKIKP	PKPdf	20 34 09.2	-1.2
DYA	Yadsworthy	131.95 342	eP	PKPdf	20 34 10.5	+0.1
MBDF	Montbardon	132.04 329	ePKIKP	PKPdf	20 34 10.1	-0.5
	comp=Z,36nm,0.6s					
SMF	Signal de Mont	132.05 333	ePKIKP	PKPdf	20 34 10.3	-0.3
	comp=Z,273nm,1.1s					
HYF	Humbligny	132.11 334	ePKIKP	PKPdf	20 34 10.4	-0.3
SAOF	Saorge	132.14 328	PKP		20 34 00.3	
AVF	Avril sur Loir	132.16 333	ePKIKP	PKPdf	20 34 10.4	-0.4
	comp=Z,48nm,0.8s					
FLN	La Foliniere	132.18 338	ePKIKP	PKPdf	20 34 10.3	-0.5
	comp=Z,277nm,1.1s					
FLN			eMLR			
	comp=Z,341nm,22.8s					
FLN	La Foliniere	132.18 338	ePKPdf	PKPdf	20 34 10.3	-0.5
FLN			LR	LR		
	comp=Z,340nm,22.8s					
LDF	La Druitiere	132.18 337	ePKIKP	PKPdf	20 34 10.0	-0.8
	comp=Z,135nm,1.1s					
AUTN	L'Aution	132.20 328	PKP		20 34 01.3	
VAL	Valentia	132.28 347	⇓iP	PKPdf	20 34 10.9	-0.1
TOUF	Mont Tournerai	132.28 328	PKP		20 34 02.1	
SBF	Sospel	132.29 328	ePKIKP	PKPdf	20 34 10.5	-0.5
	comp=Z,252nm,1.1s					
PGF	Pioggiola	132.30 325	ePKIKP	PKPdf	20 34 10.8	-0.3
	comp=Z,27nm,0.9s					
ORIF	Oris-en-Rattie	132.35 330	ePKIKP	PKPdf	20 34 10.3	-0.9
	comp=Z,123nm,0.7s					
ORIF			eMLR			
	comp=Z,661nm,22.5s					
REVF	Revere	132.41 328	PKP		20 34 01.3	
MVIF	Mont Vial	132.41 328	PKP		20 34 01.6	
LPAZ	La Paz	132.50 118	PKhKP		20 34 02.6	
	comp=Z,4.3nm,0.8s,baz=73,slow=1.4,SNR=6.0					
LPAZ			PKP	PKPdf	20 34 12.8	+1.4
	comp=Z,58nm,1.2s,baz=295,slow=0.8,SNR=28					
LPAZ			SKPbc	SKPbc	20 37 07.1	+4.5
	comp=Z,51nm,1.1s,baz=266,slow=4.3,SNR=15					
LPAZ			SKP		20 37 12.6	
	comp=Z,19nm,0.9s,baz=25,slow=10.0,SNR=5.4					
LPAZ	La Paz	132.50 118	PKP	PKPdf	20 34 12.8	+1.4
LPAZ			SKPbc	SKPbc	20 37 07.1	+4.5
LPAZ			SKP		20 37 12.6	
BGF	Bois d'Agland	132.57 334	ePKIKP	PKPdf	20 34 11.3	-0.3
	comp=Z,157nm,1.0s					
CCA1	Carnmenellis	132.57 342	⇑eP	PKPdf

SIV			SKPbc	SKPbc	20 37 24.3	+2.6	
comp=Z,118nm,1.1s,baz=239,slow=3.1,SNR=39							
SIV	**San Ignacio**	**138.71 122**	PKP	PKPdf	20 34 23.8	+0.8	
SIV			SKPbc	SKPbc	20 37 24.3	+2.6	
EMHD	**Djebel Mahouad**	**140.01 323**	P	PKPdf	20 34 18.6	-6.7	
STS	**Santiago**	**140.10 340**	PKIKP	PKPdf	20 34 21.3	-4.2	
ECAL	**Calabor**	**140.29 338**	PKP	PKPdf	20 34 22.0	-3.8	
PBRG	**Braganca**	**140.41 338**	*e*PKP	PKPdf	20 34 21.6	-4.5	
EBNR	**Beni Rached**	**140.78 324**	P		20 34 18.0		
ELOB	**Lobios**	**140.84 339**	PKP	PKPdf	20 34 22.7	-4.1	
PCAB	**Cabril**	**140.97 339**	*e*PKP	PKPdf	20 34 21.8	-5.3	
PCAB	**Cabril**	**140.97 339**	*i* PKiKP	PKiKP	20 34 28.4	-1.5	
ECHA	**Ech Chlef**	**140.97 324**	P	PKPdf	20 34 20.8	-6.3	
ESDC	**Sonseca Array**	**141.05 333**	PKhKP		20 34 22.4		
comp=Z,1.0nm,0.4s,baz=28,slow=2.3,SNR=25							
ESDC			PKP	PKPdf	20 34 29.5	+2.3	
comp=Z,3.7nm,0.4s,baz=2.8,slow=2.4,SNR=17							
ESDC			SKP		20 37 26.0		
comp=Z,32nm,1.0s,baz=51,slow=2.6,SNR=8.7							
ESDC			SKPbc	SKPbc	20 37 29.4	+1.4	
comp=Z,15nm,0.8s,baz=38,slow=4.1,SNR=8.3							
ESDC			SKKPbc		20 45 56.3		
comp=Z,6.2nm,1.0s,baz=224,slow=4.3,SNR=11							
ESDC	**Sonseca Array**	**141.05 333**	PKP		20 34 22.4		
ESDC			PKP	PKPdf	20 34 29.5	+2.3	
ESDC			SKP		20 37 26.0		
ESDC			SKPbc	SKPbc	20 37 29.4	+1.4	
ESDC			SKKPbc		20 45 56.3		
ESLA	**Sonseca Array**	**141.05 333**	*e*PKPpre		20 34 21.4		
PCRV	**Puerto La Cruz**	**141.06 81**	PKhKP		20 34 21.6		
comp=Z,8.3nm,0.4s,baz=204,slow=2.5,SNR=6.2							
PCRV			PKP	PKPdf	20 34 28.9	+1.7	
comp=Z,20nm,0.8s,baz=300,slow=8.5,SNR=3.1							
PCRV	**Puerto La Cruz**	**141.06 81**	PKP	PKPdf	20 34 28.9	+1.7	
EMUR	**La Murta**	**141.17 329**	PKP	PKPdf	20 34 23.5	-4.0	
PVRL	**Vila Real**	**141.23 338**	*e*PKP	PKPdf	20 34 22.8	-4.7	
PVRL	**Vila Real**	**141.23 338**	*i* PKiKP	PKiKP	20 34 29.1	-1.3	
EANR	**'Ain N'Sour**	**141.27 324**	P		20 34 20.0		
PAB	**San Pablo**	**141.33 333**	*e*PKHKP		20 34 22.8		
ETRT	**Tiaret**	**141.54 324**	P	PKPdf	20 34 23.2	-4.9	
PVIS	**Viseu**	**141.79 338**	*e*PKP	PKPdf	20 34 24.2	-4.3	
PVIS	**Viseu**	**141.79 338**	*i* PKiKP	PKiKP	20 34 29.4	-2.1	
EHUE	**Huescar**	**141.88 330**	PKHKP		20 34 24.3		
MTE	**Manteigas**	**141.93 338**	*e*PKP	PKPdf	20 34 25.3	-3.5	
EQES	**Quesada**	**142.13 330**	PKP	PKPdf	20 34 24.5	-4.6	
EBAN	**Banos Encina**	**142.19 332**	PKHKP		20 34 25.7		
ENIJ	**Nijar**	**142.34 329**	PKHKP		20 34 26.4		
PCBR	**Castelo Branco**	**142.39 337**	*e*PKP	PKPdf	20 34 26.6	-3.0	
EADA	**Adamuz**	**142.55 332**	PKP	PKPdf	20 34 25.6	-4.3	
EBER	**Berja**	**142.74 329**	PKP	PKPdf	20 34 26.2	-4.0	
ECOG	**Cogollos-Vega**	**142.78 330**	PKHKP		20 34 26.3		
ELUQ	**Luque**	**142.90 331**	PKIKP	PKPdf	20 34 27.8	-2.7	
ERON	**Agron**	**143.10 330**	PKP	PKPdf	20 34 27.5	-3.4	
EGUA	**Guajares**	**143.13 330**	PKHKP		20 34 27.6		
EBAD	**Badajoz**	**143.13 336**	PKP	PKPdf	20 34 28.2	-2.7	
ELOJ	**Sierra Loja**	**143.17 331**	PKHKP		20 34 27.0		
TBG	**Guadaloupe-3**	**143.21 71**	*e*P	PKPdf	20 34 37.4	+6.3	
PESTR	**Estremoz**	**143.27 336**	*e*PKP	PKPdf	20 34 29.2	-1.9	
ALMR	**Almeirim**	**143.41 338**	*e*P	PKPdf	20 34 30.1	-1.3	
MGG	**Marie-Galante**	**143.51 71**	*e*P	PKPdf	20 34 38.9	+7.3	
EALB	**Alboran**	**143.55 328**	PKP	PKPdf	20 34 28.9	-2.7	
DEG	**La Desirade**	**143.67 70**	*e*P	PKPdf	20 34 40.9	+9.1	
EMIN	**Mina Concepcio**	**143.82 334**	PKP	PKPdf	20 34 29.9	-2.2	
PMAFR	**Mafra**	**143.84 338**	*e*PKP	PKPdf	20 34 31.6	-0.6	
PLOU	**Loures**	**143.86 338**	*e*PKP	PKPdf	20 34 31.0	-1.2	
FDF	**Fort de France**	**143.90 73⇑**	*e*P	PKPdf	20 34 31.2	-1.0	
EMIJ	**Mijas**	**143.94 331**	PKP	PKPdf	20 34 28.7	-3.6	
LIS	**Lisbon**	**144.00 338**	*e*P	PKPdf	20 34 31.7	-0.7	
BIM	**Bigot**	**144.01 73⇑**	*e*P	PKPdf	20 34 32.7	+0.3	
PLML	**Palmela**	**144.05 338**	*e*PKP	PKPdf	20 34 29.4	-3.1	
PLML	**Palmela**	**144.05 338**	*e*PKiKP	PKiKP	20 34 35.2	-1.0	
PBEJ	**Beja**	**144.10 336**	*e*PKP	PKPdf	20 34 32.5	-0.1	
MVM	**Montagne Vaucl**	**144.17 73**	*e*P	PKPdf	20 34 32.0	-0.7	
ESPR	**Espera**	**144.20 332**	PKP	PKPdf	20 34 30.4	-2.3	
EJIF	**Jimena Fronter**	**144.36 332**	PKIKP	PKPdf	20 34 31.1	-1.9	
EGRO	**El Granado**	**144.36 335**	PKP	PKPdf	20 34 31.3	-1.8	
PTEO	**Sao Teotonio**	**144.86 336**	*e*PKP	PKPdf	20 34 35.3	+1.4	
PLUZ	**Luz**	**146.77 5**	*e*PKP	PKPbc	20 34 42.2	+2.7	
MDT	**Midelt**	**146.78 327**	PKPbc	PKPbc	20 34 38.5	-1.1	
comp=Z,160nm,1.0s,baz=74,slow=3.5,SNR=77							
STGR	**Santa Cruz**	**146.78 3**	*e*PKP	PKPbc	20 34 39.9	+0.3	
PVIA	**Vitoria**	**146.78 4**	*e*PKP	PKPbc	20 34 41.7	+2.1	
PBIS	**Biscoitos**	**147.13 2**	*e*PKP	PKPbc	20 34 41.2	+0.7	
PVNV	**Vila Nova**	**147.14 2**	*e*PKP	PKPbc	20 34 41.0	+0.5	
PAMA	**Santo Amaro**	**147.16 4**	*e*PKP	PKPbc	20 34 40.6	0.0	
ASBA	**Santa Barbara**	**147.17 3**	*e*PKP	PKPbc	20 34 43.1	+2.5	
PFAV	**Pico das Favas**	**147.19 2**	*e*PKP	PKPbc	20 34 40.9	+0.2	
PPAD	**Pico dos Padre**	**147.19 3**	*e*PKP	PKPbc	20 34 41.0	+0.3	
RIB2	**Ribeirinha**	**147.23 2**	*e*PKP	PKPbc	20 34 41.0	+0.2	
ADH	**Angra Heroismo**	**147.24 2**	*e*PKP	PKPbc	20 34 42.3	+1.5	
PTEI	**Pico do Teixo**	**147.34 4**	*e*PKP	PKPbc	20 34 42.7	+1.6	
PCND	**Candelaria**	**147.35 4**	*e*PKP	PKPbc	20 34 42.4	+1.3	
PBOI	**Pico dos Bois**	**147.39 4**	*e*PKP	PKPbc	20 34 43.2	+2.0	
CAM4	**Nova Friburgo**	**147.45 150⇑**	*i*P	PKPdf	20 34 39.9	+1.7	
CAM4			*i*		20 34 49.3		
CAM4			*i*		20 35 37.3		
PFAD	**Fenais da Ajud**	**148.09 360**	*e*PKP	PKPbc	20 34 48.8	+5.8	
PMAT	**Coroa da Mata**	**148.11 360**	*e*PKP	PKPbc	20 34 42.5	-0.6	
PVER	**Pico Vermelho**	**148.13 360**	*e*PKP	PKPbc	20 34 45.7	+2.5	
MESC	**Monte Escuro**	**148.14 360**	*e*PKP	PKPbc	20 34 46.1	+2.9	
LFA	**Lagoa do Fogo**	**148.16 360**	*e*PKP	PKPbc	20 34 45.8	+2.6	
CML	**Cha da Macela**	**148.16 0**	*e*PKP	PKPbc	20 34 45.1	+1.9	
PRCH	**Ribeira Ch**	**148.20 360**	*e*PKP	PKPbc	20 34 46.0	+2.7	
PSMN	**Pico do Norte,**	**148.92 359**	*e*PKP	PKPbc	20 34 46.6	+1.5	
CAM3	**Guarapari**	**149.83 151⇑**	*i*P	PKPdf	20 34 43.8	+1.7	
CAM3			*i*		20 34 48.4		
CAM3			*i*		20 34 53.4		
CAM3			*i*		20 36 19.6		
PMPS	**Porto Santo**	**151.54 344**	*e*PKP	PKPdf	20 34 45.5	+0.8	
PMPS	**Porto Santo**	**151.54 344**	*i* PKiKP	PKiKP	20 34 52.8	+1.2	
PMAR	**Madeira**	**152.01 344**	*e*PKP	PKPdf	20 34 47.8	+2.4	
PMAR	**Madeira**	**152.01 344**	*i* PKiKP	PKiKP	20 34 54.5	+1.9	
TORD	**Torodi Ar. Bea**	**152.18 287**	PKP	PKPdf	20 34 45.5	-0.2	
comp=Z,59nm,0.9s,baz=40,slow=1.6,SNR=198							
TORD			PKPbc	PKPbc	20 34 53.2	+0.5	
comp=Z,301nm,0.9s,baz=56,slow=2.0,SNR=584							
TORD			PKPab	PKPab	20 35 04.4	+0.3	
comp=Z,170nm,0.9s,baz=74,slow=3.2,SNR=14							
TORD			PP	PP	20 38 33.8	-4.1	
comp=Z,22nm,1.1s,baz=70,slow=4.9,SNR=3.6							
TORD	**Torodi Ar. Bea**	**152.18 287**	PKP	PKPdf	20 34 45.5	-0.2	
TORD			PKPbc	PKPbc	20 34 53.2	+0.5	
TORD			PKPab	PKPab	20 35 04.4	+0.3	
TORD			PP	PP	20 38 33.8	-4.1	
CFTV	**Fuerteventura**	**155.00 336**	PKP	PKPdf	20 34 50.3	+0.6	
EOSO	**Osorio**	**155.89 338**	PKP	PKPdf	20 34 51.8	+0.9	
EHIG	**Higuera**	**156.19 343**	PKP	PKPdf	20 34 52.6	+1.3	
EGOM	**La Gomera**	**156.38 341**	PKP	PKPdf	20 34 51.8	+0.3	
LIC	**Lamto**	**159.59 272**	*e*PKIKP	PKPdf	20 34 55.0	-0.4	
comp=Z,168nm,1.1s							
LIC			*e*MLR				
comp=Z,657nm,22.5s							
LIC	**Lamto**	**159.59 272**	*e*PKPdf	PKPdf	20 34 55.0	-0.4	
LIC			LR	LR			
comp=Z,330nm,22.5s							
ASCN	**Ascension**	**162.39 219**	*e*PKPdf	PKPdf	20 34 58.8	+0.4	

*IDC **27** 20:22:46.1±2.4, 3485N×2702E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/19, mbtmp3.2/4, ML3.4/3, Error ellipse: s-maj=37.3km s-min=24.5km az=144.0*
*ISCJB **27** 20:22:47.5±2.1, 352N±0.1×2700E±008, h7km±14km, mb3.6/1, Error ellipse: s-maj=21.7km s-min=5.7km az=127.0*
*CSEM **27** 20:22:50.1, 3542N×2686E, h20km, MD3.5/7, After ATH*
*ATH **27** 20:22:50.1, 3542N×2686E, h20km±3km, MD3.5/7*

ISC 27 20:22:46.6±1.9, 3509N±009×2699E±007, h0km±10km, n12, σ1§18/17, mb3.7/1, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.47**	**17**	⇓*i*PB	**Pg**	**20 22 55.6**	**-0.1**
KARP				*e*SB	**Sg**	**20 23 01.4**	**-0.4**
NPS	**Neapolis**	**1.14**	**279**	*e*PB	**Pb**	**20 23 08.7**	**-0.6**
NPS				*e*SN	**Sn**	**20 23 24.4**	**-1.8**
ARG	**Arkhangelos**	**1.45**	**39**	*e*PN	**Pn**	**20 23 14.7**	**+0.6**
ARG				*e*SN	**Sn**	**20 23 33.3**	**-0.5**
IDI	**Anoyia**	**1.73**	**277**	Pn	**Pn**	**20 23 18.7**	**+0.7**
8.8nm,0.3s,baz=101,slow=14,SNR=39							
IDI				Sn	**Sn**	**20 23 42.2**	**+1.4**
16nm,0.3s,baz=108,slow=20,SNR=8.1							
APE	**Apeiranthos**	**2.30**	**329**	*e*PN	**Pn**	**20 23 24.3**	**-1.5**
VAM	**Vamos**	**2.31**	**279**	*e*PN	**Pn**	**20 23 28.6**	**+2.7**
GVD	**Gavdhos**	**2.40**	**265**	*e*PB	**Pb**	**20 23 30.0**	**-0.7**
VLI	**Veliai**	**3.67**	**297**	*e*PN	**Pn**	**20 23 44.3**	**-0.3**
BRTR	**Keskin Array B**	**7.02**	**47**	Pn	**Pn**	**20 24 31.2**	**+0.6**
0.1nm,0.3s,baz=213,slow=12,SNR=3.8							
BRTR				Sn	**Sn**	**20 25 50.6**	**-0.6**
0.1nm,0.3s,baz=25,slow=30,SNR=2.6							
AKASG	**Malin Array Be**	**15.68**	**5**	Pn	**Pn**	**20 26 31.7**	**+2.8**
0.5nm,0.3s,baz=195,slow=11,SNR=3.7							
GERES	**GERESS Array B**	**16.89**	**328**	P	**Pn**	**20 26 45.8**	**+1.4**
0.1nm,0.3s,baz=128,slow=13,SNR=2.9							
TORD	**Torodi Ar. Bea**	**31.62**	**233**	P	**P**	**20 29 09.8**	**-1.4**
0.8nm,0.9s,mb3.7,baz=36,slow=8.9,SNR=4.1							

IDC 27 20:31:55.1±4.1, 1954S×17428W, h0km, mb4.1/3, mb1 4.3/4, mb1mx4.0/16, mbtmp4.2/4, ML2.5/1, Error ellipse: s-maj=157.2km s-min=31.1km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.09**	**24**	Pn	Pn	20 33 26.8	+0.5
6.4nm,0.3s,baz=99,slow=13,SNR=4.9							
STKA	**Stephens Creek**	**41.35**	**244**	P	P	20 39 42.4	-0.3
2.6nm,0.8s,baz=112,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**48.15**	**255**	P	P	20 40 38.0	+1.1
1.9nm,0.7s,baz=90,slow=7.6,SNR=16							
WRA	**Warramunga Arr**	**48.21**	**260**	P	P	20 40 37.3	0.0
2.7nm,1.0s,baz=97,slow=7.2,SNR=48							
AKASG	**Malin Array Be**	**143.76**	**335**	PKP	PKPdf	20 51 29.4	-2.8
0.3nm,0.4s,baz=42,slow=3.9,SNR=4.4							
BRTR	**Keskin Array B**	**148.69**	**316**	PKPbc	PKPbc	20 51 44.8	+0.5
1.9nm,1.1s,baz=45,slow=2.9,SNR=4.0							

IDC 27 20:49:57.1±2.0, 111N×9703E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=53.1km s-min=24.4km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.53**	**49**	Pn	Pn	20 50 39.5	+0.1
3.6nm,0.3s,baz=247,slow=5.2,SNR=10							
WRA	**Warramunga Arr**	**42.14**	**122**	P	P	20 57 51.0	-0.2
0.4nm,0.5s,baz=303,slow=9.0,SNR=6.1							
ASAR	**Alice Springs**	**43.48**	**127**	P	P	20 58 02.9	+0.8
0.2nm,0.5s,baz=300,slow=8.2,SNR=4.6							
SONM	**Songino Array**	**47.24**	**9**	P	P	20 58 31.4	-0.5
0.6nm,0.7s,baz=191,slow=9.4,SNR=6.2							
MKAR	**Makanchi Array**	**47.28**	**346**	P	P	20 58 32.6	+0.4
0.7nm,0.5s,baz=164,slow=9.0,SNR=12							

PRE 27 20:56:07.4±1.3, 2145S×3391E, h5km, ML4.8, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.72**	**255**	*e*P	Pn	20 57 06.5	+1.0
MSNA				*e*S	Sn	20 57 50.1	+0.4
MSNA				AML	AML	20 57 59.0	
comp=Z,775nm,0.5s							
KSR	**Koster**	**7.79**	**234**	*e*P	Pn	20 58 03.1	+1.8
KSR				*e*S	Sn	20 59 26.8	-3.0
KSR				AML	AML	21 00 19.8	
comp=Z,91nm,0.6s							
PRYS	**Parys**	**8.10**	**226**	*e*P	Pn	20 58 07.1	+1.5
PRYS				*e*S	Sn	20 59 33.7	-3.8
PRYS				AML	AML	21 00 35.4	
comp=Z,45nm,0.7s							
SEK	**Senekal**	**8.91**	**219**	*e*P	Pn	20 58 18.7	+1.9
SEK				*e*S	Sn	20 59 53.9	-3.7
SEK				AML	AML	21 01 02.9	
comp=Z,47nm,0.7s							
KSD	**Kokstad**	**9.92**	**203**	*e*P	Pn	20 58 32.1	+1.5
KSD				*e*S	Sn	21 00 16.9	-5.3
KSD				AML	AML	21 01 28.8	
comp=Z,22nm,0.8s							
BOSA	**Boshof**	**10.61**	**226**	*e*P	Pn	20 58 41.5	+1.5
BOSA				*e*S	Sn	21 00 34.6	-4.5
BOSA				AML	AML	21 01 46.0	
comp=Z,21nm,0.7s							
HVD	**Hendrik Verwoe**	**11.85**	**218**	*e*P	Pn	20 58 58.2	+1.3
HVD				*e*S	Sn	21 01 04.5	-5.0
HVD				AML	AML	21 02 35.6	
comp=Z,18nm,0.7s							
UPI	**Upington**	**13.39**	**237**	*e*P	Pn	20 59 19.2	+1.1
UPI				*e*S	Sn	21 01 40.0	-7.2
UPI				AML	AML	21 03 32.2	
comp=Z,14nm,0.7s							

CASC 27 21:21:47.1±3.2, 1374N×8990W, h72km±46km, MD3.6, 2C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.28**	**69**	⇓*i*P	x	21 22 00.3	
RTR	**El Retiro**	**0.29**	**57**	⇓*i*P	x	21 22 00.9	
RTR				*e*S	x	21 22 14.0	
SNJE	**San Jose**	**0.31**	**65**	⇓*i*P	x	21 22 00.7	
SNJE				*e*S	x	21 22 11.4	
RBDL	**Robledal**	**0.42**	**29**	⇓*i*P	x	21 22 03.9	
RBDL				*e*S	x	21 22 16.8	
BOQS	**Boqueron**	**0.60**	**90**	*e*P	x	21 22 01.8	
BOQS				*e*S	x	21 22 13.6	
SNET	**Serv Nac Est T**	**0.65**	**95**	*e*P	x	21 22 12.2	
SNET				*e*S	x	21 22 33.3	
LFU	**La Fuente**	**0.76**	**89**	*e*P	x	21 22 03.8	
LFRS	**El Faro**	**0.82**	**98**	*e*P	x	21 22 02.8	
LFRS				*e*S	x	21 22 14.6	
LBRS	**Las Brisas**	**0.83**	**90**	*e*P	x	21 22 04.5	
LBRS				*e*S	x	21 22 18.0	
MTO2	**Montecristo 2**	**0.84**	**38**	*e*P	x	21 22 08.5	
LCBS	**La Ceiba**	**0.90**	**95**	⇑*e*P	x	21 22 04.5	
LCBS				*e*S	x	21 22 16.4	
PCG	**Pacaya**	**0.95**	**313**	*e*P	Pn	21 21 41.2	-24
PCG				*e*S	Sn	21 22 05.8	-13
SNVI	**San Vicente**	**1.03**	**97**	⇑*e*P	x	21 22 06.7	
SNVI				*e*S	x	21 22 21.3	
FUG	**Fuego 3**	**1.16**	**308**	*e*P	Pn	21 21 50.8	-17
FUG				*e*S	Sn	21 22 09.3	-14
BLLM	**Bellamira**	**1.64**	**100**	*e*P	x	21 22 14.1	
BLLM				*e*S	x	21 22 36.0	

IDC 27 21:25:23.6±2.5, 542N×12329E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=344.2km s-min=24.5km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.45**	**157**	P	P	21 31 11.5	+0.4
1.0nm,0.4s,baz=336,slow=9.7,SNR=34							
ASAR	**Alice Springs**	**30.71**	**161**	P	P	21 31 40.4	+0.3
0.5nm,0.5s,baz=339,slow=7.1,SNR=9.1							
MKAR	**Makanchi Array**	**54.23**	**326**	P	P	21 34 51.1	+0.1
0.3nm,0.3s,baz=121,slow=7.5,SNR=9.9							

*ISCJB **27** 21:36:19.0±0.6, 3375N±002×11609W±003, h9km±4km, Error ellipse: s-maj=4.0km s-min=3.4km az=74.2*
*NEIC **27** 21:36:19.8, 3376N×11608W, h5km, ML3.0(PAS), After PAS.*

ISC 27 21:36:19.2±0.4, 3375N±002×11609W±003, h10km±4km, n23, σ0§55/33, 6C-15D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BELC	**Belle Mtn.**	**0.27**	**17**	⇓P	**Pg**	**21 36 24.5**	**-0.2**
baz=0.3,SNR=35							
BELC				⇑S	**Sg**	**21 36 28.2**	**-0.1**
baz=0.3							
PFO	**Pinyon Flat Ob**	**0.33**	**246**	*e*P	**Pg**	**21 36 25.9**	**+0.1**
PFO				*e*S	**Sg**	**21 36 30.8**	**+0.6**
PFO	**Pinyon Flat Ob**	**0.33**	**246**	P	**Pg**	**21 36 26.1**	**+0.3**
baz=0.3,SNR=32							
PFO				⇓S	**Sg**	**21 36 30.7**	**+0.5**
baz=0.3							
BC3	**Big Chuckw Mtn**	**0.54**	**99**	⇓P	**Pg**	**21 36 29.9**	**+0.2**
baz=0.6,SNR=37							
BC3				⇓S	**Sg**	**21 36 37.5**	**+0.6**
baz=0.6							
SWSC	**Sam W. Stewart**	**0.84**	**163**	⇓P	**Pg**	**21 36 34.8**	**-0.6**
baz=0.9							
SWSC				⇓S	**Sg**	**21 36 46.4**	**0.0**
baz=0.9							
BBRC	**Big Bear Sol-O**	**0.86**	**307**	⇑P	**Pg**	**21 36 35.6**	**-0.2**
baz=0.8,SNR=29							
IRM	**Iron Mountain**	**0.89**	**62**	P	**Pg**	**21 36 35.9**	**-0.4**
baz=0.9,SNR=84							
IRM				⇓S	**Sg**	**21 36 47.6**	**-0.2**
baz=0.9							
MONP	**Monument Peak**	**0.90**	**198**	P	**Pg**	**21 36 36.6**	**+0.1**
baz=0.9,SNR=73							
MONP				⇑S	**Sg**	**21 36 48.7**	**+0.6**
baz=0.9							
MURC	**Murrieta**	**0.94**	**261**	P	**Pg**	**21 36 36.9**	**-0.3**
baz=0.9,SNR=45							
MURC				⇓S	**Sg**	**21 36 49.0**	**-0.4**
baz=0.9							
DVTC	**Desert V Tower**	**1.08**	**180**	⇑S	**Sg**	**21 36 53.9**	**-0.2**
baz=1.1							
GMRC	**Granite Mounta**	**1.09**	**19**	P	**Pb**	**21 36 39.6**	**-0.5**
baz=1.1,SNR=293							
GMRC				⇑S	**Sg**	**21 36 54.4**	**0.0**
baz=1.1							
HEC	**Hector,Ludlow**	**1.10**	**350**	⇓S	**Sg**	**21 36 54.9**	**+0.3**
baz=1.1							
109C	**Camp Elliot, M**	**1.20**	**225**	⇓P	**Pn**	**21 36 41.5**	**-0.5**
baz=1.2,SNR=30							
109C				⇓S	**Sb**	**21 36 57.5**	**-0.1**
baz=1.2							
Y12C	**Blythe**	**1.31**	**89**	⇑S	**Sb**	**21 37 00.9**	**+0.3**
baz=1.3							
RRX	**Edison Barstow**	**1.36**	**327**	⇓S	**Sb**	**21 37 02.8**	**+0.7**
baz=1.3							
BFSC	**Mount Baldy St**	**1.39**	**291**	⇓S	**Sn**	**21 37 03.0**	**0.0**
baz=1.4							
X13A	**Yucca**	**2.06**	**65**	⇓P	**Pn**	**21 36 54.5**	**+0.7**
baz=2.1,SNR=11							
MPMC	**Manual Prospec**	**2.58**	**334**	P	**Pn**	**21 37 00.9**	**0.0**
baz=2.6,SNR=5.9							
DAC	**Darwin (Calif)**	**2.81**	**334**	*e*Pn	**Pn**	**21 37 04.0**	**-0.1**
S08C	**White Mtn Res**	**4.11**	**336**	⇓P	**Pn**	**21 37 23.1**	**+1.2**
baz=4.1,SNR=5.4							
CCUT	**Cedar City**	**4.40**	**30**	Pn	**Pn**	**21 37 25.1**	**-0.9**
AHID	**Auburn Hatcher**	**9.82**	**22**	*e*Pn	**Pn**	**21 38 37.2**	**-3.2**
1μm,0.5s							
REDW	**Red Top Meadow**	**10.44**	**22**	*e*Pn	**Pn**	**21 38 49.2**	**+0.4**
12nm,0.4s							

KRSC 27 21:43:55.1±1.1, 5073N×15747E, h83km±82km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.23**	**277**	*i* P	Pn	21 44 14.4	-2.6
MIPR	**Malaya Ipel'ka**	**1.61**	**344**	P	Pn	21 44 25.3	+3.4
RUS	**Russkaya**	**1.83**	**20**	*i* P	Pn	21 44 27.1	+2.4
RUS				*i* S	Sn	21 44 50.6	+3.3
GRL	**Gorelyy**	**1.86**	**11**	*i* P	Pn	21 44 28.2	+3.0
GRL				*i* S	Sn	21 44 52.2	+4.0
SDLR	**Sedlovina**	**2.70**	**18**	*i* P	Pn	21 44 39.0	+2.6
NLC	**Nalytchevo**	**2.71**	**25**	*e*P	Pn	21 44 38.0	+1.5
NLC				*i* S	Sn	21 45 09.3	+1.0
SPN	**Mys Shipunski**	**2.85**	**33**	*e*P	Pn	21 44 41.1	+2.7
SPN				*i* S	Sn	21 45 14.4	+2.6
GNL	**Ganaly**	**2.98**	**5**	*i* P	Pn	21 44 41.9	+1.7
MKZ	**Mys Kozlova**	**4.63**	**32**	*i* P	Pn	21 45 03.7	+1.1
MKZ				*i* S	Sn	21 45 54.7	-0.3
KMNR	**Kamenistaya**	**5.30**	**17**	P	Pn	21 45 13.6	+1.9
KBTR	**Krutoberegovo**	**6.35**	**28**	*e*P	Pn	21 45 27.2	+1.2

IDC 27 21:48:16.0±5.2, 5639S×14088W, h0km, mb4.0/2, mb1 4.3/2, mb1mx4.0/11, mbtmp4.0/2, Error ellipse: s-maj=782.4km s-min=101.5km az=165.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**48.10**	**161**	*e*	P	21 56 58.5	+1.0
VNA3				*e*		21 57 04.8	
VNA2	**Neumayer--Watz**	**48.77**	**162**	*e*	P	21 57 03.3	+0.6
baz=236,slow=6.1							
V

mb3.5/1, Error ellipse: s-maj=7.7km s-min=4.9km az=98.0
JMA ***27*** *21:57:38.7±0.5, 2449N×12823E, h82km, M3.8*
ISC 27 21:57:38.7±0.8, 2445N±005×12824E±005, h35km, n21, σ0⇕92/31, mb3.6/1, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.74	345	P	Pn	21 58 07.3	+0.9
NAH1	Naha	1.82	344	P	Pn	21 58 08.1	+0.7
NAH1				eS	Sn	21 58 29.5	+0.3
JKE	Kume jima 2	2.29	325	P	Pn	21 58 14.6	+0.7
JKE				eS	Sn	21 58 41.5	+0.7
JAGN	Aguni-jima	2.31	337	P	Pn	21 58 15.3	+1.0
JAGN				S	Sn	21 58 42.2	+0.7
JOW	Kunigami	2.37	1	Pn	Pn	21 58 15.2	+0.2
	18nm,0.3s,baz=178,slow=14,SNR=61						
JOW				Sn	Sn	21 58 40.2	-2.7
	42nm,0.3s,baz=117,slow=25,SNR=5.2						
JOW	Kunigami	2.37	1	P	Pn	21 58 15.2	+0.1
JOW				S	Sn	21 58 41.5	-1.4
JIH	Iheya	2.59	355	P	Pn	21 58 18.6	+0.6
JIH				S	Sn	21 58 47.5	-0.7
JOGS	Gusukube	2.60	277	P	Pn	21 58 18.8	+0.6
JOGS				eS	Sn	21 58 48.9	+0.4
JMJ	Miyako jima 2	2.71	278	eS	Sn	21 58 51.5	+0.3
JMZ	Minamidaito 2	3.02	63	P	Pn	21 58 19.9	-4.2
JMZ				eS	Sn	21 58 52.5	-6.5
JTJ	Tarama	3.23	274	P	Pn	21 58 26.9	+0.1
JTJ				eS	Sn	21 59 02.9	-1.2
JTK	Tokunoshima	3.38	11	P	Pn	21 58 29.0	0.0
JTK				eS	Sn	21 59 04.6	-3.3
JIJ	Ishigaki jima	3.74	270	P	Pn	21 58 33.7	-0.1
JIJ				eS	Sn	21 59 14.6	-2.0
JKRS	Kuro-shima	3.87	268	P	Pn	21 58 35.7	+0.1
IRIF	Iriomote-Funau	4.11	269	P	Pn	21 58 38.7	-0.3
JAM	Amami Oshima	4.13	17	P	Pn	21 58 39.9	+0.7
JAM				eS	Sn	21 59 24.6	-1.7
JZK	Kikaishima	4.15	22	P	Pn	21 58 40.1	+0.6
JNU	Nakatsue	8.94	14	Pn	Pn	21 59 45.7	+0.4
	0.8nm,0.3s,baz=232,slow=12,SNR=3.9						
MKAR	Makanchi Array	42.74	313	P	Px	22 05 35.2	
	1.0nm,0.7s,baz=96,slow=9.5,SNR=12						
ZAL	Zalesovo	43.68	324	P	Px	22 05 42.8	
	0.9nm,0.5s,baz=328,slow=7.0,SNR=5.0						
WRA	Warramunga Arr	44.52	172	P	P	22 05 46.2	-0.6
	0.8nm,0.8s,mb3.6,baz=351,slow=8.8,SNR=5.1						

PRU ***27*** *22:13:39.5, 4128N×1428E, h0km*
IDC ***27*** *22:13:40.8±1.1, 4146N×1410E, h0km, mb3.5/4, mb1 3.6/8, mb1mx3.6/20, mbtmp3.5/8, ML3.6/4, Error ellipse: s-maj=32.5km s-min=12.6km az=99.0*
CSEM ***27*** *22:13:40.6±0.1, 4129N×1418E, h12km, MD3.6/7, Error ellipse: s-maj=1.4km s-min=0.9km az=20.0*
ISCJB ***27*** *22:13:41.6±0.3, 4133N±002×1415E±002, h19km±2km, mb3.4/4, Error ellipse: s-maj=2.8km s-min=1.9km az=38.7*
NEIC ***27*** *22:13:41.6, 4131N×1421E, h11km, MD3.7(PDG), ML3.4(ROM), After ROM.*
NEIC Felt [III] at Caserta and Naples.
PDG ***27*** *22:13:41.8±1.0, 4132N×1418E, h11km±1km*
ROM ***27*** *22:13:41.6±0.1, 4131N×1421E, h11km±1km, Md3.6/7, Ml3.4/58, Error ellipse: s-maj=1.7km s-min=1.2km az=2.0*
LDG ***27*** *22:13:42.2±0.1, 4137N×1430E, h10km, Ml3.3/3, Error ellipse: s-maj=4.8km s-min=2.8km az=12.0*
STR ***27*** *22:14:30.3±0.7, 4245N×981E, h10km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 27 22:13:41.3±0.3, 4127N±002×1415E±002, h8km±2km, n178, σ1⇕05/223, mb3.4/4, 22C-29D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCO	Biccari - m.te	0.10	6	Pg	Sg	22 13 56.0	+11
	1μm,0.8s						
RFI	Roccamonfina	0.12	283	⇓iPg	Pg	22 13 46.2	+2.1
VAGA	Valle Agricola	0.16	25	⇑iPg	Pg	22 13 44.7	+0.1
VAGA				Sg	Sg	22 13 47.7	+0.9
	47μm,0.2s						
SGG	Gregorio Mates	0.21	57	⇑iPg	Pg	22 13 45.4	-0.2
SGG				Sg	Sg	22 13 48.4	0.0
	34μm,0.5s						
CERA	Filignano	0.34	344	Pg	Pg	22 13 48.7	+0.8
CERA				Sg	Sg	22 13 54.3	+1.9
	12μm,0.8s						
MIDA	Miranda	0.38	13	⇑iPg	Pg	22 13 48.3	-0.4
MIDA				Sg	Sg	22 13 54.5	+0.8
	8μm,0.6s						
RNI2	Rionero Sannit	0.43	1	⇑iPg	Pg	22 13 49.7	0.0
RNI2				Sg	Sg	22 13 56.1	+0.8
	5μm,0.6s						
BSSO	Busso	0.43	51	⇑iPg	Pg	22 13 49.6	-0.2
	10μm,0.7s						
SACR	S. Croce Del S	0.44	73	⇑iPg	Pg	22 13 49.7	-0.2
	6μm,0.6s						
SDI	San Donato	0.50	330	Pg	Pg	22 13 51.3	+0.2
PSB1	Pescosannita	0.51	95	Pg	Pg	22 13 51.4	+0.3
	4μm,0.7s						
TRIV	Trivento	0.58	32	Pg	Pg	22 13 51.9	-0.6
	3μm,0.4s						
CIGN	Sant'Elia a Pi	0.69	56	Pg	Pg	22 13 53.9	-0.7
VVLD	Villa Vallelon	0.71	327	Pg	Pg	22 13 54.7	-0.4
	3μm,0.6s						
GIUL	Giuliano Di Ro	0.73	293	Pg	Pg	22 13 56.4	+1.1
	1μm,0.7s						
INTR	Introdacqua	0.76	346	Pg	Pg	22 13 54.2	-1.7
	3μm,0.7s						
FRES	Fresagrandinar	0.80	29	Pg	Pg	22 13 55.2	-1.6
GUAR	Guarcino	0.81	310	Pg	Pg	22 13 58.4	+1.4
	1μm,0.6s						
FG5	Orsara di Pugl	0.85	89	Pg	Pg	22 13 57.2	-0.4
	681nm,0.6s						
CAFE	Carife	0.86	106	Pg	Pg	22 13 57.8	-0.1
	1μm,0.5s						
SNAL	S. Angelo Dei	0.88	113	Pg	Pg	22 13 57.5	-0.7
	3μm,1.0s						
MCRV	Calabrutti - M	0.92	122	Pg	Pg	22 13 57.7	-1.2
	1μm,0.4s						
FG2	Serracapriola	0.93	55	Pg	Pg	22 13 57.3	-1.9
	1μm,0.3s						
SGTA	Sant Agata di	0.93	98	Pg	Pg	22 13 58.9	-0.3
	961nm,0.5s						
CAFR	Castel Frentan	0.96	9	Pg	Pg	22 13 58.9	-1.0
	6μm,0.7s						
FAGN	Fagnano	1.08	337	Pg	Pg	22 14 01.3	-0.7
	2μm,0.5s						
CERT	Cerreto	1.10	308	Pg	Pg	22 14 02.6	+0.1
	1μm,0.8s						
SGO	Sicignano	1.13	129	Pg	Pg	22 14 02.5	-0.6
MRLC	Muro Lucano	1.14	116	Pg	Pg	22 14 02.4	-0.8
	470nm,0.4s						
VCEL	Villa Celiera	1.14	349	Pg	Pg	22 14 02.4	-0.9
	2μm,0.9s						
RGNG	Rignano Grg	1.16	69	Pg	Pg	22 14 01.0	-2.5
VULT	Monte Vulture	1.16	105	Pg	Pg	22 14 03.2	-0.3
	1μm,0.5s						
LAV9	Lanuvio	1.16	291	Pg	Pn	22 14 03.6	-0.3
	754nm,0.3s						
CDRU	Civita di Ruta	1.18	131	Pg	Pn	22 14 01.9	-2.2
	307nm,0.4s						
RDP	Rocca di Papa	1.18	295	⇓iPg	Pn	22 14 03.9	-0.2
	2μm,0.6s						
AQU	L'Aquila	1.21	333	Pg	Pn	22 14 04.4	-0.2
MA9	Marino	1.22	294	Pg	Pn	22 14 04.5	-0.2
	236nm,0.2s						
FIAM	Fiamignano	1.26	323	Pg	Pn	22 14 05.5	+0.3
	632nm,0.6s						
MTCE	Montecelio	1.29	306	⇓iPg	Pn	22 14 05.1	-0.6
	556nm,0.8s						
SGRT	San Giovanni R	1.29	68	Pg	Pn	22 14 04.7	-1.0
	906nm,0.4s						
CMPR	Campora	1.30	137	Pg	Pn	22 14 04.7	-1.1
	551nm,1.1s						
ROM9	Roma	1.34	295	Pg	Pn	22 14 06.7	+0.3
	1μm,0.7s						
CAMP	Campotosto	1.38	337	Pg	Pn	22 14 06.1	-0.8
	111nm,0.7s						
MSAG	Monte S. Angel	1.40	71	Pg	Pn	22 14 06.7	-0.4
	2μm,0.6s						
TERO	Teramo	1.41	344	Pg	Pn	22 14 06.1	-1.2
	1μm,1.1s						
PALZ	Palazzo San Ge	1.41	103	Pg	Pn	22 14 06.7	-0.6
	927nm,0.7s						
MS1	Monte Sant'Ang	1.42	72	ePn	Pn	22 14 07.2	-0.2
FGMS	Monte Sant'Ang	1.43	72	Pg	Pn	22 14 06.9	-0.7
	278nm,0.3s						
BULG	Bulgheria - Ca	1.52	141	Pg	Pn	22 14 08.3	-0.5
	413nm,0.8s						
MNS	Montasola	1.56	316	Pg	Pn	22 14 09.3	-0.1
	527nm,0.8s						
LNSS	Leonessa	1.56	329	Pg	Pn	22 14 10.2	+0.8
	977nm,0.6s						
MCEL	Monticello	1.57	126	Pg	Pn	22 14 09.8	+0.2
	419nm,0.7s						
MTSN	Montesano sull	1.58	129	Pg	Pn	22 14 09.8	+0.1
	359nm,0.7s						
CDT	Castel del Mon	1.62	96	ePn	Pn	22 14 09.1	-1.1
OFFI	Offida	1.69	349	Pg	Pn	22 14 13.9	+2.6
	2μm,0.7s						
SIRI	Monte Sirino -	1.70	129	Pg	Pn	22 14 12.2	+0.8
	235nm,0.6s						
NRCA	Norcia	1.74	334	Pg	Pn	22 14 12.4	+0.6
	116nm,0.6s						
TOLF	Tolfa	1.79	297	⇓iPg	Pn	22 14 12.4	-0.2
	681nm,1.6s						
SCHR	S. Chirico Rap	1.82	126	Pg	Pn	22 14 13.6	+0.7
	186nm,1.1s						
MIGL	Miglionico	1.86	110	Pg	Pn	22 14 12.9	-0.7
	1μm,0.8s						
AMUR	Altamura	1.89	100	Pg	Pn	22 14 13.1	-0.9
	215nm,0.4s						
CRAC	Craco	1.96	117	Pg	Pn	22 14 14.8	-0.1
	410nm,0.6s						
SG1	Sgolgore (BA)	1.96	102	ePn	Pn	22 14 14.2	-0.8
BAI	Bari	2.07	94	ePn	Pn	22 14 15.6	-0.8
ASS	Assisi	2.10	329	Pg	Pn	22 14 17.7	+0.8
	12nm,0.8s						
SNTG	Esanatoglia	2.17	336	Pg	Pn	22 14 19.3	+1.5
	121nm,0.7s						
LATE	Laterza	2.20	308	Pg	Pn	22 14 18.5	+0.3
	43nm,1.4s						
CING	Cingoli	2.22	342	Pg	Pn	22 14 19.1	+0.7
	237nm,1.1s						
NOCI	Noci	2.26	101	Pg	Pn	22 14 18.4	-0.6
	189nm,0.5s						
SACS	San Casciano d	2.29	314	Pg	Pn	22 14 19.9	+0.5
	220nm,1.1s						
AOI	Ancona	2.31	350	Pg	Pn	22 14 20.4	+0.7
	288nm,1.1s						
MURB	Monte Urbino	2.32	329	Pg	Pn	22 14 21.3	+1.4
	869nm,1.2s						
PE1	Pezze di Greco	2.52	100	ePn	Pn	22 14 22.3	-0.3
MAON	Monte Argentar	2.53	298	⇓iPg	Pn	22 14 22.8	+0.1
	35nm,0.3s						
ARCI	Arcidosso	2.54	309	Pg	Pn	22 14 23.9	+1.1
	74nm,1.4s						
CRE	Caprese Michel	2.85	326	Pg	Pn	22 14 26.7	-0.5
	71nm,1.3s						
SERS	Sersale	2.96	138	Pg	Pn	22 14 31.4	+2.7
STON	Ston	3.09	58	iPn	Pn	22 14 30.4	0.0
STON				iSn	Sn	22 15 06.0	-1.6
GIB	Gibilmanna	3.28	182	Pg	Pn	22 14 35.4	+2.3
	148μm,47.0s						
NVLJ	Novalja	3.33	9	iPn	Pn	22 14 33.5	-0.3
HCY	Herceg Novi	3.46	69	⇓iPn	Pn	22 14 35.3	-0.1
HCY				eSn	Sn	22 15 17.0	+0.4
SOI	Samo	3.52	155	Pg	Pg	22 14 41.1	-7.7
BRY	Bratogost	3.66	62	⇑iPn	Pn	22 14 38.4	+0.2
BRY				eSn	Sn	22 15 21.9	+0.4
BUM	Brajici-Budva	3.70	72	⇑iPn	Pn	22 14 39.4	+0.6
BUM				eSn	Sn	22 15 23.4	+0.7
CLTB	Caltabellotta	3.76	191	Pg	Pg	22 14 44.6	-8.8
VAE	Valguarnera	3.79	177	Pn	Pn	22 14 44.5	+4.4
	0.9nm,0.3s,baz=315,slow=8.9,SNR=4.7						
VAE				Sn	Sn	22 15 23.5	-1.5
	1.7nm,0.3s,baz=71,slow=6.7,SNR=3.9						
VAE	Valguarnera	3.79	177	Pn	Pn	22 14 44.5	+4.4
VAE				Sn	Sn	22 15 23.5	-1.5
OSKI	Oschiri	3.84	265	⇓iPg	Pn	22 14 40.4	-0.3
CORF	Corte	3.87	287	Pg	Pn	22 14 40.8	-0.4
CORF				Sg	Pb	22 14 46.7	-3.2
ULC	Ulcinj	3.89	78	⇓iPn	Pn	22 14 42.2	+0.8
ULC				eSn	Sn	22 15 28.6	+1.3
NKY	Niksic	3.93	65	⇓iPn	Pn	22 14 42.5	+0.5
NKY				eSn	Sn	22 15 29.9	+1.6
TTG	Podgorica	3.99	71	⇑iPn	Pn	22 14 43.4	+0.5
TTG				eSn	Sn	22 15 30.0	+0.1
UPM	Unac-Piva	4.03	60	ePn	Pn	22 14 44.2	+0.9
UPM				eSn	Sn	22 15 31.3	+0.6
UPM	Unac-Piva	4.03	60	ePn	Pn	22 14 44.2	+0.9
UPM				eSn	Sn	22 15 31.3	+0.6
PGF	Pioggiola	4.05	290	ePn	Pn	22 14 43.8	+0.2
	SNR=1.0						
PGF				eSn	Sn	22 15 31.0	-0.1
	14nm,0.3s						
PGF	Pioggiola	4.05	290	ePn	Pn	22 14 43.8	+0.2
	SNR=1.0						
PGF				eSn	Sn	22 15 31.0	-0.1
	7.0nm,0.3s						
VSL	Villasalto	4.05	246	Pg	Pn	22 14 42.9	-0.7
PLE	Pljevlja	4.40	60	⇑iPn	Pn	22 14 49.9	+1.4
PLE				eSn	Sn	22 15 40.7	+0.8
PVY	Plav	4.54	71	⇓iPn	Pn	22 14 52.3	+1.9
PVY				eSn	Sn	22 15 43.7	+0.3
IVA	Berane	4.57	68	⇓iPn	Pn	22 14 52.3	+1.5
IVA				eSn	Sn	22 15 45.0	+0.9
BBLS	Bajina Basta -	4.67	55	⇓iPn	Pn	22 14 53.1	+0.9
VOY	Vojsko	4.76	358	ePn	Pn	22 14 55.3	+1.9
VOY				e		22 15 16.2	
VOY				eSn	Sn	22 15 48.8	0.0
OHR	Ohrid	5.02	90	ePn	Pn	22 15 02.6	+5.6
OHR	Ohrid	5.02	90	ePn	Pn	22 15 02.6	+5.6
DIVS	Divcibare	5.15	55	⇓iPn	Pn	22 14 59.1	+0.3
MAGA	Magasa	5.17	332	Pg	Pn	22 14 59.2	+0.1
	80nm,0.7s						
OBKA	Obir	5.24	3	⇓iPn	Pn	22 14 60.0	0.0
OBKA				⇑iSn	Sn	22 16 00.6	0.0
KRUS	Krusevo	5.35	87	ePn	Pn	22 15 03.2	+1.7
KRUS				iSn	Sn	22 16 00.6	-2.7
KRUS	Krusevo	5.35	87	ePn	Pn	22 15 03.2	+1.7
KRUS				iSn	Sn	22 16 00.6	-2.7
KRUS	Krusevo	5.35	87	ePn	Pn	22 15 03.2	+1.7
KRUS				iSn	Sn	22 16 00.5	-2.8
FVI	Forni Avoltri	5.41	350	Pg	Pn	22 15 02.3	-0.1
	5.0nm,0.3s						
BIA	Bitola	5.43	90	ePn	Pn	22 15 04.1	+1.5
BIA				iSn	Sn	22 16 03.3	-1.9
BIA	Bitola	5.43	90	ePn	Pn	22 15 04.1	+1.5
BIA				iSn	Sn	22 16 03.3	-1.9
BIA	Bitola	5.43	90	ePn	Pn	22 15 04.0	+1.5
BIA				iSn	Sn	22 16 03.2	-2.0
RHK3	Tenkes	5.49	32	eP	Pn	22 15 03.6	+0.1
GRUS	Gruza	5.51	60	⇓iPn	Pn	22 15 03.2	-0.5
SAOF	Saorge	5.57	301	Pn	Pn	22 15 05.1	+0.6
SBF	Sospel	5.59	300	ePn	Pn	22 15 04.0	-0.8
	SNR=1.0						
ABTA	Abfaltersbach	5.60	348	⇓iPn	Pn	22 15 04.4	-0.5
SEST	Monte Rota	5.65	346	Pg	Pn	22 15 05.9	+0.3
	792nm,5.6s						
AUTN	L'Aution	5.65	301	Pn	Pn	22 15 06.5	+0.8
FGSL	Fruska Gora	5.67	45	Pn	Pn	22 15 05.6	-0.4
TOUF	Mont Tournerai	5.78	301	Pn	Pn	22 15 08.1	+0.7
MVIF	Mont Vial	5.79	299	Pn	Pn	22 15 08.5	+1.0
KBA	Koelnbreinsper	5.83	355	⇑iPn	Pn	22 15 08.0	-0.1
KBA				⇑iSn	Sn	22 16 14.7	-0.5
CALN	Calern	5.91	297	Pn	Pn	22 15 09.8	+0.7
PKSM	Moragy	5.91	32	⇓ePn	Pn	22 15 11.4	+2.2
PKSM				eSn	Sn	22 16 12.6	-4.6
BARS	Barje	5.92	72	ePn	Pn	22 15 10.8	+1.4
FRF	La Foret Royal	6.00	295	ePn	Pn	22 15 10.0	-0.5
	SNR=1.0						
FRF				eSn	Sn	22 16 17.4	-2.0
	2.6nm,0.4s						
LMR	La Mourre	6.03	293	ePn	Pn	22 15 10.0	-0.8
	SNR=1.0						
LMR				eSn	Sn	22 16 16.0	-3.9
	6.1nm,0.4s						
ARSA	Arzberg	6.06	9	⇓iPn	Pn	22 15 10.5	-0.7
FETA	Feichten	6.25	338	⇑iPn	Pn	22 15 13.4	-0.4
WTTA	Wattenberg	6.25	344	⇓iPn	Pn	22 15 13.5	-0.4
WTTA				⇓iSn	Sn	22 16 24.8	-0.8
SQTA	Sankt Quirin	6.31	341	⇓iPn	Pn	22 15 13.9	-0.7
SQTA				⇓iSn	Sn	22 16 26.4	-0.5
WATA	Walderalm	6.33	344	⇑iPn	Pn	22 15 14.8	-0.2
WATA				⇓iSn	Sn	22 16 27.5	-0.1
VAY	Valandovo	6.35	87	ePn	Pn	22 15 17.2	+2.0
MBDF	Montbardon	6.41	305	ePn	Pn	22 15 17.6	+1.5
	SNR=1.0						
TAVF	Tavernes	6.42	294	Pn	Pn	22 15 16.5	+0.2
MOTA	Moosalm	6.45	341	⇑iPn	Pn	22 15 16.3	-0.3
MOTA				⇓iSn	Sn	22 16 29.1	-1.3
MOA	Molln	6.58	1	⇓iPn	Pn	22 15 18.0	-0.3
MOA				⇓iSn	Sn	22 16 32.2	-1.3
SOP	Sopron	6.64	14	⇓ePn	Pn	22 15 15.0	-4.2
STOF	St-Etienne Org	6.66	297	Pn	Pn	22 15 22.1	+2.7
KEST	Kesra	6.69	216	Pn	Pn	22 15 22.8	+2.9
	0.3nm,0.3s,baz=337,slow=1.6,SNR=11						
KEST				Sn	Sn	22 16 40.4	+4.0
	0.1nm,0.3s,baz=84,slow=14,SNR=1.7						
DAVA	Damuels	6.75	334	⇑iPn	Pn	22 15 20.1	-0.6
CONA	Conrad Observa	6.77	10	⇑iPn	Pn	22 15 20.7	-0.2
CONA				⇓iSn	Sn	22 16 38.6	+0.4
LPL	La Plagne	6.86	311	ePn	Pn	22 15 25.8	+3.5
	SNR=1.0						
SMRF	Simiane la Rot	6.87	296	ePn	Pn	22 15 23.4	+1.0
	SNR=1.0						
VTS	Vitosha	6.89	76	⇑iP	Pn	22 15 24.2	+1.6
BZS	Buzias	6.96	49	⇑iP	Pn	22 15 22.9	-0.7
ORIF	Oris-en-Rattie	7.06	304	ePn	Pn	22 15 28.2	+3.2
	SNR=1.0						
PRAF	Pradon	7.09	294	Pn	Pn	22 15 26.1	+0.6
PENC	Penc	7.48	28	eP	Pn	22 15 31.3	+0.6
GZR	Gura Zlata	7.52	54	⇑iP	Pn	22 15 29.8	-1.5
GERES	GERESS Array B	7.58	358	Pn	Pn	22 15 31.1	-1.0
	0.6nm,0.3s,baz=176,slow=13,SNR=19						
GERES				Sn	Sn	22 16 53.4	-4.8
	0.7nm,0.3s,baz=170,slow=24,SNR=6.6						
SMOL	Smolenice	7.61	17	ePN	Pn	22 15 32.4	-0.1
VIVF	Saint-Julien-l	7.80	300	ePn	Pn	22 15 36.3	+1.1
	SNR=1.0						
KHC	Kasperske Hory	7.87	357	ePN	Pn	22 15 36.1	0.0
KHC				ex	x	22 15 48.5	
KHC				eSN	Sn	22 17 02.6	-2.7
VYHS	Vyhne	7.95	23	ePN	Pn	22 15 37.5	+0.3
VYHS				eSN	Sn	22 17 02.2	-5.1
VYHS	Vyhne	7.95	23	ePn	Pn	22 15 37.6	+0.4
VYHS				eSn	Sn	22 17 02.2	-5.1
TREC	Trest	8.08	6	ePN	Pn	22 15 38.2	-0.7
LASF	Ste Croix	8.08	294	ePn	Pn	22 15 38.4	-0.6
	SNR=1.0						
KECS	Kecovo	8.50	30	ePN	Pn	22 15 44.8	+0.1
CDF	Champ du Feu	8.64	328	ePn	Pn	22 15 45.0	-1.7
HAU	Haudompre	8.73	323	ePn	Pn	22 15 46.1	-1.7
MORC	Moravsky Berou	8.83	14	⇓iP	Pn	22 15 52.1	+2.8
MTLF	Montolieu	9.08	287	ePn	Pn	22 15 51.4	-1.3
SMF	Signal de Mont	9.16	309	ePn	Pn	22 15 51.8	-2.1
LOR	Lormes	9.50	313	ePn	Pn	22 15 57.1	-1.4
AVF	Avril sur Loir	9.53	309	ePn	Pn	22 15 55.9	-2.9
STHS	Stebnicka Huta	9.55	29	ePN	Pn	22 16 01.6	+2.5
CAF	Calviac	9.56	296	ePn	Pn	22 15 59.6	+0.3
	SNR=1.0						
SSF	Saint Saulge	9.58	311	ePn	Pn	22 15 57.8	-1.8
BURAR	Bucovina Array	10.14	48	⇓iP	Pn	22 16 09.9	+2.7
ESDC	Sonseca Array	13.88	269	Pn	Pn	22 16 58.8	+0.4
	0.1nm,0.3s,baz=72,slow=14,SNR=4.7						
FINES	FINESS Array B	21.46	16	P	P	22 18 28.7	-1.5
	4.4nm,1.0s,mb3.7,baz=251,slow=13,SNR=2.7						
TORD	Torodi Ar. Bea	30.06	205	P	P	22 19 52.5	+1.6
	0.5nm,0.7s,mb3.4,baz=16,slow=10,SNR=4.3						
MKAR	Makanchi Array	47.91	59	P	P	22 22 19.7	-0.4
	0.2nm,0.5s,mb3.4,baz=264,slow=11,SNR=6.0						
YKA	Yellowknife Ar	68.72	337	P	P	22 24 44.1	-1.5
	0.2nm,0.6s,mb3.2,baz=38,slow=5.5,SNR=5.0						

MEX 27 23:20:56.5±1.1, 1804N×9981W, h4km±12km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.21	122	iP	Pg	23 21 00.8	+0.2
MEIG				iS	Sg	23 21 02.8	-0.6
PLIG	Platanillo	0.46	39	iP	Pg	23 21 05.1	-0.1
PLIG				iS	Sg	23 21 11.9	+0.7
PPM	Popocatepetl	1.52	47	iP	Pn	23 21 20.1	-4.3
PPM				iS	Sn	23 21 41.0	-3.5
UTMO	Huajuapan	1.92	96	eP	Pn	23 21 27.7	-2.2
UTMO				iS	Sn	23 21 51.9	-2.5

MOS ***27*** *23:35:02.6±1.3, 5574N×11004E, h10km, mb4.4/1, Error ellipse: s-maj=23.7km s-min=13.3km az=68.6*
BYKL 27 23:35:03.9±0.3, 5569N×11015E, 6C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.35	284	⇑iPg	Pg	23 35 10.6	-0.1
NIZ				eSg	Sg	23 35 15.4	+0.1
KMO	Kumora	0.62	71	⇑iPg	Pg	23 35 14.9	-1.0
KMO				eSg	Sg	23 35 23.2	-0.8
KMO				Pmax			
	114nm,0.4s						
KMO				Smax			
	478nm,1.1s						
YOA	Uoyan	0.99	63	ePG	Pg	23 35 21.2	-1.7
YOA				i		23 35 34.3	
YOA				pmax	pmax		
	comp=Z,109nm,0.2s						
YOA				smax			
	comp=N,2μm,0.3s						
YOA	Uoyan	0.99	63	ePg	Pg	23 35 21.7	-1.2
YOA				eSg	Sg	23 35 34.7	-1.1
YOA				Pmax			
	comp=N,106nm,0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOD				smax			
	comp=N,231nm,0.4s						
BOD	Bodaibo	3.01	43	⇑iPn	Pn	23 35 53.0	+0.2
BOD				⇑iPg	Pg	23 35 57.3	-4.3
BOD				eSn	Sn	23 36 29.5	-0.1
BOD				eSg	Sg	23 36 36.1	-4.5
BOD				Pmax			
	comp=N,24nm,0.5s						
BOD				Smax			
	comp=N,231nm,0.5s						
NLYR	Nelyaty	3.21	73	ePg	Pg	23 36 02.1	-3.4
NLYR				eSg	Sg	23 36 42.9	-4.3
ZRHB	Zarechye	3.60	211	ePg	Pg	23 36 08.0	-5.0
ZRHB				eSg	Sg	23 36 55.8	-3.9
ZRHB				Pmax			
	comp=N,9.0nm,0.3s						
ZRHB				Smax			
	comp=N,341nm,1.6s						
TRG	Tyrgan	3.69	219	⇓iPn	Pn	23 36 02.8	+0.7
TRG				eSn	Sn	23 36 46.3	0.0
TRG				eSg	Sg	23 36 58.5	-3.9
TRG				max			
	comp=N,23nm,0.9s						
TRG				Smax			
	comp=N,51nm,0.6s						
TRTB	Turuntaevo	3.77	204	ePn	Pn	23 36 03.5	+0.2
TRTB				ePg	Pg	23 36 11.2	-5.0
TRTB				eSg	Sg	23 37 00.0	-5.1
TRTB				Pmax			
	comp=N,23nm,1.1s						
TRTB				Smax			
	comp=N,144nm,1.0s						
UUDB	Ulan-Yde	4.11	202	ePg	Pg	23 36 17.4	-5.2
UUDB				eSg	Sg	23 37 09.3	-6.5
UUDB				Pmax			
	comp=N,50nm,1.3s						
UUDB				Smax			
	comp=N,138nm,1.2s						
FFNB	Fofonovo	4.16	210	eSn	Sn	23 36 46.2	-12
FFNB				eSg	Sg	23 37 10.9	-6.8
FFNB				Smax			
	comp=N,146nm,1.1s						
CIT	Chita	4.19	150	ePN	Pn	23 36 18.8	+10
CIT				e		23 37 11.9	
CIT				pmax	pmax		
	comp=Z,62nm,1.4s						
CIT				smax			
	comp=E,116nm,1.0s						
CIT	Chita	4.19	150	⇑iPg	Pg	23 36 19.1	-5.1
CIT				eSg	Sg	23 37 12.0	-6.6
CIT				Pmax			
	comp=E,63nm,1.5s						
CIT				Smax			
	comp=E,118nm,1.0s						
CRS	Chara	4.68	72	ePg	Pg	23 36 28.9	-4.8
CRS				eSg	Sg	23 37 29.9	-4.5
CRS				Pmax			
	comp=E,49nm,1.5s						
CRS				Smax			
	comp=E,126nm,1.6s						
LSTR	Listvyanka	4.96	222	eSn	Sn	23 37 16.3	-1.4
LSTR				eSg	Sg	23 37 36.8	-6.4
LSTR				Smax			
	comp=E,102nm,1.3s						
TLY	Talaya	5.57	227	ePN	Pn	23 36 27.6	-0.5
TLY				e		23 36 44.1	
TLY				e		23 37 55.2	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TLY				smax			
	comp=N,50nm,1.2s						
TLY	Talaya	5.57	227	ePg	Pg	23 36 44.8	-5.9
TLY				eSn	Sn	23 37 30.0	-2.8
TLY				eSg	Sg	23 37 55.9	-7.0
TLY				Pmax			
	comp=N,2.0nm,0.2s						
TLY				Smax			
	comp=N,41nm,0.9s						
TUP	Tupik	5.78	99	eSg	Sg	23 38 03.8	-5.7
TUP				Smax			
	comp=N,84nm,1.8s						
ARS	Arshan	5.93	234	eSn	Sn	23 37 38.6	-3.1
ARS				eSg	Sg	23 38 07.5	-7.0
ARS				Smax			
	comp=N,255nm,0.8s						
KPC	Khapcheranga	6.15	166	ePg	Pg	23 36 55.4	-6.3
KPC				eSg	Sg	23 38 14.1	-7.3
KPC				Pmax			
	comp=N,4.0nm,0.7s						
KPC				Smax			
	comp=N,57nm,1.0s						
ZAK	Zakamensk	6.74	221	ePN	Pn	23 36 41.8	-2.2
ZAK				e		23 37 03.9	
ZAK				e		23 38 31.5	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAK				smax			
	comp=N,73nm,1.3s						
ZAK	Zakamensk	6.74	221	e	Pb	23 38 03.3	+61
ZAK				eSg	Sg	23 38 32.5	-7.8
ZAK				Smax			
	comp=N,73nm,1.4s						
MOY	Mondy	6.77	237	eSn	Sn	23 38 00.3	-1.9
MOY				eSg	Sg	23 38 34.2	-7.1
MOY				Smax			
	comp=N,70nm,1.9s						
ORL	Orlik	6.85	247	ePN	Pn	23 36 45.4	-0.2
ORL				e		23 37 05.1	
ORL				eS	Sn	23 38 00.3	-3.9
ORL				e		23 38 34.0	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.2s						
ORL				smax			
	comp=N,68nm,1.5s						
ORL	Orlik	6.85	247	eSn	Sn	23 38 01.4	-2.8
ORL				eSg	Sg	23 38 36.8	-7.1
ORL				Smax			
	comp=N,81nm,1.4s						
ULN	Ulaanbaatar	8.07	195	eSg	Sg	23 39 14.5	-8.5

KRSC 27 23:48:45.0±1.2, 5489N×16540E, h41^{km}±41^{km}, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.97	313	eP	Pn	23 49 14.9	-1.0
KBTR				eS	Sn	23 49 36.7	-2.7
MKZ	Mys Kozlova	2.15	263	eP	Pn	23 49 20.3	+1.9
MKZ				eS	Sn	23 49 45.9	+2.0
ZLN	Zelenaya	2.85	295	eP	Pn	23 49 30.8	+2.8
ZLN				eS	Sn	23 50 04.2	+3.2
TUMR	Tumrok	3.05	280	P	Pn	23 49 35.0	+4.4
TUMR				eS	Sn	23 50 11.4	+5.6
KLY	Klyuchi	3.05	300	eS	Sn	23 50 06.6	+0.7
KRSR	Krestovskiy	3.05	298	S	Sn	23 50 09.2	+3.2
KMNR	Kamenistaya	3.08	288	eP	Pn	23 49 34.4	+3.4
KMNR				eS	Sn	23 50 10.5	+3.9
KPT	Kopyto	3.14	292	P	Pn	23 49 35.2	+3.2
KPT				S	Sn	23 50 11.8	+3.6
SRDR	Sredinnyy	3.53	296	S	Sn	23 50 20.5	+2.8
KII	Karymskiy	3.58	259	S	Sn	23 50 21.7	+2.8
SPN	Mys Shipunski	3.65	243	eP	Pn	23 49 40.5	+1.6
SPN				eS	Sn	23 50 21.1	+0.5
NLC	Nalytchevo	3.96	247	eP	Pn	23 49 45.3	+2.0
NLC				eS	Sn	23 50 30.0	+1.5
AVH	Avacha	4.25	250	eP	Pn	23 49 50.6	+3.4
AVH				eS	Sn	23 50 38.8	+3.3
PET	Petropavlovsk	4.40	248	S	Sn	23 50 42.5	+3.2
GNL	Ganaly	4.53	258	eP	Pn	23 49 54.8	+3.8
GNL				S	Sn	23 50 46.1	+3.7
RUS	Russkaya	4.78	242	eP	Pn	23 49 56.9	+2.5
RUS				eS	Sn	23 50 50.1	+1.6
GRL	Gorelyy	4.94	245	eP	Pn	23 50 00.3	+3.6
GRL				S	Sn	23 50 55.7	+3.2

*NIED **28** 00:03:00, 4730N×14270E, h5^{km}, Mw4.0 Best double couple: M$_0$1.04000×10^{15} NP1:φ$_s$129.00000°, δ88.00000°, λ51.00000°. NP2:φ$_s$37.00000°, δ39.00000°, λ177.00000°.*
*JMA **28** 00:03:19.2±0.7, 4732N×14270E, h49^{km}, M4.3*
*SKHL **28** 00:03:19.1±0.4, 4700N×14230E, h5^{km}, mb4.0/3*
*ISCJB **28** 00:03:20.8±0.3, 47.14N±0.02×142.63E±0.08, h15^{km}, mb3.7/9, MS4.1/1, Error ellipse: s-maj=8.4km s-min=2.7km az=160.9*
*IDC **28** 00:03:20.4±1.0, 47.17N×142.36E, h0^{km}, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.6/7, ML4.1/1, Error ellipse: s-maj=27.4km s-min=24.9km az=84.0*
*NEIC **28** 00:03:22.0±0.7, 46.93N×142.48E, h10^{km}, mb4.1/3, Error ellipse: s-maj=15.7km s-min=13.8km az=194.0*
NEIC Felt [V] at Ozhidayevo and [III] at Chaplanovo, Kholmsk, Pyatirech'ye and Yuzhno-Sakhalinsk.
*MOS **28** 00:03:21.4±2.2, 46.98N×142.54E, h15^{km}, mb4.1/5, Error ellipse: s-maj=19.3km s-min=11.7km az=108.4*
MOS Felt (V) at Ozhidaevo; (III) at Kholmsk, (II-III) at Yuzhno-Sakhalinsk, Pyatirech'e, Chaplanovo.
ISC 28 00:03:21.2±0.8, 4709N±003×14251E±010, h5^{km}±7^{km}, n41, σ1^{s}23/53, mb3.7/9, MS4.1/1, 3D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	0.21	128	κ iPN	Pg	00 03 25.4	0.0
YSS				iS	Sg	00 03 29.6	+1.3
YSS				pmax	pmax		
	comp=E,600nm,0.4s						
YSS				pmax	pmax		
	comp=Z,1μm,0.4s						
YSS				pmax	pmax		
	comp=N,1μm,0.3s						
YSS				pmax	pmax		
	comp=Z,1μm,0.4s						
YSS				pmax	pmax		
	comp=N,520nm,0.3s						
YSS				pmax	pmax		
	comp=E,1μm,0.3s						
YSS				smax			
	comp=N,40μm,0.6s						
YSS				smax			
	comp=E,20μm,0.6s						
YSS				smax			
	comp=N,43μm,0.4s						
YSS				smax			
	comp=E,30μm,0.4s						
YSS	Yuzh-Sakhalins	0.21	128	iPndr	Pg	00 03 25.4	0.0
YSS				iS	Sg	00 03 29.6	+1.3
YSS	Yuzh-Sakhalins	0.21	128	⇓iPg	Pg	00 03 25.4	0.0
YSS				AMB	AMB	00 03 25.8	
	comp=E,1μm,0.3s						
YSS				AMB	AMB	00 03 25.8	
	comp=E,600nm,0.3s						
YSS				AMB	AMB	00 03 25.8	
	comp=E,1μm,0.4s						
YSS				AMB	AMB	00 03 25.9	
	comp=E,520nm,0.3s						
YSS				AMB	AMB	00 03 25.9	
	comp=E,1μm,0.3s						
YSS				AMB	AMB	00 03 25.9	
	comp=E,1μm,0.4s						
YSS				iSg	Sg	00 03 29.6	+1.3
YSS				A		00 03 30.4	
	comp=E,40μm,0.6s						
YSS				A		00 03 30.4	
	comp=E,20μm,0.6s						
YSS				A		00 03 30.4	
	comp=E,41μm,0.6s						
YSS				A		00 03 30.4	
	comp=E,20μm,0.6s						
YSS				A		00 03 30.5	
	comp=E,43μm,0.4s						
YSS				A		00 03 30.5	
	comp=E,30μm,0.4s						
JWK2	Keihoku	1.82	194	P	Pn	00 03 52.6	-0.6
JWK2				eS	Sn	00 04 17.6	+1.0
UGL	Uglegorsk	2.02	352	eP	Pn	00 03 54.0	-1.8
UGL				ePb	Pb	00 03 56.0	-2.3
UGL				AMB	AMB	00 03 57.5	
	comp=E,115nm,0.7s						
UGL				ePg	Pg	00 04 00.5	+0.6
UGL				eSg	Sg	00 04 25.5	-0.5
UGL				A		00 04 26.5	
	comp=E,199nm,0.6s						
UGL				A		00 04 26.5	
	comp=E,223nm,0.6s						
UGL				A		00 04 26.5	
	comp=E,158nm,0.6s						
UGL				A		00 04 28.0	
	comp=E,2μm,4.0s						
UGL				A		00 04 28.0	
	comp=E,2μm,4.0s						
JSE	Soyaes	2.13	179	P	Pn	00 03 56.5	-0.9
JSE				eS	Sn	00 04 24.6	+0.4
ASAJ	Asahikawa	2.97	179	Pn	Pn	00 04 10.7	+1.7
	comp=E,18nm,0.3s,baz=24,slow=16,SNR=7.4						
ASAJ				Sn	Sb	00 04 51.1	0.0
	comp=E,18nm,0.3s,baz=135,slow=32,SNR=7.9						
ASAJ	Asahikawa	2.97	179	PN	Pn	00 04 10.7	+1.7
ASAJ						00 04 51.2	
ASAJ				pmax	pmax		
	comp=Z,18nm,0.3s						
ASAJ				smax			
	comp=N,18nm,0.3s						
JKK2	Kamakawa 2	3.22	177	P	Pn	00 04 12.2	-0.2
JTKR	Abashiri--Toko	3.27	162	P	Pn	00 04 11.0	-2.0
JHR	Hokuryu	3.39	190	P	Pn	00 04 15.0	+0.3
TYV	Tymovskoe	3.78	1	ePb	Pb	00 04 27.0	-1.4
TYV				ePg	Pg	00 04 34.3	+0.6
TYV				AMB	AMB	00 04 45.0	
	comp=N,16nm,0.7s						
TYV				eSg	Sg	00 05 27.0	+4.3
TYV				A		00 05 30.0	
	comp=N,42nm,0.6s						
TYV				A		00 05 30.0	
	comp=N,23nm,0.6s						
JAR	Ashorobuto	3.89	166	P	Pn	00 04 20.9	-0.7
JFR	Furan	3.92	179	P	Pn	00 04 21.9	-0.2
ERM	Erimo	5.09	175	ePN	Pn	00 04 36.3	-1.8
HABR	Khabarovsk	5.22	288	ePN	Pn	00 04 40.8	+1.0
HABR				e		00 05 44.3	
GRNR	Gornyy	5.45	315	eS	Sn	00 05 42.1	-3.9
GRNR				A		00 05 43.1	
	comp=N,42nm,1.0s						
NKL	Nikolayevsk	6.18	350	ePg	Pg	00 05 19.0	-0.7
NKL				AMB	AMB	00 05 22.3	
	comp=N,19nm,0.6s						
NKL				eSg	Sg	00 06 43.0	+3.2
NKL				A		00 06 57.0	
	comp=N,18nm,0.5s						
NKL				A		00 06 57.0	
	comp=N,14nm,0.5s						
EKMR	Ekimchan	8.58	318	eP	Pn	00 05 25.0	-1.0
EKMR				ePg	Pn	00 05 47.0	+21
EKMR				AMB	AMB	00 05 48.5	
	comp=N,2.0nm,0.5s						
EKMR				eS	Sn	00 07 03.8	+0.7
EKMR				eSg	Sn	00 08 02.0	+59
EKMR				A		00 08 04.0	
	comp=N,7.0nm,0.7s						
EKMR				A		00 08 04.0	
	comp=N,6.0nm,0.7s						
EKMR				A		00 08 04.0	
	comp=N,4.0nm,0.7s						
YASR	Yasnyy	11.18	309	erx	rx	00 08 11.2	
YASR				eS	Sn	00 08 12.8	+5.7
YASR				A		00 09 27.1	
	comp=N,16nm,1.0s						
YASR				A		00 09 27.1	
	comp=N,11nm,1.0s						
YASR				A		00 09 27.1	
	comp=N,10.0nm,1.0s						
BMKR	Bomnak	11.51	317	eS	Sn	00 08 19.9	+4.9
ZEA	Zeya	11.78	310	erx	rx	00 09 26.4	
ZEA				erx	rx	00 09 39.6	
ULN	Ulaanbaatar	23.86	285	iP	P	00 08 36.4	+1.0
BILL	Bilibino	24.26	22	eP	P	00 08 42.1	+3.0
BILL				e		00 09 14.5	
BILL				e		00 12 18.7	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.8s,mb3.4						
BILL	Bilibino	24.26	22	eP	P	00 08 42.1	+3.0
	comp=Z,3.0nm,1.8s,mb3.4						
BILL				e		00 09 14.5	
BILL				e		00 12 18.7	
SONM	Songino Array	24.30	285	P	P	00 08 38.1	-1.3
	comp=Z,0.6nm,1.0s,mb3.0,baz=74,slow=8.8,SNR=3.0						
SONM	Songino Array	24.30	285	P	P	00 08 38.1	-1.3
TIXI	Tiksi	25.47	350	eP	P	00 08 51.5	+1.4
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
TIXI	Tiksi	25.47	350	eP	P	00 08 51.5	+1.4
	comp=Z,4.0nm,0.8s,mb4.0						
MKAR	Makanchi Array	40.21	293	P	P	00 10 58.4	-0.1
	comp=Z,0.3nm,0.8s,mb3.1,baz=61,slow=9.2,SNR=2.4						
MKAR	Makanchi Array	40.21	293	P	P	00 10 58.4	-0.2
KURK	Kurchatov	41.00	300	iP	P	00 11 07.2	+2.1
YKA	Yellowknife Ar	54.84	34	P	P	00 12 52.3	0.0
	comp=Z,0.5nm,0.9s,mb3.6,baz=306,slow=7.2,SNR=4.3						
YKA	Yellowknife Ar	54.84	34	P	P	00 12 52.3	0.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	60.39	330	P	P	00 13 28.9	-2.4
	comp=Z,3.9nm,0.9s,mb4.4,baz=147,slow=30,SNR=3.3						
FINES	FINESS Array B	60.39	330	P	P	00 13 29.0	-2.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	Obninsk	60.68	321	eP	P	00 13 34.6	+1.2
OBN				e		00 15 45.6	
OBN				eSS	SS	00 25 52.5	+3.7
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
OBN	Obninsk	60.68	321	eP	P	00 13 34.6	+1.2
	comp=Z,3.0nm,0.7s,mb4.5						
OBN				e		00 15 45.6	
OBN				eSS	SS	00 25 52.5	+3.7
OBN				LR	LR		
	comp=Z,100nm,15.0s,MS4.1						
PDAR	Pinedale Array	70.19	48	P	P	00 14 35.1	+0.2
	comp=Z,0.5nm,0.8s,mb3.5,baz=318,slow=2.0,SNR=4.4						
ASAR	Alice Springs	70.85	188	P	P	00 14 38.6	-0.3
	comp=Z,0.4nm,0.8s,mb3.4,baz=357,slow=4.2,SNR=4.1						
PRU	Pruhonice	73.37	328	eP	P	00 14 58.6	+4.6

*NIED **28** 00:04:00, 2160N×12080E, h17^{km}, Mw4.1 Best double couple: M$_0$1.47000×10^{15} NP1:φ$_s$359.00000°, δ88.00000°, λ-146.00000°. NP2:φ$_s$268.00000°, δ56.00000°, λ-2.00000°.*
*IDC **28** 00:04:14.7±1.0, 21.85N×121.21E, h0^{km}, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=75.9km s-min=19.2km az=68.0*
*NEIC **28** 00:04:15.8±0.4, 21.85N×121.16E, h10^{km}, mb3.9/3, Error ellipse: s-maj=12.0km s-min=7.8km az=89.0*
*ISCJB **28** 00:04:20.6±1.2, 21.72N±0.07×120.78E±0.07, h65^{km}±13^{km}, mb3.8/10, Error ellipse: s-maj=13.3km s-min=9.5km az=106.9*
*JMA **28** 00:04:20.3±0.3, 2164N×12084E, h91^{km}, M3.5*
ISC 28 00:04:22.7±1.0, 2175N±007×12079E±007, h68^{km}±11^{km}, n25, σ0^{s}89/30, mb3.8/10, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YHNB	Yeheng	2.96	10	ePn	Pn	00 05 02.1	-5.2
YHNB				eSn	Sn	00 05 35.6	-6.1
TATO	Taipei	3.28	11	ePn	Pn	00 05 04.3	-7.4
YOJ	Yonaguni jima	3.39	37	P	Pn	00 05 12.8	-0.4
YOJ				eS	Sn	00 05 53.7	+1.5
HATJ	Hateruma jima	3.61	50	P	Pn	00 05 15.6	-0.6
HATJ				eS	Sn	00 05 57.1	-0.5
IRIF	Iriomote-Funau	3.74	46	P	Pn	00 05 17.5	-0.5
IRIF				eS	Sn	00 06 01.8	+1.1
JKRS	Kuro-shima	3.87	50	P	Pn	00 05 19.4	-0.3
JKRS				eS	Sn	00 06 04.2	+0.3
JIJ	Ishigaki jima	4.04	49	P	Pn	00 05 21.7	-0.4
JIJ				eS	Sn	00 06 08.0	-0.1
JTJ	Tarama	4.61	51	P	Pn	00 05 29.6	-0.3
JTJ				eS	Sn	00 06 21.9	-0.2
QIZ	Qiongzhong	10.62	257	ePn	Pn	00 06 52.6	+0.7
KSRS	Korea Array	16.83	20	LR	LR	00 14 18.8	
	comp=Z,67nm,19.2s,baz=6.5,slow=36						
MAJO	Matsushiro	21.13	42	eP	P	00 08 56.8	-5.2
	4.8nm,0.6s,mb4.0						
MDJ	Mudanjiang	23.94	16	eP	P	00 09 28.1	-2.4
	5.4nm,0.8s,mb3.9						
SONM	Songino Array	28.49	339	P	P	00 10 12.3	+0.9
	0.4nm,1.1s,mb2.9,baz=156,slow=7.6,SNR=2.6						
TAPN	Taplejung	30.54	287	eP	pP	00 10 40.1	-5.9
	940nm,0.9s						
JIRN	Jiri	31.91	288	eP	P	00 10 40.1	-1.6
KKN	Kakani	32.72	288	eP	P	00 10 44.1	-4.7
	6.1nm,0.6s,mb4.6						
KOLN	Koldanda	34.21	288	eP	P	00 11 00.7	-1.0
	6.0nm,0.9s,mb4.4						
MKAR	Makanchi Array	39.87	318	P	P	00 11 51.4	+1.7
	0.2nm,0.6s,mb3.1,baz=119,slow=12,SNR=3.3						
WRA	Warramunga Arr	43.50	161	P	P	00 12 19.0	-0.4
	1.8nm,0.6s,mb4.0,baz=343,slow=9.0,SNR=6.7						
WB2	Warramunga Arr	43.50	161	eP	P	00 12 19.4	0.0
KURK	Kurchatov	43.75	322	eP	P	00 12 22.4	+1.0
	0.5nm,0.6s,mb3.4						
ASAR	Alice Springs	46.91	163	P	P	00 12 47.2	+0.8
	0.4nm,0.5s,mb3.4,baz=346,slow=6.9,SNR=7.6						
BRVK	Borovoye	49.41	322	P	P	00 13 05.5	-0.2
STKA	Stephens Creek	56.92	159	P	P	00 14 01.8	+1.0
	0.9nm,0.6s,mb4.0,baz=337,slow=9.0,SNR=4.5						
YKA	Yellowknife Ar	85.35	23	P	P	00 16 52.1	-0.3
	0.1nm,0.7s,baz=313,slow=4.7,SNR=4.2						

*IDC **28** 00:09:03.6±10.0, 46.16N×154.49E, h0^{km}, mb3.8/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.8/3, Error ellipse: s-maj=267.0km s-min=33.8km az=167.0*
*ISCJB **28** 00:09:05.1±2.9, 465N±06×1543E±04, h10^{km}, mb4.5/8, Error ellipse: s-maj=89.8km s-min=18.7km az=127.0*
ISC 28 00:09:07.6±2.8, 467N±06×1543E±04, h10^{km}, n10, σ0^{s}80/10, mb4.5/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INK	Inuvik	41.26	32	P	P	00 16 53.7	+0.8
	baz=275,slow=3.7						
MKAR	Makanchi Array	47.71	298	P	P	00 17 45.0	+0.6
	1.3nm,0.7s,mb4.1,baz=68,slow=8.1,SNR=11						
YKA	Yellowknife Ar	50.48	37	P	P	00 18 05.1	-0.5
	0.3nm,0.6s,mb3.5,baz=294,slow=7.2,SNR=5.5						
TAPN	Taplejung	54.93	274	eP	P	00 18 43.8	+5.2
JIRN	Jiri	55.78	275	eP	P	00 18 45.5	+0.8
	8.8nm,0.8s,mb4.8						
GUN	Gumba	55.84	276	eP	P	00 18 43.7	-1.4
	7.7nm,0.8s,mb4.8						
KKN	Kakani	56.32	276	eP	P	00 18 47.8	-0.8
	8.2nm,0.6s,mb4.9						
DMN	Daman	56.56	276	eP	P	00 18 50.9	+0.7
	4.5nm,0.3s,mb5.0						
KOLN	Koldanda	57.48	277	eP	P	00 18 57.4	+0.6
	11nm,0.9s,mb4.9						
FINES	FINESS Array B	64.45	335	P	P	00 19 43.4	-0.7
	2.1nm,1.0s,mb4.1,baz=27,slow=9.9,SNR=2.6						

*IDC **28** 00:15:06.9±0.7, 47.09N×155.72E, h0^{km}, mb4.2/19, mb1 4.4/20, mb1mx4.3/25, mbtmp4.1/20, ML3.9/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/25, Error ellipse: s-maj=19.9km s-min=14.5km az=162.0*
*ISCJB **28** 00:15:07.1±0.5, 47.16N±0.06×155.68E±0.08, h10^{km}, mb4.4/38, MS3.6/3, Error ellipse: s-maj=10.1km s-min=5.5km az=92.1*
*NEIC **28** 00:15:08.6±0.3, 47.11N×155.71E, h10^{km}, mb4.6/18, Error ellipse: s-maj=7.9km s-min=4.5km az=147.0*
*BJI **28** 00:15:08.3, 47.17N×155.42E, h8^{km}, mB5.2, mb4.6*
*MOS **28** 00:15:13.7±1.2, 47.16N×155.41E, h59^{km}, mb4.6/13, Error ellipse: s-maj=10.9km s-min=7.9km az=99.0*
*SZGRF **28** 00:15:16.0, 4795N×15692E, h33^{km}, mb4.4, East of Kuril Islands, Russia*
ISC 28 00:15:10.0±2.3, 4721N±005×15567E±008, h17^{km}±14^{km}, n89, σ0^{s}90/91, mb4.4/38, MS3.6/3, 4C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.49	5	ePN	Pn	00 16 05.0	+1.5
SKR				eS	Sn	00 16 43.6	-0.9
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		

comp=Z,80nm,0.5s
SKR smax
comp=N,150nm,0.5s
SKR smax
comp=E,80nm,0.5s
SKR smax
comp=Z,80nm,0.5s
KUR Kuril'sk 5.76 253 *e*PN **Pn 00 16 34.5 -0.3**
KUR *e*S **Sn 00 17 38.4 -2.1**
KUR pmax pmax
comp=Z,240nm,0.8s
KUR smax
comp=N,150nm,0.5s
KUR smax
comp=E,110nm,0.5s
PET Petropavlovsk 6.13 17 *e*Pn **Pn 00 16 39.5 -0.3**
PET *e*Sn **Sn 00 17 47.4 -2.1**
YSS Yuzh-Sakhalins 8.82 273 PN **Pn 00 17 15.9 -0.8**
ASAJ Asahikawa 9.66 256 LR LR 00 20 43.9
comp=E,196nm,20.1s,baz=162,slow=35
MAJO Matsushiro 16.77 237 P **Pn 00 19 02.2 -1.9**
MJAR Matsushiro Arr 16.77 237 Pn **Pn 00 19 03.8 -0.3**
comp=E,0.4nm,0.3s,baz=41,slow=8.9,SNR=2.9
YAK Yakutsk 20.93 325 *e*P **P 00 19 52.5 +0.8**
YAK *e* 00 23 42.4
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=E,22nm,1.4s
YAK Yakutsk 20.93 325 *e*P **P 00 19 51.5 -0.2**
comp=E,16nm,0.5s
CLNS Chul'man 21.08 309 *e*P **P 00 19 52.6 -0.8**
CLNS pmax pmax
comp=Z,14nm,1.0s,mb4.2
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,13nm,1.1s
BILL Bilibino 21.59 11⇑ *i*P **P 00 19 59.4 +0.6**
BILL *e* 00 20 31.6
BILL *e*S **S 00 23 56.9 -0.4**
BILL *e*SS 00 24 21.0
BILL pmax pmax
comp=Z,18nm,1.1s,mb4.4
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.3
BILL Bilibino 21.59 11 *e*P **P 00 19 58.7 -0.2**
comp=Z,15nm,0.8s,mb4.5
KSRS Korea Array 22.61 255 P **P 00 20 11.1 +1.3**
comp=Z,2.5nm,0.7s,mb3.8,baz=56,slow=9.1,SNR=5.9
HIA Hailar 23.89 288 *e*P **P 00 20 21.7 -1.0**
HIA pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 23.89 288 *e*P **P 00 20 21.7 -1.0**
comp=Z,2.7nm,0.6s,mb3.9
TIXI Tiksi 27.55 342⇑ *e*P **P 00 20 55.4 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
BJT Baijiatuau 29.25 270 P **P 00 21 09.4 -1.6**
ULN Ulaanbaatar 32.40 289 *e*P **P 00 21 38.8 -0.1**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
ULN Ulaanbaatar 32.40 289 *e*P **P 00 21 38.8 -0.1**
comp=Z,1.4nm,0.6s,mb4.0
SONM Songino Array 32.83 290 P **P 00 21 41.9 -0.8**
comp=Z,1.2nm,0.7s,mb3.9,baz=68,slow=8.5,SNR=10
COLA College 34.69 39 *i*P **P 00 21 59.0 +0.2**
COLA College 34.69 39 *e*P **P 00 21 58.7 0.0**
comp=Z,4.1nm,0.8s,mb4.4
NACB Ninganchiao 35.54 242 P **P 00 22 05.2 -1.0**
INK Inuvik 40.32 33 P **P 00 22 47.1 +0.6**
comp=Z,8.6nm,0.7s,mb4.6,baz=288,slow=6.9,SNR=42
INK Inuvik 40.32 33 *e*P **P 00 22 47.1 +0.6**
comp=Z,264nm,0.8s,mb6.0
GTA Gaotai 40.62 280 *e*P **P 00 22 51.0 +2.0**
GTA AP pP 00 22 57.5 +3.3
GTA XP sP 00 23 00.3 +4.0
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.0
GYA Guiyang 43.52 259⇑ *i*P **P 00 23 13.5 +0.9**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
ZAL Zalesovo 43.78 306 P **P 00 23 14.4 -0.3**
comp=Z,1.7nm,0.5s,mb4.0,baz=38,slow=7.5,SNR=10
ZAL LR LR 00 43 09.2
comp=Z,86nm,20.4s,MS3.6,baz=58,slow=38
ZAL Zalesovo 43.78 306 *i*P **P 00 23 15.6 +0.9**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
NVS Novosibirsk 44.30 308 *e*P **P 00 23 19.0 +0.1**
MK31 Makanchi Array 48.28 298 *e*P **P 00 23 50.0 -0.2**
MKAR Makanchi Array 48.28 298 P **P 00 23 50.0 -0.2**
comp=Z,2.2nm,0.7s,mb4.3,baz=65,slow=7.9,SNR=19
MKAR Makanchi Array 48.28 298⇑ *e*P **P 00 23 51.2 +1.0**
KURK Kurchatov 48.56 304 *e*P **P 00 23 52.1 -0.3**
KURK pmax pmax
comp=Z,18nm,0.8s,mb5.2
KURK Kurchatov 48.56 304 *e*P **P 00 23 52.1 -0.3**
comp=Z,18nm,0.8s,mb5.2
YKA Yellowknife Ar 49.50 38 P **P 00 23 59.6 +0.1**
comp=Z,4.3nm,0.7s,mb4.6,baz=295,slow=7.2,SNR=47
RES Resolute Bay 49.84 19 *e*P **P 00 24 02.3 +0.2**
comp=Z,237nm,1.0s
BVAR Borovoye Array 51.92 310 P **P 00 24 18.2 +0.5**
comp=Z,5.0nm,0.6s,mb4.6,baz=61,slow=8.3,SNR=48
BRVK Borovoye 51.95 310 *e*P **P 00 24 18.6 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 51.95 310 *e*P **P 00 24 18.6 +0.6**
comp=Z,6.6nm,0.6s,mb4.7
LSA Lhasa 51.99 275 P **P 00 24 19.2 +0.9**
AAK Ala-Archa 55.19 297 *e*P **P 00 24 41.8 0.0**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
AAK Ala-Archa 55.19 297 *e*P **P 00 24 41.8 0.0**
comp=Z,3.5nm,0.8s,mb4.4
ARU Arti 55.85 318⇓ *i*P **P 00 24 46.4 -0.1**
ARU *e* 00 26 49.1
ARU *e*S **S 00 32 34.5 +1.4**
ARU *e*SS SS 00 36 19.5 +0.7
ARU pmax pmax
comp=Z,17nm,0.9s,mb5.1
ARU Arti 55.85 318 *e*P **P 00 24 47.1 +0.6**
comp=Z,40nm,1.4s,mb5.3
JIRN Jiri 56.65 276 *e*P **P 00 24 52.7 +0.5**
comp=Z,6.2nm,0.6s,mb4.8
GUN Gumba 56.70 276 *e*P **P 00 24 53.4 +0.8**
KKN Kakani 57.18 277 *e*P **P 00 24 57.3 +1.3**
comp=Z,16nm,1.0s,mb5.0
KKN Kakani 57.18 277 *e*P **P 00 24 57.3 +1.3**
KKN pmax pmax
comp=Z,16nm,1.0s,mb5.0
DMN Daman 57.42 277 *e*P **P 00 24 59.4 +1.7**
comp=Z,9.0nm,0.5s,mb5.0
GKN Gorkha 57.48 277 *e*P **P 00 24 59.5 +1.4**
ARCES ARCESS Array B 57.99 342 P **P 00 25 01.8 +0.1**
comp=Z,4.0nm,0.8s,mb4.5,baz=46,slow=6.9,SNR=4.9
ARCES ARCESS Array B 57.99 342 P **P 00 25 01.8 +0.1**
KOLN Koldanda 58.33 278 *e*P **P 00 25 05.7 +1.6**
comp=Z,6.4nm,0.7s,mb4.8
FCC Fort Churchill 59.91 34 *e*P **P 00 25 14.7 -0.3**
FCC pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
FCC Fort Churchill 59.91 34 *e*P **P 00 25 14.7 -0.3**
comp=Z,3.9nm,0.7s,mb4.5
NVAR Mina Array Bea 60.66 64 P **P 00 25 19.3 -0.8**
comp=Z,0.6nm,0.3s,mb4.2,baz=297,slow=4.8,SNR=4.8
JOF Joensuu 61.69 335 *e*p **P 00 25 26.5 -0.6**
PDAR Pinedale Array 63.05 55 P **P 00 25 36.5 +0.3**
comp=Z,1.7nm,0.8s,mb4.2,baz=303,slow=2.0,SNR=14
FINES FINESS Array B 64.36 336 P **P 00 25 45.1 +0.2**
comp=Z,2.1nm,0.5s,mb4.4,baz=34,slow=7.7,SNR=14
FINES LR LR 00 56 12.3
comp=Z,88nm,18.9s,MS4.0,baz=355,slow=38
FINES FINESS Array B 64.36 336 *i*P **P 00 25 45.5 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.5s
ULM Lac du Bonnet 65.02 42 P **P 00 25 48.6 -0.6**
comp=Z,1.1nm,0.8s,mb4.0,baz=283,slow=2.8,SNR=3.6
NB2 NORSAR Subarra 68.35 342 P **P 00 26 10.8 +0.4**
comp=Z,5.6nm,1.0s,mb4.5,baz=30,slow=6.5
NOA NORSAR Array B 68.35 342 P **P 00 26 10.1 -0.3**
comp=Z,2.2nm,0.7s,mb4.3,baz=26,slow=6.4,SNR=5.1
WRA Warramunga Arr 69.54 201 P **P 00 26 16.5 -1.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=20,slow=6.5,SNR=5.6
AKASG Malin Array Be 72.13 327 P **P 00 26 33.0 -0.6**
comp=Z,1.4nm,0.6s,mb4.1,baz=33,slow=6.1,SNR=5.9
AKASG Malin Array Be 72.13 327 *i*P **P 00 26 33.0 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 73.22 201 P **P 00 26 39.1 -1.0**
comp=Z,1.1nm,0.9s,mb3.8,baz=12,slow=5.5,SNR=6.3
TXAR Lajitas Array 75.74 62 P **P 00 26 54.7 0.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=293,slow=4.7
TXAR Lajitas Array 75.74 62 P **P 00 26 54.7 0.0**
CLL Collm 76.76 337 *e*sP sP 00 27 06.0 -2.0
KHC Kasperske Hory 78.57 336 *e*P **P 00 27 11.5 +0.9**
KHC pP pP 00 27 19.0 +2.9
KHC Kasperske Hory 78.57 336 *e*P **P 00 27 11.5 +0.9**
KHC *e* 00 27 19.0
GRA1 Grafenberg Arr 78.70 337 *e*P **P 00 27 11.4 +0.1**
comp=Z,4.0nm,1.1s,mb4.3
GRF Grafenberg Arr 78.70 337 *e*P **P 00 27 11.4 +0.1**
comp=Z,4.0nm,1.1s,mb4.3
GRF Grafenberg Arr 78.70 337 *e*P **P 00 27 11.4 +0.1**
GRF pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GRF Grafenberg Arr 78.70 337 *e*P **P 00 27 11.4 +0.1**
GRF pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GERES GERESS Array B 78.79 335 P **P 00 27 11.4 -0.5**
comp=Z,0.5nm,0.5s,baz=38,slow=6.8,SNR=7.7
BRTR Keskin Array B 79.24 318 P **P 00 27 14.6 +0.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=70,slow=5.5,SNR=3.6
CDF Champ du Feu 80.88 339 *e*P **P 00 27 27.8 +4.7**
comp=Z,5.6nm,0.9s,mb4.2
CDF Champ du Feu 80.88 339 *e*P **P 00 27 27.8 +4.7**
CDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CDF Champ du Feu 80.88 339 *e*P **P 00 27 27.8 +4.7**
comp=Z,2.8nm,0.9s,mb4.2
GRR Gorron 82.62 344 *e*P **P 00 27 37.1 +4.8**
SMF Signal de Mont 83.33 341 *e*P **P 00 27 41.2 +5.2**
LPG La Plagne 83.73 339 *e*P **P 00 27 44.4 +6.4**
comp=Z,2.6nm,0.5s,mb4.3
LPG La Plagne 83.73 339 *e*P **P 00 27 44.4 +6.4**
LPG pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
LPG La Plagne 83.73 339 *e*P **P 00 27 44.4 +6.4**
comp=Z,1.3nm,0.5s,mb4.3
CAF Calviac 85.36 342 *e*P **P 00 27 51.1 +4.8**
PLCA Paso Flores 146.51 96 PKPbc PKPbc 00 34 48.8 -1.5
comp=Z,3.2nm,0.9s,baz=281,slow=3.2,SNR=5.0

IDC ***28*** *00:19:06.9±0.8, 2068S×17431W, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.3/17, mbtmp4.2/10, ML3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx3.1/22, Error ellipse: s-maj=34.0km s-min=18.1km az=149.0*
ISCJB ***28*** *00:19:10.5±0.5, 2071S±0.10×17438W±009, h35km, mb4.3/12, Error ellipse: s-maj=15.1km s-min=10.7km az=107.5*
NEIC ***28*** *00:19:12.1±0.3, 2066S×17432W, h35km, mb4.4/4, Error ellipse: s-maj=12.7km s-min=7.8km az=129.0*
ISC 28 00:19:12.2±0.5, 2068S±009×17431W±009, h35km, n45, σ0°78/24, mb4.3/12, Tonga Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 7.15 20 Pn **Pn 00 20 51.3 -3.0**
4.4nm,0.3s,baz=180,slow=20,SNR=4.0
AFI Sn **Sn 00 22 07.1 -7.2**
5.5nm,0.3s,baz=107,slow=19,SNR=3.2
AFI Afiamalu 7.15 20 *e*Pn **Pn 00 20 52.6 -1.7**
AFI *e*Sn **Sn 00 22 08.7 -5.5**
RAO Raoul Island 9.14 200 *e*Pn **Pn 00 21 20.8 -0.6**
RAR Rarotonga 13.59 95 Pn **Pn 00 22 13.5 -8.9**
4.1nm,0.3s,baz=247,slow=2.1,SNR=5.1
RAR LR LR 00 26 34.1
comp=Z,156nm,20.8s,baz=284,slow=33
URZ Urewera 19.03 201 P **Pn 00 23 31.5 -0.5**
0.9nm,0.3s,baz=14,slow=8.3,SNR=6.2
TBI Tubuai 23.18 101 *e*LR LR 00 29 25.9
228nm,29.5s
PPT Papeete 23.56 87 *e*LR LR 00 29 34.0
237nm,27.2s
PPT Papeete 23.56 87 P **P 00 24 19.0 -0.5**
24nm,0.5s,mb4.9,baz=5.0,slow=22,SNR=2.9
PPT LR LR 00 32 12.2
comp=Z,54nm,18.9s,baz=260,slow=33
HNR Honiara 27.22 290 P **P 00 24 53.4 +0.8**
CTAO Charters Tower 36.91 264 *e*P **P 00 26 17.0 -0.5**
2.9nm,0.6s,mb4.3
STKA Stephens Creek 40.84 245 P **P 00 26 50.2 -0.1**
2.6nm,0.7s,mb4.0,baz=101,slow=11,SNR=4.1
STKA Stephens Creek 40.84 245 *e*P **P 00 26 50.3 0.0**
ASAR Alice Springs 47.84 256 P **P 00 27 46.2 -0.2**
2.7nm,0.7s,mb4.4,baz=99,slow=7.8,SNR=51
WB2 Warramunga Arr 47.99 261 *e*P **P 00 27 47.8 +0.3**
WRA Warramunga Arr 48.00 261 P **P 00 27 46.8 -0.8**
2.4nm,0.7s,mb4.3,baz=97,slow=7.5,SNR=12
MJAR Matsushiro Arr 72.45 321 P **P 00 30 36.1 +1.1**
1.7nm,0.5s,mb4.2,baz=155,slow=5.9,SNR=4.0
NVAR Mina Array Bea 78.82 42 P **P 00 31 10.8 -0.6**
1.3nm,0.5s,mb4.1,baz=220,slow=7.8,SNR=4.3
MAW Mawson 82.54 199 *e*P **P 00 31 31.8 +0.5**
4.0nm,1.0s,mb4.4
PDAR Pinedale Array 86.75 42 P **P 00 31 53.6 +1.0**
0.4nm,1.0s,mb3.6,baz=231,slow=2.9,SNR=2.7
SNAA Sanae 87.70 177 P **P 00 31 57.4 +0.2**
JTS JuntasAbangare 92.98 80 *e*P **P 00 32 22.9 +1.1**
2.7nm,0.4s,mb5.0
YKA Yellowknife Ar 95.26 24 P **P 00 32 32.3 0.0**
0.2nm,0.6s,mb3.7,baz=241,slow=4.5,SNR=7.6
YKA Yellowknife Ar 95.26 24 P **P 00 32 32.3 0.0**
OTAV Otavalo 95.56 92 *e*P **P 00 32 34.2 +0.5**
1.0nm,0.6s,mb4.4
ZAL Zalesovo 112.82 321 PKiKP PKiKP 00 37 45.3 +0.2
0.7nm,0.4s,baz=347,slow=3.3,SNR=3.3
MKAR Makanchi Array 113.84 313 PKiKP PKiKP 00 37 47.5 +0.4
0.6nm,0.7s,baz=75,slow=1.6,SNR=5.4
KURK Kurchatov 116.47 317 *e*PKPdf PKPdf 00 37 52.8 +0.6
BRVK Borovoye 121.50 320 *e*PKPdf PKPdf 00 38 02.2 +0.3
AKASG Malin Array Be 144.77 334 PKP PKPdf 00 38 44.5 -0.7
3.4nm,0.6s,baz=39,slow=4.2,SNR=14
AKASG Malin Array Be 144.77 334 PKP PKPdf 00 38 44.5 -0.8
STHS Stebnicka Huta 148.76 340 *e*PKP PKPbc 00 38 55.9 +0.1
KSP Ksiaz 148.76 347 *e*P PKPbc 00 38 56.4 +0.6
CLL Collm 148.90 351 *e*PKPbc PKPbc 00 38 57.0 +0.9
comp=Z,7.0nm,1.0s
UPC Upice 149.14 347 *e*PKPbc PKPbc 00 38 58.9 +2.2
BRG Berggiesshubel 149.18 350 *e*P PKPbc 00 38 58.3 +1.5
comp=Z,3.0nm,0.8s
DPC Dobruska-Polom 149.22 347 *e*PKPbc PKPbc 00 38 59.6 +2.7
OKC Ostrava-Krasne 149.27 344 *e*PKPbc PKPbc 00 38 57.6 +0.5
PVCC Panska Ves 149.40 349 *e*PKPbc PKPbc 00 38 58.8 +1.4
BRTR Keskin Array B 149.48 315 PKPbc PKPbc 00 38 58.8 +1.2
comp=Z,1.8nm,0.6s,baz=100,slow=4.5,SNR=8.0
PRU Pruhonice 149.92 349 *e*PKPbc PKPbc 00 38 59.7 +1.0
TREC Trest 150.40 347 *e*PKPbc PKPbc 00 39 01.2 +1.4
GRA1 Grafenberg Arr 150.72 353 *e*PKP PKPbc 00 38 58.9 -1.7
GRF Grafenberg Arr 150.72 353 *e*PKP PKPbc 00 38 58.9 -1.7
KHC Kasperske Hory 150.92 349 *e*PKPbc PKPbc 00 39 02.5 +1.5
GERES GERESS Array B 151.18 349 PKPbc PKPbc 00 39 03.2 +1.6
comp=Z,1.3nm,0.6s,baz=16,slow=1.9,SNR=9.6

CSEM ***28*** *00:19:24.8, 6785N×2021E, h2km, ML3.1, Mining explosion. After UPP*
UPP ***28*** *00:19:24.8, 6785N×2021E, h2km, ML3.1, Mining explosion.*
HEL 28 00:19:25.2±0.0, 6785N×2020E, h0km, ML3.1(UPP), Explosion, Sweden
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUA Kuravaara 0.12 26 *i*P Pg 00 19 27.1 -0.3
KUA *i*S Sg 00 19 28.7 -0.2
NIKU Nikkaluokta 0.44 273 *i*P Pg 00 19 33.1 -0.6
LANU Lannavaara 0.70 73 *i*P Pg 00 19 37.8 -0.8
LANU Lannavaara 0.70 73 P Pg 00 19 37.8 -0.9
baz=299
DUNU Dundret 0.75 169 *i*P Pg 00 19 38.5 -1.0
DUNU Dundret 0.75 169 P Pg 00 19 38.5 -1.0
baz=76
SALU Saltoluokta 0.80 235 *i*P Pg 00 19 39.6 -1.0
KIF Kilpisjarvi 1.18 11 *e*P Pg 00 19 47.0 -0.8
KIF *e*S Sg 00 20 02.9 -0.2
PAJU Pajala 1.40 125 *e*P Pn 00 19 50.1 -1.8
HARU Harads 1.72 170 *e*P Pn 00 19 55.8 -0.6
HARU Harads 1.72 170 P Pn 00 19 55.8 -0.6
baz=339
SJUU Sjulsmark 2.42 166 *e*P Pn 00 20 06.4 +0.4
SGF Sodankyl 2.45 97 *e*P Pn 00 20 06.0 -0.5
SGF *e*SB Sb 00 20 39.3 -1.6

BJI ***28*** *00:24:56.5, 3871N×14152E, h79km, mB4.7, mb4.6*
MOS ***28*** *00:24:57.6±0.8, 3901N×14142E, h71km, mb4.8/29, Error ellipse: s-maj=8.8km s-min=5.3km az=98.7*
IDC ***28*** *00:24:57.3±0.5, 3874N×14152E, h65km±3km, mb4.1/18, mb1 4.3/20, mb1mx4.2/24, mbtmp4.1/20, MS3.2/3, Ms1 3.2/3, ms1mx2.9/24, Error ellipse: s-maj=14.9km s-min=8.9km az=94.0*
ISCJB ***28*** *00:24:57.2±0.3, 3882N±003×14159E±005, h77km±2km, mb4.5/60, Error ellipse: s-maj=6.6km s-min=3.6km az=64.6*
JMA ***28*** *00:24:58.0, 3879N×14163E, h71km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs43.00000°, δ28.00000°, λ161.00000°. NP2: φs150.00000°, δ81.00000°, λ63.00000°. Principal axes: T Plg47.0000°, Azm33.0000°; N Plg26.0000°, Azm155.0000°; P Plg31.0000°, Azm262.0000°;*
JMA Felt III J1.
NEIC ***28*** *00:24:59.3±0.5, 3886N×14151E, h81km±4km, mb4.7/35, MW4.3(NIED) Error ellipse: s-maj=5.4km s-min=3.5km az=136.0*
NIED ***28*** *00:25:00, 3880N×14170E, h74km, Mw4.3 Best double couple: M03.72000×1015 NP1:φs145.00000°, δ70.00000°, λ61.00000°. NP2:φs23.00000°, δ35.00000°, λ143.00000°.*
ISC 28 00:24:58.1±0.3, 3881N±003×14161E±004, h73km±2km, h70km±2.3km: pP-P, n187, σ0°78/202, mb4.5/60, 14C-4D, Near east coast of eastern Honshu
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OFUJ Ofunato 0.27 11⇑ P **Pn 00 25 09.3 -0.1**
OFUJ S **Sn 00 25 17.4 -0.3**
JMK Ichinoseki 0.33 295⇑ P **Pn 00 25 09.6 -0.2**
JMK S **Sn 00 25 18.1 -0.2**
JIO Ouri 0.41 209⇑ P **Pn 00 25 10.0 -0.4**
JIO S **Sn 00 25 18.5 -0.9**
JOM Ohasama 0.70 340⇑ P **Pn 00 25 13.4 +0.1**
JOM S **Sn 00 25 24.9 +0.5**
JOU Okura 0.86 239⇑ P **Pn 00 25 15.0 -0.1**
JOU S **Sn 00 25 27.7 +0.1**
JYK Kaneyama 0.98 277 P **Pn 00 25 16.8 +0.3**
JYK S **Sn 00 25 30.6 +2.0**
JMM Marumori 1.14 214⇑ P **Pn 00 25 17.8 -0.7**
JMM S **Sn 00 25 32.9 +0.4**
JYS Shiratake 1.34 244⇑ P **Pn 00 25 21.5 +0.4**
JYS S **Sn 00 25 39.0 +1.5**
JYA Atsumi 1.50 262⇓ P **Pn 00 25 23.5 +0.4**
JYA S **Sn 00 25 42.2 +1.0**
JFK Kawauchi 1.55 202⇑ P **Pn 00 25 23.5 -0.4**
JFK S **Sn 00 25 42.3 -0.3**
JANG Nango 1.56 357 P **Pn 00 25 23.8 -0.2**
JAH Hinai 1.57 332⇓ P **Pn 00 25 25.0 +1.0**
ERM Erimo 3.41 20 *e*Pn **Pn 00 25 49.9 +0.9**
ERM *e*Sn **Sn 00 26 28.2 0.0**
MAJO Matsushiro 3.52 231 *e*Pn **Pn 00 25 52.2 +1.8**
MAJO *e*Sn **Sn 00 26 31.2 +0.4**
MAT Matsushiro 3.52 231 P **Pn 00 25 52.1 +1.7**
MAT *e*S **Sn 00 26 38.0 +7.2**
MJAR Matsushiro Arr 3.52 231 P **Pn 00 25 52.4 +2.0**
40nm,0.3s,baz=40,slow=11,SNR=364
MJAR S **Sn 00 26 38.0 +7.2**
11nm,0.3s,baz=61,slow=26,SNR=4.2
ASAJ Asahikawa 5.35 8 P **Pn 00 26 14.9 -0.5**
13nm,0.3s,baz=230,slow=10,SNR=12
ASAJ S **Sn 00 27 17.2 +1.5**
8.6nm,0.3s,baz=94,slow=19,SNR=2.8
ASAJ Asahikawa 5.35 8 P **Pn 00 26 14.9 -0.5**
ASAJ S **Sn 00 27 17.3 +1.6**
ASAJ pmax pmax
comp=Z,13nm,0.3s
ASAJ smax
comp=N,9.0nm,0.3s
JHJ Hachijo jima 2 5.87 195 P **Pn 00 26 20.9 -1.5**
comp=N,47nm,0.3s,baz=252,slow=23,SNR=7.8
JHJ S **Sn 00 27 23.6 -4.7**
comp=N,156nm,0.3s,baz=299,slow=23,SNR=9.2
KUR Kuril'sk 7.93 34 P **Pn 00 26 49.0 -1.6**
KUR *i*S **Sn 00 28 11.4 -7.4**
KUR pmax pmax
comp=Z,250nm,0.8s
KUR smax
comp=N,240nm,0.7s
KUR smax
comp=E,350nm,0.7s
YSS Yuzh-Sakhalins 8.18 6 *e*P **Pn 00 26 53.9 -0.2**
JNU Nakatsue 10.38 240 P **Pn 00 27 25.6 +1.5**
comp=E,2.1nm,0.3s,baz=220,slow=12,SNR=3.7
JNU LR LR 00 31 17.3
comp=E,350nm,21.9s,baz=291,slow=37
MDJ Mudanjiang 10.69 307 *e*Pn **Pn 00 27 28.4 +0.1**
HABR Khabarovsk 10.76 336 *e*P **Pn 00 27 25.3 -3.9**
HABR *e*S **Sn 00 29 23.5 -4.4**
KSRS Korea Array 10.86 267 P **Pn 00 27 34.8 +4.1**
baz=78,slow=14,SNR=29
KSRS LR LR 00 31 16.3
comp=E,120nm,20.3s,baz=80,slow=35
INCN Inchon 11.87 268 Pn **Pn 00 27 43.5 -0.8**
PET Petropavlovsk 18.44 34 *e*P **Pn 00 29 07.8 -0.9**
PET pmax pmax
comp=Z,63nm,1.4s
PET Petropavlovsk 18.44 34 *e*Pn **Pn 00 29 07.8 -0.9**
comp=Z,63nm,1.4s
BJI Beijing 19.67 282 P **Pn 00 29 18.0 -5.2**
BJI AMB AMB
comp=Z,13nm,1.0s
BJI Beijing 19.67 282 P **Pn 00 29 18.0 -5.2**
comp=Z,13nm,1.0s
BJT Baijiatuau 19.68 282 *e*P **Pn 00 29 21.8 -1.5**
BJT pmax pmax
comp=Z,6.0nm,0.4s
BJT Baijiatuau 19.68 282 *e*P **Pn 00 29 21.8 -1.5**
comp=Z,5.7nm,0.4s
CLNS Chul'man 21.14 334 *e*P **P 00 29 33.7 -3.3**
CLNS pmax pmax
comp=Z,12nm,0.6s,mb4.4
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
MA2 Magadan 21.59 13*c* *i*P **P 00 29 41.5 -0.3**
MA2 *e* 00 30 04.9
MA2 pmax pmax
comp=Z,30nm,0.6s,mb4.8
MA2 Magadan 21.59 13 *e*P **P 00 29 41.3 -0.5**
comp=Z,22nm,0.8s,mb4.5
MA2 *e* 00 29 57.7
TATO Taipei 21.89 237 *e*P **P 00 29 44.9 -0.1**
comp=Z,118nm,1.0s,mb5.2
YHNB Yeheng 22.18 236 *e*P **P 00 29 48.0 -0.1**
NACB Ninganchiao 22.38 235 P **P 00 29 51.1 +0.9**
YAK Yakutsk 24.38 346 *e*P **P 00 30 09.9 +0.5**
YAK *e*S **S 00 34 27.2 +3.4**
YAK pmax pmax
comp=Z,28nm,0.8s,mb4.6
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,11nm,1.0s
YAK smax
comp=N,21nm,1.3s
YAK smax
comp=E,18nm,1.8s
YAK Yakutsk 24.38 346 *e*P **P 00 30 08.2 -1.2**
comp=E,33nm,0.9s,mb4.7
YAK *e* 00 30 27.9
SEY Seymchan 25.02 12⇑ *e*P **P 00 30 15.8 +0.5**
BOD Bodaibo 26.13 326 *e*P **P 00 30 23.8 -1.5**
BOD pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
ULN Ulaanbaatar 26.52 301⇑ *e*P **P 00 30 29.5 +0.7**
ULN Ulaanbaatar 26.52 301 *e*P **P 00 30 28.9 +0.1**
comp=Z,4.9nm,0.8s,mb4.1
XAN Xi'an 26.64 270 P **P 00 30 29.0 -0.9**

XAN AMB AMB
comp=Z,12nm,0.7s,mb4.5
SONM Songino Array 26.96 301 P **P 00 30 32.4 -0.4**
comp=Z,3.3nm,0.7s,mb4.0,baz=100,slow=8.9,SNR=20
SONM LR LR 00 42 03.6
comp=Z,23nm,20.3s,baz=201,slow=38
TLY Talaya 29.31 309 *e*P **P 00 30 53.5 -0.2**
ZAK Zakamensk 29.32 306 *e*P **P 00 30 53.6 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
GYA Guiyang 31.71 258⇑ *i*P **P 00 31 14.5 -0.4**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
BILL Bilibino 32.28 17⇓ *e*P **P 00 31 19.9 0.0**
BILL *e* 00 31 44.6
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
KMI Kunming 35.41 259 P **P 00 31 46.5 -0.5**
KMI AMB AMB
comp=Z,21nm,1.2s,mb4.8
KMI Kunming 35.41 259 P **P 00 31 46.4 -0.6**
comp=Z,21nm,1.2s,mb4.8
KMI LR LR
comp=Z,40nm,35.1s
WMQ Urumqi 40.20 295 *e*P **P 00 32 27.8 +0.4**
ZAL Zalesovo 40.86 311 P **P 00 32 33.2 +0.4**
comp=Z,10nm,0.7s,mb4.8,baz=26,slow=9.0,SNR=62
ZAL Zalesovo 40.86 311 *i*P **P 00 32 33.2 +0.4**
ZAL pmax pmax
comp=Z,10.0nm,0.7s
ZAL Zalesovo 40.86 311 P **P 00 32 33.2 +0.4**
NVS Novosibirsk 41.74 312 *i*P **P 00 32 39.2 -0.8**
LSA Lhasa 42.23 273 *e*P **P 00 32 45.6 +1.6**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
LSA Lhasa 42.23 273 *e*P **P 00 32 45.6 +1.7**
comp=Z,4.4nm,0.6s,mb4.4
MK31 Makanchi Array 43.33 301 *i*P **P 00 32 52.7 -0.2**
MK31 pmax pmax
comp=Z,25nm,0.5s,mb5.2
MK31 Makanchi Array 43.33 301 *e*P **P 00 32 53.1 +0.2**
MKAR Makanchi Array 43.33 301 P **P 00 32 53.1 +0.3**
comp=Z,27nm,0.7s,mb5.1,baz=85,slow=11,SNR=223
KURK Kurchatov 44.97 307 *e*P **P 00 33 05.5 -0.5**
KURK pmax pmax
comp=Z,52nm,0.8s,mb5.3
KURK Kurchatov 44.97 307 *e*P **P 00 33 05.5 -0.5**
comp=Z,52nm,0.8s,mb5.3
JIRN Jiri 47.03 274 *e*P **P 00 33 23.0 +0.8**
comp=Z,12nm,0.3s,mb5.0
GUN Gumba 47.16 274 *e*P **P 00 33 23.8 +0.6**
comp=Z,41nm,0.6s,mb5.3
COLA College 47.50 33 *i*P **P 00 33 27.0 +1.1**
KKN Kakani 47.68 274 *e*P **P 00 33 27.6 +0.4**
comp=Z,33nm,0.7s,mb5.2
KKN Kakani 47.68 274 *e*P **P 00 33 27.6 +0.4**
KKN pmax pmax
comp=Z,33nm,0.7s,mb5.3
PKI Pulchoki 47.68 274 *e*P **P 00 33 27.5 +0.2**
comp=Z,8.8nm,0.5s,mb4.9
PKI Pulchoki 47.68 274 *e*P **P 00 33 27.5 +0.2**
PKI pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
DMN Daman 47.90 274 *e*P **P 00 33 29.5 +0.6**
GKN Gorkha 48.08 275 *e*P **P 00 33 30.6 +0.3**
comp=Z,41nm,0.8s,mb5.3
TKM2 Tokmak 2 48.94 297 P **P 00 33 37.8 +0.9**
SNR=12
KOLN Koldanda 49.00 275 *e*P **P 00 33 37.8 +0.4**
comp=Z,25nm,0.8s,mb5.2
KBK Karagaybulak 49.48 297 P **P 00 33 41.6 +0.6**
SNR=16
BVA0 Borovoye Array 49.50 311 *i*P **P 00 33 40.5 -0.7**
BVAR Borovoye Array 49.50 311 P **P 00 33 41.1 -0.2**
comp=Z,4.3nm,0.5s,mb4.6,baz=75,slow=7.7,SNR=47
BVAR PcP PcP 00 35 02.2 0.0
comp=Z,1.5nm,0.6s,baz=76,slow=2.3,SNR=4.2
BRVK Borovoye 49.56 311 *e*P **P 00 33 41.6 0.0**
BRVK *e* pP 00 33 59.9 0.0
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 49.56 311 *e*P **P 00 33 41.6 -0.1**
comp=Z,5.2nm,0.6s,mb4.6
BRVK *e* pP 00 33 59.9 0.0
AAK Ala-Archa 49.80 297 P **P 00 33 44.0 +0.6**
SNR=5.7
AAK Ala-Archa 49.80 297 *e*P **P 00 33 42.5 -1.0**
AAK *e* pP 00 34 01.4 -0.3
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AAK Ala-Archa 49.80 297 *e*P **P 00 33 42.5 -1.0**
comp=Z,2.6nm,0.6s,mb4.3
AAK *e* pP 00 34 01.4 -0.3
EKS2 Erkin-Say 50.29 297 P **P 00 33 47.7 +0.5**
SNR=7.3
AML Almayashu 50.53 297 P **P 00 33 50.5 +1.5**
SNR=6.6
KK31 Karatay Array 52.38 299 *i*P **P 00 34 02.3 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KKAR Karatay Array 52.38 299 P **P 00 34 02.3 -0.5**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
INK Inuvik 52.74 28 *e*P **P 00 34 06.0 +0.5**
comp=Z,199nm,0.5s
ARU Arti 55.14 318⇓ *i*P **P 00 34 22.6 -0.4**
ARU *e* 00 35 20.0
ARU *e* 00 36 24.6
ARU *e*S **S 00 42 01.4 +1.0**
ARU *e*SS SS 00 45 44.4 -0.8
ARU pmax pmax
comp=Z,11nm,0.8s,mb4.9
ARU Arti 55.14 318 *e*P **P 00 34 22.6 -0.3**
comp=Z,6.4nm,0.6s,mb4.8
ARU *e* pP 00 34 41.1 -0.4
ARU *e*PcP PcP 00 35 20.1 -3.3
AB31 Akbulak array 56.92 309 *i*P **P 00 34 34.9 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KBL Kabul 56.94 290 *e*P **P 00 34 35.5 -0.2**
AKTO Aktyubinsk 57.61 311 *i*P **P 00 34 39.9 -0.6**
WB2 Warramunga Arr 58.84 188 *e*P **P 00 34 48.3 -0.8**
WRA Warramunga Arr 58.84 188 P **P 00 34 48.4 -0.7**
comp=Z,3.3nm,0.7s,mb4.5,baz=7.2,slow=7.2,SNR=13
WRA pP pP 00 35 05.9 -1.9
comp=Z,6.9nm,0.5s,baz=5.4,slow=7.1,SNR=15
RES Resolute Bay 60.85 15 *e*P **P 00 35 02.3 -0.5**
comp=Z,100nm,0.5s
RES *e* pP 00 35 19.6 -2.1
KEV Kevo 61.84 339 *e*p **P 00 35 08.1 -1.5**
YKA Yellowknife Ar 62.20 31 P **P 00 35 11.8 -0.2**
comp=Z,1.3nm,0.6s,mb4.1,baz=303,slow=6.6,SNR=28
YKA sP sP 00 35 36.5 -2.4
comp=Z,0.7nm,0.6s,baz=306,slow=7.3,SNR=4.8
YKA Yellowknife Ar 62.20 31⇑ *e*P **P 00 35 11.8 -0.2**
YKA Yellowknife Ar 62.20 31 P **P 00 35 11.8 -0.2**
YKA sP sP 00 35 36.5 -2.5
ARCES ARCESS Array B 62.39 339 P **P 00 35 12.8 -0.4**
comp=Z,9.3nm,1.1s,mb4.7,baz=84,slow=11,SNR=5.0
ARCES ARCESS Array B 62.39 339 P **P 00 35 12.9 -0.4**
ARCES pmax pmax
comp=Z,9.0nm,1.1s
ASAR Alice Springs 62.56 188 P **P 00 35 14.1 -0.3**
comp=Z,0.7nm,0.6s,mb3.8,baz=13,slow=11,SNR=8.5
ASAR pP pP 00 35 31.1 -2.1
comp=Z,1.6nm,0.5s,baz=16,slow=14,SNR=12
JOF Joensuu 64.47 332 *e*p **P 00 35 25.4 -1.6**
comp=Z,1.2nm,0.4s,mb4.1
JOF Joensuu 64.47 332 *e*P **P 00 35 25.4 -1.6**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
OBN Obninsk 66.77 323 P **P 00 35 40.7 -1.1**
KAF Kangasniemi 66.80 332 *e*p **P 00 35 40.8 -1.2**
baz=48,slow=6.0
FINES FINESS Array B 67.32 332 P **P 00 35 44.6 -0.7**
comp=Z,2.7nm,0.6s,mb4.2,baz=34,slow=7.9,SNR=14
FINES sP sP 00 36 10.7 -1.7
comp=Z,6.8nm,0.7s,baz=55,slow=7.7,SNR=6.8
KIV Kislovodsk 69.86 311⇑ *e*P **P 00 36 01.3 +0.2**
KIV pmax pmax
comp=Z,18nm,1.0s,mb4.9
KIV Kislovodsk 69.86 311 *e*P **P 00 36 01.7 +0.6**
comp=Z,13nm,0.8s,mb4.8
WALA Waterton Lakes 70.03 43 *e*P **P 00 36 02.8 +0.7**
comp=Z,4.0nm,0.6s,mb4.4
STKA Stephens Creek 70.33 180 P **P 00 36 04.7 +0.8**
comp=Z,0.8nm,0.5s,mb3.8,baz=12,slow=17,SNR=3.1
FCC Fort Churchill 72.35 27 *e*P **P 00 36 16.1 0.0**
FCC pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
FCC Fort Churchill 72.35 27 *e*P **P 00 36 16.1 0.0**
comp=Z,8.9nm,0.9s,mb4.6
ANN Anapa 72.41 314 *e*P **P 00 36 22.8 +6.3**
ANN *e* pP 00 36 37.7 +1.9
ANN *e*PP pP 00 36 39.3 +3.5
NB2 NORSAR Subarra 72.61 337 P **P 00 36 17.0 -0.7**
comp=Z,2.4nm,0.8s,mb4.1,baz=40,slow=6.5
NOA NORSAR Array B 72.61 337 P **P 00 36 17.2 -0.5**
comp=Z,2.9nm,0.7s,mb4.2,baz=38,slow=6.0,SNR=9.5
NOA sP sP 00 36 42.0 -2.9
comp=Z,5.1nm,0.7s,baz=39,slow=6.1,SNR=8.8
EGMT Eagleton 72.84 42 *e*P **P 00 36 20.0 +0.9**
comp=Z,7.6nm,0.6s,mb4.7
AKASG Malin Array Be 72.99 322 P **P 00 36 18.9 -1.0**
comp=Z,2.8nm,0.6s,mb4.3,baz=44,slow=5.9,SNR=20
AKASG sP sP 00 36 43.9 -3.4
comp=Z,0.8nm,0.4s,baz=46,slow=6.0,SNR=3.2
AKASG Malin Array Be 72.99 322 *i*P **P 00 36 19.5 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 73.81 54 P **P 00 36 25.9 +1.1**
comp=Z,3.0nm,0.6s,mb4.2,baz=288,slow=6.1,SNR=9.8
NWAO Narrogin (SRO) 74.88 201 *e*P **P 00 36 30.8 -0.1**
DUG Dugway 76.08 49 *e*P **P 00 36 39.3 +1.5**
DUG pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
DUG Dugway 76.08 49 *e*P **P 00 36 39.3 +1.5**
comp=Z,6.0nm,0.6s,mb4.5
PDAR Pinedale Array 76.32 46 P **P 00 36 40.1 +0.9**
comp=Z,5.8nm,0.5s,mb4.5,baz=265,slow=1.7,SNR=67
PDAR pP pP 00 36 59.2 +0.6
comp=Z,1.1nm,0.6s,baz=225,slow=0.6,SNR=3.1
MSU Marysvale 77.53 50 *e*P **P 00 36 48.0 +2.0**
TMUT Trail Mountain 77.61 49 *e*P **P 00 36 47.8 +1.4**
BRTR Keskin Array B 77.79 311 P **P 00 36 48.0 +0.6**
comp=Z,0.7nm,0.5s,mb3.7,baz=112,slow=3.0,SNR=7.7
ULM Lac du Bonnet 77.94 34 P **P 00 36 47.5 -0.7**
comp=Z,2.4nm,0.8s,mb4.0,baz=316,slow=7.1,SNR=6.4
SRU San Rafael 78.13 49 *e*P **P 00 36 50.4 +1.1**
SRU pmax pmax
comp=Z,15nm,0.7s,mb4.8
SRU San Rafael 78.13 49 *e*P **P 00 36 50.4 +1.1**
comp=Z,15nm,0.7s,mb4.8
PV10 Paradox Valley 79.49 49 *e*P **P 00 36 58.7 +1.9**
PVCC Panska Ves 79.62 329 *e*pP pP 00 37 23.9 +6.8
CLL Collm 79.64 330 *e*P **P 00 36 57.0 -0.5**
CLL e(pPcP) 00 37 23.0
KHC Kasperske Hory 81.11 328 *e*P **P 00 37 05.5 0.0**
KHC *e*pP pP 00 37 24.1 -1.0
GERES GERESS Array B 81.28 328 P **P 00 37 06.4 +0.1**
comp=Z,0.4nm,0.4s,baz=38,slow=6.8,SNR=6.4
GERES pP pP 00 37 25.1 -1.0
comp=Z,0.4nm,0.5s,baz=35,slow=5.6,SNR=3.0
ANMO Albuquerque 83.33 50 *i*P **P 00 37 17.3 +0.3**
CDF Champ du Feu 84.16 331 *e*P **P 00 37 21.2 -0.1**
HAU Haudompre 84.84 332 *e*P **P 00 37 24.6 -0.1**
LOR Lormes 86.37 333 *e*P **P 00 37 32.2 -0.1**
comp=Z,7.7nm,0.8s,mb4.4
LOR Lormes 86.37 333 *e*P **P 00 37 32.2 -0.1**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LOR Lormes 86.37 333 *e*P **P 00 37 32.2 -0.1**
comp=Z,3.8nm,0.8s,mb4.4
LDF La Druitiere 86.58 336 *e*P **P 00 37 32.6 -0.8**
SSF Saint Saulge 86.68 333 *e*P **P 00 37 33.6 -0.2**
comp=Z,5.4nm,0.8s,mb4.2
SSF Saint Saulge 86.68 333 *e*P **P 00 37 33.6 -0.2**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 86.68 333 *e*P **P 00 37 33.6 -0.2**
comp=Z,2.7nm,0.8s,mb4.2
LPL La Plagne 86.77 330 *e*P **P 00 37 34.0 -0.3**
comp=Z,2.9nm,0.8s,mb4.0
LPL La Plagne 86.77 330 *e*P **P 00 37 34.0 -0.3**
LPL pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
LPL La Plagne 86.77 330 *e*P **P 00 37 34.0 -0.3**
comp=Z,1.5nm,0.8s,mb4.0
LPG La Plagne 86.78 330 *e*P **P 00 37 34.2 -0.1**
comp=Z,4.2nm,0.6s,mb4.2
LPG La Plagne 86.78 330 *e*P **P 00 37 34.2 -0.1**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LPG La Plagne 86.78 330 *e*P **P 00 37 34.2 -0.1**
comp=Z,2.1nm,0.6s,mb4.2
HYF Humbligny 86.81 333 *e*P **P 00 37 34.3 -0.1**
SMF Signal de Mont 86.91 332 *e*P **P 00 37 34.6 -0.4**
comp=Z,2.1nm,0.5s,mb4.0
SMF Signal de Mont 86.91 332 *e*P **P 00 37 34.6 -0.4**
SMF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
SMF Signal de Mont 86.91 332 *e*P **P 00 37 34.6 -0.4**
comp=Z,1.0nm,0.5s,mb4.0
AVF Avril sur Loir 86.96 333 *e*P **P 00 37 34.6 -0.6**
comp=Z,10nm,0.7s,mb4.6
AVF Avril sur Loir 86.96 333 *e*P **P 00 37 34.6 -0.6**
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AVF Avril sur Loir 86.96 333 *e*P **P 00 37 34.6 -0.6**
comp=Z,5.1nm,0.7s,mb4.6
BGF Bois d'Agland 87.34 333 *e*P **P 00 37 36.7 -0.3**
ORIF Oris-en-Rattie 87.60 330 *e*P **P 00 37 38.1 -0.2**
TCF Toulx Ste Croi 87.80 333 *e*P **P 00 37 39.1 -0.1**
VIVF Saint-Julien-l 88.12 331 *e*P **P 00 37 40.5 -0.2**
QUIF Quistinic 88.14 337 *e*P **P 00 37 40.5 -0.3**
PGF Pioggiola 88.30 327 *e*P **P 00 37 41.8 +0.2**
comp=Z,11nm,1.0s,mb4.5
PGF Pioggiola 88.30 327 *e*P **P 00 37 41.8 +0.2**
PGF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
PGF Pioggiola 88.30 327 *e*P **P 00 37 41.8 +0.2**
comp=Z,5.3nm,1.0s,mb4.5
MFF Saint Martin d 88.34 335 *e*P **P 00 37 41.5 -0.3**
SMRF Simiane la Rot 88.51 330 *e*P **P 00 37 42.2 -0.4**
LMR La Mourre 88.68 329 *e*P **P 00 37 43.3 -0.1**
RJF Les Rejaudoux 88.89 333 *e*P **P 00 37 44.2 -0.2**
TXAR Lajitas Array 88.92 52 P **P 00 37 45.7 +1.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=288,slow=2.7
CAF Calviac 89.03 333 *e*P **P 00 37 45.1 +0.1**
comp=Z,5.2nm,0.8s,mb4.3
CAF Calviac 89.03 333 *e*P **P 00 37 45.1 +0.1**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CAF Calviac 89.03 333 *e*P **P 00 37 45.1 +0.1**
comp=Z,2.6nm,0.8s,mb4.3
LFF La Frestale 89.48 333 *e*P **P 00 37 46.8 -0.4**
comp=Z,5.9nm,0.6s,mb4.5
LFF La Frestale 89.48 333 *e*P **P 00 37 46.8 -0.4**
LFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LFF La Frestale 89.48 333 *e*P **P 00 37 46.8 -0.4**
comp=Z,3.0nm,0.6s,mb4.5
MTLF Montolieu 90.33 332 *e*P **P 00 37 51.0 -0.1**
comp=Z,5.8nm,1.0s,mb4.4
MTLF Montolieu 90.33 332 *e*P **P 00 37 51.0 -0.1**
MTLF pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
MTLF Montolieu 90.33 332 *e*P **P 00 37 51.0 -0.1**
comp=Z,2.9nm,1.0s,mb4.4
ETSF Etsaut 91.72 333 *e*P **P 00 37 56.9 -0.7**
TORD Torodi Ar. Bea 116.18 316 PKP PKPdf 00 43 32.4 -0.5
comp=Z,0.6nm,1.1s,baz=15,slow=2.3,SNR=2.9
TORD pPKP pPKPdf 00 43 52.0 -1.7
comp=Z,0.2nm,0.5s,baz=28,slow=2.2,SNR=1.5
TORD Torodi Ar. Bea 116.18 316 PKP PKPdf 00 43 32.4 -0.5
TORD pPKP pPKPdf 00 43 52.0 -1.7
VNA2 Neumayer--Watz 144.06 197 *e*PKPdf PKPdf 00 44 22.7 -2.6
baz=107,slow=2.7
VNA2 *e* 00 44 41.4
VNA3 Neumayer Olymp 144.32 195 *e*PKPdf PKPdf 00 44 24.0 -1.8
LPAZ La Paz 145.64 58 PKPbc PKPbc 00 44 29.7 +1.3
comp=Z,6.6nm,0.6s,baz=346,slow=3.2,SNR=38

IDC 28 00:48:05.9±10.0, 4584N×15470E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.8/3, Error ellipse: s-maj=272.9km s-min=41.8km az=170.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.34**	**299**	P	P	00 56 48.7	-0.5
	0.7nm,0.6s,baz=59,slow=8.4,SNR=6.7						
YKA	**Yellowknife Ar**	**51.00**	**37**	P	P	00 57 08.8	-0.7
	0.3nm,0.6s,baz=297,slow=7.6,SNR=6.4						
FINES	**FINESS Array B**	**65.33**	**336**	P	P	00 58 49.6	-0.2
	5.3nm,1.1s,baz=46,slow=8.0,SNR=4.4						

OTT 28 01:07:19.5±0.9, 7437N×7577W, h18km, ML2.7/3, Eastern Arctic Background Seismic Zone. 199km east from Dundas Harbour, Nu, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**1.80**	**202**	PN	Pn	01 07 50.5	+1.0
PINU				SN	Sn	01 08 11.1	-0.8
PINU				Trac		01 08 13.9	
	comp=Z,32nm,0.1s						
RES	**Resolute Bay**	**5.12**	**283**	PN	Pn	01 08 35.1	-0.1
RES				SN	Sn	01 09 31.1	-2.9
RES				Trac		01 09 42.7	
	comp=Z,1.8nm,0.1s						
ILON	**Igloolik, Nuna**	**5.37**	**204**	PN	Pn	01 08 36.5	-2.1
ILON				SN	Sn	01 09 35.4	-4.6
ILON				Trac		01 09 40.6	
	comp=Z,3.5nm,0.2s						
EUNU	**Eureka**	**6.16**	**343**	PN	Pn	01 08 49.2	-0.4
EUNU				SN	Sn	01 09 54.6	-5.0
GBLN	**Grizzly Bear L**	**16.27**	**251**	PN	Pn	01 11 03.9	-3.1

*CSEM **28** 01:09:17.6±0.2, 3503N×386W, h12km, MD3.3, Error ellipse: s-maj=4.4km s-min=3.2km az=101.0*
*ISCJB **28** 01:09:18.6±0.6, 3508N±002×393W±003, h13km±4km, Error ellipse: s-maj=4.1km s-min=2.9km az=42.2*
*NEIC **28** 01:09:18.2, 3496N×393W, h0km, MG3.3(MDD), After MDD.*
*MDD **28** 01:09:19.3±0.3, 3505N×389W, h0km, mb3.3/11, Error ellipse: s-maj=3.6km s-min=3.0km az=59.0, PRXIMO*
*CNRM **28** 01:09:20.0, 3504N×383W, h3km, MD3.3*

ISC 28 01:09:18.8±0.5, 3507N±002×392W±004, h9km±4km, n44, σ1§21/77, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.16**	**354**	*i*P	**Pg**	**01 09 23.0**	**+0.8**
TOU	**Touzarine**	**0.17**	**128**	P	**Pg**	**01 09 21.5**	**-1.0**
TOU				S	**Sg**	**01 09 24.0**	**-1.0**
TOU	**Touzarine**	**0.17**	**128**	*i*P	**Pg**	**01 09 21.5**	**-1.0**
EMEL	**Melilla**	**0.82**	**74**	P	**Pg**	**01 09 33.7**	**-1.0**
	195nm,0.2s,SNR=10.0						
EMEL				S	**Sg**	**01 09 45.6**	**+0.2**
	302nm,0.2s,SNR=5.8						
EMLI	**Melilla**	**0.83**	**74**	P	**Pg**	**01 09 33.7**	**-1.1**
	195nm,0.2s,SNR=10.0						
EMLI				S	**Sg**	**01 09 45.6**	**0.0**
	302nm,0.2s,SNR=5.8						
ZAI	**Zaio**	**0.97**	**96**	*i*P	**Pg**	**01 09 37.0**	**-0.5**
ZAI				*i*S	**Sg**	**01 09 48.0**	**-2.1**
TZK	**Tazeka**	**1.00**	**192**	*i*P	**Pg**	**01 09 38.0**	**-0.1**
TZK				*i*S	**Sg**	**01 09 51.5**	**+0.4**
TGT	**Taghat**	**1.37**	**223**	*i*P	**Pn**	**01 09 44.5**	**+0.4**
TGT				*i*S	**Sb**	**01 10 03.0**	**+0.9**
EMIJ	**Mijas**	**1.64**	**335**	P	**Pn**	**01 09 47.7**	**-0.2**
	1.8nm,0.3s,SNR=10						
EMIJ				S	**Sn**	**01 10 05.9**	**-3.3**
	5.5nm,0.3s						
EGUA	**Guajares**	**1.79**	**9**	P	**Pn**	**01 09 48.8**	**-1.0**
	1.5nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**01 10 11.4**	**-1.3**
	2.3nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.87**	**318**	P	**Pn**	**01 09 51.8**	**+0.8**
	2.1nm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**01 10 13.1**	**-1.6**
	2.5nm,0.3s,SNR=7.9						
MIF	**Mishlifen**	**1.98**	**214**	*i*P	**Pn**	**01 09 53.0**	**+0.5**
MIF				*i*S	**Sn**	**01 10 17.0**	**-0.4**
EBER	**Berja**	**2.01**	**24**	P	**Pn**	**01 09 54.1**	**+1.2**
	3.9nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**01 10 16.4**	**-1.8**
	5.8nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.01**	**24**	P	**Pn**	**01 09 54.1**	**+1.2**
	3.9nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**01 10 16.4**	**-1.8**
	5.8nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.08**	**355**	P	**Pn**	**01 09 56.4**	**+2.4**
	1.3nm,0.3s,SNR=7.9						
ELOJ				S	**Sn**	**01 10 18.5**	**-1.5**
	1.4nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.17**	**10**	P	**Pn**	**01 09 55.7**	**+0.6**
	1.6nm,0.3s,SNR=9.2						
EQUE				S	**Sn**	**01 10 23.1**	**+1.0**
	2.4nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.22**	**7**	P	**Pn**	**01 09 57.0**	**+1.2**
	1.8nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**01 10 25.4**	**+2.0**
	1.1nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.23**	**205**	P	**Pn**	**01 09 58.0**	**+2.0**
CZD				S	**Sn**	**01 10 23.0**	**-0.7**
ESPR	**Espera**	**2.38**	**319**	P	**Pn**	**01 09 57.7**	**-0.4**
	0.8nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**01 10 27.1**	**-0.4**
	1.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.38**	**319**	P	**Pn**	**01 09 57.7**	**-0.4**
	0.8nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**01 10 27.1**	**-0.3**
	1.9nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.81**	**14**	P	**Pn**	**01 10 05.4**	**+1.4**
	1.5nm,0.3s,SNR=15						
EQES				S	**Sn**	**01 10 39.9**	**+1.9**
	3.2nm,0.3s						
EQES	**Quesada**	**2.81**	**14**	P	**Pn**	**01 10 05.4**	**+1.4**
	1.5nm,0.3s,SNR=15						
EQES				S	**Sn**	**01 10 39.9**	**+1.9**
	3.2nm,0.3s						
EHUE	**Huescar**	**2.94**	**21**	P	**Pn**	**01 10 07.4**	**+1.6**
	0.6nm,0.2s,SNR=7.9						
KIB	**El Ksiba**	**3.05**	**216**	*e*P	**Pn**	**01 10 06.5**	**-0.7**
KIB				*i*S	**Sn**	**01 10 43.0**	**-0.8**
EADA	**Adamuz**	**3.14**	**351**	P	**Pn**	**01 10 09.5**	**+1.0**
	1.0nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**01 10 46.7**	**+0.7**
	1.1nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.14**	**351**	P	**Pn**	**01 10 09.5**	**+1.1**
	1.0nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**01 10 46.7**	**+0.7**
	1.1nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**321**	P	**Pn**	**01 10 12.8**	**-0.5**
	0.6nm,0.1s,SNR=9.8						
EMIN				S	**Sn**	**01 10 52.6**	**-2.1**
	0.8nm,0.3s						
EMIN	**Mina Concepcio**	**3.49**	**321**	P	**Pn**	**01 10 12.8**	**-0.5**
	0.6nm,0.1s,SNR=9.8						
EMIN				S	**Sn**	**01 10 52.6**	**-2.1**
	0.8nm,0.3s						
TZC	**Tazercounte**	**3.62**	**217**	*e*P	**Pn**	**01 10 17.0**	**+2.0**
TZC				*i*S	**Sn**	**01 10 57.5**	**-0.3**
EGRO	**El Granado**	**3.78**	**312**	P	**Pn**	**01 10 17.6**	**+0.3**
	1.3nm,0.3s,SNR=6.1						
EGRO				S	**Sn**	**01 10 58.9**	**-3.0**
	1.5nm,0.1s						
EGRO	**El Granado**	**3.78**	**312**	P	**Pn**	**01 10 17.6**	**+0.3**
	1.3nm,0.3s,SNR=6.1						
ETOB	**Tobarra**	**4.04**	**27**	P	**Pn**	**01 10 22.1**	**+1.2**
	0.6nm,0.4s,SNR=6.1						
ETOB				S	**Sn**	**01 11 08.4**	**-0.1**
	1.0nm,0.4s						
ETOB	**Tobarra**	**4.04**	**27**	P	**Pn**	**01 10 22.1**	**+1.2**
	0.6nm,0.4s,SNR=6.1						
ETOB				S	**Sn**	**01 11 08.4**	**0.0**
PBEJ	**Beja**	**4.33**	**314**	*e*Pn	**Pn**	**01 10 25.8**	**+0.9**
PBEJ				*e*Sn	**Sn**	**01 11 12.2**	**-3.4**
EBAD	**Badajoz**	**4.43**	**327**	P	**Pn**	**01 10 26.5**	**+0.2**
	0.5nm,0.1s,SNR=10.0						
EBAD				S	**Sn**	**01 11 15.2**	**-2.8**
	1.9nm,0.2s						
EBAD	**Badajoz**	**4.43**	**327**	P	**Pn**	**01 10 26.5**	**+0.2**
ESDC	**Sonseca Array**	**4.60**	**360**	P	**Pn**	**01 10 29.3**	**+0.8**
	0.3nm,0.1s,baz=179,slow=14,SNR=4.0						
ESDC	**Sonseca Array**	**4.60**	**360**	P	**Pn**	**01 10 29.3**	**+0.8**
PTEO	**Sao Teotonio**	**4.60**	**304**	*e*Pn	**Pn**	**01 10 29.3**	**+0.8**
PTEO				*e*Sn	**Sn**	**01 11 19.6**	**-2.5**
PESTR	**Estremoz**	**4.79**	**323**	*e*Pn	**Pn**	**01 10 32.2**	**+1.0**
PESTR				*e*Sn	**Sn**	**01 11 24.8**	**-2.1**
PCBR	**Castelo Branco**	**5.54**	**330**	*e*Pn	**Pn**	**01 10 42.0**	**+0.6**
GUD	**Guadarrama**	**5.57**	**358**	P	**Pn**	**01 10 42.9**	**+1.1**

0.5nm,0.3s,SNR=4.0
EIBI Ibiza 5.77 45 P **Pn 01 10 43.6 -1.1**
0.6nm,0.1s,SNR=4.0
EIBI Ibiza 5.77 45 P **Pn 01 10 43.6 -1.1**

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*NEIC **28** 01:14:51.3±0.7,2186N×11931E,h10km,mb3.8/2,Error ellipse: s-maj=22.4km s-min=11.2km az=89.0*
*IDC **28** 01:14:54.5±1.0,2167N×12062E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/19,mbtmp3.8/6,MS3.5/2,Ms1 3.6/2, ms1mx2.8/25,Error ellipse: s-maj=72.4km s-min=19.8km az=70.0*
*ISCJB **28** 01:14:55.6±1.6,2162N±007×12006E±007,h33km±18km, mb3.7/7,MS3.5/2,Error ellipse: s-maj=13.3km s-min=9.6km az=110.9*
*BJI **28** 01:14:58.2,2174N×12006E,h6km,ML3.8*
*NIED **28** 01:15:00,2160N×12080E,h83km,Mw4.5 Best double couple: M0:5.49000×10^15 NP1:φ=222.00000°,δ88.00000°, λ-55.00000°. NP2:φ=315.00000°,δ35.00000°, λ-176.00000°.*

ISC 28 01:14:58.6±3.2,2167N±005×12006E±006,h35km±24km, n17,σ1§06/21,mb3.7/7,MS3.5/2,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.87**	**29**	*e*Pn	**Pn**	**01 15 39.4**	**-2.5**
NACB				*e*Sn	**Sn**	**01 16 14.7**	**-0.4**
YHNB	**Yeheng**	**3.23**	**22**	*e*Pn	**Pn**	**01 15 45.5**	**-1.3**
YHNB				*e*Sn	**Sn**	**01 16 23.6**	**-0.4**
QZH	**Quanzhou**	**3.53**	**338**	P	**Pn**	**01 15 52.0**	**+1.1**
QZH				S	**Sn**	**01 16 31.3**	**0.0**
QZH	comp=N,420nm,0.5s			Smax			
QZH	comp=E,400nm,0.7s			Smax			
TATO	**Taipei**	**3.55**	**22**	*e*Pn	**Pn**	**01 15 52.5**	**+1.4**
TATO				*e*Sn	**Sn**	**01 16 32.3**	**+0.5**
GZH	**Guangzhou**	**6.37**	**284**	P	**Pn**	**01 16 30.5**	**+0.6**
GZH				S	**Sn**	**01 17 39.8**	**-1.6**
GZH	comp=N,43nm,0.7s			Smax			
GZH	comp=E,32nm,0.8s			Smax			
INCN	**Inchon**	**16.76**	**18**	*e*P	**Pn**	**01 18 42.1**	**-8.4**
BJT	**Baijiatuan**	**18.59**	**351**	*e*P	**Pn**	**01 19 06.4**	**-6.8**
	comp=E,2.8nm,0.6s						
ULN	**Ulaanbaatar**	**28.16**	**341**	P	**P**	**01 20 38.3**	**-9.1**
SONM	**Songino Array**	**28.33**	**340**	P	**P**	**01 20 51.2**	**+2.1**
	comp=E,0.5nm,0.7s,mb3.3,baz=157,slow=9.2,SNR=4.1						
SONM				LR	LR	01 34 03.1	
	comp=E,58nm,18.2s,MS3.2,baz=69,slow=40						
MKAR	**Makanchi Array**	**39.47**	**319**	P	**P**	**01 22 29.6**	**+4.1**
	comp=E,0.3nm,0.5s,mb3.3,baz=109,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**43.65**	**160**	P	**P**	**01 22 59.2**	**-0.5**
	comp=E,3.1nm,0.8s,mb4.1,baz=344,slow=9.0,SNR=8.8						
WB2	**Warramunga Arr**	**43.65**	**160**	*e*P	**P**	**01 22 59.4**	**-0.3**
ASAR	**Alice Springs**	**47.03**	**163**	P	**P**	**01 23 27.0**	**+0.4**
	comp=E,0.8nm,0.7s,mb3.8,baz=347,slow=7.6,SNR=8.7						
BRVK	**Borovoye**	**49.06**	**322**	*e*P	**P**	**01 23 34.6**	**-7.6**
	comp=E,0.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**57.10**	**158**	P	**P**	**01 24 41.3**	**-0.1**
	comp=E,0.9nm,0.8s,mb3.9,baz=0.0,slow=9.1,SNR=3.5						
NOA	**NORSAR Array B**	**79.95**	**332**	LR	LR	02 06 45.0	
	comp=E,39nm,19.6s,MS3.8,baz=15,slow=39						
YKA	**Yellowknife Ar**	**85.68**	**22**	P	**P**	**01 27 34.1**	**+0.4**
	comp=E,0.5nm,0.7s,mb3.9,baz=313,slow=4.9,SNR=14						

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*ISCJB **28** 01:25:28.3±0.6,578S±007×1339E±01,h10km,mb4.5/5, Error ellipse: s-maj=15.6km s-min=9.1km az=143.5*
*IDC **28** 01:25:29.5±1.7,573S×13387E,h0km,mb4.1/2,mb1 4.4/5, mb1mx4.1/13,mbtmp4.2/5,ML4.4/3,MS3.0/1,Ms1 3.0/1, ms1mx2.3/23,Error ellipse: s-maj=74.8km s-min=22.0km az=78.0*
*NEIC **28** 01:25:33.9±0.7,585S×13388E,h35km,mb4.1/3,Error ellipse: s-maj=18.7km s-min=11.0km az=69.0*

ISC 28 01:25:30.6±0.6,578S±007×1339E±01,h10km,n19, σ1§15/20,mb4.5/5,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.03**	**192**	*e*P	**Pn**	**01 27 16.0**	**+2.4**
	26nm,0.4s						
PMG	**Port Moresby**	**13.63**	**106**	LR	LR	01 34 59.7	
	comp=Z,57nm,18.9s,baz=326,slow=42						
PMG	**Port Moresby**	**13.63**	**106**	*e*Pn	**Pn**	**01 28 43.0**	**-0.8**
WB2	**Warramunga Arr**	**14.08**	**178**	*e*P	**Pn**	**01 28 48.5**	**-1.6**
WRA	**Warramunga Arr**	**14.08**	**178**	Pn	**Pn**	**01 28 49.3**	**-0.8**
	1.7nm,0.3s,baz=0.2,slow=13,SNR=11						
WRA				Sn	**Sn**	**01 31 19.6**	**-6.8**
	0.6nm,0.3s,baz=0.9,slow=23,SNR=3.8						
WRA				Lg		01 33 00.3	
	0.5nm,0.3s,baz=351,slow=27,SNR=4.0						
FITZ	**Fitzroy Crossi**	**14.66**	**213**	*e*P	**Pn**	**01 28 57.0**	**-1.0**
	13nm,0.5s						
FITZ				*e*S	**Sn**	**01 31 33.7**	**-6.9**
FITZ	**Fitzroy Crossi**	**14.66**	**213**	Pn	**Pn**	**01 28 57.2**	**-0.8**
	1.5nm,0.3s,baz=34,slow=13,SNR=23						
FITZ				Sn	**Sn**	**01 31 32.8**	**-7.8**
	1.1nm,0.3s,baz=192,slow=16,SNR=5.5						
ASAR	**Alice Springs**	**17.78**	**180**	P	**Pn**	**01 29 37.5**	**-0.7**
	0.9nm,0.3s,baz=3.5,slow=10,SNR=36						
CTAO	**Charters Tower**	**18.61**	**141**	*e*P	**Pn**	**01 29 48.9**	**+0.5**
	15nm,1.1s						
KKM	**Kota Kinabalu**	**21.21**	**303**	*e*P	**P**	**01 30 16.1**	**-0.3**
FORT	**Forrest**	**25.46**	**192**	*e*P	**P**	**01 31 02.0**	**+3.3**
	32nm,0.6s,mb5.0						
FORT				*e*		01 31 09.2	
STKA	**Stephens Creek**	**26.94**	**165**	*e*P	**P**	**01 31 14.3**	**+2.2**
	2.7nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**26.94**	**165**	P	**P**	**01 31 14.5**	**+2.4**
	1.6nm,0.4s,mb3.9,baz=345,slow=8.1,SNR=4.5						
NACB	**Ninganchiao**	**32.10**	**339**	*e*P	**P**	**01 31 58.4**	**+0.5**
CASY	**Casey**	**62.54**	**190**	*e*P	**P**	**01 35 56.0**	**+1.5**
	39nm,1.0s,mb5.5						
MKAR	**Makanchi Array**	**69.40**	**325**	P	**P**	**01 36 38.8**	**+0.1**
	0.9nm,0.7s,mb3.8,baz=114,slow=7.5,SNR=12						
KURK	**Kurchatov**	**73.56**	**327**	*e*P	**P**	**01 37 03.4**	**-0.3**
	1.3nm,0.5s,mb4.1						
BRVK	**Borovoye**	**79.22**	**327**	*e*P	**P**	**01 37 35.2**	**-0.7**
BRVK				*e*PcP	PcP	01 37 44.7	+0.5
TORD	**Torodi Ar. Bea**	**132.36**	**282**	PKP	PKPdf	01 44 46.9	+1.9
	0.4nm,0.8s,baz=77,slow=2.1,SNR=3.2						

IDC 28 01:34:47.3±4.3,191S×14030E,h0km,mb3.5/2,mb1 3.9/3, mb1mx3.7/12,mbtmp3.7/3,ML4.0/1,Error ellipse: s-maj=160.1km s-min=29.3km az=87.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.84**	**198**	P	Pn	01 39 08.7	-0.5
	0.5nm,0.3s,baz=20,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**22.49**	**195**	P	P	01 39 48.5	+0.2
	2.4nm,0.7s,baz=25,slow=11,SNR=17						
MKAR	**Makanchi Array**	**70.14**	**322**	P	P	01 46 02.0	+0.4
	0.4nm,0.9s,baz=114,slow=7.0,SNR=5.5						

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*ISCJB **28** 01:37:20.4±0.9,2300S±004×690W±0.1,h93km±10km, mb4.0/7,Error ellipse: s-maj=17.3km s-min=6.9km az=5.4*
*NEIC **28** 01:37:21.6±0.6,2293S×6896W,h90km±6km,mb4.0/3, Error ellipse: s-maj=11.2km s-min=6.0km az=82.0*
*IDC **28** 01:37:23.6±0.9,2294S×6904W,h107km±6km,mb4.0/5, mb1 4.0/7,mb1mx3.8/15,mbtmp3.8/7,Error ellipse: s-maj=34.8km s-min=17.8km az=86.0*

ISC 28 01:37:21.9±0.7,2300S±004×690W±01,h92km±8km,n31, σ1§07/27,mb4.0/7,2C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**6.18**	**194**	*e*Pn	**Pn**	**01 38 50.7**	**+0.2**
	45nm,0.3s						
LCO				*e*Sn	**Sn**	**01 39 59.6**	**-0.1**
LPAZ	**La Paz**	**6.73**	**7**	P	**Pn**	**01 39 00.0**	**+2.1**
	2.4nm,0.3s,baz=200,slow=7.6,SNR=47						
LPAZ				S	**Sn**	**01 40 15.2**	**+2.1**
	0.4nm,0.3s,baz=300,slow=20,SNR=2.3						
LPAZ	**La Paz**	**6.73**	**7**	*e*Pn	**Pn**	**01 38 59.4**	**+1.4**
ARE	**Arequipa**	**6.91**	**340**	*e*P	**Pn**	**01 38 59.0**	**-1.4**
ARE				*e*S	**Sn**	**01 40 11.0**	**-6.5**
CFAA	**Coronel Fontan**	**8.60**	**176**	P	**Pn**	**01 39 24.6**	**+1.0**
	0.4nm,0.3s,baz=351,slow=14,SNR=24						
CFAA				S	**Sn**	**01 40 56.0**	**-2.8**
	0.4nm,0.3s,baz=30,slow=20,SNR=5.7						
CFAA	**Coronel Fontan**	**8.60**	**176**	P	**Pn**	**01 39 24.6**	**+1.0**
CFAA				S	**Sn**	**01 40 56.0**	**-2.8**
SIV	**San Ignacio**	**10.23**	**48**	P	**Pn**	**01 39 43.4**	**-2.2**
	2.0nm,0.3s,baz=242,slow=11,SNR=47						
SIV				S	**Sn**	**01 41 32.3**	**-6.1**
	1.0nm,0.3s,baz=125,slow=23,SNR=5.9						
NNA	**Nana**	**13.25**	**324**	*e*Pn	**Pn**	**01 40 26.1**	**-0.1**
TRQA	**Tornquist**	**16.18**	**160**	*e*Pn	**Pn**	**01 41 05.1**	**+1.4**
	8.2nm,1.0s						
OTAV	**Otavalo**	**24.85**	**337**	*e*P	**P**	**01 42 36.2**	**+0.4**
	2.0nm,0.7s,mb3.7						
JTS	**JuntasAbangare**	**36.58**	**333**	P	**P**	**01 44 18.9**	**0.0**
TEIG	**Tepich**	**46.89**	**335**	*e*P	**P**	**01 45 42.7**	**-0.2**
	8.9nm,0.8s,mb4.5						
VNA3	**Neumayer Olymp**	**58.70**	**161**	*e*	pP	01 47 38.1	+5.5
VNA2	**Neumayer--Watz**	**59.28**	**160**	*e*	pP	01 47 42.2	+5.5
	baz=298,slow=7.4						
SNAA	**Sanae**	**60.90**	**161**	*e*	pP	01 47 52.2	+4.3
MSU	**Marysvale**	**73.36**	**326**	*e*P	**P**	**01 48 44.1**	**+0.4**
SYO	**Syowa Base**	**75.14**	**159**⇑	*e*P	pP	01 49 22.0	+4.2
SYO	**Syowa Base**	**75.14**	**159**⇑	*e*P	pP	01 49 23.8	+6.0
PDAR	**Pinedale Array**	**75.36**	**330**	P	**P**	**01 48 55.4**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=132,slow=8.6,SNR=5.5						
ULM	**Lac du Bonnet**	**76.71**	**343**	P	**P**	**01 49 01.9**	**-1.1**
	1.5nm,0.4s,mb4.0,baz=162,slow=8.1,SNR=9.0						
SCHQ	**Schefferville**	**77.53**	**1**	P	**P**	**01 49 06.7**	**-0.9**
	5.4nm,1.1s,mb4.2,baz=225,slow=5.7,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**77.95**	**70**	*e*P	**P**	**01 49 10.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.95**	**70**	P	**P**	**01 49 10.4**	**+0.5**
	2.7nm,0.5s,mb4.2,baz=255,slow=5.2,SNR=75						
TORD				pP	pP	01 49 38.4	+4.6
	2.8nm,0.6s,baz=252,slow=5.5,SNR=7.3						
TORD				sP	sP	01 49 49.9	+6.2
	1.8nm,0.6s,baz=254,slow=5.3,SNR=3.7						
YKA	**Yellowknife Ar**	**92.56**	**341**	P	**P**	**01 50 22.2**	**-0.8**
	1.2nm,0.7s,mb4.3,baz=137,slow=4.5,SNR=33						
YKA	**Yellowknife Ar**	**92.56**	**341**	P	**P**	**01 50 22.2**	**-0.8**
KHU	**Kahuku**	**94.34**	**289**	P	**P**	**01 50 31.9**	**+0.7**
ASAR	**Alice Springs**	**128.55**	**207**	PKP	PKPdf	01 56 19.1	+1.1
	0.3nm,0.7s,baz=159,slow=2.2,SNR=4.4						
WRA	**Warramunga Arr**	**131.62**	**210**	PKP	PKPdf	01 56 25.7	+1.8
	0.6nm,0.8s,baz=172,slow=1.5,SNR=3.2						
MK31	**Makanchi Array**	**146.89**	**37**	*e*PKPdf	PKPdf	01 56 52.2	+0.6
MKAR	**Makanchi Array**	**146.89**	**37**	PKPbc	PKPbc	01 56 52.4	-1.2
	1.5nm,0.7s,baz=320,slow=2.7,SNR=15						
MKAR				pPKPbc	pPKPbc	01 57 21.2	+2.5
	1.6nm,0.7s,baz=318,slow=3.4,SNR=5.5						
SONM	**Songino Array**	**154.94**	**7**	PKPab	PKPab	01 57 27.9	-0.5
	0.6nm,0.8s,baz=315,slow=4.9,SNR=3.8						

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*NEIC **28** 02:31:13.6,3737S×17666E,h194km,MG3.8(WEL),After WEL.*

WEL 28 02:31:13.7±0.5,3737S×17666E,h194km±4km,ML3.7/17, 1D,Error ellipse: s-maj=7.1km s-min=6.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.95**	**158**	P	Pn	02 31 42.6	+0.1
URZ	**Urewera**	**0.95**	**158**	PN	Pn	02 31 42.6	+0.1
URZ				SN	Sn	02 32 04.8	+0.1
MWZ	**Matawai**	**1.18**	**145**	P	Pn	02 31 44.6	+0.5
MWZ				S	Sn	02 32 07.6	-0.1
MWZ	**Matawai**	**1.18**	**145**	PN	Pn	02 31 44.6	+0.5
MWZ				SN	Sn	02 32 07.7	0.0
MXZ	**Matakaoa Point**	**1.32**	**99**	P	Pn	02 31 45.2	-0.1
MXZ				S	Sn	02 32 08.9	-0.8
MXZ	**Matakaoa Point**	**1.32**	**99**	PN	Pn	02 31 45.2	-0.1
MXZ				SN	Sn	02 32 08.9	-0.8
PUZ	**Puketiti**	**1.45**	**119**	*e*P	Pn	02 31 46.4	+0.1
PUZ	**Puketiti**	**1.45**	**119**	PN	Pn	02 31 46.4	+0.1
BKZ	**Black Stump Fm**	**1.80**	**184**	P	Pn	02 31 49.7	0.0
BKZ	**Black Stump Fm**	**1.80**	**184**	PN	Pn	02 31 49.7	0.0
KNZ	**Kokohu**	**1.83**	**155**	⇓PN	Pn	02 31 50.3	+0.3
WNVZ	**Wahianoa**	**2.13**	**203**	P	Pn	02 31 53.5	+0.5
WNVZ	**Wahianoa**	**2.13**	**203**	PN	Pn	02 31 53.5	+0.5
MOVZ	**Moawhango**	**2.16**	**199**	P	Pn	02 31 53.4	0.0
MOVZ	**Moawhango**	**2.16**	**199**	PN	Pn	02 31 53.4	0.0
PXZ	**Pawanui**	**2.66**	**177**	PN	Pn	02 31 58.4	-0.6
TSZ	**Takapari Road**	**2.74**	**191**	P	Pn	02 31 59.1	-0.8
TSZ	**Takapari Road**	**2.74**	**191**	PN	Pn	02 31 59.1	-0.8
BFZ	**Birch Farm**	**3.32**	**185**	P	Pn	02 32 05.4	-1.4
BFZ	**Birch Farm**	**3.32**	**185**	PN	Pn	02 32 05.4	-1.4
MRZ	**Mangatainoka R**	**3.39**	**194**	P	Pn	02 32 06.0	-1.7
MRZ	**Mangatainoka R**	**3.39**	**194**	PN	Pn	02 32 06.0	-1.7
KIW	**Kapiti Island**	**3.74**	**201**	P	Pn	02 32 09.9	-2.1
KIW	**Kapiti Island**	**3.74**	**201**	PN	Pn	02 32 09.9	-2.1
MTW	**Mount Morrison**	**3.89**	**193**	P	Pn	02 32 11.3	-2.5
MTW	**Mount Morrison**	**3.89**	**193**	PN	Pn	02 32 11.3	-2.5
CAW	**Cannon Point**	**3.93**	**198**	P	Pn	02 32 11.9	-2.5
CAW	**Cannon Point**	**3.93**	**198**	PN	Pn	02 32 11.9	-2.4
MRW	**Makara Radio**	**4.14**	**201**	P	Pn	02 32 14.5	-2.5
MRW	**Makara Radio**	**4.14**	**201**	PN	Pn	02 32 14.5	-2.5
MSWZ	**Moikau Station**	**4.18**	**195**	PN	Pn	02 32 14.6	-2.9
SNZO	**South Karori**	**4.22**	**201**	P	Pn	02 32 15.1	-2.8
SNZO	**South Karori**	**4.22**	**201**	PN	Pn	02 32 15.1	-2.9
TCW	**Tory Channel**	**4.26**	**205**	P	Pn	02 32 16.0	-2.5
TCW	**Tory Channel**	**4.26**	**205**	PN	Pn	02 32 16.0	-2.5
TUWZ	**Tuamarina**	**4.57**	**207**	PN	Pn	02 32 19.9	-2.5
NNZ	**Nelson**	**4.61**	**213**	*e*PN	Pn	02 32 21.6	-1.3
THZ	**Tophouse**	**5.26**	**212**	*e*P	Pn	02 32 29.4	-1.9
THZ	**Tophouse**	**5.26**	**212**	*e*PN	Pn	02 32 29.5	-1.8
KHZ	**Kahutara**	**5.58**	**205**	*e*P	Pn	02 32 32.2	-3.2
KHZ	**Kahutara**	**5.58**	**205**	PN	Pn	02 32 32.2	-3.2

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*CSEM **28** 02:36:56.8,6718N×2066E,h5km,ML3.6,Mining explosion. After UPP*

UPP 28 02:36:56.8,6718N×2066E,h5km,ML3.6,1D,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**213**	⇓P	Pg	02 36 58.2	-0.2
	baz=121						
DUNU				S	Sg	02 36 59.3	-0.1
SALU	**Saltoluokta**	**0.86**	**285**	P	Pg	02 37 12.8	-0.5
PAJU	**Pajala**	**0.97**	**98**	P	Pg	02 37 14.8	-0.6
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	02 37 15.6	-0.6
	baz=287						
HARU	**Harads**	**1.03**	**173**	P	Pg	02 37 15.6	-0.9
	baz=342						
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	02 37 27.7	+0.3

KRSC 28 02:55:51.8±1.0,5492N×16550E,h41km±41km,ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**2.00**	**311**	*e*P	Pn	02 56 23.0	0.0
KBTR				*e*S	Sn	02 56 46.0	-0.8
MKZ	**Mys Kozlova**	**2.22**	**262**	*e*P	Pn	02 56 28.4	+2.4
MKZ				*e*S	Sn	02 56 54.6	+2.4
KLY	**Klyuchi**	**3.08**	**299**	*e*S	Sn	02 57 14.1	+0.5
KRSR	**Krestovskiy**	**3.09**	**297**	*e*S	Sn	02 57 16.5	+2.8
TUMR	**Tumrok**	**3.10**	**279**	P	Pn	02 56 41.9	+3.8
TUMR				S	Sn	02 57 18.7	+4.8
KMNR	**Kamenistaya**	**3.12**	**288**	P	Pn	02 56 42.1	+3.6
KMNR				*e*S	Sn	02 57 18.8	+4.3
KPT	**Kopyto**	**3.18**	**291**	*e*S	Sn	02 57 19.4	+3.4
SRDR	**Sredinnyy**	**3.57**	**295**	P	Pn	02 56 47.6	+3.0
SRDR				S	Sn	02 57 27.8	+2.3
KII	**Karymskiy**	**3.64**	**258**	*e*P	Pn	02 56 49.3	+3.7
KII				*e*S	Sn	02 57 30.6	+3.3
SPN	**Mys Shipunski**	**3.71**	**243**	*e*P	Pn	02 56 48.8	+2.2
SPN				*e*S	Sn	02 57 30.0	+1.0
NLC	**Nalytchevo**	**4.03**	**247**	*e*P	Pn	02 56 53.5	+2.6
NLC				*e*S	Sn	02 57 38.8	+1.9
AVH	**Avacha**	**4.31**	**250**	*e*P	Pn	02 56 59.0	+4.2
AVH				S	Sn	02 57 47.2	+3.3
GNL	**Ganaly**	**4.59**	**258**	*e*P	Pn	02 57 02.8	+4.1
RUS	**Russkaya**	**4.84**	**242**	*e*P	Pn	02 57 04.7	+2.6
RUS				S	Sn	02 57 57.3	+0.4
GRL	**Gorelyy**	**5.01**	**245**	*e*P	Pn	02 57 08.2	+3.8

IDC 28 02:56:40.7±1.0,2191N×14315E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.7/19,mbtmp3.6/5,Error ellipse: s-maj=38.9km s-min=23.3km az=88.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.16**	**320**	P	P	03 04 10.1	0.0
	0.7nm,0.6s,baz=129,slow=7.0,SNR=6.7						
WRA	**Warramunga Arr**	**42.48**	**192**	P	P	03 04 37.9	+0.3
	0.7nm,0.9s,baz=14,slow=8.2,SNR=2.9						
ASAR	**Alice Springs**	**46.19**	**192**	P	P	03 05 07.1	-0.1
	0.7nm,0.6s,baz=16,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**54.53**	**313**	P	P	03 06 10.8	+0.4
	0.4nm,0.7s,baz=99,slow=8.0,SNR=4.0						
YKA	**Yellowknife Ar**	**76.28**	**28**	P	P	03 08 30.8	-0.5
	0.4nm,0.5s,baz=292,slow=5.9,SNR=13						
LPAZ	**La Paz**	**149.95**	**85**	PKPab	PKPab	03 16 40.6	+2.0
	0.5nm,0.5s,baz=284,slow=3.0,SNR=4.7						

IDC 28 02:57:34.5±1.0,2188N×14318E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.7/19,mbtmp3.7/5,Error ellipse: s-maj=42.3km s-min=23.6km az=87.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.20**	**320**	P	P	03 05 04.2	0.0
	0.7nm,0.6s,baz=128,slow=8.0,SNR=7.0						
WRA	**Warramunga Arr**	**42.45**	**192**	P	P	03 05 31.2	+0.1
	1.0nm,0.9s,baz=16,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**46.16**	**192**	P	P	03 06 00.8	0.0
	0.8nm,0.7s,baz=13,slow=8.7,SNR=8.8						
MKAR	**Makanchi Array**	**54.58**	**313**	P	P	03 07 04.7	+0.3
	0.5nm,0.8s,baz=99,slow=7.5,SNR=3.5						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	P	03 09 24.7	-0.4
	0.5nm,0.6s,baz=292,slow=5.9,SNR=10						
LPAZ	**La Paz**	**149.92**	**85**	PKPbc	PKPbc	03 17 28.4	+1.8
	0.6nm,0.6s,baz=44,slow=3.2,SNR=3.9						

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*IDC **28** 02:59:07.0±0.6,2063S×17398W,h0km,mb4.4/10, mb1 4.6/11,mb1mx4.5/17,mbtmp4.4/11,ML4.5/1,MS3.5/9, Ms1 3.5/9,ms1mx3.4/23,Error ellipse: s-maj=28.2km s-min=17.3km az=125.0*
*ISCJB **28** 02:59:10.9±0.4,2065S±009×174.13W±0.10,h35km, mb4.5/19,MS3.5/7,Error ellipse: s-maj=15.9km s-min=9.8km az=91.5*
*NEIC **28** 02:59:13.3±3.4,2068S×17404W,h45km±29km,mb4.6/10, Error ellipse: s-maj=12.5km s-min=9.6km az=149.0*

ISC 28 02:59:12.5±0.4,2071S±009×17402W±010,h35km,n87, σ0§65/37,mb4.5/19,MS3.5/7,10C-4D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.09**	**18**	*e*Pn	**Pn**	**03 00 47.1**	**-6.6**
	80nm,0.4s						
AFI				*e*Sn	**Sn**	**03 02 04.8**	**-8.3**
RAO	**Raoul Island**	**9.21**	**202**	LR	LR	03 04 18.1	
	comp=Z,94nm,18.1s,baz=4.0,slow=34						
RAR	**Rarotonga**	**13.32**	**95**	Pn	**Pn**	**03 02 06.8**	**-12**
	3.1nm,0.3s,baz=270,slow=5.1,SNR=5.4						
RAR				LR	LR	03 06 35.0	
	comp=Z,264nm,19.2s,baz=288,slow=34						
URZ	**Urewera**	**19.10**	**202**	P	**Pn**	**03 03 31.6**	**-1.6**
	1.5nm,0.3s,baz=29,slow=5.3,SNR=9.9						
URZ				S	**S**	**03 06 48.8**	**-18**
	1.1nm,0.3s,baz=252,slow=16,SNR=6.4						
TBI	**Tubuai**	**22.91**	**101**	*e*LQ		03 08 09.8	
	512nm,28.8s						
TBI				*e*LR	LR	03 09 21.7	
	195nm,26.0s						
PPT	**Papeete**	**23.30**	**86**	*e*LQ		03 08 20.7	
	347nm,25.2s						
PPT				*e*LR	LR	03 09 39.7	
	141nm,21.5s						
PPT	**Papeete**	**23.30**	**86**	LR	LR	03 10 38.4	
	comp=Z,137nm,20.4s,MS3.4,baz=260,slow=30						
RPZ	**Rata Peaks**	**26.11**	**205**	P	**P**	**03 04 44.6**	**+1.6**
	18nm,1.1s,mb4.5,baz=32,slow=14,SNR=5.3						
RPZ				LR	LR	03 14 09.4	
	comp=Z,105nm,20.0s,MS3.4,baz=360,slow=34						
RPZ	**Rata Peaks**	**26.11**	**205**	P	**P**	**03 04 44.6**	**+1.6**
RPZ				LR	LR	03 14 09.4	
HNR	**Honiara**	**27.48**	**290**	LR	LR	03 12 58.2	
	comp=Z,30nm,20.0s,MS2.9,baz=179,slow=30						
TAOE	**Nuku Hiva Isla**	**34.72**	**75**	*e*LR	LR	03 14 51.8	
	315nm,21.4s						
CTAO	**Charters Tower**	**37.18**	**264**	*e*P	**P**	**03 06 20.4**	**+0.3**
	8.6nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**41.07**	**245**	*e*P	**P**	**03 06 52.9**	**+0.3**
	3.9nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**41.07**	**245**	P	**P**	**03 06 52.9**	**+0.3**
	4.9nm,0.8s,mb4.2,baz=98,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**41.07**	**245**	*e*P	**P**	**03 06 53.0**	**+0.4**
ASAR	**Alice Springs**	**48.10**	**256**	P	**P**	**03 07 48.8**	**0.0

KSP	**Ksiaz**	**148.85 347**	*e*P		PKPbc	03 18 57.4	+1.1
STHS	**Stebnicka Huta**	**148.88 341**	*e*PKP		PKPbc	03 18 57.1	+0.7
KOLS	**Kolonicke sedl**	**148.96 339**	*e*PKP		PKPab	03 19 02.1	+1.3
CLL	**Collm**	**148.97 351**	*i* PKPbc		PKPbc	03 18 56.7	+0.1
	comp=Z,5.0nm,0.8s						
CLL			*es*PKPbc		pPKPbc	03 19 11.0	+3.0
CLL			*es*PKPbc			03 19 16.0	
BURAR	**Bucovina Array**	**148.97 334**	⇑P		PKPbc	03 18 59.4	+2.8
BURAR			⇓P			03 19 02.1	
BURAR	**Bucovina Array**	**148.97 334**	⇓*i*P		PKPbc	03 18 57.7	+1.1
UPC	**Upice**	**149.22 347**	*e*PKPbc		PKPbc	03 18 58.3	+1.0
UPC			*ep*PKP		pPKPdf	03 19 11.3	+6.8
BRG	**Berggiesshubel**	**149.25 350**	*e*P		PKPdf	03 18 55.1	+2.1
	comp=Z,9.5nm,2.0s						
CRVS	**Cervenica-Dubn**	**149.26 340**	*e*PKP		PKPbc	03 18 59.8	+2.4
DPC	**Dobruska-Polom**	**149.31 347**	*e*PKPbc		PKPbc	03 18 58.4	+0.9
PVCC	**Panska Ves**	**149.48 349**	*e*PKPbc		PKPbc	03 18 58.4	+0.5
PVCC			*ep*PKP		pPKPdf	03 19 09.8	+4.9
BR131	**Keskin Array S**	**149.69 315**	*e*PKPbc		PKPbc	03 18 59.6	+1.2
BRTR	**Keskin Array B**	**149.69 315**	PKPbc		PKPbc	03 18 59.5	+1.1
	comp=Z,3.5nm,0.9s,baz=140,slow=4.0,SNR=13						
KECS	**Kecovo**	**149.94 341**	*e*PKP		PKPdf	03 18 58.1	+4.0
PRU	**Pruhonice**	**150.00 349**	*e*PKPbc		PKPbc	03 18 59.5	+0.3
PRU			*ep*PKP		pPKPdf	03 19 13.0	+7.3
NKC	**Novy Kostel**	**150.10 352**	*e*PKPbc		PKPbc	03 18 59.9	+0.5
NKC			*ep*PKP		pPKPdf	03 19 13.6	+7.7
ANTO	**Ankara**	**150.17 316**	⇓P		PKPbc	03 19 00.8	+1.2
ANTO	**Ankara**	**150.17 316**	⇓*i*P		PKPbc	03 19 00.8	+1.2
VRAC	**Vranov**	**150.23 346**	⇑P		PKPbc	03 19 00.5	+0.7
VRAC	**Vranov**	**150.23 346**	⇑*i*P		PKPbc	03 19 00.5	+0.8
MLR	**Muntele Rosu**	**150.32 331**	⇑P		PKPbc	03 18 59.9	0.0
MLR	**Muntele Rosu**	**150.32 331**	⇑*i*P		PKPbc	03 18 59.9	-0.1
VYHS	**Vyhne**	**150.41 343**	*e*PKP		PKPbc	03 19 01.1	+0.9
TREC	**Trest**	**150.48 347**	*e*PKPbc		PKPbc	03 19 00.8	+0.4
TREC			*ep*PKP		pPKPdf	03 19 14.4	+7.9
VOIR		**150.76 332**	⇑P		PKPbc	03 19 02.0	+1.0
VOIR		**150.76 332**	⇑*i*P		PKPbc	03 19 02.0	+1.0
GRA1	**Grafenberg Arr**	**150.78 353**	*e*PKP		PKPbc	03 19 01.9	+0.8
GRF	**Grafenberg Arr**	**150.78 353**	*e*PKP		PKPbc	03 19 01.9	+0.8
KHC	**Kasperske Hory**	**151.00 350**	*e*PKPbc		PKPbc	03 19 01.9	+0.3
KHC			*ep*PKP		pPKPdf	03 19 12.2	+4.9
GERES	**GERESS Array B**	**151.25 349**	PKPbc		PKPbc	03 19 02.1	-0.1
	comp=Z,1.7nm,0.8s,baz=29,slow=3.0,SNR=12						
GERES			PKPab		PKPab	03 19 11.4	+1.2
	comp=Z,0.7nm,0.9s,baz=17,slow=1.4,SNR=4.4						
BZS	**Buzias**	**152.03 336**	⇑*i*P		PKPbc	03 19 04.4	+0.5
TORD	**Torodi Ar. Bea**	**171.44 151**	PKP		PKPdf	03 19 15.7	-1.4
	comp=Z,0.7nm,0.9s,baz=308,slow=1.4,SNR=4.0						
TORD			PKPab		PKPab	03 20 36.7	-1.3
	comp=Z,0.5nm,0.6s,baz=205,slow=3.1,SNR=4.1						

*ISCJB **28** 03:02:49.2±0.5, 3996N±003×2327E±005, h14km±5km, Error ellipse: s-maj=6.5km s-min=4.6km az=6.3*
*ATH **28** 03:02:49.3, 3999N×2320E, h20km±2km, MD2.7/5*
*CSEM **28** 03:02:50.5±0.1, 3998N×2331E, h10km, ML2.1, Error ellipse: s-maj=2.5km s-min=1.5km az=90.0*
*THE **28** 03:02:50.3, 3998N×2328E, h2km, ML2.1*
*NEIC **28** 03:02:50.3, 3998N×2328E, h2km, MD2.7(ATH), After THE.*

ISC 28 03:02:50.1±0.5, 3998N±003×2329E±005, h12km±6km, n16, σ0°99/23, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.30**	**99**	*e*Pg	**Pg**	**03 02 56.0**	**-0.2**
PAIG				*e*Sg	**Sg**	**03 03 00.8**	**+0.5**
PLG	**Polygyros**	**0.41**	**16**	*e*Pg	**Pg**	**03 02 58.1**	**-0.2**
PLG	**Polygyros**	**0.41**	**16**	⇑*i*PB	**Pg**	**03 02 58.1**	**-0.2**
PLG				*e*SB	**Sg**	**03 03 03.4**	**-0.4**
PLG	**Polygyros**	**0.41**	**16**	*e*Pg	**Pg**	**03 02 58.1**	**-0.2**
PLG				*e*Sb	**Sg**	**03 03 03.4**	**-0.4**
OUR	**Ouranopolis**	**0.64**	**56**	*e*Pg	**Pg**	**03 03 02.1**	**-0.4**
HORT	**Hortiatis**	**0.64**	**347**	*e*Pg	**Pg**	**03 03 02.3**	**-0.2**
HORT				*e*Sg	**Sg**	**03 03 12.6**	**+1.7**
NEO	**Neokhori**	**0.67**	**185**	*e*PN	**Pn**	**03 03 02.8**	**-2.6**
NEO				*e*SN	**Sg**	**03 03 12.1**	**+0.1**
THE	**Thessaloniki**	**0.70**	**339**	*e*Pg	**Pg**	**03 03 03.7**	**0.0**
SOH	**Sokhos**	**0.84**	**3**	*e*Pg	**Pg**	**03 03 06.2**	**-0.3**
THL	**Klokotos Trika**	**1.07**	**248**	*e*PN	**Pn**	**03 03 08.5**	**-2.3**
SRS	**Serrai**	**1.16**	**11**	*e*Pg	**Pg**	**03 03 11.9**	**-0.6**
GRG	**Griva**	**1.19**	**325**	*e*Pg	**Pg**	**03 03 11.8**	**-1.3**
GRG				*e*Sg	**Sg**	**03 03 28.7**	**+0.1**
AGG	**Agios Georgios**	**1.21**	**218**	*e*Sg	**Sg**	**03 03 30.7**	**+1.6**
AGG	**Agios Georgios**	**1.21**	**218**	*e*Sg	**Sg**	**03 03 30.5**	**+1.4**
LKR	**Lokris**	**1.34**	**190**	*e*PN	**Pn**	**03 03 15.6**	**+1.0**
NVR	**Nevrokopi**	**1.44**	**17**	*e*PN	**Pn**	**03 03 16.9**	**+1.0**
NVR				*e*SN	**Sn**	**03 03 35.7**	**+1.0**

*ISCJB **28** 03:32:45.0±0.6, 2884N±003×5734E±005, h10km, mb3.6/5, Error ellipse: s-maj=6.5km s-min=4.4km az=58.0*
*CSEM **28** 03:32:46.6±0.1, 2884N×5732E, h14km, ML3.9, Error ellipse: s-maj=3.0km s-min=2.3km az=126.0*
*IDC **28** 03:32:46.6±2.5, 2877N×5719E, h32km±6km, mb3.6/5, mb1 3.7/5, mb1mx3.3/21, mbtmp3.6/5, Error ellipse: s-maj=72.2km s-min=25.4km az=146.0*
*NEIC **28** 03:32:46.9, 2898N×5725E, h26km, ML3.9(THR), MN3.7(TEH), After THR.*
*THR **28** 03:32:46.9±0.3, 2898N×5725E, h26km±2km, ML3.9*
*TEH **28** 03:32:48.9, 2890N×5735E, h7km, Mn3.7*

ISC 28 03:32:46.6±0.6, 2882N±004×5736E±005, h10km, (h32km±.2km:pP-P), n32, σ1°27/42, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.27**	**336**	*e*Pg	**Pn**	**03 33 07.2**	**-3.2**
KRBR				*e*Sg	**Sb**	**03 33 22.1**	**-4.8**
KRBR				AML	AML	03 33 23.1	
	comp=E,2μm,0.6s						
KRBR				AML	AML	03 33 23.9	
	comp=N,3μm,0.6s						
KRBR	**Kerman**	**1.27**	**336**	Pg	**Pn**	**03 33 07.0**	**-3.4**
KRBR				Sg	**Sb**	**03 33 22.0**	**-4.9**
BNDS	**Bandar-Abbas**	**1.77**	**217**	*e*Pg	**Pg**	**03 33 19.8**	**-0.6**
BNDS				*e*Sg	**Sg**	**03 33 44.0**	**+0.6**
BNDS				AML	AML	03 33 46.5	
	comp=E,1μm,0.5s						
BNDS				AML	AML	03 33 46.7	
	comp=N,934nm,0.5s						
BNDS	**Bandar-Abbas**	**1.77**	**217**	Pg	**Pg**	**03 33 19.0**	**-1.5**
BNDS				Sg	**Sg**	**03 33 43.0**	**-0.4**
BNDS	**Bandar-Abbas**	**1.77**	**217**	*e*Pg	**Pg**	**03 33 19.8**	**-0.7**
	SNR=93						
BNDS				Sg	**Sg**	**03 33 43.0**	**-0.4**
ZHSF	**Zahedan**	**3.09**	**74**	*e*PN	**Pn**	**03 33 37.1**	**+1.8**
ZHSF	**Zahedan**	**3.09**	**74**	Pn	**Pn**	**03 33 37.0**	**+1.6**
IBAF	**Bafgh**	**3.16**	**331**	Pn	**Pn**	**03 33 37.9**	**+1.5**
IBAF				Sn	**Sn**	**03 34 14.2**	**0.0**
IMEH	**Mehriz**	**3.49**	**318**	Pn	**Pn**	**03 33 42.1**	**+1.1**
IMEH				Sn	**Sn**	**03 34 22.3**	**-0.1**
IMEH	**Mehriz**	**3.49**	**318**	*e*Pn	**Pn**	**03 33 42.1**	**+1.1**
IMEH				*e*Sn	**Sn**	**03 34 21.9**	**-0.5**
IKOO		**3.86**	**21**	*e*Pn	**Pn**	**03 33 47.1**	**+1.1**
IKOO				*e*Sn	**Sn**	**03 34 31.3**	**-0.1**
GHIR	**Ghir-Karzin**	**3.88**	**263**	*e*Pn	**Pn**	**03 33 46.1**	**-0.2**
GHIR	**Ghir-Karzin**	**3.88**	**263**	Pn	**Pn**	**03 33 46.0**	**-0.3**
ITEG		**4.23**	**16**	*e*Pn	**Pn**	**03 33 50.4**	**-0.7**
ITEG				*e*Sn	**Sn**	**03 34 39.5**	**-1.1**
ICHK	**Chekchek**	**4.26**	**324**	*e*Pn	**Pn**	**03 33 52.5**	**+1.1**
ICHK				*e*Sn	**Sn**	**03 34 40.5**	**-0.7**
IDAH		**4.46**	**28**	*e*Pn	**Pn**	**03 33 55.9**	**+1.6**
IDAH				*e*Sn	**Sn**	**03 34 44.7**	**-1.5**
IMON		**4.78**	**24**	*e*Pn	**Pn**	**03 34 00.4**	**+1.7**
NASN	**Na'in**	**5.57**	**316**	*e*Pn	**Pn**	**03 34 08.4**	**-1.1**
NASN	**Na'in**	**5.57**	**316**	Pn	**Pn**	**03 34 08.0**	**-1.5**
IZEF	**Zefreh**	**5.93**	**314**	Pn	**Pn**	**03 34 15.6**	**+1.1**
IKLH	**Kalahroud**	**6.68**	**314**	Pn	**Pn**	**03 34 25.8**	**+1.0**
ISFB	**Sefidab**	**7.03**	**323**	Pn	**Pn**	**03 34 30.4**	**+0.8**
ISFB	**Sefidab**	**7.03**	**323**	*e*Pn	**Pn**	**03 34 30.5**	**+0.9**
BRTR	**Keskin Array B**	**22.35**	**305**	sP	sP	03 37 55.0	+6.2
	comp=N,0.9nm,0.7s,baz=121,slow=13,SNR=5.0						
BVAR	**Borovoye Array**	**26.02**	**18**	P	**P**	**03 38 17.6**	**-2.2**
	comp=N,0.3nm,0.3s,mb3.2,baz=196,slow=9.2,SNR=5.0						
BVAR				pP	pP	03 38 26.4	+3.6
	comp=N,0.7nm,0.7s,baz=202,slow=8.7,SNR=2.9						
BVAR				sP	sP	03 38 32.4	+8.3
	comp=N,1.4nm,0.7s,baz=195,slow=8.9,SNR=6.0						
BVAR	**Borovoye Array**	**26.02**	**18**	pP	pP	03 38 26.4	+3.6
MKAR	**Makanchi Array**	**26.47**	**41**	P	**P**	**03 38 22.4**	**-1.4**
	comp=N,0,3nm,0.6s,mb3.0,baz=243,slow=8.2,SNR=4.5						
MKAR				pP	pP	03 38 31.1	+4.2
	comp=N,0.1nm,0.4s,baz=222,slow=6.9,SNR=1.5						
FINES	**FINESS Array B**	**38.65**	**336**	P	**P**	**03 40 06.2**	**-4.0**
	comp=N,1.4nm,0.8s,mb3.8,baz=128,slow=9.3,SNR=3.4						
FINES	**FINESS Array B**	**38.65**	**336**	P	**P**	**03 40 06.2**	**-4.0**
TORD	**Torodi Ar. Bea**	**53.81**	**265**	P	**P**	**03 42 05.7**	**-3.8**
	comp=N,2.5nm,0.7s,mb4.3,baz=63,slow=7.2,SNR=45						
YKA	**Yellowknife Ar**	**88.78**	**356**	P	**P**	**03 45 36.8**	**-3.8**
	comp=N,0.4nm,0.7s,mb3.9,baz=1.3,slow=5.4,SNR=11						
YKA				pP	pP	03 45 46.3	+2.4
	comp=N,0.4nm,0.6s,baz=1.6,slow=5.2,SNR=6.5						
YKA	**Yellowknife Ar**	**88.78**	**356**	P	**P**	**03 45 36.8**	**-3.8**
YKA				pP	pP	03 45 46.3	+2.4

IDC 28 03:48:23.3±1.0, 3744N×3223W, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/20, mbtmp3.5/6, MS3.4/3, Ms1 3.4/3, ms1mx2.9/24, Error ellipse: s-maj=33.6km s-min=23.5km az=17.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**22.18**	**75**	P	P	03 53 22.7	+1.8
	0.2nm,0.3s,baz=270,slow=9.1,SNR=6.3						
MDT	**Midelt**	**23.01**	**93**	LR	LR	04 00 16.3	
	comp=Z,52nm,20.2s,baz=310,slow=31						
TORD	**Torodi Ar. Bea**	**38.72**	**120**	P	P	03 55 48.3	-0.8
	0.4nm,0.9s,baz=315,slow=6.7,SNR=7.7						
TORD				LR	LR	04 12 50.6	
	comp=Z,35nm,18.7s,baz=315,slow=38						
YKA	**Yellowknife Ar**	**54.18**	**325**	P	P	03 57 49.9	-0.5
	0.3nm,0.6s,baz=73,slow=7.3,SNR=8.2						
PDAR	**Pinedale Array**	**57.44**	**302**	P	P	03 58 13.9	+0.1
	0.7nm,0.9s,baz=64,slow=6.8,SNR=4.4						
PDAR				LR	LR	04 20 03.0	
	comp=Z,81nm,19.9s,baz=187,slow=33						
LPAZ	**La Paz**	**63.23**	**219**	P	P	03 58 55.0	+1.5
	0.7nm,0.7s,baz=55,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	**77.71**	**40**	P	P	04 00 21.3	-0.6
	0.6nm,0.7s,baz=330,slow=4.3,SNR=4.7						

*ISCJB **28** 04:02:56.3±0.6, 3995N±003×2326E±005, h14km±5km, Error ellipse: s-maj=6.3km s-min=4.7km az=149.0*
*NEIC **28** 04:02:56.9, 3997N×2323E, h20km, MD2.8(ATH), ML2.4(THE), After ATH.*
*ATH **28** 04:02:56.9, 3997N×2323E, h20km±2km, MD2.8/5*
*CSEM **28** 04:02:57.4±0.1, 3996N×2328E, h12km, ML2.2, Error ellipse: s-maj=2.4km s-min=1.6km az=79.0*
*THE **28** 04:02:57.8, 3998N×2331E, h9km, ML2.2*

ISC 28 04:02:57.0±0.5, 3996N±003×2328E±005, h19km±5km, n16, σ0°73/26, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.31**	**96**	*e*Pg	**Pg**	**04 03 03.3**	**-0.4**
PAIG				*e*Sg	**Sg**	**04 03 08.3**	**0.0**
PLG	**Polygyros**	**0.43**	**17**	*e*Pg	**Pg**	**04 03 05.4**	**-0.4**
PLG				*e*Sg	**Sg**	**04 03 12.1**	**+0.3**
PLG	**Polygyros**	**0.43**	**17**	⇑*i*PB	**Pb**	**04 03 05.3**	**-0.7**
PLG				*e*SB	**Sb**	**04 03 11.7**	**-0.4**
XOR	**Xorichti**	**0.60**	**187**	*e*Pg	**Pg**	**04 03 09.6**	**+0.7**
HORT	**Hortiatis**	**0.65**	**348**	*e*Pg	**Pg**	**04 03 09.6**	**-0.2**
HORT				*e*Sg	**Sg**	**04 03 19.3**	**+0.8**
OUR	**Ouranopolis**	**0.65**	**55**	*e*Pg	**Pg**	**04 03 09.4**	**-0.5**
OUR				*e*Sg	**Sg**	**04 03 18.9**	**+0.2**
NEO	**Neokhori**	**0.66**	**184**	*e*PN	**Pn**	**04 03 10.1**	**-1.2**
NEO				*e*SN	**Sb**	**04 03 19.3**	**+0.7**
THE	**Thessaloniki**	**0.71**	**340**	*e*Pg	**Pg**	**04 03 11.0**	**0.0**
SOH	**Sokhos**	**0.86**	**4**	*e*Pg	**Pg**	**04 03 13.5**	**-0.3**
SOH				*e*Sg	**Sg**	**04 03 26.2**	**+1.1**
SOH	**Sokhos**	**0.86**	**4**	*e*Pg	**Pg**	**04 03 13.5**	**-0.3**
SOH				*e*Sg	**Sg**	**04 03 26.2**	**+1.0**
THL	**Klokotos Trika**	**1.05**	**248**	*e*PN	**Pn**	**04 03 15.9**	**-0.9**
THL				*e*SN	**Sn**	**04 03 30.8**	**-0.1**
SRS	**Serrai**	**1.18**	**12**	*e*Pg	**Pg**	**04 03 19.2**	**-0.6**
GRG	**Griva**	**1.20**	**326**	*e*Pg	**Pg**	**04 03 19.3**	**-0.9**
GRG				*e*Sg	**Sg**	**04 03 36.4**	**+0.5**
KNT	**Kendrikon**	**1.23**	**346**	*e*Pg	**Pg**	**04 03 20.4**	**-0.4**
LKR	**Lokris**	**1.33**	**190**	*e*PN	**Pn**	**04 03 21.6**	**+1.1**
NVR	**Nevrokopi**	**1.46**	**18**	*e*PN	**Pn**	**04 03 24.4**	**+2.1**

*ISCJB **28** 04:06:44.9±0.9, 2294S±006×6844W±0.1, h98km±16km, mb3.7/2, Error ellipse: s-maj=18.9km s-min=9.6km az=18.2.*
*IDC **28** 04:06:45.9±2.4, 2285S×6852W, h90km±22km, mb3.5/2, mb1 3.3/5, mb1mx3.3/16, mbtmp3.2/5, Error ellipse: s-maj=46.6km s-min=19.4km az=96.0*
*NEIC **28** 04:06:47.6, 2317S×6861W, h110km, MD4.0(GUC), After GUC.*
NEIC Felt [III] at Calama.
*GUC **28** 04:06:47.6±0.8, 2317S×6861W, h110km, MD4.0, ML3.8*

ISC 28 04:06:45.9±0.8, 2297S±006×684W±01, h105km±15km, n11, σ1°46/18, mb3.7/2, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.69**	**255**	⇓*i*P	**Pn**	**04 07 16.6**	**+1.9**
CEN1				*i* S	**Sn**	**04 07 38.3**	**+1.7**
ANCH	**Antofagasta**	**1.96**	**248**	*e*P	**Pn**	**04 07 17.9**	**-0.1**
ANCH				*i* S	**Sn**	**04 07 41.0**	**-1.7**
ANCH				AML	AML	04 07 48.6	
	comp=N,1μm,0.4s						
ANCH	**Antofagasta**	**1.96**	**248**	*e*P	**Pn**	**04 07 17.9**	**-0.1**
ANCH				*i* S	**Sn**	**04 07 41.0**	**-1.7**
CPN1	**Cerro Paranal**	**2.45**	**227**	*e*P	**Pn**	**04 07 25.1**	**+0.6**
CPN1				*i* S	**Sn**	**04 07 53.0**	**-1.1**
CPN1				AML	AML	04 08 01.2	
	comp=E,610nm,0.5s						
CDCH	**Caldera**	**4.63**	**208**	*e*P	**Pn**	**04 07 53.5**	**-0.1**
CDCH				*i* S	**Sn**	**04 08 44.0**	**-2.2**
LPAZ	**La Paz**	**6.65**	**2**	P	**Pn**	**04 08 21.3**	**+0.3**
	comp=E,0.4nm,0.3s,baz=185,slow=8.1,SNR=7.8						
CFAA	**Coronel Fontan**	**8.60**	**179**	P	**Pn**	**04 08 50.6**	**+3.2**
	comp=E,0.1nm,0.3s,baz=7.7,slow=17,SNR=12						
CFAA				S	**Sn**	**04 10 24.9**	**+2.2**
	comp=E,0.1nm,0.3s,baz=257,slow=22,SNR=3.9						
SIV	**San Ignacio**	**9.81**	**46**	P	**Pn**	**04 09 02.1**	**-1.8**
	comp=E,0.4nm,0.3s,baz=235,slow=8.3,SNR=31						
SIV				S	**Sn**	**04 10 44.8**	**-7.2**
	comp=E,0.2nm,0.3s,baz=293,slow=21,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.43**	**70**	P	**P**	**04 18 32.5**	**+3.0**
	comp=E,0.6nm,0.3s,mb3.7,baz=261,slow=5.2,SNR=22						
YKA	**Yellowknife Ar**	**92.72**	**340**	P	**P**	**04 19 45.8**	**-0.3**
	comp=E,0.2nm,0.6s,mb3.6,baz=138,slow=4.4,SNR=6.8						
YKA	**Yellowknife Ar**	**92.72**	**340**	P	**P**	**04 19 45.8**	**-0.3**

IDC 28 04:14:54.9±1.2, 227N×12694E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=134.3km s-min=18.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.24**	**162**	P	P	04 20 04.6	+1.0
	1.2nm,0.5s,baz=339,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.65**	**166**	P	P	04 20 36.5	+1.2
	0.6nm,0.4s,baz=352,slow=7.3,SNR=15						
STKA	**Stephens Creek**	**36.70**	**159**	P	P	04 22 01.7	-1.8
	0.9nm,0.4s,baz=327,slow=7.6,SNR=5.0						
SONM	**Songino Array**	**48.74**	**342**	P	P	04 23 40.8	-0.5
	0.2nm,0.6s,baz=151,slow=3.3,SNR=3.1						
MKAR	**Makanchi Array**	**58.87**	**326**	P	P	04 24 56.2	+0.8
	0.4nm,0.5s,baz=115,slow=8.3,SNR=8.7						

MAN 28 04:27:14.0, 1763N×11975E, h57km, mb2.8, ML4.2, MS1.4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.91**	**89**	*e*P	Pn	04 27 32.3	+1.6
ABRA				*e*S	Sn	04 27 41.2	-1.9
PIP	**Pasuquin**	**1.07**	**50**	⇑*i*P	Pn	04 27 33.7	+0.8
PIP				*i* S	Sn	04 27 44.0	-2.9
APYP	**Conner**	**1.44**	**81**	*e*P	Pn	04 27 38.6	+0.9
APYP				*e*S	Sn	04 27 50.2	-5.3
BCPH	**Baguio City Da**	**1.47**	**147**	⇓*e*P	Pn	04 27 39.0	+0.7
BCPH				*e*S	Sn	04 28 04.4	+7.9

*SOF **28** 04:57:35.7, 4035N×2589E, h5km, MD2.7*
*ISCJB **28** 04:57:37.2±0.4, 4038N±002×2580E±003, h3km±4km, Error ellipse: s-maj=3.4km s-min=3.2km az=97.1*
*CSEM **28** 04:57:38.0±0.1, 4038N×2589E, h8km, MD3.2, Error ellipse: s-maj=2.0km s-min=1.7km az=31.0*
*ISK **28** 04:57:38.2, 4036N×2593E, h4km, MD3.2*
*ATH **28** 04:57:38.4, 4038N×2594E, h5km±1km, MD3.5/5, ML3.7*
*NEIC **28** 04:57:38.4, 4038N×2594E, h5km, MD2.7(SOF), MD3.2(ISK), ML3.0(THE), ML3.7(ATH), After ATH.*
*THE **28** 04:57:38.1, 4033N×2598E, h15km, ML3.1*

ISC 28 04:57:38.1±0.4, 4037N±002×2581E±003, h8km±3km, n43, σ0°93/60, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.45**	**36**	*i* PG	**Pg**	**04 57 46.6**	**-0.2**
ENEZ				*i* SG	**Sg**	**04 57 53.3**	**+0.6**
ALN	**Alexandroupoli**	**0.56**	**19**	*e*Pg	**Pg**	**04 57 49.1**	**+0.3**
ALN				*e*Sg	**Sg**	**04 57 57.1**	**+1.0**
BOZC	**Bozcaada**	**0.56**	**160**	*i* P	**Pg**	**04 57 49.3**	**+0.4**
BOZC				*i* S	**Sg**	**04 57 56.8**	**+0.6**
LIA	**Limnos Island**	**0.67**	**225**	*e*PG	**Pg**	**04 57 52.5**	**+1.5**
LIA				*e*SB	**Sb**	**04 58 03.1**	**+1.6**
EZN	**Ezine**	**0.68**	**144**	PG	**Pg**	**04 57 50.8**	**-0.3**
EZN				SG	**Sg**	**04 57 59.6**	**-0.3**
LOS	**Limnos**	**0.71**	**232**	*e*Pg	**Pg**	**04 57 53.0**	**+1.4**
LPK	**Lapseki**	**0.73**	**90**	PG	**Pg**	**04 57 51.9**	**-0.2**
RDO	**Rodhopi**	**0.80**	**345**	*e*PB	**Pb**	**04 57 54.2**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.09**	**73**	PG	**Pg**	**04 57 57.9**	**-1.2**
RKY				SG	**Sg**	**04 58 12.7**	**-0.5**
SART	**Tekirdag**	**1.09**	**73**	*i* P	**Pg**	**04 57 58.4**	**-0.7**
SART				*i* S	**Sg**	**04 58 14.5**	**+1.2**
PRK	**Paraskevi**	**1.18**	**162**	*e*PB	**Pb**	**04 58 00.4**	**-0.3**
PRK				*e*SB	**Sb**	**04 58 16.1**	**0.0**
MFT	**Murefte**	**1.20**	**69**	PN	**Pn**	**04 57 59.5**	**-1.6**
AYVA	**Ayvalik**	**1.26**	**147**	*i* P	**Pn**	**04 58 02.0**	**0.0**
AYVA				*i* S	**Sb**	**04 58 18.3**	**-0.2**
KDZ	**Kurdzhali**	**1.31**	**347**	P	**Pn**	**04 58 02.2**	**-0.5**
MRMT	**Marmara Adasi**	**1.39**	**80**	PN	**Pn**	**04 58 02.4**	**-1.3**
OUR	**Ouranopolis**	**1.39**	**269**	*e*Pg	**Pg**	**04 58 03.3**	**-1.5**
EDC	**Edincik**	**1.57**	**90**	PN	**Pn**	**04 58 06.8**	**+0.5**
BNT	**Bandirma**	**1.62**	**90**	PN	**Pn**	**04 58 06.9**	**0.0**
EDRB	**Edirne**	**1.64**	**25**	PN	**Pn**	**04 58 08.2**	**+1.1**
PAIG	**Paliouri**	**1.69**	**255**	*e*Pb	**Pb**	**04 58 07.6**	**-1.8**
DIM	**Dimitrovgrad**	**1.69**	**353**	P	**Pn**	**04 58 07.0**	**-0.9**
DIM				Pg	**Pg**	**04 58 09.7**	**-0.8**
NVR	**Nevrokopi**	**1.77**	**304**	*e*PG	**Pg**	**04 58 12.3**	**+0.3**
NVR				*e*SN	**Sn**	**04 58 37.9**	**+6.3**
PLG	**Polygyros**	**1.80**	**271**	*e*PG	**Pg**	**04 58 13.5**	**+0.9**
PLG				*e*SN	**Sn**	**04 58 38.8**	**+6.3**
PLG	**Polygyros**	**1.80**	**271**	*e*Pb	**Pb**	**04 58 09.8**	**-1.5**
PLG	**Polygyros**	**1.80**	**271**	*e*Pg	**Pg**	**04 58 13.5**	**+0.9**
BTOK	**Tokmak**	**1.81**	**109**	*i* P	**Pn**	**04 58 08.4**	**-1.2**
BTOK				*i* S	**Sn**	**04 58 32.4**	**-0.4**
SRS	**Serrai**	**1.84**	**295**	*e*Pb	**Pb**	**04 58 10.2**	**-1.7**
PLD	**Plovdiv**	**1.92**	**335**	P	**Pn**	**04 58 14.8**	**+3.7**
KCT	**Karacabey**	**1.95**	**92**	*e*PN	**Pn**	**04 58 11.3**	**-0.2**
MMB	**Musomiste**	**1.99**	**308**	P	**Pn**	**04 58 11.8**	**-0.2**
CTT	**Catalca**	**2.14**	**68**	*e*PN	**Pn**	**04 58 14.2**	**+0.1**
AKS	**Akhisar**	**2.15**	**133**	*e*PN	**Pn**	**04 58 14.8**	**+0.6**
JMB	**Yambol**	**2.17**	**15**	P	**Pn**	**04 58 15.7**	**+1.2**
JMB				Pg	**Pg**	**04 58 19.6**	**-0.1**
DST	**

comp=Z,5.0nm,0.9s,mb4.5
SONM Songino Array 58.47 339 P **P 05 09 23.1 -0.3**
comp=Z,0.3nm,0.6s,mb3.5,baz=128,slow=2.4,SNR=3.0
WMQ Urumqi 64.31 325 *e*P **P 05 10 04.0 +1.2**
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.2
MKAR Makanchi Array 69.14 325 P **P 05 10 33.9 +0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=122,slow=7.8,SNR=28
ZAL Zalesovo 72.06 332 P **P 05 10 50.9 -0.5**
comp=Z,1.3nm,0.3s,mb4.3,baz=11,slow=3.2,SNR=7.6
VNDA Vanda 73.24 174 P **P 05 10 58.7 +0.3**
comp=Z,2.7nm,1.0s,mb4.1,baz=44,slow=6.3,SNR=3.4
VNDA LR LR 05 41 51.5
comp=Z,158nm,20.6s,MS4.3,baz=347,slow=35
VNDA Vanda 73.24 174 P **P 05 10 58.7 +0.3**
VNDA LR LR 05 41 51.5
PPT Papeete 75.91 107 *e*LR LR 05 34 40.4
comp=Z,73nm,27.0s
PPT Papeete 75.91 107 LR LR 05 41 05.9
comp=Z,40nm,18.4s,MS3.8,baz=279,slow=33
TBI Tubuai 75.92 113 *e*LR LR 05 34 35.5
comp=Z,82nm,26.0s
MAW Mawson 77.30 202 P **P 05 11 20.8 -0.9**
comp=Z,3.7nm,1.0s,mb4.3,baz=117,slow=10,SNR=2.1
MAW LR LR 05 42 30.4
comp=Z,169nm,20.1s,MS4.4,baz=247,slow=33
BVAR Borovoye Array 78.89 327 P **P 05 11 29.9 -0.6**
comp=Z,2.9nm,0.7s,mb4.3,baz=116,slow=6.8,SNR=14
AKTK Aktyubinsk 85.22 322 P **P 05 12 04.0 +0.2**
AKTO Aktyubinsk 85.22 322 P **P 05 12 04.0 +0.2**
comp=Z,1.4nm,0.8s,mb4.1,baz=56,slow=2.5,SNR=4.4
KMBO Kilima Mbogo 96.01 268 LR LR 05 52 01.8
comp=Z,52nm,21.6s,MS4.0,baz=266,slow=33
TOA0 Torodi Ar. Sit 131.88 282 *e*PKPdf PKPdf 05 18 42.5 +2.1
TORD Torodi Ar. Bea 131.88 282 PKP PKPdf 05 18 42.0 +1.6
comp=Z,0.8nm,0.7s,baz=66,slow=1.9,SNR=6.4
LPAZ La Paz 149.41 136 PKPbc PKPbc 05 19 17.6 +1.5
comp=Z,2.1nm,1.1s,baz=214,slow=7.0,SNR=4.3
LPAZ La Paz 149.41 136 *e*PKPbc PKPbc 05 19 18.2 +2.1
LPAZ *e* 05 19 26.6

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*IDC **28** 05:00:34.4±1.2,2212N×12103E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.9/22,mbtmp3.9/8,MS3.5/2,Ms1 3.5/2, ms1mx2.6/39,Error ellipse: s-maj=40.0km s-min=24.2km az=76.0*
*NEIC **28** 05:00:35.7±0.9,2182N×12056E,h10km,mb4.2/1,Error ellipse: s-maj=21.4km s-min=16.3km az=100.0*
*ISCJB **28** 05:00:42.1±2.2,22.1N±0.1×1209E±02,h73km±21km, mb3.8/9,Error ellipse: s-maj=34.8km s-min=22.0km az=157.9*

ISC 28 05:00:44.3±2.0,222N±01×1210E±02,h78km±19km,n15, σ0°87/13,mb3.8/9,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.07**	**16**	*e*Pn	**Pn**	**05 01 17.2**	**+0.1**
YHNB	**Yeheng**	**2.51**	**8**	*e*Pn	**Pn**	**05 01 23.2**	**+0.2**
KSRS	**Korea Array**	**16.37**	**20**	LR	LR	05 12 14.8	
	comp=Z,101nm,18.3s,baz=342,slow=43						
GUMO	**Guam**	**24.25**	**107**	LR	LR	05 13 34.2	
	comp=Z,131nm,19.1s,baz=200,slow=32						
SONM	**Songino Array**	**28.16**	**339**	P	**P**	**05 06 27.4**	**-1.8**
	0.5nm,0.8s,mb3.1,baz=90,slow=2.9,SNR=3.7						
PSI	**Prapat**	**28.80**	**231**	P	**P**	**05 06 35.8**	**+0.8**
	5.0nm,0.9s,mb4.2,baz=74,slow=12,SNR=4.0						
MK31	**Makanchi Array**	**39.68**	**318**	*e*P	**P**	**05 08 08.3**	**-0.4**
MKAR	**Makanchi Array**	**39.68**	**318**	P	**P**	**05 08 08.6**	**-0.1**
	0.7nm,0.8s,mb3.5,baz=107,slow=12,SNR=6.5						
ZAL	**Zalesovo**	**41.85**	**328**	P	**P**	**05 08 26.7**	**+0.1**
	1.4nm,0.8s,mb3.8,baz=358,slow=11,SNR=8.2						
BVAR	**Borovoye Array**	**49.13**	**322**	P	**P**	**05 09 24.0**	**0.0**
	1.1nm,0.6s,mb4.0,baz=98,slow=8.9,SNR=7.2						
BRVK	**Borovoye**	**49.20**	**322**	*e*P	**P**	**05 09 24.2**	**-0.3**
	1.2nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**57.25**	**159**	P	**P**	**05 10 22.3**	**-1.3**
	0.8nm,0.4s,mb4.1,baz=323,slow=9.6,SNR=3.5						
GERES	**GERESS Array B**	**84.28**	**321**	P	**P**	**05 13 08.7**	**+1.2**
	0.4nm,0.7s,mb3.4,baz=64,slow=4.5,SNR=3.7						
YKA	**Yellowknife Ar**	**84.89**	**23**	P	**P**	**05 13 11.9**	**+1.4**
	1.1nm,0.8s,mb3.8,baz=313,slow=4.7,SNR=20						
YKA	**Yellowknife Ar**	**84.89**	**23**	P	**P**	**05 13 11.9**	**+1.4**

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*THE **28** 05:01:53.0,4034N×2599E,h18km,ML3.1*
*ISK **28** 05:01:52.9,4039N×2593E,h5km,MD3.2*
*SOF **28** 05:01:52.0,4033N×2575E,h10km,MD2.7*
*ISCJB **28** 05:01:52.8±0.4,4037N±002×2583E±003,h5km±4km, Error ellipse: s-maj=3.5km s-min=3.4km az=20.7*
*NEIC **28** 05:01:53.1,4037N×2592E,h4km,MD2.7(SOF), MD3.2(ISK),MD3.4(ATH),After ATH.*
*CSEM **28** 05:01:53.6±0.1,4039N×2589E,h10km,MD3.2,Error ellipse: s-maj=1.8km s-min=1.5km az=147.0*
*ATH **28** 05:01:53.1,4037N×2592E,h4km±1km,MD3.4/5*

ISC 28 05:01:53.4±0.4,4036N±002×2585E±003,h8km±4km,n35, σ0°87/47,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.44**	**31**	*i*PG	**Pg**	**05 02 01.6**	**-0.3**
ENEZ				*i*SG	**Sg**	**05 02 08.3**	**+0.7**
BOZC	**Bozcaada**	**0.54**	**164**	*i*P	**Pg**	**05 02 04.0**	**0.0**
BOZC				*i*S	**Sg**	**05 02 11.5**	**+0.4**
ALN	**Alexandroupoli**	**0.55**	**15**	*e*Pg	**Pg**	**05 02 03.7**	**-0.3**
ALN				*e*Sg	**Sg**	**05 02 11.8**	**+0.5**
EZN	**Ezine**	**0.65**	**146**	PG	**Pg**	**05 02 05.6**	**-0.3**
LPK	**Lapseki**	**0.69**	**89**	PG	**Pg**	**05 02 06.5**	**-0.2**
LIA	**Limnos Island**	**0.69**	**228**	*e*PG	**Pg**	**05 02 06.9**	**+0.1**
LIA				*e*SG	**Sg**	**05 02 17.6**	**+1.8**
LOS	**Limnos**	**0.73**	**234**	*e*Pg	**Pg**	**05 02 07.7**	**+0.2**
RDO	**Rodhopi**	**0.82**	**343**	*e*PG	**Pg**	**05 02 08.7**	**-0.4**
RDO				*e*SG	**Sg**	**05 02 20.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.06**	**72**	PG	**Pg**	**05 02 13.0**	**-0.8**
RKY				SG	**Sg**	**05 02 27.8**	**+0.3**
SART	**Tekirdag**	**1.06**	**72**	*i*P	**Pg**	**05 02 12.5**	**-1.3**
SART				*i*S	**Sg**	**05 02 28.4**	**+0.8**
PRK	**Paraskevi**	**1.16**	**164**	*e*PB	**Pb**	**05 02 14.8**	**-1.0**
PRK				*e*SB	**Sb**	**05 02 30.9**	**-0.1**
MFT	**Murefte**	**1.17**	**68**	PN	**Pn**	**05 02 15.2**	**-0.9**
AYVA	**Ayvalik**	**1.24**	**148**	*i*P	**Pn**	**05 02 16.2**	**-0.8**
AYVA				*i*S	**Sb**	**05 02 32.9**	**-0.2**
KDZ	**Kurdzhali**	**1.33**	**346**	P	**Pn**	**05 02 17.6**	**-0.7**
MRMT	**Marmara Adasi**	**1.35**	**79**	PN	**Pn**	**05 02 17.8**	**-0.8**
OUR	**Ouranopolis**	**1.43**	**269**	*e*Pg	**Pn**	**05 02 18.2**	**-1.5**
EDC	**Edincik**	**1.54**	**90**	PN	**Pn**	**05 02 22.1**	**+0.9**
BNT	**Bandirma**	**1.58**	**90**	PN	**Pn**	**05 02 21.9**	**+0.2**
RZN	**Rozhen**	**1.58**	**327**	P	**Pn**	**05 02 20.6**	**-1.1**
EDRB	**Edirne**	**1.63**	**24**	PN	**Pn**	**05 02 22.7**	**+0.3**
DIM	**Dimitrovgrad**	**1.70**	**352**	P	**Pn**	**05 02 23.0**	**-0.4**
BTOK	**Tokmak**	**1.78**	**109**	*i*P	**Pn**	**05 02 24.4**	**-0.1**
BTOK				*i*S	**Sn**	**05 02 47.7**	**+0.5**
NVR	**Nevrokopi**	**1.80**	**304**	*e*PB	**Pb**	**05 02 27.7**	**+1.0**
PLG	**Polygyros**	**1.84**	**271**	*e*Pb	**Pn**	**05 02 24.0**	**-1.3**
PLG	**Polygyros**	**1.84**	**271**	*e*PG	**Pg**	**05 02 28.5**	**-0.2**
PLG				*e*SB	**Sg**	**05 02 52.9**	**+0.3**
KCT	**Karacabey**	**1.92**	**92**	PN	**Pn**	**05 02 27.5**	**+1.1**
MMB	**Musomiste**	**2.02**	**308**	P	**Pn**	**05 02 27.0**	**-0.8**
CTT	**Catalca**	**2.11**	**67**	PN	**Pn**	**05 02 30.0**	**+1.0**
AKS	**Akhisar**	**2.12**	**134**	PN	**Pn**	**05 02 30.7**	**+1.5**
JMB	**Yambol**	**2.17**	**14**	P	**Pn**	**05 02 31.8**	**+1.9**
DST	**Dursunbey**	**2.26**	**109**	PN	**Pn**	**05 02 32.2**	**+1.1**
KNT	**Kendrikon**	**2.38**	**290**	*e*Pn	**Pn**	**05 02 32.5**	**-0.3**
ULDT	**Uludag**	**2.52**	**94**	*i*P	**Pb**	**05 02 37.8**	**-1.1**
ULDT				*i*S	**Sg**	**05 03 12.5**	**-1.9**
IZI	**Iznik**	**2.77**	**89**	*e*PN	**Pn**	**05 02 39.5**	**+1.4**
SZH	**Strazhica**	**2.90**	**1**	P	**Pn**	**05 02 40.7**	**+0.8**

CASC 28 05:07:46.9±2.6,1389N×9206W,h52km±41km,MD3.6,2C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.59**	**44**	*e*P	Pn	05 07 59.8	+0.4
JAT				*e*S	Sn	05 08 08.8	+0.4
FUG	**Fuego 3**	**1.31**	**65**	*e*P	Pn	05 08 09.0	+0.2
FUG				*e*S	Sn	05 08 27.3	+2.2
PCG	**Pacaya**	**1.50**	**70**	*e*P	Pn	05 08 12.2	+0.8
PCG				*e*S	Sn	05 08 31.8	+2.1
RBDL	**Robledal**	**2.31**	**84**	*e*P	x	05 08 49.5	
RBDL				*e*S	x	05 09 18.5	
RTR	**El Retiro**	**2.35**	**90**	*e*P	x	05 08 50.7	
RTR				*e*S	x	05 09 19.9	
SBLS	**San Blas**	**2.37**	**91**	*e*P	x	05 08 51.7	
SBLS				*e*S	x	05 09 20.1	
SNJE	**San Jose**	**2.38**	**90**	*e*P	x	05 08 51.9	
SNJE				*e*S	x	05 09 19.3	
BOQS	**Boqueron**	**2.71**	**93**	*e*P	x	05 08 56.7	
BOQS				*e*S	x	05 09 27.4	

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*ISCJB **28** 05:28:55.3±1.1,7.12S±008×14601E±009,h175km±12km, mb4.4/24,Error ellipse: s-maj=14.8km s-min=12.5km az=78.4*
*BJI **28** 05:28:55.5,6.80S×14659E,h188km,mb4.6*
*IDC **28** 05:28:56.5±0.7,7.13S×146.11E,h175km±7km,mb3.8/9, mb1 3.9/12,mb1mx3.9/15,mbtmp3.8/12,MS3.4/1, Ms1 3.4/1,ms1mx2.7/22,Error ellipse: s-maj=15.9km s-min=9.1km az=86.0*
*NEIC **28** 05:28:57.2±0.8,7.16S×14609E,h183km±8km,mb4.6/19, Error ellipse: s-maj=8.2km s-min=8.0km az=157.0*

ISC 28 05:28:56.8±1.0,715S±007×14606E±009,h174km±11km, n46,σ0°79/40,mb4.4/24,2C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.49**	**154**	P	**Pn**	**05 29 39.2**	**+0.3**
	39nm,0.3s,baz=4.5,slow=6.3,SNR=70						
PMG				S	**Sn**	**05 30 11.7**	**+0.1**
	82nm,0.3s,baz=92,slow=20,SNR=20						
CTA	**Charters Tower**	**12.86**	**179**	P	**Pn**	**05 31 58.7**	**+5.4**
	0.3nm,0.3s,baz=10,slow=11,SNR=2.5						
CTA	**Charters Tower**	**12.86**	**179**	P	**Pn**	**05 31 58.7**	**+5.4**
HNR	**Honiara**	**13.92**	**100**	P	**Pn**	**05 32 07.4**	**+0.7**
	13nm,0.3s,baz=221,slow=1.2,SNR=4.3						
KAKA	**Kakadu**	**14.51**	**247**	*i*P	**Pn**	**05 32 12.9**	**-1.1**
	16nm,0.4s						
WB2	**Warramunga Arr**	**17.05**	**221**	*i*P	**Pn**	**05 32 44.1**	**-0.8**
WB2	**Warramunga Arr**	**17.05**	**221**	*e*P	**Pn**	**05 32 43.9**	**-1.0**
WRA	**Warramunga Arr**	**17.06**	**221**	P	**Pn**	**05 32 43.8**	**-1.2**
	0.5nm,0.3s,baz=37,slow=12,SNR=19						
WRA				S	**S**	**05 36 00.1**	**+7.3**
	0.1nm,0.3s,baz=34,slow=17,SNR=3.0						
ASAR	**Alice Springs**	**20.15**	**214**	P	**P**	**05 33 18.7**	**+1.2**
	1.9nm,0.4s,baz=48,slow=8.8,SNR=28						
ASAR				pP		05 33 45.7	
	8.3nm,0.8s,baz=49,slow=12,SNR=14						
ASAR				S	**S**	**05 36 56.6**	**+2.5**
	8.8nm,1.0s,baz=23,slow=24,SNR=8.5						
FITZ	**Fitzroy Crossi**	**22.68**	**239**	*e*P	**P**	**05 33 44.3**	**+0.9**
	16nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**22.68**	**239**	P	**P**	**05 33 42.9**	**-0.5**
	7.8nm,0.8s,mb4.2,baz=81,slow=9.4,SNR=8.6						
FITZ				LR	LR	05 43 52.9	
	comp=Z,83nm,19.1s,baz=94,slow=39						
STKA	**Stephens Creek**	**24.95**	**189**	*e*P	**P**	**05 34 04.2**	**+0.2**
	5.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**24.95**	**189**	P	**P**	**05 34 04.3**	**+0.3**
	6.2nm,0.7s,mb4.2,baz=4.6,slow=8.1,SNR=17						
KSRS	**Korea Array**	**47.50**	**340**	P	**P**	**05 37 14.3**	**0.0**
	2.9nm,0.7s,mb4.0,baz=156,slow=9.4,SNR=5.9						
CHTO	**Chiang Mai**	**53.13**	**300**	*e*P	**P**	**05 37 56.9**	**+0.4**
	3.2nm,0.7s,mb4.2						
XAN	**Xi'an**	**53.99**	**322**	P	**P**	**05 38 03.0**	**+0.3**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
BJT	**Baijiatuau**	**54.45**	**332**	*e*P	**P**	**05 38 06.2**	**+0.1**
	comp=Z,6.6nm,0.5s,mb4.6						
LZH	**Lanzhou**	**58.48**	**320**	*e*P	**P**	**05 38 34.8**	**+0.3**
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.7						
LSA	**Lhasa**	**64.19**	**308**	*e*P	**P**	**05 39 14.3**	**+1.5**
	comp=Z,5.8nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**64.67**	**332**	*e*P	**P**	**05 39 16.6**	**+0.7**
	comp=Z,16nm,1.6s,mb4.6						
SONM	**Songino Array**	**64.96**	**332**	P	**P**	**05 39 17.6**	**-0.2**
	comp=Z,2.1nm,1.0s,mb3.9,baz=159,slow=5.8,SNR=13						
SONM				PcP	PcP	05 39 49.6	+0.2
	comp=Z,0.3nm,0.6s,baz=174,slow=4.3,SNR=2.6						
GUN	**Gumba**	**67.72**	**304**	*e*P	**P**	**05 39 36.0**	**+0.6**
	comp=Z,26nm,0.9s,mb5.0						
KKN	**Kakani**	**68.17**	**304**	*e*P	**P**	**05 39 38.9**	**+0.7**
	comp=Z,20nm,0.7s,mb4.9						
DMN	**Daman**	**68.25**	**303**	*e*P	**P**	**05 39 39.4**	**+0.7**
	comp=Z,18nm,0.6s,mb5.0						
GKN	**Gorkha**	**68.78**	**304**	*e*P	**P**	**05 39 42.2**	**+0.2**
	comp=Z,9.6nm,0.5s,mb4.8						
KOLN	**Koldanda**	**69.56**	**303**	*e*P	**P**	**05 39 47.1**	**+0.4**
	comp=Z,15nm,0.7s,mb4.8						
VNDA	**Vanda**	**70.83**	**176**	P	**P**	**05 39 54.2**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.2,baz=334,slow=6.4,SNR=6.3						
VNDA	**Vanda**	**70.83**	**176**	*e*P	**P**	**05 39 54.2**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.2						
BILL	**Bilibino**	**76.37**	**8**	*e*P	**P**	**05 40 26.8**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.0						
MK31	**Makanchi Array**	**77.79**	**321**	*e*P	**P**	**05 40 34.6**	**0.0**
MKAR	**Makanchi Array**	**77.79**	**321**	P	**P**	**05 40 34.4**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.0,baz=100,slow=7.0,SNR=30						
MKAR				pP	pP	05 41 18.5	+1.6
	comp=Z,3.0nm,1.0s,baz=116,slow=6.6,SNR=4.8						
ZAL	**Zalesovo**	**79.49**	**328**	P	**P**	**05 40 42.5**	**-1.4**
	comp=Z,1.7nm,0.5s,mb3.9,baz=22,slow=6.5,SNR=7.2						
MAW	**Mawson**	**80.83**	**203**	P	**P**	**05 40 50.6**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.7,baz=68,slow=12,SNR=3.4						
AAK	**Ala-Archa**	**81.48**	**315**	*e*P	**P**	**05 40 53.8**	**-0.8**
	comp=Z,1.4nm,0.6s,mb3.8						
KURK	**Kurchatov**	**81.57**	**324**	*e*P	**P**	**05 40 54.5**	**-0.6**
	comp=Z,4.5nm,1.2s,mb4.0						
QSPA	**South Pole Qui**	**82.83**	**180**	*e*P	**P**	**05 41 00.8**	**-0.8**
	comp=Z,4.9nm,0.4s,mb4.6						
COLA	**College**	**86.56**	**23**	*e*P	**P**	**05 41 18.3**	**-1.9**
	comp=Z,6.9nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**100.61**	**28**	P	Pdif	05 42 23.3	-1.4
	comp=Z,0.3nm,0.5s,baz=273,slow=4.9,SNR=16						
LPAZ	**La Paz**	**138.92**	**125**	PKP	PKPdf	05 48 03.9	+1.5
	comp=Z,1.9nm,1.1s,baz=139,slow=1.4,SNR=4.2						
SDV	**Santo Domingo**	**143.63**	**85**	*e*PKPdf	PKPdf	05 48 10.0	-0.8
TOA0	**Torodi Ar. Sit**	**144.45**	**283**	*e*PKPdf	PKPdf	05 48 11.8	-0.4
TORD	**Torodi Ar. Bea**	**144.45**	**283**	PKP	PKPdf	05 48 11.9	-0.3
	comp=Z,6.9nm,0.7s,baz=66,slow=3.4,SNR=47						
TORD				pPKP	pPKPdf	05 48 58.0	+0.2
	comp=Z,1.8nm,0.8s,baz=58,slow=2.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**144.45**	**283**	PKP	PKPdf	05 48 11.9	-0.3
TORD				pPKP	pPKPdf	05 48 58.0	+0.2
SIV	**San Ignacio**	**144.64**	**131**	PKP	PKPdf	05 48 11.8	-0.7
	comp=Z,4.3nm,0.8s,baz=244,slow=4.2,SNR=31						
SJG	**San Juan**	**146.79**	**68**	PKPbc	PKPbc	05 48 18.1	-0.2
	comp=Z,8.0nm,0.6s,baz=337,slow=4.4,SNR=4.0						
SJG	**San Juan**	**146.79**	**68**	*e*PKPbc	PKPbc	05 48 18.0	-0.3

IDC 28 05:45:20.2±3.5,2525S×17961W,h339km±33km,mb3.2/3, mb1 3.5/4,mb1mx3.3/14,mbtmp3.4/4,Error ellipse: s-maj=54.0km s-min=25.7km az=4.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.26**	**160**	P	Pn	05 46 31.2	0.0
	47nm,0.3s,baz=260,slow=23,SNR=3.6						
URZ	**Urewera**	**13.26**	**191**	P	Pn	05 48 25.0	+8.0
	3.1nm,0.3s,baz=346,slow=3.5,SNR=20						
ASAR	**Alice Springs**	**42.18**	**262**	P	P	05 52 40.8	+0.2
	0.9nm,0.6s,baz=96,slow=7.0,SNR=13						
WRA	**Warramunga Arr**	**42.69**	**267**	P	P	05 52 44.6	-0.1
	0.9nm,0.7s,baz=104,slow=8.0,SNR=7.2						
FITZ	**Fitzroy Crossi**	**51.09**	**267**	P	P	05 53 49.8	+0.7
	2.9nm,0.8s,baz=68,slow=5.4,SNR=2.8						
MKAR	**Makanchi Array**	**113.32**	**312**	PKiKP	PKiKP	06 03 16.8	-1.1
	0.2nm,0.5s,baz=90,slow=4.3,SNR=6.0						
BVAR	**Borovoye Array**	**121.68**	**318**	PKP	PKPdf	06 03 33.4	-0.6
	0.8nm,0.5s,baz=38,slow=3.7,SNR=4.2						
NB2	**NORSAR Subarra**	**143.47**	**351**	PKP	PKPdf	06 04 12.8	-1.8
	comp=Z,30nm,1.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.47**	**351**	PKP	PKPdf	06 04 13.2	-1.4
	comp=Z,5.3nm,0.8s,baz=22,slow=3.8,SNR=18						
AKASG	**Malin Array Be**	**146.29**	**326**	PKPbc	PKPbc	06 04 20.4	-0.9
	comp=Z,1.0nm,0.5s,baz=41,slow=3.9,SNR=9.4						
BRTR	**Keskin Array B**	**148.66**	**306**	PKPbc	PKPbc	06 04 27.9	+0.3
	comp=Z,1.0nm,0.6s,baz=93,slow=3.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**167.89**	**186**	PKPab	PKPab	06 05 55.5	+0.1
	comp=Z,0.8nm,0.8s,baz=163,slow=5.0,SNR=6.0						

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*IDC **28** 05:49:52.5±0.9,4710N×15581E,h0km,mb4.0/11, mb1 4.2/11,mb1mx4.0/23,mbtmp4.1/11,MS3.4/2, Ms1 3.4/2,ms1mx2.5/29,Error ellipse: s-maj=26.3km s-min=18.4km az=160.0*
*NEIC **28** 05:49:53.9±0.5,4706N×15578E,h10km,mb4.3/4,Error ellipse: s-maj=14.6km s-min=8.2km az=174.0*
*BJI **28** 05:49:54.8,4788N×15568E,h10km,mB5.1,mb4.6*
*ISCJB **28** 05:49:56.2±0.7,47.13N±0.10×1559E±01,h35km,mb4.2/20, MS3.4/2,Error ellipse: s-maj=15.7km s-min=7.0km az=121.8*
*MOS **28** 05:49:57.4±0.8,47.15N×15568E,h42km,mb4.4/7,Error ellipse: s-maj=17.0km s-min=10.6km az=100.1*

ISC 28 05:49:58.0±0.7,4716N±010×1559E±01,h35km,n36, σ0°95/37,mb4.2/20,MS3.4/2,3C-4D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.53**	**2**	*e*PN	**Pn**	**05 50 51.5**	**+1.2**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
KUR	**Kuril'sk**	**5.89**	**254**	PN	**Pn**	**05 51 23.0**	**+0.2**
KUR				*e*S	**Sn**	**05 52 31.0**	**+1.9**
KUR				smax			
	comp=N,140nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
YAK	**Yakutsk**	**21.05**	**325**	*e*P	**P**	**05 54 39.0**	**+0.2**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
CN2	**Changchun**	**21.54**	**272**	*e*P	**P**	**05 54 46.5**	**+2.4**
BILL	**Bilibino**	**21.60**	**11**	*d*P	**P**	**05 54 45.6**	**+0.8**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
KSRS	**Korea Array**	**22.74**	**255**	P	**P**	**05 54 57.5**	**+0.6**
	comp=Z,5.5nm,0.9s,mb4.0,baz=56,slow=10,SNR=6.1						
TIXI	**Tiksi**	**27.64**	**342**	*e*P	**P**	**05 55 42.8**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**32.56**	**290**	*i*P	**P**	**05 56 25.4**	**-0.3**
SONM	**Songino Array**	**32.99**	**290**	P	**P**	**05 56 27.8**	**-1.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=84,slow=7.1,SNR=6.2						
COLA	**College**	**34.63**	**39**	*i*P	**P**	**05 56 44.7**	**+0.9**
EGAK	**Eagle**	**37.49**	**39**	*e*P	**P**	**05 57 08.1**	**-0.2**
	comp=Z,4.6nm,0.8s,mb4.4						
INK	**Inuvik**	**40.28**	**33**	P	**P**	**05 57 31.0**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.1,baz=289,slow=8.1,SNR=11						
GYA	**Guiyang**	**43.66**	**260**	*i*P	**P**	**05 57 58.5**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**43.92**	**306**	P	**P**	**05 58 00.4**	**-0.9**
	comp=Z,1.3nm,0.4s,mb4.0,baz=15,slow=7.6,SNR=5.3						
ZAL				LR	LR	06 16 56.2	
	comp=Z,48nm,18.8s,MS3.4,baz=88,slow=37						
MK31	**Makanchi Array**	**48.43**	**298**	*e*P	**P**	**05 58 36.3**	**-0.5**
MKAR	**Makanchi Array**	**48.43**	**298**	P	**P**	**05 58 36.3**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=67,slow=6.5,SNR=9.8						
MKAR				LR	LR	06 21 23.4	
	comp=Z,32nm,18.7s,MS3.3,baz=355,slow=39						
MKAR	**Makanchi Array**	**48.43**	**298**	*e*P	**P**	**05 58 38.5**	**+1.7**
KURK	**Kurchatov**	**48.71**	**304**	*c*P	**P**	**05 58 38.5**	**-0.4**
KURK	**Kurchatov**	**48.71**	**304**	*e*P	**P**	**05 58 38.4**	**-0.5**
	comp=Z,15nm,1.0s,mb5.0						
YKA	**Yellowknife Ar**	**49.45**	**38**	P	**P**	**05 58 44.7**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=295,slow=7.2,SNR=28						
YKA	**Yellowknife Ar**	**49.45**	**38**	*e*P	**P**	**05 58 44.7**	**+0.1**
YKA	**Yellowknife Ar**	**49.45**	**38**	P	**P**	**05 58 44.7**	**+0.1**
BVAR	**Borovoye Array**	**52.06**	**310**	P	**P**	**05 59 03.5**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.3,baz=63,slow=7.2,SNR=13						
BRVK	**Borovoye**	**52.10**	**310**	*e*P	**P**	**05 59 04.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.10**	**310**	*e*P	**P**	**05 59 04.3**	**-0.2**
	comp=Z,3.3nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**55.35**	**297**	*i*P	**P**	**05 59 27.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**55.35**	**297**	*e*P	**P**	**05 59 27.5**

TIWZ	Tintock	4.19 198	*e*PN	Pn	06 21 48.2	-3.3
KIW	Kapiti Island	4.57 207	P	Pn	06 21 53.9	-2.7
KIW	Kapiti Island	4.57 207	PN	Pn	06 21 53.9	-2.7
MTW	Mount Morrison	4.65 200	P	Pn	06 21 54.4	-3.3
CAW	Cannon Point	4.74 204	P	Pn	06 21 55.7	-3.1
CAW	Cannon Point	4.74 204	PN	Pn	06 21 55.7	-3.2
TCW	Tory Channel	5.12 209	P	Pn	06 22 00.7	-3.2
TCW	Tory Channel	5.12 209	PN	Pn	06 22 00.7	-3.2

*ATH **28** 06:32:19.4, 3753N×2181E, h10km, MD3.2/3*
CSEM 28 06:32:19.4, 3753N×2181E, h10km, MD3.2/3, After ATH, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.36	165	*e*PB		06 32 26.5	
VLI	Veliai	1.21	132	*e*PB		06 32 42.3	
EVR	Evrytania	1.38	360	*e*PB		06 32 45.5	

*NEIC **28** 06:33:08.1, 3702N×2067E, h5km, MD3.7(ATH), After ATH.*
*CSEM **28** 06:33:08.1, 3702N×2067E, h5km, MD3.7/4, After ATH*
ATH 28 06:33:08.1, 3702N×2067E, h5km, MD3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	1.02	81	*e*PG	Pg	06 33 26.7	-0.9
ITM				*e*SB	Sb	06 33 42.2	+0.3
RLS	Riolos of Patr	1.21	31	*e*PB	Pb	06 33 31.1	-0.4
VLI	Veliai	1.84	99	*e*PN	Pn	06 33 43.3	+2.9
EVR	Evrytania	2.10	25	*e*PG	Pg	06 33 47.3	-1.0

*NEIC **28** 07:11:53.3±0.5, 4474N×14981E, h10km, mb4.1/2, Error ellipse: s-maj=13.6km s-min=9.9km az=155.0*
*BJI **28** 07:11:55.1, 4470N×14980E, h10km, mB4.7, mb4.3*
*MOS **28** 07:11:59.7±1.1, 4507N×14996E, h63km, mb4.5/10, Error ellipse: s-maj=13.7km s-min=8.6km az=110.6*
*ISCJB **28** 07:12:00.8±1.1, 4464N±007×14975E±008, h83km±9km, mb4.0/25, Error ellipse: s-maj=12.5km s-min=9.9km az=157.2*
*NIED **28** 07:12:00, 4490N×14970E, h44km, Mw3.8 Best double couple: M0=6.63000×10^14 NP1:φs=15.00000°, δ76.00000°, λ88.00000°. NP2:φs=201.00000°, δ14.00000°, λ96.00000°.*
*JMA **28** 07:12:01.7±0.3, 4490N×14966E, h30km, M4.7*
*IDC **28** 07:12:02.9±4.1, 4480N×14989E, h86km±36km, mb3.7/13, mb1 3.8/14, mb1mx3.7/22, mbtmp3.7/14, MS3.3/1, Ms1 3.3/1, ms1mx2.8/22, Error ellipse: s-maj=20.1km s-min=18.3km az=152.0*
ISC 28 07:12:02.1±1.0, 4466N±007×14977E±009, h83km±9km, n79, σ1§23/86, mb4.0/25, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.47 294	⇓	*i*PN	Pn	07 12 32.8	+5.7
KUR				pmax	pmax		
	comp=N,320nm,0.5s						
KUR				pmax	pmax		
	comp=E,230nm,0.5s						
KUR				pmax	pmax		
	comp=Z,710nm,0.5s						
NEM2	Nemuro 2	3.18 247		P	Pn	07 12 49.2	-0.7
NEM2				*e*S	Sn	07 13 24.5	-2.3
JRA	Rausu	3.42 259		P	Pn	07 12 54.3	+1.2
JRA				*e*S	Sn	07 13 33.3	+0.8
JNK	Nakash	3.79 255		P	Pn	07 12 58.6	+0.4
JNK				*e*S	Sn	07 13 40.9	-0.8
JAK	Akkeshi	4.03 247		P	Pn	07 13 00.7	-0.7
JAK				*e*S	Sn	07 13 44.7	-2.8
JAR	Ashorobuto	4.54 255		P	Pn	07 13 09.8	+1.4
JAR				*e*S	Sn	07 13 59.9	0.0
JOB	Onbets	4.64 250		P	Pn	07 13 10.2	+0.4
JOB				*e*S	Sn	07 14 00.7	-1.7
JMP	Maruseppu	4.65 264		P	Pn	07 13 11.5	+1.7
JCH	Churui	5.08 248		P	Pn	07 13 15.7	0.0
JCH				*e*S	Sn	07 14 11.2	-1.9
JKK2	Kamakawa 2	5.11 264		P	Pn	07 13 18.5	+2.4
ASAJ	Asahikawa	5.17 266		P	Pn	07 13 19.0	+2.0
	comp=Z,1.9nm,0.3s,baz=63,slow=26,SNR=3.0						
ASAJ	Asahikawa	5.17 266		PN	Pn	07 13 19.0	+2.0
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	Yuzh-Sakhalins	5.42 298		PN	Pn	07 13 21.0	+0.7
ERM	Erimo	5.50 244		*e*Pn	Pn	07 13 15.1	-6.4
	comp=Z,41nm,0.4s						
JNBK	Urakawa-nobuka	5.64 247		P	Pn	07 13 22.9	-0.4
JNBK				*e*S	Sn	07 14 21.5	-5.1
JNB	Noboribetsu	6.71 254		P	Pn	07 13 38.7	+0.7
JKB	Kayabe	6.96 250		P	Pn	07 13 41.2	-0.1
JKB				*e*S	Sn	07 14 54.8	-4.1
JYM2	Yakumo 2	7.31 253		P	Pn	07 13 47.2	+1.1
JANG	Nango	7.45 238		*e*S	Sn	07 15 04.5	-6.5
JTM	Tenmabayashi	7.49 242		*e*S	Sn	07 15 06.6	-5.2
JSR	Shiriuchi	7.53 249		*e*S	Sn	07 15 08.5	-4.3
JRG	Rokugo	8.60 235		*e*S	Sn	07 15 33.5	-5.4
JIO	Ouri	8.85 228		*e*S	Sn	07 15 37.9	-7.2
JFK	Kawauchi	9.91 226		*e*S	Sn	07 16 04.1	-6.9
PET	Petropavlovsk	10.20 32		*i*PN	Pn	07 14 19.5	-6.1
HABR	Khabarovsk	10.83 296		*e*PN	Pn	07 14 32.5	-1.6
HABR				*e*S	Sn	07 16 34.6	+1.2
MDJ	Mudanjiang	14.37 277		Pn	Pn	07 15 15.6	-5.8
SEY	Seymchan	18.37 4		*i*P	Pn	07 16 07.2	-3.9
HIA	Hailar	20.93 293		*i*P	P	07 16 39.6	+1.6
YAK	Yakutsk	20.97 333	⇓	*e*P	P	07 16 36.9	-1.5
YAK				pmax	pmax		
	comp=Z,34nm,0.9s						
BILL	Bilibino	24.98 15		*i*P	P	07 17 15.4	-2.5
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
TIXI	Tiksi	28.88 346		*i*P	P	07 17 49.2	-3.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
ULN	Ulaanbaatar	29.43 292		*i*P	P	07 17 59.0	+1.2
SONM	Songino Array	29.87 292		P	P	07 18 01.8	+0.2
	comp=Z,1.0nm,0.7s,mb3.6,baz=80,slow=7.2,SNR=10						
GTA	Gaotai	37.00 280		*e*P	P	07 19 05.5	+2.0
GTA				AP	pP	07 19 11.3	-12
GTA				XP	sP	07 19 14.0	-19
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
COLA	College	39.22 37		*i*P	P	07 19 18.5	-3.7
ZAL	Zalesovo	41.98 307		P	P	07 19 45.6	+0.8
	comp=Z,2.0nm,0.5s,mb4.1,baz=11,slow=12,SNR=6.8						
INK	Inuvik	44.66 31		P	P	07 20 05.7	-0.7
	comp=Z,1.7nm,0.5s,mb4.0,baz=283,slow=6.3,SNR=6.5						
INK	Inuvik	44.66 31		P	P	07 20 05.7	-0.7
MKAR	Makanchi Array	45.83 298		P	P	07 20 16.4	+0.6
	comp=Z,0.9nm,0.4s,mb3.8,baz=71,slow=7.2,SNR=14						
MKAR				PcP	PcP	07 21 51.2	-0.6
	comp=Z,0.4nm,0.6s,baz=66,slow=3.4,SNR=3.3						
KURK	Kurchatov	46.58 304	⇓	*e*P	P	07 20 22.3	+0.7
KURK	Kurchatov	46.58 304		*e*P	P	07 20 20.7	-0.9
	comp=Z,0.8nm,0.4s,mb3.8						
AAK	Ala-Archa	52.66 296	⇑	*e*P	P	07 21 08.9	+1.1
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
YKA	Yellowknife Ar	53.99 35		P	P	07 21 15.9	-1.6
	comp=Z,0.8nm,0.7s,mb3.9,baz=297,slow=6.6,SNR=12						
YKA	Yellowknife Ar	53.99 35		*i*P	P	07 21 16.3	-1.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	53.99 35		P	P	07 21 15.9	-1.6
HNR	Honiara	54.62 168		LR	LR	07 39 39.5	
	comp=Z,28nm,20.5s,baz=358,slow=30						
ARU	Arti	54.96 317		*e*P	P	07 21 23.2	-1.4
ARU				*e*		07 23 25.2	
ARU				*e*S	S	07 28 59.8	-0.4
ARU				*e*SS	SS	07 32 41.7	-3.0
JOF	Joensuu	62.15 333		*ep*	P	07 22 12.2	-2.3
KAF	Kangasniemi	64.33 334		*ep*	P	07 22 27.1	-1.8
	baz=40,slow=6.2						
FINES	FINESS Array B	64.91 334		P	P	07 22 31.6	-1.1
	comp=Z,3.3nm,0.6s,mb4.3,baz=48,slow=6.8,SNR=12						
FINES	FINESS Array B	64.91 334		*i*P	P	07 22 31.6	-1.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	Warramunga Arr	65.82 196		P	P	07 22 39.4	+0.8
	comp=Z,0.4nm,0.8s,mb3.3,baz=13,slow=6.6,SNR=3.3						
PDAR	Pinedale Array	67.88 51		P	P	07 22 51.2	-0.3
	comp=Z,0.4nm,0.6s,mb3.4,baz=332,slow=1.5,SNR=3.0						
NB2	NORSAR Subarra	69.42 340		P	P	07 23 00.5	-0.7
	comp=Z,1.1nm,0.4s,mb4.0,baz=27,slow=6.5						
NOA	NORSAR Array B	69.42 340		P	P	07 23 00.6	-0.6
	comp=Z,1.6nm,0.5s,mb4.2,baz=28,slow=6.2,SNR=5.9						
ASAR	Alice Springs	69.53 196		P	P	07 23 03.7	+1.8
	comp=Z,0.3nm,0.6s,mb3.3,baz=12,slow=6.4,SNR=5.7						
AKASG	Malin Array Be	71.94 325		P	P	07 23 16.4	-0.1
	comp=Z,4.3nm,0.6s,mb4.5,baz=37,slow=6.1,SNR=15						
AKASG	Malin Array Be	71.94 325		*i*P	P	07 23 16.3	-0.2
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	71.94 325		P	P	07 23 16.4	-0.1
AKBB	Malin Array Si	71.94 325		*e*P	P	07 23 16.6	+0.1
OKC	Ostrava-Krasne	76.89 330		*e*P	P	07 23 46.1	+0.9
CLL	Collm	77.35 334		*i*P	P	07 23 47.1	-0.7
CLL				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.0						
CLL	Collm	77.35 334		*i*P	P	07 23 47.1	-0.7
	comp=Z,25nm,1.5s,mb4.7						
BRG	Berggiesshubel	77.43 333		*e*(P)	P	07 23 47.0	-1.2
	comp=Z,1.7nm,1.1s,mb3.7						
BRG	Berggiesshubel	77.43 333		*e*P	P	07 23 47.0	-1.2
BRG				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
BRTR	Keskin Array B	78.26 315		P	P	07 23 54.2	+1.4
	comp=Z,1.7nm,0.7s,mb3.9,baz=74,slow=4.5,SNR=5.9						
BRTR	Keskin Array B	78.26 315		*i*P	P	07 23 54.2	+1.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KHC	Kasperske Hory	79.05 332		*e*P	P	07 23 57.7	+0.5
GERES	GERESS Array B	79.26 332		P	P	07 23 57.6	-0.7
	comp=Z,0.9nm,0.7s,mb3.7,baz=14,slow=6.1,SNR=4.8						
TXAR	Lajitas Array	80.57 58		P	P	07 24 05.6	+0.2
	baz=294,slow=4.4						
CDF	Champ du Feu	81.65 336		*e*P	P	07 24 11.8	+0.7
	comp=Z,2.6nm,0.6s,mb3.9						
GRR	Gorron	83.82 341		*e*P	P	07 24 22.5	+0.1
	comp=Z,9.9nm,0.7s,mb4.4						
SMF	Signal de Mont	84.23 337		*e*P	P	07 24 25.0	+0.5
	comp=Z,3.5nm,0.5s,mb4.1						
LPG	La Plagne	84.43 335		*e*P	P	07 24 26.3	+0.8
	comp=Z,5.3nm,0.8s,mb4.1						
CAF	Calviac	86.30 338		*e*P	P	07 24 35.1	+0.3
	comp=Z,1.3nm,0.2s,mb4.2						
PLCA	Paso Flores	150.32 97		PKPbc	PKPbc	07 31 43.5	-0.3
	comp=Z,1.3nm,0.7s,baz=256,slow=4.2,SNR=3.5						
VNA2	Neumayer--Watz	151.38 195		*e*PKPdf	PKPbc	07 31 45.4	-0.8
VNA2				*e*	PKPab	07 31 53.2	-1.4
VNA3	Neumayer Olymp	151.52 194		*e*PKPdf	PKPab	07 31 54.2	-1.0

*IDC **28** 07:19:37.6±0.7, 4653N×15509E, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, MS3.8/2, Ms1 3.8/2, ms1mx2.8/26, Error ellipse: s-maj=21.0km s-min=17.6km az=151.0*
*NEIC **28** 07:19:39.1±0.5, 4655N×15503E, h10km, mb4.0/2, Error ellipse: s-maj=11.3km s-min=9.8km az=159.0*
*ISCJB **28** 07:19:42.1±1.6, 4659N±009×1550E±01, h43km±13km, mb4.1/26, MS3.9/2, Error ellipse: s-maj=16.0km s-min=11.5km az=105.3*
*MOS **28** 07:19:43.1±0.9, 4661N×15488E, h52km, mb4.5/10, Error ellipse: s-maj=17.5km s-min=9.5km az=73.2*
ISC 28 07:19:44.7±1.4, 4664N±009×1550E±01, h48km±12km, n52, σ1§12/49, mb4.1/26, MS3.9/2, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.11	10	*e*PN	Pn	07 20 45.7	+0.8
ERM	Erimo	9.66	246	*i*PN	Pn	07 22 01.1	+0.1
YAK	Yakutsk	21.12	326	*i*P	P	07 24 23.1	-2.2
YAK				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.5						
KSRS	Korea Array	22.01	255	P	P	07 24 35.6	+0.8
	comp=Z,3.4nm,0.8s,mb3.9,baz=55,slow=12,SNR=4.8						
BILL	Bilibino	22.23	11	*i*P	P	07 24 37.0	-0.1
BILL				*e*		07 24 55.7	
BILL				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.3						
BILL	Bilibino	22.23	11	*e*P	P	07 24 36.1	-1.0
	comp=Z,3.3nm,0.6s,mb3.9						
HIA	Hailar	23.62	289	*i*P	P	07 24 53.9	+2.6
TIXI	Tiksi	27.95	343	⇓	*e*P	P	07 25 29.2	-1.2
TIXI				pmax	pmax		
	comp=Z,15nm,2.3s,mb4.2						
SONM	Songino Array	32.59	290	P	P	07 26 11.1	-0.3
	comp=Z,0.3nm,0.6s,mb3.4,baz=46,slow=8.4,SNR=2.2						
PMR	Palmer	34.78	44	*e*P	pP	07 26 42.5	-0.6
EYAK	Cordova Ski Ar	36.47	46	*e*P	P	07 26 36.3	-8.8
KRAR	Krasnoyarsk	38.68	307	*i*P	P	07 27 04.7	+1.0
ZAL	Zalesovo	43.73	306	P	P	07 27 44.1	-1.0
	comp=Z,1.2nm,0.3s,mb4.1,baz=313,slow=6.1,SNR=3.5						
ZAL	Zalesovo	43.73	306	*i*P	P	07 27 44.0	-1.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	Makanchi Array	48.14	298	*e*P	P	07 28 19.5	-0.3
MKAR	Makanchi Array	48.14	298	P	P	07 28 19.8	0.0
	comp=Z,0.6nm,0.5s,mb3.9,baz=65,slow=8.7,SNR=5.8						
KURK	Kurchatov	48.50	304	⇑	*e*P	P	07 28 22.3	-0.3
YKA	Yellowknife Ar	50.23	37	P	P	07 28 35.2	-0.6
	comp=Z,0.8nm,0.7s,mb3.9,baz=294,slow=7.4,SNR=12						
YKA				PcP	PcP	07 29 53.0	-1.4
	comp=Z,0.1nm,0.6s,baz=302,slow=4.0,SNR=6.1						
YKA	Yellowknife Ar	50.23	37	*i*P	P	07 28 35.7	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	50.23	37	P	P	07 28 35.2	-0.6
YKA				PcP	PcP	07 29 53.0	-1.4
BVAR	Borovoye Array	51.92	310	P	P	07 28 48.5	0.0
	comp=Z,2.0nm,0.6s,mb4.2,baz=53,slow=7.9,SNR=12						
BRVK	Borovoye	51.96	310	*e*P	P	07 28 48.7	-0.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	Borovoye	51.96	310	*e*P	P	07 28 48.7	-0.1
	comp=Z,1.7nm,0.8s,mb4.0						
AAK	Ala-Archa	55.04	297	⇑	*e*P	P	07 29 11.2	-0.2
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
ARU	Arti	55.96	318	*e*P	P	07 29 17.8	-0.2
ARU				*e*		07 31 19.4	
ARU				*e*S	S	07 37 03.1	+0.6
ARU				*e*SS	SS	07 40 48.4	-0.5
KEV	Kevo	57.87	341	*ep*	P	07 29 31.4	-0.1
ARCES	ARCESS Array B	58.37	341	P	P	07 29 35.1	+0.1
	comp=Z,5.6nm,0.8s,mb4.6,baz=23,slow=7.9,SNR=8.0						
ARCES				LR	LR	08 01 38.3	
	comp=Z,98nm,18.6s,MS4.0,baz=42,slow=43						
JOF	Joensuu	62.00	334	*ep*	P	07 30 00.1	+0.3
	comp=Z,2.0nm,0.4s,mb4.6						
JOF	Joensuu	62.00	334	*e*P	P	07 30 00.1	+0.3
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
PDAR	Pinedale Array	63.76	55	P	P	07 30 11.4	-0.1
	comp=Z,1.0nm,0.8s,mb3.9,baz=294,slow=2.9,SNR=7.5						
KAF	Kangasniemi	64.08	336	*ep*	P	07 30 12.1	-1.5
FINES	FINESS Array B	64.68	336	P	P	07 30 18.0	+0.4
	comp=Z,3.0nm,0.6s,mb4.5,baz=42,slow=8.2,SNR=15						
FINES	FINESS Array B	64.68	336	*i*P	P	07 30 18.8	+1.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULM	Lac du Bonnet	65.75	42	P	P	07 30 23.8	-0.7
	comp=Z,1.3nm,1.0s,mb3.9,baz=211,slow=12,SNR=3.1						
OBN	Obninsk	66.12	326	*e*P	P	07 30 24.6	-2.3
OBN				*e*		07 30 56.1	
OBN				*e*SS	SS	07 43 27.7	-0.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
NB2	NORSAR Subarra	68.74	342	P	P	07 30 44.4	+1.0
	comp=Z,0.6nm,0.5s,mb3.8,baz=26,slow=6.2						
NOA	NORSAR Array B	68.74	342	P	P	07 30 44.4	+1.0
	comp=Z,1.5nm,0.9s,mb3.9,baz=26,slow=6.4,SNR=3.6						
WRA	Warramunga Arr	68.85	201	P	P	07 30 42.9	-1.2
	comp=Z,0.4nm,0.8s,mb3.4,baz=19,slow=6.5,SNR=3.1						
ANMO	Albuquerque	70.78	59	⇑	*e*P	P	07 30 56.8	+0.8
AKASG	Malin Array Be	72.35	327	P	P	07 31 04.9	-0.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=33,slow=6.1,SNR=4.4						
AKASG	Malin Array Be	72.35	327	*i*P	P	07 31 07.8	+2.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	72.53	200	P	P	07 31 05.9	-0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=10.0,slow=5.9,SNR=8.7						
TXAR	Lajitas Array	76.41	62	P	P	07 31 29.6	+0.5
	comp=Z,3.6nm,0.6s,mb4.5						
CLL	Collm	77.09	337	*e*P	P	07 31 32.0	-0.8
GERES	GERESS Array B	79.11	335	LR	LR	08 08 08.7	
	comp=Z,47nm,20.2s,MS3.8,baz=294,slow=37						
CDF	Champ du Feu	81.23	339	*e*P	P	07 31 59.1	+3.6
	comp=Z,2.7nm,0.6s,mb4.1						
GRR	Gorron	83.04	344	*e*P	P	07 32 08.0	+3.1
SMF	Signal de Mont	83.71	340	*e*P	P	07 32 11.6	+3.2
	comp=Z,5.2nm,0.6s,mb4.5						
LPG	La Plagne	84.08	338	*e*P	P	07 32 13.8	+3.6
	comp=Z,1.3nm,0.4s,mb4.1						
CAF	Calviac	85.74	341	*e*P	P	07 32 21.7	+3.1
	comp=Z,2.3nm,0.6s,mb4.3						
VNA2	Neumayer--Watz	154.21	193	*e*PKPdf	PKPdf	07 39 29.8	-1.3
VNA2				*e*		07 39 40.9	
VNA2				*e*		07 40 01.8	
VNA3	Neumayer Olymp	154.26	191	*e*PKPdf	PKPdf	07 39 35.1	+4.0
VNA3				*e*		07 39 46.7	

*IDC **28** 08:03:20.2±7.4, 2473N×12628E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, Error ellipse: s-maj=196.1km s-min=47.7km az=12.0*
*ISCJB **28** 08:03:46.6±0.7, 2684N±01×1263E±01, h135km±12km, mb3.3/3, Error ellipse: s-maj=25.6km s-min=9.0km az=103.8*
*JMA **28** 08:03:47.7±0.3, 2684N×12627E, h128km, M3.1*
ISC 28 08:03:47.2±0.8, 2684N±01×1263E±01, h135km±12km, n12, σ0§86/18, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.65	136	P	Pn	08 04 07.8	+0.1
JKE				*e*S	Sn	08 04 23.9	+0.7
JAGN	Aguni-jima	0.88	104	P	Pn	08 04 09.7	+0.3
JAGN				*e*S	Sn	08 04 26.2	-0.1
NAH1	Naha	1.39	115	*e*S	Sn	08 04 34.6	-0.5
JJT2	Tamagusuku 2	1.47	116	P	Pn	08 04 16.2	+1.0
JJT2				*e*S	Sn	08 04 37.7	+1.1
JIH	Iheya	1.52	81	P	Pn	08 04 16.4	+0.6
JIH				*e*S	Sn	08 04 37.3	-0.3
JOW	Kunigami	1.78	89	P	Pn	08 04 19.3	+0.6
JOW				*e*S	Sn	08 04 41.5	-1.4
JMJ	Miyako jima 2	2.17	205	*e*S	Sn	08 04 49.8	-1.5
JTK	Tokunoshima	2.57	67	P	Pn	08 04 29.1	+0.7
JAM	Amami Oshima	3.35	61	P	Pn	08 04 38.4	-0.1
JAM				*e*S	Sn	08 05 16.9	-1.3
SONM	Songino Array	29.38	129	P	P	08 09 12.3	+3.6
	0.3nm,0.5s,mb3.2,baz=141,slow=9.8,SNR=3.3						
MKAR	Makanchi Array	39.86	312	P	P	08 11 06.8	-0.7
	0.4nm,0.5s,mb3.3,baz=97,slow=9.3,SNR=8.3						
YKA	Yellowknife Ar	78.74	24	P	P	08 15 34.7	+0.1
	0.5nm,0.6s,mb3.3,baz=304,slow=5.5,SNR=19						

*ISCJB **28** 08:08:07.0±0.6, 5D1N±004×12540E±007, h211km±6km, mb4.2/31, Error ellipse: s-maj=11.3km s-min=6.4km az=141.1*
*MOS **28** 08:08:09.3±1.0, 4497N×12527E, h233km, mb4.3/9, Error ellipse: s-maj=15.9km s-min=9.9km az=112.6*
*BJI **28** 08:08:09.9, 4469N×12556E, h273km, mB4.8, mb4.3*
*IDC **28** 08:08:10.2±1.3, 4495N×12530E, h225km±11km, mb3.9/19, mb1 3.9/19, mb1mx3.9/24, mbtmp3.9/19, Error ellipse: s-maj=14.2km s-min=7.4km az=73.0*
*NEIC **28** 08:08:12.2±2.5, 4495N×12533E, h248km±27km, mb4.5/11, Error ellipse: s-maj=8.7km s-min=5.7km az=57.0*
ISC 28 08:08:08.8±0.6, 4499N±004×12540E±007, h212km±6km, n65, σ1§10/75, mb4.3/32, 3C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.07	5	*e*P	Pn	08 08 43.0	-6.0
MATI	Mati	2.12	24	*e*P	Pn	08 08 48.0	-1.5
MATI				*e*S	S	08 09 17.5	-3.8
BUKP	Musuan	2.89	353	*e*P	Pn	08 08 56.9	-0.9
BUKP				*e*S	S	08 09 37.8	+1.6
CGP	Cagayan de Oro	3.51	349	⇑	*e*P	Pn	08 09 02.6	-2.5
CGP				*e*S	S	08 09 55.1	+5.8
KSM	Kuching	15.46	257	*e*P	Pn	08 11 37.3	+1.3
KAKA	Kakadu	18.93	158	⇑	*i*P	P	08 12 14.2	+0.4
	68nm,0.6s						
KAKA				*e*S	S	08 15 37.3	-0.1
BJII	Banjamegara	19.87	232	P	P	08 12 25.4	+1.5
	78nm,1.0s						
GUMO	Guam	21.01	65	P	P	08 12 38.2	+2.1
	36nm,0.3s,mb5.4,baz=9.5,slow=14,SNR=6.4						
FITZ	Fitzroy Crossi	22.95	179	*e*P	P	08 12 54.3	-0.3
	16nm,0.3s,mb5.0						
FITZ				*e*S	S	08 16 47.1	-1.3
FITZ	Fitzroy Crossi	22.95	179	P	P	08 12 54.7	+0.1
	7.0nm,0.3s,mb4.7,baz=9.3,slow=11,SNR=47						
FITZ				S	S	08 16 47.4	-1.0
	2.4nm,0.8s,baz=200,slow=18,SNR=4.3						
WRA	Warramunga Arr	26.29	161	P	P	08 13 24.6	-0.2
	2.6nm,0.6s,mb4.1,baz=340,slow=10.0,SNR=28						
WRA				S	S	08 17 38.7	-2.8
	1.8nm,0.9s,baz=335,slow=15,SNR=4.8						
WRA				ScP	ScP	08 20 05.8	+1.1
	2.4nm,0.8s,baz=344,slow=3.5,SNR=9.0						
WRA	Warramunga Arr	26.29	161	P	P	08 13 24.6	-0.2
WRA				S	S	08 17 38.7	-2.7
WB2	Warramunga Arr	26.30	161	*e*P	P	08 13 24.4	-0.4
WB2				*e*S	S	08 17 38.7

SONM Songino Array 45.69 342 P **P** **08 16 08.5 0.0**
comp=Z,1.1nm,0.6s,mb3.3,baz=157,slow=9.1,SNR=9.9
SONM PcP PcP 08 17 43.3 +0.5
comp=Z,0.8nm,0.7s,baz=160,slow=4.3,SNR=4.7
SONM ScP ScP 08 21 14.2 -1.1
comp=Z,0.4nm,0.7s,baz=145,slow=5.3,SNR=2.9
SONM Songino Array 45.69 342 P **P** **08 16 08.5 0.0**
SONM 08 17 43.3
KOLN Koldanda 45.72 304 *eP* **P** **08 16 09.2 +0.5**
comp=Z,27nm,0.6s,mb4.7
MK31 Makanchi Array 55.77 325 *eP* **P** **08 17 24.4 +0.7**
MKAR Makanchi Array 55.77 325 P **P** **08 17 23.6 -0.1**
comp=Z,2.0nm,0.5s,mb3.9,baz=121,slow=8.3,SNR=31
MKAR PcP PcP 08 18 19.4 -0.8
comp=Z,1.4nm,0.4s,baz=121,slow=4.5,SNR=8.8
MKAR ScP ScP 08 21 57.7 -0.9
comp=Z,0.6nm,0.6s,baz=110,slow=5.2,SNR=7.3
MKAR Makanchi Array 55.77 325 *i P* **P** **08 17 24.1 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
YAK Yakutsk 57.00 2 *i P* **P** **08 17 32.7 +0.3**
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.7
KURK Kurchatov 59.97 328 *eP* **P** **08 17 52.5 -0.3**
KURK pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
KURK Kurchatov 59.97 328 *eP* **P** **08 17 52.5 -0.4**
comp=Z,6.2nm,0.6s,mb4.4
BILL Bilibino 68.69 15 *eP* **P** **08 18 50.3 +0.9**
BILL *e* 08 21 27.0
ARU Arti 73.17 328⇑*iP* **P** **08 19 15.3 -1.0**
ARU *e* 08 19 29.9
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MAW Mawson 84.47 200 P **P** **08 20 17.4 -0.3**
comp=Z,1.6nm,0.6s,mb4.0,baz=59,slow=7.7,SNR=4.3
VNDA Vanda 84.84 173 P **P** **08 20 19.5 0.0**
comp=Z,1.5nm,0.8s,mb3.8,baz=305,slow=9.1,SNR=5.9
VNDA Vanda 84.84 173 P **P** **08 20 19.5 0.0**
OBN Obninsk 85.27 325 *eP* **P** **08 20 20.0 -1.7**
OBN pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
JOF Joensuu 87.46 333 *ep* **P** **08 20 29.7 -2.6**
comp=Z,9.0nm,0.5s,mb4.8
BRTR Keskin Array B 88.20 310 P **P** **08 20 34.6 -1.1**
comp=Z,1.3nm,0.9s,mb3.8,baz=123,slow=3.6,SNR=4.5
BRTR Keskin Array B 88.20 310 *i P* **P** **08 20 36.5 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
KAF Kangasniemi 89.87 332 *ep* **P** **08 20 40.8 -2.8**
AKASG Malin Array Be 90.08 321 P **P** **08 20 42.8 -1.8**
comp=Z,0.2nm,0.3s,mb3.4,baz=66,slow=4.5,SNR=4.5
AKASG Malin Array Be 90.08 321 *i P* **P** **08 20 40.0 -4.6**
FINES FINESS Array B 90.10 332 P **P** **08 20 42.6 -2.0**
comp=Z,0.9nm,0.4s,mb3.9,baz=67,slow=5.0,SNR=7.0
FINES FINESS Array B 90.10 332 *i P* **P** **08 20 44.0 -0.7**
FINES pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 98.90 24 P **P** **08 21 24.6 -0.2**
comp=Z,0.1nm,0.7s,mb3.2,baz=289,slow=4.1,SNR=3.0
TORD Torodi Ar. Bea 121.26 289 PKP PKPdf 08 26 37.1 +0.7
comp=Z,3.0nm,0.7s,baz=67,slow=1.8,SNR=22

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*NEIC **28** 08:58:50.8, 1839N×6323W, h64km, MD3.5(RSPR), After RSPR.*

RSPR 28 08:58:50.8, 1839N×6323W, h64km±15km, MD3.5/9, MD3.5/9, 6C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**1.32**	**271**⇑	*eP*	Pn	08 59 11.9	-1.2
TBVI				eS	Sn	08 59 30.0	+0.1
CDVI	**St. Croix**	**1.60**	**247**⇓	*eP*	Pn	08 59 15.9	-0.9
CDVI				eS	Sn	08 59 36.4	-0.1
STVI	**Saint Thomas**	**1.64**	**269**⇓	*eP*	Pn	08 59 15.6	-1.9
STVI				eS	Sn	08 59 36.2	-1.4
MTP	**Monte Pirata**	**2.23**	**263**⇑	*eP*	Pn	08 59 24.6	-0.8
MTP				eS	Sn	08 59 52.7	+0.8
CBYP	**Canovanas**	**2.50**	**268**⇑	*eP*	Pn	08 59 29.1	0.0
CBYP				eS	Sn	08 59 59.4	+0.9
HUMP	**Col San Antoni**	**2.50**	**265**⇓	*eP*	Pn	08 59 29.5	+0.3
HUMP				eS	Sn	08 59 57.8	-0.8
CPD	**Cerro la Pandu**	**2.58**	**263**⇑	*eP*	Pn	08 59 28.7	-1.5
CPD				*e*Pn	Pn	08 59 29.7	-0.5
CPD				eS	Sn	08 59 58.3	-2.1
LSP	**Las Mesas**	**3.67**	**267**⇑	*eP*	Pn	08 59 45.9	+0.8
LSP				eS	Sn	09 00 26.9	-0.2
CRPR	**Cabo Rojo, PR**	**3.71**	**265**⇑	*eP*	Pn	08 59 45.9	+0.3

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*TRN **28** 08:59:18.5, 11.13N×6236W, h35km, MD2.8*
*ISCJB **28** 08:59:19.0±1.2, 1083N±008×6238W±004, h65km±12km, Error ellipse: s-maj=13.8km s-min=6.0km az=72.1*
*FUNV **28** 08:59:19.0, 1082N×6234W, h69km, MW2.3*

ISC 28 08:59:19.4±1.2, 1083N±008×6238W±004, h64km±13km, n7, σ0§48/14, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.24**	**139**	*eP*	**Pn**	**08 59 29.6**	**+0.1**
GUIV				eS	**Sn**	**08 59 36.9**	**+0.1**
TCE	**Chacachacare**	**0.63**	**102**	*eP*	**Pn**	**08 59 33.0**	**-0.1**
TCE				eS	**Sn**	**08 59 42.6**	**-0.5**
CRUV	**Carupano**	**0.85**	**260**⇓	*eP*	**Pn**	**08 59 35.3**	**-0.5**
CRUV				eS	**Sn**	**08 59 47.7**	**-0.1**
GUNV	**Guanoco**	**0.86**	**220**	*eP*	**Pn**	**08 59 36.1**	**+0.2**
GUNV				eS	**Sn**	**08 59 48.1**	**+0.1**
ITEV	**Isla Los Testi**	**0.91**	**305**	*eP*	**Pn**	**08 59 36.1**	**-0.3**
ITEV				eS	**Sn**	**08 59 49.5**	**+0.6**
TRN	**Trinidad (W)**	**0.98**	**100**	*eP*	**Pn**	**08 59 37.1**	**-0.2**
TRN				eS	**Sn**	**08 59 50.0**	**-0.5**
TBH	**Brigand Hill**	**1.34**	**105**	*eP*	**Pn**	**08 59 41.7**	**-0.3**
TBH				eS	**Sn**	**09 00 00.3**	**+1.4**

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*NIED **28** 09:07:00, 3100N×13120E, h41km, Mw4.1 Best double couple: M0=1.55000×10^15 NP1:φs=209.00000°, δ74.00000°, λ-78.00000°. NP2:φs=351.00000°, δ20.00000°, λ-126.00000°.*
*ISCJB **28** 09:07:54.4±0.6, 3093N±004×13117E±009, h54km±4km, mb3.8/12, MS3.3/3, Error ellipse: s-maj=13.7km s-min=6.4km az=13.1*
*JMA **28** 09:07:55.3±0.1, 3097N×13120E, h37km±1km, M3.9*
JMA Felt I J1.
*NEIC **28** 09:07:55.4, 3097N×13120E, h37km, mb4.0/1, After JMA.*
*IDC **28** 09:07:56.9±2.2, 3100N×13097E, h60km±20km, mb3.5/11, mb1 3.7/13, mb1mx3.6/23, mbtmp3.5/13, ML3.4/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/25, Error ellipse: s-maj=30.2km s-min=14.7km az=78.0*

ISC 28 09:07:55.5±0.7, 3095N±004×13116E±009, h47km±5km, n22, σ0§99/27, mb3.8/12, MS3.3/3, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTSR	**Tashiro 2**	**0.30**	**317**	⇓P	**Pn**	**09 08 03.1**	**-1.2**
JTSR				S	**Sn**	**09 08 09.6**	**-1.0**
JTN	**Tanegashima 3**	**0.33**	**209**	⇓P	**Pn**	**09 08 04.0**	**-0.6**
JTN				S	**Sn**	**09 08 11.0**	**-0.1**
JNAR	**Kushima--Naru**	**0.59**	**9**	⇓P	**Pn**	**09 08 06.8**	**-0.8**
JSU	**Suzuyama**	**0.82**	**313**	P	**Pn**	**09 08 10.2**	**-0.5**
JSU				S	**Sn**	**09 08 22.2**	**+0.3**
JTZ	**Takazaki**	**0.95**	**356**	P	**Pn**	**09 08 12.6**	**+0.1**
JTZ				S	**Sn**	**09 08 26.3**	**+1.3**
JKC	**Kuchinoerabu**	**0.96**	**240**	P	**Pn**	**09 08 13.2**	**+0.6**
JKC				eS	**Sn**	**09 08 26.6**	**+1.4**
JZO	**Okuchi**	**1.28**	**338**	P	**Pn**	**09 08 17.0**	**0.0**
JNU	**Nakatsue**	**2.18**	**354**	P	**Pn**	**09 08 30.4**	**+1.1**
	16nm,0.3s,baz=222,slow=19,SNR=61						
JNU				S	**Sn**	**09 08 55.6**	**+0.6**
	99nm,0.3s,baz=221,slow=19,SNR=17						
JNU				LR	LR	09 09 01.3	
	comp=Z,957nm,18.6s,baz=142,slow=30						
KSRS	**Korea Array**	**7.03**	**338**	P	**Pn**	**09 09 37.3**	**+1.6**
	baz=156,slow=14,SNR=8.8						
SONM	**Songino Array**	**25.35**	**319**	P	**P**	**09 13 15.2**	**-2.7**
	0.9nm,0.8s,mb3.4,baz=130,slow=11,SNR=5.6						
SONM				LR	LR	09 24 17.0	
	comp=Z,57nm,19.6s,MS3.1,baz=330,slow=39						
ZAL	**Zalesovo**	**40.25**	**319**	LR	LR	09 33 51.0	
	comp=Z,41nm,18.6s,MS3.3,baz=36,slow=39						
MKAR	**Makanchi Array**	**40.53**	**307**	P	**P**	**09 15 29.3**	**-0.6**
	1.1nm,0.9s,mb3.5,baz=85,slow=12,SNR=5.7						
BRVK	**Borovoye**	**48.68**	**315**	*eP*	**P**	**09 16 34.0**	**-0.8**
	0.8nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**50.69**	**176**	P	**P**	**09 16 50.1**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=353,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**54.36**	**177**	P	**P**	**09 17 18.6**	**+1.2**
	0.7nm,0.7s,mb3.7,baz=8.1,slow=12,SNR=11						
STKA	**Stephens Creek**	**63.26**	**170**	P	**P**	**09 18 19.3**	**+0.2**
	0.7nm,0.3s,mb4.3,baz=342,slow=9.6,SNR=3.0						
STKA				LR	LR	09 45 50.5	
	comp=Z,36nm,19.1s,MS3.6,baz=25,slow=36						
FINES	**FINESS Array B**	**70.05**	**330**	P	**P**	**09 19 00.8**	**-1.6**
	0.8nm,0.4s,mb4.0,baz=75,slow=6.0,SNR=9.9						
YKA	**Yellowknife Ar**	**73.18**	**26**	P	**P**	**09 19 21.2**	**0.0**
	0.6nm,0.7s,mb3.6,baz=304,slow=5.5,SNR=14						
AKASG	**Malin Array Be**	**73.63**	**320**	P	**P**	**09 19 23.2**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=54,slow=6.0,SNR=3.0						
BRTR	**Keskin Array B**	**76.18**	**308**	P	**P**	**09 19 39.6**	**+1.1**
	0.4nm,0.6s,mb3.5,baz=48,slow=8.0,SNR=3.8						
NOA	**NORSAR Array B**	**76.22**	**334**	P	**P**	**09 19 37.9**	**-1.0**
	0.7nm,0.8s,mb3.6,baz=54,slow=7.5,SNR=2.6						
PDAR	**Pinedale Array**	**87.89**	**40**	P	**P**	**09 20 41.4**	**+1.4**
	0.4nm,0.9s,mb3.7,baz=0.0,slow=0.6,SNR=3.5						

MAN 28 09:10:27.3, 930N×12227E, h9km, mb2.7, ML4.1, MS10.0, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.95**	**87**	*eP*	Pg	09 10 36.0	-10
SNPH				*i* S	Sg	09 10 47.0	-11
DCPH	**Dipolog City**	**1.28**	**124**⇓	*eP*	Pn	09 10 50.5	-1.0
GUIM	**Jordan**	**1.36**	**13**	*eP*	Pn	09 10 50.4	-2.0
GUIM				eS	Sb	09 11 13.3	+3.0
CUYO	**Cuyo Island**	**1.97**	**321**	*eP*	Pn	09 11 01.7	+0.8
ENPP	**El Nido**	**3.38**	**304**	*eP*	Pn	09 11 20.7	+0.5

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*ISCJB **28** 09:15:04.6±0.7, 4359N±005×7546E±006, h10km, Error ellipse: s-maj=8.4km s-min=5.1km az=106.3*
*NNC **28** 09:15:04.7±0.8, 4355N×7576E, h0km, mb3.7, mpv2.8, Error ellipse: s-maj=14.7km s-min=3.9km az=114.0*
*KNET **28** 09:15:05.9±0.4, 4350N×7538E, h10km±3km, ml2.2, Error ellipse: s-maj=2.9km s-min=1.5km az=16.0*

ISC 28 09:15:05.7±0.7, 4355N±005×7541E±006, h10km, n13, σ0§76/19, 13C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.65**	**167**	P	**Pg**	**09 15 17.5**	**-0.8**
	81nm,0.2s,SNR=44						
TKM2				⇓S	**Sg**	**09 15 26.8**	**+0.2**
	98nm,0.1s						
TKM2	**Tokmak 2**	**0.65**	**167**	⇑P	**Pg**	**09 15 17.3**	**-0.9**
	0.4nm,0.2s						
TKM2				⇑S	**Sg**	**09 15 26.3**	**-0.3**
	0.7nm,0.2s						
USP	**Ospenovka**	**0.72**	**247**	⇑P	**Pg**	**09 15 18.6**	**-1.0**
	24nm,0.1s,SNR=25						
USP				⇑S	**Sg**	**09 15 29.3**	**+0.2**
	101nm,0.2s						
CHMS	**Chumysh**	**0.73**	**221**	⇓P	**Pg**	**09 15 19.2**	**-0.7**
	26nm,0.2s,SNR=13						
CHMS				⇑S	**Sg**	**09 15 29.2**	**-0.2**
	37nm,0.2s						
KBK	**Karagaybulak**	**0.95**	**201**	⇑P	**Pg**	**09 15 23.7**	**-0.5**
	17nm,0.1s,SNR=46						
AAK	**Ala-Archa**	**1.14**	**216**	⇑P	**Pb**	**09 15 26.7**	**-0.7**
	17nm,0.2s,SNR=18						
AAK				⇑S	**Sb**	**09 15 42.9**	**+0.6**
	28nm,0.2s						
ULHL	**Ulahol**	**1.44**	**155**	⇑P	**Pn**	**09 15 31.9**	**0.0**
	30nm,0.2s,SNR=23						
UCH	**Uchtor**	**1.48**	**207**	⇑P	**Pn**	**09 15 32.9**	**+0.5**
	13nm,0.2s,SNR=11						
KZA	**Kyzart**	**1.48**	**185**	⇑P	**Pn**	**09 15 33.2**	**+0.8**
	15nm,0.2s,SNR=56						
EKS2	**Erkin-Say**	**1.49**	**234**	P	**Pn**	**09 15 33.2**	**+0.6**
	33nm,0.1s,SNR=174						
AML	**Almayashu**	**1.90**	**222**	⇑P	**Pn**	**09 15 40.7**	**+2.5**
	27nm,0.2s,SNR=49						
KK31	**Karatay Array**	**3.60**	**265**	Pn	**Pb**	**09 16 08.9**	**-0.6**
	3.2nm,0.3s,baz=80,slow=18,SNR=40						
KK31				Lg		09 17 02.3	
	3.4nm,0.3s,baz=80,slow=28,SNR=6.9						
MK31	**Makanchi Array**	**5.85**	**54**	Pn	**Pn**	**09 16 32.9**	**+0.4**
	1.0nm,0.3s,baz=232,slow=13,SNR=76						
MK31				⇓Sn	**Sn**	**09 17 39.3**	**-0.3**
	1.6nm,0.8s,baz=218,slow=74,SNR=4.7						
MK31				⇑Lg		09 18 00.8	
	2.3nm,0.7s						

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*NEIC **28** 09:38:57.8±0.4, 2183N×12054E, h10km, mb4.4/4, Error ellipse: s-maj=13.6km s-min=6.7km az=77.0*
*MOS **28** 09:38:59.2±0.7, 2189N×12058E, h33km, mb4.7/4, Error ellipse: s-maj=31.9km s-min=13.8km az=114.5*
*BJI **28** 09:38:59.0, 2190N×12024E, h20km, mB4.6, mb4.1, ML3.9*
*ISCJB **28** 09:38:59.7±0.4, 2186N±005×12058E±004, h35km, mb4.2/21, MS3.6/5, Error ellipse: s-maj=8.2km s-min=4.4km az=117.3*
*JMA **28** 09:39:02.8±0.4, 2183N×12081E, h108km, M3.9*
*IDC **28** 09:39:02.2±6.1, 2185N×12046E, h41km±56km, mb3.9/17, mb1 4.1/17, mb1mx4.1/25, mbtmp4.0/17, MS3.7/6, Ms1 3.7/6, ms1mx3.3/27, Error ellipse: s-maj=28.9km s-min=12.8km az=65.0*

ISC 28 09:39:01.7±0.4, 2191N±005×12051E±004, h35km, n41, σ0§91/46, mb4.2/21, MS3.6/5, 3C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.46**	**24**	*e*Pn	**Pn**	**09 39 39.0**	**-0.2**
YHNB	**Yeheng**	**2.85**	**16**	*e*Pn	**Pn**	**09 39 44.9**	**+0.2**
YOJ	**Yonaguni jima**	**3.42**	**42**	P	**Pn**	**09 39 53.9**	**+1.4**
YOJ				eS	**Sn**	**09 40 32.0**	**+0.2**
QZH	**Quanzhou**	**3.49**	**330**	P	**Pn**	**09 39 52.3**	**-1.2**
QZH				S	**Sn**	**09 40 31.0**	**-2.6**
QZH				Smax			
	comp=N,150nm,0.8s						
QZH				Smax			
	comp=E,120nm,0.7s						
HATJ	**Hateruma jima**	**3.71**	**54**	P	**Pn**	**09 39 56.9**	**+0.5**
HATJ				eS	**Sn**	**09 40 37.2**	**-1.7**
IRIF	**Iriomote-Funau**	**3.82**	**50**	P	**Pn**	**09 39 58.5**	**+0.6**
IRIF				eS	**Sn**	**09 40 42.4**	**+0.8**
JKRS	**Kuro-shima**	**3.96**	**54**	P	**Pn**	**09 40 00.5**	**+0.6**
JKRS				eS	**Sn**	**09 40 44.9**	**-0.3**
JIJ	**Ishigaki jima**	**4.13**	**53**	P	**Pn**	**09 40 02.4**	**+0.1**
JIJ				eS	**Sn**	**09 40 48.5**	**-0.9**
JTJ	**Tarama**	**4.71**	**54**	P	**Pn**	**09 40 10.5**	**+0.3**
JTJ				eS	**Sn**	**09 41 03.5**	**-0.1**
JMJ	**Miyako jima 2**	**5.25**	**56**	*e*S	**Sn**	**09 41 16.9**	**-0.1**
GZH	**Guangzhou**	**6.73**	**281**	P	**Pn**	**09 40 33.5**	**-4.5**
GZH				S	**Sn**	**09 41 43.0**	**-10**
GZH				Smax			
	comp=N,88nm,0.7s						
GZH				Smax			
	comp=E,71nm,1.1s						
KSRS	**Korea Array**	**16.76**	**21**	LR	LR	09 50 55.6	
	comp=E,260nm,18.3s,baz=205,slow=42						
LZH	**Lanzhou**	**20.25**	**318**	⇑P	**P**	**09 43 36.5**	**+2.6**
LZH				AP		09 43 45.0	
LZH				XP	sP	09 43 49.5	+1.9
LZH				AMB	AMB		
	comp=Z,31nm,1.3s						
LZH	**Lanzhou**	**20.25**	**318**	⇑P	**P**	**09 43 36.5**	**+2.6**
LZH				*PP		09 43 45.1	
LZH				*SP	sP	09 43 49.6	+2.0
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
LZH	**Lanzhou**	**20.25**	**318**	⇑P	**P**	**09 43 36.5**	**+2.6**
	comp=Z,31nm,1.3s						
LZH				pP		09 43 45.1	
LZH				sP	sP	09 43 49.6	+2.0
MJAR	**Matsushiro Arr**	**21.18**	**43**	P	**P**	**09 43 43.8**	**-0.2**
	comp=Z,2.9nm,0.9s,mb3.6,baz=216,slow=9.4,SNR=4.4						
MJAR				LR	LR	09 52 25.8	
	comp=Z,196nm,20.4s,MS3.5,baz=345,slow=38						
GUMO	**Guam**	**24.60**	**106**	LR	LR	09 51 42.0	
	comp=Z,74nm,19.9s,MS3.2,baz=284,slow=31						
GTA	**Gaotai**	**24.83**	**319**	*eP*	**P**	**09 44 22.0**	**+1.5**
GTA				AP		09 44 29.0	
GTA				XP	sP	09 44 31.8	-3.0
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.0						
SONM	**Songino Array**	**28.24**	**340**	P	**P**	**09 44 51.7**	**+0.3**
	comp=Z,1.3nm,0.7s,mb3.7,baz=159,slow=9.9,SNR=9.9						
SONM				LR	LR	09 57 07.6	
	comp=Z,148nm,19.3s,MS3.6,baz=91,slow=38						
PSI	**Prapat**	**28.30**	**231**	LR	LR	09 56 07.8	
	comp=Z,90nm,19.5s,MS3.4,baz=22,slow=36						
ASAJ	**Asahikawa**	**28.70**	**34**	P	**P**	**09 44 57.4**	**+2.0**
	comp=Z,9.5nm,0.7s,mb4.6,baz=11,slow=32,SNR=3.7						
KAKA	**Kakadu**	**36.34**	**160**	*eP*	**P**	**09 46 00.5**	**-1.7**
	comp=Z,7.8nm,0.6s,mb4.8						
MKAR	**Makanchi Array**	**39.57**	**318**	P	**P**	**09 46 30.0**	**+0.6**
	comp=Z,1.9nm,0.7s,mb3.9,baz=108,slow=9.7,SNR=13						
MKAR				PcP	PcP	09 48 36.0	-0.3
	comp=Z,0.8nm,0.8s,baz=132,slow=2.1,SNR=3.6						
YAK	**Yakutsk**	**40.59**	**7**⇓	*eP*	**P**	**09 46 37.5**	**-0.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.8						
ZAL	**Zalesovo**	**41.84**	**329**	P	**P**	**09 46 47.8**	**-0.3**
	comp=Z,2.6nm,0.8s,mb3.9,baz=2.2,slow=8.1,SNR=13						
KURK	**Kurchatov**	**43.46**	**322**	*eP*	**P**	**09 47 01.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**43.46**	**322**	*eP*	**P**	**09 47 01.3**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.74**	**161**	P	**P**	**09 47 03.0**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.5,baz=344,slow=8.9,SNR=45						
WRA				PcP	PcP	09 48 48.5	-1.4
	comp=Z,0.4nm,0.6s,baz=345,slow=3.4,SNR=4.8						
WB2	**Warramunga Arr**	**43.74**	**161**	*eP*	**P**	**09 47 03.0**	**-0.6**
ASAR	**Alice Springs**	**47.14**	**163**	P	**P**	**09 47 30.6**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.5,baz=348,slow=7.4,SNR=109						
ASAR				PcP	PcP	09 49 01.4	-0.4
	comp=Z,0.6nm,0.6s,baz=338,slow=2.8,SNR=4.7						
BVAR	**Borovoye Array**	**49.06**	**322**	P	**P**	**09 47 44.4**	**-0.9**
	comp=Z,1.2nm,0.6s,mb4.1,baz=104,slow=9.8,SNR=3.8						
BVAR				PcP	PcP	09 49 07.5	-1.1
	comp=Z,1.0nm,0.6s,baz=104,slow=3.7,SNR=4.3						
STKA	**Stephens Creek**	**57.17**	**159**	*eP*	**P**	**09 48 44.8**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**57.17**	**159**	P	**P**	**09 48 44.9**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.4,baz=321,slow=7.3,SNR=8.9						
BRTR	**Keskin Array B**	**74.02**	**307**	P	**P**	**09 50 34.5**	**+0.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=106,slow=4.4,SNR=4.6						
AKASG	**Malin Array Be**	**74.15**	**319**	P	**P**	**09 50 33.9**	**-0.6**
	comp=Z,0.2nm,0.2s,mb3.6,baz=62,slow=5.8,SNR=2.9						
MLR	**Muntele Rosu**	**77.78**	**314**	P	**P**	**09 50 56.6**	**+1.4**
	comp=Z,4.3nm,0.8s,mb4.5,baz=184,slow=8.1,SNR=5.0						
HFS	**Hagfors**	**79.24**	**331**	P	**P**	**09 51 02.9**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=95,slow=3.6,SNR=6.7						
NOA	**NORSAR Array B**	**79.94**	**332**	P	**P**	**09 51 05.8**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=62,slow=5.2,SNR=3.0						
NOA				LR	LR	10 29 53.1	
	comp=Z,94nm,18.1s,MS4.2,baz=170,slow=38						
GERES	**GERESS Array B**	**84.20**	**321**	P	**P**	**09 51 30.0**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.2,baz=65,slow=4.7,SNR=5.8						
YKA	**Yellowknife Ar**	**85.29**	**22**	P	**P**	**09 51 34.9**	**0.0**
	comp=Z,0.9nm,0.8s,mb4.0,baz=310,slow=5.0,SNR=18						
EKA	**Eskdalemuir Ar**	**89.41**	**332**	P	**P**	**09 51 54.7**	**-0.1**
	comp=Z,1.4nm,0.9s,mb4.3,baz=48,slow=2.5,SNR=3.7						

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*ISCJB **28** 10:00:10.8±0.7, 6473N±003×308E±0.1, h0km, Error ellipse: s-maj=8.0km s-min=4.1km az=4.7*
*IDC **28** 10:00:11.2±3.4, 6462N×3192E, h0km, mb1 3.2/4, mb1mx3.0/21, mbtmp3.2/4, ML2.4/4, Error ellipse: s-maj=46.0km s-min=9.8km az=101.0*
*HEL **28** 10:00:12.3±0.1, 6472N×3080E, h0km, ML2.1, ML1.8(BER), ML2.0(NAO), Explosion*
*NAO **28** 10:00:14.9±1.8, 6473N×3004E, ML2.0*
*BER **28** 10:00:16.3±3.2, 6475N×3013E, h0km, ML1.8, ML2.0(NAO), Suspected explosion*

ISC 28 10:00:12.6±0.7, 6473N±003×307E±01, h0km, n18, σ1§16/29, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.35**	**346**	*eP*	**Pg**	**10 00 37.1**	**-1.3**
KU6				eS	**Sg**	**10 00 56.4**	**+0.6**
MSF	**Maaselka**	**1.37**	**331**	*eP*	**Pg**	**10 00 38.4**	**-0.5**
MSF				eS	**Sg**	**10 00 55.1**	**-1.7**
KJN	**Kajaani**	**1.44**	**245**	*eP*	**Pn**	**10 00 38.7**	**-1.1**
KJN				eS	**Sg**	**10 00 57.5**	**-1.3**
JOF	**Joensuu**	**1.84**	**171**	*eP*	**Pn**	**10 00 44.6**	**-0.8**
JOF				eS	**Sn**	**10 01 07.7**	**-1.6**
OUL	**Oulu**	**2.07**	**282**	*eP*	**Pn**	**10 00 49.7**	**+1.1**
OUL				eS	**Sn**	**10 01 15.9**	**+0.9**
OUL				MSG		10 01 18.3	
	comp=Z,12nm,0.2s						
SUF	**Sumiainen**	**2.85**	**227**	MSG		10 01 48.4	
	comp=Z,5.4nm,0.2s						
APA0	**Apatity Array**	**3.04**	**17**	Pn	**Pn**	**10 01 03.9**	**+1.9**
	baz=188,slow=14						
APA0				Lg		10 01 53.1	
	baz=208,slow=37						
APA0	**Apatity Array**	**3.04**	**17**	*e*PB	**Pn**	**10 01 03.9**	**+1.9**
APA0				*e*		10 01 53.1	
FIA0	**FINESS Array S**	**3.90**	**214**	Pn	**Pn**	**10 01 14.1**	**+0.3**
	baz=37,slow=14						
FIA0				Lg		10 02 12.3	
	baz=32,slow=28						
FIA0	**FINESS Array S**	**3.90**	**214**	*eP*	**Pn**	**10 01 14.1**	**+0.3**
FIA0				*e*SG	**Sg**	**10 02 12.3**	**-5.6**
FINES	**FINESS Array B**	**3.90**	**214**	Pn	**Pn**	**10 01 14.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=44,slow=13,SNR=5.4						
FINES				Pg	**Pg**	**10 01 23.5**	**-3.8**
	comp

0.2nm,0.3s,baz=314,slow=22,SNR=3.9
LSZ Lusaka 17.95 258 *e*P **Pn 10 06 35.4 +2.2**
15nm,1.1s
LSZ *e*S **Sn 10 09 42.5 -11**
MATP Matopo 19.01 242 P **Pn 10 06 46.0 -0.1**
1.0nm,0.3s,baz=70,slow=11,SNR=30
MATP S **Sn 10 10 05.7 -13**
0.1nm,0.3s,baz=178,slow=21,SNR=2.0
LBTB Lobatse 23.43 234 P **P 10 07 32.1 -0.8**
7.3nm,0.8s,mb4.2,baz=64,slow=13,SNR=9.5
LBTB S **S 10 11 47.0 +1.0**
2.0nm,1.0s,baz=134,slow=18,SNR=1.8
LBTB LR LR 10 16 45.2
comp=Z,188nm,18.6s,MS3.6,baz=76,slow=37
LBTB Lobatse 23.43 234 *e*P **P 10 07 32.2 -0.8**
30nm,1.1s,mb4.6
ATD Arta Tunnel 23.83 351 P **P 10 07 36.5 -0.3**
6.3nm,0.6s,mb4.2,baz=103,slow=22,SNR=3.3
ATD LR LR 10 16 02.6
comp=Z,114nm,20.8s,MS3.3,baz=153,slow=34
BOSA Boshof 25.61 227 P **P 10 07 52.6 -0.4**
4.3nm,0.7s,mb4.1,baz=48,slow=12,SNR=8.6
BOSA LR LR 10 17 12.7
comp=Z,104nm,21.3s,MS3.3,baz=55,slow=35
BOSA Boshof 25.61 227 *e*P **P 10 07 51.7 -1.3**
18nm,1.1s,mb4.5
TORD Torodi Ar. Bea 50.98 298 P **P 10 11 26.6 +1.2**
0.4nm,0.9s,mb3.4,baz=101,slow=7.5,SNR=3.1
TORD LR LR 10 31 45.5
comp=Z,88nm,20.4s,MS3.8,baz=125,slow=35
BRTR Keskin Array B 53.00 348 P **P 10 11 40.5 +0.1**
1.0nm,0.6s,mb3.9,baz=152,slow=5.6,SNR=5.8
GZR Gura Zlata 61.17 341 ||*i*P **P 10 12 38.9 +0.7**
BZS Buzias 61.74 340 ⇑*i*P **P 10 12 42.3 +0.2**
AKTO Aktyubinsk 63.19 8 LR LR 10 41 17.2
comp=Z,45nm,18.0s,MS3.7,baz=44,slow=37
AKASG Malin Array Be 64.40 348 P **P 10 12 58.8 -1.0**
1.1nm,0.7s,mb4.0,baz=177,slow=5.8,SNR=5.4
KECS Kecovo 64.63 341 *e*P **P 10 13 01.2 -0.1**
KECS *e* 10 13 13.1
VYHS Vyhne 65.17 340 *e*P **P 10 13 04.6 -0.2**
VYHS *e* 10 13 15.8
STHS Stebnicka Huta 65.23 342 *e*P **P 10 13 05.9 +0.7**
2.7nm,0.8s,mb4.3
ZST Bratislava 65.51 339 *e*P **P 10 13 07.2 +0.2**
MORC Moravsky Berou 66.71 340 ||*i*P **P 10 13 14.8 +0.1**
MKAR Makanchi Array 66.94 26 P **P 10 13 15.8 -0.4**
1.1nm,0.9s,mb3.9,baz=226,slow=6.6,SNR=4.9
GERES GERESS Array B 67.30 337 P **P 10 13 17.8 -0.6**
1.6nm,0.9s,mb4.1,baz=147,slow=7.5,SNR=6.8
BVAR Borovoye Array 68.14 15 P **P 10 13 22.8 -1.0**
2.3nm,1.1s,mb4.1,baz=210,slow=4.8,SNR=6.1
ARU Arti 69.12 7 *e*P **P 10 13 29.2 -0.7**
3.0nm,0.4s,mb4.6
ESDC Sonseca Array 69.64 321 P **P 10 13 34.1 +1.0**
1.1nm,0.5s,mb4.0,baz=123,slow=5.9,SNR=8.1
ZAL Zalesovo 73.52 23 P **P 10 13 56.0 -0.4**
0.6nm,0.3s,mb3.9,baz=333,slow=18,SNR=2.1
FINES FINESS Array B 75.14 350 P **P 10 14 04.9 -1.1**
2.9nm,0.9s,mb4.2,baz=141,slow=6.8,SNR=3.2
NOA NORSAR Array B 78.14 343 LR LR 10 50 38.9
comp=Z,26nm,19.5s,MS3.6,baz=155,slow=37
SONM Songino Array 79.96 36 P **P 10 14 33.8 +0.9**
0.5nm,0.7s,mb3.5,baz=218,slow=4.6,SNR=3.3
ASAR Alice Springs 82.95 113 P **P 10 14 49.4 +0.7**
0.5nm,1.0s,mb3.5,baz=255,slow=4.2,SNR=4.5
VNDA Vanda 83.48 169 LR LR 10 47 19.3
comp=Z,68nm,21.2s,MS4.0,baz=248,slow=32
WRA Warramunga Arr 84.02 109 P **P 10 14 56.1 +1.9**
0.2nm,0.6s,mb3.4,baz=258,slow=3.9,SNR=3.1
STKA Stephens Creek 88.00 122 LR LR 10 48 47.6
comp=Z,48nm,18.3s,MS4.0,baz=206,slow=32
TXAR Lajitas Array 147.37 306 PKPbc PKPbc 10 22 08.5 +1.1
0.8nm,0.8s,baz=64,slow=4.1,SNR=5.2
NVAR Mina Array Bea 150.53 335 PKPbc PKPbc 10 22 18.1 +2.6
0.3nm,0.3s,baz=230,slow=3.7,SNR=3.7

IDC 28 10:09:23.4±1.1, 2222N×14318E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=44.8km s-min=22.2km az=89.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.94**	**320**	P	P	10 16 51.4	+0.4
0.5nm,0.5s,baz=134,slow=7.4,SNR=6.8							
WRA	**Warramunga Arr**	**42.78**	**192**	P	P	10 17 22.1	-0.6
0.8nm,0.5s,baz=9.5,slow=8.7,SNR=11							
ASAR	**Alice Springs**	**46.49**	**192**	P	P	10 17 53.3	+1.0
0.4nm,0.6s,baz=16,slow=8.2,SNR=9.0							
MKAR	**Makanchi Array**	**54.34**	**312**	P	P	10 18 51.7	-0.1
0.5nm,0.6s,baz=80,slow=8.9,SNR=3.8							
MKAR				LR	LR	10 41 00.6	
comp=Z,19nm,18.8s,baz=177,slow=35							
YKA	**Yellowknife Ar**	**76.00**	**28**	P	P	10 21 12.1	-0.3
0.6nm,0.4s,baz=293,slow=5.9,SNR=36							

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*LDG **28** 10:23:32.7±0.0, 4306N×043W, h10km, Md1.3/1, Error ellipse: s-maj=1.0km s-min=0.6km az=177.0*
*CSEM **28** 10:23:32.8±0.0, 4306N×043W, h10km, ML1.9, Error ellipse: s-maj=0.9km s-min=0.6km az=178.0*
*STR **28** 10:23:33.1±0.2, 4309N×046W, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 28 10:23:33.2±0.7, 4307N×044W, h8km±4km, mbLg0.1/1, Error ellipse: s-maj=4.8km s-min=2.5km az=7.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.03**	**94**	Pg	Pg	10 23 34.8	+0.1
REYF				Sg	Sg	10 23 36.2	+0.4
REYF	**Montagne du Re**	**0.03**	**94**	P	Pg	10 23 34.8	+0.1
REYF				S	Sg	10 23 35.9	+0.1
ATE	**Arette**	**0.19**	**274**	Pg	Pg	10 23 37.1	-0.1
ATE				Sg	Sg	10 23 39.9	+0.1
ATE	**Arette**	**0.19**	**274**	P	Pg	10 23 37.1	-0.1
ATE				S	Sg	10 23 39.9	0.0
ETSF	**Etsaut**	**0.20**	**208**	*e*Pg	Pg	10 23 36.9	-0.3
ETSF				*e*Sg	Sg	10 23 39.7	-0.2
3.0nm,0.2s							
ETSF	**Etsaut**	**0.20**	**208**	*e*Pg	Pg	10 23 36.9	-0.3
ETSF				*e*Sg	Sg	10 23 39.7	-0.2
1.5nm,0.2s							
EPF	**Esparros**	**0.57**	**94**	*e*Sg	Sg	10 23 51.1	-0.6
1.1nm,0.3s							
EPF	**Esparros**	**0.57**	**94**	*e*Sg	Sg	10 23 51.1	-0.6
0.6nm,0.3s							
EBIE	**Bielsa**	**0.57**	**132**	Pg	Pg	10 23 44.2	-0.1
0.1nm,0.1s,SNR=7.9							
EBIE				Lg		10 23 52.2	
0.4nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**0.58**	**274**	*e*Sg	Sg	10 23 51.8	-0.2
0.5nm,0.2s							
SJPF	**Ste Jean**	**0.58**	**274**	*e*Sg	Sg	10 23 51.8	-0.2
0.2nm,0.2s							

IDC 28 10:44:57.9±11.0, 859S×11098E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=198.9km s-min=159.5km az=161.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**16.51**	**313**	LR	LR	10 55 43.2	
comp=Z,96nm,19.5s,baz=183,slow=39							
FITZ	**Fitzroy Crossi**	**17.10**	**125**	P	Pn	10 48 58.3	0.0
0.1nm,0.3s,baz=322,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**25.25**	**119**	P	P	10 50 26.2	+0.5
1.1nm,0.6s,baz=292,slow=11,SNR=4.2							
ASAR	**Alice Springs**	**26.57**	**127**	P	P	10 50 38.1	+0.5
1.1nm,0.6s,baz=306,slow=9.6,SNR=5.5							
STKA	**Stephens Creek**	**36.67**	**133**	*e*P	P	10 52 06.2	-0.1
3.2nm,0.4s							
STKA	**Stephens Creek**	**36.67**	**133**	P	P	10 52 06.5	+0.1
3.6nm,0.4s,baz=318,slow=8.7,SNR=27							

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*PRU **28** 11:10:56.3, 5037N×1878E, h0km*
*VIE **28** 11:10:58.1±0.7, 4971N×1898E, h0km, mb1.9/3, ML2.2/3, Error ellipse: s-maj=4.2km s-min=4.0km az=73.0 54 km ESE of Ostrava Suspected Mining induced.*

WAR 28 11:10:57.3, 5027N×1887E, ML2.5, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.60**	**94**	*e*Pg	Pg	11 11 08.9	+0.1
OJC				*e*Sg	Sg	11 11 17.3	+0.7
OKC	**Ostrava-Krasne**	**0.64**	**227**	*e*PG	Pg	11 11 09.2	-0.3
OKC				*e*SG	Sg	11 11 18.5	+0.8
26nm,0.7s							
NIE	**Niedzica**	**1.27**	**132**	*e*Pg	Pg	11 11 21.4	-0.2
NIE				*e*Sg	Sg	11 11 39.6	+1.6
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	Pg	11 11 25.9	-2.7
DPC				*e*SG	Sg	11 11 47.3	-2.5
21nm,0.5s							
KSP	**Ksiaz**	**1.74**	**290**	*e*Pg	Pg	11 11 29.5	-1.1
KSP				*e*Sg	Sg	11 11 52.3	-0.9
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN	Pn	11 11 29.4	+0.4
STHS				*e*SN	Sn	11 11 53.7	+1.6
VYHS	**Vyhne**	**1.78**	**181**	*e*PN	Pn	11 11 28.0	-1.3
VYHS				*e*SN	Sn	11 11 52.5	-0.1
UPC	**Upice**	**1.84**	**279**	*e*SG	Sg	11 11 53.8	-2.7
SMOL	**Smolenice**	**1.99**	**209**	*e*SN	Sn	11 11 57.7	-0.2
KECS	**Kecovo**	**2.08**	**149**	*e*SN	Sn	11 11 58.5	-1.5
PRU	**Pruhonice**	**2.80**	**266**	*e*PG	Pg	11 11 45.6	-5.3
PRU				*e*SG	Sg	11 12 22.9	-4.3
BRG	**Berggiesshubel**	**3.20**	**283**	SG	Sg	11 12 39.3	-0.7
2.4nm,0.7s							
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PG	Pg	11 12 01.6	-5.1
KHC				*e*SG	Sg	11 12 49.8	-3.8
6.6nm,0.8s							
CLL	**Collm**	**3.86**	**288**	*e*Sg	Sg	11 13 05.0	+3.5
MOA	**Molln**	**3.88**	**233**	||*i*Pg	Pg	11 12 07.6	-4.0
MOA				⇑*i*Sg	Sg	11 12 57.8	-4.0
comp=Z,3.5nm,0.6s							

IDC 28 11:21:03.0±4.9, 598S×14764E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=75.2km s-min=44.3km az=63.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44**	**188**	Pn	Pn	11 21 59.4	+1.6
12nm,0.3s,baz=11,slow=8.0,SNR=23							
PMG				Sn	Sn	11 22 40.9	+1.7
13nm,0.3s,baz=45,slow=24,SNR=9.0							
HNR	**Honiara**	**12.67**	**106**	LR	LR	11 27 38.7	
comp=Z,47nm,18.1s,baz=176,slow=31							
WB2	**Warramunga Arr**	**18.96**	**222**	*e*P	Pn	11 25 25.2	-1.1
WRA	**Warramunga Arr**	**18.97**	**222**	P	Pn	11 25 25.6	-0.8
0.3nm,0.3s,baz=50,slow=11,SNR=13							
ASAR	**Alice Springs**	**22.00**	**216**	P	P	11 25 58.7	0.0
1.3nm,0.5s,baz=54,slow=8.7,SNR=42							
FITZ	**Fitzroy Crossi**	**24.62**	**239**	*e*P	P	11 26 25.2	+0.3
7.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.62**	**239**	P	P	11 26 24.9	0.0
2.7nm,0.6s,baz=67,slow=11,SNR=9.6							
STKA	**Stephens Creek**	**26.38**	**192**	P	P	11 26 41.4	+0.5
0.8nm,0.6s,baz=27,slow=14,SNR=3.0							

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*ISCJB **28** 11:46:54.1±0.7, 4284N±004×795W±007, h13km±7km, Error ellipse: s-maj=8.5km s-min=6.3km az=27.8*
*MDD **28** 11:46:55.8±0.3, 4286N×795W, h8km±6km, mbLg2.5/11, Error ellipse: s-maj=3.8km s-min=2.5km az=3.0, PRXIMO*
*INMG **28** 11:46:55.8±1.3, 4286N×796W, h8km±5km, ML2.0, Error ellipse: s-maj=2.9km s-min=2.5km az=142.0*
*CSEM **28** 11:46:55.3±0.1, 4285N×799W, h10km, ML3.1/3, Error ellipse: s-maj=2.1km s-min=1.5km az=141.0*
*NEIC **28** 11:46:55.8, 4286N×795W, h7km, MN2.5(MDD), After MDD.*
ISC 28 11:46:54.7±0.7, 4290N±004×799W±006, h13km±6km, n29, σ0§95/36, 4C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STS	**Santiago**	**0.41**	**268**	⇑Pg	**Pg**	**11 47 04.4**	**+1.5**
STS				Lg		11 47 09.9	
175nm,0.3s							
EMAZ	**Mazaricos**	**0.72**	**274**	⇑Pg	**Pg**	**11 47 08.9**	**+0.1**
13nm,0.1s,SNR=18							
EMAZ				Lg		11 47 17.9	
49nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**0.72**	**274**	Pg	**Pg**	**11 47 08.9**	**+0.1**
13nm,0.1s,SNR=18							
EMAZ				Lg		11 47 17.9	
49nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**0.75**	**55**	⇑Pg	**Pg**	**11 47 09.6**	**+0.3**
EPON				Lg		11 47 18.9	
EPON	**Pontenova**	**0.75**	**55**	⇑Pg	**Pg**	**11 47 09.6**	**+0.3**
11nm,0.1s,SNR=18							
EPON				Lg		11 47 18.9	
71nm,0.1s							
EPON	**Pontenova**	**0.75**	**55**	Pg	**Pg**	**11 47 09.6**	**+0.3**
11nm,0.1s,SNR=18							
EPON				Lg		11 47 18.9	
71nm,0.1s							
ERUA	**La Rua**	**0.81**	**129**	Pg	**Pg**	**11 47 11.1**	**+0.8**
16nm,0.1s,SNR=7.9							
ERUA				Lg		11 47 20.3	
100nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**0.91**	**215**	Pg	**Pg**	**11 47 11.4**	**-0.9**
2.3nm,0.1s,SNR=7.9							
EZAM				Lg		11 47 20.9	
13nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**1.03**	**183**	Pg	**Pg**	**11 47 13.1**	**-1.5**
2.0nm,0.0s,SNR=29							
ELOB				Lg		11 47 27.7	
5.2nm,0.0s,SNR=12							
ELOB	**Lobios**	**1.03**	**183**	Pg	**Pg**	**11 47 13.1**	**-1.5**
2.0nm,0.0s,SNR=29							
ELOB				Lg		11 47 27.7	
5.2nm,0.0s,SNR=12							
PCAB	**Cabril**	**1.19**	**181**	*e*P	**Pn**	**11 47 15.2**	**-1.8**
PCAB				*e*S	**Sb**	**11 47 33.5**	**+1.2**
PCAB				A		11 47 40.7	
49nm,0.1s							
PCAB	**Cabril**	**1.19**	**181**	*e*P	**Pn**	**11 47 15.2**	**-1.8**
PCAB				*e*S	**Sb**	**11 47 33.5**	**+1.2**
49nm,0.1s							
ECAL	**Calabor**	**1.33**	**135**	Pg	**Pg**	**11 47 19.1**	**-1.2**
1.4nm,0.1s,SNR=20							
ECAL				Lg		11 47 36.4	
5.9nm,0.1s,SNR=13							
ECAL	**Calabor**	**1.33**	**135**	Pg	**Pg**	**11 47 19.1**	**-1.2**
1.4nm,0.1s,SNR=20							
ECAL				Lg		11 47 36.4	
5.9nm,0.1s,SNR=13							
PBRG	**Braganca**	**1.43**	**139**	*e*Pn	**Pn**	**11 47 20.3**	**0.0**
PBRG				*e*Sn	**Sn**	**11 47 40.5**	**+1.5**
PBRG				A		11 47 46.3	
23nm,0.2s							
PBRG	**Braganca**	**1.43**	**139**	*e*Pn	**Pn**	**11 47 20.3**	**0.0**
PBRG				*e*Sn	**Sn**	**11 47 40.5**	**+1.5**
23nm,0.2s							
EARI	**Arriondas**	**2.08**	**78**	Pn	**Pn**	**11 47 29.1**	**-0.1**
0.3nm,0.0s,SNR=7.8							
EARI				Sn	**Sn**	**11 47 54.7**	**-0.2**
1.8nm,0.1s							
EARI				Lg		11 48 02.1	
7.6nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**2.08**	**78**	Pn	**Pn**	**11 47 29.1**	**-0.1**
0.3nm,0.0s,SNR=7.8							
EARI				Sn	**Sn**	**11 47 54.7**	**-0.2**
1.8nm,0.1s							
EARI				Lg		11 48 02.1	
7.6nm,0.3s,SNR=7.9							
PVIS	**Viseu**	**2.18**	**178**	*e*Pn	**Pn**	**11 47 29.4**	**-1.2**
PVIS				*e*Sg	**Sg**	**11 48 04.7**	**-0.2**
PVIS				A		11 48 09.2	
10nm,0.1s							
PVIS	**Viseu**	**2.18**	**178**	*e*Pn	**Pn**	**11 47 29.4**	**-1.2**
PVIS				*e*Sg	**Sg**	**11 48 04.7**	**-0.2**
10nm,0.1s							
PCBR	**Castelo Branco**	**3.08**	**173**	A		11 48 38.7	
4.9nm,0.5s							
ELAN	**Lanestosa**	**3.36**	**83**	Pn	**Pn**	**11 47 47.3**	**+0.5**
2.0nm,0.1s,SNR=9.1							
ELAN				Sn	**Sn**	**11 48 25.7**	**-0.8**
4.2nm,0.2s							
ELAN				Lg		11 48 42.1	
5.5nm,0.4s,SNR=7.9							
ELAN	**Lanestosa**	**3.36**	**83**	Pn	**Pn**	**11 47 47.3**	**+0.5**
2.0nm,0.1s,SNR=9.1							
ELAN				Sn	**Sn**	**11 48 25.7**	**-0.8**
4.2nm,0.2s							
ELAN				Lg		11 48 42.1	
5.5nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**3.65**	**127**	Lg		11 48 50.7	
5.5nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**3.65**	**127**	Lg		11 48 50.7	
5.5nm,0.3s,SNR=7.9							
PESTR	**Estremoz**	**4.04**	**176**	*e*Sg	**Sg**	**11 49 05.4**	**+1.0**
IUSE	**Utxeti**	**4.73**	**87**	Pn	**Pn**	**11 48 06.5**	**+0.8**
1.9nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**5.99**	**89**	Pn	**Pn**	**11 48 23.0**	**0.0**
0.3nm,0.3s,SNR=11							
EBIE	**Bielsa**	**5.99**	**89**	Pn	**Pn**	**11 48 23.0**	**0.0**

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*IDC **28** 12:02:18.9±1.3, 252S×129.16E, h0km, mb4.2/5, mb1 4.6/7, mb1mx4.3/16, mbtmp4.4/7, ML3.9/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/25, Error ellipse: s-maj=113.6km s-min=18.7km az=72.0*
*ISCJB **28** 12:02:21.4±1.0, 24S±01×1295E±03, h33km, mb4.2/5, MS3.3/1, Error ellipse: s-maj=48.7km s-min=9.4km az=145.2*
ISC 28 12:02:27.1±1.8, 26S±01×1293E±03, h68km±15km, n12, σ1§12/15, mb4.1/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.51**	**163**	*e*P	**Pn**	**12 04 54.7**	**-0.2**
11nm,0.6s							
KAKA				*e*S	**Sn**	**12 06 52.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**15.83**	**193**	*e*P	**Pn**	**12 06 06.4**	**+0.7**
15nm,0.9s							
FITZ	**Fitzroy Crossi**	**15.83**	**193**	Pn	**Pn**	**12 06 05.4**	**-0.3**
0.5nm,0.3s,baz=28,slow=13,SNR=9.5							
FITZ				LR	LR	12 12 22.7	
comp=Z,69nm,18.4s,baz=26,slow=38							
WRA	**Warramunga Arr**	**17.92**	**165**	P	**Pn**	**12 06 29.9**	**-1.7**
0.4nm,0.3s,baz=340,slow=11,SNR=104							
WRA				S	**S**	**12 09 51.6**	**-1.9**
0.2nm,0.3s,baz=358,slow=24,SNR=5.1							
WB2	**Warramunga Arr**	**17.92**	**164**	*e*P	**Pn**	**12 06 30.2**	**-1.4**
WB2				*e*S	**S**	**12 09 53.6**	**0.0**
ASAR	**Alice Springs**	**21.41**	**168**	P	**P**	**12 07 10.2**	**+0.9**
30nm,0.8s,mb4.7,baz=347,slow=11,SNR=276							
ASAR				S	**S**	**12 11 04.4**	**+1.5**
6.7nm,0.8s,baz=348,slow=21,SNR=16							
STKA	**Stephens Creek**	**31.33**	**160**	*e*P	**P**	**12 08 43.1**	**+2.1**
2.5nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**31.33**	**160**	P	**P**	**12 08 42.9**	**+2.0**
4.4nm,0.9s,mb4.2,baz=340,slow=10,SNR=6.2							
KSRS	**Korea Array**	**39.87**	**358**	LR	LR	12 27 05.8	
comp=Z,40nm,18.0s,baz=16,slow=37							
SONM	**Songino Array**	**54.09**	**341**	P	**P**	**12 11 45.2**	**+0.3**
1.8nm,1.1s,mb4.0,baz=147,slow=6.8,SNR=7.1							
MKAR	**Makanchi Array**	**64.21**	**326**	P	**P**	**12 12 54.2**	**-0.6**
1.2nm,0.7s,mb3.8,baz=98,slow=6.2,SNR=8.6							
VNDA	**Vanda**	**76.87**	**173**	P	**P**	**12 14 12.2**	**+0.4**
2.4nm,1.0s,mb3.9,baz=291,slow=1.4,SNR=4.1							

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*IDC **28** 12:15:27.9±2.3, 802S×110.44E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/18, mbtmp3.7/6, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=110.2km s-min=19.7km az=54.0*
NEIC 28 12:15:29.0±2.1, 810S×11028E, h10km, Error ellipse: s-maj=98.8km s-min=13.6km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.95**	**125**	P	Pn	12 19 39.6	+1.0
0.3nm,0.3s,baz=326,slow=11,SNR=4.2							
FITZ				LR	LR	12 25 45.8	
comp=Z,79nm,18.4s,baz=215,slow=35							
WRA	**Warramunga Arr**	**26.10**	**119**	P	P	12 21 02.5	-0.4
0.8nm,0.5s,baz=292,slow=11,SNR=10							
WB2	**Warramunga Arr**	**26.11**	**119**	*e*P	P	12 21 04.2	+1.2
ASAR	**Alice Springs**	**27.42**	**127**	P	P	12 21 14.3	-0.5
0.5nm,0.5s,baz=306,slow=8.8,SNR=12							
STKA	**Stephens Creek**	**37.51**	**133**	*e*P	P	12 22 42.8	-0.2
4.0nm,0.5s							
STKA	**Stephens Creek**	**37.51**	**133**	P	P	12 22 43.3	+0.3
4.4nm,0.5s,baz=311,slow=7.5,SNR=22							
STKA	**Stephens Creek**	**37.51**	**133**	*e*P	P	12 22 43.3	+0.3
SONM	**Songino Array**	**55.80**	**357**	P	P	12 25 06.0	-0.2
0.4nm,0.8s,baz=141,slow=4.8,SNR=3.9							
SONM				LR	LR	12 50 09.9	
comp=Z,42nm,18.6s,baz=186,slow=37							
MKAR	**Makanchi Array**	**60.06**	**338**	P	P	12 25 36.9	+0.7
0.3nm,0.6s,baz=156,slow=9.5,SNR=4.0							

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*IDC **28** 12:29:07.8±8.6, 3307S×17990E, h246km±91km, mb3.4/2, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, Error ellipse: s-maj=99.6km s-min=41.4km az=3.0*
*ISCJB **28** 12:29:09.2±1.6, 334S±02×1798W±05, h303km±27km, mb3.4/2, Error ellipse: s-maj=73.9km s-min=16.4km az=48.6*
ISC 28 12:29:12.1±1.6, 337S±02×1799W±05, h316km±24km, n16, σ0§58/18, mb3.4/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.17**	**201**	*e*PN	**Pn**	**12 30 20.4**	**-0.5**
PUZ	**Puketiti**	**4.66**	**199**	PN	**Pn**	**12 30 26.9**	**+0.6**
MWZ	**Matawai**	**5.12**	**204**	PN	**Pn**	**12 30 32.2**	**+0.6**
MWZ				*e*SN	**S**	**12 31 36.3**	**+0.7**
URZ	**Urewera**	**5.20**	**207**	P	**Pn**	**12 30 32.7**	**+0.2**
0.7nm,0.3s,baz=14,slow=4.2,SNR=13							
URZ				S	**S**	**12 31 37.7**	**+0.3**
2.8nm,0.3s,baz=103,slow=19,SNR=9.9							
URZ	**Urewera**	**5.20**	**207**	*e*PN	**Pn**	**12 30 32.5**	**-0.1**
URZ				*e*SN	**S**	**12 31 36.8**	**-0.5**
KNZ	**Kokohu**	**5.70**	**200**	*e*PN	**Pn**	**12 30 38.6**	**+0.3**
BKZ	**Black Stump Fm**	**6.23**	**207**	*e*PN	**Pn**	**12 30 43.7**	**-0.8**
MRZ	**Mangataiinoka R**	**7.87**	**206**	PN	**Pn**	**12 31 03.5**	**-0.8**
MRZ				SN	**S**	**12 32 35.4**	**+0.1**
TCW	**Tory Channel**	**8.86**	**210**	*e*SN	**S**	**12 32 56.5**	**-0.8**
KHZ	**Kahutara**	**10.17**	**209**	*e*PN	**Pn**	**12 31 31.5**	**-0.6**
LTZ	**Lake Taylor**	**11.00**	**212**	*e*PN	**Pn**	**12 31 42.6**	**+0.4**
MQZ	**McQueen's Vall**	**11.60**	**208**	*e*SN	**S**	**12 33 59.4**	**+0.6**
ASAR	**Alice Springs**	**41.49**	**271**	P	**P**	**12 36 29.8**	**+0.8**
1.6nm,0.7s,mb3.3,baz=108,slow=7.9,SNR=20							
WRA	**Warramunga Arr**	**42.78**	**277**	P	**P**	**12 36 38.9**	**-0.4**
1.5nm,0.6s,mb3.4,baz=115,slow=7.9,SNR=24							
VNA2	**Neumayer--Watz**	**75.56**	**177**	*e*	PcP	12 40 33.6	-0.2
baz=186,slow=5.1							
FINES	**FINESS

SOH	Sokhos	1.34	351	*e*Pg	Pg	12 30 17.1	+0.3
KVR	Kavouri	1.67	177	*e*PN	Pn	12 30 21.5	+1.7
GRG	Griva	1.74	327	*e*Pb	Pb	12 30 21.1	-1.5
NAIG	Nisos Aigina	1.74	184	*e*PN	Pb	12 30 23.0	+0.3
NVR	Nevrokopi	1.86	5	*e*PB	Pb	12 30 23.6	-1.1
MMB	Musomiste	2.09	2	P	Pg	12 30 31.2	+0.1
MMB				Pg	Pg	12 30 34.8	+3.7
MMB	Musomiste	2.09	2	Pg	Pg	12 30 34.8	+3.7
RZN	Rozhen	2.33	20	P	Pn	12 30 29.9	+1.0
KDZ	Kurdzhali	2.54	32	P	Pg	12 30 39.0	-0.7
GOLH	Golhisar	5.17	114	*i* P	Sn	12 32 08.7	+1.4
GOLH				*i* S	Sb	12 32 24.0	+1.0
TKTP	Tekketepe	5.42	104	*i* P	Sn	12 32 11.6	-1.8
TKTP				*i* S	Sb	12 32 25.0	-5.2
AKAS	Kas	5.73	123	*i* P	Sn	12 32 16.9	-4.2
AKAS				*i* S	Sb	12 32 39.3	0.0

IDC 28 12:37:09.6±2.5, 2071S×6966W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=61.6km s-min=48.0km az=176.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.63	19	Pn	Pn	12 38 21.2	+0.5
	0.8nm,0.3s,baz=196,slow=8.1,SNR=12						
SIV	San Ignacio	9.41	62	Pn	Pn	12 39 26.9	+0.5
	0.5nm,0.3s,baz=261,slow=13,SNR=8.9						
TORD	Torodi Ar. Bea	77.75	71	P	P	12 49 09.1	+0.6
	0.4nm,0.6s,baz=257,slow=5.0,SNR=5.5						
YKA	Yellowknife Ar	90.21	341	P	P	12 50 11.5	-0.4
	0.3nm,0.6s,baz=129,slow=4.4,SNR=9.1						
YKA				pP		12 50 38.3	
	0.1nm,0.4s,baz=134,slow=4.9,SNR=3.7						
YKA				sP		12 50 48.8	
	0.2nm,0.6s,baz=133,slow=4.8,SNR=3.5						

*NIED **28** 12:45:00.26?0N×13180E, h44km, Mw4.0 Best double couple: M0=9.76000×10^14 NP1:φ0=357.00000°, δ76.00000°, λ150.00000°. NP2:φ0=95.00000°, δ61.00000°, λ16.00000°.*
*IDC **28** 12:45:29.4±0.9, 2639N×13204E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.8/22, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=34.2km s-min=18.7km az=72.0*
*JMA **28** 12:45:31.4±0.3, 2666N×13180E, h0km, M4.4*
*ISCJB **28** 12:45:33.2±1.2, 2644N±006×13182E±006, h33km±11km, mb3.7/8, Error ellipse: s-maj=10.5km s-min=9.1km az=132.0*

ISC 28 12:45:33.7±2.3, 2646N±005×13183E±005, h23km±17km, n20, σ0°88/29, mb3.7/8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	0.84	221	P	Pn	12 45 50.5	+0.4
JMZ				S	Sn	12 46 04.0	+2.3
JAM	Amami Oshima	2.77	315	P	Pn	12 46 16.6	0.0
JAM				S	Sn	12 46 49.8	+0.5
JTK	Tokunoshima	2.88	298	P	Pn	12 46 18.2	0.0
JTK				S	Sn	12 46 52.5	+0.4
JOW	Kunigami	3.20	277	Pn	Pn	12 46 23.1	+0.5
	40nm,0.3s,baz=112,slow=17,SNR=24						
JOW				Sn	Sn	12 46 57.6	-2.3
	32nm,0.3s,baz=114,slow=28,SNR=16						
JOW	Kunigami	3.20	277	P	Pn	12 46 23.0	+0.5
JOW				S	Sn	12 46 58.5	-1.4
JIH	Iheya	3.50	280	P	Pn	12 46 25.8	-0.8
JIH				*e*S	Sn	12 47 06.3	-1.0
JJT2	Tamagusuku 2	3.67	266	P	Pn	12 46 29.4	+0.3
JJT2				*e*S	Sn	12 47 11.5	-0.1
NAH1	Naha	3.72	267	*e*S	Sn	12 47 12.9	+0.1
JNN	Nakanoshima	3.78	333	P	Pn	12 46 29.8	-0.7
JAGN	Aguni-jima	4.11	273	*e*S	Sn	12 47 22.3	-0.1
JKE	Kume jima 2	4.52	269	P	Pn	12 46 40.3	-0.4
JKE				*e*S	Sn	12 47 32.9	+0.3
JNU	Nakatsue	6.69	353	Pn	Pn	12 47 10.5	+0.1
	0.6nm,0.3s,baz=231,slow=12,SNR=2.7						
JNU				Sn	Sn	12 48 18.9	-7.0
	1.7nm,0.3s,baz=198,slow=13,SNR=4.6						
SONM	Songino Array	29.20	324	P	P	12 51 34.9	+1.6
	0.4nm,0.8s,mb3.2,baz=145,slow=10,SNR=3.5						
MKAR	Makanchi Array	43.80	311	P	P	12 53 38.7	+1.1
	0.7nm,0.6s,mb3.6,baz=87,slow=9.9,SNR=11						
ZAL	Zalesovo	44.05	322	P	P	12 53 41.1	+1.5
	0.9nm,0.3s,mb4.0,baz=24,slow=6.8,SNR=6.1						
WRA	Warramunga Arr	46.19	177	P	P	12 53 56.2	-0.5
	0.6nm,0.8s,mb3.6,baz=352,slow=8.8,SNR=3.4						
ASAR	Alice Springs	49.87	178	P	P	12 54 23.7	-1.4
	0.3nm,0.8s,mb3.4,baz=9.2,slow=12,SNR=3.0						
FINES	FINESS Array B	74.23	331	P	P	12 57 08.6	-0.1
	1.7nm,0.9s,mb4.0,baz=67,slow=7.7,SNR=4.9						
YKA	Yellowknife Ar	76.93	26	P	P	12 57 23.3	-0.8
	0.9nm,0.9s,mb3.7,baz=299,slow=5.8,SNR=11						
AKASG	Malin Array Be	77.43	321	P	P	12 57 26.4	-0.6
	0.6nm,0.5s,mb3.8,baz=60,slow=6.5,SNR=4.1						

MEX 28 12:53:15.0±1.5, 1859N×10270W, h48km±47km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.68	244	*i* P	Pn	12 53 26.4	-2.1
MMIG				*i* S	Sn	12 53 36.6	-1.6
MOIG	Morelia	1.79	52	*i* P	Pn	12 53 42.2	-1.2
MOIG				*i* S	Sn	12 54 04.5	-0.5
SFJM	Santa Fe	1.92	350	*i* P	Pn	12 53 42.3	-2.9
SFJM				*i* S	Sn	12 54 06.5	-1.6
CJM	Chamela	2.40	293	*i* P	Pn	12 53 51.7	0.0
CJM				*i* S	Sn	12 54 18.5	-1.4

OTT 28 13:48:12.0±0.9, 7186N×7345W, h18km, MN3.0/3, 180km southeast from Pond Inlet, Nu Baffin Island Seismic Zone, Nt. Baffin Island Seismic Zone, Nt., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	Pond Inlet	1.62	303	PN	Pn	13 48 39.9	+0.3
PINU				SN	Sn	13 49 00.3	+0.4
PINU				Trac		13 49 04.5	
	comp=Z,50nm,0.2s						
ILON	Igloolik, Nuna	3.75	232	PN	Pn	13 49 08.5	-0.3
ILON				SN	Sn	13 49 50.7	-1.9
ILON				SG	Sg	13 50 03.5	-8.9
ILON				Trac		13 50 07.8	
	comp=N,16nm,0.3s						
RES	Resolute Bay	6.78	305	PN	Pn	13 49 47.3	-3.2
RES				SN	Sn	13 50 58.8	-8.4
FRB	Frobisher Bay	8.36	165	PN	Pn	13 50 11.2	-1.0
FRB				SN	Sn	13 51 39.9	-6.2
FRB				LG		13 52 24.5	
FRB				Trac		13 52 44.4	
	comp=Z,3.9nm,0.4s						
YRTN	Rankin Inlet	11.52	227	SN	Sn	13 52 47.2	-16
YRTN				LG		13 54 01.8	

*ISCJB **28** 13:49:01.6±0.3, 4246N±002×164E±002, h10km±3km, Error ellipse: s-maj=3.7km s-min=2.6km az=0.1*
*STR **28** 13:49:02.7±0.3, 4241N×167E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **28** 13:49:02.9±0.1, 4244N×165E, h6km, Md2.2/2, Ml2.2/7, Error ellipse: s-maj=1.3km s-min=0.9km az=4.0*
*MDD **28** 13:49:03.2±0.2, 4242N×165E, h0km, mbLg1.5/13, Error ellipse: s-maj=1.8km s-min=1.6km az=158.0, PRXIMO*

ISC 28 13:49:02.2±0.3, 4244N±002×165E±002, h14km±3km, n34, σ0°73/52, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	Andorre	0.12	317	P	Pg	13 49 05.8	+0.2
PAND				S	Sg	13 49 08.0	0.0
CLLI	Llivia	0.24	80	P	Pg	13 49 07.7	+0.2
CLLI				S	Sg	13 49 10.9	-0.1
	16nm,0.1s						
VALF	Valcebollere	0.27	98	Pg	Pg	13 49 08.1	+0.1
VALF				Sg	Sg	13 49 11.6	-0.3
VALF	Valcebollere	0.27	98	P	Pg	13 49 08.3	+0.3
VALF				S	Sg	13 49 11.7	-0.2
CORG	Organya	0.32	230	P	Pg	13 49 08.8	-0.1
CORG				S	Sg	13 49 14.1	+0.7
	5.8nm,0.1s						
CSOR	Sort	0.39	261	P	Pg	13 49 10.3	+0.2
CSOR				S	Sg	13 49 16.0	+0.6
	22nm,0.2s						
GRBF	Gourbit	0.41	348	S	Sg	13 49 16.9	+0.9
CBRU	Bruguera	0.42	111	P	Pg	13 49 11.0	+0.4
CBRU				S	Sg	13 49 16.9	+0.6
	12nm,0.2s						
CARF	Carcanieres	0.43	50	Pg	Pg	13 49 11.4	+0.5
CARF				Sg	Sg	13 49 17.5	+0.8
CARF	Carcanieres	0.43	50	P	Pg	13 49 11.5	+0.6
CARF				S	Sg	13 49 17.4	+0.7
SALF	Salau	0.47	313	S	Sg	13 49 18.3	+0.4
EMIR	Miracle	0.53	190	Pg	Pg	13 49 12.7	0.0
	2.6nm,0.3s,SNR=10.0						
EMIR				Lg		13 49 19.1	
	5.2nm,0.3s,SNR=16						
MLS	Moulis	0.66	322	Pg	Pg	13 49 15.5	+0.4
FILF	Fillols	0.68	79	Pg	Pg	13 49 14.2	-1.3
FILF				Sg	Sg	13 49 21.7	-2.8
FILF	Fillols	0.68	79	P	Pg	13 49 13.9	-1.6
FILF				S	Sg	13 49 21.8	-2.8
CAVN	Les Avellanes	0.87	231	P	Pb	13 49 19.4	+0.3
CFON	Fontmartina	0.89	139	P	Pb	13 49 19.6	+0.2
CFON				S	Sb	13 49 32.1	+0.9
	12nm,0.2s						
SJAF	Saint Jean de	0.91	87	S	Sb	13 49 32.7	+1.0
EJON	La Jonquera	0.92	89	Pg	Pg	13 49 20.0	+0.1
	0.6nm,0.1s,SNR=7.9						
EJON				Lg		13 49 33.1	
	3.4nm,0.1s,SNR=9.5						
MTLF	Montolieu	0.99	25	*e*Pg	Pg	13 49 22.2	+0.8
MTLF				*e*Sg	Sg	13 49 34.5	+0.1
	5.5nm,0.2s						
MTLF	Montolieu	0.99	25	Pg	Pg	13 49 22.2	+0.8
MTLF				Lg		13 49 34.5	
	2.8nm,0.2s						
EPF	Esparros	1.13	302	*e*Pg	Pg	13 49 24.1	0.0
EPF				*e*Sg	Sg	13 49 38.7	-0.2
	3.6nm,0.2s						
EPF	Esparros	1.13	302	Pg	Pg	13 49 24.1	0.0
EPF				Lg		13 49 38.7	
	1.8nm,0.2s						
EBIE	Bielsa	1.14	283	Pg	Pg	13 49 23.1	-1.2
	0.8nm,0.2s,SNR=7.9						
EBIE				Lg		13 49 39.5	
	0.8nm,0.1s,SNR=7.9						
CGAR	Garraf	1.21	199	S	Sb	13 49 39.2	-1.0
	2.2nm,0.1s						
ETSF	Etsaut	1.69	286	*e*Pg	Pg	13 49 34.2	-0.6
ETSF				*e*Sg	Sg	13 49 57.4	+0.6
	5.7nm,0.2s						
ETSF	Etsaut	1.69	286	Pg	Pg	13 49 34.2	-0.6
ETSF				Lg		13 49 57.4	
	2.8nm,0.2s						
ESAC	San Caprasio	1.73	246	Pg	Pg	13 49 35.6	0.0
	3.5nm,0.1s						
ESAC				Lg		13 49 58.7	
	9.6nm,0.3s,SNR=4.6						
ERTA	Horta de San J	1.78	214	Pg	Pg	13 49 34.7	-1.7
	0.5nm,0.2s,SNR=7.9						
ERTA				Lg		13 49 59.0	
	1.2nm,0.1s,SNR=7.9						
SJPF	Ste Jean	2.22	289	*e*Pn	Pn	13 49 39.0	+0.4
SJPF				*e*Sg	Sg	13 50 13.1	-0.6
	1.3nm,0.2s						
SJPF	Ste Jean	2.22	289	Pn	Pn	13 49 39.0	+0.4
SJPF				Lg		13 50 13.1	
	0.6nm,0.2s						
LASF	Ste Croix	2.30	44	*e*Pg	Pg	13 49 45.9	-0.3
LASF				*e*Sg	Sg	13 50 15.3	-0.7
	1.3nm,0.2s						
LASF	Ste Croix	2.30	44	Pg	Pg	13 49 45.9	-0.3
LASF				Lg		13 50 15.3	
	0.6nm,0.2s						
CAF	Calviac	2.50	7	*e*Pn	Pn	13 49 42.7	+0.3
CAF				*e*Sg	Sg	13 50 21.3	-1.4
	4.5nm,0.3s						

*ISCJB **28** 14:00:56.5±0.6, 245S±01×84.1E±01, h10km, mb4.1/12, MS3.5/1, Error ellipse: s-maj=19.0km s-min=17.5km az=167.9*
*IDC **28** 14:00:56.5±0.8, 2449S×84.11E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/17, mbtmp3.8/8, MS3.5/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=29.9km s-min=22.4km az=24.0*
*NEIC **28** 14:00:58.0±0.4, 2447S×84.11E, h10km, mb4.6/3, Error ellipse: s-maj=13.8km s-min=13.4km az=52.0*

ISC 28 14:00:58.3±0.6, 245S±01×841E±01, h10km, n16, σ0°28/14, mb4.1/12, MS3.5/1, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	45.08	191	*e*P	P	14 09 08.0	-6.4
	12nm,1.4s,mb4.5						
ASAR	Alice Springs	45.25	100	P	P	14 09 16.0	+0.2
	1.4nm,0.8s,mb3.8,baz=266,slow=7.3,SNR=14						
WRA	Warramunga Arr	46.51	95	P	P	14 09 25.9	+0.2
	1.5nm,0.9s,mb3.9,baz=260,slow=7.4,SNR=8.2						
STKA	Stephens Creek	50.69	112	LR	LR	14 29 59.7	
	comp=Z,45nm,18.6s,MS3.5,baz=205,slow=34						
BOSA	Boshof	52.37	252	P	P	14 10 10.7	+0.2
	2.1nm,0.9s,mb4.0,baz=71,slow=13,SNR=3.7						
VNDA	Vanda	63.61	166	P	P	14 11 29.1	-0.3
	1.1nm,0.8s,mb3.9,baz=240,slow=5.2,SNR=4.4						
QSPA	South Pole Qui	65.62	180	*e*P	P	14 11 41.8	-0.6
	4.8nm,1.2s,mb4.4						
SNAA	Sanae	66.03	200	*e*P	P	14 11 45.1	0.0
	4.3nm,1.1s,mb4.4						
VNA2	Neumayer--Watz	67.58	201	*e*	P	14 11 55.5	+0.5
	baz=65,slow=7.8						
VNA2				*e*		14 12 10.7	
MKAR	Makanchi Array	70.97	359	P	P	14 12 15.9	-0.1
	0.8nm,0.9s,mb3.7,baz=204,slow=8.6,SNR=3.7						
SONM	Songino Array	74.73	15	P	P	14 12 37.9	-0.3
	0.2nm,0.6s,mb3.2,baz=224,slow=4.0,SNR=2.4						
SONM	Songino Array	74.73	15	P	P	14 12 37.9	-0.3
BRTR	Keskin Array B	79.36	323	P	P	14 13 04.5	+0.1
	1.3nm,0.8s,mb3.9,baz=119,slow=5.2,SNR=4.9						
TORD	Torodi Ar. Bea	88.64	285	P	P	14 13 51.5	-0.1
	0.7nm,0.9s,mb4.0,baz=131,slow=4.2,SNR=3.1						
FINES	FINESS Array B	97.46	336	P	P	14 14 32.4	+0.1
	3.6nm,0.9s,mb4.8,baz=110,slow=10,SNR=3.5						
YKA	Yellowknife Ar	139.97	13	PKP	PKPdf	14 20 25.4	-1.5
	0.3nm,0.9s,baz=344,slow=2.3,SNR=3.9						

*NEIC **28** 14:06:39.6±1.2, 5.19N×94.59E, h30km, mb4.0/4, Error ellipse: s-maj=35.5km s-min=11.1km az=49.0*
*IDC **28** 14:06:45.0±6.4, 532N×94.94E, h71km±46km, mb3.6/5, mb1 3.8/6, mb1mx3.4/22, mbtmp3.6/6, Error ellipse: s-maj=91.6km s-min=17.7km az=59.0*
*ISCJB **28** 14:06:47.1±2.4, 55N±01×952E±01, h100km±22km, mb3.9/9, Error ellipse: s-maj=27.4km s-min=13.9km az=117.1*

ISC 28 14:06:47.8±2.4, 55N±01×951E±02, h90km±21km, n13, σ0°45/15, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.63	125	P	Pn	14 07 54.5	-0.8
	2.5nm,0.3s,baz=311,slow=11,SNR=7.9						
PSI				S	Sn	14 08 48.6	+0.8
	1.9nm,0.3s,baz=287,slow=20,SNR=4.2						
KULM	Kulim	5.50	92	*e*Pn	Pn	14 08 07.3	+0.1
KULM				*e*Sn	Sn	14 09 08.8	-0.2
LSA	Lhasa	24.38	352	*e*P	P	14 11 58.2	+0.7
	3.3nm,0.6s,mb3.8						
AAK	Ala-Archa	41.27	337	*e*P	P	14 14 24.3	+0.1
	1.1nm,0.5s,mb3.9						
MKAR	Makanchi Array	42.62	347	P	P	14 14 34.9	-0.3
	0.7nm,0.4s,mb3.7,baz=165,slow=8.2,SNR=8.7						
SONM	Songino Array	43.29	11	P	P	14 14 41.0	+0.5
	0.8nm,0.7s,mb3.6,baz=191,slow=9.1,SNR=5.9						
SONM				PcP	PcP	14 16 27.8	-0.2
	0.2nm,0.4s,baz=190,slow=4.6,SNR=6.2						
ULN	Ulaanbaatar	43.45	12	P	P	14 14 41.0	-0.8
	0.8nm,0.7s,mb3.6						
WRA	Warramunga Arr	46.09	124	P	P	14 15 02.7	-0.1
	1.5nm,0.6s,mb3.9,baz=303,slow=9.3,SNR=19						
WB2	Warramunga Arr	46.10	124	*e*P	P	14 15 03.0	+0.1
WB2	Warramunga Arr	46.10	124	*e*P	P	14 15 02.6	-0.3
KURK	Kurchatov	47.16	346	P	P	14 15 11.1	0.0
	2.0nm,0.5s,mb4.1						
ASAR	Alice Springs	47.64	129	P	P	14 15 14.8	-0.1
	0.6nm,0.4s,mb3.8,baz=300,slow=7.9,SNR=26						
ASAR				PP	PP	14 17 10.2	+3.1
	0.3nm,0.5s,baz=344,slow=9.7,SNR=7.1						
ZAL	Zalesovo	49.03	352	P	P	14 15 25.8	+0.2
	2.0nm,0.5s,mb4.3,baz=289,slow=4.1,SNR=8.4						

*NAO **28** 14:10:21.2, 44.75N×13.13E, h33km, mb3.5*
*NEIC **28** 14:10:27.8, 46.10N×1231E, h5km, ML3.4(ROM), ML3.8(STR), ML3.9(LDG), ML4.0(LEDBW), ML4.0(SZGRF), After ROM.*
NEIC Felt [V] at Belluno.
*ZUR **28** 14:10:27.7, 4602N×12.14E, h5km, ML3.7/6*
*ROM **28** 14:10:27.8±0.1, 46.10N×1231E, h5km, Md3.2/2, Ml3.4/45, Error ellipse: s-maj=1.7km s-min=1.7km az=9.0*
*ISCJB **28** 14:10:28.0±0.2, 46.130N±0008×1221E±001, h9km±1km, Error ellipse: s-maj=1.3km s-min=1.2km az=25.3*
*LDG **28** 14:10:28.9±0.1, 46.10N×1237E, h10km, Ml3.9/34, Error ellipse: s-maj=2.7km s-min=2.3km az=177.0*
*CSEM **28** 14:10:28.7±0.0, 46.10N×1229E, h12km, ML4.0/31, Error ellipse: s-maj=1.1km s-min=0.7km az=3.0*
*PRU **28** 14:10:29.0, 4609N×1233E, h0km*
*STR **28** 14:10:30.8±0.5, 4605N×1235E, h11km±1km, Ml4.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **28** 14:10:30.3±0.6, 46.13N×1229E, h10km, ML4.0, Error ellipse: s-maj=6.7km s-min=5.6km az=1.0*

ISC 28 14:10:29.0±0.2, 46112N±0008×1223E±001, h6km±1km, n358, σ1°06/571, 49C-41D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSO	Casso	0.17	22	↓*e*Pg	Pg	14 10 32.1	-0.3
CSO				*e*Sg	Sg	14 10 34.9	0.0
CAE	Caneva	0.18	126	↓*e*Pg	Pg	14 10 32.9	+0.3
CAE				*e*Sg	Sg	14 10 36.0	+1.0
FAU	Forcella Aurin	0.21	304	↓*i*Pg	Pg	14 10 32.7	-0.4
FAU				*e*Sg	Sg	14 10 35.2	-0.7
MLNI	Malnisio	0.27	82	↓*e*Pg	Pg	14 10 34.0	-0.2
MLNI				*e*Sg	Sg	14 10 38.1	+0.4
MTLO	Montello	0.31	197	↓*i*Pg	Pg	14 10 35.2	+0.1
MTLO				*e*Sg	Sg	14 10 40.4	+1.2
CGRP	Cima Grappa	0.38	232	↑*e*Pg	Pg	14 10 35.4	-0.9
CGRP				*e*Sg	Sg	14 10 41.4	+0.2
CTI	Castel Tesino	0.41	261	Pg	Pg	14 10 35.9	-1.0
AFL	Alpe Faloria	0.42	355	↓*i*Pg	Pg	14 10 36.6	-0.4
AFL				*e*Sg	Sg	14 10 41.8	-0.8
CSMI	Casera Mimoias	0.50	36	↑*e*Pg	Pg	14 10 37.8	-0.8
CSMI				*e*Sg	Sg	14 10 45.8	+0.8
MPRI	Monte Prat	0.54	76	↑*e*Pg	Pg	14 10 39.1	-0.3
MPRI				*e*Sg	Sg	14 10 47.9	+1.3
FVI	Forni Avoltri	0.62	38	Pg	Pg	14 10 41.1	+0.2
	1μm,0.7s						
BUA	Buia	0.63	80	↑*e*Pg	Pg	14 10 40.7	-0.4
SEST	Monte Rota	0.64	359	Pg	Pg	14 10 40.8	-0.4
SEST				Sg	Sg	14 10 50.4	+0.9
TLI	Talmassons	0.64	107	↑*e*Pg	Pg	14 10 41.0	-0.3
BOO	Bordano	0.64	71	↑*e*Pg	Pg	14 10 40.3	-1.0
ABTA	Abfaltersbach	0.67	17	↑*i*Pg	Pg	14 10 41.4	-0.4
ABTA				↓*i*Sg	Sg	14 10 51.2	+0.8
ZOU	Zoufplan	0.68	49	↑*e*Pg	Pg	14 10 41.8	-0.3
ZOU				*e*Sg	Sg	14 10 51.1	+0.2
BAD	Bernadia	0.72	80	↑*e*Pg	Pg	14 10 41.7	-1.0
GMNA	Gemona	0.72	77	Pg	Pg	14 10 41.0	-1.8
PLRO	Paularo	0.77	55	↑*e*Pg	Pg	14 10 43.3	-0.6
PLRO	Paularo	0.77	55	↑*e*Pg	Pg	14 10 43.3	-0.5
PLRO				*e*Sg	Sg	14 11 01.2	+7.3
APPI	Appiano	0.78	298	↓*i*Pg	Pg	14 10 43.4	-0.6
	2μm,0.2s						
PTCC	Patocco-Chiusa	0.83	69	Pg	Pg	14 10 43.4	-1.6
TEOL	Teolo	0.85	208	↑*e*Pg	Pg	14 10 45.2	-0.1
TEOL				*e*Sg	Sg	14 10 57.9	+1.6
ROBS	Robic	0.90	81	*e*Pg	Pg	14 10 45.3	-1.0
LSR	Lussari	0.97	68	↑*e*Pg	Pg	14 10 46.5	-1.1
LSR				*e*Sg	Sg	14 11 01.2	+0.9
DRE	Drenchia	0.99	86	↑*e*Pg	Pg	14 10 48.4	+0.5
DRE				*e*Sg	Sg	14 11 02.7	+2.0
SCE	Schlegeis	0.99	339	↓*i*Pg	Pg	14 10 47.5	-0.5
SCE				*i* Sg	Sg	14 11 01.5	+0.6
CADS	Cadrg	1.05	83	*e*Pg	Pg	14 10 48.8	-0.4
CADS				*e*Sg	Sg	14 11 05.0	+2.1
CADS							
	comp=Z,287nm,0.2s						
CADS	Cadrg	1.05	83	*e*Pg	Pg	14 10 48.8	-0.4
CADS				*e*Sg	Sg	14 11 05.0	+2.1
	comp=Z,287nm,0.2s						
VOJS	Vojsko	1.16	93	*e*Pg	Pg	14 10 51.1	-0.1
VOY	Vojsko	1.16	93	*e*Pg	Pg	14 10 50.5	-0.8
VOY				*e*		14 10 51.4	
VOY				*e*Sg	Sg	14 11 08.2	+1.8
MAGA	Magasa	1.17	254	Pg	Pg	14 10 50.7	-0.6
MAGA				Sg	Sg	14 11 08.4	+1.9
	comp=Z,13μm,0.4s						
MABI	Malga Bissina	1.19	268	Pg	Pg	14 10 51.1	-0.8
	comp=Z,638nm,0.6s						
WTTA	Wattenberg	1.22	341	↑*i*Sn	Sn	14 11 08.8	-0.6
WTTA				↑*i*Sg	Sn	14 11 09.8	+0.4
	comp=Z,687nm,0.4s						
WTTA	Wattenberg	1.22	341	↓*i*Pg	Pg	14 10 51.9	-0.5
WTTA				↑*i*Sg	Sn	14 11 08.8	-0.6
WTTA				↑*i*Sn	Sn	14 11 09.8	+0.4
	comp=Z,687nm,0.4s						
WTTA	Wattenberg	1.22	341	Pg	Pg	14 10 51.9	-0.5
WTTA				Sg	Sg	14 11 08.8	+0.5
KBA	Koelnbreinsper	1.24	38	↑*i*Sg	Sn	14 11 10.4	+0.6
	comp=Z,532nm,0.3s						
KBA	Koelnbreinsper	1.24	38	↑*i*Pn	Pn	14 10 52.7	0.0
KBA				↑*i*Sn	Sn	14 11 10.4	+0.6
	comp=Z,532nm,0.3s						
GORS	Gorjuse	1.24	80	*e*Pg	Pg	14 10 51.9	-0.9
GORS				*e*Sg	Sg	14 11 11.0	+2.0
SALO	Salr	1.29	248	Pg	Pg	14 10 53.3	-0.4
SALO				Sg	Sg	14 11 12.1	+1.7
	comp=Z,2μm,0.4s						
JAVS	Javornik	1.30

comp=Z,300nm,0.3s
LJU Ljubljana 1.60 92⇓iPn Pn 14 10 58.0 +0.2
LJU i 14 11 00.0
LJU iSn Sn **14 11 19.8 +1.0**
LJU iSg Sg **14 11 21.0 +0.5**
LJU
comp=Z,252nm,0.2s
LJU Ljubljana 1.60 92⇓iPn Pn 14 10 58.0 +0.2
LJU iSn Sn **14 11 19.8 +1.0**
LJU Ljubljana 1.60 92⇓iPn Pn 14 10 58.0 +0.2
LJU iSn Sn **14 11 19.8 +1.0**
comp=Z,252nm,0.2s
KNDS Knezji Dol 1.61 110 iPn Pn **14 10 57.7 -0.2**
KNDS eSn Sn **14 11 20.4 +1.3**
KNDS
comp=Z,682nm,0.6s
BGLD Berchtesgaden 1.63 19⇑iPn Pn 14 10 59.6 +1.4
BGLD iSn Sn **14 11 23.0 +3.5**
OBKA Obir 1.66 75⇑iPg Pg 14 10 59.2 -1.5
OBKA ⇓iSg Sg **14 11 22.3 0.0**
comp=Z,434nm,0.4s
RNON Nonn-Bad Reich 1.69 15⇑iPn Pn 14 11 01.0 +2.0
RNON iSn Sn **14 11 25.3 +4.4**
NOVE Novellara 1.69 220 Pg Pg **14 10 59.1 -2.3**
comp=Z,2µm,0.7s
RETA Reutte 1.70 324⇓iPg Pg 14 11 00.9 -0.7
RETA ⇑iSg Sg **14 11 25.1 +1.3**
comp=Z,611nm,0.5s
VNDS Vrh nad Dolski 1.72 89 iPn Pn **14 10 59.7 +0.3**
VNDS eSn Sn **14 11 22.6 +0.9**
DAVOX Davos 1.76 293 Pg Pg **14 11 00.7 -1.9**
DAVOX Sg Sg **14 11 24.1 -1.3**
DAVOX Davos 1.76 293⇓iP* Px 14 10 51.5
comp=Z,3µm,0.5s
DAVOX Davos 1.76 293⇓iP Pn 14 11 00.5 +0.6
DAVOX Davos 1.76 293 Pg Pg **14 11 00.7 -1.9**
DAVOX Sg Sg **14 11 24.1 -1.3**
MDI Monti di Nese 1.79 260 Pg Pn **14 11 00.9 +0.5**
MDI Sg Sg **14 11 26.2 -0.2**
comp=Z,716nm,0.5s
VISS Visnje 1.85 99 iPn Pn **14 11 01.3 +0.1**
VISS iSn Sn **14 11 25.9 +1.1**
VISS
comp=Z,200nm,0.3s
PDKS Podkum 1.93 91 iPn Pn **14 11 02.4 +0.1**
PDKS Podkum 1.93 91 iPn Pn 14 11 02.3 0.0
VDL Val di Lei 1.95 282⇑iP* Px 14 10 42.6
comp=Z,750nm,0.7s
VDL Val di Lei 1.95 282⇑iP Pn 14 11 04.2 +1.6
ZAVS Zavodnje 1.97 80 iPn Pn **14 11 02.9 +0.1**
ZCCA Zocca 1.97 207 Pg Pn **14 11 03.6 +0.7**
comp=Z,155nm,0.6s
DAVA Damuels 2.00 307⇑iPg Pg 14 11 05.8 -1.4
DAVA ⇑iSg Sg **14 11 34.5 +1.3**
comp=Z,641nm,0.5s
TUE Stuetta 2.03 281 Pg Pn **14 11 05.5 +1.8**
comp=Z,351nm,0.6s
FNVD Fontana Vidola 2.10 202 Pg Pn **14 11 04.6 0.0**
GSCL Gusciola 2.11 214 Pg Pn **14 11 05.1 +0.3**
comp=Z,109nm,0.6s
ERBM Eremo 2.12 218 Pg Pn **14 11 05.4 +0.4**
comp=Z,423nm,1.1s
SEI Scarperia 2.15 197 Pg Pn **14 11 04.9 -0.4**
comp=Z,188nm,0.3s
FUR Furstenfeldbru 2.15 343 ePg Pn **14 11 07.3 +1.9**
FUR eSg Sg **14 11 39.4 +1.1**
FUR Furstenfeldbru 2.15 343 ePg Pn **14 11 07.3 +1.9**
FUR eSg Sg **14 11 39.4 +1.2**
LEGS Legarje 2.16 93⇓iPn Pn 14 11 05.6 +0.1
LEGS eSn Sn **14 11 32.6 +0.1**
PLONS Plons 2.18 297 ePn* Px 14 10 53.6
comp=Z,758nm,0.4s
PLONS Plons 2.18 297 ePn Pn **14 11 08.2 +2.5**
BOJS Bojanci 2.20 105 iPn Pn **14 11 06.1 +0.1**
PZZT Monte Pizzetto 2.21 207 Pg Pn **14 11 05.5 -0.6**
VMG Vicchio 2.21 193 Pg Pn **14 11 05.7 -0.4**
comp=Z,65nm,0.4s
LIENZ Alp Oberkamor 2.22 303⇑iPn Px 14 10 44.6
comp=Z,1µm,0.9s
LIENZ Alp Oberkamor 2.22 303⇑iP Pn 14 11 08.6 +2.3
SFI Santa Sofia 2.22 187 Pg Pn **14 11 05.5 -0.9**
comp=Z,80nm,0.7s
GRAM 2.23 224 P Pn **14 11 07.5 +1.1**
GRAM S Sn **14 11 36.8 +2.6**
MUGIO Muggio 2.23 266 Pg Pn **14 11 07.3 +0.9**
VALM 2.25 219 P Pn **14 11 07.7 +1.0**
DOBS Dobrina 2.25 88 iPn Pn **14 11 06.5 -0.3**
CESS Cesta pri Krsk 2.26 92 ePn Pn **14 11 06.9 +0.1**
CRES Cresnjev 2.27 96 ePn Pn **14 11 06.8 -0.2**
CRES
comp=Z,125nm,0.3s
GROS Grobnik 2.30 80 iPn Pn **14 11 07.5 +0.2**
SARO Sassorosso 2.32 214 P Pn **14 11 07.2 -0.5**
SARO S Sn **14 11 35.7 -0.8**
VLC Villacollemand 2.35 214 Pg Pn **14 11 08.4 +0.3**
BDI Bagni Di Lucca 2.35 210 Pg Pn **14 11 08.3 +0.2**
comp=Z,196nm,0.7s
GOLS Golise 2.37 91 ePn Pn **14 11 08.4 0.0**
GCIS Gornji Cirnik 2.38 95 ePn Pn **14 11 08.4 -0.1**
BACM 2.38 220 P Pn **14 11 08.4 -0.2**
BACM S Sn **14 11 38.4 +0.3**
CODM 2.41 225 P Pn **14 11 09.7 +0.8**
CODM S Sn **14 11 38.9 +0.3**
NVLJ Novalja 2.42 129⇓iPn Pn 14 11 09.1 0.0
NVLJ iSn Sn **14 11 38.4 -0.7**
VAI Varese 2.42 265 Pg Pn **14 11 10.2 +1.1**
FSSB Fossombrone 2.45 171⇓iPg Pn 14 11 08.7 -0.8
comp=Z,372nm,0.6s
VINC Vinca 2.46 217 P Pn **14 11 09.2 -0.4**
VINC S Sn **14 11 39.5 -0.4**
CRMI Carmignano 2.49 201 Pg Pn **14 11 09.5 -0.5**
comp=Z,67nm,1.2s
FUSIO Fusio 2.50 279 ePn Px 14 10 44.9
comp=Z,567nm,0.5s
FUSIO Fusio 2.50 279 ePn Pn **14 11 11.6 +1.5**
CRE Caprese Michel 2.50 185 Pg Pn **14 11 09.9 -0.3**
comp=Z,87nm,0.8s
MAIM 2.52 210 Pg Pn **14 11 10.5 +0.1**
comp=Z,103nm,0.5s
SC2M Scurtabr 2.56 229 Pg Pn **14 11 11.7 +0.8**
BADI Badiali 2.60 180 Pg Pn **14 11 12.4 +0.8**
comp=Z,178nm,0.9s
CSNT Castellina Chi 2.72 195 Pg Pn **14 11 12.6 -0.6**
comp=Z,192nm,1.4s
SISB Singen-Schiene 2.74 306 P Pn **14 11 15.6 +2.2**
SISB S Sn **14 11 48.0 +1.2**
AOI Ancona 2.74 159 Pg Pn **14 11 13.3 -0.2**
comp=Z,96nm,0.3s
KOGS Kog 2.81 82 iPn Pn **14 11 14.1 -0.4**
CING Cingoli 2.82 166⇓iPg Pn 14 11 14.3 -0.3
comp=Z,182nm,1.1s
HDH Heidenheim-Cha 2.83 332 P Pn **14 11 15.2 +0.6**
HDH Pg Pg **14 11 22.5 -0.7**
HDH S Sn **14 11 49.9 +0.8**
HDH Sg Sg **14 11 59.5 -0.3**
HDH Heidenheim-Cha 2.83 332 P Pn **14 11 15.3 +0.6**
HDH S Sn **14 11 49.9 +0.8**
MURB Monte Urbino 2.86 176 Pg Pn **14 11 15.3 +0.2**
comp=Z,223nm,0.3s
GUT Gutenstein 2.89 314 P Pn **14 11 16.6 +1.0**
GUT Pg Pg **14 11 24.1 -0.3**
GUT S Sn **14 11 51.2 +0.6**
GUT Gutenstein 2.89 314 P Pn **14 11 16.6 +1.1**
GUT S Sn **14 11 51.3 +0.7**
GUT Gutenstein 2.89 314 P Pn **14 11 16.6 +1.1**
GUT S Sn **14 11 51.2 +0.6**
SNTG Esanatoglia 2.90 170⇓iPg Pn 14 11 15.3 -0.4
comp=Z,68nm,0.5s
GEC2 GERESS Array S 2.91 20 ePn Pn **14 11 16.2 +0.4**
GEC2 GERESS Array S 2.91 20 ePn Pn **14 11 16.2 +0.4**
MMK Mattmark 2.97 270 Pg Pn **14 11 16.8 +0.2**
ORX Oropa 3.00 262 P Pn **14 11 16.5 -0.6**
ORO Oropa 3.01 262 Pg Pn **14 11 16.7 -0.4**
comp=Z,102nm,0.2s
PCP Pian Castagno 3.04 240 Pg Pn **14 11 18.5 +1.0**
comp=Z,127nm,0.4s
PCP S Sn **14 11 53.7 -0.5**
BUCH Bad Urach 3.05 321⇑P Pn 14 11 18.8 +1.1
BUCH Pg Pg **14 11 26.9 -0.6**
BUCH Sg Sg **14 12 06.1 -0.9**
BUCH Bad Urach 3.05 321 P Pn **14 11 18.8 +1.1**
BUCH Sg Sg **14 12 06.1 -0.8**
ASS Assisi 3.06 174 Pg Pn **14 11 18.0 +0.1**
comp=Z,1.0nm,0.4s
WET Wettzell 3.06 8 ePn Pn **14 11 18.3 +0.4**
WET eSn Sn **14 11 55.1 +0.2**
WET Wettzell 3.06 8 ePn Pn **14 11 18.3 +0.4**
WET eSn Sn **14 11 55.1 +0.2**
SPAK Spaichingen-Ko 3.08 312 P Pn **14 11 19.4 +1.2**
SPAK S Sn **14 11 56.2 +0.9**
SPAK Spaichingen-Ko 3.08 312 P Pn **14 11 19.4 +1.3**
SPAK S Sn **14 11 56.2 +0.9**
SPAK Spaichingen-Ko 3.08 312 Pn Pn **14 11 19.3 +1.2**
SPAK S Sn **14 11 56.2 +0.9**
GRFL Gerfalco 3.10 197 Pg Pn **14 11 17.1 -1.3**
comp=Z,10.0nm,0.4s
KHC Kasperske Hory 3.15 16 ePN Pn **14 11 19.7 +0.5**
KHC ePG Pg **14 11 26.8 -2.6**
KHC eSN Sn **14 11 57.6 +0.5**
KHC eSG Sg **14 12 08.8 -1.5**
comp=Z,112nm,0.4s
KHC Kasperske Hory 3.15 16 ePn Pn **14 11 19.7 +0.5**
KHC eSn Sn **14 11 57.6 +0.5**
TRAV 3.19 261 P Pn **14 11 19.0 -0.7**
MONC Moncucco Torin 3.19 253 Pg Pn **14 11 21.6 +1.9**
comp=Z,253nm,0.6s
TUBL Tuebingen-Lenn 3.22 320⇑P Pn 14 11 22.0 +1.9
TUBL S Sn **14 11 59.4 +0.6**
SACS San Casciano d 3.27 184 Pg Pn **14 11 19.6 -1.2**
comp=Z,47nm,0.6s
ARCI Arcidosso 3.30 190 Pg Pn **14 11 20.3 -0.9**
comp=Z,28nm,0.8s
NRCA Norcia 3.34 169⇓iPg Pn 14 11 21.3 -0.4
comp=Z,33nm,0.4s
DIX Grande Dixence 3.35 271 Pg Pn **14 11 24.8 +2.9**
SOP Sopron 3.36 61⇓ePn Pn 14 11 22.4 +0.4
SOP eSn Sn **14 12 00.7 -1.4**
STU Stuttgart 3.36 323 ePn Pn **14 11 23.3 +1.3**
STU eSn Sn **14 12 00.7 -1.5**
STU Stuttgart 3.36 323 ePn Pn **14 11 23.3 +1.3**
STU eSn Sn **14 12 00.7 -1.6**
FELD Feldberg im Sc 3.39 303⇑P Pn 14 11 23.3 +1.0
FELD S Sn **14 12 01.4 -1.4**
FELD Feldberg im Sc 3.39 303⇑P Pn 14 11 23.3 +1.0
FELD S Sn **14 12 01.4 -1.4**
FELD Feldberg im Sc 3.39 303 Pn Pn **14 11 23.2 +0.9**
FELD S Sn **14 12 01.4 -1.4**
FIN Finale Ligure 3.42 238 Pg Pn **14 11 22.7 -0.1**
comp=Z,26nm,0.1s
LBG Lerchenberg 3.46 319⇑P Pn 14 11 24.4 +1.0
LBG Pg Pg **14 11 34.8 -0.5**
LBG S Sn **14 12 04.7 +0.1**
LBG Sg Sg **14 12 20.7 +0.6**
LBG Lerchenberg 3.46 319 P Pn **14 11 24.4 +1.1**
LBG S Sn **14 12 04.7 +0.1**
BFO Black Forest 3.46 311 ePn Pn **14 11 24.2 +0.8**
BFO eSn Sn **14 12 05.1 +0.5**
KIZ Kirchzarten 3.48 304⇑P Pn 14 11 24.4 +0.8
KIZ S Sn **14 12 04.3 -0.8**
KIZ Sg Sg **14 12 19.4 -1.2**
KIZ Kirchzarten 3.48 304 P Pn **14 11 24.4 +0.8**
KIZ S Sn **14 12 04.3 -0.8**
LATE Laterza 3.51 185 Pg Pn **14 11 23.2 -0.9**
comp=Z,6.0nm,0.4s
BBS Basel-Blauen 3.51 294 P Pn **14 11 25.2 +1.1**
BBS S Sn **14 12 04.8 -1.2**
LNSS Leonessa 3.56 170 Pg Pn **14 11 24.3 -0.4**
comp=Z,132nm,0.4s
RORO 3.56 237 P Pn **14 11 24.6 -0.1**
ROB Roburent 3.58 241 P Pn **14 11 25.2 +0.2**
LSD Ceresole Reale 3.61 261 P Pn **14 11 25.5 +0.1**
RSP Reno Superiore 3.62 256 Pg Pn **14 11 23.8 -1.7**
comp=Z,74nm,0.7s
MRGE Morge 3.62 266 Pg Pn **14 11 27.6 +2.0**
comp=Z,145nm,0.9s
TERO Teramo 3.63 164⇓iPg Pn 14 11 24.8 -0.8
comp=Z,71nm,0.3s
GRFO Grafenberg 3.64 350 ePn Pn **14 11 25.9 0.0**
GRFO ePg Pg **14 11 38.1 -0.7**
GRFO eSn Sn **14 12 05.7 -3.5**
GRFO eSg Sg **14 12 26.2 +0.1**
GRFO Grafenberg 3.64 350 ePn Pn **14 11 25.9 0.0**
GRA1 Grafenberg Arr 3.65 350 ePn Pn **14 11 26.1 +0.2**
GRA1 eSn Sn **14 12 08.9 -0.3**
GRF Grafenberg Arr 3.65 350 ePn Pn **14 11 26.1 +0.2**
GRF eSn Sn **14 12 08.9 -0.3**
ROTZ Rotzenmuhle 3.66 360 ePn Pn **14 11 25.9 -0.2**
ROTZ eSn Sn **14 12 08.3 -1.2**
CAMP Campotosto 3.67 166⇓iPg Pn 14 11 25.6 -0.7
comp=Z,13nm,0.6s
SIND Sindeldorf 3.69 332 P Pn **14 11 27.0 +0.5**
SIND Pg Pg **14 11 38.3 -1.4**
SIND Sg Sg **14 12 26.6 -0.9**
SIND Sindeldorf 3.69 332 P Pn **14 11 27.0 +0.5**
SIND Pg Pg **14 11 38.3 -1.4**
SIND Sg Sg **14 12 26.6 -0.9**
EMV Vieux Emosson 3.71 271 Pg Pn **14 11 29.1 +2.3**
MNS Montasola 3.74 175 Pg Pn **14 11 26.3 -0.9**
comp=Z,46nm,0.6s
MONE Monesi 3.76 239 P Pn **14 11 26.4 -1.1**
IMI Imperia 3.78 236 Pg Pn **14 11 27.5 -0.3**
comp=Z,41nm,0.4s
MGBB Grossbuechelbe 3.86 360⇓iPn Pn 14 11 28.9 0.0
TREC Trest 3.87 33 ePN Pn **14 11 28.9 -0.1**
MANZ Manzenberg 3.88 359 ePn Pn **14 11 29.0 -0.1**
MANZ eSn Sn **14 12 14.2 -0.7**
LPG La Plagne 3.88 263 ePn Pn **14 11 30.2 +1.1**
SNR=1.0
LPG eSn Sn **14 12 11.4 -3.6**
comp=Z,125nm,0.6s
LPG La Plagne 3.88 263 ePn Pn **14 11 30.2 +1.1**
SNR=1.0
LPG eSn Sn **14 12 11.4 -3.6**
comp=Z,62nm,0.6s
ENR Entracque 3.89 243 P Pn **14 11 28.9 -0.3**
LPL La Plagne 3.89 263 ePn Pn **14 11 30.6 +1.3**
SNR=1.0
LPL eSn Sn **14 12 10.9 -4.3**
comp=Z,42nm,0.4s,SNR=1.0
LPL La Plagne 3.89 263 ePn Pn **14 11 30.6 +1.3**
SNR=1.0
LPL eSn Sn **14 12 10.9 -4.3**
comp=Z,21nm,0.4s,SNR=1.0
VCEL Villa Celiera 3.89 162⇓iPg Pn 14 11 28.6 -0.7
comp=Z,100nm,0.9s
FIAM Fiamignano 3.90 170 Pg Pn **14 11 29.3 -0.1**
comp=Z,53nm,0.6s
MOF Molkenrain 3.90 298⇑P Pn 14 11 30.4 +1.1
MOF S Sn **14 12 12.8 -2.6**
MOF Molkenrain 3.90 298 Pn Pn **14 11 30.3 +0.9**
LOMF Lomont 3.92 290⇑P Pn 14 11 30.9 +1.3
LOMF S Sn **14 12 14.7 -1.2**
LOMF Lomont 3.92 290 Pn Pn **14 11 30.8 +1.2**
ZST Bratislava 3.92 56 eSG Sg **14 12 37.4 +2.4**
NEGI Negi 3.93 236 P Pn **14 11 29.6 -0.2**
SAOF Saorge 3.94 239 Pn Pn **14 11 29.7 -0.2**
STV Sta Anna Valdi 3.94 243 Pg Pn **14 11 28.9 -1.0**
comp=Z,30nm,0.7s
STV Sta Anna Valdi 3.94 243 P Pn **14 11 29.4 -0.5**
PZZ Prazzo 3.96 248 P Pn **14 11 28.3 -1.9**
FAGN Fagnano 3.97 165 Pg Pn **14 11 29.8 -0.5**
comp=Z,104nm,0.5s
RRL Cesana Torines 4.01 255 P Pn **14 11 29.9 -1.0**
BNI Bardonecchia 4.04 257 Pg Pn **14 11 31.4 +0.1**
comp=Z,39nm,0.6s
ECH Echery 4.05 303⇑P Pn 14 11 32.2 +0.8
ECH S Sn **14 12 16.3 -2.9**
HINF Hinteralfeld 4.06 297 ePn Pn **14 11 32.1 +0.6**
SNR=1.0
HINF eSn Sn **14 12 16.5 -2.8**
comp=Z,116nm,0.3s,SNR=1.0
HINF Hinteralfeld 4.06 297 ePn Pn **14 11 32.1 +0.6**
SNR=1.0
HINF eSn Sn **14 12 16.5 -2.8**
comp=Z,58nm,0.3s,SNR=1.0
SBF Sospel 4.08 238 ePn Pn **14 11 31.7 -0.1**
SNR=1.0
SBF eSn Sn **14 12 18.3 -1.5**
comp=Z,103nm,0.5s,SNR=1.0
SBF Sospel 4.08 238 ePn Pn **14 11 31.7 -0.1**
SNR=1.0
SBF eSn Sn **14 12 18.3 -1.5**
comp=Z,51nm,0.5s,SNR=1.0
CDF Champ du Feu 4.08 306 ePg Pg **14 11 46.3 -0.9**
SNR=1.0
CDF eSn Sn **14 12 15.1 -4.9**
comp=Z,81nm,0.5s
CDF Champ du Feu 4.08 306 ePn Pn **14 11 33.0 +1.1**
CDF ePg Pg **14 11 46.3 -0.9**
CDF eSn Sn **14 12 15.1 -4.9**
CDF Champ du Feu 4.08 306 ePn Pn **14 11 33.0 +1.1**
SNR=1.0
CDF eSn Sn **14 12 15.1 -4.9**
comp=Z,41nm,0.5s
MBDF Montbardon 4.08 252 ePn Pn **14 11 31.2 -0.7**
SNR=1.0
MBDF eSn Sn **14 12 15.4 -4.6**
comp=Z,46nm,0.4s,SNR=1.0
MBDF Montbardon 4.08 252 ePn Pn **14 11 31.2 -0.7**
SNR=1.0
MBDF eSn Sn **14 12 15.4 -4.6**
comp=Z,23nm,0.4s,SNR=1.0
TOUF Mont Tournerai 4.11 241 Pn Pn **14 11 32.2 0.0**
LUCF Luceram 4.11 239 Pn Pn **14 11 32.4 +0.1**
NKC Novy Kostel 4.13 2 ePN Pn **14 11 32.8 +0.3**
NKC eSN Sn **14 12 20.9 -0.2**
NKC eSG Sg **14 12 40.7 -0.8**
comp=Z,82nm,0.5s
NKC Novy Kostel 4.13 2 ePn Pn **14 11 32.8 +0.3**
NKC eSn Sn **14 12 20.9 -0.2**
SWS Schriesheim-Wi 4.13 326 P Pn **14 11 33.2 +0.7**
SWS S Sn **14 12 19.2 -1.9**
SWS Schriesheim-Wi 4.13 326 P Pn **14 11 33.2 +0.7**
SWS S Sn **14 12 19.2 -1.9**
LANF Langenberg 4.15 315⇑P Pn 14 11 34.0 +1.2
LANF S Sn **14 12 19.3 -2.3**
LANF Langenberg 4.15 315 Pn Pn **14 11 34.1 +1.3**
PRU Pruhonice 4.18 21 ePN Pn **14 11 33.3 +0.1**
PRU ex x 14 11 42.3
PRU eSN Sn **14 12 21.0 -1.3**
PRU eSG Sg **14 12 40.1 -3.0**
comp=Z,59nm,0.6s
PRU Pruhonice 4.18 21 ePn Pn **14 11 33.3 +0.1**
PRU eSn Sn **14 12 21.0 -1.3**
WERN Wernitzgruen 4.18 1 ePn Pn **14 11 33.5 +0.3**
TOD Tromm 4.19 328⇑P Pn 14 11 34.1 +0.7
TOD S Sn **14 12 20.7 -1.9**
TOD Tromm 4.19 328 P Pn **14 11 34.1 +0.8**
TOD S Sn **14 12 20.7 -1.9**
TOD Tromm 4.19 328 Pn Pn **14 11 34.0 +0.7**
CERT Cerreto 4.20 172 Pg Pn **14 11 32.4 -1.1**
comp=Z,31nm,0.6s
RHK3 Tenkes 4.20 91⇓ePn Pn 14 11 32.3 -1.3
MVIF Mont Vial 4.23 240 Pn Pn **14 11 34.3 +0.4**
PRA Prague 4.23 20 ex x 14 11 48.0
PRA SG Sg **14 12 45.0 +0.3**
PGF Pioggiola 4.25 214 ePn Pn **14 11 32.5 -1.7**
SNR=1.0
PGF eSn Sn **14 12 20.5 -3.6**
comp=Z,19nm,0.3s,SNR=1.0
PGF Pioggiola 4.25 214 ePn Pn **14 11 32.5 -1.7**
SNR=1.0
PGF eSn Sn **14 12 20.5 -3.6**
comp=Z,9.4nm,0.3s,SNR=1.0
GUNZ Gunzen 4.25 1 ePn Pn **14 11 34.3 +0.1**
INTR Introdacqua 4.27 163 Pg Pn **14 11 32.2 -2.3**
comp=Z,54nm,0.5s
SMOL Smolenice 4.28 54 ePN Pn **14 11 34.9 +0.3**
CABF La Chapelle 4.28 279 ePn Pn **14 11 35.5 +0.9**
SNR=1.0
CABF eSn Sn **14 12 19.9 -5.0**
comp=Z,37nm,0.5s,SNR=1.0
CABF La Chapelle 4.28 279 ePn Pn **14 11 35.5 +0.9**
SNR=1.0
CABF eSn Sn **14 12 19.9 -5.0**
comp=Z,18nm,0.5s,SNR=1.0
TANN Tannenbergstha 4.31 2 ePn Pn **14 11 35.4 +0.4**
WERD Werda 4.34 1 ePn Pn **14 11 35.5 +0.1**
VRAC Vranov 4.35 41 ePn Pn **14 11 34.0 -1.6**
VRAC eSn Sn **14 12 26.8 +0.3**
HAU Haudompre 4.44 297 ePn Pn **14 11 37.7 +0.8**
SNR=1.0
HAU eSn Sn **14 12 27.3 -1.6**
comp=Z,254nm,0.4s
HAU Haudompre 4.44 297 ePn Pn **14 11 37.7 +0.8**
SNR=1.0
HAU eSn Sn **14 12 27.3 -1.6**
comp=Z,127nm,0.4s
PKSM Moragy 4.46 86⇓ePn Pn 14 11 35.6 -1.5
PKSM eSn Sn **14 12 26.2 -3.0**
CALN Calern 4.46 240 Pn Pn **14 11 37.7 +0.5**
MOX Moxa 4.55 355 ePn Pn **14 11 37.9 -0.5**
MOX eSn Sn **14 12 29.7 -2.0**
MOX Moxa 4.55 355 ePN Pn **14 11 37.8 -0.6**
MOX ePG Pg **14 11 57.4 +1.2**
MOX eSN Sn **14 12 30.3 -1.3**
MOX eSG Sg **14 12 56.4 +1.2**
MOX Moxa 4.55 355 ePn Pn **14 11 37.8 -0.6**
MOX ePg Pg **14 11 57.4 +1.2**
MOX eSn Sn **14 12 30.3 -1.3**
MOX eSg Sg **14 12 56.4 +1.2**
ORIF Oris-en-Rattie 4.62 257 ePn Pn **14 11 41.6 +2.3**
SNR=1.0
ORIF eSn Sn **14 12 33.4 +0.2**
comp=Z,106nm,0.6s
ORIF Oris-en-Rattie 4.62 257 ePn Pn **14 11 41.6 +2.3**
SNR=1.0
ORIF eSn Sn **14 12 33.4 +0.2**
comp=Z,53nm,0.6s
MIDA Miranda 4.70 161 Pg Pn **14 11 39.2 -1.2**
comp=Z,27nm,0.7s
FRF La Foret Royal 4.72 239 ePn Pn **14 11 40.0 -0.7**
SNR=1.0
FRF eSn Sn **14 12 32.0 -3.7**
comp=Z,18nm,0.2s
FRF La Foret Royal 4.72 239 ePn Pn **14 11 40.0 -0.7**
SNR=1.0
FRF eSn Sn **14 12 32.0 -3.7**
comp=Z,9.1nm,0.2s
THEF They Montfort 4.75 299⇑P Pn 14 11 42.0 +0.8
THEF S Sn **14 12 34.7 -1.9**
THEF They Montfort 4.75 299 Pn Pn **14 11 41.9 +0.8**
TNS Taunus Mts 4.83 330 ePn Pn **14 11 43.6 +1.4**
TNS eSn Sn **14 12 36.9 -1.4**
TNS Taunus Mts 4.83 330 ePn Pn **14 11 43.6 +1.4**
TNS eSn Sn **14 12 36.9 -1.5**
FBE Freiberg 4.87 8 ePn Pn **14 11 43.6 +0.8**
BRG Berggiesshubel 4.90 13 ePn Pn **14 11 42.9 -0.2**
BRG eSn Sn **14 12 38.8 -1.4**
BRG Berggiesshubel 4.90 13 PN Pn **14 11 43.2 0.0**
BRG PG Pg **14 12 00.7 -2.1**
BRG SN Sn **14 12 39.5 -0.6**
BRG SG Sg **14 13 03.9 -2.4**
comp=Z,59nm,0.9s
BRG
comp=N,336nm,5.6s
BRG
comp=E,242nm,5.2s
BRG
comp=Z,278nm,6.1s
ABH Alteburg 4.91 322 P Pn **14 11 44.1 +0.9**
VAGA Valle Agricola 4.92 162 Pg Pn **14 11 43.2 -0.2**
comp=Z,26nm,0.5s
LMR La Mourre 4.93 238 ePn Pn **14 11 42.6 -1.0**
SNR=1.0
LMR eSn Sn **14 12 38.5 -2.4**
comp=Z,13nm,0.2s,SNR=1.0
LMR La Mourre 4.93 238 ePn Pn **14 11 42.6 -1.0**
SNR=1.0
LMR eSn Sn **14 12 38.5 -2.4**
comp=Z,6.7nm,0.2s,SNR=1.0
UBBA Unterbreizbach 4.94 343 ePn Pn **14 11 44.3 +0.7**
STOF St-Etienne Org 4.95 247 Pn Pn **14 11 44.4 +0.5**
SGRT San Giovanni R 5.04 149⇓iPg Px 14 11 43.3
comp=Z,32nm,0.2s
DPC Dobruska-Polom 5.05 31 ePN Pn **14 11 44.8 -0.4**
DPC eSG Sg **14 13 07.7 -3.3**
comp=Z,52nm,0.7s
DPC Dobruska-Polom 5.05 31 ePn Pn **14 11 44.8 -0.4**
comp=Z,52nm,0.7s
DPC eSg Sg **14 13 07.7 -3.3**
TAVF Tavernes 5.05 243 Pn Pn **14 11 44.8 -0.4**
RGNG Rignano Grg 5.06 150 Pg Px 14 11 43.4
STON Ston 5.08 128 iPn Pn **14 11 45.4 -0.3**
STON iSn Sn **14 12 43.4 -1.2**
VYHS Vyhne 5.09 60 ePN Pn **14 11 45.0 -0.7**
VYHS eSN Sn **14 12 41.7 -3.1**
PENC Penc 5.11 68 eP Pn **14 11 42.4 -3.7**
MORC Moravsky Berou 5.12 42 ePn Pn **14 11 47.0 +0.9**
MORC eSn Sn **14 12 42.5 -3.0**

OCF Saint Nazaire 5.12 255 Pn **Pn 14 11 47.8 +1.7**
OG26 St.-Nazaire-De 5.12 255 Pn **Pn 14 11 47.8 +1.7**
MSAG Monte S. Angel 5.14 148 Pg Px 14 11 44.5
SMRF Simiane la Rot 5.18 248 *e*Pn **Pn 14 11 47.9 +1.0**
SNR=1.0
SMRF *e*Sn **Sn 14 12 45.2 -1.8**
comp=Z,18nm,0.3s,SNR=1.0
SMRF Simiane la Rot 5.18 248 *e*Pn **Pn 14 11 47.9 +1.0**
SNR=1.0
SMRF *e*Sn **Sn 14 12 45.2 -1.8**
comp=Z,8.8nm,0.3s,SNR=1.0
CLL Collm 5.22 5 *e*Pn **Pn 14 11 47.6 0.0**
CLL Collm 5.22 5 *e*Pn **Pn 14 11 48.0 +0.4**
CLL *i* Pg **Pg 14 12 09.2 +0.1**
CLL *e*Sn **Sn 14 12 47.0 -1.2**
CLL *i* Sg **Sg 14 13 17.0 +0.2**
comp=Z,101nm,0.9s
CLL Collm 5.22 5 *e*Pn **Pn 14 11 48.0 +0.4**
CLL *e*Sn **Sn 14 12 47.0 -1.2**
SFTF Sexfontaines 5.33 296 *e*Pn **Pn 14 11 49.6 +0.5**
baz=118
SFTF *e*Sn **Sn 14 12 44.8 -6.0**
comp=Z,24nm,0.2s
WLF Walferdange 5.42 313 *e*Pn **Pn 14 11 52.6 +2.4**
WLF *e*Sn **Sn 14 12 51.5 -1.3**
WLF Walferdange 5.42 313 P **Pn 14 11 52.8 +2.6**
WLF S **Sn 14 12 52.8 0.0**
comp=E,18nm,0.0s
MEZF Maizieres J'vi 5.43 299 *e*Pn **Pn 14 11 52.2 +1.7**
baz=116,SNR=1.0
MEZF *e*Sn **Sn 14 12 49.5 -3.8**
comp=E,33nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 5.43 299 *e*Pn **Pn 14 11 52.2 +1.7**
SNR=1.0
MEZF *e*Sn **Sn 14 12 49.5 -3.8**
comp=E,16nm,0.4s,SNR=1.0
OKC Ostrava-Krasne 5.45 45 *e*SG **Sg 14 13 20.9 -3.0**
comp=E,28nm,0.6s
VIVF Saint-Julien-l 5.46 259 *e*Pn **Pn 14 11 51.1 +0.3**
SNR=1.0
VIVF *e*Sn **Sn 14 12 49.5 -4.4**
comp=E,12nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 5.46 259 *e*Pn **Pn 14 11 51.1 +0.3**
SNR=1.0
VIVF *e*Sn **Sn 14 12 49.5 -4.4**
comp=E,6.2nm,0.3s,SNR=1.0
MCRV Calabrutti - M 5.74 157 Pg Px 14 11 53.3
comp=E,17nm,0.3s
SMF Signal de Mont 5.83 278 *e*Pn **Pn 14 11 56.1 +0.2**
SNR=1.0
SMF *e*Sn **Sn 14 12 58.5 -4.5**
comp=E,45nm,0.4s,SNR=1.0
SMF Signal de Mont 5.83 278 *e*Pn **Pn 14 11 56.1 +0.2**
SNR=1.0
SMF *e*Sn **Sn 14 12 58.5 -4.5**
comp=E,23nm,0.4s,SNR=1.0
DIVS Divcibare 5.85 107⇑ *i*Pn **Pn 14 11 56.2 0.0**
LOR Lormes 5.87 284 *e*Pn **Pn 14 11 57.2 +0.7**
baz=105,SNR=1.0
LOR *e*Sn **Sn 14 12 59.7 -4.4**
comp=E,31nm,0.4s
LOR Lormes 5.87 284 *e*Pn **Pn 14 11 57.2 +0.7**
SNR=1.0
LOR *e*Sn **Sn 14 12 59.7 -4.4**
comp=E,16nm,0.4s
PLDF La Plantade 5.99 272 Pn **Pn 14 11 58.4 +0.2**
COLF Collangettes 6.00 267 Pn **Pn 14 11 57.9 -0.3**
CDRU Civita di Ruta 6.05 157 Pg Px 14 11 58.0
comp=E,77nm,3.7s
SSF Saint Saulge 6.09 282 *e*Pn **Pn 14 11 59.4 -0.1**
SNR=1.0
SSF *e*Sn **Sn 14 13 02.3 -7.1**
comp=E,27nm,0.6s,SNR=1.0
KECS Kecovo 6.10 64 *e*PN **Pn 14 12 00.0 +0.4**
MEM Membach 6.12 320 P **Pn 14 12 01.2 +1.3**
MEM S **Sn 14 13 11.1 +1.0**
comp=N,19nm,0.0s
AVF Avril sur Loir 6.17 280 *e*Pn **Pn 14 12 01.0 +0.4**
SNR=1.0
AVF *e*Sn **Sn 14 13 06.5 -5.0**
comp=N,20nm,0.7s
AVF Avril sur Loir 6.17 280 *e*Pn **Pn 14 12 01.0 +0.4**
SNR=1.0
AVF *e*Sn **Sn 14 13 06.5 -5.0**
comp=N,9.8nm,0.7s
HGN Heimansgroeve 6.26 320 *e*Pn **Pn 14 12 04.0 +2.2**
comp=N,29nm,0.5s
HGN *e*Sn **Sn 14 13 12.4 -1.3**
LASF Ste Croix 6.27 254 *e*Pn **Pn 14 12 01.3 -0.6**
SNR=1.0
LASF *e*Sn **Sn 14 13 06.1 -7.7**
comp=N,32nm,0.6s
LASF Ste Croix 6.27 254 *e*Pn **Pn 14 12 01.3 -0.6**
SNR=1.0
LASF *e*Sn **Sn 14 13 06.1 -7.7**
comp=N,16nm,0.6s
BCLA Clavier 6.32 316 P **Pn 14 12 04.9 +2.3**
BCLA S **Sn 14 13 10.7 -4.4**
comp=E,13nm,0.0s
AGO Saint Agoulin 6.33 273 Pn **Pn 14 12 03.0 +0.2**
LBL Lubilhac 6.36 265 Pn **Pn 14 12 03.4 +0.3**
GIVF Givet 6.36 312 *e*Pn **Pn 14 12 05.4 +2.1**
SNR=1.0
GIVF *e*Sn **Sn 14 13 13.2 -3.0**
comp=E,31nm,0.4s,SNR=1.0
GIVF Givet 6.36 312 *e*Pn **Pn 14 12 05.4 +2.1**
SNR=1.0
GIVF *e*Sn **Sn 14 13 13.2 -3.0**
comp=E,16nm,0.4s,SNR=1.0
GRUS Gruza 6.42 107⇑ *i*Pn **Pn 14 12 04.0 +0.1**
PYM Petit Puy Mans 6.44 270 Pn **Pn 14 12 04.5 +0.2**
DOU Dourbes 6.48 311 P **Pn 14 12 07.5 +2.7**
DOU S **Sn 14 13 15.2 -3.9**
comp=E,11nm,0.0s
BGF Bois d'Agland 6.51 277 *e*Pn **Pn 14 12 05.4 +0.1**
SNR=1.0
BGF *e*Sn **Sn 14 13 15.4 -4.5**
comp=E,58nm,0.4s,SNR=1.0
BGF Bois d'Agland 6.51 277 *e*Pn **Pn 14 12 05.4 +0.1**
SNR=1.0
BGF *e*Sn **Sn 14 13 15.4 -4.5**
comp=E,29nm,0.4s,SNR=1.0
BAIF Baives 6.67 309 *e*Pn **Pn 14 12 09.5 +2.1**
SNR=1.0
BAIF *e*Sn **Sn 14 13 18.2 -5.5**
comp=E,36nm,0.7s
BAIF Baives 6.67 309 *e*Pn **Pn 14 12 09.5 +2.1**
SNR=1.0
BAIF *e*Sn **Sn 14 13 18.2 -5.5**
comp=E,18nm,0.7s
HYF Humbligny 6.70 283 *e*Pn **Pn 14 12 09.2 +1.4**
HYF *e*Sn **Sn 14 13 20.5 -3.9**
WTSB Winterswijk 6.86 331 *e*Pn **Pn 14 12 13.5 +3.5**
comp=E,17nm,0.6s
WTSB *e*Sn **Sn 14 13 37.3 +8.9**
SNF Seneffe 6.88 313 P **Pn 14 12 13.1 +2.7**
STHS Stebnicka Huta 6.92 58 *e*PN **Pn 14 12 12.5 +1.6**
TCF Toulx Ste Croi 6.96 275 *e*Pn **Pn 14 12 11.4 0.0**
SNR=1.0
TCF *e*Sn **Sn 14 13 25.1 -5.7**
comp=E,45nm,0.6s
TCF Toulx Ste Croi 6.96 275 *e*Pn **Pn 14 12 11.4 0.0**
SNR=1.0
TCF *e*Sn **Sn 14 13 25.1 -5.7**
comp=E,22nm,0.6s
CAF Calviac 7.24 264 *e*Pn **Pn 14 12 15.2 -0.1**
SNR=1.0
CAF *e*Sn **Sn 14 13 34.0 -3.8**
comp=E,5.0nm,0.3s
CAF Calviac 7.24 264 *e*Pn **Pn 14 12 15.2 -0.1**
SNR=1.0
CAF *e*Sn **Sn 14 13 34.0 -3.8**
comp=E,2.5nm,0.3s
RJF Les Rejaudoux 7.54 268 *e*Pn **Pn 14 12 19.6 +0.1**
SNR=1.0
MTLF Montolieu 7.65 252 *e*Pn **Pn 14 12 21.1 +0.2**
SNR=1.0
MTLF *e*Sn **Sn 14 13 42.1 -5.8**
comp=E,4.9nm,0.5s
MTLF Montolieu 7.65 252 *e*Pn **Pn 14 12 21.1 +0.2**
SNR=1.0
MTLF *e*Sn **Sn 14 13 42.1 -5.8**
comp=E,2.5nm,0.5s
LFF La Frestale 8.15 266 *e*Pn **Pn 14 12 28.9 +1.1**
SNR=1.0
MFF Saint Martin d 8.57 278 *e*Pn **Pn 14 12 34.4 +0.8**
SNR=1.0
MFF *e*Sn **Sn 14 14 04.0 -6.7**
comp=E,14nm,0.6s
MFF Saint Martin d 8.57 278 *e*Pn **Pn 14 12 34.4 +0.8**
SNR=1.0
MFF *e*Sn **Sn 14 14 04.0 -6.7**
comp=E,6.8nm,0.6s
LDF La Druitiere 8.75 291 *e*Pn **Pn 14 12 36.6 +0.6**
SNR=1.0
LDF *e*Sn **Sn 14 14 07.3 -7.5**
comp=E,7.5nm,0.4s,SNR=1.0
LDF La Druitiere 8.75 291 *e*Pn **Pn 14 12 36.6 +0.6**
SNR=1.0
LDF *e*Sn **Sn 14 14 07.3 -7.5**
comp=E,3.8nm,0.4s,SNR=1.0
FLN La Foliniere 9.01 292 *e*Pn **Pn 14 12 40.6 +1.0**
baz=108,SNR=1.0
FLN *e*Sn **Sn 14 14 15.6 -5.8**
comp=E,13nm,0.5s,SNR=1.0
FLN La Foliniere 9.01 292 *e*Pn **Pn 14 12 40.6 +1.0**
SNR=1.0
FLN *e*Sn **Sn 14 14 15.6 -5.8**
comp=E,6.3nm,0.5s,SNR=1.0
GRR Gorron 9.19 289 *e*Pn **Pn 14 12 42.5 +0.5**
GRR *e*Sn **Sn 14 14 17.8 -7.9**
comp=E,7.8nm,0.4s
GRR Gorron 9.19 289 *e*Pn **Pn 14 12 42.5 +0.5**
GRR *e*Sn **Sn 14 14 17.8 -7.9**
comp=E,3.9nm,0.4s
SGMF Saint Gilles 10.29 287 *e*Pn **Pn 14 12 57.5 +0.3**
SNR=1.0
SGMF *e*Sn **Sn 14 14 45.2 -7.6**
comp=E,13nm,0.7s
SGMF Saint Gilles 10.29 287 *e*Pn **Pn 14 12 57.5 +0.3**
SNR=1.0
SGMF *e*Sn **Sn 14 14 45.2 -7.6**
comp=E,6.4nm,0.7s
QUIF Quistinic 10.67 285 *e*Pn **Pn 14 12 59.2 -3.1**
QUIF *e*Sn **Sn 14 14 54.0 -8.0**
comp=E,6.4nm,0.4s
NB2 NORSAR Subarra 14.97 358 P **Pn 14 14 06.8 +5.8**
comp=Z,1.2nm,0.7s,baz=175,slow=14

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*ISCJB **28** 14:20:40.6±0.8, 2593S±0.06×13256E±0.10, h10km, Error ellipse: s-maj=14.0km s-min=5.9km az=51.7*
*IDC **28** 14:20:42.2±2.5, 2592S×13260E, h0km, mb1 3.8/4, mb1mx3.6/14, mbtmp3.8/4, ML3.4/3, Error ellipse: s-maj=25.1km s-min=18.9km az=114.0*
ISC 28 14:20:43.9±0.7, 2588S±005×13242E±008, h10km, n9, σ1°69/17, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**2.58**	**32**	Pg	**Pn**	**14 21 27.6**	**+1.8**
	0.9nm,0.3s,baz=204,slow=13,SNR=52						
ASAR				Lg		14 22 04.0	
	16nm,0.3s,baz=206,slow=27,SNR=54						
WRA	**Warramunga Arr**	**6.17**	**17**	Pn	**Pn**	**14 22 16.6**	**+1.6**
	0.5nm,0.3s,baz=195,slow=14,SNR=75						
WRA				Pg	**Pg**	**14 22 29.8**	**-12**
	0.5nm,0.3s,baz=196,slow=14,SNR=14						
WRA				Sn	**Sn**	**14 23 24.6**	**-1.0**
	1.8nm,0.3s,baz=192,slow=25,SNR=12						
WRA				Lg		14 23 54.2	
	2.0nm,0.3s,baz=198,slow=30,SNR=7.1						
WB2	**Warramunga Arr**	**6.17**	**17**	*e*P	**Pn**	**14 22 16.7**	**+1.6**
WB2				*e*S	**Sn**	**14 23 25.2**	**-0.5**
FORT	**Forrest**	**6.21**	**217**	*e*P	**Pn**	**14 22 17.6**	**+1.9**
	9.5nm,0.4s						
FORT				*e*		14 22 38.8	
FORT				*e*S	**Sn**	**14 23 27.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**9.97**	**320**	Pn	**Pn**	**14 23 09.7**	**+2.4**
	0.2nm,0.3s,baz=76,slow=18,SNR=10.0						
FITZ				Sn	**Sn**	**14 24 57.5**	**-1.7**
	0.3nm,0.3s,baz=45,slow=16,SNR=3.0						
STKA	**Stephens Creek**	**10.02**	**129**	*e*P	**Pn**	**14 23 05.6**	**-2.3**
	1.1nm,0.3s						
STKA				*e*S	**Sn**	**14 24 51.0**	**-9.3**
STKA	**Stephens Creek**	**10.02**	**129**	Pn	**Pn**	**14 23 05.2**	**-2.6**
	0.5nm,0.3s,baz=308,slow=10,SNR=12						
STKA				Sn	**Sn**	**14 24 49.6**	**-11**
	1.3nm,0.3s,baz=190,slow=16,SNR=8.2						
KLBR	**Kellerberrin**	**14.06**	**243**	*e*P	**Pn**	**14 24 01.0**	**-2.2**
	3.6nm,0.2s						
NWAO	**Narrogin (SRO)**	**14.97**	**238**	Pn	**Pn**	**14 24 15.4**	**-0.2**
	0.3nm,0.3s,baz=71,slow=13,SNR=4.1						
NWAO				Sn	**Sn**	**14 26 53.2**	**-8.3**

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*NEIC **28** 14:44:36.9, 3703N×2823E, h5km, MD3.2(ISK), MD3.3(ATH), After ISK.*
*ISK **28** 14:44:36.9, 3703N×2823E, h5km, MD3.2*
*ISCJB **28** 14:44:37.3±0.4, 3702N±003×2821E±003, h5km, Error ellipse: s-maj=4.8km s-min=3.5km az=52.3*
*CSEM **28** 14:44:37.1±0.1, 3704N×2823E, h5km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=50.0*
*ATH **28** 14:44:38.2, 3695N×2813E, h19km±3km, MD3.3/5*
ISC 28 14:44:37.6±0.6, 3701N±003×2820E±003, h2km±5km, n26, σ0°88/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**29**	*i* PG	**Pg**	**14 44 39.4**	**-0.9**
YER				*i* SG	**Sg**	**14 44 41.8**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.43**	**125**	PG	**Pg**	**14 44 45.8**	**0.0**
DALT				SG	**Sg**	**14 44 51.4**	**+0.1**
MLSB	**Milas**	**0.44**	**310**	PG	**Pg**	**14 44 46.5**	**+0.5**
MLSB				SG	**Sg**	**14 44 52.8**	**+1.1**
DAT	**Datca**	**0.57**	**240**	PG	**Pg**	**14 44 48.6**	**0.0**
BDRM	**Kayabasi**	**0.61**	**275**	*i* P	**Pg**	**14 44 49.3**	**+0.1**
ARG	**Arkhangelos**	**0.80**	**184**	*e*PN	**Pn**	**14 44 52.5**	**-3.3**
FETY	**Fethiye**	**0.80**	**118**	PG	**Pg**	**14 44 53.1**	**+0.1**
DENT	**Denizli**	**0.99**	**42**	PG	**Pg**	**14 44 56.3**	**-0.3**
SMG	**Samos**	**1.29**	**303**	*e*PB	**Pb**	**14 45 01.5**	**-1.0**
SMG				*e*SN	**Sn**	**14 45 20.5**	**+0.2**
AKAS	**Kas**	**1.37**	**124**	*i* P	**Pn**	**14 45 03.4**	**-0.3**
AKAS				*i* S	**Sg**	**14 45 24.9**	**+3.2**
ELL	**Elmali**	**1.40**	**100**	*e*PN	**Pn**	**14 45 03.1**	**-0.9**
KSL	**Kastellorizon**	**1.41**	**127**	*e*PN	**Pn**	**14 45 05.0**	**+0.8**
IZM	**Izmir**	**1.57**	**332**	*e*PN	**Pn**	**14 45 06.0**	**-0.4**
KDAG	**Bornova**	**1.57**	**332**	*i* P	**Pn**	**14 45 04.5**	**-1.9**
KDAG				*i* S	**Sn**	**14 45 30.6**	**+3.3**
BLCB	**Balcova**	**1.65**	**327**	*e*PN	**Pn**	**14 45 07.5**	**0.0**
KHL	**Karahalli**	**1.68**	**38**	*e*PN	**Pn**	**14 45 07.9**	**0.0**
KARP	**Karpathos**	**1.69**	**210**	*e*PN	**Pn**	**14 45 07.8**	**-0.2**
URLA	**Izmir**	**1.85**	**317**	*i* P	**Pn**	**14 45 17.5**	**+7.2**
URLA				*i* S	**Sn**	**14 45 40.8**	**+6.5**
AKS	**Akhisar**	**1.89**	**351**	*e*PN	**Pn**	**14 45 09.9**	**-0.9**
TKTP	**Tekketepe**	**1.97**	**58**	*i* P	**Pn**	**14 45 13.1**	**+1.1**
ISP	**Isparta**	**2.02**	**65**	*e*PN	**Pn**	**14 45 12.9**	**+0.3**
APE	**Apeiranthos**	**2.13**	**272**	*e*PN	**Pn**	**14 45 14.5**	**+0.3**
GDZ	**Gediz**	**2.31**	**26**	*i* P	**Pn**	**14 45 17.0**	**+0.5**
GDZ				*i* S	**Sn**	**14 45 53.2**	**+7.7**
SHUT	**Suhut-Afyon**	**2.42**	**50**	*e*PN	**Pn**	**14 45 17.2**	**-0.8**
BR131	**Keskin Array S**	**5.06**	**56**	*e*Pn	**Pn**	**14 45 55.7**	**+1.3**
	2.3nm,0.3s						
BR131				*e*Sn	**Sn**	**14 46 53.5**	**+0.1**
BR131	**Keskin Array S**	**5.06**	**56**	*e*Pn	**Pn**	**14 45 55.7**	**+1.3**
	2.3nm,0.3s						
BR131				*e*Sn	**Sn**	**14 46 53.5**	**+0.1**

IDC 28 14:58:27.6±2.7, 698S×12845E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.5/14, mbtmp3.4/3, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/15, Error ellipse: s-maj=315.6km s-min=31.0km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.10**	**157**	Pn	Pn	15 01 48.5	0.0
	0.2nm,0.3s,baz=335,slow=13,SNR=12						
WRA				Sn	Sn	15 04 09.3	-16
	0.6nm,0.3s,baz=334,slow=23,SNR=8.0						
ASAR	**Alice Springs**	**17.40**	**163**	P	Pn	15 02 32.1	+0.4
	0.2nm,0.3s,baz=345,slow=11,SNR=20						
ASAR				S	Sn	15 05 31.6	-14
	0.2nm,0.3s,baz=315,slow=16,SNR=5.0						
JNU	**Nakatsue**	**39.95**	**3**	LR	LR	15 22 06.6	
	comp=Z,78nm,20.1s,baz=246,slow=36						
MKAR	**Makanchi Array**	**67.37**	**328**	P	P	15 09 24.8	+0.2
	0.2nm,0.5s,baz=132,slow=7.4,SNR=4.1						

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*IDC **28** 15:06:11.6±7.8, 2111N×122.19E, h124km±75km, mb3.5/7, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, Error ellipse: s-maj=46.0km s-min=13.7km az=70.0*
*ISCJB **28** 15:06:14.6±0.7, 2110N±005×1222E±0.2, h169km±8km, mb3.7/8, Error ellipse: s-maj=23.4km s-min=7.7km az=2.9*
*NEIC **28** 15:06:15.1±1.2, 2110N×1229E, h159km±12km, mb3.8/1, Error ellipse: s-maj=47.1km s-min=11.8km az=67.0*
ISC 28 15:06:15.6±0.7, 2112N±005×1222E±02, h162km±8km, n17, σ0°92/23, mb3.7/8, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.86**	**183**	*e*P	**Pn**	**15 07 01.3**	**-0.4**
SGCP				*e*S	**Sn**	**15 07 37.9**	**+0.4**
NACB	**Ninganchiao**	**3.10**	**350**	*e*Pn	**Pn**	**15 07 04.2**	**-0.4**
NACB				*e*Sn	**Sn**	**15 07 32.6**	**-10**
PIP	**Pasuquin**	**3.15**	**209**⇑	*i*P	**Pn**	**15 07 06.1**	**+0.8**
PIP				*i* S	**Sn**	**15 07 41.8**	**-2.1**
APYP	**Conner**	**3.36**	**196**	*e*P	**Pn**	**15 07 09.1**	**+1.1**
APYP				*e*S	**Sn**	**15 07 48.0**	**-0.6**
YHNB	**Yeheng**	**3.62**	**348**	*e*Pn	**Pn**	**15 07 11.7**	**+0.5**
YHNB				*e*Sn	**Sn**	**15 07 48.8**	**-5.7**
ABRA	**Dolores**	**3.73**	**203**	*e*P	**Pn**	**15 07 15.1**	**+2.4**
ABRA				*e*S	**Sn**	**15 07 56.7**	**-0.3**
KSRS	**Korea Array**	**17.02**	**16**	P	**Pn**	**15 10 03.0**	**-0.9**
	baz=198,slow=11,SNR=4.4						
SONM	**Songino Array**	**29.55**	**338**	P	**P**	**15 12 04.0**	**-0.9**
	0.4nm,0.6s,mb3.3,baz=162,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**41.22**	**318**	P	**P**	**15 13 44.0**	**-0.4**
	1.4nm,0.5s,mb3.9,baz=109,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**42.50**	**163**	P	**P**	**15 13 54.0**	**-0.7**
	1.0nm,0.3s,mb3.9,baz=343,slow=9.2,SNR=37						
KURK	**Kurchatov**	**45.06**	**322**	P	**P**	**15 14 16.8**	**+1.6**
	1.5nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**45.95**	**165**	P	**P**	**15 14 22.4**	**+0.3**
	0.5nm,0.3s,mb3.6,baz=345,slow=7.2,SNR=42						
STKA	**Stephens Creek**	**55.87**	**160**	P	**P**	**15 15 36.7**	**+0.5**
	1.4nm,0.6s,mb4.0,baz=333,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**55.87**	**160**	P	**P**	**15 15 35.8**	**-0.5**
JOF	**Joensuu**	**71.83**	**331**	*e*p	**P**	**15 17 20.2**	**-0.4**
FINES	**FINESS Array B**	**74.56**	**330**	P	**P**	**15 17 37.2**	**+0.7**
	1.0nm,0.9s,mb3.5,baz=54,slow=7.1,SNR=4.8						
YKA	**Yellowknife Ar**	**85.42**	**23**	P	**P**	**15 18 34.6**	**-0.2**
	0.8nm,0.6s,mb3.7,baz=308,slow=4.6,SNR=32						

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*IDC **28** 15:26:59.3±2.4, 49.18S×16449E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, ML4.1/1, MS3.6/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=60.6km s-min=32.0km az=160.0*
*NEIC **28** 15:26:59.8±1.4, 4946S×16435E, h10km, mb5.2/1, Error ellipse: s-maj=29.5km s-min=8.4km az=158.0*
*ISCJB **28** 15:27:00.4±1.2, 49.15S±0.1×1643E±0.1, h10km, mb4.2/3, MS3.6/1, Error ellipse: s-maj=22.7km s-min=7.0km az=131.0*
ISC 28 15:27:02.6±1.2, 491S±01×1643E±01, h10km, n46, σ1°16/50, mb4.2/3, MS3.6/1, 2C, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**3.36**	**49**	PN	**Pn**	**15 27 55.3**	**+0.2**
APZ				SN	**Sn**	**15 28 34.7**	**-0.4**
WHZ	**Wether Hill Ro**	**4.05**	**39**	P	**Pn**	**15 28 05.4**	**+0.8**
WHZ				S	**Sn**	**15 28 51.3**	**-0.7**
WHZ	**Wether Hill Ro**	**4.05**	**39**	⇑PN	**Pn**	**15 28 05.4**	**+0.8**
WHZ				*e*SN	**Sn**	**15 28 51.3**	**-0.7**
DCZ	**Deep Cove**	**4.11**	**30**	P	**Pn**	**15 28 06.3**	**+1.0**
DCZ	**Deep Cove**	**4.11**	**30**	PN	**Pn**	**15 28 06.3**	**+1.0**
SYZ	**Scrubby Hill**	**4.15**	**54**	⇑PN	**Pn**	**15 28 06.3**	**+0.3**
SYZ				SN	**Sn**	**15 28 51.2**	**-3.3**
MLZ	**Mavora Lakes**	**4.58**	**37**	*e*P	**Pn**	**15 28 13.4**	**+1.5**
MLZ				S	**Sn**	**15 29 06.7**	**+1.4**
MLZ	**Mavora Lakes**	**4.58**	**37**	PN	**Pn**	**15 28 13.3**	**+1.4**
MLZ				SN	**Sn**	**15 29 06.2**	**+1.0**
TUZ	**Tuapeka**	**4.79**	**51**	P	**Pn**	**15 28 15.1**	**+0.3**
TUZ	**Tuapeka**	**4.79**	**51**	PN	**Pn**	**15 28 15.1**	**+0.3**
TUZ				*e*SN	**Sn**	**15 29 09.0**	**-1.4**
MSZ	**Milford Sound**	**5.07**	**31**	*e*P	**Pn**	**15 28 21.5**	**+2.9**
MSZ	**Milford Sound**	**5.07**	**31**	*e*PN	**Pn**	**15 28 20.8**	**+2.2**
EAZ	**Earnscleugh**	**5.16**	**44**	*e*P	**Pn**	**15 28 20.1**	**+0.2**
EAZ	**Earnscleugh**	**5.16**	**44**	PN	**Pn**	**15 28 20.0**	**+0.2**
HHSZ	**Highcliff Hill**	**5.35**	**56**	*e*PN	**Pn**	**15 28 23.2**	**+0.8**
WKZ	**Wanaka**	**5.35**	**39**	*e*P	**Pn**	**15 28 24.1**	**+1.6**
WKZ	**Wanaka**	**5.35**	**39**	PN	**Pn**	**15 28 24.0**	**+1.5**
JCZ	**Jackson Bay**	**5.89**	**33**	*e*P	**Pn**	**15 28 33.0**	**+3.2**
JCZ	**Jackson Bay**	**5.89**	**33**	PN	**Pn**	**15 28 33.0**	**+3.2**
ODZ	**Otahua Downs**	**5.94**	**50**	*e*P	**Pn**	**15 28 30.1**	**-0.4**
ODZ	**Otahua Downs**	**5.94**	**50**	PN	**Pn**	**15 28 30.1**	**-0.4**
LBZ	**Lake Benmore**	**6.21**	**43**	*e*P	**Pn**	**15 28 33.2**	**-1.1**
LBZ	**Lake Benmore**	**6.21**	**43**	*e*PN	**Pn**	**15 28 33.2**	**-1.0**
FOZ	**Fox Glacier**	**6.67**	**36**	*e*P	**Pn**	**15 28 43.2**	**+2.6**
FOZ	**Fox Glacier**	**6.67**	**36**	*e*PN	**Pn**	**15 28 43.2**	**+2.6**
RPZ	**Rata Peaks**	**7.12**	**44**	Pn	**Pn**	**15 28 44.7**	**-2.1**
	3.3nm,0.3s,baz=270,slow=21,SNR=14						
RPZ				Sn	**Sn**	**15 30 06.3**	**-1.6**
	7.3nm,0.3s,baz=64,slow=16,SNR=12						
WVZ	**Waitaha Valley**	**7.50**	**39**	*e*PN	**Pn**	**15 28 51.6**	**-0.4**
MQZ	**McQueen's Vall**	**7.90**	**50**	*e*P	**Pn**	**15 28 56.8**	**-0.7**
MQZ	**McQueen's Vall**	**7.90**	**50**	*e*PN	**Pn**	**15 28 56.9**	**-0.6**
LTZ	**Lake Taylor**	**8.41**	**44**	*e*PN	**Pn**	**15 29 03.2**	**-1.3**
DSZ	**Denniston Nort**	**9.04**	**39**	*e*P	**Pn**	**15 29 13.6**	**+0.4**
DSZ	**Denniston Nort**	**9.04**	**39**	*e*PN	**Pn**	**15 29 11.8**	**-1.3**
KHZ	**Kahutara**	**9.29**	**48**	*e*P	**Pn**	**15 29 16.4**	**-0.1**
THZ	**Tophouse**	**9.50**	**43**	*e*P	**Pn**	**15 29 19.7**	**+0.3**
THZ	**Tophouse**	**9.50**	**43**	*e*PN	**Pn**	**15 29 19.7**	**+0.3**
QRZ	**Quartz Range**	**10.11**	**38**	*e*P	**Pn**	**15 29 27.8**	**0.0**
QRZ	**Quartz Range**	**10.11**	**38**	*e*PN	**Pn**	**15 29 27.8**	**0.0**
TAU	**Tasmania Unive**	**13.29**	**291**	*e*Pn	**Pn**	**15 30 09.5**	**-1.7**
	16nm,0.6s						
URZ	**Urewera**	**14.24**	**45**	Pn	**Pn**	**15 30 25.0**	**+0.8**
	0.3nm,0.3s,baz=253,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**34.83**	**306**	P	**P**	**15 33 53.6**	**0.0**
	0.7nm,0.7s,mb3.7,baz=134,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**37.67**	**310**	P	**P**	**15 34 17.3**	**-0.7**
	1.3nm,0.8s,mb3.7,baz=137,slow=8.3,SNR=11						
HNR	**Honiara**	**39.69**	**353**	P	**P**	**15 34 27.3**	**-7.6**
	63nm,1.1s,mb5.3						
MAW	**Mawson**	**49.75**	**209**	LR	LR	15 53 50.7	
	comp=Z,59nm,18.1s,MS3.6,baz=72,slow=32						
AKASG	**Malin Array Be**	**151.33**	**291**	PKPbc	PKPbc	15 46 53.3	-3.1
	0.2nm,0.3s,baz=96,slow=2.0,SNR=4.5						
ARCES	**ARCESS Array B**	**151.55**	**331**	PKPbc	PKPbc	15 46 54.7	-2.2
	4.0nm,0.8s,baz=114,slow=1.1,SNR=4.3						
ARCES	**ARCESS Array B**	**151.55**	**331**	PKPbc	PKPbc	15 46 54.7	-2.2

IDC 28 16:00:52.5±9.2, 2181N×14305E, h158km±85km, mb3.4/8, mb1 3.6/8, mb1mx3.5/20, mbtmp3.4/8, Error ellipse: s-maj=41.7km s-min=15.7km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.35**	**323**	P	P	16 05 17.5	+1.0
	1.9nm,0.7s,baz=150,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**39.

comp=Z,27nm,0.3s
SMQ Clarke City 2.69 177 PN Pn 16 24 17.6 -0.8
SMQ SN Sn 16 24 52.1 +0.4
NATG Natashquan Que 3.66 134 PN Pn 16 24 30.8 -0.9
NATG SG Sg 16 25 24.7 -6.9
CNQ Baie Comeau 3.69 192 PN Pn 16 24 31.5 -0.6
CNQ SN Sn 16 25 16.3 +0.1
CNQ Trac 16 25 34.6
comp=Z,6.0nm,0.2s
GSQ Grosses Roches 4.01 182 PN Pn 16 24 35.1 -1.3
GSQ SN Sn 16 25 23.7 -0.5
GSQ Trac 16 25 40.3
comp=Z,15nm,0.3s
LG4Q La Grande 4 4.38 282 PN Pn 16 24 40.1 -1.4
LG4Q PG Pg 16 24 48.6 -9.1
LG4Q SN Sn 16 25 29.9 -3.3
LG4Q SG Sg 16 25 44.8 -10
LG4Q Trac 16 25 52.3
comp=Z,17nm,0.5s
DAQ Lac Daran 5.67 211 SN Sn 16 26 01.2 -4.0
DAQ SG Sg 16 26 24.3 -12
DAQ Trac 16 26 36.2
comp=Z,12nm,0.5s
LMQ La Malbaie 5.80 204 PN Pn 16 24 59.6 -1.4
DRLN Deer Lake 6.96 118 PN Pn 16 25 09.0 -8.0
DRLN SN Sn 16 26 33.0 -3.9
DRLN SG Sg 16 27 06.7 -11
MALO McAlpine Lake 8.53 255 PN Pn 16 25 35.5 -3.1
VIMO Victor Mine 10.18 276 PN Pn 16 25 57.8 -3.5
SILO Sutton Inlier 10.79 286 PN Pn 16 26 05.1 -4.5

*NEIC **28** 16:28:01.2±0.4,2186N×12043E,h10km,mb4.4/9,Error ellipse: s-maj=11.4km s-min=7.8km az=91.0*
*MOS **28** 16:28:02.8±1.3,2184N×12041E,h33km,mb4.6/6,Error ellipse: s-maj=22.8km s-min=11.7km az=112.5*
*ISCJB **28** 16:28:03.1±1.2,2184N±006×12054E±005,h35km±10km, mb4.2/20,Error ellipse: s-maj=10.4km s-min=8.1km az=148.7*
*IDC **28** 16:28:05.4±0.8,2188N×12053E,h40km±7km,mb3.8/12, mb1 4.0/13,mb1mx3.9/21,mbtmp3.8/13,ML3.5/1,MS3.5/2, Ms1 3.5/2,ms1mx3.1/25,Error ellipse: s-maj=28.7km s-min=14.3km az=66.0*
*JMA **28** 16:28:05.7±0.3,2171N×12087E,h117km,M3.9*
*BJI **28** 16:28:09.1,2220N×11966E,h10km,ML3.6*
ISC 28 16:28:04.7±2.1,2188N±006×12049E±005,h33km±15km, h39km±1.1km:pP-P,n49,σ0§93/58,mb4.2/20,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.50**	**24**	*e*Pn	**Pn**	**16 28 41.9**	**-1.1**
NACB				*e*Sn	**Sn**	**16 29 13.7**	**+1.3**
YHNB	**Yeheng**	**2.90**	**16**	*e*Pn	**Pn**	**16 28 48.1**	**-0.4**
TATO	**Taipei**	**3.22**	**16**	*e*Pn	**Pn**	**16 28 51.6**	**-1.3**
YOJ	**Yonaguni jima**	**3.46**	**41**	P	**Pn**	**16 28 57.8**	**+1.6**
YOJ				*e*S	**Sn**	**16 29 37.7**	**+1.6**
QZH	**Quanzhou**	**3.52**	**331**	P	**Pn**	**16 28 56.3**	**-0.7**
QZH				S	**Sn**	**16 29 33.0**	**-4.5**
QZH				Smax			
	comp=N,100nm,0.5s						
QZH				Smax			
	comp=E,100nm,0.7s						
HATJ	**Hateruma jima**	**3.75**	**54**	P	**Pn**	**16 29 00.4**	**+0.3**
HATJ				*e*S	**Sn**	**16 29 42.2**	**-0.9**
IRIF	**Iriomote-Funau**	**3.86**	**50**	P	**Pn**	**16 29 02.0**	**+0.4**
IRIF				*e*S	**Sn**	**16 29 45.9**	**+0.1**
JKRS	**Kuro-shima**	**4.00**	**53**	P	**Pn**	**16 29 04.3**	**+0.7**
JKRS				*e*S	**Sn**	**16 29 49.0**	**-0.4**
JIJ	**Ishigaki jima**	**4.17**	**53**	P	**Pn**	**16 29 06.1**	**+0.1**
JIJ				S	**Sn**	**16 29 51.9**	**-1.7**
JTJ	**Tarama**	**4.75**	**54**	P	**Pn**	**16 29 14.1**	**+0.2**
JTJ				*e*S	**Sn**	**16 30 07.6**	**-0.2**
JMJ	**Miyako jima 2**	**5.29**	**56**	*e*S	**Sn**	**16 30 20.5**	**-0.7**
GZH	**Guangzhou**	**6.72**	**282**	P	**Pn**	**16 29 35.5**	**-5.5**
GZH				S	**Sn**	**16 30 44.8**	**-12**
GZH				Smax			
	comp=N,59nm,0.6s						
GZH				Smax			
	comp=E,57nm,0.7s						
KSRS	**Korea Array**	**16.80**	**21**	Pn	**Pn**	**16 31 58.3**	**+0.9**
	baz=194,slow=11,SNR=4.0						
KSRS				LR	LR	16 39 31.2	
	comp=E,194nm,18.0s,baz=205,slow=41						
MJAR	**Matsushiro Arr**	**21.22**	**43**	P	**P**	**16 32 47.6**	**-0.1**
	comp=E,4.0nm,0.8s,mb3.8,baz=225,slow=9.7,SNR=7.1						
HIA	**Hailar**	**27.34**	**359**	*e*P	**P**	**16 33 48.4**	**+1.9**
HIA				*e*	pP	16 33 58.8	+2.8
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIA	**Hailar**	**27.34**	**359**	*e*P	**P**	**16 33 48.4**	**+1.8**
	comp=Z,4.7nm,0.9s,mb4.0						
HIA				*e*	pP	16 33 58.8	+2.8
LSA	**Lhasa**	**27.49**	**293**	P	**P**	**16 33 46.1**	**-1.8**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
LSA	**Lhasa**	**27.49**	**293**	P	**P**	**16 33 46.1**	**-1.8**
	comp=Z,1.9nm,0.7s,mb3.7						
ULN	**Ulaanbaatar**	**28.09**	**341**	P	**P**	**16 33 56.5**	**+3.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.1						
ULN	**Ulaanbaatar**	**28.09**	**341**	P	**P**	**16 33 56.5**	**+3.3**
	comp=Z,7.0nm,1.4s,mb4.1						
SONM	**Songino Array**	**26.27**	**340**	P	**P**	**16 33 54.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=155,slow=9.7,SNR=5.2						
SONM				LR	LR	16 47 01.5	
	comp=Z,79nm,19.6s,baz=112,slow=40						
MKAR	**Makanchi Array**	**39.59**	**318**	P	**P**	**16 35 33.4**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=115,slow=9.6,SNR=7.8						
MKAR				pP	pP	16 35 44.8	+2.3
	comp=Z,1.1nm,0.5s,baz=112,slow=9.8,SNR=6.3						
MKAR	**Makanchi Array**	**39.59**	**318**	P	**P**	**16 35 33.4**	**+0.6**
MKAR				pP	pP	16 35 44.8	+2.3
YAK	**Yakutsk**	**40.63**	**7**	P	**P**	**16 35 40.6**	**-0.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
YAK	**Yakutsk**	**40.63**	**7**	P	**P**	**16 35 40.6**	**-0.9**
	comp=Z,9.1nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**43.71**	**161**	P	**P**	**16 36 06.5**	**-0.1**
	comp=Z,9.0nm,0.8s,mb4.6,baz=343,slow=8.9,SNR=57						
WB2	**Warramunga Arr**	**43.71**	**161**	*e*P	**P**	**16 36 06.3**	**-0.3**
WB2	**Warramunga Arr**	**43.71**	**161**	*e*P	**P**	**16 36 06.1**	**-0.5**
ASAR	**Alice Springs**	**47.11**	**163**	P	**P**	**16 36 34.0**	**+0.6**
	comp=Z,3.5nm,0.6s,mb4.5,baz=348,slow=7.4,SNR=166						
BVAR	**Borovoye Array**	**49.08**	**322**	P	**P**	**16 36 48.2**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=106,slow=7.9,SNR=5.8						
BRVK	**Borovoye**	**49.15**	**322**	P	**P**	**16 36 49.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**49.15**	**322**	P	**P**	**16 36 49.3**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.2						
BILL	**Bilibino**	**54.06**	**19**	*e*P	**P**	**16 37 25.2**	**-0.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,2.5s,mb4.0						
BILL	**Bilibino**	**54.06**	**19**	P	**P**	**16 37 25.4**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.3						
ARU	**Arti**	**56.58**	**324**	*e*P	**P**	**16 37 43.0**	**-1.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ARU	**Arti**	**56.58**	**324**	*e*P	**P**	**16 37 43.0**	**-1.0**
	comp=Z,2.3nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**57.14**	**159**	P	**P**	**16 37 47.6**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.4,baz=330,slow=9.2,SNR=7.1						
STKA	**Stephens Creek**	**57.14**	**159**	*e*P	**P**	**16 37 48.6**	**+0.6**
KIV	**Kislovodsk**	**66.55**	**310**	P	**P**	**16 38 52.8**	**+1.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KIV	**Kislovodsk**	**66.55**	**310**	P	**P**	**16 38 52.8**	**+1.4**
	comp=Z,12nm,1.0s,mb4.9						
PMR	**Palmer**	**71.19**	**30**	*e*P	**P**	**16 39 21.7**	**+1.5**
PMR				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
PMR	**Palmer**	**71.19**	**30**	*e*P	**P**	**16 39 21.7**	**+1.5**
	comp=Z,13nm,0.6s,mb5.0						
FINES	**FINESS Array B**	**73.11**	**330**	P	**P**	**16 39 32.4**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.2,baz=172,slow=5.8,SNR=3.5						
FINES	**FINESS Array B**	**73.11**	**330**	P	**P**	**16 39 32.4**	**+0.7**
BRTR	**Keskin Array B**	**74.03**	**307**	P	**P**	**16 39 37.5**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=90,slow=5.8,SNR=3.2						
NOA	**NORSAR Array B**	**79.96**	**332**	P	**P**	**16 40 09.2**	**-1.3**
	comp=Z,1.3nm,1.1s,mb3.8,baz=62,slow=5.5,SNR=3.0						
RES	**Resolute Bay**	**81.03**	**9**	P	**P**	**16 40 15.5**	**-0.7**
	comp=Z,168nm,1.2s						
GERES	**GERESS Array B**	**84.21**	**321**	P	**P**	**16 40 33.2**	**+0.5**
	comp=Z,0.9nm,0.8s,mb4.0,baz=73,slow=6.3,SNR=3.7						
GERES				pP	pP	16 40 44.6	+1.4
	comp=Z,0.6nm,0.7s,baz=72,slow=10.0,SNR=3.3						
YKA	**Yellowknife Ar**	**85.34**	**22**	P	**P**	**16 40 38.3**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.9,baz=316,slow=4.7,SNR=11						
YKA				pP	pP	16 40 50.1	+1.2
	comp=Z,0.7nm,0.7s,baz=316,slow=4.9,SNR=6.7						

*MAN **28** 16:30:16.8,765N×12739E,h78km,mb4.5,ML5.3,MS4.8*
*ISCJB **28** 16:30:20.1±1.1,776N±005×127.17E±008,h58km±8km, mb4.3/28,MS3.5/3,Error ellipse: s-maj=12.7km s-min=8.0km az=171.1*
*IDC **28** 16:30:21.5±6.9,774N×12691E,h51km±63km,mb4.0/14, mb1 4.1/14,mb1mx4.0/21,mbtmp3.9/14,MS3.6/3, Ms1 3.6/3,ms1mx2.9/26,Error ellipse: s-maj=38.3km s-min=16.4km az=76.0*
*BJI **28** 16:30:21.0,770N×12680E,h63km,mB5.2,mb4.9*
*NEIC **28** 16:30:22.6±1.4,768N×12683E,h63km±13km,mb4.5/15, Error ellipse: s-maj=13.7km s-min=8.2km az=63.0*
ISC 28 16:30:22.0±1.1,777N±005×12715E±008,h58km±8km,n60, σ0§99/64,mb4.3/29,MS3.5/3,1C-4D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.21**	**227**	*e*P	**Pn**	**16 30 38.7**	**-4.0**
MATI				*e*S	**Sn**	**16 30 54.0**	**-4.1**
DAV	**Davao City (W)**	**1.71**	**246**	‖*e*P	**Pn**	**16 30 49.0**	**-0.5**
DAV	**Davao City (W)**	**1.71**	**246**	*e*Pn	**Pn**	**16 30 47.0**	**-2.5**
BUKP	**Musuan**	**2.08**	**273**	*e*P	**Pn**	**16 30 54.0**	**-0.4**
KCP	**Kidapawan**	**2.18**	**250**	‖*e*P	**Pn**	**16 30 55.2**	**-0.7**
KCP				*i* S	**Sn**	**16 31 27.3**	**+5.5**
CGP	**Cagayan de Oro**	**2.53**	**286**	‖*i* P	**Pn**	**16 31 00.6**	**+0.1**
CGP				*e*S	**Sn**	**16 31 33.4**	**+3.2**
GSPH	**General Santos**	**2.76**	**233**	*e*P	**Pn**	**16 31 05.2**	**+1.5**
GSPH				*e*S	**Sn**	**16 31 40.9**	**+5.1**
CTBH	**Cotabato--PC H**	**2.94**	**259**	‖*e*P	**Pn**	**16 31 04.6**	**-1.5**
CTBH				*i* S	**Sn**	**16 31 41.4**	**+1.2**
MSLP	**Maasin**	**3.26**	**316**	*e*P	**Pn**	**16 31 10.0**	**-0.6**
TBP	**Tagbilaran**	**3.77**	**301**	*e*P	**Pn**	**16 31 17.8**	**+0.2**
DCPH	**Dipolog City**	**3.85**	**282**	‖*e*P	**Pn**	**16 31 19.4**	**+0.8**
PLP	**Palo**	**3.99**	**328**	*e*P	**Pn**	**16 31 18.9**	**-1.8**
PLP				*e*S	**Sn**	**16 31 56.5**	**-10**
LLP	**Lapu-Lapu**	**4.04**	**309**	*e*P	**Pn**	**16 31 20.8**	**-0.4**
LLP				*e*S	**Sn**	**16 32 10.7**	**+3.5**
OCLP	**Ormoc**	**4.11**	**323**	*e*P	**Pn**	**16 31 22.2**	**0.0**
GUIM	**Jordan**	**5.32**	**303**	*e*P	**Pn**	**16 31 39.0**	**+0.2**
KKM	**Kota Kinabalu**	**10.99**	**262**	P	**Pn**	**16 32 51.1**	**-5.3**
KSM	**Kuching**	**17.91**	**250**	*e*P	**Pn**	**16 34 28.1**	**+1.2**
KAKA	**Kakadu**	**21.02**	**165**	*e*P	**P**	**16 35 00.1**	**-0.6**
	9.9nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.75**	**183**	*e*P	**P**	**16 35 46.8**	**-0.3**
	5.6nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.75**	**183**	P	**P**	**16 35 46.6**	**-0.5**
	2.1nm,0.4s,mb4.0,baz=2.6,slow=10,SNR=6.7						
PMG	**Port Moresby**	**26.24**	**130**	LR	LR	16 46 40.5	
	comp=Z,87nm,18.5s,MS3.3,baz=282,slow=37						
KSRS	**Korea Array**	**29.55**	**1**	P	**P**	**16 36 21.8**	**+0.7**
	1.0nm,0.6s,mb3.7,baz=181,slow=9.2,SNR=4.1						
MJAR	**Matsushiro Arr**	**30.36**	**18**	P	**P**	**16 36 28.9**	**+0.7**
	1.4nm,0.8s,mb3.8,baz=210,slow=11,SNR=3.7						
MJAR				LR	LR	16 47 11.3	
	comp=Z,199nm,20.9s,MS3.7,baz=185,slow=33						
ASAR	**Alice Springs**	**31.94**	**168**	PcP	PcP	16 39 32.6	+1.4
	0.4nm,0.6s,baz=348,slow=2.7,SNR=4.8						
CTA	**Charters Tower**	**33.46**	**146**	P	**P**	**16 36 57.3**	**+1.8**
	4.3nm,0.9s,mb4.4,baz=327,slow=10,SNR=5.4						
SHL	**Shillong**	**37.96**	**302**	*e*P	**P**	**16 37 34.5**	**+0.5**
LSA	**Lhasa**	**40.21**	**308**	P	**P**	**16 37 53.5**	**+0.8**
LSA	**Lhasa**	**40.21**	**308**	*e*P	**P**	**16 37 53.4**	**+0.6**
	3.9nm,0.7s,mb4.2						
HIA	**Hailar**	**41.82**	**353**	*e*P	**P**	**16 38 06.7**	**+0.7**
	4.7nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**43.45**	**340**	*e*P	**P**	**16 38 19.0**	**-0.2**
	1.7nm,0.6s,mb4.0						
JIRN	**Jiri**	**43.47**	**302**	*e*P	**P**	**16 38 19.4**	**+0.1**
	5.3nm,0.4s,mb4.6						
SONM	**Songino Array**	**43.65**	**340**	P	**P**	**16 38 20.3**	**-0.5**
	0.7nm,0.8s,mb3.4,baz=139,slow=9.9,SNR=4.9						
SONM				PcP	PcP	16 40 08.2	+1.0
	0.8nm,0.7s,baz=166,slow=3.9,SNR=4.3						
GUN	**Gumba**	**43.81**	**303**	*e*P	**P**	**16 38 21.7**	**-0.4**
	12nm,0.8s,mb4.7						
KKN	**Kakani**	**44.27**	**302**	*e*P	**P**	**16 38 25.5**	**-0.3**
	7.5nm,0.9s,mb4.4						
KOLN	**Koldanda**	**45.68**	**301**	*e*P	**P**	**16 38 36.9**	**-0.1**
	4.6nm,0.5s,mb4.7						
YAK	**Yakutsk**	**54.18**	**1**	*e*P	**P**	**16 39 42.3**	**+0.9**
	17nm,0.8s,mb5.0						
YAK				*e*	pP	16 39 54.7	-2.1
MK31	**Makanchi Array**	**54.53**	**323**	*e*P	**P**	**16 39 43.9**	**-0.1**
MKAR	**Makanchi Array**	**54.53**	**323**	P	**P**	**16 39 44.4**	**+0.4**
	7.2nm,0.7s,mb4.8,baz=124,slow=8.1,SNR=52						
MKAR				PcP	PcP	16 40 47.2	+0.5
	2.0nm,0.8s,baz=104,slow=5.1,SNR=3.6						
MKAR	**Makanchi Array**	**54.53**	**323**	P	**P**	**16 39 44.4**	**+0.4**
MKAR				PcP	PcP	16 40 47.2	+0.5
MA2	**Magadan**	**54.71**	**14**	P	**P**	**16 39 48.0**	**+2.8**
	7.0nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**57.71**	**316**	*e*P	**P**	**16 40 06.1**	**-0.5**
	1.7nm,0.8s,mb4.1						
KURK	**Kurchatov**	**58.61**	**326**	*e*P	**P**	**16 40 12.1**	**-0.8**
	8.2nm,1.0s,mb4.7						
KBL	**Kabul**	**59.47**	**306**	*e*P	**P**	**16 40 16.4**	**-2.4**
BVAR	**Borovoye Array**	**64.20**	**326**	P	**P**	**16 40 50.6**	**-0.1**
	3.4nm,0.7s,mb4.5,baz=125,slow=8.8,SNR=19						
BVAR				LR	LR	17 09 57.2	
	comp=Z,35nm,19.1s,MS3.6,baz=68,slow=37						
BRVK	**Borovoye**	**64.28**	**326**	*e*P	**P**	**16 40 50.7**	**-0.5**
	4.8nm,0.7s,mb4.6						
BILL	**Bilibino**	**65.56**	**15**	P	**P**	**16 41 00.9**	**+1.4**
	3.0nm,0.8s,mb4.4						
AKTK	**Aktyubinsk**	**70.79**	**321**	P	**P**	**16 41 31.8**	**-0.5**
AKTO	**Aktyubinsk**	**70.79**	**321**	P	**P**	**16 41 31.8**	**-0.5**
	1.5nm,0.7s,mb4.0,baz=90,slow=8.6,SNR=7.2						
ARU	**Arti**	**71.78**	**327**	*e*P	**P**	**16 41 37.3**	**-0.9**
	4.9nm,0.7s,mb4.5						
JOF	**Joensuu**	**85.80**	**333**	*e*p	**P**	**16 42 54.3**	**-0.7**
ARCES	**ARCESS Array B**	**86.82**	**340**	P	**P**	**16 42 59.8**	**-0.2**
	3.1nm,0.8s,mb4.6,baz=83,slow=7.4,SNR=3.8						
VNDA	**Vanda**	**87.36**	**173**	P	**P**	**16 43 02.8**	**+0.1**
	0.7nm,0.9s,mb3.9,baz=327,slow=4.8,SNR=3.9						
BRTR	**Keskin Array B**	**87.78**	**310**	P	**P**	**16 43 04.5**	**-0.2**
	1.0nm,0.7s,mb4.2,baz=68,slow=6.8,SNR=3.9						
FINES	**FINESS Array B**	**88.49**	**332**	P	**P**	**16 43 07.6**	**-0.4**
	2.2nm,0.8s,mb4.4,baz=91,slow=7.6,SNR=4.5						
RES	**Resolute Bay**	**93.78**	**10**	P	**P**	**16 43 33.2**	**+0.6**
	359nm,1.6s						
NOA	**NORSAR Array B**	**95.37**	**334**	P	**P**	**16 43 37.9**	**-2.0**
	0.3nm,0.3s,mb4.2,baz=77,slow=6.9,SNR=3.3						
NOA	**NORSAR Array B**	**95.37**	**334**	P	**P**	**16 43 37.9**	**-2.0**
YKA	**Yellowknife Ar**	**95.67**	**24**	P	**P**	**16 43 42.5**	**+1.3**
	0.3nm,0.7s,mb3.8,baz=298,slow=4.6,SNR=3.8						
YKA	**Yellowknife Ar**	**95.67**	**24**	P	**P**	**16 43 42.5**	**+1.3**
TORD	**Torodi Ar. Bea**	**121.98**	**291**	PKP	PKPdf	16 49 09.6	-0.1
	0.9nm,0.7s,baz=74,slow=1.3,SNR=6.5						

*BJI **28** 16:51:14.9,2192N×12049E,h10km,mB4.8,mb4.5,ML3.9, Ms4.3,Msz4.1*
*NEIC **28** 16:51:15.7±0.4,2190N×12056E,h10km,mb4.6/14,Error ellipse: s-maj=8.1km s-min=7.4km az=106.0*
*MOS **28** 16:51:17.4±1.1,2196N×12062E,h33km,mb4.7/14,Error ellipse: s-maj=15.9km s-min=8.0km az=120.7*
*ISCJB **28** 16:51:18.3±0.3,2186N±004×12059E±003,h44km, mb4.3/34,MS4.0/22,Error ellipse: s-maj=5.9km s-min=3.3km az=125.8*
*JMA **28** 16:51:20.4±0.2,2186N×12081E,h149km,M3.9*
*IDC **28** 16:51:20.8±0.5,2195N×12051E,h47km±5km,mb3.8/13, mb1 4.0/14,mb1mx3.9/21,mbtmp3.8/14,MS4.0/14, Ms1 4.0/14,ms1mx3.7/29,Error ellipse: s-maj=23.4km s-min=11.1km az=67.0*
ISC 28 16:51:20.7±0.3,2194N±004×12056E±003,h46km, h46km±1.4km:pP-P,n97,σ1§10/109,mb4.3/34,MS4.0/22, 2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.42**	**23**	*e*Pn	**Pn**	**16 51 55.9**	**-1.9**
NACB				*e*S	**Sn**	**16 52 25.4**	**-0.8**
YHNB	**Yeheng**	**2.82**	**15**	*e*Pn	**Pn**	**16 52 01.7**	**-1.6**
TATO	**Taipei**	**3.14**	**16**	*e*Pn	**Pn**	**16 52 06.9**	**-0.8**
TATO				*e*Pg	**Pn**	**16 52 21.4**	**+14**
YOJ	**Yonaguni jima**	**3.38**	**41**	P	**Pn**	**16 52 11.9**	**+1.0**
YOJ				*e*S	**Sn**	**16 52 51.5**	**+1.8**
QZH	**Quanzhou**	**3.50**	**329**	P	**Pn**	**16 52 09.3**	**-3.2**
QZH				S	**Sn**	**16 52 46.0**	**-6.7**
QZH				Smax			
	comp=N,290nm,0.8s						
QZH				Smax			
	comp=E,320nm,0.6s						
PIP	**Pasuquin**	**3.59**	**179**	‖*e*P	**Pn**	**16 52 11.1**	**-2.8**
HATJ	**Hateruma jima**	**3.66**	**54**	P	**Pn**	**16 52 14.9**	**+0.1**
HATJ				*e*S	**Sn**	**16 52 56.8**	**+0.1**
IRIF	**Iriomote-Funau**	**3.77**	**50**	P	**Pn**	**16 52 16.4**	**+0.1**
IRIF				*e*S	**Sn**	**16 53 00.4**	**+1.0**
JKRS	**Kuro-shima**	**3.92**	**54**	P	**Pn**	**16 52 18.4**	**+0.1**
JKRS				*e*S	**Sn**	**16 53 03.4**	**+0.4**
JIJ	**Ishigaki jima**	**4.09**	**53**	P	**Pn**	**16 52 20.4**	**-0.3**
JIJ				*e*S	**Sn**	**16 53 06.7**	**-0.5**
JTJ	**Tarama**	**4.66**	**54**	P	**Pn**	**16 52 28.3**	**-0.3**
JTJ				*e*S	**Sn**	**16 53 21.0**	**-0.4**
SSE	**Sheshan**	**9.14**	**3**	*e*P	**Pn**	**16 53 29.0**	**-0.9**
SSE				AMB	AMB		
	comp=Z,18nm,0.8s						
SSE				AMB	AMB		
	comp=Z,215nm,4.2s						
SSE				LR	LR		
	comp=N,246nm,21.1s						
SSE				LR	LR		
	comp=E,644nm,21.2s						
SSE				LR	LR		
	comp=Z,635nm,16.9s						
SSE	**Sheshan**	**9.14**	**3**	*e*P	**Pn**	**16 53 28.9**	**-1.0**
	comp=Z,18nm,0.8s						
QIZ	**Qiongzhong**	**10.45**	**256**	P	**Pn**	**16 53 46.5**	**-1.4**
QIZ				*e*S	**Sn**	**16 55 43.5**	**-0.1**
QIZ				LR	LR		
	comp=E,1μm,15.1s						
QIZ				LR	LR		
	comp=Z,2μm,15.4s						
QIZ	**Qiongzhong**	**10.45**	**256**	*e*Pn	**Pn**	**16 53 45.5**	**-2.5**
GYA	**Guiyang**	**13.46**	**292**	P	**Pn**	**16 54 26.0**	**-2.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**15.83**	**322**	P	**Pn**	**16 55 03.3**	**+2.9**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s						
KMI	**Kunming**	**16.65**	**284**	P	**Pn**	**16 55 10.8**	**+0.1**
KMI				AP	pP	16 55 14.0	-9.3
KMI				XP	sP	16 55 15.3	-14
KMI				PP		16 55 24.0	
KMI				S	**S**	**16 58 15.3**	**-8.8**
KMI				XS	sS	16 58 18.8	-22
KMI				SS		16 58 35.3	
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,163nm,4.3s						
KMI				LR	LR		
	comp=N,686nm,12.7s						
KMI				LR	LR		
	comp=E,472nm,13.6s						
KMI				LR	LR		
	comp=Z,647nm,14.8s						
KMI	**Kunming**	**16.65**	**284**	P	**Pn**	**16 55 10.7**	**0.0**
KMI				S	**S**	**16 58 15.2**	**-8.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMI	**Kunming**	**16.65**	**284**	P	**Pn**	**16 55 10.7**	**0.0**
	comp=Z,5.0nm,0.9s						
KMI				pP	pP	16 55 13.9	-9.4
KMI				sP	sP	16 55 15.2	-14
KMI				PP		16 55 24.1	
KMI				S	**S**	**16 58 15.2**	**-8.9**
KMI				sS	sS	16 58 18.8	-22
KMI				SS		16 58 35.3	
KSRS	**Korea Array**	**16.73**	**21**	P	**Pn**	**16 55 12.6**	**+0.9**
	baz=197,slow=12,SNR=4.8						
KSRS				LR	LR	17 03 02.6	
	comp=Z,739nm,18.1s,baz=205,slow=42						
DL2	**Dalian**	**16.94**	**3**	*e*P	**Pn**	**16 55 14.8**	**+0.4**
DL2				*e*S	**S**	**16 58 24.8**	**-5.2**
DL2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
DL2				AMB	AMB		
	comp=Z,120nm,4.5s						
DL2				LR	LR		
	comp=N,580nm,15.1s						
DL2				LR	LR		
	comp=E,320nm,14.4s						
DL2				LR	LR		
	comp=Z,650nm,16.2s						
CD2	**Chengdu**	**17.49**	**304**	P	**Pn**	**16 55 22.3**	**+1.2**
CD2				AP	pP	16 55 30.5	-2.1
CD2				AMB	AMB		
	comp=Z,60nm,0.7s						
CD2				AMB	AMB		
	comp=Z,190nm,5.4s						
CD2				LR	LR		
	comp=N,720nm,10.3s						
CD2				LR	LR		
	comp=E,930nm,10.3s						
CD2				LR	LR		
	comp=Z,940nm,10.3s						
LZH	**Lanzhou**	**20.27**	**318**	*e*P	**P**	**16 55 53.5**	**+1.2**
LZH				AP		16 55 57.5	
LZH				XP	sP	16 56 00.5	-8.4
LZH				PP		16 56 13.8	
LZH				*e*S	**S**	**16 59

CN2 eS S 17 00 13.5 -1.1
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
CN2 LR LR
comp=N,800nm,16.0s,MS4.3
CN2 LR LR
comp=E,600nm,16.0s,MS4.3
CN2 LR LR
comp=Z,1µm,15.0s,MS4.4
GUMO Guam 24.57 106 LR LR 17 05 59.0
comp=Z,223nm,18.9s,MS3.7,baz=201,slow=36
GTA Gaotai 24.84 319 eP **P 16 56 39.5 +0.8**
GTA AP 16 56 44.0
GTA XP sP 16 56 46.5 -10
GTA PP 16 57 18.3
GTA S **S 17 01 02.5 +4.2**
GTA XS sS 17 01 10.5 -7.9
GTA AMB AMB
comp=Z,11nm,1.6s,mb4.1
GTA AMB AMB
comp=Z,161nm,6.1s
GTA LR LR
comp=N,216nm,14.4s,MS4.1
GTA LR LR
comp=E,327nm,12.2s,MS4.1
GTA LR LR
comp=Z,342nm,17.1s,MS3.9
SHL Shillong 26.47 284 eP **P 16 56 55.5 +2.0**
HIA Hailar 27.28 359 eP **P 16 57 01.9 +1.1**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 27.28 359 eP **P 16 57 01.9 +1.1**
comp=Z,7.7nm,0.8s,mb4.3
LSA Lhasa 27.53 292 eP **P 16 57 03.9 +0.9**
LSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
LSA Lhasa 27.53 292 eP **P 16 57 03.9 +1.0**
comp=Z,3.2nm,0.8s,mb4.0
ULN Ulaanbaatar 28.06 340 eP **P 16 57 05.9 -1.8**
ULN pmax pmax
comp=Z,13nm,1.5s,mb4.3
ULN Ulaanbaatar 28.06 340 eP **P 16 57 05.9 -1.8**
comp=Z,13nm,1.5s,mb4.3
SONM Songino Array 28.24 340 P **P 16 57 09.2 -0.1**
comp=Z,2.2nm,0.9s,mb3.8,baz=161,slow=9.2,SNR=13
SONM LR LR 17 09 24.3
comp=Z,384nm,19.5s,MS4.0,baz=144,slow=38
PSI Prapat 28.35 231 LR LR 17 08 07.5
comp=Z,270nm,19.0s,MS3.9,baz=22,slow=36
ASAJ Asahikawa 28.65 34 LR LR 17 10 22.5
comp=Z,404nm,18.4s,MS4.1,baz=170,slow=40
HABR Khabarovsk 28.90 20 P **P 16 57 08.8 -6.4**
JIRN Jiri 31.65 287 eP **P 16 57 39.9 +0.4**
comp=Z,14nm,0.9s,mb4.8
GUN Gumba 31.94 288 eP **P 16 57 43.0 +1.0**
comp=Z,16nm,0.9s,mb4.8
KKN Kakani 32.46 288 eP **P 16 57 46.5 -0.1**
GKN Gorkha 33.04 288 eP **P 16 57 51.3 -0.4**
comp=Z,16nm,1.1s,mb4.9
KOLN Koldanda 33.95 287 eP **P 16 57 59.1 -0.5**
comp=Z,11nm,1.0s,mb4.7
WMQ Urumqi 34.84 317 eP **P 16 58 09.5 +2.2**
WMQ PP PP 16 59 26.8 0.0
WMQ S **S 17 03 39.5 +4.5**
WMQ XS sS 17 03 45.8 -10
WMQ SS SS 17 05 52.0 -15
WMQ SCS ScS 17 08 28.5 +3.8
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
WMQ LR LR
comp=N,67nm,19.0s,MS3.8
WMQ LR LR
comp=E,165nm,18.0s,MS3.8
WMQ LR LR
comp=Z,167nm,18.0s,MS3.8
MK31 Makanchi Array 39.58 318 eP **P 16 58 47.3 -0.2**
MK31 e pP 16 58 59.3 -0.5
MKAR Makanchi Array 39.58 318 P **P 16 58 47.8 +0.3**
comp=Z,2.3nm,0.8s,mb4.0,baz=111,slow=9.7,SNR=13
MKAR pP pP 16 58 59.5 -0.4
comp=Z,2.9nm,0.7s,baz=113,slow=9.2,SNR=9.5
MKAR LR LR 17 16 37.9
comp=Z,197nm,18.7s,MS4.0,baz=153,slow=38
MKAR Makanchi Array 39.58 318 i P **P 16 58 47.7 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
YAK Yakutsk 40.56 7 eP **P 16 58 53.5 -2.1**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK MLR MLR
comp=Z,418nm,17.0s,MS4.4
YAK MLR MLR
comp=N,296nm,16.0s,MS4.2
YAK MLR MLR
comp=E,81nm,19.0s,MS4.2
PMG Port Moresby 40.63 137 P **P 16 58 53.7 -2.5**
PMG pmax pmax
comp=Z,31nm,1.3s
PMG Port Moresby 40.63 137 P **P 16 58 53.7 -2.5**
comp=Z,30nm,1.3s,mb4.8
ZAL Zalesovo 41.84 329 LR LR 17 18 42.4
comp=Z,161nm,19.3s,MS3.9,baz=345,slow=39
NVS Novosibirsk 43.11 329 i P **P 16 59 12.7 -3.7**
AAK Ala-Archa 43.45 309 i P **P 16 59 19.1 0.0**
AAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.7
AAK MLR MLR
comp=Z,200nm,16.0s,MS4.1
KURK Kurchatov 43.47 322⇑ eP **P 16 59 19.7 +0.4**
KURK Kurchatov 43.47 322 eP **P 16 59 19.1 -0.2**
comp=Z,7.2nm,1.1s,mb4.3
KURK e pP 16 59 31.9 +0.1
WRA Warramunga Arr 43.74 161 P **P 16 59 22.3 +0.8**
comp=Z,3.4nm,0.7s,mb4.2,baz=343,slow=9.1,SNR=42
WRA pP pP 16 59 34.5 +0.5
comp=Z,3.2nm,0.8s,baz=341,slow=8.5,SNR=8.4
WRA Warramunga Arr 43.74 161 i P **P 16 59 22.2 +0.7**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WB2 Warramunga Arr 43.75 161 eP **P 16 59 21.4 -0.2**
ASAR Alice Springs 47.15 163 P **P 16 59 49.8 +1.3**
comp=Z,1.9nm,0.6s,mb4.2,baz=348,slow=7.5,SNR=52
ASAR pP pP 17 00 01.5 +0.4
comp=Z,1.7nm,0.5s,baz=340,slow=6.1,SNR=7.6
CTA Charters Tower 48.73 147 LR LR 17 18 53.1
comp=Z,127nm,19.0s,MS3.9,baz=141,slow=34
BVAR Borovoye Array 49.06 322 P **P 17 00 03.3 +0.1**
comp=Z,0.5nm,0.4s,mb3.9,baz=107,slow=7.7,SNR=5.7
BVAR pP pP 17 00 15.1 -0.8
comp=Z,0.9nm,0.6s,baz=101,slow=8.7,SNR=4.5
BRVK Borovoye 49.14 322 eP **P 17 00 04.1 +0.3**
BRVK e pP 17 00 15.2 -1.2
BRVK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
BRVK Borovoye 49.14 322 eP **P 17 00 04.1 +0.3**
comp=Z,6.6nm,1.2s,mb4.5
BRVK e pP 17 00 15.2 -1.2
HNR Honiara 49.64 125 LR LR 17 18 30.8
comp=Z,88nm,18.2s,MS3.8,baz=360,slow=33
TIXI Tiksi 49.96 3 i P **P 17 00 09.2 -0.9**
TIXI pmax pmax
comp=Z,13nm,1.7s,mb4.7
BILL Bilibino 53.98 19⇑ eP **P 17 00 41.1 +1.1**
BILL e 17 01 44.9
BILL e 17 02 37.8
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BILL MLR MLR
comp=Z,100nm,13.0s,MS4.1
BILL Bilibino 53.98 19 eP **P 17 00 40.1 +0.1**
comp=Z,9.6nm,1.1s,mb4.6
BILL e pP 17 00 52.9 +0.1
AKTO Aktyubinsk 55.99 317 pP pP 17 01 07.2 -0.1
comp=Z,1.1nm,0.8s,baz=20,slow=5.4,SNR=3.4
ARU Arti 56.56 324⇓ i P **P 17 00 58.4 -0.2**
ARU eS **S 17 08 48.3 +1.3**
ARU eSS SS 17 12 34.2 -0.7
ARU pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
ARU Arti 56.56 324 P **P 17 00 55.9 -2.7**
comp=Z,2.4nm,0.8s,mb4.3
STKA Stephens Creek 57.17 159 P **P 17 01 02.0 -0.8**
comp=Z,1.0nm,0.7s,mb3.9,baz=302,slow=17,SNR=2.2
STKA pP pP 17 01 15.7 -0.1
comp=Z,3.8nm,0.9s,baz=338,slow=6.9,SNR=3.6
STKA Stephens Creek 57.17 159 P **P 17 01 03.5 +0.6**
KIV Kislovodsk 66.56 310 i P **P 17 02 07.4 +1.4**
KIV pmax pmax
comp=Z,18nm,1.3s,mb4.9
KIV MLR MLR
comp=Z,100nm,13.0s,MS4.2
OBN Obninsk 68.91 322 eP **P 17 02 21.1 +0.3**
OBN e 17 02 45.4
OBN eSS SS 17 15 47.9 +0.3
OBN pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
ANN Anapa 70.13 311 eP **P 17 02 35.6 +7.3**
ANN e*PP pP 17 02 45.6 +4.1
FINES FINESS Array B 73.09 330 P **P 17 02 44.1 -2.0**
comp=Z,2.6nm,0.9s,mb4.2,baz=58,slow=3.4,SNR=7.8
BRTR Keskin Array B 74.05 307 P **P 17 02 52.8 +1.0**
comp=Z,2.8nm,1.1s,mb4.1,baz=88,slow=4.3,SNR=5.5
BRTR pP pP 17 03 06.0 +1.0
comp=Z,1.0nm,0.8s,baz=79,slow=6.4,SNR=2.8
BRTR Keskin Array B 74.05 307 i P **P 17 02 52.7 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,1.1s
AKASG Malin Array Be 74.17 319 P **P 17 02 51.5 -0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=63,slow=5.5,SNR=7.0
INK Inuvik 75.52 22 P **P 17 02 58.5 -1.7**
comp=Z,258nm,1.3s
NOA NORSAR Array B 79.94 332 P **P 17 03 24.4 -0.4**
comp=Z,1.1nm,0.9s,mb3.8,baz=45,slow=21,SNR=2.4
NOA LR LR 17 42 09.4
comp=Z,166nm,18.6s,MS4.4,baz=50,slow=38
RES Resolute Bay 80.96 9 eP **P 17 03 30.4 +0.1**
comp=Z,276nm,1.3s
VYHS Vyhne 81.27 319 eP **P 17 03 33.0 +1.0**
VYHS pmax pmax
comp=Z,18nm,2.1s,mb4.6
VYHS Vyhne 81.27 319 eP **P 17 03 33.0 +1.0**
comp=Z,18nm,2.1s,mb4.6
KSP Ksiaz 81.83 322 eP **P 17 03 35.6 +0.7**
GERES GERESS Array B 84.21 321 P **P 17 03 47.6 +0.4**
comp=Z,1.7nm,0.9s,mb4.2,baz=59,slow=5.1,SNR=6.8
GERES pP pP 17 04 02.0 +1.2
comp=Z,0.8nm,0.8s,baz=56,slow=5.3,SNR=3.2
KMBO Kilima Mbogo 84.21 266 LR LR 17 38 51.0
comp=Z,17nm,20.8s,MS3.4,baz=91,slow=34
KMBO Kilima Mbogo 84.21 266 i P **P 17 03 52.4 +5.2**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
YKA Yellowknife Ar 85.26 22 P **P 17 03 53.0 +0.5**
comp=Z,1.8nm,0.9s,mb4.2,baz=314,slow=4.8,SNR=18
YKA pP pP 17 04 06.5 +0.5
comp=Z,0.6nm,0.8s,baz=317,slow=4.8,SNR=4.1
YKA LR LR 17 49 42.7
comp=Z,70nm,18.0s,MS4.1,baz=185,slow=41
YKA Yellowknife Ar 85.26 22 P **P 17 03 53.0 +0.5**
YKA *PP pP 17 04 06.6 +0.5
YKA Yellowknife Ar 85.26 22 P **P 17 03 53.0 +0.5**
YKA pP pP 17 04 06.5 +0.5
YKA LR LR 17 49 42.7
PPT Papeete 96.28 106 LR LR 17 43 01.0
comp=Z,94nm,20.1s,MS4.3,baz=176,slow=32

OTT 28 17:00:25.1±0.6, 4734N×9304W, h0km, MN2.9/4, Blast, Minnesota, U.S. Mining explosion., Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.21**	**59**	PG	Pg	17 00 46.4	-1.9
ATKO	**Atikokan Iron**	**1.77**	**33**	PG	Pg	17 00 56.9	-2.1
ATKO				SG	Sg	17 01 20.3	-1.6
EPLO	**Experimental L**	**2.38**	**349**	PG	Pg	17 01 06.5	-4.2
EPLO				Trac		17 01 41.3	
SOLO	**Sioux Lookout**	**2.75**	**13**	PN	Pn	17 01 10.4	-0.1
SOLO				SN	Sn	17 01 46.1	+1.6
SOLO				Trac		17 01 57.7	
TBO	**Thunder Bay**	**2.77**	**61**	PN	Pn	17 01 10.8	+0.1
TBO				SN	Sn	17 01 44.7	-0.1
TBO				Trac		17 01 55.0	
LDIO	**Lac des Isle M**	**2.94**	**50**	PN	Pn	17 01 08.2	-4.9
ULM	**Lac du Bonnet**	**3.46**	**328**	PN	Pn	17 01 20.4	+0.2
ULM				Trac		17 02 19.4	
RLKO	**Red Lake**	**3.76**	**353**	PN	Pn	17 01 25.3	+0.9
RLKO				SN	Sn	17 02 06.7	-2.7
PKLO	**Pickle Lake**	**4.51**	**22**	PN	Pn	17 01 33.5	-1.2
PKLO				SN	Sn	17 02 24.5	-3.4
PKLO				Trac		17 02 33.3	
GTO	**Geraldton**	**4.70**	**57**	PN	Pn	17 01 37.4	+0.1
GTO				Trac		17 02 41.0	
PNPO	**Pukaskwa Natio**	**4.71**	**72**	PN	Pn	17 01 37.6	+0.2
PNPO				SN	Sn	17 02 31.7	-0.9
NANO	**Nakina Ontario**	**5.01**	**51**	PN	Pn	17 01 39.3	-2.3
KAPO	**Kapuskasing**	**7.32**	**69**	PN	Pn	17 02 13.4	+0.1
VIMO	**Victor Mine**	**8.11**	**44**	PN	Pn	17 02 23.1	-0.9
SILO	**Sutton Inlier**	**8.79**	**33**	PN	Pn	17 02 30.9	-2.6
MALO	**McAlpine Lake**	**9.18**	**68**	PN	Pn	17 02 39.4	+0.5

*ISCJB **28** 17:16:10.9±0.3, 4632N±001×7.18E±003, h8km±3km, Error ellipse: s-maj=3.2km s-min=2.2km az=45.3*
*ZUR **28** 17:16:11.5, 4630N×728E, h-1km±1km, ML2.0/13*
*CSEM **28** 17:16:11.5±0.1, 4626N×732E, h5km, ML2.4/16, Error ellipse: s-maj=1.5km s-min=1.0km az=102.0*
*ROM **28** 17:16:12.0±0.7, 4624N×725E, h10km, Md1.9/3, Ml1.4/1, Error ellipse: s-maj=8.6km s-min=2.3km az=16.0*
*LDG **28** 17:16:12.1±0.1, 4628N×730E, h2km, Md2.3/3, Ml2.4/17, Error ellipse: s-maj=2.3km s-min=1.1km az=104.0*
*STR **28** 17:16:15.2±1.3, 4642N×728E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 17:16:11.6±0.3, 4629N±001×725E±003, h11km±2km, n62, σ0=79/107, 8C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin**	**0.08**	**28⇑**	i Pg	**Pg**	**17 16 13.3**	**-0.7**
	3µm,0.7s						
SENIN				i Sg	**Sg**	**17 16 14.8**	**-0.9**
	3µm,0.7s						
GRYON	**Gryon**	**0.10**	**245**	i Sg	**Pg**	**17 16 14.9**	**+0.6**
	419nm,0.4s						
GRYON	**Gryon**	**0.10**	**245⇑**	i Pg	**Sg**	**17 16 16.9**	**+0.6**
	419nm,0.4s						
GRYON	**Gryon**	**0.10**	**245⇑**	i Pg	**Sg**	**17 16 16.9**	**+0.6**
	419nm,0.4s						
AIGLE	**Aigle**	**0.21**	**283**	eSg	**Pg**	**17 16 16.1**	**+0.1**
	455nm,0.6s						
AIGLE	**Aigle**	**0.21**	**283⇓**	i Pg	**Sg**	**17 16 19.9**	**+0.9**
	455nm,0.6s						
SALAN	**Lac Salanfe**	**0.24**	**232⇑**	i Pg	**Pg**	**17 16 16.8**	**+0.2**
	107nm,0.3s						
SALAN				i Sg	**Sg**	**17 16 20.7**	**+0.7**
	107nm,0.3s						
DIX	**Grande Dixence**	**0.24**	**152**	Pg	**Pg**	**17 16 16.7**	**+0.1**
DIX				Sg	**Sg**	**17 16 20.0**	**0.0**
DIX	**Grande Dixence**	**0.24**	**152**	i Pg	**Pg**	**17 16 16.5**	**-0.1**
	504nm,0.5s						
DIX				i Sg	**Sg**	**17 16 20.5**	**+0.5**
	504nm,0.5s						
DIX	**Grande Dixence**	**0.24**	**152**	i Pg	**Pg**	**17 16 16.5**	**-0.1**
	504nm,0.5s						
DIX				Sg	**Sg**	**17 16 20.0**	**0.0**
LKBD	**Leukerbad**	**0.28**	**70⇑**	i Pg	**Pg**	**17 16 16.7**	**-0.6**
	415nm,0.2s						
LKBD				i Sg	**Sg**	**17 16 20.9**	**-0.2**
	415nm,0.2s						
EMV	**Vieux Emosson**	**0.33**	**226⇑**	i Pg	**Pg**	**17 16 18.5**	**+0.2**
	236nm,0.6s						
EMV				Sg	**Sg**	**17 16 23.4**	**+0.6**
WIMIS	**Wimmis**	**0.45**	**35⇑**	i Pg	**Pg**	**17 16 20.0**	**-0.5**
	205nm,0.3s						
WIMIS				i Sg	**Sg**	**17 16 26.8**	**+0.3**
	205nm,0.3s						
TORNY	**Torny**	**0.52**	**338⇓**	i P	**Pg**	**17 16 22.1**	**+0.4**
	352nm,0.3s						
MRGE	**Morge**	**0.54**	**194**	Pg	**Pg**	**17 16 22.2**	**+0.1**
	24nm,0.3s						
MMK	**Mattmark**	**0.56**	**116**	eP	**Pg**	**17 16 22.4**	**0.0**
	18nm,0.8s						
GIMEL	**Gimel**	**0.72**	**290⇑**	i P	**Pg**	**17 16 27.5**	**+2.0**
	67nm,0.4s						
BRANT	**Les Verrieres**	**0.84**	**321**	i Pn	**Pn**	**17 16 28.8**	**-0.6**
	131nm,0.4s						
LPL	**La Plagne**	**0.86**	**205**	ePg	**Pg**	**17 16 27.8**	**-0.3**
	SNR=1.0						
LPL				eSg	**Sg**	**17 16 40.2**	**+0.9**
	9.7nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**0.86**	**205**	ePg	**Pg**	**17 16 27.8**	**-0.3**
	SNR=1.0						
LPL				eSg	**Sg**	**17 16 40.2**	**+0.9**
	4.8nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**0.86**	**292**	ePg	**Pg**	**17 16 29.2**	**+1.0**
CABF				eSg	**Sg**	**17 16 41.9**	**+2.4**
	12nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**0.86**	**292**	ePg	**Pg**	**17 16 29.2**	**+1.0**
CABF				eSg	**Sg**	**17 16 41.9**	**+2.4**
	6.1nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.87**	**204**	ePg	**Pg**	**17 16 28.4**	**0.0**
	SNR=1.0						
LPG				eSg	**Sg**	**17 16 39.8**	**+0.1**
	6.4nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.87**	**204**	ePg	**Pg**	**17 16 28.4**	**0.0**
	SNR=1.0						
LPG				eSg	**Sg**	**17 16 39.8**	**+0.1**
	3.2nm,0.2s,SNR=1.0						
FUSIO	**Fusio**	**0.99**	**80**	eP	**Pg**	**17 16 29.9**	**-0.9**
	62nm,0.3s						
LOMF	**Lomont**	**1.09**	**345**	Pn	**Pn**	**17 16 32.9**	**0.0**
LOMF				Sg	**Sg**	**17 16 49.0**	**+2.1**
BBS	**Basel-Blauen**	**1.19**	**9**	Pn	**Pn**	**17 16 34.5**	**+0.3**
BBS				Sg	**Sg**	**17 16 51.5**	**+1.7**
HINF	**Hinteralfeld**	**1.55**	**350**	ePn	**Pn**	**17 16 39.4**	**+0.3**
	SNR=1.0						
HINF	**Hinteralfeld**	**1.55**	**350**	ePg	**Pg**	**17 16 40.8**	**-0.5**
HINF				eSg	**Sg**	**17 17 01.4**	**0.0**
	15nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**350**	ePg	**Pg**	**17 16 40.8**	**-0.5**
HINF				eSg	**Sg**	**17 17 01.4**	**0.0**
	7.6nm,0.2s						
MOF	**Molkenrain**	**1.56**	**357**	Pn	**Pn**	**17 16 40.3**	**+1.0**
MBDF	**Montbardon**	**1.60**	**192**	ePn	**Pn**	**17 16 39.8**	**-0.1**
MBDF	**Montbardon**	**1.60**	**192**	ePg	**Pg**	**17 16 41.9**	**-0.5**
	SNR=1.0						
MBDF				eSg	**Sg**	**17 17 03.4**	**+0.2**
	14nm,0.6s						
MBDF	**Montbardon**	**1.60**	**192**	ePg	**Pg**	**17 16 41.9**	**-0.5**
	SNR=1.0						
MBDF				eSg	**Sg**	**17 17 03.4**	**+0.2**
	6.8nm,0.6s						
FELD	**Feldberg im Sc**	**1.67**	**18**	Pn	**Pn**	**17 16 42.6**	**+1.8**
FELD				Sg	**Sg**	**17 17 05.2**	**0.0**
ORIF	**Oris-en-Rattie**	**1.68**	**215**	ePg	**Pg**	**17 16 43.9**	**+0.1**
	SNR=1.0						
ORIF				eSg	**Sg**	**17 17 06.1**	**+0.5**
	6.6nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.68**	**215**	ePg	**Pg**	**17 16 43.9**	**+0.1**
	SNR=1.0						
ORIF				eSg	**Sg**	**17 17 06.1**	**+0.5**
	3.3nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.82**	**341**	ePn	**Pn**	**17 16 43.0**	**+0.1**
	SNR=1.0						
HAU	**Haudompre**	**1.82**	**341**	ePg	**Pg**	**17 16 46.6**	**+0.1**
HAU				eSg	**Sg**	**17 17 09.6**	**-0.5**
	18nm,0.2s						
HAU	**Haudompre**	**1.82**	**341**	ePg	**Pg**	**17 16 46.6**	**+0.1**
HAU				eSg	**Sg**	**17 17 09.6**	**-0.5**
	9.1nm,0.2s						
CDF	**Champ du Feu**	**2.12**	**1**	ePn	**Pn**	**17 16 46.8**	**-0.2**
	SNR=1.0						
CDF	**Champ du Feu**	**2.12**	**1**	ePg	**Pg**	**17 16 51.5**	**-0.8**
CDF				eSg	**Sg**	**17 17 18.6**	**-1.1**
	4.2nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.12**	**1**	ePg	**Pg**	**17 16 51.5**	**-0.8**
CDF				eSg	**Sg**	**17 17 18.6**	**-1.1**
	2.1nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-I**	**2.31**	**232**	ePn	**Pn**	**17 16 50.1**	**+0.5**
VIVF	**Saint-Julien-I**	**2.31**	**232**	ePg	**Pg**	**17 16 55.5**	**-0.4**
VIVF				eSg	**Sg**	**17 17 25.2**	**-0.6**
	5.3nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-I**	**2.31**	**232**	ePg	**Pg**	**17 16 55.5**	**-0.4**
VIVF				eSg	**Sg**	**17 17 25.2**	**-0.6**
	2.7nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.38**	**280**	ePg	**Pg**	**17 16 56.8**	**-0.4**
SMF				eSn	**Sn**	**17 17 19.4**	**-0.3**
SMF				eSg	**Sg**	**17 17 27.4**	**-0.7**
	3.2nm,0.2s						
SMF	**Signal de Mont**	**2.38**	**280**	ePg	**Pg**	**17 16 56.8**	**-0.4**
SMF				eSn	**Sn**	**17 17 19.4**	**-0.3**
SMF				eSg	**Sg**	**17 17 27.4**	**-0.7**
	1.6nm,0.2s						
LOR	**Lormes**	**2.52**	**294**	ePg	**Pg**	**17 16 59.5**	**-0.5**
LOR				eSg	**Sg**	**17 17 31.3**	**-1.4**
	16nm,1.0s						
LOR	**Lormes**	**2.52**	**294**	ePg	**Pg**	**17 16 59.5**	**-0.5**
LOR				eSg	**Sg**	**17 17 31.3**	**-1.4**
	7.9nm,1.0s						
MEZF	**Maizieres J'vi**	**2.66**	**327**	ePn	**Pn**	**17 16 54.5**	**0.0**
MEZF	**Maizieres J'vi**	**2.66**	**327**	ePg	**Pg**	**17 17 01.8**	**-0.9**
MEZF				eSg	**Sg**	**17 17 37.3**	**+0.1**
	3.1nm,0.2s						
MEZF	**Maizieres J'vi**	**2.66**	**327**	ePg	**Pg**	**17 17 01.8**	**-0.9**
MEZF				eSg	**Sg**	**17 17 37.3**	**+0.1**
	1.5nm,0.2s						
SSF	**Saint Saulge**	**2.69**	**288**	ePg	**Pg**	**17 17 02.6**	**-0.5**
AVF	**Avril sur Loir**	**2.73**	**282**	ePn	**Pn**	**17 16 55.6**	**+0.2**
	SNR=1.0						
AVF				eSg	**Sg**	**17 17 37.7**	**-1.7**
	1.2nm,0.2s						
AVF	**Avril sur Loir**	**2.73**	**282**	ePn	**Pn**	**17 16 55.6**	**+0.2**
	SNR=1.0						
AVF				eSg	**Sg**	**17 17 37.7**	**-1.7**
	0.6nm,0.2s						
BGF	**Bois d'Agland**	**3.05**	**277**	ePn	**Pn**	**17 17 01.0**	**+1.1**
	SNR=1.0						
BGF				eSn	**Sn**	**17 17 35.4**	**-1.0**
	3.9nm,0.3s,SNR=1.0						
BGF				eSg	**Sg**	**17 17 49.2**	**-0.5**
	3.8nm,0.3s						
BGF	**Bois d'Agland**	**3.05**	**277**	ePn	**Pn**	**17 17 01.0**	**+1.1**
	SNR=1.0						
BGF				eSn	**Sn**	**17 17 35.4**	**-1.0**
	2.0nm,0.3s,SNR=1.0						
BGF				eSg	**Sg**	**17 17 49.2**	**-0.5**
	1.9nm,0.3s						
LASF	**Ste Croix**	**3.27**	**228**	ePn	**Pn**	**17 17 03.2**	**+0.4**
LASF	**Ste Croix**	**3.27**	**228**	ePg	**Pg**	**17 17 12.8**	**-1.4**
LASF				eSg	**Sg**	**17 17 54.9**	**-1.6**
	1.0nm,0.3s						
LASF	**Ste Croix**	**3.27**	**228**	ePg	**Pg**	**17 17 12.8**	**-1.4**
LASF				eSg	**Sg**	**17 17 54.9**	**-1.6**
	0.5nm,0.3s						
FLN	**La Foliniere**	**5.79**	**298**	ePg	**Pg**	**17 18 02.3**	**-0.1**
	SNR=1.0						

*ISCJB **28** 17:32:59.1±0.4, 4264N±002×2.13E±003, h10km±3km, Error ellipse: s-maj=3.7km s-min=3.4km az=99.7*
*STR **28** 17:32:59.9±0.3, 4260N×2.11E, h6km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **28** 17:33:00.9±0.2, 4260N×2.11E, h0km, mbLg1.2/7, Error ellipse: s-maj=2.2km s-min=2.0km az=125.0, PRXIMO*
*LDG **28** 17:33:00.4±0.1, 4261N×2.10E, h5km, Md2.0/2, Ml1.8/4, Error ellipse: s-maj=1.0km s-min=0.9km az=144.0*

ISC 28 17:32:59.6±0.5, 4262N±002×213E±003, h13km±5km, n28, σ0=60/45, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARF	**Carcanieres**	**0.10**	**349**	Pg	**Pg**	**17 33 03.3**	**+0.7**
CARF				Sg	**Sg**	**17 33 05.4**	**+0.6**
CARF	**Carcanieres**	**0.10**	**349**	P	**Pg**	**17 33 03.4**	**+0.7**
CARF				S	**Sg**	**17 33 05.4**	**+0.5**
CLLI	**Llivia**	**0.18**	**221**	P	**Pg**	**17 33 03.9**	**+0.1**
CLLI				S	**Sg**	**17 33 06.2**	**-0.4**
	13nm,0.1s						
VALF	**Valcebollere**	**0.23**	**202**	Pg	**Pg**	**17 33 04.8**	**+0.2**
VALF				Sg	**Sg**	**17 33 07.9**	**-0.1**
VALF	**Valcebollere**	**0.23**	**202**	P	**Pg**	**17 33 04.8**	**+0.2**
VALF				S	**Sg**	**17 33 07.8**	**-0.1**
FILF	**Fillols**	**0.32**	**100**	Pg	**Pg**	**17 33 05.0**	**-1.2**
FILF				Sg	**Sg**	**17 33 08.3**	**-2.3**
FILF	**Fillols**	**0.32**	**100**	P	**Pg**	**17 33 04.9**	**-1.3**

FILF			S	Sg	17 33 08.4	-2.2
CBRU	**Bruguera**	**0.33 174**	P	Pg	17 33 06.7	+0.3
CBRU			S	Sg	17 33 11.1	+0.2
	1.8nm,0.1s					
PAND	**Andorre**	**0.44 258**	P	Pg	17 33 08.6	+0.2
PAND			S	Sg	17 33 14.2	-0.1
EJON	**La Jonquera**	**0.58 106**	Pg	Pg	17 33 11.4	+0.4
	3.0nm,0.9s,SNR=5.5					
EJON			Lg		17 33 19.4	
	2.4nm,0.2s,SNR=4.9					
SALF	**Salau**	**0.71 282**	Pg	Pg	17 33 13.3	-0.1
SALF			Sg	Sg	17 33 22.5	-0.3
SALF	**Salau**	**0.71 282**	P	Pg	17 33 13.4	0.0
SALF			S	Sg	17 33 22.5	-0.3
CORG	**Organya**	**0.72 238**	P	Pg	17 33 13.8	+0.3
CORG			S	Sg	17 33 23.2	+0.2
MTLF	**Montolieu**	**0.73 5**	*e*Pg	Pg	17 33 14.4	+0.6
MTLF	**Montolieu**	**0.73 5**	*e*Pn	Pn	17 33 15.7	+0.2
MTLF			*e*Sg	Sg	17 33 24.0	+0.7
	1.5nm,0.2s					
MTLF	**Montolieu**	**0.73 5**	Pg	Pg	17 33 14.4	+0.6
MTLF			Lg		17 33 24.0	
	0.8nm,0.2s					
CSOR	**Sort**	**0.78 252**	P	Pg	17 33 14.8	+0.1
CSOR			S	Sg	17 33 24.8	-0.1
	1.4nm,0.2s					
EMIR	**Miracle**	**0.83 213**	Pg	Pg	17 33 15.7	-0.1
	0.4nm,0.4s,SNR=7.9					
EMIR			Lg		17 33 26.7	
	4.1nm,0.2s,SNR=7.9					
CFON	**Fontmartina**	**0.88 165**	P	Pg	17 33 17.1	+0.4
CFON			S	Sg	17 33 29.1	+0.9
	5.3nm,0.2s					
EPF	**Esparros**	**1.38 288**	*e*Pg	Pg	17 33 26.1	-0.1
EPF			*e*Sg	Sg	17 33 43.8	-0.4
	1.3nm,0.2s					
EPF	**Esparros**	**1.38 288**	Pg	Pg	17 33 26.1	-0.1
EPF			Lg		17 33 43.8	
	0.6nm,0.2s					
EBIE	**Bielsa**	**1.47 273**	Pg	Pg	17 33 28.4	+0.5
	0.8nm,0.2s,SNR=5.8					
EBIE			Lg		17 33 49.1	
	1.1nm,0.2s,SNR=7.9					
LASF	**Ste Croix**	**1.93 40**	*e*Pg	Pg	17 33 37.0	+0.4
LASF			*e*Sg	Sg	17 34 01.7	+0.1
	0.8nm,0.2s					
LASF	**Ste Croix**	**1.93 40**	Pg	Pg	17 33 37.0	+0.4
LASF			Lg		17 34 01.7	
	0.4nm,0.2s					
ETSF	**Etsaut**	**2.00 279**	*e*Pg	Pg	17 33 37.2	-0.8
ETSF			*e*Sg	Sg	17 34 02.8	-1.2
	1.2nm,0.3s					
ETSF	**Etsaut**	**2.00 279**	Pg	Pg	17 33 37.2	-0.8
ETSF			Lg		17 34 02.8	
	0.6nm,0.3s					
VIVF	**Saint-Julien-l**	**2.90 39**	*e*Sg	Sg	17 34 32.2	-0.6
	0.5nm,0.2s					
VIVF	**Saint-Julien-l**	**2.90 39**	Lg		17 34 32.2	
	0.2nm,0.2s					

WEL 28 17:38:20.9±0.2, 3897S×17537E, h163km±1km, ML3.6/18, 3D, Error ellipse: s-maj=3.1km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.11**	**150**	⇓PN	Pn	17 38 42.3	-0.2
TWVZ				SN	Sn	17 38 58.8	-0.3
WPVZ	**Whakapapa**	**0.27**	**149**	⇓PN	Pn	17 38 42.9	+0.1
FWVZ	**Far West T-bar**	**0.32**	**153**	PN	Pn	17 38 43.2	+0.3
PKVZ	**Pokaka**	**0.32**	**183**	PN	Pn	17 38 42.9	0.0
PKVZ				SN	Sn	17 38 59.9	+0.1
MTVZ	**Mangateitei**	**0.42**	**169**	PN	Pn	17 38 43.4	+0.1
MTVZ				SN	Sn	17 39 00.3	-0.2
VRZ	**Vera Road**	**0.50**	**252**	PN	Pn	17 38 43.2	-0.4
VRZ				SN	Sn	17 39 00.9	0.0
MOVZ	**Moawhango**	**0.53**	**145**	PN	Pn	17 38 43.7	-0.1
WAZ	**Wanganui**	**0.83**	**201**	PN	Pn	17 38 45.7	+0.1
WAZ				*e*SN	Sn	17 39 04.5	0.0
BKZ	**Black Stump Fm**	**0.90**	**103**	⇓PN	Pn	17 38 45.9	-0.2
BKZ				SN	Sn	17 39 04.7	-0.6
TSZ	**Takapari Road**	**1.18**	**157**	PN	Pn	17 38 48.6	+0.3
TSZ				SN	Sn	17 39 09.0	-0.4
MRZ	**Mangatainoka R**	**1.69**	**174**	PN	Pn	17 38 52.8	-0.6
MWZ	**Matawai**	**1.81**	**70**	PN	Pn	17 38 53.8	-0.8
BFZ	**Birch Farm**	**1.83**	**159**	PN	Pn	17 38 54.7	-0.2
TIWZ	**Tintock**	**1.84**	**168**	PN	Pn	17 38 54.7	-0.3
KIW	**Kapiti Island**	**1.92**	**190**	PN	Pn	17 38 55.0	-0.8
DUWZ	**D'Urville Isla**	**2.14**	**211**	PN	Pn	17 38 56.8	-1.5
CAW	**Cannon Point**	**2.15**	**186**	PN	Pn	17 38 57.5	-0.9
MTW	**Mount Morrison**	**2.19**	**177**	PN	Pn	17 38 57.7	-1.1
MRW	**Makara Radio**	**2.31**	**193**	PN	Pn	17 38 59.1	-1.3
WEL	**Wellington**	**2.35**	**191**	PN	Pn	17 38 59.5	-1.4
SNZO	**South Karori**	**2.39**	**192**	PN	Pn	17 38 59.7	-1.5
TCW	**Tory Channel**	**2.39**	**200**	PN	Pn	17 38 59.8	-1.4
PAWZ	**Paruwai Farm**	**2.41**	**179**	PN	Pn	17 39 00.1	-1.3
TRWZ	**Traveller**	**2.44**	**174**	PN	Pn	17 39 00.6	-1.2
MSWZ	**Moikau Station**	**2.44**	**182**	PN	Pn	17 39 00.5	-1.4
BHW	**Baring Head**	**2.46**	**189**	PN	Pn	17 39 00.6	-1.5
TUWZ	**Tuamarina**	**2.69**	**203**	PN	Pn	17 39 02.8	-2.0
NNZ	**Nelson**	**2.71**	**214**	PN	Pn	17 39 03.0	-2.1
QRZ	**Quartz Range**	**2.86**	**229**	PN	Pn	17 39 04.0	-3.0
BSWZ	**Blackbirch Sta**	**2.96**	**202**	PN	Pn	17 39 06.7	-1.6
THZ	**Tophouse**	**3.36**	**213**	PN	Pn	17 39 10.7	-2.5
KHZ	**Kahutara**	**3.71**	**201**	PN	Pn	17 39 15.6	-2.0
DSZ	**Denniston Nort**	**3.88**	**223**	PN	Pn	17 39 16.3	-3.6
LTZ	**Lake Taylor**	**4.47**	**211**	PN	Pn	17 39 24.0	-3.5
MQZ	**McQueen's Vall**	**5.15**	**202**	PN	Pn	17 39 32.1	-4.3

CASC 28 18:05:47.1±1.2, 836N×8287W, h3km, MD3.8, MW4.0, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.42**	**80⇓**	*e*P	Pg	18 05 55.3	+0.2
BRU2	**Volcan**	**0.46**	**22⇓**	*i*P	Pg	18 05 57.2	+1.2
BRU2				*e*S	Sg	18 06 05.5	+3.5
CNI	**Changuinola**	**1.10**	**18**	*e*P	Pg	18 06 07.4	-0.8
LCR2	**La Lucha 2**	**1.77**	**321**	*e*P	Pn	18 06 17.9	-0.7
LCR2				*e*S	Sn	18 06 43.6	+2.0
LAJ	**Bijagual**	**1.94**	**320**	*e*P	Pn	18 06 23.8	+2.9
PRS1	**Puriscal**	**2.15**	**319**	*e*P	Pn	18 06 22.5	-1.3
PRS1				*e*S	Sn	18 06 51.9	+0.9
CGA2	**Cerro Gallo 2**	**2.28**	**316**	*e*P	Pn	18 06 26.2	+0.6
CGA2				*e*S	Sn	18 06 56.4	+2.2
PTP	**Ponta Puerca**	**19.43**	**58⇑**	*i*P		18 05 51.4	

JMA ***28*** *18:06:21.9±0.7, 4642N×153.11E, h30km, M4.3*
ISCJB ***28*** *18:06:22.8±1.3, 462N±0.1×1529E±02, h33km±11km, mb4.0/15, Error ellipse: s-maj=29.6km s-min=8.8km az=105.6*
MOS ***28*** *18:06:23.5±1.2, 4617N×15304E, h48km, mb4.5/4, Error ellipse: s-maj=17.1km s-min=13.9km az=99.0*
NEIC ***28*** *18:06:23.5±1.1, 4670N×15279E, h10km, mb4.7/3, Error ellipse: s-maj=31.7km s-min=11.8km az=157.0*
IDC ***28*** *18:06:29.2±5.1, 4635N×15277E, h70km±58km, mb3.5/11, mb1 3.6/12, mb1mx3.5/23, mbtmp3.5/12, ML3.5/1, Error ellipse: s-maj=64.8km s-min=22.8km az=174.0*

ISC 28 18:06:25.5±1.2, 462N±01×1529E±02, h38km±9km, n41, σ1§37/49, mb4.0/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.66**	**257⇓**	*i*PN	Pn	18 07 28.5	+9.0
KUR				*e*S	Sn	18 08 11.5	+10
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,160nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
SKR	**Severo-Kuril's**	**4.97**	**24**	*e*PN	Pn	18 07 36.9	-0.7
SKR				pmax	pmax		
	comp=N,80nm,0.3s						
SKR				pmax	pmax		
	comp=Z,80nm,0.3s						
NEM2	**Nemuro 2**	**5.83**	**244**	P	Pn	18 07 48.5	-0.9
NEM2				*e*S	Sn	18 08 52.7	-2.3
JNK	**Nakash**	**6.37**	**249**	P	Pn	18 07 57.3	+0.5
JAK	**Akkeshi**	**6.68**	**244**	P	Pn	18 07 59.6	-1.4
JAK				*e*S	Sn	18 09 12.5	-3.3
JMP	**Maruseppu**	**7.10**	**255**	P	Pn	18 08 09.1	+2.3
JAR	**Ashorobuto**	**7.12**	**249**	P	Pn	18 08 07.5	+0.4
JAR				*e*S	Sn	18 09 27.3	+0.6
JOB	**Onbets**	**7.27**	**246**	P	Pn	18 08 09.0	-0.1
JOB				*e*S	Sn	18 09 28.0	-2.3
JKK2	**Kamakawa 2**	**7.56**	**256**	P	Pn	18 08 15.1	+2.0
ASAJ	**Asahikawa**	**7.58**	**258**	P	Pn	18 08 15.8	+2.4
	comp=Z,0.8nm,0.3s,baz=179,slow=20,SNR=6.2						
ASAJ	**Asahikawa**	**7.58**	**258**	PN	Pn	18 08 15.8	+2.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.71**	**246**	P	Pn	18 08 15.0	-0.2
JCH				*e*S	Sn	18 09 37.9	-3.4
JFR	**Furan**	**7.95**	**251**	P	Pn	18 08 20.6	+2.1
ERM	**Erimo**	**8.16**	**243**	*i*PN	Pn	18 08 22.0	+0.6
JNBK	**Urakawa-nobuka**	**8.27**	**245**	P	Pn	18 08 22.1	-0.8
JNBK				*e*S	Sn	18 09 51.0	-4.0
JBT2	**Biratori 2**	**8.28**	**249**	P	Pn	18 08 23.3	+0.4
JNB	**Noboribetsu**	**9.29**	**251**	P	Pn	18 08 36.5	-0.2
JKB	**Kayabe**	**9.57**	**248**	P	Pn	18 08 39.2	-1.5
JKB				*e*S	Sn	18 10 21.9	-5.0
KSRS	**Korea Array**	**20.50**	**254**	P	P	18 11 01.0	+0.9
	comp=Z,1.5nm,0.8s,baz=53,slow=11,SNR=4.6						
YAK	**Yakutsk**	**20.72**	**328**	*i*P	P	18 11 04.4	+1.9
SONM	**Songino Array**	**31.39**	**290**	P	P	18 12 42.5	-0.1
	comp=Z,0.2nm,0.5s,mb3.2,baz=79,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**47.07**	**298**	P	P	18 14 52.3	-1.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=65,slow=8.3,SNR=10						
MKAR	**Makanchi Array**	**47.07**	**298**	*i*P	P	18 14 52.2	-1.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**47.56**	**304**	*i*P	P	18 14 56.4	-0.7
LSA	**Lhasa**	**50.16**	**273**	*e*P	P	18 15 18.2	+1.1
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.16**	**273**	*e*P	P	18 15 18.2	+1.0
	comp=Z,1.9nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.10**	**310**	P	P	18 15 23.4	-0.8
	comp=Z,0.5nm,0.4s,mb3.8,baz=51,slow=12,SNR=4.9						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	P	18 15 26.3	-0.6
	comp=Z,0.2nm,0.7s,mb3.2,baz=294,slow=6.9,SNR=3.6						
AAK	**Ala-Archa**	**53.96**	**297**	*i*P	P	18 15 44.5	-0.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
GUN	**Gumba**	**54.91**	**275**	*e*P	P	18 15 54.1	+1.9
KKN	**Kakani**	**55.40**	**276**	*e*P	P	18 15 57.7	+1.9
	comp=Z,4.2nm,0.5s,mb4.7						
KKN	**Kakani**	**55.40**	**276**	*e*P	P	18 15 57.7	+1.9
KKN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
DMN	**Daman**	**55.63**	**275**	*e*P	P	18 15 59.8	+2.3
GKN	**Gorkha**	**55.71**	**276**	*e*P	P	18 15 59.2	+1.2
	comp=Z,10nm,0.8s,mb4.9						
KOLN	**Koldanda**	**56.57**	**277**	*e*P	P	18 16 05.7	+1.5
	comp=Z,7.8nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**58.33**	**341**	P	P	18 16 15.3	-1.3
	comp=Z,2.8nm,0.8s,mb4.3,baz=32,slow=7.4,SNR=3.0						
FINES	**FINESS Array B**	**64.48**	**335**	P	P	18 16 55.8	-2.4
	comp=Z,1.2nm,0.7s,mb4.0,baz=42,slow=6.7,SNR=7.1						
PDAR	**Pinedale Array**	**65.19**	**54**	P	P	18 17 03.2	+0.5
	comp=Z,0.9nm,1.0s,mb3.7,baz=317,slow=3.7,SNR=3.5						
NOA	**NORSAR Array B**	**68.71**	**341**	P	P	18 17 24.0	-1.1
	comp=Z,1.1nm,0.9s,mb3.8,baz=29,slow=6.7,SNR=2.7						
AKASG	**Malin Array Be**	**71.93**	**326**	P	P	18 17 44.0	-0.8
	comp=Z,1.2nm,0.4s,mb4.2,baz=31,slow=5.4,SNR=5.6						
GERES	**GERESS Array B**	**78.89**	**334**	P	P	18 18 23.1	-1.7
	comp=Z,0.7nm,0.9s,mb3.6,baz=336,slow=3.6,SNR=1.6						

IDC 28 18:12:46.3±6.1, 659S×14770E, h91km±45km, mb3.4/3, mb1 3.5/5, mb1mx3.3/15, mbtmp3.3/5, Error ellipse: s-maj=57.1km s-min=54.7km az=77.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.85**	**191**	P	Pn	18 13 29.7	+0.1
	32nm,0.3s,baz=22,slow=11,SNR=63						
PMG				S	Sn	18 14 09.4	+6.3
	16nm,0.3s,baz=352,slow=24,SNR=6.2						
WB2	**Warramunga Arr**	**18.55**	**223**	*e*P	Pn	18 16 55.3	-1.7
WRA	**Warramunga Arr**	**18.56**	**223**	P	Pn	18 16 55.0	-2.1
	0.2nm,0.3s,baz=52,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.54**	**217**	P	P	18 17 28.8	+0.7
	0.9nm,0.5s,baz=52,slow=8.4,SNR=44						
FITZ	**Fitzroy Crossi**	**24.37**	**240**	P	P	18 17 55.4	-0.4
	0.9nm,0.4s,baz=46,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**25.79**	**192**	*e*P	P	18 18 10.1	+1.4
	2.5nm,1.1s						
STKA	**Stephens Creek**	**25.79**	**192**	P	P	18 18 10.2	+1.6
	1.1nm,0.5s,baz=17,slow=8.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.91**	**284**	PKPbc	PKPbc	18 32 15.3	+0.1
	1.2nm,0.6s,baz=76,slow=3.9,SNR=14						

IDC 28 18:26:50.7±2.0, 563N×12247E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=255.0km s-min=25.1km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.96**	**156**	P	P	18 32 43.9	+1.0
	0.3nm,0.7s,baz=334,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**31.18**	**159**	P	P	18 33 11.2	-0.2
	0.1nm,0.5s,baz=339,slow=7.2,SNR=4.8						
MKAR	**Makanchi Array**	**53.61**	**327**	P	P	18 36 13.8	+0.1
	0.7nm,0.6s,baz=123,slow=6.7,SNR=9.3						

IDC 28 18:49:52.5±6.0, 1781S×17521W, h309km±153km, mb3.4/4, mb1 3.5/5, mb1mx3.2/16, mbtmp3.4/5, Error ellipse: s-maj=157.1km s-min=93.5km az=93.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.09**	**41**	P	Pn	18 51 11.9	+0.5
	4.1nm,0.3s,baz=216,slow=8.7,SNR=8.0						
AFI				S	S	18 52 15.4	+0.5
	12nm,0.3s,baz=55,slow=24,SNR=8.8						
CTA	**Charters Tower**	**36.47**	**260**	P	P	18 56 29.1	+0.4
	6.8nm,1.1s,baz=91,slow=12,SNR=5.1						
STKA	**Stephens Creek**	**41.35**	**242**	P	P	18 57 09.1	+0.2
	1.1nm,0.8s,baz=75,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**47.65**	**259**	P	P	18 57 58.5	+0.2
	1.3nm,0.3s,baz=98,slow=7.5,SNR=63						
ASAR	**Alice Springs**	**47.75**	**254**	P	P	18 57 59.4	+0.3
	1.1nm,0.6s,baz=89,slow=7.8,SNR=31						

NEIC ***28*** *18:55:23.6±3.3, 641S×130.17E, h59km±26km, mb4.3/2, Error ellipse: s-maj=32.3km s-min=20.7km az=221.0*
IDC ***28*** *18:55:26.5±4.2, 655S×13005E, h82km±38km, mb4.0/5, mb1 4.3/8, mb1mx4.1/14, mbtmp4.2/8, Error ellipse: s-maj=55.6km s-min=18.8km az=78.0*
ISCJB ***28*** *18:55:28.3±2.2, 67S±01×1301E±02, h115km±20km, mb4.1/7, Error ellipse: s-maj=31.2km s-min=15.4km az=149.4*

ISC 28 18:55:26.8±2.3, 66S±01×1301E±02, h83km±22km, n18, σ1§12/20, mb4.1/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.55**	**159**	*e*P	Pn	18 57 02.3	+1.9
	55nm,0.2s						
KAKA				*e*S	Sx	18 58 02.3	
FITZ	**Fitzroy Crossi**	**12.27**	**200**	*e*P	Pn	18 58 18.3	0.0
	14nm,0.4s						
FITZ				*e*S	Sx	19 00 22.3	
FITZ	**Fitzroy Crossi**	**12.27**	**200**	P	Pn	18 58 18.1	-0.2
	2.0nm,0.3s,baz=31,slow=11,SNR=59						
FITZ				S	Sn	19 00 23.2	-10
	4.1nm,0.3s,baz=75,slow=18,SNR=12						
WRA	**Warramunga Arr**	**13.94**	**163**	P	Pn	18 58 38.6	-1.9
	2.2nm,0.3s,baz=344,slow=13,SNR=46						
WRA				S	Sn	19 01 03.5	-10
	4.6nm,0.3s,baz=341,slow=23,SNR=11						
WB2	**Warramunga Arr**	**13.95**	**163**	*e*P	Pn	18 58 38.6	-1.9
WB2				*e*S	Sx	19 01 00.7	
ASAR	**Alice Springs**	**17.41**	**168**	P	Pn	18 59 24.9	+0.7
	3.0nm,0.3s,baz=340,slow=9.8,SNR=98						
ASAR				S	S	19 02 27.2	-14
	1.4nm,0.3s,baz=350,slow=25,SNR=14						
CTAO	**Charters Tower**	**20.68**	**132**	P	P	19 00 00.4	+0.4
	5.5nm,1.0s						
FORT	**Forrest**	**24.18**	**184**	*e*P	P	19 00 37.2	+2.0
	16nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**27.40**	**158**	*e*P	P	19 01 04.6	+0.2
	4.6nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**27.40**	**158**	P	P	19 01 04.9	+0.5
	3.9nm,0.6s,mb4.1,baz=344,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**27.40**	**158**	*e*P	P	19 01 04.3	0.0
KSRS	**Korea Array**	**43.82**	**358**	P	P	19 03 24.3	-0.1
	1.0nm,0.6s,mb3.7,baz=174,slow=9.7,SNR=3.1						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	19 06 16.2	-0.1
	1.5nm,0.3s,mb4.3,baz=123,slow=8.2,SNR=7.2						
VNDA	**Vanda**	**72.88**	**173**	P	P	19 06 45.9	-0.8
	1.4nm,0.8s,mb3.9,baz=314,slow=6.8,SNR=8.9						
VNDA	**Vanda**	**72.88**	**173**	P	P	19 06 45.9	-0.8
MAW	**Mawson**	**75.39**	**201**	P	P	19 07 01.3	0.0
	0.8nm,0.7s,mb3.6,baz=75,slow=12,SNR=3.9						
BRTR	**Keskin Array B**	**99.09**	**309**	P	P	19 09 06.9	+8.4
	0.7nm,0.6s,mb4.3,baz=99,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**128.79**	**282**	PKP	PKPdf	19 14 24.6	+0.1
	0.4nm,0.9s,baz=26,slow=1.3,SNR=2.5						

NEIC ***28*** *19:06:56.5±0.8, 5163N×17470E, h10km, Error ellipse: s-maj=19.9km s-min=9.6km az=204.0*
ISCJB ***28*** *19:06:58.0±2.6, 516N±03×1747E±02, h36km±18km, mb3.9/7, Error ellipse: s-maj=45.1km s-min=16.9km az=46.0*
IDC ***28*** *19:06:58.3±2.0, 5223N×17459E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/24, mbtmp3.8/8, Error ellipse: s-maj=57.3km s-min=23.9km az=4.0*

ISC 28 19:06:58.1±5.7, 517N±02×1747E±02, h21km±39km, n12, σ0§55/11, mb3.9/7, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.13**	**341**	*e*P	Pn	19 07 18.8	+0.2
AMKA	**Amchitka**	**2.88**	**94**	*e*P	Pn	19 07 42.3	-0.4
YKA	**Yellowknife Ar**	**37.94**	**45**	P	P	19 14 13.9	-0.1
	0.1nm,0.4s,baz=290,slow=8.6,SNR=3.9						
SONM	**Songino Array**	**42.85**	**293**	P	P	19 14 55.4	+0.8
	0.3nm,0.5s,mb3.3,baz=70,slow=7.1,SNR=5.6						
PDAR	**Pinedale Array**	**50.03**	**69**	P	P	19 15 51.9	+0.9
	0.9nm,0.8s,mb3.9,baz=329,slow=3.9,SNR=6.9						
MKAR	**Makanchi Array**	**56.61**	**305**	P	P	19 16 38.5	-0.7
	0.5nm,0.5s,mb3.8,baz=53,slow=5.9,SNR=15						
ARCES	**ARCESS Array B**	**57.02**	**348**	P	P	19 16 42.0	-0.2
	3.3nm,0.9s,mb4.4,baz=30,slow=7.4,SNR=4.2						
BVAR	**Borovoye Array**	**57.96**	**316**	P	P	19 16 48.8	-0.1
	1.1nm,0.5s,mb4.1,baz=63,slow=5.4,SNR=7.4						
FINES	**FINESS Array B**	**64.49**	**344**	P	P	19 17 32.3	-0.8
	0.7nm,0.5s,mb3.9,baz=16,slow=9.9,SNR=5.0						
NB2	**NORSAR Subarra**	**66.87**	**351**	P	P	19 17 48.5	+0.1
	comp=Z,0.7nm,0.6s,mb3.9,baz=12,slow=6.5						
NOA	**NORSAR Array B**	**66.87**	**351**	P	P	19 17 48.8	+0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=12,slow=6.4,SNR=4.8						
LPAZ	**La Paz**	**119.41**	**79**	PKP	PKPdf	19 25 52.2	+6.4
	comp=Z,1.0nm,0.3s,baz=344,slow=5.0,SNR=6.5						

IDC 28 19:09:38.3±2.3, 653S×12912E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=152.9km s-min=32.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.26**	**160**	Pn	Pn	19 13 02.5	+1.0
	0.1nm,0.3s,baz=342,slow=13,SNR=7.1						
WRA				Sn	Sn	19 15 24.7	-16
	0.2nm,0.3s,baz=336,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**17.65**	**165**	P	Pn	19 13 45.2	-0.2
	0.1nm,0.3s,baz=345,slow=10.0,SNR=9.2						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	19 20 35.4	+0.2
	0.3nm,0.4s,baz=117,slow=7.9,SNR=4.4						

ISCJB ***28*** *19:11:16.5±4.8, 2185N±008×12052E±008, h12km±30km, mb4.0/19, MS3.2/3, Error ellipse: s-maj=14.1km s-min=12.5km az=73.9*
MOS ***28*** *19:11:19.4±0.8, 2193N×12058E, h33km, mb4.3/2, Error ellipse: s-maj=23.3km s-min=13.9km az=115.2*
NEIC ***28*** *19:11:19.6±2.7, 2192N×12058E, h21km±20km, mb4.6/3, Error ellipse: s-maj=8.9km s-min=6.6km az=52.0*
BJI ***28*** *19:11:21.6, 22.10N×120.16E, h7km, mB4.5, mb4.4, ML3.8, Ms4.2*
IDC ***28*** *19:11:22.3±0.7, 2183N×12050E, h41km±7km, mb3.7/14, mb1 3.9/15, mb1mx3.8/23, mbtmp3.7/15, ML3.5/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/40, Error ellipse: s-maj=24.7km s-min=11.9km az=69.0*

ISC 28 19:11:18.4±5.3, 2191N±008×12055E±008, h11km±33km, h42km±4.2km: pP-P, n35, σ0§86/35, mb4.0/19, MS3.2/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.45**	**23**	*e*P	Pn	19 11 57.7	-0.6
YHNB	**Yeheng**	**2.85**	**15**	*e*P	Pn	19 12 03.6	-0.2
TATO	**Taipei**	**3.17**	**16**	*e*P	Pn	19 12 08.4	+0.2
QZH	**Quanzhou**	**3.52**	**330**	P	Pn	19 12 11.8	-1.1
QZH				S	Sn	19 12 49.0	-5.5

comp=Z,0.9nm,0.6s,mb4.0,baz=90,slow=5.6,SNR=4.7
FINES FINESS Array B 73.11 330 P **P** **19 22 53.7 +4.9**
comp=Z,1.6nm,1.0s,mb3.9,baz=45,slow=5.7,SNR=4.8
FINES FINESS Array B 73.11 330 P **P** **19 22 53.7 +4.9**
BRTR Keskin Array B 74.06 307 P **P** **19 22 54.7 +0.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=120,slow=4.4,SNR=3.7
INK Inuvik 75.54 22 P **P** **19 23 01.9 -1.1**
comp=Z,0.8nm,0.6s,mb3.8,baz=262,slow=24,SNR=4.3
NOA NORSAR Array B 79.95 332 P **P** **19 23 26.6 -0.9**
comp=Z,0.5nm,0.8s,mb3.5,baz=104,slow=3.2,SNR=2.4
GERES GERESS Array B 84.22 321 P **P** **19 23 49.3 -0.6**
comp=Z,0.7nm,0.7s,mb3.9,baz=96,slow=5.4,SNR=3.9
YKA Yellowknife Ar 85.28 22 P **P** **19 23 54.9 -0.3**
comp=Z,0.6nm,0.8s,mb3.8,baz=311,slow=4.7,SNR=9.4
YKA Yellowknife Ar 85.28 22 P **P** **19 23 54.9 -0.3**

MDD 28 19:14:57.9±0.8, 3173N×1696W, h0km, mb4.1/6, 1D, Error ellipse: s-maj=19.9km s-min=5.5km az=91.0, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAR	**Madeira**	**0.99**	**2**	*i* P	Pg	19 15 16.9	+0.1
PMAR				*e*S	Sg	19 15 27.7	-1.9
PMAR				A		19 15 31.1	
	631nm,0.2s						
PMAR	**Madeira**	**0.99**	**2**	⇓P	Pg	19 15 16.9	+0.1
PMAR				S	Sg	19 15 27.7	-1.9
	316nm,0.2s						
PMPS	**Porto Santo**	**1.42**	**22**	*e*P	Pn	19 15 22.8	-2.1
PMPS				*e*S	Sg	19 15 37.7	-5.9
PMPS				A		19 15 38.6	
	87nm,0.2s						
EBAJ	**Bajamar**	**3.23**	**170**	P	Pn	19 15 49.2	-0.5
	4.6nm,0.1s,SNR=33						
EBAJ				S	Sn	19 16 23.6	-5.3
	5.7nm,0.3s,SNR=6.8						
EHIG	**Higuera**	**3.25**	**193**	P	Pn	19 15 50.1	+0.1
	1.2nm,0.1s,SNR=7.9						
EHIG				S	Sn	19 16 24.7	-4.8
	27nm,0.3s,SNR=5.6						
CRAJ	**Montana Rajada**	**3.47**	**175**	P	Pn	19 15 53.5	+0.4
	3.6nm,0.1s,SNR=7.9						
CRAJ				S	Sn	19 16 31.1	-3.8
	27nm,0.3s,SNR=7.9						
EGOM	**La Gomera**	**3.57**	**184**	P	Pn	19 15 52.7	-1.7
	7.1nm,0.3s,SNR=82						
EGOM				S	Sn	19 16 31.6	-5.7
	9.1nm,0.3s,SNR=7.2						
EOSO	**Osorio**	**3.85**	**161**	P	Pn	19 15 57.7	-0.6
	0.7nm,0.1s,SNR=12						
EOSO				S	Sn	19 16 36.8	-7.4
	34nm,0.9s						
EFAM	**Famara**	**3.94**	**130**	P	Pn	19 15 59.6	+0.1
	1.1nm,0.1s,SNR=7.9						
EFAM				S	Sn	19 16 41.0	-5.5
	2.9nm,0.5s,SNR=7.9						
CFUE	**Fuerteventura**	**4.04**	**139**	P	Pn	19 16 00.4	-0.5
	1.1nm,0.1s,SNR=7.9						
CFUE				S	Sn	19 16 41.6	-7.3
	31nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**8.92**	**47**	*e*Sn	Sn	19 18 37.0	-12
EGRO	**El Granado**	**9.71**	**51**	P	Pn	19 17 17.5	-1.3
	SNR=7.9						

*CNRM **28** 19:24:53.6, 3182N×574W, h6km, MD3.2*
*MDD **28** 19:24:53.3±1.9, 3180N×576W, h15km±14km, mb3.9/1, Error ellipse: s-maj=14.0km s-min=12.8km az=155.0, PRXIMO*
CSEM 28 19:24:54.4±0.4, 3204N×589W, h12km, ML2.6/3, Error ellipse: s-maj=8.7km s-min=3.3km az=149.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZC	**Tazercounte**	**0.52**	**282**	*i* P	Pg	19 25 06.0	+1.3
TZC				*i* S	Sg	19 25 17.0	+5.4
KIB	**El Ksiba**	**0.55**	**346**	*i* P	Pg	19 25 06.5	+1.3
KIB				*i* S	Sg	19 25 20.0	+7.5
CZD	**Col de Zad**	**1.22**	**35**	P	Pn	19 25 17.0	-0.3
CZD				S	Sb	19 25 34.0	+0.9
CZD	**Col de Zad**	**1.22**	**35**	*i* P	Pn	19 25 17.0	-0.3
MIF	**Mishlifen**	**1.48**	**22**	*i* P	Pn	19 25 22.0	+1.2
MIF				*i* S	Sn	19 25 41.0	+1.0
TGT	**Taghat**	**2.14**	**19**	*i* P	Pn	19 25 32.0	+2.0
TGT				*i* S	Sn	19 25 58.0	+1.5
TZK	**Tazeka**	**2.50**	**34**	*e*P	Pn	19 25 36.0	+1.2
TZK				*i* S	Sn	19 26 06.0	+0.8
EGRO	**El Granado**	**5.64**	**347**	P	Pn	19 26 18.7	+0.7
	3.2nm,0.5s,SNR=6.1						
EGRO				S	Sn	19 27 17.5	-5.2
	0.2nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.64**	**347**	Pn	Pn	19 26 18.7	+0.7
	3.2nm,0.5s,SNR=6.1						
EGRO				Sn	Sn	19 27 17.5	-5.2
	0.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.75**	**354**	P	Pn	19 26 18.6	-1.0
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	19 27 22.3	-3.2
	1.6nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.75**	**354**	Pn	Pn	19 26 18.6	-1.0
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	19 27 22.3	-3.2
	1.6nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**6.21**	**10**	P	Pn	19 26 23.9	-2.0
	0.6nm,0.3s,SNR=7.9						
EADA				S	Sn	19 27 32.1	-4.7
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.21**	**10**	Pn	Pn	19 26 23.9	-1.9
	0.6nm,0.3s,SNR=7.9						
EADA				Sn	Sn	19 27 32.1	-4.6
	0.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.77**	**352**	P	Pn	19 26 33.4	-0.1
	0.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.77**	**352**	Pn	Pn	19 26 33.4	-0.1
	0.1nm,0.2s,SNR=7.9						

*ISCJB **28** 19:30:23.0±0.5, 3953N±003×2361E±004, h8km±5km, Error ellipse: s-maj=5.7km s-min=4.1km az=74.2*
*NEIC **28** 19:30:23.6, 3949N×2364E, h4km, MD2.7(SOF), ML2.8(THE), ML3.1(ATH), After THE.*
*CSEM **28** 19:30:23.8±0.1, 3950N×2362E, h6km±1km, ML3.1, Error ellipse: s-maj=2.8km s-min=1.3km az=87.0*
*THE **28** 19:30:23.6, 3949N×2364E, h3km, ML2.5*
*ATH **28** 19:30:24.0, 3951N×2350E, h24km±2km, MD3.1/8, ML3.1*
*SOF **28** 19:30:25.4, 3963N×2326E, h20km, MD2.7*
ISC 28 19:30:23.6±0.5, 3954N±003×2361E±004, h11km±5km, n27, σ0§92/31, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.37**	**243**	*e*Pg	**Pg**	19 30 30.5	-0.4
XOR				*e*Sg	**Sg**	19 30 36.6	+0.9
NEO	**Neokhori**	**0.38**	**233**	*e*PB	**Pg**	19 30 30.6	-0.5
NEO				*e*SB	**Sg**	19 30 36.3	+0.2
PAIG	**Paliouri**	**0.40**	**8**	*e*Pg	**Pg**	19 30 32.5	+1.1
AOS	**Alonnisos**	**0.42**	**150**	*e*Pg	**Pg**	19 30 30.7	-1.1
OUR	**Ouranopolis**	**0.85**	**20**	*e*Pg	**Pg**	19 30 40.4	+0.4
PLG	**Polygyros**	**0.85**	**351**	*e*Pg	**Pg**	19 30 40.3	+0.3
PLG	**Polygyros**	**0.85**	**351**	*e*PN	**Pg**	19 30 40.4	+0.4
LIT	**Litokhoron**	**1.03**	**304**	*e*Pg	**Pg**	19 30 43.4	-0.1
AGG	**Agios Georgios**	**1.12**	**243**	*e*Sg	**Sg**	19 31 00.6	+0.9
LOS	**Limnos**	**1.20**	**70**	*e*Pg	**Pg**	19 30 45.0	-1.7
LOS				*e*Sg	**Sg**	19 31 03.8	+1.5
THE	**Thessaloniki**	**1.20**	**336**	*e*Pg	**Pg**	19 30 46.9	+0.2
THL	**Klokotos Trika**	**1.23**	**272**	*e*PN	**Pn**	19 30 46.0	-0.9
SOH	**Sokhos**	**1.30**	**351**	*e*Pg	**Pg**	19 30 48.8	+0.2
PTL	**Penteli**	**1.50**	**172**	*e*PN	**Pn**	19 30 51.0	+0.5
PTL				*e*SN	**Sn**	19 31 11.0	+1.0
EVR	**Evrytania**	**1.53**	**247**	*e*PN	**Pn**	19 30 50.5	-0.4
ATH	**Athens Observa**	**1.56**	**177**	*e*PB	**Pn**	19 30 51.0	-0.4
MGER	**Gerania Oros**	**1.57**	**190**	*e*PN	**Pn**	19 30 51.5	0.0
SRS	**Serrai**	**1.58**	**359**	*e*Pb	**Pb**	19 30 51.7	-1.2
GRG	**Griva**	**1.70**	**327**	*e*Pb	**Pb**	19 30 53.6	-1.2
KVR	**Kavouri**	**1.71**	**176**	*e*PB	**Pb**	19 30 53.5	-1.6
KNT	**Kendrikon**	**1.71**	**342**	*e*Pb	**Pb**	19 30 54.6	-0.6
NAIG	**Nisos Aigina**	**1.78**	**183**	*e*PN	**Pn**	19 30 55.5	+1.2
MMB	**Musomiste**	**2.05**	**2**	P	**Pn**	19 30 58.3	+0.2
RZN	**Rozhen**	**2.31**	**21**	P	**Pn**	19 31 04.7	+3.0
KKB	**Krupnik**	**2.36**	**350**	P	**Pn**	19 31 03.2	+0.8
KDZ	**Kurdzhali**	**2.52**	**32**	P	**Pg**	19 31 11.6	-0.3
VTS	**Vitosha**	**3.07**	**354**	P	**Pg**	19 31 18.4	-4.0

*CSEM **28** 19:48:38.7±0.1, 2825N×5793E, h15km, mb4.4/20, Error ellipse: s-maj=6.2km s-min=2.0km az=74.0*
*TEH **28** 19:48:40.7, 2767N×5809E, h36km, Mn4.2*
*NEIC **28** 19:48:41.3, 2828N×5764E, h14km, mb4.5/26, ML4.3(THR), MN4.2(TEH), After THR.*
*THR **28** 19:48:41.3±0.6, 2828N×5765E, h14km±7km, ML4.3*
*MOS **28** 19:48:42.6±0.9, 2812N×5756E, h33km, mb4.7/22, Error ellipse: s-maj=10.6km s-min=5.5km az=126.9*
*ISCJB **28** 19:48:44.2±0.5, 2805N±003×5753E±003, h51km±4km, mb4.3/53, MS3.3/5, Error ellipse: s-maj=5.5km s-min=4.2km az=110.8*
*BJI **28** 19:48:44.8, 2782N×5831E, h13km, mb4.5*
*IDC **28** 19:48:46.6±4.9, 2816N×5756E, h57km±45km, mb3.9/22, mb1 4.0/24, mb1mx4.0/30, mbtmp3.9/24, ML4.4/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/28, Error ellipse: s-maj=17.3km s-min=13.2km az=152.0*
*KISR **28** 19:49:03.6±0.7, 2846N×5563E, h34km, ML3.8*
ISC 28 19:48:45.6±0.4, 2810N±003×5758E±003, h48km±4km, n183, σ1§16/228, mb4.3/53, MS3.3/5, 5C-10D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND		**1.12**	**235**	*e*Pg	**Pn**	**19 49 06.4**	**+1.4**
BNDS	**Bandar-Abbas**	**1.43**	**241**	*e*Pg	**Pn**	**19 49 10.0**	**+0.9**
BNDS				*e*Sg	**Sn**	**19 49 31.7**	**+5.0**
BNDS				AML	AML	19 49 39.2	
	comp=N,4μm,0.4s						
BNDS				AML	AML	19 49 40.2	
	comp=E,5μm,0.7s						
BNDS	**Bandar-Abbas**	**1.43**	**241**	*e*Pg	**Pn**	**19 49 01.0**	**-8.1**
BNDS				*e*Sg	**Sn**	**19 49 31.0**	**+4.3**
BNDS	**Bandar-Abbas**	**1.43**	**241**	*e*Pg	**Pn**	**19 49 10.0**	**+0.9**
	SNR=90						
BNDS				*e*Sg	**Sn**	**19 49 31.7**	**+5.0**
	SNR=90						
KRBR	**Kerman**	**2.01**	**339**	*e*Pg	**Pn**	**19 49 15.3**	**-1.8**
KRBR				*e*Sg	**Sn**	**19 49 40.6**	**-0.5**
KRBR				AML	AML	19 49 54.6	
	comp=E,2μm,0.5s						
KRBR				AML	AML	19 49 57.6	
	comp=N,2μm,0.6s						
KRBR	**Kerman**	**2.01**	**339**	*e*Pg	**Pn**	**19 49 15.0**	**-2.1**
KRBR				*e*Sg	**Sn**	**19 49 40.0**	**-1.1**
BANOM	**Banah**	**2.44**	**208**	⇓P	**Pn**	**19 49 23.9**	**+0.8**
	SNR=225						
ZHSF	**Zahedan**	**3.19**	**61**	*e*Pn	**Pn**	**19 49 31.2**	**-2.0**
ZHSF	**Zahedan**	**3.19**	**61**	*e*Pn	**Pn**	**19 49 31.0**	**-2.2**
ASHO	**Ashiyiah**	**3.66**	**202**	⇓P	**Pn**	**19 49 40.1**	**+0.4**
	SNR=70						
IBAF	**Bafgh**	**3.90**	**334**	*e*Pn	**Pn**	**19 49 45.5**	**+2.5**
IBAF				*e*Pn	**Pn**	**19 49 45.7**	**+2.7**
IBAF				*e*Pn	**Pn**	**19 49 45.8**	**+2.8**
IBAF				*e*Sn	**Sn**	**19 50 38.4**	**+11**
IBAF				*e*Sn	**Sn**	**19 50 38.8**	**+11**
IBAF	**Bafgh**	**3.90**	**334**	Pn	**Pn**	**19 49 45.7**	**+2.7**
GHIR	**Ghir-Karzin**	**4.06**	**274**	*e*Pn	**Pn**	**19 49 46.2**	**+1.0**
GHIR	**Ghir-Karzin**	**4.06**	**274**	*e*Pn	**Pn**	**19 49 46.0**	**+0.8**
IMEH	**Mehriz**	**4.17**	**323**	*e*Pn	**Pn**	**19 49 49.8**	**+3.0**
HOQ	**Hoqain**	**4.50**	**183**	⇓P	**Pn**	**19 49 48.8**	**-2.5**
	SNR=43						
BIDO	**Bidbid**	**4.58**	**174**	⇓P	**Pn**	**19 49 50.4**	**-1.9**
	SNR=19						
ARQ	**Araqi**	**4.83**	**192**	⇑P	**Pn**	**19 49 56.7**	**+0.9**
	SNR=26						
ITEG		**4.89**	**12**	*e*Pn	**Pn**	**19 49 55.2**	**-1.4**
ICHK	**Chekchek**	**4.96**	**327**	*e*Pn	**Pn**	**19 50 00.9**	**+3.3**
ICHK				*e*Pn	**Pn**	**19 50 01.0**	**+3.4**
ICHK				*e*Pn	**Pn**	**19 50 01.1**	**+3.5**
ICHK				*e*Sn	**Sn**	**19 51 10.2**	**+16**
ICHK				*e*Sn	**Sn**	**19 51 11.1**	**+17**
IDAH		**5.03**	**23**	*e*Pn	**Pn**	**19 49 57.0**	**-1.6**
SMDO	**Samad**	**5.03**	**175**	⇑P	**Pn**	**19 49 57.4**	**-1.1**
	SNR=10						
BSY	**Bisya**	**5.34**	**184**	⇓P	**Pn**	**19 50 03.0**	**+0.2**
	SNR=74						
BSYO	**Bisya**	**5.35**	**183**	P	**Pn**	**19 50 03.0**	**+0.1**
	SNR=74						
JMDO	**Jabal Madar**	**5.72**	**175**	⇓P	**Pn**	**19 50 07.7**	**-0.3**
	SNR=8.2						
IGAR	**Garneh**	**6.23**	**313**	*e*Pn	**Pn**	**19 50 20.2**	**+5.2**
IGAR				*e*Pn	**Pn**	**19 50 20.5**	**+5.5**
IGAR				*e*Pn	**Pn**	**19 50 20.9**	**+5.9**
IGAR				*e*Sn	**Sn**	**19 51 23.3**	**-1.5**
IGAR				*e*Sn	**Sn**	**19 51 23.5**	**-1.3**
IZEF	**Zefreh**	**6.59**	**318**	*e*Pn	**Pn**	**19 50 22.4**	**+2.5**
IZEF				*e*Pn	**Pn**	**19 50 22.4**	**+2.5**
IZEF				*e*Pn	**Pn**	**19 50 22.5**	**+2.6**
IZEF				*e*Sn	Sn	19 52 00.8	+27
IZEF				*e*Sn	Sn	19 52 01.6	+28
IKLH	**Kalahroud**	**7.33**	**317**	*e*Pn	**Pn**	**19 50 32.3**	**+2.2**
IKLH				*e*Pn	**Pn**	**19 50 32.7**	**+2.6**
IKLH				*e*Pn	**Pn**	**19 50 33.5**	**+3.4**
IKLH				*e*Sn	**Sn**	**19 51 59.1**	**+7.1**
IKLH				*e*Sn	**Sn**	**19 52 00.8**	**+8.8**
IKLH	**Kalahroud**	**7.33**	**317**	Pn	**Pn**	**19 50 32.6**	**+2.5**
IPIR	**Pirpir**	**7.37**	**310**	*e*Pn	**Pn**	**19 50 32.6**	**+2.0**
IPIR				*e*Pn	**Pn**	**19 50 32.7**	**+2.1**
IPIR				*e*Pn	**Pn**	**19 50 32.8**	**+2.2**
IPIR				*e*Sn	**Sn**	**19 51 55.9**	**+3.1**
IPIR				*e*Sn	**Sn**	**19 51 56.8**	**+4.0**
IPIR	**Pirpir**	**7.37**	**310**	Pn	**Pn**	**19 50 32.7**	**+2.1**
IPIR				Sn	**Sn**	**19 51 56.7**	**+3.9**
IPIR	**Pirpir**	**7.37**	**310**	*e*Pn	**Pn**	**19 50 32.8**	**+2.2**
ILAS	**Lasjerd**	**8.26**	**333**	*e*Pn	**Pn**	**19 50 41.7**	**-1.1**
ILAS				*e*Pn	**Pn**	**19 50 43.3**	**+0.5**
ILAS				*e*Pn	**Pn**	**19 50 44.8**	**+2.0**
ILAS	**Lasjerd**	**8.26**	**333**	Pn	**Pn**	**19 50 44.7**	**+1.9**
ILAS	**Lasjerd**	**8.26**	**333**	*e*Pn	**Pn**	**19 50 44.8**	**+2.0**
IMYA	**Miamay**	**8.49**	**14**	*e*Pn	**Pn**	**19 50 47.8**	**+1.8**
IMYA				*e*Pn	**Pn**	**19 50 48.5**	**+2.5**
IMYA				*e*Pn	**Pn**	**19 50 48.8**	**+2.8**
IMYA				*e*Sn	Sn	19 52 58.7	+38
IMYA				*e*Sn	Sn	19 52 59.5	+39
IMYA	**Miamay**	**8.49**	**14**	Pn	**Pn**	**19 50 48.7**	**+2.7**
QRN	**Al-Qurain**	**8.53**	**277**	*e*P	**Pn**	**19 50 45.5**	**-1.0**
QRN				*e*S	**Sn**	**19 52 02.5**	**-19**
QRN				AML	AML	19 52 06.0	
	comp=Z,20nm,0.3s						
IFIR	**Firoozkooh**	**8.57**	**333**	*e*Pn	**Pn**	**19 50 49.0**	**+2.0**
IFIR				*e*Pn	**Pn**	**19 50 49.1**	**+2.1**
IFIR				*e*Pn	**Pn**	**19 50 49.3**	**+2.3**
IFIR	**Firoozkooh**	**8.57**	**333**	Pn	**Pn**	**19 50 48.9**	**+1.9**
IFIR	**Firoozkooh**	**8.57**	**333**	*e*Pn	**Pn**	**19 50 49.3**	**+2.3**
KBD	**Kabd**	**8.75**	**279**	*e*P	**Pn**	**19 50 49.0**	**-0.6**
UMR	**Umm Al-Rimmam**	**8.77**	**282**	*e*P	**Pn**	**19 50 49.4**	**-0.4**
UMR				*e*S	**Sn**	**19 52 08.1**	**-19**
UMR				AML	AML	19 52 13.5	
	comp=Z,21nm,0.6s						
RDF	**Al-Radifah**	**8.86**	**278**	*e*P	**Pn**	**19 50 50.2**	**-0.8**
RDF				*e*S	**Sn**	**19 52 11.0**	**-19**
RDF				AML	AML	19 52 17.2	
	comp=Z,14nm,0.4s						
ASAO	**Ashtian**	**9.11**	**317**	*e*Pn	**Pn**	**19 50 53.8**	**-0.7**
MIB	**Mutribah**	**9.13**	**283**	*e*P	**Pn**	**19 50 54.2**	**-0.5**
MIB				*e*S	**Sn**	**19 52 16.9**	**-19**
MIB				AML	AML	19 52 22.4	
	comp=Z,31nm,0.6s						
NAY	**Al-Naaiem**	**9.15**	**280**	*e*P	**Pn**	**19 50 54.4**	**-0.6**
NAY				*e*S	**Sn**	**19 52 17.2**	**-19**
NAY				AML	AML	19 52 19.3	
	comp=Z,5.6nm,0.4s						
IPRN	**Paran-Amol**	**9.29**	**332**	*e*Pn	**Pn**	**19 50 59.5**	**+2.5**
IPRN				*e*Pn	**Pn**	**19 51 01.7**	**+4.7**
IPRN				*e*Pn	**Pn**	**19 51 05.1**	**+8.1**
IPRN				*e*Sn	**Sn**	**19 52 22.8**	**-17**
IPRN				*e*Sn	**Sn**	**19 52 23.6**	**-17**
HAKT	**HAKKARI**	**14.99**	**313**	*i* P	**Pn**	**19 52 13.8**	**-0.6**
HAJJ	**Hajjah**	**17.88**	**229**	⇓*e*P	**Pn**	**19 52 47.3**	**-3.5**
ASF	**Jabal al Asfar**	**18.34**	**288**	P	**Pn**	**19 52 54.7**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=339,slow=11,SNR=9.5						
ASF				S	**S**	**19 56 12.2**	**-11**
	comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=2.7						
ASF				LR	LR	20 01 38.1	
	comp=Z,101nm,18.5s,baz=342,slow=42						
ASF	**Jabal al Asfar**	**18.34**	**288**	P	**Pn**	**19 52 54.7**	**-1.7**
ASF				S	**S**	**19 56 12.2**	**-11**
GZT	**Gaziantep**	**19.18**	**304**	*i* P	**Pn**	**19 53 05.9**	**-0.6**
MMAI	**Mount Meron Ar**	**19.71**	**290**	P	**Pn**	**19 53 12.0**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=93,slow=14,SNR=8.2						
MMAI				LR	LR	20 02 32.6	
	comp=Z,84nm,18.5s,baz=20,slow=42						
KIV	**Kislovodsk**	**19.84**	**327**	*e*P	**Pn**	**19 53 15.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,12nm,0.8s						
KIV	**Kislovodsk**	**19.84**	**327**	*e*P	**Pn**	**19 53 14.7**	**+0.3**
	comp=Z,12nm,0.6s						
KIV	**Kislovodsk**	**19.84**	**327**	*e*P	**Pn**	**19 53 14.6**	**+0.3**
	comp=Z,12nm,0.6s						
EIL	**Elat**	**19.88**	**280**	*e*P	**Pn**	**19 53 13.1**	**-1.7**
	comp=Z,162nm,0.8s						
EIL	**Elat**	**19.88**	**280**	*e*P	**Pn**	**19 53 13.1**	**-1.7**
	comp=Z,162nm,0.8s						
AAK	**Ala-Archa**	**19.96**	**39**	⇓*e*P	**Pn**	**19 53 13.1**	**-2.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	**Ala-Archa**	**19.96**	**39**	*e*P	**Pn**	**19 53 12.2**	**-3.6**
	comp=Z,6.8nm,0.8s						
AAK	**Ala-Archa**	**19.96**	**39**	*e*P	**Pn**	**19 53 13.1**	**-2.7**
	comp=Z,2.0nm,0.7s						
ATD	**Arta Tunnel**	**21.49**	**223**	P	**P**	**19 53 32.0**	**+1.7**
	comp=Z,2.7nm,0.3s,mb4.0,baz=36,slow=10,SNR=3.8						
ATD				LR	LR	20 02 31.4	
	comp=Z,29nm,21.3s,MS2.6,baz=20,slow=38						
AVNT	**Avonos**	**21.70**	**305**	*i* P	**P**	**19 53 33.2**	**+0.7**
AKTK	**Aktyubinsk**	**22.31**	**1**	P	**P**	**19 53 39.8**	**+0.8**
AKTO	**Aktyubinsk**	**22.31**	**1**	P	**P**	**19 53 39.8**	**+0.8**
	comp=Z,17nm,1.1s,mb4.4,baz=174,slow=10.0,SNR=26						
BR131	**Keskin Array S**	**22.93**	**307**	*e*P	**P**	**19 53 45.7**	**+0.1**
	comp=Z,12nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**22.93**	**307**	P	**P**	**19 53 45.6**	**0.0**
	comp=Z,10nm,0.8s,mb4.3,baz=109,slow=11,SNR=41						
KOLN	**Koldanda**	**22.98**	**85**	*e*P	**P**	**19 53 44.8**	**-1.3**
	comp=Z,18nm,1.0s,mb4.5						
ORR	**Orenburg**	**23.59**	**356**	*e*P	**P**	**19 53 54.2**	**+2.1**
ORR				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
GKN	**Gorkha**	**23.87**	**84**	*e*P	**P**	**19 53 54.5**	**-0.1**
KKN	**Kakani**	**24.46**	**84**	*e*P	**P**	**19 54 00.9**	**+0.9**
	comp=Z,12nm,0.5s,mb4.6						
KKN	**Kakani**	**24.46**	**84**	*e*P	**P**	**19 54 00.9**	**+0.9**
KKN				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.6						
PKI	**Pulchoki**	**24.60**	**85**	*e*P	**P**	**19 54 01.3**	**0.0**
	comp=Z,22nm,0.7s,mb4.8						
PKI	**Pulchoki**	**24.60**	**85**	*e*P	**P**	**19 54 01.3**	**0.0**
PKI				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.8						
TKTP	**Tekketepe**	**24.83**	**301**	*i* P	**P**	**19 53 60.0**	**-3.4**
ESKT	**Eskisehir**	**24.87**	**304**	*i* P	**P**	**19 54 03.7**	**-0.1**
SEYT	**Eskypehyr**	**24.87**	**304**	*i* P	**P**	**19 54 03.7**	**0.0**
GUN	**Gumba**	**24.97**	**84**	*e*P	**P**	**19 54 05.8**	**+1.2**
	comp=Z,60nm,0.9s,mb5.1						
JIRN	**Jiri**	**25.27**	**84**	*e*P	**P**	**19 54 08.3**	**+0.9**
	comp=Z,12nm,0.5s,mb4.7						
ULDT	**Uludag**	**26.32**	**305**	*i* P	**P**	**19 54 14.1**	**-2.8**
BVAR	**Borovoye Array**	**26.65**	**17**	P	**P**	**19 54 19.4**	**-0.5**
	comp=Z,7.3nm,0.9s,mb4.2,baz=201,slow=7.9,SNR=20						
BVAR				PcP	PcP	19 57 42.1	-0.6
	comp=Z,0.5nm,0.4s,baz=210,slow=2.8,SNR=4.7						
BVAR				LR	LR	20 05 57.7	
	comp=Z,52nm,18.3s,MS3.1,baz=228,slow=39						
BVAR	**Borovoye Array**	**26.65**	**17**	P	**P**	**19 54 19.4**	**-0.5**
BVAR						19 57 42.1	
BRVK	**Borovoye**	**26.66**	**17**	*e*P	**P**	**19 54 19.1**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.4						
BRVK	**Borovoye**	**26.66**	**17**	*e*P	**P**	**19 54 19.1**	**-0.8**
	comp=Z,18nm,1.4s,mb4.4						
MKAR	**Makanchi Array**	**26.90**	**39**	P	**P**	**19 54 21.2**	**-0.9**
	comp=Z,3.4nm,0.8s,mb3.9,baz=227,slow=8.0,SNR=15						
KURK	**Kurchatov**	**27.65**	**29**	*i* P	**P**	**19 54 28.3**	**-0.5**
IDI	**Anoyia**	**28.63**	**293**	P	**P**	**19 54 38.1**	**+0.5**
	comp=Z,5.8nm,0.6s,mb4.5,baz=263,slow=8.1,SNR=6.6						
OBN	**Obninsk**	**30.99**	**336**	*e*P	**P**	**19 54 59.0**	**+0.6**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.6						
AKASG	**Malin Array Be**	**31.13**	**324**	P	**P**	**19 54 57.2**	**-2.5**
	comp=Z,1.1nm,0.6s,mb3.9,baz=129,slow=8.5,SNR=9.4						
NVS	**Novosibirsk**	**32.56**	**28**	*i* P	**P**	**19 55 13.9**	**+1

comp=Z,2.0nm,0.7s,mb4.0
HAU Haudompre 44.06 311 *e*P **P 19 56 49.3 +0.5**
VIVF Saint-Julien-I 44.90 307 *e*P **P 19 56 56.0 +0.5**
comp=Z,8.3nm,1.0s,mb4.2
VIVF Saint-Julien-I 44.90 307 *e*P **P 19 56 56.0 +0.5**
VIVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
VIVF Saint-Julien-I 44.90 307 *e*P **P 19 56 56.0 +0.5**
comp=Z,4.2nm,1.0s,mb4.2
NB2 NORSAR Subarra 45.09 330 P **P 19 56 55.6 -1.4**
comp=Z,1.8nm,0.6s,mb4.1,baz=114,slow=7.9
NOA NORSAR Array B 45.09 330 P **P 19 56 56.1 -0.9**
comp=Z,2.1nm,0.6s,mb4.1,baz=115,slow=7.8,SNR=14
KEV Kevo 45.26 346 *e*p **P 19 56 56.5 -1.8**
GIVF Givet 45.35 314 *e*P **P 19 56 59.8 +0.7**
ARCES ARCESS Array B 45.42 345 P **P 19 56 58.5 -1.2**
comp=Z,3.6nm,0.8s,mb4.3,baz=133,slow=7.1,SNR=8.7
LASF Ste Croix 45.45 305 *e*P **P 19 57 00.5 +0.6**
comp=Z,16nm,1.1s,mb4.5
LASF Ste Croix 45.45 305 *e*P **P 19 57 00.5 +0.6**
comp=Z,7.8nm,1.1s,mb4.5
SMF Signal de Mont 45.61 309 *e*P **P 19 57 01.3 +0.2**
comp=Z,25nm,1.2s,mb4.7
SMF Signal de Mont 45.61 309 *e*P **P 19 57 01.3 +0.2**
SMF pmax pmax
comp=Z,12nm,1.2s,mb4.7
SMF Signal de Mont 45.61 309 *e*P **P 19 57 01.3 +0.2**
comp=Z,12nm,1.2s,mb4.7
LOR Lormes 45.65 310 *e*P **P 19 57 01.6 +0.2**
comp=Z,7.8nm,0.8s,mb4.4
LOR Lormes 45.65 310 *e*P **P 19 57 01.6 +0.2**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LOR Lormes 45.65 310 *e*P **P 19 57 01.6 +0.2**
comp=Z,3.9nm,0.8s,mb4.4
BAIF Baives 45.74 314 *e*P **P 19 57 02.6 +0.4**
SSF Saint Saulge 45.87 310 *e*P **P 19 57 03.6 +0.4**
comp=Z,5.6nm,0.7s,mb4.3
SSF Saint Saulge 45.87 310 *e*P **P 19 57 03.6 +0.4**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SSF Saint Saulge 45.87 310 *e*P **P 19 57 03.6 +0.4**
comp=Z,2.8nm,0.7s,mb4.3
BGF Bois d'Agland 46.29 309 *e*P **P 19 57 06.9 +0.4**
MTLF Montolieu 46.63 304 *e*P **P 19 57 09.3 +0.2**
comp=Z,24nm,1.3s,mb4.7
MTLF Montolieu 46.63 304 *e*P **P 19 57 09.3 +0.2**
MTLF pmax pmax
comp=Z,12nm,1.3s,mb4.7
MTLF Montolieu 46.63 304 *e*P **P 19 57 09.3 +0.2**
comp=Z,12nm,1.3s,mb4.7
TCF Toulx Ste Croi 46.71 308 *e*P **P 19 57 10.4 +0.6**
comp=Z,12nm,1.0s,mb4.5
TCF Toulx Ste Croi 46.71 308 *e*P **P 19 57 10.4 +0.6**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 46.71 308 *e*P **P 19 57 10.4 +0.6**
comp=Z,5.9nm,1.0s,mb4.5
CAF Calviac 46.76 307 *e*P **P 19 57 10.3 +0.1**
RJF Les Rejaudoux 47.16 307 *e*P **P 19 57 13.9 +0.6**
comp=Z,9.7nm,0.8s,mb4.5
RJF Les Rejaudoux 47.16 307 *e*P **P 19 57 13.9 +0.6**
RJF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RJF Les Rejaudoux 47.16 307 *e*P **P 19 57 13.9 +0.6**
comp=Z,4.8nm,0.8s,mb4.5
LFF La Frestale 47.70 306 *e*P **P 19 57 17.4 -0.1**
comp=Z,13nm,0.7s,mb4.8
LFF La Frestale 47.70 306 *e*P **P 19 57 17.4 -0.1**
LFF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LFF La Frestale 47.70 306 *e*P **P 19 57 17.4 -0.1**
comp=Z,6.3nm,0.7s,mb4.8
LDF La Druitiere 48.41 311 *e*P **P 19 57 21.8 -1.2**
FLN La Foliniere 48.66 312 *e*P **P 19 57 23.8 -1.1**
BOD Bodaibo 48.91 36 *e*P **P 19 57 23.5 -3.3**
BOD pmax pmax
comp=Z,14nm,1.0s,mb5.0
SJPF Ste Jean 49.15 304 *e*P **P 19 57 29.1 +0.5**
comp=Z,25nm,1.2s,mb4.8
SJPF Ste Jean 49.15 304 *e*P **P 19 57 29.1 +0.5**
SJPF pmax pmax
comp=Z,13nm,1.2s,mb4.8
SJPF Ste Jean 49.15 304 *e*P **P 19 57 29.1 +0.5**
comp=Z,13nm,1.2s,mb4.8
EKA Eskdalemuir Ar 50.86 320 P **P 19 57 40.6 -1.0**
comp=Z,1.4nm,0.5s,mb4.1,baz=102,slow=7.2,SNR=7.7
ESDC Sonseca Array 51.48 300 P **P 19 57 46.1 -0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=68,slow=7.3,SNR=9.5
TOA0 Torodi Ar. Sit 53.94 266 *e*P **P 19 58 04.2 -0.2**
TORD Torodi Ar. Bea 53.94 266 P **P 19 58 04.5 +0.1**
comp=Z,7.8nm,0.6s,mb4.8,baz=63,slow=7.2,SNR=106
TORD LR LR 20 20 43.0
comp=Z,42nm,18.8s,MS3.5,baz=340,slow=36
KSRS Korea Array 58.66 61 P **P 19 58 36.3 -1.7**
comp=Z,1.6nm,0.9s,mb4.1,baz=275,slow=6.7,SNR=3.4
LIC Lamto 62.96 262 *e*P **P 19 59 08.2 +0.9**
BOSA Boshof 64.33 211 P **P 19 59 16.6 +0.3**
comp=Z,2.1nm,0.5s,mb4.4,baz=23,slow=8.7,SNR=10.0
KAKA Kakadu 82.95 108 *e*P **P 20 01 06.1 +0.6**
comp=Z,13nm,0.8s,mb5.0
WRA Warramunga Arr 88.19 114 P **P 20 01 32.4 +0.9**
comp=Z,3.7nm,0.6s,mb4.8,baz=318,slow=4.0,SNR=56
WB2 Warramunga Arr 88.20 114 *e*P **P 20 01 32.2 +0.6**
YKA Yellowknife Ar 89.51 356 P **P 20 01 36.4 -1.3**
comp=Z,0.2nm,0.4s,mb3.8,baz=6.3,slow=5.5,SNR=5.4
ASAR Alice Springs 89.74 117 P **P 20 01 39.4 +0.5**
comp=Z,1.2nm,1.0s,mb4.2,baz=304,slow=4.8,SNR=6.9

CASC 28 19:51:43.3±2.7, 1159N×8727W, h36km±999km, MD3.5, ML3.4, 7C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.89**	**49⇑**	*e*P	Pn	19 51 59.6	+0.3
COPN				*e*S	Sn	19 52 11.1	+0.2
MIRN	**Miramar**	**1.01**	**33⇑**	*e*P	Pn	19 52 01.3	+0.4
MIRN				*e*S	Sn	19 52 14.7	+0.9
MOMJ	**Momotombo**	**1.08**	**41⇑**	*e*P	Pn	19 52 02.3	+0.3
MOMJ				*e*S	Sn	19 52 16.2	+0.5
TICN	**Ticuantepe**	**1.11**	**66⇑**	*e*P	Pn	19 52 02.9	+0.6
TICN				*e*S	Sn	19 52 17.7	+1.3
MGAN	**Managua**	**1.15**	**61⇓**	*e*P	Pn	19 52 03.3	+0.5
MGAN				*e*S	Sn	19 52 17.3	0.0
MGAN				*i*		19 52 18.0	
	comp=N,713nm,0.5s						
APON	**Apoyo**	**1.22**	**74⇓**	*e*P	Pn	19 52 04.1	+0.2
CONN	**Concepcion**	**1.61**	**91⇓**	*e*P	Pn	19 52 09.3	+0.1
CONN				*e*S	Sn	19 52 28.6	-0.2
BLLM	**Bellamira**	**2.07**	**333⇑**	*e*P	x	19 52 17.6	
VSM	**San Miguel**	**2.07**	**332⇓**	*e*	Pn	19 52 17.2	+1.6
VSM				⇓*e*P	x	19 52 17.2	
SNVI	**San Vicente**	**2.53**	**323⇓**	*e*P	x	19 52 22.9	
LCBS	**La Ceiba**	**2.64**	**321⇓**	*e*P	x	19 52 21.3	
LFRS	**El Faro**	**2.67**	**319⇑**	*e*P	x	19 52 22.5	
LBRS	**Las Brisas**	**2.75**	**321⇓**	*e*P	x	19 52 22.8	
BOQS	**Boqueron**	**2.90**	**318**	*e*P	x	19 52 27.5	
SBLS	**San Blas**	**3.20**	**315**	*e*P	x	19 52 33.3	
RBDL	**Robledal**	**3.44**	**317⇑**	*e*P	x	19 52 35.3	

ISCJB ***28*** *19:52:43.6±0.8, 532N±02×354W±02, h10km, mb3.8/12, MS3.1/4, Error ellipse: s-maj=25.5km s-min=12.0km az=28.9*
IDC ***28*** *19:52:43.8±1.0, 5319N×3540W, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/25, mbtmp3.7/11, ML2.5/1, MS3.2/4, Ms1 3.3/4, ms1mx2.9/27, Error ellipse: s-maj=34.3km s-min=16.9km az=20.0*
CSEM ***28*** *19:52:45.3, 5318N×3543W, h10km, mb4.0/1, After NEIC*
NEIC ***28*** *19:52:45.3±0.6, 5318N×3543W, h10km, mb4.0/1, Error ellipse: s-maj=21.0km s-min=10.4km az=193.0*

ISC 28 19:52:45.3±0.8, 532N±02×354W±02, h10km, n24, σ0§74/17, mb3.8/12, MS3.1/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.46**	**288**	P	**Pn**	**19 57 01.3**	**+0.1**
	0.2nm,0.3s,baz=107,slow=5.5,SNR=3.9						
SCHQ	**Schefferville**	**18.46**	**288**	P	**Pn**	**19 57 01.3**	**+0.1**
JMIC	**Jan Mayen**	**21.45**	**24**	LR	LR	20 03 28.8	
	comp=Z,121nm,18.3s,MS3.3,baz=298,slow=30						
NOA	**NORSAR Array B**	**25.96**	**54**	LR	LR	20 06 45.6	
	comp=Z,47nm,18.1s,MS3.1,baz=280,slow=32						
FINES	**FINESS Array B**	**32.98**	**51**	LR	LR	20 11 38.2	
	comp=Z,50nm,20.0s,MS3.2,baz=204,slow=34						
KEST	**Kesra**	**35.70**	**101**	P	**P**	**19 59 42.7**	**-1.1**
	0.6nm,0.8s,mb3.6,baz=29,slow=3.5,SNR=3.3						
KEST				LR	LR	20 12 08.7	
	comp=Z,19nm,18.4s,MS2.9,baz=207,slow=33						
YKA	**Yellowknife Ar**	**40.53**	**315**	P	**P**	**20 00 24.9**	**+0.3**
	0.2nm,0.8s,mb2.8,baz=60,slow=9.3,SNR=3.6						
YKA				PcP	PcP	20 02 25.8	-1.1
	0.4nm,0.9s,baz=61,slow=3.1,SNR=4.7						
YKA	**Yellowknife Ar**	**40.53**	**315**	PcP	PcP	20 02 25.8	-1.1
INK	**Inuvik**	**44.74**	**328**	P	**P**	**20 00 57.8**	**-0.9**
	1.0nm,0.9s,mb3.7,baz=51,slow=4.6,SNR=4.1						
BRTR	**Keskin Array B**	**47.58**	**77**	P	**P**	**20 01 22.5**	**+1.4**
	0.7nm,0.7s,mb3.8,baz=320,slow=8.0,SNR=3.0						
PDAR	**Pinedale Array**	**48.59**	**289**	P	**P**	**20 01 29.1**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=60,slow=7.2,SNR=5.6						
PDAR	**Pinedale Array**	**48.59**	**289**	P	**P**	**20 01 29.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**49.63**	**130**	P	**P**	**20 01 36.0**	**-0.8**
	0.7nm,0.7s,mb3.8,baz=326,slow=7.7,SNR=4.4						
AKTK	**Aktyubinsk**	**53.73**	**52**	P	**P**	**20 02 07.3**	**-0.2**
AKTO	**Aktyubinsk**	**53.73**	**52**	P	**P**	**20 02 07.3**	**-0.2**
	0.5nm,0.6s,mb3.6,baz=332,slow=5.2,SNR=3.5						
BRVK	**Borovoye**	**57.38**	**44**	*e*P	**P**	**20 02 34.0**	**+0.2**
	1.2nm,0.8s,mb4.0						
BRVK	**Borovoye**	**57.38**	**44**	*e*P	**P**	**20 02 34.0**	**+0.3**
	1.2nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**57.44**	**44**	P	**P**	**20 02 34.3**	**+0.1**
	1.1nm,0.7s,mb4.0,baz=306,slow=6.6,SNR=9.0						
MKAR	**Makanchi Array**	**67.12**	**41**	P	**P**	**20 03 38.9**	**-0.2**
	1.3nm,0.8s,mb4.0,baz=316,slow=5.1,SNR=6.0						
SONM	**Songino Array**	**74.20**	**26**	P	**P**	**20 04 21.9**	**-0.3**
	1.3nm,1.1s,mb3.8,baz=328,slow=4.6,SNR=5.4						
KMBO	**Kilima Mbogo**	**80.58**	**105**	P	**P**	**20 04 59.5**	**+1.6**
	6.4nm,0.4s,mb4.9,baz=44,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**145.83**	**17**	PKPbc	PKPbc	20 12 24.1	-0.6
	0.8nm,0.7s,baz=340,slow=3.6,SNR=11						
ASAR	**Alice Springs**	**149.38**	**20**	PKPbc	PKPbc	20 12 33.9	-0.6
	1.0nm,0.6s,baz=349,slow=2.3,SNR=20						
ASAR	**Alice Springs**	**149.38**	**20**	PKPbc	PKPbc	20 12 33.8	-0.6

JMA 28 19:57:42.4±0.4, 2684N×13187E, h54km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.17**	**210**	P	Pn	19 58 02.8	+0.3
JZK	**Kikaishima**	**2.23**	**312**	P	Pn	19 58 17.6	+0.6
JAM	**Amami Oshima**	**2.55**	**308**	P	Pn	19 58 22.8	+1.6
JAM				*e*S	Sn	19 58 52.4	+1.4
JTK	**Tokunoshima**	**2.76**	**291**	P	Pn	19 58 25.6	+1.4
JTK				*e*S	Sn	19 58 58.5	+2.2
JOW	**Kunigami**	**3.21**	**271**	P	Pn	19 58 31.1	+0.8
JOW				*e*S	Sn	19 59 07.8	+0.4
JIH	**Iheya**	**3.49**	**274**	*e*S	Sn	19 59 15.8	+1.6
JJT2	**Tamagusuku 2**	**3.76**	**260**	P	Pn	19 58 39.5	+1.7

KRSC 28 20:06:33.0±1.0, 5078N×15794E, h10km±10km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**1.52**	**274**	P	Pn	20 06 58.8	-1.4
MIPR	**Malaya Ipel'ka**	**1.67**	**334**	*e*P	Pn	20 07 03.4	+1.1
MIPR				*i* S	Sn	20 07 25.5	+1.7
RUS	**Russkaya**	**1.69**	**12**	*e*P	Pn	20 07 02.2	-0.4
RUS				*e*S	Sn	20 07 23.6	-0.7
GRL	**Gorelyy**	**1.78**	**3**	*e*P	Pn	20 07 04.3	+0.5
GRL				*i* S	Sn	20 07 26.9	+0.5
PET	**Petropavlovsk**	**2.29**	**11**	P	Pn	20 07 11.5	+0.7
PET				*i* S	Sn	20 07 39.3	+0.2
AVH	**Avacha**	**2.54**	**11**	*e*P	Pn	20 07 16.6	+2.4
AVH				*i* S	Sn	20 07 48.6	+3.4
NLC	**Nalytchevo**	**2.55**	**19**	P	Pn	20 07 15.5	+1.1
NLC				*i* S	Sn	20 07 46.8	+1.4
SPN	**Mys Shipunski**	**2.66**	**28**	P	Pn	20 07 17.1	+1.3
SPN				*i* S	Sn	20 07 49.7	+1.6
GNL	**Ganaly**	**2.92**	**0**	*e*P	Pn	20 07 21.0	+1.5

MAN 28 20:09:35.8, 864N×12752E, h91km, mb3.6, ML4.7, MS5.7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.10**	**217**	*e*P	Pn	20 10 10.0	+0.7
MATI				*e*S	Sn	20 10 32.6	-2.3
SCPH	**Surigao**	**2.30**	**300**	*e*P	Pn	20 10 12.3	+0.3
SCPH				*e*S	Sn	20 10 34.4	-5.2
BUKP	**Musuan**	**2.54**	**253**	*e*P	Pn	20 10 16.3	+1.1
BUKP				*e*S	Sn	20 10 46.4	+0.9
CGP	**Cagayan de Oro**	**2.80**	**266⇑**	*e*P	Pn	20 10 19.4	+0.8
CGP				*e*S	Sn	20 10 49.9	-1.6
MSLP	**Maasin**	**3.01**	**300**	*e*P	Pn	20 10 24.0	+2.5
MSLP				*e*S	Sn	20 11 08.1	+11

ISCJB ***28*** *20:44:14.1±0.7, 4301N±004×153W±004, h12km±5km, Error ellipse: s-maj=7.3km s-min=4.8km az=123.0*
LDG ***28*** *20:44:14.7±0.1, 4302N×156W, h2km, Md2.2/2, Ml2.1/1, Error ellipse: s-maj=2.1km s-min=1.6km az=63.0*
MDD ***28*** *20:44:15.7±0.1, 4302N×151W, h0km, mbLg1.4/10, Error ellipse: s-maj=1.9km s-min=1.0km az=107.0, PRXIMO*
STR ***28*** *20:44:15.1±0.5, 4354N×123W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 20:44:14.7±0.7, 4303N±004×153W±005, h12km±6km, n22, σ0§36/31, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUSE	**Utxeti**	**0.08**	**190**	⇓Pg	**Pg**	**20 44 17.0**	**-0.2**
	95nm,0.2s,SNR=18						
IUSE				Lg		20 44 18.2	
	169nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.20**	**5**	Pg	**Pg**	**20 44 19.5**	**+0.5**
	51nm,0.3s,SNR=58						
EALK				Lg		20 44 22.3	
	18nm,0.4s,SNR=5.7						
SJPF	**Ste Jean**	**0.24**	**68**	*e*Pg	**Pg**	**20 44 19.7**	**0.0**
SJPF				*e*Sg	**Sg**	**20 44 22.3**	**-0.8**
	30nm,0.2s						
SJPF	**Ste Jean**	**0.24**	**68**	Pg	**Pg**	**20 44 19.7**	**0.0**
SJPF				Lg		20 44 22.3	
	15nm,0.2s						
IPRE	**Itoiz**	**0.25**	**150**	Pg	**Pg**	**20 44 19.8**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
IPRE				Lg		20 44 23.8	
	13nm,0.3s,SNR=8.9						
EARA	**Aranguren**	**0.26**	**188**	Pg	**Pg**	**20 44 20.4**	**+0.4**
	15nm,0.4s,SNR=14						
EARA				Lg		20 44 23.9	
	16nm,0.4s,SNR=11						
OSSF	**Osses**	**0.30**	**40**	Pg	**Pg**	**20 44 20.8**	**0.0**
OSSF				Sg	**Sg**	**20 44 25.3**	**+0.4**
OSSF	**Osses**	**0.30**	**40**	P	**Pg**	**20 44 20.9**	**+0.1**
OSSF				S	**Sg**	**20 44 24.5**	**-0.5**
LARF	**Larrau**	**0.40**	**88**	P	**Pg**	**20 44 22.6**	**0.0**
LARF				S	**Sg**	**20 44 27.9**	**0.0**
ORDF	**Ordiarp**	**0.47**	**66**	P	**Pg**	**20 44 24.1**	**+0.2**
ORDF				S	**Sg**	**20 44 30.3**	**0.0**
ATE	**Arette**	**0.61**	**84**	Pg	**Pg**	**20 44 26.6**	**+0.1**
ATE				Sg	**Sg**	**20 44 34.7**	**+0.1**
ATE	**Arette**	**0.61**	**84**	P	**Pg**	**20 44 26.6**	**+0.1**
ATE				S	**Sg**	**20 44 34.6**	**0.0**
ETSF	**Etsaut**	**0.72**	**100**	*e*Pg	**Pg**	**20 44 28.2**	**-0.5**
ETSF	**Etsaut**	**0.72**	**100**	*e*Pn	**Pn**	**20 44 30.8**	**+0.1**
ETSF				*e*Sg	**Sg**	**20 44 38.5**	**+0.3**
	6.4nm,0.3s						
ETSF	**Etsaut**	**0.72**	**100**	Pg	**Pg**	**20 44 28.2**	**-0.5**
ETSF				Lg		20 44 38.5	
	3.2nm,0.3s						
EBIE	**Bielsa**	**1.27**	**105**	Pg	**Pg**	**20 44 40.2**	**+1.1**
	1.4nm,0.3s,SNR=6.6						
EBIE				Lg		20 44 57.1	
	3.3nm,0.2s,SNR=11						
EPF	**Esparros**	**1.37**	**89**	*e*Pg	**Pg**	**20 44 40.7**	**-0.3**
EPF				*e*Sg	**Sg**	**20 44 58.8**	**0.0**
	2.4nm,0.2s						
EPF	**Esparros**	**1.37**	**89**	Pg	**Pg**	**20 44 40.7**	**-0.3**
EPF				Lg		20 44 58.8	
	1.2nm,0.2s						
ELAN	**Lanestosa**	**1.41**	**279**	Pg	**Pg**	**20 44 41.6**	**-0.1**
	0.6nm,0.3s,SNR=7.9						
ELAN				Lg		20 45 00.4	
	0.4nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.52**	**149**	Pg	**Pg**	**20 44 43.7**	**-0.2**
	3.2nm,0.2s,SNR=7.9						
ESAC				Lg		20 45 04.7	
	2.5nm,0.3s,SNR=4.9						
ETOR	**Torete**	**2.24**	**190**	Pg	**Pg**	**20 44 57.3**	**-0.3**
	1.4nm,0.2s,SNR=4.0						
ETOR				Lg		20 45 26.2	
	3.7nm,0.2s,SNR=4.8						
MTLF	**Montolieu**	**2.76**	**82**	*e*Pn	**Pn**	**20 44 58.3**	**-0.4**

IDC ***28*** *20:48:09.7±0.8, 4700N×15578E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, ML3.5/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/28, Error ellipse: s-maj=22.3km s-min=15.9km az=157.0*
BJI ***28*** *20:48:10.1, 4756N×15594E, h13km, mB4.8, mb4.5*
NEIC ***28*** *20:48:11.4±0.6, 4708N×15575E, h10km, mb4.7/10, Error ellipse: s-maj=14.7km s-min=10.7km az=156.0*
ISCJB ***28*** *20:48:13.1±0.6, 4708N±008×15586E±008, h35km, mb4.3/34, MS3.0/3, Error ellipse: s-maj=12.8km s-min=6.3km az=134.4*
MOS ***28*** *20:48:14.1±0.9, 4703N×15563E, h45km, mb4.6/12, Error ellipse: s-maj=14.3km s-min=9.9km az=111.8*

ISC 28 20:48:14.8±0.6, 4710N±008×15590E±008, h35km, n59, σ1§24/62, mb4.3/34, MS3.0/3, 2C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**5.89**	**254**	PN	**Pn**	**20 49 41.0**	**+1.5**
KUR				*e*S	**Sn**	**20 50 47.5**	**+1.8**
KUR				pmax	pmax		
	comp=Z,210nm,0.9s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
ASAJ	**Asahikawa**	**9.79**	**257**	Pn	**Pn**	**20 50 31.2**	**-1.9**
	comp=E,0.5nm,0.3s,baz=97,slow=16,SNR=3.2						
ASAJ				LR	LR	20 53 56.0	
	comp=E,48nm,19.7s,baz=50,slow=36						
ERM	**Erimo**	**10.42**	**245**	*i* PN	**Pn**	**20 50 40.4**	**-1.3**
HABR	**Khabarovsk**	**14.09**	**283**	*e*P	**Pn**	**20 51 29.7**	**-2.1**
HABR				S	**Sn**	**20 54 08.7**	**+1.9**
YAK	**Yakutsk**	**21.10**	**325**	*i* P	**P**	**20 52 55.9**	**-0.3**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.5						
YAK	**Yakutsk**	**21.10**	**325**	*e*P	**P**	**20 52 49.1**	**-7.1**
	comp=Z,23nm,0.8s,mb4.6						
CN2	**Changchun**	**21.55**	**272**	*e*P	**P**	**20 53 03.8**	**+2.7**
BILL	**Bilibino**	**21.66**	**11**	*d i*P	**P**	**20 53 03.1**	**+0.9**
BILL				*e*		20 53 30.0	
BILL				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.2						
BILL	**Bilibino**	**21.66**	**11**	*e*P	**P**	**20 53 01.4**	**-0.8**
	comp=Z,7.1nm,0.8s,mb4.2						
KSRS	**Korea Array**	**22.73**	**255**	P	**P**	**20 53 13.2**	**-0.5**
	comp=Z,3.0nm,0.8s,mb3.8,baz=58,slow=10,SNR=5.5						
KSRS				LR	LR	21 01 12.6	
	comp=Z,33nm,18.5s,MS2.8,baz=50,slow=35						
TIXI	**Tiksi**	**27.70**	**342**	*i* P	**P**	**20 53 59.2**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
SONM	**Songino Array**	**33.02**	**290**	P	**P**	**20 54 45.3**	**-1.4**
	comp=Z,1.1nm,0.9s,mb3.8,baz=50,slow=9.8,SNR=5.0						
SONM				LR	LR	21 08 50.0	
	comp=Z,32nm,21.9s,MS3.0,baz=191,slow=38						
SONM	**Songino Array**	**33.02**	**290**	P	**P**	**20 54 45.3**	**-1.4**
SONM				LR	LR	21 08 50.0	
COLA	**College**	**34.67**	**39**	*i* P	**P**	**20 55 02.1**	**+1.1**
KRAR	**Krasnoyarsk**	**38.90**	**307**	*i* P	**P**	**20 55 36.4**	**-0.6**
KRAR				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
INK	**Inuvik**	**40.33**	**33**	P	**P**	**20 55 49.5**	**+0.7**
	comp=Z,3.5nm,0.7s,mb4.2,baz=306,slow=7.7,SNR=12						
GTA	**Gaotai**	**40.80**	**280**	*e*P	**P**	**20 55 54.0**	**+1.3**
GTA				AP	pP	20 55 59.8	-3.2
GTA				XP	sP	20 56 02.5	-4.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
GYA	**Guiyang**	**43.66**	**260**	P	**P**	**20 56 15.5**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**43.97**	**306**	P	**P**	**20 56 18.1**	**-0.4**
	comp=Z,1.2nm,0.4s,mb4.0,baz=28,slow=7.4,SNR=7.0						
MK31	**Makanchi Array**	**48.47**	**298**	*e*P	**P**	**20 56 51.6**	**-2.3**
MKAR	**Makanchi Array**	**48.47**	**298**	P	**P**	**20 56 53.3**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.2,baz=70,slow=7.3,SNR=9.6						
MKAR				LR	LR	21 18 31.6	
	comp=Z,26nm,18.5s,MS3.2,baz=175,slow=38						
MKAR	**Makanchi Array**	**48.47**	**298**	*i* P	**P**	**20 56 55.0**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**48.75**	**304**	*e*P	**P**	**20 56 55.2**	**-0.9**
KURK				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
KURK	**Kurchatov**	**48.75**	**304**	*e*P	**P**	**20 56 55.1**	**-0.9**
	comp=Z,19nm,1.1s,mb5.0						
YKA	**Yellowknife Ar**	**49.49**	**38**	P	**P**	**20 57 02.2**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.2,baz=295,slow=7.2,SNR=18						
YKA	**Yellowknife Ar**	**49.49**	**38**	P	**P**	**20 57 02.2**	**+0.5**
BVAR	**Borovoye Array**	**52.10**	**310**	P	**P**	**20 57 21.2**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.5,baz=62,slow=7.9,SNR=24						
BRVK	**Borovoye**	**52.14**	**310**	*e*P	**P**	**20 57 20.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**52.14**	**310**	*e*P	**P**	**20 57 20.9**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**55.38**	**298⇑**	*e*P	**P**	**20 57 45.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**55.38**	**298**	*e*P	**P**	**20 57 44.9**	**-0.5**
	comp=Z,3.0nm,1.0s,mb4.3						

BRTR	Keskin Array B	79.42 318	P	P	21 00 19.0	+1.6
	comp=Z,0.6nm,0.8s,mb3.5,baz=124,slow=36,SNR=3.3					
CDF	Champ du Feu	81.03 339	*e*P	P	21 00 33.1	+7.1
GRR	Gorron	82.77 345	*e*P	P	21 00 41.8	+6.6
	comp=Z,86nm,1.5s					
SMF	Signal de Mont	83.48 341	*e*P	P	21 00 45.6	+6.7
	comp=Z,9.7nm,1.1s,mb4.5					
LPG	La Plagne	83.88 339	*e*P	P	21 00 47.9	+7.0
	comp=Z,2.5nm,0.6s,mb4.3					
CAF	Calviac	85.51 342	*e*P	P	21 00 55.2	+6.1
	comp=Z,24nm,1.4s,mb4.9					

*NEIC **28** 20:54:17.8, 4146N×2539E, h4km, MD3.1(ATH), ML2.6(THE), After ATH.*
*ATH **28** 20:54:17.8, 4146N×2539E, h4km, MD3.1/3*
*ISCJB **28** 20:54:18.4±0.9, 4142N±006×2543E±006, h18km±12km, Error ellipse: s-maj=11.5km s-min=6.0km az=47.7*
*CSEM **28** 20:54:18.5±0.2, 4147N×2548E, h20km, ML2.5, Error ellipse: s-maj=5.0km s-min=3.9km az=24.0*
*THE **28** 20:54:19.9, 4141N×2550E, h21km, ML2.5*

ISC 28 20:54:17.3±0.8, 4145N±005×2540E±006, h15km±11km, n10, σ1§02/14, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	Rodhopi	0.32	161	*e*PG	Pg	20 54 24.2	+0.2
RDO				*e*SG	Sg	20 54 29.0	+0.5
ALN	Alexandroupoli	0.74	138	*e*Pg	Pg	20 54 32.1	+0.4
ALN				*e*Sg	Sg	20 54 42.1	+0.7
PLD	Plovdiv	0.84	322	*e*Pg	Pg	20 54 35.6	+2.0
NVR	Nevrokopi	1.16	266	*e*PB	Pb	20 54 39.7	+0.6
NVR				*e*SB	Sb	20 54 55.0	+1.1
JMB	Yambol	1.35	41	*e*Pg	Pg	20 54 42.1	-1.1
SRS	Serrai	1.40	257	*e*Pg	Pg	20 54 43.1	-1.2
SRS				*e*Sg	Sg	20 55 02.7	+0.1
LOS	Limnos	1.53	189	*e*Pg	Pg	20 54 43.8	-3.1
SOH	Sokhos	1.67	249	*e*Pb	Pb	20 54 47.7	0.0
PLG	Polygyros	1.83	235	*e*PG	Pg	20 54 52.0	-0.5
KNT	Kendrikon	1.91	262	*e*Pb	Pb	20 54 50.5	-1.3

IDC 28 20:55:23.9±3.9, 333N×12727E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=174.0km s-min=57.9km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.14	164	P	P	21 00 42.4	+0.8
	0.7nm,0.4s,baz=343,slow=10.0,SNR=21						
ASAR	Alice Springs	27.60	167	P	P	21 01 12.9	+0.2
	0.4nm,0.7s,baz=349,slow=7.4,SNR=5.8						
STKA	Stephens Creek	37.56	160	P	P	21 02 39.7	-0.2
	1.9nm,0.8s,baz=332,slow=6.1,SNR=4.8						

ISC 28 21:03:22.4±3.6, 370N±03×720E±08, h163km±31km, n6, σ1§16/8, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.52	145	*e*P	Pn	21 04 42.1	-0.7
THN				*e*S	Sn	21 05 46.2	+0.5
KK31	Karatay Array	6.19	350	P	Pn	21 04 52.6	+1.0
	0.7nm,0.3s,baz=181,slow=13,SNR=50						
KK31				S	Sn	21 06 01.1	-0.6
	2.7nm,0.4s,baz=182,slow=22,SNR=13						
KOLN	Koldanda	13.47	130	*e*P	Pn	21 06 26.4	-0.6
	4.3nm,0.3s						
KKN	Kakani	14.52	125	*e*P	Pn	21 06 39.4	-0.8
	9.8nm,0.6s						
GUN	Gumba	14.84	124	*e*P	Pn	21 06 45.7	+1.6
	6.2nm,0.4s						
JIRN	Jiri	15.21	124	*e*P	Pn	21 06 48.6	-0.1
	12nm,0.4s						

NEIC 28 21:26:56.9, 5123N×17833W, h25km, ML3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.50	277	P	Pn	21 27 20.3	-1.8
AMKA				S	Sn	21 27 38.9	-1.8
ATKA	Atka Island	2.75	68	P	Pn	21 27 38.9	-0.5
GUN	Gumba	72.19	292	*e*P	P	21 38 17.7	-1.8
	34nm,0.5s						
JIRN	Jiri	72.19	292	*e*P	P	21 38 17.9	-1.7
	23nm,0.6s						
KKN	Kakani	72.63	293	*e*P	P	21 38 20.1	-2.0
	15nm,0.7s						
PKI	Pulchoki	72.72	292	*e*P	P	21 38 20.9	-1.8
	5.7nm,0.5s						
GKN	Gorkha	72.84	293	*e*P	P	21 38 21.0	-2.4
	9.6nm,0.6s						
DMN	Daman	72.86	293	*e*P	P	21 38 21.7	-1.9
KOLN	Koldanda	73.61	294	*e*P	P	21 38 25.3	-2.7
	2.6nm,0.5s						

*ISCJB **28** 21:29:56.7±2.8, 158S±08×1722W±06, h35km, mb4.2/6, Error ellipse: s-maj=137.6km s-min=29.2km az=106.8*
*IDC **28** 21:29:56.4±3.2, 1430S×17324W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/15, mbtmp4.1/5, Error ellipse: s-maj=140.0km s-min=33.8km az=137.0*

ISC 28 21:29:58.1±3.0, 157S±09×1721W±07, h35km, n8, σ0§90/8, mb4.2/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.95	241	*e*P	P	21 38 09.9	+0.2
	1.3nm,0.6s,mb3.9						
STKA	Stephens Creek	44.95	241	P	P	21 38 10.0	+0.3
	1.7nm,0.5s,mb4.2,baz=104,slow=8.3,SNR=6.6						
WB2	Warramunga Arr	50.97	257	*e*P	P	21 38 55.6	-0.7
WRA	Warramunga Arr	50.98	257	P	P	21 38 55.8	-0.5
	1.5nm,0.5s,mb4.2,baz=93,slow=6.9,SNR=78						
ASAR	Alice Springs	51.20	252	P	P	21 38 58.0	+0.1
	12nm,0.5s,mb5.0,baz=88,slow=8.3,SNR=240						
KAKA	Kakadu	53.72	266	*e*P	P	21 39 18.5	+1.9
	2.8nm,0.4s,mb4.5						
YKA	Yellowknife Ar	89.91	23	P	P	21 42 53.6	0.0
	0.2nm,0.8s,mb3.5,baz=250,slow=7.1,SNR=3.8						
SONM	Songino Array	95.93	318	P	P	21 43 15.4	-5.9
	0.3nm,0.3s,mb4.2,baz=94,slow=7.5,SNR=4.2						

*NEIC **28** 22:02:50.9±0.7, 3125×12848E, h35km, mb4.0/4, Error ellipse: s-maj=31.6km s-min=11.0km az=60.0*
*IDC **28** 22:03:03.0±9.0, 3415×12863E, h159km±91km, mb3.3/2, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=120.8km s-min=24.4km az=68.0*
*ISCJB **28** 22:03:05.6±3.3, 345S±02×1287E±02, h210km±34km, mb3.5/4, Error ellipse: s-maj=38.3km s-min=20.3km az=127.6*

ISC 28 22:03:02.8±2.6, 34S±01×1286E±02, h159km±26km, n11, σ0§85/12, mb3.6/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.04	158	*e*P	Pn	22 05 25.7	+2.7
	6.3nm,0.8s						
WRA	Warramunga Arr	17.41	162	P	Pn	22 06 55.0	-0.9
	1.3nm,0.3s,baz=339,slow=11,SNR=70						
WRA				S	S	22 10 08.2	+0.7
	0.0nm,0.3s,baz=346,slow=22,SNR=2.4						
WB2	Warramunga Arr	17.41	162	*e*P	Pn	22 06 54.9	-1.0
PMG	Port Moresby	19.37	109	*e*P	P	22 07 16.4	+0.2
	11nm,0.9s						
ASAR	Alice Springs	20.83	166	P	P	22 07 31.5	-0.3
	2.0nm,0.3s,baz=345,slow=12,SNR=43						
STKA	Stephens Creek	30.89	158	P	P	22 09 03.9	-0.2
LSA	Lhasa	48.64	315	*e*P	P	22 11 31.3	+0.9
	0.9nm,0.5s,mb3.7						
CASY	Casey	64.08	188	*e*P	P	22 13 19.8	+0.2
	19nm,0.5s						
MKAR	Makanchi Array	64.44	327	P	P	22 13 22.6	+0.6
	0.5nm,0.7s,mb3.5,baz=122,slow=6.3,SNR=5.0						
KURK	Kurchatov	68.71	328	*e*P	P	22 13 48.9	-0.2
	1.0nm,0.6s,mb3.7						
BRVK	Borovoye	74.34	328	*e*P	P	22 14 21.6	-1.2
	1.1nm,0.7s,mb3.7						

IDC 28 22:08:10.4±4.2, 4856N×14984E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.7/3, MS4.2/1, Ms1 4.2/1, ms1mx2.7/27, Error ellipse: s-maj=115.0km s-min=53.6km az=4.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	17.18	210	LR	LR	22 19 30.7	
	comp=Z,717nm,18.8s,baz=116,slow=40						
YKA	Yellowknife Ar	50.79	37	P	P	22 17 11.6	-0.8
	0.2nm,0.6s,baz=298,slow=7.2,SNR=4.0						
FINES	FINESS Array B	61.44	333	P	P	22 18 28.4	-0.1
	1.0nm,0.8s,baz=46,slow=8.2,SNR=5.8						
AKASG	Malin Array Be	68.79	324	P	P	22 19 15.4	-0.9
	0.9nm,0.4s,baz=36,slow=6.5,SNR=4.6						
LPAZ	La Paz	135.34	57	PKP	PKPdf	22 27 33.1	+0.9
	0.8nm,0.4s,baz=352,slow=14,SNR=6.3						

WEL 28 22:08:58.0±0.2, 3731S×17678E, h197km±2km, ML3.6/11, 2D, Error ellipse: s-maj=3.6km s-min=3.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.99	165	PN	Pn	22 09 27.2	-0.2
URZ				SN	Sn	22 09 50.2	+0.1
MWZ	Matawai	1.19	150	PN	Pn	22 09 28.9	+0.1
MWZ				SN	Sn	22 09 52.8	+0.1
MXZ	Matakaoa Point	1.24	103	PN	Pn	22 09 29.3	+0.1
MXZ				*e*SN	Sn	22 09 53.3	-0.2
PUZ	Puketiti	1.40	124	PN	Pn	22 09 30.7	+0.1
PUZ				SN	Sn	22 09 55.1	-0.7
KNZ	Kokohu	1.85	158	⇓PN	Pn	22 09 35.1	+0.3
KNZ				SN	Sn	22 10 03.1	-0.3
BKZ	Black Stump Fm	1.87	187	PN	Pn	22 09 34.7	-0.3
BKZ				SN	Sn	22 10 02.7	-1.1
HIZ	Hauiti	1.95	231	PN	Pn	22 09 36.3	+0.6
TUVZ	Tukino	2.15	204	PN	Pn	22 09 37.9	0.0
WNVZ	Wahianoa	2.23	204	PN	Pn	22 09 38.7	0.0
PXZ	Pawanui	2.72	179	⇓PN	Pn	22 09 43.6	-0.7
TSZ	Takapari Road	2.83	193	*e*PN	Pn	22 09 44.6	-0.8
MRZ	Mangatainoka R	3.48	195	PN	Pn	22 09 51.2	-2.0
MRZ				SN	Sn	22 10 33.5	-3.1
KIW	Kapiti Island	3.84	202	PN	Pn	22 09 55.4	-2.3
MTW	Mount Morrison	3.98	194	PN	Pn	22 09 56.7	-2.7
CAW	Cannon Point	4.03	199	PN	Pn	22 09 57.5	-2.5
TCW	Tory Channel	4.36	206	PN	Pn	22 10 01.5	-2.7

*ISCJB **28** 22:31:20.3±2.2, 68S±02×15523E±007, h105km±23km, mb3.4/6, Error ellipse: s-maj=29.3km s-min=11.8km az=171.5*
*IDC **28** 22:31:20.8±13.0, 682S×15523E, h99km±118km, mb3.4/5, mb1 3.6/5, mb1mx3.5/14, mbtmp3.4/5, MS2.8/3, Ms1 2.8/3, ms1mx2.7/17, Error ellipse: s-maj=72.2km s-min=40.3km az=129.0*
*NEIC **28** 22:31:21.7±1.2, 685S×15526E, h109km±13km, mb3.9/1, Error ellipse: s-maj=19.8km s-min=9.7km az=165.0*

ISC 28 22:31:21.6±1.8, 68S±02×15524E±007, h104km±19km, n17, σ0§56/13, mb3.4/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.36	120	LR	LR	22 34 28.6	
	comp=Z,77nm,18.7s,baz=180,slow=35						
HNR	Honiara	5.36	120	*e*Pn	Pn	22 32 38.9	-0.2
HNR				*e*Sn	Sn	22 33 40.0	+0.4
PMG	Port Moresby	8.42	251	LR	LR	22 36 11.8	
	comp=Z,63nm,18.6s,baz=60,slow=35						
PMG	Port Moresby	8.42	251	*e*Pn	Pn	22 33 20.5	-0.2
CTA	Charters Tower	15.85	213	LR	LR	22 39 30.4	
	comp=Z,36nm,18.2s,baz=225,slow=31						
WB2	Warramunga Arr	24.13	235	*e*P	P	22 36 28.0	+0.3
WRA	Warramunga Arr	24.14	235	P	P	22 36 27.6	-0.2
	0.8nm,0.4s,mb3.4,baz=59,slow=9.6,SNR=9.8						
WRA				pP		22 36 38.5	
	2.4nm,0.7s,baz=61,slow=9.4,SNR=8.6						
WRA				PcP	PcP	22 40 06.9	+0.8
	0.2nm,0.5s,baz=67,slow=2.1,SNR=3.2						
ASAR	Alice Springs	26.50	228	P	P	22 36 48.6	-0.6
	0.3nm,0.6s,mb3.0,baz=57,slow=9.9,SNR=6.1						
ASAR				pP	pP	22 36 59.2	-13
	0.7nm,0.7s,baz=57,slow=9.2,SNR=5.1						
SONM	Songino Array	69.28	327	pP	pP	22 42 28.1	-16
	0.4nm,0.5s,baz=143,slow=3.7,SNR=3.9						
LSA	Lhasa	71.34	304	*e*P	P	22 42 31.2	+1.2
	0.7nm,0.4s,mb3.8						
IMA2	Indian Mountai	81.51	19	*e*P	P	22 43 26.7	-0.8
MKAR	Makanchi Array	83.40	319	P	P	22 43 38.0	+0.8
	0.3nm,0.7s,mb3.2,baz=116,slow=3.4,SNR=2.9						
INK	Inuvik	89.42	21	P	P	22 44 06.2	-0.4
	0.5nm,0.5s,mb3.8,baz=226,slow=3.9,SNR=3.9						
INK	Inuvik	89.42	21	P	P	22 44 06.2	-0.4
BRVK	Borovoye	92.33	323	P	P	22 44 20.3	+0.1
YKA	Yellowknife Ar	96.03	28	P	P	22 44 36.6	-0.5
	0.1nm,0.7s,mb3.3,baz=260,slow=4.5,SNR=4.8						
TORD	Torodi Ar. Bea	153.20	286	PKPbc	PKPbc	22 51 07.3	+0.1
	0.3nm,0.7s,baz=99,slow=2.1,SNR=4.5						
TORD				PKPab	PKPab	22 51 19.7	+0.5
	0.4nm,0.7s,baz=92,slow=4.1,SNR=4.4						

*ISCJB **28** 22:41:31.7±0.5, 4735N±002×678E±004, h7km±4km, Error ellipse: s-maj=4.7km s-min=2.9km az=38.2*
*STR **28** 22:41:33.9±0.6, 4741N×692E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **28** 22:41:33.9±0.1, 4740N×686E, h7km, Md2.1/3, Ml2.1/15, Error ellipse: s-maj=1.1km s-min=0.7km az=132.0*

ISC 28 22:41:33.0±0.5, 4737N±002×684E±004, h16km±4km, n27, σ0§67/42, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HINF	Hinteralfeld	0.44	1	*e*Pg	Pg	22 41 41.8	-0.1
HINF				*e*Sg	Sg	22 41 46.9	-1.0
	7.4nm,0.2s						
MOF	Molkenrain	0.52	23	Pg	Pg	22 41 42.9	-0.3
HAU	Haudompre	0.71	333	*e*Pg	Pg	22 41 47.5	+0.6
HAU	Haudompre	0.71	333	*e*P	Pg	22 41 48.5	+1.6
HAU				*e*Sn	Sg	22 41 58.9	+2.5
	7.2nm,0.2s						
ECH	Echery	0.87	14	Pg	Pg	22 41 50.1	+0.2
ECH				Sg	Sg	22 42 00.8	-0.5
CABF	La Chapelle	0.92	214	*e*Pg	Pg	22 41 51.7	+0.9
CABF	La Chapelle	0.92	214	*e*Pn	Pn	22 41 52.2	+0.9
CABF				*e*Sg	Sg	22 42 04.3	+1.4
	2.4nm,0.2s						
THEF	They Montfort	1.03	326	Pg	Pg	22 41 53.6	+0.7
THEF				Sg	Sg	22 42 07.4	+1.1
CDF	Champ du Feu	1.08	16	*e*Pn	Pn	22 41 53.2	-0.3
CDF	Champ du Feu	1.08	16	*e*Pg	Pg	22 41 53.6	-0.2
CDF				*e*Sg	Sg	22 42 07.3	-0.7
	9.0nm,0.2s						
SFTF	Sexfontaines	1.47	305	*e*Pn	Pn	22 41 59.0	+0.2
SFTF	Sexfontaines	1.47	305	*e*Pg	Pg	22 42 01.4	+0.1
	baz=124						
SFTF				*e*Sg	Sg	22 42 20.3	-0.1
	1.9nm,0.2s						
MEZF	Maizieres J'vi	1.65	314	*e*Pn	Pn	22 42 01.4	+0.1
MEZF	Maizieres J'vi	1.65	314	*e*Pg	Pg	22 42 04.4	-0.2
	baz=130						
MEZF				*e*Sn	Sn	22 42 21.6	-0.5
MEZF				*e*Sg	Sg	22 42 25.6	-0.5
	6.5nm,0.4s						
LPL	La Plagne	1.86	182	*e*Sg	Sg	22 42 33.4	+0.6
	1.4nm,0.3s						
LPG	La Plagne	1.88	182	*e*Sg	Sg	22 42 33.8	+0.4
	1.5nm,0.3s						
LOR	Lormes	2.03	268	*e*Pg	Pg	22 42 12.2	+0.3
	baz=92						
LOR				*e*Sn	Sn	22 42 31.6	0.0
LOR				*e*Sg	Sg	22 42 37.9	-0.4
	2.2nm,0.2s						
SMF	Signal de Mont	2.18	252	*e*Pg	Pg	22 42 14.7	0.0
SMF				*e*Sg	Sg	22 42 42.3	-0.7
	2.1nm,0.2s						
SSF	Saint Saulge	2.29	263	*e*Pn	Pn	22 42 10.0	-0.1
SSF	Saint Saulge	2.29	263	*e*Pg	Pg	22 42 17.0	0.0
SSF				*e*Sg	Sg	22 42 46.9	+0.2
	0.8nm,0.2s						
AVF	Avril sur Loir	2.45	258	*e*Pg	Pg	22 42 19.8	-0.2
AVF				*e*Sg	Sg	22 42 51.6	-0.2
	0.6nm,0.3s						
ORIF	Oris-en-Rattie	2.54	196	*e*Sg	Sg	22 42 53.8	-1.0
	0.9nm,0.2s						
BGF	Bois d'Agland	2.85	255	*e*Pn	Pn	22 42 18.4	+0.6
BGF	Bois d'Agland	2.85	255	*e*Pg	Pg	22 42 27.2	-0.5
VIVF	Saint-Julien-l	2.93	212	*e*Sg	Sg	22 43 06.4	-0.9
	1.5nm,0.2s						
TCF	Toulx Ste Croi	3.36	253	*e*Pg	Pg	22 42 36.6	-0.7
TCF				*e*Sg	Sg	22 43 20.3	-0.5
	0.4nm,0.2s						
LASF	Ste Croix	3.90	213	*e*Pg	Pg	22 42 46.9	-0.8

*NSSP **28** 22:52:18.6, 4120N×4385E, h10km, ML3.3*
*TIF **28** 22:52:19.6, 4117N×4387E, h15km±1km*
*CSEM **28** 22:52:19.4±0.2, 4112N×4396E, h1km±1km, MD4.0, Error ellipse: s-maj=2.4km s-min=2.3km az=25.0*
*ISCJB **28** 22:52:20.2±0.2, 4123N±001×4388E±003, h10km, mb3.8/1, Error ellipse: s-maj=3.0km s-min=1.9km az=12.3*
*NEIC **28** 22:52:23.1, 4117N×4357E, h2km, mb3.8/1, MD4.0(ISK), After ISK.*
*ISK **28** 22:52:23.1, 4117N×4357E, h2km, MD4.0*
*MOS **28** 22:52:37.1±0.7, 4213N×4383E, h10km, mb4.3/1, Error ellipse: s-maj=51.8km s-min=10.6km az=79.1*

ISC 28 22:52:20.7±0.3, 4119N±001×4389E±003, h10km, n39, σ1§17/64, mb3.8/1, 7D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STE	Stepanavan	0.41	117	P	Pg	22 52 29.4	+0.7
STE				S	Sg	22 52 33.6	-0.6
KZR	Kazreti	0.44	64	P	Pg	22 52 29.9	+0.6
KZR				S	Sg	22 52 36.6	+1.5
GOR	Gori	0.81	12	P	Pg	22 52 36.2	-0.1
GOR				S	Sg	22 52 48.1	+1.1
KARS	Kars	0.83	227	PG	Pg	22 52 36.4	-0.4
MTA	Mtatsminda	0.85	53	P	Pg	22 52 37.0	0.0
MTA				S	Sg	22 52 49.0	+1.0
AMBZ	Amberd	0.85	161	⇓P	Pg	22 52 36.0	-1.1
AMBZ				S	Sg	22 52 48.9	+0.8
DIGO	Kars	0.87	207	*i* P	Pg	22 52 36.9	-0.5
DIGO				*i* S	Sg	22 52 49.5	+0.8
AKSZ	Araks	1.00	180	⇓P	Pg	22 52 37.8	-2.1
AKSZ				S	Sg	22 52 53.9	+1.0
NPPZ	NPP	1.04	170	⇓P	Pg	22 52 39.5	-1.2
NPPZ				S	Sg	22 52 53.5	-0.7
KAPZ	Kaputan	1.06	144	⇓P	Pg	22 52 40.0	-1.1
KAPZ				S	Sg	22 52 55.0	+0.1
VNNZ	Vanand	1.09	183	⇓P	Pb	22 52 39.6	-2.0
VNNZ				S	Sg	22 52 55.7	0.0
ERE	Yerevan	1.11	156	⇓P	Pb	22 52 40.0	-2.0
ERE				S	Sg	22 52 57.0	+0.5
DGRG	David-gareji	1.15	76	P	Pb	22 52 43.1	+0.5
DGRG				S	Sb	22 52 59.0	+1.4
VRNZ	Vardanashen	1.16	169	⇓P	Pb	22 52 41.8	-1.1
VRNZ				S	Sb	22 52 58.0	0.0
ZEI	Tsey	1.58	0	*i* Pg	Pg	22 52 50.5	-0.5
ZEI				*i* Sg	Sg	22 53 12.8	+1.3
LACR	Lac	1.66	10	*i* Pg	Pg	22 52 51.5	-1.1
LACR				*i* Sg	Sg	22 53 14.2	0.0
DIGR	Digorskoe uzhe	1.72	352	*i* Pg	Pg	22 52 52.5	-1.3
DIGR				*i* Sg	Sg	22 53 16.2	0.0
BCA	Borcka	1.73	279	PN	Pn	22 52 51.2	+0.4
BCA				SN	Sn	22 53 12.7	-0.2
AGRB	Hanur-Agry	1.75	203	PN	Pg	22 52 53.8	-0.5
KORR	Kora	1.90	4	*i* Pg	Pg	22 52 56.1	-1.0
KORR				*i* Sg	Sg	22 53 21.6	-0.2
SNJR	Sundja	2.00	20	*i* Pg	Pg	22 52 59.2	+0.2
SNJR				*i* Sg	Sg	22 53 23.6	-1.4
ARNR	Ardon	2.02	8	*i* Pg	Pg	22 52 59.1	-0.3
ARNR				*i* Sg	Sg	22 53 26.7	+1.1
BTKR	Batakoyurt	2.23	12	*i* Pg	Pg	22 53 02.3	-1.2
BTKR				*i* Sg	Sg	22 53 32.2	-0.3
ERZM	Erzurum	2.31	237	*i* P	Pn	22 53 01.2	+2.4
EZM	Erzurum	2.31	237	*e*PN	Pn	22 53 00.7	+1.9
VANB	Van	2.62	189	*e*PN	Pb	22 53 07.6	-0.1
KIV	Kislovodsk	2.90	343	*e*Pn	Pb	22 53 10.9	-1.6
KIV				*e*S	Sg	22 53 52.9	-1.1
KIV	Kislovodsk	2.90	343	*e*Pn	Pb	22 53 10.9	-1.7
KIV				*e*S	Sg	22 53 52.9	-1.1
KTUT	Trabzon	3.12	268	*e*PN	Pn	22 53 12.2	+2.2
MACK	Trabzon	3.13	267	*i* P	Pb	22 53 15.3	-1.1
MACK				*i* S	Sg	22 53 58.9	-2.2
GUMT	Gumushane	3.42	259	*e*PN	Pn	22 53 16.5	+2.4
EZC	Erzincan	3.42	246	*e*PN	Pb	22 53 21.3	-0.2
BINT	Bingol	3.49	230	*e*PN	Pn	22 53 17.6	+2.6
BTMT	Batman	3.52	213	*e*PN	Pn	22 53 20.3	+4.9
KELT	Kelkit	3.67	255	*i* P	Pb	22 53 27.9	+2.2
KELT				*i* S	Sg	22 54 22.0	+3.3
SIRT	Sirnak	3.85	197	*e*PN	Pn	22 53 24.4	+4.4
CUKT	Cukurca	3.94	183	*e*PN	Pn	22 53 26.5	+5.3
PTK	Pertek	4.14	238	*e*PN	Pn	22 53 27.3	+3.3
BRVK	Borovoye	21.39	47	*e*P	P	22 57 08.7	+0.3
	3.8nm,0.8s,mb3.8						

*ISCJB **28** 22:52:25.0±0.6, 3929N±002×2421E±005, h18km±6km, Error ellipse: s-maj=6.0km s-min=3.9km az=18.2*
*SOF **28** 22:52:24.7, 3939N×2424E, h14km, MD2.6*
*ATH **28** 22:52:24.4, 3928N×2418E, h26km±1km, MD3.1/11, ML3.1*
*CSEM **28** 22:52:25.6±0.1, 3927N×2419E, h20km, ML2.8, Error ellipse: s-maj=2.1km s-min=1.6km az=114.0*
*THE **28** 22:52:25.4, 3929N×2419E, h11km, ML2.8*
*NEIC **28** 22:52:25.4, 3929N×2419E, h12km, ML2.9(THE), ML3.1(ATH), After THE.*

ISC 28 22:52:24.6±0.6, 3929N±002×2418E±004, h12km±4km, n35, σ0§96/48, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.26	242	*e*Pg	Pg	22 52 30.4	+0.4
NEO	Neokhori	0.74	271	*e*PN	Pn	22 52 39.9	-0.9
NEO				*e*SN	Sg	22 52 49.3	+0.7
PAIG	Paliouri	0.74	329	*e*Pg	Pg	22 52 39.7	+0.7
PAIG				*e*Sg	Sg	22 52 50.9	+2.3
XOR	Xorichti	0.77	276	*e*Pg	Pg	22 52 40.5	+1.1
XOR				*e*Sg	Sg	22 52 50.7	+1.2
LOS	Limnos	0.95	47	*e*Pg	Pg	22 52 43.5	+0.7
OUR	Ouranopolis	1.05	352	*e*Pg	Pg	22 52 44.6	-0.2
LKR	Lokris	1.12	235	*e*PN	Pn	22 52 45.7	-0.4
PLG	Polygyros	1.22	333	*e*Pg	Pg	22 52 47.0	-1.0
PLG			

PLD	**Plovdiv**	**2.84**	**8**	Pg	**Pg**	**22 53 20.4**	**+1.4**
VTS	**Vitosha**	**3.38**	**348**	P	**Pn**	**22 53 17.0**	**-0.1**

*NEIC **28** 23:17:36.3, 1696N×9557W, h97km, MD3.7(MEX), After MEX.*

MEX 28 23:17:36.1±0.9, 1695N×9556W, h99km±12km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.66**	**77**	*i* P	Pn	23 17 52.0	-1.1
CMIG				*i* S	Sn	23 18 03.9	-2.0
OXX	**Oaxaca**	**1.12**	**277**	*i* P	Pn	23 17 57.2	-0.6
OXX				*i* S	Sn	23 18 12.8	-1.3
VHO	**Vista Hermosa**	**1.13**	**277**	*i* P	Pn	23 17 56.9	-1.0
VHO				*i* S	Sn	23 18 12.7	-1.6
HUIG	**Huatulco**	**1.28**	**204**	*i* P	Pn	23 17 58.5	-1.2
HUIG				*i* S	Sn	23 18 16.2	-1.3
PNIG	**Pinotepa**	**2.52**	**258**	*i* P	Pn	23 18 12.6	-2.9
CCIG	**Comitan**	**3.35**	**101**	*i* P	Pn	23 18 26.9	+0.5
CCIG				*i* S	Sn	23 19 04.0	-1.4

*ISCJB **28** 23:40:23.6±7.2, 77S±02×1182E±02, h15km±47km, mb3.9/6, Error ellipse: s-maj=44.6km s-min=11.2km az=110.1*
*IDC **28** 23:40:23.4±1.9, 776S×118.10E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=103.4km s-min=13.9km az=49.0*
*NEIC **28** 23:40:26.9±3.5, 776S×118.13E, h22km±27km, mb4.2/3, Error ellipse: s-maj=28.4km s-min=7.1km az=55.0*

ISC 28 23:40:24.4±4.6, 78S±02×1181E±02, h5km±30km, n14, σ0∓77/16, mb3.9/6, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.61**	**145**	Pn	**Pn**	**23 43 25.1**	**+0.7**
	0.1nm,0.3s,baz=256,slow=18,SNR=2.6						
FITZ				Sn	**Sn**	**23 45 40.0**	**-5.3**
	0.2nm,0.3s,baz=209,slow=19,SNR=6.2						
KKM	**Kota Kinabalu**	**13.85**	**352**	Pn	**Pn**	**23 43 41.8**	**+0.4**
WRA	**Warramunga Arr**	**19.83**	**129**	P	**Pn**	**23 44 56.7**	**-0.8**
	0.3nm,0.3s,baz=302,slow=12,SNR=11						
WRA				S	**Sn**	**23 48 41.3**	**+0.6**
	0.1nm,0.3s,baz=185,slow=31,SNR=2.7						
WB2	**Warramunga Arr**	**19.84**	**129**	*e*P	**Pn**	**23 44 57.1**	**-0.5**
KULM	**Kulim**	**21.73**	**306**	P	**P**	**23 45 16.4**	**-0.1**
ASAR	**Alice Springs**	**21.88**	**138**	P	**P**	**23 45 19.1**	**+0.9**
	1.4nm,0.4s,mb3.7,baz=311,slow=9.0,SNR=26						
CTAO	**Charters Tower**	**29.86**	**117**	*e*P	**P**	**23 46 31.8**	**-0.9**
	5.7nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**32.45**	**141**	P	**P**	**23 46 55.1**	**-0.4**
LSA	**Lhasa**	**45.40**	**326**	P	**P**	**23 48 45.5**	**+1.6**
SONM	**Songino Array**	**56.32**	**351**	P	**P**	**23 50 06.8**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=162,slow=6.2,SNR=3.5						
MKAR	**Makanchi Array**	**62.97**	**333**	P	**P**	**23 50 51.2**	**-0.8**
	0.6nm,0.6s,mb3.9,baz=153,slow=7.0,SNR=7.7						
MKAR	**Makanchi Array**	**62.97**	**333**	P	**P**	**23 50 51.2**	**-0.9**
KURK	**Kurchatov**	**67.52**	**334**	*e*P	**P**	**23 51 20.5**	**-1.1**
	2.2nm,1.1s,mb4.1						
BRVK	**Borovoye**	**72.88**	**332**	*e*P	**P**	**23 51 54.6**	**+0.2**
	0.7nm,0.7s,mb3.7						

*ISCJB **28** 23:57:21.3±0.4, 4483N±002×843E±003, h18km±4km, Error ellipse: s-maj=3.7km s-min=3.5km az=141.7*
*NEIC **28** 23:57:21.2, 4477N×841E, h10km, ML2.1(ROM), ML2.4(STR), ML2.5(LDG), After ROM.*
*ROM **28** 23:57:21.2±0.2, 4477N×841E, h10km, Md2.4/6, Ml2.1/5, Error ellipse: s-maj=3.2km s-min=1.9km az=18.0*
*GEN **28** 23:57:21.8, 4480N×841E, h5km, ML2.0*
*CSEM **28** 23:57:21.9±0.1, 4473N×845E, h10km, ML2.5/14, Error ellipse: s-maj=1.8km s-min=1.6km az=136.0*
*LDG **28** 23:57:21.6±0.2, 4476N×848E, h2km, Md2.4/2, Ml2.5/13, Error ellipse: s-maj=4.3km s-min=2.2km az=96.0*
*STR **28** 23:57:22.4±0.7, 4484N×825E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 23:57:21.6±0.4, 4478N±002×841E±003, h16km±3km, n62, σ0∓88/108, 1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCP	**Pian Castagno**	**0.25**	**158**	⇓*i*Pg	**Pg**	**23 57 27.1**	**-0.1**
PCP				Sg	**Sg**	**23 57 31.2**	**+0.2**
MONC	**Moncucco Torin**	**0.46**	**311**	Pg	**Pg**	**23 57 31.0**	**+0.2**
	180nm,0.4s						
FIN	**Finale Ligure**	**0.58**	**194**	P	**Pg**	**23 57 33.0**	**-0.1**
FIN				S	**Sg**	**23 57 41.6**	**+0.7**
ROB	**Roburent**	**0.62**	**219**	P	**Pg**	**23 57 33.3**	**-0.4**
ROB				S	**Sg**	**23 57 41.8**	**-0.1**
BOB	**Bobbio (Coli)**	**0.74**	**90**	Pg	**Pg**	**23 57 36.3**	**+0.3**
MONE	**Monesi**	**0.84**	**214**	P	**Pb**	**23 57 37.7**	**-0.1**
MONE				S	**Sg**	**23 57 49.2**	**+0.2**
DOI	**San Damiano**	**0.87**	**252**	Pg	**Pg**	**23 57 37.7**	**-0.9**
DOI				Sg	**Sg**	**23 57 49.4**	**-0.7**
TRAV		**0.88**	**328**	P	**Pb**	**23 57 37.8**	**-0.6**
SC2M	**Scurtabr**	**0.88**	**114**	Pg	**Pg**	**23 57 37.6**	**-1.2**
	48nm,0.3s						
ENR	**Entracque**	**0.90**	**233**	P	**Pb**	**23 57 38.2**	**-0.5**
ENR				S	**Sb**	**23 57 49.8**	**-0.6**
ORX	**Oropa**	**0.91**	**341**	P	**Pb**	**23 57 38.1**	**-0.9**
STV	**Sta Anna Valdi**	**0.94**	**236**	Pg	**Pg**	**23 57 39.3**	**-0.6**
STV				Sg	**Sg**	**23 57 51.8**	**-0.4**
	25nm,0.2s						
PZZ	**Prazzo**	**0.97**	**254**	P	**Pb**	**23 57 39.2**	**-0.9**
PZZ				S	**Sb**	**23 57 51.5**	**-1.2**
SAOF	**Saorge**	**1.00**	**218**	Pg	**Pg**	**23 57 40.7**	**-0.3**
SAOF				Sg	**Sg**	**23 57 53.9**	**-0.1**
AUTN	**L'Aution**	**1.05**	**222**	Pn	**Pn**	**23 57 41.8**	**+0.2**
AUTN				Sg	**Sg**	**23 57 56.1**	**+0.4**
NEGI	**Negi**	**1.06**	**209**	P	**Pb**	**23 57 41.9**	**+0.4**
NEGI				S	**Sb**	**23 57 55.0**	**-0.1**
CODM		**1.10**	**110**	P	**Pb**	**23 57 41.6**	**-0.6**
TOUF	**Mont Tournerai**	**1.13**	**228**	Pg	**Pg**	**23 57 43.2**	**-0.2**
TOUF				Sg	**Sg**	**23 57 58.2**	**0.0**
SBF	**Sospel**	**1.15**	**218**	*e*Pn	**Pn**	**23 57 43.5**	**+0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**23 57 58.9**	**+0.1**
	68nm,0.2s,SNR=1.0						
SBF	**Sospel**	**1.15**	**218**	*e*Pn	**Pn**	**23 57 43.5**	**+0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**23 57 58.9**	**+0.1**
	34nm,0.2s,SNR=1.0						
RRL	**Cesana Torines**	**1.17**	**278**	P	**Pn**	**23 57 44.5**	**+1.3**
LUCF	**Luceram**	**1.17**	**221**	Pg	**Pg**	**23 57 43.9**	**-0.2**
MBDF	**Montbardon**	**1.17**	**268**	*e*Pg	**Pg**	**23 57 45.0**	**+0.8**
MBDF				*e*Sn	**Sn**	**23 57 58.5**	**-0.4**
	9.7nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.17**	**268**	*e*Pn	**Pn**	**23 57 42.7**	**-0.6**
MBDF				*e*Pg	**Pg**	**23 57 45.0**	**+0.8**
MBDF				*e*Sn	**Sn**	**23 57 58.5**	**-0.4**
MBDF	**Montbardon**	**1.17**	**268**	*e*Pg	**Pg**	**23 57 45.0**	**+0.8**
MBDF				*e*Sn	**Sn**	**23 57 58.5**	**-0.4**
	4.8nm,0.2s,SNR=1.0						
GRAM		**1.22**	**103**	P	**Pn**	**23 57 45.2**	**+1.3**
REVF	**Revere**	**1.28**	**216**	Pn	**Pn**	**23 57 46.1**	**+1.3**
REVF				Sg	**Sg**	**23 58 04.9**	**+2.0**
BACM		**1.29**	**112**	P	**Pn**	**23 57 45.4**	**+0.5**
LPG	**La Plagne**	**1.38**	**302**	*e*Pn	**Pn**	**23 57 45.8**	**-0.4**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**23 58 04.5**	**+0.5**
LPG				*e*Sg	**Sg**	**23 58 06.7**	**+0.5**
	5.4nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**1.38**	**302**	*e*Pn	**Pn**	**23 57 45.8**	**-0.4**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**23 58 04.5**	**+0.5**
LPG				*e*Sg	**Sg**	**23 58 06.7**	**+0.5**
	2.7nm,0.4s,SNR=1.0						
VINC	**Vinca**	**1.40**	**116**	P	**Pn**	**23 57 46.8**	**+0.4**
LPL	**La Plagne**	**1.40**	**303**	*e*Pn	**Pn**	**23 57 46.6**	**+0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**23 58 09.0**	**+2.2**
	6.0nm,0.4s						
LPL	**La Plagne**	**1.40**	**303**	*e*Pn	**Pn**	**23 57 46.6**	**+0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**23 58 09.0**	**+2.2**
	3.0nm,0.4s						
SARO	**Sassorosso**	**1.54**	**112**	P	**Pn**	**23 57 49.1**	**+0.7**
FRF	**La Foret Royal**	**1.76**	**227**	*e*Pn	**Pn**	**23 57 52.9**	**+1.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**23 58 17.2**	**-1.0**
	14nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.76**	**227**	*e*Pn	**Pn**	**23 57 52.9**	**+1.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**23 58 17.2**	**-1.0**
	7.1nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.81**	**275**	*e*Pn	**Pn**	**23 57 54.6**	**+2.6**
MAGA	**Magasa**	**1.86**	**57**	Pg	**Pg**	**23 57 52.5**	**-4.8**
	44nm,0.6s						
LMR	**La Mourre**	**1.99**	**224**	*e*Pg	**Pg**	**23 57 58.6**	**-1.2**
LMR				*e*Sg	**Sg**	**23 58 24.4**	**-1.2**
	16nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**1.99**	**224**	*e*Pn	**Pn**	**23 57 56.1**	**+1.6**
LMR				*e*Pg	**Pg**	**23 57 58.6**	**-1.2**
LMR				*e*Sg	**Sg**	**23 58 24.4**	**-1.2**
LMR	**La Mourre**	**1.99**	**224**	*e*Pg	**Pg**	**23 57 58.6**	**-1.2**
LMR				*e*Sg	**Sg**	**23 58 24.4**	**-1.2**
	8.1nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.19**	**250**	*e*Pg	**Pg**	**23 58 01.8**	**-1.7**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**23 58 31.9**	**0.0**
	5.0nm,0.3s						
SMRF	**Simiane la Rot**	**2.19**	**250**	*e*Pg	**Pg**	**23 58 01.8**	**-1.7**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**23 58 31.9**	**0.0**
	2.5nm,0.3s						
PGF	**Pioggiola**	**2.27**	**169**	*e*Pn	**Pn**	**23 57 58.0**	**-0.4**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**23 58 25.1**	**-0.8**
	1.6nm,0.2s						
PGF	**Pioggiola**	**2.27**	**169**	*e*Pn	**Pn**	**23 57 58.0**	**-0.4**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**23 58 25.1**	**-0.8**
	0.8nm,0.2s						
CABF	**La Chapelle**	**2.46**	**319**	*e*Pn	**Pn**	**23 58 02.0**	**+1.1**
VIVF	**Saint-Julien-l**	**2.66**	**273**	*e*Pn	**Pn**	**23 58 04.8**	**+1.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**23 58 34.7**	**-1.0**
	1.4nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.66**	**273**	*e*Pn	**Pn**	**23 58 04.8**	**+1.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**23 58 34.7**	**-1.0**
	0.7nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.23**	**341**	*e*Pn	**Pn**	**23 58 11.3**	**-0.3**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**23 58 48.3**	**-1.4**
	1.3nm,0.2s						
HINF	**Hinteralfeld**	**3.23**	**341**	*e*Pn	**Pn**	**23 58 11.3**	**-0.3**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**23 58 48.3**	**-1.4**
	0.6nm,0.2s						
LASF	**Ste Croix**	**3.34**	**260**	*e*Pn	**Pn**	**23 58 13.3**	**+0.2**
HAU	**Haudompre**	**3.53**	**337**	*e*Pn	**Pn**	**23 58 15.9**	**+0.1**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**23 58 56.2**	**-1.0**
	2.3nm,0.2s						
HAU	**Haudompre**	**3.53**	**337**	*e*Pn	**Pn**	**23 58 15.9**	**+0.1**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**23 58 56.2**	**-1.0**
	1.1nm,0.2s						
SMF	**Signal de Mont**	**3.71**	**302**	*e*Pn	**Pn**	**23 58 19.1**	**+0.9**
	SNR=1.0						
CDF	**Champ du Feu**	**3.72**	**348**	*e*Pn	**Pn**	**23 58 18.1**	**-0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**23 59 00.4**	**-1.5**
	0.8nm,0.3s						
CDF	**Champ du Feu**	**3.72**	**348**	*e*Pn	**Pn**	**23 58 18.1**	**-0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**23 59 00.4**	**-1.5**
	0.4nm,0.3s						
LOR	**Lormes**	**4.03**	**310**	*e*Pn	**Pn**	**23 58 23.4**	**+0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**23 59 08.9**	**-0.7**
	0.7nm,0.2s						
LOR	**Lormes**	**4.03**	**310**	*e*Pn	**Pn**	**23 58 23.4**	**+0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**23 59 08.9**	**-0.7**
	0.3nm,0.2s						
AVF	**Avril sur Loir**	**4.07**	**301**	*e*Pn	**Pn**	**23 58 24.5**	**+1.3**
SSF	**Saint Saulge**	**4.12**	**305**	*e*Pn	**Pn**	**23 58 24.1**	**+0.3**
BGF	**Bois d'Agland**	**4.29**	**297**	*e*Pn	**Pn**	**23 58 27.3**	**+1.1**
	SNR=1.0						
NVLJ	**Novalja**	**4.61**	**90**	*i* Pn	**Pn**	**23 58 30.7**	**+0.1**
NVLJ				*i* Sn	**Sn**	**23 59 21.3**	**-2.5**

*NEIC **29** 00:01:05.9±0.6, 639S×13120E, h35km, mb3.8/2, Error ellipse: s-maj=15.6km s-min=9.6km az=76.0*
*ISCJB **29** 00:01:11.7±2.9, 672S±008×1313E±0.1, h120km±32km, mb3.6/2, Error ellipse: s-maj=19.0km s-min=13.5km az=29.2*
*IDC **29** 00:01:12.0±11.0, 672S×13131E, h111km±122km, mb3.1/1, mb1 3.7/4, mb1mx3.4/13, mbtmp3.5/4, ML4.1/3, Error ellipse: s-maj=74.8km s-min=45.5km az=44.0*

ISC 29 00:01:13.1±2.8, 68S±01×1313E±01, h118km±31km, n9, σ0∓62/13, mb3.6/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.54**	**206**	P	**Pn**	**00 04 07.1**	**-0.2**
	1.9nm,0.3s,baz=32,slow=12,SNR=60						
FITZ				S	**Sn**	**00 06 25.2**	**-0.1**
	1.4nm,0.3s,baz=180,slow=20,SNR=9.2						
WRA	**Warramunga Arr**	**13.42**	**168**	P	**Pn**	**00 04 19.3**	**+0.5**
	0.7nm,0.3s,baz=353,slow=14,SNR=13						
WRA				S	**Sn**	**00 06 46.6**	**-0.1**
	1.5nm,0.3s,baz=347,slow=24,SNR=9.1						
WB2	**Warramunga Arr**	**13.42**	**168**	*e*Pn	**Pn**	**00 04 19.1**	**+0.3**
WB2				*e*Sn	**Sn**	**00 06 45.6**	**-1.1**
PMG	**Port Moresby**	**15.92**	**101**	*e*Pn	**Pn**	**00 04 50.1**	**-0.3**
	2.9nm,0.5s						
ASAR	**Alice Springs**	**16.98**	**172**	P	**Pn**	**00 05 05.1**	**+1.6**
	0.4nm,0.3s,baz=350,slow=9.9,SNR=28						
ASAR				S	**S**	**00 08 12.7**	**0.0**
	0.4nm,0.3s,baz=354,slow=26,SNR=8.2						
MKAR	**Makanchi Array**	**68.75**	**326**	P	**P**	**00 12 03.7**	**-0.5**
	0.2nm,0.4s,mb3.3,baz=120,slow=7.7,SNR=9.0						
MKAR	**Makanchi Array**	**68.75**	**326**	P	**P**	**00 12 03.7**	**-0.5**
KURK	**Kurchatov**	**73.00**	**328**	P	**P**	**00 12 29.6**	**-0.3**
BRVK	**Borovoye**	**78.64**	**327**	*e*P	**P**	**00 13 02.2**	**+0.2**
	0.7nm,0.4s,mb3.8						

*UPP **29** 00:19:06.9, 6782N×2019E, h0km, ML3.3, Mining explosion.*

CSEM 29 00:19:06.9, 6782N×2019E, h0km, ML3.3, Mining explosion. After UPP, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.45**	**276**	P		00 19 15.4	
LANU	**Lannavaara**	**0.70**	**71**	P		00 19 20.3	
DUNU	**Dundret**	**0.72**	**169**	P		00 19 20.5	
	baz=83						
MASU	**Masugnsbyn**	**0.77**	**118**	P		00 19 21.8	
PAJU	**Pajala**	**1.38**	**124**	P		00 19 32.2	
HARU	**Harads**	**1.70**	**170**	P		00 19 38.0	
	baz=346						

*CSEM **29** 00:19:16.1, 6782N×2022E, h5km, ML3.0, Mining explosion. After UPP*
*UPP **29** 00:19:16.1, 6782N×2022E, h5km, ML3.0, Mining explosion.*

HEL 29 00:19:16.5±0.1, 6783N×2022E, h0km, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**18**	*i* P	Pg	00 19 18.7	-0.4
KUA				*i* S	Sg	00 19 20.8	0.0
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	00 19 24.6	-0.6
NIKU				*i* S	Sg	00 19 30.4	-0.6
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 19 24.6	-0.6
NIKU				S	Sg	00 19 30.4	-0.6
LANU	**Lannavaara**	**0.70**	**71**	*i* P	Pg	00 19 29.3	-0.7
LANU	**Lannavaara**	**0.70**	**71**	P	Pg	00 19 29.3	-0.7
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	00 19 29.2	-1.1
DUNU				*i* S	Sg	00 19 38.8	-0.9
DUNU	**Dundret**	**0.72**	**169**	P	Pg	00 19 29.2	-1.1
DUNU				S	Sg	00 19 38.8	-0.8
MASU	**Masugnsbyn**	**0.77**	**118**	*i* P	Pg	00 19 30.6	-0.7
MASU	**Masugnsbyn**	**0.77**	**118**	P	Pg	00 19 30.6	-0.7
SALU	**Saltoluokta**	**0.80**	**237**	*i* P	Pg	00 19 30.8	-1.0
SALU				*i* S	Sg	00 19 41.4	-0.7
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 19 39.6	0.0
KIF				*e*S	Sg	00 19 55.2	0.0
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 19 41.0	-1.9
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 19 41.0	-1.9
HARU	**Harads**	**1.70**	**170**	*e*P	Pn	00 19 46.5	-0.9
HARU	**Harads**	**1.70**	**170**	P	Pn	00 19 46.5	-0.8

IDC 29 00:57:17.7±2.0, 115N×12621E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=174.5km s-min=26.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.42**	**160**	P	P	01 02 17.5	-0.4
	1.2nm,0.6s,baz=338,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.77**	**164**	P	P	01 02 51.1	+0.9
	0.7nm,0.7s,baz=352,slow=15,SNR=6.8						
MKAR	**Makanchi Array**	**59.39**	**326**	P	P	01 07 22.0	+0.2
	0.4nm,0.7s,baz=123,slow=6.8,SNR=5.1						

*CSEM **29** 01:25:51.9, 6783N×2020E, h2km, ML3.4, Mining explosion. After UPP*
*UPP **29** 01:25:51.9, 6783N×2020E, h2km, ML3.4, Mining explosion.*

HEL 29 01:25:52.3±0.0, 6783N×2020E, h0km, ML1.2, ML3.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	*i* P	Pg	01 25 54.6	-0.3
KUA				*i* S	Sg	01 25 56.5	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	01 26 00.2	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	01 26 05.1	-0.8
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	01 26 05.3	-1.0
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	01 26 06.6	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	01 26 06.7	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	01 26 06.7	-0.8
	baz=68						
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB	Pb	01 26 14.8	-1.1
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	01 26 17.0	-1.9
PAJU	**Pajala**	**1.39**	**125**	P	Pg	01 26 17.0	-1.9
	baz=323						
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	01 26 34.9	-2.3
SGF				*e*SG	Sg	01 27 07.5	-3.6
KEV	**Kevo**	**3.14**	**49**	*e*SB	Sb	01 27 26.7	-1.1

SKHL 29 01:28:05.1±1.2, 4710N×14230E, h5km, mb3.9/1, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.34**	**115**	⇑*i*Pg	Pg	01 28 12.0	+0.2
YSS				AMB	AMB	01 28 13.3	
	450nm,0.3s						
YSS				AMB	AMB	01 28 13.3	
	460nm,0.3s						
YSS				AMB	AMB	01 28 13.3	
	670nm,0.4s						
YSS				*i* Sg	Sg	01 28 16.2	0.0
YSS				A		01 28 16.9	
	5μm,0.5s						
YSS				A		01 28 16.9	
	7μm,0.4s						
UGL	**Uglegorsk**	**1.99**	**356**	*e*Pg	Pg	01 28 43.5	+0.3
UGL				AMB	AMB	01 28 44.0	
	58nm,0.5s						
UGL				*e*Sg	Sg	01 29 11.0	+2.1
UGL				A		01 29 13.5	
	190nm,0.7s						
UGL				A		01 29 13.5	
	130nm,0.5s						
TYV	**Tymovskoe**	**3.77**	**3**	*e*Sg	Sg	01 30 13.0	+6.7
GRNR	**Gornyy**	**5.34**	**316**	*e*Sg	Sg	01 31 04.0	+7.5
GRNR				A		01 31 10.0	
	11nm,0.4s						
GRNR				A		01 31 10.0	
	10.0nm,0.4s						
EKMR	**Ekimchan**	**8.47**	**318**	*e*S	Sn	01 31 52.0	+7.6
EKMR				*e*Sg	Sg	01 32 44.0	+7.0
EKMR				A		01 32 55.9	
	5.0nm,0.7s						
EKMR				A		01 32 55.9	
	3.0nm,0.7s						
EKMR				A		01 32 55.9	
	4.0nm,0.7s						

*ISCJB **29** 01:57:19.3±1.1, 3864N±006×1419E±0.1, h60km±7km, mb3.7/4, Error ellipse: s-maj=17.7km s-min=8.7km az=44.2*
*JMA **29** 01:57:20.2, 3862N×14190E, h47km±1km, M3.4*
JMA Felt I J1.
*IDC **29** 01:57:42.2±2.8, 3780N×13901E, h190km±14km, mb3.0/2, mb1 3.2/2, mb1mx2.8/21, mbtmp3.0/2, Error ellipse: s-maj=51.1km s-min=25.3km az=56.0*
*NEIC **29** 01:57:43.0±1.1, 3779N×13891E, h194km±9km, mb3.6/2, Error ellipse: s-maj=21.1km s-min=17.3km az=74.0*

ISC 29 01:57:20.2±1.1, 3864N±006×1419E±01, h53km±8km, n19, σ0∓87/27, mb3.7/4, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.46**	**246**	⇓P	**Pn**	**01 57 30.7**	**-0.4**
JIO				*i* S	**Sn**	**01 57 38.0**	**-1.0**
OFUJ	**Ofunato**	**0.47**	**339**	⇓P	**Pn**	**01 57 31.2**	**0.0**
OFUJ				S	**Sn**	**01 57 38.9**	**-0.2**
JMK	**Ichinoseki**	**0.60**	**301**	⇓P	**Pn**	**01 57 33.0**	**+0.2**
JMK				S	**Sn**	**01 57 42.2**	**+0.2**
JOM	**Ohasama**	**0.95**	**331**	⇓P	**Pn**	**01 57 37.6**	**+0.3**
JOU	**Okura**	**1.00**	**254**	⇓P	**Pn**	**01 57 37.9**	**0.0**
JOU				*e*S	**Sn**	**01 57 51.0**	**0.0**
JMM	**Marumori**	**1.16**	**228**	⇓P	**Pn**	**01 57 39.4**	**-0.7**
JYK	**Kaneyama**	**1.22**	**283**	⇓P	**Pn**	**01 57 41.3**	**+0.4**
JYS	**Shirataka**	**1.49**	**254**	P	**Pn**	**01 57 44.9**	**+0.3**
JFK	**Kawauchi**	**1.50**	**212**	⇓P	**Pn**	**01 57 44.2**	**-0.6**
MJAR	**Matsushiro Arr**	**3.59**	**235**	P	**Pn**	**01 58 15.4**	**+2.1**
	1.6nm,0.3s,baz=38,slow=12,SNR=16					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.59**	**16**	*e*Pg	**Pg**	**02 06 32.8**	**+1.0**
PAIG				*e*Sg	**Sg**	**02 06 42.2**	**+2.8**
LKR	**Lokris**	**0.80**	**208**	*e*PB	**Pg**	**02 06 36.5**	**+0.6**
AGG	**Agios Georgios**	**0.95**	**249**	*e*Pg	**Pg**	**02 06 38.9**	**+0.1**
PLG	**Polygyros**	**1.01**	**359**	*e*Pg	**Pg**	**02 06 39.5**	**-0.5**
OUR	**Ouranopolis**	**1.05**	**22**	*e*Pg	**Pg**	**02 06 39.9**	**-0.7**
LIT	**Litokhoron**	**1.06**	**315**	*e*Pg	**Pg**	**02 06 40.5**	**-0.4**
THL	**Klokotos Trika**	**1.15**	**281**	*e*PB	**Pg**	**02 06 42.5**	**-0.1**
HORT	**Hortiatis**	**1.27**	**347**	*e*Pg	**Pg**	**02 06 43.9**	**-1.0**
HORT				*e*Sg	**Sg**	**02 07 01.6**	**+0.3**
PTL	**Penteli**	**1.35**	**167**	*e*PB	**Pn**	**02 06 45.8**	**-0.6**
PTL				*e*SB	**Sn**	**02 07 04.5**	**-0.4**
EVR	**Evrytania**	**1.37**	**252**	*e*PN	**Pn**	**02 06 47.1**	**+0.4**
EVR				*e*SB	**Sn**	**02 07 05.5**	**0.0**
MGER	**Gerania Oros**	**1.38**	**187**	*e*PG	**Pg**	**02 06 46.5**	**-0.6**
ATH	**Athens Observa**	**1.40**	**172**	*e*PB	**Pn**	**02 06 47.4**	**+0.2**
ATH				*e*SB	**Sn**	**02 07 06.5**	**+0.3**
KVR	**Kavouri**	**1.55**	**171**	*e*PB	**Pb**	**02 06 50.2**	**+0.2**
KVR				*e*SB	**Sb**	**02 07 10.5**	**+0.4**
NAIG	**Nisos Aigina**	**1.60**	**180**	*e*PN	**Pn**	**02 06 50.5**	**+0.6**
GRG	**Griva**	**1.79**	**333**	*e*Pb	**Pn**	**02 06 51.6**	**-0.9**

*ISCJB **29** 02:06:43.4±1.3, 45S±01×1499E±0.1, h533km±18km, mb3.7/14, Error ellipse: s-maj=18.4km s-min=16.3km az=125.3*
*IDC **29** 02:06:44.1±1.8, 452S×14985E, h525km±21km, mb3.1/10, mb1 3.3/13, mb1mx3.2/19, mbtmp3.3/13, Error ellipse: s-maj=17.7km s-min=15.9km az=26.0*
*NEIC **29** 02:06:44.1±0.7, 451S×14985E, h530km±9km, mb4.1/5, Error ellipse: s-maj=10.4km s-min=8.7km az=142.0*
ISC 29 02:06:44.2±1.2, 45S±01×1499E±01, h531km±17km, n28, σ0561/24, mb3.7/14, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**209**	P	**P**	**02 08 17.7**	**-0.2**
	6.7nm,0.3s,baz=32,slow=5.5,SNR=19						
HNR	**Honiara**	**11.13**	**117**	P	**P**	**02 09 13.8**	**+0.2**
	22nm,0.3s,baz=253,slow=9.1,SNR=3.4						
CTA	**Charters Tower**	**15.89**	**193**	*e*P	**P**	**02 10 02.9**	**-0.1**
	6.1nm,0.6s						
CTA	**Charters Tower**	**15.89**	**193**	P	**P**	**02 10 03.0**	**0.0**
	1.4nm,0.3s,baz=6.7,slow=10,SNR=15						
CTAO	**Charters Tower**	**15.89**	**193**	*e*P	**P**	**02 10 02.8**	**-0.2**
	8.2nm,0.5s						
WRA	**Warramunga Arr**	**21.56**	**223**	P	**P**	**02 10 55.6**	**+0.4**
	0.4nm,0.3s,mb3.5,baz=45,slow=9.5,SNR=13						
DZM	**Mont Dzumac**	**23.73**	**139**	P	**P**	**02 11 15.3**	**+0.8**
	2.6nm,0.5s,mb4.1,baz=277,slow=8.1,SNR=10.0						
ASAR	**Alice Springs**	**24.51**	**217**	P	**P**	**02 11 21.5**	**0.0**
	0.3nm,0.5s,mb3.2,baz=46,slow=8.1,SNR=6.2						
FITZ	**Fitzroy Crossi**	**27.29**	**238**	P	**P**	**02 11 44.9**	**-1.1**
	0.7nm,0.4s,mb3.7,baz=82,slow=5.9,SNR=5.8						
URZ	**Urewera**	**41.77**	**147**	P	**P**	**02 13 46.8**	**-0.1**
	4.0nm,0.6s,mb4.2,baz=301,slow=5.9,SNR=3.6						
SONM	**Songino Array**	**64.54**	**329**	P	**P**	**02 16 29.4**	**+0.5**
	0.6nm,0.3s,mb3.5,baz=146,slow=4.1,SNR=5.0						
VNDA	**Vanda**	**73.25**	**177**	P	**P**	**02 17 21.2**	**-0.2**
	1.1nm,0.9s,mb3.3,baz=333,slow=9.5,SNR=2.8						
VNDA	**Vanda**	**73.25**	**177**	P	**P**	**02 17 21.2**	**-0.2**
BILL	**Bilibino**	**73.28**	**6**	*e*P	**P**	**02 17 21.3**	**-0.2**
	1.9nm,0.3s,mb4.0						
MKAR	**Makanchi Array**	**78.19**	**320**	P	**P**	**02 17 49.7**	**+1.0**
	1.1nm,0.9s,mb3.2,baz=100,slow=6.9,SNR=5.7						
MKAR	**Makanchi Array**	**78.19**	**320**	P	**P**	**02 17 49.7**	**+1.0**
SML	**Sawmill**	**81.07**	**25**	*e*P	**P**	**02 18 03.5**	**-0.3**
AAK	**Ala-Archa**	**82.35**	**314**	*e*P	**P**	**02 18 11.3**	**+0.9**
	1.2nm,0.5s,mb3.6						
COLA	**College**	**82.67**	**22**	*e*P	**P**	**02 18 10.8**	**-1.2**
	4.1nm,0.8s,mb4.0						
EGAK	**Eagle**	**85.24**	**24**	*e*P	**P**	**02 18 24.4**	**-0.3**
	2.9nm,0.5s,mb4.1						
DAWY	**Dawson**	**85.71**	**25**	*e*P	**P**	**02 18 27.3**	**+0.4**
INK	**Inuvik**	**89.22**	**21**	P	**P**	**02 18 42.4**	**-1.0**
	0.8nm,0.4s,mb3.9,baz=273,slow=5.4,SNR=15						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	**P**	**02 19 17.1**	**+0.3**
	0.2nm,0.5s,mb3.6,baz=274,slow=4.9,SNR=8.1						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	**P**	**02 19 17.1**	**+0.3**
GERES	**GERESS Array B**	**122.25**	**327**	PKP	PKPdf	02 24 39.3	+0.6
	0.7nm,0.6s,baz=70,slow=1.6,SNR=8.1						
KEST	**Kesra**	**132.18**	**316**	PKP	PKPdf	02 24 58.6	+1.0
	0.4nm,0.8s,baz=297,slow=17,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**147.44**	**287**	*e*PKPbc	PKPbc	02 25 29.4	+1.1
TORD	**Torodi Ar. Bea**	**147.44**	**287**	PKPbc	PKPbc	02 25 29.6	+1.2
	2.9nm,0.4s,baz=84,slow=2.2,SNR=97						

*MOS **29** 02:06:57.9±0.8, 444S×14994E, h514km, mb4.6/18, Error ellipse: s-maj=12.5km s-min=7.6km az=101.2*
*BJI **29** 02:06:57.2, 426S×150.16E, h510km, mB4.9, mb4.5*
*ISCJB **29** 02:06:58.6±0.7, 458S±005×14996E±006, h529km±9km, mb4.5/50, Error ellipse: s-maj=9.9km s-min=7.1km az=61.7*
*IDC **29** 02:06:59.9±1.1, 456S×14987E, h529km±12km, mb3.9/15, mb1 4.0/17, mb1mx4.0/19, mbtmp3.9/17, Error ellipse: s-maj=12.9km s-min=8.5km az=103.0*
*NEIC **29** 02:06:59.4±0.5, 456S×14996E, h528km±6km, mb4.7/32, Error ellipse: s-maj=6.2km s-min=5.3km az=99.0*
ISC 29 02:06:59.3±0.7, 459S±005×15002E±006, h525km±8km, n185, σ0591/113, mb4.5/50, 12C-7D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**211**	P	**P**	**02 08 33.2**	**+0.5**
	37nm,0.3s,baz=30,slow=5.3,SNR=65						
PMG				S	**S**	**02 09 48.2**	**-0.8**
	8.0nm,0.3s,baz=45,slow=15,SNR=7.4						
HNR	**Honiara**	**10.96**	**117**	P	**P**	**02 09 26.1**	**-0.8**
	33nm,0.3s,baz=259,slow=1.5,SNR=31						
CTA	**Charters Tower**	**15.84**	**193**	*e*P	**P**	**02 10 18.5**	**+0.8**
	9.4nm,0.7s						
CTA	**Charters Tower**	**15.84**	**193**	P	**P**	**02 10 17.9**	**+0.2**
	1.3nm,0.3s,baz=22,slow=9.1,SNR=8.6						
CTA				S	**S**	**02 13 02.5**	**+1.4**
	baz=263,slow=16,SNR=2.4						
CTA	**Charters Tower**	**15.84**	**193**	*e*P	**P**	**02 10 18.5**	**+0.8**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	**Charters Tower**	**15.84**	**193**	*e*P	**P**	**02 10 18.4**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**15.84**	**193**	*e*P	**P**	**02 10 18.4**	**+0.7**
	comp=Z,12nm,0.8s						
KAKA	**Kakadu**	**19.15**	**244**	*e*P	**P**	**02 10 48.5**	**-0.3**
	comp=Z,53nm,0.5s						
KAKA				*e*S	**S**	**02 13 52.1**	**-3.4**
WB2	**Warramunga Arr**	**21.58**	**224**	⇓*i*P	**P**	**02 11 10.9**	**0.0**
WB2				*e*S	**S**	**02 14 32.5**	**-1.7**
WRA	**Warramunga Arr**	**21.59**	**224**	P	**P**	**02 11 11.1**	**+0.1**
	comp=Z,7.6nm,0.3s,mb4.8,baz=46,slow=9.5,SNR=70						
WRA				S	**S**	**02 14 34.0**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=53,slow=14,SNR=7.2						
WRA				PcP	PcP	02 14 51.9	+0.9
	comp=Z,4.7nm,0.8s,baz=25,slow=1.7,SNR=8.7						
DZM	**Mont Dzumac**	**23.56**	**139**	P	**P**	**02 11 30.5**	**+2.0**
	comp=Z,16nm,0.5s,mb4.9,baz=313,slow=12,SNR=28						
ASAR	**Alice Springs**	**24.52**	**218**	P	**P**	**02 11 37.1**	**0.0**
	comp=Z,11nm,0.7s,mb4.6,baz=52,slow=8.0,SNR=76						
ASAR				PcP	PcP	02 14 58.0	+0.7
	comp=Z,3.6nm,0.9s,baz=57,slow=1.9,SNR=5.8						
ASAR				S	**S**	**02 15 19.5**	**-1.0**
	comp=Z,5.6nm,0.8s,baz=46,slow=14,SNR=6.7						
FITZ	**Fitzroy Crossi**	**27.37**	**239**	*e*P	**P**	**02 12 01.1**	**-1.0**
	comp=Z,5.6nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.37**	**239**	P	**P**	**02 12 01.4**	**-0.7**
	comp=Z,3.1nm,0.4s,mb4.3,baz=50,slow=10,SNR=20						
STKA	**Stephens Creek**	**28.27**	**195**	P	**P**	**02 12 10.4**	**+0.3**
	comp=Z,1.9nm,0.4s,mb4.1,baz=40,slow=15,SNR=7.7						
FORT	**Forrest**	**33.27**	**216**	⇓*i*P	**P**	**02 12 52.4**	**-0.6**
	comp=Z,33nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**40.47**	**225**	*e*P	**P**	**02 13 50.6**	**-1.6**
	comp=Z,9.7nm,0.5s,mb4.6						
URZ	**Urewera**	**41.61**	**147**	P	**P**	**02 14 02.3**	**+1.0**
	comp=Z,4.6nm,0.5s,mb4.3,baz=135,slow=2.9,SNR=7.2						
MUN	**Mundaring**	**41.78**	**225**	*e*P	**P**	**02 14 01.5**	**-1.0**
MJAR	**Matsushiro Arr**	**42.38**	**346**	P	**P**	**02 14 06.5**	**-0.8**
	comp=Z,8.3nm,0.8s,mb4.3,baz=168,slow=7.3,SNR=14						
MAJO	**Matsushiro**	**42.38**	**346**	*e*P	**P**	**02 14 06.7**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**42.38**	**346**	*e*P	**P**	**02 14 06.7**	**-0.6**
	comp=Z,15nm,0.7s,mb4.6						
KSRS	**Korea Array**	**46.61**	**336**	P	**P**	**02 14 40.0**	**+0.1**
	comp=Z,7.4nm,0.9s,mb4.2,baz=153,slow=8.1,SNR=10						
YSS	**Yuzh-Sakhalins**	**51.72**	**354**	*e*P	**P**	**02 15 17.1**	**-0.6**
YSS				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.6						
YSS	**Yuzh-Sakhalins**	**51.72**	**354**	*e*P	**P**	**02 15 17.1**	**-0.6**
	comp=Z,21nm,0.7s,mb4.6						
HABR	**Khabarovsk**	**54.44**	**348**	*e*P	**P**	**02 15 37.1**	**+0.1**
HABR				*e*S	**S**	**02 22 43.7**	**+7.8**
XAN	**Xi'an**	**54.58**	**318**	P	**P**	**02 15 37.5**	**-0.5**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.0						
CHTO	**Chiang Mai**	**55.41**	**296**	*e*P	**P**	**02 15 44.6**	**+0.8**
	comp=Z,2.7nm,0.6s,mb3.6						
KLR	**Kul'dur**	**55.91**	**346**	*e*P	**P**	**02 15 43.8**	**-3.5**
KLR				*e*		02 16 35.0	
LZH	**Lanzhou**	**59.17**	**317**	⇑P	**P**	**02 16 10.5**	**+1.0**
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb4.3						
LZH				AMB	AMB		
	comp=Z,67nm,6.3s						
HIA	**Hailar**	**59.74**	**338**	⇑*e*P	**P**	**02 16 13.6**	**+0.3**
HIA	**Hailar**	**59.74**	**338**	*e*P	**P**	**02 16 12.8**	**-0.5**
	comp=Z,15nm,0.8s,mb4.4						
GTA	**Gaotai**	**63.64**	**318**	*e*P	**P**	**02 16 39.8**	**+1.1**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.0						
SHL	**Shillong**	**63.82**	**301**	*e*P	**P**	**02 16 41.0**	**+1.1**
MA2	**Magadan**	**63.97**	**0**	*e*P	**P**	**02 16 40.4**	**-0.4**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**64.38**	**329**	*e*P	**P**	**02 16 43.8**	**+0.4**
ULN				*e*		02 17 12.3	
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**64.38**	**329**	⇑*e*P	**P**	**02 16 44.0**	**+0.6**
ULN	**Ulaanbaatar**	**64.38**	**329**	*e*P	**P**	**02 16 43.8**	**+0.4**
	comp=Z,10nm,1.0s,mb4.2						
ULN				*e*PcP	PcP	02 17 12.3	-0.2
SONM	**Songino Array**	**64.69**	**329**	P	**P**	**02 16 45.9**	**+0.5**
	comp=Z,7.6nm,0.7s,mb4.2,baz=137,slow=5.6,SNR=32						
SONM				PcP	PcP	02 17 13.0	-0.9
	comp=Z,3.2nm,0.7s,baz=147,slow=4.3,SNR=6.2						
LSA	**Lhasa**	**65.85**	**305**	P	**P**	**02 16 54.0**	**+1.3**
LSA	**Lhasa**	**65.85**	**305**	*e*P	**P**	**02 16 54.1**	**+1.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**65.85**	**305**	*e*P	**P**	**02 16 54.1**	**+1.4**
	comp=Z,10nm,0.8s,mb4.4						
SEY	**Seymchan**	**67.36**	**1**	*i*P	**P**	**02 17 02.1**	**+0.1**
ZAK	**Zakamensk**	**67.89**	**330**	⇓*i*P	**P**	**02 17 05.4**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
YAK	**Yakutsk**	**68.25**	**350**	⇑*e*P	**P**	**02 17 07.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
BOD	**Bodaibo**	**68.63**	**340**	*e*P	**P**	**02 17 08.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
JIRN	**Jiri**	**69.31**	**302**	*e*P	**P**	**02 17 14.7**	**+0.8**
	comp=Z,27nm,0.9s,mb4.8						
GUN	**Gumba**	**69.65**	**302**	*e*P	**P**	**02 17 16.7**	**+0.8**
	comp=Z,61nm,0.9s,mb5.1						
MOY	**Mondy**	**69.82**	**330**	*e*P	**P**	**02 17 17.1**	**+0.2**
PKI	**Pulchoki**	**69.95**	**301**	*e*P	**P**	**02 17 18.2**	**+0.5**
	comp=Z,46nm,1.1s,mb4.9						
PKI	**Pulchoki**	**69.95**	**301**	*e*P	**P**	**02 17 18.2**	**+0.5**
PKI				pmax	pmax		
	comp=Z,47nm,1.1s,mb4.9						
KKN	**Kakani**	**70.12**	**302**	*e*P	**P**	**02 17 19.2**	**+0.5**
	comp=Z,33nm,0.7s,mb5.0						
KKN	**Kakani**	**70.12**	**302**	*e*P	**P**	**02 17 19.2**	**+0.5**
KKN				pmax	pmax		
	comp=Z,33nm,0.7s,mb5.0						
DMN	**Daman**	**70.22**	**301**	*e*P	**P**	**02 17 20.2**	**+0.9**
	comp=Z,21nm,0.4s,mb5.0						
GKN	**Gorkha**	**70.73**	**302**	*e*P	**P**	**02 17 22.7**	**+0.4**
	comp=Z,72nm,1.0s,mb5.2						
KOLN	**Koldanda**	**71.55**	**301**	*e*P	**P**	**02 17 27.5**	**+0.4**
	comp=Z,51nm,0.8s,mb5.0						
VNDA	**Vanda**	**73.15**	**177**	P	**P**	**02 17 36.6**	**+0.2**
	comp=Z,8.8nm,0.9s,mb4.2,baz=329,slow=5.9,SNR=45						
VNDA	**Vanda**	**73.15**	**177**	*e*P	**P**	**02 17 36.3**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VNDA	**Vanda**	**73.15**	**177**	*e*P	**P**	**02 17 36.3**	**-0.1**
	comp=Z,8.8nm,0.8s,mb4.2						
BILL	**Bilibino**	**73.36**	**6**	*d i*P	**P**	**02 17 37.3**	**-0.3**
BILL				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.7						
BILL	**Bilibino**	**73.36**	**6**	*e*P	**P**	**02 17 37.4**	**-0.2**
	comp=Z,32nm,1.0s,mb4.7						
WMQ	**Urumqi**	**73.72**	**318**	P	**P**	**02 17 40.3**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,186nm,5.0s						
TIXI	**Tiksi**	**77.34**	**353**	⇑*e*P	**P**	**02 17 58.2**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
TIXI	**Tiksi**	**77.34**	**353**	*e*P	**P**	**02 17 58.3**	**-1.4**
	comp=Z,8.4nm,0.8s,mb4.2						
SVW2	**Sparrevohn**	**77.73**	**24**	*e*P	**P**	**02 18 02.2**	**+0.3**
MK31	**Makanchi Array**	**78.36**	**320**	*e*P	**P**	**02 18 05.3**	**+0.1**
MKAR	**Makanchi Array**	**78.36**	**320**	P	**P**	**02 18 05.2**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.0,baz=115,slow=5.8,SNR=27						
SLKM	**Skilak Lake**	**79.67**	**26**	*e*P	**P**	**02 18 11.6**	**-0.6**
NVS	**Novosibirsk**	**80.65**	**327**	*e*P	**P**	**02 18 15.4**	**-1.9**
PMR	**Palmer**	**80.65**	**25**	*e*P	**P**	**02 18 16.3**	**-1.0**
PMR				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
PMR	**Palmer**	**80.65**	**25**	*e*P	**P**	**02 18 16.3**	**-1.0**
	comp=Z,19nm,0.8s,mb4.6						
SML	**Sawmill**	**81.09**	**25**	*e*P	**P**	**02 18 19.2**	**-0.4**
TKM2	**Tokmak 2**	**81.80**	**314**	P	**P**	**02 18 23.8**	**+0.6**
	SNR=7.5						
KZA	**Kyzart**	**81.84**	**313**	P	**P**	**02 18 25.2**	**+1.8**
	SNR=12						
KURK	**Kurchatov**	**81.91**	**323**	*d i*P	**P**	**02 18 23.1**	**-0.7**
KURK	**Kurchatov**	**81.91**	**323**	*e*P	**P**	**02 18 22.9**	**-0.8**
	comp=Z,33nm,1.2s,mb4.6						
KBK	**Karagaybulak**	**82.20**	**314**	P	**P**	**02 18 26.2**	**+1.0**
	SNR=7.4						
UCH	**Uchtor**	**82.41**	**313**	P	**P**	**02 18 27.9**	**+1.5**
	SNR=13						
CHMS	**Chumysh**	**82.42**	**314**	P	**P**	**02 18 27.2**	**+0.9**
	SNR=9.2						
FRU	**Bishkek**	**82.47**	**314**	*e*P	**P**	**02 18 26.0**	**-0.7**
FRU				pmax	pmax		
	comp=Z,50nm,2.0s,mb4.6						
AAK	**Ala-Archa**	**82.52**	**314**	P	**P**	**02 18 27.8**	**+0.9**
	SNR=11						
AAK	**Ala-Archa**	**82.52**	**314**	⇓*i*P	**P**	**02 18 26.8**	**-0.1**
AAK				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.6						
AAK	**Ala-Archa**	**82.52**	**314**	*e*P	**P**	**02 18 26.4**	**-0.5**
	comp=Z,35nm,1.4s,mb4.7						
USP	**Ospenovka**	**82.66**	**315**	P	**P**	**02 18 28.0**	**+0.4**
	SNR=18						
COLA	**College**	**82.70**	**22**	*c i*P	**P**	**02 18 26.8**	**-1.0**
COLA	**College**	**82.70**	**22**	*e*P	**P**	**02 18 26.3**	**-1.5**
	comp=Z,39nm,0.8s,mb5.0						
AML	**Almayashu**	**82.98**	**313**	P	**P**	**02 18 30.8**	**+1.6**
	SNR=16						
EKS2	**Erkin-Say**	**83.04**	**314**	P	**P**	**02 18 30.6**	**+1.1**
	SNR=18						
MAW	**Mawson**	**84.70**	**203**	*e*P	**P**	**02 18 36.7**	**-1.0**
MAW				pmax	pmax		
	comp=Z,14nm,1.0s						
MAW	**Mawson**	**84.70**	**203**	*e*P	**P**	**02 18 36.7**	**-1.0**
	comp=Z,14nm,1.0s,mb4.5						
KBL	**Kabul**	**85.17**	**305**	*e*P	**P**	**02 18 38.5**	**-1.5**
EGAK	**Eagle**	**85.27**	**24**	*e*P	**P**	**02 18 40.0**	**-0.5**
	comp=Z,44nm,1.0s,mb4.9						
QSPA	**South Pole Qui**	**85.37**	**180**	*e*P	**P**	**02 18 40.8**	**-0.2**
	comp=Z,33nm,0.6s,mb5.0						
DAWY	**Dawson**	**85.74**	**25**	*e*P	**P**	**02 18 42.9**	**+0.2**
BRVK	**Borovoye**	**87.49**	**324**	*e*P	**P**	**02 18 49.7**	**-1.3**
INK	**Inuvik**	**89.25**	**21**	P	**P**	**02 18 58.4**	**-0.8**
	comp=Z,17nm,1.0s,mb4.8,baz=239,slow=5.0,SNR=29						
INK	**Inuvik**	**89.25**	**21**	*e*P	**P**	**02 18 58.1**	**-1.2**
NVAR	**Mina Array Bea**	**94.13**	**52**	P	**P**	**02 19 22.6**	**+0.9**
	comp=Z,0.6nm,0.5s,mb4.0,baz=271,slow=5.2,SNR=4.8						
ARU	**Arti**	**94.60**	**326**	*e*P	**P**	**02 19 21.5**	**-2.3**
ARU				*e*		02 23 22.7	
ARU				*e*PPP		02 25 33.4	
ARU				*e*S	SKSac	02 29 03.5	-4.9
ARU				*e*SP	SP	02 31 15.9	+4.1
ARU				*e*SS	SS	02 36 35.7	+5.9
ARU	**Arti**	**94.60**	**326**	*e*P	**P**	**02 19 21.3**	**-2.5**
	comp=Z,3.6nm,0.8s,mb4.5						
NEW	**Newport**	**95.30**	**42**	P	**P**	**02 19 26.7**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.5,baz=192,slow=4.3,SNR=6.2						
NEW	**Newport**	**95.30**	**42**	*e*P	**P**	**02 19 26.9**	**0.0**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**95.30**	**42**	*e*P	**P**	**02 19 26.9**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**02 19 32.2**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.3,baz=274,slow=4.8,SNR=28						
YKA				PKiKP	PKiKP	02 24 06.0	-0.3
	comp=Z,0.2nm,0.5s,baz=279,slow=2.0,SNR=3.8						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**02 19 32.2**	**-0.3**
HLID	**Hailey**	**97.17**	**47**	*e*P	**P**	**02 19 36.2**	**+0.9**
	comp=Z,0.9nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**100.75**	**47**	P	Pdif	02 19 51.3	0.0
	comp=Z,1.4nm,0.8s,baz=248,slow=2.8,SNR=9.8						
ARCES	**ARCESS Array B**	**105.84**	**342**	PKiKP	PKiKP	02 24 21.7	-1.5
	comp=Z,2.6nm,0.9s,baz=26,slow=2.4,SNR=5.5						
ARCES	**ARCESS Array B**	**105.84**	**342**	PKPdf	PKiKP	02 24 21.7	-1.5
FINES	**FINESS Array B**	**109.70**	**335**	Pdiff	Pdif	02 20 29.8	-1.3
	comp=Z,0.5nm,0.3s,baz=72,slow=5.0,SNR=8.6						
FINES				PKiKP	PKiKP	02 24 29.9	-0.5
	comp=Z,0.4nm,0.4s,baz=90,slow=3.2,SNR=6.6						
AKASG	**Malin Array Be**	**112.70**	**324**	PKiKP	PKiKP	02 24 35.0	-1.0
	comp=Z,0.7nm,0.4s,baz=62,slow=2.1,SNR=8.7						
NB2	**NORSAR Subarra**	**115.75**	**339**	PKPdf	PKPdf	02 24 40.5	-1.4
	comp=Z,2.0nm,1.0s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**115.75**	**339**	PKiKP	PKiKP	02 24 41.0	-0.9
	comp=Z,2.0nm,0.8s,baz=45,slow=1.8,SNR=7.9						
BOSA	**Boshof**	**117.51**	**235**	PKiKP	PKiKP	02 24 45.5	+0.1
	comp=Z,2.3nm,0.8s,baz=150,slow=15,SNR=3.8						
KOLS	**Kolonicke sedl**	**117.53**	**324**	*e*PKP	PKPdf	02 24 45.9	+0.6
STHS	**Stebnicka Huta**	**117.90**	**325**	*e*PKP	PKPdf	02 24 46.1	0.0
WVT	**Waverly**	**118.43**	**51**	*e*PKiKP	PKPdf	02 24 47.4	+0.3
LBTB	**Lobatse**	**118.55**	**238**	*e*PKiKP	PKPdf	02 24 48.0	+0.7
WCI	**Wyandotte Cave**	**118.97**	**49**	*e*PKiKP	PKPdf	02 24 48.4	+0.3
LSZ	**Lusaka**	**119.12**	**250**	*e*PKiKP	PKPdf	02 24 49.6	+1.2
OKC	**Ostrava-Krasne**	**119.43**	**326**	*e*PKPdf	PKPdf	02 24 48.8	-0.2
VYHS	**Vyhne**	**119.73**	**325**	*e*PKP	PKPdf	02 24 48.9	-0.7
UPC	**Upice**	**120.22**	**328**	*e*PKPdf	PKPdf	02 24 50.5	0.0
BSEG	**Bad Segeberg**	**120.91**	**334**	*e*PKPdf	PKPdf	02 24 52.0	+0.2
PVCC	**Panska Ves**	**120.97**	**329**	*e*PKPdf	PKPdf	02 24 51.9	-0.1
BRG	**Berggiesshubel**	**121.09**	**329**	*e*PKPdf	PKPdf	02 24 51.7	-0.5
BRG	**Berggiesshubel**	**121.09**	**329**	*i* P	PKPdf	02 24 52.1	-0.1
	comp=Z,5.0nm,1.0s						
TREC	**Trest**	**121.18**	**327**	*e*PKPdf	PKPdf	02 24 52.2	-0.2
PRU	**Pruhonice**	**121.30**	**328**	*e*PKPdf	PKPdf	02 24 52.4	-0.2
CLL	**Collm**	**121.31**	**330**	*e*PKPdf	PKPdf

QSPA	South Pole Qui	84.19 180	*e*P	P	02 20 32.9	-0.2
GERES	GERESS Array B	122.86 326	PKP	PKPdf	02 26 58.5	+0.7
	0.3nm,0.6s,baz=73,slow=1.3,SNR=6.6					
TOA0	Torodi Ar. Sit	146.99 285	*e*PKPbc	PKPdf	02 27 45.3	+2.9
TORD	Torodi Ar. Bea	146.99 285	PKPbc	PKPdf	02 27 46.5	+4.2
	2.7nm,0.8s,baz=71,slow=2.5,SNR=5.1					

DHMR 29 02:12:49.0±2.3, 1253N×4699E, h10km, ML3.6, 2D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.98**	**277**	*i* P		Pn	02 13 24.3	+1.8
ADEN					AML	AML	02 13 25.7	
	comp=Z,371nm,0.6s							
ADEN				*i* S		Sn	02 13 48.9	+1.6
ADEN	**Aden**	**1.98**	**277**	*i* P		Pn	02 13 24.3	+1.8
	comp=Z,185nm,0.6s							
ADEN				*i* S		Sn	02 13 48.9	+1.6
BDHA	**Al Bayda'**	**2.00**	**316**	*i* S		Sn	02 13 52.6	+4.7
BDHA					AML	AML	02 13 54.8	
	comp=E,2μm,0.3s							
BDHA	**Al Bayda'**	**2.00**	**316**	*i* S		Sn	02 13 52.6	+4.7
	comp=E,854nm,0.3s							
MUKL	**Al Mukalla**	**2.78**	**46**	⇓*i* P		Pn	02 13 36.4	+2.9
MUKL				*i* S		Sn	02 14 12.2	+5.2
TRBA	**At Turbah**	**2.89**	**284**	⇓*i* P		Pn	02 13 39.3	+4.2
TRBA					AML	AML	02 13 44.8	
	comp=Z,238nm,0.5s							
DHBB	**Dhamar BB**	**3.25**	**309**	*i* P		Pn	02 13 43.0	+3.1
DHBB				*i* S		Sn	02 14 25.2	+6.6

*CSEM **29** 02:13:59.8±0.1, 4406N×1360E, h10km, ML2.9/13, Error ellipse: s-maj=2.2km s-min=1.4km az=132.0*
*PRU **29** 02:14:00.8, 44.18N×1342E, h0km*
*ROM **29** 02:14:01.1±0.2, 4422N×1355E, h10km, Ml2.8/29, Error ellipse: s-maj=4.1km s-min=2.3km az=117.0*
*NEIC **29** 02:14:01.1, 4422N×1355E, h10km, ML2.8(ROM), ML2.9(ZAG), ML3.0(LDG), ML3.4(SZGRF), After ROM.*
*ISCJB **29** 02:14:01.2±0.2, 4422N±002×13.19E±002, h10km, Error ellipse: s-maj=2.6km s-min=2.0km az=61.4*
*LDG **29** 02:14:02.6±0.2, 44.18N×1349E, h10km, Ml3.0/16, Error ellipse: s-maj=6.5km s-min=2.9km az=158.0*
*SZGRF **29** 02:14:04.9, 4440N×1344E, h10km, mb3.4, Adriatic Sea*
ISC 29 02:14:03.2±0.4, 4418N±002×1329E±002, h19km±3km, n147, σ1§16/210, 23C-9D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FSSB	**Fossombrone**	**0.61**	**217**	Pg		**Pg**	**02 14 14.8**	**-0.7**
	548nm,0.2s							
RSM	**Repubblica di**	**0.66**	**248**	Pg		**Pg**	**02 14 17.0**	**+0.8**
	35nm,0.9s							
AOI	**Ancona**	**0.67**	**160**	Pg		**Pg**	**02 14 14.7**	**-1.8**
	241nm,0.6s							
CING	**Cingoli**	**0.81**	**185**	Pg		**Pg**	**02 14 18.2**	**-0.9**
	241nm,0.6s							
BADI	**Badiali**	**1.01**	**229**	Pg		**Pg**	**02 14 23.4**	**+0.5**
	199nm,0.6s							
MURB	**Monte Urbino**	**1.07**	**211**	Pg		**Pg**	**02 14 24.2**	**+0.1**
	859nm,0.3s							
SFI	**Santa Sofia**	**1.08**	**256**	Pg		**Pn**	**02 14 24.4**	**+1.2**
	315nm,0.9s							
CRE	**Caprese Michel**	**1.12**	**240**	Pg		**Pg**	**02 14 26.1**	**+1.1**
	57nm,0.7s							
NVLJ	**Novalja**	**1.20**	**71**	*i* Pg		**Pg**	**02 14 22.9**	**-3.5**
NVLJ				*i* Sg		**Sg**	**02 14 39.0**	**-3.1**
FIU	**Minerbio Fiu**	**1.37**	**290**	Pg		**Pn**	**02 14 29.0**	**+1.8**
	263nm,0.6s							
KNDS	**Knezji Dol**	**1.55**	**30**	*i* Pn		**Pn**	**02 14 29.2**	**-0.6**
TERO	**Teramo**	**1.58**	**172**	Pg		**Pn**	**02 14 29.7**	**-0.4**
	122nm,0.8s							
LNSS	**Leonessa**	**1.59**	**187**	Pg		**Pn**	**02 14 30.8**	**+0.5**
	286nm,0.9s							
CSNT	**Castellina Chi**	**1.61**	**245**	Pg		**Pn**	**02 14 32.2**	**+1.6**
	224nm,1.9s							
SACS	**San Casciano d**	**1.67**	**217**	Pg		**Pn**	**02 14 32.7**	**+1.3**
	167nm,1.4s							
PZZT	**Monte Pizzetto**	**1.75**	**269**	Pg		**Pn**	**02 14 34.7**	**+2.2**
CEY	**Cerknica**	**1.75**	**27**	*i* Pn		**Pn**	**02 14 32.1**	**-0.5**
JAVS	**Javornik**	**1.80**	**18**	*e*Pn		**Pn**	**02 14 32.3**	**-0.9**
JAVS				*i* Sn		**Sg**	**02 14 59.6**	**-1.6**
VCEL	**Villa Celiera**	**1.83**	**167**	Pg		**Pn**	**02 14 32.9**	**-0.7**
	139nm,0.8s							
MNS	**Montasola**	**1.85**	**194**	Pg		**Pn**	**02 14 34.7**	**+0.8**
	93nm,0.9s							
VOJS	**Vojsko**	**1.90**	**13**	*i* Pn		**Pn**	**02 14 33.8**	**-0.7**
VOY	**Vojsko**	**1.90**	**13**	*e*Pn		**Pn**	**02 14 33.7**	**-0.8**
VOY				*e*Sn		**Sn**	**02 15 00.2**	**+2.3**
FIAM	**Fiamignano**	**1.92**	**184**	Pg		**Pn**	**02 14 35.6**	**+0.8**
	73nm,0.8s							
CAE	**Caneva**	**1.92**	**342**	⇑*i* Pn		**Pn**	**02 14 34.8**	**-0.1**
BOJS	**Bojanci**	**1.92**	**46**	*i* Pn		**Pn**	**02 14 35.3**	**+0.4**
BOJS				*i* Sn		**Sn**	**02 14 59.8**	**+1.3**
FAGN	**Fagnano**	**1.93**	**173**	Pg		**Pn**	**02 14 35.4**	**+0.4**
	116nm,0.6s							
BDI	**Bagni Di Lucca**	**1.94**	**267**	Pg		**Pn**	**02 14 36.3**	**+1.1**
COLI	**Coloredo**	**1.95**	**2**	⇑*e*Pn		**Pn**	**02 14 34.8**	**-0.5**
VISS	**Visnje**	**1.96**	**34**	*i* Pn		**Pn**	**02 14 35.3**	**-0.1**
VISS				*i* Sn		**Sg**	**02 15 01.0**	**-5.4**
DRE	**Drenchia**	**2.01**	**7**	⇑*i* Pn		**Pn**	**02 14 35.5**	**-0.6**
DRE				*i* Sn		**Sn**	**02 15 00.1**	**-0.5**
MLNI	**Malnisio**	**2.02**	**347**	⇑*i* Pn		**Pn**	**02 14 36.3**	**0.0**
BUA	**Buia**	**2.04**	**357**	⇑*i* Pn		**Pn**	**02 14 36.4**	**-0.1**
BUA				*i* Sn		**Sn**	**02 15 01.6**	**+0.3**
BAD	**Bernadia**	**2.05**	**359**	⇓*e*Pn		**Pn**	**02 14 36.1**	**-0.6**
LJU	**Ljubljana**	**2.06**	**25**	*e*Pn		**Pn**	**02 14 37.0**	**+0.2**
LJU				*e*Sn		**Sn**	**02 15 03.2**	**+1.4**
CTI	**Castel Tesino**	**2.20**	**329**	Pg		**Pn**	**02 14 38.7**	**0.0**
	71nm,0.8s							
INTR	**Introdacqua**	**2.22**	**168**	Pg		**Pn**	**02 14 37.7**	**-1.2**
	126nm,0.8s							
CERT	**Cerreto**	**2.24**	**186**	Pg		**Pn**	**02 14 39.2**	**-0.1**
	43nm,0.8s							
LSR	**Lussari**	**2.30**	**4**	⇑*e*Pn		**Pn**	**02 14 39.8**	**-0.3**
VVLD	**Villa Vallelon**	**2.32**	**174**	Pg		**Pn**	**02 14 40.8**	**+0.4**
FVI	**Forni Avoltri**	**2.44**	**352**	Pg		**Pn**	**02 14 42.2**	**+0.2**
	45nm,0.6s							
MAGA	**Magasa**	**2.47**	**311**	Pg		**Pn**	**02 14 42.6**	**+0.2**
	241nm,0.6s							
OBKA	**Obir**	**2.49**	**20**	⇑*i* Pn		**Pn**	**02 14 42.5**	**-0.1**
OBKA				⇓*i* Sn		**Sn**	**02 15 13.7**	**+1.2**
OBKA				⇓*i* Sg		**Sg**	**02 15 24.4**	**+1.0**
	64nm,0.4s							
OBKA	**Obir**	**2.49**	**20**	Pn		**Pn**	**02 14 42.5**	**-0.2**
OBKA				Sn		**Sn**	**02 15 13.7**	**+1.2**
ABTA	**Abfaltersbach**	**2.62**	**348**	⇓*i* Pn		**Pn**	**02 14 45.1**	**+0.6**
ABTA				⇑*i* Sn		**Sn**	**02 15 18.5**	**+2.8**
MIDA	**Miranda**	**2.64**	**164**	Pg		**Pn**	**02 14 43.9**	**-0.8**
SEST	**Monte Rota**	**2.67**	**344**	Pg		**Pn**	**02 14 46.4**	**+1.2**
	70nm,0.6s							
MABI	**Malga Bissina**	**2.71**	**315**	Pg		**Pn**	**02 14 46.5**	**+0.7**
	11nm,1.3s							
APPI	**Appiano**	**2.72**	**328**	Pg		**Pn**	**02 14 46.4**	**+0.6**
	85nm,0.9s							
PERS	**Pernice**	**2.77**	**27**	*i* Pn		**Pn**	**02 14 46.1**	**-0.4**
MDI	**Monti di Nese**	**3.00**	**303**	Pg		**Pn**	**02 14 49.8**	**+0.1**
	25nm,0.2s							
SGRT	**San Giovanni R**	**3.02**	**143**	Pg		**Pn**	**02 14 48.2**	**-1.8**
	48nm,1.0s							
SCE	**Schlegeis**	**3.06**	**339**	⇑*i* Pn		**Pn**	**02 14 52.0**	**+1.4**
BRMO	**Bormio**	**3.08**	**319**	Pg		**Pn**	**02 14 53.0**	**+2.2**
	25nm,0.8s							
WTTA	**Wattenberg**	**3.29**	**340**	⇑*i* Pn		**Pn**	**02 14 55.0**	**+1.3**
	SNR=32							
WTTA				⇓*i* Sn		**Sn**	**02 15 35.5**	**+3.2**
WTTA				⇑*i* Sg		**Sg**	**02 15 53.0**	**+4.0**
	60nm,0.9s							
WTTA	**Wattenberg**	**3.29**	**340**	*e*Pn		**Pn**	**02 14 55.2**	**+1.5**
WTTA	**Wattenberg**	**3.29**	**340**	Pn		**Pn**	**02 14 55.0**	**+1.3**
	31nm,9.0s							
WTTA				Sn		**Sn**	**02 15 35.5**	**+3.2**
FETA	**Feichten**	**3.36**	**329**	⇑*i* Pn		**Pn**	**02 14 56.4**	**+1.8**
FETA	**Feichten**	**3.36**	**329**	Pn		**Pn**	**02 14 56.4**	**+1.8**
SQTA	**Sankt Quirin**	**3.37**	**335**	⇓*i* Pn		**Pn**	**02 14 55.8**	**+1.0**
	SNR=46							
SQTA	**Sankt Quirin**	**3.37**	**335**	Pn		**Pn**	**02 14 55.8**	**+1.0**
	45nm,8.0s							
WATA	**Walderalm**	**3.37**	**340**	⇓*i* Pn		**Pn**	**02 14 56.5**	**+1.6**
	SNR=45							
WATA				⇑*i* Sn		**Sn**	**02 15 38.7**	**+4.4**
WATA	**Walderalm**	**3.37**	**340**	Pn		**Pn**	**02 14 56.5**	**+1.7**
	45nm,2.0s							
WATA				Sn		**Sn**	**02 15 38.7**	**+4.4**
ARSA	**Arzberg**	**3.44**	**26**	⇑*i* Pn		**Pn**	**02 14 55.1**	**-0.7**
ARSA	**Arzberg**	**3.44**	**26**	*e*Pn		**Pn**	**02 14 55.0**	**-0.8**
ARSA	**Arzberg**	**3.44**	**26**	⇑*i* Pn		**Pn**	**02 14 55.0**	**-0.8**
STON	**Ston**	**3.46**	**111**	*i* Pn		**Pn**	**02 14 55.9**	**-0.1**
STON				*i* Sn		**Sn**	**02 15 35.8**	**-0.7**
MOTA	**Moosalm**	**3.51**	**335**	⇑*i* Pn		**Pn**	**02 14 58.2**	**+1.4**
	SNR=40							
MOTA				⇓*i* Sn		**Sn**	**02 15 41.8**	**+4.1**
MOTA	**Moosalm**	**3.51**	**335**	Pn		**Pn**	**02 14 58.2**	**+1.5**
	40nm,4.0s							
MOTA				Sn		**Sn**	**02 15 41.8**	**+4.1**
PGF	**Pioggiola**	**3.53**	**244**	*e*Pn		**Pn**	**02 14 57.3**	**+0.3**
DAVOX	**Davos**	**3.54**	**318**	Pg		**Pn**	**02 14 59.6**	**+2.5**
TUE	**Stuetta**	**3.60**	**311**	Pg		**Pn**	**02 14 59.6**	**+1.6**
	125nm,2.7s							
MOA	**Molln**	**3.73**	**10**	⇑*i* Pn		**Pn**	**02 15 00.2**	**+0.4**
	SNR=7.4							
MOA				⇑*i* Sn		**Sn**	**02 15 44.5**	**+1.3**
MOA	**Molln**	**3.73**	**10**	*e*Pn		**Pn**	**02 15 00.5**	**+0.8**
MOA	**Molln**	**3.73**	**10**	Pn		**Pn**	**02 15 00.2**	**+0.5**
	7.0nm,4.0s							
MOA				Sn		**Sn**	**02 15 44.5**	**+1.4**
RETA	**Reutte**	**3.75**	**333**	⇑*i* Pn		**Pn**	**02 15 01.7**	**+1.7**
RETA	**Reutte**	**3.75**	**333**	Sg		**Sg**	**02 16 08.4**	**+4.8**
	8.4nm,0.6s							
DAVA	**Damuels**	**3.92**	**324**	⇑*i* Pn		**Pn**	**02 15 03.9**	**+1.6**
	SNR=26							
DAVA				⇓*i* Sn		**Sn**	**02 15 50.6**	**+2.9**
DAVA				⇑*i* Sg		**Sg**	**02 16 15.6**	**+6.6**
	9.2nm,0.7s							
DAVA	**Damuels**	**3.92**	**324**	*e*Pn		**Pn**	**02 15 04.3**	**+2.0**
DAVA	**Damuels**	**3.92**	**324**	Pn		**Pn**	**02 15 03.9**	**+1.6**
	26nm,4.0s							
CONA	**Conrad Observa**	**4.15**	**25**	⇑*i* Pn		**Pn**	**02 15 04.8**	**-0.8**
	SNR=7.8							
CONA				⇑*i* Sn		**Sn**	**02 15 54.1**	**+0.6**
SBF	**Sospel**	**4.23**	**268**	*e*Pn		**Pn**	**02 15 07.8**	**+1.1**
	SNR=1.0							
BBLS	**Bajina Basta -**	**4.42**	**92**	*e*Pn		**Pn**	**02 15 13.4**	**+4.1**
GEC2	**GERESS Array S**	**4.67**	**3**	*e*Pn		**Pn**	**02 15 12.3**	**-0.4**
MBDF	**Montbardon**	**4.70**	**279**	*e*Pn		**Pn**	**02 15 12.8**	**-0.2**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**02 16 06.2**	**-0.8**
	2.1nm,0.3s							
MBDF	**Montbardon**	**4.70**	**279**	*e*Pn		**Pn**	**02 15 12.8**	**-0.2**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**02 16 06.2**	**-0.8**
	1.0nm,0.3s							
DIVS	**Divcibare**	**4.83**	**89**	*e*Pn		**Pn**	**02 15 16.1**	**+1.3**
DIVS				Sg		**Sg**	**02 16 43.1**	**+5.0**
LPG	**La Plagne**	**4.83**	**288**	*e*Pn		**Pn**	**02 15 14.4**	**-0.5**
	SNR=1.0							
LPG				*e*Sn		**Sn**	**02 16 08.9**	**-1.4**
	9.1nm,0.5s,SNR=1.0							
LPG	**La Plagne**	**4.83**	**288**	*e*Pn		**Pn**	**02 15 14.4**	**-0.5**
	SNR=1.0							
LPG				*e*Sn		**Sn**	**02 16 08.9**	**-1.4**
	4.6nm,0.5s,SNR=1.0							
FRF	**La Foret Royal**	**4.84**	**265**	*e*Pn		**Pn**	**02 15 15.5**	**+0.5**
	SNR=1.0							
FRF				*e*Sn		**Sn**	**02 16 09.1**	**-1.4**
	1.3nm,0.3s,SNR=1.0							
FRF	**La Foret Royal**	**4.84**	**265**	*e*Pn		**Pn**	**02 15 15.5**	**+0.5**
	SNR=1.0							
FRF				*e*Sn		**Sn**	**02 16 09.1**	**-1.4**
	0.6nm,0.3s,SNR=1.0							
LPL	**La Plagne**	**4.85**	**288**	*e*Pn		**Pn**	**02 15 15.0**	**-0.1**
	SNR=1.0							
LPL				*e*Sn		**Sn**	**02 16 08.1**	**-2.6**
	7.2nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**4.85**	**288**	*e*Pn		**Pn**	**02 15 15.0**	**-0.1**
	SNR=1.0							
LPL				*e*Sn		**Sn**	**02 16 08.1**	**-2.6**
	3.6nm,0.4s,SNR=1.0							
KHC	**Kasperske Hory**	**4.95**	**2**	*e*PN		**Pn**	**02 15 16.0**	**-0.6**
KHC				*ex*		x	02 15 25.5	
KHC				*e*SN		**Sn**	**02 16 12.2**	**-1.1**
KHC				*e*SG		**Sg**	**02 16 39.0**	**-3.3**
KHC	**Kasperske Hory**	**4.95**	**2**	*e*Pn		**Pn**	**02 15 16.0**	**-0.6**
KHC				*e*Sn		**Sn**	**02 16 12.2**	**-1.1**
WET	**Wettzell**	**4.97**	**357**	*e*Pn		**Pn**	**02 15 16.2**	**-0.6**
WET				*e*Sn		**Sn**	**02 16 11.8**	**-1.9**
LMR	**La Mourre**	**4.98**	**263**	*e*Pn		**Pn**	**02 15 16.8**	**-0.2**
	SNR=1.0							
LMR				*e*Sn		**Sn**	**02 16 12.9**	**-1.1**
	1.6nm,0.4s							
LMR	**La Mourre**	**4.98**	**263**	*e*Pn		**Pn**	**02 15 16.8**	**-0.2**
	SNR=1.0							
LMR				*e*Sn		**Sn**	**02 16 12.9**	**-1.1**
	0.8nm,0.4s							
ORIF	**Oris-en-Rattie**	**5.35**	**280**	*e*Pn		**Pn**	**02 15 23.4**	**+1.5**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**02 16 21.7**	**-1.3**
	5.0nm,0.5s							
ORIF	**Oris-en-Rattie**	**5.35**	**280**	*e*Pn		**Pn**	**02 15 23.4**	**+1.5**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**02 16 21.7**	**-1.3**
	2.5nm,0.5s							
BFO	**Black Forest**	**5.39**	**322**	*e*Pn		**Pn**	**02 15 22.5**	**0.0**
	2.9nm,0.5s							
BFO	**Black Forest**	**5.39**	**322**	*e*Pn		**Pn**	**02 15 22.5**	**0.0**
	2.9nm,0.5s							
SMRF	**Simiane la Rot**	**5.56**	**271**	*e*Pn		**Pn**	**02 15 26.2**	**+1.3**
CABF	**La Chapelle**	**5.62**	**298**	*e*Pn		**Pn**	**02 15 26.2**	**+0.5**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**02 16 28.0**	**-1.8**
	2.3nm,0.4s							
CABF	**La Chapelle**	**5.62**	**298**	*e*Pn		**Pn**	**02 15 26.2**	**+0.5**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**02 16 28.0**	**-1.8**
	1.1nm,0.4s							
ROTZ	**Rotzenmuhle**	**5.63**	**353**	*e*Pn		**Pn**	**02 15 24.5**	**-1.4**
ROTZ				*e*Sn		**Sn**	**02 16 25.3**	**-4.8**
GRA1	**Grafenberg Arr**	**5.69**	**346**	*e*Pn		**Pn**	**02 15 25.4**	**-1.3**
GRF	**Grafenberg Arr**	**5.69**	**346**	*e*Pn		**Pn**	**02 15 25.4**	**-1.3**
HINF	**Hinteralfeld**	**5.77**	**311**	*e*Pn		**Pn**	**02 15 27.9**	**+0.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**02 16 31.3**	**-2.1**
	1.7nm,0.3s,SNR=1.0							
HINF	**Hinteralfeld**	**5.77**	**311**	*e*Pn		**Pn**	**02 15 27.9**	**+0.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**02 16 31.3**	**-2.1**
	0.9nm,0.3s,SNR=1.0							
MANZ	**Manzenberg**	**5.86**	**353**	*e*Pn		**Pn**	**02 15 27.7**	**-1.3**
CDF	**Champ du Feu**	**5.94**	**318**	*e*Pn		**Pn**	**02 15 30.5**	**+0.4**
	SNR=1.0							
WERN	**Wernitzgruen**	**6.14**	**355**	*e*Pn		**Pn**	**02 15 32.2**	**-0.6**
HAU	**Haudompre**	**6.16**	**311**	*e*Pn		**Pn**	**02 15 33.4**	**+0.3**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**02 16 40.6**	**-2.3**
	3.9nm,0.4s							
HAU	**Haudompre**	**6.16**	**311**	*e*Pn		**Pn**	**02 15 33.4**	**+0.3**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**02 16 40.6**	**-2.3**
	2.0nm,0.4s							
VIVF	**Saint-Julien-l**	**6.20**	**279**	*e*Pn		**Pn**	**02 15 33.8**	**+0.2**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**02 16 41.2**	**-2.7**
	1.3nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**6.20**	**279**	*e*Pn		**Pn**	**02 15 33.8**	**+0.2**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**02 16 41.2**	**-2.7**
	0.6nm,0.3s,SNR=1.0							
GUNZ	**Gunzen**	**6.22**	**354**	*e*Pn		**Pn**	**02 15 33.6**	**-0.3**
TANN	**Tannenbergstha**	**6.26**	**355**	*e*Pn		**Pn**	**02 15 33.9**	**-0.6**
WERD	**Werda**	**6.30**	**354**	*e*Pn		**Pn**	**02 15 34.6**	**-0.5**
MOX	**Moxa**	**6.56**	**351**	*e*Pn		**Pn**	**02 15 37.2**	**-1.5**
MOX				*e*Sn		**Sn**	**02 16 47.5**	**-5.5**
BRG	**Berggiesshubel**	**6.71**	**4**	SG		**Sb**	**02 17 17.4**	**-1.5**
	0.7nm,0.7s							
LASF	**Ste Croix**	**6.79**	**272**	*e*Pn		**Pn**	**02 15 41.5**	**-0.3**
SMF	**Signal de Mont**	**7.09**	**294**	*e*Pn		**Pn**	**02 15 45.6**	**-0.3**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**02 17 02.2**	**-3.7**
	2.7nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**7.09**	**294**	*e*Pn		**Pn**	**02 15 45.6**	**-0.3**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**02 17 02.2**	**-3.7**
	1.4nm,0.4s,SNR=1.0							
CLL	**Collm**	**7.13**	**359**	*e*Sg		Sx	02 18 24.0	
CLL	**Collm**	**7.13**	**359**	*e*Pn		**Pn**	**02 15 46.0**	**-0.5**
CLL				*e*Sg		Sn	02 17 57.0	+50
MEZF	**Maizieres J'vi**	**7.15**	**310**	*e*Pn		**Pn**	**02 15 47.0**	**+0.3**
	SNR=1.0							
LOR	**Lormes**	**7.29**	**298**	*e*Pn		**Pn**	**02 15 48.3**	**-0.3**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**02 17 08.7**	**-2.0**
	8.3nm,0.5s,SNR=1.0							
SSF	**Saint Saulge**	**7.44**	**296**	*e*Pn		**Pn**	**02 15 50.4**	**-0.3**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**02 17 10.8**	**-3.7**
	2.0nm,0.4s							
SSF	**Saint Saulge**	**7.44**	**296**	*e*Pn		**Pn**	**02 15 50.4**	**-0.3**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**02 17 10.8**	**-3.7**
	1.0nm,0.4s							
AVF	**Avril sur Loir**	**7.45**	**294**	*e*Pn		**Pn**	**02 15 50.8**	**-0.1**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**02 17 11.6**	**-3.3**
	1.1nm,0.4s							
AVF	**Avril sur Loir**	**7.45**	**294**	*e*Pn		**Pn**	**02 15 50.8**	**-0.1**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**02 17 11.6**	**-3.3**
	0.6nm,0.4s							
BGF	**Bois d'Agland**	**7.73**	**292**	*e*Pn		**Pn**	**02 15 53.9**	**-0.8**
BGF				*e*Sn		**Sn**	**02 17 19.0**	**-2.6**
	5.6nm,0.4s							
BGF	**Bois d'Agland**	**7.73**	**292**	*e*Pn		**Pn**	**02 15 53.9**	**-0.8**
BGF				*e*Sn		**Sn**	**02 17 19.0**	**-2.6**
	2.8nm,0.4s							
CAF	**Calviac**	**8.05**	**279**	*e*Pn		**Pn**	**02 15 59.1**	**0.0**
MTLF	**Montolieu**	**8.06**	**268**	*e*Pn		**Pn**	**02 16 00.3**	**+1.1**
HYF	**Humbligny**	**8.06**	**296**	*e*Pn		**Pn**	**02 16 00.0**	**+0.7**
HYF				*e*Sn		**Sn**	**02 17 27.2**	**-2.7**
TCF	**Toulx Ste Croi**	**8.10**	**289**	*e*Pn		**Pn**	**02 15 59.7**	**0.0**
TCF				*e*Sn		**Sn**	**02 17 27.1**	**-3.6**
	2.0nm,0.4s							
TCF	**Toulx Ste Croi**	**8.10**	**289**	*e*Pn		**Pn**	**02 15 59.7**	**0.0**
TCF				*e*Sn		**Sn**	**02 17 27.1**	**-3.6**
	1.0nm,0.4s							
GIVF	**Givet**	**8.27**	**319**	*e*Pn		**Pn**	**02 16 03.0**	**+1.0**
BAIF	**Baives**	**8.53**	**317**	*e*Pn		**Pn**	**02 16 08.0**	**+2.3**
MFF	**Saint Martin d**	**9.76**	**289**	*e*Pn		**Pn**	**02 16 21.3**	**-1.2**
LDF	**La Druitiere**	**10.26**	**300**	*e*Pn		**Pn**	**02 16 29.4**	**0.0**
FLN	**La Foliniere**	**10.54**	**301**	*e*Pn		**Pn**	**02 16 32.7**	**-0.5**
GRR	**Gorron**	**10.65**	**298**	*e*Pn		**Pn**	**02 16 35.1**	**+0.3**
SGMF	**Saint Gilles**	**11.71**	**296**	*e*Pn		**Pn**	**02 16 48.7**	**-0.5**
QUIF	**Quistinic**	**12.03**	**294**	*e*Pn		**Pn**	**02 16 52.9**	**-0.6**

*IDC **29** 02:18:46.2±3.0, 5045S×13367E, h0km, mb4.1/1, mb1 4.0/4, mb1mx3.8/12, mbtmp3.9/4, ML3.7/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/15, Error ellipse: s-maj=129.6km s-min=28.3km az=82.0*
*ISCJB **29** 02:18:49.3±1.1, 5.13S±007×1336E±02, h33km, mb4.0/1, MS3.1/1, Error ellipse: s-maj=26.5km s-min=10.1km az=7.0*
*NEIC **29** 02:18:50.5±1.4, 5.12S×13388E, h35km, mb4.1/1, Error ellipse: s-maj=47.6km s-min=13.7km az=81.0*
ISC 29 02:18:47.8±4.9, 5045±008×1339E±03, h15km±34km, n12, σ1§02/12, mb4.0/1, MS3.1/1, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.76**	**191**	*e*P		**Pn**	**02 20 42.4**	**+2.2**
	11nm,0.6s							
KAKA				*e*S		**Sn**	**02 22 07.8**	**-0.1**
PMG	**Port Moresby**	**13.82**	**109**	LR		LR	02 28 02.2	
	comp=Z,68nm,18.1s,baz=184,slow=40							
WB2	**Warramunga Arr**	**14.82**	**178**	*e*P		**Pn**	**02 22 15.3**	**-1.5**
**WB

SLR				AML	AML	04 05 32.3	
	comp=Z,135nm,0.7s						
LSZ	**Lusaka**	**7.72**	**322**	Pn	**Pn**	**04 03 48.4**	**-0.7**
	comp=Z,4.2nm,0.3s,baz=148,slow=12,SNR=34						
LSZ				Sn	**Sn**	**04 05 10.0**	**-6.6**
	comp=Z,16nm,0.3s,baz=224,slow=21,SNR=14						
LSZ				Lg		04 05 53.4	
	comp=Z,33nm,0.3s,baz=48,slow=21,SNR=11						
LSZ				LR	LR	04 07 05.8	
	comp=Z,81nm,20.4s,baz=205,slow=41						
LSZ	**Lusaka**	**7.72**	**322**	*e*Pn	**Pn**	**04 03 48.3**	**-0.8**
LSZ				*e*Sn	**Sn**	**04 05 08.9**	**-7.7**
LSZ				*e*Sg	**Sg**	**04 05 53.4**	**-11**
LSZ				Lg		04 05 53.5	
LSZ				LR	LR	04 07 05.8	
LBTB	**Lobatse**	**7.78**	**241**	*e*P	**Pn**	**04 03 53.0**	**+3.0**
LBTB				*e*S	**Sn**	**04 05 19.1**	**+0.9**
LBTB				AML	AML	04 06 13.2	
	comp=Z,110nm,0.6s						
LBTB	**Lobatse**	**7.78**	**241**	Pn	**Pn**	**04 03 52.5**	**+2.4**
	comp=Z,1.6nm,0.3s,baz=68,slow=12,SNR=22						
LBTB				Sn	**Sn**	**04 05 16.4**	**-1.8**
	comp=Z,4.7nm,0.3s,baz=336,slow=20,SNR=3.4						
LBTB				Lg		04 05 58.0	
	comp=Z,11nm,0.3s,baz=344,slow=21,SNR=7.0						
LBTB				LR	LR	04 07 12.0	
	comp=Z,84nm,21.8s,baz=267,slow=40						
BOSA	**Boshof**	**10.09**	**223**	*e*P	**Pn**	**04 04 22.9**	**+1.2**
BOSA				*e*S	**Sn**	**04 06 11.5**	**-3.4**
BOSA				AML	AML	04 07 19.9	
	comp=Z,24nm,0.6s						
BOSA	**Boshof**	**10.09**	**223**	Pn	**Pn**	**04 04 23.1**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=50,slow=11,SNR=16						
BOSA				Sn	**Sn**	**04 06 10.7**	**-4.3**
	comp=Z,2.1nm,0.3s,baz=306,slow=19,SNR=3.7						
BOSA				Lg		04 07 10.4	
	comp=Z,1.5nm,0.3s,baz=137,slow=19,SNR=2.2						
BOSA				LR	LR	04 08 35.9	
	comp=Z,107nm,20.9s,baz=200,slow=39						
BOSA	**Boshof**	**10.09**	**223**	Pn	**Pn**	**04 04 23.1**	**+1.5**
BOSA				Sn	**Sn**	**04 06 10.7**	**-4.3**
BOSA				Lg		04 07 10.4	
BOSA				LR	LR	04 08 35.9	
OPO	**Ambohidratompo**	**13.52**	**80**	Pn	**Pn**	**04 05 00.8**	**-7.8**
	comp=Z,0.1nm,0.3s,baz=101,slow=16,SNR=2.9						
OPO				Sn	**Sn**	**04 07 23.2**	**-16**
	comp=Z,0.5nm,0.3s,baz=127,slow=20,SNR=2.5						
TSUM	**Tsumeb**	**14.75**	**276**	Pn	**Pn**	**04 05 24.4**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=106,slow=11,SNR=13						
TSUM				Sn	**Sn**	**04 08 04.0**	**-4.9**
	comp=Z,0.7nm,0.3s,baz=226,slow=22,SNR=3.8						
TSUM				Lg		04 09 41.3	
	comp=Z,1.4nm,0.3s,baz=94,slow=19,SNR=5.3						
TSUM				LR	LR	04 11 19.3	
	comp=Z,76nm,18.6s,baz=144,slow=38						
SUR	**Sutherland**	**15.46**	**223**	*e*P	**Pn**	**04 05 37.5**	**+2.7**
SUR				*e*S	**Sn**	**04 08 18.9**	**-7.1**
SUR	**Sutherland**	**15.46**	**223**	Pn	**Pn**	**04 05 36.7**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=41,slow=13,SNR=10						
SUR				Sn	**Sn**	**04 08 22.7**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=145,slow=19,SNR=3.4						
SUR				Lg		04 10 03.5	
	comp=Z,0.8nm,0.3s,baz=127,slow=20,SNR=3.6						
SUR				LR	LR	04 11 31.5	
	comp=Z,115nm,18.1s,baz=70,slow=37						
SUR	**Sutherland**	**15.46**	**223**	*e*Pn	**Pn**	**04 05 36.0**	**+1.2**
SUR				Sn	**Sn**	**04 08 22.7**	**-3.3**
SUR				Lg		04 10 03.5	
SUR				LR	LR	04 11 31.5	
TOA0	**Torodi Ar. Sit**	**46.19**	**315**	*e*P	**P**	**04 10 22.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**46.19**	**315**	P	**P**	**04 10 22.1**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=130,slow=7.0,SNR=18						
VNDA	**Vanda**	**76.83**	**170**	*e*P	**P**	**04 13 47.6**	**-1.2**
	comp=Z,4.0nm,1.3s,mb4.2						
BVAR	**Borovoye Array**	**80.89**	**22**	P	**P**	**04 14 08.4**	**-2.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=214,slow=4.7,SNR=3.1						
NOA	**NORSAR Array B**	**84.08**	**349**	LR	LR	04 54 31.9	
	comp=Z,13nm,20.6s,baz=0.0,slow=38						
ASAR	**Alice Springs**	**90.84**	**116**	P	**P**	**04 15 00.9**	**+0.5**
	comp=Z,0.6nm,0.7s,mb4.0,baz=214,slow=4.9,SNR=6.7						
YKA	**Yellowknife Ar**	**133.44**	**340**	PKP	PKPdf	04 21 12.0	-1.1
	comp=Z,0.3nm,0.7s,baz=36,slow=2.1,SNR=3.9						
PDAR	**Pinedale Array**	**142.32**	**313**	PKP	PKPdf	04 21 27.8	-1.7
	comp=Z,0.5nm,0.8s,baz=197,slow=4.6,SNR=5.6						
NVAR	**Mina Array Bea**	**150.18**	**311**	PKPbc	PKPbc	04 21 49.1	+1.3
	comp=Z,0.4nm,0.5s,baz=30,slow=6.3,SNR=3.3						

*JMA **29** 04:28:34.8±0.2, 4331N×14687E, h43km±3km, M4.3*
JMA Felt I J1.
*ISCJB **29** 04:28:35.4±0.9, 4335N±006×14681E±009, h65km±7km, mb4.1/12, Error ellipse: s-maj=12.3km s-min=8.7km az=83.6*
*MOS **29** 04:28:35.9±1.2, 4333N×14672E, h70km, mb4.3/2, Error ellipse: s-maj=16.5km s-min=12.5km az=80.7*
*NEIC **29** 04:28:37.1±1.7, 4337N×14676E, h62km±17km, mb4.1/3, Error ellipse: s-maj=17.0km s-min=14.8km az=161.0*
*IDC **29** 04:28:39.5±3.8, 4342N×14675E, h81km±32km, mb3.8/9, mb1 4.0/10, mb1mx3.7/22, mbtmp3.8/10, Error ellipse: s-maj=26.0km s-min=21.7km az=126.0*
ISC 29 04:28:37.0±0.9, 4337N±006×14676E±009, h63km±6km, n36, σ1°00/46, mb4.1/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.74**	**270**	P	**Pn**	**04 28 50.3**	**-1.6**
NEM2				*e*S	**Sn**	**04 29 01.2**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**0.93**	**316**	*e*PN	**Pn**	**04 28 52.9**	**-1.4**
YUK				*i* S	**Sn**	**04 29 05.0**	**-2.0**
YUK				pmax	pmax		
	comp=Z,3μm,1.0s						
YUK				smax			
	comp=N,30μm,1.0s						
YUK				smax			
	comp=E,25μm,1.0s						
JRA	**Rausu**	**1.32**	**296**	P	**Pn**	**04 28 58.7**	**-0.6**
JRA				*e*S	**Sn**	**04 29 16.1**	**+0.1**
JNK	**Nakash**	**1.50**	**279**	P	**Pn**	**04 29 00.9**	**-0.8**
JNK				*e*S	**Sn**	**04 29 20.1**	**-0.2**
JAK	**Akkeshi**	**1.55**	**257**	P	**Pn**	**04 29 01.4**	**-1.1**
JAK				*e*S	**Sn**	**04 29 21.6**	**0.0**
KUR	**Kuril'sk**	**2.03**	**23**	PN	**Pn**	**04 29 11.0**	**+2.1**
KUR				*e*S	**Sn**	**04 29 36.9**	**+3.7**
KUR				pmax	pmax		
	comp=Z,130nm,0.8s						
KUR				smax			
	comp=N,530nm,0.6s						
KUR				smax			
	comp=E,760nm,0.6s						
JTKR	**Abashiri--Toko**	**2.15**	**287**	P	**Pn**	**04 29 11.2**	**+0.6**
JTKR				*e*S	**Sn**	**04 29 38.1**	**+1.9**
JAR	**Ashorobuto**	**2.18**	**269**	P	**Pn**	**04 29 10.9**	**-0.1**
JAR				*e*S	**Sn**	**04 29 37.9**	**+1.1**
JOB	**Onbets**	**2.19**	**259**	P	**Pn**	**04 29 11.0**	**-0.1**
JMP	**Maruseppu**	**2.54**	**286**	P	**Pn**	**04 29 16.8**	**+0.9**
JCH	**Churui**	**2.60**	**254**	P	**Pn**	**04 29 16.5**	**-0.2**
JCH				*e*S	**Sn**	**04 29 47.2**	**+0.1**
JKK2	**Kamakawa 2**	**2.95**	**281**	P	**Pn**	**04 29 22.8**	**+1.3**
JEM	**Erimo**	**2.98**	**244**	P	**Pn**	**04 29 23.1**	**+1.3**
ERM	**Erimo**	**2.98**	**244**	*e*PN	**Pn**	**04 29 22.8**	**+1.0**
ASAJ	**Asahikawa**	**3.10**	**285**	P	**Pn**	**04 29 25.5**	**+1.9**
	comp=E,7.1nm,0.3s,baz=108,slow=18,SNR=18						
ASAJ				S	**Sn**	**04 30 07.1**	**+7.6**
	comp=E,6.3nm,0.3s,baz=342,slow=20,SNR=3.2						
MJAR	**Matsushiro Arr**	**9.46**	**227**	P	**Pn**	**04 30 49.5**	**-0.9**
	comp=E,0.8nm,0.3s,baz=29,slow=14,SNR=5.6						
SONM	**Songino Array**	**28.36**	**293**	P	**P**	**04 34 26.4**	**+1.3**
	comp=E,1.4nm,0.6s,mb3.8,baz=85,slow=8.1,SNR=6.2						
MKAR	**Makanchi Array**	**44.51**	**298**	P	**P**	**04 36 42.6**	**+0.3**
	comp=E,1.4nm,0.5s,mb4.1,baz=80,slow=8.8,SNR=33						
INK	**Inuvik**	**46.88**	**30**	P	**P**	**04 37 01.1**	**+0.1**
	comp=E,3.7nm,0.4s,mb4.7,baz=284,slow=6.4,SNR=93						
AAK	**Ala-Archa**	**51.27**	**296**	*e*P	**P**	**04 37 34.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**51.27**	**296**	*e*P	**P**	**04 37 34.4**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.1						
YKA	**Yellowknife Ar**	**56.28**	**33**	P	**P**	**04 38 10.6**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=301,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**59.51**	**340**	P	**P**	**04 38 32.8**	**-0.9**
	comp=Z,4.2nm,0.9s,mb4.5,baz=53,slow=6.4,SNR=15						
JOF	**Joensuu**	**62.29**	**332**	*e*p	**P**	**04 38 51.9**	**-0.7**
WRA	**Warramunga Arr**	**64.02**	**193**	P	**P**	**04 39 04.7**	**+0.7**
	comp=Z,0.6nm,0.9s,mb3.6,baz=8.6,slow=6.5,SNR=3.4						
KAF	**Kangasniemi**	**64.53**	**333**	*e*p	**P**	**04 39 06.5**	**-0.8**
FIA1	**FINESS Array S**	**65.08**	**333**	*e*P	**P**	**04 39 10.7**	**-0.3**
FINES	**FINESS Array B**	**65.09**	**333**	P	**P**	**04 39 10.5**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.5,baz=44,slow=7.8,SNR=20						
BOZ	**Bozeman (W)**	**67.38**	**48**	*e*P	**P**	**04 39 26.2**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**67.38**	**48**	*e*P	**P**	**04 39 26.2**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.9						
NB2	**NORSAR Subarra**	**69.86**	**339**	P	**P**	**04 39 40.1**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.2,baz=32,slow=6.2						
NOA	**NORSAR Array B**	**69.86**	**339**	P	**P**	**04 39 40.7**	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.4,baz=33,slow=6.2,SNR=17						
NOA	**NORSAR Array B**	**69.86**	**339**	P	**P**	**04 39 40.7**	**-0.4**
NAO01	**NORSAR Array S**	**70.11**	**339**	*e*P	**P**	**04 39 42.0**	**-0.7**
	comp=Z,0.9nm,0.3s,mb4.2						
AKASG	**Malin Array Be**	**71.72**	**324**	P	**P**	**04 39 51.8**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.7,baz=37,slow=5.9,SNR=7.6						
CLL	**Collm**	**77.52**	**332**	*e*P	**P**	**04 40 26.0**	**0.0**

IDC 29 04:31:47.2±27.0, 2381S×17541W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.2/15, mbtmp4.5/4, Error ellipse: s-maj=491.9km s-min=130.0km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.68**	**268**	P	P	04 38 48.3	+1.2
	3.0nm,0.3s,baz=96,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**38.66**	**248**	P	P	04 39 12.6	+0.2
	1.9nm,0.4s,baz=102,slow=10,SNR=13						
ASAR	**Alice Springs**	**46.19**	**259**	P	P	04 40 13.7	0.0
	1.8nm,0.3s,baz=93,slow=7.9,SNR=28						
WRA	**Warramunga Arr**	**46.60**	**265**	P	P	04 40 16.9	-0.1
	8.2nm,0.6s,baz=104,slow=8.0,SNR=49						

*ISCJB **29** 04:39:40.6±0.7, 5136N±004×16.15E±003, h0km, Error ellipse: s-maj=5.5km s-min=2.6km az=26.0*
*WAR **29** 04:39:41.9, 5145N×1618E, ML2.7, Mining Induced*
*VIE **29** 04:39:42.9±0.4, 5124N×1622E, h0km, mb2.1/2, ML2.8/4, Error ellipse: s-maj=2.3km s-min=2.1km az=174.0 57 km WNW of Breslau Suspected Mining induced.*
*NEIC **29** 04:39:42.2±1.1, 5141N×1609E, h5km, ML2.6(BRA), ML2.8(SZGRF), Error ellipse: s-maj=13.2km s-min=5.6km az=202.0*
*PRU **29** 04:39:43.2, 5137N×1611E, h0km*
*CSEM **29** 04:39:43.3±0.3, 5136N×1613E, h2km, ML3.4/5, Error ellipse: s-maj=4.8km s-min=2.6km az=19.0, Suspected Mining induced.*
ISC 29 04:39:41.1±0.6, 5144N±003×1614E±003, h0km, n25, σ1°10/47, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**171**	*e*Pg	**Pg**	**04 39 53.1**	**+0.5**
KSP				*e*Sg	**Sg**	**04 40 01.3**	**+0.9**
UPC	**Upice**	**0.93**	**185**	*e*PG	**Pg**	**04 39 59.5**	**+0.5**
DPC	**Dobruska-Polom**	**1.09**	**174**	*e*PG	**Pg**	**04 40 02.0**	**-0.1**
DPC				*e*SG	**Sg**	**04 40 16.1**	**-0.1**
	32nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**228**	*e*PG	**Pg**	**04 40 07.6**	**+0.7**
PVCC				*e*SG	**Sg**	**04 40 26.0**	**+1.6**
BRG	**Berggiesshubel**	**1.50**	**249**	PN	**Pn**	**04 40 08.5**	**-0.7**
BRG				PG	**Pg**	**04 40 10.0**	**+0.2**
BRG				SG	**Sg**	**04 40 30.4**	**+1.2**
	41nm,0.4s						
PRU	**Pruhonice**	**1.77**	**216**	*e*PN	**Pn**	**04 40 13.4**	**+0.4**
PRU				*e*PG	**Pg**	**04 40 14.4**	**-0.7**
PRU				*e*SG	**Sg**	**04 40 37.7**	**-0.3**
	48nm,0.3s						
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pn	**Pn**	**04 40 14.5**	**0.0**
MORC				*e*Sg	**Sg**	**04 40 39.6**	**-2.1**
CLL	**Collm**	**1.97**	**267**	*e*Pg	**Pg**	**04 40 18.0**	**-0.9**
CLL				*e*Sg	**Sg**	**04 40 45.0**	**+0.5**
	comp=Z,34nm,0.4s						
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG	**Pg**	**04 40 20.7**	**+0.4**
OKC				*e*SG	**Sg**	**04 40 44.2**	**-2.7**
	comp=Z,46nm,0.6s						
VRAC	**Vranov**	**2.15**	**172**	*e*Pn	**Pn**	**04 40 19.3**	**+1.1**
OJC	**Ojcow**	**2.62**	**116**	*e*Pg	**Pg**	**04 40 30.4**	**-0.9**
OJC				*e*Sg	**Sg**	**04 41 05.3**	**+0.1**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**04 40 25.1**	**+0.3**
NKC				*e*PG	**Pg**	**04 40 31.2**	**-0.4**
NKC				*e*SG	**Sg**	**04 41 07.0**	**+1.2**
	comp=Z,32nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	*e*Pn	**Pn**	**04 40 25.1**	**+0.3**
NKC				*e*Pg	**Pg**	**04 40 31.2**	**-0.4**
NKC				*e*Sg	**Sg**	**04 41 07.0**	**+1.2**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	**Pn**	**04 40 28.0**	**+0.4**
KHC				*e*PG	**Pg**	**04 40 33.9**	**-1.5**
KHC				*ex*	x	04 41 02.0	
KHC				*e*SG	**Sg**	**04 41 10.6**	**-1.6**
	comp=Z,13nm,0.3s						
WET	**Wettzell**	**3.11**	**224**	*e*Pn	**Pn**	**04 40 31.6**	**+0.3**
ZST	**Bratislava**	**3.30**	**169**	*e*SG	**Sg**	**04 41 25.0**	**-2.2**
VYHS	**Vyhne**	**3.42**	**148**	*e*SG	**Sg**	**04 41 33.0**	**+2.0**
CONA	**Conrad Observa**	**3.52**	**183**	⇑*i*Pn	**Pn**	**04 40 35.6**	**-1.4**
CONA				⇑*i*Sg	**Sg**	**04 41 32.8**	**-1.3**
	comp=Z,10.0nm,0.4s						
GRA1	**Grafenberg Arr**	**3.59**	**243**	*e*Pn	**Pn**	**04 40 38.6**	**+0.6**
BSD	**Bornholm Skovb**	**3.76**	**349**	*i* P	**Pn**	**04 40 38.1**	**-2.2**
BSD				*i* S	**Sn**	**04 41 20.4**	**-4.8**
MOA	**Molln**	**3.79**	**199**	⇑*i*Pn	**Pn**	**04 40 40.3**	**-0.4**
MOA				⇑*i*Sg	**Sg**	**04 41 42.9**	**0.0**
	comp=Z,12nm,0.4s						
MOA	**Molln**	**3.79**	**199**	Pn	**Pn**	**04 40 40.3**	**-0.5**
MOA				Sg	**Sg**	**04 41 42.9**	**0.0**
	comp=Z,12nm,0.4s						
STHS	**Stebnicka Huta**	**3.84**	**120**	*e*PN	**Pn**	**04 40 42.8**	**+1.4**
STHS				*e*SG	**Sg**	**04 41 49.0**	**+4.6**
KECS	**Kecovo**	**4.07**	**135**	*e*SG	**Sg**	**04 41 53.5**	**+1.5**
CRVS	**Cervenica-Dubn**	**4.26**	**125**	*e*SG	**Sg**	**04 41 59.7**	**+1.9**

*ISCJB **29** 04:40:31.1±1.8, 184N±02×145.1E±03, h452km±21km, mb3.3/6, Error ellipse: s-maj=48.9km s-min=26.4km az=21.8*
*IDC **29** 04:40:31.1±12.0, 1852N×14508E, h441km±145km, mb3.0/5, mb1 3.3/5, mb1mx3.0/18, mbtmp3.0/5, Error ellipse: s-maj=67.6km s-min=34.4km az=95.0*
*NEIC **29** 04:40:31.8±1.3, 1844N×14522E, h450km±15km, mb3.8/1, Error ellipse: s-maj=30.8km s-min=18.0km az=98.0*
ISC 29 04:40:31.7±1.8, 185N±02×1452E±03, h447km±22km, n10, σ0°77/8, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.87**	**183**	*e*Pn	**P**	**04 41 54.6**	**0.0**
WRA	**Warramunga Arr**	**39.63**	**196**	P	**P**	**04 47 23.5**	**+0.3**
	0.4nm,0.3s,mb3.3,baz=15,slow=8.4,SNR=7.6						
ASAR	**Alice Springs**	**43.31**	**195**	P	**P**	**04 47 52.2**	**-0.3**
	0.2nm,0.5s,mb2.8,baz=17,slow=6.7,SNR=5.1						
KURK	**Kurchatov**	**61.09**	**318**	*e*P	**P**	**04 50 01.7**	**+0.6**
	1.0nm,0.3s,mb3.7						
YKA	**Yellowknife Ar**	**78.42**	**28**	P	**P**	**04 51 44.4**	**-0.6**
	0.3nm,0.5s,mb3.0,baz=287,slow=5.1,SNR=9.6						
YKA	**Yellowknife Ar**	**78.42**	**28**	P	**P**	**04 51 44.4**	**-0.6**
ARCES	**ARCESS Array B**	**82.54**	**342**	P	**P**	**04 52 05.9**	**-0.7**
	4.7nm,1.0s,mb4.0,baz=76,slow=7.7,SNR=3.9						
NVAR	**Mina Array Bea**	**83.68**	**52**	P	**P**	**04 52 13.1**	**+0.8**
	0.6nm,0.6s,mb3.3,baz=260,slow=4.5,SNR=3.3						
LPAZ	**La Paz**	**148.18**	**91**	PKPbc	PKPbc	04 59 27.5	+1.2
	1.0nm,0.6s,baz=329,slow=4.6,SNR=4.4						
LPAZ	**La Paz**	**148.18**	**91**	PKPbc	PKPbc	04 59 27.5	+1.2

JMA 29 04:42:31.9±0.1, 2685N×13165E, h2km±4km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.10**	**201**	P	Pg	04 42 53.0	+0.1
JMZ				*e*S	Sg	04 43 07.9	+0.8
JAM	**Amami Oshima**	**2.39**	**311**	P	Pn	04 43 13.0	+1.0
JAM				*e*S	Sn	04 43 42.7	+0.8
JTK	**Tokunoshima**	**2.58**	**292**	P	Pn	04 43 15.7	+1.1
JTK				*e*S	Sn	04 43 48.1	+1.6
JOW	**Kunigami**	**3.02**	**270**	P	Pn	04 43 22.1	+1.4
JOW				*e*S	Sn	04 43 57.9	+0.5
JIH	**Iheya**	**3.29**	**274**	*e*S	Sn	04 44 05.7	+1.5

*ISCJB **29** 05:15:04.7±1.0, 1338N±005×12003E±009, h10km, mb3.9/2, Error ellipse: s-maj=14.3km s-min=4.5km az=45.1*
*MAN **29** 05:15:06.0, 1338N×120.15E, h10km, mb2.9, ML4.3, MS3.5*
*IDC **29** 05:16:02.4±2.6, 686N×12262E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/20, mbtmp3.8/3, Error ellipse: s-maj=362.1km s-min=25.4km az=63.0*
ISC 29 05:15:05.8±0.8, 1333N±004×12017E±007, h10km, n9, σ0°86/14, mb3.9/2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.41**	**11**	*e*P	**Pg**	**05 15 13.8**	**+0.1**
LUBP				*e*S	**Sg**	**05 15 18.8**	**-0.3**
TGY	**Tagaytay City**	**1.07**	**44**	⇓*e*P	**Pg**	**05 15 26.5**	**+0.1**
TGY				*e*S	**Sg**	**05 15 41.5**	**+1.2**
BUSP	**Coron**	**1.32**	**179**	*e*P	**Pn**	**05 15 30.9**	**+0.6**
BUSP				*e*S	**Sb**	**05 15 48.1**	**+0.5**
BOAC	**Boac**	**1.64**	**85**	*e*P	**Pn**	**05 15 33.5**	**-1.1**
BOAC				*e*S	**Sn**	**05 15 54.7**	**-1.0**
OTRP	**Odiongan**	**2.05**	**118**	*e*P	**Pn**	**05 15 42.0**	**+1.7**
OTRP				*e*S	**Sn**	**05 16 11.9**	**+6.0**
ENPP	**El Nido**	**2.23**	**199**	*e*P	**Pn**	**05 15 43.5**	**+0.7**
ENPP				*e*S	**Sn**	**05 16 10.1**	**-0.3**
WRA	**Warramunga Arr**	**35.89**	**157**	P	**P**	**05 22 04.9**	**-1.0**
	1.2nm,0.6s,mb4.0,baz=337,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**39.15**	**160**	P	**P**	**05 22 32.5**	**-1.0**
	1.0nm,0.6s,mb3.7,baz=341,slow=7.3,SNR=17						
MKAR	**Makanchi Array**	**46.02**	**324**	P	PP	05 25 18.6	+1.4
	0.5nm,0.6s,baz=132,slow=6.4,SNR=7.3						

IDC 29 05:16:35.7±3.2, 669S×15234E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=135.4km s-min=45.9km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.80**	**242**	Pn	Pn	05 18 03.6	+0.7
	1.6nm,0.3s,baz=80,slow=11,SNR=3.8						
PMG				Sn	Sn	05 19 02.7	-7.4
	2.0nm,0.3s,baz=189,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**21.88**	**231**	P	P	05 21 29.8	-0.4
	0.4nm,0.8s,baz=57,slow=9.9,SNR=5.3						
ASAR	**Alice Springs**	**24.47**	**224**	P	P	05 21 57.2	+0.9
	0.9nm,0.7s,baz=50,slow=9.3,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.40**	**285**	PKPbc	PKPbc	05 36 29.8	+0.7
	0.2nm,0.6s,baz=105,slow=2.7,SNR=5.7						

IDC 29 05:16:52.2±1.2, 1922N×14559E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/22, mbtmp4.0/6, 2C, Error ellipse: s-maj=48.5km s-min=20.1km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**40.45**	**196**	⇑*i*P	P	05 24 32.6	+0.2
WRA	**Warramunga Arr**	**40.45**	**196**	P	P	05 24 32.8	+0.4
	4.0nm,0.5s,baz=18,slow=8.9,SNR=70						
FITZ	**Fitzroy Crossi**	**41.95**	**209**	⇑*i*P	P	05 24 44.9	+0.2
	8.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.95**	**209**	P	P	05 24 45.0	+0.3
	4.1nm,0.5s,baz=27,slow=11,SNR=13						
ASAR	**Alice Springs**	**44.13**	**195**	P	P	05 25 02.1	-0.2
	2.3nm,0.6s,baz=16,slow=7.6,SNR=32						
MKAR	**Makanchi Array**	**58.03**	**314**	P	P	05 26 47.8	+0.9
	0.4nm,0.7s,baz=99,slow=8.7,SNR=3.3						
BVAR	**Borovoye Array**	**66.01**	**320**	P	P	05 27 39.7	-0.9
	0.8nm,0.5s,baz=102,slow=8.5,SNR=5.3						
YKA	**Yellowknife Ar**	**77.58**	**28**	P	P	05 28 50.0	-0.1
	0.3nm,0.6s,baz=291,slow=5.5,SNR=8.2						

*ISCJB **29** 06:03:07.5±0.6, 4431N±002×726E±005, h12km±7km, Error ellipse: s-maj=6.8km s-min=3.4km az=148.3*
*LDG **29** 06:03:08.4±0.1, 4431N×732E, h3km, Md1.9/2, Ml1.9/7, Error ellipse: s-maj=2.1km s-min=0.9km az=70.0*
*STR **29** 06:03:09.1±0.2, 4424N×737E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 29 06:03:08.0±0.7, 4431N±002×730E±006, h14km±7km, n14, σ0°40/26, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOUF	**Mont Tournerai**	**0.30**	**187**	Pg	**Pg**	**06 03 14.7**	**+0.5**
AUTN	**L'Aution**	**0.33**	**163**	Pg	**Pg**	**06 03 14.9**	**+0.1**
AUTN				Sg	**Sg**	**06 03 19.2**

BVAR Borovoye Array 62.53 319 P P 06 29 52.4 -0.5
1.5nm,0.5s,baz=101,slow=7.7,SNR=11
INK Inuvik 67.32 24 P P 06 30 24.2 +0.1
2.2nm,1.1s,baz=183,slow=1.8,SNR=3.6
INK Inuvik 67.32 24 P P 06 30 24.2 +0.1
YKA Yellowknife Ar 76.21 28 P P 06 31 17.3 -0.2
0.7nm,0.7s,baz=292,slow=5.8,SNR=9.6
YKA Yellowknife Ar 76.21 28 P P 06 31 17.3 -0.2
NVAR Mina Array Bea 82.94 52 P P 06 31 54.0 -0.1
1.0nm,0.8s,baz=258,slow=4.4,SNR=4.7
NVAR Mina Array Bea 82.94 52 P P 06 31 54.0 -0.2
AKASG Malin Array Be 87.34 324 P P 06 32 14.3 -1.9
0.3nm,0.4s,baz=38,slow=4.8,SNR=4.7
LPAZ La Paz 149.85 85 PKPbc PKPbc 06 39 22.0 +2.6
1.7nm,1.0s,baz=299,slow=3.9,SNR=4.0

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*IDC **29** 06:26:47.3±0.4, 1074S×11385E, h0km, mb4.7/20, mb1 4.7/21, mb1mx4.7/23, mbtmp4.7/21, ML3.9/1, MS4.0/17, Ms1 4.0/17, ms1mx3.9/30, Error ellipse: s-maj=17.0km s-min=12.1km az=55.0*
*BJI **29** 06:26:47.8, 1124S×11428E, h46km, mB5.2, mb4.9, Ms4.9, Msz4.4*
*NEIC **29** 06:26:49.0±0.2, 1070S×11386E, h10km, mb5.2/30, Error ellipse: s-maj=7.8km s-min=4.0km az=51.0*
*MOS **29** 06:26:50.2±1.1, 1057S×114.15E, h33km, mb5.1/17, Error ellipse: s-maj=31.3km s-min=10.5km az=105.8*
*ISCJB **29** 06:26:52.0±1.0, 1066S±004×11392E±005, h48km±9km, mb5.0/76, MS4.1/23, Error ellipse: s-maj=10.0km s-min=5.3km az=105.3*
ISC 29 06:26:54.6±0.9, 1070S±004×11392E±005, h54km±8km, h49km±1.0km: pP-P, n166, σ1§13/160, mb5.0/76, MS4.1/23, 3C-4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**5.34**	**308**	P	**Pn**	**06 28 11.4**	**-0.3**
	188nm,1.2s						
LEM	**Lembang**	**7.32**	**301**	P	**Pn**	**06 28 37.6**	**-1.3**
	129nm,1.0s						
FITZ	**Fitzroy Crossi**	**13.52**	**124**	*e*P	**Pn**	**06 29 57.0**	**-6.5**
	46nm,0.6s						
FITZ				*e*S	**Sn**	**06 32 17.5**	**-15**
FITZ	**Fitzroy Crossi**	**13.52**	**124**	Pn	**Pn**	**06 29 57.1**	**-6.4**
	3.2nm,0.3s,baz=302,slow=7.8,SNR=73						
FITZ				Sn	**Sn**	**06 32 18.7**	**-13**
	2.1nm,0.3s,baz=59,slow=9.7,SNR=8.1						
FITZ				LR	LR	06 34 46.3	
	comp=Z,590nm,19.6s,baz=307,slow=35						
KAKA	**Kakadu**	**18.24**	**98**	*e*P	**Pn**	**06 31 02.6**	**-1.2**
	33nm,0.7s						
PSI	**Prapat**	**20.07**	**311**	P	**P**	**06 31 21.0**	**-2.3**
	0.3nm,0.3s,baz=142,slow=12,SNR=3.5						
PSI				LR	LR	06 40 46.3	
	comp=Z,974nm,19.3s,MS4.2,baz=129,slow=42						
KULM	**Kulim**	**20.66**	**320**	*e*P	**P**	**06 31 29.9**	**+0.1**
KLBR	**Kellerberrin**	**21.09**	**171**	*e*P	**P**	**06 31 33.2**	**-1.2**
	78nm,1.2s,mb4.9						
KLBR				*e*S	**S**	**06 35 09.0**	**-17**
MUN	**Mundaring**	**21.28**	**175**	*e*P	**P**	**06 31 38.0**	**+1.6**
MUN				*e*S	**S**	**06 35 15.2**	**-15**
WRA	**Warramunga Arr**	**21.71**	**117**	P	**P**	**06 31 40.9**	**-0.1**
	134nm,0.8s,mb5.4,baz=290,slow=11,SNR=177						
WRA				S	**S**	**06 35 31.5**	**-6.6**
	2.1nm,0.7s,baz=292,slow=25,SNR=3.9						
WB2	**Warramunga Arr**	**21.72**	**117**	*e*P	**P**	**06 31 41.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**22.33**	**173**	P	**P**	**06 31 49.8**	**+2.2**
	10nm,1.0s,mb4.2,baz=345,slow=9.8,SNR=3.8						
NWAO				S	**S**	**06 35 39.9**	**-10**
	15nm,0.8s,baz=293,slow=18,SNR=4.6						
NWAO				LR	LR	06 39 19.4	
	comp=Z,224nm,20.2s,MS3.6,baz=193,slow=34						
NWAO	**Narrogin (SRO)**	**22.33**	**173**	*e*P	**P**	**06 31 48.0**	**+0.3**
NWAO				S	**S**	**06 35 39.9**	**-10**
NWAO				LR	LR	06 39 19.4	
ASAR	**Alice Springs**	**23.00**	**127**	P	**P**	**06 31 54.5**	**-0.1**
	17nm,0.6s,mb4.6,baz=303,slow=9.2,SNR=179						
ASAR				S	**S**	**06 35 58.9**	**-2.1**
	2.8nm,1.0s,baz=304,slow=20,SNR=3.2						
FORT	**Forrest**	**23.91**	**149**	⇓*i*P	**P**	**06 32 02.5**	**-0.8**
	186nm,0.6s,mb5.7						
FORT				*e*		06 32 15.0	
FORT				*e*S	**S**	**06 36 18.0**	**+2.2**
KKTK	**Khon Kaen**	**29.02**	**338**	P	**P**	**06 32 53.0**	**+3.7**
NST	**Nakhon Sawan**	**29.55**	**332**	P	**P**	**06 32 53.5**	**-0.5**
QIZ	**Qiongzhong**	**29.82**	**352**	P	**P**	**06 32 56.5**	**+0.2**
NANT	**Nan**	**32.08**	**336**	⇑P	**P**	**06 33 16.0**	**-0.3**
	140nm,1.0s,mb5.8						
CTA	**Charters Tower**	**32.48**	**111**	*e*P	**P**	**06 33 21.7**	**+1.8**
	13nm,0.9s,mb4.8						
CTA	**Charters Tower**	**32.48**	**111**	P	**P**	**06 33 21.1**	**+1.2**
	21nm,1.0s,mb4.9,baz=281,slow=10,SNR=8.5						
CTA				LR	LR	06 47 38.5	
	comp=Z,606nm,18.9s,MS4.3,baz=283,slow=38						
CTAO	**Charters Tower**	**32.48**	**111**	*e*P	**P**	**06 33 21.3**	**+1.4**
	38nm,1.3s,mb5.1						
PMG	**Port Moresby**	**32.74**	**91**	P	**P**	**06 33 21.0**	**-1.1**
	18nm,0.8s,mb5.0,baz=252,slow=20,SNR=2.0						
PMG	**Port Moresby**	**32.74**	**91**	*e*P	**P**	**06 33 24.4**	**+2.3**
PMG	**Port Moresby**	**32.74**	**91**	P	**P**	**06 33 22.6**	**+0.5**
	17nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**32.84**	**333**	*e*P	**P**	**06 33 23.9**	**+1.0**
	11nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**33.13**	**134**	⇓*i*P	**P**	**06 33 25.9**	**+0.4**
	19nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**33.13**	**134**	P	**P**	**06 33 26.0**	**+0.5**
	26nm,0.9s,mb5.2,baz=309,slow=8.4,SNR=39						
STKA				PcP	PcP	06 36 08.8	+1.3
	5.3nm,0.6s,baz=302,slow=8.5,SNR=2.9						
STKA				LR	LR	06 47 38.6	
	comp=Z,806nm,18.2s,MS4.5,baz=115,slow=38						
KMI	**Kunming**	**37.24**	**343**	P	**P**	**06 34 00.0**	**-0.8**
KMI				AP	pP	06 34 15.0	+0.2
KMI				XP	sP	06 34 18.8	-2.3
KMI				S	**S**	**06 39 42.0**	**-2.0**
KMI				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.6						
KMI				AMB	AMB		
	comp=Z,172nm,4.4s						
KMI				LR	LR		
	comp=N,217nm,18.9s,MS4.3						
KMI				LR	LR		
	comp=E,372nm,17.5s,MS4.3						
KMI				LR	LR		
	comp=Z,337nm,17.5s,MS4.2						
KMI	**Kunming**	**37.24**	**343**	P	**P**	**06 34 00.1**	**-0.7**
	comp=Z,13nm,1.4s,mb4.6						
KMI				pP	pP	06 34 15.0	+0.2
KMI				sP	sP	06 34 18.8	-2.3
KMI				PPP		06 35 48.6	
KMI				S	**S**	**06 39 42.1**	**-1.9**
KMI				sS	sS	06 40 05.1	-2.5
KMI				SS	SS	06 42 09.2	-20
KMI				LR	LR		
	comp=Z,340nm,17.5s,MS4.2						
GYA	**Guiyang**	**37.60**	**349**	P	**P**	**06 34 04.3**	**+0.4**
GYA				AP	pP	06 34 16.5	-1.4
GYA				XP	sP	06 34 21.5	-2.7
GYA				PP	PP	06 35 31.0	+0.5
GYA				S	**S**	**06 39 46.0**	**-3.6**
GYA				SCS	ScS	06 44 12.5	+0.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,540nm,16.9s,MS4.6						
GYA				LR	LR		
	comp=E,640nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=Z,580nm,16.8s,MS4.5						
ARMA	**Armidale**	**40.13**	**125**	*e*P	**P**	**06 34 27.6**	**+2.6**
VIS	**Vishakhapatnam**	**41.36**	**313**	*e*P	**P**	**06 34 35.5**	**+0.4**
VIS				AMb	AMB	06 34 49.4	
	comp=Z,40nm,1.0s,mb5.0						
TRD	**Trivandrum**	**41.44**	**296**	*ex*	x	06 34 49.5	
TRD				AMb	AMB	06 34 50.6	
	comp=Z,56nm,0.7s,mb5.3						
SHL	**Shillong**	**41.95**	**330**	*e*P	**P**	**06 34 41.5**	**+1.5**
CD2	**Chengdu**	**42.51**	**347**	P	**P**	**06 34 45.5**	**+1.0**
CD2				AP	pP	06 34 57.8	-0.9
CD2				XP	sP	06 35 03.3	-1.7
CD2				PP	PP	06 36 26.5	+2.7
CD2				S	**S**	**06 41 01.3**	**-1.5**
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
CD2				AMB	AMB		
	comp=Z,170nm,3.7s						
CD2				LR	LR		
	comp=N,420nm,10.7s						
CD2				LR	LR		
	comp=E,310nm,9.6s						
CD2				LR	LR		
	comp=Z,230nm,8.4s						
BOK	**Bokaro**	**43.89**	**322**	*e*P	**P**	**06 34 55.4**	**-0.3**
BOK				AMb	AMB	06 35 11.2	
	comp=Z,27nm,1.3s,mb4.8						
XAN	**Xi'an**	**44.74**	**354**	P	**P**	**06 34 59.5**	**-3.0**
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
HNR	**Honiara**	**45.30**	**93**	*e*P	**P**	**06 35 06.1**	**-0.8**
	comp=Z,16nm,0.5s,mb5.1						
LSA	**Lhasa**	**45.77**	**332**	P	**P**	**06 35 12.3**	**+1.7**
LSA	**Lhasa**	**45.77**	**332**	*e*P	**P**	**06 35 11.2**	**+0.6**
	comp=Z,18nm,0.8s,mb5.1						
JIRN	**Jiri**	**46.65**	**325**	*e*P	**P**	**06 35 18.3**	**+0.7**
	comp=Z,140nm,0.8s,mb5.9						
GUN	**Gumba**	**47.02**	**325**	*e*P	**P**	**06 35 21.0**	**+0.6**
	comp=Z,121nm,0.7s,mb5.9						
PKI	**Pulchoki**	**47.02**	**325**	*e*P	**P**	**06 35 20.5**	**0.0**
	comp=Z,53nm,0.9s,mb5.5						
DMN	**Daman**	**47.22**	**324**	*e*P	**P**	**06 35 22.3**	**+0.3**
	comp=Z,122nm,0.8s,mb5.9						
KKN	**Kakani**	**47.26**	**325**	*e*P	**P**	**06 35 22.4**	**+0.1**
	comp=Z,52nm,0.8s,mb5.5						
LZH	**Lanzhou**	**47.50**	**349**	*e*P	**P**	**06 35 26.0**	**+1.9**
LZH				AP	pP	06 35 38.0	-0.5
LZH				XP	sP	06 35 44.0	-0.8
LZH				PP	PP	06 37 15.5	-0.3
LZH				*e*S	**S**	**06 42 14.0**	**-0.9**
LZH				AMB	AMB		
	comp=Z,47nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=E,502nm,16.4s						
LZH				LR	LR		
	comp=Z,759nm,17.0s,MS4.7						
LZH	**Lanzhou**	**47.50**	**349**	*e*P	**P**	**06 35 26.1**	**+2.0**
	comp=Z,47nm,1.5s,mb5.2						
LZH				pP	pP	06 35 38.1	-0.4
LZH				sP	sP	06 35 44.0	-0.8
LZH				PcP	PcP	06 36 59.0	+5.4
LZH				PP	PP	06 37 15.5	-0.3
LZH				*e*S	**S**	**06 42 14.0**	**-0.9**
LZH				sS	sS	06 42 35.0	-4.1
LZH				SS	SS	06 45 33.0	-10
LZH				LR	LR		
	comp=Z,760nm,17.0s,MS4.7						
GKN	**Gorkha**	**47.79**	**324**	*e*P	**P**	**06 35 26.4**	**0.0**
	comp=Z,104nm,0.8s,mb5.9						
KOLN	**Koldanda**	**48.22**	**323**	*e*P	**P**	**06 35 29.8**	**+0.1**
	comp=Z,107nm,0.6s,mb6.0						
POO	**Poona**	**49.06**	**306**	*e*P	**P**	**06 35 34.0**	**-2.2**
BHPL	**Bhopal**	**49.13**	**314**	*e*P	**P**	**06 35 35.8**	**-0.9**
BHPL				AMb	AMB	06 35 50.0	
	comp=Z,26nm,0.8s,mb5.3						
KSRS	**Korea Array**	**49.67**	**15**	P	**P**	**06 35 41.9**	**+1.0**
	comp=Z,11nm,0.8s,mb5.0,baz=198,slow=7.2,SNR=24						
KSRS				LR	LR	06 59 47.3	
	comp=Z,69nm,18.1s,MS3.7,baz=208,slow=40						
BJT	**Baijiatuau**	**50.50**	**2**	*e*P	**P**	**06 35 47.4**	**+0.3**
	comp=Z,7.8nm,0.5s,mb4.9						
BJI	**Beijing**	**50.52**	**2**	P	**P**	**06 35 47.3**	**0.0**
BJI				S	**S**	**06 43 05.0**	**+7.5**
BJI				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
BJI				LR	LR		
	comp=Z,113nm,24.6s,MS3.8						
BJI	**Beijing**	**50.52**	**2**	P	**P**	**06 35 47.3**	**0.0**
	comp=Z,14nm,0.6s,mb5.1						
BJI				S	**S**	**06 43 05.1**	**+7.6**
BJI				LR	LR		
	comp=Z,110nm,24.6s,MS3.8						
HHC	**Hu-ho-hao-te**	**51.34**	**358**	*e*P	**P**	**06 35 54.0**	**+0.6**
HHC				AP	pP	06 36 06.5	-1.4
HHC				XP	sP	06 36 12.0	-2.1
HHC				PCP	PcP	06 37 11.0	+3.4
HHC				PP	PP	06 37 51.3	+0.5
HHC				SCP	ScP	06 41 01.3	+1.8
HHC				S	**S**	**06 43 04.5**	**-4.2**
HHC				SCS	ScS	06 45 37.8	-1.2
HHC				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
HHC				AMB	AMB		
	comp=Z,76nm,3.2s						
HHC				LR	LR		
	comp=N,237nm,22.6s,MS4.3						
HHC				LR	LR		
	comp=E,292nm,26.2s,MS4.3						
HHC				LR	LR		
	comp=Z,109nm,23.8s,MS3.8						
AGRA	**Agra**	**51.37**	**318**	*e*P	**P**	**06 35 53.0**	**-0.7**
AGRA				AMb	AMB	06 35 58.6	
	comp=Z,64nm,0.2s						
GTA	**Gaotai**	**51.55**	**346**	*e*P	**P**	**06 35 57.0**	**+2.0**
GTA				AP	pP	06 36 09.5	0.0
GTA				XP	sP	06 36 14.5	-1.3
GTA				PCP	PcP	06 37 11.0	+2.6
GTA				PP	PP	06 37 55.8	+3.1
GTA				S	**S**	**06 43 11.5**	**-0.1**
GTA				XS	sS	06 43 33.3	-2.8
GTA				SS	SS	06 46 45.8	-2.4
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,122nm,5.7s						
GTA				LR	LR		
	comp=N,190nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=E,214nm,17.1s,MS4.4						
GTA				LR	LR		
	comp=Z,206nm,12.6s,MS4.4						
MAJO	**Matsushiro**	**52.26**	**25**	*e*P	**P**	**06 35 57.5**	**-2.8**
	comp=Z,45nm,1.3s,mb5.2						
MAT	**Matsushiro**	**52.26**	**25**	P	**P**	**06 35 58.8**	**-1.5**
MJAR	**Matsushiro Arr**	**52.26**	**25**	P	**P**	**06 35 59.4**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.7,baz=194,slow=7.2,SNR=12						
MJAR				LR	LR	06 57 59.8	
	comp=Z,178nm,19.5s,MS4.1,baz=45,slow=36						
SONA	**Sohna**	**52.62**	**318**	*e*P	**P**	**06 36 01.6**	**-1.4**
SONA				AMb	AMB	06 36 15.4	
	comp=Z,17nm,0.7s,mb5.1						
JOSI	**Joshimath**	**52.66**	**322**	*e*P	**P**	**06 36 05.5**	**+2.3**
JOSI				AMb	AMB	06 36 16.9	
	comp=Z,79nm,1.1s,mb5.5						
AYAN	**Aya Nagar**	**52.75**	**319**	*e*P	**P**	**06 36 02.5**	**-1.4**
AYAN				AMb	AMB	06 36 16.7	
	comp=Z,15nm,0.8s,mb5.0						
NDI	**New Delhi**	**52.83**	**319**	*ex*	**P**	**06 36 01.0**	**-3.5**
KHET	**Khetri**	**53.35**	**317**	*e*P	**P**	**06 36 06.1**	**-2.2**
KHET				AMb	AMB	06 36 21.4	
	comp=Z,11nm,1.0s,mb4.7						
KLP	**Kalpa**	**54.14**	**322**	*e*P	**P**	**06 36 13.8**	**-0.3**
KLP				AMb	AMB	06 36 18.2	
	comp=Z,15nm,0.7s,mb5.0						
CN2	**Changchun**	**55.25**	**10**	*e*P	**P**	**06 36 22.0**	**-0.1**
DLH	**Dalhousie**	**56.23**	**321**	*ex*	x	06 37 05.0	
THN	**Thein Dam**	**56.31**	**321**	*e*P	**P**	**06 36 28.0**	**-1.8**
THN				*ex*	x	06 37 21.1	
ULN	**Ulaanbaatar**	**58.62**	**355**	*d i*P	**P**	**06 36 46.4**	**+0.4**
ULN	**Ulaanbaatar**	**58.62**	**355**	*e*P	**P**	**06 36 46.6**	**+0.6**
	comp=Z,17nm,0.8s,mb5.1						
ULN				*e*pP	pP	06 37 01.4	+0.6
SONM	**Songino Array**	**58.66**	**354**	P	**P**	**06 36 46.9**	**+0.7**
	comp=Z,6.5nm,0.6s,mb4.8,baz=173,slow=9.1,SNR=34						
WMQ	**Urumqi**	**59.28**	**338**	*e*P	**P**	**06 36 51.8**	**+1.3**
WMQ				AP	pP	06 37 04.5	-0.8
WMQ				PCP	PcP	06 37 41.0	+2.8
WMQ				PP	PP	06 39 04.0	+2.1
WMQ				S	**S**	**06 44 51.0**	**-3.7**
WMQ				SCS	ScS	06 46 34.0	-1.9
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,127nm,4.5s						
WMQ				LR	LR		
	comp=N,83nm,21.0s,MS4.2						
WMQ				LR	LR		
	comp=E,205nm,23.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,71nm,19.0s,MS3.8						
ASAJ	**Asahikawa**	**60.46**	**23**	P	**P**	**06 36 59.3**	**+0.7**
	comp=Z,8.9nm,0.7s,mb4.9,baz=254,slow=17,SNR=2.7						
ASAJ				LR	LR	07 03 44.0	
	comp=Z,77nm,21.4s,MS3.8,baz=3.7,slow=37						
ZAK	**Zakamensk**	**61.53**	**352**	*e*P	**P**	**06 37 06.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.4						
KLR	**Kul'dur**	**61.70**	**13**	*e*P	**P**	**06 37 04.0**	**-3.1**
HABR	**Khabarovsk**	**61.81**	**16**	*e*P	**P**	**06 37 08.7**	**+0.9**
HABR				*e*S	**S**	**06 45 18.5**	**-8.6**
KBL	**Kabul**	**61.91**	**319**	*e*P	**P**	**06 37 08.5**	**0.0**
KBL				*e*pP	pP	06 37 21.5	-1.9
CIT	**Chita**	**62.47**	**360**	*e*P	**P**	**06 37 08.9**	**-3.3**
KZA	**Kyzart**	**63.38**	**329**	P	**P**	**06 37 19.8**	**+1.5**
	SNR=9.0						
TKM2	**Tokmak 2**	**63.82**	**329**	P	**P**	**06 37 21.9**	**+0.8**
	SNR=8.6						
TKM2	**Tokmak 2**	**63.82**	**329**	*i* P	**P**	**06 37 21.0**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
MK31	**Makanchi Array**	**63.84**	**336**	*i* P	**P**	**06 37 22.0**	**+0.7**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**63.84**	**336**	P	**P**	**06 37 21.6**	**+0.4**
	comp=Z,5.7nm,0.6s,mb4.8,baz=138,slow=7.4,SNR=38						
MKAR				LR	LR	07 08 25.4	
	comp=Z,78nm,19.2s,MS3.9,baz=340,slow=39						
MKAR	**Makanchi Array**	**63.84**	**336**	*i* P	**P**	**06 37 22.0**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KBK	**Karagaybulak**	**63.95**	**329**	P	**P**	**06 37 23.1**	**+1.0**
	SNR=10						
AAK	**Ala-Archa**	**64.17**	**329**	P	**P**	**06 37 24.7**	**+1.3**
	SNR=12						
AAK	**Ala-Archa**	**64.17**	**329**	P	**P**	**06 37 23.4**	**0.0**
	comp=Z,83nm,0.8s,mb5.8,SNR=10						
AAK	**Ala-Archa**	**64.17**	**329**	*e*P	**P**	**06 37 23.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**64.17**	**329**	*e*P	**P**	**06 37 23.9**	**+0.5**
	comp=Z,18nm,0.9s,mb5.1						
AAK				*e*pP	pP	06 37 37.6	-0.8
AML	**Almayashu**	**64.22**	**328**	P	**P**	**06 37 25.1**	**+1.3**
	SNR=11						
FRU	**Bishkek**	**64.25**	**329**	*e*P	**P**	**06 37 24.6**	**+0.6**
FRU				*e*	pP	06 37 37.6	-1.3
FRU				*e*		06 38 02.0	
EKS2	**Erkin-Say**	**64.56**	**328**	P	**P**	**06 37 27.4**	**+1.4**
	SNR=16						
OPO	**Ambohidratompo**	**64.74**	**254**	P	**P**	**06 37 28.5**	**+1.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=114,slow=20,SNR=3.0						
MAW	**Mawson**	**65.97**	**199**	*e*P	**P**	**06 37 33.2**	**-1.9**
	comp=Z,4.0nm,0.9s,mb4.5						
MAW	**Mawson**	**65.97**	**199**	P	**P**	**06 37 33.6**	**-1.5**
	comp=Z,6.0nm,1.1s,mb4.5,baz=36,slow=8.1,SNR=6.6						
MAW				LR	LR	07 01 41.3	
	comp=Z,82nm,20.1s,MS3.9,baz=59,slow=32						
KK31	**Karatay Array**	**66.59**	**327**	*i* P	**P**	**06 37 38.9**	**-0.2**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
KKAR	**Karatay Array**	**66.59**	**327**	*i* P	**P**	**06 37 38.9**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
CLNS	**Chul'man**	**67.90**	**6**	*e*P	**P**	**06 37 46.2**	**-1.2**
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.6s						
BOD	**Bodaibo**	**68.28**	**0**	*e*P	**P**	**06 37 49.1**	**-0.6**
BOD				*e*	pP	06 38 02.8	-2.0
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
KURK	**Kurchatov**	**68.44**	**337**	P	**P**	**06 37 51.7**	**+0.9**
	comp=Z,109nm,0.9s,mb5.9,SNR=10						
KURK	**Kurchatov**	**68.44**	**337**	*i* P	**P**	**06 37 50.9**	**+0.1**
KURK	**Kurchatov**	**68.44**	**337**	*e*P	**P**	**06 37 51.0**	**+0.3**
	comp=Z,13nm,0.8s,mb5.0						
KURK				*e*pP	pP	06 38 04.8	-1.0
ZAL	**Zalesovo**	**68.97**	**342**	P	**P**	**06 37 54.2**	**+0.1**
	comp=Z,6.1nm,0.6s,mb4.7,baz=323,slow=4.6,SNR=23						
ZAL				LR	LR	07 13 20.2	
	comp=Z,82nm,19.6s,MS4.0,baz=133,slow=40						
NVS	**Novosibirsk**	**70.22**	**342**	*i* P	**P**	**06 38 00.9**	**-0.9**
NVS				pmax	pmax		
	comp=Z,22nm,2.0s,mb4.7						
NVS				pmax	pmax		
	comp=N,10.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
VNDA	**Vanda**	**71.14**	**170**	P	**P**	**06 38 06.2**	**-1.2**
	comp=E,5.5nm,1.0s,mb4.4,baz=303,slow=4.8,SNR=10						
VNDA				LR	LR	07 07 53.4	
	comp=E,114nm,18.6s,MS4.2,baz=327,slow=35						
BVAR	**Borovoye Array**	**73.54**	**334**	P	**P**	**06 38 21.8**	**+0.2**
	comp=E,3.5nm,0.7s,mb4.4,baz=140,slow=7.8,SNR=12						
YAK	**Yakutsk**	**73.55**	**8**	*e*P	**P**	**06 38 22.2**	**+0.5**
YAK				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.2						
YAK				pmax	pmax		
	comp=N,18nm,1.2s						
YAK	**Yakutsk**	**73.55**	**8**	P	**P**	**06 38 21.8**	**0.0**
	comp=N,15nm,0.4s,mb5.3						
BRVK	**Borovoye**	**73.61**	**334**	*e*P	**P**	**06 38 22.5**	**+0.5**
	comp=N,14nm,1.1s,mb4.8						
BRVK				*e*pP	pP	06 38 36.1	-1.2
SYO	**Syowa Base**	**74.47**	**201**	⇑*e*P	**P**	**06 38 23.8**	**-3.3**
MA2	**Magadan**	**76.03**	**18**	*e*P	**P**	**06 38 37.2**	**+1.2**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
AB31	**Akbulak array**	**76.15**	**327**	P	**P**	**06 38 37.0**	**+0.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
KMBO	**Kilima Mbogo**	**76.69**	**271**	P	**P**	**06 38 41.5**	**+1.7**
	comp=Z,1.5nm,0.3s,mb4.4,baz=98,slow=23,SNR=3.2						
KMBO				LR	LR	07 06 39.8	
	comp=Z,112nm,18.7s,MS4.2,baz=98,slow=31						
KMBO	**Kilima Mbogo**	**76.69**	**271**	P	**P**	**06 38 41.5**	**+1.7**
KMBO				LR	LR	07 06 39.8	
AKTK	**Aktyubinsk**	**77.85**	**327**	P	**P**	**06 38 46.9**	**+0.6**
AKTO	**Aktyubinsk**	**77.85**	**327**	P

OBN Obninsk 91.57 326 *e*P **P 06 39 54.7 -0.7**
OBN *e**PP pP 06 40 08.7 -2.4
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
KLMR Klimovskoe 91.81 332 *e*P **P 06 39 55.8 -0.7**
KLMR pmax pmax
comp=Z,48nm,2.4s,mb5.4
PPT Papeete 92.92 108 LR LR 07 18 52.4
comp=Z,93nm,18.3s,MS4.3,baz=247,slow=34
AKASG Malin Array Be 94.85 321 P **P 06 40 10.1 -0.5**
comp=Z,2.1nm,0.7s,mb4.7,baz=90,slow=4.0,SNR=9.1
AKASG LR LR 07 32 39.3
comp=Z,48nm,19.5s,MS4.0,baz=35,slow=42
AKASG Malin Array Be 94.85 321 *i* P **P 06 40 10.1 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 98.28 331 P **P 06 40 26.2 +0.1**
comp=Z,0.7nm,0.5s,mb4.5,baz=108,slow=6.2,SNR=4.7
FINES LR LR 07 30 18.9
comp=Z,81nm,18.2s,MS4.2,baz=160,slow=39
TORD Torodi Ar. Bea 113.82 280 PKiKP PKiKP 06 45 28.2 +1.1
comp=Z,0.7nm,0.7s,baz=68,slow=1.9,SNR=5.3
YKA Yellowknife Ar 117.75 23 PKP PKPdf 06 45 35.3 +0.6
comp=Z,2.6nm,0.6s,baz=314,slow=1.9,SNR=66
YKA PKKPbc PKKPbc 06 55 53.8 -1.9
comp=Z,0.2nm,0.8s,baz=116,slow=4.0,SNR=5.6
YKA Yellowknife Ar 117.75 23 PKP PKPdf 06 45 35.3 +0.6
YKA PKKPbc PKKPbc 06 55 53.8 -1.9
NVAR Mina Array Bea 125.95 50 PKP PKPdf 06 45 53.7 +3.3
comp=Z,0.6nm,0.5s,baz=328,slow=1.4,SNR=4.2
PDAR Pinedale Array 130.54 42 PKP PKPdf 06 46 01.4 +2.2
comp=Z,0.3nm,0.4s,baz=173,slow=3.6,SNR=5.9
SCHQ Schefferville 135.98 1 PKP PKPdf 06 46 10.9 +1.6
comp=Z,5.5nm,1.1s,baz=190,slow=17,SNR=3.2
SLM Saint Louis 144.79 34 *e*PKPdf PKPdf 06 46 26.0 +0.7
FVM French Village 145.15 35 *e*PKPdf PKPdf 06 46 26.8 +0.9
MIAR Mount Ida 145.47 42 *e*PKPdf PKPdf 06 46 28.9 +2.4
NCB Newcomb 146.11 11 *e*PKPab PKPab 06 46 30.2 +0.9
UALR University of 146.13 41 *e*PKPdf PKPdf 06 46 28.7 +1.1
NATX Nacogdoches 146.29 47 *e*PKPdf PKPdf 06 46 28.5 +0.6
BLO Bloomington 146.30 29 *e*PKPdf PKPdf 06 46 29.8 +1.9
BLO *e*PKPbc PKPbc 06 46 31.0 +1.9
WCI Wyandotte Cave 147.15 30 *e*PKPbc PKPbc 06 46 33.3 +1.8
WVT Waverly 147.92 34 *e*PKPbc PKPbc 06 46 35.5 +1.9
OXF Oxford 148.14 38 *e*PKPbc PKPbc 06 46 36.1 +1.8
SSPA Standing Stone 148.41 17 *e*PKPbc PKPbc 06 46 36.6 +1.6
MCWV Mont Chateau 148.67 21 *e*PKPbc PKPbc 06 46 37.6 +1.9
MVL Millersville 149.43 16 *e*PKPbc PKPbc 06 46 39.2 +1.7
TZTN Tazewell 149.81 29 *e*PKPbc PKPbc 06 46 40.4 +2.0
ELN Prospectdale 150.46 24 *e*PKPbc PKPbc 06 46 41.6 +1.6
ELN *e*PKPab PKPab 06 46 48.1 +1.4
LPAZ La Paz 153.11 176 PKPbc PKPbc 06 46 49.2 +3.2
comp=Z,1.8nm,0.7s,baz=144,slow=3.2,SNR=6.9
LPAZ PKPab PKPab 06 47 00.2 +2.4
comp=Z,7.4nm,0.7s,baz=192,slow=7.4,SNR=19
LPAZ La Paz 153.11 176 *e*PKPdf PKPdf 06 46 41.6 +2.9
LPAZ *e*PKPbc PKPbc 06 46 49.1 +3.1
LPAZ *e*PKPab PKPab 06 47 00.1 +2.4

NIED ***29*** *06:28:00, 31.00N×13.120E, h38km, Mw4.1 Best double couple: M0 1.37000×10^15 NP1:φ=224.00000°, δ87.00000°, λ-86.00000°. NP2:φ=349.00000°, δ4.00000°, λ-145.00000°.*
IDC ***29*** *06:28:48.4±2.0, 30.42N×131.14E, h0km, mb4.0/10, mb1 4.1/13, mb1mx4.0/26, mbtmp3.9/13, ML3.7/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/32, Error ellipse: s-maj=46.9km s-min=26.4km az=180.0*
ISCJB ***29*** *06:28:56.9±0.7, 30.94N±004×131.21E±008, h53km±4km, mb3.9/11, MS3.0/1, Error ellipse: s-maj=12.1km s-min=6.9km az=21.4*
JMA ***29*** *06:28:58.1±0.1, 30.98N×131.21E, h37km±1km, M3.9*
JMA Felt I J1.
NEIC ***29*** *06:28:58.1, 30.98N×131.21E, h37km, mb3.8/1, After JMA.*
ISC 29 06:28:57.8±0.6, 3094N±004×13119E±008, h47km±4km, n24, σ0°70/30, mb3.9/11, MS3.0/1, 1C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSR	**Tashiro 2**	**0.32**	**314**	⇓P	**Pn**	**06 29 06.0**	**-0.8**
JTSR				*e*S	**Sn**	**06 29 12.2**	**-1.0**
JTN	**Tanegashima 3**	**0.34**	**212**	⇓P	**Pn**	**06 29 07.0**	**0.0**
JTN				*e*S	**Sn**	**06 29 13.9**	**+0.4**
JNAR	**Kushima--Naru**	**0.59**	**7**	⇓P	**Pn**	**06 29 09.5**	**-0.4**
JSU	**Suzuyama**	**0.84**	**312**	⇑P	**Pn**	**06 29 12.9**	**-0.4**
JSU				*e*S	**Sn**	**06 29 24.7**	**+0.1**
JTZ	**Takazaki**	**0.96**	**355**	⇓P	**Pn**	**06 29 15.2**	**+0.4**
JTZ				*e*S	**Sn**	**06 29 28.0**	**+0.6**
JKC	**Kuchinoerabu**	**0.98**	**241**	P	**Pn**	**06 29 15.6**	**+0.5**
JZO	**Okuchi**	**1.30**	**337**	P	**Pn**	**06 29 19.5**	**+0.1**
JZO				*e*S	**Sn**	**06 29 35.5**	**-0.1**
JTSN	**Tsuno**	**1.33**	**12**	P	**Pn**	**06 29 19.4**	**-0.4**
JTSN				*e*S	**Sn**	**06 29 36.2**	**-0.1**
JNU	**Nakatsue**	**2.19**	**353**	Pn	**Pn**	**06 29 33.0**	**+1.3**
22nm,0.3s,baz=237,slow=19,SNR=119							
JNU				Sn	**Sn**	**06 29 57.2**	**-0.2**
130nm,0.3s,baz=214,slow=19,SNR=14							
JNU				Lg		06 30 07.2	
76nm,0.3s,baz=219,slow=19,SNR=6.3							
JNU				LR	LR	06 30 42.0	
comp=Z,900nm,20.1s,baz=228,slow=42							
KSRS	**Korea Array**	**7.04**	**338**	Pn	**Pn**	**06 30 40.6**	**+2.5**
baz=156,slow=14,SNR=12							
MAJO	**Matsushiro**	**8.08**	**44**	*e*Pn	**Pn**	**06 30 48.8**	**-3.7**
MJAR	**Matsushiro Arr**	**8.08**	**44**	Pn	**Pn**	**06 30 52.5**	**0.0**
0.5nm,0.3s,baz=239,slow=13,SNR=4.8							
ASAJ	**Asahikawa**	**15.94**	**31**	LR	LR	06 39 25.7	
comp=Z,85nm,18.1s,baz=59,slow=39							
ULN	**Ulaanbaatar**	**25.01**	**319**	*e*P	**P**	**06 34 17.6**	**+0.3**
2.3nm,0.9s,mb3.7							
SONM	**Songino Array**	**25.36**	**319**	P	**P**	**06 34 20.8**	**+0.4**
1.1nm,0.7s,mb3.5,baz=133,slow=12,SNR=4.6							
SONM				LR	LR	06 44 08.0	
comp=Z,48nm,22.0s,MS3.0,baz=344,slow=36							
MKAR	**Makanchi Array**	**40.55**	**307**	P	**P**	**06 36 32.1**	**-0.3**
0.3nm,0.4s,mb3.2,baz=86,slow=10,SNR=4.5							
BVAR	**Borovoye Array**	**48.63**	**315**	P	**P**	**06 37 37.0**	**+0.2**
1.7nm,0.4s,mb4.5,baz=98,slow=8.0,SNR=10							
INK	**Inuvik**	**63.54**	**24**	P	**P**	**06 39 23.4**	**+0.1**
0.9nm,0.7s,mb3.9,baz=59,slow=19,SNR=6.9							
ARCES	**ARCESS Array B**	**66.59**	**338**	P	**P**	**06 39 42.1**	**-1.0**
5.9nm,1.0s,mb4.6,baz=52,slow=7.4,SNR=3.0							
FINES	**FINESS Array B**	**70.06**	**330**	P	**P**	**06 40 03.7**	**-1.1**
1.5nm,0.5s,mb4.1,baz=86,slow=5.8,SNR=9.8							
YKA	**Yellowknife Ar**	**73.17**	**26**	P	**P**	**06 40 23.7**	**+0.2**
0.6nm,0.7s,mb3.6,baz=301,slow=5.8,SNR=12							
AKASG	**Malin Array Be**	**73.65**	**320**	P	**P**	**06 40 26.0**	**-0.3**
0.5nm,0.4s,mb3.8,baz=56,slow=6.5,SNR=3.6							
NOA	**NORSAR Array B**	**76.23**	**334**	P	**P**	**06 40 40.7**	**-0.6**
0.6nm,0.5s,mb3.8,baz=50,slow=5.6,SNR=3.4							
PDAR	**Pinedale Array**	**87.88**	**40**	P	**P**	**06 41 43.1**	**+0.8**
0.5nm,0.8s,mb3.8,baz=347,slow=2.8,SNR=3.2							

ISCJB ***29*** *06:33:51.5±0.7, 37.64N±003×255W±003, h10km±4km, Error ellipse: s-maj=6.0km s-min=3.5km az=129.8*
CSEM ***29*** *06:33:51.8±0.2, 37.47N×241W, h1km±1km, ML3.0/15, Error ellipse: s-maj=5.2km s-min=2.7km az=149.0*
MDD ***29*** *06:33:52.1±0.5, 37.50N×243W, h0km, mbLg2.7/14, Error ellipse: s-maj=4.4km s-min=3.1km az=135.0, PRXIMO*
INMG ***29*** *06:33:52.3±1.1, 37.50N×245W, h5km±2km, ML2.5, Error ellipse: s-maj=2.4km s-min=1.5km az=132.0*
NEIC ***29*** *06:33:52.2, 37.49N×244W, h3km, MN2.7(MDD), After MDD.*
ISC 29 06:33:52.0±0.6, 3758N±003×250W±003, h8km±3km, n61, σ1°02/103, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.51**	**296**	Pg	**Pg**	**06 34 03.3**	**+1.5**
SNR=40							
EQES				Lg		06 34 10.8	
50nm,0.1s							
EQES	**Quesada**	**0.51**	**296**	Pg	**Pg**	**06 34 03.3**	**+1.6**
4.1nm,0.2s,SNR=40							
EBER	**Berja**	**0.75**	**205**	Pg	**Pg**	**06 34 05.1**	**-1.3**
12nm,0.2s,SNR=7.9							
EBER				Lg		06 34 14.3	
70nm,0.2s,SNR=7.9							
EBER	**Berja**	**0.75**	**205**	Pg	**Pg**	**06 34 05.1**	**-1.3**
12nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**0.84**	**244**	Pg	**Pg**	**06 34 07.9**	**-0.2**
27nm,0.2s,SNR=128							
EQUE				Lg		06 34 19.6	
36nm,0.2s,SNR=11							
ETOB	**Tobarra**	**1.30**	**35**	Pg	**Pg**	**06 34 17.0**	**+0.1**
19nm,0.2s,SNR=56							
ETOB				Lg		06 34 35.4	
132nm,0.3s							
ETOB	**Tobarra**	**1.30**	**35**	Pg	**Pg**	**06 34 17.0**	**+0.1**
19nm,0.2s,SNR=56							
EADA	**Adamuz**	**1.75**	**290**	Pn	**Pn**	**06 34 23.0**	**+0.5**
3.1nm,0.1s,SNR=35							
EADA				Sn	**Sn**	**06 34 46.7**	**+1.8**
4.0nm,0.1s,SNR=7.9							
EADA				Lg		06 34 49.6	
27nm,0.1s,SNR=8.1							
EADA	**Adamuz**	**1.75**	**290**	Pn	**Pn**	**06 34 23.0**	**+0.4**
3.1nm,0.1s,SNR=35							
EADA				Sn	**Sn**	**06 34 46.7**	**+1.7**
4.0nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**2.08**	**242**	Pg	**Pg**	**06 34 29.8**	**-2.1**
1.1nm,0.1s,SNR=7.0							
EMIJ				Lg		06 34 58.1	
4.7nm,0.3s,SNR=5.0							
EBEN	**Beniarda**	**2.11**	**57**	Pn	**Pn**	**06 34 27.4**	**-0.2**
0.1nm,0.1s,SNR=8.1							
EBEN				Sn	**Sn**	**06 34 55.1**	**+1.0**
1.3nm,0.2s,SNR=4.0							
EBEN	**Beniarda**	**2.11**	**57**	Pn	**Pn**	**06 34 27.4**	**-0.2**
0.1nm,0.1s,SNR=8.1							
EBEN				Sn	**Sn**	**06 34 55.1**	**+1.0**
1.3nm,0.2s,SNR=4.0							
ESDC	**Sonseca Array**	**2.38**	**332**	Pn	**Pn**	**06 34 32.3**	**+1.0**
0.8nm,0.1s,baz=150,slow=14,SNR=43							
ESDC				Pg	**Pg**	**06 34 37.8**	**+0.2**
2.9nm,0.1s,baz=151,slow=18,SNR=18							
ESDC				Sn	**Sn**	**06 35 00.2**	**-0.6**
2.8nm,0.1s,baz=150,slow=24,SNR=21							
ESDC				Lg		06 35 08.6	
5.6nm,0.1s,baz=150,slow=32,SNR=13							
ESDC	**Sonseca Array**	**2.38**	**332**	Pn	**Pn**	**06 34 32.3**	**+1.0**
0.8nm,0.1s,SNR=43							
ESDC	**Sonseca Array**	**2.38**	**332**	Pg	**Pg**	**06 34 37.8**	**+0.1**
2.9nm,0.1s,SNR=18							
PAB	**San Pablo**	**2.44**	**324**	*e*Pn	**Pn**	**06 34 33.6**	**+1.5**
PAB				*e*Sg	**Sg**	**06 35 10.7**	**+0.3**
PAB	**San Pablo**	**2.44**	**324**	*e*Pn	**Pn**	**06 34 33.6**	**+1.5**
PAB				*e*Sg	**Sg**	**06 35 10.7**	**+0.4**
ESPR	**Espera**	**2.77**	**256**	Pn	**Pn**	**06 34 36.6**	**-0.1**
0.4nm,0.1s,SNR=4.0							
ESPR				Sn	**Sn**	**06 35 11.0**	**+0.7**
2.4nm,0.2s,SNR=4.0							
ESPR	**Espera**	**2.77**	**256**	Pn	**Pn**	**06 34 36.6**	**-0.1**
0.4nm,0.1s,SNR=4.0							
ESPR				Sn	**Sn**	**06 35 11.0**	**+0.7**
2.4nm,0.2s,SNR=4.0							
EMOS	**Mosqueruela**	**3.20**	**29**	Pn	**Pn**	**06 34 42.7**	**+0.2**
0.5nm,0.1s,SNR=7.9							
EMOS				Sn	**Sn**	**06 35 20.2**	**-0.6**
0.2nm,0.1s,SNR=7.9							
EMOS				Lg		06 35 35.8	
15nm,0.8s,SNR=7.9							
EMOS	**Mosqueruela**	**3.20**	**29**	Pn	**Pn**	**06 34 42.7**	**+0.2**
0.5nm,0.1s,SNR=7.9							
EMOS				Sn	**Sn**	**06 35 20.2**	**-0.6**
0.2nm,0.1s,SNR=7.9							
ETOR	**Torete**	**3.25**	**6**	Pn	**Pn**	**06 34 44.9**	**+1.6**
5.6nm,0.2s,SNR=21							
ETOR				Pg	**Pg**	**06 34 53.8**	**-0.5**
4.2nm,0.1s,SNR=12							
ETOR				Sn	**Sn**	**06 35 22.0**	**-0.2**
11nm,0.2s,SNR=8.6							
ETOR				Lg		06 35 37.9	
26nm,0.2s							
ETOR	**Torete**	**3.25**	**6**	Pg	**Pg**	**06 34 53.8**	**-0.5**
4.2nm,0.1s,SNR=12							
ETOR	**Torete**	**3.25**	**6**	Pg	**Pg**	**06 34 53.8**	**-0.5**
ETOR				Sn	**Sn**	**06 35 22.0**	**-0.2**
11nm,0.2s,SNR=8.6							
EMIN	**Mina Concepcio**	**3.32**	**274**	Pn	**Pn**	**06 34 43.8**	**-0.4**
1.2nm,0.2s,SNR=7.9							
EMIN				Sn	**Sn**	**06 35 23.6**	**-0.1**
1.2nm,0.1s,SNR=7.9							
EMIN				Lg		06 35 39.6	
3.4nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.32**	**274**	Pn	**Pn**	**06 34 43.8**	**-0.4**
1.2nm,0.2s,SNR=7.9							
EMIN				Sn	**Sn**	**06 35 23.6**	**-0.2**
1.2nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.35**	**63**	Pn	**Pn**	**06 34 43.4**	**-1.2**
0.1nm,0.1s,SNR=7.9							
EIBI				Sn	**Sn**	**06 35 21.6**	**-3.0**
0.6nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.35**	**63**	Pn	**Pn**	**06 34 43.4**	**-1.2**
0.1nm,0.1s,SNR=7.9							
EIBI				Sn	**Sn**	**06 35 21.6**	**-3.0**
0.6nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.75**	**290**	Pn	**Pn**	**06 34 49.9**	**-0.1**
0.3nm,0.1s,SNR=12							
EBAD				Pg	**Pg**	**06 35 01.3**	**-2.5**
2.0nm,0.1s,SNR=7.9							
EBAD				Sn	**Sn**	**06 35 34.3**	**-0.1**
3.5nm,0.2s,SNR=7.9							
EBAD				Lg		06 35 53.2	
8.2nm,0.2s							
EBAD	**Badajoz**	**3.75**	**290**	Pn	**Pn**	**06 34 49.9**	**-0.2**
0.3nm,0.1s,SNR=12							
EBAD	**Badajoz**	**3.75**	**290**	Pg	**Pg**	**06 35 01.3**	**-2.4**
2.0nm,0.1s,SNR=7.9							
EBAD				Sn	**Sn**	**06 35 34.3**	**0.0**
3.5nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.96**	**271**	Pn	**Pn**	**06 34 52.7**	**-0.3**
0.1nm,0.1s,SNR=13							
EGRO				Sn	**Sn**	**06 35 39.2**	**-0.4**
1.0nm,0.1s,SNR=5.0							
EGRO				Lg		06 35 58.9	
4.8nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**3.96**	**271**	Pn	**Pn**	**06 34 52.7**	**-0.3**
0.1nm,0.1s,SNR=13							
EGRO				Sn	**Sn**	**06 35 39.2**	**-0.5**
1.0nm,0.1s,SNR=5.0							
ERTA	**Horta de San J**	**4.02**	**32**	Pn	**Pn**	**06 34 55.1**	**+1.3**
2.5nm,0.2s,SNR=18							
ERTA				Sn	**Sn**	**06 35 40.5**	**-0.7**
0.3nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**4.02**	**32**	Pn	**Pn**	**06 34 55.1**	**+1.2**
2.5nm,0.2s,SNR=18							
ERTA				Sn	**Sn**	**06 35 40.5**	**-0.7**
0.3nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**4.21**	**289**	*e*Pn	**Pn**	**06 34 57.4**	**+1.0**
PESTR				*e*Sn	**Sn**	**06 35 46.1**	**+0.3**
PESTR				A		06 36 15.2	
6.9nm,0.4s							
PESTR	**Estremoz**	**4.21**	**289**	*e*Pn	**Pn**	**06 34 57.4**	**+1.0**
PESTR				*e*Sn	**Sn**	**06 35 46.1**	**+0.3**
6.9nm,0.4s							
PBEJ	**Beja**	**4.27**	**278**	*e*Pn	**Pn**	**06 34 57.9**	**+0.6**
PBEJ				*e*Sn	**Sn**	**06 35 46.9**	**-0.5**
ESAC	**San Caprasio**	**4.42**	**20**	Pn	**Pn**	**06 34 59.9**	**+0.5**
ESAC				Lg		06 36 14.2	
ESAC	**San Caprasio**	**4.42**	**20**	Lg		06 36 14.2	
5.8nm,0.2s,SNR=4.0							
PCBR	**Castelo Branco**	**4.50**	**302**	*e*Pn	**Pn**	**06 35 01.8**	**+1.4**
PCBR				*e*Sn	**Sn**	**06 35 52.2**	**-0.7**
PCBR				A		06 36 24.6	
5.5nm,0.4s							
PCBR	**Castelo Branco**	**4.50**	**302**	*e*Pn	**Pn**	**06 35 01.8**	**+1.4**
PCBR				*e*Sn	**Sn**	**06 35 52.2**	**-0.7**
5.5nm,0.4s							
MOE	**Montemor**	**4.71**	**283**	*e*Sg	**Sg**	**06 36 21.7**	**-1.6**
MTE	**Manteigas**	**4.83**	**307**	*e*Sg	**Sg**	**06 36 27.3**	**+0.1**
MTE				A		06 36 36.7	
11nm,0.7s							
MTE	**Manteigas**	**4.83**	**307**	*e*Sg	**Sg**	**06 36 27.3**	**+0.1**
11nm,0.7s							
PTEO	**Sao Teotonio**	**4.95**	**271**	*e*Pn	**Pn**	**06 35 07.3**	**+0.7**
PTEO				*e*Sn	**Sn**	**06 36 03.2**	**-0.8**
PTEO				A		06 36 11.9	
5.5nm,0.3s							
PTEO	**Sao Teotonio**	**4.95**	**271**	*e*Pn	**Pn**	**06 35 07.3**	**+0.7**
PTEO				*e*Sn	**Sn**	**06 36 03.2**	**-0.8**
5.5nm,0.3s							
PVIS	**Viseu**	**5.23**	**308**	*e*Pn	**Pn**	**06 35 11.4**	**+0.9**
PVIS				*e*Sn	**Sn**	**06 36 10.8**	**-0.2**
PVIS				A		06 36 46.8	
4.5nm,0.3s							
PVIS	**Viseu**	**5.23**	**308**	*e*Pn	**Pn**	**06 35 11.4**	**+0.9**
PVIS				*e*Sn	**Sn**	**06 36 10.8**	**-0.2**
4.5nm,0.3s							
PBRG	**Braganca**	**5.34**	**324**	*e*Pn	**Pn**	**06 35 13.4**	**+1.5**
PBRG				*e*Sn	**Sn**	**06 36 12.9**	**-0.7**
PBRG				A		06 36 46.6	
4.2nm,0.3s							
PBRG	**Braganca**	**5.34**	**324**	*e*Pn	**Pn**	**06 35 13.4**	**+1.5**
PBRG				*e*Sn	**Sn**	**06 36 12.9**	**-0.7**
4.2nm,0.3s							
ECAL	**Calabor**	**5.44**	**324**	Pn	**Pn**	**06 35 14.3**	**+0.9**
0.2nm,0.1s,SNR=7.9							
ECAL				Sn	**Sn**	**06 36 15.2**	**-1.0**
0.7nm,0.2s,SNR=7.9							
ECAL				Lg		06 36 47.3	
8.2nm,0.5s,SNR=7.9							
ECAL	**Calabor**	**5.44**	**324**	Pn	**Pn**	**06 35 14.3**	**+0.9**
0.2nm,0.1s,SNR=7.9							
ECAL				Sn	**Sn**	**06 36 15.2**	**-1.0**
0.7nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**5.47**	**314**	*e*Sn	**Sn**	**06 36 16.7**	**-0.2**
EBIE	**Bielsa**	**5.49**	**21**	Pn	**Pn**	**06 35 14.3**	**+0.3**
0.1nm,0.1s,SNR=4.0							
EBIE				Sn	**Sn**	**06 36 14.9**	**-2.4**
0.3nm,0.1s,SNR=4.0							
EBIE	**Bielsa**	**5.49**	**21**	Pn	**Pn**	**06 35 14.3**	**+0.3**
0.1nm,0.1s,SNR=4.0							
ELAN	**Lanestosa**	**5.69**	**353**	Pn	**Pn**	**06 35 17.8**	**+1.0**
0.1nm,0.1s,SNR=7.9							
ELAN				Sn	**Sn**	**06 36 20.4**	**-1.8**
0.3nm,0.1s,SNR=7.9							
ELAN				Lg		06 36 54.1	
1.8nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**5.69**	**353**	Pn	**Pn**	**06 35 17.8**	**+1.0**
0.1nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**6.08**	**341**	Pn	**Pn**	**06 35 23.2**	**+1.1**
EARI				Sn	**Sn**	**06 36 28.2**	**-3.6**
EARI				Lg		06 37 04.3	
EARI	**Arriondas**	**6.08**	**341**	Pn	**Pn**	**06 35 23.2**	**+1.1**
0.1nm,0.1s,SNR=7.9							
EARI				Sn	**Sn**	**06 36 28.2**	**-3.6**
0.1nm,0.1s,SNR=7.9							
EARI				Lg		06 37 04.3	
SNR=7.9							
EARI	**Arriondas**	**6.08**	**341**	Pn	**Pn**	**06 35 23.2**	**+1.1**

IDC 29 06:47:02.6±1.5, 2316N×14385E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/18, mbtmp3.1/3, Error ellipse: s-maj=56.8km s-min=31.9km az=92.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.83**	**193**	P	P	06 55 10.4	+0.1
0.2nm,0.6s,baz=7.7,slow=7.9,SNR=3.2							
MKAR	**Makanchi Array**	**54.18**	**312**	P	P	06 56 30.0	+0.3
0.2nm,0.5s,baz=90,slow=11,SNR=3.7							
YKA	**Yellowknife Ar**	**74.88**	**28**	P	P	06 58 44.8	-0.3
0.2nm,0.7s,baz=293,slow=5.9,SNR=4.0							

ISCJB ***29*** *07:10:29.1±1.2, 208S±0.1×178.7W±0.1, h537km±19km, mb4.1/12, Error ellipse: s-maj=21.3km s-min=11.6km az=83.9*
IDC ***29*** *07:10:31.6±1.7, 206.8S×178.67W, h556km±19km, mb3.4/9, mb1 3.6/11, mb1mx3.5/16, mbtmp3.4/11, Error ellipse: s-maj=18.9km s-min=13.9km az=130.0*
NEIC ***29*** *07:10:31.5±1.2, 207.9S×178.57W, h565km±15km, mb4.6/2, Error ellipse: s-maj=20.1km s-min=13.1km az=140.0*
ISC 29 07:10:30.5±1.0, 208S±01×1785W±01, h545km±15km, n24, σ1°12/22, mb4.1/12, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.39**	**44**	P	**P**	**07 12 42.9**	**+0.9**
3.9nm,0.3s,baz=57,slow=19,SNR=6.8							
AFI	**Afiamalu**	**9.39**	**44**	P	**P**	**07 12 43.0**	**+0.9**
AFI				*e*S	**S**	**07 14 28.9**	**-1.3**
DZM	**Mont Dzumac**	**14.06**	**262**	P	**P**	**07 13 32.3**	**+2.1**
2.1nm,0.3s,baz=73,slow=22,SNR=22							
URZ	**Urewera**	**17.82**	**191**	P	**P**	**07 14 04.6**	**-2.3**
4.5nm,0.3s,baz=0.0,slow=3.1,SNR=17							
URZ				S	**S**	**07 16 54.4**	**-8.7**
0.4nm,0.3s,baz=176,slow=15,SNR=4.7							
RPZ	**Rata Peaks**	**24.46**	**198**	P	**P**	**07 15 07.2**	**+0.5**
7.9nm,0.6s,mb4.5,baz=10.0,slow=5.7,SNR=3.5							
CTA	**Charters Tower**	**32.97**	**265**	⇓*i*P	**P**	**07 16 21.0**	**+0.5**
16nm,0.4s,mb4.9							
STKA	**Stephens Creek**	**37.22**	**244**	⇓*i*P	**P**	**07 16 56.1**	**+0.3**
2.5nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**37.22**	**244**	P	**P**	**07 16 56.2**	**+0.4**
2.9nm,0.5s,mb4.1,baz=94,slow=12,SNR=16							
STKA	**Stephens Creek**	**37.22**	**244**	*e*P	**P**	**07 16 55.9**	**+0.1**
ASAR	**Alice Springs**	**43.98**	**257**	P	**P**	**07 17 49.5**	**0.0**
9.5nm,0.7s,mb4.4,baz=96,slow=7.8,SNR=140							
ASAR				PcP	PcP	07 19 23.0	-0.2
1.6nm,0.6s,baz=104,slow=3.7,SNR=8.6							
ASAR				ScP	ScP	07 22 22.6	-0.5
0.6nm,1.0s,baz=101,slow=4.3,SNR=4.5							
WB2	**Warramunga Arr**	**44.06**	**262**	⇓*i*P	**P**	**07 17 49.4**	**-0.8**
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**07 17 49.6**	**-0.7**
4.0nm,0.3s,mb4.5,baz=96,slow=7.8,SNR=445							
WRA				S	**S**	**07 23 37.7**	**-5.5**
0.4nm,0.7s,baz=99,slow=13,SNR=4.0							
GUMO	**Guam**	**49.61**

σ0$64/21, mb4.0/13, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.56**	**116**	**Pn**	**Pn**	**07 32 38.6**	**-0.4**
	4.1nm,0.3s,baz=286,slow=8.4,SNR=10						
PSI				Sn	**Sn**	**07 33 33.4**	**+2.6**
	1.5nm,0.3s,baz=90,slow=20,SNR=4.1						
PSI				LR	LR	07 34 36.0	
	comp=Z,123nm,20.9s,baz=28,slow=42						
KULM	**Kulim**	**5.84**	**85**	*e*Pn	**Pn**	**07 32 55.6**	**-1.0**
KULM				*e*Sn	**Sn**	**07 34 02.0**	**-0.2**
MK31	**Makanchi Array**	**43.22**	**347**	*e*P	**P**	**07 39 27.7**	**+0.4**
MKAR	**Makanchi Array**	**43.22**	**347**	P	**P**	**07 39 27.6**	**+0.3**
	4.4nm,0.7s,mb4.3,baz=170,slow=7.9,SNR=30						
SONM	**Songino Array**	**44.02**	**11**	P	**P**	**07 39 33.2**	**-0.6**
	0.6nm,0.6s,mb3.5,baz=197,slow=8.0,SNR=4.4						
SONM				PcP	PcP	07 41 19.3	+0.9
	0.5nm,0.3s,baz=187,slow=2.5,SNR=5.0						
KSRS	**Korea Array**	**44.40**	**38**	P	**P**	**07 39 37.2**	**+0.4**
	1.5nm,0.8s,mb3.8,baz=217,slow=8.3,SNR=4.0						
WRA	**Warramunga Arr**	**45.98**	**124**	P	**P**	**07 39 48.9**	**-0.4**
	3.4nm,0.6s,mb4.5,baz=300,slow=9.4,SNR=40						
WB2	**Warramunga Arr**	**45.99**	**124**	⇑*i*P	**P**	**07 39 49.0**	**-0.4**
ASAR	**Alice Springs**	**47.47**	**128**	P	**P**	**07 40 00.6**	**-0.5**
	0.6nm,0.6s,mb3.7,baz=302,slow=7.7,SNR=15						
KURK	**Kurchatov**	**47.74**	**346**	*e*P	**P**	**07 40 03.4**	**+0.3**
	2.2nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**49.66**	**352**	P	**P**	**07 40 18.4**	**+0.6**
	2.4nm,0.5s,mb4.5,baz=262,slow=3.6,SNR=6.7						
ZAL	**Zalesovo**	**49.66**	**352**	P	**P**	**07 40 18.4**	**+0.6**
BVAR	**Borovoye Array**	**52.10**	**342**	P	**P**	**07 40 36.0**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=144,slow=11,SNR=6.6						
AKTK	**Aktyubinsk**	**54.95**	**332**	P	**P**	**07 40 57.0**	**0.0**
AKTO	**Aktyubinsk**	**54.95**	**332**	P	**P**	**07 40 57.0**	**0.0**
	0.7nm,0.6s,mb3.9,baz=89,slow=6.7,SNR=4.9						
KMBO	**Kilima Mbogo**	**57.79**	**266**	LR	LR	08 02 52.2	
	comp=Z,22nm,18.3s,baz=88,slow=33						
BRTR	**Keskin Array B**	**64.94**	**312**	P	**P**	**07 42 05.4**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=116,slow=6.6,SNR=2.8						
FINES	**FINESS Array B**	**75.72**	**332**	P	**P**	**07 43 10.7**	**-0.6**
	0.7nm,0.4s,mb3.9,baz=94,slow=6.2,SNR=5.3						
ARCES	**ARCESS Array B**	**78.37**	**340**	P	**P**	**07 43 25.9**	**-0.2**
	1.6nm,0.6s,mb4.1,baz=101,slow=6.6,SNR=7.2						
GERES	**GERESS Array B**	**80.55**	**319**	P	**P**	**07 43 38.8**	**+0.9**
	0.1nm,0.3s,mb3.3,baz=104,slow=5.6,SNR=5.8						

*CSEM **29** 07:52:33.5±0.4, 3537N×2665E, h53km±3km, MD3.1, Error ellipse: s-maj=4.7km s-min=3.2km az=144.0*
*ATH **29** 07:52:34.0, 3527N×2665E, h35km±12km, MD3.1/3*
*THE **29** 07:52:34.6, 3543N×2668E, h22km*
*ISCJB **29** 07:52:35.1±0.7, 3542N±005×2661E±005, h35km, Error ellipse: s-maj=6.9km s-min=6.0km az=121.2*

ISC 29 07:52:35.1±0.7, 3540N±005×2663E±005, h35km, n10, σ0$53/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.44**	**230**	*e*Pg	**Pn**	**07 52 44.2**	**-0.7**
ZKR				*e*Sg	**Sn**	**07 52 52.5**	**+0.8**
KARP	**Karpathos**	**0.46**	**71**	*e*PN	**Pn**	**07 52 45.0**	**-0.2**
KARP				*e*SN	**Sn**	**07 52 53.0**	**+0.8**
NPS	**Neapolis**	**0.84**	**261**	*e*PN	**Pn**	**07 52 50.5**	**0.0**
NPS				*e*SN	**Sn**	**07 53 02.0**	**+0.4**
XRY	**Khrisi**	**0.93**	**236**	*e*PN	**Pn**	**07 52 51.0**	**-0.6**
LAST	**Lasithi**	**0.97**	**256**	*e*Pg	**Pn**	**07 52 52.2**	**0.0**
SANT	**Santorini**	**1.36**	**316**	*e*Sg	**Sn**	**07 53 13.9**	**-0.4**
SANT				*e*Sg	**Sn**	**07 53 14.8**	**+0.5**
SANT	**Santorini**	**1.36**	**316**	*e*Sg	**Sn**	**07 53 14.8**	**+0.5**
THR3	**Thira Island,**	**1.42**	**316**	*e*Pg	**Pn**	**07 52 57.9**	**-0.5**
THR5	**Thira Island,**	**1.45**	**315**	*e*Pg	**Pn**	**07 52 59.1**	**+0.2**
THR5				*e*Sg	**Sn**	**07 53 17.2**	**+0.5**
APE	**Apeiranthos**	**1.89**	**332**	*e*Pb	**Pn**	**07 53 04.0**	**-0.9**
APE				*e*Sb	**Sn**	**07 53 27.4**	**0.0**

IDC 29 08:05:56.6±2.6, 2150S×6940W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.6/15, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=59.3km s-min=50.5km az=175.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.33**	**13**	Pn	Pn	08 07 18.0	+0.6
	1.0nm,0.3s,baz=195,slow=9.0,SNR=26						
SIV	**San Ignacio**	**9.61**	**57**	Pn	Pn	08 08 16.3	+0.2
	0.3nm,0.3s,baz=245,slow=15,SNR=9.9						
TORD	**Torodi Ar. Bea**	**77.79**	**71**	P	P	08 17 56.3	+0.7
	0.1nm,0.3s,baz=252,slow=5.3,SNR=4.8						
YKA	**Yellowknife Ar**	**91.04**	**341**	P	P	08 19 02.3	-0.5
	0.3nm,0.6s,baz=132,slow=4.6,SNR=8.6						

*NEIC **29** 08:21:08.6±0.7, 167N×9765E, h30km, mb4.2/1, Error ellipse: s-maj=14.2km s-min=11.3km az=48.0*
*ISCJB **29** 08:21:14.1±5.0, 20N±02×982E±04, h81km±36km, mb4.0/8, Error ellipse: s-maj=70.6km s-min=19.3km az=115.1*
*IDC **29** 08:21:16.5±3.8, 2.12N×9829E, h82km±26km, mb3.7/7, mb1 3.8/7, mb1mx3.5/22, mbtmp3.7/7, Error ellipse: s-maj=64.1km s-min=16.4km az=57.0*

ISC 29 08:21:15.2±4.6, 20N±02×982E±04, h73km±34km, n11, σ0$92/13, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.08**	**46**	P	**Pn**	**08 21 35.5**	**+0.6**
	24nm,0.3s,baz=245,slow=7.1,SNR=77						
PSI				S	**Sn**	**08 21 47.9**	**-1.6**
	25nm,0.3s,baz=333,slow=11,SNR=18						
PSI	**Prapat**	**1.08**	**46**	P	**Pn**	**08 21 35.5**	**+0.6**
PSI				S	**Sn**	**08 21 47.9**	**-1.6**
KULM	**Kulim**	**4.08**	**38**	*e*P	**Pn**	**08 22 17.6**	**+2.4**
WRA	**Warramunga Arr**	**41.69**	**123**	P	**P**	**08 28 56.5**	**-0.2**
	1.2nm,0.5s,mb3.9,baz=303,slow=9.1,SNR=15						
WRA				PcP	PcP	08 30 53.2	+1.1
	0.2nm,0.5s,baz=315,slow=2.7,SNR=6.8						
ASAR	**Alice Springs**	**43.16**	**128**	P	**P**	**08 29 08.6**	**0.0**
	0.2nm,0.5s,mb3.1,baz=301,slow=7.1,SNR=5.8						
SONM	**Songino Array**	**46.17**	**8**	P	**P**	**08 29 33.5**	**+0.9**
	0.9nm,0.5s,mb3.8,baz=188,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**46.67**	**345**	P	**P**	**08 29 36.7**	**+0.2**
	2.9nm,0.6s,mb4.2,baz=158,slow=8.8,SNR=40						
KURK	**Kurchatov**	**51.24**	**344**	*e*P	**P**	**08 30 11.0**	**-0.4**
	2.0nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**52.88**	**350**	P	**P**	**08 30 23.5**	**-0.1**
	3.9nm,0.4s,mb4.8,baz=315,slow=4.5,SNR=12						
BVAR	**Borovoye Array**	**55.78**	**340**	P	**P**	**08 30 44.2**	**-0.4**
	1.7nm,0.7s,mb4.2,baz=131,slow=8.1,SNR=7.4						
FINES	**FINESS Array B**	**79.70**	**332**	P	**P**	**08 33 14.1**	**-0.9**
	1.2nm,0.9s,mb3.7,baz=96,slow=4.2,SNR=6.8						

IDC 29 08:44:31.1±2.9, 890S×11057E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=145.5km s-min=27.4km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.46**	**118**	P	P	08 50 01.4	+0.7
	0.7nm,0.8s,baz=291,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**26.72**	**126**	P	P	08 50 12.1	0.0
	0.2nm,0.5s,baz=306,slow=8.6,SNR=6.0						
MKAR	**Makanchi Array**	**60.91**	**338**	P	P	08 54 45.7	+0.1
	0.2nm,0.4s,baz=157,slow=7.6,SNR=5.8						

IDC 29 08:59:49.8±1.4, 5287N×3601E, h0km, mb3.2/2, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, ML3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx2.1/19, Error ellipse: s-maj=18.0km s-min=10.4km az=113.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.74**	**245**	Pn	Pn	09 01 00.9	-1.6
	1.8nm,0.3s,baz=59,slow=15,SNR=6.4						
AKASG				Pg	Pg	09 01 10.9	-10
	2.8nm,0.3s,baz=57,slow=15,SNR=61						
AKASG				Sn	Sn	09 01 53.4	-4.8
	3.2nm,0.3s,baz=68,slow=28,SNR=6.1						
MLR	**Muntele Rosu**	**9.89**	**226**	Pn	Pn	09 02 12.1	-1.1
	1.3nm,0.3s,baz=205,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**10.14**	**332**	Pn	Pn	09 02 13.2	-3.4
	0.2nm,0.3s,baz=154,slow=14,SNR=11						
FINES				Sn	Sn	09 04 03.5	-7.4
	0.1nm,0.3s,baz=142,slow=21,SNR=3.1						
FINES				Lg		09 05 05.7	
	0.1nm,0.3s,baz=148,slow=26,SNR=1.8						
NOA	**NORSAR Array B**	**15.72**	**311**	Pn	Pn	09 03 22.2	-10
	0.1nm,0.3s,baz=105,slow=12,SNR=3.2						
ARCES	**ARCESS Array B**	**17.42**	**348**	P	Pn	09 03 54.1	-0.1
	0.4nm,0.3s,baz=166,slow=10.0,SNR=13						
BVAR	**Borovoye Array**	**20.61**	**76**	P	P	09 04 30.2	-0.3
	0.4nm,0.3s,baz=278,slow=10.0,SNR=3.6						
JMIC	**Jan Mayen**	**26.75**	**329**	LR	LR	09 15 26.3	
	comp=Z,88nm,18.2s,baz=214,slow=35						
YKA	**Yellowknife Ar**	**62.67**	**345**	P	P	09 10 13.6	-2.6
	0.1nm,0.3s,baz=14,slow=6.7,SNR=7.6						

*NEIC **29** 09:12:35.3, 3786N×2101E, h6km, MD3.5(ATH), After ATH.*
*CSEM **29** 09:12:35.3, 3786N×2101E, h6km, MD3.5/4, After ATH*

ATH 29 09:12:35.3, 3786N×2101E, h6km±3km, MD3.5/4, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.41**	**61**	⇑*i*PG	Pg	09 12 42.9	-0.4
RLS				*e*SB	Sg	09 12 49.3	+0.7
VLS	**Valsamata**	**0.46**	**314**	*e*PB	Pg	09 12 43.9	-0.3
VLS				*e*SB	Sg	09 12 51.4	+1.3
ITM	**Ithomi**	**1.00**	**133**	*e*PB	Pb	09 12 54.2	-0.7
EVR	**Evrytania**	**1.23**	**31**	*e*PG	Pg	09 12 58.1	-0.7
EVR				*e*SB	Sb	09 13 15.2	+0.2
LKR	**Lokris**	**1.75**	**63**	*e*PN	Pn	09 13 08.4	+2.2
THL	**Klokotos Trika**	**1.88**	**24**	*e*PG	Pg	09 13 10.0	-1.2
VLI	**Veliai**	**1.91**	**126**	*e*PG	Pg	09 13 11.7	-0.3
NEO	**Neokhori**	**2.26**	**50**	*e*PN	Pn	09 13 14.8	+1.7

IDC 29 09:19:01.4±1.8, 134N×12699E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=173.0km s-min=20.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**162**	P	P	09 24 01.5	+0.8
	2.0nm,0.6s,baz=341,slow=12,SNR=33						
ASAR	**Alice Springs**	**25.75**	**165**	P	P	09 24 33.6	0.0
	1.7nm,0.5s,baz=340,slow=9.9,SNR=37						
MKAR	**Makanchi Array**	**59.66**	**326**	P	P	09 29 07.2	-0.2
	0.8nm,0.4s,baz=119,slow=7.6,SNR=28						
BVAR	**Borovoye Array**	**69.45**	**327**	P	P	09 30 11.9	+0.5
	0.5nm,0.6s,baz=112,slow=9.5,SNR=3.4						

*IDC **29** 09:46:39.9±10.0, 2040S×17232W, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.1/18, mbtmp4.4/5, Error ellipse: s-maj=192.0km s-min=138.8km az=49.0*
*ISCJB **29** 09:46:40.3±4.5, 21S±1×1722W±04, h10km, mb4.6/5, Error ellipse: s-maj=152.4km s-min=26.9km az=36.5*
*NEIC **29** 09:46:41.8±3.2, 2149S×172.16W, h10km, mb4.8/2, Error ellipse: s-maj=110.0km s-min=19.7km az=199.0*

ISC 29 09:46:43.4±4.4, 218S±10×1723W±04, h10km, n11, σ0$83/11, mb4.6/5, 2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.74**	**265**	P	**Pn**	**09 51 13.0**	**-1.7**
	0.4nm,0.3s,baz=85,slow=19,SNR=3.5						
CTA	**Charters Tower**	**38.68**	**265**	⇓*i*P	**P**	**09 54 07.0**	**-0.2**
	9.1nm,0.4s,mb4.9						
CTA	**Charters Tower**	**38.68**	**265**	P	**P**	**09 54 07.1**	**-0.1**
	13nm,0.5s,mb4.9,baz=97,slow=11,SNR=35						
CTAO	**Charters Tower**	**38.68**	**265**	*e*P	**P**	**09 54 07.0**	**-0.2**
	12nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**42.09**	**246**	*e*P	**P**	**09 54 36.5**	**+1.0**
	2.2nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**42.09**	**246**	P	**P**	**09 54 36.6**	**+1.2**
	3.2nm,0.6s,mb4.1,baz=95,slow=7.7,SNR=7.8						
STKA	**Stephens Creek**	**42.09**	**246**	*e*P	**P**	**09 54 36.2**	**+0.8**
STKA				*e*PP	PP	09 56 12.6	-0.3
ASAR	**Alice Springs**	**49.42**	**257**	P	**P**	**09 55 34.0**	**+0.6**
	2.9nm,0.8s,mb4.4,baz=102,slow=7.2,SNR=33						
WB2	**Warramunga Arr**	**49.70**	**262**	⇓*i*P	**P**	**09 55 35.8**	**+0.3**
WRA	**Warramunga Arr**	**49.71**	**262**	P	**P**	**09 55 36.0**	**+0.5**
	1.2nm,0.3s,mb4.4,baz=92,slow=8.3,SNR=113						
PMSA	**Palmer Station**	**77.93**	**155**	*e*P	**P**	**09 58 40.9**	**-0.7**
	23nm,0.5s,mb5.4						

IDC 29 09:47:54.2±0.9, 2192N×14301E, h123km±8km, mb3.4/6, mb1 3.6/6, mb1mx3.4/21, mbtmp3.4/6, Error ellipse: s-maj=29.0km s-min=20.9km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.07**	**320**	P	P	09 55 08.8	-0.2
	0.8nm,0.5s,baz=138,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**46.17**	**192**	P	P	09 56 05.8	-0.6
	0.5nm,0.7s,baz=17,slow=8.9,SNR=5.3						
ASAR				pP	pP	09 56 36.0	+1.3
	0.5nm,0.6s,baz=17,slow=10.0,SNR=3.5						
ZAL	**Zalesovo**	**53.95**	**322**	P	P	09 57 05.8	+0.8
	0.9nm,0.5s,baz=30,slow=12,SNR=4.6						
BVAR	**Borovoye Array**	**62.40**	**319**	P	P	09 58 03.1	-0.8
	1.1nm,0.5s,baz=100,slow=8.0,SNR=7.5						
BVAR				pP	pP	09 58 34.2	+0.5
	1.5nm,0.8s,baz=79,slow=7.7,SNR=2.8						
YKA	**Yellowknife Ar**	**76.33**	**28**	P	P	09 59 29.4	-0.1
	0.5nm,0.6s,baz=292,slow=6.0,SNR=11						
YKA				pP	pP	09 59 59.2	-1.3
	0.4nm,0.5s,baz=293,slow=5.9,SNR=5.2						
NVAR	**Mina Array Bea**	**83.13**	**51**	P	P	10 00 07.7	+1.5
	0.3nm,0.5s,baz=274,slow=5.0,SNR=4.9						

*IDC **29** 09:51:19.3±0.5, 2199N×14309E, h0km, mb4.5/19, mb1 4.7/20, mb1mx4.6/24, mbtmp4.5/20, ML3.8/1, MS3.9/18, Ms1 3.9/18, ms1mx3.7/35, Error ellipse: s-maj=21.9km s-min=13.2km az=78.0*
*BJI **29** 09:51:20.4, 2197N×14361E, h30km, mB5.3, mb4.9, Ms4.3, Msz3.9*
*ISCJB **29** 09:51:22.8±3.8, 2191N±006×14307E±007, h30km±26km, mb4.7/52, MS3.9/21, Error ellipse: s-maj=10.7km s-min=9.9km az=126.0*
*MOS **29** 09:51:23.4±1.2, 2195N×14305E, h33km, mb5.0/25, MS4.0/4, Error ellipse: s-maj=14.9km s-min=7.1km az=117.6*
*NEIC **29** 09:51:25.1±0.3, 2193N×14309E, h35km, mb4.9/20, Error ellipse: s-maj=9.4km s-min=8.0km az=75.0*

ISC 29 09:51:25.7±2.8, 2194N±006×14314E±007, h37km±25km, h37km±5.1km: pP-P, n107, σ1$17/102, mb4.7/52, MS3.9/21, 2C-4D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.47**	**168**	LR	LR	09 55 57.7	
	comp=Z,482nm,20.5s,baz=349,slow=33						
MJAR	**Matsushiro Arr**	**15.17**	**345**	Pn	**Pn**	**09 54 52.4**	**-4.8**
	0.4nm,0.3s,baz=154,slow=10.0,SNR=5.1						
MJAR				LR	LR	10 00 24.4	
	comp=Z,499nm,19.1s,baz=165,slow=36						
JNU	**Nakatsue**	**15.55**	**318**	LR	LR	09 59 29.4	
	comp=Z,384nm,18.6s,baz=174,slow=32						
KSRS	**Korea Array**	**20.30**	**323**	P	**P**	**09 55 55.5**	**-2.7**
	0.7nm,0.4s,baz=126,slow=12,SNR=3.0						
KSRS				LR	LR	10 02 53.9	
	comp=Z,310nm,18.6s,MS3.7,baz=132,slow=34						
ASAJ	**Asahikawa**	**22.12**	**359**	LR	LR	10 05 23.8	
	comp=Z,139nm,19.5s,MS3.4,baz=180,slow=38						
YSS	**Yuzh-Sakhalins**	**24.96**	**359**	*e*P	**P**	**09 56 45.4**	**-0.1**
YSS				pmax	pmax		
	comp=Z,36nm,1.3s,mb4.7						
KLR	**Kul'dur**	**28.70**	**344**	*e*P	**P**	**09 57 16.2**	**-3.0**
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.1						
PMG	**Port Moresby**	**31.40**	**172**	LR	LR	10 09 03.2	
	comp=Z,81nm,21.9s,MS3.4,baz=13,slow=34						
PMG	**Port Moresby**	**31.40**	**172**	*e*P	**P**	**09 57 52.7**	**+10**
LZH	**Lanzhou**	**36.88**	**301**	*e*P	**P**	**09 58 32.5**	**+1.9**
LZH				AP	pP	09 58 42.0	+0.8
LZH				XP	sP	09 58 46.5	+0.8
LZH				PP	PP	10 00 03.8	+8.8
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,160nm,7.3s						
LZH				LR	LR		
	comp=E,315nm,13.9s						
LZH				LR	LR		
	comp=Z,452nm,17.8s,MS4.3						
LZH	**Lanzhou**	**36.88**	**301**	*e*P	**P**	**09 58 32.5**	**+1.9**
	comp=Z,42nm,1.5s,mb5.0						
LZH				pP	pP	09 58 42.1	+0.9
LZH				sP	sP	09 58 46.4	+0.7
LZH				PP	PP	10 00 03.7	+8.7
LZH				LR	LR		
	comp=Z,450nm,17.8s,MS4.3						
KMI	**Kunming**	**37.08**	**283**	P	**P**	**09 58 34.5**	**+2.2**
KMI				AP	pP	09 58 41.5	-1.4
KMI				XP	sP	09 58 45.0	-2.4
KMI				PP	PP	09 59 57.0	-0.1
KMI				S	**S**	**10 04 16.0**	**+0.3**
KMI				AMB	AMB		
	comp=Z,11nm,1.7s,mb4.4						
KMI				AMB	AMB		
	comp=Z,178nm,3.5s						
KMI				LR	LR		
	comp=N,202nm,14.9s						
KMI				LR	LR		
	comp=E,166nm,21.2s						
KMI				LR	LR		
	comp=Z,192nm,21.8s						
KMI	**Kunming**	**37.08**	**283**	P	**P**	**09 58 34.6**	**+2.3**
KMI				*SP	sP	09 58 45.1	-2.3
KMI						09 59 57.0	
KMI				S	**S**	**10 04 16.0**	**+0.3**
KMI				*SS	sS	10 04 27.6	-5.7
KMI				SS	SS	10 06 42.1	-17
KMI				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.4						
KMI				MLR	MLR		
	comp=Z,190nm,21.8s,MS3.9						
KMI	**Kunming**	**37.08**	**283**	P	**P**	**09 58 34.6**	**+2.3**
	comp=Z,11nm,1.7s,mb4.4						
KMI				pP	pP	09 58 41.6	-1.3
KMI				sP	sP	09 58 45.1	-2.3
KMI				PP	PP	09 59 57.0	-0.1
KMI				S	**S**	**10 04 16.0**	**+0.3**
KMI				sS	sS	10 04 27.6	-5.7
KMI				SS	SS	10 06 42.1	-17
KMI				LR	LR		
	comp=Z,190nm,21.8s,MS3.9						
CIT	**Chita**	**37.72**	**330**	*e*P	**P**	**09 58 37.5**	**-0.2**
CIT				pmax	pmax		
	comp=Z,46nm,2.8s,mb4.7						
MA2	**Magadan**	**37.99**	**6**	P	**P**	**09 58 41.2**	**+1.2**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
ULN	**Ulaanbaatar**	**38.75**	**321**	*d*iP	**P**	**09 58 46.3**	**-0.1**
ULN	**Ulaanbaatar**	**38.75**	**321**	*e*P	**P**	**09 58 46.5**	**+0.1**
	comp=Z,10nm,0.8s,mb4.6						
SONM	**Songino Array**	**39.12**	**320**	P	**P**	**09 58 49.2**	**-0.3**
	comp=Z,5.5nm,0.6s,mb4.4,baz=127,slow=8.2,SNR=26						
SONM				LR	LR	10 14 47.9	
	comp=Z,153nm,19.8s,MS3.8,baz=44,slow=36						
GTA	**Gaotai**	**40.70**	**305**	*e*P	**P**	**09 59 03.8**	**+1.3**
GTA				AP	pP	09 59 15.3	+2.0
GTA				XP	sP	09 59 21.0	+3.3
GTA				AMB	AMB		
	comp=Z,15nm,1.7s,mb4.3						
GTA				AMB	AMB		
	comp=Z,311nm,5.3s						
GTA				LR	LR		
	comp=N,159nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=E,205nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=Z,146nm,13.7s,MS4.0						
YAK	**Yakutsk**	**41.12**	**350**	*e*P	**P**	**09 59 05.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.8						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK	**Yakutsk**	**41.12**	**350**	*e*P	**P**	**09 59 05.5**	**-0.5**
	comp=E,24nm,0.8s,mb4.9						
CTA	**Charters Tower**	**41.88**	**176**	*e*P	**P**	**09 59 13.1**	**+0.8**
	comp=E,14nm,0.9s,mb4.6						
CTA	**Charters Tower**	**41.88**	**176**	P	**P**	**09 59 12.5**	**+0.2**
	comp=E,21nm,1.0s,mb4.7,baz=12,slow=11,SNR=9.2						
CTA	**Charters Tower**	**41.88**	**176**	*e*P	**P**	**09 59 13.1**	**+0.8**
CTA				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**41.88**	**176**	*e*P	**P**	**09 59 11.9**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**41.88**	**176**	*e*P	**P**	**09 59 11.9**	**-0.3**
	comp=Z,22nm,1.0s,mb4.7						
ZAK	**Zakamensk**	**42.13**	**322**	⇓*i*P	**P**	**09 59 14.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5						
WB2	**Warramunga Arr**	**42.50**	**192**	⇑*i*P	**P**	**09 59 17.0**	**-0.3**
WRA	**Warramunga Arr**	**42.50**	**192**	P	**P**	**09 59 17.0**	**-0.3**
	comp=Z,7.2nm,0.9s,mb4.4,baz=14,slow=8.6,SNR=26						
WRA				LR	LR	10 15 33.4	
	comp=Z,101nm,18.9s,MS3.7,baz=25,slow=34						
TLY	**Talaya**	**42.54**	**324**	*e*P	**P**	**09 59 18.2**	**+0.5**
TLY				*e*S	**S**	**10 05 30.3**	**-7.2**
TLY				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.8						
TLY				MLR	MLR		
	comp=Z,120nm,17.0s,MS3.9						
TLY	**Talaya**	**42.54**	**324**	*e*P	**P**	**09 59 18.3**	**+0.6**
	comp=Z,14nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**43.32**	**205**	*e*P	**P**	**09 59 23.1**	**-0.9**
	comp=Z,5.4nm,0.7s,mb4.4						
MOY	**Mondy**	**44.00**	**323**	*e*P	**P**	**09 59 29.9**	**+0.5**
MOY				pmax	pmax		
	comp=Z,53nm,2.1s,mb4.9						

comp=Z,21nm,1.0s,mb5.0
ZAL Zalesovo 54.00 322 P **P 10 00 45.6 -0.4**
comp=Z,7.5nm,1.0s,mb4.6,baz=11,slow=7.9,SNR=28
ZAL LR LR 10 24 56.3
comp=Z,125nm,18.6s,MS4.0,baz=180,slow=37
MKAR Makanchi Array 54.50 313 P **P 10 00 48.9 -0.8**
comp=Z,2.5nm,0.7s,mb4.4,baz=94,slow=9.1,SNR=20
MKAR LR LR 10 25 57.2
comp=Z,48nm,18.2s,MS3.6,baz=163,slow=38
MKAR Makanchi Array 54.50 313 *i* P **P 10 00 50.0 +0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 57.27 317 *d i* P **P 10 01 08.8 -0.7**
KURK Kurchatov 57.27 317 *eP* **P 10 01 09.2 -0.2**
comp=Z,12nm,0.9s,mb4.9
ULHL Ulahol 58.71 307 P **P 10 01 21.2 +1.6**
SNR=11
TKM2 Tokmak 2 59.16 308 P **P 10 01 23.9 +1.2**
SNR=12
IMA2 Indian Mountai 59.33 25 *eP* **P 10 01 24.7 +0.8**
KZA Kyzart 59.45 307 P **P 10 01 27.2 +2.5**
SNR=14
FRU Bishkek 59.89 308 *eP* **P 10 01 27.0 -0.7**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
USP Ospenovka 59.95 308 P **P 10 01 29.1 +0.9**
SNR=10
AAK Ala-Archa 59.99 307 P **P 10 01 29.7 +1.3**
SNR=6.1
AAK Ala-Archa 59.99 307 *eP* **P 10 01 28.0 -0.4**
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
AAK Ala-Archa 59.99 307 *eP* **P 10 01 27.8 -0.6**
comp=Z,32nm,1.8s,mb5.0
AAK *e*pP pP 10 01 41.7 +2.1
UCH Uchtor 59.99 307 P **P 10 01 30.8 +2.3**
SNR=19
AML Almayashu 60.61 307 P **P 10 01 34.7 +2.1**
SNR=11
BVA0 Borovoye Array 62.46 319 *i* P **P 10 01 44.5 -0.6**
BVA0 pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
BVAR Borovoye Array 62.46 319 P **P 10 01 44.6 -0.5**
comp=Z,18nm,0.9s,mb5.2,baz=92,slow=7.9,SNR=49
BRVK Borovoye 62.52 319 P **P 10 01 44.7 -0.8**
BRVK pmax pmax
comp=Z,15nm,1.2s,mb5.0
BRVK Borovoye 62.52 319 *eP* **P 10 01 45.3 -0.2**
BRVK pmax pmax
comp=Z,30nm,1.1s,mb5.3
BRVK Borovoye 62.52 319 *eP* **P 10 01 45.3 -0.2**
comp=Z,30nm,1.1s,mb5.3
KK31 Karatay Array 62.87 308 *i* P **P 10 01 47.6 -0.3**
KK31 pmax pmax
comp=Z,13nm,0.9s,mb5.1
KKAR Karatay Array 62.87 308 *i* P **P 10 01 47.6 -0.3**
KKAR pmax pmax
comp=Z,12nm,0.9s,mb5.0
KBL Kabul 65.18 299 *eP* **P 10 02 03.6 +0.5**
KBL *e*pP pP 10 02 15.4 +1.1
INK Inuvik 67.37 24 P **P 10 02 15.9 -1.1**
comp=Z,6.7nm,1.0s,mb4.6,baz=267,slow=5.2,SNR=14
INK Inuvik 67.37 24 *eP* **P 10 02 16.7 -0.3**
comp=Z,291nm,1.1s,mb6.2
SVE Sverdlovsk 67.86 324 *eP* **P 10 02 20.0 -0.1**
ARU Arti 69.04 324 ⇓ *i* P **P 10 02 26.6 -0.9**
ARU *e* 10 02 46.8
ARU *e* 10 04 56.6
ARU pmax pmax
comp=Z,23nm,1.2s,mb5.0
ARU Arti 69.04 324 *eP* **P 10 02 26.9 -0.7**
comp=Z,32nm,1.3s,mb5.1
AB31 Akbulak array 69.35 316 P **P 10 02 29.2 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
AKTK Aktyubinsk 70.36 317 P **P 10 02 33.9 -1.8**
AKTK LR LR 10 35 24.4
AKTO Aktyubinsk 70.36 317 P **P 10 02 33.9 -1.8**
comp=Z,1.5nm,0.5s,mb4.2,baz=78,slow=18,SNR=4.9
AKTO LR LR 10 35 24.4
comp=Z,63nm,18.0s,MS3.9,baz=329,slow=38
YKA Yellowknife Ar 76.26 28 P **P 10 03 09.9 -0.5**
comp=Z,3.2nm,0.5s,mb4.5,baz=293,slow=5.9,SNR=64
YKA LR LR 10 35 11.3
comp=Z,114nm,20.3s,MS4.2,baz=285,slow=34
YKA Yellowknife Ar 76.26 28 P **P 10 03 09.9 -0.5**
YKA LR LR 10 35 11.3
PPT Papeete 76.67 115 LR LR 10 31 00.1
comp=Z,161nm,19.4s,MS4.3,baz=74,slow=31
ARCES ARCESS Array B 78.68 341 P **P 10 03 21.9 -2.1**
comp=Z,8.6nm,0.9s,mb4.7,baz=76,slow=10,SNR=5.9
NSHM Saint Helena R 79.84 53 *eP* **P 10 03 31.3 +1.0**
EDM Edmonton 80.42 36 *eP* **P 10 03 33.9 +0.5**
OBN Obninsk 81.26 326 ⇑ *eP* **P 10 03 35.9 -2.0**
OBN *e**PP pP 10 03 53.9 +4.5
OBN *e*S S 10 13 34.2 -11
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.3
KIV Kislovodsk 82.22 314 *eP* **P 10 03 43.2 +0.2**
KIV pmax pmax
comp=Z,19nm,1.0s,mb5.0
FINES FINESS Array B 82.94 334 P **P 10 03 44.0 -2.8**
comp=Z,1.3nm,0.6s,mb4.1,baz=103,slow=6.1,SNR=4.7
FINES LR LR 10 41 01.8
comp=Z,85nm,18.6s,MS4.1,baz=157,slow=36
FINES FINESS Array B 82.94 334 *i* P **P 10 03 46.5 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 83.03 51 P **P 10 03 48.6 +1.5**
comp=Z,4.4nm,0.8s,mb4.5,baz=270,slow=4.8,SNR=18
QLMT Earthquake Lak 85.11 44 *eP* **P 10 03 59.5 +1.7**
DAU Daniels Canyon 87.18 47 *eP* **P 10 04 09.2 +1.2**
PDAR Pinedale Array 87.25 45 P **P 10 04 07.7 -0.7**
comp=Z,1.3nm,0.9s,mb4.2,baz=256,slow=4.1,SNR=7.8
PDAR LR LR 10 35 26.7
comp=Z,175nm,20.9s,MS4.4,baz=314,slow=30
AKASG Malin Array Be 87.28 324 P **P 10 04 06.3 -2.1**
comp=Z,2.3nm,0.7s,mb4.5,baz=46,slow=5.0,SNR=7.3
MSU Marysvale 87.38 49 *eP* **P 10 04 10.5 +1.6**
NOA NORSAR Array B 88.71 339 P **P 10 04 12.9 -2.3**
comp=Z,1.2nm,1.0s,mb4.2,baz=51,slow=4.2,SNR=3.2
NOA LR LR 10 47 52.9
comp=Z,45nm,18.2s,MS3.9,baz=180,slow=38
PV10 Paradox Valley 89.64 48 *eP* **P 10 04 20.8 +1.2**
PV01 Paradox Valley 90.08 48 *eP* **P 10 04 22.5 +0.9**
PV01 *e*pP pP 10 04 31.2 -2.1
BRTR Keskin Array B 90.14 313 P **P 10 04 20.3 -1.7**
comp=Z,3.1nm,0.8s,mb4.7,baz=75,slow=3.4,SNR=12
ULM Lac du Bonnet 91.27 33 P **P 10 04 25.6 -1.5**
comp=Z,2.2nm,0.8s,mb4.5,baz=360,slow=22,SNR=5.3
ULM LR LR 10 45 13.5
comp=Z,168nm,19.2s,MS4.5,baz=19,slow=35
TORD Torodi Ar. Bea 128.56 309 PKP PKPdf 10 10 29.1 +0.5
comp=Z,0.7nm,0.9s,baz=330,slow=1.9,SNR=3.6
PLCA Paso Flores 145.95 131 PKPbc PKPbc 10 11 00.3 -0.9
comp=Z,1.2nm,0.6s,baz=282,slow=2.3,SNR=3.4
LPAZ La Paz 149.96 85 PKPbc PKPbc 10 11 12.8 +0.8
comp=Z,6.2nm,0.9s,baz=3.3,slow=2.8,SNR=13
LPAZ La Paz 149.96 85 *e*PKPdf PKPdf 10 11 09.2 +2.1
LPAZ *e*PKPbc PKPbc 10 11 13.8 +1.8
LPAZ *e*PKPab PKPab 10 11 20.3 +2.5

IDC 29 09:58:24.5±1.0, 2188N×14307E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.5/6, Error ellipse: s-maj=37.6km s-min=22.4km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.14**	**320**	P	P	10 05 54.1	+0.3
	0.6nm,0.6s,baz=133,slow=10.0,SNR=3.1						
WRA	**Warramunga Arr**	**42.43**	**192**	P	P	10 06 20.7	-0.2
	0.4nm,0.6s,baz=17,slow=8.8,SNR=6.3						
ASAR	**Alice Springs**	**46.14**	**192**	P	P	10 06 51.0	+0.4
	0.4nm,0.6s,baz=18,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**54.50**	**313**	P	P	10 07 53.9	-0.1
	0.4nm,0.7s,baz=93,slow=10,SNR=2.8						
YKA	**Yellowknife Ar**	**76.35**	**28**	P	P	10 10 14.9	-0.5
	0.3nm,0.5s,baz=292,slow=5.9,SNR=9.5						
NVAR	**Mina Array Bea**	**83.11**	**51**	P	P	10 10 53.4	+1.2
	0.5nm,0.5s,baz=270,slow=5.9,SNR=3.6						

IDC 29 10:07:58.5±2.0, 083N×12603E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=181.1km s-min=25.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.19**	**159**	P	P	10 12 55.2	-1.1
	1.5nm,0.7s,baz=337,slow=11,SNR=20						
WB2	**Warramunga Arr**	**22.20**	**159**	*eP*	P	10 12 55.7	-0.6
ASAR	**Alice Springs**	**25.52**	**163**	P	P	10 13 30.0	+1.3
	0.9nm,0.3s,baz=344,slow=11,SNR=31						
MKAR	**Makanchi Array**	**59.55**	**327**	P	P	10 18 03.8	+0.1
	0.9nm,0.6s,baz=125,slow=8.2,SNR=6.0						

*NEIC **29** 10:18:33.4±0.7, 4662N×15324E, h10km, mb4.9/7, Error ellipse: s-maj=18.6km s-min=12.4km az=148.0*
*BJI **29** 10:18:33.3, 4660N×15320E, h10km, mB5.0, mb4.4*
*ISCJB **29** 10:18:34.9±1.5, 4653N±009×1534E±01, h35km±12km, mb4.2/26, Error ellipse: s-maj=19.0km s-min=9.4km az=97.2*
*MOS **29** 10:18:37.2±1.4, 4655N×15328E, h60km, mb4.5/6, Error ellipse: s-maj=12.5km s-min=10.4km az=80.3*
*IDC **29** 10:18:39.2±4.0, 4654N×15305E, h59km±37km, mb3.7/16, mb1 3.9/18, mb1mx3.8/26, mbtmp3.7/18, ML3.6/2, Error ellipse: s-maj=18.7km s-min=16.6km az=148.0*
ISC 29 10:18:37.3±1.3, 4657N±010×1535E±01, h42km±11km, n53, σ1°23/54, mb4.2/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.12**	**253**	*e*PN	**Pn**	**10 19 44.5**	**+6.9**
KUR				pmax	pmax		
	comp=N,90nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR	**Severo-Kuril's**	**4.49**	**22**	*e*PN	**Pn**	**10 19 42.7**	**0.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAJ	**Asahikawa**	**8.03**	**256**	P	**Pn**	**10 20 30.6**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=115,slow=13,SNR=4.0						
ASAJ	**Asahikawa**	**8.03**	**256**	PN	**Pn**	**10 20 30.6**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**8.67**	**242**	*e*PN	**Pn**	**10 20 40.8**	**+0.7**
ERM	**Erimo**	**8.67**	**242**	*eP*	**Pn**	**10 20 39.9**	**-0.2**
HABR	**Khabarovsk**	**12.58**	**285**	*e*PN	**Pn**	**10 21 39.8**	**+6.2**
HABR				*e*S	**Sn**	**10 24 03.9**	**+12**
MJAR	**Matsushiro Arr**	**15.15**	**234**	P	**Pn**	**10 22 05.5**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=2.6						
VLA	**Vladivostok**	**15.66**	**265**	*eP*	**Pn**	**10 22 15.5**	**+0.6**
VLA				pmax	pmax		
	comp=Z,245nm,2.3s						
SEY	**Seymchan**	**16.41**	**358**	*eP*	**Pn**	**10 22 32.4**	**+7.9**
CN2	**Changchun**	**19.89**	**272**	*eP*	**Pn**	**10 23 09.8**	**+2.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**20.96**	**253**	P	**P**	**10 23 14.0**	**-2.6**
	comp=Z,2.1nm,0.7s,baz=59,slow=11,SNR=5.7						
BILL	**Bilibino**	**22.52**	**13**	*eP*	**P**	**10 23 34.4**	**+1.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
TIXI	**Tiksi**	**27.71**	**344**	*eP*	**P**	**10 24 21.7**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
ULN	**Ulaanbaatar**	**31.18**	**290**	*eP*	**P**	**10 24 53.4**	**+1.2**
SONM	**Songino Array**	**31.61**	**290**	P	**P**	**10 24 52.6**	**-3.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=90,slow=8.6,SNR=2.6						
SONM	**Songino Array**	**31.61**	**290**	P	**P**	**10 24 52.6**	**-3.5**
LZH	**Lanzhou**	**38.12**	**272**	*eP*	**P**	**10 25 53.5**	**+1.3**
LZH				AP	pP	10 25 59.5	-4.3
LZH				XP	sP	10 26 03.0	-5.7
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
LZH	**Lanzhou**	**38.12**	**272**	*eP*	**P**	**10 25 53.5**	**+1.3**
	comp=Z,18nm,1.3s,mb4.6						
LZH				pP	pP	10 25 59.6	-4.2
LZH				sP	sP	10 26 03.1	-5.6
GTA	**Gaotai**	**39.23**	**279**	*eP*	**P**	**10 26 02.8**	**+1.4**
GTA				AP	pP	10 26 08.8	-4.2
GTA				XP	sP	10 26 12.0	-6.0
INK	**Inuvik**	**41.69**	**32**	P	**P**	**10 26 22.1**	**+0.4**
	comp=Z,1.7nm,1.1s,mb3.6,baz=275,slow=9.2,SNR=6.1						
ZAL	**Zalesovo**	**42.92**	**306**	P	**P**	**10 26 30.1**	**-1.8**
	comp=Z,1.0nm,0.4s,mb3.9,baz=56,slow=4.8,SNR=3.2						
ZAL	**Zalesovo**	**42.92**	**306**	*i* P	**P**	**10 26 31.3**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.23**	**298**	P	**P**	**10 27 04.9**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=64,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**47.23**	**298**	*i* P	**P**	**10 27 04.9**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**47.66**	**304**	*eP*	**P**	**10 27 07.9**	**-1.5**
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**10 27 34.7**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=295,slow=7.1,SNR=20						
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**10 27 34.7**	**+0.4**
BVAR	**Borovoye Array**	**51.15**	**310**	P	**P**	**10 27 34.9**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.1,baz=60,slow=8.4,SNR=9.6						
BRVK	**Borovoye**	**51.19**	**310**	*eP*	**P**	**10 27 33.9**	**-2.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.19**	**310**	*eP*	**P**	**10 27 33.9**	**-2.4**
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**54.12**	**297**	*eP*	**P**	**10 27 56.8**	**-1.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**54.12**	**297**	*eP*	**P**	**10 27 56.8**	**-1.2**
	comp=Z,2.7nm,0.9s,mb4.2						
JIRN	**Jiri**	**55.19**	**275**	*eP*	**P**	**10 28 07.0**	**+1.3**
	comp=Z,14nm,0.6s,mb5.2						
GUN	**Gumba**	**55.25**	**275**	*eP*	**P**	**10 28 07.2**	**+1.1**
	comp=Z,6.0nm,0.4s,mb5.0						
KKN	**Kakani**	**55.73**	**276**	*eP*	**P**	**10 28 11.1**	**+1.5**
PKI	**Pulchoki**	**55.78**	**275**	*eP*	**P**	**10 28 11.1**	**+1.1**
DMN	**Daman**	**55.97**	**276**	*eP*	**P**	**10 28 12.5**	**+1.2**
	comp=Z,12nm,0.7s,mb5.1						
GKN	**Gorkha**	**56.04**	**276**	*eP*	**P**	**10 28 12.8**	**+1.0**
	comp=Z,13nm,0.5s,mb5.2						
KOLN	**Koldanda**	**56.90**	**277**	*eP*	**P**	**10 28 18.7**	**+0.8**
	comp=Z,9.4nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**62.32**	**62**	P	**P**	**10 28 58.8**	**+3.6**
	comp=Z,0.6nm,0.8s,mb3.8,baz=284,slow=3.6,SNR=3.5						
FINES	**FINESS Array B**	**64.31**	**335**	P	**P**	**10 29 07.6**	**-0.8**
	comp=Z,2.9nm,0.6s,mb4.5,baz=39,slow=8.2,SNR=16						
FINES	**FINESS Array B**	**64.31**	**335**	*i* P	**P**	**10 29 07.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**68.41**	**199**	P	**P**	**10 29 33.4**	**-1.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=20,slow=6.9,SNR=3.3						
NB2	**NORSAR Subarra**	**68.48**	**341**	P	**P**	**10 29 34.4**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.48**	**341**	P	**P**	**10 29 34.8**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.4,baz=28,slow=6.3,SNR=12						
AKASG	**Malin Array Be**	**71.83**	**326**	P	**P**	**10 29 54.3**	**-1.3**
	comp=Z,4.8nm,0.7s,mb4.5,baz=33,slow=6.1,SNR=14						
AKASG	**Malin Array Be**	**71.83**	**326**	*i* P	**P**	**10 29 55.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**72.11**	**199**	P	**P**	**10 29 57.2**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=19,slow=4.9,SNR=7.1						
MLR	**Muntele Rosu**	**77.35**	**325**	P	**P**	**10 30 28.1**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.4,baz=187,slow=11,SNR=5.3						
TXAR	**Lajitas Array**	**77.38**	**61**	P	**P**	**10 30 28.5**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=296,slow=4.6,SNR=12						
BRTR	**Keskin Array B**	**78.68**	**317**	P	**P**	**10 30 33.4**	**-1.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=37,slow=6.1,SNR=3.6						
GERES	**GERESS Array B**	**78.72**	**334**	P	**P**	**10 30 34.0**	**-1.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=32,slow=5.2,SNR=6.1						

*ISCJB **29** 10:22:29.4±1.0, 2885N±006×4751E±006, h12km±4km, mb4.0/12, MS3.6/2, Error ellipse: s-maj=11.2km s-min=8.4km az=128.4*
*IDC **29** 10:22:29.4±1.8, 2887N×4757E, h0km, mb4.0/12, mb1 4.1/15, mb1mx3.9/29, mbtmp3.9/15, ML3.1/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/29, Error ellipse: s-maj=38.8km s-min=17.1km az=174.0*
*MOS **29** 10:22:30.1±1.2, 2895N×4743E, h10km, mb4.2/2, Error ellipse: s-maj=21.5km s-min=13.3km az=111.1*
*KISR **29** 10:22:30.2±0.6, 2898N×4752E, h4km±8km, MD2.0*
*NEIC **29** 10:22:31.4±1.1, 2894N×4750E, h10km, mb4.6/1, Error ellipse: s-maj=21.6km s-min=9.6km az=170.0*
ISC 29 10:22:30.8±1.1, 2889N±007×4755E±006, h9km±4km, n28, σ0°74/31, mb4.0/12, MS3.6/2, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**0.04**	**360**	*eP*	**Pg**	**10 22 32.4**	**-0.1**
RDF				*e*S	**Sg**	**10 22 33.7**	**+0.1**
RDF				AML	AML	10 22 35.2	
	comp=Z,7μm,0.2s						
KBD	**Kabd**	**0.31**	**24**	*eP*	**Pg**	**10 22 36.4**	**-0.6**
KBD				AML	AML	10 22 41.0	
	comp=Z,41μm,0.3s						
KBD				*e*S	**Sg**	**10 22 41.8**	**+0.6**
NAY	**Al-Naaiem**	**0.45**	**323**	*eP*	**Pg**	**10 22 39.0**	**-0.6**
NAY				*e*S	**Sg**	**10 22 45.5**	**+0.1**
NAY				AML	AML	10 22 45.7	
	comp=Z,1μm,0.2s						
UMR	**Umm Al-Rimmam**	**0.68**	**12**	*eP*	**Pg**	**10 22 43.6**	**-0.3**
UMR				*e*S	**Sg**	**10 22 53.1**	**+0.4**
UMR				AML	AML	10 22 53.5	
	comp=Z,4μm,0.5s						
BHD	**Baghdad**	**5.15**	**329**	*ex*	x	10 24 07.0	
BHD				*ex*	x	10 25 02.0	
BHD				*ex*	x	10 25 16.0	
BHD				*ex*	x	10 25 26.0	
ASF	**Jabal al Asfar**	**9.75**	**292**	Pn	**Pn**	**10 24 50.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=1.4,SNR=3.0						
ASF				Sn	**Sn**	**10 26 36.5**	**-4.4**
	comp=Z,0.7nm,0.3s,baz=182,slow=22,SNR=6.9						
ASF				Lg		10 27 42.4	
	comp=Z,0.5nm,0.3s,baz=356,slow=22,SNR=3.6						
ASF	**Jabal al Asfar**	**9.75**	**292**	P	**Pn**	**10 24 50.8**	**-0.4**
ASF						10 26 36.5	
MMAI	**Mount Meron Ar**	**11.21**	**295**	Pn	**Pn**	**10 25 13.2**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=107,slow=19,SNR=2.7						
MMAI				Lg		10 28 27.6	
	comp=Z,0.8nm,0.3s,baz=112,slow=34,SNR=2.9						
BRTR	**Keskin Array B**	**15.76**	**317**	Pn	**Pn**	**10 26 12.8**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=134,slow=10,SNR=6.3						
IDI	**Anoyia**	**20.21**	**294**	P	**P**	**10 27 06.3**	**+0.3**
	comp=Z,5.6nm,0.7s,baz=90,slow=17,SNR=3.1						
AKTK	**Aktyubinsk**	**22.93**	**17**	P	**P**	**10 27 34.8**	**-0.4**
AKTO	**Aktyubinsk**	**22.93**	**17**	P	**P**	**10 27 34.8**	**-0.4**
	comp=Z,1.3nm,0.5s,mb3.6,baz=205,slow=12,SNR=7.7						
MLR	**Muntele Rosu**	**23.78**	**320**	P	**P**	**10 27 45.3**	**+1.5**
	comp=Z,2.4nm,0.7s,mb3.8,baz=131,slow=8.3,SNR=3.3						
AKASG	**Malin Array Be**	**25.80**	**333**	P	**P**	**10 28 01.9**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.3,baz=140,slow=8.8,SNR=30						
AKASG	**Malin Array Be**	**25.80**	**333**	P	**P**	**10 28 01.9**	**-0.3**
KIEV	**Kiev**	**25.81**	**333**	*eP*	**P**	**10 28 01.5**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
KIEV	**Kiev**	**25.81**	**333**	*eP*	**P**	**10 28 01.5**	**-0.8**
	comp=Z,11nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**29.40**	**29**	P	**P**	**10 28 34.6**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.7,baz=230,slow=8.9,SNR=4.9						
MKAR	**Makanchi Array**	**32.40**	**47**	P	**P**	**10 29 02.1**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=246,slow=12,SNR=4.5						
ZAL	**Zalesovo**	**36.84**	**37**	P	**P**	**10 29 39.6**	**+0.3**
	comp=Z,0.9nm,0.3s,mb4.1,baz=27,slow=6.8,SNR=2.5						
NOA	**NORSAR Array B**	**40.21**	**333**	P	**P**	**10 30 06.2**	**-1.4**
	comp=Z,1.2nm,0.6s,mb3.8,baz=126,slow=8.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**45.28**	**260**	P	**P**	**10 30 49.5**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.5,baz=51,slow=8.5,SNR=4.2						
TORD				LR	LR	10 51 57.9	
	comp=Z,40nm,18.1s,MS3.4,baz=80,slow=39						
TORD	**Torodi Ar. Bea**	**45.28**	**260**	P	**P**	**10 30 49.5**	**+0.7**
TORD				LR	LR	10 51 57.9	
BOSA	**Boshof**	**61.02**	**202**	LR	LR	10 59 36.6	
	comp=Z,80nm,19.0s,MS3.9,baz=27,slow=36						
SCHQ	**Schefferville**	**79.48**	**328**	P	**P**	**10 34 36.8**	**-1.0**
	comp=Z,7.1nm,1.0s,mb4.5,baz=91,slow=2.3,SNR=4.7						
INK	**Inuvik**	**83.10**	**0**	P	**P**	**10 34 56.6**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=297,slow=3.7,SNR=4.3						
YKA	**Yellowknife Ar**	**87.82**	**352**	P	**P**	**10 35 20.2**	**-0.3**
	comp=Z,0.8nm,0.8s,mb4.0,baz=17,slow=5.1,SNR=14						
YKA	**Yellowknife Ar**	**87.82**	**352**	P	**P**	**10 35 20.2**	**-0.3**

*NEIC **29** 10:35:41.1, 4003S×17644E, h49km, ML3.7(WEL), After WEL.*
WEL 29 10:35:40.6±0.2, 4003S×17644E, h25km±1km, ML3.4/28, 2C, Error ellipse: s-maj=2.6km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.33**	**91**	⇑ P*	Pb	10 35 49.9	+1.8
TSZ	**Takapari Road**	**0.37**	**265**	P	Pb	10 35 48.4	-0.3
TSZ				S	Sb	10 35 54.1	0.0
TSZ	**Takapari Road**	**0.37**	**265**	⇑ P*	Pb	10 35 48.4	-0.2
TSZ				S*	Sb	10 35 54.1	0.0
TSZ				S*	Sb	10 35 54.2	0.0
BFZ	**Birch Farm**	**0.67**	**192**	P*	Pb	10 35 54.7	+1.0
BFZ	**Birch Farm**	**0.67**	**192**	P*	Pb	10 35 54.1	+0.5
BFZ				S*	Sb	10 36 03.5	+1.0
MOVZ	**Moawhango**	**0.81**	**319**	P	Pb	10 35 54.9	-1.2
MOVZ	**Moawhango**	**0.81**	**319**	P*	Pb	10 35 54.9	-1.2
MOVZ				S*	Sb	10 36 05.5	-1.1
TIWZ	**Tintock**	**0.86**	**209**	PN	Pn	10 35 57.5	+0.5
BKZ	**Black Stump Fm**	**0.86**	**3**	P	Pb	10 35 56.1	-0.8
BKZ	**Black Stump Fm**	**0.86**	**3**	PN	Pn	10 35 56.1	-1.0
MRZ	**Mangatainoka R**	**0.91**	**226**	P	Pb	10 35 57.5	-0.3
MRZ	**Mangatainoka R**	**0.91**	**226**	PN	Pn	10 35 57.5	-0.3
WNVZ	**Wahianoa**	**0.95**	**317**	P	Pn	10 35 57.8	-0.5
WNVZ	**Wahianoa**	**0.95**	**317**	PN	Pn	10 35 57.8	-0.5
TUVZ	**Tukino**	**0.97**	**321**	P	Pn	10 35 58.1	-0.5
TUVZ	**Tukino**	**0.97**	**321**	PN	Pn	10 35 58.1	-0.5
MTVZ	**Mangateitei**	**0.98**	**310**	PN	Pn	10 35 58.3	-0.5
TRVZ	**Turoa**	**1.00**	**316**	PN	Pn	10 35 58.6	-0.4
FWVZ	**Far West T-bar**	**1.03**	**318**	P	Pn	10 35 59.1	-0.3
FWVZ	**Far West T-bar**	**1.03**	**318**	PN	Pn	10 35 59.1	-0.3
OTVZ

THZ	**Tophouse**	**3.19 236**	*e*P	Pn	10 36 27.0	-2.1
THZ	**Tophouse**	**3.19 236**	PN	Pn	10 36 27.0	-2.1

ISCJB ***29*** *11:08:12.2±1.1, 2989N±005×3622E±006, h0km, Error ellipse: s-maj=9.3km s-min=6.2km az=88.1*
GII ***29*** *11:08:12.5±0.5, 2988N×3618E, h0km±5km, ML2.1/2*
CSEM ***29*** *11:08:14.1±0.2, 2992N×3610E, h0km±1km, ML2.1, Error ellipse: s-maj=7.4km s-min=2.7km az=147.0, Mining explosion.*
HLW ***29*** *11:08:15.2, 3004N×3621E, h9km, Mb2.9*

ISC 29 11:08:12.7±1.1, 2991N±006×3624E±007, h0km, n19, σ0§90/25, 3C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.05**	**260**	Pg	**Pg**	**11 08 32.3**	**-0.5**
HRFI	**Mount Harif**	**1.05**	**277**	Pg	**Pg**	**11 08 32.1**	**-0.7**
HRFI				Sg	**Sg**	**11 08 47.6**	**+1.1**
ZFRI	**Zfri**	**1.12**	**305**	Pg	**Pg**	**11 08 33.4**	**-0.8**
ZFRI				Sg	**Sg**	**11 08 51.0**	**+2.2**
EIL	**Elat**	**1.15**	**258**	Pg	**Pg**	**11 08 33.7**	**-0.9**
EIL				Sg	**Sg**	**11 08 50.4**	**+0.9**
PRNI	**Paran**	**1.16**	**293**	Pg	**Pg**	**11 08 34.2**	**-0.7**
KRMI	**Paran Flat**	**1.33**	**279**	Pg	**Pg**	**11 08 37.4**	**-0.8**
MZDA	**Masada**	**1.59**	**332**	Pn	**Pn**	**11 08 41.8**	**-0.3**
MZDA				Sn	**Sn**	**11 09 04.2**	**+0.9**
MASH	**Mash'abbe Sade**	**1.66**	**311**	Pn	**Pn**	**11 08 43.0**	**-0.1**
SVTA	**Shivta**	**1.73**	**306**	Pn	**Pn**	**11 08 43.9**	**-0.1**
YTIR	**Yattir**	**1.74**	**327**	Pn	**Pn**	**11 08 44.1**	**-0.1**
RTMI	**Retamim**	**1.76**	**311**	Pn	**Pn**	**11 08 44.0**	**-0.4**
DSI	**Dead Sea**	**1.81**	**336**	Pn	**Pn**	**11 08 45.6**	**+0.4**
DRGI	**Dragot**	**1.83**	**337**	Pn	**Pn**	**11 08 45.4**	**0.0**
HDHB	**Dhahab**	**1.84**	**231**	⇑P	**Pn**	**11 08 47.1**	**+1.5**
HNKL	**Nakhl**	**1.96**	**271**	⇓P	**Pn**	**11 08 47.4**	**+0.2**
HNKL				S	**Sn**	**11 09 11.4**	**-1.1**
HMDT	**Nahal Hemdat**	**2.42**	**345**	Pn	**Pn**	**11 08 53.4**	**0.0**
AMAG	**Maghara**	**2.72**	**286**	⇓P	**Pn**	**11 08 57.9**	**+0.3**
AMAG				S	**Sn**	**11 09 28.6**	**-2.7**
ZNM		**2.98**	**261**	⇑P	**Pn**	**11 09 01.9**	**+0.7**
ZAF		**3.27**	**260**	⇑P	**Pn**	**11 09 06.1**	**+0.8**

IDC ***29*** *11:39:13.2±1.3, 283S×1299E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/23, Error ellipse: s-maj=86.1km s-min=21.3km az=72.0*
ISCJB ***29*** *11:39:14.1±5.8, 29S±01×1300E±03, h22km±42km, mb3.8/3, Error ellipse: s-maj=61.8km s-min=14.2km az=142.6*
NEIC ***29*** *11:39:14.6±0.9, 290S×1299E, h10km, Error ellipse: s-maj=42.1km s-min=11.4km az=73.0*

ISC 29 11:39:13.8±5.5, 29S±01×1300E±03, h4km±35km, n9, σ0§60/10, mb3.9/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.07**	**166**	*e*P	**Pn**	**11 41 39.8**	**+0.6**
	2.8nm,0.4s						
KAKA				*e*S	**Sn**	**11 43 32.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.71**	**195**	Pn	**Pn**	**11 42 56.2**	**+0.2**
	0.3nm,0.3s,baz=24,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**17.48**	**166**	P	**Pn**	**11 43 17.4**	**-1.1**
	0.4nm,0.3s,baz=347,slow=12,SNR=22						
WB2	**Warramunga Arr**	**17.49**	**166**	*e*P	**Pn**	**11 43 17.9**	**-0.6**
ASAR	**Alice Springs**	**21.01**	**170**	P	**P**	**11 43 58.8**	**+0.4**
	14nm,0.9s,mb4.3,baz=353,slow=11,SNR=97						
ASAR				PcP	PcP	11 48 06.2	+0.8
	0.6nm,0.6s,baz=342,slow=1.8,SNR=6.0						
STKA	**Stephens Creek**	**30.85**	**160**	P	**P**	**11 45 31.9**	**+0.9**
	2.1nm,0.9s,mb4.0,baz=347,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**30.85**	**160**	P	**P**	**11 45 31.9**	**+0.9**
MKAR	**Makanchi Array**	**64.81**	**326**	P	**P**	**11 49 53.4**	**-0.3**
	0.2nm,0.4s,mb3.5,baz=127,slow=9.3,SNR=4.0						
ZAL	**Zalesovo**	**67.91**	**333**	P	**P**	**11 50 13.7**	**0.0**
	0.7nm,0.7s,mb3.8,baz=41,slow=6.0,SNR=3.8						

CSEM ***29*** *11:46:09.3±0.9, 3873N×2892W, h0km±10km, ML2.2, Error ellipse: s-maj=11.1km s-min=3.3km az=91.0, After PDA*
PDA ***29*** *11:46:09.3±0.9, 3873N×2892W, h0km±10km, MD3.0, ML2.2, Error ellipse: s-maj=11.1km s-min=3.3km az=91.0*

SVSA 29 11:46:09.3±0.9, 3873N×2892W, h0km±10km, MD3.0, ML2.2, Error ellipse: s-maj=11.1km s-min=3.3km az=91.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.17**	**147**	*i* P	Pg	11 46 12.9	+0.3
PTCA				*e*S	Sg	11 46 15.4	+0.6
PTCA							
	133nm,0.2s						
PTCA	**Ponta do Capel**	**0.17**	**147**	*e*S	Sg	11 46 15.4	+0.6
PCED	**Cedros**	**0.20**	**120**	*i* P	Pg	11 46 13.1	0.0
PCED				*e*S	Sg	11 46 16.3	+0.7
PCED							
	373nm,0.2s						
PCED	**Cedros**	**0.20**	**120**	*e*S	Sg	11 46 16.3	+0.7
CALA	**Caldeira**	**0.22**	**131**	*i* P	Pg	11 46 13.4	-0.2
CALA				*e*S	Sg	11 46 16.8	+0.3
CALA	**Caldeira**	**0.22**	**131**	*e*S	Sg	11 46 16.8	+0.3
HOR	**Horta**	**0.30**	**132**	*e*P	Pg	11 46 14.8	-0.3
HOR				*e*S	Sg	11 46 19.0	0.0
PCND	**Candelaria**	**0.44**	**126**	*e*P	Pg	11 46 17.4	-0.3
PCND				*e*S	Sg	11 46 23.6	+0.2
PCND							
	38nm,0.2s						
PICO	**Pico**	**0.45**	**120**	*e*P	Pg	11 46 17.8	-0.1
PICO				*e*S	Sg	11 46 24.0	+0.3
PTEI	**Pico do Teixo**	**0.50**	**118**	*e*S	Sg	11 46 25.5	+0.2
PTEI							
	59nm,0.2s						
PBOI	**Pico dos Bois**	**0.52**	**124**	*e*P	Pg	11 46 18.5	-0.7
PBOI				*e*S	Sg	11 46 25.8	0.0
PBOI							
	58nm,0.3s						
ROSA	**Rosais**	**0.53**	**91**	*i* P	Pg	11 46 18.8	-0.6
ROSA				*e*S	Sg	11 46 25.5	-0.8
ROSA	**Rosais**	**0.53**	**91**	*e*S	Sg	11 46 25.5	-0.8
PAMA	**Santo Amaro**	**0.58**	**95**	*e*S	Sg	11 46 27.7	-0.2
PAMA							
	56nm,0.1s						
PMAN	**Manadas**	**0.66**	**98**	*e*P	Pg	11 46 21.1	-0.8
PMAN				*i* S	Sg	11 46 29.2	-1.2
PMAN							
	119nm,0.2s						
PMAN	**Manadas**	**0.66**	**98**	*e*P	Pg	11 46 21.1	-0.8
PMAN				*i* S	Sg	11 46 29.2	-1.2

IDC ***29*** *12:08:03.4±5.0, 3640N×7091E, h224km±46km, mb3.2/9, mb1 3.4/12, mb1mx3.2/25, mbtmp3.3/12, Error ellipse: s-maj=26.0km s-min=18.3km az=19.0*
MOS ***29*** *12:08:04.2±1.1, 3661N×7084E, h240km, mb4.0/1, Error ellipse: s-maj=18.3km s-min=9.2km az=88.6*
ISCJB ***29*** *12:08:05.2±0.7, 3661N±004×7100E±008, h248km±8km, mb3.3/8, Error ellipse: s-maj=11.1km s-min=5.9km az=133.9*
NEIC ***29*** *12:08:06.3±0.7, 3664N×7096E, h244km±8km, mb4.5/7, Error ellipse: s-maj=10.5km s-min=6.6km az=62.0*
BJI ***29*** *12:08:06.7, 3688N×7084E, h230km, mb4.1*

ISC 29 12:08:06.3±0.7, 3665N±004×7099E±008, h243km±8km, n38, σ0§95/44, mb3.3/8, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.63**	**218**	*e*P	**Pn**	**12 08 54.7**	**+0.3**
KSH	**Kashi**	**4.86**	**52**	P	**Pn**	**12 09 20.3**	**+0.1**
KSH				S	**S**	**12 10 18.8**	**-0.1**
KSH				Smax			
	comp=N,401nm,0.4s						
KSH				Smax			
	comp=E,485nm,0.6s						
THN	**Thein Dam**	**5.73**	**136**	*e*P	**Pn**	**12 09 30.6**	**-0.3**
THN				*e*S	**S**	**12 10 36.2**	**-2.2**
DLH	**Dalhousie**	**5.80**	**134**	*e*S	**S**	**12 10 36.0**	**-3.9**
AAK	**Ala-Archa**	**6.56**	**23**	*e*PN	**Pn**	**12 09 40.6**	**-0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AAK	**Ala-Archa**	**6.56**	**23**	*e*P	**Pn**	**12 09 40.6**	**-0.7**
	comp=Z,3.4nm,0.4s						
SDNR	**Sundarnagar**	**7.14**	**134**	*e*P	**Pn**	**12 09 49.0**	**+0.4**
SDNR				*e*S	**S**	**12 11 06.0**	**-4.6**
KLP	**Kalpa**	**7.89**	**128**	*e*P	**Pn**	**12 10 00.6**	**+2.5**
KLP				*e*S	**S**	**12 11 23.2**	**-4.8**
KLP				*e*S	**S**	**12 11 23.3**	**-4.8**
KLP				AML	AML	12 11 27.0	
	comp=N,139nm,0.5s						
KLP				AML	AML	12 11 29.5	
	comp=E,148nm,0.6s						
JOSI	**Joshimath**	**9.38**	**128**	*e*P	**Pn**	**12 10 17.8**	**+0.8**
JOSI				*e*S	**S**	**12 11 56.2**	**-6.5**
NDI	**New Delhi**	**9.52**	**145**	*ex*	**S**	**12 11 51.0**	**-15**
MK31	**Makanchi Array**	**13.18**	**36**	*e*P	**Pn**	**12 11 04.1**	**-0.5**
MKAR	**Makanchi Array**	**13.18**	**36**	P	**Pn**	**12 11 04.7**	**+0.1**
	comp=E,0.5nm,0.3s,baz=210,slow=12,SNR=22						
KOLN	**Koldanda**	**13.86**	**126**	*e*P	**Pn**	**12 11 12.8**	**-0.1**
	comp=E,9.3nm,0.3s						
GKN	**Gorkha**	**14.39**	**123**	*e*P	**Pn**	**12 11 19.3**	**0.0**
DMN	**Daman**	**14.96**	**123**	*e*P	**Pn**	**12 11 27.5**	**+1.3**
	comp=E,12nm,0.3s						
KKN	**Kakani**	**14.96**	**122**	*e*P	**Pn**	**12 11 26.4**	**+0.2**
	comp=E,34nm,0.5s						
KKN	**Kakani**	**14.96**	**122**	*e*P	**Pn**	**12 11 26.4**	**+0.2**
KKN				pmax	pmax		
	comp=Z,34nm,0.5s						
KURK	**Kurchatov**	**15.09**	**19**	*e*P	**Pn**	**12 11 26.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**15.09**	**19**	*e*P	**Pn**	**12 11 26.6**	**-1.3**
	comp=Z,5.6nm,0.9s						
PKI	**Pulchoki**	**15.19**	**122**	*e*P	**Pn**	**12 11 30.4**	**+1.4**
GUN	**Gumba**	**15.30**	**120**	*e*P	**Pn**	**12 11 30.9**	**+0.6**
	comp=Z,19nm,0.4s						
JIRN	**Jiri**	**15.67**	**121**	*e*P	**Pn**	**12 11 35.6**	**+0.9**
	comp=Z,28nm,0.5s						
BVAR	**Borovoye Array**	**16.38**	**359**	P	**P**	**12 11 43.0**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=163,slow=11,SNR=22						
BRVK	**Borovoye**	**16.42**	**358**	*e*P	**P**	**12 11 40.9**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BRVK	**Borovoye**	**16.42**	**358**	*e*P	**P**	**12 11 40.9**	**-1.2**
	comp=Z,5.6nm,0.5s						
AKTK	**Aktyubinsk**	**16.65**	**330**	P	**P**	**12 11 45.4**	**+0.8**
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**P**	**12 11 45.4**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=137,slow=11,SNR=31						
ZAL	**Zalesovo**	**19.77**	**25**	P	**P**	**12 12 18.9**	**+0.6**
	comp=Z,3.5nm,0.4s,baz=232,slow=4.3,SNR=10						
NVS	**Novosibirsk**	**20.05**	**21**	*e*P	**P**	**12 12 21.2**	**0.0**
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**12 14 55.6**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.3,baz=108,slow=8.9,SNR=3.3						
ARCES	**ARCESS Array B**	**41.01**	**338**	P	**P**	**12 15 25.6**	**-0.2**
	comp=Z,2.2nm,0.9s,mb3.6,baz=114,slow=8.5,SNR=7.9						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**12 15 51.1**	**-0.8**
	comp=Z,0.3nm,0.5s,mb2.9,baz=103,slow=6.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P	**P**	**12 18 24.0**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.6,baz=47,slow=6.1,SNR=9.7						
INK	**Inuvik**	**73.76**	**9**	P	**P**	**12 19 14.3**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=337,slow=5.0,SNR=14						
INK	**Inuvik**	**73.76**	**9**	P	**P**	**12 19 14.3**	**+0.3**
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**12 19 54.3**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.3,baz=351,slow=5.4,SNR=12						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**12 19 58.6**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.1,baz=324,slow=5.0,SNR=8.5						
ASAR	**Alice Springs**	**84.34**	**125**	P	**P**	**12 20 10.0**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.1,baz=316,slow=3.9,SNR=4.9						

MEX 29 12:38:51.5±0.9, 1815N×10335W, h8km±8km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.14**	**2**	*i* P	Pg	12 38 53.7	-0.8
MMIG				*i* S	Sg	12 38 56.6	0.0
CJM	**Chamela**	**2.09**	**310**	*i* P	Pn	12 39 23.8	-3.0
CJM				*i* S	Sn	12 39 48.3	-4.7
SFJM	**Santa Fe**	**2.34**	**7**	*i* P	Pn	12 39 29.0	-1.3
SFJM				*i* S	Sn	12 39 54.0	-5.2
MOIG	**Morelia**	**2.55**	**53**	*i* P	Pn	12 39 30.7	-2.4
MOIG				*i* S	Sn	12 39 59.7	-4.6
MEIG	**Mezcala**	**3.56**	**93**	*i* S	Sn	12 40 26.2	-2.9
PLIG	**Platanillo**	**3.67**	**86**	*i* S	Sn	12 40 28.2	-3.6

IDC 29 12:45:20.1±3.2, 465S×13380E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.4/12, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=151.3km s-min=15.1km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.21**	**178**	Pn	Pn	12 48 54.2	-2.0
	0.1nm,0.3s,baz=359,slow=13,SNR=8.2						
WRA				Sn	Sn	12 51 46.7	+1.4
	0.2nm,0.3s,baz=356,slow=24,SNR=5.7						
ASAR	**Alice Springs**	**18.91**	**180**	P	Pn	12 49 44.0	+1.2
	0.3nm,0.3s,baz=10,slow=11,SNR=18						
ASAR				S	Sn	12 53 16.5	+1.5
	0.1nm,0.3s,baz=5.7,slow=29,SNR=4.2						
MKAR	**Makanchi Array**	**68.42**	**325**	P	P	12 56 23.8	+0.1
	0.4nm,0.6s,baz=106,slow=8.1,SNR=7.4						

ISCJB ***29*** *12:53:17.4±0.4, 5145N±003×640E±004, h0km, Error ellipse: s-maj=4.0km s-min=3.1km az=112.7*
CSEM ***29*** *12:53:19.1±0.1, 5155N×657E, h1km, ML3.3/18, Error ellipse: s-maj=1.9km s-min=1.5km az=111.0*
LDG ***29*** *12:53:19.8±0.2, 5149N×656E, h1km, Ml3.1/19, Error ellipse: s-maj=3.5km s-min=2.7km az=17.0, Suspected Mining induced.*
NEIC ***29*** *12:53:19.8, 5149N×656E, h1km, ML3.1(LDG), After LDG.*
BNS ***29*** *12:53:20.0±1.1, 5148N×657E, h1km, ML2.5*
BGR ***29*** *12:53:22.7±0.7, 5138N×673E, h1km, ML2.6/4, Error ellipse: s-maj=11.1km s-min=4.4km az=138.0, GESPUERT KAMP-LINTFORT I=IV*
BUG ***29*** *12:53:39.2, 5166N×773E, h1km, ML1.0, probably mislocated (after BGR)*

ISC 29 12:53:18.6±0.4, 5146N±002×650E±003, h0km, n77, σ1§33/141, 3C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.30**	**112**	⇓*i* Pg	**Pg**	**12 53 24.9**	**+0.5**
RODG	**Roetgen-Dahlhe**	**0.38**	**212**	*e*Pg	**Pg**	**12 53 28.0**	**+2.2**
RODG				*e*Sg	**Sg**	**12 53 34.3**	**+3.6**
	685nm,0.2s						
BUG	**Bochum--Univer**	**0.48**	**92**	*e*Pg	**Pg**	**12 53 27.9**	**+0.1**
	SNR=29						
BUG				*e*Sg	**Sg**	**12 53 34.4**	**+0.3**
WTSB	**Winterswijk**	**0.54**	**20**	*e*Pg	**Pg**	**12 53 28.8**	**0.0**
	14nm,0.3s						
WTSB				*e*Sg	**Sg**	**12 53 35.5**	**-0.3**
BNS	**Bensberg**	**0.66**	**139**	⇓*i* Pg	**Pg**	**12 53 32.5**	**+1.3**
HOBG	**Hohbusch**	**0.71**	**132**	⇓*i* Pg	**Pg**	**12 53 33.3**	**+1.0**
HGN	**Heimansgroeve**	**0.79**	**207**	⇑*i* Pg	**Pg**	**12 53 36.8**	**+3.1**
	81nm,0.1s,baz=30						
HGN				*e*Sg	**Sg**	**12 53 46.2**	**+2.4**
HGN				*i* x	x	12 53 48.9	
HGN	**Heimansgroeve**	**0.79**	**207**	⇑*i* Pg	**Pg**	**12 53 36.8**	**+3.1**
	81nm,0.1s						
HGN				*e*Sg	**Sg**	**12 53 46.2**	**+2.3**
DREG	**Dreilaegerbach**	**0.82**	**192**	⇓*e*Pg	**Pg**	**12 53 35.7**	**+1.4**
DREG				*e*Sg	**Sg**	**12 53 48.1**	**+3.2**
	173nm,0.2s						
KLL	**Kalltalsperre**	**0.83**	**188**	*e*Pg	**Pg**	**12 53 35.8**	**+1.3**
KLL				*e*Sg	**Sg**	**12 53 48.0**	**+2.9**
	201nm,0.2s						
BEBN	**Eben Emael**	**0.85**	**218**	⇑P	**Pg**	**12 53 36.9**	**+2.1**
	comp=Z,46nm,0.0s						
BEBN				S	**Sg**	**12 53 48.9**	**+3.1**
BEBN	**Eben Emael**	**0.85**	**218**	P	**Pg**	**12 53 37.5**	**+2.7**
BEBN	**Eben Emael**	**0.85**	**218**	P	**Pg**	**12 53 37.4**	**+2.6**
BAHL	**Ahlen**	**0.87**	**71**	Pg	**Pg**	**12 53 40.5**	**+5.3**
BAHL				Sg	**Sg**	**12 53 41.7**	**-4.8**
STB	**Steinbach**	**0.90**	**166**	*e*Pg	**Pg**	**12 53 37.1**	**+1.3**
STB				*e*Sg	**Sg**	**12 53 49.3**	**+1.9**
	comp=Z,155nm,0.4s						
HILG	**Hillesheim**	**1.18**	**174**	*e*Pg	**Pg**	**12 53 42.3**	**+1.2**
BCLA	**Clavier**	**1.29**	**216**	⇓P	**Pg**	**12 53 44.5**	**+1.2**
BCLA	**Clavier**	**1.29**	**216**	P	**Pg**	**12 53 44.5**	**+1.2**
BCLA	**Clavier**	**1.29**	**216**	P	**Pg**	**12 53 44.5**	**+1.2**
BGG	**Burgeitz**	**1.37**	**157**	*e*Pg	**Pg**	**12 53 44.7**	**-0.1**
BGG				*e*Sg	**Sg**	**12 54 03.5**	**+1.0**
	comp=Z,35nm,0.2s						
SNF	**Seneffe**	**1.70**	**237**	P	**Pn**	**12 53 50.9**	**+1.5**
SNF	**Seneffe**	**1.70**	**237**	P	**Pn**	**12 53 50.8**	**+1.4**
GIVF	**Givet**	**1.73**	**219**	*e*Pg	**Pg**	**12 53 51.7**	**0.0**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**12 54 12.3**	**-0.3**
	comp=Z,78nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.73**	**219**	*e*Pn	**Pn**	**12 53 50.4**	**+0.5**
GIVF				*e*Pg	**Pg**	**12 53 51.7**	**0.0**
GIVF				*e*Sn	**Sn**	**12 54 12.3**	**-0.3**
GIVF	**Givet**	**1.73**	**219**	*e*Pg	**Pg**	**12 53 51.7**	**0.0**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**12 54 12.3**	**-0.3**
	comp=Z,39nm,0.3s,SNR=1.0						
TNS	**Taunus Mts**	**1.75**	**134**	*e*Pn	**Pn**	**12 53 51.1**	**+1.0**
	SNR=24						
TNS				*e*Pg	**Pg**	**12 53 52.2**	**+0.1**
	SNR=24						
TNS				*e*Sg	**Sg**	**12 54 14.5**	**-0.4**
WLF	**Walferdange**	**1.81**	**187**	*e*Pn	**Pn**	**12 53 53.3**	**+2.3**
	SNR=6.0						
WLF				*e*Sg	**Sg**	**12 54 17.0**	**+0.1**
WLF	**Walferdange**	**1.81**	**187**	⇓P	**Pn**	**12 53 53.9**	**+2.8**
WLF	**Walferdange**	**1.81**	**187**	P	**Pn**	**12 53 53.6**	**+2.5**
WLF	**Walferdange**	**1.81**	**187**	P	**Pn**	**12 53 53.5**	**+2.4**
DOU	**Dourbes**	**1.83**	**222**	⇓P	**Pn**	**12 53 51.9**	**+0.7**
	comp=Z,2.5nm,0.0s						
DOU	**Dourbes**	**1.83**	**222**	P	**Pn**	**12 53 52.0**	**+0.8**
DOU	**Dourbes**	**1.83**	**222**	P	**Pn**	**12 53 52.0**	**+0.8**
BAIF	**Baives**	**2.02**	**227**	*e*Pg	**Pg**	**12 53 55.4**	**-2.0**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**12 54 19.9**	**0.0**
	comp=Z,32nm,0.3s,SNR=1.0						
BAIF	**Baives**	**2.02**	**227**	*e*Pg	**Pg**	**12 53 55.4**	**-2.0**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**12 54 19.9**	**0.0**
	comp=Z,16nm,0.3s,SNR=1.0						
GTTG	**Gyttingen**	**2.17**	**87**	*e*Sg	**Sg**	**12 54 25.7**	**-2.5**
UBBA	**Unterbreizbach**	**2.30**	**105**	*e*Pn	**Pn**	**12 53 59.4**	**+1.7**
	SNR=6.8						
UBBA				*e*Sg	**Sg**	**12 54 30.5**	**-2.0**
CLZ	**Clausthal**	**2.44**	**80**	*e*Pn	**Pn**	**12 54 02.9**	**+3.2**
	SNR=8.2						
CLZ				*e*Sg	**Sg**	**12 54 35.3**	**-1.8**
CDF	**Champ du Feu**	**3.10**	**170**	*e*Pg	**Pg**	**12 54 17.8**	**-0.1**
CDF				*e*Sg	**Sg**	**12 54 56.0**	**-2.1**
	comp=Z,15nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**3.10**	**170**	*e*Pn	**Pn**	**12 54 08.5**	**-0.2**
CDF				*e*Pg	**Pg**	**12 54 17.8**	**-0.1**
CDF				*e*Sg	**Sg**	**12 54 56.0**	**-2.1**
CDF	**Champ du Feu**	**3.10**	**170**	*e*Pg	**Pg**	**12 54 17.8**	**-0.1**
CDF				*e*Sg	**Sg**	**12 54 56.0**	**-2.1**
	comp=Z,7.5nm,0.5s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pn	**Pn**	**12 54 08.6**	**-0.2**
	baz=21						
MEZF				*e*Sg	**Sg**	**12 54 54.8**	**-3.7**
	comp=Z,28nm,0.5s						
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pn	**Pn**	**12 54 08.6**	**-0.2**
MEZF				*e*Sg	**Sg**	**12 54 54.8**	**-3.7**
	comp=Z,14nm,0.5s						
MOX	**Moxa**	**3.33**	**102**	*e*Pn	**Pn**	**12 54 12.6**	**+0.7**
	SNR=2.1						
BFO	**Black Forest**	**3.35**	**159**	*e*Pn	**Pn**	**12 54 12.4**	**+0.2**
	SNR=2.6						
BFO				*e*Pg	**Pg**	**12 54 24.8**	**+1.9**
	SNR=0.8						
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Pg	**Pg**	**12 54 25.4**	**+1.7**
	baz=14						
SFTF				*e*Sg	**Sg**	**12 55 06.5**	**-1.2**
	comp=Z,21nm,0.4s						
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Pn	**Pn**	**12 54 12.4**	**-0.4**
SFTF				*e*Pg	**Pg**	**12 54 25.4**	**+1.7**
SFTF				*e*Sg	**Sg**	**12 55 06.5**	**-1.2**
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Pg	**Pg**	**12 54 25.4**	**+1.7**
SFTF				*e*Sg	**Sg**	**12 55 06.5**	**-1.2**
	comp=Z,10nm,0.4s						
HAU	**Haudompre**	**3.46**	**182**	*e*Pn	**Pn**	**12 54 13.7**	**0.0**
HAU				*e*Sg	**Sg**	**12 55 06.6**	**-3.3**
	comp=Z,14nm,0.3s						
HAU	**Haudompre**	**3.46**	**182**	*e*Pn	**Pn**	**12 54 13.7**	**0.0**
HAU				*e*Sg	**Sg**	**12 55 06.6**	**-3.3**
	comp=Z,7.2nm,0.3s						
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pn	**Pn**	**12 54 14.3**	**-2.1**
HINF				*e*Sg	**Sg**	**12 55 15.2**	**-0.9**
	comp=Z,5.8nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pn	**Pn**	**12 54 14.3**	**-2.1**
HINF				*e*Sg	**Sg**	**12 55 15.2**	**-0.9**
	comp=Z,2.9nm,0.3s,SNR=1.0						
CLL	**Collm**	**4.08**	**90**	*e*Sg	**Sg**	**12 55 26.0**	**-3.6**
LOR	**Lormes**	**4.54**	**203**	*e*Pn	**Pn**	**12 54 28.4**	**-0.1**
	baz=29,SNR

BGF	**Bois d'Agland**	**5.47**	**207**	*e*Pn	**Pn**	**12 54 40.7**	**-0.6**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**12 55 39.6**	**-5.2**
	comp=Z,6.7nm,0.4s,SNR=1.0						
GRR	**Gorron**	**5.66**	**240**	*e*Pn	**Pn**	**12 54 43.6**	**-0.3**
GRR				*e*Sn	**Sn**	**12 55 43.4**	**-6.2**
	comp=Z,11nm,0.3s						
GRR	**Gorron**	**5.66**	**240**	*e*Pn	**Pn**	**12 54 43.6**	**-0.3**
GRR				*e*Sn	**Sn**	**12 55 43.4**	**-6.2**
	comp=Z,5.6nm,0.3s						
TCF	**Toulx Ste Croi**	**5.90**	**210**	*e*Pn	**Pn**	**12 54 46.6**	**-0.6**
SGMF	**Saint Gilles**	**6.68**	**245**	*e*Pn	**Pn**	**12 54 57.3**	**-0.6**
ROSF	**Rostrenen**	**7.04**	**247**	*e*Pn	**Pn**	**12 55 01.5**	**-1.4**
QUIF	**Quistinic**	**7.20**	**244**	*e*Pn	**Pn**	**12 55 03.9**	**-1.2**

IDC ***29*** *12:59:40.9±1.3, 9.13S×122.41E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, ML3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=118.5km s-min=22.3km az=62.0*
ISCJB ***29*** *12:59:42.2±1.0, 9.78S±009×1219E±0.1, h35km, mb4.0/3, Error ellipse: s-maj=19.1km s-min=8.7km az=104.6*
ISC 29 12:59:44.3±0.9, 9.70S±010×1219E±01, h35km, n8, σ1§02/12, mb4.0/3, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.12**	**157**	Pn	**Pn**	**13 01 57.5**	**+4.1**
	0.3nm,0.3s,baz=339,slow=13,SNR=9.4						
FITZ				Sn	**Sn**	**13 03 34.3**	**-0.5**
	1.0nm,0.3s,baz=240,slow=22,SNR=10						
FITZ				LR	LR	13 05 52.7	
	comp=Z,44nm,19.1s,baz=274,slow=39						
KAKA	**Kakadu**	**10.80**	**107**	*e*P	**Pn**	**13 02 20.4**	**+4.1**
	2.7nm,0.3s						
KAKA				*e*S	**Sn**	**13 04 15.8**	**-0.1**
WRA	**Warramunga Arr**	**15.77**	**132**	Pn	**Pn**	**13 03 24.0**	**+0.3**
	0.2nm,0.3s,baz=308,slow=14,SNR=20						
WRA				Sn	**Sn**	**13 06 09.0**	**-8.3**
	0.3nm,0.3s,baz=311,slow=24,SNR=8.4						
WB2	**Warramunga Arr**	**15.78**	**132**	*e*P	**Pn**	**13 03 24.0**	**+0.2**
WB2				*e*S	S	13 06 05.5	-26
ASAR	**Alice Springs**	**18.04**	**142**	P	**Pn**	**13 03 56.1**	**+4.1**
	0.2nm,0.3s,baz=315,slow=12,SNR=14						
ASAR				S	**S**	**13 07 04.9**	**-12**
	0.1nm,0.3s,baz=306,slow=22,SNR=4.7						
SONM	**Songino Array**	**58.90**	**348**	P	**P**	**13 09 37.8**	**-1.9**
	0.3nm,0.4s,mb3.7,baz=45,slow=19,SNR=2.1						
MKAR	**Makanchi Array**	**66.39**	**331**	P	**P**	**13 10 31.0**	**+1.4**
	1.2nm,0.6s,mb4.1,baz=134,slow=7.2,SNR=18						
ZAL	**Zalesovo**	**70.72**	**338**	P	**P**	**13 10 56.6**	**-0.1**
	1.2nm,0.5s,mb4.1,baz=340,slow=1.0,SNR=5.9						

MAN 29 13:41:11.3, 693N×12514E, h13km, mb2.6, ML4.1, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.09**	**325**	⇑*i*P		13 41 13.9	-0.3
KCP				*e*S		Sg 13 41 16.7	+0.5
BUKP	**Musuan**	**0.94**	**355**	*e*P		Pb 13 41 28.8	-0.7
BUKP				*e*S		Sg 13 41 43.8	+2.0
MATI	**Mati**	**1.11**	**89**	*e*P		Pb 13 41 31.6	-0.7
MATI				*e*S		Sb 13 41 47.5	+0.9

KRSC 29 13:46:43.2±0.5, 4916N×15553E, h5km±5km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.71**	**0**	P	Pn	13 47 14.5	+0.8
ALID				*i* S	Sn	13 47 37.9	+2.0
GRL	**Gorelyy**	**3.76**	**24**	P	Pn	13 47 42.5	+0.7
GRL				*i* S	Sn	13 48 25.7	-0.7
RUS	**Russkaya**	**3.78**	**29**	P	Pn	13 47 43.7	+1.5
RUS				*i* S	Sn	13 48 26.3	-0.8
AVH	**Avacha**	**4.58**	**25**	P	Pn	13 47 55.4	+2.3
GNL	**Ganaly**	**4.79**	**17**	P	Pn	13 47 57.9	+2.0

CSEM ***29*** *13:54:47.7±0.2, 3547N×372W, h30km, MD2.6, Error ellipse: s-maj=5.3km s-min=4.1km az=74.0*
ISCJB ***29*** *13:54:48.4±0.5, 3552N±003×375W±004, h25km±7km, Error ellipse: s-maj=6.3km s-min=4.7km az=86.2*
MDD ***29*** *13:54:49.4±0.7, 3553N×369W, h16km±9km, mb4.0/4, Error ellipse: s-maj=7.5km s-min=4.1km az=117.0, PRXIMO*
CNRM ***29*** *13:54:50.5, 3549N×365W, h15km, MD2.6*
ISC 29 13:54:48.8±0.6, 3552N±003×372W±004, h22km±8km, n19, σ1§01/36, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.35**	**212**	*i* P	**Pb**	**13 54 57.0**	**+0.7**
MPAL				*i* S	**Sb**	**13 55 02.0**	**+0.6**
TOU	**Touzarine**	**0.56**	**183**	*i* P	**Pb**	**13 55 01.0**	**+1.2**
TOU				*i* S	**Sb**	**13 55 08.0**	**+0.6**
EMEL	**Melilla**	**0.66**	**109**	P	**Pb**	**13 55 00.5**	**-1.1**
	14nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**13 55 10.1**	**-0.3**
	148nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.67**	**109**	P	**Pb**	**13 55 00.5**	**-1.2**
	14nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**13 55 10.1**	**-0.4**
	148nm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.70**	**53**	P	**Pb**	**13 55 01.4**	**-0.8**
	12nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**13 55 11.7**	**+0.3**
	18nm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.70**	**53**	P	**Pb**	**13 55 01.4**	**-0.8**
	12nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**13 55 11.7**	**+0.3**
	18nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**0.97**	**124**	*i* P	**Pb**	**13 55 05.5**	**-1.3**
ZAI				*i* S	**Sb**	**13 55 19.5**	**+0.3**
EGUA	**Guajares**	**1.32**	**5**	P	**Pn**	**13 55 11.0**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**13 55 30.1**	**+1.4**
	3.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.35**	**321**	P	**Pn**	**13 55 11.2**	**-1.0**
	1.7nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**13 55 28.5**	**-0.9**
	3.9nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.48**	**195**	P	**Pn**	**13 55 16.0**	**+2.0**
TZK				S	**Sn**	**13 55 31.5**	**-1.2**
EBER	**Berja**	**1.53**	**26**	S	**Sn**	**13 55 35.2**	**+1.3**
	6.7nm,0.7s,SNR=4.0						
EBER	**Berja**	**1.53**	**26**	S	**Sn**	**13 55 35.2**	**+1.2**
	6.7nm,0.7s,SNR=4.0						
EQUE	**Quentar**	**1.70**	**8**	P	**Pn**	**13 55 16.8**	**-0.2**
	0.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**13 55 38.5**	**+0.4**
	1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.34**	**13**	P	**Pn**	**13 55 27.9**	**+2.0**
	0.8nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**13 55 57.6**	**+3.7**
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.34**	**13**	P	**Pn**	**13 55 27.9**	**+2.1**
	0.8nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**13 55 57.6**	**+3.7**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.73**	**346**	P	**Pn**	**13 55 36.6**	**+5.4**
	1.1nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**13 56 03.8**	**+0.2**
	1.6nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.27**	**314**	P	**Pn**	**13 55 38.7**	**+0.1**
	0.0nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**13 56 15.6**	**-1.2**
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.27**	**314**	P	**Pn**	**13 55 38.7**	**+0.1**
	SNR=7.9						
EMIN				S	**Sn**	**13 56 15.6**	**-1.2**
	0.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.64**	**305**	P	**Pn**	**13 55 44.2**	**+0.5**
	0.6nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**13 56 24.7**	**-1.2**
	0.7nm,0.2s,SNR=7.9						

IDC ***29*** *14:20:24.8±1.8, 46.70N×150.62E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, MS2.2/1, Ms1 2.2/1, ms1mx2.2/34, Error ellipse: s-maj=65.6km s-min=30.0km az=82.0*
ISCJB ***29*** *14:20:29.9±1.3, 46.6N±002×1497E±03, h35km, mb3.6/4, Error ellipse: s-maj=36.3km s-min=20.9km az=86.8*
MOS ***29*** *14:20:29.8±0.4, 46.60N×149.73E, h33km, mb4.0/1, Error ellipse: s-maj=66.1km s-min=38.6km az=75.0*
ISC 29 14:20:31.9±1.3, 466N±02×1498E±03, h35km, n7, σ2§20/6, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.87**	**43**	*e*PN	**Pn**	**14 21 57.6**	**+1.3**
SONM	**Songino Array**	**29.22**	**289**	P	**P**	**14 26 32.6**	**+2.3**
	0.2nm,0.3s,mb3.3,baz=106,slow=11,SNR=2.2						
TGY	**Tagaytay City**	**40.41**	**226**	LR	LR	14 46 14.2	
	comp=Z,3.1nm,20.2s,baz=119,slow=38						
FINES	**FINESS Array B**	**63.19**	**333**	P	**P**	**14 30 55.2**	**-1.3**
	1.1nm,0.8s,mb4.1,baz=60,slow=8.2,SNR=4.8						
FINES	**FINESS Array B**	**63.19**	**333**	P	**P**	**14 30 55.2**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**67.62**	**340**	P	**P**	**14 31 23.4**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=27,slow=6.0,SNR=2.4						
ASAR	**Alice Springs**	**71.38**	**195**	P	**P**	**14 31 48.1**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=15,slow=5.7,SNR=9.9						

IGQ 29 14:20:55.4, 140S×8089W, h12km±6km, Mb4.1, Ms3.9, 5C-3D, Error ellipse: s-maj=9.9km s-min=3.6km az=9.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.39**	**25**	⇓P	Pg	14 21 03.4	+0.4
CHIS				S	Sg	14 21 08.1	0.0
JAMA	**Jama**	**1.32**	**31**	P	Pn	14 21 18.9	-0.7
JAMA				S	Sb	14 21 36.9	-0.1
MAG1	**Magdalena**	**1.73**	**40**	P	Pn	14 21 26.6	+1.4
IGUA	**Igualata**	**2.25**	**92**	P	Pn	14 21 34.8	+2.4
IGUA				S	Sn	14 22 01.6	+1.5
ARRY	**Arrayan**	**2.44**	**93**	⇑P	Pn	14 21 37.4	+2.5
ARRY				S	Sn	14 22 06.7	+2.1
RETU	**Refugio**	**2.44**	**91**	⇑P	Pn	14 21 38.1	+3.0
PATA	**Patacocha**	**2.46**	**92**	P	Pn	14 21 38.0	+2.8
RUN5	**Runtun**	**2.46**	**90**	P	Pn	14 21 38.4	+3.1
ULBA	**Ulba**	**2.48**	**91**	⇓P	Pn	14 21 38.6	+3.1
CAMI	**Rancho Maria**	**2.49**	**73**	P	Pn	14 21 39.3	+3.6
PISA	**Pisayambo**	**2.53**	**82**	P	Pn	14 21 41.4	+5.2
JUA2	**San Juan 2**	**2.57**	**63**	P	Pn	14 21 39.5	+2.7
JUA2				S	Sn	14 22 13.4	+5.4
PINO	**Pino**	**2.59**	**62**	⇓P	Pn	14 21 40.3	+3.2
GGP	**Refugio Guagua**	**2.60**	**62**	⇑P	Pn	14 21 39.3	+2.1
VC1	**Cotopaxi 1**	**2.60**	**73**	P	Pn	14 21 43.1	+5.9
TAMB	**Tambo**	**2.62**	**74**	P	Pn	14 21 41.1	+3.7
YANA	**Yana**	**2.65**	**61**	⇑P	Pn	14 21 39.9	+2.1
YANA				S	Sn	14 22 14.3	+4.5
ANTI	**Antisana**	**2.89**	**71**	P	Pn	14 21 45.8	+4.7
COTA	**Cotacachi**	**3.08**	**56**	P	Pn	14 21 48.4	+4.6
CAYA	**Cayambe**	**3.25**	**63**	⇑P	Pn	14 21 51.4	+5.3

IDC 29 14:43:59.6±2.0, 673S×12977E, h0km, mb3.9/1, mb1 3.5/4, mb1mx3.5/15, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=79.5km s-min=26.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.99**	**199**	Pn	Pn	14 46 53.2	+1.4
	0.2nm,0.3s,baz=43,slow=12,SNR=12						
FITZ				Sn	Sn	14 48 53.1	-13
	0.3nm,0.3s,baz=215,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**13.86**	**162**	Pn	Pn	14 47 16.6	-0.7
	0.2nm,0.3s,baz=340,slow=13,SNR=21						
WRA				Sn	Sn	14 49 38.5	-13
	0.4nm,0.3s,baz=332,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.30**	**167**	P	Pn	14 48 02.4	-0.1
	0.1nm,0.3s,baz=344,slow=8.8,SNR=11						
ASAR				S	Sn	14 51 01.9	-14
	0.1nm,0.3s,baz=282,slow=33,SNR=5.9						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	14 54 60.0	+0.2
	0.8nm,0.6s,baz=116,slow=8.2,SNR=14						

PRU ***29*** *14:50:59.1, 46.76N×93.0E, h0km*
CSEM ***29*** *14:51:00.8±0.1, 46.68N×96.4E, h15km, ML2.8/5, Error ellipse: s-maj=3.2km s-min=1.9km az=130.0*
VIE ***29*** *14:51:01.7±0.4, 46.72N×96.9E, h9km±3km, mb1.2/1, ML2.5/5, Error ellipse: s-maj=2.5km s-min=1.1km az=25.0 11 km NE of Tiefencastel*
ROM ***29*** *14:51:01.9±0.1, 46.67N×97.1E, h2km, Md2.1/5, Ml1.4/2, Error ellipse: s-maj=2.3km s-min=1.0km az=150.0*
ZUR 29 14:51:02.1, 4674N×966E, h4km±2km, ML1.9/11, 10C-10D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos**	**0.16**	**74**	⇑*i*Pg	Pg	14 51 05.5	+0.3
	2μm,0.3s						
DAVOX				*i* Sg	Sg	14 51 07.8	+0.5
	2μm,0.3s						
VDL	**Val di Lei**	**0.28**	**208**	⇑*i*Pg	Pg	14 51 08.2	+0.6
	250nm,0.2s						
TUE	**Stuetta**	**0.34**	**219**	⇑*i*Pg	Pg	14 51 09.0	+0.3
TUE				Sg	Sg	14 51 13.9	+0.7
	43nm,0.3s						
PLONS	**Plons**	**0.37**	**328**	*i* Sg	Pg	14 51 09.5	+0.3
	120nm,0.5s						
PLONS	**Plons**	**0.37**	**328**	⇓*i*Pg	Sg	14 51 14.5	+0.6
	120nm,0.5s						
BERNI	**Berninapass**	**0.41**	**142**	*i* Pg	Pg	14 51 10.3	+0.3
	156nm,0.2s						
FUORN	**Ofenpass**	**0.43**	**106**	⇑*i*Pg	Pg	14 51 10.6	+0.2
	170nm,0.3s						
FUORN				*e*Sg	Sg	14 51 16.7	+0.7
	170nm,0.3s						
LLS	**Linth-Limmern**	**0.46**	**284**	*i* Sg	Pg	14 51 11.2	+0.2
	76nm,0.3s						
LLS	**Linth-Limmern**	**0.46**	**284**	⇑*i*Pg	Sg	14 51 17.3	+0.3
	76nm,0.3s						
BRMO	**Bormio**	**0.56**	**118**	Pg	Pg	14 51 12.8	0.0
	16nm,0.3s						
DAVA	**Damuels**	**0.57**	**15**	⇑*i*Pg	Pg	14 51 13.1	+0.1
DAVA				⇓*i*Sg	Sg	14 51 21.5	+1.1
	comp=Z,29nm,0.2s						
FUSIO	**Fusio**	**0.74**	**248**	*e*P	Pg	14 51 13.9	-2.5
	103nm,0.1s						
FETA	**Feichten**	**0.79**	**68**	⇑*i*Pg	Pg	14 51 16.8	-0.4
FETA				⇓*i*Sg	Sg	14 51 27.3	-0.1
	5.7nm,0.1s						
BNALP	**Bannalp**	**0.86**	**279**	⇓*i*P	Pg	14 51 14.7	-3.9
	36nm,1.8s						
MUGIO	**Muggio**	**0.92**	**208**	⇑*i*P	Pg	14 51 16.5	-3.3
	71nm,0.3s						
VAI	**Varese**	**1.07**	**216**	Pg	Pg	14 51 22.8	+0.2
	14nm,0.2s						
MOTA	**Moosalm**	**1.16**	**58**	⇑*i*Pg	Pg	14 51 23.8	-0.5
MOTA				⇓*i*Sg	Sg	14 51 40.5	+1.2
	16nm,0.3s						
SQTA	**Sankt Quirin**	**1.16**	**65**	⇓*i*Pg	Pg	14 51 23.8	-0.6
SQTA				⇓*i*Sg	Sg	14 51 40.2	+0.6
	15nm,0.2s						
MMK	**Mattmark**	**1.36**	**240**	*e*P	Pn	14 51 18.8	-9.0
	36nm,0.6s						
WATA	**Walderalm**	**1.44**	**65**	⇓*i*Pg	Pg	14 51 29.5	-0.2
WATA				⇓*i*Sg	Sg	14 51 48.8	+0.4
	6.1nm,0.2s						
WTTA	**Wattenberg**	**1.45**	**68**	⇑*i*Pg	Pg	14 51 29.1	-0.8
WTTA				⇓*i*Sg	Sg	14 51 49.9	+1.2
	6.3nm,0.4s						
KHC	**Kasperske Hory**	**3.56**	**46**	*e*SN	Sn	14 52 38.6	-1.9

ISCJB ***29*** *15:03:05.7±0.7, 38.10N±003×2028E±003, h22km±6km, mb3.7/7, Error ellipse: s-maj=5.0km s-min=3.7km az=95.1*
ATH ***29*** *15:03:05.3, 3805N×2046E, h13km±1km, MD3.8/12, ML3.9*
IDC ***29*** *15:03:05.8±2.8, 3831N×2088E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, ML3.3/3, Error ellipse: s-maj=52.9km s-min=19.6km az=48.0*
CSEM ***29*** *15:03:05.6±0.1, 3822N×2041E, h15km, ML3.9, Error ellipse: s-maj=2.4km s-min=1.6km az=31.0*
PDG ***29*** *15:03:06.9±0.5, 3817N×2032E, h18km±2km*
THE ***29*** *15:03:07.9, 38.14N×2063E, h0km, ML3.5*
NEIC ***29*** *15:03:09.0, 38.14N×2054E, h10km, MD3.8(PDG), ML3.8(THE), ML3.9(ATH), After ATH.*
SKO ***29*** *15:03:12.5, 3854N×2067E, h2km*
ISC 29 15:03:06.3±0.6, 3810N±002×2038E±003, h12km±3km, n87, σ1§25/121, mb3.7/7, 4C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**66**	*e*PG	**Pg**	**15 03 09.7**	**-0.8**
VLS				*e*SG	**Sg**	**15 03 12.4**	**-0.9**
LKD	**Levkas**	**0.64**	**20**	*e*Pg	**Pg**	**15 03 18.2**	**-0.7**
LKD				*e*Sg	**Sg**	**15 03 27.9**	**+0.6**
LKD	**Levkas**	**0.64**	**20**	P	**Pg**	**15 03 18.2**	**-0.7**
LKD				S	**Sg**	**15 03 21.9**	**-5.4**
RLS	**Riolos of Patr**	**0.86**	**93**	*e*PG	**Pg**	**15 03 20.0**	**-3.0**
EVR	**Evrytania**	**1.39**	**54**	*e*PG	**Pn**	**15 03 30.8**	**-0.7**
EVR				*e*SB	**Sb**	**15 03 50.0**	**+0.2**
IGT	**Igoumenitsa**	**1.43**	**359**	*e*Pg	**Pg**	**15 03 32.6**	**-1.1**
IGT				*e*Sg	**Sg**	**15 03 55.9**	**+3.6**
ITM	**Ithomi**	**1.54**	**126**	*e*PB	**Pn**	**15 03 32.9**	**-0.6**
ITM				*e*SB	**Sb**	**15 03 52.4**	**-1.7**
JAN	**Janina**	**1.60**	**13**	*e*PG	**Pg**	**15 03 35.6**	**-1.4**
JAN				*e*SB	**Sb**	**15 03 57.9**	**+2.1**
KEK	**Kerkira**	**1.67**	**345**	*e*PN	**Pn**	**15 03 36.7**	**+1.4**
AGG	**Agios Georgios**	**1.79**	**58**	*e*Pg	**Pn**	**15 03 37.3**	**+0.3**
AGG				*e*Sg	**Sn**	**15 03 59.5**	**0.0**
AGG	**Agios Georgios**	**1.79**	**58**	P	**Pn**	**15 03 38.1**	**+1.1**
MEV	**Metsovon**	**1.81**	**21**	*e*Pg	**Pg**	**15 03 39.0**	**-2.1**
THL	**Klokotos Trika**	**1.94**	**41**	*e*PN	**Pn**	**15 03 40.3**	**+1.2**
THL				*e*SN	**Sn**	**15 04 05.5**	**+2.1**
LKR	**Lokris**	**2.13**	**74**	*e*PN	**Pn**	**15 03 41.6**	**-0.1**
KZN	**Kozani**	**2.46**	**26**	*e*PN	**Pn**	**15 03 47.7**	**+1.6**
VLI	**Veliai**	**2.46**	**123**	*e*PN	**Pn**	**15 03 46.9**	**+0.7**
NAIG	**Nisos Aigina**	**2.49**	**97**	*e*PN	**Pn**	**15 03 47.0**	**+0.5**
NEO	**Neokhori**	**2.53**	**61**	*e*PB	**Pn**	**15 03 47.5**	**+0.3**
XOR	**Xorichti**	**2.54**	**59**	*e*Pg	**Pn**	**15 03 47.9**	**+0.6**
XOR	**Xorichti**	**2.54**	**59**	P	**Pn**	**15 03 48.1**	**+0.8**
LIT	**Litokhoron**	**2.59**	**39**	*e*Pg	**Pn**	**15 03 48.5**	**+0.6**
ATH	**Athens Observa**	**2.64**	**92**	*e*PN	**Pn**	**15 03 49.7**	**+1.0**
KVR	**Kavouri**	**2.70**	**95**	*e*PB	**Pn**	**15 03 48.5**	**-0.9**
PTL	**Penteli**	**2.75**	**90**	*e*PN	**Pn**	**15 03 50.0**	**-0.2**
FNA	**Florina**	**2.79**	**16**	*e*Pg	**Pn**	**15 03 52.2**	**+1.5**
FNA				*e*Sg	**Sn**	**15 04 25.8**	**+1.6**
KYTH	**Kithira**	**2.80**	**130**	*e*PB	**Pn**	**15 03 51.5**	**+0.7**
AOS	**Alonnisos**	**2.94**	**68**	*e*Pg	**Pn**	**15 03 52.5**	**-0.4**
BIA	**Bitola**	**3.00**	**14**	*e*Pg	**Pn**	**15 03 56.4**	**+2.7**
BIA	**Bitola**	**3.00**	**14**	*e*Pn	**Pn**	**15 03 56.0**	**+2.3**
BIA	**Bitola**	**3.00**	**14**	*e*Pg	**Pn**	**15 03 56.4**	**+2.7**
OHR	**Ohrid**	**3.02**	**6**	*e*Pn	**Pn**	**15 03 55.7**	**+1.8**
OHR				*e*Sn	**Sn**	**15 04 26.9**	**-3.1**
OHR	**Ohrid**	**3.02**	**6**	*e*Pn	**Pn**	**15 03 55.7**	**+1.8**
OHR				*e*Sn	**Sn**	**15 04 26.9**	**-3.1**
OHR	**Ohrid**	**3.02**	**6**	*e*Pn	**Pn**	**15 03 55.7**	**+1.8**
OHR				*e*Sn	**Sn**	**15 04 26.9**	**-3.1**
TIP	**Timpagrande**	**3.03**	**292**	Pn	**Pn**	**15 03 56.8**	**+2.8**
PAIG	**Paliouri**	**3.15**	**54**	*e*Pg	**Pn**	**15 03 55.8**	**0.0**
GRG	**Griva**	**3.25**	**28**	*e*Pg	**Pn**	**15 03 57.3**	**+0.2**
HORT	**Hortiatis**	**3.27**	**39**	*e*Pg	**Pn**	**15 03 57.1**	**-0.2**
PLG	**Polygyros**	**3.29**	**45**	*e*PN	**Pn**	**15 03 58.0**	**+0.4**
KRUS	**Krusevo**	**3.33**	**11**	*e*Pn	**Pn**	**15 03 59.4**	**+1.2**
PE1	**Pezze di Greco**	**3.54**	**321**	*e*Pn	**Pn**	**15 04 02.9**	**+1.9**
SOH	**Sokhos**	**3.56**	**39**	*e*Pg	**Pn**	**15 04 02.3**	**+0.9**
SOH				*e*Sg	**Sn**	**15 04 43.6**	**+0.3**
VAY	**Valandovo**	**3.63**	**27**	*e*Pn	**Pn**	**15 04 03.0**	**+0.6**
VAY	**Valandovo**	**3.63**	**27**	*e*Pn	**Pn**	**15 04 03.0**	**+0.6**
VAY	**Valandovo**	**3.63**	**27**	*e*Pn	**Pn**	**15 04 02.9**	**+0.6**
SRS	**Serrai**	**3.90**	**39**	*e*Pg	**Pn**	**15 04 06.0**	**0.0**
ULC	**Ulcinj**	**3.95**	**348**	⇓*i*Pn	**Pn**	**15 04 06.8**	**+0.1**
ULC				*e*Sn	**Sn**	**15 04 52.0**	**-0.9**
SG1	**Sgolgore (BA)**	**3.96**	**315**	*e*Pn	**Pn**	**15 04 09.7**	**+2.9**
APE	**Apeiranthos**	**4.22**	**103**	*e*Pg	**Pn**	**15 04 11.6**	**+1.2**
HAVL	**Avola**	**4.33**	**256**	Pn	**Pn**	**15 04 11.5**	**-0.3**
BUM	**Brajici-Budva**	**4.34**	**345**	⇓*i*Pn	**Pn**	**15 04 12.4**	**+0.3**
BUM				*e*Sn	**Sn**	**15 05 02.7**	**+0.1**
TTG	**Podgorica**	**4.41**	**349**	⇓*i*Pn	**Pn**	**15 04 13.5**	**+0.6**
TTG				*e*Sn	**Sn**	**15 05 02.8**	**-1.3**
PZI	**Palazzolo**	**4.43**	**258**	Pn	**Pn**	**15 04 13.0**	**-0.3**
PVY	**Plav**	**4.50**	**356**	⇑*i*Pn	**Pn**	**15 04 16.4**	**+2.4**
PVY				*e*Sn	**Sn**	**15 05 06.4**	**-0.1**
HCY	**Herceg Novi**	**4.57**	**342**	⇓*i*Pn	**Pn**	**15 04 15.0**	**-0.2**
HCY				*e*Sn	**Sn**	**15 05 06.7**	**-1.6**
HVZN	**Vizzini**	**4.59**	**260**	Pn	**Pn**	**15 04 15.6**	**+0.2**
IDI	**Anoyia**	**4.59**	**126**	Pn	**Pn**	**15 04 14.1**	**-1.3**
	0.5nm,0.3s,baz=350,slow=9.0,SNR=4.1						
IDI				Sn	**Sn**	**15 05 06.4**	**-2.2**
	2.1nm,0.3s,baz=332,slow=24,SNR=8.0						
IVA	**Berane**	**4.78**	**356**	⇑*i*Pn	**Pn**	**15

NAH1	**Naha**	**1.30**	**1**	P	**Pn**	**15 08 05.8**	**-0.2**
NAH1				S	**Sn**	**15 08 22.2**	**0.0**
JKE	**Kume jima 2**	**1.63**	**331**	P	**Pn**	**15 08 10.9**	**+0.3**
JKE				*eS*	**Sn**	**15 08 31.2**	**+0.9**
JAGN	**Aguni-jima**	**1.73**	**347**	P	**Pn**	**15 08 12.4**	**+0.5**
JAGN				S	**Sn**	**15 08 33.0**	**+0.3**
JOW	**Kunigami**	**2.00**	**16**	Pn	**Pn**	**15 08 15.1**	**-0.7**
JOW	13nm,0.3s,baz=148,slow=16,SNR=21			Sn	**Sn**	**15 08 38.1**	**-1.4**
JOW	**Kunigami**	**2.00**	**16**	P	**Pn**	**15 08 15.2**	**-0.5**
JOW	33nm,0.3s,baz=124,slow=27,SNR=11			*eS*	**Sn**	**15 08 39.5**	**0.0**
JOGS	**Gusukube**	**2.06**	**267**	P	**Pn**	**15 08 16.9**	**+0.4**
JOGS				*eS*	**Sn**	**15 08 41.3**	**+0.3**
JIH	**Iheya**	**2.14**	**7**	P	**Pn**	**15 08 17.8**	**+0.1**
JIH				*eS*	**Sn**	**15 08 42.7**	**-0.3**
JMJ	**Miyako jima 2**	**2.16**	**268**	P	**Pn**	**15 08 18.3**	**+0.4**
JMJ				*eS*	**Sn**	**15 08 44.0**	**+0.6**
JTJ	**Tarama**	**2.71**	**265**	P	**Pn**	**15 08 25.3**	**-0.1**
JTJ				*eS*	**Sn**	**15 08 56.4**	**-0.6**
JTK	**Tokunoshima**	**3.10**	**22**	P	**Pn**	**15 08 30.7**	**-0.1**
JTK				*eS*	**Sn**	**15 09 05.0**	**-1.5**
JIJ	**Ishigaki jima**	**3.25**	**261**	P	**Pn**	**15 08 32.4**	**-0.5**
JIJ				*eS*	**Sn**	**15 09 08.1**	**-2.3**
JMZ	**Minamidaito 2**	**3.34**	**73**	P	**Pn**	**15 08 29.9**	**-4.2**
JMZ				*eS*	**Sn**	**15 09 05.7**	**-6.9**
JKRS	**Kuro-shima**	**3.40**	**260**	P	**Pn**	**15 08 34.9**	**0.0**
JKRS				*eS*	**Sn**	**15 09 13.4**	**-0.5**
IRIF	**Iriomote-Funau**	**3.63**	**262**	P	**Pn**	**15 08 38.7**	**+0.6**
IRIF				*eS*	**Sn**	**15 09 18.8**	**-0.8**
JAM	**Amami Oshima**	**3.90**	**26**	P	**Pn**	**15 08 41.6**	**-0.3**
JZK	**Kikaishima**	**3.98**	**31**	P	**Pn**	**15 08 42.9**	**0.0**
YOJ	**Yonaguni jima**	**4.26**	**265**	P	**Pn**	**15 08 47.1**	**+0.4**
MKAR	**Makanchi Array**	**42.05**	**313**	P	**P**	**15 15 33.6**	**+1.0**
	0.4nm,0.5s,mb3.3,baz=94,slow=9.7,SNR=6.7						
WRA	**Warramunga Arr**	**45.04**	**171**	P	**P**	**15 15 56.6**	**-0.1**
	0.8nm,0.5s,mb3.8,baz=352,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**48.65**	**172**	P	**P**	**15 16 25.3**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=355,slow=8.0,SNR=6.6						
FINES	**FINESS Array B**	**73.77**	**331**	P	**P**	**15 19 16.6**	**+1.6**
	1.4nm,0.7s,mb4.0,baz=51,slow=6.1,SNR=7.1						

*ISCJB **29** 15:26:44.4±3.1, 471N±0.1×1527E±02, h105km±28km, mb3.8/15, Error ellipse: s-maj=21.9km s-min=18.5km az=47.9*
*IDC **29** 15:26:45.4±3.9, 47.16N×15267E, h97km±35km, mb3.5/16, mb1 3.7/17, mb1mx3.6/26, mbtmp3.5/17, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=18.1km s-min=14.8km az=104.0*

ISC 29 15:26:46.6±2.6, 472N±01×1526E±02, h110km±24km, n20, σ0°80/18, mb3.8/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.66**	**250**	P	**Pn**	**15 28 35.8**	**+0.4**
	0.4nm,0.3s,baz=342,slow=9.8,SNR=3.3						
JHJ	**Hachijo jima 2**	**17.09**	**219**	LR	LR	15 35 54.5	
	comp=Z,485nm,21.7s,baz=29,slow=32						
KSRS	**Korea Array**	**20.61**	**251**	P	**P**	**15 31 15.9**	**-1.1**
	0.8nm,0.8s,baz=17,slow=13,SNR=3.2						
ZAL	**Zalesovo**	**42.10**	**305**	PcP	PcP	15 36 21.3	+0.9
	0.8nm,0.6s,baz=38,slow=4.7,SNR=4.9						
MKAR	**Makanchi Array**	**46.44**	**297**	P	**P**	**15 35 02.3**	**0.0**
	0.9nm,1.0s,mb3.5,baz=202,slow=34,SNR=2.9						
MKAR				PcP	PcP	15 36 35.1	-0.1
	0.4nm,0.5s,baz=67,slow=3.4,SNR=9.4						
YKA	**Yellowknife Ar**	**50.78**	**37**	P	**P**	**15 35 34.6**	**-1.0**
	0.4nm,0.5s,mb3.7,baz=298,slow=7.0,SNR=7.2						
PMG	**Port Moresby**	**56.54**	**186**	P	**P**	**15 36 17.3**	**-0.2**
	6.1nm,0.8s,mb4.7,baz=348,slow=21,SNR=2.5						
NVAR	**Mina Array Bea**	**62.54**	**62**	P	**P**	**15 36 59.0**	**+0.3**
	0.2nm,0.5s,mb3.3,baz=53,slow=42,SNR=2.5						
FINES	**FINESS Array B**	**63.50**	**334**	P	**P**	**15 37 04.8**	**-0.3**
	0.6nm,0.5s,mb3.7,baz=34,slow=7.6,SNR=6.5						
PDAR	**Pinedale Array**	**64.77**	**54**	P	**P**	**15 37 13.6**	**+0.2**
	0.7nm,0.8s,mb3.5,baz=270,slow=1.5,SNR=5.0						
NOA	**NORSAR Array B**	**67.71**	**341**	P	**P**	**15 37 31.6**	**-0.5**
	1.8nm,1.0s,mb3.9,baz=18,slow=8.8,SNR=2.4						
HFS	**Hagfors**	**67.93**	**339**	P	**P**	**15 37 33.0**	**-0.5**
	0.9nm,0.4s,mb4.0,baz=78,slow=7.7,SNR=7.4						
WRA	**Warramunga Arr**	**68.81**	**198**	P	**P**	**15 37 38.4**	**-0.6**
	0.2nm,0.5s,mb3.2,baz=16,slow=6.4,SNR=3.4						
AKASG	**Malin Array Be**	**71.00**	**326**	P	**P**	**15 37 52.1**	**-0.3**
	0.4nm,0.4s,mb3.6,baz=27,slow=5.6,SNR=4.5						
ASAR	**Alice Springs**	**72.51**	**198**	P	**P**	**15 38 02.4**	**+0.9**
	0.8nm,0.8s,mb3.6,baz=13,slow=6.2,SNR=9.5						
EKA	**Eskdalemuir Ar**	**75.84**	**346**	P	**P**	**15 38 22.4**	**+1.7**
	3.8nm,0.8s,mb4.2,baz=62,slow=46,SNR=5.0						
TXAR	**Lajitas Array**	**77.58**	**60**	P	**P**	**15 38 30.8**	**+0.2**
	baz=295,slow=4.7						
GERES	**GERESS Array B**	**77.92**	**334**	P	**P**	**15 38 32.9**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=18,slow=5.7,SNR=3.7						
MMAI	**Mount Meron Ar**	**82.27**	**311**	P	**P**	**15 38 57.6**	**+1.8**
	1.0nm,0.6s,mb3.8,baz=74,slow=6.2,SNR=3.2						
MDT	**Midelt**	**97.77**	**341**	P	**P**	**15 40 08.1**	**-1.2**
	1.0nm,0.8s,mb4.4,baz=242,slow=15,SNR=2.7						

MAN 29 15:42:00.3, 1702N×12157E, h51km, mb2.5, ML4.0, MS1.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.26**	**108**	*eP*	Pn	15 42 08.8	-0.3
CVP	**Callao Caves**	**0.72**	**20⇓**	*eP*	Pn	15 42 15.0	+0.7
CVP				*eS*	Sn	15 42 25.9	+1.4
PALP	**Palanan**	**0.82**	**87**	*eP*	Pn	15 42 16.9	+1.3
PALP	**Palanan**	**0.82**	**87**	*eP*	Pn	15 42 16.9	+1.3
PALP				*eS*	Sn	15 42 31.7	+4.9
ABRA	**Dolores**	**1.03**	**307**	*eP*	Pn	15 42 19.6	+1.2
ABRA				*eS*	Sn	15 42 33.3	+1.6
BALP	**Baler**	**1.27**	**180**	*eP*	Pn	15 42 22.3	+0.6
BALP				*eS*	Sn	15 42 39.2	+1.5

*ISCJB **29** 16:07:07.6±1.0, 2431S±006×669W±0.1, h182km±16km, mb3.3/2, Error ellipse: s-maj=17.2km s-min=9.3km az=5.3*
*IDC **29** 16:07:07.3±1.7, 2422S×6694W, h168km±17km, mb3.4/2, mb1 3.4/4, mb1mx3.3/15, mbtmp3.2/4, Error ellipse: s-maj=41.2km s-min=14.3km az=95.0*
*GUC **29** 16:07:11.5±0.7, 2437S×6739W, h200km, ML4.4*

ISC 29 16:07:08.5±0.9, 2431S±006×669W±01, h178km±15km, n12, σ1°18/14, mb3.3/2, 1C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.12**	**286**	⇓*iP*	**Pn**	**16 08 00.4**	**+1.9**
CEN1				*i* S	**Sn**	**16 08 37.4**	**-0.1**
CEN1				AML	AML	16 08 39.9	
	comp=N,499nm,0.4s						
CPN1	**Cerro Paranal**	**3.17**	**264**	*eP*	**Pn**	**16 08 00.7**	**+1.6**
CPN1				*i* S	**Sn**	**16 08 37.8**	**-0.8**
CPN1				AML	AML	16 08 39.9	
	comp=E,559nm,0.4s						
ANCH	**Antofagasta**	**3.24**	**280⇑**	*iP*	**Pn**	**16 08 00.9**	**+1.0**
ANCH				*i* S	**Sn**	**16 08 38.8**	**-1.1**
ANCH				AML	AML	16 08 41.4	
	comp=N,760nm,0.3s						
CDCH	**Caldera**	**4.46**	**231**	*i* S	**Sn**	**16 09 06.8**	**-0.9**
CFAA	**Coronel Fontan**	**7.36**	**189**	P	**Pn**	**16 08 55.4**	**+2.2**
	comp=N,0.1nm,0.3s,baz=25,slow=14,SNR=18						
CFAA				S	**Sn**	**16 10 14.9**	**-1.1**
	comp=N,0.1nm,0.3s,baz=260,slow=19,SNR=11						
LPAZ	**La Paz**	**8.06**	**352**	P	**Pn**	**16 09 02.5**	**0.0**
	comp=N,0.7nm,0.3s,baz=160,slow=9.7,SNR=14						
LPAZ				S	**Sn**	**16 10 27.8**	**-5.0**
	baz=247,slow=22,SNR=1.8						
SIV	**San Ignacio**	**9.94**	**35**	P	**Pn**	**16 09 25.5**	**-1.7**
	comp=N,0.1nm,0.3s,baz=222,slow=13,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.63**	**69**	P	**P**	**16 18 39.6**	**+0.2**
	comp=N,0.2nm,0.5s,mb3.0,baz=258,slow=5.8,SNR=4.8						
YKA	**Yellowknife Ar**	**94.44**	**340**	P	**P**	**16 20 07.6**	**-0.6**
	comp=N,0.2nm,0.5s,mb3.5,baz=131,slow=5.0,SNR=5.7						
WRA	**Warramunga Arr**	**131.38**	**207**	PKP	PKPdf	16 25 59.8	+0.3
	comp=N,0.1nm,0.4s,baz=158,slow=1.8,SNR=3.5						
FITZ	**Fitzroy Crossi**	**136.10**	**197**	PKP	PKPdf	16 26 08.6	+0.2
	comp=N,1.9nm,0.9s,baz=214,slow=0.3,SNR=2.6						
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc	PKPbc	16 26 28.3	-1.0
	comp=N,1.0nm,0.6s,baz=317,slow=2.6,SNR=14						

*ISCJB **29** 16:16:38.6±4.9, 115S±0.1×1650E±02, h29km±33km, mb3.9/6, MS3.7/3, Error ellipse: s-maj=35.6km s-min=15.5km az=107.2*
*NEIC **29** 16:16:41.6±2.1, 1137S×16499E, h40km±16km, mb4.5/1, Error ellipse: s-maj=27.0km s-min=14.0km az=58.0*
*IDC **29** 16:16:42.2±3.8, 1138S×16497E, h45km±31km, mb3.7/6, mb1 4.0/9, mb1mx3.9/17, mbtmp4.0/9, ML4.9/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/30, Error ellipse: s-maj=38.0km s-min=24.8km az=72.0*

ISC 29 16:16:41.8±2.1, 114S±01×1650E±02, h39km±16km, n15, σ0°29/11, mb3.9/6, MS3.7/3, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.32**	**291**	P	**Pn**	**16 17 58.5**	**-0.1**
	62nm,0.3s,baz=104,slow=3.8,SNR=52						
HNR				LR	LR	16 19 43.5	
	comp=Z,198nm,19.9s,baz=177,slow=34						
DZM	**Mont Dzumac**	**10.70**	**173**	P	**Pn**	**16 19 12.8**	**+0.4**
	5.7nm,0.3s,baz=264,slow=23,SNR=21						
DZM				LR	LR	16 23 04.9	
	comp=Z,248nm,18.2s,baz=32,slow=36						
NOUC	**Port Laguerre**	**10.71**	**173**	*eP*	**Pn**	**16 19 12.2**	**-0.4**
PMG	**Port Moresby**	**17.63**	**275**	LR	LR	16 26 48.5	
	comp=Z,178nm,19.8s,baz=287,slow=34						
CTA	**Charters Tower**	**19.96**	**242**	P	**Pn**	**16 21 12.8**	**+0.4**
	0.1nm,0.3s,baz=59,slow=10,SNR=3.4						
CTA				LR	LR	16 27 17.0	
	comp=Z,71nm,20.3s,baz=57,slow=32						
AFI	**Afiamalu**	**22.82**	**99**	LR	LR	16 28 14.8	
	comp=Z,142nm,20.6s,MS3.4,baz=55,slow=30						
STKA	**Stephens Creek**	**29.66**	**223**	P	**P**	**16 22 44.1**	**+0.4**
	2.7nm,0.7s,mb4.1,baz=52,slow=9.8,SNR=6.5						
STKA	**Stephens Creek**	**29.66**	**223**	*eP*	**P**	**16 22 43.2**	**-0.4**
WRA	**Warramunga Arr**	**30.65**	**250**	P	**P**	**16 22 52.2**	**-0.1**
	1.4nm,0.7s,mb3.9,baz=81,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**31.95**	**243**	P	**P**	**16 23 03.5**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=64,slow=9.9,SNR=18						
ASAR				PcP	PcP	16 25 52.2	-1.2
	0.5nm,0.8s,baz=61,slow=2.8,SNR=5.8						
RPZ	**Rata Peaks**	**32.62**	**172**	LR	LR	16 33 33.1	
	comp=Z,488nm,19.7s,MS4.2,baz=313,slow=31						
RAR	**Rarotonga**	**35.14**	**111**	LR	LR	16 34 29.8	
	comp=Z,100nm,18.4s,MS3.6,baz=358,slow=30						
VNDA	**Vanda**	**66.12**	**181**	P	**P**	**16 27 24.9**	**-0.1**
	1.9nm,0.9s,mb4.1,baz=16,slow=7.5,SNR=3.7						
SONM	**Songino Array**	**78.51**	**324**	P	**P**	**16 28 39.0**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=111,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**93.26**	**317**	P	**P**	**16 29 52.4**	**+0.1**
	0.9nm,0.9s,mb4.2,baz=99,slow=5.9,SNR=4.8						

MEX 29 16:28:52.6±0.5, 1750N×10124W, h31km±4km, MD3.9, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.24**	**296⇑**	*iP*	Pb	16 28 58.2	-1.2
ZIIG				*i* S	Sb	16 29 02.1	-1.9
CAIG	**El Cayaco**	**1.03**	**116**	*i P*	Pn	16 29 08.9	-2.0
CAIG				*i* S	Sn	16 29 21.1	-3.2
MEIG	**Mezcala**	**1.60**	**74**	*eP*	Pn	16 29 16.8	-2.0
MEIG				*i* S	Sn	16 29 35.2	-3.1
PLIG	**Platanillo**	**1.88**	**62**	*i P*	Pn	16 29 20.9	-1.6
PLIG				*i* S	Sn	16 29 43.0	-2.1
MMIG	**Aquila**	**2.15**	**292**	*eP*	Pn	16 29 24.3	-2.0
MMIG				*i* S	Sn	16 29 49.1	-2.9
MOIG	**Morelia**	**2.17**	**1**	*i P*	Pn	16 29 25.7	-0.8
MOIG				*i* S	Sn	16 29 50.2	-2.1
PPM	**Popocatepetl**	**2.93**	**58**	*eP*	Pn	16 29 35.8	-1.3
PPM				*i* S	Sn	16 30 08.6	-2.5

*ISCJB **29** 16:31:13.6±1.6, 268S±01×1797E±02, h543km±41km, mb3.9/3, Error ellipse: s-maj=29.3km s-min=15.8km az=19.6*
*IDC **29** 16:31:13.8±2.6, 2658S×17965E, h524km±53km, mb3.2/3, mb1 3.4/6, mb1mx3.2/15, mbtmp3.3/6, Error ellipse: s-maj=52.1km s-min=32.9km az=114.0*
*NEIC **29** 16:31:13.5±1.1, 2674S×17973E, h534km±26km, mb4.9/1, Error ellipse: s-maj=24.9km s-min=16.1km az=108.0*

ISC 29 16:31:13.3±1.3, 268S±01×1798E±02, h524km±34km, n7, σ1°32/8, mb3.9/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.61**	**190**	P	**P**	**16 33 49.6**	**+2.1**
	2.5nm,0.3s,baz=353,slow=1.7,SNR=20						
URZ				S	**S**	**16 35 53.6**	**-1.0**
	0.4nm,0.3s,baz=142,slow=21,SNR=6.2						
DZM	**Mont Dzumac**	**13.02**	**289**	P	**P**	**16 34 02.0**	**-0.3**
	0.4nm,0.3s,baz=109,slow=17,SNR=3.3						
SNZO	**South Karori**	**15.03**	**195**	P	**P**	**16 34 22.8**	**-0.5**
AFI	**Afiamalu**	**15.10**	**33**	P	**P**	**16 34 23.8**	**-0.3**
	1.5nm,0.3s,baz=2.3,slow=20,SNR=4.1						
STKA	**Stephens Creek**	**33.52**	**252**	P	**P**	**16 37 10.0**	**+0.9**
	1.7nm,0.4s,mb3.9,baz=104,slow=11,SNR=12						
ASAR	**Alice Springs**	**41.42**	**264**	P	**P**	**16 38 14.2**	**+0.4**
	3.9nm,1.0s,mb3.9,baz=96,slow=7.4,SNR=2.6						
WRA	**Warramunga Arr**	**42.07**	**269**	P	**P**	**16 38 17.9**	**-0.9**
	1.5nm,0.5s,mb3.7,baz=103,slow=8.6,SNR=6.7						

*ISCJB **29** 16:31:34.7±0.3, 375S±004×15193E±006, h10km, mb4.7/38, MS4.4/24, Error ellipse: s-maj=9.2km s-min=5.6km az=159.0*
*IDC **29** 16:31:36.0±2.5, 374S×15171E, h9km±14km, mb4.3/14, mb1 4.4/17, mb1mx4.3/21, mbtmp4.3/17, ML3.3/3, MS4.3/22, Ms1 4.3/22, ms1mx4.2/26, Error ellipse: s-maj=13.7km s-min=11.5km az=80.0*
*NEIC **29** 16:31:40.1±1.9, 373S×15190E, h36km±18km, mb5.0/26, MS4.4/1, Error ellipse: s-maj=12.7km s-min=10.7km az=78.0*
*GCMT **29** 16:31:40.1±0.2, 372S×15203E, h12km, MW5.1/78, Moment Tensor Solution. s29,c41; s78,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.12; $M_{\theta\theta}$5.29±.09; $M_{\phi\phi}$-4.82±.12; $M_{r\theta}$1.10±.29; $M_{\theta\phi}$0.31±.10; $M_{\phi r}$-1.25±.34; Best double couple: $M_0$5.34000×10^{16} NP1:ϕ_s44.00000°, δ72.00000°, λ-176.00000°. NP2: ϕ_s313.00000°, δ86.00000°, λ-19.00000°. Principal axes: T 5.4930, Plg10.0000°, Azm360.0000°; N -0.3090, Plg71.0000°, Azm122.0000°; P -5.1860, Plg16.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **29** 16:31:43.2, 303S×15152E, h36km, mB5.2, mb4.7, Ms4.7, Msz4.4*

ISC 29 16:31:37.3±2.1, 372S±004×15190E±007, h15km±13km, n79, σ1°45/78, mb4.7/38, MS4.4/24, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.35**	**220**	Pn	**Pn**	**16 33 22.5**	**-1.6**
	0.2nm,0.3s,baz=199,slow=22,SNR=1.6						
PMG				Sn	**Sn**	**16 34 43.0**	**-4.3**
	baz=24,slow=22,SNR=1.0						
PMG				LR	LR	16 36 09.4	
	comp=Z,2μm,21.7s,baz=37,slow=38						
PMG	**Port Moresby**	**7.35**	**220**	*e*Pn	**Pn**	**16 33 25.3**	**+1.2**
	433nm,1.1s						
PMG				*e*Sn	**Sn**	**16 34 36.4**	**-11**
HNR	**Honiara**	**9.80**	**126**	Pn	**Pn**	**16 33 58.2**	**+0.6**
	1.5nm,0.3s,baz=269,slow=18,SNR=2.2						
CTA	**Charters Tower**	**17.17**	**198**	*eP*	**Pn**	**16 35 39.2**	**+2.5**
	16nm,0.9s						
CTA				*e*S	**Sn**	**16 38 55.0**	**+7.6**
CTA	**Charters Tower**	**17.17**	**198**	P	**Pn**	**16 35 36.8**	**+0.1**
	0.5nm,0.3s,baz=24,slow=11,SNR=8.5						
CTA				S	**Sn**	**16 38 47.6**	**+0.2**
	0.1nm,0.3s,baz=55,slow=18,SNR=1.8						
CTA	**Charters Tower**	**17.17**	**198**	LR	LR	16 47 13.2	
	comp=Z,160nm,20.1s,baz=121,slow=30						
CTAO	**Charters Tower**	**17.17**	**198**	*e*Pn	**Pn**	**16 35 38.9**	**+2.2**
	57nm,1.4s						
GUMO	**Guam**	**18.56**	**338**	S	**Sn**	**16 39 19.9**	**-1.1**
	3.6nm,0.3s,baz=212,slow=23,SNR=1.6						
GUMO				LR	LR	16 41 53.6	
	comp=Z,394nm,18.6s,baz=292,slow=33						
KAKA	**Kakadu**	**21.21**	**244⇑**	*iP*	**P**	**16 36 23.6**	**+1.1**
	27nm,1.0s,mb4.5						
NOUC	**Port Laguerre**	**23.00**	**144**	*eP*	**P**	**16 36 39.9**	**-1.6**
DZM	**Mont Dzumac**	**23.06**	**144**	P	**P**	**16 36 42.1**	**0.0**
	17nm,0.6s,mb4.6,baz=334,slow=16,SNR=18						
DZM				S	**S**	**16 40 56.1**	**+3.7**
	2.5nm,0.7s,baz=143,slow=22,SNR=2.3						
DZM				LR	LR	16 44 24.5	
	comp=Z,806nm,21.2s,MS4.1,baz=225,slow=33						
WB2	**Warramunga Arr**	**23.51**	**225**	*eP*	**P**	**16 36 45.1**	**-1.8**
WRA	**Warramunga Arr**	**23.52**	**225**	P	**P**	**16 36 45.0**	**-2.0**
	12nm,0.9s,mb4.3,baz=49,slow=9.6,SNR=39						
WRA				S	**S**	**16 40 59.3**	**-0.7**
	3.1nm,1.3s,baz=50,slow=18,SNR=2.5						
WRA				LR	LR	16 45 47.5	
	comp=Z,216nm,20.5s,MS3.6,baz=45,slow=36						
ASAR	**Alice Springs**	**26.37**	**220**	P	**P**	**16 37 11.3**	**-1.5**
	3.3nm,0.9s,mb3.9,baz=53,slow=8.9,SNR=35						
ARMA	**Armidale**	**26.55**	**181**	⇓*iP*	**P**	**16 37 14.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**29.42**	**239**	P	**P**	**16 37 38.8**	**-1.3**
	1.3nm,0.6s,mb3.8,baz=99,slow=16,SNR=2.4						
FITZ				S	**S**	**16 42 31.4**	**-2.1**
	1.4nm,0.8s,baz=326,slow=19,SNR=2.0						
STKA	**Stephens Creek**	**29.64**	**198**	*eP*	**P**	**16 37 45.6**	**+3.5**
	3.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**29.64**	**198**	P	**P**	**16 37 41.8**	**-0.2**
	4.6nm,0.7s,mb4.3,baz=44,slow=8.1,SNR=2.8						
STKA				S	**S**	**16 42 38.9**	**+1.9**
	3.6nm,1.1s,baz=231,slow=23,SNR=1.7						
STKA				LR	LR	16 49 17.4	
	comp=Z,865nm,20.8s,MS4.4,baz=270,slow=36						
STKA	**Stephens Creek**	**29.64**	**198**	P	**P**	**16 37 42.1**	**0.0**
CBIJ	**Chichi jima**	**32.04**	**344**	LR	LR	16 49 05.8	
	comp=Z,1μm,20.7s,MS4.5,baz=237,slow=33						
AFI	**Afiamalu**	**37.23**	**108**	LR	LR	16 51 07.4	
	comp=Z,689nm,20.9s,MS4.4,baz=278,slow=31						
JHJ	**Hachijo jima 2**	**38.40**	**344**	LR	LR	16 53 08.3	
	comp=Z,407nm,18.0s,MS4.3,baz=112,slow=34						
TAU	**Tasmania Unive**	**39.23**	**185**	P	**P**	**16 39 05.5**	**+0.4**
	40nm,1.2s,mb5.0						
URZ	**Urewera**	**41.36**	**150**	P	**P**	**16 39 22.8**	**+0.2**
	8.2nm,0.7s,mb4.5,baz=162,slow=8.2,SNR=3.4						
URZ				LR	LR	16 54 32.2	
	comp=Z,263nm,19.0s,MS4.1,baz=354,slow=33						
JNU	**Nakatsue**	**41.70**	**333**	P	**P**	**16 39 22.9**	**-2.5**
	15nm,0.9s,mb4.6,baz=248,slow=20,SNR=2.2						
MJAR	**Matsushiro Art**	**42.05**	**343**	LR	LR	16 55 48.5	
	comp=Z,326nm,19.3s,MS4.2,baz=175,slow=35						
RPZ	**Rata Peaks**	**43.29**	**160**	LR	LR	16 55 06.9	
	comp=Z,1μm,21.8s,MS4.8,baz=323,slow=33						
NWAO	**Narrogin (SRO)**	**43.52**	**224**	LR	LR	16 59 12.0	
	comp=Z,715nm,18.1s,MS4.6,baz=62,slow=38						
SSE	**Sheshan**	**45.34**	**322**	P	**P**	**16 39 52.8**	**-2.0**
SSE				S	**S**	**16 46 29.0**	**-6.0**
SSE				XS	sS	16 46 44.5	+1.7
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,301nm,5.2s						
SSE				LR	LR		
	comp=N,174nm,25.7s,MS4.1						
SSE				LR	LR		
	comp=E,202nm,26.4s,MS4.1						
SSE				LR	LR		
	comp=Z,211nm,23.1s,MS4.0						
SSE	**Sheshan**	**45.34**	**322**	P	**P**	**16 39 52.7**	**-2.1**
	comp=Z,40nm,0.7s,mb5.4						
SSE				S	**S**	**16 46 29.0**	**-6.0**
SSE				sS	sS	16 46 44.4	+1.6
SSE				LR	LR		
	comp=Z,210nm,23.1s,MS4.0						
KSRS	**Korea Array**	**46.64**	**334**	P	**P**	**16 40 04.3**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=157,slow=8.5,SNR=6.8						
KSRS				LR	LR	16 58 22.4	
	comp=Z,291nm,19.8s,MS4.2,baz=358,slow=34						
INCN	**Inchon**	**47.25**	**332**	*eP*	**P**	**16 40 10.3**	**+0.5**
	comp=Z,39nm,1.0s,mb5.3						
RAR	**Rarotonga**	**50.04**	**115**	LR	LR	16 56 38.8	
	comp=Z,208nm,19.0s,MS4.2,baz=346,slow=30						
ENH	**Enshi**	**52.77**	**313**	P	**P**	**16 40 48.7**	**-3.0**
CN2	**Changchun**	**52.95**	**336**	*eP*	**P**	**16 40 56.3**	**+3.2**
BJT	**Baijiatuau**	**54.49**	**327**	P	**P**	**16 41 02.8**	**-1.6**
BJI	**Beijing**	**54.50**	**327**	P	**P**	**16 41 02.5**	**-1.9**
BJI				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.5						
BJI				AMB	AMB		
	comp=Z,279nm,5.5s						
BJI				LR	LR		
	comp=N,325nm,14.2s,MS4.7						
BJI				LR	LR		
	comp=E,332nm,14.2s,MS4.7						
BJI				LR	LR		
	comp=Z,403nm,23.4s						
BJI	**Beijing**	**54.50**	**327**	P	**P**	**16 41 02.4**

comp=Z,82nm,1.3s,mb5.5
GKN Gorkha 71.89 301 *e*P P **16 43 01.7 +2.0**
comp=Z,69nm,1.2s,mb5.5
KOLN Koldanda 72.72 300 *e*P P **16 43 07.1 +2.4**
comp=Z,31nm,0.9s,mb5.2
VNDA Vanda 73.93 178 P P **16 43 14.4 +2.6**
comp=Z,2.6nm,0.9s,mb4.2,baz=296,slow=6.6,SNR=5.8
VNDA LR LR 17 13 24.4
comp=Z,149nm,18.0s,MS4.3,baz=339,slow=34
VNDA Vanda 73.93 178 P P **16 43 10.9 -0.9**
comp=Z,4.0nm,1.0s,mb4.3
VNDA LR LR 17 13 24.4
HYB Hyderabad 75.30 289 *i* P P **16 43 22.0 +2.2**
HYB Hyderabad 75.30 289 *e*P P **16 43 22.0 +2.2**
TIXI Tiksi 76.72 353 P P **16 43 35.1 +7.2**
comp=Z,15nm,1.5s,mb4.7
MK31 Makanchi Array 78.93 319 P P **16 43 40.1 -0.1**
MKAR Makanchi Array 78.93 319 P P **16 43 39.6 -0.5**
comp=Z,1.8nm,1.0s,mb4.0,baz=88,slow=7.5,SNR=5.8
MKAR LR LR 17 17 52.9
comp=Z,132nm,18.5s,MS4.3,baz=99,slow=35
IMA2 Indian Mountai 79.74 20 P P **16 43 44.7 +0.1**
ZAL Zalesovo 79.77 326 P P **16 43 44.1 -0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=348,slow=8.2,SNR=8.5
ZAL LR LR 17 18 04.8
comp=Z,218nm,20.9s,MS4.5,baz=356,slow=35
KURK Kurchatov 82.37 322 P P **16 43 58.6 0.0**
comp=Z,7.6nm,1.1s,mb4.5
AAK Ala-Archa 83.28 314 *e*P P **16 44 03.8 +0.4**
comp=Z,3.3nm,1.0s,mb4.3
MAW Mawson 86.22 203 P P **16 44 16.4 -1.8**
comp=Z,2.0nm,0.8s,mb4.4,baz=121,slow=6.4,SNR=4.1
MAW LR LR 17 19 25.5
comp=Z,264nm,20.0s,MS4.6,baz=73,slow=33
MAW Mawson 86.22 203 P P **16 44 13.7 -4.4**
comp=Z,11nm,1.2s,mb5.0
INK Inuvik 87.78 21 P P **16 44 25.2 -0.5**
comp=Z,3.7nm,0.8s,mb4.6,baz=227,slow=6.2,SNR=9.1
BRVK Borovoye 87.91 323 *e*P P **16 44 26.3 -0.1**
comp=Z,4.0nm,0.8s,mb4.7
YKA Yellowknife Ar 94.89 28 P P **16 44 58.3 -0.5**
comp=Z,0.6nm,0.8s,mb4.1,baz=269,slow=4.1,SNR=3.7
YKA LR LR 17 21 02.6
comp=Z,147nm,21.0s,MS4.4,baz=315,slow=31
YKA Yellowknife Ar 94.89 28 P P **16 44 58.3 -0.5**
YKA LR LR 17 21 02.5
PDAR Pinedale Array 98.79 47 LR LR 17 23 30.2
comp=Z,201nm,21.7s,MS4.6,baz=113,slow=32
TOA0 Torodi Ar. Sit 149.11 289 *e*PKPbc PKPbc 16 51 25.2 +0.2
TORD Torodi Ar. Bea 149.11 289 PKPbc PKPbc 16 51 25.6 +0.6
comp=Z,0.5nm,0.7s,baz=5.7,slow=1.4,SNR=3.8

IDC 29 16:38:36.7±3.7,356S×15117E,h0km,mb3.5/4,mb1 3.7/5, mb1mx3.6/15,mbtmp3.5/5,ML2.4/1,MS3.5/1,Ms1 3.5/1, ms1mx3.1/17,Error ellipse: s-maj=128.3km s-min=23.6km az=105.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.04**	**214**	Pn	Pn	16 40 23.1	+2.0
	0.4nm,0.3s,baz=328,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**23.12**	**224**	P	P	16 43 44.7	+0.3
	3.5nm,0.8s,baz=49,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**26.03**	**218**	P	P	16 44 10.5	-1.1
	0.5nm,1.0s,baz=56,slow=8.4,SNR=3.3						
SONM	**Songino Array**	**64.42**	**328**	P	P	16 49 14.7	0.0
	0.5nm,0.7s,baz=132,slow=6.9,SNR=2.8						
ZAL	**Zalesovo**	**79.24**	**327**	P	P	16 50 43.4	-0.4
	0.5nm,0.5s,baz=59,slow=14,SNR=2.2						
TORD	**Torodi Ar. Bea**	**148.37**	**289**	PKPbc	PKPbc	16 58 27.3	+2.2
	0.7nm,0.9s,baz=34,slow=2.6,SNR=3.3						

*ISCJB **29** 16:47:59.8±2.3,2228S±009×1776W±02,h226km±31km, mb3.7/6,Error ellipse: s-maj=28.1km s-min=13.1km az=29.4*
*IDC **29** 16:48:03.1±3.3,2214S×17749W,h252km±34km,mb3.3/5, mb1 3.6/7,mb1mx3.4/16,mbtmp3.4/7,Error ellipse: s-maj=42.4km s-min=18.0km az=147.0*
*NEIC **29** 16:48:03.0±2.2,2200S×17758W,h253km±25km,mb4.6/1, Error ellipse: s-maj=28.2km s-min=17.3km az=134.0*

ISC 29 16:48:02.0±2.3,221S±01×1776W±02,h229km±31km,n14, σ0§92/14,mb3.7/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.84**	**35**	P	**Pn**	**16 50 18.8**	**+0.1**
	2.3nm,0.3s,baz=183,slow=23,SNR=7.5						
AFI				S	**S**	**16 51 58.1**	**-11**
	1.4nm,0.3s,baz=239,slow=23,SNR=2.5						
AFI	**Afiamalu**	**9.84**	**35**	P	**Pn**	**16 50 18.8**	**+0.1**
AFI				*e*S	**S**	**16 51 57.6**	**-12**
URZ	**Urewera**	**16.75**	**195**	P	**P**	**16 51 42.2**	**0.0**
	1.6nm,0.3s,baz=91,slow=2.4,SNR=12						
URZ				S	**S**	**16 54 36.1**	**-9.1**
	0.9nm,0.3s,baz=334,slow=22,SNR=4.1						
HNR	**Honiara**	**24.95**	**297**	P	**P**	**16 53 01.2**	**-3.2**
CTA	**Charters Tower**	**33.73**	**267**	P	**P**	**16 54 23.2**	**+1.4**
	2.1nm,0.7s,mb3.8,baz=86,slow=16,SNR=4.3						
CTA	**Charters Tower**	**33.73**	**267**	P	**P**	**16 54 23.2**	**+1.4**
PMG	**Port Moresby**	**36.08**	**285**	P	**P**	**16 54 42.4**	**+0.7**
	24nm,1.2s,mb4.6						
STKA	**Stephens Creek**	**37.46**	**246**	P	**P**	**16 54 52.4**	**-1.0**
	0.6nm,0.4s,mb3.5,baz=104,slow=8.7,SNR=5.2						
ASAR	**Alice Springs**	**44.53**	**258**	P	**P**	**16 55 51.2**	**+0.3**
	1.6nm,0.7s,mb3.5,baz=97,slow=7.6,SNR=32						
WRA	**Warramunga Arr**	**44.77**	**264**	P	**P**	**16 55 52.6**	**-0.2**
	0.6nm,0.3s,mb3.5,baz=96,slow=8.2,SNR=19						
PDAR	**Pinedale Array**	**89.86**	**43**	P	**P**	**17 00 34.8**	**0.0**
	0.3nm,0.7s,mb3.3,baz=256,slow=5.5,SNR=2.7						
ARCES	**ARCESS Array B**	**130.54**	**350**	PKP	PKPdf	17 06 41.9	-3.4
	3.3nm,0.8s,baz=41,slow=2.9,SNR=5.5						
AKASG	**Malin Array Be**	**144.57**	**330**	PKP	PKPdf	17 07 07.0	-4.0
	0.7nm,0.4s,baz=42,slow=4.2,SNR=8.1						
AKASG	**Malin Array Be**	**144.57**	**330**	PKP	PKPdf	17 07 07.0	-4.0

*NEIC **29** 17:37:26.1±0.6,4670N×15368E,h10km,mb4.5/13,Error ellipse: s-maj=17.3km s-min=11.1km az=150.0*
*SZGRF **29** 17:37:29.5,4618N×15426E,h33km,mb4.2,East of Kuril Islands, Russia*
*MOS **29** 17:37:31.1±1.8,4665N×15383E,h67km,mb4.4/8,Error ellipse: s-maj=11.8km s-min=9.3km az=80.4*
*IDC **29** 17:37:33.0±4.6,4660N×15359E,h68km±41km,mb3.7/14, mb1 3.9/15,mb1mx3.8/24,mbtmp3.7/15,ML3.6/1,Error ellipse: s-maj=21.3km s-min=17.0km az=100.0*
*ISCJB **29** 17:37:35.3±1.6,4666N±009×1537E±01,h103km±13km, mb4.2/26,Error ellipse: s-maj=18.1km s-min=10.6km az=96.1*

ISC 29 17:37:34.0±1.5,4665N±009×1538E±01,h75km±12km,n55, σ1§32/57,mb4.2/26,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.33**	**20**	*e*PN	**Pn**	**17 38 31.5**	**-5.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**4.34**	**253**	⇓*i*PN	**Pn**	**17 38 40.4**	**+2.9**
KUR				*e*S	**Sn**	**17 39 31.0**	**+4.2**
KUR				pmax	pmax		
	comp=Z,280nm,1.0s						
KUR				smax			
	comp=N,430nm,0.9s						
KUR				smax			
	comp=E,260nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.55**	**276**	*e*PN	**Pn**	**17 39 23.0**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.55**	**276**	Pn	**Pn**	**17 39 21.0**	**-0.3**
ASAJ	**Asahikawa**	**8.25**	**256**	P	**Pn**	**17 39 28.2**	**-2.6**
	comp=E,0.8nm,0.3s,baz=355,slow=32,SNR=5.9						
ASAJ	**Asahikawa**	**8.25**	**256**	PN	**Pn**	**17 39 28.3**	**-2.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.89**	**242**	*e*PN	**Pn**	**17 39 37.8**	**-1.8**
HABR	**Khabarovsk**	**12.77**	**285**	*e*PN	**Pn**	**17 40 33.8**	**+1.4**
HABR				*e*S	**Sn**	**17 42 58.6**	**+6.1**
MJAR	**Matsushiro Arr**	**15.37**	**234**	P	**Pn**	**17 41 07.9**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=51,slow=45,SNR=5.0						
SEY	**Seymchan**	**16.34**	**358**	*e*P	**Pn**	**17 41 20.2**	**+1.6**
KSRS	**Korea Array**	**21.19**	**254**	P	**P**	**17 42 12.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=58,slow=9.3,SNR=6.3						
BILL	**Bilibino**	**22.39**	**12**	*e*P	**P**	**17 42 25.2**	**-0.8**
BILL	**Bilibino**	**22.39**	**12**	P	**P**	**17 42 22.3**	**-3.8**
	comp=Z,3.0nm,0.7s,mb3.7						
SML	**Sawmill**	**35.74**	**44**	P	**P**	**17 44 25.1**	**-0.3**
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**	**17 45 58.7**	**-1.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=69,slow=8.2,SNR=20						
MKAR	**Makanchi Array**	**47.38**	**298**	*i* P	**P**	**17 45 59.0**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**	**17 45 58.7**	**-1.8**
KURK	**Kurchatov**	**47.79**	**304**	*e*P	**P**	**17 46 01.7**	**-1.9**
KURK	**Kurchatov**	**47.79**	**304**	*e*P	**P**	**17 46 00.4**	**-3.2**
	comp=Z,2.3nm,0.7s,mb4.1						
LSA	**Lhasa**	**50.72**	**274**	*e*P	**P**	**17 46 27.3**	**+1.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.72**	**274**	*e*P	**P**	**17 46 27.3**	**+1.3**
	comp=Z,1.8nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**50.74**	**37**	P	**P**	**17 46 25.9**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=295,slow=7.3,SNR=7.6						
RES	**Resolute Bay**	**50.79**	**19**	*e*P	**P**	**17 46 27.0**	**+0.5**
	comp=Z,69nm,0.7s						
BVAR	**Borovoye Array**	**51.26**	**310**	P	**P**	**17 46 28.1**	**-2.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=43,slow=7.6,SNR=7.4						
BRVK	**Borovoye**	**51.30**	**310**	*e*P	**P**	**17 46 28.6**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**51.30**	**310**	*e*P	**P**	**17 46 28.6**	**-1.8**
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**54.27**	**297**	*e*P	**P**	**17 46 50.8**	**-1.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**54.27**	**297**	*e*P	**P**	**17 46 50.8**	**-1.5**
	comp=Z,1.2nm,0.7s,mb4.0						
ARU	**Arti**	**55.38**	**318**	*e*P	**P**	**17 46 59.2**	**-1.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ARU	**Arti**	**55.38**	**318**	*e*P	**P**	**17 46 58.0**	**-2.3**
	comp=Z,2.3nm,0.7s,mb4.3						
JIRN	**Jiri**	**55.39**	**275**	*e*P	**P**	**17 47 01.2**	**+0.9**
	comp=Z,6.3nm,0.5s,mb4.9						
GUN	**Gumba**	**55.45**	**276**	*e*P	**P**	**17 47 01.7**	**+1.0**
	comp=Z,4.9nm,0.5s,mb4.8						
KKN	**Kakani**	**55.94**	**276**	*e*P	**P**	**17 47 05.2**	**+1.0**
	comp=Z,5.5nm,0.6s,mb4.8						
KKN	**Kakani**	**55.94**	**276**	*e*P	**P**	**17 47 05.2**	**+1.0**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
DMN	**Daman**	**56.17**	**276**	*e*P	**P**	**17 47 06.9**	**+1.0**
GKN	**Gorkha**	**56.24**	**276**	*e*P	**P**	**17 47 07.0**	**+0.6**
	comp=Z,5.4nm,0.5s,mb4.8						
KOLN	**Koldanda**	**57.10**	**277**	*e*P	**P**	**17 47 13.7**	**+1.2**
	comp=Z,5.3nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**58.09**	**341**	P	**P**	**17 47 20.2**	**+0.8**
	comp=Z,4.7nm,1.0s,mb4.5,baz=38,slow=12,SNR=3.9						
KAF	**Kangasniemi**	**63.72**	**335**	*e*p	**P**	**17 47 52.1**	**-5.5**
FINES	**FINESS Array B**	**64.32**	**335**	P	**P**	**17 48 00.3**	**-1.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=35,slow=7.9,SNR=20						
FINES	**FINESS Array B**	**64.32**	**335**	*i* P	**P**	**17 48 00.7**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**64.45**	**54**	P	**P**	**17 48 03.1**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.5,baz=298,slow=3.2,SNR=5.2						
NB2	**NORSAR Subarra**	**68.47**	**341**	P	**P**	**17 48 27.6**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.3,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.47**	**341**	P	**P**	**17 48 27.6**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.3,baz=27,slow=6.4,SNR=18						
WRA	**Warramunga Arr**	**68.56**	**200**	P	**P**	**17 48 26.9**	**-1.7**
	comp=Z,0.9nm,0.8s,mb3.6,baz=20,slow=7.1,SNR=10.0						
AKASG	**Malin Array Be**	**71.88**	**327**	P	**P**	**17 48 48.3**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.8,baz=33,slow=6.1,SNR=9.9						
ASAR	**Alice Springs**	**72.28**	**199**	P	**P**	**17 48 51.0**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.0,baz=9,4,slow=5.4,SNR=40						
CLL	**Collm**	**76.74**	**336**	*i* P	**P**	**17 49 17.9**	**+0.8**
CLL				*i*		17 49 28.7	
CLL				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
CLL	**Collm**	**76.74**	**336**	*i* P	**P**	**17 49 17.9**	**+0.8**
	comp=Z,6.0nm,0.7s,mb4.4						
CLL				*i* PcP	PcP	17 49 28.7	+0.6
TXAR	**Lajitas Array**	**77.16**	**61**	P	**P**	**17 49 20.2**	**+0.8**
	comp=Z,1.1nm,0.5s,mb3.8,baz=297,slow=4.8						
GRA1	**Grafenberg Arr**	**78.69**	**336**	*e*P	**P**	**17 49 30.1**	**+2.2**
	comp=Z,2.0nm,0.8s,mb4.0						
GRF	**Grafenberg Arr**	**78.69**	**336**	*e*P	**P**	**17 49 30.1**	**+2.2**
	comp=Z,2.0nm,0.8s,mb4.0						
GRF	**Grafenberg Arr**	**78.69**	**336**	*e*P	**P**	**17 49 30.1**	**+2.2**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
GERES	**GERESS Array B**	**78.74**	**334**	P	**P**	**17 49 28.0**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.8,baz=35,slow=5.1,SNR=9.6						
BRTR	**Keskin Array B**	**78.77**	**317**	P	**P**	**17 49 29.1**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.7,baz=64,slow=6.0,SNR=4.6						

JMA 29 18:16:31.5±0.3,4391N×14756E,h8km,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.43**	**248**	P	Pn	18 16 57.8	+0.1
NEM2				*e*S	Sn	18 17 16.6	0.0
JRA	**Rausu**	**1.76**	**272**	P	Pn	18 17 02.8	+0.5
JRA				*e*S	Sn	18 17 25.9	+1.0
JNK	**Nakash**	**2.08**	**262**	P	Pn	18 17 07.2	+0.5
JNK				*e*S	Sn	18 17 32.8	-0.1
JAK	**Akkeshi**	**2.28**	**247**	P	Pn	18 17 09.8	+0.4
JAK				*e*S	Sn	18 17 37.5	-0.1
JAR	**Ashorobuto**	**2.82**	**259**	P	Pn	18 17 18.3	+1.4
JAR				*e*S	Sn	18 17 52.8	+1.8
JOB	**Onbets**	**2.90**	**251**	P	Pn	18 17 18.8	+0.9
JOB				*e*S	Sn	18 17 53.4	+0.5
JCH	**Churui**	**3.33**	**249**	P	Pn	18 17 24.6	+0.8

HLW 29 18:18:16.0,3382N×2741E,h33km,Mb3.5,2C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**2.73**	**186**	P	Pn	18 18 57.5	0.0
HMAT				S	Sn	18 19 27.8	-1.6
SWA1		**4.77**	**198**	⇓P	Pn	18 19 25.7	+0.2
SWA1				S	Sn	18 20 16.5	-3.1
HHAG	**Hagoal**	**5.55**	**133**	P	Pn	18 19 36.6	+0.5
GLL	**Jalalah**	**5.59**	**138**	⇑P	Pn	18 19 37.3	+0.4
AMAG	**Maghara**	**5.84**	**121**	⇑P	Pn	18 19 40.4	+0.1
SUZ		**6.08**	**129**	⇓P	Pn	18 19 44.0	+0.4
HFRF	**Wahat Farafira**	**6.70**	**173**	P	Pn	18 19 52.7	+0.7

IDC 29 18:28:23.5±11.0,2183N×14306E,h155km±107km, mb3.2/7,mb1 3.4/7,mb1mx3.3/19,mbtmp3.2/7,Error ellipse: s-maj=47.6km s-min=16.0km az=82.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.34**	**323**	P	P	18 32 48.1	+0.5
	1.2nm,0.7s,baz=145,slow=8.0,SNR=4.8						
SONM	**Songino Array**	**39.16**	**320**	P	P	18 35 35.6	-0.5
	0.7nm,0.5s,baz=132,slow=6.7,SNR=5.6						
WRA	**Warramunga Arr**	**42.38**	**192**	P	P	18 36 02.6	+0.1
	0.7nm,0.8s,baz=14,slow=8.8,SNR=5.8						
ASAR	**Alice Springs**	**46.09**	**192**	P	P	18 36 32.0	+0.1
	0.6nm,0.6s,baz=17,slow=9.9,SNR=16						
ZAL	**Zalesovo**	**54.05**	**322**	P	P	18 37 31.1	-0.7
	0.7nm,0.3s,baz=70,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	**54.53**	**313**	P	P	18 37 35.9	+0.6
	0.4nm,0.7s,baz=98,slow=10,SNR=3.8						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	P	18 39 55.5	-0.1
	0.5nm,0.5s,baz=293,slow=5.9,SNR=8.3						

*IDC **29** 18:32:01.8±0.9,128N×12633E,h0km,mb4.0/7,mb1 4.2/8, mb1mx4.0/17,mbtmp4.0/8,ML4.4/1,MS5.0/1,Ms1 5.0/1, ms1mx3.0/20,Error ellipse: s-maj=52.0km s-min=15.5km az=78.0*
*ISCJB **29** 18:32:17.2±5.5,12N±01×1263E±03,h159km±58km, mb4.0/9,Error ellipse: s-maj=51.0km s-min=18.0km az=165.7*
*NEIC **29** 18:32:18.4±5.0,117N×12641E,h153km±52km,mb4.3/3, Error ellipse: s-maj=41.5km s-min=15.5km az=82.0*

ISC 29 18:32:19.0±5.1,12N±01×1264E±03,h158km±53km,n16, σ1§06/15,mb4.0/9,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.03**	**157**	*e*P	**Pn**	**18 35 44.4**	**+1.1**
	8.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.17**	**182**	*e*P	**P**	**18 36 28.3**	**-2.0**
	4.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.17**	**182**	P	**P**	**18 36 28.5**	**-1.7**
	0.8nm,0.3s,baz=17,slow=8.9,SNR=16						
WRA	**Warramunga Arr**	**22.37**	**160**	P	**P**	**18 37 03.0**	**-1.1**
	5.6nm,0.3s,mb4.4,baz=339,slow=11,SNR=115						
WB2	**Warramunga Arr**	**22.38**	**160**	*e*P	**P**	**18 37 02.7**	**-1.5**
WB2	**Warramunga Arr**	**22.38**	**160**	*e*P	**P**	**18 37 03.8**	**-0.4**
ASAR	**Alice Springs**	**25.74**	**164**	P	**P**	**18 37 35.4**	**+0.6**
	1.4nm,0.4s,mb3.9,baz=344,slow=8.2,SNR=42						
JHJ	**Hachijo jima 2**	**34.16**	**20**	LR	LR	18 49 37.5	
	comp=Z,2μm,21.6s,baz=110,slow=31						
NWAO	**Narrogin (SRO)**	**35.01**	**194**	P	**P**	**18 38 56.7**	**+0.5**
	3.9nm,0.6s,mb4.2,baz=18,slow=9.8,SNR=4.9						
STKA	**Stephens Creek**	**35.88**	**158**	P	**P**	**18 39 05.2**	**+1.6**
	2.3nm,0.7s,mb3.9,baz=330,slow=8.3,SNR=7.1						
MJAR	**Matsushiro Arr**	**36.84**	**16**	P	**P**	**18 39 10.6**	**-1.2**
	1.7nm,1.0s,mb3.6,baz=179,slow=9.5,SNR=4.1						
MJAR	**Matsushiro Arr**	**36.84**	**16**	P	**P**	**18 39 10.6**	**-1.2**
SONM	**Songino Array**	**49.62**	**342**	P	**P**	**18 40 55.2**	**+1.0**
	0.2nm,0.4s,mb3.1,baz=134,slow=6.2,SNR=2.7						
MKAR	**Makanchi Array**	**59.49**	**326**	P	**P**	**18 42 05.1**	**-0.1**
	1.1nm,0.4s,mb4.0,baz=118,slow=8.4,SNR=28						
KURK	**Kurchatov**	**63.73**	**328**	*e*P	**P**	**18 42 34.0**	**+0.3**
	4.7nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**93.93**	**332**	P	**P**	**18 45 24.6**	**+6.0**
	1.2nm,0.8s,mb4.1,baz=76,slow=5.9,SNR=3.4						

*MAN **29** 18:59:58.3,753N×12760E,h49km,mb4.5,ML5.3,MS6.2*
*ISCJB **29** 19:00:00.6±0.5,777N±005×12748E±005,h33km, mb3.9/13,MS3.5/5,Error ellipse: s-maj=7.9km s-min=5.9km az=64.9*
*IDC **29** 19:00:08.8±7.2,749N×12656E,h75km±67km,mb3.6/12, mb1 3.7/12,mb1mx3.6/21,mbtmp3.6/12,MS3.6/5, Ms1 3.6/5,ms1mx3.3/27,Error ellipse: s-maj=53.7km s-min=15.0km az=74.0*
*NEIC **29** 19:00:10.3±2.0,755N×12672E,h96km±16km,mb4.3/3, Error ellipse: s-maj=29.3km s-min=8.3km az=61.0*

ISC 29 19:00:02.6±1.3,760N±005×12742E±009,h45km±10km, n41,σ1§36/45,mb3.9/13,MS3.5/5,3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.32**	**241**	*e*P	**Pn**	**19 00 23.1**	**-1.6**
MATI				*e*S	**Sn**	**19 00 38.2**	**-2.9**
DAV	**Davao City (W)**	**1.90**	**254**	*e*P	**Pn**	**19 00 33.7**	**+1.2**
BUTP	**Butuan**	**2.25**	**308**	*e*P	**Pn**	**19 00 37.0**	**-0.3**
BUTP				*e*S	**Sn**	**19 01 06.2**	**+2.4**
BUKP	**Musuan**	**2.36**	**277**	*e*P	**Pn**	**19 00 38.5**	**-0.3**
BUKP				*e*S	**Sn**	**19 01 07.7**	**+1.3**
KCP	**Kidapawan**	**2.39**	**256**	⇓*e*P	**Pn**	**19 00 39.1**	**-0.1**
KCP				*e*S	**Sn**	**19 01 08.2**	**+1.0**
CGP	**Cagayan de Oro**	**2.83**	**288**	⇓*e*P	**Pn**	**19 00 44.7**	**-0.6**
CGP				*e*S	**Sn**	**19 01 19.1**	**+0.9**
SCPH	**Surigao**	**2.89**	**319**	*e*P	**Pn**	**19 00 44.4**	**-1.8**
SCPH				*e*S	**Sn**	**19 01 22.1**	**+2.5**
MSLP	**Maasin**	**3.57**	**315**	*e*P	**Pn**	**19 00 54.2**	**-1.3**
MSLP				*e*S	**Sn**	**19 01 44.5**	**+8.0**
TBP	**Tagbilaran**	**4.09**	**301**	*e*P	**Pn**	**19 01 03.2**	**+0.6**
PLP	**Palo**	**4.29**	**326**	*e*P	**Pn**	**19 01 11.0**	**+5.8**
LLP	**Lapu-Lapu**	**4.36**	**309**	⇓*e*P	**Pn**	**19 01 05.7**	**-0.6**
LLP				*e*S	**Sn**	**19 01 55.6**	**-0.1**
OCLP	**Ormoc**	**4.42**	**321**	*e*P	**Pn**	**19 01 06.5**	**-0.5**
OCLP				*e*S	**Sn**	**19 02 06.5**	**+9.3**
GUIM	**Jordan**	**5.64**	**303**	*e*P	**Pn**	**19 01 23.4**	**-0.5**
KAKA	**Kakadu**	**20.78**	**166**	*e*P	**P**	**19 04 43.1**	**+3.3**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.59**	**184**	*e*P	**P**	**19 05 31.2**	**+3.7**
	5.7nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.59**	**184**	P	**P**	**19 05 29.8**	**+2.3**
	2.0nm,0.8s,mb3.7,baz=9.6,slow=9.3,SNR=6.4						
PMG	**Port Moresby**	**25.92**	**130**	LR	LR	19 16 26.4	
	comp=Z,68nm,19.7s,MS3.2,baz=103,slow=37						
WRA	**Warramunga Arr**	**28.20**	**166**	P	**P**	**19 05 54.5**	**+3.6**
	0.2nm,0.5s,mb3.0,baz=318,slow=14,SNR=5.9						
PSI	**Prapat**	**28.77**	**262**	LR	LR	19 16 38.0	
	comp=Z,76nm,19.3s,MS3.3,baz=255,slow=35						
KSRS	**Korea Array**	**29.73**	**1**	P	**P**	**19 06 10.7**	**+6.2**
	1.6nm,1.0s,mb3.7,baz=262,slow=26,SNR=4.1						
KSRS				LR	LR	19 16 53.6	
	comp=Z,110nm,18.8s,MS3.5,baz=336,slow=34						
MJAR	**Matsushiro Arr**	**30.45**	**17**	LR	LR	19 17 26.1	
	comp=Z,161nm,19.7s,MS3.7,baz=175,slow=34						
ASAR	**Alice Springs**	**31.71**	**169**	P	**P**	**19 06 27.1**	**+5.1**
	0.2nm,0.4s,mb3.3,baz=338,slow=7.6,SNR=8.9						
STKA	**Stephens Creek**	**41.52**	**162**	P	**P**	**19 07 50.1**	**+4.7**
	1.9nm,0.8s,mb3.8,baz=340,slow=12,SNR=2.7						
JIRN	**Jiri**	**43.79**	**302**

ellipse: s-maj=7.8km s-min=5.1km az=95.0, Suspected Mining explosion.
NEIC 75 km [45 miles] SSE of Gillette.

ISC 29 19:03:18.9±0.7, 4372N±004×10508W±009, h0km, n30, σ0°90/30, mb4.8/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.44	187	*e*Pn	Pn	19 04 00.0	+0.1
RWWY	Rawlins	2.57	218	*e*Pn	Pn	19 04 01.6	-0.2
LAO	LASA Array	3.07	345	*e*Pn	Pn	19 04 09.0	+0.3
RLMT	Red Lodge	3.31	296	*e*Pn	Pn	19 04 11.6	-0.3
PDAR	Pinedale Array	3.41	255	Pn	Pn	19 04 12.4	-0.9
	3.7nm,0.3s,baz=75,slow=17,SNR=51						
PDAR				Lg		19 04 56.8	
	31nm,0.3s,baz=66,slow=30,SNR=18						
GCMT	Greycliff	3.86	304	*e*Pn	Pn	19 04 18.9	-0.7
LKWY	Lake	3.92	284	*e*Pn	Pn	19 04 21.1	+0.8
LOHW	Long Hollow	4.01	270	*e*Pn	Pn	19 04 21.7	+0.1
MOOW	Moose Ponds	4.10	272	*e*Pn	Pn	19 04 22.8	-0.1
SNOW	Snow King Moun	4.13	268	Pn	Pn	19 04 26.1	+2.9
REDW	Red Top Meadow	4.21	267	*e*Pn	Pn	19 04 24.9	+0.6
IMW	Indian Meadow	4.24	274	*e*Pn	Pn	19 04 24.1	-0.6
YMR	Madison River	4.33	285	*e*Pn	Pn	19 04 26.2	+0.1
AHID	Auburn Hatcher	4.50	260	Pn	Pn	19 04 27.9	-0.4
QLMT	Earthquake Lak	4.69	286	*e*Pn	Pn	19 04 30.7	-0.3
SMCO	Snowmass	4.76	198	*e*Pb	Pb	19 04 44.4	+1.2
HWUT	Hardware Ranch	5.23	248	*e*Pn	Pn	19 04 37.9	-0.4
	11nm,0.4s						
EGMT	Eagleton	5.40	324	*e*Pn	Pn	19 04 40.4	-0.3
	15nm,0.6s						
DAU	Daniels Canyon	5.66	236	*e*Pn	Pn	19 04 41.0	-3.2
MCMT	McKenzie Canyo	5.68	284	*e*Pn	Pn	19 04 46.0	+1.4
PV10	Paradox Valley	6.12	211	*e*Pn	Pn	19 04 51.5	+0.9
SRU	San Rafael	6.16	223	*e*Pn	Pn	19 04 49.5	-1.6
	12nm,0.4s						
PV01	Paradox Valley	6.17	206	*e*Pn	Pn	19 04 52.7	+1.3
TMUT	Trail Mountain	6.38	228	*e*Pn	Pn	19 04 54.5	+0.3
BGU	Big Grassy Mou	6.52	247	*e*Pn	Pn	19 04 56.3	+0.3
CHMT	Chamberlain Mo	6.58	302	*e*Pn	Pn	19 04 56.8	-0.2
MVCO	Mesa Verde	7.01	203	Pn	Pn	19 05 00.6	-2.1
ULM	Lac du Bonnet	9.06	41	Pn	Pn	19 05 31.2	+0.2
	2.6nm,0.3s,baz=233,slow=11,SNR=16						
ULM				Lg		19 08 04.1	
	0.3nm,0.3s,baz=344,slow=16,SNR=5.5						
YKA	Yellowknife Ar	19.61	347	P	Pn	19 07 50.4	+0.4
	0.1nm,0.3s,baz=160,slow=13,SNR=4.1						
ARCES	ARCESS Array B	61.39	18	P	P	19 13 36.0	-0.7
	9.2nm,1.2s,mb4.8,baz=342,slow=8.6,SNR=4.1						

IDC 29 19:41:30.1±1.4, 1138S×16595E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/31, Error ellipse: s-maj=43.1km s-min=28.7km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.65	178	Pn	Pn	19 44 03.4	-0.4
	0.3nm,0.3s,baz=120,slow=22,SNR=3.0						
CTA	Charters Tower	20.83	243	LR	LR	19 52 50.0	
	comp=Z,60nm,18.6s,baz=72,slow=33						
WRA	Warramunga Arr	31.56	250	P	P	19 47 55.2	+1.1
	0.5nm,0.8s,baz=83,slow=9.1,SNR=5.8						
ASAR	Alice Springs	32.83	244	P	P	19 48 05.5	+0.2
	0.5nm,0.8s,baz=67,slow=10.0,SNR=6.8						
SONM	Songino Array	79.05	324	P	P	19 53 35.0	-1.0
	0.2nm,0.7s,baz=115,slow=2.1,SNR=3.8						
NVAR	Mina Array Bea	86.08	50	P	P	19 54 13.7	+1.0
	0.3nm,0.5s,baz=230,slow=7.0,SNR=2.6						
MKAR	Makanchi Array	93.90	317	P	P	19 54 50.2	+0.8
	0.9nm,0.8s,baz=93,slow=6.3,SNR=6.1						

*ISCJB **29** 19:46:27.4±2.3, 325S±0.1×1779W±03, h90km±26km, mb4.1/3, Error ellipse: s-maj=46.5km s-min=17.3km az=41.4*
*IDC **29** 19:46:29.3±7.9, 3210S×17853W, h45km±66km, mb4.0/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, ML4.3/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/34, Error ellipse: s-maj=57.7km s-min=32.7km az=46.0*

ISC 29 19:46:28.3±2.2, 324S±01×1778W±03, h83km±23km, n18, σ1°15/18, mb4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.01	211	PN	Pn	19 47 53.9	-0.7
MXZ				*e*SN	Sn	19 49 03.2	+1.1
PUZ	Puketiti	6.46	209	PN	Pn	19 48 01.6	+0.8
PUZ				*e*SN	Sn	19 49 14.3	+1.2
MWZ	Matawai	7.00	211	*e*PN	Pn	19 48 07.1	-0.9
URZ	Urewera	7.12	214	P	Pn	19 48 11.1	+1.3
	5.0nm,0.3s,baz=329,slow=1.2,SNR=18						
URZ				S	Sn	19 49 29.5	+0.3
	4.7nm,0.3s,baz=149,slow=22,SNR=9.9						
URZ	Urewera	7.12	214	PN	Pn	19 48 08.1	-1.8
URZ				*e*SN	Sn	19 49 28.7	-0.5
KNZ	Kokohu	7.51	208	*e*PN	Pn	19 48 17.0	+1.9
OUZ	Omahuta	7.65	246	*e*PN	Pn	19 48 17.4	+0.4
BKZ	Black Stump Fm	8.14	213	PN	Pn	19 48 22.0	-1.7
BKZ				*e*SN	Sn	19 49 51.9	-2.2
THZ	Tophouse	11.88	216	*e*PN	Pn	19 49 09.5	-5.1
THZ				*e*SN	Sn	19 51 16.2	-8.9
DZM	Mont Dzumac	17.36	303	LR	LR	19 54 51.7	
	comp=Z,126nm,18.8s,baz=175,slow=30						
HNR	Honiara	30.77	313	LR	LR	20 01 26.2	
	comp=Z,56nm,19.2s,baz=1.1,slow=30						
STKA	Stephens Creek	34.21	260	LR	LR	20 04 02.7	
	comp=Z,53nm,19.4s,baz=200,slow=31						
CTA	Charters Tower	34.31	282	P	P	19 53 07.5	+0.7
	1.2nm,0.3s,mb4.3,baz=117,slow=9.0,SNR=3.3						
CTA				LR	LR	20 05 43.4	
	comp=Z,67nm,18.9s,baz=223,slow=34						
ASAR	Alice Springs	43.18	269	P	P	19 54 20.8	0.0
	1.2nm,0.7s,mb3.8,baz=106,slow=7.7,SNR=22						
WRA	Warramunga Arr	44.35	274	P	P	19 54 29.7	-0.5
	2.3nm,0.3s,mb4.3,baz=114,slow=7.8,SNR=23						
BVAR	Borovoye Array	127.95	315	PKP	PKPdf	20 05 27.4	+3.0
	0.2nm,0.4s,baz=132,slow=2.1,SNR=4.3						
FINES	FINESS Array B	147.10	339	PKPbc	PKPbc	20 06 03.7	+2.0
	1.2nm,0.5s,baz=33,slow=4.3,SNR=15						
TORD	Torodi Ar. Bea	160.79	179	PKPab	PKPab	20 07 08.9	+7.8
	0.3nm,0.6s,baz=160,slow=3.8,SNR=4.4						

IDC 29 19:47:10.9±2.1, 690S×12892E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.5/15, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=80.3km s-min=28.8km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.58	196	Pn	Pn	19 49 55.7	-1.8
	0.2nm,0.3s,baz=0.0,slow=15,SNR=2.3						
FITZ				Sn	Sn	19 51 45.8	-22
	0.1nm,0.3s,baz=155,slow=23,SNR=2.3						
WRA	Warramunga Arr	13.99	158	Pn	Pn	19 50 30.8	+0.4
	0.2nm,0.3s,baz=339,slow=13,SNR=14						
WRA				Sn	Sn	19 52 53.0	-13
	0.2nm,0.3s,baz=331,slow=21,SNR=5.9						
ASAR	Alice Springs	17.34	165	P	Pn	19 51 16.0	+1.7
	0.1nm,0.3s,baz=341,slow=11,SNR=17						
MKAR	Makanchi Array	67.56	327	P	P	19 58 09.3	+0.2
	0.3nm,0.7s,baz=116,slow=6.7,SNR=4.3						

MAN 29 19:48:43.6, 1344N×12149E, h8km, mb3.5, ML4.6, MS1.5, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	Boac	0.35	87	*e*P	Pg	19 48 50.6	+0.2
BOAC				*e*S	Sg	19 48 56.7	+1.8
TGY	Tagaytay City	0.85	321⇑	*e*P	Pg	19 49 00.4	+0.5
TGY				*e*S	Sg	19 49 13.9	+3.1
GQP	Guinayangan	1.04	64⇓	*e*P	Pg	19 49 03.3	-0.2
GQP				*e*S	Sg	19 49 13.1	-3.9
OTRP	Odiongan	1.19	154	*e*P	Pb	19 49 03.6	-2.8
OTRP				*e*S	Sg	19 49 23.5	+1.5
LUBP	Lubang	1.24	284	*e*P	Pn	19 49 05.8	-1.4
LUBP				*e*S	Sb	19 49 22.6	-0.8
POLP	Polilio Island	1.35	19	*e*P	Pn	19 49 08.6	-0.1
POLP				*e*S	Sb	19 49 27.4	+0.9
BUSP	Coron	1.91	221	*e*P	Pn	19 49 16.0	-0.3
BUSP				*e*S	Sn	19 49 42.0	+1.5
PCPH	Palayan	2.14	350	⇓*i*P	Pn	19 49 19.6	0.0
ENPP	El Nido	3.00	222	*e*P	Pn	19 49 32.0	+0.6

IDC 29 20:00:34.6±1.2, 769S×15817E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.9/15, mbtmp3.9/6, ML4.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/21, Error ellipse: s-maj=34.4km s-min=24.0km az=61.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.47	135	Pn	Pn	20 01 14.0	-2.0
	245nm,0.3s,baz=280,slow=13,SNR=75						
HNR				Sn	Sn	20 01 41.3	-5.5
	210nm,0.3s,baz=80,slow=21,SNR=22						
DZM	Mont Dzumac	16.37	152	LR	LR	20 08 46.4	
	comp=Z,58nm,18.3s,baz=217,slow=30						
WRA	Warramunga Arr	26.10	240	P	P	20 06 10.6	+0.6
	1.4nm,0.7s,baz=64,slow=8.8,SNR=14						
ASAR	Alice Springs	28.17	230	P	P	20 06 27.6	-0.9
	0.3nm,0.6s,baz=61,slow=10.0,SNR=7.1						
VNDA	Vanda	69.82	179	P	P	20 11 47.5	+0.7
	1.4nm,0.5s,baz=40,slow=7.9,SNR=15						
SONM	Songino Array	71.64	326	P	P	20 11 58.5	+0.6
	0.3nm,0.6s,baz=126,slow=5.8,SNR=3.2						
MKAR	Makanchi Array	86.01	318	P	P	20 13 16.9	0.0
	0.6nm,0.6s,baz=98,slow=6.2,SNR=10						

IDC 29 20:14:43.2±3.3, 1988S×6861W, h132km±26km, mb3.7/3, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=31.2km s-min=19.1km az=36.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.60	7	P	Pn	20 15 37.9	+0.2
	3.6nm,0.3s,baz=190,slow=7.4,SNR=51						
LPAZ				S	Sn	20 16 21.4	+1.5
	0.3nm,0.3s,baz=240,slow=20,SNR=3.7						
SIV	San Ignacio	8.15	63	P	Pn	20 16 39.1	+0.4
	2.4nm,0.3s,baz=256,slow=14,SNR=49						
SIV				S	Sn	20 18 09.7	+0.6
	0.1nm,0.3s,baz=180,slow=15,SNR=1.9						
LPIG	La Paz	59.67	315	P	P	20 24 35.3	+1.7
	25nm,0.3s,baz=153,slow=4.5,SNR=2.7						
SNAA	Sanae	63.71	161	P	P	20 25 00.7	0.0
	0.4nm,0.7s,baz=252,slow=7.8,SNR=4.5						
TORD	Torodi Ar. Bea	76.55	71	P	P	20 26 20.0	+1.1
	1.3nm,0.4s,baz=253,slow=5.4,SNR=45						
YKA	Yellowknife Ar	89.76	340	P	P	20 27 25.3	-1.3
	1.3nm,0.7s,baz=134,slow=4.7,SNR=27						
ASAR	Alice Springs	131.47	208	PKP	PKPdf	20 33 40.0	0.0
	0.1nm,0.5s,baz=144,slow=1.7,SNR=4.0						
WRA	Warramunga Arr	134.48	211	PKP	PKPdf	20 33 45.9	+0.2
	0.2nm,0.5s,baz=155,slow=2.2,SNR=5.3						
MKAR	Makanchi Array	144.16	35	PKP	PKPdf	20 34 02.0	-1.3
	0.5nm,0.7s,baz=318,slow=3.3,SNR=5.6						
MJAR	Matsushiro Arr	151.26	311	PKPbc	PKPbc	20 34 20.0	-1.1
	0.5nm,0.3s,baz=11,slow=3.3,SNR=8.8						
SONM	Songino Array	151.82	7	PKPbc	PKPbc	20 34 22.9	+0.6
	0.9nm,0.6s,baz=322,slow=1.7,SNR=7.6						

IDC 29 20:37:13.2±3.9, 1963S×17684W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/15, mbtmp4.3/3, Error ellipse: s-maj=185.2km s-min=44.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.67	263	*e*P	P	20 44 08.5	+4.0
	3.7nm,0.4s						
STKA	Stephens Creek	39.15	243	P	P	20 44 42.6	0.0
	1.4nm,0.6s,baz=84,slow=9.2,SNR=4.9						
ASAR	Alice Springs	45.79	256	P	P	20 45 36.9	+0.3
	3.9nm,0.5s,baz=95,slow=7.8,SNR=90						
WB2	Warramunga Arr	45.80	261	*e*P	P	20 45 36.8	+0.1
WRA	Warramunga Arr	45.81	261	P	P	20 45 37.4	+0.6
	1.6nm,0.3s,baz=96,slow=8.2,SNR=146						
VNA3	Neumayer Olymp	88.93	176	*e*	P	20 50 04.9	-4.7
VNA2	Neumayer--Watz	89.38	177	*e*	P	20 50 07.2	-4.6
GERES	GERESS Array B	149.65	346	PKPbc	PKPbc	20 57 04.5	-0.3
	0.3nm,0.5s,baz=300,slow=4.3,SNR=3.4						

*ISCJB **29** 20:41:13.2±0.5, 1987N±006×9780E±008, h10km, mb3.7/6, MS3.5/2, Error ellipse: s-maj=12.8km s-min=4.3km az=102.9*
*IDC **29** 20:41:14.2±2.0, 2012N×9783E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, MS3.4/3, Ms1 3.4/3, ms1mx3.0/29, Error ellipse: s-maj=98.0km s-min=21.9km az=67.0*
*BJI **29** 20:41:17.3, 1990N×9795E, h53km, mB4.7, mb4.2, ML4.2, Ms4.2, Msz4.2*
*NEIC **29** 20:41:19.4±1.1, 2002N×9777E, h40km±14km, mb4.3/3, Error ellipse: s-maj=21.5km s-min=9.3km az=47.0*

ISC 29 20:41:15.8±0.5, 1997N±006×9776E±008, h10km, n26, σ1°34/28, mb3.7/6, MS3.5/2, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	Chiang Mai	1.60	136	PG	Pn	20 41 44.9	+0.7
CHG				SG	Sn	20 41 58.3	-6.6
CHTO	Chiang Mai	1.60	136	*e*P	Pn	20 41 44.6	+0.5
NANT	Nan	3.01	112	⇓P	Pn	20 42 01.0	-2.5
	1um,1.0s						
NST	Nakhon Sawan	4.83	152	PN	Pg	20 42 47.5	-0.9
NST				SG	Sg	20 43 51.0	-0.1
IMP	Imphal	5.96	324	*e*P	Pn	20 42 46.0	+2.0
KKTK	Khon Kaen	6.02	126	PN	Pg	20 43 12.0	+1.0
KKTK				SG	Sg	20 44 41.0	+12
SHL	Shillong	7.77	317	*e*P	Pn	20 43 01.8	-7.1
SHL				*e*S	Sn	20 44 33.0	-4.0
LSA	Lhasa	11.39	330	P	Pn	20 44 03.0	+4.5
LSA	Lhasa	11.39	330	*e*P	Pn	20 43 59.3	+0.7
	9.0nm,1.0s						
JIRN	Jiri	13.06	308	*e*P	Pn	20 44 24.2	+2.8
GUN	Gumba	13.43	308	*e*P	Pn	20 44 29.0	+2.6
PKI	Pulchoki	13.60	306	*e*P	Pn	20 44 29.2	+0.5
	11nm,0.7s						
GKN	Gorkha	14.41	306	*e*P	Pn	20 44 40.6	+0.9
	27nm,0.7s						
KOLN	Koldanda	15.09	304	*e*P	Pn	20 44 47.5	-1.6
	21nm,0.9s						
LZH	Lanzhou	16.92	17	*e*P	Pn	20 45 13.3	+0.7
LZH				AP	pP	20 45 18.5	+1.1
LZH				AMB	AMB		
	comp=Z,44nm,1.5s						
LZH				AMB	AMB		
	comp=Z,165nm,4.5s						
LZH				LR	LR		
	comp=N,420nm,7.7s						
LZH				LR	LR		
	comp=Z,540nm,7.8s						
LZH	Lanzhou	16.92	17	*e*P	Pn	20 45 13.3	+0.7
	comp=Z,44nm,1.5s						
LZH				pP	pP	20 45 18.5	+1.1
LZH				sP	sP	20 45 21.5	+2.8
PSI	Prapat	17.10	176	LR	LR	20 52 03.0	
	comp=Z,53nm,18.2s,baz=174,slow=37						
XAN	Xi'an	17.16	33	P	Pn	20 45 16.5	+0.9
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s						
SONM	Songino Array	28.66	12	P	P	20 47 11.6	-1.0
	comp=Z,0.3nm,0.7s,mb3.1,baz=190,slow=10.0,SNR=2.8						
SONM				LR	LR	21 00 24.3	
	comp=Z,52nm,20.9s,MS3.1,baz=171,slow=40						
MKAR	Makanchi Array	29.59	338	P	P	20 47 20.0	-0.9
	comp=Z,0.9nm,0.6s,mb3.6,baz=152,slow=9.6,SNR=15						
MKAR	Makanchi Array	29.59	338	P	P	20 47 20.0	-0.9
BRVK	Borovoye	39.25	334	*e*P	P	20 48 42.9	-1.5
	comp=Z,5.4nm,1.1s,mb4.2						
WRA	Warramunga Arr	53.45	136	P	P	20 50 36.8	+0.8
	comp=Z,0.4nm,0.7s,mb3.4,baz=320,slow=7.7,SNR=3.8						
ASAR	Alice Springs	55.88	139	P	P	20 50 54.5	+0.9
	comp=Z,0.6nm,0.8s,mb3.7,baz=323,slow=7.5,SNR=6.2						
FINES	FINESS Array B	63.91	329	LR	LR	21 22 02.4	
	comp=Z,67nm,18.1s,MS3.9,baz=336,slow=38						
YKA	Yellowknife Ar	93.91	14	P	P	20 54 31.9	-1.7
	comp=Z,0.4nm,0.8s,mb3.9,baz=320,slow=3.8,SNR=5.4						

*ISCJB **29** 20:49:31.1±4.6, 245S±02×1797W±06, h500km, mb3.9/6, Error ellipse: s-maj=80.9km s-min=13.7km az=144.0*
*IDC **29** 20:49:34.2±10.0, 2472S×17994E, h489km±113km, mb3.3/4, mb1 3.5/5, mb1mx3.2/15, mbtmp3.4/5, Error ellipse: s-maj=90.5km s-min=36.8km az=21.0*
*NEIC **29** 20:49:36.2±5.7, 2484S×17994E, h519km±63km, mb4.2/3, Error ellipse: s-maj=70.9km s-min=19.5km az=201.0*

ISC 29 20:49:35.1±4.6, 2485S±02×1800E±06, h500km, n15, σ0°47/12, mb3.9/6, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.65	190	P	P	20 52 31.2	+0.1
	2.8nm,0.3s,baz=325,slow=3.1,SNR=22						
URZ				S	S	20 54 56.1	-0.1
	0.4nm,0.3s,baz=53,slow=24,SNR=9.5						
CTA	Charters Tower	31.45	272	⇓*i*P	P	20 55 15.6	+0.8
	4.9nm,0.4s,mb4.3						
CTAO	Charters Tower	31.45	272	*e*P	P	20 55 15.6	+0.8
STKA	Stephens Creek	34.37	249	P	P	20 55 39.5	-0.1
	0.9nm,0.4s,mb3.6,baz=140,slow=7.6,SNR=7.5						
STKA	Stephens Creek	34.37	249	P	P	20 55 39.5	-0.1
ASAR	Alice Springs	41.86	262	P	P	20 56 40.8	+0.1
	0.8nm,0.4s,mb3.5,baz=100,slow=7.9,SNR=21						
WB2	Warramunga Arr	42.31	267	⇓*i*P	P	20 56 43.7	-0.5
WRA	Warramunga Arr	42.32	267	P	P	20 56 43.8	-0.4
	2.7nm,0.3s,mb4.1,baz=100,slow=6.9,SNR=176						
KAKA	Kakadu	46.36	276	*e*P	P	20 57 14.9	-0.6
	2.4nm,0.3s,mb4.1						
FITZ	Fitzroy Crossi	50.73	266	*e*P	P	20 57 48.7	+0.6
	4.3nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	50.73	266	P	P	20 57 48.9	+0.8
	2.2nm,0.6s,mb3.7,baz=131,slow=8.1,SNR=6.2						
ARCES	ARCESS Array B	132.74	348	PKP	PKPdf	21 07 51.3	-1.3
	5.9nm,1.0s,baz=68,slow=3.3,SNR=5.4						
AKASG	Malin Array Be	145.68	327	PKPbc	PKPbc	21 08 16.4	-1.1
	0.6nm,0.4s,baz=46,slow=3.9,SNR=4.9						
BRTR	Keskin Array B	148.07	306	PKPbc	PKPbc	21 08 24.0	+0.1
	0.4nm,0.6s,baz=67,slow=1.5,SNR=2.5						
CLL	Collm	151.68	343	*e*PKPbc	PKPbc	21 08 33.0	+0.5

MAN 29 20:55:53.4, 749N×12749E, h92km, mb4.0, ML5.0, MS5.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.33	246	*e*P	Pn	20 56 17.7	+0.5
MATI				*e*S	Sn	20 56 32.5	-2.6
BUTP	Butuan	2.36	309	*e*P	Pn	20 56 30.8	+0.4
BUTP				*e*S	Sn	20 56 59.8	+1.1
BUKP	Musuan	2.43	279	*e*P	Pn	20 56 33.0	+1.6
BUKP				*e*S	Sn	20 57 01.1	+0.6
CGP	Cagayan de Oro	2.93	289⇑	*e*P	Pn	20 56 39.3	+1.4
CGP				*e*S	Sn	20 57 13.1	+0.8
OTRP	Odiongan	7.24	312	*e*P	Pn	20 57 39.1	+2.7

*IDC **29** 20:59:42.3±3.5, 1869S×16944E, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.1/15, mbtmp4.1/6, ML3.3/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/23, Error ellipse: s-maj=87.0km s-min=31.9km az=120.0*
*ISCJB **29** 20:59:43.8±4.4, 187S±02×1693E±06, h12km±35km, mb4.1/5, MS3.4/4, Error ellipse: s-maj=99.6km s-min=15.5km az=42.4*
*NEIC **29** 20:59:44.5±1.7, 1867S×16948E, h15km, mb4.6/1, Error ellipse: s-maj=47.8km s-min=19.3km az=120.0*

ISC 29 20:59:44.8±5.3, 187S±03×1695E±06, h16km±43km, n16, σ0°64/11, mb4.1/5, MS3.4/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.38	220	Pn	Pn	21 00 51.0	+0.3
	1.7nm,0.3s,baz=11,slow=19,SNR=36						
DZM				Sn	Sn	21 01 41.3	-0.1
	16nm,0.3s,baz=273,slow=21,SNR=17						
DZM				LR	LR	21 02 20.9	
	comp=Z,451nm,21.8s,baz=260,slow=36						
NOUC	Port Laguerre	4.49	221	*e*P	Pn	21 00 51.7	-0.5
HNR	Honiara	13.09	314	LR	LR	21 06 35.8	
	comp=Z,105nm,18.1s,baz=359,slow=32						
RAO	Raoul Island	15.53	135	LR	LR	21 07 49.0	
	comp=Z,106nm,19.3s,baz=180,slow=31						
PMG	Port Moresby	23.55	290	LR	LR	21 12 07.7	
	comp=Z,66nm,19.8s,MS3.1,baz=276,slow=32						
RPZ	Rata Peaks	24.93	177	LR	LR	21 13 43.1	
	comp=Z,172nm,19.3s,MS3.6,baz=31,slow=34						
STKA	Stephens Creek	28.32	237	*e*P	P	21 05 38.7	+0.9
	2.4nm,0.6s,mb4.0						
STKA	Stephens Creek	28.32	237	P	P	21 05 37.1	-0.6
	3.1nm,0.6s,mb4.1,baz=62,slow=10,SNR=7.4						
STKA				LR	LR	21 15 43.0	
	comp=Z,83nm,22.0s,MS3.3,baz=204,slow=34						
STKA	Stephens Creek	28.32	237	*e*P	P	21 05 38.5	+0.7
STKA				*e*P		21 05 38.7	
WRA	Warramunga Arr	33.16	262	P	P	21 06 19.4	-1.1
	1.3nm,1.0s,mb3.8,baz=91,slow=7.6,SNR=9.9						
ASAR	Alice Springs	33.49	255	P	P	21 06 23.6	+0.2
	3.4nm,0.5s,mb4.5,baz=83,slow=8.6,SNR=43						
FITZ	Fitzroy Crossi	41.54	264	*e*P	P	21 07 32.6	+1.1
	11nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	41.54	264	P	P	21 07 32.5	+1.0
	3.3nm,0.6s,mb4.1,baz=84,slow=8.5,SNR=11						
VNDA	Vanda	58.93	182	LR	LR	21 29 22.9	
	comp=Z,70nm,19.4s,MS3.8,baz=232,slow=30						
SONM	Songino Array	86.97	323	P	P	21 12 28.9	-0.3
	1.0nm,1.0s,mb4.0,baz=132,slow=4.0,SNR=4.5						
GERES	GERESS Array B	144.17	332	PKP	PKPdf	21 19 19.6	-0.3
	0.7nm,0.9s,baz=338,slow=2.2,SNR=4.9						

*ISCJB **29** 21:02:37.7±0.6, 4377N±004×10522W±007, h0km, Error ellipse: s-maj=

ULM				Pg	Pn	21 05 23.9	+32
	1.6nm,0.3s,baz=230,slow=13,SNR=8.3						
ULM				Lg		21 07 24.9	
	0.6nm,0.3s,baz=254,slow=20,SNR=2.3						
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**21 04 51.1**	**-0.4**
ULM				Pg	Pn	21 05 23.9	+32
ULM				Lg		21 07 24.9	
WUAZ	**Wupatki**	**9.52**	**212**	Pn	**Pn**	**21 04 54.6**	**-2.9**
	4.2nm,0.4s						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**21 07 08.3**	**-1.2**
	0.1nm,0.3s,baz=163,slow=12,SNR=6.8						

WEL 29 21:13:30.2±0.3,4572S×16708E,h12km,ML3.6/10,Error ellipse: s-maj=3.6km s-min=1.0km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.25**	**13**	P*	Pg	21 13 35.9	+0.6
DCZ				S*	Sg	21 13 39.7	+0.9
WHZ	**Wether Hill Ro**	**0.63**	**106**	P*	Pb	21 13 42.1	-1.1
WHZ				S*	Sb	21 13 50.3	-1.7
MLZ	**Mavora Lakes**	**0.86**	**65**	P*	Pb	21 13 45.2	-1.8
MLZ				S*	Sb	21 13 56.1	-2.3
MSZ	**Milford Sound**	**1.21**	**30**	P*	Pb	21 13 51.2	-1.8
MSZ				S*	Sb	21 14 07.9	-0.7
APZ	**The Paps**	**1.28**	**151**	PN	Pn	21 13 52.7	-1.1
APZ				S*	Sb	21 14 09.0	-1.6
WKZ	**Wanaka**	**1.64**	**58**	PN	Pn	21 13 58.8	+0.1
EAZ	**Earnscleugh**	**1.65**	**74**	PN	Pn	21 13 59.1	+0.2
EAZ				SN	Sn	21 14 19.4	-0.6
SYZ	**Scrubby Hill**	**1.65**	**120**	PN	Pn	21 13 58.4	-0.5
TUZ	**Tuapeka**	**1.80**	**98**	PN	Pn	21 14 01.2	+0.1
JCZ	**Jackson Bay**	**2.03**	**37**	PN	Pn	21 14 05.9	+1.7
LBZ	**Lake Benmore**	**2.58**	**60**	PN	Pn	21 14 11.5	-0.2
ODZ	**Otahua Downs**	**2.60**	**76**	PN	Pn	21 14 11.3	-0.7

*NEIC **29** 21:21:10.8,4435N×68.17W,h8km,MN3.1(WES), MN3.2(OTT),After WES.*
NEIC Felt [IV] at Franklin; [III] at Bar Harbor, Southwest Harbor and Winter Harbor; [II] at Ellsworth and Mount Desert. Felt at Brunswick, Cranberry Isles, Gouldsboro, Lincoln, Mount Desert, Orrs Island, Pembroke, Portland, Pownal, Prospect Harbor, Waterville and Woolwich.

OTT 29 21:21:10.6±0.1,4431N×6816W,h5km,MN3.2/30,3D, Maine, U.S. 119km southwest from St. Stephen, Nb Northern Appalachians Seismic Zone.,Maine

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMMW	**East Machias**	**0.65**	**51**	⇓iP	Pg	21 21 21.9	-1.1
EMMW				S	Sg	21 21 30.6	-0.8
EMMW	**East Machias**	**0.65**	**51**	⇓PG	Pg	21 21 22.0	-1.0
EMMW				SG	Sg	21 21 30.8	-0.6
WVL	**Waterville**	**1.10**	**284**	⇓eP	Pg	21 21 30.8	-0.9
WVL				S	Sg	21 21 44.6	-1.4
WVL	**Waterville**	**1.10**	**284**	PG	Pg	21 21 30.6	-1.2
WVL				SG	Sg	21 21 44.5	-1.5
GGN	**Saint George**	**1.24**	**49**	P	Pg	21 21 32.8	-1.7
GGN				Sg	Sg	21 21 50.0	-0.6
GGN	**Saint George**	**1.24**	**49**	PG	Pg	21 21 32.8	-1.7
GGN				SG	Sg	21 21 50.0	-0.6
GGN				Trac		21 21 52.7	
	comp=Z,348nm,0.1s						
PQI	**Presque Isle**	**2.37**	**2**	Pn	Pn	21 21 50.6	+0.5
PQI				S	Sn	21 22 18.8	-0.7
PQI	**Presque Isle**	**2.37**	**2**	PN	Pn	21 21 50.6	+0.5
PQI				SN	Sn	21 22 18.7	-0.8
FFD	**Franklin Falls**	**2.66**	**253**	eP	Pn	21 21 53.6	-0.6
FFD				S	Sn	21 22 17.8	-8.9
LBNH	**Lisbon**	**2.70**	**270**	Pn	Pn	21 21 54.2	-0.6
LBNH				Sn	Sn	21 22 26.6	-1.2
LBNH	**Lisbon**	**2.70**	**270**	PN	Pn	21 21 54.2	-0.6
LBNH				SN	Sn	21 22 26.6	-1.2
LBNH				Trac		21 22 38.2	
	comp=N,123nm,0.3s						
LMN	**Caledonia Moun**	**2.83**	**56**	Pn	Pn	21 21 56.5	0.0
LMN	**Caledonia Moun**	**2.83**	**56**	PN	Pn	21 21 56.5	0.0
LMN				SN	Sn	21 22 30.1	-1.0
LMN				Trac		21 22 45.4	
	comp=Z,83nm,0.4s						
WES	**Weston**	**3.00**	**231**	P	Pn	21 21 58.1	-0.7
WES				eSn	Sn	21 22 33.6	-1.6
WES				S	Sn	21 22 34.4	-0.8
HNH	**Hanover**	**3.04**	**260**	P	Pn	21 22 06.0	+6.7
HNH				S	Sn	21 22 43.5	+7.5
HRV	**Harvard--Oak R**	**3.06**	**235**	Pn	Pn	21 21 58.8	-0.9
HRV				ePg	Pg	21 22 07.7	-1.6
HRV				Sn	Sn	21 22 35.3	-1.3
HRV	**Harvard--Oak R**	**3.06**	**235**	PN	Pn	21 21 58.8	-0.9
HRV				SN	Sn	21 22 35.3	-1.3
HRV				Trac		21 22 56.8	
	comp=Z,111nm,0.6s						
MOQ	**Mont Orford**	**3.08**	**290**	P	Pn	21 21 59.2	-0.7
MOQ				e		21 22 35.4	
MOQ				S	Sn	21 22 38.6	+1.5
MOQ	**Mont Orford**	**3.08**	**290**	PN	Pn	21 21 59.3	-0.7
MOQ				SN	Sn	21 22 35.4	-1.7
MOQ				Trac		21 22 51.7	
	comp=Z,37nm,0.2s						
A11	**Saint Roch-des**	**3.26**	**335**	PN	Pn	21 22 02.0	-0.5
A11				SN	Sn	21 22 39.6	-2.0
A11				Trac		21 22 55.5	
	comp=Z,30nm,0.3s						
HAL	**Halifax**	**3.29**	**83**	PN	Pn	21 22 02.6	-0.2
HAL				SN	Sn	21 22 41.0	-1.2
HAL				Trac		21 23 00.6	
	comp=Z,26nm,0.2s						
QCQ	**Quebec**	**3.30**	**320**	PN	Pn	21 22 02.4	-0.6
QCQ				SN	Sn	21 22 41.3	-1.2
QCQ				Trac		21 22 59.3	
	comp=Z,24nm,0.3s						
BATG	**Bathurst New B**	**3.31**	**26**	PN	Pn	21 22 02.0	-1.1
BATG				SN	Sn	21 22 41.4	-1.5
BATG				Trac		21 22 55.9	
	comp=Z,21nm,0.1s						
A16	**Riviere Ouelle**	**3.42**	**339**	PN	Pn	21 22 03.9	-0.7
A16				SN	Sn	21 22 43.3	-2.1
A16				Trac		21 22 57.3	
	comp=Z,9.3nm,0.0s						
BRYW	**Bryant College**	**3.44**	**227**	P	Pn	21 22 04.6	-0.2
BRYW				S	Sn	21 22 45.5	-0.5
A54	**Misere**	**3.52**	**334**	PN	Pn	21 22 05.4	-0.6
A54				SN	Sn	21 22 45.5	-2.4
A54				Trac		21 23 06.1	
	comp=Z,24nm,0.3s						
A21	**Saint Andre**	**3.56**	**343**	PN	Pn	21 22 06.1	-0.4
A21				SN	Sn	21 22 47.4	-1.5
A21				Trac		21 23 06.1	
	comp=Z,46nm,0.4s						
LMQ	**La Malbaie**	**3.58**	**336**	P	Pn	21 22 06.0	-0.8
LMQ				S	Sn	21 22 49.9	+0.6
LMQ	**La Malbaie**	**3.58**	**336**	PN	Pn	21 22 06.1	-0.6
LMQ				SN	Sn	21 22 47.7	-1.7
LMQ				Trac		21 23 02.6	
	comp=Z,59nm,0.5s						
A61	**Sainte Mathild**	**3.64**	**339**	PN	Pn	21 22 06.9	-0.7
A61				SN	Sn	21 22 49.2	-1.8
A61				Trac		21 23 13.7	
	comp=Z,10nm,0.3s						
QUA2	**Belchertown**	**3.67**	**238**	P	Pn	21 22 07.5	-0.5
QUA2				ePg	Pg	21 22 17.8	-3.1
QUA2				S	Sn	21 22 51.5	-0.1
A64	**Saint Simeon**	**3.72**	**342**	PN	Pn	21 22 08.0	-0.7
A64				SN	Sn	21 22 50.8	-2.1
A64				Trac		21 23 16.4	
	comp=Z,28nm,0.4s						
MALG	**Malagash, Nova**	**3.73**	**65**	PN	Pn	21 22 09.1	+0.2
MALG				SN	Sn	21 22 52.0	-1.3
UCCT	**U. Connecticut**	**3.90**	**231**	P	Pn	21 22 10.6	-0.5
UCCT				S	Sn	21 22 57.4	+0.2
FRNY	**Flat Rock**	**3.91**	**280**	P	Pn	21 22 11.1	-0.2
FRNY				ePg	Pg	21 22 20.6	-5.0
FRNY				S	Sn	21 22 58.4	+0.8
FRNY	**Flat Rock**	**3.91**	**280**	PN	Pn	21 22 11.0	-0.3
FRNY				SN	Sn	21 22 55.1	-2.5
FRNY				SN	Sn	21 22 55.4	-2.2
DPQ	**Saint Jean**	**4.02**	**308**	PN	Pn	21 22 12.5	-0.3
DPQ				SN	Sn	21 22 58.2	-2.1
DPQ				Trac		21 23 17.2	
	comp=Z,14nm,0.2s						
MNT	**Montreal**	**4.06**	**289**	PN	Pn	21 22 13.2	-0.2
MNT				SN	Sn	21 22 59.7	-1.6
MNT				Trac		21 23 19.3	
	comp=N,13nm,0.2s						
ACCN	**Adirondack Com**	**4.09**	**259**	Pn	Pn	21 22 10.7	-3.1
ACCN				eSg	Sg	21 23 16.7	-5.3
DAQ	**Lac Daran**	**4.24**	**331**	PN	Pn	21 22 14.6	-1.2
DAQ				SN	Sn	21 23 03.1	-2.5
DAQ				Trac		21 23 29.8	
	comp=Z,40nm,0.6s						
NCB	**Newcomb**	**4.38**	**268**	Pn	Pn	21 22 16.0	-1.7
NCB	**Newcomb**	**4.38**	**268**	PN	Pn	21 22 15.6	-2.2
NCB				SN	Sn	21 23 06.7	-2.4
TIGG	**Tignish, PEI**	**4.51**	**51**	PN	Pn	21 22 11.6	-7.9
TIGG				Trac		21 23 21.2	
	comp=Z,16nm,0.2s						
LONY	**Lake Ozonia**	**4.61**	**276**	ePn	Pn	21 22 17.2	-3.7
LONY				eSg	Sg	21 23 32.2	-6.4
LONY	**Lake Ozonia**	**4.61**	**276**	PN	Pn	21 22 20.6	-0.3
LONY				SN	Sn	21 23 12.0	-2.8
GSQ	**Grosses Roches**	**4.66**	**9**	PN	Pn	21 22 20.8	-0.8
GSQ				SN	Sn	21 23 13.2	-2.9
GSQ				Trac		21 23 15.2	
	comp=Z,16nm,0.2s						
MSNY	**Massena**	**4.83**	**281**	ePn	Pn	21 22 21.2	-2.8
MSNY				eSg	Sg	21 23 41.4	-4.3
GASG	**Gaspe, Quebec**	**4.85**	**16**	PN	Pn	21 22 23.5	-0.8
GASG				SN	Sn	21 23 16.9	-3.9
GASG				Trac		21 23 21.7	
	comp=Z,34nm,0.1s						
GBN	**Guysborough**	**4.85**	**75**	PN	Pn	21 22 23.6	-0.7
GBN				SN	Sn	21 23 18.1	-2.7
GBN				Trac		21 23 45.5	
	comp=Z,9.5nm,0.3s						
PTN	**Potsdam (NY)**	**4.89**	**275**	PN	Pn	21 22 24.4	-0.4
TRQ	**Mont Tremblant**	**4.90**	**295**	PN	Pn	21 22 24.4	-0.5
TRQ				SN	Sn	21 23 19.6	-2.5
TRQ				Trac		21 23 54.2	
	comp=Z,18nm,0.3s						
ALFO	**Alfred**	**4.95**	**288**	PN	Pn	21 22 24.6	-1.0
ALFO				Trac		21 23 52.9	
	comp=Z,4.7nm,0.3s						
CNQ	**Baie Comeau**	**5.00**	**1**	PN	Pn	21 22 25.4	-0.9
CNQ				SN	Sn	21 23 21.2	-3.2
CNQ				Trac		21 23 51.6	
	comp=Z,19nm,0.4s						
WBO	**Williamsburg**	**5.12**	**280**	PN	Pn	21 22 27.6	-0.3
WBO				SN	Sn	21 23 25.1	-2.4
WBO				Trac		21 23 53.4	
	comp=Z,26nm,0.4s						
BRNY	**Black Rk. Fore**	**5.18**	**238**	P	Pn	21 22 28.3	-0.5
BRNY				S	Sn	21 23 29.7	+0.8
GAC	**Glen Almond**	**5.37**	**288**	PN	Pn	21 22 30.8	-0.6
GAC				SN	Sn	21 23 30.9	-2.7
GAC				Trac		21 24 13.0	
	comp=Z,25nm,0.4s						
OTT	**Ottawa**	**5.48**	**284**	PN	Pn	21 22 32.8	-0.2
MPPO	**Murphy's Point**	**5.81**	**277**	PN	Pn	21 22 36.1	-1.4
MPPO				SN	Sn	21 23 41.6	-2.8
MPPO				Trac		21 24 15.2	
	comp=Z,5.5nm,0.3s						
CHEG	**Cheticamp, Nov**	**5.82**	**62**	PN	Pn	21 22 36.6	-1.0
CHEG				SN	Sn	21 23 40.4	-4.3
CHEG				Trac		21 23 43.9	
	comp=Z,6.7nm,0.2s						
GRQ	**Grand Remous**	**5.88**	**296**	PN	Pn	21 22 37.8	-0.7
GRQ				SN	Sn	21 23 42.6	-3.6
GRQ				Trac		21 24 17.8	
	comp=Z,20nm,0.4s						
SMQ	**Clarke City**	**6.00**	**9**	PN	Pn	21 22 39.0	-1.1
SMQ				SN	Sn	21 23 44.3	-4.8
SMQ				Trac		21 23 50.0	
	comp=Z,3.1nm,0.1s						
BINY	**Binghamton**	**6.09**	**252**	Pn	Pn	21 22 42.3	+1.0
BINY				eSg	Sg	21 24 20.0	-6.1
BINY	**Binghamton**	**6.09**	**252**	PN	Pn	21 22 42.9	+1.6
BINY				SN	Sn	21 23 48.3	-3.0
BINY				Trac		21 24 25.2	
	comp=Z,6.2nm,0.3s						
MNQ	**Manicouagan**	**6.24**	**356**	PN	Pn	21 22 42.3	-1.1
MNQ				SN	Sn	21 23 50.3	-4.8
MNQ				Trac		21 24 40.1	
	comp=Z,2.7nm,0.2s						
PEMO	**Pembroke**	**6.59**	**285**	PN	Pn	21 22 46.5	-1.6
PEMO				SN	Sn	21 23 59.5	-4.1
PEMO				Trac		21 24 46.5	
	comp=Z,3.4nm,0.2s						
CRLO	**Chalk River**	**6.74**	**288**	PN	Pn	21 22 49.5	-0.7
CRLO				SN	Sn	21 24 02.5	-4.9
CRLO				Trac		21 24 43.6	
	comp=Z,11nm,0.4s						
NATG	**Natashquan Que**	**7.00**	**29**	PN	Pn	21 22 52.4	-1.4
NATG				SN	Sn	21 24 08.6	-5.1
NATG				Trac		21 24 27.6	
	comp=Z,2.9nm,0.2s						
MVL	**Millersville**	**7.45**	**238**	eSg	Sg	21 25 01.8	-8.1
VLDQ	**Val d'Or**	**7.48**	**304**	PN	Pn	21 23 01.9	+1.5
VLDQ				SN	Sn	21 24 25.4	-0.2
VLDQ				Trac		21 25 16.0	
	comp=Z,2.2nm,0.3s						
PKRO	**Pickering**	**7.86**	**271**	SN	Sn	21 24 30.4	-4.5
SADO	**Sadowa**	**7.86**	**277**	PN	Pn	21 23 07.3	+1.7
SADO				Trac		21 25 18.7	
	comp=Z,2.8nm,0.3s						
EEO	**Eldee**	**8.02**	**291**	PN	Pn	21 23 07.0	-0.7
EEO				SN	Sn	21 24 33.0	-5.8
EEO				Trac		21 25 33.8	
	comp=Z,6.5nm,0.4s						
SSPA	**Standing Stone**	**8.07**	**246**	eSn	Sn	21 24 40.9	+0.8
SSPA				eSg	Sg	21 25 21.6	-8.0
RSPO	**Restoule Provi**	**8.38**	**286**	PN	Pn	21 23 11.3	-1.5
RSPO				SN	Sn	21 24 44.8	-2.9
RSPO				Trac		21 25 34.3	
	comp=Z,2.7nm,0.3s						
DRLN	**Deer Lake**	**8.83**	**52**	PN	Pn	21 23 17.2	-1.7
DRLN				SN	Sn	21 24 51.9	-6.9
DRLN				Trac		21 24 53.6	
	comp=Z,1.8nm,0.2s						
LG4Q	**La Grande 4**	**10.11**	**339**	PN	Pn	21 23 33.9	-2.5
LG4Q				SN	Sn	21 25 22.0	-8.1
LG4Q				Trac		21 25 27.2	
	comp=Z,0.7nm,0.2s						
SJNN	**Saint John's**	**11.27**	**68**	SN	Sn	21 25 52.1	-6.5
SJNN				Trac		21 26 11.2	
	comp=Z,2.2nm,0.1s						

IGQ 29 21:42:04.4,055N×8059W,h20km±6km,Mb4.1,Ms3.9, 4C-6D,Error ellipse: s-maj=8.0km s-min=5.6km az=89.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.02**	**127**	P	Pb	21 42 23.7	+0.2
MAG1				S	Sb	21 42 35.0	-1.5
CHIS	**Cerro-Chispas-**	**1.59**	**185**	P	Pn	21 42 35.1	+3.6
PINO	**Pino**	**2.10**	**110**	⇓P	Pn	21 42 40.0	+1.5
PINO				S	Sn	21 43 08.3	+4.3
TERV	**Terraza Guagua**	**2.11**	**110**	⇓P	Pn	21 42 40.7	+2.2
TERV				S	Sn	21 43 12.7	+8.5
GGP	**Refugio Guagua**	**2.12**	**110**	⇑P	Pn	21 42 40.7	+2.0
GGP				S	Sn	21 43 10.4	+6.0
JUA2	**San Juan 2**	**2.12**	**111**	⇑P	Pn	21 42 40.8	+2.0
YANA	**Yana**	**2.12**	**108**	⇓P	Pn	21 42 40.5	+1.8
YANA				S	Sn	21 43 08.4	+3.8
COTA	**Cotacachi**	**2.26**	**95**	⇑P	Pn	21 42 44.1	+3.5
COTA				S	Sn	21 43 14.7	+6.7
CAMI	**Rancho Maria**	**2.42**	**120**	⇓P	Pn	21 42 45.0	+2.3
VC1	**Cotopaxi 1**	**2.49**	**118**	P	Pn	21 42 46.4	+2.7
TAMB	**Tambo**	**2.54**	**119**	P	Pn	21 42 47.8	+3.3
ANTI	**Antisana**	**2.62**	**112**	⇑P	Pn	21 42 48.8	+3.2
CAYR	**Refugio Cayamb**	**2.64**	**102**	⇓P	Pn	21 42 50.9	+5.1
CAYA	**Cayambe**	**2.64**	**100**	P	Pn	21 42 49.7	+3.9
CAYA				S	Sn	21 43 25.1	+7.7
ARRY	**Arrayan**	**2.95**	**134**	⇓P	Pn	21 42 53.4	+3.2

*CSEM **29** 21:44:22.7±0.3,4593N×2754W,h2km,mb4.4/13,Ms3.6, Error ellipse: s-maj=10.6km s-min=4.7km az=113.0*
*IDC **29** 21:44:23.1±1.6,4594N×2776W,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.8/26,mbtmp3.9/10,ML4.7/1,MS3.9/21, Ms1 3.9/21,ms1mx3.8/30,Error ellipse: s-maj=39.2km s-min=24.8km az=57.0*
*ISCJB **29** 21:44:24.9±1.3,459N±0.1×274W±02,h10km,mb4.1/22, MS3.9/23,Error ellipse: s-maj=19.7km s-min=13.0km az=119.6*
*NEIC **29** 21:44:25.1±0.9,4591N×2760W,h10km,mb4.2/27,Error ellipse: s-maj=15.3km s-min=11.2km az=222.0*

ISC 29 21:44:26.2±1.3,460N±01×275W±02,h10km,n93,o0°95/77, mb4.1/22,MS3.9/23,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**13.53**	**96**	P	**Pn**	**21 47 37.0**	**-1.2**
	23nm,0.4s						
EMAZ	**Mazaricos**	**13.53**	**96**	P	**Pn**	**21 47 37.0**	**-1.3**
	23nm,0.4s						
STS	**Santiago**	**13.85**	**96**	P	**Pn**	**21 47 41.3**	**-1.2**
	9.4nm,0.3s						
STS	**Santiago**	**13.85**	**96**	P	**Pn**	**21 47 41.3**	**-1.3**
	9.4nm,0.3s						
EZAM	**Zamans**	**14.01**	**99**	P	**Pn**	**21 47 42.7**	**-2.1**
	12nm,0.6s						
ELOB	**Lobios**	**14.55**	**99**	P	**Pn**	**21 47 50.6**	**-1.6**
	0.4nm,0.3s						
ELOB	**Lobios**	**14.55**	**99**	P	**Pn**	**21 47 50.6**	**-1.6**
	0.4nm,0.3s						
ERUA	**La Rua**	**15.00**	**96**	P	**Pn**	**21 47 57.4**	**-0.8**
	9.4nm,0.4s						
ERUA	**La Rua**	**15.00**	**96**	P	**Pn**	**21 47 57.4**	**-0.8**
	9.4nm,0.4s						
ECAL	**Calabor**	**15.44**	**98**	P	**Pn**	**21 48 03.5**	**-0.5**
	2.7nm,0.3s						
ECAL	**Calabor**	**15.44**	**98**	P	**Pn**	**21 48 03.5**	**-0.6**
	2.7nm,0.3s						
EARI	**Arriondas**	**16.05**	**92**	P	**Pn**	**21 48 13.3**	**+1.4**
	21nm,1.3s						
EARI	**Arriondas**	**16.05**	**92**	P	**Pn**	**21 48 13.3**	**+1.4**
	21nm,1.3s						
ROSF	**Rostrenen**	**16.60**	**73**	eP	**Pn**	**21 48 18.8**	**-0.2**
QUIF	**Quistinic**	**16.69**	**74**	eP	**Pn**	**21 48 19.8**	**-0.3**
EBAD	**Badajoz**	**16.71**	**108**	P	**Pn**	**21 48 18.8**	**-1.5**
	0.8nm,0.3s						
EBAD	**Badajoz**	**16.71**	**108**	P	**Pn**	**21 48 18.8**	**-1.5**
	0.8nm,0.3s						
ELAN	**Lanestosa**	**17.31**	**90**	P	**Pn**	**21 48 29.4**	**+1.5**
	30nm,1.4s						
ELAN	**Lanestosa**	**17.31**	**90**	P	**Pn**	**21 48 29.4**	**+1.5**
	30nm,1.4s						
EMIN	**Mina Concepcio**	**17.47**	**111**	P	**Pn**	**21 48 30.4**	**+0.5**
	6.2nm,0.9s						
EMIN	**Mina Concepcio**	**17.47**	**111**	P	**Pn**	**21 48 30.5**	**+0.6**
	6.2nm,0.9s						
GUD	**Guadarrama**	**17.74**	**99**	P	**Pn**	**21 48 35.2**	**+1.8**
	1.9nm,0.4s						
GUD	**Guadarrama**	**17.74**	**99**	P	**Pn**	**21 48 35.2**	**+1.9**
	1.9nm,0.4s						
ESDC	**Sonseca Array**	**18.30**	**102**	P	**Pn**	**21 48 39.7**	**-0.6**
	0.5nm,0.3s,baz=295,slow=12,SNR=9.2						
ESDC				LR	LR	21 54 35.5	
	comp=Z,314nm,18.2s,baz=300,slow=33						
ESDC	**Sonseca Array**	**18.30**	**102**	P	**Pn**	**21 48 42.3**	**+2.1**
	1.2nm,0.3s						
ETOR	**Torete**	**19.12**	**96**	P	**Pn**	**21 48 53.2**	**+3.0**
	12nm,1.4s						
ETSF	**Etsaut**	**19.41**	**89**	eP	**Pn**	**21 48 53.2**	**-0.4**
	16nm,1.0s						
ETSF	**Etsaut**	**19.41**	**89**	eP	**Pn**	**21 48 53.2**	**-0.4**
	8.2nm,1.0s						
EBIE	**Bielsa**	**19.97**	**89**	P	**Pn**	**21 49 06.2**	**+5.9**
	8.2nm,0.8s						
EPF	**Esparros**	**20.00**	**88**	eP	**P**	**21 49 00.0**	**+1.1**
RJF	**Les Rejaudoux**	**20.22**	**81**	eP	**P**	**21 49 02.1**	**+0.7**
	96nm,1.7s						
RJF				eMLR			
	comp=Z,488nm,22.2s						
RJF	**Les Rejaudoux**	**20.22**	**81**	eP	**P**	**21 49 02.1**	**+0.7**
	comp=Z,48nm,1.7s						
RJF				LR	LR		
	comp=Z,490nm,22.3s,MS3.8						
TCF	**Toulx Ste Croi**	**20.51**	**78**	eP	**P**	**21 49 05.7**	**+1.2**
	comp=Z,36nm,1.1s						
TCF	**Toulx Ste Croi**	**20.51**	**78**	eP	**P**	**21 49 05.7**	**+1.2**
	comp=Z,18nm,1.1s						
BGF	**Bois d'Agland**	**20.90**	**77**	eP	**P**	**21 49 09.4**	**+0.7**
	comp=Z,75nm,1.4s						
BGF	**Bois d'Agland**	**20.90**	**77**	eP	**P**	**21 49 09.4**	**+0.7**
	comp=Z,37nm,1.4s						
AVF	**Avril sur Loir**	**21.21**	**77**	eP	**P**	**21 49 12.7**	**+0.7**
	comp=Z,26nm,1.1s,mb4.2						
AVF	**Avril sur Loir**	**21.21**	**77**	eP	**P**	**21 49 12.7**	**+0.7**
	comp=Z,13nm,1.1s,mb4.2						
MTLF	**Montolieu**	**21.21**	**86**	eP	**P**	**21 49 13.0**	**+0.9**
	comp=Z,44nm,1.4s,mb4.3						
MTLF	**Montolieu**	**21.21**	**86**	eP	**P**	**21 49 13.0**	**+0.9**
	comp=Z,22nm,1.4s,mb4.3						
SSF	**Saint Saulge**	**21.27**	**76**	eP	**P**	**21 49 13.4**	**+0.7**
	comp=Z,18nm,0.9s,mb4.1						
SSF	**Saint Saulge**	**21.27**	**76**	eP	**P**	**21 49 13.4**	**+0.7**
	comp=Z,9.2nm,0.9s,mb4.1						
LOR	**Lormes**	**21.48**	**75**	eP	**P**	**21 49 15.5**	**+0.6**
	comp=Z,34nm,1.4s,mb4.2						
LOR				eMLR			
	comp=Z,387nm,21.5s						
LOR	**Lormes**	**21.48**	**75**	eP	**P**	**21 49 15.5**	**+0.6**
	comp=Z,17nm,1.4s,mb4.2						
LOR				LR	LR		
	comp=Z,390nm,21.5s,MS3.8						
BAIF	**Baives**	**21.48**	**67**	eP	**P**	**21 49 15.5**	**+0.5**
	comp=Z,92nm,1.7s,mb4.5						
BAIF	**Baives**	**21.48**	**67**	eP	**P**	**21 49 15.5**	**+0.5**
	comp=Z,46nm,1.7s,mb4.5						
GIVF	**Givet**	**21.88**	**67**	eP	**P**	**21 49 19.7**	**+0.5**
	comp=Z,38nm,1.0s,mb4.5						
GIVF	**Givet**	**21.88**	**67**	eP	**P**	**21 49 19.7**	**+0.5**
	comp=Z,19nm,1.0s,mb4.5						
MDT	**Midelt**	**21.90**	**119**	P	**P**	**21 49 21.3**	**+1.9**
	comp=Z,3.3nm,1.0s,mb3.7,baz=298,slow=8.9,SNR=7.5						
MDT				LR	LR	21 55 51.9	
	comp=Z,227nm,21.5s,MS3.5,baz=322,slow=31						
MEZF	**Maizieres J'vi**	**22.13**	**72**	eP	**P**	**21 49 21.8**	**-0.1**
	comp=Z,68nm,1.2s,mb4.7						
MEZF	**Maizieres J'vi**	**22.13**	**

KEST Kesra 29.42 97 P **P 21 50 30.1 +0.3**
comp=Z,0.6nm,0.8s,mb3.4,baz=267,slow=11,SNR=4.8
KEST LR LR 22 01 23.0
comp=Z,132nm,18.3s,MS3.6,baz=6.1,slow=34
VRAC Vranov 29.55 67 LR LR 22 02 08.8
comp=Z,288nm,18.4s,MS3.9,baz=273,slow=36
FINES FINESS Array B 34.15 44 P **P 21 51 11.1 -0.3**
comp=Z,0.6nm,0.7s,mb3.6,baz=294,slow=10,SNR=4.0
FINES LR LR 22 03 42.2
comp=Z,84nm,19.2s,MS3.5,baz=159,slow=34
ARCES ARCESS Array B 35.07 29 LR LR 22 02 47.8
comp=Z,60nm,19.4s,MS3.4,baz=291,slow=31
AKASG Malin Array Be 37.19 62 P **P 21 51 37.2 -0.2**
comp=Z,0.3nm,0.4s,mb3.5,baz=283,slow=8.6,SNR=6.9
AKASG Malin Array Be 37.19 62 P **P 21 51 37.2 -0.3**
TOA0 Torodi Ar. Sit 40.93 134 *e*P **P 21 52 08.7 -0.1**
TOA0 Torodi Ar. Sit 40.93 134 *e*P **P 21 52 08.7 -0.1**
TORD Torodi Ar. Bea 40.93 134 P **P 21 52 08.6 -0.3**
comp=Z,8.7nm,0.8s,mb4.4,baz=330,slow=8.0,SNR=48
TORD LR LR 22 07 50.9
comp=Z,332nm,19.8s,MS4.2,baz=340,slow=34
BRTR Keskin Array B 44.26 75 P **P 21 52 34.8 -1.1**
comp=Z,2.4nm,1.1s,mb3.9,baz=311,slow=4.7,SNR=5.0
ULM Lac du Bonnet 44.44 301 LR LR 22 08 32.0
comp=Z,328nm,21.6s,MS4.2,baz=47,slow=33
YKA Yellowknife Ar 49.41 322 LR LR 22 12 10.8
comp=Z,78nm,18.1s,MS3.8,baz=135,slow=34
PDAR Pinedale Array 56.27 299 LR LR 22 16 56.4
comp=Z,261nm,21.5s,MS4.3,baz=5.2,slow=35
YBH Yreka Blue Hor 64.71 304 LR LR 22 23 51.4
comp=Z,210nm,19.4s,MS4.3,baz=8.9,slow=37
ZAL Zalesovo 65.06 37 LR LR 22 24 06.1
comp=Z,81nm,19.0s,MS3.9,baz=106,slow=36
LPIG La Paz 68.27 283 LR LR 22 23 11.1
comp=Z,233nm,20.6s,MS4.4,baz=40,slow=34
MKAR Makanchi Array 68.98 44 P **P 21 55 31.2 -0.5**
comp=Z,1.5nm,0.8s,mb4.0,baz=335,slow=5.4,SNR=7.9
MKAR LR LR 22 28 16.3
comp=Z,90nm,18.1s,MS4.0,baz=360,slow=38
KMBO Kilima Mbogo 73.50 109 LR LR 22 29 34.4
comp=Z,62nm,20.4s,MS3.9,baz=280,slow=37
SONM Songino Array 78.24 30 P **P 21 56 26.0 -0.2**
comp=Z,0.9nm,0.8s,mb3.8,baz=308,slow=5.8,SNR=6.7
BOSA Boshof 88.26 136 LR LR 22 34 23.2
comp=Z,87nm,19.0s,MS4.2,baz=130,slow=34
WRA Warramunga Arr 150.04 36 PKPbc PKPbc 22 04 15.9 -1.2
comp=Z,2.8nm,1.0s,baz=330,slow=2.9,SNR=12
WRA PKPab PKPab 22 04 21.9 -0.9
comp=Z,2.7nm,1.1s,baz=343,slow=4.8,SNR=10
ASAR Alice Springs 153.13 40 PKPbc PKPbc 22 04 21.4 -2.7
comp=Z,0.8nm,0.7s,baz=327,slow=2.1,SNR=7.5
ASAR PKPab PKPab 22 04 35.0 -0.6
comp=Z,1.7nm,0.8s,baz=328,slow=4.2,SNR=10

*ISCJB **29** 22:12:57.5±0.4, 5007N±003×1839E±002, h0km, Error ellipse: s-maj=4.0km s-min=2.2km az=24.7*
*IPEC **29** 22:12:58.9±0.2, 5005N×1847E, h7km±1km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=1.1km az=163.0*
*VIE **29** 22:12:58.7±0.4, 4972N×1856E, h0km, mb2.0/3, ML2.9/4, Error ellipse: s-maj=2.7km s-min=2.0km az=82.0 26 km ESE of Ostrava Suspected Mining induced.*
*WAR **29** 22:12:59.4, 5005N×1845E, ML2.7, Mining Induced*
*PRU **29** 22:12:59.8, 5006N×1836E, h0km*
*CSEM **29** 22:13:00.0±0.2, 5004N×1835E, h0km, ML3.3/6, Error ellipse: s-maj=2.5km s-min=1.2km az=19.0*
ISC 29 22:12:58.8±0.3, 5004N±003×1836E±002, h0km, n37, σ1§19/65, 8C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.12**	**294**	⇓*i*Pg	**Pg**	**22 13 03.2**	**+2.1**
RAC				*e*Sg	**Sg**	**22 13 06.4**	**+3.8**
OKC	**Ostrava-Krasne**	**0.24**	**215**	*e*PG	**Pg**	**22 13 05.0**	**+1.6**
OKC				*e*SG	**Sg**	**22 13 08.5**	**+1.9**
413nm,0.5s							
OKC	**Ostrava-Krasne**	**0.24**	**215**	*e*Pg	**Pg**	**22 13 04.8**	**+1.4**
OKC				*e*Sg	**Sg**	**22 13 08.5**	**+1.9**
413nm,0.5s							
MORC	**Moravsky Berou**	**0.59**	**244**	⇓*i*P	**Pg**	**22 13 11.1**	**+1.0**
MORC	**Moravsky Berou**	**0.59**	**244**	*e*Pg	**Pg**	**22 13 11.1**	**+1.0**
MORC				*e*Sg	**Sg**	**22 13 19.8**	**+2.0**
83nm,0.2s							
OJC	**Ojcow**	**0.94**	**78**	*e*Pg	**Pg**	**22 13 15.8**	**-1.0**
OJC				*e*Sg	**Sg**	**22 13 28.1**	**-1.0**
OJC	**Ojcow**	**0.94**	**78**	*e*Pg	**Pg**	**22 13 15.9**	**-0.9**
OJC				*e*Sg	**Sg**	**22 13 28.1**	**-1.0**
LIKS	**Likavka**	**1.10**	**154**	*e*PN	**Pn**	**22 13 21.1**	**-0.3**
LIKS				*e*SN	**Sn**	**22 13 37.3**	**0.0**
JAVC	**Velka Javorina**	**1.26**	**201**	*e*Pg	**Pg**	**22 13 24.0**	**+1.0**
DPC	**Dobruska-Polom**	**1.35**	**284**	*e*PG	**Pg**	**22 13 24.9**	**+0.3**
DPC				*e*SG	**Sg**	**22 13 43.4**	**+1.3**
98nm,0.5s							
DPC	**Dobruska-Polom**	**1.35**	**284**	*e*Pg	**Pg**	**22 13 24.9**	**+0.3**
DPC				*e*Sg	**Sg**	**22 13 43.5**	**+1.4**
VRAC	**Vranov**	**1.36**	**238**	⇑*i*P	**Pg**	**22 13 24.9**	**0.0**
VRAC	**Vranov**	**1.36**	**238**	*e*Pn	**Pn**	**22 13 24.7**	**-0.3**
VRAC				*e*Sg	**Sg**	**22 13 43.6**	**+1.1**
62nm,0.3s							
NIE	**Niedzica**	**1.41**	**115**	*e*Pg	**Pg**	**22 13 24.9**	**-0.9**
NIE				*e*Sg	**Sg**	**22 13 44.2**	**+0.2**
KSP	**Ksiaz**	**1.55**	**302**	*e*Pn	**Pn**	**22 13 27.2**	**-0.4**
KSP				*e*Pg	**Pg**	**22 13 29.5**	**+1.0**
KSP				*e*Sg	**Sg**	**22 13 49.3**	**+0.7**
VYHS	**Vyhne**	**1.57**	**168**	*e*PN	**Pn**	**22 13 27.7**	**-0.3**
VYHS				*e*SN	**Sn**	**22 13 49.2**	**+0.2**
UPC	**Upice**	**1.58**	**288**	*e*PG	**Pg**	**22 13 29.4**	**+0.3**
UPC				*e*SG	**Sg**	**22 13 49.5**	**-0.1**
KRUC	**Moravsky**	**1.61**	**233**	*e*Pn	**Pn**	**22 13 27.8**	**-0.7**
KRUC				*e*Sg	**Sg**	**22 13 51.0**	**+0.5**
25nm,0.3s							
SMOL	**Smolenice**	**1.64**	**202**	*i* PN	**Pn**	**22 13 28.7**	**-0.2**
SMOL				*e*SN	**Sn**	**22 13 50.6**	**-0.1**
STHS	**Stebnicka Huta**	**1.97**	**107**	*e*PN	**Pn**	**22 13 36.1**	**+2.7**
STHS				*e*SN	**Sn**	**22 14 00.4**	**+1.6**
TREC	**Trest**	**2.01**	**249**	*e*SG	**Sg**	**22 14 02.7**	**-0.7**
ZST	**Bratislava**	**2.02**	**205**	*e*Sn	**Sn**	**22 14 01.0**	**+1.0**
KECS	**Kecovo**	**2.09**	**137**	*e*PN	**Pn**	**22 13 34.1**	**-0.9**
KECS				*e*SN	**Sn**	**22 14 01.8**	**+0.2**
CRVS	**Cervenica-Dubn**	**2.32**	**118**	*e*PN	**Pn**	**22 13 41.4**	**+3.2**
CRVS				*e*SG	**Sg**	**22 14 14.1**	**+0.8**
PSZ	**Piszkesteto**	**2.35**	**154**	⇑*i*P	**Pn**	**22 13 38.3**	**-0.3**
PRU	**Pruhonice**	**2.47**	**270**	*e*PG	**Pg**	**22 13 44.6**	**-1.4**
PRU				*e*SG	**Sg**	**22 14 15.9**	**-2.1**
26nm,0.8s							
CONA	**Conrad Observa**	**2.68**	**219**	⇓*i*Pn	**Pn**	**22 13 41.0**	**-2.1**
CONA				⇑*i*Sg	**Sg**	**22 14 22.7**	**-2.1**
8.6nm,0.5s							
KOLS	**Kolonicke sedl**	**2.78**	**112**	*e*PG	**Pg**	**22 13 51.9**	**-0.1**
KOLS				*e*SG	**Sg**	**22 14 27.7**	**-0.4**
KHC	**Kasperske Hory**	**3.24**	**256**	*e*PN	**Pn**	**22 13 50.5**	**-0.4**
KHC				*e*PG	**Pg**	**22 13 59.1**	**-1.8**
KHC				*e*SN	**Sn**	**22 14 27.0**	**-3.2**
KHC				*e*SG	**Sg**	**22 14 40.5**	**-2.5**
22nm,0.4s							
MOA	**Molln**	**3.48**	**233**	⇓*i*Pn	**Pn**	**22 13 52.7**	**-1.4**
MOA				⇑*i*Sg	**Sg**	**22 14 50.9**	**+0.5**
comp=Z,10nm,0.5s							
CLL	**Collm**	**3.64**	**293**	*e*Sg	**Sg**	**22 14 57.0**	**+1.3**
comp=Z,20nm,1.0s							
NKC	**Novy Kostel**	**3.81**	**275**	*e*PN	**Pn**	**22 14 00.2**	**+1.5**
NKC				*e*SG	**Sg**	**22 14 59.2**	**-2.0**
comp=Z,16nm,0.6s							
DRGR		**4.35**	**137**	⇑*i*P	**Sn**	**22 14 54.6**	**-2.9**
MOX	**Moxa**	**4.37**	**281**	*e*SG	**Sg**	**22 15 18.3**	**-0.7**
BZS	**Buzias**	**4.94**	**152**	⇑*i*P	**Pn**	**22 14 14.1**	**-0.1**
BURAR	**Bucovina Array**	**5.13**	**116**	⇑*i*P	**Pn**	**22 14 17.1**	**+0.2**
GZR	**Gura Zlata**	**5.52**	**146**	⇑*i*P	**Pn**	**22 14 22.6**	**+0.4**

*CSEM **29** 22:39:47.6±0.1, 4158N×260E, h10km, ML2.5/13, Error ellipse: s-maj=2.5km s-min=1.7km az=121.0*
*LDG **29** 22:39:48.3±0.1, 4159N×260E, h6km, Ml2.5/13, Error ellipse: s-maj=1.9km s-min=1.2km az=172.0*
*NEIC **29** 22:39:48.3, 4154N×265E, h18km, ML2.1(STR), ML2.5(LDG), MN2.2(MDD), After MDD.*
*STR **29** 22:39:48.3±0.7, 4159N×258E, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 29 22:39:47.7±0.5, 4154N×264E, h6km±3km, mbLg2.2/15, Error ellipse: s-maj=4.0km s-min=2.8km az=115.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.27**	**325**	P	Pg	22 39 52.9	-0.1
CFON				S	Sg	22 39 56.2	-0.4
196nm,0.2s							
CBRU	**Bruguera**	**0.82**	**335**	P	Pg	22 40 02.7	-0.8
CBRU				S	Sg	22 40 13.8	-0.4
11nm,0.1s							
EMIR	**Miracle**	**0.92**	**295**	Pg	Pg	22 40 04.9	-0.4
13nm,0.3s,SNR=76							
EMIR				Lg		22 40 16.6	
64nm,0.4s							
EMIR	**Miracle**	**0.92**	**295**	Pg	Pg	22 40 04.9	-0.4
13nm,0.3s,SNR=76							
EJON	**La Jonquera**	**0.93**	**11**	Pg	Pg	22 40 05.1	-0.3
4.0nm,0.3s,SNR=24							
EJON				Lg		22 40 17.2	
21nm,0.3s,SNR=5.0							
EJON	**La Jonquera**	**0.93**	**11**	Pg	Pg	22 40 05.1	-0.4
4.0nm,0.3s,SNR=24							
SJAF	**Saint Jean de**	**0.96**	**11**	Pn	Pn	22 40 05.7	-2.0
SJAF				Sg	Sg	22 40 18.9	+0.3
VALF	**Valcebollere**	**0.98**	**332**	Pn	Pn	22 40 05.5	-2.5
VALF				Sg	Sg	22 40 18.6	-0.6
FILF	**Fillols**	**1.02**	**357**	P	Pg	22 40 07.1	-0.2
FILF				S	Sg	22 40 20.1	-0.6
CLLI	**Llivia**	**1.06**	**332**	P	Pg	22 40 07.1	-1.0
CLLI				S	Sg	22 40 20.8	-1.1
7.2nm,0.1s							
CGAR	**Garraf**	**1.16**	**258**	P	Pg	22 39 59.6	-10
CGAR				S	Sg	22 40 07.4	-18
6.7nm,0.2s							
CORG	**Organya**	**1.21**	**305**	P	Pg	22 40 10.0	-0.8
CORG				S	Sg	22 40 25.7	-0.8
10nm,0.2s							
CARF	**Carcanieres**	**1.24**	**341**	Pn	Pn	22 40 10.5	-1.1
CARF				Sg	Sg	22 40 26.7	-1.0
PAND	**Andorre**	**1.28**	**321**	S	Sg	22 40 28.0	-0.8
LRDF	**Laroque-de-Fa**	**1.40**	**357**	S	Sb	22 40 31.6	-0.8
CSOR	**Sort**	**1.40**	**307**	P	Pn	22 40 13.0	-0.8
CSOR				S	Sb	22 40 31.7	-0.7
23nm,0.1s							
CAVN	**Les Avellanes**	**1.46**	**284**	P	Pn	22 40 14.3	-0.2
CAVN				S	Sn	22 40 33.4	-0.6
34nm,0.1s							
GRBF	**Gourbit**	**1.54**	**328**	P	Pn	22 40 15.4	-0.3
SALF	**Salau**	**1.63**	**319**	S	Sn	22 40 36.9	-1.4
ETOS	**Mallorca**	**1.77**	**176**	Pn	Pn	22 40 17.1	-1.8
2.1nm,0.3s,SNR=7.9							
ETOS				Pg	Pg	22 40 19.3	-2.4
0.4nm,0.1s,SNR=7.9							
ETOS				Sn	Sn	22 40 37.1	-4.7
32nm,1.6s,SNR=5.0							
ETOS	**Mallorca**	**1.77**	**176**	Pn	Pn	22 40 17.1	-1.8
2.1nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**1.77**	**176**	Pg	Pg	22 40 19.3	-2.4
0.4nm,0.1s,SNR=7.9							
ETOS				Sn	Sn	22 40 37.1	-4.6
32nm,1.6s,SNR=5.0							
MLS	**Moulis**	**1.83**	**322**	S	Sn	22 40 42.9	-0.2
MTLF	**Montolieu**	**1.83**	**350**	*e*Pg	Pg	22 40 20.7	-2.0
MTLF				*e*Sg	Sg	22 40 43.6	-2.9
7.0nm,0.2s							
MTLF	**Montolieu**	**1.83**	**350**	*e*Pn	Pn	22 40 17.8	-1.9
MTLF				*e*Pg	Pg	22 40 20.7	-2.0
MTLF				*e*Sg	Sg	22 40 43.6	-2.9
MTLF	**Montolieu**	**1.83**	**350**	Pn	Pn	22 40 17.8	-1.9
MTLF				Pg	Pg	22 40 20.7	-2.0
MTLF	**Montolieu**	**1.83**	**350**	*e*Pg	Pg	22 40 20.7	-2.0
MTLF				*e*Sg	Sg	22 40 43.6	-2.9
3.5nm,0.2s							
ERTA	**Horta de San J**	**1.84**	**252**	Pn	Pn	22 40 17.9	-1.8
3.2nm,0.6s,SNR=12							
ERTA				Pg	Pg	22 40 21.0	-1.8
0.6nm,0.1s,SNR=7.9							
ERTA				Lg		22 40 45.4	
2.8nm,0.4s,SNR=6.0							
ERTA	**Horta de San J**	**1.84**	**252**	Pn	Pn	22 40 17.9	-1.8
3.2nm,0.6s,SNR=12							
ERTA	**Horta de San J**	**1.84**	**252**	Pg	Pg	22 40 21.0	-1.9
0.6nm,0.1s,SNR=7.9							
MELF	**Melles**	**1.93**	**314**	S	Sn	22 40 44.7	-1.0
EBIE	**Bielsa**	**2.19**	**303**	Pg	Pg	22 40 26.3	-3.2
1.3nm,0.3s,SNR=6.7							
EBIE				Lg		22 40 55.3	
8.6nm,0.3s,SNR=5.0							
EBIE	**Bielsa**	**2.19**	**303**	Pg	Pg	22 40 26.4	-3.2
EPF	**Esparros**	**2.27**	**312**	*e*Pg	Pg	22 40 28.7	-2.5
EPF				*e*Sn	Sn	22 40 50.7	-3.3
EPF				*e*Sg	Sg	22 40 56.9	-3.7
9.5nm,0.2s							
EPF	**Esparros**	**2.27**	**312**	*e*P	Pn	22 40 25.6	-0.1
EPF				*e*Pg	Pg	22 40 28.7	-2.5
EPF				*e*Sn	Sn	22 40 50.7	-3.3
EPF				*e*Sg	Sg	22 40 56.9	-3.7
EPF	**Esparros**	**2.27**	**312**	Pg	Pg	22 40 28.7	-2.5
EPF				Sn	Sn	22 40 50.7	-3.3
EPF	**Esparros**	**2.27**	**312**	*e*Pg	Pg	22 40 28.7	-2.5
EPF				*e*Sn	Sn	22 40 50.7	-3.3
EPF				*e*Sg	Sg	22 40 56.9	-3.7
4.8nm,0.2s							
ESAC	**San Caprasio**	**2.34**	**276**	Pg	Pg	22 40 29.5	-3.1
ESAC				Lg		22 41 00.2	
ESAC	**San Caprasio**	**2.34**	**276**	Pg	Pg	22 40 29.5	-3.1
13nm,0.3s,SNR=9.7							
ESAC				Lg		22 41 02.3	
38nm,0.3s,SNR=9.3							
ESAC	**San Caprasio**	**2.34**	**276**	Pg	Pg	22 40 29.5	-3.0
13nm,0.3s,SNR=9.7							
EMOS	**Mosqueruela**	**2.63**	**245**	Pn	Pn	22 40 29.8	-0.9
9.4nm,1.0s							
EMOS				Pg	Pg	22 40 36.0	-2.1
0.4nm,0.2s,SNR=7.9							
EMOS				Lg		22 41 10.6	
0.9nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**2.63**	**245**	Pn	Pn	22 40 29.8	-0.9
9.4nm,1.0s							
EMOS	**Mosqueruela**	**2.63**	**245**	Pg	Pg	22 40 36.0	-2.2
0.4nm,0.2s,SNR=7.9							
LASF	**Ste Croix**	**2.69**	**19**	*e*Sn	Sn	22 41 00.2	-4.2
LASF				*e*Sg	Sg	22 41 10.8	-3.3
4.2nm,0.3s							
LASF	**Ste Croix**	**2.69**	**19**	*e*Sn	Sn	22 41 00.2	-4.2
LASF				*e*Sg	Sg	22 41 10.8	-3.3
2.1nm,0.3s							
EIBI	**Ibiza**	**2.70**	**202**	Pn	Pn	22 40 30.0	-1.6
EIBI				Sn	Sn	22 40 59.3	-5.3
EIBI	**Ibiza**	**2.70**	**202**	Pn	Pn	22 40 30.0	-1.6
0.5nm,0.1s,SNR=7.9							
EIBI				Sn	Sn	22 41 00.2	-4.4
2.4nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**2.70**	**202**	Pn	Pn	22 40 30.0	-1.6
0.5nm,0.1s,SNR=7.9							
EIBI				Sn	Sn	22 40 59.3	-5.3
2.4nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**2.74**	**301**	*e*Pg	Pg	22 40 38.2	-2.0
ETSF				*e*Sg	Sg	22 41 11.9	-3.8
9.3nm,0.4s							
ETSF	**Etsaut**	**2.74**	**301**	*e*Pn	Pn	22 40 30.4	-1.8
ETSF				*e*Pg	Pg	22 40 38.2	-2.0
ETSF				*e*Sg	Sg	22 41 11.9	-3.8
ETSF	**Etsaut**	**2.74**	**301**	Pn	Pn	22 40 30.4	-1.8
ETSF				Pg	Pg	22 40 38.2	-2.0
ETSF	**Etsaut**	**2.74**	**301**	*e*Pg	Pg	22 40 38.2	-2.0
ETSF				*e*Sg	Sg	22 41 11.9	-3.8
4.7nm,0.4s							
SMRF	**Simiane la Rot**	**3.26**	**41**	*e*Pg	Pg	22 40 47.9	-2.2
SMRF				*e*Sg	Sg	22 41 30.3	-2.0
1.0nm,0.3s							
SMRF	**Simiane la Rot**	**3.26**	**41**	*e*Pg	Pg	22 40 47.9	-2.2
SMRF				*e*Sg	Sg	22 41 30.3	-2.0
0.5nm,0.3s							
SJPF	**Ste Jean**	**3.27**	**300**	*e*Sg	Sg	22 41 28.7	-4.1
7.1nm,0.4s							
SJPF	**Ste Jean**	**3.27**	**300**	*e*Sg	Sg	22 41 28.7	-4.1
3.5nm,0.4s							
LMR	**La Mourre**	**3.38**	**57**	*e*Pn	Pn	22 40 39.5	-1.5
LMR				*e*Sn	Sn	22 41 17.7	-3.7
1.4nm,0.3s							
LMR	**La Mourre**	**3.38**	**57**	*e*Pn	Pn	22 40 39.5	-1.5
LMR				*e*Sn	Sn	22 41 17.7	-3.7
0.7nm,0.3s							
CAF	**Calviac**	**3.41**	**353**	*e*Pg	Pg	22 40 49.8	-3.3
CAF				*e*Sg	Sg	22 41 33.2	-4.1
4.7nm,0.3s							
CAF	**Calviac**	**3.41**	**353**	*e*Pn	Pn	22 40 40.5	-0.9
CAF				*e*Pg	Pg	22 40 49.8	-3.3
CAF				*e*Sg	Sg	22 41 33.2	-4.1
CAF	**Calviac**	**3.41**	**353**	*e*Pn	Pn	22 40 40.5	-0.9
CAF				*e*Pg	Pg	22 40 49.8	-3.3
CAF	**Calviac**	**3.41**	**353**	*e*Pg	Pg	22 40 49.8	-3.3
CAF				*e*Sg	Sg	22 41 33.2	-4.1
2.3nm,0.3s							
FRF	**La Foret Royal**	**3.58**	**54**	*e*Pn	Pn	22 40 42.7	-1.1
FRF				*e*Sn	Sn	22 41 22.9	-3.5
ETOR	**Torete**	**3.62**	**260**	Pn	Pn	22 40 43.1	-1.2
ETOR				Pg	Pg	22 40 53.0	-4.0
ETOR				Lg		22 41 39.9	
ETOR	**Torete**	**3.62**	**260**	Pn	Pn	22 40 43.1	-1.2
1.0nm,0.1s,SNR=5.9							
ETOR				Pg	Pg	22 40 53.0	-4.0
2.4nm,0.1s,SNR=7.9							
ETOR				Lg		22 41 43.4	
3.5nm,0.1s,SNR=7.9							
ETOR	**Torete**	**3.62**	**260**	Pg	Pg	22 40 53.0	-4.0
ETOR	**Torete**	**3.62**	**260**	Pg	Pg	22 40 53.0	-4.0
2.4nm,0.1s,SNR=7.9							
VIVF	**Saint-Julien-l**	**3.63**	**23**	*e*Sn	Sn	22 41 22.7	-5.0
VIVF				*e*Sg	Sg	22 41 40.2	-4.2
1.5nm,0.3s							
VIVF	**Saint-Julien-l**	**3.63**	**23**	*e*Sn	Sn	22 41 22.7	-5.0
VIVF				*e*Sg	Sg	22 41 40.2	-4.2
0.8nm,0.3s							
LFF	**La Frestale**	**3.67**	**338**	*e*Pg	Pg	22 40 54.7	-3.4
LFF				*e*Sg	Sg	22 41 41.2	-4.5
3.3nm,0.3s							
LFF	**La Frestale**	**3.67**	**338**	*e*Pn	Pn	22 40 43.1	-1.9
LFF				*e*Pg	Pg	22 40 54.7	-3.4
LFF				*e*Sg	Sg	22 41 41.2	-4.5
LFF	**La Frestale**	**3.67**	**338**	Pn	Pn	22 40 43.1	-1.9
LFF				Pg	Pg	22 40 54.7	-3.4
LFF	**La Frestale**	**3.67**	**338**	*e*Pg	Pg	22 40 54.7	-3.4
LFF				*e*Sg	Sg	22 41 41.2	-4.5
1.6nm,0.3s							
RJF	**Les Rejaudoux**	**3.85**	**348**	*e*Sg	Sg	22 41 47.4	-4.0
2.6nm,0.3s							
RJF	**Les Rejaudoux**	**3.85**	**348**	*e*Sg	Sg	22 41 47.4	-4.0
1.3nm,0.3s							
ECRI	**Cripan**	**3.98**	**287**	Pn	Pn	22 40 48.6	-0.7
ECRI				Pg	Pg	22 40 58.6	-5.4
ECRI				Sn	Sn	22 41 31.7	-4.5
ECRI				Lg		22 41 50.0	
ECRI	**Cripan**	**3.98**	**287**	Pn	Pn	22 40 48.6	-0.7
0.5nm,0.1s,SNR=7.9							
ECRI				Pg	Pg	22 40 58.6	-5.4
0.8nm,0.2s,SNR=7.9							
ECRI				Sn	Sn	22 41 31.7	-4.5
0.6nm,0.2s,SNR=7.9							
ECRI				Lg		22 41 54.8	
1.8nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.32**	**229**	Pn	Pn	22 40 52.5	-1.4
0.1nm,0.2s,SNR=7.9							
ETOB				Sn	Sn	22 41 40.6	-4.0
0.2nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.32**	**229**	Pn	Pn	22 40 52.5	-1.4
0.1nm,0.2s,SNR=7.9							
PGF	**Pioggiola**	**4.84**	**76**	*e*Pn	Pn	22 41 00.2	-0.8
PGF				*e*Sn	Sn	22 41 52.8	-4.6
1.1nm,0.3s							
PGF	**Pioggiola**	**4.84**	**76**	*e*Pn	Pn	22 41 00.2	-0.8
PGF				*e*Sn	Sn	22 41 52.8	-4.6
0.6nm,0.3s							
CABF	**La Chapelle**	**5.65**	**25**	*e*Pn	Pn	22 41 10.4	-1.7

*LDG **29** 22:40:57.2±0.1, 4159N×260E, h6km, Ml2.3/11, Error ellipse: s-maj=2.2km s-min=1.5km az=173.0*
MDD 29 22:40:57.2±0.8, 4159N×265E, h7km±6km, mbLg2.1/13, Error ellipse: s-maj=6.1km s-min=3.8km az=127.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.23**	**318**	P	Pg	22 41 01.7	-0.2
CFON				S	Sg	22 41 05.1	0.0
152nm,0.2s							
CBRU	**Bruguera**	**0.78**	**334**	P	Pg	22 41 11.8	-0.4
CBRU				S	Sg	22 41 22.7	+0.3
4.4nm,0.1s							
EJON	**La Jonquera**	**0.88**	**12**	Pg	Pg	22 41 14.0	-0.2
29nm,1.5s							
EJON				Lg		22 41 26.2	
22nm,0.2s,SNR=6.1							
EMIR	**Miracle**	**0.90**	**292**	Pg	Pg	22 41 14.0	-0.5
1.9nm,0.1s,SNR=7.9							
EMIR				Lg		22 41 25.4	
38nm,0.1s,SNR=5.4							
CLLI	**Llivia**	**1.02**	**331**	S	Sg	22 41 29.9	-0.2
3.1nm,0.1s							
CGAR	**Garraf**	**1.17**	**256**	P	Pg	22 41 08.4	-11
CGAR				S	Sg	22 41 17.0	-18
CORG	**Organya**	**1.18**	**303**	S	Sg	22 41 34.5	-0.7
5.8nm,0.1s							
CSOR	**Sort**	**1.38**	**306**	S	Sb	22 41 40.3	-0.7
10nm,0.2s							
CAVN	**Les Avellanes**	**1.45**	**282**	S	Sn	22 41 42.2	-0.8
16nm,0.1s							
MTLF	**Montolieu**	**1.78**	**350**	*e*Pn	Pn	22 41 26.6	-1.8
MTLF	**Montolieu**	**1.78**	**350**	*e*Pg	Pg	22 41 29.6	-1.8
M

*MAN **29** 22:52:20.5, 1898N×12071E, h16km, mb3.8, ML4.9, MS3.7*
*IDC **29** 22:52:21.2±0.7, 1898N×121.17E, h60km±5km, mb3.7/17, mb1 3.9/20, mb1mx3.8/25, mbtmp3.8/20, MS3.6/10, Ms1 3.6/10, ms1mx3.4/33, Error ellipse: s-maj=22.4km s-min=9.5km az=72.0*
*NEIC **29** 22:52:21.3±0.9, 1901N×121.15E, h59km±10km, mb4.5/9, Error ellipse: s-maj=15.2km s-min=6.1km az=78.0*

ISC 29 22:52:21.8±0.5, 1907N±003×12094E±006, h60km±6km, h60km±2.0km; pP-P, n59, σ1§26/59, mb4.1/24, MS3.5/9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.33**	**128**	*e*P	**Pn**	**22 52 43.8**	**-0.4**
SGCP				*e*S	**Sn**	**22 53 02.2**	**+1.2**
ABRA	**Dolores**	**1.43**	**189**	*e*P	**Pn**	**22 52 43.4**	**-2.1**
ABRA				*e*S	**Sn**	**22 53 02.2**	**-1.0**
CVP	**Callao Caves**	**1.59**	**148**	*e*P	**Pn**	**22 52 48.1**	**+0.4**
CVP				*e*S	**Sn**	**22 53 10.0**	**+2.7**
CAUP	**Cauayan**	**2.27**	**158**	*e*P	**Pn**	**22 52 59.5**	**+2.6**
PALP	**Palanan**	**2.44**	**144**	*e*P	**Pn**	**22 53 00.9**	**+1.7**
PALP				*e*S	**Sn**	**22 53 33.1**	**+5.1**
BOLP	**Bolinao**	**2.85**	**200**	*e*P	**Pn**	**22 53 03.7**	**-1.0**
BOLP				*e*S	**Sn**	**22 53 37.0**	**-0.8**
BALP	**Baler**	**3.36**	**170**	*e*P	**Pn**	**22 53 13.7**	**+1.9**
SCZP	**Santa Cruz**	**3.42**	**197**	*e*P	**Pn**	**22 53 12.1**	**-0.4**
PCPH	**Palayan**	**3.49**	**178**	*e*P	**Pn**	**22 53 14.5**	**+0.9**
TGY	**Tagaytay City**	**4.94**	**180**	P	**Pn**	**22 53 33.1**	**-0.3**
	15nm,0.3s,baz=50,slow=16,SNR=2.6						
NACB	**Ninganchiao**	**5.12**	**7**	*e*Pn	**Pn**	**22 53 34.2**	**-1.6**
YHNB	**Yeheng**	**5.59**	**4**	*e*Pn	**Pn**	**22 53 41.5**	**-0.8**
YHNB				*e*Sn	**Sn**	**22 54 42.4**	**-2.7**
TATO	**Taipei**	**5.90**	**5**	*e*Pn	**Pn**	**22 53 47.1**	**+0.6**
	73nm,0.6s						
JOW	**Kunigami**	**10.26**	**40**	P	**Pn**	**22 54 45.0**	**-1.3**
	4.1nm,0.3s,baz=221,slow=16,SNR=6.4						
QIZ	**Qiongzhong**	**10.50**	**272**	*e*Pn	**Pn**	**22 54 45.0**	**-4.4**
	31nm,0.5s						
JNU	**Nakatsue**	**16.58**	**30**	LR	LR	23 01 57.9	
	comp=Z,491nm,20.5s,baz=290,slow=35						
KSRS	**Korea Array**	**19.31**	**17**	P	**Pn**	**22 56 41.5**	**-2.0**
	baz=197,slow=12,SNR=8.3						
KSRS				LR	LR	23 05 15.4	
	comp=Z,111nm,20.1s,baz=356,slow=40						
BJT	**Baijiatuan**	**21.28**	**350**	*e*P	**P**	**22 57 06.6**	**+3.5**
	16nm,0.8s,mb4.4						
BJI	**Beijing**	**21.30**	**350**	P	**P**	**22 57 06.5**	**+3.1**
BJI				LR	LR		
	comp=Z,90nm,22.1s,MS3.1						
LZH	**Lanzhou**	**22.68**	**322**	*e*P	**P**	**22 57 20.5**	**+2.5**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.4						
LZH	**Lanzhou**	**22.68**	**322**	*e*P	**P**	**22 57 20.5**	**+2.5**
	comp=Z,15nm,1.0s,mb4.4						
LZH				pP		22 57 38.5	
LZH				sP	sP	22 57 45.5	+6.7
MJAR	**Matsushiro Arr**	**23.09**	**38**	P	**P**	**22 57 20.4**	**-2.0**
	comp=Z,0.7nm,0.3s,mb3.5,baz=69,slow=28,SNR=8.2						
GUMO	**Guam**	**23.59**	**100**	LR	LR	23 05 03.6	
	comp=Z,64nm,21.8s,MS3.0,baz=187,slow=33						
PSI	**Prapat**	**26.93**	**236**	LR	LR	23 08 11.8	
	comp=Z,81nm,18.0s,MS3.3,baz=170,slow=35						
HIA	**Hailar**	**30.14**	**358**	*e*P	**P**	**22 58 31.3**	**+5.4**
	comp=Z,2.8nm,0.3s,mb4.5						
ASAJ	**Asahikawa**	**30.86**	**31**	LR	LR	23 10 01.1	
	comp=Z,98nm,20.5s,MS3.5,baz=208,slow=34						
ULN	**Ulaanbaatar**	**30.87**	**342**	*e*P	**P**	**22 58 33.1**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.8						
SONM	**Songino Array**	**31.04**	**341**	P	**P**	**22 58 34.7**	**+0.8**
	comp=Z,1.6nm,0.8s,mb3.9,baz=156,slow=8.6,SNR=11						
SONM				PcP	PcP	23 01 29.5	+1.1
	comp=Z,0.3nm,0.6s,baz=142,slow=2.5,SNR=2.8						
SONM				LR	LR	23 13 11.4	
	comp=Z,115nm,18.2s,MS3.6,baz=257,slow=40						
FITZ	**Fitzroy Crossi**	**37.23**	**173**	P	**P**	**22 59 26.6**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.1,baz=29,slow=5.7,SNR=3.1						
WRA	**Warramunga Arr**	**40.93**	**161**	P	**P**	**22 59 56.5**	**-1.8**
	comp=Z,2.1nm,0.5s,mb4.0,baz=341,slow=9.2,SNR=30						
WRA				PcP	PcP	23 01 58.5	+0.8
	comp=Z,1.5nm,0.7s,baz=342,slow=3.4,SNR=8.4						
WRA				S	**S**	**23 05 59.4**	**-6.4**
	comp=Z,0.3nm,0.8s,baz=346,slow=16,SNR=3.2						
WB2	**Warramunga Arr**	**40.94**	**161**	*e*P	**P**	**22 59 56.8**	**-1.5**
MK31	**Makanchi Array**	**41.97**	**320**	*e*P	**P**	**23 00 08.3**	**+1.5**
MKAR	**Makanchi Array**	**41.97**	**320**	P	**P**	**23 00 08.1**	**+1.3**
	comp=Z,1.0nm,0.7s,mb3.5,baz=120,slow=8.3,SNR=7.4						
MKAR				pP	pP	23 00 22.9	+0.8
	comp=Z,2.9nm,0.7s,baz=122,slow=8.3,SNR=11						
MKAR				PcP	PcP	23 02 01.9	+0.7
	comp=Z,1.4nm,0.8s,baz=93,slow=5.0,SNR=5.1						
MKAR				LR	LR	23 18 57.1	
	comp=Z,43nm,18.1s,MS3.4,baz=217,slow=38						
ASAR	**Alice Springs**	**44.32**	**163**	P	**P**	**23 00 25.2**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.0,baz=340,slow=6.8,SNR=24						
ASAR				PcP	PcP	23 02 09.7	+0.7
	comp=Z,0.4nm,0.8s,baz=336,slow=4.4,SNR=2.7						
ZAL	**Zalesovo**	**44.48**	**330**	P	**P**	**23 00 28.0**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.5,baz=83,slow=4.8,SNR=4.1						
ZAL	**Zalesovo**	**44.48**	**330**	P	**P**	**23 00 28.0**	**+1.0**
KURK	**Kurchatov**	**45.95**	**323**	*e*P	**P**	**23 00 38.6**	**-0.1**
	comp=Z,7.3nm,0.9s,mb4.6						
HNR	**Honiara**	**47.76**	**123**	LR	LR	23 17 58.0	
	comp=Z,65nm,18.8s,MS3.6,baz=180,slow=32						
KBL	**Kabul**	**48.31**	**300**	*e*P	**P**	**23 00 58.2**	**+1.2**
KBL				*e*pP	pP	23 01 13.9	+1.4
KBL				*e*sP	sP	23 01 21.6	+2.1
FORT	**Forrest**	**50.03**	**172**	*e*P	**P**	**23 01 09.6**	**-0.6**
	comp=Z,16nm,0.7s,mb5.2						
KLBR	**Kellerberrin**	**50.46**	**184**	*e*P	**P**	**23 01 12.2**	**-1.2**
	comp=Z,6.6nm,0.4s,mb5.0						
BVAR	**Borovoye Array**	**51.55**	**323**	P	**P**	**23 01 22.4**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=128,slow=8.1,SNR=3.3						
BVAR				pP	pP	23 01 39.1	+1.8
	comp=Z,1.1nm,0.7s,baz=90,slow=8.9,SNR=4.6						
BVAR				PcP	PcP	23 02 35.2	+0.3
	comp=Z,1.5nm,0.7s,baz=96,slow=3.0,SNR=6.8						
NWAO	**Narrogin (SRO)**	**51.82**	**184**	P	**P**	**23 01 23.3**	**-0.3**
	comp=Z,9.7nm,0.7s,mb4.9,baz=3.2,slow=6.1,SNR=9.2						
NWAO	**Narrogin (SRO)**	**51.82**	**184**	*e*P	**P**	**23 01 22.9**	**-0.8**
	comp=Z,5.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**54.39**	**158**	*e*P	**P**	**23 01 42.8**	**+0.3**
	comp=Z,1.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**54.39**	**158**	P	**P**	**23 01 41.5**	**-1.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=346,slow=6.3,SNR=8.3						
STKA	**Stephens Creek**	**54.39**	**158**	*e*P	**P**	**23 01 42.5**	**0.0**
STKA				*e*P		23 01 42.8	
AKTK	**Aktyubinsk**	**58.34**	**318**	P	**P**	**23 02 10.9**	**+0.3**
AKTO	**Aktyubinsk**	**58.34**	**318**	P	**P**	**23 02 10.9**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=112,slow=9.9,SNR=4.7						
DZM	**Mont Dzumac**	**60.42**	**130**	LR	LR	23 24 00.3	
	comp=Z,49nm,21.9s,MS3.6,baz=300,slow=32						
ARCES	**ARCESS Array B**	**74.19**	**339**	pP	pP	23 04 07.7	-0.9
	comp=Z,7.5nm,1.1s,baz=72,slow=7.8,SNR=1.8						
FINES	**FINESS Array B**	**75.74**	**330**	P	**P**	**23 04 00.7**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=68,slow=5.1,SNR=7.0						
FINES				pP	pP	23 04 16.1	-1.4
	comp=Z,2.4nm,0.9s,baz=98,slow=7.9,SNR=3.0						
BRTR	**Keskin Array B**	**76.05**	**307**	P	**P**	**23 04 03.4**	**+0.7**
	comp=Z,0.9nm,0.9s,mb3.7,baz=19,slow=9.3,SNR=3.3						
AKASG	**Malin Array Be**	**76.55**	**319**	P	**P**	**23 04 05.2**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=68,slow=4.8,SNR=3.7						
NOA	**NORSAR Array B**	**82.63**	**332**	P	**P**	**23 04 37.1**	**-1.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=63,slow=5.2,SNR=3.5						
NOA				LR	LR	23 43 26.1	
	comp=Z,60nm,18.6s,MS4.0,baz=180,slow=37						
GERES	**GERESS Array B**	**86.64**	**321**	P	**P**	**23 04 59.8**	**+1.1**
	comp=Z,0.7nm,0.8s,mb4.0,baz=57,slow=4.9,SNR=5.6						
YKA	**Yellowknife Ar**	**87.76**	**23**	P	**P**	**23 05 04.6**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.9,baz=308,slow=4.5,SNR=16						
YKA				pP	pP	23 05 20.3	-0.7
	comp=Z,3.4nm,0.7s,baz=309,slow=4.6,SNR=17						
YKA	**Yellowknife Ar**	**87.76**	**23**	P	**P**	**23 05 04.6**	**+0.5**
YKA				pP	pP	23 05 20.3	-0.7
MAW	**Mawson**	**96.22**	**199**	*e*P	**P**	**23 05 42.6**	**-0.8**
	comp=Z,25nm,0.4s						

*IDC **29** 23:08:18.0±3.4, 1887S×16973E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/24, Error ellipse: s-maj=87.7km s-min=32.4km az=124.0*
*ISCJB **29** 23:08:21.9±2.8, 190S±03×1696E±05, h35km, mb4.0/5, MS3.4/2, Error ellipse: s-maj=73.1km s-min=11.2km az=60.7*

*NEIC **29** 23:08:23.9±2.2, 1884S×16959E, h35km, mb4.4/1, Error ellipse: s-maj=61.3km s-min=23.8km az=122.0*

ISC 29 23:08:22.9±2.8, 190S±03×1698E±05, h35km, n11, σ0§98/11, mb4.0/5, MS3.4/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.37**	**226**	Pn	**Pn**	**23 09 27.0**	**+0.3**
	1.5nm,0.3s,baz=42,slow=18,SNR=15						
DZM				Sn	**Sn**	**23 10 17.0**	**+0.7**
	7.3nm,0.3s,baz=127,slow=23,SNR=10.0						
DZM				LR	LR	23 10 55.7	
	comp=Z,322nm,19.8s,baz=71,slow=36						
NOUC	**Port Laguerre**	**4.49**	**226**	*e*P	**Pn**	**23 09 27.7**	**-0.6**
NOUC				*e*S	**Sn**	**23 10 18.1**	**-1.1**
RPZ	**Rata Peaks**	**24.64**	**178**	LR	LR	23 21 55.2	
	comp=Z,152nm,18.0s,MS3.5,baz=164,slow=33						
STKA	**Stephens Creek**	**28.41**	**238**	P	**P**	**23 14 14.9**	**+0.9**
	2.3nm,0.7s,mb3.9,baz=44,slow=8.2,SNR=4.9						
STKA				LR	LR	23 23 57.5	
	comp=Z,71nm,21.7s,MS3.2,baz=26,slow=33						
STKA	**Stephens Creek**	**28.41**	**238**	*e*P	**P**	**23 14 16.1**	**+2.1**
STKA				LR	LR	23 23 57.5	
WRA	**Warramunga Arr**	**33.41**	**262**	P	**P**	**23 14 59.6**	**+1.5**
	0.8nm,0.8s,mb3.7,baz=100,slow=7.2,SNR=5.5						
ASAR	**Alice Springs**	**33.70**	**256**	P	**P**	**23 14 59.7**	**-0.9**
	1.4nm,0.6s,mb4.1,baz=81,slow=8.6,SNR=22						
FITZ	**Fitzroy Crossi**	**41.80**	**264**	*e*P	**P**	**23 16 08.3**	**-0.7**
	6.3nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**41.80**	**264**	P	**P**	**23 16 09.2**	**+0.2**
	3.3nm,0.7s,mb4.1,baz=115,slow=7.4,SNR=4.0						
SONM	**Songino Array**	**87.37**	**323**	P	**P**	**23 21 05.3**	**-1.0**
	0.7nm,0.9s,mb3.9,baz=116,slow=3.4,SNR=4.3						
GERES	**GERESS Array B**	**144.56**	**333**	PKP	PKPdf	23 27 56.8	+1.3
	0.3nm,0.6s,baz=29,slow=4.8,SNR=3.6						

*MOS **29** 23:58:59.7±2.3, 4896N×15382E, h42km, mb4.4/8, Error ellipse: s-maj=19.7km s-min=11.4km az=69.4*
*ISCJB **29** 23:59:01.4±2.6, 491N±0.1×1544E±0.2, h55km±21km, mb3.7/12, Error ellipse: s-maj=22.7km s-min=21.8km az=134.9*
*IDC **29** 23:59:10.8±4.3, 4904N×15468E, h119km±40km, mb3.3/11, mb1 3.6/13, mb1mx3.5/23, mbtmp3.4/13, Error ellipse: s-maj=21.5km s-min=16.4km az=136.0*

ISC 29 23:59:02.8±2.6, 492N±01×1545E±02, h50km±22km, n30, σ1§20/30, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.86**	**35**	*e*PN	**Pn**	**23 59 33.0**	**+0.7**
SKR				pmax	pmax		
	comp=Z,150nm,0.3s						
SKR				pmax	pmax		
	comp=N,90nm,0.2s						
PET	**Petropavlovsk**	**4.68**	**33**	*e*PN	**Pn**	**00 00 18.8**	**+7.9**
PET				pmax	pmax		
	comp=Z,52nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.14**	**259**	*e*PN	**Pn**	**00 00 50.7**	**-7.7**
ASAJ	**Asahikawa**	**9.59**	**243**	P	**Pn**	**00 01 25.6**	**+7.4**
	comp=Z,1.9nm,0.3s,baz=64,slow=12,SNR=10						
ASAJ	**Asahikawa**	**9.59**	**243**	PN	**Pn**	**00 01 25.6**	**+7.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**10.66**	**232**	*e*PN	**Pn**	**00 01 24.7**	**-8.1**
HABR	**Khabarovsk**	**12.81**	**274**	PN	**Pn**	**00 01 54.2**	**-8.0**
MJAR	**Matsushiro Arr**	**17.30**	**229**	P	**Pn**	**00 03 05.7**	**+4.9**
	comp=Z,0.5nm,0.3s,baz=338,slow=12,SNR=4.1						
MJAR	**Matsushiro Arr**	**17.30**	**229**	P	**Pn**	**00 03 05.7**	**+4.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**19.84**	**13**	*e*P	**Pn**	**00 03 29.6**	**-1.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSRS	**Korea Array**	**22.45**	**249**	P	**P**	**00 04 02.0**	**+4.5**
	comp=Z,1.8nm,0.8s,mb3.6,baz=48,slow=11,SNR=4.7						
TIXI	**Tiksi**	**25.43**	**341**	*e*P	**P**	**00 04 23.9**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
MKAR	**Makanchi Array**	**46.66**	**296**	P	**P**	**00 07 28.6**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=68,slow=9.5,SNR=8.3						
MKAR	**Makanchi Array**	**46.66**	**296**	P	**P**	**00 07 28.6**	**+2.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.81**	**302**	*e*P	**P**	**00 07 24.5**	**-3.0**
YKA	**Yellowknife Ar**	**48.46**	**38**	P	**P**	**00 07 40.9**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=297,slow=7.7,SNR=9.7						
YKA	**Yellowknife Ar**	**48.46**	**38**	P	**P**	**00 07 40.9**	**+0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**60.54**	**64**	P	**P**	**00 09 07.8**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.8,baz=307,slow=3.3,SNR=5.4						
FINES	**FINESS Array B**	**62.24**	**335**	P	**P**	**00 09 19.9**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.1,baz=31,slow=7.8,SNR=5.6						
FINES	**FINESS Array B**	**62.24**	**335**	P	**P**	**00 09 19.9**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**62.62**	**56**	P	**P**	**00 09 22.4**	**+0.5**
	comp=Z,0.7nm,1.0s,mb3.8,baz=316,slow=4.1,SNR=3.8						
GOF	**Gofitskoye**	**68.76**	**315**	*e*P	**P**	**00 10 11.3**	**+10**
AKASG	**Malin Array Be**	**70.04**	**326**	P	**P**	**00 10 10.3**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=27,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**71.09**	**200**	P	**P**	**00 10 14.8**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3.8,baz=18,slow=6.4,SNR=6.1						
WRA	**Warramunga Arr**	**71.09**	**200**	*i* P	**P**	**00 10 13.1**	**-2.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**71.09**	**200**	P	**P**	**00 10 14.8**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**74.78**	**199**	P	**P**	**00 10 37.5**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=12,slow=5.4,SNR=8.7						
ASAR	**Alice Springs**	**74.78**	**199**	P	**P**	**00 10 37.6**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**75.54**	**62**	P	**P**	**00 10 42.0**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=298,slow=4.6,SNR=7.4						
GERES	**GERESS Array B**	**76.67**	**335**	P	**P**	**00 10 49.3**	**+0.8**
	comp=Z,0.2nm,0.7s,mb3.2,baz=334,slow=6.5,SNR=2.9						

*IDC **30** 00:03:47.3±1.1, 641S×15177E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/14, mbtmp3.9/8, ML3.0/1, MS2.7/2, Ms1 2.7/2, ms1mx2.6/14, Error ellipse: s-maj=43.8km s-min=19.2km az=126.0*
*ISCJB **30** 00:03:50.2±6.8, 64S±02×1517E±0.2, h28km±49km, mb3.7/7, Error ellipse: s-maj=41.1km s-min=16.1km az=101.4*
*NEIC **30** 00:03:52.6±0.7, 644S×15172E, h35km, Error ellipse: s-maj=30.8km s-min=12.3km az=130.0*

ISC 30 00:03:50.8±6.4, 64S±02×1518E±02, h19km±40km, n12, σ0§62/12, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**237**	Pn	**Pn**	**00 05 11.6**	**+0.8**
	3.4nm,0.3s,baz=37,slow=7.6,SNR=7.4						
PMG				Sn	**Sn**	**00 06 12.2**	**-0.7**
	3.2nm,0.3s,baz=55,slow=3.1,SNR=3.8						
PMG				LR	LR	00 07 18.9	
	comp=Z,101nm,18.8s,baz=17,slow=39						
PMG	**Port Moresby**	**5.45**	**237**	*e*Pn	**Pn**	**00 05 10.5**	**-0.3**
	69nm,0.8s						
PMG				*e*Sn	**Sn**	**00 06 13.8**	**+0.8**
PMG				LR	LR	00 07 18.9	
HNR	**Honiara**	**8.61**	**111**	LR	LR	00 08 22.8	
	comp=Z,35nm,20.2s,baz=180,slow=32						
WRA	**Warramunga Arr**	**21.61**	**230**	P	**P**	**00 08 39.4**	**-0.1**
	2.0nm,1.0s,mb3.5,baz=57,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**24.26**	**223**	P	**P**	**00 09 07.3**	**+0.8**
	3.5nm,0.9s,mb3.8,baz=55,slow=9.1,SNR=18						
STKA	**Stephens Creek**	**27.04**	**199**	P	**P**	**00 09 30.6**	**-1.1**
	3.1nm,0.9s,mb3.8,baz=2.8,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**27.04**	**199**	*e*P	**P**	**00 09 30.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**28.01**	**243**	P	**P**	**00 09 40.4**	**0.0**
	0.8nm,0.6s,mb3.5,baz=53,slow=8.8,SNR=3.3						
SONM	**Songino Array**	**67.18**	**329**	P	**P**	**00 14 42.6**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=136,slow=6.4,SNR=3.6						
NVAR	**Mina Array Bea**	**93.89**	**52**	P	**P**	**00 17 07.2**	**+0.3**
	0.3nm,0.6s,mb3.9,baz=269,slow=6.3,SNR=3.4						
YKA	**Yellowknife Ar**	**97.34**	**28**	P	**P**	**00 17 23.2**	**+0.5**
	0.2nm,0.8s,mb3.6,baz=278,slow=4.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.81**	**285**	PKPbc	PKPbc	00 23 39.3	-0.1
	0.8nm,0.6s,baz=60,slow=2.4,SNR=7.5						

IDC 30 00:21:51.9±11.0, 1863S×16887E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML2.8/1, MS3.2/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=205.8km s-min=48.7km az=94.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.11**	**213**	Pn	Pn	00 22 55.2	-0.8
	0.5nm,0.3s,baz=79,slow=21,SNR=18						
DZM				Sn	Sn	00 23 46.8	+2.0
	3.1nm,0.3s,baz=119,slow=24,SNR=6.0						
DZM				LR	LR	00 24 24.4	
	comp=Z,207nm,20.8s,baz=86,slow=37						
HNR	**Honiara**	**12.59**	**315**	LR	LR	00 29 04.5	
	comp=Z,71nm,19.1s,baz=360,slow=34						
STKA	**Stephens Creek**	**27.88**	**236**	P	P	00 27 45.4	+2.1
	1.5nm,0.8s,baz=82,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**32.59**	**262**	P	P	00 28 24.0	-1.0
	0.4nm,0.8s,baz=102,slow=7.7,SNR=6.7						
ASAR	**Alice Springs**	**32.94**	**255**	P	P	00 28 28.4	+0.4
	1.1nm,0.6s,baz=84,slow=8.5,SNR=18						
VNDA	**Vanda**	**59.02**	**182**	LR	LR	00 54 08.1	
	comp=Z,47nm,19.8s,baz=249,slow=33						

*UPP **30** 00:25:37.8, 6784N×2021E, h0km, ML2.7, Mining explosion.*
*NAO **30** 00:25:38.3±1.9, 6778N×2060E, ML2.2*
*CSEM **30** 00:25:38.0±0.1, 6786N×2006E, h2km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.0km az=88.0, Mining explosion.*
*BER **30** 00:25:39.5±3.6, 6786N×2026E, h0km, ML2.0, ML2.2(NAO), Suspected explosion*

HEL 30 00:25:38.5±0.1, 6784N×2021E, h0km, ML2.0, ML2.7(UPP), **ML2.0**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**23**	*i* P	Pg	00 25 40.5	-0.3
KUA				*i* S	Sg	00 25 42.5	+0.1
NIKU	**Nikkaluokta**	**0.45**	**274**	*i* P	Pg	00 25 46.4	-0.7
LANU	**Lannavaara**	**0.70**	**72**	*i* P	Pg	00 25 51.1	-0.8
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	00 25 51.4	-1.2
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	00 25 52.6	-0.9
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	00 25 52.7	-1.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	00 26 00.8	-0.5
KIF				*e*S	Sg	00 26 16.6	-0.1
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 26 03.2	-1.9
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	Pn	00 26 07.5	-0.8
KTK1				*e*Sg	Sg	00 26 29.2	-1.4
KTK1				AML	AML	00 26 33.5	
	comp=Z,21nm,0.2s						
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	Pn	00 26 07.5	-0.8
	SNR=50						
KTK1				*e*Sg	Sg	00 26 29.2	-1.4
	SNR=90						
TRO	**Tromso**	**1.86**	**346**	*e*P	Pn	00 26 10.5	-1.1
TRO				*e*Sg	Sg	00 26 35.7	-2.5
TRO				AML	AML	00 26 37.5	
	comp=Z,16nm,0.3s						
TRO	**Tromso**	**1.86**	**346**	*e*P	Pn	00 26 10.5	-1.1
	SNR=50						
TRO				*e*Sg	Sg	00 26 35.7	-2.5
	SNR=90						
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	00 26 19.4	+0.2
SGF	**Sodankyl**	**2.45**	**97**	*e*P	Pn	00 26 19.6	-0.1
SGF				*e*S	Sn	00 26 49.8	-0.6
SGF				MSG		00 26 54.7	
	comp=Z,5.1nm,0.1s						
LILU	**Lilltraesk**	**2.57**	**183**	*e*P	Pn	00 26 21.9	+0.4
ARA0	**ARCESS Array S**	**2.58**	**46**	Pn	Pn	00 26 21.4	-0.1
	baz=226,slow=14						
ARA0				Sn	Sn	00 26 53.1	-0.3
	baz=233,slow=28						
ARA0				Lg

az=21.0

ISC 30 00:48:07.9±1.1, 3652N±006×715E±02, h149km±18km, n13, σ0°85/17, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.35**	**138**	*e*P	**Pn**	**00 49 26.2**	**+0.3**
THN				*e*S	**Sn**	**00 50 27.9**	**+1.1**
DLH	**Dalhousie**	**5.41**	**136**	*e*P	**Pn**	**00 49 27.0**	**+0.4**
DLH				*e*S	**Sn**	**00 50 27.0**	**-1.1**
KK31	**Karatay Array**	**6.62**	**354**	P	**Pn**	**00 49 42.8**	**-0.1**
	3.6nm,0.4s,baz=182,slow=13,SNR=122						
KK31				⇓S	**Sn**	**00 50 53.5**	**-3.7**
	2.0nm,0.4s,baz=173,slow=20,SNR=4.3						
TKM2	**Tokmak 2**	**7.13**	**25**	⇑P	**Pn**	**00 49 49.5**	**-0.1**
	0.4nm,0.7s						
TKM2				⇓S	**Sn**	**00 51 10.2**	**+0.9**
	0.4nm,0.8s						
KHET	**Khetri**	**9.17**	**155**	*e*x	x	00 50 14.5	
KOLN	**Koldanda**	**13.44**	**127**	*e*P	**Pn**	**00 51 12.1**	**-0.5**
	5.0nm,0.3s						
GKN	**Gorkha**	**13.96**	**124**	*e*P	**Pn**	**00 51 18.8**	**-0.5**
	16nm,0.3s						
KKN	**Kakani**	**14.54**	**123**	*e*P	**Pn**	**00 51 26.3**	**-0.2**
PKI	**Pulchoki**	**14.77**	**123**	*e*P	**Pn**	**00 51 29.7**	**+0.4**
	4.6nm,0.3s						
GUN	**Gumba**	**14.87**	**121**	*e*P	**Pn**	**00 51 30.6**	**0.0**
	5.8nm,0.4s						
JIRN	**Jiri**	**15.24**	**121**	*e*P	**Pn**	**00 51 34.9**	**-0.3**
	9.7nm,0.3s						
AB31	**Akbulak array**	**15.27**	**330**	P	**Pn**	**00 51 35.2**	**-0.4**
	0.8nm,0.5s,baz=140,slow=13,SNR=24						
AB31				⇑S	**S**	**00 54 17.7**	**-8.2**
	0.1nm,0.3s						
AKTO	**Aktyubinsk**	**16.98**	**329**	⇓P	**Pn**	**00 51 57.8**	**+1.4**
	1.7nm,2.9s						

*IDC **30** 00:52:26.8±1.2, 398N×12421E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=110.9km s-min=18.7km az=70.0*

*ISCJB **30** 00:52:28.0±1.3, 44N±03×1249E±07, h33km, mb3.7/5, Error ellipse: s-maj=108.8km s-min=15.5km az=133.4*

*NEIC **30** 00:52:30.9±1.0, 407N×12444E, h30km, mb3.9/2, Error ellipse: s-maj=94.9km s-min=14.6km az=70.0*

ISC 30 00:52:31.7±1.0, 41N±02×1244E±06, h35km, n10, σ1°02/10, mb3.7/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**18.49**	**155**	*e*P	**Pn**	**00 56 52.4**	**+7.4**
	4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.07**	**177**	*e*P	**P**	**00 57 24.9**	**+1.4**
	2.1nm,0.3s,mb4.0						
FITZ	**Fitzroy Crossi**	**22.07**	**177**	P	**P**	**00 57 24.4**	**+0.9**
	1.4nm,0.3s,mb3.8,baz=352,slow=12,SNR=9.0						
WRA	**Warramunga Arr**	**25.79**	**158**	P	**P**	**00 57 58.9**	**-0.4**
	0.7nm,0.4s,mb3.6,baz=336,slow=10.0,SNR=21						
WB2	**Warramunga Arr**	**25.79**	**158**	*e*P	**P**	**00 57 59.2**	**-0.1**
WB2	**Warramunga Arr**	**25.79**	**158**	*e*P	**P**	**00 57 58.8**	**-0.5**
ASAR	**Alice Springs**	**29.09**	**162**	P	**P**	**00 58 28.5**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=342,slow=7.4,SNR=12						
SONM	**Songino Array**	**46.27**	**343**	P	**P**	**01 00 56.0**	**+2.4**
	0.5nm,0.7s,mb3.5,baz=147,slow=7.1,SNR=4.1						
MK31	**Makanchi Array**	**55.97**	**326**	*e*P	**P**	**01 02 05.6**	**-0.8**
MKAR	**Makanchi Array**	**55.97**	**326**	P	**P**	**01 02 05.7**	**-0.8**
	0.8nm,0.4s,mb4.1,baz=121,slow=7.7,SNR=24						

*ISCJB **30** 01:15:12.1±0.4, 4311N±002×001E±003, h6km±5km, Error ellipse: s-maj=3.8km s-min=3.6km az=122.1*

*MDD **30** 01:15:13.8±0.3, 4302N×001W, h0km, mbLg1.4/7, Error ellipse: s-maj=2.0km s-min=1.9km az=96.0, PRXIMO*

*STR **30** 01:15:13.4±0.2, 4300N×002E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **30** 01:15:13.4±0.1, 4303N×001W, h2km, Md2.1/2, Ml1.7/6, Error ellipse: s-maj=1.5km s-min=1.5km az=141.0*

ISC 30 01:15:12.9±0.4, 4306N±002×001E±003, h9km±4km, n29, σ0°67/41, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**100**	Pg	**Pg**	**01 15 15.2**	**+0.5**
LABF				Sg	**Sg**	**01 15 16.6**	**+0.6**
LABF	**Labassere**	**0.05**	**100**	P	**Pg**	**01 15 15.3**	**+0.6**
LABF				S	**Sg**	**01 15 16.6**	**+0.6**
VIEF	**Viey**	**0.17**	**176**	Pg	**Pg**	**01 15 16.3**	**-0.3**
VIEF				Sg	**Sg**	**01 15 18.3**	**-0.7**
VIEF	**Viey**	**0.17**	**176**	P	**Pg**	**01 15 16.4**	**-0.2**
VIEF				S	**Sg**	**01 15 18.5**	**-0.5**
EPF	**Esparros**	**0.24**	**96**	*e*Pg	**Pg**	**01 15 18.3**	**+0.5**
EPF				*e*Sg	**Sg**	**01 15 21.9**	**+0.7**
	7.0nm,0.2s						
EPF	**Esparros**	**0.24**	**96**	Pg	**Pg**	**01 15 18.3**	**+0.5**
EPF				Lg		01 15 21.9	
	3.5nm,0.2s						
RESF	**Ens**	**0.35**	**135**	Pg	**Pg**	**01 15 19.7**	**0.0**
RESF				Sg	**Sg**	**01 15 24.5**	**+0.1**
RESF	**Ens**	**0.35**	**135**	P	**Pg**	**01 15 19.7**	**0.0**
RESF				S	**Sg**	**01 15 24.5**	**+0.2**
EBIE	**Bielsa**	**0.38**	**165**	⇑Pg	**Pg**	**01 15 20.1**	**-0.3**
	2.1nm,0.3s,SNR=18						
EBIE				Lg		01 15 25.0	
	3.6nm,0.1s,SNR=18						
ETSF	**Etsaut**	**0.45**	**250**	*e*Pg	**Pg**	**01 15 21.6**	**0.0**
ETSF				*e*Sg	**Sg**	**01 15 27.0**	**-0.5**
	4.8nm,0.2s						
ETSF	**Etsaut**	**0.45**	**250**	Pg	**Pg**	**01 15 21.6**	**0.0**
ETSF				Lg		01 15 27.0	
	2.4nm,0.2s						
ATE	**Arette**	**0.52**	**274**	Pg	**Pg**	**01 15 24.4**	**+1.4**
ATE				Sg	**Sg**	**01 15 30.6**	**+0.8**
ATE	**Arette**	**0.52**	**274**	P	**Pg**	**01 15 23.6**	**+0.6**
ATE				S	**Sg**	**01 15 30.2**	**+0.4**
SJPF	**Ste Jean**	**0.91**	**274**	*e*Sg	**Sg**	**01 15 41.9**	**-0.2**
	1.6nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**274**	Lg		01 15 41.9	
	0.8nm,0.3s						
CORG	**Organya**	**1.27**	**130**	P	**Pn**	**01 15 36.8**	**-0.1**
CORG				S	**Sb**	**01 15 55.0**	**+1.5**
CAVN	**Les Avellanes**	**1.29**	**155**	P	**Pn**	**01 15 37.3**	**+0.1**
CAVN				S	**Sb**	**01 15 54.7**	**+0.5**
	4.9nm,0.1s						
ESAC	**San Caprasio**	**1.38**	**195**	Pg	**Pg**	**01 15 38.9**	**-0.5**
	1.0nm,0.2s,SNR=7.9						
ESAC				Lg		01 15 58.7	
	18nm,0.2s,SNR=7.4						
EMIR	**Miracle**	**1.60**	**135**	Lg		01 16 05.4	
	17nm,1.0s,SNR=7.9						
MTLF	**Montolieu**	**1.64**	**79**	*e*Pg	**Pg**	**01 15 44.7**	**+0.3**
MTLF				*e*Sg	**Sg**	**01 16 05.0**	**-0.7**
	1.7nm,0.2s						
MTLF	**Montolieu**	**1.64**	**79**	Pg	**Pg**	**01 15 44.7**	**+0.3**
MTLF				Lg		01 16 05.0	
	0.9nm,0.2s						
LFF	**La Frestale**	**1.96**	**15**	*e*Pg	**Pg**	**01 15 50.1**	**-0.3**
LFF				*e*Sg	**Sg**	**01 16 16.7**	**+0.9**
	1.5nm,0.3s						
LFF	**La Frestale**	**1.96**	**15**	Pg	**Pg**	**01 15 50.1**	**-0.3**
LFF				Lg		01 16 16.7	
	0.8nm,0.3s						
ERTA	**Horta de San J**	**2.11**	**173**	Pg	**Pg**	**01 15 51.8**	**-1.6**
	1.2nm,0.4s,SNR=7.9						
ERTA				Lg		01 16 20.2	
	1.5nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.39**	**38**	*e*Sg	**Sg**	**01 16 29.0**	**-0.6**
	0.9nm,0.2s						
CAF	**Calviac**	**2.39**	**38**	Lg		01 16 29.0	
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**25**	*e*Pn	**Pn**	**01 15 53.8**	**0.0**
RJF				*e*Sg	**Sg**	**01 16 32.7**	**-0.4**
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**25**	Pn	**Pn**	**01 15 53.8**	**0.0**
RJF				Lg		01 16 32.7	
	0.5nm,0.2s						
LASF	**Ste Croix**	**2.98**	**69**	*e*Sg	**Sg**	**01 16 47.3**	**-1.3**
	0.4nm,0.2s						

*IDC **30** 01:25:04.5±0.8, 273S×13390E, h0km, mb4.2/5, mb1 4.5/7, mb1mx4.2/15, mbtmp4.3/7, ML3.9/2, MS3.4/5, Ms1 3.4/5, ms1mx3.2/23, Error ellipse: s-maj=48.3km s-min=18.5km az=74.0*

*ISCJB **30** 01:25:07.5±0.6, 277S±007×1339E±01, h35km, mb4.5/10, MS3.5/4, Error ellipse: s-maj=17.0km s-min=8.8km az=153.5*

*NEIC **30** 01:25:09.7±0.5, 275S×13391E, h35km, mb4.7/7, Error ellipse: s-maj=17.0km s-min=9.5km az=78.0*

ISC 30 01:25:09.6±0.6, 274S±007×1339E±01, h35km, n29, σ1°25/22, mb4.5/10, MS3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.01**	**188**	*e*P	**Pn**	**01 27 30.8**	**0.0**
	13nm,0.4s						
PMG	**Port Moresby**	**14.78**	**117**	*e*Pn	**Pn**	**01 28 36.8**	**+0.7**
	16nm,1.0s						
WRA	**Warramunga Arr**	**17.10**	**178**	P	**Pn**	**01 29 03.8**	**-2.0**
	0.3nm,0.3s,baz=359,slow=12,SNR=36						
WRA				S	**S**	**01 32 04.3**	**-19**
	0.1nm,0.3s,baz=357,slow=23,SNR=4.5						
WB2	**Warramunga Arr**	**17.10**	**178**	*e*P	**Pn**	**01 29 03.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**17.26**	**207**	*e*P	**Pn**	**01 29 06.9**	**-1.0**
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**17.26**	**207**	P	**Pn**	**01 29 06.8**	**-1.1**
	0.7nm,0.3s,baz=36,slow=12,SNR=22						
FITZ				S	**S**	**01 32 08.6**	**-18**
	0.4nm,0.3s,baz=124,slow=15,SNR=3.1						
FITZ				LR	LR	01 36 33.7	
	comp=Z,58nm,18.7s,baz=48,slow=40						
ASAR	**Alice Springs**	**20.80**	**180**	P	**P**	**01 29 49.5**	**+1.7**
	50nm,0.9s,baz=4.8,slow=12,SNR=339						
CTA	**Charters Tower**	**21.06**	**146**	P	**P**	**01 29 50.8**	**+0.2**
	9.5nm,1.0s,mb4.1,baz=305,slow=17,SNR=5.5						
CTA				LR	LR	01 36 48.9	
	comp=Z,48nm,20.8s,MS2.9,baz=352,slow=34						
FORT	**Forrest**	**28.42**	**191**	*e*P	**P**	**01 31 01.5**	**+0.6**
	10nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**29.88**	**167**	P	**P**	**01 31 13.0**	**-0.8**
	3.6nm,0.8s,mb4.2,baz=341,slow=6.1,SNR=6.4						
STKA	**Stephens Creek**	**29.88**	**167**	*e*P	**P**	**01 31 13.8**	**0.0**
KLBR	**Kellerberrin**	**32.47**	**206**	*e*P	**P**	**01 31 38.4**	**+1.8**
	56nm,1.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**33.84**	**206**	*e*P	**P**	**01 31 50.3**	**+1.8**
	52nm,1.6s,mb5.2						
KULM	**Kulim**	**34.12**	**284**	P	**P**	**01 31 54.8**	**+3.7**
KSRS	**Korea Array**	**40.37**	**353**	LR	LR	01 50 11.1	
	comp=Z,68nm,19.3s,MS3.5,baz=148,slow=37						
BJI	**Beijing**	**45.56**	**341**	P	**P**	**01 33 23.7**	**-2.3**
	6.0nm,1.1s,mb4.4						
SONM	**Songino Array**	**55.80**	**338**	P	**P**	**01 34 43.4**	**+0.2**
	0.5nm,0.7s,mb3.7,baz=166,slow=7.4,SNR=4.1						
MK31	**Makanchi Array**	**66.92**	**324**	*e*P	**P**	**01 35 58.8**	**+0.5**
MKAR	**Makanchi Array**	**66.92**	**324**	P	**P**	**01 35 59.1**	**+0.8**
	3.0nm,0.6s,mb4.5,baz=107,slow=7.8,SNR=37						
KURK	**Kurchatov**	**71.01**	**326**	*e*P	**P**	**01 36 24.0**	**+0.2**
	8.1nm,1.4s,mb4.5						
MAW	**Mawson**	**80.30**	**202**	LR	LR	02 11 42.0	
	comp=Z,44nm,18.1s,MS3.9,baz=67,slow=35						
ARU	**Arti**	**84.19**	**327**	*e*P	**P**	**01 37 36.0**	**-1.2**
	4.5nm,0.7s,mb4.7						
KMBO	**Kilima Mbogo**	**96.55**	**269**	LR	LR	02 21 18.4	
	comp=Z,21nm,18.2s,MS3.7,baz=294,slow=35						
PMSA	**Palmer Station**	**111.37**	**172**	*e*PKPdf	PKiKP	01 43 41.4	+1.5
TXAR	**Lajitas Array**	**119.43**	**58**	PKP	PKPdf	01 43 55.9	+0.6
	0.4nm,0.8s,baz=311,slow=1.0,SNR=5.0						
JCT	**Junction City**	**122.34**	**55**	*e*PKPdf	PKPdf	01 44 01.5	+0.6
TORD	**Torodi Ar. Bea**	**131.60**	**285**	PKP	PKPdf	01 44 19.6	+1.0
	0.5nm,0.7s,baz=84,slow=2.1,SNR=4.4						
LPAZ	**La Paz**	**151.19**	**132**	PKPbc	PKPbc	01 45 02.0	+2.9
	1.6nm,0.8s,baz=58,slow=1.7,SNR=6.0						
ROSC	**El Rosal**	**151.79**	**85**	PKPbc	PKPbc	01 45 02.6	+2.1
	4.4nm,0.5s,baz=91,slow=21,SNR=4.2						

IDC 30 01:34:54.1±2.4, 618S×13006E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/14, mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=101.8km s-min=29.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.61**	**200**	Pn	Pn	01 37 55.6	+0.8
	0.1nm,0.3s,baz=73,slow=20,SNR=3.7						
FITZ				Sn	Sn	01 40 00.6	-15
	0.1nm,0.3s,baz=190,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**14.30**	**163**	Pn	Pn	01 38 17.3	-0.5
	0.0nm,0.3s,baz=344,slow=13,SNR=3.4						
ASAR	**Alice Springs**	**17.78**	**168**	P	Pn	01 39 03.3	+0.3
	0.1nm,0.3s,baz=346,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	01 45 52.6	+0.2
	0.1nm,0.3s,baz=116,slow=6.8,SNR=4.5						

*NEIC **30** 01:35:13.3, 1591N×9881W, h17km, MD4.2(MEX), After MEX.*

MEX 30 01:35:13.3±0.9, 1592N×9882W, h16km±15km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.81**	**55**	*i* P	Pb	01 35 25.7	-3.4
PNIG				*i* S	Sb	01 35 36.0	-3.8
CAIG	**El Cayaco**	**1.79**	**309**	*i* P	Pn	01 35 39.5	-3.9
CAIG				*i* S	Sn	01 36 01.8	-4.0
UTMO	**Huajuapan**	**2.13**	**27**	*i* P	Pn	01 35 45.8	-2.5
UTMO				*i* S	Sn	01 36 10.6	-3.8
MEIG	**Mezcala**	**2.14**	**339**	*i* P	Pn	01 35 45.2	-3.1
MEIG				*i* S	Sn	01 36 08.7	-5.8
VHO	**Vista Hermosa**	**2.31**	**60**	*i* P	Pn	01 35 48.2	-2.3
VHO				*i* S	Sn	01 36 14.5	-4.1
VHO	**Vista Hermosa**	**2.31**	**60**	*i* P	Pn	01 35 48.2	-2.3
VHO				*i* S	Sn	01 36 17.4	-1.3
OXX	**Oaxaca**	**2.32**	**60**	*i* P	Pn	01 35 48.5	-2.3
OXX				*i* S	Sn	01 36 14.0	-4.9
OXX	**Oaxaca**	**2.32**	**60**	*i* P	Pn	01 35 48.5	-2.3
OXX				*i* S	Sn	01 36 17.0	-1.9
PLIG	**Platanillo**	**2.54**	**345**	*i* P	Pn	01 35 51.2	-2.7
PLIG				*i* S	Sn	01 36 20.0	-4.5
HUIG	**Huatulco**	**2.61**	**93**	*i* P	Pn	01 35 52.7	-2.1
HUIG				*i* S	Sn	01 36 20.2	-6.0
TPIG	**Tehuac#an**	**2.85**	**29**	*i* P	Pn	01 35 56.7	-1.3
TPIG				*i* S	Sn	01 36 28.1	-4.0
IIO	**Organos**	**3.65**	**1**	*i* P	Pn	01 36 15.4	+6.3
IIO				*i* S	Sn	01 36 54.8	+3.0
PTVM	**Pico Tres Padr**	**3.66**	**356**	*i* P	Pn	01 36 08.7	-0.5
PTVM				*i* S	Sn	01 36 48.4	-3.8
CMIG	**Matias Romero**	**3.95**	**72**	*i* P	Pn	01 36 07.7	-5.5
JTS	**JuntasAbangare**	**14.62**	**111**	Pn	Pn	01 38 36.8	-2.6
	1.6nm,0.5s						

IDC 30 01:36:11.8±3.1, 627S×14752E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/14, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=69.6km s-min=33.0km az=92.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.13**	**187**	Pn	Pn	01 37 02.7	+0.3
	6.8nm,0.3s,baz=347,slow=8.5,SNR=17						
PMG				Sn	Sn	01 37 41.3	+0.8
	4.4nm,0.3s,baz=209,slow=21,SNR=4.5						
WRA	**Warramunga Arr**	**18.67**	**222**	P	Pn	01 40 31.1	-0.5
	0.1nm,0.3s,baz=45,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**21.69**	**216**	P	P	01 41 03.5	-0.7
	0.9nm,0.7s,baz=49,slow=8.8,SNR=16						
FITZ	**Fitzroy Crossi**	**24.37**	**239**	P	P	01 41 32.8	+1.3
	0.8nm,0.3s,baz=67,slow=7.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.66**	**284**	PKPbc	PKPbc	01 55 52.7	+0.3
	0.9nm,1.0s,baz=72,slow=3.1,SNR=8.0						

*GEN **30** 01:48:11.8, 4469N×1007E, h0km, ML2.0*

*CSEM **30** 01:48:12.6±0.1, 4451N×1006E, h10km, ML2.6/6, Error ellipse: s-maj=3.3km s-min=1.6km az=18.0*

*NEIC **30** 01:48:12.0, 4462N×1003E, h5km, ML2.3(ROM), ML2.5(LDG), After ROM.*

*ROM **30** 01:48:12.0±0.3, 4462N×1003E, h5km±3km, Md2.5/10, Ml2.3/11, Error ellipse: s-maj=2.8km s-min=2.4km az=138.0*

*LDG **30** 01:48:13.4±0.4, 4453N×1018E, h10km, Ml2.5/9, Error ellipse: s-maj=9.0km s-min=5.0km az=87.0*

*ISCJB **30** 01:48:13.0±0.3, 4460N±002×1003E±003, h25km±3km, Error ellipse: s-maj=3.9km s-min=3.2km az=10.0*

ISC 30 01:48:12.9±0.3, 4462N±002×1007E±003, h19km±2km, n56, σ1°00/84, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM		**0.13**	**181**	P	**Pg**	**01 48 16.1**	**-0.9**
CODM		**0.28**	**215**	P	**Pg**	**01 48 18.9**	**-0.2**
VALM		**0.30**	**155**	P	**Pg**	**01 48 18.8**	**-0.7**
ERBM	**Eremo**	**0.32**	**129**	Pg	**Pg**	**01 48 19.7**	**-0.1**
ERBM				Sg	**Sg**	**01 48 25.9**	**+1.5**
	177nm,0.5s						
BACM		**0.34**	**180**	P	**Pg**	**01 48 19.6**	**-0.6**
SC2M	**Scurtabr**	**0.44**	**241**	Pg	**Pg**	**01 48 21.0**	**-0.9**
SC2M				Sg	**Sg**	**01 48 28.6**	**+0.6**
	197nm,0.4s						
GSCL	**Gusciola**	**0.46**	**126**	Pg	**Pg**	**01 48 22.1**	**-0.2**
	88nm,0.7s						
BOB	**Bobbio (Coli)**	**0.47**	**289**	Pg	**Pg**	**01 48 21.6**	**-0.9**
BOB				Sg	**Sg**	**01 48 29.5**	**+0.6**
VINC	**Vinca**	**0.48**	**173**	P	**Pg**	**01 48 21.9**	**-0.8**
VINC				S	**Sg**	**01 48 29.9**	**+0.7**
NOVE	**Novellara**	**0.49**	**68**	Pg	**Pg**	**01 48 22.5**	**-0.4**
NOVE				Sg	**Sg**	**01 48 32.1**	**+2.4**
	254nm,0.4s						
SARO	**Sassorosso**	**0.49**	**151**	P	**Pg**	**01 48 22.2**	**-0.7**
SARO				S	**Sg**	**01 48 30.5**	**+0.9**
VLC	**Villacollemand**	**0.51**	**154**	Pg	**Pg**	**01 48 22.5**	**-0.8**
VLC				Sg	**Sg**	**01 48 31.5**	**+1.3**
	149nm,0.3s						
BDI	**Bagni Di Lucca**	**0.67**	**146**	⇑*i*Pg	**Pg**	**01 48 25.4**	**-0.8**
BDI				Sg	**Sg**	**01 48 36.1**	**+0.9**
	91nm,0.6s						
PZZT	**Monte Pizzetto**	**0.75**	**130**	Pg	**Pg**	**01 48 27.0**	**-0.6**
MAIM		**0.77**	**157**	Pg	**Pg**	**01 48 26.7**	**-1.3**
MAIM				S	**Sb**	**01 48 37.9**	**+0.2**
FNVD	**Fontana Vidola**	**0.88**	**120**	Pg	**Pg**	**01 48 29.9**	**-0.2**
FIU	**Minerbio Fiu**	**1.01**	**88**	Pg	**Pg**	**01 48 34.2**	**+1.5**
SALO	**Salr**	**1.05**	**18**	Pg	**Pg**	**01 48 32.6**	**-0.7**
	76nm,0.8s						
SEI	**Scarperia**	**1.08**	**121**	Pg	**Pg**	**01 48 33.8**	**-0.1**
	91nm,0.5s						
MDI	**Monti di Nese**	**1.19**	**348**	Pg	**Pg**	**01 48 34.8**	**-1.1**
MDI				Sg	**Sg**	**01 48 52.4**	**+0.9**
	38nm,0.3s						
MAGA	**Magasa**	**1.22**	**19**	Pg	**Pg**	**01 48 34.4**	**-2.2**
MAGA				Sg	**Sg**	**01 48 52.5**	**-0.1**
	243nm,0.5s						
CSNT	**Castellina Chi**	**1.44**	**142**	Pg	**Pg**	**01 48 39.5**	**-1.3**
	15nm,0.3s						
SFI	**Santa Sofia**	**1.46**	**119**	Pg	**Pg**	**01 48 41.3**	**+0.2**
	168nm,2.9s						
RORO		**1.52**	**251**	P	**Pn**	**01 48 39.4**	**+0.2**
ROB	**Roburent**	**1.61**	**259**	P	**Pn**	**01 48 40.3**	**0.0**
MONE	**Monesi**	**1.75**	**253**	P	**Pn**	**01 48 42.2**	**0.0**
CTI	**Castel Tesino**	**1.81**	**37**	Pg	**Pg**	**01 48 43.0**	**-4.8**
	15nm,0.4s						
NEGI	**Negi**	**1.87**	**246**	P	**Pn**	**01 48 43.9**	**0.0**
TRAV		**1.87**	**299**	P	**Pn**	**01 48 43.9**	**-0.1**
ENR	**Entracque**	**1.94**	**259**	P	**Pn**	**01 48 45.4**	**+0.5**
APPI	**Appiano**	**2.03**	**23**	Pg	**Pg**	**01 48 46.5**	**-5.5**
	19nm,0.4s						
SBF	**Sospel**	**2.04**	**249**	*e*Pn	**Pn**	**01 48 47.6**	**+1.4**
SBF				*e*Sn	**Sn**	**01 49 09.8**	**-1.4**
	14nm,0.4s						
SBF	**Sospel**	**2.04**	**249**	*e*Pn	**Pn**	**01 48 47.6**	**+1.4**
SBF				*e*Sn	**Sn**	**01 49 09.8**	**-1.4**
	7.0nm,0.4s						
PZZ	**Prazzo**	**2.12**	**268**	P	**Pn**	**01 48 48.6**	**+1.2**
PGF	**Pioggiola**	**2.21**	**201**	*e*Pn	**Pn**	**01 48 48.3**	**-0.3**
PGF				*e*Sn	**Sn**	**01 49 11.6**	**-3.8**
MBDF	**Montbardon**	**2.36**	**274**	*e*Pn	**Pn**	**01 48 52.0**	**+1.4**
MBDF				*e*Sn	**Sn**	**01 49 21.6**	**+2.6**
	1.9nm,0.2s						
MBDF	**Montbardon**	**2.36**	**274**	*e*Pn	**Pn**	**01 48 52.0**	**+1.4**
MBDF				*e*Sn	**Sn**	**01 49 21.6**	**+2.6**
	0.9nm,0.2s						
LPG	**La Plagne**	**2.51**	**292**	*e*Pn	**Pn**	**01 48 54.6**	**+1.9**
LPL	**La Plagne**	**2.53**	**292**	*e*Pn	**Pn**	**01 48 54.5**	**+1.5**
FRF	**La Foret Royal**	**2.68**	**248**	*e*Pn	**Pn**	**01 48 55.5**	**+0.4**
FRF				*e*Sn	**Sn**	**01 49 24.9**	**-2.2**
	4.3nm,0.3s						
FRF	**La Foret Royal**	**2.68**	**248**	*e*Pn	**Pn**	**01 48 55.5**	**+0.4**
FRF				*e*Sn	**Sn**	**01 49 24.9**	**-2.2**
	2.2nm,0.3s						
LMR	**La Mourre**	**2.87**	**245**	*e*Pn	**Pn**	**01 48 57.5**	**-0.2**
LMR				*e*Sn	**Sn**	**01 49 30.1**	**-1.7**
ORIF	**Oris-en-Rattie**	**3.00**	**277**	*e*Pn	**Pn**	**01 49 00.7**	**+1.2**
ORIF				*e*Sn	**Sn**	**01 49 35.1**	**+0.2**
	6.2nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.00**	**277**	*e*Pn	**Pn**	**01 49 00.7**	**+1.2**
ORIF				*e*Sn	**Sn**	**01 49 35.1**	**+0.2**
	3.1nm,0.6s						
SMRF	**Simiane la Rot**	**3.29**	**260**	*e*Pn	**Pn**	**01 49 04.3**	**+0.8**
SMRF				*e*Sn	**Sn**	**01 49 42.0**	**-0.1**
	3.2nm,0.5s						
SMRF	**Simiane la Rot**	**3.29**	**260**	*e*Pn	**Pn**	**01 49 04.3**	**+0.8**
SMRF				*e*Sn	**Sn**	**01 49 42.0**	**-0.1**
	1.6nm,0.5s						
NVLJ	**Novalja**	**3.43**	**89**	*i* Pn	**Pn**	**01 49 04.9

*BJI **30** 01:58:04.8, 091N×97.12E, h26km, mB5.1, mb4.8, Ms4.1, Msz4.1*
*IDC **30** 01:58:05.3±0.8, 121N×96.92E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/24, mbtmp4.2/16, ML3.6/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/35, Error ellipse: s-maj=30.3km s-min=14.4km az=48.0*
*ISCJB **30** 01:58:09.8±2.7, 13N±01×97.1E±0.1, h42km±21km, mb4.4/29, MS3.7/5, Error ellipse: s-maj=25.0km s-min=10.1km az=98.5*
*NEIC **30** 01:58:09.9±0.4, 120N×96.98E, h30km, mb4.6/8, Error ellipse: s-maj=10.7km s-min=7.3km az=46.0*

ISC 30 01:58:12.2±2.7, 13N±01×971E±01, h43km±22km, n46, σ0§97/45, mb4.4/29, MS3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.35**	**50**	Pn	**Pn**	**01 58 48.0**	**-0.3**
	12nm,0.3s,baz=217,slow=6.2,SNR=70						
PSI				LR	LR	01 59 37.9	
	comp=Z,468nm,21.2s,baz=301,slow=37						
KULM	**Kulim**	**5.31**	**41**	*e*Pn	**Pn**	**01 59 28.0**	**-1.0**
KKM	**Kota Kinabalu**	**19.62**	**76**	*e*P	**Pn**	**02 02 38.3**	**-0.4**
KMI	**Kunming**	**24.32**	**12**	P	**P**	**02 03 27.0**	**+1.3**
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,159nm,3.7s						
KMI				LR	LR		
	comp=N,495nm,11.8s,MS4.3						
KMI				LR	LR		
	comp=E,353nm,12.7s,MS4.3						
KMI				LR	LR		
	comp=Z,510nm,12.6s,MS4.2						
KMI	**Kunming**	**24.32**	**12**	P	**P**	**02 03 27.1**	**+1.4**
	comp=Z,26nm,1.1s,mb4.6						
KMI				S	**S**	**02 07 59.6**	**+18**
KMI				LR	LR		
	comp=Z,510nm,12.6s,MS4.2						
SHL	**Shillong**	**24.67**	**349**	*i* P	**P**	**02 03 27.5**	**-1.4**
JIRN	**Jiri**	**28.25**	**339**	*e*P	**P**	**02 04 02.5**	**+1.4**
	comp=Z,33nm,0.8s,mb5.0						
PKI	**Pulchoki**	**28.45**	**338**	*e*P	**P**	**02 04 04.2**	**+1.2**
GUN	**Gumba**	**28.59**	**339**	*e*P	**P**	**02 04 05.4**	**+1.2**
	comp=Z,29nm,0.7s,mb5.1						
DMN	**Daman**	**28.60**	**337**	*e*P	**P**	**02 04 05.7**	**+1.4**
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**02 04 06.0**	**+0.8**
LSA	**Lhasa**	**28.83**	**349**	P	**P**	**02 04 04.5**	**-1.8**
LSA	**Lhasa**	**28.83**	**349**	*e*P	**P**	**02 04 07.8**	**+1.5**
	comp=Z,7.5nm,0.7s,mb4.5						
GKN	**Gorkha**	**29.14**	**337**	*e*P	**P**	**02 04 10.0**	**+0.9**
	comp=Z,32nm,0.9s,mb5.0						
KOLN	**Koldanda**	**29.35**	**335**	*e*P	**P**	**02 04 12.2**	**+1.2**
	comp=Z,28nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**34.03**	**126**	P	**P**	**02 04 51.0**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=296,slow=6.5,SNR=3.9						
FITZ				LR	LR	02 18 41.4	
	comp=Z,52nm,20.0s,MS3.3,baz=292,slow=36						
XAN	**Xi'an**	**34.41**	**17**	P	**P**	**02 04 54.8**	**-0.5**
XAN				AP	pP	02 05 00.0	-7.0
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
GTA	**Gaotai**	**38.03**	**3**	*e*P	**P**	**02 05 26.3**	**+0.1**
GTA				AP	pP	02 05 33.5	-4.5
GTA				XP	sP	02 05 37.0	-6.0
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	**42.14**	**122**	P	**P**	**02 06 00.9**	**+0.6**
	comp=Z,3.0nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=35						
WRA				LR	LR	02 27 24.2	
	comp=Z,58nm,18.9s,MS3.5,baz=330,slow=42						
WB2	**Warramunga Arr**	**42.15**	**122**	*e*P	**P**	**02 06 01.2**	**+0.8**
BJT	**Baijiatuau**	**42.27**	**22**	*e*P	**P**	**02 06 02.3**	**+0.9**
	comp=Z,16nm,0.7s,mb4.8						
BJI	**Beijing**	**42.29**	**22**	P	**P**	**02 06 02.5**	**+0.9**
BJI				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
BJI	**Beijing**	**42.29**	**22**	P	**P**	**02 06 02.5**	**+0.9**
	comp=Z,20nm,0.7s,mb4.9						
ASAR	**Alice Springs**	**43.50**	**127**	P	**P**	**02 06 12.4**	**+1.1**
	comp=Z,1.9nm,0.7s,mb3.9,baz=298,slow=8.3,SNR=23						
KSRS	**Korea Array**	**45.82**	**35**	P	**P**	**02 06 28.6**	**-1.2**
	comp=Z,7.5nm,0.8s,mb4.7,baz=224,slow=9.7,SNR=19						
KSRS				LR	LR	02 26 35.6	
	comp=Z,70nm,18.1s,MS3.6,baz=188,slow=37						
SONM	**Songino Array**	**47.06**	**9**	P	**P**	**02 06 39.9**	**+0.3**
	comp=Z,5.9nm,0.8s,mb4.6,baz=188,slow=9.5,SNR=43						
SONM				PcP	PcP	02 08 11.9	+0.8
	comp=Z,0.9nm,0.6s,baz=200,slow=3.8,SNR=3.1						
MK31	**Makanchi Array**	**47.15**	**346**	*e*P	**P**	**02 06 40.6**	**+0.4**
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**02 06 40.5**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.5,baz=159,slow=9.0,SNR=82						
ULN	**Ulaanbaatar**	**47.19**	**9**	*e*P	**P**	**02 06 40.8**	**+0.2**
	comp=Z,1.6nm,0.6s,mb4.1						
KURK	**Kurchatov**	**51.70**	**345**	*e*P	**P**	**02 07 14.8**	**-0.1**
	comp=Z,5.6nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**53.47**	**132**	P	**P**	**02 07 28.9**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.3,baz=314,slow=8.3,SNR=4.7						
STKA	**Stephens Creek**	**53.47**	**132**	*e*P	**P**	**02 07 28.9**	**+0.9**
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**02 07 46.8**	**-0.6**
	comp=Z,4.2nm,0.7s,mb4.6,baz=142,slow=8.0,SNR=24						
BRVK	**Borovoye**	**56.21**	**341**	*e*P	**P**	**02 07 47.1**	**-0.7**
	comp=Z,5.2nm,0.9s,mb4.6						
AKTK	**Aktyubinsk**	**59.12**	**332**	P	**P**	**02 08 07.1**	**-1.3**
AKTO	**Aktyubinsk**	**59.12**	**332**	P	**P**	**02 08 07.1**	**-1.3**
	comp=Z,2.7nm,0.8s,mb4.3,baz=151,slow=6.7,SNR=10						
BRTR	**Keskin Array B**	**69.00**	**312**	P	**P**	**02 09 12.4**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=100,slow=7.5,SNR=3.1						
TIXI	**Tiksi**	**73.12**	**10**	*e*P	**P**	**02 09 37.0**	**-1.1**
	comp=Z,2.9nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	**75.15**	**322**	P	**P**	**02 09 48.9**	**-1.0**
	comp=Z,0.2nm,0.2s,mb3.6,baz=81,slow=7.2,SNR=3.7						
FINES	**FINESS Array B**	**79.89**	**333**	P	**P**	**02 10 15.2**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=99,slow=8.3,SNR=8.5						
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**02 10 29.9**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.3,baz=104,slow=4.4,SNR=6.8						
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**02 10 29.9**	**0.0**
URZ	**Urewera**	**82.92**	**129**	LR	LR	02 50 57.5	
	comp=Z,75nm,19.9s,MS4.1,baz=250,slow=38						
GERES	**GERESS Array B**	**84.70**	**319**	P	**P**	**02 10 39.8**	**-1.7**
	comp=Z,0.6nm,0.8s,mb3.8,baz=85,slow=5.8,SNR=5.1						
NOA	**NORSAR Array B**	**86.90**	**331**	P	**P**	**02 10 52.0**	**-0.4**
	comp=Z,1.6nm,1.1s,mb4.2,baz=113,slow=4.8,SNR=3.0						
TXAR	**Lajitas Array**	**143.64**	**32**	PKP	PKPdf	02 17 41.4	-0.9
	comp=Z,0.2nm,0.5s,baz=333,slow=1.6,SNR=5.7						

*ISCJB **30** 01:58:51.9±0.3, 181.7N×103.9443W±003, h10km, mb4.0/7, MS3.2/1, Error ellipse: s-maj=4.3km s-min=3.7km az=121.0*
*IDC **30** 01:58:51.5±0.9, 181.2N×94.28W, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.0/19, mbtmp4.1/8, ML4.4/2, MS3.2/2, Ms1 3.2/2, ms1mx2.9/28, Error ellipse: s-maj=27.9km s-min=10.6km az=112.0*
*MEX **30** 01:58:57.2±1.0, 181.7N×94.42W, h36km±7km, MD4.5*
*NEIC **30** 01:58:57.4, 181.7N×94.42W, h36km, mb4.3/5, MD4.5(MEX), After MEX.*

ISC 30 01:58:53.3±0.3, 1811N±003×9442W±003, h10km, n52, σ1§35/70, mb4.0/7, MS3.2/1, 1D, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.08**	**181**	*i* P	**Pg**	**01 59 02.0**	**+6.4**
TUIG				*i* S	**Sg**	**01 59 06.4**	**+9.1**
CMIG	**Matias Romero**	**1.11**	**204**	Pg	**Pg**	**01 59 15.4**	**+0.8**
	591nm,0.3s,baz=15,slow=11,SNR=7880						
CMIG				Lg		01 59 28.8	
	266nm,0.3s,baz=160,slow=21,SNR=26						
CMIG	**Matias Romero**	**1.11**	**204**	⇓*i*P	**Pb**	**01 59 15.6**	**+1.0**
CMIG				*i* S	**Sg**	**01 59 28.8**	**-0.2**
CMIG	**Matias Romero**	**1.11**	**204**	*i* P	**Pb**	**01 59 15.5**	**+1.0**
CMIG				*i* S	**Sg**	**01 59 28.8**	**-0.2**
OXX	**Oaxaca**	**2.42**	**245**	*i* P	**Pn**	**01 59 34.0**	**+1.1**
OXX				*i* S	**Sn**	**02 00 02.0**	**-0.7**
OXX	**Oaxaca**	**2.42**	**245**	*i* P	**Pn**	**01 59 34.5**	**+1.6**
OXX				*i* S	**Sn**	**02 00 02.0**	**-0.7**
VHO	**Vista Hermosa**	**2.44**	**245**	*i* P	**Pn**	**01 59 34.5**	**+1.4**
VHO				*i* S	**Sn**	**02 00 02.4**	**-0.5**
VHO	**Vista Hermosa**	**2.44**	**245**	*i* P	**Pn**	**01 59 34.6**	**+1.4**
VHO				*i* S	**Sn**	**02 00 02.4**	**-0.5**
LVIG	**Laguna Verde**	**2.48**	**311**	*i* P	**Pn**	**01 59 32.9**	**-0.8**
LVIG				*i* S	**Sn**	**02 00 00.2**	**-3.8**
TPIG	**Tehuac#an**	**2.81**	**277**	*i* P	**Pn**	**01 59 39.1**	**+0.8**
TPIG				*i* S	**Sn**	**02 00 09.8**	**-2.4**
HUIG	**Huatulco**	**2.84**	**215**	*i* P	**Pn**	**01 59 38.3**	**-0.3**
HUIG				*i* S	**Sn**	**02 00 11.1**	**-1.7**
CCIG	**Comitan**	**2.84**	**129**	*i* P	**Pn**	**01 59 39.5**	**+0.8**
CCIG				*i* S	**Sn**	**02 00 13.3**	**+0.3**
SCIG	**Sabancuy**	**3.19**	**74**	*i* P	**Pn**	**01 59 44.0**	**+0.6**
SCIG				*i* S	**Sn**	**02 00 18.9**	**-2.5**
PNIG	**Pinotepa**	**3.93**	**245**	*i* P	**Pn**	**01 59 53.1**	**-0.6**
PNIG				*i* S	**Sn**	**02 00 39.0**	**-0.9**
PNIG	**Pinotepa**	**3.93**	**245**	*i* P	**Pn**	**01 59 52.2**	**-1.5**
PPM	**Popocatepetl**	**4.10**	**284**	*i* P	**Pn**	**01 59 58.7**	**+2.7**
PPM				*i* S	**Sn**	**02 00 45.1**	**+1.1**
IIO	**Organos**	**4.33**	**291**	*i* P	**Pn**	**02 00 01.8**	**+2.6**
IIO				*i* S	**Sn**	**02 00 46.4**	**-3.3**
PLIG	**Platanillo**	**4.84**	**274**	*i* P	**Pn**	**02 00 06.7**	**+0.6**
PLIG				*i* S	**Sn**	**02 00 60.0**	**-2.2**
PLIG	**Platanillo**	**4.84**	**274**	*i* P	**Pn**	**02 00 06.7**	**+0.6**
PLIG				*i* S	**Sn**	**02 00 56.0**	**-6.2**
MEIG	**Mezcala**	**4.95**	**269**	*i* P	**Pn**	**02 00 08.4**	**+0.7**
MEIG				*i* S	**Sn**	**02 01 01.2**	**-3.8**
CAIG	**El Cayaco**	**5.68**	**260**	*i* P	**Pn**	**02 00 16.7**	**-1.0**
CAIG				*i* S	**Sn**	**02 01 24.2**	**+1.3**
CAIG	**El Cayaco**	**5.68**	**260**	*i* P	**Pn**	**02 00 15.5**	**-2.1**
CAIG				*i* S	**Sn**	**02 01 16.4**	**-6.5**
TEIG	**Tepich**	**6.18**	**69**	Pn	**Pn**	**02 00 23.9**	**-0.6**
	53nm,0.3s,baz=103,slow=0.2,SNR=442						
TEIG				Sn	**Sn**	**02 01 28.9**	**-6.3**
	88nm,0.3s,baz=164,slow=23,SNR=16						
TEIG	**Tepich**	**6.18**	**69**	*i* P	**Pn**	**02 00 24.2**	**-0.4**
TEIG				*i* S	**Sn**	**02 01 29.1**	**-6.1**
TEIG	**Tepich**	**6.18**	**69**	*e*Pn	**Pn**	**02 00 23.9**	**-0.6**
TEIG				*e*Sn	**Sn**	**02 01 28.4**	**-6.8**
SOR	**Soroa**	**11.66**	**65**	*e*P	**Pn**	**02 01 36.2**	**-3.6**
JTS	**JuntasAbangare**	**12.03**	**129**	LR	LR	02 07 08.9	
	comp=Z,100nm,20.1s,baz=185,slow=42						
JCT	**Junction City**	**13.25**	**339**	*e*Pn	**Pn**	**02 02 00.6**	**-0.8**
	15nm,0.6s						
TXAR	**Lajitas Array**	**14.01**	**325**	Pn	**Pn**	**02 02 15.7**	**+3.9**
	0.1nm,0.3s,baz=139,slow=10,SNR=8.2						
MIAR	**Mount Ida**	**16.38**	**2**	*e*Pn	**Pn**	**02 02 41.5**	**-1.9**
	17nm,1.1s						
WMOK	**Wichita Mounta**	**17.01**	**348**	*e*Pn	**Pn**	**02 02 51.0**	**-0.2**
	12nm,0.5s						
BNM	**Barren Site**	**19.34**	**328**	*e*P	**Pn**	**02 03 18.9**	**-1.0**
LPM	**Los Pinos Moun**	**19.47**	**328**	*e*P	**Pn**	**02 03 23.5**	**+2.1**
LENM	**Lemitar**	**19.53**	**327**	*e*P	**Pn**	**02 03 23.4**	**+1.3**
LAZ	**Ladron**	**19.80**	**327**	*e*P	**Pn**	**02 03 26.5**	**+1.1**
ANMO	**Albuquerque**	**19.90**	**330**	P	**Pn**	**02 03 27.2**	**+0.7**
	0.4nm,0.3s,baz=146,slow=12,SNR=46						
ANMO	**Albuquerque**	**19.90**	**330**	P	**Pn**	**02 03 27.2**	**+0.7**
TUC	**Tucson**	**20.43**	**317**	*e*P	**P**	**02 03 32.2**	**+1.6**
	7.3nm,0.9s						
KSU1	**Kansas State U**	**21.00**	**355**	*e*P	**P**	**02 03 37.0**	**+0.1**
	13nm,0.6s						
WUAZ	**Wupatki**	**22.95**	**322**	*e*P	**P**	**02 03 59.9**	**+2.3**
	17nm,1.0s,mb4.4						
ROSC	**El Rosal**	**23.65**	**121**	LR	LR	02 14 42.7	
	comp=Z,73nm,19.3s,MS3.2,baz=4.6,slow=40						
PDAR	**Pinedale Array**	**27.73**	**336**	P	**P**	**02 04 42.0**	**+0.2**
	0.6nm,0.9s,mb3.2,baz=120,slow=8.8,SNR=4.9						
NVAR	**Mina Array Bea**	**29.04**	**319**	P	**P**	**02 04 55.5**	**+1.9**
	3.3nm,0.8s,mb4.1,baz=126,slow=10,SNR=30						
ULM	**Lac du Bonnet**	**32.08**	**358**	P	**P**	**02 05 18.2**	**-2.2**
	2.0nm,0.8s,mb4.0,baz=169,slow=8.1,SNR=4.4						
ULM	**Lac du Bonnet**	**32.08**	**358**	P	**P**	**02 05 18.2**	**-2.2**
YKA	**Yellowknife Ar**	**46.52**	**347**	P	**P**	**02 07 19.8**	**-1.0**
	1.6nm,0.6s,mb4.1,baz=151,slow=7.4,SNR=38						
YKA				PcP	PcP	02 08 53.9	-1.2
	0.3nm,0.6s,baz=151,slow=3.9,SNR=5.4						
YKA	**Yellowknife Ar**	**46.52**	**347**	P	**P**	**02 07 19.8**	**-1.0**
YKA				PcP	PcP	02 08 53.9	-1.2
NOA	**NORSAR Array B**	**81.65**	**28**	P	**P**	**02 11 11.5**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=294,slow=5.3,SNR=26						
ARCES	**ARCESS Array B**	**82.97**	**18**	P	**P**	**02 11 17.8**	**-0.7**
	4.4nm,0.8s,mb4.5,baz=302,slow=6.1,SNR=13						
MSKU	**Masuku**	**107.65**	**86**	*e*PKPdf	PKiKP	02 17 21.2	+0.6
WRA	**Warramunga Arr**	**133.99**	**260**	PKP	PKPdf	02 18 11.2	+0.4
	0.6nm,0.6s,baz=77,slow=2.3,SNR=10						
ASAR	**Alice Springs**	**134.68**	**254**	PKP	PKPdf	02 18 12.6	+0.5
	0.3nm,0.8s,baz=121,slow=2.7,SNR=3.5						

*SKO **30** 02:00:22.0, 4248N×2168E, h15km, M2.4, ML2.8*
*ISCJB **30** 02:00:23.5±0.4, 4235N±002×2160E±003, h0km±4km, Error ellipse: s-maj=3.3km s-min=2.8km az=9.3*
*BEO **30** 02:00:24.5±0.2, 4236N×2157E, h15km*
*NEIC **30** 02:00:25.3±0.3, 4237N×2156E, h10km, MD2.8(PDG), ML3.2(THE), Error ellipse: s-maj=5.4km s-min=3.1km az=222.0*
*CSEM **30** 02:00:25.1±0.2, 4235N×2170E, h0km±1km, ML3.2, Error ellipse: s-maj=4.2km s-min=2.8km az=105.0*
*PDG **30** 02:00:25.6±0.5, 4231N×2152E, h16km±1km*
*THE **30** 02:00:26.4, 4227N×2163E, h10km, ML2.8*

ISC 30 02:00:24.6±0.4, 4234N±002×2162E±003, h5km±3km, n69, σ0§92/114, 14C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.40**	**200**	*e*Pg	**Pg**	**02 00 33.4**	**+1.1**
SKO	**Skopje**	**0.40**	**200**	⇑*i*Pg	**Pg**	**02 00 33.4**	**+1.1**
SKO				*e*Sg	**Sg**	**02 00 38.8**	**+1.3**
SKO				*e*Lg		02 00 39.1	
	comp=E,1μm,0.4s						
SKO				*e*Lg		02 00 39.2	
	comp=N,981nm,0.5s						
SKO	**Skopje**	**0.40**	**200**	⇑*i*Pg	**Pg**	**02 00 33.4**	**+1.1**
SKO				*e*Sg	**Sg**	**02 00 38.8**	**+1.3**
SKO				*e*Lg		02 00 39.1	
	comp=E,1μm,0.4s						
SKO				*e*Lg		02 00 39.2	
	comp=N,981nm,0.5s						
SKO	**Skopje**	**0.40**	**200**	⇑*i*Pg	**Pg**	**02 00 33.3**	**+1.0**
SKO				*e*Sg	**Sg**	**02 00 38.7**	**+1.3**
BARS	**Barje**	**0.50**	**17**	⇓*i*Pg	**Pg**	**02 00 34.7**	**+0.4**
BARS				Sg	**Sg**	**02 00 41.3**	**+0.6**
STIP	**Stip**	**0.77**	**147**	*e*Pg	**Pg**	**02 00 38.9**	**-0.6**
STIP	**Stip**	**0.77**	**147**	*i* Pg	**Pg**	**02 00 38.9**	**-0.6**
STIP				*e*Sg	**Sg**	**02 00 50.9**	**+1.4**
STIP				*e*Lg		02 00 51.9	
	comp=E,74nm,0.3s						
STIP				*e*Lg		02 00 51.9	
	comp=N,162nm,0.4s						
STIP	**Stip**	**0.77**	**147**	*i* Pg	**Pg**	**02 00 38.9**	**-0.6**
STIP				*e*Sg	**Sg**	**02 00 50.9**	**+1.4**
STIP				*e*Lg		02 00 51.9	
	comp=E,74nm,0.3s						
STIP				*e*Lg		02 00 51.9	
	comp=N,162nm,0.4s						
STIP	**Stip**	**0.77**	**147**	*i* Pg	**Pg**	**02 00 38.9**	**-0.6**
STIP				*e*Sg	**Sg**	**02 00 50.9**	**+1.4**
KRUS	**Krusevo**	**1.01**	**196**	*i* Pg	**Pg**	**02 00 44.6**	**+0.5**
KRUS				*e*Sg	**Sg**	**02 00 57.7**	**+0.5**
KRUS	**Krusevo**	**1.01**	**196**	*i* Pg	**Pg**	**02 00 44.6**	**+0.5**
KRUS				*e*Sg	**Sg**	**02 00 57.7**	**+0.5**
KRUS	**Krusevo**	**1.01**	**196**	*i* Pg	**Pg**	**02 00 44.5**	**+0.4**
KRUS				*e*Sg	**Sg**	**02 00 57.7**	**+0.5**
VTS	**Vitosha**	**1.20**	**78**	*e*Pg	**Pg**	**02 00 48.7**	**+1.0**
VTS	**Vitosha**	**1.20**	**78**	⇓*i*P	**Pg**	**02 00 48.5**	**+0.9**
VAY	**Valandovo**	**1.24**	**145**	*e*Pg	**Pg**	**02 00 47.8**	**-0.7**
VAY	**Valandovo**	**1.24**	**145**	*e*Pg	**Pg**	**02 00 48.0**	**-0.5**
VAY				*e*Sg	**Sg**	**02 01 05.0**	**+0.3**
VAY				*e*Lg		02 01 07.8	
	comp=N,99nm,0.5s						
VAY				*e*Lg		02 01 07.8	
	comp=E,222nm,0.8s						
VAY	**Valandovo**	**1.24**	**145**	*e*Pg	**Pg**	**02 00 48.0**	**-0.5**
VAY				*e*Sg	**Sg**	**02 01 05.0**	**+0.3**
VAY				*e*Lg		02 01 07.8	
	comp=N,99nm,0.5s						
VAY				*e*Lg		02 01 07.8	
	comp=E,222nm,0.8s						
VAY	**Valandovo**	**1.24**	**145**	*e*Pg	**Pg**	**02 00 47.8**	**-0.7**
VAY				*e*Sg	**Sg**	**02 01 04.9**	**+0.3**
PVY	**Plav**	**1.25**	**282**	⇓*i*Pg	**Pg**	**02 00 47.3**	**-1.2**
PVY				*e*Sg	**Sg**	**02 01 05.8**	**+1.1**
BIA	**Bitola**	**1.34**	**190**	*e*Pg	**Pg**	**02 00 49.6**	**-0.8**
BIA				*e*Sg	**Sg**	**02 01 07.6**	**-0.2**
BIA	**Bitola**	**1.34**	**190**	*i* Pg	**Pg**	**02 00 49.5**	**-0.8**
BIA				*e*Sg	**Sg**	**02 01 06.8**	**-1.0**
BIA				*e*Lg		02 01 08.1	
	comp=E,169nm,0.3s						
BIA				*e*Lg		02 01 08.1	
	comp=N,100nm,0.3s						
BIA	**Bitola**	**1.34**	**190**	*i* Pg	**Pg**	**02 00 49.5**	**-0.8**
BIA				*e*Sg	**Sg**	**02 01 06.8**	**-1.0**
BIA				*e*Lg		02 01 08.1	
	comp=E,169nm,0.3s						
BIA				*e*Lg		02 01 08.1	
	comp=N,100nm,0.3s						
BIA	**Bitola**	**1.34**	**190**	*e*Pg	**Pg**	**02 00 49.6**	**-0.8**
BIA				*e*Sg	**Sg**	**02 01 06.8**	**-1.0**
OHR	**Ohrid**	**1.38**	**207**	*e*Pg	**Pg**	**02 00 50.3**	**-0.8**
OHR	**Ohrid**	**1.38**	**207**	*e*Pg	**Pg**	**02 00 49.7**	**-1.3**
OHR				*e*Sg	**Sg**	**02 01 08.2**	**-0.7**
OHR				*e*Lg		02 01 11.6	
	comp=E,330nm,0.8s						
OHR				*e*Lg		02 01 12.4	
	comp=N,175nm,0.8s						
OHR	**Ohrid**	**1.38**	**207**	*e*Pg	**Pg**	**02 00 49.7**	**-1.3**
OHR				*e*Sg	**Sg**	**02 01 08.2**	**-0.7**
OHR				*e*Lg		02 01 11.6	
	comp=E,330nm,0.8s						
OHR				*e*Lg		02 01 12.4	
	comp=N,175nm,0.8s						
OHR	**Ohrid**	**1.38**	**207**	*e*Pg	**Pg**	**02 00 50.3**	**-0.7**
OHR				*e*Sg	**Sg**	**02 01 08.2**	**-0.7**
IVA	**Berane**	**1.38**	**293**	⇑*i*Pg	**Pg**	**02 00 49.4**	**-1.6**
IVA				*e*Sg	**Sg**	**02 01 10.6**	**+1.6**
GRG	**Griva**	**1.50**	**157**	*e*Pg	**Pg**	**02 00 53.4**	**-0.1**
BOLS	**Boljevac**	**1.51**	**9**	⇑*i*Pn	**Pn**	**02 00 52.1**	**-0.2**
BOLS				Sg	**Sg**	**02 01 13.2**	**+0.2**
KNT	**Kendrikon**	**1.52**	**141**	*e*Pg	**Pg**	**02 00 53.4**	**-0.3**
SJES	**Sjenica**	**1.54**	**307**	Pn	**Pn**	**02 00 51.3**	**-1.5**
SJES				Sg	**Sn**	**02 01 12.2**	**-1.1**
FNA	**Florina**	**1.57**	**187**	*e*Pg	**Pg**	**02 00 54.0**	**-0.7**
FNA				*e*Sg	**Sg**	**02 01 15.8**	**+0.7**
GRUS	**Gruza**	**1.68**	**337**	⇓*i*Pn	**Pn**	**02 00 55.3**	**+0.6**
GRUS				Sg	**Sn**	**02 01 17.4**	**+0.8**
TTG	**Podgorica**	**1.75**	**274**	⇑*i*Pn	**Pn**	**02 00 54.6**	**-1.1**
TTG				*e*Sn	**Sn**	**02 01 19.3**	**+0.8**
ULC	**Ulcinj**	**1.80**	**259**	⇓*i*Pn	**Pn**	**02 00 56.8**	**+0.3**
ULC				*e*Sn	**Sn**	**02 01 20.5**	**+0.8**
PLE	**Pljevlja**	**1.91**	**302**	⇓*i*Pn	**Pn**	**02 00 57.3**	**-0.6**
PLE				*e*Sn	**Sn**	**02 01 23.3**	**+0.9**
SRS	**Serrai**	**1.92**	**129**	*e*Pb	**Pb**	**02 00 58.9**	**-1.2**
SVIS	**Svilajnac**	**1.97**	**352**	⇓*i*Pn	**Pn**	**02 00 58.6**	**-0.2**
SVIS				Sg	**Sn**	**02 01 24.6**	**+0.7**
THE	**Thessaloniki**	**1.99**	**149**	*e*Pb	**Pb**	**02 01 00.2**	**-1.1**
NKY	**Niksic**	**1.99**	**284**	⇑*i*Pn	**Pn**	**02 00 58.4**	**-0.6**
NKY				*e*Sn	**Sn**	**02 01 25.2**	**+0.8**
SOH	**Sokhos**	**2.00**	**139**	*e*Pb	**Pb**	**02 00 59.3**	**-2.2**
BUM	**Brajici-Budva**	**2.02**	**270**	⇓*i*Pn	**Pn**	**02 00 59.4**	**0.0**
BUM				*e*Sn	**Sn**	**02 01 25.9**	**+0.9**
BUM	**Brajici-Budva**	**2.02**	**270**	⇓*i*Pn	**Pn**	**02 00 59.3**	**-0.1**
BUM				*e*Sn	**Sn**	**02 01 25.9**	**+0.9**
HORT	**Hortiatis**	**2.07**	**147**	*e*Pn	**Pn**	**02 01 01.4**	**+1.4**
DIVS	**Divcibare**	**2.12**	**326**	⇓*i*Pn	**Pn**	**02 00 59.9**	**-0.8**
DIVS				Sg	**Sn**	**02 01 27.4**	**-0.2**
UPM	**Unac-Piva**	**2.17**	**294**	⇓*i*Pn	**Pn**	**02 01 00.9**	**-0.6**
UPM				*e*Sn	**Sn**	**02 01 29.1**	**+0.3**
BBLS	**Bajina Basta -**	**2.22**	**314**	⇓*i*Pn	**Pn**	**02 01 01.6**	**-0.6**
BBLS				Sg	**Sn**	**02 01 30.6**	**+0.6**
PLD	**Plovdiv**	**2.30**	**95**	*e*Pn	**Pn**	**02 01 05.1**	**+1.9**
HCY	**Herceg Novi**	**2.32**	**274**	⇓*i*Pn	**Pn**	**02

	comp=E,211nm,0.9s						
VAY				eLg		02 15 59.9	
	comp=N,69nm,0.5s						
VAY	**Valandovo**	**1.28**	**145**	ePg	**Pg**	**02 15 41.3**	**-0.3**
VAY				eSg	**Sg**	**02 15 58.2**	**0.0**
IVA	**Berane**	**1.34**	**292**	⇓iPg	**Pg**	**02 15 42.4**	**-0.4**
IVA				eSg	**Sg**	**02 16 01.9**	**+1.7**
BIA	**Bitola**	**1.36**	**188**	ePg	**Pg**	**02 15 42.0**	**-1.2**
BIA	**Bitola**	**1.36**	**188**	iPg	**Pg**	**02 15 42.1**	**-1.1**
BIA				eSg	**Sg**	**02 15 59.9**	**-1.0**
BIA				eLg		02 16 00.5	
	comp=E,107nm,0.4s						
BIA				eLg		02 16 00.7	
	comp=N,64nm,0.3s						
BIA	**Bitola**	**1.36**	**188**	iPg	**Pg**	**02 15 42.1**	**-1.1**
BIA				eSg	**Sg**	**02 15 59.9**	**-1.0**
BIA				eLg		02 16 00.5	
	comp=E,107nm,0.4s						
BIA				eLg		02 16 00.7	
	comp=N,64nm,0.3s						
BIA	**Bitola**	**1.36**	**188**	ePg	**Pg**	**02 15 42.0**	**-1.2**
BIA				eSg	**Sg**	**02 15 59.8**	**-1.1**
OHR	**Ohrid**	**1.39**	**205**	ePg	**Pg**	**02 15 42.2**	**-1.5**
OHR	**Ohrid**	**1.39**	**205**	iPg	**Pg**	**02 15 42.0**	**-1.7**
OHR				eSg	**Sg**	**02 16 01.3**	**-0.5**
OHR				eLg		02 16 03.0	
	comp=E,228nm,0.7s						
OHR				eLg		02 16 03.0	
	comp=N,257nm,1.2s						
OHR	**Ohrid**	**1.39**	**205**	iPg	**Pg**	**02 15 42.0**	**-1.7**
OHR				eSg	**Sg**	**02 16 01.3**	**-0.5**
OHR				eLg		02 16 03.0	
	comp=E,228nm,0.7s						
OHR				eLg		02 16 03.0	
	comp=N,257nm,1.2s						
OHR	**Ohrid**	**1.39**	**205**	ePg	**Pg**	**02 15 42.2**	**-1.5**
OHR				eSg	**Sg**	**02 16 01.2**	**-0.5**
BOLS	**Boljevac**	**1.48**	**10**	⇑iPn	**Pn**	**02 15 44.7**	**-0.1**
BOLS				Sg	**Sn**	**02 16 04.3**	**-0.4**
BOLS	**Boljevac**	**1.48**	**10**	Pn	**Pn**	**02 15 44.7**	**-0.1**
BOLS				Sg	**Sn**	**02 16 04.3**	**-0.5**
SJES	**Sjenica**	**1.51**	**307**	Pn	**Pn**	**02 15 44.0**	**-1.1**
SJES				Sg	**Sn**	**02 16 03.5**	**-1.9**
GRG	**Griva**	**1.54**	**156**	ePg	**Pg**	**02 15 46.0**	**-0.5**
GRG	**Griva**	**1.54**	**156**	ePg	**Pg**	**02 15 46.0**	**-0.5**
KNT	**Kendrikon**	**1.56**	**141**	ePb	**Pb**	**02 15 45.9**	**-0.7**
FNA	**Florina**	**1.59**	**186**	ePb	**Pb**	**02 15 46.7**	**-0.5**
GRUS	**Gruza**	**1.65**	**337**	⇓iPn	**Pn**	**02 15 46.1**	**-0.9**
GRUS				Sg	**Sn**	**02 16 07.7**	**-1.0**
TTG	**Podgorica**	**1.73**	**273**	⇓iPn	**Pn**	**02 15 48.3**	**+0.2**
TTG				eSn	**Sg**	**02 16 13.1**	**+0.5**
MMB	**Musomiste**	**1.77**	**115**	iP	**Pn**	**02 15 50.0**	**+1.2**
ULC	**Ulcinj**	**1.79**	**258**	⇑iPn	**Pn**	**02 15 50.5**	**+1.5**
ULC				eSn	**Sg**	**02 16 15.4**	**+1.0**
PLE	**Pljevlja**	**1.88**	**301**	⇑iPn	**Pn**	**02 15 50.6**	**+0.4**
PLE				eSn	**Sn**	**02 16 14.6**	**+0.1**
PGB	**Panagyurishte**	**1.92**	**84**	iP	**Pn**	**02 15 51.4**	**+0.7**
SVIS	**Svilajnac**	**1.94**	**352**	⇑iPn	**Pn**	**02 15 50.5**	**-0.6**
SVIS				Sg	**Sn**	**02 16 15.9**	**-0.2**
SRS	**Serrai**	**1.95**	**129**	ePn	**Pn**	**02 15 51.4**	**+0.1**
NKY	**Niksic**	**1.96**	**284**	⇓iPn	**Pn**	**02 15 51.9**	**+0.5**
NKY				eSn	**Sn**	**02 16 18.0**	**+1.4**
NKY	**Niksic**	**1.96**	**284**	⇓iPn	**Pn**	**02 15 51.8**	**+0.4**
NKY				eSn	**Sn**	**02 16 18.0**	**+1.4**
BUM	**Brajici-Budva**	**2.00**	**269**	⇓iPn	**Pn**	**02 15 52.5**	**+0.7**
BUM				eSn	**Sg**	**02 16 19.9**	**-1.3**
BUM	**Brajici-Budva**	**2.00**	**269**	⇓iPn	**Pn**	**02 15 52.5**	**+0.7**
BUM				eSn	**Sg**	**02 16 19.9**	**-1.3**
DIVS	**Divcibare**	**2.08**	**326**	⇓iPn	**Pn**	**02 15 52.3**	**-0.8**
DIVS				Sg	**Sn**	**02 16 18.1**	**-1.4**
DIVS	**Divcibare**	**2.08**	**326**	Pn	**Pn**	**02 15 52.3**	**-0.7**
DIVS				Sg	**Sn**	**02 16 18.1**	**-1.5**
HORT	**Hortiatis**	**2.10**	**147**	ePn	**Pn**	**02 15 53.9**	**+0.6**
UPM	**Unac-Piva**	**2.14**	**294**	⇓iPn	**Pn**	**02 15 53.7**	**-0.1**
UPM				eSn	**Sn**	**02 16 21.1**	**+0.1**
BBLS	**Bajina Basta -**	**2.19**	**314**	⇓iPn	**Pn**	**02 15 53.4**	**-1.1**
BBLS				Sg	**Sg**	**02 16 26.0**	**-1.3**
HCY	**Herceg Novi**	**2.29**	**273**	⇓iPn	**Pn**	**02 15 56.3**	**+0.4**
HCY				eSn	**Sn**	**02 16 27.0**	**+2.3**
BRY	**Bratogost**	**2.31**	**284**	⇑iPn	**Pn**	**02 15 56.8**	**+0.6**
BRY				eSn	**Sn**	**02 16 26.0**	**+0.9**
DJES	**Djerdap**	**2.36**	**16**	ePn	**Pn**	**02 15 57.5**	**+0.6**
DJES				Sg	**Sn**	**02 16 27.0**	**+0.6**
RZN	**Rozhen**	**2.43**	**105**	iP	**Pn**	**02 15 59.0**	**+1.2**
BEO	**Belgrade**	**2.58**	**342**	⇑iPn	**Pn**	**02 15 59.4**	**-0.5**
BEO				Sg	**Sn**	**02 16 29.9**	**-2.1**
OUR	**Ouranopolis**	**2.72**	**138**	ePn	**Pn**	**02 16 01.8**	**+0.1**
PAIG	**Paliouri**	**2.91**	**146**	ePn	**Pn**	**02 16 04.8**	**+0.4**
KDZ	**Kurdzhali**	**2.94**	**103**	iP	**Pb**	**02 16 10.6**	**+0.4**
DIM	**Dimitrovgrad**	**2.95**	**95**	iP	**Pg**	**02 16 12.2**	**-1.3**
FGSL	**Fruska Gora**	**3.07**	**336**	Pn	**Pn**	**02 16 06.8**	**+0.2**
GZR	**Gura Zlata**	**3.14**	**15**	⇑iP	**Pn**	**02 16 07.5**	**-0.1**
BZS	**Buzias**	**3.25**	**0**	⇑iP	**Pn**	**02 16 07.8**	**-1.2**
ALN	**Alexandroupoli**	**3.65**	**112**	ePn	**Pn**	**02 16 15.5**	**+0.9**
MLR	**Muntele Rosu**	**4.43**	**44**	⇓iP	**Pn**	**02 16 27.4**	**+2.1**
BOJS	**Bojanci**	**5.54**	**307**	ePn	**Pn**	**02 16 42.9**	**+2.3**
PSZ	**Piszkesteto**	**5.67**	**348**	⇑iP	**Pn**	**02 16 41.2**	**-1.2**
VISS	**Visnje**	**5.95**	**308**	iPn	**Pn**	**02 16 46.5**	**+0.3**
CEY	**Cerknica**	**6.16**	**306**	ePn	**Pn**	**02 16 49.8**	**+0.7**
PERS	**Pernice**	**6.29**	**315**	iPn	**Pn**	**02 16 51.6**	**+0.7**
VYHS	**Vyhne**	**6.42**	**343**	ePN	**Pn**	**02 16 53.0**	**+0.3**
VYHS				eSN	**Sn**	**02 18 07.3**	**+0.7**
ARSA	**Arzberg**	**6.51**	**321**	⇑iPn	**Pn**	**02 16 53.9**	**0.0**
ARSA				⇑iSn	**Sn**	**02 18 05.6**	**-3.2**
OBKA	**Obir**	**6.52**	**312**	⇓iPn	**Pn**	**02 16 52.8**	**-1.2**
OBKA				⇓iSn	**Sn**	**02 18 07.0**	**-1.9**
SMOL	**Smolenice**	**6.80**	**336**	eSN	**Sn**	**02 18 15.7**	**-0.3**

*IDC **30** 02:30:46.6±0.8, 321N×12576E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, Error ellipse: s-maj=61.1km s-min=16.2km az=70.0*

*ISCJB **30** 02:30:49.9±0.6, 32N±01×1258E±03, h35km, mb4.0/9, Error ellipse: s-maj=45.5km s-min=11.1km az=139.8*

*NEIC **30** 02:30:51.8±0.5, 321N×12582E, h35km, mb4.3/2, Error ellipse: s-maj=35.9km s-min=9.2km az=70.0*

ISC 30 02:30:52.0±0.6**, 32N**±01×**1258E**±03**, h35**km**, n18, σ0.71**/14**, mb4.0**/9**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.49**	**160**	P	**P**	**02 36 07.4**	**-0.3**
	4.7nm,0.7s,mb4.0,baz=343,slow=11,SNR=49						
WB2	**Warramunga Arr**	**24.49**	**160**	eP	**P**	**02 36 07.7**	**-0.1**
ASAR	**Alice Springs**	**27.85**	**164**	P	**P**	**02 36 38.9**	**+0.8**
	0.2nm,0.5s,mb3.0,baz=348,slow=7.1,SNR=7.4						
MJAR	**Matsushiro Arr**	**35.10**	**18**	P	**P**	**02 37 42.3**	**+0.5**
	3.4nm,1.0s,mb4.2,baz=163,slow=8.8,SNR=4.2						
STKA	**Stephens Creek**	**37.98**	**158**	eP	**P**	**02 38 06.2**	**-0.2**
	1.8nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**37.98**	**158**	P	**P**	**02 38 06.0**	**-0.4**
	2.2nm,0.6s,mb4.1,baz=346,slow=9.4,SNR=11						
SONM	**Songino Array**	**47.50**	**342**	P	**P**	**02 39 22.6**	**-1.0**
	0.5nm,0.6s,mb3.8,baz=158,slow=8.4,SNR=5.2						
MK31	**Makanchi Array**	**57.45**	**326**	eP	**P**	**02 40 38.3**	**+1.0**
MKAR	**Makanchi Array**	**57.45**	**326**	P	**P**	**02 40 38.4**	**+1.2**
	0.7nm,0.4s,mb4.0,baz=117,slow=7.9,SNR=19						
MKAR	**Makanchi Array**	**57.45**	**326**	P	**P**	**02 40 38.4**	**+1.1**
KURK	**Kurchatov**	**61.68**	**328**	eP	**P**	**02 41 06.3**	**-0.1**
	2.3nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**67.25**	**327**	P	**P**	**02 41 41.9**	**-0.9**
	0.4nm,0.5s,mb3.7,baz=142,slow=7.2,SNR=3.0						
FINES	**FINESS Array B**	**91.85**	**332**	P	**P**	**02 43 55.7**	**-0.7**
	2.0nm,0.9s,mb4.4,baz=116,slow=4.4,SNR=3.6						
FINES	**FINESS Array B**	**91.85**	**332**	P	**P**	**02 43 55.7**	**-0.7**
SNAA	**Sanae**	**104.47**	**195**	eP	PP	02 49 32.2	+20
SNAA				e		02 49 34.9	
VNA2	**Neumayer--Watz**	**106.08**	**194**	eP	PKiKP	02 49 10.3	-2.0
	baz=312,slow=11						
VNA2				e		02 49 13.2	
VNA2				e		02 49 17.8	
VNA3	**Neumayer Olymp**	**106.42**	**194**	eP	PKiKP	02 49 07.6	-5.4
VNA3				e		02 49 11.2	
TORD	**Torodi Ar. Bea**	**122.18**	**288**	PKP	PKPdf	02 49 44.9	+2.0
	0.4nm,0.9s,baz=39,slow=2.5,SNR=2.9						

*MOS **30** 02:36:46.5±2.6, 5255N×15933E, h22km, mb4.7/39, Error ellipse: s-maj=9.7km s-min=5.4km az=83.8*

MOS Felt (II) at Petropavlovsk-Kamchatskyi.

*KRSC **30** 02:36:47.6±0.7, 5245N×15952E, h19km±18km, ML5.1*

*IDC **30** 02:36:48.0±2.6, 5260N×15921E, h36km±20km, mb4.2/28, mb1 4.4/29, mb1mx4.4/31, mbtmp4.2/29, ML4.6/1, MS3.7/11, Ms1 3.8/11, ms1mx3.4/38, Error ellipse: s-maj=15.6km s-min=11.4km az=148.0*

*ISCJB **30** 02:36:49.1±0.3, 5247N±003×15933E±003, h65km±2km, mb4.5/85, Error ellipse: s-maj=4.6km s-min=3.0km az=121.0*

*BJI **30** 02:36:49.0, 5292N×15922E, h63km, mB4.9, mb4.6, Ms4.5, Msz4.3*

*NEIC **30** 02:36:51.0±0.6, 5260N×15924E, h62km±5km, mb4.6/51, Error ellipse: s-maj=5.5km s-min=3.5km az=170.0*

NEIC Felt [II] at Petropavlovsk-Kamchatskiy.

*SZGRF **30** 02:36:51.3, 5291N×15944E, h33km, mb4.6, Off east coast of Kamchatka Peninsula, Russia*

ISC 30 02:36:50.8±0.3**, 5250N**±003×**15923E**±003**, h66**km±2km**, h57**km±4.6km**:pP-P, n361, σ0.88**/383**, mb4.4**/85**, 51C-72D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.44**	**262**	iP	**Pn**	**02 37 00.4**	**-2.3**
PET	**Petropavlovsk**	**0.63**	**327**κ	iPN	**Pn**	**02 37 03.1**	**-1.5**
PET				pmax	pmax		
	comp=Z,7μm,1.4s						
PET				pmax	pmax		
	comp=E,2μm,0.5s						
PET				pmax	pmax		
	comp=Z,5μm,0.5s						
PET				pmax	pmax		
	comp=N,3μm,0.6s						
PET	**Petropavlovsk**	**0.63**	**327**	ePn	**Pn**	**02 37 03.1**	**-1.5**
PET				eSn	**Sn**	**02 37 12.8**	**-1.9**
PET	**Petropavlovsk**	**0.63**	**327**	iP	**Pn**	**02 37 03.0**	**-1.6**
PET				iS	**Sn**	**02 37 13.6**	**-1.2**
NLC	**Nalytchevo**	**0.68**	**6**	iP	**Pn**	**02 37 02.1**	**-3.1**
NLC				eS	**Sn**	**02 37 12.7**	**-3.0**
INSR	**Institute**	**0.68**	**327**	eP	**Pn**	**02 37 03.3**	**-1.9**
INSR				iS	**Sn**	**02 37 14.3**	**-1.5**
GRL	**Gorelyy**	**0.71**	**275**	iP	**Pn**	**02 37 05.0**	**-0.5**
GRL				eS	**Sn**	**02 37 17.7**	**+1.4**
SPN	**Mys Shipunski**	**0.77**	**39**	iP	**Pn**	**02 37 01.8**	**-4.4**
AVH	**Avacha**	**0.82**	**339**	iP	**Pn**	**02 37 05.9**	**-1.0**
AVH				eS	**Sn**	**02 37 18.7**	**0.0**
GNL	**Ganaly**	**1.43**	**328**	iP	**Pn**	**02 37 15.0**	**+0.4**
GNL				iS	**Sn**	**02 37 34.9**	**+2.3**
MIPR	**Malaya Ipel'ka**	**1.53**	**263**	iP	**Pn**	**02 37 16.7**	**+0.7**
MIPR				iS	**Sn**	**02 37 38.2**	**+3.2**
KII	**Karymskiy**	**1.55**	**5**	iP	**Pn**	**02 37 15.6**	**-0.6**
KII				eS	**Sn**	**02 37 36.4**	**+1.0**
MKZ	**Mys Kozlova**	**2.55**	**35**	iP	**Pn**	**02 37 26.8**	**-2.9**
MKZ				iS	**Sn**	**02 37 55.1**	**-4.5**
SKR	**Severo-Kuril's**	**2.66**	**228**	ePN	**Pn**	**02 37 30.0**	**-1.3**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
ALID	**Alaid**	**2.81**	**236**	P	**Pn**	**02 37 33.7**	**+0.4**
ALID				iS	**Sn**	**02 38 06.4**	**+0.3**
KMNR	**Kamenistaya**	**3.32**	**10**	eP	**Pn**	**02 37 41.1**	**+0.8**
KMNR				eS	**Sn**	**02 38 19.3**	**+0.8**
BZMR	**Bezymyannaya**	**3.52**	**12**	iP	**Pn**	**02 37 44.1**	**+1.0**
BZMR				eS	**Sn**	**02 38 25.2**	**+1.7**
KPT	**Kopyto**	**3.52**	**9**	eP	**Pn**	**02 37 44.1**	**+1.0**
KPT				eS	**Sn**	**02 38 25.2**	**+1.7**
KOZ	**Kozyrevsk**	**3.59**	**6**	iP	**Pn**	**02 37 45.1**	**+1.2**
KOZ				eS	**Sn**	**02 38 26.2**	**+1.1**
KOZR	**Kozyr**	**3.60**	**6**	PN	**Pn**	**02 37 45.1**	**+1.0**
KOZR				S	**Sn**	**02 38 26.2**	**+0.9**
ZLN	**Zelenaya**	**3.65**	**14**	eP	**Pn**	**02 37 46.1**	**+1.4**
ZLN				eS	**Sn**	**02 38 28.4**	**+1.9**
KRSR	**Krestovskiy**	**3.81**	**11**	iP	**Pn**	**02 37 47.4**	**+0.4**
KRSR				eS	**Sn**	**02 38 31.1**	**+0.6**
SRDR	**Sredinnyy**	**3.84**	**4**	iP	**Pn**	**02 37 47.9**	**+0.5**
KLY	**Klyuchi**	**3.91**	**12**	iP	**Pn**	**02 37 50.1**	**+1.7**
KLY				eS	**Sn**	**02 38 35.3**	**+2.3**
KBTR	**Krutoberegovo**	**4.27**	**28**	eP	**Pn**	**02 37 51.5**	**-1.8**
KBTR				iS	**Sn**	**02 38 38.8**	**-3.0**
SRKR	**Sorokina**	**4.32**	**14**	iP	**Pn**	**02 37 55.3**	**+1.4**
SRKR				eS	**Sn**	**02 38 44.1**	**+1.2**
MA2	**Magadan**	**8.52**	**330**	ePN	**Pn**	**02 38 50.4**	**-1.0**
SEY	**Seymchan**	**11.08**	**344**	ePN	**Pn**	**02 39 25.9**	**-0.4**
ASAJ	**Asahikawa**	**13.86**	**239**	Pn	**Pn**	**02 40 04.5**	**+0.4**
	comp=Z,4.8nm,0.3s,baz=54,slow=11,SNR=28						
ASAJ				LR	LR	02 44 59.4	
	comp=Z,143nm,19.9s,baz=165,slow=35						
ASAJ	**Asahikawa**	**13.86**	**239**	P	**Pn**	**02 40 04.5**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,143nm,19.9s						
ERM	**Erimo**	**15.10**	**232**	eP	**Pn**	**02 40 17.2**	**-2.9**
HABR	**Khabarovsk**	**15.88**	**265**	eP	**Pn**	**02 40 33.9**	**+3.8**
HABR				pmax	pmax		
	comp=Z,37nm,1.2s						
HABR				MLR	MLR		
	comp=Z,231nm,13.2s						
BILL	**Bilibino**	**15.96**	**10**	eP	**Pn**	**02 40 30.4**	**-0.7**
BILL				pmax	pmax		
	comp=Z,12nm,0.7s						
BILL	**Bilibino**	**15.96**	**10**	ePn	**Pn**	**02 40 30.4**	**-0.7**
	comp=Z,14nm,0.6s						
KLR	**Kul'dur**	**17.61**	**270**	eP	**Pn**	**02 40 51.8**	**+0.2**
YAK	**Yakutsk**	**18.44**	**313**	eP	**Pn**	**02 41 03.3**	**+1.6**
YAK				pmax	pmax		
	comp=Z,67nm,0.8s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,33nm,1.4s						
YAK	**Yakutsk**	**18.44**	**313**	eP	**Pn**	**02 41 01.9**	**+0.2**
	comp=E,88nm,0.8s						
TNA	**Tin City**	**21.05**	**39**	eP	**P**	**02 41 28.5**	**-0.7**
	comp=E,20nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**21.76**	**231**	eP	**P**	**02 41 37.6**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,27nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**21.76**	**231**	eP	**P**	**02 41 37.6**	**+0.7**
	comp=Z,27nm,0.6s,mb4.8						
MAT	**Matsushiro**	**21.76**	**231**	P	**P**	**02 41 37.4**	**+0.5**
MAT				eS	**S**	**02 45 42.0**	**+8.2**
MJAR	**Matsushiro Arr**	**21.76**	**231**	P	**P**	**02 41 38.3**	**+1.4**
	comp=Z,17nm,0.8s,mb4.4,baz=18,slow=11,SNR=26						
TIXI	**Tiksi**	**23.41**	**336**	⇓iP	**P**	**02 41 53.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,200nm,24.0s						
TIXI	**Tiksi**	**23.41**	**336**	eP	**P**	**02 41 52.6**	**-1.2**
	comp=Z,12nm,0.9s,mb4.2						
HIA	**Hailar**	**24.90**	**278**	eP	**P**	**02 42 06.9**	**-0.6**
BOD	**Bodaibo**	**25.98**	**300**	eP	**P**	**02 42 16.4**	**-0.8**
BOD				e	pP	02 42 29.9	-3.1
KSRS	**Korea Array**	**26.50**	**248**	P	**P**	**02 42 22.9**	**+0.9**
	comp=Z,5.5nm,0.6s,mb4.3,baz=44,slow=9.3,SNR=17						
KSRS				LR	LR	02 52 15.5	
	comp=Z,87nm,18.3s,baz=236,slow=35						
JNU	**Nakatsue**	**28.13**	**238**	LR	LR	02 54 27.1	
	comp=Z,252nm,21.9s,baz=86,slow=38						
COLA	**College**	**29.20**	**44**	eP	**P**	**02 42 45.3**	**-0.7**
COLA	**College**	**29.20**	**44**	eP	**P**	**02 42 45.1**	**-0.9**
	comp=Z,4.8nm,0.7s,mb4.2						
DAWY	**Dawson**	**32.91**	**45**	eP	**P**	**02 43 17.6**	**-1.1**
ULN	**Ulaanbaatar**	**33.12**	**283**	eP	**P**	**02 43 21.2**	**+0.7**
SONM	**Songino Array**	**33.53**	**284**	P	**P**	**02 43 23.7**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=61,slow=7.8,SNR=7.7						
SONM				PcP	PcP	02 46 03.9	+0.5
	comp=Z,0.9nm,0.7s,baz=90,slow=1.9,SNR=6.9						
SONM				ScP	ScP	02 49 45.6	+3.4
	comp=Z,0.5nm,0.8s,baz=62,slow=3.0,SNR=4.4						
SONM				LR	LR	02 58 34.4	
	comp=Z,178nm,18.5s,baz=65,slow=39						
SONM	**Songino Array**	**33.53**	**284**	P	**P**	**02 43 23.7**	**-0.3**
SONM						02 46 03.9	
HHC	**Hu-ho-hao-te**	**34.11**	**269**	eP	**P**	**02 43 30.0**	**+0.9**
HHC				AP	pP	02 43 45.0	-0.2
HHC				XP	sP	02 43 52.3	-0.6
HHC				PP	PP	02 44 45.5	-1.9
HHC				PCP	PcP	02 46 07.0	+1.9
HHC				S	**S**	**02 48 50.0**	**-0.3**
HHC				XS	sS	02 49 15.5	-2.3
HHC				SCP	ScP	02 49 45.0	+0.8
HHC				PCS	PcS	02 49 52.3	+1.0
HHC				SS	SS	02 51 03.5	-17
HHC				SCS	ScS	02 53 45.5	-1.0
HHC				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
HHC				LR	LR		
	comp=N,122nm,16.7s						
HHC				LR	LR		
	comp=E,148nm,14.3s						
HHC				LR	LR		
	comp=Z,119nm,14.3s						
JOW	**Kunigami**	**34.53**	**234**	P	**P**	**02 43 36.3**	**+3.5**
	comp=Z,20nm,0.5s,mb5.2,baz=48,slow=8.7,SNR=8.6						
INK	**Inuvik**	**34.66**	**37**	P	**P**	**02 43 33.2**	**-0.7**
	comp=Z,6.0nm,0.6s,mb4.6,baz=284,slow=7.5,SNR=43						
INK				PcP	PcP	02 46 06.1	-0.6
	comp=Z,0.9nm,0.6s,baz=333,slow=4.4,SNR=3.4						
INK	**Inuvik**	**34.66**	**37**	eP	**P**	**02 43 33.3**	**-0.6**
	comp=Z,331nm,0.8s						
LZH	**Lanzhou**	**41.81**	**270**	eP	**P**	**02 44 36.5**	**+2.6**
LZH				AP	pP	02 44 49.0	-1.4
LZH				XP	sP	02 44 55.0	-3.0
LZH				PP	PP	02 46 18.5	+6.9
LZH				eS	**S**	**02 50 54.5**	**+7.9**
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,102nm,5.6s						
LZH				LR	LR		
	comp=E,335nm,14.3s						
LZH				LR	LR		
	comp=Z,597nm,17.8s						
LZH	**Lanzhou**	**41.81**	**270**	eP	**P**	**02 44 36.5**	**+2.6**
LZH				*PP	pP	02 44 48.9	-1.5
LZH						02 46 18.5	
LZH				eS	**S**	**02 50 54.5**	**+7.9**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
LZH				MLR	MLR		
	comp=Z,600nm,17.8s						
LZH	**Lanzhou**	**41.81**	**270**	eP	**P**	**02 44 36.5**	**+2.6**
	comp=Z,19nm,1.0s,mb4.8						
LZH				pP	pP	02 44 48.9	-1.5
LZH				sP	sP	02 44 55.1	-2.9
LZH				PP	PP	02 46 18.5	+6.9
LZH				eS	**S**	**02 50 54.5**	**+7.9**
LZH				LR	LR		
	comp=Z,600nm,17.8s						
GTA	**Gaotai**	**42.15**	**276**	eP	**P**	**02 44 37.3**	**+0.6**
GTA				AP	pP	02 44 52.5	-0.7
GTA				XP	sP	02 45 00.0	-0.8
GTA				PP	PP	02 46 23.0	+7.7
GTA				PCP	PcP	02 46 31.5	+1.5
GTA				S	**S**	**02 50 54.0**	**+2.3**
GTA				XS	sS	02 51 22.0	+2.3
GTA				SS	SS	02 53 57.5	-4.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
GTA				AMB	AMB		
	comp=Z,147nm,5.3s						
GTA				LR	LR		
	comp=N,273nm,7.6s						
GTA				LR	LR		
	comp=E,211nm,10.3s						
GTA				LR	LR		
	comp=Z,155nm,16.7s						
ZAL	**Zalesovo**	**42.67**	**303**	LR	LR	03 04 00.5	
	comp=Z,92nm,20.5s,baz=159,slow=38						
NVS	**Novosibirsk**	**43.02**	**305**	eP	**P**	**02 44 43.9**	**+0.2**
NVS				pmax	pmax		
	comp=N,2.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
YKW3	**Yellowknife Ar**	**43.92**	**42**	eP	**P**	**02 44 50.3**	**-0.7**
YKA	**Yellowknife Ar**	**43.96**	**42**	P	**P**	**02 44 50.4**	**-0.9**
	comp=Z,6.1nm,0.7s,mb4.5,baz=298,slow=7.9,SNR=79						
YKA				PcP	PcP	02 46 36.0	-0.1
	comp=Z,0.4nm,0.8s,baz=300,slow=3.6,SNR=3.8						
RES	**Resolute Bay**	**44.07**	**22**	eP	**P**	**02 44 51.9**	**-0.3**
CD2	**Chengdu**	**45.38**	**264**	P	**P**	**02 45 05.0**	**+2.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
WMQ	**Urumqi**	**46.67**	**289**	P	**P**	**02 45 15.0**	**+2.3**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,139nm,5.0s						
WMQ				LR	LR		
	comp=N,70nm,25.0s						
WMQ				LR	LR		
	comp=E,71nm,23.0s						
WMQ				LR	LR		
	comp=Z,49nm,17.0s						
GYA	**Guiyang**	**46.85**	**257**	P	**P**	**02 45 16.0**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**47.60**	**302**	eP	**P**	**02 45 19.4**	**-0.6**
KURK	**Kurchatov**	**47.60**	**302**	eP	**P**	**02 45 19.2**	**-0.8**
	comp=Z,5.1nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**47.94**	**296**	eP	**P**	**02 45 20.9**	**-1.7**
MKAR	**Makanchi Array**	**47.94**	**296**	P	**P**	**02 45 21.4**	**-1.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=52,slow=6.5,SNR=22						
MKAR				LR	LR	03 05 10.1	
	comp=Z,84nm,19.0s,baz=34,slow=36						
A07A	**Ashnola River,**	**48.46**	**60**	⇓P	**P**	**02 45 26.1**	**-0.6**
	baz=48						
B07A	**Winthrop**	**48.95**	**61**	⇓P	**P**	**02 45 29.8**	**-0.6**
	baz=49						
A08A	**Turner Farm, O**	**49.11**	**60**	⇑P	**P**	**02 45 30.4**	**-1.1**
	baz=49						
B08A	**Colville Reser**	**49.44**	**60**	⇓P	**P**	**02 45 33.2**	**-0.8**
	baz=49						
C07A	**Waterville**	**49.45**	**61**	⇓P	**P**	**02 45 33.7**	**-0.5**
	baz=49						
A09A	**Danville**	**49.46**	**59**	⇓P	**P**	**02 45 34.2**	**0.0**
	baz=49						
EDM	**Edmonton**	**49.55**	**52**	eP	**P**	**02 45 34.6**	**-0.3**
D07A	**Quincy**	**49.80**	**62**	⇓P	**P**	**02 45 36.1**	**-0.8**
	baz=50						
C08A	**Higginbotham F**	**49.94**	**61**	⇓P	**P**	**02 45 37.0**	**-0.8**
	baz=50						
B09A	**Rice**	**50.02**	**60**	⇑P	**P**	**02 45 37.9**	**-0.6**
	baz=50						
KMI	**Kunming**	**50.20**	**260**	P	**P**	**02 45 40.5**	**+0.6**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
KMI	**Kunming**	**50.20**	**260**	P	**P**	**02 45 40.6**	**+0.7**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KMI	**Kunming**	**50.20**	**260**	P	**P**	**02 45 40.6**	**+0.7**
	comp=Z,4.0nm,0.6s,mb4.5						
E07A	**Sunnyside**	**50.26**	**62**	⇑P	**P**	**02 45 39.8**	**-0.5**
	baz=50						
C09A	**Chrisman Ranch**	**50.34**	**60**	⇓P	**P**	**02 45 39.8**	**-1.1**
	baz=50						
BVAR	**Borovoye Array**	**50.35**	**308**	P	**P**	**02 45 39.6**	**-1.4**
	comp=Z,2.2nm,0.5s,mb4.4,baz=60,slow=7.1,SNR=13						
BVAR				PcP	PcP	02 46 58.2	-0.6
	comp=Z,0.6nm,0.5s,baz=82,slow=3.8,SNR=2.6						
BVAR				ScP	ScP	02 50 51.7	+2.8
	comp=Z,0.8nm,0.8s,baz=87,slow=4.9,SNR=3.9						
BVAR	**Borovoye Array**	**50.35**	**308**	P	**P**	**02 45 39.6**	**-1.4**
BVAR						02 46 58.2	
BRVK	**Borovoye**	**50.38**	**308**	eP	**P**	**02 45 40.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**50.38**	**308**	eP	**P**	**02 45 40.5**	**-0.7**
	comp=Z,3.3nm,0.6s,mb4.4						
D08A	**Wollman Farm,**	**50.45**	**61**	⇓P	**P**	**02 45 40.4**	**-1.4**
	baz=50						
A11A	**Hall Mountain,**	**50.63**	**58**	⇓P	**P**	**02 45 42.8**	**-0.3**
	baz=50						
F07A	**Phinny Hill Vi**	**50.63**	**63**	⇑P	**P**	**02 45 42.9**	**-0.2**
	baz=50						
NEW	**Newport**	**50.66**	**59**	eP	**P**	**02 45 42.4**	**-0.9**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**50.66**	**59**	eP	**P**	**02 45 42.4**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.3						
E08A	**Dider Farm, El**	**50.73**	**62**	⇑P	**P**	**02 45 42.8**	**-1.1**
	baz=50						
D09A	**Jones Farm, Ri**	**50.78**	**61**	⇓P	**P**	**02 45 43.1**	**-1.1**
	baz=50						
C10A	**Spilker Farm,**	**50.84**	**60**	⇓P	**P**	**02 45 43.8**	**-0.9**
	baz=51						

B11A Sandpoint 50.95 59 ⇓P P 02 45 44.9 -0.6
baz=51
I05A Bend 50.98 66 ⇓P P 02 45 46.5 +0.7
baz=51
DAG Danmarks Havn 51.00 359 ⇓ i P P 02 45 44.7 -1.2
comp=Z,13nm,0.7s,mb5.1
DAG Danmarks Havn 51.00 359 ⇓ eP P 02 45 44.7 -1.2
DAG pmax pmax
comp=Z,13nm,0.7s,mb5.1
A12A Yaak River Ran 51.01 58 ⇑P P 02 45 45.6 -0.3
baz=51
J04A Umpqua Nationa 51.10 67 ⇑P P 02 45 46.2 -0.4
baz=51
D10A Wagner Farm, O 51.33 60 P P 02 45 47.6 -0.8
baz=51,SNR=5.5
J05A Fort Rock 51.56 66 ⇓P P 02 45 50.0 -0.1
baz=51
JCC Jacoby Creek 51.56 71 ⇓P P 02 45 49.6 -0.5
baz=51
H07A Lands Inn, Kim 51.65 64 ⇑P P 02 45 51.2 +0.4
baz=51
YBH Yreka Blue Hor 51.73 69 LR LR 03 05 39.6
comp=Z,133nm,20.3s,baz=325,slow=34
YBH Yreka Blue Hor 51.73 69 ⇑P P 02 45 51.6 +0.3
baz=52
E10A Myers Farm, Un 51.78 61 ⇑P P 02 45 50.9 -0.8
baz=52
F09A S2 Ranch, Elgi 51.84 62 ⇑P P 02 45 51.4 -0.8
baz=52
B13A Whitefish 51.97 58 ⇓P P 02 45 52.8 -0.3
baz=52
K05A Summer Lake 52.11 67 ⇑P P 02 45 53.8 -0.4
baz=52
BSMT Bassoo Peak 52.14 58 eP P 02 45 54.6 +0.2
E11A Bogner Ranch, 52.34 61 ⇓P P 02 45 54.8 -1.1
baz=52
C13A Hot Springs 52.36 58 ⇓P P 02 45 56.0 0.0
baz=52
K06A Valley Falls 52.42 66 ⇓P P 02 45 56.4 -0.1
baz=52
I08A Drewsey 52.64 64 ⇑P P 02 45 57.1 -1.0
baz=52
H09A Durkee 52.65 63 ⇓P P 02 45 58.0 -0.2
baz=52
F11A Grangeville 52.67 61 ⇓P P 02 45 58.1 -0.2
baz=52
C14A Swan Lake 52.73 58 P P 02 45 58.8 0.0
baz=52,SNR=5.3
D13A Huson 52.80 59 ⇑P P 02 45 58.4 -0.9
baz=53
P01C Double 8 Ranch 52.85 71 ⇑P P 02 46 01.1 +1.5
baz=53
M05C Lookout 52.86 68 ⇓P P 02 46 00.2 +0.5
baz=53
I09A Lost Marbles R 53.05 64 ⇑P P 02 46 01.5 +0.4
baz=53
H10A Noah's Angus R 53.20 63 ⇑P P 02 46 01.7 -0.5
baz=53
KEV Kevo 53.21 341 ep P 02 46 01.7 -0.6
comp=Z,12nm,1.0s,mb4.9
KEV Kevo 53.21 341 eP P 02 46 01.7 -0.6
KEV pmax pmax
comp=Z,12nm,1.0s,mb4.9
F12A Elk City 53.24 61 P P 02 46 02.3 -0.2
baz=53,SNR=5.9
D14A Greenough 53.30 58 ⇓P P 02 46 02.4 -0.6
baz=53
E13A Victor 53.36 59 ⇑P P 02 46 03.1 -0.3
baz=53
L07A Adell 53.45 67 ⇓P P 02 46 02.2 -1.8
baz=53
J09A Fry Pan Ranch, 53.45 64 ⇑P P 02 46 04.2 +0.1
baz=53
ARU Arti 53.48 317 ⇓ i P P 02 46 04.3 +0.1
ARU e 02 47 08.0
ARU eS S 02 53 36.2 +4.2
ARU eSS SS 02 57 18.0 +5.2
ARU pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ARU Arti 53.48 317 eP P 02 46 04.8 +0.6
comp=Z,2.0nm,0.6s,mb4.3
H11A Donnelly 53.52 62 P P 02 46 04.3 -0.3
baz=53,SNR=11
WVOR Wild Horse Val 53.56 66 eP P 02 46 04.8 -0.1
WVOR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
WVOR Wild Horse Val 53.56 66 eP P 02 46 04.8 -0.1
comp=Z,2.4nm,0.9s,mb4.2
ELFS Eagle Lake Fie 53.59 69 ⇑P P 02 46 05.6 +0.6
baz=53
ARCES ARCESS Array B 53.69 342 P P 02 46 04.2 -1.6
comp=Z,5.4nm,1.0s,mb4.5,baz=42,slow=8.1,SNR=5.8
ARCES LR LR 03 11 44.4
comp=Z,81nm,18.5s,baz=218,slow=39
F13A Darby 53.71 60 ⇓P P 02 46 04.3 -1.7
baz=54
E14A Clinton 53.74 59 P P 02 46 05.9 -0.3
baz=54,SNR=8.0
D15A Lincoln 53.84 58 ⇓P P 02 46 06.6 -0.3
baz=54
L08A Fields 53.89 66 ⇑P P 02 46 07.7 +0.5
baz=54
M07A Soldier Meadow 53.96 67 ⇓P P 02 46 08.3 +0.5
baz=54
N06A Buffalo Meadow 54.01 68 ⇑P P 02 46 08.7 +0.5
baz=54
E15A Deer Lodge 54.18 59 ⇑P P 02 46 09.4 0.0
baz=54
G13A Cobalt 54.22 61 ⇓P P 02 46 10.0 +0.3
baz=54
H12A Diamond D Ranc 54.24 62 ⇑P P 02 46 10.5 +0.6
baz=54
FCC Fort Churchill 54.27 38 eP P 02 46 09.3 -0.8
FCC pmax pmax
comp=Z,16nm,0.6s,mb5.2
FCC Fort Churchill 54.27 38 eP P 02 46 09.3 -0.8
comp=Z,16nm,0.6s,mb5.2
BEKR Beckwourth 54.30 69 ⇑P P 02 46 10.2 0.0
baz=54
K10A MacKenzie Ranc 54.32 64 ⇓P P 02 46 10.2 -0.1
baz=54
M08A Happy Creek Ra 54.36 66 ⇓P P 02 46 10.9 +0.2
baz=54
O06A Flanigan 54.40 69 ⇑P P 02 46 11.8 +0.8
baz=54
Q04C Lincoln 54.40 71 ⇓P P 02 46 10.8 -0.2
baz=54
MFID Camas Ranch 54.47 63 ⇑P P 02 46 11.0 -0.4
baz=54
N07B Gerlach 54.48 67 ⇑P P 02 46 12.3 +0.8
baz=54
P05C Yuba Gap, Truc 54.53 70 ⇓P P 02 46 12.0 0.0
baz=54
LAVA Lava Cap Winer 54.83 70 ⇓P P 02 46 14.4 +0.3
baz=55
AAK Ala-Archa 54.87 296 eP P 02 46 13.9 -0.5
AAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
AAK MLR MLR
comp=Z,100nm,20.0s
AAK Ala-Archa 54.87 296 eP P 02 46 12.5 -1.8
comp=Z,1.7nm,0.8s,mb4.1
JRSC Jasper Ridge 54.87 73 ⇓P P 02 46 14.5 +0.1
baz=55
M09A Marrel Ranch, 54.90 66 ⇓P P 02 46 15.1 +0.5
baz=55
O07A Toulon 54.94 68 ⇓P P 02 46 15.2 +0.3
baz=55
J12A Stokes Ranch, 54.97 63 ⇑P P 02 46 15.0 -0.2
baz=55
G15A Dillon 55.09 60 ⇓P P 02 46 16.0 0.0
baz=55
HLID Hailey 55.14 62 eP P 02 46 16.0 -0.3
comp=Z,1.6nm,0.9s,mb4.0
HLID Hailey 55.14 62 ⇑P P 02 46 16.1 -0.2
baz=55
BOZ Bozeman (W) 55.22 59 eP P 02 46 16.8 -0.1
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BOZ Bozeman (W) 55.22 59 eP P 02 46 16.8 -0.1
comp=Z,2.7nm,0.7s,mb4.4
BOZ Bozeman (W) 55.22 59 P P 02 46 17.2 +0.3
baz=55,SNR=5.5
N09A Rock Creek Ran 55.24 66 ⇓P P 02 46 17.6 +0.5
baz=55
R05C Kirkwood Meado 55.24 70 ⇓P P 02 46 18.0 +0.9
baz=55
M10A I.L. Ranch, Tu 55.34 65 ⇑P P 02 46 18.2 +0.5
baz=55
J13A Cove Ranch, Pi 55.38 62 ⇓P P 02 46 17.6 -0.5
baz=55
K12A Draper Farm, C 55.49 63 P P 02 46 19.5 +0.7
baz=55,SNR=6.4
CMB Columbia Colle 55.52 71 ⇓P P 02 46 19.7 +0.7
baz=55
R06C Coleville 55.72 70 ⇓P P 02 46 21.4 +0.9
baz=56
L12A House Creek Ra 55.76 64 ⇓P P 02 46 20.9 +0.2
baz=56
M11A Holland Ranch, 55.81 65 ⇓P P 02 46 21.6 +0.5
baz=56
O09A Fish Creek Ran 55.89 67 ⇓P P 02 46 22.2 +0.5
baz=56
S06C San Francisco 55.93 71 ⇑P P 02 46 22.9 +0.9
baz=56
O10A Cortez Mining, 56.19 66 ⇑P P 02 46 25.0 +1.1
baz=56
R07C Lee Vining 56.25 70 ⇓P P 02 46 25.8 +1.5
baz=56
M12A Wells 56.31 64 P P 02 46 25.9 +1.2
baz=56,SNR=5.1
Q08A Gabbs 56.36 69 ⇓P P 02 46 25.7 +0.6
baz=56
L13A Double Diamond 56.38 63 P P 02 46 26.4 +1.2
baz=56,SNR=7.6
NVAR Mina Array Bea 56.44 69 P P 02 46 26.4 +0.7
comp=Z,1.6nm,0.7s,mb4.2,baz=291,slow=7.6,SNR=12
T06C Milleton Lake 56.61 71 ⇓P P 02 46 27.3 +0.4
baz=56
N12A Clover Valley, 56.62 65 ⇑P P 02 46 28.0 +1.1
baz=56
P10A Eureka 56.67 67 ⇓P P 02 46 27.3 0.0
baz=56
M13A Montello 56.76 64 ⇑P P 02 46 28.1 +0.2
baz=56
IMW Indian Meadow 56.77 60 eP P 02 46 28.7 +0.8
comp=Z,4.0nm,0.8s,mb4.5
O11A Cowboy Ranch, 56.77 66 ⇓P P 02 46 28.2 +0.2
baz=57
MOOW Moose Ponds 56.97 60 eP P 02 46 30.3 +0.9
N13A Wendover, West 57.08 64 ⇑P P 02 46 30.7 +0.5
baz=57
LOHW Long Hollow 57.14 60 eP P 02 46 31.1 +0.6
comp=Z,4.1nm,0.8s,mb4.5
CHTO Chiang Mai 57.27 258 eP P 02 46 32.4 +0.9
CHTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CHTO Chiang Mai 57.27 258 eP P 02 46 32.4 +0.9
comp=Z,2.9nm,0.7s,mb4.4
R09A Tonopah 57.28 68 ⇓P P 02 46 31.0 -0.5
baz=57
AHID Auburn Hatcher 57.46 61 eP P 02 46 33.7 +0.9
comp=Z,5.4nm,0.7s,mb4.7
S09A Goldfield 57.55 69 ⇑P P 02 46 33.5 +0.1
baz=57
P12A McGill 57.65 66 ⇑P P 02 46 35.0 +0.8
baz=57
Q11A Duckwater 57.66 67 ⇑P P 02 46 34.3 0.0
baz=57
R10A Warm Springs 57.68 68 ⇓P P 02 46 35.8 +1.4
baz=58
JOF Joensuu 57.88 335 ep P 02 46 34.3 -1.5
comp=Z,1.1nm,0.3s,mb4.4
JOF Joensuu 57.88 335 eP P 02 46 34.3 -1.5
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
Q12A Willow Creek R 57.99 66 ⇓P P 02 46 37.1 +0.6
baz=58
HWUT Hardware Ranch 58.01 62 eP P 02 46 37.6 +0.9
comp=Z,4.4nm,0.8s,mb4.5
PDAR Pinedale Array 58.28 60 P P 02 46 38.8 +0.2
comp=Z,6.2nm,0.7s,mb4.8,baz=311,slow=2.8,SNR=59
DUG Dugway 58.31 64 eP P 02 46 39.0 +0.2
DUG pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
DUG Dugway 58.31 64 eP P 02 46 39.0 +0.2
comp=Z,3.5nm,0.8s,mb4.4
DUG Dugway 58.31 64 ⇓P P 02 46 39.5 +0.8
baz=58
MPMC Manual Prospec 58.55 71 ⇑P P 02 46 40.9 +0.4
baz=58
FURC Furnace Creek, 58.63 70 ⇑P P 02 46 41.4 +0.4
baz=58
NLU North Lily Min 58.88 64 eP P 02 46 43.9 +1.2
U10A Ash Meadows, A 58.97 70 ⇑P P 02 46 44.9 +1.5
baz=59
EDW2 Edwards Air Fo 59.09 72 ⇑P P 02 46 44.4 +0.2
baz=59
ULM Lac du Bonnet 59.61 46 P P 02 46 47.1 -0.7
comp=Z,3.5nm,0.7s,mb4.5,baz=326,slow=8.2,SNR=8.7
ULM Lac du Bonnet 59.61 46 eP P 02 46 46.9 -0.9
comp=Z,2.6nm,0.4s,mb4.6
TMUT Trail Mountain 59.82 64 eP P 02 46 48.7 -0.5
KAF Kangasniemi 59.83 337 ep P 02 46 47.9 -1.4
comp=Z,1.4nm,0.3s,mb4.5,baz=32,slow=6.4
KAF Kangasniemi 59.83 337 eP P 02 46 47.9 -1.4
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
SRU San Rafael 60.32 64 eP P 02 46 53.0 +0.3
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SRU San Rafael 60.32 64 eP P 02 46 53.0 +0.3
comp=Z,9.0nm,0.8s,mb4.8
FINES FINESS Array B 60.46 336 P P 02 46 52.7 -0.9
comp=Z,1.6nm,0.6s,mb4.3,baz=45,slow=7.1,SNR=16
FINES LR LR 03 14 00.3
comp=Z,89nm,19.9s,baz=164,slow=37
FINES FINESS Array B 60.46 336 i P P 02 46 53.0 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 60.46 336 P P 02 46 52.7 -0.9
FINES LR LR 03 14 00.3
IRM Iron Mountain 61.25 71 ⇑P P 02 46 58.4 -0.6
baz=61
W13A Hualapai Mount 61.30 69 ⇑P P 02 46 59.5 +0.2
baz=61
PV10 Paradox Valley 61.66 63 eP P 02 47 01.8 0.0
W14A Seligman 61.68 68 ⇓P P 02 47 02.0 +0.1
baz=62
X13A Yucca 61.70 69 ⇓P P 02 47 02.2 +0.2
baz=62
SMCO Snowmass 62.20 61 eP P 02 47 06.1 +0.8
comp=Z,5.0nm,0.8s,mb4.6
X14A Yava 62.32 69 ⇓P P 02 47 06.6 +0.5
baz=62
Y14A Wickenburg 62.64 69 ⇓P P 02 47 08.2 -0.1
baz=62
X15A Humboldt 62.68 68 ⇓P P 02 47 09.3 +0.7
baz=62
OBN Obninsk 62.73 327 eP P 02 47 08.5 -0.4
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
MVCO Mesa Verde 62.80 64 ⇑P P 02 47 10.5 +1.2
baz=63
NB2 NORSAR Subarra 63.97 343 P P 02 47 16.4 -0.6
comp=Z,6.0nm,0.6s,mb4.6,baz=23,slow=6.9
NOA NORSAR Array B 63.97 343 P P 02 47 16.8 -0.3
comp=Z,6.0nm,0.6s,mb4.6,baz=21,slow=6.6,SNR=24
NOA LR LR 03 18 29.0
comp=Z,60nm,19.1s,baz=105,slow=39
115A Sonoran Desert 63.99 70 ⇓P P 02 47 18.3 +1.1
baz=64
NAO01 NORSAR Array S 64.21 343 eP P 02 47 17.9 -0.7
comp=Z,3.9nm,0.6s,mb4.4
HFS Hagfors 64.35 342 LR LR 03 17 19.7
comp=Z,79nm,19.3s,baz=251,slow=38
ANMO Albuquerque 65.58 64 eP P 02 47 27.7 +0.2
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 65.58 64 eP P 02 47 27.6 +0.1
comp=Z,2.3nm,0.8s,mb4.1
SCHQ Schefferville 66.42 27 P P 02 47 31.7 -1.2
comp=Z,3.3nm,0.7s,mb4.3,baz=284,slow=9.9,SNR=6.7
SCIA State Center 67.11 51 eP P 02 47 36.8 -0.6
comp=Z,18nm,0.7s,mb5.0
MNTX Cornudas Mount 68.60 66 eP P 02 47 46.7 0.0
comp=Z,3.7nm,0.9s,mb4.2
AKASG Malin Array Be 68.85 329 P P 02 47 47.2 -1.0
comp=Z,1.9nm,0.5s,mb4.2,baz=29,slow=6.3,SNR=10
AKASG Malin Array Be 68.85 329 i P P 02 47 47.2 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.5s
LTX Lajitas 71.36 66 eP P 02 48 04.1 +0.5
TXAR Lajitas Array 71.36 66 P P 02 48 03.9 +0.3
comp=Z,4.9nm,0.6s,mb4.5,baz=297,slow=4.3,SNR=71
STHS Stebnicka Huta 72.38 333 eP P 02 48 10.5 +0.8
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
STHS Stebnicka Huta 72.38 333 eP P 02 48 10.5 +0.8
comp=Z,3.9nm,0.7s,mb4.3
KOLS Kolonicke sedl 72.53 332 eP P 02 48 10.8 +0.2
CLL Collm 72.72 339 ⇑ i P P 02 48 11.5 -0.2
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
CLL Collm 72.72 339 ⇑ i P P 02 48 11.5 -0.2
comp=Z,9.0nm,0.8s,mb4.7
CRVS Cervenica-Dubn 72.79 332 eP P 02 48 12.1 0.0
BURAR Bucovina Array 72.82 329 ⇓ i P P 02 48 11.3 -1.0
DPC Dobruska-Polom 72.83 336 eP P 02 48 12.6 +0.2
MORC Moravsky Berou 73.05 335 ⇑ i P P 02 48 14.0 +0.3
PVCC Panska Ves 73.09 337 eP P 02 48 14.5 +0.6
KECS Kecovo 73.44 333 eP P 02 48 16.2 +0.2
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
KECS Kecovo 73.44 333 eP P 02 48 16.2 +0.2
comp=Z,2.0nm,0.7s,mb4.1
PRU Pruhonice 73.60 337 eP P 02 48 17.0 +0.1
VRAC Vranov 73.72 336 P P 02 48 18.5 +0.8
comp=Z,5.0nm,0.7s,mb4.4,baz=47,slow=4.5,SNR=10
VRAC Vranov 73.72 336 ⇓ i P P 02 48 18.3 +0.7
NKC Novy Kostel 73.85 339 eP P 02 48 18.6 +0.2
VYHS Vyhne 73.89 334 eP P 02 48 18.9 +0.3
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
VYHS Vyhne 73.89 334 eP P 02 48 18.9 +0.3
comp=Z,2.6nm,1.0s,mb3.9
TREC Trest 74.01 336 eP P 02 48 19.5 +0.2
SMOL Smolenice 74.24 335 eP P 02 48 21.8 +1.1
MLR Muntele Rosu 74.48 328 P P 02 48 22.8 +0.8
comp=Z,5.4nm,0.7s,mb4.4,baz=193,slow=10,SNR=12
MLR Muntele Rosu 74.48 328 ⇓ i P P 02 48 21.7 -0.3
ZST Bratislava 74.62 335 eP P 02 48 23.1 +0.2
ZST pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ZST Bratislava 74.62 335 eP P 02 48 23.1 +0.2
comp=Z,4.3nm,0.8s,mb4.2
KHC Kasperske Hory 74.62 337 eP P 02 48 23.4 +0.5
GRA1 Grafenberg Arr 74.63 339 eP P 02 48 23.7 +0.8
comp=Z,6.0nm,0.8s,mb4.4
GRF Grafenberg Arr 74.63 339 eP P 02 48 23.7 +0.8
comp=Z,6.0nm,0.8s,mb4.4
GRF Grafenberg Arr 74.63 339 eP P 02 48 23.7 +0.8
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
GRF Grafenberg Arr 74.63 339 eP P 02 48 23.7 +0.8
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
VOIR 74.81 328 ⇑ i P P 02 48 23.9 -0.1
GERES GERESS Array B 74.86 337 P P 02 48 24.6 +0.3
comp=Z,2.4nm,0.6s,mb4.1,baz=32,slow=4.9,SNR=33
WRA Warramunga Arr 75.32 204 P P 02 48 26.8 -0.1
comp=Z,1.4nm,0.7s,mb3.8,baz=23,slow=6.2,SNR=12
GIVF Givet 75.50 343 eP P 02 48 27.2 -0.7
GZR Gura Zlata 75.56 330 ⇑ i P P 02 48 27.9 -0.4
BAIF Baives 75.65 344 eP P 02 48 28.4 -0.4
comp=Z,88nm,1.6s,mb5.0
BAIF Baives 75.65 344 eP P 02 48 28.4 -0.4
BAIF pmax pmax
comp=Z,44nm,1.6s,mb4.9
BAIF Baives 75.65 344 eP P 02 48 28.4 -0.4
comp=Z,44nm,1.6s,mb4.9
BZS Buzias 75.71 331 ⇓ i P P 02 48 27.9 -1.2
FITZ Fitzroy Crossi 76.11 213 P P 02 48 32.2 +0.8
comp=Z,1.1nm,0.6s,mb3.8,baz=11,slow=5.2,SNR=3.6
CDF Champ du Feu 76.67 341 eP P 02 48 34.5 0.0
comp=Z,17nm,1.2s,mb4.4
CDF Champ du Feu 76.67 341 eP P 02 48 34.5 0.0
CDF pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
CDF Champ du Feu 76.67 341 eP P 02 48 34.5 0.0
comp=Z,8.7nm,1.2s,mb4.4
BRTR Keskin Array B 76.74 320 P P 02 48 34.3 -0.7
comp=Z,1.0nm,0.7s,mb3.7,baz=333,slow=2.3,SNR=4.8
BRTR Keskin Array B 76.74 320 i P P 02 48 35.2 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.7s
MEZF Maizieres J'vi 77.00 343 eP P 02 48 36.1 -0.3
HAU Haudompre 77.24 342 eP P 02 48 37.7 0.0
FLN La Foliniere 77.65 346 eP P 02 48 39.8 -0.3
VTS Vitosha 77.95 328 ⇓ i P P 02 48 40.0 -1.7
GRR Gorron 78.07 347 eP P 02 48 42.0 -0.4
LOR Lormes 78.41 343 eP P 02 48 44.0 -0.2
comp=Z,28nm,1.1s,mb4.6
LOR Lormes 78.41 343 eP P 02 48 44.0 -0.2
LOR pmax pmax
comp=Z,14nm,1.0s,mb4.7
LOR Lormes 78.41 343 eP P 02 48 44.0 -0.2
comp=Z,14nm,1.0s,mb4.6
CABF La Chapelle 78.62 341 eP P 02 48 45.1 -0.3
SSF Saint Saulge 78.67 343 eP P 02 48 45.4 -0.3
AVF Avril sur Loir 78.96 343 eP P 02 48 46.7 -0.6
comp=Z,16nm,0.9s,mb4.5
AVF Avril sur Loir 78.96 343 eP P 02 48 46.7 -0.6
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
AVF Avril sur Loir 78.96 343 eP P 02 48 46.7 -0.6
comp=Z,8.2nm,0.9s,mb4.6
ASAR Alice Springs 79.00 204 P P 02 48 48.5 +1.0
comp=Z,1.0nm,0.5s,mb3.9,baz=13,slow=5.3,SNR=22
SMF Signal de Mont 79.01 343 eP P 02 48 47.3 -0.3
BGF Bois d'Agland 79.27 344 eP P 02 48 48.8 -0.2
LPL La Plagne 79.55 341 eP P 02 48 50.3 -0.2
comp=Z,8.8nm,0.7s,mb4.4
LPL La Plagne 79.55 341 eP P 02 48 50.3 -0.2
LPL pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LPL La Plagne 79.55 341 eP P 02 48 50.3 -0.2
comp=Z,4.4nm,0.7s,mb4.4
LPG La Plagne 79.56 341 eP P 02 48 50.3 -0.3
comp=Z,20nm,1.1s,mb4.6
LPG La Plagne 79.56 341 eP P 02 48 50.3 -0.3
LPG pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
LPG La Plagne 79.56 341 eP P 02 48 50.3 -0.3
comp=Z,10.0nm,1.1s,mb4.6
TCF Toulx Ste Croi 79.64 344 eP P 02 48 50.7 -0.3
MFF Saint Martin d 79.71 346 eP P 02 48 50.5 -0.9
ORIF Oris-en-Rattie 80.29 341 eP P 02 48 54.3 -0.2
comp=Z,9.2nm,0.8s,mb4.3
ORIF Oris-en-Rattie 80.29 341 eP P 02 48 54.3 -0.2
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ORIF Oris-en-Rattie 80.29 341 eP P 02 48 54.3 -0.2
comp=Z,4.6nm,0.8s,mb4.4
MBDF Montbardon 80.30 340 eP P 02 48 54.4 -0.1
VIVF Saint-Julien-l 80.58 342 eP P 02 48 55.8 -0.3
comp=Z,30nm,1.2s,mb4.7
VIVF Saint-Julien-l 80.58 342 eP P 02 48 55.8 -0.3
VIVF pmax pmax
comp=Z,15nm,1.2s,mb4.7
VIVF Saint-Julien-l 80.58 342 eP P 02 48 55.8 -0.3
comp=Z,15nm,1.2s,mb4.7
RJF Les Rejaudoux 80.71 344 eP P 02 48 56.6 -0.2
SBF Sospel 80.98 340 eP P 02 48 58.1 -0.1
CAF Calviac 80.99 344 eP P 02 48 57.8 -0.4
comp=Z,29nm,1.1s,mb4.7
CAF Calviac 80.99 344 eP P 02 48 57.8 -0.4
CAF pmax pmax
comp=Z,14nm,1.1s,mb4.7
CAF Calviac 80.99 344 eP P 02 48 57.8 -0.4
comp=Z,14nm,1.1s,mb4.7
LFF La Frestale 81.19 345 eP P 02 48 58.7 -0.6
SMRF Simiane la Rot 81.26 341 eP P 02 48 59.1 -0.6
FRF La Foret Royal 81.44 340 eP P 02 49 00.1 -0.5
LMR La Mourre 81.68 340 eP P 02 49 01.5 -0.4
MMAI Mount Meron Ar 81.77 315 P P 02 49 02.9 +0.5
comp=Z,3.0nm,0.6s,mb4.3,baz=71,slow=8.0,SNR=9.0
ASF Jabal al Asfar 81.83 314 P P 02 49 03.3 +0.6
comp=Z,2.1nm,0.8s,mb4.0,baz=327,slow=2.7,SNR=4.4
PGF Pioggiola 81.89 338 eP P 02 49 02.5 -0.5
MTLF Montolieu 82.50 343 eP P 02 49 05.5 -0.7
comp=Z,19nm,1.0s,mb4.6
MTLF Montolieu 82.50 343 eP P 02 49 05.5 -0.7
MTLF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MTLF Montolieu 82.50 343 eP P 02 49 05.5 -0.7
comp=Z,9.3nm,1.0s,mb4.6
EPF Esparros 83.12 345 eP P 02 49 09.1 -0.3
comp=Z,16nm,1.0s,mb4.5
EPF Esparros 83.12 345 eP P 02 49 09.1 -0.3
EPF pmax pmax

comp=Z,8.0nm,1.0s,mb4.5
EPF Esparros 83.12 345 *e*P **P 02 49 09.1 -0.3**
comp=Z,8.2nm,1.0s,mb4.5
SJPF Ste Jean 83.28 346 *e*P **P 02 49 09.8 -0.4**
ETSF Etsaut 83.39 345 *e*P **P 02 49 10.4 -0.4**
comp=Z,30nm,1.1s,mb4.7
ETSF Etsaut 83.39 345 *e*P **P 02 49 10.4 -0.4**
ETSF pmax pmax
comp=Z,15nm,1.1s,mb4.7
ETSF Etsaut 83.39 345 *e*P **P 02 49 10.4 -0.4**
comp=Z,15nm,1.1s,mb4.7
IDI Anoyia 83.94 324 P **P 02 49 12.0 -1.6**
comp=Z,4.9nm,0.5s,mb4.6,baz=14,slow=14,SNR=4.6
EIL Elat 84.83 314 *e*P **P 02 49 18.3 +0.2**
comp=Z,122nm,1.0s,mb5.8
ESDC Sonseca Array 87.05 347 P **P 02 49 29.2 +0.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=2.6,slow=4.5,SNR=7.9
KEST Kesra 88.29 336 P **P 02 49 35.1 +0.2**
comp=Z,1.3nm,1.0s,mb3.9,baz=343,slow=4.6,SNR=8.0
TORD Torodi Ar. Bea 111.81 336 PKiKP PKiKP 02 55 18.3 +0.2
comp=Z,1.0nm,1.2s,baz=328,slow=2.5,SNR=4.1
PLCA Paso Flores 144.53 91 PKP PKPdf 02 56 19.4 -0.3
comp=Z,2.0nm,0.8s,baz=284,slow=4.2,SNR=3.8

KRSC 30 02:38:09.4±1.1, 5244N×15956E, h19km±18km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.64**	**270**	P	Pb	02 38 21.9	-0.1
RUS				*e*S	Sb	02 38 31.3	+0.8
SPN	**Mys Shipunski**	**0.72**	**23**	P	Pb	02 38 23.9	+0.6
SPN				*e*S	Sb	02 38 34.6	+1.9
NLC	**Nalytchevo**	**0.74**	**350**	*e*P	Pb	02 38 23.9	+0.2
NLC				*e*S	Sb	02 38 34.7	+1.2
PET	**Petropavlovsk**	**0.80**	**317**	*e*P	Pb	02 38 24.3	-0.5
PET				*e*S	Sb	02 38 35.1	-0.1
GRL	**Gorelyy**	**0.92**	**278**	P	Pb	02 38 27.2	+0.5
GRL				S	Sb	02 38 40.2	+1.8
AVH	**Avacha**	**0.96**	**329**	P	Pb	02 38 28.0	+0.5
GNL	**Ganaly**	**1.59**	**323**	P	Pn	02 38 37.0	+0.5
GNL				S	Sn	02 38 57.2	+0.6
MIPR	**Malaya Ipel'ka**	**1.73**	**266**	P	Pn	02 38 39.4	+1.0
MKZ	**Mys Kozlova**	**2.48**	**31**	S	Sn	02 39 17.7	-0.9

*NEIC **30** 02:49:20.3, 1691N×9640W, h63km, MD3.7(MEX), After MEX.*

MEX 30 02:49:20.2±0.6, 1691N×9640W, h64km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.35**	**298**	*i* P	Pn	02 49 30.0	-1.1
OXX				*i* S	Sn	02 49 37.5	-1.6
VHO	**Vista Hermosa**	**0.36**	**296**	*i* P	Pn	02 49 29.7	-1.4
VHO				*i* S	Sn	02 49 37.6	-1.5
HUIG	**Huatulco**	**1.17**	**166**	*i* P	Pn	02 49 38.6	-2.0
HUIG				*i* S	Sn	02 49 54.2	-1.7
CMIG	**Matias Romero**	**1.46**	**83**	*i* P	Pn	02 49 43.3	-1.1
CMIG				*i* S	Sn	02 50 00.7	-1.9

IDC 30 03:17:18.1±1.2, 2177N×12063E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=80.4km s-min=24.3km az=69.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.75**	**318**	P	P	03 24 52.2	-0.2
	0.2nm,0.6s,baz=116,slow=9.8,SNR=3.5						
WRA	**Warramunga Arr**	**43.57**	**161**	P	P	03 25 23.4	-0.3
	3.5nm,0.8s,baz=343,slow=8.6,SNR=17						
ASAR	**Alice Springs**	**46.97**	**163**	P	P	03 25 51.0	+0.2
	0.8nm,0.6s,baz=342,slow=6.7,SNR=12						
STKA	**Stephens Creek**	**56.99**	**159**	P	P	03 27 06.1	+0.7
	0.9nm,0.5s,baz=342,slow=6.4,SNR=3.7						
YKA	**Yellowknife Ar**	**85.38**	**22**	P	P	03 29 57.2	0.0
	0.8nm,1.1s,baz=300,slow=5.0,SNR=3.6						

MEX 30 03:30:28.1±0.8, 1711N×9804W, h32km±41km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.72**	**187**	*i* P	Pn	03 30 39.4	-2.6
PNIG				*i* S	Sb	03 30 49.7	-2.0
VHO	**Vista Hermosa**	**1.25**	**92**	*i* P	Pn	03 30 48.2	-1.2
VHO				*i* S	Sn	03 31 02.5	-2.6
OXX	**Oaxaca**	**1.26**	**91**	*i* P	Pn	03 30 48.0	-1.5
OXX				*i* S	Sn	03 31 03.0	-2.4
CMIG	**Matias Romero**	**3.02**	**90**	*e*P	Pn	03 31 12.4	-1.3
CMIG				*i* S	Sn	03 31 46.5	-2.3

KRSC 30 03:37:12.0±0.6, 5241N×15969E, h18km±17km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**16**	*e*P	Pb	03 37 27.3	+1.3
SPN				*i* S	Sb	03 37 37.9	+2.4
RUS	**Russkaya**	**0.72**	**272**	*i* P	Pb	03 37 26.3	+0.3
RUS				*i* S	Sb	03 37 36.0	+0.4
NLC	**Nalytchevo**	**0.79**	**345**	*i* P	Pb	03 37 27.4	+0.2
NLC				*i* S	Sb	03 37 38.0	+0.4
PET	**Petropavlovsk**	**0.88**	**315**	*i* P	Pb	03 37 28.9	+0.2
PET				*i* S	Sb	03 37 40.6	+0.4
GRL	**Gorelyy**	**1.00**	**279**	*e*P	Pb	03 37 31.5	+0.7
GRL				*i* S	Sb	03 37 45.4	+1.8
AVH	**Avacha**	**1.03**	**326**	*e*P	Pb	03 37 31.6	+0.3
AVH				*i* S	Sb	03 37 45.1	+0.6
KII	**Karymskiy**	**1.64**	**355**	*e*P	Pn	03 37 40.6	+0.7
KII				*i* S	Sn	03 38 02.0	+1.6
GNL	**Ganaly**	**1.66**	**321**	*e*P	Pn	03 37 41.1	+0.8
GNL				*i* S	Sn	03 38 02.1	+1.0
MIPR	**Malaya Ipel'ka**	**1.80**	**267**	*e*P	Pn	03 37 43.6	+1.4
MKZ	**Mys Kozlova**	**2.47**	**29**	P	Pn	03 37 51.9	+0.5
MKZ				*i* S	Sn	03 38 20.6	-0.5
KMNR	**Kamenistaya**	**3.37**	**5**	P	Pn	03 38 05.7	+2.0
KBTR	**Krutoberegovo**	**4.22**	**24**	*e*P	Pn	03 38 17.1	+1.7

IDC 30 03:46:00.8±2.6, 1713S×6520W, h56km±26km, mb3.4/3, mb1 3.7/5, mb1mx3.4/19, mbtmp3.5/5, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/8, Error ellipse: s-maj=34.0km s-min=24.9km az=164.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.93**	**286**	P	Pn	03 46 46.1	+1.2
	3.0nm,0.3s,baz=108,slow=12,SNR=31						
LPAZ				Lg		03 47 27.0	
	31nm,0.3s,baz=266,slow=18,SNR=24						
SIV	**San Ignacio**	**4.12**	**75**	P	Pn	03 47 00.7	-0.5
	12nm,0.3s,baz=264,slow=12,SNR=162						
SIV				Lg		03 48 02.1	
	18nm,0.3s,baz=175,slow=23,SNR=13						
ATAH	**Atahualpa**	**16.35**	**306**	LR	LR	03 57 19.5	
	comp=Z,56nm,20.5s,baz=237,slow=42						
PLCA	**Paso Flores**	**23.97**	**190**	P	P	03 51 09.9	-0.1
	1.4nm,0.5s,baz=1.6,slow=15,SNR=6.5						
TORD	**Torodi Ar. Bea**	**72.58**	**70**	P	P	03 57 23.2	+1.1
	0.4nm,0.4s,baz=256,slow=5.8,SNR=26						
YKA	**Yellowknife Ar**	**88.30**	**339**	P	P	03 58 45.3	-1.0
	0.1nm,0.6s,baz=122,slow=5.0,SNR=3.9						

CASC 30 03:50:13.5±2.2, 1381N×9188W, h0km±13km, MD3.9, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.56**	**25**	⇓*e*P	Pg	03 50 28.5	+4.3
JAT				*e*S	Sg	03 50 35.7	+4.3
FUG	**Fuego 3**	**1.19**	**58**	⇑*e*P	Pg	03 50 35.2	-1.2
FUG				*e*S	Sg	03 50 53.7	+1.9
RBDL	**Robledal**	**2.15**	**82**	*e*P	x	03 50 52.5	
RTR	**El Retiro**	**2.18**	**88**	*e*P	x	03 50 51.2	
RTR				*e*S	x	03 51 20.7	
SBLS	**San Blas**	**2.20**	**89**	⇓*e*P	x	03 50 51.7	
SBLS				*e*S	x	03 51 21.4	
SNJE	**San Jose**	**2.21**	**88**	*e*P	x	03 50 51.4	
LFRS	**El Faro**	**2.75**	**94**	*e*P	x	03 50 59.4	

NNC 30 04:15:11.4±12.0, 3952N×7052E, h10km±54km, mb3.0, mpv2.4, 3C-4D, Error ellipse: s-maj=88.2km s-min=57.8km az=12.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.58**	**360**	⇑Pn	Pn	04 16 09.0	+2.1
	0.6nm,0.3s,baz=168,slow=11,SNR=31						
KK31				⇓Sn	Sn	04 16 55.3	+6.1
	1.0nm,0.3s,baz=168,slow=27						
KK31				Lg		04 17 07.6	
	4.4nm,0.3s,baz=168,slow=27,SNR=7.9						
TKM2	**Tokmak 2**	**5.12**	**47**	⇓Pn	Pn	04 16 29.9	+1.8
	0.1nm,0.3s						
TKM2				⇓Sn	Sn	04 17 31.8	+4.6
	0.5nm,0.8s						
TKM2				⇑Lg		04 17 54.5	
	0.6nm,0.9s						
AB31	**Akbulak array**	**12.31**	**326**	⇑Pn	Pn	04 18 02.9	-3.8
	0.4nm,0.3s,baz=138,slow=14,SNR=21						
AB31				⇓Sn	Sn	04 20 20.9	-3.0
	0.4nm,0.6s,baz=152,slow=24,SNR=4.5						

*BJI **30** 04:18:47.8, 477N×124.18E, h552km, mB4.8, mb4.5*
*ISCJB **30** 04:18:55.2±1.0, 563N±007×12374E±009, h547km±12km, mb4.3/44, Error ellipse: s-maj=16.5km s-min=6.6km az=117.8*
*IDC **30** 04:18:56.4±1.3, 563N×12372E, h549km±15km, mb3.6/18, mb1 3.7/18, mb1mx3.6/25, mbtmp3.6/18, Error ellipse: s-maj=22.5km s-min=8.1km az=69.0*
*MOS **30** 04:18:56.6±0.9, 564N×12375E, h572km, mb4.2/8, Error ellipse: s-maj=22.1km s-min=9.0km az=124.3*
*NEIC **30** 04:18:56.7±1.0, 565N×12370E, h552km±12km, mb4.5/18, Error ellipse: s-maj=13.6km s-min=5.7km az=57.0*

ISC 30 04:18:56.4±1.0, 564N±006×12376E±009, h544km±12km, n84, σ1°905/86, mb4.3/44, 9C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**6.01**	**257**	P	P	04 20 33.5	-1.3
KKM	**Kota Kinabalu**	**7.51**	**273**	P	P	04 20 47.6	-1.4
KKM	**Kota Kinabalu**	**7.51**	**273**	*e*Pn	P	04 20 47.2	-1.9
KSM	**Kuching**	**14.04**	**253**	*e*Pn	P	04 21 56.8	+0.8
KAKA	**Kakadu**	**20.17**	**155**	*e*P	P	04 22 53.8	-0.5
	16nm,0.6s						
KULM	**Kulim**	**23.00**	**270**	*e*P	P	04 23 19.2	-0.5
FITZ	**Fitzroy Crossi**	**23.66**	**176**	*e*P	P	04 23 25.2	-0.4
	5.4nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.66**	**176**	P	P	04 23 25.1	-0.5
	2.0nm,0.8s,mb3.8,baz=257,slow=22,SNR=10.0						
PSI	**Prapat**	**24.92**	**265**	P	P	04 23 36.1	-0.6
	1.5nm,0.4s,mb4.0,baz=58,slow=2.0,SNR=6.7						
NST	**Nakhon Sawan**	**25.23**	**295**	P	P	04 23 39.5	0.0
	33nm,0.6s,mb5.1						
NANT	**Nan**	**26.01**	**302**	⇓P	P	04 23 46.7	+0.4
	156nm,0.7s						
GYA	**Guiyang**	**26.36**	**324**	*e*P	P	04 23 50.3	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**27.47**	**158**	P	P	04 23 58.7	-0.5
	comp=Z,9.3nm,0.5s,mb4.7,baz=339,slow=9.5,SNR=161						
WRA				ScP	ScP	04 29 49.2	+0.5
	comp=Z,1.1nm,0.6s,baz=341,slow=3.1,SNR=12						
WB2	**Warramunga Arr**	**27.47**	**158**	⇑*i*P	P	04 23 58.8	-0.4
WB2				*e*S	S	04 27 58.5	-3.3
CHG	**Chiang Mai**	**27.50**	**301**	⇓P	P	04 23 59.9	+0.5
	comp=Z,24nm,0.7s,mb4.9						
CHTO	**Chiang Mai**	**27.50**	**301**	*e*P	P	04 23 59.5	+0.1
CHTO				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.7						
CHTO	**Chiang Mai**	**27.50**	**301**	*e*P	P	04 23 59.5	+0.1
	comp=Z,12nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**30.76**	**162**	P	P	04 24 28.1	+0.4
	comp=Z,5.6nm,0.6s,mb4.2,baz=339,slow=7.2,SNR=133						
ASAR				S	S	04 28 52.0	-0.8
	comp=Z,1.7nm,0.8s,baz=334,slow=14,SNR=13						
ASAR				ScP	ScP	04 29 59.7	+0.4
	comp=Z,1.0nm,0.7s,baz=332,slow=2.8,SNR=7.6						
ASAR	**Alice Springs**	**30.76**	**162**	P	P	04 24 28.1	+0.4
ASAR				S	S	04 28 52.0	-0.7
XAN	**Xi'an**	**31.43**	**336**	P	P	04 24 33.3	-0.1
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.5						
MJAR	**Matsushiro Art**	**33.49**	**21**	P	P	04 24 49.7	-1.2
	comp=Z,2.3nm,0.7s,mb3.8,baz=198,slow=8.9,SNR=6.3						
CTAO	**Charters Tower**	**33.81**	**140**	*e*P	P	04 24 54.8	+1.3
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
CTAO	**Charters Tower**	**33.81**	**140**	*e*P	P	04 24 54.8	+1.3
	comp=Z,6.1nm,0.8s,mb4.2						
BJT	**Baijiatuau**	**34.90**	**350**	*e*P	P	04 25 02.9	+0.2
BJT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJT	**Baijiatuau**	**34.90**	**350**	*e*P	P	04 25 02.9	+0.2
	comp=Z,3.6nm,0.6s,mb4.1						
FORT	**Forrest**	**36.44**	**174**	*e*P	P	04 25 15.8	+0.4
	comp=Z,18nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**37.46**	**188**	⇑*i*P	P	04 25 23.3	-0.5
LSA	**Lhasa**	**38.96**	**312**	*e*P	P	04 25 37.4	+1.4
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**38.96**	**312**	*e*P	P	04 25 37.4	+1.5
	comp=Z,7.1nm,0.6s,mb4.4						
GTA	**Gaotai**	**39.97**	**331**	*e*P	P	04 25 45.0	+0.9
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**41.00**	**157**	⇑*i*P	P	04 25 53.1	+0.8
	comp=Z,5.3nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**41.00**	**157**	P	P	04 25 53.1	+0.9
	comp=Z,10.0nm,0.7s,mb4.5,baz=336,slow=6.8,SNR=26						
STKA	**Stephens Creek**	**41.00**	**157**	*e*P	P	04 25 52.8	+0.5
JIRN	**Jiri**	**41.86**	**306**	*e*P	P	04 25 59.4	+0.4
	comp=Z,28nm,0.7s,mb4.9						
GUN	**Gumba**	**42.21**	**306**	*e*P	P	04 26 02.3	+0.5
	comp=Z,49nm,0.7s,mb5.1						
PKI	**Pulchoki**	**42.45**	**305**	*e*P	P	04 26 03.6	-0.1
KKN	**Kakani**	**42.65**	**306**	*e*P	P	04 26 05.2	0.0
	comp=Z,23nm,0.7s,mb4.8						
KKN	**Kakani**	**42.65**	**306**	*e*P	P	04 26 05.2	0.0
KKN				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.8						
DMN	**Daman**	**42.72**	**305**	*e*P	P	04 26 06.3	+0.5
GKN	**Gorkha**	**43.25**	**305**	*e*P	P	04 26 09.8	-0.2
	comp=Z,9.4nm,0.4s,mb4.7						
KOLN	**Koldanda**	**44.01**	**305**	*e*P	P	04 26 16.3	+0.5
	comp=Z,76nm,0.8s,mb5.3						
ULN	**Ulaanbaatar**	**44.44**	**344**	⇑*e*P	P	04 26 19.8	+0.7
ULN	**Ulaanbaatar**	**44.44**	**344**	*e*P	P	04 26 19.2	+0.1
	comp=Z,3.5nm,0.8s,mb3.9						
SONM	**Songino Array**	**44.59**	**343**	P	P	04 26 20.9	+0.6
	comp=Z,3.8nm,0.9s,mb3.9,baz=158,slow=8.4,SNR=23						
SONM				PcP	PcP	04 27 51.0	-0.4
	comp=Z,0.3nm,0.6s,baz=168,slow=3.5,SNR=3.7						
ARMA	**Armidale**	**44.70**	**145**	*e*P	P	04 26 23.6	+2.4
CNB	**Canberra Magne**	**47.33**	**151**	*e*P	P	04 26 42.9	+1.8
	comp=Z,21nm,1.1s,mb4.6						
MK31	**Makanchi Array**	**54.31**	**326**	*e*P	P	04 27 32.1	+0.2
MK31				*e*		04 28 26.8	
MK31	**Makanchi Array**	**54.31**	**326**	*e*P	P	04 27 32.1	+0.2
MK31				*e*PcP	PcP	04 28 26.8	-0.6
MK31				*e*ScP	ScP	04 31 32.6	-0.8
MKAR	**Makanchi Array**	**54.31**	**326**	P	P	04 27 32.0	+0.1
	comp=Z,8.2nm,0.4s,mb4.4,baz=119,slow=7.5,SNR=201						
MKAR				PcP	PcP	04 28 26.9	-0.4
	comp=Z,2.2nm,0.5s,baz=116,slow=4.6,SNR=11						
MKAR				ScP	ScP	04 31 32.9	-0.6
	comp=Z,1.2nm,0.6s,baz=120,slow=4.9,SNR=10						
MKAR	**Makanchi Array**	**54.31**	**326**	P	P	04 27 32.0	+0.1
MKAR						04 28 27.0	
KZA	**Kyzart**	**56.22**	**318**	P	P	04 27 46.7	+1.6
	SNR=5.7						
TKM2	**Tokmak 2**	**56.37**	**319**	P	P	04 27 47.2	+1.1
	SNR=7.6						
UCH	**Uchtor**	**56.77**	**318**	P	P	04 27 50.6	+1.6
	SNR=15						
AAK	**Ala-Archa**	**56.96**	**318**	⇑*i*P	P	04 27 50.4	+0.2
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.6						
AAK	**Ala-Archa**	**56.96**	**318**	*e*P	P	04 27 50.2	0.0
	comp=Z,2.9nm,0.8s,mb3.6						
AAK				*e*PcP	PcP	04 28 36.7	-1.1
USP	**Ospenovka**	**57.24**	**319**	P	P	04 27 52.8	+0.7
	SNR=14						
AML	**Almayashu**	**57.28**	**317**	P	P	04 27 54.1	+1.7
	SNR=11						
EKS2	**Erkin-Say**	**57.45**	**318**	P	P	04 27 54.9	+1.4
	SNR=5.8						
ZAL	**Zalesovo**	**57.57**	**334**	P	P	04 27 54.4	0.0
	comp=Z,1.5nm,0.5s,mb3.5,baz=334,slow=6.6,SNR=7.1						
MA2	**Magadan**	**57.64**	**16**	⇑*e*P	P	04 28 03.5	+8.7
MA2				pmax	pmax		
	comp=Z,194nm,2.5s,mb4.9						
KBL	**Kabul**	**58.02**	**307**	*e*P	P	04 27 57.3	-0.1
KURK	**Kurchatov**	**58.56**	**328**	⇑*e*P	P	04 28 00.9	-0.1
KURK	**Kurchatov**	**58.56**	**328**	*e*P	P	04 28 00.7	-0.3
	comp=Z,24nm,0.7s,mb4.5						
BRVK	**Borovoye**	**64.19**	**327**	*e*P	P	04 28 37.3	-0.6
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
BRVK	**Borovoye**	**64.19**	**327**	*e*P	P	04 28 37.3	-0.6
	comp=Z,8.7nm,1.0s,mb4.1						
TIXI	**Tiksi**	**66.01**	**2**	⇑*e*P	P	04 28 53.7	+4.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
BILL	**Bilibino**	**68.51**	**16**	*e*P	P	04 29 09.6	+5.0
BILL				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.0						
ARU	**Arti**	**71.75**	**328**	⇓*i*P	P	04 29 22.2	-1.6
ARU				*e*		04 32 09.0	
ARU				*e*S	S	04 37 51.8	-8.8
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
ARU	**Arti**	**71.75**	**328**	*e*P	P	04 29 22.6	-1.3
OBN	**Obninsk**	**83.80**	**325**	⇑*e*P	P	04 30 28.1	-0.6
OBN				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.6						
ASF	**Jabal al Asfar**	**84.38**	**302**	P	P	04 30 32.1	+0.6
	comp=Z,2.9nm,0.8s,mb3.9,baz=328,slow=4.5,SNR=7.8						
MMAI	**Mount Meron Ar**	**85.58**	**303**	P	P	04 30 38.2	+0.8
	comp=Z,2.0nm,0.8s,mb3.8,baz=106,slow=15,SNR=3.5						
JOF	**Joensuu**	**86.14**	**333**	*e*p	P	04 30 37.3	-2.7
	comp=Z,3.5nm,0.4s,mb4.3						
BRTR	**Keskin Array B**	**86.53**	**309**	P	P	04 30 40.8	-1.1
	comp=Z,1.7nm,0.8s,mb3.7,baz=113,slow=4.7,SNR=10						
KMBO	**Kilima Mbogo**	**86.63**	**269**	*e*P	P	04 30 43.0	+0.6
ARCES	**ARCESS Array B**	**87.64**	**340**	P	P	04 30 45.4	-1.8
	comp=Z,3.4nm,0.8s,mb4.1,baz=35,slow=4.4,SNR=5.6						
KAF	**Kangasniemi**	**88.54**	**332**	*e*p	P	04 30 48.4	-2.9
	comp=Z,1.4nm,0.4s,mb4.1,baz=76,slow=4.3						
KAF	**Kangasniemi**	**88.54**	**332**	*e*P	P	04 30 48.4	-2.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
AKASG	**Malin Array Be**	**88.55**	**321**	P	P	04 30 49.1	-2.3
	comp=Z,0.3nm,0.4s,mb3.5,baz=67,slow=4.4,SNR=3.4						
FINES	**FINESS Array B**	**88.76**	**332**	P	P	04 30 50.8	-1.5
	comp=Z,2.0nm,0.7s,mb4.0,baz=80,slow=4.9,SNR=13						
MLR	**Muntele Rosu**	**91.48**	**316**	P	P	04 31 04.3	-0.6
	comp=Z,2.6nm,0.9s,mb4.2,baz=279,slow=5.8,SNR=3.7						
HFS	**Hagfors**	**94.95**	**332**	P	P	04 31 18.8	-2.0
	comp=Z,6.3nm,1.1s,mb4.7,baz=155,slow=8.2,SNR=4.8						
NOA	**NORSAR Array B**	**95.76**	**333**	P	P	04 31 22.7	-1.8
	comp=Z,1.1nm,0.8s,mb4.1,baz=44,slow=5.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**119.51**	**288**	PKP	PKPdf	04 36 44.5	+0.1
	comp=Z,1.0nm,0.7s,baz=69,slow=1.9,SNR=16						

IDC 30 04:26:52.7±2.6, 725S×11968E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=290.4km s-min=26.3km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.01**	**133**	P	Pn	04 31 15.1	-1.5
	0.1nm,0.3s,baz=304,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**21.28**	**142**	P	P	04 31 42.0	+1.2
	0.5nm,0.3s,baz=314,slow=9.0,SNR=9.8						
MKAR	**Makanchi Array**	**63.22**	**332**	P	P	04 37 22.9	+0.1
	0.4nm,0.5s,baz=123,slow=7.7,SNR=7.3						

*ISCJB **30** 04:35:32.9±0.6, 4230N±002×828W±005, h11km±4km, Error ellipse: s-maj=6.6km s-min=4.1km az=18.0*
*MDD **30** 04:35:34.1±0.2, 4233N×833W, h11km, mbLg2.5/16, Error ellipse: s-maj=2.9km s-min=1.6km az=69.0, PRXIMO*
*INMG **30** 04:35:34.1±1.3, 4234N×831W, h0km±3km, ML2.5, Error ellipse: s-maj=2.6km s-min=1.5km az=85.0*
*CSEM **30** 04:35:34.5±0.2, 4235N×829W, h5km, ML3.0/9, Error ellipse: s-maj=4.7km s-min=3.5km az=95.0*

ISC 30 04:35:33.6±0.6, 4232N±002×831W±005, h10km±3km, n45, σ0°98/77, 2C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZAM	**Zamans**	**0.34**	**239**	Pg	Pg	04 35 40.6	+0.3
	SNR=7.9						
EZAM				Lg		04 35 45.1	
	SNR=7.9						
ELOB	**Lobios**	**0.49**	**158**	⇑Pg	Pg	04 35 43.6	+0.4
	12nm,0.3s,SNR=18						
ELOB				Lg		04 35 49.9	
	133nm,0.3s,SNR=111						
ELOB	**Lobios**	**0.49**	**158**	Pg	Pg	04 35 43.6	+0.4
	12nm,0.3s,SNR=18						
STS	**Santiago**	**0.59**	**342**	⇑Pg	Pg	04 35 44.5	-0.6
	21nm,0.2s,SNR=18						
STS				Lg		04 35 52.2	
	99nm,0.2s,SNR=24						
PCAB	**Cabril**	**0.65**	**161**	*e*P	Pg	04 35 45.5	-0.6
PCAB				*e*S	Sg	04 35 55.6	+1.0
PCAB				A		04 36 00.1	
	255nm,0.1s						
PCAB	**Cabril**	**0.65**	**161**	P	Pg	04 35 45.5	-0.6
PCAB				S	Sg	04 35 55.6	+1.0

EARI	**Arriondas**	**2.48**	**66**	Pn	**Pn**	**04 36 15.0**	**+1.0**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**04 36 44.4**	**+0.2**
	12nm,0.5s,SNR=7.9						
EARI				Lg		04 36 52.3	
	2.8nm,0.1s,SNR=6.1						
EARI	**Arriondas**	**2.48**	**66**	Pn	**Pn**	**04 36 15.0**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**04 36 44.4**	**+0.2**
	12nm,0.5s,SNR=7.9						
PCBR	**Castelo Branco**	**2.56**	**166**	*e*Pn	**Pn**	**04 36 15.9**	**+0.8**
PCBR				*e*Sg	**Sg**	**04 36 55.3**	**-0.5**
PCBR				A		04 37 01.3	
	34nm,0.4s						
PCBR	**Castelo Branco**	**2.56**	**166**	*e*Pn	**Pn**	**04 36 15.9**	**+0.8**
PCBR				*e*Sg	**Sg**	**04 36 55.3**	**-0.5**
	34nm,0.4s						
PMAFR	**Mafra**	**3.45**	**193**	*e*Pn	**Pn**	**04 36 27.7**	**+0.4**
PESTR	**Estremoz**	**3.50**	**171**	*e*Pn	**Pn**	**04 36 28.6**	**+0.7**
PESTR				*e*Sn	**Sn**	**04 37 09.2**	**-0.1**
PESTR				A		04 37 29.2	
	14nm,0.6s						
PESTR	**Estremoz**	**3.50**	**171**	*e*Pn	**Pn**	**04 36 28.6**	**+0.7**
PESTR				*e*Sn	**Sn**	**04 37 09.2**	**-0.1**
	14nm,0.6s						
GUD	**Guadarrama**	**3.54**	**117**	Pn	**Pn**	**04 36 29.6**	**+1.1**
	0.8nm,0.6s,SNR=7.9						
GUD				Sn	**Sn**	**04 37 08.0**	**-2.5**
	0.3nm,0.2s,SNR=7.9						
GUD				Lg		04 37 26.0	
	3.3nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**3.54**	**117**	Pn	**Pn**	**04 36 29.6**	**+1.0**
	0.8nm,0.6s,SNR=7.9						
GUD				Sn	**Sn**	**04 37 08.0**	**-2.5**
	0.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.70**	**164**	Pn	**Pn**	**04 36 31.3**	**+0.6**
	3.6nm,0.8s,SNR=17						
EBAD				Pg	**Pg**	**04 36 43.0**	**-1.4**
	SNR=7.9						
EBAD				Sn	**Sn**	**04 37 11.7**	**-2.6**
	3.5nm,0.6s,SNR=7.9						
EBAD				Lg		04 37 30.3	
	2.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.70**	**164**	Pn	**Pn**	**04 36 31.3**	**+0.6**
	3.6nm,0.8s,SNR=17						
EBAD	**Badajoz**	**3.70**	**164**	Pg	**Pg**	**04 36 43.0**	**-1.4**
	SNR=7.9						
ELAN	**Lanestosa**	**3.70**	**74**	Pn	**Pn**	**04 36 32.1**	**+1.4**
	8.1nm,1.0s,SNR=7.1						
ELAN				Sn	**Sn**	**04 37 13.0**	**-1.3**
	1.0nm,0.2s,SNR=7.9						
ELAN				Lg		04 37 30.9	
	5.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.70**	**74**	Pn	**Pn**	**04 36 32.1**	**+1.4**
	8.1nm,1.0s,SNR=7.1						
ELAN				Sn	**Sn**	**04 37 13.0**	**-1.3**
	1.0nm,0.2s,SNR=7.9						
MOE	**Montemor**	**3.80**	**181**	*e*Sn	**Sn**	**04 37 16.4**	**-0.4**
ESDC	**Sonseca Array**	**4.22**	**127**	Pn	**Pn**	**04 36 38.4**	**+0.5**
	0.3nm,0.3s,baz=311,slow=13,SNR=11						
ESDC				Sn	**Sn**	**04 37 26.0**	**-1.2**
	baz=310,slow=24,SNR=7.9						
ESDC				Lg		04 37 46.6	
	1.1nm,0.3s,baz=309,slow=30,SNR=14						
ESDC	**Sonseca Array**	**4.22**	**127**	Pn	**Pn**	**04 36 38.4**	**+0.5**
	0.3nm,0.3s,SNR=11						
ESDC				Sn	**Sn**	**04 37 26.0**	**-1.2**
	SNR=7.9						
PBEJ	**Beja**	**4.31**	**175**	*e*Pn	**Pn**	**04 36 39.7**	**+0.6**
PBEJ				*e*Sn	**Sn**	**04 37 28.0**	**-1.3**
PBEJ				*e*Sg	**Sg**	**04 37 51.6**	**-0.3**
PBEJ				A		04 37 55.6	
	4.1nm,0.5s						
PBEJ	**Beja**	**4.31**	**175**	*e*Pn	**Pn**	**04 36 39.7**	**+0.6**
PBEJ				*e*Sn	**Sn**	**04 37 28.0**	**-1.3**
PBEJ				*e*Sg	**Sg**	**04 37 51.6**	**-0.3**
	4.1nm,0.5s						
EMIN	**Mina Concepcio**	**4.72**	**164**	Pn	**Pn**	**04 36 44.6**	**-0.2**
	0.2nm,0.6s,SNR=7.9						
EMIN				Lg		04 38 03.7	
	6.0nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.72**	**164**	Pn	**Pn**	**04 36 44.6**	**-0.2**
	0.2nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**4.83**	**172**	Pn	**Pn**	**04 36 46.6**	**+0.4**
	1.5nm,0.8s,SNR=7.9						
EGRO				Sn	**Sn**	**04 37 39.5**	**-2.6**
	1.2nm,0.9s,SNR=7.9						
EGRO				Lg		04 38 06.7	
	5.8nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**4.83**	**172**	Pn	**Pn**	**04 36 46.6**	**+0.4**
	1.5nm,0.8s,SNR=7.9						
EGRO				Sn	**Sn**	**04 37 39.5**	**-2.6**
	1.2nm,0.9s,SNR=7.9						
ETOR	**Torete**	**4.92**	**106**	Pn	**Pn**	**04 36 48.5**	**+0.9**
	0.1nm,1.2s,SNR=7.9						
ETOR				Lg		04 38 11.4	
	2.8nm,0.2s,SNR=7.9						

IDC 30 04:39:51.7±2.3, 417S×12960E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=158.6km s-min=28.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.35**	**164**	Pn	Pn	04 43 44.0	+1.5
	0.3nm,0.3s,baz=347,slow=13,SNR=36						
WRA				Sn	Sn	04 46 34.6	-10
	0.2nm,0.3s,baz=334,slow=21,SNR=7.0						
ASAR	**Alice Springs**	**19.83**	**168**	P	Pn	04 44 23.6	-1.7
	0.4nm,0.3s,baz=349,slow=12,SNR=45						
ASAR				S	Sn	04 47 48.5	-20
	0.1nm,0.3s,baz=350,slow=22,SNR=5.7						
MKAR	**Makanchi Array**	**65.66**	**326**	P	P	04 50 37.9	+0.2
	0.4nm,0.7s,baz=122,slow=8.0,SNR=6.3						

*ISCJB **30** 05:02:28.9±0.4, 3986N±004×2957W±005, h10km, mb4.0/17, MS3.8/21, Error ellipse: s-maj=7.1km s-min=2.9km az=93.7*
*IDC **30** 05:02:28.6±0.9, 3991N×2969W, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/24, mbtmp3.8/10, ML4.2/1, MS3.8/22, Ms1 3.8/22, ms1mx3.7/31, Error ellipse: s-maj=34.0km s-min=17.0km az=15.0*
*NEIC **30** 05:02:30.4±0.5, 3990N×2965W, h10km, mb4.3/8, Error ellipse: s-maj=20.3km s-min=8.0km az=190.0*
*CSEM **30** 05:02:32.1±0.1, 3982N×2955W, h40km, mb4.3/8, Error ellipse: s-maj=3.6km s-min=1.5km az=40.0*
*SVSA **30** 05:02:32.2±1.5, 3994N×2962W, h0km, MD3.6, ML3.4, Error ellipse: s-maj=7.3km s-min=5.0km az=70.0*
*PDA **30** 05:02:32.2±1.5, 3994N×2962W, h0km, MD3.6, ML3.4, Error ellipse: s-maj=7.3km s-min=5.0km az=70.0*

ISC 30 05:02:30.6±0.4, 3979N±004×2953W±005, h10km, n96, σ0991/110, mb4.0/17, MS3.8/21, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.89**	**151**	*e*P	**Pg**	**05 02 56.0**	**+8.3**
PLUZ				*e*S	**Sg**	**05 03 14.3**	**+15**
PLUZ							
	113nm,0.3s						
PCED	**Cedros**	**1.33**	**151**	*e*P	**Pn**	**05 02 55.3**	**+0.1**
PCED				*e*S	**Sb**	**05 03 12.4**	**-0.3**
PCED							
	166nm,0.3s						
PCED	**Cedros**	**1.33**	**151**	*e*P	**Pn**	**05 02 55.3**	**+0.1**
PCED				*e*S	**Sb**	**05 03 12.4**	**-0.3**
PTCA	**Ponta do Capel**	**1.34**	**154**	*e*S	**Sb**	**05 03 12.7**	**-0.1**
PTCA							
	135nm,0.4s						
PVIA	**Vitoria**	**1.36**	**122**	*e*P	**Pn**	**05 02 55.0**	**-0.6**
PVIA				*e*S	**Sb**	**05 03 12.3**	**-1.2**
PVIA							
	69nm,0.3s						
CALA	**Caldeira**	**1.37**	**152**	*e*P	**Pn**	**05 02 55.8**	**+0.1**
CALA				*e*S	**Sb**	**05 03 14.3**	**+0.4**
SRBC	**Serra Branca**	**1.38**	**123**	*i* P	**Pn**	**05 02 55.4**	**-0.5**
SRBC				*i* S	**Sb**	**05 03 13.4**	**-0.8**
STGR	**Santa Cruz**	**1.38**	**121**	*e*P	**Pn**	**05 02 55.4**	**-0.5**
STGR				*e*S	**Sb**	**05 03 13.1**	**-1.1**
STGR							
	199nm,0.2s						
STGR	**Santa Cruz**	**1.38**	**121**	*e*P	**Pn**	**05 02 55.4**	**-0.5**
STGR				*e*S	**Sb**	**05 03 13.1**	**-1.1**

HOR	**Horta**	**1.45**	**151**	*e*P	**Pn**	**05 02 57.1**	**+0.3**
HOR				*i* S	**Sn**	**05 03 15.5**	**-0.3**
ROSA	**Rosais**	**1.47**	**136**	*i* P	**Pn**	**05 02 56.9**	**-0.2**
ROSA				*e*S	**Sn**	**05 03 15.4**	**-0.9**
PAMA	**Santo Amaro**	**1.53**	**136**	*e*P	**Pn**	**05 02 58.0**	**+0.1**
PAMA				*e*S	**Sn**	**05 03 17.3**	**-0.6**
PAMA							
	66nm,0.3s						
PAMA	**Santo Amaro**	**1.53**	**136**	*e*P	**Pn**	**05 02 58.0**	**+0.1**
PAMA				*e*S	**Sn**	**05 03 17.3**	**-0.6**
PICO	**Pico**	**1.55**	**146**	*e*P	**Pn**	**05 02 58.5**	**+0.3**
PICO				*e*S	**Sn**	**05 03 18.2**	**-0.2**
PCND	**Candelaria**	**1.56**	**147**	*e*P	**Pn**	**05 02 59.0**	**+0.6**
PCND				*e*S	**Sn**	**05 03 18.8**	**+0.1**
PCND							
	400nm,0.4s						
PTEI	**Pico do Teixo**	**1.59**	**144**	*e*S	**Sn**	**05 03 19.5**	**+0.2**
PTEI							
	169nm,0.4s						
PMAN	**Manadas**	**1.61**	**135**	*e*P	**Pn**	**05 02 58.7**	**-0.4**
PMAN				*e*S	**Sn**	**05 03 18.9**	**-1.0**
PMAN							
	116nm,0.3s						
PMAN	**Manadas**	**1.61**	**135**	*e*P	**Pn**	**05 02 58.7**	**-0.4**
PMAN				*e*S	**Sn**	**05 03 18.9**	**-1.0**
PBOI	**Pico dos Bois**	**1.63**	**146**	*e*S	**Sn**	**05 03 20.2**	**-0.1**
PBOI							
	127nm,0.4s						
PID	**Ribeirinha**	**1.74**	**140**	*e*P	**Pn**	**05 03 01.5**	**+0.7**
PIED	**Piedade**	**1.79**	**140**	*e*S	**Sn**	**05 03 23.8**	**-0.5**
PSBA	**Serra de Santa**	**2.00**	**120**	*i* P	**Pn**	**05 03 03.7**	**-0.6**
PSBA				*e*S	**Sn**	**05 03 28.1**	**-1.3**
PSBA							
	147nm,0.4s						
ASBA	**Santa Barbara**	**2.02**	**121**	*e*P	**Pn**	**05 03 04.7**	**0.0**
ASBA				*e*S	**Sn**	**05 03 28.7**	**-1.3**
ASBA							
	100nm,0.3s						
ASBA	**Santa Barbara**	**2.02**	**121**	*e*P	**Pn**	**05 03 04.7**	**0.0**
ASBA				*e*S	**Sn**	**05 03 28.7**	**-1.3**
PBIS	**Biscoitos**	**2.05**	**119**	*e*P	**Pn**	**05 03 05.3**	**+0.2**
PBIS				*e*S	**Sn**	**05 03 30.0**	**-0.7**
PBIS							
	63nm,0.3s						
PBIS	**Biscoitos**	**2.05**	**119**	*e*P	**Pn**	**05 03 05.3**	**+0.2**
PBIS				*e*S	**Sn**	**05 03 30.0**	**-0.7**
PPAD	**Pico dos Padre**	**2.06**	**121**	*e*P	**Pn**	**05 03 05.5**	**+0.3**
PPAD				*e*S	**Sn**	**05 03 29.9**	**-1.0**
PPAD							
	46nm,0.3s						
PPAD	**Pico dos Padre**	**2.06**	**121**	*e*P	**Pn**	**05 03 05.5**	**+0.3**
PPAD				*e*S	**Sn**	**05 03 29.9**	**-1.0**
PVNV	**Vila Nova**	**2.11**	**118**	*e*P	**Pn**	**05 03 06.1**	**+0.2**
PVNV				*e*S	**Sn**	**05 03 31.5**	**-0.8**
PVNV							
	41nm,0.4s						
PVNV	**Vila Nova**	**2.11**	**118**	*e*P	**Pn**	**05 03 06.1**	**+0.2**
PVNV				*e*S	**Sn**	**05 03 31.5**	**-0.8**
ADH	**Angra Heroismo**	**2.12**	**122**	*e*P	**Pn**	**05 03 05.5**	**-0.5**
RIB2	**Ribeirinha**	**2.15**	**121**	*e*P	**Pn**	**05 03 06.8**	**+0.4**
RIB2				*e*S	**Sn**	**05 03 32.3**	**-0.8**
RIB2							
	27nm,0.3s						
RIB2	**Ribeirinha**	**2.15**	**121**	*e*P	**Pn**	**05 03 06.8**	**+0.4**
RIB2				*e*S	**Sn**	**05 03 32.3**	**-0.8**
PFAV	**Pico das Favas**	**2.19**	**119**	*e*P	**Pn**	**05 03 07.3**	**+0.3**
PFAV				*e*S	**Sn**	**05 03 33.2**	**-0.9**
PFAV							
	56nm,0.4s						
PFAV	**Pico das Favas**	**2.19**	**119**	*e*P	**Pn**	**05 03 07.3**	**+0.3**
PFAV				*e*S	**Sn**	**05 03 33.2**	**-0.9**
SET4	**Mosteiros**	**3.49**	**122**	*e*P	**Pn**	**05 03 26.3**	**+1.4**
SET2	**Ginetes**	**3.50**	**123**	*e*P	**Pn**	**05 03 26.3**	**+1.3**
PFET	**Feteiras**	**3.53**	**123**	*e*P	**Pn**	**05 03 26.6**	**+1.2**
PSAN	**Santo Antonio**	**3.55**	**122**	*e*P	**Pn**	**05 03 26.7**	**+1.0**
FAC	**Faja de Cima**	**3.64**	**122**	*e*P	**Pn**	**05 03 28.5**	**+1.5**
FAC				*e*S	**Sn**	**05 04 09.5**	**-0.5**
CML	**Cha da Macela**	**3.71**	**122**	*e*P	**Pn**	**05 03 29.2**	**+1.3**
PVER	**Pico Vermelho**	**3.72**	**121**	*e*P	**Pn**	**05 03 29.3**	**+1.3**
PMAT	**Coroa da Mata**	**3.74**	**121**	*e*P	**Pn**	**05 03 29.9**	**+1.6**
LFA	**Lagoa do Fogo**	**3.75**	**121**	*e*P	**Pn**	**05 03 30.1**	**+1.6**
MESC	**Monte Escuro**	**3.77**	**121**	*e*P	**Pn**	**05 03 29.8**	**+1.1**
PRCH	**Ribeira Ch**	**3.78**	**122**	*e*P	**Pn**	**05 03 30.1**	**+1.2**
VIF	**Vila Franca**	**3.80**	**121**	*e*P	**Pn**	**05 03 32.1**	**+3.0**
PCNG	**Congro**	**3.81**	**121**	*e*P	**Pn**	**05 03 33.2**	**+3.9**
PFAD	**Fenais da Ajud**	**3.82**	**119**	*e*P	**Pn**	**05 03 30.8**	**+1.3**
FRA1	**Furnas**	**3.85**	**121**	*e*P	**Pn**	**05 03 31.4**	**+1.5**
MIRA	**Miradouro**	**3.88**	**120**	*e*P	**Pn**	**05 03 30.9**	**+0.6**
PSMN	**Pico do Norte,**	**4.48**	**127**	*e*P	**Pn**	**05 03 39.1**	**+0.6**
ESDC	**Sonseca Array**	**19.65**	**82**	P	**Pn**	**05 07 01.1**	**+0.3**
	0.1nm,0.3s,baz=286,slow=10.0,SNR=3.6						
ESDC				LR	LR	05 13 39.7	
	comp=Z,347nm,18.2s,baz=285,slow=34						
MDT	**Midelt**	**21.22**	**101**	P	**P**	**05 07 17.6**	**+1.2**
	5.4nm,1.2s,mb3.8,baz=315,slow=11,SNR=4.9						
MDT				LR	LR	05 13 38.3	
	comp=Z,230nm,20.6s,MS3.5,baz=331,slow=31						
BORG	**Borgarnes**	**25.45**	**8**	LR	LR	05 15 15.6	
	comp=Z,91nm,20.9s,MS3.3,baz=213,slow=30						
SCHQ	**Schefferville**	**29.01**	**314**	LR	LR	05 18 37.2	
	comp=Z,202nm,18.7s,MS3.8,baz=294,slow=34						
SFJD	**Kangerlussuaq**	**29.69**	**343**	LR	LR	05 17 23.2	
	comp=Z,131nm,20.0s,MS3.6,baz=277,slow=30						
KEST	**Kesra**	**30.84**	**85**	LR	LR	05 18 34.9	
	comp=Z,68nm,20.7s,MS3.3,baz=290,slow=31						
GERES	**GERESS Array B**	**31.86**	**59**	LR	LR	05 19 59.6	
	comp=Z,128nm,19.5s,MS3.6,baz=179,slow=33						
NOA	**NORSAR Array B**	**32.76**	**36**	LR	LR	05 19 31.4	
	comp=Z,118nm,19.6s,MS3.6,baz=265,slow=31						
TORD	**Torodi Ar. Bea**	**38.20**	**125**	P	**P**	**05 09 52.2**	**+1.8**
	3.3nm,1.2s,mb3.9,baz=317,slow=6.4,SNR=8.6						
TORD				LR	LR	05 25 17.4	
	comp=Z,163nm,18.4s,MS3.9,baz=320,slow=36						
FINES	**FINESS Array B**	**39.81**	**38**	P	**P**	**05 10 04.0**	**+0.1**
	2.5nm,0.9s,mb4.0,baz=300,slow=3.8,SNR=5.2						
FINES				LR	LR	05 24 36.7	
	comp=Z,147nm,18.4s,MS3.9,baz=316,slow=33						
ARCES	**ARCESS Array B**	**41.23**	**26**	LR	LR	05 23 35.6	
	comp=Z,103nm,20.7s,MS3.7,baz=86,slow=31						
AKASG	**Malin Array Be**	**41.75**	**55**	P	**P**	**05 10 18.8**	**-1.0**
	1.1nm,0.7s,mb3.6,baz=274,slow=8.5,SNR=4.6						
ULM	**Lac du Bonnet**	**46.59**	**306**	LR	LR	05 29 20.5	
	comp=Z,183nm,21.5s,MS4.0,baz=63,slow=35						
MMAI	**Mount Meron Ar**	**51.69**	**76**	LR	LR	05 34 15.8	
	comp=Z,36nm,19.3s,MS3.4,baz=45,slow=37						
YKA	**Yellowknife Ar**	**53.47**	**325**	P	**P**	**05 11 47.9**	**-2.9**
	0.2nm,0.7s,mb3.1,baz=73,slow=7.0,SNR=3.8						
YKA				PcP	PcP	05 12 55.8	-2.0
	0.2nm,0.7s,baz=72,slow=4.0,SNR=3.3						
YKA	**Yellowknife Ar**	**53.47**	**325**	P	**P**	**05 11 47.9**	**-2.9**
YKA				PcP	PcP	05 12 55.8	-2.0
YKA	**Yellowknife Ar**	**53.47**	**325**	PcP	PcP	05 12 55.8	-2.0
SMCO	**Snowmass**	**57.91**	**296**	*e*P	**P**	**05 12 22.8**	**0.0**
	2.0nm,0.8s,mb4.2						
SMCO	**Snowmass**	**57.91**	**296**	*e*P	**P**	**05 12 22.8**	**0.0**
	2.0nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**58.02**	**301**	P	**P**	**05 12 21.9**	**-1.7**
	1.4nm,0.8s,mb4.0,baz=72,slow=7.7,SNR=12						
PDAR				LR	LR	05 36 56.9	
	comp=Z,263nm,20.6s,MS4.3,baz=43,slow=36						
AKTO	**Aktyubinsk**	**59.26**	**48**	LR	LR	05 37 40.2	
	comp=Z,83nm,21.4s,MS3.8,baz=308,slow=36						
ANMO	**Albuquerque**	**59.56**	**292**	*e*P	**P**	**05 12 34.8**	**+0.5**
	1.2nm,0.9s,mb3.9						
ANMO	**Albuquerque**	**59.56**	**292**	*e*P	**P**	**05 12 34.8**	**+0.6**
	1.2nm,0.9s,mb3.9						
HWUT	**Hardware Ranch**	**59.88**	**301**	*e*P	**P**	**05 12 35.1**	**-1.4**
	7.6nm,1.2s,mb4.6						
HWUT	**Hardware Ranch**	**59.88**	**301**	*e*P	**P**	**05 12 35.1**	**-1.4**
	7.6nm,1.2s,mb4.6						
NEW	**Newport**	**60.27**	**310**	*e*P	**P**	**05 12 37.7**	**-1.4**
	2.9nm,0.9s,mb4.3						
LTX	**Lajitas**	**60.35**	**285**	*e*P	**P**	**05 12 39.2**	**-0.5**
	3.1nm,0.8s,mb4.4						
LTX	**Lajitas**	**60.35**	**285**	*e*P	**P**	**05 12 39.2**	**-0.5**
	3.1nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**60.35**	**285**	P	**P**	**05 12 39.6**	**-0.1**
	2.1nm,0.7s,mb4.3,baz=68,slow=7.2,SNR=23						
MNTX	**Cornudas Mount**	**60.40**	**288**	*e*P	**P**	**05 12 39.2**	**-0.9**
	1.5nm,0.9s,mb4.0						
MNTX	**Cornudas Mount**	**60.40**	**288**	*e*P	**P**	**05 12 39.2**	**-0.9**
	1.5nm,0.9s,mb4.0						
DUG	**Dugway**	**61.39**	**300**	*e*P	**P**	**05 12 46.0**	**-0.7**
	2.1nm,0.8s,mb4.3						
DUG	**Dugway**	**61.39**	**300**	*e*P	**P**	**05 12 46.0**	**-0.8**
	2.1nm,0.8s,mb4.3						
BRVK	**Borovoye**	**64.60**	**41**	*e*P	**P**	**05 13 08.0**	**-0.1**
	2.2nm,0.9s,mb4.2						
BRVK	**Borovoye**	**64.60**	**41**	*e*P	**P**	**05 13 08.0**	**-0.1**
	2.2nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**64.67**	**41**	LR	LR	05 40 53.4	
	comp=Z,83nm,18.8s,MS4.0,baz=24,slow=36						
LPAZ	**La Paz**	**66.38**	**221**	LR	LR	05 39 19.0	
	comp=Z,35nm,18.8s,MS3.6,baz=276,slow=33						
KMBO	**Kilima Mbogo**	**73.07**	**106**	P	**P**	**05 14 00.1**	**-0.7**
	0.6nm,0.3s,mb4.0,baz=70,slow=20,SNR=3.4						
KMBO				LR	LR	05 48 03.8	
	comp=Z,61nm,21.0s,MS3.9,baz=87,slow=37						
MKAR	**Makanchi Array**	**74.55**	**41**	P	**P**	**05 14 09.6**	**0.0**
	0.5nm,0.7s,mb3.6,baz=335,slow=6.4,SNR=10.0						
MKAR				LR	LR	05 47 39.0	
	comp=Z,108nm,18.5s,MS4.2,baz=333,slow=36						
KBL	**Kabul**	**74.64**	**58**	*e*P	**P**	**05 14 09.5**	**-0.6**
KBL	**Kabul**	**74.64**	**58**	*e*P	**P**	**05 14 09.5**	**-0.5**
SONM	**Songino Array**	**84.37**	**28**	LR	LR	05 53 44.0	
	comp=Z,59nm,18.9s,MS4.0,baz=168,slow=36						
BOSA	**Boshof**	**85.02**	**134**	LR	LR	05 49 16.6	
	comp=Z,90nm,21.0s,MS4.1,baz=109,slow=33						
PLCA	**Paso Flores**	**88.43**	**210**	LR	LR	05 53 42.4	
	comp=Z,78nm,18.2s,MS4.2,baz=168,slow=35						

IDC 30 05:03:02.9±4.0, 647S×14874E, h0km, mb2.8/1, mb1 3.2/2, mb1mx3.1/13, mbtmp3.0/2, ML3.0/1, Error ellipse: s-maj=146.0km s-min=49.3km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.37**	**225**	P	Pn	05 07 31.1	+0.1
	0.1nm,0.3s,baz=50,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**22.27**	**218**	P	P	05 08 01.4	-0.1
	0.3nm,0.6s,baz=53,slow=8.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.88**	**284**	PKPbc	PKPbc	05 22 47.4	+0.3
	0.1nm,0.4s,baz=58,slow=3.1,SNR=5.1						

*CSEM **30** 05:41:52.0, 1367N×4595E, h11km, Mc3.7, After DHMR*
DHMR 30 05:41:52.0±1.5, 1367N×4595E, h12km±5km, MD3.7, ML3.7, 7C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**0.48**	**310**	⇑*i* P	Pg	05 42 01.6	+0.1
BDHA				*i* S	Sg	05 42 08.0	+0.1
BDHA				AML	AML	05 42 08.4	
	comp=E,6μm,0.5s						
BDHA	**Al Bayda'**	**0.48**	**310**	⇑*i* P	Pg	05 42 01.6	+0.1
BDHA				*i* S	Sg	05 42 08.0	+0.1
	comp=E,3μm,0.5s						
LBOS		**0.71**	**287**	⇑*i* P	Pg	05 42 05.8	0.0
LBOS				*i* S	Sg	05 42 15.1	0.0
ADEN	**Aden**	**1.29**	**227**	⇑*i* P	Pn	05 42 16.3	+0.4
ADEN				*i* S	Sb	05 42 33.3	+0.5
DHBB	**Dhamar BB**	**1.76**	**301**	⇑*i* P	Pn	05 42 24.3	+2.0
DHBB				*i* S	Sn	05 42 48.2	+3.6
TRBA	**At Turbah**	**1.84**	**257**	⇑*i* P	Pn	05 42 24.7	+1.4
TRBA				*i* S	Sn	05 42 49.8	+3.2
TRBA				AML	AML	05 42 52.8	
	comp=Z,658nm,0.3s						
TRBA	**At Turbah**	**1.84**	**257**	⇑*i* P	Pn	05 42 24.7	+1.3
TRBA				*i* S	Sn	05 42 49.8	+3.3
	comp=Z,329nm,0.3s						
UDYN	**Al 'Udayn**	**1.95**	**279**	⇓*i* P	Pn	05 42 26.4	+1.5
UDYN				*i* S	Sn	05 42 52.5	+3.2
HAJJ	**Hajjah**	**3.04**	**312**	*i* P	Pn	05 42 43.5	+3.5
HAJJ				*i* S	Sn	05 43 22.6	+6.3
MUKL	**Al Mukalla**	**3.10**	**75**	⇓*i* P	Pn	05 42 42.4	+1.7
MUKL				*i* S	Sn	05 43 23.7	+6.0

MDD 30 06:22:11.0±0.8, 3170N×1687W, h0km, mb4.2/4, 1C, Error ellipse: s-maj=18.6km s-min=6.4km az=91.0, TT-MODEL:Canary, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAR	**Madeira**	**1.02**	**358**	*i* Pn	Pn	06 22 30.8	-1.8
PMAR				*e*Sn	Sn	06 22 41.2	-6.4
PMAR				A		06 22 44.6	
	210nm,0.2s						
PMPS	**Porto Santo**	**1.43**	**18**	*e*Pn	Pn	06 22 36.6	-1.6
PMPS				*e*Sn	Sn	06 22 50.7	-7.0
PMPS				A		06 22 53.6	
	22nm,0.1s						
EBAJ	**Bajamar**	**3.18**	**172**	P	Pn	06 23 02.3	0.0
	5.0nm,0.1s,SNR=7.9						
EBAJ				S	Sn	06 23 36.8	-4.1

GUMO	**Guam**	**1.12 280**	P	**Pn**	**07 11 17.5**	**+0.9**
	526nm,0.3s,baz=140,slow=7.8,SNR=138					
GUMO			S	**Sn**	**07 11 36.0**	**+5.1**
	990nm,0.3s,baz=221,slow=19,SNR=20					
GUMO	**Guam**	**1.12 280**	*e*Pn	**Pn**	**07 11 17.6**	**+0.9**
GUMO			*e*Sn	**Sn**	**07 11 30.4**	**-0.5**
CBIJ	**Chichi jima**	**14.09 346**	P	**Pn**	**07 14 14.8**	**+0.4**
	13nm,0.3s,baz=295,slow=23,SNR=6.2					
CBIJ			LR	LR	07 19 28.9	
	comp=Z,4μm,19.6s,baz=230,slow=36					
JHJ	**Hachijo jima 2**	**20.44 345**	LR	LR	07 22 39.5	
	comp=Z,2μm,19.1s,MS4.6,baz=236,slow=34					
JOW	**Kunigami**	**21.32 312**	P	**P**	**07 15 42.4**	**+1.2**
	56nm,0.8s,mb5.0,baz=134,slow=15,SNR=8.7					
JOW			LR	LR	07 23 38.8	
	comp=Z,3μm,20.5s,MS4.6,baz=310,slow=36					
PMG	**Port Moresby**	**22.68 177**	P	**P**	**07 15 56.6**	**+0.9**
	18nm,0.9s,mb4.5,baz=316,slow=14,SNR=3.7					
PMG	**Port Moresby**	**22.68 177**	⇓*i*P	**P**	**07 15 55.1**	**-0.6**
JNU	**Nakatsue**	**24.00 327**	P	**P**	**07 16 09.3**	**+0.5**
	24nm,0.7s,mb4.8,baz=198,slow=21,SNR=7.5					
MJAR	**Matsushiro Arr**	**24.09 344**	P	**P**	**07 16 08.6**	**-1.0**
	7.7nm,1.0s,mb4.1,baz=174,slow=11,SNR=9.6					
MJAR			LR	LR	07 25 11.1	
	comp=Z,2μm,18.0s,MS4.7,baz=165,slow=35					
MAT	**Matsushiro**	**24.09 344**	P	**P**	**07 16 08.8**	**-0.8**
MAT			*e*S	**S**	**07 20 23.0**	**-1.9**
HNR	**Honiara**	**26.57 148**	LR	LR	07 26 54.7	
	comp=Z,2μm,18.6s,MS4.6,baz=358,slow=36					
KSRS	**Korea Array**	**28.89 329**	P	**P**	**07 16 52.2**	**-0.6**
	22nm,1.0s,mb4.8,baz=142,slow=9.9,SNR=44					
KSRS			PcP	PcP	07 20 02.1	+0.7
	2.8nm,1.1s,baz=112,slow=1.3,SNR=5.3					
KAKA	**Kakadu**	**29.22 208**	*e*P	**P**	**07 16 54.5**	**-1.2**
	8.0nm,0.6s,mb4.6					
KAKA			*e*		07 17 09.5	
VLA	**Vladivostok**	**32.02 340**	*e*P	**P**	**07 17 22.0**	**+1.5**
VLA			pmax	pmax		
	comp=Z,128nm,1.7s,mb5.5					
VLA			MLR	MLR		
	comp=Z,1μm,14.8s,MS4.6					
DL2	**Dalian**	**33.33 324**	P	**P**	**07 17 32.0**	**+0.1**
DL2			S	**S**	**07 22 50.5**	**+0.3**
DL2			AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0					
DL2			AMB	AMB		
	comp=Z,120nm,7.3s					
DL2			LR	LR		
	comp=N,370nm,16.2s,MS4.4					
DL2			LR	LR		
	comp=E,420nm,16.1s,MS4.4					
DL2			LR	LR		
	comp=Z,520nm,18.1s,MS4.3					
YSS	**Yuzh-Sakhalins**	**33.56 356**	⇓*e*P	**P**	**07 17 34.3**	**+0.3**
YSS			pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9					
YSS			MLR	MLR		
	comp=Z,1μm,16.0s,MS4.7					
SNY	**Shenyang**	**34.39 330**	⇑P	**P**	**07 17 40.5**	**-0.6**
SNY			AP	pP	07 17 49.5	-1.6
SNY			XP	sP	07 17 52.5	-2.8
SNY			PP	PP	07 18 56.8	-2.6
SNY			S	**S**	**07 23 10.0**	**+3.3**
SNY			XS	sS	07 23 24.0	+0.9
SNY			SS	SS	07 25 21.8	-15
SNY			AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9					
SNY			AMB	AMB		
	comp=Z,261nm,5.4s					
SNY			LR	LR		
	comp=N,1μm,15.6s,MS4.8					
SNY			LR	LR		
	comp=E,1μm,18.9s,MS4.8					
SNY			LR	LR		
	comp=Z,2μm,16.1s,MS4.8					
WB2	**Warramunga Arr**	**35.06 199**	*e*P	**P**	**07 17 46.2**	**-0.7**
WRA	**Warramunga Arr**	**35.06 199**	P	**P**	**07 17 46.4**	**-0.6**
	comp=Z,6.6nm,0.8s,mb4.6,baz=23,slow=9.5,SNR=33					
WRA			PcP	PcP	07 20 18.8	+0.5
	comp=Z,1.8nm,0.8s,baz=18,slow=3.6,SNR=4.6					
WRA			LR	LR	07 31 11.9	
	comp=Z,704nm,19.1s,MS4.4,baz=20,slow=35					
WRA	**Warramunga Arr**	**35.06 199**	P	**P**	**07 17 46.4**	**-0.6**
WRA					07 20 18.8	
CN2	**Changchun**	**35.06 334**	*e*P	**P**	**07 17 49.5**	**+2.5**
CN2			*e*AP	pP	07 17 59.8	+2.9
CN2			*e*S	**S**	**07 23 20.0**	**+2.9**
CN2			AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6					
CN2			LR	LR		
	comp=N,900nm,17.0s,MS4.9					
CN2			LR	LR		
	comp=E,2μm,17.0s,MS4.9					
CN2			LR	LR		
	comp=Z,1μm,18.0s,MS4.7					
QIZ	**Qiongzhong**	**35.13 284**	*e*P	**P**	**07 17 47.5**	**0.0**
QIZ			PP	PP	07 19 11.3	+3.7
QIZ			S	**S**	**07 23 19.0**	**+0.9**
QIZ			LR	LR		
	comp=E,1μm,18.9s					
QIZ			LR	LR		
	comp=Z,2μm,18.8s,MS4.8					
HABR	**Khabarovsk**	**36.14 348**	*e*P	**P**	**07 17 50.9**	**-5.3**
HABR			*e*S	**S**	**07 23 26.3**	**-7.2**
FITZ	**Fitzroy Crossi**	**37.19 213**	*e*P	**P**	**07 18 05.2**	**0.0**
	comp=Z,11nm,0.8s,mb4.7					
FITZ			*e*		07 18 19.7	
FITZ			*e*S	**S**	**07 23 51.3**	**+1.7**
FITZ	**Fitzroy Crossi**	**37.19 213**	P	**P**	**07 18 04.5**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.5,baz=37,slow=8.6,SNR=12					
BJI	**Beijing**	**37.29 321**	P	**P**	**07 18 06.0**	**0.0**
BJI			S	**S**	**07 23 52.0**	**+0.9**
BJI			AMB	AMB		
	comp=Z,23nm,1.2s,mb4.9					
BJI			AMB	AMB		
	comp=Z,320nm,8.3s					
BJI			LR	LR		
	comp=N,824nm,15.9s,MS4.8					
BJI			LR	LR		
	comp=E,938nm,15.9s,MS4.8					
BJI			LR	LR		
	comp=Z,887nm,15.9s,MS4.7					
BJI	**Beijing**	**37.29 321**	P	**P**	**07 18 06.0**	**0.0**
	comp=Z,23nm,1.2s,mb4.9					
BJI			S	**S**	**07 23 52.1**	**+1.0**
BJI			LR	LR		
	comp=Z,890nm,15.9s,MS4.7					
KLR	**Kul'dur**	**37.62 345**	*e*P	**P**	**07 18 03.8**	**-5.0**
ASAR	**Alice Springs**	**38.69 198**	P	**P**	**07 18 17.6**	**-0.2**
	comp=Z,2.1nm,0.9s,mb3.9,baz=21,slow=12,SNR=21					
GYA	**Guiyang**	**39.04 296**	P	**P**	**07 18 22.0**	**+1.2**
GYA			AP	pP	07 18 31.8	+1.0
GYA			XP	sP	07 18 35.8	+0.9
GYA			PP	PP	07 19 54.0	+3.4
GYA			PCP	PcP	07 20 32.3	+1.9
GYA			SCP	ScP	07 24 16.5	+0.4
GYA			SCS	ScS	07 28 26.3	-1.1
GYA			AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7					
GYA			AMB	AMB		
	comp=Z,210nm,5.7s					
GYA			LR	LR		
	comp=N,830nm,17.1s,MS4.8					
GYA			LR	LR		
	comp=E,1μm,17.0s,MS4.8					
GYA			LR	LR		
	comp=Z,1μm,17.6s,MS4.8					
XAN	**Xi'an**	**39.38 308**	P	**P**	**07 18 23.3**	**-0.3**
XAN			AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7					
HHC	**Hu-ho-hao-te**	**40.64 319**	*e*P	**P**	**07 18 35.3**	**+1.2**
HHC			AP	pP	07 18 45.3	+1.2
HHC			XP	sP	07 18 49.0	+0.7
HHC			PP	PP	07 20 13.0	+5.0
HHC			PCP	PcP	07 20 38.0	+2.5
HHC			PCS	PcS	07 24 27.0	+0.8
HHC			S	**S**	**07 24 42.8**	**+1.2**
HHC			SCS	ScS	07 28 36.3	-0.5
HHC			AMB	AMB		
	comp=Z,11nm,1.4s,mb4.3					
HHC			AMB	AMB		
	comp=Z,227nm,5.0s					
HHC			LR	LR		
	comp=N,920nm,18.6s,MS4.8					
HHC			LR	LR		
	comp=E,710nm,18.6s,MS4.8					
HHC			LR	LR		
	comp=Z,805nm,16.1s,MS4.7					
HIA	**Hailar**	**41.79 334**	⇓*e*P	**P**	**07 18 40.1**	**-3.4**
KMI	**Kunming**	**42.31 293**	P	**P**	**07 18 48.8**	**+1.1**
KMI			AP	pP	07 18 58.5	+0.7
KMI			XP	sP	07 19 02.8	+0.9
KMI			PP	PP	07 20 29.5	+3.5
KMI			S	**S**	**07 25 06.8**	**+0.6**
KMI			SCS	ScS	07 28 45.5	-1.4
KMI			AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4					
KMI			AMB	AMB		
	comp=Z,230nm,5.2s					
KMI			LR	LR		
	comp=N,533nm,18.6s,MS4.7					
KMI			LR	LR		
	comp=E,670nm,17.8s,MS4.7					
KMI			LR	LR		
	comp=Z,658nm,19.4s,MS4.5					
KMI	**Kunming**	**42.31 293**	P	**P**	**07 18 48.7**	**+1.0**
KMI			*PP	pP	07 18 58.5	+0.7
KMI			*SP	sP	07 19 02.8	+0.9
KMI					07 20 29.4	
KMI			PPP		07 21 01.2	
KMI			S	**S**	**07 25 06.8**	**+0.6**
KMI			*SS	sS	07 25 23.3	+0.4
KMI			SS	SS	07 28 08.4	-7.1
KMI					07 28 45.4	
KMI			SSS		07 28 54.9	
KMI			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4					
KMI			MLR	MLR		
	comp=Z,660nm,19.4s,MS4.5					
KMI	**Kunming**	**42.31 293**	P	**P**	**07 18 48.7**	**+1.0**
	comp=Z,8.0nm,0.8s,mb4.4					
KMI			pP	pP	07 18 58.5	+0.7
KMI			sP	sP	07 19 02.8	+0.9
KMI			PP	PP	07 20 29.4	+3.4
KMI			PPP		07 21 01.2	
KMI			S	**S**	**07 25 06.8**	**+0.6**
KMI			sS	sS	07 25 23.3	+0.4
KMI			SS	SS	07 28 08.4	-7.1
KMI			ScS	ScS	07 28 45.4	-1.5
KMI			SSS		07 28 54.9	
KMI			LR	LR		
	comp=Z,660nm,19.4s,MS4.5					
CD2	**Chengdu**	**42.54 301**	P	**P**	**07 18 51.0**	**+1.4**
CD2			AP	pP	07 19 00.5	+0.8
CD2			XP	sP	07 19 04.8	+1.0
CD2			PP	PP	07 20 32.0	+3.5
CD2			S	**S**	**07 25 08.0**	**-1.7**
CD2			AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2					
CD2			AMB	AMB		
	comp=Z,330nm,9.3s					
CD2			LR	LR		
	comp=N,1μm,18.1s,MS5.0					
CD2			LR	LR		
	comp=E,900nm,17.2s,MS5.0					
CD2			LR	LR		
	comp=Z,980nm,17.6s,MS4.8					
LZH	**Lanzhou**	**44.01 308**	*e*P	**P**	**07 19 03.0**	**+1.6**
LZH			AP	pP	07 19 14.3	+2.7
LZH			XP	sP	07 19 18.0	+2.3
LZH			PP	PP	07 20 47.0	+2.8
LZH			S	**S**	**07 25 35.0**	**+3.9**
LZH			XS	sS	07 25 55.0	+7.1
LZH			SS	SS	07 28 42.0	-6.7
LZH			AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0					
LZH			AMB	AMB		
	comp=Z,120nm,4.0s					
LZH			LR	LR		
	comp=N,1μm,15.1s					
LZH			LR	LR		
	comp=Z,1μm,16.0s,MS4.9					
LZH	**Lanzhou**	**44.01 308**	*e*P	**P**	**07 19 03.0**	**+1.6**
LZH			*PP	pP	07 19 14.2	+2.6
LZH			*SP	sP	07 19 18.0	+2.3
LZH					07 20 47.0	
LZH			S	**S**	**07 25 35.0**	**+3.9**
LZH			*SS	sS	07 25 55.0	+7.1
LZH			SS	SS	07 28 42.0	-6.7
LZH			pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0					
LZH			MLR	MLR		
	comp=Z,1μm,16.0s,MS4.9					
LZH	**Lanzhou**	**44.01 308**	*e*P	**P**	**07 19 03.0**	**+1.6**
	comp=Z,28nm,1.0s,mb5.0					
LZH			pP	pP	07 19 14.2	+2.6
LZH			sP	sP	07 19 18.0	+2.3
LZH			PP	PP	07 20 47.0	+2.8
LZH			S	**S**	**07 25 35.0**	**+3.9**
LZH			sS	sS	07 25 55.0	+7.1
LZH			SS	SS	07 28 42.0	-6.7
LZH			LR	LR		
	comp=Z,1μm,16.0s,MS4.9					
STKA	**Stephens Creek**	**45.21 185**	⇑*i*P	**P**	**07 19 09.5**	**-1.5**
	comp=Z,5.4nm,0.9s,mb4.4					
STKA	**Stephens Creek**	**45.21 185**	P	**P**	**07 19 09.5**	**-1.5**
	comp=Z,3.9nm,0.8s,mb4.3,baz=338,slow=9.0,SNR=7.5					
STKA			LR	LR	07 38 19.2	
	comp=Z,1μm,19.4s,MS4.9,baz=133,slow=36					
KULM	**Kulim**	**45.41 264**	*e*P	**P**	**07 19 14.6**	**+2.0**
CM31	**Chiang Mai Arr**	**45.44 283**	*e*P	**P**	**07 19 13.3**	**+0.4**
	comp=Z,1.7nm,0.4s,mb4.2					
CIT	**Chita**	**46.50 333**	*e*P	**P**	**07 19 21.3**	**+0.1**
CIT			*e*	pP	07 19 29.2	-2.2
CIT			*e*		07 19 40.2	
CIT			pmax	pmax		
	comp=Z,83nm,2.3s,mb5.3					
ULN	**Ulaanbaatar**	**47.17 325**	⇑P	**P**	**07 19 26.5**	**0.0**
	SNR=5.8					
ULN	**Ulaanbaatar**	**47.17 325**	*e*P	**P**	**07 19 26.3**	**-0.2**
ULN			pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8					
ULN	**Ulaanbaatar**	**47.17 325**	*e*P	**P**	**07 19 26.3**	**-0.2**
	comp=Z,17nm,1.3s,mb4.8					
FORT	**Forrest**	**47.19 201**	*e*P	**P**	**07 19 26.4**	**-0.2**
	comp=Z,27nm,0.9s,mb5.2					
SONM	**Songino Array**	**47.53 324**	P	**P**	**07 19 29.1**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.4,baz=141,slow=9.1,SNR=22					
SONM			PcP	PcP	07 20 59.8	+0.9
	comp=Z,2.9nm,0.9s,baz=126,slow=3.0,SNR=4.1					
SONM			LR	LR	07 41 05.1	
	comp=Z,1μm,19.2s,MS4.9,baz=287,slow=38					
SONM	**Songino Array**	**47.53 324**	P	**P**	**07 19 29.1**	**-0.1**
SONM					07 20 59.8	
GTA	**Gaotai**	**48.13 311**	*e*P	**P**	**07 19 34.0**	**+0.1**
GTA			AP	pP	07 19 44.0	-0.2
GTA			XP	sP	07 19 48.0	-0.2
GTA			PCP	PcP	07 21 03.0	+1.9
GTA			PP	PP	07 21 25.3	-1.0
GTA			S	**S**	**07 26 32.5**	**+2.1**
GTA			XS	sS	07 26 49.0	+1.8
GTA			SS	SS	07 29 57.5	-2.2
GTA			AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.4					
GTA			AMB	AMB		
	comp=Z,326nm,7.2s					
GTA			LR	LR		
	comp=N,549nm,17.1s,MS4.8					
GTA			LR	LR		
	comp=E,545nm,16.3s,MS4.8					
GTA			LR	LR		
	comp=Z,665nm,18.6s,MS4.7					
SEY	**Seymchan**	**49.67 4**	⇓*e*P	**P**	**07 19 45.9**	**+0.2**
YAK	**Yakutsk**	**49.96 350**	⇓*e*P	**P**	**07 19 45.3**	**-2.6**
YAK			pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0					
YAK			MLR	MLR		
	comp=Z,1μm,16.0s,MS4.9					
YAK	**Yakutsk**	**49.96 350**	P	**P**	**07 19 45.0**	**-2.9**
	comp=Z,44nm,0.9s,mb5.5					
BOD	**Bodaibo**	**50.50 338**	*e*P	**P**	**07 19 48.8**	**-3.2**
BOD			pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6					
ZAK	**Zakamensk**	**50.62 326**	*e*P	**P**	**07 19 51.4**	**-1.5**
ZAK			*e*		07 21 08.2	
ZAK			*e*		07 29 41.8	
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4					
IRK	**Irkutsk**	**51.09 328**	*e*P	**P**	**07 19 56.8**	**+0.3**
IRK			pmax	pmax		
	comp=Z,31nm,0.8s,mb5.3					
TLY	**Talaya**	**51.11 327**	*e*P	**P**	**07 19 56.9**	**+0.3**
TLY			*e*		07 21 49.9	
TLY			*e*PPP		07 22 49.2	
TLY			*e*S	**S**	**07 27 19.9**	**+7.9**
TLY			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7					
TLY			MLR	MLR		
	comp=Z,765nm,17.0s,MS4.8					
TLY	**Talaya**	**51.11 327**	*e*P	**P**	**07 19 57.0**	**+0.5**
SHL	**Shillong**	**52.13 292**	*e*P	**P**	**07 20 02.0**	**-2.2**
KLBR	**Kellerberrin**	**52.30 211**	*e*P	**P**	**07 20 04.4**	**-1.1**
	comp=Z,9.9nm,0.6s,mb4.9					
NWAO	**Narrogin (SRO)**	**53.64 210**	P	**P**	**07 20 15.8**	**+0.5**
	comp=Z,4.9nm,0.6s,mb4.6,baz=66,slow=6.5,SNR=4.6					
BILL	**Bilibino**	**56.17 9**	*e*P	**P**	**07 20 31.9**	**-1.8**
BILL			pmax	pmax		
	comp=Z,28nm,1.3s,mb5.1					
BILL	**Bilibino**	**56.17 9**	*e*P	**P**	**07 20 31.9**	**-1.7**
	comp=Z,28nm,1.3s,mb5.1					
JIRN	**Jiri**	**57.30 294**	*e*P	**P**	**07 20 42.1**	**+0.4**
	comp=Z,64nm,1.1s,mb5.6					
GUN	**Gumba**	**57.58 295**	*e*P	**P**	**07 20 43.6**	**0.0**
	comp=Z,98nm,0.9s,mb5.8					
PKI	**Pulchoki**	**57.99 294**	*e*P	**P**	**07 20 46.4**	**-0.1**
	comp=Z,18nm,0.6s,mb5.3					
PKI	**Pulchoki**	**57.99 294**	*e*P	**P**	**07 20 46.4**	**-0.1**
PKI			pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3					
WMQ	**Urumqi**	**58.07 313**	P	**P**	**07 20 47.8**	**+0.7**
WMQ			XP	sP	07 21 02.5	+0.9
WMQ			PCP	PcP	07 21 41.5	+2.9
WMQ			PP	PP	07 22 58.8	+2.9
WMQ			SCP	ScP	07 25 36.0	-0.1
WMQ			PCS	PcS	07 25 40.8	+0.7
WMQ			S	**S**	**07 28 44.3**	**-1.3**
WMQ			SS	SS	07 32 37.0	-0.2
WMQ			AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,345nm,5.0s					
WMQ			LR	LR		
	comp=N,456nm,9.0s					
WMQ			LR	LR		
	comp=E,499nm,12.0s					
WMQ			LR	LR		
	comp=Z,425nm,18.0s					
KKN	**Kakani**	**58.11 294**	*e*P	**P**	**07 20 47.4**	**+0.1**
	comp=Z,24nm,0.8s,mb5.3					
KKN	**Kakani**	**58.11 294**	*e*P	**P**	**07 20 47.4**	**+0.1**
KKN			pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3					
DMN	**Daman**	**58.26 294**	*e*P	**P**	**07 20 48.4**	**0.0**
	comp=Z,62nm,1.1s,mb5.6					
GKN	**Gorkha**	**58.68 295**	*e*P	**P**	**07 20 51.2**	**-0.1**
	comp=Z,112nm,1.1s,mb5.8					
TIXI	**Tiksi**	**59.14 354**	⇓*e*P	**P**	**07 20 51.6**	**-3.0**
TIXI			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6					
TIXI			MLR	MLR		
	comp=Z,400nm,18.0s,MS4.6					
TIXI	**Tiksi**	**59.14 354**	*e*P	**P**	**07 20 52.0**	**-2.6**
	comp=Z,3.1nm,0.3s,mb4.8					
KOLN	**Koldanda**	**59.59 294**	*e*P	**P**	**07 20 57.6**	**-0.1**
	comp=Z,38nm,0.8s,mb5.5					
MK31	**Makanchi Array**	**62.40 316**	*e*P	**P**	**07 21 16.2**	**-0.5**
MKAR	**Makanchi Array**	**62.40 316**	P	**P**	**07 21 16.0**	**-0.7**
	comp=Z,7.3nm,0.7s,mb4.9,baz=91,slow=8.1,SNR=41					
MKAR			LR	LR	07 52 44.4	
	comp=Z,510nm,18.2s,MS4.7,baz=94,slow=40					
ZAL	**Zalesovo**	**62.43 324**	P	**P**	**07 21 16.0**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.5,baz=11,slow=6.9,SNR=14					
ZAL			LR	LR	07 50 42.8	
	comp=Z,787nm,18.1s,MS4.9,baz=6.7,slow=38					
NVS	**Novosibirsk**	**63.56 325**	*e*P	**P**	**07 21 22.9**	**-1.5**
NVS			*e*S	**S**	**07 29 57.2**	**+1.6**
NVS			pmax	pmax		
	comp=E,14nm,1.1s					
NVS			pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0					
NVS			pmax	pmax		
	comp=N,8.0nm,1.5s					
NVS			smax			
	comp=N,33nm,2.1s					
NVS			smax			
	comp=E,13nm,2.0s					
KURK	**Kurchatov**	**65.44 320**	P	**P**	**07 21 35.0**	**-1.7**
	comp=E,188nm,0.6s,SNR=13					
KURK	**Kurchatov**	**65.44 320**	⇑P	**P**	**07 21 35.8**	**-0.9**
	SNR=11					
KURK	**Kurchatov**	**65.44 320**	*e*P	**P**	**07 21 35.6**	**-1.1**
KURK			pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1					
KURK	**Kurchatov**	**65.44 320**	*e*P	**P**	**07 21 35.6**	**-1.1**
	comp=Z,12nm,0.6s,mb5.1					
SML	**Sawmill**	**66.86 28**	*e*P	**P**	**07 21 45.0**	**-0.8**
AAK	**Ala-Archa**	**67.48 311**	*e*P	**P**	**07 21 49.8**	**+0.1**
AAK			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7					
AAK	**Ala-Archa**	**67.48 311**	*e*P	**P**	**07 21 49.8**	**+0.1**
	comp=Z,8.7nm,1.2s,mb4.7					
COLA	**College**	**67.90 25**	⇑*e*P	**P**	**07 21 54.2**	**+1.8**
POO	**Poona**	**69.17 285**	*e*P	**P**	**07 21 56.0**	**-4.3**
KK31	**Karatay Array**	**70.41 311**	*i*P	**P**	**07 22 07.5**	**-0.5**
KK31			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
KKAR	**Karatay Array**	**70.41 311**	*i*P	**P**	**07 22 07.5**	**-0.5**
KKAR			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
PPT	**Papeete**	**70.62 114**	*e*S	S	07 31 17.8	-2.9
	comp=Z,176nm,23.5s					
PPT			*e*LR	LR	07 43 03.2	
	comp=Z,872nm,21.2s,baz=288					
PPT	**Papeete**	**70.62 114**	LR	LR	07 47 14.0	
	comp=Z,709nm,19.3s,MS4.9,baz=268,slow=31					
BVA0	**Borovoye Array**	**70.76 322**	*i*P	**P**	**07 22 08.8**	**-1.3**
BRVK	**Borovoye**	**70.83 322**	P	**P**	**07 22 09.2**	**-1.3**
	comp=Z,123nm,0.7s,mb5.9,SNR=15					
BRVK	**Borovoye**	**70.83 322**	⇓P	**P**	**07 22 09.9**	**-0.6**
	SNR=9.9					
BRVK	**Borovoye**	**70.83 322**	*e*P	**P**	**07 22 09.5**	**-1.0**
BRVK			pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9					
BRVK	**Borovoye**	**70.83 322**	*e*P	**P**	**07 22 09.5**	**-1.0**
	comp=Z,12nm,0.7s,mb4.9					
DAWY	**Dawson**	**71.31 27**	*e*P	**P**	**07 22 15.0**	**+1.5**
KBL	**Kabul**	**71.87 302**	*e*P	**P**	**07 22 16.9**	**+0.1**
TBI	**Tubuai**	**72.91 120**	*e*S	S	07 31 43.1	-3.9
	comp=Z,226nm,27.2s					
TBI			*e*LR	LR	07 43 36.7	
	comp=Z,556nm,32.0s,baz=303					
INK	**Inuvik**	**74.12 22**	*e*P	**P**	**07 22 28.5**	**-1.6**
	comp=Z,952nm,1.3s					
DLBC	**Dease Lake**	**75.55 33**	*e*P	**P**	**07 22 38.2**	**-0.2**
TAOE	**Nuku Hiva Isla**	**76.56 103**	*e*S	S	07 32 25.5	-2.3
	comp=Z,4μm,35.4s					
TAOE			*e*LR	LR	07 45 32.6	
	comp=Z,1μm,21.0s					
AB31	**Akbulak array**	**77.43 318**	*i*P	**P**	**07 22 48.2**	**-0.8**
AB31			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
ARU	**Arti**	**77.56 325**	⇑*i*P	**P**	**07 22 47.2**	**-2.5**
ARU			*e*	pP	07 22 57.4	-3.1
ARU			*e*		07 25 41.3	
ARU			*e*S	S	07 32 35.2	-3.4
ARU			pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9					
ARU			MLR	MLR		
	comp=E,500nm,18.0s,MS4.9					
ARU			MLR	MLR		
	comp=Z,600nm,18.0s,MS5.0					
ARU			MLR	MLR		
	comp=N,200nm,16.0s,MS4.9					
ARU	**Arti**	**77.56 325**	*e*P	**P**	**07 22 48.5**	**-1.2**
	comp=N,14nm,0.9s,mb4.9					
SOKR	**Solikamsk**	**78.17 329**	⇓*i*P	**P**	**07 22 53.3**	**+0.1**
SOKR			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0					
SOKR			MLR	MLR		
	comp=Z,690nm,20.0s,MS5.0					
ORR	**Orenburg**	**80.40 321**	*e*P	**P**	**07 23 05.0**	**-0.3**
ORR			pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1	

YBH	Yreka Blue Hor	82.16	49	eP	P	07 23 14.6	-0.1
HOOD	Mount Hood Mea	82.24	45	eP	P	07 23 15.1	+0.1
WBK	Wadi Bani Khal	82.27	291	⇑P	P	07 23 16.6	+1.4
YKW3	Yellowknife Ar	82.50	27	eP	P	07 23 16.4	0.0
WDC	Whiskeytown Da	82.51	50	eP	P	07 23 19.1	+2.6
WDC				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
WDC	Whiskeytown Da	82.51	50	eP	P	07 23 19.1	+2.6
	comp=Z,9.2nm,1.2s,mb4.7						
YKA	Yellowknife Ar	82.52	28	P	P	07 23 15.0	-1.5
	comp=Z,4.6nm,0.9s,mb4.5,baz=289,slow=5.0,SNR=23						
YKA				LR	LR	07 59 53.8	
	comp=Z,371nm,21.9s,MS4.7,baz=280,slow=36						
YKA	Yellowknife Ar	82.52	28	i P	P	07 23 15.8	-0.7
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BIDO	Bidbid	82.85	292	⇓P	P	07 23 19.6	+1.3
JMDO	Jabal Madar	83.10	291	⇑P	P	07 23 20.4	+0.8
HAWA	Hanford	83.47	44	eP	P	07 23 23.0	+1.5
HOQ	Hoqain	83.58	293	⇑P	P	07 23 23.3	+1.3
	SNR=14						
BANOM	Banah	84.00	295	⇑P	P	07 23 25.6	+1.5
ARQ	Araqi	84.33	293	⇓P	P	07 23 27.3	+1.5
	SNR=6.1						
RES	Resolute Bay	84.48	13	eP	P	07 23 25.4	-1.2
NEW	Newport	84.64	42	eP	P	07 23 26.9	-0.5
NEW				pmax	pmax		
	comp=Z,20nm,1.4s						
NEW	Newport	84.64	42	eP	P	07 23 26.9	-0.4
	comp=Z,20nm,1.4s,mb5.1						
CMB	Columbia Colle	84.67	52	eP	P	07 23 27.5	0.0
PAHR	Pah Rah Range	85.06	51	eP	P	07 23 30.0	+0.5
	comp=Z,11nm,1.1s,mb4.9						
BMO	Blue Mountains	85.34	45	eP	P	07 23 30.6	-0.3
BMO				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.0						
BMO	Blue Mountains	85.34	45	eP	P	07 23 30.6	-0.3
	comp=Z,15nm,1.3s,mb5.0						
EDM	Edmonton	85.65	36	eP	P	07 23 31.7	-0.7
NVAR	Mina Array Bea	86.17	52	P	P	07 23 35.3	+0.3
	comp=Z,1.9nm,0.6s,mb4.5,baz=273,slow=4.8,SNR=20						
KLMR	Klimovskoe	86.24	332	eP	P	07 23 34.7	-0.7
KLMR				eS	S	07 33 54.6	-13
KLMR				pmax	pmax		
	comp=Z,48nm,2.1s,mb5.4						
BSMT	Bassoo Peak	86.26	42	eP	P	07 23 35.6	+0.2
WALA	Waterton Lakes	86.48	40	eP	P	07 23 37.4	+0.8
KEV	Kevo	87.04	342	ep	P	07 23 36.4	-2.9
	comp=Z,4.8nm,0.7s,mb4.8						
KEV	Kevo	87.04	342	eP	P	07 23 36.4	-2.9
KEV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
DAC	Darwin (Calif)	87.25	54	eP	P	07 23 40.9	+0.6
DAC				pmax	pmax		
	comp=Z,13nm,1.4s,mb5.0						
DAC	Darwin (Calif)	87.25	54	eP	P	07 23 40.9	+0.6
	comp=Z,13nm,1.4s,mb5.0						
CHMT	Chamberlain Mo	87.52	42	eP	P	07 23 40.5	-1.1
ARCES	ARCESS Array B	87.61	342	P	P	07 23 40.1	-1.9
	comp=Z,5.0nm,0.8s,mb4.8,baz=64,slow=5.5,SNR=9.3						
ARCES				LR	LR	08 06 34.9	
	comp=Z,356nm,18.7s,MS4.8,baz=63,slow=38						
HLID	Hailey	87.69	46	eP	P	07 23 42.5	0.0
RBK	Rabkut	87.73	287	⇓P	P	07 23 44.3	+1.7
	SNR=6.3						
ELK	Elko	87.87	49	eP	P	07 23 43.7	+0.4
TRCR	Troy Canyon	88.26	51	P	P	07 23 46.4	+1.2
LRM	Limekiln Ridge	88.37	43	eP	P	07 23 45.5	-0.2
MCMT	McKenzie Canyo	88.40	44	P	P	07 23 44.7	-1.1
JOF	Joensuu	88.94	335	ep	P	07 23 45.2	-3.1
	comp=Z,7.6nm,0.6s,mb5.2						
BOZ	Bozeman (W)	88.97	43	eP	P	07 23 48.4	-0.1
BOZ				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.1						
BOZ	Bozeman (W)	88.97	43	eP	P	07 23 48.4	-0.1
	comp=Z,14nm,1.3s,mb5.1						
SHPR	Sheep Range	89.09	53	eP	P	07 23 49.8	+0.7
HVU	Hansel Valley	89.36	47	eP	P	07 23 50.4	+0.1
QLMT	Earthquake Lak	89.36	44	eP	P	07 23 50.7	+0.4
DAG	Danmarks Havn	89.55	357	i P	P	07 23 48.0	-3.2
DAG	Danmarks Havn	89.55	357	eP	P	07 23 48.0	-3.2
DUG	Dugway	89.80	49	eP	P	07 23 52.5	+0.1
DUG				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.3						
DUG	Dugway	89.80	49	eP	P	07 23 52.5	+0.2
	comp=Z,20nm,1.2s,mb5.3						
OBN	Obninsk	89.87	327	⇓i P	P	07 23 50.3	-2.4
OBN				eS	S	07 34 24.6	-18
OBN				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.4						
OBN				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.2						
IMW	Indian Meadow	89.99	45	eP	P	07 23 53.9	+0.6
LKWY	Lake	90.14	44	eP	P	07 23 55.9	+1.9
LKWY				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
LKWY	Lake	90.14	44	eP	P	07 23 55.9	+1.9
	comp=Z,9.8nm,1.1s,mb5.0						
KIV	Kislovodsk	90.16	315	⇑eP	P	07 23 53.3	-0.7
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.1						
MOOW	Moose Ponds	90.17	45	eP	P	07 23 54.5	+0.4
	comp=Z,16nm,1.6s,mb5.1						
HWUT	Hardware Ranch	90.28	47	eP	P	07 23 54.6	0.0
	comp=Z,17nm,1.3s,mb5.2						
LOHW	Long Hollow	90.31	45	eP	P	07 23 56.8	+2.1
	comp=Z,14nm,1.5s,mb5.1						
NLU	North Lily Min	90.42	49	eP	P	07 23 57.2	+2.0
CTU	Camp Tracy	90.42	48	eP	P	07 23 56.9	+1.6
JLU	Jordanelle	90.67	48	eP	P	07 23 56.7	+0.3
MPU	Maple Canyon	90.72	49	eP	P	07 23 57.3	+0.7
MSU	Marysvale	90.78	50	eP	P	07 23 57.2	+0.3
DAU	Daniels Canyon	90.87	48	eP	P	07 23 57.6	+0.3
VNDA	Vanda	91.20	177	LR	LR	08 05 01.7	
	comp=Z,334nm,18.0s,MS4.8,baz=341,slow=36						
PDAR	Pinedale Array	91.31	46	P	P	07 23 58.6	-0.7
	comp=Z,0.8nm,0.7s,mb4.2,baz=237,slow=3.0,SNR=7.5						
PDAR				LR	LR	08 02 14.0	
	comp=Z,414nm,19.0s,MS4.9,baz=305,slow=34						
KAF	Kangasniemi	91.35	336	ep	P	07 23 56.3	-3.3
	comp=Z,7.0nm,0.7s,mb5.1,baz=55,slow=4.4						
KAF	Kangasniemi	91.35	336	eP	P	07 23 56.3	-3.3
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.1						
FINES	FINESS Array B	91.80	335	P	P	07 23 59.3	-2.4
	comp=Z,5.0nm,0.6s,mb5.0,baz=76,slow=5.0,SNR=35						
FINES				LR	LR	08 06 56.2	
	comp=Z,329nm,18.5s,MS4.8,baz=319,slow=37						
FINES	FINESS Array B	91.80	335	i P	P	07 23 59.2	-2.5
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SRU	San Rafael	91.82	49	eP	P	07 24 01.1	-0.6
SRU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8						
SRU	San Rafael	91.82	49	eP	P	07 24 01.1	-0.6
	comp=Z,4.8nm,1.1s,mb4.7						
LAO	LASA Array	92.15	41	eP	P	07 24 03.1	-0.2
	comp=Z,17nm,1.1s,mb5.3						
WUAZ	Wupatki	92.31	53	eP	P	07 24 05.1	+1.1
	comp=Z,14nm,1.3s,mb5.1						
PV10	Paradox Valley	93.16	50	eP	P	07 24 07.9	0.0
PV01	Paradox Valley	93.59	50	eP	P	07 24 09.5	-0.4
SMCO	Snowmass	94.39	48	eP	P	07 24 14.3	+0.7
	comp=Z,6.6nm,1.0s,mb5.0						
AKASG	Malin Array Be	95.81	325	P	P	07 24 18.9	-1.2
	comp=Z,0.6nm,0.5s,mb4.3,baz=56,slow=4.3,SNR=6.3						
AKASG	Malin Array Be	95.81	325	i P	P	07 24 18.8	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	95.81	325	P	P	07 24 18.9	-1.2
ANMO	Albuquerque	96.29	52	eP	P	07 24 24.5	+2.2
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.5s						
ANMO	Albuquerque	96.29	52	eP	P	07 24 24.5	+2.2
	comp=Z,6.7nm,1.5s,mb4.8						
ULM	Lac du Bonnet	96.77	35	LR	LR	08 12 52.7	
	comp=Z,358nm,18.1s,MS4.9,baz=317,slow=38						
NOA	NORSAR Array B	97.62	340	P	P	07 24 26.9	-1.4
	comp=Z,1.5nm,0.9s,mb4.5,baz=55,slow=1.1,SNR=3.4						
NOA	NORSAR Array B	97.62	340	P	P	07 24 26.9	-1.4
BRTR	Keskin Array B	98.00	314	P	P	07 24 29.0	-1.0
	comp=Z,1.9nm,0.9s,mb4.6,baz=74,slow=4.5,SNR=6.2						
MAW	Mawson	99.67	203	LR	LR	08 09 06.8	
	comp=Z,395nm,19.8s,MS4.9,baz=67,slow=35						
GERES	GERESS Array B	105.06	330	Pdiff	Pdif	07 25 03.1	+1.7
	comp=Z,0.3nm,0.7s,baz=62,slow=3.8,SNR=3.6						
ESDC	Sonseca Array	120.26	333	PP	PP	07 31 10.5	-0.1
	comp=Z,0.1nm,0.3s,baz=24,slow=7.6,SNR=7.8						
TORD	Torodi Ar. Bea	135.88	305	PKP	PKPdf	07 30 13.8	-0.6
	comp=Z,1.3nm,0.9s,baz=57,slow=1.8,SNR=8.3						
TORD				PP	PP	07 32 54.1	+0.8
	comp=Z,1.4nm,1.0s,baz=56,slow=5.6,SNR=3.7						
TORD	Torodi Ar. Bea	135.88	305	PKP	PKPdf	07 30 13.8	-0.6
TORD				PP	PP	07 32 54.1	+0.8
LPAZ	La Paz	146.90	99	PKPbc	PKPbc	07 30 37.0	+0.9
	comp=Z,2.6nm,0.5s,baz=316,slow=2.6,SNR=11						
LPAZ	La Paz	146.90	99	ePKPdf	PKPdf	07 30 36.3	+2.1

ISCJB ***30*** *08:01:59.6±0.5, 3825N±003×7398E±009, h187km±17km, Error ellipse: s-maj=11.2km s-min=5.2km az=163.7*
NNC ***30*** *08:02:08.5±6.3, 3890N×7347E, h196km±61km, mb2.1, mpv3.0, Error ellipse: s-maj=61.7km s-min=31.3km az=2.0*

ISC 30 08:02:00.7±0.6, 3824N±003×7399E±009, h148km±16km, n19, σ1§49/31, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	4.61	188	P	Pn	08 03 13.7	+4.8
CEP	Cherat	4.72	202	P	Pn	08 03 13.4	+3.1
CEP				S	Sn	08 04 05.0	+0.5
TKM2	Tokmak 2	4.83	14	P	Pn	08 03 13.1	+1.3
	0.2nm,0.5s						
TKM2				⇑S	Sn	08 04 07.4	+0.1
	1.8nm,0.7s						
KK31	Karatay Array	5.53	333	⇑P	Pn	08 03 19.9	-1.2
	6.3nm,0.3s,baz=143,slow=13,SNR=209						
KK31				⇑S	Sn	08 04 16.2	-7.7
	57nm,0.7s,baz=152,slow=22,SNR=4.4						
THW	Thamme Wali	5.73	199	P	Pn	08 03 27.0	+3.2
DLH	Dalhousie	5.91	164	eS	Sn	08 04 32.0	-0.9
THN	Thein Dam	5.96	166	eP	Pn	08 03 30.0	+3.2
THN				eS	Sn	08 04 33.4	-0.8
SARP	Sargodha	6.39	190	P	Pn	08 03 35.5	+2.9
SARP				S	Sn	08 04 44.0	-0.5
SBDP	Sheikh Budin	6.47	205	P	Pn	08 03 35.2	+1.6
SBDP				S	Sn	08 04 45.0	-1.4
SDNR	Sundarnagar	7.16	159	eP	Pn	08 03 48.4	+5.7
SDNR				eS	Sn	08 05 01.9	-0.9
DRP	Derazinda	7.18	207	P	Pn	08 03 45.4	+2.3
KLP	Kalpa	7.55	151	eS	Sn	08 05 10.4	-1.9
KLP				ex	x	08 05 12.2	
KLP				eS	Sn	08 05 14.4	+2.1
JOSI	Joshimath	8.94	147	ex	x	08 05 42.3	
JOSI				eS	Sn	08 05 44.6	-1.1
JOSI				eS	Sn	08 05 46.1	+0.4
NDI	New Delhi	9.90	163	eS	Sn	08 06 03.0	-6.0
KHET	Khetri	10.25	171	eP	Pn	08 04 24.3	+0.3
KHET				eS	Sn	08 06 07.5	-10
KUDL	Kundal	10.28	168	eS	Sn	08 06 12.0	-6.1
KUDL				AML	AML	08 06 17.4	
	comp=E,17nm,0.3s						
KUDL				AML	AML	08 06 18.0	
	comp=N,12nm,0.5s						
AB31	Akbulak array	14.95	322	P	Pn	08 05 21.8	-2.7
	comp=N,0.6nm,0.3s,baz=129,slow=13,SNR=33						
AB31				⇓S	Sn	08 07 53.4	-17
	comp=N,0.6nm,0.3s,baz=11,slow=53,SNR=6.3						
AKTO	Aktyubinsk	16.66	322	⇑P	Pn	08 05 44.5	-1.0
AKTO				⇓S	S	08 08 39.2	-12
JOF	Joensuu	35.61	328	ep	P	08 08 45.9	+1.9

ISCJB ***30*** *08:05:27.9±0.9, 299N±0.1×1390E±02, h444km±9km, mb3.2/10, Error ellipse: s-maj=23.9km s-min=16.5km az=162.0*
NEIC ***30*** *08:05:28.4±1.5, 2986N×13865E, h428km±16km, MG3.4(JMA), Error ellipse: s-maj=24.6km s-min=15.4km az=80.0*
IDC ***30*** *08:05:29.5±1.4, 2986N×13870E, h441km±16km, mb2.9/10, mb1 3.1/13, mb1mx3.0/23, mbtmp2.9/13, Error ellipse: s-maj=24.7km s-min=12.5km az=79.0*
JMA ***30*** *08:05:30.1±0.5, 3024N×13937E, h465km, M3.4*

ISC 30 08:05:29.5±0.9, 301N±01×1392E±02, h448km±9km, n22, σ1§05/28, mb3.1/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.08	10	P	P	08 06 38.9	+1.9
JHJ2				eS	S	08 07 30.0	-1.8
JHJ	Hachijo jima 2	3.08	10	P	P	08 06 39.0	+2.0
	6.9nm,0.3s,baz=60,slow=20,SNR=4.0						
JHJ				S	S	08 07 31.1	-0.8
	12nm,0.3s,baz=90,slow=20,SNR=4.3						
JIE	Ise	4.78	335	P	P	08 06 53.4	+1.7
BSO1	Boso 1	4.82	18	P	P	08 06 52.6	+0.6
BSO1				eS	S	08 07 57.7	-1.6
BSO3	Boso 3	4.85	13	P	P	08 06 52.4	+0.1
BSO3				eS	S	08 07 59.4	-0.4
BSO4	Boso 4	5.00	11	P	P	08 06 54.5	+0.7
BSO4				eS	S	08 08 01.5	-1.0
JOD2	Odawara 2	5.18	359	P	P	08 06 56.0	+0.5
JOD2				eS	S	08 08 05.3	-0.3
MJAR	Matsushiro Arr	6.50	353	P	P	08 07 08.6	-0.3
	0.7nm,0.3s,baz=271,slow=5.0,SNR=9.7						
MAT	Matsushiro	6.50	353	P	P	08 07 09.5	+0.6
JHO	Hitachi	6.63	10	P	P	08 07 10.8	+0.6
KSRS	Korea Array	11.89	311	P	P	08 08 07.0	-0.2
	baz=125,slow=9.9,SNR=6.2						
SONM	Songino Array	30.73	314	P	P	08 11 06.3	0.0
	0.4nm,0.5s,mb3.1,baz=118,slow=8.8,SNR=5.7						
MKAR	Makanchi Array	46.55	308	P	P	08 13 14.5	-0.7
	0.3nm,0.4s,mb3.1,baz=83,slow=10.0,SNR=11						
MKAR				PcP	PcP	08 14 40.2	-0.5
	0.9nm,1.1s,baz=147,slow=2.9,SNR=3.7						
WRA	Warramunga Arr	49.94	186	P	P	08 13 39.4	-1.3
	0.6nm,0.3s,mb3.3,baz=2.3,slow=7.8,SNR=28						
ASAR	Alice Springs	53.67	186	P	P	08 14 06.7	-1.1
	0.4nm,0.5s,mb3.0,baz=356,slow=5.5,SNR=15						
STKA	Stephens Creek	61.65	178	eP	P	08 14 53.4	-9.0
YKA	Yellowknife Ar	70.79	28	P	P	08 16 01.7	+2.2
	0.3nm,0.6s,mb3.0,baz=294,slow=6.2,SNR=5.0						
FINES	FINESS Array B	74.10	333	P	P	08 16 18.9	+0.1
	0.5nm,0.4s,mb3.4,baz=59,slow=5.2,SNR=7.8						
AKASG	Malin Array Be	78.65	322	P	P	08 16 42.6	-1.3
	0.1nm,0.3s,mb2.9,baz=27,slow=12,SNR=2.9						
NOA	NORSAR Array B	79.86	337	P	P	08 16 50.8	+0.4
	0.9nm,0.8s,mb3.4,baz=46,slow=4.8,SNR=2.8						
NVAR	Mina Array Bea	80.74	51	P	P	08 16 59.9	+4.9
	0.3nm,0.7s,mb3.0,baz=58,slow=28,SNR=3.9						
BRTR	Keskin Array B	82.04	311	P	P	08 17 01.4	-0.2
	0.2nm,0.3s,mb3.2,baz=31,slow=5.8,SNR=4.2						

MOS ***30*** *08:22:57.0±1.1, 4691N×14992E, h42km, mb4.4/4, Error ellipse: s-maj=32.0km s-min=20.6km az=96.5*
JMA ***30*** *08:22:58.3±0.5, 4596N×15080E, h30km, M4.4*
IDC ***30*** *08:23:01.6±4.8, 4681N×15045E, h80km±57km, mb3.5/8, mb1 3.6/10, mb1mx3.4/24, mbtmp3.5/10, ML3.6/2, Error ellipse: s-maj=92.1km s-min=31.6km az=157.0*
ISCJB ***30*** *08:23:02.5±1.0, 452N±0.1×1507E±0.1, h190km±9km, mb3.6/9, Error ellipse: s-maj=22.6km s-min=9.5km az=112.4*

ISC 30 08:23:03.6±1.1, 452N±01×1507E±01, h186km±10km, n48, σ1§20/58, mb3.6/9, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.98	273	⇓i PN	Pn	08 23 42.8	+2.0
KUR				pmax	pmax		
	comp=N,400nm,0.5s						
KUR				pmax	pmax		
	comp=E,290nm,0.5s						
KUR				pmax	pmax		
	comp=Z,680nm,0.5s						
YUK	Yuzh-Kuril'sk	3.61	254	PN	Pn	08 23 58.0	-1.9
YUK				eS	Sn	08 24 43.2	-0.7
YUK				pmax	pmax		
	comp=Z,570nm,0.3s						
YUK				smax			
	comp=N,280nm,0.5s						
YUK				smax			
	comp=E,370nm,0.5s						
NEM2	Nemuro 2	3.96	245	P	Pn	08 24 03.1	-1.2
NEM2				eS	Sn	08 24 50.1	-1.8
JRA	Rausu	4.14	255	P	Pn	08 24 06.3	-0.3
JNK	Nakash	4.54	252	P	Pn	08 24 11.8	+0.1
JNK				eS	Sn	08 25 06.2	+1.0
JAK	Akkeshi	4.81	245	P	Pn	08 24 14.4	-0.7
JAK				eS	Sn	08 25 11.6	+0.2
JTKR	Abashiri--Toko	4.97	259	P	Pn	08 24 17.3	+0.1
JAR	Ashorobuto	5.29	252	P	Pn	08 24 21.6	+0.2
JAR				eS	Sn	08 25 24.4	+1.9
JMP	Maruseppu	5.34	260	P	Pn	08 24 22.3	+0.3
JOB	Onbets	5.41	248	P	Pn	08 24 22.8	-0.1
JOB				eS	Sn	08 25 25.8	+0.4
YSS	Yuzh-Sakhalins	5.79	291	⇑ePN	Pn	08 24 24.3	-3.6
JKK2	Kamakawa 2	5.80	260	P	Pn	08 24 28.9	+0.9
ASAJ	Asahikawa	5.85	263	P	Pn	08 24 29.5	+0.9
	comp=E,1.8nm,0.3s,baz=82,slow=11,SNR=14						
ASAJ	Asahikawa	5.85	263	P	Pn	08 24 29.6	+1.0
ASAJ	Asahikawa	5.85	263	PN	Pn	08 24 29.5	+0.9
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	Churui	5.86	247	P	Pn	08 24 28.9	+0.2
JCH				eS	Sn	08 25 35.6	-0.2
JEM	Erimo	6.29	243	eS	Sn	08 25 46.1	+0.1
JNBK	Urakawa-nobuka	6.41	246	P	Pn	08 24 35.8	-0.1
JNBK				eS	Sn	08 25 46.7	-2.2
JBT2	Biratori 2	6.44	251	P	Pn	08 24 36.6	+0.2
JBT2				eS	Sn	08 25 50.1	+0.5
JNB	Noboribetsu	7.46	252	P	Pn	08 24 50.2	+0.5
JNB				eS	Sn	08 26 14.6	+0.8
JKB	Kayabe	7.72	248	P	Pn	08 24 53.3	+0.2
JKB				eS	Sn	08 26 18.1	-1.9
JYM2	Yakumo 2	8.06	252	P	Pn	08 24 58.3	+0.8
JYM2				eS	Sn	08 26 29.8	+1.8
JSH	Shimam	8.07	256	P	Pn	08 24 59.3	+1.6
JANG	Nango	8.25	238	P	Pn	08 24 59.6	-0.5
JANG				eS	Sn	08 26 30.2	-2.4
JTM	Tenmabayashi	8.28	242	P	Pn	08 25 00.7	+0.3
JTM				eS	Sn	08 26 31.4	-1.8
JSR	Shiriuchi	8.30	248	eS	Sx	08 26 32.9	
JTH	Tanohata	8.32	234	eS	Sx	08 26 31.8	
OFUJ	Ofunato	9.02	231	eS	Sx	08 26 50.4	
JRG	Rokugo	9.40	236	P	Pn	08 25 16.4	+1.4
JRG				eS	Sx	08 27 01.0	
JIO	Ouri	9.65	229	P	Pn	08 25 18.9	+0.6
JIO				eS	Sx	08 27 04.6	
JFK	Kawauchi	10.71	227	eS	Sx	08 27 31.0	
KSRS	Korea Array	18.70	254	P	P	08 27 17.7	+10
	baz=52,slow=12,SNR=4.7						
YAK	Yakutsk	20.83	332	⇑eP	P	08 27 26.2	-4.5
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
MKAR	Makanchi Array	46.17	298	P	P	08 31 11.4	+1.9
	comp=Z,0.2nm,0.4s,mb3.1,baz=64,slow=6.2,SNR=4.5						
KURK	Kurchatov	46.84	304	⇑eP	P	08 31 12.4	-2.3
YKA	Yellowknife Ar	53.22	35	P	P	08 32 02.0	-0.7
	comp=Z,0.2nm,0.3s,mb3.3,baz=300,slow=6.9,SNR=5.7						
YKA	Yellowknife Ar	53.22	35	i P	P	08 32 05.0	+2.2
ARU	Arti	55.03	317	⇑eP	P	08 32 14.8	-1.0
ARU				pmax	pmax		
	comp=Z,14nm,2.5s,mb4.2						
FINES	FINESS Array B	64.75	334	P	P	08 33 20.6	-1.4
	comp=Z,0.8nm,0.5s,mb3.8,baz=41,slow=7.2,SNR=8.8						
FINES	FINESS Array B	64.75	334	i P	P	08 33 21.8	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	NORSAR Subarra	69.17	340	P	P	08 33 49.1	-0.8
	comp=Z,1.1nm,0.4s,mb3.9,baz=29,slow=6.5						
NOA	NORSAR Array B	69.17	340	P	P	08 33 49.4	-0.5
	comp=Z,0.8nm,0.4s,mb3.8,baz=28,slow=6.3,SNR=4.5						
NOA	NORSAR Array B	69.17	340	P	P	08 33 49.4	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.91	325	P	P	08 34 06.8	+0.3
	comp=Z,0.6nm,0.3s,mb3.8,baz=38,slow=6.3,SNR=5.6						
AKASG	Malin Array Be	71.91	325	i P	P	08 34 06.8	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR	Keskin Array B	78.36	315	P	P	08 34 46.4	+3.1
	comp=Z,0.4nm,0.3s,mb3.5,baz=32,slow=5.7,SNR=3.1						
GERES	GERESS Array B	79.12	333	P	P	08 34 46.8	-0.6
	comp=Z,0.4nm,0.5s,mb3.3,baz=39,slow=6.3,SNR=5.3						
MMAI	Mount Meron Ar	82.56	310	P	P	08 35 10.2	+4.6
	comp=Z,1.1nm,0.5s,mb3.9,baz=45,slow=6.3,SNR=4.6						

STR ***30*** *08:30:42.4±0.0, 1317N×5130E, Mb5.5, Ms6.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BJI ***30*** *08:30:42.0, 1304N×5083E, h10km, mB6.6, mb5.5, Ms6.6, Msz6.4*
ISCJB ***30*** *08:30:46.6±0.2, 1321N±003×5134E±001, h10km, mb5.8/269, MS6.4/241, Error ellipse: s-maj=3.7km s-min=2.0km az=18.2*
MOS ***30*** *08:30:46.5±1.2, 1328N×5134E, h10km, mb6.1/98, MS6.4/61, Error ellipse: s-maj=6.4km s-min=2.5km az=118.9*
SZGRF ***30*** *08:30:47.0, 1240N×5081E, h33km, mb6.3, MS6.3, Eastern Gulf of Aden*
IDC ***30*** *08:30:47.8±0.4, 1327N×5146E, h0km, mb5.2/26, mb1 5.3/27, mb1mx5.3/27, mbtmp5.2/27, ML5.6/1, MS6.2/40, Ms1 6.2/40, ms1mx6.2/43, Error ellipse: s-maj=9.2km s-min=8.0km az=69.0*
CSEM ***30*** *08:30:47.4±0.1, 1326N×5135E, h12km, mb6.0/99, Ms6.2, Mw6.6, Error ellipse: s-maj=2.4km s-min=1.5km az=24

HAJJ *i* S **Sn** **08 34 13.0 -0.3**
ATD Arta Tunnel 8.49 259 Pn **Pn** **08 32 53.8 +1.8**
comp=Z,67nm,0.3s,baz=89,slow=8.0,SNR=149
ATD LR LR 08 36 12.2
comp=Z,132μm,19.7s,baz=73,slow=38
DESE Dese 11.66 261 *e*P **Pn** **08 33 40.0 +4.6**
DESE S Sn 08 36 14.9 +29
QRN Al-Qurain 15.73 349 *e*P **Pn** **08 34 29.9 -0.6**
QRN AMb AMB 08 34 43.7
comp=Z,8μm,1.0s
RDF Al-Radifah 15.97 348 *e*P **Pn** **08 34 32.8 -0.9**
RDF AMb AMB 08 34 47.2
comp=Z,12μm,1.0s
KBD Kabd 16.19 348 *e*P **Pn** **08 34 35.7 -0.9**
KBD AMb AMB 08 34 49.0
comp=Z,27μm,1.0s
NAY Al-Naaiem 16.35 347 *e*P **Pn** **08 34 38.2 -0.4**
NAY AMb AMB 08 34 48.5
comp=Z,3μm,1.2s
UMR Umm Al-Rimmam 16.55 349 *e*P **Pn** **08 34 40.6 -0.5**
UMR AMb AMB 08 34 53.6
comp=Z,7μm,1.3s
MSEY Mahe Island 18.29 167 *e*Pn **Pn** **08 35 00.3 -2.6**
comp=Z,1μm,1.4s
MSEY *e*Sn Sn 08 38 06.4 -21
MSEY Mahe Island 18.29 167 *e*Pn **Pn** **08 35 00.3 -2.5**
MSEY *e*Sn Sn 08 38 06.4 -21
BHJ Bhuj 19.99 58⇓*e*P **Pn** **08 35 23.2 0.0**
BHJ *e*S **Sn** **08 39 07.7 -0.4**
KMBO Kilima Mbogo 20.01 225 P **P** **08 35 22.6 +0.8**
comp=Z,168nm,1.0s,baz=43,slow=12,SNR=134
KMBO LR LR 08 43 06.2
comp=Z,57μm,20.1s,MS5.9,baz=48,slow=37
KMBO Kilima Mbogo 20.01 225 ⇓P **P** **08 35 22.9 +1.1**
SNR=611
KMBO Kilima Mbogo 20.01 225 *e*P **P** **08 35 22.4 +0.6**
comp=Z,650nm,1.1s
KMBO LR LR
comp=Z,62μm,19.0s,MS6.0
KMBO Kilima Mbogo 20.01 225 *e*P **P** **08 35 22.7 +0.9**
BHD Baghdad 20.90 343 *i* x x 08 35 30.0
BHD *i* x x 08 39 23.0
BHD *i* x x 08 42 25.0
BHD *i* x x 08 43 40.0
BOM Bombay 21.35 72 *e*P **P** **08 35 36.3 0.0**
BOM *e*x x 08 36 01.1
comp=Z,1μm,1.6s
BOM *e*x x 08 39 38.4
BHV Bhavnagar 21.52 64 *e*P **P** **08 35 39.0 +0.8**
GOA Goa 21.87 81 *e*P **P** **08 35 41.2 -0.7**
GOA AMb AMB 08 35 58.1
comp=Z,1μm,2.0s,mb6.0
POO Poona 22.24 73 *e*P **P** **08 35 47.7 +1.8**
POO AMb AMB 08 35 56.0
comp=Z,856nm,1.3s,mb6.0
POO *i* x x 08 39 56.0
POO *i* x x 08 46 51.0
EIL Elat 22.30 320 *e*P **P** **08 35 47.4 +0.9**
EIL Elat 22.30 320 *e*P **P** **08 35 47.4 +0.9**
KAD Karad 22.37 77 *e*P **P** **08 35 47.9 +0.7**
KAD AMb AMB 08 36 07.5
comp=Z,2μm,1.6s,mb6.3
MNGI Mangalore 22.85 88 *i*P **P** **08 35 54.0 +1.7**
MNGI *e*x x 08 36 17.7
comp=Z,510nm,1.3s
MNGI *i* x x 08 40 10.9
ASF Jabal al Asfar 23.01 327 P **P** **08 35 55.2 +1.1**
comp=Z,41nm,1.0s,mb4.8,baz=9.6,slow=4.0,SNR=56
ASF S **S** **08 40 10.6 +5.8**
comp=Z,30nm,1.0s,baz=128,slow=12,SNR=2.5
ASF LR LR 08 44 56.5
comp=Z,114μm,21.5s,MS6.3,baz=171,slow=37
ASF Jabal al Asfar 23.01 327 P **P** **08 35 55.2 +1.1**
ASF S **S** **08 40 10.6 +5.8**
ASF LR LR 08 44 56.5
TCHB Talchebab 23.89 326⇑P **P** **08 36 04.4 +1.6**
TCHB Talchebab 23.89 326⇑*i*P **P** **08 36 04.4 +1.5**
MSL Mosul 24.09 343 *i* x x 08 36 06.0
MSL *i* x x 08 36 15.5
MSL *i* x x 08 36 59.0
MSL *i* x x 08 40 32.5
TOTH TOTAH 24.19 328⇑P **P** **08 36 07.1 +1.5**
TOTH TOTAH 24.19 328⇑*i*P **P** **08 36 07.1 +1.5**
ROOS tl_alroos 24.41 331⇑P **P** **08 36 09.8 +2.2**
ROOS tl_alroos 24.41 331⇑*i*P **P** **08 36 09.9 +2.3**
MMAI Mount Meron Ar 24.46 326 P **P** **08 36 09.7 +1.6**
comp=Z,74nm,1.0s,mb5.1,baz=138,slow=10.0,SNR=63
MMAI S **S** **08 40 37.9 +10**
comp=Z,6.8nm,0.8s,baz=113,slow=14,SNR=1.5
MMAI LR LR 08 45 42.4
comp=Z,71μm,19.0s,MS6.2,baz=135,slow=36
BRBR Barbar 24.48 328⇑P **P** **08 36 09.6 +1.4**
BRBR Barbar 24.48 328⇑*i*P **P** **08 36 09.6 +1.4**
RCY Rachaya 24.60 327 *e*P **P** **08 36 11.1 +1.8**
BSHR Al Beshri 24.61 337⇑P **P** **08 36 10.4 +1.0**
BSHR Al Beshri 24.61 337⇑*i*P **P** **08 36 10.4 +1.0**
RABH Abou Rabah 24.67 331⇑P **P** **08 36 12.3 +2.4**
RABH Abou Rabah 24.67 331⇑*i*P **P** **08 36 12.3 +2.3**
MARH Ras Al Marh 24.69 329⇑P **P** **08 36 12.7 +2.5**
MARH Ras Al Marh 24.69 329⇑*i*P **P** **08 36 12.7 +2.6**
LATR Latur 24.76 75 *ex* x 08 36 17.8
CUKT Cukurca 24.86 345 P **P** **08 36 11.7 0.0**
FKH Fakeheh 24.90 329 *e*P **P** **08 36 14.6 +2.5**
BHL Bhannes 25.02 328 *e*P **P** **08 36 14.7 +1.6**
KSRV Kasrt alli 25.10 336⇑P **P** **08 36 17.2 +3.4**
HAWK Haweek 25.13 330⇑P **P** **08 36 16.7 +2.6**
HAWK Haweek 25.13 330⇑*i*P **P** **08 36 16.7 +2.6**
HAKT HAKKARI 25.13 346 *i*P **P** **08 36 14.5 +0.4**
HKR Hakkari 25.14 346 P **P** **08 36 15.9 +1.6**
JHLN Al Jahlan 25.16 335⇑P **P** **08 36 16.2 +1.8**
JHLN Al Jahlan 25.16 335⇑*i*P **P** **08 36 16.2 +1.8**
DRP Derazinda 25.24 40 P **P** **08 36 17.5 +2.3**
ABKT Ailbek 25.29 13 P **P** **08 36 15.5 -0.1**
comp=Z,5μm,0.8s
VAN Vannovskaya 25.30 13 *e*P **P** **08 36 15.4 -0.3**
VAN Vannovskaya 25.30 13 P **P** **08 36 15.4 -0.3**
VAN S **S** **08 40 42.3 +0.5**
SIRT Sirnak 25.41 343 P **P** **08 36 18.5 +1.8**
AJM Ajmer 25.48 55 *i*P **P** **08 36 17.0 -0.3**
KFRA Kufra 25.50 331⇑P **P** **08 36 20.1 +2.6**
KFRA Kufra 25.50 331⇑*i*P **P** **08 36 20.1 +2.6**
BIDA Albida 25.56 330⇑*i*P **P** **08 36 19.3 +1.2**
TRD Trivandrum 25.57 98 *e*P **P** **08 36 17.2 -0.9**
TRD AMb AMB 08 36 33.1
comp=Z,122nm,1.8s,mb5.1
TRD *ex* x 08 40 51.4
AKL Akola 25.60 70⇑*i*P **P** **08 36 21.2 +2.8**
AKL *ex* x 08 36 44.9
comp=Z,573nm,1.3s
AKL *i* S **S** **08 40 48.0 +1.5**
DRBT Darb Altahta 25.66 338⇑P **P** **08 36 23.4 +4.4**
KOD Kodaikanal 25.73 94 *ex* x 08 36 25.9
KOD AMb AMB 08 36 44.1
comp=Z,262nm,2.0s,mb5.4
MARD Mardin 25.74 340 *i*P **P** **08 36 20.6 +0.9**
SLMH Al Salmeh 25.84 334⇑P **P** **08 36 16.6 -3.9**
WRDH Warideh 25.92 331⇑P **P** **08 36 21.3 0.0**
WRDH Warideh 25.92 331⇑*i*P **P** **08 36 21.3 0.0**
SBDP Sheikh Budin 26.00 40 P **P** **08 36 22.4 +0.4**
SLNF Slenfeh 26.08 331⇑P **P** **08 36 24.0 +1.2**
SLNF Slenfeh 26.08 331⇑*i*P **P** **08 36 24.0 +1.2**
TVAN Van 26.13 346 *i*P **P** **08 36 23.4 +0.2**
VANB Van 26.20 346 P **P** **08 36 31.4 +7.6**
BTMT Batman 26.33 342 P **P** **08 36 27.5 +2.6**
BTCH Batrach 26.34 332⇑P **P** **08 36 25.7 +0.6**
BTCH Batrach 26.34 332⇑*i*P **P** **08 36 25.7 +0.6**
ARNB Al Arnab 26.42 331⇑P **P** **08 36 28.8 +2.9**
DIY Diyarbakir 26.45 340 P **P** **08 36 31.9 +5.7**
HYB Hyderabad 26.53 78⇑*i*P **P** **08 36 27.0 +0.1**
comp=Z,346nm,0.8s,mb5.9
HYB *e*S **S** **08 41 00.0 -1.3**
HYB LR LR
comp=Z,165nm,16.0s
HYB Hyderabad 26.53 78⇑*e*P **P** **08 36 27.0 +0.1**
HYB *e*S **S** **08 41 06.0 +4.7**
HYB pmax pmax
comp=Z,346nm,0.8s,mb5.9
HYB Hyderabad 26.53 78⇑*e*P **P** **08 36 27.0 +0.1**
comp=Z,346nm,0.8s,mb5.9
HYB *e*S **S** **08 41 06.0 +4.7**
URFA Urfa 26.55 337 P **P** **08 36 28.8 +1.8**
HTY Hatay 26.55 332 P **P** **08 36 29.5 +2.5**
KBL Kabul 26.55 34 *e*P **P** **08 36 28.1 +1.0**
KBL Kabul 26.55 34 *e*P **P** **08 36 28.0 +0.9**
BHPL Bhopal 26.62 64 *e*P **P** **08 36 29.1 +1.4**
BHPL AMb AMB 08 36 38.0
comp=Z,614nm,1.5s,mb5.9
DRWC Darouich 26.73 333⇑P **P** **08 36 30.0 +1.4**
DRWC Darouich 26.73 333⇑*i*P **P** **08 36 30.0 +1.4**
ATAB Bozova 26.77 336 *i*P **P** **08 36 29.3 +0.3**
THW Thamme Wali 26.91 40 P **P** **08 36 31.5 +1.2**
GAZ Gaziantep 26.95 334 P **P** **08 36 33.3 +2.6**
SARP Sargodha 26.96 43 P **P** **08 36 31.9 +1.2**
GZT Gaziantep 26.96 335 *i*P **P** **08 36 32.9 +2.2**
BNGL BINGOL 27.13 342 *i*P **P** **08 36 34.4 +2.1**
AGRB Hanur-Agry 27.22 346 P **P** **08 36 35.1 +2.0**
BINT Bingol 27.26 341 P **P** **08 36 36.6 +3.2**
KRTS Karatas 27.28 331 P **P** **08 36 33.3 -0.3**
KMRS Kahramanmaras 27.37 334 P **P** **08 36 35.6 +1.3**
ELZG Elazig 27.42 339 *i*P **P** **08 36 37.6 +2.8**
CEYT Ceyhan 27.46 332 P **P** **08 36 36.9 +1.7**
MYA Malataya 27.47 338 P **P** **08 36 38.1 +2.8**
NGP Nagpur 27.55 70 *i*P **P** **08 36 36.2 +0.1**
NGP AMb AMB 08 36 54.0
comp=Z,384nm,1.9s,mb5.7
NGP *i* S **S** **08 41 19.8 +2.5**
NGP *ex* x 08 46 22.4
comp=Z,135μm,21.3s
PTK Pertek 27.63 340 P **P** **08 36 38.4 +1.7**
CEP Cherat 27.71 39 P **P** **08 36 39.3 +1.9**
KOZT Kozan 27.81 333 P **P** **08 36 39.5 +1.2**
IKL Isikli 27.84 328 P **P** **08 36 40.7 +2.1**
MERS Mersin 27.92 330 P **P** **08 36 40.7 +1.4**
DIGO Kars 27.93 347 *i*P **P** **08 36 41.1 +1.6**
ERZM Erzurum 27.95 343 *i*P **P** **08 36 42.9 +3.2**
ERZM Erzurum 27.95 343 *i*P **P** **08 36 42.8 +3.2**
EZM Erzurum 27.95 343 P **P** **08 36 43.0 +3.4**
KARA Karaisali 27.98 331 P **P** **08 36 41.3 +1.4**
MDRS Chennai 28.12 87 *e*P **P** **08 36 41.6 +0.4**
MDRS AMb AMB 08 37 06.8
comp=Z,139nm,0.7s,mb5.7
MDRS *ex* x 08 41 31.7
KARS Kars 28.18 347 P **P** **08 36 44.0 +2.3**
EZC Erzincan 28.27 341 P **P** **08 36 46.6 +4.1**
CHCP Chirah Chowk 28.44 41 P **P** **08 36 45.5 +1.5**
NDI New Delhi 28.51 53 *e*P **P** **08 36 45.0 +0.5**
NDI AMb AMB 08 36 54.6
comp=Z,967nm,1.8s,mb6.2
NDI *ex* x 08 41 43.0
DGRG David-gareji 28.56 351 P **P** **08 36 43.0 -2.0**
DGRG S **S** **08 41 46.1 +13**
KELT Kelkit 28.81 341 *i*P **P** **08 36 48.2 +0.9**
JBP Jabalpur 28.86 66⇑*i*P **P** **08 36 47.0 -0.7**
JBP *ex* x 08 37 44.3
comp=Z,360nm,2.1s
JBP *e*S **S** **08 41 38.2 +0.2**
MTA Mtatsminda 28.89 350 P **P** **08 36 46.5 -1.4**
MTA S **S** **08 41 35.6 -2.8**
BNN Bunyan 28.95 334 P **P** **08 36 50.8 +2.3**
HDMB Hadim 29.02 328 P **P** **08 36 50.1 +1.0**
GUMT Gumushane 29.02 341 P **P** **08 36 51.9 +2.8**
PONG Pong 29.22 46 *ex* x 08 36 42.5
BHK Bhakra 29.26 48 *ex* x 08 36 47.0
AVNT Avonos 29.32 333 *i*P **P** **08 36 52.6 +0.9**
BCA Borcka 29.33 345 P **P** **08 36 53.1 +1.2**
THN Thein Dam 29.33 45 *e*P **P** **08 36 52.3 +0.4**
DGAR Diego Garcia 29.35 133 *d*i*P **P** **08 36 53.7 +1.7**
DGAR Diego Garcia 29.35 133 *e*P **P** **08 36 53.8 +1.8**
comp=Z,846nm,1.3s,mb6.3
DGAR LR LR
comp=Z,16μm,20.0s,MS5.6
DGAR Diego Garcia 29.35 133 *e*P **P** **08 36 53.8 +1.8**
comp=Z,846nm,1.3s,mb6.3
MACK Trabzon 29.37 342 *i*P **P** **08 36 53.6 +1.4**
SVSK Karacayir 29.40 337 P **P** **08 36 54.0 +1.5**
KTUT Trabzon 29.41 342 P **P** **08 36 52.0 -0.7**
DLH Dalhousie 29.57 45 *ex* x 08 37 01.0
MAK Makhachkala 29.77 354 *d*i*P **P** **08 36 58.1 +2.3**
MAK *e* 08 37 48.0
MAK *e*SS SS 08 43 18.6 -40
MAK *i* SSS 08 43 39.4
MAK pmax pmax
comp=Z,3μm,2.3s,mb6.5
MAK MLR MLR
comp=Z,129μm,14.0s,MS6.7
MAK MLR MLR
comp=N,116μm,11.0s,MS6.9
MAK MLR MLR
comp=E,95μm,10.0s,MS6.9
MAK Makhachkala 29.77 354 *i*P **P** **08 36 58.1 +2.3**
comp=E,3μm,2.3s,mb6.5
KONT Konya--Tatoy 29.83 329 P **P** **08 36 55.7 -0.6**
YOZ Yozgat 29.83 335 P **P** **08 36 57.6 +1.3**
GRSN GIRESUNGRSN 29.84 340 *i*P **P** **08 36 58.0 +1.6**
DDI Dehra Dun 29.92 51 *ex* x 08 37 03.5
TOKT Tokat 29.92 337 P **P** **08 36 52.0 -5.2**
ANTB Antalya 29.95 325 P **P** **08 36 55.7 -1.7**
KSL Kastellorizon 30.03 323 *e*P **P** **08 36 59.9 +0.9**
AKAS Kas 30.08 323 *i*P **P** **08 36 58.4 -0.1**
CDAG Cicekdag 30.22 333 *i*P **P** **08 36 59.9 +0.2**
ELL Elmali 30.26 324 P **P** **08 37 01.7 +1.6**
KAMT Kaman 30.31 332 P **P** **08 37 02.2 +1.7**
KDHN Kadinhani 30.40 329 *i*P **P** **08 37 01.9 +0.6**
CORM Corum 30.57 334 P **P** **08 37 02.2 -0.7**
BRTR Keskin Array B 30.63 333 P **P** **08 37 04.3 +0.9**
comp=E,17nm,1.1s,mb4.8,baz=147,slow=8.1,SNR=56
BRTR LR LR 08 49 59.3
comp=E,43μm,21.4s,MS6.1,baz=136,slow=38
FETY Fethiye 30.66 323 P **P** **08 37 04.2 +0.6**
ISP Isparta 30.72 327 P **P** **08 37 03.8 -0.3**
ISP Isparta 30.72 327 *e*P **P** **08 37 03.6 -0.6**
KVT Kavak 30.77 337 P **P** **08 37 08.0 +3.4**
KVT Kavak 30.77 337 *e*P **P** **08 37 07.9 +3.3**
KIZT Kizilcal 30.79 329 P **P** **08 37 06.6 +1.8**
GOLH Golhisar 30.80 325 *i*P **P** **08 37 05.7 +0.8**
CTKT Corum 30.88 335 *i*P **P** **08 37 07.2 +1.7**
ARG Arkhangelos 30.94 322 *e*P **P** **08 37 10.6 +4.5**
ARG Arkhangelos 30.94 322 P **P** **08 37 06.9 +0.8**
TKTP Tekketepe 30.96 327 *i*P **P** **08 37 06.5 +0.2**
DALT Dalyan (Mudla) 31.01 323 P **P** **08 37 07.4 +0.7**
ALBI Allahabad 31.05 63 *e*P **P** **08 37 08.0 +0.9**
VIS Vishakhapatnam 31.10 78 *e*P **P** **08 37 06.7 -0.8**
VIS AMb AMB 08 37 23.6
comp=Z,232nm,1.5s,mb5.8
VIS *i* x x 08 41 09.3
ANTO Ankara 31.13 332 P **P** **08 37 10.7 +2.9**
ANTO Ankara 31.13 332⇓*i*P **P** **08 37 08.9 +1.1**
ANTO Ankara 31.13 332⇓*i*P **P** **08 37 08.4 +0.6**
SHUT Suhut-Afyon 31.22 327 P **P** **08 37 09.7 +1.1**
LGTI Lohaghat 31.23 54 *e*P **P** **08 37 07.7 -0.9**
PTH Pithoragarh 31.25 54 *e*P **P** **08 37 12.2 +3.4**
PTH *ex* x 08 43 08.4
ELDT Eldivan 31.35 333 *i*P **P** **08 37 10.6 +0.9**
CANT Cankiri 31.36 334 P **P** **08 37 10.6 +0.9**
DENT Denizli 31.46 325 P **P** **08 37 10.6 -0.1**
YER Yerkesik 31.47 323 P **P** **08 37 11.5 +0.8**
KIV Kislovodsk 31.47 348 *c*i*P **P** **08 37 10.9 +0.1**
KIV pmax pmax
comp=Z,336nm,1.7s,mb5.9
KIV MLR MLR
comp=Z,341μm,20.0s,MS7.0
KIV Kislovodsk 31.47 348 *e*P **P** **08 37 12.3 +1.5**
comp=Z,574nm,1.1s,mb6.3
KIV LR LR
comp=Z,86μm,20.0s,MS6.4
KIV Kislovodsk 31.47 348 *e*P **P** **08 37 12.3 +1.5**
comp=Z,574nm,1.1s,mb6.3
BOYT Boyabat 31.50 336 *i*P **P** **08 37 11.7 +0.6**
TOS Tosya 31.54 334 P **P** **08 37 13.1 +1.7**
DIKM Dikmen 31.56 337 P **P** **08 37 16.2 +4.7**
BYBT Boyabat 31.60 336 P **P** **08 37 12.5 +0.6**
KHL Karahalli 31.60 326 P **P** **08 37 12.5 +0.6**
DAT Datca 31.61 322 P **P** **08 37 12.8 +0.8**
XRY Khrisi 31.64 317 *e*P **P** **08 37 16.0 +3.8**
ESKT Eskisehir 31.79 329 P **P** **08 37 15.5 +1.9**
ESKT Eskisehir 31.79 329 *i*P **P** **08 37 14.2 +0.6**
SEYT Eskypehyr 31.79 329 *i*P **P** **08 37 14.2 +0.6**
SOC Sochi 31.82 344 *c*i*P **P** **08 37 11.4 -2.5**
SOC *e*PP pP 08 37 13.6 -2.8
SOC *e*SP sP 08 37 17.3 -0.2
SOC *e*PPP 08 38 17.1
SOC *i* S **S** **08 42 24.7 +0.3**
SOC *e*SSS 08 44 19.4
SOC pmax pmax
comp=Z,562nm,2.1s,mb6.0
SOC MLR MLR
comp=Z,173μm,21.0s,MS6.7
SOC Sochi 31.82 344 *i*P **P** **08 37 11.3 -2.6**
MLSB Milas 31.87 323 P **P** **08 37 16.2 +2.0**
OPO Ambohidratompo 31.91 188 P **P** **08 37 16.0 +1.4**
comp=Z,23nm,1.0s,mb5.0,baz=355,slow=7.4,SNR=19
BDRM Kayabasi 31.91 322 *i*P **P** **08 37 15.1 +0.4**
NPS Neapolis 31.92 318 *e*P **P** **08 37 16.3 +1.6**
LAST Lasithi 31.95 317 *e*P **P** **08 37 16.0 +1.0**
SGKT Sivrigoynuk 32.03 332 *i*P **P** **08 37 16.9 +1.2**
BALT Daday 32.22 334 *i*P **P** **08 37 18.1 +0.7**
BORA Eskisehir 32.27 329 *i*P **P** **08 37 18.5 +0.7**
SAFT Safranbolu 32.28 333 P **P** **08 37 18.9 +1.0**
BZK Bozkurt 32.32 335 P **P** **08 37 20.0 +1.7**
MDU Mudurnu 32.34 331 P **P** **08 37 17.1 -1.3**
SANT Santorini 32.69 319 *i*P **P** **08 37 23.0 +1.5**
SMG Samos 32.70 322 *e*P **P** **08 37 21.8 +0.2**
HENT Hendek 32.77 331 *i*P **P** **08 37 23.2 +1.0**
KDZE Karadeniz Ereo 32.90 332 P **P** **08 37 21.9 -1.5**
IZM Izmir 32.92 324 P **P** **08 37 25.1 +1.7**
KDAG Bornova 32.92 324 *i*P **P** **08 37 24.6 +1.2**
KDAG Bornova 32.92 324 *i*P **P** **08 37 24.6 +1.1**
AKS Akhisar 32.94 325 P **P** **08 37 20.0 -3.7**
VAM Vamos 32.94 317 *e*P **P** **08 37 24.3 +0.6**
BLCB Balcova 33.04 324 P **P** **08 37 25.8 +1.3**
ADVT Abdulvahap 33.04 329 P **P** **08 37 20.0 -4.6**
APE Apeiranthos 33.08 320 *e*P **P** **08 37 25.1 +0.2**
APE Apeiranthos 33.08 320 *e*P **P** **08 37 25.5 +0.6**
IZI Iznik 33.10 329 P **P** **08 37 27.9 +2.8**
KARN Karanos 33.13 316 *e*P **P** **08 37 25.3 0.0**
ULDT Uludag 33.13 328 *i*P **P** **08 37 26.2 +0.9**
OSMT Osmaniye 33.19 329 P **P** **08 37 22.6 -3.2**
URLA Izmir 33.28 323 *i*P **P** **08 37 27.4 +0.8**
GEMT Gemlik 33.32 328 P **P** **08 37 27.8 +0.8**
YLV Yalova 33.33 329 P **P** **08 37 27.8 +0.8**
KOLN Koldanda 33.34 59 *e*P **P** **08 37 26.8 -0.3**
comp=Z,2μm,1.3s,mb6.9
HRT Hereke 33.37 329 P **P** **08 37 28.2 +0.8**
BTOK Tokmak 33.44 326 *i*P **P** **08 37 28.9 +0.9**
ANN Anapa 33.59 342 *i*P **P** **08 37 28.7 -0.7**
ISK Istanbul-Kandi 33.86 329 P **P** **08 37 31.2 -0.5**
ISK Istanbul-Kandi 33.86 329 *e*P **P** **08 37 31.0 -0.6**
AYVA Ayvalik 33.86 324 *i*P **P** **08 37 33.2 +1.4**
KSH Kashi 33.98 35 P **P** **08 37 32.5 -0.2**
KSH AP pP 08 37 36.8 +1.5
KSH XP sP 08 37 39.3 +3.0
KSH PP PP 08 38 45.5 -4.0
KSH PCP PcP 08 40 11.3 +0.5
KSH S **S** **08 42 54.5 -3.3**
KSH SCP ScP 08 43 54.0 -1.8
KSH PCS PcS 08 43 56.0 -0.8
KSH SCS ScS 08 47 54.0 -3.7
KSH AMB AMB
comp=Z,9μm,3.0s
KSH LR LR
comp=N,248μm,13.1s,MS7.2
KSH LR LR
comp=E,120μm,12.7s,MS7.2
KSH LR LR
comp=Z,189μm,26.3s
KLYT Kilyos 34.01 329 P **P** **08 37 31.2 -1.8**
KKAR Karatay Array 34.01 25 *i*P **P** **08 37 33.5 +0.5**
KKAR pmax pmax
comp=Z,6μm,2.8s
KKAR Karatay Array 34.01 25 *i*P **P** **08 37 33.5 +0.5**
comp=Z,6μm,2.8s
PRK Paraskevi 34.06 324 *e*P **P** **08 37 34.5 +1.1**
KYTH Kithira 34.22 317 *e*P **P** **08 37 37.0 +2.2**
ELBA Catalca 34.24 328 *i*P **P** **08 37 34.4 -0.6**
ELBA Catalca 34.24 328 *i*P **P** **08 37 34.3 -0.7**
GKN Gorkha 34.28 59 *e*P **P** **08 37 34.5 -0.8**
comp=Z,2μm,1.3s,mb6.8
BOK Bokaro 34.28 67 *e*P **P** **08 37 36.1 +0.7**
BOK AMb AMB 08 37 47.8
comp=Z,528nm,1.6s,mb6.2
EZN Ezine 34.42 325 P **P** **08 37 34.9 -1.6**
VLI Veliai 34.53 318 *e*P **P** **08 37 35.3 -2.2**
DMN Daman 34.55 60 *e*P **P** **08 37 37.3 -0.4**
comp=Z,835nm,1.0s,mb6.6
RKY Sarkoy-Tekirda 34.56 327 P **P** **08 37 40.5 +2.8**
SART Tekirdag 34.56 327 *i*P **P** **08 37 37.2 -0.5**
BOZC Bozcaada 34.59 325 *i*P **P** **08 37 38.9 +0.9**
KVR Kavouri 34.65 320 *e*P **P** **08 37 39.0 +0.4**
AML Almayashu 34.68 30 P **P** **08 37 40.5 +1.7**
SNR=36
PTL Penteli 34.73 320 *e*P **P** **08 37 40.0 +0.8**
KKN Kakani 34.76 60 *e*P **P** **08 37 38.9 -0.6**
comp=Z,1μm,0.9s,mb6.8
KKN Kakani 34.76 60 *e*P **P** **08 37 38.9 -0.6**
KKN pmax pmax
comp=Z,1μm,0.9s,mb6.8
ATH Athens Observa 34.77 320 *e*P **P** **08 37 40.0 +0.4**
NAIG Nisos Aigina 34.79 320 *e*P **P** **08 37 40.0 +0.3**
PKI Pulchoki 34.80 61 *e*P **P** **08 37 39.5 -0.3**
comp=Z,881nm,1.1s,mb6.6
PKI Pulchoki 34.80 61 *e*P **P** **08 37 39.5 -0.3**
PKI pmax pmax
comp=Z,881nm,1.1s,mb6.6
SIM Simferopol' 34.82 338 *c*e*P **P** **08 37 40.4 +0.4**
SIM *e* 08 38 57.0
SIM *e*S **S** **08 43 16.3 +5.4**
SIM SS SS 08 45 41.9 0.0
SIM pmax pmax
comp=Z,2μm,12.0s
SIM Simferopol' **34.82 338** *i*P **P** **08 37 39.8 -0.2**
SIM Simferopol' **34.82 338** *e*P **P** **08 37 40.4 +0.4**
comp=Z,2μm,12.0s
SIM *e*S **S** **08 43 16.3 +5.4**
MGER Gerania Oros 35.07 320 *e*P **P** **08 37 43.0 +0.8**
EKS2 Erkin-Say 35.12 29 P **P** **08 37 44.3 +1.7**
SNR=41
LIA Limnos Island 35.12 324 *e*P **P** **08 37 38.8 -3.8**
ENEZ Enez 35.15 326 P **P** **08 37 44.3 +1.5**
UCH Uchtor 35.15 30 P **P** **08 37 44.9 +2.0**
SNR=56
LOS Limnos 35.20 324 *e*P **P** **08 37 45.2 +1.9**
GUN Gumba 35.30 60 *e*P **P** **08 37 43.2 -0.9**
comp=Z,2μm,1.2s
ALN Alexandroupoli 35.32 326 *e*P **P** **08 37 45.4 +1.1**
KZA Kyzart 35.41 31 P **P** **08 37 46.9 +1.8**
SNR=30
AAK Ala-Archa 35.45 30 P **P** **08 37 46.5 +1.1**
SNR=44
AAK Ala-Archa 35.45 30 *e*P **P** **08 37 45.5 +0.1**
comp=Z,2μm,1.8s,mb6.7
AAK LR LR
comp=Z,12μm,22.0s,MS5.6
AAK Ala-Archa 35.45 30 *e*P **P** **08 37 45.5 +0.1**
comp=Z,2μm,1.8s,mb6.7
ITM Ithomi 35.46 317 *e*P **P** **08 37 45.1 -0.4**
ITM Ithomi 35.46 317 P **P** **08 37 44.4 -1.1**
JIRN Jiri 35.49 61 *e*P **P** **08 37 44.9 -0.9**
comp=Z,1μm,1.1s,mb6.7
EDRB Edirne 35.61 328 P **P** **08 37 47.5 +0.7**
LKR Lokris 35.63 320 *e*P **P** **08 37 46.1 -0.9**
FRU Bishkek 35.66 30α*e*P **P** **08 37 47.0 -0.2**
FRU *e* 08 39 04.0
FRU *i* S **S** **08 43 31.0 +7.3**
FRU pmax pmax
comp=Z,3μm,2.5s,mb6.8
FRU pmax pmax
comp=Z,10μm,7.0s
FRU smax
comp=N,38μm,14.0s
KBK Karagaybulak 35.69 30 P **P** **08 37 49.5 +2.0**
SNR=39
RDO Rodhopi 35.77 326 *e*P **P** **08 37 49.1 +0.9**
RDO Rodhopi 35.77 326 P **P** **08 37 48.1 -0.1**
CHMS Chumysh 35.84 30 P **P** **08 37 50.0 +1.2**
SNR=17
USP Ospenovka 35.93 29 P **P** **08 37 50.0 +0.5**
SNR=32
ULHL Ulahol 36.04 32 P **P** **08 37 52.6 +2.1**
SNR=6.0
KDZ Kurdzhali 36.18 326 *e*P **P** **08 37 52.0 +0.3**
TKM2 Tokmak 2 36.20 31 P **P** **08 37 52.7 +0.9**
SNR=18
TKM2 Tokmak 2 36.20 31 P **P** **08 37 49.0 -2.9**
TKM2 pmax pmax
comp=Z,1μm,2.4s,mb6.5
TKM2 Tokmak 2 36.20 31 P **P** **08 37 49.0 -2.9**
comp=Z,1μm,2.4s,mb6.5
PSN Preselentsi 36.26 331 *e*P **P** **08 37 52.0 -0.4**

RLS	**Riolos of Patr**	**36.26**	**318**	*e*P	**P**	**08 37 52.9 +0.5**
PRD	**Provadia**	**36.27**	**330**	*e*P	**P**	**08 37 53.0 +0.5**
AGG	**Agios Georgios**	**36.27**	**320**	*e*P	**P**	**08 37 56.4 +3.9**
CAL	**Calcutta**	**36.28**	**70**	*e*P	**P**	**08 37 52.9 +0.3**
CAL				*ex*	x	08 43 43.2
CAL				AMP		08 51 49.0
	comp=Z,79μm,18.6s					
PLG	**Polygyros**	**36.44**	**323**	*e*P	**P**	**08 37 55.0 +1.1**
LSZ	**Lusaka**	**36.47**	**220**	LR	LR	08 53 27.6
	comp=Z,41μm,18.5s,MS6.2,baz=48,slow=37					
LSZ	**Lusaka**	**36.47**	**220**	⇓P	**P**	**08 37 56.0 +1.8**
	SNR=35					
LSZ	**Lusaka**	**36.47**	**220**	*e*P	**P**	**08 37 55.5 +1.3**
	comp=Z,556nm,1.8s,mb6.2					
LSZ				LR	LR	
	comp=Z,46μm,20.0s,MS6.2					
EVR	**Evrytania**	**36.54**	**320**	*e*P	**P**	**08 37 54.7 -0.1**
AB31	**Akbulak array**	**36.57**	**9**	*i* P	**P**	**08 37 54.5 -0.6**
AB31				pmax	pmax	
	comp=Z,1μm,1.2s,mb6.6					
AB31	**Akbulak array**	**36.57**	**9**	*i* P	**P**	**08 37 54.5 -0.6**
	comp=Z,1μm,1.2s,mb6.6					
RZN	**Rozhen**	**36.59**	**326**	*e*P	**P**	**08 37 55.0 -0.2**
TIRR	**Tirgusor**	**36.75**	**332**	*e*P	**P**	**08 37 56.8 +0.2**
	comp=Z,466nm,1.0s,mb6.3					
TIRR				*e*PP	PP	08 39 24.6 +4.5
TIRR	**Tirgusor**	**36.75**	**332**	⇓*i*P	**P**	**08 37 57.0 +0.4**
TIRR	**Tirgusor**	**36.75**	**332**	*e*PP	PP	08 39 24.6 +4.4
SOH	**Sokhos**	**36.78**	**323**	*e*P	**P**	**08 37 57.0 +0.2**
HORT	**Hortiatis**	**36.79**	**323**	*e*P	**P**	**08 37 56.4 -0.5**
LIT	**Litokhoron**	**36.84**	**322**	*e*P	**P**	**08 37 55.9 -1.4**
NVR	**Nevrokopi**	**36.84**	**325**	*e*P	**P**	**08 37 57.5 +0.2**
SRS	**Serrai**	**36.84**	**324**	*e*P	**P**	**08 37 58.2 +0.9**
PLD	**Plovdiv**	**36.88**	**326**	*e*P	**P**	**08 37 57.9 +0.2**
PLD	**Plovdiv**	**36.88**	**326**	*e*P	**P**	**08 37 58.0 +0.3**
THE	**Thessaloniki**	**36.89**	**325**	*e*P	**P**	**08 37 56.1 -1.6**
SZH	**Strazhica**	**37.05**	**329**	*e*P	**P**	**08 37 59.0 -0.1**
MMB	**Musomiste**	**37.07**	**325**	*e*P	**P**	**08 37 59.2 -0.1**
AAA	**Alma-Ata**	**37.13**	**32**	*i* P	**P**	**08 38 00.4 +0.6**
AAA				*i* S	**S**	**08 43 52.7 +6.4**
AAA				pmax	pmax	
	comp=Z,12μm,4.9s					
AAA				smax		
	comp=N,27μm,9.5s					
AAA				MLR	MLR	
	comp=Z,51μm,16.8s,MS6.4					
AAA	**Alma-Ata**	**37.13**	**32**	*i* P	**P**	**08 38 00.4 +0.6**
	comp=Z,12μm,4.9s					
AAA				*i* S	**S**	**08 43 52.7 +6.4**
	comp=Z,51μm,16.8s					
LKD	**Levkas**	**37.15**	**319**	*e*P	**P**	**08 37 59.9 -0.2**
LKD	**Levkas**	**37.15**	**319**	P	**P**	**08 37 59.8 -0.2**
KNT	**Kendrikon**	**37.26**	**324**	*e*P	**P**	**08 38 01.4 +0.4**
PVL	**Pavlikeni**	**37.32**	**328**	*e*P	**P**	**08 38 02.0 +0.6**
KZN	**Kozani**	**37.40**	**322**	*e*P	**P**	**08 38 01.5 -0.6**
MEV	**Metsovon**	**37.41**	**320**	*e*P	**P**	**08 38 02.5 +0.3**
GRG	**Griva**	**37.42**	**323**	*e*P	**P**	**08 38 02.4 +0.1**
AKTK	**Aktyubinsk**	**37.46**	**7**	P	**P**	**08 38 01.3 -1.3**
	comp=Z,143nm,2.0s,mb5.5					
AKTO	**Aktyubinsk**	**37.46**	**7**	LR	LR	08 56 44.3
	comp=Z,77μm,18.5s,MS6.5,baz=7.7,slow=42					
AKTO	**Aktyubinsk**	**37.46**	**7**	P	**P**	**08 38 01.3 -1.3**
AKTO				pmax	pmax	
	comp=Z,143nm,2.0s,mb5.5					
PGB	**Panagyurishte**	**37.47**	**326**	*e*P	**P**	**08 38 04.0 +1.3**
VAY	**Valandovo**	**37.56**	**323**	*e*P	**P**	**08 38 02.4 -1.0**
VAY	**Valandovo**	**37.56**	**323**	*e*P	**P**	**08 37 58.8 -4.7**
VAY	**Valandovo**	**37.56**	**323**	*e*P	**P**	**08 37 58.8 -4.7**
JAN	**Janina**	**37.57**	**320**	*e*P	**P**	**08 38 04.9 +1.3**
KKB	**Krupnik**	**37.62**	**325**	*e*P	**P**	**08 38 03.0 -0.9**
ZIMR		**37.62**	**329**	P	**P**	**08 38 05.9 +2.0**
BUC1	**Bucharest**	**37.79**	**330**	P	**P**	**08 38 06.9 +1.5**
IGT	**Igoumenitsa**	**37.83**	**319**	*e*P	**P**	**08 38 06.2 +0.5**
FNA	**Florina**	**37.92**	**322**	*e*P	**P**	**08 38 06.1 -0.4**
STIP	**Stip**	**38.02**	**324**	*e*P	**P**	**08 38 05.8 -1.5**
STIP	**Stip**	**38.02**	**324**	*e*P	**P**	**08 38 05.8 -1.5**
STIP	**Stip**	**38.02**	**324**	*e*P	**P**	**08 38 05.7 -1.6**
VTS	**Vitosha**	**38.02**	**326**	*e*P	**P**	**08 38 06.8 -0.6**
VTS	**Vitosha**	**38.02**	**326**	*e*P	**P**	**08 38 07.5 +0.1**
VTS	**Vitosha**	**38.02**	**326**	⇑*i*P	**P**	**08 38 08.3 +0.9**
BIA	**Bitola**	**38.10**	**322**	*e*P	**P**	**08 38 06.2 -1.8**
BIA	**Bitola**	**38.10**	**322**	*e*P	**P**	**08 38 06.2 -1.8**
BIA	**Bitola**	**38.10**	**322**	*e*P	**P**	**08 38 06.1 -1.9**
KEK	**Kerkira**	**38.27**	**319**	*e*P	**P**	**08 38 09.4 0.0**
ORR	**Orenburg**	**38.34**	**3**	*i* P	**P**	**08 38 09.0 -1.1**
ORR						08 39 42.7
ORR				S	**S**	**08 44 02.6 -2.1**
ORR				pmax	pmax	
	comp=Z,2μm,1.3s,mb6.7					
ORR				MLR	MLR	
	comp=Z,42μm,15.0s,MS6.4					
ORR	**Orenburg**	**38.34**	**3**	*i* P	**P**	**08 38 09.0 -1.1**
	comp=Z,2μm,1.3s,mb6.7					
ORR				S	**S**	**08 44 02.6 -2.1**
KRUS	**Krusevo**	**38.36**	**323**	*e*P	**P**	**08 38 09.5 -0.7**
OHR	**Ohrid**	**38.47**	**322**	*e*P	**P**	**08 38 09.5 -1.6**
OHR	**Ohrid**	**38.47**	**322**	*e*P	**P**	**08 38 07.0 -4.1**
OHR	**Ohrid**	**38.47**	**322**	*e*P	**P**	**08 38 07.0 -4.1**
VRHR	**Novokhopersk**	**38.54**	**350**	*e*P	**P**	**08 38 10.6 -1.1**
VRHR				*e*S	**S**	**08 44 06.9 -0.8**
VRHR				pmax	pmax	
	comp=Z,680nm,1.4s,mb6.2					
VRHR				pmax	pmax	
	comp=N,920nm,1.8s					
VRHR				pmax	pmax	
	comp=E,180nm,1.9s					
VRHR				smax		
	comp=N,3μm,4.5s					
VRHR				smax		
	comp=Z,2μm,5.3s					
VRHR				smax		
	comp=E,6μm,6.1s					
VRHR				MLR	MLR	
	comp=Z,117μm,21.0s,MS6.7					
VRHR				MLR	MLR	
	comp=N,114μm,22.0s,MS6.7					
VRHR				MLR	MLR	
	comp=E,35μm,18.0s,MS6.7					
VRHR	**Novokhopersk**	**38.54**	**350**	*e*P	**P**	**08 38 10.6 -1.1**
	comp=E,920nm,1.8s,mb6.2					
VRHR				*e*S	**S**	**08 44 06.9 -0.8**
	comp=E,114μm,22.0s					
KIS	**Kishinev**	**38.57**	**335**	*e*P	**P**	**08 38 10.0 -2.0**
KIS				*i*		08 39 44.0
KIS				*i* PPP		08 40 04.0
KIS				*i* S	**S**	**08 44 04.0 -4.1**
KIS				pmax	pmax	
	comp=N,2μm,2.4s					
KIS				pmax	pmax	
	comp=E,1μm,2.4s					
KIS				pmax	pmax	
	comp=Z,2μm,2.4s,mb6.5					
KIS				smax		
	comp=E,19μm,17.0s					
KIS				smax		
	comp=N,20μm,15.0s					
KIS	**Kishinev**	**38.57**	**335**	*e*P	**P**	**08 38 10.0 -2.0**
	comp=N,2μm,2.4s,mb6.5					
KIS	**Kishinev**	**38.57**	**335**	*i* PP	PP	08 39 44.0 +3.8
	comp=N,12μm,12.0s					
KIS	**Kishinev**	**38.57**	**335**	*i* PcP	PcP	08 40 14.0 -10
KIS				*i* S	**S**	**08 44 04.0 -4.1**
	comp=N,19μm,17.0s					
KIS				*e*SS	SS	08 46 58.0 +0.4
KIS				LRM		08 59 08.0
	comp=N,35μm,14.0s					
KIS	**Kishinev**	**38.57**	**335**	*e*P	**P**	**08 38 10.0 -2.0**
KIS				*i* S	**S**	**08 44 04.0 -4.1**
	comp=N,20μm,15.0s					
VRI	**Vrincioaia**	**38.59**	**332**	⇑*i*P	**P**	**08 38 12.5 +0.3**
VRI	**Vrincioaia**	**38.59**	**332**	P	**P**	**08 38 13.9 +1.7**
SKO	**Skopje**	**38.62**	**323**	*e*P	**P**	**08 38 09.1 -3.3**
SKO	**Skopje**	**38.62**	**323**	*e*P	**P**	**08 38 09.1 -3.3**
MLR	**Muntele Rosu**	**38.67**	**331**	⇑*i*P	**P**	**08 38 14.4 +1.6**
MLR	**Muntele Rosu**	**38.67**	**331**	P	**P**	**08 38 14.6 +1.8**
VORD	**Divnogorie**	**38.85**	**348**	*e*P	**P**	**08 38 12.9 -1.4**
VORD				pmax	pmax	
	comp=Z,90nm,0.9s,mb5.5					
VORD				pmax	pmax	
	comp=N,90nm,0.8s					
VORD				pmax	pmax	
	comp=E,50nm,1.0s					
VORD				MLR	MLR	
	comp=N,58μm,22.0s,MS6.5					
VORD				MLR	MLR	
	comp=E,52μm,17.0s,MS6.5					
VORD	**Divnogorie**	**38.85**	**348**	*e*P	**P**	**08 38 12.9 -1.4**
	comp=E,58μm,22.0s					
BARS	**Barje**	**38.94**	**325**	⇓*i*P	**P**	**08 38 15.4 +0.3**
VOIR		**39.06**	**330**	⇓*i*P	**P**	**08 38 16.9 +0.8**
AGT	**Agartala**	**39.13**	**68**	*i* P	**P**	**08 38 22.0 +5.3**
AGT				*i* x	x	08 39 22.0
LCI	**Lecce**	**39.69**	**319**	P	**P**	**08 38 23.8 +2.5**
LCI				pmax	pmax	
	comp=Z,594nm,1.7s,mb6.0					
LCI	**Lecce**	**39.69**	**319**	P	**P**	**08 38 23.8 +2.5**
	comp=Z,594nm,1.7s,mb6.0					
DJES	**Djerdap**	**39.76**	**327**	⇓*i*P	**P**	**08 38 21.6 -0.3**
PVY	**Plav**	**39.86**	**323**	⇑*i*P	**P**	**08 38 23.0 +0.2**
ULC	**Ulcinj**	**39.91**	**322**	⇑*i*P	**P**	**08 38 25.7 +2.5**
SHL	**Shillong**	**39.97**	**66**	*e*P	**P**	**08 38 22.0 -1.7**
SHL				*e*S	**S**	**08 44 27.0 -2.2**
IVA	**Berane**	**40.08**	**323**	⇑*i*P	**P**	**08 38 23.6 -1.0**
IVA	**Berane**	**40.08**	**323**	⇑*i*P	**P**	**08 38 23.5 -1.1**
GZR	**Gura Zlata**	**40.16**	**328**	P	**P**	**08 38 26.6 +1.4**
TTG	**Podgorica**	**40.18**	**322**	⇑*i*P	**P**	**08 38 30.5 +5.1**
SCLL	**Scilla**	**40.22**	**315**	P	**P**	**08 38 27.4 +1.6**
	comp=Z,410nm,1.7s,mb5.9					
SVIS	**Svilajnac**	**40.24**	**326**	⇑*i*P	**P**	**08 38 24.5 -1.3**
LSA	**Lhasa**	**40.24**	**60**	*e*P	**P**	**08 38 25.5 -0.4**
LSA				*e*PP	pP	08 38 30.7 +2.2
LSA				pmax	pmax	
	comp=Z,193nm,1.3s,mb5.7					
LSA				MLR	MLR	
	comp=Z,42μm,20.0s,MS6.3					
LSA	**Lhasa**	**40.24**	**60**	*e*P	**P**	**08 38 25.5 -0.4**
	comp=Z,192nm,1.3s,mb5.7					
LSA				*e*pP	pP	08 38 30.7 +2.2
LSA				LR	LR	
	comp=Z,42μm,20.0s,MS6.3					
LSA	**Lhasa**	**40.24**	**60**	*e*P	**P**	**08 38 25.5 -0.4**
	comp=Z,192nm,1.3s,mb5.7					
LSA				*e*pP	pP	08 38 30.7 +2.2
GRUS	**Gruza**	**40.25**	**325**	⇑*i*P	**P**	**08 38 25.1 -0.9**
HMDC	**Modica**	**40.28**	**312**	P	**P**	**08 38 27.1 +0.8**
SJES	**Sjenica**	**40.30**	**324**	P	**P**	**08 38 24.9 -1.5**
BUM	**Brajici-Budva**	**40.32**	**322**	⇑*i*P	**P**	**08 38 29.4 +2.8**
MATP	**Matopo**	**40.33**	**214**	LR	LR	08 56 38.2
	comp=Z,28μm,18.6s,MS6.2,baz=46,slow=38					
PBA	**Port Blair**	**40.41**	**88**	*e*P	**P**	**08 38 26.6 -0.7**
PBA				*ex*	x	08 38 43.0
	comp=Z,828nm,1.6s					
PBA				*ex*	x	08 44 46.0
NKY	**Niksic**	**40.57**	**323**	⇑*i*P	**P**	**08 38 31.4 +2.8**
BURAR	**Bucovina Array**	**40.59**	**333**	P	**P**	**08 38 30.6 +1.8**
BURAR	**Bucovina Array**	**40.59**	**333**	⇓*i*P	**P**	**08 38 30.1 +1.2**
BURAR	**Bucovina Array**	**40.59**	**333**	P	**P**	**08 38 30.5 +1.6**
HCY	**Herceg Novi**	**40.65**	**322**	⇑*i*P	**P**	**08 38 30.9 +1.6**
PLE	**Pljevlja**	**40.65**	**324**	⇑*i*P	**P**	**08 38 25.2 -4.1**
VAE	**Valguarnera**	**40.78**	**313**	LR	LR	08 55 21.3
	comp=Z,18μm,18.6s,MS6.0,baz=339,slow=36					
KMPD	**K-Podol'skiy**	**40.78**	**335**	P	**P**	**08 38 29.0 -1.4**
DIVS	**Divcibare**	**40.79**	**325**	⇑*i*P	**P**	**08 38 30.2 -0.2**
UPM	**Unac-Piva**	**40.85**	**323**	⇑*i*P	**P**	**08 38 31.2 +0.2**
BRY	**Bratogost**	**40.89**	**323**	⇑*i*P	**P**	**08 38 32.0 +0.7**
BZS	**Buzias**	**40.90**	**328**	⇑*i*P	**P**	**08 38 31.1 -0.3**
BZS	**Buzias**	**40.90**	**328**	P	**P**	**08 38 31.8 +0.4**
BBLS	**Bajina Basta -**	**40.97**	**324**	⇑*i*P	**P**	**08 38 32.0 0.0**
BEO	**Belgrade**	**40.99**	**326**	⇑*i*P	**P**	**08 38 30.7 -1.4**
DRGR		**41.16**	**330**	⇑*i*P	**P**	**08 38 27.6 -5.9**
DRGR		**41.16**	**330**	P	**P**	**08 38 34.5 +1.0**
CSLB	**Castelbuono**	**41.23**	**313**	P	**P**	**08 38 35.3 +1.2**
	comp=Z,164nm,1.2s,mb5.5					
STON	**Ston**	**41.37**	**322**	*i* P	**P**	**08 38 34.5 -0.7**
AKASG	**Malin Array Be**	**41.45**	**339**	P	**P**	**08 38 35.4 -0.5**
	comp=Z,44nm,0.9s,mb5.1,baz=148,slow=7.1,SNR=180					
AKASG				PP	PP	08 40 18.3 +6.8
	comp=Z,59nm,0.8s,baz=142,slow=8.8,SNR=13					
AKASG				S	**S**	**08 44 56.4 +5.3**
	comp=Z,1.7nm,0.8s,baz=156,slow=14,SNR=5.6					
AKASG				LR	LR	08 58 04.9
	comp=Z,41μm,21.2s,MS6.3,baz=140,slow=40					
AKASG	**Malin Array Be**	**41.45**	**339**	P	**P**	**08 38 35.4 -0.5**
AKASG						08 40 18.3
AKASG				S	**S**	**08 44 56.4 +5.2**
AKASG	**Malin Array Be**	**41.45**	**339**	P	**P**	**08 38 35.4 -0.5**
AKASG				PP	PP	08 40 18.3 +6.8
AKASG				S	**S**	**08 44 56.4 +5.3**
AKASG				LR	LR	08 58 04.9
AKASG	**Malin Array Be**	**41.45**	**339**	PP	PP	08 40 18.3 +6.8
AKASG				S	**S**	**08 44 56.4 +5.2**
KIEV	**Kiev**	**41.45**	**339**	*e*P	**P**	**08 38 34.7 -1.2**
	comp=Z,556nm,1.1s,mb6.1					
KIEV				*e*PP	PP	08 40 17.4 +5.9
KIEV				LR	LR	
	comp=Z,41μm,22.0s,MS6.3					
KIEV	**Kiev**	**41.45**	**339**	*e*P	**P**	**08 38 34.7 -1.2**
	comp=Z,556nm,1.1s,mb6.1					
KIEV	**Kiev**	**41.45**	**339**	*e*PP	PP	08 40 17.4 +5.9
CLTB	**Caltabellotta**	**41.68**	**312**	P	**P**	**08 38 38.7 +0.9**
IMP	**Imphal**	**41.69**	**68**	*e*P	**P**	**08 38 39.0 +1.2**
IMP				*ex*	x	08 41 44.0
RGNG	**Rignano Grg**	**42.02**	**319**	P	**P**	**08 38 42.0 +1.4**
USI	**Ustica**	**42.20**	**314**	P	**P**	**08 38 42.1 +0.1**
MKAR	**Makanchi Array**	**42.30**	**32**	P	**P**	**08 38 42.6 -0.3**
	comp=Z,20nm,0.6s,mb5.0,baz=218,slow=9.2,SNR=116					
MKAR				S	**S**	**08 45 05.1 +1.2**
	comp=Z,1.7nm,0.9s,baz=287,slow=18,SNR=2.3					
MKAR				LR	LR	08 58 29.1
	comp=Z,36μm,18.4s,MS6.3,baz=232,slow=39					
MKAR	**Makanchi Array**	**42.30**	**32**	P	**P**	**08 38 42.6 -0.3**
MKAR				S	**S**	**08 45 05.1 +1.2**
MK31	**Makanchi Array**	**42.31**	**32**	*e*P	**P**	**08 38 42.2 -0.7**
MK31	**Makanchi Array**	**42.31**	**32**	*e*P	**P**	**08 38 42.2 -0.7**
BRVK	**Borovoye**	**42.46**	**17**	*e*P	**P**	**08 38 43.2 -1.0**
	comp=Z,299nm,1.1s,mb5.8					
BRVK				*e*PP	PP	08 40 23.3 +0.9
BRVK				LR	LR	
	comp=Z,14μm,21.0s,MS5.8					
BRVK	**Borovoye**	**42.46**	**17**	*e*P	**P**	**08 38 44.2 +0.1**
BRVK	**Borovoye**	**42.46**	**17**	*e*PP	PP	08 40 23.3 +0.9
BVA0	**Borovoye Array**	**42.46**	**17**	*e*P	**P**	**08 38 42.6 -1.5**
BVA0				pmax	pmax	
	comp=Z,339nm,2.4s,mb5.5					
BVA0	**Borovoye Array**	**42.46**	**17**	*e*P	**P**	**08 38 42.6 -1.5**
	comp=Z,339nm,2.4s,mb5.5					
BVAR	**Borovoye Array**	**42.46**	**17**	LR	LR	08 58 27.2
	comp=Z,50μm,20.9s,MS6.4,baz=190,slow=39					
BVAR				PKPPKP		09 10 48.7
	comp=Z,1.6nm,1.0s,baz=169,slow=2.3,SNR=3.7					
UZH	**Uzhgorod**	**42.67**	**332**	⇓*i*P	**P**	**08 38 45.6 -0.3**
UZH				*i*		08 40 29.0
UZH				*i* S	**S**	**08 45 09.0 -0.2**
UZH				MLR	MLR	
	comp=Z,23μm,19.0s,MS6.1					
UZH	**Uzhgorod**	**42.67**	**332**	*i* P	**P**	**08 38 45.5 -0.4**
UZH	**Uzhgorod**	**42.67**	**332**	*i* P	**P**	**08 38 45.6 -0.3**
UZH				*i* S	**S**	**08 45 09.0 -0.2**
	comp=Z,23μm,19.0s					
LVV	**L'vov**	**42.77**	**334**	⇓*i*P	**P**	**08 38 46.1 -0.6**
LVV				*i*		08 40 32.7
LVV				*i*		08 41 06.9
LVV				*i* S	**S**	**08 45 09.7 -1.0**
LVV	**L'vov**	**42.77**	**334**	*i* P	**P**	**08 38 46.3 -0.4**
LVV				*i* S	**S**	**08 45 09.7 -1.0**
MIDA	**Miranda**	**42.86**	**318**	P	**P**	**08 38 47.9 +0.5**
PKSM	**Moragy**	**42.86**	**327**	P	**P**	**08 38 47.6 +0.2**
PKSM	**Moragy**	**42.86**	**327**	⇑*e*P	**P**	**08 38 47.4 0.0**
RFI	**Roccamonfina**	**42.87**	**318**	P	**P**	**08 38 48.9 +1.5**
	comp=Z,139nm,1.9s,mb5.4					
RHK3	**Tenkes**	**42.87**	**326**	⇓*e*P	**P**	**08 38 47.8 +0.3**
KOLS	**Kolonicke sedl**	**42.90**	**332**	*e*P	**P**	**08 38 48.1 +0.4**
KOLS				*e*		08 40 30.0
KOLS				*e*S	**S**	**08 45 20.3 +7.7**
KOLS	**Kolonicke sedl**	**42.90**	**332**	*e*P	**P**	**08 38 48.1 +0.4**
KOLS				*e*PP	PP	08 40 30.0 +2.8
KOLS				*e*S	**S**	**08 45 20.3 +7.7**
KOLS				*e*SS	SS	08 48 27.4 +3.5
KWP	**Kalwaria**	**43.21**	**333**	*e*P	**P**	**08 38 49.9 -0.3**
KWP				*e*pP	pP	08 38 53.0 +0.2
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*sS	sS	08 45 20.8 -0.6
KWP				*e*SS	SS	08 48 40.4 +10
KWP				L		08 55 33.9
	comp=Z,66nm,29.0s					
KWP	**Kalwaria**	**43.21**	**333**	*e*P	**P**	**08 38 49.9 -0.3**
KWP				*e*PP	pP	08 38 53.0 +0.2
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*SS	SS	08 48 40.4 +10
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*SS	SS	08 48 40.4 +10
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*SS	SS	08 48 40.4 +10
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*SS	SS	08 48 40.4 +10
KWP	**Kalwaria**	**43.21**	**333**	*e*P	**P**	**08 38 49.9 -0.3**
KWP				*e*pP	pP	08 38 53.0 +0.2
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*SS	SS	08 48 40.4 +10
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*SS	SS	08 48 40.4 +10
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*SS	SS	08 48 40.4 +10
KWP	**Kalwaria**	**43.21**	**333**	*e*P	**P**	**08 38 49.9 -0.3**
KWP				*e*pP	pP	08 38 53.0 +0.2
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*sS	sS	08 45 20.8 -0.6
KWP				*e*SS	SS	08 48 40.4 +10
KWP				*e*S	**S**	**08 45 15.9 -1.2**
KWP				*e*ScS	ScS	08 48 40.4 -11
CRVS	**Cervenica-Dubn**	**43.25**	**331**	*e*P	**P**	**08 38 51.4 +0.8**
CRVS				*e*		08 40 36.0
CRVS				*e*S	**S**	**08 45 18.9 +1.1**
CRVS	**Cervenica-Dubn**	**43.25**	**331**	*e*P	**P**	**08 38 51.4 +0.8**
CRVS				*e*PP	PP	08 40 36.0 +5.0
CRVS				*e*S	**S**	**08 45 18.9 +1.1**
CRVS				*e*SS	SS	08 48 34.9 +4.1
CRVS	**Cervenica-Dubn**	**43.25**	**331**	*e*PcP	PcP	08 40 36.0 -3.7
CRVS				*e*S	**S**	**08 45 18.9 +1.1**
OBN	**Obninsk**	**43.32**	**348**	*c i*P	**P**	**08 38 50.1 -1.0**
OBN				*i*		08 40 32.3
OBN				*i*		08 40 37.2
OBN				*i* S	**S**	**08 45 21.4 +2.7**
OBN				pmax	pmax	
	comp=Z,6μm,2.6s,mb6.8					
OBN				pmax	pmax	
	comp=Z,743nm,1.4s,mb6.2					
OBN				MLR	MLR	
	comp=Z,136μm,19.0s,MS6.9					
OBN	**Obninsk**	**43.32**	**348**	*e*P	**P**	**08 38 51.1 0.0**
	comp=Z,703nm,1.1s,mb6.3					
OBN				*e*		08 40 36.4
OBN				LR	LR	
	comp=Z,35μm,20.0s,MS6.3					
OBN	**Obninsk**	**43.32**	**348**	*e*P	**P**	**08 38 51.1 0.0**
OBN	**Obninsk**	**43.32**	**348**	*i* PcP	PcP	08 40 37.2 -2.7
OBN				*i* S	**S**	**08 45 21.4 +2.7**
	comp=Z,36μm,19.0s					
PECR	**Pechory**	**43.32**	**354**	*d i*P	**P**	**08 38 50.0 -1.1**
PECR				*e*		08 40 36.0
PECR				pmax	pmax	
	comp=Z,22μm,10.0s					
PECR				pmax	pmax	
	comp=N,5μm,5.0s					
PECR				pmax	pmax	
	comp=E,2μm,6.0s					
PECR				MLR	MLR	
	comp=N,45μm,17.0s,MS6.5					
PECR				MLR	MLR	
	comp=E,34μm,18.0s,MS6.5					
PECR	**Pechory**	**43.32**	**354**	*i* P	**P**	**08 38 50.0 -1.1**
	comp=E,5μm,5.0s					
PSZ	**Piszkesteto**	**43.33**	**329**	⇑*i*P	**P**	**08 38 50.7 -0.5**
PSZ	**Piszkesteto**	**43.33**	**329**	⇑*e*P	**P**	**08 38 50.8 -0.4**
ARU	**Arti**	**43.42**	**6**	*c i*P	**P**	**08 38 50.8 -1.2**
ARU				pmax	pmax	
	comp=Z,247nm,2.5s,mb5.5					
ARU	**Arti**	**43.42**	**6**	*e*P	**P**	**08 38 51.0 -1.0**
	comp=Z,201nm,0.9s,mb5.8					
ARU				*e*		08 40 37.9
ARU				LR	LR	
	comp=Z,18μm,21.0s,MS6.0					
ARU	**Arti**	**43.42**	**6**	*e*P	**P**	**08 38 51.0 -1.0**
KECS	**Kecovo**	**43.42**	**330**	*e*P	**P**	**08 38 52.0 0.0**
KECS				pmax	pmax	
	comp=Z,50nm,1.2s,mb5.1					
KECS	**Kecovo**	**43.42**	**330**	*e*P	**P**	**08 38 52.0 0.0**
	comp=Z,50nm,1.2s,mb5.1					
KECS				*e*PP	PP	08 40 40.0 +7.2
KECS				*e*S	**S**	**08 45 23.5 +3.2**
KURK	**Kurchatov**	**43.42**	**25**	*e*P	**P**	**08 38 51.0 -1.0**
	comp=Z,197nm,1.1s,mb5.8					
KURK				LR	LR	
	comp=Z,14μm,20.0s,MS5.9					
KURK	**Kurchatov**	**43.42**	**25**	*e*P	**P**	**08 38 51.0 -1.0**
	comp=Z,197nm,1.1s,mb5.8					
BUD	**Budapest**	**43.48**	**328**	⇑*e*P	**P**	**08 38 52.6 +0.2**
WMQ	**Urumqi**	**43.52**	**39**	P	**P**	**08 38 52.8 0.0**
WMQ				PP	PP	08 40 35.8 +1.9
WMQ				PCP	PcP	08 40 43.0 +2.4
WMQ				SCP	ScP	08 44 32.8 +0.5
WMQ				PCS	PcS	08 44 33.8 +0.5
WMQ				S	**S**	**08 45 18.8 -2.9**
WMQ				SCS	ScS	08 48 50.8 -2.1
WMQ				AMB	AMB	
	comp=Z,393nm,1.4s,mb6.0					
WMQ				AMB	AMB	
	comp=Z,11μm,5.6s					
WMQ				LR	LR	
	comp=N,35μm,20.0s,MS6.3					
WMQ				LR	LR	
	comp=E,22μm,19.0s

NIE	**Niedzica**	**44.15 331**	*e*P	**P**	**08 38 58.5**	**+0.7**
NIE			*e*PP	PP	08 40 47.2	+6.6
NIE	**Niedzica**	**44.15 331**	*e*PcP	PcP	08 40 47.2	+4.5
VYHS	**Vyhne**	**44.24 329**	*e*P	**P**	**08 38 57.9**	**-0.6**
VYHS			*e*PP	PP	08 40 40.2	-1.4
VYHS			*e*S	**S**	**08 45 36.2**	**+4.0**
VYHS			*e*SS	SS	08 49 00.1	+10
VYHS	**Vyhne**	**44.24 329**	*e*P	**P**	**08 38 57.9**	**-0.6**
	comp=Z,5μm,5.1s					
VYHS			*e*PP	PP	08 40 40.2	-1.4
VYHS			*e*S	**S**	**08 45 36.2**	**+4.0**
VYHS			*e*SS	SS	08 49 00.2	+10
VYHS			LR	LR		
	comp=Z,32μm,32.9s,MS6.0					
VYHS	**Vyhne**	**44.24 329**	*e*P	**P**	**08 38 57.9**	**-0.6**
	comp=Z,5μm,5.1s					
VYHS	**Vyhne**	**44.24 329**	*e*PP	PP	08 40 40.2	-1.4
KOGS	**Kog**	**44.31 325**	P	**P**	**08 39 00.2**	**+1.1**
BOJS	**Bojanci**	**44.33 324**	*e*P	**P**	**08 38 59.2**	**0.0**
BOJS			*e*PP	PP	08 40 54.0	+11
BOJS			*e*S	**S**	**08 45 38.3**	**+4.8**
CRES	**Cresnjev**	**44.40 324**	P	**P**	**08 39 00.9**	**+1.1**
CING	**Cingoli**	**44.41 320**	P	**P**	**08 39 00.3**	**+0.4**
TOLF	**Tolfa**	**44.53 318**	P	**P**	**08 39 01.1**	**+0.2**
MURB	**Monte Urbino**	**44.78 319**	P	**P**	**08 39 03.0**	**+0.2**
SOP	**Sopron**	**44.90 327**	P	**P**	**08 39 02.8**	**-1.0**
SOP			*e*		08 39 07.5	
SOP	**Sopron**	**44.90 327⇑**	*e*P	**P**	**08 39 07.5**	**+3.7**
ZST	**Bratislava**	**44.93 328**	*e*P	**P**	**08 39 04.2**	**+0.2**
ZST			*e*PP	PP	08 40 54.7	+5.8
ZST			*e*S	**S**	**08 45 49.2**	**+6.9**
ZST	**Bratislava**	**44.93 328**	*e*P	**P**	**08 39 04.2**	**+0.2**
	comp=Z,113nm,1.3s,mb5.5					
ZST			*e*PP	PP	08 40 54.7	+5.8
ZST			*e*S	**S**	**08 45 49.3**	**+7.0**
ZST			LR	LR		
	comp=Z,15μm,28.8s,MS5.8					
ZST	**Bratislava**	**44.93 328**	*e*P	**P**	**08 39 04.2**	**+0.2**
	comp=Z,113nm,1.3s,mb5.5					
ZST	**Bratislava**	**44.93 328**	*e*PP	PP	08 40 54.7	+5.8
ZST			*e*S	**S**	**08 45 49.3**	**+7.0**
OJC	**Ojcow**	**44.95 332**	*e*P	**P**	**08 39 03.1**	**-1.1**
OJC			*e*pP	pP	08 39 06.8	0.0
OJC			*e*PP	PP	08 40 52.8	+3.7
OJC			*e*S	**S**	**08 45 43.8**	**+1.3**
OJC			*e*SS	SS	08 49 09.1	+5.2
OJC			L		08 59 16.9	
	comp=Z,163nm,20.6s					
OJC	**Ojcow**	**44.95 332⇑**	*e*P	**P**	**08 39 03.1**	**-1.1**
OJC			*e**PP	pP	08 39 06.8	0.0
OJC			*e*		08 40 52.8	
OJC			*e*S	**S**	**08 45 43.8**	**+1.3**
OJC			MLR	MLR		
	comp=Z,163μm,20.6s,MS6.9					
OJC	**Ojcow**	**44.95 332⇑**	*e*P	**P**	**08 39 03.1**	**-1.1**
OJC			*e*pP	pP	08 39 06.8	0.0
OJC			*e*S	**S**	**08 45 43.8**	**+1.3**
	comp=Z,63μm,20.6s					
OJC			*e*SS	SS	08 49 09.1	+5.2
LJU	**Ljubljana**	**45.05 324**	*e*P	**P**	**08 39 04.9**	**-0.1**
LJU			*e*	pP	08 39 09.0	+1.4
LJU			*e*S	**S**	**08 45 49.2**	**+5.2**
PERS	**Pernice**	**45.06 325**	*i* P	**P**	**08 39 05.0**	**-0.1**
JAVC	**Velka Javorina**	**45.06 329**	P	**P**	**08 39 05.8**	**+0.7**
MNK	**Minsk**	**45.09 341**	*e*P	**P**	**08 39 00.0**	**-5.3**
MNK			*e*		08 40 50.0	
MNK			*e*S	**S**	**08 45 38.0**	**-6.6**
MNK			*e*SS	SS	08 49 00.0	-6.6
MNK			pmax	pmax		
	comp=E,540nm,1.8s					
MNK			pmax	pmax		
	comp=N,640nm,1.0s					
MNK			pmax	pmax		
	comp=Z,950nm,1.0s,mb6.6					
MNK			smax			
	comp=E,19μm,18.0s					
MNK			smax			
	comp=N,57μm,16.0s					
MNK			MLR	MLR		
	comp=Z,171μm,20.0s,MS7.0					
MNK			MLR	MLR		
	comp=E,152μm,16.0s,MS7.1					
MNK			MLR	MLR		
	comp=N,84μm,16.0s,MS7.1					
MNK	**Minsk**	**45.09 341**	*e*P	**P**	**08 39 00.0**	**-5.3**
	comp=N,950nm,1.0s,mb6.6					
MNK			*e*S	**S**	**08 45 38.0**	**-6.6**
	comp=N,71μm,20.0s					
MNK			*e*ScS	ScS	08 49 00.0	-2.8
	comp=N,84μm,16.0s					
ARSA	**Arzberg**	**45.19 326⇑**	*i*P	**P**	**08 39 06.4**	**+0.2**
	comp=N,170nm,1.4s,mb5.7,SNR=23					
VSL	**Villasalto**	**45.21 313**	P	**P**	**08 39 06.3**	**0.0**
OBKA	**Obir**	**45.30 324⇑**	*i*P	**P**	**08 39 07.2**	**+0.2**
	comp=N,328nm,1.5s,mb5.9,SNR=29					
DGI	**Dorgali Grotta**	**45.38 314**	P	**P**	**08 39 07.8**	**+0.2**
VOY	**Vojsko**	**45.41 323**	*e*P	**P**	**08 39 07.0**	**-0.8**
VOY			*e*		08 39 12.8	
VOY			*e*		08 39 25.2	
CONA	**Conrad Observa**	**45.42 327⇓**	*i*P	**P**	**08 39 07.9**	**0.0**
	comp=N,153nm,1.1s,mb5.8,SNR=23					
ABSA	**Djebel Ababsia**	**45.45 308**	P	**P**	**08 39 11.0**	**+2.8**
OKC	**Ostrava-Krasne**	**45.47 330⇓**	*i*P	**P**	**08 39 08.0**	**-0.3**
OKC			*e*PP	PP	08 40 57.9	+3.2
OKC			*e*S	**S**	**08 45 56.3**	**+6.2**
OKC			AMS	AMS	08 59 40.0	
	comp=N,37μm,24.1s					
OKC	**Ostrava-Krasne**	**45.47 330⇓**	*i*P	**P**	**08 39 08.0**	**-0.3**
OKC			*e*PP	PP	08 40 57.9	+3.2
OKC			*e*S	**S**	**08 45 56.3**	**+6.2**
LBTB	**Lobatse**	**45.60 213**	LR	LR	09 00 51.9	
	comp=N,13μm,18.6s,MS5.9,baz=53,slow=40					
LBTB	**Lobatse**	**45.60 213**	P	**P**	**08 39 11.5**	**+2.1**
LBTB			pmax	pmax		
	comp=Z,270nm,0.9s,mb6.2					
LBTB	**Lobatse**	**45.60 213**	*e*P	**P**	**08 39 11.2**	**+1.9**
	comp=Z,274nm,0.9s,mb6.2					
LBTB			LR	LR		
	comp=Z,15μm,20.0s,MS5.9					
LBTB	**Lobatse**	**45.60 213**	P	**P**	**08 39 11.5**	**+2.1**
	comp=Z,270nm,0.9s,mb6.2					
RAC	**Raciborz**	**45.61 330**	*e*P	**P**	**08 39 09.1**	**-0.3**
RAC			MLR	MLR		
	comp=Z,50μm,22.0s,MS6.4					
RAC			MLR	MLR		
	comp=E,54μm,22.8s					
CMAH	**Djebel Manchou**	**45.61 309**	P	**P**	**08 39 11.0**	**+1.5**
MORC	**Moravsky Berou**	**45.73 330**	P	**P**	**08 39 10.5**	**+0.2**
ROBS	**Robic**	**45.75 324**	*i* P	**P**	**08 39 09.5**	**-1.0**
ROBS			*e*	pP	08 39 13.5	+0.3
WAR	**Warsaw**	**45.84 334**	*e*P	**P**	**08 39 12.3**	**+1.0**
WAR			*e*pP	pP	08 39 15.0	+1.1
WAR			*e*PP	PP	08 41 05.1	+6.5
WAR			*e*S	**S**	**08 45 51.3**	**-4.1**
WAR			*e*sS	sS	08 46 00.2	+0.5
WAR			*e*SS	SS	08 49 20.9	+1.0
WAR			L		08 59 30.9	
	comp=Z,33nm,23.0s					
WAR	**Warsaw**	**45.84 334**	*e*P	**P**	**08 39 12.3**	**+1.0**
WAR			*e**PP	pP	08 39 15.0	+1.1
WAR			*e*		08 41 05.1	
WAR			*e*S	**S**	**08 45 51.3**	**-4.1**
WAR			*e**SS	sS	08 46 00.2	+0.5
WAR			MLR	MLR		
	comp=Z,33μm,23.0s,MS6.2					
WAR	**Warsaw**	**45.84 334**	*e*P	**P**	**08 39 12.3**	**+1.0**
WAR			*e*pP	pP	08 39 15.0	+1.1
WAR			*e*S	**S**	**08 45 51.3**	**-4.1**
VRAC	**Vranov**	**45.90 329⇑**	*i*P	**P**	**08 39 11.1**	**-0.6**
VRAC	**Vranov**	**45.90 329**	P	**P**	**08 39 11.6**	**-0.1**
GMNA	**Gemona**	**45.92 323**	P	**P**	**08 39 12.5**	**+0.6**
	comp=Z,380nm,0.9s,mb6.3					
PTCC	**Patocco-Chiusa**	**45.93 324**	P	**P**	**08 39 10.9**	**-1.1**
	comp=Z,133nm,0.9s,mb5.9					
CHG	**Chiang Mai**	**45.96 77**	⇑P	**P**	**08 39 11.4**	**-0.8**
	comp=Z,134nm,1.2s,mb5.8					
CHTO	**Chiang Mai**	**45.96 77**	*e*P	**P**	**08 39 11.5**	**-0.7**
	comp=Z,159nm,1.3s,mb5.8					
CHTO			LR	LR		
	comp=Z,15μm,22.0s,MS5.9					
CHTO	**Chiang Mai**	**45.96 77**	*e*P	**P**	**08 39 11.5**	**-0.7**
	comp=Z,159nm,1.3s,mb5.8					
CM31	**Chiang Mai Arr**	**45.96 77**	*e*P	**P**	**08 39 12.0**	**-0.2**
	comp=Z,235nm,0.9s,mb6.1					
CM31			LR	LR		
	comp=Z,17μm,19.0s,MS6.0					
CM31	**Chiang Mai Arr**	**45.96 77**	*e*P	**P**	**08 39 12.0**	**-0.2**
	comp=Z,235nm,0.9s,mb6.1					
CKFL	**Kef-Lekhel**	**46.08 308**	P	**P**	**08 39 15.0**	**+1.9**
CAEH	**'Ain El Ouahch**	**46.10 309**	P	**P**	**08 39 14.5**	**+1.2**
FNVD	**Fontana Vidola**	**46.11 320**	P	**P**	**08 39 14.1**	**+0.7**
FIU	**Minerbio Fiu**	**46.11 321**	P	**P**	**08 39 15.4**	**+2.0**
IDID	**Didziasalis**	**46.12 341**	*e*P	**P**	**08 39 13.4**	**0.0**
IDID			AMb	AMB	08 39 24.0	
	comp=Z,6μm,0.7s					
IDID	**Didziasalis**	**46.12 341**	*e*P	**P**	**08 39 13.4**	**-0.1**
	comp=Z,6μm,0.7s,SNR=25					
CASM	**Ain Smara**	**46.21 308**	P	**P**	**08 39 16.5**	**+2.3**
CTEI	**Djebel Teioual**	**46.21 308**	P	**P**	**08 39 16.0**	**+1.8**
MOA	**Molln**	**46.23 326⇑**	*i*P	**P**	**08 39 14.4**	**+0.1**
	comp=Z,208nm,1.1s,mb6.0,SNR=23					
KBA	**Koelnbreinsper**	**46.31 324⇑**	*i*P	**P**	**08 39 14.8**	**-0.2**
	comp=Z,212nm,1.6s,mb5.8,SNR=8.9					
KBA	**Koelnbreinsper**	**46.31 324⇑**	*i*P	**P**	**08 39 14.8**	**-0.1**
KBA			pmax	pmax		
	comp=Z,212nm,1.5s,mb5.8					
SUW	**Suwalki**	**46.32 337**	*e*P	**P**	**08 39 14.3**	**-0.7**
SUW			*e*pP	pP	08 39 17.7	+0.1
SUW			*e*PP	PP	08 41 11.7	+8.1
SUW			*e*S	**S**	**08 46 13.7**	**+11**
SUW			*e*SS	SS	08 49 20.1	-7.5
SUW			L		08 55 07.0	
	comp=Z,63nm,40.5s					
SUW	**Suwalki**	**46.32 337**	*e*P	**P**	**08 39 14.3**	**-0.7**
SUW			*e**PP	pP	08 39 17.7	+0.1
SUW			*e*S	**S**	**08 46 13.7**	**+11**
SUW			*e*SS	SS	08 49 20.1	-7.5
SUW	**Suwalki**	**46.32 337**	*e*P	**P**	**08 39 14.3**	**-0.7**
SUW			*e*PP	pP	08 39 17.7	+0.1
SUW			*e*PP	PP	08 41 11.7	+8.1
SUW			*e*S	**S**	**08 46 13.7**	**+11**
SUW			*e*SS	SS	08 49 20.1	-7.5
SUW	**Suwalki**	**46.32 337**	*e*P	**P**	**08 39 14.3**	**-0.7**
SUW			*e*pP	pP	08 39 17.7	+0.1
SUW			*e*SS	SS	08 49 20.1	-7.5
IIGN	**Ignalina**	**46.32 340**	*e*P	**P**	**08 39 15.0**	**0.0**
IIGN			AMb	AMB	08 39 25.2	
	comp=Z,4μm,0.8s					
IIGN	**Ignalina**	**46.32 340**	*e*P	**P**	**08 39 15.0**	**0.0**
	comp=Z,4μm,0.8s,SNR=25					
TSUM	**Tsumeb**	**46.35 227**	P	**P**	**08 39 16.7**	**+1.4**
TSUM	**Tsumeb**	**46.35 227**	LR	LR	08 58 55.5	
	comp=Z,26μm,18.5s,MS6.2,baz=40,slow=36					
TSUM	**Tsumeb**	**46.35 227**	*e*P	**P**	**08 39 17.3**	**+2.0**
	comp=Z,89nm,1.1s,mb5.6					
TSUM			LR	LR		
	comp=Z,34μm,22.0s,MS6.3					
TSUM	**Tsumeb**	**46.35 227**	*e*P	**P**	**08 39 17.3**	**+2.0**
	comp=Z,89nm,1.1s,mb5.6					
SOKR	**Solikamsk**	**46.39 4**	*c i*P	**P**	**08 39 14.8**	**-0.8**
SOKR					08 41 09.6	
SOKR			S	**S**	**08 46 08.2**	**+4.9**
SOKR			pmax	pmax		
	comp=Z,530nm,1.1s,mb6.4					
SOKR			MLR	MLR		
	comp=Z,43μm,18.0s,MS6.5					
SOKR	**Solikamsk**	**46.39 4**	*i* P	**P**	**08 39 14.8**	**-0.8**
	comp=Z,530nm,1.1s,mb6.4					
SOKR			S	**S**	**08 46 08.2**	**+4.9**
	comp=Z,43μm,18.0s					
TREC	**Trest**	**46.45 328⇓**	*i*P	**P**	**08 39 15.9**	**-0.2**
TREC			*e*PP	PP	08 41 09.7	+4.6
TREC			*e*S	**S**	**08 46 08.6**	**+4.4**
TREC			AMS	AMS	09 05 50.0	
	comp=Z,22μm,18.0s					
TREC	**Trest**	**46.45 328**	*i* P	**P**	**08 39 15.9**	**-0.2**
TREC			*e*S	**S**	**08 46 08.6**	**+4.4**
	comp=Z,22μm,18.0s					
CMER	**Merouana**	**46.48 307**	P	**P**	**08 39 22.0**	**+5.8**
CORF	**Corte**	**46.53 317**	*e*P	**P**	**08 39 15.2**	**-1.5**
SARO	**Sassorosso**	**46.57 320**	P	**P**	**08 39 16.1**	**-0.9**
ABTA	**Abfaltersbach**	**46.60 324⇑**	*i*P	**P**	**08 39 17.2**	**0.0**
	comp=Z,111nm,1.0s,mb5.7					
IZAR	**Zarasai**	**46.64 341**	*e*P	**P**	**08 39 17.5**	**0.0**
IZAR			AMb	AMB	08 39 27.5	
	comp=Z,5μm,0.8s					
IZAR	**Zarasai**	**46.64 341**	*e*P	**P**	**08 39 17.5**	**0.0**
	comp=Z,5μm,0.8s,SNR=24					
DPC	**Dobruska-Polom**	**46.70 330⇓**	*i*P	**P**	**08 39 18.0**	**0.0**
DPC			*e*PP	PP	08 41 13.5	+5.9
DPC			*e*S	**S**	**08 46 11.3**	**+3.6**
DPC			AMS	AMS	09 00 20.0	
	comp=Z,40μm,21.9s					
PGF	**Pioggiola**	**46.74 317**	*e*P	**P**	**08 39 17.1**	**-1.2**
	comp=Z,384nm,1.6s,mb5.8					
PGF	**Pioggiola**	**46.74 317**	*e*P	**P**	**08 39 17.1**	**-1.2**
PGF			pmax	pmax		
	comp=Z,192nm,1.6s,mb5.8					
PGF	**Pioggiola**	**46.74 317**	*e*P	**P**	**08 39 17.1**	**-1.2**
	comp=Z,192nm,1.6s,mb5.8					
VALM		**46.75 320**	P	**P**	**08 39 18.7**	**+0.3**
DFRA	**Djebel Bou Aff**	**46.77 308**	P	**P**	**08 39 21.0**	**+2.5**
SEST	**Monte Rota**	**46.77 323**	P	**P**	**08 39 18.4**	**-0.2**
GRAM		**46.93 320**	P	**P**	**08 39 19.2**	**-0.6**
UPC	**Upice**	**46.95 330⇓**	*i*P	**P**	**08 39 19.9**	**-0.1**
KSP	**Ksiaz**	**47.03 330**	*e*P	**P**	**08 39 20.1**	**-0.5**
KSP			*e*PP	PP	08 41 16.5	+5.4
KSP			*e*S	**S**	**08 46 16.3**	**+3.9**
KSP			L		08 56 06.5	
	comp=Z,129nm,34.7s					
KSP	**Ksiaz**	**47.03 330⇑**	*e*P	**P**	**08 39 19.7**	**-0.9**
KSP			*e**PP	pP	08 39 23.8	+0.6
KSP			*e*		08 41 15.0	
KSP			*e*S	**S**	**08 46 13.5**	**+1.1**
KSP	**Ksiaz**	**47.03 330⇑**	*e*P	**P**	**08 39 19.7**	**-0.9**
KSP			*e*pP	pP	08 39 23.8	+0.6
KSP			*e*PP	PP	08 41 15.0	+3.9
KSP			*e*S	**S**	**08 46 13.5**	**+1.1**
KSP			*e*SS	SS	08 49 49.0	+10
KSP			LR	LR		
	comp=Z,149μm,34.7s,MS6.7					
KSP	**Ksiaz**	**47.03 330⇑**	*e*P	**P**	**08 39 19.7**	**-0.9**
KSP			*e*pP	pP	08 39 23.8	+0.6
KSP			*e*S	**S**	**08 46 13.5**	**+1.1**
KSP			*e*SS	SS	08 49 49.0	+10
SET	**Setif**	**47.03 307**	P	**P**	**08 39 22.0**	**+1.4**
NNT	**Nongplab**	**47.09 85**	P	**P**	**08 39 25.0**	**+3.9**
GEC2	**GERESS Array S**	**47.12 327**	*e*P	**P**	**08 39 19.7**	**-1.6**
	comp=Z,662nm,2.3s,mb6.2					
GEC2			*e*S	**S**	**08 46 12.7**	**-1.0**
GEC2	**GERESS Array S**	**47.12 327**	*e*P	**P**	**08 39 19.7**	**-1.6**
GEC2			*e*S	**S**	**08 46 12.7**	**-1.0**
GEC2			pmax	pmax		
	comp=Z,662nm,2.3s,mb6.2					
GERES	**GERESS Array B**	**47.12 327**	P	**P**	**08 39 22.4**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=137,slow=4.7,SNR=28					
GERES			PP	PP	08 41 22.7	+11
	comp=Z,39nm,1.1s,baz=115,slow=6.0,SNR=4.1					
GERES			S	**S**	**08 46 14.4**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=48,slow=1.5,SNR=2.6					
GERES			LR	LR	09 01 53.1	
	comp=Z,15μm,19.3s,baz=123,slow=40					
GERES	**GERESS Array B**	**47.12 327**	P	**P**	**08 39 22.4**	**+1.1**
GERES			S	**S**	**08 46 14.4**	**+0.7**
GERES	**GERESS Array B**	**47.12 327**	PP	PP	08 41 22.7	+11
NST	**Nakhon Sawan**	**47.21 81**	P	**P**	**08 39 20.7**	**-1.3**
	comp=Z,128nm,1.0s,mb5.8					
KHC	**Kasperske Hory**	**47.35 327⇓**	*e*P	**P**	**08 39 21.4**	**-1.7**
KHC			pP	pP	08 39 26.5	+0.8
KHC			*e*PP	PP	08 41 18.5	+4.3
KHC			*e*S	**S**	**08 46 19.9**	**+2.8**
KHC			AMS	AMS	09 07 20.0	
	comp=Z,19μm,18.9s					
KHC	**Kasperske Hory**	**47.35 327**	*e*P	**P**	**08 39 21.4**	**-1.7**
KHC			*e*		08 39 26.5	
KHC			*e*PP	PP	08 41 18.5	+4.3
KHC			*e*S	**S**	**08 46 19.9**	**+2.8**
KHC			LR	LR		
	comp=Z,19μm,18.9s,MS6.1					
KHC	**Kasperske Hory**	**47.35 327**	*e*P	**P**	**08 39 21.4**	**-1.7**
KHC			*e*S	**S**	**08 46 19.9**	**+2.8**
PRU	**Pruhonice**	**47.36 328⇓**	*e*P	**P**	**08 39 21.7**	**-1.5**
PRU			*e*PP	PP	08 41 19.7	+5.4
PRU			*e*S	**S**	**08 46 20.0**	**+2.8**
PRU			AMS	AMS	09 02 40.0	
	comp=Z,24μm,18.2s					
WTTA	**Wattenberg**	**47.39 324⇑**	*i*P	**P**	**08 39 22.5**	**-0.9**
	comp=Z,439nm,1.3s,mb6.2,SNR=11					
WTTA	**Wattenberg**	**47.39 324⇑**	*i*P	**P**	**08 39 22.5**	**-0.9**
WTTA			pmax	pmax		
	comp=Z,439nm,1.3s,mb6.2					
WATA	**Walderalm**	**47.46 324⇑**	*i*P	**P**	**08 39 22.9**	**-1.0**
	comp=Z,0.1nm,0.3s,SNR=25					
WATA	**Walderalm**	**47.46 324**	P	**P**	**08 39 22.9**	**-1.0**
	comp=Z,0.1nm,0.3s,SNR=25					
PRA	**Prague**	**47.47 328**	⇓P	**P**	**08 39 24.0**	**0.0**
PRA			PP	PP	08 41 22.0	+6.7
SQTA	**Sankt Quirin**	**47.61 323⇑**	*i*P	**P**	**08 39 24.5**	**-0.6**
	comp=Z,346nm,2.1s,mb6.0,SNR=24					
SQTA	**Sankt Quirin**	**47.61 323⇑**	*i*P	**P**	**08 39 24.5**	**-0.6**
SQTA			pmax	pmax		
	comp=Z,346nm,2.1s,mb6.0					
NANT	**Nan**	**47.62 77**	⇓P	**P**	**08 39 25.0**	**-0.2**
	comp=Z,794nm,1.5s,mb6.5					
PVCC	**Panska Ves**	**47.68 329⇓**	*i*P	**P**	**08 39 25.2**	**-0.5**
PVCC			*e*pP	pP	08 39 30.7	+2.4
PVCC			*e*PP	PP	08 41 22.0	+4.8
PVCC			AMS	AMS	09 00 50.0	
	comp=Z,39μm,26.9s					
PVCC	**Panska Ves**	**47.68 329⇓**	*i*P	**P**	**08 39 25.2**	**-0.5**
PVCC			*e*		08 39 30.7	
PVCC			*e*		08 41 22.0	
MOTA	**Moosalm**	**47.74 324⇑**	*i*P	**P**	**08 39 25.1**	**-1.0**
	comp=Z,171nm,1.1s,mb6.0,SNR=15					
MOTA	**Moosalm**	**47.74 324⇑**	*i*P	**P**	**08 39 25.1**	**-1.0**
MOTA			pmax	pmax		
	comp=Z,171nm,1.1s,mb6.0					
WET	**Wettzell**	**47.74 326**	*e*P	**P**	**08 39 23.9**	**-2.2**
	comp=Z,770nm,2.7s,mb6.3					
WET			*e*S	**S**	**08 46 20.8**	**-1.7**
WET	**Wettzell**	**47.74 326**	*e*P	**P**	**08 39 23.9**	**-2.2**
WET			*e*S	**S**	**08 46 20.8**	**-1.7**
WET			pmax	pmax		
	comp=Z,770nm,2.7s,mb6.3					
FETA	**Feichten**	**47.78 323⇓**	*i*P	**P**	**08 39 26.4**	**0.0**
	comp=Z,138nm,1.0s,mb5.9					
ATAF	**Djebel Tarf**	**47.81 307**	P	**P**	**08 39 32.4**	**+5.7**
PCP	**Pian Castagno**	**47.92 319**	P	**P**	**08 39 26.4**	**-1.1**
FIN	**Finale Ligure**	**47.98 319**	P	**P**	**08 39 26.4**	**-1.6**
RETA	**Reutte**	**48.01 324⇑**	*i*P	**P**	**08 39 26.8**	**-1.4**
	comp=Z,217nm,1.5s,mb6.0					
FUR	**Furstenfeldbru**	**48.08 325**	*e*P	**P**	**08 39 27.0**	**-1.7**
	comp=Z,2μm,2.3s,mb6.7					
FUR	**Furstenfeldbru**	**48.08 325**	*e*P	**P**	**08 39 27.0**	**-1.7**
FUR			pmax	pmax		
	comp=Z,2μm,2.3s,mb6.7					
PSI	**Prapat**	**48.14 98**	S	**S**	**08 46 34.8**	**+6.6**
	comp=Z,2.2nm,0.8s,baz=234,slow=18,SNR=1.8					
PSI			LR	LR	08 56 31.5	
	comp=Z,23μm,20.0s,MS6.2,baz=272,slow=32					
NEGI	**Negi**	**48.15 318**	P	**P**	**08 39 28.5**	**-0.8**
AKET	**Djebel Ketaf**	**48.17 307**	P	**P**	**08 39 31.1**	**+1.7**
GKP	**Gorka Klasztor**	**48.20 333**	*e*P	**P**	**08 39 29.1**	**-0.6**
GKP			*e*pP	pP	08 39 33.0	+0.7
GKP			*e*PP	PP	08 41 25.2	+3.2
GKP			*e*S	**S**	**08 46 32.2**	**+3.1**
GKP			*e*sS	sS	08 46 37.5	+4.1
GKP			L		08 57 24.8	
	comp=Z,46nm,35.6s					
GKP	**Gorka Klasztor**	**48.20 333**	*e*P	**P**	**08 39 29.1**	**-0.6**
GKP			*e**PP	pP	08 39 33.0	+0.7
GKP			*e*		08 41 25.2	
GKP			*e*S	**S**	**08 46 32.2**	**+3.1**
GKP			*e**SS	sS	08 46 37.5	+4.1
GKP	**Gorka Klasztor**	**48.20 333**	*e*P	**P**	**08 39 29.1**	**-0.6**
GKP			*e*pP	pP	08 39 33.0	+0.7
GKP			*e*S	**S**	**08 46 32.2**	**+3.1**
BRG	**Berggiesshubel**	**48.21 329**	*e*P	**P**	**08 39 28.0**	**-1.7**
	comp=Z,424nm,1.8s,mb6.2					
BRG			*e*S	**S**	**08 46 29.9**	**+0.7**
BRG	**Berggiesshubel**	**48.21 329**	*i* P	**P**	**08 39 28.7**	**-1.0**
	comp=Z,69nm,1.8s,mb5.4					
BRG			*i*		08 39 46.9	
	comp=Z,83nm,1.1s					
BRG			PP	PP	08 41 24.0	+2.0
BRG			S	**S**	**08 46 35.0**	**+5.8**
BRG			SS	SS	08 50 16.0	+18
BRG						
	comp=N,15μm,24.2s					
BRG						
	comp=E,19μm,26.2s					
BRG						
	comp=Z,24μm,23.3s					
BRG	**Berggiesshubel**	**48.21 329**	*i* P	**P**	**08 39 28.7**	**-1.0**
BRG					08 41 24.0	
BRG			S	**S**	**08 46 35.0**	**+5.8**
BRG			pmax	pmax		
	comp=Z,69nm,1.8s,mb5.4					
BRG			MLR	MLR		
	comp=N,15μm,24.2s					
BRG			MLR	MLR		
	comp=Z,24μm,23.3s,MS6.1					
BRG	**Berggiesshubel**	**48.21 329**	*i* P	**P**	**08 39 28.7**	**-1.0**
BRG			*i*		08 39 46.9	
BRG			PP	PP	08 41 24.0	+2.0
BRG			S	**S**	**08 46 35.0**	**+5.8**
BRG			SS	SS	08 50 16.0	+18
BRG			LR	LR		
	comp=Z,24μm,23.3s,MS6.1					
ROB	**Roburent**	**48.24 319**	P	**P**	**08 39 28.7**	**-1.3**
TOA0	**Torodi Ar. Sit**	**48.28 276**	*e*P	**P**	**08 39 31.8**	**+1.4**
TOA0	**Torodi Ar. Sit**	**48.28 276**	*e*P	**P**	**08 39 31.8**	**+1.5**
TORD	**Torodi Ar. Bea**	**48.28 276**	P	**P**	**08 39 32.4**	**+2.1**
	comp=Z,59nm,1.1s,mb5.5,baz=88,slow=5.3,SNR=170					
TORD			S	**S**	**08 46 33.9**	**+3.6**
	comp=Z,2.2nm,1.0s,baz=14,slow=7.4,SNR=2.5					
KLMR	**Klimovskoe**	**48.29 352**	*c i*P	**P**	**08 39 28.8**	**-1.6**
KLMR			*e*		08 41 25.4	
KLMR			*e*PPP		08 42 11.5	
KLMR			*e*S	**S**	**08 46 30.9**	**+0.6**
KLMR	**Klimovskoe**	**48.29 352**	*i* P	**P

NKC	**Novy Kostel**	**48.59 327**	*e*P	**P**	**08 39 31.5**	**-1.2**
NKC			*e*PP	PP	08 41 31.2	+5.6
NKC			*e*S	**S**	**08 46 40.2**	**+5.6**
MANZ	**Manzenberg**	**48.63 327**	*e*P	**P**	**08 39 31.2**	**-1.8**
CALN	**Calern**	**48.65 317**	*e*P	**P**	**08 39 32.8**	**-0.3**
WERN	**Wernitzgruen**	**48.66 327**	*e*P	**P**	**08 39 31.9**	**-1.4**
	comp=Z,930nm,2.1s,mb6.5					
TANN	**Tannenbergstha**	**48.69 328**	*e*P	**P**	**08 39 32.0**	**-1.5**
	comp=Z,636nm,2.1s,mb6.3					
TANN			*e*S	**S**	**08 46 36.7**	**+0.7**
BOSA	**Boshof**	**48.70 211**	P	**P**	**08 39 34.9**	**+1.4**
	comp=Z,124nm,1.1s,mb5.9,baz=40,slow=7.9,SNR=64					
BOSA			S	**S**	**08 46 39.9**	**+3.9**
	comp=Z,3.6nm,0.9s,baz=217,slow=20,SNR=1.9					
BOSA			LR	LR	09 02 27.3	
	comp=Z,14μm,19.9s,MS6.0,baz=39,slow=39					
BOSA	**Boshof**	**48.70 211**	P	**P**	**08 39 34.9**	**+1.4**
BOSA			S	**S**	**08 46 39.9**	**+3.8**
BOSA			pmax	pmax		
	comp=Z,124nm,1.1s,mb5.8					
BOSA			smax			
	comp=N,4.0nm,0.9s					
BOSA			MLR	MLR		
	comp=Z,14μm,19.9s,MS6.0					
BOSA	**Boshof**	**48.70 211**	*e*P	**P**	**08 39 34.8**	**+1.3**
	comp=Z,494nm,1.3s,mb6.4					
BOSA			LR	LR		
	comp=Z,19μm,20.0s,MS6.1					
BOSA	**Boshof**	**48.70 211**	P	**P**	**08 39 34.9**	**+1.4**
	comp=Z,124nm,1.1s,mb5.8					
BOSA			S	**S**	**08 46 39.9**	**+3.8**
	comp=Z,14μm,19.9s					
LMR	**La Mourre**	**48.73 317**	*e*P	**P**	**08 39 32.7**	**-1.1**
	comp=Z,566nm,1.5s,mb6.1					
LMR	**La Mourre**	**48.73 317**	*e*P	**P**	**08 39 32.7**	**-1.1**
LMR			pmax	pmax		
	comp=Z,283nm,1.5s,mb6.1					
LMR	**La Mourre**	**48.73 317**	*e*P	**P**	**08 39 32.7**	**-1.1**
	comp=Z,283nm,1.5s,mb6.1					
FRF	**La Foret Royal**	**48.73 317**	*e*P	**P**	**08 39 32.6**	**-1.2**
	comp=Z,432nm,1.2s,mb6.1					
FRF	**La Foret Royal**	**48.73 317**	*e*P	**P**	**08 39 32.6**	**-1.2**
FRF			pmax	pmax		
	comp=Z,216nm,1.2s,mb6.1					
FRF	**La Foret Royal**	**48.73 317**	*e*P	**P**	**08 39 32.6**	**-1.2**
	comp=Z,216nm,1.2s,mb6.1					
GUNZ	**Gunzen**	**48.73 328**	*e*P	**P**	**08 39 32.4**	**-1.4**
	comp=Z,673nm,1.8s,mb6.4					
ORX	**Oropa**	**48.77 320**	P	**P**	**08 39 31.9**	**-2.2**
SNG	**Songkhla**	**48.79 92**	P	**P**	**08 39 35.0**	**+0.8**
	comp=Z,154nm,0.8s,mb6.1					
WERD	**Werda**	**48.79 328**	*e*P	**P**	**08 39 32.6**	**-1.6**
	comp=Z,455nm,1.8s,mb6.2					
PZZ	**Prazzo**	**48.83 318**	P	**P**	**08 39 33.5**	**-1.0**
EMHD	**Djebel Mahouad**	**48.94 307**	P	**P**	**08 39 37.0**	**+1.7**
GRA1	**Grafenberg Arr**	**48.94 326**	*e*P	**P**	**08 39 33.1**	**-2.3**
	comp=Z,1μm,2.6s,mb6.5					
GRA1			*e*		08 39 38.2	
GRA1			*e*		08 39 52.7	
GRA1			*e*PP	PP	08 41 33.8	+5.1
GRA1			*e*S	**S**	**08 46 39.8**	**+0.3**
GRA1			LR	LR		
	comp=Z,71μm,49.5s,MS6.3					
GRA1	**Grafenberg Arr**	**48.94 326**	*e*P	**P**	**08 39 33.1**	**-2.3**
GRA1			*e*S	**S**	**08 46 39.8**	**+0.3**
GRF	**Grafenberg Arr**	**48.94 326**	*e*P	**P**	**08 39 33.1**	**-2.3**
	comp=Z,1μm,2.6s,mb6.5					
GRF			*e*		08 39 38.2	
GRF			*e*		08 39 52.7	
GRF			*e*PP	PP	08 41 33.8	+5.1
GRF			*e*S	**S**	**08 46 39.8**	**+0.3**
GRF			*e*L		08 55 56.5	
	comp=Z,71μm,49.5s					
GRF	**Grafenberg Arr**	**48.94 326**	*e*P	**P**	**08 39 33.1**	**-2.3**
GRF			*e*		08 39 38.2	
GRF			*e*		08 41 33.8	
GRF			*e*S	**S**	**08 46 39.8**	**+0.3**
GRF			pmax	pmax		
	comp=Z,1μm,2.6s,mb6.5					
GRF	**Grafenberg Arr**	**48.94 326**	*e*P	**P**	**08 39 33.1**	**-2.3**
GRF			*e*		08 39 38.2	
GRF			*e*		08 41 33.8	
GRF			*e*S	**S**	**08 46 39.8**	**+0.3**
GRF			pmax	pmax		
	comp=Z,1μm,2.6s,mb6.5					
GRF	**Grafenberg Arr**	**48.94 326**	*e*P	**P**	**08 39 33.1**	**-2.3**
	comp=Z,1μm,2.6s,mb6.5					
GRF			*e*S	**S**	**08 46 39.8**	**+0.3**
GRFO	**Grafenberg**	**48.94 326**	*e*P	**P**	**08 39 34.3**	**-1.1**
	comp=Z,139nm,1.1s,mb5.9					
GRFO			LR	LR		
	comp=Z,17μm,20.0s,MS6.0					
GRFO	**Grafenberg**	**48.94 326**	*e*P	**P**	**08 39 34.3**	**-1.1**
	comp=Z,139nm,1.1s,mb5.9					
CLL	**Collm**	**48.94 329**	*e*P	**P**	**08 39 34.0**	**-1.4**
	comp=Z,1μm,2.1s,mb6.5					
CLL			*e*PP	PP	08 41 35.1	+6.3
CLL			*e*PPP		08 42 14.2	
CLL			*e*S	**S**	**08 46 42.9**	**+3.4**
CLL			*e*ScS	ScS	08 49 27.4	-0.7
CLL			*e*SS	SS	08 50 36.8	+27
CLL			*e*LQ		08 53 02.8	
CLL			*e*LR	LR	08 54 46.6	
CLL			*e*L		09 01 43.9	
	comp=Z,35μm,22.0s					
CLL	**Collm**	**48.94 329** ⇓	*i*P	**P**	**08 39 35.2**	**-0.2**
CLL			*i*	pP	08 39 39.1	+1.1
CLL			*e*S	**S**	**08 46 44.0**	**+4.5**
CLL			pmax	pmax		
	comp=Z,9.0nm,2.3s					
CLL			MLR	MLR		
	comp=Z,38μm,24.3s					
CLL	**Collm**	**48.94 329** ⇓	*i*P	**P**	**08 39 35.2**	**-0.2**
	comp=Z,416nm,2.3s,mb6.1					
CLL			*i*	pP	08 39 39.1	+1.1
CLL			*i*		08 39 50.7	
CLL			*e*S	**S**	**08 46 44.0**	**+4.5**
CLL			LR	LR		
	comp=Z,109μm,46.5s,MS6.5					
CLL	**Collm**	**48.94 329** ⇓	*i*P	**P**	**08 39 35.2**	**-0.2**
	comp=Z,416nm,2.3s,mb6.1					
CLL			*i* pP	pP	08 39 39.1	+1.1
	comp=Z,990nm,2.1s					
CLL			*i* x	x	08 39 50.7	
CLL			*i* PP	PP	08 41 34.2	+5.4
	comp=Z,3μm,3.6s					
CLL			*i* x	x	08 41 44.0	
CLL			*i* x	x	08 41 51.1	
CLL			*e*PPP		08 42 15.0	
CLL			*e*S	**S**	**08 46 44.0**	**+4.5**
CLL			*i* x	x	08 48 18.2	
CLL			*e*ScS	ScS	08 49 28.0	-0.1
CLL			*e*(SS)		08 50 29.0	
CLL	**Collm**	**48.94 329** ⇓	*i*P	**P**	**08 39 35.2**	**-0.2**
CLL			*e*S	**S**	**08 46 44.0**	**+4.5**
	comp=Z,38μm,24.3s					
PUL	**Pulkovo**	**48.96 346**	*e*P	**P**	**08 39 35.6**	**+0.1**
PUL			*e*		08 41 35.1	
PUL			*e*S	**S**	**08 46 42.3**	**+2.5**
PUL			pmax	pmax		
	comp=Z,577nm,1.4s,mb6.4					
PUL			smax			
	comp=N,9μm,7.2s					
PUL			MLR	MLR		
	comp=E,38μm,13.0s,MS6.6					
PUL			MLR	MLR		
	comp=Z,51μm,13.0s,MS6.7					
PUL			MLR	MLR		
	comp=N,33μm,17.0s,MS6.6					
RSP	**Reno Superiore**	**49.01 319**	P	**P**	**08 39 34.2**	**-1.7**
MAHO	**Mahon**	**49.03 312**	*i* P	**P**	**08 39 38.2**	**+2.1**
MAHO			*i* S	**S**	**08 46 44.4**	**+3.6**
ABA	**Alger-Bouzarea**	**49.03 307**	P	**P**	**08 39 43.0**	**+6.9**
MBDF	**Montbardon**	**49.14 319**	*e*P	**P**	**08 39 36.2**	**-0.7**
	comp=N,290nm,1.4s,mb5.8					
MBDF	**Montbardon**	**49.14 319**	*e*P	**P**	**08 39 36.2**	**-0.7**
MBDF			pmax	pmax		
	comp=Z,145nm,1.4s,mb5.8					
MBDF	**Montbardon**	**49.14 319**	*e*P	**P**	**08 39 36.2**	**-0.7**
	comp=Z,145nm,1.4s,mb5.8					
TAVF	**Tavernes**	**49.14 317**	*e*P	**P**	**08 39 36.3**	**-0.6**
SISB	**Singen-Schiene**	**49.16 323**	P	**P**	**08 39 38.1**	**+1.1**
LSD	**Ceresole Reale**	**49.21 320**	P	**P**	**08 39 37.2**	**-0.3**
RRL	**Cesana Torines**	**49.21 319**	P	**P**	**08 39 36.5**	**-1.0**
KULM	**Kulim**	**49.21 94**	*e*P	**P**	**08 39 36.2**	**-1.3**
KULM	**Kulim**	**49.21 94**	*e*P	**P**	**08 39 36.2**	**-1.3**
GUT	**Gutenstein**	**49.26 323**	P	**P**	**08 39 37.8**	**0.0**
MOX	**Moxa**	**49.27 328**	*e*P	**P**	**08 39 36.3**	**-1.6**
	comp=Z,763nm,2.1s,mb6.4					
MOX			*e*S	**S**	**08 46 45.7**	**+1.6**
MOX	**Moxa**	**49.27 328**	*e*P	**P**	**08 39 37.4**	**-0.5**
	comp=Z,2μm,2.8s,mb6.6					
MOX			*e*		08 41 34.9	
MOX						
	comp=Z,23μm,23.0s					
MOX	**Moxa**	**49.27 328**	*e*P	**P**	**08 39 37.4**	**-0.5**
MOX			*e*		08 41 34.9	
MOX			pmax	pmax		
	comp=Z,2μm,2.8s,mb6.6					
MOX			MLR	MLR		
	comp=Z,23μm,23.0s,MS6.1					
RUE	**Ruedersdorf**	**49.28 331**	*e*P	**P**	**08 39 36.2**	**-1.8**
	comp=Z,724nm,1.8s,mb6.4					
STOF	**St-Étienne Org**	**49.40 317**	*e*P	**P**	**08 39 39.3**	**+0.4**
OG25	**Le Caire**	**49.44 318**	*e*P	**P**	**08 39 39.0**	**-0.2**
SPAK	**Spaichingen-Ko**	**49.47 323**	*e*P	**P**	**08 39 39.1**	**-0.3**
GELF	**Grande-Étoile**	**49.47 316**	*e*P	**P**	**08 39 38.9**	**-0.5**
LPG	**La Plagne**	**49.48 319**	*e*P	**P**	**08 39 38.1**	**-1.4**
	comp=Z,179nm,0.9s,mb5.8					
LPG	**La Plagne**	**49.48 319**	*e*P	**P**	**08 39 38.1**	**-1.4**
LPG			pmax	pmax		
	comp=Z,90nm,0.9s,mb5.8					
LPG	**La Plagne**	**49.48 319**	*e*P	**P**	**08 39 38.1**	**-1.4**
	comp=Z,90nm,0.9s,mb5.8					
LPL	**La Plagne**	**49.50 319**	*e*P	**P**	**08 39 38.3**	**-1.4**
	comp=Z,462nm,1.3s,mb6.0					
LPL	**La Plagne**	**49.50 319**	*e*P	**P**	**08 39 38.3**	**-1.4**
LPL			pmax	pmax		
	comp=Z,231nm,1.3s,mb6.0					
LPL	**La Plagne**	**49.50 319**	*e*P	**P**	**08 39 38.3**	**-1.4**
	comp=Z,231nm,1.3s,mb6.0					
STU	**Stuttgart**	**49.57 324**	*e*P	**P**	**08 39 38.0**	**-2.2**
	comp=Z,406nm,2.3s,mb6.0					
SMRF	**Simiane la Rot**	**49.61 317**	*e*P	**P**	**08 39 39.7**	**-0.8**
	comp=Z,502nm,1.6s,mb6.0					
SMRF	**Simiane la Rot**	**49.61 317**	*e*P	**P**	**08 39 39.7**	**-0.8**
	comp=Z,502nm,1.6s,mb6.3					
SIND	**Sindeldorf**	**49.64 325**	P	**P**	**08 39 40.3**	**-0.4**
RSL	**Roselend**	**49.65 320**	*e*P	**P**	**08 39 38.4**	**-2.4**
KMI	**Kunming**	**49.67 68**	P	**P**	**08 39 41.0**	**0.0**
KMI			AP	pP	08 39 44.3	+0.7
KMI			XP	sP	08 39 45.3	+0.7
KMI			PCP	PcP	08 41 03.3	+1.1
KMI			PP	PP	08 41 36.5	+1.1
KMI			PCS	PcS	08 45 00.5	+1.6
KMI			S	**S**	**08 46 48.0**	**-1.8**
KMI			SCS	ScS	08 49 29.3	-3.7
KMI			SS	SS	08 50 16.3	-5.7
KMI			AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2					
KMI			AMB	AMB		
	comp=Z,3μm,4.6s					
KMI			LR	LR		
	comp=N,39μm,17.9s,MS6.6					
KMI			LR	LR		
	comp=E,45μm,17.9s,MS6.6					
KMI			LR	LR		
	comp=Z,60μm,25.3s					
KMI	**Kunming**	**49.67 68**	P	**P**	**08 39 41.0**	**0.0**
KMI			*PP	pP	08 39 44.2	+0.6
KMI			*SP	sP	08 39 45.3	+0.7
KMI					08 41 03.3	
KMI					08 41 36.4	
KMI			PPP		08 42 31.8	
KMI			S	**S**	**08 46 47.9**	**-1.9**
KMI			*SS	sS	08 46 53.5	-0.6
KMI					08 49 29.2	
KMI			SS	SS	08 50 16.3	-5.7
KMI			SSS		08 51 42.7	
KMI			pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2					
KMI			MLR	MLR		
	comp=Z,60μm,25.3s,MS6.5					
KMI	**Kunming**	**49.67 68**	P	**P**	**08 39 41.0**	**0.0**
	comp=Z,31nm,1.1s,mb5.2					
KMI			pP	pP	08 39 44.2	+0.6
KMI			sP	sP	08 39 45.3	+0.7
KMI			PcP	PcP	08 41 03.3	+1.1
KMI			PP	PP	08 41 36.4	+1.0
KMI			PPP		08 42 31.8	
KMI			PcS	PcS	08 45 00.5	+1.6
KMI			S	**S**	**08 46 47.9**	**-1.9**
KMI			sS	sS	08 46 53.5	-0.6
KMI			ScS	ScS	08 49 29.2	-3.8
KMI			SS	SS	08 50 16.3	-5.7
KMI			SSS		08 51 42.7	
KMI			LR	LR		
	comp=Z,60μm,25.3s,MS6.5					
KMI	**Kunming**	**49.67 68**	PP	PP	08 41 36.4	+1.0
KMI			S	**S**	**08 46 47.9**	**-1.9**
KMI			ScS	ScS	08 49 29.2	-3.8
KMI			SS	SS	08 50 16.3	-5.7
LBG	**Lerchenberg**	**49.74 324**	P	**P**	**08 39 41.5**	**0.0**
KKTK	**Khon Kaen**	**49.75 80**	PN	**P**	**08 39 41.2**	**-0.3**
ORIF	**Oris-en-Rattie**	**49.79 318**	*e*P	**P**	**08 39 40.6**	**-1.3**
	comp=Z,106nm,1.2s,mb5.5					
ORIF			*e*MLR			
	comp=Z,21μm,20.8s					
ORIF	**Oris-en-Rattie**	**49.79 318**	*e*P	**P**	**08 39 40.6**	**-1.3**
ORIF			pmax	pmax		
	comp=Z,53nm,1.2s,mb5.5					
ORIF	**Oris-en-Rattie**	**49.79 318**	*e*P	**P**	**08 39 40.6**	**-1.3**
	comp=Z,53nm,1.2s,mb5.5					
PRAF	**Pradon**	**49.81 317**	*e*P	**P**	**08 39 40.7**	**-1.3**
FELD	**Feldberg im Sc**	**49.81 323** ⇓	*e*P	**P**	**08 39 41.9**	**-0.2**
BFO	**Black Forest**	**49.85 323**	*e*P	**P**	**08 39 40.8**	**-1.5**
	comp=Z,2μm,2.9s,mb6.6					
BFO			*e*S	**S**	**08 46 50.7**	**-1.5**
GTA	**Gaotai**	**49.87 49**	*e*P	**P**	**08 39 41.5**	**-1.0**
GTA			AP	pP	08 39 45.8	+0.7
GTA			XP	sP	08 39 49.0	+2.8
GTA			PP	PP	08 41 37.5	+0.3
GTA			PCS	PcS	08 44 59.3	-0.5
GTA			S	**S**	**08 46 50.5**	**-2.1**
GTA			SS	SS	08 50 20.8	-4.4
GTA			AMB	AMB		
	comp=Z,41nm,1.6s,mb5.2					
GTA			AMB	AMB		
	comp=Z,3μm,4.6s					
GTA			LR	LR		
	comp=N,26μm,31.6s					
GTA			LR	LR		
	comp=E,41μm,26.2s					
GTA			LR	LR		
	comp=Z,64μm,25.1s					
OG01	**Vacheresse**	**49.89 320**	*e*P	**P**	**08 39 40.5**	**-2.2**
OG01	**Vacheresse**	**49.89 320**	*e*P	**P**	**08 39 44.5**	**+1.8**
OG01	**Vacheresse**	**49.89 320**	*e*P	**P**	**08 39 44.5**	**+1.8**
KIZ	**Kirchzarten**	**49.90 323**	P	**P**	**08 39 43.6**	**+0.9**
BBS	**Basel-Blauen**	**49.91 322**	*e*P	**P**	**08 39 41.9**	**-0.9**
OCF	**Saint Nazaire**	**50.03 318**	*e*P	**P**	**08 39 43.8**	**+0.1**
OG26	**St.-Nazaire-De**	**50.03 318**	*e*P	**P**	**08 39 43.8**	**+0.1**
ETRT	**Tiaret**	**50.04 305**	P	**P**	**08 39 46.0**	**+2.2**
ETOS	**Mallorca**	**50.05 311**	P	**P**	**08 39 43.4**	**-0.4**
	comp=Z,200nm,1.9s,mb5.8					
ETOS	**Mallorca**	**50.05 311**	P	**P**	**08 39 43.4**	**-0.4**
	comp=Z,200nm,1.9s,mb5.8					
EBNR	**Beni Rached**	**50.07 306**	P	**P**	**08 39 45.0**	**+1.0**
ECHA	**Ech Chlef**	**50.16 306**	P	**P**	**08 39 48.0**	**+3.3**
UBBA	**Unterbreizbach**	**50.22 327**	*e*P	**P**	**08 39 43.2**	**-1.9**
	comp=Z,931nm,2.8s,mb6.3					
UBBA			*e*S	**S**	**08 46 56.5**	**-0.9**
TOD	**Tromm**	**50.22 325**	*e*P	**P**	**08 39 43.0**	**-2.2**
LOMF	**Lomont**	**50.27 322**	*e*P	**P**	**08 39 44.5**	**-1.0**
STR	**Strasbourg**	**50.30 323**	*e*P	**P**	**08 39 44.4**	**-1.3**
MOF	**Molkenrain**	**50.32 322**	*e*P	**P**	**08 39 44.3**	**-1.6**
EANR	**'Ain N'Sour**	**50.33 306**	P	**P**	**08 39 47.8**	**+1.8**
CABF	**La Chapelle**	**50.39 321**	*e*P	**P**	**08 39 45.3**	**-1.1**
	comp=Z,980nm,1.4s,mb6.3					
CABF	**La Chapelle**	**50.39 321**	*e*P	**P**	**08 39 45.3**	**-1.1**
CABF			pmax	pmax		
	comp=Z,490nm,1.4s,mb6.3					
CABF	**La Chapelle**	**50.39 321**	*e*P	**P**	**08 39 45.3**	**-1.1**
	comp=Z,490nm,1.4s,mb6.3					
BSD	**Bornholm Skovb**	**50.45 334**	*i* P	**P**	**08 39 48.5**	**+1.6**
	comp=Z,136nm,1.1s,mb5.9					
BSD			*e*		08 41 38.9	
BSD			*i* S	**S**	**08 47 00.4**	**-0.3**
BSD						
	comp=Z,29μm,19.0s					
BSD	**Bornholm Skovb**	**50.45 334**	*e*P	**P**	**08 39 48.5**	**+1.6**
BSD			*e*		08 41 38.9	
BSD			*i* S	**S**	**08 47 00.4**	**-0.3**
BSD			pmax	pmax		
	comp=Z,140nm,1.1s,mb5.9					
BSD			MLR	MLR		
	comp=Z,29μm,19.0s,MS6.3					
BSD	**Bornholm Skovb**	**50.45 334**	*e*P	**P**	**08 39 48.5**	**+1.6**
	comp=Z,140nm,1.1s,mb5.9					
BSD			*i* S	**S**	**08 47 00.4**	**-0.3**
HINF	**Hinteralfeld**	**50.47 322**	*e*P	**P**	**08 39 45.5**	**-1.5**
	comp=Z,203nm,1.1s,mb5.8					
HINF	**Hinteralfeld**	**50.47 322**	*e*P	**P**	**08 39 45.5**	**-1.5**
HINF			pmax	pmax		
	comp=Z,102nm,1.1s,mb5.8					
HINF	**Hinteralfeld**	**50.47 322**	*e*P	**P**	**08 39 45.5**	**-1.5**
	comp=Z,102nm,1.1s,mb5.8					
LANF	**Langenberg**	**50.47 324**	*e*P	**P**	**08 39 44.3**	**-2.7**
ECH	**Echery**	**50.48 323**	*e*P	**P**	**08 39 45.9**	**-1.2**
CDF	**Champ du Feu**	**50.50 323**	*e*P	**P**	**08 39 46.0**	**-1.3**
	comp=Z,510nm,1.4s,mb6.1					
CDF	**Champ du Feu**	**50.50 323**	*e*P	**P**	**08 39 46.0**	**-1.3**
CDF			pmax	pmax		
	comp=Z,255nm,1.4s,mb6.1					
CDF	**Champ du Feu**	**50.50 323**	*e*P	**P**	**08 39 46.0**	**-1.3**
	comp=Z,255nm,1.4s,mb6.1					
VIVF	**Saint-Julien-l**	**50.55 318**	*e*P	**P**	**08 39 46.2**	**-1.4**
	comp=Z,93nm,1.0s,mb5.4					
VIVF	**Saint-Julien-l**	**50.55 318**	*e*P	**P**	**08 39 46.2**	**-1.4**
VIVF			pmax	pmax		
	comp=Z,47nm,1.0s,mb5.4					
VIVF	**Saint-Julien-l**	**50.55 318**	*e*P	**P**	**08 39 46.2**	**-1.4**
	comp=Z,47nm,1.0s,mb5.4					
CLZ	**Clausthal**	**50.59 328**	*e*P	**P**	**08 39 46.5**	**-1.4**
	comp=Z,504nm,1.8s,mb6.2					
CLZ			*e*S	**S**	**08 47 02.3**	**-0.3**
CLZ	**Clausthal**	**50.59 328**	*e*P	**P**	**08 39 46.5**	**-1.4**
CLZ			*e*S	**S**	**08 47 02.3**	**-0.3**
CLZ			pmax	pmax		
	comp=Z,504nm,1.8s,mb6.2					
GTTG	**Gvttingen**	**50.63 328**	*e*P	**P**	**08 39 46.7**	**-1.6**
GTTG			*e*S	**S**	**08 47 02.6**	**-0.6**
OKGL	**Djebel Kef Gue**	**50.71 306**	P	**P**	**08 39 56.0**	**+7.2**
TNS	**Taunus Mts**	**50.74 326**	*e*P	**P**	**08 39 47.0**	**-2.1**
	comp=Z,373nm,2.0s,mb6.0					
TNS	**Taunus Mts**	**50.74 326**	*e*P	**P**	**08 39 47.0**	**-2.1**
TNS			pmax	pmax		
	comp=Z,373nm,2.0s,mb6.0					
LASF	**Ste Croix**	**50.79 317**	*e*P	**P**	**08 39 48.2**	**-1.2**
	comp=Z,269nm,1.2s,mb5.7					
RGN	**Rugen**	**50.79 332**	*e*P	**P**	**08 39 48.5**	**-1.0**
	comp=Z,711nm,1.8s,mb6.3					
OJBR	**Djebel Berber**	**50.84 305**	P	**P**	**08 39 58.0**	**+8.1**
HAU	**Haudompre**	**50.86 322**	*e*P	**P**	**08 39 48.3**	**-1.7**
	comp=Z,119nm,1.0s,mb5.5					
HAU			*e*MLR			
	comp=Z,12μm,22.0s					
HAU	**Haudompre**	**50.86 322**	*e*P	**P**	**08 39 48.3**	**-1.7**
HAU			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5					
HAU			MLR	MLR		
	comp=Z,12μm,22.0s,MS5.9					
HAU	**Haudompre**	**50.86 322**	*e*P	**P**	**08 39 48.3**	**-1.7**
	comp=Z,60nm,1.0s,mb5.5					
HAU			LR	LR		
	comp=Z,12μm,22.0s,MS5.9					
EJON	**La Jonquera**	**50.86 314**	P	**P**	**08 39 48.9**	**-1.1**
	comp=Z,209nm,2.7s,mb5.6					
EJON	**La Jonquera**	**50.86 314**	P	**P**	**08 39 48.9**	**-1.1**
	comp=Z,209nm,2.7s,mb5.6					
EIBI	**Ibiza**	**50.92 310**	P	**P**	**08 39 50.0**	**-0.4**
	comp=Z,3μm,3.1s					
EIBI	**Ibiza**	**50.92 310**	P	**P**	**08 39 50.0**	**-0.5**
	comp=Z,3μm,3.1s					
ABH	**Alteburg**	**51.06 325**	*e*P	**P**	**08 39 50.1**	**-1.4**
NRDL	**Niedersach Rie**	**51.09 329**	*e*P	**P**	**08 39 50.7**	**-1.0**
	comp=Z,489nm,1.8s,mb6.1					
CD2	**Chengdu**	**51.16 61**	P	**P**	**08 39 50.5**	**-1.7**
CD2			AP	pP	08 39 55.0	+0.2
CD2			XP	sP	08 39 57.5	+1.6
CD2			PP	PP	08 41 48.0	-0.9
CD2			S	**S**	**08 47 05.5**	**-4.9**
CD2			AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6					
CD2			AMB	AMB		
	comp=Z,4μm,10.3s					
CD2			LR	LR		
	comp=N,39μm,30.0s,MS6.4					
CD2			LR	LR		
	comp=E,31μm,27.6s,MS6.4					
THEF	**They Montfort**	**51.17 322**	*e*P	**P**	**08 39 51.1**	**-1.2**
VALF	**Valcebollere**	**51.46 314**	*e*P	**P**	**08 39 54.6**	**+0.1**
FIA1	**FINESS Array S**	**51.46 345**	*e*P	**P**	**08 39 54.0**	**-0.5**
FIA1	**FINESS Array S**	**51.46 345**	*e*P	**P**	**08 39 54.0**	**-0.5**
FINES	**FINESS Array B**	**51.46 345**	P	**P**	**08 39 53.2**	**-1.3**
	comp=E,33nm,0.9s,mb5.3,baz=131,slow=10,SNR=65					
FINES			LR	LR	09 04 25.5	
	comp=E,43μm,20.6s,MS6.5,baz=129,slow=39					
FINES	**FINESS Array B**	**51.46 345**	*i* P	**P**	**08 39 53.9**	**-0.6**
FINES			pmax	pmax		
	comp=Z,33nm,0.9s					
FINES	**FINESS Array B**	**51.46 345**	P	**P**	**08 39 53.2**	**-1.3**
FINES			LR	LR	09 04 25.5	
FINES	**FINESS Array B**	**51.46 345**	*i* P	**P**	**08 39 53.9**	**-0.6**
	comp=Z,33nm,0.9s,mb5.3					
JOF	**Joensuu**	**51.58 348**	*e*p	**P**	**08 39 53.1**	**-2.3**
	comp=Z,181nm,0.9s,mb6.0					
JOF	**Joensuu**	**51.58 348**	*e*P	**P**	**08 39 53.1**	**-2.3**
JOF			pmax	pmax		
	comp=Z,181nm,0.9s,mb6.0					
LBL	**Lubilhac**	**51.63 318**	*e*P	**P**	**08 39 55.0**	**-0.7**
MTLF	**Montolieu**	**51.63 315**	*e*P	**P**	**08 39 54.6**	**-1.2**
	comp=Z,140nm,1.2s,mb5.5					
MTLF	**Montolieu**	**51.63 315**	*e*P	**P**	**08 39 54.6**	**-1.2**
MTLF			pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5					
MTLF	**Montolieu**	**51.63 315**	*e*P	**P**	**08 39 54.6**	**-1.2**
	comp=Z,70nm,1.2s,mb5.5					
EMIR	**Miracle**	**51.65 313**	P	**P**	**08 39 55.7**	**-0.2**
	comp=Z,420nm,3.4s					
EMIR	**Miracle**	**51.65 313**	P	**P**	**08 39 55.7**	**-0.2**
	comp=Z,420nm,3.4s					
PLDF	**La Plantade**	**51.67 319**	*e*P	**P**	**08 39 51.7**	**-4.4**
WLF	**Walferdange**	**51.75 324**	*e*P	**P**	**08 39 55.3**	**-1.3**
	comp=Z,3

comp=Z,2μm,3.3s
EBEN Beniarda 52.02 309 P P 08 39 59.0 +0.3
comp=Z,2μm,3.3s
LOR Lormes 52.05 320 *e*P **P 08 39 57.4 -1.5**
comp=Z,603nm,1.4s,mb6.0
LOR *e*MLR
comp=Z,10μm,18.2s
LOR Lormes 52.05 320 *e*P **P 08 39 57.4 -1.5**
LOR pmax pmax
comp=Z,301nm,1.4s,mb6.0
LOR MLR MLR
comp=Z,10μm,18.3s,MS5.9
LOR Lormes 52.05 320 *e*P **P 08 39 57.4 -1.5**
comp=Z,301nm,1.4s,mb6.0
LOR LR LR
comp=Z,10μm,18.3s,MS5.9
AVF Avril sur Loir 52.17 320 *e*P **P 08 39 57.9 -1.9**
comp=Z,110nm,1.0s,mb5.5
AVF Avril sur Loir 52.17 320 *e*P **P 08 39 57.9 -1.9**
AVF pmax pmax
comp=Z,55nm,1.0s,mb5.4
AVF Avril sur Loir 52.17 320 *e*P **P 08 39 57.9 -1.9**
comp=Z,55nm,1.0s,mb5.4
SSF Saint Saulge 52.18 320 *e*P **P 08 39 58.2 -1.7**
comp=Z,207nm,1.1s,mb5.7
SSF Saint Saulge 52.18 320 *e*P **P 08 39 58.2 -1.7**
SSF pmax pmax
comp=Z,103nm,1.1s,mb5.7
SSF Saint Saulge 52.18 320 *e*P **P 08 39 58.2 -1.7**
comp=Z,103nm,1.1s,mb5.7
OLHC Oulhaca 52.19 304 P **P 08 40 09.0 +9.1**
ERTA Horta de San J 52.21 312 P **P 08 39 58.0 -2.1**
comp=Z,3μm,3.5s
ERTA Horta de San J 52.21 312 P **P 08 39 58.0 -2.1**
comp=Z,3μm,3.5s
CAF Calviac 52.29 317 *e*P **P 08 39 59.4 -1.3**
comp=Z,99nm,1.2s,mb5.3
CAF Calviac 52.29 317 *e*P **P 08 39 59.4 -1.3**
CAF pmax pmax
comp=Z,50nm,1.2s,mb5.3
CAF Calviac 52.29 317 *e*P **P 08 39 59.4 -1.3**
comp=Z,50nm,1.2s,mb5.3
VERF Verneugheol 52.32 318 *e*P **P 08 40 00.3 -0.6**
CART Cartagena 52.35 307 *i*P **P 08 40 04.6 +3.5**
CART *i*S **S 08 47 31.0 +4.2**
BGF Bois d'Agland 52.40 319 *e*P **P 08 40 00.1 -1.4**
comp=Z,440nm,1.1s,mb6.0
BGF Bois d'Agland 52.40 319 *e*P **P 08 40 00.1 -1.4**
BGF pmax pmax
comp=Z,220nm,1.1s,mb6.0
BGF Bois d'Agland 52.40 319 *e*P **P 08 40 00.1 -1.4**
comp=Z,220nm,1.1s,mb6.0
HGN Heimansgroeve 52.40 325⇑ *e*P **P 08 40 00.5 -1.0**
comp=Z,375nm,2.9s,mb5.8
HGN *e*PP PP 08 42 14.3 +14
HGN *e*PPP 08 43 04.4
HGN *i*S **S 08 47 31.0 +3.5**
HGN *e*SS SS 08 51 49.6 +44
HGN *e*SSS 08 53 56.1
HGN Heimansgroeve 52.40 325⇑ *e*P **P 08 40 00.5 -1.0**
comp=Z,375nm,2.9s,mb5.8
HGN *i*S **S 08 47 31.0 +3.5**
WTSB Winterswijk 52.52 327 *e*P **P 08 40 02.3 -0.1**
comp=Z,351nm,3.2s
BEBN Eben Emael 52.56 325 P **P 08 40 02.3 -0.3**
comp=Z,112nm,3.6s
BCLA Clavier 52.59 325 P **P 08 40 01.7 -1.2**
comp=Z,302nm,3.0s
EGRA Graus 52.59 313 P **P 08 40 07.0 +4.1**
comp=Z,28nm,1.4s,mb5.0
EGRA Graus 52.59 313 P **P 08 40 07.0 +4.1**
comp=Z,28nm,1.4s,mb5.0
EMUR La Murta 52.59 308 P **P 08 40 02.4 -0.5**
comp=Z,346nm,2.3s,mb5.9
EMUR La Murta 52.59 308 P **P 08 40 02.4 -0.5**
comp=Z,346nm,2.3s,mb5.9
EMOS Mosqueruela 52.63 311 P **P 08 40 03.0 -0.2**
comp=Z,3μm,3.5s
EMOS Mosqueruela 52.63 311 P **P 08 40 03.0 -0.2**
comp=Z,3μm,3.5s
TCF Toulx Ste Croi 52.70 319 *e*P **P 08 40 02.3 -1.4**
comp=Z,170nm,1.3s,mb5.5
TCF Toulx Ste Croi 52.70 319 *e*P **P 08 40 02.3 -1.4**
TCF pmax pmax
comp=Z,85nm,1.3s,mb5.5
TCF Toulx Ste Croi 52.70 319 *e*P **P 08 40 02.3 -1.4**
comp=Z,85nm,1.3s,mb5.5
GIVF Givet 52.71 324 *e*P **P 08 40 02.8 -1.0**
comp=Z,336nm,1.0s,mb5.9
GIVF Givet 52.71 324 *e*P **P 08 40 02.8 -1.0**
GIVF pmax pmax
comp=Z,168nm,1.0s,mb5.9
GIVF Givet 52.71 324 *e*P **P 08 40 02.8 -1.0**
comp=Z,168nm,1.0s,mb5.9
RESF Ens 52.76 314 *e*P **P 08 40 06.2 +2.0**
RJF Les Rejaudoux 52.79 317 *e*P **P 08 40 02.7 -1.7**
comp=Z,109nm,1.3s,mb5.3
RJF *e*MLR
comp=Z,17μm,21.5s
RJF Les Rejaudoux 52.79 317 *e*P **P 08 40 02.7 -1.7**
RJF pmax pmax
comp=Z,54nm,1.3s,mb5.3
RJF MLR MLR
comp=Z,17μm,21.5s,MS6.1
RJF Les Rejaudoux 52.79 317 *e*P **P 08 40 02.7 -1.7**
comp=Z,54nm,1.3s,mb5.3
RJF LR LR
comp=Z,17μm,21.5s,MS6.1
ECHE Chera 52.80 310 P **P 08 40 05.9 +1.4**
ECHE pmax pmax
comp=Z,54nm,1.3s,mb5.3
ECHE Chera 52.80 310 P **P 08 40 05.9 +1.4**
comp=Z,54nm,1.3s,mb5.3
HYF Humbligny 52.81 320 *e*P **P 08 40 03.4 -1.1**
EPF Esparros 52.83 314 *e*P **P 08 40 02.8 -1.9**
DOU Dourbes 52.84 324 P **P 08 40 04.8 +0.1**
DOU Dourbes 52.84 324 P **P 08 40 04.8 0.0**
EBIE Bielsa 52.86 314 P **P 08 40 03.9 -1.0**
comp=Z,2μm,3.5s
EBIE Bielsa 52.86 314 P **P 08 40 03.9 -1.0**
comp=Z,2μm,3.5s
ESAC San Caprasio 53.01 313 P **P 08 40 05.3 -0.7**
comp=Z,2μm,3.2s
ETOB Tobarra 53.01 309 P **P 08 40 06.4 +0.4**
comp=Z,2μm,3.7s
ETOB Tobarra 53.01 309 P **P 08 40 06.4 +0.4**
comp=Z,2μm,3.7s
BAIF Baives 53.05 324 *e*P **P 08 40 05.2 -1.1**
comp=Z,356nm,1.0s,mb6.0
BAIF Baives 53.05 324 *e*P **P 08 40 05.2 -1.1**
BAIF pmax pmax
comp=Z,178nm,1.0s,mb6.0
BAIF Baives 53.05 324 *e*P **P 08 40 05.2 -1.1**
comp=Z,178nm,1.0s,mb6.0
ENIJ Nijar 53.15 306 P **P 08 40 07.8 +0.7**
ENIJ pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ENIJ Nijar 53.15 306 P **P 08 40 07.8 +0.8**
comp=Z,6.6nm,0.6s
ENIJ Nijar 53.15 306 P **P 08 40 07.8 +0.7**
comp=Z,7.0nm,0.6s,mb4.8
LFF La Frestale 53.18 317 *e*P **P 08 40 06.1 -1.2**
comp=Z,297nm,1.2s,mb5.8
LFF La Frestale 53.18 317 *e*P **P 08 40 06.1 -1.2**
LFF pmax pmax
comp=Z,149nm,1.2s,mb5.8
LFF La Frestale 53.18 317 *e*P **P 08 40 06.1 -1.2**
comp=Z,149nm,1.2s,mb5.8
SNF Seneffe 53.21 324 P **P 08 40 07.6 +0.1**
SNF Seneffe 53.21 324 P **P 08 40 07.5 0.0**
KRAR Krasnoyarsk 53.26 28⇓ *i*P **P 08 40 07.3 -0.5**
KRAR MLR MLR
comp=Z,28μm,17.0s,MS6.4
KRAR Krasnoyarsk 53.26 28 *i*P **P 08 40 07.3 -0.5**
comp=Z,28μm,17.0s
GYA Guiyang 53.28 67⇑ *i*P **P 08 40 09.0 +1.0**
GYA AP pP 08 40 12.8 +2.2
GYA XP sP 08 40 16.8 +5.1
GYA PCP PcP 08 41 17.5 +1.9
GYA PP PP 08 42 10.8 +2.7
GYA SCP ScP 08 45 13.8 +0.3
GYA S **S 08 47 37.8 -1.7**
GYA SCS ScS 08 49 56.0 -1.9
GYA SS SS 08 51 17.0 -2.2
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.6
GYA AMB AMB
comp=Z,690nm,3.9s
GYA LR LR
comp=N,23μm,20.7s,MS6.5
GYA LR LR
comp=E,36μm,19.8s,MS6.5
GYA LR LR
comp=Z,45μm,20.7s,MS6.5
UCC Uccle 53.30 325 P **P 08 40 08.0 -0.1**
REYF Montagne du Re 53.35 314 *e*P **P 08 40 07.6 -0.9**
MELI Melilla 53.41 304 *e*P **P 08 40 10.6 +1.6**
MELI *i*S **S 08 47 47.4 +6.0**
ETSF Etsaut 53.42 314 *e*P **P 08 40 08.5 -0.5**
comp=Z,397nm,1.3s,mb5.9
ETSF Etsaut 53.42 314 *e*P **P 08 40 08.5 -0.5**
ETSF pmax pmax
comp=Z,199nm,1.3s,mb5.9
ETSF Etsaut 53.42 314 *e*P **P 08 40 08.5 -0.5**
comp=Z,199nm,1.3s,mb5.9
EALB Alboran 53.61 305 P **P 08 40 11.0 +0.6**
comp=Z,810nm,2.1s,mb6.3
EHUE Huescar 53.63 307 P **P 08 40 09.1 -1.4**
EHUE pmax pmax
comp=Z,22nm,1.6s,mb4.8
EHUE Huescar 53.63 307 P **P 08 40 09.1 -1.5**
comp=Z,22nm,1.6s,mb4.8
EHUE Huescar 53.63 307 P **P 08 40 09.1 -1.4**
comp=Z,22nm,1.6s,mb4.8
EBER Berja 53.67 306 P **P 08 40 12.1 +1.2**
comp=Z,2μm,2.8s,mb6.5
EBER Berja 53.67 306 P **P 08 40 12.1 +1.2**
comp=Z,2μm,2.8s,mb6.5
EVIA Vianos 53.73 308 P **P 08 40 12.0 +0.7**
EVIA pmax pmax
comp=Z,112nm,1.4s,mb5.6
EVIA Vianos 53.73 308 P **P 08 40 12.0 +0.7**
comp=Z,112nm,1.4s,mb5.6
EVIA Vianos 53.73 308 P **P 08 40 12.0 +0.7**
comp=Z,112nm,1.4s,mb5.6
MUD Monsted U'grnd 53.83 332⇓ *i*P **P 08 40 12.5 +0.5**
comp=Z,147nm,0.9s,mb5.9
MUD *i*S **S 08 47 53.9 +7.0**
MUD
comp=Z,34μm,19.0s
MUD Monsted U'grnd 53.83 332⇓ *i*P **P 08 40 12.5 +0.5**
MUD *i*S **S 08 47 53.9 +7.0**
MUD pmax pmax
comp=Z,150nm,0.9s,mb5.9
MUD MLR MLR
comp=Z,34μm,19.0s,MS6.4
MUD Monsted U'grnd 53.83 332⇓ *i*P **P 08 40 12.5 +0.5**
comp=Z,147nm,0.9s,mb5.9
MUD *i*S **S 08 47 53.9 +7.0**
comp=Z,34μm,19.0s
ETOR Torete 53.92 311 P **P 08 40 13.1 +0.4**
ETOR pmax pmax
comp=Z,73nm,1.7s,mb5.3
ETOR Torete 53.92 311 P **P 08 40 13.1 +0.4**
comp=Z,73nm,1.7s,mb5.3
ETOR Torete 53.92 311 P **P 08 40 13.1 +0.4**
comp=Z,73nm,1.7s,mb5.3
SJPF Ste Jean 53.95 314 *e*P **P 08 40 12.2 -0.7**
comp=Z,142nm,0.9s,mb5.6
SJPF Ste Jean 53.95 314 *e*P **P 08 40 12.2 -0.7**
SJPF pmax pmax
comp=Z,71nm,0.9s,mb5.6
SJPF Ste Jean 53.95 314 *e*P **P 08 40 12.2 -0.7**
comp=Z,71nm,0.9s,mb5.6
SUR Sutherland 53.99 212 ⇑P **P 08 40 15.5 +2.3**
SNR=6.6
SUR Sutherland 53.99 212 *e*P **P 08 40 15.5 +2.3**
comp=Z,290nm,1.3s,mb6.0
SUR LR LR
comp=Z,4μm,19.0s,MS5.5
EQES Quesada 54.00 307 P **P 08 40 15.5 +2.3**
comp=Z,1μm,2.9s,mb6.3
EQES Quesada 54.00 307 P **P 08 40 15.5 +2.3**
comp=Z,1μm,2.9s,mb6.3
OSSF Osses 54.01 314 *e*P **P 08 40 11.9 -1.5**
ELIZ Elizondo 54.17 314 P **P 08 40 12.0 -2.5**
ELIZ pmax pmax
comp=Z,46nm,1.2s,mb5.3
ELIZ Elizondo 54.17 314 P **P 08 40 12.0 -2.5**
comp=Z,46nm,1.2s,mb5.3
ELIZ Elizondo 54.17 314 P **P 08 40 12.0 -2.5**
comp=Z,46nm,1.2s,mb5.3
EALK Alkurruntz 54.17 314 P **P 08 40 12.5 -2.1**
comp=Z,1μm,2.7s,mb6.3
EALK Alkurruntz 54.17 314 P **P 08 40 12.5 -2.1**
comp=Z,1μm,2.7s,mb6.3
EGUA Guajares 54.19 306 P **P 08 40 15.4 +0.7**
EGUA pmax pmax
comp=Z,4.0nm,1.0s
EGUA Guajares 54.19 306 P **P 08 40 15.4 +0.7**
comp=Z,3.6nm,1.0s
EGUA Guajares 54.19 306 P **P 08 40 15.4 +0.7**
comp=Z,4.0nm,1.0s
ECOG Cogollos-Vega 54.28 306 P **P 08 40 14.6 -0.7**
ECOG pmax pmax
comp=Z,5.0nm,1.3s
ECOG Cogollos-Vega 54.28 306 P **P 08 40 14.6 -0.7**
comp=Z,5.1nm,1.3s
ECOG Cogollos-Vega 54.28 306 P **P 08 40 14.6 -0.7**
comp=Z,5.0nm,1.3s
HFS Hagfors 54.32 338 LR LR 09 07 10.2
comp=Z,57μm,18.1s,MS6.7,baz=129,slow=40
HFA0 Hagfors New Ar 54.33 338 P **P 08 40 15.6 -0.1**
MFF Saint Martin d 54.33 318 *e*P **P 08 40 13.8 -1.9**
comp=Z,188nm,1.3s,mb5.6
MFF Saint Martin d 54.33 318 *e*P **P 08 40 13.8 -1.9**
MFF pmax pmax
comp=Z,94nm,1.3s,mb5.6
MFF Saint Martin d 54.33 318 *e*P **P 08 40 13.8 -1.9**
comp=Z,94nm,1.3s,mb5.6
ERON Agron 54.42 306 P **P 08 40 17.2 +0.9**
comp=Z,204nm,1.6s,mb5.8
ERON Agron 54.42 306 P **P 08 40 17.2 +0.9**
comp=Z,204nm,1.6s,mb5.8
EBAN Banos Encina 54.62 308 P **P 08 40 16.9 -0.9**
EBAN pmax pmax
comp=Z,97nm,1.8s,mb5.5
EBAN Banos Encina 54.62 308 P **P 08 40 16.9 -0.9**
comp=Z,97nm,1.8s,mb5.5
EBAN Banos Encina 54.62 308 P **P 08 40 16.9 -0.9**
comp=Z,97nm,1.8s,mb5.5
ECRI Cripan 54.71 313 P **P 08 40 16.9 -1.6**
ECRI pmax pmax
comp=Z,48nm,1.2s,mb5.4
ECRI Cripan 54.71 313 P **P 08 40 16.9 -1.6**
comp=Z,48nm,1.2s,mb5.4
ECRI Cripan 54.71 313 P **P 08 40 16.9 -1.6**
comp=Z,48nm,1.2s,mb5.4
ELOJ Sierra Loja 54.71 306 P **P 08 40 17.8 -0.7**
ELOJ pmax pmax
comp=Z,12nm,2.0s
ELOJ Sierra Loja 54.71 306 P **P 08 40 17.8 -0.7**
comp=Z,12nm,2.0s
ELOJ Sierra Loja 54.71 306 P **P 08 40 17.8 -0.7**
comp=Z,12nm,2.0s
EMAL Malaga-Limoner 54.86 306 *e*P **P 08 40 18.4 -1.2**
EMAL *i*S **S 08 48 03.2 +2.3**
ELUQ Luque 54.88 307 P **P 08 40 18.9 -0.8**
ELUQ pmax pmax
comp=Z,7.0nm,0.8s
ELUQ Luque 54.88 307 P **P 08 40 18.9 -0.8**
comp=Z,7.1nm,0.8s,mb4.8
ELUQ Luque 54.88 307 P **P 08 40 18.9 -0.8**
comp=Z,7.1nm,0.8s,mb4.8
LDF La Druitiere 55.03 321 *e*P **P 08 40 18.9 -1.9**
comp=Z,306nm,1.0s,mb6.0
LDF La Druitiere 55.03 321 *e*P **P 08 40 18.9 -1.9**
LDF pmax pmax
comp=Z,153nm,1.0s,mb6.0
LDF La Druitiere 55.03 321 *e*P **P 08 40 18.9 -1.9**
comp=Z,153nm,1.0s,mb6.0
ESDC Sonseca Array 55.07 309 P **P 08 40 21.8 +0.8**
comp=Z,30nm,1.0s,mb5.3,baz=89,slow=6.7,SNR=58
ESDC S **S 08 48 05.2 +1.5**
comp=Z,0.1nm,0.3s,baz=70,slow=7.5,SNR=2.5
ESDC LR LR 09 05 12.3
comp=Z,8μm,18.5s,MS5.8,baz=105,slow=37
ESDC Sonseca Array 55.07 309 P **P 08 40 19.9 -1.1**
comp=Z,229nm,1.6s,mb6.0
ESDC Sonseca Array 55.07 309 P **P 08 40 19.9 -1.1**
comp=Z,229nm,1.6s,mb6.0
ESLA Sonseca Array 55.07 309 *e*P **P 08 40 21.8 +0.8**
comp=Z,80nm,1.3s,mb5.6
ESLA LR LR
comp=Z,64μm,22.0s,MS6.7
ESLA Sonseca Array 55.07 309 *e*P **P 08 40 21.8 +0.8**
comp=Z,80nm,1.3s,mb5.6
EMIJ Mijas 55.10 305 P **P 08 40 20.6 -0.6**
comp=Z,2μm,3.9s
EMIJ Mijas 55.10 305 P **P 08 40 20.6 -0.7**
comp=Z,2μm,3.9s
MOY Mondy 55.17 35 *e*P **P 08 40 20.8 -0.9**
MOY pmax pmax
comp=Z,844nm,2.3s,mb6.4
MOY Mondy 55.17 35 *e*P **P 08 40 20.8 -0.9**
comp=Z,844nm,2.3s,mb6.4
EADA Adamuz 55.23 307 P **P 08 40 20.5 -1.8**
comp=Z,1μm,3.4s
EADA Adamuz 55.23 307 P **P 08 40 20.5 -1.7**
comp=Z,1μm,3.4s
OSL Oslo 55.31 336 *e*P **P 08 40 26.1 +3.3**
FLN La Foliniere 55.31 321 *e*P **P 08 40 20.9 -1.9**
comp=Z,353nm,1.0s,mb6.0
FLN *e*MLR
comp=Z,22μm,22.8s
FLN La Foliniere 55.31 321 *e*P **P 08 40 20.9 -1.9**
FLN pmax pmax
comp=Z,177nm,1.0s,mb6.0
FLN MLR MLR
comp=Z,22μm,22.8s,MS6.2
FLN La Foliniere 55.31 321 *e*P **P 08 40 20.9 -1.9**
comp=Z,177nm,1.0s,mb6.0
FLN LR LR
comp=Z,22μm,22.8s,MS6.2
PAB San Pablo 55.33 309 *e*P **P 08 40 23.6 +0.6**
comp=Z,327nm,1.4s,mb6.2
PAB LR LR
comp=Z,11μm,21.0s,MS5.9
PAB San Pablo 55.33 309 P **P 08 40 23.6 +0.7**
comp=Z,330nm,1.4s,mb6.2
GRR Gorron 55.41 320 *e*P **P 08 40 21.6 -1.9**
comp=Z,373nm,1.5s,mb5.9
GRR Gorron 55.41 320 *e*P **P 08 40 21.6 -1.9**
GRR pmax pmax
comp=Z,186nm,1.5s,mb5.9
GRR Gorron 55.41 320 *e*P **P 08 40 21.6 -1.9**
comp=Z,186nm,1.5s,mb5.9
GUD Guadarrama 55.42 310 P **P 08 40 23.0 -0.6**
GUD pmax pmax
comp=Z,160nm,1.3s,mb5.9
GUD Guadarrama 55.42 310 P **P 08 40 23.0 -0.6**
comp=Z,160nm,1.3s,mb5.9
GUD Guadarrama 55.42 310 P **P 08 40 23.0 -0.6**
comp=Z,160nm,1.3s,mb5.9
REAL Reales 55.43 305 *e*P **P 08 40 24.0 +0.3**
APA Apatity 55.52 352⇑ *i*P **P 08 40 23.5 -0.8**
APA *i* 08 40 28.2
APA *i*S **S 08 48 03.0 -6.8**
APA smax
comp=N,6μm,10.0s
APA smax
comp=E,12μm,10.0s
APA MLR MLR
comp=Z,140μm,18.0s,MS7.1
APA Apatity 55.52 352 *i*P **P 08 40 23.5 -0.8**
APA *i*S **S 08 48 03.0 -6.8**
comp=Z,40μm,18.0s
ELAN Lanestosa 55.53 314 P **P 08 40 21.8 -2.5**
comp=Z,2μm,2.9s,mb6.6
ELAN Lanestosa 55.53 314 P **P 08 40 21.8 -2.6**
comp=Z,2μm,2.9s,mb6.6
MDAL Dalia 55.56 304 *i*P **P 08 40 22.0 -2.6**
KONO Kongsberg 55.58 336 *e*P **P 08 40 26.0 +1.3**
KONO *e* 08 43 26.2
KONO *e*S **S 08 48 09.8 -0.7**
KONO Kongsberg 55.58 336 *e*P **P 08 40 24.3 -0.4**
comp=Z,380nm,1.7s,mb6.2
KONO LR LR
comp=Z,45μm,20.0s,MS6.5
EJIF Jimena Fronter 55.64 305 P **P 08 40 25.1 0.0**
EJIF pmax pmax
comp=Z,646nm,1.6s,mb6.4
EJIF Jimena Fronter 55.64 305 P **P 08 40 25.1 0.0**
comp=Z,646nm,1.6s,mb6.4
EJIF Jimena Fronter 55.64 305 P **P 08 40 25.1 0.0**
comp=Z,646nm,1.6s,mb6.4
LIJA Lijar 55.66 306 *e*P **P 08 40 24.0 -1.3**
LVZ Lovozero 55.66 352 *e*P **P 08 40 27.2 +1.9**
LVZ *e* 08 43 48.1
LVZ *e*S **S 08 48 15.2 +3.5**
LVZ pmax pmax
comp=Z,208nm,1.0s,mb6.1
LVZ pmax pmax
comp=N,116nm,1.8s
LVZ pmax pmax
comp=E,34nm,0.9s
LVZ smax
comp=E,9μm,7.9s
LVZ MLR MLR
comp=Z,51μm,21.0s,MS6.6
LVZ MLR MLR
comp=N,46μm,18.0s,MS6.7
LVZ MLR MLR
comp=E,26μm,14.0s,MS6.7
LVZ Lovozero 55.66 352 *e*P **P 08 40 27.2 +1.9**
comp=E,116nm,1.8s,mb5.6
LVZ *e*S **S 08 48 15.2 +3.5**
comp=E,46μm,18.0s
NAO01 NORSAR Array S 55.84 337 *e*P **P 08 40 26.2 -0.3**
comp=E,90nm,0.9s,mb5.8
NAO01 LR LR
comp=Z,63μm,19.0s,MS6.7
NAO01 NORSAR Array S 55.84 337 *e*P **P 08 40 26.2 -0.4**
comp=Z,90nm,0.9s,mb5.8
NB2 NORSAR Subarra 55.84 338 P **P 08 40 24.9 -1.7**
comp=Z,226nm,1.4s,mb6.0,baz=124,slow=7.4
NOA NORSAR Array B 55.84 338 P **P 08 40 25.9 -0.7**
comp=Z,51nm,0.9s,mb5.5,baz=122,slow=7.7,SNR=17
NOA LR LR 09 08 25.2
comp=Z,42μm,19.0s,MS6.5,baz=140,slow=40
XAN Xi'an 55.89 58 P **P 08 40 25.8 -1.2**
XAN S **S 08 48 16.8 +2.1**
XAN SS SS 08 52 02.5 +2.1
XAN AMB AMB
comp=Z,69nm,1.5s,mb5.5
XAN LR LR
comp=N,5μm,19.9s,MS6.1
XAN LR LR
comp=E,16μm,21.4s,MS6.1
XAN LR LR
comp=Z,17μm,25.1s,MS6.0
LIC Lamto 55.92 269 *e*P **P 08 40 26.6 -0.5**
comp=Z,100nm,0.9s,mb5.6,baz=85
LIC *e*MLR
comp=Z,13μm,20.2s
LIC Lamto 55.92 269 *e*P **P 08 40 26.6 -0.5**
comp=Z,50nm,0.9s,mb5.5
LIC LR LR
comp=Z,7μm,20.3s,MS5.7
LIC Lamto 55.92 269 *e*P **P 08 40 26.6 -0.5**
comp=Z,50nm,0.9s,mb5.5
ZAK Zakamensk 55.97 37⇑ *i*P **P 08 40 27.4 -0.1**
ZAK pmax pmax
comp=Z,49nm,2.1s,mb5.2
ZAK Zakamensk 55.97 37 *i*P **P 08 40 27.4 -0.1**
comp=Z,49nm,2.1s,mb5.2
ESPR Espera 56.01 306 P **P 08 40 27.4 -0.4**
comp=Z,1μm,3.0s
CNIL Conil 56.09 305 *e*P **P 08 40 28.0 -0.4**
GIBL Gibalbin 56.09 306 *e*P **P 08 40 29.0 +0.6**
SFS San Fernando 56.23 305 *i*P **P 08 40 34.0 +4.7**
SFS *i*S **S 08 48 24.4 +5.3**
QIZ Qiongzhong 56.26 76 P **P 08 40 29.0 -0.6**
QIZ XP sP 08 40 34.5 +1.2
QIZ PP PP 08 42 41.0 +6.1
QIZ S **S 08 48 18.5 -1.1**
QIZ XS sS 08 48 29.5 +5.5
QIZ SS SS 08 52 06.0 -0.2
QIZ LR LR
comp=E,11μm,20.4s
QIZ LR LR
comp=Z,16μm,26.3s
QIZ Qiongzhong 56.26 76 PFAKE 08 40 40.0 +10
QIZ LR LR
comp=Z,17μm,20.0s,MS6.1
SGMF Saint Gilles 56.43 320 *e*P **P 08 40 28.5 -2.3**
comp=Z,201nm,0.9s,mb5.8
SGMF Saint Gilles 56.43 320 *e*P **P 08 40 28.5 -2.3**
SGMF pmax pmax

comp=Z,100nm,0.9s,mb5.8
SGMF Saint Gilles 56.43 320 *e*P **P 08 40 28.5 -2.3**
comp=Z,100nm,0.9s,mb5.8
TLY Talaya 56.68 36 *e*P **P 08 40 33.0 +0.4**
TLY pmax pmax
comp=Z,225nm,1.7s,mb5.9
TLY MLR MLR
comp=Z,7μm,22.0s,MS5.7
TLY Talaya 56.68 36 *e*P **P 08 40 33.0 +0.4**
comp=Z,225nm,1.7s,mb5.9
TLY LR LR
comp=Z,7μm,22.0s,MS5.7
TLY Talaya 56.68 36 *e*P **P 08 40 33.0 +0.4**
comp=Z,7μm,22.0s
QUIF Quistinic 56.71 319 *e*P **P 08 40 30.5 -2.3**
BLS5 Blasjo 56.73 334 *e*P **P 08 40 36.4 +3.5**
EMIN Mina Concepcio 56.80 307 P **P 08 40 32.6 -0.8**
comp=Z,2μm,3.9s
EMIN Mina Concepcio 56.80 307 P **P 08 40 32.6 -0.8**
comp=Z,2μm,3.9s
EARI Arriondas 56.80 313 P **P 08 40 31.1 -2.4**
comp=Z,2μm,3.5s
EARI Arriondas 56.80 313 P **P 08 40 31.1 -2.4**
comp=Z,2μm,3.5s
ROSF Rostrenen 56.91 320 *e*P **P 08 40 31.7 -2.5**
comp=Z,197nm,0.9s,mb5.8
ROSF Rostrenen 56.91 320 *e*P **P 08 40 31.7 -2.5**
ROSF pmax pmax
comp=Z,99nm,0.9s,mb5.8
ROSF Rostrenen 56.91 320 *e*P **P 08 40 31.7 -2.5**
comp=Z,99nm,0.9s,mb5.8
SONM Songino Array 57.01 41 P **P 08 40 35.3 +0.4**
comp=Z,52nm,0.9s,mb5.6,baz=245,slow=5.3,SNR=214
SONM S **S 08 48 32.8 +3.2**
comp=Z,1.1nm,1.0s,baz=257,slow=13,SNR=2.8
SONM LR LR 09 06 15.3
comp=Z,15μm,21.4s,MS6.1,baz=270,slow=37
SONM PKP2bc 09 10 45.4
comp=Z,1.9nm,1.1s,baz=134,slow=4.2,SNR=3.7
SONM Songino Array 57.01 41 P **P 08 40 35.3 +0.4**
SONM S **S 08 48 32.8 +3.2**
SONM LR LR 09 06 15.3
SONM ⇑*e* 09 10 45.4
SONM Songino Array 57.01 41 P **P 08 40 35.3 +0.4**
SONM S **S 08 48 32.8 +3.3**
SWN1 Swindon 57.12 323 *e*P **P 08 40 35.8 +0.1**
SWN1 AMb AMB 08 40 42.9
comp=Z,378nm,1.6s,mb6.2
EBAD Badajoz 57.22 308 P **P 08 40 35.6 -0.8**
comp=Z,2μm,3.2s
EBAD Badajoz 57.22 308 P **P 08 40 35.6 -0.8**
comp=Z,2μm,3.2s
IRK Irkutsk 57.25 36 *e*P **P 08 40 36.2 -0.5**
IRK *e*S **S 08 48 48.5 +16**
IRK pmax pmax
comp=Z,563nm,2.5s,mb6.2
IRK Irkutsk 57.25 36 *e*P **P 08 40 36.2 -0.5**
comp=Z,563nm,2.5s,mb6.2
EGRO El Granado 57.40 306 P **P 08 40 36.1 -1.5**
comp=Z,2μm,3.0s
EGRO El Granado 57.40 306 P **P 08 40 36.1 -1.6**
comp=Z,2μm,3.0s
ULN Ulaanbaatar 57.44 41 PFAKE 08 40 50.0 +12
ULN LR LR
comp=Z,18μm,20.0s,MS6.2
PBRG Braganca 57.58 311 *e*P **P 08 40 39.5 +0.6**
comp=Z,114nm,1.5s,mb5.7
ECAL Calabor 57.60 311 P **P 08 40 37.0 -2.1**
comp=Z,3μm,3.7s
ECAL Calabor 57.60 311 P **P 08 40 37.0 -2.1**
comp=Z,3μm,3.7s
PESTR Estremoz 57.68 308 *e*P **P 08 40 40.4 +0.7**
comp=Z,47nm,1.9s,mb5.2
KWE Weaver Farm 57.72 325 *e*P **P 08 40 39.4 -0.5**
BER Bergen 57.74 335 *e*P **P 08 40 45.1 +5.0**
BER *i* 08 44 03.8
BER *e*S **S 08 48 39.9 +0.8**
BER AMS AMS 09 10 04.0
comp=Z,29μm,19.2s,MS6.4
BER Bergen 57.74 335 *e*P **P 08 40 43.7 +3.6**
BER *i* 08 44 03.8
BER *e* 08 48 40.8
BER LR LR
comp=Z,29μm,19.2s,MS6.4
BER Bergen 57.74 335 *e*P **P 08 40 45.1 +5.0**
SNR=22
BER *e*S **S 08 48 40.8 +1.7**
comp=Z,29μm,19.2s
PCBR Castelo Branco 57.76 309 *e*P **P 08 40 40.5 +0.3**
comp=Z,77nm,1.5s,mb5.5
PCBR Castelo Branco 57.76 309 *e*P **P 08 40 40.4 +0.2**
BTO Baotou 57.76 50 *e*P **P 08 40 40.5 +0.3**
BTO S **S 08 48 37.8 -1.6**
PBEJ Beja 57.77 307 *e*P **P 08 40 40.7 +0.4**
comp=Z,69nm,1.7s,mb5.4
MTE Manteigas 57.91 309 *e*P **P 08 40 41.8 +0.5**
comp=Z,85nm,1.4s,mb5.6
MTE *e*S **S 08 48 47.7 +6.4**
MTE *e*LQ 08 55 12.7
MTE *e*P 08 59 04.7
MTE *e*LR LR 08 59 12.6
comp=Z,8μm,20.0s
MTE Manteigas 57.91 309 *e*P **P 08 40 42.1 +0.8**
MTE Manteigas 57.91 309 *e*P **P 08 40 41.8 +0.5**
comp=Z,85nm,1.4s,mb5.6
MTE *e*S **S 08 48 47.7 +6.4**
ERUA La Rua 57.99 312 P **P 08 40 39.6 -2.2**
ERUA pmax pmax
comp=Z,85nm,1.2s,mb5.7
ERUA La Rua 57.99 312 P **P 08 40 39.6 -2.2**
comp=Z,85nm,1.2s,mb5.7
ERUA La Rua 57.99 312 P **P 08 40 39.6 -2.2**
comp=Z,85nm,1.2s,mb5.7
MCH1 Michaelchurch 57.99 324 *e*P **P 08 40 41.0 -0.8**
MCH1 AMb AMB 08 40 53.3
comp=Z,110nm,2.1s,mb5.5
HEX Exmoor 58.14 322 *e*P **P 08 40 42.9 0.0**
MOL Molde 58.16 338 *e*P **P 08 40 46.6 +3.5**
MOL *i* 08 44 07.8
MOL AMS AMS 09 09 51.2
comp=Z,52μm,17.5s,MS6.7
HTR Trewern Hill 58.18 324 *e*P **P 08 40 42.2 -0.9**
EPON Pontenova 58.19 313 P **P 08 40 40.9 -2.3**
comp=Z,1μm,2.4s,mb6.5
EPON Pontenova 58.19 313 P **P 08 40 40.9 -2.3**
comp=Z,1μm,2.4s,mb6.5
PVRL Vila Real 58.19 310 *e*P **P 08 40 44.4 +1.1**
comp=Z,111nm,1.7s,mb5.6
PVRL Vila Real 58.19 310 *e*P **P 08 40 44.3 +1.0**
MOE Montemor 58.22 307 *e*P **P 08 40 43.6 +0.2**
PVIS Viseu 58.23 310 *e*P **P 08 40 44.6 +1.1**
comp=Z,83nm,1.7s,mb5.5
PVIS Viseu 58.23 310 *e*P **P 08 40 45.0 +1.5**
MOR8 Moi Rana 58.35 343 *e*P **P 08 40 43.3 -1.1**
MOR8 *e*pP pP 08 40 47.3 +0.3
PTEO Sao Teotonio 58.37 306 *e*P **P 08 40 44.9 +0.4**
comp=Z,120nm,1.5s,mb5.7
SBD1 Bryn Du 58.47 325 *e*P **P 08 40 44.5 -0.7**
KEV Kevo 58.49 350 *e*p **P 08 40 43.1 -2.3**
comp=Z,62nm,0.9s,mb5.6
KEV Kevo 58.49 350 P **P 08 40 44.0 -1.4**
KEV pmax pmax
comp=Z,260nm,0.9s,mb6.3
KEV Kevo 58.49 350 P **P 08 40 44.0 -1.4**
comp=Z,260nm,0.9s,mb6.3
PCAB Cabril 58.50 311 *e*P **P 08 40 47.1 +1.7**
comp=Z,114nm,1.5s,mb5.7
KTK1 Kautokeino 58.52 349 *e*P **P 08 40 44.3 -1.3**
KTK1 *e*pP pP 08 40 48.9 +0.7
ARCES ARCESS Array B 58.55 350 P **P 08 40 44.7 -1.1**
comp=Z,91nm,1.0s,mb5.8,baz=150,slow=5.6,SNR=37
ARCES LR LR 09 09 09.8
comp=Z,94μm,18.8s,MS6.9,baz=140,slow=39
ELOB Lobios 58.56 311 P **P 08 40 43.8 -2.0**
comp=Z,1μm,2.1s,mb6.5
ELOB Lobios 58.56 311 P **P 08 40 43.8 -2.0**
comp=Z,1μm,2.1s,mb6.5
XAL Allendale 58.64 327 *e*P **P 08 40 46.1 -0.3**
LIS Lisbon 58.87 307 *e*P **P 08 40 49.3 +1.4**
LIS *e*S **S 08 48 54.1 +0.3**
LIS *e*S **S 08 48 54.2 +0.4**
LIS AMS AMS 09 09 01.0
comp=E,11μm,19.4s
PLOU Loures 58.89 307 *e*P **P 08 40 48.3 +0.2**
comp=E,194nm,2.0s,mb5.8
XSO Sourhope Farm 58.92 328 *e*P **P 08 40 47.5 -0.8**

HHC Hu-ho-hao-te 58.96 50 *e*P **P 08 40 48.3 -0.3**
HHC AP pP 08 40 52.8 +1.5
HHC XP sP 08 40 55.3 +3.0
HHC PCP PcP 08 41 37.5 -0.2
HHC PP PP 08 43 00.3 +1.4
HHC SCP ScP 08 45 36.0 -2.5
HHC PCS PcS 08 45 37.8 -1.7
HHC S **S 08 48 51.5 -3.5**
HHC SCS ScS 08 50 34.0 -4.9
HHC SS SS 08 52 46.3 -2.3
HHC AMB AMB
comp=Z,71nm,1.8s,mb5.4
HHC AMB AMB
comp=Z,7μm,5.4s
HHC LR LR
comp=N,26μm,22.4s,MS6.5
HHC LR LR
comp=E,34μm,25.9s,MS6.5
HHC LR LR
comp=Z,57μm,24.3s,MS6.6
PMAFR Mafra 59.00 308 *e*P **P 08 40 49.9 +1.0**
comp=Z,112nm,0.9s,mb5.9
CKE Keswick 59.01 326 *e*P **P 08 40 47.9 -1.0**
EZAM Zamans 59.07 311 P **P 08 40 47.3 -2.1**
EZAM pmax pmax
comp=Z,60nm,1.1s,mb5.5
EZAM Zamans 59.07 311 P **P 08 40 47.3 -2.1**
comp=Z,60nm,1.1s,mb5.5
EZAM Zamans 59.07 311 P **P 08 40 47.3 -2.1**
comp=Z,60nm,1.1s,mb5.5
STS Santiago 59.11 312 P **P 08 40 47.4 -2.2**
STS pmax pmax
comp=Z,34nm,1.1s,mb5.3
STS Santiago 59.11 312 P **P 08 40 47.4 -2.2**
comp=Z,34nm,1.1s,mb5.3
STS Santiago 59.11 312 P **P 08 40 47.4 -2.2**
comp=Z,34nm,1.1s,mb5.3
ESY Stoneypath 59.28 328 *e*P **P 08 40 49.8 -1.0**
YRC Rhoscolyn 59.33 325 *e*P **P 08 40 50.4 -0.8**
ESK Eskdalemuir 59.35 327 *e*P **P 08 40 50.5 -0.8**
ESK AMb AMB 08 41 00.7
comp=Z,127nm,1.7s,mb5.7
ESK Eskdalemuir 59.35 327 *e*P **P 08 40 55.9 +4.6**
ESK pmax pmax
comp=Z,95nm,1.0s,mb5.8
ESK Eskdalemuir 59.35 327 *e*P **P 08 40 51.4 +0.1**
comp=Z,95nm,1.0s,mb5.8
ESK LR LR
comp=Z,4μm,20.0s,MS5.6
ESK Eskdalemuir 59.35 327 *e*P **P 08 40 55.9 +4.6**
comp=Z,95nm,1.0s,mb5.8
WCB1 Church Bay 59.36 325 *e*P **P 08 40 51.3 -0.1**
EBL Broad Law 59.44 328 *e*P **P 08 40 51.4 -0.5**
KSM Kuching 59.48 96 *e*P **P 08 40 53.5 +1.3**
KSM Kuching 59.48 96 *e*P **P 08 40 53.5 +1.3**
EDI Edinburgh 59.57 328 *e*P **P 08 40 51.5 -1.4**
EDI AMb AMB 08 40 58.9
comp=Z,261nm,1.3s,mb6.1
EAU Auchinoon 59.68 328 *e*P **P 08 40 53.3 -0.3**
TRO Tromso 59.91 347 *e*P **P 08 40 52.5 -2.6**
TRO AMb AMB 08 41 17.3
comp=Z,457nm,1.9s,mb6.2
TRO *e*PP PP 08 43 06.9 -0.3
TRO *e*S **S 08 49 06.9 -0.4**
TRO *e*S **S 08 49 09.0 +1.7**
TRO AMS AMS 09 09 56.5
comp=Z,72μm,18.8s,MS6.8
TRO Tromso 59.91 347 *e*P **P 08 40 52.5 -2.6**
TRO *i* 08 44 16.5
TRO LR LR
comp=Z,72μm,18.8s,MS6.8
LOF Lofoten 60.02 345 *e*P **P 08 41 00.3 +4.3**
LOF *e* pP 08 41 01.7 +3.1
HKC Hong Kong 60.13 72 P **P 08 41 00.0 +3.3**
HKC S **S 08 49 16.0 +5.9**
WHN Wuhan 60.21 62 ⇓P **P 08 40 56.5 -0.7**
WHN PP PP 08 43 09.0 -0.9
WHN S **S 08 49 05.0 -6.2**
WHN SS SS 08 53 11.0 +2.7
WHN LR LR
comp=Z,70μm,22.2s,MS6.8
EAB Aberfoyle 60.27 328 *e*P **P 08 40 56.9 -0.7**
LRW Lerwick 60.41 333 *e*P **P 08 40 57.9 -0.6**
LRW AMb AMB 08 41 09.4
comp=Z,252nm,1.8s,mb6.0
DLF Lyons Farm 60.46 324 ⇓*i*P **P 08 40 58.5 -0.4**
MDO Dochfour 60.77 329 *e*P **P 08 40 59.5 -1.5**
KSB Sheil Bridge 61.21 329 *e*P **P 08 41 02.9 -1.2**
CFTV Fuerteventura 62.33 295 P **P 08 41 13.1 +1.5**
comp=Z,91nm,1.0s,mb5.9
CFTV Fuerteventura 62.33 295 P **P 08 41 13.1 +1.5**
comp=Z,91nm,1.0s,mb5.9
BJT Baijiatuau 62.33 52 PFAKE 08 41 20.0 +8.4
BJT LR LR
comp=Z,45μm,22.0s,MS6.6
BJI Beijing 62.34 52 P **P 08 41 10.5 -1.2**
BJI S **S 08 49 36.8 -1.4**
BJI SS SS 08 53 48.8 +7.2
BJI AMB AMB
comp=Z,39nm,1.6s,mb5.3
BJI AMB AMB
comp=Z,5μm,5.1s
BJI LR LR
comp=N,32μm,16.3s,MS6.6
BJI LR LR
comp=E,16μm,16.3s,MS6.6
BJI LR LR
comp=Z,42μm,23.0s
BJI Beijing 62.34 52 P **P 08 41 10.5 -1.2**
comp=Z,39nm,1.6s,mb5.3
BJI S **S 08 49 36.8 -1.4**
BJI SS SS 08 53 48.7 +7.1
BJI LR LR
comp=Z,42μm,23.0s,MS6.5
CIT Chita 62.61 38 *e*P **P 08 41 13.7 +0.2**
CIT *e* 08 43 37.5
CIT *e*S **S 08 49 46.1 +4.4**
CIT pmax pmax
comp=Z,939nm,2.6s,mb6.5
CIT Chita 62.61 38 *e*P **P 08 41 13.7 +0.2**
comp=Z,939nm,2.6s,mb6.5
CIT *e*S **S 08 49 46.1 +4.4**
BJO Bjornoya 63.82 351 *e*P **P 08 41 24.9 +3.4**
BJO AMb AMB 08 41 36.3
comp=Z,493nm,1.6s,mb6.3
BJO *i* 08 45 15.8
BJO *e*S **S 08 49 55.9 -0.8**
BJO *e*S **S 08 49 59.7 +3.0**
BJO AMS AMS 09 12 44.9
comp=Z,41μm,19.7s,MS6.6
BJO Bjornoya 63.82 351 *e*P **P 08 41 24.9 +3.4**
comp=Z,493nm,1.6s,mb6.3,SNR=20
BJO *e*S **S 08 49 59.7 +3.0**
SNR=22
QZH Quanzhou 64.04 69 ⇓*i*P **P 08 41 26.0 +3.0**
QZH PP PP 08 43 49.5 +5.8
QZH S **S 08 49 56.3 -3.2**
QZH LR LR
comp=N,23μm,15.0s,MS6.6
QZH LR LR
comp=E,10μm,12.6s,MS6.6
QZH LR LR
comp=Z,74μm,33.4s
KKM Kota Kinabalu 64.20 90 *e*P **P 08 41 25.0 +1.0**
KKM Kota Kinabalu 64.20 90 *e*P **P 08 41 25.0 +1.0**
PMPS Porto Santo 64.27 300 *e*P **P 08 41 25.0 +0.6**
comp=Z,134nm,1.7s,mb5.7
PMPS Porto Santo 64.27 300 *e*P **P 08 41 25.3 +0.9**
EBAJ Bajamar 64.31 295 P **P 08 41 25.0 +0.3**
comp=Z,1μm,2.6s,mb6.4
EBAJ Bajamar 64.31 295 P **P 08 41 25.0 +0.3**
comp=Z,1μm,2.6s,mb6.4
BOD Bodaibo 64.40 32 ⇑*i*P **P 08 41 23.5 -1.8**
BOD pmax pmax
comp=Z,190nm,1.7s,mb5.8
BOD Bodaibo 64.40 32 *i* P **P 08 41 23.5 -1.8**
comp=Z,190nm,1.7s,mb5.8
CCAN Las Canadas 64.56 295 P **P 08 41 26.8 +0.4**
comp=Z,39nm,1.1s,mb5.3
CCAN Las Canadas 64.56 295 P **P 08 41 26.8 +0.5**
comp=Z,39nm,1.1s,mb5.3
PMAR Madeira 64.75 300 *e*P **P 08 41 28.9 +1.3**
comp=Z,157nm,1.6s,mb5.8
PMAR Madeira 64.75 300 *e*P **P 08 41 27.1 -0.5**
HIA Hailar 65.96 42 PFAKE 08 41 50.0 +15
HIA LR LR
comp=Z,19μm,21.0s,MS6.3
SSE Sheshan 66.09 62 P **P 08 41 35.5 -0.8**
SSE PP PP 08 44 06.3 +4.6
SSE S S 08 50 27.8 +3.1
SSE SS SS 08 54 49.0 +8.8
SSE AMB AMB
comp=Z,48nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,3μm,5.6s
SSE LR LR
comp=N,10μm,19.3s,MS6.4
SSE LR LR
comp=E,19μm,19.0s,MS6.4
SSE LR LR
comp=Z,25μm,17.7s,MS6.5
SSE Sheshan 66.09 62 P **P 08 41 35.5 -0.8**
comp=Z,48nm,0.9s,mb5.5
SSE sP sP 08 41 57.6 +18
SSE PP PP 08 44 06.3 +4.6
SSE S S 08 50 27.7 +3.0
SSE sS sS 08 50 53.4 +24
SSE SS SS 08 54 49.1 +8.9
SSE LR LR
comp=Z,25μm,17.7s,MS6.5
DL2 Dalian 66.47 53 ⇑*i*P **P 08 41 38.0 -0.7**
DL2 S S 08 50 25.5 -3.9
DL2 SS SS 08 54 52.0 +5.9
DL2 AMB AMB
comp=Z,110nm,1.0s,mb5.8
DL2 AMB AMB
comp=Z,2μm,5.5s
DL2 LR LR
comp=N,8μm,17.7s,MS6.2
DL2 LR LR
comp=E,9μm,16.4s,MS6.2
DL2 LR LR
comp=Z,9μm,16.5s,MS6.1
YHNB Yeheng 66.58 69 *e*P **P 08 41 42.2 +2.8**
YHNB Yeheng 66.58 69 *e*P **P 08 41 42.2 +2.8**
TATO Taipei 66.66 68 P **P 08 41 46.1 +6.2**
comp=Z,110nm,0.8s,mb5.9
TATO LR LR
comp=Z,15μm,19.0s,MS6.2
TATO Taipei 66.66 68 P **P 08 41 46.1 +6.2**
comp=Z,110nm,0.8s,mb5.9
NACB Ninganchiao 66.82 69 P **P 08 41 41.7 +0.7**
NACB Ninganchiao 66.82 69 P **P 08 41 41.7 +0.8**
SPB4 Spitsbergen Ar 67.19 353 *e*P **P 08 41 42.6 -0.7**
SPB4 Spitsbergen Ar 67.19 353 *e*P **P 08 41 42.6 -0.7**
JMIC Jan Mayen 67.94 342 LR LR 09 13 19.9
comp=Z,19μm,21.2s,MS6.3,baz=307,slow=38
JMIC Jan Mayen 67.94 342 *e*P **P 08 41 51.0 +3.0**
JMIC *e*S S 08 50 50.0 +3.1
JMIC *e*SS SS 08 55 08.6 -0.2
JMIC AMS AMS 09 13 19.9
comp=Z,19μm,21.7s,MS6.3
JMIC Jan Mayen 67.94 342 *e*P **P 08 41 51.0 +3.0**
JMIC *i* 08 50 50.8
JMIC LR LR
comp=Z,19μm,21.7s,MS6.3
JMIC Jan Mayen 67.94 342 *e*P **P 08 41 51.0 +3.0**
SNR=19
JMIC *e*S S 08 50 50.0 +3.0
SNR=21
JMIC *e*SS SS 08 55 08.6 -0.2
SNR=28
SNY Shenyang 68.05 50 ⇑P **P 08 41 46.5 -2.2**
SNY AP pP 08 41 51.0 -0.4
SNY XP sP 08 41 53.5 +1.1
SNY S S 08 50 44.3 -4.1
SNY XS sS 08 50 55.0 +2.2
SNY SS SS 08 55 14.5 +4.0
SNY AMB AMB
comp=Z,124nm,2.5s,mb5.5
SNY AMB AMB
comp=Z,3μm,5.9s
SNY LR LR
comp=N,21μm,19.2s,MS6.5
SNY LR LR
comp=E,20μm,22.8s,MS6.5
SNY LR LR
comp=Z,29μm,29.4s
KBS Kingsbay 68.33 352 *e*P **P 08 41 49.5 -1.0**
KBS *e*S S 08 50 51.4 -0.3
KBS AMS AMS 09 16 30.0
comp=Z,23μm,16.5s,MS6.5
KBS Kingsbay 68.33 352 P **P 08 41 49.7 -0.8**
KBS *e* 08 41 58.7
KBS pmax pmax
comp=Z,77nm,1.0s,mb5.7
KBS Kingsbay 68.33 352 *e*P **P 08 41 49.7 -0.8**
comp=Z,77nm,0.9s,mb5.7
KBS LR LR
comp=Z,19μm,20.0s,MS6.3
KBS Kingsbay 68.33 352 P **P 08 41 49.7 -0.8**
comp=Z,77nm,1.0s,mb5.7
KBS *e*S S 08 50 51.4 -0.3
SNR=21
ASCN Ascension 68.57 256 *e*P **P 08 41 58.2 +6.2**
comp=Z,193nm,1.1s
ASCN LR LR
comp=Z,1μm,19.0s
ASCN Ascension 68.57 256 *e*P **P 08 41 58.2 +6.2**
comp=Z,193nm,1.1s,mb5.9
CN2 Changchun 69.48 48 *e*P **P 08 41 56.5 -1.1**
CN2 *e*AP pP 08 42 02.5 +2.2
CN2 *e*PP PP 08 44 32.3 +1.2
CN2 *e*S S 08 51 01.0 -4.3
CN2 AMB AMB
comp=Z,280nm,1.2s,mb6.1
CN2 AMB AMB
comp=Z,6μm,5.0s
CN2 LR LR
comp=N,16μm,16.0s,MS6.6
CN2 LR LR
comp=E,20μm,16.0s,MS6.6
CN2 LR LR
comp=Z,27μm,19.0s,MS6.5
NRGR Nerungri 69.87 34 *i* P **P 08 42 00.5 +0.4**
NRGR S S 08 51 12.4 +2.5
NRGR smax
comp=N,117nm,1.4s
NRGR Nerungri 69.87 34 *i* P **P 08 42 00.5 +0.4**
comp=N,117nm,1.4s,mb5.6
NRGR S S 08 51 12.4 +2.5
CLNS Chul'man 69.99 34 *e*P **P 08 42 00.0 -0.8**
CLNS *e* 08 42 24.5
CLNS *e* 08 44 36.0
CLNS *e*PPP 08 46 23.3
CLNS *e*S S 08 51 09.8 -1.5
CLNS *e*SS SS 08 55 46.0 +5.6
CLNS pmax pmax
comp=Z,234nm,1.0s,mb6.1
CLNS pmax pmax
comp=N,134nm,1.4s
CLNS pmax pmax
comp=E,205nm,1.2s
CLNS smax
comp=N,3μm,13.7s
CLNS smax
comp=Z,2μm,11.5s
CLNS smax
comp=E,2μm,11.1s
CLNS MLR MLR
comp=Z,36μm,22.0s,MS6.6
CLNS MLR MLR
comp=N,9μm,15.0s
CLNS MLR MLR
comp=E,13μm,20.0s
CLNS Chul'man 69.99 34 *e*P **P 08 42 00.0 -0.8**
comp=E,134nm,1.4s,mb5.7
CLNS Chul'man 69.99 34 *e*PcP PcP 08 42 24.5 +1.5
CLNS *e*S S 08 51 09.8 -1.5
comp=E,2μm,11.5s
INCN Inchon 70.42 55 ⇓P **P 08 42 07.0 +3.6**
SNR=9.4
INCN Inchon 70.42 55 *e*P **P 08 42 02.3 -1.1**
comp=E,61nm,0.7s,mb5.6
INCN LR LR
comp=Z,13μm,19.0s,MS6.2
BORG Borgarnes 70.71 334 LR LR 09 17 07.3
comp=Z,30μm,21.3s,MS6.5,baz=109,slow=39
BORG Borgarnes 70.71 334 PFAKE 08 42 20.0 +15
BORG LR LR
comp=Z,8μm,20.0s,MS6.0

KS15 Wonju Array Si 71.42 55 *eP* **P 08 42 09.3 -0.2**
KS15 Wonju Array Si 71.42 55 *eP* **P 08 42 09.3 -0.2**
KSRS Korea Array 71.45 55 P **P 08 42 08.7 -1.0**
comp=Z,12nm,1.1s,mb4.8,baz=267,slow=6.6,SNR=16
KSRS LR LR 09 15 02.4
comp=Z,12μm,18.3s,MS6.2,baz=174,slow=37
CTBH Cotabato--PC H 71.78 87⇓ *eP* **P 08 42 12.0 +0.4**
MDJ Mudanjiang 72.45 47 PFAKE 08 42 30.0 +14
MDJ LR LR
comp=Z,24μm,19.0s,MS6.5
JOW Kunigami 72.58 66 P **P 08 42 18.6 +2.1**
comp=Z,59nm,1.1s,mb5.4,baz=310,slow=5.7,SNR=4.0
JOW LR LR 09 14 53.0
comp=Z,17μm,20.9s,MS6.3,baz=280,slow=36
JOW Kunigami 72.58 66 P **P 08 42 18.5 +2.1**
DAG Danmarks Havn 72.63 347⇓ *iP* **P 08 42 15.3 -1.4**
comp=Z,88nm,1.0s,mb5.6
DAG Danmarks Havn 72.63 347⇓ *eP* **P 08 42 15.3 -1.4**
DAG pmax pmax
comp=Z,88nm,1.0s,mb5.6
YAK Yakutsk 72.90 29*c iP* **P 08 42 16.1 -2.2**
YAK *e* 08 42 33.3
YAK *e* 08 42 41.4
YAK *e*PP PP 08 44 57.5 -3.0
YAK *e*S S 08 51 39.3 -5.6
YAK *e*SS SS 08 56 29.2 +4.1
YAK pmax pmax
comp=Z,298nm,0.8s,mb6.3
YAK pmax pmax
comp=N,317nm,0.9s
YAK pmax pmax
comp=E,167nm,1.2s
YAK MLR MLR
comp=Z,22μm,21.0s,MS6.4
YAK MLR MLR
comp=N,25μm,22.0s,MS6.6
YAK MLR MLR
comp=E,21μm,17.0s,MS6.6
YAK Yakutsk 72.90 29 *eP* **P 08 42 16.7 -1.6**
comp=E,282nm,0.7s,mb6.3
YAK LR LR
comp=Z,20μm,19.0s,MS6.4
YAK Yakutsk 72.90 29 *eP* **P 08 42 16.7 -1.6**
comp=Z,282nm,0.7s,mb6.3
YAK Yakutsk 72.90 29 *e*PcP PcP 08 42 33.3 -2.1
YAK *e*S S 08 51 39.3 -5.6
DAV Davao City (W) 73.10 87 *eP* **P 08 42 20.9 +1.4**
comp=Z,145nm,0.4s,mb6.3
DAV LR LR
comp=Z,10μm,19.0s,MS6.1
DAV Davao City (W) 73.10 87 *eP* **P 08 42 21.0 +1.5**
comp=Z,145nm,0.4s,mb6.3
TIXI Tiksi 73.56 19 *eP* **P 08 42 15.8 -6.4**
TIXI *e**SP sP 08 42 38.6 +13
TIXI *e*PPP 08 46 48.5
TIXI *e*S S 08 51 44.6 -7.8
TIXI *e* 08 52 22.5
TIXI *e*SS SS 08 56 31.1 -4.0
TIXI pmax pmax
comp=Z,178nm,1.4s,mb5.8
TIXI Tiksi 73.56 19 *eP* **P 08 42 19.8 -2.4**
comp=Z,241nm,1.2s,mb6.0
TIXI LR LR
comp=Z,27μm,21.0s,MS6.5
TIXI Tiksi 73.56 19 *eP* **P 08 42 19.8 -2.4**
comp=Z,241nm,1.2s,mb6.0
TIXI Tiksi 73.56 19 *e*PcP PcP 08 42 38.6 +0.4
TIXI *e*S S 08 51 44.6 -7.8
KLR Kul'dur 73.81 42 *eP* **P 08 42 17.7 -6.0**
KLR *e*S S 08 51 49.5 -5.8
KLR *e*SS SS 08 56 39.5 +0.5
KLR pmax pmax
comp=E,530nm,2.2s
KLR pmax pmax
comp=Z,760nm,2.2s,mb6.2
KLR pmax pmax
comp=N,700nm,6.0s
KLR pmax pmax
comp=E,2μm,6.0s
KLR pmax pmax
comp=Z,4μm,6.0s
KLR smax
comp=N,9μm,10.0s
KLR smax
comp=E,8μm,10.0s
KLR MLR MLR
comp=Z,58μm,13.0s,MS7.0
KLR Kul'dur 73.81 42 *eP* **P 08 42 17.7 -6.0**
KLR *e*S S 08 51 49.5 -5.8
comp=Z,58μm,13.0s
JNU Nakatsue 74.18 59 P **P 08 42 27.9 +2.0**
comp=Z,33nm,1.0s,mb5.2
JNU LR LR 09 14 59.3
comp=Z,54μm,19.4s,MS6.8,baz=33,slow=36
VLA Vladivostok 74.18 49 *eP* **P 08 42 28.6 +2.7**
VLA *e* 08 42 43.4
VLA *e*S S 08 52 01.8 +2.4
VLA MLR MLR
comp=Z,22μm,22.6s,MS6.4
VLA Vladivostok 74.18 49 *e*PcP PcP 08 42 43.4 +2.5
VLA *e*S S 08 52 01.8 +2.4
comp=Z,22μm,22.6s
HABR Khabarovsk 76.03 43 *i* P **P 08 42 35.7 -0.8**
HABR *e* pP 08 42 38.5 -0.8
HABR *e* 08 42 47.0
HABR *e* 08 45 27.0
HABR *e*PPP 08 47 14.3
HABR *e*S S 08 52 20.6 +0.6
HABR *e* 08 52 49.8
HABR *e*SS SS 08 57 15.2 +2.5
HABR pmax pmax
comp=Z,716nm,1.9s,mb6.3
HABR MLR MLR
comp=Z,27μm,18.6s,MS6.6
HABR Khabarovsk 76.03 43 *i* P **P 08 42 35.7 -0.8**
comp=Z,716nm,1.9s,mb6.3
HABR Khabarovsk 76.03 43 *e*PcP PcP 08 42 47.0 -1.8
HABR *e*S S 08 52 20.6 +0.6
HABR *e*ScS ScS 08 52 49.8 -1.7
MUN Mundaring 76.62 128 *e*S **P 08 42 39.4 -0.5**
MUN *i* S S 08 52 30.1 +3.6
KLBR Kellerberrin 77.66 127 *eP* **P 08 42 45.5 -0.2**
comp=Z,18nm,0.5s,mb5.2
NWAO Narrogin (SRO) 77.80 128 S S 08 52 41.7 +2.3
comp=Z,2.8nm,0.7s,baz=128,slow=16,SNR=1.7
NWAO LR LR 09 09 41.5
comp=Z,19μm,21.4s,MS6.4,baz=298,slow=30
NWAO Narrogin (SRO) 77.80 128 *eP* **P 08 42 46.6 +0.1**
comp=Z,150nm,1.3s,mb5.8
NWAO LR LR
comp=Z,15μm,21.0s,MS6.3
NWAO Narrogin (SRO) 77.80 128 P **P 08 42 46.6 +0.1**
comp=Z,150nm,1.3s,mb5.8
TRIS Tristan da Cun 77.97 227 PFAKE 08 43 00.0 +13
TRIS LR LR
comp=Z,9μm,19.0s,MS6.1
FITZ Fitzroy Crossi 79.60 111 *i* S S 08 53 00.6 +2.0
FITZ Fitzroy Crossi 79.60 111 P **P 08 42 57.2 +0.8**
comp=Z,23nm,0.9s,mb5.1,baz=290,slow=5.4,SNR=16
FITZ S S 08 52 53.6 -5.0
comp=Z,2.1nm,1.0s,baz=193,slow=14,SNR=3.4
FITZ LR LR 09 13 06.9
comp=Z,8μm,20.4s,MS6.1,baz=299,slow=32
FITZ Fitzroy Crossi 79.60 111 *eP* **P 08 42 56.2 -0.2**
comp=Z,68nm,0.8s,mb5.6
FITZ *i* S S 08 53 00.6 +2.0
MAJO Matsushiro 79.73 55 *eP* **P 08 42 57.4 +0.3**
MAJO pmax pmax
comp=Z,93nm,1.1s,mb5.6
MAJO MLR MLR
comp=Z,19μm,20.0s,MS6.4
MAJO Matsushiro 79.73 55 *eP* **P 08 42 57.4 +0.3**
comp=Z,93nm,1.1s,mb5.6
MAJO LR LR
comp=Z,19μm,20.0s,MS6.4
MAJO Matsushiro 79.73 55 *eP* **P 08 42 57.4 +0.3**
comp=Z,93nm,1.1s,mb5.6
MAT Matsushiro 79.73 55 P **P 08 42 55.6 -1.5**
MAT S S 08 52 52.0 -7.9
MJAR Matsushiro Arr 79.73 55 P **P 08 42 56.6 -0.6**
comp=Z,14nm,1.0s,mb4.8,baz=304,slow=5.4,SNR=12
MJAR LR LR 09 21 42.4
comp=Z,16μm,19.6s,MS6.4,baz=290,slow=38
MJAR Matsushiro Arr 79.73 55 P **P 08 42 56.6 -0.6**
MJAR LR LR 09 21 42.4

ALE Alert 79.94 353 P **P 08 42 58.0 -0.3**
comp=Z,556nm,1.4s,mb6.3,SNR=16
MAW Mawson 81.09 176 *i* S ScS 08 53 30.0 -2.6
MAW Mawson 81.09 176 P **P 08 43 05.5 +1.1**
comp=Z,30nm,1.1s,mb5.2,baz=355,slow=7.0,SNR=24
MAW S S 08 53 13.2 -1.0
comp=Z,1.5nm,0.7s,baz=8.4,slow=19,SNR=2.4
MAW LR LR 09 12 51.7
comp=Z,7μm,21.8s,MS6.0,baz=340,slow=31
MAW Mawson 81.09 176 P **P 08 43 05.5 +1.1**
MAW S S 08 53 13.2 -1.0
MAW pmax pmax
comp=Z,30nm,1.1s
MAW smax
comp=N,2.0nm,0.7s
MAW Mawson 81.09 176 *eP* **P 08 43 03.9 -0.5**
comp=N,62nm,1.2s,mb5.4
MAW *i* S ScS 08 53 30.0 -2.6
MAW Mawson 81.09 176 *eP* **P 08 43 03.9 -0.5**
comp=N,62nm,1.2s,mb5.4
MAW S S 08 53 13.2 -1.0
comp=N,2.0nm,0.7s
YSS Yuzh-Sakhalins 81.38 44⇑ *eP* **P 08 43 04.8 -1.2**
YSS pmax pmax
comp=Z,57nm,1.7s,mb5.2
YSS MLR MLR
comp=Z,16μm,18.0s,MS6.4
YSS Yuzh-Sakhalins 81.38 44 *eP* **P 08 43 06.1 +0.1**
comp=Z,59nm,0.9s,mb5.5
YSS LR LR
comp=Z,19μm,20.0s,MS6.5
YSS Yuzh-Sakhalins 81.38 44 *eP* **P 08 43 04.8 -1.2**
comp=Z,16μm,18.0s
JHJ Hachijo jima 2 81.58 58 LR LR 09 23 46.5
comp=Z,8μm,18.4s,MS6.1,baz=106,slow=39
ASAJ Asahikawa 81.77 47 S S 08 53 17.1 -4.2
comp=Z,7.3nm,1.0s,baz=142,slow=17,SNR=1.7
ASAJ LR LR 09 20 48.9
comp=Z,20μm,19.7s,MS6.5,baz=84,slow=37
SYO Syowa Base 82.49 184⇓ *eP* **P 08 43 12.8 +1.0**
SFJD Kangerlussuaq 82.51 337 S S 08 53 24.0 -4.9
comp=Z,8.2nm,0.9s,baz=112,slow=16,SNR=2.2
SFJD Kangerlussuaq 82.51 337 *i* P **P 08 43 11.1 -0.8**
comp=Z,62nm,1.0s,mb5.6
SFJD *i* S S 08 53 29.0 +0.1
SFJD *i* 08 58 53.0
SFJD
comp=Z,19μm,22.0s
SFJD Kangerlussuaq 82.51 337 *i* P **P 08 43 11.1 -0.8**
SFJD *i* S S 08 53 29.0 +0.1
SFJD *i* 08 58 53.0
SFJD pmax pmax
comp=Z,62nm,1.0s,mb5.6
SFJD MLR MLR
comp=Z,19μm,22.0s,MS6.4
SFJD Kangerlussuaq 82.51 337 *eP* **P 08 43 11.1 -0.8**
comp=Z,146nm,1.4s,mb5.8
SFJD LR LR
comp=Z,21μm,21.0s,MS6.5
SFJD Kangerlussuaq 82.51 337 *eP* **P 08 43 11.1 -0.8**
comp=Z,146nm,1.4s,mb5.8
SFJD *i* S S 08 53 29.0 +0.1
comp=Z,19μm,22.0s
ERM Erimo 82.57 49 PFAKE 08 43 20.0 +7.8
ERM LR LR
comp=Z,5μm,21.0s,MS5.9
SEY Seymchan 83.24 27⇓ *eP* **P 08 43 15.0 -0.7**
MA2 Magadan 83.38 30 *eP* **P 08 43 16.2 -0.2**
MA2 *e* 08 46 22.4
MA2 *e*S S 08 53 33.6 -4.1
MA2 *e* 08 54 32.1
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
MA2 MLR MLR
comp=Z,42μm,23.0s,MS6.8
MA2 Magadan 83.38 30⇑ *eP* **P 08 43 14.5 -1.9**
comp=Z,11nm,1.4s
MA2 LR LR
comp=Z,17μm,21.0s,MS6.4
MA2 Magadan 83.38 30 *eP* **P 08 43 16.2 -0.2**
comp=Z,30nm,1.0s,mb5.3
MA2 *e*S S 08 53 33.6 -4.1
YUK Yuzh-Kuril'sk 84.09 46⇑ *iP* **P 08 43 23.0 +2.9**
YUK *e* 08 46 29.0
YUK *e*S S 08 53 45.0 +0.1
YUK *e*PS 08 54 35.0
YUK *e*SS SS 08 59 15.0 +1.6
YUK pmax pmax
comp=Z,8μm,4.0s
YUK MLR MLR
comp=N,11μm,16.0s,MS6.5
YUK MLR MLR
comp=E,14μm,16.0s,MS6.5
YUK MLR MLR
comp=Z,25μm,16.0s,MS6.7
YUK Yuzh-Kuril'sk 84.09 46 *i* P **P 08 43 23.0 +2.9**
comp=Z,8μm,4.0s
YUK *e*S S 08 53 45.0 +0.1
KAKA Kakadu 84.41 104 *eP* **P 08 43 21.4 -0.3**
comp=Z,112nm,1.0s,mb6.0
CBIJ Chichi jima 84.79 64 LR LR 09 20 53.3
comp=Z,7μm,21.8s,MS6.0,baz=280,slow=36
FORT Forrest 85.61 123 *eP* **P 08 43 27.4 -0.3**
comp=Z,131nm,0.7s,mb6.3
BILL Bilibino 86.73 20*c iP* **P 08 43 31.6 -1.6**
BILL pmax pmax
comp=Z,56nm,1.7s,mb5.5
BILL MLR MLR
comp=Z,28μm,23.0s,MS6.6
BILL Bilibino 86.73 20 *eP* **P 08 43 33.0 -0.2**
comp=Z,88nm,1.1s,mb5.9
BILL LR LR
comp=Z,30μm,20.0s,MS6.7
WRA Warramunga Arr 88.02 111 P **P 08 43 39.7 +0.3**
comp=Z,13nm,0.8s,mb5.2,baz=298,slow=3.8,SNR=44
WRA S S 08 54 16.8 -6.5
comp=Z,0.5nm,1.0s,baz=90,slow=1.8,SNR=2.3
WRA PKKPbc PKKPbc 09 01 26.4 +1.8
comp=Z,0.7nm,1.0s,baz=93,slow=2.4,SNR=4.1
WRA Warramunga Arr 88.02 111 P **P 08 43 39.7 +0.2**
WRA S S 08 54 16.8 -6.5
WB2 Warramunga Arr 88.03 111 *eP* **P 08 43 40.1 +0.6**
WB2 *i* S S 08 54 21.1 -2.3
NVL N'lazarevskaya 88.07 192*d iP* **P 08 43 40.9 +1.2**
NVL *i* S SKSac 08 54 08.3 -0.2
NVL pmax pmax
comp=Z,195nm,1.6s,mb6.1
NVL MLR MLR
comp=Z,5μm,18.0s,MS6.0
NVL N'lazarevskaya 88.07 192 *i* P **P 08 43 40.9 +1.2**
comp=Z,195nm,1.6s,mb6.1
ASAR Alice Springs 88.58 115 P **P 08 43 42.6 +0.5**
comp=Z,5.6nm,0.8s,mb4.9,baz=289,slow=4.2,SNR=28
ASAR PKKPbc PKKPbc 09 01 25.7 +2.5
comp=Z,0.5nm,0.8s,baz=103,slow=2.0,SNR=3.5
RCBR Riachuelo 88.67 264 *eP* **P 08 43 44.8 +2.3**
comp=Z,72nm,1.1s,mb5.9
RCBR LR LR
comp=Z,5μm,21.0s,MS5.9
RCBR Riachuelo 88.67 264 *eP* **P 08 43 44.8 +2.3**
comp=Z,72nm,1.1s,mb5.9
SKR Severo-Kuril's 88.96 38 P **P 08 43 45.0 +1.1**
SKR *e* 08 47 16.0
SKR *e*PPP 08 49 10.0
SKR *e*S SKSac 08 54 20.0 +6.2
SKR pmax pmax
comp=Z,3μm,4.0s
SKR smax
comp=N,5μm,18.0s
SKR smax
comp=E,10μm,10.0s
SKR MLR MLR
comp=E,17μm,22.0s
SKR MLR MLR
comp=Z,21μm,22.0s,MS6.5
SKR Severo-Kuril's 88.96 38 P **P 08 43 45.0 +1.1**
comp=Z,3μm,4.0s
SKR *e*S SKSac 08 54 20.0 +6.2
PET Petropavlovsk 89.60 35 *eP* **P 08 43 46.5 -0.4**
PET *e* 08 47 25.5
PET *e*PPP 08 49 22.0
PET *e* 08 54 16.5
PET *e*S S 08 54 35.4 -2.8
PET *e*SP SP 08 55 46.2 +3.1
PET *e*SS SS 09 00 29.8 -4.3
PET *e*SSS 09 04 11.0

PET pmax pmax
comp=Z,97nm,1.5s,mb5.9
PET pmax pmax
comp=Z,3μm,13.3s
PET smax
comp=N,4μm,21.8s
PET smax
comp=E,6μm,9.7s
PET Petropavlovsk 89.60 35⇑ *eP* **P 08 43 46.1 -0.8**
comp=E,5.8nm,1.3s,mb4.8
PET LR LR
comp=Z,26μm,20.0s,MS6.7
PET Petropavlovsk 89.60 35 *eP* **P 08 43 46.5 -0.4**
comp=Z,3μm,13.3s
PET *e*S S 08 54 35.4 -2.8
RES Resolute Bay 89.73 352 P **P 08 43 47.4 -0.1**
RES Resolute Bay 89.73 352 *eP* **P 08 43 47.3 -0.2**
comp=Z,2μm,1.3s
RES Resolute Bay 89.73 352 *eP* **P 08 43 47.3 -0.2**
comp=Z,2μm,1.3s
GUMO Guam 90.27 76 LR LR 09 22 39.1
comp=Z,3μm,21.9s,MS5.6,baz=101,slow=34
GUMO Guam 90.27 76 PFAKE 08 44 00.0 +10
GUMO LR LR
comp=Z,4μm,20.0s,MS5.9
CASY Casey 90.39 160 *eP* **P 08 43 56.2 +5.6**
comp=Z,93nm,1.6s,mb5.9
CASY LR LR
comp=Z,6μm,20.0s,MS6.0
CASY Casey 90.39 160 *eP* **P 08 43 56.2 +5.6**
comp=Z,93nm,1.6s,mb5.9
SNAA Sanae 92.07 195 *e*PKPdf **P 08 43 59.1 +0.7**
SNAA *e* 08 44 06.6
SNAA *e* 08 47 39.5
SNAA Sanae 92.07 195 P **P 08 43 59.2 +0.8**
SNAA pmax pmax
comp=Z,64nm,1.5s
SNAA Sanae 92.07 195 *eP* **P 08 43 59.1 +0.7**
comp=Z,64nm,1.5s,mb5.7
SNAA Sanae 92.07 195 P **P 08 43 59.2 +0.8**
comp=Z,64nm,1.5s,mb5.7
VNA2 Neumayer--Watz 92.83 196 *e*PKPdf **P 08 44 02.9 +1.0**
VNA2 *e* 08 44 11.0
VNA2 *e* 08 47 53.8
VNA3 Neumayer Olymp 93.63 196 *e*PKPdf **P 08 44 07.4 +1.8**
VNA3 *e* 08 44 15.3
VNA3 *e* 08 47 57.3
SCHQ Schefferville 94.59 329 P **P 08 44 09.1 -1.0**
comp=Z,5.3nm,0.9s,mb5.0,baz=45,slow=11,SNR=3.6
SCHQ LR LR 09 27 11.3
comp=Z,6μm,22.0s,MS6.0,baz=41,slow=36
TNA Tin City 96.09 15 PFAKE 08 44 30.0 +13
TNA LR LR
comp=Z,19μm,20.0s,MS6.6
STKA Stephens Creek 97.08 121 *i* S S 08 55 45.3 +0.7
STKA Stephens Creek 97.08 121 P **P 08 44 26.5 +5.1**
comp=Z,5.6nm,1.0s,mb5.0,baz=318,slow=4.8,SNR=5.1
STKA Stephens Creek 97.08 121 *eP* **P 08 44 26.2 +4.8**
comp=Z,8.7nm,1.8s,mb4.9
STKA *i* S S 08 55 45.3 +0.7
PMG Port Moresby 97.71 98 *eP* **P 08 44 24.7 +0.5**
PMG pmax pmax
comp=Z,9.0nm,0.8s
PMG MLR MLR
comp=Z,4μm,21.0s
PMG Port Moresby 97.71 98 *eP* **P 08 44 24.7 +0.5**
comp=Z,9.5nm,0.8s,mb5.4
PMG LR LR
comp=Z,4μm,21.0s,MS5.9
PMG Port Moresby 97.71 98 *eP* **P 08 44 24.7 +0.5**
comp=Z,9.5nm,0.8s,mb5.4
SMY Shemya 98.00 31 PFAKE 08 44 40.0 +14
SMY LR LR
comp=Z,13μm,19.0s,MS6.4
INK Inuvik 98.56 2 LR LR 09 34 07.1
comp=Z,29μm,22.0s,MS6.7,baz=11,slow=38
INK Inuvik 98.56 2 *eP* **P 08 44 22.8 -5.2**
comp=Z,2μm,1.6s
IMA2 Indian Mountai 98.72 10 *eP* **P 08 44 28.2 -0.5**
IMA2 Indian Mountai 98.72 10 *eP* **P 08 44 28.2 -0.5**
CTA Charters Tower 98.97 109 *eP* **P 08 44 37.0 +7.1**
comp=Z,8.3nm,0.9s,mb5.3
CTA Charters Tower 98.97 109 *i* S S 08 56 03.2 +2.5
CTAO Charters Tower 98.97 109 PFAKE 08 44 40.0 +10
CTAO LR LR
comp=Z,7μm,20.0s,MS6.1
COLA College 100.74 8 PFAKE 08 44 50.0 +12
COLA LR LR
comp=Z,14μm,21.0s,MS6.5
COLA College 100.74 8 *eP* Pdif 08 44 38.2 +0.5
DRV Dumont d'Urvil 101.54 156 Pdif Pdif 08 44 41.0 -0.3
DRV Dumont d'Urvil 101.54 156 PP PP 08 48 51.0 -0.1
DRV SKKS SKSac 08 55 20.0 -1.0
DRV SS SS 09 03 22.0 -1.5
EGAK Eagle 101.61 5 PFAKE 08 44 50.0 +8.4
EGAK LR LR
comp=Z,11μm,19.0s,MS6.4
FCC Fort Churchill 102.90 342 *eP* Pdif 08 44 47.7 +0.4
LBNH Lisbon 103.03 322 PFAKE 08 45 00.0 +12
LBNH LR LR
comp=Z,10μm,19.0s,MS6.4
QSPA South Pole Qui 103.19 180 PFAKE 08 45 00.0 +11
QSPA LR LR
comp=Z,5μm,21.0s,MS6.0
TAU Tasmania Unive 103.24 131 PFAKE 08 45 00.0 +11
TAU LR LR
comp=Z,1μm,20.0s,MS5.5
PMR Palmer 103.64 10 PFAKE 08 45 00.0 +9.4
PMR LR LR
comp=Z,13μm,19.0s,MS6.5
WES Weston 103.67 320 PFAKE 08 45 00.0 +9.2
WES LR LR
comp=Z,7μm,20.0s,MS6.2
YKA Yellowknife Ar 103.68 353 Pdiff Pdif 08 44 50.1 -0.7
comp=Z,4.2nm,1.1s,baz=9.3,slow=4.5,SNR=14
YKA PP PP 08 48 56.0 -11
comp=Z,5.7nm,1.0s,baz=12,slow=6.1,SNR=5.4
YKA PKKPbc PKKPbc 09 00 43.4 +1.1
comp=Z,0.7nm,0.9s,baz=200,slow=2.9,SNR=6.6
YKA Yellowknife Ar 103.68 353 Pdif Pdif 08 44 50.1 -0.8
YKA PP PP 08 48 56.0 -11
YKA PKKPbc PKKPbc 09 00 43.4 +1.1
YKA Yellowknife Ar 103.68 353 PP PP 08 48 56.0 -11
HRV Harvard--Oak R 103.75 320 PFAKE 08 45 00.0 +8.9
HRV LR LR
comp=Z,12μm,20.0s,MS6.4
BBSR BB Station 103.91 308 PFAKE 08 45 00.0 +8.2
BBSR LR LR
comp=Z,4μm,21.0s,MS5.9
LONY Lake Ozonia 104.39 323 PFAKE 08 45 10.0 +16
LONY LR LR
comp=Z,10μm,20.0s,MS6.4
NCB Newcomb 104.55 323 PFAKE 08 45 10.0 +15
NCB LR LR
comp=Z,10μm,21.0s,MS6.3
UNV Unalaska Valle 105.77 22 PFAKE 08 49 20.0 +7.1
UNV LR LR
comp=Z,37μm,20.0s,MS6.9
KDAK Kodiak Island 106.50 13 PFAKE 08 49 30.0 +16
KDAK LR LR
comp=Z,4μm,22.0s,MS6.0
BINY Binghamton 106.63 322 PFAKE 08 49 30.0 +16
BINY LR LR
comp=Z,11μm,22.0s,MS6.3
BBGH Gun Hill 106.68 288 PFAKE 08 49 30.0 +15
BBGH LR LR
comp=Z,7μm,21.0s,MS6.2
VNDA Vanda 107.27 168 PFAKE 08 49 30.0 +14
VNDA LR LR
comp=Z,7μm,20.0s,MS6.2
SBA Scott Base 108.14 168 PFAKE 08 49 30.0 +13
SBA LR LR
comp=Z,7μm,20.0s,MS6.2
SSPA Standing Stone 108.71 322 PFAKE 08 49 30.0 +12
SSPA LR LR
comp=Z,10μm,20.0s,MS6.4
SIT Sitka 109.71 4 PFAKE 08 49 30.0 +10
SIT LR LR
comp=Z,24μm,22.0s,MS6.7
CBN Corbin 109.84 319 PFAKE 08 49 30.0 +10
CBN LR LR
comp=Z,8μm,22.0s,MS6.2
HNR Honiara 110.08 95 PFAKE 08 49 30.0 +9.1
HNR LR LR
comp=Z,3μm,21.0s,MS5.8

MCWV Mont Chateau 110.50 322 PFAKE 08 49 30.0 +8.3
MCWV LR LR
comp=Z,12μm,20.0s,MS6.5
WRAK Wrangell Islan 110.50 2 PFAKE 08 49 30.0 +8.3
WRAK LR LR
comp=Z,22μm,20.0s,MS6.7
ULM Lac du Bonnet 110.53 338 PFAKE 08 49 30.0 +8.2
ULM LR LR
comp=Z,23μm,22.0s,MS6.7
EYMN Ely 110.67 334 PFAKE 08 49 30.0 +8.0
EYMN LR LR
comp=Z,16μm,22.0s,MS6.6
SJG San Juan 110.93 295 PFAKE 08 49 30.0 +7.5
SJG LR LR
comp=Z,4μm,22.0s,MS6.0
AAM Ann Arbor 110.97 326 PFAKE 08 49 30.0 +7.4
AAM LR LR
comp=Z,8μm,20.0s,MS6.3
CNNC Cliffs of the 111.92 317 PFAKE 08 49 40.0 +16
CNNC LR LR
comp=Z,13μm,21.0s,MS6.5
EFI East Falkland 112.34 219 PFAKE 08 49 40.0 +15
EFI LR LR
comp=Z,2μm,21.0s,MS5.6
BLA Blacksburg 112.37 320 PFAKE 08 49 40.0 +15
BLA LR LR
comp=Z,10μm,21.0s,MS6.4
PMSA Palmer Station 112.65 205 PFAKE 08 49 40.0 +14
PMSA LR LR
comp=Z,6μm,20.0s,MS6.2
NHSC New Hope 114.70 316 PFAKE 08 49 40.0 +10
NHSC LR LR
comp=Z,9μm,21.0s,MS6.4
TZTN Tazewell 114.73 321 PFAKE 08 49 40.0 +10
TZTN LR LR
comp=Z,14μm,22.0s,MS6.5
WCI Wyandotte Cave 115.22 324 PFAKE 08 49 40.0 +9.3
WCI LR LR
comp=Z,8μm,19.0s,MS6.3
SCIA State Center 116.13 331 PFAKE 08 49 40.0 +7.5
SCIA LR LR
comp=Z,15μm,20.0s,MS6.6
TRQA Tornquist 116.39 234 PFAKE 08 49 40.0 +7.0
TRQA LR LR
comp=Z,7μm,19.0s,MS6.3
GOGA Godfrey 116.69 318 PFAKE 08 49 50.0 +16
GOGA LR LR
comp=Z,10μm,19.0s,MS6.5
EGMT Eagleton 116.70 346 PFAKE 08 49 50.0 +16
EGMT LR LR
comp=Z,25μm,21.0s,MS6.8
LAO LASA Array 117.01 343 *e*PKPdf PKPdf 08 49 33.9 -0.2
LAO LR LR
comp=Z,18μm,20.0s,MS6.7
MIDW Midway 117.35 48 PFAKE 08 49 50.0 +15
MIDW LR LR
comp=Z,5μm,20.0s,MS6.2
WVT Waverly 117.56 323 PFAKE 08 49 50.0 +15
WVT LR LR
comp=Z,11μm,19.0s,MS6.5
NEW Newport 117.89 351 *e*PKIKP PKPdf 08 49 35.5 -0.3
NEW MLR MLR
comp=Z,21μm,21.0s
DWPF Disney 118.51 312 PFAKE 08 49 50.0 +13
DWPF LR LR
comp=Z,8μm,19.0s,MS6.4
CHMT Chamberlain Mo 118.52 348 *e*PKPdf PKPdf 08 49 36.3 -0.7
CHMT Chamberlain Mo 118.52 348 *e*PKIKP PKPdf 08 49 36.3 -0.8
RSSD Black Hills 118.64 340 PFAKE 08 49 50.0 +13
RSSD LR LR
comp=Z,2μm,20.0s,MS5.7
MSO Missoula 118.74 349 *e*PKPdf PKPdf 08 49 37.7 +0.2
MSO LR LR
comp=Z,14μm,22.0s,MS6.5
MSO Missoula 118.74 349 *e*PKIKP PKPdf 08 49 37.7 +0.2
RLMT Red Lodge 119.29 344 PFAKE 08 49 50.0 +11
RLMT LR LR
comp=Z,22μm,21.0s,MS6.8
BOZ Bozeman (W) 119.38 346 *e*PKIKP PKPdf 08 49 39.9 +1.2
BOZ MLR MLR
comp=Z,18μm,21.0s,MS6.7
BOZ Bozeman (W) 119.38 346 *e*PKIKP PKPdf 08 49 39.8 +1.1
OXF Oxford 119.61 323 PFAKE 08 49 50.0 +11
OXF LR LR
comp=Z,8μm,21.0s,MS6.3
DLMT Dillon 119.86 347 *e*PKIKP PKPdf 08 49 40.3 +0.7
KSU1 Kansas State U 119.93 332 *e*PKPdf PKPdf 08 49 38.7 -1.1
KSU1 LR LR
comp=Z,26μm,22.0s,MS6.8
KSU1 Kansas State U 119.93 332 *e*PKIKP PKPdf 08 49 38.7 -1.1
HAWA Hanford 120.05 353 PFAKE 08 49 50.0 +10
HAWA LR LR
comp=Z,22μm,20.0s,MS6.8
LKWY Lake 120.10 345 PFAKE 08 49 50.0 +10
LKWY LR LR
comp=Z,33μm,21.0s,MS7.0
QLMT Earthquake Lak 120.10 346 *e*PKPdf PKPdf 08 49 40.0 -0.1
QLMT Earthquake Lak 120.10 346 *e*PKIKP PKPdf 08 49 40.0 -0.1
YMR Madison River 120.14 345 PFAKE 08 49 50.0 +10
YMR LR LR
comp=Z,32μm,22.0s,MS6.9
MCMT McKenzie Canyo 120.43 347 *e*PKPdf PKPdf 08 49 42.9 +2.2
MCMT McKenzie Canyo 120.43 347 *e*PKIKP PKPdf 08 49 42.9 +2.2
BRAL Brewton 120.55 319 PFAKE 08 49 50.0 +9.0
BRAL LR LR
comp=Z,15μm,21.0s,MS6.6
MOOW Moose Ponds 120.95 345 *e*PKPdf PKPdf 08 49 43.0 +1.3
MOOW Moose Ponds 120.95 345 *e*PKIKP PKPdf 08 49 43.0 +1.3
LOHW Long Hollow 121.04 345 *e*PKIKP PKPdf 08 49 43.5 +1.6
UALR University of 121.09 325 *e*PKPdf PKPdf 08 49 42.7 +0.7
UALR University of 121.09 325 *e*PKIKP PKPdf 08 49 42.7 +0.7
DCID1 Drake Creek 121.20 345 *e*PKPdf PKPdf 08 49 43.2 +1.0
DCID1 Drake Creek 121.20 345 *e*PKIKP PKPdf 08 49 43.2 +1.0
SNOW Snow King Moun 121.22 345 *e*PKPdf PKPdf 08 49 46.3 +4.1
BMO Blue Mountains 121.25 351 PFAKE 08 49 50.0 +7.7
BMO LR LR
comp=Z,17μm,22.0s,MS6.6
REDW Red Top Meadow 121.34 345 *e*PKPdf PKPdf 08 49 44.3 +1.8
PDAR Pinedale Array 121.55 344 PKP PKPdf 08 49 44.0 +1.1
comp=Z,3.9nm,0.8s,baz=69,slow=2.0,SNR=22
PDAR PKKPbc PKKPbc 08 59 43.6 +1.2
comp=Z,1.0nm,1.0s,baz=193,slow=2.8,SNR=4.2
CBKS Cedar Bluff 121.57 334 *e*PKIKP PKPdf 08 49 44.6 +1.7
CBKS MLR MLR
comp=Z,14μm,20.0s,MS6.6
LPAZ La Paz 121.59 259 PKP PKPdf 08 49 45.5 +2.6
comp=Z,1.4nm,0.8s,baz=68,slow=4.9,SNR=5.6
LPAZ La Paz 121.59 259 *e*PKPdf PKPdf 08 49 45.6 +2.6
LPAZ LR LR
comp=Z,4μm,19.0s,MS6.1
MIAR Mount Ida 121.94 326 PFAKE 08 50 00.0 +16
MIAR LR LR
comp=Z,18μm,21.0s,MS6.7
AHID Auburn Hatcher 121.96 345 PFAKE 08 50 00.0 +16
AHID LR LR
comp=Z,21μm,22.0s,MS6.8
HLID Hailey 121.97 348 *e*PKPdf PKPdf 08 49 44.8 +1.2
HLID *e*PP PP 08 51 18.6 +1.1
HLID LR LR
comp=Z,13μm,19.0s,MS6.6
COR Corvallis 122.22 355 PFAKE 08 50 00.0 +16
COR LR LR
comp=Z,17μm,21.0s,MS6.7
PLCA Paso Flores 122.64 230 PKP PKPdf 08 49 46.0 +1.0
comp=Z,7.0nm,1.1s,baz=135,slow=7.7,SNR=7.7
PLCA Paso Flores 122.64 230 PKIKP PKPdf 08 49 46.0 +1.0
PLCA pmax pmax
comp=Z,7.0nm,1.1s
PLCA Paso Flores 122.64 230 *e*PKPdf PKPdf 08 49 45.6 +0.7
PLCA LR LR
comp=Z,5μm,22.0s,MS6.1
HWUT Hardware Ranch 123.17 345 *e*PKPdf PKPdf 08 49 47.0 +1.0
HWUT LR LR
comp=Z,21μm,20.0s,MS6.8
HVU Hansel Valley 123.30 346 *e*PKIKP PKPdf 08 49 48.8 +2.6
SNZO South Karori 123.59 131 PFAKE 08 50 00.0 +13
SNZO LR LR
comp=Z,5μm,21.0s,MS6.1
WVOR Wild Horse Val 123.81 351 *e*PKIKP PKPdf 08 49 48.3 +1.1
WVOR MLR MLR
comp=Z,15μm,20.0s,MS6.7
SMCO Snowmass 124.04 340 *e*PKPdf PKPdf 08 49 49.2 +1.5
CTU Camp Tracy 124.07 345 *e*PKPdf PKPdf 08 49 49.0 +1.3
JLU Jordanelle 124.08 344 *e*PKPdf PKPdf 08 49 49.1 +1.4

HUMO Hull Mountain 124.16 355 *e*PKPdf PKPdf 08 49 48.8 +0.9
HUMO LR LR
comp=Z,13μm,21.0s,MS6.6
BGU Big Grassy Mou 124.17 346 *e*PKPdf PKPdf 08 49 49.6 +1.7
DAU Daniels Canyon 124.21 344 *e*PKIKP PKPdf 08 49 51.2 +3.2
NOQ North Oquirrh 124.21 345 *e*PKPdf PKPdf 08 49 50.7 +2.8
LCO Las Campanas 124.25 244 PFAKE 08 50 00.0 +12
LCO LR LR
comp=Z,5μm,19.0s,MS6.2
WMOK Wichita Mounta 124.47 330 *e*PKIKP PKPdf 08 49 49.3 +0.8
WMOK MLR MLR
comp=Z,13μm,20.0s,MS6.6
MOD Modoc 124.57 352 *e*PKPdf PKPdf 08 49 48.8 +0.2
MOD *e*PP PP 08 51 34.8 -0.3
MOD LR LR
comp=Z,7μm,21.0s,MS6.3
NATX Nacogdoches 124.63 325 *e*PKPdf PKPdf 08 49 50.2 +1.4
NATX LR LR
comp=Z,12μm,20.0s,MS6.5
MPU Maple Canyon 124.68 344 *e*PKPdf PKPdf 08 49 50.0 +1.1
MPU LR LR
comp=Z,24μm,21.0s,MS6.8
SDCO Great Sand Dun 124.80 338 PFAKE 08 50 00.0 +11
SDCO LR LR
comp=Z,34μm,21.0s,MS7.0
DUG Dugway 124.81 345 *e*PKIKP PKPdf 08 49 49.9 +0.8
DUG MLR MLR
comp=Z,20μm,21.0s,MS6.8
ARE Arequipa 124.82 259 *e*PKIKP PKPdf 08 49 52.0 +2.9
ELK Elko 124.84 348 *e*PKIKP PKPdf 08 49 51.4 +2.2
ELK MLR MLR
comp=Z,18μm,21.0s
NLU North Lily Min 124.85 345 *e*PKPdf PKPdf 08 49 49.5 +0.3
YBH Yreka Blue Hor 125.00 355 PFAKE 08 50 00.0 +11
YBH LR LR
comp=Z,18μm,21.0s,MS6.7
SRU San Rafael 125.21 343 *e*PKIKP PKPdf 08 49 50.8 +0.9
TMUT Trail Mountain 125.23 343 *e*PKPdf PKPdf 08 49 51.3 +1.3
PV10 Paradox Valley 125.44 341 *e*PKPdf PKPdf 08 49 51.6 +1.2
PV01 Paradox Valley 125.51 341 *e*PKPdf PKPdf 08 49 52.8 +2.3
BMN Battle Mountai 125.53 349 *e*PKIKP PKPdf 08 49 52.6 +2.1
BMN MLR MLR
comp=Z,15μm,21.0s,MS6.7
WDC Whiskeytown Da 126.13 354 PFAKE 08 50 00.0 +8.4
WDC LR LR
comp=Z,14μm,22.0s,MS6.6
MSU Marysvale 126.23 344 *e*PKIKP PKPdf 08 49 53.9 +2.0
MSU *e* 08 51 44.2
MVCO Mesa Verde 126.33 340 *e*PKPdf PKPdf 08 50 00.4 +8.4
MVCO LR LR
comp=Z,14μm,19.0s,MS6.7
PAHR Pah Rah Range 126.60 351 *e*PKPdf PKPdf 08 49 54.1 +1.6
KIPM Iron Peak 126.98 355 *e*PKPdf PKPdf 08 49 52.7 -0.5
KCPM Cahto Peak 127.11 355 *e*PKPdf PKPdf 08 49 50.5 -3.0
OHCM Honcut 127.24 353 *e*PKPdf PKPdf 08 49 55.4 +1.6
CCUT Cedar City 127.45 345 *e*PKPdf PKPdf 08 49 55.6 +1.4
ANMO Albuquerque 127.63 337 *e*PKIKP PKPdf 08 49 56.0 +1.5
ANMO MLR MLR
comp=Z,23μm,22.0s
NVAR Mina Array Bea 127.67 350 PKP PKPdf 08 49 56.8 +2.2
comp=Z,10nm,0.8s,baz=261,slow=2.7,SNR=46
HOPS Hopland 127.75 355 *e*PKPdf PKPdf 08 49 52.0 -2.8
HOPS LR LR
comp=Z,12μm,20.0s,MS6.6
TPH Tonopah 127.82 349 PFAKE 08 50 10.0 +15
TPH LR LR
comp=Z,19μm,22.0s,MS6.7
TEIG Tepich 128.19 309 PFAKE 08 50 10.0 +14
TEIG LR LR
comp=Z,8μm,21.0s,MS6.4
LPM Los Pinos Moun 128.26 337 *e*PKPdf PKPdf 08 49 58.2 +2.5
CMB Columbia Colle 128.38 352 *e*PKIKP PKPdf 08 49 57.3 +1.3
CMB MLR MLR
comp=Z,19μm,20.0s,MS6.8
JCT Junction City 128.40 328 *e*PKIKP PKPdf 08 49 57.1 +1.1
JCT MLR MLR
comp=Z,11μm,21.0s,MS6.5
OTAV Otavalo 128.49 281 *e*PKPdf PKPdf 08 49 59.8 +3.7
OTAV LR LR
comp=Z,3μm,19.0s,MS6.0
MCCM Marconi Confer 128.57 354 PFAKE 08 50 10.0 +14
MCCM LR LR
comp=Z,8μm,20.0s,MS6.4
FUNA Funafuti 128.63 90 PFAKE 08 50 10.0 +14
FUNA LR LR
comp=Z,7μm,19.0s,MS6.4
WUAZ Wupatki 128.80 342 *e*PKPdf PKPdf 08 49 54.1 -2.6
WUAZ LR LR
comp=Z,19μm,22.0s,MS6.7
NNA Nana 129.51 265 PKPdf PKPdf 08 50 08.6 +11
NNA LR LR
comp=Z,882nm,20.0s,MS5.5
DAC Darwin (Calif) 129.63 348 *e*PKIKP PKPdf 08 50 00.2 +1.9
DAC MLR MLR
comp=Z,19μm,22.0s,MS6.8
KVTX Kingsville 129.65 324 PFAKE 08 50 10.0 +12
KVTX LR LR
comp=Z,8μm,20.0s,MS6.4
SAO San Andreas Ge 129.78 352 PFAKE 08 50 10.0 +11
SAO LR LR
comp=Z,14μm,22.0s,MS6.6
MNTX Cornudas Mount 130.03 334 *e*PKPdf PKPdf 08 50 00.0 +0.9
MNTX LR LR
comp=Z,11μm,21.0s,MS6.5
LRV Little Rabbit 130.05 352 *e*PKPdf PKPdf 08 49 59.8 +0.7
JTS JuntasAbangare 130.72 296 PFAKE 08 50 10.0 +10
JTS LR LR
comp=Z,1μm,21.0s,MS5.6
TGUH Tegucigalpa,Un 130.85 302 *e*PKPdf PKPdf 08 50 01.9 +1.3
TGUH LR LR
comp=Z,4μm,20.0s,MS6.1
LTX Lajitas 131.26 331 *e*PKIKP PKPdf 08 50 03.1 +1.7
LTX MLR MLR
comp=Z,19μm,20.0s,MS6.8
TXAR Lajitas Array 131.26 331 PKP PKPdf 08 50 03.7 +2.3
comp=Z,2.7nm,0.9s,baz=114,slow=1.0,SNR=14
TXAR Lajitas Array 131.26 331 PKP PKPdf 08 50 03.7 +2.3
TUC Tucson 131.56 340 *e*PKIKP PKPdf 08 50 04.7 +2.7
TUC MLR MLR
comp=Z,13μm,20.0s,MS6.6
RAO Raoul Island 131.76 117 PFAKE 08 50 10.0 +7.6
RAO LR LR
comp=Z,5μm,20.0s,MS6.2
PFO Pinyon Flat Ob 131.96 346 *e*PKIKP PKPdf 08 50 04.9 +2.2
PFO MLR MLR
comp=Z,4μm,20.0s,MS6.1
KIP Kipapa 135.05 40 PFAKE 08 50 20.0 +11
KIP LR LR
comp=Z,10μm,19.0s,MS6.6
POHA Pohakuloa 137.83 39 PFAKE 08 50 30.0 +16
POHA LR LR
comp=Z,8μm,19.0s,MS6.5
AFI Afiamalu 138.11 96 *e*PKIKP PKPdf 08 50 14.9 +0.7
AFI MLR MLR
comp=Z,3μm,22.0s,MS6.0
PAYG Puerto Ayora 140.01 285 PFAKE 08 50 30.0 +12
PAYG LR LR
comp=Z,3μm,20.0s,MS6.1
RPN Rapa Nui 157.28 230 PFAKE 08 51 00.0 +15
RPN LR LR
comp=Z,1μm,21.0s,MS5.7
TBI Tubuai 157.87 120 *e*PP PP 08 55 01.3 +3.1
comp=Z,418nm,29.0s
TBI Tubuai 157.87 120 *e*SS SS 09 14 55.9 -0.5
comp=Z,5μm,35.0s
TBI *e*LR LR 09 44 34.8
comp=Z,11μm,28.0s
PPT Papeete 159.38 105 *e*PP PP 08 55 11.6 +5.2
comp=Z,558nm,27.5s
PPT Papeete 159.38 105 *e*SS SS 09 15 19.5 +7.0
comp=Z,10μm,36.8s
PPT *e*LR LR 09 45 31.1
comp=Z,15μm,27.0s
TVO Taravao 159.65 105 *e*PKPab PKPab 08 51 32.0 +5.5
comp=Z,180nm,1.4s
PMOR Pomariorio Ree 161.25 98 *e*PKPab PKPab 08 51 39.4 +5.9
comp=Z,11nm,1.3s
TAOE Nuku Hiva Isla 167.88 70 *e*PP PP 08 55 44.3 -7.0
comp=Z,3μm,26.7s
TAOE Nuku Hiva Isla 167.88 70 *e*SS SS 09 16 46.7 +6.4
comp=Z,19μm,32.6s
TAOE *e*LR LR 09 48 47.5
comp=Z,39μm,30.0s
PTCN Pitcairn Islan 168.18 174 PFAKE 08 51 10.0 +14
PTCN LR LR
comp=Z,6μm,19.0s
RKT Rikitea 168.51 149 *e*PKPab PKPab 08 52 06.2 +0.7
comp=Z,80nm,1.3s

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*IDC **30** 08:46:12.8±1.1, 1362N×5151E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/22, mbtmp3.8/10, Error ellipse: s-maj=30.4km s-min=25.7km az=23.0*
*ISCJB **30** 08:46:13.1±0.9, 138N±02×5142E±006, h10km, mb3.9/10, Error ellipse: s-maj=21.9km s-min=8.8km az=178.5*
*DHMR **30** 08:46:19.3±0.3, 1384N×5096E, h5km± 197km, ML3.9*
ISC 30 08:46:15.2±0.9, 138N±02×5141E±007, h10km, n13, σ0°91/14, mb3.9/10, 1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.41**	**287**	*i* P	**Pn**	**08 46 54.3**	**-0.3**
MUKL				*i* S	**Sn**	**08 47 21.6**	**-2.5**
MUKL				AML	AML	08 47 23.7	
	comp=N,1μm,0.2s						
BDHA	**Al Bayda'**	**5.68**	**273**	‖ *i* P	**Pn**	**08 47 40.5**	**+0.9**
LBOS		**5.99**	**271**	*i* P	**Pn**	**08 47 44.7**	**+0.8**
MKAR	**Makanchi Array**	**41.84**	**32**	P	**P**	**08 54 05.6**	**+0.4**
	comp=N,1.0nm,0.9s,mb3.5,baz=224,slow=6.0,SNR=4.1						
BVAR	**Borovoye Array**	**41.95**	**17**	P	**P**	**08 54 06.8**	**+0.7**
	comp=N,0.6nm,0.5s,mb3.5,baz=188,slow=7.1,SNR=3.2						
GERES	**GERESS Array B**	**46.72**	**326**	P	**P**	**08 54 44.8**	**+0.4**
	comp=N,0.3nm,0.5s,mb3.5,baz=118,slow=7.9,SNR=3.1						
ZAL	**Zalesovo**	**47.88**	**26**	P	**P**	**08 54 53.0**	**-0.3**
	comp=N,1.0nm,0.6s,mb4.0,baz=226,slow=7.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**48.28**	**275**	P	**P**	**08 54 57.8**	**+1.4**
	comp=N,0.5nm,0.8s,mb3.6,baz=97,slow=7.9,SNR=2.8						
NOA	**NORSAR Array B**	**55.38**	**338**	P	**P**	**08 55 48.8**	**-0.6**
	comp=N,0.8nm,0.7s,mb3.9,baz=47,slow=8.4,SNR=3.6						
SONM	**Songino Array**	**56.59**	**41**	P	**P**	**08 55 58.8**	**+0.7**
	comp=N,0.9nm,0.9s,mb3.8,baz=256,slow=7.6,SNR=4.6						
ARCES	**ARCESS Array B**	**58.06**	**350**	P	**P**	**08 56 08.0**	**-0.5**
	comp=N,4.6nm,1.0s,mb4.5,baz=121,slow=9.6,SNR=5.1						
WRA	**Warramunga Arr**	**88.15**	**111**	P	**P**	**08 59 05.2**	**-1.1**
	comp=N,1.3nm,0.7s,mb4.3,baz=300,slow=4.1,SNR=14						
ASAR	**Alice Springs**	**88.75**	**115**	P	**P**	**08 59 08.0**	**-1.1**
	comp=N,0.7nm,0.7s,mb4.1,baz=291,slow=4.6,SNR=7.1						

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*ISCJB **30** 08:56:15.5±0.4, 4151N±002×274E±003, h11km, Error ellipse: s-maj=3.2km s-min=3.1km az=84.3*
*NEIC **30** 08:56:18.2, 4153N×266E, h10km, ML2.6(LDG), MN2.3(MDD), After MDD.*
*LDG **30** 08:56:18.7±0.1, 4159N×260E, h6km, Ml2.6/12, Error ellipse: s-maj=2.4km s-min=1.5km az=174.0*
*MDD **30** 08:56:18.9±0.5, 4157N×263E, h11km, mbLg2.1/21, Error ellipse: s-maj=4.2km s-min=3.0km az=127.0, PRXIMO*
*CSEM **30** 08:56:19.4±0.1, 4163N×255E, h10km, ML2.6/11, Error ellipse: s-maj=2.9km s-min=1.8km az=143.0*
*STR **30** 08:56:19.0±0.4, 4328N×231E, h5km± 1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 30 08:56:16.4±0.6, 4155N±002×268E±003, h8km±3km, n69, σ1°29/127, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.28**	**320**	P	**Pg**	**08 56 23.2**	**+1.2**
CFON				S	**Sg**	**08 56 26.5**	**+0.7**
	420nm,0.2s						
CBRU	**Bruguera**	**0.83**	**333**	P	**Pg**	**08 56 33.3**	**+1.0**
CBRU				S	**Sg**	**08 56 44.1**	**+1.0**
	13nm,0.2s						
EJON	**La Jonquera**	**0.92**	**10**	Pg	**Pg**	**08 56 35.3**	**+1.3**
	3.1nm,0.1s,SNR=31						
EJON				Lg		08 56 47.6	
	16nm,0.1s,SNR=16						
EJON	**La Jonquera**	**0.92**	**10**	Pg	**Pg**	**08 56 35.3**	**+1.3**
	3.1nm,0.1s,SNR=31						
EMIR	**Miracle**	**0.94**	**294**	Pg	**Pg**	**08 56 35.1**	**+0.7**
	24nm,0.2s,SNR=88						
EMIR				Lg		08 56 47.0	
	22nm,0.1s,SNR=25						
EMIR	**Miracle**	**0.94**	**294**	Pg	**Pg**	**08 56 35.1**	**+0.7**
	24nm,0.2s,SNR=88						
SJAF	**Saint Jean de**	**0.95**	**9**	Pg	**Pg**	**08 56 36.1**	**+1.4**
SJAF				Sg	**Sg**	**08 56 48.5**	**+1.5**
VALF	**Valcebollere**	**0.99**	**330**	Pg	**Pg**	**08 56 35.9**	**+0.5**
VALF				Sg	**Sg**	**08 56 48.7**	**+0.5**
FILF	**Fillols**	**1.02**	**355**	P	**Pg**	**08 56 37.1**	**+1.2**
FILF				S	**Sg**	**08 56 50.6**	**+1.4**
CLLI	**Llivia**	**1.07**	**331**	P	**Pg**	**08 56 38.1**	**+1.1**
CLLI				S	**Sg**	**08 56 50.9**	**0.0**
	8.9nm,0.1s						
CGAR	**Garraf**	**1.19**	**258**	P	**Pb**	**08 56 29.8**	**-9.4**
CGAR				S	**Sg**	**08 56 37.7**	**-17**
	14nm,0.1s						
CORG	**Organya**	**1.23**	**304**	P	**Pb**	**08 56 40.2**	**+0.4**
CORG				S	**Sb**	**08 56 56.1**	**+0.3**
	13nm,0.1s						
PAND	**Andorre**	**1.29**	**320**	S	**Sb**	**08 56 58.4**	**+0.8**
CSOR	**Sort**	**1.42**	**306**	P	**Pn**	**08 56 43.3**	**+0.8**
CSOR				S	**Sb**	**08 57 01.5**	**+0.1**
	21nm,0.2s						
CAVN	**Les Avellanes**	**1.48**	**284**	P	**Pn**	**08 56 44.8**	**+1.4**
SALF	**Salau**	**1.64**	**318**	S	**Sn**	**08 57 07.7**	**+0.8**
ETOS	**Mallorca**	**1.78**	**177**	Pn	**Pn**	**08 56 47.4**	**-0.1**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**08 57 07.8**	**-2.5**
	1.4nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.83**	**349**	*e*Pg	**Pg**	**08 56 50.9**	**-0.5**
MTLF				*e*Sg	**Sg**	**08 57 13.9**	**-1.2**
	3.9nm,0.2s						
MTLF	**Montolieu**	**1.83**	**349**	*e*Pn	**Pn**	**08 56 48.3**	**+0.2**
MTLF				*e*Pg	**Pg**	**08 56 50.9**	**-0.5**
MTLF				*e*Sg	**Sg**	**08 57 13.9**	**-1.2**
MTLF	**Montolieu**	**1.83**	**349**	Pn	**Pn**	**08 56 48.3**	**+0.2**
MTLF				Pg	**Pg**	**08 56 50.9**	**-0.5**
MTLF				Lg		08 57 13.9	
	1.9nm,0.2s						
MTLF	**Montolieu**	**1.83**	**349**	*e*Pg	**Pg**	**08 56 50.9**	**-0.5**
MTLF				*e*Sg	**Sg**	**08 57 13.9**	**-1.2**
	2.0nm,0.2s						
ERTA	**Horta de San J**	**1.86**	**252**	Pn	**Pn**	**08 56 48.4**	**-0.2**
	0.2nm,0.1s,SNR=7.9						
ERTA				Pg	**Pg**	**08 56 52.4**	**+0.3**
	0.7nm,0.1s,SNR=6.4						
ERTA				Lg		08 57 16.5	
	3.5nm,0.2s						
ERTA	**Horta de San J**	**1.86**	**252**	Pn	**Pn**	**08 56 48.4**	**-0.2**
	0.2nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.86**	**252**	Pg	**Pg**	**08 56 52.4**	**+0.3**
	0.7nm,0.1s,SNR=6.4						
EBIE	**Bielsa**	**2.21**	**302**	Pn	**Pn**	**08 56 54.6**	**+1.3**
EBIE				Pg	**Pg**	**08 56 59.2**	**+0.5**
EBIE				Sn	**Sn**	**08 57 24.2**	**+3.4**
EBIE	**Bielsa**	**2.21**	**302**	Pn	**Pn**	**08 56 54.7**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
EBIE				Pg	**Pg**	**08 56 59.2**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		08 57 25.2	
	6.5nm,0.2s,SNR=18						
EBIE	**Bielsa**	**2.21**	**302**	Pn	**Pn**	**08 56 54.7**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**2.21**	**302**	Pg	**Pg**	**08 56 59.2**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EPF	**Esparros**	**2.28**	**311**	*e*Pg	**Pg**	**08 56 59.0**	**-1.2**
EPF				*e*Sn	**Sn**	**08 57 20.8**	**-1.9**
EPF				*e*Sg	**Sg**	**08 57 27.1**	**-2.7**
	11nm,0.2s						
EPF	**Esparros**	**2.28**	**311**	*e*Pn	**Pn**	**08 56 56.1**	**+1.7**
EPF				*e*Pg	**Pg**	**08 56 59.0**	**-1.2**
EPF				*e*Sn	**Sn**	**08 57 20.8**	**-1.9**
EPF				*e*Sg	**Sg**	**08 57 27.1**	**-2.7**
EPF	**Esparros**	**2.28**	**311**	Pn	**Pn**	**08 56 56.1**	**+1.7**
EPF				Pg	**Pg**	**08 56 59.0**	**-1.2**
EPF				Sn	**Sn**	**08 57 20.8**	**-1.9**
EPF	**Esparros**	**2.28**	**311**	*e*Pg	**Pg**	**08 56 59.0**	**-1.2**
EPF				*e*Sn	**Sn**	**08 57 20.8**	**-1.9**
EPF				*e*Sg	**Sg**	**08 57 27.1**	**-2.7**
	5.6nm,0.2s						
ESAC	**San Caprasio**	**2.37**	**275**	Pn	**Pn**	**08 56 56.2**	**+0.6**
	0.8nm,0.2s,SNR=7.9						
ESAC				Pg	**Pg**	**08 57 01.0**	**-0.8**
	3.9nm,0.1s,SNR=10						
ESAC				Lg		08 57 32.4	
	4.1nm,0.2s,SNR=7.2						
ESAC	**San Caprasio**	**2.37**	**275**	Pn	**Pn**	**08 56 56.2**	**+0.7**
	0.8nm,0.2s,SNR=7.9						

ESAC San Caprasio 2.37 275 Pg **Pg 08 57 01.0 -0.8**
3.9nm,0.1s,SNR=10
EMOS Mosqueruela 2.66 245 Pn **Pn 08 56 59.8 +0.2**
EMOS Pg **Pg 08 57 07.4 0.0**
EMOS Lg 08 57 42.3
EMOS Mosqueruela 2.66 245 Pn **Pn 08 56 59.8 +0.2**
0.1nm,0.1s,SNR=7.9
EMOS Pg **Pg 08 57 07.4 0.0**
0.5nm,0.2s,SNR=7.9
EMOS Lg 08 57 42.3
1.8nm,0.3s,SNR=7.9
EMOS Mosqueruela 2.66 245 Pn **Pn 08 56 59.8 +0.2**
0.1nm,0.1s,SNR=7.9
EMOS Mosqueruela 2.66 245 Pg **Pg 08 57 07.4 0.0**
0.5nm,0.2s,SNR=7.9
LASF Ste Croix 2.67 19 *e*Pn **Pn 08 57 00.5 +0.7**
LASF *e*Sn **Sn 08 57 30.5 -1.9**
LASF *e*Sg **Sg 08 57 41.1 -1.2**
3.1nm,0.3s
LASF Ste Croix 2.67 19 *e*Pn **Pn 08 57 00.5 +0.7**
LASF *e*Sn **Sn 08 57 30.5 -1.9**
LASF *e*Sg **Sg 08 57 41.1 -1.2**
1.5nm,0.3s
EIBI Ibiza 2.71 203 Sn **Sn 08 57 31.1 -2.3**
2.6nm,0.2s,SNR=7.9
ETSF Etsaut 2.76 300 *e*Pg **Pg 08 57 08.5 -0.8**
ETSF *e*Sg **Sg 08 57 41.9 -3.1**
7.4nm,0.3s
ETSF Etsaut 2.76 300 *e*Pn **Pn 08 57 01.1 +0.2**
ETSF *e*Pg **Pg 08 57 08.5 -0.8**
ETSF *e*Sg **Sg 08 57 41.9 -3.1**
ETSF Etsaut 2.76 300 Pn **Pn 08 57 01.1 +0.2**
ETSF Pg **Pg 08 57 08.5 -0.8**
ETSF Etsaut 2.76 300 *e*Pg **Pg 08 57 08.5 -0.8**
ETSF *e*Sg **Sg 08 57 41.9 -3.1**
3.7nm,0.3s
SMRF Simiane la Rot 3.23 40 *e*Pg **Pg 08 57 18.0 -0.3**
SMRF *e*Sg **Sg 08 58 00.9 +0.7**
3.8nm,0.4s
SMRF Simiane la Rot 3.23 40 *e*Pn **Pn 08 57 08.3 +0.8**
SMRF *e*Pg **Pg 08 57 18.0 -0.3**
SMRF *e*Sg **Sg 08 58 00.9 +0.7**
SMRF Simiane la Rot 3.23 40 Pn **Pn 08 57 08.3 +0.8**
SMRF Pg **Pg 08 57 18.0 -0.3**
SMRF Lg 08 58 00.9
3.8nm,0.4s
SMRF Simiane la Rot 3.23 40 *e*Pg **Pg 08 57 18.0 -0.3**
SMRF *e*Sg **Sg 08 58 00.9 +0.7**
1.9nm,0.4s
SJPF Ste Jean 3.29 300 *e*Pn **Pn 08 57 09.4 +1.1**
SJPF *e*Sg **Sg 08 57 58.7 -3.4**
5.8nm,0.3s
SJPF Ste Jean 3.29 300 *e*Pn **Pn 08 57 09.4 +1.1**
SJPF *e*Sg **Sg 08 57 58.7 -3.4**
2.9nm,0.3s
LMR La Mourre 3.35 56 *e*Pn **Pn 08 57 10.1 +1.0**
LMR *e*Sn **Sn 08 57 48.1 -1.0**
1.1nm,0.2s
LMR La Mourre 3.35 56 *e*Pn **Pn 08 57 10.1 +1.0**
LMR *e*Sn **Sn 08 57 48.1 -1.0**
0.6nm,0.2s
CAF Calviac 3.41 353 *e*Pg **Pg 08 57 20.0 -1.7**
CAF *e*Sg **Sg 08 58 03.5 -2.4**
3.0nm,0.3s
CAF Calviac 3.41 353 *e*Pg **Pg 08 57 20.0 -1.7**
CAF *e*Sg **Sg 08 58 03.5 -2.4**
1.5nm,0.3s
ELIZ Elizondo 3.51 299 Pn **Pn 08 57 12.2 +0.9**
ELIZ Sn **Sn 08 57 54.2 +1.2**
ELIZ Lg 08 58 06.3
ELIZ Elizondo 3.51 299 Pn **Pn 08 57 12.2 +0.9**
0.3nm,0.1s,SNR=7.9
ELIZ Sn **Sn 08 57 51.6 -1.4**
1.2nm,0.3s,SNR=7.9
ELIZ Lg 08 58 06.3
1.6nm,0.2s,SNR=7.9
ELIZ Elizondo 3.51 299 Pn **Pn 08 57 12.2 +0.9**
0.3nm,0.1s,SNR=7.9
FRF La Foret Royal 3.56 54 *e*Pn **Pn 08 57 13.3 +1.4**
VIVF Saint-Julien-l 3.62 23 *e*Sg **Sg 08 58 10.2 -2.4**
2.5nm,0.3s
VIVF Saint-Julien-l 3.62 23 *e*Sg **Sg 08 58 10.2 -2.4**
1.2nm,0.3s
ETOR Torete 3.65 260 Pn **Pn 08 57 13.8 +0.7**
0.4nm,0.1s,SNR=4.0
ETOR Pg **Pg 08 57 24.1 -2.2**
1.8nm,0.1s,SNR=7.9
ETOR Lg 08 58 12.9
1.3nm,0.0s,SNR=4.0
LFF La Frestale 3.68 338 *e*Pg **Pg 08 57 24.8 -2.0**
LFF *e*Sg **Sg 08 58 12.1 -2.4**
14nm,0.4s
LFF La Frestale 3.68 338 *e*Pg **Pg 08 57 24.8 -2.0**
LFF *e*Sg **Sg 08 58 12.1 -2.4**
7.0nm,0.4s
RJF Les Rejaudoux 3.85 348 *e*Sg **Sg 08 58 17.4 -2.7**
1.8nm,0.2s
RJF Les Rejaudoux 3.85 348 *e*Sg **Sg 08 58 17.4 -2.7**
0.9nm,0.2s
PGF Pioggiola 4.81 76 *e*Pn **Pn 08 57 30.5 +1.3**
PGF *e*Sn **Sn 08 58 23.1 -2.0**
1.6nm,0.4s
PGF Pioggiola 4.81 76 *e*Pn **Pn 08 57 30.5 +1.3**
PGF *e*Sn **Sn 08 58 23.1 -2.0**
0.8nm,0.4s

*BJI **30** 08:56:59.2, 1332N×5098E, h10km, mb4.9*
*CSEM **30** 08:57:03.9±0.1, 1377N×5166E, h2km, mb5.2/13, Error ellipse: s-maj=4.3km s-min=2.7km az=147.0*
*ISCJB **30** 08:57:04.9±0.3, 1373N±006×5161E±004, h10km, mb4.4/44, Error ellipse: s-maj=8.4km s-min=5.5km az=128.4*
*IDC **30** 08:57:05.2±0.5, 1369N×5180E, h0km, mb4.1/30, mb1 4.2/31, mb1mx4.2/33, mbtmp4.1/31, ML4.0/1, Error ellipse: s-maj=14.5km s-min=10.5km az=106.0*
*MOS **30** 08:57:05.0±0.8, 1372N×5166E, h10km, mb5.2/10, Error ellipse: s-maj=14.6km s-min=8.5km az=69.9*
*NEIC **30** 08:57:07.1±0.3, 1367N×5176E, h10km, mb5.3/13, Error ellipse: s-maj=8.3km s-min=6.0km az=137.0*
*DHMR **30** 08:57:11.6±0.8, 1385N×5094E, h7km±43km, ML4.3*

ISC 30 08:57:07.0±0.3, 1374N±006×5160E±005, h10km, n90, σ19°14/87, mb4.4/44, 3C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.60**	**287**	*i* P	**Pn**	**08 57 45.9**	**-3.1**
MUKL				*i* S	**Sn**	**08 58 13.2**	**-7.4**
MUKL				AML	AML	08 58 16.9	
	comp=E,3μm,0.5s						
BDHA	**Al Bayda'**	**5.87**	**273**	⇑*i* P	**Pn**	**08 58 32.9**	**-1.1**
BDHA				*i* S	**Sn**	**08 59 35.2**	**-6.1**
LBOS		**6.17**	**272**	⇑*i* P	**Pn**	**08 58 36.7**	**-1.5**
DHBB	**Dhamar BB**	**7.05**	**278**	*i* P	**Pn**	**08 58 47.9**	**-2.3**
TRBA	**At Turbah**	**7.30**	**267**	*i* P	**Pn**	**08 58 51.5**	**-2.3**
ATD	**Arta Tunnel**	**8.82**	**257**	Pn	**Pn**	**08 59 17.9**	**+3.3**
	comp=E,1.4nm,0.3s,baz=70,slow=9.9,SNR=4.0						
KMBO	**Kilima Mbogo**	**20.51**	**225**	P	**P**	**09 01 46.0**	**+0.8**
	comp=E,9.6nm,0.9s,baz=46,slow=14,SNR=14						
KMBO	**Kilima Mbogo**	**20.51**	**225**	*e*P	**P**	**09 01 46.2**	**+1.0**
KMBO				pmax	pmax		
	comp=Z,981nm,3.3s						
KMBO	**Kilima Mbogo**	**20.51**	**225**	*e*P	**P**	**09 01 46.2**	**+1.0**
	comp=Z,981nm,3.3s						
POO	**Poona**	**21.89**	**74**	⇓*i* P	**P**	**09 01 57.0**	**-3.1**
	comp=Z,50nm,1.0s,mb4.9						
EIL	**Elat**	**22.10**	**318**	*e*P	**P**	**09 02 05.5**	**+3.1**
ASF	**Jabal al Asfar**	**22.75**	**326**	P	**P**	**09 02 14.1**	**+4.8**
	comp=Z,3.2nm,0.9s,mb3.8,baz=132,slow=16,SNR=2.7						
MMAI	**Mount Meron Ar**	**24.21**	**325**	P	**P**	**09 02 26.9**	**+3.2**
	comp=Z,0.5nm,0.4s,baz=98,slow=15,SNR=4.1						
KBL	**Kabul**	**26.03**	**34**	*e*P	**P**	**09 02 42.2**	**+1.9**
KBL	**Kabul**	**26.03**	**34**	*e*P	**P**	**09 02 42.2**	**+1.9**
HYB	**Hyderabad**	**26.20**	**78**	*i* P	**P**	**09 02 42.5**	**+0.6**
HYB	**Hyderabad**	**26.20**	**78**	*e*P	**P**	**09 02 42.5**	**+0.6**
BRTR	**Keskin Array B**	**30.33**	**332**	P	**P**	**09 03 21.9**	**+3.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=160,slow=13,SNR=3.6						
OPO	**Ambohidratompo**	**32.40**	**188**	P	**P**	**09 03 38.5**	**+1.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=96,slow=19,SNR=2.4						
KOLN	**Koldanda**	**32.90**	**60**	*e*P	**P**	**09 03 41.6**	**+0.4**
	comp=Z,52nm,1.0s,mb5.4						
GKN	**Gorkha**	**33.84**	**60**	*e*P	**P**	**09 03 49.4**	**-0.1**
	comp=Z,81nm,1.3s,mb5.5						
DMN	**Daman**	**34.12**	**61**	*e*P	**P**	**09 03 52.0**	**+0.1**
	comp=Z,38nm,1.0s,mb5.3						
KKN	**Kakani**	**34.32**	**61**	*e*P	**P**	**09 03 53.8**	**+0.2**
	comp=Z,57nm,0.7s,mb5.6						
KKN	**Kakani**	**34.32**	**61**	*e*P	**P**	**09 03 53.8**	**+0.2**
KKN				pmax	pmax		
	comp=Z,57nm,0.7s,mb5.6						
PKI	**Pulchoki**	**34.36**	**61**	*e*P	**P**	**09 03 53.9**	**-0.1**
	comp=Z,23nm,0.7s,mb5.2						
PKI	**Pulchoki**	**34.36**	**61**	*e*P	**P**	**09 03 53.9**	**-0.1**
PKI				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
GUN	**Gumba**	**34.86**	**61**	*e*P	**P**	**09 03 58.3**	**0.0**
	comp=Z,147nm,1.2s						
AAK	**Ala-Archa**	**34.92**	**30**	*e*P	**P**	**09 03 58.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,82nm,1.9s,mb5.3						
AAK	**Ala-Archa**	**34.92**	**30**	*e*P	**P**	**09 03 58.7**	**-0.2**
	comp=Z,82nm,1.9s,mb5.3						
AAK	**Ala-Archa**	**34.92**	**30**	*e*P	**P**	**09 03 58.7**	**-0.2**
	comp=Z,82nm,1.9s,mb5.3						
JIRN	**Jiri**	**35.05**	**61**	*e*P	**P**	**09 03 59.8**	**-0.2**
	comp=Z,62nm,1.1s,mb5.4						
AKTK	**Aktyubinsk**	**36.96**	**7**	P	**P**	**09 04 17.4**	**+1.0**
AKTK	**Aktyubinsk**	**36.96**	**7**	P	**P**	**09 04 17.4**	**+1.0**
AKTO	**Aktyubinsk**	**36.96**	**7**	P	**P**	**09 04 17.4**	**+1.0**
	comp=Z,4.1nm,0.8s,mb4.3,baz=179,slow=10,SNR=13						
LSZ	**Lusaka**	**36.98**	**220**	P	**P**	**09 04 17.3**	**+0.8**
	comp=Z,1.7nm,0.9s,mb3.9,baz=66,slow=10.0,SNR=3.0						
ORR	**Orenburg**	**37.86**	**3**	*e*P	**P**	**09 04 23.0**	**-1.0**
ORR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
ORR	**Orenburg**	**37.86**	**3**	*e*P	**P**	**09 04 23.0**	**-1.0**
	comp=Z,30nm,0.8s,mb5.1						
SHL	**Shillong**	**39.56**	**66**	*ex*	x	09 04 38.0	
MATP	**Matopo**	**40.85**	**214**	P	**P**	**09 04 48.7**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.1,baz=36,slow=8.4,SNR=8.6						
MATP	**Matopo**	**40.85**	**214**	P	**P**	**09 04 48.7**	**-0.3**
AKASG	**Malin Array Be**	**41.10**	**338**	P	**P**	**09 04 50.6**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.6,baz=148,slow=7.2,SNR=7.7						
MK31	**Makanchi Array**	**41.78**	**32**	*e*P	**P**	**09 04 57.6**	**+1.0**
MKAR	**Makanchi Array**	**41.78**	**32**	P	**P**	**09 04 56.0**	**-0.5**
	comp=Z,1.5nm,0.6s,mb3.8,baz=217,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**41.78**	**32**	P	**P**	**09 04 56.0**	**-0.6**
BRVK	**Borovoye**	**41.94**	**17**	*e*P	**P**	**09 04 57.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**41.94**	**17**	*e*P	**P**	**09 04 57.6**	**-0.2**
	comp=Z,4.6nm,0.6s,mb4.3						
BRVK	**Borovoye**	**41.94**	**17**	*e*P	**P**	**09 04 57.6**	**-0.3**
	comp=Z,4.6nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**41.94**	**17**	P	**P**	**09 04 57.8**	**0.0**
	comp=Z,1.9nm,0.6s,mb3.9,baz=204,slow=7.3,SNR=17						
KURK	**Kurchatov**	**42.90**	**25**	*e*P	**P**	**09 05 05.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,211nm,2.8s,mb5.4						
KURK	**Kurchatov**	**42.90**	**25**	*e*P	**P**	**09 05 05.2**	**-0.5**
	comp=Z,211nm,2.8s,mb5.4						
KURK	**Kurchatov**	**42.90**	**25**	*e*P	**P**	**09 05 05.2**	**-0.5**
	comp=Z,211nm,2.8s,mb5.4						
OBN	**Obninsk**	**42.91**	**347**	⇑*e*P	**P**	**09 05 14.6**	**+8.8**
OBN				pmax	pmax		
	comp=Z,36nm,1.6s,mb4.8						
ARU	**Arti**	**42.93**	**6**	*e*P	**P**	**09 05 13.5**	**+7.5**
WMQ	**Urumqi**	**43.01**	**39**	*e*P	**P**	**09 05 07.5**	**+0.9**
KEST	**Kesra**	**43.75**	**308**	P	**P**	**09 05 14.2**	**+1.7**
	comp=Z,0.8nm,1.1s,baz=270,slow=3.0,SNR=2.9						
LBTB	**Lobatse**	**46.12**	**213**	P	**P**	**09 05 32.7**	**+1.3**
	comp=Z,7.4nm,1.0s,mb4.6,baz=56,slow=11,SNR=7.1						
LBTB	**Lobatse**	**46.12**	**213**	*e*P	**P**	**09 05 32.5**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
LBTB	**Lobatse**	**46.12**	**213**	*e*P	**P**	**09 05 32.5**	**+1.1**
	comp=Z,21nm,1.0s,mb5.0						
LBTB	**Lobatse**	**46.12**	**213**	*e*P	**P**	**09 05 32.5**	**+1.1**
	comp=Z,21nm,1.0s,mb5.0						
TSUM	**Tsumeb**	**46.84**	**226**	P	**P**	**09 05 38.3**	**+1.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=109,slow=17,SNR=4.0						
TSUM	**Tsumeb**	**46.84**	**226**	P	**P**	**09 05 38.3**	**+1.2**
GERES	**GERESS Array B**	**46.96**	**306**	P	**P**	**09 05 37.6**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.6,baz=134,slow=7.0,SNR=4.2						
ZAL	**Zalesovo**	**47.84**	**26**	P	**P**	**09 05 43.8**	**-1.1**
	comp=Z,3.2nm,0.6s,mb4.5,baz=34,slow=3.6,SNR=21						
TORD	**Torodi Ar. Bea**	**48.47**	**275**	P	**P**	**09 05 49.9**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=90,slow=8.2,SNR=3.9						
BOSA	**Boshof**	**49.22**	**211**	P	**P**	**09 05 55.8**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.5,baz=62,slow=6.2,SNR=4.1						
FINES	**FINESS Array B**	**51.07**	**345**	P	**P**	**09 06 09.5**	**0.0**
	comp=Z,4.4nm,0.8s,mb4.5,baz=149,slow=12,SNR=10						
KAF	**Kangasniemi**	**51.58**	**345**	*ep*	**P**	**09 06 19.5**	**+6.2**
	comp=Z,2.5nm,0.5s,mb4.4,baz=146,slow=7.7						
KAF	**Kangasniemi**	**51.58**	**345**	*e*P	**P**	**09 06 19.5**	**+6.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
GYA	**Guiyang**	**52.88**	**67**	P	**P**	**09 06 21.8**	**-1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HFS	**Hagfors**	**53.98**	**338**	P	**P**	**09 06 30.5**	**-0.6**
	comp=Z,4.7nm,1.0s,mb4.4,baz=104,slow=10,SNR=3.8						
ESDC	**Sonseca Array**	**54.96**	**309**	P	**P**	**09 06 39.3**	**+1.1**
	comp=Z,1.2nm,0.4s,mb4.3,baz=90,slow=6.2,SNR=12						
NOA	**NORSAR Array B**	**55.50**	**338**	P	**P**	**09 06 43.4**	**+1.3**
	comp=Z,1.7nm,0.9s,mb4.1,baz=82,slow=10,SNR=3.4						
NOA	**NORSAR Array B**	**55.50**	**338**	P	**P**	**09 06 43.4**	**+1.3**
SONM	**Songino Array**	**56.50**	**41**	P	**P**	**09 06 49.6**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=249,slow=7.1,SNR=17						
ULN	**Ulaanbaatar**	**56.93**	**41**	*e*P	**P**	**09 06 52.7**	**+0.4**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ULN	**Ulaanbaatar**	**56.93**	**41**	*e*P	**P**	**09 06 52.6**	**+0.3**
	comp=Z,6.7nm,1.1s,mb4.6						
ULN	**Ulaanbaatar**	**56.93**	**41**	*e*P	**P**	**09 06 52.7**	**+0.4**
	comp=Z,6.7nm,1.1s,mb4.6						
ARCES	**ARCESS Array B**	**58.14**	**350**	P	**P**	**09 06 59.6**	**-1.2**
	comp=Z,5.4nm,1.0s,mb4.5,baz=160,slow=9.1,SNR=5.5						
EKA	**Eskdalemuir Ar**	**59.06**	**327**	P	**P**	**09 07 07.7**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=116,slow=7.5,SNR=3.1						
KSRS	**Korea Array**	**70.98**	**55**	P	**P**	**09 08 23.4**	**-1.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=273,slow=7.0,SNR=7.3						
TIXI	**Tiksi**	**73.04**	**19**	*e*P	**P**	**09 08 34.1**	**-3.0**
TIXI				*e*		09 08 42.8	
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**79.26**	**55**	P	**P**	**09 09 12.0**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=256,slow=3.5,SNR=4.7						
FITZ	**Fitzroy Crossi**	**79.55**	**112**	P	**P**	**09 09 13.4**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=164,slow=5.6,SNR=2.3						
MAW	**Mawson**	**81.54**	**176**	P	**P**	**09 09 23.6**	**-1.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=37,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**87.96**	**111**	P	**P**	**09 09 56.2**	**-0.9**
	comp=Z,0.8nm,0.6s,mb4.1,baz=298,slow=3.9,SNR=11						
ASAR	**Alice Springs**	**88.56**	**115**	P	**P**	**09 09 59.4**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.9,baz=288,slow=4.4,SNR=6.7						
PDAR	**Pinedale Array**	**121.17**	**344**	PKP	PKPdf	09 16 00.9	+0.9
	comp=Z,0.3nm,0.7s,baz=109,slow=4.9,SNR=2.6						
NVAR	**Mina Array Bea**	**127.25**	**350**	PKP	PKPdf	09 16 13.9	+2.2
	comp=Z,0.6nm,0.7s,baz=88,slow=2.8,SNR=5.0						
TXAR	**Lajitas Array**	**130.97**	**331**	PKP	PKPdf	09 16 21.8	+3.0
	comp=Z,0.6nm,1.0s,baz=168,slow=1.8,SNR=2.5						
TXAR	**Lajitas Array**	**130.97**	**331**	PKP	PKPdf	09 16 21.8	+3.0

*ISCJB **30** 09:01:09.9±0.7, 1363N±009×515E±0.1, h10km, mb3.9/11, Error ellipse: s-maj=16.9km s-min=10.0km az=85.8*
*IDC **30** 09:01:10.1±1.0, 1352N×5152E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/25, mbtmp4.0/10, Error ellipse: s-maj=32.1km s-min=19.1km az=98.0*
*MOS **30** 09:01:10.1±0.6, 1360N×5148E, h10km, mb4.5/2, Error ellipse: s-maj=43.6km s-min=20.4km az=88.3*
*NEIC **30** 09:01:11.5±0.6, 1354N×5147E, h10km, mb4.6/1, Error ellipse: s-maj=18.1km s-min=10.6km az=115.0*

ISC 30 09:01:11.9±0.7, 1364N±010×514E±01, h10km, n19, σ0°94/20, mb3.9/11, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.48**	**290**	*i* P	**Pn**	**09 01 50.6**	**-1.7**
MUKL				*e*		09 01 50.6	
	baz=98,slow=3.7						
MUKL				*i* S	**Sn**	**09 02 01.9**	**-21**
MUKL				AML	AML	09 02 03.1	
	comp=N,5μm,0.5s						
RBK	**Rabkut**	**4.67**	**34**	P	**Pn**	**09 02 21.8**	**-0.6**
	SNR=9.2						
WHFO	**Wadi Hawf**	**4.81**	**27**	P	**Pn**	**09 02 23.1**	**-1.2**
	SNR=9.5						
BANOM	**Banah**	**13.04**	**20**	P	**Pn**	**09 04 16.4**	**-0.8**
	SNR=9.9						
MMAI	**Mount Meron Ar**	**24.20**	**326**	P	**P**	**09 06 31.3**	**+2.7**
	comp=N,0.9nm,0.7s,mb3.3,baz=159,slow=8.6,SNR=4.7						
KBL	**Kabul**	**26.21**	**34**	*e*P	**P**	**09 06 47.1**	**+0.3**
BRTR	**Keskin Array B**	**30.34**	**332**	P	**P**	**09 07 25.7**	**+2.1**
	comp=N,1.5nm,1.0s,mb3.7,baz=154,slow=10,SNR=4.1						
AAK	**Ala-Archa**	**35.09**	**30**	*e*P	**P**	**09 08 05.7**	**+0.6**
AAK				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.7						
AAK	**Ala-Archa**	**35.09**	**30**	*e*P	**P**	**09 08 05.7**	**+0.5**
	comp=Z,16nm,1.7s,mb4.7						
AKTK	**Aktyubinsk**	**37.08**	**7**	P	**P**	**09 08 22.4**	**+0.2**
AKTO	**Aktyubinsk**	**37.08**	**7**	P	**P**	**09 08 22.4**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.3,baz=212,slow=7.6,SNR=5.0						
MATP	**Matopo**	**40.68**	**214**	P	**P**	**09 08 51.4**	**-1.0**
	comp=Z,2.2nm,0.9s,mb3.8,baz=42,slow=10,SNR=4.7						
AKASG	**Malin Array Be**	**41.13**	**339**	P	**P**	**09 08 56.6**	**+0.5**
	comp=Z,1.4nm,0.6s,mb3.8,baz=155,slow=7.3,SNR=7.1						
BVAR	**Borovoye Array**	**42.08**	**17**	P	**P**	**09 09 04.0**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=216,slow=7.3,SNR=3.6						
LBTB	**Lobatse**	**45.95**	**213**	P	**P**	**09 09 35.1**	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=44,slow=9.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**48.33**	**276**	P	**P**	**09 09 53.7**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=83,slow=5.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**48.33**	**276**	P	**P**	**09 09 53.7**	**+0.2**
FINES	**FINESS Array B**	**51.12**	**345**	P	**P**	**09 10 14.4**	**-0.3**
	comp=Z,1.8nm,0.9s,mb4.0,baz=119,slow=6.7,SNR=3.7						
WRA	**Warramunga Arr**	**88.07**	**111**	P	**P**	**09 14 03.0**	**+0.5**
	comp=Z,0.8nm,1.1s,mb3.9,baz=299,slow=3.6,SNR=3.2						

DHMR 30 09:07:44.2±1.4, 1348N×5068E, h10km, ML3.7, 2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.88**	**302**	*i* P	Pn	09 08 16.3	0.0
MUKL				*i* S	Sn	09 08 43.6	+3.6
MUKL				AML	AML	09 08 45.6	
	comp=N,826nm,0.2s						
BDHA	**Al Bayda'**	**4.99**	**276**	⇓*i* P	Pn	09 09 02.0	+2.9
LBOS		**5.29**	**275**	⇓*i* P	Pn	09 09 06.0	+2.7
LBOS				*i* S	Sn	09 10 08.6	+4.3

*IDC **30** 09:07:49.1±1.1, 4204N×14348E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.6/23, mbtmp3.5/7, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx3.2/29, Error ellipse: s-maj=32.9km s-min=22.2km az=87.0*
*MOS **30** 09:07:53.0±1.8, 4198N×14349E, h33km, mb4.3/1, Error ellipse: s-maj=28.3km s-min=15.6km az=73.7*
*ISCJB **30** 09:07:54.6±0.6, 4210N±005×1433E±0.1, h52km±4km, mb3.6/6, Error ellipse: s-maj=14.6km s-min=7.5km az=33.6*
*NEIC **30** 09:07:56.3, 4218N×14328E, h38km, MG3.5(JMA), After JMA.*
*JMA **30** 09:07:56.3±0.1, 4218N×14327E, h38km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φ±295.00000°, δ12.00000°, λ46.00000°. NP2: φ±159.00000°, δ81.00000°, λ98.00000°. Principal axes: T Plg53.0000°, Azm79.0000°; N Plg8.0000°, Azm338.0000°; P Plg36.0000°, Azm242.0000°;*
JMA Felt II J1.

ISC 30 09:07:55.7±0.6, 4215N±005×1433E±01, h46km±5km, n20, σ0°81/24, mb3.6/6, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.16**	**214**	*e*Pg	**Pn**	**09 08 03.0**	**-0.3**
ERM				*e*Sg	**Sn**	**09 08 08.9**	**+0.3**
JEM	**Erimo**	**0.16**	**214**	⇑P	**Pn**	**09 08 03.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.41**	**289**	⇑P	**Pn**	**09 08 05.4**	**-0.2**
JCH	**Churui**	**0.47**	**8**	⇓P	**Pn**	**09 08 05.9**	**-0.5**
JCH				*e*S	**Sn**	**09 08 12.8**	**-1.1**
JOB	**Onbets**	**0.86**	**28**	⇓P	**Pn**	**09 08 12.1**	**+0.6**
JBT2	**Biratori 2**	**0.93**	**314**	⇑P	**Pn**	**09 08 12.3**	**0.0**
JFR	**Furan**	**1.14**	**334**	P	**Pn**	**09 08 14.0**	**-1.2**
JAR	**Ashorobuto**	**1.21**	**17**	P	**Pn**	**09 08 16.2**	**+0.1**
JAR				*e*S	**Sn**	**09 08 31.0**	**-0.3**
ASAJ	**Asahikawa**	**2.03**	**346**	Pn	**Pn**	**09 08 28.4**	**+1.0**
	11nm,0.3s,baz=196,slow=14,SNR=88						
ASAJ				Sn	**Sn**	**09 08 54.6**	**+3.0**
	11nm,0.3s,baz=355,slow=28,SNR=11						
ASAJ				LR	LR	09 08 57.1	
	comp=Z,2μm,20.1s,baz=242,slow=31						
ASAJ	**Asahikawa**	**2.03**	**346**	P	**Pn**	**09 08 28.4**	**+1.0**
ASAJ						09 08 54.6	
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=N,11nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.67**	**44**	*e*P	**Pn**	**09 08 37.9**	**+1.6**
YUK				pmax	pmax		
	comp=Z,270nm,0.3s						
MJAR	**Matsushiro Arr**	**6.83**	**217**	Pn	**Pn**	**09 09 34.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=27,slow=13,SNR=6.2						
BVAR	**Borovoye Array**	**48.32**

comp=E,92nm,0.5s
SWN1 Swindon 2.75 219 *e*S Sn 09 16 59.2 -1.0
SWN1 AML AML 09 17 15.8
comp=E,105nm,0.5s
SWN1 AML AML 09 17 16.9
comp=N,112nm,0.4s
SWN1 Swindon 2.75 219 *e*S Sn 09 16 59.2 -1.0
comp=N,45nm,0.4s
HBL2 Bonnylands 2.93 238 *e*S Sn 09 17 04.4 -0.3
MCH1 Michaelchurch 2.94 237 *e*P Pn 09 16 28.6 -1.1
MCH1 AML AML 09 17 17.8
comp=E,39nm,0.5s
MCH1 AML AML 09 17 19.6
comp=N,45nm,0.4s
BAIF Baives 4.12 150 *e*Pg Pg 09 16 58.9 -3.1
BAIF *e*Sn Sn 09 17 29.2 -4.9
SNR=1.0
BAIF *e*Sg Sg 09 17 52.4 -3.0
comp=N,36nm,0.5s,SNR=1.0
BAIF Baives 4.12 150 *e*Pn Pn 09 16 43.8 -2.1
BAIF *e*Pg Pg 09 16 58.9 -3.1
BAIF *e*Sn Sn 09 17 29.2 -4.9
BAIF *e*Sg Sg 09 17 52.4 -3.0
BAIF Baives 4.12 150 *e*Pg Pg 09 16 58.9 -3.1
BAIF *e*Sn Sn 09 17 29.2 -4.9
SNR=1.0
BAIF *e*Sg Sg 09 17 52.4 -3.0
comp=N,18nm,0.5s,SNR=1.0
BCLA Clavier 4.20 139 P Pn 09 16 46.4 -0.6
BCLA Clavier 4.20 139 P Pn 09 16 46.3 -0.6
GIVF Givet 4.28 145 *e*Pg Pg 09 17 02.6 -2.5
GIVF *e*Sn Sn 09 17 32.0 -6.1
comp=N,26nm,0.4s,SNR=1.0
GIVF *e*Sg Sg 09 17 56.0 -4.6
comp=N,30nm,0.4s
GIVF Givet 4.28 145 *e*Pn Pn 09 16 45.4 -2.7
GIVF *e*Pg Pg 09 17 02.6 -2.5
GIVF *e*Sn Sn 09 17 32.0 -6.1
GIVF *e*Sg Sg 09 17 56.0 -4.6
GIVF Givet 4.28 145 *e*Pg Pg 09 17 02.6 -2.5
GIVF *e*Sn Sn 09 17 32.0 -6.1
comp=N,13nm,0.4s,SNR=1.0
GIVF *e*Sg Sg 09 17 56.0 -4.6
comp=N,15nm,0.4s
FLN La Foliniere 5.00 191 *e*Pn Pn 09 16 55.3 -2.6
baz=14
FLN *e*Sn Sn 09 17 51.0 -4.7
SNR=1.0
FLN *e*Sg Sg 09 18 19.6 -3.9
comp=N,30nm,0.4s
FLN La Foliniere 5.00 191 *e*Pn Pn 09 16 55.3 -2.6
FLN *e*Sn Sn 09 17 51.0 -4.7
SNR=1.0
FLN *e*Sg Sg 09 18 19.6 -3.9
comp=N,15nm,0.4s
LDF La Druitiere 5.13 188 *e*Pn Pn 09 16 56.7 -3.0
SNR=1.0
LDF *e*Sn Sn 09 17 52.4 -6.5
comp=N,16nm,0.6s,SNR=1.0
LDF *e*Sg Sg 09 18 22.5 -5.1
comp=N,21nm,0.5s
LDF La Druitiere 5.13 188 *e*Pn Pn 09 16 56.7 -3.0
SNR=1.0
LDF *e*Sn Sn 09 17 52.4 -6.5
comp=N,8.2nm,0.6s,SNR=1.0
LDF *e*Sg Sg 09 18 22.5 -5.1
comp=N,11nm,0.5s
GRR Gorron 5.41 193 *e*Pn Pn 09 17 00.7 -2.9
GRR *e*Sn Sn 09 17 59.1 -6.8
comp=N,14nm,0.3s,SNR=1.0
GRR Gorron 5.41 193 *e*Pn Pn 09 17 00.7 -2.9
GRR *e*Sn Sn 09 17 59.1 -6.8
comp=N,6.8nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 5.77 152 *e*Pn Pn 09 17 06.1 -2.4
MEZF *e*Sn Sn 09 18 08.5 -6.1
MEZF *e*Sg Sg 09 18 42.6 -5.5
comp=N,6.7nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 5.77 152 *e*Pn Pn 09 17 06.1 -2.4
MEZF *e*Sn Sn 09 18 08.5 -6.1
MEZF *e*Sg Sg 09 18 42.6 -5.5
comp=N,3.3nm,0.3s,SNR=1.0
SGMF Saint Gilles 5.87 204 *e*Pn Pn 09 17 06.8 -3.0
SGMF *e*Sn Sn 09 18 09.8 -7.3
comp=N,8.1nm,0.3s
SGMF Saint Gilles 5.87 204 *e*Pn Pn 09 17 06.8 -3.0
SGMF *e*Sn Sn 09 18 09.8 -7.3
comp=N,4.1nm,0.3s
ROSF Rostrenen 5.98 209 *e*Pn Pn 09 17 08.3 -3.1
SNR=1.0
ROSF *e*Sn Sn 09 18 11.5 -8.3
comp=N,7.8nm,0.3s,SNR=1.0
ROSF Rostrenen 5.98 209 *e*Pn Pn 09 17 08.3 -3.1
SNR=1.0
ROSF *e*Sn Sn 09 18 11.5 -8.3
comp=N,3.9nm,0.3s,SNR=1.0
SFTF Sexfontaines 6.03 153 *e*Pn Pn 09 17 09.2 -3.0
baz=329
SFTF *e*Sn Sn 09 18 14.1 -7.1
SFTF *e*Sg Sg 09 18 52.2 -4.5
comp=N,10.0nm,0.3s
SFTF Sexfontaines 6.03 153 *e*Pn Pn 09 17 09.2 -3.0
SFTF *e*Sn Sn 09 18 14.1 -7.1
SFTF *e*Sg Sg 09 18 52.2 -4.5
comp=N,5.0nm,0.3s
QUIF Quistinic 6.33 206 *e*Pn Pn 09 17 13.3 -3.0
QUIF *e*Sn Sn 09 18 21.5 -7.0
comp=N,11nm,0.5s
QUIF Quistinic 6.33 206 *e*Pn Pn 09 17 13.3 -3.0
QUIF *e*Sn Sn 09 18 21.5 -7.0
comp=N,5.6nm,0.5s
HYF Humbligny 6.49 170 *e*Pn Pn 09 17 16.0 -2.4
HYF *e*Sn Sn 09 18 25.5 -7.0
CDF Champ du Feu 6.58 141 *e*Pn Pn 09 17 16.9 -2.8
HAU Haudompre 6.60 147 *e*Pn Pn 09 17 17.7 -2.3
LOR Lormes 6.66 163 *e*Pn Pn 09 17 17.5 -3.3
baz=341
LOR *e*Sn Sn 09 18 28.9 -7.7
LOR *e*Sg Sg 09 19 12.0 -4.8
comp=N,17nm,0.6s
LOR Lormes 6.66 163 *e*Pn Pn 09 17 17.5 -3.3
LOR *e*Sn Sn 09 18 28.9 -7.7
LOR *e*Sg Sg 09 19 12.0 -4.8
comp=N,8.7nm,0.6s
SSF Saint Saulge 6.80 165 *e*Pn Pn 09 17 18.9 -3.8
SSF *e*Sn Sn 09 18 31.7 -8.5
SSF *e*Sg Sg 09 19 16.2 -5.2
comp=N,11nm,0.6s
SSF Saint Saulge 6.80 165 *e*Pn Pn 09 17 18.9 -3.8
SSF *e*Sn Sn 09 18 31.7 -8.5
SSF *e*Sg Sg 09 19 16.2 -5.2
comp=N,5.4nm,0.6s
HINF Hinteralfeld 6.93 145 *e*Pn Pn 09 17 22.3 -2.2
SNR=1.0
HINF *e*Sg Sg 09 19 17.9 -7.6
comp=N,8.7nm,0.7s
HINF Hinteralfeld 6.93 145 *e*Pn Pn 09 17 22.3 -2.2
SNR=1.0
HINF *e*Sg Sg 09 19 17.9 -7.6
comp=N,4.3nm,0.7s
AVF Avril sur Loir 7.05 167 *e*Pn Pn 09 17 21.8 -4.3
AVF *e*Sn Sn 09 18 37.2 -9.0
comp=N,4.4nm,0.4s
AVF Avril sur Loir 7.05 167 *e*Pn Pn 09 17 21.8 -4.3
AVF *e*Sn Sn 09 18 37.2 -9.0
comp=N,2.2nm,0.4s
MFF Saint Martin d 7.11 186 *e*Pn Pn 09 17 23.5 -3.4
MFF *e*Sn Sn 09 18 39.8 -7.9
comp=N,8.3nm,0.4s
MFF Saint Martin d 7.11 186 *e*Pn Pn 09 17 23.5 -3.4
MFF *e*Sn Sn 09 18 39.8 -7.9
comp=N,4.2nm,0.4s
BGF Bois d'Agland 7.21 170 *e*Pn Pn 09 17 25.3 -3.1
SNR=1.0
BGF *e*Sn Sn 09 18 42.6 -7.7
comp=N,21nm,0.4s,SNR=1.0
BGF *e*Sg Sg 09 19 29.1 -5.4
comp=N,37nm,0.5s
BGF Bois d'Agland 7.21 170 *e*Pn Pn 09 17 25.3 -3.1
SNR=1.0
BGF *e*Sn Sn 09 18 42.6 -7.7
comp=N,10nm,0.4s,SNR=1.0
BGF *e*Sg Sg 09 19 29.1 -5.4
comp=N,18nm,0.5s
SMF Signal de Mont 7.26 164 *e*Pn Pn 09 17 25.1 -3.9
SMF *e*Sn Sn 09 18 43.3 -8.1
SMF *e*Sg Sg 09 19 30.4 -5.6
comp=N,12nm,0.6s
SMF Signal de Mont 7.26 164 *e*Pn Pn 09 17 25.1 -3.9
SMF *e*Sn Sn 09 18 43.3 -8.1
SMF *e*Sg Sg 09 19 30.4 -5.6
comp=N,6.1nm,0.6s
TCF Toulx Ste Croi 7.43 173 *e*Pn Pn 09 17 27.7 -3.6
TCF *e*Sn Sn 09 18 47.1 -8.4
TCF *e*Sg Sg 09 19 35.6 -5.7
comp=N,9.5nm,0.6s
TCF Toulx Ste Croi 7.43 173 *e*Pn Pn 09 17 27.7 -3.6
TCF *e*Sn Sn 09 18 47.1 -8.4
TCF *e*Sg Sg 09 19 35.6 -5.7
comp=N,4.8nm,0.6s
CABF La Chapelle 7.78 153 *e*Pn Pn 09 17 33.3 -2.8
CABF *e*Sn Sx 09 18 55.1
comp=N,4.9nm,0.5s
CABF La Chapelle 7.78 153 *e*Pn Pn 09 17 33.3 -2.8
CABF *e*Sn Sx 09 18 55.1
comp=N,2.5nm,0.5s
RJF Les Rejaudoux 8.38 177 *e*Pn Pn 09 17 40.9 -3.4
RJF *e*Sn Sx 09 19 10.5
comp=N,6.3nm,0.4s
RJF Les Rejaudoux 8.38 177 *e*Pn Pn 09 17 40.9 -3.4
RJF *e*Sn Sx 09 19 10.5
comp=N,3.2nm,0.4s
LFF La Frestale 8.74 181 *e*Pn Pn 09 17 47.0 -2.3
LFF *e*Sn Sx 09 19 19.9
comp=N,9.7nm,0.4s
LFF La Frestale 8.74 181 *e*Pn Pn 09 17 47.0 -2.3
LFF *e*Sn Sx 09 19 19.9
comp=N,4.8nm,0.4s
CAF Calviac 8.78 175 *e*Pn Pn 09 17 46.9 -2.9
SNR=1.0
CAF *e*Sn Sx 09 19 18.9
comp=N,4.1nm,0.3s,SNR=1.0
CAF Calviac 8.78 175 *e*Pn Pn 09 17 46.9 -2.9
SNR=1.0
CAF *e*Sn Sx 09 19 18.9
comp=N,2.0nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 9.14 163 *e*Pn Pn 09 17 51.9 -2.9
SNR=1.0
VIVF *e*Sn Sx 09 19 28.5
comp=N,4.2nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 9.14 163 *e*Pn Pn 09 17 51.9 -2.9
SNR=1.0
VIVF *e*Sn Sx 09 19 28.5
comp=N,2.1nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 9.32 158 *e*Pn Pn 09 17 54.7 -2.5
ORIF *e*Sn Sx 09 19 33.6
comp=N,1.9nm,0.3s
MBDF Montbardon 9.71 155 *e*Sn Sn 09 19 42.4 -9.2
comp=N,3.2nm,0.6s,SNR=1.0
LASF Ste Croix 9.78 168 *e*Pn Pn 09 18 00.4 -3.2
MTLF Montolieu 10.36 175 *e*Pn Pn 09 18 08.3 -3.3
EPF Esparros 10.65 183 *e*Pn Pn 09 18 12.5 -3.0
EPF *e*Sn Sx 09 20 04.9
comp=N,2.2nm,0.3s
SJPF Ste Jean 10.66 189 *e*Pn Pn 09 18 12.0 -3.6
SNR=1.0
ETSF Etsaut 10.82 186 *e*Pn Pn 09 18 12.7 -5.2
ETSF *e*Sn Sx 09 20 08.5
comp=N,2.1nm,0.5s

DHMR 30 09:16:48.4±0.3, 1396N×5108E, h8km±172km, ML3.6, 1C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.05**	**285⇑**	*e*P	Pn	09 17 24.3	+1.2
MUKL				*i* S	Sn	09 17 52.4	+3.6
MUKL				AML	AML	09 17 53.2	
	comp=E,568nm,0.2s						
BDHA	**Al Bayda'**	**5.35**	**271⇓**	*i*P	Pn	09 18 10.7	+2.2
LBOS		**5.66**	**270**	*i* P	Pn	09 18 14.9	+2.2

*IDC **30** 09:17:54.4±0.8, 4635N×153.12E, h0km, mb4.0/17, mb1 4.2/19, mb1mx4.1/28, mbtmp4.0/19, ML3.6/2, Error ellipse: s-maj=23.2km s-min=15.0km az=169.0*
*BJI **30** 09:17:54.5, 4621N×153.14E, h7km, mb4.4*
*NEIC **30** 09:17:56.2±0.5, 4635N×153.18E, h10km, mb4.5/6, Error ellipse: s-maj=13.5km s-min=7.5km az=163.0*
*ISCJB **30** 09:17:57.2±1.8, 4627N±008×153.1E±0.1, h30km±13km, mb4.1/25, Error ellipse: s-maj=16.7km s-min=6.4km az=99.6*
*MOS **30** 09:17:59.6±0.8, 4633N×15291E, h50km, mb4.4/7, Error ellipse: s-maj=13.5km s-min=10.2km az=72.7*

ISC 30 09:18:00.3±0.8, 4628N±008×1531E±01, h40km±6km, n80, σ1§24/85, mb4.1/25, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**256⇓**	*i*PN	**Pn**	**09 19 04.9**	**+8.8**
KUR				pmax	pmax		
	comp=N,90nm,0.6s						
KUR				pmax	pmax		
	comp=E,70nm,0.6s						
KUR				pmax	pmax		
	comp=Z,320nm,0.6s						
SKR	**Severo-Kuril's**	**4.85**	**24**	*e*PN	**Pn**	**09 19 11.5**	**+0.7**
SKR				*e*S	**Sn**	**09 20 06.0**	**+0.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,90nm,0.7s						
SKR				smax			
	comp=N,220nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.56**	**249**	PN	**Pn**	**09 19 21.5**	**+0.9**
YUK				S	**Sn**	**09 20 27.3**	**+4.1**
YUK				smax			
	comp=N,370nm,0.8s						
YUK				smax			
	comp=E,370nm,0.8s						
NEM2	**Nemuro 2**	**5.96**	**243**	P	**Pn**	**09 19 24.3**	**-1.8**
JRA	**Rausu**	**6.09**	**250**	P	**Pn**	**09 19 29.1**	**+1.4**
JNK	**Nakash**	**6.51**	**249**	P	**Pn**	**09 19 34.1**	**+0.6**
JAK	**Akkeshi**	**6.81**	**244**	P	**Pn**	**09 19 35.8**	**-1.9**
JAK				*e*S	**Sn**	**09 20 49.4**	**-4.5**
JTKR	**Abashiri--Toko**	**6.88**	**254**	P	**Pn**	**09 19 40.1**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.13**	**279⇓**	*e*PN	**Pn**	**09 19 46.7**	**+4.6**
YSS	**Yuzh-Sakhalins**	**7.13**	**279**	*e*Pn	**Pn**	**09 19 41.9**	**-0.2**
	comp=E,36nm,1.1s						
JMP	**Maruseppu**	**7.23**	**255**	P	**Pn**	**09 19 45.5**	**+2.1**
JAR	**Ashorobuto**	**7.25**	**249**	P	**Pn**	**09 19 44.0**	**+0.3**
JAR				*e*S	**Sn**	**09 21 04.1**	**-0.7**
JOB	**Onbets**	**7.40**	**246**	P	**Pn**	**09 19 45.1**	**-0.7**
JOB				*e*S	**Sn**	**09 21 04.5**	**-3.9**
JKK2	**Kamakawa 2**	**7.69**	**255**	P	**Pn**	**09 19 51.6**	**+1.9**
ASAJ	**Asahikawa**	**7.70**	**257**	Pn	**Pn**	**09 19 49.4**	**-0.6**
	comp=E,1.1nm,0.3s,baz=335,slow=28,SNR=8.6						
ASAJ	**Asahikawa**	**7.70**	**257**	P	**Pn**	**09 19 52.5**	**+2.6**
ASAJ	**Asahikawa**	**7.70**	**257**	PN	**Pn**	**09 19 49.4**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.85**	**246**	P	**Pn**	**09 19 51.2**	**-0.7**
JCH				*e*S	**Sn**	**09 21 15.7**	**-3.7**
JFR	**Furan**	**8.08**	**251**	P	**Pn**	**09 19 57.6**	**+2.5**
ERM	**Erimo**	**8.30**	**243⇑**	*e*PN	**Pn**	**09 19 59.7**	**+1.6**
JBT2	**Biratori 2**	**8.41**	**249**	P	**Pn**	**09 19 58.5**	**-1.0**
JNBK	**Urakawa-nobuka**	**8.41**	**245**	P	**Pn**	**09 19 57.5**	**-2.1**
JSK	**Shakotan**	**9.41**	**256**	P	**Pn**	**09 20 14.2**	**+0.9**
JNB	**Noboribetsu**	**9.41**	**250**	P	**Pn**	**09 20 13.0**	**-0.4**
JNB				*e*S	**Sn**	**09 21 55.2**	**-2.7**
JKB	**Kayabe**	**9.70**	**247**	P	**Pn**	**09 20 16.0**	**-1.3**
JYM2	**Yakumo 2**	**10.02**	**250**	P	**Pn**	**09 20 20.8**	**-0.8**
JANG	**Nango**	**10.27**	**239**	*e*S	**Sn**	**09 22 09.1**	**-10**
JOSM	**Okushiri--Mats**	**10.62**	**252**	P	**Pn**	**09 20 28.8**	**-1.1**
KLR	**Kul'dur**	**14.63**	**289**	*e*P	**Pn**	**09 21 29.3**	**+4.7**
MJAR	**Matsushiro Arr**	**14.77**	**234**	Pn	**Pn**	**09 21 26.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=3.8						
KSRS	**Korea Array**	**20.63**	**254**	P	**P**	**09 22 37.9**	**+1.6**
	comp=Z,2.5nm,0.6s,baz=54,slow=11,SNR=9.3						
BILL	**Bilibino**	**22.86**	**13⇑**	*e*P	**P**	**09 22 59.9**	**-0.2**
BILL				pmax	pmax		
	comp=Z,17nm,2.5s,mb4.0						
SONM	**Songino Array**	**31.46**	**290**	P	**P**	**09 24 17.9**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=87,slow=7.9,SNR=4.1						
ZAK	**Zakamensk**	**32.85**	**296**	*e*P	**P**	**09 24 28.2**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
COLA	**College**	**36.53**	**38**	*e*P	**P**	**09 25 02.0**	**+0.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
COLA	**College**	**36.53**	**38**	*e*P	**P**	**09 25 02.0**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.0						
LZH	**Lanzhou**	**37.87**	**272**	*e*P	**P**	**09 25 15.5**	**+2.2**
LZH				AP	pP	09 25 21.8	-2.7
LZH				XP	sP	09 25 24.5	-4.8
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**37.87**	**272**	*e*P	**P**	**09 25 15.5**	**+2.2**
	comp=Z,19nm,1.2s,mb4.7						
LZH				pP	pP	09 25 21.7	-2.8
LZH				sP	sP	09 25 24.5	-4.8
GTA	**Gaotai**	**39.01**	**280**	*e*P	**P**	**09 25 24.8**	**+1.9**
GTA				AP	pP	09 25 30.3	-3.8
GTA				XP	sP	09 25 33.5	-5.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
GYA	**Guiyang**	**41.58**	**258**	P	**P**	**09 25 45.5**	**+1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
INK	**Inuvik**	**42.07**	**32**	P	**P**	**09 25 47.6**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=15,slow=2.5,SNR=7.7						
INK	**Inuvik**	**42.07**	**32**	*e*P	**P**	**09 25 47.8**	**-0.3**
	comp=Z,75nm,0.8s,mb5.4						
MK31	**Makanchi Array**	**47.13**	**298**	*e*P	**P**	**09 26 28.0**	**-0.5**
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**09 26 27.6**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=68,slow=7.6,SNR=15						
MKAR				PcP	PcP	09 28 00.1	+0.4
	comp=Z,0.6nm,0.8s,baz=60,slow=3.1,SNR=2.7						
MKAR	**Makanchi Array**	**47.13**	**298**	*i* P	**P**	**09 26 28.0**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**47.60**	**304**	*e*P	**P**	**09 26 30.9**	**-1.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**47.60**	**304**	*e*P	**P**	**09 26 30.9**	**-1.3**
	comp=Z,7.6nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**09 26 58.2**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=40,slow=7.8,SNR=8.2						
BRVK	**Borovoye**	**51.17**	**310**	*e*P	**P**	**09 26 59.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.17**	**310**	*e*P	**P**	**09 26 59.1**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**51.32**	**36**	P	**P**	**09 26 59.7**	**-0.8**
	comp=Z,0.9nm,0.9s,mb3.7,baz=294,slow=6.9,SNR=9.1						
YKA	**Yellowknife Ar**	**51.32**	**36**	*e*P	**P**	**09 27 00.1**	**-0.4**
YKA	**Yellowknife Ar**	**51.32**	**36**	P	**P**	**09 26 59.7**	**-0.8**
AAK	**Ala-Archa**	**54.01**	**297⇑**	*e*P	**P**	**09 27 20.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**54.01**	**297**	*e*P	**P**	**09 27 20.3**	**-0.2**
	comp=Z,3.1nm,1.1s,mb4.2						
JIRN	**Jiri**	**54.95**	**275**	*e*P	**P**	**09 27 29.4**	**+2.2**
DMN	**Daman**	**55.73**	**276**	*e*P	**P**	**09 27 35.3**	**+2.5**
GKN	**Gorkha**	**55.81**	**276**	*e*P	**P**	**09 27 35.3**	**+1.9**
KOLN	**Koldanda**	**56.67**	**277**	*e*P	**P**	**09 27 41.4**	**+1.9**
ARCES	**ARCESS Array B**	**58.28**	**341**	P	**P**	**09 27 49.2**	**-1.7**
	comp=Z,6.0nm,1.0s,mb4.6,baz=17,slow=7.0,SNR=6.6						
ARCES	**ARCESS Array B**	**58.28**	**341**	P	**P**	**09 27 49.2**	**-1.7**
AKTK	**Aktyubinsk**	**59.01**	**312**	P	**P**	**09 27 55.5**	**-0.4**
AKTO	**Aktyubinsk**	**59.01**	**312**	P	**P**	**09 27 55.5**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.1,baz=64,slow=7.2,SNR=6.4						
NVAR	**Mina Array Bea**	**62.68**	**62**	P	**P**	**09 28 20.3**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.9,baz=290,slow=6.2,SNR=5.2						
NVAR	**Mina Array Bea**	**62.68**	**62**	P	**P**	**09 28 20.3**	**-0.7**
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**09 28 31.4**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=39,slow=5.7,SNR=19						
FINES	**FINESS Array B**	**64.45**	**335**	*i* P	**P**	**09 28 31.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**09 28 31.4**	**-1.2**
PDAR	**Pinedale Array**	**65.05**	**54**	P	**P**	**09 28 36.3**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=296,slow=1.4,SNR=7.1						
NB2	**NORSAR Subarra**	**68.66**	**341**	P	**P**	**09 28 59.0**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**09 28 58.9**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=29,slow=6.4,SNR=4.8						
ASAR	**Alice Springs**	**71.75**	**198**	P	**P**	**09 29 18.0**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=8.3,slow=5.0,SNR=4.7						
AKASG	**Malin Array Be**	**71.92**	**326**	P	**P**	**09 29 18.8**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.6,baz=33,slow=6.2,SNR=18						
AKASG	**Malin Array Be**	**71.92**	**326**	P	**P**	**09 29 18.8**	**-0.6**
CLL	**Collm**	**76.88**	**336**	*e*P	**P**	**09 29 49.0**	**+0.8**
MLR	**Muntele Rosu**	**77.43**	**325**	P	**P**	**09 29 52.2**	**+0.9**
	comp=Z,1.7nm,0.6s,mb4.1,baz=218,slow=6.2,SNR=5.4						
TXAR	**Lajitas Array**	**77.75**	**60**	P	**P**	**09 29 53.2**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=302,slow=4.6,SNR=24						
GERES	**GERESS Array B**	**78.86**	**334**	P	**P**	**09 29 58.2**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=38,slow=5.0,SNR=7.2						
CFAA	**Coronel Fontan**	**145.11**	**80**	PKPbc	PKPbc	09 37 31.9	-1.0
	comp=Z,0.2nm,0.4s,baz=224,slow=6.6,SNR=4.3						
PLCA	**Paso Flores**	**148.20**	**96**	PKPbc	PKPbc	09 37 41.4	-0.5
	comp=Z,0.8nm,0.7s,baz=209,slow=1.0,SNR=4.6						

*IDC **30** 09:21:30.3±0.8, 983S×10908E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=34.7km s-min=16.0km az=47.0*
*NEIC **30** 09:21:31.9±0.5, 989S×10900E, h10km, mb3.5/1, Error ellipse: s-maj=25.3km s-min=8.7km az=221.0*
*ISCJB **30** 09:21:36.4±6.0, 98S±02×1092E±02, h57km±56km, mb4.3/14, Error ellipse: s-maj=37.7km s-min=14.2km az=101.3*

ISC 30 09:21:37.9±5.3, 98S±02×1092E±02, h51km±51km, n23, σ0§53/22, mb4.3/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.96**	**119**	*e*P	**Pn**	**09 25 44.3**	**+0.5**
	2.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.96**	**119**	P	**Pn**	**09 25 42.6**	**-1.1**
	0.4nm,0.3s,baz=292,slow=9.7,SNR=7.8						
FITZ				S	**S**	**09 28 48.5**	**-19**
	0.1nm,0.3s,baz=128,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**26.27**	**115**	P	**P**	**09 27 08.5**	**+0.1**
	3.1nm,0.7s,mb4.0,baz=286,slow=11,SNR=21						
WB2	**Warramunga Arr**	**26.29**	**115**	*e*P	**P**	**09 27 09.2**	**+0.7**
ASAR	**Alice Springs**	**27.33**	**123**	P	**P**	**09 27 17.9**	**+0.1**
	2.9nm,0.7s,mb3.9,baz=298,slow=9.5,SNR=39						
STKA	**Stephens Creek**	**37.18**	**131**	P	**P**	**09 28 43.8**	**-0.2**
	4.0nm,0.9s,mb4.2,baz=335,slow=11,SNR=6.3						
JIRN	**Jiri**	**43.38**	**330**	*e*P	**P**	**09 29 34.7**	**-0.5**
	20nm,0.8s,mb4.9						
PKI	**Pulchoki**	**43.70**	**329**	*e*P	**P**	**09 29 38.5**	**+0.7**
GUN	**Gumba**	**43.74**	**330**	*e*P	**P**	**09 29 38.5**	**+0.4**
	25nm,0.9s,mb5.0						
DMN	**Daman**	**43.89**	**328**	*e*P	**P**	**09 29 39.3**	**0.0**
	42nm,1.1s,mb5.1						
KKN	**Kakani**	**43.94**	**329**	*e*P	**P**	**09 29 39.8**	**+0.1**
GKN	**Gorkha**	**44.45**	**328**	*e*P	**P**	**09 29 43.9**	**+0.1**
KOLN	**Koldanda**	**44.81**	**327**	*e*P	**P**	**09 29 46.5**	**-0.1**
	23nm,0.9s,mb5.0						
KSRS	**Korea Array**	**50.15**	**19**	P	**P**	**09 30 27.1**	**-1.0**
	1.6nm,0.9s,mb4.0,baz=195,slow=9.1,SNR=4.8						
SONM	**Songino Array**	**57.41**	**358**	P	**P**	**09 31 20.7**	**-0.4**
	2.0nm,0.7s,mb4.3,baz=178,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**61.23**	**339**	P	**P**	**09 31 47.3**	**-0.2**
	1.7nm,0.6s,mb4.3,baz=151,slow=7.1,SNR=17						
ZAL	**Zalesovo**	**66.75**	**345**	P	**P**	**09 32 24.2**	**+0.5**
	0.9nm,0.4s,mb4.1,baz=9.0,slow=3.8,SNR=3.3						
AKTK	**Aktyubinsk**	**74.61**	**329**	P	**P**	**09 33 12.2**	**+0.7**
AKTO	**Aktyubinsk**	**74.61**	**329**	P	**P**	**09 33 12.2**	**+0.7**
	1.2nm,0.6s,mb4.0,baz=133,slow=8.5,SNR=4.6						
MATP	**Matopo**	**78.01**	**251**	P	**P**	**09 33 30.3**	**-0.5**
	1.9nm,0.8s,mb4.0,baz=90,slow=6.4,SNR=5.0						
BRTR	**Keskin Array B**	**85.29**	**311**	P	**P**	**09 34 08.3**	**-

OXX			*i* S	Sn	09 24 39.0	-1.2
VHO	**Vista Hermosa**	**1.75 284**	*i* P	Pn	09 24 17.6	-0.7
VHO			*i* S	Sn	09 24 39.4	-0.9
CCIG	**Comitan**	**2.73 98**	*i* P	Pn	09 24 31.8	+0.7
CCIG			*i* S	Sn	09 25 01.2	-2.1
CCIG	**Comitan**	**2.73 98**	*i* P	Pn	09 24 32.9	+1.7
CCIG			*i* S	Sn	09 25 01.2	-2.1
TPIG	**Tehuac#an**	**2.89 308**	*i* P	Pn	09 24 32.5	-0.9
TPIG			*i* S	Sn	09 25 04.3	-2.9

*NEIC **30** 09:27:52.5, 3633S×17969E, h168km, MG3.7(WEL), After WEL.*

WEL 30 09:27:52.9±0.7, 3602S×17975E, h33km, ML3.7/6, Error ellipse: s-maj=12.3km s-min=8.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.93**	**217**	P	Pn	09 28 21.5	-1.8
MXZ	**Matakaoa Point**	**1.93**	**217**	PN	Pn	09 28 21.1	-2.2
MXZ				SN	Sn	09 28 44.7	-1.7
PUZ	**Puketiti**	**2.37**	**210**	P	Pn	09 28 29.4	0.0
PUZ	**Puketiti**	**2.37**	**210**	PN	Pn	09 28 29.4	0.0
PUZ				SN	Sn	09 28 56.7	-0.7
MWZ	**Matawai**	**2.91**	**217**	P	Pn	09 28 36.7	-0.2
MWZ				S	Sn	09 29 09.5	-1.2
MWZ	**Matawai**	**2.91**	**217**	PN	Pn	09 28 36.7	-0.2
MWZ				SN	Sn	09 29 09.4	-1.3
MWZ				SN	Sn	09 29 09.5	-1.2
URZ	**Urewera**	**3.07**	**223**	P	Pn	09 28 38.5	-0.6
URZ	**Urewera**	**3.07**	**223**	PN	Pn	09 28 38.5	-0.6
URZ				SN	Sn	09 29 12.2	-2.4
KNZ	**Kokohu**	**3.42**	**208**	*e*P	Pn	09 28 42.2	-1.6
KNZ	**Kokohu**	**3.42**	**208**	PN	Pn	09 28 42.2	-1.7
BKZ	**Black Stump Fm**	**4.07**	**219**	*e*P	Pn	09 28 51.3	-1.5
BKZ	**Black Stump Fm**	**4.07**	**219**	PN	Pn	09 28 51.3	-1.4
WAZ	**Wanganui**	**5.30**	**224**	*e*PN	Pn	09 29 08.4	-1.3
MRZ	**Mangatainoka R**	**5.67**	**214**	*e*P	Pn	09 29 11.2	-3.6
MRZ	**Mangatainoka R**	**5.67**	**214**	*e*PN	Pn	09 29 10.8	-4.0
MRZ				SN	Sn	09 30 10.4	-8.4
NNZ	**Nelson**	**7.20**	**222**	SN	Sn	09 30 48.5	-7.7
MQZ	**McQueen's Vall**	**9.41**	**213**	SN	Sn	09 31 35.9	-15

*ISCJB **30** 09:30:25.3±0.4, 4279N±002×2071E±003, h10km, Error ellipse: s-maj=3.2km s-min=2.7km az=3.7*
*SKO **30** 09:30:25.8, 4277N×2067E, h0km*
*BEO **30** 09:30:25.9±0.2, 4278N×2073E, h8km*
*NEIC **30** 09:30:26.9, 4278N×2061E, h11km, ML2.4(CSEM), ML2.6(PDG), After PDG.*
*PDG **30** 09:30:26.9±0.4, 4278N×2061E, h11km±1km*

ISC 30 09:30:25.7±0.5, 4277N±002×2074E±003, h3km±5km, n27, σ0§87/45, 5C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.59**	**253**	⇑*i*P*g*	**Pg**	**09 30 36.4**	**-0.6**
PVY				*e*S*g*	**Sg**	**09 30 44.6**	**-0.1**
IVA	**Berane**	**0.62**	**279**	⇓*i*P*g*	**Pg**	**09 30 36.7**	**-0.9**
IVA				*e*S*g*	**Sg**	**09 30 45.6**	**-0.2**
BARS	**Barje**	**0.80**	**86**	*e*P*g*	**Pg**	**09 30 40.6**	**-0.5**
BARS				Sg	**Sg**	**09 30 52.1**	**+0.6**
SKO	**Skopje**	**0.95**	**147**	*e*P*g*	**Pg**	**09 30 43.6**	**-0.4**
SKO				*e*S*g*	**Sg**	**09 30 56.8**	**+0.4**
SKO	**Skopje**	**0.95**	**147**	*e*P*g*	**Pg**	**09 30 43.6**	**-0.4**
SKO				*e*S*g*	**Sg**	**09 30 56.8**	**+0.4**
GRUS	**Gruza**	**1.11**	**359**	*e*P*g*	**Pg**	**09 30 46.5**	**-0.6**
GRUS				Sg	**Sg**	**09 31 02.1**	**+0.6**
PLE	**Pljevlja**	**1.13**	**300**	⇓*i*P*g*	**Pg**	**09 30 46.4**	**-1.0**
PLE				*e*S*g*	**Sg**	**09 31 01.9**	**-0.1**
TTG	**Podgorica**	**1.14**	**253**	⇓*i*P*g*	**Pg**	**09 30 47.0**	**-0.6**
TTG				*e*S*g*	**Sg**	**09 31 02.5**	**+0.1**
NKY	**Niksic**	**1.28**	**272**	⇑*i*P*g*	**Pn**	**09 30 49.4**	**-1.1**
NKY				*e*S*g*	**Sg**	**09 31 08.3**	**+1.4**
ULC	**Ulcinj**	**1.37**	**234**	⇑*i*P*g*	**Pn**	**09 30 51.5**	**-0.2**
ULC				*e*S*g*	**Sg**	**09 31 11.5**	**+1.9**
UPM	**Unac-Piva**	**1.41**	**288**	⇑*i*P*g*	**Pn**	**09 30 51.0**	**-1.2**
UPM				*e*S*g*	**Sg**	**09 31 11.5**	**+0.6**
DIVS	**Divcibare**	**1.43**	**338**	⇓*i*P*n*	**Pn**	**09 30 51.7**	**-0.8**
DIVS				Sg	**Sg**	**09 31 11.5**	**-0.2**
BUM	**Brajici-Budva**	**1.44**	**251**	*e*P*g*	**Pn**	**09 30 51.1**	**-1.5**
BUM				*e*S*g*	**Sg**	**09 31 13.1**	**+1.2**
KRUS	**Krusevo**	**1.45**	**165**	*e*P*g*	**Pn**	**09 30 52.4**	**-0.4**
KRUS	**Krusevo**	**1.45**	**165**	*e*P*g*	**Pn**	**09 30 52.4**	**-0.4**
BBLS	**Bajina Basta -**	**1.46**	**319**	⇓*i*P*n*	**Pn**	**09 30 52.9**	**-0.1**
BBLS				Sg	**Sg**	**09 31 12.7**	**0.0**
STIP	**Stip**	**1.52**	**135**	*e*P*g*	**Pn**	**09 30 53.0**	**-0.8**
STIP	**Stip**	**1.52**	**135**	*e*P*g*	**Pn**	**09 30 53.0**	**-0.8**
SVIS	**Svilajnac**	**1.56**	**13**	*e*P*n*	**Pn**	**09 30 54.8**	**+0.5**
SVIS				Sg	**Sg**	**09 31 16.3**	**+0.4**
BRY	**Bratogost**	**1.62**	**275**	⇓*i*P*g*	**Pn**	**09 30 54.3**	**-0.8**
BRY				*e*S*g*	**Sg**	**09 31 17.4**	**-0.3**
HCY	**Herceg Novi**	**1.68**	**260**	⇓*i*P*n*	**Pn**	**09 30 55.9**	**-0.1**
HCY				*e*S*n*	**Sn**	**09 31 20.1**	**+2.0**
BIA	**Bitola**	**1.81**	**166**	*e*P*g*	**Pn**	**09 30 58.2**	**+0.5**
BIA	**Bitola**	**1.81**	**166**	*e*P*g*	**Pn**	**09 30 58.2**	**+0.5**
VTS	**Vitosha**	**1.83**	**95**	⇑*i*P	**Pn**	**09 30 58.2**	**+0.2**
DJES	**Djerdap**	**2.27**	**34**	*e*P*n*	**Pn**	**09 31 05.5**	**+1.5**
DJES				Sg	**Sn**	**09 31 35.7**	**+3.2**
BZS	**Buzias**	**2.91**	**12**	⇓*i*P	**Pn**	**09 31 20.1**	**+7.2**
GZR	**Gura Zlata**	**3.00**	**29**	⇓*i*P	**Pg**	**09 31 13.7**	**-10**

*ISCJB **30** 09:40:10.5±0.7, 137N±0.1×517E±0.1, h10km, mb3.6/10, Error ellipse: s-maj=19.7km s-min=11.6km az=95.0*
*IDC **30** 09:40:10.7±0.9, 1372N×5178E, h0km, mb3.6/11, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, ML3.7/1, Error ellipse: s-maj=26.0km s-min=18.1km az=131.0*
*NEIC **30** 09:40:12.2±0.7, 1370N×5175E, h10km, Error ellipse: s-maj=18.1km s-min=10.8km az=137.0*

ISC 30 09:40:12.7±0.7, 137N±01×517E±01, h10km, n16, σ0§96/16, mb3.6/10, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.95**	**257**	Pn	**Pn**	**09 42 22.2**	**+0.2**
	0.8nm,0.3s,baz=105,slow=20,SNR=4.0						
ATD	**Arta Tunnel**	**8.95**	**257**	Pn	**Pn**	**09 42 22.2**	**+0.2**
KMBO	**Kilima Mbogo**	**20.59**	**225**	P	**P**	**09 44 52.2**	**+0.4**
	5.8nm,0.8s,baz=36,slow=14,SNR=8.1						
ASF	**Jabal al Asfar**	**22.83**	**326**	P	**P**	**09 45 17.1**	**+1.3**
	1.1nm,0.7s,mb3.4,baz=90,slow=13,SNR=3.9						
KBL	**Kabul**	**25.97**	**34**	*e*P	**P**	**09 45 47.0**	**+1.6**
MATP	**Matopo**	**40.92**	**214**	P	**P**	**09 47 55.2**	**+0.1**
	1.3nm,0.5s,mb3.9,baz=41,slow=9.8,SNR=6.8						
AKASG	**Malin Array Be**	**41.15**	**338**	P	**P**	**09 47 57.4**	**+0.3**
	0.3nm,0.4s,mb3.3,baz=147,slow=7.0,SNR=3.2						
MKAR	**Makanchi Array**	**41.72**	**32**	P	**P**	**09 48 01.3**	**-0.5**
	0.5nm,0.6s,mb3.3,baz=220,slow=8.7,SNR=8.3						
MKAR	**Makanchi Array**	**41.72**	**32**	P	**P**	**09 48 01.3**	**-0.5**
ZAL	**Zalesovo**	**47.79**	**26**	P	**P**	**09 48 48.0**	**-2.2**
	0.7nm,0.4s,mb4.0,baz=149,slow=5.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**48.60**	**276**	P	**P**	**09 48 56.0**	**-0.5**
	0.4nm,0.6s,mb3.6,baz=83,slow=7.3,SNR=3.8						
TORD				PcP	PcP	09 50 23.5	+1.6
	0.1nm,0.4s,baz=103,slow=3.9,SNR=2.3						
FINES	**FINESS Array B**	**51.11**	**344**	P	**P**	**09 49 15.3**	**-0.2**
	1.1nm,0.8s,mb3.9,baz=150,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**51.11**	**344**	P	**P**	**09 49 15.3**	**-0.2**
ESDC	**Sonseca Array**	**55.06**	**309**	P	**P**	**09 49 43.0**	**-1.6**
	0.2nm,0.2s,mb3.7,baz=85,slow=6.0,SNR=3.3						
SONM	**Songino Array**	**56.42**	**41**	P	**P**	**09 49 55.0**	**+0.7**
	0.5nm,0.8s,mb3.6,baz=235,slow=5.2,SNR=4.5						
ASAR	**Alice Springs**	**88.44**	**115**	P	**P**	**09 53 05.0**	**-0.1**
	0.2nm,0.5s,mb3.6,baz=288,slow=4.8,SNR=8.8						

*IDC **30** 09:48:49.7±1.2, 6675×14379E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.1/13, mbtmp4.1/8, ML3.7/2, MS5.0/2, Ms1 5.0/2, ms1mx4.0/23, Error ellipse: s-maj=35.3km s-min=13.6km az=105.0*
*ISCJB **30** 09:48:52.1±0.6, 6795±006×14383E±006, h35km, mb4.0/5, MS5.0/2, Error ellipse: s-maj=9.0km s-min=8.6km az=47.2*
*NEIC **30** 09:48:54.3±0.8, 6825×14379E, h35km, mb4.2/1, Error ellipse: s-maj=17.6km s-min=13.6km az=126.0*

ISC 30 09:48:54.2±0.6, 6785±006×14383E±006, h35km, n19, σ1§11/20, mb4.0/6, MS5.0/2, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.20**	**129**	Pn	**Pn**	**09 49 56.4**	**+0.7**
	8.1nm,0.3s,baz=6.8,slow=3.5,SNR=24						
PMG				Sn	**Sn**	**09 50 43.3**	**-0.3**
	15nm,0.3s,baz=232,slow=23,SNR=9.7						
KAKA	**Kakadu**	**12.68**	**241**	*e*P	**Pn**	**09 51 50.4**	**-1.5**
	35nm,0.8s						
KAKA				*e*S	**Sn**	**09 54 03.4**	**-8.4**
CTA	**Charters Tower**	**13.43**	**170**	Lg		09 56 08.7	
	0.1nm,0.3s,baz=266,slow=16,SNR=3.0						
WB2	**Warramunga Arr**	**15.99**	**214**	*e*P	**Pn**	**09 52 34.7**	**-1.8**
WRA	**Warramunga Arr**	**16.00**	**214**	Pn	**Pn**	**09 52 34.8**	**-1.8**
	0.9nm,0.3s,baz=31,slow=13,SNR=58						
WRA				Sn	**Sn**	**09 55 34.4**	**+1.6**
	0.2nm,0.3s,baz=38,slow=22,SNR=3.8						
WRA				Lg		09 57 21.9	
	0.3nm,0.3s,baz=32,slow=24,SNR=6.2						
WRA	**Warramunga Arr**	**16.00**	**214**	Pn	**Pn**	**09 52 34.8**	**-1.8**
WRA				Sn	**Sn**	**09 55 34.4**	**+1.6**
WRA				Lg		09 57 21.9	
ASAR	**Alice Springs**	**19.31**	**209**	P	**Pn**	**09 53 18.6**	**+1.2**
	1.5nm,0.3s,baz=38,slow=9.3,SNR=200						
ASAR				S	**S**	**09 56 56.9**	**+4.1**
	0.1nm,0.3s,baz=20,slow=27,SNR=4.2						
ASAR				Lg		09 59 06.2	
	0.1nm,0.3s,baz=19,slow=30,SNR=4.4						
FITZ	**Fitzroy Crossi**	**21.00**	**236**	*e*P	**P**	**09 53 36.1**	**+1.5**
	17nm,1.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.00**	**236**	P	**P**	**09 53 35.3**	**+0.8**
	5.9nm,1.0s,mb3.9,baz=98,slow=14,SNR=6.2						
FITZ				S	**S**	**09 57 19.1**	**-7.5**
	1.9nm,0.5s,baz=74,slow=18,SNR=3.2						
FITZ				Lg		09 59 58.6	
	11nm,0.9s,baz=131,slow=5.3,SNR=3.6						
RAO	**Raoul Island**	**42.39**	**127**	LR	LR	10 10 54.3	
	comp=Z,2μm,18.9s,MS5.0,baz=184,slow=31						
AFI	**Afiamalu**	**44.18**	**103**	LR	LR	10 10 23.0	
	comp=Z,2μm,21.4s,MS4.9,baz=76,slow=29						
KSRS	**Korea Array**	**46.45**	**342**	P	**P**	**09 57 16.8**	**-0.7**
	2.3nm,0.9s,mb4.1,baz=161,slow=10.0,SNR=7.1						
SONM	**Songino Array**	**63.60**	**333**	P	**P**	**09 59 21.6**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=157,slow=5.3,SNR=4.7						
STCH	**Steam Cracks**	**65.47**	**65**	*e*P	**P**	**09 59 33.1**	**-0.5**
POO	**Poona**	**73.41**	**292**	*e*x	x	10 01 10.0	
MKAR	**Makanchi Array**	**76.12**	**322**	P	**P**	**10 00 39.5**	**+1.1**
	2.0nm,0.8s,mb4.1,baz=112,slow=6.7,SNR=17						
ZAL	**Zalesovo**	**78.02**	**329**	P	**P**	**10 00 49.2**	**+0.1**
	0.9nm,0.7s,mb3.8,baz=39,slow=5.0,SNR=4.9						
BVAR	**Borovoye Array**	**85.56**	**324**	P	**P**	**10 01 29.5**	**+0.8**
	2.1nm,0.6s,mb4.5,baz=104,slow=7.7,SNR=10						
GERES	**GERESS Array B**	**120.72**	**324**	PKP	PKPdf	10 07 43.2	+0.8
	0.1nm,0.3s,baz=20,slow=2.0,SNR=3.9						

DHMR 30 10:04:44.0±0.7, 1385N×5101E, h8km±59km, ML4.7, 3C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.01**	**288**	⇑*i*P	Pn	10 05 19.3	+1.1
MUKL				*i* S	Sn	10 05 47.0	+3.6
MUKL				AML	AML	10 05 49.0	
	comp=E,9μm,0.4s						
BDHA	**Al Bayda'**	**5.29**	**272**	⇑*i*P	Pn	10 06 05.6	+2.4
BDHA				*i* S	Sn	10 07 08.6	+4.4
LBOS		**5.59**	**271**	⇑*i*P	Pn	10 06 09.7	+2.3
LBOS				*i* S	Sn	10 07 16.8	+5.0
TRBA	**At Turbah**	**6.73**	**266**	*i* P	Pn	10 06 24.7	+1.6

*NEIC **30** 10:11:43.6, 1681N×9505W, h115km, MD4.4(MEX), After MEX.*

MEX 30 10:11:44.3±1.0, 1681N×9506W, h111km±8km, MD4.4, 4C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**31**	⇓*i*P	Pn	10 11 59.1	-1.2
CMIG				*i* S	Sn	10 12 10.1	-2.2
CMIG	**Matias Romero**	**0.33**	**31**	*i* P	Pn	10 11 58.9	-1.4
CMIG				*i* S	Sn	10 12 09.9	-2.3
HUIG	**Huatulco**	**1.44**	**224**	⇑*i*P	Pn	10 12 08.6	-1.8
HUIG				*i* S	Sn	10 12 29.1	-1.2
HUIG	**Huatulco**	**1.44**	**224**	*i* P	Pn	10 12 08.5	-2.0
HUIG				*i* S	Sn	10 12 29.1	-1.2
OXX	**Oaxaca**	**1.61**	**280**	*i* P	Pn	10 12 12.0	-0.5
OXX				*i* S	Sn	10 12 33.0	-1.0
VHO	**Vista Hermosa**	**1.62**	**280**	⇑*i*P	Pn	10 12 11.8	-0.8
VHO				*i* S	Sn	10 12 32.3	-1.9
VHO	**Vista Hermosa**	**1.62**	**280**	*i* P	Pn	10 12 11.8	-0.8
VHO				*i* S	Sn	10 12 32.3	-1.9
TPIG	**Tehuac#an**	**2.72**	**306**	⇑*i*P	Pn	10 12 25.6	-0.9
TPIG				*i* S	Sn	10 12 57.1	-2.0
CCIG	**Comitan**	**2.85**	**100**	*e*P	Pn	10 12 29.4	+1.1
CCIG				*i* S	Sn	10 13 02.2	-0.1
CCIG	**Comitan**	**2.85**	**100**	*i* P	Pn	10 12 29.9	+1.6
CCIG				*i* S	Sn	10 12 58.3	-3.9
PNIG	**Pinotepa**	**2.97**	**262**	⇑*i*P	Pn	10 12 27.3	-2.6
PNIG				*i* S	Sn	10 13 02.1	-2.9
PNIG	**Pinotepa**	**2.97**	**262**	*i* P	Pn	10 12 27.1	-2.8
PNIG				*i* S	Sn	10 13 01.7	-3.4
LVIG	**Laguna Verde**	**3.17**	**336**	*i* P	Pn	10 12 28.4	-4.2
LVIG				*i* S	Sn	10 13 01.3	-8.6
LVIG	**Laguna Verde**	**3.17**	**336**	*i* P	Pn	10 12 28.2	-4.4
LVIG				*i* S	Sn	10 13 00.7	-9.2
SCIG	**Sabancuy**	**4.27**	**59**	*i* P	Pn	10 12 45.5	-1.8
SCIG				*i* S	Sn	10 13 33.0	-3.1
IIO	**Organos**	**4.45**	**309**	*i* P	Pn	10 12 49.3	-0.4
IIO				*i* S	Sn	10 13 39.2	-1.2
MEIG	**Mezcala**	**4.49**	**285**	*i* P	Pn	10 12 49.1	-1.2
MEIG				*i* S	Sn	10 13 39.6	-1.9
PLIG	**Platanillo**	**4.52**	**291**	*i* P	Pn	10 12 49.9	-0.8
PLIG				*i* S	Sn	10 13 40.7	-1.5
PLIG	**Platanillo**	**4.52**	**291**	*i* P	Pn	10 12 47.0	-3.6
CAIG	**El Cayaco**	**4.99**	**273**	*i* P	Pn	10 12 54.8	-2.2
CAIG				*i* S	Sn	10 13 51.7	-1.8
CAIG	**El Cayaco**	**4.99**	**273**	*i* P	Pn	10 12 54.5	-2.4
CAIG				*i* S	Sn	10 13 48.1	-5.4
TEIG	**Tepich**	**7.28**	**61**	*i* P	Pn	10 13 25.1	-2.8
TEIG				*i* S	Sn	10 14 44.2	-4.8

*ISCJB **30** 10:20:11.1±1.8, 2201N±010×1434E±02, h246km±19km, mb3.5/7, Error ellipse: s-maj=36.4km s-min=15.2km az=168.7*
*MOS **30** 10:20:11.9±3.0, 2193N×14261E, h240km, mb4.9/23, Error ellipse: s-maj=67.9km s-min=18.0km az=92.8*
*NEIC **30** 10:20:11.8±1.6, 2203N×14333E, h240km±17km, mb4.7/1, Error ellipse: s-maj=27.6km s-min=12.1km az=88.0*
*IDC **30** 10:20:13.1±7.6, 2197N×14340E, h249km±77km, mb3.1/7, mb1 3.4/8, mb1mx3.2/22, mbtmp3.1/8, Error ellipse: s-maj=53.3km s-min=14.7km az=96.0*

ISC 30 10:20:12.3±1.8, 2202N±010×1435E±02, h243km±20km, n17, σ1§06/15, mb3.5/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.49**	**171**	*e*P	**Pn**	**10 22 11.8**	**+0.1**
MJAR	**Matsushiro Arr**	**15.18**	**344**	P	**Pn**	**10 23 33.8**	**-1.0**
	0.4nm,0.3s,baz=147,slow=4.4,SNR=6.2						
MJAR	**Matsushiro Arr**	**15.18**	**344**	P	**Pn**	**10 23 33.8**	**-1.0**
KSRS	**Korea Array**	**20.43**	**322**	P	**P**	**10 24 32.9**	**+1.7**
	1.6nm,1.1s,baz=155,slow=9.4,SNR=4.4						
SKR	**Severo-Kuril's**	**30.27**	**16**	*e*P	**P**	**10 26 06.5**	**+5.7**
WRA	**Warramunga Arr**	**42.65**	**193**	P	**P**	**10 27 44.7**	**-0.3**
	0.3nm,0.4s,mb3.1,baz=15,slow=8.7,SNR=16						
ASAR	**Alice Springs**	**46.36**	**192**	P	**P**	**10 28 14.1**	**-0.1**
	0.2nm,0.6s,mb2.6,baz=8.2,slow=6.5,SNR=7.0						
YKA	**Yellowknife Ar**	**76.04**	**28**	P	**P**	**10 31 32.9**	**0.0**
	0.7nm,0.5s,mb3.6,baz=292,slow=5.8,SNR=23						
HOPS	**Hopland**	**79.04**	**52**	*e*P	**P**	**10 31 48.8**	**-0.6**
	5.0nm,0.3s,mb4.6						
NSHM	**Saint Helena R**	**79.54**	**53**	*e*P	**P**	**10 31 48.9**	**-3.2**
NVAR	**Mina Array Bea**	**82.72**	**52**	P	**P**	**10 32 10.3**	**+1.4**
	0.7nm,0.7s,mb3.5,baz=271,slow=5.3,SNR=6.5						
NVAR	**Mina Array Bea**	**82.72**	**52**	P	**P**	**10 32 10.3**	**+1.4**
FINES	**FINESS Array B**	**83.01**	**335**	P	**P**	**10 32 09.1**	**-1.2**
	3.8nm,1.2s,mb4.0,baz=29,slow=4.4,SNR=4.1						
FINES	**FINESS Array B**	**83.01**	**335**	P	**P**	**10 32 09.1**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**86.97**	**45**	P	**P**	**10 32 31.0**	**+1.0**
	comp=Z,0.4nm,0.8s,mb3.2,baz=276,slow=1.7,SNR=3.2						
LPAZ	**La Paz**	**149.63**	**85**	PKPbc	PKPbc	10 39 35.7	+2.7
	comp=Z,1.4nm,0.5s,baz=256,slow=4.1,SNR=7.1						
LPAZ	**La Paz**	**149.63**	**85**	PKPbc	PKPbc	10 39 35.7	+2.7

WEL 30 10:20:15.8±1.1, 3678S×17965E, h33km, ML3.5/7, Error ellipse: s-maj=11.3km s-min=6.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.33**	**233**	PN	Pn	10 20 36.7	-1.4
MXZ				SN	Sn	10 20 52.8	-1.9
PUZ	**Puketiti**	**1.71**	**220**	PN	Pn	10 20 42.7	-0.5
PUZ				SN	Sn	10 21 03.5	-0.4
MWZ	**Matawai**	**2.30**	**227**	PN	Pn	10 20 50.9	-0.4
URZ	**Urewera**	**2.50**	**233**	PN	Pn	10 20 54.1	-0.1
URZ				SN	Sn	10 21 22.7	-0.9
KNZ	**Kokohu**	**2.73**	**214**	*e*PN	Pn	10 20 55.5	-1.9
KUZ	**Kuaotunu**	**3.16**	**269**	*e*PN	Pn	10 21 02.3	-0.9
BKZ	**Black Stump Fm**	**3.45**	**225**	*e*PN	Pn	10 21 06.2	-1.1
MRZ	**Mangatainoka R**	**5.02**	**218**	*e*PN	Pn	10 21 24.6	-4.2

*BJI **30** 11:08:48.7, 1310N×5081E, h10km, mB5.3, mb4.6, Ms4.7*
*IDC **30** 11:08:57.5±0.6, 1390N×5173E, h0km, mb4.2/26, mb1 4.3/26, mb1mx4.3/31, mbtmp4.2/26, ML5.6/1, MS4.4/9, Ms1 4.4/9, ms1mx4.1/33, Error ellipse: s-maj=16.9km s-min=11.1km az=105.0*
*CSEM **30** 11:08:57.4±0.1, 1391N×5169E, h10km, mb5.0/31, Error ellipse: s-maj=2.9km s-min=2.8km az=148.0*
*MOS **30** 11:08:57.3±1.0, 1390N×5165E, h10km, mb4.9/23, Error ellipse: s-maj=9.9km s-min=5.8km az=95.9*
*ISCJB **30** 11:08:57.2±0.3, 1391N±004×5155E±003, h10km, mb4.6/62, MS4.4/11, Error ellipse: s-maj=6.2km s-min=3.5km az=149.6*
*SZGRF **30** 11:08:57.2, 1360N×5208E, h33km, mb4.6, Socotra region*
*NEIC **30** 11:08:59.1±0.2, 1390N×5169E, h10km, mb4.9/27, Error ellipse: s-maj=5.3km s-min=5.0km az=144.0*
*DHMR **30** 11:09:00.5±2.1, 1389N×5144E, h10km, ML5.2*

ISC 30 11:08:59.4±0.3, 1394N±004×5158E±003, h10km, n166, σ1§25/166, mb4.6/62, MS4.4/11, 13C-12D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.52**	**282**	AML	AML	11 10 10.5	
	comp=N,28μm,0.4s						
ABTO	**Aybut**	**3.77**	**26**	⇓P	**Pn**	**11 09 55.2**	**-2.4**
	SNR=57						
RBK	**Rabkut**	**4.35**	**35**	⇑P	**Pn**	**11 10 04.0**	**-1.5**
	SNR=359						
WHFO	**Wadi Hawf**	**4.48**	**28**	⇓P	**Pn**	**11 10 05.0**	**-2.3**
	SNR=126						
SHAO	**Shalim**	**5.62**	**43**	⇑P	**Pn**	**11 10 21.1**	**-1.9**
	SNR=48						
BDHA	**Al Bayda'**	**5.84**	**271**	⇓*i*P	**Pn**	**11 10 25.7**	**-0.3**
BDHA				*i* S	**Sn**	**11 11 31.6**	**-1.3**
ADEN	**Aden**	**6.53**	**261**	*i* P	**Pn**	**11 10 34.0**	**-1.5**
ADEN				*i* S	**Sn**	**11 11 47.7**	**-2.2**
DHBB	**Dhamar BB**	**7.00**	**276**	*i* P	**Pn**	**11 10 41.5**	**-0.5**
DHBB				*i* S	**Sn**	**11 12 01.1**	**-0.5**
TRBA	**At Turbah**	**7.29**	**265**	⇓*i*P	**Pn**	**11 10 45.7**	**-0.3**
TRBA				*i* S	**Sn**	**11 12 07.2**	**-1.6**
UDYN	**Al 'Udayn**	**7.39**	**271**	*i* P	**Pn**	**11 10 46.9**	**-0.4**
UDYN				*i* S	**Sn**	**11 12 09.5**	**-1.7**
HAJJ	**Hajjah**	**7.91**	**284**	*i* P	**Pn**	**11 10 54.4**	**-0.1**
HAJJ				*i* S	**Sn**	**11 12 23.8**	**-0.3**
ATD	**Arta Tunnel**	**8.85**	**255**	Pn	**Pn**	**11 11 10.2**	**+2.9**
	comp=N,71nm,0.3s,baz=81,slow=4.2,SNR=141						
ATD				LR	LR	11 13 47.3	
	comp=N,4μm,19.0s,baz=22,slow=32						
WBK	**Wadi Bani Khal**	**11.11**	**38**	⇑P	**Pn**	**11 11 35.9**	**-2.4**
	SNR=8.7						
DESE	**Dese**	**12.00**	**258**	*e*P	**Pn**	**11 11 57.7**	**+7.3**
DESE				S	Sn	11 14 26.7	+22
BANOM	**Banah**	**12.71**	**20**	⇓P	**Pn**	**11 11 57.6**	**-2.6**
	SNR=22						
QRN	**Al-Qurain**	**

AAK	Ala-Archa	34.76	30	eP	P	11 15 50.7	+0.9
	comp=Z,6.4nm,0.9s,mb4.5						
GUN	Gumba	34.78	61	eP	P	11 15 49.8	-0.2
	comp=Z,107nm,1.1s,mb5.7						
FRU	Bishkek	34.97	30	eP	P	11 15 52.5	+0.9
JIRN	Jiri	34.98	61	eP	P	11 15 51.3	-0.4
	comp=Z,55nm,1.0s,mb5.4						
AKTK	Aktyubinsk	36.77	7	P	P	11 16 07.4	+0.4
AKTK				LR	LR	11 32 31.2	
AKTK	Aktyubinsk	36.77	7	P	P	11 16 07.4	+0.3
AKTO	Aktyubinsk	36.77	7	P	P	11 16 07.4	+0.4
	comp=Z,7.2nm,0.8s,mb4.5,baz=195,slow=8.6,SNR=24						
AKTO				LR	LR	11 32 31.2	
	comp=Z,397nm,21.8s,MS4.2,baz=1.2,slow=38						
LSZ	Lusaka	37.12	219	P	P	11 16 11.2	+1.1
	comp=Z,0.8nm,0.3s,mb4.0,baz=324,slow=1.0,SNR=4.7						
ORR	Orenburg	37.66	3	eP	P	11 16 15.9	+1.2
ORR				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
ORR	Orenburg	37.66	3	eP	P	11 16 15.9	+1.2
	comp=Z,30nm,1.1s,mb4.9						
KIS	Kishinev	38.06	335	eUNK		11 16 18.0	
MLR	Muntele Rosu	38.20	331	P	P	11 16 19.2	0.0
	comp=Z,3.0nm,1.0s,mb4.0,baz=162,slow=8.9,SNR=3.2						
MLR				LR	LR	11 32 08.7	
	comp=Z,841nm,21.0s,MS4.5,baz=51,slow=36						
KMPD	K-Podol'skiy	40.28	334	iP	P	11 16 37.0	+0.4
AKASG	Malin Array Be	40.91	338	P	P	11 16 41.6	-0.1
	comp=Z,6.9nm,0.9s,mb4.3,baz=148,slow=7.3,SNR=21						
AKASG				PP	PP	11 18 14.9	-1.1
	comp=Z,0.3nm,0.3s,baz=138,slow=9.8,SNR=4.9						
AKASG	Malin Array Be	40.91	338	iP	P	11 16 42.0	+0.2
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKASG	Malin Array Be	40.91	338	iP	P	11 16 42.0	+0.2
	comp=Z,7.0nm,0.9s,mb4.3						
AKASG	Malin Array Be	40.91	338	PP	PP	11 18 14.9	-1.1
KIEV	Kiev	40.91	338	eP	P	11 16 40.4	-1.4
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
KIEV	Kiev	40.91	338	eP	P	11 16 40.4	-1.4
	comp=Z,5.4nm,0.6s,mb4.3						
KIEV	Kiev	40.91	338	eP	P	11 16 40.4	-1.4
	comp=Z,5.4nm,0.6s,mb4.3						
MATP	Matopo	41.01	214	P	P	11 16 42.0	-0.5
	comp=Z,3.7nm,0.5s,mb4.3,baz=28,slow=11,SNR=17						
MATP	Matopo	41.01	214	P	P	11 16 42.0	-0.6
MK31	Makanchi Array	41.62	32	eP	P	11 16 47.8	+0.1
MKAR	Makanchi Array	41.62	32	P	P	11 16 47.5	-0.2
	comp=Z,1.7nm,0.5s,mb3.9,baz=223,slow=7.4,SNR=24						
MKAR	Makanchi Array	41.62	32	P	P	11 16 47.5	-0.2
BRVK	Borovoye	41.76	17	eP	P	11 16 48.5	-0.2
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
BRVK	Borovoye	41.76	17	eP	P	11 16 48.5	-0.3
	comp=Z,8.2nm,1.1s,mb4.3						
BRVK	Borovoye	41.76	17	eP	P	11 16 48.5	-0.2
	comp=Z,8.2nm,1.1s,mb4.3						
BVAR	Borovoye Array	41.76	17	P	P	11 16 48.9	+0.2
	comp=Z,3.3nm,0.8s,mb4.0,baz=190,slow=7.5,SNR=16						
KOLS	Kolonicke sedl	42.41	331	eP	P	11 16 55.7	+1.6
PKSM	Moragy	42.43	326	iP	P	11 16 55.3	+1.1
OBN	Obninsk	42.71	347	⇑iP	P	11 16 56.9	+0.4
OBN				pmax	pmax		
	comp=Z,36nm,1.6s,mb4.8						
OBN				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.5						
OBN	Obninsk	42.71	347	iP	P	11 16 56.9	+0.4
	comp=Z,600nm,19.0s						
KURK	Kurchatov	42.73	25	⇓eP	P	11 16 59.0	+2.3
KURK	Kurchatov	42.73	25	eP	P	11 16 57.0	+0.4
	comp=Z,12nm,1.3s,mb4.5						
KURK	Kurchatov	42.73	25	eP	P	11 16 57.0	+0.3
	comp=Z,12nm,1.3s,mb4.5						
ARU	Arti	42.74	6	⇑iP	P	11 16 57.0	+0.3
ARU				e		11 18 34.1	
ARU				eS	S	11 23 14.7	-5.7
ARU				eSS	SS	11 26 21.5	-9.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
ARU	Arti	42.74	6	eP	P	11 16 57.1	+0.3
	comp=Z,8.5nm,0.9s,mb4.5						
ARU	Arti	42.74	6	iP	P	11 16 57.0	+0.3
	comp=Z,9.0nm,0.9s,mb4.5						
CRVS	Cervenica-Dubn	42.77	331	eP	P	11 16 59.0	+2.0
WMQ	Urumqi	42.87	39	eP	P	11 16 57.8	0.0
WMQ				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
WMQ				LR	LR		
	comp=N,753nm,21.0s,MS4.6						
WMQ				LR	LR		
	comp=E,329nm,23.0s,MS4.6						
KECS	Kecovo	42.95	330	eP	P	11 16 59.2	+0.7
KECS				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
KECS	Kecovo	42.95	330	eP	P	11 16 59.2	+0.7
	comp=Z,2.2nm,1.1s,mb3.8						
MOS	Moscow	43.08	348	eP	P	11 17 00.0	+0.5
MOS				e		11 18 40.8	
STHS	Stebnicka Huta	43.23	331	eP	P	11 17 02.4	+1.6
STHS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
STHS	Stebnicka Huta	43.23	331	eP	P	11 17 02.4	+1.6
	comp=Z,4.9nm,0.9s,mb4.2						
KEST	Kesra	43.61	308	P	P	11 17 06.0	+2.2
	comp=Z,1.0nm,1.0s,baz=28,slow=5.8,SNR=4.1						
VYHS	Vyhne	43.78	329	eP	P	11 17 05.6	+0.4
ARSA	Arzberg	44.77	325	⇓iP	P	11 17 14.8	+1.7
	comp=Z,8.0nm,1.1s,mb4.5						
ARSA	Arzberg	44.77	325	iP	P	11 17 14.0	+0.9
VRAC	Vranov	45.44	328	LR	LR	11 37 33.7	
	comp=Z,322nm,19.9s,MS4.3,baz=244,slow=38						
CHTO	Chiang Mai	45.60	77	eP	P	11 17 18.7	-1.0
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
CHTO	Chiang Mai	45.60	77	eP	P	11 17 18.6	-1.0
	comp=Z,9.5nm,1.1s,mb4.6						
CHTO	Chiang Mai	45.60	77	eP	P	11 17 18.7	-1.0
	comp=Z,9.0nm,1.1s,mb4.6						
MOA	Molln	45.81	325	⇑iP	P	11 17 22.2	+0.9
	comp=Z,8.8nm,1.0s,mb4.7						
KBA	Koelnbreinsper	45.89	324	⇓iP	P	11 17 23.0	+1.0
	comp=Z,9.0nm,1.0s,mb4.7						
KBA	Koelnbreinsper	45.89	324	⇓iP	P	11 17 23.0	+1.0
KBA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
LBTB	Lobatse	46.28	213	P	P	11 17 25.6	+0.6
	comp=Z,5.9nm,0.7s,mb4.6,baz=40,slow=8.4,SNR=11						
LBTB	Lobatse	46.28	213	P	P	11 17 25.6	+0.6
KSP	Ksiaz	46.56	330	eP	P	11 17 28.1	+0.9
GERES	GERESS Array B	46.69	326	P	P	11 17 27.7	-0.6
	comp=Z,1.1nm,0.8s,mb3.8,baz=144,slow=9.3,SNR=7.9						
WTTA	Wattenberg	46.98	323	⇑iP	P	11 17 31.0	+0.5
	comp=Z,15nm,1.3s,mb4.8						
WTTA	Wattenberg	46.98	323	⇑iP	P	11 17 31.0	+0.5
WTTA				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
SQTA	Sankt Quirin	47.20	323	⇑iP	P	11 17 32.8	+0.5
	comp=Z,42nm,1.9s,mb5.0						
SQTA	Sankt Quirin	47.20	323	⇑iP	P	11 17 32.8	+0.5
SQTA				pmax	pmax		
	comp=Z,42nm,1.9s,mb5.0						
MOTA	Moosalm	47.33	323	⇓iP	P	11 17 33.5	+0.2
	comp=Z,15nm,1.2s,mb4.8						
MOTA	Moosalm	47.33	323	⇓iP	P	11 17 33.5	+0.2
MOTA				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
KLMR	Klimovskoe	47.66	352	eP	P	11 17 35.6	-0.2
KLMR				pmax	pmax		
	comp=Z,51nm,1.3s,mb5.4						
KLMR	Klimovskoe	47.66	352	eP	P	11 17 35.6	-0.2
	comp=Z,51nm,1.3s,mb5.4						
NVS	Novosibirsk	47.67	24	iP	P	11 17 37.0	+1.1
NVS				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
NVS				pmax	pmax		
	comp=N,14nm,1.3s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
NVS	Novosibirsk	47.67	24	iP	P	11 17 37.0	+1.1
	comp=E,14nm,1.3s,mb4.8						
ZAL	Zalesovo	47.67	26	P	P	11 17 35.5	-0.4
	comp=E,1.6nm,0.6s,mb4.2,baz=259,slow=6.8,SNR=9.0						
FRF	La Foret Royal	48.39	317	eP	P	11 17 38.5	-3.0
	comp=E,49nm,1.4s,mb5.0						
FRF	La Foret Royal	48.39	317	eP	P	11 17 38.5	-3.0
FRF				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
FRF	La Foret Royal	48.39	317	eP	P	11 17 38.5	-3.0
	comp=Z,25nm,1.4s,mb5.0						
TORD	Torodi Ar. Bea	48.43	275	P	P	11 17 43.2	+1.4
	comp=Z,2.8nm,0.8s,mb4.3,baz=89,slow=7.9,SNR=11						
TORD	Torodi Ar. Bea	48.43	275	P	P	11 17 43.2	+1.4
GRA1	Grafenberg Arr	48.51	326	eP	P	11 17 41.7	-0.7
	comp=Z,10.0nm,1.4s,mb4.7						
GRF	Grafenberg Arr	48.51	326	eP	P	11 17 41.7	-0.7
	comp=Z,10.0nm,1.4s,mb4.7						
GRF	Grafenberg Arr	48.51	326	eP	P	11 17 41.7	-0.7
GRF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
GRF	Grafenberg Arr	48.51	326	eP	P	11 17 41.7	-0.7
GRF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
GTA	Gaotai	49.28	50	eP	P	11 17 48.0	-0.3
GTA				AP	pP	11 17 52.5	+1.0
GTA				XP	sP	11 17 56.0	+3.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.3						
BOSA	Boshof	49.38	211	P	P	11 17 49.2	+0.1
	comp=Z,4.5nm,0.9s,mb4.5,baz=48,slow=9.4,SNR=5.2						
CDF	Champ du Feu	50.10	323	eP	P	11 17 51.4	-3.2
	comp=Z,27nm,1.1s,mb4.9						
CDF	Champ du Feu	50.10	323	eP	P	11 17 51.4	-3.2
CDF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
CDF	Champ du Feu	50.10	323	eP	P	11 17 51.4	-3.2
	comp=Z,13nm,1.1s,mb4.9						
FINES	FINESS Array B	50.87	345	P	P	11 18 00.7	+0.3
	comp=Z,3.8nm,0.7s,mb4.5,baz=146,slow=9.2,SNR=14						
FINES				LR	LR	11 40 27.3	
	comp=Z,272nm,20.4s,MS4.3,baz=314,slow=37						
JOF	Joensuu	50.97	348	ep	P	11 18 00.4	-0.7
KAF	Kangasniemi	51.38	345	ep	P	11 18 03.3	-0.9
SSF	Saint Saulge	51.81	320	eP	P	11 18 04.0	-3.5
GIVF	Givet	52.30	324	eP	P	11 18 08.1	-3.0
	comp=Z,91nm,1.5s,mb5.2						
GIVF	Givet	52.30	324	eP	P	11 18 08.1	-3.0
GIVF				pmax	pmax		
	comp=Z,46nm,1.5s,mb5.2						
GIVF	Givet	52.30	324	eP	P	11 18 08.1	-3.0
	comp=Z,46nm,1.5s,mb5.2						
HFS	Hagfors	53.79	338	P	P	11 18 21.8	-0.2
	comp=Z,5.6nm,0.9s,mb4.5,baz=134,slow=6.4,SNR=3.3						
ESDC	Sonseca Array	54.82	309	P	P	11 18 29.7	+0.2
	comp=Z,2.4nm,0.8s,mb4.3,baz=90,slow=6.5,SNR=11						
NOA	NORSAR Array B	55.31	337	P	P	11 18 32.1	-1.0
	comp=Z,2.8nm,0.9s,mb4.3,baz=126,slow=8.1,SNR=3.0						
NOA				LR	LR	11 43 50.6	
	comp=Z,256nm,19.3s,MS4.3,baz=105,slow=38						
ZAK	Zakamensk	55.31	38	eP	P	11 18 37.2	+4.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
LIC	Lamto	56.15	268	eP	P	11 18 33.0	-6.1
	comp=Z,16nm,1.0s,mb4.7						
SONM	Songino Array	56.37	41	P	P	11 18 40.6	-0.1
	comp=Z,1.7nm,1.0s,mb4.0,baz=250,slow=5.1,SNR=9.1						
ARCES	ARCESS Array B	57.94	349	P	P	11 18 50.4	-1.4
	comp=Z,3.9nm,0.7s,mb4.5,baz=147,slow=6.9,SNR=7.8						
BOD	Bodaibo	63.72	32	eP	P	11 19 29.9	-1.2
CN2	Changchun	68.87	48	eP	P	11 20 03.0	-1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
TIXI	Tiksi	72.86	19	⇑eP	P	11 20 30.6	+2.2
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
TIXI	Tiksi	72.86	19	eP	P	11 20 28.0	-0.4
TIXI	Tiksi	72.86	19	eP	P	11 20 30.6	+2.2
	comp=Z,5.0nm,1.1s,mb4.4						
HABR	Khabarovsk	75.39	43	P	P	11 20 46.3	+3.1
HABR				e		11 21 00.3	
HABR				eS	S	11 30 21.9	-1.2
MAW	Mawson	81.74	176	LR	LR	11 47 37.3	
	comp=Z,224nm,20.4s,MS4.5,baz=167,slow=28						
WRA	Warramunga Arr	88.05	111	P	P	11 21 49.1	-0.9
	comp=Z,1.9nm,0.8s,mb4.4,baz=296,slow=4.2,SNR=8.7						
ASAR	Alice Springs	88.66	115	P	P	11 21 52.1	-0.8
	comp=Z,2.0nm,0.9s,mb4.4,baz=289,slow=5.1,SNR=9.5						
TXAR	Lajitas Array	130.78	331	PKP	PKPdf	11 28 13.8	+2.9
	comp=Z,0.5nm,0.9s,baz=249,slow=1.5,SNR=3.7						
TXAR	Lajitas Array	130.78	331	PKP	PKPdf	11 28 13.8	+2.9

IDC ***30*** *11:16:31.9±0.4,46.71N×155.56E,h0km,mb4.9/32, mb1 5.0/34,mb1mx5.0/36,mbtmp4.9/34,ML4.5/2,MS4.2/10, Ms1 4.2/10,ms1mx3.8/45,Error ellipse: s-maj=13.3km s-min=11.4km az=142.0*

ISCJB ***30*** *11:16:32.5±0.1,46.53N±003×155.53E±002,h15km, mb5.2/207,MS4.5/29,Error ellipse: s-maj=4.6km s-min=1.7km az=157.7*

JMA ***30*** *11:16:34.6±0.9,47.12N×155.31E,h30km,M5.6*

NEIC ***30*** *11:16:34.0±0.1,46.75N×155.51E,h10km,mb5.3/137,Error ellipse: s-maj=4.6km s-min=2.8km az=167.0*

SKHL ***30*** *11:16:34.7±2.0,47.00N×155.60E,h38km±7km,mb5.3/5, ms4.6/3,msh5.4/1*

BJI ***30*** *11:16:35.9,47.05N×154.88E,h8km,mB5.2,mb5.0,Ms4.7, Msz4.5*

MOS ***30*** *11:16:39.8±1.1,46.84N×155.45E,h64km,mb5.4/77, MS4.5/13,Error ellipse: s-maj=7.4km s-min=4.7km az=110.3*

SZGRF ***30*** *11:16:41.1,46.96N×155.11E,h19km,mb5.4,East of Kuril Islands, Russia*

ISC 30 11:16:34.8±0.1,4670N±003×15545E±002,h16km, h16km±.7km:pP-P,n841,σ0.9 85/860,mb5.2/207,MS4.5/29, 99C-118D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.01	6	eP	Pn	11 17 30.5	-5.1
SKR				AMB	AMB	11 17 33.0	
	110nm,0.5s						
SKR				eS	Sn	11 18 13.5	-8.7
SKR				A		11 18 17.5	
	510nm,0.5s						
SKR				A		11 18 17.5	
	390nm,0.5s						
SKR				A		11 18 19.0	
	4μm,2.0s						
SKR				AMS	AMS	11 19 36.0	
	10μm,14.0s						
SKR				AMS	AMS	11 19 36.0	
	5μm,14.0s						
KUR	Kuril'sk	5.48	257	ePN	Pn	11 18 03.8	+8.0
KUR				i S	Sn	11 19 03.0	+4.5
KUR				pmax	pmax		
	comp=N,300nm,0.6s						
KUR				pmax	pmax		
	comp=E,200nm,0.6s						
KUR				pmax	pmax		
	comp=Z,1μm,0.6s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
KUR				smax			
	comp=N,5μm,1.6s						
KUR				smax			
	comp=E,2μm,1.6s						
KUR	Kuril'sk	5.48	257	eP	Pn	11 18 03.8	+8.0
KUR				AMB	AMB	11 18 04.6	
	comp=E,300nm,0.6s						
KUR				AMB	AMB	11 18 04.6	
	comp=E,200nm,0.6s						
KUR				AMB	AMB	11 18 04.6	
	comp=E,1μm,0.6s						
KUR				eS	Sn	11 19 03.0	+4.5
KUR				A		11 19 09.0	
	comp=E,2μm,0.5s						
KUR				A		11 19 09.0	
	comp=E,1μm,0.5s						
KUR				A		11 19 11.0	
	comp=E,5μm,1.6s						
KUR				A		11 19 11.0	
	comp=E,2μm,1.6s						
PET	Petropavlovsk	6.66	17	ePN	Pn	11 18 07.1	-4.9
PET				pmax	pmax		
	comp=Z,86nm,0.9s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	Petropavlovsk	6.66	17	ePn	Pn	11 18 07.4	-4.6
PET				eSn	Sn	11 19 17.4	-10
YUK	Yuzh-Kuril'sk	7.26	252	iP	Pn	11 18 20.4	+0.2
YUK				AMB	AMB	11 18 21.4	
	comp=Z,740nm,0.5s						
YUK				eS	Sn	11 19 38.0	-4.2
YUK				A		11 19 45.9	
	comp=Z,950nm,0.5s						
YUK				A		11 19 45.9	
	comp=Z,1μm,0.5s						
YUK				A		11 19 48.9	
	comp=Z,3μm,0.7s						
NEM2	Nemuro 2	7.64	248	P	Pn	11 18 23.7	-1.7
NEM2				eS	Sn	11 19 44.0	-7.6
JRA	Rausu	7.78	253	P	Pn	11 18 28.0	+0.6
JNK	Nakash	8.20	252	P	Pn	11 18 33.2	+0.1
JNK				eS	Sn	11 20 00.4	-4.9
JAK	Akkeshi	8.49	248	P	Pn	11 18 35.3	-1.7
JAK				eS	Sn	11 20 05.1	-7.3
JTKR	Abashiri--Toko	8.57	256	P	Pn	11 18 38.8	+0.6
YSS	Yuzh-Sakhalins	8.71	276	⇓ePN	Pn	11 18 43.4	+3.3
YSS				pmax	pmax		
	comp=N,20nm,0.9s						
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,13.0s						
YSS	Yuzh-Sakhalins	8.71	276	ePn	Pn	11 18 42.4	+2.3
YSS	Yuzh-Sakhalins	8.71	276	eP	Pn	11 18 43.4	+3.3
YSS				AMB	AMB	11 18 46.6	
	comp=E,20nm,1.0s						
YSS				AMB	AMB	11 18 46.6	
	comp=E,60nm,1.0s						
YSS				AMB	AMB	11 18 46.6	
	comp=E,40nm,1.0s						
YSS				eS	Sn	11 20 18.4	+0.5
YSS				A		11 20 20.2	
	comp=E,60nm,1.0s						
YSS				A		11 20 20.2	
	comp=E,40nm,1.0s						
YSS				AMS	AMS	11 23 54.0	
	comp=E,1μm,14.0s						
YSS				AMS	AMS	11 23 54.0	
	comp=E,2μm,14.0s						
JMP	Maruseppu	8.93	257	P	Pn	11 18 44.0	+0.9
JAR	Ashorobuto	8.95	252	P	Pn	11 18 42.5	-0.8
JAR				eS	Sn	11 20 19.4	-4.3
JOB	Onbets	9.09	249	P	Pn	11 18 44.0	-1.2
JOB				eS	Sn	11 20 20.2	-6.9
UGL	Uglegorsk	9.30	290	ePN	Pn	11 18 51.0	+2.8
UGL				pmax	pmax		
	comp=Z,112nm,1.0s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
UGL				MLR	MLR		
	comp=N,2μm,12.0s						
UGL				MLR	MLR		
	comp=E,2μm,12.0s						
JKK2	Kamakawa 2	9.39	257	P	Pn	11 18 50.4	+1.0
ASAJ	Asahikawa	9.40	259	Pn	Pn	11 18 48.5	-1.1
	comp=E,7.9nm,0.3s,baz=100,slow=16,SNR=41						
ASAJ				LR	LR	11 22 13.8	
	comp=E,526nm,19.6s,baz=80,slow=36						
ASAJ	Asahikawa	9.40	259	P	Pn	11 18 51.0	+1.4
JCH	Churui	9.53	249	P	Pn	11 18 49.9	-1.4
JCH				eS	Sn	11 20 29.7	-8.4
JWK2	Keihoku	9.53	267	P	Pn	11 18 55.4	+4.0
JFR	Furan	9.78	253	P	Pn	11 18 54.8	+0.1
JFR				eS	Sn	11 20 40.9	-3.2
JSS	Shosan	9.81	261	P	Pn	11 18 58.8	+3.6
JAB	Ashibetsu	9.88	256	P	Pn	11 18 57.7	+1.6
ERM	Erimo	9.97	246	Pn	Pn	11 18 58.4	+1.1
	comp=E,872nm,0.5s,SNR=14						
ERM	Erimo	9.97	246	⇑iPN	Pn	11 18 57.6	+0.3
ERM	Erimo	9.97	246	ePn	Pn	11 18 57.0	-0.3
	comp=E,85nm,0.6s						
JEM	Erimo	9.97	246	P	Pn	11 18 56.7	-0.6
JNBK	Urakawa-nobuka	10.09	249	P	Pn	11 18 57.0	-2.0
JBT2	Biratori 2	10.10	252	P	Pn	11 18 57.9	-1.2
OKH	Okha	10.55	315	ePN	Pn	11 19 03.0	-2.3
OKH				pmax	pmax		
	comp=Z,600nm,8.0s						
JEW	Eniwo	10.67	254	P	Pn	11 19 06.6	-0.4
JNB	Noboribetsu	11.11	253	P	Pn	11 19 11.6	-1.4
JNB				eS	Sn	11 21 08.9	-7.9
JSK	Shakotan	11.11	258	P	Pn	11 19 14.1	+1.1
JKB	Kayabe	11.39	250	P	Pn	11 19 14.5	-2.3
JKB				eS	Sn	11 21 13.8	-10
JSH	Shimam	11.69	255	P	Pn	11 19 20.6	-0.3
JYM2	Yakumo 2	11.71	252	P	Pn	11 19 19.7	-1.5
JYM2				eS	Sn	11 21 24.3	-7.3
JANG	Nango	11.92	243	P	Pn	11 19 19.9	-4.1
JANG				eS	Sn	11 21 22.4	-14
JTM	Tenmabayashi	11.96	246	P	Pn	11 19 21.5	-3.0
JTM				eS	Sn	11 21 25.6	-12
JSR	Shiriuchi	11.97	250	P	Pn	11 19 22.5	-2.2
JSR				eS	Sn	11 21 26.7	-11
JTH	Tanohata	11.97	241	P	Pn	11 19 20.5	-4.2
JTH				eS	Sn	11 21 22.9	-15
JOSM	Okushiri--Mats	12.32	254	P	Pn	11 19 27.7	-1.8
OFUJ	Ofunato	12.64	238	P	Pn	11 19 30.8	-3.1
OFUJ				eS	Sn	11 21 39.3	-15
JRG	Rokugo	13.05	241	P	Pn	11 19 37.2	-2.3
JRG				eS	Sn	11 21 50.5	-14
MA2	Magadan	13.20	350	ePN	Pn	11 19 40.0	-1.5
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2				MLR	MLR		
	comp=Z,2μm,21.0s						
JIO	Ouri	13.24	237	P	Pn	11 19 38.6	-3.6
JIO				eS	Sn	11 21 52.1	-17
HABR	Khabarovsk	13.88	285	eP	Pn	11 19 52.8	+2.0
HABR				eS	Sn	11 22 27.6	+3.1
HABR				pmax	pmax		
	comp=Z,40nm,1.5s						
JYA	Atsumi	14.11	241	P	Pn	11 19 51.6	-2.4
JFK	Kawauchi	14.27	234	P	Pn	11 19 52.5	-3.7
JFK				eS	Sn	11 22 21.2	-13
JFY	Yanaizu	14.91	237	P	Pn	11 20 02.2	-2.6
JFY				eS	Sn	11 22 41.3	-8.3
KLR	Kul'dur	16.06	288	eP	Pn	11 20 18.0	-1.9
KLR				pmax	pmax		
	comp=E,92nm,1.8s						
KLR				pmax	pmax		
	comp=Z,78nm,1.8s						
KLR				MLR	MLR		
	comp=E,2μm,13.0s						
KLR				MLR	MLR		
	comp=Z,4μm,13.0s						
MAJO	Matsushiro	16.37

YAK MLR MLR
comp=E,813nm,12.0s,MS4.4
YAK Yakutsk 21.25 326 *e*P **P 11 21 18.0 -2.2**
comp=E,68nm,0.8s,mb5.0
CN2 Changchun 21.26 273 *e*P **P 11 21 18.3 -1.9**
CN2 *e*AP 11 21 23.8
CN2 *e*S **S 11 25 08.5 -7.4**
CN2 AMB AMB
comp=Z,30nm,1.2s,mb4.5
CN2 LR LR
comp=N,600nm,15.0s,MS4.3
CN2 LR LR
comp=E,600nm,15.0s,MS4.3
CN2 LR LR
comp=Z,500nm,15.0s,MS4.0
CLNS Chul'man 21.28 310 *e*P **P 11 21 20.2 -0.3**
CLNS *e*S **S 11 25 16.9 +0.6**
CLNS *e* 11 25 20.1
CLNS *e*SS 11 25 53.1
CLNS pmax pmax
comp=Z,77nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,50nm,0.8s
CLNS pmax pmax
comp=E,46nm,0.8s
CLNS smax
comp=N,62nm,1.3s
CLNS smax
comp=Z,13nm,1.0s
CLNS smax
comp=E,71nm,1.4s
CLNS MLR MLR
comp=N,400nm,13.0s,MS4.4
CLNS MLR MLR
comp=E,900nm,13.0s,MS4.4
CLNS MLR MLR
comp=Z,900nm,13.0s,MS4.3
NRGR Nerungri 21.32 309 *e*P **P 11 21 20.2 -0.8**
NRGR S **S 11 25 03.3 -14**
NRGR smax
comp=E,37nm,0.5s
BILL Bilibino 22.11 11*d i*P **P 11 21 27.4 -2.0**
BILL pmax pmax
comp=Z,31nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,300nm,16.0s,MS3.8
BILL Bilibino 22.11 11 *e*P **P 11 21 28.1 -1.3**
comp=Z,53nm,1.0s,mb4.9
KSRS Korea Array 22.33 255 P **P 11 21 33.8 +2.1**
comp=Z,24nm,0.8s,mb4.7,baz=57,slow=9.7,SNR=65
KSRS PcP PcP 11 25 27.7 +0.8
comp=Z,2.3nm,0.9s,baz=282,slow=0.3,SNR=5.4
KSRS LR LR 11 29 55.4
comp=Z,315nm,18.0s,MS3.8,baz=59,slow=36
JNU Nakatsue 23.10 243 P **P 11 21 41.9 +2.0**
comp=Z,21nm,0.9s,mb4.6,baz=254,slow=21,SNR=4.7
INCN Inchon 23.17 257 *e*P **P 11 21 42.2 +1.6**
comp=Z,75nm,1.1s,mb5.0
SNY Shenyang 23.24 270 ⇓P **P 11 21 42.0 +0.6**
SNY AMB AMB
comp=Z,41nm,0.6s,mb5.0
SNY LR LR
comp=N,482nm,12.6s,MS4.3
SNY LR LR
comp=E,393nm,12.3s,MS4.3
SNY LR LR
comp=Z,571nm,14.4s,MS4.2
HIA Hailar 23.90 289⇑*e*P **P 11 21 48.5 +0.7**
BOD Bodaibo 27.26 309 *e*P **P 11 22 15.6 -2.6**
BOD *e* 11 28 27.2
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.4
CIT Chita 27.51 297 *e*P **P 11 22 20.1 -0.3**
CIT *e* 11 23 24.9
CIT *e* 11 25 33.2
CIT *e* 11 28 31.6
CIT pmax pmax
comp=Z,43nm,2.2s,mb4.7
TIXI Tiksi 27.98 342 *e*P **P 11 22 22.8 -1.9**
TIXI *e*S **S 11 27 05.6 -2.6**
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
TIXI MLR MLR
comp=Z,612nm,14.0s,MS4.3
BJI Beijing 29.08 271 P **P 11 22 38.3 +3.8**
BJI AMB AMB
comp=Z,22nm,0.5s,mb5.1
BJI Beijing 29.08 271 P **P 11 22 38.3 +3.8**
comp=Z,22nm,0.5s,mb5.1
BJT Baijiatuau 29.10 271 *e*P **P 11 22 33.7 -0.9**
BJT pmax pmax
comp=Z,20nm,0.8s
BJT Baijiatuau 29.10 271 *e*P **P 11 22 33.7 -0.9**
comp=Z,20nm,0.8s,mb4.9
HHC Hu-ho-hao-te 31.90 276 *e*P **P 11 22 59.5 +0.2**
HHC AP pP 11 23 04.0 -0.3
HHC XP sP 11 23 06.5 +0.2
HHC PP PP 11 24 04.8 -6.6
HHC PCP PcP 11 25 51.3 +1.6
HHC S **S 11 28 08.0 -1.6**
HHC XS sS 11 28 15.5 -2.3
HHC AMB AMB
comp=Z,38nm,0.8s,mb5.3
HHC LR LR
comp=N,610nm,20.7s,MS4.3
HHC LR LR
comp=E,218nm,16.8s,MS4.3
HHC LR LR
comp=Z,472nm,13.3s,MS4.3
ULN Ulaanbaatar 32.43 290*c i*P **P 11 23 04.0 0.0**
SONM Songino Array 32.86 290 P **P 11 23 07.8 0.0**
comp=Z,5.8nm,0.7s,mb4.6,baz=65,slow=8.7,SNR=49
SONM PcP PcP 11 25 51.0 -1.3
comp=Z,2.3nm,0.9s,baz=108,slow=3.6,SNR=4.9
SONM LR LR 11 36 04.8
comp=Z,380nm,21.5s,MS4.1,baz=262,slow=36
SONM Songino Array 32.86 290 P **P 11 23 07.8 0.0**
SONM 11 25 51.0
IMA2 Indian Mountai 32.91 36 *e*P **P 11 23 06.7 -1.6**
TLY Talaya 33.62 298 *e*P **P 11 23 17.5 +3.0**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,560nm,19.0s,MS4.3
ZAK Zakamensk 34.15 296⇑*i*P **P 11 23 19.0 0.0**
ZAK *e* 11 25 55.5
ZAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SML Sawmill 34.90 44 *e*P **P 11 23 24.3 -1.2**
NACB Ninganchiao 35.17 242 *e*P **P 11 23 33.5 +5.7**
COLA College 35.18 38⇑*e*P **P 11 23 25.7 -2.2**
WHN Wuhan 35.48 258 ⇓P **P 11 23 31.5 +1.0**
XAN Xi'an 37.11 267 P **P 11 23 45.5 +1.0**
XAN AMB AMB
comp=Z,15nm,1.8s,mb4.5
DAWY Dawson 38.86 39 *e*P **P 11 23 58.1 -1.1**
DAWY *e*PcP PcP 11 26 09.1 -1.0
KRAR Krasnoyarsk 38.90 307⇑*i*P **P 11 23 59.1 -0.4**
KRAR pmax pmax
comp=Z,36nm,1.0s,mb5.1
LZH Lanzhou 39.49 273 *e*P **P 11 24 07.5 +3.0**
LZH AP pP 11 24 12.0 +2.5
LZH XP sP 11 24 16.3 +4.8
LZH PP PP 11 25 42.0 +6.8
LZH *e*S **S 11 30 10.0 +4.0**
LZH XS sS 11 30 16.0 +1.7
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,380nm,4.5s
LZH LR LR
comp=E,660nm,15.8s
LZH LR LR
comp=Z,897nm,16.5s,MS4.7
LZH Lanzhou 39.49 273 *e*P **P 11 24 07.4 +2.9**
LZH 11 25 42.0
LZH *e*S **S 11 30 10.0 +4.0**
LZH SS SS 11 32 53.0 -7.6
LZH pmax pmax
comp=Z,83nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,900nm,16.5s,MS4.7
LZH Lanzhou 39.49 273 *e*P **P 11 24 07.4 +2.9**
comp=Z,83nm,1.5s,mb5.2
LZH pP pP 11 24 11.9 +2.4
LZH sP sP 11 24 16.2 +4.7
LZH PP PP 11 25 42.0 +6.8
LZH *e*S **S 11 30 10.0 +4.0**
LZH sS sS 11 30 16.0 +1.7
LZH SS SS 11 32 53.0 -7.6
LZH LR LR
comp=Z,900nm,16.5s,MS4.7
GTA Gaotai 40.56 280 *e*P **P 11 24 15.3 +1.9**
GTA AP pP 11 24 19.5 +1.1
GTA XP sP 11 24 22.8 +2.4
GTA PCP PcP 11 26 16.3 +0.8
GTA AMB AMB
comp=Z,12nm,1.4s,mb4.3
GTA AMB AMB
comp=Z,200nm,9.1s
GTA LR LR
comp=N,540nm,16.0s,MS4.6
GTA LR LR
comp=E,340nm,14.8s,MS4.6
GTA LR LR
comp=Z,495nm,14.8s,MS4.5
INK Inuvik 40.83 33 P **P 11 24 14.8 -0.8**
comp=Z,12nm,0.9s,mb4.5,baz=290,slow=7.3,SNR=62
INK Inuvik 40.83 33 P **P 11 24 14.8 -0.8**
INK pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 40.83 33 *e*P **P 11 24 15.2 -0.4**
comp=Z,179nm,0.5s,mb6.0
CD2 Chengdu 42.48 267 P **P 11 24 30.8 +1.7**
CD2 AP pP 11 24 35.3 +1.2
CD2 XP sP 11 24 37.8 +1.7
CD2 PP PP 11 26 12.3 +4.7
CD2 AMB AMB
comp=Z,80nm,1.0s,mb5.3
CD2 AMB AMB
comp=Z,230nm,4.1s
CD2 LR LR
comp=N,370nm,10.4s,MS4.7
CD2 LR LR
comp=E,410nm,13.5s,MS4.7
CD2 LR LR
comp=Z,320nm,14.4s,MS4.3
GYA Guiyang 43.28 260⇓*i*P **P 11 24 37.3 +1.7**
GYA AP pP 11 24 41.5 +0.9
GYA XP sP 11 24 44.5 +1.9
GYA PP PP 11 26 19.8 +3.6
GYA PCP PcP 11 26 26.8 +2.4
GYA SCP ScP 11 30 17.0 +1.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,140nm,6.8s
GYA LR LR
comp=N,680nm,17.9s,MS4.8
GYA LR LR
comp=E,740nm,18.2s,MS4.8
GYA LR LR
comp=Z,640nm,17.6s,MS4.6
ZAL Zalesovo 43.95 307 P **P 11 24 40.6 -0.4**
comp=Z,5.0nm,0.8s,mb4.3,baz=45,slow=9.6,SNR=20
ZAL PcP PcP 11 26 26.2 -0.6
comp=Z,3.6nm,0.8s,baz=12,slow=3.1,SNR=5.5
ZAL LR LR 11 44 25.0
comp=Z,529nm,20.4s,MS4.4,baz=58,slow=38
ZAL Zalesovo 43.95 307 P **P 11 24 40.6 -0.4**
ZAL 11 26 26.2
ZAL Zalesovo 43.95 307 P **P 11 24 40.6 -0.4**
ZAL PcP PcP 11 26 26.2 -0.6
ZAL LR LR 11 44 25.0
NVS Novosibirsk 44.49 308 *i*P **P 11 24 45.0 -0.3**
NVS *i* 11 26 27.4
NVS *i*S **S 11 31 15.7 -4.1**
NVS pmax pmax
comp=Z,66nm,2.1s,mb5.0
NVS pmax pmax
comp=N,37nm,2.0s
NVS pmax pmax
comp=E,41nm,1.7s
NVS smax
comp=N,23nm,2.7s
NVS smax
comp=E,27nm,1.8s
WMQ Urumqi 46.44 292 *e*P **P 11 25 02.8 +2.1**
WMQ PCP PcP 11 26 38.5 +3.2
WMQ PP PP 11 26 52.0 +2.2
WMQ AMB AMB
comp=Z,143nm,7.0s
WMQ LR LR
comp=N,745nm,15.0s
WMQ LR LR
comp=E,423nm,8.0s
WMQ LR LR
comp=Z,416nm,21.0s
KMI Kunming 46.82 261 ⇑P **P 11 25 05.8 +2.1**
KMI AP pP 11 25 08.3 -0.5
KMI XP sP 11 25 10.0 -0.8
KMI PP PP 11 26 56.0 +2.2
KMI AMB AMB
comp=Z,30nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,89nm,3.1s
KMI LR LR
comp=N,343nm,14.1s,MS4.7
KMI LR LR
comp=E,429nm,13.4s,MS4.7
KMI LR LR
comp=Z,395nm,15.1s,MS4.5
KMI Kunming 46.82 261 ⇑P **P 11 25 05.8 +2.1**
KMI 11 26 56.1
KMI PPP 11 27 43.6
KMI S **S 11 31 55.4 +2.0**
KMI *SS sS 11 31 59.4 -2.4
KMI SSS 11 36 21.8
KMI pmax pmax
comp=Z,30nm,1.2s,mb5.1
KMI MLR MLR
comp=Z,400nm,15.1s,MS4.5
KMI Kunming 46.82 261 ⇑P **P 11 25 05.8 +2.1**
comp=Z,30nm,1.2s,mb5.1
KMI pP pP 11 25 08.2 -0.6
KMI sP sP 11 25 09.9 -0.9
KMI PP PP 11 26 56.1 +2.3
KMI PPP 11 27 43.6
KMI S **S 11 31 55.4 +2.0**
KMI sS sS 11 31 59.4 -2.4
KMI SS SS 11 35 17.7 -2.2
KMI SSS 11 36 21.8
KMI LR LR
comp=Z,400nm,15.1s,MS4.5
MK31 Makanchi Array 48.38 298 *i*P **P 11 25 16.1 +0.2**
MK31 pmax pmax
comp=Z,11nm,0.6s,mb5.1
MK31 Makanchi Array 48.38 298 *e*P **P 11 25 15.0 -0.9**
MK31 *e*PcP PcP 11 26 42.0 -0.3
MKAR Makanchi Array 48.38 298 P **P 11 25 15.7 -0.2**
comp=Z,3.7nm,0.5s,mb4.7,baz=69,slow=7.8,SNR=112
MKAR PcP PcP 11 26 41.5 -0.7
comp=Z,3.9nm,0.8s,baz=56,slow=3.6,SNR=4.3
KURK Kurchatov 48.72 305 P **P 11 25 18.9 +0.4**
comp=Z,233nm,1.3s,mb6.0,SNR=24
KURK Kurchatov 48.72 305*d i*P **P 11 25 18.1 -0.4**
KURK Kurchatov 48.72 305 *e*P **P 11 25 18.0 -0.5**
comp=Z,44nm,1.0s,mb5.4
YKA Yellowknife Ar 50.00 37 P **P 11 25 27.0 -1.2**
comp=Z,4.3nm,0.7s,mb4.6,baz=294,slow=7.1,SNR=60
YKA PcP PcP 11 26 47.3 -0.8
comp=Z,1.2nm,0.5s,baz=303,slow=4.0,SNR=16
YKA Yellowknife Ar 50.00 37⇑*e*P **P 11 25 27.0 -1.2**
YKA Yellowknife Ar 50.00 37 P **P 11 25 27.0 -1.2**
YKA PcP PcP 11 26 47.3 -0.8
RES Resolute Bay 50.37 19 *e*P **P 11 25 30.0 -1.0**
LSA Lhasa 51.88 275 *e*P **P 11 25 44.7 +2.3**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LSA Lhasa 51.88 275 *e*P **P 11 25 44.7 +2.3**
comp=Z,9.9nm,0.6s,mb4.9
BVAR Borovoye Array 52.12 310 P **P 11 25 44.5 +0.3**
comp=Z,15nm,0.6s,mb5.1,baz=58,slow=8.4,SNR=72
BVAR PcP PcP 11 26 55.7 -0.3
comp=Z,6.7nm,0.8s,baz=57,slow=5.5,SNR=4.4
BRVK Borovoye 52.16 310 P **P 11 25 44.0 -0.5**
comp=Z,265nm,0.6s,SNR=19
BRVK Borovoye 52.16 310 *e*P **P 11 25 44.5 0.0**
BRVK pmax pmax
comp=Z,30nm,0.7s,mb5.3
BRVK Borovoye 52.16 310 *e*P **P 11 25 44.4 -0.2**
comp=Z,30nm,0.7s,mb5.3
NANT Nan 52.50 257 ⇓P **P 11 25 48.4 +1.4**
comp=Z,150nm,1.0s,mb5.9
A04A Legoe Bay, Lum 52.54 56 ⇓P **P 11 25 46.1 -1.2**
baz=52
A05A Maple Falls 52.75 55 ⇑P **P 11 25 48.0 -0.9**
baz=52
C04A Brinnon 52.91 57 ⇑P **P 11 25 49.2 -0.8**
baz=53
B05A Bryant 53.12 56 P **P 11 25 51.1 -0.5**
baz=53,SNR=5.0
E03A Lebam 53.18 58 ⇓P **P 11 25 51.2 -0.8**
baz=53
JCW Jim Creek 53.25 56 P **P 11 25 52.2 -0.4**
D04A Dobbs Creek Ra 53.32 57 ⇑P **P 11 25 52.3 -0.8**
baz=53
B06A Marblemount 53.34 55 ⇑P **P 11 25 52.6 -0.5**
baz=53
F03A Seaside 53.51 59 ⇑P **P 11 25 54.0 -0.5**
baz=53
E04A Onalaska 53.65 58 ⇓P **P 11 25 55.3 -0.2**
baz=53
C05A Tolt Reservoir 53.66 56 P **P 11 25 54.9 -0.6**
baz=53,SNR=6.7
CHG Chiang Mai 53.68 259 ⇓P **P 11 25 57.6 +1.9**
comp=Z,28nm,0.9s,mb5.2
CHTO Chiang Mai 53.68 259 P **P 11 25 57.7 +2.0**
CHTO pmax pmax
comp=Z,13nm,0.7s,mb5.0
CHTO Chiang Mai 53.68 259 *e*P **P 11 25 57.6 +1.9**
comp=Z,13nm,0.7s,mb5.0
A07A Ashnola River, 53.68 54 P **P 11 25 55.4 -0.3**
baz=53,SNR=9.8
D05A Enumclaw 53.75 57 P **P 11 25 56.4 +0.1**
baz=54,SNR=5.1
SHL Shillong 53.98 270 *e*P **P 11 25 59.5 +1.7**
G03A Yamhill 54.00 60 ⇓P **P 11 25 57.1 -0.9**
baz=54
B07A Winthrop 54.14 55 P **P 11 25 58.7 -0.3**
baz=54,SNR=5.3
F04A Amboy 54.18 59 P **P 11 25 59.3 0.0**
baz=54,SNR=7.7
E05A Randle 54.22 58 P **P 11 25 59.1 -0.5**
baz=54,SNR=5.4
H03A Soap Creek Ran 54.34 60 ⇓P **P 11 26 01.0 +0.5**
baz=54
A08A Turner Farm, O 54.35 54 P **P 11 26 00.2 -0.4**
baz=54,SNR=10
I02A Mapleton 54.39 61 ⇓P **P 11 26 00.8 -0.1**
baz=54
D06A Cle Elum 54.41 56 P **P 11 26 00.7 -0.3**
baz=54,SNR=8.4
TKM2 Tokmak 2 54.45 297 P **P 11 26 03.0 +1.7**
SNR=6.6
TKM2 Tokmak 2 54.45 297 *i*P **P 11 26 00.1 -1.3**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
G04A Mulino 54.54 59 ⇑P **P 11 26 01.5 -0.5**
baz=54
TBM Table Mountain 54.56 56 P **P 11 26 01.8 -0.4**
C07A Waterville 54.59 56 P **P 11 26 01.6 -0.7**
baz=54,SNR=8.0
B08A Colville Reser 54.63 55 P **P 11 26 01.8 -0.9**
baz=54,SNR=9.3
WTV Waterville 54.64 56 P **P 11 26 01.9 -0.9**
E06A Yakima 54.68 57 ⇑P **P 11 26 02.5 -0.5**
baz=54
A09A Danville 54.72 54 P **P 11 26 02.4 -0.9**
baz=54,SNR=22
EBG Ellensburg 54.72 57 P **P 11 26 03.2 -0.1**
I03A Eugene 54.74 61 ⇑P **P 11 26 03.9 +0.5**
baz=54
F05A White Salmon 54.77 58 ⇑P **P 11 26 03.8 +0.1**
baz=54
J02A Umpqua 54.90 62 ⇑P **P 11 26 05.0 +0.4**
baz=55,SNR=11
D07A Quincy 54.91 56 P **P 11 26 04.2 -0.4**
baz=55,SNR=5.1
USP Ospenovka 54.93 298 P **P 11 26 06.0 +1.2**
SNR=20
SVE Sverdlovsk 54.95 318 *e*P **P 11 26 04.0 -1.0**
H04A Detroit Lake 55.00 60 P **P 11 26 05.5 +0.2**
baz=55,SNR=6.4
KBK Karagaybulak 55.00 297 P **P 11 26 06.7 +1.4**
SNR=7.2
BROR Big Rock Looko 55.07 60 P **P 11 26 06.3 +0.5**
FRU Bishkek 55.10 298 *e*P **P 11 26 07.0 +0.9**
C08A Higginbotham F 55.11 55 P **P 11 26 05.5 -0.7**
baz=55,SNR=10
SOKR Solikamsk 55.13 322⇓*i*P **P 11 26 06.6 +0.3**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.2
EDM Edmonton 55.18 47 *e*P **P 11 26 05.6 -1.0**
G05A Wamic 55.20 59 ⇓P **P 11 26 06.6 -0.1**
baz=55
J03A Ideyld Park 55.26 61 ⇓P **P 11 26 07.8 +0.6**
baz=55,SNR=9.2
B09A Rice 55.26 54 P **P 11 26 06.8 -0.4**
baz=55,SNR=8.6
K02A Glendale 55.28 62 ⇓P **P 11 26 07.7 +0.4**
baz=55,SNR=6.7
AAK Ala-Archa 55.29 298 P **P 11 26 08.6 +1.2**
SNR=18
AAK Ala-Archa 55.29 298 P **P 11 26 07.9 +0.5**
comp=Z,111nm,0.7s,mb6.0,SNR=12
AAK Ala-Archa 55.29 298*d i*P **P 11 26 07.1 -0.3**
AAK pmax pmax
comp=Z,14nm,0.7s,mb5.1
AAK Ala-Archa 55.29 298 *e*P **P 11 26 12.2 +4.8**
E07A Sunnyside 55.32 57 ⇓P **P 11 26 06.8 -0.8**
baz=55,SNR=10
I04A Tendick Farm, 55.36 61 ⇓P **P 11 26 07.8 -0.1**
baz=55,SNR=17
OD2 Odessa Site #2 55.52 55 P **P 11 26 08.1 -0.9**
C09A Chrisman Ranch 55.53 55 ⇑P **P 11 26 08.2 -0.9**
baz=55,SNR=13
L02A Cave Junction 55.56 63 ⇑P **P 11 26 09.8 +0.5**
baz=55,SNR=9.7
D08A Wollman Farm, 55.58 56 P **P 11 26 08.5 -1.0**
baz=55,SNR=5.9
H05A Madras 55.59 59 P **P 11 26 10.0 +0.5**
baz=55,SNR=10
WRD Warden 55.59 56 P **P 11 26 08.2 -1.4**
G06A Carlson Farm, 55.61 58 ⇑P **P 11 26 09.9 +0.2**
baz=55
F07A Phinny Hill Vi 55.65 57 P **P 11 26 10.1 +0.1**
baz=55,SNR=10
HUMO Hull Mountain 55.70 62 *e*P **P 11 26 09.2 -1.1**
comp=Z,50nm,1.3s,mb5.4
HUMO Hull Mountain 55.70 62 P **P 11 26 11.0 +0.6**
baz=56,SNR=9.6
EKS2 Erkin-Say 55.71 298 P **P 11 26 12.2 +1.7**
SNR=14
E08A Dider Farm, El 55.82 56 ⇓P **P 11 26 10.5 -0.7**
baz=56,SNR=7.2
I05A Bend 55.84 60 ⇑P **P 11 26 11.7 +0.4**
baz=56,SNR=7.5
KTRM Thompson Ridge 55.84 63 P **P 11 26 12.2 +0.9**
B10A Chitwood Farm, 55.84 54 ⇓P **P 11 26 10.8 -0.6**
baz=56
J04A Umpqua Nationa 55.85 61 ⇓P **P 11 26 12.3 +0.9**
baz=56,SNR=24
NEW Newport 55.92 54 *e*P **P 11 26 11.3 -0.6**
NEW pmax pmax
comp=Z,29nm,1.3s
D09A Jones Farm, Ri 55.93 55 ⇓P **P 11 26 10.8 -1.2**
baz=56
A11A Hall Mountain, 55.95 53 P **P 11 26 12.2 0.0**
baz=56,SNR=12
VIPM Ingram Point 56.02 59 P **P 11 26 12.8 +0.1**
JCC Jacoby Creek 56.06 64 ⇓P **P 11 26 13.2 +0.3**
baz=56
H06A Lindquist Farm 56.06 59 P **P 11 26 12.9 -0.1**
baz=56,SNR=15
C10A Spilker Farm, 56.07 54 P **P 11 26 12.4 -0.5**
baz=56,SNR=7.0
ARU Arti 56.12 318 P **P 11 26 13.7 +0.3**
comp=Z,301nm,0.7s,SNR=18
ARU Arti 56.12 318⇓*i*P **P 11 26 13.1 -0.3**
ARU *e* 11 27 11.0
ARU *e* 11 28 17.5
ARU *e*S **S 11 33 56.9 -4.9**
ARU *e*SS SS 11 37 38.0 -10
ARU pmax pmax
comp=Z,36nm,0.8s,mb5.5
ARU Arti 56.12 318 *e*P **P 11 26 13.0 -0.4**

comp=Z,32nm,0.7s,mb5.5
KSH Kashi 56.15 294 P P 11 26 16.5 +2.9
KSH AP pP 11 26 20.5 +1.7
KSH XP sP 11 26 23.3 +2.6
KSH PCP PcP 11 27 13.5 +2.1
KSH PP PP 11 28 22.3 +3.6
KSH SCP ScP 11 31 10.8 +0.9
KSH PCS PcS 11 31 12.5 +0.7
KSH S **S 11 34 03.8 +1.7**
KSH XS sS 11 34 11.0 +0.4
KSH SCS ScS 11 36 01.3 -0.9
KSH AMB AMB
comp=Z,79nm,1.1s,mb5.7
KSH AMB AMB
comp=Z,175nm,3.4s
KSH LR LR
comp=N,917nm,8.4s
KSH LR LR
comp=E,838nm,5.4s
KSH LR LR
comp=Z,865nm,11.6s,MS5.1
G07A Ruggs Ranch, H 56.15 58 ⇑P P 11 26 13.4 -0.2
baz=56
B11A Sandpoint 56.24 53 P P 11 26 13.8 -0.5
baz=56,SNR=14
YBH Yreka Blue Hor 56.35 63 eP P 11 26 15.8 +0.8
YBH pmax pmax
comp=Z,41nm,1.0s
YBH Yreka Blue Hor 56.35 63 eP P 11 26 15.8 +0.8
comp=Z,41nm,1.1s,mb5.4
YBH Yreka Blue Hor 56.35 63 ⇓P P 11 26 16.0 +1.0
baz=56,SNR=22
A12A Yaak River Ran 56.35 52 P P 11 26 14.7 -0.4
baz=56,SNR=6.7
K04A Chilquin 56.44 62 ⇓P P 11 26 16.2 +0.5
baz=56
D10A Wagner Farm, O 56.51 55 P P 11 26 15.5 -0.7
baz=56,SNR=12
JIRN Jiri 56.55 276 eP P 11 26 18.4 +2.0
comp=Z,38nm,0.7s,mb5.5
G08A Pilot Rock 56.55 58 ⇓P P 11 26 16.3 -0.2
baz=56,SNR=13
O01C Eel River Cons 56.58 65 ⇑P P 11 26 17.5 +0.8
baz=56
I06A Prineville 56.59 59 ⇓P P 11 26 17.0 +0.3
baz=56,SNR=25
L04A Klamath Falls 56.59 62 ⇓P P 11 26 17.1 +0.4
baz=56,SNR=12
H07A Lands Inn, Kim 56.60 58 P P 11 26 16.6 -0.2
baz=56,SNR=15
GUN Gumba 56.60 277 eP P 11 26 18.8 +2.0
comp=Z,28nm,0.5s,mb5.5
B12A Libby 56.65 53 ⇑P P 11 26 17.5 +0.4
baz=56
DAG Danmarks Havn 56.75 358 i P P 11 26 19.0 +1.1
DAG Danmarks Havn 56.75 358 eP P 11 26 19.0 +1.1
M04C Macdoel 56.85 62 ⇓P P 11 26 18.9 +0.3
baz=57,SNR=22
F09A S2 Ranch, Elgi 56.92 57 ⇑P P 11 26 19.1 0.0
baz=57,SNR=8.9
I07A Izee 56.92 59 ⇓P P 11 26 19.3 +0.2
baz=57,SNR=18
E10A Myers Farm, Un 56.93 55 P P 11 26 18.5 -0.6
baz=57,SNR=14
M03C McCloud 56.97 63 ⇑P P 11 26 19.4 0.0
baz=57,SNR=9.3
J06A Christmas Vall 57.02 60 P P 11 26 20.2 +0.4
baz=57,SNR=32
KKN Kakani 57.09 277 eP P 11 26 22.2 +1.9
comp=Z,29nm,0.6s,mb5.5
KKN Kakani 57.09 277 eP P 11 26 22.2 +1.9
KKN pmax pmax
comp=Z,29nm,0.6s,mb5.5
WDC Whiskeytown Da 57.12 64 eP P 11 26 20.3 -0.2
WDC pmax pmax
comp=Z,26nm,1.1s,mb5.2
WDC Whiskeytown Da 57.12 64 eP P 11 26 20.3 -0.2
comp=Z,26nm,1.1s,mb5.2
WDC Whiskeytown Da 57.12 64 P P 11 26 20.9 +0.4
baz=57,SNR=8.9
PKI Pulchoki 57.14 277 eP P 11 26 22.3 +1.7
comp=Z,29nm,0.8s,mb5.4
PKI Pulchoki 57.14 277 eP P 11 26 22.3 +1.7
PKI pmax pmax
comp=Z,29nm,0.8s,mb5.4
F10A Beach Ranch, E 57.16 56 P P 11 26 20.0 -0.8
baz=57,SNR=5.8
H08A Prairie City 57.16 58 P P 11 26 21.0 +0.2
baz=57,SNR=17
O02C Red Bluff 57.20 64 P P 11 26 21.8 +0.8
baz=57,SNR=11
K06A Valley Falls 57.22 61 P P 11 26 22.0 +0.8
baz=57,SNR=35
G09A Cove 57.24 57 ⇓P P 11 26 21.1 -0.2
baz=57,SNR=7.6
P01C Double 8 Ranch 57.27 65 ⇑P P 11 26 21.9 +0.3
baz=57,SNR=5.4
DMN Daman 57.32 277 eP P 11 26 24.0 +2.1
comp=Z,123nm,1.2s,mb5.8
GKN Gorkha 57.39 278 eP P 11 26 24.1 +1.7
comp=Z,42nm,0.6s,mb5.7
KK31 Karatay Array 57.42 300 i P P 11 26 23.1 +0.5
KK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KKAR Karatay Array 57.42 300 i P P 11 26 23.1 +0.5
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LVZ Lovozero 57.44 337 eP P 11 26 21.7 -1.1
LVZ pmax pmax
comp=Z,74nm,1.8s,mb5.4
J07A Hines 57.45 60 ⇓P P 11 26 23.0 +0.3
baz=57,SNR=16
E11A Bogner Ranch, 57.52 55 P P 11 26 22.7 -0.6
baz=57,SNR=9.9
M05C Lookout 57.52 62 P P 11 26 23.8 +0.5
baz=57,SNR=13
GASB Alder Springs 57.55 65 ⇓P P 11 26 24.3 +0.8
baz=57,SNR=8.6
I08A Drewsey 57.57 59 P P 11 26 24.2 +0.5
baz=57,SNR=29
HATC Hat Creek Radi 57.64 63 ⇓P P 11 26 24.5 +0.3
baz=57,SNR=9.5
C13A Hot Springs 57.66 53 P P 11 26 23.6 -0.6
baz=57,SNR=7.0
H09A Durkee 57.66 57 P P 11 26 24.6 +0.3
baz=57,SNR=27
MOD Modoc 57.71 61 eP P 11 26 24.8 +0.2
comp=Z,38nm,1.2s,mb5.3
MOD Modoc 57.71 61 ⇓P P 11 26 24.9 +0.2
baz=58,SNR=29
HOPS Hopland 57.72 66 ⇑P P 11 26 25.0 +0.3
baz=58
BMO Blue Mountains 57.76 57 eP P 11 26 24.8 -0.2
comp=Z,23nm,0.9s,mb5.2
O03C Acorn Hollow, 57.77 64 ⇑P P 11 26 24.8 -0.3
baz=58
F11A Grangeville 57.82 56 P P 11 26 25.0 -0.4
baz=58,SNR=16
K07A Rock Creek Ran 57.88 60 ⇓P P 11 26 26.2 +0.4
baz=58,SNR=16
KEV Kevo 57.92 341 ep P 11 26 23.2 -2.9
comp=Z,8.2nm,0.8s,mb4.8
KEV Kevo 57.92 341 eP P 11 26 23.2 -2.9
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
J08A Circle Bar Ran 57.95 59 P P 11 26 26.8 +0.4
baz=58,SNR=16
M06C Likely Place G 58.02 62 P P 11 26 27.3 +0.5
baz=58,SNR=11
I09A Lost Marbles R 58.02 58 P P 11 26 27.1 +0.3
baz=58,SNR=19
G11A Walters Elk Ra 58.04 56 P P 11 26 26.9 -0.1
baz=58,SNR=10.0
O04C Chester 58.17 63 P P 11 26 28.4 +0.6
baz=58,SNR=21
MNRC McLaughlin Nat 58.18 65 P P 11 26 28.8 +0.9
baz=58,SNR=6.2
ELFS Eagle Lake Fie 58.21 63 P P 11 26 28.7 +0.6
baz=58,SNR=22
L07A Adell 58.23 61 P P 11 26 28.9 +0.7
baz=58,SNR=13
KOLN Koldanda 58.25 278 eP P 11 26 30.3 +1.9
comp=Z,49nm,0.8s,mb5.6
NSHM Saint Helena R 58.29 66 eP P 11 26 28.4 -0.3
K08A Mann Creek Ran 58.31 60 P P 11 26 29.3 +0.4
baz=58,SNR=23
ORV Oroville 58.37 64 P P 11 26 28.7 -0.5
baz=58,SNR=23
SUTB Sutter Butte 58.38 65 ⇑P P 11 26 28.7 -0.6
baz=58
J09A Fry Pan Ranch, 58.38 59 P P 11 26 29.6 +0.3
baz=58,SNR=20
WVOR Wild Horse Val 58.40 60 eP P 11 26 29.2 -0.3
WVOR pmax pmax
comp=Z,24nm,0.9s,mb5.2
WVOR Wild Horse Val 58.40 60 eP P 11 26 29.2 -0.3
comp=Z,24nm,0.9s,mb5.2
F12A Elk City 58.41 55 P P 11 26 29.5 0.0
baz=58,SNR=19
ARCES ARCESS Array B 58.42 342 P P 11 26 29.1 -0.6
comp=Z,11nm,0.8s,mb5.0,baz=35,slow=7.1,SNR=17
ARCES PcP PcP 11 27 18.1 -2.2
comp=Z,4.9nm,0.7s,baz=46,slow=3.5,SNR=6.3
O05C Quincy 58.48 64 P P 11 26 30.3 +0.2
baz=58,SNR=19
CVS Carmenet Viney 58.49 66 ⇑P P 11 26 29.8 -0.3
baz=58
OHCM Honcut 58.51 65 eP P 11 26 29.8 -0.4
FARB Farallon Islan 58.54 67 ⇓P P 11 26 30.6 +0.2
baz=58
H11A Donnelly 58.60 57 P P 11 26 30.6 -0.2
baz=58,SNR=39
Q03C Winters 58.60 65 ⇑P P 11 26 31.7 +0.9
baz=58,SNR=6.9
D14A Grenough 58.60 53 P P 11 26 30.3 -0.6
baz=58,SNR=24
E13A Victor 58.60 54 P P 11 26 30.7 -0.1
baz=58,SNR=16
N06A Buffalo Meadow 58.68 62 P P 11 26 31.7 +0.3
baz=58,SNR=28
M07A Soldier Meadow 58.70 61 P P 11 26 32.2 +0.7
baz=58,SNR=41
L08A Fields 58.72 60 P P 11 26 32.1 +0.4
baz=58,SNR=22
K09A Rome 58.78 59 P P 11 26 32.2 +0.1
baz=58,SNR=13
CHMT Chamberlain Mo 58.84 53 eP P 11 26 31.7 -0.8
Q04C Lincoln 58.87 65 ⇑P P 11 26 32.7 0.0
baz=59
BEKR Beckwourth 58.88 63 ⇓P P 11 26 32.7 -0.1
baz=59,SNR=30
F13A Darby 58.91 55 P P 11 26 32.5 -0.5
baz=59,SNR=17
J10A Berg Farm, Mel 58.92 58 ⇑P P 11 26 32.8 -0.3
baz=59
E14A Clinton 59.00 54 P P 11 26 33.3 -0.4
baz=59,SNR=20
O06A Flanigan 59.03 63 P P 11 26 34.2 +0.3
baz=59,SNR=13
P05C Yuba Gap, Truc 59.07 64 ⇓P P 11 26 33.7 -0.4
baz=59,SNR=9.5
I11A Placerville 59.10 57 P P 11 26 34.0 -0.4
baz=59,SNR=12
BDM Black Diamond 59.10 66 ⇑P P 11 26 34.1 -0.2
baz=59
M08A Happy Creek Ra 59.14 61 ⇓P P 11 26 35.0 +0.4
baz=59,SNR=19
D15A Lincoln 59.16 53 P P 11 26 34.8 0.0
baz=59,SNR=12
N07B Gerlach 59.19 62 ⇑P P 11 26 35.0 +0.1
baz=59,SNR=16
JRSC Jasper Ridge 59.20 67 ⇓P P 11 26 34.8 -0.2
baz=59
L09A Wilkinson Ranc 59.23 60 ⇓P P 11 26 35.4 +0.2
baz=59,SNR=14
K10A MacKenzie Ranc 59.24 59 P P 11 26 35.7 +0.4
baz=59,SNR=22
P06A Stead Airport, 59.28 63 ⇓P P 11 26 35.9 +0.3
baz=59,SNR=5.8
LAVA Lava Cap Winer 59.32 65 ⇑P P 11 26 35.7 -0.2
baz=59,SNR=26
H12A Diamond D Ranc 59.35 56 ⇓P P 11 26 35.2 -0.8
baz=59,SNR=11
WENL Wente Brothers 59.37 66 ⇑P P 11 26 36.1 -0.1
baz=59
G13A Cobalt 59.38 55 P P 11 26 35.9 -0.4
baz=59,SNR=54
BNLO Ben Lomond (Sa 59.40 67 ⇑P P 11 26 36.7 +0.2
baz=59
F14A Wisdom 59.43 54 ⇑P P 11 26 36.2 -0.5
baz=59,SNR=12
MFID Camas Ranch 59.47 58 P P 11 26 36.9 0.0
baz=59,SNR=18
R04C Big Horse Ranc 59.50 65 ⇓P P 11 26 36.7 -0.4
baz=59
PAHR Pah Rah Range 59.58 63 eP P 11 26 37.6 -0.1
comp=Z,19nm,1.1s,mb5.0
WCN Washoe City 59.60 64 P P 11 26 38.2 +0.4
baz=59,SNR=24
O07A Toulon 59.62 62 P P 11 26 38.4 +0.5
baz=59,SNR=26
AB31 Akbulak array 59.68 311 i P P 11 26 38.3 -0.1
AB31 pmax pmax
comp=Z,31nm,1.0s,mb5.3
S04C Ingram Canyon, 59.71 66 ⇑P P 11 26 38.9 +0.3
baz=60
M09A Marrel Ranch, 59.72 60 ⇓P P 11 26 38.9 +0.3
baz=60,SNR=18
R05C Kirkwood Meado 59.76 64 P P 11 26 39.1 +0.2
baz=60,SNR=21
AKTK Aktyubinsk 59.95 313 P P 11 26 40.6 +0.5
AKTK PcP PcP 11 27 25.5 -0.9
AKTO Aktyubinsk 59.95 313 P P 11 26 40.6 +0.5
comp=Z,7.3nm,0.6s,mb4.9,baz=63,slow=7.6,SNR=16
AKTO PcP PcP 11 27 25.5 -0.9
comp=Z,6.1nm,0.8s,baz=13,slow=6.0,SNR=3.8
AKTO Aktyubinsk 59.95 313 i P P 11 26 39.5 -0.7
O08A Rochester Mine 59.98 62 ⇓P P 11 26 41.1 +0.7
baz=60
CMB Columbia Colle 59.98 65 eP P 11 26 40.3 -0.1
CMB pmax pmax
comp=Z,32nm,1.1s,mb5.3
CMB Columbia Colle 59.98 65 eP P 11 26 40.3 -0.1
comp=Z,32nm,1.1s,mb5.3
CMB ePcP PcP 11 27 26.4 -0.1
CMB Columbia Colle 59.98 65 P P 11 26 40.4 0.0
baz=60,SNR=30
P07A Fallon 59.98 63 ⇓P P 11 26 40.7 +0.3
baz=60
J12A Stokes Ranch, 59.99 58 P P 11 26 40.8 +0.2
baz=60,SNR=18
N09A Rock Creek Ran 60.02 61 ⇑P P 11 26 40.8 +0.2
baz=60,SNR=16
PACP Pacheco Peak 60.04 67 P P 11 26 40.9 +0.1
baz=60,SNR=10
EGMT Eagleton 60.06 51 eP P 11 26 40.4 -0.6
comp=Z,19nm,0.9s,mb5.1
EGMT Eagleton 60.06 51 P P 11 26 40.5 -0.5
baz=60,SNR=7.4
M10A I.L. Ranch, Tu 60.20 60 ⇓P P 11 26 42.4 +0.5
baz=60,SNR=24
HLID Hailey 60.20 57 ⇓P P 11 26 42.1 +0.1
baz=60,SNR=24
HAST UC Hastings Re 60.25 67 ⇑P P 11 26 42.1 -0.2
baz=60,SNR=7.6
R06C Coleville 60.26 64 ⇑P P 11 26 42.7 +0.3
baz=60,SNR=37
G15A Dillon 60.32 54 P P 11 26 42.5 -0.3
baz=60,SNR=15
MCMT McKenzie Canyo 60.32 55 eP P 11 26 42.3 -0.4
P08A Dixie Valley 60.38 62 ⇑P P 11 26 43.8 +0.6
baz=60,SNR=6.5
S06C San Francisco 60.41 65 P P 11 26 43.4 +0.1
baz=60,SNR=26
FCC Fort Churchill 60.41 34 eP P 11 26 41.9 -1.5
S05C Merced 60.44 66 ⇑P P 11 26 43.4 -0.1
baz=60
J13A Cove Ranch, Pi 60.44 57 P P 11 26 43.7 +0.1
baz=60,SNR=25
BMN Battle Mountai 60.45 61 eP P 11 26 44.0 +0.3
BMN pmax pmax
comp=Z,30nm,0.9s,mb5.3
BMN Battle Mountai 60.45 61 eP P 11 26 44.0 +0.3
comp=Z,30nm,0.9s,mb5.3
K12A Draper Farm, C 60.48 58 P P 11 26 44.0 +0.1
baz=60,SNR=19
T05C Eagle Field, D 60.50 66 ⇓P P 11 26 44.3 +0.3
baz=60
BOZ Bozeman (W) 60.50 54 eP P 11 26 45.0 +1.0
BOZ Bozeman (W) 60.50 54 ⇓P P 11 26 44.4 +0.4
baz=60
O09A Fish Creek Ran 60.63 61 ⇑P P 11 26 45.4 +0.5
baz=60,SNR=20
V03C Hunter Liggett 60.68 67 ⇓P P 11 26 45.6 +0.4
baz=60
M11A Holland Ranch, 60.70 60 P P 11 26 46.1 +0.8
baz=60,SNR=15
N10A Dunphy 60.71 61 ⇑P P 11 26 45.7 +0.3
baz=60
L12A House Creek Ra 60.72 58 ⇓P P 11 26 45.7 +0.3
baz=60
U04C Hernandez Rese 60.76 67 P P 11 26 45.9 +0.2
baz=60,SNR=6.0
R07C Lee Vining 60.78 64 ⇑P P 11 26 46.4 +0.5
baz=60,SNR=34
ORR Orenburg 60.82 315 P P 11 26 46.5 +0.4
ORR pmax pmax
comp=Z,30nm,1.4s,mb5.2
ORR MLR MLR
comp=Z,360nm,13.0s,MS4.7
K13A Stover Farm, H 60.95 58 ⇑P P 11 26 47.3 +0.3
baz=61
KLMR Klimovskoe 60.97 330 eP P 11 26 46.4 -0.8
O10A Cortez Mining, 60.98 61 P P 11 26 48.0 +0.8
baz=61,SNR=11
Q08A Gabbs 60.99 63 ⇑P P 11 26 47.4 +0.1
baz=61,SNR=31
NVAR Mina Array Bea 61.03 64 P P 11 26 48.2 +0.7
T06C Millerton Lake 61.03 66 ⇓P P 11 26 47.0 -0.6
baz=61,SNR=14
P09A Austin 61.05 62 ⇓P P 11 26 48.2 +0.5
baz=61,SNR=11
KCC Kaiser Creek 61.08 65 P P 11 26 48.1 +0.2
baz=61,SNR=12
N11A Elko Archery C 61.11 60 ⇑P P 11 26 48.4 +0.3
baz=61,SNR=7.3
QLMT Earthquake Lak 61.12 54 eP P 11 26 48.3 +0.1
V04C Ramage Ranch, 61.15 68 ⇓P P 11 26 48.6 +0.2
baz=61
PKD Parkfield 61.17 67 P P 11 26 48.6 +0.1
baz=61,SNR=6.2
MLAC Mammoth Lakes 61.19 65 ⇓P P 11 26 49.4 +0.7
baz=61,SNR=7.9
U05C Westside ANR, 61.19 67 ⇑P P 11 26 49.2 +0.5
baz=61
R08A Mina 61.20 64 ⇓P P 11 26 49.8 +1.0
baz=61
M12A Wells 61.23 59 P P 11 26 49.6 +0.7
baz=61,SNR=29
L13A Double Diamond 61.38 58 ⇑P P 11 26 50.5 +0.5
baz=61,SNR=19
P10A Eureka 61.41 62 ⇑P P 11 26 50.5 +0.3
baz=61,SNR=13
ELK Elko 61.45 60 eP P 11 26 51.2 +0.8
Q09A Carvers 61.47 63 ⇑P P 11 26 50.6 +0.1
baz=61
YMR Madison River 61.48 54 eP P 11 26 51.2 +0.6
comp=Z,65nm,1.4s,mb5.6
GCMT Greycliff 61.49 52 eP P 11 26 51.3 +0.6
N12A Clover Valley, 61.50 60 ⇓P P 11 26 51.1 +0.3
baz=61,SNR=15
O11A Cowboy Ranch, 61.58 61 P P 11 26 51.7 +0.4
baz=61,SNR=17
V05C Boulder Hill, 61.62 67 ⇓P P 11 26 52.0 +0.4
baz=61
HELL Mitchell Peak, 61.67 66 P P 11 26 51.5 -0.4
baz=61,SNR=27
YFT Old Faithful 61.68 54 eP P 11 26 53.5 +1.5
YFT ePcP PcP 11 27 34.7 +1.4
S08C White Mtn Res 61.69 64 ⇑P P 11 26 52.7 +0.6
baz=62,SNR=14
M13A Montello 61.70 59 ⇑P P 11 26 52.2 0.0
baz=61,SNR=15
RCTC Rector, Farmer 61.76 66 ⇓P P 11 26 52.0 -0.5
baz=62,SNR=8.5
LKWY Lake 61.86 54 eP P 11 26 55.1 +1.9
LKWY pmax pmax
comp=Z,14nm,1.0s,mb5.0
LKWY Lake 61.86 54 eP P 11 26 55.1 +2.0
comp=Z,14nm,1.0s,mb5.0
P11A Circle Ranch, 61.88 61 P P 11 26 53.9 +0.5
baz=62,SNR=9.6
R09A Tonopah 61.90 63 P P 11 26 53.6 +0.2
baz=62,SNR=45
SMMC Simmler 61.91 67 ⇓P P 11 26 53.3 -0.2
baz=62
TPH Tonopah 61.91 63 eP P 11 26 54.1 +0.6
TPH pmax pmax
comp=Z,29nm,1.0s,mb5.4
TPH Tonopah 61.91 63 eP P 11 26 54.1 +0.6
comp=Z,29nm,0.9s,mb5.4
TIN Tinemaha 61.93 65 ⇓P P 11 26 54.2 +0.6
baz=62
NDI New Delhi 61.98 283 eP P 11 26 54.7 +0.7
NDI AMb AMB 11 26 56.7
comp=Z,21nm,1.0s,mb5.2
N13A Wendover, West 61.99 59 ⇓P P 11 26 54.4 +0.3
baz=62,SNR=16
DCID1 Drake Creek 62.02 55 eP P 11 26 55.1 +0.8
JOF Joensuu 62.08 335 ep P 11 26 53.2 -1.5
comp=Z,20nm,0.7s,mb5.4
JOF Joensuu 62.08 335 eP P 11 26 53.2 -1.5
JOF pmax pmax
comp=Z,21nm,0.7s,mb5.4
S09A Goldfield 62.13 64 P P 11 26 55.2 +0.2
baz=62,SNR=20
VES Vestal, Richgr 62.16 66 P P 11 26 54.6 -0.6
baz=62,SNR=8.6
HVU Hansel Valley 62.25 58 eP P 11 26 56.3 +0.5
PKM Peak Mountain 62.29 68 ⇓P P 11 26 56.5 +0.4
baz=62,SNR=6.3
LOHW Long Hollow 62.34 55 eP P 11 26 57.1 +0.7
comp=Z,45nm,1.3s,mb5.4
R10A Warm Springs 62.34 63 ⇑P P 11 26 56.5 +0.1
baz=62,SNR=14
SNOW Snow King Moun 62.35 55 eP P 11 26 57.8 +1.3
comp=Z,30nm,1.0s,mb5.4
REDW Red Top Meadow 62.36 55 eP P 11 26 57.2 +0.6
comp=Z,43nm,1.0s,mb5.5
Q11A Duckwater 62.39 62 ⇓P P 11 26 56.4 -0.3
baz=62,SNR=9.8
CWC Cottonwood Cre 62.41 65 ⇓P P 11 26 56.7 -0.2
baz=62,SNR=16
P12A McGill 62.44 61 P P 11 26 57.3 +0.2
baz=62,SNR=12
GRAC Grapevine Rang 62.50 64 ⇓P P 11 26 57.5 +0.1
baz=62
KAKA Kakadu 62.64 205 eP P 11 26 58.3 -0.1
comp=Z,34nm,0.6s,mb5.7
ISA Isabella 62.65 66 P P 11 26 57.6 -0.9
baz=62,SNR=14
TRCR Troy Canyon 62.74 62 eP P 11 26 59.1 0.0
Q12A Willow Creek R 62.76 61 ⇑P P 11 26 59.4 +0.1
baz=62,SNR=9.9
ARVC Arvin 62.77 67 P P 11 26 58.7 -0.6
baz=62,SNR=9.1
LAO LASA Array 62.77 50 eP P 11 26 59.0 -0.3
comp=Z,22nm,0.9s,mb5.3
DAC Darwin (Calif) 62.81 65 eP P 11 27 03.9 +4.3
BLSP Bilaspur 62.94 274 ex x 11 29 10.9
BLSP AMb AMB 11 29 12.0
comp=Z,22nm,1.1s,mb5.2
MPMC Manual Prospec 63.02 65 P P 11 27 01.0 +0.1
baz=63,SNR=29
HWUT Hardware Ranch 63.06 57 eP P 11 27 01.4 +0.2
comp=Z,17nm,1.0s,mb5.1
HWUT ePcP PcP 11 27 38.6 -0.4
FURC Furnace Creek, 63.15 65 ⇑P P 11 27 01.7 -0.1
baz=63,SNR=37
OSI Osito Adit 63.16 67 ⇓P P 11 27 02.5 +0.6
baz=63
DUG Dugway 63.23 59 eP P 11 27 02.6 +0.2
DUG pmax pmax
comp=Z,25nm,1.0s,mb5.3
DUG Dugway 63.23 59 eP P 11 27 02.6 +0.3
comp=Z,25nm,1.0s,mb5.3
DUG Dugway 63.23 59 ⇑P P 11 27 02.6 +0.3
baz=63
LRMC Laurel Mountai 63.26 66 P P 11 27 02.4 -0.2
baz=63,SNR=17
NOQ North Oquirrh 63.35 58 eP P 11 27 03.5 +0.3
comp=Z,73nm,1.4s,mb5.6
EDW2 Edwards Air Fo 63.45 67 ⇓P P 11 27 03.6 -0.2
baz=63,SNR=26
PDAR Pinedale Array 63.47 55 P P 11 27 03.6 -0.3
comp=Z,16nm,1.0s,mb5.1,baz=288,slow=2.7,SNR=73
U10A Ash Meadows, A 63.51 64 ⇓P P 11 27 04.4 +0.1
baz=63,SNR=16
KBL Kabul 63.57 293 eP P 11 27 04.8 +0.2
DECC Green Verdugo 63.64 67 ⇑P P 11 27 05.0 0.0
baz=63
JLU Jordanelle 63.77 58 eP P 11 27 06.7 +0.7

NLU North Lily Min 63.82 59 eP P 11 27 05.9 -0.3
SHOC Shoshone 63.87 65 ⇓P P 11 27 06.2 -0.4
baz=64
GSC Goldstone 63.93 65 ⇓P P 11 27 06.5 -0.5
baz=64,SNR=15
DAU Daniels Canyon 64.01 58 eP P 11 27 08.3 +0.9
MPU Maple Canyon 64.04 59 eP P 11 27 08.3 +0.5
comp=Z,20nm,1.0s,mb5.1
BFSC Mount Baldy St 64.08 67 ⇓P P 11 27 07.6 -0.3
baz=64,SNR=9.8
U11A Corn Creek 64.09 64 ⇑P P 11 27 08.4 +0.3
baz=64,SNR=10
CIS Catalina Islan 64.14 68 ⇑P P 11 27 07.9 -0.4
baz=64
KAF Kangasniemi 64.15 336 ep P 11 27 07.1 -1.3
baz=35,slow=6.1
TUQ Turquoise Mtn. 64.39 65 ⇑P P 11 27 09.8 -0.2
baz=64,SNR=26
V11A Goodsprings 64.44 64 ⇑P P 11 27 10.1 -0.3
baz=64,SNR=19
BBRC Big Bear Sol-O 64.53 66 ⇓P P 11 27 10.9 +0.1
baz=64,SNR=13
HEC Hector,Ludlow 64.53 66 ⇑P P 11 27 10.7 -0.2
baz=64,SNR=24
CCUT Cedar City 64.60 62 eP P 11 27 11.7 +0.3
U12A Valley of Fire 64.61 63 ⇓P P 11 27 11.4 0.0
baz=64
MSU Marysvale 64.69 60 eP P 11 27 12.5 +0.5
FIA1 FINESS Array S 64.76 336 eP P 11 27 11.9 -0.5
FINES FINESS Array B 64.76 336 P P 11 27 11.8 -0.6
comp=Z,9.8nm,0.6s,mb5.0,baz=43,slow=8.2,SNR=54
FINES FINESS Array B 64.76 336 i P P 11 27 11.8 -0.6
FINES pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 64.76 336 P P 11 27 11.8 -0.6
TMUT Trail Mountain 64.76 59 eP P 11 27 12.8 +0.4
MURC Murrieta 64.78 67 ⇑P P 11 27 12.0 -0.5
baz=65,SNR=11
V12A Nelson 64.87 64 P P 11 27 13.4 +0.3
baz=65,SNR=11
GMRC Granite Mounta 64.98 65 P P 11 27 13.9 +0.1
baz=65,SNR=20
VIS Vishakhapatnam 65.11 270 eP P 11 27 16.1 +1.4
VIS AMb AMB 11 27 18.5
comp=Z,44nm,1.4s,mb5.3
W12A Cal Nev Ari 65.14 64 ⇑P P 11 27 14.8 -0.1
baz=65,SNR=6.3
PFO Pinyon Flat Ob 65.25 67 P P 11 27 15.0 -0.6
comp=Z,62nm,1.3s,mb5.5,SNR=5.1
PFO Pinyon Flat Ob 65.25 67 eP P 11 27 15.7 +0.1
PFO pmax pmax
comp=Z,30nm,1.5s,mb5.1
PFO Pinyon Flat Ob 65.25 67 P P 11 27 15.5 0.0
baz=65,SNR=6.5
BELC Belle Mtn. 65.28 66 ⇓P P 11 27 15.1 -0.7
baz=65,SNR=5.4
SRU San Rafael 65.28 59 eP P 11 27 15.7 -0.1
SRU pmax pmax
comp=Z,23nm,0.9s,mb5.2
SRU San Rafael 65.28 59 eP P 11 27 15.7 -0.1
comp=Z,23nm,0.9s,mb5.2
109C Camp Elliot, M 65.30 68 ⇑P P 11 27 15.4 -0.5
baz=65,SNR=6.1
MOS Moscow 65.38 327 eP P 11 27 13.1 -3.3
BHPL Bhopal 65.42 278 eP P 11 27 17.5 +0.9
BHPL AMb AMB 11 27 21.1
comp=Z,50nm,1.3s,mb5.4
ULM Lac du Bonnet 65.50 42 P P 11 27 15.9 -1.3
comp=Z,2.3nm,0.6s,mb4.4,baz=318,slow=7.2,SNR=6.7
PSI Prapat 65.52 246 P P 11 27 18.7 +1.4
comp=Z,7.8nm,0.8s,mb4.8,baz=333,slow=4.7,SNR=4.4
NEE2 Needles Airpor 65.64 65 ⇑P P 11 27 17.9 -0.2
baz=65
IRM Iron Mountain 65.71 65 ⇓P P 11 27 18.4 -0.2
baz=66,SNR=25
NGP Nagpur 65.71 276 eP P 11 27 18.7 +0.1
NGP AMb AMB 11 27 22.4
comp=Z,55nm,1.8s,mb5.3
MONP Monument Peak 65.74 67 ⇑P P 11 27 18.5 -0.2
baz=66,SNR=5.6
BC3 Big Chuckw Mtn 65.85 66 ⇓P P 11 27 18.8 -0.6
baz=66,SNR=14
W13A Hualapai Mount 65.88 64 ⇑P P 11 27 19.2 -0.4
baz=66,SNR=16
DVTC Desert V Tower 66.09 67 ⇑P P 11 27 20.7 -0.3
baz=66
SWSC Sam W. Stewart 66.10 67 ⇓P P 11 27 20.5 -0.6
baz=66
PDMCI Parker Dam,Lak 66.25 65 ⇑P P 11 27 21.8 -0.2
baz=66,SNR=8.1
X13A Yucca 66.25 64 P P 11 27 21.9 -0.1
baz=66,SNR=25
OBN Obninsk 66.25 327 c iP P 11 27 21.1 -0.9
OBN e 11 27 48.5
OBN pmax pmax
comp=Z,39nm,1.6s,mb5.2
W14A Seligman 66.30 63 ⇓P P 11 27 22.4 +0.1
baz=66,SNR=38
Y12C Blythe 66.37 65 ⇓P P 11 27 22.6 -0.2
baz=66,SNR=9.5
PV10 Paradox Valley 66.64 58 eP P 11 27 24.7 +0.2
PV10 ePcP PcP 11 27 55.8 +2.1
Y13A Salome 66.76 65 P P 11 27 25.4 +0.1
baz=66,SNR=18
W15A Williams 66.82 63 ⇑P P 11 27 26.4 +0.7
baz=67,SNR=10.0
X14A Yava 66.91 64 ⇓P P 11 27 26.5 +0.3
baz=67,SNR=31
CTA Charters Tower 66.99 189 eP P 11 27 26.2 -0.6
comp=Z,8.1nm,1.0s,mb4.7
CTA Charters Tower 66.99 189 eP P 11 27 26.2 -0.6
CTA pmax pmax
comp=Z,8.0nm,1.0s
PV01 Paradox Valley 67.08 58 eP P 11 27 27.0 -0.3
AFI Afiamalu 67.13 145 LR LR 11 57 05.4
comp=Z,179nm,18.3s,MS4.3,baz=318,slow=36
WUAZ Wupatki 67.14 62 eP P 11 27 28.4 +0.6
comp=Z,16nm,1.2s,mb4.9
WUAZ Wupatki 67.14 62 ⇓P P 11 27 28.1 +0.3
baz=67
Y14A Wickenburg 67.19 64 P P 11 27 28.1 +0.1
baz=67,SNR=23
X15A Humboldt 67.30 63 ⇓P P 11 27 29.1 +0.4
baz=67,SNR=38
SMCO Snowmass 67.30 57 eP P 11 27 29.0 +0.2
comp=Z,16nm,1.0s,mb5.0
SMCO ePcP PcP 11 27 56.7 +0.3
AKL Akola 67.41 277 eP P 11 27 30.9 +1.4
AKL AMb AMB 11 27 32.6
comp=Z,37nm,1.1s,mb5.3
Z14A Wintersburg 67.61 65 ⇑P P 11 27 30.4 -0.3
baz=67
MVCO Mesa Verde 67.74 59 eP P 11 27 31.4 -0.1
comp=Z,40nm,1.5s,mb5.2
MVCO Mesa Verde 67.74 59 ⇓P P 11 27 31.6 +0.1
baz=68
HYB Hyderabad 68.60 273 i P P 11 27 37.5 +0.6
HYB Hyderabad 68.60 273 eP P 11 27 37.5 +0.6
NB2 NORSAR Subarra 68.78 342 P P 11 27 37.3 -0.7
comp=Z,4.0nm,0.6s,mb4.5,baz=26,slow=6.5
NOA NORSAR Array B 68.78 342 P P 11 27 37.2 -0.8
comp=Z,5.9nm,0.8s,mb4.6,baz=26,slow=6.2,SNR=13
NOA LR LR 12 00 15.9
comp=Z,174nm,21.7s,MS4.2,baz=10.0,slow=38
116A Eloy 68.92 65 P P 11 27 39.1 +0.2
baz=69,SNR=14
WB2 Warramunga Arr 69.02 201 eP P 11 27 38.5 -1.0
WRA Warramunga Arr 69.02 201 P P 11 27 39.2 -0.3
comp=Z,22nm,0.7s,mb5.2,baz=21,slow=6.9,SNR=158
WRA Warramunga Arr 69.02 201 i P P 11 27 39.2 -0.3
WRA pmax pmax
comp=Z,22nm,0.7s
HFS Hagfors 69.05 341 P P 11 27 38.8 -0.9
comp=Z,8.3nm,0.6s,mb4.9,baz=75,slow=6.3,SNR=18
TUC Tucson 69.66 64 eP P 11 27 43.5 0.0
comp=Z,20nm,1.3s,mb4.9
FITZ Fitzroy Crossi 69.88 210 eP P 11 27 45.5 +0.7
comp=Z,22nm,0.7s,mb5.2
LAZ Ladron 70.45 60 eP P 11 27 49.0 +0.6
MDRS Chennai 70.47 268 ex x 11 25 33.7
BHJ Bhuj 70.66 284 eP P 11 27 51.3 +1.7
BHJ AMb AMB 11 28 02.0
comp=Z,20nm,1.0s,mb5.0
LENM Lemitar 70.72 61 eP P 11 27 50.1 +0.2
Y22C IRIS PASSCAL I 70.81 61 ⇓P P 11 27 51.5 +1.0
baz=71
LPM Los Pinos Moun 70.82 60 eP P 11 27 51.4 +0.8

BNM Barren Site 70.93 60 eP P 11 27 51.7 +0.5
KAD Karad 71.68 276 eP P 11 27 55.9 +0.1
KAD AMb AMB 11 28 01.3
comp=Z,41nm,1.3s,mb5.2
KIV Kislovodsk 71.97 316 d iP P 11 27 58.6 +1.0
KIV pmax pmax
comp=Z,27nm,1.7s,mb4.9
KIV MLR MLR
comp=Z,400nm,22.0s,MS4.6
KIV Kislovodsk 71.97 316 eP P 11 27 59.2 +1.6
comp=Z,12nm,0.7s,mb4.9
AKASG Malin Array Be 72.47 327 P P 11 27 59.4 -1.2
comp=Z,14nm,0.8s,mb5.0,baz=33,slow=6.3,SNR=27
AKASG Malin Array Be 72.47 327 i P P 11 27 59.5 -1.0
AKASG pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 72.48 327 eP P 11 27 59.6 -1.0
KIEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
KIEV Kiev 72.48 327 eP P 11 27 59.5 -1.0
comp=Z,13nm,0.8s,mb4.9
ASAR Alice Springs 72.70 201 P P 11 28 02.5 +0.6
comp=Z,22nm,0.8s,mb5.1,baz=16,slow=5.9,SNR=234
SCIA State Center 72.80 47 eP P 11 28 01.4 -1.0
comp=Z,17nm,0.7s,mb5.1
GOA Goa 73.19 275 eP P 11 28 04.6 -0.2
GOA AMb AMB 11 28 05.6
comp=Z,34nm,1.1s,mb5.2
MNTX Cornudas Mount 73.39 61 eP P 11 28 06.0 0.0
comp=Z,26nm,1.3s,mb5.0
GKP Gorka Klasztor 74.23 335 eP P 11 28 10.6 -0.3
KOD Kodaikanal 74.39 268 eP P 11 28 12.1 +0.3
KOD AMb AMB 11 28 14.7
comp=Z,34nm,0.4s,mb5.6
WMOK Wichita Mounta 75.08 55 eP P 11 28 15.1 -0.7
KIS Kishinev 75.65 325 eP P 11 28 18.0 -1.1
KIS e 11 28 38.0
KIS Kishinev 75.65 325 eUNK P 11 28 18.0 -1.1
KWP Kalwaria 75.67 330 eP P 11 28 19.4 +0.2
LTX Lajitas 76.11 62 eP P 11 28 21.6 -0.1
comp=Z,19nm,0.6s,mb5.2
TXAR Lajitas Array 76.11 62 P P 11 28 21.7 0.0
comp=Z,29nm,0.7s,mb5.3,baz=302,slow=4.3,SNR=272
TXAR Lajitas Array 76.11 62 P P 11 28 21.7 0.0
OJC Ojcow 76.12 332 eP P 11 28 21.8 0.0
STHS Stebnicka Huta 76.35 331 eP P 11 28 23.5 +0.4
STHS pmax pmax
comp=Z,15nm,0.8s,mb5.0
STHS Stebnicka Huta 76.35 331 eP P 11 28 23.5 +0.4
comp=Z,15nm,0.8s,mb5.0
KOLS Kolonicke sedl 76.42 330 eP P 11 28 23.3 -0.2
BURAR Bucovina Array 76.50 328 ⇓iP P 11 28 23.8 -0.1
KSP Ksiaz 76.65 335 eP P 11 28 24.9 +0.1
KSP e pP 11 28 30.0 -0.1
KSP Ksiaz 76.65 335 eP P 11 28 24.4 -0.4
KSP epP pP 11 28 29.7 -0.4
NIE Niedzica 76.65 332 eP P 11 28 25.4 +0.6
UZH Uzhgorod 76.67 330 ⇓iP P 11 28 24.8 -0.1
UZH i 11 28 37.8
CRVS Cervenica-Dubn 76.72 331 eP P 11 28 25.2 0.0
ARMA Armidale 76.83 183 eP P 11 28 26.6 +0.8
OKC Ostrava-Krasne 76.98 333 eP P 11 28 26.6 0.0
OKC epP pP 11 28 31.6 -0.4
UPC Upice 77.03 335 eP P 11 28 26.9 0.0
UPC epP pP 11 28 32.3 0.0
DPC Dobruska-Polom 77.08 335 eP P 11 28 27.6 +0.4
DPC epP pP 11 28 32.9 +0.4
FVM French Village 77.16 48 eP P 11 28 26.5 -1.1
CLL Collm 77.16 337 ⇓iP P 11 28 27.2 -0.5
CLL i 11 28 35.0
CLL pmax pmax
comp=Z,416nm,0.9s
CLL Collm 77.16 337 ⇓iP P 11 28 27.2 -0.5
comp=Z,24nm,0.9s,mb5.1
CLL i 11 28 29.8
CLL i pP 11 28 32.6 -0.4
CLL i 11 28 35.0
CLL Collm 77.16 337 ⇓iP P 11 28 27.2 -0.5
comp=Z,24nm,0.9s,mb5.1
CLL i x x 11 28 29.8
CLL ⇓iPP pP 11 28 32.6 -0.4
comp=Z,25nm,0.8s
CLL i sP sP 11 28 35.0 +0.1
MORC Moravsky Berou 77.22 334 ⇓iP P 11 28 28.2 +0.2
BRG Berggiesshubel 77.29 336 eP P 11 28 27.9 -0.6
comp=Z,7.7nm,1.0s,mb4.6
BRG Berggiesshubel 77.29 336 eP P 11 28 27.9 -0.5
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
VRI Vrincioaia 77.40 326 ⇑iP P 11 28 30.1 +1.1
KECS Kecovo 77.41 331 eP P 11 28 28.6 -0.5
KECS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KECS Kecovo 77.41 331 eP P 11 28 28.6 -0.5
comp=Z,9.2nm,1.0s,mb4.7
PVCC Panska Ves 77.43 336 eP P 11 28 29.1 -0.1
BOYT Boyabat 77.58 318 i P P 11 28 30.8 +0.8
JCT Junction City 77.59 59 eP P 11 28 29.6 -0.5
JCT pmax pmax
comp=Z,32nm,1.0s,mb5.2
JCT Junction City 77.59 59 eP P 11 28 29.6 -0.5
comp=Z,32nm,1.1s,mb5.2
TIRR Tirgusor 77.91 324 ⇓iP P 11 28 31.9 +0.1
PRU Pruhonice 77.92 335 eP P 11 28 32.0 +0.1
PRU epP pP 11 28 37.2 -0.1
VRAC Vranov 77.92 334 P P 11 28 32.2 +0.2
comp=Z,11nm,0.7s,mb4.9,baz=29,slow=5.8,SNR=19
VRAC Vranov 77.92 334 ⇓iP P 11 28 32.4 +0.5
ELZG Elazig 77.93 314 i P P 11 28 34.2 +2.2
VYHS Vyhne 77.94 332 i P P 11 28 32.3 +0.3
VYHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VYHS Vyhne 77.94 332 i P P 11 28 32.3 +0.3
comp=Z,8.8nm,1.0s,mb4.6
MLR Muntele Rosu 78.01 326 P P 11 28 32.9 +0.4
comp=Z,19nm,0.6s,mb5.2,baz=48,slow=14,SNR=43
MLR Muntele Rosu 78.01 326 ⇓iP P 11 28 33.0 +0.6
PSZ Piszkesteto 78.10 331 ⇑iP P 11 28 33.7 +0.8
DRGR 78.10 329 ⇑iP P 11 28 33.3 +0.4
MIAR Mount Ida 78.11 52 eP P 11 28 31.9 -1.1
MIAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MIAR Mount Ida 78.11 52 eP P 11 28 31.9 -1.1
comp=Z,5.6nm,0.7s,mb4.6
MOX Moxa 78.13 337 eP P 11 28 33.2 +0.1
comp=Z,28nm,1.4s,mb5.0
MOX Moxa 78.13 337 eP P 11 28 33.2 +0.1
MOX pmax pmax
comp=Z,28nm,1.4s,mb5.0
BALT Daday 78.17 319 i P P 11 28 34.6 +1.3
TREC Trest 78.26 335 eP P 11 28 33.9 +0.1
CTKT Corum 78.27 318 i P P 11 28 34.8 +1.0
NKC Novy Kostel 78.28 337 eP P 11 28 33.7 -0.2
NKC epP pP 11 28 38.0 -1.3
SMOL Smolenice 78.37 333 eP P 11 28 34.6 +0.2
VOIR 78.40 327 ⇑iP P 11 28 35.3 +0.7
ZST Bratislava 78.75 333 eP P 11 28 37.0 +0.5
comp=Z,16nm,1.1s,mb4.8
ZST LR LR
comp=Z,300nm,17.8s,MS4.7
RAR Rarotonga 78.76 138 LR LR 11 57 39.5
comp=Z,173nm,19.2s,MS4.4,baz=286,slow=31
KHC Kasperske Hory 78.97 336 eP P 11 28 38.1 +0.4
KHC epP pP 11 28 43.4 +0.4
KHC Kasperske Hory 78.97 336 deP P 11 28 38.0 +0.3
ELDT Eldivan 79.00 319 i P P 11 28 38.9 +1.0
GRA1 Grafenberg Arr 79.11 337 eP P 11 28 39.0 +0.5
comp=Z,40nm,1.1s,mb5.3
GRA1 epP pP 11 28 44.4 +0.6
GRA1 esP sP 11 28 47.2 +1.5
GRF Grafenberg Arr 79.11 337 eP P 11 28 39.0 +0.5
comp=Z,40nm,1.1s,mb5.3
GRF epP pP 11 28 44.4 +0.6
GRF esP sP 11 28 47.2 +1.5
comp=Z,40nm,1.1s
GRF Grafenberg Arr 79.11 337 eP P 11 28 39.0 +0.5
GRF e*SP sP 11 28 47.2 +1.5
GRF pmax pmax
comp=Z,40nm,1.1s,mb5.3
GRF Grafenberg Arr 79.11 337 eP P 11 28 39.0 +0.5
GRF e*SP sP 11 28 47.2 +1.5
GRF pmax pmax
comp=Z,40nm,1.1s,mb5.3
GRFO Grafenberg 79.11 337 eP P 11 28 38.5 0.0

GRFO pmax pmax
comp=Z,32nm,0.9s,mb5.2
GRFO Grafenberg 79.11 337 eP P 11 28 38.5 0.0
comp=Z,32nm,0.9s,mb5.2
GEC2 GERESS Array S 79.19 335 eP P 11 28 38.9 0.0
GERES GERESS Array B 79.19 335 P P 11 28 38.9 0.0
comp=Z,7.4nm,0.6s,mb4.8,baz=36,slow=5.1,SNR=54
GERES LR LR 12 05 17.2
comp=Z,517nm,21.9s,MS4.8,baz=81,slow=37
STKA Stephens Creek 79.21 192 ⇓iP P 11 28 38.6 -0.4
comp=Z,7.0nm,0.7s,mb4.7
STKA Stephens Creek 79.21 192 P P 11 28 38.0 -1.0
comp=Z,10nm,0.8s,mb4.8,baz=347,slow=6.4,SNR=22
CONA Conrad Observa 79.37 334 ⇑iP P 11 28 39.8 -0.2
comp=Z,11nm,0.8s,mb4.8
TAOE Nuku Hiva Isla 79.46 115 eLR LR 11 52 39.7
comp=Z,995nm,31.5s
BZS Buzias 79.50 329 ⇓iP P 11 28 40.2 -0.4
BRTR Keskin Array B 79.51 318 P P 11 28 41.1 +0.5
comp=Z,12nm,0.9s,mb4.8,baz=59,slow=4.7,SNR=42
BRTR Keskin Array B 79.51 318 ⇑eP P 11 28 41.2 +0.5
GZT Gaziantep 79.53 314 i P P 11 28 42.1 +1.4
SGKT Sivrigoynuk 79.54 320 i P P 11 28 40.8 -0.1
NATX Nacogdoches 79.60 55 eP P 11 28 41.1 -0.1
comp=Z,32nm,0.7s,mb5.4
AVNT Avonos 79.70 317 i P P 11 28 41.3 -0.4
ANTO Ankara 79.78 319 P P 11 28 43.4 +1.3
ANTO pmax pmax
comp=Z,44nm,1.2s,mb5.3
ANTO Ankara 79.78 319 eP P 11 28 43.4 +1.2
comp=Z,44nm,1.3s,mb5.2
ANTO Ankara 79.78 319 ⇓iP P 11 28 43.0 +0.9
TOD Tromm 79.81 339 eP P 11 28 41.4 -0.9
ABH Alteburg 79.86 340 eP P 11 28 41.4 -1.2
BCLA Clavier 79.88 341 P P 11 28 44.9 +2.3
SZH Strazhica 79.89 325 eP P 11 28 42.5 -0.2
MOA Molln 79.92 335 ⇓iP P 11 28 43.2 +0.3
comp=Z,16nm,1.0s,mb4.9
ARSA Arzberg 80.08 334 ⇓iP P 11 28 44.3 +0.5
comp=Z,12nm,1.1s,mb4.8
GIVF Givet 80.28 341 eP P 11 28 44.0 -0.8
DOU Dourbes 80.34 341 P P 11 28 45.3 +0.2
OXF Oxford 80.35 49 eP P 11 28 44.2 -1.0
OXF pmax pmax
comp=Z,23nm,0.9s,mb5.1
OXF Oxford 80.35 49 eP P 11 28 44.2 -1.0
comp=Z,23nm,0.9s,mb5.1
WLF Walferdange 80.39 340 P P 11 28 46.6 +1.2
BAIF Baives 80.46 342 eP P 11 28 45.0 -0.8
comp=Z,90nm,1.4s,mb5.2
BAIF Baives 80.46 342 eP P 11 28 45.0 -0.8
BAIF pmax pmax
comp=Z,45nm,1.4s,mb5.2
BAIF Baives 80.46 342 eP P 11 28 45.0 -0.8
comp=Z,45nm,1.4s,mb5.2
PERS Pernice 80.75 334 i P P 11 28 47.3 0.0
PPT Papeete 80.84 128 eLR LR 11 53 23.0
comp=Z,445nm,27.2s,baz=333
PPT Papeete 80.84 128 LR LR 11 55 04.5
comp=Z,245nm,21.1s,MS4.5,baz=284,slow=29
KBA Koelnbreinsper 80.89 335 ⇑iP P 11 28 49.4 +1.3
comp=Z,56nm,0.8s,mb5.5
KBA Koelnbreinsper 80.89 335 ⇑iP P 11 28 49.4 +1.3
KBA pmax pmax
comp=Z,56nm,0.8s,mb5.5
FORT Forrest 80.99 204 eP P 11 28 48.9 +0.2
comp=Z,29nm,0.7s,mb5.3
OBKA Obir 81.04 334 ⇑iP P 11 28 49.3 +0.4
comp=Z,14nm,1.1s,mb4.8
BFO Black Forest 81.11 338 P P 11 28 49.1 -0.2
comp=Z,126nm,1.2s,mb5.7,SNR=6.2
BFO Black Forest 81.11 338 P P 11 28 49.2 -0.1
BFO pmax pmax
comp=Z,29nm,1.1s,mb5.1
BFO Black Forest 81.11 338 eP P 11 28 48.9 -0.3
comp=Z,29nm,1.1s,mb5.1
WATA Walderalm 81.16 336 ⇓iP P 11 28 50.2 +0.6
comp=Z,24nm,1.0s,mb5.1
WATA Walderalm 81.16 336 ⇓iP P 11 28 50.2 +0.7
WATA pmax pmax
comp=Z,24nm,1.0s,mb5.1
ULDT Uludag 81.17 321 i P P 11 28 49.4 -0.2
WTTA Wattenberg 81.21 336 ⇓iP P 11 28 50.8 +1.0
comp=Z,68nm,1.0s,mb5.2
WTTA Wattenberg 81.21 336 ⇓iP P 11 28 50.8 +1.0
WTTA pmax pmax
comp=Z,69nm,1.0s,mb5.5
RETA Reutte 81.25 337 ⇑iP P 11 28 50.8 +0.8
comp=Z,22nm,0.8s,mb5.1
MOTA Moosalm 81.28 336 ⇑iP P 11 28 50.8 +0.6
comp=Z,34nm,1.1s,mb5.2
MOTA Moosalm 81.28 336 ⇑iP P 11 28 50.8 +0.6
MOTA pmax pmax
comp=Z,34nm,1.1s,mb5.2
CDF Champ du Feu 81.29 339 eP P 11 28 49.7 -0.6
comp=Z,64nm,1.0s,mb5.2
CDF Champ du Feu 81.29 339 eP P 11 28 49.7 -0.6
CDF pmax pmax
comp=Z,32nm,1.0s,mb5.2
CDF Champ du Feu 81.29 339 eP P 11 28 49.7 -0.6
comp=Z,32nm,1.0s,mb5.2
GRUS Gruza 81.32 329 ⇓iP P 11 28 49.4 -1.0
SQTA Sankt Quirin 81.37 336 ⇓iP P 11 28 51.5 +0.8
comp=Z,38nm,1.1s,mb5.2
SQTA Sankt Quirin 81.37 336 ⇓iP P 11 28 51.5 +0.9
SQTA pmax pmax
comp=Z,38nm,1.1s,mb5.2
DIVS Divcibare 81.39 329 ⇓iP P 11 28 50.4 -0.4
ABTA Abfaltersbach 81.43 335 ⇑iP P 11 28 50.4 -0.6
comp=Z,20nm,0.9s,mb5.0
KDZ Kurdzhali 81.46 325 eP P 11 28 50.0 -1.1
PTCC Patocco-Chiusa 81.49 335 P P 11 28 50.9 -0.4
comp=Z,9.5nm,0.6s,mb4.9
ECH Echery 81.50 339 eP P 11 28 51.3 -0.1
VTS Vitosha 81.52 326 eP P 11 28 50.7 -0.7
VTS Vitosha 81.52 326 ⇑iP P 11 28 51.5 +0.1
VISS Visnje 81.59 333 i P P 11 28 51.2 -0.6
ROBS Robic 81.59 334 i P P 11 28 50.6 -1.2
FELD Feldberg im Sc 81.61 339 eP P 11 28 52.0 +0.1
GMNA Gemona 81.64 335 P P 11 28 51.6 -0.5
comp=Z,87nm,0.8s,mb5.7
DAVA Damuels 81.67 337 ⇑iP P 11 28 53.3 +1.0
comp=Z,57nm,1.0s,mb5.5
VOY Vojsko 81.67 334 eP P 11 28 51.3 -0.9
FETA Feichten 81.68 336 ⇑iP P 11 28 53.4 +1.1
comp=Z,30nm,1.0s,mb5.2
BOJS Bojanci 81.73 333 eP P 11 28 52.2 -0.4
MEZF Maizieres J'vi 81.74 341 eP P 11 28 52.0 -0.6
comp=Z,43nm,0.8s,mb5.1
MEZF Maizieres J'vi 81.74 341 eP P 11 28 52.0 -0.6
comp=Z,43nm,0.8s,mb5.4
THEF They Montfort 81.78 340 eP P 11 28 52.7 -0.1
BBLS Bajina Basta - 81.80 330 ⇓iP P 11 28 53.8 +0.8
MOF Molkenrain 81.85 339 eP P 11 28 53.2 0.0
HAU Haudompre 81.90 340 eP P 11 28 52.5 -0.9
comp=Z,21nm,0.7s,mb4.9
HAU eMLR
comp=Z,482nm,21.2s
HAU Haudompre 81.90 340 eP P 11 28 52.5 -0.9
HAU pmax pmax
comp=Z,11nm,0.7s,mb4.9
HAU MLR MLR
comp=Z,480nm,21.3s,MS4.8
HAU Haudompre 81.90 340 eP P 11 28 52.5 -0.9
comp=Z,11nm,0.7s,mb4.9
HAU LR LR
comp=Z,480nm,21.3s,MS4.8
HINF Hinteralfeld 81.95 339 eP P 11 28 52.7 -1.0
comp=Z,21nm,1.0s,mb4.7
HINF Hinteralfeld 81.95 339 eP P 11 28 52.7 -1.0
comp=Z,10nm,1.0s,mb4.7
MMB Musomiste 82.17 326 eP P 11 28 57.7 +2.8
BRMO Bormio 82.28 336 P P 11 28 56.4 +1.0
comp=Z,19nm,0.8s,mb5.1
TKL Tuckaleechee C 82.29 45 P P 11 28 54.2 -1.3
comp=Z,8.2nm,1.0s,mb4.6,baz=354,slow=7.1,SNR=5.6
TKL Tuckaleechee C 82.29 45 P P 11 28 54.2 -1.3
CTI Castel Tesino 82.31 335 P P 11 28 55.4 -0.2
comp=Z,14nm,0.8s,mb4.9
TKTP Tekketepe 82.39 319 i P P 11 28 52.0 -4.1
LOMF Lomont 82.39 339 eP P 11 28 52.3 -3.7
TUE Stuetta 82.56 337 P P 11 28 57.3 +0.4
FLN La Foliniere 82.64 344 eP P 11 28 56.6 -0.7
comp=Z,50nm,1.0s,mb5.2
FLN eMLR
comp=Z,467nm,21.0s

FLN	La Foliniere	82.64	344	eP	P	11 28 56.6	-0.7
FLN				pmax	pmax		
comp=Z,25nm,1.0s,mb5.2							
FLN				MLR	MLR		
comp=Z,470nm,21.0s,MS4.8							
FLN	La Foliniere	82.64	344	eP	P	11 28 56.6	-0.7
comp=Z,25nm,1.0s,mb5.2							
FLN				LR	LR		
comp=Z,470nm,21.0s,MS4.8							
LDF	La Druitiere	82.73	344	eP	P	11 28 56.8	-1.0
VAY	Valandovo	82.85	326	eP	P	11 28 57.0	-1.5
VAY	Valandovo	82.85	326	eP	P	11 28 57.0	-1.5
GRR	Gorron	83.07	344	eP	P	11 28 58.7	-0.9
comp=Z,38nm,0.8s,mb5.2							
GRR	Gorron	83.07	344	eP	P	11 28 58.7	-0.9
GRR				pmax	pmax		
comp=Z,19nm,0.8s,mb5.2							
GRR	Gorron	83.07	344	eP	P	11 28 58.7	-0.9
comp=Z,19nm,0.8s,mb5.2							
LOR	Lormes	83.17	341	eP	P	11 28 59.2	-0.9
comp=Z,58nm,0.9s,mb5.3							
LOR				eMLR			
comp=Z,382nm,19.0s							
LOR	Lormes	83.17	341	eP	P	11 28 59.2	-0.9
comp=Z,29nm,0.9s,mb5.3							
LOR				LR	LR		
comp=Z,380nm,19.0s,MS4.8							
CABF	La Chapelle	83.27	339	eP	P	11 29 00.2	-0.4
VAI	Varese	83.27	337	P	P	11 29 01.0	+0.4
VAI				pmax	pmax		
comp=Z,22nm,0.7s,mb5.3							
VAI	Varese	83.27	337	P	P	11 29 01.0	+0.4
comp=Z,22nm,0.7s,mb5.3							
KRUS	Krusevo	83.31	327	eP	P	11 29 00.3	-0.5
KRUS	Krusevo	83.31	327	eP	P	11 29 00.3	-0.5
HYF	Humbligny	83.44	342	eP	P	11 29 01.0	-0.5
SSF	Saint Saulge	83.44	341	eP	P	11 29 00.7	-0.8
comp=Z,46nm,0.9s,mb5.2							
SSF	Saint Saulge	83.44	341	eP	P	11 29 00.7	-0.8
comp=Z,23nm,0.9s,mb5.2							
SGMF	Saint Gilles	83.50	345	eP	P	11 29 01.1	-0.7
comp=Z,99nm,1.0s,mb5.6							
SGMF	Saint Gilles	83.50	345	eP	P	11 29 01.1	-0.7
comp=Z,49nm,1.0s,mb5.6							
ROSF	Rostrenen	83.55	346	eP	P	11 29 01.4	-0.6
comp=Z,325nm,1.6s,mb5.9							
ROSF	Rostrenen	83.55	346	eP	P	11 29 01.4	-0.6
comp=Z,163nm,1.6s,mb5.9							
OHR	Ohrid	83.70	327	eP	P	11 29 01.4	-1.4
OHR	Ohrid	83.70	327	eP	P	11 29 01.4	-1.4
AVF	Avril sur Loir	83.73	341	eP	P	11 29 02.2	-0.8
comp=Z,90nm,1.1s,mb5.5							
AVF	Avril sur Loir	83.73	341	eP	P	11 29 02.2	-0.8
comp=Z,45nm,1.1s,mb5.5							
SMF	Signal de Mont	83.76	341	eP	P	11 29 03.0	-0.1
comp=Z,157nm,1.1s,mb5.8							
SMF	Signal de Mont	83.76	341	eP	P	11 29 03.0	-0.1
comp=Z,78nm,1.1s,mb5.8							
ASF	Jabal al Asfar	83.95	311	P	P	11 29 04.4	+0.3
comp=Z,13nm,1.0s,mb5.0,baz=290,slow=0.8,SNR=20							
RSL	Roselend	83.99	339	eP	P	11 29 04.8	+0.5
RSM	Repubblica di	84.01	334	P	P	11 29 05.9	+1.5
comp=Z,23nm,0.7s,mb5.4							
MMAI	Mount Meron Ar	84.04	313	P	P	11 29 05.4	+0.8
comp=Z,26nm,0.8s,mb5.4,baz=39,slow=6.8,SNR=39							
BGF	Bois d'Agland	84.07	341	eP	P	11 29 03.9	-0.8
comp=Z,26nm,0.7s,mb5.2							
BGF	Bois d'Agland	84.07	341	eP	P	11 29 03.9	-0.8
comp=Z,13nm,0.7s,mb5.2							
FSSB	Fossombrone	84.12	334	P	P	11 29 05.5	+0.5
comp=Z,28nm,0.7s,mb5.5							
LPL	La Plagne	84.13	338	eP	P	11 29 05.3	+0.3
comp=Z,64nm,0.8s,mb5.5							
LPL	La Plagne	84.13	338	eP	P	11 29 05.3	+0.3
comp=Z,32nm,0.8s,mb5.5							
LPG	La Plagne	84.14	338	eP	P	11 29 05.5	+0.4
comp=Z,151nm,1.2s,mb5.7							
LPG	La Plagne	84.14	338	eP	P	11 29 05.5	+0.4
comp=Z,75nm,1.2s,mb5.7							
ERBM	Eremo	84.16	336	P	P	11 29 07.0	+1.9
comp=Z,177nm,2.0s,mb5.8							
GSCL	Gusciola	84.17	335	P	P	11 29 06.7	+1.5
comp=Z,18nm,0.7s,mb5.3							
SFI	Santa Sofia	84.21	334	P	P	11 29 06.6	+1.2
comp=Z,16nm,0.7s,mb5.2							
SEI	Scarperia	84.22	335	P	P	11 29 07.0	+1.5
comp=Z,78nm,0.6s,mb6.0							
VMG	Vicchio	84.25	335	P	P	11 29 07.4	+1.8
comp=Z,32nm,0.7s,mb5.6							
PLDF	La Plantade	84.45	341	eP	P	11 29 06.9	+0.3
TCF	Toulx Ste Croi	84.46	342	eP	P	11 29 06.1	-0.6
comp=Z,48nm,0.9s,mb5.3							
TCF	Toulx Ste Croi	84.46	342	eP	P	11 29 06.1	-0.6
comp=Z,24nm,0.9s,mb5.3							
SNTG	Esanatoglia	84.47	333	P	P	11 29 07.0	+0.3
comp=Z,20nm,0.9s,mb5.2							
AGO	Saint Agoulin	84.48	341	eP	P	11 29 07.9	+1.1
GDM	Grand'Maison	84.58	339	eP	P	11 29 08.4	+1.1
MURB	Monte Urbino	84.59	334	P	P	11 29 09.1	+1.8
GRN	Grenoble	84.63	339	eP	P	11 29 07.8	+0.3
MFF	Saint Martin d	84.65	343	eP	P	11 29 07.2	-0.4
comp=Z,25nm,0.8s,mb5.1							
MFF	Saint Martin d	84.65	343	eP	P	11 29 07.2	-0.4
comp=Z,13nm,0.8s,mb5.1							
PYM	Petit Puy Mans	84.80	341	eP	P	11 29 08.3	-0.1
NRCA	Norcia	84.80	333	P	P	11 29 09.1	+0.7
comp=Z,24nm,0.8s,mb5.4							
TERO	Teramo	84.84	333	P	P	11 29 09.0	+0.4
MBDF	Montbardon	84.86	338	eP	P	11 29 08.2	-0.5
comp=Z,27nm,0.8s,mb5.4							
MBDF	Montbardon	84.86	338	eP	P	11 29 08.2	-0.5
comp=Z,13nm,0.8s,mb5.1							
ORIF	Oris-en-Rattie	84.90	339	eP	P	11 29 09.0	+0.1
comp=Z,67nm,0.9s,mb5.5							
ORIF				eMLR			
comp=Z,430nm,19.2s							
ORIF	Oris-en-Rattie	84.90	339	eP	P	11 29 09.0	+0.1
ORIF				pmax	pmax		
comp=Z,34nm,0.9s,mb5.5							
ORIF	Oris-en-Rattie	84.90	339	eP	P	11 29 09.0	+0.1
comp=Z,34nm,0.9s,mb5.5							
KLBR	Kellerberrin	85.03	212	eP	P	11 29 09.1	-0.5
comp=Z,9.8nm,0.6s,mb5.1							
SURF	Saint Ours	85.07	338	eP	P	11 29 10.9	+1.1
VIVF	Saint-Julien-I	85.25	340	eP	P	11 29 10.4	-0.3
comp=Z,40nm,1.0s,mb5.2							
VIVF	Saint-Julien-I	85.25	340	eP	P	11 29 10.4	-0.3
VIVF				pmax	pmax		
comp=Z,20nm,1.0s,mb5.2							
VIVF	Saint-Julien-I	85.25	340	eP	P	11 29 10.4	-0.3
comp=Z,20nm,1.0s,mb5.2							
IMI	Imperia	85.32	337	P	P	11 29 11.5	+0.5
comp=Z,67nm,0.9s,mb5.8							
SAOF	Saorge	85.34	337	eP	P	11 29 11.0	-0.1
AUTN	L'Aution	85.37	337	eP	P	11 29 11.7	+0.5
OG25	Le Caire	85.37	338	eP	P	11 29 11.8	+0.6
TOUF	Mont Tournerai	85.40	338	eP	P	11 29 12.0	+0.6
PTQR	Pietraquaria	85.44	333	P	P	11 29 12.2	+0.6
comp=Z,42nm,0.8s,mb5.6							
SBF	Sospel	85.49	337	eP	P	11 29 11.1	-0.7
comp=Z,81nm,0.8s,mb5.6							
SBF	Sospel	85.49	337	eP	P	11 29 11.1	-0.7
SBF				pmax	pmax		
comp=Z,41nm,0.8s,mb5.6							
SBF	Sospel	85.49	337	eP	P	11 29 11.1	-0.7
comp=Z,41nm,0.8s,mb5.6							
FG5	Orsara di Pugl	85.50	331	P	P	11 29 12.9	+1.0
FG5				pmax	pmax		
comp=Z,35nm,0.8s,mb5.6							
FG5	Orsara di Pugl	85.50	331	P	P	11 29 12.9	+1.0
comp=Z,35nm,0.8s,mb5.7							
MVIF	Mont Vial	85.53	338	eP	P	11 29 12.2	+0.1
RJF	Les Rejaudoux	85.55	342	eP	P	11 29 11.5	-0.6
comp=Z,42nm,1.0s,mb5.3							
RJF				eMLR			
comp=Z,387nm,23.0s							
RJF	Les Rejaudoux	85.55	342	eP	P	11 29 11.5	-0.6
RJF				pmax	pmax		
comp=Z,21nm,1.0s,mb5.3							
RJF				MLR	MLR		
comp=Z,390nm,23.0s,MS4.7							
RJF	Les Rejaudoux	85.55	342	eP	P	11 29 11.5	-0.6
comp=Z,21nm,1.0s,mb5.3							
RJF				LR	LR		
comp=Z,390nm,23.0s,MS4.7							
SDI	San Donato	85.60	332	P	P	11 29 12.3	-0.1
comp=Z,26nm,1.0s,mb5.4							

REVF	Revere	85.62	337	eP	P	11 29 12.9	+0.4
REVF	Revere	85.62	337	eP	P	11 29 12.7	+0.2
REVF	Revere	85.62	337	eP	P	11 29 12.7	+0.2
REVF				eP		11 29 12.9	
TBI	Tubuai	85.64	131	eLR	LR	11 55 41.8	
comp=Z,429nm,32.5s,baz=331							
CALN	Calern	85.73	338	eP	P	11 29 13.6	+0.5
CAF	Calviac	85.79	341	eP	P	11 29 13.3	0.0
comp=Z,57nm,1.2s,mb5.4							
CAF	Calviac	85.79	341	eP	P	11 29 13.3	0.0
comp=Z,28nm,1.2s,mb5.4							
SMRF	Simiane la Rot	85.86	339	eP	P	11 29 13.9	+0.2
comp=Z,38nm,1.0s,mb5.3							
SMRF	Simiane la Rot	85.86	339	eP	P	11 29 13.9	+0.2
comp=Z,38nm,1.0s,mb5.6							
RFI	Roccamonfina	85.91	332	P	P	11 29 15.0	+1.1
comp=Z,12nm,1.4s,mb5.0							
FRF	La Foret Royal	85.97	338	eP	P	11 29 13.4	-0.9
comp=Z,25nm,1.1s,mb5.1							
FRF	La Foret Royal	85.97	338	eP	P	11 29 13.4	-0.9
comp=Z,13nm,1.0s,mb5.1							
LFF	La Frestale	86.06	342	eP	P	11 29 14.3	-0.4
comp=Z,65nm,1.0s,mb5.5							
LFF	La Frestale	86.06	342	eP	P	11 29 14.3	-0.4
comp=Z,33nm,1.0s,mb5.5							
SGO	Sicignano	86.14	331	P	P	11 29 15.0	-0.1
SGO				pmax	pmax		
comp=Z,7.0nm,0.6s,mb5.1							
SGO	Sicignano	86.14	331	P	P	11 29 15.0	-0.1
comp=Z,6.6nm,0.6s,mb5.0							
LASF	Ste Croix	86.18	340	eP	P	11 29 14.5	-0.8
LMR	La Mourre	86.22	338	eP	P	11 29 15.1	-0.4
comp=Z,64nm,1.0s,mb5.5							
LMR	La Mourre	86.22	338	eP	P	11 29 15.1	-0.4
LMR				pmax	pmax		
comp=Z,32nm,1.0s,mb5.5							
LMR	La Mourre	86.22	338	eP	P	11 29 15.1	-0.4
comp=Z,32nm,1.0s,mb5.5							
PGF	Pioggiola	86.28	336	eP	P	11 29 15.1	-0.7
comp=Z,32nm,0.8s,mb5.3							
PGF	Pioggiola	86.28	336	eP	P	11 29 15.1	-0.7
PGF				pmax	pmax		
comp=Z,16nm,0.8s,mb5.3							
PGF	Pioggiola	86.28	336	eP	P	11 29 15.1	-0.7
comp=Z,16nm,0.8s,mb5.3							
NWAO	Narrogin (SRO)	86.42	211	eP	P	11 29 16.7	+0.2
CORF	Corte	86.47	336	eP	P	11 29 16.9	+0.2
TIP	Timpagrande	86.87	329	P	P	11 29 18.7	0.0
EIL	Elat	86.94	311	eP	P	11 29 17.1	-2.0
comp=Z,196nm,1.3s,mb6.2							
IDI	Anoyia	87.07	322	P	P	11 29 17.9	-1.8
comp=Z,8.3nm,0.5s,mb5.2,baz=35,slow=9.3,SNR=8.5							
MTLF	Montolieu	87.26	341	eP	P	11 29 19.4	-1.2
comp=Z,11nm,0.8s,mb4.8							
MTLF	Montolieu	87.26	341	eP	P	11 29 19.4	-1.2
comp=Z,5.6nm,0.8s,mb4.8							
EPF	Esparros	87.97	342	eP	P	11 29 23.0	-1.0
SOI	Samo	88.10	329	P	P	11 29 24.5	-0.1
SOI				pmax	pmax		
comp=Z,19nm,0.8s,mb5.4							
SOI	Samo	88.10	329	P	P	11 29 24.5	-0.1
comp=Z,19nm,0.8s,mb5.4							
SJPF	Ste Jean	88.21	343	eP	P	11 29 24.6	-0.5
ETSF	Etsaut	88.28	343	eP	P	11 29 25.4	0.0
PBRG	Braganca	90.47	347	eP	P	11 29 34.9	-0.8
PVRL	Vila Real	91.13	347	eP	P	11 29 38.3	-0.5
PVIS	Viseu	91.71	347	eP	P	11 29 40.6	-0.8
MTE	Manteigas	91.97	347	eP	P	11 29 42.3	-0.3
ESDC	Sonseca Array	92.06	344	P	P	11 29 41.7	-1.4
comp=Z,5.1nm,0.8s,mb4.9,baz=7.3,slow=3.7,SNR=21							
KEST	Kesra	92.47	333	P	P	11 29 44.9	-0.1
comp=Z,5.1nm,0.9s,mb4.8,baz=325,slow=1.9,SNR=22							
PCBR	Castelo Branco	92.50	347	eP	P	11 29 44.3	-0.8
PESTR	Estremoz	93.47	347	eP	P	11 29 48.6	-1.0
MDT	Midelt	98.83	343	P	P	11 30 13.1	-0.8
comp=Z,1.3nm,0.9s,mb4.5,baz=56,slow=5.2,SNR=4.9							
TORD	Torodi Ar. Bea	115.94	331	PKP	PKPdf	11 35 15.4	-1.3
comp=Z,1.5nm,0.9s,baz=60,slow=0.9,SNR=7.6							
TORD				PP	PP	11 36 18.8	-1.9
comp=Z,1.4nm,0.9s,baz=0.9,slow=7.4,SNR=5.7							
TORD	Torodi Ar. Bea	115.94	331	PKP	PKPdf	11 35 15.4	-1.3
TORD				PP	PP	11 36 18.8	-1.9
LPAZ	La Paz	132.93	65	PKP	PKPdf	11 35 50.4	+1.1
comp=Z,4.2nm,1.1s,baz=342,slow=4.1,SNR=10							
MAW	Mawson	133.00	212	PKP	PKPdf	11 35 48.1	-1.2
comp=Z,4.7nm,1.0s,baz=162,slow=3.2,SNR=4.2							
QSPA	South Pole Qui	136.44	180	ePKPdf	PKPdf	11 35 53.1	-2.7
PLCA	Paso Flores	146.60	97	PKPbc	PKPbc	11 36 13.6	-2.0
comp=Z,22nm,1.0s,baz=284,slow=3.0,SNR=40							
PLCA	Paso Flores	146.60	97	ePKPdf	PKPdf	11 36 13.0	-1.0
PLCA				ePKPbc	PKPbc	11 36 14.9	-0.6
NVL	N'lazarevskaya	150.24	203	ePKIKP	PKPdf	11 36 22.4	+2.5
NVL				pmax	pmax		
comp=Z,33nm,1.5s							
USHA	Ushuaia	151.49	123	PKPbc	PKPbc	11 36 26.3	-1.6
comp=Z,6.7nm,0.7s,baz=225,slow=5.7,SNR=4.1							
SNAA	Sanae	152.94	195	PKPbc	PKPbc	11 36 28.6	-2.6
comp=Z,2.5nm,0.9s,baz=138,slow=4.3,SNR=10							
SNAA				PKPab	PKPab	11 36 40.4	-2.0
comp=Z,3.0nm,0.9s,baz=125,slow=3.3,SNR=8.0							
SNAA	Sanae	152.94	195	ePKPdf	PKPdf	11 36 28.9	+4.9
SNAA				e		11 36 40.9	
SNAA	Sanae	152.94	195	ePKPdf	PKPdf	11 36 22.9	-1.0
SNAA				ePKPbc	PKPbc	11 36 29.1	-2.2
SNAA				ePKPab	PKPab	11 36 41.0	-1.4
VNA2	Neumayer--Watz	154.34	193	ePKPdf	PKPdf	11 36 26.0	0.0
VNA2				e		11 36 32.5	
VNA2				e		11 36 48.6	
VNA2				e		11 37 17.3	
VNA2				e		11 37 26.4	

ISCJB ***30*** *11:22:43.5±0.1,4653N±004×15553E±002,h10km, mb4.8/124,MS4.4/9,Error ellipse: s-maj=5.9km s-min=2.0km az=151.1*

IDC ***30*** *11:22:44.1±0.5,4675N×15552E,h0km,mb4.6/29, mb1 4.8/31,mb1mx4.8/32,mbtmp4.6/31,ML4.2/2,Error ellipse: s-maj=14.4km s-min=12.6km az=164.0*

SKHL ***30*** *11:22:45.0±1.3,4674N×15574E,h38km±8km*

NEIC ***30*** *11:22:46.0±0.2,4675N×15549E,h10km,mb5.0/82,Error ellipse: s-maj=5.6km s-min=3.2km az=175.0*

BJI ***30*** *11:22:46.9,4703N×15506E,h8km,mB5.2,mb4.6,Ms4.6, Msz4.4*

MOS ***30*** *11:22:51.8±1.2,4680N×15546E,h67km,mb5.1/50,Error ellipse: s-maj=9.0km s-min=6.0km az=104.3*

SZGRF ***30*** *11:22:53.3,4702N×155.14E,h33km,mb4.9,East of Kuril Islands, Russia*

ISC 30 11:22:44.2±1.2,4672N±004×15544E±003,h0km±8km, n546,σ0°82/570,mb4.9/124,MS4.4/9,79C-86D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.99	6	ePN	Pn	11 23 42.9	-3.8
SKR				eS	Sn	11 24 23.5	-11
SKR				smax			
comp=N,460nm,0.5s							
SKR				smax			
comp=E,230nm,0.5s							
SKR				smax			
comp=Z,90nm,0.5s							
KUR	Kuril'sk	5.49	257	PN	Pn	11 24 16.0	+8.8
KUR				i S	Sn	11 25 15.5	+4.5
KUR				smax			
comp=N,550nm,0.5s							
KUR				smax			
comp=E,300nm,0.5s							
PET	Petropavlovsk	6.64	17	ePN	Pn	11 24 22.0	-1.1
PET				pmax	pmax		
comp=Z,67nm,0.8s							
PET	Petropavlovsk	6.64	17	ePn	Pn	11 24 16.8	-6.3
comp=Z,57nm,0.8s							
YUK	Yuzh-Kuril'sk	7.26	252	ePN	Pn	11 24 32.4	+0.8
YUK				pmax	pmax		
comp=Z,370nm,0.5s							
NEM2	Nemuro 2	7.64	247	P	Pn	11 24 36.2	-0.6
NEM2				eS	Sn	11 25 56.3	-7.8
JRA	Rausu	7.79	253	P	Pn	11 24 40.1	+1.3
JNK	Nakash	8.20	251	P	Pn	11 24 45.1	+0.6
JNK				eS	Sn	11 26 13.0	-4.8
JAK	Akkeshi	8.49	248	P	Pn	11 24 47.3	-1.1
JAK				eS	Sn	11 26 17.3	-7.7
JTKR	Abashiri--Toko	8.58	256	P	Pn	11 24 51.0	+1.4

YSS	Yuzh-Sakhalins	8.71	276	ePN	Pn	11 24 55.2	+3.8
YSS				MLR	MLR		
comp=Z,900nm,13.0s							
JMP	Maruseppu	8.93	257	P	Pn	11 24 56.1	+1.7
JAR	Ashorobuto	8.95	252	P	Pn	11 24 55.4	+0.7
JAR				eS	Sn	11 26 30.6	-5.6
JOB	Onbets	9.09	249	P	Pn	11 24 56.7	+0.1
JOB				eS	Sn	11 26 33.1	-6.6
JKK2	Kamakawa 2	9.39	257	P	Pn	11 25 02.6	+1.9
ASAJ	Asahikawa	9.40	259	Pn	Pn	11 25 03.1	+2.2
comp=Z,3.1nm,0.3s,baz=92,slow=5.8,SNR=14							
ASAJ	Asahikawa	9.40	259	P	Pn	11 25 03.3	+2.4
ASAJ	Asahikawa	9.40	259	PN	Pn	11 25 03.1	+2.2
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
JWK2	Keihoku	9.53	266	P	Pn	11 25 08.3	+5.6
JCH	Churui	9.53	249	P	Pn	11 25 01.3	-1.4
JCH				eS	Sn	11 26 42.1	-8.5
JFR	Furan	9.78	253	P	Pn	11 25 07.9	+1.8
JAB	Ashibetsu	9.88	256	P	Pn	11 25 10.9	+3.4
JEM	Erimo	9.97	246	P	Pn	11 25 09.5	+0.8
JEM				eS	Sn	11 26 52.9	-8.4
ERM	Erimo	9.97	246	⇑ePN	Pn	11 25 09.8	+1.1
ERM	Erimo	9.97	246	ePcP	Pn	11 25 10.2	+1.5
JNBK	Urakawa-nobuka	10.09	249	P	Pn	11 25 09.1	-1.3
JNBK				eS	Sn	11 26 54.5	-10
JBT2	Biratori 2	10.10	252	P	Pn	11 25 10.6	+0.1
JEW	Eniwo	10.68	254	P	Pn	11 25 19.3	+0.9
JEW				eS	Sn	11 27 16.0	-2.6
JNB	Noboribetsu	11.11	253	P	Pn	11 25 23.8	-0.6
JNB				eS	Sn	11 27 20.7	-8.6
JKB	Kayabe	11.40	250	P	Pn	11 25 26.6	-1.6
JKB				eS	Sn	11 27 25.7	-11
JSH	Shimam	11.69	255	P	Pn	11 25 32.6	+0.3
JYM2	Yakumo 2	11.72	252	P	Pn	11 25 31.6	-1.0
JANG	Nango	11.92	243	P	Pn	11 25 32.3	-3.1
JANG				eS	Sn	11 27 36.2	-13
JTM	Tenmabayashi	11.96	245	P	Pn	11 25 34.4	-1.5
JTM				eS	Sn	11 27 38.4	-12
JSR	Shiriuchi	11.97	250	P	Pn	11 25 34.3	-1.8
JTH	Tanohata	11.98	240	eS	Sn	11 27 38.0	-13
JOSM	Okushiri--Mats	12.32	254	P	Pn	11 25 39.7	-1.2
OFUJ	Ofunato	12.65	238	P	Pn	11 25 42.7	-2.6
JRG	Rokugo	13.06	241	P	Pn	11 25 48.8	-2.1
JRG				eS	Sn	11 28 05.6	-11
JIO	Ouri	13.25	237	P	Pn	11 25 50.9	-2.7
JIO				eS	Sn	11 28 07.4	-14
HABR	Khabarovsk	13.87	285	eP	Pn	11 26 05.2	+3.1
HABR				eS	Sn	11 28 44.4	+7.6
JFK	Kawauchi	14.28	234	P	Pn	11 26 05.9	-1.7
JFK				eS	Sn	11 28 32.3	-14
MAT	Matsushiro	16.38	238	P	Pn	11 26 35.1	-0.4
MJAR	Matsushiro Arr	16.38	238	Pn	Pn	11 26 34.8	-0.7
comp=Z,0.5nm,0.3s,baz=31,slow=12,SNR=9.9							
MDJ	Mudanjiang	18.17	273	P	Pn	11 26 58.0	+0.2
MDJ				AMB	AMB		
comp=Z,17nm,1.1s							
MDJ				AMB	AMB		
comp=Z,167nm,6.3s							
YAK	Yakutsk	21.23	326	eP	P	11 27 31.3	-0.4
YAK				eS	S	11 31 20.2	-8.3
YAK				e		11 31 33.3	
YAK				pmax	pmax		
comp=Z,19nm,0.8s,mb4.5							
YAK				smax			
comp=N,86nm,2.0s							
YAK				smax			
comp=E,49nm,2.2s							
YAK	Yakutsk	21.23	326	ePn	P	11 27 33.9	+2.2
comp=E,48nm,0.9s,mb4.8							
CN2	Changchun	21.25	273	eP	P	11 27 30.5	-1.4
CN2				eAP		11 27 36.0	
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.2							
CN2				LR	LR		
comp=N,300nm,14.0s,MS4.0							
CN2				LR	LR		
comp=E,300nm,14.0s,MS4.0							
CN2				LR	LR		
comp=Z,300nm,15.0s,MS3.8							
BILL	Bilibino	22.09	11	⇓eP	P	11 27 41.6	+0.7
BILL				pmax	pmax		
comp=Z,46nm,1.7s,mb4.6							
BILL	Bilibino	22.09	11	eP	P	11 27 41.9	+1.0
comp=Z,45nm,1.2s,mb4.8							
KSRS	Korea Array	22.33	255	P	P	11 27 45.2	+1.8
comp=Z,8.1nm,0.8s,mb4.2,baz=57,slow=10.0,SNR=13							
SNY	Shenyang	23.24	269	⇑P	P	11 27 53.5	+0.4
SNY				AMB	AMB		
comp=Z,22nm,0.6s,mb4.9							
HIA	Hailar	23.89	289	⇓iP	P	11 27 59.2	-0.3
TNA	Tin City	27.18	33	eP	P	11 28 28.4	-0.9
TNA				ePcP	PcP	11 31 49.6	-0.2
TIXI	Tiksi	27.97	342	⇓eP	P	11 28 33.3	-3.1
TIXI				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.2							
BJI	Beijing	29.08	271	P	P	11 28 51.0	+4.7
BJI				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.7							
BJI	Beijing	29.08	271	P	P	11 28 51.1	+4.8
comp=Z,10.0nm,0.8s,mb4.7							
HHC	Hu-ho-hao-te	31.89	276	eP	P	11 29 11.3	+0.1
HHC				AP		11 29 15.5	
HHC				XP	sP	11 29 18.3	+7.1
HHC				PP	PP	11 30 16.5	-6.6
HHC				PCP	PcP	11 32 02.8	+1.0
HHC				S	S	11 34 20.8	-

LZH LR LR
comp=Z,500nm,14.0s,MS4.5
GTA Gaotai 40.56 280 *eP* **P 11 30 27.5 +2.3**
GTA AP 11 30 31.8
GTA XP sP 11 30 35.0 +10
GTA PCP PcP 11 32 28.5 +0.9
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,263nm,3.4s
GTA LR LR
comp=N,540nm,14.5s,MS4.6
GTA LR LR
comp=E,340nm,15.2s,MS4.6
GTA LR LR
comp=Z,492nm,14.8s,MS4.5
INK Inuvik 40.82 33 P **P 11 30 26.6 -0.8**
comp=Z,10nm,0.8s,mb4.6,baz=282,slow=6.6,SNR=41
INK Inuvik 40.82 33 *eP* **P 11 30 26.9 -0.5**
comp=Z,277nm,0.7s,mb6.1
CD2 Chengdu 42.48 267 P **P 11 30 42.0 +1.0**
CD2 AP 11 30 46.5
CD2 XP sP 11 30 49.0 +8.0
CD2 PP PP 11 32 23.5 +4.2
CD2 S **S 11 37 02.5 -1.4**
CD2 XS sS 11 37 10.3 +6.3
CD2 SS SS 11 40 06.0 -6.9
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,220nm,5.3s
CD2 LR LR
comp=N,440nm,10.8s,MS4.8
CD2 LR LR
comp=E,460nm,12.0s,MS4.8
CD2 LR LR
comp=Z,340nm,13.5s,MS4.4
GYA Guiyang 43.28 260 P **P 11 30 49.3 +1.8**
GYA AP 11 30 53.5
GYA XP sP 11 30 56.5 +9.0
GYA PP PP 11 32 33.0 +5.1
GYA PCP PcP 11 32 40.0 +3.4
GYA SCP ScP 11 36 30.0 +0.9
GYA S **S 11 37 17.0 +1.3**
GYA SS SS 11 40 23.3 -5.4
GYA SCS ScS 11 40 48.3 -0.8
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,450nm,17.2s,MS4.6
GYA LR LR
comp=E,410nm,17.0s,MS4.6
GYA LR LR
comp=Z,480nm,16.8s,MS4.5
ZAL Zalesovo 43.94 306 P **P 11 30 52.0 -0.9**
comp=Z,2.8nm,0.7s,mb4.1,baz=41,slow=7.5,SNR=8.6
ZAL PcP PcP 11 32 38.1 -0.7
comp=Z,1.3nm,0.4s,baz=10,slow=4.2,SNR=3.4
ZAL Zalesovo 43.94 306 *i* P **P 11 30 52.5 -0.3**
ZAL pmax pmax
comp=Z,3.0nm,0.7s
ZAL Zalesovo 43.94 306 P **P 11 30 52.0 -0.9**
ZAL PcP PcP 11 32 38.1 -0.7
WMQ Urumqi 46.43 292 *eP* **P 11 31 14.5 +1.9**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
WMQ LR LR
comp=N,186nm,28.0s,MS4.2
WMQ LR LR
comp=E,320nm,24.0s,MS4.2
WMQ LR LR
comp=Z,312nm,21.0s,MS4.2
KMI Kunming 46.82 261 P **P 11 31 17.5 +1.8**
KMI AP 11 31 21.5
KMI PCP PcP 11 32 52.8 +4.0
KMI PP PP 11 33 08.5 +3.0
KMI SCP ScP 11 36 44.5 +0.8
KMI PCS PcS 11 36 45.5 +1.8
KMI S **S 11 38 07.5 +0.5**
KMI XS sS 11 38 12.8 +5.8
KMI SCS ScS 11 41 10.8 -0.9
KMI SS SS 11 41 27.3 -6.0
KMI AMB AMB
comp=Z,13nm,1.4s,mb4.9
KMI AMB AMB
comp=Z,174nm,4.3s
KMI LR LR
comp=N,273nm,14.0s,MS4.5
KMI LR LR
comp=E,298nm,16.0s,MS4.5
KMI LR LR
comp=Z,285nm,18.7s,MS4.3
KMI Kunming 46.82 261 P **P 11 31 17.5 +1.8**
KMI 11 32 52.7
KMI 11 33 08.5
KMI PPP 11 33 53.8
KMI S **S 11 38 07.4 +0.4**
KMI *SS sS 11 38 12.7 +5.7
KMI SS SS 11 41 27.2 -6.1
KMI SSS 11 42 35.3
KMI pmax pmax
comp=Z,13nm,1.4s,mb4.9
KMI MLR MLR
comp=Z,290nm,18.7s,MS4.3
KMI Kunming 46.82 261 P **P 11 31 17.5 +1.8**
comp=Z,13nm,1.4s,mb4.9
KMI pP 11 31 21.4
KMI sP sP 11 31 22.6 +6.9
KMI PcP PcP 11 32 52.7 +3.9
KMI PP PP 11 33 08.5 +3.0
KMI PPP 11 33 53.8
KMI ScP ScP 11 36 44.4 +0.7
KMI PcS PcS 11 36 45.5 +1.8
KMI S **S 11 38 07.4 +0.4**
KMI sS sS 11 38 12.7 +5.7
KMI ScS ScS 11 41 10.7 -1.0
KMI SS SS 11 41 27.2 -6.1
KMI SSS 11 42 35.3
KMI LR LR
comp=Z,290nm,18.7s,MS4.3
MKAR Makanchi Array 48.37 298 P **P 11 31 27.7 -0.1**
comp=Z,3.1nm,0.5s,mb4.7,baz=69,slow=7.8,SNR=46
MKAR PcP PcP 11 32 53.6 -0.7
comp=Z,1.9nm,0.8s,baz=50,slow=4.0,SNR=3.6
MKAR Makanchi Array 48.37 298 P **P 11 31 27.7 -0.1**
MKAR PcP PcP 11 32 53.6 -0.7
KURK Kurchatov 48.71 305 *eP* **P 11 31 29.9 -0.5**
KURK *e* 11 32 55.2
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KURK Kurchatov 48.71 305 *eP* **P 11 31 29.9 -0.5**
comp=Z,10nm,0.7s,mb5.0
KURK *e*PcP PcP 11 32 55.2 -0.4
YKA Yellowknife Ar 49.98 37 P **P 11 31 39.0 -1.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=295,slow=7.1,SNR=32
YKA PcP PcP 11 32 59.2 -0.9
comp=Z,1.0nm,0.5s,baz=303,slow=3.8,SNR=14
YKA Yellowknife Ar 49.98 37 P **P 11 31 39.0 -1.1**
YKA PcP PcP 11 32 59.2 -1.0
BVAR Borovoye Array 52.11 310 P **P 11 31 55.9 -0.2**
comp=Z,13nm,0.6s,mb5.0,baz=56,slow=8.5,SNR=31
BRVK Borovoye 52.15 310 *eP* **P 11 31 55.7 -0.7**
BRVK pmax pmax
comp=Z,15nm,0.6s,mb5.1
BRVK Borovoye 52.15 310 *eP* **P 11 31 55.7 -0.6**
comp=Z,15nm,0.6s,mb5.1
B05A Bryant 53.11 56 ⇓P **P 11 32 03.7 +0.1**
baz=53
E04A Onalaska 53.64 58 ⇓P **P 11 32 06.3 -1.0**
baz=54
C05A Tolt Reservoir 53.65 56 ⇑P **P 11 32 06.6 -0.8**
baz=54
A07A Ashnola River, 53.67 54 ⇓P **P 11 32 07.4 -0.2**
baz=54
D05A Enumclaw 53.74 57 ⇓P **P 11 32 07.7 -0.5**
baz=54
B07A Winthrop 54.13 55 ⇑P **P 11 32 10.1 -0.8**
baz=54
F04A Amboy 54.17 59 ⇓P **P 11 32 10.8 -0.4**
baz=54
E05A Randle 54.21 58 ⇑P **P 11 32 10.8 -0.7**
baz=54
A08A Turner Farm, O 54.34 54 ⇓P **P 11 32 11.3 -1.2**
baz=54
D06A Cle Elum 54.40 56 ⇑P **P 11 32 12.2 -0.8**
baz=54
C07A Waterville 54.58 56 ⇓P **P 11 32 13.7 -0.5**
baz=54
B08A Colville Reser 54.63 55 ⇑P **P 11 32 14.1 -0.5**
baz=54
E06A Yakima 54.67 57 ⇑P **P 11 32 15.1 +0.2**
baz=54
A09A Danville 54.71 54 P **P 11 32 14.6 -0.6**
baz=54,SNR=7.3
I03A Eugene 54.73 61 ⇓P **P 11 32 15.6 +0.3**
baz=55
J02A Umpqua 54.89 62 ⇓P **P 11 32 17.1 +0.6**
baz=55
D07A Quincy 54.90 56 ⇓P **P 11 32 15.8 -0.8**
baz=55
H04A Detroit Lake 54.99 60 ⇓P **P 11 32 16.9 -0.4**
baz=55
C08A Higginbotham F 55.10 55 ⇓P **P 11 32 17.5 -0.5**
baz=55
EDM Edmonton 55.17 47 *eP* **P 11 32 16.8 -1.7**
B09A Rice 55.25 54 ⇑P **P 11 32 17.7 -1.5**
baz=55
J03A Ideyld Park 55.25 61 ⇑P **P 11 32 19.4 +0.3**
baz=55
K02A Glendale 55.27 62 ⇓P **P 11 32 19.3 0.0**
baz=55
AAK Ala-Archa 55.28 298 *d i* P **P 11 32 19.0 -0.3**
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
AAK Ala-Archa 55.28 298 *eP* **P 11 32 19.9 +0.6**
comp=Z,8.4nm,0.8s,mb4.8
E07A Sunnyside 55.31 57 ⇓P **P 11 32 18.5 -1.1**
baz=55
I04A Tendick Farm, 55.35 61 P **P 11 32 20.0 +0.1**
baz=55,SNR=7.5
C09A Chrisman Ranch 55.53 55 P **P 11 32 20.4 -0.7**
baz=55,SNR=5.3
L02A Cave Junction 55.55 63 ⇓P **P 11 32 21.3 0.0**
baz=55
D08A Wollman Farm, 55.57 56 ⇑P **P 11 32 20.0 -1.4**
baz=55
H05A Madras 55.58 59 ⇓P **P 11 32 21.4 -0.1**
baz=55
F07A Phinny Hill Vi 55.64 57 ⇑P **P 11 32 21.5 -0.4**
baz=56
HUMO Hull Mountain 55.69 62 ⇓P **P 11 32 22.9 +0.6**
baz=56
E08A Dider Farm, El 55.81 56 ⇑P **P 11 32 22.0 -1.1**
baz=56
I05A Bend 55.83 60 ⇓P **P 11 32 22.9 -0.4**
baz=56
J04A Umpqua Nationa 55.84 61 P **P 11 32 24.2 +0.9**
baz=56,SNR=13
NEW Newport 55.91 54 *eP* **P 11 32 23.6 -0.3**
NEW pmax pmax
comp=Z,12nm,1.3s
NEW Newport 55.91 54 *eP* **P 11 32 23.6 -0.3**
comp=Z,12nm,1.3s,mb4.8
D09A Jones Farm, Ri 55.92 55 ⇑P **P 11 32 23.1 -0.8**
baz=56
A11A Hall Mountain, 55.94 53 ⇑P **P 11 32 24.5 +0.4**
baz=56
H06A Lindquist Farm 56.06 59 P **P 11 32 24.9 0.0**
baz=56,SNR=6.7
C10A Spilker Farm, 56.06 54 ⇓P **P 11 32 24.1 -0.8**
baz=56
ARU Arti 56.11 318 *ceP* **P 11 32 24.4 -0.9**
ARU pmax pmax
comp=Z,34nm,1.3s,mb5.2
ARU Arti 56.11 318 *eP* **P 11 32 25.0 -0.3**
comp=Z,12nm,0.6s,mb5.1
G07A Ruggs Ranch, H 56.15 58 ⇓P **P 11 32 25.1 -0.4**
baz=56
KHMM Horse Mountain 56.20 64 *eP* **P 11 32 27.7 +1.7**
B11A Sandpoint 56.23 53 ⇑P **P 11 32 25.6 -0.5**
baz=56
YBH Yreka Blue Hor 56.34 63 *eP* **P 11 32 27.4 +0.5**
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 56.34 63 *eP* **P 11 32 27.4 +0.5**
comp=Z,7.6nm,0.9s,mb4.7
YBH Yreka Blue Hor 56.34 63 P **P 11 32 27.8 +0.9**
baz=56,SNR=8.6
A12A Yaak River Ran 56.34 52 ⇓P **P 11 32 26.4 -0.6**
baz=56
K04A Chilquin 56.43 62 ⇓P **P 11 32 27.9 +0.3**
baz=56
D10A Wagner Farm, O 56.51 55 ⇓P **P 11 32 26.7 -1.4**
baz=56
G08A Pilot Rock 56.54 58 ⇑P **P 11 32 27.6 -0.7**
baz=56
JIRN Jiri 56.55 276 *eP* **P 11 32 30.5 +2.1**
comp=Z,20nm,0.8s,mb5.2
I06A Prineville 56.58 59 P **P 11 32 29.4 +0.8**
baz=56,SNR=9.2
L04A Klamath Falls 56.58 62 P **P 11 32 29.6 +0.9**
baz=56,SNR=5.5
H07A Lands Inn, Kim 56.59 59 ⇓P **P 11 32 28.3 -0.4**
baz=56
GUN Gumba 56.60 277 *eP* **P 11 32 30.6 +1.8**
comp=Z,30nm,1.0s,mb5.3
M04C Madoel 56.84 62 P **P 11 32 31.1 +0.6**
baz=57,SNR=6.6
F09A S2 Ranch, Elgi 56.91 57 ⇑P **P 11 32 31.2 +0.2**
baz=57
I07A Izee 56.92 59 P **P 11 32 31.2 +0.2**
baz=57,SNR=7.5
E10A Myers Farm, Un 56.92 55 ⇑P **P 11 32 30.9 -0.2**
baz=57
M03C McCloud 56.96 63 ⇑P **P 11 32 31.1 -0.2**
baz=57
J06A Christmas Vall 57.01 60 P **P 11 32 32.1 +0.5**
baz=57,SNR=11
KKN Kakani 57.09 277 *eP* **P 11 32 34.1 +1.9**
comp=Z,23nm,0.7s,mb5.3
KKN Kakani 57.09 277 *eP* **P 11 32 34.1 +1.9**
KKN pmax pmax
comp=Z,23nm,0.7s,mb5.3
WDC Whiskeytown Da 57.11 64 *eP* **P 11 32 32.9 +0.5**
WDC Whiskeytown Da 57.11 64 ⇓P **P 11 32 32.5 +0.1**
baz=57
PKI Pulchoki 57.14 277 *eP* **P 11 32 34.3 +1.7**
comp=Z,16nm,0.7s,mb5.2
PKI Pulchoki 57.14 277 *eP* **P 11 32 34.3 +1.7**
PKI pmax pmax
comp=Z,16nm,0.7s,mb5.2
F10A Beach Ranch, E 57.15 56 ⇑P **P 11 32 32.5 -0.1**
baz=57
H08A Prairie City 57.16 58 P **P 11 32 33.0 +0.2**
baz=57,SNR=7.9
O02C Red Bluff 57.19 64 ⇓P **P 11 32 33.4 +0.4**
baz=57
K06A Valley Falls 57.21 61 P **P 11 32 33.8 +0.7**
baz=57,SNR=17
G09A Cove 57.23 57 ⇑P **P 11 32 32.8 -0.4**
baz=57
P01C Double 8 Ranch 57.27 65 ⇓P **P 11 32 33.6 +0.2**
baz=57
DMN Daman 57.32 277 *eP* **P 11 32 35.9 +2.0**
comp=Z,30nm,0.7s,mb5.4
GKN Gorkha 57.39 278 *eP* **P 11 32 36.0 +1.6**
comp=Z,18nm,0.5s,mb5.3
J07A Hines 57.44 60 ⇑P **P 11 32 34.7 0.0**
baz=57
E11A Bogner Ranch, 57.51 55 ⇓P **P 11 32 34.1 -1.1**
baz=57
M05C Lookout 57.51 62 P **P 11 32 35.6 +0.4**
baz=57,SNR=8.4
GASB Alder Springs 57.55 65 ⇑P **P 11 32 36.5 +1.1**
baz=57
I08A Drewsey 57.57 59 P **P 11 32 36.0 +0.4**
baz=57,SNR=12
HATC Hat Creek Radi 57.64 63 ⇓P **P 11 32 36.2 +0.1**
baz=58
C13A Hot Springs 57.65 53 ⇑P **P 11 32 36.0 -0.2**
baz=57
H09A Durkee 57.66 58 P **P 11 32 36.7 +0.4**
baz=58,SNR=10
MOD Modoc 57.70 61 *eP* **P 11 32 36.8 +0.2**
comp=Z,5.9nm,0.7s,mb4.7
MOD Modoc 57.70 61 P **P 11 32 36.8 +0.3**
baz=58,SNR=12
BMO Blue Mountains 57.75 57 *eP* **P 11 32 36.8 -0.1**
comp=Z,7.1nm,0.8s,mb4.8
O03C Acorn Hollow, 57.77 64 ⇓P **P 11 32 37.2 +0.1**
baz=58
F11A Grangeville 57.81 56 ⇓P **P 11 32 38.1 +0.8**
baz=58
K07A Rock Creek Ran 57.88 60 P **P 11 32 38.6 +0.8**
baz=58,SNR=5.5
KEV Kevo 57.90 341 *ep* **P 11 32 35.8 -2.2**
comp=Z,6.1nm,0.7s,mb4.7
KEV Kevo 57.90 341 *eP* **P 11 32 35.8 -2.2**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
J08A Circle Bar Ran 57.95 59 P **P 11 32 38.6 +0.3**
baz=58,SNR=6.8
M06C Likely Place G 58.01 62 ⇓P **P 11 32 39.4 +0.7**
baz=58
I09A Lost Marbles R 58.02 58 P **P 11 32 38.9 +0.1**
baz=58,SNR=11
G11A Walters Elk Ra 58.03 56 ⇑P **P 11 32 38.1 -0.8**
baz=58
O04C Chester 58.16 63 P **P 11 32 40.4 +0.6**
baz=58,SNR=7.2
MNRC McLaughlin Nat 58.18 65 ⇑P **P 11 32 40.1 +0.2**
baz=58
ELFS Eagle Lake Fie 58.20 63 P **P 11 32 40.9 +0.8**
baz=58,SNR=8.3
L07A Adell 58.22 61 P **P 11 32 40.9 +0.7**
baz=58,SNR=6.3
KOLN Koldanda 58.24 278 *eP* **P 11 32 42.0 +1.6**
comp=Z,9.8nm,0.5s,mb5.1
K08A Mann Creek Ran 58.31 60 P **P 11 32 41.6 +0.8**
baz=58,SNR=6.7
ORV Oroville 58.36 64 P **P 11 32 40.5 -0.7**
baz=58,SNR=8.7
J09A Fry Pan Ranch, 58.38 59 P **P 11 32 41.7 +0.4**
baz=58,SNR=7.6
WVOR Wild Horse Val 58.39 60 *eP* **P 11 32 41.3 -0.1**
WVOR pmax pmax
comp=Z,22nm,1.5s,mb5.0
WVOR Wild Horse Val 58.39 60 *eP* **P 11 32 41.3 -0.1**
comp=Z,22nm,1.5s,mb5.0
F12A Elk City 58.40 55 P **P 11 32 41.7 +0.3**
baz=58,SNR=6.6
ARCES ARCESS Array B 58.40 342 P **P 11 32 40.7 -0.8**
comp=Z,5.0nm,0.7s,mb4.6,baz=35,slow=7.5,SNR=20
ARCES PcP PcP 11 33 31.6 -0.7
comp=Z,3.6nm,0.7s,baz=348,slow=5.1,SNR=4.3
ARCES ARCESS Array B 58.40 342 P **P 11 32 40.7 -0.8**
ARCES PcP PcP 11 33 31.6 -0.7
O05C Quincy 58.48 64 P **P 11 32 42.0 0.0**
baz=58,SNR=5.0
MSO Missoula 58.50 54 *eP* **P 11 32 42.0 -0.2**
comp=Z,12nm,1.3s,mb4.8
OHCM Honcut 58.50 65 *eP* **P 11 32 41.7 -0.5**
H11A Donnelly 58.59 57 P **P 11 32 42.5 -0.3**
baz=58,SNR=14
D14A Greenough 58.59 53 P **P 11 32 42.2 -0.5**
baz=58,SNR=7.4
E13A Victor 58.59 54 P **P 11 32 43.2 +0.4**
baz=58,SNR=5.2
N06A Buffalo Meadow 58.67 62 P **P 11 32 43.6 +0.3**
baz=58,SNR=8.7
M07A Soldier Meadow 58.69 61 P **P 11 32 44.1 +0.6**
baz=58,SNR=14
L08A Fields 58.71 60 P **P 11 32 44.0 +0.3**
baz=58,SNR=8.8
K09A Rome 58.78 59 ⇑P **P 11 32 43.8 -0.3**
baz=59
BEKR Beckwourth 58.88 63 P **P 11 32 44.8 0.0**
baz=59,SNR=10
F13A Darby 58.90 55 ⇑P **P 11 32 43.8 -1.1**
baz=59
J10A Berg Farm, Mel 58.91 58 ⇓P **P 11 32 44.3 -0.7**
baz=59
E14A Clinton 58.99 54 P **P 11 32 45.2 -0.4**
baz=59,SNR=5.6
O06A Flanigan 59.03 63 ⇓P **P 11 32 45.9 +0.1**
baz=59
P05C Yuba Gap, Truc 59.06 64 ⇑P **P 11 32 45.6 -0.5**
baz=59
I11A Placerville 59.09 57 ⇓P **P 11 32 45.9 -0.4**
baz=59
M08A Happy Creek Ra 59.13 61 ⇓P **P 11 32 47.2 +0.7**
baz=59
D15A Lincoln 59.16 53 ⇑P **P 11 32 45.9 -0.8**
baz=59
N07B Gerlach 59.18 62 ⇓P **P 11 32 47.6 +0.7**
baz=59
JRSC Jasper Ridge 59.19 67 ⇑P **P 11 32 47.5 +0.5**
baz=59
L09A Wilkinson Ranc 59.22 60 P **P 11 32 47.6 +0.5**
baz=59,SNR=6.2
K10A MacKenzie Ranc 59.23 59 P **P 11 32 47.5 +0.2**
baz=59,SNR=8.8
P06A Stead Airport, 59.27 63 ⇓P **P 11 32 47.7 +0.1**
baz=59
LAVA Lava Cap Winer 59.31 65 P **P 11 32 47.8 -0.1**
baz=59,SNR=11
H12A Diamond D Ranc 59.34 56 ⇑P **P 11 32 46.3 -1.7**
baz=59
WENL Wente Brothers 59.36 66 ⇑P **P 11 32 48.1 -0.1**
baz=59
G13A Cobalt 59.37 55 P **P 11 32 47.9 -0.4**
baz=59,SNR=16
F14A Wisdom 59.42 54 ⇑P **P 11 32 48.1 -0.5**
baz=59
MFID Camas Ranch 59.46 58 P **P 11 32 48.9 0.0**
baz=59,SNR=6.7
PAHR Pah Rah Range 59.57 63 *eP* **P 11 32 49.6 0.0**
comp=Z,6.9nm,0.7s,mb4.8
WCN Washoe City 59.59 64 P **P 11 32 50.2 +0.5**
baz=59,SNR=9.1
O07A Toulon 59.61 62 P **P 11 32 50.4 +0.5**
baz=59,SNR=8.3
M09A Marrel Ranch, 59.71 60 P **P 11 32 51.1 +0.5**
baz=60,SNR=6.9
R05C Kirkwood Meado 59.76 64 ⇑P **P 11 32 51.0 +0.2**
baz=60
LRM Limekiln Ridge 59.93 54 *eP* **P 11 32 52.2 +0.1**
AKTK Aktyubinsk 59.93 313 P **P 11 32 52.3 +0.2**
AKTK PcP PcP 11 33 37.9 -0.5
AKTO Aktyubinsk 59.93 313 P **P 11 32 52.3 +0.2**
comp=Z,2.6nm,0.5s,mb4.5,baz=53,slow=7.3,SNR=14
AKTO PcP PcP 11 33 37.9 -0.5
comp=Z,3.1nm,0.7s,baz=33,slow=5.2,SNR=4.3
CMB Columbia Colle 59.97 65 *eP* **P 11 32 52.2 -0.1**
CMB Columbia Colle 59.97 65 P **P 11 32 52.4 0.0**
baz=60,SNR=11
P07A Fallon 59.98 63 ⇑P **P 11 32 52.5 +0.1**
baz=60
J12A Stokes Ranch, 59.99 58 P **P 11 32 53.0 +0.5**
baz=60,SNR=6.5
N09A Rock Creek Ran 60.01 61 P **P 11 32 53.0 +0.4**
baz=60,SNR=7.2
PACP Pacheco Peak 60.03 67 ⇑P **P 11 32 53.0 +0.2**
baz=60
EGMT Eagleton 60.05 51 *eP* **P 11 32 52.6 -0.3**
comp=Z,11nm,0.2s,mb5.5
M10A I.L. Ranch, Tu 60.19 60 P **P 11 32 54.8 +0.9**
baz=60,SNR=9.4
HLID Hailey 60.19 57 P **P 11 32 54.3 +0.4**
baz=60,SNR=9.4
HAST UC Hastings Re 60.25 67 ⇑P **P 11 32 53.9 -0.4**
baz=60
R06C Coleville 60.25 64 P **P 11 32 54.9 +0.6**
baz=60,SNR=13
G15A Dillon 60.31 54 ⇓P **P 11 32 53.9 -0.8**
baz=60
MCMT McKenzie Canyo 60.31 55 *eP* **P 11 32 54.5 -0.2**
P08A Dixie Valley 60.38 62 ⇑P **P 11 32 55.6 +0.4**
baz=60
S06C San Francisco 60.40 65 P **P 11 32 55.5 +0.2**
baz=60,SNR=10
J13A Cove Ranch, Pi 60.43 57 P **P 11 32 56.0 +0.5**
baz=60,SNR=7.1
BMN Battle Mountai 60.45 61 *eP* **P 11 32 55.9 +0.3**
BMN pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BMN Battle Mountai 60.45 61 *eP* **P 11 32 55.9 +0.3**
comp=Z,8.8nm,0.7s,mb4.9
K12A Draper Farm, C 60.48 58 P **P 11 32 56.2 +0.4**
baz=60,SNR=7.7
BOZ Bozeman (W) 60.49 54 *eP* **P 11 32 56.2 +0.3**
BOZ Bozeman (W) 60.49 54 P **P 11 32 56.2 +0.3**
baz=60,SNR=17
O09A Fish Creek Ran 60.63 61 P **P 11 32 57.5 +0.6**
baz=60,SNR=7.2
M11A Holland Ranch, 60.69 60 P **P 11 32 58.4 +1.1**
baz=60,SNR=7.3
N10A Dunphy 60.70 61 ⇓P **P 11 32 58.0 +0.7**
baz=60

L12A House Creek Ra 60.71 59 ⇊P P 11 32 57.4 0.0
baz=60
R07C Lee Vining 60.77 64 P P 11 32 58.5 +0.7
baz=61,SNR=13
K13A Stover Farm, H 60.94 58 ⇊P P 11 32 59.6 +0.6
baz=61
KLMR Klimovskoe 60.95 330 eP P 11 32 58.4 -0.7
O10A Cortez Mining, 60.97 61 ⇈P P 11 32 59.9 +0.7
baz=61
Q08A Gabbs 60.98 63 P P 11 32 59.5 +0.3
baz=61,SNR=11
NVAR Mina Array Bea 61.02 64 P P 11 32 59.8 +0.3
comp=Z,6.8nm,0.7s,mb4.9,baz=301,slow=6.9,SNR=54
T06C Millerton Lake 61.03 66 P P 11 32 59.5 -0.1
baz=61,SNR=8.4
P09A Austin 61.04 62 ⇊P P 11 33 00.7 +1.0
baz=61
KCC Kaiser Creek 61.08 65 ⇊P P 11 32 59.5 -0.4
baz=61
N11A Elko Archery C 61.10 60 ⇊P P 11 33 00.4 +0.3
baz=61
QLMT Earthquake Lak 61.11 54 eP P 11 33 00.2 +0.1
MLAC Mammoth Lakes 61.19 65 ⇈P P 11 33 02.7 +2.1
baz=61
M12A Wells 61.22 59 P P 11 33 01.8 +1.0
baz=61,SNR=8.0
L13A Double Diamond 61.37 58 ⇊P P 11 33 02.5 +0.6
baz=61
P10A Eureka 61.41 62 ⇊P P 11 33 01.9 -0.2
baz=61
Q09A Carvers 61.46 63 ⇊P P 11 33 02.9 +0.4
baz=61
GCMT Greycliff 61.48 53 eP P 11 33 03.2 +0.5
N12A Clover Valley, 61.49 60 ⇈P P 11 33 03.1 +0.3
baz=61
O11A Cowboy Ranch, 61.57 61 P P 11 33 03.6 +0.4
baz=61,SNR=5.1
HELL Mitchell Peak, 61.66 66 P P 11 33 03.5 -0.3
baz=62,SNR=12
YFT Old Faithful 61.67 54 eP P 11 33 05.7 +1.7
S08C White Mtn Res 61.68 64 P P 11 33 04.7 +0.7
baz=62,SNR=7.0
M13A Montello 61.70 59 ⇊P P 11 33 04.7 +0.6
baz=62
RCTC Rector, Farmer 61.76 66 ⇊P P 11 33 04.1 -0.4
baz=62
LKWY Lake 61.85 54 eP P 11 33 07.0 +1.9
LKWY pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
LKWY Lake 61.85 54 eP P 11 33 07.0 +1.9
comp=Z,6.6nm,0.9s,mb4.9
P11A Circle Ranch, 61.88 61 ⇊P P 11 33 05.4 +0.1
baz=62
R09A Tonopah 61.90 63 P P 11 33 05.5 +0.1
baz=62,SNR=18
IMW Indian Meadow 61.97 55 eP P 11 33 06.9 +1.0
comp=Z,8.5nm,1.0s,mb4.9
N13A Wendover, West 61.99 59 ⇊P P 11 33 06.7 +0.7
baz=62
DCID1 Drake Creek 62.02 55 eP P 11 33 06.8 +0.6
JOF Joensuu 62.06 335 ep P 11 33 04.9 -1.7
comp=Z,9.9nm,0.6s,mb5.2
JOF Joensuu 62.06 335 eP P 11 33 04.9 -1.7
JOF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
S09A Goldfield 62.12 64 P P 11 33 07.0 0.0
baz=62,SNR=6.2
VES Vestal, Richgr 62.15 66 ⇈P P 11 33 06.5 -0.7
baz=62
MOOW Moose Ponds 62.17 55 eP P 11 33 07.7 +0.4
comp=Z,12nm,1.4s,mb5.0
LOHW Long Hollow 62.33 55 eP P 11 33 09.2 +0.8
comp=Z,14nm,1.3s,mb5.0
R10A Warm Springs 62.34 63 ⇈P P 11 33 08.9 +0.5
baz=62
SNOW Snow King Moun 62.34 55 eP P 11 33 09.6 +1.2
comp=Z,19nm,1.2s,mb5.2
REDW Red Top Meadow 62.35 55 eP P 11 33 09.0 +0.5
Q11A Duckwater 62.38 62 ⇈P P 11 33 08.2 -0.5
baz=62
CWC Cottonwood Cre 62.40 65 ⇈P P 11 33 08.8 -0.1
baz=62
P12A McGill 62.44 61 ⇊P P 11 33 08.8 -0.2
baz=62
ISA Isabella 62.65 66 ⇈P P 11 33 08.6 -1.9
baz=62
KAKA Kakadu 62.66 205⇑iP P 11 33 10.7 +0.2
comp=Z,6.8nm,0.6s,mb5.0
Q12A Willow Creek R 62.76 61 ⇈P P 11 33 11.3 +0.1
baz=63
LAO LASA Array 62.76 50 eP P 11 33 11.3 0.0
comp=Z,12nm,1.0s,mb5.0
ARVC Arvin 62.76 67 ⇊P P 11 33 10.9 -0.3
baz=63
DAC Darwin (Calif) 62.81 65 eP P 11 33 11.1 -0.5
DAC pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
DAC Darwin (Calif) 62.81 65 eP P 11 33 11.1 -0.4
comp=Z,2.7nm,0.7s,mb4.5
MPMC Manual Prospec 63.01 65 P P 11 33 12.9 0.0
baz=63,SNR=9.9
HWUT Hardware Ranch 63.06 57 eP P 11 33 13.6 +0.4
FURC Furnace Creek, 63.14 65 P P 11 33 13.8 +0.1
baz=63,SNR=15
OSI Osito Adit 63.16 67 ⇊P P 11 33 14.2 +0.3
baz=63
DUG Dugway 63.23 59 eP P 11 33 14.5 +0.2
DUG pmax pmax
comp=Z,12nm,1.0s,mb5.0
DUG Dugway 63.23 59 eP P 11 33 14.5 +0.2
comp=Z,12nm,1.0s,mb5.0
DUG Dugway 63.23 59 P P 11 33 14.6 +0.3
baz=63,SNR=10
LRMC Laurel Mountai 63.26 66 ⇊P P 11 33 13.3 -1.3
baz=63
EDW2 Edwards Air Fo 63.45 67 P P 11 33 15.8 0.0
baz=63,SNR=11
PDAR Pinedale Array 63.46 55 P P 11 33 15.5 -0.4
comp=Z,8.7nm,1.0s,mb4.8,baz=290,slow=2.2,SNR=26
U10A Ash Meadows, A 63.51 64 P P 11 33 16.9 +0.7
baz=63,SNR=7.2
KBL Kabul 63.56 293 eP P 11 33 16.1 -0.4
DECC Green Verdugo 63.64 67 ⇊P P 11 33 16.7 -0.3
baz=64
JLU Jordanelle 63.77 58 eP P 11 33 19.0 +1.1
JLU epP 11 33 37.6
NLU North Lily Min 63.81 59 eP P 11 33 17.6 -0.6
SHOC Shoshone 63.87 65 ⇈P P 11 33 18.2 -0.3
baz=64
GSC Goldstone 63.92 65 P P 11 33 18.8 -0.1
baz=64,SNR=5.5
DAU Daniels Canyon 64.00 58 eP P 11 33 18.2 -1.2
BFSC Mount Baldy St 64.07 67 ⇈P P 11 33 18.7 -1.2
baz=64
U11A Corn Creek 64.09 64 ⇊P P 11 33 20.2 +0.2
baz=64
KAF Kangasniemi 64.14 336 ep P 11 33 18.6 -1.7
baz=36,slow=6.1
SHPR Sheep Range 64.17 64 eP P 11 33 20.9 +0.3
TUQ Turquoise Mtn. 64.39 65 P P 11 33 22.1 +0.1
baz=64,SNR=9.0
V11A Goodsprings 64.44 64 P P 11 33 22.4 +0.2
baz=64,SNR=6.8
BBRC Big Bear Sol-O 64.52 66 ⇊P P 11 33 22.3 -0.6
baz=64
HEC Hector,Ludlow 64.53 66 ⇊P P 11 33 22.2 -0.6
baz=64
MSU Marysvale 64.69 60 eP P 11 33 24.5 +0.6
FINES FINESS Array B 64.74 336 P P 11 33 23.5 -0.8
comp=Z,7.2nm,0.7s,mb5.0,baz=40,slow=8.3,SNR=29
FINES FINESS Array B 64.74 336 iP P 11 33 23.5 -0.8
FINES pmax pmax
comp=Z,7.0nm,0.7s
TMUT Trail Mountain 64.75 59 eP P 11 33 24.9 +0.6
MURC Murrieta 64.77 67 ⇈P P 11 33 24.0 -0.5
baz=65
V12A Nelson 64.87 64 ⇈P P 11 33 25.1 -0.1
baz=65
GMRC Granite Mounta 64.98 65 P P 11 33 26.1 +0.3
baz=65,SNR=5.9
W12A Cal Nev Ari 65.13 64 ⇈P P 11 33 26.5 -0.4
baz=65
PFO Pinyon Flat Ob 65.24 67 ⇈P P 11 33 27.2 -0.3
baz=65
BELC Belle Mtn. 65.27 66 ⇈P P 11 33 27.5 -0.3
baz=65
SRU San Rafael 65.27 59 eP P 11 33 27.7 -0.1
SRU pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
SRU San Rafael 65.27 59 eP P 11 33 27.7 0.0
comp=Z,6.2nm,0.6s,mb5.0
109C Camp Elliot, M 65.30 68 ⇊P P 11 33 27.7 -0.2
baz=65
ULM Lac du Bonnet 65.49 42 P P 11 33 27.6 -1.6
comp=Z,2.2nm,0.9s,mb4.4,baz=291,slow=6.7,SNR=4.0
IRM Iron Mountain 65.70 65 P P 11 33 30.4 -0.2
baz=66,SNR=10
MONP Monument Peak 65.73 67 ⇊P P 11 33 30.5 -0.2
baz=66
BC3 Big Chuckw Mtn 65.84 66 ⇈P P 11 33 31.2 -0.3
baz=66
W13A Hualapai Mount 65.87 64 ⇊P P 11 33 31.6 0.0
baz=66
DVTC Desert V Tower 66.08 67 ⇊P P 11 33 33.1 +0.1
baz=66
OBN Obninsk 66.23 327⇑eP P 11 33 31.6 -2.3
OBN pmax pmax
comp=Z,22nm,1.6s,mb5.1
X13A Yucca 66.24 64 P P 11 33 34.0 0.0
baz=66,SNR=11
PDMCI Parker Dam,Lak 66.24 65 ⇈P P 11 33 33.3 -0.6
baz=66
W14A Seligman 66.29 63 P P 11 33 34.9 +0.5
baz=66,SNR=13
Y12C Blythe 66.36 65 ⇊P P 11 33 34.5 -0.3
baz=66
PV10 Paradox Valley 66.63 58 eP P 11 33 37.0 +0.5
Y13A Salome 66.75 65 P P 11 33 37.3 0.0
baz=67,SNR=6.7
W15A Williams 66.82 63 ⇊P P 11 33 38.3 +0.6
baz=67
X14A Yava 66.90 64 P P 11 33 38.8 +0.5
baz=67,SNR=10.0
PV01 Paradox Valley 67.07 58 eP P 11 33 39.3 0.0
WUAZ Wupatki 67.14 62 eP P 11 33 40.4 +0.7
comp=Z,15nm,1.4s,mb5.0
WUAZ Wupatki 67.14 62 ⇊P P 11 33 40.0 +0.2
baz=67
Y14A Wickenburg 67.18 64 P P 11 33 40.1 +0.1
baz=67,SNR=9.5
SMCO Snowmass 67.29 57 eP P 11 33 40.8 +0.1
comp=Z,5.7nm,0.9s,mb4.8
X15A Humboldt 67.29 63 P P 11 33 41.3 +0.6
baz=67,SNR=16
Z14A Wintersburg 67.60 65 ⇊P P 11 33 43.3 +0.7
baz=67
MVCO Mesa Verde 67.73 59 ⇈P P 11 33 43.3 -0.2
baz=68
NB2 NORSAR Subarra 68.76 342 P P 11 33 48.9 -1.1
comp=Z,3.7nm,0.6s,mb4.8,baz=29,slow=6.5
NOA NORSAR Array B 68.76 342 P P 11 33 49.2 -0.8
comp=Z,2.0nm,0.6s,mb4.5,baz=26,slow=6.2,SNR=5.6
NOA NORSAR Array B 68.76 342 P P 11 33 49.2 -0.8
116A Eloy 68.91 65 ⇈P P 11 33 51.0 +0.1
baz=69
WB2 Warramunga Arr 69.03 201 eP P 11 33 51.0 -0.6
WRA Warramunga Arr 69.03 201 P P 11 33 51.2 -0.4
comp=Z,4.9nm,0.7s,mb4.9,baz=22,slow=7.0,SNR=46
WRA Warramunga Arr 69.03 201 iP P 11 33 51.2 -0.4
WRA pmax pmax
comp=Z,5.0nm,0.7s
HFS Hagfors 69.03 341 P P 11 33 49.4 -2.3
comp=Z,5.8nm,0.7s,mb4.9,baz=70,slow=4.9,SNR=11
SDCO Great Sand Dun 69.11 57 eP P 11 33 52.6 +0.5
FITZ Fitzroy Crossi 69.89 210 eP P 11 33 57.5 +0.5
comp=Z,5.7nm,0.6s,mb4.9
LAZ Ladron 70.45 60 eP P 11 34 00.5 +0.1
ANMO Albuquerque 70.47 60⇑iP P 11 34 00.6 +0.1
ANMO Albuquerque 70.47 60 eP P 11 34 00.2 -0.3
comp=Z,3.3nm,0.8s,mb4.5
BNM Barren Site 70.93 60 eP P 11 34 02.6 -0.7
KIV Kislovodsk 71.96 316⇑eP P 11 34 10.9 +1.4
KIV pmax pmax
comp=Z,22nm,2.5s,mb4.8
AKASG Malin Array Be 72.45 327 P P 11 34 10.8 -1.6
comp=Z,3.5nm,0.5s,mb4.8,baz=35,slow=6.7,SNR=6.2
AKASG Malin Array Be 72.45 327 iP P 11 34 11.5 -1.0
AKASG pmax pmax
comp=Z,4.0nm,0.5s
ASAR Alice Springs 72.71 201 P P 11 34 14.5 +0.5
comp=Z,4.6nm,0.6s,mb4.8,baz=15,slow=5.9,SNR=65
MNTX Cornudas Mount 73.39 61 eP P 11 34 17.9 -0.1
comp=Z,13nm,1.3s,mb4.9
WMOK Wichita Mounta 75.07 55 eP P 11 34 26.2 -1.6
WMOK pmax pmax
comp=Z,15nm,1.6s,mb4.8
WMOK Wichita Mounta 75.07 55 eP P 11 34 26.2 -1.7
comp=Z,15nm,1.6s,mb4.8
KWP Kalwaria 75.66 330 eP P 11 34 31.3 +0.1
LTX Lajitas 76.10 62 eP P 11 34 33.3 -0.4
LTX pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
LTX Lajitas 76.10 62 eP P 11 34 33.3 -0.5
comp=Z,8.3nm,0.5s,mb5.1
TXAR Lajitas Array 76.10 62 P P 11 34 33.6 -0.1
comp=Z,14nm,0.7s,mb5.2,baz=302,slow=4.3,SNR=132
OJC Ojcow 76.11 332 eP P 11 34 33.6 -0.2
STHS Stebnicka Huta 76.33 331 eP P 11 34 35.8 +0.7
STHS e 11 34 42.6
STHS pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
STHS Stebnicka Huta 76.33 331 eP P 11 34 35.8 +0.7
comp=Z,8.5nm,0.7s,mb5.0
STHS e 11 34 42.6
KOLS Kolonicke sedl 76.40 330 eP P 11 34 35.6 +0.1
BURAR Bucovina Array 76.48 328⇓iP P 11 34 35.8 -0.1
KSP Ksiaz 76.63 335 eP P 11 34 36.5 -0.3
KSP Ksiaz 76.63 335 eP P 11 34 36.0 -0.8
KSP epP 11 34 43.3
CRVS Cervenica-Dubn 76.70 331 eP P 11 34 37.5 +0.3
CRVS ePCP PcP 11 34 50.7 +2.1
OKC Ostrava-Krasne 76.96 333 eP P 11 34 38.6 0.0
UPC Upice 77.01 335 eP P 11 34 38.7 -0.2
UPC epP 11 34 46.2
DPC Dobruska-Polom 77.06 335 eP P 11 34 39.4 +0.2
DPC epP 11 34 46.5
CLL Collm 77.14 337⇑iP P 11 34 39.4 -0.2
comp=Z,13nm,0.9s,mb5.1
CLL i sP sP 11 34 46.2 +6.5
MORC Moravsky Berou 77.20 334⇓iP P 11 34 40.1 +0.1
BRG Berggiesshubel 77.28 336 eP P 11 34 39.8 -0.6
comp=Z,3.2nm,0.8s,mb4.5
BRG Berggiesshubel 77.28 336 eP P 11 34 39.8 -0.6
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
KECS Kecovo 77.39 331 eP P 11 34 41.2 +0.2
KECS e 11 34 48.0
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
KECS Kecovo 77.39 331 eP P 11 34 41.1 +0.1
KECS epP 11 34 47.9
KECS Kecovo 77.39 331 eP P 11 34 41.2 +0.2
comp=Z,3.6nm,1.0s,mb4.5
KECS e 11 34 48.0
PVCC Panska Ves 77.41 336 eP P 11 34 41.2 +0.1
PVCC epP 11 34 48.3
JCT Junction City 77.59 59 eP P 11 34 41.5 -0.6
JCT pmax pmax
comp=Z,16nm,1.2s,mb5.0
JCT Junction City 77.59 59 eP P 11 34 41.5 -0.6
comp=Z,16nm,1.2s,mb5.0
TIRR Tirgusor 77.89 324⇑iP P 11 34 44.0 +0.2
PRU Pruhonice 77.90 335 eP P 11 34 44.0 +0.1
PRU epP 11 34 51.1
VRAC Vranov 77.90 334 P P 11 34 43.7 -0.2
comp=Z,7.1nm,0.7s,mb4.9,baz=41,slow=4.7,SNR=11
VRAC Vranov 77.90 334⇑iP P 11 34 44.0 +0.1
VYHS Vyhne 77.92 332 eP P 11 34 44.3 +0.3
VYHS e 11 34 50.3
VYHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
VYHS Vyhne 77.92 332 eP P 11 34 44.3 +0.3
comp=Z,3.3nm,0.8s,mb4.5
VYHS e 11 34 50.3
MLR Muntele Rosu 78.00 326 P P 11 34 44.6 +0.2
comp=Z,14nm,0.6s,mb5.3,baz=250,slow=1.8,SNR=27
MLR Muntele Rosu 78.00 326⇓iP P 11 34 45.1 +0.7
TREC Trest 78.25 335 eP P 11 34 45.7 -0.1
TREC epP 11 34 53.4
SMOL Smolenice 78.35 333 eP P 11 34 47.2 +0.8
VOIR 78.38 327⇓iP P 11 34 46.9 +0.3
ZST Bratislava 78.73 333 eP P 11 34 49.1 +0.6
comp=Z,7.4nm,1.2s,mb4.6
ZST LR LR
comp=Z,300nm,17.8s,MS4.7
KHC Kasperske Hory 78.95 336 eP P 11 34 50.1 +0.4
KHC epP 11 34 55.7
KHC Kasperske Hory 78.95 336deP P 11 34 49.4 -0.3
GRA1 Grafenberg Arr 79.09 337 eP P 11 34 50.9 +0.5
comp=Z,14nm,1.2s,mb4.9
GRF Grafenberg Arr 79.09 337 eP P 11 34 50.9 +0.5
comp=Z,14nm,1.2s,mb4.9
GRF Grafenberg Arr 79.09 337 eP P 11 34 50.9 +0.5
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.9
GRF Grafenberg Arr 79.09 337 eP P 11 34 50.9 +0.5
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.9
GRFO Grafenberg 79.09 337 P P 11 34 50.1 -0.3
GRFO pmax pmax
comp=Z,14nm,0.7s,mb5.1
GRFO Grafenberg 79.09 337 P P 11 34 50.1 -0.3
comp=Z,14nm,0.7s,mb5.1
GEC2 GERESS Array S 79.17 335 eP P 11 34 50.6 -0.3
GEC2 ePcP PcP 11 34 58.9 -0.4
GERES GERESS Array B 79.17 335 P P 11 34 50.8 -0.1
comp=Z,4.0nm,0.5s,mb4.7,baz=35,slow=5.6,SNR=45
STKA Stephens Creek 79.22 192 P P 11 34 50.3 -0.9
comp=Z,1.9nm,0.5s,mb4.4,baz=297,slow=4.5,SNR=7.7
CONA Conrad Observa 79.35 334⇑iP P 11 34 52.8 +0.9
comp=Z,4.7nm,0.8s,mb4.6
BRTR Keskin Saulge B 79.50 318 P P 11 34 53.2 +0.6
comp=Z,6.7nm,0.9s,mb4.7,baz=54,slow=5.3,SNR=19
BRTR Keskin Array B 79.50 318 iP P 11 34 53.2 +0.5
BRTR pmax pmax
comp=Z,7.0nm,0.9s
ANTO Ankara 79.77 319 P P 11 34 53.8 -0.3
ANTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ANTO Ankara 79.77 319 P P 11 34 53.8 -0.4
comp=Z,8.7nm,0.7s,mb4.8
ANTO Ankara 79.77 319⇑iP P 11 34 55.0 +0.9
BCLA Clavier 79.86 341 P P 11 34 56.5 +1.9
MOA Molln 79.90 335⇓iP P 11 34 55.1 +0.3
comp=Z,6.0nm,0.8s,mb4.6
GIVF Givet 80.27 341 eP P 11 34 56.2 -0.6
BAIF Baives 80.44 342 eP P 11 34 57.4 -0.4
comp=Z,86nm,1.5s,mb5.2
BAIF Baives 80.44 342 eP P 11 34 57.4 -0.4
BAIF pmax pmax
comp=Z,43nm,1.5s,mb5.2
BAIF Baives 80.44 342 eP P 11 34 57.4 -0.4
comp=Z,43nm,1.5s,mb5.2
PERS Pernice 80.74 334 eP P 11 34 59.6 +0.2
PPT Papeete 80.85 128 P P 11 34 59.4 -0.5
comp=Z,8.1nm,0.5s,mb5.0,baz=356,slow=16,SNR=2.8
KBA Koelnbreinsper 80.87 335⇑iP P 11 35 01.2 +1.2
comp=Z,17nm,0.7s,mb5.2
KBA Koelnbreinsper 80.87 335⇑iP P 11 35 01.2 +1.1
KBA pmax pmax
comp=Z,17nm,0.7s,mb5.2
WATA Walderalm 81.14 336⇓iP P 11 35 02.2 +0.7
comp=Z,11nm,1.0s,mb4.8
WATA Walderalm 81.14 336⇓iP P 11 35 02.2 +0.7
WATA pmax pmax
comp=Z,11nm,1.0s,mb4.8
WTTA Wattenberg 81.19 336⇓iP P 11 35 02.8 +1.0
comp=Z,20nm,0.8s,mb5.2
WTTA Wattenberg 81.19 336⇓iP P 11 35 02.8 +1.0
WTTA pmax pmax
comp=Z,20nm,0.8s,mb5.2
MOTA Moosalm 81.27 336⇓iP P 11 35 02.7 +0.5
comp=Z,17nm,1.1s,mb5.0
MOTA Moosalm 81.27 336⇓iP P 11 35 02.7 +0.5
MOTA pmax pmax
comp=Z,17nm,1.1s,mb5.0
CDF Champ du Feu 81.28 339 eP P 11 35 02.0 -0.2
comp=Z,38nm,1.2s,mb5.0
CDF Champ du Feu 81.28 339 eP P 11 35 02.0 -0.2
CDF pmax pmax
comp=Z,19nm,1.2s,mb5.0
CDF Champ du Feu 81.28 339 eP P 11 35 02.0 -0.2
comp=Z,19nm,1.2s,mb5.0
SQTA Sankt Quirin 81.35 336⇑iP P 11 35 03.3 +0.7
comp=Z,15nm,1.1s,mb4.9
SQTA Sankt Quirin 81.35 336⇑iP P 11 35 03.3 +0.7
SQTA pmax pmax
comp=Z,15nm,1.1s,mb4.9
VTS Vitosha 81.50 326⇑iP P 11 35 03.6 +0.2
VISS Visnje 81.57 333 eP P 11 35 03.2 -0.6
ROBS Robíc 81.58 334 eP P 11 35 05.3 +1.5
DAVA Damuels 81.65 337⇑iP P 11 35 05.1 +0.8
comp=Z,16nm,0.9s,mb5.2
BOJS Bojanci 81.71 333 eP P 11 35 04.2 -0.4
MEZF Maizieres J'vi 81.72 341 eP P 11 35 04.4 -0.2
comp=Z,12nm,0.6s,mb4.9
MEZF Maizieres J'vi 81.72 341 eP P 11 35 04.4 -0.2
comp=Z,12nm,0.6s,mb5.2
HAU Haudompre 81.88 340 eP P 11 35 05.0 -0.4
comp=Z,17nm,0.7s,mb5.0
HAU Haudompre 81.88 340 eP P 11 35 05.0 -0.4
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
HAU Haudompre 81.88 340 eP P 11 35 05.0 -0.4
comp=Z,8.6nm,0.7s,mb5.0
FLN La Foliniere 82.62 344 eP P 11 35 08.8 -0.5
comp=Z,74nm,1.2s,mb5.5
FLN La Foliniere 82.62 344 eP P 11 35 08.8 -0.5
FLN pmax pmax
comp=Z,37nm,1.2s,mb5.5
FLN La Foliniere 82.62 344 eP P 11 35 08.8 -0.5
comp=Z,37nm,1.2s,mb5.5
LDF La Druitiere 82.72 344 eP P 11 35 09.3 -0.5
GRR Gorron 83.05 344 eP P 11 35 11.3 -0.2
comp=Z,15nm,0.5s,mb5.1
GRR Gorron 83.05 344 eP P 11 35 11.3 -0.2
GRR pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
GRR Gorron 83.05 344 eP P 11 35 11.3 -0.2
comp=Z,7.4nm,0.5s,mb5.2
LOR Lormes 83.15 341 eP P 11 35 11.7 -0.4
comp=Z,57nm,1.4s,mb5.3
LOR Lormes 83.15 341 eP P 11 35 11.7 -0.4
LOR pmax pmax
comp=Z,29nm,1.4s,mb5.3
LOR Lormes 83.15 341 eP P 11 35 11.7 -0.4
comp=Z,29nm,1.4s,mb5.3
CABF La Chapelle 83.25 339 eP P 11 35 12.6 0.0
comp=Z,86nm,1.5s,mb5.5
CABF La Chapelle 83.25 339 eP P 11 35 12.6 0.0
CABF pmax pmax
comp=Z,43nm,1.5s,mb5.5
CABF La Chapelle 83.25 339 eP P 11 35 12.6 0.0
comp=Z,43nm,1.5s,mb5.5
HYF Humbligny 83.42 342 eP P 11 35 13.5 +0.1
SSF Saint Saulge 83.43 341 eP P 11 35 13.1 -0.4
comp=Z,20nm,0.9s,mb5.1
SSF Saint Saulge 83.43 341 eP P 11 35 13.1 -0.4
comp=Z,10nm,0.9s,mb5.1
SGMF Saint Gilles 83.49 345 eP P 11 35 13.5 -0.3
ROSF Rostrenen 83.53 346 eP P 11 35 13.8 -0.2
AVF Avril sur Loir 83.72 341 eP P 11 35 14.6 -0.4
comp=Z,24nm,0.8s,mb5.2
AVF Avril sur Loir 83.72 341 eP P 11 35 14.6 -0.4
AVF pmax pmax
comp=Z,12nm,0.8s,mb5.2
AVF Avril sur Loir 83.72 341 eP P 11 35 14.6 -0.4
comp=Z,12nm,0.8s,mb5.2
SMF Signal de Mont 83.74 341 eP P 11 35 14.9 -0.2
comp=Z,63nm,1.1s,mb5.5
SMF Signal de Mont 83.74 341 eP P 11 35 14.9 -0.2
comp=Z,32nm,1.1s,mb5.5
ASF Jabal al Asfar 83.93 311 P P 11 35 16.8 +0.8
comp=Z,7.1nm,1.0s,mb4.8,baz=179,slow=2.4,SNR=9.5
MMAI Mount Meron Ar 84.02 313 P P 11 35 17.4 +0.9
comp=Z,12nm,0.7s,mb5.2,baz=36,slow=7.2,SNR=20
BGF Bois d'Agland 84.05 341 eP P 11 35 16.3 -0.4
LPL La Plagne 84.11 338 eP P 11 35 17.7 +0.7
comp=Z,39nm,0.9s,mb5.3
LPL La Plagne 84.11 338 eP P 11 35 17.7 +0.7
comp=Z,20nm,0.9s,mb5.3
LPG La Plagne 84.12 338 eP P 11 35 17.9 +0.8
comp=Z,39nm,0.9s,mb5.4
LPG La Plagne 84.12 338 eP P 11 35 17.9 +0.8
comp=Z,20nm,0.9s,mb5.3
TCF Toulx Ste Croi 84.44 342 eP P 11 35 18.5 -0.2
comp=Z,19nm,0.9s,mb5.0
TCF Toulx Ste Croi 84.44 342 eP P 11 35 18.5 -0.2

	comp=Z,9.5nm,0.9s,mb5.0						
MFF	**Saint Martin d**	**84.63**	**343**	*e*P	**P**	**11 35 19.5**	**-0.1**
MBDF	**Montbardon**	**84.84**	**338**	*e*P	**P**	**11 35 20.6**	**-0.1**
	comp=Z,12nm,0.7s,mb4.9						
MBDF	**Montbardon**	**84.84**	**338**	*e*P	**P**	**11 35 20.6**	**-0.1**
	comp=Z,5.8nm,0.7s,mb4.9						
ORIF	**Oris-en-Rattie**	**84.88**	**339**	*e*P	**P**	**11 35 21.4**	**+0.5**
	comp=Z,31nm,0.9s,mb5.2						
ORIF	**Oris-en-Rattie**	**84.88**	**339**	*e*P	**P**	**11 35 21.4**	**+0.5**
	comp=Z,16nm,0.9s,mb5.2						
VIVF	**Saint-Julien-l**	**85.24**	**340**	*e*P	**P**	**11 35 23.0**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
VIVF	**Saint-Julien-l**	**85.24**	**340**	*e*P	**P**	**11 35 23.0**	**+0.3**
	comp=Z,8.1nm,0.9s,mb5.0						
SBF	**Sospel**	**85.47**	**337**	*e*P	**P**	**11 35 23.6**	**-0.2**
	comp=Z,46nm,0.8s,mb5.5						
SBF	**Sospel**	**85.47**	**337**	*e*P	**P**	**11 35 23.6**	**-0.2**
	comp=Z,23nm,0.8s,mb5.5						
RJF	**Les Rejaudoux**	**85.53**	**342**	*e*P	**P**	**11 35 23.2**	**-0.9**
CAF	**Calviac**	**85.77**	**341**	*e*P	**P**	**11 35 24.9**	**-0.4**
	comp=Z,10nm,0.7s,mb4.8						
CAF	**Calviac**	**85.77**	**341**	*e*P	**P**	**11 35 24.9**	**-0.4**
	comp=Z,5.2nm,0.7s,mb4.8						
SMRF	**Simiane la Rot**	**85.84**	**339**	*e*P	**P**	**11 35 26.3**	**+0.6**
FRF	**La Foret Royal**	**85.96**	**338**	*e*P	**P**	**11 35 26.0**	**-0.3**
LFF	**La Frestale**	**86.04**	**342**	*e*P	**P**	**11 35 25.9**	**-0.8**
LMR	**La Mourre**	**86.21**	**338**	*e*P	**P**	**11 35 27.3**	**-0.2**
	comp=Z,32nm,1.0s,mb5.1						
LMR	**La Mourre**	**86.21**	**338**	*e*P	**P**	**11 35 27.3**	**-0.2**
LMR				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
LMR	**La Mourre**	**86.21**	**338**	*e*P	**P**	**11 35 27.3**	**-0.2**
	comp=Z,16nm,1.0s,mb5.1						
PGF	**Pioggiola**	**86.26**	**336**	*e*P	**P**	**11 35 27.6**	**-0.2**
	comp=Z,17nm,0.8s,mb4.9						
PGF	**Pioggiola**	**86.26**	**336**	*e*P	**P**	**11 35 27.6**	**-0.2**
PGF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
PGF	**Pioggiola**	**86.26**	**336**	*e*P	**P**	**11 35 27.6**	**-0.2**
	comp=Z,8.3nm,0.8s,mb4.9						
IDI	**Anoyia**	**87.06**	**322**	P	**P**	**11 35 29.3**	**-2.4**
	comp=Z,12nm,1.0s,mb5.0,baz=343,slow=10,SNR=5.5						
MTLF	**Montolieu**	**87.24**	**341**	*e*P	**P**	**11 35 31.8**	**-0.8**
ETSF	**Etsaut**	**88.27**	**343**	*e*P	**P**	**11 35 36.8**	**-0.7**
ESDC	**Sonseca Array**	**92.04**	**344**	P	**P**	**11 35 53.6**	**-1.5**
	comp=Z,2.1nm,0.7s,mb4.6,baz=13,slow=3.3,SNR=9.6						
KEST	**Kesra**	**92.45**	**333**	P	**P**	**11 35 56.6**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.5,baz=301,slow=3.2,SNR=8.4						
TORD	**Torodi Ar. Bea**	**115.92**	**331**	PP	PP	11 42 29.7	-2.9
	comp=Z,0.7nm,0.8s,baz=14,slow=7.1,SNR=3.8						
PLCA	**Paso Flores**	**146.61**	**97**	PKPbc	PKPbc	11 42 27.1	-0.6
	comp=Z,5.7nm,1.0s,baz=280,slow=2.6,SNR=10						
PLCA	**Paso Flores**	**146.61**	**97**	PKP2	PKPab	11 42 27.1	-1.6
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VNA2	**Neumayer--Watz**	**154.35**	**193**	*e*PKPdf	PKPdf	11 42 38.2	0.0
VNA2				*e*		11 42 47.5	
VNA2				*e*		11 42 57.0	
VNA2				*e*		11 42 59.3	
VNA2				*e*		11 43 11.6	
VNA3	**Neumayer Olymp**	**154.39**	**191**	*e*PKPdf	PKPdf	11 42 38.0	-0.2
VNA3				*e*		11 42 57.1	
VNA3				*e*		11 42 59.5	

*ISCJB **30** 11:27:36.2±0.9, 141N×0.1×5151E±006, h10km, mb3.9/5, Error ellipse: s-maj=16.4km s-min=5.0km az=126.6*
*IDC **30** 11:27:37.6±1.4, 1337N×5201E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.7/5, ML4.9/1, Error ellipse: s-maj=55.8km s-min=24.6km az=138.0*
*CSEM **30** 11:27:38.3±0.3, 1413N×5146E, h30km, mb5.1, Error ellipse: s-maj=13.2km s-min=4.5km az=147.0*
*NEIC **30** 11:27:39.1±0.8, 1346N×5192E, h10km, mb4.5/1, Error ellipse: s-maj=22.6km s-min=12.7km az=147.0*
*DHMR **30** 11:27:40.5±0.7, 1360N×5136E, h22km±999km, mb5.1*
ISC 30 11:27:38.3±0.9, 141N±01×5154E±006, h10km, n17, σ0°99/23, mb3.9/5, 5C-6D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.67**	**27**	⇓P	**Pn**	**11 28 34.7**	**-0.3**
	SNR=13						
ABTO				⇑S	Sx	11 29 14.5	
RBK	**Rabkut**	**4.26**	**37**	⇑P	**Pn**	**11 28 43.4**	**+0.2**
	SNR=5.4						
RBK				⇓S	**Sn**	**11 29 32.0**	**-0.9**
RBK	**Rabkut**	**4.26**	**37**	P	**Pn**	**11 28 43.3**	**+0.1**
	SNR=5.4						
RBK				S	**Sn**	**11 29 32.0**	**-0.9**
WHFO	**Wadi Hawf**	**4.38**	**29**	⇓P	**Pn**	**11 28 44.3**	**-0.5**
	SNR=18						
WHFO				⇓S	Sx	11 29 33.4	
BDHA	**Al Bayda'**	**5.80**	**270**	⇑*i*P	**Pn**	**11 29 05.4**	**+1.0**
BDHA				AMb	AMB	11 29 05.9	
	comp=Z,32nm,0.3s						
BDHA				*i* S	**Sn**	**11 30 11.0**	**+0.1**
BDHA	**Al Bayda'**	**5.80**	**270**	⇑*i*P	**Pn**	**11 29 05.4**	**+1.0**
	comp=Z,16nm,0.3s						
BDHA				*i* S	**Sn**	**11 30 11.0**	**0.0**
LBOS		**6.11**	**269**	⇓*i*P	**Pn**	**11 29 09.3**	**+0.6**
LBOS				*i* S	**Sn**	**11 30 18.8**	**+0.1**
TRBA	**At Turbah**	**7.27**	**264**	⇑*i*P	**Pn**	**11 29 23.9**	**-0.7**
TRBA				*i* S	**Sn**	**11 30 45.3**	**-1.8**
UDYN	**Al 'Udayn**	**7.35**	**270**	*e*P	**Pn**	**11 29 25.9**	**+0.1**
ATD	**Arta Tunnel**	**8.85**	**254**	Pn	**Pn**	**11 29 49.9**	**+3.6**
	comp=Z,11nm,0.3s,baz=61,slow=8.1,SNR=31						
BANOM	**Banah**	**12.60**	**20**	⇓P	**Pn**	**11 30 38.7**	**+1.2**
	SNR=6.8						
KMBO	**Kilima Mbogo**	**20.70**	**224**	P	**P**	**11 32 18.8**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=38,slow=18,SNR=3.2						
EIL	**Elat**	**21.81**	**318**	*e*P	**P**	**11 32 39.0**	**+8.4**
	comp=Z,11nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**41.53**	**32**	P	**P**	**11 35 30.5**	**+4.8**
	comp=Z,0.5nm,0.5s,mb3.4,baz=221,slow=7.7,SNR=4.8						
ZAL	**Zalesovo**	**47.57**	**26**	P	**P**	**11 36 18.6**	**+4.6**
	comp=Z,1.0nm,0.3s,mb4.3,baz=208,slow=4.8,SNR=2.3						
SONM	**Songino Array**	**56.29**	**41**	P	**P**	**11 37 20.5**	**+1.5**
	comp=Z,0.3nm,0.6s,mb3.5,baz=230,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**88.14**	**111**	P	**P**	**11 40 27.7**	**-1.6**
	comp=Z,0.3nm,0.7s,mb3.6,baz=299,slow=3.9,SNR=2.9						

*NEIC **30** 11:45:00.0, 3940S×177.11E, h40km, mb4.1/2, ML3.7(WEL), After WEL.*
NEIC Felt at Napier.
WEL 30 11:45:18.0±0.1, 3941S×17708E, h41km±1km, ML3.5/16, 2C-2D, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.52**	**297**	⇑PN	Pn	11 45 27.8	-1.2
BKZ				SN	Sn	11 45 35.7	-1.0
KNZ	**Kokohu**	**0.60**	**50**	PN	Pn	11 45 29.8	-0.2
KNZ				SN	Sn	11 45 39.0	+0.4
PXZ	**Pawanui**	**0.65**	**195**	⇑PN	Pn	11 45 30.9	+0.2
HATZ	**Hinemaiaia**	**0.92**	**303**	PN	Pn	11 45 34.3	-0.1
HATZ				SN	Sn	11 45 46.4	-0.2
MOVZ	**Moawhango**	**1.03**	**269**	⇓PN	Pn	11 45 36.4	+0.4
MOVZ				SN	Sn	11 45 49.4	+0.2
RITZ	**Rihia Road**	**1.04**	**294**	PN	Pn	11 45 36.4	+0.4
TSZ	**Takapari Road**	**1.08**	**233**	PN	Pn	11 45 36.4	-0.2
TUVZ	**Tukino**	**1.12**	**277**	PN	Pn	11 45 37.6	+0.5
MWZ	**Matawai**	**1.12**	**18**	⇓PN	Pn	11 45 36.7	-0.5
OTVZ	**Oturere**	**1.12**	**282**	PN	Pn	11 45 37.6	+0.3
URZ	**Urewera**	**1.14**	**1**	PN	Pn	11 45 36.7	-0.7
RATZ	**Rangitukua**	**1.15**	**297**	PN	Pn	11 45 37.6	0.0
WNVZ	**Wahianoa**	**1.15**	**273**	PN	Pn	11 45 38.1	+0.5
KATZ	**Kakaramea**	**1.16**	**291**	PN	Pn	11 45 37.9	+0.2
KRVZ	**Karewarewa**	**1.16**	**285**	PN	Pn	11 45 37.8	+0.1
NGZ	**Ngauruhoe**	**1.17**	**281**	PN	Pn	11 45 38.1	+0.3
DRZ	**Dome Shelter**	**1.18**	**276**	PN	Pn	11 45 39.2	+1.2
TRVZ	**Turoa**	**1.19**	**275**	PN	Pn	11 45 38.6	+0.5
WTVZ	**West Tongariro**	**1.19**	**283**	PN	Pn	11 45 38.4	+0.3
FWVZ	**Far West T-bar**	**1.20**	**277**	PN	Pn	11 45 38.4	+0.2
PATZ	**Paeroa**	**1.21**	**328**	PN	Pn	11 45 38.3	0.0
WPVZ	**Whakapapa**	**1.21**	**279**	PN	Pn	11 45 38.6	+0.3
MTVZ	**Mangateitei**	**1.25**	**270**	PN	Pn	11 45 39.2	+0.3
WATZ	**Wairara**	**1.26**	**303**	PN	Pn	11 45 38.5	-0.5
TWVZ	**Taurewa**	**1.32**	**284**	PN	Pn	11 45 39.6	-0.2
PKVZ	**Pokaka**	**1.35**	**274**	PN	Pn	11 45 40.6	+0.2
BFZ	**Birch Farm**	**1.43**	**206**	PN	Pn	11 45 41.0	-0.4
PUZ	**Puketiti**	**1.62**	**35**	PN	Pn	11 45 43.0	-0.9
TIWZ	**Tintock**	**1.65**	**213**	PN	Pn	11 45 43.9	-0.6
WAZ	**Wanganui**	**1.66**	**257**	PN	Pn	11 45 45.5	+0.9
MRZ	**Mangatainoka R**	**1.71**	**222**	PN	Pn	11 45 44.1	-1.0
VRZ	**Vera Road**	**1.82**	**278**	PN	Pn	11 45 47.0	+0.1
HIZ	**Hauiti**	**1.95**	**296**	PN	Pn	11 45 48.2	-0.3
MXZ	**Matakaoa Point**	**2.07**	**28**	PN	Pn	11 45 50.0	-0.2
MTW	**Mount Morrison**	**2.13**	**214**	PN	Pn	11 45 49.3	-1.7
KIW	**Kapiti Island**	**2.21**	**228**	PN	Pn	11 45 51.0	-1.1
TRWZ	**Traveller**	**2.26**	**208**	PN	Pn	11 45 51.0	-1.8
CAW	**Cannon Point**	**2.30**	**222**	PN	Pn	11 45 51.4	-1.9
PAWZ	**Paruwai Farm**	**2.35**	**212**	PN	Pn	11 45 52.2	-1.8
SNZO	**South Karori**	**2.63**	**223**	*e*Pn	Pn	11 45 40.3	-18
DUWZ	**D'Urville Isla**	**2.80**	**239**	PN	Pn	11 45 58.9	-1.3
TCW	**Tory Channel**	**2.81**	**229**	PN	Pn	11 45 58.5	-1.8
TUWZ	**Tuamarina**	**3.14**	**229**	PN	Pn	11 46 02.4	-2.5
BSWZ	**Blackbirch Sta**	**3.36**	**226**	PN	Pn	11 46 05.3	-2.6
QRZ	**Quartz Range**	**3.77**	**246**	PN	Pn	11 46 11.3	-2.3
THZ	**Tophouse**	**3.96**	**232**	PN	Pn	11 46 13.7	-2.4
LTZ	**Lake Taylor**	**4.96**	**226**	PN	Pn	11 46 26.0	-3.9
MQZ	**McQueen's Vall**	**5.43**	**216**	SN	Sn	11 47 29.2	-8.4
ODZ	**Otahua Downs**	**7.39**	**218**	PN	Pn	11 46 59.4	-3.8
RAO	**Raoul Island**	**10.94**	**24**	*e*Pn	Pn	11 47 33.3	-19
TAU	**Tasmania Unive**	**22.62**	**251**	*e*P	P	11 49 58.0	-17
	39nm,1.1s						
AFI	**Afiamalu**	**27.23**	**24**	*e*P	P	11 50 38.1	-20
	18nm,0.9s						
HNR	**Honiara**	**33.55**	**328**	*e*P	P	11 51 37.0	-17
	8.1nm,0.5s						
NWAO	**Narrogin (SRO)**	**47.98**	**258**	P	P	11 53 36.3	-16
	1.4nm,0.6s						
SNAA	**Sanae**	**69.23**	**180**	P	P	11 56 02.3	-18
	2.1nm,1.0s						
YSS	**Yuzh-Sakhalins**	**91.28**	**337**	*e*P	P	11 58 00.6	-18
	5.3nm,0.7s						

NNC 30 11:57:44.8±4.7, 4032N×7637E, h0km, mb3.7, mpv3.3, 4C-2D, Error ellipse: s-maj=47.3km s-min=28.7km az=135.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.93**	**357**	P	Pn	11 58 19.0	+0.2
	SNR=26						
KZA	**Kyzart**	**1.95**	**335**	P	Pn	11 58 21.0	+1.9
	SNR=115						
UCH	**Uchtor**	**2.36**	**324**	P	Pn	11 58 27.7	+2.8
	SNR=27						
KBK	**Karagaybulak**	**2.57**	**336**	P	Pn	11 58 30.6	+3.0
	SNR=22						
TKM2	**Tokmak 2**	**2.66**	**348**	P	Pn	11 58 31.1	+2.2
	SNR=39						
TKM2	**Tokmak 2**	**2.66**	**348**	⇑Pn	Pn	11 58 30.9	+1.9
	2.1nm,0.5s						
TKM2				⇓Lg		11 59 09.1	
	6.1nm,0.6s						
AAK	**Ala-Archa**	**2.71**	**329**	P	Pn	11 58 32.4	+2.8
	SNR=22						
AML	**Almayashu**	**2.71**	**313**	P	Pn	11 58 33.2	+3.6
	SNR=30						
KNDC	**Almaty**	**2.93**	**9**	⇑Pn	Pn	11 58 32.4	-0.2
	46nm,0.6s						
KNDC				⇑Lg		11 59 15.4	
	298nm,0.9s						
CHMS	**Chumysh**	**2.94**	**336**	P	Pn	11 58 35.3	+2.6
	SNR=22						
EKS2	**Erkin-Say**	**3.04**	**321**	P	Pn	11 58 37.7	+3.5
	SNR=17						
USP	**Ospenovka**	**3.26**	**335**	P	Pn	11 58 39.5	+2.3
	SNR=14						
KK31	**Karatay Array**	**5.19**	**304**	⇓Pn	Pn	11 59 05.2	+1.5
	1.2nm,0.6s,baz=124,slow=13,SNR=15						
KK31				⇑Pg	Pg	11 59 22.2	-2.1
	3.8nm,0.6s						
KK31				Lg		12 00 30.7	
	13nm,0.8s,baz=132,slow=29,SNR=3.2						

*ISCJB **30** 12:00:05.6±1.0, 3623N±009×716E±04, h158km±30km, Error ellipse: s-maj=51.3km s-min=13.4km az=170.9*
*NNC **30** 12:00:12.9±1.2, 3708N×7021E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=28.2km s-min=8.4km az=98.0*
ISC 30 12:00:06.3±0.9, 3629N±006×715E±04, h138km±29km, n9, σ1°18/13, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.48**	**173**	⇓P	**Pn**	**12 00 48.3**	**+1.7**
CEP				S	**Sn**	**12 01 18.0**	**+0.4**
CHCP	**Chirah Chowk**	**2.99**	**151**	P	**Pn**	**12 00 58.0**	**+5.0**
THW	**Thamme Wali**	**3.49**	**177**	P	**Pn**	**12 01 00.4**	**+0.9**
THW				S	**Sn**	**12 01 40.0**	**-0.7**
SBDP	**Sheikh Budin**	**4.02**	**189**	P	**Pn**	**12 01 05.5**	**-1.0**
SARP	**Sargodha**	**4.46**	**167**	P	**Pn**	**12 01 12.4**	**+0.1**
SARP				S	**Sn**	**12 02 02.0**	**-1.6**
DRP	**Derazinda**	**4.66**	**194**	P	**Pn**	**12 01 15.4**	**+0.4**
KK31	**Karatay Array**	**6.85**	**354**	⇓Pn	**Pn**	**12 01 45.9**	**+1.6**
	3.1nm,0.4s,baz=179,slow=12,SNR=15						
KK31				⇑Sn	**Sn**	**12 02 59.4**	**-1.6**
	2.9nm,0.7s,baz=180,slow=21,SNR=3.5						
AB31	**Akbulak array**	**15.48**	**330**	⇓P	**Pn**	**12 03 35.6**	**-1.5**
	3.6nm,0.6s,baz=159,slow=12,SNR=51						
AKTO	**Aktyubinsk**	**17.18**	**330**	P	**Pn**	**12 03 59.1**	**+1.2**

*ISCJB **30** 12:05:38.9±0.6, 4299N×007×026E±005, h11km, Error ellipse: s-maj=10.1km s-min=4.1km az=149.2*
*MDD **30** 12:05:40.0±0.3, 4299N×021E, h11km±2km, mbLg0.7/3, Error ellipse: s-maj=3.0km s-min=2.6km az=136.0, PRXIMO*
*STR **30** 12:05:39.7±0.0, 4304N×0.12W, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **30** 12:05:39.4±0.1, 4299N×022E, h12km, Md1.9/2, Ml1.7/1, Error ellipse: s-maj=2.7km s-min=0.8km az=164.0*
ISC 30 12:05:38.9±1.1, 4301N±008×023E±005, h16km±8km, n11, σ0°27/18, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.09**	**76**	*e*Pg	**Pg**	**12 05 42.6**	**+0.4**
EPF				*e*Sg	**Sg**	**12 05 44.3**	**-0.1**
	15nm,0.2s						
EPF	**Esparros**	**0.09**	**76**	Pg	**Pg**	**12 05 42.6**	**+0.4**
EPF				Lg		12 05 44.3	
	7.3nm,0.2s						
LABF	**Labassere**	**0.12**	**289**	Pg	**Pg**	**12 05 42.7**	**+0.2**
LABF				Sg	**Sg**	**12 05 44.9**	**-0.1**
LABF	**Labassere**	**0.12**	**289**	P	**Pg**	**12 05 42.8**	**+0.3**
LABF				S	**Sg**	**12 05 45.0**	**0.0**
VIEF	**Viey**	**0.20**	**230**	Pg	**Pg**	**12 05 43.6**	**0.0**
VIEF				Sg	**Sg**	**12 05 46.4**	**-0.4**
VIEF	**Viey**	**0.20**	**230**	P	**Pg**	**12 05 43.8**	**+0.2**
VIEF				S	**Sg**	**12 05 46.4**	**-0.4**
EBIE	**Bielsa**	**0.33**	**191**	⇑Pg	**Pg**	**12 05 46.1**	**+0.3**
	0.9nm,0.1s,SNR=18						
EBIE				Lg		12 05 50.3	
	1.6nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.59**	**259**	*e*Pg	**Pg**	**12 05 50.8**	**+0.3**
ETSF				*e*Sg	**Sg**	**12 05 58.0**	**-0.4**
	2.0nm,0.2s						
ETSF	**Etsaut**	**0.59**	**259**	Pg	**Pg**	**12 05 50.8**	**+0.3**
ETSF				Lg		12 05 58.0	
	1.0nm,0.2s						
MTLF	**Montolieu**	**1.49**	**77**	*e*Pg	**Pg**	**12 06 07.5**	**-0.1**
MTLF				*e*Sg	**Sg**	**12 06 26.8**	**-0.3**
	1.3nm,0.3s						
MTLF	**Montolieu**	**1.49**	**77**	Pg	**Pg**	**12 06 07.5**	**-0.1**
MTLF				Lg		12 06 26.8	
	0.6nm,0.3s						

*ISCJB **30** 12:19:53.6±1.0, 2985N±006×3623E±006, h0km, Error ellipse: s-maj=9.1km s-min=6.8km az=122.0*
*HLW **30** 12:19:53.7, 2983N×3657E, h20km, Mb2.9*
*CSEM **30** 12:19:54.8±0.2, 2980N×3616E, h1km, ML2.4, Error ellipse: s-maj=4.9km s-min=3.1km az=124.0, Mining explosion.*
*GII **30** 12:19:55.3±0.6, 2992N×3613E, h0km±6km, ML2.4/3*
ISC 30 12:19:53.6±1.1, 2984N±006×3628E±006, h0km, n19, σ0°52/25, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.07**	**264**	Pg	**Pg**	**12 20 14.5**	**+0.3**
HRFI	**Mount Harif**	**1.09**	**281**	Pg	**Pg**	**12 20 14.1**	**-0.6**
HRFI				Sg	**Sg**	**12 20 28.9**	**+0.1**
EIL	**Elat**	**1.17**	**262**	Pg	**Pg**	**12 20 16.5**	**+0.5**
EIL				Sg	**Sg**	**12 20 32.1**	**+1.0**
ZFRI	**Zfri**	**1.19**	**307**	Pg	**Pg**	**12 20 15.9**	**-0.5**
PRNI	**Paran**	**1.22**	**295**	Pg	**Pg**	**12 20 15.8**	**-1.1**
PRNI				Sg	**Sg**	**12 20 32.8**	**+0.1**
HBST	**Basata**	**1.48**	**246**	⇑P	**Pn**	**12 20 21.2**	**-0.3**
MZDA	**Masada**	**1.66**	**332**	Pn	**Pn**	**12 20 23.6**	**-0.4**
MASH	**Mash'abbe Sade**	**1.73**	**312**	Pn	**Pn**	**12 20 24.8**	**-0.1**
SVTA	**Shivta**	**1.80**	**308**	Pn	**Pn**	**12 20 25.7**	**-0.2**
YTIR	**Yattir**	**1.82**	**327**	Pn	**Pn**	**12 20 26.2**	**+0.1**
YTIR	**Yattir**	**1.82**	**327**	Pn	**Pn**	**12 20 26.2**	**+0.1**
RTMI	**Retamim**	**1.83**	**312**	Pn	**Pn**	**12 20 25.9**	**-0.3**
HDHB	**Dhahab**	**1.83**	**233**	⇓P	**Pn**	**12 20 25.7**	**-0.6**
DSI	**Dead Sea**	**1.89**	**336**	Pn	**Pn**	**12 20 27.6**	**+0.5**
KZIT	**Kziot**	**1.94**	**304**	Pn	**Pn**	**12 20 28.0**	**+0.1**
KZIT				Sn	**Sn**	**12 20 52.9**	**0.0**
HNKL	**Nakhl**	**2.00**	**273**	⇓P	**Pn**	**12 20 28.7**	**+0.1**
HNKL				S	**Sn**	**12 20 54.2**	**-0.1**
HMDT	**Nahal Hemdat**	**2.49**	**345**	Pn	**Pn**	**12 20 36.8**	**+1.4**
AMAG	**Maghara**	**2.77**	**287**	⇓P	**Pn**	**12 20 39.3**	**0.0**
AMAG				S	**Sn**	**12 21 13.0**	**-0.5**
SUZ		**3.00**	**271**	⇑P	**Pn**	**12 20 42.6**	**+0.3**

IDC 30 12:47:24.1±3.5, 1126S×11460E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/17, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=163.9km s-min=21.3km az=47.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.66**	**124**	Pn	Pn	12 50 23.9	-1.6
	0.1nm,0.3s,baz=309,slow=14,SNR=3.8						
FITZ				Sn	Sn	12 52 33.8	-13
	0.3nm,0.3s,baz=167,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**20.87**	**117**	P	P	12 52 08.6	+1.0
	0.7nm,0.7s,baz=290,slow=12,SNR=6.1						
WRA				S	S	12 55 49.0	-12
	0.2nm,0.6s,baz=295,slow=27,SNR=4.4						
ASAR	**Alice Springs**	**22.14**	**126**	P	P	12 52 21.8	+0.5
	0.3nm,0.7s,baz=299,slow=8.8,SNR=7.9						
ASAR				S	S	12 56 21.2	-4.8
	0.3nm,0.8s,baz=289,slow=23,SNR=5.0						
SONM	**Songino Array**	**59.28**	**354**	P	P	12 57 27.3	-0.1
	0.2nm,0.6s,baz=181,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**64.61**	**336**	P	P	12 58 03.5	+0.2
	0.8nm,0.5s,baz=146,slow=8.1,SNR=16						

*MOS **30** 13:08:08.5±1.9, 4926N×15366E, h50km, mb4.2/5, Error ellipse: s-maj=37.8km s-min=20.1km az=81.6*
*ISCJB **30** 13:08:18.4±1.3, 490N±0.1×1537E±02, h137km±12km, mb3.7/19, Error ellipse: s-maj=21.8km s-min=13.4km az=91.8*
*IDC **30** 13:08:24.3±3.6, 4908N×15347E, h179km±35km, mb3.4/13, mb1 3.7/15, mb1mx3.5/24, mbtmp3.4/15, Error ellipse: s-maj=17.6km s-min=13.6km az=135.0*
*VIE **30** 13:08:24.3, 4908N×15347E, h179km, mb3.4 1148 km NE of Sapporo*
ISC 30 13:08:19.1±1.4, 491N±01×1536E±02, h130km±12km, n35, σ0°71/35, mb3.7/19, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.32**	**44**	*e*PN	**Pn**	**13 08 57.0**	**0.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
ASAJ	**Asahikawa**	**9.02**	**241**	P	**Pn**	**13 10 30.9**	**+4.6**
	comp=Z,1.5nm,0.3s,baz=69,slow=9.6,SNR=16						
ASAJ	**Asahikawa**	**9.02**	**241**	PN	**Pn**	**13 10 30.9**	**+4.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.79**	**228**	P	**Pn**	**13 12 06.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=9.4						
MKAR	**Makanchi Array**	**46.20**	**296**	P	**P**	**13 16 31.1**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.4,baz=69,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**46.20**	**296**	P	**P**	**13 16 31.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**48.91**	**38**	P	**P**	**13 16 51.4**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.7,baz=298,slow=7.0,SNR=27						
YKA	**Yellowknife Ar**	**48.91**	**38**	P	**P**	**13 16 51.4**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	**Joensuu**	**59.42**	**333**	*e*p	**P**	**13 18 03.5**	**-4.4**
NVAR	**Mina Array Bea**	**61.11**	**64**	P	**P**	**13 18 19.6

*BJI **30** 13:19:14.6, 26.76N×108.73E, h11km, ML2.7*
*ISCJB **30** 13:19:17.2±3.0, 267N×04.4×1089E±02, h35km, mb3.0/3, Error ellipse: s-maj=58.4km s-min=12.6km az=132.0*
ISC 30 13:19:17.2±3.0, 265N±04×1090E±02, h35km, n4, σ0§41/5, mb3.0/3, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	Guiyang	2.07	270	PG	Pn	13 19 49.0	-0.5
GYA				SG	Sn	13 20 14.3	+0.3
GYA	comp=N,140nm,0.5s			Smax			
GYA	comp=E,100nm,0.8s			Smax			
SONM	Songino Array	21.43	355	P	P	13 24 01.9	-0.2
	comp=E,0.6nm,0.8s,mb3.0,baz=170,slow=11,SNR=4.2						
MKAR	Makanchi Array	29.27	321	P	P	13 25 16.1	+0.1
	comp=E,0.1nm,0.4s,mb2.9,baz=117,slow=11,SNR=4.0						
YKA	Yellowknife Ar	84.77	19	P	P	13 31 48.1	+0.3
	comp=E,0.1nm,0.4s,mb3.3,baz=323,slow=4.6,SNR=9.5						

*ISCJB **30** 13:53:46.1±0.4, 49.33N×003.4×112.77W±005, h20km, mb3.2/1, Error ellipse: s-maj=5.7km s-min=3.7km az=109.1*
*IDC **30** 13:53:48.5±1.7, 49.25N×112.97W, h19km±14km, mb3.1/1, mb1 3.6/5, mb1mx3.3/25, mbtmp3.3/5, ML3.5/3, Error ellipse: s-maj=11.2km s-min=10.1km az=2.0*
*NEIC **30** 13:53:49.7, 49.26N×112.79W, h20km, MW3.5(PGC), After PGC.*
NEIC Felt at Cardston. Also felt at Babb, Montana.
*PGC **30** 13:53:49.7±4.1, 49.26N×112.79W, h20km, ML4.0/6, Mw3.6, 49km southeast of Lethbridge, Alberta Alberta Province, Canada*
ISC 30 13:53:47.6±0.8, 4932N±003×11281W±004, h16km±6km, n52, σ1§24/64, mb3.2/1, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALA	Waterton Lakes	0.77	251	ePb	Pb	13 54 03.4	+0.8
WALA				eSb	Sb	13 54 12.8	-0.1
WALA	Waterton Lakes	0.77	251	Trac			
WALA	Waterton Lakes	0.77	251	P	Pg	13 54 03.8	+1.2
WALA				S	Sg	13 54 14.0	+1.2
EGMT	Eagleton	2.40	122	ePn	Pn	13 54 26.8	+0.5
EGMT				eSn	Sg	13 55 06.1	+1.2
CHMT	Chamberlain Mo	2.43	187	ePn	Pn	13 54 26.6	+0.1
MSO	Missoula	2.61	197	ePn	Pn	13 54 28.1	-0.9
MSO				eS	Sn	13 55 05.6	+5.3
NEW	Newport	3.04	251	Pn	Pn	13 54 34.6	-0.4
	2.8nm,0.3s,baz=76,slow=11,SNR=46						
NEW				Pg	Pg	13 54 41.2	-4.8
	17nm,0.3s,baz=68,slow=15,SNR=49						
NEW				Lg		13 55 18.5	
	46nm,0.3s,baz=161,slow=17,SNR=11						
NEW	Newport	3.04	251	ePn	Pn	13 54 34.4	-0.6
NEW				eSn	Sn	13 55 18.7	+7.6
LCCM	Lewis and Clar	3.54	169	P	Pn	13 54 41.4	-0.5
BOZ	Bozeman (W)	3.76	167	ePn	Pn	13 54 44.1	-0.7
DPW	Davenport	3.86	250	P	Pn	13 54 45.6	-0.7
SLEB	Sale Mountain	3.89	300	Pn	Pn	13 54 48.8	+2.2
SLEB				Sg	Sg	13 55 50.1	-2.3
SLEB	Sale Mountain	3.89	300	Trac			
EDM	Edmonton	3.92	355	ePn	Pn	13 54 49.1	+2.0
EDM	Edmonton	3.92	355	Trac			
EDM	Edmonton	3.92	355	Pn	Pn	13 54 49.6	+2.5
EDM				Sn	Sn	13 55 32.6	-0.2
DLMT	Dillon	3.96	178	ePn	Pn	13 54 47.1	-0.6
GCMT	Greycliff	4.12	148	ePn	Pn	13 54 50.6	+0.8
DOWB	Downie Slide	4.26	303	Pn	Pn	13 54 53.7	+1.9
DOWB	Downie Slide	4.26	303	Trac			
OD2	Odessa Site #2	4.38	246	P	Pn	13 54 52.2	-1.2
PNT	Penticton	4.46	273	Pn	Pn	13 54 54.7	+0.3
PNT	Penticton	4.46	273	Trac			
MCMT	McKenzie Canyo	4.50	180	ePn	Pn	13 54 54.4	-0.6
MCMT				eSn	Sn	13 55 42.4	-4.5
MNB	Mounoet Dainar	4.56	311	Pn	Pn	13 54 59.1	+3.1
MNB	Mounoet Dainar	4.56	311	Trac			
QLMT	Earthquake Lak	4.59	168	Pn	Pn	13 54 57.8	+1.5
SAW	Saint Andrews	4.67	252	P	Pn	13 54 56.5	-1.0
DHW2	Dyer Hill 2	4.80	256	P	Pn	13 54 58.9	-0.3
YMR	Madison River	4.82	164	ePn	Pn	13 54 59.1	-0.4
RLMT	Red Lodge	4.84	149	ePn	Pn	13 54 59.9	+0.2
RLMT				eSn	Sn	13 55 53.0	-2.5
LKWY	Lake	5.03	160	ePn	Pn	13 55 05.6	+3.2
CBSW	Chelan Butte S	5.04	255	P	Pn	13 55 01.3	-1.1
LNOR	Lincton Mounta	5.06	229	P	Pn	13 55 03.4	+0.6
LAO	LASA Array	5.14	118	ePn	Pn	13 55 04.8	+0.9
	30nm,0.6s						
LAO				eSg	Sg	13 56 31.8	-0.9
HAWA	Hanford	5.39	240	ePn	Pn	13 55 05.5	-1.8
	14nm,0.6s						
HAWA				eSg	Sg	13 56 36.6	-4.1
BMO	Blue Mountains	5.42	216	ePn	Pn	13 55 07.0	-0.8
	12nm,0.6s						
BMO				eSn	Sn	13 56 04.5	-5.3
IMW	Indian Meadow	5.58	166	ePn	Pn	13 55 09.7	-0.1
	7.9nm,0.4s						
HOPB	Hope	5.63	274	Pn	Pn	13 55 11.7	+1.1
MOOW	Moose Ponds	5.75	165	ePn	Pn	13 55 12.2	-0.1
	5.2nm,0.8s						
DCID1	Drake Creek	5.84	168	ePn	Pn	13 55 13.2	-0.2
DCID1				eSg	Sg	13 56 53.1	-1.8
HLID	Hailey	5.87	192	ePn	Pn	13 55 14.8	+1.0
	7.3nm,0.6s						
HLID				eSg	Sg	13 56 50.1	-5.8
LOHW	Long Hollow	5.91	164	ePn	Pn	13 55 15.1	+0.7
	4.2nm,0.6s						
LLLB	Lillooet	6.00	286	Pn	Pn	13 55 16.9	+1.2
REDW	Red Top Meadow	6.11	166	ePn	Pn	13 55 16.6	-0.6
PDAR	Pinedale Array	6.93	160	Pn	Pn	13 55 30.4	+1.9
	0.1nm,0.3s,baz=14,slow=15,SNR=4.4						
PDAR				Sn	Sn	13 56 49.5	+2.5
	0.1nm,0.3s,baz=333,slow=12,SNR=4.1						
PDAR				Lg		13 57 23.4	
	0.2nm,0.3s,baz=10,slow=27,SNR=4.5						
ULM	Lac du Bonnet	10.99	79	Pn	Pn	13 56 21.1	-3.0
	0.1nm,0.3s,baz=282,slow=14,SNR=2.8						
ULM				Sn	Sn	13 58 17.6	-9.0
	0.5nm,0.3s,baz=288,slow=11,SNR=2.4						
ULM				Lg		13 59 31.4	
	0.2nm,0.3s,baz=213,slow=19,SNR=2.4						
ULM	Lac du Bonnet	10.99	79	ePn	Pn	13 56 21.2	-3.0
FNBB	Fort Nelson	11.29	332	Pn	Pn	13 56 27.6	-0.6
YKA	Yellowknife Ar	13.24	356	Pn	Pn	13 56 53.1	-1.8
	0.5nm,0.3s,baz=172,slow=13,SNR=31						
YKA				Sn	Sn	13 59 08.6	-13
	0.6nm,0.3s,baz=170,slow=22,SNR=9.9						
YKW3	Yellowknife Ar	13.31	356	Pn	Pn	13 56 53.4	-2.4
INK	Inuvik	21.64	339	P	P	13 58 37.6	+0.5
	0.5nm,0.5s,mb3.2,baz=166,slow=7.1,SNR=3.0						

IDC 30 14:16:09.1±10.0, 270N×12745E, h180km±95km, mb3.2/4, mb1 3.3/4, mb1mx3.1/16, mbtmp3.2/4, Error ellipse: s-maj=130.2km s-min=19.7km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.50	164	P	P	14 21 03.0	+0.4
	1.4nm,0.4s,baz=344,slow=10,SNR=33						
ASAR	Alice Springs	26.95	167	P	P	14 21 34.0	+0.2
	0.2nm,0.6s,baz=353,slow=7.7,SNR=8.2						
ASAR				PcP	PcP	14 24 51.0	+0.2
	0.3nm,0.5s,baz=346,slow=2.2,SNR=11						
STKA	Stephens Creek	36.92	160	P	P	14 23 00.7	+0.1
	0.9nm,0.4s,baz=325,slow=11,SNR=6.7						
MKAR	Makanchi Array	58.80	325	P	P	14 25 48.5	+0.1
	0.6nm,0.5s,baz=114,slow=8.1,SNR=16						

*IDC **30** 14:22:10.9±1.2, 1357N×5161E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/25, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=30.5km s-min=22.6km az=117.0*
*CSEM **30** 14:22:11.2±0.3, 1379N×5137E, h12km, ML4.6, Error ellipse: s-maj=14.5km s-min=6.3km az=150.0*
*ISCJB **30** 14:22:11.8±0.8, 1386N×008×5134E±005, h10km, mb3.9/10, Error ellipse: s-maj=13.1km s-min=4.4km az=129.1*
*MOS **30** 14:22:11.7±2.0, 1356N×5136E, h10km, mb4.4/1, Error ellipse: s-maj=35.4km s-min=19.2km az=86.0*
*NEIC **30** 14:22:12.7±0.9, 1354N×5160E, h10km, mb4.9/2, Error ellipse: s-maj=19.2km s-min=14.1km az=138.0*
*DHMR **30** 14:22:15.3±1.0, 1389N×5108E, h7km±49km, ML4.6*
ISC 30 14:22:15.1±1.0, 140N±01×5129E±006, h10km, n24, σ1§05/31, mb3.9/10, 6C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	2.23	282	*i* P	Pn	14 22 52.0	-0.2
MUKL				*i* S	Sn	14 23 19.6	-0.1
MUKL				AML	AML	14 23 21.6	
	comp=E,7μm,0.3s						
ABTO	Aybut	3.84	30	⇑P	Pn	14 23 13.8	-0.5
	SNR=11						
ABTO				⇓S	Sn	14 23 59.6	+0.1
RBK	Rabkut	4.46	39	⇑P	Pn	14 23 22.5	-0.4
	SNR=18						
RBK				⇑S	Sn	14 24 14.9	0.0
WHFO	Wadi Hawf	4.56	31	⇑P	Pn	14 23 23.6	-0.5
	SNR=15						
WHFO				⇑S	Sn	14 24 14.8	-2.4
BDHA	Al Bayda'	5.55	270	⇑*i* P	Pn	14 23 37.8	0.0
BDHA				*i* S	Sn	14 24 42.2	+0.5
LBOS		5.86	269	⇓*i* P	Pn	14 23 42.0	-0.1
LBOS				*i* S	Sn	14 24 49.1	-0.2
TRBA	At Turbah	7.02	264	*i* P	Pn	14 23 56.5	-1.4
TRBA				*i* S	Sn	14 25 17.0	-0.7
ATD	Arta Tunnel	8.60	254	Pn	Pn	14 24 21.1	+1.5
	comp=E,2.2nm,0.3s,baz=45,slow=20,SNR=5.6						
EIL	Elat	21.70	319	*e*P	P	14 27 10.4	+4.3
	comp=E,101nm,0.9s,mb5.2						
ASF	Jabal al Asfar	22.36	326	P	P	14 27 17.5	+4.3
	comp=E,1.9nm,0.9s,mb3.5,baz=213,slow=21,SNR=3.8						
KBL	Kabul	25.99	35	P	P	14 27 53.0	+5.0
AAK	Ala-Archa	34.84	31	*e*P	P	14 29 08.4	+2.1
AAK				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
AAK	Ala-Archa	34.84	31	*e*P	P	14 29 08.4	+2.1
	comp=Z,13nm,1.6s,mb4.6						
AKTK	Aktyubinsk	36.73	7	P	P	14 29 23.8	+1.3
AKTO	Aktyubinsk	36.73	7	P	P	14 29 23.8	+1.3
	comp=Z,0.9nm,0.7s,mb3.7,baz=216,slow=9.0,SNR=4.0						
AKASG	Malin Array Be	40.73	339	P	P	14 29 56.6	+0.5
	comp=Z,0.7nm,0.6s,mb3.5,baz=148,slow=7.3,SNR=5.2						
MKAR	Makanchi Array	41.72	32	P	P	14 30 03.7	-0.4
	comp=Z,0.3nm,0.5s,mb3.1,baz=220,slow=7.9,SNR=4.7						
LBTB	Lobatse	46.18	213	P	P	14 30 36.5	-3.5
	comp=Z,1.7nm,0.8s,mb4.0,baz=19,slow=11,SNR=5.7						
TORD	Torodi Ar. Bea	48.14	275	P	P	14 30 55.0	-0.3
	comp=Z,0.3nm,0.7s,mb3.5,baz=82,slow=7.2,SNR=4.5						
TORD	Torodi Ar. Bea	48.14	275	P	P	14 30 55.0	-0.3
FINES	FINESS Array B	50.73	345	P	P	14 31 15.3	+0.3
	comp=Z,1.5nm,0.8s,mb4.0,baz=196,slow=14,SNR=3.6						
FINES	FINESS Array B	50.73	345	P	P	14 31 15.3	+0.3
YSS	Yuzh-Sakhalins	80.89	44	*e*P	P	14 34 32.9	+3.4
ASAR	Alice Springs	88.95	115	P	P	14 35 05.5	-4.4
	comp=Z,0.7nm,1.1s,mb3.9,baz=285,slow=5.1,SNR=3.6						

*BJI **30** 14:26:41.1, 13.18N×51.11E, h10km, mB5.2, mb4.7*
*MOS **30** 14:26:46.8±0.8, 1376N×5169E, h10km, mb4.5/8, Error ellipse: s-maj=16.6km s-min=9.4km az=66.5*
*IDC **30** 14:26:46.6±0.6, 1374N×5180E, h0km, mb3.9/19, mb1 4.0/20, mb1mx3.9/27, mbtmp3.9/20, ML3.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/32, Error ellipse: s-maj=19.7km s-min=13.3km az=120.0*
*ISCJB **30** 14:26:47.7±3.4, 1379N±007×5159E±006, h17km±25km, mb4.3/32, MS3.4/3, Error ellipse: s-maj=12.5km s-min=9.1km az=120.0*
*CSEM **30** 14:26:47.7±1.2, 1381N×5156E, h17km±8km, mb4.8/12, Error ellipse: s-maj=7.0km s-min=3.8km az=138.0*
*NEIC **30** 14:26:48.8±0.3, 1376N×5170E, h10km, mb4.8/14, Error ellipse: s-maj=9.6km s-min=6.5km az=148.0*
*DHMR **30** 14:26:55.5±1.4, 1372N×5086E, h7km±156km, ML4.1*
ISC 30 14:26:49.7±5.2, 1380N±007×5162E±006, h15km±34km, n65, σ1§11/67, mb4.3/32, MS3.4/3, 1C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	2.59	285	⇓*i* P	Pn	14 27 28.6	-2.5
MUKL				*i* S	Sn	14 27 56.6	-5.6
MUKL				AML	AML	14 27 57.7	
	comp=N,2μm,0.5s						
BDHA	Al Bayda'	5.88	272	⇑*i* P	Pn	14 28 15.8	-0.4
BDHA				*i* S	Sn	14 29 17.3	-5.9
LBOS		6.18	271	⇓*i* P	Pn	14 28 19.6	-0.8
LBOS				*i* S	Sn	14 29 24.3	-6.5
TRBA	At Turbah	7.32	266	*i* P	Pn	14 28 34.5	-1.5
ATD	Arta Tunnel	8.85	256	Pn	Pn	14 28 59.6	+2.7
	comp=N,0.7nm,0.3s,baz=265,slow=23,SNR=2.3						
ATD				LR	LR	14 31 25.2	
	comp=N,391nm,19.4s,baz=113,slow=31						
KMBO	Kilima Mbogo	20.55	225	P	P	14 31 29.1	+1.4
	comp=N,6.2nm,0.7s,baz=45,slow=16,SNR=8.5						
KMBO				LR	LR	14 39 21.6	
	comp=N,146nm,18.5s,MS3.4,baz=271,slow=37						
KMBO	Kilima Mbogo	20.55	225	*e*P	P	14 31 29.2	+1.5
KMBO				*e*		14 31 37.3	
KMBO				pmax	pmax		
	comp=Z,16nm,1.1s						
KMBO	Kilima Mbogo	20.55	225	*e*P	P	14 31 29.2	+1.5
	comp=Z,16nm,1.1s						
KMBO				*e*		14 31 37.3	
POO	Poona	21.86	75	*e*P	P	14 31 39.0	-2.7
EIL	Elat	22.07	318	P	P	14 31 46.3	+2.4
	comp=Z,166nm,1.2s,mb5.3						
ASF	Jabal al Asfar	22.71	326	P	P	14 31 52.4	+1.6
	comp=Z,2.8nm,1.0s,mb3.6,baz=303,slow=2.0,SNR=3.0						
ASF				LR	LR	14 41 14.5	
	comp=Z,214nm,18.4s,MS3.6,baz=214,slow=38						
MMAI	Mount Meron Ar	24.17	325	LR	LR	14 41 51.2	
	comp=Z,99nm,18.2s,MS3.3,baz=135,slow=37						
KBL	Kabul	25.98	34	*e*P	P	14 32 23.7	+2.0
KBL	Kabul	25.98	34	*e*P	P	14 32 23.7	+2.0
HYB	Hyderabad	26.18	79	*i* P	P	14 32 24.0	+0.5
HYB	Hyderabad	26.18	79	*e*P	P	14 32 24.0	+0.5
KOLN	Koldanda	32.86	60	*e*P	P	14 33 23.7	+0.9
	comp=Z,28nm,1.1s,mb5.1						
GKN	Gorkha	33.80	60	*e*P	P	14 33 31.3	+0.3
	comp=Z,28nm,1.0s,mb5.2						
DMN	Daman	34.08	61	*e*P	P	14 33 34.2	+0.8
	comp=Z,23nm,0.9s,mb5.1						
KKN	Kakani	34.28	61	*e*P	P	14 33 36.1	+0.9
	comp=Z,25nm,0.6s,mb5.3						
KKN	Kakani	34.28	61	*e*P	P	14 33 36.1	+0.9
KKN				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.3						
PKI	Pulchoki	34.33	61	*e*P	P	14 33 35.9	+0.3
	comp=Z,17nm,0.9s,mb5.0						
PKI	Pulchoki	34.33	61	*e*P	P	14 33 35.9	+0.3
PKI				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
GUN	Gumba	34.82	61	*e*P	P	14 33 40.7	+0.8
	comp=Z,85nm,1.3s						
AAK	Ala-Archa	34.87	30	*e*P	P	14 33 41.4	+1.2
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK	Ala-Archa	34.87	30	*e*P	P	14 33 41.4	+1.2
	comp=Z,4.4nm,0.9s,mb4.4						
AAK	Ala-Archa	34.87	30	*e*P	P	14 33 41.4	+1.2
	comp=Z,4.3nm,0.9s,mb4.4						
JIRN	Jiri	35.02	61	*e*P	P	14 33 42.1	+0.6
	comp=Z,27nm,1.0s,mb5.1						
AKTK	Aktyubinsk	36.91	7	P	P	14 33 58.1	+0.4
AKTO	Aktyubinsk	36.91	7	P	P	14 33 58.1	+0.4
	comp=Z,3.7nm,0.9s,mb4.2,baz=201,slow=9.4,SNR=9.2						
ORR	Orenburg	37.81	3	*e*P	P	14 34 02.2	-3.1
ORR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
MATP	Matopo	40.91	214	P	P	14 34 31.2	0.0
	comp=Z,2.2nm,0.6s,mb4.0,baz=35,slow=7.4,SNR=8.1						
AKASG	Malin Array Be	41.05	338	P	P	14 34 32.8	+0.3
	comp=Z,0.4nm,0.4s,mb3.4,baz=148,slow=7.2,SNR=4.7						
MK31	Makanchi Array	41.73	32	*e*P	P	14 34 37.7	-0.3
MKAR	Makanchi Array	41.73	32	P	P	14 34 36.5	-1.5
	comp=Z,0.7nm,0.5s,mb3.5,baz=215,slow=8.3,SNR=13						
BRVK	Borovoye	41.88	17	P	P	14 34 39.4	+0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
BRVK	Borovoye	41.88	17	P	P	14 34 39.4	+0.1
	comp=Z,2.9nm,0.8s,mb4.0						
BRVK	Borovoye	41.88	17	P	P	14 34 39.3	0.0
	comp=Z,2.9nm,0.8s,mb4.0						
BVAR	Borovoye Array	41.88	17	P	P	14 34 39.1	-0.2
	comp=Z,1.1nm,0.7s,mb3.6,baz=193,slow=6.1,SNR=6.7						
KURK	Kurchatov	42.84	25	P	P	14 34 44.8	-2.3
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
KURK	Kurchatov	42.84	25	P	P	14 34 44.8	-2.3
	comp=Z,4.2nm,1.0s,mb4.1						
KURK	Kurchatov	42.84	25	P	P	14 34 44.8	-2.3
	comp=Z,4.2nm,1.0s,mb4.1						
ARU	Arti	42.88	6	P	P	14 34 46.9	-0.4
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
ARU	Arti	42.88	6	P	P	14 34 46.9	-0.5
	comp=Z,4.9nm,0.9s,mb4.2						
ARU	Arti	42.88	6	P	P	14 34 46.9	-0.4
	comp=Z,4.9nm,0.9s,mb4.2						
LBTB	Lobatse	46.18	213	P	P	14 35 14.0	+0.3
	comp=Z,5.2nm,0.8s,mb4.5,baz=44,slow=8.7,SNR=8.0						
GERES	GERESS Array B	46.82	326	P	P	14 35 19.3	+0.5
	comp=Z,0.2nm,0.5s,mb3.3,baz=100,slow=5.1,SNR=2.5						
GERES	GERESS Array B	46.82	326	P	P	14 35 19.3	+0.5
ZAL	Zalesovo	47.79	26	P	P	14 35 25.2	-1.1
	comp=Z,1.9nm,0.6s,mb4.3,baz=250,slow=6.5,SNR=12						
NVS	Novosibirsk	47.79	24	*e*P	P	14 35 19.9	-6.4
TORD	Torodi Ar. Bea	48.48	275	P	P	14 35 32.4	+0.7
	comp=Z,0.7nm,0.7s,mb3.8,baz=78,slow=5.0,SNR=6.1						
BOSA	Boshof	49.27	211	P	P	14 35 37.3	-0.4
	comp=Z,2.2nm,0.9s,mb4.2,baz=13,slow=13,SNR=4.1						
FINES	FINESS Array B	51.02	345	P	P	14 35 51.6	+0.6
	comp=Z,3.5nm,1.1s,mb4.2,baz=298,slow=13,SNR=3.8						
JOF	Joensuu	51.12	348	*e*p	P	14 35 56.9	+5.2
KAF	Kangasniemi	51.53	345	*e*p	P	14 36 01.1	+6.3
	baz=146,slow=7.6						
GYA	Guiyang	52.85	67	P	P	14 36 04.0	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
ESDC	Sonseca Array	54.93	309	P	P	14 36 19.2	-0.6
	comp=Z,0.2nm,0.3s,mb3.6,baz=146,slow=40,SNR=3.5						
SONM	Songino Array	56.45	41	P	P	14 36 30.3	-0.5
	comp=Z,1.2nm,0.8s,mb4.0,baz=248,slow=7.3,SNR=8.0						
ULN	Ulaanbaatar	56.88	41	*e*P	P	14 36 34.1	+0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ULN	Ulaanbaatar	56.88	41	*e*P	P	14 36 34.1	+0.3
	comp=Z,1.6nm,0.9s,mb4.0						
ULN	Ulaanbaatar	56.88	41	*e*P	P	14 36 34.1	+0.3
	comp=Z,1.6nm,0.9s,mb4.0						
ARCES	ARCESS Array B	58.08	349	P	P	14 36 41.5	-0.8
	comp=Z,3.4nm,0.8s,mb4.4,baz=95,slow=5.4,SNR=4.7						
KSRS	Korea Array	70.94	55	P	P	14 38 04.5	-1.9
	comp=Z,0.7nm,0.6s,mb3.8,baz=276,slow=6.5,SNR=6.9						
WRA	Warramunga Arr	87.97	111	P	P	14 39 37.8	-1.2
	comp=Z,0.3nm,0.5s,mb3.8,baz=300,slow=3.7,SNR=8.3						
ASAR	Alice Springs	88.57	115	P	P	14 39 41.8	0.0
	comp=Z,0.3nm,0.6s,mb3.8,baz=287,slow=4.7,SNR=13						

*ISCJB **30** 14:30:51.8±0.9, 154S±01×7060W±008, h220km±9km, mb4.0/5, Error ellipse: s-maj=19.2km s-min=11.9km az=25.9*
*IDC **30** 14:30:52.8±1.2, 1535S×7051W, h211km±11km, mb3.7/3, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=20.5km s-min=16.7km az=24.0*
*NEIC **30** 14:30:52.5±0.9, 1536S×7053W, h208km±9km, mb4.3/2, Error ellipse: s-maj=17.3km s-min=12.7km az=210.0*
ISC 30 14:30:52.8±0.9, 153S±01×7055W±008, h215km±9km, n13, σ0§90/16, mb4.0/5, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.51	112	P	Pn	14 31 38.0	+0.3
	9.0nm,0.3s,baz=306,slow=9.4,SNR=150						
LPAZ				S	S	14 32 13.3	+0.5
	5.8nm,0.3s,baz=180,slow=21,SNR=43						
LPAZ	La Paz	2.51	112	P	Pn	14 31 38.0	+0.3
LPAZ				*e*S	S	14 32 12.4	-0.4
LPAZ				S	S	14 32 13.3	+0.5
NNA	Nana	6.97	298	P	Pn	14 32 32.7	+0.1
	11nm,0.3s,baz=138,slow=12,SNR=13						
NNA				S	S	14 33 39.9	-12
	12nm,0.3s,baz=197,slow=14,SNR=7.8						
SIV	San Ignacio	9.15	95	P	Pn	14 32 59.3	-1.5
	0.8nm,0.3s,baz=287,slow=9.8,SNR=16						
SIV				S	S	14 34 43.4	-0.2
	0.2nm,0.3s,baz=206,slow=20,SNR=3.8						
CFAA	Coronel Fontan	16.33	173	P	P	14 34 30.0	+0.7
	0.1nm,0.3s,baz=347,slow=14,SNR=6.6						
PLCA	Paso Flores	25.30	180	P	P	14 35 59.5	-0.1
	2.0nm,0.4s,mb4.1,baz=6.3,slow=12,SNR=13						
RCBR	Riachuelo	35.29	78	P	P	14 37 29.4	+2.2
	7.9nm,0.9s,mb4.2						
SNAA	Sanae	68.58	162	P	P	14 41 31.2	-1.1
	6.6nm,1.2s,mb4.1						
TORD	Torodi Ar. Bea	76.86	72	P	P	14 42 21.4	+0.4
	2.9nm,0.6s,mb4.1,baz=246,slow=4.8,SNR=35						
YKA	Yellowknife Ar	84.89	341	P	P	14 43 02.7	-0.7
	0.5nm,0.4s,mb3.6,baz=133,slow=4.9,SNR=22						
YKA	Yellowknife Ar	84.89	341	P	P	14 43 02.7	-0.7
ZAL	Zalesovo	136.92	21	PKP	PKPdf	14 49 51.4	+1.6
	0.8nm,0.5s,baz=227,slow=1.8,SNR=4.6						
SONM	Songino Array	147.50	4	PKPbc	PKPbc	14 50 12.7	+1.4
	1.3nm,0.5s,baz=332,slow=2.3,SNR=15						

*IDC **30** 14:33:08.0±0.

CGA2 eS Sn 14 35 17.2 -0.1
JCR Jicaral 4.87 329⇓ eP Pn 14 34 22.2 -2.4
JCR eS Sn 14 35 21.7 +0.7
JTS JuntasAbangare 5.17 333 Pn Pn 14 34 25.5 -3.3
6μm,0.4s
JTS JuntasAbangare 5.17 333 Pn Pn 14 34 25.9 -2.9
111nm,0.3s,baz=147,slow=5.7,SNR=166
JTS Sn Sn 14 35 28.1 -0.4
227nm,0.3s,baz=114,slow=23,SNR=18
JTS LR LR 14 36 23.2
comp=Z,26μm,21.0s,baz=11,slow=37
JTS JuntasAbangare 5.17 333 ePn Pn 14 34 25.0 -3.8
JTS eSn Sn 14 35 27.1 -1.3
FORC Fortuna 5.21 336⇓ eP Pn 14 34 28.9 -0.4
VCR Vista de Mar 5.38 326⇓ eP Pn 14 34 29.3 -2.4
VCR eS Sn 14 35 34.9 +1.3
LIM1 Limonal 5.67 332⇑ eP Pn 14 34 36.2 +0.6
MADN Villa Maderas 6.42 333 eP Pn 14 34 44.2 -1.7
SSNN San Juan del S 6.46 330 eP Pn 14 34 46.0 -0.6
OTAV Otavalo 6.77 143 ePn Pn 14 34 43.2 -7.6
22nm,0.3s
TICN Ticuantepe 7.29 330 eP Pn 14 34 57.8 -0.2
XAVN Gruta Xavier 7.44 330 eP Pn 14 34 59.1 -0.9
COPN Copaltepe 7.60 329 eP Pn 14 35 00.3 -1.9
MOMJ Momotombo 7.77 330 eP Pn 14 35 03.2 -1.3
TELN Telica 8.08 329 eP Pn 14 35 08.1 -0.7
ROSC El Rosal 8.22 95 Pn Pn 14 35 13.6 +2.9
6.8nm,0.3s,baz=101,slow=19,SNR=18
ROSC El Rosal 8.22 95⇑ ePn Pn 14 35 13.8 +3.0
TGUH Tegucigalpa,Un 9.54 331⇑ ePn Pn 14 35 30.3 +1.5
105nm,0.7s
PAYG Puerto Ayora 9.97 231⇑ ePn Pn 14 35 30.5 -4.2
239nm,1.5s
ATAH Atahualpa 13.25 162 Pn Pn 14 36 19.6 0.0
0.8nm,0.3s,baz=340,slow=7.9,SNR=8.7
ATAH LR LR 14 40 46.5
comp=Z,14μm,21.8s,baz=335,slow=34
TEIG Tepich 15.50 339 Pn Pn 14 36 52.8 +2.8
1.0nm,0.3s,baz=201,slow=11,SNR=3.5
TEIG LR LR 14 42 26.2
comp=Z,7μm,19.8s,baz=349,slow=36
TEIG Tepich 15.50 339 ePn Pn 14 36 48.0 -1.9
112nm,1.6s
TEIG LR LR 14 42 26.2
MGV Manicaragua 16.53 8 eP Pn 14 37 07.3 +4.0
CMIG Matias Romero 16.57 314 Pn Pn 14 37 03.1 -0.7
0.1nm,0.3s,baz=110,slow=11,SNR=11
CMIG LR LR 14 42 33.2
comp=Z,6μm,19.2s,baz=116,slow=34
MOAC Moa 16.62 26 eP Pn 14 37 08.1 +3.7
PCRV Puerto La Cruz 18.29 75 P Pn 14 37 27.3 +2.1
1.1nm,0.3s,baz=279,slow=8.5,SNR=12
PCRV S Sn 14 40 50.9 +1.4
0.2nm,0.3s,baz=186,slow=21,SNR=2.2
NNA Nana 18.44 162 Pn Pn 14 37 25.9 -1.1
483nm,1.1s,SNR=7.1
NNA Nana 18.44 162 P Pn 14 37 24.4 -2.6
0.5nm,0.3s,baz=341,slow=9.7,SNR=15
NNA LR LR 14 43 48.7
comp=Z,2μm,20.1s,baz=319,slow=35
NNA Nana 18.44 162 ePn Pn 14 37 23.4 -3.6
94nm,1.0s
SJG San Juan 20.23 51 P P 14 37 47.3 +0.8
78nm,0.8s,baz=256,slow=5.6,SNR=8.9
SJG S S 14 41 36.0 +2.6
4.8nm,0.3s,baz=326,slow=17,SNR=2.4
SJG LR LR 14 45 22.9
comp=Z,2μm,21.7s,MS4.4,baz=240,slow=36
SJG San Juan 20.23 51⇑ eP P 14 37 47.2 +0.6
SJG pmax pmax
comp=Z,495nm,1.5s
SJG MLR MLR
comp=Z,2μm,22.0s
SJG San Juan 20.23 51⇑ ePn P 14 37 47.2 +0.6
comp=Z,495nm,1.5s
SJG LR LR
comp=Z,2μm,22.0s,MS4.5
CPD Cerro la Pandu 20.37 51 eP P 14 37 46.4 -1.7
HUMP Col San Antoni 20.48 51 ePn P 14 37 49.5 +0.2
CBYP Canovanas 20.55 51 ePn P 14 37 49.9 -0.1
MTP Monte Pirata 20.68 52 eP P 14 37 51.0 -0.5
IIO Organos 20.96 313 i P P 14 37 58.2 +3.7
DWPF Disney 22.34 3 eP P 14 38 10.2 +0.9
comp=Z,220nm,1.4s,mb5.4
BBGH Gun Hill 23.84 70 PFAKE 14 38 30.0 +5.2
BBGH LR LR
comp=Z,4μm,19.0s,MS4.9
ARE Arequipa 24.56 154 eP P 14 38 32.0 +0.7
BRAL Brewton 25.56 351 P P 14 38 42.5 +2.1
comp=Z,633nm,1.7s,mb5.9
BRAL LR LR
comp=Z,798nm,19.0s,MS4.3
LPAZ La Paz 26.07 147 P P 14 38 43.4 -1.7
comp=Z,14nm,1.0s,mb4.4,baz=340,slow=9.7,SNR=23
LPAZ S S 14 43 16.6 +0.5
comp=Z,0.4nm,0.4s,baz=251,slow=12,SNR=1.5
LPAZ LR LR 14 50 02.4
comp=Z,6μm,20.1s,MS5.1,baz=310,slow=39
LPAZ La Paz 26.07 147 eP P 14 38 43.5 -1.5
LPAZ pmax pmax
comp=Z,27nm,1.1s
LPAZ MLR MLR
comp=Z,6μm,20.0s
LPAZ La Paz 26.07 147 eP P 14 38 43.5 -1.5
comp=Z,27nm,1.1s,mb4.7
LPAZ LR LR
comp=Z,6μm,20.0s,MS5.1
KVTX Kingsville 26.20 328 PFAKE 14 39 00.0 +14
KVTX LR LR
comp=Z,4μm,20.0s,MS5.0
NHSC New Hope 27.38 4 PFAKE 14 39 10.0 +13
NHSC LR LR
comp=Z,1μm,20.0s,MS4.5
GOGA Godfrey 27.61 358 eP P 14 38 58.6 -0.3
GOGA pmax pmax
comp=Z,23nm,1.1s,mb4.7
GOGA MLR MLR
comp=Z,1μm,19.0s,MS4.5
GOGA Godfrey 27.61 358 eP P 14 38 58.6 -0.3
comp=Z,23nm,1.1s,mb4.7
GOGA LR LR
comp=Z,1μm,19.0s,MS4.5
NATX Nacogdoches 28.32 338 eP P 14 39 04.7 -0.6
comp=Z,59nm,1.3s,mb5.1
NATX LR LR
comp=Z,1μm,20.0s,MS4.6
OXF Oxford 29.39 348 eP P 14 39 14.1 -0.6
OXF MLR MLR
comp=Z,821nm,21.0s,MS4.3
JCT Junction City 29.54 329 eP P 14 39 16.0 -0.1
JCT pmax pmax
comp=Z,63nm,1.7s,mb5.1
JCT MLR MLR
comp=Z,2μm,20.0s,MS4.7
JCT Junction City 29.54 329 eP P 14 39 16.0 -0.1
comp=Z,63nm,1.7s,mb5.1
JCT LR LR
comp=Z,2μm,20.0s,MS4.7
CNNC Cliffs of the 29.73 8 PFAKE 14 39 30.0 +12
CNNC LR LR
comp=Z,2μm,20.0s,MS4.7
TKL Tuckaleechee C 29.86 358 P P 14 39 19.0 +0.1
comp=Z,18nm,1.1s,mb4.7,baz=160,slow=11,SNR=6.1
SIV San Ignacio 30.25 136 P P 14 39 18.9 -3.5
comp=Z,5.8nm,0.9s,mb4.3,baz=306,slow=9.7,SNR=10.0
UALR University of 30.34 344 eP P 14 39 22.7 -0.4
comp=Z,9.2nm,0.6s,mb4.7
MIAR Mount Ida 30.49 342 eP P 14 39 22.8 -1.7
MIAR pmax pmax
comp=Z,19nm,1.4s,mb4.6
MIAR MLR MLR
comp=Z,1μm,19.0s,MS4.5
MIAR Mount Ida 30.49 342 eP P 14 39 22.8 -1.7
comp=Z,19nm,1.4s,mb4.6
MIAR LR LR
comp=Z,1μm,19.0s,MS4.5
WVT Waverly 30.70 352 eP P 14 39 24.3 -2.0
WVT pmax pmax
comp=Z,20nm,0.6s,mb5.1
WVT MLR MLR
comp=Z,1μm,20.0s,MS4.5
WVT Waverly 30.70 352 eP P 14 39 24.3 -2.0
comp=Z,20nm,0.6s,mb5.1
WVT LR LR
comp=Z,1μm,20.0s,MS4.5
TZTN Tazewell 30.74 358 eP P 14 39 26.6 -0.1
TZTN LR LR
comp=Z,1μm,21.0s,MS4.5
LTX Lajitas 30.86 322 eP P 14 39 27.6 -0.1
LTX MLR MLR
comp=Z,2μm,21.0s,MS4.7
TXAR Lajitas Array 30.86 322 P P 14 39 25.1 -2.6
comp=Z,4.7nm,1.2s,mb4.2,baz=131,slow=15,SNR=4.7
TXAR PcP PcP 14 42 24.2 -0.3
comp=Z,2.6nm,1.1s,baz=141,slow=4.5,SNR=4.3
TXAR LR LR 14 52 11.4
comp=Z,1μm,19.8s,MS4.6,baz=300,slow=37
TXAR Lajitas Array 30.86 322 P P 14 39 25.1 -2.6
TXAR 14 42 24.3
UTMT University of 31.07 350 eP P 14 39 28.5 -1.1
comp=Z,202nm,1.2s,mb5.8
BBSR BB Station 31.36 30 PFAKE 14 39 40.0 +7.9
BBSR LR LR
comp=Z,2μm,22.0s,MS4.8
ELN Prospectdale 31.45 3 eP P 14 39 33.2 +0.2
BLA Blacksburg 31.45 3 eP P 14 39 33.5 +0.6
BLA pmax pmax
comp=Z,52nm,1.1s,mb5.3
BLA MLR MLR
comp=Z,1μm,21.0s,MS4.6
BLA Blacksburg 31.45 3 eP P 14 39 33.5 +0.5
comp=Z,52nm,1.1s,mb5.3
BLA LR LR
comp=Z,1μm,21.0s,MS4.6
SIUC Southern Illin 32.47 350 eP P 14 39 38.5 -3.4
USIN University of 32.48 352 eP P 14 39 40.4 -1.5
comp=Z,56nm,0.7s,mb5.5
WCI Wyandotte Cave 32.58 355 eP P 14 39 40.3 -2.6
WCI pmax pmax
comp=Z,123nm,1.4s,mb5.6
WCI MLR MLR
comp=Z,876nm,20.0s,MS4.5
WCI Wyandotte Cave 32.58 355 eP P 14 39 40.3 -2.6
comp=Z,123nm,1.4s,mb5.6
WCI LR LR
comp=Z,876nm,20.0s,MS4.5
WMOK Wichita Mounta 32.58 335 eP P 14 39 39.1 -3.8
WMOK pmax pmax
comp=Z,17nm,1.3s,mb4.8
WMOK MLR MLR
comp=Z,2μm,22.0s,MS4.7
WMOK Wichita Mounta 32.58 335 eP P 14 39 39.1 -3.8
comp=Z,18nm,1.3s,mb4.8
WMOK LR LR
comp=Z,2μm,22.0s,MS4.7
CBN Corbin 32.72 8 PFAKE 14 40 00.0 +16
CBN LR LR
comp=Z,2μm,20.0s,MS4.8
FVM French Village 32.95 349 eP P 14 39 44.2 -1.9
FVM pmax pmax
comp=Z,103nm,1.4s,mb5.6
FVM French Village 32.95 349 eP P 14 39 44.2 -1.9
comp=Z,103nm,1.4s,mb5.6
BLO Bloomington 33.54 354 eP P 14 39 49.9 -1.4
BLO pmax pmax
comp=Z,40nm,0.7s,mb5.5
BLO Bloomington 33.54 354 eP P 14 39 49.9 -1.4
comp=Z,40nm,0.7s,mb5.5
SLM Saint Louis 33.55 349 eP P 14 39 50.0 -1.3
SLM pmax pmax
comp=Z,50nm,0.8s,mb5.5
SLM Saint Louis 33.55 349 eP P 14 39 50.0 -1.3
comp=Z,50nm,0.8s,mb5.5
MNTX Cornudas Mount 33.58 323 eP P 14 39 50.3 -1.3
comp=Z,30nm,1.4s,mb5.0
MNTX LR LR
comp=Z,2μm,20.0s,MS4.7
MCWV Mont Chateau 33.92 4 eP P 14 39 54.4 -0.2
comp=Z,40nm,1.3s,mb5.2
MCWV LR LR
comp=Z,2μm,20.0s,MS4.9
SDMD Soldier's Deli 33.98 8 eP P 14 39 55.2 +0.1
AMTX Amarillo 34.02 331 PFAKE 14 40 10.0 +15
AMTX LR LR
comp=Z,2μm,20.0s,MS4.7
MVL Millersville 34.63 8 eP P 14 40 00.7 0.0
SSPA Standing Stone 35.06 6 PFAKE 14 40 20.0 +16
SSPA LR LR
comp=Z,1μm,21.0s,MS4.7
KSU1 Kansas State U 35.63 341 eP P 14 40 06.7 -2.7
comp=Z,55nm,1.4s,mb5.3
KSU1 LR LR
comp=Z,1μm,21.0s,MS4.6
BNM Barren Site 36.06 325 eP P 14 40 14.1 +1.1
Y22C IRIS PASSCAL I 36.18 325⇑ P P 14 40 14.9 +0.9
baz=36
LENM Lemitar 36.27 325 eP P 14 40 15.0 +0.1
LCO Las Campanas 36.32 162 PFAKE 14 40 20.0 +4.8
LCO LR LR
comp=Z,2μm,22.0s,MS4.8
AAM Ann Arbor 36.49 359 PFAKE 14 40 30.0 +13
AAM LR LR
comp=Z,1μm,21.0s,MS4.7
LAZ Ladron 36.54 325 eP P 14 40 17.9 +0.8
LAZ ePP PP 14 41 40.5 +0.3
ANMO Albuquerque 36.55 326 d P P 14 40 17.7 +0.5
ANMO Albuquerque 36.55 326 eP P 14 40 15.8 -1.5
comp=Z,33nm,1.3s,mb5.0
ANMO LR LR
comp=Z,2μm,19.0s,MS4.8
BINY Binghamton 36.84 8 eP P 14 40 21.3 +1.6
comp=Z,72nm,1.4s,mb5.3
BINY LR LR
comp=Z,1μm,21.0s,MS4.7
SCIA State Center 37.31 347 eP P 14 40 21.9 -1.8
comp=Z,126nm,1.5s,mb5.5
SCIA LR LR
comp=Z,646nm,22.0s,MS4.4
TUC Tucson 37.38 319 PFAKE 14 40 40.0 +16
TUC LR LR
comp=Z,4μm,19.0s,MS5.2
WES Weston 37.89 14 PFAKE 14 40 40.0 +11
WES LR LR
comp=Z,818nm,19.0s,MS4.5
HRV Harvard--Oak R 37.95 13 PFAKE 14 40 40.0 +11
HRV LR LR
comp=Z,1μm,19.0s,MS4.8
116A Eloy 38.14 318⇑ P P 14 40 30.9 +0.2
baz=38,SNR=11
SDCO Great Sand Dun 38.16 330 eP P 14 40 30.9 0.0
comp=Z,61nm,1.3s,mb5.2
SDCO ePP PP 14 42 02.1 +4.0
SDCO LR LR
comp=Z,1μm,20.0s,MS4.8
ACCN Adirondack Com 38.37 10 eP P 14 40 34.0 +1.4
NCB Newcomb 38.84 10 eP P 14 40 38.6 +2.1
comp=Z,44nm,1.6s,mb4.9
NCB LR LR
comp=Z,2μm,22.0s,MS4.9
HNH Hanover 38.94 12 eP P 14 40 36.4 -1.0
MVCO Mesa Verde 39.33 327 eP P 14 40 40.5 -0.2
comp=Z,74nm,1.3s,mb5.2
MVCO LR LR
comp=Z,2μm,19.0s,MS4.9
MVCO Mesa Verde 39.33 327⇑ P P 14 40 41.4 +0.8
baz=40,SNR=37
LONY Lake Ozonia 39.41 9 eP P 14 40 40.4 -1.0
LONY LR LR
comp=Z,2μm,21.0s,MS4.8
Z14A Wintersburg 39.46 318⇓ P P 14 40 42.1 +0.4
baz=40
CFAA Coronel Fontan 39.50 161 P P 14 40 39.8 -2.3
comp=Z,1.9nm,0.9s,baz=331,slow=6.7,SNR=15
LBNH Lisbon 39.53 12 eP P 14 40 40.1 -2.2
comp=Z,56nm,1.4s,mb5.1
LBNH LR LR
comp=Z,2μm,21.0s,MS4.9
X15A Humboldt 39.69 320 P P 14 40 44.7 +1.0
baz=40,SNR=12
MSNY Massena 39.74 9 eP P 14 40 44.2 +0.1
FRNY Flat Rock 39.79 10 eP P 14 40 46.1 +1.6
WUAZ Wupatki 39.82 322 eP P 14 40 45.4 +0.6
comp=Z,28nm,1.2s,mb4.9
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.0
WUAZ Wupatki 39.82 322⇓ P P 14 40 45.9 +1.1
baz=40,SNR=8.1
Y14A Wickenburg 39.85 319⇓ P P 14 40 46.1 +1.1
baz=40,SNR=6.8
SMCO Snowmass 40.00 330 eP P 14 40 46.5 +0.2
comp=Z,34nm,1.2s,mb5.0
PV01 Paradox Valley 40.04 327 eP P 14 40 47.2 +0.7
X14A Yava 40.10 320 P P 14 40 48.1 +1.0
baz=40,SNR=11
W15A Williams 40.16 321⇓ P P 14 40 48.8 +1.3
baz=40
Y13A Salome 40.32 318 P P 14 40 49.6 +0.7
baz=41,SNR=14
PV10 Paradox Valley 40.47 327 eP P 14 40 49.0 -1.2
W14A Seligman 40.69 320⇓ P P 14 40 52.8 +0.8
baz=41,SNR=11
Y12C Blythe 40.74 317⇑ P P 14 40 52.6 +0.2
baz=41
X13A Yucca 40.79 319⇑ P P 14 40 53.4 +0.6
baz=41,SNR=7.8
PDMCI Parker Dam,Lak 40.81 318⇓ P P 14 40 53.6 +0.6
baz=41,SNR=6.9
W13A Hualapai Mount 41.13 320⇑ P P 14 40 56.6 +0.9
baz=41,SNR=8.2
SWSC Sam W. Stewart 41.15 316⇑ P P 14 40 56.3 +0.5
baz=41
BC3 Big Chuckw Mtn 41.32 317⇓ P P 14 40 57.4 +0.2
baz=42,SNR=10
IRM Iron Mountain 41.40 318⇓ P P 14 40 58.0 +0.1
baz=42,SNR=8.6
MONP Monument Peak 41.56 315⇓ P P 14 40 59.5 +0.4
baz=42
SRU San Rafael 41.80 327 eP P 14 41 00.4 -0.7
SRU pmax pmax
comp=Z,67nm,1.3s,mb5.1
SRU San Rafael 41.80 327 eP P 14 41 00.4 -0.7
comp=Z,67nm,1.3s,mb5.1
BELC Belle Mtn. 41.89 317⇑ P P 14 41 02.3 +0.5
baz=42
PFO Pinyon Flat Ob 41.98 316 P P 14 41 03.0 +0.4
comp=Z,74nm,1.4s,mb5.1,SNR=6.5
PFO Pinyon Flat Ob 41.98 316 P P 14 41 02.5 -0.1
comp=Z,5.7nm,0.8s,mb4.3,baz=107,slow=4.0,SNR=9.1
PFO Pinyon Flat Ob 41.98 316 P P 14 41 02.5 -0.1
PFO LR LR
comp=Z,394nm,19.0s,MS4.3
PFO Pinyon Flat Ob 41.98 316⇑ P P 14 41 03.3 +0.7
baz=42,SNR=9.4
109C Camp Elliot, M 42.04 315⇓ P P 14 41 03.7 +0.7
baz=42
RWWY Rawlins 42.06 332 eP P 14 41 03.6 +0.4
comp=Z,63nm,1.3s,mb5.1
RWWY ePP PP 14 42 45.8 +5.2
GMRC Granite Mounta 42.11 318⇑ P P 14 41 04.5 +0.9
baz=42,SNR=5.2
V12A Nelson 42.14 320 P P 14 41 04.4 +0.5
baz=42,SNR=10
MSU Marysvale 42.31 325 eP P 14 41 05.0 -0.3
MVU Marysvale 42.32 325 PFAKE 14 41 20.0 +15
MVU LR LR
comp=Z,4μm,19.0s,MS5.3
U12A Valley of Fire 42.38 321⇑ P P 14 41 06.4 +0.6
baz=43
MURC Murrieta 42.49 315⇓ P P 14 41 07.1 +0.3
baz=43
V11A Goodsprings 42.58 319⇑ P P 14 41 07.8 +0.4
baz=43
HEC Hector,Ludlow 42.59 317⇓ P P 14 41 07.9 +0.4
baz=43
BBRC Big Bear Sol-O 42.67 316⇓ P P 14 41 08.4 +0.3
baz=43
TUQ Turquoise Mtn. 42.67 318⇓ P P 14 41 08.6 +0.4
baz=43,SNR=6.0
RSSD Black Hills 42.69 337 PFAKE 14 41 20.0 +12
RSSD LR LR
comp=Z,119nm,19.0s,MS3.8
EYMN Ely 42.81 351 eP P 14 41 07.6 -1.7
EYMN LR LR
comp=Z,1μm,21.0s,MS4.8
SHPR Sheep Range 42.81 320 eP P 14 41 10.1 +0.7
U11A Corn Creek 42.91 320⇑ P P 14 41 10.6 +0.5
baz=43
MPU Maple Canyon 43.05 327 eP P 14 41 10.7 -0.5
comp=Z,12nm,0.9s,mb4.6
MPU ePP PP 14 42 45.4 -5.8
MPU LR LR
comp=Z,4μm,20.0s,MS5.3
RRX Edison Barstow 43.07 317⇑ P P 14 41 11.7 +0.3
baz=43
SCI San Clemente I 43.12 314⇓ P P 14 41 12.0 +0.2
baz=43
DAU Daniels Canyon 43.12 328 eP P 14 41 12.3 +0.4
DAU e 14 42 58.0
BFSC Mount Baldy St 43.16 316⇓ P P 14 41 12.6 +0.4
baz=43
SHOC Shoshone 43.17 319⇓ P P 14 41 12.7 +0.4
baz=43,SNR=5.7
GSC Goldstone 43.18 318⇑ P P 14 41 12.9 +0.6
baz=43,SNR=11
CIS Catalina Islan 43.24 314⇑ P P 14 41 13.3 +0.5
baz=44
NLU North Lily Min 43.25 326 eP P 14 41 12.1 -0.7
JLU Jordanelle 43.36 328 eP P 14 41 13.8 -0.1
U10A Ash Meadows, A 43.51 319⇑ P P 14 41 16.0 +1.0
baz=44
CTU Camp Tracy 43.59 327 eP P 14 41 15.7 +0.1
comp=Z,48nm,1.3s,mb5.1
DECC Green Verdugo 43.63 315⇑ P P 14 41 16.2 +0.2
baz=44
EDW2 Edwards Air Fo 43.74 316⇑ P P 14 41 16.8 0.0
baz=44,SNR=11
NOQ North Oquirrh 43.76 327 eP P 14 41 17.5 +0.5
comp=Z,37nm,1.0s,mb5.1
DUG Dugway 43.82 326 eP P 14 41 18.7 +1.2
DUG MLR MLR
comp=Z,3μm,19.0s,MS5.3
DUG Dugway 43.82 326⇑ P P 14 41 18.2 +0.7
baz=44,SNR=8.8
LRMC Laurel Mountai 43.87 317 P P 14 41 18.3 +0.4
baz=44,SNR=13
FURC Furnace Creek, 43.89 319⇓ P P 14 41 18.4 +0.4
baz=44,SNR=12
PDAR Pinedale Array 44.00 331 P P 14 41 18.3 -0.6
comp=Z,7.4nm,1.1s,mb4.3,baz=140,slow=7.7,SNR=31
PDAR PcP PcP 14 43 02.8 -1.7
comp=Z,0.8nm,1.0s,baz=146,slow=6.6,SNR=3.1
PDAR LR LR 15 00 47.7
comp=Z,1μm,19.7s,MS4.8,baz=38,slow=38
MPMC Manual Prospec 44.07 318 P P 14 41 20.3 +0.8
baz=44,SNR=7.0
BLG Laguna Peak 44.08 315⇑ P P 14 41 20.2 +0.6
baz=44
OSI Osito Adit 44.10 316⇓ P P 14 41 20.2 +0.5
baz=44
HWUT Hardware Ranch 44.15 329 eP P 14 41 20.0 -0.1
comp=Z,46nm,1.3s,mb5.0
HWUT LR LR
comp=Z,2μm,19.0s,MS5.1
Q12A Willow Creek R 44.21 323⇑ P P 14 41 21.1 +0.5
baz=44,SNR=8.9
TRCR Troy Canyon 44.22 322 eP P 14 41 20.4 -0.4
DAC Darwin (Calif) 44.26 318 PFAKE 14 41 30.0 +9.0
DAC LR LR
comp=Z,2μm,19.0s,MS5.0
BSC Santa Cruz Isl 44.42 314⇓ P P 14 41 22.8 +0.5
baz=45
BGU Big Grassy Mou 44.44 327 eP P 14 41 21.4 -1.1
ARVC Arvin 44.45 316⇑ P P 14 41 23.2 +0.7
baz=45
ISA Isabella 44.50 317⇓ P P 14 41 23.5 +0.5
baz=45,SNR=8.8
GRAC Grapevine Rang 44.53 319⇑ P P 14 41 23.8 +0.6
baz=45
P12A McGill 44.53 324⇓ P P 14 41 23.8 +0.6
baz=45,SNR=7.1
Q11A Duckwater 44.58 323 P P 14 41 24.3 +0.7
baz=45,SNR=14
R10A Warm Springs 44.63 322⇓ P P 14 41 24.9 +1.0
baz=45,SNR=8.2
CWC Cottonwood Cre 44.67 318⇑ P P 14 41 24.7 +0.3
baz=45
SBC Santa Barbara 44.71 315⇑ P P 14 41 24.8 +0.1
baz=45
AHID Auburn Hatcher 44.75 330 PFAKE 14 41 40.0 +15
AHID LR LR
comp=Z,1μm,20.0s,MS4.8
S09A Goldfield 44.87 320 P P 14 41 26.0 +0.2
baz=45,SNR=16
HVU Hansel Valley 44.90 328 eP P 14 41 25.0 -1.2
HVU pmax pmax
comp=Z,11nm,0.8s,mb4.7
HVU Hansel Valley 44.90 328 eP P 14 41 25.0 -1.1
comp=Z,11nm,0.8s,mb4.7
VES Vestal, Richgr 45.01 317⇑ P P 14 41 27.3 +0.3

baz=45
PKM Peak Mountain 45.02 315 ⇑P P 14 41 27.1 0.0
baz=45
N13A Wendover, West 45.05 326 P P 14 41 27.9 +0.6
baz=45,SNR=20
REDW Red Top Meadow 45.07 331 eP P 14 41 27.2 -0.3
comp=Z,113nm,1.3s,mb5.5
TPH Tonopah 45.07 321 eP P 14 41 29.9 +2.4
TPH pmax pmax
comp=Z,25nm,1.1s,mb5.0
TPH MLR MLR
comp=Z,2μm,19.0s,MS5.1
TPH Tonopah 45.07 321 eP P 14 41 29.9 +2.4
comp=Z,25nm,1.1s,mb5.0
TPH LR LR
comp=Z,2μm,19.0s,MS5.1
R09A Tonopah 45.08 321 ⇑P P 14 41 27.9 +0.3
baz=45,SNR=16
P11A Circle Ranch, 45.09 323 ⇑P P 14 41 28.1 +0.5
baz=45
SNOW Snow King Moun 45.10 331 eP P 14 41 28.7 +1.0
comp=Z,44nm,1.1s,mb5.2
TIN Tinemaha 45.12 319 ⇓P P 14 41 28.2 +0.3
baz=45
LOHW Long Hollow 45.14 331 eP P 14 41 28.6 +0.6
comp=Z,29nm,1.4s,mb4.9
MOOW Moose Ponds 45.31 331 eP P 14 41 28.7 -0.6
comp=Z,19nm,1.2s,mb4.8
S08C White Mtn Res 45.34 319 P P 14 41 30.5 +0.8
baz=46,SNR=17
SMMC Simmler 45.36 316 ⇑P P 14 41 30.1 +0.3
baz=46,SNR=6.9
M13A Montello 45.37 326 ⇓P P 14 41 30.6 +0.7
baz=46
RCTC Rector, Farmer 45.38 317 ⇓P P 14 41 30.2 +0.3
baz=46
O11A Cowboy Ranch, 45.40 324 ⇑P P 14 41 30.7 +0.6
baz=46
HELL Mitchell Peak, 45.44 318 ⇑P P 14 41 31.0 +0.6
baz=46,SNR=16
Q09A Carvers 45.51 322 ⇓P P 14 41 32.0 +1.1
baz=46
IMW Indian Meadow 45.51 331 eP P 14 41 30.7 -0.3
comp=Z,12nm,1.0s,mb4.8
N12A Clover Valley, 45.52 325 ⇓P P 14 41 31.5 +0.5
baz=46,SNR=13
P10A Eureka 45.55 323 ⇑P P 14 41 31.7 +0.4
baz=46
ELK Elko 45.56 325 PFAKE 14 41 40.0 +8.6
ELK LR LR
comp=Z,2μm,22.0s,MS5.0
RLMT Red Lodge 45.68 334 PFAKE 14 41 40.0 +7.7
RLMT LR LR
comp=Z,2μm,19.0s,MS5.0
LAO LASA Array 45.68 337 eP P 14 41 30.7 -1.7
comp=Z,74nm,1.3s,mb5.5
LAO LR LR
comp=Z,2μm,19.0s,MS5.0
PTRM Twissleman Ran 45.69 316 eP P 14 41 32.2 -0.1
L13A Double Diamond 45.74 327 ⇑P P 14 41 33.2 +0.4
baz=46
LKWY Lake 45.76 332 eP P 14 41 34.1 +1.1
LKWY pmax pmax
comp=Z,15nm,1.1s,mb4.8
LKWY MLR MLR
comp=Z,3μm,21.0s,MS5.2
LKWY Lake 45.76 332 eP P 14 41 34.1 +1.1
comp=Z,15nm,1.1s,mb4.8
LKWY LR LR
comp=Z,3μm,21.0s,MS5.2
R08A Mina 45.80 320 ⇓P P 14 41 33.8 +0.6
baz=46,SNR=8.1
ULM Lac du Bonnet 45.81 348 P P 14 41 30.8 -2.6
comp=Z,9.4nm,0.8s,mb4.8,baz=159,slow=7.1,SNR=18
ULM PcP PcP 14 43 10.2 -0.6
comp=Z,5.1nm,0.9s,baz=155,slow=5.1,SNR=3.2
M12A Wells 45.82 326 P P 14 41 33.9 +0.4
baz=46,SNR=6.7
MLAC Mammoth Lakes 45.85 319 ⇓P P 14 41 34.1 +0.4
baz=46
YFT Old Faithful 45.88 332 eP P 14 41 35.4 +1.5
N11A Elko Archery C 45.89 325 ⇓P P 14 41 34.2 +0.2
baz=46,SNR=7.8
P09A Austin 45.92 322 ⇑P P 14 41 34.5 +0.3
baz=46
NVAR Mina Array Bea 45.97 320 P P 14 41 34.4 -0.2
comp=Z,13nm,1.1s,mb4.8,baz=128,slow=6.1,SNR=26
Q08A Gabbs 45.99 321 P P 14 41 35.6 +0.9
baz=46,SNR=10
KCC Kaiser Creek 45.99 318 ⇑P P 14 41 35.4 +0.6
baz=46
O10A Cortez Mining, 46.00 324 P P 14 41 35.5 +0.7
baz=46,SNR=6.1
PKD Parkfield 46.07 316 ⇑P P 14 41 35.6 +0.2
baz=46
T06C Millerton Lake 46.08 318 ⇓P P 14 41 35.6 +0.2
baz=46
YMR Madison River 46.11 332 eP P 14 41 36.2 +0.5
comp=Z,43nm,1.2s,mb5.2
YMR LR LR
comp=Z,2μm,22.0s,MS5.0
V04C Ramage Ranch, 46.14 316 ⇑P P 14 41 36.2 +0.2
baz=46
K13A Stover Farm, H 46.21 328 ⇑P P 14 41 36.3 -0.1
baz=46
R07C Lee Vining 46.25 319 ⇑P P 14 41 36.9 +0.1
baz=46
N10A Dunphy 46.27 324 ⇓P P 14 41 37.3 +0.3
baz=46
M11A Holland Ranch, 46.32 325 ⇓P P 14 41 37.8 +0.4
baz=47
O09A Fish Creek Ran 46.33 323 ⇑P P 14 41 37.6 +0.2
baz=47
L12A House Creek Ra 46.37 327 ⇓P P 14 41 37.5 -0.2
baz=47
QLMT Earthquake Lak 46.45 332 eP P 14 41 37.7 -0.6
BMN Battle Mountai 46.52 323 eP P 14 41 38.4 -0.5
BMN pmax pmax
comp=Z,37nm,1.3s,mb5.2
BMN MLR MLR
comp=Z,3μm,19.0s,MS5.3
BMN Battle Mountai 46.52 323 eP P 14 41 38.4 -0.5
comp=Z,37nm,1.3s,mb5.2
BMN LR LR
comp=Z,3μm,19.0s,MS5.3
P08A Dixie Valley 46.58 322 ⇑P P 14 41 39.5 0.0
baz=47
K12A Draper Farm, C 46.64 327 ⇑P P 14 41 40.0 +0.2
baz=47,SNR=11
S06C San Francisco 46.65 319 ⇑P P 14 41 39.8 -0.1
baz=47,SNR=8.6
S05C Merced 46.67 318 ⇑P P 14 41 40.0 -0.2
baz=47
R06C Coleville 46.76 320 ⇓P P 14 41 41.1 +0.3
baz=47,SNR=15
J13A Cove Ranch, Pi 46.77 328 P P 14 41 41.4 +0.5
baz=47,SNR=9.0
M10A I.L. Ranch, Tu 46.81 325 ⇑P P 14 41 41.6 +0.4
baz=47
N09A Rock Creek Ran 46.96 323 ⇑P P 14 41 42.7 +0.3
baz=47
HAST UC Hastings Re 47.00 316 ⇑P P 14 41 42.7 0.0
baz=47
HLID Hailey 47.01 328 eP P 14 41 43.1 +0.3
HLID LR LR
comp=Z,3μm,21.0s,MS5.2
HLID Hailey 47.01 328 ⇓P P 14 41 43.2 +0.4
baz=47,SNR=12
CMB Columbia Colle 47.09 319 eP P 14 41 42.7 -0.7
CMB pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CMB MLR MLR
comp=Z,2μm,20.0s,MS5.0
CMB Columbia Colle 47.09 319 eP P 14 41 42.7 -0.7
comp=Z,10nm,1.3s,mb4.6
CMB LR LR
comp=Z,2μm,20.0s,MS5.0
CMB Columbia Colle 47.09 319 ⇓P P 14 41 43.5 +0.1
baz=47
SAO San Andreas Ge 47.12 317 PFAKE 14 41 50.0 +6.4
SAO LR LR
comp=Z,2μm,21.0s,MS5.1
MCMT McKenzie Canyo 47.12 331 eP P 14 41 44.6 +1.0
PACP Pacheco Peak 47.14 317 ⇓P P 14 41 43.8 +0.1
baz=47
BOZ Bozeman (W) 47.15 332 eP P 14 41 43.2 -0.7
BOZ pmax pmax
comp=Z,23nm,1.3s,mb5.0
BOZ MLR MLR
comp=Z,2μm,21.0s,MS5.0
BOZ Bozeman (W) 47.15 332 eP P 14 41 43.2 -0.7
comp=Z,23nm,1.3s,mb5.0
BOZ LR LR
comp=Z,2μm,21.0s,MS5.0
BOZ Bozeman (W) 47.15 332 P P 14 41 43.6 -0.2
baz=48,SNR=24
J12A Stokes Ranch, 47.16 328 ⇑P P 14 41 43.9 0.0
baz=47,SNR=19
G15A Dillon 47.20 331 P P 14 41 45.2 +1.0
baz=48,SNR=11
R05C Kirkwood Meado 47.26 320 ⇓P P 14 41 45.4 +0.7
baz=48,SNR=9.6
O07A Toulon 47.35 322 P P 14 41 45.7 +0.3
baz=48,SNR=7.2
DLMT Dillon 47.39 331 eP P 14 41 46.0 +0.2
comp=Z,24nm,1.3s,mb5.0
PAHR Pah Rah Range 47.40 321 eP P 14 41 46.6 +0.8
WCN Washoe City 47.40 320 ⇑P P 14 41 46.4 +0.6
baz=48
S04C Ingram Canyon, 47.43 317 ⇑P P 14 41 46.6 +0.5
baz=48
PLCA Paso Flores 47.48 168 P P 14 41 44.1 -2.2
comp=Z,12nm,1.1s,mb4.8,baz=346,slow=9.6,SNR=14
PLCA PcP PcP 14 43 17.0 +0.4
comp=Z,2.5nm,0.9s,baz=303,slow=7.9,SNR=3.3
PLCA Paso Flores 47.48 168 eP P 14 41 41.9 -4.5
PLCA pmax pmax
comp=Z,34nm,1.3s
PLCA MLR MLR
comp=Z,794nm,22.0s
PLCA Paso Flores 47.48 168 eP P 14 41 41.9 -4.5
comp=Z,34nm,1.3s,mb5.1
PLCA LR LR
comp=Z,794nm,22.0s,MS4.6
TRQA Tornquist 47.53 158 eP P 14 41 43.6 -3.2
comp=Z,90nm,1.9s,mb5.5
TRQA LR LR
comp=Z,831nm,19.0s,MS4.7
R04C Big Horse Ranc 47.58 319 ⇓P P 14 41 47.4 +0.2
baz=48,SNR=9.2
MFID Camas Ranch 47.66 327 ⇓P P 14 41 48.5 +0.6
baz=48,SNR=13
LRM Limekiln Ridge 47.66 332 eP P 14 41 48.7 +0.8
P06A Stead Airport, 47.70 321 ⇑P P 14 41 48.8 +0.6
baz=48
LAVA Lava Cap Winer 47.72 319 ⇓P P 14 41 48.8 +0.5
baz=48
L09A Wilkinson Ranc 47.77 325 ⇑P P 14 41 49.3 +0.5
baz=48
N07B Gerlach 47.78 322 ⇑P P 14 41 49.3 +0.6
baz=48
WENL Wente Brothers 47.78 317 ⇑P P 14 41 49.4 +0.6
baz=48
BNLO Ben Lomond (Sa 47.81 317 ⇓P P 14 41 49.0 0.0
baz=48
K10A MacKenzie Ranc 47.81 326 P P 14 41 49.4 +0.3
baz=48,SNR=12
M08A Happy Creek Ra 47.83 324 ⇓P P 14 41 49.2 +0.1
baz=48
H12A Diamond D Ranc 47.93 329 P P 14 41 50.5 +0.5
baz=48,SNR=10
P05C Yuba Gap, Truc 47.94 320 P P 14 41 50.2 +0.2
baz=48,SNR=9.7
O06A Flanigan 47.94 321 ⇓P P 14 41 50.3 +0.3
baz=48
RCBR Riachuelo 47.95 103 PFAKE 14 42 00.0 +10
RCBR LR LR
comp=Z,1μm,21.0s,MS4.8
G13A Cobalt 48.00 330 P P 14 41 50.6 +0.2
baz=48,SNR=8.8
BDM Black Diamond 48.03 318 ⇑P P 14 41 50.6 -0.1
baz=48
I11A Placerville 48.07 328 P P 14 41 51.5 +0.5
baz=48,SNR=14
F14A Wisdom 48.09 331 ⇓P P 14 41 51.7 +0.5
baz=48
BEKR Beckwourth 48.10 321 ⇓P P 14 41 51.2 0.0
baz=48
EGMT Eagleton 48.17 336 eP P 14 41 51.2 -0.5
comp=Z,69nm,1.4s,mb5.5
EGMT LR LR
comp=Z,2μm,19.0s,MS5.1
EGMT Eagleton 48.17 336 P P 14 41 52.4 +0.6
baz=48,SNR=8.0
Q04C Lincoln 48.18 319 ⇑P P 14 41 52.1 +0.2
baz=48,SNR=6.0
K09A Rome 48.24 325 P P 14 41 52.3 0.0
baz=48,SNR=45
M07A Soldier Meadow 48.27 323 ⇑P P 14 41 52.7 +0.1
baz=48
L08A Fields 48.27 324 P P 14 41 52.8 +0.2
baz=48,SNR=12
N06A Buffalo Meadow 48.29 322 ⇓P P 14 41 52.8 +0.1
baz=49,SNR=13
Q03C Winters 48.49 318 ⇓P P 14 41 54.1 -0.2
baz=49
O05C Quincy 48.51 320 ⇓P P 14 41 54.4 0.0
baz=49
OHCM Honcut 48.52 319 eP P 14 41 53.8 -0.7
F13A Darby 48.54 331 P P 14 41 54.6 -0.1
baz=49,SNR=7.7
E14A Clinton 48.59 332 P P 14 41 55.5 +0.4
baz=49,SNR=9.4
WVOR Wild Horse Val 48.60 324 eP P 14 41 54.1 -1.0
WVOR pmax pmax
comp=Z,74nm,1.3s,mb5.6
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.2
WVOR Wild Horse Val 48.60 324 eP P 14 41 54.1 -1.0
comp=Z,74nm,1.3s,mb5.6
WVOR LR LR
comp=Z,2μm,19.0s,MS5.2
D15A Lincoln 48.61 333 ⇓P P 14 41 55.5 +0.3
baz=49
CVS Carmenet Viney 48.63 318 ⇓P P 14 41 54.9 -0.5
baz=49
H11A Donnelly 48.63 328 ⇑P P 14 41 55.2 -0.1
baz=49,SNR=10
ORV Oroville 48.66 320 P P 14 41 55.7 +0.1
baz=49,SNR=13
SUTB Sutter Butte 48.66 319 ⇑P P 14 41 55.5 -0.1
baz=49
J09A Fry Pan Ranch, 48.67 326 ⇓P P 14 41 55.4 -0.3
baz=49,SNR=11
K08A Mann Creek Ran 48.70 325 ⇓P P 14 41 55.6 -0.2
baz=49,SNR=18
L07A Adell 48.75 324 P P 14 41 56.5 +0.3
baz=49,SNR=9.5
ELFS Eagle Lake Fie 48.76 321 ⇓P P 14 41 56.5 +0.1
baz=49
MCCM Marconi Confer 48.81 317 PFAKE 14 42 10.0 +13
MCCM LR LR
comp=Z,2μm,20.0s,MS5.1
O04C Chester 48.82 321 ⇓P P 14 41 56.4 -0.4
baz=49
CHMT Chamberlain Mo 48.85 332 eP P 14 41 56.4 -0.6
MNRC McLaughlin Nat 48.90 318 ⇑P P 14 41 57.1 -0.3
baz=49
E13A Victor 48.94 331 P P 14 41 57.8 +0.1
baz=49,SNR=12
M06C Likely Place G 48.95 322 ⇓P P 14 41 57.4 -0.4
baz=49
F12A Elk City 48.98 330 ⇑P P 14 41 57.8 -0.2
baz=49,SNR=18
I09A Lost Marbles R 49.07 327 P P 14 41 58.4 -0.3
baz=49,SNR=9.7
J08A Circle Bar Ran 49.08 326 ⇓P P 14 41 58.6 -0.2
baz=49
D14A Greenough 49.09 332 ⇑P P 14 41 58.8 -0.1
baz=49
MSO Missoula 49.11 332 eP P 14 41 59.2 +0.2
comp=Z,21nm,1.3s,mb5.0
MSO LR LR
comp=Z,1μm,19.0s,MS5.0
K07A Rock Creek Ran 49.11 324 ⇑P P 14 41 58.7 -0.3
baz=49
G11A Walters Elk Ra 49.24 329 P P 14 41 59.4 -0.6
baz=50,SNR=9.3
MOD Modoc 49.26 323 eP P 14 42 00.4 +0.3
MOD LR LR
comp=Z,1μm,19.0s,MS4.9
MOD Modoc 49.26 323 ⇓P P 14 41 59.8 -0.4
baz=50
HOPS Hopland 49.38 318 PFAKE 14 42 10.0 +8.9
HOPS LR LR
comp=Z,2μm,22.0s,MS5.1
BMO Blue Mountains 49.41 328 eP P 14 42 01.2 -0.1
BMO LR LR
comp=Z,2μm,21.0s,MS5.0
M05C Lookout 49.45 322 ⇓P P 14 42 01.1 -0.5
baz=50
H09A Durkee 49.48 327 ⇑P P 14 42 01.8 -0.1
baz=50
I08A Drewsey 49.49 326 ⇑P P 14 42 01.7 -0.2
baz=50
GASB Alder Springs 49.50 319 ⇓P P 14 42 01.7 -0.3
baz=50
F11A Grangeville 49.52 329 ⇑P P 14 42 01.9 -0.3
baz=50
J07A Hines 49.57 325 ⇑P P 14 42 01.9 -0.6
baz=50
K06A Valley Falls 49.76 324 ⇓P P 14 42 03.8 -0.2
baz=50
E11A Bogner Ranch, 49.87 330 P P 14 42 04.7 -0.1
baz=50,SNR=12
WDC Whiskeytown Da 49.88 320 PFAKE 14 42 20.0 +15
WDC LR LR
comp=Z,1μm,21.0s,MS4.9
H08A Prairie City 49.93 327 ⇑P P 14 42 05.4 +0.1
baz=50
G09A Cove 49.95 328 ⇓P P 14 42 05.1 -0.4
baz=50
J06A Christmas Vall 49.98 324 ⇑P P 14 42 05.4 -0.3
baz=50
M03C McCloud 50.01 321 ⇓P P 14 42 04.9 -1.0
baz=50
C13A Hot Springs 50.02 332 ⇓P P 14 42 05.7 -0.3
baz=50
M04C Macdoel 50.12 322 ⇓P P 14 42 06.6 -0.2
baz=50
I07A Izee 50.12 326 P P 14 42 07.0 +0.3
baz=50,SNR=6.3
F10A Beach Ranch, E 50.12 329 ⇓P P 14 42 06.5 -0.2
baz=50
BSMT Bassoo Peak 50.24 332 eP P 14 42 08.0 +0.3
F09A S2 Ranch, Elgi 50.30 328 ⇓P P 14 42 07.9 -0.2
baz=51
L04A Klamath Falls 50.37 322 ⇓P P 14 42 08.2 -0.4
baz=51
E10A Myers Farm, Un 50.41 329 ⇑P P 14 42 08.7 -0.2
baz=51
I06A Prineville 50.43 325 ⇑P P 14 42 08.8 -0.3
baz=51
H07A Lands Inn, Kim 50.47 326 ⇓P P 14 42 09.4 0.0
baz=51
G08A Pilot Rock 50.59 327 ⇓P P 14 42 10.5 +0.2
baz=51,SNR=7.5
SCHQ Schefferville 50.63 12 P P 14 42 10.6 0.0
comp=Z,13nm,0.9s,mb4.8,baz=164,slow=5.8,SNR=6.3
SCHQ LR LR 15 03 03.5
comp=Z,805nm,21.5s,MS4.7,baz=195,slow=35
SCHQ Schefferville 50.63 12 P P 14 42 10.6 0.0
SCHQ LR LR 15 03 03.5
YBH Yreka Blue Hor 50.63 321 PFAKE 14 42 20.0 +9.4
YBH LR LR
comp=Z,2μm,19.0s,MS5.1
YBH Yreka Blue Hor 50.63 321 ⇓P P 14 42 10.5 -0.1
baz=51
WALA Waterton Lakes 50.73 334 eP P 14 42 08.8 -2.5
comp=Z,5.8nm,0.8s,mb4.6
KHMM Horse Mountain 50.80 320 eP P 14 42 07.0 -4.9
D10A Wagner Farm, O 50.88 330 P P 14 42 11.7 -0.8
baz=51,SNR=8.6
G07A Ruggs Ranch, H 50.96 327 ⇑P P 14 42 13.1 0.0
baz=51
JCC Jacoby Creek 50.97 320 ⇑P P 14 42 12.4 -0.7
baz=51
H06A Lindquist Farm 50.99 326 ⇑P P 14 42 13.3 0.0
baz=51,SNR=5.2
B12A Libby 51.06 332 ⇓P P 14 42 13.8 0.0
baz=51
J04A Umpqua Nationa 51.12 323 ⇑P P 14 42 13.9 -0.3
baz=51
I05A Bend 51.17 325 ⇑P P 14 42 14.5 -0.2
baz=51
HUMO Hull Mountain 51.27 322 PFAKE 14 42 30.0 +15
HUMO LR LR
comp=Z,2μm,20.0s,MS5.1
FFC Flin Flon 51.36 346 P P 14 42 15.0 -1.1
comp=Z,64nm,1.2s,mb5.4,SNR=6.3
B11A Sandpoint 51.40 332 P P 14 42 16.6 +0.2
baz=52,SNR=7.6
D09A Jones Farm, Ri 51.41 329 ⇑P P 14 42 16.7 +0.3
baz=52
E08A Dider Farm, El 51.42 328 P P 14 42 16.5 0.0
baz=52,SNR=7.0
C10A Spilker Farm, 51.42 331 ⇑P P 14 42 16.3 -0.3
baz=52
H05A Madras 51.44 325 ⇑P P 14 42 16.6 -0.1
baz=52
G06A Carlson Farm, 51.47 326 ⇓P P 14 42 17.0 +0.1
baz=52
F07A Phinny Hill Vi 51.50 327 ⇓P P 14 42 17.2 +0.1
baz=52
HAWA Hanford 51.60 328 eP P 14 42 17.6 -0.3
HAWA LR LR
comp=Z,682nm,19.0s,MS4.7
NEW Newport 51.64 331 eP P 14 42 17.9 -0.3
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW MLR MLR
comp=Z,893nm,21.0s
NEW Newport 51.64 331 eP P 14 42 17.9 -0.3
comp=Z,5.3nm,1.0s,mb4.4
NEW LR LR
comp=Z,893nm,21.0s,MS4.8
A11A Hall Mountain, 51.77 332 ⇓P P 14 42 19.3 +0.2
baz=52,SNR=7.7
G05A Wamic 51.85 326 ⇑P P 14 42 19.5 -0.3
baz=52,SNR=6.4
E07A Sunnyside 51.88 328 ⇑P P 14 42 20.0 0.0
baz=52
C09A Chrisman Ranch 51.89 330 ⇑P P 14 42 20.1 +0.1
baz=52
H04A Detroit Lake 52.01 325 ⇓P P 14 42 21.0 0.0
baz=52
HOOD Mount Hood Mea 52.09 326 eP P 14 42 23.6 +2.1
B09A Rice 52.25 331 ⇓P P 14 42 22.6 -0.1
baz=52
C08A Higginbotham F 52.27 330 ⇑P P 14 42 23.1 +0.2
baz=52
F05A White Salmon 52.33 326 ⇓P P 14 42 23.3 0.0
baz=53
D07A Quincy 52.35 328 ⇑P P 14 42 23.6 +0.1
baz=53
E06A Yakima 52.47 327 P P 14 42 25.0 +0.7
baz=53,SNR=8.7
G04A Mulino 52.49 325 ⇑P P 14 42 24.3 -0.1
baz=53
COR Corvallis 52.60 324 PFAKE 14 42 40.0 +15
COR LR LR
comp=Z,1μm,20.0s,MS5.0
H03A Soap Creek Ran 52.65 324 ⇑P P 14 42 25.8 +0.1
baz=53
C07A Waterville 52.72 329 P P 14 42 25.8 -0.4
baz=53,SNR=9.4
B08A Colville Reser 52.79 330 P P 14 42 26.7 0.0
baz=53,SNR=5.8
D06A Cle Elum 52.81 328 ⇑P P 14 42 26.9 0.0
baz=53
A09A Danville 52.84 331 P P 14 42 27.2 +0.1
baz=53,SNR=8.8
F04A Amboy 52.89 326 ⇓P P 14 42 26.9 -0.5
baz=53
A08A Turner Farm, O 53.16 330 P P 14 42 29.6 +0.2
baz=53,SNR=12
B07A Winthrop 53.25 330 ⇓P P 14 42 29.4 -0.7
baz=54
D05A Enumclaw 53.42 327 ⇑P P 14 42 30.8 -0.6
baz=54
C05A Tolt Reservoir 53.57 328 ⇑P P 14 42 32.2 -0.3
baz=54
EDM Edmonton 53.67 338 eP P 14 42 31.6 -1.6
FCC Fort Churchill 53.70 353 eP P 14 42 30.3 -3.1
FCC pmax pmax
comp=Z,40nm,1.3s,mb5.2
FCC Fort Churchill 53.70 353 eP P 14 42 30.3 -3.1
comp=Z,40nm,1.3s,mb5.2
A07A Ashnola River, 53.77 330 ⇓P P 14 42 34.1 +0.2
baz=54,SNR=12
B06A Marblemount 53.98 329 ⇓P P 14 42 34.9 -0.6
baz=54
GNW Green Mountain 54.10 327 eP P 14 42 35.4 -0.9
C04A Brinnon 54.27 327 ⇑P P 14 42 37.2 -0.3

baz=54
A05A Maple Falls 54.59 329 ⇑P **P 14 42 39.7 -0.2**
baz=55
TAOE Nuku Hiva Isla 59.21 256 *e*S **S 14 51 15.5 -4.9**
comp=Z,539nm,26.6s
TAOE *e*SS SS 14 55 04.4 -10
comp=Z,423nm,25.7s
TAOE *e*LQ 14 58 03.2
comp=Z,9μm,34.2s
TAOE *e*LR LR 15 00 40.0
comp=Z,3μm,25.6s
YKA Yellowknife Ar 61.41 344 P **P 14 43 25.5 -2.2**
comp=Z,15nm,1.0s,mb5.1,baz=137,slow=6.8,SNR=80
YKA LR LR 15 13 23.8
comp=Z,322nm,20.0s,MS4.5,baz=55,slow=39
YKW3 Yellowknife Ar 61.47 344 *e*P **P 14 43 27.1 -1.0**
DLBC Dease Lake 64.07 334 *e*P **P 14 43 45.4 0.0**
RES Resolute Bay 69.33 357 *e*P **P 14 44 15.3 -3.7**
comp=Z,283nm,1.1s
PPT Papeete 70.06 249 *e*S S 14 53 26.5 -7.8
comp=Z,241nm,24.2s
PPT *e*SS SS 14 57 55.3 -8.4
comp=Z,266nm,28.5s
PPT *e*LR LR 15 05 40.1
comp=Z,956nm,22.8s,baz=70
PPT Papeete 70.06 249 LR LR 15 07 15.7
comp=Z,703nm,19.8s,MS4.9,baz=82,slow=29
DAWY Dawson 70.88 337 *e*P **P 14 44 26.6 -2.0**
HOPE Hope Point 71.01 153 PFAKE 14 44 40.0 +11
HOPE LR LR
comp=Z,1.0nm,20.0s
INK Inuvik 71.09 342 P **P 14 44 28.4 -1.4**
comp=Z,10nm,1.1s,mb4.7,baz=132,slow=4.9,SNR=9.9
INK LR LR 15 18 14.0
comp=Z,1μm,21.5s,MS5.1,baz=116,slow=38
INK Inuvik 71.09 342 *e*P **P 14 44 28.6 -1.2**
comp=Z,1μm,1.5s
TBI Tubuai 71.34 243 *e*S S 14 53 42.8 -6.4
comp=Z,365nm,28.8s
TBI *e*SS SS 14 58 12.9 -11
comp=Z,198nm,36.3s
TBI *e*LQ 15 03 11.6
comp=Z,1μm,31.5s
TBI *e*LR LR 15 06 19.6
comp=Z,3μm,29.2s,baz=73
EGAK Eagle 71.89 337 PFAKE 14 44 50.0 +15
EGAK LR LR
comp=Z,947nm,19.0s,MS5.1
PMR Palmer 74.02 333 PFAKE 14 45 00.0 +13
PMR LR LR
comp=Z,2μm,22.0s,MS5.3
COLA College 74.55 336⇓ *e*P **P 14 44 49.4 -1.0**
COLA College 74.55 336 P **P 14 44 49.3 -1.1**
comp=Z,38nm,1.9s,mb5.0
COLA LR LR
comp=Z,1μm,20.0s,MS5.1
KDAK Kodiak Island 74.64 329 PFAKE 14 45 00.0 +9.1
KDAK LR LR
comp=Z,327nm,20.0s,MS4.6
EJIF Jimena Fronter 76.26 54 P **P 14 45 02.2 +2.0**
EJIF pmax pmax
comp=Z,12nm,1.1s,mb4.7
EJIF Jimena Fronter 76.26 54 P **P 14 45 02.2 +2.0**
comp=Z,12nm,1.1s,mb4.7
EMIJ Mijas 76.83 54 P **P 14 45 05.6 +2.2**
comp=Z,27nm,1.4s,mb5.0
IMA2 Indian Mountai 77.24 337 *e*P **P 14 45 04.1 -1.6**
ELUQ Luque 77.28 53 P **P 14 45 08.4 +2.5**
ELUQ pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
ELUQ Luque 77.28 53 P **P 14 45 08.4 +2.5**
comp=Z,2.8nm,0.3s,mb4.7
PAB San Pablo 77.31 51 PFAKE 14 45 20.0 +14
PAB LR LR
comp=Z,779nm,21.0s,MS5.0
ELOJ Sierra Loja 77.35 53 P **P 14 45 08.6 +2.3**
ELOJ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ELOJ Sierra Loja 77.35 53 P **P 14 45 08.6 +2.2**
comp=Z,8.3nm,1.0s,mb4.6
GUD Guadarrama 77.52 50 P **P 14 45 11.5 +4.2**
ESDC Sonseca Array 77.61 51 P **P 14 45 07.6 -0.2**
comp=Z,0.9nm,0.5s,mb3.9,baz=267,slow=5.2,SNR=8.6
ESDC LR LR 15 12 21.5
comp=Z,510nm,21.3s,MS4.8,baz=295,slow=30
ESDC Sonseca Array 77.61 51 P **P 14 45 08.4 +0.6**
comp=Z,21nm,1.7s,mb4.8
ESLA Sonseca Array 77.61 51 P **P 14 45 07.7 -0.1**
comp=Z,7.0nm,1.4s,mb4.4
ESLA LR LR
comp=Z,3μm,19.0s,MS5.6
ERON Agron 77.62 53 P **P 14 45 09.6 +1.7**
comp=Z,5.4nm,0.7s,mb4.6
EQES Quesada 78.23 53 P **P 14 45 13.7 +2.4**
comp=Z,50nm,1.9s,mb5.1
EBER Berja 78.35 54 P **P 14 45 10.8 -1.0**
comp=Z,52nm,1.5s,mb5.2
EHUE Huescar 78.61 53 P **P 14 45 15.6 +2.3**
EHUE pmax pmax
comp=Z,30nm,1.4s,mb5.0
EHUE Huescar 78.61 53 P **P 14 45 15.6 +2.2**
comp=Z,30nm,1.4s,mb5.0
ETOR Torete 79.12 50 P **P 14 45 20.7 +4.6**
ETOR pmax pmax
comp=Z,12nm,1.3s,mb4.7
ETOR Torete 79.12 50 P **P 14 45 20.7 +4.6**
comp=Z,12nm,1.3s,mb4.7
ETOB Tobarra 79.45 52 P **P 14 45 17.3 -0.7**
comp=Z,40nm,1.8s,mb5.0
RAR Rarotonga 80.21 247 PFAKE 14 45 30.0 +7.9
RAR LR LR
comp=Z,1.0nm,20.0s
TNA Tin City 82.95 335 PFAKE 14 45 50.0 +13
TNA LR LR
comp=Z,723nm,21.0s,MS5.0
TORD Torodi Ar. Bea 83.14 77 P **P 14 45 36.5 -1.0**
comp=Z,9.5nm,1.2s,mb4.7,baz=275,slow=2.8,SNR=21
KBS Kingsbay 85.34 11 PFAKE 14 46 00.0 +11
KBS LR LR
comp=Z,762nm,19.0s,MS5.1
BFO Black Forest 86.39 42 PFAKE 14 46 00.0 +6.1
BFO LR LR
comp=Z,143nm,20.0s,MS4.4
NOA NORSAR Array B 86.90 29 P **P 14 45 55.7 -0.7**
comp=Z,10nm,1.2s,mb5.0,baz=276,slow=4.5,SNR=3.4
NOA LR LR 15 16 33.9
comp=Z,286nm,22.0s,MS4.6,baz=275,slow=30
NOA NORSAR Array B 86.90 29 P **P 14 45 55.7 -0.7**
NOA LR LR 15 16 33.9
GRFO Grafenberg 88.15 40 PFAKE 14 46 10.0 +7.6
GRFO LR LR
comp=Z,1μm,22.0s,MS5.3
GRA1 Grafenberg Arr 88.15 40 *e*P **P 14 46 06.3 +3.9**
comp=Z,3.0nm,1.1s,mb4.4
GRA1 LR LR
comp=Z,700nm,21.1s,MS5.0
GRF Grafenberg Arr 88.15 40 *e*P **P 14 46 06.3 +3.9**
comp=Z,3.0nm,1.1s,mb4.4
GRF *e*L 15 19 54.0
comp=Z,707nm,21.1s
GRF Grafenberg Arr 88.15 40 *e*P **P 14 46 06.3 +3.9**
GRF pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
GRF MLR MLR
comp=Z,700nm,21.1s,MS5.0
GRF Grafenberg Arr 88.15 40 *e*P **P 14 46 06.3 +3.9**
GRF pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
GRF MLR MLR
comp=Z,700nm,21.1s,MS5.0
HFS Hagfors 88.23 30 LR LR 15 18 49.9
comp=Z,760nm,21.3s,MS5.1,baz=259,slow=31
KEST Kesra 88.26 54 LR LR 15 21 45.0
comp=Z,74nm,21.7s,MS4.1,baz=217,slow=33
CLL Collm 89.08 39 *e*PS 14 58 00.0
CLL LmV 14 20 00.0
comp=Z,600nm,21.2s
KHC Kasperske Hory 89.75 41⇓ *e*P **P 14 46 10.5 +0.5**
GERES GERESS Array B 89.88 41 P **P 14 46 10.3 -0.2**
comp=Z,0.3nm,0.6s,baz=261,slow=5.9,SNR=2.8
GERES LR LR 15 19 24.1
comp=Z,555nm,21.5s,MS5.0,baz=277,slow=31
VNA3 Neumayer Olymp 89.89 162 *e*P **P 14 46 06.0 -4.6**
VNA3 *e* pP 14 46 10.5 -3.5
VNA3 *e* 14 46 17.5
VNA3 *e* 14 46 23.2
VNA3 *e* 14 46 27.7
VNA3 *e* 14 46 46.6
VNA2 Neumayer--Watz 90.51 161 *e*P **P 14 46 12.3 -1.2**
baz=304,slow=5.5
VNA2 *e* pP 14 46 16.2 -0.6
VNA2 *e* 14 46 23.9
VNA2 *e* 14 46 30.7
VNA2 *e* 14 46 34.6
VNA2 *e* 14 46 48.7
AFI Afiamalu 90.60 256 LR LR 15 17 24.2
comp=Z,365nm,19.8s,MS4.8,baz=82,slow=29
AFI Afiamalu 90.60 256 PFAKE 14 46 20.0 +6.1
AFI LR LR
comp=Z,579nm,20.0s,MS5.0
ARCES ARCESS Array B 90.95 20 LR LR 15 22 01.5
comp=Z,359nm,20.7s,MS4.8,baz=289,slow=32
KEV Kevo 91.37 19 PFAKE 14 46 30.0 +13
KEV LR LR
comp=Z,448nm,20.0s,MS4.9
VRAC Vranov 91.67 40 LR LR 15 20 42.9
comp=Z,886nm,21.7s,MS5.2,baz=283,slow=31
VAE Valguarnera 92.09 52 LR LR 15 20 21.6
comp=Z,455nm,20.1s,MS4.9,baz=278,slow=31
BILL Bilibino 92.54 339⇑ *e*P **P 14 46 21.6 -1.3**
BILL MLR MLR
comp=Z,785nm,21.0s,MS5.1
FINES FINESS Array B 93.82 27 LR LR 15 22 59.2
comp=Z,446nm,20.9s,MS4.9,baz=103,slow=32
QSPA South Pole Qui 95.69 180 P **P 14 46 33.6 -3.7**
comp=Z,136nm,2.2s,mb6.0
QSPA LR LR
comp=Z,451nm,20.0s,MS4.9
MSKU Masuku 96.29 91 PFAKE 14 46 50.0 +10
MSKU LR LR
comp=Z,240nm,22.0s,MS4.6
FUNA Funafuti 98.97 262 PFAKE 14 47 00.0 +7.8
FUNA LR LR
comp=Z,3μm,19.0s,MS5.9
KIEV Kiev 99.14 37 PFAKE 14 47 00.0 +7.1
KIEV LR LR
comp=Z,484nm,20.0s,MS5.0
AKASG Malin Array Be 99.14 37 LR LR 15 26 51.7
comp=Z,360nm,20.5s,MS4.9,baz=305,slow=32
TIXI Tiksi 100.13 350 *e*P Pdif 14 47 00.0 +2.7
TIXI Tiksi 100.13 350 PFAKE 14 47 10.0 +13
TIXI LR LR
comp=Z,646nm,22.0s,MS5.1
VNDA Vanda 100.92 192 PFAKE 14 47 10.0 +9.2
VNDA LR LR
comp=Z,301nm,20.0s,MS4.8
TSUM Tsumeb 101.39 108 PFAKE 14 47 10.0 +7.1
TSUM LR LR
comp=Z,626nm,20.0s,MS5.1
OBN Obninsk 101.41 31 *e*P Pdif 14 47 00.3 -2.7
OBN Obninsk 101.41 31 PFAKE 14 47 10.0 +7.0
OBN LR LR
comp=Z,168nm,19.0s,MS4.6
MA2 Magadan 102.59 335 PFAKE 14 47 20.0 +12
MA2 LR LR
comp=Z,434nm,19.0s,MS5.0
ANTO Ankara 105.37 46 PFAKE 14 51 40.0 +5.5
ANTO LR LR
comp=Z,209nm,20.0s,MS4.7
YAK Yakutsk 108.08 345 PFAKE 14 51 50.0 +11
YAK LR LR
comp=Z,422nm,19.0s,MS5.0
BOSA Boshof 108.32 118 PFAKE 14 51 50.0 +10
BOSA LR LR
comp=Z,751nm,19.0s,MS5.3
LBTB Lobatse 108.81 114 PFAKE 14 51 50.0 +9.2
LBTB LR LR
comp=Z,640nm,19.0s,MS5.2
KIV Kislovodsk 110.29 39 PFAKE 14 51 50.0 +6.4
KIV LR LR
comp=Z,114nm,22.0s,MS4.4
ARU Arti 110.41 22 *e*P Pdif 14 47 46.9 +3.9
ARU Arti 110.41 22⇑ *e*PKP PKiKP 14 51 41.9 -1.9
ARU LR LR
comp=Z,134nm,21.0s,MS4.5
LSZ Lusaka 111.45 104 PFAKE 14 52 00.0 +14
LSZ LR LR
comp=Z,574nm,20.0s,MS5.2
YSS Yuzh-Sakhalins 114.08 328 PFAKE 14 52 00.0 +9.2
YSS LR LR
comp=Z,407nm,21.0s,MS5.0
BRVK Borovoye 117.14 18⇑ *e*PKP PKPdf 14 51 53.9 -2.8
BRVK LR LR
comp=Z,190nm,22.0s,MS4.7
CASY Casey 118.81 186 PFAKE 14 52 10.0 +10
CASY LR LR
comp=Z,582nm,19.0s,MS5.2
ZAL Zalesovo 119.66 9 PKP PKPdf 14 52 00.1 -1.5
comp=Z,1.0nm,0.4s,baz=131,slow=4.5,SNR=8.1
ZAL Zalesovo 119.66 9 PKIKP PKPdf 14 52 02.2 +0.6
KMBO Kilima Mbogo 119.76 88 PFAKE 14 52 10.0 +8.3
KMBO LR LR
comp=Z,302nm,20.0s,MS4.9
KURK Kurchatov 121.53 14⇓ *i*PKP PKPdf 14 52 04.6 -0.6
KURK LR LR
comp=Z,113nm,22.0s,MS4.5
HIA Hailar 121.94 343 PFAKE 14 52 20.0 +14
HIA LR LR
comp=Z,496nm,21.0s,MS5.1
MDJ Mudanjiang 122.22 333 *e*PKP PKPdf 14 52 05.8 -0.7
MDJ SS SS 15 10 22.0 +1.1
MDJ PP PP
comp=Z,50nm,17.5s
MDJ LR LR
comp=N,241nm,31.1s,MS5.0
MDJ LR LR
comp=E,533nm,31.1s,MS5.0
MDJ LR LR
comp=Z,226nm,30.2s,MS4.6
MDJ Mudanjiang 122.22 333 PFAKE 14 52 20.0 +14
MDJ LR LR
comp=Z,357nm,20.0s,MS5.0
TAU Tasmania Unive 122.54 222 PFAKE 14 52 20.0 +13
TAU LR LR
comp=Z,76nm,22.0s,MS4.3
TLY Talaya 122.63 355 PFAKE 14 52 20.0 +13
TLY LR LR
comp=Z,73nm,20.0s,MS4.3
ULN Ulaanbaatar 126.02 352 PFAKE 14 52 20.0 +6.2
ULN LR LR
comp=Z,330nm,21.0s,MS5.0
MKAR Makanchi Array 126.06 13 PKP PKPdf 14 52 11.4 -2.4
comp=Z,1.7nm,1.0s,baz=339,slow=3.1,SNR=7.6
SONM Songino Array 126.14 353 PKP PKPdf 14 52 11.9 -2.1
comp=Z,1.2nm,0.7s,baz=19,slow=1.1,SNR=7.1
AAK Ala-Archa 127.59 21⇑ *e*PKP PKPdf 14 52 14.4 -2.3
AAK LR LR
comp=Z,75nm,20.0s,MS4.4
KSRS Korea Array 128.54 329 PKP PKPdf 14 52 16.6 -2.0
comp=Z,5.1nm,1.2s,baz=40,slow=2.5,SNR=7.9
INCN Inchon 129.18 330 PFAKE 14 52 30.0 +10
INCN LR LR
comp=Z,331nm,19.0s,MS5.0
WMQ Urumqi 129.95 9 PKP PKPdf 14 52 20.5 -0.8
WMQ PP PP 14 54 36.8 +3.8
WMQ PKS 14 55 55.8
WMQ SKS SKSdf 14 59 30.8 -2.1
WMQ SKKS SKKSac 15 01 28.8 -1.3
WMQ SS SS 15 11 59.5 +1.8
WMQ PP PP
comp=Z,20nm,16.0s
WMQ LR LR
comp=N,166nm,12.0s
WMQ LR LR
comp=E,420nm,19.0s
WMQ LR LR
comp=Z,574nm,27.0s
CTAO Charters Tower 130.51 248 PFAKE 14 52 30.0 +7.7
CTAO LR LR
comp=Z,294nm,22.0s,MS4.9
PMG Port Moresby 130.62 263 PFAKE 14 52 30.0 +7.5
PMG LR LR
comp=Z,214nm,20.0s,MS4.8
STKA Stephens Creek 131.24 232 PKhKP 14 52 17.9
comp=Z,1.4nm,0.9s,baz=14,slow=11,SNR=2.3
BJI Beijing 131.35 341 PKP PKPdf 14 52 26.8 +2.9
BJI PP PP 14 54 49.8 +7.7
BJI LR LR
comp=Z,333nm,30.0s,MS4.9
BJT Baijiatuau 131.37 341 PFAKE 14 52 30.0 +6.1
BJT LR LR
comp=Z,483nm,20.0s,MS5.2
HHC Hu-ho-hao-te 131.93 346 *e*PKP PKPdf 14 52 24.5 -0.5
HHC XPKP 14 52 34.3
HHC PP PP 14 54 50.0 +4.2
HHC PKS 14 55 59.0
HHC SKS SKSdf 14 59 31.3 -5.2
HHC SKKS SKKSac 15 01 36.0 -6.3
HHC SS SS 15 12 20.5 -1.4
HHC PP PP
comp=Z,157nm,10.7s
HHC LR LR
comp=N,356nm,23.2s,MS5.2
HHC LR LR
comp=E,364nm,19.0s,MS5.2
HHC LR LR
comp=Z,410nm,22.0s,MS5.1
GTA Gaotai 135.09 357 *e*PKP PKPdf 14 52 31.0 +0.1
GTA XPKP 14 52 39.0
SSE Sheshan 136.97 330 PKP PKPdf 14 52 29.0 -5.4
SSE PP PP
comp=Z,167nm,5.8s
SSE LR LR
comp=N,174nm,31.2s,MS5.0
SSE LR LR
comp=E,372nm,31.2s,MS5.0
SSE LR LR
comp=Z,185nm,23.8s
SSE Sheshan 136.97 330 PKP PKPdf 14 52 29.1 -5.3
SSE PP PP 14 55 30.9 +13
SSE SS SS 15 13 41.4 +19
SSE LR LR
comp=Z,190nm,23.8s,MS4.8
LZH Lanzhou 138.03 352 *e*PKP PKPdf 14 52 34.3 -2.1
LZH XPKP 14 52 39.0
LZH Lanzhou 138.03 352 *e*P PKPdf 14 52 34.2 -2.2
LZH pP 14 52 37.2
LZH sP 14 52 38.9
ASAR Alice Springs 140.64 239 PKhKP 14 52 30.9
comp=Z,0.8nm,0.8s,baz=121,slow=3.4,SNR=7.4
WB2 Warramunga Arr 141.44 245 *e*P PKPdf 14 52 36.7 -5.9
WRA Warramunga Arr 141.46 245 PKhKP 14 52 36.3
comp=Z,3.5nm,1.1s,baz=107,slow=2.1,SNR=9.8
ENH Enshi 142.44 343 PFAKE 14 52 50.0 +5.6
ENH LR LR
comp=Z,2.0nm,22.0s
CD2 Chengdu 143.13 351 *e*PKP PKPdf 14 52 41.5 -4.1
KOLN Koldanda 144.16 21 *e*P PKPdf 14 52 47.3 -0.1
comp=Z,46nm,1.4s
GKN Gorkha 144.31 20 *e*P PKPdf 14 52 44.8 -2.9
comp=Z,81nm,1.1s
LSA Lhasa 144.31 9 PKP PKPdf 14 52 46.5 -1.2
LSA Lhasa 144.31 9 *e*PKPdf PKPdf 14 52 45.7 -2.0
LSA LR LR
comp=Z,433nm,22.0s,MS5.2
KKN Kakani 144.72 19 *e*P PKPdf 14 52 46.0 -2.4
comp=Z,249nm,1.5s
GUN Gumba 144.79 18 *e*P PKPdf 14 52 45.4 -3.1
comp=Z,297nm,1.3s
KAKA Kakadu 144.79 256 *e*P PKPdf 14 52 46.2 -2.3
comp=Z,22nm,0.8s
DMN Daman 144.83 19 *e*P PKPdf 14 52 46.9 -1.7
comp=Z,254nm,1.5s
PKI Pulchoki 144.96 19 *e*P PKPdf 14 52 47.2 -1.6
comp=Z,103nm,1.2s
JIRN Jiri 145.12 18 *e*P PKPbc 14 52 46.7 -1.9
comp=Z,211nm,1.4s
POO Poona 146.53 44 *e*P PKPdf 14 52 47.0 -4.5
GYA Guiyang 146.84 345 PKP PKPdf 14 52 50.0 -2.0
GYA PKP2 PKPab 14 52 55.5 +0.4
GYA PP PP 14 56 19.5 +1.8
GYA PKS 14 56 24.0
GYA SKS SKSdf 14 59 55.3 -5.5
GYA SKKS SKKSac 15 03 06.8 -3.1
GYA SS SS 15 15 15.3 -2.0
GYA PP PP
comp=Z,120nm,8.7s
GYA LR LR
comp=N,240nm,20.8s,MS5.1
GYA LR LR
comp=E,210nm,21.4s,MS5.1
GYA LR LR
comp=Z,200nm,21.4s,MS4.9
SHL Shillong 148.48 10 *e*P PKPdf 14 52 54.0 -0.7
KMI Kunming 148.96 351 PKP PKPdf 14 52 53.5 -2.0
KMI APKP 14 53 00.0
KMI XPKP 14 53 02.3
KMI PKP2 PKPab 14 53 03.8 +0.2
KMI PKS 14 56 23.0
KMI PP PP 14 56 31.5 +1.3
KMI SKS SKSdf 14 59 58.0 -5.8
KMI SKKS SKKSac 15 03 18.3 -3.5
KMI SS SS 15 15 40.3 -0.9
KMI PP PP
comp=Z,161nm,5.6s
KMI LR LR
comp=N,317nm,18.6s,MS5.3
KMI LR LR
comp=E,311nm,19.6s,MS5.3
KMI LR LR
comp=Z,367nm,23.2s,MS5.1
KMI Kunming 148.96 351 PKP PKPdf 14 52 53.4 -2.1
KMI pPKP pPKPdf 14 52 59.9 +1.0
KMI sPKP 14 53 02.2
KMI PKP PKPdf 14 53 03.8 +8.3
KMI PKS 14 56 23.0
KMI PP PP 14 56 31.5 +1.3
KMI PPP 14 59 54.0
KMI SKS SKSdf 14 59 58.1 -5.7
KMI PcPP' 15 01 11.7
KMI SKKS SKKSac 15 03 18.2 -3.6
KMI SS SS 15 15 40.3 -0.9
KMI SSS 15 21 16.7
KMI LR LR
comp=Z,370nm,23.2s,MS5.1
FITZ Fitzroy Crossi 149.84 243 *e*P PKPdf 14 52 59.5 +2.6
comp=Z,16nm,1.0s
HYB Hyderabad 150.42 39 *i*PKP PKPbc 14 53 05.0 +1.9
HYB Hyderabad 150.42 39 *e*P PKPbc 14 53 05.0 +1.9
QIZ Qiongzhong 152.59 334 PKP PKPdf 14 52 58.0 -3.1
QIZ PP PP 14 56 52.5 +1.5
QIZ SS SS 15 16 19.3 -2.1
QIZ LR LR
comp=E,362nm,35.1s
QIZ LR LR
comp=Z,213nm,38.5s,MS4.7
QIZ Qiongzhong 152.59 334 PFAKE 14 53 10.0 +8.9
QIZ LR LR
comp=Z,236nm,20.0s,MS5.0
CHTO Chiang Mai 155.62 357 PFAKE 14 53 20.0 +15
CHTO LR LR
comp=Z,228nm,19.0s,MS5.0

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*ISCJB **30** 14:33:12.4±0.5, 45.65N±0.09×143.3E±0.1, h353km±7km, mb3.1/6, Error ellipse: s-maj=14.3km s-min=13.5km az=88.6*
*IDC **30** 14:33:13.6±1.3, 46.08N×143.13E, h326km±15km, mb3.0/6, mb1 3.1/6, mb1mx2.9/22, mbtmp3.0/6, Error ellipse: s-maj=24.9km s-min=18.6km az=108.0*
*JMA **30** 14:33:14.6±0.4, 45.74N×143.27E, h331km±4km, M3.2*
ISC 30 14:33:13.0±0.5, 45.8N±0.1°×143.4E±0.1°, h344km±7km, n26, σ1°07/32, mb3.1/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.13**	**247**	P	**Pn**	**14 33 58.6**	**0.0**
JWK2				*e*S	**S**	**14 34 33.2**	**-1.9**
JRR	**Rishiri**	**1.58**	**247**	P	**Pn**	**14 34 00.7**	**-0.2**
ASAJ	**Asahikawa**	**1.74**	**199**	P	**Pn**	**14 34 02.8**	**+0.9**
5.9nm,0.3s,baz=34,slow=5.6,SNR=52							
ASAJ	**Asahikawa**	**1.74**	**199**	P	**Pn**	**14 34 02.7**	**+0.8**
JSS	**Shosan**	**1.74**	**219**	P	**Pn**	**14 34 02.4**	**+0.5**
JTKR	**Abashiri--Toko**	**1.83**	**168**	P	**Pn**	**14 34 03.5**	**+1.0**
JYG	**Yagishiri**	**1.92**	**227**	P	**Pn**	**14 34 03.4**	**+0.3**
JKK2	**Kamakawa 2**	**1.94**	**193**	P	**Pn**	**14 34 04.1**	**+0.9**
JRA	**Rausu**	**2.21**	**145**	P	**Pn**	**14 34 06.6**	**+1.4**
JHR	**Hokuryu**	**2.33**	**211**	P	**Pn**	**14 34 06.9**	**+0.7**
JAR	**Ashorobuto**	**2.48**	**173**	P	**Pn**	**14 34 08.4**	**+1.0**
JFR	**Furan**	**2.66**	**192**	P	**Pn**	**14 34 09.9**	**+1.1**
JAK	**Akkeshi**	**2.93**	**161**	P	**Pn**	**14 34 11.0**	**-0.2**
JAK				*e*S	**S**	**14 34 55.9**	**-2.0**
NEM2	**Nemuro 2**	**2.94**	**144**	P	**Pn**	**14 34 10.2**	**-1.1**
NEM2				*e*S	**S**	**14 34 54.5**	**-3.6**
JCH	**Churui**	**3.15**	**180**	P	**Pn**	**14 34 12.9**	**-0.3**

JCH eS S 14 34 58.2 -3.4
JEW Eniwo 3.23 206 P Pn 14 34 15.2 +1.2
JNBK Urakawa-nobuka 3.51 187 P Pn 14 34 17.0 +0.3
JKB Kayabe 4.23 204 P Pn 14 34 23.9 0.0
JKB eS S 14 35 17.5 -3.6
JOT Ohata 4.69 202 P Pn 14 34 29.0 +0.1
JOT eS S 14 35 25.4 -4.8
MKAR Makanchi Array 41.28 294 P P 14 40 25.6 -0.2
0.3nm,0.6s,mb2.7,baz=76,slow=9.5,SNR=4.4
INK Inuvik 46.04 31 P P 14 41 02.9 -0.5
0.5nm,0.6s,mb2.8,baz=281,slow=5.2,SNR=5.1
YKA Yellowknife Ar 55.62 33 P P 14 42 14.8 +0.8
0.4nm,0.5s,mb3.0,baz=307,slow=7.2,SNR=11
JOF Joensuu 59.03 330 ep P 14 42 35.8 -1.9
FINES FINESS Array B 61.83 331 P P 14 42 55.7 -0.9
1.5nm,0.5s,mb3.8,baz=47,slow=7.0,SNR=16
ASAR Alice Springs 69.63 189 P P 14 43 49.8 +3.9
0.3nm,0.5s,mb3.3,baz=3.8,slow=5.4,SNR=10
BRTR Keskin Array B 74.20 311 P P 14 44 13.1 +0.4
0.5nm,0.7s,mb3.4,baz=34,slow=11,SNR=2.7

*ISCJB **30** 15:05:27.3±0.5, 4045N±003×2159E±003, h1km±7km, Error ellipse: s-maj=4.4km s-min=3.9km az=34.8*
*SKO **30** 15:05:27.6, 4040N×2156E, h0km*
*ATH **30** 15:05:27.2, 4053N×2155E, h23km±2km, MD3.1/3*
*CSEM **30** 15:05:28.2±0.1, 4050N×2148E, h20km, MD3.1, Error ellipse: s-maj=2.2km s-min=1.4km az=57.0*
*THE **30** 15:05:28.9, 4050N×2159E, h8km, ML2.5*
ISC 30 15:05:28.3±0.4, 4049N±002×2158E±003, h19km±5km, n27, σ0.96/48, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.23**	**142**	*e*PB	**Pg**	**15 05 34.2**	**+0.4**
KZN				*e*SB	**Sg**	**15 05 38.6**	**+1.0**
FNA	**Florina**	**0.33**	**332**	*e*Pg	**Pg**	**15 05 35.3**	**-0.2**
FNA				*e*Sg	**Sg**	**15 05 40.7**	**+0.4**
BIA	**Bitola**	**0.56**	**340**	*e*Pg	**Pg**	**15 05 38.8**	**-0.8**
BIA				*e*Sg	**Sg**	**15 05 47.4**	**+0.2**
BIA	**Bitola**	**0.56**	**340**	*i* Pg	**Pg**	**15 05 38.7**	**-0.9**
BIA				*e*Sg	**Sg**	**15 05 47.6**	**+0.5**
BIA	**Bitola**	**0.56**	**340**	*i* Pg	**Pg**	**15 05 38.7**	**-0.9**
BIA				*e*Sg	**Sg**	**15 05 47.6**	**+0.5**
BIA	**Bitola**	**0.56**	**340**	*e*Pg	**Pg**	**15 05 38.8**	**-0.8**
BIA				*e*Sg	**Sg**	**15 05 47.6**	**+0.4**
MEV	**Metsovon**	**0.76**	**201**	*e*Pg	**Pg**	**15 05 42.5**	**-0.6**
MEV				*e*Sg	**Sg**	**15 05 55.3**	**+2.1**
GRG	**Griva**	**0.78**	**53**	*e*Pg	**Pg**	**15 05 43.6**	**+0.1**
GRG				*e*Sg	**Sg**	**15 05 54.8**	**+1.0**
LIT	**Litokhoron**	**0.80**	**119**	*e*Pg	**Pg**	**15 05 43.8**	**-0.1**
OHR	**Ohrid**	**0.86**	**316**	*e*Pg	**Pg**	**15 05 43.8**	**-1.2**
OHR				*e*Sg	**Sg**	**15 05 58.0**	**+1.5**
OHR	**Ohrid**	**0.86**	**316**	*e*Pg	**Pg**	**15 05 43.7**	**-1.4**
OHR				*e*Sg	**Sg**	**15 05 56.8**	**+0.3**
OHR	**Ohrid**	**0.86**	**316**	*e*Pg	**Pg**	**15 05 43.7**	**-1.4**
OHR				*e*Sg	**Sg**	**15 05 56.8**	**+0.3**
OHR	**Ohrid**	**0.86**	**316**	*e*Pg	**Pg**	**15 05 43.7**	**-1.4**
OHR				*e*Sg	**Sg**	**15 05 56.7**	**+0.2**
KRUS	**Krusevo**	**0.91**	**344**	*i* Pg	**Pg**	**15 05 45.7**	**-0.4**
KRUS				*e*Sg	**Sg**	**15 05 59.2**	**+1.0**
KRUS	**Krusevo**	**0.91**	**344**	*i* Pg	**Pg**	**15 05 45.7**	**-0.4**
KRUS				*e*Sg	**Sg**	**15 05 59.2**	**+1.0**
KRUS	**Krusevo**	**0.91**	**344**	*i* Pg	**Pg**	**15 05 45.6**	**-0.5**
KRUS				*e*Sg	**Sg**	**15 05 59.1**	**+0.9**
THL	**Klokotos Trika**	**0.98**	**160**	*e*PN	**Pn**	**15 05 46.5**	**-0.5**
THL				*e*SN	**Sn**	**15 06 01.8**	**+1.4**
HORT	**Hortiatis**	**1.16**	**84**	*e*Pg	**Pg**	**15 05 50.3**	**-0.4**
HORT				*e*Sg	**Sg**	**15 06 06.7**	**+0.7**
KNT	**Kendrikon**	**1.20**	**56**	*e*Pg	**Pg**	**15 05 51.7**	**+0.1**
KNT				*e*Sg	**Sg**	**15 06 08.2**	**+0.9**
IGT	**Igoumenitsa**	**1.36**	**226**	*e*Pg	**Pg**	**15 05 53.7**	**-0.8**
IGT				*e*Sg	**Sg**	**15 06 12.3**	**+0.1**
SOH	**Sokhos**	**1.39**	**76**	*e*Pg	**Pg**	**15 05 53.2**	**-1.9**
PLG	**Polygyros**	**1.43**	**94**	*e*Pg	**Pg**	**15 05 54.7**	**-1.1**
PLG				*e*Sg	**Sg**	**15 06 13.7**	**-0.7**
PLG	**Polygyros**	**1.43**	**94**	*e*PN	**Pn**	**15 05 53.8**	**+0.7**
PLG	**Polygyros**	**1.43**	**94**	*e*Pg	**Pg**	**15 05 54.7**	**-1.1**
PLG				*e*Sg	**Sg**	**15 06 13.7**	**-0.7**
AGG	**Agios Georgios**	**1.57**	**158**	*e*Pg	**Pg**	**15 05 56.7**	**-2.0**
PAIG	**Paliouri**	**1.70**	**109**	*e*Pb	**Pb**	**15 05 57.5**	**-1.4**
NEO	**Neokhori**	**1.73**	**133**	*e*PN	**Pn**	**15 05 58.5**	**+1.2**

IDC 30 15:06:02.3±6.1, 1688S×1498W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=382.5km s-min=137.2km az=120.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**34.08**	**30**	P	P	15 12 48.8	+0.3
1.2nm,0.8s,baz=216,slow=7.1,SNR=7.3							
BRTR	**Keskin Array B**	**72.28**	**37**	P	P	15 17 29.9	+0.4
0.6nm,0.3s,baz=218,slow=4.1,SNR=4.9							
MLR	**Muntele Rosu**	**72.32**	**29**	P	P	15 17 29.7	-0.1
3.2nm,0.9s,baz=164,slow=7.4,SNR=5.3							
AKASG	**Malin Array Be**	**77.66**	**27**	P	P	15 18 00.8	+0.1
1.7nm,0.7s,baz=222,slow=5.1,SNR=11							

IDC 30 15:20:40.3±64.0, 1788S×17969E, h700km±313km, mb3.1/4, mb1 3.2/5, mb1mx2.9/15, mbtmp3.1/5, Error ellipse: s-maj=813.1km s-min=109.3km az=74.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.13**	**249**	P	P	15 23 29.2	+0.4
0.3nm,0.3s,baz=100,slow=12,SNR=4.2							
STKA	**Stephens Creek**	**37.06**	**241**	P	P	15 26 56.0	+0.2
1.4nm,0.4s,baz=92,slow=8.9,SNR=11							
WRA	**Warramunga Arr**	**42.85**	**260**	P	P	15 27 41.2	-0.2
1.1nm,0.5s,baz=97,slow=6.9,SNR=46							
ASAR	**Alice Springs**	**43.05**	**254**	P	P	15 27 43.3	+0.4
7.9nm,0.6s,baz=90,slow=7.6,SNR=325							
FITZ	**Fitzroy Crossi**	**51.24**	**261**	P	P	15 28 44.3	+0.8
1.7nm,0.9s,baz=96,slow=10,SNR=3.5							

*SZGRF **30** 16:05:47.9, 1624S×17625W, h33km, Fiji Islands region*
*ISCJB **30** 16:05:57.3±1.4, 1775S±006×1749.5W±0.10, h171km±14km, mb4.4/25, Error ellipse: s-maj=15.7km s-min=8.2km az=39.6*
*BJI **30** 16:05:57.5, 1770S×17500W, h169km, mB5.3, mb4.6*
*IDC **30** 16:05:58.3±1.6, 1763S×175.11W, h168km±15km, mb4.1/13, mb1 4.3/14, mb1mx4.3/17, mbtmp4.2/14, Error ellipse: s-maj=18.6km s-min=10.1km az=126.0*
*NEIC **30** 16:05:58.2±1.2, 1768S×17496W, h163km±10km, mb4.6/11, Error ellipse: s-maj=12.4km s-min=6.9km az=122.0*
ISC 30 16:05:57.5±1.2, 1774S±006×17484W±010, h161km±12km, n102, σ0.94/55, mb4.4/25, 5C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.82**	**38**	P	**Pn**	**16 07 10.5**	**+1.9**
125nm,0.3s,baz=194,slow=1.8,SNR=245							
AFI				S	**Sn**	**16 08 02.0**	**-2.2**
122nm,0.3s,baz=39,slow=21,SNR=17							
AFI	**Afiamalu**	**4.82**	**38**	*e*Pn	**Pn**	**16 07 10.4**	**+1.7**
AFI				*e*Sn	**Sn**	**16 08 00.9**	**-3.3**
FUNA	**Funafuti**	**10.85**	**327**	Pn	**Pn**	**16 08 22.6**	**-5.7**
DZM	**Mont Dzumac**	**18.12**	**253**	P	**P**	**16 10 02.1**	**+4.9**
1.8nm,0.3s,baz=91,slow=20,SNR=16							
MWZ	**Matawai**	**21.58**	**197**	*e*PN	**P**	**16 10 33.4**	**-1.0**
URZ	**Urewera**	**21.62**	**197**	P	**P**	**16 10 34.8**	**-0.1**
18nm,0.3s,mb4.9,baz=290,slow=2.2,SNR=37							
URZ				S	**S**	**16 14 16.6**	**-7.4**
3.6nm,0.9s,baz=173,slow=9.3,SNR=3.3							
URZ	**Urewera**	**21.62**	**197**	PN	**P**	**16 10 34.0**	**-0.9**
BKZ	**Black Stump Fm**	**22.64**	**198**	PN	**P**	**16 10 44.0**	**-1.0**
SNZO	**South Karori**	**25.15**	**199**	*e*Sn	**P**	**16 11 08.4**	**+0.7**
NNZ	**Nelson**	**25.50**	**201**	PN	**P**	**16 11 12.3**	**+1.4**
THZ	**Tophouse**	**26.14**	**201**	PN	**P**	**16 11 16.0**	**-0.7**
LTZ	**Lake Taylor**	**27.26**	**201**	PN	**P**	**16 11 25.4**	**-1.3**
RPZ	**Rata Peaks**	**28.51**	**202**	P	**P**	**16 11 37.9**	**+0.2**
11nm,0.6s,mb4.8,baz=58,slow=6.3,SNR=7.7							
CTAO	**Charters Tower**	**36.83**	**260**	*e*P	**P**	**16 12 50.5**	**+0.5**
6.6nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**41.70**	**242**	*e*P	**P**	**16 13 30.8**	**+0.5**
2.4nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**41.70**	**242**	P	**P**	**16 13 29.4**	**-1.0**
4.0nm,0.5s,mb4.3,baz=79,slow=8.4,SNR=15							
STKA	**Stephens Creek**	**41.70**	**242**	*e*P	**P**	**16 13 30.6**	**+0.2**
WB2	**Warramunga Arr**	**47.99**	**259**	⇑*i*P	**P**	**16 14 19.3**	**-0.8**
WB2	**Warramunga Arr**	**47.99**	**259**	*e*P	**P**	**16 14 19.4**	**-0.7**
WRA	**Warramunga Arr**	**48.01**	**259**	P	**P**	**16 14 19.5**	**-0.7**
4.5nm,0.4s,mb4.4,baz=96,slow=6.4,SNR=212							
WRA				S	**S**	**16 20 58.4**	**-7.4**
0.9nm,0.9s,baz=88,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**48.11**	**254**	P	**P**	**16 14 20.7**	**-0.3**
40nm,0.7s,mb5.2,baz=95,slow=7.1,SNR=719							
ASAR				S	**S**	**16 21 01.1**	**-6.1**
1.7nm,0.7s,baz=89,slow=15,SNR=20							
KAKA	**Kakadu**	**50.99**	**268**	⇓*i*P	**P**	**16 14 42.1**	**-0.6**
5.1nm,0.3s,mb4.6							
FITZ	**Fitzroy Crossi**	**56.41**	**260**	⇓*i*P	**P**	**16 15 21.9**	**-0.2**
5.9nm,0.6s,mb4.6							
SBA	**Scott Base**	**60.82**	**184**	*e*P	**P**	**16 15 54.8**	**+2.1**
VNDA	**Vanda**	**60.92**	**186**	P	**P**	**16 15 53.6**	**+0.3**
5.7nm,0.9s,mb4.4,baz=13,slow=7.0,SNR=9.6							
VNDA	**Vanda**	**60.92**	**186**	*e*P	**P**	**16 15 54.3**	**+1.0**
7.0nm,0.9s,mb4.5							
CASY	**Casey**	**67.72**	**205**	*e*P	**P**	**16 16 36.6**	**-0.8**
3.2nm,0.7s,mb4.2							
MJAR	**Matsushiro Arr**	**69.86**	**321**	P	**P**	**16 16 50.6**	**-0.2**
6.7nm,0.7s,mb4.5,baz=152,slow=6.0,SNR=21							
MAJO	**Matsushiro**	**69.86**	**321**	*e*P	**P**	**16 16 50.4**	**-0.3**
15nm,0.9s,mb4.7							
MAT	**Matsushiro**	**69.86**	**321**	P	**P**	**16 16 54.4**	**+3.7**
MAT				S		16 16 59.3	
KKM	**Kota Kinabalu**	**72.01**	**283**	*e*P	**P**	**16 17 04.5**	**+0.8**
QSPA	**South Pole Qui**	**72.31**	**180**	*e*P	**P**	**16 17 05.9**	**+0.4**
20nm,1.1s,mb4.8							
CMB	**Columbia Colle**	**75.42**	**42**	*e*P	**P**	**16 17 23.6**	**0.0**
KSM	**Kuching**	**76.04**	**276**	*e*P	**P**	**16 17 28.5**	**+1.5**
KSRS	**Korea Array**	**76.88**	**317**	P	**P**	**16 17 32.0**	**+0.2**
6.4nm,0.9s,mb4.2,baz=128,slow=6.1,SNR=20							
NVAR	**Mina Array Bea**	**76.98**	**42**	P	**P**	**16 17 33.0**	**+0.7**
1.7nm,0.7s,mb3.8,baz=224,slow=8.8,SNR=16							
MA2	**Magadan**	**81.98**	**343**	*e*P	**P**	**16 17 58.5**	**-0.9**
36nm,1.1s,mb4.9							
CN2	**Changchun**	**82.00**	**321**	*e*P	**P**	**16 17 59.3**	**-0.2**
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
TNA	**Tin City**	**83.21**	**3**	*e*P	**P**	**16 18 05.4**	**-0.3**
comp=Z,3.9nm,1.0s,mb4.1							
PV01	**Paradox Valley**	**83.33**	**47**	P	**P**	**16 18 07.0**	**+0.7**
COLA	**College**	**84.91**	**11**	*e*P	**P**	**16 18 13.1**	**-1.2**
comp=Z,16nm,0.8s,mb4.8							
PDAR	**Pinedale Array**	**84.92**	**42**	P	**P**	**16 18 14.7**	**+0.3**
comp=Z,1.0nm,0.7s,mb3.7,baz=208,slow=3.7,SNR=9.9							
MAW	**Mawson**	**85.14**	**199**	P	**P**	**16 18 15.1**	**-0.3**
comp=Z,2.7nm,0.6s,mb4.2,baz=138,slow=2.6,SNR=4.1							
MAW	**Mawson**	**85.14**	**199**	*e*P	**P**	**16 18 14.7**	**-0.8**
comp=Z,3.7nm,0.6s,mb4.3							
KULM	**Kulim**	**86.39**	**277**	*e*P	**P**	**16 18 23.1**	**+1.5**
BILL	**Bilibino**	**86.64**	**353**	*e*P	**P**	**16 18 22.2**	**-0.6**
comp=Z,7.6nm,1.0s,mb4.5							
KMI	**Kunming**	**90.80**	**296**	P	**P**	**16 18 44.3**	**+1.9**
KMI				XP	sP	16 19 47.0	+7.3
KMI				AMB	AMB		
comp=Z,6.0nm,1.5s,mb4.4							
KMI				LR	LR		
comp=Z,32nm,19.6s							
INK	**Inuvik**	**90.86**	**14**	*e*P	**P**	**16 18 41.3**	**-1.4**
comp=Z,83nm,0.8s							
YKA	**Yellowknife Ar**	**92.78**	**24**	P	**P**	**16 18 50.9**	**-0.7**
comp=Z,0.5nm,0.6s,mb3.8,baz=240,slow=4.6,SNR=16							
SONM	**Songino Array**	**95.67**	**318**	P	**P**	**16 19 05.0**	**+0.2**
comp=Z,0.1nm,0.5s,mb3.5,baz=122,slow=3.8,SNR=4.7							
MKAR	**Makanchi Array**	**111.47**	**314**	PKiKP	PKiKP	16 24 11.2	-1.3
comp=Z,0.6nm,0.6s,baz=119,slow=1.5,SNR=9.4							
ARCES	**ARCESS Array B**	**126.71**	**351**	PKP	PKPdf	16 24 40.5	-1.3
comp=Z,2.1nm,0.6s,baz=349,slow=0.9,SNR=20							
JOF	**Joensuu**	**131.36**	**344**	*e*p	PKPdf	16 24 48.4	-2.2
comp=Z,1.8nm,0.4s							
FINES	**FINESS Array B**	**133.90**	**346**	PKP	PKPdf	16 24 55.5	+0.1
comp=Z,2.0nm,0.9s,baz=52,slow=3.8,SNR=8.3							
AKASG	**Malin Array Be**	**141.92**	**335**	PKhKP		16 25 04.2	
comp=Z,0.4nm,0.3s,baz=38,slow=3.7,SNR=6.8							
CLZ	**Clausthal**	**145.73**	**354**	*e*PKPbc	PKPbc	16 25 17.3	-0.2
STHS	**Stebnicka Huta**	**145.83**	**341**	*e*PKP	PKPbc	16 25 18.3	+0.5
KOLS	**Kolonicke sedl**	**145.93**	**340**	*e*PKP	PKPbc	16 25 18.1	0.0
CLL	**Collm**	**145.93**	**351**	*e*PKPbc	PKPbc	16 25 17.6	-0.5
CLL	**Collm**	**145.93**	**351**	⇓*i*PKPbc	PKPbc	16 25 17.7	-0.4
comp=Z,17nm,1.0s							
CLL				*i* PKiKP	PKiKP	16 25 21.2	-0.1
CLL				*i* x	x	16 25 24.7	
UPC	**Upice**	**146.18**	**348**	*e*PKP	PKPbc	16 25 18.8	0.0
BRG	**Berggiesshubel**	**146.21**	**350**	*e*PKPbc	PKPbc	16 25 18.4	-0.5
BRG	**Berggiesshubel**	**146.21**	**350**	*i* P	PKPbc	16 25 18.6	-0.4
comp=Z,5.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**146.22**	**341**	*e*PKP	PKPbc	16 25 20.7	+1.8
FBE	**Freiberg**	**146.26**	**351**	*e*PKPbc	PKPbc	16 25 19.1	+0.1
DPC	**Dobruska-Polom**	**146.26**	**347**	*e*PKP	PKPbc	16 25 19.3	+0.3
OKC	**Ostrava-Krasne**	**146.32**	**345**	*e*PKP	PKPbc	16 25 19.7	+0.5
PVCC	**Panska Ves**	**146.43**	**349**	*e*PKP	PKPbc	16 25 19.8	+0.2
MORC	**Moravsky Berou**	**146.52**	**345**	⇑*i*P	PKPbc	16 25 20.1	+0.3
TANN	**Tannenbergstha**	**146.88**	**351**	*e*PKPbc	PKPbc	16 25 21.0	+0.2
KECS	**Kecovo**	**146.89**	**341**	*e*PKP	PKPbc	16 25 21.2	+0.3
PRU	**Pruhonice**	**146.96**	**349**	*e*PKP	PKPbc	16 25 21.2	+0.2
BRTR	**Keskin Array B**	**147.02**	**318**	PKPbc	PKPbc	16 25 21.2	0.0
comp=Z,3.7nm,0.8s,baz=123,slow=3.4,SNR=19							
NKC	**Novy Kostel**	**147.06**	**351**	*e*PKP	PKPbc	16 25 23.1	+1.8
NKC				*ex*	x	16 25 26.2	
MANZ	**Manzenberg**	**147.35**	**352**	*e*PKPbc	PKPbc	16 25 22.3	+0.2
VYHS	**Vyhne**	**147.37**	**343**	*e*PKP	PKPbc	16 25 22.5	+0.3
ROTZ	**Rotzenmuhle**	**147.55**	**351**	*e*PKPbc	PKPbc	16 25 23.2	+0.5
DRGR		**147.61**	**337**	⇑*i*P	PKPbc	16 25 23.0	+0.2
GIVF	**Givet**	**147.72**	**0**	*e*PKP1	PKPbc	16 25 22.0	-1.1
BAIF	**Baives**	**147.75**	**1**	*e*PKP1	PKPbc	16 25 22.4	-0.8
comp=Z,4.5nm,0.5s							
GRF	**Grafenberg Arr**	**147.75**	**353**	*e*PKPbc	PKPbc	16 25 23.7	+0.5
KHC	**Kasperske Hory**	**147.96**	**350**	*e*PKP	PKPbc	16 25 23.9	+0.2
KHC				*ex*	x	16 25 25.8	
GERES	**GERESS Array B**	**148.21**	**349**	PKPbc	PKPbc	16 25 24.4	0.0
comp=Z,2.8nm,0.7s,baz=19,slow=2.6,SNR=18							
FLN	**La Foliniere**	**148.72**	**7**	*e*PKP1	PKPbc	16 25 25.0	-0.7
comp=Z,20nm,0.6s							
BZS	**Buzias**	**149.01**	**337**	⇓*i*P	PKPbc	16 25 26.1	-0.3
MEZF	**Maizieres J'vi**	**149.32**	**0**	*e*PKP1	PKPbc	16 25 26.5	-0.7
CDF	**Champ du Feu**	**149.36**	**357**	*e*PKP1	PKPbc	16 25 27.0	-0.3
comp=Z,28nm,1.2s							
HAU	**Haudompre**	**149.80**	**358**	*e*PKP1	PKPbc	16 25 27.9	-0.5
HINF	**Hinteralfeld**	**149.97**	**358**	*e*PKP1	PKPbc	16 25 28.0	-0.8
WATA	**Walderalm**	**150.02**	**351**	⇑*i*P	PKPbc	16 25 28.7	-0.2
comp=Z,3.9nm,1.1s							
WTTA	**Wattenberg**	**150.08**	**351**	⇓*i*P	PKPbc	16 25 29.2	+0.1
comp=Z,8.1nm,0.4s							
DAVA	**Damuels**	**150.28**	**354**	⇑*i*P	PKPbc	16 25 30.2	+0.7
comp=Z,15nm,1.1s							
LOR	**Lormes**	**150.53**	**2**	*e*PKP1	PKPbc	16 25 29.7	-0.4
comp=Z,22nm,1.1s							
SSF	**Saint Saulge**	**150.73**	**2**	*e*PKP1	PKPbc	16 25 30.3	-0.3
comp=Z,28nm,1.1s							
AVF	**Avril sur Loir**	**150.99**	**3**	*e*PKP1	PKPbc	16 25 30.4	-0.8
BGF	**Bois d'Agland**	**151.20**	**3**	*e*PKP1	PKPbc	16 25 31.3	-0.4
comp=Z,10nm,0.5s							
CABF	**La Chapelle**	**151.20**	**359**	*e*PKP1	PKPbc	16 25 31.4	-0.3
TCF	**Toulx Ste Croi**	**151.43**	**4**	*e*PKP1	PKPbc	16 25 31.6	-0.6
LPL	**La Plagne**	**152.28**	**358**	*e*PKP1	PKPbc	16 25 34.3	+0.2
LPG	**La Plagne**	**152.29**	**358**	*e*PKP1	PKPbc	16 25 34.7	+0.5
MBDF	**Montbardon**	**153.06**	**357**	*e*PKP1	PKPbc	16 25 36.3	+0.4
comp=Z,8.3nm,0.9s							
ESDC	**Sonseca Array**	**156.75**	**18**	PKPab	PKPab	16 26 04.0	+0.3
comp=Z,1.0nm,0.7s,baz=335,slow=2.8,SNR=5.6							

*LDG **30** 16:21:40.5±0.0, 4610N×282E, h13km, Md1.7/3, Ml2.0/6, Error ellipse: s-maj=0.9km s-min=0.6km az=114.0*
STR 30 16:21:41.4±0.3, 4606N×286E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.19**	**92**	Pg	Pg	16 21 45.4	+0.3
AGO				Sg	Sg	16 21 48.7	+1.1
PYM	**Petit Puy Mans**	**0.33**	**162**	Pg	Pg	16 21 48.0	+0.3
PYM				Sg	Sg	16 21 53.2	+1.2
BGF	**Bois d'Agland**	**0.50**	**359**	*e*Pg	Pg	16 21 49.7	-1.3
BGF				*e*Sg	Sg	16 21 55.7	-1.8
19nm,0.2s							
TCF	**Toulx Ste Croi**	**0.51**	**297**	*e*Pg	Pg	16 21 49.8	-1.3
TCF				*e*Sg	Sg	16 21 55.7	-2.0
3.2nm,0.2s							
PLDF	**La Plantade**	**0.54**	**99**	Pg	Pg	16 21 51.9	+0.2
PLDF				Sg	Sg	16 21 59.4	+0.7
AVF	**Avril sur Loir**	**0.81**	**25**	*e*Pg	Pg	16 21 55.4	-1.5
AVF				*e*Sg	Sg	16 22 05.2	-2.1
5.9nm,0.3s							
LBL	**Lubilhac**	**0.87**	**162**	Pg	Pg	16 21 58.0	-0.1
LBL				Sg	Sg	16 22 09.9	+0.5
SMF	**Signal de Mont**	**0.90**	**49**	*e*Pg	Pg	16 21 57.6	-1.0
SMF				*e*Sg	Sg	16 22 09.6	-0.7
2.7nm,0.2s							
SSF	**Saint Saulge**	**1.10**	**24**	*e*Pg	Pg	16 22 00.7	-1.7
SSF				*e*Sg	Sg	16 22 14.1	-2.6
1.6nm,0.2s							
RJF	**Les Rejaudoux**	**1.21**	**232**	*e*Pg	Pg	16 22 03.2	-1.4
RJF				*e*Sg	Sg	16 22 18.7	-1.5
2.7nm,0.2s							
CAF	**Calviac**	**1.27**	**207**	*e*Pg	Pg	16 22 04.7	-1.0
CAF				*e*Sg	Sg	16 22 21.3	-0.8
3.0nm,0.1s							
LOR	**Lormes**	**1.39**	**29**	*e*Pg	Pg	16 22 06.0	-2.1
LOR				*e*Sg	Sg	16 22 23.4	-2.7
2.2nm,0.2s							
LFF	**La Frestale**	**1.86**	**234**	*e*Sg	Sg	16 22 39.2	-2.1
5.5nm,0.4s							

IDC 30 16:35:26.7±35.0, 815S×11037E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=584.4km s-min=151.2km az=128.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.00**	**119**	P	P	16 41 01.3	+0.1
0.5nm,0.7s,baz=292,slow=11,SNR=5.3							
ASAR	**Alice Springs**	**27.32**	**127**	P	P	16 41 14.2	+1.1
0.3nm,0.8s,baz=304,slow=9.1,SNR=5.4							
STKA	**Stephens Creek**	**37.41**	**133**	P	P	16 42 41.2	-0.2
2.0nm,0.9s,baz=308,slow=7.4,SNR=5.2							

*IDC **30** 16:38:54.4±7.6, 3781N×12422W, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=92.0km s-min=23.0km az=40.0*
*ISCJB **30** 16:39:10.6±0.5, 3879N±002×12279W±003, h12km±4km, mb3.6/1, Error ellipse: s-maj=4.5km s-min=3.2km az=173.8*
*NEIC **30** 16:39:10.9, 3881N×12279W, h5km, ML3.4(NCEDC), After NCEDC.*
NEIC Felt [III] at Middletown and [II] at Geyserville. Also felt at Angwin, Calistoga, Concord, Healdsburg, Kelseyville, Oakland, Pope Valley, Sacramento, Saint Helena and San Francisco.
ISC 30 16:39:10.9±0.4, 3880N±002×12281W±003, h13km±3km, n60, σ0.84/75, mb3.6/1, 25C-21D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.28**	**313**	*e*Pg	**Pg**	**16 39 16.9**	**+0.1**
HOPS	**Hopland**	**0.28**	**313**	⇑P	**Pg**	**16 39 17.0**	**+0.2**
baz=0.3,SNR=1000							
HOPS				⇑S	**Sg**	**16 39 20.9**	**+0.2**
baz=0.3							
MNRC	**McLaughlin Nat**	**0.30**	**74**	P	**Pg**	**16 39 17.2**	**+0.2**
baz=0.3,SNR=1000							
MNRC				⇑S	**Sg**	**16 39 21.3**	**+0.2**
baz=0.3							
NSHM	**Saint Helena R**	**0.32**	**150**	*e*Pg	**Pg**	**16 39 17.4**	**0.0**
CVS	**Carmenet Viney**	**0.53**	**149**	⇑P	**Pg**	**16 39 21.4**	**+0.1**
baz=0.5,SNR=1000							
CVS				⇑S	**Sg**	**16 39 28.9**	**+0.6**
baz=0.

baz=3.3
PKD Parkfield 3.37 147 ⇓P **Pn 16 40 03.3 +0.1**
baz=3.4
NVAR Mina Array Bea 3.55 95 Pn **Pn 16 40 07.1 +1.5**
1.2nm,0.3s,baz=274,slow=14,SNR=11
NVAR Pg **Pg 16 40 14.3 -4.5**
3.5nm,0.3s,baz=263,slow=19,SNR=39
NVAR Mina Array Bea 3.55 95 Pn **Pn 16 40 07.1 +1.5**
NVAR Pg **Pg 16 40 14.3 -4.5**
MOD Modoc 3.64 31 *e*Pn **Pb 16 40 14.1 -1.0**
MTUM Tungsten Hills 3.65 112 *e*Pn **Pn 16 40 09.3 +2.4**
HUMO Hull Mountain 3.81 358 *e*Pn **Pn 16 40 13.4 +4.2**
TPH Tonopah 4.45 98 *e*Pn **Pb 16 40 27.8 -1.0**
DAC Darwin (Calif) 4.85 120 *e*Pn **Pn 16 40 23.0 -0.5**
DUG Dugway 7.85 77 *e*Pn **Pn 16 41 05.6 +0.8**
PDAR Pinedale Array 10.80 64 Pn **Pn 16 41 51.8 +6.7**
0.0nm,0.3s,baz=245,slow=13,SNR=8.5
ULM Lac du Bonnet 22.23 50 P **P 16 44 08.2 +1.1**
2.2nm,0.9s,mb3.6,baz=236,slow=4.1,SNR=4.9

NEIC ***30*** *16:49:50.1,3788S×17649E,h144km,MG3.8(WEL),After WEL.*
WEL 30 16:49:50.4±0.3,3789S×17650E,h141km±3km,ML3.7/12,1D,Error ellipse: s-maj=1.6km s-min=1.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARZ	**Kaharoa**	**0.24**	**238**	P	Pn	16 50 09.9	+0.2
KARZ	**Kaharoa**	**0.24**	**238**	PN	Pn	16 50 09.9	+0.1
TGRZ	**Tauranga**	**0.25**	**310**	P	Pn	16 50 09.7	-0.1
TGRZ	**Tauranga**	**0.25**	**310**	⇓PN	Pn	16 50 09.7	0.0
URZ	**Urewera**	**0.60**	**128**	P	Pn	16 50 11.2	-0.2
URZ	**Urewera**	**0.60**	**128**	PN	Pn	16 50 11.0	-0.4
MWZ	**Matawai**	**0.92**	**119**	P	Pn	16 50 14.0	+0.3
MWZ	**Matawai**	**0.92**	**119**	PN	Pn	16 50 14.0	+0.3
KATZ	**Kakaramea**	**1.25**	**210**	P	Pn	16 50 17.4	+0.6
KATZ	**Kakaramea**	**1.25**	**210**	PN	Pn	16 50 17.2	+0.4
BKZ	**Black Stump Fm**	**1.27**	**180**	*e*P	Pn	16 50 16.9	-0.1
BKZ				S	Sn	16 50 37.8	+0.6
BKZ	**Black Stump Fm**	**1.27**	**180**	PN	Pn	16 50 16.9	0.0
BKZ				SN	Sn	16 50 37.5	+0.3
KRVZ	**Karewarewa**	**1.38**	**209**	PN	Pn	16 50 18.6	+0.6
PUZ	**Puketiti**	**1.40**	**98**	P	Pn	16 50 18.1	-0.1
PUZ				S	Sn	16 50 39.6	+0.1
PUZ	**Puketiti**	**1.40**	**98**	*e*PN	Pn	16 50 17.9	-0.3
PUZ				SN	Sn	16 50 39.4	0.0
WTVZ	**West Tongariro**	**1.42**	**210**	P	Pn	16 50 18.8	+0.4
WTVZ	**West Tongariro**	**1.42**	**210**	PN	Pn	16 50 18.8	+0.4
OTVZ	**Oturere**	**1.43**	**207**	PN	Pn	16 50 19.3	+0.7
HIZ	**Hauiti**	**1.44**	**244**	*e*P	Pn	16 50 18.7	0.0
HIZ	**Hauiti**	**1.44**	**244**	PN	Pn	16 50 18.6	0.0
TWVZ	**Taurewa**	**1.45**	**215**	P	Pn	16 50 19.0	+0.3
TWVZ	**Taurewa**	**1.45**	**215**	PN	Pn	16 50 18.9	+0.2
KNZ	**Kokohu**	**1.45**	**141**	*e*P	Pn	16 50 19.0	+0.2
KNZ	**Kokohu**	**1.45**	**141**	PN	Pn	16 50 18.9	+0.1
NGZ	**Ngauruhoe**	**1.47**	**209**	P	Pn	16 50 19.6	+0.7
NGZ	**Ngauruhoe**	**1.47**	**209**	PN	Pn	16 50 19.5	+0.5
MXZ	**Matakaoa Point**	**1.47**	**78**	P	Pn	16 50 19.0	0.0
MXZ	**Matakaoa Point**	**1.47**	**78**	PN	Pn	16 50 19.0	0.0
WPVZ	**Whakapapa**	**1.51**	**209**	P	Pn	16 50 19.9	+0.5
WPVZ	**Whakapapa**	**1.51**	**209**	PN	Pn	16 50 19.9	+0.4
TUVZ	**Tukino**	**1.53**	**206**	P	Pn	16 50 20.0	+0.4
TUVZ	**Tukino**	**1.53**	**206**	PN	Pn	16 50 20.0	+0.3
FWVZ	**Far West T-bar**	**1.55**	**208**	PN	Pn	16 50 20.3	+0.4
TRVZ	**Turoa**	**1.59**	**208**	PN	Pn	16 50 20.7	+0.4
WNVZ	**Wahianoa**	**1.60**	**206**	P	Pn	16 50 20.6	+0.2
WNVZ	**Wahianoa**	**1.60**	**206**	PN	Pn	16 50 20.6	+0.2
MOVZ	**Moawhango**	**1.62**	**201**	P	Pn	16 50 20.2	-0.5
MOVZ	**Moawhango**	**1.62**	**201**	PN	Pn	16 50 20.2	-0.4
PKVZ	**Pokaka**	**1.67**	**213**	PN	Pn	16 50 21.2	0.0
MTVZ	**Mangateitei**	**1.70**	**208**	PN	Pn	16 50 21.5	0.0
VRZ	**Vera Road**	**1.84**	**227**	*e*P	Pn	16 50 22.7	-0.5
VRZ	**Vera Road**	**1.84**	**227**	PN	Pn	16 50 23.3	+0.1
PXZ	**Pawanui**	**2.15**	**173**	PN	Pn	16 50 26.0	-0.8
TSZ	**Takapari Road**	**2.21**	**191**	P	Pn	16 50 26.3	-1.2
TSZ	**Takapari Road**	**2.21**	**191**	PN	Pn	16 50 26.2	-1.3
WAZ	**Wanganui**	**2.21**	**212**	*e*P	Pn	16 50 27.1	-0.4
WAZ	**Wanganui**	**2.21**	**212**	PN	Pn	16 50 26.4	-1.1
BFZ	**Birch Farm**	**2.79**	**184**	*e*P	Pn	16 50 32.9	-1.9
BFZ	**Birch Farm**	**2.79**	**184**	PN	Pn	16 50 32.9	-1.9
MRZ	**Mangatainoka R**	**2.86**	**194**	P	Pn	16 50 33.4	-2.2
MRZ	**Mangatainoka R**	**2.86**	**194**	PN	Pn	16 50 33.3	-2.4
TIWZ	**Tintock**	**2.92**	**189**	*e*PN	Pn	16 50 34.0	-2.4
KIW	**Kapiti Island**	**3.21**	**202**	P	Pn	16 50 37.2	-3.0
KIW	**Kapiti Island**	**3.21**	**202**	PN	Pn	16 50 37.2	-2.9
MTW	**Mount Morrison**	**3.35**	**193**	P	Pn	16 50 38.8	-3.2
MTW	**Mount Morrison**	**3.35**	**193**	PN	Pn	16 50 38.8	-3.1
CAW	**Cannon Point**	**3.40**	**199**	P	Pn	16 50 39.5	-3.1
CAW	**Cannon Point**	**3.40**	**199**	PN	Pn	16 50 39.5	-3.1
TRWZ	**Traveller**	**3.56**	**190**	PN	Pn	16 50 41.6	-3.0
PAWZ	**Paruwai Farm**	**3.58**	**193**	P	Pn	16 50 41.7	-3.3
PAWZ	**Paruwai Farm**	**3.58**	**193**	PN	Pn	16 50 41.7	-3.3
MRW	**Makara Radio**	**3.61**	**202**	P	Pn	16 50 42.1	-3.3
MRW	**Makara Radio**	**3.61**	**202**	PN	Pn	16 50 42.1	-3.2
WEL	**Wellington**	**3.65**	**201**	P	Pn	16 50 42.5	-3.3
WEL	**Wellington**	**3.65**	**201**	PN	Pn	16 50 42.5	-3.2
MSWZ	**Moikau Station**	**3.65**	**195**	P	Pn	16 50 42.3	-3.5
MSWZ	**Moikau Station**	**3.65**	**195**	PN	Pn	16 50 42.3	-3.5
TCW	**Tory Channel**	**3.74**	**207**	P	Pn	16 50 43.8	-3.2
TCW	**Tory Channel**	**3.74**	**207**	PN	Pn	16 50 43.8	-3.2
TUWZ	**Tuamarina**	**4.05**	**208**	PN	Pn	16 50 47.3	-3.8
NNZ	**Nelson**	**4.11**	**215**	PN	Pn	16 50 48.1	-3.7
BSWZ	**Blackbirch Sta**	**4.32**	**207**	P	Pn	16 50 51.2	-3.5
KHZ	**Kahutara**	**5.06**	**206**	*e*P	Pn	16 51 00.1	-4.3
KHZ	**Kahutara**	**5.06**	**206**	PN	Pn	16 50 59.7	-4.7
LTZ	**Lake Taylor**	**5.86**	**212**	*e*P	Pn	16 51 11.0	-4.1
LTZ	**Lake Taylor**	**5.86**	**212**	*e*PN	Pn	16 51 10.8	-4.4
CRLZ	**Canterbury Las**	**6.40**	**206**	SN	Sn	16 52 25.1	-9.1
MQZ	**McQueen's Vall**	**6.50**	**205**	*e*PN	Pn	16 51 17.5	-6.2
MQZ				SN	Sn	16 52 26.9	-10

IDC 30 16:58:30.9±27.0,2258S×17355W,h0km,mb4.3/4,mb1 4.4/4,mb1mx4.0/15,mbtmp4.3/4,1D,Error ellipse: s-maj=491.6km s-min=154.4km az=76.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.45**	**266**	P	P	17 05 46.5	+0.7
4.7nm,0.3s,baz=98,slow=10,SNR=21							
STKA	**Stephens Creek**	**40.71**	**247**	P	P	17 06 13.4	+0.2
1.9nm,0.9s,baz=112,slow=11,SNR=2.8							
ASAR	**Alice Springs**	**48.11**	**258**	P	P	17 07 12.6	+0.2
1.3nm,0.5s,baz=94,slow=7.0,SNR=47							
WB2	**Warramunga Arr**	**48.43**	**263**	⇓*i*P	P	17 07 14.8	-0.1
WRA	**Warramunga Arr**	**48.44**	**263**	P	P	17 07 15.1	+0.1
2.3nm,0.3s,baz=102,slow=8.2,SNR=171							

NIED ***30*** *17:28:00,3420N×13930E,h5km,Mw4.2 Best double couple: M0=2.36000×10^15 NP1:φs116.00000°,δ56.00000°, λ-131.00000°. NP2:φs353.00000°,δ52.00000°, λ-46.00000°.*
IDC ***30*** *17:28:07.0±0.6,3420N×13925E,h0km,mb3.8/12, mb1 4.0/16,mb1mx3.9/26,mbtmp3.9/16,ML4.1/3,MS3.6/1, Ms1 3.6/1,ms1mx2.6/33,Error ellipse: s-maj=20.2km s-min=12.1km az=70.0*
ISCJB ***30*** *17:28:08.3±0.6,3421N±003×13925E±006,h19km±3km, mb3.8/13,Error ellipse: s-maj=8.4km s-min=5.3km az=8.2*
JMA ***30*** *17:28:08.8,3424N×13923E,h13km±1km,M4.3 Broadband fault plane solution: P waves. NP1: φs124.00000°,δ46.00000°,λ-141.00000°. NP2:φs5.00000°, δ63.00000°,λ-51.00000°. Principal axes: T Plg10.0000°, Azm68.0000°; N Plg34.0000°, Azm165.0000°; P Plg54.0000°, Azm324.0000°;*
JMA Felt III J1.
MOS ***30*** *17:28:09.5±1.0,3413N×13909E,h33km,mb4.6/3 Error ellipse: s-maj=30.4km s-min=10.9km az=111.0*
BJI ***30*** *17:28:13.4,3486N×13899E,h28km,mB4.8,mb4.7*
NEIC ***30*** *17:28:13.3±1.3,3424N×13914E,h43km±11km,mb4.3/1, Error ellipse: s-maj=14.1km s-min=8.3km az=96.0*
NEIC Recorded [3 JMA] on Nii-jima, [2 JMA] on Kozu-shima and [1 JMA] on Miyake-jima.
ISC 30 17:28:08.4±0.7,3421N±003×13930E±006,h9km±4km,n34,σ0°95/43,mb3.8/13,2C-3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.14**	**261**	P	Pg	17 28 11.6	+0.2
JKO				S	Sg	17 28 14.3	+0.9
NJJJ	**Nii jima 2**	**0.19**	**356**	⇑P	Pg	17 28 12.8	+0.4
NJJJ				S	Sg	17 28 16.2	+1.1
JIM2	**Oshima 3**	**0.52**	**12**	⇑P	Pg	17 28 18.5	0.0
JIM2				S	Sg	17 28 26.0	+0.7
JIZS	**Izushimoda**	**0.62**	**326**	⇓P	Pg	17 28 19.6	-0.7
JIZS				S	Sg	17 28 27.4	-0.9
KTJJ	**Kamata 2**	**0.74**	**345**	⇓P	Pg	17 28 21.9	-0.8
KTJJ				S	Sg	17 28 31.5	-0.8
OMA	**Omae zaki**	**0.98**	**294**	P	Pg	17 28 27.0	-0.1
JOD2	**Odawara 2**	**1.07**	**351**	⇓P	Pg	17 28 27.2	-1.7
TK03	**Tokai 3**	**1.10**	**268**	P	Pg	17 28 29.5	-0.1
JHJ	**Hachijo jima 2**	**1.16**	**159**	Pn	Pn	17 28 30.3	-0.5
142nm,0.3s,baz=43,slow=11,SNR=13							
JHJ				Sn	Sn	17 28 46.7	0.0
491nm,0.3s,baz=61,slow=22,SNR=10							
MJAR	**Matsushiro Arr**	**2.49**	**339**	Pn	Pn	17 28 49.6	+0.4
15nm,0.3s,baz=171,slow=15,SNR=221							
MJAR				Sn	Sn	17 29 23.7	+4.0
12nm,0.3s,baz=162,slow=26,SNR=6.3							
MJAR	**Matsushiro Arr**	**2.49**	**339**	P	Pn	17 28 49.6	+0.5
MJAR						17 29 23.7	
MJAR				pmax	pmax		
comp=Z,15nm,0.3s							
MJAR				smax			
comp=N,12nm,0.3s							
MAJO	**Matsushiro**	**2.49**	**339**	*e*Pn	Pn	17 28 50.0	+0.9
MAJO				*e*Sn	Sn	17 29 24.2	+4.5
MAT	**Matsushiro**	**2.49**	**339**	P	Pn	17 28 49.5	+0.4
MAT				S	Sn	17 29 22.2	+2.5
JNU	**Nakatsue**	**7.10**	**264**	Pn	Pn	17 29 53.4	+0.9
comp=N,9.1nm,0.3s,baz=274,slow=25,SNR=62							
JNU				LR	LR	17 32 05.5	
comp=N,477nm,21.8s,baz=326,slow=34							
KSRS	**Korea Array**	**9.79**	**293**	Pn	Pn	17 30 28.6	-0.7
baz=103,slow=15,SNR=2.7							
JOW	**Kunigami**	**12.01**	**235**	Pn	Pn	17 31 00.6	+0.9
comp=N,1.7nm,0.3s,baz=121,slow=29,SNR=9.9							
MDJ	**Mudanjiang**	**12.81**	**327**	Pn	Pn	17 31 14.5	+3.9
WHN	**Wuhan**	**21.37**	**267**	P	P	17 33 00.5	+4.5
SONM	**Songino Array**	**28.07**	**309**	P	P	17 34 00.1	-0.1
comp=N,1.4nm,1.0s,mb3.6,baz=107,slow=9.3,SNR=6.6							
ZAL	**Zalesovo**	**42.62**	**315**	P	P	17 36 04.1	-0.8
comp=N,1.4nm,0.9s,mb3.7,baz=13,slow=7.8,SNR=7.6							
NVS	**Novosibirsk**	**43.60**	**316**	*e*P	P	17 36 09.3	-3.6
MKAR	**Makanchi Array**	**44.22**	**304**	P	P	17 36 17.8	-0.1
comp=N,0.4nm,0.5s,mb3.4,baz=86,slow=10,SNR=14							
KURK	**Kurchatov**	**46.37**	**310**	*e*P	P	17 36 34.3	-0.6
KURK				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
KURK	**Kurchatov**	**46.37**	**310**	*e*P	P	17 36 34.3	-0.6
comp=Z,3.7nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**51.24**	**314**	P	P	17 37 11.6	-0.7
comp=Z,0.6nm,0.7s,mb3.6,baz=75,slow=6.3,SNR=4.0							
WRA	**Warramunga Arr**	**54.05**	**186**	P	P	17 37 33.0	-0.1
comp=Z,0.5nm,0.6s,mb3.6,baz=3.3,slow=7.9,SNR=8.6							
INK	**Inuvik**	**57.68**	**26**	P	P	17 37 59.5	+0.3
comp=Z,1.4nm,0.7s,mb4.1,baz=360,slow=19,SNR=3.9							
ASAR	**Alice Springs**	**57.78**	**186**	P	P	17 38 00.5	+0.6
comp=Z,0.3nm,0.8s,mb3.4,baz=18,slow=12,SNR=6.7							
STKA	**Stephens Creek**	**65.77**	**178**	P	P	17 38 53.7	0.0
comp=Z,1.2nm,0.7s,mb4.0,baz=300,slow=6.6,SNR=3.6							
ARCES	**ARCESS Array B**	**66.03**	**339**	P	P	17 38 53.6	-1.8
comp=Z,3.2nm,0.8s,mb4.4,baz=30,slow=9.3,SNR=3.1							
YKA	**Yellowknife Ar**	**67.11**	**29**	P	P	17 39 02.1	-0.2
comp=Z,0.9nm,0.8s,mb3.9,baz=299,slow=6.2,SNR=13							
YKA	**Yellowknife Ar**	**67.11**	**29**	P	P	17 39 02.1	-0.2
comp=Z,3.9nm,0.9s,mb4.3,baz=50,slow=3.0,SNR=4.7							
FINES	**FINESS Array B**	**70.50**	**332**	P	P	17 39 21.9	-1.5
comp=Z,0.2nm,0.6s,mb3.4,baz=263,slow=3.6,SNR=2.5							
PDAR	**Pinedale Array**	**80.88**	**44**	P	P	17 40 24.9	+2.0
comp=Z,0.3nm,0.6s,mb3.4,baz=263,slow=3.6,SNR=2.5							

ISCJB ***30*** *17:28:09.5±0.3,5465N±007×16879E±007,h10km, mb4.1/39,Error ellipse: s-maj=10.1km s-min=5.7km az=165.8*
NEIC ***30*** *17:28:11.0±0.3,5460N×16881E,h10km,mb4.5/19,Error ellipse: s-maj=8.3km s-min=4.8km az=175.0*
MOS ***30*** *17:28:11.0±1.8,5460N×16880E,h33km,mb4.6/17,Error ellipse: s-maj=12.2km s-min=8.3km az=99.7*
IDC ***30*** *17:28:14.2±0.5,5463N×16882E,h30km±2km,mb3.7/21, mb1 3.9/21,mb1mx3.9/25,mbtmp3.7/21,MS3.4/1, Ms1 3.4/1,ms1mx3.0/37,Error ellipse: s-maj=16.0km s-min=9.4km az=172.0*
ISC 30 17:28:10.9±4.3,5468N±008×16879E±007,h8km±26km,n87,σ0°96/89,mb4.1/39,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**3.71**	**120**	*e*Pn	Pn	17 29 05.7	-2.8
SMY				*e*Sn	Sn	17 29 47.5	-5.0
PET	**Petropavlovsk**	**6.22**	**259**	*e*PN	Pn	17 29 45.7	+2.7
PET				pmax	pmax		
comp=Z,60nm,1.1s							
PET				MLR	MLR		
comp=Z,600nm,21.0s							
PET	**Petropavlovsk**	**6.22**	**259**	*e*PN	Pn	17 29 45.7	+2.7
PET				pmax	pmax		
comp=Z,60nm,1.1s							
PET				MLR	MLR		
comp=Z,600nm,21.0s							
PET	**Petropavlovsk**	**6.22**	**259**	*e*Pn	Pn	17 29 41.7	-1.3
PET				*e*Sn	Sn	17 30 47.8	-6.5
BILL	**Bilibino**	**13.46**	**356**	P	Pn	17 31 23.8	+1.7
BILL				pmax	pmax		
comp=Z,2.0nm,0.6s							
BILL	**Bilibino**	**13.46**	**356**	Pn	Pn	17 31 23.8	+1.7
comp=Z,2.5nm,0.6s							
TNA	**Tin City**	**15.80**	**37**	*e*Pn	Pn	17 31 53.1	-0.5
comp=Z,2.0nm,0.7s							
SVW2	**Sparrevohn**	**19.80**	**57**	*e*P	Pn	17 32 42.6	-0.6
IMA2	**Indian Mountai**	**21.38**	**43**	*e*P	P	17 32 59.3	+0.5
SML	**Sawmill**	**23.29**	**55**	*e*P	P	17 33 18.9	-0.2
COLA	**College**	**23.59**	**47**	*e*P	P	17 33 21.8	-0.4
COLA				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.2							
COLA	**College**	**23.59**	**47**	*e*P	P	17 33 21.8	-0.4
comp=Z,8.3nm,0.8s,mb4.2							
TIXI	**Tiksi**	**24.04**	**330**	*e*P	P	17 33 24.6	-1.7
TIXI				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.2							
TIXI	**Tiksi**	**24.04**	**330**	*e*P	P	17 33 27.2	+0.9
comp=Z,16nm,1.1s,mb4.4							
EGAK	**Eagle**	**26.45**	**48**	*e*P	P	17 33 46.9	-1.3
comp=Z,23nm,0.8s,mb4.8							
DAWY	**Dawson**	**27.25**	**49**	*e*P	P	17 33 55.0	-0.4
MAJO	**Matsushiro**	**27.72**	**242**	P	P	17 33 59.3	-0.3
comp=Z,15nm,1.1s,mb4.5							
MJAR	**Matsushiro Arr**	**27.72**	**242**	P	P	17 34 00.9	+1.2
comp=Z,1.8nm,1.0s,mb3.6,baz=35,slow=15,SNR=3.2							
MJAR	**Matsushiro Arr**	**27.72**	**242**	P	P	17 34 00.9	+1.2
INK	**Inuvik**	**29.41**	**40**	P	P	17 34 14.2	-0.4
comp=Z,1.2nm,0.6s,mb3.8,baz=289,slow=4.5,SNR=4.4							
INK	**Inuvik**	**29.41**	**40**	*e*P	P	17 34 12.7	-2.0
comp=Z,321nm,1.4s							
BOD	**Bodaibo**	**29.89**	**299**	*e*P	P	17 34 18.7	-0.3
BOD	**Bodaibo**	**29.89**	**299**	*e*P	P	17 34 18.7	-0.3
KSRS	**Korea Array**	**32.60**	**255**	P	P	17 34 43.7	+0.9
comp=Z,0.8nm,0.7s,mb3.8,baz=43,slow=9.1,SNR=4.4							
YKA	**Yellowknife Ar**	**38.42**	**47**	P	P	17 35 32.7	-0.1
comp=Z,2.3nm,0.7s,mb4.0,baz=294,slow=7.9,SNR=31							
YKA				PcP	PcP	17 37 43.0	-3.1
comp=Z,0.1nm,0.5s,baz=302,slow=3.2,SNR=2.5							
YKA				pPcP		17 37 54.2	
comp=Z,0.5nm,0.9s,baz=296,slow=3.3,SNR=5.1							
YKA	**Yellowknife Ar**	**38.42**	**47**	P	P	17 35 32.7	-0.1
YKA				PcP	PcP	17 37 43.0	-3.1
YKA				pPcP		17 37 54.2	
SONM	**Songino Array**	**38.47**	**286**	P	P	17 35 34.4	+1.1
comp=Z,0.7nm,0.6s,mb3.5,baz=61,slow=7.7,SNR=9.0							
SONM				PcP	PcP	17 37 44.2	-2.0
comp=Z,0.3nm,0.8s,baz=71,slow=3.7,SNR=2.1							
SONM				pPcP		17 37 55.4	
comp=Z,0.9nm,0.7s,baz=53,slow=2.3,SNR=4.7							
SONM	**Songino Array**	**38.47**	**286**	P	P	17 35 34.4	+1.1
SONM				PcP	PcP	17 37 44.2	-2.0
SONM				pPcP		17 37 55.4	
RES	**Resolute Bay**	**39.84**	**24**	P	P	17 35 44.5	-0.2
comp=Z,91nm,0.8s							
NEW	**Newport**	**44.60**	**66**	P	P	17 36 22.8	-0.7
comp=Z,0.9nm,0.4s,mb3.9,baz=329,slow=5.9,SNR=2.8							
NEW	**Newport**	**44.60**	**66**	P	P	17 36 22.8	-0.7
YBH	**Yreka Blue Hor**	**45.64**	**77**	P	P	17 36 32.8	+1.0
comp=Z,1.3nm,0.6s,mb4.0,baz=286,slow=3.8,SNR=6.3							
YBH	**Yreka Blue Hor**	**45.64**	**77**	P	P	17 36 32.8	+1.0
ZAL	**Zalesovo**	**46.17**	**305**	P	P	17 36 36.0	+0.1
comp=Z,0.5nm,0.3s,mb3.9,baz=309,slow=19,SNR=2.2							
ZAL				LR	LR	17 57 03.4	
comp=Z,42nm,20.4s,baz=70,slow=37							
MOD	**Modoc**	**46.89**	**75**	*e*P	P	17 36 41.8	+0.2
comp=Z,1.5nm,0.6s,mb4.1							
CHMT	**Chamberlain Mo**	**47.49**	**65**	P	P	17 36 46.0	-0.3
OHCM	**Honcut**	**47.94**	**79**	P	P	17 36 49.8	0.0
FCC	**Fort Churchill**	**48.91**	**43**	*e*P	P	17 36 56.7	-0.6
FCC				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
FCC	**Fort Churchill**	**48.91**	**43**	*e*P	P	17 36 56.7	-0.5
comp=Z,6.3nm,0.9s,mb4.7							
MCMT	**McKenzie Canyo**	**49.06**	**67**	P	P	17 36 57.6	-0.8
QLMT	**Earthquake Lak**	**49.81**	**66**	*e*P	P	17 37 04.3	+0.2
NVAR	**Mina Array Bea**	**50.36**	**77**	P	P	17 37 09.2	+0.9
comp=Z,0.9nm,0.7s,mb3.9,baz=293,slow=9.5,SNR=6.9							
RLMT	**Red Lodge**	**50.76**	**65**	*e*P	P	17 37 12.4	+1.0
comp=Z,4.3nm,0.6s,mb4.6							
KURK	**Kurchatov**	**51.14**	**305**	P	P	17 37 13.1	-1.1
KURK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**51.14**	**305**	P	P	17 37 13.1	-1.1
comp=Z,6.1nm,0.9s,mb4.5							
LAO	**LASA Array**	**51.29**	**62**	P	P	17 37 17.9	+2.6
comp=Z,4.3nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**51.98**	**299**	P	P	17 37 19.7	-0.8
comp=Z,1.3nm,0.7s,mb4.0,baz=55,slow=7.7,SNR=8.5							
PDAR	**Pinedale Array**	**52.20**	**67**	P	P	17 37 22.1	-0.1
comp=Z,0.9nm,0.6s,mb3.9,baz=328,slow=5.2,SNR=4.3							
ARCES	**ARCESS Array B**	**53.24**	**345**	P	P	17 37 30.0	+0.1
comp=Z,4.6nm,1.0s,mb4.3,baz=7.5,slow=14,SNR=3.1							
ARCES	**ARCESS Array B**	**53.24**	**345**	P	P	17 37 30.0	+0.1
BVAR	**Borovoye Array**	**53.30**	**312**	P	P	17 37 30.2	-0.1
comp=Z,3.4nm,0.6s,mb4.5,baz=57,slow=6.8,SNR=18							
BRVK	**Borovoye**	**53.33**	**312**	P	P	17 37 30.5	0.0
comp=Z,233nm,0.6s,SNR=7.0							
BRVK	**Borovoye**	**53.33**	**312**	*e*P	P	17 37 28.9	-1.6
BRVK				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
BRVK	**Borovoye**	**53.33**	**312**	*e*P	P	17 37 28.9	-1.6
comp=Z,5.5nm,0.6s,mb4.7							
TMUT	**Trail Mountain**	**53.72**	**71**	*e*P	P	17 37 32.8	-0.5
CCUT	**Cedar City**	**53.76**	**74**	P	P	17 37 34.6	+1.0
ULM	**Lac du Bonnet**	**53.88**	**52**	P	P	17 37 33.7	-0.8
comp=Z,1.2nm,0.6s,mb4.0,baz=310,slow=9.2,SNR=2.6							
ULM	**Lac du Bonnet**	**53.88**	**52**	P	P	17 37 33.7	-0.8
SRU	**San Rafael**	**54.23**	**71**	*e*P	P	17 37 37.8	+0.7
SRU				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
SRU	**San Rafael**	**54.23**	**71**	*e*P	P	17 37 37.8	+0.7
comp=Z,6.3nm,0.8s,mb4.6							
ARU	**Arti**	**55.57**	**321**	*e*P	P	17 37 47.5	+0.7
ARU				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
ARU	**Arti**	**55.57**	**321**	*e*P	P	17 37 47.5	+0.8
comp=Z,1.9nm,0.6s,mb4.3							
PV01	**Paradox Valley**	**56.00**	**71**	*e*P	P	17 37 49.8	0.0
SMCO	**Snowmass**	**56.12**	**69**	P	P	17 37 53.9	+3.2
comp=Z,9.5nm,1.0s,mb4.8							
MVCO	**Mesa Verde**	**56.70**	**71**	P	P	17 37 55.5	+0.6
comp=Z,2.1nm,0.6s,mb4.3							
EYMN	**Ely**	**57.54**	**52**	*e*P	P	17 38 00.3	-0.5
comp=Z,2.6nm,0.7s,mb4.4							
ANMO	**Albuquerque**	**

INK **Inuvik** 29.21 40 pP P 17 34 23.7 +0.6
comp=Z,1.4nm,0.5s,mb4.0,baz=281,slow=8.1,SNR=4.9
TLY **Talaya** 37.87 293 eP P 17 35 44.8 +6.6
TLY e 17 44 31.8
TLY pmax pmax
comp=Z,16nm,1.4s,mb4.6
TLY MLR MLR
comp=Z,128nm,16.0s,MS3.8
YKA **Yellowknife Ar** 38.23 47 pP P 17 35 41.2 0.0
YKA **Yellowknife Ar** 38.23 47 pP P 17 35 41.2 0.0
comp=Z,3.5nm,0.7s,mb4.2,baz=294,slow=7.8,SNR=27
SONM **Songino Array** 38.46 286 pP P 17 35 43.3 +0.1
comp=Z,2.5nm,0.6s,mb4.1,baz=61,slow=8.3,SNR=13
SONM **Songino Array** 38.46 286 pP P 17 35 43.3 +0.1
ZAK **Zakamensk** 38.75 291 eP P 17 35 45.9 +0.2
ZAK **Zakamensk** 38.75 291 eP P 17 35 45.9 +0.2
RES **Resolute Bay** 39.62 24 eP P 17 35 52.8 -0.1
RES **Resolute Bay** 39.62 24 eP P 17 35 52.8 0.0
comp=Z,85nm,0.7s,mb5.6
KRAR **Krasnoyarsk** 41.08 304⇑ eP P 17 36 06.4 +1.5
KRAR pmax pmax
comp=Z,19nm,0.8s,mb4.8
KRAR **Krasnoyarsk** 41.08 304⇑ eP P 17 36 06.4 +1.5
KRAR pmax pmax
comp=Z,19nm,0.8s,mb4.8
C04A **Brinnon** 41.65 71 ⇑P P 17 36 09.9 +0.3
baz=42
B05A **Bryant** 41.80 69 ⇑P P 17 36 11.2 +0.3
baz=42
B06A **Marblemount** 41.98 69 ⇑P P 17 36 12.3 0.0
baz=42
E03A **Lebam** 42.02 72 ⇓P P 17 36 12.8 +0.1
baz=42
A07A **Ashnola River,** 42.26 67 ⇑P P 17 36 14.8 +0.2
baz=42
C05A **Tolt Reservoir** 42.36 70 ⇓P P 17 36 15.4 0.0
baz=42
D05A **Enumclaw** 42.50 71 ⇑P P 17 36 16.0 -0.5
baz=42
B07A **Winthrop** 42.75 68 ⇑P P 17 36 18.9 +0.3
baz=43
A08A **Turner Farm, O** 42.91 67 ⇑P P 17 36 20.1 +0.2
baz=43
E05A **Randle** 43.00 71 ⇑P P 17 36 20.6 -0.1
baz=43
F04A **Amboy** 43.03 72 ⇓P P 17 36 20.5 -0.3
baz=43
D06A **Cle Elum** 43.12 70 ⇓P P 17 36 21.5 0.0
baz=43
B08A **Colville Reser** 43.23 68 ⇓P P 17 36 22.6 +0.2
baz=43
C07A **Waterville** 43.24 69 ⇑P P 17 36 22.5 0.0
baz=43
A09A **Danville** 43.26 67 ⇓P P 17 36 23.2 +0.5
baz=43
H03A **Soap Creek Ran** 43.32 74 ⇑P P 17 36 22.5 -0.7
baz=43
E06A **Yakima** 43.44 71 ⇑P P 17 36 24.6 +0.4
baz=43
I02A **Mapleton** 43.45 75 ⇓P P 17 36 23.9 -0.3
baz=43
F05A **White Salmon** 43.58 72 ⇓P P 17 36 25.0 -0.3
baz=44
D07A **Quincy** 43.59 69 ⇑P P 17 36 25.3 0.0
baz=44
C08A **Higginbotham F** 43.73 68 ⇓P P 17 36 26.2 -0.3
baz=44
B09A **Rice** 43.82 67 ⇓P P 17 36 27.3 +0.1
baz=44
H04A **Detroit Lake** 43.93 74 ⇓P P 17 36 27.9 -0.2
baz=44
J02A **Umpqua** 43.99 76 ⇑P P 17 36 28.2 -0.4
baz=44
E07A **Sunnyside** 44.04 70 ⇓P P 17 36 28.8 -0.2
baz=44
G05A **Wamic** 44.06 72 ⇑P P 17 36 29.0 -0.2
baz=44
C09A **Chrisman Ranch** 44.13 68 ⇓P P 17 36 29.4 -0.3
baz=44
D08A **Wollman Farm,** 44.24 69 ⇑P P 17 36 30.3 -0.3
baz=44
J03A **Ideyld Park** 44.33 76 ⇓P P 17 36 31.5 +0.2
baz=44
I04A **Tendick Farm,** 44.37 75 ⇓P P 17 36 31.6 0.0
baz=44
B10A **Chitwood Farm,** 44.39 67 ⇑P P 17 36 31.5 -0.3
baz=44
F07A **Phinny Hill Vi** 44.41 71 ⇓P P 17 36 32.1 +0.1
baz=44
A11A **Hall Mountain,** 44.44 65 ⇑P P 17 36 32.6 +0.4
baz=44
NEW **Newport** 44.46 66 pP P 17 36 31.8 -0.6
NEW **Newport** 44.46 66 pP P 17 36 31.8 -0.6
comp=Z,4.8nm,0.8s,mb4.3,baz=306,slow=9.6,SNR=6.2
H05A **Madras** 44.48 73 ⇓P P 17 36 32.4 -0.2
baz=44
E08A **Dider Farm, El** 44.52 70 ⇑P P 17 36 32.6 -0.2
baz=44
D09A **Jones Farm, Ri** 44.57 69 ⇑P P 17 36 33.0 -0.2
baz=44
B11A **Sandpoint** 44.76 66 ⇑P P 17 36 35.6 +0.9
baz=45
L02A **Cave Junction** 44.76 77 ⇑P P 17 36 34.4 -0.3
baz=45
I05A **Bend** 44.77 74 ⇓P P 17 36 34.5 -0.3
baz=45
A12A **Yaak River Ran** 44.83 65 ⇓P P 17 36 35.7 +0.4
baz=45
HUMO **Hull Mountain** 44.83 76 ⇓P P 17 36 35.2 -0.1
baz=45
J04A **Umpqua Nationa** 44.89 75 ⇑P P 17 36 35.8 0.0
baz=45
H06A **Lindquist Farm** 44.92 72 ⇓P P 17 36 35.9 -0.2
baz=45
G07A **Ruggs Ranch, H** 44.95 71 ⇑P P 17 36 35.9 -0.3
baz=45
D10A **Wagner Farm, O** 45.13 68 ⇑P P 17 36 37.5 -0.2
baz=45
G08A **Pilot Rock** 45.32 71 ⇑P P 17 36 38.8 -0.4
baz=45
J05A **Fort Rock** 45.35 75 ⇓P P 17 36 39.8 +0.3
baz=45
H07A **Lands Inn, Kim** 45.44 72 ⇓P P 17 36 39.8 -0.3
baz=45
A13A **Flathead Natio** 45.47 64 ⇓P P 17 36 39.7 -0.7
baz=45
I06A **Prineville** 45.50 73 ⇑P P 17 36 40.3 -0.3
baz=45
YBH **Yreka Blue Hor** 45.54 77 ⇑P P 17 36 41.5 +0.6
baz=45
YBH **Yreka Blue Hor** 45.54 77 pP P 17 36 41.2 +0.3
YBH **Yreka Blue Hor** 45.54 77 pP P 17 36 41.2 +0.3
comp=Z,5.5nm,0.7s,mb4.6,baz=338,slow=6.6,SNR=8.8
E10A **Myers Farm, Un** 45.57 68 ⇑P P 17 36 40.5 -0.6
baz=46
F09A **S2 Ranch, Elgi** 45.63 70 ⇓P P 17 36 41.4 -0.2
baz=46
L04A **Klamath Falls** 45.71 76 ⇓P P 17 36 42.2 -0.1
baz=46
I07A **Izee** 45.80 73 ⇓P P 17 36 42.6 -0.3
baz=46
F10A **Beach Ranch, E** 45.83 69 ⇓P P 17 36 43.2 0.0
baz=46
K05A **Summer Lake** 45.91 75 ⇓P P 17 36 43.6 -0.2
baz=46
H08A **Prairie City** 45.97 72 ⇑P P 17 36 44.2 -0.2
baz=46
J06A **Christmas Vall** 45.98 74 P P 17 36 44.7 +0.4
baz=46,SNR=5.9
M04C **Macdoel** 46.00 77 ⇑P P 17 36 44.6 +0.1
baz=46
E11A **Bogner Ranch,** 46.14 68 ⇓P P 17 36 45.6 0.0
baz=46
C13A **Hot Springs** 46.17 66 ⇓P P 17 36 46.5 +0.7
baz=46
M03C **McCloud** 46.17 77 ⇓P P 17 36 46.2 +0.3
baz=46
K06A **Valley Falls** 46.22 74 P P 17 36 46.7 +0.5
baz=46,SNR=6.3
J07A **Hines** 46.36 73 ⇑P P 17 36 47.4 0.0
baz=46
L05A **Lakeview** 46.39 76 ⇑P P 17 36 47.7 +0.1
baz=46
WDC **Whiskeytown Da** 46.40 78 ⇓P P 17 36 47.8 +0.1
baz=46
I08A **Drewsey** 46.42 72 ⇓P P 17 36 48.0 +0.2
baz=46
H09A **Durkee** 46.43 71 ⇑P P 17 36 48.1 +0.2
baz=46
F11A **Grangeville** 46.46 69 P P 17 36 47.5 -0.7
baz=46,SNR=5.2
O02C **Red Bluff** 46.53 79 ⇓P P 17 36 49.2 +0.5
baz=46
C14A **Swan Lake** 46.55 65 ⇑P P 17 36 48.8 -0.1
baz=46
D13A **Huson** 46.60 66 ⇑P P 17 36 48.5 -0.7
baz=46
M05C **Lookout** 46.67 76 P P 17 36 50.1 +0.3
baz=47,SNR=5.8
P01C **Double 8 Ranch** 46.70 80 ⇑P P 17 36 49.1 -0.9
baz=47
G11A **Walters Elk Ra** 46.72 69 ⇑P P 17 36 49.9 -0.2
baz=47
MOD **Modoc** 46.78 75 eP P 17 36 50.4 -0.2
comp=Z,6.0nm,0.7s,mb4.6
MOD **Modoc** 46.78 75 P P 17 36 50.7 +0.1
baz=47,SNR=6.8
J08A **Circle Bar Ran** 46.84 73 ⇑P P 17 36 51.1 0.0
baz=47
I09A **Lost Marbles R** 46.84 72 ⇓P P 17 36 50.6 -0.5
baz=47
K07A **Rock Creek Ran** 46.84 74 P P 17 36 51.5 +0.4
baz=47,SNR=5.7
HATC **Hat Creek Radi** 46.85 77 ⇑P P 17 36 50.7 -0.5
baz=47
H10A **Noah's Angus R** 46.98 70 ⇓P P 17 36 50.8 -1.4
baz=47
F12A **Elk City** 47.03 68 P P 17 36 52.6 0.0
baz=47,SNR=6.2
D14A **Greenough** 47.11 66 ⇓P P 17 36 52.8 -0.4
baz=47
M06C **Likely Place G** 47.15 76 ⇓P P 17 36 53.6 +0.1
baz=47
E13A **Victor** 47.16 67 ⇑P P 17 36 53.7 +0.1
baz=47
HOPS **Hopland** 47.17 80 ⇑P P 17 36 52.1 -1.6
baz=47
L07A **Adell** 47.24 75 ⇓P P 17 36 54.5 +0.2
baz=47
J09A **Fry Pan Ranch,** 47.24 72 P P 17 36 54.5 +0.3
baz=47,SNR=5.8
K08A **Mann Creek Ran** 47.24 73 ⇓P P 17 36 54.3 0.0
baz=47
H11A **Donnelly** 47.30 70 ⇓P P 17 36 54.4 -0.3
baz=47
CHMT **Chamberlain Mo** 47.35 66 eP P 17 36 54.2 -0.9
O04C **Chester** 47.40 78 ⇑P P 17 36 55.5 0.0
baz=47
ELFS **Eagle Lake Fie** 47.40 77 ⇓P P 17 36 55.8 +0.4
baz=47
F13A **Darby** 47.50 68 ⇓P P 17 36 56.3 0.0
baz=47
E14A **Clinton** 47.54 66 ⇑P P 17 36 56.6 0.0
baz=48
MNRC **McLaughlin Nat** 47.61 80 ⇓P P 17 36 56.5 -0.6
baz=48
D15A **Lincoln** 47.65 65 ⇓P P 17 36 57.8 +0.4
baz=48
L08A **Fields** 47.68 74 P P 17 36 57.9 +0.2
baz=48,SNR=5.4
ORV **Oroville** 47.68 79 P P 17 36 56.9 -0.8
baz=48,SNR=5.7
K09A **Rome** 47.68 73 ⇑P P 17 36 57.5 -0.1
baz=48
J10A **Berg Farm, Mel** 47.73 71 ⇓P P 17 36 57.9 -0.1
baz=48
O05C **Quincy** 47.73 78 ⇓P P 17 36 58.0 -0.1
baz=48
SUTB **Sutter Butte** 47.74 79 ⇓P P 17 36 57.5 -0.6
baz=48
M07A **Soldier Meadow** 47.75 75 ⇑P P 17 36 58.5 +0.3
baz=48
N06A **Buffalo Meadow** 47.81 76 P P 17 36 58.6 0.0
baz=48,SNR=5.5
OHCM **Honcut** 47.84 79 eP P 17 36 58.2 -0.7
I11A **Placerville** 47.85 70 ⇑P P 17 36 58.8 -0.1
baz=48
E15A **Deer Lodge** 47.99 66 P P 17 36 60.0 -0.1
baz=48,SNR=5.9
G13A **Cobalt** 48.01 68 P P 17 36 60.0 -0.2
baz=48,SNR=5.9
H12A **Diamond D Ranc** 48.03 69 ⇓P P 17 37 00.9 +0.5
baz=48
K10A **MacKenzie Ranc** 48.10 72 P P 17 37 00.9 0.0
baz=48,SNR=5.3
BEKR **Beckwourth** 48.11 77 ⇓P P 17 37 00.6 -0.5
baz=48
M08A **Happy Creek Ra** 48.15 75 ⇓P P 17 37 01.9 +0.6
baz=48
MFID **Camas Ranch** 48.25 71 ⇓P P 17 37 02.1 0.0
baz=48
N07B **Gerlach** 48.27 76 ⇓P P 17 37 02.0 -0.3
baz=48
G14A **Jackson** 48.32 68 ⇑P P 17 37 01.6 -1.0
baz=48
P05C **Yuba Gap, Truc** 48.36 78 ⇓P P 17 37 02.3 -0.6
baz=48
EGMT **Eagleton** 48.45 62 ⇑P P 17 37 03.5 -0.1
baz=48
P06A **Stead Airport,** 48.50 77 ⇑P P 17 37 04.1 +0.1
baz=48
LAVA **Lava Cap Winer** 48.66 79 P P 17 37 05.0 -0.2
baz=49,SNR=5.5
M09A **Marrel Ranch,** 48.69 74 ⇑P P 17 37 05.9 +0.4
baz=49
FCC **Fort Churchill** 48.71 43 eP P 17 37 05.6 0.0
FCC pmax pmax
comp=Z,11nm,0.8s,mb4.9
FCC **Fort Churchill** 48.71 43 eP P 17 37 05.6 -0.1
comp=Z,11nm,0.8s,mb5.0
O07A **Toulon** 48.75 76 ⇓P P 17 37 06.0 +0.1
baz=49
J12A **Stokes Ranch,** 48.76 71 ⇑P P 17 37 06.0 0.0
baz=49
WCN **Washoe City** 48.84 78 ⇑P P 17 37 06.6 0.0
baz=49
G15A **Dillon** 48.89 67 ⇓P P 17 37 06.9 -0.1
baz=49
HLID **Hailey** 48.92 70 ⇑P P 17 37 07.2 0.0
baz=49
MCMT **McKenzie Canyo** 48.92 68 eP P 17 37 06.1 -1.2
BOZ **Bozeman (W)** 49.03 66 ⇓P P 17 37 08.6 +0.5
baz=49
N09A **Rock Creek Ran** 49.03 75 ⇑P P 17 37 08.4 +0.3
baz=49
O08A **Rochester Mine** 49.06 76 ⇓P P 17 37 08.7 +0.4
baz=49
R05C **Kirkwood Meado** 49.07 78 ⇓P P 17 37 08.4 0.0
baz=49
J13A **Cove Ranch, Pi** 49.16 70 ⇑P P 17 37 09.1 0.0
baz=49
K12A **Draper Farm, C** 49.27 71 P P 17 37 10.0 +0.1
baz=49,SNR=5.5
CMB **Columbia Colle** 49.36 79 ⇓P P 17 37 10.2 -0.3
baz=49
P08A **Dixie Valley** 49.51 76 ⇑P P 17 37 12.2 +0.4
baz=49
L12A **House Creek Ra** 49.54 72 ⇓P P 17 37 12.5 +0.5
baz=50
R06C **Coleville** 49.55 78 P P 17 37 12.6 +0.6
baz=49,SNR=5.9
M11A **Holland Ranch,** 49.60 73 ⇑P P 17 37 13.0 +0.6
baz=50
QLMT **Earthquake Lak** 49.68 67 eP P 17 37 12.4 -0.6
O09A **Fish Creek Ran** 49.68 75 ⇑P P 17 37 13.4 +0.4
baz=50
N10A **Dunphy** 49.69 74 ⇓P P 17 37 13.7 +0.6
baz=50
S06C **San Francisco** 49.77 79 P P 17 37 13.6 -0.1
baz=50,SNR=6.9
HAST **UC Hastings Re** 49.84 82 ⇓P P 17 37 13.8 -0.5
baz=50
S05C **Merced** 49.87 80 ⇑P P 17 37 14.1 -0.4
baz=50
O10A **Cortez Mining,** 49.98 74 ⇑P P 17 37 16.2 +0.8
baz=50
R07C **Lee Vining** 50.08 78 ⇑P P 17 37 16.7 +0.7
baz=50
M12A **Wells** 50.09 72 ⇓P P 17 37 16.6 +0.4
baz=50
P09A **Austin** 50.14 76 ⇑P P 17 37 16.8 +0.3
baz=50
L13A **Double Diamond** 50.17 71 ⇓P P 17 37 17.0 +0.3
baz=50
Q08A **Gabbs** 50.17 77 P P 17 37 16.9 +0.2
baz=50,SNR=8.0
NVAR **Mina Array Bea** 50.26 77 pP P 17 37 17.6 +0.2
comp=Z,4.3nm,0.7s,mb4.6,baz=306,slow=7.1,SNR=25
K14A **Jones Ranch, D** 50.28 70 ⇑P P 17 37 17.1 -0.4
baz=50
N12A **Clover Valley,** 50.41 73 ⇑P P 17 37 18.7 +0.1
baz=50
KCC **Kaiser Creek** 50.46 79 ⇓P P 17 37 18.7 -0.2
baz=50
T06C **Millerton Lake** 50.46 80 ⇑P P 17 37 18.4 -0.6
baz=50
P10A **Eureka** 50.47 75 ⇑P P 17 37 19.5 +0.6
baz=50
M13A **Montello** 50.54 72 ⇓P P 17 37 19.8 +0.2
baz=50
RLMT **Red Lodge** 50.62 65 eP P 17 37 20.3 +0.2
comp=Z,15nm,0.9s,mb4.9
V04C **Ramage Ranch,** 50.77 82 ⇓P P 17 37 21.6 +0.4
baz=51
S08C **White Mtn Res** 50.98 78 ⇑P P 17 37 23.3 +0.4
baz=51
KURK **Kurchatov** 51.06 305⇑ eP P 17 37 23.2 -0.3
KURK **Kurchatov** 51.06 305 eP P 17 37 22.8 -0.7
comp=Z,13nm,0.8s,mb4.9
HELL **Mitchell Peak,** 51.08 79 P P 17 37 22.9 -0.7
baz=51,SNR=5.8
R09A **Tonopah** 51.09 77 P P 17 37 23.4 -0.2
baz=51,SNR=6.8
LAO **LASA Array** 51.14 62 eP P 17 37 24.2 +0.2
comp=Z,22nm,1.0s,mb5.0
WMQ **Urumqi** 51.15 293 P P 17 37 25.5 +1.4
WMQ LR LR
comp=N,451nm,21.0s,MS4.5
WMQ LR LR
comp=E,242nm,22.0s,MS4.5
WMQ LR LR
comp=Z,84nm,26.0s,MS3.6
V05C **Boulder Hill,** 51.16 81 ⇑P P 17 37 24.5 +0.3
baz=51
S09A **Goldfield** 51.36 77 P P 17 37 25.7 0.0
baz=51,SNR=6.2
P12A **McGill** 51.44 74 ⇓P P 17 37 26.3 +0.1
baz=51
Q11A **Duckwater** 51.46 75 ⇑P P 17 37 26.5 +0.1
baz=51
R10A **Warm Springs** 51.48 76 ⇑P P 17 37 26.7 +0.1
baz=51
SMMC **Simmler** 51.50 81 ⇑P P 17 37 26.1 -0.6
baz=51
VES **Vestal, Richgr** 51.64 80 ⇑P P 17 37 27.9 +0.1
baz=52
Q12A **Willow Creek R** 51.78 74 ⇑P P 17 37 28.6 -0.2
baz=52
CWC **Cottonwood Cre** 51.78 79 ⇓P P 17 37 28.8 -0.1
baz=52
PKM **Peak Mountain** 51.90 82 ⇑P P 17 37 29.6 -0.1
baz=52
MKAR **Makanchi Array** 51.92 299 pP P 17 37 28.6 -1.2
comp=Z,4.5nm,0.7s,mb4.5,baz=49,slow=7.1,SNR=20
PDAR **Pinedale Array** 52.07 67 pP P 17 37 31.4 +0.4
comp=Z,5.6nm,0.7s,mb4.6,baz=319,slow=4.3,SNR=12
DUG **Dugway** 52.09 72 ⇑P P 17 37 31.5 +0.4
baz=52
ISA **Isabella** 52.11 80 ⇓P P 17 37 30.6 -0.7
baz=52
MPMC **Manual Prospec** 52.39 79 ⇓P P 17 37 33.3 -0.1
baz=52
FURC **Furnace Creek,** 52.45 78 ⇑P P 17 37 34.1 +0.3
baz=52
BSC **Santa Cruz Isl** 52.65 82 ⇓P P 17 37 35.6 +0.3
baz=52
LRMC **Laurel Mountai** 52.69 80 ⇑P P 17 37 35.4 -0.2
baz=53
OSI **Osito Adit** 52.72 81 ⇓P P 17 37 35.5 -0.3
baz=53
U10A **Ash Meadows, A** 52.79 78 ⇑P P 17 37 36.4 +0.1
baz=53
EDW2 **Edwards Air Fo** 52.95 80 ⇓P P 17 37 37.4 0.0
baz=53
ARCES **ARCESS Array B** 53.05 345 pP P 17 37 38.2 -0.1
comp=Z,2.7nm,0.8s,mb4.3,baz=34,slow=8.8,SNR=2.3
ARCES **ARCESS Array B** 53.05 345 pP P 17 37 38.2 -0.1
SHOC **Shoshone** 53.19 78 ⇑P P 17 37 39.6 +0.3
baz=53
BVAR **Borovoye Array** 53.20 312 pP P 17 37 39.5 +0.1
comp=Z,13nm,0.6s,mb5.0,baz=53,slow=7.7,SNR=45
BRVK **Borovoye** 53.22 312 eP P 17 37 39.2 -0.3
BRVK pmax pmax
comp=Z,28nm,0.6s,mb5.4
BRVK **Borovoye** 53.22 312 eP P 17 37 39.2 -0.3
comp=Z,28nm,0.6s,mb5.4
GSC **Goldstone** 53.32 79 P P 17 37 40.4 +0.2
baz=53,SNR=5.6
CCUT **Cedar City** 53.65 75 eP P 17 37 42.8 +0.2
ULM **Lac du Bonnet** 53.70 52 pP P 17 37 42.7 -0.3
comp=Z,5.4nm,0.9s,mb4.5,baz=306,slow=6.5,SNR=7.3
ULM **Lac du Bonnet** 53.70 52 pP P 17 37 42.7 -0.3
V11A **Goodsprings** 53.71 78 ⇑P P 17 37 43.5 +0.4
baz=54
TUQ **Turquoise Mtn.** 53.72 78 ⇓P P 17 37 43.7 +0.6
baz=54
U12A **Valley of Fire** 53.79 76 ⇑P P 17 37 43.9 +0.2
baz=54
HEC **Hector,Ludlow** 53.93 79 ⇓P P 17 37 44.9 +0.2
baz=54
SRU **San Rafael** 54.11 71 eP P 17 37 46.4 +0.4
SRU pmax pmax
comp=Z,19nm,0.8s,mb5.1
SRU **San Rafael** 54.11 71 eP P 17 37 46.4 +0.4
comp=Z,20nm,0.8s,mb5.1
V12A **Nelson** 54.12 77 ⇓P P 17 37 47.1 +1.0
baz=54
GMRC **Granite Mounta** 54.35 79 ⇑P P 17 37 47.9 +0.2
baz=54
PFO **Pinyon Flat Ob** 54.74 80 ⇑P P 17 37 50.9 +0.4
baz=55
IRM **Iron Mountain** 55.09 79 ⇓P P 17 37 53.3 +0.2
baz=55
W13A **Hualapai Mount** 55.12 77 ⇓P P 17 37 53.4 +0.2
baz=55
BC3 **Big Chuckw Mtn** 55.28 79 ⇓P P 17 37 54.4 -0.1
baz=55
ARU **Arti** 55.44 321⇑ iP P 17 37 55.8 +0.2
ARU e 17 39 59.8
ARU ePPP 17 41 12.0
ARU eS S 17 45 45.8 +9.2
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARU **Arti** 55.44 321 eP P 17 37 55.6 0.0
comp=Z,8.7nm,0.6s,mb5.0
W14A **Seligman** 55.49 76 P P 17 37 56.6 +0.6
baz=55,SNR=7.0
X13A **Yucca** 55.52 78 ⇓P P 17 37 56.4 +0.2
baz=55
PDMCI **Parker Dam,Lak** 55.55 78 ⇓P P 17 37 56.1 -0.3
baz=56
Y12C **Blythe** 55.74 79 ⇓P P 17 37 58.1 +0.4
baz=56
PV01 **Paradox Valley** 55.87 71 eP P 17 37 58.4 -0.3
W15A **Williams** 55.97 76 ⇓P P 17 38 00.5 +1.1
baz=56
SMCO **Snowmass** 55.99 69 eP P 17 38 00.1 +0.5
comp=Z,21nm,1.3s,mb5.0
Y13A **Salome** 56.09 78 ⇑P P 17 38 00.9 +0.6
baz=56
X14A **Yava** 56.13 77 P P 17 38 01.2 +0.6
baz=56,SNR=7.4
WUAZ **Wupatki** 56.22 75 ⇑P P 17 38 02.1 +0.9
baz=56
Y14A **Wickenburg** 56.46 77 ⇓P P 17 38 03.3 +0.4
baz=56
X15A **Humboldt** 56.49 76 P P 17 38 03.9 +0.8
baz=56,SNR=6.7
MVCO **Mesa Verde** 56.58 72 eP P 17 38 03.4 -0.4
comp=Z,4.4nm,0.6s,mb4.7
MVCO **Mesa Verde** 56.58 72 ⇑P P 17 38 04.4 +0.6
baz=56
Z14A **Wintersburg** 56.92 78 ⇑P P 17 38 06.3 +0.2
baz=57
EYMN **Ely** 57.36 52 eP P 17 38 09.0 -0.3
comp=Z,12nm,0.8s,mb5.0
115A **Sonoran Desert** 57.81 78 ⇓P P 17 38 13.3 +0.9
baz=58
KLMR **Klimovskoe** 57.83 333 P P 17 38 12.8 +0.2
KLMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KLMR **Klimovskoe** 57.83 333 P P 17 38 12.8 +0.2
KLMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8

JOF	Joensuu	57.95	339	*ep*	P	17 38 12.7	-0.7
	comp=Z,5.1nm,0.6s,mb4.7						
JOF	Joensuu	57.95	339	*eP*	P	17 38 12.7	-0.7
116A	Eloy	58.21	78	⇓P	P	17 38 15.6	+0.4
	baz=58						
ANMO	Albuquerque	59.36	72⇑	*eP*	P	17 38 17.5	-5.7
ANMO	Albuquerque	59.36	72	pP	P	17 38 23.9	+0.6
	comp=Z,3.2nm,0.8s,mb4.4,baz=329,slow=8.2,SNR=9.7						
LAZ	Ladron	59.39	73	*eP*	P	17 38 24.2	+0.8
KAF	Kangasniemi	59.69	341	*ep*	P	17 38 24.4	-1.1
	comp=Z,0.7nm,0.4s,mb4.0						
KAF	Kangasniemi	59.69	341	*eP*	P	17 38 24.4	-1.1
	comp=Z,0.7nm,0.4s,mb4.0						
BNM	Barren Site	59.86	73	*eP*	P	17 38 26.8	+0.2
FINES	FINESS Array B	60.34	340	pP	P	17 38 30.3	+0.4
	comp=Z,2.3nm,0.8s,mb4.3,baz=26,slow=4.9,SNR=2.7						
MNTX	Cornudas Mount	62.39	74	*eP*	P	17 38 44.2	+0.4
	comp=Z,10nm,0.8s,mb5.0						
NOA	NORSAR Array B	63.06	348	pP	P	17 38 49.1	+0.8
	comp=Z,3.5nm,0.5s,mb4.7,baz=16,slow=6.8,SNR=8.5						
NOA	NORSAR Array B	63.06	348	pP	P	17 38 49.1	+0.8
OBN	Obninsk	63.60	332⇑	*eP*	P	17 38 49.6	-2.2
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
OBN	Obninsk	63.60	332⇑	*eP*	P	17 38 49.6	-2.2
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
WMOK	Wichita Mounta	63.67	67	*eP*	P	17 38 51.8	-0.4
WMOK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WMOK	Wichita Mounta	63.67	67	*eP*	P	17 38 51.8	-0.4
	comp=Z,7.8nm,0.8s,mb4.8						
LTX	Lajitas	65.15	74	*eP*	P	17 39 01.9	0.0
LTX				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
LTX	Lajitas	65.15	74	*eP*	P	17 39 01.9	0.0
	comp=Z,9.1nm,0.7s,mb4.9						
KBL	Kabul	67.71	298	*eP*	P	17 39 16.1	-2.3
AKASG	Malin Array Be	69.51	334	*i P*	P	17 39 30.1	+0.6
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	Malin Array Be	69.51	334	pP	P	17 39 30.1	+0.6
	comp=Z,3.5nm,0.7s,mb4.4,baz=26,slow=6.0,SNR=12						
GERES	GERESS Array B	74.55	343	pP	P	17 40 01.5	+1.8
GERES	GERESS Array B	74.55	343	pP	P	17 40 01.5	+1.8
	comp=Z,0.4nm,0.5s,mb3.6,baz=29,slow=6.1,SNR=3.9						
BRTR	Keskin Array B	78.27	326	pP	P	17 40 22.1	+1.3
	comp=Z,2.2nm,0.7s,mb4.2,baz=43,slow=4.8,SNR=11						
BRTR	Keskin Array B	78.27	326	pP	P	17 40 22.1	+1.3
WRA	Warramunga Arr	80.16	213	pP	P	17 40 28.9	-2.2
WRA	Warramunga Arr	80.16	213	pP	P	17 40 28.9	-2.2
	comp=Z,1.3nm,0.9s,mb3.9,baz=27,slow=6.4,SNR=5.4						
ASAR	Alice Springs	83.79	212	pP	P	17 40 48.5	-1.7
	comp=Z,1.8nm,0.8s,mb4.3,baz=17,slow=4.8,SNR=13						
ASAR	Alice Springs	83.79	212	pP	P	17 40 48.5	-1.7
STKA	Stephens Creek	89.55	203	pP	P	17 41 16.6	-1.6
	comp=Z,1.6nm,0.7s,mb4.5,baz=315,slow=8.1,SNR=3.0						

NEIC ***30*** *17:39:14.3±0.9, 4855S×11664W, h10km, Error ellipse: s-maj=70.4km s-min=29.1km az=152.0*

GCMT ***30*** *17:39:20.0±0.2, 4963S×11600W, h24km±1km, MW5.2/66, Moment Tensor Solution. s51,c62; s66,c90; Duration: 1⅓0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.90±.29; $M_{\theta\theta}$3.88±.29; $M_{\phi\phi}$-2.98±.28; $M_{r\theta}$1.86±.42; $M_{\theta\phi}$7.26±.24; $M_{r\phi}$2.61±.44; Best double couple: $M_0$8.57800×10^{16} NP1:ϕ_s104.00000°, δ71.00000°, λ4.00000°. NP2: ϕ_s12.00000°, δ86.00000°, λ161.00000°. Principal axes: T 9.3470, Plg16.0000°, Azm326.0000°; N -1.5370, Plg70.0000°, Azm182.0000°; P -7.8090, Plg11.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC 30 17:39:13.0±1.1, 4849S×11670W, h0km, mb3.9/4, mb1 4.2/4, mb1mx4.0/15, mbtmp3.9/4, MS4.4/17, Ms1 4.4/17, ms1mx4.2/27 Error ellipse: s-maj=70.2km s-min=32.7km az=149.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	30.10	121	LR	LR	17 53 52.3	
	comp=Z,607nm,19.0s,baz=236,slow=29						
PMSA	Palmer Station	32.06	140	LR	LR	17 54 47.7	
	comp=Z,781nm,18.6s,baz=106,slow=29						
TBI	Tubuai	36.06	302	*eS*	S	17 52 07.9	+12
	137nm,30.8s						
TBI				*eLQ*		17 54 39.7	
	619nm,26.5s						
TBI				*eLR*	LR	17 56 14.1	
	1μm,25.8s,baz=149						
TBI				*eLR*	LR	17 56 19.6	
	919nm,26.2s						
CFAA	Coronel Fontan	40.03	83	LR	LR	17 59 09.5	
	comp=Z,37nm,20.8s,baz=124,slow=30						
PPT	Papeete	40.80	308	*eS*	S	17 53 19.2	+11
	158nm,24.2s						
PPT				*eLQ*		17 56 38.9	
	2μm,28.2s						
PPT				*eLR*	LR	17 58 25.7	
	2μm,27.0s,baz=149						
PPT	Papeete	40.80	308	LR	LR	17 59 50.9	
	comp=Z,710nm,19.4s,baz=125,slow=30						
RAR	Rarotonga	43.78	293	LR	LR	18 01 07.7	
	comp=Z,247nm,19.8s,baz=129,slow=30						
TAOE	Nuku Hiva Isla	44.16	326	*eLR*	LR	18 00 04.4	
	4μm,26.9s						
NNA	Nana	49.17	56	LR	LR	18 04 01.0	
	comp=Z,349nm,18.7s,baz=136,slow=30						
SNAA	Sanae	51.46	158	LR	LR	18 07 07.4	
	comp=Z,196nm,20.6s,baz=231,slow=32						
ATAH	Atahualpa	52.51	51	LR	LR	18 05 37.0	
	comp=Z,365nm,18.9s,baz=246,slow=30						
SIV	San Ignacio	55.55	74	P	P	17 48 50.6	+0.6
	0.4nm,0.4s,baz=228,slow=11,SNR=4.1						
MAW	Mawson	64.24	180	LR	LR	18 14 48.0	
	comp=Z,323nm,19.9s,baz=174,slow=33						
ROSC	El Rosal	64.72	48	LR	LR	18 12 59.8	
	comp=Z,187nm,18.0s,baz=209,slow=31						
JTS	JuntasAbangare	64.90	35	LR	LR	18 10 58.5	
	comp=Z,231nm,21.0s,baz=207,slow=29						
TEIG	Tepich	72.97	28	LR	LR	18 12 47.0	
	comp=Z,55nm,20.9s,baz=3.9,slow=28						
TXAR	Lajitas Array	78.34	12	P	P	17 51 14.4	-0.7
	6.4nm,0.9s,baz=185,slow=6.2						
ASAR	Alice Springs	84.52	240	P	P	17 51 46.6	-1.2
	0.7nm,1.0s,baz=151,slow=4.5,SNR=4.1						
PMG	Port Moresby	87.08	259	LR	LR	18 23 01.6	
	comp=Z,225nm,19.2s,baz=105,slow=30						
WRA	Warramunga Arr	87.15	243	P	P	17 52 01.2	+0.4
	0.4nm,1.1s,baz=142,slow=4.4,SNR=2.5						
YBH	Yreka Blue Hor	89.99	356	LR	LR	18 23 26.3	
	comp=Z,368nm,18.9s,baz=68,slow=30						
PDAR	Pinedale Array	91.08	5	LR	LR	18 26 28.3	
	comp=Z,180nm,19.0s,baz=91,slow=31						
FITZ	Fitzroy Crossi	93.62	238	LR	LR	18 28 33.9	
	comp=Z,152nm,18.9s,baz=128,slow=32						
BOSA	Boshof	96.03	147	LR	LR	18 27 00.6	
	comp=Z,186nm,20.1s,baz=203,slow=30						
NEW	Newport	96.37	360	LR	LR	18 29 15.8	
	comp=Z,335nm,20.1s,baz=47,slow=31						
GERES	GERESS Array B	147.71	70	PKPbc	PKPbc	17 58 56.9	-2.6
	0.8nm,0.9s,baz=257,slow=7.4,SNR=3.0						
SONM	Songino Array	151.52	285	PKPbc	PKPbc	17 59 09.9	+1.0
	0.6nm,0.9s,baz=134,slow=6.2,SNR=2.8						

MOS ***30*** *17:42:09.4±1.4, 1378N×9052W, h33km, mb5.2/22, Error ellipse: s-maj=13.2km s-min=5.4km az=105.6*

ISCJB ***30*** *17:42:13.9±0.2, 1382N±003×9061W±002, h70km, mb5.0/78, Error ellipse: s-maj=4.8km s-min=2.2km az=66.3*

CASC ***30*** *17:42:14.1±12.0, 1372N×9077W, h84km±175km, MD5.0, ML5.4, mb5.1(NEIC)*

NEIC ***30*** *17:42:14.6±0.2, 1379N×9052W, mb5.1/71, Error ellipse: s-maj=5.5km s-min=3.6km az=46.0*

NEIC Felt [IV] at Antigua and [III] at Guatemala City. Also felt [IV] at San Salvador, El Salvador. Felt at Morales, San Lucas Sacatepequez and Santa Catarina Pinula. Also felt at Nueva San Salvador and Santa Ana, El Salvador.

IDC ***30*** *17:42:14.3±0.4, 1392N×9048W, h68km±3km, mb4.5/23, mb1 4.6/25, mb1mx4.6/27, mbtmp4.5/25, MS4.3/16, Ms1 4.3/16, ms1mx4.2/21, Error ellipse: s-maj=13.9km s-min=7.0km az=57.0*

BJI ***30*** *17:42:14.5, 1380N×9050W, h69km, mB5.5, Ms5.3, Msz4.8*

GCMT ***30*** *17:42:14.6±0.3, 1365N×9094W, h59km±1km, MW5.2/78, Moment Tensor Solution. s61,c83; s78,c113; Duration: 1⅓0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.09±.25; $M_{\theta\theta}$4.55±.19; $M_{\phi\phi}$1.54±.24; $M_{r\theta}$2.86±.14; $M_{\theta\phi}$-3.12±.18; $M_{r\phi}$-3.48±.19; Best double couple: $M_0$7.75100×10^{16} NP1:ϕ_s111.00000°, δ29.00000°, λ-110.00000°. NP2: ϕ_s313.00000°, δ63.00000°, λ-80.00000°. Principal axes: T 7.8430, Plg17.0000°, Azm35.0000°; N -0.1830, Plg9.0000°, Azm128.0000°; P -7.6590, Plg70.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***30*** *17:42:29.0, 1383N×9050W, h33km, mb4.8, Near coast of Guatemala*

ISC 30 17:42:16.2±0.2, 1388N±003×9055W±002, h71km, h71km±.8km: pP-P, n472, σ1⅓01/409, mb5.0/78, 85C-75D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.51	354	⇓*eP*	Pn	17 42 30.1	+0.8
FUG	Fuego 3	0.63	333	⇓*iP*	Pn	17 42 30.2	-0.3
RTR	El Retiro	0.88	89	⇓*eP*	x	17 42 46.1	
SBLS	San Blas	0.90	93	⇑*iP*	x	17 42 46.0	
SNJE	San Jose	0.92	91	⇓*eP*	x	17 42 46.3	
JAT	Jato	1.14	293	⇑*eP*	Pn	17 42 33.7	-2.8
BOQS	Boqueron	1.24	97	⇓*iP*	x	17 42 50.5	
MTO2	Montecristo 2	1.26	66	⇑*iP*	x	17 42 51.6	
SNET	Serv Nac Est T	1.30	98	*eP*	x	17 42 40.1	
SNET				*eS*	x	17 42 59.7	
SNET				*i*		17 43 01.3	
	comp=Z,107μm,0.3s						
SNET				⇑*eP*	x	17 43 03.3	
LFRS	El Faro	1.47	100	⇑*eP*	x	17 42 53.2	
LBRS	Las Brisas	1.47	95	⇑*iP*	x	17 42 53.6	
LCBS	La Ceiba	1.54	98	⇑*iP*	x	17 42 54.3	
SNVI	San Vicente	1.69	99	⇑*eP*	x	17 42 56.4	
VSM	San Miguel	2.26	101	⇑*eP*	x	17 43 04.1	
BLLM	Bellamira	2.29	101	⇑*eP*	x	17 43 04.2	
CNCH	Conchagua	2.71	103	⇑*eP*	x	17 43 09.9	
CCIG	Comitan	2.83	328	*i P*	Pn	17 42 59.1	-0.1
CCIG				*i S*	Sn	17 43 44.9	+13
TGUH	Tegucigalpa,Un	3.19	86	⇑*iPn*	Pn	17 43 05.8	+1.8
TELN	Telica	3.84	109	⇑*eP*	Pn	17 43 13.2	+0.3
MOMJ	Momotombo	4.17	110	⇑*eP*	Pn	17 43 17.6	+0.1
COPN	Copaltepe	4.21	113	*eP*	Pn	17 43 17.4	-0.5
XAVN	Gruta Xavier	4.46	112	*eP*	Pn	17 43 21.6	+0.2
MGAN	Managua	4.54	112	⇑*eP*	Pn	17 43 23.0	+0.6
MGAN				*i*		17 44 19.8	
	comp=E,4μm,0.4s						
TICN	Ticuantepe	4.59	113	*eP*	Pn	17 43 23.7	+0.6
CMIG	Matias Romero	5.26	308	P	Pn	17 43 29.5	-2.7
	comp=E,22nm,0.3s,baz=125,slow=9.3,SNR=154						
CMIG				S	Sn	17 44 28.3	-3.1
	comp=E,52nm,0.3s,baz=270,slow=22,SNR=9.4						
CMIG	Matias Romero	5.26	308	*i P*	Pn	17 43 29.1	-3.1
CMIG				*i S*	Sn	17 44 41.5	+10
CONN	Concepcion	5.33	115	⇓*eP*	Pn	17 43 34.0	+0.8
TUIG	Tuzandepetl	5.56	318	*eP*	Pn	17 43 34.2	-2.2
TUIG				*eS*	Sn	17 44 47.5	+8.6
HUIG	Huatulco	5.69	290	*i P*	Pn	17 43 33.6	-4.5
HUIG				*i S*	Sn	17 44 46.0	+3.9
LIM1	Limonal	6.07	121	*eP*	Pn	17 43 43.0	-0.3
LIM1				*i S*	Sn	17 44 52.4	+1.1
VCR	Vista de Mar	6.09	127	⇑*eP*	Pn	17 43 44.2	+0.6
JTS	JuntasAbangare	6.54	122	Pn	Pn	17 43 50.7	+1.0
	comp=E,6μm,0.7s,SNR=23						
JTS	JuntasAbangare	6.54	122	P	Pn	17 43 48.4	-1.3
	comp=E,17nm,0.3s,baz=324,slow=12,SNR=64						
JTS	JuntasAbangare	6.54	122	*eP*	Pn	17 43 49.3	-0.4
JTS	JuntasAbangare	6.54	122	*ePn*	Pn	17 43 49.1	-0.6
JTS				*eSn*	Sn	17 45 01.1	-1.7
JCR	Jicaral	6.66	126	⇓*eP*	Pn	17 43 52.5	+1.1
TEIG	Tepich	6.67	19	P	Pn	17 43 52.6	+1.0
	comp=E,296nm,0.3s,baz=215,slow=6.5,SNR=1089						
TEIG				S	Sn	17 45 11.0	+4.9
	baz=210,slow=24,SNR=4.5						
TEIG	Tepich	6.67	19	⇑*ePn*	Pn	17 43 53.8	+2.2
TEIG				*e*		17 44 02.7	
OXX	Oaxaca	6.75	299	*i P*	Pn	17 43 52.0	-0.6
OXX				*i S*	Sn	17 45 08.0	0.0
VHO	Vista Hermosa	6.75	299	*i P*	Pn	17 43 51.6	-1.1
VHO				*i S*	Sn	17 45 09.4	+1.3
CGA2	Cerro Gallo 2	7.09	122	⇓*eP*	Pn	17 43 59.9	+2.7
PRS1	Puriscal	7.23	122	*eP*	Pn	17 44 01.2	+1.9
LAJ	Bijagual	7.45	122	⇓*eP*	Pn	17 43 58.9	-3.4
SJS	Escuela Geolog	7.47	121	*eP*	Pn	17 44 04.4	+1.9
LCR2	La Lucha 2	7.62	122	⇓*eP*	Pn	17 44 06.3	+1.9
ICR	Volcan Irazu	7.63	120	⇓*eP*	Pn	17 44 07.6	+2.9
PNIG	Pinotepa	7.73	290	*i P*	Pn	17 43 58.4	-7.6
PNIG				*i S*	Sn	17 45 30.1	-1.9
BUS	Buena Vista	7.92	122	*eP*	Pn	17 44 10.9	+2.2
IIO	Organos	9.67	307	*i P*	Pn	17 44 33.0	+0.5
PLIG	Platanillo	9.70	299	*i P*	Pn	17 44 32.8	-0.1
PLIG				*i S*	Sn	17 46 16.0	-4.2
CAIG	El Cayaco	9.88	290	*i P*	Pn	17 44 32.3	-3.1
PTVM	Pico Tres Padr	9.97	306	*i P*	Pn	17 44 34.3	-2.4
SOR	Soroa	11.39	38	*eP*	Pn	17 44 59.0	+3.0
BCIP	Isla Barro Col	11.50	113	*ePn*	Pn	17 44 55.6	-1.8
MOIG	Morelia	11.70	301	*i P*	Pn	17 44 58.8	-1.4
MGV	Manicaragua	12.96	49	*eP*	Pn	17 45 18.5	+1.1
SFJM	Santa Fe	13.62	301	*i P*	Pn	17 45 21.0	-5.1
CCCC	Cccc	14.19	57	*eP*	Pn	17 45 40.9	+7.3
PAYG	Puerto Ayora	14.46	179	*ePn*	Pn	17 45 37.8	+0.6
	comp=E,300nm,0.8s						
DWPF	Disney	16.51	30	*ePn*	Pn	17 46 05.8	+2.6
	comp=E,465nm,1.0s						
DWPF				*epP*	pP	17 46 25.5	+6.4
NATX	Nacogdoches	18.19	349	*eP*	Pn	17 46 23.9	+0.1
	comp=E,85nm,0.7s						
ROSC	El Rosal	18.33	118	P	Pn	17 46 26.5	+0.9
	comp=E,2.1nm,0.3s,baz=101,slow=16,SNR=7.5						
JCT	Junction City	18.59	334	*eP*	Pn	17 46 28.4	-0.2
JCT				pmax	pmax		
	comp=Z,58nm,0.9s						
JCT	Junction City	18.59	334	*eP*	Pn	17 46 28.4	-0.3
	comp=Z,58nm,0.9s						
LTX	Lajitas	19.60	324	*eP*	Pn	17 46 39.1	-1.5
LTX				pmax	pmax		
	comp=Z,16nm,0.6s						
LTX	Lajitas	19.60	324	*eP*	Pn	17 46 39.1	-1.4
	comp=Z,16nm,0.6s						
LTX				pP	pP	17 46 58.6	+5.3
LTX				*ePcP*	PcP	17 51 13.4	+18
TXAR	Lajitas Array	19.60	324	P	Pn	17 46 39.0	-1.6
	baz=153,slow=13						
GOGA	Godfrey	20.48	17	*eP*	P	17 46 50.0	+1.8
GOGA				*e*PP*		17 47 02.3	
GOGA				pmax	pmax		
	comp=Z,197nm,0.7s						
GOGA	Godfrey	20.48	17	*eP*	P	17 46 50.0	+1.8
	comp=Z,197nm,0.7s						
GOGA				*epP*		17 47 02.3	
OXF	Oxford	20.57	3	*eP*	P	17 46 49.2	+0.1
OXF				pmax	pmax		
	comp=Z,655nm,1.1s						
OXF	Oxford	20.57	3	*eP*	P	17 46 49.1	+0.1
	comp=Z,654nm,1.1s						
MIAR	Mount Ida	20.75	353	*eP*	P	17 46 50.1	-1.0
MIAR				pmax	pmax		
	comp=Z,120nm,1.0s						
MIAR	Mount Ida	20.75	353	*eP*	P	17 46 50.1	-1.0
	comp=Z,120nm,1.0s						
UALR	University of	20.86	356	*eP*	P	17 46 52.6	+0.3
	comp=Z,247nm,1.2s						
UALR				*epP*		17 47 06.5	
LPIG	La Paz	21.24	302	P	P	17 46 56.5	+0.1
	comp=Z,50nm,0.4s,mb5.2,baz=135,slow=5.5,SNR=5.8						
LPIG				LR	LR	17 54 46.0	
	comp=Z,416nm,20.4s,baz=11,slow=35						
NHSC	New Hope	21.34	25	*eP*	P	17 46 55.6	-1.9
	comp=Z,466nm,1.1s,mb5.7						
COW	Cow Castle Cre	21.38	23	*eP*	P	17 47 00.6	+2.8
COW				*epP*		17 47 16.5	
JSC	Jenkinsville	21.99	21	*eP*	P	17 47 05.5	+1.2
JSC				*e*PP*		17 47 23.3	
WMOK	Wichita Mounta	22.06	342	*eP*	P	17 47 03.6	-1.4
WMOK				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.0						
WMOK	Wichita Mounta	22.06	342	*eP*	P	17 47 03.6	-1.4
	comp=Z,80nm,1.1s,mb5.0						
GDL2	Guadalupe Moun	22.18	328	*eP*	P	17 47 06.9	+0.6
WVT	Waverly	22.29	6	*eP*	P	17 47 07.1	-0.4
WVT				*e*		17 47 16.1	
WVT				pmax	pmax		
	comp=Z,269nm,1.0s,mb5.5						
WVT	Waverly	22.29	6	*eP*	P	17 47 07.1	-0.4
	comp=Z,269nm,1.0s,mb5.5						
WVT				*e*		17 47 16.1	
LHS	Liberty Hill	22.32	22	*eP*	P	17 47 07.8	-0.1
LHS				*epP*		17 47 26.5	
MNTX	Cornudas Mount	22.35	325	*eP*	P	17 47 06.7	-1.4
	comp=Z,48nm,0.8s,mb4.9						
MNTX				*epP*		17 47 24.8	
UTMT	University of	22.42	4	*eP*	P	17 47 08.4	-0.4
	comp=Z,338nm,0.9s,mb5.7						
TKL	Tuckaleechee C	22.52	15	P	P	17 47 09.6	-0.4
	comp=Z,148nm,1.2s,mb5.2,baz=182,slow=12,SNR=21						
TKL				LR	LR	17 57 04.4	
	comp=Z,1μm,20.4s,baz=233,slow=40						
TZTN	Tazewell	23.42	14	*eP*	P	17 47 18.6	-0.3
	comp=Z,223nm,0.8s,mb5.5						
TZTN				*epP*		17 47 36.7	
SIUC	Southern Illin	23.77	3	*eP*	P	17 47 21.2	-0.8
	comp=Z,239nm,0.8s,mb5.6						
ATAH	Atahualpa	24.00	149	P	P	17 47 25.6	+1.3
	comp=Z,50nm,0.9s,mb4.8,baz=341,slow=6.6,SNR=28						
FVM	French Village	24.00	0	*eP*	P	17 47 32.8	+8.6
FVM				*e*PP*		17 47 50.3	
FVM				pmax	pmax		
	comp=Z,38nm,0.6s,mb4.9						
FVM	French Village	24.00	0	*eP*	P	17 47 32.8	+8.6
	comp=Z,38nm,0.6s,mb4.9						
FVM				*epP*		17 47 50.3	
USIN	University of	24.12	6	*eP*	P	17 47 24.9	-0.4
USIN				*epP*		17 47 50.0	
CNNC	Cliffs of the	24.14	26	P	P	17 47 24.0	-1.4
	comp=Z,150nm,0.8s,mb5.4						
CNNC				*epP*		17 47 43.0	
WCI	Wyandotte Cave	24.54	8	*eP*	P	17 47 28.4	-0.7
WCI				*e*PP*		17 47 46.0	
WCI				pmax	pmax		
	comp=Z,206nm,0.8s,mb5.6						
WCI	Wyandotte Cave	24.54	8	*eP*	P	17 47 28.4	-0.8
	comp=Z,206nm,0.8s,mb5.6						
WCI				*epP*		17 47 46.0	
SLM	Saint Louis	24.66	1	P	P	17 47 29.6	-0.6
SLM				pmax	pmax		
	comp=Z,73nm,0.8s,mb5.2						
SLM	Saint Louis	24.66	1	P	P	17 47 29.6	-0.6
	comp=Z,73nm,0.8s,mb5.2						
ELN	Prospectdale	24.84	19	*eP*	P	17 47 34.0	+2.2
ELN				*epP*		17 47 49.2	
BNM	Barren Site	24.89	327	*eP*	P	17 47 33.1	+0.8
BNM				*epP*		17 47 50.0	
BLA	Blacksburg	24.93	19	*eP*	P	17 47 32.0	-0.7
BLA				pmax	pmax		
	comp=Z,77nm,0.7s,mb5.2						
BLA	Blacksburg	24.93	19	*eP*	P	17 47 32.0	-0.6
	comp=Z,77nm,0.7s,mb5.2						
BLA				*epP*		17 47 50.7	
Y22C	IRIS PASSCAL I	24.99	326	⇑P	P	17 47 33.7	+0.6
	baz=25						
LPM	Los Pinos Moun	25.02	327	*eP*	P	17 47 33.7	+0.3
LENM	Lemitar	25.09	326	*eP*	P	17 47 35.1	+1.0
ANMO	Albuquerque	25.42	328	P	P	17 47 36.8	-0.4
	comp=Z,5.0nm,0.8s,mb4.0,baz=158,slow=15						
ANMO				*pPcP*		17 51 25.3	
	comp=Z,6.3nm,0.8s,baz=153,slow=6.2,SNR=5.5						
ANMO				LR	LR	18 00 17.1	
	comp=Z,233nm,20.0s,baz=64,slow=43						
ANMO	Albuquerque	25.42	328	⇑*iP*	P	17 47 37.4	+0.3
ANMO	Albuquerque	25.42	328	*eP*	P	17 47 37.6	+0.5
	comp=Z,6.0nm,0.9s,mb4.0						
ANMO				*epP*	pP	17 47 54.4	+0.5
BLO	Bloomington	25.44	7	*eP*	P	17 47 35.9	-1.4
BLO				pmax	pmax		
	comp=Z,164nm,0.7s,mb5.6						
BLO	Bloomington	25.44	7	*eP*	P	17 47 35.9	-1.4
	comp=Z,164nm,0.7s,mb5.6						
PCRV	Puerto La Cruz	25.61	95	P	P	17 47 38.5	-0.3
	comp=Z,12nm,0.7s,mb4.4,baz=292,slow=2.2,SNR=4.7						
KSU1	Kansas State U	25.68	349	*eP*	P	17 47 38.8	-0.7
KSU1				*epP*	pP	17 47 54.7	-1.6
KSU1				*esP*	sP	17 48 03.1	-1.6
KSU1				*epPcP*		17 51 25.7	
TUC	Tucson	26.05	318	*eP*	P	17 47 42.5	-0.3
TUC				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
TUC	Tucson	26.05	318	*eP*	P	17 47 42.5	-0.3
	comp=Z,19nm,0.9s,mb4.5						
TUC				*epPcP*		17 51 27.3	
116A	Eloy	26.81	317	⇓P	P	17 47 49.4	-0.3
	baz=27,SNR=11						
CBN	Corbin	26.90	23	P	P	17 47 48.5	-2.0
	comp=Z,156nm,1.0s,mb5.5						
CBN				*epP*	pP	17 48 08.6	+1.3
SDCO	Great Sand Dun	27.23	333	*eP*	P	17 47 53.8	+0.4
115A	Sonoran Desert	27.24	317	⇑P	P	17 47 53.5	0.0
	baz=27						
MCWV	Mont Chateau	27.35	18	*eP*	P	17 47 55.6	+1.1
	comp=Z,71nm,1.0s,mb5.2						
MCWV				*epP*	pP	17 48 11.5	+0.1
SCIA	State Center	28.02	356	*eP*	P

comp=Z,35nm,0.7s,mb5.1
BBSR epP pP 17 48 34.1 -0.4
BBSR epP pP 17 48 34.3 -0.2
BC3 Big Chuckw Mtn 29.97 315 P **P 17 48 18.2 +0.4**
baz=30,SNR=30
IRM Iron Mountain 30.06 316 P **P 17 48 19.0 +0.4**
baz=30,SNR=15
NEE2 Needles Airpor 30.08 318 ⇑P **P 17 48 19.8 +1.1**
baz=30
MONP Monument Peak 30.22 313 P **P 17 48 20.8 +0.8**
baz=30,SNR=5.4
PHWY Pilot Hill 30.25 337 eP **P 17 48 21.3 +1.1**
PHWY epP pP 17 48 36.3 -1.0
BELC Belle Mtn. 30.54 315 ⇓P **P 17 48 23.7 +0.9**
baz=31,SNR=7.5
W12A Cal Nev Ari 30.57 319 ⇑P **P 17 48 23.6 +0.6**
baz=31,SNR=6.4
PFO Pinyon Flat Ob 30.64 314 P **P 17 48 22.9 -0.7**
comp=Z,6.3nm,0.8s,mb4.4,baz=122,slow=11,SNR=9.3
PFO pPcP 17 51 38.2
comp=Z,9.3nm,0.9s,baz=82,slow=1.5,SNR=5.3
PFO ScP ScP 17 54 58.2 +1.6
comp=Z,4.1nm,0.8s,baz=97,slow=7.7,SNR=4.1
PFO LR LR 18 02 43.8
comp=Z,358nm,18.2s,baz=159,slow=40
PFO Pinyon Flat Ob 30.64 314 eP **P 17 48 24.3 +0.6**
PFO e*PP pP 17 48 40.7 0.0
PFO pmax pmax
comp=Z,26nm,1.3s,mb4.8
PFO Pinyon Flat Ob 30.64 314 eP **P 17 48 24.3 +0.7**
comp=Z,26nm,1.3s,mb4.8
PFO epP pP 17 48 40.7 0.0
PFO epP PcP 17 51 37.9 +18
PFO Pinyon Flat Ob 30.64 314 ⇓P **P 17 48 24.7 +1.0**
baz=31
PAL Palisades 30.68 25 P **P 17 48 23.2 -0.8**
PAL e*PP pP 17 48 41.0 0.0
PAL pmax pmax
comp=Z,42nm,1.2s,mb5.0
PAL Palisades 30.68 25 P **P 17 48 23.2 -0.8**
comp=Z,42nm,1.2s,mb5.0
PAL epP pP 17 48 41.0 -0.1
SRU San Rafael 30.69 329 eP **P 17 48 24.6 +0.4**
SRU epPcP 17 51 37.8
109C Camp Elliot, M 30.71 313 ⇓P **P 17 48 24.6 +0.3**
baz=31
GMRC Granite Mounta 30.77 317 P **P 17 48 25.4 +0.6**
baz=31,SNR=22
V12A Nelson 30.82 319 ⇓P **P 17 48 26.1 +0.9**
baz=31,SNR=26
BINY Binghamton 30.91 21 eP **P 17 48 25.6 -0.5**
comp=Z,78nm,0.8s,mb5.5
BINY epP pP 17 48 43.3 +0.2
U12A Valley of Fire 31.07 321 ⇑P **P 17 48 28.4 +0.9**
baz=31,SNR=7.1
CCUT Cedar City 31.11 323 eP **P 17 48 28.2 +0.4**
CCUT epP pP 17 48 46.1 +1.3
CCUT ePcP PcP 17 51 21.7 +0.1
CCUT epPcP 17 51 40.0
MSU Marysvale 31.12 326 eP **P 17 48 28.8 +0.9**
MSU e*PP pP 17 48 45.7 +0.8
MSU e 17 51 20.8
MSU Marysvale 31.12 326 eP **P 17 48 28.8 +0.9**
MSU epP pP 17 48 45.6 +0.7
MSU ePcP PcP 17 51 20.8 -0.8
MSU epPcP 17 51 39.7
MURC Murrieta 31.15 314 ⇑P **P 17 48 28.2 0.0**
baz=31
TMUT Trail Mountain 31.18 328 eP **P 17 48 28.8 +0.3**
TMUT epP pP 17 48 45.4 -0.1
HEC Hector,Ludlow 31.24 316 ⇓P **P 17 48 30.0 +1.0**
baz=31,SNR=16
V11A Goodsprings 31.26 319 ⇑P **P 17 48 30.2 +1.1**
baz=31,SNR=5.3
RWWY Rawlins 31.26 336 eP **P 17 48 28.1 -1.0**
comp=Z,15nm,1.0s,mb4.7
RWWY epP pP 17 48 44.7 -1.5
RWWY ePcP PcP 17 51 20.2 -1.8
RWWY epPcP 17 51 38.6
ARUT Antelope Range 31.32 324 eP **P 17 48 30.5 +0.9**
ARUT e*PP pP 17 48 47.6 +0.9
BBRC Big Bear Sol-O 31.32 315 ⇑P **P 17 48 31.0 +1.3**
baz=32
TUQ Turquoise Mtn. 31.33 318 ⇓P **P 17 48 30.5 +0.7**
baz=32
SHPR Sheep Range 31.50 320 eP **P 17 48 32.2 +0.9**
SHPR epP pP 17 48 48.6 +0.3
U11A Corn Creek 31.59 320 ⇑P **P 17 48 33.1 +1.1**
baz=32
RRX Edison Barstow 31.72 316 ⇓P **P 17 48 34.5 +1.3**
baz=32
SCI San Clemente I 31.80 312 ⇑P **P 17 48 34.0 +0.2**
baz=32
BFSC Mount Baldy St 31.82 314 ⇓P **P 17 48 34.7 +0.6**
baz=32
GSC Goldstone 31.84 317 ⇑P **P 17 48 34.8 +0.6**
baz=32,SNR=8.9
SHOC Shoshone 31.84 318 ⇑P **P 17 48 34.2 0.0**
baz=32
CIS Catalina Islan 31.91 312 ⇓P **P 17 48 34.8 0.0**
baz=32
MPU Maple Canyon 31.94 329 eP **P 17 48 36.0 +0.9**
DAU Daniels Canyon 32.05 329 eP **P 17 48 37.3 +1.2**
DAU e*PP pP 17 48 54.5 +1.4
U10A Ash Meadows, A 32.19 319 ⇑P **P 17 48 37.7 +0.4**
baz=32,SNR=9.8
JLU Jordanelle 32.29 329 epP pP 17 48 56.8 +1.6
DECC Green Verdugo 32.30 314 ⇑P **P 17 48 38.4 +0.1**
baz=32
EDW2 Edwards Air Fo 32.40 315 P **P 17 48 39.1 0.0**
baz=32,SNR=12
CTU Camp Tracy 32.51 329 eP **P 17 48 41.4 +1.3**
LRMC Laurel Mountai 32.53 316 ⇓P **P 17 48 40.3 0.0**
baz=33,SNR=13
FURC Furnace Creek, 32.56 318 ⇓P **P 17 48 41.1 +0.6**
baz=33
SNCC San Nicolas Is 32.64 311 ⇓P **P 17 48 40.9 -0.4**
baz=33
DUG Dugway 32.68 327 eP **P 17 48 42.3 +0.7**
DUG e*PP pP 17 48 59.6 +1.0
DUG Dugway 32.68 327 ⇑P **P 17 48 42.2 +0.6**
baz=33
MPMC Manual Prospec 32.73 317 ⇓P **P 17 48 42.2 +0.1**
baz=33,SNR=20
BLG Laguna Peak 32.74 313 ⇓P **P 17 48 42.2 +0.1**
baz=33
OSI Osito Adit 32.76 314 ⇑P **P 17 48 42.5 +0.2**
baz=33
ACCN Adirondack Com 32.79 23 eP **P 17 48 41.2 -1.3**
ACCN epP pP 17 48 59.4 -0.2
HRV Harvard--Oak R 32.91 26 P **P 17 48 39.6 -4.0**
HRV pmax pmax
comp=Z,17nm,0.8s,mb4.9
HRV Harvard--Oak R 32.91 26 P **P 17 48 39.6 -4.0**
comp=Z,17nm,0.8s,mb4.9
HRV epP pP 17 49 00.0 -0.7
DAC Darwin (Calif) 32.92 317 eP **P 17 48 44.3 +0.6**
DAC e*PP pP 17 49 01.3 +0.5
DAC pmax pmax
comp=Z,22nm,1.2s,mb4.9
DAC Darwin (Calif) 32.92 317 eP **P 17 48 44.3 +0.6**
comp=Z,22nm,1.2s,mb4.9
DAC epP pP 17 49 01.3 +0.5
TRCR Troy Canyon 32.95 322 eP **P 17 48 44.1 +0.2**
TRCR epP pP 17 49 01.6 +0.6
Q12A Willow Creek R 32.97 324 ⇓P **P 17 48 44.5 +0.4**
baz=33,SNR=7.9
NCB Newcomb 33.08 22 eP **P 17 48 44.4 -0.7**
comp=Z,59nm,0.9s,mb5.4
NCB epP pP 17 49 01.8 -0.4
BSC Santa Cruz Isl 33.09 312 ⇓P **P 17 48 45.0 -0.2**
baz=33
ARVC Arvin 33.11 315 ⇓P **P 17 48 45.7 +0.3**
baz=33
HWUT Hardware Ranch 33.12 331 eP **P 17 48 45.6 +0.2**
comp=Z,21nm,1.0s,mb4.9
HWUT epP pP 17 49 03.3 +0.8
HWUT ePcP PcP 17 51 25.5 -1.6
HWUT epPcP 17 51 44.8
PDAR Pinedale Array 33.13 334 P **P 17 48 45.1 -0.4**
comp=Z,0.6nm,0.5s,baz=132,slow=9.5,SNR=8.8
PDAR pP pP 17 49 02.0 -0.6
comp=Z,4.1nm,1.0s,baz=138,slow=7.4,SNR=9.0
PDAR PcP PcP 17 51 25.9 -1.2
comp=Z,2.6nm,0.9s,baz=108,slow=4.3,SNR=3.9
PDAR pPcP 17 51 43.9
comp=Z,4.0nm,0.7s,baz=144,slow=5.6,SNR=6.5
PDAR ScP ScP 17 55 05.5 +0.4
comp=Z,3.5nm,1.0s,baz=159,slow=3.3,SNR=10
PDAR LR LR 18 04 27.2
comp=Z,323nm,20.5s,baz=155,slow=40
PDAR P3KPbc 18 19 59.0
comp=Z,0.4nm,0.9s,baz=298,slow=3.2,SNR=3.6
PDAR Pinedale Array 33.13 334 P **P 17 48 45.1 -0.4**
PDAR pP pP 17 49 02.0 -0.6
PDAR PcP PcP 17 51 25.9 -1.2
PDAR pPcP 17 51 43.9
PDAR ScP ScP 17 55 05.5 +0.4
PDAR LR LR 18 04 27.2
PDAR e 18 19 59.0
ISA Isabella 33.16 316 P **P 17 48 46.3 +0.5**
baz=33,SNR=12
GRAC Grapevine Rang 33.20 319 ⇓P **P 17 48 46.5 +0.3**
baz=33
P12A McGill 33.31 324 ⇑P **P 17 48 47.7 +0.6**
baz=34,SNR=18
Q11A Duckwater 33.31 323 ⇑P **P 17 48 47.7 +0.6**
baz=34,SNR=17
BGU Big Grassy Mou 33.33 328 eP **P 17 48 47.6 +0.3**
BGU epP pP 17 49 04.1 -0.2
BGU ePcP PcP 17 51 24.6 -3.1
BGU epPcP 17 51 45.0
CWC Cottonwood Cre 33.34 317 P **P 17 48 47.8 +0.4**
baz=34,SNR=6.2
R10A Warm Springs 33.34 322 ⇓P **P 17 48 48.1 +0.8**
baz=34,SNR=5.7
LONY Lake Ozonia 33.52 21 eP **P 17 48 47.7 -1.2**
comp=Z,57nm,0.8s,mb5.5
LONY epP pP 17 49 05.5 -0.5
S09A Goldfield 33.55 320 P **P 17 48 49.6 +0.4**
baz=34,SNR=14
PKM Peak Mountain 33.68 314 ⇓P **P 17 48 50.7 +0.4**
baz=34,SNR=6.3
MSNY Massena 33.76 20 P **P 17 48 52.8 +1.8**
MSNY epP pP 17 49 07.4 -0.7
TPH Tonopah 33.77 320 eP **P 17 48 51.6 +0.6**
TPH pmax pmax
comp=Z,31nm,1.2s,mb5.0
TPH Tonopah 33.77 320 eP **P 17 48 51.6 +0.6**
comp=Z,31nm,1.2s,mb5.0
R09A Tonopah 33.78 321 P **P 17 48 51.9 +0.7**
baz=34,SNR=17
TIN Tinemaha 33.79 318 ⇓P **P 17 48 51.8 +0.6**
baz=34
HVU Hansel Valley 33.83 329 eP **P 17 48 59.3 +7.7**
P11A Circle Ranch, 33.84 324 ⇑P **P 17 48 52.3 +0.6**
baz=34
N13A Wendover, West 33.89 327 ⇑P **P 17 48 52.8 +0.7**
baz=34,SNR=5.8
EYMN Ely 33.97 359 eP **P 17 48 50.5 -2.3**
comp=Z,19nm,0.8s,mb5.0
EYMN epPcP pP 17 49 07.8 -2.2
EYMN ePP PP 17 50 02.5 -8.4
S08C White Mtn Res 34.02 319 ⇓P **P 17 48 53.9 +0.7**
baz=34,SNR=18
SMMC Simmler 34.02 314 ⇑P **P 17 48 53.6 +0.4**
baz=34
RCTC Rector, Farmer 34.04 316 ⇑P **P 17 48 53.7 +0.3**
baz=34
FRNY Flat Rock 34.06 22 eP **P 17 48 52.3 -1.3**
FRNY epP pP 17 49 10.3 -0.4
HELL Mitchell Peak, 34.10 317 P **P 17 48 54.6 +0.7**
baz=34,SNR=15
REDW Red Top Meadow 34.17 333 eP **P 17 48 55.1 +0.6**
comp=Z,41nm,1.0s,mb5.2
REDW epP pP 17 49 12.3 +0.7
O11A Cowboy Ranch, 34.18 325 P **P 17 48 55.2 +0.6**
baz=34,SNR=19
MTUM Tungsten Hills 34.18 318 eP **P 17 48 55.1 +0.5**
MTUM epP pP 17 49 11.8 0.0
MTUM ePP PP 17 50 09.7 -3.5
MTUM ePcP PcP 17 51 29.6 -0.5
MTUM epPcP 17 51 48.3
SNOW Snow King Moun 34.20 333 eP **P 17 48 55.3 +0.5**
comp=Z,42nm,1.0s,mb5.2
SNOW epP pP 17 49 12.6 +0.6
M13A Montello 34.23 328 ⇓P **P 17 48 55.3 +0.2**
baz=34,SNR=7.5
V05C Boulder Hill, 34.25 315 ⇑P **P 17 48 55.5 +0.3**
baz=34
LOHW Long Hollow 34.26 334 eP **P 17 48 54.7 -0.7**
comp=Z,17nm,1.1s,mb4.8
P10A Eureka 34.30 323 ⇓P **P 17 48 56.2 +0.6**
baz=34,SNR=6.5
TPAW Teton Pass 34.31 333 eP **P 17 48 56.0 +0.3**
comp=Z,21nm,0.9s,mb5.0
TPAW epP pP 17 49 13.6 +0.7
N12A Clover Valley, 34.33 326 ⇓P **P 17 48 56.3 +0.3**
baz=34
ELK Elko 34.37 326 eP **P 17 48 57.3 +1.1**
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 34.37 326 eP **P 17 48 57.3 +1.1**
comp=Z,11nm,0.9s,mb4.7
MOOW Moose Ponds 34.43 334 eP **P 17 48 57.1 +0.3**
IMW Indian Meadow 34.63 334 eP **P 17 48 59.1 +0.5**
U05C Westside ANR, 34.65 316 ⇑P **P 17 48 58.6 0.0**
baz=35
L13A Double Diamond 34.65 329 ⇓P **P 17 48 59.4 +0.8**
baz=35
P09A Austin 34.65 323 ⇑P **P 17 48 59.0 +0.3**
baz=35
NVAR Mina Array Bea 34.66 320 P **P 17 48 59.4 +0.7**
comp=Z,19nm,0.7s,mb5.0,baz=134,slow=8.0,SNR=100
NVAR pP pP 17 49 15.7 -0.2
comp=Z,19nm,0.8s,baz=130,slow=8.4,SNR=12
NVAR PcP PcP 17 51 31.4 -0.1
comp=Z,4.1nm,0.7s,baz=122,slow=4.2,SNR=4.5
NVAR pPcP 17 51 50.2
comp=Z,22nm,0.7s,baz=143,slow=3.1,SNR=21
NVAR ScP ScP 17 55 12.3 +1.8
comp=Z,3.3nm,0.7s,baz=121,slow=4.9,SNR=12
NVAR Mina Array Bea 34.66 320 P **P 17 48 59.4 +0.7**
NVAR pP pP 17 49 15.7 -0.2
NVAR PcP PcP 17 51 31.4 -0.1
NVAR pPcP 17 51 50.2
NVAR ScP ScP 17 55 12.3 +1.8
KCC Kaiser Creek 34.66 318 ⇑P **P 17 48 59.0 +0.2**
baz=35,SNR=12
M12A Wells 34.66 327 P **P 17 48 59.0 +0.2**
baz=35,SNR=12
N11A Elko Archery C 34.69 325 ⇑P **P 17 48 59.7 +0.7**
baz=35
Q08A Gabbs 34.69 321 ⇓P **P 17 48 59.4 +0.4**
baz=35,SNR=15
PKD Parkfield 34.73 315 ⇓P **P 17 48 59.1 -0.3**
baz=35
T06C Millerton Lake 34.73 317 ⇓P **P 17 48 58.9 -0.5**
baz=35,SNR=6.4
O10A Cortez Mining, 34.76 324 ⇓P **P 17 49 00.1 +0.5**
baz=35,SNR=7.2
V04C Ramage Ranch, 34.80 314 ⇑P **P 17 48 59.9 -0.1**
baz=35
N10A Dunphy 35.05 325 ⇑P **P 17 49 02.4 +0.3**
baz=35
O09A Fish Creek Ran 35.08 323 ⇓P **P 17 49 02.4 0.0**
baz=35,SNR=9.0
U04C Hernandez Rese 35.11 315 ⇑P **P 17 49 02.4 -0.3**
baz=35
K13A Stover Farm, H 35.13 329 ⇑P **P 17 49 03.3 +0.5**
baz=35
M11A Holland Ranch, 35.14 326 ⇓P **P 17 49 02.9 0.0**
baz=35,SNR=10
L12A House Creek Ra 35.24 328 ⇑P **P 17 49 03.8 0.0**
baz=35
V03C Hunter Liggett 35.25 314 ⇓P **P 17 49 03.6 -0.3**
baz=35
YMR Madison River 35.27 334 eP **P 17 49 04.1 +0.1**
comp=Z,11nm,1.1s,mb4.6
YMR epP pP 17 49 22.8 +1.6
BMN Battle Mountai 35.27 324 eP **P 17 49 04.9 +0.9**
BMN e*PP pP 17 49 21.8 +0.6
BMN pmax pmax
comp=Z,30nm,1.3s,mb5.0
BMN Battle Mountai 35.27 324 eP **P 17 49 04.9 +0.9**
comp=Z,30nm,1.3s,mb5.0
BMN epP pP 17 49 21.8 +0.6
LRV Little Rabbit 35.31 315 eP **P 17 49 03.9 -0.4**
LRV epPcP 17 51 52.7
S06C San Francisco 35.32 318 ⇑P **P 17 49 04.7 +0.2**
baz=36,SNR=10
R06C Coleville 35.43 319 ⇑P **P 17 49 05.9 +0.4**
baz=36,SNR=12
K12A Draper Farm, C 35.53 328 ⇑P **P 17 49 06.8 +0.5**
baz=36
ARE Arequipa 35.55 147 eP **P 17 49 06.0 -0.4**
HAST UC Hastings Re 35.66 315 ⇑P **P 17 49 07.0 -0.3**
baz=36
N09A Rock Creek Ran 35.72 324 ⇑P **P 17 49 07.8 -0.1**
baz=36
J13A Cove Ranch, Pi 35.73 330 ⇓P **P 17 49 08.2 +0.2**
baz=36
CMB Columbia Colle 35.76 318 eP **P 17 49 08.0 -0.2**
CMB e*PP pP 17 49 24.9 -0.5
CMB pmax pmax
comp=Z,25nm,1.2s,mb5.0
CMB Columbia Colle 35.76 318 eP **P 17 49 08.0 -0.2**
comp=Z,24nm,1.2s,mb5.0
CMB epP pP 17 49 24.9 -0.5
CMB epPcP 17 51 52.2
CMB Columbia Colle 35.76 318 ⇑P **P 17 49 08.0 -0.2**
baz=36,SNR=8.0
PACP Pacheco Peak 35.80 316 ⇑P **P 17 49 08.0 -0.6**
baz=36
R05C Kirkwood Meado 35.94 319 ⇓P **P 17 49 10.3 +0.5**
baz=36,SNR=15
HLID Hailey 35.97 330 eP **P 17 49 10.8 +0.8**
comp=Z,10nm,0.8s,mb4.8
HLID epP pP 17 49 27.6 +0.4
HLID Hailey 35.97 330 P **P 17 49 10.9 +0.9**
baz=36,SNR=10
O07A Toulon 36.07 322 ⇑P **P 17 49 11.2 +0.3**
baz=36,SNR=11
J12A Stokes Ranch, 36.08 329 ⇓P **P 17 49 11.8 +0.8**
baz=36,SNR=7.5
WCN Washoe City 36.09 320 ⇑P **P 17 49 11.7 +0.6**
baz=36
S04C Ingram Canyon, 36.09 316 ⇑P **P 17 49 11.4 +0.4**
baz=36
MCMT McKenzie Canyo 36.20 333 eP **P 17 49 12.6 +0.6**
MCMT epP pP 17 49 28.7 -0.6
R04C Big Horse Ranc 36.24 318 ⇑P **P 17 49 12.7 +0.4**
baz=36,SNR=5.9
G15A Dillon 36.31 333 P **P 17 49 13.7 +0.7**
baz=36,SNR=6.9
BOZ Bozeman (W) 36.33 335 eP **P 17 49 18.4 +5.3**
BOZ Bozeman (W) 36.33 335 ⇓P **P 17 49 13.6 +0.4**
baz=36
LAVA Lava Cap Winer 36.39 318 ⇑P **P 17 49 13.7 +0.1**
baz=36,SNR=7.2
WENL Wente Brothers 36.44 316 ⇓P **P 17 49 14.5 +0.5**
baz=37
ULM Lac du Bonnet 36.53 354 P **P 17 49 11.7 -3.1**
comp=Z,30nm,1.0s,mb5.2,baz=177,slow=8.3,SNR=25
ULM pP pP 17 49 29.6 -2.5
comp=Z,33nm,0.8s,baz=172,slow=8.6,SNR=14
ULM ScP ScP 17 55 16.0 -1.2
comp=Z,8.4nm,1.1s,baz=182,slow=6.9,SNR=3.1
ULM LR LR 18 07 31.2
comp=Z,344nm,21.0s,baz=323,slow=42
ULM Lac du Bonnet 36.53 354 eP **P 17 49 11.4 -3.4**
comp=Z,41nm,0.8s,mb5.4
ULM epP pP 17 49 28.9 -3.2
MFID Camas Ranch 36.56 329 ⇓P **P 17 49 15.6 +0.5**
baz=37
M08A Happy Creek Ra 36.59 324 ⇓P **P 17 49 15.3 -0.1**
baz=37,SNR=5.4
P05C Yuba Gap, Truc 36.62 319 ⇑P **P 17 49 16.0 +0.4**
baz=37,SNR=11
O06A Flanigan 36.65 321 ⇑P **P 17 49 16.0 +0.2**
baz=37,SNR=11
JRSC Jasper Ridge 36.65 316 ⇑P **P 17 49 15.8 0.0**
baz=37
K10A MacKenzie Ranc 36.66 327 ⇓P **P 17 49 16.4 +0.6**
baz=37
BDM Black Diamond 36.69 317 ⇑P **P 17 49 16.3 +0.1**
baz=37
BEKR Beckwourth 36.80 320 ⇑P **P 17 49 17.4 +0.3**
baz=37,SNR=17
LRM Limekiln Ridge 36.82 334 eP **P 17 49 17.6 +0.4**
Q04C Lincoln 36.85 318 ⇑P **P 17 49 17.6 +0.1**
baz=37
H12A Diamond D Ranc 36.92 331 ⇑P **P 17 49 18.6 +0.5**
baz=37,SNR=13
I11A Placerville 36.99 329 ⇓P **P 17 49 18.7 0.0**
baz=37,SNR=21
N06A Buffalo Meadow 37.01 322 P **P 17 49 19.1 +0.3**
baz=37,SNR=13
M07A Soldier Meadow 37.01 323 ⇓P **P 17 49 18.8 -0.1**
baz=37
G13A Cobalt 37.03 332 ⇑P **P 17 49 18.9 -0.2**
baz=37
J10A Berg Farm, Mel 37.05 328 ⇓P **P 17 49 19.2 0.0**
baz=37
K09A Rome 37.06 326 ⇓P **P 17 49 19.0 -0.3**
baz=37,SNR=35
L08A Fields 37.06 325 P **P 17 49 19.1 -0.2**
baz=37,SNR=14
O05C Quincy 37.20 320 ⇓P **P 17 49 20.3 -0.2**
baz=37,SNR=8.1
OHCM Honcut 37.20 319 eP **P 17 49 21.1 +0.6**
OHCM epP pP 17 49 36.9 -0.9
OHCM ePcP PcP 17 51 38.1 -1.0
OHCM eScP ScP 17 55 20.4 +0.7
LPAZ La Paz 37.28 143 P **P 17 49 20.4 -0.7**
comp=Z,12nm,0.6s,mb5.0,baz=329,slow=8.4,SNR=33
LPAZ La Paz 37.28 143 eP **P 17 49 20.2 -0.9**
LPAZ e*PP pP 17 49 35.7 -2.7
LPAZ e 17 51 38.7
LPAZ pmax pmax
comp=Z,13nm,0.7s
LPAZ La Paz 37.28 143 eP **P 17 49 20.2 -0.9**
comp=Z,13nm,0.7s,mb5.0
LPAZ epP pP 17 49 35.7 -2.7
LPAZ ePcP PcP 17 51 38.7 -0.6
CVS Carmenet Viney 37.29 317 ⇑P **P 17 49 21.0 -0.3**
baz=37
ORV Oroville 37.33 319 ⇓P **P 17 49 21.9 +0.3**
baz=38,SNR=13
SUTB Sutter Butte 37.33 318 ⇓P **P 17 49 21.5 -0.1**
baz=38
E15A Deer Lodge 37.38 335 ⇓P **P 17 49 22.3 +0.3**
baz=38
WVOR Wild Horse Val 37.38 325 eP **P 17 49 21.5 -0.5**
WVOR e*PP pP 17 49 38.4 -1.0
WVOR e 17 51 38.8
WVOR pmax pmax
comp=Z,14nm,0.8s,mb4.9
WVOR Wild Horse Val 37.38 325 eP **P 17 49 21.5 -0.5**
comp=Z,14nm,0.8s,mb4.9
WVOR epP pP 17 49 38.4 -0.9
WVOR ePcP PcP 17 51 38.8 -0.8
WVOR epPcP 17 51 57.9
WVOR eScP ScP 17 55 20.6 +0.2
ELFS Eagle Lake Fie 37.47 321 ⇑P **P 17 49 23.0 +0.2**
baz=38,SNR=18
K08A Mann Creek Ran 37.50 325 ⇓P **P 17 49 23.0 0.0**
baz=38,SNR=28
L07A Adell 37.51 324 P **P 17 49 23.3 +0.2**
baz=38,SNR=22
O04C Chester 37.51 320 ⇓P **P 17 49 23.4 +0.3**
baz=38,SNR=11
J09A Fry Pan Ranch, 37.52 327 P **P 17 49 23.4 +0.2**
baz=38,SNR=18
MNRC McLaughlin Nat 37.57 317 ⇓P **P 17 49 23.4 -0.2**
baz=38
H11A Donnelly 37.59 330 ⇓P **P 17 49 24.0 +0.2**
baz=38
EGMT Eagleton 37.59 339 eP **P 17 49 23.1 -0.7**
comp=Z,18nm,1.1s,mb4.8
EGMT epP pP 17 49 39.5 -1.7
EGMT epPcP 17 51 56.2
EGMT eScP ScP 17 55 19.6 -1.7
EGMT Eagleton 37.59 339 ⇑P **P 17 49 23.8 0.0**
baz=38
F13A Darby 37.61 332 P **P 17 49 23.6 -0.4**
baz=38,SNR=9.5
M06C Likely Place G 37.67 322 ⇓P **P 17 49 24.1 -0.4**
baz=38,SNR=9.2
E14A Clinton 37.73 334 ⇓P **P 17 49 24.4 -0.6**
baz=38
D15A Lincoln 37.82 335 ⇑P **P 17 49 25.6 -0.1**
baz=38
MOD Modoc 38.00 323 eP **P 17 49 26.6 -0.6**
comp=Z,18nm,1.3s,mb4.8
MOD epP pP 17 49 42.9 -1.7
MOD ePcP PcP 17 51 40.0 -1.5
MOD epPcP 17 51 59.1

CHMT Chamberlain Mo 38.02 335 *e*P **P** **17 49 26.3 -1.2**
BMO Blue Mountains 38.33 329 *e*P **P** **17 49 28.5 -1.6**
comp=Z,22nm,1.4s,mb4.8
BMO *e*pP pP 17 49 46.0 -1.5
BMO *e*PcP PcP 17 51 42.1 -0.4
BMO *e*pPcP 17 52 00.2
LASM Arnica Sink 38.57 322 P **P** **17 49 32.0 0.0**
KIPM Iron Peak 38.75 318 *e*P **P** **17 49 32.2 -1.3**
KIPM *e*pP pP 17 49 47.8 -3.1
KIPM *e*pPcP 17 52 02.2
KCPM Cahto Peak 38.75 318 *e*P **P** **17 49 33.7 +0.2**
KCPM *e*pP pP 17 49 51.2 +0.3
KCPM pPcP 17 52 02.6
YBH Yreka Blue Hor 39.33 321 P **P** **17 49 36.0 -2.4**
comp=Z,6.4nm,0.7s,mb4.6,baz=91,slow=4.6,SNR=16
YBH pP pP 17 49 54.1 -1.7
comp=Z,4.0nm,0.6s,baz=171,slow=6.4,SNR=4.3
YBH pPcP 17 52 03.1
comp=Z,6.8nm,0.8s,baz=68,slow=3.3,SNR=8.5
YBH LR LR 18 05 23.5
comp=Z,487nm,21.7s,baz=145,slow=35
YBH Yreka Blue Hor 39.33 321 P **P** **17 49 36.0 -2.4**
YBH *PP pP 17 49 54.1 -1.7
KHMM Horse Mountain 39.48 319 *e*P **P** **17 49 40.1 +0.5**
KHMM *e*pP pP 17 49 56.9 -0.2
KHMM *e*pPcP 17 52 04.8
BBOR Butler Butte 39.99 323 P **P** **17 49 42.7 -1.2**
WALA Waterton Lakes 40.00 336 *e*P **P** **17 49 43.1 -0.8**
comp=Z,10nm,1.1s,mb4.6
HBO Huckleberry Mo 40.36 324 P **P** **17 49 46.6 -0.3**
IRO Indian Ridge 40.42 324 P **P** **17 49 47.3 -0.2**
KBO Bosley Butte 40.53 321 *e*P **P** **17 49 49.4 +1.0**
KBO *e*pP pP 17 50 05.7 -0.2
NEW Newport 40.73 333 P **P** **17 49 49.8 -0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=134,slow=12,SNR=3.3
NEW pPcP 17 52 06.9
comp=Z,8.5nm,0.7s,baz=124,slow=5.0,SNR=8.6
NEW ScP ScP 17 55 33.7 +0.4
comp=Z,5.1nm,1.0s,baz=90,slow=3.0,SNR=3.7
NEW Newport 40.73 333 P **P** **17 49 49.8 -0.2**
NEW pPcP 17 52 06.9
NEW ScP ScP 17 55 33.7 +0.4
OD2 Odessa Site #2 40.83 331 P **P** **17 49 50.0 -0.8**
HOOD Mount Hood Mea 40.92 326 *e*P **P** **17 49 52.3 +0.8**
KEBM Edson Butte 40.97 321 *e*P **P** **17 49 52.2 +0.2**
KEBM *e*pP pP 17 50 09.6 +0.1
SIV San Ignacio 41.59 135 P **P** **17 49 56.0 -1.1**
comp=Z,34nm,0.7s,mb5.2,baz=309,slow=8.6,SNR=105
SIV pP pP 17 50 12.5 -2.1
comp=Z,43nm,0.9s,baz=319,slow=8.9,SNR=15
SIV pPcP 17 52 10.8
comp=Z,16nm,0.8s,baz=314,slow=4.5,SNR=6.2
FFC Flin Flon 41.72 350 P **P** **17 49 56.4 -1.7**
comp=Z,100nm,0.9s,mb5.5,SNR=7.8
GNW Green Mountain 42.99 328 *e*P **P** **17 50 08.2 -0.2**
GNW *e*pP pP 17 50 24.6 -1.4
EDM Edmonton 43.21 340 *e*P **P** **17 50 08.1 -2.1**
EDM *e**PP pP 17 50 25.1 -2.7
PGC Sidney 44.01 329 *e*P **P** **17 50 16.2 -0.4**
PGC *e*pP pP 17 50 33.7 -0.6
RPN Rapa Nui 44.66 204 P **P** **17 50 19.8 -1.9**
comp=Z,50nm,0.8s,mb5.3,baz=15,slow=9.0,SNR=4.4
RPN LR LR 18 04 01.8
comp=Z,653nm,21.5s,baz=207,slow=29
SCHQ Schefferville 44.86 19 P **P** **17 50 21.1 -2.2**
comp=Z,17nm,0.7s,mb4.9,baz=217,slow=7.5,SNR=29
SCHQ pP pP 17 50 40.1 -1.0
comp=Z,105nm,0.8s,baz=202,slow=8.9,SNR=22
SCHQ LR LR 18 09 08.5
comp=Z,717nm,21.4s,baz=28,slow=36
SCHQ Schefferville 44.86 19 *e*P **P** **17 50 21.2 -2.1**
comp=Z,133nm,0.8s,mb5.7
SCHQ *e*pP pP 17 50 39.6 -1.4
FCC Fort Churchill 44.88 357 *e*P **P** **17 50 21.3 -2.2**
FCC *e**PP pP 17 50 38.4 -2.8
FCC *e* 17 52 08.1
FCC pmax pmax
comp=Z,27nm,0.8s,mb5.0
FCC Fort Churchill 44.88 357 *e*P **P** **17 50 21.3 -2.2**
comp=Z,27nm,0.8s,mb5.0
FCC *e*pP pP 17 50 38.4 -2.8
FCC *e* 17 52 08.1
LCO Las Campanas 46.76 156 *e*P **P** **17 50 36.7 -1.6**
comp=Z,68nm,0.9s,mb5.4
LCO *e*PcP PcP 17 52 09.3 -1.3
LCO *e* 17 52 28.6
CFAA Coronel Fontan 50.04 155 P **P** **17 51 02.0 -1.6**
comp=Z,2.4nm,0.9s,mb4.1,baz=335,slow=6.4,SNR=25
CFAA pP pP 17 51 20.8 -0.7
comp=Z,1.4nm,0.8s,baz=349,slow=7.1,SNR=5.4
CFAA PcP PcP 17 52 21.0 -1.4
comp=Z,1.7nm,0.9s,baz=329,slow=3.8,SNR=4.3
CFAA pPcP 17 52 40.9
comp=Z,1.3nm,0.9s,baz=35,slow=0.8,SNR=3.1
CFAA Coronel Fontan 50.04 155 P **P** **17 51 02.0 -1.5**
CFAA pP pP 17 51 20.8 -0.7
CFAA PcP PcP 17 52 21.0 -1.4
CFAA pPcP 17 52 40.9
YKA Yellowknife Ar 51.47 346 P **P** **17 51 11.9 -2.4**
comp=Z,2.1nm,0.6s,mb4.4,baz=149,slow=7.6,SNR=31
YKA pP pP 17 51 29.3 -3.0
comp=Z,13nm,0.9s,baz=149,slow=7.6,SNR=20
YKA pPcP 17 52 43.0
comp=Z,3.8nm,0.7s,baz=152,slow=3.8,SNR=9.5
YKA ScP ScP 17 56 16.4 -1.5
comp=Z,0.4nm,0.5s,baz=147,slow=4.8,SNR=5.3
YKA LR LR 18 17 52.6
comp=Z,243nm,20.3s,baz=180,slow=42
YKA Yellowknife Ar 51.47 346 P **P** **17 51 11.9 -2.4**
YKA *PP pP 17 51 29.3 -3.1
YKA Yellowknife Ar 51.47 346 P **P** **17 51 11.9 -2.4**
YKA pP pP 17 51 29.3 -3.0
YKA pPcP 17 52 43.0
YKA ScP ScP 17 56 16.4 -1.5
YKA LR LR 18 17 52.6
YKW3 Yellowknife Ar 51.53 346 *e*P **P** **17 51 12.8 -2.0**
DLBC Dease Lake 53.34 335 *e*P **P** **17 51 25.4 -2.7**
DLBC *e*pP pP 17 51 45.2 -1.1
TAOE Nuku Hiva Isla 54.15 248 *e*LR LR 18 06 56.4
comp=Z,2μm,25.9s
PLCA Paso Flores 57.41 162 P **P** **17 51 55.2 -2.1**
comp=Z,24nm,1.1s,mb5.2,baz=336,slow=10,SNR=26
PLCA LR LR 18 10 37.7
comp=Z,292nm,21.5s,baz=354,slow=30
PLCA Paso Flores 57.41 162 *e*P **P** **17 51 54.9 -2.5**
PLCA pmax pmax
comp=Z,57nm,1.3s
PLCA Paso Flores 57.41 162 *e*P **P** **17 51 54.9 -2.5**
comp=Z,57nm,1.3s,mb5.4
RCBR Riachuelo 57.66 106 *e*P **P** **17 51 56.9 -2.2**
comp=Z,21nm,1.0s,mb5.1
RCBR *e*pP pP 17 52 15.4 -2.1
TRQA Tornquist 58.20 154 *e*P **P** **17 52 00.3 -2.6**
comp=Z,52nm,1.4s,mb5.4
RES Resolute Bay 60.84 359 *e*P **P** **17 52 17.6 -3.5**
comp=Z,787nm,0.8s
RES *e*pP pP 17 52 35.5 -4.2
INK Inuvik 60.95 343 P **P** **17 52 19.4 -2.4**
comp=Z,4.1nm,0.7s,mb4.6,baz=129,slow=8.3,SNR=21
INK pP pP 17 52 36.5 -3.9
comp=Z,6.2nm,0.7s,baz=128,slow=4.2,SNR=11
INK Inuvik 60.95 343 *e*P **P** **17 52 19.0 -2.8**
comp=Z,329nm,0.7s
INK *e*pP pP 17 52 36.7 -3.7
COLA College 63.92 336 *e*P **P** **17 52 39.0 -2.6**
COLA *e**PP pP 17 52 56.6 -3.7
COLA *e* 17 53 14.6
COLA pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
COLA College 63.92 336 *e*P **P** **17 52 39.0 -2.6**
comp=Z,8.8nm,0.9s,mb4.6
COLA *e*pP pP 17 52 56.5 -3.8
COLA *e*PcP PcP 17 53 14.6 -2.0
COLA *e*pPcP 17 53 32.1
SVW2 Sparrevohn 65.95 331 *e*P **P** **17 52 51.8 -3.0**
SVW2 *e*pP pP 17 53 09.5 -4.1
PPT Papeete 66.09 243 *e*LR LR 18 12 29.9
comp=Z,841nm,25.0s,baz=58
PPT Papeete 66.09 243 LR LR 18 13 08.5
comp=Z,415nm,21.9s,baz=73,slow=28
TBI Tubuai 68.47 238 *e*LR LR 18 13 38.5
comp=Z,725nm,28.5s,baz=63
FALS False Pass 68.90 324 *e*P **P** **17 53 11.3 -2.1**
FALS *e*pP pP 17 53 29.2 -3.1

AKUT Akutan 70.21 323 *e*P **P** **17 53 20.4 -1.1**
comp=Z,146nm,1.1s,mb5.7
AKUT *e*pP pP 17 53 36.3 -4.1
UNV Unalaska Valle 70.63 322 *e*P **P** **17 53 22.5 -1.5**
comp=Z,882nm,1.4s
UNV *e*pP pP 17 53 40.2 -2.8
TNA Tin City 72.23 335 *e*P **P** **17 53 31.7 -2.0**
comp=Z,3.6nm,1.0s,mb4.2
TNA *e*pP pP 17 53 49.8 -2.9
DAG Danmarks Havn 72.45 13 *i* P **P** **17 53 31.0 -4.0**
DAG *i* pP 17 53 50.0 -4.0
DAG Danmarks Havn 72.45 13 *e*P **P** **17 53 31.0 -4.0**
DAG *i* pP 17 53 50.0 -4.0
ESDC Sonseca Array 78.69 52 P **P** **17 54 07.5 -3.1**
comp=Z,1.0nm,0.6s,baz=287,slow=5.9,SNR=6.5
ESDC pP pP 17 54 28.1 -1.8
comp=Z,2.4nm,0.6s,baz=284,slow=5.2,SNR=7.6
ESDC LR LR 18 27 55.9
comp=Z,121nm,18.6s,baz=345,slow=35
BILL Bilibino 82.09 338⇑ *e*P **P** **17 54 28.1 -0.8**
BILL *e**PP pP 17 54 44.2 -4.1
BILL pmax pmax
comp=Z,19nm,1.5s,mb4.7
BILL Bilibino 82.09 338 *e*P **P** **17 54 26.6 -2.3**
comp=Z,12nm,0.6s,mb4.9
BILL *e*pP pP 17 54 44.4 -3.9
NB2 NORSAR Subarra 83.58 29 P pP 17 54 55.3 -0.7
comp=Z,9.9nm,1.0s,baz=288,slow=5.3
NOA NORSAR Array B 83.58 29 pP pP 17 54 52.7 -3.4
comp=Z,1.4nm,0.7s,baz=289,slow=5.1,SNR=3.1
NOA LR LR 18 28 13.1
comp=Z,156nm,21.5s,baz=0.0,slow=33
ARCES ARCESS Array B 85.81 18 P **P** **17 54 45.3 -2.5**
comp=Z,3.5nm,0.9s,mb4.3,baz=282,slow=4.5,SNR=3.1
ARCES pP pP 17 55 02.9 -4.5
comp=Z,3.1nm,0.6s,baz=289,slow=4.9,SNR=3.3
ARCES PP PP 17 58 04.1 -3.9
comp=Z,3.7nm,0.8s,baz=313,slow=12,SNR=3.7
ARCES ARCESS Array B 85.81 18 P **P** **17 54 45.3 -2.5**
ARCES pP pP 17 55 02.9 -4.5
ARCES PP PP 17 58 04.1 -3.9
GRF Grafenberg Arr 86.98 40 *e*P pP 17 55 10.7 -2.4
comp=Z,7.0nm,1.0s
CLL Collm 87.55 38 *e*pP pP 17 55 13.0 -2.9
CLL *e*sP sP 17 55 23.0 -0.6
BRG Berggiesshubel 88.26 38 *e*P pP 17 55 18.0 -1.3
comp=Z,3.5nm,1.1s
BRG *e* 17 55 30.2
comp=Z,16nm,1.7s
KHC Kasperske Hory 88.62 40⇑ *e*P **P** **17 55 03.4 +2.0**
GERES GERESS Array B 88.80 40 P **P** **17 54 59.1 -3.0**
comp=Z,0.2nm,0.5s,baz=282,slow=4.7,SNR=3.2
GERES pP pP 17 55 18.2 -3.6
comp=Z,0.9nm,0.7s,baz=291,slow=3.7,SNR=4.2
GERES LR LR 18 29 22.1
comp=Z,204nm,21.0s,baz=90,slow=32
TORD Torodi Ar. Bea 89.04 77 P **P** **17 54 59.2 -4.1**
comp=Z,0.8nm,0.5s,mb4.0,baz=298,slow=5.2,SNR=17
TORD pP pP 17 55 17.4 -5.6
comp=Z,1.8nm,0.8s,baz=302,slow=4.9,SNR=6.9
TORD LR LR 18 31 26.9
comp=Z,111nm,20.3s,baz=0.0,slow=33
KEST Kesra 89.84 53 P **P** **17 55 04.5 -2.6**
comp=Z,0.4nm,0.8s,baz=297,slow=2.3,SNR=3.5
FINES FINESS Array B 90.00 25 P **P** **17 55 04.1 -3.7**
comp=Z,4.8nm,1.1s,mb4.6,baz=267,slow=21,SNR=3.0
TIXI Tiksi 90.66 348 *e*P **P** **17 55 08.8 -2.1**
TIXI *e* pP 17 55 24.8 -5.8
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
TIXI Tiksi 90.66 348 *e*P **P** **17 55 09.7 -1.2**
comp=Z,4.6nm,1.0s,mb4.6
TIXI *e*pP pP 17 55 25.1 -5.5
SNAA Sanae 102.35 161 *e*P Pdif 17 56 00.9 -3.0
SNAA pmax pmax
comp=Z,8.0nm,1.2s
SNAA Sanae 102.35 161 *e*Pdif Pdif 17 56 00.9 -2.9
comp=Z,7.9nm,1.2s
QSPA South Pole Qui 103.83 180 *e*Pdif Pdif 17 56 09.2 -1.2
comp=Z,2.5nm,0.8s
AKTK Aktyubinsk 110.28 21 P PKiKP 18 00 44.4 +4.5
BVAR Borovoye Array 111.38 12 PKKPbc PKKPbc 18 11 43.2 +6.1
comp=Z,0.5nm,0.7s,baz=176,slow=5.8,SNR=3.7
TLY Talaya 113.56 350 *e*PKIKP PKiKP 18 00 42.4 -3.8
SONM Songino Array 116.73 347 PKP PKPdf 18 00 51.0 -1.3
comp=Z,1.3nm,0.9s,baz=3.8,slow=2.1,SNR=4.8
SONM pPKP pPKPdf 18 01 08.8 -3.9
comp=Z,2.6nm,0.7s,baz=327,slow=1.3,SNR=12
SONM PKKP PKKPbc 18 11 35.8 +17
comp=Z,1.8nm,0.9s,baz=195,slow=3.1,SNR=6.6
KSRS Korea Array 117.43 326 PKP PKPdf 18 00 52.6 -1.0
comp=Z,2.2nm,0.7s,baz=336,slow=1.0,SNR=9.9
KSRS pPKP pPKPdf 18 01 11.4 -2.7
comp=Z,6.5nm,0.7s,baz=4.8,slow=1.9,SNR=16
BOSA Boshof 119.03 115 PKP PKPdf 18 00 55.7 -1.0
comp=Z,15nm,0.8s,baz=303,slow=1.9,SNR=21
BOSA Boshof 119.03 115 PKP PKPdf 18 00 55.7 -1.0
MKAR Makanchi Array 119.27 6 PKP PKPdf 18 00 54.9 -2.3
comp=Z,0.9nm,0.7s,baz=346,slow=2.6,SNR=9.6
MKAR pPKP pPKPdf 18 01 13.9 -3.6
comp=Z,2.7nm,0.7s,baz=303,slow=3.5,SNR=8.9
HHC Hu-ho-hao-te 121.82 340 *e*PKP PKPdf 18 00 59.0 -3.1
HHC XPKP 18 01 33.3
HHC PP PP 18 02 36.5 +0.4
HHC PKS 18 04 34.8
HHC SKS SKSdf 18 07 59.3 -8.4
HHC PP PP
comp=Z,178nm,10.7s
HHC LR LR
comp=N,242nm,21.4s
HHC LR LR
comp=E,289nm,17.3s
HHC LR LR
comp=Z,230nm,20.8s
WMQ Urumqi 122.56 2 *e*PDIF Pdif 17 57 33.3 -0.4
WMQ PKP PKPdf 18 01 02.5 -1.0
WMQ PP PP 18 02 45.5 +4.4
WMQ PKS 18 04 38.3
WMQ SKS SKSdf 18 08 03.0 -6.1
WMQ SKKS SKKSac 18 09 26.8 -6.9
WMQ SS SS 18 19 16.0 -1.0
WMQ PP PP
comp=Z,27nm,15.0s
WMQ LR LR
comp=N,300nm,29.0s
WMQ LR LR
comp=E,125nm,20.0s
WMQ LR LR
comp=Z,296nm,31.0s
MAW Mawson 123.58 168 PKP PKPdf 18 01 02.3 -3.1
comp=Z,3.1nm,0.9s,baz=216,slow=6.2,SNR=3.6
CTA Charters Tower 125.53 255 *e*P PKPdf 18 01 08.5 -0.7
comp=Z,3.6nm,0.6s
GTA Gaotai 126.11 350 *e*PKP PKPdf 18 01 09.3 -1.0
LZH Lanzhou 128.47 345 *e*PKP PKPdf 18 01 16.0 +1.2
LZH XPKP 18 01 41.0
LZH PP PP 18 03 24.8 +4.3
LZH SKKS SKKSac 18 10 12.3 +1.0
LZH SS SS 18 20 32.5 +1.4
LZH PP PP
comp=Z,320nm,5.1s
LZH LR LR
comp=N,502nm,17.0s
LZH LR LR
comp=Z,630nm,18.3s
LZH Lanzhou 128.47 345 *e*PKP PKPdf 18 01 16.0 +1.2
LZH *e*pPKP pPKPdf 18 01 33.5 -1.7
LZH *e*sPKP 18 01 41.0
LZH PP PP 18 03 24.7 +4.2
LZH SKKS SKKSac 18 10 12.2 +0.9
LZH SS SS 18 20 32.5 +1.4
LZH LR LR
comp=Z,630nm,18.3s
XAN Xi'an 128.87 339 PKP PKPdf 18 01 14.8 -0.7
STKA Stephens Creek 129.22 240 *e*PKP PKPdf 18 01 15.0 -1.2
comp=Z,9.2nm,0.9s
STKA *e*pPKP pPKPdf 18 01 30.5 -6.1
STKA Stephens Creek 129.22 240 PKP PKPdf 18 01 15.2 -1.0
comp=Z,10.0nm,0.8s,baz=72,slow=1.7,SNR=12
CD2 Chengdu 133.39 343 *e*PKP PKPdf 18 01 20.3 -3.8
GYA Guiyang 136.55 337 *e*PDIF Pdif 17 58 35.3 -0.6
GYA PKP PKPdf 18 01 30.0 0.0
GYA XPKP 18 01 57.8
GYA PP PP 18 04 15.5 +3.3
GYA PKS 18 05 04.5
GYA SKS SKSdf 18 08 31.5 -3.1
GYA SKKS SKKSac 18 10 58.3 -2.3
GYA SS SS 18 22 08.8 -0.4
GYA PP PP
comp=Z,120nm,7.6s
GYA LR LR
comp=N,120nm,20.8s
GYA LR LR
comp=E,140nm,21.4s
GYA LR LR
comp=Z,130nm,20.4s
LSA Lhasa 136.64 358 *e*PKPdf PKPdf 18 01 31.9 +1.7
LSA *e*pPKPdf pPKPdf 18 01 49.4 -1.2
WB2 Warramunga Arr 136.72 256 *e*PKP PKPdf 18 01 29.5 -0.8
WB2 *e*pPKP pPKPdf 18 01 49.3 -1.5
WB2 *e*PKS 18 05 01.6
WRA Warramunga Arr 136.73 256 PKP PKPdf 18 01 29.6 -0.8
comp=Z,8.2nm,0.8s,baz=87,slow=1.7,SNR=26
WRA pPKP pPKPdf 18 01 49.9 -0.9
comp=Z,6.9nm,0.7s,baz=86,slow=2.2,SNR=6.1
WRA PP PP 18 04 06.1 -7.3
comp=Z,4.3nm,1.3s,baz=92,slow=5.9,SNR=6.7
WRA SKPbc SKPbc 18 04 57.8 +1.1
comp=Z,1.7nm,1.0s,baz=81,slow=2.5,SNR=2.7
ASAR Alice Springs 136.95 250 PKhKP 18 01 16.5
ASAR PKP PKPdf 18 01 29.1 -1.6
comp=Z,0.7nm,0.7s,baz=102,slow=3.5,SNR=7.2
ASAR PKP PKPdf 18 01 49.2 -2.0
comp=Z,3.5nm,0.9s,baz=97,slow=3.0,SNR=7.3
ASAR pPKP pPKPdf 18 01 49.2 -2.0
comp=Z,2.8nm,0.7s,baz=89,slow=1.7,SNR=4.1
ASAR SKPbc SKPbc 18 04 57.0 -0.4
comp=Z,1.7nm,1.2s,baz=100,slow=2.7,SNR=3.0
ASAR Alice Springs 136.95 250 PKHKP 18 01 16.5
ASAR 18 01 29.2
GKN Gorkha 138.10 6 *e*P PKPdf 18 01 32.9 0.0
KAKA Kakadu 138.19 266 *e*PKP PKPdf 18 01 31.7 -1.3
comp=Z,24nm,1.0s
KOLN Koldanda 138.21 8 *e*P PKPdf 18 01 34.5 +1.4
GUN Gumba 138.31 5 *e*P PKPdf 18 01 34.0 +0.7
comp=Z,12nm,0.7s
KKN Kakani 138.38 6 *e*P PKPdf 18 01 33.9 +0.5
comp=Z,27nm,0.6s
DMN Daman 138.54 6 *e*P PKPdf 18 01 33.7 0.0
PKI Pulchoki 138.61 5 *e*P PKPdf 18 01 33.6 -0.2
KMI Kunming 139.12 341 PKP PKPdf 18 01 33.8 -0.9
KMI XPKP 18 02 02.8
KMI PP PP 18 04 29.8 +1.6
KMI PKS 18 05 10.0
KMI SKS SKSdf 18 08 35.8 -3.1
KMI SKKS SKKSac 18 11 12.3 -3.5
KMI SS SS 18 22 40.3 +0.7
KMI PP PP
comp=Z,227nm,5.2s
KMI LR LR
comp=N,359nm,18.4s
KMI LR LR
comp=E,182nm,19.2s
KMI LR LR
comp=Z,244nm,20.7s
KMI Kunming 139.12 341 PKIKP PKPdf 18 01 33.8 -0.9
KMI 18 04 29.7
KMI PPP 18 07 35.0
KMI 18 08 35.8
KMI SS SS 18 22 40.3 +0.7
KMI SSS 18 27 50.3
KMI MLR MLR
comp=Z,240nm,20.7s
KMI Kunming 139.12 341 PKP PKPdf 18 01 33.8 -0.9
KMI sPKP 18 02 02.7
KMI PP PP 18 04 29.7 +1.5
KMI PKS 18 05 10.0
KMI PPP 18 07 35.0
KMI SKS SKSdf 18 08 35.8 -3.1
KMI PcPP' 18 09 49.4
KMI SKKS SKKSac 18 11 12.3 -3.5
KMI SS SS 18 22 40.3 +0.7
KMI SSS 18 27 50.3
KMI LR LR
comp=Z,240nm,20.7s
FITZ Fitzroy Crossi 145.00 258 *i* PKP PKPdf 18 01 43.6 -1.6
comp=Z,78nm,1.1s
FITZ *e*pPKP pPKPdf 18 02 04.3 -1.4
FITZ Fitzroy Crossi 145.00 258 PKPbc PKPdf 18 01 43.7 -1.5
comp=Z,42nm,1.0s,baz=124,slow=3.0,SNR=39
FITZ pPKPbc 18 02 03.8
comp=Z,14nm,0.6s,baz=187,slow=6.0,SNR=6.3
NANT Nan 145.69 341 ⇓P PKPdf 18 01 46.0 -0.4
comp=Z,195nm,0.9s
CHG Chiang Mai 146.19 344 ⇓P pPKPdf 18 02 05.3 -2.4
comp=Z,31nm,0.8s
CHTO Chiang Mai 146.19 344 *e*PKPdf PKPdf 18 01 46.6 -0.6
CHTO *e*pPKPdf pPKPdf 18 02 04.4 -3.3
HYB Hyderabad 147.09 19 *i* PKP PKPdf 18 01 49.5 +0.7
HYB Hyderabad 147.09 19 *e*P PKPdf 18 01 49.5 +0.7
KKTK Khon Kaen 147.19 336 PG pPKPdf 18 02 08.2 -1.2
NWAO Narrogin (SRO) 148.38 228 PKPbc PKPbc 18 01 51.5 -2.9
comp=Z,48nm,1.1s,baz=166,slow=2.5,SNR=9.8
NWAO Narrogin (SRO) 148.38 228 *e*PKPbc PKPbc 18 01 52.4 -2.0
KLBR Kellerberrin 148.64 231 *e*PKP PKPdf 18 01 53.0 +1.7
comp=Z,32nm,1.2s
NST Nakhon Sawan 148.79 340 P PKPdf 18 01 55.0 +3.4
comp=Z,86nm,0.6s
MUN Mundaring 149.61 229 *e*PKP PKPdf 18 01 55.8 +2.9
MUN *e*pPKP pPKPdf 18 02 14.3 +1.0
PSI Prapat 160.95 330 PKP PKPdf 18 02 07.5 -0.6
comp=Z,5.3nm,0.8s,baz=246,slow=9.6,SNR=4.3

NIED ***30*** *17:49:00,3420N×13930E,h5km,Mw4.7 Best double couple: M0=1.39000×10^16 NP1:φ=140.00000°,δ50.00000°, λ-96.00000°. NP2:φ=328.00000°,δ40.00000°, λ-83.00000°.*
BJI ***30*** *17:49:24.8,3400N×14001E,h15km,mB5.1,mb4.6,Ms4.6, Msz4.2*
IDC ***30*** *17:49:30.3±0.5,3422N×13930E,h0km,mb4.2/20, mb1 4.3/25,mb1mx4.3/29,mbtmp4.2/25,ML4.1/5,MS4.0/6, Ms1 4.0/6,ms1mx3.6/29, Error ellipse: s-maj=16.3km s-min=11.1km az=71.0*
ISCJB ***30*** *17:49:30.8±0.8,3424N±004×13926E±005,h13km±4km, mb4.5/51,MS4.2/6, Error ellipse: s-maj=7.0km s-min=5.9km az=21.0*
JMA ***30*** *17:49:31.2,3425N×13922E,h11km±1km,M4.7*
JMA Felt IV J1.
NEIC ***30*** *17:49:32.8±3.3,3428N×13923E,h15km±20km,mb4.7/24, MW4.7(NIED), Error ellipse: s-maj=9.7km s-min=6.5km az=139.0*
NEIC Recorded [4 JMA] on Nii-jima, [3 JMA] on Kozu-shima, [2 JMA] on Miyake-jima and [1 JMA] on O-shima. Also recorded [1 JMA] in Chiba and Shizuoka Prefectures.
MOS ***30*** *17:49:33.4±1.3,3432N×13933E,h33km,mb4.9/24, Error ellipse: s-maj=11.5km s-min=5.8km az=113.4*
SZGRF ***30*** *17:49:36.8,3400N×13883E,h33km,mb5.0, Southeast of Honshu, Japan*
ISC 30 17:49:31.0±0.8,3425N±004×13931E±005,h6km±4km, h30km±3.6km:pP-P,n134,σ19.00/133,mb4.5/51,MS4.2/6, 12C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.15 247**		⇑P	**Pg**	**17 49 34.0**	**-0.2**
NJJJ	**Nii jima 2**	**0.16 353**		⇑P	**Pg**	**17 49 34.9**	**+0.7**
JIM2	**Oshima 3**	**0.48 12**		P	**Pg**	**17 49 41.1**	**+0.8**
JIZS	**Izushimoda**	**0.59 323**		⇓P	**Pg**	**17 49 42.0**	**-0.4**
KTJJ	**Kamata 2**	**0.70 344**		⇓P	**Pg**	**17 49 44.3**	**-0.3**
OMA	**Omae zaki**	**0.97 292**		P	**Pg**	**17 49 50.1**	**+0.5**
JOD2	**Odawara 2**	**1.03 350**		⇓P	**Pg**	**17 49 49.7**	**-1.1**
TK03	**Tokai 3**	**1.12 266**		P	**Pg**	**17 49 52.2**	**-0.2**
JHJ	**Hachijo jima 2**	**1.19 160**		Pn	**Pn**	**17 49 52.5**	**-1.9**
	178nm,0.3s,baz=43,slow=4.0,SNR=25						
JHJ				Sn	**Sn**	**17 50 11.2**	**+0.3**
	583nm,0.3s,baz=9.0,slow=19,SNR=14						
MJAR	**Matsushiro Arr**	**2.46 339**		Pn	**Pn**	**17 50 11.4**	**-0.3**
	36nm,0.3s,baz=169,slow=14,SNR=176						
MJAR				LR	LR	17 50 44.9	
	comp=Z,2μm,20.1s,baz=180,slow=30						
MJAR				Sn	**Sn**	**17 50 47.0**	**+4.9**
	45nm,0.3s,baz=154,slow=26,SNR=7.0						
MAJO	**Matsushiro**	**2.46 339**		*e*P	**Pn**	**17 50 12.6**	**+0.9**
MAT	**Matsushiro**	**2.46 339**		P	**Pn**	**17 50 12.4**	**+0.7**
MAT				S	**Sn**	**17 50 46.9**	**+4.8**
JNU	**Nakatsue**	**7.12 263**		Pn	**Pn**	**17 51 16.5**	**+0.8**

14nm,0.3s,baz=237,slow=19,SNR=78
JNU LR LR 17 53 51.9
comp=Z,3μm,20.3s,baz=317,slow=37
JNU Nakatsue 7.12 263 Pn **Pn 17 51 16.5 +0.8**
JNU LR LR 17 53 51.9
KSRS Korea Array 9.78 292 Pn **Pn 17 51 54.1 +1.9**
baz=88,slow=19,SNR=5.9
KSRS LR LR 17 55 25.1
comp=Z,387nm,20.0s,baz=99,slow=36
ASAJ Asahikawa 10.18 14 Pn **Pn 17 51 56.8 -0.9**
1.3nm,0.3s,baz=194,slow=5.9,SNR=11
ASAJ LR LR 17 56 06.6
comp=Z,1μm,18.7s,baz=357,slow=39
VLA Vladivostok 10.58 329⇓ *eP* **Pn 17 52 04.2 +1.0**
VLA pmax pmax
comp=Z,31nm,1.7s
JOW Kunigami 12.04 235 Pn **Pn 17 52 22.8 -0.4**
comp=Z,3.0nm,0.3s,baz=72,slow=16,SNR=18
JOW LR LR 17 56 54.3
comp=Z,750nm,19.3s,baz=147,slow=37
MDJ Mudanjiang 12.78 327 P **Pn 17 52 38.0 +4.7**
MDJ AMB AMB
comp=Z,32nm,1.7s
MDJ AMB AMB
comp=Z,147nm,7.1s
MDJ Mudanjiang 12.78 327 *eP* **Pn 17 52 38.4 +5.1**
comp=Z,42nm,1.1s
YSS Yuzh-Sakhalins 12.96 11⇑ *eP* **Pn 17 52 34.5 -1.2**
YSS pmax pmax
comp=Z,28nm,1.3s
YSS Yuzh-Sakhalins 12.96 11 *e*Pn **Pn 17 52 35.1 -0.7**
CN2 Changchun 14.37 316 *eP* **Pn 17 52 59.3 +4.3**
CN2 AMB AMB
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,600nm,13.0s
BJI Beijing 19.30 294 P **Pn 17 53 56.5 -1.2**
BJI AMB AMB
comp=Z,11nm,1.5s
BJI AMB AMB
comp=Z,71nm,3.4s
BJI LR LR
comp=N,868nm,13.5s
BJI LR LR
comp=E,626nm,13.5s
BJI LR LR
comp=Z,335nm,13.6s
BJI Beijing 19.30 294 P **Pn 17 53 56.5 -1.2**
comp=Z,11nm,1.5s
BJT Baijiatuau 19.30 294 *eP* **Pn 17 53 56.9 -0.9**
BJT pmax pmax
comp=Z,10.0nm,1.1s
BJT Baijiatuau 19.30 294 *eP* **Pn 17 53 56.9 -0.9**
comp=Z,10.0nm,1.1s
HIA Hailar 20.84 322⇑ *eP* **P 17 54 11.6 -1.9**
HIA Hailar 20.84 322 P **P 17 54 11.0 -2.5**
comp=Z,6.0nm,0.8s
GUMO Guam 21.18 165 LR LR 18 00 40.6
comp=Z,484nm,20.0s,MS3.9,baz=18,slow=32
WHN Wuhan 21.38 267 ⇑P **P 17 54 21.5 +2.2**
PET Petropavlovsk 23.28 30 P **P 17 54 41.8 +2.2**
PET pmax pmax
comp=Z,275nm,1.8s,mb5.4
PET Petropavlovsk 23.28 30 P **P 17 54 41.8 +2.2**
comp=Z,275nm,1.8s,mb5.4
CLNS Chul'man 24.64 341 *eP* **P 17 54 53.2 +0.8**
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=Z,34nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,21nm,1.3s
XAN Xi'an 25.11 278 P **P 17 54 56.0 -0.6**
XAN AP pP 17 55 06.0 +7.7
XAN AMB AMB
comp=Z,22nm,1.4s,mb4.5
XAN LR LR
comp=N,453nm,17.9s,MS4.2
XAN LR LR
comp=E,437nm,18.9s,MS4.2
XAN LR LR
comp=Z,651nm,13.1s
MA2 Magadan 26.44 13 *eP* **P 17 55 08.5 -0.2**
MA2 pmax pmax
comp=Z,16nm,0.6s,mb4.7
MA2 Magadan 26.44 13 *eP* **P 17 55 08.5 -0.2**
comp=Z,16nm,0.6s,mb4.7
ULN Ulaanbaatar 27.64 309 *eP* **P 17 55 19.9 +0.4**
ULN pmax pmax
comp=Z,10.0nm,1.3s,mb4.3
ULN Ulaanbaatar 27.64 309 *eP* **P 17 55 19.9 +0.4**
comp=Z,10nm,1.3s,mb4.3
SONM Songino Array 28.06 309 P **P 17 55 23.8 +0.6**
comp=Z,3.3nm,1.1s,mb3.9,baz=114,slow=6.4,SNR=14
SONM PcP PcP 17 58 39.3 +1.5
comp=Z,0.7nm,0.8s,baz=113,slow=3.2,SNR=3.8
YAK Yakutsk 28.47 350 *c i P* **P 17 55 26.1 -0.8**
YAK pmax pmax
comp=Z,29nm,1.3s,mb4.8
YAK Yakutsk 28.47 350 *eP* **P 17 55 26.1 -0.8**
comp=Z,9.8nm,0.6s,mb4.6
YAK *e*PP PP 17 56 36.0 +4.9
LZH Lanzhou 28.95 284 ⇓P **P 17 55 32.0 +0.8**
LZH AMB AMB
comp=Z,29nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,180nm,5.1s
LZH LR LR
comp=N,1μm,15.9s
LZH LR LR
comp=Z,2μm,16.9s,MS4.7
LZH Lanzhou 28.95 284 ⇓P **P 17 55 32.1 +0.9**
comp=Z,29nm,1.3s,mb4.8
LZH pP pP 17 55 51.1 +18
LZH sP sP 17 56 00.5 +27
LZH LR LR
comp=Z,2μm,16.9s,MS4.7
BOD Bodaibo 29.07 332 *eP* **P 17 55 25.8 -6.5**
GYA Guiyang 29.13 263 ⇑*P* **P 17 55 32.8 +0.1**
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.7
CD2 Chengdu 30.05 274 P **P 17 55 40.5 -0.4**
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.7
ZAK Zakamensk 30.77 313 *eP* **P 17 55 49.2 +1.9**
TLY Talaya 30.98 315 *eP* **P 17 55 40.4 -8.7**
TLY *e* 17 56 55.4
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,149nm,14.0s,MS3.8
GTA Gaotai 31.85 291 *eP* **P 17 55 56.5 -0.3**
GTA AP pP 17 56 04.8 +6.3
GTA XP sP 17 56 08.8 +10
GTA AMB AMB
comp=Z,9.0nm,1.8s,mb4.3
KMI Kunming 32.90 264 P **P 17 56 06.5 +0.5**
KMI AP pP 17 56 13.3 +5.6
KMI XP sP 17 56 17.5 +9.1
KMI AMB AMB
comp=Z,13nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,70nm,5.7s
KMI LR LR
comp=N,738nm,14.2s,MS4.7
KMI LR LR
comp=E,795nm,13.7s,MS4.7
KMI LR LR
comp=Z,926nm,13.7s,MS4.7
KMI Kunming 32.90 264 P **P 17 56 06.4 +0.4**
KMI *SP sP 17 56 17.4 +9.0
KMI pmax pmax
comp=Z,13nm,1.2s,mb4.7
KMI Kunming 32.90 264 P **P 17 56 06.4 +0.4**
comp=Z,13nm,1.2s,mb4.7
KMI pP pP 17 56 13.3 +5.6
KMI sP sP 17 56 17.4 +9.0
TIXI Tiksi 37.87 355⇑ *eP* **P 17 56 48.0 -0.8**
TIXI pmax pmax
comp=Z,13nm,1.7s,mb4.4
KRAR Krasnoyarsk 38.36 319⇑ *eP* **P 17 56 52.9 0.0**
KRAR pmax pmax
comp=Z,29nm,1.3s,mb4.8
WMQ Urumqi 40.64 299 P **P 17 57 13.3 +1.4**
WMQ AMB AMB
comp=Z,29nm,1.4s,mb4.7
WMQ AMB AMB
comp=Z,133nm,3.0s
WMQ LR LR
comp=N,357nm,27.0s,MS4.1
WMQ LR LR
comp=E,126nm,30.0s,MS4.1
WMQ LR LR
comp=Z,137nm,16.0s
LSA Lhasa 40.81 277 *eP* **P 17 57 16.4 +3.1**
LSA pmax pmax
comp=Z,12nm,1.2s,mb4.4
LSA Lhasa 40.81 277 *eP* **P 17 57 16.4 +3.2**
comp=Z,12nm,1.2s,mb4.4
ZAL Zalesovo 42.60 315 P **P 17 57 27.4 -0.5**
comp=Z,3.4nm,0.9s,mb4.1,baz=24,slow=7.8,SNR=18
NVS Novosibirsk 43.58 316⇑ *P* **P 17 57 36.1 +0.2**
NVS pmax pmax
comp=N,6.0nm,1.6s
NVS pmax pmax
comp=Z,33nm,1.6s,mb4.8
NVS pmax pmax
comp=E,25nm,1.4s
MK31 Makanchi Array 44.20 304 *eP* **P 17 57 41.2 +0.3**
MKAR Makanchi Array 44.20 304 P **P 17 57 41.0 +0.1**
comp=E,2.8nm,0.9s,mb4.0,baz=86,slow=9.1,SNR=26
MKAR Makanchi Array 44.20 304 P **P 17 57 41.0 +0.1**
GUN Gumba 45.76 277 *eP* **P 17 57 52.5 -0.8**
comp=E,31nm,1.3s,mb5.1
PKI Pulchoki 46.28 277 *eP* **P 17 57 56.8 -0.6**
comp=E,21nm,1.1s,mb5.0
PKI Pulchoki 46.28 277 *eP* **P 17 57 56.8 -0.6**
PKI pmax pmax
comp=Z,21nm,1.1s,mb5.0
KKN Kakani 46.30 277 *eP* **P 17 57 57.3 -0.2**
KURK Kurchatov 46.35 310 *eP* **P 17 57 57.1 -0.9**
KURK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KURK Kurchatov 46.35 310 *eP* **P 17 57 57.1 -0.9**
comp=Z,8.9nm,1.0s,mb4.7
DMN Daman 46.51 277 *eP* **P 17 57 58.7 -0.5**
GKN Gorkha 46.75 278 *eP* **P 17 58 00.8 -0.3**
comp=Z,68nm,1.3s,mb5.4
KOLN Koldanda 47.69 278 *eP* **P 17 58 08.4 0.0**
comp=Z,56nm,1.4s,mb5.4
AAK Ala-Archa 50.34 300 *eP* **P 17 58 27.8 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AAK Ala-Archa 50.34 300 *eP* **P 17 58 27.8 -0.9**
comp=Z,5.1nm,0.9s,mb4.5
BVAR Borovoye Array 51.21 314 P **P 17 58 35.8 +0.4**
comp=Z,2.1nm,1.0s,mb4.0,baz=76,slow=6.3,SNR=9.7
BRVK Borovoye 51.27 314 *eP* **P 17 58 35.5 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRVK Borovoye 51.27 314 *eP* **P 17 58 35.5 -0.3**
comp=Z,4.9nm,1.1s,mb4.3
SML Sawmill 52.25 35 *eP* **P 17 58 40.8 -2.3**
COLA College 52.35 31 *eP* **P 17 58 44.0 +0.2**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
COLA College 52.35 31 *eP* **P 17 58 44.0 +0.2**
comp=Z,4.2nm,0.8s,mb4.4
WRA Warramunga Arr 54.09 186 P **P 17 58 55.4 -1.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=2.5,slow=7.8,SNR=22
ARU Arti 57.33 319 *ceP* **P 17 59 19.5 -0.4**
ARU pmax pmax
comp=Z,18nm,1.3s,mb4.9
ARU Arti 57.33 319 *eP* **P 17 59 19.4 -0.5**
comp=Z,20nm,1.4s,mb5.0
INK Inuvik 57.64 26 P **P 17 59 21.6 -0.5**
comp=Z,2.7nm,0.6s,mb4.5,baz=320,slow=6.2,SNR=17
INK Inuvik 57.64 26 *eP* **P 17 59 21.7 -0.4**
comp=Z,90nm,0.6s,mb6.0
ASAR Alice Springs 57.82 186 P **P 17 59 23.9 +0.6**
comp=Z,0.7nm,0.7s,mb3.8,baz=18,slow=11,SNR=15
AKTK Aktyubinsk 59.28 313 P **P 17 59 34.0 +0.5**
AKTO Aktyubinsk 59.28 313 P **P 17 59 34.0 +0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=62,slow=13,SNR=6.4
KEV Kevo 65.44 339 *ep* **P 18 00 12.6 -2.1**
RES Resolute Bay 65.72 14 *eP* **P 18 00 15.6 -1.0**
comp=Z,301nm,1.0s
STKA Stephens Creek 65.81 178 P **P 18 00 18.1 +1.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=347,slow=9.3,SNR=4.7
ARCES ARCESS Array B 66.00 339 P **P 18 00 18.8 +0.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=75,slow=10,SNR=4.3
ARCES ARCESS Array B 66.00 339 P **P 18 00 18.8 +0.4**
YKA Yellowknife Ar 67.07 29 P **P 18 00 24.4 -0.8**
comp=Z,3.3nm,0.8s,mb4.4,baz=300,slow=6.1,SNR=24
YKA Yellowknife Ar 67.07 29⇑ *eP* **P 18 00 25.0 -0.2**
JOF Joensuu 67.61 332 *ep* **P 18 00 27.1 -1.5**
comp=Z,4.0nm,0.5s,mb4.7
JOF Joensuu 67.61 332 *eP* **P 18 00 27.1 -1.5**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KAF Kangasniemi 69.99 333 *ep* **P 18 00 41.9 -1.6**
comp=Z,2.5nm,0.5s,mb4.4,baz=51,slow=5.8
KAF Kangasniemi 69.99 333 *eP* **P 18 00 41.9 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
FINES FINESS Array B 70.47 332 P **P 18 00 45.0 -1.5**
comp=Z,5.2nm,0.8s,mb4.5,baz=61,slow=5.3,SNR=21
FINES FINESS Array B 70.47 332 *i P* **P 18 00 46.5 +0.1**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 70.47 332 P **P 18 00 45.0 -1.5**
NEW Newport 73.33 43 P **P 18 01 04.8 +1.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=323,slow=4.5,SNR=3.5
AKASG Malin Array Be 75.44 322 P **P 18 01 14.9 -1.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=42,slow=5.9,SNR=11
AKASG Malin Array Be 75.44 322 *i P* **P 18 01 16.0 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 76.08 337 P **P 18 01 18.0 -1.5**
comp=Z,2.3nm,0.8s,mb4.2,baz=43,slow=5.9
NOA NORSAR Array B 76.08 337 P **P 18 01 19.4 -0.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=42,slow=5.7,SNR=6.0
NVAR Mina Array Bea 78.05 52 P **P 18 01 33.1 +2.5**
comp=Z,0.6nm,0.6s,mb3.7,baz=303,slow=6.0,SNR=6.2
BRTR Keskin Array B 79.39 311 P **P 18 01 39.0 +1.0**
comp=Z,4.4nm,1.1s,mb4.3,baz=80,slow=3.5,SNR=11
STHS Stebnicka Huta 80.23 324 *eP* **P 18 01 39.6 -2.9**
STHS pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
STHS Stebnicka Huta 80.23 324 *eP* **P 18 01 39.6 -2.9**
comp=Z,5.9nm,1.6s,mb4.3
CRVS Cervenica-Dubn 80.47 324 *eP* **P 18 01 43.7 -0.1**
PDAR Pinedale Array 80.85 44 P **P 18 01 46.2 +0.4**
comp=Z,0.6nm,0.6s,baz=270,slow=1.6,SNR=3.9
VYHS Vyhne 82.02 325 *eP* **P 18 01 52.7 +0.6**
SRU San Rafael 82.55 47 *eP* **P 18 01 55.0 +0.2**
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SRU San Rafael 82.55 47 *eP* **P 18 01 55.0 +0.1**
comp=Z,3.6nm,0.7s,mb4.5
CLL Collm 82.63 329 *eP* **P 18 01 55.0 -0.3**
CLL *e* 18 02 10.0
CLL Collm 82.63 329 *eP* **P 18 01 55.0 -0.3**
comp=Z,27nm,1.8s,mb5.0
ULM Lac du Bonnet 82.77 32 P **P 18 01 56.9 +0.9**
comp=Z,1.7nm,0.8s,mb4.1,baz=298,slow=11,SNR=3.0
ULM Lac du Bonnet 82.77 32 P **P 18 01 56.9 +0.9**
PV10 Paradox Valley 83.91 47 *eP* **P 18 02 03.7 +1.8**
KHC Kasperske Hory 83.99 328 *eP* **P 18 02 03.0 +0.7**
KHC *ex* x 18 03 15.0
GERES GERESS Array B 84.15 327 P **P 18 02 02.9 -0.2**
comp=Z,1.3nm,0.8s,mb4.1,baz=43,slow=6.0,SNR=6.9
PV01 Paradox Valley 84.35 47 *eP* **P 18 02 05.3 +1.2**
GRA1 Grafenberg Arr 84.60 329 *eP* **P 18 02 05.8 +0.4**
comp=Z,13nm,1.4s,mb4.9
GRF Grafenberg Arr 84.60 329 *eP* **P 18 02 05.8 +0.4**
comp=Z,13nm,1.4s,mb4.9
GRF Grafenberg Arr 84.60 329 *eP* **P 18 02 05.8 +0.4**
GRF pmax pmax
comp=Z,13nm,1.4s,mb4.9
GRF Grafenberg Arr 84.60 329 *eP* **P 18 02 05.8 +0.4**
GRF pmax pmax
comp=Z,13nm,1.4s,mb4.9
PERS Pernice 85.11 325 *eP* **P 18 02 08.9 +0.9**
VISS Visnje 85.85 325 *eP* **P 18 02 12.3 +0.6**
BOJS Bojanci 85.87 324 *i P* **P 18 02 09.9 -1.8**
TORD Torodi Ar. Bea 118.00 312 PKP PKPdf 18 08 19.0 +0.2
comp=Z,0.4nm,0.9s,baz=30,slow=1.3,SNR=4.2
LPAZ La Paz 149.56 61 PKPbc PKPbc 18 09 23.6 +2.1
comp=Z,1.5nm,0.5s,baz=14,slow=10.0,SNR=6.8
LPAZ La Paz 149.56 61 PKP2 PKPab 18 09 23.6 -2.8
LPAZ pmax pmax
comp=Z,2.0nm,0.5s

NNC 30 17:49:57.6±19.0, 3810N×7239E, h181km±370km, mb2.2, mpv3.1, 3C-2D, Error ellipse: s-maj=237.0km s-min=88.7km az=1.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.20**	**345**	⇑P	Pn	17 51 13.8	-0.3
	1.6nm,0.5s,baz=156,slow=13						
KK31				⇓S	Sn	17 52 15.6	+1.4
	2.1nm,0.3s,baz=170,slow=23						
TKM2	**Tokmak 2**	**5.40**	**26**	⇑P	Pn	17 51 18.1	+1.4
	3.0nm,1.6s						
TKM2				⇑S	Sn	17 52 18.2	-0.7
	7.4nm,1.9s						
AB31	**Akbulak array**	**14.31**	**325**	⇓P	Pn	17 53 11.1	-1.0
	0.2nm,0.4s,baz=140,slow=13,SNR=5.7						

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*ISCJB **30** 17:50:40.6±0.7, 3422N±003×13932E±005, h12km±3km, mb4.0/16, MS4.4/2, Error ellipse: s-maj=7.3km s-min=5.1km az=171.0*
*IDC **30** 17:50:40.5±0.6, 3426N×13932E, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, ML4.1/3, MS4.3/2, Ms1 4.4/2, ms1mx3.3/27, Error ellipse: s-maj=20.7km s-min=13.8km az=68.0*
*JMA **30** 17:50:41.1, 3422N×13924E, h13km±1km, M3.9*
JMA Felt III J1.
ISC 30 17:50:40.9±0.9, 3421N±003×13934E±005, h4km±5km, n31, σ0°92/36, mb4.0/16, MS4.4/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.17**	**264**	P	Pg	17 50 44.2	-0.1
JKO				*eS*	Sg	17 50 46.9	+0.3
NJJJ	**Nii jima 2**	**0.20**	**345**	P	Pg	17 50 45.2	+0.4
NJJJ				*eS*	Sg	17 50 47.7	+0.2
JIM2	**Oshima 3**	**0.52**	**8**	P	Pg	17 50 51.1	+0.3
JIM2				*eS*	Sg	17 50 58.9	+1.4
JIZS	**Izushimoda**	**0.64**	**323**	P	Pg	17 50 52.3	-0.9
JIZS				*eS*	Sg	17 51 01.1	-0.4
KTJJ	**Kamata 2**	**0.75**	**342**	P	Pg	17 50 54.3	-1.1
KTJJ				*eS*	Sg	17 51 04.6	-0.5
OMA	**Omae zaki**	**1.01**	**293**	P	Pg	17 51 00.2	-0.1
OMA				*eS*	Sg	17 51 14.2	+0.7
JHJ	**Hachijo jima 2**	**1.14**	**161**	Pn	Pn	17 51 03.0	-0.7
	512nm,0.3s,baz=234,slow=19,SNR=2.8						
JHJ				Sn	Sn	17 51 20.3	+0.5
	725nm,0.3s,baz=71,slow=24,SNR=3.6						
MJAR	**Matsushiro Arr**	**2.51**	**339**	Pn	Pn	17 51 23.3	+0.9
	28nm,0.3s,baz=183,slow=14,SNR=4.6						
MAT	**Matsushiro**	**2.51**	**339**	P	Pn	17 51 20.8	-1.6
MAT				S	Sn	17 51 55.4	+1.9
JNU	**Nakatsue**	**7.14**	**264**	Pn	Pn	17 52 26.5	+0.4
	10nm,0.3s,baz=282,slow=27,SNR=6.3						
KSRS	**Korea Array**	**9.82**	**293**	Pn	Pn	17 53 03.1	+0.2
	baz=105,slow=13,SNR=8.8						
SONM	**Songino Array**	**28.11**	**309**	P	P	17 56 34.7	+1.0
	0.8nm,0.7s,mb3.4,baz=115,slow=8.8,SNR=3.5						
ZAL	**Zalesovo**	**42.65**	**315**	P	P	17 58 37.9	-0.5
	1.7nm,0.8s,mb3.8,baz=359,slow=7.1,SNR=5.7						
MKAR	**Makanchi Array**	**44.25**	**304**	P	P	17 58 51.2	-0.2
	1.2nm,0.7s,mb3.7,baz=85,slow=9.9,SNR=4.4						
BVAR	**Borovoye Array**	**51.27**	**314**	P	P	17 59 45.9	+0.1
	1.1nm,0.7s,mb3.9,baz=97,slow=5.8,SNR=2.8						
BVAR				PcP	PcP	18 01 01.1	+0.2
	1.5nm,0.8s,baz=103,slow=2.7,SNR=3.9						
WRA	**Warramunga Arr**	**54.06**	**186**	P	P	18 00 06.4	0.0
	2.9nm,0.7s,mb4.3,baz=3.6,slow=7.6,SNR=6.9						
WRA				PcP	PcP	18 01 13.3	+1.9
	2.5nm,0.8s,baz=360,slow=4.3,SNR=5.6						
INK	**Inuvik**	**57.66**	**26**	P	P	18 00 31.8	-0.5
	1.9nm,0.6s,mb4.3,baz=285,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**57.78**	**186**	P	P	18 00 33.9	+0.7
	0.7nm,0.7s,mb3.8,baz=16,slow=12,SNR=4.8						
AKTO	**Aktyubinsk**	**59.33**	**313**	P	P	18 00 44.4	+0.5
	2.6nm,0.8s,mb4.3,baz=78,slow=17,SNR=2.9						
STKA	**Stephens Creek**	**65.77**	**178**	P	P	18 01 28.7	+1.8
	7.9nm,0.9s,mb4.7,baz=17,slow=8.0,SNR=5.1						
YKA	**Yellowknife Ar**	**67.09**	**29**	P	P	18 01 34.9	-0.5
	1.7nm,0.8s,mb4.1,baz=299,slow=6.4,SNR=6.8						
FINES	**FINESS Array B**	**70.52**	**332**	P	P	18 01 55.4	-1.5
	3.7nm,0.8s,mb4.4,baz=340,slow=11,SNR=5.1						
AKASG	**Malin Array Be**	**75.49**	**322**	P	P	18 02 24.1	-2.1
	1.2nm,0.7s,mb4.0,baz=45,slow=5.7,SNR=5.2						
NB2	**NORSAR Subarra**	**76.13**	**337**	P	P	18 02 28.6	-1.3
	comp=Z,2.5nm,0.8s,mb4.2,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**76.13**	**337**	P	P	18 02 28.7	-1.2
	comp=Z,4.1nm,0.8s,mb4.4,baz=41,slow=5.7,SNR=5.5						
NVAR	**Mina Array Bea**	**78.05**	**52**	P	P	18 02 42.2	+1.6
	comp=Z,0.9nm,0.9s,mb3.7,baz=290,slow=4.7,SNR=4.6						
PDAR	**Pinedale Array**	**80.86**	**44**	P	P	18 02 56.2	+0.2
	comp=Z,0.9nm,0.9s,mb3.7,baz=298,slow=3.2,SNR=3.8						
RPZ	**Rata Peaks**	**82.77**	**157**	LR	LR	18 32 14.7	
	comp=Z,186nm,20.2s,MS4.5,baz=348,slow=30						
GERES	**GERESS Array B**	**84.20**	**327**	P	P	18 03 12.2	-1.2
	comp=Z,1.9nm,0.8s,mb4.2,baz=76,slow=8.2,SNR=3.7						
ESDC	**Sonseca Array**	**99.04**	**332**	LR	LR	18 51 27.8	
	comp=Z,110nm,18.1s,MS4.4,baz=5.0,slow=37						
LPAZ	**La Paz**	**149.56**	**61**	PKPbc	PKPbc	18 10 33.8	+2.3
	comp=Z,2.8nm,0.7s,baz=13,slow=9.8,SNR=7.7						

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*ISCJB **30** 17:55:52.4±1.5, 135N±02×1202E±05, h214km±17km, mb3.6/6, Error ellipse: s-maj=78.4km s-min=18.8km az=132.8*
*NEIC **30** 17:55:53.5±1.7, 1352N×120.10E, h211km±19km, mb4.4/1, Error ellipse: s-maj=68.6km s-min=16.2km az=66.0*
*IDC **30** 17:55:54.3±1.0, 1399N×121.18E, h222km±7km, mb3.3/5, mb1 3.5/5, mb1mx3.2/20, mbtmp3.3/5, Error ellipse: s-maj=117.0km s-min=13.8km az=68.0*
ISC 30 17:55:53.8±1.5, 136N±02×1202E±05, h212km±17km, n8, σ0°95/9, mb3.6/6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.85**	**53**	P	Pn	17 56 24.4	+0.5
	38nm,0.3s,baz=180,slow=10,SNR=4.0						
TGY				S	S	17 56 46.8	-0.4
	88nm,0.3s,baz=117,slow=24,SNR=14						
SONM	**Songino Array**	**36.03**	**344**	P	P	18 02 34.0	-0.8
	0.5nm,0.5s,mb3.3,baz=165,slow=9.0,SNR=6.6						
WRA	**Warramunga Arr**	**36.10**	**157**	P	P	18 02 35.0	-0.3
	0.8nm,0.3s,mb3.7,baz=342,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**39.37**	**160**	P	P	18 03 03.2	+0.5
	0.9nm,0.4s,mb3.6,baz=336,slow=6.8,SNR=22						
TLY	**Talaya**	**40.28**	**344**	P	P	18 03 11.9	+1.7
	16nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**45.85**	**324**	P	P	18 03 55.8	+1.1
	0.2nm,0.3s,mb2.9,baz=114,slow=7.7,SNR=5.3						
KBL	**Kabul**	**50.59**	**304**	*eP*	P	18 04 30.2	-0.7
ARCES	**ARCESS Array B**	**79.02**	**339**	P	P	18 07 32.7	-1.5
	3.6nm,1.0s,mb4.0,baz=96,slow=8.3,SNR=3.6						

CASC 30 18:04:15.5±1.6, 849N×8305W, h0km±4km, MD3.8, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU	**Baru**	**0.58**	**57**	*eP*	Pg	18 04 27.8	+1.2
BRU				*eS*	Sg	18 04 38.2	+4.2
DVD	**David**	**0.59**	**95**	*eS*	Sg	18 04 39.1	+4.5
CNI	**Changuinola**	**1.06**	**30**	*eP*	Pg	18 04 36.0	+0.2
LCR2	**La Lucha 2**	**1.56**	**323**	*eP*	Pn	18 04 43.7	-0.8
LCR2				*eS*	Sn	18 05 07.1	+1.6
PRS1	**Puriscal**	**1.94**	**320⇑**	*eP*	Pn	18 04 49.0	-0.7
PRS1				*eS*	Sn	18 05 15.6	+0.8
CGA2	**Cerro Gallo 2**	**2.06**	**317**	*eP*	Pn	18 04 52.4	+1.0
CGA2				*eS*	Sn	18 05 19.7	+1.8

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*NIED **30** 18:42:00, 3420N×13930E, h5km, Mw4.4 Best double couple: M0=5.21000×10^15 NP1:φ=155.00000°, δ=56.00000°, λ=-62.00000°. NP2:φ=291.00000°, δ=43.00000°, λ=-125.00000°.*
*BJI **30** 18:42:01.4, 3403N×140.10E, h10km, mB5.1, mb4.4, Ms4.1, Msz3.8*
*ISCJB **30** 18:42:07.0±0.9, 3413N±003×13930E±006, h6km±5km, mb4.2/31, MS3.5/2, Error ellipse: s-maj=8.1km*

s-min=5.4km az=171.9
*IDC **30** 18:42:07.4±0.5, 34.12N×139.18E, h0km, mb4.0/18, mb1 4.2/23, mb1mx4.1/29, mbtmp4.0/23, ML3.9/5, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=16.6km s-min=11.0km az=71.0*
*JMA **30** 18:42:09.2, 3423N×13926E, h14km±1km, M4.3*
JMA Felt III J1.
*NEIC **30** 18:42:09.0±0.4, 34.12N×139.19E, h10km, mb4.5/7, MW4.4(NIED), Error ellipse: s-maj=10.6km s-min=8.2km az=98.0*
NEIC Recorded [3 JMA] on Kozu-shima and Nii-jima; [1 JMA] on Miyake-jima.
*MOS **30** 18:42:10.0±1.6, 34.10N×13949E, h33km, mb4.7/11, Error ellipse: s-maj=15.0km s-min=7.3km az=105.6*

ISC 30 18:42:07.7±0.9, 3416N±003×13936E±005, h0km±5km, n75, σ1§26/80, mb4.2/31, MS3.5/2, 12C-5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKO	**Kozu shima**	**0.19**	**279**	⇑P	**Pg**	**18 42 12.4**	**+1.1**
NJJJ	**Nii jima 2**	**0.25**	**345**	⇑P	**Pg**	**18 42 13.3**	**+0.8**
NJJJ				S	**Sg**	**18 42 16.8**	**+1.0**
JIM2	**Oshima 3**	**0.56**	**6**	⇑P	**Pg**	**18 42 19.0**	**+0.6**
JIZS	**Izushimoda**	**0.69**	**325**	⇓P	**Pg**	**18 42 20.4**	**-0.4**
JIZS				S	**Sg**	**18 42 28.6**	**-1.1**
KTJJ	**Kamata 2**	**0.80**	**342**	⇑P	**Pg**	**18 42 22.6**	**-0.5**
KTJJ				S	**Sg**	**18 42 32.9**	**-0.6**
OMA	**Omae zaki**	**1.04**	**295**	P	**Pg**	**18 42 27.5**	**-0.2**
JHJ	**Hachijo jima 2**	**1.09**	**161**	Pn	**Pn**	**18 42 30.9**	**+0.7**
	248nm,0.3s,baz=51,slow=3.3,SNR=35						
JHJ				Sn	**Sn**	**18 42 47.2**	**+1.2**
	402nm,0.3s,baz=71,slow=22,SNR=13						
JHJ				LR	LR	18 42 49.5	
	comp=Z,1μm,20.2s,baz=83,slow=37						
JSG	**Sagara**	**1.10**	**298**	⇓P	**Pg**	**18 42 28.6**	**-0.1**
JOD2	**Odawara 2**	**1.12**	**349**	⇑P	**Pg**	**18 42 28.0**	**-1.2**
JOD2				S	**Sg**	**18 42 42.8**	**-1.0**
TK03	**Tokai 3**	**1.16**	**271**	S	**Sg**	**18 42 46.8**	**+1.9**
MJAR	**Matsushiro Arr**	**2.56**	**339**	Pn	**Pn**	**18 42 51.0**	**+0.7**
	15nm,0.3s,baz=138,slow=4.5,SNR=105						
MJAR				Sn	**Sn**	**18 43 24.6**	**+2.5**
	16nm,0.3s,baz=157,slow=26,SNR=11						
MAJO	**Matsushiro**	**2.56**	**339**	*e*P	**Pn**	**18 42 50.5**	**+0.2**
MAT	**Matsushiro**	**2.56**	**339**	P	**Pn**	**18 42 50.1**	**-0.2**
MAT				S	**Sn**	**18 43 24.3**	**+2.2**
JNU	**Nakatsue**	**7.15**	**264**	Pn	**Pn**	**18 43 52.1**	**-1.3**
	9.4nm,0.3s,baz=247,slow=12,SNR=59						
ERM	**Erimo**	**8.39**	**20**	⇑*e*P	**Pn**	**18 44 11.3**	**+0.8**
KSRS	**Korea Array**	**9.85**	**293**	Pn	**Pn**	**18 44 28.3**	**-2.2**
	baz=108,slow=15,SNR=3.3						
KSRS				LR	LR	18 48 05.9	
	comp=Z,93nm,21.0s,baz=100,slow=37						
ASAJ	**Asahikawa**	**10.26**	**13**	Pn	**Pn**	**18 44 35.8**	**-0.3**
	0.8nm,0.3s,baz=197,slow=32,SNR=6.5						
ASAJ				LR	LR	18 48 34.0	
	comp=Z,387nm,20.8s,baz=201,slow=37						
JOW	**Kunigami**	**12.02**	**236**	Pn	**Pn**	**18 45 00.1**	**-0.1**
	1.4nm,0.3s,baz=114,slow=18,SNR=7.6						
JOW				LR	LR	18 49 31.1	
	comp=Z,223nm,19.0s,baz=94,slow=37						
BJI	**Beijing**	**19.38**	**294**	P	**Pn**	**18 46 38.0**	**+2.0**
BJI				AMB	AMB		
	comp=Z,5.0nm,1.2s						
BJI				LR	LR		
	comp=N,326nm,17.3s						
BJI				LR	LR		
	comp=E,269nm,17.3s						
BJI				LR	LR		
	comp=Z,149nm,18.4s						
BJI	**Beijing**	**19.38**	**294**	P	**Pn**	**18 46 38.1**	**+2.1**
	comp=Z,5.0nm,1.2s						
HIA	**Hailar**	**20.94**	**322**	⇑*e*P	**P**	**18 46 49.3**	**-2.6**
GUMO	**Guam**	**21.08**	**165**	LR	LR	18 53 26.1	
	comp=Z,215nm,19.6s,MS3.5,baz=82,slow=32						
WHN	**Wuhan**	**21.42**	**267**	P	**P**	**18 46 59.3**	**+2.2**
PET	**Petropavlovsk**	**23.34**	**30**	⇓*e*P	**P**	**18 47 23.6**	**+6.1**
PET				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.0						
XAN	**Xi'an**	**25.16**	**278**	P	**P**	**18 47 33.8**	**-0.7**
XAN				AP		18 47 40.8	
XAN				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.3						
MA2	**Magadan**	**26.52**	**13**	⇓*e*P	**P**	**18 47 49.5**	**+2.7**
MA2				pmax	pmax		
	comp=Z,46nm,1.7s,mb4.9						
MA2	**Magadan**	**26.52**	**13**	*e*P	**P**	**18 47 49.7**	**+2.9**
	comp=Z,20nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**27.73**	**309**	⇑*e*P	**P**	**18 48 00.0**	**+2.3**
SONM	**Songino Array**	**28.15**	**309**	P	**P**	**18 48 00.7**	**-0.7**
	comp=Z,1.3nm,0.9s,mb3.8,baz=105,slow=9.4,SNR=8.3						
YAK	**Yakutsk**	**28.57**	**350**	⇓*e*P	**P**	**18 48 06.6**	**+1.4**
YAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.6						
YAK	**Yakutsk**	**28.57**	**350**	P	**P**	**18 48 06.2**	**+1.1**
	comp=Z,18nm,1.2s,mb4.8						
GTA	**Gaotai**	**31.92**	**291**	*e*P	**P**	**18 48 34.5**	**-0.3**
GTA				AP		18 48 39.5	
GTA				XP	sP	18 48 42.3	+7.3
GTA				AMB	AMB		
	comp=Z,3.0nm,2.2s,mb3.8						
TIXI	**Tiksi**	**37.97**	**355**	⇑*e*P	**P**	**18 49 28.7**	**+1.7**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.0						
WMQ	**Urumqi**	**40.72**	**300**	P	**P**	**18 49 50.8**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,295nm,4.5s						
WMQ				LR	LR		
	comp=N,74nm,27.0s,MS3.5						
WMQ				LR	LR		
	comp=E,77nm,31.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,129nm,19.0s						
LSA	**Lhasa**	**40.86**	**277**	P	**P**	**18 49 53.5**	**+2.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
LSA	**Lhasa**	**40.86**	**277**	P	**P**	**18 49 53.5**	**+2.3**
	comp=Z,4.4nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**42.69**	**315**	P	**P**	**18 50 06.2**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=12,slow=9.8,SNR=8.0						
NVS	**Novosibirsk**	**43.68**	**316**	*i*P	**P**	**18 50 13.8**	**-0.3**
NVS				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.4						
NVS				pmax	pmax		
	comp=N,14nm,2.4s						
NVS				pmax	pmax		
	comp=E,9.0nm,2.3s						
MKAR	**Makanchi Array**	**44.29**	**304**	P	**P**	**18 50 18.1**	**-1.0**
	comp=E,2.0nm,1.0s,mb3.8,baz=84,slow=8.6,SNR=10						
KURK	**Kurchatov**	**46.44**	**310**	*e*P	**P**	**18 50 34.7**	**-1.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
KURK	**Kurchatov**	**46.44**	**310**	⇑*e*P	**P**	**18 50 39.1**	**+3.0**
KURK	**Kurchatov**	**46.44**	**310**	*e*P	**P**	**18 50 34.7**	**-1.4**
	comp=Z,8.1nm,1.4s,mb4.6						
PSI	**Prapat**	**48.89**	**239**	P	**P**	**18 50 54.6**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.5,baz=358,slow=10,SNR=4.1						
BVAR	**Borovoye Array**	**51.31**	**314**	P	**P**	**18 51 12.7**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=81,slow=9.2,SNR=4.4						
BVAR				PcP	PcP	18 52 27.2	-1.3
	comp=Z,0.4nm,0.5s,baz=108,slow=3.8,SNR=4.8						
BRVK	**Borovoye**	**51.37**	**314**	P	**P**	**18 51 13.7**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BRVK	**Borovoye**	**51.37**	**314**	P	**P**	**18 51 13.7**	**-0.2**
	comp=Z,3.9nm,1.2s,mb4.2						
WRA	**Warramunga Arr**	**54.01**	**186**	P	**P**	**18 51 32.1**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.2,baz=1.1,slow=7.6,SNR=23						
CTA	**Charters Tower**	**54.34**	**172**	P	**P**	**18 51 35.5**	**-0.4**
	comp=Z,8.2nm,0.9s,mb4.7,baz=2.9,slow=7.2,SNR=3.9						
KBL	**Kabul**	**56.91**	**292**	*e*P	**P**	**18 51 53.4**	**-0.9**
ARU	**Arti**	**57.43**	**319**	⇑*e*P	**P**	**18 52 00.0**	**+2.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
INK	**Inuvik**	**57.70**	**26**	P	**P**	**18 51 59.2**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.4,baz=294,slow=9.2,SNR=12						
INK	**Inuvik**	**57.70**	**26**	P	**P**	**18 51 59.2**	**-0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**57.70**	**26**	*e*P	**P**	**18 52 00.8**	**+0.9**
	comp=Z,93nm,0.7s,mb5.9						
ASAR	**Alice Springs**	**57.74**	**186**	P	**P**	**18 51 59.6**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=21,slow=12,SNR=6.9						
ASAR				PcP	PcP	18 52 53.8	+0.7
	comp=Z,0.7nm,0.7s,baz=6.5,slow=5.1,SNR=6.1						
STKA	**Stephens Creek**	**65.72**	**178**	P	**P**	**18 52 52.8**	**-1.3**
	comp=Z,1.3nm,0.6s,mb4.3,baz=3.1,slow=7.4,SNR=3.7						
STKA	**Stephens Creek**	**65.72**	**178**	P	**P**	**18 52 53.3**	**-0.7**
RES	**Resolute Bay**	**65.79**	**14**	*e*P	**P**	**18 52 53.7**	**-0.8**
	comp=Z,187nm,0.8s						
YKA	**Yellowknife Ar**	**67.13**	**29**	P	**P**	**18 53 02.7**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.5,baz=300,slow=6.2,SNR=25						
YKA	**Yellowknife Ar**	**67.13**	**29**	P	**P**	**18 53 02.7**	**-0.3**
JOF	**Joensuu**	**67.71**	**332**	*e*p	**P**	**18 53 03.6**	**-3.1**
FINES	**FINESS Array B**	**70.57**	**332**	P	**P**	**18 53 22.6**	**-1.9**
	comp=Z,3.7nm,0.8s,mb4.6,baz=81,slow=2.5,SNR=5.4						
ANN	**Anapa**	**74.31**	**314**	*e*P	**P**	**18 53 53.3**	**+6.5**
AKASG	**Malin Array Be**	**75.53**	**322**	P	**P**	**18 53 51.9**	**-2.0**
	comp=Z,0.5nm,0.6s,mb3.8,baz=49,slow=5.6,SNR=4.4						
AKASG	**Malin Array Be**	**75.53**	**322**	*i*P	**P**	**18 53 52.2**	**-1.7**
AKASG	**Malin Array Be**	**75.53**	**322**	P	**P**	**18 53 51.9**	**-2.0**
NOA	**NORSAR Array B**	**76.18**	**337**	P	**P**	**18 53 55.7**	**-1.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=41,slow=5.8,SNR=3.7						
FCC	**Fort Churchill**	**77.31**	**25**	*e*P	**P**	**18 54 03.6**	**-0.4**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
FCC	**Fort Churchill**	**77.31**	**25**	*e*P	**P**	**18 54 03.6**	**-0.4**
	comp=Z,4.0nm,0.7s,mb4.7						
NVAR	**Mina Array Bea**	**78.07**	**52**	P	**P**	**18 54 09.7**	**+1.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=291,slow=5.3,SNR=6.8						
BRTR	**Keskin Array B**	**79.49**	**311**	P	**P**	**18 54 16.4**	**+0.4**
	comp=Z,2.2nm,1.1s,mb4.1,baz=123,slow=4.6,SNR=5.2						
PDAR	**Pinedale Array**	**80.88**	**44**	P	**P**	**18 54 26.4**	**+2.9**
	comp=Z,1.2nm,0.9s,mb3.9,baz=297,slow=2.6,SNR=7.7						
KHC	**Kasperske Hory**	**84.09**	**328**	⇑*e*P	**P**	**18 54 40.9**	**+0.6**
GERES	**GERESS Array B**	**84.25**	**327**	P	**P**	**18 54 40.0**	**-1.1**
	comp=Z,0.7nm,0.7s,mb4.0,baz=36,slow=4.1,SNR=3.0						
PV01	**Paradox Valley**	**84.38**	**47**	*e*P	**P**	**18 54 46.4**	**+4.7**
LPAZ	**La Paz**	**149.57**	**61**	PKPbc	PKPbc	19 02 01.9	+3.0
	comp=Z,1.6nm,0.6s,baz=356,slow=7.4,SNR=6.0						

KNET 30 18:45:41.1±0.2, 4273N×7439E, h20km±3km, ml1.4, 17C-4D, Error ellipse: s-maj=2.0km s-min=1.5km az=147.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**0.12**	**141**	⇑P	Pb	18 45 45.6	+0.3
	22nm,0.1s,SNR=27						
AAK				⇑S	Sb	18 45 48.1	0.0
	180nm,0.2s						
CHMS	**Chumysh**	**0.38**	**44**	⇑P	Pb	18 45 49.8	+0.7
	6.1nm,0.1s,SNR=14						
CHMS				⇑S	Sb	18 45 55.2	+0.6
	30nm,0.1s						
KBK	**Karagaybulak**	**0.42**	**99**	⇑P	Pb	18 45 50.8	+1.1
	8.2nm,0.1s,SNR=28						
KBK				⇓S	Sb	18 45 56.9	+1.2
	44nm,0.2s						
EKS2	**Erkin-Say**	**0.46**	**262**	P	Pb	18 45 51.5	+1.0
	3.1nm,0.2s,SNR=20						
EKS2				⇑S	Sb	18 45 58.0	+1.2
	6.0nm,0.1s						
UCH	**Uchtor**	**0.51**	**170**	⇓P	Pb	18 45 52.3	+1.0
	12nm,0.1s,SNR=59						
UCH				⇑S	Sb	18 45 59.4	+1.2
	15nm,0.1s						
USP	**Ospenovka**	**0.55**	**8**	⇓P	Pb	18 45 52.6	+0.6
	3.6nm,0.1s,SNR=24						
USP				⇑S	Sb	18 46 00.1	+0.7
	16nm,0.2s						
AML	**Almayashu**	**0.79**	**221**	⇑P	Pb	18 45 57.3	+1.2
	2.8nm,0.3s,SNR=7.8						
AML				⇑S	Sb	18 46 07.8	+1.4
	28nm,0.3s						
KZA	**Kyzart**	**0.91**	**135**	⇑P	Pb	18 45 59.8	+1.6
	1.8nm,0.1s,SNR=5.8						
KZA				⇑S	Sb	18 46 12.3	+2.5
	10nm,0.2s						
TKM2	**Tokmak 2**	**0.91**	**77**	⇓P	Pb	18 45 59.2	+1.0
	0.9nm,0.1s,SNR=9.0						
TKM2				⇑S	Sb	18 46 11.1	+1.4
	22nm,0.1s						
TKM2	**Tokmak 2**	**0.91**	**77**	⇑P	Pb	18 45 59.1	+0.9
TKM2				⇑S	Sb	18 46 11.0	+1.3
	0.1nm,0.2s						
KK31	**Karatay Array**	**2.88**	**279**	⇑Pg	Pn	18 46 33.6	+7.9
	1.3nm,0.8s,baz=104,slow=15						
KK31				⇑Lg		18 47 10.1	
	0.3nm,0.3s,baz=100,slow=27						

*ISCJB **30** 19:11:33.8±0.2, 4531N±001×527E±002, h10km, Error ellipse: s-maj=2.2km s-min=1.6km az=66.3*
*LDG **30** 19:11:35.6±0.0, 4528N×535E, h3km, Md2.7/4, Ml2.9/32, Error ellipse: s-maj=1.0km s-min=0.8km az=35.0*
*CSEM **30** 19:11:35.6±0.1, 4527N×536E, h10km, ML2.9/28, Error ellipse: s-maj=1.2km s-min=0.9km az=5.0*
*STR **30** 19:11:36.0±0.1, 4539N×538E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **30** 19:11:36.0, 4539N×538E, h5km, ML2.1(ZUR), ML2.8(STR), ML2.9(LDG), After STR.*
*GEN **30** 19:11:38.8, 4532N×561E, h0km, ML2.0*
*ZUR **30** 19:11:43.8, 4571N×578E, h10km, ML2.1/5*

ISC 30 19:11:34.5±0.2, 4529N±001×530E±002, h8km±2km, n124, σ1§05/238, 2C-6D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRN	**Grenoble**	**0.32**	**99**	Pg	**Pg**	**19 11 41.4**	**+0.6**
GRN				Sg	**Sg**	**19 11 45.7**	**+0.6**
ORIF	**Oris-en-Rattie**	**0.56**	**132**	*e*Pg	**Pg**	**19 11 45.6**	**+0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**19 11 51.5**	**-1.1**
	48nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.56**	**132**	*e*Pg	**Pg**	**19 11 45.6**	**+0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**19 11 51.5**	**-1.1**
	24nm,0.2s						
GDM	**Grand'Maison**	**0.59**	**98**	Pg	**Pg**	**19 11 46.2**	**+0.3**
VIVF	**Saint-Julien-l**	**0.62**	**226**	*e*Pg	**Pg**	**19 11 47.6**	**+1.1**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**19 11 55.7**	**+1.1**
	75nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**0.62**	**226**	*e*Pg	**Pg**	**19 11 47.6**	**+1.1**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**19 11 55.7**	**+1.1**
	37nm,0.2s,SNR=1.0						
OG05	**Jujurieux**	**0.76**	**9**	Pn	**Pn**	**19 11 50.5**	**-1.0**
RSL	**Roselend**	**1.02**	**67**	Pn	**Pn**	**19 11 54.3**	**-0.7**
LPL	**La Plagne**	**1.04**	**77**	*e*Pn	**Pn**	**19 11 55.2**	**-0.1**
LPL	**La Plagne**	**1.04**	**77**	*e*P	**Pg**	**19 11 56.6**	**+2.2**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**19 12 08.8**	**-1.2**
	56nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**1.04**	**77**	*e*Pg	**Pg**	**19 11 54.6**	**+0.2**
LPL				*e*Pn	**Pn**	**19 11 55.2**	**-0.1**
LPL				*e*P		19 11 56.6	
LPL				*e*Sn	**Sn**	**19 12 08.8**	**-1.2**
LPL	**La Plagne**	**1.04**	**77**	*e*Pn	**Pn**	**19 11 55.2**	**-0.1**
LPL	**La Plagne**	**1.04**	**77**	*e*P	**Pg**	**19 11 56.6**	**+2.2**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**19 12 08.8**	**-1.2**
	28nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**1.05**	**78**	*e*Pn	**Pn**	**19 11 55.7**	**+0.3**
	SNR=1.0						
LPG	**La Plagne**	**1.05**	**78**	*e*P	**Pg**	**19 11 57.0**	**+2.4**
LPG				*e*Sn	**Sn**	**19 12 09.3**	**-0.9**
	41nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**1.05**	**78**	*e*Pg	**Pg**	**19 11 54.7**	**+0.1**
LPG				*e*Pn	**Pn**	**19 11 55.7**	**+0.3**
LPG				*e*P		19 11 57.0	
LPG				*e*Sn	**Sn**	**19 12 09.3**	**-0.9**
LPG	**La Plagne**	**1.05**	**78**	*e*Pn	**Pn**	**19 11 55.7**	**+0.3**
	SNR=1.0						
LPG	**La Plagne**	**1.05**	**78**	*e*P	**Pg**	**19 11 57.0**	**+2.4**
LPG				*e*Sn	**Sn**	**19 12 09.3**	**-0.9**
	20nm,0.2s,SNR=1.0						
RRL	**Cesana Torines**	**1.12**	**109**	P	**Pg**	**19 11 56.5**	**+0.5**
COLF	**Collangettes**	**1.15**	**282**	Pg	**Pg**	**19 11 58.2**	**+1.6**
COLF	**Collangettes**	**1.15**	**282**	Pn	**Pn**	**19 11 57.3**	**+0.4**
COLF				Pg	**Pg**	**19 11 58.2**	**+1.6**
COLF	**Collangettes**	**1.15**	**282**	Pg	**Pg**	**19 11 58.2**	**+1.6**
MBDF	**Montbardon**	**1.19**	**118**	*e*Pg	**Pg**	**19 11 57.4**	**0.0**
MBDF				*e*Sg	**Sg**	**19 12 11.9**	**-0.9**
	10nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**1.19**	**118**	*e*Pn	**Pn**	**19 11 57.1**	**-0.3**
MBDF				*e*Pg	**Pg**	**19 11 57.4**	**0.0**
MBDF				*e*Sg	**Sg**	**19 12 11.9**	**-0.9**
MBDF	**Montbardon**	**1.19**	**118**	*e*Pg	**Pg**	**19 11 57.4**	**0.0**
MBDF				*e*Sg	**Sg**	**19 12 11.9**	**-0.9**
	5.2nm,0.3s,SNR=1.0						
LSD	**Ceresole Reale**	**1.32**	**82**	P	**Pn**	**19 11 59.4**	**+0.2**
SMRF	**Simiane la Rot**	**1.33**	**171**	*e*P	**Pn**	**19 12 01.2**	**+1.8**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**19 12 16.8**	**-0.6**
	10nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.33**	**171**	*e*Pn	**Pn**	**19 11 59.4**	**0.0**
SMRF				*e*P		19 12 01.2	
SMRF				*e*Sg	**Sg**	**19 12 16.8**	**-0.6**
SMRF	**Simiane la Rot**	**1.33**	**171**	*e*P	**Pn**	**19 12 01.2**	**+1.8**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**19 12 16.8**	**-0.6**
	5.1nm,0.3s,SNR=1.0						
SURF	**Saint Ours**	**1.35**	**126**	Pn	**Pn**	**19 12 00.4**	**+0.8**
SURF				Sg	**Sg**	**19 12 21.1**	**+3.1**
PLDF	**La Plantade**	**1.36**	**301**	Pg	**Pg**	**19 12 02.0**	**+1.5**
PLDF	**La Plantade**	**1.36**	**301**	Pn	**Pn**	**19 12 00.4**	**+0.7**
PLDF				Pg	**Pg**	**19 12 02.0**	**+1.5**
PLDF	**La Plantade**	**1.36**	**301**	Pg	**Pg**	**19 12 02.0**	**+1.5**
EMV	**Vieux Emosson**	**1.36**	**55**	⇑*i*P*P	**Pn**	**19 12 00.9**	**+1.1**
	165nm,0.6s						
EMV	**Vieux Emosson**	**1.36**	**55**	⇑*i*P	**Pn**	**19 12 01.1**	**+1.3**
RSP	**Reno Superiore**	**1.39**	**95**	P	**Pn**	**19 12 00.9**	**+0.7**
GIMEL	**Gimel**	**1.41**	**28**	⇓*i*Pg	**Pg**	**19 12 01.1**	**-0.5**
	85nm,0.8s						
GIMEL	**Gimel**	**1.41**	**28**	⇓*i*P	**Pn**	**19 12 01.4**	**+0.9**
CABF	**La Chapelle**	**1.43**	**22**	*e*P	**Pg**	**19 12 02.9**	**+1.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 12 20.6**	**+0.1**
	25nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**1.43**	**22**	*e*Pg	**Pg**	**19 12 01.6**	**-0.3**
CABF				*e*P		19 12 02.9	
CABF				*e*Sg	**Sg**	**19 12 20.6**	**+0.1**
CABF	**La Chapelle**	**1.43**	**22**	*e*P	**Pg**	**19 12 02.9**	**+1.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 12 20.6**	**+0.1**
	12nm,0.4s,SNR=1.0						
LBL	**Lubilhac**	**1.45**	**268**	Pn	**Pn**	**19 12 01.5**	**+0.5**
SALAN	**Lac Salanfe**	**1.45**	**53**	*e*Pg	**Pg**	**19 12 01.3**	**-1.1**
	45nm,0.2s						
SALAN	**Lac Salanfe**	**1.45**	**53**	*e*P	**Pn**	**19 12 02.3**	**+1.3**
PZZ	**Prazzo**	**1.51**	**121**	P	**Pn**	**19 12 03.3**	**+1.5**
AIGLE	**Aigle**	**1.56**	**47**	*e*PmP	**Pn**	**19 12 01.4**	**-1.2**
	94nm,0.6s						
AIGLE	**Aigle**	**1.56**	**47**	*e*P	**Pg**	**19 12 05.3**	**+0.8**
LASF	**Ste Croix**	**1.59**	**221**	*e*Pg	**Pg**	**19 12 05.3**	**+0.2**
LASF				*e*Sg	**Sg**	**19 12 25.5**	**-0.2**
	32nm,0.3s						
LASF	**Ste Croix**	**1.59**	**221**	*e*Pn	**Pn**	**19 12 02.9**	**0.0**
LASF				*e*Pg	**Pg**	**19 12 05.3**	**+0.2**
LASF				*e*Sg	**Sg**	**19 12 25.5**	**-0.2**
LASF	**Ste Croix**	**1.59**	**221**	*e*Pg	**Pg**	**19 12 05.3**	**+0.2**
LASF				*e*Sg	**Sg**	**19 12 25.5**	**-0.2**
	16nm,0.3s						
SMF	**Signal de Mont**	**1.69**	**324**	*e*Pg	**Pg**	**19 12 07.3**	**+0.4**
SMF				*e*Sn	**Sn**	**19 12 25.5**	**-0.6**
	21nm,0.2s,SNR=1.0						
SMF				*e*Sg	**Sg**	**19 12 30.0**	**+1.1**
	24nm,0.2s						
SMF	**Signal de Mont**	**1.69**	**324**	*e*Pn	**Pn**	**19 12 04.8**	**+0.5**
SMF				*e*Pg	**Pg**	**19 12 07.3**	**+0.4**
SMF				*e*Sn	**Sn**	**19 12 25.5**	**-0.6**
SMF				*e*Sg	**Sg**	**19 12 30.0**	**+1.1**
SMF	**Signal de Mont**	**1.69**	**324**	*e*Pg	**Pg**	**19 12 07.3**	**+0.4**
SMF				*e*Sn	**Sn**	**19 12 25.5**	**-0.6**
	10nm,0.2s,SNR=1.0						
SMF				*e*Sg	**Sg**	**19 12 30.0**	**+1.1**
	12nm,0.2s						
AGO	**Saint Agoulin**	**1.70**	**297**	Pg	**Pg**	**19 12 08.6**	**+1.5**
AGO	**Saint Agoulin**	**1.70**	**297**	Pn	**Pn**	**19 12 06.0**	**+1.6**
AGO				Pg	**Pg**	**19 12 08.6**	**+1.5**
AGO	**Saint Agoulin**	**1.70**	**297**	Pg	**Pg**	**19 12 08.6**	**+1.5**
TRAV		**1.74**	**82**	P	**Pn**	**19 12 05.8**	**+0.8**
STV	**Sta Anna Valdi**	**1.79**	**125**	P	**Pn**	**19 12 07.2**	**+1.6**
BRANT	**Les Verrieres**	**1.84**	**26**	⇓*i*Pn	**Pn**	**19 12 02.3**	**-4.0**
	65nm,

17nm,0.2s,SNR=1.0
LOR Lormes 2.21 334 *e*Pn **Pn 19 12 12.0 +0.5**
LOR *e*Pg **Pg 19 12 16.9 0.0**
LOR *e*Sn **Sn 19 12 37.2 -1.8**
LOR *e*Sg **Sg 19 12 44.4 -1.2**
LOR Lormes 2.21 334 *e*Pg **Pg 19 12 16.9 0.0**
SNR=1.0
LOR *e*Sn **Sn 19 12 37.2 -1.8**
SNR=1.0
LOR *e*Sg **Sg 19 12 44.4 -1.2**
8.6nm,0.2s,SNR=1.0
CAF Calviac 2.32 262 *e*Pg **Pg 19 12 19.3 +0.4**
CAF *e*Sg **Sg 19 12 48.6 -0.4**
4.4nm,0.2s,SNR=1.0
CAF Calviac 2.32 262 *e*Pn **Pn 19 12 13.9 +1.0**
CAF *e*Pg **Pg 19 12 19.3 +0.4**
CAF *e*Sg **Sg 19 12 48.6 -0.4**
CAF Calviac 2.32 262 *e*Pg **Pg 19 12 19.3 +0.4**
CAF *e*Sg **Sg 19 12 48.6 -0.4**
2.2nm,0.2s,SNR=1.0
FIN Finale Ligure 2.34 117 P **Pn 19 12 14.2 +0.9**
TCF Toulx Ste Croi 2.38 296 *e*Pg **Pg 19 12 21.1 +1.0**
SNR=1.0
TCF *e*Sn **Sn 19 12 42.7 -0.4**
TCF *e*Sg **Sg 19 12 51.2 +0.3**
9.3nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 2.38 296 *e*Pn **Pn 19 12 15.4 +1.7**
TCF *e*Pg **Pg 19 12 21.1 +1.0**
TCF *e*Sn **Sn 19 12 42.7 -0.4**
TCF *e*Sg **Sg 19 12 51.2 +0.3**
TCF Toulx Ste Croi 2.38 296 *e*Pg **Pg 19 12 21.1 +1.0**
SNR=1.0
TCF *e*Sn **Sn 19 12 42.7 -0.4**
TCF *e*Sg **Sg 19 12 51.2 +0.3**
4.7nm,0.3s,SNR=1.0
BALST Balsthal 2.63 38 ⇓*i*P **Pn 19 12 17.1 -0.2**
RJF Les Rejaudoux 2.67 272 *e*Pg **Pg 19 12 25.9 +0.3**
SNR=1.0
RJF *e*Sg **Sg 19 13 00.0 -0.2**
19nm,0.5s,SNR=1.0
RJF Les Rejaudoux 2.67 272 *e*Pg **Pg 19 12 25.9 +0.3**
SNR=1.0
RJF *e*Sg **Sg 19 13 00.0 -0.2**
9.4nm,0.5s,SNR=1.0
HINF Hinteralfeld 2.74 23 *e*Pg **Pg 19 12 26.7 -0.4**
SNR=1.0
HINF *e*Sg **Sg 19 13 01.6 -1.1**
10nm,0.2s,SNR=1.0
HINF Hinteralfeld 2.74 23 *e*Pn **Pn 19 12 18.0 -0.8**
HINF *e*Pg **Pg 19 12 26.7 -0.4**
HINF *e*Sg **Sg 19 13 01.6 -1.1**
HINF Hinteralfeld 2.74 23 *e*Pg **Pg 19 12 26.7 -0.4**
SNR=1.0
HINF *e*Sg **Sg 19 13 01.6 -1.1**
5.2nm,0.2s,SNR=1.0
HAU Haudompre 2.81 15 *e*Pg **Pg 19 12 27.4 -0.9**
SNR=1.0
HAU *e*Sg **Sg 19 13 02.8 -1.9**
13nm,0.3s,SNR=1.0
HAU Haudompre 2.81 15 *e*Pn **Pn 19 12 18.6 -1.1**
HAU *e*Pg **Pg 19 12 27.4 -0.9**
HAU *e*Sg **Sg 19 13 02.8 -1.9**
HAU Haudompre 2.81 15 *e*Pg **Pg 19 12 27.4 -0.9**
SNR=1.0
HAU *e*Sg **Sg 19 13 02.8 -1.9**
6.7nm,0.3s,SNR=1.0
MTLF Montolieu 2.95 230 *e*Pg **Pg 19 12 31.0 0.0**
SNR=1.0
MTLF *e*Sg **Sg 19 13 07.1 -2.1**
9.0nm,0.3s,SNR=1.0
MTLF Montolieu 2.95 230 *e*Pn **Pn 19 12 22.4 +0.8**
MTLF *e*Pg **Pg 19 12 31.0 0.0**
MTLF *e*Sg **Sg 19 13 07.1 -2.1**
MTLF Montolieu 2.95 230 *e*Pg **Pg 19 12 31.0 0.0**
SNR=1.0
MTLF *e*Sg **Sg 19 13 07.1 -2.1**
4.5nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 3.21 357 *e*Pg **Pg 19 12 35.9 -0.2**
MEZF *e*Sg **Sg 19 13 16.8 -1.0**
6.8nm,0.3s
MEZF Maizieres J'vi 3.21 357 *e*Pg **Pg 19 12 35.9 -0.2**
MEZF *e*Sg **Sg 19 13 16.8 -1.0**
3.4nm,0.3s
LFF La Frestale 3.24 265 *e*Pg **Pg 19 12 36.8 +0.1**
LFF *e*Sg **Sg 19 13 17.3 -1.4**
7.1nm,0.4s
LFF La Frestale 3.24 265 *e*Pg **Pg 19 12 36.8 +0.1**
LFF *e*Sg **Sg 19 13 17.3 -1.4**
3.5nm,0.4s
SLE Schleitheim 3.31 41 ⇓*i*P **Pn 19 12 25.7 -0.9**
CDF Champ du Feu 3.40 23 *e*Pg **Pg 19 12 38.0 -1.7**
SNR=1.0
CDF *e*Sg **Sg 19 13 22.7 -1.1**
5.9nm,0.4s,SNR=1.0
CDF Champ du Feu 3.40 23 *e*Pn **Pn 19 12 27.0 -0.9**
CDF *e*Pg **Pg 19 12 38.0 -1.7**
CDF *e*Sg **Sg 19 13 22.7 -1.1**
CDF Champ du Feu 3.40 23 *e*Pg **Pg 19 12 38.0 -1.7**
SNR=1.0
CDF *e*Sg **Sg 19 13 22.7 -1.1**
3.0nm,0.4s,SNR=1.0
PGF Pioggiola 3.83 134 *e*Pn **Pn 19 12 33.1 -0.7**
SNR=1.0
PGF *e*Sn **Sn 19 13 15.1 -3.9**
0.7nm,0.2s
PGF Pioggiola 3.83 134 *e*Pn **Pn 19 12 33.1 -0.7**
SNR=1.0
PGF *e*Sn **Sn 19 13 15.1 -3.9**
0.3nm,0.2s
MFF Saint Martin d 4.01 291 *e*Sg **Sg 19 13 40.9 -2.6**
2.6nm,0.3s
MFF Saint Martin d 4.01 291 *e*Sg **Sg 19 13 40.9 -2.6**
1.3nm,0.3s
EPF Esparros 4.22 239 *e*Sn **Sn 19 13 26.7 -1.9**
SNR=1.0
EPF *e*Sg **Sg 19 13 48.2 -1.9**
5.0nm,0.4s,SNR=1.0
EPF Esparros 4.22 239 *e*Sn **Sn 19 13 26.7 -1.9**
SNR=1.0
EPF *e*Sg **Sg 19 13 48.2 -1.9**
2.5nm,0.4s,SNR=1.0
ETSF Etsaut 4.85 242 *e*Sg **Sg 19 14 08.3 -1.9**
2.7nm,0.4s
ETSF Etsaut 4.85 242 *e*Sg **Sg 19 14 08.3 -1.9**
1.4nm,0.4s
LDF La Druitiere 4.97 314 *e*Pn **Pn 19 12 49.7 +0.4**

*ISCJB **30** 19:21:14.3±1.7, 469N±02×1526E±03, h10km, mb4.0/8, MS3.7/1, Error ellipse: s-maj=41.7km s-min=13.1km az=85.8*
*IDC **30** 19:21:14.7±2.8, 4687N×15263E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.7/23, mbtmp3.8/11, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/36, Error ellipse: s-maj=67.0km s-min=24.1km az=142.0*
ISC 30 19:21:19.2±3.8, 468N±03×1527E±03, h36km±41km, n13, σ0§49/12, mb4.0/8, MS3.7/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.56**	**253**	Pn	**Pn**	**19 23 06.9**	**0.0**
	1.2nm,0.3s,baz=127,slow=14,SNR=10						
MJAR	**Matsushiro Arr**	**14.87**	**232**	Pn	**Pn**	**19 24 46.8**	**+0.1**
	0.1nm,0.3s,baz=27,slow=9.7,SNR=4.0						
KSRS	**Korea Array**	**20.51**	**252**	P	**P**	**19 25 54.1**	**-0.1**
	1.0nm,0.9s,baz=60,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**46.63**	**297**	P	**P**	**19 29 44.1**	**+0.2**
	0.5nm,0.4s,mb3.8,baz=60,slow=6.0,SNR=16						
BVAR	**Borovoye Array**	**50.57**	**309**	P	**P**	**19 30 14.4**	**+0.1**
	0.4nm,0.3s,mb3.8,baz=44,slow=8.8,SNR=4.0						
YKA	**Yellowknife Ar**	**51.06**	**37**	P	**P**	**19 30 18.0**	**+0.1**
	0.4nm,0.9s,mb3.3,baz=296,slow=6.8,SNR=4.4						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**19 31 06.7**	**+0.5**
	4.4nm,0.9s,mb4.5,baz=17,slow=7.6,SNR=4.2						
AKTO	**Aktyubinsk**	**58.45**	**312**	LR	LR	20 01 13.8	
	comp=Z,57nm,18.2s,MS3.7,baz=118,slow=41						
JOF	**Joensuu**	**61.14**	**333**	*e*p	**P**	**19 31 29.5**	**-0.4**
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**19 31 47.9**	**-0.1**
	2.8nm,0.9s,mb4.3,baz=28,slow=6.3,SNR=5.6						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**19 32 15.9**	**+0.7**
	0.5nm,0.5s,mb3.8,baz=28,slow=6.5,SNR=2.5						
HFS	**Hagfors**	**68.29**	**339**	P	**P**	**19 32 15.2**	**-1.4**
	1.6nm,0.7s,mb4.2,baz=58,slow=5.6,SNR=6.3						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**19 32 35.5**	**+0.3**
	0.8nm,0.4s,mb4.0,baz=36,slow=6.2,SNR=8.1						

*NNC **30** 19:35:14.5±3.8, 4202N×7594E, h0km, mb2.9, mpv2.2, Error ellipse: s-maj=23.1km s-min=17.9km az=8.0*
*KNET **30** 19:35:16.7±0.5, 42.14N×7600E, h10km±3km, ml1.8, Error ellipse: s-maj=3.9km s-min=2.2km az=160.0*
*ISCJB **30** 19:35:17.0±1.2, 4208N±007×7605E±005, h10km, Error ellipse: s-maj=10.4km s-min=4.3km az=135.1*
ISC 30 19:35:17.5±1.0, 4211N±006×7605E±005, h10km, n12, σ1§01/21, 13C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.20**	**47**	⇓P	**Pg**	**19 35 21.0**	**-0.6**
	130nm,0.1s,SNR=12						
ULHL				⇑S	**Sg**	**19 35 24.3**	**-0.2**
	239nm,0.1s						
KZA	**Kyzart**	**0.59**	**267**	⇑P	**Pg**	**19 35 28.0**	**-0.9**
	6.9nm,0.1s,SNR=20						
KZA				⇑S	**Sg**	**19 35 36.3**	**-0.4**
	37nm,0.2s						
TKM2	**Tokmak 2**	**0.88**	**338**	⇑P	**Pg**	**19 35 33.5**	**-0.9**
	12nm,0.2s,SNR=25						
TKM2				⇑S	**Sg**	**19 35 45.9**	**+0.1**
	64nm,0.1s						
TKM2	**Tokmak 2**	**0.88**	**338**	⇑P	**Pg**	**19 35 33.3**	**-1.1**
	0.1nm,0.2s						
TKM2				⇓S	**Sg**	**19 35 45.6**	**-0.2**
	0.2nm,0.2s						
KBK	**Karagaybulak**	**0.98**	**304**	⇑P	**Pg**	**19 35 35.4**	**-0.9**
	4.3nm,0.1s,SNR=24						
KBK				⇓S	**Sg**	**19 35 48.8**	**-0.3**
	42nm,0.2s						
AAK	**Ala-Archa**	**1.26**	**295**	⇑P	**Pn**	**19 35 40.1**	**-1.1**
	3.6nm,0.2s,SNR=8.8						
AAK				⇓S	**Sb**	**19 35 57.0**	**-0.7**
	24nm,0.3s						
KNDC	**Almaty**	**1.30**	**31**	⇑P	**Pn**	**19 35 41.6**	**-0.1**
	14nm,0.5s						
KNDC				⇓S	**Sb**	**19 35 59.7**	**+0.9**
	14nm,0.4s						
CHMS	**Chumysh**	**1.31**	**313**	⇓P	**Pn**	**19 35 41.3**	**-0.5**
	1.9nm,0.1s,SNR=7.3						
USP	**Ospenovka**	**1.62**	**316**	⇓P	**Pn**	**19 35 46.9**	**+0.8**
	3.5nm,0.1s,SNR=9.6						
USP				⇑S	**Sn**	**19 36 08.7**	**+1.6**
	9.2nm,0.1s						
AML	**Almayashu**	**1.75**	**272**	⇑P	**Pn**	**19 35 49.3**	**+1.4**
	3.4nm,0.2s,SNR=5.7						
AML				⇓S	**Sn**	**19 36 12.3**	**+2.1**
	18nm,0.4s						
EKS2	**Erkin-Say**	**1.77**	**289**	⇓P	**Pn**	**19 35 49.9**	**+1.7**
	2.1nm,0.2s,SNR=13						
KK31	**Karatay Array**	**4.20**	**286**	⇑Pn	**Pn**	**19 36 20.3**	**-1.3**
	0.4nm,0.7s,baz=95,slow=16						
KK31				⇑Lg		19 37 27.0	
	0.7nm,0.4s,baz=110,slow=28						

*ISCJB **30** 19:42:13.3±0.5, 2331S±008×3856E±006, h10km, mb4.0/12, MS3.4/2, Error ellipse: s-maj=12.0km s-min=7.0km az=141.0*
*IDC **30** 19:42:13.7±0.9, 2322S×3883E, h0km, mb4.0/12, mb1 4.3/16, mb1mx4.1/27, mbtmp4.2/16, ML4.7/2, MS3.4/7, Ms1 3.4/7, ms1mx3.3/25, Error ellipse: s-maj=30.2km s-min=18.2km az=11.0*
*NEIC **30** 19:42:14.4±0.5, 2334S×3880E, h10km, mb4.5/2, Error ellipse: s-maj=15.2km s-min=9.5km az=166.0*
*PRE **30** 19:42:14.9±1.3, 2370S×3867E, h5km, ML4.8*
ISC 30 19:42:15.3±0.5, 2327S±008×3854E±005, h10km, n37, σ1§62/52, mb4.0/12, MS3.4/2, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**7.91**	**275**	*e*P	**Pn**	**19 44 14.8**	**+4.5**
MSNA				*e*S	**Sn**	**19 45 40.2**	**+0.3**
MSNA				AML	AML	19 45 42.8	
	comp=Z,207nm,0.6s						
OPO	**Ambohidratompo**	**9.34**	**62**	Pn	**Pn**	**19 44 25.6**	**-4.3**
	comp=Z,13nm,0.3s,baz=242,slow=14,SNR=83						
OPO				Sn	**Sn**	**19 45 59.2**	**-16**
	comp=Z,12nm,0.3s,baz=266,slow=19,SNR=4.6						
SLR	**Silverton**	**9.66**	**253**	*e*P	**Pn**	**19 44 36.1**	**+1.8**
SLR				*e*S	**Sn**	**19 46 18.4**	**-4.4**
SLR				AML	AML	19 46 54.1	
	comp=Z,38nm,0.6s						
MATP	**Matopo**	**9.74**	**285**	Pn	**Pn**	**19 44 39.3**	**+3.9**
	comp=Z,7.9nm,0.3s,baz=113,slow=14,SNR=160						
MATP				Sn	**Sn**	**19 46 21.7**	**-3.3**
	comp=Z,4.7nm,0.3s,baz=193,slow=19,SNR=3.5						
MATP				LR	LR	19 48 38.0	
	comp=Z,226nm,18.8s,baz=63,slow=38						
MATP	**Matopo**	**9.74**	**285**	Pn	**Pn**	**19 44 39.3**	**+3.9**
MATP				Sn	**Sn**	**19 46 21.7**	**-3.3**
MATP				LR	LR	19 48 38.0	
PRYS	**Parys**	**10.76**	**248**	*e*P	**Pn**	**19 44 50.8**	**+1.4**
PRYS				*e*S	**Sn**	**19 46 43.5**	**-6.4**
PRYS				AML	AML	19 47 24.9	
	comp=Z,9.0nm,0.8s						
KSD	**Kokstad**	**10.89**	**226**	*e*P	**Pn**	**19 44 49.8**	**-1.4**
KSD				*e*S	**Sn**	**19 46 43.7**	**-9.4**
KSD				AML	AML	19 47 05.3	
	comp=Z,14nm,0.5s						
SEK	**Senekal**	**11.04**	**241**	*e*P	**Pn**	**19 44 53.8**	**+0.5**
SEK				*e*S	**Sn**	**19 46 50.6**	**-6.2**
SEK				AML	AML	19 47 18.9	
	comp=Z,10.0nm,0.7s						
LBTB	**Lobatse**	**11.95**	**259**	*e*P	**Pn**	**19 45 07.6**	**+2.0**
LBTB				*e*S	**Sn**	**19 47 14.8**	**-4.1**
LBTB				AML	AML	19 47 19.3	
	comp=Z,10nm,0.6s						
LBTB	**Lobatse**	**11.95**	**259**	Pn	**Pn**	**19 45 07.9**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=100,slow=12,SNR=18						
LBTB				Sn	**Sn**	**19 47 16.4**	**-2.5**
	comp=Z,2.0nm,0.3s,baz=37,slow=12,SNR=6.0						
LBTB				LR	LR	19 49 47.3	
	comp=Z,167nm,22.0s,baz=213,slow=37						
LBTB	**Lobatse**	**11.95**	**259**	*e*Pn	**Pn**	**19 45 07.2**	**+1.6**
LBTB				*e*Sn	**Sn**	**19 47 15.5**	**-3.4**
LBTB				Sn	**Sn**	**19 47 16.4**	**-2.5**
SWZ	**Schweizer**	**12.57**	**249**	*e*P	**Pn**	**19 45 15.8**	**+1.6**
SWZ				*e*S	**Sn**	**19 47 28.0**	**-6.2**
SWZ				AML	AML	19 47 58.3	
	comp=Z,7.4nm,0.5s						
LSZ	**Lusaka**	**12.59**	**307**	Pn	**Pn**	**19 45 16.6**	**+2.2**
	comp=Z,3.6nm,0.3s,baz=138,slow=14,SNR=32						
LSZ				Sn	**Sn**	**19 47 29.2**	**-5.6**
	comp=Z,2.2nm,0.3s,baz=58,slow=14,SNR=4.3						
LSZ				LR	LR	19 50 20.9	
	comp=Z,182nm,18.6s,baz=355,slow=38						
LSZ	**Lusaka**	**12.59**	**307**	*e*Pn	**Pn**	**19 45 16.1**	**+1.6**
LSZ				*e*Sn	**Sn**	**19 47 25.8**	**-8.9**
LSZ				Sn	**Sn**	**19 47 29.2**	**-5.6**
BOSA	**Boshof**	**13.08**	**243**	*e*P	**Pn**	**19 45 22.1**	**+1.0**
BOSA				*e*S	**Sn**	**19 47 38.9**	**-7.7**
BOSA				AML	AML	19 48 20.4	
	comp=Z,5.3nm,0.7s						
BOSA	**Boshof**	**13.08**	**243**	Pn	**Pn**	**19 45 20.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=73,slow=14,SNR=3.4						
BOSA				Sn	**Sn**	**19 47 39.2**	**-7.4**
	comp=Z,1.0nm,0.3s,baz=42,slow=13,SNR=5.4						
BOSA				LR	LR	19 50 34.8	
	comp=Z,132nm,21.8s,baz=33,slow=38						
UPI	**Upington**	**16.37**	**248**	*e*P	**Pn**	**19 46 07.7**	**+2.6**
SUR	**Sutherland**	**18.10**	**236**	*e*Pn	**Pn**	**19 46 29.2**	**+2.5**
TSUM	**Tsumeb**	**19.95**	**278**	P	**Pn**	**19 46 51.2**	**+2.2**
	comp=Z,7.3nm,0.9s,baz=106,slow=12,SNR=11						
TSUM				LR	LR	19 54 37.1	
	comp=Z,157nm,18.2s,baz=346,slow=37						
TSUM	**Tsumeb**	**19.95**	**278**	*e*P	**Pn**	**19 46 50.6**	**+1.6**
	comp=Z,7.1nm,0.8s						
TSUM				LR	LR	19 54 37.1	
KMBO	**Kilima Mbogo**	**22.05**	**357**	LR	LR	19 57 02.4	
	comp=Z,74nm,19.6s,MS3.1,baz=272,slow=40						
TORD	**Torodi Ar. Bea**	**51.09**	**311**	P	**P**	**19 51 19.6**	**+1.7**
	comp=Z,3.8nm,0.7s,mb4.4,baz=126,slow=7.0,SNR=34						
BRTR	**Keskin Array B**	**62.83**	**356**	P	**P**	**19 52 41.5**	**+0.3**
	comp=Z,0.6nm,0.9s,mb3.7,baz=171,slow=3.8,SNR=3.7						
QSPA	**South Pole Qui**	**66.89**	**180**	*e*P	**P**	**19 53 08.0**	**+0.4**
	comp=Z,9.4nm,0.9s,mb4.8						
ESDC	**Sonseca Array**	**74.13**	**327**	P	**P**	**19 53 53.1**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=146,slow=5.7,SNR=6.2						
GERES	**GERESS Array B**	**75.14**	**343**	P	**P**	**19 53 56.8**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.4,baz=197,slow=3.6,SNR=4.2						
AKTK	**Aktyubinsk**	**75.38**	**13**	P	**P**	**19 53 57.4**	**-1.6**
AKTO	**Aktyubinsk**	**75.38**	**13**	P	**P**	**19 53 57.4**	**-1.6**
	comp=Z,0.3nm,0.3s,mb3.7,baz=271,slow=2.4,SNR=4.3						
MKAR	**Makanchi Array**	**80.16**	**29**	P	**P**	**19 54 24.8**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=222,slow=5.9,SNR=7.8						
BVAR	**Borovoye Array**	**80.86**	**19**	P	**P**	**19 54 29.2**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=210,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**85.53**	**114**	P	**P**	**19 54 52.9**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.7,baz=250,slow=4.7,SNR=6.2						
ZAL	**Zalesovo**	**86.61**	**25**	P	**P**	**19 54 58.5**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.5,baz=241,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**87.38**	**110**	P	**P**	**19 55 02.1**	**-0.5**
	comp=Z,0.8nm,0.9s,mb4.0,baz=243,slow=2.9,SNR=5.5						
STKA	**Stephens Creek**	**88.30**	**124**	P	**P**	**19 55 07.5**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.4,baz=179,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**88.30**	**124**	P	**P**	**19 55 02.7**	**-4.3**
LPAZ	**La Paz**	**98.27**	**248**	LR	LR	20 36 11.8	
	comp=Z,27nm,20.1s,MS3.7,baz=220,slow=33						
PDAR	**Pinedale Array**	**147.21**	**314**	PKPbc	PKPbc	20 01 57.8	-1.0
	comp=Z,1.2nm,1.0s,baz=101,slow=4.8,SNR=5.2						

*ISCJB **30** 19:42:34.5±0.9, 342N±02×138W±02, h10km, Error ellipse: s-maj=41.9km s-min=6.0km az=117.1*
*MDD **30** 19:42:37.6±1.8, 3470N×1447W, h0km, mb4.4/2, mbLg2.8/1, Error ellipse: s-maj=106.0km s-min=9.0km az=144.0, PRXIMO*
*CSEM **30** 19:42:38.6±0.5, 34.14N×1377W, h12km, ML2.3, Error ellipse: s-maj=53.8km s-min=8.7km az=147.0*
*INMG **30** 19:42:43.2±1.0, 3482N×1464W, h10km±19km, ML2.3, Error ellipse: s-maj=16.2km s-min=11.0km az=134.0*
ISC 30 19:42:36.3±0.9, 343N±02×139W±02, h10km, n15, σ1§40/30, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.36**	**239**	*e*Pn	**Pn**	**19 43 14.6**	**-0.4**
PMPS				*e*Sn	**Sn**	**19 43 37.8**	**-6.3**
PMPS				A		19 43 40.6	
	18nm,0.3s						
PMAR	**Madeira**	**2.95**	**239**	*e*Pn	**Pn**	**19 43 22.6**	**-0.6**
PMAR				*e*Sn	**Sn**	**19 43 52.9**	**-5.7**
PMAR				A		19 43 58.7	
	19nm,0.3s						
PMAR	**Madeira**	**2.95**	**239**	*e*Pn	**Pn**	**19 43 22.6**	**-0.6**
PMAR				*e*Sn	**Sn**	**19 43 52.9**	**-5.7**
PTEO	**Sao Teotonio**	**5.32**	**51**	*e*Pn	**Pn**	**19 43 59.4**	**+3.7**
PTEO				*e*Sn	**Sn**	**19 44 56.1**	**-1.0**
PMAFR	**Mafra**	**5.96**	**37**	*e*Pn	**Pn**	**19 44 05.8**	**+1.2**
PMAFR				*e*Sn	**Sn**	**19 45 06.2**	**-6.7**
EGRO	**El Granado**	**6.14**	**56**	P	**Pn**	**19 44 11.4**	**+4.4**
	0.4nm,0.1s,SNR=9.6						
EGRO				S	**Sn**	**19 45 17.0**	**-0.3**
	0.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.14**	**56**	P	**Pn**	**19 44 11.4**	**+4.4**
	0.4nm,0.1s,SNR=9.6						
EGRO				S	**Sn**	**19 45 17.0**	**-0.3**
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.82**	**57**	P	**Pn**	**19 44 20.7**	**+4.4**
	1.1nm,0.1s,SNR=16						
EMIN				S	**Sn**	**19 45 32.3**	**-1.6**
	0.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.82**	**57**	P	**Pn**	**19 44 20.7**	**+4.4**
	1.1nm,0.1s,SNR=16						
EMIN				S	**Sn**	**19 45 32.3**	**-1.6**
	SNR=7.9						
ESPR	**Espera**	**7.05**	**66**	P	**Pn**	**19 44 26.3**	**+6.8**
	1.4nm,0.1s,SNR=6.9						
ESPR				S	**Sn**	**19 45 41.8**	**+2.1**
	1.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**7.05**	**66**	P	**Pn**	**19 44 26.3**	**+6.8**
	1.4nm,0.1s,SNR=6.9						
ESPR				S	**Sn**	**19 45 41.8**	**+2.1**
	1.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.12**	**49**	P	**Pn**	**19 44 22.7**	**+2.2**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**19 45 37.5**	**-4.0**
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**7.12**	**49**	P	**Pn**	**19 44 22.7**	**+2.2**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**19 45 37.5**	**-4.0**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.48**	**60**	P	**Pn**	**19 44 44.3**	**+5.2**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**19 46 13.7**	**-1.1**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.48**	**60**	P	**Pn**	**19 44 44.3**	**+5.2**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**19 46 13.7**	**-1.1**
	0.1nm,0.1s,SNR=7.9						

GUC 30 19:44:04.7±0.7, 2503S×6877W, h100km, ML3.9, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.54**	**285**	⇓*i*P	Pn	19 44 32.9	+1.5
CPN1				*i* S	Sn	19 44 53.9	+2.2
CPN1				AML	AML	19 44 54.9	
	comp=N,1μm,0.5s						
ANCH	**Antofagasta**	**2.01**	**312**	⇑*i*P	Pn	19 44 38.4	+1.0
CEN1	**Los Morros**	**2.09**	**321**	⇓*i*P	Pn	19 44 38.0	-0.5
CEN1				*i* S	Sn	19 45 04.2	0.0
CEN1				AML	AML	19 45 05.4	
	comp=E,647nm,0.6s						
CPCH	**Copiapo**	**2.72**	**211**	*i* S	Sn	19 45 20.3	+1.4
CPCH				AML	AML	19 45 27.5	
	comp=N,1μm,0.1s						
CDCH	**Caldera**	**2.75**	**222**	*e*P	Pn	19 44 48.4	+1.3
CDCH				*i* S	Sn	19 45 21.2	+1.4

*NIED **30** 19:48:00, 4660N×15290E, h5km, Mw4.5 Best double couple: M0 6.68000×10^15 NP1:φ=345.00000°, δ=85.00000°, λ=77.00000°. NP2:φ=233.00000°, δ=14.00000°, λ=157.00000°.*
*NEIC **30** 19:48:37.0±2.4, 4675N×15272E, h2km±14km, mb4.8/53, Error ellipse: s-maj=7.0km s-min=4.1km az=143.0*
*SZGRF **30** 19:48:39.7, 46.15N×15320E, h33km, mb4.9, Kuril Islands, Russia*
*MOS **30** 19:48:40.9±0.9, 4668N×15258E, h40km, mb4.9/41, Error ellipse: s-maj=9.8km s-min=5.2km az=103.0*
*JMA **30** 19:48:41.9±0.7, 4659N×15289E, h30km, M5.2*
*ISCJB **30** 19:48:41.1±0.7, 4664N±005×15273E±005, h45km±5km, mb4.7/85, MS3.9/13, Error ellipse: s-maj=9.0km s-min=4.6km az=112.6*
*SKHL **30** 19:48:42.9±2.3, 4660N×15290E, h61km±17km, mb5.1/4, ms4.0/2*
*BJI **30** 19:48:43.5, 46.76N×15269E, h69km, mB4.9, mb4.6, Ms4.2, Msz4.1*
*IDC **30** 19:48:44.8±4.9, 4674N×15261E, h61km±44km, mb4.1/21, mb1 4.3/21, mb1mx4.3/24, mbtmp4.1/21, MS3.8/11, Ms1 3.8/11, ms1mx3.4/42, Error ellipse: s-maj=15.7km s-min=13.1km az=141.0*
ISC 30 19:48:43.5±0.6, 4674N±005×15271E±006, h50km±4km, h62km±10.7km: pP-P, n292, σ1§05/307, mb4.7/85, MS3.9/13, 14C-18D, Kuril Islands

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

YUK	**Yuzh-Kuril'sk**	**5.53 243**	*i* P	**Pn**	**19 50 04.0**	**+0.8**
YUK			AMB	AMB	19 50 06.5	
	comp=E,570nm,0.3s					
YUK			*i* S	**Sn**	**19 51 07.4**	**+1.9**
YUK			A		19 51 27.7	
	comp=E,2μm,0.5s					
YUK			A		19 51 37.0	
	comp=E,5μm,1.5s					
YUK			A		19 51 37.0	
	comp=E,2μm,1.5s					
NEM2	**Nemuro 2**	**5.98 238**	P	**Pn**	**19 50 07.8**	**-1.6**
NEM2			*e*S	**Sn**	**19 51 12.1**	**-4.4**
JRA	**Rausu**	**6.04 245**	P	**Pn**	**19 50 11.8**	**+1.6**
JRA			*e*S	**Sn**	**19 51 19.2**	**+1.3**
JNK	**Nakash**	**6.47 244**	P	**Pn**	**19 50 16.7**	**+0.6**
JNK			*e*S	**Sn**	**19 51 28.8**	**+0.2**
JTKR	**Abashiri--Toko**	**6.79 249**	P	**Pn**	**19 50 22.5**	**+2.0**
JAK	**Akkeshi**	**6.81 240**	P	**Pn**	**19 50 19.5**	**-1.3**
JAK			*e*S	**Sn**	**19 51 31.8**	**-5.2**
YSS	**Yuzh-Sakhalins**	**6.83 275**	*e*Pn	**Pn**	**19 50 23.8**	**+2.7**
YSS			*e*Sn	**Sn**	**19 51 36.1**	**-1.5**
YSS	**Yuzh-Sakhalins**	**6.83 275**	*e*P	**Pn**	**19 50 24.0**	**+2.9**
YSS			AMB	AMB	19 50 25.2	
	comp=E,40nm,1.0s					
YSS			AMB	AMB	19 50 25.2	
	comp=E,60nm,1.0s					
YSS			*e*S	**Sn**	**19 51 40.9**	**+3.4**
YSS			A		19 51 43.0	
	comp=E,50nm,0.6s					
YSS			AMS	AMS	19 52 54.0	
	comp=E,600nm,17.0s					
JMP	**Maruseppu**	**7.13 251**	P	**Pn**	**19 50 27.6**	**+2.4**
JAR	**Ashorobuto**	**7.21 245**	P	**Pn**	**19 50 27.0**	**+0.7**
JAR			*e*S	**Sn**	**19 51 47.8**	**+1.1**
PET	**Petropavlovsk**	**7.37 29**	*e*PN	**Pn**	**19 50 36.7**	**+8.2**
PET			MLR	MLR		
	comp=Z,100nm,16.0s					
PET	**Petropavlovsk**	**7.37 29**	*e*Pn	**Pn**	**19 50 23.4**	**-5.1**
PET			*e*Sn	**Sn**	**19 51 46.9**	**-3.8**
JOB	**Onbets**	**7.38 242**	P	**Pn**	**19 50 28.1**	**-0.5**
JOB			*e*S	**Sn**	**19 51 47.4**	**-3.6**
UGL	**Uglegorsk**	**7.53 292**	*e*P	**Pn**	**19 50 34.0**	**+3.4**
UGL			AMB	AMB	19 50 36.5	
	comp=Z,80nm,0.9s					
UGL			AMS	AMS	19 53 20.0	
	comp=Z,700nm,18.0s					
UGL			AMS	AMS	19 53 20.0	
	comp=Z,600nm,18.0s					
UGL			AMS	AMS	19 53 20.0	
	comp=Z,1μm,18.0s					
ASAJ	**Asahikawa**	**7.58 253**	P	**Pn**	**19 50 33.9**	**+2.5**
	comp=Z,5.5nm,0.3s,baz=90,slow=16,SNR=42					
ASAJ			LR	LR	19 53 18.7	
	comp=Z,285nm,21.3s,baz=19,slow=36					
ASAJ	**Asahikawa**	**7.58 253**	P	**Pn**	**19 50 34.2**	**+2.8**
JKK2	**Kamakawa 2**	**7.59 251**	P	**Pn**	**19 50 33.7**	**+2.3**
JWK2	**Keihoku**	**7.66 263**	P	**Pn**	**19 50 37.6**	**+5.1**
JCH	**Churui**	**7.83 242**	P	**Pn**	**19 50 33.7**	**-1.1**
JCH			*e*S	**Sn**	**19 51 57.8**	**-4.3**
JFR	**Furan**	**8.02 247**	P	**Pn**	**19 50 38.2**	**+0.9**
JAB	**Ashibetsu**	**8.09 250**	P	**Pn**	**19 50 40.8**	**+2.5**
JEM	**Erimo**	**8.31 239**	P	**Pn**	**19 50 41.6**	**+0.3**
ERM	**Erimo**	**8.31 239**	*e*PN	**Pn**	**19 50 41.4**	**0.0**
ERM			pmax	pmax		
	comp=Z,96nm,0.4s					
ERM	**Erimo**	**8.31 239**	*e*Pn	**Pn**	**19 50 41.4**	**0.0**
	comp=Z,96nm,0.4s					
ERM			*e*Sn	**Sn**	**19 52 06.7**	**-7.1**
JBT2	**Biratori 2**	**8.36 245**	P	**Pn**	**19 50 41.4**	**-0.6**
JNBK	**Urakawa-nobuka**	**8.39 242**	P	**Pn**	**19 50 40.5**	**-2.0**
JEW	**Eniwo**	**8.90 248**	P	**Pn**	**19 50 49.3**	**-0.2**
JNB	**Noboribetsu**	**9.35 247**	P	**Pn**	**19 50 54.6**	**-1.0**
JNB			*e*S	**Sn**	**19 52 35.4**	**-4.0**
JKB	**Kayabe**	**9.67 244**	P	**Pn**	**19 50 58.1**	**-1.9**
JKB			*e*S	**Sn**	**19 52 40.6**	**-6.5**
JSH	**Shimam**	**9.90 250**	P	**Pn**	**19 51 03.9**	**+0.7**
JYM2	**Yakumo 2**	**9.96 247**	P	**Pn**	**19 51 03.5**	**-0.4**
JSR	**Shiriuchi**	**10.25 244**	P	**Pn**	**19 51 06.1**	**-1.8**
JTM	**Tenmabayashi**	**10.30 239**	P	**Pn**	**19 51 06.0**	**-2.6**
JANG	**Nango**	**10.31 236**	P	**Pn**	**19 51 04.4**	**-4.4**
JANG			*e*S	**Sn**	**19 52 51.4**	**-11**
JTH	**Tanohata**	**10.41 233**	*e*S	**Sn**	**19 52 53.4**	**-12**
JOSM	**Okushiri--Mats**	**10.55 249**	P	**Pn**	**19 51 11.3**	**-0.7**
OFUJ	**Ofunato**	**11.13 231**	P	**Pn**	**19 51 15.5**	**-4.4**
JRG	**Rokugo**	**11.47 235**	P	**Pn**	**19 51 22.0**	**-2.6**
JIO	**Ouri**	**11.76 229**	*e*S	**Sn**	**19 53 24.7**	**-14**
HABR	**Khabarovsk**	**12.05 285**	PN	**Pn**	**19 51 27.4**	**-5.1**
MA2	**Magadan**	**12.92 356**	*e*PN	**Pn**	**19 51 46.2**	**+1.9**
MA2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
MA2			pmax	pmax		
	comp=N,10.0nm,0.4s					
MA2			MLR	MLR		
	comp=Z,900nm,16.6s					
MA2	**Magadan**	**12.92 356**	*e*Pn	**Pn**	**19 51 45.5**	**+1.2**
KLR	**Kul'dur**	**14.26 288**	*e*P	**Pn**	**19 52 09.8**	**+7.3**
MJAR	**Matsushiro Arr**	**14.85 232**	P	**Pn**	**19 52 07.0**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=33,slow=12,SNR=12					
MJAR			LR	LR	19 58 04.2	
	comp=Z,213nm,19.2s,baz=30,slow=38					
MAJO	**Matsushiro**	**14.85 232**	*e*P	**Pn**	**19 52 06.9**	**-3.4**
MAJO			pmax	pmax		
	comp=Z,34nm,0.6s					
MAJO	**Matsushiro**	**14.85 232**	*e*Pn	**Pn**	**19 52 06.9**	**-3.5**
	comp=Z,34nm,0.6s					
MAJO			*e*		19 52 16.1	
MAT	**Matsushiro**	**14.85 232**	P	**Pn**	**19 52 06.6**	**-3.7**
MAT			*e*S	**Sn**	**19 55 12.2**	**+19**
MDJ	**Mudanjiang**	**16.29 271**	P	**Pn**	**19 52 28.5**	**-0.3**
MDJ			AP	pP	19 52 44.8	+2.4
MDJ			XP	sP	19 52 54.0	+5.2
MDJ			S	**S**	**19 55 26.8**	**-12**
MDJ			PCP	PcP	19 57 18.3	-1.8
MDJ			AMB	AMB		
	comp=Z,17nm,1.0s					
MDJ			AMB	AMB		
	comp=Z,80nm,5.5s					
MDJ			LR	LR		
	comp=N,140nm,6.7s					
MDJ			LR	LR		
	comp=E,168nm,7.3s					
MDJ			LR	LR		
	comp=Z,203nm,9.3s					
MDJ	**Mudanjiang**	**16.29 271**	*e*Pn	**Pn**	**19 52 29.5**	**+0.7**
	comp=Z,19nm,0.8s					
CN2	**Changchun**	**19.38 271**	*e*P	**Pn**	**19 53 05.5**	**-1.0**
CN2			*e*AP	pP	19 53 19.0	+2.5
CN2			AMB	AMB		
	comp=Z,20nm,0.8s					
CN2			LR	LR		
	comp=Z,300nm,18.0s					
CLNS	**Chul'man**	**19.82 311**	*e*P	**Pn**	**19 53 13.6**	**+1.8**
CLNS			pmax	pmax		
	comp=Z,14nm,0.7s					
CLNS			pmax	pmax		
	comp=N,10.0nm,0.9s					
CLNS			pmax	pmax		
	comp=E,10.0nm,1.1s					
YAK	**Yakutsk**	**20.19 328**	*e*P	**P**	**19 53 15.1**	**+1.3**
YAK			*e**PP		19 53 30.3	
YAK			*e*		19 53 36.3	
YAK			*e*S	**S**	**19 57 01.0**	**+3.4**
YAK			*e**SS	sS	19 57 24.2	+7.9
YAK			*e*		19 57 26.2	
YAK			*e*		20 04 38.3	
YAK			pmax	pmax		
	comp=Z,19nm,0.7s					
YAK			pmax	pmax		
	comp=Z,52nm,1.0s					
YAK			smax			
	comp=N,88nm,3.2s					
YAK			smax			
	comp=E,126nm,4.0s					
YAK	**Yakutsk**	**20.19 328**	*e*P	**P**	**19 53 14.2**	**+0.4**
	comp=E,54nm,0.6s					
YAK			*e*		19 53 19.3	
KSRS	**Korea Array**	**20.53 252**	P	**P**	**19 53 18.6**	**+1.0**
	comp=E,10nm,0.6s,baz=64,slow=8.9,SNR=30					
KSRS			LR	LR	19 59 58.1	
	comp=E,120nm,20.3s,MS3.2,baz=266,slow=33					
KS15	**Wonju Array Si**	**20.56 252**	*e*Pn	**P**	**19 53 20.3**	**+2.4**
INCN	**Inchon**	**21.36 254**	*e*P	**P**	**19 53 25.3**	**-1.2**
	comp=E,38nm,0.8s,mb4.8					
SNY	**Shenyang**	**21.36 267**	⇑P	**P**	**19 53 26.5**	**0.0**
SNY			AMB	AMB		
	comp=Z,15nm,0.5s,mb4.6					
SNY			AMB	AMB		
	comp=Z,118nm,5.5s					
SNY			LR	LR		
	comp=N,115nm,5.7s					
SNY			LR	LR		
	comp=E,293nm,17.4s					
SNY			LR	LR		
	comp=Z,272nm,20.7s,MS3.6					
JNU	**Nakatsue**	**21.48 238**	P	**P**	**19 53 28.6**	**+0.8**
	comp=Z,32nm,0.8s,mb4.7,baz=246,slow=20,SNR=7.6					
JNU			LR	LR	20 01 37.7	
	comp=Z,157nm,20.1s,MS3.4,baz=83,slow=36					
HIA	**Hailar**	**22.11 289**	*e*P	**P**	**19 53 32.3**	**-2.2**
BILL	**Bilibino**	**22.47 13**	*e*P	**P**	**19 53 37.8**	**-0.5**
BILL			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8					
BILL	**Bilibino**	**22.47 13**	*e*Pn	**P**	**19 53 37.6**	**-0.8**
	comp=Z,3.5nm,0.4s,mb4.1					
BOD	**Bodaibo**	**25.79 310**	*e*P	**P**	**19 54 08.1**	**-1.5**
BOD			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0					
BJT	**Baijiatuau**	**27.22 269**	*e*P	**P**	**19 54 21.0**	**-1.5**
BJT			pmax	pmax		
	comp=Z,4.0nm,0.5s					
BJT	**Baijiatuau**	**27.22 269**	*e*P	**P**	**19 54 21.0**	**-1.6**
	comp=Z,4.3nm,0.5s,mb4.2					
TNA	**Tin City**	**28.20 34**	*e*P	**P**	**19 54 31.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**30.02 274**	*e*P	**P**	**19 54 47.0**	**-0.5**
HHC			AP	pP	19 55 04.8	+4.3
HHC			XP	sP	19 55 13.8	+7.4
HHC			PP	PP	19 55 46.5	-9.4
HHC			PCP	PcP	19 57 48.8	+0.2
HHC			S	**S**	**19 59 36.8**	**-5.2**
HHC			XS	sS	20 00 07.5	+3.6
HHC			SS	SS	20 01 17.0	-34
HHC			SCP	ScP	20 01 23.8	-2.7
HHC			PCS	PcS	20 01 31.3	-0.7
HHC			SCS	ScS	20 05 16.8	-5.2
HHC			AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2					
HHC			AMB	AMB		
	comp=Z,137nm,4.8s					
HHC			LR	LR		
	comp=N,208nm,19.0s,MS4.0					
HHC			LR	LR		
	comp=E,227nm,17.8s,MS4.0					
HHC			LR	LR		
	comp=Z,251nm,11.7s					
ULN	**Ulaanbaatar**	**30.64 289**	*e*P	**P**	**19 54 52.8**	**-0.2**
ULN			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5					
ULN	**Ulaanbaatar**	**30.64 289**	*e*P	**P**	**19 54 52.8**	**-0.2**
	comp=Z,7.1nm,0.9s,mb4.5					
SONM	**Songino Array**	**31.08 289**	P	**P**	**19 54 55.3**	**-1.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=80,slow=7.8,SNR=10					
SONM			PcP	PcP	19 57 51.5	+0.1
	comp=Z,1.2nm,0.8s,baz=115,slow=1.3,SNR=5.5					
SONM			LR	LR	20 08 30.6	
	comp=Z,174nm,18.1s,MS3.8,baz=38,slow=38					
SONM	**Songino Array**	**31.08 289**	P	**P**	**19 54 55.3**	**-1.5**
SONM					19 57 51.5	
ZAK	**Zakamensk**	**32.44 295**	*e*P	**P**	**19 55 07.6**	**-1.1**
IMA2	**Indian Mountai**	**33.98 36**	*e*P	**P**	**19 55 22.1**	**-0.1**
XAN	**Xi'an**	**35.24 265**	P	**P**	**19 55 33.0**	**-0.1**
XAN			AMB	AMB		
	comp=Z,13nm,1.4s,mb4.7					
SML	**Sawmill**	**36.17 44**	*e*P	**P**	**19 55 40.5**	**-0.6**
COLA	**College**	**36.32 38**	*e*P	**P**	**19 55 42.4**	**+0.1**
COLA			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8					
COLA	**College**	**36.32 38**	*e*P	**P**	**19 55 42.4**	**+0.1**
	comp=Z,11nm,0.9s,mb4.8					
LZH	**Lanzhou**	**37.61 272**	*e*P	**P**	**19 55 55.5**	**+2.2**
LZH			AP	pP	19 56 07.5	+1.0
LZH			XP	sP	19 56 16.5	+4.1
LZH			PP	PP	19 57 25.5	+5.7
LZH			*e*S	**S**	**20 01 37.5**	**-1.8**
LZH			XS	sS	20 02 08.0	+6.4
LZH			SS	SS	20 04 14.0	-12
LZH			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8					
LZH			AMB	AMB		
	comp=Z,120nm,4.5s					
LZH			LR	LR		
	comp=E,420nm,13.5s					
LZH			LR	LR		
	comp=Z,620nm,14.3s,MS4.5					
LZH	**Lanzhou**	**37.61 272**	*e*P	**P**	**19 55 55.5**	**+2.2**
LZH			*PP	pP	19 56 07.6	+1.1
LZH			*SP	sP	19 56 16.4	+4.0
LZH					19 57 25.5	
LZH			*e*S	**S**	**20 01 37.5**	**-1.8**
LZH			SS	SS	20 04 14.0	-12
LZH			pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8					
LZH			MLR	MLR		
	comp=Z,620nm,14.3s,MS4.5					
LZH	**Lanzhou**	**37.61 272**	*e*P	**P**	**19 55 55.5**	**+2.2**
	comp=Z,20nm,1.0s,mb4.8					
LZH			pP	pP	19 56 07.6	+1.1
LZH			sP	sP	19 56 16.4	+4.0
LZH			PP	PP	19 57 25.5	+5.7
LZH			*e*S	**S**	**20 01 37.5**	**-1.8**
LZH			sS	sS	20 02 08.0	+6.4
LZH			SS	SS	20 04 14.0	-12
LZH			LR	LR		
	comp=Z,620nm,14.3s,MS4.5					
GTA	**Gaotai**	**38.70 279**	*e*P	**P**	**19 56 03.0**	**+0.5**
GTA			PCP	PcP	19 58 15.0	+1.5
GTA			AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.3					
CD2	**Chengdu**	**40.60 265**	P	**P**	**19 56 18.5**	**+0.2**
CD2			AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0					
CD2			AMB	AMB		
	comp=Z,110nm,5.9s					
GYA	**Guiyang**	**41.44 257**	P	**P**	**19 56 24.5**	**-0.7**
GYA			AP	pP	19 56 44.0	+5.5
GYA			XP	sP	19 56 52.3	+7.9
GYA			PP	PP	19 58 05.5	+3.9
GYA			PCP	PcP	19 58 24.0	+1.7
GYA			SCP	ScP	20 02 06.0	-2.0
GYA			S	**S**	**20 02 34.5**	**-2.2**
GYA			XS	sS	20 03 05.5	+6.3
GYA			SS	SS	20 05 33.8	-8.6
GYA			SCS	ScS	20 06 20.5	-3.8
GYA			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6					
GYA			AMB	AMB		
	comp=Z,80nm,4.6s					
GYA			LR	LR		
	comp=N,460nm,17.8s,MS4.5					
GYA			LR	LR		
	comp=E,380nm,16.4s,MS4.5					
GYA			LR	LR		
	comp=Z,340nm,16.0s,MS4.3					
INK	**Inuvik**	**41.81 32**	P	**P**	**19 56 28.9**	**+0.7**
	comp=Z,5.7nm,0.8s,mb4.2,baz=294,slow=6.5,SNR=24					
INK	**Inuvik**	**41.81 32**	P	**P**	**19 56 28.9**	**+0.7**
INK			pmax	pmax		
	comp=Z,6.0nm,0.8s					
INK	**Inuvik**	**41.81 32**	*e*P	**P**	**19 56 28.2**	**0.0**
	comp=Z,232nm,0.9s,mb5.8					
ZAL	**Zalesovo**	**42.41 306**	LR	LR	20 16 03.0	
	comp=Z,322nm,18.1s,MS4.2,baz=63,slow=39					
KMI	**Kunming**	**44.97 259**	P	**P**	**19 56 54.3**	**+0.7**
KMI			AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5					
KMI	**Kunming**	**44.97 259**	P	**P**	**19 56 54.2**	**+0.6**
KMI			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5					
KMI	**Kunming**	**44.97 259**	P	**P**	**19 56 54.2**	**+0.6**
	comp=Z,8.0nm,1.0s,mb4.5					
MK31	**Makanchi Array**	**46.70 297**	*e*P	**P**	**19 57 05.9**	**-1.4**
MK31			*e*		19 58 39.7	
MKAR	**Makanchi Array**	**46.70 297**	P	**P**	**19 57 06.1**	**-1.2**
	comp=Z,2.7nm,0.5s,mb4.5,baz=67,slow=7.2,SNR=114					
MKAR			PcP	PcP	19 58 40.0	-0.2
	comp=Z,3.0nm,0.6s,baz=61,slow=5.2,SNR=12					
MKAR			LR	LR	20 17 55.0	
	comp=Z,203nm,18.6s,MS4.1,baz=55,slow=38					
MKAR	**Makanchi Array**	**46.70 297**	P	**P**	**19 57 06.1**	**-1.2**
MKAR					19 58 40.0	
KURK	**Kurchatov**	**47.14 303**	*e*P	**P**	**19 57 08.8**	**-1.9**
KURK			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8					
KURK	**Kurchatov**	**47.14 303**	*e*P	**P**	**19 57 08.8**	**-1.9**
	comp=Z,6.8nm,0.6s,mb4.8					
LSA	**Lhasa**	**50.00 273**	P	**P**	**19 57 35.0**	**+2.3**
LSA	**Lhasa**	**50.00 273**	*e*P	**P**	**19 57 34.4**	**+1.7**
LSA			pmax	pmax		
	comp=Z,36nm,0.6s,mb5.6					
LSA	**Lhasa**	**50.00 273**	*e*P	**P**	**19 57 34.4**	**+1.7**
	comp=Z,36nm,0.6s,mb5.6					
BVAR	**Borovoye Array**	**50.66 309**	P	**P**	**19 57 37.0**	**-0.6**
	comp=Z,1.8nm,0.4s,mb4.4,baz=52,slow=7.7,SNR=16					
BVAR			PcP	PcP	19 58 54.3	-0.1
	comp=Z,3.6nm,0.5s,baz=86,slow=1.6,SNR=9.7					
NANT	**Nan**	**50.69 255**	⇑P	**P**	**19 57 38.8**	**+0.9**
	comp=Z,74nm,1.0s,mb5.6					
BRVK	**Borovoye**	**50.70 309**	*e*P	**P**	**19 57 36.7**	**-1.2**
BRVK			*e*		19 58 53.8	
BRVK			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5					
BRVK	**Borovoye**	**50.70 309**	*e*P	**P**	**19 57 36.7**	**-1.2**
	comp=Z,3.7nm,0.6s,mb4.5					
BRVK			*e*PcP	PcP	19 58 53.8	-0.9
RES	**Resolute Bay**	**50.94 18**	*e*P	**P**	**19 57 38.9**	**-0.9**
	comp=Z,68nm,0.5s,mb5.8					
YKA	**Yellowknife Ar**	**51.10 37**	P	**P**	**19 57 41.0**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=297,slow=7.0,SNR=30					
YKA			PcP	PcP	19 58 55.6	-0.5
	comp=Z,1.0nm,0.6s,baz=306,slow=3.6,SNR=7.1					
YKA	**Yellowknife Ar**	**51.10 37**	P	**P**	**19 57 41.0**	**+0.1**
YKA			PcP	PcP	19 58 55.6	-0.5
CHG	**Chiang Mai**	**51.85 256**	⇑P	**P**	**19 57 47.6**	**+1.0**
	comp=Z,13nm,0.6s,mb5.0					
CHTO	**Chiang Mai**	**51.85 256**	*e*P	**P**	**19 57 47.3**	**+0.7**
CHTO			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8					
CHTO	**Chiang Mai**	**51.85 256**	*e*P	**P**	**19 57 47.3**	**+0.7**
	comp=Z,11nm,0.9s,mb4.8					
CHTO			*e*ScP	ScP	20 02 50.7	-0.8
SHL	**Shillong**	**52.09 268**	*e*P	**P**	**19 57 49.5**	**+1.1**
CM31	**Chiang Mai Arr**	**52.10 256**	*e*P	**P**	**19 57 49.3**	**+0.8**
	comp=Z,7.3nm,0.7s,mb4.7					
CM31			*e*PcP	PcP	19 59 00.2	+0.3
JIRN	**Jiri**	**54.67 274**	*e*P	**P**	**19 58 08.8**	**+1.5**
	comp=Z,103nm,0.6s					
GUN	**Gumba**	**54.73 275**	*e*P	**P**	**19 58 08.9**	**+1.2**
	comp=Z,37nm,0.5s,mb5.7					
ARU	**Arti**	**54.84 317**	⇓*i*P	**P**	**19 58 07.4**	**-1.1**
ARU			*e*		19 59 08.1	
ARU			*e*		20 00 09.6	
ARU			*e*PPP		20 01 20.7	
ARU			*e*S	**S**	**20 05 43.6**	**-2.3**
ARU			*e*SS	SS	20 09 30.5	+0.9
ARU			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5					
ARU	**Arti**	**54.84 317**	*e*P	**P**	**19 58 06.4**	**-2.1**
	comp=Z,4.2nm,0.4s,mb4.8					
KKN	**Kakani**	**55.21 275**	*e*P	**P**	**19 58 12.3**	**+1.1**
	comp=Z,87nm,0.6s					
PKI	**Pulchoki**	**55.26 275**	*e*P	**P**	**19 58 12.7**	**+1.1**
	comp=Z,42nm,0.6s,mb5.6					
DMN	**Daman**	**55.45 275**	*e*P	**P**	**19 58 14.3**	**+1.4**
	comp=Z,86nm,0.7s					
GKN	**Gorkha**	**55.52 276**	*e*P	**P**	**19 58 14.6**	**+1.2**
	comp=Z,96nm,0.5s					
KOLN	**Koldanda**	**56.38 276**	*e*P	**P**	**19 58 20.9**	**+1.3**
	comp=Z,80nm,0.7s,mb5.8					
KEV	**Kevo**	**57.27 340**	*e*p	**P**	**19 58 24.1**	**-1.7**
ARCES	**ARCESS Array B**	**57.78 341**	P	**P**	**19 58 28.9**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.5,baz=34,slow=7.3,SNR=17					
AKTK	**Aktyubinsk**	**58.53 312**	P	**P**	**19 58 34.1**	**-0.6**
AKTK			PcP	PcP	19 59 24.6	-0.1
AKTO	**Aktyubinsk**	**58.53 312**	P	**P**	**19 58 34.1**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=86,slow=10,SNR=11					
AKTO			PcP	PcP	19 59 24.6	-0.1
	comp=Z,1.7nm,0.7s,baz=316,slow=1.5,SNR=4.0					
NDI	**New Delhi**	**60.13 281**	*e*P	**P**	**19 58 44.5**	**-1.3**
KULM	**Kulim**	**60.82 244**	*e*P	**P**	**19 58 51.2**	**+0.8**
KULM			*e*	pP	19 59 05.4	+1.0
HRY	**Holter Researc**	**61.20 51**	*e*P	**P**	**19 58 55.3**	**+2.2**
JOF	**Joensuu**	**61.23 334**	*e*p	**P**	**19 58 50.5**	**-2.7**
	comp=Z,1.4nm,0.3s,mb4.6					
JOF	**Joensuu**	**61.23 334**	*e*P	**P**	**19 58 50.5**	**-2.7**
JOF			pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4					
LRM	**Limekiln Ridge**	**61.42 53**	*e*P	**P**	**19 58 55.0**	**+0.5**
FCC	**Fort Churchill**	**61.43 33**	*e*P	**P**	**19 58 54.0**	**-0.6**
FCC			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1					
FCC	**Fort Churchill**	**61.43 33**	*e*P	**P**	**19 58 54.0**	**-0.5**
	comp=Z,8.6nm,0.6s,mb5.1					
KBL	**Kabul**	**61.82 291**	*e*P	**P**	**19 58 56.3**	**-0.9**
BOZ	**Bozeman (W)**	**61.98 52**	*e*P	**P**	**19 58 58.7**	**+0.4**
BOZ			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6					
BOZ	**Bozeman (W)**	**61.98 52**	*e*P	**P**	**19 58 58.7**	**+0.4**
	comp=Z,4.7nm,1.0s,mb4.6					
NVAR	**Mina Array Bea**	**62.69 62**	P	**P**	**19 59 03.9**	**+0.9**
	comp=Z,1.1nm,0.6s,mb4.2,baz=298,slow=8.0,SNR=11					
KAF	**Kangasniemi**	**63.34 335**	*e*p	**P**	**19 59 05.7**	**-1.6**
	comp=Z,5.1nm,0.4s,mb5.0,baz=37,slow=6.1					
KAF	**Kangasniemi**	**63.34 335**	*e*P	**P**	**19 59 05.7**	**-1.6**
KAF			pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.0					
MOOW	**Moose Ponds**	**63.68 53**	*e*P	**P**	**19 59 10.6**	**+1.0**
FIA1	**FINESS Array S**	**63.94 335**	*e*P	**P**	**19 59 10.2**	**-1.0**
FINES	**FINESS Array B**	**63.94 335**	P	**P**	**19 59 10.2**	**-1.1**
	comp=Z,8.4nm,0.4s,mb5.1,baz=36,slow=7.9,SNR=143					
PDAR	**Pinedale Array**	**64.98 54**	P	**P**	**19 59 18.2**	**+0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=250,slow=1.3,SNR=10					
ULM	**Lac du Bonnet**	**66.71 41**	P	**P**	**19 59 28.2**	**-1.0**
	comp=Z,3.3nm,0.6s,mb4.5,baz=316,slow=6.7,SNR=12					
HYB	**Hyderabad**	**66.72 271**	*i* P	**P**	**19 59 29.5**	**+0.2**
HYB	**Hyderabad**	**66.72 271**	*e*P	**P**	**19 59 29.5**	**+0.2**
NB2	**NORSAR Subarra**	**68.15 341**	P	**P**	**19 59 37.7**	**-0.6**
	comp=Z,11nm,0.6s,mb5.1,baz=28,slow=6.5					
NOA	**NORSAR Array B**	**68.15 341**	P	**P**	**19 59 37.8**	**-0.5**
	comp=Z,9.7nm,0.5s,mb5.1,baz=28,slow=6.4,SNR=30					
NOA			LR	LR	20 33 47.8	
	comp=Z,57nm,19.4s,MS3.8,baz=90,slow=40					
WB2	**Warramunga Arr**	**68.41

CLL Collm 76.36 335⇓ i P P 20 00 26.9 -0.4
comp=Z,23nm,1.1s,mb5.0
KECS Kecovo 76.45 330 eP **P 20 00 27.6 -0.2**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.45 330 eP **P 20 00 27.5 -0.3**
KECS Kecovo 76.45 330 eP **P 20 00 27.6 -0.2**
comp=Z,3.3nm,0.9s,mb4.3
BRG Berggiesshubel 76.48 335 eP **P 20 00 27.5 -0.5**
comp=Z,7.5nm,1.4s,mb4.4
BRG Berggiesshubel 76.48 335 eP **P 20 00 27.5 -0.5**
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
PVCC Panska Ves 76.59 334 eP **P 20 00 28.6 0.0**
MLR Muntele Rosu 76.92 325⇓ i P P 20 00 30.6 +0.1
VYHS Vyhne 77.00 331 eP **P 20 00 31.1 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VYHS Vyhne 77.00 331 eP **P 20 00 31.1 +0.2**
comp=Z,5.6nm,1.1s,mb4.4
VRAC Vranov 77.04 332⇑ i P P 20 00 31.4 +0.3
DRGR 77.08 327⇓ i P P 20 00 31.7 +0.3
PRU Pruhonice 77.08 334 eP **P 20 00 31.6 +0.2**
PSZ Piszkesteto 77.14 330⇓ i P P 20 00 31.7 0.0
VOIR 77.32 325⇓ i P P 20 00 33.3 +0.6
MOX Moxa 77.35 336 eP **P 20 00 33.2 +0.3**
TREC Trest 77.40 333 eP **P 20 00 33.4 +0.2**
NKC Novy Kostel 77.48 335 eP **P 20 00 33.8 +0.2**
ZST Bratislava 77.84 331 eP **P 20 00 36.4 +0.8**
ZST pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ZST Bratislava 77.84 331 eP **P 20 00 36.4 +0.8**
comp=Z,8.0nm,1.1s,mb4.6
KHC Kasperske Hory 78.13 334 eP **P 20 00 37.7 +0.5**
BR131 Keskin Array S 78.21 316 eP **P 20 00 38.2 +0.5**
comp=Z,3.3nm,0.6s,mb4.4
BRTR Keskin Array B 78.21 316 P **P 20 00 38.0 +0.4**
comp=Z,4.4nm,0.8s,mb4.4,baz=77,slow=5.3,SNR=22
GRA1 Grafenberg Arr 78.32 336 eP **P 20 00 38.8 +0.5**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 78.32 336 eP **P 20 00 38.8 +0.5**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 78.32 336 eP **P 20 00 38.8 +0.5**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 78.32 336 eP **P 20 00 38.8 +0.5**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GERES GERESS Array B 78.35 334 P **P 20 00 38.6 +0.1**
comp=Z,2.9nm,0.5s,mb4.5,baz=36,slow=6.1,SNR=34
GERES LR LR 20 39 18.2
comp=Z,82nm,18.3s,MS4.1,baz=309,slow=39
UMR Umm Al-Rimmam 78.40 301 eP **P 20 00 38.9 +0.2**
UMR AMb AMB 20 00 40.5
comp=Z,52nm,0.6s,mb5.6
MIB Mutribah 78.44 301 eP **P 20 00 39.4 +0.5**
MIB AMb AMB 20 00 40.0
comp=Z,74nm,0.7s,mb5.7
BZS Buzias 78.48 327⇑ P P 20 00 38.5 -0.6
BZS Buzias 78.48 327⇓ i P P 20 00 38.9 -0.2
CONA Conrad Observa 78.48 332 i P **P 20 00 40.0 +0.8**
comp=Z,5.4nm,0.6s,mb4.7,SNR=13
ANTO Ankara 78.50 317⇓ i P P 20 00 39.6 +0.4
KBD Kabd 78.69 301 eP **P 20 00 40.8 +0.5**
KBD AMb AMB 20 00 42.0
comp=Z,209nm,1.0s
SZH Strazhica 78.76 323 eP **P 20 00 40.0 -0.7**
QRN Al-Qurain 78.87 300 eP **P 20 00 41.7 +0.4**
QRN AMb AMB 20 00 43.1
comp=Z,34nm,0.5s,mb5.6
NAY Al-Naaiem 78.90 301 eP **P 20 00 41.9 +0.4**
NAY AMb AMB 20 00 43.4
comp=Z,14nm,0.9s,mb4.9
RDF Al-Radifah 78.95 300 eP **P 20 00 42.3 +0.6**
RDF AMb AMB 20 00 48.2
comp=Z,54nm,1.1s,mb5.4
MOA Molln 79.06 333 i P **P 20 00 42.7 +0.4**
comp=Z,6.8nm,0.7s,mb4.7,SNR=9.7
BAIF Baives 79.81 340 eP **P 20 00 46.3 -0.1**
KBA Koelnbreinsper 80.03 333⇓ i P P 20 00 48.5 +0.9
comp=Z,16nm,0.6s,mb5.1,SNR=21
KBA Koelnbreinsper 80.03 333⇓ i P P 20 00 48.5 +0.9
KBA pmax pmax
comp=Z,16nm,0.6s,mb5.1
GRUS Gruza 80.29 327⇓ i P P 20 00 48.7 -0.3
WATA Walderalm 80.34 334⇑ i P P 20 00 49.9 +0.6
comp=Z,6.1nm,0.8s,mb4.6,SNR=12
WATA Walderalm 80.34 334⇑ i P P 20 00 49.9 +0.6
WATA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
DIVS Divcibare 80.38 328⇑ i P P 20 00 49.2 -0.3
WTTA Wattenberg 80.39 334⇓ i P P 20 00 50.4 +0.9
comp=Z,14nm,0.5s,mb5.2,SNR=23
WTTA Wattenberg 80.39 334⇓ i P P 20 00 50.4 +0.9
WTTA pmax pmax
comp=Z,14nm,0.5s,mb5.2
VTS Vitosha 80.42 325 eP **P 20 00 49.0 -0.7**
RETA Reutte 80.44 335⇑ i P P 20 00 50.2 +0.4
comp=Z,7.9nm,0.9s,mb4.7
MOTA Moosalm 80.47 335⇓ i P P 20 00 50.4 +0.4
comp=Z,8.5nm,0.9s,mb4.7
MOTA Moosalm 80.47 335⇓ i P P 20 00 50.4 +0.4
MOTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SQTA Sankt Quirin 80.55 335⇑ i P P 20 00 51.0 +0.6
comp=Z,8.9nm,1.0s,mb4.6
SQTA Sankt Quirin 80.55 335⇑ i P P 20 00 51.0 +0.6
SQTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CDF Champ du Feu 80.57 337 eP **P 20 00 50.6 +0.1**
comp=Z,22nm,1.0s,mb4.7
CDF Champ du Feu 80.57 337 eP **P 20 00 50.6 +0.1**
CDF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CDF Champ du Feu 80.57 337 eP **P 20 00 50.6 +0.1**
comp=Z,11nm,1.0s,mb4.8
BBLS Bajina Basta - 80.79 328⇓ i P P 20 00 52.8 +1.1
MEZF Maizieres J'vi 81.05 339 eP **P 20 00 53.3 +0.2**
MMB Musomiste 81.06 324 eP **P 20 00 53.0 -0.1**
KKB Krupnik 81.09 324 eP **P 20 00 53.0 -0.3**
HAU Haudompre 81.18 338 eP **P 20 00 53.6 -0.2**
comp=Z,10nm,0.7s,mb4.5
HAU Haudompre 81.18 338 eP **P 20 00 53.6 -0.2**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HAU Haudompre 81.18 338 eP **P 20 00 53.6 -0.2**
comp=Z,5.1nm,0.7s,mb4.6
MCWV Mont Chateau 82.03 38 eP **P 20 00 58.5 +0.2**
PPT Papeete 82.37 126 eLR LR 20 26 37.2
comp=Z,62nm,22.5s
PPT Papeete 82.37 126 eT 21 31 53.9
comp=Z,4.7nm,0.3s
LOR Lormes 82.49 339 eP **P 20 01 00.8 +0.1**
comp=Z,9.8nm,0.7s,mb4.5
LOR Lormes 82.49 339 eP **P 20 01 00.8 +0.1**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LOR Lormes 82.49 339 eP **P 20 01 00.8 +0.1**
comp=Z,4.9nm,0.7s,mb4.5
CABF La Chapelle 82.54 338 eP **P 20 01 01.9 +1.0**
SSF Saint Saulge 82.77 339 eP **P 20 01 02.1 0.0**
comp=Z,5.6nm,0.6s,mb4.5
SSF Saint Saulge 82.77 339 eP **P 20 01 02.1 0.0**
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
SSF Saint Saulge 82.77 339 eP **P 20 01 02.1 0.0**
comp=Z,2.8nm,0.6s,mb4.5
TZTN Tazewell 82.95 42 eP **P 20 01 03.0 0.0**
AVF Avril sur Loir 83.06 339 eP **P 20 01 03.7 +0.1**
comp=Z,13nm,0.8s,mb4.7
AVF Avril sur Loir 83.06 339 eP **P 20 01 03.7 +0.1**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AVF Avril sur Loir 83.06 339 eP **P 20 01 03.7 +0.1**
comp=Z,6.7nm,0.8s,mb4.7
SMF Signal de Mont 83.08 339 eP **P 20 01 03.9 +0.2**
LPL La Plagne 83.38 337 eP **P 20 01 06.2 +1.0**
comp=Z,12nm,0.8s,mb4.7
LPL La Plagne 83.38 337 eP **P 20 01 06.2 +1.0**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LPL La Plagne 83.38 337 eP **P 20 01 06.2 +1.0**
comp=Z,6.1nm,0.8s,mb4.7
LPG La Plagne 83.39 337 eP **P 20 01 06.4 +1.1**
comp=Z,9.2nm,0.8s,mb4.6
LPG La Plagne 83.39 337 eP **P 20 01 06.4 +1.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LPG La Plagne 83.39 337 eP **P 20 01 06.4 +1.1**
comp=Z,4.6nm,0.8s,mb4.6
TKL Tuckaleechee C 83.57 43 LR LR 20 37 09.2
comp=Z,76nm,20.3s,MS4.1,baz=309,slow=35
MBDF Montbardon 84.09 336 eP **P 20 01 09.1 +0.2**
comp=Z,7.2nm,0.8s,mb4.6
MBDF Montbardon 84.09 336 eP **P 20 01 09.1 +0.2**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MBDF Montbardon 84.09 336 eP **P 20 01 09.1 +0.2**
comp=Z,3.6nm,0.8s,mb4.5
ORIF Oris-en-Rattie 84.16 337 eP **P 20 01 10.2 +1.0**
comp=Z,16nm,0.8s,mb4.9
ORIF Oris-en-Rattie 84.16 337 eP **P 20 01 10.2 +1.0**
ORIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ORIF Oris-en-Rattie 84.16 337 eP **P 20 01 10.2 +1.0**
comp=Z,8.1nm,0.8s,mb4.9
VIVF Saint-Julien-l 84.54 338 eP **P 20 01 11.7 +0.5**
comp=Z,13nm,1.0s,mb4.7
VIVF Saint-Julien-l 84.54 338 eP **P 20 01 11.7 +0.5**
VIVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.54 338 eP **P 20 01 11.7 +0.5**
comp=Z,6.7nm,1.0s,mb4.7
SBF Sospel 84.70 336 eP **P 20 01 12.2 +0.2**
comp=Z,20nm,0.8s,mb5.0
SBF Sospel 84.70 336 eP **P 20 01 12.2 +0.2**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SBF Sospel 84.70 336 eP **P 20 01 12.2 +0.2**
comp=Z,10nm,0.8s,mb5.0
CAF Calviac 85.12 340 eP **P 20 01 14.2 +0.1**
comp=Z,5.6nm,0.6s,mb4.5
CAF Calviac 85.12 340 eP **P 20 01 14.2 +0.1**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
CAF Calviac 85.12 340 eP **P 20 01 14.2 +0.1**
comp=Z,2.8nm,0.6s,mb4.6
LFF La Frestale 85.42 340 eP **P 20 01 15.3 -0.3**
PGF Pioggiola 85.45 334 eP **P 20 01 15.7 0.0**
LMR La Mourre 85.45 336 eP **P 20 01 15.9 +0.2**
comp=Z,20nm,1.0s,mb4.9
LMR La Mourre 85.45 336 eP **P 20 01 15.9 +0.2**
LMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
LMR La Mourre 85.45 336 eP **P 20 01 15.9 +0.2**
comp=Z,10nm,1.0s,mb4.9
EIL Elat 85.49 309 eP **P 20 01 14.7 -1.2**
TBI Tubuai 87.10 129 eT 21 37 53.6
comp=Z,12nm,0.2s
EPF Esparros 87.32 340 eP **P 20 01 24.0 -0.9**
ESDC Sonseca Array 91.48 342 P **P 20 01 42.8 -1.6**
comp=Z,1.6nm,0.9s,mb4.3,baz=357,slow=4.6,SNR=6.4
KEST Kesra 91.55 331 P **P 20 01 45.0 +0.2**
comp=Z,0.4nm,0.5s,mb4.0,baz=11,slow=3.0,SNR=7.2
TORD Torodi Ar. Bea 114.97 329 PKP PKiKP 20 07 17.8 -1.0
comp=Z,0.6nm,0.6s,baz=28,slow=1.9,SNR=14
CFAA Coronel Fontan 145.27 79 PKPbc PKPbc 20 08 14.8 -0.6
comp=Z,1.5nm,0.7s,baz=277,slow=2.6,SNR=21
CFAA Coronel Fontan 145.27 79 PKPbc PKPbc 20 08 14.8 -0.6
PLCA Paso Flores 148.48 95 PKPbc PKPbc 20 08 24.1 -0.4
comp=Z,2.6nm,0.8s,baz=265,slow=3.0,SNR=5.6
VNA2 Neumayer--Watz 153.92 195 ePKPdf PKPbc 20 08 36.1 -1.1
baz=315,slow=0.9

*NEIC **30** 19:53:40.8±0.5, 4650N×15306E, h10km, mb4.5/10, Error ellipse: s-maj=12.9km s-min=8.2km az=146.0*
*ISCJB **30** 19:53:41.5±1.9, 4643N±007×1530E±01, h28km±13km, mb4.0/22, Error ellipse: s-maj=16.5km s-min=6.2km az=88.1*
*MOS **30** 19:53:42.4±1.4, 4648N×15301E, h37km, mb4.4/7, Error ellipse: s-maj=13.6km s-min=9.0km az=75.2*
*IDC **30** 19:53:48.4±4.0, 4645N×15286E, h70km±36km, mb3.4/15, mb1 3.7/17, mb1mx3.6/24, mbtmp3.5/17, ML3.6/2, Error ellipse: s-maj=19.6km s-min=16.5km az=118.0*
ISC 30 19:53:44.3±0.8, 4643N±007×1531E±01, h35km±6km, n68, σ1§24/72, mb4.0/22, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.71**	**24**	ePN	**Pn**	**19 54 52.1**	**-0.7**
SKR				eS	**Sn**	**19 55 47.0**	**+0.8**
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,140nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**247⇑**	i PN	**Pn**	**19 55 02.6**	**-3.0**
YUK				pmax	pmax		
	comp=Z,280nm,0.5s						
NEM2	**Nemuro 2**	**6.05**	**242**	P	**Pn**	**19 55 09.7**	**-1.5**
NEM2				eS	**Sn**	**19 56 14.1**	**-5.1**
JRA	**Rausu**	**6.15**	**249**	P	**Pn**	**19 55 14.7**	**+2.0**
JNK	**Nakash**	**6.58**	**247**	P	**Pn**	**19 55 18.8**	**+0.3**
JAK	**Akkeshi**	**6.89**	**243**	P	**Pn**	**19 55 21.0**	**-1.8**
JAK				eS	**Sn**	**19 56 33.5**	**-6.5**
YSS	**Yuzh-Sakhalins**	**7.12**	**278**	PN	**Pn**	**19 55 31.4**	**+5.4**
JMP	**Maruseppu**	**7.28**	**254**	P	**Pn**	**19 55 30.2**	**+2.0**
JAR	**Ashorobuto**	**7.32**	**248**	P	**Pn**	**19 55 29.2**	**+0.5**
JAR				eS	**Sn**	**19 56 48.7**	**-1.9**
JOB	**Onbets**	**7.48**	**245**	P	**Pn**	**19 55 30.5**	**-0.3**
JOB				eS	**Sn**	**19 56 49.5**	**-4.9**
PET	**Petropavlovsk**	**7.52**	**27**	PN	**Pn**	**19 55 29.1**	**-2.3**
JKK2	**Kamakawa 2**	**7.74**	**254**	P	**Pn**	**19 55 36.2**	**+1.7**
ASAJ	**Asahikawa**	**7.75**	**256**	P	**Pn**	**19 55 37.0**	**+2.4**
	comp=Z,1.6nm,0.3s,baz=90,slow=16,SNR=5.9						
ASAJ	**Asahikawa**	**7.75**	**256**	PN	**Pn**	**19 55 37.0**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**7.92**	**245**	P	**Pn**	**19 55 36.0**	**-1.0**
JCH				eS	**Sn**	**19 56 59.0**	**-6.4**
JFR	**Furan**	**8.14**	**250**	P	**Pn**	**19 55 42.8**	**+2.8**
ERM	**Erimo**	**8.38**	**242⇑**	ePN	**Pn**	**19 55 43.8**	**+0.5**
JEM	**Erimo**	**8.38**	**242**	P	**Pn**	**19 55 43.6**	**+0.3**
JBT2	**Biratori 2**	**8.47**	**248**	P	**Pn**	**19 55 44.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.48**	**244**	P	**Pn**	**19 55 43.0**	**-1.7**
JNBK				eS	**Sn**	**19 57 13.0**	**-6.1**
JNB	**Noboribetsu**	**9.48**	**250**	P	**Pn**	**19 55 58.7**	**+0.4**
JANG	**Nango**	**10.36**	**238**	eS	**Sn**	**19 57 54.1**	**-11**
MA2	**Magadan**	**13.24**	**355**	ePN	**Pn**	**19 56 51.4**	**+1.6**
MAJO	**Matsushiro**	**14.87**	**234**	P	**Pn**	**19 57 17.5**	**+5.5**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAJO	**Matsushiro**	**14.87**	**234**	Pn	**Pn**	**19 57 17.5**	**+5.5**
	comp=Z,6.5nm,0.6s						
MJAR	**Matsushiro Arr**	**14.87**	**234**	P	**Pn**	**19 57 11.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=43,slow=9.1,SNR=3.4						
YAK	**Yakutsk**	**20.58**	**328**	eP	**P**	**19 58 19.8**	**-0.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YAK	**Yakutsk**	**20.58**	**328**	eP	**P**	**19 58 19.8**	**-0.3**
	comp=Z,7.6nm,0.6s						
KSRS	**Korea Array**	**20.68**	**253**	P	**P**	**19 58 21.6**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=62,slow=10,SNR=5.9						
ULN	**Ulaanbaatar**	**30.98**	**290**	P	**P**	**20 00 05.3**	**+7.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
ULN	**Ulaanbaatar**	**30.98**	**290**	P	**P**	**20 00 05.2**	**+7.0**
	comp=Z,1.6nm,1.0s,mb3.8						
SONM	**Songino Array**	**31.42**	**290**	P	**P**	**20 00 02.1**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.2,baz=82,slow=8.7,SNR=2.5						
COLA	**College**	**36.40**	**38**	P	**P**	**20 00 44.3**	**-1.0**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
COLA	**College**	**36.40**	**38**	P	**P**	**20 00 44.3**	**-1.0**
	comp=Z,6.5nm,0.8s,mb4.6						
INK	**Inuvik**	**41.93**	**32**	P	**P**	**20 01 32.6**	**+1.1**
	comp=Z,1.0nm,0.5s,mb3.7,baz=310,slow=9.1,SNR=5.6						
INK	**Inuvik**	**41.93**	**32**	eP	**P**	**20 01 32.6**	**+1.1**
	comp=Z,34nm,0.5s,mb5.2						
MKAR	**Makanchi Array**	**47.07**	**298**	P	**P**	**20 02 11.3**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=67,slow=7.2,SNR=15						
MKAR	**Makanchi Array**	**47.07**	**298**	P	**P**	**20 02 11.3**	**-1.3**
KURK	**Kurchatov**	**47.52**	**304⇑**	eP	**P**	**20 02 14.9**	**-1.2**
LSA	**Lhasa**	**50.27**	**273**	eP	**P**	**20 02 38.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.27**	**273**	eP	**P**	**20 02 38.0**	**+0.8**
	comp=Z,2.5nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**20 02 42.0**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=54,slow=7.9,SNR=6.3						
BRVK	**Borovoye**	**51.09**	**310**	P	**P**	**20 02 40.0**	**-3.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**51.09**	**310**	P	**P**	**20 02 40.0**	**-3.3**
	comp=Z,1.1nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**51.19**	**37**	P	**P**	**20 02 44.8**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=296,slow=7.1,SNR=5.1						
JIRN	**Jiri**	**54.95**	**275**	eP	**P**	**20 03 13.1**	**+1.3**
GUN	**Gumba**	**55.01**	**275**	eP	**P**	**20 03 13.4**	**+1.2**
ARU	**Arti**	**55.23**	**318**	P	**P**	**20 03 11.7**	**-2.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ARU	**Arti**	**55.23**	**318**	P	**P**	**20 03 11.7**	**-2.1**
	comp=Z,2.2nm,0.7s,mb4.3						
KKN	**Kakani**	**55.50**	**276**	eP	**P**	**20 03 17.1**	**+1.4**
	comp=Z,6.7nm,0.5s,mb4.9						
KKN	**Kakani**	**55.50**	**276**	eP	**P**	**20 03 17.1**	**+1.4**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
DMN	**Daman**	**55.73**	**275**	eP	**P**	**20 03 18.8**	**+1.4**
	comp=Z,9.3nm,0.6s,mb5.0						
GKN	**Gorkha**	**55.81**	**276**	eP	**P**	**20 03 18.8**	**+0.9**
	comp=Z,4.2nm,0.4s,mb4.8						
KOLN	**Koldanda**	**56.66**	**277**	eP	**P**	**20 03 25.1**	**+1.1**
NVAR	**Mina Array Bea**	**62.60**	**62**	P	**P**	**20 04 05.7**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.7,baz=296,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	**64.32**	**335**	P	**P**	**20 04 14.9**	**-1.4**
	comp=Z,1.2nm,0.7s,mb4.1,baz=43,slow=6.1,SNR=10						
FINES	**FINESS Array B**	**64.32**	**335**	i P	**P**	**20 04 15.1**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**64.95**	**54**	P	**P**	**20 04 20.6**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.6,baz=318,slow=2.0,SNR=3.6						
WRA	**Warramunga Arr**	**68.20**	**199**	P	**P**	**20 04 40.5**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=18,slow=6.8,SNR=8.1						
NOA	**NORSAR Array B**	**68.52**	**341**	P	**P**	**20 04 42.6**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=5.4,slow=4.0,SNR=3.8						
AKASG	**Malin Array Be**	**71.80**	**326**	P	**P**	**20 05 02.1**	**-1.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=34,slow=6.2,SNR=3.7						
ASAR	**Alice Springs**	**71.90**	**198**	P	**P**	**20 05 04.1**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=11,slow=5.6,SNR=21						
BRTR	**Keskin Array B**	**78.61**	**317**	P	**P**	**20 05 42.5**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=81,slow=7.6,SNR=4.5						
BRTR	**Keskin Array B**	**78.61**	**317**	i P	**P**	**20 05 43.5**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**78.73**	**334**	P	**P**	**20 05 42.3**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=353,slow=8.3,SNR=4.2						
CFAA	**Coronel Fontan**	**145.07**	**80**	PKPbc	PKPbc	20 13 17.0	-0.4
	comp=Z,0.1nm,0.4s,baz=230,slow=3.3,SNR=3.6						
PLCA	**Paso Flores**	**148.20**	**96**	PKPbc	PKPbc	20 13 26.5	0.0
	comp=Z,1.3nm,0.6s,baz=186,slow=22,SNR=4.4						
PLCA	**Paso Flores**	**148.20**	**96**	PKPbc	PKPbc	20 13 26.5	0.0

IDC 30 20:03:57.8±2.1, 684S×12926E, h0km, mb3.9/1, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=147.6km s-min=30.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.74**	**197**	Sn	Sn	20 08 38.9	-19
	1.3nm,0.3s,baz=84,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**13.93**	**160**	Pn	Pn	20 07 16.2	-0.3
	0.3nm,0.3s,baz=342,slow=12,SNR=34						
WRA				Sn	Sn	20 09 39.0	-13
	1.4nm,0.3s,baz=331,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.32**	**166**	P	Pn	20 08 01.6	+0.7
	0.1nm,0.3s,baz=337,slow=10,SNR=12						
ASAR				S	Sn	20 11 00.1	-14
	0.4nm,0.3s,baz=342,slow=25,SNR=7.4						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	20 14 57.0	+0.2
	0.5nm,0.4s,baz=116,slow=6.6,SNR=30						

*ISCJB **30** 20:07:54.5±5.0, 46S×02×1536E±03, h137km±39km, mb3.8/7, Error ellipse: s-maj=46.5km s-min=27.2km az=25.4*
*IDC **30** 20:07:54.5±7.3, 463S×15366E, h120km±53km, mb3.7/7, mb1 3.9/8, mb1mx3.7/16, mbtmp3.8/8, Error ellipse: s-maj=66.0km s-min=24.2km az=94.0*
*NEIC **30** 20:07:55.8±4.1, 462S×15356E, h130km±27km, Error ellipse: s-maj=46.2km s-min=17.7km az=93.0*
ISC 30 20:07:54.6±4.5, 46S±02×1537E±03, h121km±33km, n10, σ0§39/10, mb3.8/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.03**	**233**	P	**Pn**	**20 09 48.3**	**-0.2**
	10.0nm,0.3s,baz=26,slow=6.4,SNR=29						
PMG				S	**Sn**	**20 11 17.7**	**+0.2**
	2.2nm,0.3s,baz=144,slow=19,SNR=4.8						
WRA	**Warramunga Arr**	**24.22**	**229**	P	**P**	**20 13 00.7**	**+0.7**
	8.3nm,0.5s,mb4.3,baz=54,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**26.88**	**223**	P	**P**	**20 13 23.8**	**-0.2**
	0.8nm,0.5s,mb3.5,baz=56,slow=7.9,SNR=5.2						
STKA	**Stephens Creek**	**29.40**	**201**	P	**P**	**20 13 46.5**	**0.0**
	1.2nm,0.6s,mb3.7,baz=39,slow=11,SNR=7.4						
FITZ	**Fitzroy Crossi**	**30.51**	**242**	P	**P**	**20 13 55.8**	**-0.5**
	1.9nm,0.6s,mb4.0,baz=82,slow=7.8,SNR=5.1						
KULM	**Kulim**	**53.85**	**280**	eP	**P**	**20 17 04.6**	**-0.5**
SONM	**Songino Array**	**66.62**	**327**	P	**P**	**20 18 32.6**	**+0.5**
	0.3nm,0.4s,mb3.4,baz=140,slow=5.4,SNR=8.5						
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**20 19 54.9**	**+0.3**
	0.3nm,0.5s,mb3.4,baz=92,slow=9.2,SNR=8.8						
ZAL	**Zalesovo**	**81.48**	**326**	P	**P**	**20 19 58.0**	**-0.4**
	0.7nm,0.3s,mb3.9,baz=180,slow=4.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**151.06**	**289**	PKPbc	PKPbc	20 27 33.9	+0.5
	1.2nm,0.7s,baz=66,slow=2.3,SNR=6.4						
TORD				PKPab	PKPab	20 27 42.8	+1.4
	0.7nm,0.5s,baz=74,slow=3.4,SNR=7.0						

JMA 30 20:21:02.1±0.2, 3960N×14397E, h50km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.66**	**282**	P	Pn	20 21 29.4	+0.7
JTH				eS	Sn	20 21 49.5	+0.6
MIYJ	**Miyakonagasawa**	**1.66**	**270**	P	Pn	20 21 29.7	+0.9
MIYJ				eS	Sn	20 21 49.3	+0.4
OFUJ	**Ofunato**	**1.86**	**255**	P	Pn	20 21 32.0	+0.5
OFUJ				S	Sn	20 21 53.9	+0.1
JANG	**Nango**	**2.04**	**293**	P	Pn	20 21 34.6	+0.7
JOM	**Ohasama**	**2.08**	**267**	P	Pn	20 21 35.7	+1.3
JOM				S	Sn	20 22 00.8	+1.7
JMK	**Ichinoseki**	**2.23**	**254**	P	Pn	20 21 37.4	+0.8
JMK				S	Sn	20 22 03.4	+0.5
JNBK	**Urakawa-nobuka**	**2.83**	**341**	P	Pn	20 21 45.8	+1.0
JNBK				eS	Sn	20 22 19.1	+1.4
JOT	**Ohata**	**2.85**	**310**	P	Pn	20 21 46.7	+1.6
JOT				eS	Sn	20 22 19.4	+1.2
JYK	**Kaneyama**	**2.88**	**257**	P	Pn	20 21 47.0	+1.5
JMM	**Marumori**	**3.03**	**236**	P	Pn	20 21 47.1	-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**64**	Pg	**Pg**	**20 21 16.5**	**+0.1**
LABF				Sg	**Sg**	**20 21 17.8**	**0.0**
LABF	**Labassere**	**0.05**	**64**	P	**Pg**	**20 21 16.5**	**+0.2**
LABF				S	**Sg**	**20 21 17.8**	**0.0**
VIEF	**Viey**	**0.14**	**176**	Pg	**Pg**	**20 21 17.7**	**+0.1**
VIEF				Sg	**Sg**	**20 21 19.5**	**-0.3**
VIEF	**Viey**	**0.14**	**176**	P	**Pg**	**20 21 17.7**	**+0.2**
VIEF				S	**Sg**	**20 21 19.6**	**-0.2**
EPF	**Esparros**	**0.24**	**89**	*e*Pg	**Pg**	**20 21 19.7**	**+0.4**
EPF				*e*Sg	**Sg**	**20 21 22.4**	**-0.2**
EBIE	**Bielsa**	**0.35**	**164**	Pg	**Pg**	**20 21 21.4**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		20 21 26.3	
	1.5nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.44**	**253**	*e*Pg	**Pg**	**20 21 22.9**	**0.0**
ETSF				*e*Sg	**Sg**	**20 21 28.8**	**+0.1**
SJPF	**Ste Jean**	**0.91**	**276**	*e*Pg	**Pg**	**20 21 31.7**	**-0.2**
SJPF				*e*Sg	**Sg**	**20 21 43.6**	**-0.1**
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.91**	**276**	Pg	**Pg**	**20 21 31.7**	**-0.2**
SJPF				Lg		20 21 43.6	
	0.2nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**195**	Pg	**Pg**	**20 21 40.2**	**0.0**
	0.4nm,0.1s,SNR=7.9						
ESAC				Lg		20 21 58.7	
	0.4nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.64**	**78**	*e*Pg	**Pg**	**20 21 46.0**	**+0.1**
MTLF				*e*Sg	**Sg**	**20 22 06.9**	**-0.3**
	1.4nm,0.3s						
MTLF	**Montolieu**	**1.64**	**78**	Pg	**Pg**	**20 21 46.0**	**+0.1**
MTLF				Lg		20 22 06.9	
	0.7nm,0.3s						

*NEIC **30** 20:21:58.7, 1586N×9635W, h34km, MD3.7(MEX), After MEX.*

MEX 30 20:21:58.7±0.4, 1586N×9635W, h34km±9km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.25**	**112**	*i* P	Pb	20 22 04.4	-1.5
HUIG				*i* S	Sb	20 22 09.2	-1.7
VHO	**Vista Hermosa**	**1.26**	**343**	*i* P	Pn	20 22 18.4	-1.4
VHO				*i* S	Sn	20 22 33.3	-2.2
OXX	**Oaxaca**	**1.27**	**343**	*i* S	Sn	20 22 34.0	-1.7
CMIG	**Matias Romero**	**1.86**	**49**	*i* P	Pn	20 22 26.6	-1.5
CMIG				*i* S	Sn	20 22 48.2	-2.2

*NEIC **30** 20:28:17.2, 1045N×6230W, h2km, MD3.3(TRN), After TRN.*
*TRN **30** 20:28:17.2, 1045N×6230W, h2km, MD3.3*
*ISCJB **30** 20:28:18.6±0.7, 1027N±004×62.19W±003, h16km±10km, Error ellipse: s-maj=7.0km s-min=4.4km az=152.5*
*FUNV **30** 20:28:18.8, 1030N×62.15W, h14km, MW3.2*

ISC 30 20:28:18.7±0.6, 1029N±004×6219W±003, h15km±5km, n13, σ1§00/24, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.35**	**355**	*e*P	**Pg**	**20 28 26.0**	**0.0**
GUIV				*e*S	**Sg**	**20 28 30.6**	**-0.4**
TCE	**Chacachacare**	**0.59**	**47⇓**	*e*P	**Pg**	**20 28 29.6**	**-0.7**
TCE				*e*S	**Sg**	**20 28 37.7**	**-0.5**
TPP	**Pointe-a-Pierr**	**0.73**	**88**	*e*P	**Pg**	**20 28 33.8**	**+0.8**
TPP				*e*S	**Sg**	**20 28 46.5**	**+3.9**
GUNV	**Guanoco**	**0.75**	**260**	*e*P	**Pg**	**20 28 33.7**	**+0.3**
GUNV				*e*S	**Sg**	**20 28 45.0**	**+1.8**
TRN	**Trinidad (W)**	**0.85**	**65**	*e*P	**Pb**	**20 28 33.7**	**-1.5**
TRN				*e*S	**Sb**	**20 28 46.5**	**+0.1**
CRUV	**Carupano**	**1.10**	**290**	*e*P	**Pb**	**20 28 37.8**	**-1.6**
CRUV				*e*S	**Sb**	**20 28 52.3**	**-1.1**
TBH	**Brigand Hill**	**1.12**	**80**	*e*P	**Pb**	**20 28 40.2**	**+0.3**
ITEV	**Isla Los Testi**	**1.40**	**319**	*e*P	**Pn**	**20 28 44.6**	**+0.9**
ITEV				*e*S	**Sn**	**20 29 02.3**	**+0.3**
TPR	**Prospect**	**1.65**	**57**	*e*P	**Pn**	**20 28 48.1**	**+0.9**
TPR				*e*S	**Sn**	**20 29 09.9**	**+1.8**
ORIV	**Oritupano**	**1.71**	**225**	*e*P	**Pn**	**20 28 49.1**	**+1.2**
ORIV				*e*S	**Sn**	**20 29 10.2**	**+0.7**
RIOV	**Rio Grande**	**2.24**	**170**	*e*P	**Pn**	**20 28 54.5**	**-0.7**
RIOV				*e*S	**Sn**	**20 29 21.6**	**-1.0**
PCRV	**Puerto La Cruz**	**2.41**	**267**	*e*P	**Pn**	**20 28 56.5**	**-1.1**
LUEV	**Luepa**	**4.48**	**171**	*e*P	**Pn**	**20 29 25.3**	**-0.7**
LUEV				*e*S	**Sn**	**20 30 13.7**	**-4.1**

*IDC **30** 20:49:35.9±1.8, 9545S×125.94E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=159.1km s-min=31.5km az=58.0*
*NEIC **30** 20:49:40.7±1.2, 8.90S×127.18E, h35km, Error ellipse: s-maj=32.2km s-min=14.3km az=64.0*
*ISCJB **30** 20:49:46.0±2.7, 96S±01×127.1E±0.1, h35km, mb3.5/1, Error ellipse: s-maj=20.9km s-min=17.4km az=0.5*

ISC 30 20:49:47.7±2.6, 95S±01×1271E±01, h35km, n5, σ0§74/9, mb3.5/1, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.68**	**189**	*e*P	**Pn**	**20 51 52.0**	**+1.3**
	1.5nm,0.2s						
FITZ				*e*S	**Sn**	**20 53 26.8**	**-0.4**
WRA	**Warramunga Arr**	**12.52**	**147**	Pn	**Pn**	**20 52 43.1**	**-0.2**
	0.4nm,0.3s,baz=317,slow=13,SNR=26						
WRA				Sn	**Sn**	**20 55 01.8**	**+0.4**
	0.6nm,0.3s,baz=325,slow=23,SNR=9.8						
WB2	**Warramunga Arr**	**12.53**	**147**	*e*P	**Pn**	**20 52 42.8**	**-0.6**
WB2				*e*S	**Sn**	**20 55 02.6**	**+1.0**
ASAR	**Alice Springs**	**15.52**	**156**	Pn	**Pn**	**20 53 23.2**	**-0.6**
	0.3nm,0.3s,baz=321,slow=10,SNR=20						
ASAR				Sn	**Sn**	**20 56 13.8**	**-0.8**
	0.2nm,0.3s,baz=316,slow=20,SNR=8.1						
MKAR	**Makanchi Array**	**68.79**	**329**	P	**P**	**21 00 38.5**	**-10**
	0.3nm,0.5s,mb3.5,baz=129,slow=7.8,SNR=9.1						

*IDC **30** 21:03:18.0±1.7, 4406N×10548W, h0km, mb1 3.2/3, mb1mx3.1/22, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=46.0km s-min=9.1km az=147.0*
*NEIC **30** 21:03:19.3±0.7, 44.15N×10534W, h0km, ML3.1, Error ellipse: s-maj=10.6km s-min=8.4km az=178.0, Suspected Mining explosion.*
NEIC 20 km [15 miles] SE of Gillette.

ISC 30 21:03:17.4±0.7, 4398N±005×10550W±006, h0km, n24, σ1§75/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.07**	**82**	*e*P	**Pg**	**21 03 37.5**	**-0.3**
RWWY	**Rawlins**	**2.61**	**209**	*e*Pn	**Pn**	**21 04 05.7**	**+4.9**
LAO	**LASA Array**	**2.76**	**350**	*e*Pn	**Pn**	**21 04 03.1**	**+0.2**
RLMT	**Red Lodge**	**2.93**	**294**	*e*Pn	**Pn**	**21 04 07.7**	**+2.6**
RLMT				*e*Sn	**Sn**	**21 04 42.5**	**+1.4**
PDAR	**Pinedale Array**	**3.19**	**249**	Pn	**Pn**	**21 04 13.1**	**+4.2**
	1.2nm,0.3s,baz=74,slow=16,SNR=23						
PDAR				Lg		21 04 59.6	
	1.4nm,0.3s,baz=69,slow=35,SNR=5.0						
GCMT	**Greycliff**	**3.47**	**303**	*e*Pn	**Pn**	**21 04 15.2**	**+2.6**
GCMT				*e*Sn	**Sn**	**21 04 51.5**	**-3.0**
LOHW	**Long Hollow**	**3.71**	**266**	*e*Pn	**Pg**	**21 04 28.8**	**+0.2**
MOOW	**Moose Ponds**	**3.80**	**268**	*e*Pn	**Pg**	**21 04 29.4**	**-0.8**
SNOW	**Snow King Moun**	**3.84**	**264**	*e*Pn	**Pg**	**21 04 30.2**	**-0.8**
IMW	**Indian Meadow**	**3.93**	**271**	*e*Pn	**Pg**	**21 04 30.0**	**-2.7**
REDW	**Red Top Meadow**	**3.93**	**263**	*e*Pn	**Pg**	**21 04 32.9**	**+0.2**
TPAW	**Teton Pass**	**3.98**	**265**	*e*Pn	**Pg**	**21 04 32.5**	**-1.1**
AHID	**Auburn Hatcher**	**4.26**	**255**	*e*Pn	**Pg**	**21 04 39.0**	**0.0**
QLMT	**Earthquake Lak**	**4.33**	**283**	*e*Pn	**Pg**	**21 04 38.9**	**-1.6**
BOZ	**Bozeman (W)**	**4.67**	**293**	*e*Pn	**Pn**	**21 04 31.8**	**+2.6**
EGMT	**Eagleton**	**5.02**	**325**	*e*Pn	**Pn**	**21 04 34.6**	**+0.7**
HWUT	**Hardware Ranch**	**5.05**	**244**	*e*Pn	**Pn**	**21 04 38.6**	**+4.3**
	6.4nm,0.4s						
HRY	**Holter Researc**	**5.23**	**304**	*e*Pn	**Pn**	**21 04 39.6**	**+2.7**
DAU	**Daniels Canyon**	**5.56**	**232**	*e*Pn	**Pg**	**21 05 02.7**	**-1.3**
SRU	**San Rafael**	**6.15**	**219**	*e*Pn	**Pg**	**21 05 13.6**	**-1.6**
CHMT	**Chamberlain Mo**	**6.19**	**301**	*e*Pn	**Pn**	**21 04 51.8**	**+1.7**
CHMT				*e*Sg	**Sg**	**21 06 35.1**	**-1.3**
DUG	**Dugway**	**6.62**	**238**	*e*Pn	**Pn**	**21 04 59.1**	**+3.2**
	4.6nm,0.4s						
ULM	**Lac du Bonnet**	**9.08**	**43**	Pn	**Pn**	**21 05 27.5**	**-2.2**
	0.4nm,0.3s,baz=227,slow=11,SNR=7.7						
ULM				Lg		21 07 54.0	
	0.2nm,0.3s,baz=323,slow=20,SNR=2.5						
YKA	**Yellowknife Ar**	**19.30**	**347**	P	**Pn**	**21 07 42.8**	**-1.9**
	0.0nm,0.3s,baz=167,slow=12,SNR=4.2						

*ISCJB **30** 21:08:11.1±0.9, 27.1N±02×1403E±03, h446km±13km, mb3.5/8, Error ellipse: s-maj=46.8km s-min=27.7km az=169.4*
*IDC **30** 21:08:12.0±0.8, 27.13N×14043E, h441km±12km, mb3.2/8, mb1 3.3/8, mb1mx3.0/20, mbtmp3.2/8, Error ellipse: s-maj=37.3km s-min=18.9km az=85.0*

ISC 30 21:08:12.1±0.9, 272N±02×1404E±03, h445km±13km, n11, σ0§66/12, mb3.5/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.57**	**92**	P	**P**	**21 09 10.8**	**+1.0**
	7.8nm,0.3s,baz=282,slow=20,SNR=4.2						
CBIJ				S	**S**	**21 09 56.0**	**-0.7**
	12nm,0.3s,baz=285,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**47.21**	**188**	P	**P**	**21 16 03.0**	**0.0**
	0.2nm,0.4s,mb2.8,baz=4.2,slow=7.5,SNR=11						
MKAR	**Makanchi Array**	**49.22**	**310**	P	**P**	**21 16 18.6**	**+0.4**
	0.2nm,0.4s,mb2.8,baz=88,slow=9.1,SNR=4.4						
BVAR	**Borovoye Array**	**56.93**	**317**	P	**P**	**21 17 14.1**	**+0.7**
	1.0nm,0.4s,mb3.5,baz=81,slow=6.6,SNR=6.6						
YKA	**Yellowknife Ar**	**72.81**	**28**	P	**P**	**21 18 55.0**	**+0.8**
	0.2nm,0.3s,mb3.1,baz=295,slow=6.1,SNR=4.1						
ARCES	**ARCESS Array B**	**72.95**	**341**	P	**P**	**21 18 55.5**	**+0.5**
	4.1nm,0.9s,mb4.0,baz=36,slow=9.2,SNR=3.7						
JOF	**Joensuu**	**74.32**	**333**	*ep*	**P**	**21 19 01.7**	**-1.1**
KAF	**Kangasniemi**	**76.72**	**334**	*ep*	**P**	**21 19 15.7**	**-0.6**
FINES	**FINESS Array B**	**77.18**	**333**	P	**P**	**21 19 18.9**	**+0.1**
	1.1nm,0.3s,mb3.9,baz=74,slow=5.3,SNR=22						
HFS	**Hagfors**	**82.73**	**336**	P	**P**	**21 19 47.3**	**-0.8**
	4.1nm,0.9s,mb4.2,baz=113,slow=3.9,SNR=6.4						
NOA	**NORSAR Array B**	**82.95**	**338**	P	**P**	**21 19 49.0**	**-0.2**
	2.2nm,0.9s,mb3.9,baz=40,slow=4.9,SNR=3.2						

KRSC 30 21:15:23.2±1.2, 5072N×15756E, h9km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.64**	**342**	*e*P	Pn	21 15 49.9	-2.3
RUS	**Russkaya**	**1.82**	**19**	*e*P	Pn	21 15 55.3	+0.7
RUS				*e*S	Sn	21 16 18.6	+0.9
GRL	**Gorelyy**	**1.86**	**10**	*e*P	Pn	21 15 56.3	+1.0
GRL				*e*S	Sn	21 16 20.6	+1.7
PET	**Petropavlovsk**	**2.41**	**16**	P	Pn	21 16 04.3	+1.6
PET				S	Sn	21 16 34.3	+2.0
AVH	**Avacha**	**2.65**	**15**	P	Pn	21 16 08.7	+2.6
AVH				S	Sn	21 16 41.7	+3.3
SDLR	**Sedlovina**	**2.69**	**17**	P	Pn	21 16 08.0	+1.4
SDLR				S	Sn	21 16 40.6	+1.3
NLC	**Nalytchevo**	**2.69**	**24**	S	Sn	21 16 38.7	-0.7
SPN	**Mys Shipunski**	**2.83**	**32**	P	Pn	21 16 09.6	+1.1
SPN				*e*S	Sn	21 16 43.2	+0.5
GNL	**Ganaly**	**2.99**	**4**	P	Pn	21 16 10.7	-0.1
KBTR	**Krutoberegovo**	**6.33**	**28**	P	Pn	21 16 58.1	+1.4

*ISCJB **30** 21:17:18.0±0.8, 3674N±004×750W±004, h82km±7km, Error ellipse: s-maj=7.9km s-min=3.6km az=59.5*
*MDD **30** 21:17:18.1±1.3, 3658N×761W, h26km±16km, mbLg2.2/11, Error ellipse: s-maj=15.3km s-min=5.2km az=29.0, PRXIMO*
*INMG **30** 21:17:18.0±1.1, 3657N×761W, h20km±3km, ML1.9, Error ellipse: s-maj=4.0km s-min=2.1km az=35.0*
*NEIC **30** 21:17:18.1, 3659N×767W, h34km, MG3.5(MDD), After MDD.*
*CSEM **30** 21:17:19.1±0.3, 3662N×751W, h40km, mb3.5/5, Error ellipse: s-maj=6.8km s-min=3.1km az=26.0*

ISC 30 21:17:19.0±0.8, 3671N±004×753W±004, h67km±10km, n50, σ0§82/88, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.70**	**18**	P	**Pn**	**21 17 33.4**	**-0.2**
ERIP				S	**Sn**	**21 17 44.7**	**+0.3**
ERIP	**Rio Piedras**	**0.70**	**18**	P	**Pn**	**21 17 33.4**	**-0.2**
	3.4nm,0.1s,SNR=7.9						
ERIP				S	**Sn**	**21 17 44.7**	**+0.3**
	53nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.82**	**3**	P	**Pn**	**21 17 34.9**	**-0.2**
	2.0nm,0.1s,SNR=30						
EGRO				S	**Sn**	**21 17 46.2**	**-0.8**
	12nm,0.1s,SNR=32						
EGRO	**El Granado**	**0.82**	**3**	Pg	**Pn**	**21 17 34.9**	**-0.2**
EGRO				Sn	**Sn**	**21 17 46.2**	**-0.8**
EMIN	**Mina Concepcio**	**1.26**	**33**	P	**Pn**	**21 17 40.9**	**+0.3**
	0.1nm,0.1s,SNR=10						
EMIN				S	**Sn**	**21 17 57.1**	**+0.2**
	3.8nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**1.26**	**33**	Pg	**Pn**	**21 17 40.9**	**+0.3**
EMIN				Sn	**Sn**	**21 17 57.1**	**+0.3**
PTEO	**Sao Teotonio**	**1.27**	**311**	*e*P	**Pn**	**21 17 39.0**	**-1.7**
PTEO				*e*S	**Sn**	**21 17 56.2**	**-0.9**
PTEO				A		21 17 59.1	
	12nm,0.5s						
PTEO	**Sao Teotonio**	**1.27**	**311**	*e*P	**Pn**	**21 17 39.0**	**-1.7**
PTEO				*e*S	**Sn**	**21 17 56.2**	**-0.9**
	12nm,0.5s						
PBEJ	**Beja**	**1.34**	**349**	*e*P	**Pn**	**21 17 41.7**	**0.0**
PBEJ				*e*S	**Sn**	**21 17 59.3**	**+0.5**
PBEJ				A		21 18 01.1	
	4.7nm,0.1s						
PBEJ	**Beja**	**1.34**	**349**	*e*P	**Pn**	**21 17 41.7**	**0.0**
PBEJ				*e*S	**Sn**	**21 17 59.3**	**+0.5**
	4.7nm,0.1s						
ESPR	**Espera**	**1.35**	**83**	P	**Pn**	**21 17 41.9**	**0.0**
	2.6nm,0.1s,SNR=7.7						
ESPR				S	**Sn**	**21 17 58.7**	**-0.3**
	3.7nm,0.1s,SNR=7.0						
ESPR	**Espera**	**1.35**	**83**	Pg	**Pn**	**21 17 41.9**	**+0.1**
ESPR				Sn	**Sn**	**21 17 58.7**	**-0.3**
MOE	**Montemor**	**1.92**	**340**	*e*Sn	**Sn**	**21 18 13.3**	**+0.6**
EBAD	**Badajoz**	**2.08**	**11**	P	**Pn**	**21 17 52.1**	**+0.4**
	0.6nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**21 18 17.3**	**+0.7**
	1.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.08**	**11**	Pn	**Pn**	**21 17 52.1**	**+0.5**
EBAD				Sn	**Sn**	**21 18 17.3**	**+0.8**
PESTR	**Estremoz**	**2.15**	**359**	*e*Pn	**Pn**	**21 17 53.1**	**+0.5**
PESTR				*e*Sn	**Sn**	**21 18 20.0**	**+1.7**
PESTR				A		21 18 20.6	
	3.4nm,0.3s						
PESTR	**Estremoz**	**2.15**	**359**	*e*Pn	**Pn**	**21 17 53.1**	**+0.5**
PESTR				*e*Sn	**Sn**	**21 18 20.0**	**+1.7**
	3.4nm,0.3s						
EMIJ	**Mijas**	**2.22**	**93**	P	**Pn**	**21 17 52.4**	**-1.1**
	0.1nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**21 18 20.5**	**+0.6**
	0.5nm,0.1s,SNR=7.9						
PLOU	**Loures**	**2.52**	**330**	*e*Pn	**Pn**	**21 17 57.5**	**-0.1**
PLOU				*e*Sn	**Sn**	**21 18 27.4**	**+0.1**
PLOU				A		21 18 30.6	
	6.4nm,0.3s						
PLOU	**Loures**	**2.52**	**330**	Pn	**Pn**	**21 17 57.5**	**-0.1**
PLOU				Sn	**Sn**	**21 18 27.4**	**+0.1**
	3.2nm,0.3s						
PLOU	**Loures**	**2.52**	**330**	*e*Pn	**Pn**	**21 17 57.5**	**-0.1**
PLOU				*e*Sn	**Sn**	**21 18 27.4**	**+0.1**
PMAFR	**Mafra**	**2.64**	**329**	*e*Pn	**Pn**	**21 17 58.9**	**-0.2**
PMAFR				*e*Sn	**Sn**	**21 18 29.4**	**-0.6**
PMAFR				A		21 18 31.2	
	11nm,0.1s						
PMAFR	**Mafra**	**2.64**	**329**	*e*Pn	**Pn**	**21 17 58.9**	**-0.2**
PMAFR				*e*Sn	**Sn**	**21 18 29.4**	**-0.6**
ELOJ	**Sierra Loja**	**2.74**	**80**	S	**Sn**	**21 18 32.1**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**2.74**	**71**	S	**Sn**	**21 18 32.3**	**-0.3**
	1.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.76**	**57**	P	**Pn**	**21 18 01.8**	**+1.0**
	0.9nm,0.1s,SNR=6.6						
EADA				S	**Sn**	**21 18 34.0**	**+0.9**
	1.1nm,0.1s,SNR=5.0						
EADA	**Adamuz**	**2.76**	**57**	Pn	**Pn**	**21 18 01.9**	**+1.0**
EADA				Sn	**Sn**	**21 18 34.0**	**+0.9**
PCBR	**Castelo Branco**	**3.13**	**1**	*e*Pn	**Pn**	**21 18 06.5**	**+0.7**
PCBR				*e*Sn	**Sn**	**21 18 43.1**	**+1.1**
EQUE	**Quentar**	**3.31**	**80**	P	**Pn**	**21 18 09.8**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**21 18 45.8**	**-0.7**
	0.2nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.31**	**63**	Pn	**Pn**	**21 18 08.7**	**+0.4**
EBAN				Sn	**Sn**	**21 18 46.3**	**-0.3**
EBAN	**Banos Encina**	**3.31**	**63**	⇑P	**Pn**	**21 18 08.8**	**+0.4**
	0.3nm,0.2s,SNR=18						
EBAN				S	**Sn**	**21 18 46.3**	**-0.3**
	1.9nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.31**	**63**	Pn	**Pn**	**21 18 08.7**	**+0.3**
EBAN				Sn	**Sn**	**21 18 46.3**	**-0.3**
MTE	**Manteigas**	**3.68**	**360**	*e*Sn	**Sn**	**21 18 56.7**	**+1.1**
EQES	**Quesada**	**3.72**	**72**	P	**Pn**	**21 18 14.6**	**+0.7**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**21 18 56.0**	**-0.5**
	0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.72**	**72**	Pn	**Pn**	**21 18 14.6**	**+0.7**
EQES				Sn	**Sn**	**21 18 56.0**	**-0.5**
PVIS	**Viseu**	**4.01**	**356**	*e*Sn	**Sn**	**21 19 03.9**	**+0.3**
ESDC	**Sonseca Array**	**4.08**	**42**	P	**Pn**	**21 18 20.0**	**+1.2**
	0.3nm,0.2s,baz=224,slow=14,SNR=12						
ESDC				S	**Sn**	**21 19 05.3**	**0.0**
	baz=223,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**4.08**	**42**	Pn	**Pn**	**21 18 20.0**	**+1.2**
ESDC				Sn	**Sn**	**21 19 05.3**	**0.0**
EHUE	**Huescar**	**4.09**	**73**	P	**Pn**	**21 18 18.9**	**-0.1**
	0.3nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**21 19 04.9**	**-0.6**
	0.2nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.43**	**63**	P	**Pn**	**21 18 23.6**	**0.0**
	0.6nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**21 19 13.5**	**-0.3**
	1.3nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.56**	**358**	*e*Sn	**Sn**	**21 19 16.9**	**-0.2**
PVRL				A		21 19 19.7	
	4.8nm,0.1s						
PVRL	**Vila Real**	**4.56**	**358**	*e*Sn	**Sn**	**21 19 16.9**	**-0.2**
	4.8nm,0.1s						
GUD	**Guadarrama**	**4.73**	**33**	S	**Sn**	**21 19 21.0**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.01**	**356**	*e*Sn	**Sn**	**21 19 27.1**	**-1.0**
ETOB	**Tobarra**	**5.12**	**66**	P	**Pn**	**21 18 33.1**	**0.0**
	1.8nm,0.8s,SNR=6.4						
ETOB				S	**Sn**	**21 19 30.1**	**-0.8**
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.12**	**66**	Pn	**Pn**	**21 18 33.1**	**0.0**
ETOB				Sn	**Sn**	**21 19 30.1**	**-0.8**
PBRG	**Braganca**	**5.12**	**7**	*e*Sn	**Sn**	**21 19 31.2**	**+0.3**
ELOB	**Lobios**	**5.17**	**356**	S	**Sn**	**21 19 29.9**	**-2.1**
	0.3nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.26**	**6**	S	**Sn**	**21 19 32.1**	**-2.1**
	0.3nm,0.3s,SNR=7.9						
ETOR	**Torete**	**5.93**	**45**	P	**Pn**	**21 18 45.7**	**+1.6**
	2.4nm,0.7s,SNR=6.0						
ETOR				S	**Sn**	**21 19 48.9**	**-1.6**
	SNR=7.9						

IDC 30 21:24:27.4±65.0, 1721S×17880E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/13, mbtmp4.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=1161.0km s-min=153.1km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**19.89**	**290**	LR	LR	21 35 24.8	
	comp=Z,62nm,21.4s,baz=1.3,slow=33						
STKA	**Stephens Creek**	**36.66**	**239**	P	P	21 31 36.3	+0.7
	2.0nm,0.8s,baz=76,slow=8.3,SNR=3.7						
WRA	**Warramunga Arr**	**42.14**	**259**	P	P	21 32 21.7	+0.3
	0.5nm,0.5s,baz=95,slow=7.7,SNR=27						
ASAR	**Alice Springs**	**42.42**	**254**	P	P	21 32 23.9	+0.1
	4.6nm,0.5s,baz=88,slow=8.1,SNR=96						

*NIED **30** 21:31:00, 3420N×13930E, h8km, Mw3.9 Best double couple: M0 7.53000×10^14 NP1:φs2.00000°, δ83.00000°, λ-12.00000°. NP2:φs93.00000°, δ78.00000°, λ-173.00000°.*

JMA 30 21:31:29.4, 3426N×13923E, h11km±1km, M3.3, 2C, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.11**	**227**	P	Pg	21 31 32.4	+0.2
NJJJ	**Nii jima 2**	**0.15**	**17**	⇑P	Pg	21 31 33.0	+0.2
NJJJ				*e*S	Sg	21 31 35.9	+0.7
JIM2	**Oshima 3**	**0.49**	**20**	P	Pg	21 31 38.8	-0.1
JIZS	**Izushimoda**	**0.54**	**328**	P	Pg	21 31 40.2	+0.2
JIZS				*e*S	Sg	21 31 48.2	+1.1
KTJJ	**Kamata 2**	**0.68**	**348**	⇑P	Pg	21 31 42.4	-0.1
KTJJ				*e*S	Sg	21 31 52.0	+0.6
OMA	**Omae zaki**	**0.90**	**292**	P	Pg	21 31 48.8	+2.0
JOD2	**Odawara 2**	**1.01**	**353**	P	Pg	21 31 47.7	-1.1
JOD2				*e*S	Sg	21 32 02.1	+0.2
TK03	**Tokai 3**	**1.05**	**265**	P	Pb	21 31 50.4	+0.8
MAT	**Matsushiro**	**2.43**	**340**	P	Pn

0.2nm,0.6s,mb2.5,baz=94,slow=12,SNR=3.2
WRA Warramunga Arr 47.10 188 P **P 21 56 02.2 -3.7**
1.6nm,0.3s,mb3.7,baz=5.2,slow=7.6,SNR=71
MKAR Makanchi Array 49.23 310 P **P 21 56 23.1 +1.0**
0.4nm,0.9s,mb2.6,baz=98,slow=5.0,SNR=3.2
ASAR Alice Springs 50.83 188 P **P 21 56 30.4 -3.6**
0.1nm,0.3s,mb2.5,baz=353,slow=6.2,SNR=7.3
BVAR Borovoye Array 56.95 317 P **P 21 57 18.4 +0.4**
0.6nm,0.5s,mb3.2,baz=91,slow=7.1,SNR=5.8
YKA Yellowknife Ar 72.93 28 P **P 21 58 59.5 -0.6**
0.3nm,0.5s,mb3.3,baz=300,slow=6.0,SNR=8.9
ARCES ARCESS Array B 73.02 341 P **P 21 59 01.2 +0.5**
5.0nm,1.1s,mb4.2,baz=46,slow=10,SNR=4.3
FINES FINESS Array B 77.24 333 P **P 21 59 24.2 -0.3**
0.9nm,0.5s,mb3.8,baz=80,slow=5.3,SNR=13
NVAR Mina Array Bea 81.81 51 P **P 21 59 49.5 +0.5**
0.3nm,0.5s,mb3.3,baz=284,slow=4.7,SNR=4.1
NOA NORSAR Array B 83.02 338 P **P 21 59 54.2 -1.0**
0.8nm,0.8s,mb3.6,baz=42,slow=4.7,SNR=2.8

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*ISCJB **30** 21:58:16.1±0.6, 38.11N±003×7546E±007, h128km±9km, mb3.5/9, Error ellipse: s-maj=8.8km s-min=5.0km az=149.8*
*IDC **30** 21:58:17.6±5.7, 3808N×7543E, h128km±50km, mb3.1/8, mb1 3.3/11, mb1mx3.1/24, mbtmp3.2/11, Error ellipse: s-maj=33.3km s-min=18.8km az=14.0*
*NEIC **30** 21:58:18.9±1.2, 3810N×7553E, h142km±12km, mb3.7/3, Error ellipse: s-maj=13.2km s-min=10.2km az=140.0*
*NNC **30** 21:58:22.9±5.2, 3850N×7507E, h139km±66km, mb2.2, mpv2.7, Error ellipse: s-maj=50.1km s-min=32.4km az=4.0*
ISC 30 21:58:17.2±0.5, 3812N±003×7550E±007, h125km±8km, n31, σ1°02/37, mb3.6/9, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.80**	**1**	⇑P	**Pn**	**21 59 28.2**	**+0.7**
	0.2nm,0.5s						
TKM2				⇑S	**Sn**	**22 00 20.8**	**-1.3**
	2.2nm,0.6s						
DLH	**Dalhousie**	**5.58**	**176**	*e*S	**Sn**	**22 00 42.0**	**+1.1**
THN	**Thein Dam**	**5.68**	**178**	*e*P	**Pn**	**21 59 42.5**	**+3.2**
THN				*e*S	**Sn**	**22 00 41.8**	**-1.5**
KK31	**Karatay Array**	**6.26**	**324**	⇑P	**Pn**	**21 59 46.5**	**-0.6**
	0.7nm,0.3s,baz=139,slow=12						
KK31				⇓S	**Sn**	**22 00 51.9**	**-5.4**
	8.2nm,0.5s,baz=133,slow=23						
KBL	**Kabul**	**6.31**	**238**	*e*Pn	**Pn**	**21 59 50.3**	**+2.4**
KBL				*e*Sn	**Sn**	**22 00 58.3**	**-0.4**
KLP	**Kalpa**	**6.95**	**160**	*ex*	**Sn**	**22 01 13.9**	**-0.1**
JOSI	**Joshimath**	**8.26**	**155**	*ex*	**Sn**	**22 01 43.4**	**-2.3**
MKAR	**Makanchi Array**	**10.01**	**28**	P	**Pn**	**22 00 37.3**	**-0.5**
	0.1nm,0.3s,baz=208,slow=15,SNR=4.4						
KOLN	**Koldanda**	**12.36**	**144**	*e*P	**Pn**	**22 01 09.3**	**+0.5**
	3.7nm,0.3s						
KOLN				*e*S	**Sn**	**22 03 19.1**	**-5.8**
GKN	**Gorkha**	**12.66**	**140**	*e*P	**Pn**	**22 01 12.8**	**0.0**
	6.2nm,0.3s						
KURK	**Kurchatov**	**12.79**	**9**	*e*P	**Pn**	**22 01 19.8**	**+5.4**
	1.0nm,0.4s						
KKN	**Kakani**	**13.17**	**139**	*e*P	**Pn**	**22 01 19.9**	**+0.6**
	3.9nm,0.4s						
GUN	**Gumba**	**13.39**	**136**	*e*P	**Pn**	**22 01 22.1**	**-0.1**
	4.5nm,0.3s						
JIRN	**Jiri**	**13.76**	**136**	*e*P	**Pn**	**22 01 27.0**	**+0.1**
	7.3nm,0.4s						
BVAR	**Borovoye Array**	**15.32**	**348**	P	**Pn**	**22 01 49.1**	**+2.4**
	0.4nm,0.3s,baz=153,slow=10,SNR=8.5						
BRVK	**Borovoye**	**15.37**	**348**	P	**Pn**	**22 01 49.4**	**+2.0**
	1.1nm,0.5s						
AB31	**Akbulak array**	**15.79**	**320**	⇑P	**Pn**	**22 01 51.5**	**-1.1**
	1.0nm,0.8s,baz=132,slow=14,SNR=7.3						
AB31				⇑S	**S**	**22 04 37.9**	**-15**
	0.7nm,0.6s,baz=135,slow=24,SNR=2.7						
ZAL	**Zalesovo**	**17.06**	**19**	P	**Pn**	**22 02 08.0**	**-0.2**
	0.5nm,0.3s,baz=277,slow=7.9,SNR=4.6						
AKTK	**Aktyubinsk**	**17.50**	**320**	P	**Pn**	**22 02 13.1**	**-0.3**
AKTO	**Aktyubinsk**	**17.50**	**320**	⇑P	**Pn**	**22 02 12.5**	**-0.9**
AKTO	**Aktyubinsk**	**17.50**	**320**	P	**Pn**	**22 02 13.1**	**-0.3**
	0.4nm,0.3s,baz=117,slow=10.0,SNR=7.9						
SONM	**Songino Array**	**24.46**	**57**	P	**P**	**22 03 25.9**	**+1.5**
	0.2nm,0.6s,mb2.6,baz=254,slow=10,SNR=2.4						
BJT	**Baijiatuau**	**31.45**	**74**	*e*P	**P**	**22 04 26.3**	**-0.3**
	9.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**38.22**	**324**	P	**P**	**22 05 24.5**	**-0.4**
	2.4nm,1.0s,mb4.0,baz=120,slow=11,SNR=7.2						
ARCES	**ARCESS Array B**	**41.08**	**336**	P	**P**	**22 05 48.1**	**-0.4**
	3.5nm,1.0s,mb4.2,baz=98,slow=8.8,SNR=7.0						
NOA	**NORSAR Array B**	**45.28**	**322**	P	**P**	**22 06 22.0**	**-0.3**
	1.5nm,1.1s,mb3.6,baz=112,slow=7.1,SNR=3.3						
ESDC	**Sonseca Array**	**59.85**	**299**	P	**P**	**22 08 09.0**	**-0.6**
	0.1nm,0.4s,mb3.2,baz=45,slow=6.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**69.31**	**271**	P	**P**	**22 09 11.2**	**+0.2**
	0.3nm,0.5s,mb3.4,baz=49,slow=5.4,SNR=16						
YKA	**Yellowknife Ar**	**79.40**	**5**	P	**P**	**22 10 08.7**	**-0.7**
	0.3nm,0.5s,mb3.3,baz=346,slow=5.5,SNR=7.5						
YKA	**Yellowknife Ar**	**79.40**	**5**	P	**P**	**22 10 08.7**	**-0.7**
ASAR	**Alice Springs**	**82.33**	**128**	P	**P**	**22 10 25.1**	**+0.1**
	0.3nm,0.8s,mb3.1,baz=327,slow=6.6,SNR=3.7						

WEL 30 22:09:11.1±0.4, 4460S×16814E, h81km±3km, ML3.6/15, 1C-2D, Error ellipse: s-maj=2.2km s-min=2.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.17**	**244**	⇑PN	Pn	22 09 22.9	-0.1
MSZ				SN	Sn	22 09 30.8	-0.8
WKZ	**Wanaka**	**0.67**	**110**	⇓PN	Pn	22 09 26.8	+0.3
JCZ	**Jackson Bay**	**0.69**	**40**	PN	Pn	22 09 27.0	+0.2
JCZ				SN	Sn	22 09 38.3	-0.1
MLZ	**Mavora Lakes**	**0.75**	**178**	PN	Pn	22 09 27.5	+0.2
EAZ	**Earnscleugh**	**1.04**	**128**	PN	Pn	22 09 30.6	-0.1
EAZ				SN	Sn	22 09 44.0	-1.4
DCZ	**Deep Cove**	**1.12**	**218**	PN	Pn	22 09 31.0	-0.7
WHZ	**Wether Hill Ro**	**1.30**	**186**	PN	Pn	22 09 34.0	+0.1
LBZ	**Lake Benmore**	**1.48**	**82**	PN	Pn	22 09 35.6	-0.6
FOZ	**Fox Glacier**	**1.52**	**48**	PN	Pn	22 09 37.2	+0.4
TUZ	**Tuapeka**	**1.72**	**143**	PN	Pn	22 09 39.1	-0.2
ODZ	**Otahua Downs**	**1.84**	**105**	⇓PN	Pn	22 09 40.4	-0.5
SYZ	**Scrubby Hill**	**2.06**	**160**	PN	Pn	22 09 43.8	-0.1
HHSZ	**Highcliff Hill**	**2.16**	**127**	PN	Pn	22 09 45.4	+0.2
APZ	**The Paps**	**2.23**	**183**	PN	Pn	22 09 46.0	-0.2
RPZ	**Rata Peaks**	**2.28**	**68**	PN	Pn	22 09 45.4	-1.3
LTZ	**Lake Taylor**	**3.50**	**60**	PN	Pn	22 10 01.0	-2.3
DSZ	**Denniston Nort**	**3.92**	**44**	PN	Pn	22 10 07.5	-1.4
THZ	**Tophouse**	**4.49**	**53**	*e*PN	Pn	22 10 14.5	-2.3
QRZ	**Quartz Range**	**4.97**	**42**	*e*PN	Pn	22 10 22.1	-1.2
NNZ	**Nelson**	**5.12**	**51**	*e*PN	Pn	22 10 24.4	-0.9
TCW	**Tory Channel**	**5.64**	**55**	SN	Sn	22 11 29.7	-6.0

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*NIED **30** 22:10:00, 4660N×15280E, h44km, Mw4.6 Best double couple: M0=1.02000×10^16 NP1:φ=128.00000°, δ=83.00000°, λ=-31.00000°. NP2:φ=222.00000°, δ=59.00000°, λ=-172.00000°.*
*SZGRF **30** 22:10:41.8, 4575N×15334E, h33km, mb4.8, East of Kuril Islands, Russia*
*NEIC **30** 22:10:43.4±0.3, 4676N×15244E, h10km, mb4.6/24, Error ellipse: s-maj=8.4km s-min=5.0km az=145.0*
*JMA **30** 22:10:46.8±0.7, 4660N×15280E, h30km, M5.2*
*ISCJB **30** 22:10:47.6±0.6, 4666N±005×15245E±006, h58km±5km, mb4.5/64, MS3.9/13, Error ellipse: s-maj=9.1km s-min=4.4km az=101.8*
*SKHL **30** 22:10:47.2±1.9, 4650N×15280E, h64km±15km, mb5.2/4, ms4.2/3, msh5.7/1*
*MOS **30** 22:10:47.2±1.2, 4675N×15233E, h49km, mb4.8/22, Error ellipse: s-maj=9.3km s-min=5.9km az=97.2*
*BJI **30** 22:10:48.6, 4676N×15252E, h68km, mB4.8, mb4.4, Ms4.1, Msz3.9*
*IDC **30** 22:10:53.0±3.2, 4678N×15236E, h88km±29km, mb3.9/24, mb1 4.1/25, mb1mx4.0/27, mbtmp4.0/25, MS3.8/12, Ms1 3.9/12, ms1mx3.6/30, Error ellipse: s-maj=15.5km s-min=12.8km az=120.0*
ISC 30 22:10:49.6±0.5, 4674N±004×15240E±006, h59km±4km, h78km±3km: pP-P, n194, σ1°24/209, mb4.5/64, MS3.9/13, 19C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.50**	**246**	⇓*i*PN	**Pn**	**22 11 50.2**	**+8.6**
KUR				pmax	pmax		
	comp=N,380nm,0.4s						
KUR				pmax	pmax		
	comp=E,140nm,0.4s						
KUR				pmax	pmax		
	comp=Z,480nm,0.4s						
KUR				MLR	MLR		
	comp=N,4μm,14.0s						
KUR				MLR	MLR		
	comp=E,4μm,14.0s						
KUR				MLR	MLR		
	comp=Z,3μm,14.0s						
SKR	**Severo-Kuril's**	**4.65**	**31**	*e*PN	**Pn**	**22 11 56.5**	**-0.8**
SKR				*e*S	**Sn**	**22 12 47.5**	**-2.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,660nm,0.9s						
SKR				smax			
	comp=Z,300nm,0.9s						
SKR				smax			
	comp=N,170nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.34**	**242**	⇑*i*PN	**Pn**	**22 12 08.4**	**+1.6**
YUK				*i* S	**Sn**	**22 13 11.0**	**+4.0**
YUK				pmax	pmax		
	comp=Z,570nm,0.3s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,950nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.34**	**242**	*i* P	**Pn**	**22 12 08.4**	**+1.6**
YUK				AMB	AMB	22 12 09.2	
	comp=E,570nm,0.3s						
YUK				*e*S	**Sn**	**22 13 11.0**	**+4.0**
YUK				A		22 13 26.7	
	comp=E,570nm,0.5s						
YUK				A		22 13 26.7	
	comp=E,950nm,0.5s						
YUK				A		22 13 31.0	
	comp=E,2μm,1.0s						
YUK				A		22 13 31.0	
	comp=E,3μm,1.0s						
NEM2	**Nemuro 2**	**5.80**	**237**	P	**Pn**	**22 12 12.2**	**-0.9**
NEM2				*e*S	**Sn**	**22 13 15.0**	**-3.2**
JRA	**Rausu**	**5.85**	**244**	P	**Pn**	**22 12 16.0**	**+2.3**
JNK	**Nakash**	**6.28**	**243**	P	**Pn**	**22 12 21.0**	**+1.4**
JNK				*e*S	**Sn**	**22 13 30.5**	**+0.5**
JTKR	**Abashiri--Toko**	**6.59**	**248**	P	**Pn**	**22 12 26.4**	**+2.5**
YSS	**Yuzh-Sakhalins**	**6.62**	**275**	⇓*e*PN	**Pn**	**22 12 27.8**	**+3.5**
YSS				*e*S	**Sn**	**22 13 43.8**	**+5.5**
YSS				pmax	pmax		
	comp=E,100nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax			
	comp=N,70nm,0.6s						
YSS				smax			
	comp=E,50nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
YSS				MLR	MLR		
	comp=E,1μm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.62**	**275**	⇓*e*Pn	**Pn**	**22 12 27.9**	**+3.7**
YSS	**Yuzh-Sakhalins**	**6.62**	**275**	*e*P	**Pn**	**22 12 27.8**	**+3.5**
YSS				AMB	AMB	22 12 30.1	
	comp=E,100nm,1.0s						
YSS				AMB	AMB	22 12 30.1	
	comp=E,90nm,1.0s						
YSS				*e*S	**Sn**	**22 13 43.8**	**+5.5**
YSS				A		22 13 45.9	
	comp=E,70nm,0.7s						
YSS				A		22 13 45.9	
	comp=E,50nm,0.7s						
YSS				AMS	AMS	22 14 47.0	
	comp=E,1μm,17.0s						
JAK	**Akkeshi**	**6.63**	**238**	P	**Pn**	**22 12 23.5**	**-1.0**
JAK				*e*S	**Sn**	**22 13 35.2**	**-3.4**
JMP	**Maruseppu**	**6.93**	**250**	P	**Pn**	**22 12 31.8**	**+3.3**
JAR	**Ashorobuto**	**7.02**	**244**	P	**Pn**	**22 12 30.9**	**+1.1**
JAR				*e*S	**Sn**	**22 13 49.7**	**+1.6**
JOB	**Onbets**	**7.20**	**241**	P	**Pn**	**22 12 32.4**	**+0.2**
JOB				*e*S	**Sn**	**22 13 50.8**	**-1.7**
UGL	**Uglegorsk**	**7.33**	**292**	PN	**Pn**	**22 12 34.0**	**0.0**
UGL				pmax	pmax		
	comp=Z,60nm,0.8s						
UGL				MLR	MLR		
	comp=Z,1μm,18.0s						
UGL				MLR	MLR		
	comp=N,1μm,15.0s						
UGL				MLR	MLR		
	comp=E,1μm,17.0s						
UGL	**Uglegorsk**	**7.33**	**292**	*e*P	**Pn**	**22 12 34.0**	**0.0**
UGL				AMB	AMB	22 12 39.5	
	comp=E,60nm,0.8s						
UGL				AMS	AMS	22 15 24.0	
	comp=E,1μm,18.0s						
UGL				AMS	AMS	22 15 24.0	
	comp=E,1μm,18.0s						
ASAJ	**Asahikawa**	**7.38**	**253**	P	**Pn**	**22 12 38.5**	**+3.8**
	comp=E,6.1nm,0.3s,baz=93,slow=12,SNR=47						
ASAJ				LR	LR	22 15 20.2	
	comp=E,669nm,20.7s,baz=68,slow=36						
ASAJ	**Asahikawa**	**7.38**	**253**	P	**Pn**	**22 12 38.4**	**+3.7**
JKK2	**Kamakawa 2**	**7.39**	**251**	P	**Pn**	**22 12 37.7**	**+2.9**
JWK2	**Keihoku**	**7.45**	**263**	P	**Pn**	**22 12 41.3**	**+5.7**
PET	**Petropavlovsk**	**7.47**	**30**	⇓*e*PN	**Pn**	**22 12 38.7**	**+2.8**
JCH	**Churui**	**7.65**	**241**	P	**Pn**	**22 12 38.4**	**0.0**
JCH				*e*S	**Sn**	**22 14 00.0**	**-3.6**
JFR	**Furan**	**7.82**	**246**	P	**Pn**	**22 12 42.6**	**+1.9**
JAB	**Ashibetsu**	**7.89**	**249**	P	**Pn**	**22 12 45.0**	**+3.3**
ERM	**Erimo**	**8.13**	**238**	⇓*e*PN	**Pn**	**22 12 45.7**	**+0.7**
ERM	**Erimo**	**8.13**	**238**	*e*Pn	**Pn**	**22 12 45.6**	**+0.6**
	comp=E,99nm,0.5s						
ERM				*e*Sn	**Sn**	**22 14 16.5**	**+1.0**
JEM	**Erimo**	**8.13**	**238**	P	**Pn**	**22 12 45.2**	**+0.2**
JBT2	**Biratori 2**	**8.17**	**245**	P	**Pn**	**22 12 45.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**8.21**	**241**	P	**Pn**	**22 12 45.1**	**-1.0**
JNBK				*e*S	**Sn**	**22 14 14.1**	**-3.3**
JEW	**Eniwo**	**8.71**	**247**	P	**Pn**	**22 12 55.1**	**+2.2**
OKH	**Okha**	**9.13**	**322**	*e*PN	**Pn**	**22 12 57.1**	**-1.5**
JNB	**Noboribetsu**	**9.16**	**246**	P	**Pn**	**22 12 59.1**	**0.0**
JNB				*e*S	**Sn**	**22 14 39.2**	**-1.4**
JKB	**Kayabe**	**9.48**	**243**	P	**Pn**	**23 12 02.7**	**-0.7**
JKB				*e*S	**Sn**	**22 14 42.4**	**-6.1**
JYM2	**Yakumo 2**	**9.77**	**246**	P	**Pn**	**23 13 06.9**	**-0.4**
JSR	**Shiriuchi**	**10.06**	**243**	P	**Pn**	**22 13 10.2**	**-1.2**
JTM	**Tenmabayashi**	**10.13**	**238**	P	**Pn**	**22 13 09.7**	**-2.5**
JTM				*e*S	**Sn**	**22 14 55.5**	**-8.8**
JANG	**Nango**	**10.14**	**235**	P	**Pn**	**22 13 08.9**	**-3.6**
JANG				*e*S	**Sn**	**22 14 54.6**	**-10**
JTH	**Tanohata**	**10.25**	**232**	P	**Pn**	**22 13 10.0**	**-3.9**
JTH				*e*S	**Sn**	**22 14 56.4**	**-11**
JOSM	**Okushiri--Mats**	**10.35**	**248**	P	**Pn**	**22 13 15.1**	**-0.2**
OFUJ	**Ofunato**	**10.97**	**230**	P	**Pn**	**22 13 19.7**	**-4.1**
JRG	**Rokugo**	**11.30**	**234**	P	**Pn**	**22 13 25.5**	**-2.8**
JRG				*e*S	**Sn**	**22 15 25.7**	**-7.4**
JIO	**Ouri**	**11.61**	**228**	P	**Pn**	**22 13 28.3**	**-4.2**
JIO				*e*S	**Sn**	**22 15 28.9**	**-12**
MA2	**Magadan**	**12.89**	**356**	*d*iPN	**Pn**	**22 13 51.6**	**+1.6**
MA2				pmax	pmax		
	comp=Z,29nm,0.8s						
MA2	**Magadan**	**12.89**	**356**	⇓*e*Pn	**Pn**	**22 13 51.8**	**+1.8**
MAJO	**Matsushiro**	**14.69**	**231**	*e*P	**Pn**	**22 14 11.8**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**14.69**	**231**	*e*Pn	**Pn**	**22 14 11.8**	**-2.2**
	comp=Z,15nm,0.6s						
MAT	**Matsushiro**	**14.69**	**231**	P	**Pn**	**22 14 11.7**	**-2.3**
MAT				*e*S	**Sn**	**22 17 02.2**	**+6.7**
MJAR	**Matsushiro Arr**	**14.69**	**231**	P	**Pn**	**22 14 11.3**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=27,slow=15,SNR=9.8						
MJAR				LR	LR	22 20 06.4	
	comp=Z,191nm,19.2s,baz=30,slow=38						
MDJ	**Mudanjiang**	**16.07**	**271**	P	**Pn**	**22 14 32.8**	**+1.0**
MDJ				AP	pP	22 14 48.5	+1.7
MDJ				XP	sP	22 14 57.5	+3.3
MDJ				S	**S**	**22 17 30.0**	**-10**
MDJ				PCP	PcP	22 19 22.3	-2.6
MDJ				SCS	ScS	22 26 29.5	-3.6
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,98nm,5.3s						
MDJ				LR	LR		
	comp=N,201nm,11.5s						
MDJ				LR	LR		
	comp=E,235nm,15.5s						
MDJ				LR	LR		
	comp=Z,323nm,18.9s						
MDJ	**Mudanjiang**	**16.07**	**271**	*e*Pn	**Pn**	**22 14 29.9**	**-2.0**
	comp=Z,18nm,1.1s						
SEY	**Seymchan**	**16.23**	**360**	⇑*e*P	**Pn**	**22 14 35.1**	**+1.4**
JHJ	**Hachijo jima 2**	**16.67**	**220**	LR	LR	22 19 46.3	
	comp=Z,182nm,20.5s,baz=153,slow=32						
CN2	**Changchun**	**19.16**	**271**	*e*P	**Pn**	**22 15 08.0**	**-1.6**
CN2				*e*AP	pP	22 15 22.3	+1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,400nm,14.0s						
CN2				LR	LR		
	comp=E,400nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
YAK	**Yakutsk**	**20.07**	**328**	*d iP*	**P**	**22 15 19.8**	**+1.7**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s						
YAK	**Yakutsk**	**20.07**	**328**	*e*P	**P**	**22 15 20.3**	**+2.3**
KSRS	**Korea Array**	**20.33**	**252**	P	**P**	**22 15 22.4**	**+1.4**
	comp=Z,4.3nm,0.7s,baz=66,slow=9.6,SNR=11						
KSRS				LR	LR	22 22 28.6	
	comp=Z,150nm,18.4s,MS3.4,baz=10,slow=34						
KS15	**Wonju Array Si**	**20.36**	**252**	*e*Pn	**P**	**22 15 23.0**	**+1.8**
CBIJ	**Chichi jima**	**21.21**	**206**	P	**P**	**22 15 32.4**	**+2.0**
	comp=Z,56nm,0.6s,mb5.0,baz=278,slow=19,SNR=2.7						
JNU	**Nakatsue**	**21.30**	**238**	P	**P**	**22 15 32.9**	**+1.5**
	comp=Z,50nm,1.1s,mb4.8,baz=223,slow=19,SNR=8.8						
JNU				LR	LR	22 22 32.3	
	comp=Z,363nm,22.0s,MS3.7,baz=81,slow=33						
HIA	**Hailar**	**21.91**	**289**	⇑*e*P	**P**	**22 15 37.2**	**-0.6**
HIA	**Hailar**	**21.91**	**289**	*e*P	**P**	**22 15 36.1**	**-1.7**
	comp=Z,4.8nm,0.7s,mb4.0						
BILL	**Bilibino**	**22.51**	**14**	⇑*e*P	**P**	**22 15 44.7**	**+0.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
BILL	**Bilibino**	**22.51**	**14**	*e*P	**P**	**22 15 44.3**	**0.0**
	comp=Z,13nm,1.1s,mb4.3						
BOD	**Bodaibo**	**25.62**	**310**	*e*P	**P**	**22 16 10.4**	**-3.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.8						
TIXI	**Tiksi**	**27.34**	**344**	⇑*e*P	**P**	**22 16 27.3**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
TNA	**Tin City**	**28.31**	**34**	*e*P	**P**	**22 16 38.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**29.81**	**274**	*e*P	**P**	**22 16 53.0**	**+2.1**
HHC				AP	pP	22 17 10.8	+5.3
HHC				XP	sP	22 17 19.8	+7.4
HHC				PP	PP	22 17 52.5	-6.5
HHC				PCP	PcP	22 19 54.8	+1.7
HHC				S	**S**	**22 21 42.5**	**-0.9**
HHC				XS	sS	22 22 13.5	+5.4
HHC				SS	SS	22 23 23.5	-28
HHC				SCP	ScP	22 23 29.3	-0.8
HHC				PCS	PcS	22 23 37.5	+1.1
HHC				SCS	ScS	22 27 22.8	-2.5
HHC				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
HHC				AMB	AMB		
	comp=Z,77nm,3.7s						
HHC				LR	LR		
	comp=N,316nm,19.0s,MS4.1						
HHC				LR	LR		
	comp=E,287nm,21.4s,MS4.1						
HHC				LR	LR		
	comp=Z,296nm,21.2s,MS3.9						
ULN	**Ulaanbaatar**	**30.44**	**289**	*e*P	**P**	**22 16 57.0**	**+0.5**
SONM	**Songino Array**	**30.88**	**289**	P	**P**	**22 17 00.6**	**+0.3**
	comp=Z,0.8nm,0.4s,mb3.9,baz=78,slow=8.3,SNR=12						
SONM				LR	LR	22 30 31.4	
	comp=Z,304nm,18.4s,MS4.0,baz=85,slow=38						
SONM	**Songino Array**	**30.88**	**289**	P	**P**	**22 17 00.6**	**+0.3**
SONM				LR	LR	22 30 31.4	
TLY	**Talaya**	**31.75**	**297**	⇑*e*P	**P**	**22 17 08.4**	**+0.4**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
ZAK	**Zakamensk**	**32.24**	**295**	*e*P	**P**	**22 17 07.0**	**-5.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
GUMO	**Guam**	**33.65**	**193**	LR	LR	22 30 06.8	
	comp=Z,113nm,18.5s,MS3.6,baz=81,slow=34						
IMA2	**Indian Mountai**	**34.10**	**36**	⇓*e*P	**P**	**22 17 28.8**	**+0.2**
XAN	**Xi'an**	**35.03**	**265**	P	**P**	**22 17 37.0**	**+0.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
COLA	**College**	**36.45**	**38**	⇑*e*P	**P**	**22 17 48.3**	**-0.4**
LZH	**Lanzhou**	**37.40**	**271**	*e*P	**P**	**22 17 59.0**	**+2.2**
LZH				AP	pP	22 18 17.5	+5.9
LZH				XP	sP	22 18 25.0	+6.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,4.5s						
LZH	**Lanzhou**	**37.40**	**271**	*e*P	**P**	**22 17 59.0**	**+2.2**
	comp=Z,20nm,1.0s,mb4.9						
LZH				pP	pP	22 18 17.5	+5.9
LZH				sP	sP	22 18 25.1	+6.6
GTA	**Gaotai**	**38.49**	**279**	*e*P	**P**	**22 18 06.8**	**+0.8**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
CD2	**Chengdu**	**40.39**	**265**	P	**P**	**22 18 22.8**	**+1.0**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
GYA	**Guiyang**	**41.24**	**257**	*e*P	**P**	**22 18 29.3**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
INK	**Inuvik**	**41.92**	**32**	P	**P**	**22 18 34.7**	**+0.3**
	comp=Z,2.8nm,0.5s,mb4.2,baz=281,

comp=Z,7.0nm,0.6s,mb4.9
LSA Lhasa 49.79 273 *e*P **P 22 19 38.5 +2.1**
comp=Z,7.2nm,0.6s,mb4.9
BVAR Borovoye Array 50.49 309 P **P 22 19 41.0 -0.6**
comp=Z,1.8nm,0.4s,mb4.4,baz=44,slow=7.2,SNR=5.6
BVAR PcP PcP 22 20 58.8 -0.2
comp=Z,2.2nm,0.3s,baz=81,slow=4.3,SNR=11
BRVK Borovoye 50.53 309 *e*P **P 22 19 41.4 -0.5**
BRVK *e* 22 20 58.8
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BRVK Borovoye 50.53 309 *e*P **P 22 19 41.4 -0.6**
comp=Z,2.5nm,0.5s,mb4.4
BRVK *e*PcP PcP 22 20 58.8 -0.3
YKA Yellowknife Ar 51.22 36 P **P 22 19 46.8 -0.3**
comp=Z,0.5nm,0.4s,mb3.8,baz=300,slow=7.1,SNR=12
YKA PcP PcP 22 21 01.1 -0.6
comp=Z,0.5nm,0.4s,baz=304,slow=3.7,SNR=8.8
YKA Yellowknife Ar 51.22 36 P **P 22 19 46.9 -0.3**
YKA PcP PcP 22 21 01.1 -0.6
CHTO Chiang Mai 51.64 256 *e*P **P 22 19 50.5 +0.2**
CHTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CHTO Chiang Mai 51.64 256 *e*P **P 22 19 50.5 +0.2**
comp=Z,3.3nm,0.6s,mb4.4
CM31 Chiang Mai Arr 51.89 256 *e*P **P 22 19 53.4 +1.2**
comp=Z,1.7nm,0.5s,mb4.2
JIRN Jiri 54.46 274 *e*P **P 22 20 12.6 +1.6**
comp=Z,27nm,0.6s,mb5.4
GUN Gumba 54.52 275 *e*P **P 22 20 12.5 +1.1**
comp=Z,11nm,0.4s,mb5.3
ARU Arti 54.69 317⇑*i*P **P 22 20 11.4 -1.3**
ARU *e* pP 22 20 30.9 +2.7
ARU *e* 22 21 13.1
ARU *e* 22 22 12.9
ARU *e*S **S 22 27 45.9 -2.6**
ARU *e*SS SS 22 31 32.2 +0.2
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ARU Arti 54.69 317 *e*P **P 22 20 11.5 -1.2**
comp=Z,4.1nm,0.4s,mb4.8
KKN Kakani 55.00 275 *e*P **P 22 20 16.7 +1.7**
comp=Z,31nm,0.6s,mb5.5
PKI Pulchoki 55.05 275 *e*P **P 22 20 16.4 +1.1**
comp=Z,13nm,0.5s,mb5.2
DMN Daman 55.23 275 *e*P **P 22 20 18.0 +1.4**
comp=Z,26nm,0.6s,mb5.4
GKN Gorkha 55.31 275 *e*P **P 22 20 18.1 +0.9**
comp=Z,35nm,0.7s,mb5.5
KOLN Koldanda 56.16 276 *e*P **P 22 20 24.4 +1.1**
comp=Z,25nm,0.8s,mb5.3
EDM Edmonton 56.67 46 *e*P **P 22 20 27.1 +0.2**
KEV Kevo 57.19 340 *e*p **P 22 20 28.9 -1.6**
ARCES ARCESS Array B 57.70 341 P **P 22 20 33.5 -0.7**
comp=Z,1.1nm,0.5s,mb4.1,baz=25,slow=6.5,SNR=12
ARCES LR LR 22 48 26.2
comp=Z,132nm,18.6s,MS4.1,baz=293,slow=39
MSO Missoula 60.15 52 *e*P **P 22 20 51.9 +0.7**
comp=Z,7.1nm,1.3s,mb4.5
JOF Joensuu 61.12 333 *e*p **P 22 20 56.1 -1.7**
FCC Fort Churchill 61.54 33 *e*P **P 22 20 59.8 -0.7**
KBL Kabul 61.62 291 *e*P **P 22 21 00.5 -0.6**
MCMT McKenzie Canyo 62.00 53 *e*P **P 22 21 03.3 -0.3**
KAF Kangasniemi 63.24 335 *e*p **P 22 21 10.3 -1.6**
comp=Z,3.2nm,0.3s,mb4.9,baz=37,slow=6.1
KAF Kangasniemi 63.24 335 *e*P **P 22 21 10.3 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb4.9
FINES FINESS Array B 63.84 334 P **P 22 21 14.9 -0.9**
comp=Z,6.4nm,0.4s,mb5.0,baz=36,slow=7.2,SNR=125
FINES FINESS Array B 63.84 334 *i* P **P 22 21 14.8 -1.1**
FINES pmax pmax
comp=Z,6.0nm,0.4s
OBN Obninsk 65.04 325⇑*i*P **P 22 21 22.9 -0.8**
OBN pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.0
PDAR Pinedale Array 65.14 53 P **P 22 21 24.2 -0.2**
comp=Z,3.9nm,1.0s,mb4.4,baz=298,slow=3.2,SNR=6.0
ULM Lac du Bonnet 66.85 40 P **P 22 21 34.5 -0.9**
comp=Z,1.6nm,0.9s,mb4.1,baz=88,slow=1.0,SNR=3.4
NB2 NORSAR Subarra 68.08 341 P **P 22 21 42.2 -0.9**
comp=Z,4.2nm,0.5s,mb4.7,baz=27,slow=6.5
NOA NORSAR Array B 68.08 341 P **P 22 21 42.6 -0.4**
comp=Z,5.6nm,0.4s,mb4.9,baz=28,slow=6.4,SNR=20
NOA LR LR 22 54 31.0
comp=Z,69nm,18.9s,MS3.9,baz=180,slow=38
WB2 Warramunga Arr 68.35 198 *e*P **P 22 21 43.6 -1.2**
WRA Warramunga Arr 68.35 198 P **P 22 21 44.0 -0.8**
comp=Z,0.8nm,0.4s,mb4.1,baz=11,slow=6.5,SNR=22
PHWY Pilot Hill 68.39 52 *e*P **P 22 21 36.5 -8.6**
FITZ Fitzroy Crossi 68.91 207 *e*P **P 22 21 48.1 -0.2**
comp=Z,7.2nm,0.9s,mb4.6
KIV Kislovodsk 70.45 314⇓*e*P **P 22 21 57.0 -0.8**
KIV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.2
AKASG Malin Array Be 71.28 326 P **P 22 22 02.1 -0.7**
comp=Z,6.0nm,0.3s,mb5.0,baz=35,slow=6.3,SNR=30
AKASG LR LR 22 55 04.0
comp=Z,108nm,18.6s,MS4.1,baz=10.0,slow=37
AKASG Malin Array Be 71.28 326 P **P 22 22 02.1 -0.7**
AKASG LR LR 22 55 04.0
KIEV Kiev 71.29 326 *e*P **P 22 22 01.9 -1.0**
KIEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KIEV Kiev 71.29 326 *e*P **P 22 22 01.9 -1.0**
comp=Z,4.1nm,0.4s,mb4.7
ASAR Alice Springs 72.05 198 P **P 22 22 07.7 +0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=13,slow=6.7,SNR=25
ANMO Albuquerque 72.25 58 P **P 22 22 09.3 +0.7**
comp=Z,0.4nm,0.5s,mb3.6,baz=267,slow=8.3,SNR=4.0
SCHQ Schefferville 73.50 22 P **P 22 22 15.3 -0.7**
comp=Z,1.0nm,0.4s,mb4.1,baz=33,slow=18,SNR=6.3
KSU1 Kansas State U 74.67 49 *e*P **P 22 22 23.1 +0.3**
comp=Z,5.4nm,0.3s,mb5.0
STHS Stebnicka Huta 75.28 329 *e*P **P 22 22 26.7 +0.4**
STHS pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
STHS Stebnicka Huta 75.28 329 *e*P **P 22 22 26.7 +0.4**
comp=Z,3.8nm,0.6s,mb4.5
KOLS Kolonicke sedl 75.32 329 *e*P **P 22 22 26.6 0.0**
BURAR Bucovina Array 75.33 326⇓*i*P **P 22 22 26.4 -0.2**
OKC Ostrava-Krasne 75.97 331 *e*P **P 22 22 30.3 0.0**
UPC Upice 76.07 333 *e*P **P 22 22 31.0 +0.1**
DPC Dobruska-Polom 76.11 333 *e*P **P 22 22 31.3 +0.2**
MORC Moravsky Berou 76.22 332⇓*i*P **P 22 22 32.0 +0.3**
CLL Collm 76.27 335 *e*P **P 22 22 25.0 -7.0**
CLL *i* 22 22 31.1
CLL Collm 76.27 335 *i* P **P 22 22 31.1 -0.9**
KECS Kecovo 76.33 329 *e*P **P 22 22 31.8 -0.6**
KECS pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
KECS Kecovo 76.33 329 *e*P **P 22 22 31.8 -0.6**
comp=Z,2.1nm,1.1s,mb4.0
PVCC Panska Ves 76.50 334 *e*P **P 22 22 34.5 +1.2**
MLR Muntele Rosu 76.79 324⇑*i*P **P 22 22 35.5 +0.6**
VYHS Vyhne 76.89 330 *e*P **P 22 22 35.4 -0.1**
VRAC Vranov 76.93 332⇑*i*P **P 22 22 36.1 +0.4**
PRU Pruhonice 76.98 334 *e*P **P 22 22 36.0 0.0**
VOIR 77.19 325⇓*i*P **P 22 22 37.8 +0.6**
TREC Trest 77.30 333 *e*P **P 22 22 37.7 -0.1**
KHC Kasperske Hory 78.03 334 *e*P **P 22 22 41.9 0.0**
KHC *e*pP pP 22 22 46.5 -12
BRTR Keskin Array B 78.06 316 P **P 22 22 42.6 +0.6**
comp=Z,1.4nm,0.6s,mb4.1,baz=95,slow=3.7,SNR=8.1
BRTR Keskin Array B 78.06 316 *i* P **P 22 22 42.7 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
GRA1 Grafenberg Arr 78.23 335 *e*P **P 22 22 43.1 +0.2**
comp=Z,19nm,1.7s,mb4.8
GRF Grafenberg Arr 78.23 335 *e*P **P 22 22 43.1 +0.2**
comp=Z,19nm,1.7s,mb4.8
GRF Grafenberg Arr 78.23 335 *e*P **P 22 22 43.1 +0.2**
GRF pmax pmax
comp=Z,19nm,1.7s,mb4.8
GRF Grafenberg Arr 78.23 335 *e*P **P 22 22 43.1 +0.2**
GRF pmax pmax
comp=Z,19nm,1.7s,mb4.8
GERES GERESS Array B 78.25 334 P **P 22 22 42.8 -0.2**
comp=Z,1.9nm,0.7s,mb4.2,baz=40,slow=6.2,SNR=16
BZS Buzias 78.36 327⇓*i*P **P 22 22 43.5 -0.2**
KBA Koelnbreinsper 79.93 333⇑*i*P **P 22 22 53.0 +0.7**
comp=Z,5.7nm,0.5s,mb4.8
KBA Koelnbreinsper 79.93 333⇑*i*P **P 22 22 53.0 +0.8**
KBA pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
WATA Walderalm 80.24 334⇑*i*P **P 22 22 54.2 +0.3**
comp=Z,4.1nm,0.9s,mb4.3
WATA Walderalm 80.24 334⇑*i*P **P 22 22 54.2 +0.3**
WATA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WTTA Wattenberg 80.28 334⇑*i*P **P 22 22 54.8 +0.6**
comp=Z,6.9nm,0.5s,mb4.9
WTTA Wattenberg 80.28 334⇑*i*P **P 22 22 54.8 +0.6**
WTTA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
MOTA Moosalm 80.37 334⇑*i*P **P 22 22 54.7 +0.1**
comp=Z,4.5nm,1.0s,mb4.3
MOTA Moosalm 80.37 334⇑*i*P **P 22 22 54.8 +0.2**
MOTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
PPT Papeete 82.55 125 *e*LR LR 22 48 47.8
comp=Z,195nm,24.5s
PPT Papeete 82.55 125 *e*T 23 53 57.8
comp=Z,5.1nm,0.2s
TKL Tuckaleechee C 83.71 43 P **P 22 23 10.8 -1.4**
comp=Z,2.1nm,0.6s,mb4.5,baz=324,slow=17,SNR=3.2
TKL Tuckaleechee C 83.71 43 P **P 22 23 10.8 -1.4**
TBI Tubuai 87.27 129 *e*T 23 59 51.6
comp=Z,14nm,0.3s
ESDC Sonseca Array 91.41 342 P **P 22 23 49.2 -0.1**
comp=Z,0.3nm,0.6s,mb3.8,baz=17,slow=6.2,SNR=4.1
ESDC Sonseca Array 91.41 342 P **P 22 23 49.2 -0.1**
KEST Kesra 91.44 331 P **P 22 23 49.4 -0.1**
comp=Z,0.6nm,0.7s,mb4.0,baz=0.9,slow=3.2,SNR=7.5
TORD Torodi Ar. Bea 114.85 328 PKP PKiKP 22 29 22.9 -0.7
comp=Z,0.5nm,0.5s,baz=20,slow=1.8,SNR=15
TORD Torodi Ar. Bea 114.85 328 PKP PKiKP 22 29 22.9 -0.7
CFAA Coronel Fontan 145.47 79 PKPbc PKPbc 22 30 20.5 -0.7
comp=Z,0.8nm,0.9s,baz=267,slow=3.6,SNR=7.4
PLCA Paso Flores 148.69 95 PKPbc PKPbc 22 30 29.8 -0.4
comp=Z,3.9nm,0.9s,baz=282,slow=4.0,SNR=4.5

IDC 30 22:16:16.2±6.0, 1517S×7248W, h69km±51km, mb3.4/3, mb1 3.7/4, mb1mx3.4/15, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=41.9km s-min=32.9km az=125.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.33**	**105**	P	Pn	22 17 21.7	+2.2
	2.5nm,0.3s,baz=278,slow=11,SNR=40						
LPAZ				S	Sn	22 18 09.5	+0.7
	0.2nm,0.3s,baz=2.9,slow=24,SNR=4.2						
PLCA	**Paso Flores**	**25.52**	**177**	P	P	22 21 38.3	+0.2
	1.3nm,0.7s,baz=343,slow=15,SNR=4.5						
TORD	**Torodi Ar. Bea**	**78.60**	**73**	P	P	22 28 11.6	+1.3
	0.4nm,0.4s,baz=257,slow=4.7,SNR=15						
YKA	**Yellowknife Ar**	**84.14**	**342**	P	P	22 28 38.7	-0.9
	0.2nm,0.7s,baz=136,slow=5.4,SNR=5.7						
WRA	**Warramunga Arr**	**136.26**	**218**	PKP	PKPdf	22 35 30.2	+0.5
	0.2nm,0.3s,baz=132,slow=1.5,SNR=8.1						
SONM	**Songino Array**	**147.42**	**1**	PKPbc	PKPbc	22 35 51.2	-0.9
	0.5nm,1.0s,baz=356,slow=3.0,SNR=3.5						
SONM				pPKPbc	pPKPbc	22 36 04.1	-7.7
	0.3nm,0.7s,baz=325,slow=1.8,SNR=5.7						

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*NEIC **30** 22:20:42.1±2.4, 2198N×12187E, h10km, mb3.8/2, Error ellipse: s-maj=32.4km s-min=18.0km az=155.0*
*ISCJB **30** 22:21:05.9±1.7, 2359N±009×12183E±007, h26km±12km, Error ellipse: s-maj=17.3km s-min=8.4km az=59.1*
*JMA **30** 22:21:06.9±0.2, 2358N×12184E, h72km, M3.6*
ISC 30 22:21:06.3±1.8, 2360N±009×12180E±008, h23km±13km, n12, σ0§38/21, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.60**	**342**	⇓*i*P	**Pb**	**22 21 17.8**	**-0.3**
NACB				*e*S	**Sb**	**22 21 26.3**	**+0.1**
YHNB	**Yeheng**	**1.13**	**340**	*e*P	**Pn**	**22 21 26.3**	**-0.4**
YHNB				*e*S	**Sb**	**22 21 41.4**	**0.0**
TATO	**Taipei**	**1.40**	**348**	*e*P	**Pn**	**22 21 30.2**	**-0.1**
TATO				*e*S	**Sn**	**22 21 48.2**	**+0.1**
YOJ	**Yonaguni jima**	**1.40**	**52**	P	**Pn**	**22 21 30.8**	**+0.4**
YOJ				S	**Sn**	**22 21 48.7**	**+0.6**
HATJ	**Hateruma jima**	**1.89**	**76**	P	**Pn**	**22 21 37.3**	**+0.1**
HATJ				S	**Sn**	**22 21 59.7**	**-0.6**
IRIF	**Iriomote-Funau**	**1.91**	**67**	P	**Pn**	**22 21 37.8**	**+0.4**
IRIF				*e*S	**Sn**	**22 22 01.3**	**+0.6**
JKRS	**Kuro-shima**	**2.12**	**72**	P	**Pn**	**22 21 40.7**	**+0.4**
JKRS				*e*S	**Sn**	**22 22 06.2**	**+0.3**
JIJ	**Ishigaki jima**	**2.27**	**70**	P	**Pn**	**22 21 42.4**	**0.0**
JIJ				S	**Sn**	**22 22 08.7**	**-1.0**
JTJ	**Tarama**	**2.85**	**68**	P	**Pn**	**22 21 50.3**	**0.0**
JTJ				*e*S	**Sn**	**22 22 23.6**	**-0.2**
JMJ	**Miyako jima 2**	**3.41**	**69**	*e*S	**Sn**	**22 22 37.4**	**-0.4**
JOGS	**Gusukube**	**3.49**	**70**	*e*S	**Sn**	**22 22 39.7**	**0.0**
JKE	**Kume jima 2**	**5.28**	**58**	P	**Pn**	**22 22 23.7**	**0.0**

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*NEIC **30** 22:23:19.1±1.4, 1194S×16637E, h35km, Error ellipse: s-maj=33.9km s-min=16.5km az=81.0*
*IDC **30** 22:23:21.9±8.0, 1221S×16633E, h50km±87km, mb3.8/5, mb1 3.9/6, mb1mx3.7/14, mbtmp3.8/6, ML3.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=72.8km s-min=42.8km az=130.0*
*ISCJB **30** 22:23:24.3±5.8, 124S±02×1664E±03, h97km±57km, mb3.9/5, Error ellipse: s-maj=47.7km s-min=32.7km az=8.3*
ISC 30 22:23:25.0±4.8, 123S±02×1666E±03, h92km±52km, n12, σ1§05/10, mb3.9/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.12**	**293**	LR	LR	22 26 59.2	
	comp=Z,67nm,19.6s,baz=181,slow=32						
DZM	**Mont Dzumac**	**9.67**	**181**	P	**Pn**	**22 25 41.4**	**+0.2**
	0.3nm,0.3s,baz=24,slow=20,SNR=4.0						
DZM				S	**Sn**	**22 27 27.7**	**-0.3**
	0.2nm,0.3s,baz=72,slow=20,SNR=2.4						
CTA	**Charters Tower**	**20.96**	**246**	LR	LR	22 34 54.8	
	comp=Z,54nm,20.9s,baz=208,slow=33						
STKA	**Stephens Creek**	**30.09**	**226**	P	**P**	**22 29 27.4**	**+1.8**
	5.3nm,0.8s,mb4.2,baz=37,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**30.09**	**226**	*e*P	**P**	**22 29 27.2**	**+1.6**
WRA	**Warramunga Arr**	**31.82**	**252**	P	**P**	**22 29 40.2**	**-0.6**
	1.5nm,0.8s,mb3.8,baz=84,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**32.96**	**245**	P	**P**	**22 29 50.4**	**-0.5**
	2.0nm,0.7s,mb4.1,baz=67,slow=9.7,SNR=41						
SONM	**Songino Array**	**80.18**	**324**	P	**P**	**22 35 26.9**	**+1.8**
	0.2nm,0.5s,mb3.2,baz=130,slow=4.7,SNR=2.6						
MK31	**Makanchi Array**	**95.02**	**317**	*e*P	**P**	**22 36 35.9**	**-1.4**
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**22 36 36.7**	**-0.6**
	0.5nm,0.7s,mb4.1,baz=87,slow=4.3,SNR=5.0						
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**22 36 36.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.22**	**275**	PKPab	PKPab	22 44 17.7	+1.4
	0.4nm,0.9s,baz=77,slow=6.5,SNR=2.6						

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*NIED **30** 22:34:00, 4320N×14630E, h41km, Mw4.9 Best double couple: M₀2.67000×10¹⁶ NP1:φs34.00000°, δ66.00000°, λ77.00000°. NP2:φs245.00000°, δ27.00000°, λ117.00000°.*
*BJI **30** 22:34:34.0, 4333N×14662E, h19km, mB5.0, mb5.3, Ms4.3, Msz4.2*
*GCMT **30** 22:34:36.1±0.4, 4321N×14642E, h49km±1km, MW5.0/64, Moment Tensor Solution. s35,c39; s64,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.25±.21; Mθθ-1.67±.14; Mφφ-1.58±.14; Mrθ0.10±.10; Mθφ-1.79±.08; Mφr1.51±.08; Best double couple: M₀3.66200×10¹⁶ NP1:φs241.00000°, δ38.00000°, λ115.00000°. NP2: φs30.00000°, δ56.00000°, λ72.00000°. Principal axes: T 3.7150, Plg72.0000°, Azm255.0000°; N -0.1060, Plg15.0000°, Azm40.0000°; P -3.6090, Plg10.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 22:34:36.1±0.1, 4337N×14628E, h10km, mb5.2/160, MS4.4/35 Error ellipse: s-maj=4.0km s-min=2.5km az=162.0*
NEIC Felt [III] at Yuzhno-Kuril'sk, Kunashir. Recorded [4 JMA] in eastern Hokkaido and [1 JMA] in the Obihiro area and in southwestern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.
*IDC **30** 22:34:38.9±2.9, 4336N×14631E, h29km±19km, mb4.8/20, mb1 4.9/25, mb1mx4.9/26, mbtmp4.9/25, ML4.7/5, MS4.2/22, Ms1 4.2/22, ms1mx4.0/37, Error ellipse: s-maj=15.4km s-min=11.0km az=105.0*
*SZGRF **30** 22:34:38.2, 4324N×14753E, h33km, mb5.1, Kuril Islands, Russia*
*MOS **30** 22:34:38.8±0.8, 4330N×14629E, h40km, mb5.4/91, MS4.3/22, Error ellipse: s-maj=7.0km s-min=3.8km az=109.9*
MOS Felt (II-III) at Yuzhno-Kuril'sk.
*ISCJB **30** 22:34:39.9±0.3, 4321N±002×14629E±002, h51km±2km, mb5.2/227, MS4.4/65, Error ellipse: s-maj=3.7km s-min=2.5km az=155.6*
*JMA **30** 22:34:40.9±0.2, 4326N×14626E, h46km±1km, M5.0*
JMA Felt IV J1.
*BGS **30** 22:34:44.1, 4473N×14568E, h10km, mb5.5*
ISC 30 22:34:41.8±0.3, 4333N±002×14622E±002, h51km±2km, h35km±8.0km: pP-P, n910, σ0§88/904, mb5.2/227, MS4.4/65, 244C-126D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.35**	**276**	⇓P	**Pn**	**22 34 50.6**	**-0.8**
NEM2				*e*S	**Sn**	**22 34 57.7**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**0.75**	**340**	⇓*i*PN	**Pn**	**22 34 54.8**	**-1.4**
YUK				*i* S	**Sn**	**22 35 05.0**	**-1.7**
YUK				pmax	pmax		
	comp=N,55μm,0.9s						
YUK				pmax	pmax		
	comp=E,70μm,0.9s						
YUK				pmax	pmax		
	comp=Z,68μm,0.9s						
YUK				smax			
	comp=E,9999μm,1.0s						
JRA	**Rausu**	**1.00**	**308**	⇓P	**Pn**	**22 34 59.7**	**+0.2**
JRA				*e*S	**Sn**	**22 35 13.8**	**+1.2**
JNK	**Nakash**	**1.12**	**284**	⇓P	**Pn**	**22 35 00.9**	**-0.2**
JNK				*e*S	**Sn**	**22 35 15.2**	**-0.3**
JAK	**Akkeshi**	**1.16**	**254**	⇓P	**Pn**	**22 35 01.0**	**-0.7**
JAR	**Ashorobuto**	**1.79**	**270**	⇓P	**Pn**	**22 35 10.5**	**+0.3**
JAR				*e*S	**Sn**	**22 35 33.0**	**+1.3**
JOB	**Onbets**	**1.80**	**257**	⇓P	**Pn**	**22 35 10.1**	**-0.2**
JTKR	**Abashiri--Toko**	**1.80**	**292**	⇓P	**Pn**	**22 35 11.5**	**+1.2**
JMP	**Maruseppu**	**2.18**	**289**	⇓P	**Pn**	**22 35 17.0**	**+1.4**
JCH	**Churui**	**2.21**	**252**	⇓P	**Pn**	**22 35 15.2**	**-0.8**
KUR	**Kuril'sk**	**2.24**	**31**	⇓PN	**Pn**	**22 35 22.8**	**+6.4**
KUR				*i*		22 35 48.0	
KUR				smax			
	comp=N,7μm,0.6s						
KUR				smax			
	comp=E,10μm,0.6s						
KUR				smax			
	comp=N,19μm,1.0s						
KUR				smax			
	comp=E,15μm,1.0s						
JKK2	**Kamakawa 2**	**2.58**	**283**	⇓P	**Pn**	**22 35 22.7**	**+1.7**
ERM	**Erimo**	**2.61**	**241**	*e*Pn	**Pn**	**22 35 22.4**	**+0.9**
ERM				*e*Sn	**Sn**	**22 35 54.9**	**+2.9**
JFR	**Furan**	**2.65**	**268**	⇓P	**Pn**	**22 35 23.0**	**+1.0**
ASAJ	**Asahikawa**	**2.74**	**288**	Pn	**Pn**	**22 35 25.2**	**+2.0**
	comp=E,378nm,0.3s,baz=109,slow=11,SNR=548						
ASAJ				LR	LR	22 36 44.2	
	comp=E,6μm,18.8s,baz=323,slow=45						
ASAJ	**Asahikawa**	**2.74**	**288**	⇓P	**Pn**	**22 35 25.2**	**+2.0**
ASAJ	**Asahikawa**	**2.74**	**288**	PN	**Pn**	**22 35 25.3**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,378nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,6μm,18.8s						
JAB	**Ashibetsu**	**2.92**	**275**	⇓P	**Pn**	**22 35 28.1**	**+2.5**
JSE	**Soyaes**	**3.08**	**303**	⇓P	**Pn**	**22 35 29.0**	**+1.1**
JHR	**Hokuryu**	**3.29**	**279**	⇓P	**Pn**	**22 35 33.2**	**+2.4**
JEW	**Eniwo**	**3.53**	**264**	⇓P	**Pn**	**22 35 35.6**	**+1.6**
JWK2	**Keihoku**	**3.68**	**304**	⇓P	**Pn**	**22 35 38.7**	**+2.5**
JKB	**Kayabe**	**4.09**	**251**	⇑P	**Pn**	**22 35 43.0**	**+1.3**
JOT	**Ohata**	**4.30**	**245**	⇑P	**Pn**	**22 35 44.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.38**	**327**	⇓*i*PN	**Pn**	**22 35 46.8**	**+1.1**
YSS				S	**Sn**	**22 36 40.0**	**+4.7**
YSS				pmax	pmax		
	comp=E,320nm,0.7s						
YSS				MLR	MLR		
	comp=N,2μm,17.0s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s						
YSS	**Yuzh-Sakhalins**	**4.38**	**327**	*e*Pn	**Pn**	**22 35 47.5**	**+1.8**
JANG	**Nango**	**4.59**	**232**	P	**Pn**	**22 35 47.3**	**-1.3**
JTH	**Tanohata**	**4.70**	**225**	P	**Pn**	**22 35 48.0**	**-2.1**
JSI2	**Shiura 2**	**4.87**	**244**	P	**Pn**	**22 35 53.0**	**+0.5**
JKZ	**Kuzumaki**	**4.96**	**229**	P	**Pn**	**22 35 52.7**	**-0.9**
JAH	**Hinai**	**5.22**	**235**	⇑P	**Pn**	**22 35 56.9**	**-0.3**
JOM	**Ohasama**	**5.34**	**226**	⇑P	**Pn**	**22 35 57.5**	**-1.4**
OFUJ	**Ofunato**	**5.46**	**220**	P	**Pn**	**22 35 58.7**	**-1.8**
JMK	**Ichinoseki**	**5.77**	**222**	P	**Pn**	**22 36 03.1**	**-1.7**
JIO	**Ouri**	**6.11**	**219**	P	**Pn**	**22 36 07.0**	**-2.4**
JYK	**Kaneyama**	**6.24**	**227**	P	**Pn**	**22 36 09.7**	**-1.5**
UGL	**Uglegorsk**	**6.43**	**335**	*e*PN	**Pn**	**22 36 15.0**	**+1.1**
UGL				pmax	pmax		
	comp=N,82nm,0.4s						
UGL				pmax	pmax		
	comp=E,106nm,0.4s						
UGL				pmax	pmax		
	comp=Z,186nm,0.4s						
UGL				MLR	MLR		
	comp=N,2μm,20.0s						
UGL				MLR	MLR		
	comp=E,1μm,20.0s						
UGL				MLR	MLR		
	comp=Z,2μm,20.0s						
JSZ	**Suzu**	**8.95**	**232**	P	**Pn**	**22 36 48.4**	**+0.1**
MJAR	**Matsushiro Arr**	**9.15**	**225**	Pn	**Pn**	**22 36 50.0**	**-1.0**
	comp=Z,10nm,0.3s,baz=28,slow=14,SNR=125						
MJAR				Sn	**Sn**	**22 38 38.8**	**+6.3**
	comp=Z,0.7nm,0.3s,baz=26,slow=20,SNR=2.2						
MJAR				LR	LR	22 41 24.4	
	comp=Z,570nm,18.0s,baz=35,slow=44						
MJAR	**Matsushiro Arr**	**9.15**	**225**	PN	**Pn**	**22 36 50.0**	**-1.1**
MJAR						22 38 38.8	
MAJO	**Matsushiro**	**9.15**	**225**	*e*PN	**Pn**	**22 36 50.1**	**-1.0**
MAT	**Matsushiro**	**9.15**	**225**	P	**Pn**	**22 36 49.9**	**-1.2**
MAT				*e*S	**Sn**	**22 38 37.5**	**+4.9**
JNG	**Nsakai**	**9.31**	**225**	P	**Pn**	**22 36 52.7**	**-0.5**
HABR	**Khabarovsk**	**9.33**	**307**	⇑*i*PN	**Pn**	**22 36 57.9**	**+4.4**
HABR				*e*S	**Sn**	**22 38 44.1**	**+7.1**
HABR				pmax	pmax		
	comp=Z,291nm,1.2s						
JGN	**Niukaw**	**9.86**	**227**	P	**Pn**	**22 37 00.4**	**-0.4**
SKR	**Severo-Kuril's**	**9.99**	**39**	*e*PN	**Pn**	**22 37 01.5**	**-1.0**
JNY	**Yasuok**	**10.25**	**222**	P	**Pn**	**22 37 05.2**	**-0.9**
VLA	**Vladivostok**	**10.46**	**274**	*e*PN	**Pn**	**22 37 09.8**	**+0.8**
VLA				*e*S	**Sn**	**22 39 11.3**	**+6.6**
VLA				pmax	pmax		
	comp=Z,150nm,1.1s						
VLA				MLR	MLR		
	comp=Z,1μm,21.0s						
JHJ	**Hachijo jima 2**	**11.37**	**208**	Pn	**Pn**	**22 37 21.2**	**-0.3**
	comp=Z,37nm,0.3s,baz=75,slow=20,SNR=2.8						
JHJ				Sn	**Sn**	**22 39 15.7**	**-11**
	comp=Z,80nm,0.3s,baz=225,slow=22,SNR=8.2						
MDJ	**Mudanjiang**	**12.05**	**282**	P	**Pn**	**22 37 32.0**	**+1.3**
MDJ				AP		22 37 36.5	
MDJ				XP		22 37 37.5	
MDJ				S	**Sn**	**22 39 46.8

PET smax
comp=N,25nm,0.7s
PET MLR MLR
comp=Z,500nm,19.0s
CN2 Changchun 15.07 279 *e*P **Pn** **22 38 10.5 -0.8**
CN2 *e*AP pP 22 38 13.8 -13
CN2 *e*S **S** **22 40 59.5 -13**
CN2 AMB AMB
comp=Z,40nm,0.7s
CN2 LR LR
comp=N,300nm,19.0s
CN2 LR LR
comp=E,800nm,19.0s
CN2 LR LR
comp=Z,1μm,16.0s
KSRS Korea Array 15.11 253 Pn **Pn** **22 38 11.2 -0.8**
baz=63,slow=12,SNR=31
KSRS PcP PcP 22 43 17.6 +1.0
baz=3.4,slow=0.5,SNR=9.8
KSRS LR LR 22 44 21.4
comp=Z,380nm,18.2s,baz=56,slow=38
KS15 Wonju Array Si 15.15 253 *e*Pn **Pn** **22 38 12.2 -0.2**
JNU Nakatsue 15.76 235 Pn **Pn** **22 38 19.1 -1.2**
comp=Z,1.3nm,0.3s,baz=258,slow=22,SNR=8.6
JNU LR LR 22 44 26.4
comp=Z,1μm,21.6s,baz=187,slow=37
INCN Inchon 16.01 255 *e*Pn **Pn** **22 38 20.7 -2.8**
MA2 Magadan 16.51 8⇑*e*P **Pn** **22 38 29.2 -0.6**
MA2 pmax pmax
comp=Z,45nm,1.3s
MA2 Magadan 16.51 8 *e*Pn **Pn** **22 38 28.6 -1.1**
CBIJ Chichi jima 16.52 193 Pn **Pn** **22 38 27.9 -2.1**
comp=Z,20nm,0.3s,baz=317,slow=21,SNR=6.1
CBIJ Sn **Sn** **22 41 16.9 -16**
comp=Z,25nm,0.3s,baz=75,slow=22,SNR=6.0
CBIJ LR LR 22 42 54.3
comp=Z,309nm,20.9s,baz=334,slow=30
SNY Shenyang 16.74 273 ⇓P **Pn** **22 38 32.3 -0.3**
SNY AMB AMB
comp=Z,18nm,1.0s
SNY AMB AMB
comp=Z,226nm,4.5s
SNY LR LR
comp=N,170nm,11.7s
SNY LR LR
comp=E,511nm,21.6s
SNY LR LR
comp=Z,547nm,20.4s
DL2 Dalian 19.02 265 P **Pn** **22 39 00.3 -0.2**
DL2 S **S** **22 42 34.0 +1.4**
DL2 AMB AMB
comp=Z,60nm,0.7s
DL2 AMB AMB
comp=Z,130nm,5.5s
DL2 LR LR
comp=N,140nm,13.9s
DL2 LR LR
comp=E,160nm,14.9s
DL2 LR LR
comp=Z,180nm,16.8s
NRGR Nerungri 19.10 322 *e*P **Pn** **22 39 03.9 +2.5**
NRGR S **S** **22 42 33.5 -0.6**
NRGR smax
comp=E,28nm,0.5s
CLNS Chul'man 19.12 322 *e*P **Pn** **22 39 04.0 +2.2**
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=Z,25nm,0.8s
CLNS pmax pmax
comp=E,17nm,0.9s
HIA Hailar 19.18 297*d i*P **Pn** **22 39 00.7 -1.7**
HIA Hailar 19.18 297 *e*P **Pn** **22 38 59.7 -2.7**
comp=E,22nm,0.6s
SEY Seymchan 19.97 8⇑*e*P **Pn** **22 39 06.9 -4.9**
YAK Yakutsk 21.13 338 *e*P **P** **22 39 18.7 -3.5**
YAK *e*S **S** **22 43 13.1 -1.3**
YAK *e* 22 43 24.2
YAK *e**SS sS 22 43 25.2 -8.2
YAK *e*SSS 22 43 51.5
YAK *e* 22 50 39.3
YAK pmax pmax
comp=Z,20nm,0.7s,mb4.6
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK smax
comp=N,135nm,1.8s
YAK smax
comp=Z,161nm,4.0s
YAK smax
comp=E,131nm,2.4s
YAK MLR MLR
comp=Z,214nm,15.0s,MS3.6
YAK MLR MLR
comp=N,253nm,16.0s,MS3.8
YAK MLR MLR
comp=E,175nm,12.0s,MS3.8
YAK Yakutsk 21.13 338 *e*P **P** **22 39 20.1 -2.1**
comp=E,70nm,0.8s,mb5.0
YAK LR LR
comp=Z,445nm,22.0s,MS3.8
JOW Kunigami 21.98 227 P **P** **22 39 32.0 +0.7**
comp=Z,126nm,0.9s,mb5.4,baz=17,slow=8.9,SNR=15
BJI Beijing 22.62 272 P **P** **22 39 37.3 -0.8**
BJI S **S** **22 43 47.0 +4.4**
BJI AMB AMB
comp=Z,70nm,0.9s,mb5.1
BJI AMB AMB
comp=Z,285nm,5.9s
BJI LR LR
comp=N,445nm,17.8s,MS4.0
BJI LR LR
comp=E,232nm,17.8s,MS4.0
BJI LR LR
comp=Z,484nm,22.7s,MS3.9
BJI Beijing 22.62 272 P **P** **22 39 37.2 -0.9**
BJI S **S** **22 43 47.1 +4.5**
BJI pmax pmax
comp=Z,70nm,0.9s,mb5.1
BJI MLR MLR
comp=Z,480nm,22.7s,MS3.9
BJI Beijing 22.62 272 P **P** **22 39 37.2 -0.9**
comp=Z,70nm,0.9s,mb5.1
BJI S **S** **22 43 47.1 +4.5**
BJI LR LR
comp=Z,480nm,22.7s,MS3.9
BJT Baijiatuau 22.63 272⇑*i*P **P** **22 39 37.0 -1.2**
BJT pmax pmax
comp=Z,44nm,0.6s
BJT MLR MLR
comp=Z,748nm,20.0s
BJT Baijiatuau 22.63 272⇑*i*P **P** **22 39 37.0 -1.2**
comp=Z,44nm,0.6s,mb5.1
BJT LR LR
comp=Z,748nm,20.0s,MS4.1
TIA Tai'an 23.39 262 ⇑P **P** **22 39 45.8 -0.2**
CIT Chita 23.48 303 *e*P **P** **22 39 45.8 -1.1**
CIT *e* 22 40 04.7
CIT *e* 22 40 16.8
CIT *e* 22 40 26.2
CIT pmax pmax
comp=Z,220nm,2.2s,mb5.2
BOD Bodaibo 24.77 317 *e*P **P** **22 39 54.0 -4.6**
HHC Hu-ho-hao-te 25.73 276 *e*P **P** **22 40 08.3 +1.0**
HHC AP pP 22 40 12.5 -7.8
HHC XP sP 22 40 15.3 -11
HHC PP 22 40 48.8
HHC PCP PcP 22 43 39.0 +2.7
HHC S **S** **22 44 34.8 +2.2**
HHC SS 22 45 39.8
HHC SCP ScP 22 47 16.0 +4.6
HHC PCS PcS 22 47 18.0 +1.0
HHC AMB AMB
comp=Z,73nm,0.7s,mb5.3
HHC AMB AMB
comp=Z,215nm,6.5s
HHC LR LR
comp=N,262nm,17.6s,MS4.0
HHC LR LR
comp=E,347nm,19.4s,MS4.0
HHC LR LR
comp=Z,348nm,24.3s,MS3.8
BTO Baotou 26.92 277 *e*P **P** **22 40 18.8 +0.7**
BILL Bilibino 26.96 17⇓*e*P **P** **22 40 17.0 -1.4**
BILL pmax pmax
comp=Z,60nm,1.1s,mb5.0
BILL Bilibino 26.96 17 *e*P **P** **22 40 14.9 -3.5**
comp=Z,5.5nm,0.5s
BILL LR LR
comp=Z,574nm,20.0s
TATO Taipei 27.30 236 *e*P pP 22 40 29.7 -4.7
comp=Z,88nm,0.8s
ULN Ulaanbaatar 27.57 293 ⇓P **P** **22 40 24.9 +1.0**
SNR=12
ULN Ulaanbaatar 27.57 293*c i*P **P** **22 40 23.9 0.0**
ULN Ulaanbaatar 27.57 293⇑*i*P **P** **22 40 23.9 0.0**
comp=Z,20nm,0.6s,mb4.9
ULN LR LR
comp=Z,1μm,19.0s,MS4.4
YHNB Yeheng 27.59 236 *e*P **P** **22 40 27.8 +3.7**
SONM Songino Array 28.01 293 P **P** **22 40 28.9 +1.0**
comp=Z,33nm,0.6s,mb5.2,baz=94,slow=8.3,SNR=329
SONM PcP PcP 22 43 40.9 -0.8
comp=Z,2.2nm,0.5s,baz=106,slow=0.9,SNR=6.0
SONM ScP ScP 22 47 19.3 +1.0
comp=Z,1.1nm,0.9s,baz=132,slow=2.2,SNR=3.5
SONM LR LR 22 52 46.9
comp=Z,1μm,18.3s,MS4.5,baz=65,slow=39
SONM Songino Array 28.01 293 P **P** **22 40 28.9 +1.0**
SONM 22 43 40.9
WHN Wuhan 28.31 254 ⇑P **P** **22 40 31.0 +0.5**
TLY Talaya 29.59 301 *e*P **P** **22 40 42.1 +0.3**
comp=Z,3.4nm,0.5s
TLY LR LR
comp=Z,146nm,19.0s
TIXI Tiksi 29.64 349 *e*P **P** **22 40 36.0 -6.3**
TIXI pmax pmax
comp=Z,30nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,261nm,17.0s,MS3.9
TIXI Tiksi 29.64 349 *e*P **P** **22 40 36.9 -5.4**
comp=Z,5.0nm,0.6s,mb4.4
TIXI LR LR
comp=Z,329nm,19.0s,MS4.0
GUMO Guam 29.66 183 LR LR 22 50 13.9
comp=Z,270nm,19.2s,MS3.9,baz=92,slow=32
ZAK Zakamensk 29.86 299 *e*P **P** **22 40 44.7 +0.5**
ZAK *e* 22 43 46.0
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
XAN Xi'an 30.34 265 P **P** **22 40 48.8 +0.3**
XAN AMB AMB
comp=Z,31nm,1.2s,mb4.9
MOY Mondy 31.24 302 *e*P **P** **22 40 55.9 -0.5**
LZH Lanzhou 33.11 272 ⇑P **P** **22 41 13.5 +0.7**
LZH AP pP 22 41 17.0 -9.0
LZH PP PP 22 42 24.8 -3.6
LZH *e*S **S** **22 46 32.3 +3.9**
LZH SS SS 22 48 32.0 -21
LZH AMB AMB
comp=Z,63nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,645nm,14.0s
LZH LR LR
comp=Z,902nm,14.9s,MS4.6
LZH Lanzhou 33.11 272 ⇑P **P** **22 41 13.6 +0.8**
LZH 22 42 24.8
LZH *e*S **S** **22 46 32.2 +3.8**
LZH SS SS 22 48 32.0 -21
LZH pmax pmax
comp=Z,63nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,900nm,14.9s,MS4.6
LZH Lanzhou 33.11 272 ⇑P **P** **22 41 13.6 +0.8**
comp=Z,63nm,1.0s,mb5.5
LZH pP pP 22 41 17.0 -9.0
LZH sP sP 22 41 18.4 -14
LZH PP PP 22 42 24.8 -3.6
LZH *e*S **S** **22 46 32.2 +3.8**
LZH sS sS 22 46 37.3 -13
LZH SS SS 22 48 32.0 -21
LZH LR LR
comp=Z,900nm,14.9s,MS4.6
TNA Tin City 33.57 33 *e*P **P** **22 41 16.1 -0.8**
comp=Z,11nm,0.7s,mb4.9
TNA LR LR
comp=Z,326nm,22.0s,MS4.0
GTA Gaotai 34.70 280 *e*P **P** **22 41 27.5 +0.9**
GTA AP pP 22 41 34.3 -5.5
GTA XP sP 22 41 38.0 -7.8
GTA PCP PcP 22 44 00.3 +0.7
GTA SCP ScP 22 47 42.3 +1.7
GTA PCS PcS 22 47 48.0 +1.8
GTA AMB AMB
comp=Z,11nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,146nm,8.4s
GTA LR LR
comp=N,125nm,17.9s,MS4.1
GTA LR LR
comp=E,303nm,17.5s,MS4.1
GTA LR LR
comp=Z,337nm,16.4s,MS4.2
CD2 Chengdu 35.69 264 P **P** **22 41 35.8 +0.7**
CD2 AP pP 22 41 40.0 -8.4
CD2 XP sP 22 41 42.8 -12
CD2 PP PP 22 42 56.8 -0.1
CD2 S **S** **22 47 11.8 +3.6**
CD2 SS SS 22 49 32.8 -12
CD2 AMB AMB
comp=Z,280nm,0.5s
CD2 AMB AMB
comp=Z,150nm,5.3s
CD2 LR LR
comp=N,230nm,15.4s,MS4.2
CD2 LR LR
comp=E,230nm,18.0s,MS4.2
CD2 LR LR
comp=Z,270nm,18.0s,MS4.0
KRAR Krasnoyarsk 35.87 310⇑*e*P **P** **22 41 36.7 0.0**
KRAR pmax pmax
comp=Z,22nm,1.3s,mb4.9
GYA Guiyang 36.16 255⇑*i*P **P** **22 41 39.8 +0.6**
GYA PP PP 22 43 05.3 +3.2
GYA PCP PcP 22 44 07.5 +3.6
GYA S **S** **22 47 27.0 +12**
GYA SCP ScP 22 47 53.0 +7.1
GYA SS SS 22 49 45.5 -9.1
GYA SCS ScS 22 51 57.5 +5.7
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.4
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,480nm,16.8s,MS4.5
GYA LR LR
comp=E,540nm,17.0s,MS4.5
GYA LR LR
comp=Z,430nm,16.4s,MS4.3
SVW2 Sparrevohn 38.33 42 *e*P **P** **22 41 57.5 -0.1**
QIZ Qiongzhong 38.97 243 P **P** **22 42 05.0 +2.1**
QIZ S **S** **22 48 04.3 +6.3**
QIZ LR LR
comp=N,130nm,25.2s,MS3.9
QIZ LR LR
comp=E,144nm,22.8s,MS3.9
QIZ LR LR
comp=Z,176nm,25.4s,MS3.8
IMA2 Indian Mountai 39.41 34 *e*P **P** **22 42 06.4 -0.2**
KMI Kunming 39.76 257 ⇑P **P** **22 42 10.8 +1.3**
KMI AP pP 22 42 15.3 -7.6
KMI PP PP 22 43 45.0 +3.4
KMI PCS PcS 22 48 07.0 +1.8
KMI S **S** **22 48 14.0 +4.1**
KMI SS SS 22 51 05.5 -1.7
KMI SCS ScS 22 52 18.0 +5.6
KMI AMB AMB
comp=Z,46nm,0.8s,mb5.3
KMI AMB AMB
comp=Z,336nm,3.9s
KMI LR LR
comp=N,230nm,14.6s,MS4.3
KMI LR LR
comp=E,225nm,14.1s,MS4.3
KMI LR LR
comp=Z,234nm,22.5s
KMI Kunming 39.76 257 ⇑P **P** **22 42 10.7 +1.2**
KMI 22 43 44.9
KMI PPP 22 44 11.5
KMI S **S** **22 48 14.0 +4.1**
KMI SS SS 22 51 05.5 -1.7
KMI SSS 22 51 41.0
KMI 22 52 17.9
KMI pmax pmax
comp=Z,46nm,0.8s,mb5.3
KMI MLR MLR
comp=Z,230nm,22.5s,MS4.0
KMI Kunming 39.76 257 ⇑P **P** **22 42 10.7 +1.2**
comp=Z,46nm,0.8s,mb5.3
KMI pP pP 22 42 15.2 -7.7
KMI sP sP 22 42 16.4 -12
KMI PP PP 22 43 44.9 +3.3
KMI PPP 22 44 11.5
KMI PcS PcS 22 48 07.0 +1.8
KMI S **S** **22 48 14.0 +4.1**
KMI sS sS 22 48 19.0 -13
KMI SS SS 22 51 05.5 -1.7
KMI SSS 22 51 41.0
KMI ScS ScS 22 52 17.9 +5.5
KMI LR LR
comp=Z,230nm,22.5s,MS4.0
KDAK Kodiak Island 40.03 47 P **P** **22 42 10.0 -1.8**
comp=Z,297nm,0.7s,mb6.1,SNR=12
KDAK Kodiak Island 40.03 47 *e*P **P** **22 42 10.7 -1.1**
PMR Palmer 41.42 41 *e*P **P** **22 42 23.2 0.0**
PMR pmax pmax
comp=Z,13nm,0.6s,mb4.7
PMR Palmer 41.42 41 *e*P **P** **22 42 23.2 0.0**
comp=Z,13nm,0.6s,mb4.7
NVS Novosibirsk 41.46 309 *e*P **P** **22 42 22.2 -1.3**
NVS *e* 22 44 09.5
NVS *e*S **S** **22 48 32.3 -2.8**
NVS pmax pmax
comp=Z,14nm,1.3s,mb4.4
NVS pmax pmax
comp=E,14nm,1.4s
NVS smax
comp=N,20nm,2.3s
NVS smax
comp=E,15nm,2.3s
WMQ Urumqi 41.62 292 P **P** **22 42 25.5 +0.7**
WMQ PP PP 22 44 05.5 +3.8
WMQ PCP PcP 22 44 22.5 +1.5
WMQ S **S** **22 48 42.5 +5.0**
WMQ XS sS 22 48 49.8 -10
WMQ SS SS 22 51 43.3 -0.8
WMQ SCS ScS 22 52 26.3 +2.8
WMQ AMB AMB
comp=Z,56nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,224nm,5.0s
WMQ LR LR
comp=N,398nm,7.0s
WMQ LR LR
comp=E,824nm,10.0s
WMQ LR LR
comp=Z,609nm,19.0s
SML Sawmill 41.78 40 *e*P **P** **22 42 25.8 -0.3**
COLA College 41.81 36*ce*P **P** **22 42 26.1 -0.3**
COLA College 41.81 36 *e*P **P** **22 42 24.3 -2.1**
comp=Z,38nm,0.8s,mb5.1
MK31 Makanchi Array 44.18 298*i*P **P** **22 42 45.3 -0.2**
MKAR Makanchi Array 44.18 298 P **P** **22 42 45.6 +0.1**
comp=Z,6.4nm,0.6s,mb4.6,baz=76,slow=7.4,SNR=107
MKAR PcP PcP 22 44 29.8 +0.2
comp=Z,7.6nm,0.8s,baz=64,slow=5.6,SNR=4.7
MKAR ScP ScP 22 48 20.0 +2.8
comp=Z,0.5nm,0.7s,baz=74,slow=6.2,SNR=2.6
MKAR LR LR 23 02 29.2
comp=Z,376nm,18.8s,MS4.3,baz=69,slow=38
MKAR Makanchi Array 44.18 298 P **P** **22 42 45.6 +0.1**
MKAR 22 44 29.8
MKAR Makanchi Array 44.18 298 P **P** **22 42 45.6 +0.1**
MKAR PcP PcP 22 44 29.8 +0.2
MKAR ScP ScP 22 48 20.0 +2.8
MKAR LR LR 23 02 29.1
EGAK Eagle 44.67 36 *e*P **P** **22 42 48.2 -1.2**
comp=Z,28nm,0.7s,mb5.2
KURK Kurchatov 45.20 304 P **P** **22 42 53.1 -0.6**
comp=Z,196nm,0.6s,mb6.1,SNR=25
KURK Kurchatov 45.20 304 ⇓P **P** **22 42 53.3 -0.4**
SNR=5.6
KURK Kurchatov 45.20 304 *e*P **P** **22 42 53.0 -0.7**
KURK *e* 22 44 33.1
KURK pmax pmax
comp=Z,18nm,0.6s,mb5.1
KURK MLR MLR
comp=Z,79nm,19.0s,MS3.7
KURK Kurchatov 45.20 304 *e*P **P** **22 42 53.0 -0.7**
comp=Z,18nm,0.6s,mb5.1
KURK *e*PcP PcP 22 44 33.1 -0.1
KURK LR LR
comp=Z,79nm,19.0s,MS3.7
NANT Nan 45.30 252 ⇑P **P** **22 42 54.9 +0.4**
comp=Z,391nm,0.8s,mb6.3
LSA Lhasa 45.53 272 P **P** **22 42 57.0 +0.8**
LSA Lhasa 45.53 272⇑*i*P **P** **22 42 57.9 +1.7**
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.0
LSA MLR MLR
comp=Z,159nm,20.0s,MS4.0
LSA Lhasa 45.53 272⇑*i*P **P** **22 42 57.9 +1.7**
comp=Z,11nm,0.6s,mb5.0
LSA LR LR
comp=Z,159nm,20.0s,MS4.0
DAWY Dawson 45.54 36 *e*P **P** **22 42 56.0 -0.3**
KKTK Khon Kaen 45.55 248 ⇓P **P** **22 42 57.8 +1.3**
comp=Z,926nm,0.5s
CHG Chiang Mai 46.52 254 ⇑P **P** **22 43 05.1 +1.1**
comp=Z,30nm,0.8s,mb5.3
CHTO Chiang Mai 46.52 254 ⇑P **P** **22 43 05.2 +1.2**
SNR=7.8
CHTO Chiang Mai 46.52 254⇑*i*P **P** **22 43 05.0 +1.0**
CHTO pmax pmax
comp=Z,26nm,0.8s,mb5.2
CHTO MLR MLR
comp=Z,229nm,22.0s,MS4.1
CHTO Chiang Mai 46.52 254⇑*i*P **P** **22 43 05.0 +1.0**
comp=Z,26nm,0.8s,mb5.2
CHTO LR LR
comp=Z,229nm,22.0s,MS4.1
CM31 Chiang Mai Arr 46.76 253 *e*P **P** **22 43 06.2 +0.3**
INK Inuvik 47.11 30 P **P** **22 43 07.9 -0.8**
comp=Z,19nm,0.5s,mb5.2,baz=284,slow=6.3,SNR=88
INK Inuvik 47.11 30 P **P** **22 43 07.9 -0.8**
INK pmax pmax
comp=Z,19nm,0.5s
SHL Shillong 47.33 266 *e*P **P** **22 43 07.9 -2.5**
BVAR Borovoye Array 49.25 309 LR LR 23 05 57.5
comp=Z,292nm,18.5s,MS4.3,baz=322,slow=38
BRVK Borovoye 49.30 309 P **P** **22 43 25.2 -0.3**
comp=Z,122nm,0.4s,mb6.3,SNR=17
BRVK Borovoye 49.30 309 *e*P **P** **22 43 24.7 -0.8**
BRVK pmax pmax
comp=Z,12nm,0.6s,mb5.1
BRVK MLR MLR
comp=Z,116nm,19.0s,MS3.9
BRVK Borovoye 49.30 309 *e*P **P** **22 43 24.7 -0.9**
comp=Z,12nm,0.6s,mb5.1
BRVK LR LR
comp=Z,116nm,19.0s,MS3.9
ULHL Ulahol 49.95 294 P **P** **22 43 31.7 +1.2**
SNR=6.5
TKM2 Tokmak 2 50.08 295 P **P** **22 43 32.0 +0.6**
SNR=39
JIRN Jiri 50.28 273⇑*i*P **P** **22 43 34.1 +1.1**
comp=Z,117nm,0.7s,mb6.0
NNT Nongplab 50.31 247 P **P** **22 43 35.8 +2.6**
GUN Gumba 50.36 273⇑*i*P **P** **22 43 34.5 +0.9**
comp=Z,384nm,0.6s
CHMS Chumysh 50.60 296 P **P** **22 43 35.7 +0.3**
SNR=5.1
KBK Karagaybulak 50.62 295 P **P** **22 43 36.0 +0.4**
SNR=47
USP Ospenovka 50.64 296 P **P** **22 43 36.3 +0.6**
SNR=32
KZA Kyzart 50.68 295 P **P** **22 43 38.0 +1.9**
SNR=22
FRU Bishkek 50.76 296 *e*P **P** **22 43 36.0 -0.6**
KKN Kakani 50.87 273⇑*i*P **P** **22 43 38.2 +0.8**
comp=Z,169nm,0.9s,mb6.0
PKI Pulchoki 50.90 273⇑*i*P **P** **22 43 38.4 +0.8**
comp=Z,176nm,1.0s,mb6.0

AAK Ala-Archa 50.93 295 P **P** **22 43 38.3 +0.4**
SNR=19
AAK Ala-Archa 50.93 295 P **P** **22 43 37.0 -0.9**
comp=Z,132nm,0.5s,mb6.1,SNR=17
DMN Daman 51.09 273⇑*i*P **P** **22 43 40.2 +1.1**
comp=Z,170nm,0.8s,mb6.0
UCH Uchtor 51.10 295 P **P** **22 43 40.3 +1.1**
SNR=5.4
GKN Gorkha 51.21 274⇑*i*P **P** **22 43 40.8 +0.8**
comp=Z,148nm,0.6s,mb6.1
EKS2 Erkin-Say 51.39 296 P **P** **22 43 41.9 +0.6**
SNR=7.9
DLBC Dease Lake 51.45 42 *e*P **P** **22 43 43.0 +1.2**
AML Almayashu 51.69 295 P **P** **22 43 45.0 +1.4**
SNR=14
KOLN Koldanda 52.10 274⇑*i*P **P** **22 43 47.7 +1.1**
comp=Z,264nm,1.0s,mb6.1
BOK Bokaro 52.76 269 *e*P **P** **22 43 52.3 +0.8**
BOK AMb AMB 22 43 53.4
comp=Z,57nm,0.8s,mb5.6
SVE Sverdlovsk 52.98 317⇑*e*P **P** **22 43 53.0 -0.2**
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.3
PTH Pithoragarh 53.55 278 *e*P **P** **22 44 00.2 +2.8**
PTH *ex* x 22 45 00.9
SOKR Solikamsk 53.69 321⇑*i*P **P** **22 43 57.0 -1.3**
SOKR pmax pmax
comp=Z,20nm,0.7s,mb5.2
SOKR MLR MLR
comp=Z,370nm,18.0s,MS4.5
SNG Songkhla 53.74 242 P **P** **22 44 02.0 +3.3**
comp=Z,130nm,0.7s,mb6.0
HNR Honiara 53.98 163 PFAKE 22 44 10.0 +10
HNR LR LR
comp=Z,277nm,20.0s,MS4.3
ARU Arti 54.19 317 P **P** **22 44 01.3 -0.7**
comp=Z,343nm,0.5s,SNR=24
ARU Arti 54.19 317*c i*P **P** **22 44 00.9 -1.1**
ARU pmax pmax
comp=Z,37nm,1.0s,mb5.3
ARU Arti 54.19 317⇑*i*P **P** **22 44 00.7 -1.4**
comp=Z,30nm,0.6s,mb5.4
DLH Dalhousie 54.95 284 *e*P **P** **22 44 07.0 -0.5**
KULM Kulim 55.16 240⇑*i*P **P** **22 44 10.2 +1.2**
THN Thein Dam 55.19 284 *e*P **P** **22 44 08.3 -0.9**
RES Resolute Bay 55.57 16 *e*P **P** **22 44 10.1 -1.9**
NDI New Delhi 56.20 279 *e*P **P** **22 44 16.7 +0.2**
NDI AMb AMB 22 44 17.7
comp=Z,73nm,1.0s,mb5.7
NDI *ex* x 22 44 26.5
YKW3 Yellowknife Ar 56.49 33 *e*P **P** **22 44 17.8 -0.7**
BLSP Bilaspur 56.51 270 *ex* x 22 46 28.8
BLSP AMb AMB 22 46 30.0
comp=Z,55nm,0.9s,mb5.6
YKA Yellowknife Ar 56.53 33 P **P** **22 44 18.0 -0.8**
comp=Z,7.3nm,0.6s,mb4.9,baz=297,slow=6.7,SNR=102
KAKA Kakadu 57.17 196 *e*P **P** **22 44 22.5 -0.9**
comp=Z,23nm,0.6s,mb5.4
AKTO Aktyubinsk 57.30 311 LR LR 23 11 05.9
comp=Z,264nm,18.7s,MS4.4,baz=75,slow=38
LVZ Lovozero 57.90 335 P **P** **22 44 27.7 -0.8**
PSI Prapat 58.16 240 LR LR 23 12 14.9
comp=Z,112nm,18.2s,MS4.0,baz=30,slow=39
VIS Vishakhapatnam 58.41 265 *e*P **P** **22 44 32.2 +0.1**
ORR Orenburg 58.47 313 *e*P **P** **22 44 32.0 -0.5**
ORR pmax pmax
comp=Z,30nm,0.8s,mb5.4
KBL Kabul 58.69 290⇑*e*P **P** **22 44 33.2 -0.8**
KEV Kevo 58.87 339 *ep* **P** **22 44 32.6 -2.7**
comp=Z,7.4nm,0.6s,mb4.9
KEV Kevo 58.87 339 *e*P **P** **22 44 32.6 -2.7**
KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
BHPL Bhopal 59.27 274 *e*P **P** **22 44 37.1 -0.9**
BHPL AMb AMB 22 44 39.1
comp=Z,71nm,1.3s,mb5.5
AJM Ajmer 59.34 279 *e*P **P** **22 44 38.7 +0.2**
AJM AMb AMB 22 44 39.9
comp=Z,52nm,1.2s,mb5.5
NGP Nagpur 59.37 271 *e*P **P** **22 44 37.4 -1.3**
NGP AMb AMB 22 44 38.9
comp=Z,49nm,0.7s,mb5.6
ARCES ARCESS Array B 59.41 339 P **P** **22 44 37.0 -2.0**
comp=Z,3.2nm,0.5s,mb4.6,baz=42,slow=7.3,SNR=25
ARCES LR LR 23 16 12.3
comp=Z,201nm,19.1s,MS4.3,baz=162,slow=42
FUNA Funafuti 59.68 141 PFAKE 22 44 50.0 +9.1
FUNA LR LR
comp=Z,4μm,19.0s
DAG Danmarks Havn 59.80 356 *i*P **P** **22 44 40.0 -1.7**
DAG Danmarks Havn 59.80 356 *e*P **P** **22 44 40.0 -1.7**
A05A Maple Falls 59.98 49⇑P **P** **22 44 41.7 -1.2**
baz=60
KTK1 Kautokeino 60.35 340 *e*P **P** **22 44 44.5 -1.0**
KTK1 AMb AMB 22 44 48.1
comp=Z,78nm,2.0s,mb5.4
KTK1 Kautokeino 60.35 340 *e*P **P** **22 44 43.8 -1.7**
comp=Z,78nm,2.0s,mb5.4
B05A Bryant 60.38 50⇑P **P** **22 44 45.4 -0.2**
baz=60
KLMR Klimovskoe 60.43 327 *e*P **P** **22 44 44.2 -1.8**
A07A Ashnola River, 60.90 49⇓P **P** **22 44 48.8 -0.4**
baz=61
C05A Tolt Reservoir 60.91 51⇓P **P** **22 44 50.1 +0.8**
baz=61
E04A Onalaska 60.94 52⇓P **P** **22 44 51.2 +1.7**
baz=61
TRO Tromso 60.95 341 *e*P **P** **22 44 46.6 -2.9**
TRO AMb AMB 22 45 03.7
comp=Z,94nm,1.7s,mb5.6
TRO Tromso 60.95 341 *e*P **P** **22 44 46.6 -2.9**
comp=Z,94nm,1.7s,mb5.6
AKL Akola 61.13 272 *e*P **P** **22 44 51.0 +0.2**
B07A Winthrop 61.37 49⇑P **P** **22 44 52.4 0.0**
baz=61
F04A Amboy 61.48 53⇓P **P** **22 44 53.0 0.0**
baz=61
E05A Randle 61.50 52⇓P **P** **22 44 53.9 +0.6**
baz=61
A08A Turner Farm, O 61.55 48⇓P **P** **22 44 54.0 +0.4**
baz=61
C07A Waterville 61.83 50⇓P **P** **22 44 54.9 -0.5**
baz=62
B08A Colville Reser 61.86 49⇓P **P** **22 44 55.1 -0.5**
baz=62
A09A Danville 61.92 48⇓P **P** **22 44 56.5 +0.5**
baz=62
E06A Yakima 61.96 51⇓P **P** **22 44 56.7 +0.4**
baz=62
HYB Hyderabad 62.09 268 *i*P **P** **22 44 57.5 +0.3**
comp=Z,65nm,1.0s,mb5.7
HYB Hyderabad 62.09 268 *e*P **P** **22 44 57.5 +0.3**
HYB pmax pmax
comp=Z,65nm,1.0s,mb5.7
HYB Hyderabad 62.09 268 *e*P **P** **22 44 57.5 +0.3**
comp=Z,65nm,1.0s,mb5.7
JOF Joensuu 62.15 332 *ep* **P** **22 44 55.8 -1.8**
comp=Z,12nm,0.4s,mb5.4
JOF Joensuu 62.15 332 *e*P **P** **22 44 55.8 -1.8**
JOF pmax pmax
comp=Z,12nm,0.4s,mb5.4
EDM Edmonton 62.17 42 *e*P **P** **22 44 56.9 -0.9**
J02A Umpqua 62.23 56⇓P **P** **22 44 58.6 +0.5**
baz=62
H04A Detroit Lake 62.31 54⇑P **P** **22 44 59.5 +0.8**
baz=62
C08A Higginbotham F 62.34 49⇓P **P** **22 44 58.8 -0.1**
baz=62
B09A Rice 62.47 48⇑P **P** **22 44 59.7 -0.1**
baz=62
G05A Wamic 62.50 53⇑P **P** **22 44 58.9 -1.1**
baz=62
E07A Sunnyside 62.59 51⇓P **P** **22 45 01.1 +0.5**
baz=62
I04A Tendick Farm, 62.69 55⇑P **P** **22 45 01.4 +0.2**
baz=62
C09A Chrisman Ranch 62.76 49⇓P **P** **22 45 01.7 0.0**
baz=62
D08A Wollman Farm, 62.83 50⇓P **P** **22 45 02.1 0.0**
baz=62
H05A Madras 62.90 53⇓P **P** **22 45 02.9 +0.3**
baz=63
G06A Carlson Farm, 62.90 52⇑P **P** **22 45 04.5 +1.8**
baz=63
F07A Phinny Hill Vi 62.93 51⇑P **P** **22 45 03.4 +0.6**
baz=63
B10A Chitwood Farm, 63.04 48⇓P **P** **22 45 05.2 +1.6**
baz=63,SNR=5.7
E08A Dider Farm, El 63.08 51⇓P **P** **22 45 03.8 0.0**
baz=63
CTA Charters Tower 63.10 180 *e*P **P** **22 45 03.7 -0.2**
comp=Z,4.9nm,0.8s,mb4.7
CTA Charters Tower 63.10 180 P **P** **22 45 02.1 -1.8**
baz=359,slow=9.4
CTA Charters Tower 63.10 180 *e*P **P** **22 45 03.7 -0.2**
CTA pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 63.12 48 *e*P **P** **22 45 03.4 -0.7**
NEW pmax pmax
comp=Z,21nm,1.0s
NEW Newport 63.12 48 *e*P **P** **22 45 03.4 -0.7**
comp=Z,21nm,1.0s,mb5.2
A11A Hall Mountain, 63.12 47⇓P **P** **22 45 05.2 +1.1**
baz=63
D09A Jones Farm, Ri 63.17 50⇑P **P** **22 45 05.4 +1.0**
baz=63
LOF Lofoten 63.35 342 *e*P **P** **22 45 06.3 +0.7**
B11A Sandpoint 63.43 48⇓P **P** **22 45 06.0 -0.1**
baz=63
A12A Yaak River Ran 63.52 47⇑P **P** **22 45 07.2 +0.5**
baz=63
F08A Pendleton 63.64 51⇑P **P** **22 45 07.0 -0.5**
baz=63,SNR=5.2
J05A Fort Rock 63.68 54⇓P **P** **22 45 07.9 +0.1**
baz=63,SNR=5.1
YBH Yreka Blue Hor 63.69 57⇑P **P** **22 45 09.0 +1.1**
baz=63
D10A Wagner Farm, O 63.74 49⇓P **P** **22 45 07.5 -0.8**
baz=63,SNR=5.3
G08A Pilot Rock 63.83 52⇑P **P** **22 45 09.0 +0.2**
baz=64,SNR=5.2
WB2 Warramunga Arr 63.89 192 *e*P **P** **22 45 08.1 -1.1**
WRA Warramunga Arr 63.90 192 P **P** **22 45 08.6 -0.6**
comp=Z,17nm,0.9s,mb5.1,baz=9.0,slow=6.8,SNR=106
WRA LR LR 23 09 40.9
comp=Z,78nm,21.7s,MS3.9,baz=50,slow=33
WRA PKP2bc 23 14 04.3
comp=Z,0.4nm,0.9s,baz=186,slow=2.9,SNR=4.8
WRA Warramunga Arr 63.90 192 P **P** **22 45 08.6 -0.6**
WRA LR LR 23 09 40.9
WRA ⇑*e* 23 14 04.3
FITZ Fitzroy Crossi 63.98 202 *e*P **P** **22 45 09.7 -0.1**
comp=Z,21nm,0.8s,mb5.2
ABKT Ailbek 64.05 298 P **P** **22 45 04.1 -6.1**
comp=Z,275nm,0.5s,SNR=13
E10A Myers Farm, Un 64.17 50⇑P **P** **22 45 11.3 +0.3**
baz=64,SNR=6.2
A13A Flathead Natio 64.17 46⇓P **P** **22 45 11.4 +0.4**
baz=64
F09A S2 Ranch, Elgi 64.19 51⇑P **P** **22 45 12.0 +0.9**
baz=64
M04C Macdoel 64.19 56⇑P **P** **22 45 12.1 +0.9**
baz=64
K05A Summer Lake 64.21 55⇑P **P** **22 45 11.5 +0.2**
baz=64,SNR=5.8
I07A Izee 64.23 53⇓P **P** **22 45 11.9 +0.5**
baz=64
M03C McCloud 64.32 57⇑P **P** **22 45 12.6 +0.6**
baz=64
J06A Christmas Vall 64.34 54⇑P **P** **22 45 10.5 -1.6**
baz=64
WALA Waterton Lakes 64.36 46 *e*P **P** **22 45 11.9 -0.3**
comp=Z,24nm,1.0s,mb5.2
KAF Kangasniemi 64.39 333 *ep* **P** **22 45 10.2 -2.2**
comp=Z,8.3nm,0.4s,mb5.1,baz=43,slow=6.2
KAF Kangasniemi 64.39 333 *e*P **P** **22 45 10.2 -2.2**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
F10A Beach Ranch, E 64.41 50⇓P **P** **22 45 13.2 +0.6**
baz=64,SNR=5.5
H08A Prairie City 64.45 52⇓P **P** **22 45 13.5 +0.6**
baz=64
WDC Whiskeytown Da 64.47 58⇑P **P** **22 45 14.0 +1.0**
baz=64
K06A Valley Falls 64.55 54⇑P **P** **22 45 14.1 +0.6**
baz=64
JMIC Jan Mayen 64.55 351 LR LR 23 13 19.6
comp=Z,243nm,19.9s,MS4.4,baz=86,slow=36
L05A Lakeview 64.64 55⇑P **P** **22 45 14.3 +0.2**
baz=64,SNR=5.5
MOR8 Moi Rana 64.71 340 *e*P **P** **22 45 11.3 -3.2**
MOR8 AMb AMB 22 45 12.8
comp=Z,53nm,0.7s,mb5.7
MOR8 Moi Rana 64.71 340 *e*P **P** **22 45 11.3 -3.2**
comp=Z,53nm,0.7s,mb5.7
E11A Bogner Ranch, 64.75 49⇓P **P** **22 45 13.9 -0.9**
baz=64,SNR=6.9
POO Poona 64.81 272 *e*P **P** **22 45 15.4 +0.3**
POO AMb AMB 22 45 16.5
comp=Z,44nm,1.1s,mb5.4
C13A Hot Springs 64.84 47⇓P **P** **22 45 14.7 -0.7**
baz=64,SNR=5.6
M05C Lookout 64.86 56⇑P **P** **22 45 15.3 -0.2**
baz=64
I08A Drewsey 64.88 53⇑P **P** **22 45 15.2 -0.4**
baz=65
BHJ Bhuj 64.89 279 *e*P **P** **22 45 16.8 +1.1**
BHJ AMb AMB 22 45 17.6
comp=Z,54nm,0.7s,mb5.7
FIA1 FINESS Array S 64.94 333 *e*P **P** **22 45 13.9 -2.1**
FINES FINESS Array B 64.94 333 P **P** **22 45 15.0 -1.1**
comp=Z,16nm,0.6s,mb5.2,baz=46,slow=7.6,SNR=186
FINES LR LR 23 15 42.1
comp=Z,126nm,18.4s,MS4.1,baz=1.6,slow=38
H09A Durkee 64.94 52⇓P **P** **22 45 17.1 +1.0**
baz=65
BMO Blue Mountains 65.04 51 *e*P **P** **22 45 16.5 -0.1**
comp=Z,16nm,1.2s,mb4.9
BMO LR LR
comp=Z,195nm,19.0s,MS4.3
MOD Modoc 65.05 55 *e*P **P** **22 45 14.9 -1.8**
comp=Z,6.1nm,0.9s,mb4.6
MOD LR LR
comp=Z,242nm,21.0s,MS4.4
MOD Modoc 65.05 55⇑P **P** **22 45 16.9 +0.1**
baz=65
K07A Rock Creek Ran 65.21 54⇓P **P** **22 45 18.2 +0.5**
baz=65
C14A Swan Lake 65.23 47⇑P **P** **22 45 18.8 +0.9**
baz=65
OBN Obninsk 65.25 323*c i*P **P** **22 45 16.6 -1.5**
OBN *i* pP 22 45 28.1 -4.2
OBN pmax pmax
comp=Z,45nm,1.0s,mb5.5
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN Obninsk 65.25 323 *e*P **P** **22 45 16.9 -1.1**
comp=Z,34nm,0.8s,mb5.4
J08A Circle Bar Ran 65.26 53⇓P **P** **22 45 18.6 +0.5**
baz=65
I09A Lost Marbles R 65.32 52⇓P **P** **22 45 18.9 +0.5**
baz=65
KAD Karad 65.34 271 *e*P **P** **22 45 18.5 -0.2**
KAD AMb AMB 22 45 19.7
comp=Z,64nm,1.1s,mb5.6
M06C Likely Place G 65.36 56⇓P **P** **22 45 19.9 +1.1**
baz=65
VRHR Novokhopersk 65.50 318 *e*P **P** **22 45 18.5 -1.2**
VRHR pmax pmax
comp=Z,30nm,0.4s,mb5.7
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,5.0nm,0.2s
O04C Chester 65.52 57⇓P **P** **22 45 21.0 +1.2**
baz=65
L07A Adell 65.55 55⇑P **P** **22 45 20.9 +0.8**
baz=65
ELFS Eagle Lake Fie 65.56 57⇑P **P** **22 45 20.6 +0.6**
baz=65
K08A Mann Creek Ran 65.63 54⇓P **P** **22 45 21.0 +0.5**
baz=65
F12A Elk City 65.64 49⇓P **P** **22 45 21.5 +0.9**
baz=65,SNR=7.1
J09A Fry Pan Ranch, 65.69 53⇓P **P** **22 45 21.1 +0.2**
baz=65,SNR=6.2
MSO Missoula 65.71 48 *e*P **P** **22 45 20.4 -0.6**
comp=E,14nm,1.0s,mb4.9
ORV Oroville 65.72 58⇓P **P** **22 45 20.8 -0.3**
baz=65
WVOR Wild Horse Val 65.72 54 *e*P **P** **22 45 20.7 -0.4**
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
WVOR Wild Horse Val 65.72 54 *e*P **P** **22 45 20.7 -0.4**
comp=Z,9.1nm,0.9s,mb4.8
SUTB Sutter Butte 65.74 58⇓P **P** **22 45 20.6 -0.6**
baz=65
D14A Greenough 65.78 48⇑P **P** **22 45 20.9 -0.6**
baz=66
E13A Victor 65.81 48⇑P **P** **22 45 21.7 0.0**
baz=66
O05C Quincy 65.83 57⇑P **P** **22 45 21.6 -0.3**
baz=66
H11A Donnelly 65.86 51⇑P **P** **22 45 21.3 -0.6**
baz=66
OHCM Honcut 65.86 58 *e*P **P** **22 45 21.5 -0.5**
N06A Buffalo Meadow 66.02 56⇓P **P** **22 45 24.0 +1.0**
baz=66,SNR=5.1
CHMT Chamberlain Mo 66.03 48 *e*P **P** **22 45 22.2 -0.8**
M07A Soldier Meadow 66.03 55⇓P **P** **22 45 23.7 +0.6**
baz=66
L08A Fields 66.04 54⇓P **P** **22 45 23.1 0.0**
baz=66
K09A Rome 66.10 53⇓P **P** **22 45 23.2 -0.3**
baz=66
F13A Darby 66.13 49⇓P **P** **22 45 22.9 -0.9**
baz=66
E14A Clinton 66.20 48⇑P **P** **22 45 24.9 +0.7**
baz=66,SNR=6.8
BEKR Beckwourth 66.23 57⇑P **P** **22 45 25.1 +0.7**
baz=66,SNR=5.2
D15A Lincoln 66.34 47⇓P **P** **22 45 25.8 +0.8**
baz=66
I11A Placerville 66.38 51⇑P **P** **22 45 25.4 +0.1**
baz=66
O06A Flanigan 66.38 57⇑P **P** **22 45 26.1 +0.8**
baz=66
P05C Yuba Gap, Truc 66.42 58⇑P **P** **22 45 24.8 -0.7**
baz=66
FFC Flin Flon 66.44 36 P **P** **22 45 25.4 -0.3**
comp=Z,128nm,0.8s,mb6.0,SNR=9.0
M08A Happy Creek Ra 66.47 55⇑P **P** **22 45 22.9 -3.0**
baz=66
K10A MacKenzie Ranc 66.55 53⇑P **P** **22 45 26.8 +0.4**
baz=66
H12A Diamond D Ranc 66.61 50⇓P **P** **22 45 26.9 +0.1**
baz=66,SNR=8.2
G13A Cobalt 66.62 50⇑P **P** **22 45 25.7 -1.1**
baz=66,SNR=7.0
F14A Wisdom 66.65 49⇓P **P** **22 45 26.6 -0.4**
baz=66,SNR=5.2
E15A Deer Lodge 66.66 48⇓P **P** **22 45 26.4 -0.7**
baz=66,SNR=8.2
LAVA Lava Cap Winer 66.67 58⇓P **P** **22 45 27.5 +0.3**
baz=66,SNR=5.2
VORD Divnogorie 66.71 319 *e*P **P** **22 45 25.6 -1.8**
VORD pmax pmax
comp=Z,40nm,1.0s,mb5.4
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.5s
FCC Fort Churchill 66.73 30⇑*e*P **P** **22 45 26.2 -1.3**
FCC pmax pmax
comp=Z,31nm,0.9s,mb5.3
FCC Fort Churchill 66.73 30⇑*e*P **P** **22 45 26.2 -1.3**
comp=Z,31nm,0.9s,mb5.3
MFID Camas Ranch 66.76 52⇑P **P** **22 45 27.9 +0.2**
baz=66
GOA Goa 66.78 270 *e*P **P** **22 45 25.6 -2.2**
HRY Holter Researc 66.91 47 *e*P **P** **22 45 28.6 -0.2**
PAHR Pah Rah Range 66.93 57 *e*P **P** **22 45 28.6 -0.2**
comp=Z,4.3nm,0.9s,mb4.5
WCN Washoe City 66.95 57⇑P **P** **22 45 29.8 +0.9**
baz=67,SNR=5.7
G14A Jackson 66.95 49⇓P **P** **22 45 28.0 -1.0**
baz=67
O07A Toulon 66.96 56⇑P **P** **22 45 29.6 +0.6**
baz=67,SNR=5.8
R05C Kirkwood Meado 67.12 58⇓P **P** **22 45 30.1 0.0**
baz=67
EGMT Eagleton 67.17 45 *e*P **P** **22 45 29.8 -0.6**
comp=Z,35nm,0.9s,mb5.4
EGMT Eagleton 67.17 45⇑P **P** **22 45 30.2 -0.2**
baz=67
J12A Stokes Ranch, 67.28 52⇑P **P** **22 45 30.4 -0.7**
baz=67
CMB Columbia Colle 67.33 59 *e*P **P** **22 45 29.8 -1.6**
CMB pmax pmax
comp=Z,12nm,0.9s,mb4.9
CMB MLR MLR
comp=Z,339nm,19.0s,MS4.6
CMB Columbia Colle 67.33 59 *e*P **P** **22 45 29.8 -1.6**
comp=Z,12nm,0.9s,mb4.9
CMB LR LR
comp=Z,339nm,19.0s,MS4.6
CMB Columbia Colle 67.33 59⇓P **P** **22 45 32.1 +0.7**
baz=67
N09A Rock Creek Ran 67.35 55⇑P **P** **22 45 32.7 +1.2**
baz=67
DLMT Dillon 67.35 49 *e*P **P** **22 45 27.6 -3.9**
comp=Z,18nm,0.8s,mb5.1
PACP Pacheco Peak 67.40 60⇓P **P** **22 45 32.6 +0.8**
baz=67
HLID Hailey 67.47 51 *e*P **P** **22 45 32.1 -0.2**
comp=Z,16nm,1.1s,mb5.0
HLID LR LR
comp=Z,192nm,20.0s,MS4.3
HLID Hailey 67.47 51⇑P **P** **22 45 32.3 0.0**
baz=67,SNR=7.5
G15A Dillon 67.53 49⇑P **P** **22 45 33.0 +0.4**
baz=67
MCMT McKenzie Canyo 67.55 49 *e*P **P** **22 45 32.7 0.0**
KOD Kodaikanal 67.61 263 *e*P **P** **22 45 33.7 +0.6**
R06C Coleville 67.61 58⇓P **P** **22 45 33.9 +0.8**
baz=67
ASAR Alice Springs 67.62 192 P **P** **22 45 33.5 +0.4**
comp=Z,17nm,0.7s,mb5.2,baz=7.8,slow=5.6,SNR=287
ASAR PKP2bc 23 13 57.8
comp=Z,0.7nm,0.7s,baz=186,slow=3.5,SNR=11
ASAR Alice Springs 67.62 192 P **P** **22 45 33.5 +0.4**
ASAR ⇑*e* 23 13 57.8
BOZ Bozeman (W) 67.70 48 *e*P **P** **22 45 33.7 0.0**
BOZ pmax pmax
comp=Z,16nm,0.6s,mb5.2
BOZ Bozeman (W) 67.70 48 *e*P **P** **22 45 33.6 0.0**
comp=Z,16nm,0.6s,mb5.2
BOZ Bozeman (W) 67.70 48⇓P **P** **22 45 35.0 +1.4**
baz=67
J13A Cove Ranch, Pi 67.71 51⇓P **P** **22 45 35.1 +1.3**
baz=67,SNR=5.4
MNGI Mangalore 67.72 267 *ex* x 22 45 21.7
MNGI AMb AMB 22 45 47.2
comp=Z,40nm,1.0s,mb5.4
S06C San Francisco 67.76 59⇑P **P** **22 45 34.3 +0.2**
baz=67
K12A Draper Farm, C 67.77 52⇓P **P** **22 45 34.5 +0.4**
baz=67
BMN Battle Mountai 67.79 55 *e*P **P** **22 45 34.4 +0.2**
BMN pmax pmax
comp=Z,11nm,0.8s,mb4.9
BMN MLR MLR
comp=Z,303nm,20.0s,MS4.5
BMN Battle Mountai 67.79 55 *e*P **P** **22 45 34.4 +0.2**
comp=Z,11nm,0.8s,mb5.0
BMN LR LR
comp=Z,303nm,20.0s,MS4.5
S05C Merced 67.79 59⇓P **P** **22 45 34.2 -0.1**
baz=68
O09A Fish Creek Ran 67.97 55⇑P **P** **22 45 36.1 +0.8**
baz=68
M11A Holland Ranch, 68.01 53⇓P **P** **22 45 36.4 +0.7**
baz=68
L12A House Creek Ra 68.01 52⇑P **P** **22 45 36.7 +1.1**
baz=68
U04C Hernandez Rese 68.11 60⇑P **P** **22 45 37.0 +0.7**
baz=68
R07C Lee Vining 68.13 58⇓P **P** **22 45 36.7 +0.3**
baz=68,SNR=6.3
O10A Cortez Mining, 68.31 55⇑P **P** **22 45 38.3 +0.8**
baz=68
QLMT Earthquake Lak 68.33 48 *e*P **P** **22 45 37.8 +0.1**
Q08A Gabbs 68.34 57⇑P **P** **22 45 39.5 +1.8**
baz=68,SNR=5.8
NVAR Mina Array Bea 68.38 57 P **P** **22 45 37.6 -0.3**
comp=Z,3.5nm,0.7s,mb4.5,baz=294,slow=6.9,SNR=5.9
T06C Millerton Lake 68.39 59⇓P **P** **22 45 38.7 +0.7**
baz=68
KCC Kaiser Creek 68.44 59⇑P **P** **22 45 39.6 +1.3**
baz=68
PKD Parkfield 68.53 61⇓P **P** **22 45 40.3 +1.4**

baz=68
M12A Wells 68.53 53 ⇊P P 22 45 39.8 +0.9
baz=68
GCMT Greycliff 68.66 47 eP P 22 45 39.6 -0.1
L13A Double Diamond 68.67 52 ⇊P P 22 45 41.6 +1.8
baz=68
YMR Madison River 68.69 48 PFAKE 22 45 50.0 +10
YMR LR LR
comp=Z,1µm,21.0s,MS5.1
N12A Clover Valley, 68.82 54 ⇊P P 22 45 41.0 +0.3
baz=68
YFT Old Faithful 68.90 48 eP P 22 45 43.0 +1.8
HELL Mitchell Peak, 69.03 59 ⇊P P 22 45 42.2 +0.2
baz=69
S08C White Mtn Res 69.04 58 ⇑P P 22 45 43.5 +1.4
baz=69
TRD Trivandrum 69.14 262 eP P 22 45 42.1 -0.6
IMW Indian Meadow 69.20 49 eP P 22 45 43.5 +0.4
comp=Z,28nm,1.0s,mb5.1
R09A Tonopah 69.25 57 ⇑P P 22 45 43.5 +0.2
baz=69,SNR=6.7
DCID1 Drake Creek 69.26 49 P P 22 45 42.2 -1.2
RLMT Red Lodge 69.31 47 eP P 22 45 43.8 +0.1
comp=Z,31nm,1.3s,mb5.1
MNK Minsk 69.33 327 eP P 22 45 40.0 -3.9
MOOW Moose Ponds 69.40 49 eP P 22 45 44.8 +0.5
comp=Z,18nm,0.9s,mb5.0
TPAW Teton Pass 69.46 49 eP P 22 45 45.2 +0.6
comp=Z,31nm,0.9s,mb5.2
DOMB Dombas 69.46 340 eP P 22 45 44.0 -0.7
S09A Goldfield 69.48 57 ⇊P P 22 45 44.4 -0.4
baz=69
VES Vestal, Richgr 69.52 60 ⇊P P 22 45 44.4 -0.6
baz=69
KIV Kislovodsk 69.54 311 P P 22 45 46.4 +1.3
comp=Z,1µm,0.7s,SNR=33
KIV Kislovodsk 69.54 311 ⇊P P 22 45 46.3 +1.2
SNR=16
KIV Kislovodsk 69.54 311 c iP P 22 45 45.8 +0.7
KIV pmax pmax
comp=Z,100nm,0.6s,mb5.9
KIV MLR MLR
comp=Z,400nm,20.0s,MS4.7
KIV Kislovodsk 69.54 311 ⇑iP P 22 45 45.8 +0.7
comp=Z,124nm,0.7s,mb6.0
KIV LR LR
comp=Z,104nm,20.0s,MS4.1
LOHW Long Hollow 69.57 49 eP P 22 45 45.2 -0.1
comp=Z,9.5nm,0.8s,mb4.8
SNOW Snow King Moun 69.58 49 eP P 22 45 46.1 +0.7
comp=Z,24nm,0.9s,mb5.1
REDW Red Top Meadow 69.59 49 eP P 22 45 45.5 +0.1
comp=Z,43nm,1.3s,mb5.2
DGRG David-gareji 69.66 308 P P 22 45 47.0 +1.1
NB2 NORSAR Subarra 69.75 338 P P 22 45 45.2 -1.3
comp=Z,17nm,0.5s,mb5.2,baz=32,slow=6.5
NOA NORSAR Array B 69.75 338 P P 22 45 45.5 -1.0
comp=Z,17nm,0.5s,mb5.2,baz=33,slow=6.3,SNR=44
NOA LR LR 23 20 58.6
comp=Z,158nm,19.3s,MS4.3,baz=10.0,slow=40
CWC Cottonwood Cre 69.77 59 ⇊P P 22 45 47.2 +0.7
baz=69
MTA Mtatsminda 69.83 309 P P 22 45 47.7 +0.8
MTA Mtatsminda 69.83 309 P P 22 45 49.2 +2.2
AHID Auburn Hatcher 69.84 50 PFAKE 22 46 00.0 +13
AHID LR LR
comp=Z,170nm,20.0s,MS4.3
GRAC Grapevine Rang 69.85 58 ⇊P P 22 45 47.8 +0.7
baz=70
LAO LASA Array 69.86 44 eP P 22 45 46.9 -0.2
comp=Z,32nm,0.9s,mb5.2
LAO LR LR
comp=Z,281nm,22.0s,MS4.5
NAO01 NORSAR Array S 70.00 339 eP P 22 45 46.7 -1.3
comp=Z,6.2nm,0.5s,mb4.8
ISA Isabella 70.01 60 ⇊P P 22 45 48.2 +0.2
baz=70
SPUT South Promonto 70.03 52 eP P 22 45 49.9 +1.8
GOR Gori 70.03 309 P P 22 45 49.2 +1.0
TRCR Troy Canyon 70.08 56 eP P 22 45 53.6 +5.1
DAC Darwin (Calif) 70.17 59 eP P 22 45 48.7 -0.3
DAC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DAC Darwin (Calif) 70.17 59 eP P 22 45 48.7 -0.3
comp=Z,6.1nm,0.9s,mb4.5
HWUT Hardware Ranch 70.34 51 eP P 22 45 50.2 +0.2
comp=Z,7.3nm,0.6s,mb4.8
MPMC Manual Prospec 70.37 59 ⇊P P 22 45 50.8 +0.5
baz=70
FURC Furnace Creek, 70.50 58 ⇊P P 22 45 51.9 +0.8
baz=70
OSI Osito Adit 70.52 61 ⇊P P 22 45 51.2 0.0
baz=70
DUG Dugway 70.54 53 eP P 22 45 50.8 -0.5
DUG pmax pmax
comp=Z,15nm,0.9s,mb4.9
DUG Dugway 70.54 53 eP P 22 45 50.8 -0.5
comp=Z,15nm,0.9s,mb4.9
DUG Dugway 70.54 53 ⇊P P 22 45 52.0 +0.7
baz=70
LRMC Laurel Mountai 70.62 59 ⇑P P 22 45 51.8 0.0
baz=70
NOQ North Oquirrh 70.64 52 eP P 22 45 52.4 +0.5
comp=Z,16nm,0.6s,mb5.1
PDAR Pinedale Array 70.70 49 P P 22 45 51.9 -0.4
comp=Z,2.4nm,0.7s,baz=254,slow=2.0,SNR=23
EDW2 Edwards Air Fo 70.81 60 ⇑P P 22 45 52.6 -0.3
baz=70
CTU Camp Tracy 70.83 52 eP P 22 45 53.6 +0.6
comp=Z,5.9nm,0.7s,mb4.6
HYA Hoyanger 70.92 341 eP P 22 45 53.8 +0.2
HYA AMb AMB 22 46 01.9
comp=Z,104nm,1.7s,mb5.5
HYA Hoyanger 70.92 341 eP P 22 45 53.8 +0.2
comp=Z,104nm,1.7s,mb5.5
NLU North Lily Min 71.12 53 eP P 22 45 53.6 -1.2
GSC Goldstone 71.29 59 ⇊P P 22 45 55.0 -0.8
baz=71
DAU Daniels Canyon 71.30 52 eP P 22 45 55.8 -0.1
MPU Maple Canyon 71.34 52 eP P 22 45 55.2 -0.9
comp=Z,15nm,0.9s,mb4.9
MPU LR LR
comp=Z,668nm,22.0s,MS4.9
SOC Sochi 71.39 313 eP P 22 45 55.0 -1.5
SOC e*PP pP 22 46 11.9 +1.0
SOC ePPP 22 50 22.0
SOC eS S 22 55 08.8 -2.0
SOC e*SS sS 22 55 42.5 +7.5
SOC e 22 55 58.1
SOC pmax pmax
comp=Z,87nm,0.9s,mb5.7
SOC MLR MLR
comp=Z,341nm,18.0s,MS4.7
SUW Suwalki 71.51 329 eP P 22 45 56.2 -1.0
AKASG Malin Array Be 71.52 323 P P 22 45 56.5 -0.7
comp=Z,40nm,0.6s,mb5.5,baz=39,slow=6.0,SNR=148
AKASG LR LR 23 20 20.2
comp=Z,182nm,18.7s,MS4.4,baz=325,slow=38
AKASG Malin Array Be 71.52 323 i P P 22 45 56.5 -0.7
AKASG pmax pmax
comp=Z,40nm,0.6s
AKASG Malin Array Be 71.52 323 P P 22 45 56.5 -0.7
AKASG LR LR 23 20 20.2
KIEV Kiev 71.53 323⇑eP P 22 45 56.3 -1.0
KIEV pmax pmax
comp=Z,46nm,0.7s,mb5.5
KIEV Kiev 71.53 323⇑eP P 22 45 56.3 -1.0
comp=Z,46nm,0.7s,mb5.5
TUQ Turquoise Mtn. 71.75 58 ⇑P P 22 45 59.4 +0.8
baz=71
ASK Askoy 71.76 341 eP P 22 45 58.2 -0.4
ASK epP pP 22 46 01.9 -11
ASK AMb AMB 22 46 03.8
comp=Z,306nm,1.9s,mb5.9
ASK Askoy 71.76 341 eP P 22 45 58.2 -0.4
comp=Z,306nm,1.9s,mb5.9
ANN Anapa 71.77 315 c iP P 22 45 58.5 -0.2
ANN e*PP pP 22 46 14.3 +1.2
ANN e 22 48 38.9
ANN eS S 22 55 12.6 -2.5
ANN e 22 55 55.8
ANN eSS SS 22 59 51.9 +0.2
ANN pmax pmax
comp=Z,73nm,0.5s,mb5.9
V11A Goodsprings 71.80 58 ⇊P P 22 45 59.6 +0.8
baz=72

HEC Hector,Ludlow 71.89 59 ⇑P P 22 46 00.9 +1.5
baz=72
ODD1 Odda 71.90 340 eP P 22 45 58.6 -0.9
ODD1 AMb AMB 22 46 10.6
comp=Z,94nm,1.8s,mb5.4
ODD1 Odda 71.90 340 eP P 22 45 58.6 -0.9
comp=Z,94nm,1.8s,mb5.4
EGD Espegrend 71.94 341 eP P 22 45 59.5 -0.2
CCUT Cedar City 71.94 55 eP P 22 45 59.4 -0.4
U12A Valley of Fire 71.96 57 ⇑P P 22 46 00.3 +0.5
baz=72
MVU Marysvale 72.00 54 eP P 22 45 59.1 -0.9
comp=Z,6.5nm,1.0s,mb4.5
MSU Marysvale 72.01 54 eP P 22 46 00.9 +0.7
MURC Murrieta 72.14 61 ⇊P P 22 46 01.3 +0.4
baz=72
V12A Nelson 72.22 58 ⇊P P 22 46 02.6 +1.2
baz=72
ULM Lac du Bonnet 72.25 37 P P 22 46 00.1 -1.4
comp=Z,3,7nm,0.7s,mb4.4,baz=318,slow=7.6,SNR=16
GMRC Granite Mounta 72.34 59 ⇑P P 22 46 02.7 +0.6
baz=72
BLS5 Blasjo 72.37 340 eP P 22 46 03.2 +0.9
W12A Cal Nev Ari 72.49 58 ⇊P P 22 46 03.0 0.0
baz=72
SRU San Rafael 72.58 53 eP P 22 46 03.4 -0.2
SRU pmax pmax
comp=Z,18nm,0.8s,mb5.0
SRU San Rafael 72.58 53 eP P 22 46 03.4 -0.2
comp=Z,18nm,0.8s,mb5.1
PFO Pinyon Flat Ob 72.60 60 eP P 22 46 03.0 -0.7
PFO pmax pmax
comp=Z,7.0nm,0.3s,mb5.1
PFO Pinyon Flat Ob 72.60 60 eP P 22 46 03.0 -0.7
comp=Z,6.8nm,0.3s,mb5.1
PFO Pinyon Flat Ob 72.60 60 ⇊P P 22 46 04.1 +0.4
baz=72
BELC Belle Mtn. 72.64 60 ⇊P P 22 46 03.7 -0.2
baz=72
RWWY Rawlins 72.72 49 eP P 22 46 03.9 -0.5
comp=Z,21nm,0.8s,mb5.1
RSSD Black Hills 72.74 45 PFAKE 22 46 20.0 +16
RSSD LR LR
comp=Z,3µm,20.0s
ERZM Erzurum 72.96 309 i P P 22 46 07.5 +1.7
IRM Iron Mountain 73.06 59 ⇊P P 22 46 07.3 +0.8
baz=73
MONP Monument Peak 73.09 61 ⇑P P 22 46 06.9 +0.3
baz=73
HAKT HAKKARI 73.18 306 i P P 22 46 07.5 +0.4
BC3 Big Chuckw Mtn 73.20 60 ⇊P P 22 46 07.8 +0.6
baz=73
W13A Hualapai Mount 73.23 58 ⇑P P 22 46 08.2 +0.8
baz=73
SIM Simferopol' 73.36 317 ceP P 22 46 08.0 -0.2
SIM e pP 22 46 24.8 +2.2
SIM pmax pmax
comp=Z,43nm,0.7s,mb5.5
SIM MLR MLR
comp=Z,260nm,17.0s,MS4.6
DVTC Desert V Tower 73.45 61 ⇑P P 22 46 08.4 -0.2
baz=73
X13A Yucca 73.60 58 ⇑P P 22 46 10.1 +0.6
baz=73
PDMCI Parker Dam,Lak 73.60 58 ⇑P P 22 46 09.8 +0.3
baz=73
W14A Seligman 73.65 57 ⇊P P 22 46 11.0 +1.2
baz=73
Y12C Blythe 73.72 59 ⇊P P 22 46 11.3 +1.0
baz=73
PV10 Paradox Valley 73.93 52 eP P 22 46 12.2 +0.6
PHWY Pilot Hill 73.94 48 eP P 22 46 11.3 -0.3
Y13A Salome 74.12 58 ⇊P P 22 46 13.9 +1.3
baz=74
W15A Williams 74.17 57 ⇊P P 22 46 14.8 +1.9
baz=74
X14A Yava 74.26 57 ⇑P P 22 46 14.8 +1.3
baz=74,SNR=5.2
GKP Gorka Klasztor 74.28 331 eP P 22 46 13.2 -0.4
PV01 Paradox Valley 74.37 52 eP P 22 46 15.0 +0.9
KIS Kishinev 74.42 321⇑iP P 22 46 13.0 -1.4
KIS e pP 22 46 25.0 -3.9
KIS i pP 22 46 30.0 +1.1
KIS pmax pmax
comp=Z,210nm,0.6s,mb6.2
KIS Kishinev 74.42 321⇑iUNK P 22 46 13.0 -1.4
KIS Kishinev 74.42 321 PM P 22 46 13.5 -0.9
comp=Z,200nm,0.6s,mb6.2
WUAZ Wupatki 74.48 56 eP P 22 46 13.7 -1.0
comp=Z,11nm,0.8s,mb4.8
WUAZ Wupatki 74.48 56 ⇑P P 22 46 15.4 +0.7
baz=74
Y14A Wickenburg 74.54 58 ⇊P P 22 46 15.9 +0.8
baz=74
SMCO Snowmass 74.56 51 eP P 22 46 15.6 +0.4
comp=Z,16nm,0.9s,mb5.0
X15A Humboldt 74.65 57 ⇊P P 22 46 17.7 +2.0
baz=74
IAS Iasi 74.85 322 P P 22 46 16.9 0.0
STKA Stephens Creek 74.96 184 eP P 22 46 17.6 +0.1
comp=Z,7.2nm,0.9s,mb4.6
STKA Stephens Creek 74.96 184 P P 22 46 17.7 +0.2
comp=Z,8.4nm,0.8s,mb4.7,baz=345,slow=6.9,SNR=14
MVCO Mesa Verde 75.04 53 eP P 22 46 18.3 +0.3
comp=Z,14nm,0.9s,mb4.9
MVCO LR LR
comp=Z,120nm,19.0s,MS4.2
MVCO Mesa Verde 75.04 53 ⇊P P 22 46 19.4 +1.4
baz=75
MARD Mardin 75.06 307 i P P 22 46 19.5 +1.4
KWP Kalwaria 75.08 326 eP P 22 46 18.7 +0.5
ELZG Elazig 75.27 309 i P P 22 46 20.9 +1.6
BOYT Boyabat 75.46 314 i P P 22 46 21.5 +1.1
BURAR Bucovina Array 75.57 323⇑iP P 22 46 21.4 +0.4
FORT Forrest 75.60 196 eP P 22 46 21.6 +0.4
comp=Z,34nm,0.6s,mb5.5
OJC Ojcow 75.78 328 i P P 22 46 22.4 +0.2
KOLS Kolonicke sedl 75.80 326 eP P 22 46 22.3 0.0
STHS Stebnicka Huta 75.84 327 i P P 22 46 23.1 +0.5
STHS pmax pmax
comp=Z,27nm,0.8s,mb5.2
STHS Stebnicka Huta 75.84 327 i P P 22 46 23.1 +0.5
comp=Z,27nm,0.8s,mb5.2
115A Sonoran Desert 75.86 58 ⇑P P 22 46 25.0 +2.4
baz=76
EYMN Ely 75.87 36 eP P 22 46 21.0 -1.7
comp=Z,13nm,0.8s,mb4.9
UMR Umm Al-Rimmam 76.03 297 eP P 22 46 23.0 -0.6
UMR AMb AMB 22 46 27.4
comp=Z,55nm,0.7s,mb5.6
UZH Uzhgorod 76.03 325 eP P 22 46 23.2 -0.4
CTKT Corum 76.08 313 i P P 22 46 25.0 +1.1
CFR Carcaliu 76.09 320 P P 22 46 25.3 +1.3
MIB Mutribah 76.10 298 eP P 22 46 23.4 -0.7
MIB AMb AMB 22 46 25.6
comp=Z,64nm,0.7s,mb5.7
MVH1 Achvaich 76.13 344⇑eP P 22 46 23.2 -1.0
CRVS Cervenica-Dubn 76.16 326 eP P 22 46 25.1 +0.7
BALT Daday 76.17 315 i P P 22 46 25.4 +1.0
NIE Niedzica 76.21 327 i P P 22 46 25.4 +0.7
VRI Vrincioaia 76.23 321⇓iP P 22 46 25.4 +0.7
PLOR Plostina 76.27 321 ⇊P P 22 46 25.6 +0.6
PLOR Plostina 76.27 321⇓iP P 22 46 25.5 +0.5
SDCO Great Sand Dun 76.39 51 eP P 22 46 27.7 +2.0
comp=Z,4.8nm,0.8s,mb4.5
TIRR Tirgusor 76.50 319⇑iP P 22 46 26.2 -0.1
NAY Al-Naaiem 76.53 297 eP P 22 46 25.4 -1.1
NAY AMb AMB 22 46 28.1
comp=Z,38nm,1.2s,mb5.2
RDF Al-Radifah 76.55 297 eP P 22 46 26.3 -0.3
RDF AMb AMB 22 46 27.5
comp=Z,68nm,0.6s,mb5.8
KSP Ksiaz 76.60 330⇑eP P 22 46 26.9 +0.1
KSP epP pP 22 46 30.1 -11
KSP ePcP PcP 22 46 38.0 -0.2
MDO Dochfour 76.62 344 eP P 22 46 25.7 -1.2
OKC Ostrava-Krasne 76.72 328⇑iP P 22 46 27.6 +0.1
OKC epP pP 22 46 31.3 -11
OKC ePCP PcP 22 46 39.2 +0.5
MLR Muntele Rosu 76.87 321 P P 22 46 28.8 +0.4
MLR Muntele Rosu 76.87 321⇑iP P 22 46 28.7 +0.3
GZT Gaziantep 76.88 309 i P P 22 46 29.7 +1.3
KECS Kecovo 76.89 326 eP P 22 46 28.3 -0.2
KECS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7

KECS Kecovo 76.89 326 eP P 22 46 28.2 -0.3
KECS Kecovo 76.89 326 eP P 22 46 28.3 -0.2
comp=Z,8.9nm,0.9s,mb4.7
ELDT Eldivan 76.90 314 i P P 22 46 29.6 +1.0
UPC Upice 76.97 330⇑iP P 22 46 28.9 -0.1
UPC epP pP 22 46 32.1 -11
UPC ePCP PcP 22 46 40.7 +0.9
LIKS Likavka 76.98 327 eP P 22 46 29.7 +0.7
DPC Dobruska-Polom 76.99 330⇑iP P 22 46 29.4 +0.3
DPC epP pP 22 46 33.1 -10
DPC ePCP PcP 22 46 41.2 +1.3
MORC Moravsky Berou 77.00 329 P P 22 46 29.5 +0.4
MORC Moravsky Berou 77.00 329 ⇑P P 22 46 29.4 +0.3
MORC Moravsky Berou 77.00 329⇑iP P 22 46 29.4 +0.3
CDAG Cicekdag 77.02 313 i P P 22 46 29.8 +0.6
KSB Sheil Bridge 77.05 345 eP P 22 46 28.1 -1.2
DRGR 77.29 324 P P 22 46 31.2 +0.4
VOIR 77.32 322⇓iP P 22 46 32.0 +1.1
BR131 Keskin Array S 77.34 313⇑iP P 22 46 31.4 +0.3
comp=Z,8.4nm,0.7s,mb4.8
BRTR Keskin Array B 77.34 313 P P 22 46 31.5 +0.5
comp=Z,10nm,0.7s,mb4.9,baz=66,slow=4.2,SNR=14
BRTR LR LR 23 26 59.5
comp=Z,115nm,18.5s,MS4.2,baz=301,slow=41
BRTR Keskin Array B 77.34 313⇑eP P 22 46 31.5 +0.5
AVNT Avonos 77.37 312 i P P 22 46 31.7 +0.6
CLL Collm 77.38 332⇑iP P 22 46 30.5 -0.7
CLL i pP 22 46 43.1 -2.7
CLL i pP 22 46 46.6 +0.8
CLL pmax pmax
comp=Z,23nm,0.9s,mb5.1
CLL Collm 77.38 332⇑iP P 22 46 30.5 -0.7
comp=Z,55nm,0.9s,mb5.5
CLL i pP 22 46 43.1 -2.7
CLL i pP 22 46 46.6 +0.8
CLL Collm 77.38 332⇑iP P 22 46 30.5 -0.7
comp=Z,55nm,0.9s,mb5.5
CLL i (PcP) PcP 22 46 43.1 +1.6
CLL i sPcP pP 22 46 46.6 +0.8
comp=Z,54nm,1.1s
KAR1 Arisaig 77.40 345 eP P 22 46 30.5 -0.8
BRG Berggiesshubel 77.41 331 i P P 22 46 30.9 -0.5
comp=Z,8.8nm,0.9s,mb4.7
BRG Berggiesshubel 77.41 331 i P P 22 46 30.9 -0.5
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MTUR Matau 77.47 322⇑iP P 22 46 32.0 +0.3
PVCC Panska Ves 77.48 331⇑iP P 22 46 31.9 +0.1
VYHS Vyhne 77.54 327 i P P 22 46 32.4 +0.3
VYHS pmax pmax
comp=Z,18nm,1.3s,mb4.8
VYHS Vyhne 77.54 327 i P P 22 46 32.4 +0.3
comp=Z,18nm,1.3s,mb4.8
SGKT Sivrigoynuk 77.56 315 i P P 22 46 33.6 +1.4
PSZ Piszkesteto 77.58 326⇑iP P 22 46 32.8 +0.5
PSZ Piszkesteto 77.58 326⇑eP P 22 46 32.9 +0.6
ESY Stoneypath 77.67 343 eP P 22 46 32.2 -0.7
ANTO Ankara 77.69 314 P P 22 46 33.9 +1.0
ANTO Ankara 77.69 314 ⇊P P 22 46 32.9 -0.1
ANTO LR LR
comp=Z,159nm,19.0s,MS4.4
ANTO Ankara 77.69 314⇓iP P 22 46 32.9 0.0
VRAC Vranov 77.74 329 P P 22 46 33.8 +0.5
VRAC Vranov 77.74 329 ⇑P P 22 46 33.6 +0.4
VRAC Vranov 77.74 329⇑iP P 22 46 33.6 +0.3
ANMO Albuquerque 77.80 53⇑eP P 22 46 33.5 0.0
ANMO Albuquerque 77.80 53 eP P 22 46 31.0 -2.6
comp=Z,5.5nm,1.0s,mb4.4
ANMO LR LR
comp=Z,288nm,20.0s,MS4.6
EBL Broad Law 77.90 343 eP P 22 46 33.5 -0.7
EAU Auchinoon 77.92 343 eP P 22 46 33.8 -0.4
PRU Pruhonice 77.94 330⇑iP P 22 46 34.4 +0.1
PRU epP pP 22 46 37.6 -11
PRU ex x 22 46 47.5
SMOL Smolenice 78.07 328 eP P 22 46 35.8 +0.7
PGBU Glenifferbraes 78.17 344 eP P 22 46 35.1 -0.5
PGBU AMb AMB 22 46 36.6
comp=Z,59nm,1.3s,mb5.3
TREC Trest 78.17 330⇑iP P 22 46 35.6 0.0
TREC epP pP 22 46 39.2 -11
TREC ePCP PcP 22 46 46.8 +1.8
COBT Iskenderun 78.21 309 i P P 22 46 37.2 +1.4
SCHQ Schefferville 78.24 19 P P 22 46 35.3 -0.7
comp=Z,14nm,0.6s,mb5.1,baz=343,slow=5.7,SNR=38
SCHQ LR LR 23 24 38.9
comp=Z,145nm,19.1s,MS4.3,baz=338,slow=38
BNM Barren Site 78.26 54 eP P 22 46 36.7 +0.6
BUD Budapest 78.28 327⇑eP P 22 46 36.7 +0.5
ESK Eskdalemuir 78.36 343 P P 22 46 36.0 -0.7
comp=Z,213nm,0.6s,mb6.2,SNR=15
ESK Eskdalemuir 78.36 343⇑eP P 22 46 36.0 -0.7
ESK AMb AMB 22 46 36.5
comp=Z,116nm,1.4s,mb5.6
GZR Gura Zlata 78.36 323 P P 22 46 37.0 +0.3
MOX Moxa 78.41 332 eP P 22 46 36.5 -0.4
comp=Z,22nm,1.1s,mb5.0
MOX Moxa 78.41 332 eP P 22 46 36.5 -0.4
MOX pmax pmax
comp=Z,22nm,1.1s,mb5.0
ZST Bratislava 78.46 328 eP P 22 46 37.5 +0.3
comp=Z,11nm,0.9s,mb4.8
ZST LR LR
comp=Z,200nm,16.9s,MS4.5
NKC Novy Kostel 78.47 332⇑iP P 22 46 37.1 -0.2
SZH Strazhica 78.57 320 eP P 22 46 37.0 -0.9
BZS Buzias 78.69 324 P P 22 46 38.5 0.0
BZS Buzias 78.69 324 ⇑P P 22 46 38.2 -0.2
BZS Buzias 78.69 324⇑iP P 22 46 38.2 -0.3
WTSB Winterswijk 78.80 336 eP P 22 46 39.0 -0.1
comp=Z,31nm,0.8s,mb5.3
JMB Yambol 78.88 319 eP P 22 46 39.8 +0.3
JMB Yambol 78.88 319 eP P 22 46 40.0 +0.5
PVL Pavlikeni 78.89 320 eP P 22 46 40.0 +0.4
ESKT Eskisehir 78.96 315 i P P 22 46 39.8 -0.2
KLBR Kellerberrin 78.98 204 eP P 22 46 39.4 -0.7
comp=Z,16nm,0.9s,mb5.0
KHC Kasperske Hory 79.00 331⇑iP P 22 46 40.3 +0.1
KHC epP pP 22 46 44.1 -11
KHC ex x 22 46 51.6
CKE Keswick 79.01 342 eP P 22 46 39.8 -0.5
SOP Sopron 79.09 328⇑eP P 22 46 41.4 +0.7
GAL1 Galloway 79.09 343⇑eP P 22 46 40.0 -0.7
GAL1 eP 22 46 40.0
GAL1 AMb AMB 22 46 46.8
comp=Z,78nm,1.4s,mb5.5
CONA Conrad Observa 79.15 329 i P P 22 46 41.6 +0.6
comp=Z,11nm,1.0s,mb4.7,SNR=16
GEC2 GERESS Array S 79.19 330 eP P 22 46 40.7 -0.6
GERES GERESS Array B 79.19 330 P P 22 46 41.0 -0.3
comp=Z,6.5nm,0.5s,mb4.8,baz=40,slow=5.4,SNR=52
GERES LR LR 23 24 53.7
comp=Z,204nm,18.1s,MS4.5,baz=271,slow=38
GRA1 Grafenberg Arr 79.35 332 eP P 22 46 42.1 0.0
comp=Z,27nm,1.0s,mb5.1
GRA1 e 22 46 46.1
GRA1 e pP 22 46 58.2 +1.5
GRF Grafenberg Arr 79.35 332 eP P 22 46 42.1 0.0
comp=Z,27nm,1.0s,mb5.1
GRF e 22 46 46.1
GRF e pP 22 46 58.2 +1.5
GRF Grafenberg Arr 79.35 332 eP P 22 46 42.1 0.0
GRF e 22 46 46.1
GRF e pP 22 46 58.2 +1.5
GRF pmax pmax
comp=Z,27nm,1.0s,mb5.1
GRF Grafenberg Arr 79.35 332 eP P 22 46 42.1 0.0
GRF e 22 46 46.1
GRF e pP 22 46 58.2 +1.5
GRF pmax pmax
comp=Z,27nm,1.0s,mb5.1
GRFO Grafenberg 79.35 332 eP P 22 46 41.5 -0.6
GRFO pmax pmax
comp=Z,34nm,0.8s,mb5.3
GRFO Grafenberg 79.35 332 eP P 22 46 41.5 -0.6
comp=Z,34nm,0.8s,mb5.3
ULDT Uludag 79.38 316 i P P 22 46 42.8 +0.5
PKSM Moragy 79.46 326⇑eP P 22 46 42.0 -0.7
LHO Holmfirth 79.69 341⇑eP P 22 46 43.2 -0.7
SCIA State Center 79.75 41 eP P 22 46 43.7 -0.5
comp=Z,11nm,0.6s,mb5.0
MOA Molln 79.82 329 i P P 22 46 44.6 -0.1
comp=Z,12nm,1.6s,mb4.6,SNR=12

ARSA Arzberg 79.84 328 i P P 22 46 44.8 0.0
comp=Z,3.9nm,0.8s,mb4.4,SNR=8.6
KBI1 Birley Grange 79.88 341 eP P 22 46 44.4 -0.6
PGB Panagyurishte 79.95 320 eP P 22 46 46.0 +0.6
PLD Plovdiv 80.05 320 eP P 22 46 46.4 +0.5
HGN Heimansgroeve 80.12 336 eP P 22 46 45.7 -0.6
comp=Z,21nm,0.9s,mb5.1
BEBN Eben Emael 80.17 336 P P 22 46 46.1 -0.4
comp=Z,11nm,0.8s,mb4.8
KSU1 Kansas State U 80.20 45 eP P 22 46 44.9 -1.9
comp=Z,14nm,0.7s,mb5.0
TOD Tromm 80.23 333 eP P 22 46 46.6 -0.3
ALN Alexandroupoli 80.34 318 eP P 22 46 47.8 +0.4
VTS Vitosha 80.36 321 eP P 22 46 48.0 +0.4
ISP Isparta 80.38 314 eP P 22 46 47.8 +0.1
NWAO Narrogin (SRO) 80.39 204 eP P 22 46 47.1 -0.6
NWAO pmax pmax
comp=Z,7.0nm,0.7s
NWAO Narrogin (SRO) 80.39 204 eP P 22 46 47.1 -0.7
comp=Z,7.2nm,0.7s,mb4.7
GRUS Gruza 80.45 323⇑iP P 22 46 47.6 -0.5
GROS Grobnik 80.50 328 i P P 22 46 48.1 -0.2
PERS Pernice 80.51 328 i P P 22 46 48.2 -0.1
AMTX Amarillo 80.59 51 eP P 22 46 44.3 -4.5
comp=Z,6.0nm,0.6s,mb4.7
DIVS Divcibare 80.60 324⇑iP P 22 46 48.5 -0.3
DIVS Divcibare 80.60 324 eP P 22 46 48.6 -0.2
SBD1 Bryn Du 80.61 342⇑eP P 22 46 48.8 -0.1
BCLA Clavier 80.61 336 P P 22 46 48.5 -0.4
MNTX Cornudas Mount 80.73 55 eP P 22 46 49.0 -0.6
comp=Z,11nm,0.9s,mb4.8
KBA Koelnbreinsper 80.81 330⇑iP P 22 46 50.0 +0.1
comp=Z,39nm,1.1s,mb5.3,SNR=35
KBA Koelnbreinsper 80.81 330⇑iP P 22 46 50.0 0.0
KBA pmax pmax
comp=Z,39nm,1.0s,mb5.3
OBKA Obir 80.83 328 i P P 22 46 49.8 -0.3
comp=Z,8.4nm,0.6s,mb4.9,SNR=22
SNF Seneffe 80.83 336 P P 22 46 49.8 -0.3
HLM1 Long Mynd 80.88 341 eP P 22 46 50.1 -0.2
MMB Musomiste 80.91 320 eP P 22 46 51.0 +0.5
CSS Prodhromos 80.97 310 eP P 22 46 51.2 +0.4
KKB Krupnik 80.99 321 eP P 22 46 51.0 +0.1
BBLS Bajina Basta - 81.03 324⇑iP P 22 46 52.0 +0.9
GIVF Givet 81.03 336 eP P 22 46 50.4 -0.8
DOU Dourbes 81.11 336 P P 22 46 51.1 -0.5
RAR Rarotonga 81.13 130 PFAKE 22 47 00.0 +8.3
RAR LR LR
comp=Z,1.0nm,20.0s
LJU Ljubljana 81.23 328 i P P 22 46 51.3 -0.9
WATA Walderalm 81.23 331 i P P 22 46 52.2 -0.1
comp=Z,21nm,1.2s,mb4.9,SNR=33
WATA Walderalm 81.23 331 i P P 22 46 52.2 0.0
WATA pmax pmax
comp=Z,21nm,1.2s,mb4.9
BAIF Baives 81.25 336 eP P 22 46 51.5 -0.8
WTTA Wattenberg 81.27 331 i P P 22 46 52.7 +0.2
comp=Z,16nm,0.5s,mb5.2,SNR=34
WTTA Wattenberg 81.27 331 i P P 22 46 52.7 +0.3
WTTA pmax pmax
comp=Z,16nm,0.5s,mb5.2
VISS Visnje 81.31 328 i P P 22 46 51.9 -0.7
SRS Serrai 81.34 320 eP P 22 46 52.8 0.0
HTR Trewern Hill 81.38 342⇑eP P 22 46 52.6 -0.3
RETA Reutte 81.39 331⇑iP P 22 46 53.1 0.0
comp=Z,18nm,1.0s,mb4.9
ABTA Abfaltersbach 81.39 330⇑iP P 22 46 52.0 -1.0
comp=Z,21nm,1.6s,mb4.8
MOTA Moosalm 81.39 331 i P P 22 46 53.1 0.0
comp=Z,22nm,1.0s,mb5.0,SNR=34
MOTA Moosalm 81.39 331 i P P 22 46 53.1 0.0
MOTA pmax pmax
comp=Z,22nm,1.0s,mb5.0
BOJS Bojanci 81.40 328 i P P 22 46 52.5 -0.6
SQTA Sankt Quirin 81.46 331 i P P 22 46 53.5 +0.1
comp=Z,8.0nm,0.8s,mb4.7,SNR=24
SQTA Sankt Quirin 81.46 331 i P P 22 46 53.5 +0.1
SQTA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PLE Pljevlja 81.47 324⇑iP P 22 46 53.9 +0.4
VOY Vojsko 81.48 329 eP P 22 46 52.3 -1.2
VOY e pP 22 47 04.4 -3.8
GMNA Gemona 81.52 329 P P 22 46 52.8 -1.0
comp=Z,69nm,0.8s,mb5.6
JAVS Javornik 81.53 328 eP P 22 46 52.6 -1.2
STIP Stip 81.54 321 eP P 22 46 53.5 -0.3
STIP Stip 81.54 321 eP P 22 46 52.3 -1.6
STIP Stip 81.54 321 eP P 22 46 52.3 -1.6
LOS Limnos 81.55 318 eP P 22 46 54.0 +0.1
SWN1 Swindon 81.55 340 eP P 22 46 52.9 -1.1
IVA Berane 81.62 323⇑iP P 22 46 54.3 0.0
KNT Kendrikon 81.63 320 eP P 22 46 54.5 +0.2
VAY Valandovo 81.65 321 eP P 22 46 54.3 -0.1
VAY Valandovo 81.65 321 eP P 22 46 52.9 -1.5
VAY Valandovo 81.65 321 eP P 22 46 52.9 -1.5
SKO Skopje 81.66 322 eP P 22 46 55.7 +1.1
SKO Skopje 81.66 322 eP P 22 46 55.5 +1.1
SKO Skopje 81.66 322 eP P 22 46 55.5 +1.1
SOH Sokhos 81.68 320 eP P 22 46 54.4 -0.2
OUR Ouranopolis 81.77 319 eP P 22 46 54.7 -0.3
CDF Champ du Feu 81.77 334⇑iP P 22 46 54.5 -0.5
comp=Z,38nm,0.8s,mb5.1
CDF Champ du Feu 81.77 334⇑iP P 22 46 54.5 -0.5
CDF pmax pmax
comp=Z,19nm,0.8s,mb5.1
CDF Champ du Feu 81.77 334⇑iP P 22 46 54.5 -0.5
comp=Z,19nm,0.8s,mb5.1
BLCB Balcova 81.77 316 eP P 22 46 54.7 -0.4
UPM Unac-Piva 81.78 324⇑iP P 22 46 54.4 -0.7
PVY Plav 81.81 323⇑iP P 22 46 54.7 -0.6
DAVA Damuels 81.87 332 i P P 22 46 55.5 -0.1
comp=Z,15nm,0.6s,mb5.1,SNR=17
ECH Echery 81.98 334 eP P 22 46 55.3 -0.8
HORT Hortiatis 81.98 320 eP P 22 46 55.9 -0.3
PLG Polygyros 81.99 320 eP P 22 46 56.1 -0.1
THE Thessaloniki 82.01 320 eP P 22 46 56.0 -0.4
GRG Griva 82.02 321 eP P 22 46 56.3 -0.1
NKY Niksic 82.06 324⇑iP P 22 46 55.4 -1.2
BRY Bratogost 82.18 324⇑iP P 22 46 56.5 -0.8
KRUS Krusevo 82.22 322 eP P 22 46 58.0 +0.5
KRUS Krusevo 82.22 322 eP P 22 46 58.0 +0.5
PAIG Paliouri 82.23 319 eP P 22 46 57.2 -0.3
TTG Podgorica 82.25 323⇑iP P 22 46 57.2 -0.4
CTI Castel Tesino 82.30 330 P P 22 46 56.8 -1.1
CTI pmax pmax
comp=Z,13nm,0.5s,mb5.1
CTI Castel Tesino 82.30 330 P P 22 46 56.8 -1.1
comp=Z,13nm,0.5s,mb5.1
MEZF Maizieres J'vi 82.39 335⇑iP P 22 46 57.9 -0.4
comp=Z,59nm,1.0s,mb5.2
MEZF Maizieres J'vi 82.39 335⇑iP P 22 46 57.9 -0.4
comp=Z,59nm,1.0s,mb5.5
BRMO Bormio 82.40 331 P P 22 46 58.9 +0.6
comp=Z,34nm,1.2s,mb5.2
HAU Haudompre 82.42 334⇑iP P 22 46 57.7 -0.8
comp=Z,31nm,1.1s,mb4.9
HAU eMLR
comp=Z,288nm,20.8s
HAU Haudompre 82.42 334⇑iP P 22 46 57.7 -0.8
HAU pmax pmax
comp=Z,16nm,1.1s,mb4.9
HAU MLR MLR
comp=Z,290nm,20.8s,MS4.6
HAU Haudompre 82.42 334⇑iP P 22 46 57.7 -0.8
comp=Z,16nm,1.1s,mb4.8
HAU LR LR
comp=Z,290nm,20.8s,MS4.6
HINF Hinteralfeld 82.42 334 eP P 22 46 57.5 -1.0
BIA Bitola 82.47 321 eP P 22 46 57.9 -0.8
BUM Brajici-Budva 82.52 323⇑iP P 22 46 58.8 -0.2
BDRM Kayabasi 82.57 315 i P P 22 46 59.4 +0.1
HCY Herceg Novi 82.57 324⇑iP P 22 46 58.4 -0.8
FNA Florina 82.63 321 eP P 22 46 59.3 -0.2
OHR Ohrid 82.63 322 eP P 22 46 58.6 -1.0
OHR Ohrid 82.63 322 eP P 22 46 58.5 -1.0
OHR Ohrid 82.63 322 eP P 22 46 58.5 -1.0
ULC Ulcinj 82.64 323⇑iP P 22 46 59.1 -0.5
LIT Litokhoron 82.65 320 eP P 22 46 58.7 -1.0
TIR Tirane 82.86 322 eP P 22 47 00.7 0.0
XOR Xorichti 82.90 319 eP P 22 47 00.7 -0.3
LTX Lajitas 83.45 56 eP P 22 47 03.5 -0.3
LTX pmax pmax
comp=Z,19nm,1.1s,mb5.0
LTX MLR MLR
comp=Z,279nm,19.0s,MS4.7
LTX Lajitas 83.45 56 eP P 22 47 03.5 -0.3
comp=Z,19nm,1.1s,mb5.0
LTX LR LR
comp=Z,279nm,19.0s,MS4.7
VAI Varese 83.48 332 P P 22 47 03.3 -0.7
VAI pmax pmax
comp=Z,29nm,0.6s,mb5.5
VAI Varese 83.48 332 P P 22 47 03.3 -0.7
comp=Z,28nm,0.6s,mb5.5
AGG Agios Georgios 83.58 319 eP P 22 47 03.6 -0.9
AAM Ann Arbor 83.71 35 eP P 22 47 04.5 -0.6
AAM pmax pmax
comp=Z,21nm,0.9s,mb5.3
AAM Ann Arbor 83.71 35 eP P 22 47 04.5 -0.6
comp=Z,21nm,0.9s,mb5.3
CABF La Chapelle 83.73 334⇑iP P 22 47 04.8 -0.5
comp=Z,14nm,0.8s,mb4.9
CABF La Chapelle 83.73 334⇑iP P 22 47 04.8 -0.5
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
CABF La Chapelle 83.73 334⇑iP P 22 47 04.8 -0.5
comp=Z,6.9nm,0.8s,mb4.8
FLN La Foliniere 83.74 339 eP P 22 47 04.5 -0.8
comp=Z,32nm,0.8s,mb5.2
FLN eMLR
comp=Z,197nm,22.2s
FLN La Foliniere 83.74 339 eP P 22 47 04.5 -0.8
FLN pmax pmax
comp=Z,16nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,200nm,22.3s,MS4.4
FLN La Foliniere 83.74 339 eP P 22 47 04.5 -0.8
comp=Z,16nm,0.8s,mb5.2
FLN LR LR
comp=Z,200nm,22.3s,MS4.4
LDF La Druitiere 83.80 338⇑iP P 22 47 04.8 -0.8
comp=Z,23nm,0.7s,mb5.1
LDF La Druitiere 83.80 338⇑iP P 22 47 04.8 -0.8
LDF pmax pmax
comp=Z,12nm,0.7s,mb5.1
LDF La Druitiere 83.80 338⇑iP P 22 47 04.8 -0.8
comp=Z,12nm,0.7s,mb5.1
RSM Repubblica di 83.80 328 P P 22 47 06.1 +0.5
RSM pmax pmax
comp=Z,82nm,1.3s,mb5.7
RSM Repubblica di 83.80 328 P P 22 47 06.1 +0.5
comp=Z,82nm,1.3s,mb5.7
LOR Lormes 83.85 335⇑iP P 22 47 05.2 -0.7
comp=Z,47nm,0.9s,mb5.3
LOR eMLR
comp=Z,229nm,22.2s
LOR Lormes 83.85 335⇑iP P 22 47 05.2 -0.7
LOR pmax pmax
comp=Z,24nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,230nm,22.3s,MS4.5
LOR Lormes 83.85 335⇑iP P 22 47 05.2 -0.7
comp=Z,24nm,0.9s,mb5.3
LOR LR LR
comp=Z,230nm,22.3s,MS4.5
FSSB Fossombrone 83.88 328 P P 22 47 05.9 -0.1
EIL Elat 83.89 305 eP P 22 47 06.8 +0.7
comp=Z,686nm,1.2s
SFI Santa Sofia 84.05 329 P P 22 47 07.5 +0.6
SFI pmax pmax
comp=Z,13nm,0.6s,mb5.2
SFI Santa Sofia 84.05 329 P P 22 47 07.5 +0.6
comp=Z,13nm,0.6s,mb5.2
IGT Igoumenitsa 84.11 321 eP P 22 47 06.9 -0.3
SEI Scarperia 84.11 329 P P 22 47 08.1 +0.9
comp=Z,53nm,0.5s,mb5.9
VMG Vicchio 84.12 329 P P 22 47 08.5 +1.3
comp=Z,25nm,0.6s,mb5.5
GSCL Gusciola 84.14 330 P P 22 47 08.2 +0.9
comp=Z,48nm,1.2s,mb5.5
SSF Saint Saulge 84.14 335⇑iP P 22 47 06.6 -0.8
comp=Z,21nm,0.7s,mb5.1
SSF Saint Saulge 84.14 335⇑iP P 22 47 06.6 -0.8
SSF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SSF Saint Saulge 84.14 335⇑iP P 22 47 06.6 -0.8
comp=Z,10nm,0.7s,mb5.1
FVM French Village 84.15 42 eP P 22 47 06.4 -1.0
FVM pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
FVM French Village 84.15 42 eP P 22 47 06.4 -0.9
comp=Z,9.1nm,0.9s,mb4.9
GRR Gorron 84.18 339 eP P 22 47 06.4 -1.2
comp=Z,52nm,0.8s,mb5.4
GRR Gorron 84.18 339 eP P 22 47 06.4 -1.2
GRR pmax pmax
comp=Z,26nm,0.8s,mb5.4
GRR Gorron 84.18 339 eP P 22 47 06.4 -1.2
comp=Z,26nm,0.8s,mb5.4
SNTG Esanatoglia 84.18 328 P P 22 47 07.5 -0.1
comp=Z,11nm,0.6s,mb5.2
HYF Humbligny 84.22 336 eP P 22 47 07.5 -0.2
PPT Papeete 84.39 120 eLR LR 23 13 12.0
comp=Z,329nm,23.5s,baz=318
PPT Papeete 84.39 120 LR LR 23 15 46.8
comp=Z,199nm,21.4s,MS4.5,baz=331,slow=29
SMF Signal de Mont 84.41 335 eP P 22 47 08.0 -0.7
AVF Avril sur Loir 84.43 335⇑iP P 22 47 08.3 -0.5
comp=Z,46nm,0.8s,mb5.4
AVF Avril sur Loir 84.43 335⇑iP P 22 47 08.3 -0.5
AVF pmax pmax
comp=Z,23nm,0.8s,mb5.4
AVF Avril sur Loir 84.43 335⇑iP P 22 47 08.3 -0.5
comp=Z,23nm,0.8s,mb5.4
TERO Teramo 84.46 327 P P 22 47 08.8 -0.1
ASS Assisi 84.46 328 P P 22 47 09.8 +0.9
ASS pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
ASS Assisi 84.46 328 P P 22 47 09.8 +0.9
comp=Z,4.2nm,1.1s,mb4.5
NRCA Norcia 84.47 327 P P 22 47 09.2 +0.2
comp=Z,42nm,1.1s,mb5.5
LPL La Plagne 84.49 333⇑iP P 22 47 09.2 +0.1
comp=Z,50nm,1.1s,mb5.3
LPL La Plagne 84.49 333⇑iP P 22 47 09.2 +0.1
LPL pmax pmax
comp=Z,25nm,1.1s,mb5.3
LPL La Plagne 84.49 333⇑iP P 22 47 09.2 +0.1
comp=Z,25nm,1.1s,mb5.3
LPG La Plagne 84.50 333 eP P 22 47 09.0 -0.1
LKD Levkas 84.62 320 eP P 22 47 09.8 0.0
CSNT Castellina Chi 84.63 329 P P 22 47 09.3 -0.5
comp=Z,60nm,1.3s,mb5.6
ZKR Zakros 84.70 315 eP P 22 47 09.8 -0.4
SGMF Saint Gilles 84.75 340⇑iP P 22 47 10.3 -0.1
AQU L'Aquila 84.76 327⇓iP P 22 47 10.5 0.0
BGF Bois d'Agland 84.80 336⇑iP P 22 47 10.7 +0.1
comp=Z,30nm,0.6s,mb5.3
BGF Bois d'Agland 84.80 336⇑iP P 22 47 10.7 +0.1
BGF pmax pmax
comp=Z,15nm,0.6s,mb5.3
BGF Bois d'Agland 84.80 336⇑iP P 22 47 10.7 +0.1
comp=Z,15nm,0.6s,mb5.3
ROSF Rostrenen 84.85 340⇑iP P 22 47 10.9 0.0
comp=Z,239nm,1.1s,mb5.9
ROSF Rostrenen 84.85 340⇑iP P 22 47 10.9 0.0
ROSF pmax pmax
comp=Z,120nm,1.1s,mb5.9
ROSF Rostrenen 84.85 340⇑iP P 22 47 10.9 0.0
comp=Z,120nm,1.1s,mb5.9
JCT Junction City 84.89 52 eP P 22 47 09.5 -1.6
JCT pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
JCT Junction City 84.89 52 eP P 22 47 09.5 -1.6
comp=Z,4.3nm,0.6s,mb4.8
FG5 Orsara di Pugl 84.90 325 P P 22 47 11.4 +0.2
FG5 pmax pmax
comp=Z,49nm,1.0s,mb5.6
FG5 Orsara di Pugl 84.90 325 P P 22 47 11.4 +0.2
comp=Z,49nm,1.0s,mb5.6
FG4 Candela 84.92 325 P P 22 47 11.5 +0.2
FG4 pmax pmax
comp=Z,55nm,0.6s,mb5.9
FG4 Candela 84.92 325 P P 22 47 11.5 +0.2
comp=Z,55nm,0.6s,mb5.9
SIUC Southern Illin 84.94 41 eP P 22 47 10.6 -0.8
comp=Z,10nm,0.6s,mb5.1
SIUC e pP 22 47 22.9 -3.2
PTQR Pietraquaria 85.04 327 P P 22 47 12.0 +0.1
comp=Z,42nm,1.0s,mb5.5
LAST Lasithi 85.05 315 eP P 22 47 12.4 +0.5
PLDF La Plantade 85.09 335 eP P 22 47 11.9 -0.2
SDI San Donato 85.14 326 P P 22 47 11.8 -0.6
SDI pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
SDI San Donato 85.14 326 P P 22 47 11.8 -0.6
comp=Z,8.5nm,0.5s,mb5.1
AGO Saint Agoulin 85.16 335 eP P 22 47 11.6 -0.9
MBDF Montbardon 85.17 332⇑iP P 22 47 11.9 -0.6
comp=Z,17nm,0.5s,mb5.1
MBDF Montbardon 85.17 332⇑iP P 22 47 11.9 -0.6
MBDF pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
MBDF Montbardon 85.17 332⇑iP P 22 47 11.9 -0.6
comp=Z,8.6nm,0.5s,mb5.1
QUIF Quistinic 85.22 340⇑iP P 22 47 12.5 -0.2
comp=Z,43nm,0.7s,mb5.4
QUIF Quistinic 85.22 340⇑iP P 22 47 12.5 -0.2
QUIF pmax pmax
comp=Z,22nm,0.7s,mb5.4
QUIF Quistinic 85.22 340⇑iP P 22 47 12.5 -0.2
comp=Z,22nm,0.7s,mb5.4
TCF Toulx Ste Croi 85.23 336 eP P 22 47 12.6 -0.2
comp=Z,20nm,0.6s,mb5.1
TCF Toulx Ste Croi 85.23 336 eP P 22 47 12.6 -0.2
TCF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
TCF Toulx Ste Croi 85.23 336 eP P 22 47 12.6 -0.2
comp=Z,9.9nm,0.6s,mb5.1
MIAR Mount Ida 85.25 46 eP P 22 47 12.5 -0.4
MIAR pmax pmax
comp=Z,20nm,0.9s,mb5.2
MIAR Mount Ida 85.25 46 eP P 22 47 12.5 -0.4
comp=Z,20nm,0.9s,mb5.2
ORIF Oris-en-Rattie 85.30 333⇑iP P 22 47 13.1 -0.1
comp=Z,24nm,0.7s,mb5.1
ORIF eMLR
comp=Z,254nm,22.8s
ORIF Oris-en-Rattie 85.30 333⇑iP P 22 47 13.1 -0.1
ORIF pmax pmax
comp=Z,12nm,0.7s,mb5.1
ORIF Oris-en-Rattie 85.30 333⇑iP P 22 47 13.1 -0.1
comp=Z,12nm,0.7s,mb5.1
SIVA Sivas 85.50 315 eP P 22 47 14.8 +0.7
MFF Saint Martin d 85.62 337 eP P 22 47 14.7 -0.1
comp=Z,50nm,0.7s,mb5.5
MFF Saint Martin d 85.62 337 eP P 22 47 14.7 -0.1
MFF pmax pmax
comp=Z,25nm,0.7s,mb5.5
MFF Saint Martin d 85.62 337 eP P 22 47 14.7 -0.1
comp=Z,25nm,0.7s,mb5.5
SBF Sospel 85.70 331⇑iP P 22 47 14.2 -0.9
comp=Z,19nm,0.5s,mb5.3
SBF Sospel 85.70 331⇑iP P 22 47 14.2 -0.9
SBF pmax pmax
comp=Z,9.0nm,0.4s,mb5.3
SBF Sospel 85.70 331⇑iP P 22 47 14.2 -0.9
comp=Z,9.4nm,0.4s,mb5.4
ACSO Alum Creek Sta 85.71 36 PFAKE 22 47 30.0 +15
ACSO LR LR
comp=Z,5.0nm,19.0s
VIVF Saint-Julien-l 85.75 334⇑iP P 22 47 15.3 -0.1
comp=Z,29nm,1.0s,mb5.2
VIVF Saint-Julien-l 85.75 334⇑iP P 22 47 15.3 -0.1
VIVF pmax pmax
comp=Z,15nm,1.0s,mb5.2
VIVF Saint-Julien-l 85.75 334⇑iP P 22 47 15.3 -0.1
comp=Z,15nm,1.0s,mb5.2
REVF Revere 85.83 331 eP P 22 47 15.6 -0.2
SMRF Simiane la Rot 86.23 333 eP P 22 47 17.9 +0.1
FRF La Foret Royal 86.23 332⇑iP P 22 47 16.9 -0.9
PGF Pioggiola 86.28 330 eP P 22 47 17.2 -0.8
comp=Z,22nm,0.7s,mb5.2
PGF Pioggiola 86.28 330 eP P 22 47 17.2 -0.8
PGF pmax pmax
comp=Z,11nm,0.7s,mb5.2
PGF Pioggiola 86.28 330 eP P 22 47 17.2 -0.8
comp=Z,11nm,0.7s,mb5.2
RJF Les Rejaudoux 86.33 336⇑iP P 22 47 18.2 -0.1
comp=Z,32nm,0.8s,mb5.3
RJF eMLR
comp=Z,274nm,22.8s
RJF Les Rejaudoux 86.33 336⇑iP P 22 47 18.2 -0.1
RJF pmax pmax
comp=Z,16nm,0.8s,mb5.3
RJF MLR MLR
comp=Z,270nm,22.8s,MS4.6
RJF Les Rejaudoux 86.33 336⇑iP P 22 47 18.2 -0.1
comp=Z,16nm,0.8s,mb5.3
RJF LR LR
comp=Z,270nm,22.8s,MS4.6
CORF Corte 86.44 330 eP P 22 47 18.3 -0.5
LMR La Mourre 86.48 332⇑iP P 22 47 18.4 -0.6
CAF Calviac 86.50 335 eP P 22 47 19.7 +0.6
comp=Z,41nm,0.7s,mb5.5
CAF Calviac 86.50 335 eP P 22 47 19.7 +0.6
CAF pmax pmax
comp=Z,21nm,0.7s,mb5.5
CAF Calviac 86.50 335 eP P 22 47 19.7 +0.6
comp=Z,21nm,0.7s,mb5.5
LASF Ste Croix 86.71 334 eP P 22 47 20.3 +0.2
WVT Waverly 86.88 41 eP P 22 47 20.5 -0.4
WVT pmax pmax
comp=Z,11nm,0.9s,mb5.1
WVT Waverly 86.88 41 eP P 22 47 20.5 -0.4
comp=Z,10nm,0.9s,mb5.1
LFF La Frestale 86.89 336⇑iP P 22 47 21.0 0.0
comp=Z,47nm,0.7s,mb5.5
LFF La Frestale 86.89 336⇑iP P 22 47 21.0 0.0
LFF pmax pmax
comp=Z,23nm,0.7s,mb5.5
LFF La Frestale 86.89 336⇑iP P 22 47 21.0 0.0
comp=Z,23nm,0.7s,mb5.5
OXF Oxford 87.40 43 eP P 22 47 22.4 -1.1
OXF pmax pmax
comp=Z,43nm,1.1s,mb5.6
OXF MLR MLR
comp=Z,434nm,20.0s,MS4.9
OXF Oxford 87.40 43 eP P 22 47 22.4 -1.1
comp=Z,43nm,1.1s,mb5.6
OXF LR LR
comp=Z,434nm,20.0s,MS4.9
MTLF Montolieu 87.89 335⇑iP P 22 47 26.1 +0.3
comp=Z,21nm,0.8s,mb5.1
MTLF Montolieu 87.89 335⇑iP P 22 47 26.1 +0.3
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
MTLF Montolieu 87.89 335⇑iP P 22 47 26.1 +0.3
comp=Z,10nm,0.8s,mb5.1
WES Weston 88.25 27 PFAKE 22 47 40.0 +12
WES LR LR
comp=Z,1um,22.0s,MS5.2
MVL Millersville 88.57 31 eP P 22 47 28.5 -0.6
EPF Esparros 88.75 336 eP P 22 47 29.3 -0.6
comp=Z,9.8nm,0.6s,mb5.0
EPF Esparros 88.75 336 eP P 22 47 29.3 -0.6
EPF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
EPF Esparros 88.75 336 eP P 22 47 29.3 -0.6
comp=Z,4.9nm,0.6s,mb5.0
TBI Tubuai 88.78 124 eLR LR 23 15 15.9
comp=Z,243nm,25.5s,baz=322
EBIE Bielsa 89.12 336 P P 22 47 32.3 +0.7
comp=Z,8.9nm,0.8s,mb5.2
SJPF Ste Jean 89.13 337 eP P 22 47 32.8 +1.1
ETSF Etsaut 89.13 336⇑iP P 22 47 31.9 +0.2
comp=Z,26nm,0.8s,mb5.3
ETSF Etsaut 89.13 336⇑iP P 22 47 31.9 +0.2
ETSF pmax pmax
comp=Z,13nm,0.8s,mb5.3
ETSF Etsaut 89.13 336⇑iP P 22 47 31.9 +0.2
comp=Z,13nm,0.8s,mb5.3
ELN Prospectdale 89.17 36 eP P 22 47 30.3 -1.6
RPZ Rata Peaks 89.46 162 LR LR 23 26 05.7
comp=Z,131nm,18.9s,MS4.4,baz=162,slow=34
ESAC San Caprasio 90.19 336 P P 22 47 37.2 +0.6
comp=Z,35nm,0.7s,mb5.8
ETOS Mallorca 90.92 333 P P 22 47 39.5 -0.5
comp=Z,13nm,1.1s,mb5.2
BRAL Brewton 91.38 44 PFAKE 22 47 50.0 +7.8
BRAL LR LR
comp=Z,754nm,21.0s,MS5.1
EMOS Mosqueruela 91.43 335 P P 22 47 42.5 +0.2
comp=Z,9.1nm,0.7s,mb5.2
ETOR Torete 91.48 336 P P 22 47 42.7 +0.1
ETOR pmax pmax

comp=Z,13nm,0.6s,mb5.4
ETOR Torete 91.48 336 P **P** 22 47 42.7 +0.1
comp=Z,13nm,0.6s,mb5.4
KEST Kesra 92.05 326 P **P** 22 47 45.0 -0.3
comp=Z,2.1nm,0.7s,mb4.6,baz=246,slow=1.7,SNR=22
EIBI Ibiza 92.07 333 P **P** 22 47 45.3 -0.1
comp=Z,14nm,0.7s,mb5.4
ESDC Sonseca Array 93.09 337 P **P** 22 47 49.5 -0.6
comp=Z,5.1nm,0.6s,mb5.1,baz=15,slow=3.9,SNR=50
ESDC Sonseca Array 93.09 337 P **P** 22 47 49.4 -0.6
comp=Z,3.7nm,0.6s,mb5.0
EVIA Vianos 93.63 336 P **P** 22 47 52.8 +0.3
EVIA pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
EVIA Vianos 93.63 336 P **P** 22 47 52.8 +0.2
comp=Z,2.3nm,0.5s,mb4.9
TGUH Tegucigalpa,Un 104.85 54 PFAKE 22 48 50.0 +7.1
TGUH LR LR
comp=Z,149nm,20.0s,MS4.5
TORD Torodi Ar. Bea 115.11 321 PKP PKiKP 22 53 16.4 -0.8
comp=Z,0.6nm,0.4s,baz=18,slow=2.2,SNR=37
TORD PKKPbc PKKPbc 23 03 51.8 -0.7
comp=Z,0.1nm,0.4s,baz=209,slow=2.4,SNR=6.0
MSKU Masuku 120.89 301 PFAKE 22 53 40.0 +12
MSKU LR LR
comp=Z,100nm,21.0s,MS4.4
VNDA Vanda 120.96 176 PKP PKPdf 22 53 26.4 -2.0
comp=Z,2.8nm,0.8s,baz=313,slow=5.1,SNR=9.4
VNDA Vanda 120.96 176 PKP PKPdf 22 53 26.4 -2.0
TSUM Tsumeb 130.85 283 PFAKE 22 54 00.0 +13
TSUM LR LR
comp=Z,245nm,21.0s,MS4.9
BOSA Boshof 130.98 267 PKP PKPdf 22 53 46.8 -0.9
comp=Z,4.7nm,1.0s,baz=327,slow=7.8,SNR=3.9
BOSA PP PP 22 56 04.1 -0.4
comp=Z,6.4nm,1.1s,baz=52,slow=8.8,SNR=4.0
SYO Syowa Base 135.48 210⇓ *e*PKPdf PKPdf 22 53 54.8 -1.3
SYO Syowa Base 135.48 210⇓ *e*PKiKP PKiKP 22 56 52.6 -1.4
LPAZ La Paz 140.28 58 PKP PKPdf 22 54 05.9 +1.0
comp=Z,2.4nm,0.6s,baz=294,slow=2.5,SNR=11
RCBR Riachuelo 142.61 3 PFAKE 22 54 20.0 +11
RCBR LR LR
comp=Z,227nm,19.0s,MS5.0
MAIT Maitri 144.54 204 *e*PKPdf PKPdf 22 54 06.5 -6.0
LCO Las Campanas 147.24 76 *e*PKPdf PKPdf 22 54 18.6 +1.5
SNAA Sanae 147.84 198 PKPbc PKPbc 22 54 19.8 -1.3
comp=Z,8.4nm,0.9s,baz=162,slow=2.9,SNR=31
SNAA Sanae 147.84 198 PKP2 PKPbc 22 54 19.8 -1.2
SNAA pmax pmax
comp=Z,8.0nm,0.9s
VNA2 Neumayer--Watz 149.39 197 *e*PKPdf PKPdf 22 54 24.2 +3.6
baz=139,slow=1.5
VNA2 *e* 22 54 27.1
VNA2 *e* 22 54 46.6
VNA2 *e* 22 55 09.1
VNA3 Neumayer Olymp 149.59 195 *e*PKPdf PKPdf 22 54 24.6 +3.7
VNA3 *e* 22 54 27.6
VNA3 *e* 22 54 46.4
VNA3 *e* 22 55 08.1
PLCA Paso Flores 152.70 97 PKPbc PKPbc 22 54 32.2 -0.5
comp=Z,2.4nm,0.7s,baz=44,slow=5.4,SNR=4.6
PLCA PKPab PKPab 22 54 44.3 +0.7
comp=Z,4.0nm,0.8s,baz=312,slow=6.1,SNR=4.5
PLCA Paso Flores 152.70 97 PKIKP PKPbc 22 54 32.3 -0.5
PLCA 22 54 44.3
PLCA pmax pmax
comp=Z,2.0nm,0.7s

DHMR 30 22:48:02.6±1.2, 1369N×5082E, h10km, ML3.5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.89**	**295**	*i* P	Pn	22 48 35.2	+0.2
MUKL				AML	AML	22 48 35.6	
	comp=Z,585nm,0.2s						
MUKL				*i* S	Sn	22 49 02.5	+3.6
BDHA	**Al Bayda'**	**5.11**	**274**	*i* P	Pn	22 49 21.9	+2.8
LBOS		**5.41**	**273**	*i* P	Pn	22 49 26.0	+2.7
LBOS				*i* S	Sn	22 50 29.9	+4.3

*NIED **30** 22:49:00, 3480N×14060E, h32km, Mw3.9 Best double couple: M0=7.75000×10^14 NP1:φs=360.00000°, δ87.00000°, λ-176.00000°. NP2:φs=270.00000°, δ86.00000°, λ-3.00000°.*
*IDC **30** 22:49:44.7±1.4, 3486N×14089E, h0km, mb3.6/5, mb1 3.9/9, mb1mx3.6/24, mbtmp3.8/9, ML3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=35.5km s-min=15.7km az=71.0*
*ISCJB **30** 22:49:49.3±0.6, 3474N±004×14052E±005, h42km±5km, mb3.7/6, Error ellipse: s-maj=7.7km s-min=5.8km az=114.8*
*NEIC **30** 22:49:49.5, 3481N×14057E, h42km, mb4.3/1, After JMA.*
NEIC Recorded [1 JMA] in Chiba and Shizuoka Prefectures. Also recorded [1 JMA] on O-shima.
*JMA **30** 22:49:49.5±0.1, 3481N×14057E, h41km±1km, M4.1*
JMA Felt I J1.

ISC 30 22:49:50.3±0.6, 3475N±004×14050E±006, h34km±4km, n25, σ0°91/37, mb3.7/6, 6C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.05**	**7**	⇓P	**Pb**	**22 49 55.6**	**-0.4**
BSO4	**Boso 4**	**0.27**	**330**	⇑P	**Pb**	**22 49 57.7**	**-0.1**
BSO4				*e*S	**Sb**	**22 50 04.0**	**+1.1**
BSO1	**Boso 1**	**0.40**	**104**	⇑P	**Pb**	**22 49 58.8**	**-0.7**
KTR	**Katsuura**	**0.42**	**339**	⇑P	**Pb**	**22 49 59.0**	**-0.8**
KTR				*e*S	**Sb**	**22 50 05.8**	**-0.5**
TATJ	**Tateyama 2**	**0.57**	**299**	⇑P	**Pn**	**22 50 02.5**	**+0.5**
TATJ				S	**Sb**	**22 50 11.5**	**+1.3**
JCN	**Nagara**	**0.71**	**340**	⇑P	**Pn**	**22 50 03.2**	**-0.6**
JCN				*e*S	**Sn**	**22 50 13.7**	**+0.2**
JIM2	**Oshima 3**	**0.88**	**268**	⇓P	**Pn**	**22 50 06.1**	**-0.1**
JIM2				*e*S	**Sn**	**22 50 17.4**	**-0.5**
KTJJ	**Kamata 2**	**1.20**	**279**	⇓P	**Pn**	**22 50 10.2**	**-0.3**
KTJJ				S	**Sn**	**22 50 24.4**	**-1.2**
JOD2	**Odawara 2**	**1.27**	**294**	⇑P	**Pn**	**22 50 10.9**	**-0.6**
JOD2				*e*S	**Sn**	**22 50 26.0**	**-1.4**
JIZS	**Izushimoda**	**1.34**	**269**	⇓P	**Pn**	**22 50 12.6**	**+0.1**
JIZS				S	**Sn**	**22 50 28.7**	**-0.4**
JHJ	**Hachijo jima 2**	**1.74**	**200**	Pn	**Pn**	**22 50 18.6**	**+0.7**
	152nm,0.3s,baz=76,slow=22,SNR=30						
JHJ				Sn	**Sn**	**22 50 39.2**	**+0.3**
	510nm,0.3s,baz=263,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**2.58**	**314**	Pn	**Pn**	**22 50 29.5**	**-0.1**
	14nm,0.3s,baz=129,slow=18,SNR=149						
MJAR				Sn	**Sn**	**22 51 02.5**	**+2.6**
	16nm,0.3s,baz=136,slow=27,SNR=8.1						
MJAR	**Matsushiro Arr**	**2.58**	**314**	Pn	**Pn**	**22 50 29.5**	**-0.1**
MJAR				Sn	**Sn**	**22 51 02.5**	**+2.6**
MAJO	**Matsushiro**	**2.59**	**314**	*e*Pn	**Pn**	**22 50 28.2**	**-1.4**
MAT	**Matsushiro**	**2.59**	**314**	P	**Pn**	**22 50 29.7**	**0.0**
MAT				S	**Sn**	**22 50 59.6**	**-0.3**
CBIJ	**Chichi jima**	**7.77**	**169**	Pn	**Pn**	**22 51 40.4**	**-0.5**
	10nm,0.3s,baz=285,slow=20,SNR=3.4						
JNU	**Nakatsue**	**8.16**	**261**	Pn	**Pn**	**22 51 49.3**	**+3.0**
	0.8nm,0.3s,baz=237,slow=20,SNR=5.4						
JNU				LR	LR	22 54 57.1	
	comp=Z,218nm,21.7s,baz=289,slow=37						
ASAJ	**Asahikawa**	**9.49**	**9**	Pn	**Pn**	**22 51 59.1**	**-5.3**
	0.4nm,0.3s,baz=230,slow=16,SNR=2.5						
SONM	**Songino Array**	**28.52**	**308**	P	**P**	**22 55 42.6**	**+0.1**
	0.2nm,0.6s,mb3.0,baz=108,slow=8.6,SNR=4.0						
MKAR	**Makanchi Array**	**44.74**	**304**	P	**P**	**22 58 01.0**	**+0.8**
	0.4nm,0.5s,mb3.5,baz=85,slow=9.4,SNR=9.8						
MKAR	**Makanchi Array**	**44.74**	**304**	P	**P**	**22 58 01.0**	**+0.8**
BVAR	**Borovoye Array**	**51.58**	**314**	P	**P**	**22 58 55.6**	**+2.5**
	0.4nm,0.6s,mb3.5,baz=96,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**54.71**	**187**	P	**P**	**22 59 16.7**	**+0.6**
	0.9nm,0.4s,mb4.2,baz=8.4,slow=7.1,SNR=58						
ASAR	**Alice Springs**	**58.43**	**187**	P	**P**	**22 59 43.0**	**+0.4**
	0.3nm,0.4s,mb3.7,baz=18,slow=11,SNR=16						
NWAO	**Narrogin (SRO)**	**70.78**	**201**	*e*P	**P**	**23 01 02.2**	**-0.9**
	2.0nm,0.6s,mb4.2						

*IDC **30** 22:53:17.2±4.3, 2352N×9493E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=380.6km s-min=26.4km az=60.0*
*ISCJB **30** 22:53:19.7±1.0, 228N±0.1×942E±0.1, h33km, mb3.5/3, Error ellipse: s-maj=25.7km s-min=11.5km az=82.6*

ISC 30 22:53:22.4±0.9, 231N±02×944E±02, h35km, n10, σ1°00/11, mb3.5/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.77**	**347**	*e*P	**Pn**	**22 53 51.0**	**+0.5**
SHL	**Shillong**	**3.37**	**318**	*e*P	**Pn**	**22 54 14.0**	**+1.5**
SHL				*e*SN	**Sn**	**22 54 45.0**	**-6.3**
JIRN	**Jiri**	**8.70**	**304**	*e*P	**Pn**	**22 55 26.4**	**+0.7**
GUN	**Gumba**	**9.06**	**304**	*e*P	**Pn**	**22 55 31.0**	**+0.4**
	4.4nm,0.2s						
KKN	**Kakani**	**9.47**	**302**	*e*P	**Pn**	**22 55 35.9**	**-0.3**
GKN	**Gorkha**	**10.07**	**301**	*e*P	**Pn**	**22 55 44.3**	**-0.1**
	4.4nm,0.3s						
KOLN	**Koldanda**	**10.80**	**298**	*e*P	**Pn**	**22 55 53.3**	**-1.2**
	3.1nm,0.2s						
MKAR	**Makanchi Array**	**25.61**	**341**	P	**P**	**22 58 45.8**	**-2.6**
	1.0nm,0.7s,mb3.5,baz=147,slow=9.9,SNR=8.8						
WRA	**Warramunga Arr**	**57.86**	**134**	P	**P**	**23 03 10.6**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=322,slow=7.4,SNR=9.6						
ASAR	**Alice Springs**	**60.27**	**138**	P	**P**	**23 03 27.7**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=321,slow=7.0,SNR=7.9						

*CSEM **30** 23:16:06.1, 6720N×2066E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **30** 23:16:06.1, 6720N×2066E, h0km, ML3.0, Mining explosion.*

HEL 30 23:16:06.6±0.0, 6719N×2067E, h0km, ML1.6, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**211**	*i* P	Pg	23 16 08.0	-0.1
DUNU	**Dundret**	**0.08**	**211**	P	Pg	23 16 08.0	-0.1
	baz=108						
MASU	**Masugnsbyn**	**0.58**	**62**	*i* P	Pg	23 16 17.4	-0.4
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	23 16 20.5	-1.0
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	23 16 22.3	-0.8
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	23 16 23.3	-1.1
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	23 16 24.0	-1.2
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	23 16 24.6	-1.2
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	23 16 24.6	-1.2
	baz=285						
HARU	**Harads**	**1.04**	**173**	*e*P	Pg	23 16 25.2	-1.3
HARU	**Harads**	**1.04**	**173**	P	Pg	23 16 25.2	-1.3
	baz=344						
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	23 16 37.4	-0.6
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P	Pn	23 16 39.2	-0.1
KIF				*e*S	Sn	23 17 03.0	-0.1
KIF				MSG		23 17 06.4	
	comp=Z,3.2nm,0.1s						
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	23 16 40.6	-0.3
SGF	**Sodankyl**	**2.28**	**81**	*e*P	Pn	23 16 45.4	-0.2
SGF				*e*SB	Sb	23 17 15.7	-1.8
SGF				MSG		23 17 19.5	
	comp=Z,2.0nm,0.1s						
OUL	**Oulu**	**3.00**	**132**	*e*PB	Pb	23 16 58.0	-2.8
OUL				*e*SB	Sb	23 17 34.6	-3.3
KEV	**Kevo**	**3.48**	**39**	*e*P	Pn	23 17 01.0	-0.9
KEV				*e*S	Sn	23 17 42.3	-1.5
KU6	**Riekki**	**3.86**	**103**	*e*S	Sn	23 17 50.8	-2.5

*ISCJB **30** 23:16:29.1±0.7, 274N±0.1×1405E±03, h482km±8km, mb3.0/5, Error ellipse: s-maj=37.3km s-min=13.5km az=144.4*
*IDC **30** 23:16:29.6±0.8, 27.39N×14029E, h464km±11km, mb2.6/5, mb1 2.8/6, mb1mx2.7/18, mbtmp2.6/6, Error ellipse: s-maj=33.9km s-min=19.3km az=72.0*
*NEIC **30** 23:16:30.8, 2766N×141.10E, h485km, MG3.5(JMA), After JMA.*
*JMA **30** 23:16:30.7±0.1, 2766N×141.09E, h485km, M3.5*

ISC 30 23:16:29.9±0.7, 274N±01×1406E±03, h481km±8km, n17, σ0°99/20, mb3.0/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.46**	**100**	P	**P**	**23 17 31.4**	**+0.7**
	11nm,0.3s,baz=288,slow=20,SNR=6.0						
CBIJ				S	**S**	**23 18 18.8**	**-1.5**
	4.4nm,0.3s,baz=270,slow=20,SNR=1.7						
CBIJ	**Chichi jima**	**1.46**	**100**	P	**P**	**23 17 31.4**	**+0.6**
JHHJ	**Haha-jima-NKT**	**1.61**	**116**	P	**P**	**23 17 32.0**	**+0.6**
JHHJ				*e*S	**S**	**23 18 20.9**	**-0.4**
JKN2	**Miekihoku**	**7.79**	**333**	P	**P**	**23 18 25.4**	**+1.8**
HMMJ	**Hamamatsu 2**	**7.86**	**343**	P	**P**	**23 18 25.1**	**+0.7**
JNY	**Yasuok**	**8.30**	**344**	P	**P**	**23 18 30.1**	**+1.1**
JRY	**Ryogami san**	**8.75**	**351**	P	**P**	**23 18 34.0**	**+0.3**
JAG	**Ashikaga**	**9.09**	**354**	P	**P**	**23 18 36.6**	**-0.8**
JAG				*e*S	**S**	**23 20 13.7**	**-8.4**
JHO	**Hitachi**	**9.22**	**360**	P	**P**	**23 18 38.8**	**0.0**
MJAR	**Matsushiro Arr**	**9.37**	**348**	P	**P**	**23 18 39.9**	**-0.5**
	0.4nm,0.3s,baz=169,slow=11,SNR=6.9						
SONM	**Songino Array**	**33.53**	**317**	P	**P**	**23 22 27.8**	**-0.8**
	0.7nm,1.2s,mb3.0,baz=96,slow=7.5,SNR=3.6						
WRA	**Warramunga Arr**	**47.41**	**188**	P	**P**	**23 24 20.8**	**+1.1**
	0.2nm,0.4s,mb2.9,baz=7.6,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**49.20**	**309**	P	**P**	**23 24 32.4**	**-0.8**
	0.3nm,0.4s,mb2.9,baz=89,slow=9.3,SNR=11						
YKA	**Yellowknife Ar**	**72.59**	**28**	P	**P**	**23 27 09.2**	**+1.6**
	0.1nm,0.4s,mb2.7,baz=296,slow=6.0,SNR=4.1						
JOF	**Joensuu**	**74.21**	**333**	*ep*	**P**	**23 27 15.8**	**-1.1**
KAF	**Kangasniemi**	**76.61**	**334**	*ep*	**P**	**23 27 28.5**	**-1.8**
FINES	**FINESS Array B**	**77.07**	**333**	P	**P**	**23 27 32.7**	**-0.1**
	0.8nm,0.4s,mb3.6,baz=74,slow=5.7,SNR=10						

IDC 30 23:21:22.9±46.0, 5418S×14007E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.8/11, mbtmp3.7/3, MS3.4/4, Ms1 3.3/4, ms1mx3.0/23, Error ellipse: s-maj=894.2km s-min=169.7km az=138.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.32**	**3**	P	P	23 26 21.9	0.0
	2.2nm,0.8s,baz=179,slow=11,SNR=4.1						
STKA				LR	LR	23 33 01.5	
	comp=Z,100nm,20.1s,baz=208,slow=31						
NWAO	**Narrogin (SRO)**	**26.71**	**313**	LR	LR	23 35 33.6	
	comp=Z,65nm,21.3s,baz=25,slow=32						
ASAR	**Alice Springs**	**30.82**	**349**	P	P	23 27 40.5	+0.1
	0.4nm,0.5s,baz=166,slow=9.9,SNR=6.3						
CTA	**Charters Tower**	**34.36**	**10**	LR	LR	23 40 51.0	
	comp=Z,43nm,19.6s,baz=47,slow=34						
WRA	**Warramunga Arr**	**34.45**	**350**	P	P	23 28 12.0	-0.3
	0.6nm,0.6s,baz=172,slow=9.0,SNR=6.6						
MAW	**Mawson**	**37.14**	**218**	LR	LR	23 41 21.5	
	comp=Z,80nm,19.6s,baz=246,slow=32						

*IDC **30** 23:29:58.4±0.4, 3475N×14044E, h0km, mb4.3/21, mb1 4.4/24, mb1mx4.4/28, mbtmp4.3/24, ML4.3/3, MS4.1/20, Ms1 4.1/20, ms1mx3.9/38, Error ellipse: s-maj=15.9km s-min=10.1km az=80.0*
*BJI **30** 23:29:59.2, 3467N×14068E, h34km, mB5.1, mb4.6, Ms4.4, Msz4.1*
*NIED **30** 23:30:00, 3480N×14060E, h32km, Mw4.9 Best double couple: M0=2.17000×10^16 NP1:φs=357.00000°, δ85.00000°, λ-171.00000°. NP2:φs=266.00000°, δ81.00000°, λ-5.00000°.*
*MOS **30** 23:30:01.2±1.2, 3477N×14054E, h33km, mb4.9/21, Error ellipse: s-maj=11.0km s-min=5.7km az=116.2*
*JMA **30** 23:30:01.7±0.1, 3481N×14057E, h43km±2km, M4.9*
JMA Felt III J1.
*ISCJB **30** 23:30:02.1±0.4, 3473N±003×14048E±004, h40km±3km, mb4.6/65, MS4.2/23, Error ellipse: s-maj=4.9km s-min=4.8km az=18.0*
*GCMT **30** 23:30:04.2±0.5, 3486N×14042E, h30km±1km, MW5.0/60, Moment Tensor Solution. s17,c20; s60,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.38±.23; Mθθ-0.56±.15; Mφφ0.93±.15; Mrθ0.58±.21; Mφθ3.10±.11; Mφr-0.67±.20; Best double couple: M0=3.32400×10^16 NP1:φs=262.00000°, δ76.00000°, λ-10.00000°. NP2: φs=354.00000°, δ80.00000°, λ-166.00000°. Principal axes: T 3.3860, Plg3.0000°, Azm128.0000°; N -0.1250, Plg73.0000°, Azm29.0000°; P -3.2620, Plg17.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 23:30:04.2±0.4, 3477N×14037E, h35km, mb4.8/23, MW4.8(NIED) Error ellipse: s-maj=9.2km s-min=8.3km az=127.0*
NEIC Recorded [3 JMA] in Chiba and Shizuoka; [2 JMA] in Ibaraki, Kanagawa and Tokyo; [1 JMA] in Saitama, Tochigi and Yamanashi Prefectures. Also recorded [2 JMA] on Miyake-jima and O-shima; [1 JMA] on Hachijo-jima, Kozu-shima, Mikura-jima and Nii-jima.
*SZGRF **30** 23:30:10.3, 36.14N×141.30E, h33km, mb4.8, Near east coast of eastern Honshu, Japan*

ISC 30 23:30:02.8±0.4, 3475N±003×14044E±003, h30km±3km, n184, σ1°05/170, mb4.6/65, MS4.2/22, 9C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.08**	**45**	⇓P	**Pb**	**23 30 07.9**	**-0.1**
BSO2	**Boso 2**	**0.26**	**89**	*e*S	**Sb**	**23 30 15.3**	**+1.0**
BSO4	**Boso 4**	**0.26**	**340**	⇑P	**Pb**	**23 30 10.0**	**+0.3**
KTR	**Katsuura**	**0.41**	**345**	⇑P	**Pb**	**23 30 11.3**	**-0.6**
BSO1	**Boso 1**	**0.45**	**102**	⇑P	**Pb**	**23 30 11.0**	**-1.4**
TATJ	**Tateyama 2**	**0.54**	**302**	⇑P	**Pb**	**23 30 14.7**	**+0.9**
JIM2	**Oshima 3**	**0.83**	**268**	⇓P	**Pn**	**23 30 18.4**	**-0.1**
JIM2				S	**Sb**	**23 30 29.6**	**-0.1**
KTJJ	**Kamata 2**	**1.15**	**279**	P	**Pn**	**23 30 22.5**	**-0.4**
JKO	**Kozu shima**	**1.22**	**243**	P	**Pn**	**23 30 24.3**	**+0.5**
JOD2	**Odawara 2**	**1.23**	**295**	⇑P	**Pn**	**23 30 23.2**	**-0.7**
JIZS	**Izushimoda**	**1.29**	**269**	⇓P	**Pn**	**23 30 24.9**	**+0.1**
JIZS				S	**Sn**	**23 30 41.0**	**0.0**
JHJ	**Hachijo jima 2**	**1.71**	**199**	Pn	**Pn**	**23 30 30.8**	**+0.1**
	1μm,0.3s,baz=257,slow=2.4,SNR=181						
JHJ				Sn	**Sn**	**23 30 52.0**	**+0.4**
	1μm,0.3s,baz=83,slow=22,SNR=8.6						
MJAR	**Matsushiro Arr**	**2.55**	**315**	Pn	**Pn**	**23 30 42.0**	**-0.2**
	120nm,0.3s,baz=126,slow=9.6,SNR=655						
MJAR				Sn	**Sn**	**23 31 13.8**	**+1.6**
	148nm,0.3s,baz=133,slow=26,SNR=3461						
MAT	**Matsushiro**	**2.56**	**315**	P	**Pn**	**23 30 42.1**	**-0.1**
MAT				*e*S	**Sn**	**23 31 10.8**	**-1.5**
ERM	**Erimo**	**7.56**	**16**	*e*P	**Pn**	**23 31 48.4**	**-2.6**
ERM				*e*		23 33 17.1	
ERM				pmax	pmax		
	comp=Z,69nm,0.8s						
ERM	**Erimo**	**7.56**	**16**	*e*Pn	**Pn**	**23 31 48.4**	**-2.6**
	comp=Z,69nm,0.8s						
ERM				*e*Sn	**Sn**	**23 33 17.1**	**+1.4**
CBIJ	**Chichi jima**	**7.77**	**168**	Pn	**Pn**	**23 31 52.6**	**-1.3**
	comp=Z,49nm,0.3s,baz=276,slow=9.9,SNR=17						
CBIJ				Sn	**Sn**	**23 33 13.7**	**-7.1**
	comp=Z,6.2nm,0.3s,baz=270,slow=20,SNR=1.8						
CBIJ				LR	LR	23 34 24.7	
	comp=Z,1μm,20.4s,baz=54,slow=34						
JNU	**Nakatsue**	**8.11**	**261**	Pn	**Pn**	**23 32 01.6**	**+3.1**
	comp=Z,5.6nm,0.3s,baz=254,slow=21,SNR=38						
ASAJ	**Asahikawa**	**9.50**	**9**	Pn	**Pn**	**23 32 13.9**	**-3.7**
	comp=Z,6.1nm,0.3s,baz=218,slow=10,SNR=32						
ASAJ				Sn	**Sn**	**23 33 58.6**	**-4.8**
	comp=Z,0.8nm,0.3s,baz=150,slow=20,SNR=2.2						
ASAJ				LR	LR	23 36 02.7	
	comp=Z,377nm,20.8s,baz=198,slow=38						
ASAJ	**Asahikawa**	**9.50**	**9**	P	**Pn**	**23 32 14.0**	**-3.6**
ASAJ						23 33 58.6	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KSRS	**Korea Array**	**10.48**	**289**	Pn	**Pn**	**23 32 35.0**	**+3.9**
	baz=102,slow=14,SNR=27						
KSRS				LR	LR	23 36 36.9	
	comp=N,996nm,19.6s,baz=98,slow=38						
KS15	**Wonju Array Si**	**10.51**	**288**	*e*Pn	**Pn**	**23 32 36.4**	**+4.9**
YSS	**Yuzh-Sakhalins**	**12.32**	**7**	*e*P	**Pn**	**23 32 51.7**	**-4.4**
YSS				S	**Sn**	**23 35 04.0**	**-8.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.32**	**7**	Pn	**Pn**	**23 32 52.7**	**-3.5**
	comp=N,17nm,0.6s						
MDJ	**Mudanjiang**	**12.91**	**323**	P	**Pn**	**23 33 07.5**	**+3.3**
MDJ				AMB	AMB		
	comp=Z,15nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,237nm,6.5s						
MDJ	**Mudanjiang**	**12.91**	**323**	*e*Pn	**Pn**	**23 32 59.8**	**-4.5**
	comp=Z,56nm,1.4s						
JOW	**Kunigami**	**13.09**	**236**	Pn	**Pn**	**23 33 05.9**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=113,slow=18,SNR=3.0						
CN2	**Changchun**	**14.70**	**312**	*e*P	**Pn**	**23 33 30.8**	**+2.2**
CN2				*e*XP	sP	23 33 42.0	-4.2
CN2				AMB	AMB		
	comp=Z,20nm,1.2s						
CN2				LR	LR		
	comp=N,600nm,12.0s						
CN2				LR	LR		
	comp=E,800nm,12.0s						
CN2				LR	LR		
	comp=Z,700nm,16.0s						
DL2	**Dalian**	**15.63**	**291**	P	**Pn**	**23 33 44.5**	**+3.7**
DL2				AMB	AMB		
	comp=Z,20nm,0.7s						
DL2				AMB	AMB		
	comp=Z,130nm,6.3s						
DL2				LR	LR		
	comp=N,760nm,18.1s						
DL2				LR	LR		
	comp=E,410nm,17.4s						
DL2				LR	LR		
	comp=Z,530nm,19.4s						
BJI	**Beijing**	**19.97**	**292**	P	**Pn**	**23 34 36.5**	**+2.1**
BJI				AMB	AMB		
	comp=Z,7.0nm,1.1s						
BJI				LR	LR		
	comp=N,315nm,18.6s						
BJI				LR	LR		
	comp=E,1μm,18.6s						
BJI				LR	LR		
	comp=Z,460nm,19.5s						
BJI	**Beijing**	**19.97**	**292**	P	**Pn**	**23 34 36.4**	**+2.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BJI	**Beijing**	**19.97**	**292**	P	**Pn**	**23 34 36.4**	**+2.0**
	comp=Z,7.0nm,1.1s						
BJT	**Baijiatuau**	**19.97**	**292**	*e*P	**Pn**	**23 34 34.1**	**-0.3**
BJT				pmax	pmax		
	comp=Z,45nm,1.3s						
BJT	**Baijiatuau**	**19.97**	**292**	*e*P	**Pn**	**23 34 34.1**	**-0.4**
	comp=Z,45nm,1.3s						
HIA	**Hailar**	**21.05**	**320**	*de*P	**P**	**23 34 40.3**	**-4.0**
PET	**Petropavlovsk**	**22.38**	**30**⇑	*e*P	**P**	**23 35 02.3**	**+3.7**
NRGR	**

comp=Z,39nm,1.2s,mb4.9
YAK pmax pmax
comp=N,41nm,1.3s
YAK pmax pmax
comp=E,11nm,1.3s
YAK MLR MLR
comp=Z,453nm,20.0s,MS4.1
YAK MLR MLR
comp=N,448nm,19.0s,MS4.3
YAK MLR MLR
comp=E,585nm,21.0s,MS4.3
YAK Yakutsk 28.15 349 *eP* **P 23 35 51.3 -1.0**
comp=E,39nm,0.9s,mb5.0
SONM Songino Array 28.48 308 P **P 23 35 54.6 -0.7**
comp=E,2.0nm,0.7s,mb3.9,baz=106,slow=8.6,SNR=20
SONM ScP ScP 23 42 50.6 +4.9
comp=E,0.8nm,1.1s,baz=90,slow=4.4,SNR=3.5
SONM LR LR 23 47 46.6
comp=E,297nm,19.6s,MS3.9,baz=115,slow=38
SEY Seymchan 29.18 11⇓ *iP* **P 23 35 59.5 -2.0**
LZH Lanzhou 29.75 283 *eP* **P 23 36 08.0 +1.5**
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,72nm,4.2s
LZH Lanzhou 29.75 283 *eP* **P 23 36 08.1 +1.6**
comp=Z,15nm,1.0s,mb4.7
LZH pP pP 23 36 22.5 +7.3
LZH sP sP 23 36 30.4 +12
GYA Guiyang 30.12 263 P **P 23 36 10.8 +1.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 Chengdu 30.95 273 P **P 23 36 15.5 -1.7**
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.2
ZAK Zakamensk 31.13 312 *eP* **P 23 36 18.5 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
GTA Gaotai 32.55 290 *eP* **P 23 36 31.3 +0.1**
GTA AP pP 23 36 37.3 -2.6
GTA XP sP 23 36 40.8 -2.8
GTA PP PP 23 37 41.3 -3.7
GTA S **S 23 41 49.0 +4.3**
GTA SS SS 23 43 44.8 -20
GTA AMB AMB
comp=Z,2.0nm,1.0s,mb4.0
GTA AMB AMB
comp=Z,49nm,8.4s
GTA LR LR
comp=N,606nm,19.8s,MS4.4
GTA LR LR
comp=E,517nm,19.4s,MS4.4
GTA LR LR
comp=Z,616nm,19.8s,MS4.3
BILL Bilibino 36.44 16⇓ *eP* **P 23 37 04.2 -0.6**
TIXI Tiksi 37.47 354 *eP* **P 23 37 11.2 -2.4**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TIXI MLR MLR
comp=Z,206nm,18.0s,MS4.0
TIXI Tiksi 37.47 354 *eP* **P 23 37 12.7 -0.9**
KRAR Krasnoyarsk 38.61 318⇓ *iP* **P 23 37 23.3 +0.1**
KRAR pmax pmax
comp=Z,4.0nm,0.2s,mb4.8
WMQ Urumqi 41.21 299 P **P 23 37 46.0 +1.2**
WMQ AMB AMB
comp=Z,37nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,62nm,3.0s
WMQ LR LR
comp=N,387nm,22.0s
WMQ LR LR
comp=E,138nm,28.0s
WMQ LR LR
comp=Z,136nm,22.0s,MS3.8
LSA Lhasa 41.67 277 *eP* **P 23 37 51.0 +2.4**
LSA pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
LSA Lhasa 41.67 277 *eP* **P 23 37 51.0 +2.3**
comp=Z,6.4nm,1.0s,mb4.2
ZAL Zalesovo 42.92 314 P **P 23 37 58.9 +0.1**
comp=Z,2.6nm,0.6s,mb4.1,baz=17,slow=6.3,SNR=16
ZAL LR LR 23 58 15.3
comp=Z,178nm,18.1s,MS4.0,baz=22,slow=40
TNA Tin City 43.23 28 *eP* **P 23 38 01.2 0.0**
NVS Novosibirsk 43.88 315 *eP* **P 23 38 06.2 -0.3**
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=Z,28nm,1.0s,mb5.0
NVS pmax pmax
comp=E,26nm,1.1s
MK31 Makanchi Array 44.70 304 *eP* **P 23 38 13.0 -0.1**
MKAR Makanchi Array 44.70 304 P **P 23 38 13.1 0.0**
comp=E,5.5nm,0.8s,mb4.4,baz=84,slow=9.9,SNR=67
MKAR LR LR 23 57 17.6
comp=E,113nm,18.1s,MS3.8,baz=242,slow=37
MKAR Makanchi Array 44.70 304 P **P 23 38 13.1 0.0**
MKAR LR LR 23 57 17.6
JIRN Jiri 46.47 277 *eP* **P 23 38 27.0 -0.1**
comp=E,28nm,0.4s,mb5.5
GUN Gumba 46.63 277 *eP* **P 23 38 28.2 -0.1**
comp=E,35nm,0.9s,mb5.3
KURK Kurchatov 46.75 310 *eP* **P 23 38 29.6 +0.3**
PKI Pulchoki 47.15 277 *eP* **P 23 38 31.6 -0.8**
KKN Kakani 47.17 277 *eP* **P 23 38 31.9 -0.6**
DMN Daman 47.38 277 *eP* **P 23 38 34.1 -0.1**
GKN Gorkha 47.61 278 *eP* **P 23 38 35.4 -0.6**
comp=E,36nm,0.9s,mb5.4
HNR Honiara 47.66 154 LR LR 23 57 08.9
comp=E,358nm,18.8s,MS4.4,baz=359,slow=34
KAKA Kakadu 47.80 191 *eP* **P 23 38 36.5 -1.0**
comp=E,62nm,0.9s,mb5.6
KOLN Koldanda 48.55 278 *eP* **P 23 38 42.5 -0.7**
comp=E,46nm,1.2s,mb5.4
TKM2 Tokmak 2 50.05 300 P **P 23 38 54.6 -0.1**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FRU Bishkek 50.77 300 *eP* **P 23 39 06.0 +5.8**
SML Sawmill 51.30 35 *eP* **P 23 39 04.1 -0.1**
COLA College 51.43 31 *eP* **P 23 39 05.4 +0.3**
COLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
COLA College 51.43 31 *eP* **P 23 39 05.4 +0.3**
comp=Z,6.7nm,0.7s,mb4.7
BVA0 Borovoye Array 51.55 314 *iP* **P 23 39 05.6 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 51.55 314 P **P 23 39 05.7 -0.2**
comp=Z,0.9nm,0.3s,mb4.2,baz=112,slow=11,SNR=15
BRVK Borovoye 51.61 314 *eP* **P 23 39 07.9 +1.5**
BRVK pmax pmax
comp=Z,14nm,1.0s,mb4.8
BRVK Borovoye 51.61 314 *eP* **P 23 39 07.9 +1.5**
comp=Z,14nm,1.0s,mb4.8
KKAR Karatay Array 53.61 301 P **P 23 39 21.4 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FITZ Fitzroy Crossi 54.41 197 *eP* **P 23 39 27.3 +0.2**
comp=Z,20nm,0.9s,mb5.0
WB2 Warramunga Arr 54.69 187⇓ *iP* **P 23 39 28.6 -0.5**
WRA Warramunga Arr 54.69 187 P **P 23 39 28.7 -0.5**
comp=Z,46nm,0.9s,mb5.5,baz=4.4,slow=7.6,SNR=141
WRA LR LR 00 03 46.0
comp=Z,107nm,18.5s,MS3.9,baz=20,slow=37
CTA Charters Tower 54.81 173 P **P 23 39 30.7 +0.7**
comp=Z,2.8nm,0.9s,mb4.3,baz=246,slow=18,SNR=3.3
CTA LR LR 00 01 22.5
comp=Z,131nm,20.5s,MS4.0,baz=218,slow=34
DAWY Dawson 55.15 32 *eP* **P 23 39 33.4 +0.9**
SVE Sverdlovsk 56.35 319 *eP* pP 23 39 53.0 +2.8
INK Inuvik 56.78 26 P **P 23 39 44.1 0.0**
comp=Z,2.5nm,0.7s,mb4.3,baz=300,slow=5.5,SNR=20
INK Inuvik 56.78 26 *eP* **P 23 39 44.3 +0.2**
comp=Z,166nm,1.0s,mb6.0
HYB Hyderabad 57.37 269 *iP* **P 23 39 48.0 -0.3**
HYB Hyderabad 57.37 269 *eP* **P 23 39 48.0 -0.3**
KBL Kabul 57.52 292 *eP* **P 23 39 47.4 -1.9**
ARU Arti 57.56 319⇑ *eP* **P 23 39 48.5 -1.1**
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ARU Arti 57.56 319 *eP* **P 23 39 49.1 -0.5**
ASAR Alice Springs 58.42 187 P **P 23 39 55.4 -0.2**
comp=Z,17nm,1.0s,mb5.0,baz=6.2,slow=5.2,SNR=63
AKTK Aktyubinsk 59.63 313 P **P 23 40 04.9 +0.9**
AKTO Aktyubinsk 59.63 313 P **P 23 40 04.9 +0.8**
comp=Z,2.4nm,0.7s,mb4.3,baz=80,slow=14,SNR=6.4
AKTO Aktyubinsk 59.63 313 *iP* **P 23 40 04.6 +0.6**
DZM Mont Dzumac 61.67 152 P **P 23 40 19.0 +1.1**
comp=Z,5.7nm,0.8s,mb4.8,baz=342,slow=20,SNR=3.0
RES Resolute Bay 65.01 14 *eP* **P 23 40 39.9 -0.1**
KLMR Klimovskoe 65.27 328 P **P 23 40 39.7 -2.0**
KLMR pmax pmax
comp=Z,34nm,1.8s,mb5.1
KEV Kevo 65.30 339 *ep* **P 23 40 42.3 +0.4**
ARCES ARCESS Array B 65.86 340 P **P 23 40 44.6 -0.9**
comp=Z,2.2nm,0.8s,mb4.2,baz=57,slow=7.0,SNR=7.8
ARCES LR LR 00 10 24.8
comp=Z,259nm,19.3s,MS4.5,baz=251,slow=37
YKA Yellowknife Ar 66.18 29 P **P 23 40 46.3 -1.3**
comp=Z,1.2nm,0.8s,mb4.0,baz=300,slow=6.5,SNR=19
YKA Yellowknife Ar 66.18 29 P **P 23 40 46.3 -1.3**
FORT Forrest 66.21 192 *eP* **P 23 40 48.0 +0.2**
comp=Z,75nm,0.6s,mb5.9
STKA Stephens Creek 66.28 179 *eP* **P 23 40 49.0 +0.8**
comp=Z,10nm,0.8s,mb4.9
STKA Stephens Creek 66.28 179 P **P 23 40 47.9 -0.4**
comp=Z,8.2nm,1.0s,mb4.7,baz=352,slow=9.0,SNR=7.8
STKA LR LR 00 08 46.1
comp=Z,130nm,19.5s,MS4.2,baz=204,slow=35
AFI Afiamalu 66.31 128 LR LR 00 06 24.7
comp=Z,116nm,18.9s,MS4.1,baz=58,slow=33
JOF Joensuu 67.61 332 *ep* **P 23 40 55.6 -1.1**
comp=Z,1.1nm,0.3s,mb4.4
KLBR Kellerberrin 69.35 201 *eP* **P 23 41 07.1 -0.5**
comp=Z,32nm,0.8s,mb5.3
OBN Obninsk 69.46 323⇑ *eP* **P 23 41 10.6 +2.4**
OBN *e* 23 41 22.3
OBN *e* 23 41 27.2
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KAF Kangasniemi 69.98 333 *ep* **P 23 41 10.0 -1.4**
baz=51,slow=5.8
MUN Mundaring 70.18 202 *eP* **P 23 41 12.1 -0.5**
FINES FINESS Array B 70.47 332 P **P 23 41 14.1 -0.4**
comp=Z,2.2nm,0.6s,mb4.3,baz=70,slow=7.0,SNR=4.9
FINES LR LR 00 12 29.0
comp=Z,112nm,18.4s,MS4.2,baz=161,slow=36
FINES FINESS Array B 70.47 332 P **P 23 41 14.1 -0.4**
FINES LR LR 00 12 29.0
NWAO Narrogin (SRO) 70.76 201 P **P 23 41 16.2 +0.1**
comp=Z,37nm,0.8s,mb5.3,baz=14,slow=6.1,SNR=16
EDM Edmonton 71.63 37 *eP* **P 23 41 24.7 +3.2**
KIV Kislovodsk 71.81 311⇓ *eP* **P 23 41 25.8 +3.2**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.8
KIV Kislovodsk 71.81 311 *eP* **P 23 41 25.3 +2.8**
YBH Yreka Blue Hor 72.38 51 P **P 23 41 29.7 +3.7**
comp=Z,0.6nm,0.4s,mb3.9,baz=217,slow=20,SNR=2.6
WALA Waterton Lakes 73.67 41 *eP* **P 23 41 36.8 +3.2**
comp=Z,3.9nm,0.8s,mb4.4
MOD Modoc 73.82 50 *eP* pP 23 41 46.4 +2.5
AKASG Malin Array Be 75.62 322 P **P 23 41 44.3 -0.6**
comp=Z,0.9nm,0.4s,mb4.1,baz=46,slow=5.9,SNR=9.4
AKASG LR LR 00 18 07.2
comp=Z,274nm,18.8s,MS4.6,baz=55,slow=38
KIEV Kiev 75.63 322 *eP* **P 23 41 45.3 +0.3**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIEV Kiev 75.63 322 *eP* **P 23 41 45.3 +0.4**
comp=Z,10nm,0.8s,mb4.8
CMB Columbia Colle 75.85 54 *eP* **P 23 41 45.9 -0.3**
CMB pmax pmax
comp=Z,17nm,1.3s,mb4.8
CMB Columbia Colle 75.85 54 *eP* **P 23 41 45.9 -0.3**
comp=Z,16nm,1.3s,mb4.8
NB2 NORSAR Subarra 75.99 337 P **P 23 41 46.7 -0.3**
comp=Z,6.9nm,0.8s,mb4.6,baz=42,slow=5.9
NOA NORSAR Array B 75.99 337 P **P 23 41 46.6 -0.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=40,slow=6.0,SNR=3.2
NOA LR LR 00 16 05.8
comp=Z,142nm,20.5s,MS4.3,baz=280,slow=36
FCC Fort Churchill 76.40 26 *eP* pP 23 41 59.1 +0.3
FCC pmax pmax
comp=Z,16nm,1.4s,mb4.8
FCC Fort Churchill 76.40 26 *eP* pP 23 41 59.1 +0.3
comp=Z,16nm,1.4s
EGMT Eagleton 76.51 41 *eP* **P 23 41 55.3 +5.3**
comp=Z,12nm,0.9s,mb4.8
HLID Hailey 76.51 46 *eP* **P 23 41 56.9 +7.0**
NVAR Mina Array Bea 77.00 52 P **P 23 41 53.7 +1.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=290,slow=5.6,SNR=2.1
IMW Indian Meadow 78.35 44 *eP* **P 23 42 05.7 +5.4**
comp=Z,5.3nm,0.9s,mb4.5
MOOW Moose Ponds 78.55 44 *eP* pP 23 42 09.3 -1.6
DAC Darwin (Calif) 78.68 54 *eP* pP 23 42 13.7 +2.2
REDW Red Top Meadow 78.72 45 *eP* pP 23 42 13.3 +1.6
comp=Z,16nm,1.5s
DUG Dugway 79.45 48 *eP* **P 23 42 10.2 +3.9**
DUG pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
DUG Dugway 79.45 48 *eP* **P 23 42 10.2 +3.9**
comp=Z,9.8nm,1.3s,mb4.6
BR131 Keskin Array S 79.77 311 *eP* **P 23 42 12.2 +4.1**
BRTR Keskin Array B 79.77 311 P **P 23 42 08.8 +0.7**
comp=Z,1.5nm,0.8s,mb4.0,baz=104,slow=4.0,SNR=9.4
PDAR Pinedale Array 79.84 45 P **P 23 42 09.1 +0.7**
comp=Z,0.7nm,0.6s,mb3.8,baz=254,slow=3.6,SNR=6.5
SHPR Sheep Range 80.15 52 *eP* pP 23 42 20.4 +0.8
MPU Maple Canyon 80.29 48 *eP* pP 23 42 20.4 +0.1
ARUT Antelope Range 80.50 51 *eP* **P 23 42 16.6 +4.6**
PFO Pinyon Flat Ob 80.98 55 P **P 23 42 15.1 +0.6**
comp=Z,1.3nm,0.5s,mb4.1,baz=327,slow=7.2,SNR=4.2
SRU San Rafael 81.52 48 *eP* **P 23 42 25.4 +8.0**
ULM Lac du Bonnet 81.85 33 P **P 23 42 20.8 +1.7**
comp=Z,2.7nm,0.9s,mb4.2,baz=295,slow=3.6,SNR=5.1
VRAC Vranov 82.60 327 LR LR 00 21 57.3
comp=Z,193nm,19.8s,MS4.5,baz=42,slow=38
CLL Collm 82.68 330 *esP* sP 23 42 39.0 +2.5
comp=Z,13nm,1.1s
PV10 Paradox Valley 82.88 48 *eP* **P 23 42 26.1 +1.6**
RPZ Rata Peaks 82.92 158 LR LR 00 14 38.8
comp=Z,100nm,18.5s,MS4.2,baz=169,slow=32
WUAZ Wupatki 83.19 51 *eP* pP 23 42 35.9 +0.3
comp=Z,14nm,1.2s
PV01 Paradox Valley 83.32 48 *eP* **P 23 42 29.0 +2.2**
KHC Kasperske Hory 84.07 328 *eP* **P 23 42 32.0 +1.4**
KHC *x* *x* 23 42 46.5
KHC Kasperske Hory 84.07 328 *eP* **P 23 42 32.0 +1.4**
KHC *e* 23 42 46.5
GERES GERESS Array B 84.23 328 P **P 23 42 32.3 +0.8**
comp=Z,1.4nm,0.8s,mb4.1,baz=20,slow=4.4,SNR=6.6
GERES LR LR 00 27 00.5
comp=Z,112nm,18.8s,MS4.3,baz=19,slow=41
PPT Papeete 84.33 116 LR LR 00 14 45.2
comp=Z,155nm,18.4s,MS4.4,baz=295,slow=32
GRA1 Grafenberg Arr 84.65 330 *eP* **P 23 42 35.1 +1.5**
comp=Z,6.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.65 330 *eP* **P 23 42 35.1 +1.5**
comp=Z,6.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.65 330 *eP* **P 23 42 35.1 +1.5**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.65 330 *eP* **P 23 42 35.1 +1.5**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
EIL Elat 84.95 303 *eP* pP 23 42 47.7 +3.0
SDCO Great Sand Dun 85.42 47 *eP* pP 23 42 47.9 +0.9
comp=Z,12nm,1.3s
ANMO Albuquerque 86.66 49⇑ *eP* pP 23 42 54.3 +1.1
CDF Champ du Feu 87.26 331 *eP* **P 23 42 46.4 -0.1**
LPL La Plagne 89.81 329 *eP* **P 23 42 58.1 -0.4**
LPG La Plagne 89.82 329 *eP* **P 23 42 58.8 +0.2**
SSF Saint Saulge 89.84 332 *eP* **P 23 42 57.8 -0.9**
SBF Sospel 90.83 328 *eP* **P 23 43 01.6 -1.7**
PGF Pioggiola 91.18 326 *eP* **P 23 43 03.6 -1.3**
VIVF Saint-Julien-l 91.20 330 *eP* **P 23 43 04.1 -0.9**
MIAR Mount Ida 94.54 42 *eP* pP 23 43 31.2 +1.2
KEST Kesra 96.35 322 LR LR 00 33 04.3
comp=Z,44nm,18.3s,MS4.0,baz=243,slow=39
TORD Torodi Ar. Bea 118.35 313 PKP PKPdf 23 48 47.0 -0.3
comp=Z,0.3nm,0.6s,baz=15,slow=2.3,SNR=8.9
TORD Torodi Ar. Bea 118.35 313 PKP PKPdf 23 48 47.0 -0.3
LPAZ La Paz 148.50 62 PKPbc PKPbc 23 49 48.6 +2.0
comp=Z,2.0nm,0.8s,baz=355,slow=9.1,SNR=5.0

NEIC ***30*** *23:34:34.8, 3075S×7174W, h11km, ML3.0(GUC), After GUC.*
GUC 30 23:34:34.8±0.6, 3075S×7174W, h11km±6km, MD3.8, ML3.0, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.48**	**73**⇓	*iP*	Pg	23 34 44.9	+0.6
OVCH				*i* S	Sg	23 34 52.4	+1.7
CMCH	**Combarbala**	**0.76**	**124**⇑	*iP*	Pg	23 34 49.2	-0.3
CMCH				*i* S	Sg	23 35 00.3	+0.9
CMCH				AML	AML	23 35 03.8	
	comp=E,1μm,0.7s						
CMCH	**Combarbala**	**0.76**	**124**⇑	*iP*	Pg	23 34 49.2	-0.3
CMCH				*i* S	Sg	23 35 00.3	+0.9
LSCH	**La Serena**	**0.94**	**27**	*eP*	Pg	23 35 27.5	+34
LSCH				*i* S	Sg	23 35 40.0	+35
TLL	**Tololo Astrono**	**0.99**	**54**⇓	*iP*	Pg	23 34 53.2	-0.8
TLL				*i* S	Sg	23 35 07.9	+0.9
TLL				AML	AML	23 35 10.2	
	comp=E,519nm,0.3s						
TLL	**Tololo Astrono**	**0.99**	**54**⇓	*iP*	Pg	23 34 53.2	-0.8
TLL				*i* S	Sg	23 35 07.9	+0.9
CHNG	**Los Chungos**	**1.15**	**170**	*eP*	Pb	23 34 51.6	-5.0
CHNG				*i* S	Sb	23 35 07.1	-4.4
PTCH	**Petorca**	**1.66**	**156**⇑	*iP*	Pn	23 35 03.3	-0.5
PTCH				*i* S	Sn	23 35 24.8	-0.3
PTCH				AML	AML	23 35 29.7	
	comp=E,513nm,1.1s						
PTCH	**Petorca**	**1.66**	**156**⇑	*iP*	Pn	23 35 03.3	-0.5
PTCH				*i* S	Sn	23 35 24.8	-0.3
LCO	**Las Campanas**	**1.96**	**28**	*ePn*	Pn	23 35 05.3	-2.6
LCO				*eSn*	Sn	23 35 32.0	-0.5
FCH	**Farellones**	**2.85**	**155**	*eP*	Pn	23 35 22.0	+1.9
FCH				AML	AML	23 36 08.9	
	comp=N,41nm,0.4s						

IDC 30 23:34:56.2±21.0, 1619S×17647W, h430km±121km, mb3.7/5, mb1 3.7/6, mb1mx3.3/17, mbtmp3.6/6, Error ellipse: s-maj=252.5km s-min=31.3km az=47.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.17**	**247**	P	P	23 38 31.2	+0.4
	0.6nm,0.3s,baz=96,slow=19,SNR=12						
URZ	**Urewera**	**22.70**	**193**	P	P	23 39 23.1	-0.1
	5.0nm,0.5s,baz=168,slow=16,SNR=9.3						
CTA	**Charters Tower**	**35.59**	**258**	P	P	23 41 15.9	+0.3
	4.5nm,1.0s,baz=79,slow=15,SNR=3.5						
STKA	**Stephens Creek**	**41.09**	**240**	P	P	23 42 00.5	-0.1
	1.6nm,0.4s,baz=80,slow=7.6,SNR=2.8						
WRA	**Warramunga Arr**	**46.79**	**258**	P	P	23 42 45.6	+0.3
	1.9nm,0.5s,baz=91,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**47.06**	**253**	P	P	23 42 47.6	+0.4
	12nm,0.4s,baz=89,slow=7.7,SNR=88						

NEIC ***30*** *23:37:17.4, 2801S×7083W, h38km, MG3.5(GUC), After GUC.*
GUC 30 23:37:17.4±0.3, 2801S×7083W, h38km±1km, ML3.5, 4C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.57**	**174**⇑	*iP*	Pn	23 37 29.1	+0.1
VACH				*i* S	Sn	23 37 37.8	+0.6
VACH				AML	AML	23 37 38.2	
	comp=E,4μm,0.1s						
VACH	**Vallenar**	**0.57**	**174**⇑	*iP*	Pn	23 37 29.1	+0.1
VACH				*i* S	Sn	23 37 37.8	+0.6
CPCH	**Copiapo**	**0.77**	**33**⇑	*iP*	Pn	23 37 31.9	+0.1
CPCH				*i* S	Sn	23 37 43.2	+1.0
CPCH				AML	AML	23 37 45.7	
	comp=E,5μm,0.1s						
CPCH	**Copiapo**	**0.77**	**33**⇑	*iP*	Pn	23 37 31.9	+0.1
CPCH				*i* S	Sn	23 37 43.2	+1.0
CDCH	**Caldera**	**0.93**	**0**⇓	*iP*	Pn	23 37 34.3	+0.3
CDCH				*i* S	Sn	23 37 47.2	+1.1
TLL	**Tololo Astrono**	**2.15**	**179**	*eP*	Pn	23 37 52.5	+1.8
TLL				*i* S	Sn	23 38 19.6	+3.3

BGS ***30*** *23:50:41.7, 3472N×636E, h10km, mb4.8*
SZGRF ***30*** *23:50:42.8, 3421N×420E, h33km, mb4.5, Northern Algeria*
LDG ***30*** *23:50:45.8±0.3, 3455N×349E, h10km, Ml4.4/22, ms3.6/8, Error ellipse: s-maj=7.2km s-min=6.2km az=26.0*
CRAAG ***30*** *23:50:45.6, 3461N×333E, Ml5.2*
MOS ***30*** *23:50:46.9±1.3, 3487N×334E, h10km, mb5.1/25, Error ellipse: s-maj=4.6km s-min=2.2km az=75.3*
ISCJB ***30*** *23:50:47.2±0.2, 3490N±002×329E±001, h10km, mb4.8/66, MS4.0/15, Error ellipse: s-maj=2.9km s-min=1.6km az=11.8*
IDC ***30*** *23:50:47.2±0.5, 3504N×327E, h0km, mb4.5/22, mb1 4.7/29, mb1mx4.6/31, mbtmp4.5/29, ML4.5/7, MS3.8/15, Ms1 3.8/15, ms1mx3.6/28, Error ellipse: s-maj=12.5km s-min=11.7km az=1.0*
NEIC ***30*** *23:50:48.4±0.3, 3474N×333E, h10km, mb4.8/37, Error ellipse: s-maj=4.5km s-min=2.9km az=181.0*
MDD ***30*** *23:50:48.6±0.7, 3481N×335E, h0km, mb4.9/28, Error ellipse: s-maj=8.1km s-min=4.3km az=164.0, PRXIMO*
CSEM ***30*** *23:50:50.6±0.1, 3494N×345E, h33km, mb5.2/17, ML4.3/4, Ms4.4, Error ellipse: s-maj=2.4km s-min=1.6km az=17.0*
INMG ***30*** *23:50:50.8±1.8, 3480N×341E, h30km±32km, Mb5.0, Error ellipse: s-maj=20.1km s-min=5.4km az=132.0*
BJI ***30*** *23:50:53.6, 3564N×351E, h35km, mB5.1, mb4.9, Ms5.0, Msz4.9*
SFS ***30*** *23:50:53.0, 3510N×340E, h35km, ML4.9*
CNRM ***30*** *23:50:53.9, 3503N×320W, h32km, MD4.9*
ISC 30 23:50:49.2±0.2, 3492N±002×331E±001, h10km, (h35km±3.7km:pP-P), n568, σ1°34/636, mb4.8/66, MS4.0/15, 20C-25D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**1.31**	**347**	P	**Pn**	**23 51 14.0**	**+0.3**
ETRT	**Tiaret**	**1.72**	**287**	P	**Pn**	**23 51 19.0**	**-0.2**
ABMS	**Boumerdes**	**1.83**	**4**	P	**Pn**	**23 51 20.7**	**-0.1**
ABA	**Alger-Bouzarea**	**1.90**	**353**	P	**Pn**	**23 51 24.0**	**+2.4**
EBNR	**Beni Rached**	**2.00**	**314**	P	**Pn**	**23 51 23.0**	**-0.1**
ECHA	**Ech Chlef**	**2.01**	**308**	P	**Pn**	**23 51 23.0**	**-0.2**
ECHF	**Ech Chlef**	**2.03**	**308**	P	**Pn**	**23 51 23.0**	**-0.5**
EANR	**'Ain N'Sour**	**2.08**	**300**	P	**Pn**	**23 51 23.0**	**-1.2**
SET	**Setif**	**2.13**	**52**	P	**Pn**	**23 51 25.0**	**+0.1**
OKGL	**Djebel Kef Gue**	**2.45**	**298**	P	**Pn**	**23 51 23.0**	**-6.3**
OJBR	**Djebel Berber**	**2.52**	**286**	P	**Pn**	**23 51 24.0**	**-6.2**
DFRA	**Djebel Bou Aff**	**2.64**	**51**	P	**Pn**	**23 51 32.0**	**+0.1**
CTEI	**Djebel Teioual**	**2.77**	**65**	P	**Pn**	**23 51 34.0**	**+0.3**
ODJA	**Bouhanifia**	**2.87**	**279**	P	**Pg**	**23 51 43.0**	**-1.2**
CASM	**Ain Smara**	**2.92**	**62**	P	**Pn**	**23 51 35.0**	**-0.7**
CKFL	**Kef-Lekhel**	**3.14**	**61**	P	**Pn**	**23 51 38.0**	**-0.8**
USTO	**Oran**	**3.26**	**286**	P	**Pn**	**23 51 43.0**	**+2.6**
CAEH	**'Ain El Ouahch**	**3.42**	**56**	P	**Pn**	**23 51 41.0**	**-1.6**
ABSA	**Djebel Ababsia**	**3.65**	**67**	P	**Pn**	**23 51 46.0**	**+0.2**
CABS	**Djebel Ababsia**	**3.65**	**67**	P	**Pn**	**23 51 46.0**	**+0.2**
CMAH	**Djebel Manchou**	**3.75**	**62**	P	**Pn**	**23 51 46.0**	**-1.1**
CART	**Cartagena**	**4.39**	**309**	P	**Pn**	**23 51 54.5**	**-1.5**
CART	**Cartagena**	**4.39**	**309**	*eP*	**Pn**	**23 51 54.5**	**-1.4**
EIBI	**Ibiza**	**4.40**	**340**	Pn	**Pn**	**23 51 56.6**	**+0.6**
	184nm,0.6s,SNR=118						
EIBI				Sn	**Sn**	**23 52 46.8**	**-0.5**
	161nm,0.6s						
EIBI	**Ibiza**	**4.40**	**340**	Pn	**Pn**	**23 51 56.6**	**+0.6**
	184nm,0.6s,SNR=118						
EMUR	**La Murta**	**4.69**	**310**	Pn	**Pn**	**23 52 00.0**	**-0.1**
	33nm,0.5s,SNR=47						
EMUR				Sn	**Sn**	**23 52 54.0**	**-0.6**
	95nm,0.4s						
EMUR	**La Murta**	**4.69**	**310**	Pn	**Pn**	**23 52 00.0**	**-0.1**
	33nm,0.5s,SNR=47						
EBEN	**Beniarda**	**4.73**	**324**	Pn	**Pn**	**23 52 01.7**	**+1.1**
	36nm,0.3s,SNR=85						
EBEN				Sn	**Sn**	**23 52 55.0**	**-0.5**
	68nm,0.5s						
EBEN	**Beniarda**	**4.73**	**324**	Pn	**Pn**	**23 52 01.7**	**+1.1**
	36nm,0.3s,SNR=85						
ETOS	**Mallorca**	**4.86**	**355**	Pn	**Pn**	**23 52 03.0**	**+0.6**
	116nm,0.9s,SNR=53						
ETOS				Sn	**Sn**	**23 52 57.0**	**-1.7**
	118nm,0.7s						
ETOS	**Mallorca**	**4.86**	**355**	Pn	**Pn**	**23 52 03.0**	**+0.6**
	116nm,0.9s,SNR=53						
ENIJ	**Nijar**	**4.93**	**296**	Pn	**Pn**	**23 52 03.0**	**-0.3**

2.5nm,0.3s,SNR=7.9
ENIJ Sn Sn 23 52 58.0 -2.3
45nm,0.6s,SNR=5.4
ZAI Zaio 4.98 272 P Pn 23 52 05.0 +1.0
ZAI S Sn 23 52 56.0 -5.6
ZAI Zaio 4.98 272 eP Pn 23 52 05.0 +1.0
KEST Kesra 5.00 79 Pn Pn 23 52 04.6 +0.3
4.2nm,0.3s,baz=240,slow=3.5,SNR=390
KEST Sn Sn 23 53 03.1 +0.9
4.1nm,0.3s,baz=120,slow=17,SNR=4.1
KEST Lg 23 53 20.6
3.1nm,0.3s,baz=356,slow=19,SNR=3.3
MAHO Mahon 5.03 8 eP Pn 23 52 02.5 -2.2
MAHO eS Sn 23 52 57.4 -5.5
MELI Melilla 5.14 276 P Pn 23 52 05.2 -1.0
EMLI Melilla 5.15 276 Pn Pn 23 52 06.4 0.0
198nm,0.7s,SNR=10
EMEL Melilla 5.15 276 Pn Pn 23 52 06.4 0.0
198nm,0.7s,SNR=10
EALB Alboran 5.28 283 Pn Pn 23 52 06.5 -1.7
25nm,0.7s,SNR=12
EALB Sn Sn 23 53 06.8 -2.3
40nm,0.5s,SNR=5.7
EALB Alboran 5.28 283 Pn Pn 23 52 06.5 -1.7
25nm,0.7s,SNR=12
EALB Sn Sn 23 53 06.8 -2.3
40nm,0.5s,SNR=5.7
ETOB Tobarra 5.39 315 Pn Pn 23 52 10.8 +1.1
71nm,0.7s,SNR=64
ETOB Sn Sn 23 53 11.0 -0.8
128nm,0.4s,SNR=5.4
EBER Berja 5.41 293 Pn Pn 23 52 09.7 -0.3
4.7nm,0.2s,SNR=7.9
EBER Sn Sn 23 53 10.7 -1.5
5.8nm,0.3s,SNR=7.9
EHUE Huescar 5.58 303 Pn Pn 23 52 13.6 +1.3
0.4nm,0.2s,SNR=7.9
EHUE Sn Sn 23 53 14.3 -2.0
3.4nm,0.2s,SNR=7.9
ECHE Chera 5.78 325 Pn Pn 23 52 16.1 +1.0
2.6nm,0.2s,SNR=7.9
ECHE Sn Sn 23 53 19.5 -1.9
2.6nm,0.2s,SNR=7.9
TOU Touzarine 5.80 272 P Pn 23 52 16.0 +0.6
TOU S Sn 23 53 17.0 -5.0
EQES Quesada 5.90 301 Pn Pn 23 52 17.8 +1.1
42nm,0.4s,SNR=76
EQES Sn Sn 23 53 25.8 +1.4
144nm,0.5s
EGUA Guajares 5.90 291 Pn Pn 23 52 16.7 -0.1
1.1nm,0.2s,SNR=7.9
EGUA Sn Sn 23 53 22.8 -1.6
1.5nm,0.3s,SNR=7.9
EQUE Quentar 5.93 295 Pn Pn 23 52 17.6 +0.5
15nm,0.5s,SNR=30
EVIA Vianos 5.96 310 Pn Pn 23 52 18.4 +0.8
62nm,0.8s,SNR=18
EVIA Sn Sn 23 53 25.1 -0.9
176nm,0.6s
ECOG Cogollos-Vega 6.05 295 Pn Pn 23 52 20.2 +1.5
4.8nm,0.3s,SNR=7.9
ECOG Sn Sn 23 53 25.1 -2.9
4.3nm,0.3s,SNR=7.9
ERON Agron 6.14 292 Pn Pn 23 52 21.0 +1.0
14nm,0.6s,SNR=38
EMOS Mosqueruela 6.21 332 Pn Pn 23 52 22.1 +1.1
82nm,0.4s,SNR=202
EMOS Sn Sn 23 53 30.6 -1.4
92nm,0.8s
TZK Tazeka 6.25 265 P Pn 23 52 22.0 +0.6
TZK S Sn 23 53 29.5 -3.4
ELOJ Sierra Loja 6.45 292 Pn Pn 23 52 26.0 +1.8
1.2nm,0.5s,SNR=7.9
ELOJ Sn Sn 23 53 34.1 -3.7
1.0nm,0.3s,SNR=7.9
ERTA Horta de San J 6.47 340 Pn Pn 23 52 24.9 +0.3
67nm,0.8s,SNR=4.7
ERTA Sn Sn 23 53 37.0 -1.5
2.9nm,0.2s,SNR=7.9
EMAL Malaga-Limoner 6.55 289 P Pn 23 52 24.2 -1.4
EBAN Banos Encina 6.57 302 Pn Pn 23 52 26.2 +0.3
7.2nm,0.4s,SNR=9.4
EBAN Sn Sn 23 53 37.2 -3.6
36nm,0.4s
VSL Villasalto 6.66 45 P Pn 23 52 26.8 -0.3
ELUQ Luque 6.67 295 Pn Pn 23 52 28.0 +0.7
20nm,0.7s,SNR=11
ELUQ Sn Sn 23 53 39.8 -3.5
20nm,0.6s,SNR=7.9
EMIJ Mijas 6.78 286 Pn Pn 23 52 27.2 -1.6
19nm,0.6s,SNR=21
EMIJ Sn Sn 23 53 41.5 -4.5
25nm,0.7s,SNR=12
MDT Midelt 6.92 255 Pn Pn 23 52 31.6 +1.0
7.0nm,0.3s,baz=74,slow=16,SNR=252
MDT Lg 23 54 27.7
7.9nm,0.3s,baz=281,slow=16,SNR=5.0
MDT LR LR 23 55 48.3
comp=Z,217nm,20.1s,baz=82,slow=44
TGT Taghat 6.96 265 P Pn 23 52 31.0 -0.3
EMIR Miracle 7.13 349 Pn Pn 23 52 34.6 +1.1
16nm,0.4s,SNR=29
EMIR Sn Sn 23 53 51.9 -2.7
167nm,1.0s,SNR=4.4
EADA Adamuz 7.13 299 Pn Pn 23 52 33.0 -0.6
12nm,0.6s,SNR=6.9
EADA Sn Sn 23 53 51.6 -3.1
55nm,0.9s,SNR=9.4
CZD Col de Zad 7.19 257 P Pn 23 52 36.0 +1.6
CZD S Sn 23 53 51.0 -5.2
ETOR Torete 7.26 326 Pn Pn 23 52 38.0 +2.6
17nm,0.6s,SNR=13
ETOR Sn Sn 23 53 56.1 -1.7
69nm,0.5s,SNR=8.8
EJIF Jimena Fronter 7.31 285 Pn Pn 23 52 35.5 -0.5
0.8nm,0.5s,SNR=7.9
DGI Dorgali Grotta 7.35 41 P Pn 23 52 36.9 +0.3
ESAC San Caprasio 7.42 338 Pn Pn 23 52 39.3 +1.8
27nm,0.3s,SNR=17
ESDC Sonseca Array 7.49 311 Pn Pn 23 52 38.3 -0.3
3.1nm,0.3s,baz=125,slow=13,SNR=94
ESDC Sn Sn 23 54 02.7 -0.9
9.8nm,0.3s,baz=124,slow=24,SNR=8.3
ESDC Sonseca Array 7.49 311 Pn Pn 23 52 38.7 +0.2
24nm,0.6s,baz=125,slow=13,SNR=60
ESDC Sn Sn 23 54 01.0 -2.6
22nm,0.4s,baz=128,slow=30,SNR=4.8
ESLA Sonseca Array 7.49 311 ePn Pn 23 52 38.8 +0.2
EJON La Jonquera 7.53 358 Pn Pn 23 52 39.8 +0.7
11nm,0.3s,SNR=27
EJON Sn Sn 23 54 00.9 -3.5
16nm,0.5s,SNR=5.2
VALF Valcebollere 7.54 353 Pn Pn 23 52 41.7 +2.5
SJAF Saint Jean de 7.56 358 Pn Pn 23 52 41.0 +1.5
PAB San Pablo 7.66 309 eP Pn 23 52 41.3 +0.4
PAB e 23 54 07.1
PAB pmax pmax
comp=Z,26nm,0.6s
PAB San Pablo 7.66 309 ePn Pn 23 52 41.3 +0.4
comp=Z,26nm,0.6s
PAB eSn Sn 23 54 07.1 -0.6
ESPR Espera 7.69 287 Pn Pn 23 52 43.2 +1.9
comp=Z,31nm,0.9s,SNR=7.9
SALF Salau 8.01 349 Pn Pn 23 52 47.3 +1.7
SALF Sn Sn 23 54 13.6 -2.6
LRDF Laroque-de-Fa 8.03 356 Pn Pn 23 52 48.1 +2.1
ERC Erice 8.09 65 P Pn 23 52 47.3 +0.5
comp=Z,111nm,0.8s
KIB El Ksiba 8.13 256 P Pn 23 52 49.0 +1.7
KIB S Sn 23 54 12.5 -6.8
EBIE Bielsa 8.14 343 Pn Pn 23 52 49.4 +1.9
comp=Z,0.5nm,0.2s,SNR=14
MELF Melles 8.19 347 Pn Pn 23 52 50.1 +2.0
MLS Moulis 8.21 349 Pn Pn 23 52 50.7 +2.2
RESF Ens 8.21 344 Pn Pn 23 52 51.7 +3.2
GUD Guadarrama 8.22 316 Pn Pn 23 52 49.9 +1.4
comp=Z,0.3nm,0.2s,SNR=7.9
GUD Sn Sn 23 54 17.8 -3.7
comp=Z,1.0nm,0.3s,SNR=7.9
EPF Esparros 8.43 345 ePn Pn 23 52 52.9 +1.5
SNR=1.0
EPF eSn Sn 23 54 22.7 -3.8
comp=Z,31nm,0.7s,SNR=1.0
EPF Esparros 8.43 345 ePn Pn 23 52 52.9 +1.5
SNR=1.0
EPF eSn Sn 23 54 22.7 -3.8
comp=Z,15nm,0.7s,SNR=1.0

CLTB Caltabellotta 8.43 69 P Pn 23 52 52.8 +1.4
MTLF Montolieu 8.46 355 ePn Pn 23 52 53.8 +2.0
SNR=1.0
MTLF eSn Sn 23 54 23.1 -4.2
comp=Z,25nm,0.7s
MTLF Montolieu 8.46 355 ePn Pn 23 52 53.8 +2.0
SNR=1.0
MTLF eSn Sn 23 54 23.1 -4.2
comp=Z,12nm,0.7s
ETSF Etsaut 8.52 340 ePn Pn 23 52 54.0 +1.3
SNR=1.0
ETSF eSn Sn 23 54 27.2 -1.7
comp=Z,28nm,0.7s
ETSF Etsaut 8.52 340 ePn Pn 23 52 54.0 +1.3
SNR=1.0
ETSF eSn Sn 23 54 27.2 -1.7
comp=Z,14nm,0.7s
EMIN Mina Concepcio 8.54 292 Pn Pn 23 52 54.1 +1.1
comp=Z,5.3nm,0.7s,SNR=6.6
GELF Grande-Etoile 8.61 10 Pn Pn 23 52 58.0 +4.1
TZC Tazercounte 8.64 254 S Sn 23 54 26.5 -5.2
CORF Corte 8.67 30 Pn Pn 23 52 58.0 +3.3
EARA Aranguren 8.72 336 Pn Pn 23 52 58.1 +2.6
comp=Z,23nm,0.7s,SNR=7.9
ATE Arette 8.73 340 Pn Pn 23 52 56.6 +1.0
LMR La Mourre 8.76 15 ePn Pn 23 52 55.6 -0.4
SNR=1.0
LMR eSn Sn 23 54 28.3 -6.5
comp=Z,24nm,0.5s
LMR La Mourre 8.76 15 ePn Pn 23 52 55.6 -0.4
SNR=1.0
LMR eSn Sn 23 54 28.3 -6.5
comp=Z,12nm,0.5s
PGF Pioggiola 8.82 29 ePn Pn 23 52 57.7 +1.0
SNR=1.0
PGF eSn Sn 23 54 30.9 -5.3
comp=Z,38nm,0.5s
PGF Pioggiola 8.82 29 ePn Pn 23 52 57.7 +1.0
SNR=1.0
PGF eSn Sn 23 54 30.9 -5.3
comp=Z,19nm,0.5s
SJPF Ste Jean 8.91 338 ePn Pn 23 53 00.0 +2.0
SNR=1.0
ECRI Cripan 8.92 331 Pn Pn 23 53 00.3 +2.1
comp=Z,1.1nm,0.4s,SNR=7.9
TAVF Tavernes 8.95 13 Pn Pn 23 53 02.7 +4.2
PRAF Pradon 8.99 9 Pn Pn 23 53 02.2 +3.1
FRF La Foret Royal 9.01 16 ePn Pn 23 52 58.8 -0.6
FRF eSn Sn 23 54 35.3 -5.6
comp=Z,52nm,0.5s,SNR=1.0
FRF La Foret Royal 9.01 16 ePn Pn 23 52 58.8 -0.6
FRF eSn Sn 23 54 35.3 -5.6
comp=Z,26nm,0.5s,SNR=1.0
ELIZ Elizondo 9.05 337 Pn Pn 23 53 02.4 +2.4
comp=Z,9.5nm,0.4s,SNR=10
OSSF Osses 9.05 338 Pn Pn 23 53 02.7 +2.7
EALK Alkurruntz 9.10 337 Pn Pn 23 53 02.7 +2.1
comp=Z,11nm,0.4s,SNR=13
EGRO El Granado 9.11 290 Pn Pn 23 53 01.1 +0.4
comp=Z,9.9nm,0.5s,SNR=6.7
EBAD Badajoz 9.12 298 Pn Pn 23 53 02.2 +1.3
comp=Z,1.0nm,0.3s,SNR=12
LASF Ste Croix 9.16 2 ePn Pn 23 53 02.1 +0.7
SNR=1.0
LASF eSn Sn 23 54 38.7 -5.8
comp=Z,104nm,0.6s
LASF Ste Croix 9.16 2 ePn Pn 23 53 02.1 +0.7
SNR=1.0
LASF eSn Sn 23 54 38.7 -5.8
comp=Z,52nm,0.6s
CSLB Castelbuono 9.17 68 P Pn 23 53 03.1 +1.6
SMRF Simiane la Rot 9.21 10 ePn Pn 23 53 03.0 +0.8
SMRF eSn Sn 23 54 41.5 -4.4
comp=Z,26nm,0.6s
SMRF Simiane la Rot 9.21 10 ePn Pn 23 53 03.0 +0.8
SMRF eSn Sn 23 54 41.5 -4.4
comp=Z,13nm,0.6s
RAFF Raffo Rosso 9.24 72 P Pn 23 53 04.0 +1.5
comp=Z,44nm,1.0s
CALN Calern 9.25 16 Pn Pn 23 53 06.3 +3.7
STOF St-Etienne Org 9.29 12 Pn Pn 23 53 06.8 +3.6
VAE Valguarnera 9.33 71 Pn Pn 23 53 01.9 -1.8
comp=Z,0.6nm,0.3s,baz=108,slow=13,SNR=2.9
VAE Valguarnera 9.33 71 Pn Pn 23 53 01.9 -1.8
SBF Sospel 9.48 18 ePn Pn 23 53 03.5 -2.4
SBF eSn Sn 23 54 45.5 -7.1
comp=Z,59nm,0.6s
SBF Sospel 9.48 18 ePn Pn 23 53 03.5 -2.4
SBF eSn Sn 23 54 45.5 -7.1
comp=Z,30nm,0.6s
PBEJ Beja 9.52 292 ePn Pn 23 53 07.6 +1.2
PBEJ Beja 9.52 292 eP Pn 23 53 08.7 +2.3
TOUF Mont Tournerai 9.58 17 Pn Pn 23 53 12.4 +5.2
PESTR Estremoz 9.58 297 ePn Pn 23 53 09.0 +1.8
OCF Saint Nazaire 9.77 8 Pn Pn 23 53 11.9 +2.1
OG26 St.-Nazaire-De 9.77 8 Pn Pn 23 53 11.9 +2.1
SSY Sortino 9.78 73 P Pn 23 53 11.4 +1.5
comp=Z,44nm,0.9s
ELAN Lanestosa 9.82 330 Pn Pn 23 53 12.9 +2.4
comp=Z,15nm,0.5s,SNR=17
ELAN Sn Sn 23 54 56.2 -4.5
comp=Z,21nm,0.6s,SNR=6.3
PCBR Castelo Branco 9.89 303 ePn Pn 23 53 12.7 +1.2
PCBR Castelo Branco 9.89 303 eP Pn 23 53 12.0 +0.5
VIVF Saint-Julien-l 9.98 6 ePn Pn 23 53 13.8 +1.1
SNR=1.0
VIVF eSn Sn 23 54 58.9 -5.9
comp=Z,53nm,0.8s
VIVF Saint-Julien-l 9.98 6 ePn Pn 23 53 13.8 +1.1
SNR=1.0
VIVF eSn Sn 23 54 58.9 -5.9
comp=Z,27nm,0.8s
CAF Calviac 10.04 355 ePn Pn 23 53 17.0 +3.5
SNR=1.0
CAF eSn Sn 23 55 03.0 -3.2
comp=Z,12nm,0.6s
CAF Calviac 10.04 355 ePn Pn 23 53 17.0 +3.5
SNR=1.0
CAF eSn Sn 23 55 03.0 -3.2
comp=Z,6.2nm,0.6s
MBDF Montbardon 10.15 14 eP Pn 23 53 18.2 +3.2
SNR=1.0
MBDF eSn Sn 23 55 02.4 -6.5
comp=Z,31nm,0.6s,SNR=1.0
MBDF Montbardon 10.15 14 eP Pn 23 53 18.2 +3.2
SNR=1.0
MBDF eSn Sn 23 55 02.4 -6.5
comp=Z,15nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 10.18 10 eP Pn 23 53 19.8 +4.4
SNR=1.0
ORIF eSn Sn 23 55 04.7 -4.9
comp=Z,22nm,0.9s
ORIF eMLR
comp=Z,605nm,21.8s
ORIF Oris-en-Rattie 10.18 10 eP Pn 23 53 19.8 +4.4
SNR=1.0
ORIF eSn Sn 23 55 04.7 -4.9
comp=Z,11nm,0.9s
MTE Manteigas 10.20 306 ePn Pn 23 53 17.5 +1.9
MTE Manteigas 10.20 306 eP Pn 23 53 18.7 +3.1
LFF La Frestale 10.20 350 ePn Pn 23 53 16.5 +0.8
LBL Lubilhac 10.30 360 Pn Pn 23 53 19.7 +2.6
CERT Cerreto 10.33 44 P Pn 23 53 19.5 +2.0
comp=Z,27nm,0.8s
PBRG Braganca 10.46 314 ePn Pn 23 53 20.4 +1.1
RJF Les Rejaudoux 10.47 353 ePn Pn 23 53 19.3 0.0
RJF eMLR
comp=Z,1μm,20.0s
ECAL Calabor 10.55 315 Pn Pn 23 53 21.5 +1.1
comp=Z,11nm,0.3s
PVIS Viseu 10.59 306 ePn Pn 23 53 22.6 +1.7
PVIS Viseu 10.59 306 eP Pn 23 53 23.9 +3.0
EARI Arriondas 10.67 324 Pn Pn 23 53 24.3 +2.2
comp=Z,20nm,0.5s
PVRL Vila Real 10.76 309 ePn Pn 23 53 24.9 +1.6
PYM Petit Puy Mans 10.82 359 Pn Pn 23 53 26.7 +2.5
AQU L'Aquila 10.83 44 P Pn 23 53 27.2 +2.9
AQU pmax pmax
comp=Z,4.0nm,0.2s
AQU L'Aquila 10.83 44 P Pn 23 53 27.2 +2.9
comp=Z,3.6nm,0.2s
LPG La Plagne 10.89 13 eP Pn 23 53 29.7 +4.6
LPG eSn Sn 23 55 22.2 -4.8
comp=Z,22nm,0.6s
LPG La Plagne 10.89 13 eP Pn 23 53 29.7 +4.6
LPG eSn Sn 23 55 22.2 -4.8

comp=Z,11nm,0.6s
LPL La Plagne 10.90 13 ePn Pn 23 53 23.7 -1.6
LPL La Plagne 10.90 13 eP Pn 23 53 29.8 +4.5
SNR=1.0
LPL eSn Sn 23 55 21.6 -5.8
comp=Z,34nm,0.6s
LPL La Plagne 10.90 13 Pn Pn 23 53 23.7 -1.6
LPL Sn Sn 23 55 21.6 -5.8
comp=Z,17nm,0.6s
LPL La Plagne 10.90 13 eP Pn 23 53 29.8 +4.5
SNR=1.0
LPL eSn Sn 23 55 21.6 -5.8
comp=Z,17nm,0.6s
CRE Caprese Michel 10.96 35 P Pn 23 53 30.1 +4.0
CRE pmax pmax
comp=Z,44nm,1.3s
CRE Caprese Michel 10.96 35 P Pn 23 53 30.1 +4.0
comp=Z,44nm,1.3s
NRCA Norcia 10.99 41 P Pn 23 53 29.3 +2.9
comp=Z,3.7nm,1.0s
PLDF La Plantade 11.04 1 Pn Pn 23 53 29.6 +2.4
ZCCA Zocca 11.12 30 P Pn 23 53 36.0 +7.8
comp=Z,169nm,2.2s
AGO Saint Agoulin 11.12 359 Pn Pn 23 53 30.3 +2.0
SNTG Esanatoglia 11.19 39 P Pn 23 53 32.1 +2.9
comp=Z,12nm,1.4s
TCF Toulx Ste Croi 11.39 356 ePn Pn 23 53 32.0 0.0
FSSB Fossombrone 11.42 37 P Pn 23 53 36.1 +3.8
comp=Z,2.6nm,0.7s
RSM Repubblica di 11.44 35 P Pn 23 53 37.5 +4.9
RSM pmax pmax
comp=Z,90nm,2.1s
RSM Repubblica di 11.44 35 P Pn 23 53 37.5 +4.9
comp=Z,90nm,2.1s
TIP Timpagrande 11.55 64 P Pn 23 53 38.1 +3.9
comp=Z,116nm,1.8s
BGF Bois d'Agland 11.63 358 ePn Pn 23 53 37.2 +1.9
SMF Signal de Mont 11.72 2 ePn Pn 23 53 36.9 +0.4
SMF eSn Sn 23 55 42.8 -4.7
comp=Z,9.1nm,0.5s
SMF Signal de Mont 11.72 2 ePn Pn 23 53 36.9 +0.4
SMF eSn Sn 23 55 42.8 -4.7
comp=Z,4.6nm,0.5s
AVF Avril sur Loir 11.86 0 ePn Pn 23 53 39.2 +0.8
AVF eSn Sn 23 55 48.0 -2.8
comp=Z,8.7nm,0.7s
AVF Avril sur Loir 11.86 0 ePn Pn 23 53 39.2 +0.8
AVF eSn Sn 23 55 48.0 -2.8
comp=Z,4.3nm,0.7s
CABF La Chapelle 11.87 9 eP Pn 23 53 42.3 +3.8
CABF eSn Sn 23 55 43.1 -7.9
comp=Z,15nm,0.7s
CABF La Chapelle 11.87 9 eP Pn 23 53 42.3 +3.8
CABF eSn Sn 23 55 43.1 -7.9
comp=Z,7.5nm,0.7s
MFF Saint Martin d 11.96 348 ePn Pn 23 53 40.5 +0.7
MFF eSn Sn 23 55 49.7 -3.6
comp=Z,3.8nm,0.5s
MFF Saint Martin d 11.96 348 ePn Pn 23 53 40.5 +0.7
MFF eSn Sn 23 55 49.7 -3.6
comp=Z,1.9nm,0.5s
FGMS Monte Sant'Ang 12.02 52 P Pn 23 53 42.9 +2.4
comp=Z,37nm,0.9s
SSF Saint Saulge 12.13 1 eP Pn 23 53 46.0 +3.8
SSF eSn Sn 23 55 49.6 -7.9
comp=Z,9.6nm,0.8s
SSF Saint Saulge 12.13 1 eP Pn 23 53 46.0 +3.8
SSF eSn Sn 23 55 49.6 -7.9
comp=Z,4.8nm,0.8s
TEOL Teolo 12.23 29 ePg Pn 23 53 45.9 +2.5
LOR Lormes 12.35 2 eP Pn 23 53 49.7 +4.6
baz=181
LOR eSn Sn 23 55 51.7 -11
comp=Z,13nm,0.9s
LOR eMLR
comp=Z,646nm,22.0s
LOR Lormes 12.35 2 eP Pn 23 53 49.7 +4.6
LOR eSn Sn 23 55 51.7 -11
comp=Z,6.3nm,0.9s
TUE Stuetta 12.41 20 P Pn 23 53 50.2 +4.2
BRMO Bormio 12.72 23 P Pn 23 53 55.1 +4.9
comp=Z,14nm,0.6s
CTI Castel Tesino 12.79 27 P Pn 23 53 53.8 +2.7
NVLJ Novalja 13.10 39 i Pn Pn 23 53 57.1 +1.8
HINF Hinteralfeld 13.16 11 ePn Pn 23 53 56.0 -0.1
HAU Haudompre 13.27 9 ePn Pn 23 53 57.1 -0.6
HAU eMLR
comp=Z,316nm,22.4s
DAVA Damuels 13.31 20⇓ iP Pn 23 54 01.7 +3.6
comp=Z,43nm,0.7s,SNR=8.2
TRI Trieste 13.39 33 P Pn 23 54 01.6 +2.2
GMNA Gemona 13.61 31 P Pn 23 54 03.6 +1.3
MEZF Maizieres J'vi 13.64 5 ePn Pn 23 54 01.4 -1.3
baz=180
SQTA Sankt Quirin 13.65 23⇓ iP Pn 23 54 05.9 +3.1
comp=Z,28nm,1.1s,SNR=8.9
SQTA Sankt Quirin 13.65 23⇓ iP Pn 23 54 05.9 +3.1
SQTA pmax pmax
comp=Z,28nm,1.1s
JAVS Javornik 13.67 33 eP Pn 23 54 03.8 +0.6
JAVS i 23 54 11.7
VOY Vojsko 13.70 33 eP Pn 23 54 04.5 +1.0
VOY e 23 54 11.5
VOY e 23 54 18.3
ABTA Abfaltersbach 13.71 28⇓ iPn Pn 23 54 06.5 +2.9
comp=Z,9.5nm,0.7s
MOTA Moosalm 13.72 23⇓ iP Pn 23 54 06.4 +2.5
comp=Z,20nm,0.9s,SNR=12
MOTA Moosalm 13.72 23⇓ iP Pn 23 54 06.4 +2.5
MOTA pmax pmax
comp=Z,20nm,0.9s
PTCC Patocco-Chiusa 13.76 30 P Pn 23 54 06.1 +1.7
CDF Champ du Feu 13.80 11 ePn Pn 23 54 02.6 -2.3
GRR Gorron 13.81 348 ePn Pn 23 54 04.1 -1.0
WTTA Wattenberg 13.83 24 i P Pn 23 54 09.2 +3.9
comp=Z,23nm,0.8s,SNR=6.7
WTTA Wattenberg 13.83 24 i P Pn 23 54 09.2 +3.9
WTTA pmax pmax
comp=Z,23nm,0.8s
QUIF Quistinic 13.86 342 ePn Pn 23 54 06.2 +0.5
WATA Walderalm 13.87 24⇓ iP Pn 23 54 09.1 +3.2
comp=Z,34nm,1.2s
WATA Walderalm 13.87 24⇓ iP Pn 23 54 09.1 +3.2
WATA pmax pmax
comp=Z,34nm,1.2s
LDF La Druitiere 13.90 350 ePn Pn 23 54 06.5 +0.2
BOJS Bojanci 13.95 37 i P Pn 23 54 10.3 +3.4
BOJS i 23 54 14.7
LJU Ljubljana 14.00 34 eP Pn 23 54 08.6 +1.0
LJU i 23 54 15.2
SGMF Saint Gilles 14.03 344 ePn Pn 23 54 09.0 +1.0
SNR=1.0
FLN La Foliniere 14.12 350 eP Pn 23 54 11.8 +2.5
FLN eMLR
comp=Z,729nm,19.1s
ROSF Rostrenen 14.28 342 ePn Pn 23 54 10.0 -1.4
KBA Koelnbreinsper 14.30 29⇓ iP Pn 23 54 14.1 +2.4
comp=Z,11nm,0.8s
KBA Koelnbreinsper 14.30 29⇓ iP Pn 23 54 14.1 +2.4
KBA pmax pmax
comp=Z,11nm,0.8s
OBKA Obir 14.36 33⇑ iP Pn 23 54 14.6 +2.0
comp=Z,26nm,0.9s,SNR=8.5
FUR Furstenfeldbru 14.51 22 eP Pn 23 54 15.5 +1.0
comp=Z,101nm,1.5s
FUR Furstenfeldbru 14.51 22 eP Pn 23 54 15.5 +1.0
FUR pmax pmax
comp=Z,101nm,1.5s
TIR Tirane 14.51 59 P Pn 23 54 15.9 +1.3
STU Stuttgart 14.52 16 eP Pn 23 54 17.3 +2.6
comp=Z,24nm,1.0s
STU Stuttgart 14.52 16 P Pn 23 54 16.9 +2.2
PERS Pernice 14.71 34 i P Pn 23 54 19.3 +2.0
PERS e 23 54 23.2
WLF Walferdange 14.89 7 eP Pn 23 54 23.1 +3.4
comp=Z,37nm,1.0s
WLF Walferdange 14.89 7 AP Pn 23 54 26.7 +7.0
comp=Z,32nm,2.0s
OHR Ohrid 15.10 61 eP Pn 23 54 24.4 +1.8
BAIF Baives 15.15 2 ePn Pn 23 54 22.9 -0.3
SNR=1.0
BAIF Baives 15.15 2 eP Pn 23 54 27.5 +4.3
comp=Z,63nm,0.8s
BAIF Baives 15.15 2 eP Pn 23 54 27.5 +4.3
comp=Z,32nm,0.8s

DOU	Dourbes	15.20	3	P		Pn	23 54 28.2	+4.2
	comp=Z,23nm,1.1s							
GIVF	Givet	15.22	4	eP		Pn	23 54 28.9	+4.8
	comp=Z,88nm,0.9s							
GIVF	Givet	15.22	4	eP		Pn	23 54 28.9	+4.8
GIVF					pmax	pmax		
	comp=Z,44nm,0.9s							
GIVF	Givet	15.22	4	eP		Pn	23 54 28.9	+4.8
	comp=Z,44nm,0.9s							
MOA	Molln	15.29	29	i P		Pn	23 54 26.3	+1.2
	comp=Z,6.9nm,0.6s,SNR=6.7							
ARSA	Arzberg	15.36	33⇓	iP		Pn	23 54 26.7	+0.7
	comp=Z,30nm,0.9s,SNR=12							
BIA	Bitola	15.45	61	eP		Pn	23 54 26.0	-1.2
BIA	Bitola	15.45	61	eP		Pn	23 54 26.0	-1.2
BIA	Bitola	15.45	61	eP		Pn	23 54 25.9	-1.2
KRUS	Krusevo	15.50	60	eP		Pn	23 54 27.5	-0.4
KRUS	Krusevo	15.50	60	eP		Pn	23 54 27.5	-0.4
KRUS	Krusevo	15.50	60	eP		Pn	23 54 27.4	-0.5
BCLA	Clavier	15.56	5	P		Pn	23 54 29.9	+1.3
	comp=Z,39nm,1.5s							
BCLA	Clavier	15.56	5	P		Pn	23 54 29.9	+1.2
	comp=Z,39nm,1.5s							
SNF	Seneffe	15.60	2	P		Pn	23 54 33.8	+4.7
RHK3	Tenkes	15.77	41	eP		Pn	23 54 30.4	-1.0
DIVS	Divcibare	15.78	49⇑	iP		Pn	23 54 32.6	+1.1
SKO	Skopje	15.84	58	eP		Pn	23 54 31.4	-0.9
SKO	Skopje	15.84	58	eP		Pn	23 54 31.4	-0.9
SKO	Skopje	15.84	58	P		Pn	23 54 33.3	+1.1
GRFO	Grafenberg	15.87	19	eP		Pn	23 54 32.7	+0.1
	comp=Z,88nm,1.0s							
GRFO	Grafenberg	15.87	19	eP		Pn	23 54 32.7	+0.1
GRFO					pmax	pmax		
	comp=Z,880nm,1.0s							
GRA1	Grafenberg Arr	15.87	19	eP		Pn	23 54 32.7	+0.1
	comp=Z,98nm,1.0s							
GRF	Grafenberg Arr	15.87	19	eP		Pn	23 54 32.7	+0.1
	comp=Z,98nm,1.0s							
GRF	Grafenberg Arr	15.87	19	eP		Pn	23 54 32.7	+0.1
GRF					pmax	pmax		
	comp=Z,98nm,1.0s							
GRF	Grafenberg Arr	15.87	19	eP		Pn	23 54 32.7	+0.1
GRF					pmax	pmax		
	comp=Z,98nm,1.0s							
WET	Wettzell	15.87	24	eP		Pn	23 54 31.5	-1.2
	comp=Z,47nm,1.0s							
WET	Wettzell	15.87	24	eP		Pn	23 54 31.5	-1.2
WET					pmax	pmax		
	comp=Z,47nm,1.0s							
UCC	Uccle	15.89	2	P		Pn	23 54 33.8	+0.8
UCC	Uccle	15.89	2	P		Pn	23 54 33.7	+0.7
GEC2	GERESS Array S	15.90	26	eP		Pn	23 54 31.7	-1.4
	comp=Z,48nm,1.1s							
GEC2	GERESS Array S	15.90	26	eP		Pn	23 54 31.7	-1.4
GEC2					pmax	pmax		
	comp=Z,48nm,1.1s							
GERES	GERESS Array B	15.90	26	Pn		Pn	23 54 32.5	-0.5
	comp=Z,0.9nm,0.3s,baz=209,slow=7.6,SNR=37							
GERES				PcP		PcP	23 59 28.7	-2.5
	comp=Z,0.1nm,0.3s,baz=169,slow=1.4,SNR=4.3							
GERES				LR		LR	00 00 27.9	
	comp=Z,173nm,19.6s,baz=234,slow=37							
BEBN	Eben Emael	15.96	5	P		Pn	23 54 38.3	+4.4
CONA	Conrad Observa	16.02	32⇑	iPn		Pn	23 54 35.0	+0.4
	comp=Z,10nm,0.7s,SNR=11							
KHC	Kasperske Hory	16.10	25	eP		Pn	23 54 35.0	-0.6
KHC				epP		pP	23 54 45.2	+3.4
KHC				AMS		AMS	00 01 50.0	
	comp=Z,700nm,11.0s							
KHC	Kasperske Hory	16.10	25	eP		Pn	23 54 35.0	-0.6
KHC				P			23 54 38.4	
KHC				e			23 54 45.2	
SOP	Sopron	16.15	34	P		Pn	23 54 38.6	+2.4
SOP	Sopron	16.15	34⇓	eP		Pn	23 54 39.7	+3.5
PKSM	Moragy	16.18	41	P		Pn	23 54 35.0	-1.7
ROTZ	Rotzenmuhle	16.21	21	eP		Pn	23 54 36.3	-0.8
	comp=Z,22nm,0.9s							
ROTZ				e			23 54 40.8	
FGSL	Fruska Gora	16.23	46	P		Pn	23 54 36.4	-0.8
STIP	Stip	16.27	60	eP		Pn	23 54 36.3	-1.6
STIP	Stip	16.27	60	eP		Pn	23 54 36.3	-1.6
STIP	Stip	16.27	60	eP		Pn	23 54 36.2	-1.6
MANZ	Manzenberg	16.38	20	eP		Pn	23 54 38.0	-1.2
	comp=Z,51nm,0.9s							
VAY	Valandovo	16.43	61	eP		Pn	23 54 40.3	+0.4
THE	Thessaloniki	16.54	64	P		Pn	23 54 40.0	-1.3
NKC	Novy Kostel	16.70	21	eP		Pn	23 54 44.1	+0.8
WERN	Wernitzgruen	16.73	21	eP		Pn	23 54 42.1	-1.5
	comp=Z,28nm,1.1s							
BUG	Bochum–Univer	16.76	9	eP		Pn	23 54 44.0	-0.1
	comp=Z,76nm,1.5s							
ZST	Bratislava	16.77	34	eP		Pn	23 54 46.4	+2.2
ZST					pmax	pmax		
	comp=Z,49nm,1.1s							
ZST	Bratislava	16.77	34	eP		Pn	23 54 46.4	+2.2
	comp=Z,49nm,1.1s							
GUNZ	Gunzen	16.78	20	eP		Pn	23 54 42.8	-1.5
	comp=Z,36nm,1.1s							
MOX	Moxa	16.84	19	eP		Pn	23 54 44.1	-1.0
	comp=Z,22nm,0.8s							
MOX	Moxa	16.84	19	eP		Pn	23 54 44.7	-0.4
MOX				e			23 54 56.2	
	comp=Z,57nm,1.4s							
MOX	Moxa	16.84	19	eP		Pn	23 54 44.7	-0.4
	comp=Z,57nm,1.4s							
MOX				e			23 54 56.2	
WERD	Werda	16.85	20	eP		Pn	23 54 43.7	-1.5
	comp=Z,29nm,1.7s							
TANN	Tannenbergstha	16.86	21	eP		Pn	23 54 43.8	-1.6
	comp=Z,42nm,1.4s							
TREC	Trest	16.94	28	eP		Pn	23 54 45.3	-1.0
KKB	Krupnik	16.96	60	eP		Pn	23 54 46.0	-0.6
KRUC	Moravsky	17.12	30	P		Pn	23 54 50.0	+1.4
SRS	Serrai	17.12	63	P		Pn	23 54 47.2	-1.4
SMOL	Smolenice	17.15	33	eP		Pn	23 54 51.2	+2.2
PRU	Pruhonice	17.16	25	eP		Pn	23 54 48.9	-0.2
PRU				epP		pP	23 54 59.1	+5.6
BUD	Budapest	17.20	38	P		Pn	23 54 50.7	+1.1
VTS	Vitosha	17.28	58	eP		Pn	23 54 50.0	-0.6
GTTG	Gvttingen	17.30	14	eP		Pn	23 54 47.9	-2.9
	comp=Z,48nm,1.0s							
MMB	Musomiste	17.34	61	eP		Pn	23 54 50.0	-1.4
VRAC	Vranov	17.39	30	P		Pn	23 54 51.7	-0.3
	comp=Z,1.2nm,0.3s,baz=220,slow=9.8,SNR=52							
VRAC				LR		LR	00 00 54.2	
	comp=Z,150nm,19.0s,baz=200,slow=35							
VRAC	Vranov	17.39	30	⇑P		Pn	23 54 53.1	+1.1
VRAC	Vranov	17.39	30	⇑iP		Pn	23 54 53.1	+1.1
JAVC	Velka Javorina	17.52	33	P		Pn	23 54 52.8	-0.7
BZS	Buzias	17.55	47	⇓iP		Pn	23 54 52.5	-1.4
FBE	Freiberg	17.58	21	eP		Pn	23 54 52.0	-2.3
	comp=Z,35nm,1.2s							
PVCC	Panska Ves	17.62	24	eP		Pn	23 54 54.5	-0.4
IDI	Anoyia	17.66	83	P		Pn	23 54 55.4	+0.1
	comp=Z,1.6nm,0.3s,baz=293,slow=15,SNR=8.6							
IDI				LR		LR	00 03 29.4	
	comp=Z,170nm,18.7s,baz=79,slow=43							
CLZ	Clausthal	17.66	15	eP		Pn	23 54 54.0	-1.4
	comp=Z,33nm,1.0s							
CLZ	Clausthal	17.66	15	eP		Pn	23 54 54.0	-1.4
CLZ					pmax	pmax		
	comp=Z,33nm,1.0s							
BRG	Berggiesshubel	17.72	23	eP		Pn	23 54 52.3	-3.7
	comp=Z,21nm,1.1s							
BRG	Berggiesshubel	17.72	23	eP		Pn	23 54 55.5	-0.5
	comp=Z,9.3nm,1.2s							
BRG				i			23 55 10.0	
	comp=Z,1.7nm,1.2s							
VYHS	Vyhne	17.80	36	eP		Pn	23 54 57.2	+0.2
VYHS					pmax	pmax		
	comp=Z,8.0nm,1.0s							
VYHS	Vyhne	17.80	36	eP		Pn	23 54 57.2	+0.2
	comp=Z,8.3nm,1.0s							
CLL	Collm	17.82	20	eP		Pn	23 54 54.7	-2.6
	comp=Z,23nm,1.0s							
CLL	Collm	17.82	20	i P		Pn	23 54 57.1	-0.2
CLL					pmax	pmax		
	comp=Z,23nm,1.0s							
CLL	Collm	17.82	20	i P		Pn	23 54 57.1	-0.2
	comp=Z,23nm,1.0s							
CLL				i			23 55 07.6	
CLL				i			23 55 42.7	
CLL	Collm	17.82	20	i P		Pn	23 54 57.7	+0.4
	comp=Z,23nm,1.0s							
CLL				i PP			23 55 07.6	
CLL				i x		x	23 55 57.1	
PSZ	Piszkesteto	17.93	39⇓	iP		Pn	23 54 58.4	-0.3
PSZ	Piszkesteto	17.93	39⇑	eP		Pn	23 54 58.3	-0.4
DPC	Dobruska-Polom	18.11	28	eP		Pn	23 55 00.2	-0.6
DPC					AMS	AMS	00 02 20.0	
	comp=Z,400nm,18.0s							
UPC	Upice	18.12	27	eP		Pn	23 55 00.6	-0.4
UPC				epP		pP	23 55 11.4	+7.3
MORC	Moravsky Berou	18.15	31	⇓iP		Pn	23 55 01.5	+0.2
PLD	Plovdiv	18.19	60	P		Pn	23 55 02.5	+0.7
OKC	Ostrava-Krasne	18.45	32	eP		Pn	23 55 04.4	-0.6
OKC				epP		pP	23 55 13.6	+5.8
KSP	Ksiaz	18.50	27	eP		Pn	23 55 05.6	0.0
KSP	Ksiaz	18.50	27	eP		Pn	23 55 05.2	-0.4
RDO	Rodhopi	18.56	64	P		Pn	23 55 04.2	-2.1
KECS	Kecovo	18.60	38	eP		Pn	23 55 06.8	-0.1
KECS					pmax	pmax		
	comp=Z,8.0nm,0.8s							
KECS	Kecovo	18.60	38	eP		Pn	23 55 06.8	-0.1
	comp=Z,8.1nm,0.8s							
DRGR		18.81	45	P		Pn	23 55 09.4	0.0
ALN	Alexandroupoli	18.88	65	P		Pn	23 55 09.9	-0.4
LHO	Holmfirth	18.98	350	eP		Pn	23 55 10.9	-0.6
RUE	Ruedersdorf	19.08	20	eP		Pn	23 55 09.4	-3.3
	comp=Z,338nm,2.7s							
NIE	Niedzica	19.14	36	eP		Pn	23 55 13.3	-0.1
CRVS	Cervenica-Dubn	19.36	38	eP		Pn	23 55 16.0	-0.1
OJC	Ojcow	19.46	33	eP		Pn	23 55 16.0	-1.2
MTUR	Matau	19.52	52	⇓iP		Pn	23 55 15.7	-2.2
STHS	Stebnicka Huta	19.59	37	eP		Pn	23 55 18.2	-0.6
STHS					pmax	pmax		
	comp=Z,61nm,0.9s							
STHS	Stebnicka Huta	19.59	37	eP		Pn	23 55 18.2	-0.6
	comp=Z,61nm,0.9s							
VOIR		19.59	51	⇓iP		Pn	23 55 17.0	-1.8
JMB	Yambol	19.63	60	eP		Pn	23 55 17.0	-2.2
JMB	Yambol	19.63	60	P		Pn	23 55 18.6	-0.6
JMB	Yambol	19.63	60	P		Pn	23 55 18.6	-0.6
UZH	Uzhgorod	19.63	40	eP		Pn	23 55 17.5	-1.7
UZH	Uzhgorod	19.63	40	i P		Pn	23 55 17.7	-1.5
BSEG	Bad Segeberg	19.64	12	eP		Pn	23 55 17.2	-2.2
	comp=Z,115nm,1.6s							
DLF	Lyons Farm	19.65	342	eP		Pn	23 55 18.1	-1.4
KOLS	Kolonicke sedl	19.80	39	eP		Pn	23 55 19.9	-1.4
CKE	Keswick	20.17	349	eP		P	23 55 24.2	+0.4
MLR	Muntele Rosu	20.19	52	P		P	23 55 23.5	-0.6
	comp=Z,74nm,1.1s,baz=211,slow=4.3,SNR=63							
MLR	Muntele Rosu	20.19	52	⇓iP		P	23 55 23.5	-0.5
XAL	Allendale	20.31	351	eP		P	23 55 24.8	-0.6
KWP	Kalwaria	20.46	38	eP		P	23 55 27.7	+0.8
GCD	Castle Douglas	20.58	348	eP		P	23 55 29.4	+1.2
BURAR	Bucovina Array	20.70	46	⇓iP		P	23 55 29.1	-0.4
GKP	Gorka Klasztor	20.83	24	eP		P	23 55 32.5	+1.6
VRI	Vrincioaia	20.84	51	⇓iP		P	23 55 29.7	-1.4
ESK	Eskdalemuir	20.89	350⇑	eP		P	23 55 32.3	+0.7
ESK				AMb		AMB	23 55 32.9	
	comp=Z,89nm,1.3s							
ESK	Eskdalemuir	20.89	350	eP		P	23 55 32.6	+1.0
ESK					pmax	pmax		
	comp=Z,31nm,1.0s							
ESK	Eskdalemuir	20.89	350	eP		P	23 55 32.6	+1.0
	comp=Z,31nm,1.0s							
ESK	Eskdalemuir	20.89	350	eP		P	23 55 32.6	+1.0
	comp=Z,31nm,1.0s							
EKA	Eskdalemuir Ar	20.90	350	P		P	23 55 32.3	+0.6
	comp=Z,12nm,0.6s,baz=157,slow=10,SNR=35							
ULDT	Uludag	21.10	68	i P		P	23 55 33.2	-0.7
LVV	L'vov	21.25	39	eP		P	23 55 34.9	-0.6
EBL	Broad Law	21.31	350⇑	eP		P	23 55 36.1	-0.1
ESY	Stoneypath	21.39	351	eP		P	23 55 36.6	-0.4
EAU	Auchinoon	21.44	350⇑	eP		P	23 55 38.4	+0.9
EDI	Edinburgh	21.48	350	eP		P	23 55 38.0	+0.1
EDI				AMb		AMB	23 55 45.4	
	comp=Z,98nm,2.2s,mb4.8							
PGBU	Glenifferbraes	21.57	348⇑	eP		P	23 55 39.2	+0.3
PGBU				AMb		AMB	23 55 40.3	
	comp=Z,70nm,1.8s,mb4.8							
TORD	Torodi Ar. Bea	21.72	184	P		P	23 55 40.2	-0.4
	comp=Z,27nm,0.7s,mb4.8,baz=360,slow=10,SNR=115							
TORD				PcP		PcP	23 59 41.0	-0.3
	comp=Z,0.8nm,0.5s,baz=4.8,slow=2.6,SNR=5.9							
TORD	Torodi Ar. Bea	21.72	184	P		P	23 55 40.2	-0.4
TORD				PcP		PcP	23 59 41.0	-0.3
KMPD	K-Podol'skiy	21.89	44	P		P	23 55 42.0	-0.4
EAB	Aberfoyle	21.91	348	eP		P	23 55 43.3	+0.7
TKTP	Tekketepe	21.91	74	i P		P	23 55 41.9	-0.6
ESKT	Eskisehir	22.36	70	i P		P	23 55 46.4	-1.0
SEYT	Eskypehyr	22.36	70	i P		P	23 55 46.4	-1.0
KIS	Kishinev	22.62	50	eP		P	23 55 48.0	-2.1
KIS				i			23 55 51.0	
KIS				i			23 56 15.0	
KIS	Kishinev	22.62	50	eUNK			23 55 48.0	
MCD	Coleburn Disti	23.10	351⇑	eP		P	23 55 54.2	-1.1
SGKT	Sivrigoynuk	23.36	67	i P		P	23 55 56.2	-1.8
MVH1	Achvaich	23.56	350	eP		P	23 55 58.7	-1.3
SUW	Suwalki	23.64	30	eP		P	23 55 57.6	-3.1
ANTO	Ankara	23.88	69	⇓iP		P	23 56 03.1	+0.1
ELDT	Eldivan	24.40	68	i P		P	23 56 08.1	+0.4
BALT	Daday	24.45	65	i P		P	23 56 08.1	-0.1
KIEV	Kiev	24.51	42	eP		P	23 56 05.1	-3.6
KIEV					pmax	pmax		
	comp=Z,38nm,0.7s,mb5.0							
KIEV	Kiev	24.51	42	eP		P	23 56 05.1	-3.6
	comp=Z,38nm,0.7s,mb5.0							
AKASG	Malin Array Be	24.52	42	P		P	23 56 05.2	-3.6
	comp=Z,29nm,0.7s,mb4.9,baz=241,slow=9.7,SNR=61							
AKASG				PcP		PcP	23 59 46.1	-0.9
	comp=Z,1.0nm,0.6s,baz=257,slow=2.3,SNR=4.8							
AKASG	Malin Array Be	24.52	42	P		P	23 56 05.2	-3.6
AKASG				PcP		PcP	23 59 46.1	-0.9
BR131	Keskin Array S	24.53	70	eP		P	23 56 08.3	-0.5
BRTR	Keskin Array B	24.53	70	P		P	23 56 08.4	-0.4
	comp=Z,6.2nm,0.8s,mb4.2,baz=262,slow=5.4,SNR=24							
CTKT	Corum	25.44	68	i P		P	23 56 17.2	0.0
AVNT	Avonos	25.47	72	i P		P	23 56 16.8	-0.6
MNK	Minsk	25.98	34	eP		P	23 56 15.0	-7.1
HFS	Hagfors	26.12	12	P		P	23 56 20.8	-2.5
	comp=Z,5.8nm,0.6s,mb4.3,baz=195,slow=9.7,SNR=18							
HFS				LR		LR	00 06 11.5	
	comp=Z,209nm,18.0s,MS3.7,baz=57,slow=36							
MMAI	Mount Meron Ar	26.62	85	P		P	23 56 28.2	+0.3
	comp=Z,7.1nm,0.6s,mb4.4,baz=290,slow=9.7,SNR=10							
NB2	NORSAR Subarra	26.63	9	P		P	23 56 26.1	-1.8
	comp=Z,3.3nm,0.8s,mb3.9,baz=175,slow=10							
NOA	NORSAR Array B	26.63	9	P		P	23 56 26.4	-1.5
	comp=Z,3.7nm,0.9s,baz=194,slow=9.0,SNR=5.4							
NOA				LR		LR	00 06 25.7	
	comp=Z,118nm,20.2s,baz=200,slow=35							
EIL	Elat	27.18	92	eP		P	23 56 34.0	+1.1
GZT	Gaziantep	27.68	75	i P		P	23 56 37.4	+0.1
ANN	Anapa	27.81	59	eP		P	23 56 31.1	-7.4
ANN					pmax	pmax		
	comp=Z,51nm,1.6s,mb4.9							
ASF	Jabal al Asfar	28.05	86	P		P	23 56 39.4	-1.3
	comp=Z,2.6nm,0.8s,baz=225,slow=16,SNR=2.4							
ASF				PcP		PcP	23 59 56.3	+1.1
	comp=Z,3.6nm,0.9s,baz=314,slow=5.2,SNR=3.9							
LIC	Lamto	29.57	197	eP		P	23 56 54.1	-0.1
	comp=Z,6.4nm,0.4s,mb4.4,baz=9.1							
LIC				eMLR				
	comp=Z,277nm,22.0s							
LIC	Lamto	29.57	197	eP		P	23 56 54.1	-0.1
	comp=Z,3.2nm,0.4s,mb4.4							
FINES	FINESS Array B	30.25	22	P		P	23 56 57.6	-2.6
	comp=Z,3.8nm,0.9s,mb4.1,baz=212,slow=9.2,SNR=7.9							
FINES				PcP		PcP	23 59 59.4	-1.4
	comp=Z,2.4nm,0.6s,baz=180,slow=1.9,SNR=7.6							
OBN	Obninsk	30.55	38	i P		P	23 56 59.8	-3.1
OBN					pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0							
OBN	Obninsk	30.55	38	eP		P	23 57 00.0	-2.8
	comp=Z,19nm,0.8s,mb5.0							
KAF	Kangasniemi	30.84	21	ep		P	23 57 02.8	-2.6
	comp=Z,7.6nm,0.9s,mb4.5							
KAF	Kangasniemi	30.84	21	eP		P	23 57 02.8	-2.6
KAF					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5							
KIV	Kislovodsk	31.47	61⇑	eP		P	23 57 07.7	-3.3
KIV					pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5							
JOF	Joensuu	33.00	23	ep		P	23 57 21.5	-2.9
	comp=Z,5.0nm,0.6s,mb4.6							
KLMR	Klimovskoe	34.77	30	eP		P	23 57 37.0	-2.8
KLMR					pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0							
ARCES	ARCESS Array B	36.77	13	P		P	23 57 53.7	-3.3
	comp=Z,3.6nm,0.8s,mb4.3,baz=216,slow=8.2,SNR=13							
KEV	Kevo	37.24	13	ep		P	23 57 57.6	-3.3
ORR	Orenburg	40.10	49	eP		P	23 58 22.7	-2.3
ORR					pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7							
ARU	Arti	42.78	42	⇓iP		P	23 58 44.6	-2.3
ARU				e			00 00 37.0	
ARU				eS		S	00 05 04.2	-6.6
ARU				eSS		SS	00 08 11.1	-11
ARU					pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8							
ARU	Arti	42.78	42	eP		P	23 58 43.9	-3.1
	comp=Z,12nm,0.8s,mb4.7							
SVE	Sverdlovsk	43.96	42	eP		P	23 58 54.0	-2.4
KMBO	Kilima Mbogo	47.89	131	P		P	23 59 29.8	+2.3
	comp=Z,4.1nm,0.6s,mb4.7,baz=316,slow=22,SNR=7.3							
KMBO				LR		LR	00 19 32.6	
	comp=Z,161nm,18.7s,MS4.0,baz=274,slow=36							
KMBO	Kilima Mbogo	47.89	131	P		P	23 59 29.8	+2.3
KMBO				LR		LR	00 19 32.6	
BRVK	Borovoye	49.58	47	eP		P	23 59 39.4	-1.1
BRVK					pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9							
BRVK	Borovoye	49.58	47	eP		P	23 59 39.4	-1.1
	comp=Z,12nm,1.0s,mb4.9							
SCHQ	Schefferville	51.23	316	P		P	23 59 51.7	-1.3
	comp=Z,14nm,0.9s,mb4.9,baz=75,slow=7.4,SNR=9.7							
SCHQ				LR		LR	00 20 57.2	
	comp=Z,104nm,18.3s,MS3.9,baz=305,slow=35							
SCHQ	Schefferville	51.23	316	P		P	23 59 51.7	-1.3
SCHQ				LR		LR	00 20 57.1	
EKS2	Erkin-Say	54.03	59	P		P	00 00 13.8	+0.1
	SNR=30							
AML	Almayashu	54.12	60	P		P	00 00 15.2	+0.9
	SNR=5.9							
USP	Ospenovka	54.36	58	P		P	00 00 14.9	-1.1
	SNR=18							
AAK	Ala-Archa	54.54	59	P		P	00 00 17.4	+0.1
	SNR=13							
FRU	Bishkek	54.57	59	eP		P	00 00 16.5	-1.1
FRU					pmax	pmax		
	comp=Z,70nm,1.1s,mb5.6							
CHMS	Chumysh	54.61	59	P		P	00 00 17.4	-0.6
	SNR=28							
UCH	Uchtor	54.67	60	P		P	00 00 18.8	+0.4
	SNR=27							
KBK	Karagaybulak	54.85	59	P		P	00 00 19.8	+0.2
	SNR=12							
KURK	Kurchatov	55.09	49	c iP		P	00 00 20.0	-1.4
KURK	Kurchatov	55.09	49	eP		P	00 00 20.1	-1.2
	comp=Z,17nm,0.8s,mb5.1							
KURK	Kurchatov	55.09	49	eP		P	00 00 20.1	-1.3
	comp=Z,17nm,0.8s,mb5.1							
LSZ	Lusaka	55.22	150	P		P	00 00 22.4	+0.1
	comp=Z,4.8nm,0.9s,mb4.5,baz=1.3,slow=6.5,SNR=9.8							
LSZ	Lusaka	55.22	150	P		P	00 00 22.4	0.0
LSZ					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
LSZ	Lusaka	55.22	150	eP		P	00 00 24.6	+2.3
LSZ	Lusaka	55.22	150	eP		P	00 00 24.6	+2.2
TKM2	Tokmak 2	55.23	58	P		P	00 00 22.1	-0.3
	SNR=9.8							
KZA	Kyzart	55.24	59	P		P	00 00 23.4	+0.9
	SNR=44							
NVS	Novosibirsk	56.77	43	i P		P	00 00 33.2	-0.2
NVS					pmax	pmax		
	comp=E,8.0nm,0.9s							
NVS					pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1							
NVS					pmax	pmax		
	comp=N,5.0nm,1.2s							
ZAL	Zalesovo	57.90	44	P		P	00 00 40.6	-0.7
	comp=N,4.3nm,0.7s,mb4.6,baz=190,slow=7.5,SNR=28							
ZAL				LR		LR	00 28 51.4	
	comp=N,40nm,19.1s,MS3.5,baz=350,slow=40							
ZAL	Zalesovo	57.90	44	P		P	00 00 40.7	-0.7
MKAR	Makanchi Array	58.54	52	P		P	00 00 45.1	-0.8
	comp=N,17nm,0.7s,mb5.2,baz=286,slow=5.8,SNR=197							
RES	Resolute Bay	58.80	342	eP		P	00 00 46.6	-1.1
RES	Resolute Bay	58.80	342	eP		P	00 00 46.6	-1.1
KRAR	Krasnoyarsk	61.64	40	⇓eP		P	00 01 07.2	0.0
KRAR					pmax	pmax		
	comp=Z,37nm,1.3s,mb5.3							
WMQ	Urumqi	63.17

TLY Talaya 69.26 41 *eP* **P 00 01 55.2 -1.3**
comp=Z,5.6nm,0.7s,mb4.6
JIRN Jiri 69.30 70 *eP* **P 00 01 56.5 -0.2**
comp=Z,29nm,0.7s,mb5.3
JIRN Jiri 69.30 70 *eP* **P 00 01 56.5 -0.2**
comp=Z,29nm,0.7s,mb5.3
ULM Lac du Bonnet 69.35 317 P **P 00 01 55.1 -1.9**
comp=Z,5.7nm,0.8s,mb4.5,baz=65,slow=6.1,SNR=14
ULM LR LR 00 28 12.0
comp=Z,118nm,19.2s,MS4.1,baz=50,slow=32
ULM Lac du Bonnet 69.35 317 P **P 00 01 55.2 -1.8**
ZAK Zakamensk 69.72 42 *eP* **P 00 01 59.6 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
YKW3 Yellowknife Ar 70.94 334 *eP* **P 00 02 05.8 -0.9**
YKW3 Yellowknife Ar 70.94 334 *eP* **P 00 02 05.8 -0.9**
YKA Yellowknife Ar 70.97 334 P **P 00 02 05.9 -1.1**
comp=Z,2.8nm,0.6s,mb4.4,baz=52,slow=6.3,SNR=76
YKA LR LR 00 31 51.0
comp=Z,105nm,19.6s,MS4.1,baz=145,slow=35
YKA Yellowknife Ar 70.97 334 P **P 00 02 05.9 -1.1**
YKA LR LR 00 31 51.0
YKA Yellowknife Ar 70.97 334 P **P 00 02 05.9 -1.1**
BOD Bodaibo 70.98 32 *eP* **P 00 02 04.6 -2.4**
BOD pmax pmax
comp=Z,15nm,0.7s,mb5.0
LSA Lhasa 72.07 66 P **P 00 02 14.5 +0.9**
LSA Lhasa 72.07 66 *eP* **P 00 02 14.4 +0.9**
LSA Lhasa 72.07 66 *eP* **P 00 02 14.4 +0.8**
INK Inuvik 72.18 345 *eP* **P 00 02 13.1 -1.1**
comp=Z,317nm,1.0s
INK Inuvik 72.18 345 *eP* **P 00 02 13.1 -1.1**
comp=Z,317nm,1.0s
SONM Songino Array 72.80 43 P **P 00 02 17.8 -0.1**
comp=Z,3.4nm,0.7s,mb4.4,baz=295,slow=6.5,SNR=35
SONM PP PP 00 04 57.2 -2.7
comp=Z,0.5nm,0.7s,baz=303,slow=8.1,SNR=4.0
GTA Gaotai 73.25 53 ⇑P **P 00 02 21.0 +0.4**
GTA AMB AMB
comp=Z,15nm,0.9s,mb4.9
YAK Yakutsk 74.17 23 *eP* **P 00 02 25.2 -0.8**
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,23nm,1.2s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.1s
CIT Chita 74.20 37 *eP* **P 00 02 25.6 -0.6**
SHL Shillong 74.75 69 *eP* **P 00 02 29.0 -0.4**
EDM Edmonton 76.50 326 *eP* **P 00 02 40.1 +0.7**
EDM Edmonton 76.50 326 *eP* **P 00 02 40.1 +0.7**
BILL Bilibino 76.56 7⇑*eP* **P 00 02 38.7 -1.1**
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.6
BILL Bilibino 76.56 7 *eP* **P 00 02 38.8 -1.0**
comp=Z,4.5nm,0.6s,mb4.6
BILL Bilibino 76.56 7 *eP* **P 00 02 38.8 -1.0**
comp=Z,4.5nm,0.6s,mb4.6
DAWY Dawson 77.04 344 *eP* **P 00 02 42.4 -0.1**
DAWY Dawson 77.04 344 *eP* **P 00 02 42.4 -0.1**
LZH Lanzhou 77.73 55 *eP* **P 00 02 47.5 +1.2**
LZH AP pP 00 02 55.5 +5.9
LZH XP sP 00 02 59.0 +8.2
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,120nm,4.4s
LZH Lanzhou 77.73 55 *eP* **P 00 02 47.5 +1.2**
comp=Z,23nm,1.0s,mb5.1
LZH pP pP 00 02 55.5 +5.9
LZH sP sP 00 02 59.0 +8.2
LZH Lanzhou 77.73 55 *eP* **P 00 02 47.5 +1.2**
comp=Z,23nm,1.0s,mb5.1
IMA2 Indian Mountai 77.78 351 *eP* **P 00 02 47.0 +0.4**
IMA2 Indian Mountai 77.78 351 *eP* **P 00 02 47.0 +0.4**
COLA College 78.00 348⇓*eP* **P 00 02 47.4 -0.4**
EGMT Eagleton 78.10 321 *eP* **P 00 02 47.4 -1.0**
EGMT Eagleton 78.10 321 *eP* **P 00 02 47.4 -1.0**
HIA Hailar 78.99 37*c iP* **P 00 02 53.6 +0.3**
TNA Tin City 79.62 356 *eP* **P 00 02 56.6 -0.1**
comp=Z,6.4nm,0.8s,mb4.6
HHC Hu-ho-hao-te 79.86 47 *eP* **P 00 02 58.0 0.0**
HHC PCP PcP 00 03 06.5 +0.9
HHC AP pP 00 03 08.5 +7.2
HHC XP sP 00 03 12.5 +10
HHC PP PP 00 05 59.5 +0.1
HHC S S 00 12 55.5 -5.9
HHC SKS 00 13 06.3
HHC XS sS 00 13 12.5 +5.7
HHC SCS ScS 00 13 15.5 -7.1
HHC SS SS 00 18 05.8 -4.7
HHC AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,129nm,5.0s
HHC LR LR
comp=N,146nm,20.2s,MS4.4
HHC LR LR
comp=E,101nm,17.8s,MS4.4
HHC LR LR
comp=Z,93nm,21.4s,MS4.1
PHWY Pilot Hill 79.90 314 *eP* **P 00 02 58.8 +0.5**
CD2 Chengdu 80.61 59 P **P 00 03 02.5 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
BOZ Bozeman (W) 80.62 320 *eP* **P 00 03 03.1 +1.0**
PDAR Pinedale Array 81.36 317 P **P 00 03 05.3 -0.7**
comp=Z,1.4nm,0.8s,baz=49,slow=4.3,SNR=8.1
PDAR LR LR 00 35 13.5
comp=Z,129nm,19.2s,MS4.3,baz=60,slow=33
MA2 Magadan 82.07 16⇓*eP* **P 00 03 10.0 +0.2**
MA2 pmax pmax
comp=Z,32nm,1.5s,mb5.0
XAN Xi'an 82.31 54 P **P 00 03 11.5 +0.4**
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
SVW2 Sparrevohn 82.79 350 *eP* **P 00 03 13.5 0.0**
BJI Beijing 83.11 45 P **P 00 03 15.8 +0.6**
BJI AMB AMB
comp=Z,12nm,1.1s,mb4.8
BJI Beijing 83.11 45 P **P 00 03 15.7 +0.5**
BJI pmax pmax
comp=Z,12nm,1.1s,mb4.8
BJI Beijing 83.11 45 P **P 00 03 15.7 +0.5**
comp=Z,12nm,1.1s,mb4.8
BJT Baijiatuau 83.12 45 *eP* **P 00 03 15.9 +0.6**
BJT pmax pmax
comp=Z,35nm,1.4s
BJT Baijiatuau 83.12 45 *eP* **P 00 03 15.9 +0.6**
comp=Z,35nm,1.4s,mb5.2
KMI Kunming 83.19 64 P **P 00 03 14.5 -1.1**
KMI AP pP 00 03 25.8 +6.8
KMI XP sP 00 03 29.8 +10
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,94nm,5.2s
KMI Kunming 83.19 64 P **P 00 03 14.5 -1.1**
comp=Z,8.0nm,0.8s,mb4.8
KMI pP pP 00 03 25.7 +6.7
KMI sP sP 00 03 29.7 +10
KMI LR LR
comp=Z,20nm,15.9s,MS3.6
PV10 Paradox Valley 83.88 313 *eP* **P 00 03 16.5 -2.7**
BMO Blue Mountains 84.10 322 *eP* **P 00 03 19.5 -0.8**
comp=Z,6.5nm,1.0s,mb4.7
SRU San Rafael 84.28 314 *eP* **P 00 03 21.9 +0.6**
ANMO Albuquerque 84.46 309⇑*eP* **P 00 03 22.7 +0.6**
LPAZ La Paz 84.70 246 P **P 00 03 23.5 +0.1**
comp=Z,1.7nm,0.9s,mb4.2,baz=39,slow=13,SNR=4.8
LPAZ LR LR 00 43 11.3
comp=Z,44nm,18.8s,MS3.9,baz=186,slow=37
GYA Guiyang 85.27 61 P **P 00 03 25.0 -1.2**
GYA AP pP 00 03 37.8 +8.2
GYA XP sP 00 03 42.0 +11
GYA PP PP 00 06 45.8 +1.9
GYA SKS 00 13 45.0
GYA S S 00 13 51.5 -5.2
GYA SS SS 00 19 27.8 -3.1
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,260nm,3.1s
GYA LR LR
comp=Z,510nm,20.0s,MS4.9

CN2 Changchun 85.61 38 *eP* **P 00 03 27.0 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 90.72 26 P **P 00 03 42.5 -10**
KSRS Korea Array 91.52 41 P **P 00 03 55.3 -0.7**
comp=Z,2.6nm,0.9s,mb4.6,baz=326,slow=4.8,SNR=7.7
KSRS LR LR 00 46 31.2
comp=Z,27nm,19.3s,MS3.7,baz=25,slow=37
MJAR Matsushiro Arr 97.43 35 P **P 00 04 21.7 -1.4**
comp=Z,1.0nm,0.7s,mb4.3,baz=316,slow=3.9,SNR=4.2
FITZ Fitzroy Crossi 126.44 87 PKP PKPdf 00 09 52.7 +0.3
comp=Z,2.7nm,0.8s,baz=255,slow=9.8,SNR=3.8
WRA Warramunga Arr 134.48 84 PKhKP 00 09 59.4
comp=Z,0.4nm,0.7s,baz=290,slow=1.5,SNR=5.1
WRA PKP PKPdf 00 10 07.8 +0.1
comp=Z,4.0nm,0.9s,baz=311,slow=2.0,SNR=21
WRA Warramunga Arr 134.48 84 PKP PKPdf 00 10 07.8 +0.1
ASAR Alice Springs 135.86 89 PKhKP 00 10 01.7
comp=Z,0.8nm,0.9s,baz=321,slow=1.2,SNR=5.6
ASAR PKP PKPdf 00 10 10.3 +0.1
comp=Z,2.9nm,0.8s,baz=302,slow=1.7,SNR=16
ASAR PP PP 00 12 48.9 +0.2
comp=Z,0.9nm,0.9s,baz=302,slow=6.4,SNR=5.8
ASAR Alice Springs 135.86 89 *i* PKHKP 00 10 01.7
ASAR 00 10 10.3
ASAR 00 12 48.9
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 135.86 89 PKIKP PKPdf 00 10 10.3 +0.1
ASAR 00 12 48.9
ASAR Alice Springs 135.86 89 PKP PKPdf 00 10 10.3 +0.1
ASAR PP PP 00 12 48.9 +0.2
CTA Charters Tower 144.19 75 *eP* PKPdf 00 10 23.4 -1.9
comp=Z,8.0nm,0.9s
CTA Charters Tower 144.19 75 PKP PKPdf 00 10 24.4 -1.0
comp=Z,8.9nm,0.8s,baz=254,slow=6.5,SNR=6.9
CTA Charters Tower 144.19 75 PKIKP PKPdf 00 10 24.4 -0.9
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 144.19 75 *e*PKIKP PKPdf 00 10 24.2 -1.1
STKA Stephens Creek 145.22 97⇑*iP* PKPbc 00 10 26.6 -0.1
comp=Z,21nm,0.9s
STKA Stephens Creek 145.22 97 PKPbc PKPbc 00 10 26.7 0.0
comp=Z,28nm,0.9s,baz=317,slow=5.2,SNR=36

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*IDC **30** 23:59:59.2±1.9,3508N×333E,h0km,mb3.4/1,mb1 3.3/4, mb1mx3.1/23,mbtmp3.2/4,ML3.0/3,Error ellipse: s-maj=48.2km s-min=18.7km az=172.0*
*ISCJB **31** 00:00:00.6±0.7,3509N±006×329E±004,h10km,mb3.5/1, Error ellipse: s-maj=8.8km s-min=4.6km az=32.3*
*NEIC **31** 00:00:00.2±1.4,3491N×341E,h10km,MG3.5(MDD), Error ellipse: s-maj=17.2km s-min=12.5km az=148.0*
*CSEM **31** 00:00:01.8±0.3,3503N×337E,h2km,ML3.4/8,Error ellipse: s-maj=8.6km s-min=4.0km az=12.0*
*MDD **31** 00:00:02.2±1.3,3497N×330E,h0km,mb3.9/5,Error ellipse: s-maj=15.7km s-min=8.9km az=5.0,PRXIMO*
ISC 31 00:00:02.2±0.7,3505N±006×331E±004,h10km,n32,
σ1§10/48,mb3.5/1,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**1.19**	**346**	P	**Pb**	**00 00 25.0**	**+0.2**
ETRT	**Tiaret**	**1.68**	**282**	P	**Pn**	**00 00 30.0**	**-1.7**
ABA	**Alger-Bouzarea**	**1.76**	**353**	P	**Pg**	**00 00 38.0**	**+2.0**
EBNR	**Beni Rached**	**1.91**	**311**	P	**Pg**	**00 00 38.5**	**-0.3**
ECHA	**Ech Chlef**	**1.93**	**305**	P	**Pb**	**00 00 39.0**	**+1.6**
ECHF	**Ech Chlef**	**1.95**	**305**	P	**Pb**	**00 00 39.0**	**+1.2**
EANR	**'Ain N'Sour**	**2.02**	**297**	P	**Pn**	**00 00 38.0**	**+1.7**
SET	**Setif**	**2.05**	**55**	P	**Pn**	**00 00 38.0**	**+1.3**
CMER	**Merouana**	**2.19**	**74**	P	**Pn**	**00 00 39.0**	**+0.4**
EIBI	**Ibiza**	**4.27**	**339**	Pn	**Pn**	**00 01 07.2**	**-0.1**
EIBI	0.6nm,0.3s,SNR=13			Sn	**Sn**	**00 01 57.2**	**+0.1**
	19nm,0.8s						
EIBI	**Ibiza**	**4.27**	**339**	Pn	**Pn**	**00 01 07.2**	**0.0**
EIBI	0.6nm,0.3s,SNR=13			Sn	**Sn**	**00 01 57.2**	**+0.1**
	19nm,0.8s						
EMUR	**La Murta**	**4.61**	**309**	Pn	**Pn**	**00 01 12.9**	**+1.1**
	1.4nm,0.3s,SNR=5.0						
EMUR				Sn	**Sn**	**00 02 04.1**	**-1.4**
	2.1nm,0.3s,SNR=4.6						
EMUR	**La Murta**	**4.61**	**309**	Pn	**Pn**	**00 01 12.9**	**+1.0**
	1.4nm,0.3s,SNR=5.0						
EMUR				Sn	**Sn**	**00 02 04.1**	**-1.4**
	2.1nm,0.3s,SNR=4.6						
EBEN	**Beniarda**	**4.62**	**323**	Pn	**Pn**	**00 01 11.9**	**-0.2**
	1.5nm,0.3s,SNR=11						
EBEN				Sn	**Sn**	**00 02 05.1**	**-0.6**
	18nm,0.4s						
EBEN	**Beniarda**	**4.62**	**323**	Pn	**Pn**	**00 01 11.9**	**-0.1**
	1.5nm,0.3s,SNR=11						
EBEN				Sn	**Sn**	**00 02 05.1**	**-0.6**
	18nm,0.4s						
ETOS	**Mallorca**	**4.73**	**355**	Pn	**Pn**	**00 01 14.5**	**+1.0**
	1.1nm,0.2s,SNR=4.9						
ETOS				Sn	**Sn**	**00 02 07.5**	**-0.8**
	20nm,1.0s						
ETOS	**Mallorca**	**4.73**	**355**	Pn	**Pn**	**00 01 14.5**	**+1.0**
	1.1nm,0.2s,SNR=4.9						
ETOS				Sn	**Sn**	**00 02 07.5**	**-0.9**
	20nm,1.0s						
KEST	**Kesra**	**4.97**	**80**	Pn	**Pn**	**00 01 15.5**	**-1.4**
	0.1nm,0.3s,baz=257,slow=14,SNR=9.7						
KEST				Sn	**Sn**	**00 02 14.3**	**-0.2**
	0.1nm,0.3s,baz=156,slow=19,SNR=1.8						
ETOB	**Tobarra**	**5.30**	**314**	Pn	**Pn**	**00 01 21.5**	**+0.1**
	0.1nm,0.4s,SNR=11						
ETOB				Sn	**Sn**	**00 02 22.3**	**-0.2**
	1.8nm,0.3s,SNR=6.0						
ETOB	**Tobarra**	**5.30**	**314**	Pn	**Pn**	**00 01 21.5**	**+0.1**
	0.1nm,0.4s,SNR=11						
ETOB				Sn	**Sn**	**00 02 22.3**	**-0.1**
	1.8nm,0.3s,SNR=6.0						
EBER	**Berja**	**5.36**	**292**	Pn	**Pn**	**00 01 23.4**	**+1.3**
	0.8nm,0.4s,SNR=7.9						
EBER	**Berja**	**5.36**	**292**	Pn	**Pn**	**00 01 23.4**	**+1.2**
	0.8nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.83**	**300**	Pn	**Pn**	**00 01 28.8**	**+0.1**
	0.5nm,0.4s,SNR=11						
EQES				Sn	**Sn**	**00 02 35.4**	**-0.3**
	4.5nm,0.3s,SNR=7.2						
EQES	**Quesada**	**5.83**	**300**	Pn	**Pn**	**00 01 28.8**	**+0.1**
	0.5nm,0.4s,SNR=11						
EQES				Sn	**Sn**	**00 02 35.4**	**-0.3**
	4.5nm,0.3s,SNR=7.2						
EQUE	**Quentar**	**5.87**	**293**	Pn	**Pn**	**00 01 31.2**	**+1.9**
	3.5nm,0.4s,SNR=12						
EVIA	**Vianos**	**5.88**	**309**	Sn	**Sn**	**00 02 37.3**	**+0.5**
	9.8nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**6.09**	**332**	Pn	**Pn**	**00 01 31.9**	**-0.4**
	4.4nm,0.6s,SNR=9.0						
EMOS				Sn	**Sn**	**00 02 39.9**	**-2.2**
	56nm,1.8s						
EMOS	**Mosqueruela**	**6.09**	**332**	Pn	**Pn**	**00 01 31.9**	**-0.4**
	4.4nm,0.6s,SNR=9.0						
EMOS				Sn	**Sn**	**00 02 39.9**	**-2.2**
	56nm,1.8s						
MDT	**Midelt**	**6.96**	**254**	Pn	**Pn**	**00 01 42.3**	**-1.8**
	0.6nm,0.3s,baz=339,slow=12,SNR=20						
MDT				Lg		00 03 40.0	
	0.3nm,0.3s,baz=267,slow=19,SNR=2.7						
ESDC	**Sonseca Array**	**7.41**	**311**	Pn	**Pn**	**00 01 49.4**	**-1.0**
	0.2nm,0.3s,baz=126,slow=13,SNR=5.1						
ESDC				Sn	**Sn**	**00 03 13.9**	**-0.5**
	0.3nm,0.3s,baz=123,slow=24,SNR=4.8						
MKAR	**Makanchi Array**	**58.45**	**52**	P	**P**	**00 09 56.4**	**-1.8**
	0.5nm,1.0s,mb3.5,baz=287,slow=5.8,SNR=6.2						
MKAR	**Makanchi Array**	**58.45**	**52**	P	**P**	**00 09 56.4**	**-1.8**

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*IDC **31** 00:03:07.7±0.9,3496N×335E,h0km,mb3.6/8,mb1 3.8/12, mb1mx3.7/25,mbtmp3.6/12,ML3.6/4,Error ellipse: s-maj=23.9km s-min=16.4km az=158.0*
*CRAAG **31** 00:03:07.5,3470N×338E,Ml4.2*
*ISCJB **31** 00:03:08.3±0.5,3493N±005×331E±003,h10km,mb3.6/7, Error ellipse: s-maj=6.9km s-min=2.9km az=15.7*
*NEIC **31** 00:03:09.1±0.5,3481N×341E,h10km,MG4.2(MDD), Error ellipse: s-maj=8.5km s-min=6.0km az=193.0*
*CSEM **31** 00:03:10.5±0.2,3475N×346E,h30km,ML3.9/4,Error ellipse: s-maj=4.5km s-min=3.5km az=40.0*
*MDD **31** 00:03:15.2±0.9,3513N×289E,h0km,mb4.2/20,Error ellipse: s-maj=11.8km s-min=6.3km az=173.0,PRXIMO*
ISC 31 00:03:10.0±0.5,3492N±005×334E±003,h10km,n78,
σ1§35/106,mb3.6/7,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**1.31**	**346**	P	**Pn**	**00 03 35.0**	**+0.6**
ETRT	**Tiaret**	**1.73**	**286**	P	**Pn**	**00 03 39.0**	**-1.2**
ABMS	**Boumerdes**	**1.82**	**4**	P	**Pn**	**00 03 40.9**	**-0.6**
ABA	**Alger-Bouzarea**	**1.89**	**353**	P	**Pn**	**00 03 44.0**	**+1.7**
EBNR	**Beni Rached**	**2.01**	**313**	P	**Pg**	**00 03 48.0**	**-0.6**
ECHA	**Ech Chlef**	**2.02**	**308**	P	**Pn**	**00 03 44.0**	**-0.2**
ECHF	**Ech Chlef**	**2.04**	**308**	P	**Pn**	**00 03 44.0**	**-0.4**
EANR	**'Ain N'Sour**	**2.10**	**300**	P	**Pn**	**00 03 45.0**	**-0.2**
SET	**Setif**	**2.11**	**52**	P	**Pn**	**00 03 45.0**	**-0.3**
OJGS	**Djebel Guires**	**2.20**	**286**	P	**Pn**	**00 03 45.0**	**-1.6**
CMER	**Merouana**	**2.21**	**71**	P	**Pg**	**00 03 53.0**	**+0.7**
OKGL	**Djebel Kef Gue**	**2.47**	**298**	P	**Pn**	**00 03 54.0**	**+3.7**
OJBR	**Djebel Berber**	**2.54**	**286**	P	**Pn**	**00 03 48.0**	**-3.3**
CTEI	**Djebel Teioual**	**2.75**	**65**	P	**Pg**	**00 04 04.5**	**+1.8**
CASM	**Ain Smara**	**2.89**	**62**	P	**Pg**	**00 04 07.0**	**+1.5**
CKFL	**Kef-Lekhel**	**3.12**	**61**	P	**Pg**	**00 04 08.5**	**-1.3**
USTO	**Oran**	**3.28**	**285**	P	**Pg**	**00 04 11.0**	**-1.9**
CAEH	**'Ain El Ouahch**	**3.40**	**56**	P	**Pg**	**00 04 16.0**	**+0.8**
CMAH	**Djebel Manchou**	**3.73**	**62**	P	**Pb**	**00 04 16.0**	**+0.1**
EIBI	**Ibiza**	**4.40**	**339**	Pn	**Pn**	**00 04 16.9**	**+0.1**
EIBI	5.4nm,0.3s,SNR=22			Sn	**Sn**	**00 05 05.5**	**-2.6**
	15nm,0.3s						
EIBI	**Ibiza**	**4.40**	**339**	Pn	**Pn**	**00 04 16.9**	**+0.1**
EIBI	5.4nm,0.3s,SNR=22			Sn	**Sn**	**00 05 05.5**	**-2.5**
	15nm,0.3s						
EMUR	**La Murta**	**4.71**	**310**	Pn	**Pn**	**00 04 20.5**	**-0.5**
	1.7nm,0.2s,SNR=8.9						
EMUR				Sn	**Sn**	**00 05 15.4**	**-0.3**
	22nm,0.5s,SNR=6.2						
EMUR	**La Murta**	**4.71**	**310**	Pn	**Pn**	**00 04 20.5**	**-0.6**
	1.7nm,0.2s,SNR=8.9						
EMUR				Sn	**Sn**	**00 05 15.4**	**-0.3**
	22nm,0.5s,SNR=6.2						
EBEN	**Beniarda**	**4.73**	**324**	Pn	**Pn**	**00 04 22.2**	**+0.7**
	2.5nm,0.2s,SNR=32						
EBEN				Sn	**Sn**	**00 05 14.7**	**-1.7**
	14nm,0.4s						
EBEN	**Beniarda**	**4.73**	**324**	Pn	**Pn**	**00 04 22.2**	**+0.8**
	2.5nm,0.2s,SNR=32						
EBEN				Sn	**Sn**	**00 05 14.7**	**-1.7**
	14nm,0.4s						
ETOS	**Mallorca**	**4.85**	**355**	Pn	**Pn**	**00 04 23.9**	**+0.9**
	1.2nm,0.2s,SNR=13						
ETOS				Sn	**Sn**	**00 05 14.3**	**-5.1**
	34nm,1.1s						
ETOS	**Mallorca**	**4.85**	**355**	Pn	**Pn**	**00 04 23.9**	**+0.8**
	1.2nm,0.2s,SNR=13						
ETOS				Sn	**Sn**	**00 05 14.3**	**-5.0**
	34nm,1.1s						
KEST	**Kesra**	**4.97**	**79**	Pn	**Pn**	**00 04 25.3**	**+0.6**
	0.3nm,0.3s,baz=241,slow=2.8,SNR=17						
ETOB	**Tobarra**	**5.40**	**315**	Pn	**Pn**	**00 04 31.4**	**+0.8**
	7.7nm,0.3s,SNR=16						
ETOB				Sn	**Sn**	**00 05 31.3**	**-1.6**
	33nm,0.5s						
ETOB	**Tobarra**	**5.40**	**315**	Pn	**Pn**	**00 04 31.4**	**+0.8**
	7.7nm,0.3s,SNR=16						
ETOB				Sn	**Sn**	**00 05 31.3**	**-1.5**
	33nm,0.5s						
EBER	**Berja**	**5.43**	**293**	Pn	**Pn**	**00 04 30.1**	**-0.9**
	1.7nm,0.3s,SNR=7.9						
EBER				Sn	**Sn**	**00 05 35.2**	**+1.8**
	8.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.43**	**293**	Pn	**Pn**	**00 04 30.1**	**-0.9**
	1.7nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.59**	**303**	Pn	**Pn**	**00 04 35.6**	**+2.4**
	1.0nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**00 05 37.7**	**+0.2**
	SNR=7.9						
ECHE	**Chera**	**5.79**	**325**	Pn	**Pn**	**00 04 36.3**	**+0.4**
	1.4nm,0.3s,SNR=7.9						
ECHE				Sn	**Sn**	**00 05 40.0**	**-2.3**
	SNR=7.9						
EQES	**Quesada**	**5.92**	**301**	Pn	**Pn**	**00 04 38.6**	**+0.9**
	3.6nm,0.2s,SNR=11						
EQES				Sn	**Sn**	**00 05 47.2**	**+1.7**
	19nm,0.5s,SNR=6.2						
EQES	**Quesada**	**5.92**	**301**	Pn	**Pn**	**00 04 38.6**	**+0.9**
	3.6nm,0.2s,SNR=11						
EGUA	**Guajares**	**5.92**	**291**	Pn	**Pn**	**00 04 38.8**	**+1.0**
	2.0nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**5.95**	**294**	Pn	**Pn**	**00 04 38.0**	**-0.1**
	12nm,0.5s,SNR=41						
EQUE				Sn	**Sn**	**00 05 48.3**	**+2.1**
	6.6nm,0.7s,SNR=9.7						
EVIA	**Vianos**	**5.98**	**310**	Pn	**Pn**	**00 04 39.6**	**+1.1**
	1.4nm,0.2s,SNR=5.2						
EVIA				Sn	**Sn**	**00 05 46.2**	**-0.9**
	18nm,0.4s,SNR=5.6						
ECOG	**Cogollos-Vega**	**6.06**	**295**	Pn	**Pn**	**00 04 46.5**	**+6.7**
	1.4nm,0.5s,SNR=7.9						
ERON	**Agron**	**6.16**	**292**	Pn	**Pn**	**00 04 41.8**	**+0.7**
	4.4nm,0.3s,SNR=15						
EMOS	**Mosqueruela**	**6.21**	**332**	Pn	**Pn**	**00 04 42.8**	**+1.0**
	4.1nm,0.3s,SNR=20						
EMOS				Sn	**Sn**	**00 05 50.3**	**-2.6**
	99nm,1.6s						
EMOS	**Mosqueruela**	**6.21**	**332**	Pn	**Pn**	**00 04 42.8**	**+1.0**
	4.1nm,0.3s,SNR=20						
EMOS				Sn	**Sn**	**00 05 50.3**	**-2.6**
	99nm,1.6s						
ELOJ	**Sierra Loja**	**6.46**	**292**	Pn	**Pn**	**00 04 54.1**	**+8.9**
	3.1nm,0.7s,SNR=7.9						
ELOJ				Sn	**Sn**	**00 06 01.7**	**+2.6**
	2.5nm,0.7s,SNR=7.9						
ERTA	**Horta de San J**	**6.47**	**339**	Pn	**Pn**	**00 04 47.6**	**+2.2**
	0.4nm,0.3s,SNR=6.0						
ERTA	**Horta de San J**	**6.47**	**339**	Pn	**Pn**	**00 04 47.5**	**+2.1**
EBAN	**Banos Encina**	**6.58**	**301**	Pn	**Pn**	**00 04 54.4**	**+7.5**
	4.9nm,0.4s,SNR=6.0						
EBAN				Sn	**Sn**	**00 06 04.5**	**+2.5**
	4.1nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**6.69**	**295**	Pn	**Pn**	**00 04 57.1**	**+8.8**
	4.8nm,0.5s,SNR=4.9						
ELUQ				Sn	**Sn**	**00 06 11.4**	**+6.9**
	2.1nm,0.5s,SNR=5.0						
EMIJ	**Mijas**	**6.80**	**286**	Pn	**Pn**	**00 04 48.1**	**-1.7**
	SNR=7.9						
EMIJ				Sn	**Sn**	**00 06 01.8**	**-5.4**
	3.2nm,0.4s,SNR=7.9						
MDT	**Midelt**	**6.94**	**255**	Pn	**Pn**	**00 04 52.4**	**+0.6**
	1.8nm,0.3s,baz=69,slow=14,SNR=26						
MDT				Lg		00 06 48.0	
	1.3nm,0.3s,baz=282,slow=19,SNR=2.3						
EMIR	**Miracle**	**7.12**	**349**	Pn	**Pn**	**00 04 56.1**	**+1.8**
	6.0nm,0.3s,SNR=18						
EMIR	**Miracle**	**7.12**	**349**	Pn	**Pn**	**00 04 56.1**	**+1.8**
EADA	**Adamuz**	**7.15**	**299**	Pn	**Pn**	**00 05 01.1**	**+6.5**
	0.9nm,0.3s,SNR=4.7						
EADA				Sn	**Sn**	**00 06 15.8**	**-0.1**
	60nm,1.7s						
ETOR	**Torete**	**7.27**	**326**	Pn	**Pn**	**00 04 51.4**	**-4.8**
	2.7nm,0.3s,SNR=8.0						
ETOR				Sn	**Sn**	**00 06 15.1**	**-3.7**
	6.8nm,1.1s						
ESDC	**Sonseca Array**	**7.50**	**311**	Pn	**Pn**	**00 04 59.4**	**-0.1**
	0.5nm,0.3s,baz=125,slow=13,SNR=12						
ESDC				Sn	**Sn**	**00 06 24.2**	**-0.5**
	1.0nm,0.3s,baz=121,slow=23,SNR=5.5						
ESDC	**Sonseca Array**	**7.50**	**311**	Pn	**Pn**	**00 04 59.4**	**-0.1**
	1.5nm,0.3s,baz=123,slow=13,SNR=9.6						
ESDC				Sn	**Sn**	**00 06 20.2**	**-4.5**
	0.7nm,0.3s,baz=122,slow=23,SNR=5.6						
ESDC	**Sonseca Array**	**7.50**	**311**	Pn	**Pn**	**00 04 59.4**	**-0.1**
ESDC				Sn	**Sn**	**00 06 20.1**	**-4.6**
ESLA	**Sonseca Array**	**7.50**	**311**	*e*Pn	**Pn**	**

KHC	**Kasperske Hory**	**16.08**	**25**	*eP*	**Pn**	**00 07 00.5**	**+4.3**
KHC				*ex*	x	00 07 10.0	
STHS	**Stebnicka Huta**	**19.57**	**37**	*eP*	**Pn**	**00 07 41.6**	**+2.3**
KOLS	**Kolonicke sedl**	**19.78**	**39**	*eP*	**Pn**	**00 07 40.4**	**-1.5**
MLR	**Muntele Rosu**	**20.17**	**52**	P	**P**	**00 07 42.8**	**-1.7**
	2.0nm,0.7s,baz=138,slow=14,SNR=7.8						
TORD	**Torodi Ar. Bea**	**21.73**	**184**	P	**P**	**00 08 00.0**	**-1.4**
	1.2nm,0.6s,mb3.5,baz=359,slow=11,SNR=15						
AKASG	**Malin Array Be**	**24.50**	**42**	P	**P**	**00 08 26.4**	**-3.1**
	2.9nm,0.6s,mb4.0,baz=241,slow=9.7,SNR=6.9						
BRTR	**Keskin Array B**	**24.50**	**70**	P	**P**	**00 08 29.4**	**0.0**
	0.6nm,0.9s,mb3.1,baz=280,slow=5.8,SNR=3.8						
ZAL	**Zalesovo**	**57.87**	**44**	P	**P**	**00 13 00.9**	**-1.1**
	0.6nm,0.7s,mb3.8,baz=153,slow=11,SNR=3.7						
MK31	**Makanchi Array**	**58.51**	**52**	*eP*	**P**	**00 13 04.8**	**-1.6**
MKAR	**Makanchi Array**	**58.51**	**52**	P	**P**	**00 13 05.5**	**-0.9**
	1.7nm,0.6s,mb4.2,baz=285,slow=5.9,SNR=28						
YKA	**Yellowknife Ar**	**70.98**	**334**	P	**P**	**00 14 26.1**	**-1.7**
	0.1nm,0.6s,mb3.0,baz=53,slow=6.2,SNR=5.4						
YKA	**Yellowknife Ar**	**70.98**	**334**	P	**P**	**00 14 26.1**	**-1.7**
SONM	**Songino Array**	**72.78**	**43**	P	**P**	**00 14 38.1**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=291,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**134.46**	**84**	PKP	PKPdf	00 22 29.0	+0.6
	0.3nm,0.7s,baz=325,slow=1.6,SNR=4.3						
ASAR	**Alice Springs**	**135.84**	**89**	PKP	PKPdf	00 22 30.9	0.0
	0.3nm,0.9s,baz=269,slow=2.4,SNR=3.3						
STKA	**Stephens Creek**	**145.19**	**97**	PKPbc	PKPbc	00 22 46.8	-0.6
	2.3nm,0.9s,baz=3.8,slow=8.8,SNR=4.4						

*IDC **31** 00:26:07.3±2.8, 888S×11195E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=167.0km s-min=19.6km az=54.0*
*NEIC **31** 00:26:12.5±1.8, 889S×11198E, h35km, Error ellipse: s-maj=101.0km s-min=11.9km az=52.0*
*ISCJB **31** 00:26:20.6±5.8, 84S±04×1129E±04, h109km±60km, mb4.1/9, Error ellipse: s-maj=96.6km s-min=19.7km az=96.9*

ISC 31 00:26:21.2±5.5, 84S±04×1129E±04, h96km±57km, n12, σ0§60/13, mb4.1/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.73 129**		Pn	**Pn**	**00 29 57.0**	**-0.3**
	0.1nm,0.3s,baz=299,slow=10.0,SNR=4.6						
FITZ				Sn	**Sn**	**00 32 35.2**	**-16**
	0.1nm,0.3s,baz=205,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**25.23 129**		P	**P**	**00 31 38.7**	**+0.6**
	0.6nm,0.5s,mb3.3,baz=304,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**35.48 135**		P	**P**	**00 33 08.2**	**-0.2**
	1.7nm,0.4s,mb4.2,baz=309,slow=7.2,SNR=5.9						
JIRN	**Jiri**	**44.17 325**		*eP*	**P**	**00 34 20.9**	**+0.6**
	10nm,0.6s,mb4.8						
GUN	**Gumba**	**44.54 325**		*eP*	**P**	**00 34 23.7**	**+0.4**
KKN	**Kakani**	**44.79 324**		*eP*	**P**	**00 34 25.9**	**+0.6**
	6.0nm,0.5s,mb4.5						
GKN	**Gorkha**	**45.32 324**		*eP*	**P**	**00 34 29.2**	**-0.3**
	3.8nm,0.3s,mb4.6						
KOLN	**Koldanda**	**45.76 323**		*eP*	**P**	**00 34 32.5**	**-0.4**
	3.9nm,0.5s,mb4.4						
SONM	**Songino Array**	**56.28 355**		P	**P**	**00 35 52.2**	**+0.5**
	0.1nm,0.4s,mb3.2,baz=170,slow=8.2,SNR=4.4						
MKAR	**Makanchi Array**	**61.32 337**		P	**P**	**00 36 25.2**	**-1.4**
	0.3nm,0.4s,mb3.7,baz=149,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**61.32 337**		P	**P**	**00 36 25.2**	**-1.4**
ZAL	**Zalesovo**	**66.47 342**		P	**P**	**00 37 00.1**	**-0.2**
	0.6nm,0.3s,mb3.9,baz=340,slow=3.9,SNR=4.8						

*ISCJB **31** 00:52:08.7±0.5, 3005N±005×8364E±004, h10km, mb3.6/9, MS3.5/3, Error ellipse: s-maj=7.5km s-min=4.4km az=129.5*
*IDC **31** 00:52:09.6±0.8, 3011N×8380E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/24, mbtmp3.8/10, ML3.5/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/35, Error ellipse: s-maj=28.2km s-min=18.7km az=52.0*
*NEIC **31** 00:52:10.5±1.1, 3008N×8373E, h10km, mb3.7/1, Error ellipse: s-maj=22.2km s-min=12.8km az=109.0*
*NDI **31** 00:52:17.6±4.2, 2986N×8361E, h10km, ML3.5, mb3.7(NEIC)*

ISC 31 00:52:10.7±0.5, 3009N±004×8370E±004, h10km, n33, σ1§32/40, mb3.6/9, MS3.5/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.07 259**		*i P*	**Pg**	**00 53 08.0**	**-1.5**
LGTI				*ex*	**Sg**	**00 53 51.5**	**+2.3**
PTH	**Pithoragarh**	**3.07 261**		*eP*	**Pg**	**00 53 07.9**	**-1.7**
PTH				*ex*	**Sg**	**00 53 49.1**	**-0.3**
KLP	**Kalpa**	**4.90 288**		*eP*	**Pn**	**00 53 30.8**	**+6.4**
KLP				*eS*	**Sn**	**00 54 27.0**	**+5.7**
KLP				AML	AML	00 54 40.8	
	comp=N,57nm,0.9s						
KLP				AML	AML	00 54 41.7	
	comp=E,83nm,0.9s						
AGRA	**Agra**	**5.80 242**		*eP*	**Pn**	**00 53 40.2**	**+3.4**
AGRA				*eS*	**Sn**	**00 54 40.1**	**-3.3**
AGRA				AML	AML	00 55 21.6	
	comp=N,82nm,0.3s						
AGRA				AML	AML	00 55 29.7	
	comp=E,142nm,0.5s						
NDI	**New Delhi**	**5.83 258**		*eP*	**Pn**	**00 53 40.7**	**+3.6**
NDI				*eS*	**Sn**	**00 54 42.7**	**-1.2**
NDI				AML	AML	00 55 08.5	
	comp=E,40nm,0.5s						
NDI				AML	AML	00 55 09.6	
	comp=N,19nm,0.7s						
AYAN	**Aya Nagar**	**5.96 256**		*eP*	**Pn**	**00 53 42.8**	**+3.8**
AYAN				*eS*	**Sn**	**00 54 47.9**	**+0.7**
SONA	**Sohna**	**6.07 254**		*eP*	**Pn**	**00 53 44.6**	**+4.1**
SONA				*eS*	**Sn**	**00 54 49.4**	**-0.5**
SONA				AML	AML	00 55 29.2	
	comp=N,51nm,0.8s						
SONA				AML	AML	00 55 29.6	
	comp=E,36nm,0.7s						
KHET	**Khetri**	**7.19 256**		*eP*	**Pn**	**00 53 59.7**	**+3.8**
KHET				*eS*	**Sn**	**00 55 15.8**	**-1.8**
SHL	**Shillong**	**8.53 120**		*ex*	**Pn**	**00 54 09.2**	**-5.0**
SHL				*eS*	**Sn**	**00 55 49.1**	**-1.4**
AJM	**Ajmer**	**8.75 248**		*ex*	x	00 55 40.0	
CHCP	**Chirah Chowk**	**9.56 295**		P	**Pn**	**00 54 30.1**	**+1.8**
THW	**Thamme Wali**	**10.56 288**		P	**Pn**	**00 54 42.6**	**+0.5**
CEP	**Cherat**	**10.68 293**		P	**Pn**	**00 54 43.6**	**-0.1**
AKL	**Akola**	**11.12 214**		*eS*	**Sn**	**00 56 47.7**	**-6.4**
AKL				AML	AML	00 58 60.0	
	comp=E,28nm,0.2s						
AKL				AML	AML	00 59 00.6	
	comp=N,24nm,0.3s						
SBDP	**Sheikh Budin**	**11.26 285**		P	**Pn**	**00 54 53.2**	**+1.6**
KBL	**Kabul**	**13.16 294**		*ePn*	**Pn**	**00 55 17.2**	**-0.4**
KBL				*eSn*	**Sn**	**00 57 41.0**	**-3.2**
HYB	**Hyderabad**	**13.46 202**		*i P*	**Pn**	**00 55 21.0**	**-0.7**
HYB				*eS*	**Sn**	**00 57 53.0**	**+1.7**
HYB	**Hyderabad**	**13.46 202**		*eP*	**Pn**	**00 55 21.0**	**-0.7**
MK31	**Makanchi Array**	**16.72 357**		*ePn*	**Pn**	**00 56 03.5**	**-1.5**
MKAR	**Makanchi Array**	**16.72 357**		Pn	**Pn**	**00 56 04.9**	**-0.1**
	comp=N,0.2nm,0.3s,baz=179,slow=12,SNR=28						
KURK	**Kurchatov**	**20.96 351**		*eP*	**P**	**00 56 52.9**	**-0.8**
	comp=N,3.3nm,0.8s						
ZAL	**Zalesovo**	**23.85**	**2**	P	**P**	**00 57 24.2**	**+0.1**
	comp=N,1.7nm,0.8s,mb3.5,baz=278,slow=11,SNR=13						
SONM	**Songino Array**	**24.86**	**38**	P	**P**	**00 57 33.3**	**0.0**
	comp=N,0.9nm,0.9s,mb3.3,baz=226,slow=10.0,SNR=5.9						
BVAR	**Borovoye Array**	**24.91 341**		P	**P**	**00 57 32.9**	**-0.8**
	comp=N,0.4nm,0.4s,mb3.3,baz=142,slow=12,SNR=6.0						
AKTO	**Aktyubinsk**	**28.00 324**		LR	LR	01 10 38.3	
	comp=N,58nm,20.6s,MS3.1,baz=19,slow=40						
KSRS	**Korea Array**	**37.22**	**67**	LR	LR	01 16 05.4	
	comp=N,40nm,19.7s,MS3.2,baz=70,slow=39						
BRTR	**Keskin Array B**	**41.70 297**		P	**P**	**01 00 01.5**	**+1.9**
	comp=N,0.3nm,0.7s,mb3.0,baz=76,slow=4.5,SNR=4.0						
FINES	**FINESS Array B**	**48.66 327**		P	**P**	**01 00 56.7**	**+1.8**
	comp=N,5.3nm,1.1s,mb4.5,baz=92,slow=16,SNR=4.1						
WRA	**Warramunga Arr**	**69.64 129**		P	**P**	**01 03 21.0**	**+0.8**
	comp=N,0.8nm,0.6s,mb3.8,baz=322,slow=6.3,SNR=16						
ASAR	**Alice Springs**	**71.97 132**		P	**P**	**01 03 35.0**	**+0.6**
	comp=N,0.5nm,0.7s,mb3.5,baz=318,slow=6.3,SNR=8.5						
TORD	**Torodi Ar. Bea**	**76.69 278**		P	**P**	**01 04 03.0**	**+1.0**
	comp=N,0.7nm,0.6s,mb3.8,baz=51,slow=5.0,SNR=13						
BOSA	**Boshof**	**80.72 229**		LR	LR	01 40 39.4	
	comp=N,72nm,18.4s,MS4.1,baz=4.1,slow=36						
YKA	**Yellowknife Ar**	**86.58**	**8**	P	**P**	**01 04 53.4**	**-0.7**
	comp=N,0.4nm,0.6s,mb3.8,baz=336,slow=5.1,SNR=13						

*NEIC **31** 01:00:49.3±5.2, 2070S×17638W, h223km±46km, mb4.2/5, Error ellipse: s-maj=21.6km s-min=18.7km az=211.0*
*IDC **31** 01:00:58.3±4.3, 2111S×17645W, h310km±40km, mb3.6/11, mb1 3.8/12, mb1mx3.6/18, mbtmp3.6/12, Error ellipse: s-maj=20.0km s-min=13.4km az=98.0*
*ISCJB **31** 01:01:00.6±5.4, 2093S±009×1766W±02, h343km±52km, mb3.8/13, Error ellipse: s-maj=27.8km s-min=13.8km az=28.7*

ISC 31 01:01:02.0±3.8, 2114S±009×1764W±02, h352km±39km, n39, σ1§15/21, mb3.8/13, 2C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.95 264**		P	**P**	**01 04 27.8**	**+0.9**
	1.6nm,0.3s,baz=82,slow=14,SNR=18						
URZ	**Urewera**	**17.95 197**		P	**P**	**01 04 46.1**	**-2.1**
	1.2nm,0.3s,baz=283,slow=21,SNR=9.0						
URZ				S	**S**	**01 07 55.1**	**-0.6**
	1.2nm,0.3s,baz=246,slow=22,SNR=13						
RPZ	**Rata Peaks**	**24.81 202**		P	**P**	**01 05 54.7**	**+1.4**
	4.4nm,0.3s,mb4.2,baz=33,slow=19,SNR=9.4						
CTA	**Charters Tower**	**34.89 265**		*eP*	**P**	**01 07 21.8**	**+0.4**
	3.8nm,0.5s,mb3.9						
CTA	**Charters Tower**	**34.89 265**		P	**P**	**01 07 21.4**	**+0.1**
	3.9nm,0.4s,mb4.0,baz=102,slow=11,SNR=23						
CTAO	**Charters Tower**	**34.89 265**		*eP*	**P**	**01 07 21.4**	**0.0**
	5.0nm,0.5s,mb4.0						
PMG	**Port Moresby**	**36.91 283**		P	**P**	**01 07 36.7**	**-1.7**
	21nm,1.2s,mb4.3,baz=62,slow=7.1,SNR=5.3						
STKA	**Stephens Creek**	**38.84 245**		*eP*	**P**	**01 07 55.0**	**+0.7**
	2.3nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**38.84 245**		P	**P**	**01 07 55.1**	**+0.8**
	2.9nm,0.4s,mb3.9,baz=96,slow=11,SNR=12						
ASAR	**Alice Springs**	**45.80 257**		P	**P**	**01 08 50.1**	**+0.3**
	4.2nm,0.8s,mb3.6,baz=86,slow=8.4,SNR=33						
ASAR				PcP	PcP	01 10 23.8	+3.1
	0.6nm,0.5s,baz=99,slow=3.9,SNR=7.0						
WB2	**Warramunga Arr**	**45.95 262**		*eP*	**P**	**01 08 50.7**	**-0.3**
WRA	**Warramunga Arr**	**45.97 262**		P	**P**	**01 08 50.4**	**-0.7**
	3.4nm,0.8s,mb3.5,baz=95,slow=5.2,SNR=33						
FITZ	**Fitzroy Crossi**	**54.40 262**		P	**P**	**01 09 55.6**	**+1.9**
	0.6nm,0.3s,mb3.3,baz=84,slow=9.2,SNR=4.7						
CASY	**Casey**	**64.01 205**		P	**P**	**01 11 02.7**	**+3.7**
	18nm,1.3s,mb4.5						
MJAR	**Matsushiro Arr**	**71.60 323**		P	**P**	**01 11 44.4**	**-1.4**
	1.4nm,0.5s,mb3.9,baz=160,slow=6.1,SNR=6.7						
NVAR	**Mina Array Bea**	**80.49 43**		P	**P**	**01 12 36.2**	**+0.6**
	0.8nm,0.7s,mb3.6,baz=225,slow=9.9,SNR=5.5						
MAW	**Mawson**	**81.45 199**		P	**P**	**01 12 45.0**	**+4.4**
	1.8nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**88.43 43**		P	**P**	**01 13 15.7**	**+0.8**
	0.2nm,0.5s,mb3.2,baz=208,slow=7.0,SNR=3.8						
YKA	**Yellowknife Ar**	**96.49 24**		P	**P**	**01 13 51.0**	**-1.0**
	0.3nm,0.7s,mb3.5,baz=238,slow=4.7,SNR=5.9						
YKA	**Yellowknife Ar**	**96.49 24**		P	**P**	**01 13 51.0**	**-1.0**
MKAR	**Makanchi Array**	**112.70 313**		PKiKP	PKiKP	01 18 58.5	+1.4
	0.6nm,0.5s,baz=126,slow=1.1,SNR=26						
BVAR	**Borovoye Array**	**120.51 320**		PKP	PKPdf	01 19 13.6	+1.5
	1.8nm,0.4s,baz=123,slow=2.0,SNR=24						
ARCES	**ARCESS Array B**	**129.81 350**		PKP	PKPdf	01 19 30.4	+0.6
	5.2nm,0.9s,baz=336,slow=2.7,SNR=6.8						
FINES	**FINESS Array B**	**136.79 344**		PKP	PKPdf	01 19 41.5	-1.5
	1.1nm,0.5s,baz=232,slow=3.0,SNR=6.2						
AKASG	**Malin Array Be**	**144.28 332**		PKP	PKPdf	01 19 55.8	-0.6
	1.6nm,0.4s,baz=41,slow=4.3,SNR=26						
MALT	**Malatya**	**145.48 307**		⇑*i*P	PKPbc	01 20 02.1	+2.8
EKA	**Eskdalemuir Ar**	**145.49 7**		PKPbc	PKPbc	01 19 59.9	+0.6
	2.0nm,0.8s,baz=320,slow=3.4,SNR=5.0						
BURAR	**Bucovina Array**	**148.33 332**		⇓*i*P	PKPbc	01 20 09.5	+2.4
BRTR	**Keskin Array B**	**148.35 313**		PKPbc	PKPbc	01 20 08.7	+1.5
	1.7nm,0.7s,baz=142,slow=4.0,SNR=15						
STHS	**Stebnicka Huta**	**148.48 338**		*e*PKP	PKPbc	01 20 13.1	+5.6
ANTO	**Ankara**	**148.87 313**		⇓*i*P	PKPbc	01 20 11.1	+2.6
BRG	**Berggiesshubel**	**149.23 347**		*e*PKP	PKPbc	01 20 11.5	+2.1
	11nm,1.7s						
BRG				*e*		01 20 14.9	
	7.7nm,1.5s						
KECS	**Kecovo**	**149.53 338**		*e*PKP	PKPbc	01 20 12.0	+1.9
MLR	**Muntele Rosu**	**149.55 328**		⇓*i*P	PKPbc	01 20 11.9	+1.8
SNX	**Sinaia**	**149.86 328**		⇓*i*P	PKPbc	01 20 14.1	+3.2
VYHS	**Vyhne**	**150.09 339**		*e*PKP	PKPbc	01 20 13.5	+2.1
KHC	**Kasperske Hory**	**150.95 346**		*e*PKPbc	PKPbc	01 20 15.5	+2.1
KHC				*e*PKPab	PKPab	01 20 23.0	+0.7
GERES	**GERESS Array B**	**151.19 346**		PKPbc	PKPbc	01 20 13.7	-0.3
	1.0nm,0.7s,baz=270,slow=0.4,SNR=6.5						
GERES				PKPab	PKPab	01 20 23.6	+0.2
	0.4nm,0.4s,baz=28,slow=6.0,SNR=7.6						
BZS	**Buzias**	**151.45 333**		⇑*i*P	PKPbc	01 20 16.5	+1.9

*ISCJB **31** 01:02:17.4±4.1, 25N±03×1273E±07, h33km, mb3.5/3, Error ellipse: s-maj=113.7km s-min=27.0km az=39.5*
*NEIC **31** 01:02:21.7±2.8, 236N×12776E, h35km, Error ellipse: s-maj=78.4km s-min=20.3km az=109.0*
*IDC **31** 01:03:52.1±8.3, 382S×128.19E, h494km±98km, mb2.8/2, mb1 3.1/4, mb1mx2.7/18, mbtmp2.9/4, Error ellipse: s-maj=98.5km s-min=83.8km az=54.0*

ISC 31 01:02:22.2±3.7, 23N±03×1277E±07, h35km, n8, σ0§29/8, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.41 186**		P	**P**	**01 06 56.3**	**+0.1**
	0.9nm,0.3s,baz=14,slow=8.8,SNR=19						
WRA	**Warramunga Arr**	**23.07 164**		P	**P**	**01 07 24.2**	**-0.4**
	0.3nm,0.3s,mb3.2,baz=338,slow=10,SNR=27						
WB2	**Warramunga Arr**	**23.07 164**		*eP*	**P**	**01 07 25.0**	**+0.4**
WB2	**Warramunga Arr**	**23.07 164**		*eP*	**P**	**01 07 24.9**	**+0.3**
ASAR	**Alice Springs**	**26.53 167**		P	**P**	**01 07 56.1**	**-0.4**
	0.5nm,0.4s,mb3.4,baz=342,slow=7.3,SNR=18						
STKA	**Stephens Creek**	**36.48 160**		P	**P**	**01 09 24.2**	**+0.4**
	2.1nm,0.8s,mb4.1,baz=6.9,slow=6.8,SNR=3.1						
STKA	**Stephens Creek**	**36.48 160**		*eP*	**P**	**01 09 24.1**	**+0.3**
HON	**Honolulu**	**74.49 69**		*eP*	**P**	**01 13 57.0**	**0.0**

DHMR 31 01:11:29.3±1.2, 1379N×5093E, h13km±53km, mb4.6, ML4.5, 2C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.96 291**		⇑*i*P	Pn	01 12 02.8	+0.6
MUKL				AMb	AMB	01 12 03.1	
	comp=Z,50nm,0.3s						
MUKL				*i* S	Sn	01 12 30.5	+3.8
MUKL				AML	AML	01 12 32.8	
	comp=E,6μm,0.5s						
BDHA	**Al Bayda'**	**5.21 273**		⇑*i*P	Pn	01 12 49.4	+2.5
BDHA				*i* S	Sn	01 13 51.9	+5.0
LBOS		**5.52 272**		⇓*i*P	Pn	01 12 53.2	+2.0
LBOS				*i* S	Sn	01 13 58.8	+4.3
DHBB	**Dhamar BB**	**6.39 278**		*i* P	Pn	01 13 05.8	+2.7
DHBB				*i* S	Sn	01 14 19.4	+3.5

*ISCJB **31** 01:13:56.5±2.1, 302N±006×1287E±01, h224km±20km, mb4.0/21, Error ellipse: s-maj=22.2km s-min=8.0km az=143.4*
*NEIC **31** 01:13:58.2±4.1, 300N×12862E, h225km±41km, mb4.5/8, Error ellipse: s-maj=18.4km s-min=9.0km az=59.0*
*IDC **31** 01:14:01.1±2.2, 297N×12859E, h255km±21km, mb3.6/15, mb1 3.7/15, mb1mx3.7/21, mbtmp3.6/15, Error ellipse: s-maj=25.7km s-min=7.6km az=75.0*

ISC 31 01:14:00.3±2.0, 298N±007×1287E±01, h247km±20km, n31, σ0§91/32, mb4.0/20, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.01 167**		*eP*	**P**	**01 17 30.8**	**-0.6**
	23nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.16 188**		*eP*	**P**	**01 18 26.5**	**-0.2**
	11nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**21.16 188**		P	**P**	**01 18 25.8**	**-0.9**
	7.4nm,0.6s,mb4.4,baz=26,slow=9.4,SNR=26						
WRA	**Warramunga Arr**	**23.43 167**		P	**P**	**01 18 47.7**	**+0.2**
	3.0nm,0.3s,mb4.2,baz=344,slow=10,SNR=38						
WRA				S	**S**	**01 22 41.8**	**-0.3**
	1.8nm,0.8s,baz=338,slow=14,SNR=5.9						
WB2	**Warramunga Arr**	**23.43 167**		*eP*	**P**	**01 18 47.4**	**-0.2**
WB2				*eS*	**S**	**01 22 41.2**	**-1.0**
JOW	**Kunigami**	**23.73 359**		P	**P**	**01 18 43.0**	**-7.2**
	8.2nm,0.5s,mb4.7,baz=70,slow=26,SNR=5.7						
ASAR	**Alice Springs**	**26.96 169**		P	**P**	**01 19 19.2**	**0.0**
	2.4nm,0.4s,mb4.1,baz=354,slow=8.2,SNR=80						
ASAR				PcP	PcP	01 22 34.4	+0.2
	1.1nm,0.4s,baz=349,slow=1.9,SNR=12						
ASAR				S	**S**	**01 23 37.8**	**0.0**
	2.3nm,0.9s,baz=352,slow=20,SNR=11						
KULM	**Kulim**	**28.10 276**		P	**P**	**01 19 26.0**	**-3.4**
KSRS	**Korea Array**	**34.32 359**		P	**P**	**01 20 23.2**	**-0.4**
	1.4nm,0.5s,mb3.8,baz=175,slow=9.9,SNR=7.5						
MJAR	**Matsushiro Arr**	**34.53 14**		P	**P**	**01 20 23.9**	**-1.5**
	3.6nm,0.8s,mb4.0,baz=183,slow=9.7,SNR=10						
STKA	**Stephens Creek**	**36.75 162**		*eP*	**P**	**01 20 44.7**	**+0.4**
	2.6nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**36.75 162**		P	**P**	**01 20 44.7**	**+0.4**
	2.9nm,0.4s,mb4.2,baz=345,slow=7.3,SNR=23						
NWAO	**Narrogin (SRO)**	**37.33 196**		*eP*	**P**	**01 20 48.5**	**-0.6**
	1.9nm,0.6s,mb3.8						
DZM	**Mont Dzumac**	**44.47 126**		P	**P**	**01 21 50.0**	**+2.8**
	4.1nm,0.6s,mb3.9,baz=144,slow=21,SNR=6.3						
JIRN	**Jiri**	**47.43 305**		*eP*	**P**	**01 22 11.2**	**+1.0**
	18nm,0.5s,mb4.6						
GUN	**Gumba**	**47.78 306**		*eP*	**P**	**01 22 13.8**	**+0.9**
	14nm,0.5s,mb4.5						
KKN	**Kakani**	**48.22 305**		*eP*	**P**	**01 22 17.0**	**+0.7**
	5.4nm,0.4s,mb4.2						
DMN	**Daman**	**48.30 305**		*eP*	**P**	**01 22 17.5**	**+0.7**
SONM	**Songino Array**	**48.66 340**		P	**P**	**01 22 19.2**	**-0.4**
	0.6nm,0.6s,mb3.1,baz=154,slow=9.1,SNR=6.6						
KOLN	**Koldanda**	**49.59 304**		*eP*	**P**	**01 22 27.4**	**+0.7**
	15nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**59.32 325**		P	**P**	**01 23 36.5**	**+0.1**
	0.8nm,0.6s,mb3.5,baz=113,slow=8.0,SNR=22						
RPZ	**Rata Peaks**	**60.01 146**		P	**P**	**01 23 42.3**	**+1.2**
	17nm,1.1s,mb4.6,baz=230,slow=7.9,SNR=3.0						
RPZ	**Rata Peaks**	**60.01 146**		P	**P**	**01 23 42.3**	**+1.2**
ZAL	**Zalesovo**	**62.17 332**		P	**P**	**01 23 55.7**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=207,slow=19,SNR=3.6						
ZAL	**Zalesovo**	**62.17 332**		P	**P**	**01 23 55.7**	**+0.1**
BVAR	**Borovoye Array**	**69.04 327**		P	**P**	**01 24 38.7**	**-0.7**
	0.6nm,0.4s,mb3.6,baz=70,slow=3.9,SNR=8.0						
VNDA	**Vanda**	**82.44 173**		P	**P**	**01 25 55.3**	**+0.3**
	0.4nm,0.4s,mb3.5,baz=321,slow=4.7,SNR=4.0						
SLKM	**Skilak Lake**	**83.01 30**		*eP*	**P**	**01 25 58.4**	**+0.4**
ARCES	**ARCESS Array B**	**91.84 340**		P	**P**	**01 26 38.5**	**-1.8**
	1.4nm,0.7s,mb4.0,baz=86,slow=6.2,SNR=5.9						
YKA	**Yellowknife Ar**	**99.35 25**		P	Pdif	01 27 13.8	-0.6
	0.1nm,0.7s,baz=297,slow=4.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**125.05 288**		PKP	PKPdf	01 32 32.2	+1.0
	0.3nm,0.3s,baz=76,slow=1.4,SNR=19						

*MOS **31** 01:16:55.5±1.4, 1334N×14621E, h33km, mb4.8/4, Error ellipse: s-maj=20.7km s-min=12.2km az=112.4*
*NEIC **31** 01:16:57.8±0.5, 1334N×146.14E, h35km, mb4.8/4, Error ellipse: s-maj=14.2km s-min=9.7km az=75.0*
*ISCJB **31** 01:16:59.4±2.0, 1332N±008×1460E±01, h66km±15km, mb4.1/18, Error ellipse: s-maj=23.6km s-min=12.8km az=155.2*
*IDC **31** 01:17:00.6±2.9, 1341N×14606E, h60km±24km, mb3.8/13, mb1 4.0/13, mb1mx3.9/21, mbtmp3.8/13, MS3.7/1, Ms1 3.7/1, ms1mx2.8/36, Error ellipse: s-maj=28.6km s-min=16.2km az=76.0*

ISC 31 01:16:58.1±2.6, 1336N±008×1462E±01, h37km±22km, n31, σ1§06/31, mb4.2/18, MS3.7/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.31 280**		P	**Pn**	**01 17 19.5**	**-0.3**
	156nm,0.3s,baz=139,slow=9.8,SNR=17						
GUMO				S	**Sn**	**01 17 36.6**	**+0.5**
	231nm,0.3s,baz=135,slow=2.6,SNR=10.0						
GUMO	**Guam**	**1.31 280**		P	**Pn**	**01 17 19.5**	**-0.3**

1.9nm,0.3s,baz=128,slow=12,SNR=5.1
MAT Matsushiro 2.51 340 P **Pn 01 22 12.3 +2.2**
MAT S **Sn 01 22 45.3 +4.6**
JNU Nakatsue 7.09 264 Pn **Pn 01 23 12.2 -0.9**
2.8nm,0.3s,baz=255,slow=21,SNR=8.9
WRA Warramunga Arr 54.04 186 P **P 01 30 51.3 -2.4**
0.2nm,0.5s,mb3.4,baz=1.4,slow=7.5,SNR=2.7
YKA Yellowknife Ar 67.13 29 P **P 01 32 25.3 +2.2**
0.3nm,0.7s,mb3.5,baz=302,slow=6.1,SNR=5.9

OTT 31 01:32:46.3±0.1,7185N×7342W,h18km,MN3.1/4,182km southeast from Pond Inlet, Nu Baffin Island Seismic Zone, Nt.,Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**1.64**	**304**	PN	Pn	01 33 14.0	-0.2
PINU				SN	Sn	01 33 34.6	-0.2
PINU				Trac		01 33 38.3	
comp=Z,35nm,0.1s							
ILON	**Igloolik, Nuna**	**3.75**	**232**	PN	Pn	01 33 42.5	-0.7
ILON				SN	Sn	01 34 24.8	-2.1
ILON				SG	Sg	01 34 38.2	-8.5
ILON				Trac		01 34 42.8	
comp=Z,13nm,0.2s							
RES	**Resolute Bay**	**6.80**	**305**	PN	Pn	01 34 23.4	-1.7
RES				SN	Sn	01 35 36.2	-5.9
RES				SG	Sn	01 36 18.2	+36
RES				Trac		01 36 30.2	
comp=Z,2.1nm,0.5s							
FRB	**Frobisher Bay**	**8.34**	**165**	PN	Pn	01 34 44.8	-1.5
FRB				SN	Sn	01 36 14.0	-6.0
FRB				LG		01 37 00.7	
FRB				Trac		01 37 10.6	
comp=Z,4.3nm,0.3s							
IVKQ	**Ivujivik**	**9.63**	**193**	PN	Pn	01 34 59.0	-5.0
IVKQ				SN	Sn	01 36 37.7	-14
IVKQ				LG		01 37 30.5	
AKVQ	**Akulik**	**11.25**	**192**	PN	Pn	01 35 24.0	-2.1
AKVQ				SN	Sn	01 37 20.6	-11
AKVQ				LG		01 38 26.2	
YRTN	**Rankin Inlet**	**11.51**	**228**	SN	Sn	01 37 22.9	-15
YRTN				LG		01 38 36.6	
YRTN				Trac		01 38 52.6	
comp=Z,8.1nm,0.8s							

*IDC **31** 01:37:50.0±0.9,1343N×146.11E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.8/20,mbtmp3.7/9,Error ellipse: s-maj=23.1km s-min=17.4km az=78.0*
*NEIC **31** 01:37:55.4±0.6,1340N×14608E,h35km,Error ellipse: s-maj=17.1km s-min=10.4km az=85.0*
*ISCJB **31** 01:37:56.1±2.9,1339N±009×1460E±02,h59km±22km, mb3.7/9,Error ellipse: s-maj=34.1km s-min=14.8km az=170.6*

ISC 31 01:37:54.7±6.5,1344N±009×14612E±010,h30km±46km, n16,σ0§77/18,mb3.7/9,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.22**	**277**	Pn	**Pn**	**01 38 15.5**	**-0.2**
157nm,0.3s,baz=127,slow=7.1,SNR=41							
GUMO				Sn	**Sn**	**01 38 31.3**	**+0.1**
360nm,0.3s,baz=180,slow=23,SNR=19							
GUMO	**Guam**	**1.22**	**277**	Pn	**Pn**	**01 38 15.5**	**-0.2**
GUMO				Sn	**Sn**	**01 38 31.3**	**+0.1**
MJAR	**Matsushiro Arr**	**24.07**	**344**	P	**P**	**01 43 08.7**	**+1.4**
1.7nm,0.9s,mb3.5,baz=186,slow=14,SNR=3.7							
KSRS	**Korea Array**	**28.90**	**329**	P	**P**	**01 43 49.5**	**-1.4**
2.2nm,0.8s,mb3.9,baz=147,slow=10,SNR=6.1							
KKM	**Kota Kinabalu**	**30.35**	**259**	P	**P**	**01 44 03.9**	**+0.3**
WB2	**Warramunga Arr**	**35.14**	**199**	*eP*	**P**	**01 44 46.9**	**+1.4**
WRA	**Warramunga Arr**	**35.14**	**199**	P	**P**	**01 44 45.5**	**-0.1**
0.9nm,0.7s,mb3.8,baz=21,slow=9.4,SNR=10							
WRA				PcP	PcP	01 47 18.2	+1.7
0.3nm,0.8s,baz=13,slow=3.6,SNR=5.1							
ASAR	**Alice Springs**	**38.77**	**198**	P	**P**	**01 45 16.2**	**-0.2**
0.3nm,0.5s,mb3.3,baz=16,slow=11,SNR=7.0							
STKA	**Stephens Creek**	**45.27**	**185**	P	**P**	**01 46 08.3**	**-1.1**
0.5nm,0.5s,mb3.6,baz=325,slow=19,SNR=2.6							
STKA	**Stephens Creek**	**45.27**	**185**	P	**P**	**01 46 08.3**	**-1.1**
SONM	**Songino Array**	**47.55**	**324**	P	**P**	**01 46 26.9**	**-0.4**
0.2nm,0.6s,mb3.4,baz=132,slow=6.4,SNR=2.6							
MK31	**Makanchi Array**	**62.44**	**316**	*eP*	**P**	**01 48 15.2**	**+0.4**
MKAR	**Makanchi Array**	**62.44**	**316**	P	**P**	**01 48 15.2**	**+0.3**
0.2nm,0.4s,mb3.6,baz=90,slow=8.2,SNR=7.6							
YKA	**Yellowknife Ar**	**82.43**	**28**	P	**P**	**01 50 14.4**	**+0.5**
0.6nm,0.8s,mb3.6,baz=287,slow=5.5,SNR=8.8							
YKA	**Yellowknife Ar**	**82.43**	**28**	P	**P**	**01 50 14.4**	**+0.5**
FINES	**FINESS Array B**	**91.80**	**335**	P	**P**	**01 50 58.7**	**-0.9**
3.4nm,0.8s,mb4.7,baz=114,slow=3.5,SNR=11							

*IDC **31** 01:46:20.4±0.7,1335N×146.11E,h0km,mb4.1/15, mb1 4.3/15,mb1mx4.2/22,mbtmp4.1/15,MS4.0/10, Ms1 4.0/10,ms1mx3.7/29,Error ellipse: s-maj=18.6km s-min=14.8km az=81.0*
*MOS **31** 01:46:24.0±1.7,1327N×14603E,h33km,mb4.8/11,Error ellipse: s-maj=17.7km s-min=9.8km az=114.0*
*BJI **31** 01:46:24.6,1330N×14600E,h25km,mB5.2,mb4.6,Ms4.3*
*ISCJB **31** 01:46:26.0±1.6,1325N±007×14599E±009,h52km±13km, mb4.4/30,MS4.0/10,Error ellipse: s-maj=15.7km s-min=10.6km az=143.1*
*NEIC **31** 01:46:25.6±0.4,1329N×14601E,h35km,mb4.6/8,Error ellipse: s-maj=12.6km s-min=9.7km az=79.0*

ISC 31 01:46:23.2±5.5,1331N±007×14607E±006,h16km±34km, h20km±.6km:pP-P,n58,σ§17/55,mb4.4/30,MS4.0/10,1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.20**	**284**	Pn	**Pn**	**01 46 45.5**	**+0.2**
324nm,0.3s,baz=146,slow=9.1,SNR=39							
GUMO				Sn	**Sn**	**01 47 01.2**	**-0.1**
751nm,0.3s,baz=232,slow=23,SNR=30							
GUMO	**Guam**	**1.20**	**284**	Pn	**Pn**	**01 46 45.5**	**+0.2**
GUMO				Sn	**Sn**	**01 47 01.2**	**-0.1**
JOW	**Kunigami**	**21.42**	**312**	P	**P**	**01 51 07.5**	**-2.9**
18nm,0.9s,mb4.4,baz=132,slow=15,SNR=3.2							
JOW				S	**S**	**01 55 00.6**	**-6.8**
16nm,0.8s,baz=115,slow=22,SNR=3.8							
PMG	**Port Moresby**	**22.59**	**177**	LR	LR	01 58 12.9	
comp=Z,156nm,21.6s,MS3.4,baz=350,slow=32							
PMG	**Port Moresby**	**22.59**	**177**	*eP*	**P**	**01 51 22.2**	**-0.8**
PMG				pmax	pmax		
comp=Z,18nm,1.1s							
PMG	**Port Moresby**	**22.59**	**177**	*eP*	**P**	**01 51 22.2**	**-0.7**
comp=Z,18nm,1.1s,mb4.4							
JNU	**Nakatsue**	**24.10**	**327**	P	**P**	**01 51 38.5**	**+0.4**
comp=Z,12nm,0.9s,mb4.3,baz=215,slow=12,SNR=2.4							
MJAR	**Matsushiro Arr**	**24.18**	**344**	P	**P**	**01 51 38.9**	**+0.1**
comp=Z,2.8nm,0.7s,mb3.8,baz=165,slow=11,SNR=6.6							
MJAR				LR	LR	02 00 09.5	
comp=Z,391nm,19.3s,MS3.9,baz=150,slow=34							
HNR	**Honiara**	**26.46**	**148**	LR	LR	02 01 32.3	
comp=Z,171nm,19.3s,MS3.6,baz=359,slow=34							
KSRS	**Korea Array**	**28.99**	**329**	P	**P**	**01 52 21.1**	**-1.0**
comp=Z,3.0nm,0.6s,mb4.2,baz=142,slow=9.3,SNR=8.6							
WB2	**Warramunga Arr**	**35.00**	**199**	*eP*	**P**	**01 53 15.2**	**+0.4**
WRA	**Warramunga Arr**	**35.00**	**199**	P	**P**	**01 53 15.0**	**+0.2**
comp=Z,5.8nm,0.9s,mb4.5,baz=21,slow=9.4,SNR=23							
WRA				PcP	PcP	01 55 48.2	+1.4
comp=Z,1.1nm,0.7s,baz=19,slow=3.6,SNR=6.0							
ASAR	**Alice Springs**	**38.63**	**198**	P	**P**	**01 53 46.1**	**+0.5**
comp=Z,1.9nm,1.0s,mb3.8,baz=15,slow=9.5,SNR=13							
ASAR				PP	PP	01 55 16.2	+2.1
comp=Z,2.0nm,1.0s,baz=22,slow=9.4,SNR=4.1							
STKA	**Stephens Creek**	**45.13**	**185**	*eP*	**P**	**01 54 45.0**	**+6.1**
comp=Z,2.0nm,0.5s,mb4.2							
STKA	**Stephens Creek**	**45.13**	**185**	P	**P**	**01 54 38.3**	**-0.6**
comp=Z,1.0nm,0.5s,mb3.9,baz=142,slow=23,SNR=2.6							
STKA				LR	LR	02 14 06.1	
comp=Z,101nm,18.4s,MS3.8,baz=24,slow=37							
KULM	**Kulim**	**45.46**	**264**	*eP*	**P**	**01 54 41.7**	**+0.2**
ULN	**Ulaanbaatar**	**47.28**	**325**	*eP*	**P**	**01 54 58.3**	**+2.5**
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
ULN	**Ulaanbaatar**	**47.28**	**325**	*eP*	**P**	**01 54 58.3**	**+2.5**
comp=Z,2.1nm,0.6s,mb4.2							
SONM	**Songino Array**	**47.63**	**324**	P	**P**	**01 54 58.2**	**-0.3**
comp=Z,1.4nm,0.6s,mb4.2,baz=139,slow=7.1,SNR=10							
GTA	**Gaotai**	**48.23**	**311**	*eP*	**P**	**01 55 05.5**	**+2.4**
GTA				AP	pP	01 55 10.8	+2.6
GTA				XP	sP	01 55 14.0	+3.9
GTA				AMB	AMB		
comp=Z,4.0nm,1.0s,mb4.4							
YAK	**Yakutsk**	**50.05**	**350**	*eP*	**P**	**01 55 20.2**	**+3.1**
YAK				pmax	pmax		
comp=Z,13nm,0.9s,mb5.0							
YAK				pmax	pmax		
comp=N,4.0nm,1.1s							
YAK				pmax	pmax		
comp=E,4.0nm,1.1s							
BOD	**Bodaibo**	**50.60**	**338**	*eP*	**P**	**01 55 24.4**	**+3.2**
BOD				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
ZAK	**Zakamensk**	**50.72**	**326**	*eP*	**P**	**01 55 13.5**	**-8.6**
ZAK				*e*		01 56 42.1	
ZAK				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.0							
LSA	**Lhasa**	**53.16**	**297**	P	**P**	**01 55 41.5**	**+1.2**
LSA	**Lhasa**	**53.16**	**297**	*eP*	**P**	**01 55 41.4**	**+1.1**
LSA				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.7							
LSA	**Lhasa**	**53.16**	**297**	*eP*	**P**	**01 55 41.4**	**+1.1**
comp=Z,7.9nm,0.8s,mb4.7							
BILL	**Bilibino**	**56.25**	**9⇓**	*eP*	**P**	**01 56 02.1**	**-0.6**
BILL				*e*	pP	01 56 08.2	+0.4
BILL				pmax	pmax		
comp=Z,19nm,1.6s,mb4.9							
TIXI	**Tiksi**	**59.23**	**354**	*eP*	**P**	**01 56 24.8**	**+1.1**
TIXI				*e*	pP	01 56 30.5	+1.7
TIXI				pmax	pmax		
comp=Z,20nm,1.0s,mb5.1							
TIXI	**Tiksi**	**59.23**	**354**	*eP*	**P**	**01 56 26.0**	**+2.3**
comp=Z,3.6nm,0.9s,mb4.4							
MK31	**Makanchi Array**	**62.50**	**316**	*eP*	**P**	**01 56 45.0**	**-0.9**
MKAR	**Makanchi Array**	**62.50**	**316**	P	**P**	**01 56 45.2**	**-0.7**
comp=Z,0.9nm,0.6s,mb4.1,baz=91,slow=8.0,SNR=15							
MKAR	**Makanchi Array**	**62.50**	**316**	P	**P**	**01 56 45.2**	**-0.7**
ZAL	**Zalesovo**	**62.54**	**324**	P	**P**	**01 56 47.0**	**+0.8**
comp=Z,0.8nm,0.4s,mb4.2,baz=53,slow=7.0,SNR=4.4							
ZAL				LR	LR	02 24 42.6	
comp=Z,94nm,18.6s,MS4.0,baz=126,slow=37							
ZAL	**Zalesovo**	**62.54**	**324**	P	**P**	**01 56 47.0**	**+0.8**
ZAL				LR	LR	02 24 42.6	
NVS	**Novosibirsk**	**63.66**	**325**	*eP*	**P**	**01 56 52.7**	**-0.9**
NVS				pmax	pmax		
comp=N,5.0nm,1.4s							
NVS				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.7							
NVS				pmax	pmax		
comp=E,6.0nm,1.2s							
KURK	**Kurchatov**	**65.55**	**320**	*eP*	**P**	**01 57 04.4**	**-1.6**
KURK				pmax	pmax		
comp=Z,12nm,1.1s,mb4.8							
KURK	**Kurchatov**	**65.55**	**320**	*eP*	**P**	**01 57 04.4**	**-1.6**
comp=Z,12nm,1.1s,mb4.8							
PPT	**Papeete**	**70.53**	**114**	LR	LR	02 22 21.3	
comp=Z,139nm,20.4s,MS4.2,baz=254,slow=31							
BRVK	**Borovoye**	**70.93**	**322**	*eP*	**P**	**01 57 37.7**	**-2.0**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
BRVK	**Borovoye**	**70.93**	**322**	*eP*	**P**	**01 57 37.7**	**-2.0**
comp=Z,3.1nm,0.7s,mb4.3							
DAWY	**Dawson**	**71.36**	**27**	*eP*	**P**	**01 57 41.7**	**-0.7**
KBL	**Kabul**	**71.97**	**302**	*eP*	**P**	**01 57 45.4**	**-0.5**
INK	**Inuvik**	**74.18**	**22**	P	**P**	**01 57 57.7**	**-1.4**
comp=Z,3.4nm,1.0s,mb4.2,baz=275,slow=5.5,SNR=6.3							
INK	**Inuvik**	**74.18**	**22**	P	**P**	**01 57 57.7**	**-1.4**
ARU	**Arti**	**77.66**	**325**	*eP*	**P**	**01 58 20.5**	**+1.6**
YBH	**Yreka Blue Hor**	**82.17**	**49**	LR	LR	02 28 31.8	
comp=Z,139nm,21.9s,MS4.3,baz=330,slow=31							
YKA	**Yellowknife Ar**	**82.57**	**28**	P	**P**	**01 58 44.1**	**-1.2**
comp=Z,1.7nm,0.7s,mb4.2,baz=288,slow=5.0,SNR=14							
YKA				LR	LR	02 33 43.0	
comp=Z,84nm,19.2s,MS4.1,baz=180,slow=34							
BMO	**Blue Mountains**	**85.36**	**45**	*eP*	**P**	**01 58 59.9**	**+0.3**
BMO				pmax	pmax		
comp=Z,14nm,1.6s,mb4.8							
BMO	**Blue Mountains**	**85.36**	**45**	*eP*	**P**	**01 58 59.9**	**+0.2**
comp=Z,14nm,1.6s,mb4.8							
NVAR	**Mina Array Bea**	**86.18**	**52**	P	**P**	**01 59 04.8**	**+1.1**
comp=Z,1.0nm,0.6s,mb4.2,baz=270,slow=5.8,SNR=8.1							
ARCES	**ARCESS Array B**	**87.70**	**342**	P	**P**	**01 59 11.8**	**+0.7**
comp=Z,1.9nm,0.7s,mb4.4,baz=40,slow=8.6,SNR=4.2							
ARCES				LR	LR	02 43 13.8	
comp=Z,113nm,19.1s,MS4.3,baz=132,slow=39							
QLMT	**Earthquake Lak**	**89.38**	**44**	*eP*	**P**	**01 59 20.5**	**+1.5**
DUG	**Dugway**	**89.81**	**49**	*eP*	**P**	**01 59 21.1**	**0.0**
DUG				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.7							
DUG	**Dugway**	**89.81**	**49**	*eP*	**P**	**01 59 21.1**	**0.0**
comp=Z,4.0nm,1.0s,mb4.7							
VNDA	**Vanda**	**91.12**	**177**	LR	LR	02 37 40.7	
comp=Z,106nm,19.9s,MS4.3,baz=36,slow=34							
PDAR	**Pinedale Array**	**91.33**	**46**	P	**P**	**01 59 27.9**	**-0.2**
comp=Z,0.7nm,0.8s,mb4.0,baz=255,slow=2.8,SNR=5.0							
FINES	**FINESS Array B**	**91.90**	**335**	P	**P**	**01 59 28.9**	**-1.9**
comp=Z,2.5nm,0.9s,mb4.6,baz=64,slow=4.4,SNR=11							
LPAZ	**La Paz**	**146.83**	**99**	*e*PKP2	PKPab	02 06 05.7	-0.2

MAN 31 02:02:36.0,945N×12569E,h18km,mb2.1,ML3.8,MS3.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.39**	**329⇑**	*e*P	Pg	02 02 44.8	+0.8
SCPH				*e*S	Sg	02 02 54.7	+5.2

*ISCJB **31** 02:27:21.3±0.5,4087N±003×2164E±003,h12km±9km, Error ellipse: s-maj=5.5km s-min=4.1km az=147.2*
*SKO **31** 02:27:22.0,4088N×2162E,h10km,M1.9,ML2.3*
*CSEM **31** 02:27:22.3±0.1,4093N×2160E,h5km,ML2.4,Error ellipse: s-maj=1.5km s-min=1.1km az=178.0*
*THE **31** 02:27:22.4,4090N×2163E,h2km,ML2.4*
*NEIC **31** 02:27:22.4,4090N×2163E,h2km,ML2.7(THE),After THE.*

ISC 31 02:27:21.7±0.6,4086N±003×2162E±003,h16km±8km,n29, σ0§57/50,2C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.20**	**249**	*e*Pg	**Pg**	**02 27 26.6**	**+0.2**
FNA				*e*Sg	**Sg**	**02 27 29.6**	**0.0**
FNA	**Florina**	**0.20**	**249**	*e*Pg	**Pg**	**02 27 26.5**	**+0.1**
FNA				*e*Sg	**Sg**	**02 27 29.6**	**0.0**
BIA	**Bitola**	**0.28**	**306**	*e*Pg	**Pg**	**02 27 27.3**	**-0.4**
BIA				*e*Sg	**Sg**	**02 27 31.6**	**-0.1**
BIA	**Bitola**	**0.28**	**306**	*i* Pg	**Pg**	**02 27 27.2**	**-0.4**
BIA				*i* Sg	**Sg**	**02 27 31.5**	**-0.2**
BIA				*e*Lg		02 27 31.7	
comp=N,738nm,0.3s							
BIA				*e*Lg		02 27 31.8	
comp=E,789nm,0.3s							
BIA	**Bitola**	**0.28**	**306**	*i* Pg	**Pg**	**02 27 27.2**	**-0.5**
BIA				*i* Sg	**Sg**	**02 27 31.5**	**-0.2**
KRUS	**Krusevo**	**0.58**	**331⇑**	*i*Pg	**Pg**	**02 27 33.6**	**+0.5**
KRUS				*i* Sg	**Sg**	**02 27 40.8**	**-0.2**
KRUS	**Krusevo**	**0.58**	**331⇑**	*i*Pg	**Pg**	**02 27 33.6**	**+0.5**
KRUS				*i* Sg	**Sg**	**02 27 40.8**	**-0.2**
GRG	**Griva**	**0.60**	**80**	*e*Pg	**Pg**	**02 27 33.9**	**+0.4**
OHR	**Ohrid**	**0.67**	**292**	*e*Sg	**Sg**	**02 27 44.1**	**+0.3**
OHR				*e*Sg	**Sg**	**02 27 49.2**	**+5.4**
OHR	**Ohrid**	**0.67**	**292**	*i* Pg	**Pg**	**02 27 34.2**	**-0.6**
OHR				*i* Sg	**Sg**	**02 27 44.4**	**+0.6**
OHR				*e*Lg		02 27 44.5	
comp=N,170nm,0.5s							
OHR				*e*Lg		02 27 44.9	
comp=E,215nm,0.5s							
OHR	**Ohrid**	**0.67**	**292**	*i* Pg	**Pg**	**02 27 34.2**	**-0.6**
OHR				*i* Sg	**Sg**	**02 27 44.4**	**+0.6**
OHR				*e*Lg		02 27 44.5	
comp=N,170nm,0.5s							
OHR				*e*Lg		02 27 44.9	
comp=E,215nm,0.5s							
VAY	**Valandovo**	**0.85**	**57**	*i* Pg	**Pg**	**02 27 37.9**	**-0.3**
VAY				*i* Sg	**Sg**	**02 27 49.0**	**-0.5**
VAY				*e*Lg		02 27 49.2	
comp=N,95nm,0.7s							
VAY				*e*Lg		02 27 49.2	
comp=E,56nm,0.3s							
VAY	**Valandovo**	**0.85**	**57**	*i* Pg	**Pg**	**02 27 37.9**	**-0.3**
VAY				*i* Sg	**Sg**	**02 27 48.9**	**-0.6**
STIP	**Stip**	**0.94**	**27**	*i* Pg	**Pg**	**02 27 40.3**	**+0.4**
STIP				*i* Sg	**Sg**	**02 27 53.4**	**+1.3**
STIP				*e*Lg		02 27 54.3	
comp=E,8.4nm,0.2s							
STIP				*e*Lg		02 27 54.7	
comp=N,8.1nm,0.2s							
STIP	**Stip**	**0.94**	**27**	*i* Pg	**Pg**	**02 27 40.3**	**+0.4**
STIP				*i* Sg	**Sg**	**02 27 53.4**	**+1.3**
STIP				*e*Lg		02 27 54.3	
comp=E,8.4nm,0.2s							
STIP				*e*Lg		02 27 54.7	
comp=N,8.1nm,0.2s							
STIP	**Stip**	**0.94**	**27**	*i* Pg	**Pg**	**02 27 40.2**	**+0.4**
STIP				*i* Sg	**Sg**	**02 27 53.4**	**+1.2**
LIT	**Litokhoron**	**1.00**	**139**	*e*Pg	**Pg**	**02 27 42.0**	**+0.9**
KNT	**Kendrikon**	**1.01**	**72**	*e*Pg	**Pg**	**02 27 41.3**	**0.0**
KNT				*e*Sg	**Sg**	**02 27 54.7**	**+0.2**
SKO	**Skopje**	**1.12**	**353**	*e*Pg	**Pg**	**02 27 42.7**	**-0.6**
SKO	**Skopje**	**1.12**	**353**	*i* Pg	**Pg**	**02 27 43.5**	**+0.2**
SKO				*i* Sg	**Sg**	**02 27 57.9**	**-0.2**
SKO				*e*Lg		02 27 58.8	
comp=E,28nm,0.4s							
SKO				*e*Lg		02 27 59.9	
comp=N,37nm,0.4s							
SKO	**Skopje**	**1.12**	**353**	*i* Pg	**Pg**	**02 27 43.5**	**+0.2**
SKO				*i* Sg	**Sg**	**02 27 57.9**	**-0.2**
SKO				*e*Lg		02 27 58.8	
comp=E,28nm,0.4s							
SKO				*e*Lg		02 27 59.9	
comp=N,37nm,0.4s							
SKO	**Skopje**	**1.12**	**353**	*e*Pg	**Pg**	**02 27 42.7**	**-0.6**
SKO				*i* Sg	**Sg**	**02 27 57.8**	**-0.2**
SOH	**Sokhos**	**1.31**	**91**	*e*Pg	**Pg**	**02 27 46.6**	**-0.3**
SRS	**Serrai**	**1.51**	**79**	*e*Pg	**Pg**	**02 27 49.2**	**-1.6**
IGT	**Igoumenitsa**	**1.65**	**217**	*e*Pb	**Pb**	**02 27 51.9**	**+0.1**
IGT	**Igoumenitsa**	**1.65**	**217**	*e*Pb	**Pb**	**02 27 51.8**	**+0.1**
AGG	**Agios Georgios**	**1.91**	**163**	*e*Pb	**Pb**	**02 27 56.2**	**0.0**

IDC 31 02:34:39.6±3.1,5168N×17336W,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.6/24,mbtmp3.6/5,Error ellipse: s-maj=77.4km s-min=29.4km az=2.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**25.29**	**34**	P	P	02 40 06.9	-0.8
1.1nm,0.5s,baz=244,slow=6.2,SNR=24							
YKA	**Yellowknife Ar**	**32.54**	**48**	P	P	02 41 12.2	-0.1
0.2nm,0.5s,baz=274,slow=9.0,SNR=11							
PDAR	**Pinedale Array**	**42.96**	**76**	P	P	02 42 40.7	+0.3
0.5nm,0.7s,baz=291,slow=3.4,SNR=4.6							
ARCES	**ARCESS Array B**	**58.31**	**352**	P	P	02 44 35.2	-1.0
1.5nm,0.7s,baz=11,slow=7.5,SNR=6.1							
MKAR	**Makanchi Array**	**62.45**	**311**	P	P	02 45 04.3	-0.2
0.1nm,0.3s,baz=49,slow=5.5,SNR=8.7							

*NEIC **31** 02:55:37.9±4.2,2179N×14306E,h184km±36km,mb4.1/1, Error ellipse: s-maj=33.6km s-min=12.8km az=75.0*
*ISCJB **31** 02:55:38.3±5.0,218N±01×1430E±03,h202km±42km, mb3.5/8,Error ellipse: s-maj=48.8km s-min=19.3km az=151.5*
*IDC **31** 02:55:39.6±6.4,2178N×14297E,h200km±61km,mb3.3/8, mb1 3.5/9,mb1mx3.4/21,mbtmp3.3/9,Error ellipse: s-maj=37.0km s-min=13.8km az=82.0*

ISC 31 02:55:37.9±5.3,218N±01×1431E±03,h183km±46km,n13, σ0§56/13,mb3.6/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.41**	**293**	P	**Pn**	**02 58 53.5**	**0.0**
2.0nm,0.3s,baz=105,slow=20,SNR=4.6							
KSRS	**Korea Array**	**20.39**	**323**	P	**P**	**03 00 01.2**	**+0.7**
2.3nm,0.7s,baz=144,slow=7.8,SNR=9.3							
SONM	**Songino Array**	**39.21**	**320**	P	**P**	**03 02 47.0**	**-1.2**
1.0nm,0.5s,mb3.7,baz=131,slow=7.5,SNR=13							
WRA	**Warramunga Arr**	**42.36**	**192**	P	**P**	**03 03 14.2**	**+0.2**
1.1nm,0.8s,mb3.5,baz=16,slow=9.1,SNR=7.3							
ASAR	**Alice Springs**	**46.07**	**192**	P	**P**	**03 03 43.0**	**-0.4**
0.7nm,0.6s,mb3.5,baz=16,slow=10.0,SNR=18							
ZAL	**Zalesovo**	**54.09**	**322**	P	**P**	**03 04 43.2**	**-0.5**
1.7nm,1.0s,mb3.7,baz=0.0,slow=5.3,SNR=6.5							
ZAL	**Zalesovo**	**54.09**	**322**	P	**P**	**03 04 43.2**	**-0.5**
MK31	**Makanchi Array**	**54.57**	**313**	*eP*	**P**	**03 04 47.0**	**-0.2**
MKAR	**Makanchi Array**	**54.57**	**313**	P	**P**	**03 04 46.9**	**-0.3**
0.5nm,0.6s,mb3.4,baz=90,slow=9.1,SNR=7.0							
BRVK	**Borovoye**	**62.61**	**319**	*eP*	**P**	**03 05 42.7**	**0.0**
1.2nm,0.4s,mb4.1							
KBL	**Kabul**	**65.22**	**299**	*eP*	**P**	**03 06 00.7**	**+1.0**
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**03 07 07.2**	**+0.1**
0.6nm,0.5s,mb3.5,baz=293,slow=5.9,SNR=15							
BRTR	**Keskin Array B**	**90.22**	**313**	P	**P**	**03 08 18.1**	**+0.5**
0.6nm,0.8s,mb3.6,baz=66,slow=7.5,SNR=3.9							

*ISCJB **31** 03:05:39.6±0.4,5144N±002×665E±004,h0km,Error ellipse: s-maj=4.0km s-min=2.5km az=100.7*
*NEIC **31** 03:05:41.7,5156N×661E,h1km,ML2.8(LDG),After LDG.*
*BNS **31** 03:05:41.0±0.8,5160N×661E,h1km,ML2.4*
*LDG **31** 03:05:41.7±0.2,5156N×661E,h1km,Ml2.8/14,Error ellipse: s-maj=2.9km s-min=2.1km az=13.0,Suspected Mining induced.*
*CSEM **31** 03:05

GIVF *e*Sg **Sg** **03 06 40.1 +1.5**
GIVF Givet 1.80 219 *e*Pg **Pg** **03 06 15.9 +0.7**
GIVF *e*Sg **Sg** **03 06 40.1 +1.5**
comp=E,14nm,0.3s
WLF Walferdange 1.87 189 *e*Pn **Pn** **03 06 17.3 +3.4**
SNR=4.7
WLF *e*Sg **Sg** **03 06 40.6 -0.1**
WLF Walferdange 1.87 189 P **Pn** **03 06 17.0 +3.2**
WLF S **Sn** **03 06 41.5 +3.4**
comp=N,19nm,0.5s
DOU Dourbes 1.90 223 ⇊P **Pn** **03 06 14.7 +0.4**
DOU S **Sn** **03 06 39.7 +0.8**
comp=N,14nm,0.3s
BAIF Baives 2.10 227 *e*Pg **Pg** **03 06 20.8 -0.1**
BAIF *e*Sg **Sg** **03 06 48.8 +0.7**
comp=N,7.6nm,0.3s
BAIF Baives 2.10 227 *e*Pn **Pn** **03 06 16.3 -0.7**
BAIF *e*Pg **Pg** **03 06 20.8 -0.1**
BAIF *e*Sg **Sg** **03 06 48.8 +0.7**
BAIF Baives 2.10 227 *e*Pg **Pg** **03 06 20.8 -0.1**
BAIF *e*Sg **Sg** **03 06 48.8 +0.7**
comp=N,3.8nm,0.3s
GTTG Gvttingen 2.11 88 *e*Sg **Sg** **03 06 47.7 -0.6**
CLZ Clausthal 2.38 80 *e*Sg **Sg** **03 06 55.8 -1.2**
CDF Champ du Feu 3.13 172 *e*Pn **Pn** **03 06 31.0 -0.2**
CDF *e*Sg **Sg** **03 07 21.4 +0.1**
comp=N,8.8nm,0.5s
CDF Champ du Feu 3.13 172 *e*Pn **Pn** **03 06 31.0 -0.2**
CDF *e*Sg **Sg** **03 07 21.4 +0.1**
comp=N,4.4nm,0.5s
MEZF Maizieres J'vi 3.17 199 *e*Pn **Pn** **03 06 31.5 -0.3**
baz=15
MEZF *e*Sg **Sg** **03 07 22.9 +0.4**
comp=N,6.6nm,0.3s
MEZF Maizieres J'vi 3.17 199 *e*Pn **Pn** **03 06 31.5 -0.3**
MEZF *e*Sg **Sg** **03 07 22.9 +0.4**
comp=N,3.3nm,0.3s
NEUB Neuenburg 3.26 93 *e*Sg **Sg** **03 07 25.3 -0.1**
MOX Moxa 3.28 103 *e*Sg **Sg** **03 07 24.3 -1.8**
SFTF Sexfontaines 3.46 198 *e*Pn **Pn** **03 06 35.8 +0.1**
SFTF *e*Sg **Sg** **03 07 31.2 -0.5**
comp=N,5.4nm,0.3s
SFTF Sexfontaines 3.46 198 *e*Pn **Pn** **03 06 35.8 +0.1**
SFTF *e*Sg **Sg** **03 07 31.2 -0.5**
comp=N,2.7nm,0.3s
HAU Haudompre 3.51 183 *e*Pg **Pg** **03 06 47.8 -0.1**
HAU *e*Sg **Sg** **03 07 33.6 +0.1**
comp=N,6.6nm,0.3s
HAU Haudompre 3.51 183 *e*Pg **Pg** **03 06 47.8 -0.1**
HAU *e*Sg **Sg** **03 07 33.6 +0.1**
comp=N,3.3nm,0.3s
HINF Hinteralfeld 3.70 177 *e*Pn **Pn** **03 06 38.6 -0.4**
HINF *e*Pg **Pg** **03 06 50.9 -0.7**
HINF *e*Sn **Sn** **03 07 20.9 -2.5**
HINF *e*Sg **Sg** **03 07 39.7 +0.2**
LOR Lormes 4.61 204 *e*Pn **Pn** **03 06 51.0 -0.5**
baz=37
LOR Lormes 4.61 204 *e*Pg **Pg** **03 07 07.8 -1.1**
baz=25
LOR *e*Sn **Sn** **03 07 42.4 -3.3**
LOR *e*Sg **Sg** **03 08 07.5 -1.1**
comp=N,5.7nm,0.4s
LOR Lormes 4.61 204 *e*Pn **Pn** **03 06 51.0 -0.5**
LOR *e*Pg **Pg** **03 07 07.8 -1.1**
LOR *e*Sn **Sn** **03 07 42.4 -3.3**
LOR *e*Sg **Sg** **03 08 07.5 -1.1**
LOR Lormes 4.61 204 *e*Pg **Pg** **03 07 07.8 -1.1**
LOR *e*Sn **Sn** **03 07 42.4 -3.3**
LOR *e*Sg **Sg** **03 08 07.5 -1.1**
comp=N,2.8nm,0.4s
SSF Saint Saulge 4.89 206 *e*Pn **Pn** **03 06 55.2 -0.2**
SSF *e*Sn **Sn** **03 07 49.4 -3.3**
SSF *e*Sg **Sg** **03 08 16.3 -1.4**
comp=N,3.6nm,0.4s
SSF Saint Saulge 4.89 206 *e*Pn **Pn** **03 06 55.2 -0.2**
SSF *e*Sn **Sn** **03 07 49.4 -3.3**
SSF *e*Sg **Sg** **03 08 16.3 -1.4**
comp=N,1.8nm,0.4s
CABF La Chapelle 4.91 184 *e*Pn **Pn** **03 06 55.9 +0.2**
CABF *e*Sg **Sg** **03 08 17.6 -0.9**
comp=N,0.9nm,0.4s
CABF La Chapelle 4.91 184 *e*Pn **Pn** **03 06 55.9 +0.2**
CABF *e*Sg **Sg** **03 08 17.6 -0.9**
comp=N,0.4nm,0.4s
AVF Avril sur Loir 5.18 205 *e*Pn **Pn** **03 06 59.4 0.0**
AVF *e*Sn **Sn** **03 07 55.8 -4.0**
AVF *e*Sg **Sg** **03 08 25.7 -1.3**
comp=N,1.2nm,0.4s
AVF Avril sur Loir 5.18 205 *e*Pn **Pn** **03 06 59.4 0.0**
AVF *e*Sn **Sn** **03 07 55.8 -4.0**
AVF *e*Sg **Sg** **03 08 25.7 -1.3**
comp=N,0.6nm,0.4s
SMF Signal de Mont 5.19 201 *e*Pn **Pn** **03 06 59.2 -0.4**
SMF *e*Sn **Sn** **03 07 56.4 -3.8**
SMF *e*Sg **Sg** **03 08 25.5 -2.0**
comp=N,3.1nm,0.4s
SMF Signal de Mont 5.19 201 *e*Pn **Pn** **03 06 59.2 -0.4**
SMF *e*Sn **Sn** **03 07 56.4 -3.8**
SMF *e*Sg **Sg** **03 08 25.5 -2.0**
comp=N,1.5nm,0.4s
LDF La Druitiere 5.22 239 *e*Pn **Pn** **03 06 59.3 -0.6**
LDF *e*Sn **Sn** **03 07 56.1 -4.7**
FLN La Foliniere 5.32 242 *e*Pn **Pn** **03 07 00.7 -0.6**
baz=58
FLN *e*Sn **Sn** **03 07 59.2 -4.0**
BGF Bois d'Agland 5.53 208 *e*Pn **Pn** **03 07 04.1 -0.2**
BGF *e*Sg **Sg** **03 08 37.8 -0.6**
comp=N,11nm,0.4s
BGF Bois d'Agland 5.53 208 *e*Pn **Pn** **03 07 04.1 -0.2**
BGF *e*Sg **Sg** **03 08 37.8 -0.6**
comp=N,5.3nm,0.4s
GRR Gorron 5.74 240 *e*Pn **Pn** **03 07 05.3 -1.7**
GRR *e*Sn **Sn** **03 08 08.7 -4.8**
TCF Toulx Ste Croi 5.97 211 *e*Pn **Pn** **03 07 09.6 -0.6**
LPL La Plagne 6.00 179 *e*Pn **Pn** **03 07 11.1 +0.5**
LPG La Plagne 6.02 179 *e*Pn **Pn** **03 07 10.6 -0.3**
MFF Saint Martin d 6.61 225 *e*Pn **Pn** **03 07 18.4 -0.6**
MFF *e*Sn **Sn** **03 08 29.5 -5.6**
CAF Calviac 7.25 206 *e*Pn **Pn** **03 07 27.1 -0.7**

NIED ***31*** *03:15:00, 3250N×12980E, h8km, Mw3.7 Best double couple: M0 3.65000×10^14 NP1:*ϕ_s*280.00000°,* δ*71.00000°, λ-67.00000°. NP2:*ϕ_s*47.00000°,* δ*30.00000°, λ-139.00000°.*
IDC ***31*** *03:15:21.7±1.3, 3252N×12979E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.2/23, mbtmp3.3/4, ML3.1/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/24, Error ellipse: s-maj=19.1km s-min=11.9km az=129.0*
ISCJB ***31*** *03:15:22.9±0.6, 3253N*$_{\pm}$*003×12981E*$_{\pm}$*004, h19km*$_{\pm}$*4km, mb3.4/2, MS3.6/1, Error ellipse: s-maj=6.0km s-min=5.2km az=153.9*
JMA ***31*** *03:15:23.2, 3253N×12982E, h13km*$_{\pm}$*1km, M3.7 Broadband fault plane solution: P waves. NP1:*ϕ_s*49.00000°,* δ*40.00000°, λ-144.00000°. NP2:*ϕ_s*289.00000°,* δ*68.00000°, λ-56.00000°. Principal axes: T Plg16.0000°, Azm355.0000°; N Plg31.0000°, Azm95.0000°; P Plg54.0000°, Azm242.0000°;*
JMA Felt I J1.

ISC 31 03:15:23.2±0.6,**3251N**±003×**12982E**±004,**h7**km±4km,**n14,**
σ0°**69**/23,**mb3.4**/2,**MS3.6**/1,**4C-4D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGSJ	**Nagasakinomoza**	**0.12**	**352**	⇊P	**Pg**	**03 15 26.3**	**+0.5**
NGSJ				S	**Sg**	**03 15 28.3**	**+0.7**
JHD	**Hondo**	**0.27**	**100**	⇊P	**Pg**	**03 15 28.9**	**+0.3**
JHD				S	**Sg**	**03 15 32.7**	**+0.5**
JUR	**Ureshino**	**0.59**	**11**	⇑P	**Pg**	**03 15 34.2**	**-0.4**
JUR				S	**Sg**	**03 15 42.4**	**+0.2**
JTA	**Tamana**	**0.75**	**53**	⇑P	**Pg**	**03 15 37.0**	**-0.7**
JTA				S	**Sg**	**03 15 47.0**	**-0.4**
JZO	**Okuchi**	**0.76**	**119**	⇑P	**Pg**	**03 15 37.7**	**-0.1**
JZO				S	**Sg**	**03 15 47.6**	**-0.1**
JSJ	**Shimokoshiki**	**0.84**	**186**	⇑P	**Pg**	**03 15 38.7**	**-0.6**
JSJ				S	**Sg**	**03 15 51.2**	**+1.0**
JIU2	**Izumi 2**	**0.84**	**88**	⇊P	**Pg**	**03 15 38.4**	**-1.0**
JIU2				S	**Sg**	**03 15 49.9**	**-0.4**
JFU	**Fukue jima 2**	**0.91**	**279**	⇊P	**Pg**	**03 15 40.7**	**-0.1**
JNU	**Nakatsue**	**1.08**	**56**	Pg	**Pg**	**03 15 43.5**	**-0.5**
	329nm,0.3s,baz=281,slow=27,SNR=791						
JNU				Lg		03 15 56.5	
	436nm,0.3s,baz=212,slow=19,SNR=19						
KSRS	**Korea Array**	**5.17**	**343**	Pn	**Pn**	**03 16 41.0**	**0.0**
	baz=173,slow=14,SNR=19						
KSRS				Pg	**Pg**	**03 16 57.3**	**-5.0**
	baz=167,slow=16,SNR=15						
KSRS				Sn	**Sn**	**03 17 40.0**	**-0.7**
	baz=54,slow=40,SNR=2.9						
KSRS				Lg		03 18 03.7	
	baz=167,slow=29,SNR=9.6						
MJAR	**Matsushiro Arr**	**8.00**	**58**	Pn	**Pn**	**03 17 21.7**	**+1.8**
	0.1nm,0.3s,baz=244,slow=15,SNR=3.3						
MJAR				Sn	**Sn**	**03 18 51.9**	**+1.3**
	0.2nm,0.3s,baz=229,slow=26,SNR=3.1						
HNR	**Honiara**	**50.66**	**140**	LR	LR	03 41 25.0	
	comp=Z,59nm,20.1s,MS3.6,baz=181,slow=31						
WRA	**Warramunga Arr**	**52.34**	**175**	P	**P**	**03 24 34.8**	**-0.8**
	0.2nm,0.5s,mb3.3,baz=355,slow=8.1,SNR=3.0						
ASAR	**Alice Springs**	**56.00**	**175**	P	**P**	**03 25 02.1**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=5.4,slow=14,SNR=8.7						

NEIC ***31*** *03:31:35.6±4.2, 7395×12788E, h76km±45km, Error ellipse: s-maj=53.7km s-min=20.5km az=49.0*
IDC ***31*** *03:31:38.2±7.9, 7555×12767E, h102km±82km, mb3.3/3, mb1 3.7/6, mb1mx3.5/15, mbtmp3.5/6, ML4.1/3, MS3.3/1, Ms1 3.2/1, ms1mx2.6/11, Error ellipse: s-maj=109.3km s-min=26.8km az=58.0*
ISCJB ***31*** *03:31:45.9±3.3, 80S±0.1×1278E±0.1, h221km±39km, mb3.3/3, Error ellipse: s-maj=29.0km s-min=16.6km az=93.7*

ISC 31 03:31:44.0±2.2,**79S**±01×**1276E**±02,**h172**km±23km,**n7,**
σ0°**97**/11,**mb3.4**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.28**	**190**	P	**Pn**	**03 34 08.2**	**+1.0**
	0.6nm,0.3s,baz=39,slow=14,SNR=11						
FITZ				S	**Sn**	**03 36 00.8**	**-0.6**
	1.7nm,0.3s,baz=142,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**13.62**	**152**	P	**Pn**	**03 34 49.3**	**-0.9**
	1.0nm,0.3s,baz=320,slow=15,SNR=32						
WRA				S	**Sn**	**03 37 14.5**	**-7.0**
	2.6nm,0.3s,baz=330,slow=23,SNR=13						
WB2	**Warramunga Arr**	**13.62**	**152**	*e*Pn	**Pn**	**03 34 50.0**	**-0.3**
WB2				*e*P		03 34 56.9	
WB2				*e*Sn	**Sn**	**03 37 14.0**	**-7.6**
ASAR	**Alice Springs**	**16.78**	**159**	P	**Pn**	**03 35 32.2**	**+3.2**
	1.5nm,0.3s,baz=339,slow=11,SNR=137						
ASAR				S	**S**	**03 38 34.5**	**-0.1**
	0.7nm,0.3s,baz=320,slow=15,SNR=11						
STKA	**Stephens Creek**	**27.17**	**153**	P	**P**	**03 37 14.7**	**+3.4**
	1.0nm,0.5s,mb3.7,baz=338,slow=12,SNR=3.9						
STKA				LR	LR	03 48 26.7	
	comp=Z,72nm,21.4s,baz=87,slow=37						
SONM	**Songino Array**	**58.60**	**343**	P	**P**	**03 41 22.6**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=168,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	**67.71**	**328**	P	**P**	**03 42 22.4**	**-0.3**
	0.2nm,0.5s,mb3.1,baz=123,slow=8.2,SNR=6.5						

LDG ***31*** *03:33:36.1±0.2, 4182N×300E, h10km, Ml1.8/4, Error ellipse: s-maj=3.6km s-min=2.2km az=136.0*

MDD 31 03:33:36.7±1.3,**4181N×299E,h11**km,**mbLg1.6**/6,**Error ellipse: s-maj=9.9km s-min=4.4km az=126.0,PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.42**	**263**	P	Pg	03 33 44.4	-0.5
CFON				S	Sg	03 33 50.4	0.0
	11nm,0.2s						
EJON	**La Jonquera**	**0.64**	**353**	Pg	Pg	03 33 48.5	-0.6
	2.6nm,0.2s,SNR=6.6						
EJON				Lg		03 33 57.4	
	4.4nm,0.1s,SNR=8.5						
CBRU	**Bruguera**	**0.77**	**308**	P	Pg	03 33 50.8	-0.7
CBRU				S	Sg	03 34 01.4	-0.1
	1.8nm,0.2s						
CLLI	**Livia**	**1.01**	**312**	S	Sg	03 34 08.3	-0.8
	0.9nm,0.1s						
EMIR	**Miracle**	**1.10**	**276**	Pg	Pg	03 33 56.2	-1.6
	0.3nm,0.3s,SNR=7.9						
EMIR				Lg		03 34 11.9	
	8.4nm,0.1s,SNR=9.8						
MTLF	**Montolieu**	**1.63**	**340**	*e*Pn	Pn	03 34 03.3	-2.0
MTLF	**Montolieu**	**1.63**	**340**	*e*Pg	Pg	03 34 06.5	-1.4
MTLF				*e*Sg	Sg	03 34 26.8	-2.3
	1.7nm,0.3s						
MTLF	**Montolieu**	**1.63**	**340**	Pn	Pn	03 34 03.3	-2.0
MTLF				Pg	Pg	03 34 06.5	-1.4
MTLF				Lg		03 34 26.8	
	0.9nm,0.3s						
ERTA	**Horta de San J**	**2.17**	**248**	Pg	Pg	03 34 15.7	-2.6
	0.2nm,0.2s,SNR=7.9						
ERTA				Lg		03 34 44.7	
	3.4nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**2.29**	**293**	Pg	Pg	03 34 18.1	-2.4
	0.1nm,0.3s,SNR=4.0						
EBIE				Lg		03 34 47.6	
	0.2nm,0.1s,SNR=6.2						
EPF	**Esparros**	**2.31**	**303**	*e*Pg	Pg	03 34 18.7	-2.2
EPF				*e*Sg	Sg	03 34 49.1	-1.7
	1.2nm,0.3s						
EPF	**Esparros**	**2.31**	**303**	Pg	Pg	03 34 18.7	-2.2
EPF				Lg		03 34 49.1	
	0.6nm,0.3s						
LASF	**Ste Croix**	**2.35**	**15**	*e*Sg	Sg	03 34 50.2	-2.0
	0.3nm,0.3s						
LASF	**Ste Croix**	**2.35**	**15**	Lg		03 34 50.2	
	0.2nm,0.3s						
ESAC	**San Caprasio**	**2.59**	**269**	Pg	Pg	03 34 23.8	-2.5
	0.8nm,0.3s,SNR=7.9						
ESAC				Lg		03 34 58.3	
	7.7nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**2.84**	**294**	*e*Pg	Pg	03 34 28.9	-2.3
ETSF				*e*Sg	Sg	03 35 05.9	-2.2
	0.8nm,0.2s						
ETSF	**Etsaut**	**2.84**	**294**	Pg	Pg	03 34 28.9	-2.3
ETSF				Lg		03 35 05.9	
	0.4nm,0.2s						

IDC ***31*** *04:15:01.4±1.8, 2216N×121.14E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/22, mbtmp3.4/6, Error ellipse: s-maj=141.1km s-min=19.9km az=66.0*
ISCJB ***31*** *04:15:08.4±2.0, 2198N*$_{\pm}$*009×1208E*$_{\pm}$*01, h67km±21km, mb3.3/6, Error ellipse: s-maj=18.3km s-min=15.0km az=33.5*
JMA ***31*** *04:15:08.7±0.3, 2195N×12085E, h128km, M3.4*

ISC 31 04:15:09.4±2.0,**2197N**±009×**1207E**±01,**h57**km±23km,**n12,**
σ0°**48**/18,**mb3.3**/6,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.27**	**40**	P	**Pn**	**04 15 58.4**	**+0.3**
YOJ				*e*S	**Sn**	**04 16 37.0**	**+1.3**
HATJ	**Hateruma jima**	**3.54**	**53**	P	**Pn**	**04 16 01.7**	**-0.1**
HATJ				*e*S	**Sn**	**04 16 42.0**	**-0.3**
IRIF	**Iriomote-Funau**	**3.65**	**49**	P	**Pn**	**04 16 03.2**	**-0.1**
IRIF				*e*S	**Sn**	**04 16 44.9**	**-0.2**
JKRS	**Kuro-shima**	**3.79**	**53**	P	**Pn**	**04 16 05.5**	**+0.2**
JKRS				*e*S	**Sn**	**04 16 49.2**	**+0.6**
JIJ	**Ishigaki jima**	**3.97**	**52**	P	**Pn**	**04 16 07.2**	**-0.5**
JIJ				*e*S	**Sn**	**04 16 52.0**	**-0.9**
JTJ	**Tarama**	**4.54**	**53**	P	**Pn**	**04 16 15.3**	**-0.2**
JTJ				*e*S	**Sn**	**04 17 07.1**	**+0.1**
SONM	**Songino Array**	**28.25**	**339**	P	**P**	**04 20 56.4**	**-0.6**
	0.2nm,0.6s,mb2.9,baz=151,slow=9.8,SNR=2.8						
MKAR	**Makanchi Array**	**39.64**	**318**	P	**P**	**04 22 35.6**	**0.0**
	0.2nm,0.5s,mb3.1,baz=110,slow=9.4,SNR=4.5						
FITZ	**Fitzroy Crossi**	**40.12**	**173**	P	**P**	**04 22 39.9**	**+0.4**
	2.0nm,0.9s,mb3.9,baz=349,slow=5.2,SNR=2.8						
WRA	**Warramunga Arr**	**43.74**	**161**	P	**P**	**04 23 08.7**	**-0.3**
	0.4nm,0.6s,mb3.3,baz=344,slow=9.0,SNR=3.7						
ASAR	**Alice Springs**	**47.15**	**163**	P	**P**	**04 23 36.4**	**+0.4**
	0.1nm,0.4s,mb3.1,baz=347,slow=7.3,SNR=3.9						
BVAR	**Borovoye Array**	**49.12**	**322**	P	**P**	**04 23 51.3**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=116,slow=10,SNR=3.9						

IDC 31 04:31:22.0±60.0,**1964S×17974W,h0**km,**mb3.8**/3, **mb1 4.0**/3,**mb1mx3.7**/13,**mbtmp3.8**/3,**Error ellipse: s-maj=1083.0km s-min=159.3km az=81.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.71**	**243**	P	P	04 38 30.5	-0.2
	0.6nm,0.4s,baz=90,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**43.10**	**262**	P	P	04 39 24.5	+0.6
	0.4nm,0.3s,baz=96,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**43.13**	**256**	P	P	04 39 24.5	+0.4
	1.2nm,0.5s,baz=97,slow=7.5,SNR=16						

BJI ***31*** *04:34:41.8, 5022N×8781E, h10km, mB4.9, mb4.2, ML4.2, Ms4.1, Msz3.8*
MOS ***31*** *04:34:43.5±2.6, 5015N×8803E, h12km, mb4.3/1, Error ellipse: s-maj=8.3km s-min=7.4km az=113.2*
IDC ***31*** *04:34:43.9±3.1, 5009N×8810E, h10km±18km, mb3.7/8, mb1 4.0/12, mb1mx3.8/24, mbtmp3.9/12, ML4.1/4, MS2.8/3, Ms1 2.8/3, ms1mx2.7/39, Error ellipse: s-maj=14.9km s-min=10.0km az=96.0*
ISCJB ***31*** *04:34:43.4±1.0, 5000N*$_{\pm}$*003×8780E*$_{\pm}$*006, h10km*$_{\pm}$*6km, mb3.8/10, Error ellipse: s-maj=6.6km s-min=5.2km az=53.6*
NNC ***31*** *04:34:45.9±3.1, 5018N×8764E, h0km, mb4.0, mpv4.5, Error ellipse: s-maj=25.4km s-min=16.4km az=83.0*
NEIC ***31*** *04:34:45.6±0.6, 5020N×8781E, h10km, mb4.0/2, Error ellipse: s-maj=12.6km s-min=9.8km az=178.0*

ISC 31 04:34:45.2±1.0,**5011N**±003×**8792E**±005,**h11**km±6km,**n60,**
σ1°**46**/75,**mb3.8**/10,**6C-10D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.28**	**318**	*i* PG	**Pg**	**04 34 50.4**	**-0.6**
KTNR	**Kaitanak**	**1.58**	**272**	*i* PN	**Pn**	**04 35 12.5**	**-0.6**
KTNR				*i*		04 35 32.3	
ARTR	**Artybash**	**1.74**	**347**	*e*PN	**Pn**	**04 35 16.6**	**+1.4**
ARTR				*e*		04 35 35.2	
UKR	**Ust'-Kan**	**2.17**	**294**	*e*PN	**Pn**	**04 35 24.4**	**+3.2**
UKR				*e*		04 35 53.9	
ELT	**Yel'tsovka**	**3.33**	**342**	*e*PN	**Pn**	**04 35 40.4**	**+3.3**
ELT				*e*		04 36 28.7	
CERR	**Cheremushki**	**3.51**	**37**	*e*PN	**Pn**	**04 35 42.6**	**+3.0**
CERR				*e*		04 35 50.2	
CERR				*i*		04 36 36.1	
ZAL	**Zalesovo**	**4.29**	**335**	Pn	**Pn**	**04 35 52.1**	**+1.8**
	13nm,0.3s,baz=321,slow=10,SNR=120						
ZAL				Sn	**Sn**	**04 36 43.1**	**+2.8**
	18nm,0.3s,baz=256,slow=17,SNR=6.6						
ZAL				Lg		04 37 00.3	
	56nm,0.3s,baz=194,slow=1.7,SNR=10						
ZAL	**Zalesovo**	**4.29**	**335**	PN	**Pn**	**04 35 52.2**	**+1.9**
ZAL						04 36 43.1	
MK31	**Makanchi Array**	**5.00**	**231**	⇑Pn	**Pn**	**04 36 02.3**	**+2.2**
	64nm,0.6s,baz=59,slow=12,SNR=1460						
MK31				⇊Sn	**Sn**	**04 36 60.0**	**+2.1**
	48nm,0.6s,baz=33,slow=23						
MK31				⇑Lg		04 37 20.1	
	173nm,0.6s,baz=58,slow=29						
MK31	**Makanchi Array**	**5.00**	**231**	*e*Pn	**Pn**	**04 36 02.0**	**+1.9**
MK31				*e*Sg	**Sg**	**04 37 25.3**	**-0.5**
MKAR	**Makanchi Array**	**5.00**	**231**	Pn	**Pn**	**04 36 02.2**	**+2.1**
	20nm,0.3s,baz=58,slow=12,SNR=1075						
MKAR				Sn	**Sn**	**04 37 00.2**	**+2.3**
	14nm,0.3s,baz=359,slow=16,SNR=5.2						
MKAR				Lg		04 37 23.1	
	37nm,0.3s,baz=69,slow=24,SNR=9.5						
MKAR				LR	LR	04 38 11.1	
	comp=Z,136nm,19.1s,baz=350,slow=41						
MKAR	**Makanchi Array**	**5.00**	**231**	PN	**Pn**	**04 36 02.2**	**+2.1**
MKAR						04 37 23.1	
MKAR	**Makanchi Array**	**5.00**	**231**	Pn	**Pn**	**04 36 02.2**	**+2.1**
MKAR				Sn	**Sn**	**04 37 00.2**	**+2.3**
MKAR				Lg		04 37 23.1	
MKAR				LR	LR	04 38 11.1	
NVS	**Novosibirsk**	**5.54**	**331**	*i* PN	**Pn**	**04 36 08.1**	**+0.7**
NVS				*i*		04 36 22.1	
NVS				*i*		04 37 13.5	
KURK	**Kurchatov**	**5.98**	**279**	⇊Pn	**Pn**	**04 36 14.1**	**+0.5**
	21nm,0.7s						
KURK				⇊Sn	**Sn**	**04 37 22.2**	**+0.3**
	39nm,0.8s						
KURK				⇑Lg		04 37 49.0	
	72nm,0.5s						
KURK	**Kurchatov**	**5.98**	**279**	*e*PN	**Pn**	**04 36 13.9**	**+0.4**
KURK				*e*		04 37 22.1	
KURK				*e*		04 37 50.4	
KURK				pmax	pmax		
	comp=Z,67nm,0.8s						
KURK	**Kurchatov**	**5.98**	**279**	*e*Pn	**Pn**	**04 36 13.9**	**+0.4**
	comp=Z,67nm,0.8s						
KURK				*e*Sn	**Sn**	**04 37 22.1**	**+0.1**
KURK				*e*Sg	**Sg**	**04 37 50.4**	**-6.6**
WMQ	**Urumqi**	**6.29**	**181**	P	**Pn**	**04 36 20.0**	**+2.1**
WMQ				S	**Sn**	**04 37 28.5**	**-1.2**
WMQ				SG	**Sg**	**04 37 59.3**	**-7.9**
WMQ				Smax			
	comp=N,142nm,0.7s						
WMQ				Smax			
	comp=E,168nm,0.8s						
TKM2	**Tokmak 2**	**11.12**	**234**	P	**Pn**	**04 37 25.4**	**+1.4**
	SNR=7.2						
TKM2	**Tokmak 2**	**11.12**	**234**	⇊Pn	**Pn**	**04 37 23.3**	**-0.7**
	comp=E,1.5nm,1.0s						
TKM2				⇊Lg		04 40 34.5	
	comp=E,9.5nm,1.4s						
TKM2	**Tokmak 2**	**11.12**	**234**	*i* P	**Pn**	**04 37 23.3**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BVA0	**Borovoye Array**	**11.29**	**292**	⇊Pn	**Pn**	**04 37 25.1**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=107,slow=12,SNR=31						
BVA0				⇑Sn	**Sn**	**04 39 30.9**	**-1.6**
	comp=Z,4.4nm,0.8s						
BVA0	**Borovoye Array**	**11.29**	**292**	*i* P	**Pn**	**04 37 25.3**	**-1.1**
BVA0						04 39 28.0	
BVA0				smax			
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**11.29**	**292**	Pn	**Pn**	**04 37 25.2**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=102,slow=15,SNR=33						
BVAR				Sn	**Sn**	**04 39 26.7**	**-5.9**
	comp=Z,2.3nm,0.3s,baz=101,slow=20,SNR=7.7						
BVAR				LR	LR	04 42 32.1	
	comp=Z,31nm,18.5s,baz=144,slow=41						
BVAR	**Borovoye Array**	**11.29**	**292**	P	**Pn**	**04 37 25.2**	**-1.2**
BVAR						04 39 26.7	
BRVK	**Borovoye**	**11.36**	**292**	*e*P	**Pn**	**04 37 26.2**	**-1.1**
BRVK				*e*		04 39 28.0	
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**11.36**	**292**	*e*Pn	**Pn**	**04 37 26.2**	**-1.2**
	comp=Z,8.1nm,0.6s						
BRVK				*e*Sn	**Sn**	**04 39 28.0**	**-6.2**
USP	**Ospenovka**	**11.47**	**238**	P	**Pn**	**04 37 27.4**	**-1.5**
	SNR=8.4						
CHMS	**Chumysh**	**11.51**	**237**	P	**Pn**	**04 37 30.9**	**+1.5**
	SNR=6.1						
KBK	**Karagaybulak**	**11.64**	**235**	P	**Pn**	**04 37 33.3**	**+2.1**
	SNR=10						
AAK	**Ala

BOD	**Bodaibo**	**17.09**	**53**	*e*P		**Pn**	**04 38 43.9**	**-0.1**
BOD					pmax	pmax		
	comp=Z,3.0nm,1.8s							
ARU	**Arti**	**18.57**	**301**	⇓*i*P		**Pn**	**04 39 01.3**	**-0.9**
ARU				*e*S		**Sn**	**04 42 29.3**	**-0.3**
ARU					pmax	pmax		
	comp=Z,6.0nm,1.3s							
ARU	**Arti**	**18.57**	**301**	*e*P		**Pn**	**04 39 02.4**	**+0.3**
	comp=Z,3.2nm,0.5s							
AKTK	**Aktyubinsk**	**19.06**	**283**	P		**Pn**	**04 39 07.5**	**-0.7**
AKTO	**Aktyubinsk**	**19.06**	**283**	⇓Pn		**Pn**	**04 39 07.3**	**-0.9**
	comp=Z,0.1nm,0.7s							
AKTO	**Aktyubinsk**	**19.06**	**283**	P		**Pn**	**04 39 07.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=87,slow=11,SNR=31							
KBL	**Kabul**	**20.81**	**229**	*e*P		**P**	**04 39 26.4**	**-0.1**
ORR	**Orenburg**	**20.89**	**287**	*e*P		**P**	**04 39 27.2**	**-0.1**
ORR					pmax	pmax		
	comp=Z,20nm,1.8s							
YAK	**Yakutsk**	**25.68**	**46**	⇓*e*P		**P**	**04 40 11.8**	**-3.3**
FINES	**FINESS Array B**	**35.21**	**313**	P		**P**	**04 41 42.1**	**+2.7**
	comp=Z,3.5nm,0.9s,mb4.3,baz=57,slow=10,SNR=3.4							
AKASG	**Malin Array Be**	**36.56**	**294**	P		**P**	**04 41 50.2**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.7,baz=57,slow=9.0,SNR=4.4							
AKASG	**Malin Array Be**	**36.56**	**294**	P		**P**	**04 41 50.2**	**-0.6**
BR131	**Keskin Array S**	**39.02**	**276**	*e*P		**P**	**04 42 11.6**	**-0.1**
	comp=Z,2.1nm,0.4s,mb4.2							
BRTR	**Keskin Array B**	**39.02**	**276**	P		**P**	**04 42 12.2**	**+0.6**
	comp=Z,3.3nm,0.8s,mb4.1,baz=64,slow=8.6,SNR=33							
NB2	**NORSAR Subarra**	**42.23**	**315**	P		**P**	**04 42 37.2**	**-1.0**
	comp=Z,3.2nm,0.8s,mb4.0,baz=66,slow=7.9							
NOA	**NORSAR Array B**	**42.23**	**315**	P		**P**	**04 42 37.4**	**-0.8**
	comp=Z,1.1nm,0.6s,mb3.6,baz=65,slow=7.7,SNR=3.9							
ESDC	**Sonseca Array**	**61.95**	**299**	P		**P**	**04 45 04.2**	**-0.8**
	comp=Z,0.2nm,0.5s,mb3.5,baz=46,slow=6.8,SNR=8.2							
YKA	**Yellowknife Ar**	**66.33**	**11**	P		**P**	**04 45 32.6**	**-1.1**
	comp=Z,0.2nm,0.6s,mb3.3,baz=340,slow=6.6,SNR=4.5							
OPO	**Ambohidratompo**	**77.25**	**219**	P		**P**	**04 46 37.8**	**-1.6**
	comp=Z,2.7nm,0.3s,mb4.6,baz=350,slow=8.1,SNR=8.3							
TORD	**Torodi Ar. Bea**	**77.63**	**276**	P		**P**	**04 46 40.1**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=3.9,SNR=18							
WRA	**Warramunga Arr**	**80.90**	**136**	P		**P**	**04 46 57.4**	**-1.9**
	comp=Z,0.7nm,0.8s,mb3.6,baz=337,slow=5.8,SNR=4.6							
ASAR	**Alice Springs**	**83.98**	**138**	P		**P**	**04 47 16.8**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.6,baz=323,slow=5.4,SNR=4.1							

*NAO **31** 04:35:21.2±1.2, 6765N×3372E, ML2.6*

HEL 31 04:35:21.1±0.4, 6768N×3378E, h0km, ML2.5, ML2.4(BER), ML2.6(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
APA0	**Apatity Array**	**0.31**	**257**	Pg	Pg		04 35 26.4	-0.6
APA0	baz=90,slow=16			Lg			04 35 30.6	
APA0	baz=80,slow=37			Rg			04 35 32.3	
APA0	**Apatity Array**	**0.31**	**257**	*i* P	Pg		04 35 26.4	-0.6
APA0				*i* S	Sg		04 35 30.6	-0.4
APA0				*e*RG			04 35 32.3	
KU4	**Liikasenvaara**	**2.11**	**233**	*e*P	Pn		04 35 57.9	+0.3
KU4				*e*S	Sn		04 36 25.5	+0.9
MSF	**Maaselka**	**2.58**	**229**	*e*PB	Pb		04 36 06.3	-2.0
MSF				*e*SG	Sg		04 36 40.5	-3.5
SGF	**Sodankyl**	**2.79**	**268**	*e*P	Pn		04 36 06.0	-1.0
SGF				*e*S	Sn		04 36 40.8	-0.6
SGF				MSG			04 36 53.1	
	comp=Z,19nm,0.3s							
KEV	**Kevo**	**3.23**	**313**	*e*P	Pn		04 36 13.6	+0.5
KEV				*e*S	Sn		04 36 51.1	-1.2
KEV				MSG			04 37 06.3	
	comp=Z,24nm,0.4s							
ARA0	**ARCESS Array S**	**3.56**	**305**	Pn	Pn		04 36 17.2	-0.4
ARA0	baz=122,slow=16			Pg	Pg		04 36 25.7	-3.6
ARA0	baz=120,slow=16			Sn	Sn		04 36 59.0	-1.2
ARA0	baz=122,slow=28			Lg			04 37 09.0	
ARA0	baz=113,slow=37							
ARA0	**ARCESS Array S**	**3.56**	**305**	*e*P	Pn		04 36 17.2	-0.4
ARA0				*e*PG	Pg		04 36 25.7	-3.6
ARA0				*e*S	Sn		04 36 59.0	-1.2
ARA0				*e*SG			04 37 09.0	
OUL	**Oulu**	**4.10**	**234**	*e*P	Pn		04 36 24.9	-0.1
OUL				*e*S	Sn		04 37 13.6	-0.1
OUL				MSG			04 37 31.8	
	comp=Z,4.3nm,0.2s							
KTK1	**Kautokeino**	**4.13**	**294**	*e*P	Pn		04 36 25.4	0.0
KTK1				AML	AML		04 37 29.8	
	comp=Z,20nm,0.6s							
FIA0	**FINESS Array S**	**7.08**	**211**	Pn	Pn		04 37 03.6	-2.3
FIA0	baz=33,slow=14			Sn	Sn		04 38 22.4	-4.7
FIA0	baz=42,slow=22			Lg			04 38 55.5	
FIA0	baz=38,slow=28							
FIA0	**FINESS Array S**	**7.08**	**211**	*e*P	Pn		04 37 03.6	-2.3
FIA0				*e*S	Sn		04 38 22.4	-4.7
FIA0				*e*SG			04 38 55.5	
SPA0	**Spitsbergen Ar**	**11.63**	**342**	Pn	Pn		04 38 05.1	-3.2
	baz=147,slow=14							
SPA0	**Spitsbergen Ar**	**11.63**	**342**	*e*P	Pn		04 38 05.1	-3.2

IDC 31 04:37:35.5±9.4, 1858S×16852E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, ML2.9/1, Error ellipse: s-maj=162.3km s-min=43.7km az=88.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**3.98**	**209**	Pn	Pn		04 38 36.1	-1.7
	0.8nm,0.3s,baz=23,slow=17,SNR=26							
DZM				Sn	Sn		04 39 27.9	+2.6
	6.7nm,0.3s,baz=278,slow=22,SNR=14							
STKA	**Stephens Creek**	**27.64**	**236**	P	P		04 43 25.1	+0.4
	1.4nm,0.8s,baz=74,slow=7.4,SNR=3.0							
WRA	**Warramunga Arr**	**32.27**	**262**	P	P		04 44 05.8	0.0
	0.3nm,0.8s,baz=87,slow=8.1,SNR=5.0							
ASAR	**Alice Springs**	**32.63**	**255**	P	P		04 44 09.3	+0.3
	1.7nm,0.4s,baz=83,slow=8.6,SNR=34							
FITZ	**Fitzroy Crossi**	**40.64**	**264**	P	P		04 45 18.4	+1.2
	3.8nm,0.9s,baz=98,slow=7.1,SNR=3.8							

*ISCJB **31** 04:44:08.7±0.7, 203S±0.1×680E±0.1, h10km, mb4.3/23, MS3.5/3, Error ellipse: s-maj=17.3km s-min=13.8km az=161.8*
*IDC **31** 04:44:09.1±0.8, 2023S×6797E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/25, mbtmp4.1/15, MS3.5/3, Ms1 3.5/3, ms1mx3.2/32, Error ellipse: s-maj=25.7km s-min=17.4km az=11.0*
*NEIC **31** 04:44:10.5±0.4, 2029S×6793E, h10km, mb4.7/9, Error ellipse: s-maj=10.1km s-min=8.1km az=167.0*

ISC 31 04:44:10.9±0.7, 202S±01×679E±01, h10km, n34, σ0=71/30, mb4.3/23, MS3.5/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KMBO	**Kilima Mbogo**	**35.49**	**299**	LR	LR		05 02 45.9	
	comp=Z,58nm,19.8s,MS3.3,baz=104,slow=31							
LSZ	**Lusaka**	**38.10**	**271**	P	P		**04 51 30.4**	**+0.6**
	2.4nm,0.8s,mb4.0,baz=145,slow=9.0,SNR=6.3							
LSZ	**Lusaka**	**38.10**	**271**	*e*P	P		**04 51 30.8**	**+0.9**
	2.6nm,0.8s,mb4.0							
BOSA	**Boshof**	**39.56**	**249**	P	P		**04 51 42.4**	**+0.2**
	3.1nm,0.8s,mb4.1,baz=149,slow=14,SNR=3.5							
CHTO	**Chiang Mai**	**49.31**	**40**	*e*P	P		**04 53 00.7**	**+0.7**
	4.0nm,0.9s,mb4.5							
KOLN	**Koldanda**	**50.08**	**18**	*e*P	P		**04 53 07.0**	**+1.1**
	28nm,1.1s,mb5.2							
DMN	**Daman**	**50.39**	**20**	*e*P	P		**04 53 09.4**	**+1.1**
	26nm,1.0s,mb5.2							
GKN	**Gorkha**	**50.61**	**19**	*e*P	P		**04 53 10.7**	**+0.7**
	44nm,1.2s,mb5.2							
KKN	**Kakani**	**50.62**	**20**	*e*P	P		**04 53 11.0**	**+1.0**
GUN	**Gumba**	**50.92**	**21**	*e*P	P		**04 53 13.2**	**+0.9**
	20nm,0.9s,mb5.1							
FITZ	**Fitzroy Crossi**	**54.32**	**98**	P	P		**04 53 38.0**	**+0.5**
	3.1nm,1.1s,mb4.2,baz=252,slow=16,SNR=2.3							
KBL	**Kabul**	**54.49**	**1**	*e*P	P		**04 53 39.2**	**+0.5**
ASAR	**Alice Springs**	**60.81**	**106**	P	P		**04 54 22.9**	**-0.2**
	1.0nm,0.7s,mb4.0,baz=258,slow=6.6,SNR=9.0							
WRA	**Warramunga Arr**	**61.97**	**102**	P	P		**04 54 30.6**	**-0.4**
	2.0nm,0.9s,mb4.2,baz=260,slow=5.9,SNR=7.1							
WRA				LR	LR		05 18 21.9	
	comp=Z,50nm,18.7s,MS3.7,baz=185,slow=33							
BRTR	**Keskin Array B**	**67.70**	**332**	P	P		**04 55 08.7**	**+0.3**
	0.7nm,0.9s,mb3.7,baz=134,slow=7.1,SNR=4.7							
MK31	**Makanchi Array**	**67.97**	**11**	*e*P	P		**04 55 09.4**	**-0.7**
MKAR	**Makanchi Array**	**67.97**	**11**	P	P		**04 55 09.4**	**-0.6**
	2.5nm,0.8s,mb4.3,baz=200,slow=6.1,SNR=22							
MKAR				LR	LR		05 23 25.2	
	comp=Z,35nm,18.5s,MS3.6,baz=349,slow=35							
AKTK	**Aktyubinsk**	**70.90**	**353**	P	P		**04 55 27.4**	**-0.8**
AKTO	**Aktyubinsk**	**70.90**	**353**	P	P		**04 55 27.4**	**-0.8**
	1.6nm,0.8s,mb4.0,baz=157,slow=5.7,SNR=5.4							
KURK	**Kurchatov**	**71.27**	**7**	*e*P	P		**04 55 30.1**	**-0.4**
BVAR	**Borovoye Array**	**72.99**	**2**	P	P		**04 55 40.0**	**-0.7**
	2.2nm,0.8s,mb4.1,baz=157,slow=8.0,SNR=12							
BRVK	**Borovoye**	**73.02**	**1**	*e*P	P		**04 55 39.6**	**-1.3**
	2.6nm,0.8s,mb4.2							
TORD	**Torodi Ar. Bea**	**73.08**	**291**	P	P		**04 55 42.1**	**+0.8**
	1.5nm,1.2s,mb3.8,baz=130,slow=4.6,SNR=2.7							
ZAL	**Zalesovo**	**75.29**	**10**	P	P		**04 55 53.9**	**-0.3**
	2.4nm,0.5s,mb4.4,baz=279,slow=5.3,SNR=12							
SONM	**Songino Array**	**76.05**	**26**	P	P		**04 55 59.0**	**+0.5**
	2.8nm,0.9s,mb4.2,baz=204,slow=5.8,SNR=21							
ULN	**Ulaanbaatar**	**76.34**	**26**	*e*P	P		**04 55 60.0**	**-0.2**
	3.6nm,1.0s,mb4.3							
ARU	**Arti**	**76.78**	**355**	*e*P	P		**04 56 01.4**	**-1.2**
	4.4nm,0.9s,mb4.4							
AKASG	**Malin Array Be**	**78.43**	**336**	P	P		**04 56 11.2**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=137,slow=4.7,SNR=5.4							
KSRS	**Korea Array**	**80.48**	**44**	P	P		**04 56 22.3**	**-0.8**
	1.4nm,0.9s,mb3.9,baz=251,slow=3.7,SNR=3.7							
MJAR	**Matsushiro Arr**	**87.07**	**49**	P	P		**04 56 56.7**	**-0.1**
	2.4nm,0.9s,mb4.4,baz=213,slow=7.6,SNR=5.1							
MJAR	**Matsushiro Arr**	**87.07**	**49**	*e*P	P		**04 56 56.7**	**-0.1**
YKA	**Yellowknife Ar**	**137.75**	**2**	PKhKP			05 03 29.3	
	0.1nm,0.6s,baz=359,slow=4.0,SNR=4.1							
YKA				PKP	PKPdf		05 03 36.1	+0.7
	0.3nm,0.7s,baz=17,slow=2.8,SNR=8.4							
EDM	**Edmonton**	**147.06**	**1**	*e*PKPbc	PKPbc		05 03 53.6	-0.4
ULM	**Lac du Bonnet**	**147.41**	**341**	PKPbc	PKPbc		05 03 54.1	-0.8
	2.1nm,0.6s,baz=54,slow=2.9,SNR=8.5							

IGQ 31 04:48:29.7, 034S×8140W, h12km±7km, Mb4.3, Ms4.1, 5C-3D, Error ellipse: s-maj=9.9km s-min=6.7km az=69.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAMA	**Jama**	**1.20**	**86**	⇑P	Pn		04 48 52.1	-0.2
JAMA				S	Sb		04 49 07.3	-0.4
JUA2	**San Juan 2**	**2.80**	**87**	⇓P	Pn		04 49 15.9	+1.6
JUA2				S	Sn		04 49 49.3	+1.3
PINO	**Pino**	**2.80**	**86**	P	Pn		04 49 15.8	+1.5
PINO				S	Sn		04 49 49.5	+1.5
TERV	**Terraza Guagua**	**2.80**	**87**	P	Pn		04 49 19.3	+5.0
TERV				S	Sn		04 49 49.8	+1.7
GGP	**Refugio Guagua**	**2.81**	**87**	⇑P	Pn		04 49 17.0	+2.5
GGP				S	Sn		04 49 49.0	+0.8
YANA	**Yana**	**2.84**	**86**	⇓P	Pn		04 49 16.2	+1.3
YANA				S	Sn		04 49 49.5	+0.6
CAMI	**Rancho Maria**	**2.91**	**97**	⇑P	Pn		04 49 18.0	+2.1
VC1	**Cotopaxi 1**	**3.01**	**96**	P	Pn		04 49 19.8	+2.6
TAMB	**Tambo**	**3.05**	**97**	P	Pn		04 49 19.9	+2.2
PISA	**Pisayambo**	**3.10**	**103**	⇑P	Pn		04 49 21.3	+2.9
PISA				S	Sn		04 49 58.5	+3.2
COTA	**Cotacachi**	**3.13**	**78**	P	Pn		04 49 22.4	+3.5
COTA				S	Sn		04 50 00.6	+4.3
RUN5	**Runtun**	**3.16**	**110**	P	Pn		04 49 23.6	+4.4
PATA	**Patacocha**	**3.18**	**111**	P	Pn		04 49 22.4	+2.8
PATA				S	Sn		04 49 59.0	+1.6
ANTI	**Antisana**	**3.24**	**92**	⇓P	Pn		04 49 23.6	+3.2
ANTI				S	Sn		04 50 02.0	+3.1
CAYR	**Refugio Cayamb**	**3.41**	**84**	⇑P	Pn		04 49 26.7	+4.0
CAYR				S	Sn		04 50 06.2	+3.1
CAYA	**Cayambe**	**3.43**	**83**	P	Pn		04 49 26.3	+3.2
CAYA				S	Sn		04 50 07.5	+3.8

*ISCJB **31** 04:50:57.4±0.6, 50N±01×1278E±03, h150km, mb3.9/16, Error ellipse: s-maj=42.6km s-min=8.9km az=149.3*
*IDC **31** 04:51:00.2±6.1, 500N×12776E, h157km±59km, mb3.6/13, mb1 3.7/13, mb1mx3.6/22, mbtmp3.6/13, Error ellipse: s-maj=49.1km s-min=12.0km az=75.0*
*NEIC **31** 04:51:05.7±4.1, 492N×12773E, h213km±41km, mb3.8/4, Error ellipse: s-maj=36.0km s-min=8.5km az=74.0*

ISC 31 04:50:59.4±0.6, 50N±01×1278E±03, h150km, n22, σ0=60/21, mb3.9/16, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**23.07**	**185**	P	P		**04 55 51.9**	**+0.3**
	3.6nm,0.9s,mb3.8,baz=5.2,slow=14,SNR=4.4							
WRA	**Warramunga Arr**	**25.63**	**166**	P	P		**04 56 14.8**	**0.0**
	2.4nm,0.4s,mb4.2,baz=343,slow=10,SNR=17							
WB2	**Warramunga Arr**	**25.63**	**166**	*e*P	P		**04 56 14.7**	**-0.2**
ASAR	**Alice Springs**	**29.13**	**168**	P	P		**04 56 46.2**	**+0.2**
	0.5nm,0.3s,mb3.7,baz=343,slow=7.0,SNR=10							
ASAR				PcP	PcP		04 59 51.1	+1.1
	0.4nm,0.4s,baz=339,slow=2.5,SNR=5.7							
KSRS	**Korea Array**	**32.29**	**0**	P	P		**04 57 13.3**	**-0.6**
	2.1nm,0.7s,mb4.0,baz=122,slow=39,SNR=4.1							
STKA	**Stephens Creek**	**38.98**	**161**	⇑*i*P	P		**04 58 11.6**	**+0.7**
	2.7nm,1.0s,mb3.8							
STKA	**Stephens Creek**	**38.98**	**161**	P	P		**04 58 11.3**	**+0.4**
	2.7nm,0.4s,mb4.2,baz=340,slow=9.1,SNR=16							
STKA				PP	PP		04 59 42.8	-0.5
	1.6nm,0.7s,baz=330,slow=14,SNR=2.9							
NWAO	**Narrogin (SRO)**	**39.04**	**194**	P	P		**04 58 11.2**	**-0.2**
	14nm,1.2s,mb4.5,baz=28,slow=9.0,SNR=4.5							
ULN	**Ulaanbaatar**	**46.24**	**341**	*e*P	P		**04 59 10.5**	**+1.0**
	2.6nm,0.6s,mb4.0							
SONM	**Songino Array**	**46.44**	**340**	P	P		**04 59 12.2**	**+1.2**
	1.0nm,0.6s,mb3.6,baz=155,slow=8.1,SNR=8.7							
MK31	**Makanchi Array**	**57.12**	**324**	*e*P	P		**05 00 30.5**	**+0.3**
MKAR	**Makanchi Array**	**57.12**	**324**	P	P		**05 00 30.7**	**+0.6**
	1.2nm,0.4s,mb4.1,baz=114,slow=7.3,SNR=20							
MKAR				pP	pP		05 01 05.5	+0.4
	0.9nm,0.6s,baz=116,slow=7.7,SNR=4.1							
ZAL	**Zalesovo**	**59.94**	**332**	P	P		**05 00 49.8**	**+0.1**
	0.7nm,0.5s,mb3.7,baz=222,slow=4.2,SNR=3.4							
KURK	**Kurchatov**	**61.24**	**327**	*e*P	P		**05 00 58.1**	**-0.3**
	2.3nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**66.83**	**326**	P	P		**05 01 35.1**	**+0.1**
	1.1nm,0.8s,mb3.7,baz=111,slow=8.4,SNR=6.0							
BRVK	**Borovoye**	**66.90**	**326**	*e*P	P		**05 01 35.3**	**-0.1**
	1.4nm,0.6s,mb4.0							
AKTK	**Aktyubinsk**	**73.31**	**321**	P	P		**05 02 14.3**	**-0.2**
AKTO	**Aktyubinsk**	**73.31**	**321**	P	P		**05 02 14.3**	**-0.2**
	1.4nm,0.7s,mb3.8,baz=108,slow=8.6,SNR=6.2							
ARCES	**ARCESS Array B**	**89.61**	**340**	P	P		**05 03 38.5**	**-1.6**
	2.3nm,0.8s,mb4.2,baz=95,slow=6.1,SNR=7.0							
ARCES	**ARCESS Array B**	**89.61**	**340**	P	P		**05 03 38.5**	**-1.6**
BRTR	**Keskin Array B**	**90.01**	**310**	P	P		**05 03 41.0**	**-0.9**
	0.8nm,1.0s,mb3.6,baz=106,slow=9.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**123.50**	**289**	PKP	PKPdf		05 09 39.8	+1.0
	0.4nm,0.7s,baz=63,slow=1.6,SNR=8.2							

*ISK **31** 04:58:52.8, 3642N×2768E, h9km, MD3.1*
*ATH **31** 04:58:52.0, 3649N×2807E, h57km±5km, MD3.2/3*
*NEIC **31** 04:58:52.8, 3642N×2768E, h9km, MD3.1(ISK), MD3.2(ATH), After ISK.*
*CSEM **31** 04:58:53.2±0.1, 3645N×2770E, h12km, MD3.2, Error ellipse: s-maj=3.0km s-min=2.0km az=76.0*
*ISCJB **31** 04:58:54.6±0.8, 3649N±004×2771E±006, h15km±8km, Error ellipse: s-maj=8.0km s-min=7.1km az=78.6*

ISC 31 04:58:54.8±0.6, 3647N±003×2770E±006, h14km±6km, n12, σ0=84/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DAT	**Datca**	**0.27**	**339**	PG	**Pg**		**04 58 59.8**	**-0.7**
DAT				SG	**Sg**		**04 59 04.7**	**+0.3**
ARG	**Arkhangelos**	**0.43**	**127**	*e*P	**Pg**		**04 59 02.5**	**-0.9**
ARG				*e*S	**Sg**		**04 59 09.6**	**+0.4**
YER	**Yerkesik**	**0.81**	**35**	PG	**Pg**		**04 59 09.8**	**-0.7**
YER				SG	**Sg**		**04 59 22.5**	**+1.4**
MLSB	**Milas**	**0.82**	**4**	PG	**Pg**		**04 59 10.2**	**-0.5**
MLSB				SG	**Sg**		**04 59 22.5**	**+1.0**
KARP	**Karpathos**	**1.02**	**205**	*e*P	**Pb**		**04 59 13.4**	**-0.8**
KARP				*e*S	**Sb**		**04 59 29.2**	**+1.7**
FETY	**Fethiye**	**1.13**	**81**	*e*PN	**Pn**		**04 59 15.0**	**-1.1**
SMG	**Samos**	**1.41**	**331**	*e*P	**Pn**		**04 59 18.7**	**-1.3**
DENT	**Denizli**	**1.67**	**39**	*e*PN	**Pn**		**04 59 24.1**	**+0.6**
ELL	**Elmali**	**1.80**	**81**	*e*PN	**Pn**		**04 59 25.5**	**+0.2**
BLCB	**Balcova**	**1.98**	**345**	*e*PN	**Pn**		**04 59 27.7**	**-0.1**
NPS	**Neapolis**	**2.08**	**235**	*e*P	**Pn**		**04 59 29.7**	**+0.5**
AKS	**Akhisar**	**2.40**	**2**	*e*PN	**Pn**		**04 59 33.7**	**+0.1**

*ROM **31** 05:06:30.7±0.3, 4530N×7.14E, h10km±3km, Md2.0/4, Ml1.7/3, Error ellipse: s-maj=4.4km s-min=3.1km az=134.0*
*ISCJB **31** 05:06:31.0±0.4, 4533N±002×705E±004, h4km±5km, Error ellipse: s-maj=4.7km s-min=2.9km az=156.3*
*ZUR **31** 05:06:31.8, 4532N×721E, h2km±3km, ML1.6/4*
*LDG **31** 05:06:34.1±0.3, 4533N×694E, h2km, Md2.4/3, Ml2.3/11, Error ellipse: s-maj=6.8km s-min=3.3km az=78.0*
*STR **31** 05:06:37.5±0.1, 4523N×705E, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 31 05:06:31.4±0.5, 4533N±002×710E±004, h2km±6km, n31, σ1=20/49, 3C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RSP	**Reno Superiore**	**0.21**	**147**	Pg	**Pg**		**05 06 35.2**	**-0.2**
RSP				Sg	**Sg**		**05 06 37.9**	**-0.2**
	308nm,0.2s							
LPG	**La Plagne**	**0.30**	**305**	*e*Pg	**Pg**		**05 06 37.8**	**+0.7**
	SNR=1.0							
LPG				*e*Sg	**Sg**		**05 06 42.1**	**+1.2**
	135nm,0.2s,SNR=1.0							
LPL	**La Plagne**	**0.32**	**307**	*e*Pg	**Pg**		**05 06 38.3**	**+0.8**
	SNR=1.0							
LPL				*e*Sg	**Sg**		**05 06 42.4**	**+0.8**
	53nm,0.2s,SNR=1.0							
BNI	**Bardonecchia**	**0.40**	**227**	⇓*i*Pg	**Pg**		**05 06 39.5**	**+0.4**
BNI				Sg	**Sg**		**05 06 45.2**	**+0.9**
	14nm,0.3s							
MRGE	**Morge**	**0.44**	**357**	⇑*i*Pg	**Pg**		**05 06 40.4**	**+0.5**
MRGE				Sg	**Sg**		**05 06 46.0**	**+0.4**
	100nm,0.5s							
MBDF	**Montbardon**	**0.64**	**201**	*e*Pg	**Pg**		**05 06 43.5**	**-0.2**
	SNR=1.0							
MBDF				*e*Sg	**Sg**		**05 06 51.1**	**-0.9**
	42nm,0.4s,SNR=1.0							
ORO	**Oropa**	**0.69**	**64**	Pg	**Pg**		**05 06 43.9**	**-0.7**
	29nm,0.2s							
EMV	**Vieux Emosson**	**0.75**	**349**	⇑*i*P	**Pg**		**05 06 35.2**	**-11**
	27nm,0.4s							
GRYON	**Gryon**	**0.92**	**1**	*e*P	**Pg**		**05 06 46.0**	**-3.1**
	13nm,0.7s							
MMK	**Mattmark**	**0.95**	**40**	⇑*i*P	**Pg**		**05 06 40.4**	**-9.1**
	36nm,1.5s							
ORIF	**Oris-en-Rattie**	**0.95**	**245**	*e*Pn	**Pn**		**05 06 50.1**	**-1.7**
	SNR=1.0							
ORIF				*e*Sg	**Sg**		**05 07 01.4**	**-0.6**
	26nm,0.3s,SNR=1.0							
TOUF	**Mont Tournerai**	**1.32**	**175**	Pg	**Pg**		**05 07 00.7**	**+4.1**
TOUF				Sg	**Sg**		**05 07 17.7**	**+4.0**
AUTN	**L'Aution**	**1.35**	**170**	Pg	**Pg**		**05 07 01.4**	**+4.1**
SAOF	**Saorge**	**1.38**	**166**	Pg	**Pg**		**05 07 02.0**	**+4.2**
CABF	**La Chapelle**	**1.46**	**332**	*e*Pg	**Pg**		**05 07 00.2**	**+0.8**
	SNR=1.0							
CABF				*e*Sg	**Sg**		**05 07 19.3**	**+0.9**
	4.5nm,0.3s							
SBF	**Sospel**	**1.48**	**170**	*e*Pg	**Pg**		**05 07 02.7**	**+2.9**
SBF				*e*Sg	**Sg**		**05 07 22.2**	**+3.1**
	24nm,0.4s							
SMRF	**Simiane la Rot**	**1.73**	**219**	*e*Pg	**Pg**		**05 07 05.2**	**+0.6**
SMRF				*e*Sg	**Sg**		**05 07 28.8**	**+1.7**
	2.5nm,0.4s							
VIVF	**Saint-Julien-l**	**1.78**	**256**	*e*Pn	**Pn**		**05 07 02.1**	**-1.0**
VIVF	**Saint-Julien-l**	**1.78**	**256**	*e*Pg	**Pg**		**05 07 05.9**

AKASG	**Malin Array Be**	**146.20**	**329**	PKPbc	PKPbc	05 48 25.5	-1.4
	5.1nm,0.6s,baz=42,slow=4.0,SNR=18						
KIEV	**Kiev**	**146.21**	**329**	*e*PKPbc	PKPbc	05 48 25.3	-1.7
EKA	**Eskdalemuir Ar**	**148.17**	**6**	PKPbc	PKPbc	05 48 31.2	-1.2
	3.6nm,0.8s,baz=294,slow=2.7,SNR=4.7						
BRTR	**Keskin Array B**	**149.50**	**309**	PKPbc	PKPbc	05 48 35.4	-0.4
	1.5nm,0.8s,baz=79,slow=3.1,SNR=9.3						
KOLS	**Kolonicke sedl**	**150.55**	**333**	*e*PKP	PKPbc	05 48 37.0	-1.3
STHS	**Stebnicka Huta**	**150.58**	**335**	*e*PKP	PKPbc	05 48 38.6	+0.2
STHS				*e*		07 26 43.3	
STHS				*e*		07 26 48.6	
EIL	**Elat**	**150.73**	**289**	*e*PKPbc	PKPbc	05 48 39.2	+0.5
CLL	**Collm**	**151.40**	**347**	*i* PKPbc	PKPbc	05 48 39.2	-1.1
	comp=Z,11nm,0.8s						
BRG	**Berggiesshubel**	**151.59**	**345**	*i* P	PKPbc	05 48 40.2	-0.5
	comp=Z,3.8nm,0.8s						
VYHS	**Vyhne**	**152.24**	**337**	*e*PKP	PKPab	05 48 52.8	+0.4
KHC	**Kasperske Hory**	**153.29**	**344**	*e*PKPbc	PKPbc	05 48 44.0	-0.5
KHC				*e*PKPab	PKPab	05 48 57.5	+0.6
KHC	**Kasperske Hory**	**153.29**	**344**	*e* P	PKPbc	05 48 44.0	-0.5
KHC				*e*		05 48 57.5	
GERES	**GERESS Array B**	**153.53**	**344**	PKPbc	PKPbc	05 48 44.1	-0.9
	comp=Z,0.4nm,0.6s,baz=323,slow=0.7,SNR=3.8						
GERES				PKPab	PKPab	05 48 58.6	+0.7
	comp=Z,0.3nm,0.6s,baz=58,slow=4.4,SNR=3.5						
KEST	**Kesra**	**166.79**	**336**	PKPab	PKPab	05 49 55.3	-0.3
	comp=Z,1.5nm,1.0s,baz=152,slow=4.2,SNR=5.1						

*IDC **31** 05:34:30.6±0.6, 890N×6185W, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.2/20, mbtmp4.1/14, MS3.2/4, Ms1 3.2/4, ms1mx2.8/35, Error ellipse: s-maj=20.3km s-min=15.7km az=91.0*
*NEIC **31** 05:34:32.6, 873N×6168W, h5km, mb4.1/13, MD4.4(TRN), MW4.4(CAR), After CAR.*
*FUNV **31** 05:34:32.6, 873N×6168W, h4km, MW4.4*
*ISCJB **31** 05:34:34.9±0.4, 873N±002×6181W±003, h54km±4km, mb4.2/27, MS3.5/2, Error ellipse: s-maj=5.4km s-min=3.3km az=69.8*
*TRN **31** 05:34:37.7, 878N×6152W, h41km, MD4.4*

ISC 31 05:34:36.2±0.4, 871N×002×6179W±003, h44km±4km, n77, σ1§20/103, mb4.2/27, MS3.5/2, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOV	**Rio Grande**	**0.64**	**182**	*e*P	**Pn**	**05 34 45.8**	**-3.1**
RIOV				*e*S	**Sn**	**05 34 54.8**	**-3.2**
BUAY	**Buenos Aires**	**1.39**	**4**	*e*P	**Pn**	**05 34 59.9**	**+0.8**
BUAY				*e*S	**Sn**	**05 35 15.5**	**-0.8**
ALNG	**Atlantic LNG**	**1.47**	**4**	*e*P	**Pn**	**05 35 01.9**	**+1.8**
ALNG				*e*S	**Sn**	**05 35 18.6**	**+0.5**
ALNG	**Atlantic LNG**	**1.47**	**4**	*e*P	**Pn**	**05 35 01.9**	**+1.8**
ALNG				*e*S	**Sn**	**05 35 19.9**	**+1.8**
GURV	**El Guri**	**1.59**	**234**	*e*P	**Pn**	**05 35 02.2**	**+0.4**
GURV				*e*S	**Sn**	**05 35 24.1**	**+2.9**
TPP	**Pointe-a-Pierr**	**1.63**	**12**	*e*P	**Pn**	**05 35 03.4**	**+0.9**
ORIV	**Oritupano**	**1.64**	**283**	*e*P	**Pn**	**05 35 02.7**	**+0.2**
ORIV				*e*S	**Sn**	**05 35 25.2**	**+2.9**
GUNV	**Guanoco**	**1.83**	**322**	*e*P	**Pn**	**05 35 04.7**	**-0.5**
GUNV				*e*S	**Sn**	**05 35 29.1**	**+1.9**
TBH	**Brigand Hill**	**1.90**	**22**	*e*P	**Pn**	**05 35 05.8**	**-0.3**
TBH				*e*S	**Sn**	**05 35 26.8**	**-2.0**
TRN	**Trinidad (W)**	**1.96**	**11**	*e*P	**Pn**	**05 35 06.8**	**-0.1**
TRN				*e*S	**Sn**	**05 35 29.2**	**-1.1**
TRN	**Trinidad (W)**	**1.96**	**11**	*e*P	**Pn**	**05 35 06.8**	**-0.2**
TRN				*e*S	**Sn**	**05 35 29.2**	**-1.1**
GUIV	**Guiria**	**1.97**	**348**	*e*P	**Pn**	**05 35 05.7**	**-1.4**
GUIV				*e*S	**Sn**	**05 35 30.6**	**+0.1**
TCE	**Chacachacare**	**1.97**	**1**	*e*P	**Pn**	**05 35 06.8**	**-0.4**
TCE				*e*S	**Sn**	**05 35 30.9**	**+0.3**
TPR	**Prospect**	**2.66**	**22**	*e*P	**Pn**	**05 35 15.6**	**-0.8**
TPR				*e*S	**Sn**	**05 35 44.7**	**-2.7**
PRGV	**PARIAGUAN**	**2.82**	**271**	*e*P	**Pn**	**05 35 19.1**	**+0.4**
PRGV				*e*S	**Sn**	**05 35 53.0**	**+1.6**
LUEV	**Luepa**	**2.87**	**173**	*e*P	**Pn**	**05 35 18.6**	**-0.8**
LUEV				*e*S	**Sn**	**05 35 52.5**	**-0.1**
PCRV	**Puerto La Cruz**	**3.16**	**298**	Pn	**Pn**	**05 35 23.0**	**-0.4**
	31nm,0.3s,baz=74,slow=3.8,SNR=152						
PCRV				Sn	**Sn**	**05 36 01.1**	**+1.2**
	43nm,0.3s,baz=64,slow=8.7,SNR=3.8						
PCRV				Lg		05 36 14.5	
	59nm,0.3s,baz=20,slow=21,SNR=8.5						
PCRV	**Puerto La Cruz**	**3.16**	**298**	*e*P	**Pn**	**05 35 23.1**	**-0.3**
GRGR	**Grenville**	**3.40**	**2**	*e*Pn	**Sn**	**05 35 24.8**	**-2.0**
GRGR				*e*Sn	**Sn**	**06 30 03.5**	**-2.3**
GRW	**Mount Saint Ca**	**3.43**	**2**	*e*P	**Pn**	**05 35 28.7**	**+1.6**
GRHS	**Sauteurs**	**3.49**	**2**	*e*P	**Pn**	**05 35 28.6**	**+0.6**
GRIC	**Isle de Caille**	**3.56**	**3**	*e*P	**Pn**	**05 35 29.9**	**+1.1**
GRSS	**Sisters**	**3.57**	**3**	*e*P	**Pn**	**05 35 29.5**	**+0.5**
CUPV	**Cœpira**	**4.16**	**289**	*e*P	**Pn**	**05 35 37.1**	**-0.1**
CUPV				*e*S	**Sn**	**05 36 24.9**	**+0.4**
FCV	**Fort Charlotte**	**4.45**	**7**	*e*P	**Pn**	**05 35 42.9**	**+1.8**
FCV				*e*S	**Sn**	**05 36 31.2**	**-0.5**
MERV	**Las Mercedes**	**4.48**	**277**	*e*P	**Pn**	**05 35 40.8**	**-0.7**
MERV				*e*S	**Sn**	**05 36 31.0**	**-1.3**
SVB	**Belmont**	**4.56**	**7**	*e*P	**Pn**	**05 35 44.0**	**+1.4**
SVB				*e*S	**Sn**	**05 36 34.3**	**-0.1**
BHS	**Barnard House**	**4.60**	**8**	*e*P	**Pn**	**05 35 44.8**	**+1.5**
BHS				*e*S	**Sn**	**05 36 35.8**	**+0.4**
SSV	**Crater Summit**	**4.62**	**7**	*e*P	**Pn**	**05 35 45.0**	**+1.5**
SSV				*e*S	**Sn**	**05 36 35.2**	**-0.7**
CAOV	**Caicara del Or**	**4.69**	**253**	*e*P	**Pn**	**05 35 44.0**	**-0.4**
CAOV				*e*S	**Sn**	**05 36 37.9**	**+0.3**
BIRV	**Birongo**	**4.75**	**292**	*e*P	**Pn**	**05 35 45.5**	**+0.3**
BIRV				*e*S	**Sn**	**05 36 38.4**	**-0.6**
SLB	**Belfond**	**5.14**	**8**	*e*P	**Pn**	**05 35 51.8**	**+1.3**
SLB				*e*S	**Sn**	**05 36 48.8**	**+0.3**
BIM	**Bigot**	**5.81**	**7**	*e*P	**Pn**	**05 35 59.7**	**-0.1**
MVM	**Montagne Vaucl**	**5.87**	**9**	*e*P	**Pn**	**05 35 59.6**	**-1.1**
FDF	**Fort de France**	**6.02**	**6**	*e*P	**Pn**	**05 36 02.5**	**-0.1**
BAUV	**El Baul**	**6.18**	**273**	*e*P	**Pn**	**05 36 04.0**	**-0.9**
BAUV				*e*S	**Sn**	**05 37 11.3**	**-2.9**
TURV	**Turiamo**	**6.21**	**287**	*e*P	**Pn**	**05 36 04.3**	**-0.9**
TURV				*e*S	**Sn**	**05 37 12.2**	**-2.6**
TBG	**Guadaloupe-3**	**7.10**	**1**	*e*P	**Pn**	**05 36 19.2**	**+1.8**
MGG	**Marie-Galante**	**7.18**	**4**	*e*P	**Pn**	**05 36 19.3**	**+0.7**
SCG	**Saint Claude**	**7.27**	**1**	*e*P	**Pn**	**05 36 19.4**	**-0.5**
LZG	**Guadaloupe-1**	**7.38**	**0**	*e*P	**Pn**	**05 36 21.1**	**-0.2**
ELOV	**Elorza**	**7.80**	**258**	*e*P	**Pn**	**05 36 25.9**	**-1.2**
ELOV				*e*S	**Sn**	**05 37 50.6**	**-3.5**
SJG	**San Juan**	**10.26**	**336**	LR	LR	05 40 06.6	
	comp=Z,38nm,18.5s,baz=269,slow=33						
ROSC	**El Rosal**	**13.02**	**254**	Pn	**Pn**	**05 37 41.2**	**+2.7**
	0.7nm,0.3s,baz=272,slow=24,SNR=6.3						
ROSC				LR	LR	05 42 40.4	
	comp=Z,73nm,18.1s,baz=44,slow=38						
OTAV	**Otavalo**	**18.60**	**244**	*e*P	**Pn**	**05 38 53.4**	**+3.1**
	2.6nm,0.7s						
ATAH	**Atahualpa**	**22.75**	**227**	P	**P**	**05 39 38.3**	**+3.9**
	21nm,0.7s,mb4.7,baz=43,slow=7.6,SNR=6.3						
ATAH				LR	LR	05 48 59.4	
	comp=Z,44nm,21.9s,MS2.9,baz=65,slow=38						
SIV	**San Ignacio**	**24.55**	**178**	P	**P**	**05 39 53.3**	**+1.6**
	3.0nm,0.6s,mb4.0,baz=22,slow=9.5,SNR=15						
LPAZ	**La Paz**	**25.62**	**194**	P	**P**	**05 40 02.9**	**+1.5**
	1.9nm,0.6s,mb3.8,baz=68,slow=3.7,SNR=9.6						
LPAZ	**La Paz**	**25.62**	**194**	*e*P	**P**	**05 40 06.0**	**+4.6**
	3.8nm,0.8s,mb4.0						
TEIG	**Tepich**	**28.03**	**297**	P	**P**	**05 40 22.2**	**-0.8**
	15nm,1.2s,mb4.5,baz=359,slow=11,SNR=3.3						
SCHQ	**Schefferville**	**46.17**	**356**	P	**P**	**05 42 56.7**	**+0.3**
	2.4nm,0.8s,mb4.2,baz=283,slow=18,SNR=3.7						
SCHQ	**Schefferville**	**46.17**	**356**	P	**P**	**05 42 56.7**	**+0.2**
MNTX	**Cornudas Mount**	**46.45**	**306**	*e*P	**P**	**05 42 58.5**	**-0.1**
	1.5nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**48.44**	**309**	*e*P	**P**	**05 43 14.3**	**+0.2**
	1.8nm,1.2s,mb4.0						
SDCO	**Great Sand Dun**	**48.83**	**313**	*e*P	**P**	**05 43 17.0**	**-0.1**
	1.2nm,0.6s,mb4.1						
PLCA	**Paso Flores**	**49.85**	**189**	P	**P**	**05 43 28.8**	**+3.9**
	1.1nm,0.7s,mb4.0,baz=18,slow=3.2,SNR=3.4						
ULM	**Lac du Bonnet**	**50.13**	**332**	P	**P**	**05 43 25.1**	**-1.9**
	2.9nm,0.5s,mb4.6,baz=130,slow=7.8,SNR=18						
ULM	**Lac du Bonnet**	**50.13**	**332**	*e*P	**P**	**05 43 24.7**	**-2.2**
	2.8nm,0.7s,mb4.4						
TUC	**Tucson**	**51.00**	**305**	*e*P	**P**	**05 43 33.9**	**+0.4**
	1.5nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**53.76**	**317**	P	**P**	**05 43 53.3**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=111,slow=9.2,SNR=9.7						
TPAW	**Teton Pass**	**54.99**	**318**	*e*P	**P**	**05 44 02.6**	**-0.3**
	1.6nm,0.5s,mb4.3						
DUG	**Dugway**	**55.03**	**313**	*e*P	**P**	**05 44 03.0**	**-0.2**
	1.2nm,0.7s,mb4.0						
FCC	**Fort Churchill**	**55.67**	**340**	*e*P	**P**	**05 44 05.9**	**-1.9**
	2.8nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**56.32**	**320**	*e*P	**P**	**05 44 11.9**	**-0.5**
	0.6nm,0.7s,mb3.7						
HLID	**Hailey**	**57.34**	**317**	*e*P	**P**	**05 44 19.5**	**-0.2**
	2.5nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**58.56**	**310**	P	**P**	**05 44 29.2**	**+1.0**
	0.6nm,0.5s,mb3.9,baz=108,slow=6.4,SNR=9.2						
ESDC	**Sonseca Array**	**59.87**	**49**	P	**P**	**05 44 38.1**	**+0.8**
	0.6nm,0.7s,mb3.7,baz=266,slow=6.9,SNR=4.1						
NEW	**Newport**	**60.81**	**321**	*e*P	**P**	**05 44 42.7**	**-1.0**
	3.1nm,0.7s,mb4.5						
TORD	**Torodi Ar. Bea**	**62.36**	**80**	P	**P**	**05 44 54.8**	**+0.6**
	0.5nm,0.6s,mb3.8,baz=285,slow=6.3,SNR=7.2						
YKA	**Yellowknife Ar**	**65.75**	**336**	P	**P**	**05 45 14.8**	**-1.6**
	3.2nm,0.6s,mb4.6,baz=110,slow=7.4,SNR=81						
KEST	**Kesra**	**69.67**	**55**	P	**P**	**05 45 46.5**	**+5.4**
	0.9nm,0.9s,mb3.7,baz=156,slow=3.0,SNR=6.0						
GERES	**GERESS Array B**	**73.95**	**42**	P	**P**	**05 46 08.2**	**+1.4**
	1.6nm,0.8s,mb4.0,baz=261,slow=5.1,SNR=7.7						
INK	**Inuvik**	**75.23**	**339**	*e*P	**P**	**05 46 13.1**	**-1.1**
	71nm,0.8s,mb5.7						
ARCES	**ARCESS Array B**	**80.95**	**21**	P	**P**	**05 46 51.9**	**+6.0**
	2.1nm,0.9s,mb4.1,baz=274,slow=4.4,SNR=3.6						
BRTR	**Keskin Array B**	**88.65**	**50**	P	**P**	**05 47 26.3**	**+1.7**
	0.7nm,0.8s,mb4.0,baz=258,slow=4.3,SNR=4.0						
KMBO	**Kilima Mbogo**	**99.11**	**90**	LR	LR	06 28 53.3	
	comp=Z,60nm,18.3s,MS4.1,baz=103,slow=33						
KSRS	**Korea Array**	**133.19**	**349**	PKP	PKPdf	05 53 48.2	+1.2
	0.6nm,0.6s,baz=172,slow=1.4,SNR=7.2						

*NEIC **31** 05:39:27.4±2.9, 1983N×12166E, h59km±30km, mb3.8/1, Error ellipse: s-maj=27.4km s-min=11.6km az=63.0*
*ISCJB **31** 05:39:28.1±1.2, 1994N±006×1218E±02, h85km±13km, mb3.7/7, Error ellipse: s-maj=24.2km s-min=10.7km az=4.3*
*IDC **31** 05:39:28.9±5.5, 1989N×12182E, h71km±53km, mb3.5/6, mb1 3.8/8, mb1mx3.5/22, mbtmp3.6/8, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=49.9km s-min=16.4km az=73.0*

ISC 31 05:39:29.4±1.1, 1993N±006×1218E±02, h78km±12km, n12, σ0§59/13, mb3.7/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.21**	**179**	*e*P	**Pn**	**05 40 03.6**	**-0.4**
CVP				*e*S	**Sn**	**05 40 31.0**	**+0.4**
JOW	**Kunigami**	**9.09**	**40**	P	**Pn**	**05 41 38.0**	**+0.4**
	3.4nm,0.3s,baz=219,slow=14,SNR=8.0						
KSRS	**Korea Array**	**18.26**	**16**	P	**Pn**	**05 43 36.6**	**-0.8**
	baz=197,slow=11,SNR=14						
LSA	**Lhasa**	**29.39**	**295**	*e*P	**P**	**05 45 24.4**	**-0.7**
	1.3nm,0.6s,mb3.7						
SONM	**Songino Array**	**30.51**	**339**	P	**P**	**05 45 35.0**	**0.0**
	0.7nm,0.6s,mb3.6,baz=153,slow=9.3,SNR=8.3						
SONM				LR	LR	05 58 00.1	
	comp=Z,36nm,19.1s,baz=171,slow=36						
WRA	**Warramunga Arr**	**41.48**	**162**	P	**P**	**05 47 08.0**	**-0.6**
	3.2nm,0.7s,mb4.3,baz=342,slow=9.1,SNR=14						
WB2	**Warramunga Arr**	**41.49**	**162**	*e*P	**P**	**05 47 08.0**	**-0.6**
MKAR	**Makanchi Array**	**41.84**	**319**	P	**P**	**05 47 12.6**	**+1.1**
	0.2nm,0.5s,mb3.1,baz=110,slow=9.2,SNR=5.3						
ASAR	**Alice Springs**	**44.91**	**164**	P	**P**	**05 47 36.8**	**+0.6**
	1.6nm,0.5s,mb4.0,baz=352,slow=6.9,SNR=42						
STKA	**Stephens Creek**	**54.90**	**159**	P	**P**	**05 48 52.0**	**+0.2**
	1.1nm,0.7s,mb4.0,baz=345,slow=12,SNR=3.0						
YKA	**Yellowknife Ar**	**86.66**	**23**	P	**P**	**05 52 04.7**	**+0.5**
	0.2nm,0.6s,mb3.2,baz=307,slow=4.7,SNR=6.8						
YKA	**Yellowknife Ar**	**86.66**	**23**	P	**P**	**05 52 04.7**	**+0.5**

*IDC **31** 05:40:57.0±2.3, 1069N×9259E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.7/23, mbtmp4.0/6, Error ellipse: s-maj=101.8km s-min=18.5km az=62.0*
*ISCJB **31** 05:41:00.7±1.4, 108N±02×928E±03, h35km, mb3.9/7, Error ellipse: s-maj=51.5km s-min=12.7km az=115.0*
*NEIC **31** 05:41:01.4±1.2, 1073N×9262E, h30km, mb3.8/1, Error ellipse: s-maj=59.0km s-min=9.2km az=60.0*

ISC 31 05:41:02.9±1.4, 108N±02×928E±03, h35km, n11, σ0§36/10, mb3.9/7, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.81**	**358**	*e*P	x	05 41 19.4	
PBA				*e*S	x	05 41 37.0	
PBA				*ex*	x	05 41 43.4	
	comp=N,2μm,0.4s						
PBA				*ex*	x	05 41 43.4	
	comp=E,3μm,0.6s						
SCPH	**Surigao**	**32.20**	**89**	*e*P	**P**	**05 47 27.0**	**-0.5**
MK31	**Makanchi Array**	**36.92**	**348**	*e*P	**P**	**05 48 08.0**	**-0.2**
MKAR	**Makanchi Array**	**36.92**	**348**	P	**P**	**05 48 08.3**	**0.0**
	comp=E,1.0nm,0.7s,mb3.8,baz=174,slow=8.0,SNR=8.1						
SONM	**Songino Array**	**38.62**	**15**	P	**P**	**05 48 23.3**	**+0.7**
	comp=E,1.1nm,0.9s,mb3.6,baz=203,slow=7.9,SNR=6.4						
KURK	**Kurchatov**	**41.43**	**346**	*e*P	**P**	**05 48 45.6**	**-0.3**
	comp=E,1.5nm,0.8s,mb3.7						
FITZ	**Fitzroy Crossi**	**43.36**	**131**	P	**P**	**05 49 01.3**	**-0.4**
	comp=E,2.0nm,0.6s,mb4.0,baz=312,slow=7.6,SNR=6.4						
BVAR	**Borovoye Array**	**45.77**	**341**	P	**P**	**05 49 20.9**	**0.0**
	comp=E,0.3nm,0.4s,mb3.6,baz=152,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**51.09**	**127**	P	**P**	**05 50 02.3**	**+0.5**
	comp=E,2.4nm,0.5s,mb4.4,baz=306,slow=8.5,SNR=23						
WB2	**Warramunga Arr**	**51.10**	**127**	*i*P	**P**	**05 50 02.1**	**+0.2**
ASAR	**Alice Springs**	**52.85**	**131**	P	**P**	**05 50 15.1**	**+0.1**
	comp=E,3.2nm,0.7s,mb4.3,baz=304,slow=7.1,SNR=37						

IDC 31 05:43:25.3±3.2, 1751S×17540W, h126km±31km, mb4.1/4, mb1 4.2/5, mb1mx3.7/16, mbtmp4.0/5, 1C, Error ellipse: s-maj=86.4km s-min=21.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.00**	**45**	P	Pn	05 44 40.3	+2.0
	7.0nm,0.3s,baz=229,slow=11,SNR=5.2						
AFI				S	Sn	05 45 34.8	-0.3
	35nm,0.3s,baz=258,slow=20,SNR=12						
CTA	**Charters Tower**	**36.34**	**260**	P	P	05 50 18.7	+1.7
	8.2nm,0.5s,baz=98,slow=11,SNR=29						
WB2	**Warramunga Arr**	**47.51**	**259**	*i*P	P	05 51 47.4	-0.3
WRA	**Warramunga Arr**	**47.53**	**259**	P	P	05 51 47.6	-0.2
	3.8nm,0.3s,baz=96,slow=7.6,SNR=87						
ASAR	**Alice Springs**	**47.66**	**254**	P	P	05 51 48.0	-0.8
	3.8nm,0.6s,baz=93,slow=8.1,SNR=72						
MJAR	**Matsushiro Arr**	**69.35**	**321**	P	P	05 54 18.9	-0.3
	0.7nm,0.5s,baz=150,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**110.92**	**314**	PKiKP	PKiKP	06 01 43.1	-0.4
	0.2nm,0.5s,baz=75,slow=1.6,SNR=2.9						
GERES	**GERESS Array B**	**147.88**	**349**	PKPbc	PKPbc	06 02 56.2	+0.7
	0.6nm,0.6s,baz=28,slow=4.4,SNR=4.9						

*IDC **31** 05:46:35.5±1.1, 855S×11025E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/21, mbtmp4.2/13, ML4.0/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/32, Error ellipse: s-maj=51.7km s-min=14.1km az=47.0*
*NEIC **31** 05:46:37.2±0.6, 854S×11031E, h10km, mb4.3/7, Error ellipse: s-maj=27.9km s-min=6.1km az=45.0*
NEIC Felt [III] at Semin.
*ISCJB **31** 05:46:38.4±5.5, 85S±02×1104E±02, h30km±39km, mb4.1/15, MS3.9/2, Error ellipse: s-maj=45.1km s-min=11.2km az=91.2*

ISC 31 05:46:41.0±5.6, 85S±02×1104E±02, h35km±40km, n28, σ0§67/26, mb4.1/15, MS3.9/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**16.00**	**314**	LR	LR	05 56 58.6	
	comp=Z,181nm,19.8s,baz=49,slow=39						
KULM	**Kulim**	**16.77**	**324**	*e*P	**Pn**	**05 50 33.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**17.66**	**124**	*e*P	**Pn**	**05 50 42.5**	**-1.6**
	11nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.66**	**124**	P	**Pn**	**05 50 42.9**	**-1.2**
	0.4nm,0.3s,baz=260,slow=6.4,SNR=11						
FITZ				LR	LR	05 57 43.3	
	comp=Z,48nm,18.8s,baz=276,slow=38						
WRA	**Warramunga Arr**	**25.84**	**119**	P	**P**	**05 52 09.5**	**+0.4**
	4.6nm,0.5s,mb4.2,baz=290,slow=11,SNR=24						
WB2	**Warramunga Arr**	**25.85**	**119**	*e*P	**P**	**05 52 09.6**	**+0.4**
ASAR	**Alice Springs**	**27.12**	**127**	P	**P**	**05 52 20.3**	**-0.4**
	1.2nm,0.7s,mb3.5,baz=306,slow=9.7,SNR=8.9						
CTA	**Charters Tower**	**36.56**	**112**	*e*P	**P**	**05 53 45.0**	**+1.6**
	2.9nm,0.6s,mb4.3						
CTA	**Charters Tower**	**36.56**	**112**	P	**P**	**05 53 45.0**	**+1.6**
	4.2nm,0.5s,mb4.5,baz=271,slow=10,SNR=8.7						
CTA				LR	LR	06 10 19.4	
	comp=Z,67nm,19.6s,MS3.4,baz=54,slow=39						
CTAO	**Charters Tower**	**36.56**	**112**	*e*P	**P**	**05 53 44.9**	**+1.5**
	4.6nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**37.18**	**133**	*e*P	**P**	**05 53 48.8**	**+0.1**
	1.6nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**37.18**	**133**	P	**P**	**05 53 48.7**	**0.0**
	2.1nm,0.6s,mb4.2,baz=323,slow=6.1,SNR=5.8						
MJAR	**Matsushiro Arr**	**51.89**	**29**	P	**P**	**05 55 46.3**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=210,slow=7.2,SNR=4.5						
SONM	**Songino Array**	**56.20**	**357**	P	**P**	**05 56 18.2**	**+0.8**
	0.3nm,0.4s,mb3.7,baz=182,slow=7.3,SNR=6.3						
KBL	**Kabul**	**57.96**	**320**	*e*P	**P**	**05 56 30.3**	**+0.4**
MK31	**Makanchi Array**	**60.46**	**338**	*e*P	**P**	**05 56 47.0**	**-0.2**
MKAR	**Makanchi Array**	**60.46**	**338**	P	**P**	**05 56 47.2**	**0.0**
	2.1nm,0.4s,mb4.5,baz=151,slow=7.6,SNR=57						
MKAR	**Makanchi Array**	**60.46**	**338**	P	**P**	**05 56 47.2**	**0.0**
KURK	**Kurchatov**	**65.08**	**338**	*e*P	**P**	**05 57 17.5**	**-0.4**
	1.5nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**65.85**	**344**	P	**P**	**05 57 21.8**	**-1.1**
	0.7nm,0.4s,mb4.1,baz=236,slow=3.6,SNR=3.4						
BVAR	**Borovoye Array**	**70.07**	**336**	P	**P**	**05 57 49.2**	**-0.2**
	1.2nm,0.6s,mb4.0,baz=134,slow=8.3,SNR=7.6						
BRVK	**Borovoye**	**70.14**	**336**	*e*P	**P**	**05 57 49.4**	**-0.4**
	1.1nm,0.5s,mb4.0						
AKTK	**Aktyubinsk**	**74.12**	**328**	P	**P**	**05 58 13.4**	**-0.2**
AKTO	**Aktyubinsk**	**74.12**	**328**	P	**P**	**05 58 13.4**	**-0.2**
	1.4nm,0.6s,mb4.1,baz=143,slow=5.1,SNR=8.7						
TIXI	**Tiksi**	**80.92**	**6**	*e*P	**P**	**05 58 50.6**	**-1.1**
	2.5nm,0.7s,mb4.2						
BOSA	**Boshof**	**81.70**	**242**	LR	LR	06 28 32.9	
	comp=Z,119nm,19.2s,MS4.3,baz=282,slow=31						
BRTR	**Keskin Array B**	**85.31**	**311**	P	**P**	**05 59 15.0**	**+0.7**
	2.4nm,0.9s,mb4.3,baz=132,slow=6.1,SNR=19						
FINES	**FINESS Array B**	**94.67**	**331**	P	**P**	**05 59 58.7**	**+0.3**
	2.8nm,0.8s,mb4.7,baz=163,slow=14,SNR=2.9						

DHMR 31 05:49:06.0±2.6, 1381N×5094E, h9km±253km, ML4.2, 3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.96**	**290**	⇓*i*P	Pn	05 49 39.8	+0.4
MUKL				*i* S	Sn	05 50 07.8	+3.7
MUKL				AML	AML	05 50 09.5	
	comp=N,3μm,0.3s						
BDHA	**Al Bayda'**	**5.22**	**272**	⇓*i*P	Pn	05 50 27.3	+3.1
BDHA				*i* S	Sn	05 51 27.5	+3.0
LBOS		**5.53**	**271**	⇓*i*P	Pn	05 50 31.1	+2.7
LBOS				*i* S	Sn	05 51 38.0	+6.0
TRBA	**At Turbah**	**6.66**	**266**	*i* P	Pn	05 50 45.3	+1.3

*ISCJB **31** 05:52:19.6±1.1, 5260N±008×1670W±02, h10km, mb3.3/6, Error ellipse: s-maj=19.8km s-min=11.1km az=11.0*
*IDC **31** 05:52:21.0±1

1.2nm,0.1s,SNR=7.9
EQUE Quentar 5.05 81 S Sn 06 01 16.0 -2.6
SNR=4.0
ELOB Lobios 5.42 13 P Pn 06 00 21.8 -2.9
0.3nm,0.1s,SNR=4.0
ELOB Lobios 5.42 13 P Pn 06 00 21.8 -2.9
0.3nm,0.1s,SNR=4.0
EQES Quesada 5.43 75 S Sn 06 01 23.9 -3.9
SNR=7.9
EQES Quesada 5.43 75 S Sn 06 01 23.9 -4.0
SNR=7.9
ESDC Sonseca Array 5.47 54 P Pn 06 00 23.4 -2.0
0.7nm,0.2s,baz=247,slow=13,SNR=9.5
ESDC S Sn 06 01 24.5 -4.4
1.0nm,0.2s,baz=239,slow=23,SNR=9.8
ESDC Sonseca Array 5.47 54 P Pn 06 00 23.4 -2.0
SNR=9.5
ESDC S Sn 06 01 24.5 -4.4
1.0nm,0.2s,SNR=9.8
PBRG Braganca 5.69 23 *e*Pn Pn 06 00 25.8 -2.6
EHUE Huescar 5.80 76 S Sn 06 01 31.6 -5.5
0.2nm,0.1s,SNR=4.0
ECAL Calabor 5.81 22 P Pn 06 00 27.9 -2.2
SNR=4.0
GUD Guadarrama 5.93 45 P Pn 06 00 29.8 -2.0
0.4nm,0.2s,SNR=7.9
GUD S Sn 06 01 36.0 -4.3
0.1nm,0.1s,SNR=7.9
ETOR Torete 7.31 52 P Pn 06 00 49.0 -1.7
ETOR S Sn 06 02 09.2 -5.2
ETOR Torete 7.31 52 P Pn 06 00 49.0 -1.7
SNR=7.9
ETOR S Sn 06 02 09.2 -5.2
SNR=4.0

WEL 31 06:00:39.6±0.2, 3671S×17714E, h33km, ML4.1/8, Error ellipse: s-maj=2.0km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.82**	**177**	P*	Pb	06 00 53.6	-1.9
WIZ				S*	Sb	06 01 04.2	-2.1
MYRZ	**Mayor Island**	**0.92**	**231**	P*	Pb	06 00 55.4	-1.8
MYRZ				S*	Sb	06 01 07.8	-1.3
KUZ	**Kuaotunu**	**1.14**	**267**	PN	Pn	06 00 58.7	-0.6
KUZ				SN	Sn	06 01 12.7	-1.1
TGRZ	**Tauranga**	**1.24**	**214**	P*	Pb	06 00 59.5	-3.1
MXZ	**Matakaoa Point**	**1.27**	**133**	P*	Pb	06 01 00.5	-2.4
MXZ				S*	Sb	06 01 16.9	-2.0
MARZ	**Manawahe**	**1.33**	**196**	P*	Pb	06 01 01.2	-2.8
LIRZ	**Lichensteins R**	**1.43**	**205**	P*	Pb	06 01 03.3	-2.4
KARZ	**Kaharoa**	**1.50**	**208**	P*	Pb	06 01 04.0	-2.9
URZ	**Urewera**	**1.55**	**181**	P*	Pb	06 01 04.4	-3.3
MKAZ	**Moumakai**	**1.63**	**255**	PN	Pn	06 01 06.1	+0.1
MWZ	**Matawai**	**1.66**	**169**	P*	Pb	06 01 06.0	-3.5
TOZ	**Tahuroa Road**	**1.66**	**231**	P*	Pb	06 01 06.5	-3.1
WCZ	**Waipu Caves**	**2.38**	**288**	PN	Pn	06 01 17.4	+1.1
HIZ	**Hauiti**	**2.56**	**224**	PN	Pn	06 01 19.5	+0.7
OUZ	**Omahuta**	**3.23**	**296**	PN	Pn	06 01 29.8	+1.7

CASC 31 06:03:21.4±2.5, 1172N×8786W, h3km, MD3.7, ML3.1, 3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.32**	**70**	⇓*e*P	Pn	06 03 45.1	-1.7
MIRN	**Miramar**	**1.33**	**57**	⇓*e*P	Pn	06 03 46.1	-0.7
MOMJ	**Momotombo**	**1.46**	**62**	⇓*e*P	Pn	06 03 48.1	-0.6
CNCH	**Conchagua**	**1.55**	**1**	*e*P	x	06 04 11.3	
CNCH				*e*S	x	06 04 31.2	
MGAN	**Managua**	**1.64**	**75**	*e*P	Pn	06 03 49.5	-1.5
MGAN				*e*S	Sn	06 04 13.9	+1.3
MGAN				*i*		06 04 16.6	
	comp=N,190nm,0.5s						
MGAN				*i*		06 04 16.9	
	comp=E,300nm,0.5s						
LCBS	**La Ceiba**	**2.21**	**331**	*e*P	x	06 04 21.9	
LFRS	**El Faro**	**2.22**	**328**	*e*P	x	06 04 21.1	
LFRS				*e*S	x	06 04 50.1	

IDC 31 06:06:54.2±8.3, 5389N×17632W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=392.1km s-min=31.1km az=8.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**44.17**	**76**	P	P	06 15 04.6	-0.1
	0.4nm,0.7s,baz=301,slow=4.2,SNR=4.1						
SONM	**Songino Array**	**46.89**	**296**	P	P	06 15 26.0	-0.2
	0.3nm,0.6s,baz=52,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**59.65**	**309**	P	P	06 16 59.7	-0.4
	0.2nm,0.3s,baz=46,slow=6.7,SNR=10						

IDC 31 06:15:57.5±1.1, 5202S×1650E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.6/3, MS3.6/2, Ms1 3.7/2, ms1mx3.2/16, Error ellipse: s-maj=57.2km s-min=31.2km az=82.0, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**21.52**	**197**	P	P	06 20 47.1	-0.9
	1.6nm,0.8s,baz=40,slow=11,SNR=12						
VNDA	**Vanda**	**48.95**	**171**	LR	LR	06 43 48.8	
	comp=Z,269nm,18.2s,baz=312,slow=34						
CFAA	**Coronel Fontan**	**62.72**	**253**	LR	LR	06 47 07.6	
	comp=Z,9.6nm,20.6s,baz=21,slow=30						
TORD	**Torodi Ar. Bea**	**66.15**	**344**	P	P	06 26 46.3	-0.3
	0.7nm,1.0s,baz=165,slow=5.4,SNR=3.7						
ASAR	**Alice Springs**	**86.96**	**125**	P	P	06 28 44.6	+0.2
	0.3nm,0.8s,baz=210,slow=4.5,SNR=6.9						
NVAR	**Mina Array Bea**	**145.96**	**265**	PKPbc	PKPbc	06 35 39.0	0.0
	1.4nm,0.7s,baz=150,slow=3.4,SNR=11						
YKA	**Yellowknife Ar**	**152.24**	**311**	PKPbc	PKPbc	06 35 53.3	-1.8
	0.1nm,0.8s,baz=97,slow=4.7,SNR=3.3						
YKA				PKPab	PKPab	06 36 02.5	-2.3
	0.3nm,0.9s,baz=106,slow=5.4,SNR=4.4						

IDC 31 06:40:48.1±2.1, 806S×7441W, h141km±26km, mb3.7/3, mb1 3.5/7, mb1mx3.4/20, mbtmp3.5/7, Error ellipse: s-maj=26.6km s-min=14.1km az=55.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.08**	**285**	P	Pn	06 41 50.1	+0.9
	12nm,0.3s,baz=73,slow=6.0,SNR=151						
ATAH				S	Sn	06 42 36.6	-0.1
	25nm,0.3s,baz=151,slow=5.7,SNR=10						
NNA	**Nana**	**4.58**	**211**	P	Pn	06 41 57.6	+1.9
	4.7nm,0.3s,baz=359,slow=8.4,SNR=12						
NNA				S	Sn	06 42 48.5	+0.2
	25nm,0.3s,baz=309,slow=23,SNR=18						
LPAZ	**La Paz**	**10.22**	**144**	P	Pn	06 43 10.7	-0.5
	0.1nm,0.3s,baz=321,slow=13,SNR=7.1						
SIV	**San Ignacio**	**15.24**	**122**	P	Pn	06 44 16.2	+0.4
	0.3nm,0.3s,baz=297,slow=11,SNR=12						
SIV				S	S	06 47 01.6	-9.5
	0.1nm,0.3s,baz=40,slow=20,SNR=3.6						
SJG	**San Juan**	**27.25**	**17**	P	P	06 46 19.4	+0.4
	9.9nm,0.8s,baz=200,slow=21,SNR=2.8						
YKA	**Yellowknife Ar**	**76.83**	**342**	P	P	06 52 24.0	-0.3
	0.1nm,0.5s,baz=144,slow=5.7,SNR=7.0						
YKA				pP	pP	06 53 00.8	+1.6
	0.2nm,0.7s,baz=142,slow=5.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**78.46**	**75**	P	P	06 52 34.0	+0.7
	1.9nm,0.7s,baz=268,slow=6.2,SNR=13						
ASAR	**Alice Springs**	**138.05**	**221**	PKP	PKPdf	06 59 57.2	+1.2
	0.3nm,0.9s,baz=147,slow=2.2,SNR=3.0						
WRA	**Warrarmunga Arr**	**140.31**	**225**	PKP	PKPdf	07 00 01.8	+1.7
	0.3nm,0.4s,baz=123,slow=1.9,SNR=2.6						
WRA				pPKP	pPKPdf	07 00 42.4	+4.6
	0.6nm,0.9s,baz=127,slow=2.0,SNR=2.6						

IDC 31 06:40:56.8±1.6, 1590N×14466E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=174.9km s-min=28.3km az=113.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrarmunga Arr**	**37.03**	**196**	P	P	06 48 08.8	+0.6
	0.2nm,0.3s,baz=20,slow=8.2,SNR=9.1						
FITZ	**Fitzroy Crossi**	**38.63**	**210**	P	P	06 48 21.7	-0.1
	0.9nm,0.3s,baz=26,slow=6.3,SNR=9.7						
ASAR	**Alice Springs**	**40.70**	**195**	P	P	06 48 39.2	+0.1
	0.2nm,0.5s,baz=20,slow=7.4,SNR=6.6						
YKA	**Yellowknife Ar**	**80.92**	**28**	P	P	06 53 12.9	0.0
	0.2nm,0.6s,baz=288,slow=5.5,SNR=4.9						

IDC 31 06:49:36.5±3.5, 1534N×14590E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, Error ellipse: s-maj=84.2km s-min=51.0km az=14.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.20**	**343**	P	P	06 54 34.1	-0.3
	0.9nm,0.4s,baz=165,slow=10.0,SNR=5.9						
KSRS	**Korea Array**	**27.19**	**327**	P	P	06 55 22.3	+0.5
	1.3nm,0.8s,baz=149,slow=11,SNR=4.7						
SONM	**Songino Array**	**45.91**	**323**	P	P	06 58 01.1	+0.2
	0.2nm,0.5s,baz=142,slow=3.3,SNR=3.7						
MKAR	**Makanchi Array**	**60.94**	**315**	P	P	06 59 52.3	+1.0
	0.3nm,0.4s,baz=90,slow=7.9,SNR=6.4						
BVAR	**Borovoye Array**	**69.19**	**321**	P	P	07 00 44.0	-0.9
	0.6nm,0.5s,baz=108,slow=4.7,SNR=3.1						
YKA	**Yellowknife Ar**	**80.86**	**28**	P	P	07 01 52.5	+0.1
	0.1nm,0.4s,baz=286,slow=5.6,SNR=5.3						

NIED ***31*** *07:15:00, 4650N×153.10E, h5km, Mw4.0 Best double couple: M0=1.03000×10^15 NP1:φ=57.00000°, δ=89.00000°, λ=108.00000°. NP2:φ=150.00000°, δ=18.00000°, λ=3.00000°.*
ISCJB ***31*** *07:15:04.8±3.7, 465N±0.1×153.1E±0.2, h46km±32km, mb3.8/13, Error ellipse: s-maj=26.1km s-min=22.4km az=47.1*
IDC ***31*** *07:15:07.8±4.9, 4643N×15302E, h58km±43km, mb3.5/13, mb1 3.7/14, mb1mx3.6/21, mbtmp3.5/14, ML3.3/1, Error ellipse: s-maj=23.8km s-min=19.5km az=93.0*
ISC 31 07:15:08.0±3.1, 465N±01×1531E±02, h60km±27km, n16, σ0=95/16, mb3.8/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.74**	**256**	P	**Pn**	**07 16 57.6**	**-0.3**
	0.5nm,0.3s,baz=272,slow=8.3,SNR=3.9						
KSRS	**Korea Array**	**20.67**	**253**	P	**P**	**07 19 45.8**	**+2.9**
	1.2nm,0.9s,baz=58,slow=11,SNR=2.9						
SONM	**Songino Array**	**31.38**	**290**	P	**P**	**07 21 24.5**	**+1.4**
	0.4nm,0.9s,mb3.2,baz=94,slow=15,SNR=2.5						
ZAL	**Zalesovo**	**42.75**	**306**	P	**P**	**07 22 57.8**	**-1.6**
	0.8nm,0.4s,mb3.8,baz=20,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**47.03**	**298**	P	**P**	**07 23 32.3**	**-1.0**
	0.6nm,0.5s,mb3.8,baz=68,slow=7.5,SNR=18						
YKA	**Yellowknife Ar**	**51.17**	**37**	P	**P**	**07 24 05.6**	**+0.6**
	0.9nm,1.0s,mb3.6,baz=297,slow=7.4,SNR=4.3						
ARCES	**ARCESS Array B**	**58.10**	**341**	P	**P**	**07 24 54.8**	**-0.3**
	1.4nm,0.8s,mb4.0,baz=15,slow=8.4,SNR=5.2						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**07 25 36.1**	**-0.8**
	1.9nm,0.7s,mb4.2,baz=35,slow=6.3,SNR=11						
PDAR	**Pinedale Array**	**64.94**	**54**	P	**P**	**07 25 41.3**	**0.0**
	0.2nm,0.7s,mb3.2,baz=307,slow=6.7,SNR=2.8						
WRA	**Warrarmunga Arr**	**68.24**	**199**	P	**P**	**07 26 01.4**	**-0.9**
	0.4nm,0.8s,mb3.5,baz=16,slow=6.9,SNR=4.5						
NB2	**NORSAR Subarra**	**68.47**	**341**	P	**P**	**07 26 03.9**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.47**	**341**	P	**P**	**07 26 04.1**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=28,slow=6.4,SNR=5.8						
AKASG	**Malin Array Be**	**71.75**	**326**	P	**P**	**07 26 23.4**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=35,slow=6.3,SNR=6.1						
ASAR	**Alice Springs**	**71.93**	**198**	P	**P**	**07 26 24.9**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=11,slow=5.4,SNR=11						
BRTR	**Keskin Array B**	**78.56**	**317**	P	**P**	**07 27 04.3**	**+1.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=58,slow=6.4,SNR=8.9						
GERES	**GERESS Array B**	**78.68**	**334**	P	**P**	**07 27 04.2**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=19,slow=6.1,SNR=4.5						

ISCJB ***31*** *07:21:31.3±0.5, 4376N±005×14353E±007, h177km±3km, mb3.4/6, Error ellipse: s-maj=8.3km s-min=7.8km az=75.4*
IDC ***31*** *07:21:32.8±1.0, 4381N×14345E, h174km±7km, mb3.0/6, mb1 3.1/7, mb1mx3.0/21, mbtmp3.0/7, Error ellipse: s-maj=26.4km s-min=17.8km az=84.0*
JMA ***31*** *07:21:32.4±0.2, 4377N×14347E, h174km±2km, M2.9*
ISC 31 07:21:32.4±0.5, 4376N±005×14353E±007, h173km±3km, n23, σ0=61/34, mb3.4/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMP	**Maruseppu**	**0.28**	**334**	P	**Pn**	**07 21 55.8**	**+0.3**
JMP				*e*S	**Sn**	**07 22 13.4**	**+0.1**
JTKR	**Abashiri--Toko**	**0.35**	**53**	P	**Pn**	**07 21 56.2**	**+0.5**
JTKR				*e*S	**Sn**	**07 22 14.0**	**+0.3**
JAR	**Ashorobuto**	**0.50**	**159**	P	**Pn**	**07 21 56.9**	**+0.6**
JAR				*e*S	**Sn**	**07 22 15.3**	**+0.7**
JKK2	**Kamakawa 2**	**0.57**	**282**	P	**Pn**	**07 21 56.9**	**+0.3**
JKK2				*e*S	**Sn**	**07 22 15.4**	**+0.1**
ASAJ	**Asahikawa**	**0.76**	**298**	P	**Pn**	**07 21 58.0**	**+0.3**
	36nm,0.3s,baz=172,slow=2.4,SNR=257						
JFR	**Furan**	**0.90**	**229**	P	**Pn**	**07 21 59.1**	**+0.5**
JFR				*e*S	**Sn**	**07 22 19.2**	**+0.4**
JAK	**Akkeshi**	**1.15**	**131**	P	**Pn**	**07 22 00.5**	**0.0**
JAK				*e*S	**Sn**	**07 22 22.0**	**-0.1**
JCH	**Churui**	**1.15**	**186**	P	**Pn**	**07 22 00.3**	**-0.2**
JCH				S	**Sn**	**07 22 21.0**	**-1.2**
JRA	**Rausu**	**1.17**	**81**	P	**Pn**	**07 22 01.8**	**+1.1**
JHR	**Hokuryu**	**1.31**	**270**	P	**Pn**	**07 22 01.9**	**0.0**
JSE	**Soyaes**	**1.38**	**331**	P	**Pn**	**07 22 02.3**	**-0.2**
JSE				*e*S	**Sn**	**07 22 24.8**	**-1.0**
JNBK	**Urakawa-nobuka**	**1.58**	**201**	P	**Pn**	**07 22 04.3**	**-0.2**
JNBK				*e*S	**Sn**	**07 22 28.2**	**-1.2**
NEM2	**Nemuro 2**	**1.66**	**103**	P	**Pn**	**07 22 05.0**	**-0.3**
NEM2				*e*S	**Sn**	**07 22 29.6**	**-1.1**
JEW	**Eniwo**	**1.77**	**239**	P	**Pn**	**07 22 06.7**	**+0.2**
JEW				*e*S	**Sn**	**07 22 32.8**	**0.0**
JWK2	**Keihoku**	**1.94**	**324**	P	**Pn**	**07 22 08.6**	**+0.3**
JSK	**Shakotan**	**2.25**	**261**	P	**Pn**	**07 22 11.4**	**-0.4**
MJAR	**Matsushiro Arr**	**8.28**	**211**	P	**Pn**	**07 23 30.3**	**+1.1**
	baz=15,slow=16,SNR=2.4						
SONM	**Songino Array**	**26.04**	**292**	P	**P**	**07 26 49.4**	**0.0**
	0.7nm,0.4s,mb3.6,baz=89,slow=8.1,SNR=7.6						
MKAR	**Makanchi Array**	**42.24**	**296**	P	**P**	**07 29 08.1**	**-0.3**
	0.5nm,0.5s,mb3.4,baz=80,slow=9.8,SNR=11						
YKA	**Yellowknife Ar**	**57.23**	**33**	P	**P**	**07 31 01.6**	**+0.1**
	0.1nm,0.6s,mb2.8,baz=308,slow=6.7,SNR=5.0						
FINES	**FINESS Array B**	**63.65**	**332**	P	**P**	**07 31 43.4**	**-1.6**
	2.5nm,0.9s,mb4.1,baz=139,slow=12,SNR=5.4						
WRA	**Warrarmunga Arr**	**63.95**	**190**	P	**P**	**07 31 47.1**	**+0.2**
	0.2nm,0.6s,mb3.2,baz=5.8,slow=6.6,SNR=3.1						
ASAR	**Alice Springs**	**67.67**	**190**	P	**P**	**07 32 11.5**	**+0.8**
	0.5nm,1.1s,mb3.2,baz=28,slow=5.7,SNR=4.2						

IDC 31 07:36:22.5±5.3, 1353N×14617E, h41km±45km, mb3.2/5, mb1 3.4/5, mb1mx3.2/21, mbtmp3.2/5, Error ellipse: s-maj=35.9km s-min=23.0km az=72.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.26**	**273**	P	Pn	07 36 43.8	+0.2
	72nm,0.3s,baz=143,slow=12,SNR=22						
GUMO				S	Sn	07 36 59.4	0.0
	106nm,0.3s,baz=229,slow=23,SNR=8.2						
WRA	**Warrarmunga Arr**	**35.24**	**200**	P	P	07 43 12.8	-0.1
	0.8nm,0.7s,baz=19,slow=9.3,SNR=5.7						
ASAR	**Alice Springs**	**38.86**	**198**	P	P	07 43 44.0	+0.4
	0.3nm,0.7s,baz=18,slow=10,SNR=7.3						
MKAR	**Makanchi Array**	**62.41**	**316**	P	P	07 46 41.7	+0.6
	0.1nm,0.4s,baz=90,slow=9.9,SNR=5.2						
BVAR	**Borovoye Array**	**70.76**	**322**	P	P	07 47 35.0	+0.6
	0.5nm,0.5s,baz=90,slow=4.6,SNR=2.2						
YKA	**Yellowknife Ar**	**82.33**	**28**	P	P	07 48 38.5	-1.3
	0.2nm,0.9s,baz=289,slow=5.3,SNR=2.7						

IDC 31 07:50:42.7±8.9, 568S×15116E, h84km±62km, mb3.0/2, mb1 3.3/3, mb1mx3.1/14, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=126.7km s-min=55.8km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**227**	P	Pn	07 52 01.3	+0.3
	2.6nm,0.3s,baz=20,slow=9.6,SNR=7.2						
PMG				S	Sn	07 53 03.3	+1.2
	2.9nm,0.3s,baz=146,slow=20,SNR=3.5						
WRA	**Warrarmunga Arr**	**21.65**	**228**	P	P	07 55 25.3	-0.8
	0.4nm,0.5s,baz=52,slow=9.8,SNR=7.4						
ASAR	**Alice Springs**	**24.41**	**221**	P	P	07 55 53.9	+0.7
	0.6nm,0.6s,baz=55,slow=9.3,SNR=13						
TORD	**Torodi Ar. Bea**	**149.00**	**286**	PKPbc	PKPbc	08 10 21.7	+0.8
	1.2nm,0.7s,baz=69,slow=2.2,SNR=8.7						

ISCJB ***31*** *08:02:17.5±2.8, 47S±02×15372E±007, h135km±25km, mb3.8/7, Error ellipse: s-maj=26.5km s-min=11.5km az=6.2*
IDC ***31*** *08:02:20.2±7.0, 465S×15361E, h139km±51km, mb3.7/7, mb1 3.8/9, mb1mx3.6/17, mbtmp3.7/9, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=60.3km s-min=22.8km az=89.0*
ISC 31 08:02:18.7±2.4, 46S±02×15372E±007, h128km±20km, n12, σ0=84/12, mb3.8/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.81**	**128**	S	**Sn**	**08 05 35.9**	**-0.3**
	9.3nm,0.3s,baz=266,slow=19,SNR=4.1						
HNR				LR	LR	08 06 37.7	
	comp=Z,52nm,18.7s,baz=179,slow=33						
PMG	**Port Moresby**	**8.05**	**234**	P	**Pn**	**08 04 13.2**	**+0.4**
	7.7nm,0.3s,baz=30,slow=5.5,SNR=17						
PMG				S	**Sn**	**08 05 41.2**	**-1.0**
	3.1nm,0.3s,baz=330,slow=18,SNR=8.9						
PMG				LR	LR	08 07 04.2	
	comp=Z,158nm,18.3s,baz=47,slow=36						
CTA	**Charters Tower**	**17.00**	**205**	P	**Pn**	**08 06 10.1**	**+1.5**
	0.2nm,0.3s,baz=98,slow=4.9,SNR=2.7						
WB2	**Warrarmunga Arr**	**24.24**	**229**	*e*P	**P**	**08 07 24.2**	**+0.7**
WRA	**Warrarmunga Arr**	**24.25**	**229**	P	**P**	**08 07 24.4**	**+0.8**
	9.6nm,0.7s,mb4.4,baz=53,slow=9.8,SNR=46						
ASAR	**Alice Springs**	**26.90**	**223**	P	**P**	**08 07 47.9**	**+0.3**
	0.9nm,0.6s,mb3.6,baz=54,slow=9.2,SNR=14						
STKA	**Stephens Creek**	**29.39**	**201**	P	**P**	**08 08 09.8**	**+0.1**
	2.5nm,0.8s,mb4.0,baz=17,slow=7.8,SNR=8.5						
FITZ	**Fitzroy Crossi**	**30.55**	**242**	P	**P**	**08 08 19.0**	**-0.9**
	3.8nm,1.0s,mb4.1,baz=127,slow=8.0,SNR=3.2						
SONM	**Songino Array**	**66.67**	**327**	P	**P**	**08 12 56.1**	**+0.6**
	0.1nm,0.4s,mb3.0,baz=140,slow=5.5,SNR=4.1						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**08 14 17.4**	**-0.5**
	0.7nm,0.9s,mb3.3,baz=101,slow=6.5,SNR=5.5						
MAW	**Mawson**	**86.08**	**203**	P	**P**	**08 14 43.4**	**-1.6**
	3.3nm,0.7s,mb4.2,baz=54,slow=8.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.12**	**289**	PKPbc	PKPbc	08 21 58.0	+1.4
	1.4nm,0.7s,baz=64,slow=2.4,SNR=9.4						
TORD				PKPab	PKPab	08 22 05.9	+1.1
	0.4nm,0.4s,baz=76,slow=4.1,SNR=6.1						

IDC ***31*** *08:13:03.4±2.0, 572S×15074E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/15, mbtmp4.0/5, ML3.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.3/21, Error ellipse: s-maj=102.1km s-min=26.1km az=129.0*
ISCJB ***31*** *08:13:09.0±4.3, 59S±04×1507E±04, h55km±35km, mb3.7/4, Error ellipse: s-maj=83.3km s-min=28.3km az=88.2*
ISC 31 08:13:09.8±4.0, 58S±03×1508E±04, h50km±33km, n10, σ0=48/8, mb3.7/4, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**225**	Pn	**Pn**	**08 14 23.2**	**+0.1**
	6.1nm,0.3s,baz=34,slow=9.2,SNR=13						
PMG				Sn	**Sn**	**08 15 20.5**	**+0.2**
	7.5nm,0.3s,baz=307,slow=14,SNR=6.1						
PMG				LR	LR	08 16 09.1	
	comp=Z,81nm,19.8s,baz=228,slow=36						
HNR	**Honiara**	**9.76**	**112**	LR	LR	08 18 49.2	
	comp=Z,71nm,20.5s,baz=360,slow=35						
KAKA	**Kakadu**	**19.35**	**248**	*e*P	**Pn**	**08 17 32.2**	**-0.4**
	6.4nm,0.6s						
WB2	**Warrarmunga Arr**	**21.27**	**227**	*e*P	**P**	**08 17 51.4**	**-0.5**
WRA	**Warrarmunga Arr**	**21.28**	**227**	P	**P**	**08 17 51.8**	**-0.1**
	4.4nm,0.8s,mb3.8,baz=52,slow=11,SNR=25						
ASAR	**Alice Springs**	**24.06**	**221**	P	**P**	**08 18 20.2**	**-0.1**
	1.8nm,0.6s,mb3.7,baz=56,slow=8.8,SNR=36						
FITZ	**Fitzroy Crossi**	**27.42**	**241**	P	**P**	**08 18 51.3**	**+0.7**
	1.6nm,0.5s,mb3.8,baz=121,slow=4.0,SNR=8.1						
MK02	**Makanchi Array**	**79.77**	**319**	⇓Lg		08 24 51.3	
	3.6nm,0.7s,baz=314,slow=27						
YKA	**Yellowknife Ar**	**97.25**	**28**	P	**P**	**08 26 37.3**	**+0.1**
	0.1nm,0.7s,mb3.4,baz=264,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.69**	**286**	PKPbc	PKPbc	08 32 53.2	+1.8
	0.5nm,0.6s,baz=78,slow=2.9,SNR=3.7						

IDC ***31*** *08:21:37.7±1.1, 3416N×13934E, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/22, Error ellipse: s-maj=28.7km s-min=15.1km az=69.0*
ISCJB ***31*** *08:21:38.2±0.8, 3421N±003×13933E±005, h9km±4km, mb3.2/3, Error ellipse: s-maj=7.5km s-min=5.3km az=144.7*
JMA ***31*** *08:21:39.3, 3425N×13922E, h12km±1km, M3.1*
JMA Felt III J1.
ISC 31 08:21:38.7±0.8, 3422N±003×13933E±005, h8km±5km, n17, σ0=72/23, mb3.2/3, 3C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.16**	**258**	⇑P	**Pg**	**08 21 42.0**	**-0.1**
JKO				S	**Sg**	**08 21 44.3**	**-0.1**
NJJJ	**Nii jima 2**

KORR			*e*S	Sn	08 43 10.8	-3.8
ZEI	**Tsey**	**2.15 261**	*e*P	Pn	08 42 52.6	+0.5
LSNR	**Lesken**	**2.17 274**	*e*P	Pn	08 42 53.0	+0.6
LSNR			*e*S	Sn	08 43 15.1	-3.8

*NEIC **31** 08:42:23.6, 1721N×9499W, h135km, MD3.9(MEX), After MEX.*

MEX 31 08:42:23.0±0.8, 1722N×9496W, h139km±8km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.14**	**151**	*i* P	Pn	08 42 40.5	-1.3
CMIG				*i* S	Sn	08 42 53.7	-2.3
OXX	**Oaxaca**	**1.69**	**266**	*i* P	Pn	08 42 53.0	-0.9
OXX				*i* S	Sn	08 43 17.0	-0.5
VHO	**Vista Hermosa**	**1.71**	**265**	*i* P	Pn	08 42 52.9	-1.1
VHO				*i* S	Sn	08 43 16.5	-1.2
HUIG	**Huatulco**	**1.82**	**218**	*i* P	Pn	08 42 53.2	-2.0
HUIG				*i* S	Sn	08 43 18.4	-1.5
TPIG	**Tehuac#an**	**2.58**	**298**	*i* P	Pn	08 43 03.4	-1.2
TPIG				*i* S	Sn	08 43 33.1	-3.5
CCIG	**Comitan**	**2.86**	**109**	*i* P	Pn	08 43 08.3	+0.2
CCIG				*i* S	Sn	08 43 43.0	+0.2
CCIG	**Comitan**	**2.86**	**109**	*i* P	Pn	08 43 08.8	+0.7
CCIG				*i* S	Sn	08 43 44.6	+1.8

*ISCJB **31** 09:11:44.6±1.0, 1713N±005×10100W±003, h29km±8km, mb3.5/4, Error ellipse: s-maj=9.2km s-min=4.2km az=32.4*
*NEIC **31** 09:11:46.8, 1714N×10103W, h14km, MD4.5(MEX), After MEX.*
*MEX **31** 09:11:47.1±0.7, 1714N×10103W, h20km±8km, MD4.5*
*IDC **31** 09:11:48.4±5.5, 1727N×10061W, h48km±52km, mb3.4/4, mb1 3.7/6, mb1mx3.5/20, mbtmp3.4/6, ML2.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/23, Error ellipse: s-maj=69.7km s-min=26.5km az=53.0*

ISC 31 09:11:45.5±1.1, 1719N±006×10099W±003, h19km±7km, n32, σ1§23/51, mb3.5/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**312**	*i* P	**Pg**	**09 11 57.0**	**-0.6**
ZIIG				*i* S	**Sg**	**09 12 05.2**	**-0.8**
MEIG	**Mezcala**	**1.50**	**61**	*i* P	**Pn**	**09 12 10.7**	**-0.6**
MEIG				*i* S	**Sn**	**09 12 29.0**	**-1.4**
PLIG	**Platanillo**	**1.85**	**50**	*i* P	**Pn**	**09 12 15.6**	**-0.7**
PLIG				*i* S	**Sn**	**09 12 39.3**	**+0.2**
MOIG	**Morelia**	**2.48**	**356**	*i* P	**Pn**	**09 12 25.5**	**+0.6**
MOIG				*i* S	**Sn**	**09 12 54.3**	**-0.3**
MOIG	**Morelia**	**2.48**	**356**	*i* P	**Pn**	**09 12 25.5**	**+0.6**
MOIG				*i* S	**Sn**	**09 12 56.2**	**+1.6**
MMIG	**Aquila**	**2.50**	**296**	*i* P	**Pn**	**09 12 24.3**	**-0.8**
MMIG				*i* S	**Sn**	**09 12 52.8**	**-2.2**
SZVM	**Salazar**	**2.61**	**36**	*e*P	**Pn**	**09 12 27.9**	**+1.2**
SZVM				*i* S	**Sn**	**09 12 56.8**	**-1.1**
PNIG	**Pinotepa**	**2.85**	**106**	*i* P	**Pn**	**09 12 30.1**	**0.0**
PNIG				*i* S	**Sn**	**09 13 03.8**	**-0.1**
PNIG	**Pinotepa**	**2.85**	**106**	*i* P	**Pn**	**09 12 25.9**	**-4.2**
PNIG				*i* S	**Sn**	**09 13 00.8**	**-3.1**
PTVM	**Pico Tres Padr**	**2.98**	**36**	*e*P	**Pn**	**09 12 28.4**	**-3.4**
PTVM				*i* S	**Sn**	**09 13 05.8**	**-1.1**
PTVM	**Pico Tres Padr**	**2.98**	**36**	*i* P	**Pn**	**09 12 28.8**	**-2.9**
PTVM				*i* S	**Sn**	**09 13 08.6**	**+1.6**
IIO	**Organos**	**3.21**	**42**	*i* P	**Pn**	**09 12 34.8**	**-0.2**
IIO				*i* S	**Sn**	**09 13 19.7**	**+7.0**
TPIG	**Tehuac#an**	**3.66**	**70**	*i* P	**Pn**	**09 12 42.1**	**+1.0**
TPIG				*i* S	**Sn**	**09 13 24.1**	**+0.3**
SFJM	**Santa Fe**	**3.81**	**330**	*i* P	**Pn**	**09 12 45.0**	**+1.9**
SFJM				*i* S	**Sn**	**09 13 31.0**	**+3.6**
VHO	**Vista Hermosa**	**4.07**	**91**	*i* P	**Pn**	**09 12 46.9**	**+0.1**
VHO				*i* S	**Sn**	**09 13 33.2**	**-0.7**
VHO	**Vista Hermosa**	**4.07**	**91**	*i* P	**Pn**	**09 12 49.2**	**+2.4**
VHO				*i* S	**Sn**	**09 13 33.2**	**-0.7**
OXX	**Oaxaca**	**4.08**	**91**	*e*P	**Pn**	**09 12 49.0**	**+2.1**
OXX				*i* S	**Sn**	**09 13 33.5**	**-0.6**
OXX	**Oaxaca**	**4.08**	**91**	*e*P	**Pn**	**09 12 55.0**	**+8.1**
OXX				*i* S	**Sn**	**09 13 33.5**	**-0.6**
CJM	**Chamela**	**4.48**	**301**	*e*P	**Pn**	**09 12 52.8**	**+0.4**
CJM				*i* S	**Sn**	**09 13 42.9**	**-1.1**
CJM	**Chamela**	**4.48**	**301**	*e*P	**Pn**	**09 12 54.3**	**+1.9**
CJM				*i* S	**Sn**	**09 13 42.9**	**-1.1**
HUIG	**Huatulco**	**4.89**	**106**	*i* S	**Sn**	**09 13 49.7**	**-4.4**
CMIG	**Matias Romero**	**5.84**	**90**	P	**Pn**	**09 13 07.6**	**-3.4**
0.0nm,0.3s,baz=210,slow=20,SNR=1.8							
CMIG				LR	LR	09 15 43.6	
comp=Z,134nm,20.6s,baz=283,slow=43							
CMIG	**Matias Romero**	**5.84**	**90**	*i* P	**Pn**	**09 13 12.0**	**+1.0**
CMIG				*i* S	**Sn**	**09 14 18.4**	**+0.9**
LNIG	**Linares**	**7.80**	**10**	*i* P	**Pn**	**09 13 43.5**	**+5.5**
LNIG				*i* S	**Sn**	**09 15 13.8**	**+8.1**
TEIG	**Tepich**	**12.42**	**74**	LR	LR	09 19 56.6	
comp=Z,48nm,18.9s,baz=225,slow=40							
ANMO	**Albuquerque**	**18.35**	**346**	P	**Pn**	**09 15 59.3**	**+0.5**
0.1nm,0.3s,baz=161,slow=8.9,SNR=7.6							
PFO	**Pinyon Flat Ob**	**21.46**	**323**	P	**P**	**09 16 34.0**	**+1.3**
2.2nm,0.8s,mb3.5,baz=123,slow=13,SNR=3.0							
NVAR	**Mina Array Bea**	**26.03**	**328**	P	**P**	**09 17 19.3**	**+1.9**
1.2nm,0.7s,mb3.5,baz=141,slow=9.6,SNR=10							
PDAR	**Pinedale Array**	**26.52**	**346**	P	**P**	**09 17 21.3**	**-0.5**
0.4nm,0.8s,mb3.0,baz=171,slow=6.4,SNR=4.3							
YKA	**Yellowknife Ar**	**46.25**	**351**	P	**P**	**09 20 08.6**	**-1.0**
1.0nm,0.7s,mb3.8,baz=160,slow=7.2,SNR=18							
WRA	**Warramunga Arr**	**127.67**	**258**	PKP	PKPdf	09 30 49.9	+0.3
0.4nm,0.7s,baz=88,slow=2.7,SNR=8.2							
ASAR	**Alice Springs**	**128.41**	**253**	PKP	PKPdf	09 30 50.7	-0.3
0.3nm,0.9s,baz=100,slow=2.8,SNR=4.2							

WEL 31 09:34:30.7±0.2, 3793S×17658E, h152km±2km, ML3.5/15, Error ellipse: s-maj=2.7km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.53**	**129**	PN	Pn	09 34 52.3	-0.1
URZ				SN	Sn	09 35 08.9	-0.1
MWZ	**Matawai**	**0.85**	**119**	PN	Pn	09 34 54.4	0.0
MWZ				SN	Sn	09 35 13.2	+0.6
BKZ	**Black Stump Fm**	**1.24**	**183**	PN	Pn	09 34 57.7	0.0
BKZ				SN	Sn	09 35 18.7	+0.2
PUZ	**Puketiti**	**1.33**	**97**	PN	Pn	09 34 58.3	-0.4
PUZ				SN	Sn	09 35 19.1	-1.0
KNZ	**Kokohu**	**1.39**	**142**	PN	Pn	09 34 59.4	+0.2
MXZ	**Matakaoa Point**	**1.42**	**76**	PN	Pn	09 35 00.1	+0.6
WTVZ	**West Tongariro**	**1.42**	**213**	PN	Pn	09 34 59.9	+0.4
OTVZ	**Oturere**	**1.43**	**210**	PN	Pn	09 35 00.2	+0.6
NGZ	**Ngauruhoe**	**1.47**	**211**	PN	Pn	09 35 00.6	+0.6
WPVZ	**Whakapapa**	**1.51**	**212**	PN	Pn	09 35 00.3	-0.2
TUVZ	**Tukino**	**1.52**	**208**	PN	Pn	09 35 00.9	+0.3
FWVZ	**Far West T-bar**	**1.55**	**211**	PN	Pn	09 35 01.4	+0.5
WNVZ	**Wahianoa**	**1.60**	**209**	PN	Pn	09 35 01.5	+0.1
MOVZ	**Moawhango**	**1.61**	**203**	PN	Pn	09 35 01.1	-0.4
MTVZ	**Mangateitei**	**1.70**	**210**	PN	Pn	09 35 02.5	+0.1
PXZ	**Pawanui**	**2.11**	**174**	PN	Pn	09 35 06.6	-0.7
TSZ	**Takapari Road**	**2.18**	**193**	PN	Pn	09 35 07.1	-1.0
WAZ	**Wanganui**	**2.21**	**214**	PN	Pn	09 35 08.0	-0.4
BFZ	**Birch Farm**	**2.76**	**185**	PN	Pn	09 35 13.6	-1.5
MRZ	**Mangatainoka R**	**2.84**	**196**	PN	Pn	09 35 14.0	-2.0
TIWZ	**Tintock**	**2.90**	**190**	PN	Pn	09 35 14.9	-1.8
KIW	**Kapiti Island**	**3.20**	**203**	PN	Pn	09 35 18.0	-2.7
MTW	**Mount Morrison**	**3.33**	**194**	PN	Pn	09 35 19.3	-3.0
CAW	**Cannon Point**	**3.38**	**200**	PN	Pn	09 35 20.1	-2.9
MRW	**Makara Radio**	**3.60**	**203**	PN	Pn	09 35 22.9	-2.9
SNZO	**South Karori**	**3.67**	**203**	PN	Pn	09 35 23.5	-3.2
TCW	**Tory Channel**	**3.73**	**208**	PN	Pn	09 35 24.3	-3.1
TUWZ	**Tuamarina**	**4.05**	**209**	PN	Pn	09 35 28.0	-3.5
NNZ	**Nelson**	**4.11**	**216**	PN	Pn	09 35 29.2	-3.2
QRZ	**Quartz Range**	**4.27**	**226**	PN	Pn	09 35 30.5	-4.0
THZ	**Tophouse**	**4.76**	**215**	PN	Pn	09 35 37.2	-3.7
KHZ	**Kahutara**	**5.05**	**206**	PN	Pn	09 35 40.8	-4.0

*IGQ **31** 09:55:51.2, 131S×7790W, h224km±4km, Mb4.4, Ms4.2, Error ellipse: s-maj=4.0km s-min=3.2km az=51.2*
*ISCJB **31** 09:55:55.1±0.3, 129S±004×7789W±007, h196km±2km, mb3.9/20, Error ellipse: s-maj=12.3km s-min=5.8km az=165.0*
*IDC **31** 09:55:56.0±1.4, 132S×7771W, h188km±14km, mb3.5/13, mb1 3.8/19, mb1mx3.7/27, mbtmp3.7/19, MS3.2/1, Ms1 3.2/1, ms1mx2.4/26, Error ellipse: s-maj=17.9km s-min=8.2km az=76.0*
*NEIC **31** 09:55:56.0±0.9, 129S×7779W, h188km±9km, mb4.2/8, MD4.3(IGQ), Error ellipse: s-maj=16.6km s-min=7.6km az=72.0*

ISC 31 09:55:56.0±0.3, 130S±004×7786W±007, h189km±2km, n67, σ1§00/72, mb4.0/20, 5C-17D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.57**	**255**	⇑P	**Pn**	**09 56 21.8**	**-0.3**
RUN5	**Runtun**	**0.58**	**259**	⇓P	**Pn**	**09 56 21.9**	**-0.3**
PISA	**Pisayambo**	**0.58**	**295**	⇓P	**Pn**	**09 56 22.3**	**+0.1**
RETU	**Refugio**	**0.61**	**256**	⇑P	**Pn**	**09 56 22.2**	**-0.1**
JUIV	**Juive**	**0.62**	**259**	P	**Pn**	**09 56 21.8**	**-0.6**
BILB	**Tungurahua vol**	**0.66**	**258**	⇑P	**Pn**	**09 56 22.2**	**-0.4**
TAMB	**Tambo**	**0.79**	**320**	⇓P	**Pn**	**09 56 23.2**	**-0.1**
TAMB				S	**Sn**	**09 56 48.0**	**+3.7**
IGUA	**Igualata**	**0.80**	**257**	⇓P	**Pn**	**09 56 23.2**	**-0.1**
VC1	**Cotopaxi 1**	**0.85**	**320**	⇓P	**Pn**	**09 56 23.7**	**0.0**
CAMI	**Rancho Maria**	**0.90**	**314**	⇓P	**Pn**	**09 56 24.3**	**+0.4**
CAMI				S	**Sn**	**09 56 47.1**	**+1.6**
ANTI	**Antisana**	**0.90**	**340**	⇓P	**Pn**	**09 56 23.9**	**-0.1**
LAV3	**Lava3-Reventad**	**1.22**	**11**	⇓P	**Pn**	**09 56 25.5**	**-0.8**
CONE	**Cono NE Rev Vo**	**1.25**	**10**	⇓P	**Pn**	**09 56 25.9**	**-0.6**
JUA2	**San Juan 2**	**1.32**	**325**	⇓P	**Pn**	**09 56 26.7**	**-0.4**
JUA2				S	**Sn**	**09 56 51.7**	**+0.5**
CAYR	**Refugio Cayamb**	**1.32**	**354**	P	**Pn**	**09 56 27.1**	**0.0**
GGP	**Refugio Guagua**	**1.34**	**327**	⇓P	**Pn**	**09 56 27.1**	**-0.2**
TERV	**Terraza Guagua**	**1.35**	**326**	⇓P	**Pn**	**09 56 27.2**	**-0.1**
PINO	**Pino**	**1.36**	**327**	⇓P	**Pn**	**09 56 27.4**	**-0.1**
CAYA	**Cayambe**	**1.37**	**354**	⇓P	**Pn**	**09 56 27.7**	**+0.1**
CAYA				S	**Sn**	**09 56 54.5**	**+2.5**
YANA	**Yana**	**1.38**	**329**	⇓P	**Pn**	**09 56 27.3**	**-0.4**
YANA				S	**Sn**	**09 56 51.7**	**-0.4**
OTAV	**Otavalo**	**1.64**	**339**	⇑*e*Pn	**Pn**	**09 56 29.1**	**-1.0**
COTA	**Cotacachi**	**1.70**	**344**	⇓P	**Pn**	**09 56 30.5**	**-0.1**
JAMA	**Jama**	**2.57**	**294**	⇓P	**Pn**	**09 56 38.1**	**-1.9**
JAMA				S	**Sn**	**09 57 08.9**	**-5.3**
CHIS	**Cerro-Chispas-**	**2.88**	**275**	⇑P	**Pn**	**09 56 42.0**	**-1.7**
CHIS				S	**Sn**	**09 57 16.0**	**-4.7**
ATAH	**Atahualpa**	**5.68**	**185**	P	**Pn**	**09 57 20.9**	**+2.0**
39nm,0.3s,baz=9.5,slow=7.5,SNR=155							
ATAH				S	**Sn**	**09 58 24.8**	**+0.4**
31nm,0.3s,baz=206,slow=4.6,SNR=11							
ROSC	**El Rosal**	**7.06**	**30**	P	**Pn**	**09 57 37.9**	**+0.9**
3.4nm,0.3s,baz=84,slow=5.3,SNR=4.4							
NNA	**Nana**	**10.66**	**175**	P	**Pn**	**09 58 23.3**	**-0.6**
8.6nm,0.3s,baz=359,slow=12,SNR=17							
NNA				S	**Sn**	**10 00 12.7**	**-10**
7.5nm,0.3s,baz=272,slow=21,SNR=6.3							
NNA	**Nana**	**10.66**	**175**	*e*Pn	**Pn**	**09 58 23.6**	**-0.3**
NNA				*e*Sn	**Sn**	**10 00 12.9**	**-10**
JTS	**JuntasAbangare**	**13.51**	**329**	P	**Pn**	**09 59 01.6**	**+1.4**
0.5nm,0.3s,baz=124,slow=20,SNR=5.3							
JTS	**JuntasAbangare**	**13.51**	**329**	*e*Pn	**Pn**	**09 59 01.6**	**+1.4**
PCRV	**Puerto La Cruz**	**17.41**	**49**	P	**Pn**	**09 59 47.2**	**-0.5**
2.1nm,0.3s,baz=280,slow=3.4,SNR=14							
PCRV				LR	LR	10 05 50.6	
comp=Z,66nm,18.2s,baz=285,slow=34							
LPAZ	**La Paz**	**17.71**	**148**	P	**Pn**	**09 59 50.9**	**-0.2**
1.2nm,0.3s,baz=327,slow=9.2,SNR=20							
LPAZ	**La Paz**	**17.71**	**148**	*e*P	**Pn**	**09 59 51.0**	**-0.1**
4.5nm,0.5s							
SIV	**San Ignacio**	**22.06**	**132**	P	**P**	**10 00 35.8**	**+0.1**
4.0nm,0.6s,mb4.0,baz=308,slow=10,SNR=23							
CMIG	**Matias Romero**	**24.82**	**318**	P	**P**	**10 01 04.0**	**+3.3**
1.9nm,0.8s,mb3.7,baz=164,slow=9.1,SNR=3.8							
CFAA	**Coronel Fontan**	**31.48**	**164**	P	**P**	**10 02 01.5**	**+1.7**
0.2nm,0.3s,mb3.3,baz=341,slow=5.7,SNR=6.4							
CFAA	**Coronel Fontan**	**31.48**	**164**	P	**P**	**10 02 01.5**	**+1.7**
TKL	**Tuckaleechee C**	**37.18**	**352**	P	**P**	**10 02 49.2**	**+0.3**
2.2nm,0.8s,mb3.8,baz=210,slow=5.1,SNR=4.6							
TKL	**Tuckaleechee C**	**37.18**	**352**	P	**P**	**10 02 49.2**	**+0.3**
WVT	**Waverly**	**38.38**	**347**	*e*P	**P**	**10 02 57.6**	**-1.3**
3.8nm,0.6s,mb4.2							
ELN	**Prospectdale**	**38.43**	**356**	*e*P	**P**	**10 03 00.3**	**+1.0**
PLCA	**Paso Flores**	**39.80**	**171**	P	**P**	**10 03 11.8**	**+1.2**
4.9nm,0.7s,mb4.2,baz=330,slow=8.4,SNR=17							
PLCA	**Paso Flores**	**39.80**	**171**	*e*P	**P**	**10 03 11.7**	**+1.0**
4.7nm,0.7s,mb4.2							
SIUC	**Southern Illin**	**40.22**	**346**	*e*P	**P**	**10 03 13.2**	**-0.9**
14nm,1.0s,mb4.6							
FVM	**French Village**	**40.78**	**345**	*e*P	**P**	**10 03 18.0**	**-0.7**
11nm,0.8s,mb4.5							
WMOK	**Wichita Mounta**	**40.87**	**333**	*e*P	**P**	**10 03 19.9**	**+0.6**
BLO	**Bloomington**	**41.06**	**350**	*e*P	**P**	**10 03 19.8**	**-1.2**
12nm,0.6s,mb4.7							
KSU1	**Kansas State U**	**43.75**	**339**	*e*P	**P**	**10 03 42.1**	**-0.5**
3.3nm,0.6s,mb4.1							
ANMO	**Albuquerque**	**44.92**	**326**	P	**P**	**10 03 54.2**	**+2.3**
2.7nm,0.6s,mb4.1,baz=139,slow=8.3,SNR=19							
ANMO	**Albuquerque**	**44.92**	**326**	*e*P	**P**	**10 03 53.7**	**+1.8**
SDCO	**Great Sand Dun**	**46.51**	**330**	*e*P	**P**	**10 04 06.4**	**+2.1**
4.9nm,1.0s,mb4.1							
PDAR	**Pinedale Array**	**52.33**	**331**	P	**P**	**10 04 49.4**	**+1.0**
0.6nm,0.4s,mb3.5,baz=128,slow=9.6,SNR=7.8							
ULM	**Lac du Bonnet**	**53.63**	**346**	P	**P**	**10 04 56.4**	**-1.4**
2.4nm,0.5s,mb4.2,baz=156,slow=9.4,SNR=15							
ULM	**Lac du Bonnet**	**53.63**	**346**	P	**P**	**10 04 56.4**	**-1.4**
NVAR	**Mina Array Bea**	**54.30**	**321**	P	**P**	**10 05 05.2**	**+2.5**
0.4nm,0.6s,mb3.3,baz=128,slow=6.6,SNR=3.9							
SCHQ	**Schefferville**	**56.68**	**8**	P	**P**	**10 05 19.1**	**-0.5**
2.7nm,0.6s,mb4.2,baz=268,slow=3.2,SNR=6.0							
PMSA	**Palmer Station**	**64.12**	**173**	P	**P**	**10 06 08.3**	**-1.7**
11nm,0.3s,mb5.1,baz=2.8,slow=13,SNR=23							
YKA	**Yellowknife Ar**	**69.39**	**343**	P	**P**	**10 06 42.4**	**-0.9**
0.9nm,0.6s,mb3.7,baz=139,slow=5.9,SNR=42							
YKA	**Yellowknife Ar**	**69.39**	**343**	P	**P**	**10 06 42.4**	**-0.9**
INK	**Inuvik**	**79.12**	**342**	*e*P	**P**	**10 07 39.8**	**+0.2**
108nm,0.7s							
TORD	**Torodi Ar. Bea**	**80.12**	**77**	P	**P**	**10 07 43.9**	**-1.1**
0.8nm,0.4s,mb3.7,baz=278,slow=6.0,SNR=31							
SNAA	**Sanae**	**84.08**	**162**	P	**P**	**10 08 04.9**	**-0.5**
0.9nm,0.7s,mb3.6,baz=319,slow=8.0,SNR=9.4							
ASAR	**Alice Springs**	**140.39**	**229**	PKP	PKPdf	10 15 03.4	+1.0
0.9nm,0.7s,baz=100,slow=1.9,SNR=8.3							
WRA	**Warramunga Arr**	**142.02**	**235**	PKP	PKPdf	10 15 05.6	+0.2
1.3nm,0.6s,baz=115,slow=2.2,SNR=11							
KAKA	**Kakadu**	**146.86**	**244**	*e*P	PKPbc	10 15 16.9	+1.0
10nm,0.6s							
FITZ	**Fitzroy Crossi**	**149.89**	**229**	*e*P	PKPbc	10 15 24.8	+1.1
11nm,0.8s							
FITZ	**Fitzroy Crossi**	**149.89**	**229**	PKPbc	PKPbc	10 15 25.2	+1.5
5.6nm,0.7s,baz=182,slow=5.8,SNR=9.4							

IDC 31 10:05:58.5±1.5, 4661N×15479E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.5/4, Error ellipse: s-maj=46.5km s-min=33.8km az=107.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.03**	**298**	P	P	10 14 38.7	-0.8
0.3nm,0.7s,baz=72,slow=9.0,SNR=4.4							
YKA	**Yellowknife Ar**	**50.35**	**37**	P	P	10 14 56.3	-0.8
0.2nm,0.7s,baz=296,slow=7.5,SNR=4.7							
FINES	**FINESS Array B**	**64.66**	**335**	P	P	10 16 38.0	0.0
1.8nm,0.9s,baz=58,slow=7.2,SNR=4.8							
ASAR	**Alice Springs**	**72.45**	**200**	P	P	10 17 26.8	0.0
0.3nm,0.8s,baz=16,slow=4.9,SNR=4.9							

IDC 31 10:09:23.6±10.0, 276N×12835E, h119km±99km, mb3.2/4, mb1 3.4/4, mb1mx3.2/17, mbtmp3.2/4, Error ellipse: s-maj=78.7km s-min=18.2km az=82.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**166**	P	P	10 14 21.4	+0.5
0.9nm,0.5s,baz=344,slow=11,SNR=33							
ASAR	**Alice Springs**	**26.82**	**169**	P	P	10 14 53.0	+0.4
0.3nm,0.5s,baz=349,slow=7.3,SNR=11							
ASAR				PcP	PcP	10 18 12.1	-0.2
0.3nm,0.6s,baz=354,slow=2.8,SNR=5.5							
MJAR	**Matsushiro Arr**	**34.82**	**14**	P	P	10 16 02.2	-0.7
1.1nm,0.7s,baz=178,slow=8.3,SNR=4.6							
SONM	**Songino Array**	**48.73**	**340**	P	P	10 17 56.7	+0.7
0.4nm,0.6s,baz=151,slow=6.8,SNR=3.5							

WEL 31 10:16:23.0±0.8, 3559S×17890E, h212km±14km, ML3.6/9, Error ellipse: s-maj=14.9km s-min=12.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.02**	**194**	PN	Pn	10 17 02.2	-0.4
MXZ				SN	S	10 17 33.4	-0.2
PUZ	**Puketiti**	**2.53**	**192**	PN	Pn	10 17 08.2	+0.3
PUZ				SN	S	10 17 42.3	-0.8
MWZ	**Matawai**	**2.95**	**202**	PN	Pn	10 17 13.5	+0.8
URZ	**Urewera**	**3.02**	**208**	PN	Pn	10 17 13.7	+0.2
URZ				SN	S	10 17 53.3	+0.2
BKZ	**Black Stump Fm**	**4.05**	**208**	PN	Pn	10 17 26.2	+0.4
PXZ	**Pawanui**	**4.72**	**199**	PN	Pn	10 17 33.3	-0.8
MRZ	**Mangatainoka R**	**5.70**	**206**	PN	Pn	10 17 45.2	-1.3
NNZ	**Nelson**	**7.09**	**216**	PN	Pn	10 18 03.6	-0.8

IDC 31 10:55:50.7±7.3, 1691S×7082W, h186km±38km, mb3.2/2, mb1 3.2/3, mb1mx3.0/16, mbtmp3.0/3, Error ellipse: s-maj=145.2km s-min=47.8km az=15.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.65**	**77**	P	Pn	10 56 36.2	+0.8
0.4nm,0.3s,baz=190,slow=6.4,SNR=8.3							
LPAZ				S	Sn	10 57 11.8	+1.5
0.5nm,0.3s,baz=178,slow=12,SNR=6.1							
TORD	**Torodi Ar. Bea**	**77.59**	**72**	P	P	11 07 26.9	+0.7
0.7nm,0.6s,baz=252,slow=5.9,SNR=5.2							
YKA	**Yellowknife Ar**	**86.28**	**341**	P	P	11 08 10.9	-0.5
0.3nm,0.8s,baz=132,slow=4.4,SNR=7.1							

*IDC **31** 11:01:56.5±1.4, 1348N×11992E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=26.8km s-min=14.0km az=133.0*
*MAN **31** 11:01:58.7, 1360N×11985E, h7km, mb2.1, ML3.8, MS2.6*
*ISCJB **31** 11:01:59.7±1.3, 135N±01×1199E±02, h35km, mb3.5/3, Error ellipse: s-maj=30.5km s-min=15.5km az=21.6*

ISC 31 11:02:01.9±1.3, 135N±01×1201E±02, h35km, n6, σ0§67/6, mb3.5/3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.04**	**55**	Pg	**Pn**	**11 02 19.5**	**-0.4**
93nm,0.3s,baz=267,slow=2.1,SNR=10							
TGY				Lg		11 02 34.1	
265nm,0.3s,baz=295,slow=22,SNR=11							
TGY	**Tagaytay City**	**1.04**	**55**	⇑*e*P	**Pn**	**11 02 19.5**	**-0.5**
PCPH	**Palayan**	**2.28**	**26**	⇑*e*P	**Pn**	**11 02 37.7**	**+0.7**
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**11 08 59.7**	**-0.4**
0.2nm,0.7s,mb3.2,baz=148,slow=8.5,SNR=3.2							
WRA	**Warramunga Arr**	**36.09**	**157**	P	**P**	**11 08 59.9**	**-0.3**
1.0nm,0.7s,mb3.9,baz=336,slow=9.6,SNR=9.0							
ASAR	**Alice Springs**	**39.35**	**160**	P	**P**	**11 09 28.2**	**+0.5**
0.5nm,0.7s,mb3.4,baz=334,slow=7.0,SNR=8.1							

IDC 31 11:39:36.5±6.6, 156N×9928E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=353.9km s-min=27.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.48**	**124**	P	P	11 47 18.1	+1.2
0.2nm,0.5s,baz=303,slow=8.9,SNR=3.4							
ASAR	**Alice Springs**	**41.98**	**129**	P	P	11 47 28.4	-0.7
0.1nm,0.5s,baz=290,slow=8.0,SNR=4.1							
MKAR	**Makanchi Array**	**47.43**	**344**	P	P	11 48 12.7	0.0
0.2nm,0.6s,baz=141,slow=7.4,SNR=3.0							

*ISCJB **31** 11:43:13.0±0.7,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOB				S	**Sn**	**11 45 00.3**	**+0.3**
	11nm,1.3s						
EBAD	**Badajoz**	**4.22**	**327**	P	**Pn**	**11 44 17.3**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**5.73**	**47**	P	**Pn**	**11 44 38.1**	**-0.2**
	0.3nm,0.1s,SNR=7.9						

*ISCJB **31** 12:03:31.1±3.8, 239S±0.1×1799W±0.2, h500km±47km, mb4.1/11, Error ellipse: s-maj=26.5km s-min=19.4km az=107.3*
*IDC **31** 12:03:31.7±2.3, 2403S×17973W, h501km±22km, mb3.5/6, mb1 3.7/7, mb1mx3.5/14, mbtmp3.5/7, Error ellipse: s-maj=25.7km s-min=22.3km az=131.0*
*NEIC **31** 12:03:34.9±3.4, 2417S×17973W, h548km±39km, mb4.7/2, Error ellipse: s-maj=35.5km s-min=17.1km az=192.0*

ISC 31 12:03:33.9±3.9, 241S±02×1798W±02, h526km±50km, n25, σ0§64/22, mb4.2/10, 5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.36**	**190**	P	**P**	**12 06 36.5**	**-0.4**
	4.2nm,0.3s,baz=305,slow=2.5,SNR=19						
URZ				S	**S**	**12 09 07.8**	**0.0**
	1.1nm,0.3s,baz=60,slow=21,SNR=12						
QRZ	**Quartz Range**	**17.88**	**199**	PN	**P**	**12 07 11.9**	**+0.1**
THZ	**Tophouse**	**18.64**	**197**	PN	**P**	**12 07 18.1**	**-0.6**
LTZ	**Lake Taylor**	**19.76**	**198**	*e*PN	**P**	**12 07 30.1**	**+1.3**
RPZ	**Rata Peaks**	**20.96**	**199**	P	**P**	**12 07 39.4**	**-0.4**
	5.4nm,0.6s,baz=57,slow=15,SNR=4.7						
ARMA	**Armidale**	**26.15**	**250**	*e*P	**P**	**12 08 27.5**	**+1.5**
CTA	**Charters Tower**	**31.69**	**270**	⇓*i*P	**P**	**12 09 14.5**	**+0.3**
	22nm,0.4s,mb5.0						
CTAO	**Charters Tower**	**31.69**	**270**	*e*P	**P**	**12 09 14.6**	**+0.4**
	23nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**34.85**	**248**	⇓*i*P	**P**	**12 09 41.2**	**+0.4**
	0.5nm,0.9s,mb3.0						
STKA	**Stephens Creek**	**34.85**	**248**	⇓*i*P	**P**	**12 09 41.3**	**+0.5**
	2.3nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**34.85**	**248**	P	**P**	**12 09 41.4**	**+0.6**
	1.7nm,0.3s,mb4.0,baz=101,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**42.22**	**261**	P	**P**	**12 10 40.5**	**0.0**
	5.7nm,0.5s,mb4.4,baz=97,slow=7.3,SNR=194						
ASAR				ScP	ScP	12 15 25.8	+2.9
	0.5nm,1.0s,baz=93,slow=3.9,SNR=5.0						
WB2	**Warramunga Arr**	**42.60**	**266**	⇓*i*P	**P**	**12 10 42.9**	**-0.7**
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**12 10 43.0**	**-0.6**
	14nm,0.3s,mb4.9,baz=96,slow=8.4,SNR=193						
FORT	**Forrest**	**46.44**	**250**	*e*P	**P**	**12 11 12.7**	**-0.5**
	4.0nm,0.7s,mb4.1						
FORT	**Forrest**	**46.44**	**250**	*e*P	**P**	**12 11 12.7**	**-0.5**
	22nm,0.5s,mb5.0						
KAKA	**Kakadu**	**46.54**	**275**	⇓*i*P	**P**	**12 11 13.0**	**-1.0**
	9.0nm,0.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.03**	**266**	*e*P	**P**	**12 11 47.4**	**+0.2**
	14nm,0.8s,mb4.4						
KLBR	**Kellerberrin**	**55.11**	**247**	*e*P	**P**	**12 12 15.9**	**-0.4**
	2.4nm,0.3s,mb3.9						
KSRS	**Korea Array**	**78.55**	**320**	P	**P**	**12 14 41.5**	**+0.8**
	0.7nm,0.6s,mb3.1,baz=127,slow=5.6,SNR=5.0						
NVAR	**Mina Array Bea**	**84.75**	**44**	P	**P**	**12 15 12.4**	**-0.1**
	0.2nm,0.5s,mb2.9,baz=229,slow=4.2,SNR=3.3						
AKASG	**Malin Array Be**	**145.26**	**327**	PKPbc	PKPbc	12 22 11.1	-1.5
	0.3nm,0.3s,baz=41,slow=4.1,SNR=4.5						
AKASG				SKPbc	SKPbc	12 25 03.3	+1.8
	0.1nm,0.3s,baz=42,slow=2.7,SNR=4.7						
AKASG	**Malin Array Be**	**145.26**	**327**	PKPbc	PKPbc	12 22 11.1	-1.5
AKASG				SKPbc	SKPbc	12 25 03.3	+1.8
BRTR	**Keskin Array B**	**147.88**	**307**	PKPbc	PKPbc	12 22 19.8	0.0
	0.3nm,0.4s,baz=75,slow=4.0,SNR=3.8						
VYHS	**Vyhne**	**151.57**	**334**	*e*PKP	PKPdf	12 22 19.8	-1.9

IDC 31 12:12:51.0±2.7, 2878S×17808W, h119km±50km, mb2.9/2, mb1 3.2/2, mb1mx3.1/12, mbtmp2.9/2, Error ellipse: s-maj=167.4km s-min=62.2km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.49**	**163**	P	Pn	12 13 10.5	+1.8
	324nm,0.3s,baz=86,slow=11,SNR=31						
RAO				S	Sn	12 13 23.6	+1.5
	583nm,0.3s,baz=91,slow=22,SNR=15						
ASAR	**Alice Springs**	**43.15**	**265**	P	P	12 20 40.5	+0.8
	0.3nm,0.5s,baz=104,slow=7.2,SNR=7.9						
WRA	**Warramunga Arr**	**43.99**	**271**	P	P	12 20 46.1	-0.4
	0.2nm,0.4s,baz=111,slow=7.5,SNR=5.1						
FINES	**FINESS Array B**	**143.60**	**341**	PKP	PKPdf	12 32 10.4	-1.3
	1.1nm,0.4s,baz=64,slow=4.1,SNR=14						

*ISCJB **31** 12:13:06.9±0.6, 4033N×2395E±004, h11km±4km, Error ellipse: s-maj=6.2km s-min=5.5km az=59.7*
*ATH **31** 12:13:06.5, 4025N×2383E, h33km, MD2.9/3*
*CSEM **31** 12:13:07.9±0.1, 4034N×2394E, h2km, ML1.7, Error ellipse: s-maj=2.5km s-min=2.1km az=39.0*
*THE **31** 12:13:08.0, 4033N×2393E, h1km, ML1.7*

ISC 31 12:13:07.2±0.7, 4033N±004×2398E±005, h9km±5km, n14, σ0§56/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.01**	**11**	*e*Pg	**Pg**	**12 13 08.7**	**-0.1**
OUR				*e*Sg	**Sg**	**12 13 09.8**	**0.0**
PLG	**Polygyros**	**0.41**	**277**	*e*Pg	**Pg**	**12 13 15.2**	**-0.1**
PLG				*e*Sg	**Sg**	**12 13 21.0**	**+0.3**
PLG	**Polygyros**	**0.41**	**277**	*e*PB	**Pg**	**12 13 14.4**	**-0.8**
PLG				*e*SB	**Sg**	**12 13 20.0**	**-0.7**
PLG	**Polygyros**	**0.41**	**277**	*e*Pg	**Pg**	**12 13 15.1**	**-0.1**
PLG				*e*Sb	**Sg**	**12 13 20.0**	**-0.7**
PLG				*e*Sg	**Sg**	**12 13 21.0**	**+0.3**
PAIG	**Paliouri**	**0.46**	**210**	*e*Pg	**Pg**	**12 13 16.1**	**-0.1**
PAIG				*e*Sg	**Sg**	**12 13 22.6**	**+0.4**
PAIG	**Paliouri**	**0.46**	**210**	*e*Pg	**Pg**	**12 13 16.1**	**-0.1**
PAIG				*e*Sg	**Sg**	**12 13 22.6**	**+0.3**
SOH	**Sokhos**	**0.69**	**316**	*e*Pg	**Pg**	**12 13 20.1**	**-0.3**
SOH				*e*Sg	**Sg**	**12 13 29.6**	**+0.2**
HORT	**Hortiatis**	**0.72**	**292**	*e*Pg	**Pg**	**12 13 20.9**	**-0.3**
HORT				*e*Sg	**Sg**	**12 13 30.2**	**-0.4**
SRS	**Serrai**	**0.84**	**340**	*e*Pg	**Pg**	**12 13 23.8**	**+0.4**
NVR	**Nevrokopi**	**1.02**	**355**	*e*PN	**Pn**	**12 13 27.2**	**-0.5**
XOR	**Xorichti**	**1.14**	**213**	*e*Pg	**Pg**	**12 13 29.4**	**+0.4**
KNT	**Kendrikon**	**1.17**	**316**	*e*Pg	**Pg**	**12 13 28.7**	**-1.0**
KNT				*e*Sg	**Sg**	**12 13 46.5**	**+1.6**
RDO	**Rodhopi**	**1.44**	**55**	*e*PN	**Pn**	**12 13 34.0**	**+0.6**
ALN	**Alexandroupoli**	**1.67**	**69**	*e*Pb	**Pb**	**12 13 37.9**	**-0.2**

*MAN **31** 12:20:42.1, 529N×12687E, h4km, mb4.4, ML5.2, MS7.3*
*BJI **31** 12:20:43.9, 530N×12630E, h17km, mb4.4*
*IDC **31** 12:20:48.4±3.5, 508N×12570E, h37km±29km, mb3.8/12, mb1 3.9/12, mb1mx3.9/19, mbtmp3.8/12, MS3.7/3, Ms1 3.7/3, ms1mx3.0/34, Error ellipse: s-maj=54.2km s-min=13.5km az=73.0*
*ISCJB **31** 12:20:49.7±1.1, 524N±009×1263E±02, h68km±10km, mb4.2/21, Error ellipse: s-maj=32.1km s-min=10.0km az=138.0*
*NEIC **31** 12:20:50.0±1.5, 529N×12634E, h58km±14km, mb4.7/8, Error ellipse: s-maj=26.9km s-min=7.9km az=68.0*

ISC 31 12:20:51.1±1.2, 529N±010×1264E±02, h67km±10km, n34, σ1§39/34, mb4.2/21, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.96**	**334**	*e*P	**Pn**	**12 21 20.1**	**-2.1**
DMPH	**Davao City--Mi**	**2.00**	**333**	⇑*i*P	**Pn**	**12 21 20.9**	**-1.8**
DMPH				*i* S	**Sn**	**12 21 53.1**	**+6.5**
KCP	**Kidapawan**	**2.17**	**322**	⇓*e*P	**Pn**	**12 21 22.9**	**-2.0**
KCP				*e*S	**Sn**	**12 21 54.5**	**+4.0**
CGP	**Cagayan de Oro**	**3.58**	**331**	⇓*e*P	**Pn**	**12 21 46.5**	**+2.2**
CGP				*i* S	**Sn**	**12 22 31.9**	**+6.5**
SCPH	**Surigao**	**4.56**	**348**	⇓*e*P	**Pn**	**12 22 01.7**	**+4.2**
FITZ	**Fitzroy Crossi**	**23.26**	**182**	P	**P**	**12 25 51.3**	**-1.4**
	3.6nm,0.8s,mb3.8,baz=359,slow=12,SNR=7.6						
WRA	**Warramunga Arr**	**26.25**	**163**	P	**P**	**12 26 21.2**	**+1.2**
	4.6nm,0.7s,mb4.0,baz=343,slow=10,SNR=27						
WB2	**Warramunga Arr**	**26.26**	**163**	*e*P	**P**	**12 26 21.0**	**+1.0**
ASAR	**Alice Springs**	**29.69**	**166**	P	**P**	**12 26 51.4**	**+0.7**
	0.4nm,0.5s,mb3.3,baz=351,slow=7.8,SNR=10.0						
ASAR				PcP	PcP	12 29 54.0	+0.7
	0.4nm,0.6s,baz=354,slow=2.5,SNR=6.0						
ASAR				ScP	ScP	12 33 35.0	+5.5
	0.7nm,0.9s,baz=349,slow=3.4,SNR=4.4						
KSRS	**Korea Array**	**32.04**	**2**	P	**P**	**12 27 15.2**	**+3.9**
	0.8nm,0.8s,mb3.5,baz=194,slow=8.9,SNR=2.7						
BJI	**Beijing**	**35.81**	**346**	P	**P**	**12 27 43.5**	**-0.5**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
BJI	**Beijing**	**35.81**	**346**	P	**P**	**12 27 43.5**	**-0.5**
	comp=Z,9.0nm,1.2s,mb4.6						
LZH	**Lanzhou**	**37.02**	**329**	*e*P	**P**	**12 27 54.3**	**0.0**
LZH				AP	pP	12 27 59.3	-11
LZH				XP	sP	12 28 02.5	-16
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH	**Lanzhou**	**37.02**	**329**	*e*P	**P**	**12 27 54.2**	**-0.1**
LZH				pP	pP	12 27 59.3	-11
LZH				sP	sP	12 28 02.5	-16
STKA	**Stephens Creek**	**39.69**	**160**	*e*P	**P**	**12 28 15.9**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**39.69**	**160**	P	**P**	**12 28 16.1**	**-0.7**
	comp=Z,3.6nm,0.9s,mb4.2,baz=337,slow=8.5,SNR=5.7						
ASAJ	**Asahikawa**	**41.20**	**18**	LR	LR	12 45 12.1	
	comp=Z,72nm,18.5s,baz=19,slow=35						
GTA	**Gaotai**	**41.62**	**328**	*e*P	**P**	**12 28 35.0**	**+2.4**
GTA				AP	pP	12 28 39.0	-10
GTA				XP	sP	12 28 41.3	-16
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
JIRN	**Jiri**	**44.23**	**305**	*e*P	**P**	**12 28 54.7**	**+1.0**
	comp=Z,8.8nm,0.5s,mb4.7						
GUN	**Gumba**	**44.58**	**305**	*e*P	**P**	**12 28 57.4**	**+0.9**
	comp=Z,12nm,0.6s,mb4.8						
DMN	**Daman**	**45.10**	**304**	*e*P	**P**	**12 29 01.2**	**+0.5**
ULN	**Ulaanbaatar**	**45.55**	**342**	*e*P	**P**	**12 29 04.4**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.0						
SONM	**Songino Array**	**45.73**	**341**	P	**P**	**12 29 05.3**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=167,slow=4.4,SNR=5.8						
SONM				LR	LR	12 48 26.1	
	comp=Z,48nm,18.9s,baz=175,slow=36						
KOLN	**Koldanda**	**46.40**	**304**	*e*P	**P**	**12 29 11.6**	**+0.7**
	comp=Z,22nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**56.11**	**325**	P	**P**	**12 30 22.6**	**-1.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=118,slow=7.0,SNR=41						
MKAR				PcP	PcP	12 31 20.6	-0.3
	comp=Z,1.4nm,0.8s,baz=104,slow=5.1,SNR=4.8						
ZAL	**Zalesovo**	**59.07**	**333**	P	**P**	**12 30 44.7**	**+0.3**
	comp=Z,1.0nm,0.3s,mb4.3,baz=354,slow=9.1,SNR=6.5						
KURK	**Kurchatov**	**60.27**	**327**	*e*P	**P**	**12 30 50.6**	**-2.0**
	comp=Z,6.3nm,0.6s,mb4.8						
BRVK	**Borovoye**	**65.93**	**327**	*e*P	**P**	**12 31 29.4**	**-0.7**
	comp=Z,6.3nm,0.8s,mb4.5						
AKTO	**Aktyubinsk**	**72.26**	**321**	LR	LR	13 06 30.2	
	comp=Z,83nm,19.1s,baz=267,slow=38						
BRTR	**Keskin Array B**	**88.80**	**310**	P	**P**	**12 33 37.0**	**-0.7**
	comp=Z,0.5nm,0.9s,mb3.6,baz=122,slow=4.8,SNR=3.6						
ARCES	**ARCESS Array B**	**88.89**	**340**	P	**P**	**12 33 36.5**	**-1.6**
	comp=Z,2.3nm,0.7s,mb4.3,baz=70,slow=4.3,SNR=5.1						
FINES	**FINESS Array B**	**90.32**	**332**	P	**P**	**12 33 43.2**	**-1.5**
	comp=Z,0.9nm,0.5s,mb4.1,baz=85,slow=4.0,SNR=7.9						
YKA	**Yellowknife Ar**	**98.21**	**24**	P	**P**	**12 34 22.8**	**+1.9**
	comp=Z,0.2nm,0.9s,mb3.7,baz=302,slow=4.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.14**	**289**	PKP	PKPdf	12 39 39.0	+0.9
	comp=Z,0.8nm,0.7s,baz=88,slow=1.5,SNR=5.5						

*IDC **31** 12:35:48.8±2.3, 554N×9309E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.5/6, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/32, Error ellipse: s-maj=90.7km s-min=21.3km az=56.0*
*NEIC **31** 12:35:54.2±0.9, 560N×9319E, h35km, mb3.8/1, Error ellipse: s-maj=26.5km s-min=9.1km az=45.0*
*ISCJB **31** 12:35:55.3±5.0, 57N±02×935E±03, h55km±38km, mb3.5/6, Error ellipse: s-maj=66.4km s-min=16.9km az=109.6*

ISC 31 12:35:56.6±4.5, 57N±02×934E±03, h49km±34km, n9, σ0§64/10, mb3.5/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.22**	**118**	Pn	**Pn**	**12 37 26.2**	**+0.3**
	0.5nm,0.3s,baz=319,slow=18,SNR=3.4						
PSI				Sn	**Sn**	**12 38 34.6**	**-1.1**
	0.7nm,0.3s,baz=6.0,slow=19,SNR=2.9						
PSI				LR	LR	12 39 22.1	
	comp=Z,65nm,19.5s,baz=127,slow=33						
KULM	**Kulim**	**7.23**	**93**	*e*P	**Pn**	**12 37 40.2**	**+0.6**
MKAR	**Makanchi Array**	**42.02**	**349**	P	**P**	**12 43 43.3**	**+0.2**
	0.2nm,0.5s,mb3.0,baz=165,slow=9.0,SNR=4.8						
SONM	**Songino Array**	**43.40**	**13**	P	**P**	**12 43 54.9**	**+0.6**
	0.2nm,0.7s,mb2.9,baz=192,slow=9.3,SNR=5.0						
WRA	**Warramunga Arr**	**47.66**	**123**	P	**P**	**12 44 28.3**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=296,slow=7.1,SNR=11						
WB2	**Warramunga Arr**	**47.66**	**123**	*e*P	**P**	**12 44 28.5**	**+0.5**
ASAR	**Alice Springs**	**49.14**	**128**	P	**P**	**12 44 39.5**	**+0.2**
	0.2nm,0.4s,mb3.5,baz=297,slow=8.3,SNR=9.2						
BRVK	**Borovoye**	**50.85**	**342**	*e*P	**P**	**12 44 51.0**	**-1.3**
	0.7nm,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**77.03**	**340**	P	**P**	**12 47 43.9**	**-0.4**
	2.1nm,0.8s,mb4.1,baz=96,slow=7.4,SNR=3.9						

MAN 31 12:36:19.5, 881N×12254E, h32km, mb3.1, ML4.4, MS3.5, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.87**	**52**	⇑*e*P	Pn	12 36 36.2	+0.6
SNPH				*i* S	Sn	12 36 47.0	-0.2
LLP	**Lapu-Lapu**	**2.06**	**43**	⇑*e*P	Pn	12 36 51.7	-0.2
LLP				*i* S	Sn	12 37 14.9	-1.5
CUYO	**Cuyo Island**	**2.52**	**324**	*e*P	Pn	12 36 58.9	+0.6
RCP	**Roxas**	**2.74**	**4**	⇑*e*P	Pn	12 37 03.1	+1.8
RCP				*e*S	Sn	12 37 35.3	+2.0

CASC 31 12:38:48.8±1.9, 897N×8286W, h20km±6km, MD3.6, 7C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.12**	**126**	⇓*i*P	Pb	12 38 53.5	+0.4
BRU2	**Volcan**	**0.24**	**136**	⇑*i*P	Pb	12 38 55.1	+0.5
BRU2				*e*S	Sb	12 38 59.7	+1.2
BRU	**Baru**	**0.34**	**118**	⇑*i*P	Pb	12 38 57.0	+0.9
BRU				*e*S	Sb	12 39 02.8	+1.7
CNI	**Changuinola**	**0.56**	**37**	⇓*i*P	Pb	12 38 59.8	-0.1
CNI				*e*S	Sb	12 39 07.9	+0.4
DVD	**David**	**0.67**	**143**	*e*P	Pb	12 39 00.8	-0.9
LCR2	**La Lucha 2**	**1.36**	**304**	⇑*e*P	Pn	12 39 12.6	-0.1
LCR2				*e*S	Sn	12 39 30.9	+0.7
ICR	**Volcan Irazu**	**1.39**	**317**	⇑*e*P	Pn	12 39 13.7	+0.7
ICR				*e*S	Sn	12 39 33.4	+2.6
LAJ	**Bijagual**	**1.53**	**306**	⇑*e*P	Pn	12 39 20.5	+5.6
LAJ				*e*S	Sn	12 39 44.0	+10
PRS1	**Puriscal**	**1.75**	**305**	⇑*e*P	Pn	12 39 18.5	+0.5
PRS1				*e*S	Sn	12 39 41.0	+1.3
CGA2	**Cerro Gallo 2**	**1.90**	**303**	⇑*e*P	Pn	12 39 21.2	+1.2
CGA2				*e*S	Sn	12 39 44.9	+1.6
PTP	**Ponta Puerca**	**19.11**	**59**	*e*P		12 39 02.7	

*IDC **31** 13:01:53.6±1.3, 1215N×14353E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=73.2km s-min=26.4km az=119.0*
*NEIC **31** 13:01:55.1±1.0, 1219N×14358E, h10km, Error ellipse: s-maj=56.8km s-min=19.3km az=122.0*
*ISCJB **31** 13:01:57.3±1.0, 1211N±02×1437E±03, h35km, mb3.8/4, Error ellipse: s-maj=55.7km s-min=11.7km az=72.6*

ISC 31 13:01:58.9±1.0, 122N±02×1436E±03, h35km, n7, σ1§23/9, mb3.8/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**42**	Pn	**Pn**	**13 02 26.9**	**-1.3**
	42nm,0.3s,baz=346,slow=22,SNR=16						
GUMO				Sn	**Sn**	**13 02 50.2**	**-0.3**
	69nm,0.3s,baz=31,slow=22,SNR=14						
GUMO	**Guam**	**1.86**	**42**	Pn	**Pn**	**13 02 26.2**	**-2.0**
GUMO				*e*Sn	**Sn**	**13 02 50.9**	**+0.5**
WRA	**Warramunga Arr**	**33.22**	**196**	P	**P**	**13 08 31.7**	**-0.7**
	0.4nm,0.9s,mb3.4,baz=19,slow=9.8,SNR=5.7						
YKA	**Yellowknife Ar**	**84.65**	**27**	P	**P**	**13 14 30.0**	**+1.1**
	0.1nm,0.3s,mb3.4,baz=286,slow=5.1,SNR=8.6						
NVAR	**Mina Array Bea**	**88.75**	**51**	P	**P**	**13 14 51.0**	**+2.1**
	0.4nm,0.8s,mb3.8,baz=270,slow=6.3,SNR=2.8						
NVAR	**Mina Array Bea**	**88.75**	**51**	P	**P**	**13 14 51.0**	**+2.1**
FINES	**FINESS Array B**	**91.88**	**335**	P	**P**	**13 15 02.8**	**-0.7**
	3.7nm,1.2s,mb4.6,baz=54,slow=4.9,SNR=3.3						

*BJI **31** 13:12:35.5, 830S×11170E, h19km, mB5.2, mb5.1, Ms4.6, Msz4.5*
*ISCJB **31** 13:12:48.1±0.6, 828S±005×11165E±005, h146km±5km, mb4.8/65, Error ellipse: s-maj=9.9km s-min=6.5km az=75.0*
*IDC **31** 13:12:48.9±1.6, 823S×11170E, h132km±13km, mb4.4/22, mb1 4.4/23, mb1mx4.4/26, mbtmp4.4/23, Error ellipse: s-maj=14.8km s-min=9.6km az=65.0*
*MOS **31** 13:12:48.7±1.0, 820S×11171E, h147km, mb4.8/20, Error ellipse: s-maj=15.0km s-min=6.7km az=108.5*
*NEIC **31** 13:12:49.5±2.3, 826S×11167E, h140km±21km, mb5.0/22, Error ellipse: s-maj=11.2km s-min=5.6km az=55.0*
NEIC Felt [II] at Blitar, Karangkates and Pacitan.

ISC 31 13:12:49.3±0.6, 830S±005×11164E±005, h139km±5km, n142, σ1§02/138, mb4.8/65, 10C-11D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.82**	**80**	P	**Pn**	**13 13 09.1**	**-2.4**
	57μm,0.7s						
BJII	**Banjamegara**	**2.14**	**297**	P	**Pn**	**13 13 25.4**	**0.0**
	627nm,0.8s						
KMMI	**Kalianget**	**2.62**	**62**	P	**Pn**	**13 13 30.8**	**-0.6**
	433nm,0.9s						
NBBI	**Negara**	**2.96**	**92**	P	**Pn**	**13 13 36.1**	**+0.5**
	746nm,0.7s						
LEM	**Lembang**	**4.24**	**290**	P	**Pn**	**13 13 53.1**	**+0.6**
	156nm,0.8s						
CBJI	**Citeko**	**5.10**	**291**	P	**Pn**	**13 14 08.6**	**+4.8**
	346nm,0.5s						
PCI	**Palu**	**10.99**	**48**	P	**Pn**	**13 15 25.3**	**+2.8**
	87nm,1.8s						
KKM	**Kota Kinabalu**	**14.96**	**18**	P	**Pn**	**13 16 15.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**16.74**	**127**	*e*P	**Pn**	**13 16 36.0**	**+0.4**
	14nm,0.5s						
FITZ				*e*S	**S**	**13 19 26.2**	**-16**
FITZ	**Fitzroy Crossi**	**16.74**	**127**	P	**Pn**	**13 16 34.4**	**-1.1**
	1.9nm,0.3s,baz=304,slow=8.9,SNR=31						
FITZ				S	**S**	**13 19 27.9**	**-14**
	1.8nm,0.3s,baz=190,slow=19,SNR=9.7						
WRA	**Warramunga Arr**	**24.84**	**120**	P	**P**	**13 17 58.4**	**-0.2**
	10nm,0.6s,mb4.5,baz=293,slow=11,SNR=76						
WRA				PcP	PcP	13 21 31.4	+0.4
	0.9nm,0.5s,baz=318,slow=2.3,SNR=4.5						
WRA				ScP	ScP	13 24 58.1	+1.2
	3.3nm,0.9s,baz=299,slow=2.3,SNR=5.4						
WRA	**Warramunga Arr**	**24.84**	**120**	P	**P**	**13 17 58.4**	**-0.2**
WRA						13 21 31.4	
WB2	**Warramunga Arr**	**24.84**	**120**	*e*P	**P**	**13 17 58.4**	**-0.3**
WB2				*e*S	S	13 22 37.8	+27
ASAR	**Alice Springs**	**26.24**	**128**	P	**P**	**13 18 11.2**	**-0.1**
	7.4nm,0.7s,mb4.4,baz=303,slow=8.8,SNR=103						
ASAR				PcP	PcP	13 21 35.5	+1.3
	2.5nm,0.7s,baz=327,slow=2.2,SNR=6.8						
ASAR				ScP	ScP	13 25 02.2	+1.3
	3.4nm,0.8s,baz=319,slow=2.6,SNR=9.8						
ASAR	**Alice Springs**	**26.24**	**128**	P	**P**	**13 18 11.2**	**-0.1**
ASAR						13 21 35.5	
FORT	**Forrest**	**27.12**	**148**	*e*P	**P**	**13 18 18.9**	**-0.3**
	8.4nm,0.5s,mb4.6						
FORT	**Forrest**	**27.12**	**148**	*e*P	pP	13 18 51.1	+2.4
	49nm,0.6s						
CHTO	**Chiang Mai**	**29.71**	**335**	*e*P	**P**	**13 18 42.9**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
CHTO	**Chiang Mai**	**29.71**	**335**	*e*P	**P**	**13 18 42.9**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.0						
CTA	**Charters Tower**	**35.47**	**113**	P	**P**	**13 19 33.3**	**+1.0**
	comp=Z,3.0nm,0.7s,mb4.0,baz=285,slow=9.9,SNR=5.1						
CTAO	**Charters Tower**	**35.47**	**113**	*e*P	**P**	**13 19 33.4**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
CTAO	**Charters Tower**	**35.47**	**113**	*e*P	**P**	**13 19 33.4**	**+1.2**
	comp=Z,2.5nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**36.41**	**134**	⇓*i*P	**P**	**13 19 40.8**	**+0.6**
	comp=Z,8.2nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**36.41**	**134**	P	**P**	**13 19 40.9**	**+0.6**
	comp=Z,10nm,0.5s,mb4.8,baz=308,slow=8.4,SNR=47						
STKA				PcP	PcP	13 22 02.4	+0.9
	comp=Z,3.5nm,0.4s,baz=319,slow=2.8,SNR=5.5

BJT pmax pmax
comp=Z,23nm,0.6s
BJT Baijiatuau 48.26 5 *e*P **P 13 21 16.1 +0.1**
comp=Z,22nm,0.6s,mb5.0
BJI Beijing 48.28 5 P **P 13 21 16.8 +0.6**
BJI AMB AMB
comp=Z,41nm,0.7s,mb5.2
BJI Beijing 48.28 5 P **P 13 21 16.8 +0.6**
comp=Z,41nm,0.7s,mb5.2
GTA Gaotai 48.72 348 ⇑P **P 13 21 21.8 +2.2**
GTA AP pP 13 21 28.3 -23
GTA XP sP 13 21 31.5 -35
GTA AMB AMB
comp=Z,53nm,0.6s,mb5.3
SONA Sohna 49.34 319 *e*P **P 13 21 22.4 -1.9**
JOSI Joshimath 49.40 323 ⇓*i*P **P 13 21 24.2 -0.5**
JOSI *e*S **S 13 28 20.0 -0.9**
AYAN Aya Nagar 49.47 319 *e*P **P 13 21 24.0 -1.3**
AYAN AMb AMB 13 21 24.8
comp=Z,18nm,0.7s,mb4.8
NDI New Delhi 49.55 319 *e*P **P 13 21 24.2 -1.7**
NDI AMb AMB 13 21 25.4
comp=Z,38nm,0.4s,mb5.3
KUDL Kundal 49.66 318 *e*P **P 13 21 25.1 -1.6**
KUDL AMb AMB 13 21 26.0
comp=Z,28nm,0.6s,mb5.1
AJM Ajmer 49.84 315 ⇓*i*P **P 13 21 27.6 -0.5**
AJM AMb AMB 13 21 28.5
comp=Z,19nm,0.5s,mb4.9
KHET Khetri 50.07 318 *e*P **P 13 21 28.4 -1.4**
KHET AMb AMB 13 21 29.4
comp=Z,14nm,0.5s,mb4.9
KLP Kalpa 50.88 323 *e*P **P 13 21 35.5 -0.4**
SNY Shenyang 51.07 11 ⇑P **P 13 21 36.8 -0.5**
SNY AMB AMB
comp=Z,13nm,0.6s,mb4.7
MAJO Matsushiro 51.11 28 *e*P **P 13 21 36.3 -1.4**
MAJO pmax pmax
comp=Z,70nm,0.6s,mb5.5
MAJO Matsushiro 51.11 28 *e*P **P 13 21 36.2 -1.4**
comp=Z,6.6nm,0.6s,mb4.4
MAT Matsushiro 51.11 28 P **P 13 21 36.6 -1.1**
MJAR Matsushiro Arr 51.11 28 P **P 13 21 36.8 -0.9**
comp=Z,12nm,0.7s,mb4.7,baz=203,slow=8.4,SNR=55
THN Thein Dam 53.04 322 *e*P **P 13 21 50.2 -1.7**
CN2 Changchun 53.35 12 *e*P **P 13 21 53.5 -0.7**
CN2 *e*AP pP 13 22 03.0 -24
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
VLA Vladivostok 54.40 18 *i*P **P 13 22 02.0 +0.2**
MDJ Mudanjiang 55.11 16 P **P 13 22 06.0 -0.9**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,161nm,5.6s
SONM Songino Array 56.08 356 P **P 13 22 14.5 +0.7**
comp=Z,22nm,0.7s,mb5.1,baz=177,slow=8.3,SNR=184
SONM PcP PcP 13 23 10.9 +0.6
comp=Z,3.5nm,0.7s,baz=180,slow=4.0,SNR=6.0
SONM ScP ScP 13 26 57.7 +1.4
comp=Z,0.5nm,0.6s,baz=165,slow=4.9,SNR=4.0
SONM Songino Array 56.08 356 P **P 13 22 14.5 +0.7**
SONM 13 23 10.9
WMQ Urumqi 56.24 339 P **P 13 22 15.8 +0.9**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,138nm,4.0s
WMQ LR LR
comp=N,60nm,15.0s
WMQ LR LR
comp=E,37nm,16.0s
WMQ LR LR
comp=Z,35nm,15.0s
KBL Kabul 58.63 319 *e*P **P 13 22 30.0 -1.7**
ZAK Zakamensk 58.89 354 ⇑*i*P **P 13 22 33.8 +0.3**
ZAK *e* pP 13 23 10.3 +3.9
ZAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
ASAJ Asahikawa 59.22 26 P **P 13 22 35.6 -0.2**
comp=Z,4.1nm,0.4s,mb4.6,baz=278,slow=32,SNR=5.6
TLY Talaya 60.13 354 ⇓*e*P **P 13 22 42.6 +0.6**
TLY Talaya 60.13 354 *e*P **P 13 22 42.8 +0.7**
comp=Z,7.6nm,0.8s,mb4.6
KZA Kyzart 60.17 329 P **P 13 22 43.4 +1.1**
SNR=40
HABR Khabarovsk 60.18 18 *e*P **P 13 22 40.6 -1.7**
HABR *e*S **S 13 30 52.3 +7.4**
MOY Mondy 60.42 352 *e*P **P 13 22 45.0 +1.0**
TKM2 Tokmak 2 60.62 330 P **P 13 22 45.9 +0.5**
SNR=47
IRK Irkutsk 60.63 355 *e*P **P 13 22 45.2 -0.2**
IRK *e* pP 13 23 15.6 -2.9
IRK pmax pmax
comp=Z,21nm,1.2s,mb4.8
UCH Uchtor 60.66 329 P **P 13 22 46.5 +0.9**
SNR=19
KBK Karagaybulak 60.75 330 P **P 13 22 47.2 +1.0**
SNR=52
MK31 Makanchi Array 60.76 337 P **P 13 22 46.2 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
MKAR Makanchi Array 60.76 337 P **P 13 22 46.5 +0.2**
comp=Z,28nm,0.6s,mb5.3,baz=151,slow=7.0,SNR=262
AAK Ala-Archa 60.96 329 P **P 13 22 48.4 +0.8**
SNR=22
AAK Ala-Archa 60.96 329 *e*P **P 13 22 47.1 -0.5**
AAK pmax pmax
comp=Z,25nm,1.1s,mb5.0
AAK Ala-Archa 60.96 329 *e*P **P 13 22 47.1 -0.5**
comp=Z,25nm,1.1s,mb5.0
AML Almayashu 61.01 328 P **P 13 22 48.8 +0.9**
SNR=29
CHMS Chumysh 61.10 330 P **P 13 22 48.5 0.0**
SNR=6.4
EKS2 Erkin-Say 61.34 329 P **P 13 22 51.1 +0.9**
SNR=36
USP Ospenovka 61.42 330 P **P 13 22 51.0 +0.2**
SNR=11
YSS Yuzh-Sakhalins 61.58 24 ⇓*i*P **P 13 22 52.0 +0.2**
RPZ Rata Peaks 62.36 135 P **P 13 22 57.1 +0.1**
comp=Z,18nm,1.0s,mb4.9,baz=248,slow=5.4,SNR=3.5
OPO Ambohidratompo 63.23 253 P **P 13 23 04.8 +2.0**
comp=Z,1.1nm,0.5s,mb3.9,baz=71,slow=9.1,SNR=5.0
KK31 Karatay Array 63.36 327 *i*P **P 13 23 02.7 -0.9**
KK31 pmax pmax
comp=Z,13nm,0.8s,mb4.8
KKAR Karatay Array 63.36 327 *i*P **P 13 23 02.7 -0.9**
KKAR pmax pmax
comp=Z,11nm,0.9s,mb4.7
KURK Kurchatov 65.36 338 *e*P **P 13 23 16.3 -0.4**
KURK pmax pmax
comp=Z,16nm,0.8s,mb4.9
KURK Kurchatov 65.36 338 *e*P **P 13 23 16.3 -0.4**
comp=Z,16nm,0.8s,mb4.9
BOD Bodaibo 65.92 1 ⇓*i*P **P 13 23 19.6 -0.6**
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.6
ZAL Zalesovo 66.02 343 P **P 13 23 20.6 -0.2**
comp=Z,9.1nm,0.8s,mb4.7,baz=329,slow=5.0,SNR=52
NVS Novosibirsk 67.26 343 *e*P **P 13 23 27.1 -1.6**
MAW Mawson 67.51 198 P **P 13 23 31.2 +0.9**
comp=Z,4.2nm,0.3s,mb4.6,baz=86,slow=14,SNR=11
BVA0 Borovoye Array 70.42 335 *i*P **P 13 23 47.4 -0.9**
BVAR Borovoye Array 70.42 335 P **P 13 23 47.8 -0.4**
comp=Z,3.3nm,0.5s,mb4.3,baz=144,slow=9.1,SNR=35
BRVK Borovoye 70.48 335 *e*P **P 13 23 48.1 -0.6**
BRVK pmax pmax
comp=Z,11nm,1.2s,mb4.5
BRVK Borovoye 70.48 335 *e*P **P 13 23 48.1 -0.6**
comp=Z,11nm,1.2s,mb4.5
YAK Yakutsk 71.51 9*c* *i*P **P 13 23 54.0 -0.9**
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.0
AKTK Aktyubinsk 74.62 328 P **P 13 24 13.2 0.0**
AKTO Aktyubinsk 74.62 328 P **P 13 24 13.2 0.0**
comp=Z,4.8nm,0.5s,mb4.4,baz=115,slow=4.5,SNR=25
AKTO Aktyubinsk 74.62 328 *i*P **P 13 24 12.5 -0.7**
SYO Syowa Base 75.89 201 ⇑*e*P **P 13 24 20.6 +0.2**
ORR Orenburg 77.00 328 *e*P **P 13 24 26.8 +0.2**
ARU Arti 77.81 333 ⇓*i*P **P 13 24 31.1 -0.1**
ARU *e* 13 24 40.0
ARU *e* 13 27 25.8
ARU *e*PPP 13 29 14.4
ARU *e*S S 13 34 20.5 +8.1
ARU *e*SS SS 13 39 21.7 +6.1
ARU pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
TIXI Tiksi 80.60 5 *i*P **P 13 24 44.5 -1.8**
TIXI pmax pmax
comp=Z,18nm,1.5s,mb4.5
TIXI Tiksi 80.60 5 *e*P **P 13 24 44.7 -1.6**
comp=Z,7.3nm,0.8s,mb4.4
KIV Kislovodsk 80.94 317 ⇓*e*P **P 13 24 49.2 +1.1**
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
BOSA Boshof 82.92 242 P **P 13 25 00.6 +2.1**
comp=Z,2.2nm,0.4s,mb4.2,baz=53,slow=2.5,SNR=14
BR131 Keskin Array S 86.13 311 *e*P **P 13 25 15.8 +1.2**
comp=Z,2.8nm,0.7s,mb4.1
BRTR Keskin Array B 86.13 311 P **P 13 25 15.5 +0.9**
comp=Z,3.8nm,1.0s,mb4.1,baz=128,slow=6.7,SNR=18
OBN Obninsk 88.33 326k *i*P **P 13 25 25.7 +0.5**
OBN PS PS 13 37 19.0 -0.7
OBN pmax pmax
comp=Z,21nm,0.6s,mb5.1
AKASG Malin Array Be 91.58 321 P **P 13 25 39.3 -1.0**
comp=Z,1.1nm,0.5s,mb4.2,baz=86,slow=4.6,SNR=11
AKASG Malin Array Be 91.58 321 *i*P **P 13 25 39.7 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 92.94 333 *e*p **P 13 25 46.5 -0.1**
KAF Kangasniemi 95.09 332 *e*p **P 13 25 56.3 -0.1**
FINES FINESS Array B 95.10 331 P **P 13 25 55.7 -0.8**
comp=Z,2.2nm,0.9s,mb4.4,baz=129,slow=8.1,SNR=7.3
FINES FINESS Array B 95.10 331 *i*P **P 13 25 56.5 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 96.36 339 P **P 13 26 00.4 -1.8**
comp=Z,4.8nm,1.2s,mb4.7,baz=106,slow=5.7,SNR=3.3
KHC Kasperske Hory 101.49 318 *i*P Pdif 13 26 24.4 -0.8
YKA Yellowknife Ar 116.41 22 PKP PKPdf 13 31 14.7 -1.6
comp=Z,0.3nm,0.8s,baz=326,slow=2.2,SNR=6.1
YKA SKP 13 34 39.2
comp=Z,0.4nm,0.8s,baz=282,slow=1.8,SNR=5.6
YKA Yellowknife Ar 116.41 22 PKP PKPdf 13 31 14.7 -1.7
YKA SKP 13 34 39.2
PDAR Pinedale Array 130.20 39 SKPbc SKPbc 13 34 54.3 +1.4
comp=Z,0.8nm,0.6s,baz=267,slow=1.5,SNR=9.7
ULM Lac du Bonnet 132.34 24 SKPbc SKPbc 13 35 02.0 +1.4
comp=Z,3.7nm,0.8s,baz=331,slow=6.1,SNR=9.1
MIAR Mount Ida 145.09 38 *e*PKIKP PKPdf 13 32 11.3 +1.2
SIUC Southern Illin 145.17 30 *e*PKP PKPdf 13 32 11.2 +0.9
WCI Wyandotte Cave 146.09 26 *e*PKP2 PKPab 13 32 13.9 +0.1
WVT Waverly 147.10 30 *e*PKP2 PKPab 13 32 16.8 -0.9
SIV San Ignacio 154.81 197 PKP PKPdf 13 32 27.4 +2.2
comp=Z,0.3nm,0.5s,baz=119,slow=5.2,SNR=4.5
SIV PKPbc PKPbc 13 32 37.4 +3.4
comp=Z,0.6nm,0.8s,baz=162,slow=6.4,SNR=2.9
SIV PKPab PKPab 13 32 51.5 +1.8
comp=Z,0.7nm,0.6s,baz=120,slow=5.2,SNR=4.3

*ISCJB **31** 13:21:21.4±1.0, 173S±04×1789W±02, h531km±20km, mb3.9/9, Error ellipse: s-maj=66.9km s-min=13.3km az=123.6*
*IDC **31** 13:21:22.2±1.5, 1740S×17882W, h534km±19km, mb3.4/7, mb1 3.6/9, mb1mx3.3/18, mbtmp3.4/9, Error ellipse: s-maj=80.4km s-min=12.4km az=153.0*
*NEIC **31** 13:21:23.2±0.8, 1741S×17885W, h548km±12km, mb4.2/2, Error ellipse: s-maj=48.7km s-min=8.9km az=153.0*
ISC 31 13:21:22.3±0.9, 174S±04×1788W±02, h530km±17km, n20, σ0§82/18, mb3.9/9, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**64**	P	**P**	**13 23 16.6**	**+1.2**
	7.2nm,0.3s,baz=63,slow=5.7,SNR=11						
AFI				S	**S**	**13 24 46.5**	**-1.6**
	0.7nm,0.3s,baz=252,slow=20,SNR=1.9						
AFI	**Afiamalu**	**7.60**	**64**	*e*P	**P**	**13 23 17.0**	**+1.6**
AFI				S	**S**	**13 24 46.5**	**-1.6**
DZM	**Mont Dzumac**	**14.65**	**249**	P	**P**	**13 24 29.5**	**+1.2**
	0.9nm,0.3s,baz=79,slow=22,SNR=8.1						
ARMA	**Armidale**	**29.88**	**239**	*e*P	**P**	**13 26 47.1**	**+0.4**
CTA	**Charters Tower**	**33.16**	**260**	P	**P**	**13 27 15.0**	**+0.2**
	3.1nm,0.6s,mb4.0,baz=100,slow=8.1,SNR=6.1						
CTAO	**Charters Tower**	**33.16**	**260**	*e*P	**P**	**13 27 14.6**	**-0.2**
	2.2nm,0.6s,mb3.9						
CNB	**Canberra Magne**	**33.45**	**232**	*e*P	**P**	**13 27 16.7**	**-0.5**
	5.0nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**38.55**	**240**	⇓*i*P	**P**	**13 27 59.2**	**-0.2**
	4.1nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**38.55**	**240**	P	**P**	**13 27 59.4**	**0.0**
	4.3nm,0.5s,mb4.3,baz=83,slow=9.4,SNR=21						
WB2	**Warramunga Arr**	**44.35**	**259**	*e*P	**P**	**13 28 44.4**	**-0.9**
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**13 28 44.6**	**-0.7**
	2.0nm,0.5s,mb3.9,baz=97,slow=7.0,SNR=39						
WRA				PcP	PcP	13 30 16.7	-1.1
	0.8nm,0.7s,baz=85,slow=3.6,SNR=4.6						
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**13 28 46.8**	**-0.2**
	22nm,0.6s,mb4.9,baz=89,slow=7.8,SNR=333						
ASAR				PcP	PcP	13 30 17.5	-1.1
	0.6nm,0.4s,baz=104,slow=3.8,SNR=5.1						
KAKA	**Kakadu**	**47.22**	**269**	*e*P	**P**	**13 29 07.4**	**+0.3**
	3.0nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.74**	**260**	P	**P**	**13 29 46.9**	**-0.7**
	1.0nm,0.5s,mb3.5,baz=72,slow=20,SNR=4.2						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**13 32 33.8**	**+0.9**
	0.6nm,0.7s,mb3.0,baz=232,slow=6.9,SNR=4.1						
PDAR	**Pinedale Array**	**87.24**	**44**	P	**P**	**13 33 12.8**	**+0.4**
	0.4nm,0.5s,mb3.3,baz=195,slow=2.7,SNR=6.1						
MKAR	**Makanchi Array**	**108.51**	**314**	PKiKP	PKiKP	13 38 48.6	-2.0
	0.1nm,0.5s,baz=64,slow=4.2,SNR=4.8						
BVAR	**Borovoye Array**	**116.21**	**321**	PKP	PKPdf	13 39 03.8	-1.5
	0.3nm,0.4s,baz=75,slow=0.5,SNR=3.7						
BRTR	**Keskin Array B**	**144.15**	**315**	PKP	PKPdf	13 39 57.2	-0.4
	0.8nm,0.8s,baz=98,slow=3.7,SNR=6.1						
GERES	**GERESS Array B**	**147.02**	**345**	PKPbc	PKPbc	13 40 05.3	-0.2
	1.0nm,0.6s,baz=32,slow=3.5,SNR=6.9						

*IDC **31** 13:29:46.1±0.8, 2099S×17434W, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/19, mbtmp4.3/12, ML4.1/1, MS3.8/13, Ms1 3.8/13, ms1mx3.6/31, Error ellipse: s-maj=31.6km s-min=16.7km az=138.0*
*NEIC **31** 13:29:47.6±0.4, 2094S×17438W, h10km, mb4.5/6, Error ellipse: s-maj=16.9km s-min=8.8km az=139.0*
*BJI **31** 13:29:47.1, 2092S×17440W, h9km, mB5.1, mb4.8, Ms4.2, Msz4.0*
*ISCJB **31** 13:29:49.6±0.7, 210S±0.1×1744W±0.1, h35km, mb4.4/15, MS3.9/12, Error ellipse: s-maj=20.9km s-min=12.3km az=78.8*
*SZGRF **31** 13:29:52.3, 2069S×17362W, h33km, Tonga Islands*
ISC 31 13:29:51.2±0.7, 210S±01×1743W±01, h35km, n77, σ1§45/29, mb4.4/15, MS3.9/12, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**19**	Pn	**Pn**	**13 31 29.1**	**-8.7**
	5.0nm,0.3s,baz=180,slow=20,SNR=13						
AFI				Sn	**Sn**	**13 32 45.9**	**-15**
	9.7nm,0.3s,baz=41,slow=20,SNR=2.6						
AFI	**Afiamalu**	**7.49**	**19**	*e*Pn	**Pn**	**13 31 30.6**	**-7.2**
	35nm,0.5s						
RAR	**Rarotonga**	**13.56**	**93**	Pn	**Pn**	**13 32 50.2**	**-11**
	7.4nm,0.3s,baz=211,slow=5.8,SNR=16						
RAR				Sn	**Sn**	**13 35 04.2**	**-26**
	2.0nm,0.3s,baz=104,slow=17,SNR=3.7						
RAR				LR	LR	13 37 28.8	
	comp=Z,228nm,18.0s,baz=288,slow=34						
DZM	**Mont Dzumac**	**17.95**	**263**	P	**Pn**	**13 34 03.5**	**+5.7**
	0.8nm,0.3s,baz=66,slow=16,SNR=10.0						
DZM				LR	LR	13 39 33.9	
	comp=Z,249nm,20.1s,baz=50,slow=33						
URZ	**Urewera**	**18.70**	**202**	P	**Pn**	**13 34 07.3**	**+0.3**
	0.5nm,0.3s,baz=342,slow=3.2,SNR=4.4						
URZ				S	**S**	**13 37 19.4**	**-18**
	0.2nm,0.3s,baz=150,slow=20,SNR=2.0						
TBI	**Tubuai**	**23.10**	**100**	*e*LR	LR	13 40 12.7	
	404nm,28.2s,baz=280						
PPT	**Papeete**	**23.58**	**86**	*e*LR	LR	13 40 24.8	
	441nm,27.5s						
PPT	**Papeete**	**23.58**	**86**	LR	LR	13 42 23.0	
	comp=Z,174nm,18.6s,MS3.5,baz=30,slow=32						
RPZ	**Rata Peaks**	**25.70**	**205**	P	**P**	**13 35 19.0**	**+1.0**
	8.4nm,0.9s,mb4.3,baz=327,slow=5.5,SNR=3.3						
TAOE	**Nuku Hiva Isla**	**35.06**	**75**	*e*LR	LR	13 45 38.9	
	612nm,28.6s						
CTA	**Charters Tower**	**36.88**	**264**	*e*P	**P**	**13 36 56.8**	**+0.5**
	12nm,1.7s,mb4.4						
CTA	**Charters Tower**	**36.88**	**264**	P	**P**	**13 36 56.7**	**+0.4**
	4.9nm,0.6s,mb4.5,baz=87,slow=8.3,SNR=9.5						
CTA				LR	LR	13 50 41.6	
	comp=Z,130nm,18.4s,MS3.8,baz=249,slow=34						
CTAO	**Charters Tower**	**36.88**	**264**	*e*P	**P**	**13 36 56.8**	**+0.5**
	5.8nm,0.7s,mb4.5						
PMG	**Port Moresby**	**38.84**	**281**	LR	LR	13 49 19.5	
	comp=Z,93nm,19.5s,MS3.6,baz=257,slow=30						
STKA	**Stephens Creek**	**40.69**	**245**	*e*P	**P**	**13 37 28.1**	**-0.1**
	2.6nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**40.69**	**245**	P	**P**	**13 37 27.7**	**-0.5**
	4.4nm,1.0s,mb4.1,baz=78,slow=10,SNR=5.4						
STKA				LR	LR	13 53 16.0	
	comp=Z,119nm,19.4s,MS3.8,baz=204,slow=35						
ASAR	**Alice Springs**	**47.77**	**257**	P	**P**	**13 38 24.1**	**-0.8**
	5.6nm,0.7s,mb4.7,baz=100,slow=7.8,SNR=83						
ASAR				PcP	PcP	13 39 55.0	+1.6
	1.4nm,0.7s,baz=105,slow=4.1,SNR=4.6						
WB2	**Warramunga Arr**	**47.95**	**262**	*e*P	**P**	**13 38 25.1**	**-1.1**
WRA	**Warramunga Arr**	**47.96**	**262**	P	**P**	**13 38 25.4**	**-0.9**
	4.6nm,0.7s,mb4.6,baz=95,slow=7.6,SNR=33						
WRA				LR	LR	13 58 26.0	
	comp=Z,119nm,18.2s,MS3.9,baz=105,slow=36						
KAKA	**Kakadu**	**51.45**	**270**	*e*P	**P**	**13 38 52.6**	**-0.2**
	4.2nm,0.5s,mb4.6						
GUMO	**Guam**	**52.85**	**307**	LR	LR	13 59 18.4	
	comp=Z,110nm,18.4s,MS3.9,baz=92,slow=34						
FITZ	**Fitzroy Crossi**	**56.39**	**262**	P	**P**	**13 39 28.7**	**-0.2**
	1.7nm,0.6s,mb4.2,baz=148,slow=8.0,SNR=3.2						
MJAR	**Matsushiro Arr**	**72.74**	**322**	P	**P**	**13 41 15.6**	**-0.1**
	5.8nm,0.8s,mb4.5,baz=161,slow=5.8,SNR=19						
MJAR				LR	LR	14 06 32.6	
	comp=Z,67nm,21.4s,MS3.9,baz=70,slow=30						
MAT	**Matsushiro**	**72.74**	**322**	P	**P**	**13 41 15.5**	**-0.2**
LPIG	**La Paz**	**76.73**	**58**	LR	LR	14 10 57.2	
	comp=Z,96nm,18.8s,MS4.1,baz=206,slow=32						
NVAR	**Mina Array Bea**	**79.08**	**42**	P	**P**	**13 41 52.0**	**+0.2**
	2.1nm,0.7s,mb4.2,baz=226,slow=8.9,SNR=10						
KSRS	**Korea Array**	**79.62**	**317**	P	**P**	**13 41 56.4**	**+1.6**
	4.9nm,1.0s,mb4.4,baz=140,slow=6.0,SNR=13						
MDJ	**Mudanjiang**	**82.98**	**323**	P	**P**	**13 42 14.8**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,155nm,6.1s						
MDJ				LR	LR		
	comp=N,28nm,28.4s,MS3.7						
MDJ				LR	LR		
	comp=E,32nm,24.5s,MS3.7						
MDJ				LR	LR		
	comp=Z,34nm,21.9s,MS3.7						
MDJ	**Mudanjiang**	**82.98**	**323**	*e*P	**P**	**13 42 14.4**	**+1.8**
	comp=Z,7.9nm,0.8s,mb4.8						
HLID	**Hailey**	**84.51**	**39**	*e*P	**P**	**13 42 20.4**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.3						
PLCA	**Paso Flores**	**86.37**	**132**	LR	LR	14 16 37.3	
	comp=Z,68nm,18.1s,MS4.1,baz=173,slow=32						
CMIG	**Matias Romero**	**86.56**	**70**	LR	LR	14 14 55.9	
	comp=Z,59nm,18.3s,MS4.0,baz=9.1,slow=31						
SYO	**Syowa Base**	**86.93**	**192**	⇑*e*pP	pP	13 42 33.0	-11
PDAR	**Pinedale Array**	**87.01**	**42**	P	**P**	**13 42 32.2**	**-0.6**
	comp=Z,1.1nm,0.9s,mb4.1,baz=195,slow=2.4,SNR=4.9						
PSI	**Prapat**	**87.99**	**274**	LR	LR	14 23 37.1	
	comp=Z,58nm,18.1s,MS4.0,baz=302,slow=37						
XAN	**Xi'an**	**91.23**	**306**	P	**P**	**13 42 55.5**	**+2.8**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb5.0						
YKA	**Yellowknife Ar**	**95.58**	**24**	P	**P**	**13 43 11.6**	**-1.1**
	comp=Z,0.3nm,0.8s,mb3.8,baz=231,slow=4.2,SNR=6.8						
WMQ	**Urumqi**	**109.90**	**310**	*e*P	PKiKP	13 48 18.5	-0.2
ZAL	**Zalesovo**	**113.10**	**321**	PKiKP	PKiKP	13 48 23.5	-1.2
	comp=Z,0.5nm,0.7s,baz=151,slow=4.7,SNR=4.7						
MKAR	**Makanchi Array**	**114.09**	**313**	PKiKP	PKiKP	13 48 26.2	-0.4
	comp=Z,0.7nm,0.8s,baz=64,slow=2.8,SNR=7.3						
MKAR	**Makanchi Array**	**114.09**	**313**	PKPdf	PKiKP	13 48 26.2	-0.4
BVAR	**Borovoye Array**	**121.72**	**320**	PKP	PKPdf	13 48 41.1	-0.2
	comp=Z,2.6nm,0.7s,baz=124,slow=1.2,SNR=17						
AKTK	**Aktyubinsk**	**129.76**	**319**	PKP	PKPdf	13 48 57.4	+0.7
AKTO	**Aktyubinsk**	**129.76**	**319**	PKP	PKPdf	13 48 57.4	+0.7
	comp=Z,0.9nm,0.7s,baz=274,slow=1.5,SNR=4.0						
ARCES	**ARCESS Array B**	**130.03**	**351**	PKP	PKPdf	13 48 58.1	+0.9
	comp=Z,2.7nm,0.9s,baz=349,slow=3.7,SNR=4.0						
AKASG	**Malin Array Be**	**145.10**	**334**	PKPbc	PKPbc	13 49 23.8	-0.5
	comp=Z,11nm,0.7s,baz=40,slow=4.2,SNR=50						
KIEV	**Kiev**	**145.11**	**334**	*e*PKP	PKPdf	13 49 23.5	-1.3
BSEG	**Bad Segeberg**	**146.97**	**355**	*e*PKPbc	PKPbc	13 49 30.7	+0.7
STHS	**Stebnicka Huta**	**149.10**	**340**	*e*PKP	PKPbc	13 49 36.4	+0.8
KSP	**Ksiaz**	**149.11**	**347**	*e*P	PKPbc	13 49 36.4	+0.7
KOLS	**Kolonicke sedl**	**149.18**	**338**	*e*PKP	PKPbc	13 49 40.8	+5.0
CLL	**Collm**	**149.25**	**351**	*e*PKPbc	PKPbc	13 49 36.3	+0.3
CLL	**Collm**	**149.25**	**351**	*i*PKPbc	PKPbc	13 49 36.4	+0.4
	comp=Z,12nm,1.0s						
CRVS	**Cervenica-Dubn**	**149.47**	**339**	*e*PKP	PKPdf	13 49 38.7	+6.6
BRG	**Berggiesshubel**	**149.53**	**350**	*e*P	PKPdf	13 49 36.8	+4.7
	comp=Z,5.2nm,1.1s						
BRG							
	comp=N,213nm,17.9s						
BRG							
	comp=E,360nm,20.5s						
BRG							
	comp=Z,606nm,22.1s						
DPC	**Dobruska-Polom**	**149.57**	**347**	*e*PKPbc	PKPbc	13 49 37.5	+0.7
OKC	**Ostrava-Krasne**	**149.61**	**344**	*e*PKPbc	PKPbc	13 49 37.7	+0.8
BR131	**Keskin Array S**	**149.73**	**314**	*e*PKPbc	PKPbc	13 49 38.1	+0.9
BRTR	**Keskin Array B**	**149.73**	**314**	PKPbc	PKPbc	13 49 38.0	+0.7
	comp=Z,3.9nm,0.8s,baz=112,slow=3.6,SNR=29						
ASF	**Jabal al Asfar**	**150.09**	**298**	PKPbc	PKPbc	13 49 39.7	+1.6
	comp=Z,2.9nm,0.8s,baz=141,slow=0.7,SNR=5.4						
MOX	**Moxa**	**150.09**	**352**	*e*PKPbc	PKPbc	13 49 38.5	+0.4
KECS	**Kecovo**	**150.16**	**340**	*e*PKP	PKPbc	13 49 39.1	+0.9
TANN	**Tannenbergstha**	**150.20**	**351**	*e*PKPbc	PKPbc	13 49 39.0	+0.7
ANTO	**Ankara**	**150.22**	**315**	*e*PKPbc	PKPbc	13 49 39.5	+1.2
PRU	**Pruhonice**	**150.27**	**348**	*e*PKPbc	PKPbc	13 49 38.9	+0.4
MLR	**Muntele Rosu**	**150.48**	**330**	PKPbc	PKPbc	13 49 40.0	+1.0
	comp=Z,3.5nm,0.5s,baz=88,slow=14,SNR=4.8						
VYHS	**Vyhne**	**150.65**	**342**	*i*PKP	PKPbc	13 49 39.7	+0.3
VYHS				*e*		13 49 50.5	
MANZ	**Manzenberg**	**150.67**	**352**	*e*PKPbc	PKPbc	13 49 40.2	+0.7
TNS	**Taunus Mts**	**150.80**	**356**	*e*PKPbc	PKPbc	13 49 40.2	+0.4
ROTZ	**Rotzenmuhle**	**150.87**	**351**	*e*PKPbc	PKPbc	13 49 40.5	+0.6
GRA1	**Grafenberg Arr**	**151.07**	**353**	*e*PKPbc	PKPbc	13 49 41.1	+0.7
GRF	**Grafenberg Arr**	**151.07**	**353**	*e*PKPbc	PKPbc	13 49 41.1	+0.7
MMAI	**Mount Meron Ar**	**151.08**	**301**	PKPbc	PKPbc	13 49 42.4	+2.0
	comp=Z,6.0nm,0.8s,baz=64,slow=5.7,SNR=5.5						
KHC	**Kasperske Hory**	**151.27**	**349**	*e*PKPbc	PKPbc	13 49 41

IDC 31 13:33:54.9±6.0, 1153S×11985E, h0km, mb4.2/1, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=134.9km s-min=68.3km az=41.0, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.60**	**140**	Pn	Pn	13 35 59.9	-0.7
	0.2nm,0.3s,baz=344,slow=23,SNR=9.9						
FITZ				Sn	Sn	13 37 42.6	+4.2
	0.3nm,0.3s,baz=188,slow=21,SNR=6.3						
WRA	**Warramunga Arr**	**16.25**	**123**	Pn	Pn	13 37 43.8	-0.7
	0.0nm,0.3s,baz=297,slow=13,SNR=6.3						
WRA				Sn	Sn	13 40 45.9	+0.4
	baz=297,slow=24,SNR=2.8						
ASAR	**Alice Springs**	**18.01**	**134**	P	Pn	13 38 07.2	+0.6
	0.1nm,0.3s,baz=311,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**28.49**	**139**	P	P	13 39 52.4	+0.5
	2.1nm,1.0s,baz=329,slow=8.8,SNR=3.0						

*IDC **31** 13:39:19.8±2.4, 4708N×1936E, h0km, mb3.6/1, mb1 3.7/7, mb1mx3.4/21, mbtmp3.7/7, ML3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=31.2km s-min=9.5km az=177.0*

*SZGRF **31** 13:39:21.8, 4736N×1963E, h10km, mb3.9, Hungary*

*CSEM **31** 13:39:22.8±0.1, 4729N×1932E, h0km, ML4.1, Error ellipse: s-maj=1.1km s-min=1.0km az=99.0*

*LDG **31** 13:39:22.7±0.2, 4749N×1948E, h10km, Ml4.0/5, Error ellipse: s-maj=7.4km s-min=4.5km az=39.0*

*ISCJB **31** 13:39:22.5±0.4, 4745N±001×1931E±002, h10km±3km, mb3.5/1, Error ellipse: s-maj=2.5km s-min=2.3km az=16.9*

*NEIC **31** 13:39:23.6±1.1, 4745N×1934E, h5km±9km, ML3.5(BRA), ML3.9(SZGRF), ML4.1(BUC), Error ellipse: s-maj=4.0km s-min=3.1km az=162.0*

NEIC Some buildings damaged in the Budapest area. Felt [V] at Gyomro and [IV] at Budapest. Also felt at Budakeszi, Felsopakony, Fot, Godollo, Gyal, Hevizgyork and Pecel.

*IPEC **31** 13:39:23.8±0.2, 4742N×1936E, h10km±1km, ML3.0/2, Error ellipse: s-maj=1.6km s-min=1.0km az=139.0*

*PRU **31** 13:39:23.9, 4744N×1928E, h0km*

ISC 31 13:39:24.3±0.3, 4745N±001×1933E±002, h11km±2km, n151, σ1§06/218, mb3.5/1, 20C-20D, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUD	**Budapest**	**0.21**	**280**	⇓*e*PB	**Pg**	**13 39 28.4**	**-0.4**
BUD				*e*Sn	**Sg**	**13 39 31.8**	**-0.1**
PSZ	**Piszkesteto**	**0.60**	**39**	⇓P	**Pg**	**13 39 35.3**	**-0.8**
PSZ	**Piszkesteto**	**0.60**	**39**	⇓*e*PB	**Pg**	**13 39 35.3**	**-0.7**
PSZ				*e*Sn	**Sg**	**13 39 44.4**	**+0.4**
PSZ	**Piszkesteto**	**0.60**	**39**	⇓*i*P	**Pg**	**13 39 35.3**	**-0.7**
PSZ	**Piszkesteto**	**0.60**	**39**	*e*Pg	**Pg**	**13 39 35.5**	**-0.5**
PSZ				*e*Sg	**Sg**	**13 39 44.2**	**+0.2**
PKSG		**0.64**	**265**	⇓*i*P	**Pg**	**13 39 36.3**	**-0.5**
PKSG				*i* S	**Sg**	**13 39 45.6**	**+0.4**
	52nm,0.6s						
VYHS	**Vyhne**	**1.10**	**342**	*i* PN	**Pn**	**13 39 45.1**	**-0.4**
VYHS				*e*SN	**Sn**	**13 39 59.2**	**-1.5**
KECS	**Kecovo**	**1.29**	**36**	*e*PN	**Pn**	**13 39 47.8**	**-0.4**
KECS				*e*SN	**Sn**	**13 40 06.4**	**+0.9**
PKSM	**Moragy**	**1.32**	**201**	⇓*e*Pn	**Pn**	**13 39 47.0**	**-1.7**
PKSM				*e*Sn	**Sn**	**13 40 04.0**	**-2.3**
LIKS	**Likavka**	**1.61**	**355**	*e*P	**Pn**	**13 39 55.1**	**+2.5**
LIKS				*e*Sn	**Sn**	**13 40 15.5**	**+2.2**
LIKS	**Likavka**	**1.61**	**355**	*e*	**Pn**	**13 39 55.1**	**+2.5**
SMOL	**Smolenice**	**1.67**	**310**	*e*PN	**Pn**	**13 39 52.7**	**-0.7**
SMOL				*e*SN	**Sn**	**13 40 17.6**	**+2.9**
ZST	**Bratislava**	**1.68**	**297**	*e*PN	**Pn**	**13 39 53.0**	**-0.5**
ZST				*e*SN	**Sn**	**13 40 16.0**	**+1.0**
RHK3	**Tenkes**	**1.73**	**206**	⇓*i*Pn	**Pn**	**13 39 52.9**	**-1.3**
RHK3				*e*Sn	**Sn**	**13 40 20.2**	**+4.0**
JAVC	**Velka Javorina**	**1.80**	**322**	*e*Pn	**Pn**	**13 39 55.1**	**-0.1**
SOP	**Sopron**	**1.89**	**278**	⇑*e*Pn	**Pn**	**13 39 56.8**	**+0.3**
SOP				*e*Sn	**Sn**	**13 40 23.2**	**+2.9**
SOP	**Sopron**	**1.89**	**278**	*e*Pn	**Pn**	**13 39 56.6**	**+0.1**
SOP				*e*Sn	**Sn**	**13 40 23.2**	**+2.9**
CRVS	**Cervenica-Dubn**	**2.04**	**44**	*e*PN	**Pn**	**13 39 59.2**	**+0.8**
CRVS				*e*PG	**Pg**	**13 40 03.0**	**-0.3**
CRVS				*e*SG	**Sg**	**13 40 31.7**	**+2.0**
NIE	**Niedzica**	**2.08**	**18**	*e*Pn	**Pn**	**13 40 00.2**	**+1.2**
NIE				*e*Pg	**Pg**	**13 40 04.7**	**+0.6**
NIE				*e*Sn	**Sn**	**13 40 21.6**	**-3.2**
NIE				*e*Sg	**Sg**	**13 40 29.6**	**-1.5**
FGSL	**Fruska Gora**	**2.31**	**172**	Pn	**Pn**	**13 40 01.8**	**-0.5**
KOGS	**Kog**	**2.34**	**246**	*i* Pn	**Pn**	**13 40 01.5**	**-1.1**
STHS	**Stebnicka Huta**	**2.34**	**32**	*e*PN	**Pn**	**13 40 03.5**	**+0.8**
STHS				*e*PG	**Pg**	**13 40 09.1**	**-0.1**
STHS				*e*SG	**Sg**	**13 40 39.5**	**-0.1**
CONA	**Conrad Observa**	**2.39**	**283**	⇑*e*Pn	**Pn**	**13 40 03.5**	**+0.1**
	SNR=54						
CONA				⇓*i*Sn	**Sn**	**13 40 32.5**	**-0.1**
	331nm,0.7s						
DRGR		**2.40**	**105**	⇓P	**Pn**	**13 40 02.8**	**-0.6**
DRGR		**2.40**	**105**	⇓*i*P	**Pn**	**13 40 02.8**	**-0.6**
BZS	**Buzias**	**2.42**	**138**	⇑P	**Pn**	**13 40 03.1**	**-0.6**
BZS	**Buzias**	**2.42**	**138**	⇑*i*Pn	**Pn**	**13 40 03.1**	**-0.6**
KOLS	**Kolonicke sedl**	**2.46**	**52**	*e*PG	**Pg**	**13 40 10.8**	**-0.7**
OKC	**Ostrava-Krasne**	**2.52**	**342**	*e*Pn	**Pn**	**13 40 05.4**	**+0.3**
KRUC	**Moravsky**	**2.54**	**311**	*e*Pn	**Pn**	**13 40 04.9**	**-0.5**
ARSA	**Arzberg**	**2.60**	**267**	⇑*i*Sg	**Sn**	**13 40 37.0**	**-0.7**
	comp=N,92nm,0.4s						
ARSA	**Arzberg**	**2.60**	**267**	⇑*e*Pn	**Pn**	**13 40 06.4**	**+0.2**
	SNR=72						
ARSA				⇑*i*Sn	**Sn**	**13 40 37.0**	**-0.7**
	92nm,0.4s						
VRAC	**Vranov**	**2.61**	**317**	Pn	**Pn**	**13 40 06.0**	**-0.4**
	23nm,0.3s,baz=116,slow=12,SNR=119						
VRAC				Sn	**Sn**	**13 40 37.7**	**-0.2**
	16nm,0.3s,baz=249,slow=18,SNR=7.1						
VRAC	**Vranov**	**2.61**	**317**	⇓P	**Pn**	**13 40 06.8**	**+0.5**
VRAC	**Vranov**	**2.61**	**317**	⇓*i*P	**Pn**	**13 40 06.8**	**+0.5**
VRAC	**Vranov**	**2.61**	**317**	*e*Pn	**Pn**	**13 40 05.9**	**-0.4**
VRAC	**Vranov**	**2.61**	**317**	⇓P	**Pn**	**13 40 06.8**	**+0.5**
MORC	**Moravsky Berou**	**2.62**	**334**	⇑P	**Pn**	**13 40 06.4**	**0.0**
MORC	**Moravsky Berou**	**2.62**	**334**	*e*Pn	**Pn**	**13 40 06.5**	**+0.1**
BEO	**Belgrade**	**2.74**	**163**	⇑*i*Pn	**Pn**	**13 40 07.4**	**-0.7**
OJC	**Ojcow**	**2.79**	**6**	*e*Pn	**Pn**	**13 40 09.5**	**+0.7**
OJC				*e*Pg	**Pg**	**13 40 18.7**	**+0.9**
OJC				*e*Sn	**Sn**	**13 40 42.5**	**+0.1**
OJC				*e*Sg	**Sg**	**13 40 53.8**	**-0.1**
GROS	**Grobnik**	**2.80**	**251**	*e*Pn	**Pn**	**13 40 08.5**	**-0.5**
SISC	**Sisak**	**2.85**	**227**	*e*Pn	**Pg**	**13 40 18.4**	**-0.5**
SISC				*i* Sn	**Sg**	**13 40 57.3**	**+1.5**
GOLS	**Golise**	**2.93**	**242**	*e*Pn	**Pn**	**13 40 09.0**	**-1.7**
PERS	**Pernice**	**3.00**	**256**	*i* Pn	**Pn**	**13 40 11.2**	**-0.4**
PERS				*i*		13 40 20.9	
KWP	**Kalwaria**	**3.13**	**44**	*e*Pn	**Pn**	**13 40 14.9**	**+1.4**
KWP				*e*Pg	**Pg**	**13 40 24.2**	**-0.1**
GZR	**Gura Zlata**	**3.15**	**130**	⇓P	**Pn**	**13 40 14.4**	**+0.7**
GZR	**Gura Zlata**	**3.15**	**130**	⇓*i*P	**Pn**	**13 40 14.4**	**+0.7**
TREC	**Trest**	**3.16**	**307**	*e*PN	**Pn**	**13 40 13.8**	**-0.1**
DIVS	**Divcibare**	**3.38**	**172**	⇑*i*Pn	**Pn**	**13 40 16.4**	**-0.5**
OBKA	**Obir**	**3.41**	**256**	*i* Pn	**Pn**	**13 40 17.4**	**+0.1**
	SNR=11						
OBKA				⇓*i*Sn	**Sn**	**13 40 56.5**	**-1.2**
SVIS	**Svilajnac**	**3.42**	**157**	⇑*i*Pn	**Pn**	**13 40 16.9**	**-0.5**
BOJS	**Bojanci**	**3.43**	**237**	*i* Pn	**Pn**	**13 40 22.3**	**+4.7**
BOJS				*i*		13 40 29.7	
MOA	**Molln**	**3.45**	**279**	*i* Pn	**Pn**	**13 40 18.9**	**+1.1**
	SNR=22						
MOA	**Molln**	**3.45**	**279**	*e*Pn	**Pn**	**13 40 19.1**	**+1.2**
VISS	**Visnje**	**3.51**	**244**	*i* Pn	**Pn**	**13 40 18.4**	**-0.3**
VISS				*i*		13 40 28.3	
DPC	**Dobruska-Polom**	**3.52**	**327**	*e*Pn	**Pn**	**13 40 19.0**	**+0.2**
BBLS	**Bajina Basta -**	**3.58**	**179**	⇑*i*Pn	**Pn**	**13 40 19.8**	**+0.1**
DJES	**Djerdap**	**3.59**	**141**	⇑*i*Pn	**Pn**	**13 40 19.0**	**-0.7**
LJU	**Ljubljana**	**3.59**	**249**	*i* Pn	**Pn**	**13 40 20.5**	**+0.6**
LJU				*i*		13 40 30.9	
GRUS	**Gruza**	**3.69**	**164**	⇑*i*Pn	**Pn**	**13 40 20.5**	**-0.7**
UPC	**Upice**	**3.76**	**326**	*e*PN	**Pn**	**13 40 22.4**	**+0.2**
KSP	**Ksiaz**	**3.94**	**331**	*e*Pn	**Pn**	**13 40 25.3**	**+0.7**
KSP				*e*Pg	**Pg**	**13 40 38.1**	**-1.7**
KSP				*e*Sn	**Sn**	**13 41 15.5**	**+4.7**
KSP				*e*Sg	**Sg**	**13 41 35.0**	**+4.2**
KSP	**Ksiaz**	**3.94**	**331**	*e*Pn	**Pn**	**13 40 25.1**	**+0.5**
KSP				*e*Pg	**Pn**	**13 40 26.9**	**+2.3**
KSP				*e*Sn	**Sn**	**13 41 09.9**	**-0.9**
JAVS	**Javornik**	**3.95**	**249**	*i* Pn	**Pn**	**13 40 25.1**	**+0.4**
JAVS				*e*		13 40 36.1	
BURAR	**Bucovina Array**	**3.99**	**85**	⇑P	**Pn**	**13 40 25.3**	**0.0**
BURAR	**Bucovina Array**	**3.99**	**85**	⇑*i*P	**Pn**	**13 40 25.3**	**0.0**
VOY	**Vojsko**	**4.00**	**251**	*e*Pn	**Pn**	**13 40 26.6**	**+1.2**
VOY				*e*		13 40 37.3	
VOY				*e*		13 40 46.2	
VOY				*e*		13 41 39.0	
GEC2	**GERESS Array S**	**4.02**	**292**	*e*Pn	**Pn**	**13 40 26.2**	**+0.5**
GEC2				*e*Sn	**Sn**	**13 41 13.8**	**+1.0**
GERES	**GERESS Array B**	**4.02**	**292**	Pn	**Pn**	**13 40 26.3**	**+0.6**
	7.8nm,0.3s,baz=110,slow=14,SNR=137						
GERES				Sn	**Sn**	**13 41 14.2**	**+1.3**
	9.5nm,0.3s,baz=110,slow=23,SNR=32						
GERES				Lg		13 41 32.7	
	7.1nm,0.3s,baz=114,slow=29,SNR=6.7						
PRU	**Pruhonice**	**4.07**	**310**	*e*PN	**Pn**	**13 40 25.9**	**-0.4**
PRU				*e*SN	**Sn**	**13 41 12.6**	**-1.3**
PRU				*e*SG	**Sg**	**13 41 29.9**	**-4.9**
	38nm,0.6s						
PRU	**Pruhonice**	**4.07**	**310**	*e*Pn	**Pn**	**13 40 25.9**	**-0.4**
PRU				*e*Sn	**Sn**	**13 41 12.6**	**-1.3**
PRU				*e*Sg	**Sg**	**13 41 29.9**	**-4.9**
KBA	**Koelnbreinsper**	**4.09**	**267**	*i* Pn	**Pn**	**13 40 27.6**	**+0.8**
	SNR=23						
KBA				⇑*i*Sn	**Sn**	**13 41 15.5**	**+0.9**
KBA	**Koelnbreinsper**	**4.09**	**267**	*e*Pn	**Pn**	**13 40 27.5**	**+0.7**
KHC	**Kasperske Hory**	**4.20**	**296**	*e*PN	**Pn**	**13 40 28.8**	**+0.7**
KHC				*ex*	x	13 40 32.5	
KHC				*e*SN	**Sn**	**13 41 15.5**	**-1.6**
KHC				*e*SG	**Sg**	**13 41 32.0**	**-7.0**
	199nm,1.2s						
KHC	**Kasperske Hory**	**4.20**	**296**	*e*Pn	**Pn**	**13 40 28.8**	**+0.7**
KHC				*e*		13 40 32.5	
KHC				*e*Sn	**Sn**	**13 41 15.5**	**-1.6**
KHC				*e*Sg	**Sg**	**13 41 32.0**	**-7.0**
SJES	**Sjenica**	**4.20**	**174**	Pn	**Pn**	**13 40 28.1**	**-0.1**
NVLJ	**Novalja**	**4.24**	**229**	*i* Pn	**Pn**	**13 40 28.6**	**-0.2**
NVLJ				*i* Sn	**Sn**	**13 41 17.9**	**-0.3**
BGLD	**Berchtesgaden**	**4.29**	**275**	⇑*i*Pn	**Pn**	**13 40 30.4**	**+1.0**
PVCC	**Panska Ves**	**4.40**	**316**	*e*PN	**Pn**	**13 40 30.7**	**-0.2**
VOIR		**4.43**	**115**	⇓*i*P	**Pn**	**13 40 32.7**	**+1.3**
WET	**Wettzell**	**4.63**	**294**	*e*Pn	**Pn**	**13 40 34.3**	**+0.2**
STON	**Ston**	**4.72**	**195**	*i* Pn	**Pn**	**13 40 36.7**	**+1.4**
STON				*i* Sn	**Sn**	**13 41 28.4**	**-1.6**
BRG	**Berggiesshubel**	**4.92**	**316**	*e*Pn	**Pn**	**13 40 37.7**	**-0.5**
BRG	**Berggiesshubel**	**4.92**	**316**	PN	**Pn**	**13 40 37.7**	**-0.4**
BRG				PG	**Pb**	**13 40 46.6**	**-3.9**
BRG				SN	**Pg**	**13 40 56.5**	**-2.1**
BRG				SG	**Sg**	**13 42 10.1**	**+7.7**
	22nm,1.1s						
BARS	**Barje**	**4.95**	**158**	*e*Pn	**Pn**	**13 40 33.6**	**-4.9**
MLR	**Muntele Rosu**	**4.97**	**111**	Pn	**Pn**	**13 40 39.0**	**+0.2**
	0.8nm,0.3s,baz=119,slow=19,SNR=2.2						
MLR				Lg		13 42 01.3	
	baz=246,slow=20,SNR=2.3						
MLR				LR	LR	13 42 44.3	
	comp=Z,121nm,19.6s,baz=257,slow=42						
SCE	**Schlegeis**	**5.21**	**268**	⇑*i*Pn	**Pn**	**13 40 44.1**	**+2.0**
WTTA	**Wattenberg**	**5.24**	**271**	⇓*i*Pn	**Pn**	**13 40 44.0**	**+1.5**
FBE	**Freiberg**	**5.24**	**314**	*e*Pn	**Pn**	**13 40 44.1**	**+1.6**
FBE				*e*Sn	**Sn**	**13 41 43.7**	**+0.9**
ROTZ	**Rotzenmuhle**	**5.27**	**299**	*e*Pn	**Pn**	**13 40 43.2**	**+0.4**
NKC	**Novy Kostel**	**5.33**	**304**	*e*PN	**Pn**	**13 40 43.5**	**-0.3**
WERN	**Wernitzgruen**	**5.40**	**304**	*e*Pn	**Pn**	**13 40 44.5**	**-0.2**
MANZ	**Manzenberg**	**5.42**	**301**	*e*Pn	**Pn**	**13 40 44.5**	**-0.4**
MANZ				*e*Sn	**Sn**	**13 41 48.9**	**+1.7**
TANN	**Tannenbergstha**	**5.42**	**306**	*e*Pn	**Pn**	**13 40 44.5**	**-0.4**
GUNZ	**Gunzen**	**5.46**	**305**	*e*Pn	**Pn**	**13 40 45.4**	**-0.1**
WERD	**Werda**	**5.52**	**306**	*e*Pn	**Pn**	**13 40 45.8**	**-0.5**
WERD				*e*Sn	**Sn**	**13 41 49.3**	**-0.4**
SQTA	**Sankt Quirin**	**5.53**	**271**	⇑*i*Pn	**Pn**	**13 40 47.8**	**+1.4**
	SNR=6.6						
VTS	**Vitosha**	**5.58**	**149**	*i* P	**Pn**	**13 40 46.5**	**-0.6**
VTS	**Vitosha**	**5.58**	**149**	⇓P	**Pn**	**13 40 46.8**	**-0.4**
VTS	**Vitosha**	**5.58**	**149**	⇓*i*P	**Pn**	**13 40 46.8**	**-0.3**
CLL	**Collm**	**5.66**	**315**	*e*Pn	**Pn**	**13 40 47.9**	**-0.3**
CLL	**Collm**	**5.66**	**315**	*e*Pn	**Pn**	**13 40 48.0**	**-0.2**
CLL				*e*		13 42 08.0	
CLL				Sg	**Sg**	**13 42 43.0**	**+17**
CLL	**Collm**	**5.66**	**315**	*e*Pn	**Pn**	**13 40 48.0**	**-0.2**
CLL				*i* x	x	13 40 53.0	
CLL				*ex*	x	13 40 57.0	
CLL				*i* x	x	13 40 58.2	
CLL				*e*(Sb)	**Sb**	**13 42 08.0**	**-2.8**
CLL				*e*Sg	**Sg**	**13 42 32.0**	**+6.1**
SKO	**Skopje**	**5.68**	**164**	*i* Pn	**Pn**	**13 40 49.5**	**+1.0**
SKO	**Skopje**	**5.68**	**164**	*i* Pn	**Pn**	**13 40 49.5**	**+1.0**
SKO	**Skopje**	**5.68**	**164**	*i* Pn	**Pn**	**13 40 49.4**	**+0.9**
GRA1	**Grafenberg Arr**	**5.83**	**296**	*e*Pn	**Pn**	**13 40 51.4**	**+0.8**
GRF	**Grafenberg Arr**	**5.83**	**296**	*e*Pn	**Pn**	**13 40 51.4**	**+0.8**
GRFO	**Grafenberg**	**5.83**	**296**	*e*Pn	**Pn**	**13 40 50.2**	**-0.5**
	8.8nm,0.6s						
GRFO	**Grafenberg**	**5.83**	**296**	*e*Pn	**Pn**	**13 40 50.2**	**-0.5**
	8.8nm,0.6s						
MOX	**Moxa**	**6.00**	**305**	*e*Pn	**Pn**	**13 40 52.8**	**-0.1**
MOX	**Moxa**	**6.00**	**305**	*e*PN	**Pn**	**13 40 53.2**	**+0.3**
MOX				*e*SN	**Sn**	**13 42 00.3**	**-1.2**
MOX				*e*SG	**Sg**	**13 42 37.7**	**+0.9**
MOX	**Moxa**	**6.00**	**305**	*e*Pn	**Pn**	**13 40 53.2**	**+0.3**
MOX				*e*Sn	**Sn**	**13 42 00.3**	**-1.2**
KKB	**Krupnik**	**6.19**	**153**	*e*P	**Pn**	**13 40 53.0**	**-2.5**
KRUS	**Krusevo**	**6.23**	**167**	*i* Pn	**Pn**	**13 40 57.4**	**+1.3**
KRUS				*i* Sn	**Sn**	**13 42 09.9**	**+2.6**
KRUS	**Krusevo**	**6.23**	**167**	*i* Pn	**Pn**	**13 40 57.4**	**+1.3**
KRUS				*i* Sn	**Sn**	**13 42 09.9**	**+2.6**
KRUS	**Krusevo**	**6.23**	**167**	*i* Pn	**Pn**	**13 40 57.3**	**+1.2**
KIS	**Kishinev**	**6.48**	**91**	*e*P	**Pg**	**13 41 30.0**	**+1.7**
BIA	**Bitola**	**6.58**	**167**	*i* Pn	**Pn**	**13 41 02.2**	**+1.2**
BIA	**Bitola**	**6.58**	**167**	*i* Pn	**Pn**	**13 41 02.2**	**+1.2**
BIA	**Bitola**	**6.58**	**167**	*i* Pn	**Pn**	**13 41 02.1**	**+1.1**
MMB	**Musomiste**	**6.65**	**150**	*e*P	**Pn**	**13 41 03.0**	**+1.2**
AKASG	**Malin Array Be**	**7.26**	**60**	Pn	**Pn**	**13 41 09.2**	**-1.1**
	1.2nm,0.3s,baz=250,slow=13,SNR=7.5						
AKASG				Sn	**Sn**	**13 42 30.6**	**-2.2**
	2.0nm,0.3s,baz=26,slow=24,SNR=4.6						
AKASG				Lg		13 43 20.9	
	0.8nm,0.3s,baz=247,slow=29,SNR=4.5						
AKASG	**Malin Array Be**	**7.26**	**60**	Pn	**Pn**	**13 41 09.2**	**-1.1**
AKASG				Sn	**Sn**	**13 42 30.5**	**-2.2**
BFO	**Black Forest**	**7.45**	**281**	*e*Pn	**Pn**	**13 41 13.2**	**+0.3**
	12nm,0.6s						
BFO	**Black Forest**	**7.45**	**281**	*e*Pn	**Pn**	**13 41 13.2**	**+0.3**
	12nm,0.6s						
CDF	**Champ du Feu**	**8.16**	**281**	*e*Pn	**Pn**	**13 41 21.3**	**-1.3**
	SNR=1.0						
CDF				*e*Sg	Sn	13 43 35.8	+41
	40nm,0.8s						
HINF	**Hinteralfeld**	**8.44**	**277**	*e*Pn	**Pn**	**13 41 25.1**	**-1.3**
HINF				*e*Sn	**Sn**	**13 42 53.5**	**-8.2**
HINF				*e*Sg	Sn	13 43 44.9	+43
	61nm,1.1s						
HINF	**Hinteralfeld**	**8.44**	**277**	*e*Pn	**Pn**	**13 41 25.1**	**-1.3**
HINF				*e*Sn	**Sn**	**13 42 53.5**	**-8.2**
HAU	**Haudompre**	**8.78**	**278**	*e*Pn	**Pn**	**13 41 31.6**	**+0.6**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**13 43 00.2**	**-10**
HAU				*e*Sg	Sn	13 43 54.3	+44
	21nm,0.6s						
LPL	**La Plagne**	**8.91**	**262**	*e*Pn	**Pn**	**13 41 33.5**	**+0.6**
CABF	**La Chapelle**	**9.09**	**270**	*e*Pn	**Pn**	**13 41 34.8**	**-0.5**
CABF				*e*Sn	**Sn**	**13 43 08.0**	**-10**
	5.3nm,0.7s						
MBDF	**Montbardon**	**9.14**	**257**	*e*Pn	**Pn**	**13 41 35.8**	**-0.3**
MEZF	**Maizieres J'vi**	**9.64**	**282**	*e*Pn	**Pn**	**13 41 41.5**	**-1.4**
	baz=88						
SFTF	**Sexfontaines**	**9.65**	**280**	*e*Pn	**Pn**	**13 41 43.2**	**+0.2**
ORIF	**Oris-en-Rattie**	**9.67**	**260**	*e*Pn	**Pn**	**13 41 44.7**	**+1.4**
	SNR=1.0						
BAIF	**Baives**	**10.33**	**290**	*e*Pn	**Pn**	**13 41 53.4**	**+1.1**
VIVF	**Saint-Julien-l**	**10.50**	**261**	*e*Pn	**Pn**	**13 41 55.0**	**+0.4**
LOR	**Lormes**	**10.51**	**275**	*e*Pn	**Pn**	**13 41 56.7**	**+2.0**
SMF	**Signal de Mont**	**10.61**	**271**	*e*Pn	**Pn**	**13 41 55.9**	**-0.2**
SSF	**Saint Saulge**	**10.77**	**274**	*e*Pn	**Pn**	**13 41 58.1**	**-0.3**
AVF	**Avril sur Loir**	**10.91**	**272**	*e*Pn	**Pn**	**13 41 59.2**	**-1.1**
BGF	**Bois d'Agland**	**11.30**	**272**	*e*Pn	**Pn**	**13 42 05.5**	**-0.1**
TCF	**Toulx Ste Croi**	**11.78**	**271**	*e*Pn	**Pn**	**13 42 09.1**	**-3.1**
HFS	**Hagfors**	**13.13**	**347**	Pn	**Pn**	**13 42 29.1**	**-1.6**
	0.1nm,0.3s,baz=142,slow=7.5,SNR=3.0						
NOA	**NORSAR Array B**	**14.40**	**344**	Pn	**Pn**	**13 42 46.6**	**-1.4**
	0.2nm,0.3s,baz=157,slow=12,SNR=3.3						
FINES	**FINESS Array B**	**14.55**	**13**	Pn	**Pn**	**13 42 47.0**	**-3.0**
	0.3nm,0.3s,baz=190,slow=11,SNR=11						
KAF	**Kangasniemi**	**15.22**	**13**	*e*p	**Pn**	**13 42 57.7**	**-1.4**
JOF	**Joensuu**	**16.89**	**19**	*e*p	**Pn**	**13 43 16.8**	**-3.8**
ARCES	**ARCESS Array B**	**22.36**	**6**	P	**P**	**13 44 24.1**	**+1.8**
	1.5nm,0.8s,mb3.5,baz=194,slow=9.9,SNR=5.2						

IDC 31 13:48:53.5±3.0, 403S×15154E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/15, mbtmp3.8/3, 1C, Error ellipse: s-maj=110.2km s-min=41.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**20.75**	**244**	*e*P	P	13 53 39.4	+3.6
	3.6nm,0.6s						
WB2	**Warramunga Arr**	**23.04**	**225**	⇑*i*P	P	13 54 00.6	+0.3
WRA	**Warramunga Arr**	**23.05**	**225**	P	P	13 54 00.9	+0.6
	2.0nm,0.4s,baz=50,slow=10,SNR=50						
ASAR	**Alice Springs**	**25.90**	**219**	P	P	13 54 26.8	-0.4
	0.2nm,0.3s,baz=54,slow=9.4,SNR=15						
FITZ	**Fitzroy Crossi**	**28.95**	**239**	P	P	13 54 55.4	+1.0
	2.6nm,0.9s,baz=49,slow=7.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**148.87**	**289**	PKPbc	PKPbc	14 08 43.7	+0.6
	0.3nm,0.8s,baz=72,slow=3.5,SNR=4.0						

*CSEM **31** 13:54:42.9, 3444N×303E, h0km, ML3.9, After ALG*

CRAAG 31 13:54:42.9, 3444N×303E, Ml3.9, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRT	**Tiaret**	**1.71**	**304**	P	Pn	13 55 14.0	+0.1
EMHD	**Djebel Mahouad**	**1.76**	**358**	P	Pn	13 55 14.0	-0.6
ECHA	**Ech Chlef**	**2.18**	**322**	P	Pn	13 55 18.0	-2.5

*IDC **31** 14:05:53.4±1.1, 2171N×120.16E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/31, Error ellipse: s-maj=66.7km s-min=18.9km az=68.0*

*NEIC **31** 14:05:54.6±0.7, 2180N×120.34E, h10km, MG3.4(JMA), Error ellipse: s-maj=21.2km s-min=10.9km az=93.0*

*ISCJB **31** 14:05:59.8±1.5, 2195N±008×12073E±008, h72km±16km, mb3.3/5, Error ellipse: s-maj=14.4km s-min=12.0km az=48.6*

*JMA **31** 14:06:00.2±0.3, 2185N×120.85E, h100km, M3.4*

ISC 31 14:06:00.9±1.6, 2196N±009×12068E±009, h63km±18km, n17, σ0§70/23, mb3.4/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.36**	**21**	*e*Pn	**Pn**	**14 06 36.8**	**-0.5**
NACB				*e*Sn	**Sn**	**14 07 03.4**	**-1.7**
YHNB	**Yeheng**	**2.78**	**13**	*e*Pn	**Pn**	**14 06 42.0**	**-0.9**
YHNB				*e*Sn	**Sn**	**14 07 16.7**	**+1.4**
TATO	**Taipei**	**3.10**	**14**	Pn	**Pn**	**14 06 48.3**	**+1.0**
YOJ	**Yonaguni jima**	**3.29**	**40**	P	**Pn**	**14 06 50.4**	**+0.5**
YOJ				*e*S	**Sn**	**14 07 28.9**	**+1.1**
HATJ	**Hateruma jima**	**3.56**	**53**	P	**Pn**	**14 06 53.2**	**-0.4**
HATJ				*e*S	**Sn**	**14 07 34.6**	**+0.2**
IRIF	**Iriomote-Funau**	**3.67**	**49**	P	**Pn**	**14 06 55.5**	**+0.3**
JKRS	**Kuro-shima

PVIS *e*Sn **Sn** **14 17 46.5 +1.1**
PVIS A 14 18 06.2
comp=Z,24nm,0.1s
PVIS Viseu 2.11 50 *e*Pn **Pn** **14 17 19.9 +0.8**
PVIS *e*Sn **Sn** **14 17 46.5 +1.1**
comp=Z,24nm,0.1s
PBEJ Beja 2.16 128 *e*Pn **Pn** **14 17 17.8 -2.0**
PBEJ *e*Sn **Sn** **14 17 44.2 -2.4**
PBEJ A 14 17 57.9
comp=Z,23nm,0.4s
PBEJ Beja 2.16 128 *e*Pn **Pn** **14 17 17.8 -2.0**
PBEJ *e*Sn **Sn** **14 17 44.2 -2.4**
comp=Z,23nm,0.4s
MTE Manteigas 2.16 61 *e*Pn **Pn** **14 17 20.3 +0.5**
MTE *e*Sn **Sn** **14 17 48.9 +2.2**
MTE A 14 18 13.7
comp=Z,42nm,0.4s
MTE Manteigas 2.16 61 Pn **Pn** **14 17 20.3 +0.5**
MTE Sn **Sn** **14 17 48.9 +2.2**
comp=Z,21nm,0.4s
EBAD Badajoz 2.42 104 P **Pn** **14 17 23.1 -0.3**
comp=Z,4.4nm,0.1s,SNR=47
EBAD S **Sn** **14 17 54.1 +1.0**
comp=Z,31nm,0.1s,SNR=8.8
EBAD Badajoz 2.42 104 P **Pn** **14 17 23.1 -0.3**
comp=Z,4.4nm,0.1s,SNR=47
EBAD S **Sn** **14 17 54.1 +1.0**
comp=Z,31nm,0.1s,SNR=8.8
PVRL Vila Real 2.59 42 *e*Pn **Pn** **14 17 26.0 +0.3**
PVRL *e*Sn **Sn** **14 17 57.5 +0.3**
PVRL A 14 18 23.3
comp=Z,12nm,0.2s
PVRL Vila Real 2.59 42 *e*Pn **Pn** **14 17 26.0 +0.3**
PVRL *e*Sn **Sn** **14 17 57.5 +0.3**
comp=Z,12nm,0.2s
EGRO El Granado 2.71 132 P **Pn** **14 17 26.2 -1.2**
comp=Z,1.5nm,0.1s,SNR=42
EGRO S **Sn** **14 17 58.2 -2.1**
comp=Z,5.2nm,0.1s,SNR=5.0
EGRO El Granado 2.71 132 P **Pn** **14 17 26.2 -1.2**
comp=Z,1.5nm,0.1s,SNR=42
EGRO S **Sn** **14 17 58.2 -2.1**
comp=Z,5.2nm,0.1s,SNR=5.0
PCAB Cabril 2.78 32 *e*Pn **Pn** **14 17 28.7 +0.3**
PCAB *e*Sn **Sn** **14 18 01.7 -0.3**
PCAB A 14 18 33.3
comp=Z,12nm,0.2s
PCAB Cabril 2.78 32 *e*Pn **Pn** **14 17 28.7 +0.3**
PCAB *e*Sn **Sn** **14 18 01.7 -0.3**
comp=Z,12nm,0.2s
ELOB Lobios 2.90 30 P **Pn** **14 17 30.5 +0.5**
ELOB S **Sn** **14 18 04.4 -0.5**
ELOB Lobios 2.90 30 P **Pn** **14 17 30.5 +0.5**
comp=Z,2.7nm,0.1s,SNR=11
ELOB S **Sn** **14 18 04.4 -0.5**
comp=Z,6.8nm,0.1s
ELOB Lobios 2.90 30 P **Pn** **14 17 30.5 +0.5**
comp=Z,2.7nm,0.1s,SNR=11
ELOB S **Sn** **14 18 04.4 -0.5**
comp=Z,6.8nm,0.1s
EZAM Zamans 2.95 20 P **Pn** **14 17 30.3 -0.3**
comp=Z,7.5nm,0.1s,SNR=7.9
EZAM S **Sn** **14 18 03.5 -2.5**
comp=Z,7.5nm,0.1s,SNR=7.9
EMIN Mina Concepcio 3.08 120 P **Pn** **14 17 32.2 -0.2**
comp=Z,2.4nm,0.1s,SNR=41
EMIN S **Sn** **14 18 07.9 -1.3**
comp=Z,6.4nm,0.2s,SNR=5.6
EMIN Mina Concepcio 3.08 120 P **Pn** **14 17 32.2 -0.2**
comp=Z,2.4nm,0.1s,SNR=41
EMIN S **Sn** **14 18 07.9 -1.4**
comp=Z,6.4nm,0.2s,SNR=5.6
PBRG Braganca 3.48 45 *e*Pn **Pn** **14 17 38.4 +0.4**
PBRG *e*Sn **Sn** **14 18 19.0 -0.2**
PBRG A 14 18 53.6
comp=Z,4.7nm,0.3s
PBRG Braganca 3.48 45 *e*Pn **Pn** **14 17 38.4 +0.4**
PBRG *e*Sn **Sn** **14 18 19.0 -0.2**
comp=Z,4.7nm,0.3s
ECAL Calabor 3.58 43 P **Pn** **14 17 40.0 +0.7**
comp=Z,0.3nm,0.1s,SNR=9.0
ECAL S **Sn** **14 18 21.2 -0.4**
comp=Z,6.8nm,0.3s
ECAL Calabor 3.58 43 P **Pn** **14 17 40.0 +0.7**
comp=Z,0.3nm,0.1s,SNR=9.0
ECAL S **Sn** **14 18 21.2 -0.4**
comp=Z,6.8nm,0.3s
EMAZ Mazaricos 3.66 12 P **Pn** **14 17 39.4 -1.0**
comp=Z,4.7nm,0.1s,SNR=8.9
EMAZ S **Sn** **14 18 18.8 -4.7**
comp=Z,6.2nm,0.1s
EMAZ Mazaricos 3.66 12 P **Pn** **14 17 39.4 -1.0**
comp=Z,4.7nm,0.1s,SNR=8.9
STS Santiago 3.68 17 P **Pn** **14 17 40.3 -0.4**
comp=Z,7.4nm,0.1s,SNR=7.9
STS S **Sn** **14 18 19.9 -4.2**
comp=Z,4.3nm,0.1s,SNR=7.9
ESPR Espera 4.13 126 P **Pn** **14 17 46.5 -0.4**
comp=Z,0.9nm,0.1s,SNR=9.7
ESPR Espera 4.13 126 P **Pn** **14 17 46.5 -0.4**
comp=Z,0.9nm,0.1s,SNR=9.7
EADA Adamuz 4.42 104 P **Pn** **14 17 51.2 +0.3**
comp=Z,4.7nm,0.1s,SNR=78
EADA S **Sn** **14 18 40.7 -1.8**
comp=Z,5.0nm,0.1s,SNR=8.9
EADA Adamuz 4.42 104 P **Pn** **14 17 51.2 +0.3**
comp=Z,4.7nm,0.1s,SNR=78
EADA S **Sn** **14 18 40.7 -1.8**
comp=Z,5.0nm,0.1s,SNR=8.9
EPON Pontenova 4.50 28 P **Pn** **14 17 52.1 +0.1**
comp=Z,2.2nm,0.1s,SNR=14
EPON S **Sn** **14 18 43.0 -1.4**
comp=Z,0.2nm,0.1s
EPON Pontenova 4.50 28 P **Pn** **14 17 52.1 +0.1**
comp=Z,2.2nm,0.1s,SNR=14
EPON S **Sn** **14 18 43.0 -1.3**
comp=Z,0.2nm,0.1s
GUD Guadarrama 4.68 72 P **Pn** **14 17 55.3 +0.8**
comp=Z,1.0nm,0.2s,SNR=7.9
GUD S **Sn** **14 18 49.6 +0.8**
comp=Z,2.4nm,0.3s,SNR=7.9
ESDC Sonseca Array 4.69 84 P **Pn** **14 17 55.6 +1.0**
comp=Z,32nm,0.1s,baz=265,slow=13,SNR=146
ESDC S **Sn** **14 18 49.7 +0.5**
comp=Z,1.8nm,0.2s,baz=266,slow=23,SNR=6.0
ESDC Sonseca Array 4.69 84 P **Pn** **14 17 55.6 +1.0**
comp=Z,32nm,0.1s,SNR=146
ESDC S **Sn** **14 18 49.7 +0.6**
comp=Z,1.8nm,0.2s,SNR=6.0
EMIJ Mijas 5.01 122 P **Pn** **14 17 58.7 -0.3**
comp=Z,0.2nm,0.2s,SNR=5.8
EMIJ S **Sn** **14 18 55.2 -1.7**
comp=Z,1.4nm,0.2s,SNR=7.9
EBAN Banos Encina 5.02 102 P **Pn** **14 17 59.4 +0.2**
comp=Z,1.7nm,0.1s,SNR=6.3
EBAN S **Sn** **14 18 55.0 -2.2**
comp=Z,4.1nm,0.2s,SNR=7.0
EARI Arriondas 5.34 41 P **Pn** **14 18 04.4 +0.9**
comp=Z,0.2nm,0.2s,SNR=6.7
EARI S **Sn** **14 19 03.7 -1.2**
comp=Z,0.7nm,0.3s,SNR=7.9
EARI Arriondas 5.34 41 P **Pn** **14 18 04.4 +0.9**
comp=Z,0.2nm,0.2s,SNR=6.7
EQUE Quentar 5.61 111 P **Pn** **14 18 07.3 0.0**
comp=Z,0.4nm,0.1s,SNR=5.3
EQES Quesada 5.67 104 P **Pn** **14 18 08.3 +0.3**
comp=Z,0.5nm,0.1s,SNR=7.9
EQES S **Sn** **14 19 11.1 -2.0**
comp=Z,0.4nm,0.1s,SNR=5.1
EQES Quesada 5.67 104 P **Pn** **14 18 08.3 +0.3**
comp=Z,0.5nm,0.1s,SNR=7.9
EQES S **Sn** **14 19 11.1 -2.0**
comp=Z,0.4nm,0.1s,SNR=5.1
EVIA Vianos 5.90 95 P **Pn** **14 18 11.6 +0.4**
comp=Z,0.8nm,0.1s,SNR=7.9
EBER Berja 6.14 112 P **Pn** **14 18 14.4 -0.2**
comp=Z,0.5nm,0.1s,SNR=7.9
EBER Berja 6.14 112 P **Pn** **14 18 14.4 -0.1**
comp=Z,0.5nm,0.1s,SNR=7.9
ETOR Torete 6.28 74 P **Pn** **14 18 17.8 +1.5**
comp=Z,10nm,0.2s,SNR=31
ETOR S **Sn** **14 19 26.5 -1.7**
comp=Z,3.5nm,0.2s,SNR=4.7
ETOR Torete 6.28 74 P **Pn** **14 18 17.8 +1.4**
ETOR S **Sn** **14 19 26.5 -1.6**
comp=Z,3.5nm,0.2s,SNR=4.7
ETOR S **Sn** **14 19 26.5 -1.6**

ETOB Tobarra 6.64 94 P **Pn** **14 18 21.9 +0.5**
ETOB S **Sn** **14 19 35.3 -1.8**
ETOB Tobarra 6.64 94 P **Pn** **14 18 21.9 +0.5**
comp=Z,0.8nm,0.1s,SNR=13
ETOB S **Sn** **14 19 35.3 -1.8**
comp=Z,0.4nm,0.1s
ETOB Tobarra 6.64 94 P **Pn** **14 18 21.9 +0.5**
comp=Z,0.8nm,0.1s,SNR=13
ETOB S **Sn** **14 19 35.3 -1.8**
comp=Z,0.4nm,0.1s
ECHE Chera 7.01 85 P **Pn** **14 18 26.8 +0.4**
comp=Z,0.2nm,0.1s,SNR=4.0
EMUR La Murta 7.04 100 P **Pn** **14 18 27.1 +0.1**
comp=Z,0.3nm,0.2s,SNR=4.0
EMUR La Murta 7.04 100 P **Pn** **14 18 27.1 +0.2**
comp=Z,0.3nm,0.2s,SNR=4.0
EMOS Mosqueruela 7.41 79 P **Pn** **14 18 32.6 +0.7**
comp=Z,0.3nm,0.1s,SNR=5.7
EMOS S **Sn** **14 19 54.0 -2.1**
comp=Z,0.8nm,0.2s
EMOS Mosqueruela 7.41 79 P **Pn** **14 18 32.6 +0.6**
comp=Z,0.3nm,0.1s,SNR=5.7
EMOS S **Sn** **14 19 54.0 -2.1**
comp=Z,0.8nm,0.2s
ESAC San Caprasio 7.64 69 P **Pn** **14 18 35.4 +0.3**
comp=Z,0.5nm,0.1s,SNR=7.9
ESAC S **Sn** **14 20 01.3 -0.4**
comp=Z,4.0nm,0.2s,SNR=7.9
ESAC San Caprasio 7.64 69 P **Pn** **14 18 35.4 +0.3**
comp=Z,0.5nm,0.1s,SNR=7.9
ESAC S **Sn** **14 20 01.4 -0.4**
EBEN Beniarda 7.66 92 P **Pn** **14 18 36.2 +0.9**
comp=Z,0.1nm,0.1s,SNR=7.9
EBEN Beniarda 7.66 92 P **Pn** **14 18 36.2 +0.9**
comp=Z,0.1nm,0.1s,SNR=7.9
ERTA Horta de San J 8.09 75 P **Pn** **14 18 41.6 +0.4**
comp=Z,0.2nm,0.1s,SNR=7.9
ERTA Horta de San J 8.09 75 P **Pn** **14 18 41.6 +0.4**
EBIE Bielsa 8.36 63 P **Pn** **14 18 46.1 +1.1**
comp=Z,0.4nm,0.1s,SNR=8.3
EBIE Bielsa 8.36 63 P **Pn** **14 18 46.1 +1.1**

NEIC ***31*** *14:31:27.2±3.9, 525S×14722E, h160km±33km, mb4.4/2, Error ellipse: s-maj=50.9km s-min=33.6km az=152.0*
IDC ***31*** *14:31:30.8±5.5, 571S×14756E, h190km±56km, mb3.9/2, mb1 3.9/4, mb1mx3.3/15, mbtmp3.7/4, Error ellipse: s-maj=93.6km s-min=45.3km az=129.0*
ISCJB ***31*** *14:31:33.9±5.5, 59S±0.4×1468E±0.4, h171km±30km, mb4.3/2, Error ellipse: s-maj=77.2km s-min=39.9km az=98.2*
ISC 31 14:31:33.9±5.3,**58S**±03×**1469E**±04,**h161**km±34km,**n9,**
σ0**44**/10,**mb4.3**/2,**1D,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.61**	**176**	P		**Pn**	**14 32 29.4**		**0.0**
2.5nm,0.3s,baz=42,slow=12,SNR=31									
PMG				S		**Sn**	**14 33 13.6**		**+1.0**
6.3nm,0.3s,baz=204,slow=23,SNR=17									
PMG	**Port Moresby**	**3.61**	**176**	*e*P		**Pn**	**14 32 29.5**		**+0.1**
PMG				*e*S		**Sn**	**14 33 11.4**		**-1.1**
KAKA	**Kakadu**	**15.83**	**243**	*e*P		**Pn**	**14 35 07.9**		**-0.1**
8.0nm,0.6s									
WB2	**Warramunga Arr**	**18.62**	**220**	⇓*i*P		**P**	**14 35 39.3**		**+0.2**
WRA	**Warramunga Arr**	**18.63**	**220**	P		**P**	**14 35 39.4**		**+0.2**
1.6nm,0.3s,baz=42,slow=10,SNR=112									
ASAR	**Alice Springs**	**21.74**	**214**	P		**P**	**14 36 12.2**		**-0.3**
5.1nm,0.6s,mb4.1,baz=48,slow=8.2,SNR=157									
FITZ	**Fitzroy Crossi**	**24.09**	**238**	*e*P		**P**	**14 36 34.3**		**-0.2**
8.9nm,0.6s,mb4.5									
FITZ	**Fitzroy Crossi**	**24.09**	**238**	P		**P**	**14 36 34.6**		**+0.1**
4.9nm,0.5s,mb4.3,baz=52,slow=11,SNR=16									
TORD	**Torodi Ar. Bea**	**144.93**	**285**	PKPbc		PKPdf	14 50 46.7		-5.0
0.2nm,0.8s,baz=49,slow=3.7,SNR=2.5									

ISCJB ***31*** *14:47:44.8±3.2, 972N±007×1269E±0.1, h6km±19km, mb3.8/11, Error ellipse: s-maj=22.6km s-min=11.5km az=1.2*
IDC ***31*** *14:47:46.2±1.1, 959N×12637E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/21, mbtmp3.8/10, Error ellipse: s-maj=119.4km s-min=15.7km az=72.0*
NEIC ***31*** *14:47:47.8±0.6, 958N×12632E, h10km, mb4.0/1, Error ellipse: s-maj=68.9km s-min=8.7km az=73.0*
MAN ***31*** *14:48:02.4, 948N×12583E, h14km, mb3.5, ML4.7, MS2.2*
ISC 31 14:47:54.3±5.3,**96N**±02×**1264E**±06,**h62**km±45km,**n15,**
σ0**50**/16,**mb3.8**/11,**1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.94**	**282**	⇑*e*P		**P**	**14 48 11.9**		**+0.1**
CGP	**Cagayan de Oro**	**2.05**	**237**	⇓*e*P		**P**	**14 48 22.0**		**-4.4**
CGP				*e*S		**Sn**	**14 49 09.2**		**+18**
PLP	**Palo**	**2.12**	**318**	*e*P		**Pn**	**14 48 32.5**		**+5.1**
FITZ	**Fitzroy Crossi**	**27.52**	**182**	P		**P**	**14 53 34.6**		**-0.4**
2.5nm,0.9s,mb3.9,baz=37,slow=10,SNR=2.2									
WRA	**Warramunga Arr**	**30.36**	**165**	P		**P**	**14 53 59.2**		**-0.9**
0.3nm,0.7s,mb3.1,baz=343,slow=9.5,SNR=4.7									
ASAR	**Alice Springs**	**33.85**	**168**	P		**P**	**14 54 30.9**		**+0.2**
0.3nm,0.7s,mb3.3,baz=27,slow=12,SNR=7.0									
ULN	**Ulaanbaatar**	**41.51**	**340**	*e*P		**P**	**14 55 35.0**		**-0.3**
3.9nm,1.3s,mb3.9									
SONM	**Songino Array**	**41.71**	**340**	P		**P**	**14 55 36.4**		**-0.6**
0.6nm,0.7s,mb3.3,baz=153,slow=9.3,SNR=6.6									
STKA	**Stephens Creek**	**43.71**	**161**	P		**P**	**14 55 54.0**		**+0.8**
0.7nm,0.4s,mb3.7,baz=311,slow=20,SNR=4.4									
STKA	**Stephens Creek**	**43.71**	**161**	*e*P		**P**	**14 55 54.4**		**+1.2**
MKAR	**Makanchi Array**	**52.66**	**323**	P		**P**	**14 57 02.1**		**0.0**
0.4nm,0.6s,mb3.5,baz=130,slow=8.1,SNR=6.6									
MKAR				PcP		PcP	14 58 11.9		+0.6
0.6nm,0.9s,baz=104,slow=5.2,SNR=2.8									
ZAL	**Zalesovo**	**55.30**	**331**	P		**P**	**14 57 21.7**		**+0.3**
0.5nm,0.6s,mb3.7,baz=10,slow=5.2,SNR=3.4									
ARCES	**ARCESS Array B**	**84.88**	**340**	P		**P**	**15 00 22.8**		**+0.4**
2.2nm,0.9s,mb4.3,baz=77,slow=6.0,SNR=5.1									
FINES	**FINESS Array B**	**86.56**	**332**	P		**P**	**15 00 30.7**		**+0.1**
1.8nm,0.8s,mb4.4,baz=45,slow=3.0,SNR=5.7									
HFS	**Hagfors**	**92.72**	**332**	P		**P**	**15 00 59.6**		**0.0**
1.3nm,0.6s,mb4.5,baz=134,slow=8.5,SNR=4.6									

IDC ***31*** *14:51:19.5±1.4, 4677N×15256E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/22, mbtmp3.6/8, ML2.7/1, Error ellipse: s-maj=36.3km s-min=28.8km az=122.0*
NEIC ***31*** *14:51:21.1±0.8, 4677N×15251E, h10km, mb4.5/1, Error ellipse: s-maj=21.1km s-min=16.9km az=143.0*
ISCJB ***31*** *14:51:23.4±2.1, 467N±02×1524E±02, h41km±17km, mb3.6/8, Error ellipse: s-maj=34.9km s-min=15.4km az=104.1*
MOS ***31*** *14:51:24.1±0.9, 4675N×15233E, h48km, mb4.0/2, Error ellipse: s-maj=31.1km s-min=20.2km az=75.1*
ISC 31 14:51:25.9±1.8,**468N**±02×**1524E**±02,**h49**km±15km,**n14,**
σ0**50**/14,**mb3.6**/8,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.63**	**30**	*e*PN		**Pn**	**14 52 34.0**		**+0.6**
ASAJ	**Asahikawa**	**7.40**	**253**	Pn		**Pn**	**14 53 10.8**		**-0.5**
0.1nm,0.3s,baz=78,slow=20,SNR=1.9									
INK	**Inuvik**	**41.91**	**32**	P		**P**	**14 59 10.8**		**-0.8**
4.2nm,0.4s,mb4.4									
ZAL	**Zalesovo**	**42.25**	**306**	P		**P**	**14 59 14.4**		**+0.1**
0.5nm,0.4s,mb3.5,baz=149,slow=18,SNR=2.4									
ZAL	**Zalesovo**	**42.25**	**306**	P		**P**	**14 59 14.5**		**+0.2**
ZAL				pmax		pmax			
comp=Z,1.0nm,0.4s									
MKAR	**Makanchi Array**	**46.52**	**297**	P		**P**	**14 59 48.5**		**0.0**
comp=Z,0.1nm,0.5s,mb3.0,baz=64,slow=7.8,SNR=5.2									
YKA	**Yellowknife Ar**	**51.21**	**37**	P		**P**	**15 00 23.6**		**-0.7**
comp=Z,0.1nm,0.5s,mb3.0,baz=297,slow=7.0,SNR=3.7									
YKA	**Yellowknife Ar**	**51.21**	**37**	P		**P**	**15 00 23.6**		**-0.8**
FINES	**FINESS Array B**	**63.84**	**334**	P		**P**	**15 01 53.4**		**+0.1**
comp=Z,3.9nm,1.1s,mb4.4,baz=45,slow=8.4,SNR=5.9									
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**15 02 20.7**		**+0.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=23,slow=4.0,SNR=2.7									
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**15 02 20.7**		**+0.2**
NOA				pmax		pmax			
comp=Z,1.0nm,0.8s									
NOA	**NORSAR Array B**	**68.08**	**341**	P		**P**	**15 02 20.7**		**+0.2**
AKASG	**Malin Array Be**	**71.29**	**326**	P		**P**	**15 02 40.6**		**+0.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=35,slow=6.2,SNR=5.5									
ASAR	**Alice Springs**	**72.06**	**198**	P		**P**	**15 02 45.5**		**+0.6**
comp=Z,0.2nm,0.8s,mb3.1,baz=11,slow=5.5,SNR=4.1

GUC ***31*** *14:55:00.3±1.1, 3810S×7119W, h19km±7km, ML5.6*
BJI ***31*** *14:55:05.2±2.2, 3708S×7201W, h20km, mB5.4, Ms5.4, Msz5.4*
NEIC ***31*** *14:55:02.5±0.1, 3794S×7111W, mb5.5/53, MS5.1/108, MW5.6, MD5.5(SJA), ML5.7(GUC), Error ellipse: s-maj=7.7km s-min=3.8km az=67.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr=0.16; Mθθ=1.45; Mφφ=-1.30; Mrθ=0.64; Mθφ=3.17; Mφr=-0.39; Best double couple: M0=3.50000×10^17 NP1:φs=281.00000°, δ86.00000°, λ=-12.00000°. NP2:φs=12.00000°, δ78.00000°, λ=-175.00000°. Principal axes: T 3.5600, Plg5.0000°, Azm327.0000°; N -0.0500, Plg77.0000°, Azm81.0000°; P -3.5200, Plg11.0000°, Azm236.0000°;*
NEIC Felt [IV] at Caviahue, Argentina. Felt [III] at Curacautin, Lonquimay and Temuco; [II] at Angol and Concepcion.
GCMT ***31*** *14:55:02.5±0.1, 3804S×7140W, h18km, MW5.5/89, Moment Tensor Solution. s72,c105; s89,c216; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr=0.16±.04; Mθθ=2.15±.04; Mφφ=-2.32±.04; Mrθ=0.17±.08; Mθφ=1.16±.03; Mφr=0.01±.09; Best double couple: M0=2.52400×10^17 NP1:φs=31.00000°, δ86.00000°, λ=178.00000°. NP2:φs=121.00000°, δ88.00000°, λ=4.00000°. Principal axes: T 2.4450, Plg4.0000°, Azm346.0000°; N 0.1530, Plg86.0000°, Azm153.0000°; P -2.6040, Plg1.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***31*** *14:55:03.9±0.6, 3787S±004×7093W±006, h37km±5km, mb5.4/69, MS5.1/121 Error ellipse: s-maj=9.2km s-min=4.9km az=118.6*
MOS ***31*** *14:55:03.5±1.0, 3793S×7143W, h33km, mb5.7/29, MS5.0/28, Error ellipse: s-maj=21.5km s-min=6.7km az=101.1*
IDC ***31*** *14:55:06.0±1.9, 3798S×7124W, h47km±17km, mb4.9/20, mb1 5.0/22, mb1mx5.0/24, mbtmp4.9/22, ML4.3/2, MS5.1/16, Ms1 5.0/16, ms1mx4.9/24, Error ellipse: s-maj=18.8km s-min=10.0km az=82.0*
ISC 31 14:55:05.8±0.6,**3792S**±004×**7106W**±006,**h42**km±4km,
n629,σ0**82**/463,**mb5.4**/69,**MS5.1**/121,**94C-96D,**
Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TMU	**Temuco**	**1.46**	**236**	*e*P		**Pn**	**14 55 22.5**		**-7.2**
TMU				*i* S		**Sn**	**14 55 39.0**		**-8.6**
TMU				AML		AML	14 55 42.5		
comp=N,8μm,0.2s									
TMU	**Temuco**	**1.46**	**236**	*e*P		**Pn**	**14 55 22.6**		**-7.1**
TMU				*i* S		**Sn**	**14 55 38.6**		**-9.1**
CCHI	**Chillan**	**1.54**	**328**	⇑*i*P		**Pn**	**14 55 28.1**		**-2.7**
CCHI				*i* S		**Sn**	**14 55 49.8**		**+0.2**
CCHI				AML		AML	14 55 52.2		
comp=E,354μm,0.6s									
CCHI	**Chillan**	**1.54**	**328**	⇑*i*P		**Pn**	**14 55 28.1**		**-2.7**
CCHI				*i* S		**Sn**	**14 55 49.4**		**-0.2**
LNCH	**Linares**	**2.11**	**348**	*e*P		**Pn**	**14 55 42.7**		**+4.1**
LNCH	**Linares**	**2.11**	**348**	⇓*i*P		**Pn**	**14 55 41.0**		**+2.4**
LNCH				*i* S		**Sn**	**14 56 09.4**		**+5.8**
COCH	**Cobquecura**	**2.26**	**322**	⇓*i*P		**Pn**	**14 55 37.7**		**-2.9**
COCH				*i* S		**Sn**	**14 56 07.3**		**+0.1**
COCH				AML		AML	14 56 17.9		
comp=E,39μm,0.7s									
COCH	**Cobquecura**	**2.26**	**322**	*e*P		**Pn**	**14 55 37.7**		**-2.9**
COCH				*i* S		**Sn**	**14 56 06.3**		**-0.9**
CNCO	**Chanco**	**2.48**	**331**	*e*P		**Pn**	**14 55 42.6**		**-1.1**
CNCO				*i* S		**Sn**	**14 56 13.8**		**+1.1**
CNCO				AML		AML	14 56 23.1		
comp=E,77μm,0.7s									
CNCO	**Chanco**	**2.48**	**331**	⇓*i*P		**Pn**	**14 55 43.4**		**-0.2**
CNCO				*i* S		**Sn**	**14 56 15.5**		**+2.9**
TALC	**Talca**	**2.56**	**349**	*e*P		**Pn**	**14 55 44.1**		**-0.5**
TALC				*i* S		**Sn**	**14 56 22.6**		**+8.1**
TALC				AML		AML	14 56 34.0		
comp=E,68μm,0.5s									
CTCH	**Constitucion**	**2.80**	**337**	*e*P		**Pn**	**14 55 47.1**		**-1.0**
PLCA	**Paso Flores**	**2.84**	**172**	P		**Pn**	**14 55 46.9**		**-1.7**
comp=E,96nm,0.3s,baz=339,slow=14,SNR=470									
PLCA				S		**Sn**	**14 56 25.9**		**+4.3**
comp=E,1μm,0.3s,baz=245,slow=20,SNR=23									
PLCA	**Paso Flores**	**2.84**	**172**	*e*Pn		**Pn**	**14 55 46.2**		**-2.5**
PLCA				*e*Sn		**Sn**	**14 56 24.5**		**+2.9**
NICH	**Los Niches**	**2.91**	**357**	⇑*i*P		**Pn**	**14 55 50.7**		**+1.1**
MDZ	**Mendoza**	**5.33**	**20**	*e*P		**Pn**	**14 56 26.6**		**+3.7**
MDZ				*e*			14 56 57.6		
MDZ				*e*S		Sn	14 57 46.1		+23
CFAA	**Coronel Fontan**	**6.71**	**21**	P		**Pn**	**14 56 44.6**		**+2.8**
comp=E,6.1nm,0.3s,baz=210,slow=13,SNR=306									
CFAA				LR		LR	14 58 53.6		
comp=E,453nm,19.0s,baz=193,slow=33									
TRQA	**Tornquist**	**7.17**	**94**	*e*Pn		**Pn**	**14 56 48.6**		**+0.6**
LCO	**Las Campanas**	**8.88**	**2**	*e*Pn		**Pn**	**14 57 10.3**		**-1.3**
comp=E,234nm,0.8s									
LPA	**La Plata**	**10.99**	**78**	*c*eP		**Pn**	**14 57 42.0**		**+1.6**
LPA				*es*P			14 57 48.9		
LPA				*e*SS			15 00 37.0		
EFI	**East Falkland**	**16.52**	**151**	Pn		**Pn**	**14 58 56.8**		**+2.3**
comp=E,1μm,1.0s,SNR=11									
EFI	**East Falkland**	**16.52**	**151**	⇑*e*P		**Pn**	**14 58 57.3**		**+2.8**
EFI	**East Falkland**	**16.52**	**151**	*e*Pn		**Pn**	**14 58 56.1**		**+1.7**
comp=E,232nm,0.9s									
USHA	**Ushuala**	**17.02**	**175**	P		**Pn**	**14 59 00.1**		**-0.5**
comp=E,1.0nm,0.3s,baz=318,slow=10,SNR=23									
USHA				LR		LR	15 05 31.4		
comp=E,13μm,18.0s,baz=321,slow=37									
ARE	**Arequipa**	**21.37**	**359**	⇑*i*P		**P**	**14 59 51.5**		**+1.9**
LPAZ	**La Paz**	**21.70**	**8**	P		**P**	**14 59 54.7**		**+1.6**
comp=E,218nm,0.9s,mb5.6,baz=182,slow=8.7,SNR=105									
LPAZ	**La Paz**	**21.70**	**8**	*e*P		**P**	**14 59 54.6**		**+1.5**
LPAZ				pmax		pmax			
comp=Z,313nm,1.0s									
LPAZ				MLR		MLR			
comp=Z,9μm,22.0s									
LPAZ	**La Paz**	**21.70**	**8**	*e*Pn		**P**	**14 59 54.6**		**+1.5**
comp=Z,313nm,1.0s,mb5.7									
LPAZ				LR		LR			
comp=Z,9μm,22.0s,MS5.1									
SIV	**San Ignacio**	**23.55**	**25**	P		**P**	**15 00 11.9**		**-0.5**
comp=Z,162nm,0.9s,mb5.4,baz=212,slow=8.7,SNR=340									
SIV				S		**S**	**15 04 26.3**		**+3.0**
comp=Z,2.9nm,0.8s,baz=263,slow=19,SNR=1.4									
NNA	**Nana**	**26.33**	**347**	P		**P**	**15 00 37.0**		**-0.7**
comp=Z,394nm,0.9s,mb5.9,SNR=13									
NNA	**Nana**	**26.33**	**347**	P		**P**	**15 00 37.2**		**-0.5**
comp=Z,43nm,0.8s,mb5.0,baz=190,slow=11,SNR=30									
NNA				LR		LR	15 08 51.0		
comp=Z,3μm,20.8s,MS4.8,baz=138,slow=31									
NNA	**Nana**	**26.33**	**347**	*e*P		**P**	**15 00 37.0**		**-0.7**
comp=Z,47nm,0.8s,mb5.1									
NNA				LR		LR			
comp=Z,744nm,19.0s,MS4.2									
PMSA	**Palmer Station**	**27.22**	**173**	P		**P**	**15 00 45.2**

PCRV Puerto La Cruz 48.21 8 LR LR 15 26 49.9
comp=Z,5µm,20.5s,MS5.5,baz=336,slow=39
LCR2 La Lucha 2 48.93 343⇑*eP* **P 15 03 48.5 +0.8**
LAJ Bijagual 49.08 343 *eP* **P 15 03 49.0 +0.2**
JCR Jicaral 49.30 342 *eP* **P 15 03 51.3 +0.8**
JTS JuntasAbangare 49.69 342 P **P 15 03 53.5 0.0**
comp=Z,709nm,1.1s,mb6.6,SNR=18
JTS JuntasAbangare 49.69 342 *eP* **P 15 03 53.2 -0.3**
JTS LR LR
comp=Z,274nm,22.0s,MS4.2
BBGH Gun Hill 51.92 14 PFAKE 15 04 20.0 +10
BBGH LR LR
comp=Z,4µm,21.0s,MS5.5
QSPA South Pole Qui 52.33 180 *eP* **P 15 04 12.2 -1.1**
comp=Z,164nm,1.4s,mb5.8
QSPA LR LR
comp=Z,1µm,20.0s,MS5.0
MAIT Maitri 52.39 155 *eP* **P 15 04 10.4 -3.4**
NVL N'lazarevskaya 52.43 155 *d iP* **P 15 04 15.5 +1.5**
NVL pmax pmax
comp=Z,121nm,1.6s,mb5.6
TGUH Tegucigalpa,Un 53.89 340 *eP* **P 15 04 23.9 -0.9**
comp=Z,194nm,1.1s,mb6.0
TGUH LR LR
comp=Z,702nm,19.0s,MS4.7
CPD Cerro la Pandu 55.86 6 *eP* **P 15 04 37.6 -1.5**
SJG San Juan 55.92 6 *eP* **P 15 04 37.8 -1.7**
SJG MLR MLR
comp=Z,2µm,20.0s
MPR Mayaguez 55.95 4 *eP* **P 15 04 37.9 -1.8**
MTP Monte Pirata 55.95 6 *eP* **P 15 04 36.9 -2.8**
HUMP Col San Antoni 55.97 6 *eP* **P 15 04 39.7 -0.1**
CBYP Canovanas 56.10 6 *eP* **P 15 04 39.4 -1.3**
ASCN Ascension 59.06 75 PFAKE 15 05 10.0 +8.4
ASCN LR LR
comp=Z,311nm,19.0s,MS4.5
CMIG Matias Romero 59.12 333 LR LR 15 26 14.2
comp=Z,600nm,20.6s,MS4.7,baz=148,slow=32
TEIG Tepich 60.06 341 *eP* **P 15 05 07.4 -1.0**
comp=Z,96nm,0.9s,mb5.8
TEIG LR LR
comp=Z,698nm,20.0s,MS4.8
VNDA Vanda 60.43 192 P **P 15 05 11.1 0.0**
comp=Z,14nm,1.1s,mb4.9,baz=121,slow=6.6,SNR=6.3
VNDA LR LR 15 31 38.2
comp=Z,1µm,18.4s,MS5.0,baz=137,slow=36
SYO Syowa Base 61.95 158⇓*eP* **P 15 05 19.2 -2.1**
SYO Syowa Base 61.95 158⇓*iP* pP 15 05 23.0 -10
IIO Organos 62.84 331 *i P* **P 15 05 29.2 +2.0**
DWPF Disney 66.39 350 PFAKE 15 06 00.0 +10
DWPF LR LR
comp=Z,1µm,20.0s,MS5.0
TBI Tubuai 67.22 258 *eS* S 15 14 48.6 +1.3
comp=Z,2µm,30.5s
TBI *e*LR LR 15 26 13.7
comp=Z,3µm,29.0s,baz=124
TAOE Nuku Hiva Isla 68.13 276 *eS* S 15 14 57.6 -0.7
comp=Z,883nm,27.6s
TAOE *e*LR LR 15 26 42.6
comp=Z,5µm,26.1s,baz=133
MAW Mawson 69.21 163 *eP* **P 15 06 07.7 -0.5**
comp=Z,27nm,1.0s,mb5.1
MAW Mawson 69.21 163 P **P 15 06 07.9 -0.3**
comp=Z,26nm,0.9s,mb5.2,baz=234,slow=6.4,SNR=14
MAW LR LR 15 36 14.5
comp=Z,3µm,21.4s,MS5.5,baz=228,slow=36
MAW Mawson 69.21 163 *eP* **P 15 06 07.7 -0.5**
MAW pmax pmax
comp=Z,27nm,1.0s
KVTX Kingsville 69.81 335 *eP* **P 15 06 12.5 +0.7**
comp=Z,191nm,1.2s,mb5.9
KVTX LR LR
comp=Z,610nm,19.0s,MS4.9
BBSR BB Station 70.18 6 PFAKE 15 06 30.0 +16
BBSR LR LR
comp=Z,970nm,22.0s,MS5.0
BRAL Brewton 70.18 345 PFAKE 15 06 30.0 +16
BRAL LR LR
comp=Z,2µm,19.0s,MS5.3
PPT Papeete 70.50 263 *eS* S 15 15 24.9 -1.4
comp=Z,2µm,28.2s
PPT *e*LQ 15 24 46.1
comp=Z,977nm,25.8s
PPT *e*LR LR 15 27 44.0
comp=Z,3µm,27.5s,baz=123
PPT Papeete 70.50 263 LR LR 15 30 53.5
comp=Z,246nm,18.9s,MS4.5,baz=99,slow=30
NHSC New Hope 71.17 352 *eP* **P 15 06 19.6 -0.6**
NHSC LR LR
comp=Z,612nm,20.0s,MS4.9
COW Cow Castle Cre 71.50 352 *eP* **P 15 06 21.8 -0.4**
GOGA Godfrey 71.90 349 *eP* **P 15 06 23.6 -0.9**
GOGA MLR MLR
comp=Z,1µm,22.0s,MS5.1
SUR Sutherland 72.28 117 P **P 15 06 29.0 +2.2**
comp=Z,442nm,1.1s,mb6.3,SNR=8.4
SUR Sutherland 72.28 117 P **P 15 06 28.2 +1.3**
comp=Z,43nm,0.8s,mb5.4,baz=235,slow=6.7,SNR=13
SUR Sutherland 72.28 117 *eP* **P 15 06 28.4 +1.6**
SUR LR LR
comp=Z,616nm,21.0s,MS4.8
JSC Jenkinsville 72.45 351 *eP* **P 15 06 26.6 -1.3**
LHS Liberty Hill 72.59 352 *eP* **P 15 06 28.4 -0.3**
NATX Nacogdoches 72.73 339 *eP* **P 15 06 29.6 +0.1**
NATX LR LR
comp=Z,546nm,19.0s,MS4.8
CNNC Cliffs of the 73.06 354 *eP* **P 15 06 30.9 -0.6**
comp=Z,113nm,1.2s,mb5.7
CNNC LR LR
comp=Z,749nm,20.0s,MS5.0
JCT Junction City 73.15 334 *eP* **P 15 06 31.8 -0.2**
JCT MLR MLR
comp=Z,476nm,20.0s,MS4.8
LTX Lajitas 73.53 331 *eP* **P 15 06 34.2 0.0**
LTX pmax pmax
comp=Z,88nm,1.4s,mb5.5
LTX MLR MLR
comp=Z,1µm,19.0s,MS5.2
LTX Lajitas 73.53 331 *eP* **P 15 06 34.2 -0.1**
comp=Z,88nm,1.4s,mb5.5
LTX LR LR
comp=Z,1µm,19.0s,MS5.2
OXF Oxford 74.05 344 *eP* **P 15 06 36.2 -1.1**
OXF MLR MLR
comp=Z,701nm,20.0s,MS5.0
TKL Tuckaleechee C 74.15 349 P **P 15 06 36.6 -1.2**
comp=Z,33nm,0.8s,mb5.3,baz=164,slow=6.9,SNR=37
UALR University of 74.97 342 *eP* **P 15 06 40.5 -2.1**
comp=Z,45nm,1.0s,mb5.4
TZTN Tazewell 74.98 350 *eP* **P 15 06 41.5 -1.2**
TZTN LR LR
comp=Z,1µm,22.0s,MS5.1
MIAR Mount Ida 75.07 341 *eP* **P 15 06 42.4 -0.8**
MIAR pmax pmax
comp=Z,71nm,1.3s,mb5.4
MIAR Mount Ida 75.07 341 *eP* **P 15 06 42.0 -1.1**
comp=Z,71nm,1.3s,mb5.4
MIAR LR LR
comp=Z,460nm,20.0s,MS4.8
MIR Mirnyy 75.14 173 *eP* **P 15 06 46.0 +2.4**
MIR pmax pmax
comp=Z,210nm,2.0s,mb5.7
BLA Blacksburg 75.25 352 *eP* **P 15 06 43.4 -0.8**
BLA pmax pmax
comp=Z,24nm,0.9s,mb5.1
BLA MLR MLR
comp=Z,759nm,20.0s,MS5.0
BLA Blacksburg 75.25 352 *eP* **P 15 06 43.4 -0.8**
comp=Z,24nm,0.9s,mb5.1
BLA LR LR
comp=Z,759nm,20.0s,MS5.0
WVT Waverly 75.29 346 *eP* **P 15 06 43.1 -1.4**
WVT pmax pmax
comp=Z,117nm,1.0s,mb5.8
WVT Waverly 75.29 346 *eP* **P 15 06 43.0 -1.4**
comp=Z,117nm,1.0s,mb5.8
ELN Prospectdale 75.31 352 *eP* **P 15 06 43.5 -1.0**
UTMT University of 75.70 345 *eP* **P 15 06 45.8 -1.0**
PVMO Portageville 75.94 345 *eP* **P 15 06 48.1 -0.1**
comp=Z,678nm,1.0s,mb6.5
CBN Corbin 75.97 355 *eP* **P 15 06 47.9 -0.5**
comp=Z,22nm,0.6s,mb5.3
CBN LR LR
comp=Z,838nm,19.0s,MS5.1
CASY Casey 76.13 181 *eP* **P 15 06 48.8 -0.4**
MNTX Cornudas Mount 76.30 330 *eP* **P 15 06 48.5 -1.7**
MNTX LR LR
comp=Z,970nm,20.0s,MS5.1
GDL2 Guadalupe Moun 76.36 331 *eP* **P 15 06 50.4 -0.1**
WMOK Wichita Mounta 76.73 337 *eP* **P 15 06 51.5 -1.2**
WMOK pmax pmax
comp=Z,88nm,1.3s,mb5.5
WMOK Wichita Mounta 76.73 337 *eP* **P 15 06 51.5 -1.1**
comp=Z,88nm,1.3s,mb5.5
USIN University of 77.04 347 *eP* **P 15 06 52.6 -1.8**
WCI Wyandotte Cave 77.06 348 *eP* **P 15 06 52.5 -2.0**
WCI pmax pmax
comp=Z,18nm,0.8s,mb5.0
WCI Wyandotte Cave 77.06 348 *eP* **P 15 06 52.5 -2.0**
comp=Z,18nm,0.8s,mb5.0
SIUC Southern Illin 77.10 345 *eP* **P 15 06 53.5 -1.2**
comp=Z,69nm,1.0s,mb5.5
SDMD Soldier's Deli 77.13 355 P **P 15 06 52.8 -2.1**
TSUM Tsumeb 77.42 105 *eP* **P 15 06 57.4 +0.9**
comp=Z,63nm,1.4s,mb5.3
TSUM LR LR
comp=Z,966nm,22.0s,MS5.1
BOSA Boshof 77.58 117 P **P 15 06 58.0 +0.6**
comp=Z,14nm,0.7s,mb5.0,baz=229,slow=6.0,SNR=30
BOSA Boshof 77.58 117 *eP* **P 15 06 57.6 +0.2**
BOSA pmax pmax
comp=Z,68nm,1.1s,mb5.5
BOSA MLR MLR
comp=Z,2µm,19.0s,MS5.4
BOSA Boshof 77.58 117 *eP* **P 15 06 57.6 +0.2**
comp=Z,68nm,1.1s,mb5.5
BOSA LR LR
comp=Z,2µm,19.0s,MS5.4
FVM French Village 77.61 344 *eP* **P 15 06 56.6 -1.0**
FVM French Village 77.61 344 *eP* **P 15 06 56.4 -1.2**
MCWV Mont Chateau 77.62 353 *eP* **P 15 06 57.4 -0.2**
comp=Z,56nm,0.9s,mb5.5
MCWV LR LR
comp=Z,1µm,21.0s,MS5.2
MVL Millersville 77.69 356 *eP* **P 15 06 57.6 -0.4**
AMTX Amarillo 77.81 335 *eP* **P 15 06 58.1 -0.6**
AMTX LR LR
comp=Z,507nm,19.0s,MS4.9
BLO Bloomington 78.02 348 *eP* **P 15 06 58.3 -1.6**
BLO *e* pP 15 07 08.9 -3.5
BLO Bloomington 78.02 348 *eP* **P 15 06 57.5 -2.4**
SLM Saint Louis 78.20 345 *eP* **P 15 06 59.8 -1.0**
SLM Saint Louis 78.20 345 *eP* **P 15 06 59.2 -1.7**
SSPA Standing Stone 78.42 355 *eP* **P 15 07 01.4 -0.7**
comp=Z,56nm,1.4s,mb5.3
SSPA LR LR
comp=Z,800nm,21.0s,MS5.0
BNM Barren Site 78.95 331 *eP* **P 15 07 05.5 +0.5**
Y22C IRIS P ASSCAL I 79.00 330 ⇓P **P 15 07 06.0 +0.7**
baz=79
TUC Tucson 79.07 327 *eP* **P 15 07 05.2 -0.4**
TUC pmax pmax
comp=Z,58nm,1.6s,mb5.3
TUC MLR MLR
comp=Z,612nm,20.0s,MS4.9
TUC Tucson 79.07 327 *eP* **P 15 07 05.2 -0.5**
comp=Z,58nm,1.6s,mb5.3
TUC LR LR
comp=Z,612nm,20.0s,MS4.9
LPM Los Pinos Moun 79.10 331 *eP* **P 15 07 06.2 +0.4**
LENM Lemitar 79.10 330 *eP* **P 15 07 05.4 -0.4**
LAZ Ladron 79.37 330 *eP* **P 15 07 08.3 +1.0**
ANMO Albuquerque 79.59 331 P **P 15 07 08.4 -0.1**
comp=Z,26nm,1.1s,mb5.1,baz=158,slow=6.8,SNR=49
ANMO Albuquerque 79.59 331⇑*iP* **P 15 07 08.0 -0.5**
ANMO Albuquerque 79.59 331 *eP* **P 15 07 08.3 -0.2**
comp=Z,34nm,1.0s,mb5.2
ANMO LR LR
comp=Z,1µm,20.0s,MS5.2
116A Eloy 79.69 326 P **P 15 07 09.8 +0.7**
baz=80,SNR=8.4
BINY Binghamton 79.86 356 *eP* **P 15 07 08.8 -1.2**
comp=Z,57nm,1.0s,mb5.5
BINY LR LR
comp=Z,1µm,20.0s,MS5.2
WES Weston 79.92 360 *eP* **P 15 07 09.5 -0.8**
WES pmax pmax
comp=Z,91nm,1.4s,mb5.5
WES MLR MLR
comp=Z,1µm,21.0s,MS5.3
WES Weston 79.92 360 *eP* **P 15 07 09.5 -0.7**
comp=Z,91nm,1.4s,mb5.5
WES LR LR
comp=Z,1µm,21.0s,MS5.3
LBTB Lobatse 79.97 114 P **P 15 07 10.9 +0.4**
comp=Z,33nm,0.8s,mb5.3,baz=249,slow=5.6,SNR=38
LBTB Lobatse 79.97 114 *eP* **P 15 07 11.0 +0.5**
LBTB pmax pmax
comp=Z,61nm,0.9s,mb5.5
LBTB MLR MLR
comp=Z,1µm,22.0s,MS5.2
LBTB Lobatse 79.97 114 *eP* **P 15 07 11.0 +0.4**
comp=Z,61nm,0.9s,mb5.5
LBTB LR LR
comp=Z,1µm,22.0s,MS5.2
115A Sonoran Desert 80.04 326 ⇓P **P 15 07 11.9 +1.0**
baz=80,SNR=25
HRV Harvard--Oak R 80.04 360 PFAKE 15 07 20.0 +9.1
HRV LR LR
comp=Z,1µm,22.0s,MS5.2
KSU1 Kansas State U 80.16 340 *eP* **P 15 07 10.3 -1.3**
KSU1 LR LR
comp=Z,547nm,20.0s,MS4.9
AAM Ann Arbor 80.66 351 *eP* **P 15 07 13.3 -0.9**
AAM pmax pmax
comp=Z,88nm,1.2s,mb5.6
AAM Ann Arbor 80.66 351 *eP* **P 15 07 12.9 -1.4**
comp=Z,88nm,1.3s,mb5.5
AAM LR LR
comp=Z,961nm,20.0s,MS5.2
Z14A Wintersburg 80.92 326 ⇓P **P 15 07 16.1 +0.4**
baz=81
ACCN Adirondack Com 80.95 358 *eP* **P 15 07 16.2 +0.4**
FFD Franklin Falls 81.01 360 *eP* **P 15 07 16.5 +0.4**
comp=Z,135nm,1.3s,mb5.7
Y14A Wickenburg 81.43 326 ⇓P **P 15 07 18.7 +0.4**
baz=82
NCB Newcomb 81.56 358 PFAKE 15 07 30.0 +11
NCB LR LR
comp=Z,985nm,21.0s,MS5.1
X15A Humboldt 81.56 327 ⇑P **P 15 07 19.9 +0.8**
baz=82,SNR=38
Y13A Salome 81.69 325 ⇓P **P 15 07 20.2 +0.5**
baz=82
SDCO Great Sand Dun 81.72 333 *eP* **P 15 07 20.1 +0.2**
SDCO LR LR
comp=Z,791nm,21.0s,MS5.0
LBNH Lisbon 81.78 359 *eP* **P 15 07 20.8 +0.6**
LBNH pmax pmax
comp=Z,37nm,0.9s,mb5.3
LBNH Lisbon 81.78 359 *eP* **P 15 07 20.2 0.0**
comp=Z,38nm,0.8s,mb5.4
LBNH LR LR
comp=Z,1µm,20.0s,MS5.3
DVTC Desert V Tower 81.79 323 ⇑P **P 15 07 21.0 +0.7**
baz=82
X14A Yava 81.83 326 ⇑P **P 15 07 21.1 +0.6**
baz=82,SNR=17
SWSC Sam W. Stewart 81.88 323 ⇑P **P 15 07 21.4 +0.6**
baz=82
Y12C Blythe 81.96 325 P **P 15 07 22.0 +0.8**
baz=82,SNR=15
SCIA State Center 81.97 343 *eP* **P 15 07 19.4 -1.8**
comp=Z,143nm,1.7s,mb5.6
SCIA LR LR
comp=Z,740nm,19.0s,MS5.1
WUAZ Wupatki 82.06 328 *eP* **P 15 07 22.2 +0.5**
comp=Z,82nm,1.3s,mb5.5
WUAZ Wupatki 82.06 328 ⇑P **P 15 07 22.4 +0.7**
baz=82
MONP Monument Peak 82.13 323 ⇑P **P 15 07 22.8 +0.8**
baz=82,SNR=9.0
W15A Williams 82.16 327 ⇓P **P 15 07 23.3 +1.1**
baz=82,SNR=18
LONY Lake Ozonia 82.22 357 *eP* **P 15 07 21.4 -1.1**
LONY LR LR
comp=Z,815nm,20.0s,MS5.1
PDMCI Parker Dam,Lak 82.24 325 ⇑P **P 15 07 23.0 +0.3**
baz=82,SNR=6.0
BC3 Big Chuckw Mtn 82.31 324 P **P 15 07 23.7 +0.8**
baz=83,SNR=16
X13A Yucca 82.35 326 ⇑P **P 15 07 23.7 +0.5**
baz=83,SNR=39
MVCO Mesa Verde 82.36 331 *eP* **P 15 07 23.5 +0.2**
comp=Z,72nm,1.3s,mb5.5
MVCO LR LR
comp=Z,1µm,20.0s,MS5.3
MVCO Mesa Verde 82.36 331 ⇑P **P 15 07 23.6 +0.3**
baz=83
FRNY Flat Rock 82.40 358 *eP* **P 15 07 22.7 -0.7**
109C Camp Elliot, M 82.46 322 ⇑P **P 15 07 24.3 +0.5**
baz=83
W14A Seligman 82.54 326 P **P 15 07 25.2 +1.1**
baz=83,SNR=19
IRM Iron Mountain 82.59 324 P **P 15 07 25.1 +0.7**
baz=83,SNR=18
MSNY Massena 82.61 357 *eP* **P 15 07 23.9 -0.6**
PFO Pinyon Flat Ob 82.74 323 P **P 15 07 26.9 +1.7**
comp=Z,182nm,1.1s,mb6.0,SNR=8.1
PFO Pinyon Flat Ob 82.74 323 P **P 15 07 25.7 +0.5**
comp=Z,28nm,1.1s,mb5.2,baz=142,slow=5.0,SNR=11
PFO Pinyon Flat Ob 82.74 323 *eP* **P 15 07 26.0 +0.8**
PFO pmax pmax
comp=Z,43nm,1.2s,mb5.3
PFO MLR MLR
comp=Z,157nm,19.0s,MS4.4
PFO Pinyon Flat Ob 82.74 323 *eP* **P 15 07 26.0 +0.8**
comp=Z,43nm,1.2s,mb5.3
PFO LR LR
comp=Z,157nm,19.0s,MS4.4
PFO Pinyon Flat Ob 82.74 323 ⇓P **P 15 07 26.1 +0.9**
baz=83,SNR=12
W13A Hualapai Mount 82.80 326 P **P 15 07 26.5 +1.0**
baz=83,SNR=22
BELC Belle Mtn. 82.85 324 ⇓P **P 15 07 26.4 +0.6**
baz=83,SNR=6.9
MURC Murrieta 83.09 323 ⇓P **P 15 07 27.6 +0.6**
baz=83,SNR=7.1
PV01 Paradox Valley 83.20 331 *eP* **P 15 07 27.6 0.0**
SCI San Clemente I 83.24 321 ⇓P **P 15 07 28.4 +0.5**
baz=84
GMRC Granite Mounta 83.33 324 ⇑P **P 15 07 29.3 +1.0**
baz=84,SNR=23
W12A Cal Nev Ari 83.41 325 ⇑P **P 15 07 29.1 +0.5**
baz=84
BBRC Big Bear Sol-O 83.50 323 ⇑P **P 15 07 29.9 +0.7**
baz=84
CIS Catalina Islan 83.52 322 ⇑P **P 15 07 30.0 +0.8**
baz=84
SMCO Snowmass 83.52 333 *eP* **P 15 07 29.6 +0.3**
comp=Z,79nm,1.2s,mb5.7
PV10 Paradox Valley 83.59 331 *eP* **P 15 07 29.0 -0.6**
PV10 *e* 15 07 33.8
HEC Hector,Ludlow 83.69 324 ⇓P **P 15 07 31.0 +0.9**
baz=84,SNR=6.8
V12A Nelson 83.75 325 P **P 15 07 31.0 +0.5**
baz=84,SNR=21
BFSC Mount Baldy St 83.83 323 ⇓P **P 15 07 31.3 +0.4**
baz=84,SNR=14
TUQ Turquoise Mtn. 84.00 325 P **P 15 07 32.6 +0.9**
baz=84,SNR=19
RRX Edison Barstow 84.04 324 ⇑P **P 15 07 32.6 +0.7**
baz=84
V11A Goodsprings 84.11 325 ⇓P **P 15 07 32.7 +0.5**
baz=84,SNR=7.3
DECC Green Verdugo 84.16 322 ⇓P **P 15 07 33.1 +0.6**
baz=84
U12A Valley of Fire 84.20 326 ⇓P **P 15 07 33.1 +0.4**
baz=84,SNR=6.0
GSC Goldstone 84.30 324 P **P 15 07 34.0 +0.8**
baz=84,SNR=13
BLG Laguna Peak 84.41 322 ⇑P **P 15 07 34.3 +0.6**
baz=85
EDW2 Edwards Air Fo 84.51 323 ⇓P **P 15 07 34.3 0.0**
baz=85,SNR=11
SHPR Sheep Range 84.54 326 *eP* **P 15 07 35.3 +0.9**
SHOC Shoshone 84.54 325 ⇓P **P 15 07 34.6 +0.2**
baz=85
U11A Corn Creek 84.57 326 ⇓P **P 15 07 35.4 +0.8**
baz=85
BSC Santa Cruz Isl 84.59 321 ⇓P **P 15 07 35.3 +0.6**
baz=85
CCUT Cedar City 84.63 327 *eP* **P 15 07 35.7 +0.8**
OSI Osito Adit 84.65 322 ⇓P **P 15 07 35.7 +0.7**
baz=85,SNR=6.2
MSKU Masuku 84.78 88 PFAKE 15 07 50.0 +14
MSKU LR LR
comp=Z,71nm,21.0s
SRU San Rafael 84.80 330 *eP* **P 15 07 35.5 -0.3**
TOA0 Torodi Ar. Sit 84.83 69 *eP* **P 15 07 36.0 +0.1**
TORD Torodi Ar. Bea 84.83 69 P **P 15 07 36.0 +0.2**
comp=Z,16nm,0.9s,mb5.1,baz=247,slow=4.6,SNR=53
TORD LR LR 15 45 04.4
comp=Z,867nm,19.1s,MS5.2,baz=240,slow=35
LRMC Laurel Mountai 84.85 323 P **P 15 07 36.7 +0.7**
baz=85,SNR=16
ARUT Antelope Range 84.86 328 *eP* **P 15 07 36.6 +0.5**
PHWY Pilot Hill 84.87 335 *eP* **P 15 07 36.1 0.0**
MSU Marysvale 84.95 329 *eP* **P 15 07 36.8 +0.3**
MVU Marysvale 84.96 329 PFAKE 15 07 50.0 +13
MVU LR LR
comp=Z,873nm,20.0s,MS5.1
SBC Santa Barbara 84.99 321 ⇑P **P 15 07 37.1 +0.4**
baz=85
U10A Ash Meadows, A 85.00 325 ⇓P **P 15 07 37.6 +0.8**
baz=85,SNR=9.5
ARVC Arvin 85.11 322 ⇓P **P 15 07 38.0 +0.7**
baz=85
TMUT Trail Mountain 85.23 330 *eP* **P 15 07 38.3 +0.4**
MPMC Manual Prospec 85.23 324 P **P 15 07 38.6 +0.7**
baz=86,SNR=8.6
FURC Furnace Creek, 85.28 325 ⇓P **P 15 07 38.8 +0.7**
baz=86
ISA Isabella 85.38 323 ⇓P **P 15 07 39.0 +0.4**
baz=86,SNR=22
PKM Peak Mountain 85.41 322 ⇑P **P 15 07 39.5 +0.8**
baz=86,SNR=7.7
DAC Darwin (Calif) 85.46 324 *eP* **P 15 07 39.8 +0.8**
DAC *e* 15 07 46.8
DAC pmax pmax
comp=Z,38nm,1.0s,mb5.5
DAC MLR MLR
comp=Z,526nm,19.0s,MS5.0
DAC Darwin (Calif) 85.46 324 *eP* **P 15 07 39.8 +0.7**
comp=Z,38nm,1.0s,mb5.5
DAC *e* 15 07 46.8
DAC LR LR
comp=Z,526nm,19.0s,MS5.0
VES Vestal, Richgr 85.81 323 ⇓P **P 15 07 41.1 +0.3**
baz=86,SNR=8.3
CWC Cottonwood Cre 85.82 324 ⇑P **P 15 07 41.6 +0.8**
baz=86
RWWY Rawlins 85.82 334 *eP* **P 15 07 40.3 -0.5**
SMMC Simmler 85.83 322 ⇑P **P 15 07 41.9 +1.0**
baz=86
GRAC Grapevine Rang 85.95 325 ⇓P **P 15 07 42.1 +0.7**
baz=86,SNR=6.9
MPU Maple Canyon 86.02 330 *eP* **P 15 07 41.5 -0.3**
MPU *e* 15 07 48.9
MPU LR LR
comp=Z,1µm,20.0s,MS5.2
PTRM Twissleman Ran 86.21 322 P **P 15 07 43.7 +1.0**
DAU Daniels Canyon 86.21 330 *eP* **P 15 07 42.6 -0.2**
V05C Boulder Hill, 86.22 322 ⇑P **P 15 07 43.8 +1.0**
baz=86
TRCR Troy Canyon 86.26 326 *eP* **P 15 07 43.6 +0.6**
TRCR *e* 15 07 50.4
RCTC Rector, Farmer 86.26 323 ⇑P **P 15 07 42.6 -0.4**
baz=86
TIN Tinemaha 86.39 324 ⇓P **P 15 07 44.4 +0.8**
baz=87
JLU Jordanelle 86.45 330 *eP* **P 15 07 43.7 -0.2**
JLU *e* 15 07 50.6
HELL Mitchell Peak, 86.46 323 P **P 15 07 43.9 0.0**
baz=87,SNR=16
S09A Goldfield 86.47 325 P **P 15 07 44.6 +0.5**
baz=87,SNR=29
Q12A Willow Creek R 86.51 327 ⇓P **P 15 07 44.5 +0.3**
baz=87,SNR=6.1
V04C Ramage Ranch, 86.51 321 ⇓P **P 15 07 45.3 +1.0**
baz=87
R10A Warm Springs 86.52 326 P **P 15 07 45.4 +1.1**
baz=87,SNR=21
PKD Parkfield 86.60 322 ⇓P **P 15 07 45.2 +0.5**
baz=87,SNR=5.4
DUG Dugway 86.64 329 *eP* **P 15 07 44.2 -0.7**
DUG pmax pmax
comp=Z,53nm,1.3s,mb5.6
DUG MLR MLR
comp=Z,1µm,20.0s,MS5.2

DUG Dugway 86.64 329 *e*P P **15 07 44.2 -0.7**
comp=Z,53nm,1.3s,mb5.6
DUG LR LR
comp=Z,1µm,20.0s,MS5.2
DUG Dugway 86.64 329 ⇑P P **15 07 45.3 +0.4**
baz=87
Q11A Duckwater 86.70 327 P P **15 07 45.8 +0.6**
baz=87,SNR=18
S08C White Mtn Res 86.72 324 P P **15 07 46.0 +0.8**
baz=87,SNR=13
NOQ North Oquirrh 86.75 330 *e*P P **15 07 45.0 -0.4**
TPH Tonopah 86.76 325 *e*P P **15 07 46.1 +0.6**
TPH MLR MLR
comp=Z,618nm,20.0s,MS5.0
MTUM Tungsten Hills 86.79 324 *e*P P **15 07 45.9 +0.3**
R09A Tonopah 86.83 325 P P **15 07 46.2 +0.5**
baz=87,SNR=27
P12A McGill 86.90 328 ⇑P P **15 07 46.5 +0.4**
baz=87,SNR=7.7
RSSD Black Hills 86.94 337 PFAKE 15 08 00.0 +14
RSSD LR LR
comp=Z,3µm,19.0s,MS5.7
T06C Milleton Lake 87.05 323 ⇑P P **15 07 46.1 -0.7**
baz=87,SNR=7.5
U04C Hernandez Rese 87.05 322 ⇓P P **15 07 47.8 +0.9**
baz=87,SNR=5.2
KCC Kaiser Creek 87.12 323 ⇓P P **15 07 47.7 +0.5**
baz=87,SNR=7.1
MLAC Mammoth Lakes 87.14 324 ⇓P P **15 07 48.1 +0.8**
baz=87,SNR=7.6
P11A Circle Ranch, 87.33 327 ⇑P P **15 07 48.7 +0.4**
baz=88
BGU Big Grassy Mou 87.35 330 *e*P P **15 07 47.5 -0.8**
HWUT Hardware Ranch 87.35 331 *e*P P **15 07 47.8 -0.6**
HWUT LR LR
comp=Z,789nm,19.0s,MS5.1
Q09A Carvers 87.36 326 ⇓P P **15 07 49.0 +0.6**
baz=88
R08A Mina 87.38 325 ⇑P P **15 07 49.1 +0.6**
baz=88
EYMN Ely 87.40 346 *e*P P **15 07 46.7 -1.9**
EYMN LR LR
comp=Z,868nm,22.0s,MS5.1
T05C Eagle Field, D 87.42 322 ⇓P P **15 07 49.6 +0.9**
baz=88
HAST UC Hastings Re 87.45 321 ⇓P P **15 07 49.4 +0.6**
baz=88
NVAR Mina Array Bea 87.54 325 P P **15 07 49.2 0.0**
comp=Z,8.5nm,0.8s,mb5.0,baz=131,slow=7.4,SNR=75
PDAR Pinedale Array 87.60 333 P P **15 07 48.6 -0.9**
comp=Z,8.0nm,1.1s,mb4.8,baz=141,slow=5.0,SNR=34
PDAR LR LR 15 43 41.5
comp=Z,635nm,18.3s,MS5.1,baz=28,slow=33
R07C Lee Vining 87.61 324 ⇑P P **15 07 50.5 +0.9**
baz=88,SNR=9.3
S05C Merced 87.61 323 ⇓P P **15 07 50.2 +0.6**
baz=88,SNR=6.2
SAO San Andreas Ge 87.69 322 PFAKE 15 08 00.0 +10
SAO LR LR
comp=Z,592nm,20.0s,MS5.0
P10A Eureka 87.69 327 ⇓P P **15 07 50.6 +0.6**
baz=88,SNR=15
Q08A Gabbs 87.72 325 P P **15 07 50.4 +0.3**
baz=88,SNR=27
N13A Wendover, West 87.77 329 ⇑P P **15 07 50.1 -0.2**
baz=88
O11A Cowboy Ranch, 87.77 327 ⇓P P **15 07 50.7 +0.4**
baz=88,SNR=40
PACP Pacheco Peak 87.81 322 ⇑P P **15 07 51.5 +1.0**
baz=88
S06C San Francisco 87.81 323 P P **15 07 51.1 +0.5**
baz=88,SNR=12
LSZ Lusaka 87.85 108 *e*P P **15 07 52.4 +1.7**
LSZ MLR MLR
comp=Z,1µm,20.0s,MS5.4
P09A Austin 87.93 326 ⇓P P **15 07 51.4 +0.3**
baz=88
HVU Hansel Valley 87.97 330 *e*P P **15 07 50.7 -0.6**
ELK Elko 88.10 328 *e*P P **15 07 51.5 -0.4**
ELK pmax pmax
comp=Z,38nm,1.3s
ELK MLR MLR
comp=Z,657nm,19.0s
ELK Elko 88.10 328 *e*P P **15 07 51.5 -0.4**
comp=Z,38nm,1.3s,mb5.5
ELK LR LR
comp=Z,657nm,19.0s,MS5.1
N12A Clover Valley, 88.11 328 P P **15 07 51.8 -0.1**
baz=88,SNR=12
WAKR Walker 88.12 324 *e*P P **15 07 52.5 +0.5**
R06C Coleville 88.14 324 ⇓P P **15 07 53.0 +0.9**
baz=88,SNR=14
AHID Auburn Hatcher 88.17 332 PFAKE 15 08 00.0 +7.8
AHID LR LR
comp=Z,798nm,19.0s,MS5.2
M13A Montello 88.17 329 P P **15 07 52.0 -0.3**
baz=88,SNR=9.4
Q07A Schurz 88.18 325 ⇓P P **15 07 52.9 +0.7**
baz=88
CMB Columbia Colle 88.19 323 *e*P P **15 07 52.4 +0.1**
CMB MLR MLR
comp=Z,379nm,19.0s,MS4.8
CMB Columbia Colle 88.19 323 P P **15 07 52.7 +0.3**
baz=88,SNR=13
S04C Ingram Canyon, 88.22 322 ⇓P P **15 07 53.2 +0.7**
baz=88
O10A Cortez Mining, 88.26 327 ⇑P P **15 07 52.8 +0.1**
baz=88
BNLO Ben Lomond (Sa 88.34 322 ⇓P P **15 07 53.4 +0.3**
baz=89
N11A Elko Archery C 88.37 328 ⇓P P **15 07 53.2 0.0**
baz=89
O09A Fish Creek Ran 88.46 326 ⇓P P **15 07 53.6 0.0**
baz=89
P08A Dixie Valley 88.47 326 ⇑P P **15 07 54.0 +0.3**
baz=89
WENL Wente Brothers 88.52 322 ⇑P P **15 07 54.4 +0.5**
baz=89
M12A Wells 88.53 329 ⇓P P **15 07 53.9 0.0**
baz=89,SNR=16
R05C Kirkwood Meado 88.58 324 ⇓P P **15 07 54.8 +0.6**
baz=89,SNR=9.9
REDW Red Top Meadow 88.59 332 *e*P P **15 07 53.6 -0.7**
comp=Z,45nm,1.4s,mb5.6
N10A Dunphy 88.62 327 ⇓P P **15 07 54.3 -0.1**
baz=89
BMN Battle Mountai 88.69 327 *e*P P **15 07 54.0 -0.7**
BMN MLR MLR
comp=Z,641nm,20.0s,MS5.0
L13A Double Diamond 88.70 330 P P **15 07 55.0 +0.3**
baz=89,SNR=20
P07A Fallon 88.71 325 ⇑P P **15 07 55.6 +0.9**
baz=89
LOHW Long Hollow 88.72 332 *e*P P **15 07 54.0 -0.8**
TPAW Teton Pass 88.74 332 *e*P P **15 07 53.8 -1.1**
comp=Z,46nm,1.4s,mb5.6
BDM Black Diamond 88.83 322 ⇓P P **15 07 56.3 +0.9**
baz=89
MOOW Moose Ponds 88.89 332 *e*P P **15 07 55.3 -0.3**
comp=Z,24nm,1.6s,mb5.3
M11A Holland Ranch, 88.91 328 ⇑P P **15 07 56.0 +0.3**
baz=89,SNR=18
WCN Washoe City 88.91 324 ⇑P P **15 07 56.3 +0.6**
baz=89
DCID1 Drake Creek 88.92 332 *e*P P **15 07 55.4 -0.4**
LAVA Lava Cap Winer 88.93 323 P P **15 07 56.0 +0.2**
baz=89,SNR=7.1
O08A Rochester Mine 88.99 326 ⇓P P **15 07 56.2 +0.1**
baz=89
PAHR Pah Rah Range 89.07 325 *e*P P **15 07 54.8 -1.7**
comp=Z,36nm,1.4s,mb5.5
IMW Indian Meadow 89.08 332 *e*P P **15 07 56.0 -0.5**
comp=Z,42nm,1.4s,mb5.6
N09A Rock Creek Ran 89.17 327 ⇑P P **15 07 56.7 -0.2**
baz=89
L12A House Creek Ra 89.18 329 ⇑P P **15 07 57.1 +0.1**
baz=90
O07A Toulon 89.20 325 ⇓P P **15 07 57.3 +0.2**
baz=90,SNR=16
K13A Stover Farm, H 89.23 330 ⇓P P **15 07 57.3 +0.1**
baz=90
P06A Stead Airport, 89.28 324 ⇑P P **15 07 57.7 +0.3**
baz=90
Q04C Lincoln 89.30 323 ⇑P P **15 07 58.1 +0.5**
baz=90
P05C Yuba Gap, Truc 89.31 324 ⇑P P **15 07 58.1 +0.5**
baz=90,SNR=8.4

CVS Carmenet Viney 89.43 322 ⇑P P **15 07 58.7 +0.6**
baz=90
LKWY Lake 89.47 333 PFAKE 15 08 10.0 +12
LKWY LR LR
comp=Z,1µm,20.0s,MS5.4
YFT Old Faithful 89.53 333 *e*P P **15 07 59.1 +0.5**
K12A Draper Farm, C 89.54 329 P P **15 07 59.0 +0.3**
baz=90,SNR=16
RLMT Red Lodge 89.55 334 PFAKE 15 08 10.0 +11
RLMT LR LR
comp=Z,530nm,19.0s,MS5.0
M09A Marrel Ranch, 89.60 327 ⇓P P **15 07 59.2 +0.3**
baz=90
O06A Flanigan 89.64 325 ⇓P P **15 07 59.5 +0.4**
baz=90,SNR=6.6
BEKR Beckwourth 89.64 324 ⇑P P **15 07 59.3 +0.2**
baz=90,SNR=9.3
OHCM Honcut 89.75 323 *e*P P **15 07 59.2 -0.4**
N07B Gerlach 89.75 326 ⇓P P **15 07 59.8 +0.1**
baz=90,SNR=9.7
YMR Madison River 89.76 333 *e*P P **15 07 59.6 -0.1**
comp=Z,40nm,1.4s,mb5.5
YMR LR LR
comp=Z,1µm,21.0s,MS5.3
AFI Afiamalu 89.81 253 LR LR 15 38 03.0
comp=Z,555nm,22.0s,MS5.0,baz=110,slow=29
J13A Cove Ranch, Pi 89.89 330 P P **15 08 00.4 +0.1**
baz=90,SNR=29
ORV Oroville 89.92 323 ⇓P P **15 08 00.7 +0.2**
baz=90,SNR=13
LAO LASA Array 89.93 337 *e*P P **15 07 58.9 -1.6**
comp=Z,18nm,1.1s,mb5.3
LAO LR LR
comp=Z,681nm,19.0s,MS5.1
O05C Quincy 89.98 324 ⇑P P **15 08 01.0 +0.2**
baz=90
M08A Happy Creek Ra 90.03 326 ⇓P P **15 08 01.3 +0.3**
baz=90
QLMT Earthquake Lak 90.07 333 *e*P P **15 08 01.3 +0.2**
N06A Buffalo Meadow 90.11 325 P P **15 08 01.6 +0.3**
baz=90,SNR=21
HLID Hailey 90.12 330 *e*P P **15 08 01.5 +0.1**
HLID LR LR
comp=Z,404nm,21.0s,MS4.8
HLID Hailey 90.12 330 P P **15 08 01.7 +0.3**
baz=90,SNR=20
J12A Stokes Ranch, 90.14 329 P P **15 08 01.6 +0.2**
baz=90,SNR=18
M07A Soldier Meadow 90.33 326 ⇑P P **15 08 02.8 +0.4**
baz=91
O04C Chester 90.34 324 ⇑P P **15 08 02.5 +0.1**
baz=91,SNR=5.8
ELFS Eagle Lake Fie 90.41 325 ⇓P P **15 08 03.0 +0.3**
baz=91,SNR=7.8
K10A MacKenzie Ranc 90.47 328 P P **15 08 03.3 +0.3**
baz=91,SNR=6.9
ULM Lac du Bonnet 90.47 344 P P **15 08 01.0 -2.1**
comp=Z,8.4nm,0.8s,mb5.1,baz=170,slow=3.0,SNR=18
MFID Camas Ranch 90.57 329 P P **15 08 03.5 +0.1**
baz=91,SNR=14
GASB Alder Springs 90.58 323 ⇓P P **15 08 04.6 +1.1**
baz=91
MCMT McKenzie Canyo 90.59 332 *e*P P **15 08 03.6 0.0**
L08A Fields 90.61 327 P P **15 08 03.9 +0.2**
baz=91,SNR=18
G15A Dillon 90.74 332 ⇑P P **15 08 04.1 -0.2**
baz=91,SNR=8.8
K09A Rome 90.77 328 P P **15 08 04.5 +0.1**
baz=91,SNR=20
M06C Likely Place G 90.77 325 P P **15 08 04.8 +0.4**
baz=91,SNR=6.4
BOZ Bozeman (W) 90.84 333 *e*P P **15 08 03.9 -0.8**
BOZ MLR MLR
comp=Z,534nm,20.0s,MS5.0
BOZ Bozeman (W) 90.84 333 ⇓P P **15 08 04.0 -0.7**
baz=91
HATC Hat Creek Radi 90.91 324 ⇓P P **15 08 05.1 +0.1**
baz=91
L07A Adell 90.91 326 ⇑P P **15 08 05.4 +0.4**
baz=91,SNR=7.8
WVOR Wild Horse Val 90.94 327 *e*P P **15 08 05.0 -0.2**
WVOR pmax pmax
comp=Z,44nm,1.3s,mb5.6
WVOR Wild Horse Val 90.94 327 *e*P P **15 08 05.0 -0.3**
comp=Z,44nm,1.3s,mb5.6
DLMT Dillon 90.95 332 *e*P P **15 08 05.0 -0.3**
comp=Z,44nm,1.4s,mb5.6
J10A Berg Farm, Mel 90.96 329 ⇓P P **15 08 05.0 -0.3**
baz=91
O02C Red Bluff 91.03 323 ⇑P P **15 08 05.7 +0.1**
baz=91
I11A Placerville 91.03 329 ⇑P P **15 08 05.2 -0.5**
baz=91,SNR=13
K08A Mann Creek Ran 91.11 327 ⇓P P **15 08 06.3 +0.2**
baz=91,SNR=14
H12A Diamond D Ranc 91.12 330 P P **15 08 06.0 0.0**
baz=91,SNR=11
G14A Jackson 91.17 332 ⇑P P **15 08 06.3 0.0**
baz=92,SNR=5.9
M05C Lookout 91.19 325 ⇑P P **15 08 06.3 0.0**
baz=91,SNR=6.9
WDC Whiskeytown Da 91.22 323 *e*P P **15 08 06.0 -0.5**
WDC Whiskeytown Da 91.22 323 ⇓P P **15 08 06.8 +0.3**
baz=92
MOD Modoc 91.24 326 *e*P P **15 08 07.1 +0.5**
MOD LR LR
comp=Z,15nm,1.2s,mb5.2
comp=Z,348nm,19.0s,MS4.8
MOD Modoc 91.24 326 ⇑P P **15 08 06.8 +0.2**
baz=92,SNR=8.0
LRM Limekiln Ridge 91.29 332 *e*P P **15 08 07.2 +0.4**
J09A Fry Pan Ranch, 91.31 328 P P **15 08 07.4 +0.5**
baz=92,SNR=19
G13A Cobalt 91.34 331 P P **15 08 07.2 +0.1**
baz=92,SNR=17
K07A Rock Creek Ran 91.41 327 ⇑P P **15 08 08.0 +0.6**
baz=92
LASM Arnica Sink 91.58 325 P P **15 08 08.6 +0.4**
F14A Wisdom 91.62 332 ⇑P P **15 08 08.5 +0.2**
baz=92
J08A Circle Bar Ran 91.62 328 ⇓P P **15 08 08.8 +0.4**
baz=92,SNR=16
H11A Donnelly 91.71 330 ⇓P P **15 08 08.7 -0.1**
baz=92,SNR=33
I09A Lost Marbles R 91.81 328 ⇑P P **15 08 09.3 +0.1**
baz=92,SNR=10
M04C Macdoel 91.84 325 ⇓P P **15 08 09.4 0.0**
baz=92
E15A Deer Lodge 91.87 333 P P **15 08 09.1 -0.4**
baz=92,SNR=6.4
H10A Noah's Angus R 91.91 329 ⇓P P **15 08 09.3 -0.4**
baz=92,SNR=20
K06A Valley Falls 91.94 326 ⇑P P **15 08 10.1 +0.3**
baz=92,SNR=9.9
F13A Darby 91.96 331 ⇓P P **15 08 09.4 -0.5**
baz=92,SNR=24
J07A Hines 91.99 327 ⇓P P **15 08 10.2 +0.1**
baz=92
M02C Callahan 92.01 324 ⇑P P **15 08 10.5 +0.4**
baz=92
KHMM Horse Mountain 92.02 323 *e*P P **15 08 08.8 -1.4**
I08A Drewsey 92.11 328 ⇑P P **15 08 10.9 +0.2**
baz=92,SNR=12
K05A Summer Lake 92.16 326 ⇑P P **15 08 11.3 +0.4**
baz=92,SNR=7.5
E14A Clinton 92.18 332 ⇑P P **15 08 10.8 -0.1**
baz=92,SNR=7.1
L04A Klamath Falls 92.18 325 ⇑P P **15 08 10.8 -0.1**
baz=92
YBH Yreka Blue Hor 92.21 324 *e*P P **15 08 10.6 -0.5**
YBH Yreka Blue Hor 92.21 324 ⇑P P **15 08 10.7 -0.3**
baz=92
EGMT Eagleton 92.24 335 *e*P P **15 08 09.5 -1.8**
comp=Z,12nm,1.0s,mb5.2
EGMT LR LR
comp=Z,529nm,22.0s,MS4.9
EGMT Eagleton 92.24 335 ⇑P P **15 08 09.6 -1.6**
baz=92
J06A Christmas Vall 92.26 326 ⇑P P **15 08 10.9 -0.4**
baz=92,SNR=8.0
F12A Elk City 92.29 331 P P **15 08 11.0 -0.4**
baz=93,SNR=17
TAU Tasmania Unive 92.32 207 PFAKE 15 08 20.0 +8.4
TAU LR LR
comp=Z,99nm,21.0s,MS4.2
H09A Durkee 92.35 329 ⇓P P **15 08 11.5 -0.2**
baz=93,SNR=9.6
BMO Blue Mountains 92.35 329 *e*P P **15 08 11.4 -0.4**

comp=Z,12nm,1.0s,mb5.2
BMO *e* 15 08 17.8
BMO LR LR
comp=Z,538nm,20.0s,MS5.0
D15A Lincoln 92.35 333 ⇑P P **15 08 11.4 -0.4**
baz=93,SNR=15
SCHQ Schefferville 92.45 2 LR LR 15 50 46.8
comp=Z,592nm,20.4s,MS5.0,baz=302,slow=36
SCHQ Schefferville 92.45 2 PFAKE 15 08 20.0 +7.8
SCHQ LR LR
comp=Z,1µm,20.0s,MS5.3
K04A Chilquin 92.45 325 ⇓P P **15 08 12.3 +0.1**
baz=93
E13A Victor 92.46 332 ⇓P P **15 08 12.0 -0.2**
baz=93,SNR=22
CHMT Chamberlain Mo 92.51 333 *e*P P **15 08 11.7 -0.8**
H08A Prairie City 92.64 328 ⇓P P **15 08 12.7 -0.4**
baz=93,SNR=7.6
MSO Missoula 92.69 332 *e*P P **15 08 12.7 -0.6**
MSO LR LR
comp=Z,429nm,19.0s,MS4.9
D14A Greenough 92.74 332 P P **15 08 13.2 -0.3**
baz=93,SNR=10
F11A Grangeville 92.75 330 P P **15 08 12.8 -0.8**
baz=93,SNR=9.3
I06A Prineville 92.84 327 P P **15 08 14.9 +1.0**
baz=93,SNR=7.1
H07A Lands Inn, Kim 93.08 328 ⇑P P **15 08 14.7 -0.4**
baz=93,SNR=9.1
D13A Huson 93.11 332 ⇓P P **15 08 14.4 -0.8**
baz=93
J04A Umpqua Nationa 93.12 325 ⇑P P **15 08 14.9 -0.4**
baz=93
E11A Bogner Ranch, 93.16 331 P P **15 08 14.4 -1.0**
baz=93,SNR=9.1
F10A Beach Ranch, E 93.24 330 ⇑P P **15 08 14.9 -0.9**
baz=94,SNR=11
F09A S2 Ranch, Elgi 93.30 329 ⇑P P **15 08 14.9 -1.2**
baz=94
K02A Glendale 93.38 324 ⇓P P **15 08 16.1 -0.4**
baz=94
G08A Pilot Rock 93.39 328 ⇓P P **15 08 16.3 -0.2**
baz=94,SNR=13
I05A Bend 93.47 326 P P **15 08 17.8 +0.9**
baz=94,SNR=5.7
H06A Lindquist Farm 93.52 327 P P **15 08 17.4 +0.3**
baz=94,SNR=6.2
J03A Ideyld Park 93.61 325 ⇓P P **15 08 17.8 +0.3**
baz=94
E10A Myers Farm, Un 93.62 330 P P **15 08 17.1 -0.5**
baz=94,SNR=11
C13A Hot Springs 93.64 332 ⇓P P **15 08 16.9 -0.8**
baz=94,SNR=6.9
MDT Midelt 93.66 51 LR LR 15 49 12.5
comp=Z,2µm,21.0s,MS5.6,baz=234,slow=35
G07A Ruggs Ranch, H 93.67 328 P P **15 08 18.1 +0.3**
baz=94,SNR=7.8
BSMT Bassoo Peak 93.86 332 P P **15 08 18.5 -0.2**
J02A Umpqua 93.88 325 ⇓P P **15 08 18.1 -0.7**
baz=94
G06A Carlson Farm, 94.05 327 P P **15 08 20.2 +0.7**
baz=94,SNR=5.3
BROR Big Rock Looko 94.08 326 P P **15 08 19.4 -0.3**
D10A Wagner Farm, O 94.15 330 ⇑P P **15 08 19.6 -0.4**
baz=94,SNR=11
I03A Eugene 94.22 325 ⇑P P **15 08 19.2 -1.2**
baz=94
F07A Phinny Hill Vi 94.28 328 ⇑P P **15 08 20.5 -0.1**
baz=94,SNR=5.8
E08A Dider Farm, El 94.40 329 P P **15 08 20.7 -0.5**
baz=95,SNR=10
HAWA Hanford 94.52 329 *e*P P **15 08 21.5 -0.2**
HAWA LR LR
comp=Z,644nm,19.0s,MS5.1
D09A Jones Farm, Ri 94.56 330 ⇓P P **15 08 21.4 -0.6**
baz=95
H03A Soap Creek Ran 94.77 326 ⇑P P **15 08 22.9 0.0**
baz=95
E07A Sunnyside 94.78 329 ⇑P P **15 08 22.6 -0.3**
baz=95
C10A Spilker Farm, 94.79 331 P P **15 08 22.6 -0.4**
baz=95,SNR=6.5
D08A Wollman Farm, 94.80 329 P P **15 08 22.6 -0.4**
baz=95,SNR=9.5
G04A Mulino 94.83 326 ⇓P P **15 08 23.1 0.0**
baz=95
F05A White Salmon 94.92 327 ⇓P P **15 08 23.7 +0.1**
baz=95
OD2 Odessa Site #2 94.99 330 P P **15 08 23.6 -0.3**
NEW Newport 95.08 331 P P **15 08 22.8 -1.5**
comp=Z,4.8nm,0.8s,mb5.0,baz=135,slow=4.7,SNR=12
NEW Newport 95.08 331 P P **15 08 22.8 -1.5**
A12A Yaak River Ran 95.08 332 ⇑P P **15 08 23.6 -0.7**
baz=95
C09A Chrisman Ranch 95.15 330 P P **15 08 24.4 -0.3**
baz=95,SNR=6.8
E06A Yakima 95.24 328 ⇓P P **15 08 25.1 +0.1**
baz=96
D07A Quincy 95.34 329 ⇑P P **15 08 25.2 -0.3**
baz=96
A11A Hall Mountain, 95.37 332 P P **15 08 24.6 -1.0**
baz=96,SNR=18
F04A Amboy 95.37 327 ⇑P P **15 08 25.2 -0.5**
baz=96
C08A Higginbotham F 95.44 330 ⇓P P **15 08 25.9 0.0**
baz=96
E05A Randle 95.58 328 ⇑P P **15 08 26.4 -0.2**
baz=96
B09A Rice 95.61 331 P P **15 08 25.7 -1.0**
baz=96,SNR=7.9
C07A Waterville 95.77 329 P P **15 08 26.7 -0.8**
baz=96,SNR=9.8
B08A Colville Reser 96.02 330 P P **15 08 27.6 -0.9**
baz=96,SNR=6.0
A09A Danville 96.22 331 ⇓P P **15 08 28.7 -0.8**
baz=96
B07A Winthrop 96.41 330 P P **15 08 29.5 -0.9**
baz=97,SNR=5.1
C05A Tolt Reservoir 96.44 328 ⇑P P **15 08 30.0 -0.5**
baz=97
A08A Turner Farm, O 96.47 330 P P **15 08 30.2 -0.4**
baz=97,SNR=6.5
A07A Ashnola River, 96.99 330 ⇑P P **15 08 32.6 -0.4**
baz=97
EDM Edmonton 97.88 336 *e*P P **15 08 36.7 -0.3**
EDM Edmonton 97.88 336 *e*P P **15 08 34.0 -3.0**
FCC Fort Churchill 98.22 348 *e*P P **15 08 37.2 -1.3**
PAB San Pablo 98.41 46 PFAKE 15 08 50.0 +11
PAB LR LR
comp=Z,1µm,19.0s,MS5.5
ESDC Sonseca Array 98.71 46 P P **15 08 40.1 -0.7**
comp=Z,1.6nm,0.8s,mb4.6,baz=228,slow=5.5,SNR=6.2
ESDC LR LR 15 50 27.7
comp=Z,848nm,19.1s,MS5.3,baz=225,slow=34
ESLA Sonseca Array 98.71 46 PFAKE 15 08 50.0 +9.3
ESLA LR LR
comp=Z,6µm,20.0s,MS6.1
DZM Mont Dzumac 99.53 232 LR LR 15 44 00.4
comp=Z,472nm,19.4s,MS5.0,baz=324,slow=30
FUNA Funafuti 100.03 251 PFAKE 15 09 00.0 +13
FUNA LR LR
comp=Z,9µm,19.0s
KMBO Kilima Mbogo 103.68 102 PFAKE 15 09 10.0 +7.2
KMBO LR LR
comp=Z,1µm,20.0s,MS5.5
YKA Yellowknife Ar 106.01 341 Pdiff Pdif 15 09 11.0 -2.2
comp=Z,0.5nm,0.7s,baz=141,slow=4.6,SNR=10.0
YKA PKiKP PKiKP 15 13 22.7 -2.5
comp=Z,0.2nm,0.5s,baz=146,slow=2.9,SNR=5.6
YKA Yellowknife Ar 106.01 341 Pdif Pdif 15 09 11.0 -2.2
YKA PKPdf PKiKP 15 13 22.7 -2.5
SIT Sitka 108.96 329 PFAKE 15 13 40.0 +9.3
SIT LR LR
comp=Z,987nm,19.0s,MS5.4
NWAO Narrogin (SRO) 109.10 187 PFAKE 15 13 40.0 +9.1
NWAO LR LR
comp=Z,717nm,20.0s,MS5.2
CTAO Charters Tower 112.48 218 PFAKE 15 13 50.0 +13
CTAO LR LR
comp=Z,346nm,20.0s,MS4.9
HNR Honiara 113.05 236 PFAKE 15 13 50.0 +12
HNR LR LR
comp=Z,406nm,19.0s,MS5.0
GRFO Grafenberg 113.34 45 PFAKE 15 13 50.0 +11
GRFO LR LR
comp=Z,780nm,22.0s,MS5.3
GRF Grafenberg Arr 113.35 45 *e*L 16 01 20.2

comp=Z,595nm,19.9s
GERES **GERESS Array B 114.31 46** PKP PKiKP 15 13 39.7 -1.1
comp=Z,1.9nm,0.7s,baz=202,slow=1.4,SNR=20
GERES PKKPbc PKKPbc 15 24 26.6 +6.2
comp=Z,1.5nm,0.9s,baz=46,slow=3.9,SNR=6.6
KHC Kasperske Hory 114.38 46 *e*PKP PKiKP 15 13 41.0 0.0
ASAR Alice Springs 114.41 205 PKP PKiKP 15 13 39.7 -1.3
comp=Z,2.0nm,0.9s,baz=144,slow=2.1,SNR=8.8
ASAR PKKPbc PKKPbc 15 24 20.4 +0.3
comp=Z,1.4nm,0.7s,baz=337,slow=3.2,SNR=17
MSEY Mahe Island 114.82 118 PFAKE 15 13 50.0 +8.2
MSEY LR LR
comp=Z,218nm,19.0s,MS4.8
INK Inuvik 115.60 339 PKP PKPdf 15 13 40.4 -2.9
comp=Z,1.9nm,1.0s,baz=98,slow=8.9,SNR=4.8
INK PKKPbc PKKPbc 15 24 17.3 +1.3
comp=Z,1.7nm,0.9s,baz=280,slow=9.2,SNR=4.3
INK Inuvik 115.60 339 PKP PKPdf 15 13 40.4 -2.9
INK PKKPbc PKKPbc 15 24 17.3 +1.3
EGAK Eagle 115.95 333 PFAKE 15 13 50.0 +6.0
EGAK LR LR
comp=Z,692nm,19.0s,MS5.3
VYHS Vyhne 117.12 48 *i* PKP PKPdf 15 13 45.9 -0.3
PMR Palmer 117.34 328 PFAKE 15 14 00.0 +13
PMR LR LR
comp=Z,801nm,22.0s,MS5.3
KONO Kongsberg 117.51 34 PFAKE 15 14 00.0 +13
KONO LR LR
comp=Z,1μm,20.0s,MS5.5
WB2 Warramunga Arr 117.69 207 *e*P PKPdf 15 13 46.4 -0.9
WRA Warramunga Arr 117.69 207 PKP PKPdf 15 13 46.1 -1.2
comp=Z,4.7nm,0.9s,baz=132,slow=1.4,SNR=26
WRA PKKPbc PKKPbc 15 24 07.8 -0.8
comp=Z,3.3nm,1.0s,baz=342,slow=4.3,SNR=6.1
KECS Kecovo 118.10 49 *e*PKP PKPdf 15 13 44.2 -3.9
COLA College 118.44 332 PFAKE 15 14 00.0 +11
COLA LR LR
comp=Z,504nm,19.0s,MS5.2
CRVS Cervenica-Dubn 118.86 49 *e*PKP PKPdf 15 13 49.2 -0.4
NB2 NORSAR Subarra118.87 33 PKPdf PKPdf 15 13 48.4 -1.2
comp=Z,4.0nm,0.9s,baz=248,slow=1.9
NOA NORSAR Array B 118.87 33 PKP PKPdf 15 13 47.3 -2.3
comp=Z,2.1nm,0.8s,baz=247,slow=2.0,SNR=4.4
UZH Uzhgorod 119.24 49 *e*PKIKP PKPdf 15 13 52.0 +1.7
HFS Hagfors 119.57 35 PKP PKPdf 15 13 48.1 -2.9
comp=Z,5.2nm,0.7s,baz=202,slow=3.2,SNR=7.2
LVV L'vov 120.77 49 *e*PKIKP PKPdf 15 13 52.3 -0.9
IMA2 Indian Mountai 121.15 332 *e*P PKPdf 15 13 53.3 -0.7
FITZ Fitzroy Crossi 122.11 199 *e*P PKPdf 15 13 59.7 +3.9
comp=Z,7.8nm,0.8s
FITZ Fitzroy Crossi 122.11 199 PKP PKPdf 15 13 55.4 -0.5
comp=Z,4.8nm,0.8s,baz=135,slow=5.7,SNR=4.4
ANTO Ankara 122.44 62 PFAKE 15 14 10.0 +14
ANTO LR LR
comp=Z,424nm,21.0s,MS5.1
BR131 Keskin Array S 122.97 63 *e*PKPdf PKPdf 15 13 57.5 +0.1
BR131 LR LR
comp=Z,370nm,21.0s,MS5.0
BRTR Keskin Array B 122.97 63 PKP PKPdf 15 13 57.2 -0.3
comp=Z,2.6nm,0.7s,baz=200,slow=2.6,SNR=19
KIEV Kiev 124.18 49 *e*PKIKP PKPdf 15 13 58.1 -1.7
KIEV MLR MLR
comp=Z,939nm,22.0s,MS5.4
AKASG Malin Array Be 124.19 49 PKP PKPdf 15 13 58.0 -1.8
comp=Z,2.8nm,0.5s,baz=262,slow=2.8,SNR=27
SIM Simferopol' 125.30 57 *i* PKIKP PKPdf 15 14 02.0 +0.1
SIM MLR MLR
comp=Z,500nm,18.0s,MS5.2
FINES FINESS Array B 125.72 36 PKhKP 15 13 56.3
comp=Z,1.1nm,0.5s,baz=130,slow=5.7,SNR=12
FINES PKP PKPdf 15 14 01.3 -1.4
comp=Z,4.4nm,1.0s,baz=213,slow=0.5,SNR=8.2
KAF Kangasniemi 125.99 35 *e*pkp PKPdf 15 14 02.3 -1.0
TNA Tin City 126.57 329 *e*PKPdf PKPdf 15 14 03.6 -0.7
TNA LR LR
comp=Z,493nm,19.0s,MS5.2
ARCES ARCESS Array B 127.20 26 PKP PKPdf 15 14 03.8 -1.8
comp=Z,5.2nm,0.7s,baz=292,slow=3.3,SNR=9.4
ANN Anapa 127.47 58 *i* PKIKP PKPdf 15 14 04.9 -1.2
ANN pmax pmax
comp=Z,30nm,1.4s
KEV Kevo 127.75 26 PFAKE 15 14 20.0 +13
KEV LR LR
comp=Z,732nm,21.0s,MS5.3
JOF Joensuu 128.43 35 *e*pkp PKPdf 15 14 07.2 -0.7
SOC Sochi 128.62 60 *i* PKIKP PKPdf 15 14 11.5 +3.2
SOC *e* 15 16 21.9
SOC *e*PS PS 15 26 25.1 +2.7
SOC pmax pmax
comp=Z,21nm,1.0s
OBN Obninsk 129.68 45 *d* *i*PKIKP PKPdf 15 14 09.9 -0.4
OBN *e* 15 14 17.2
OBN pmax pmax
comp=Z,49nm,1.4s
OBN MLR MLR
comp=Z,700nm,19.0s,MS5.4
OBN Obninsk 129.68 45 PFAKE 15 14 20.0 +10
OBN LR LR
comp=Z,282nm,22.0s,MS4.9
APA Apatity 129.86 29 ⇑ *i*PKIKP PKPdf 15 14 09.4 -1.2
APA pmax pmax
comp=Z,29nm,1.2s
APA MLR MLR
comp=Z,900nm,20.0s,MS5.5
MOS Moscow 130.38 45 *e*PKIKP PKPdf 15 14 13.8 +2.2
KIV Kislovodsk 130.79 61 κ *i*PKIKP PKPdf 15 14 12.9 +0.5
KIV pmax pmax
comp=Z,29nm,1.3s
KIV MLR MLR
comp=Z,200nm,21.0s,MS4.8
KIV Kislovodsk 130.79 61 *e*PKPdf PKPdf 15 14 12.0 -0.4
KIV LR LR
comp=Z,76nm,21.0s,MS4.4
KLMR Klimovskoe 132.04 38 *e*PKIKP PKPdf 15 14 13.2 -1.6
BILL Bilibino 136.68 333 ⇑PKHKP 15 14 09.0
BILL *i* 15 14 22.8
BILL *e* 15 14 32.9
BILL *e* 15 17 07.3
BILL pmax pmax
comp=Z,13nm,1.1s
BILL Bilibino 136.68 333 *e*PKPdf PKPdf 15 14 22.1 -1.4
BILL LR LR
comp=Z,567nm,21.0s,MS5.3
ORR Orenburg 140.08 52 *e*PKIKP PKPdf 15 14 27.8 -1.9
ORR pmax pmax
comp=Z,30nm,1.5s
ARU Arti 142.09 44 *e*PKIKP PKPdf 15 14 29.3 -4.0
ARU *i* 15 14 33.6
ARU MLR MLR
comp=Z,700nm,22.0s,MS5.4
ARU MLR MLR
comp=N,300nm,19.0s,MS5.3
ARU MLR MLR
comp=E,500nm,21.0s,MS5.3
ARU Arti 142.09 44 *e*PKPpre 15 14 26.7
ARU LR LR
comp=Z,243nm,21.0s,MS4.9
AKTK Aktyubinsk 142.12 54 PKP PKPdf 15 14 27.9 -5.4
AKTK PKP PKPdf 15 14 32.4 -1.0
AKTO Aktyubinsk 142.12 54 PKhKP 15 14 27.9
comp=Z,4.5nm,0.8s,baz=247,slow=2.6,SNR=19
AKTO PKP PKPdf 15 14 32.4 -1.0
comp=Z,6.2nm,0.7s,baz=264,slow=2.4,SNR=14
SVE Sverdlovsk 143.16 43 *e*PKIKP PKPdf 15 14 38.0 +2.8
KAD Karad 143.29 114 *e*P PKPdf 15 14 35.0 -0.4
SEY Seymchan 143.79 328 ⇑ *i*PKIKP PKPdf 15 14 34.3 -2.0
POO Poona 143.83 112 *e*x x 15 14 30.0
PSI Prapat 143.87 163 PKP PKPdf 15 14 34.3 -2.2
comp=Z,12nm,0.6s,baz=234,slow=4.0,SNR=16
TIXI Tiksi 144.68 349 *e*PKHKP 15 14 29.3
TIXI *i* 15 14 36.0
TIXI pmax pmax
comp=Z,111nm,1.0s
TIXI MLR MLR
comp=Z,380nm,22.0s,MS5.1
TIXI Tiksi 144.68 349 *e*PKPdf PKPdf 15 14 34.0 -3.9
TIXI LR LR
comp=Z,344nm,20.0s,MS5.1
LATR Latur 145.72 115 *e*P PKPdf 15 14 38.8 -0.9
MA2 Magadan 145.76 323 *i* PKP2 PKPab 15 14 39.2 -1.4
MA2 Magadan 145.76 323 *e*PKPdf PKPdf 15 14 38.9 -0.8
MA2 LR LR
comp=Z,464nm,19.0s,MS5.3
HYB Hyderabad 146.45 119 *i* PKP PKPdf 15 14 42.5 +1.6
HYB Hyderabad 146.45 119 *e*P PKPdf 15 14 42.5 +1.6

KULM Kulim 146.66 165 *e*PKPdf PKPdf 15 14 41.2 -0.1
AKL Akola 147.51 113 *e*P PKPdf 15 14 43.0 +0.3
KBL Kabul 147.81 84 PKPdf PKPdf 15 14 42.4 -0.8
SNG Songkhla 148.48 164 P PKPdf 15 14 48.0 +3.7
comp=Z,138nm,0.8s
AJM Ajmer 148.98 101 *e*P PKPdf 15 14 45.5 +0.4
AJM AMb AMB 15 14 50.7
comp=Z,23nm,1.2s
NGP Nagpur 149.27 114 *e*P PKPdf 15 14 43.0 -2.5
BHPL Bhopal 149.35 109 *e*P PKPdf 15 14 46.2 +0.6
BRVK Borovoye 149.39 48 *e*PKPdf PKPdf 15 14 45.4 -0.3
BRVK *e*PKPbc PKPbc 15 14 50.2 +0.1
BRVK LR LR
comp=Z,206nm,20.0s,MS4.9
BVAR Borovoye Array 149.46 48 PKP PKPdf 15 14 45.9 0.0
comp=Z,12nm,0.7s,baz=248,slow=1.6,SNR=22
BVAR PKPbc PKPbc 15 14 50.6 +0.2
comp=Z,11nm,0.6s,baz=270,slow=3.6,SNR=32
VIS Vishakhapatnam 149.87 125 *e*P PKPdf 15 14 47.4 +0.9
KHET Khetri 150.66 100 *e*P PKPdf 15 14 48.4 +0.7
KUDL Kundal 151.22 100 *e*P PKPdf 15 14 49.2 +0.6
SONA Sohna 151.73 100 *e*P PKPdf 15 14 49.5 +0.1
AYAN Aya Nagar 151.88 100 *e*P PKPdf 15 14 50.0 +0.4
AGRA Agra 151.91 103 *e*P PKPdf 15 14 48.2 -1.5
NDI New Delhi 152.04 100 *e*P PKPdf 15 14 48.7 -1.1
BLSP Bilaspur 152.09 117 *e*x x 15 17 05.6
THN Thein Dam 152.39 91 *e*x x 15 14 56.6
YAK Yakutsk 152.67 339 *e*PKIKP PKPdf 15 14 56.5 +5.7
YAK *e**PP 15 15 12.1
YAK *e*S 15 18 37.3
YAK pmax pmax
comp=Z,84nm,1.0s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK Yakutsk 152.67 339 *e*PKPbc PKPbc 15 14 56.0 -1.8
YAK LR LR
comp=Z,329nm,20.0s,MS5.1
EKS2 Erkin-Say 152.88 69 P PKPdf 15 14 52.0 +0.9
SNR=9.7
AAK Ala-Archa 153.41 69 P PKPdf 15 14 52.0 +0.2
SNR=5.7
AAK Ala-Archa 153.41 69 *e*PKPdf PKPdf 15 14 51.1 -0.7
AAK *e*PKPbc PKPbc 15 14 58.6 -0.8
AAK LR LR
comp=Z,121nm,20.0s,MS4.7
UCH Uchtor 153.41 70 P PKPdf 15 14 53.5 +1.6
SNR=11
USP Ospenovka 153.43 67 P PKPdf 15 14 52.5 +0.6
SNR=11
FRU Bishkek 153.51 68 *e*PKIKP PKPdf 15 14 51.0 -1.0
FRU *e* 15 15 05.0
FRU pmax pmax
comp=Z,60nm,1.2s
YSS Yuzh-Sakhalins 153.63 301 *e*PKIKP PKPdf 15 14 59.0 +6.8
KZA Kyzart 153.96 70 P PKPdf 15 14 53.5 +0.9
SNR=5.4
TKM2 Tokmak 2 154.23 68 P PKPdf 15 14 53.3 +0.3
SNR=7.4
JOSI Joshimath 154.69 98 *e*P PKPdf 15 14 54.7 +1.1
PTH Pithoragarh 154.77 101 *e*x x 15 14 58.9
KURK Kurchatov 155.01 49 *e*PKIKP PKPdf 15 14 53.5 -0.6
KURK MLR MLR
comp=Z,156nm,22.0s,MS4.8
NVS Novosibirsk 155.69 38 ⇑ *i*PKIKP PKPdf 15 14 53.6 -1.4
NVS pmax pmax
comp=E,19nm,1.5s
NVS pmax pmax
comp=Z,41nm,1.5s
KOLN Koldanda 156.49 108 *e*P PKPdf 15 14 56.2 +0.1
comp=Z,36nm,1.2s
NST Nakhon Sawan 156.52 158 P PKPdf 15 14 48.0 -8.1
MJAR Matsushiro Arr 156.70 276 PKP PKPdf 15 14 53.6 -2.7
comp=Z,0.8nm,0.8s,baz=130,slow=1.9,SNR=3.8
MJAR PKPab PKPab 15 15 20.1 -5.6
comp=Z,1.7nm,1.0s,baz=118,slow=1.5,SNR=4.5
MAJO Matsushiro 156.70 276 PFAKE 15 15 10.0 +14
MAJO LR LR
comp=Z,617nm,19.0s,MS5.5
MAT Matsushiro 156.70 276 PKP PKPdf 15 14 58.3 +2.0
ZAL Zalesovo 156.96 38 PKP PKPdf 15 14 55.6 -1.1
comp=Z,7.1nm,1.0s,baz=206,slow=2.4,SNR=37
GKN Gorkha 157.39 109 *e*P PKPdf 15 14 57.2 0.0
DMN Daman 157.53 110 *e*P PKPdf 15 14 57.4 0.0
PKI Pulchoki 157.73 111 *e*P PKPdf 15 14 57.9 +0.3
KKN Kakani 157.76 110 *e*P PKPdf 15 14 57.5 -0.2
GUN Gumba 158.27 111 *e*P PKPdf 15 14 58.6 +0.3
MKAR Makanchi Array 158.48 57 PKP PKPdf 15 14 58.0 -0.5
comp=Z,10nm,1.1s,baz=294,slow=0.4,SNR=34
MKAR PKPab PKPab 15 15 33.4 -0.1
comp=Z,8.4nm,0.8s,baz=285,slow=2.4,SNR=15
MKAR PP PP 15 19 15.0 +1.4
comp=Z,1.7nm,0.9s,baz=282,slow=2.8,SNR=3.4
CM31 Chiang Mai Arr 158.73 153 PFAKE 15 15 10.0 +11
CM31 LR LR
comp=Z,443nm,20.0s,MS5.3
CHTO Chiang Mai 159.06 153 PFAKE 15 15 10.0 +11
CHTO LR LR
comp=Z,423nm,21.0s,MS5.3
NANT Nan 159.64 157 ⇑P PKPab 15 15 38.1 -0.4
comp=Z,136nm,1.0s
BOD Bodaibo 159.81 352 *e*PKIKP PKPdf 15 14 54.9 -5.2
BOD *e* 15 15 36.4
BOD pmax pmax
comp=Z,29nm,1.3s
SHL Shillong 161.01 125 *e*P PKPdf 15 15 01.9 +0.5
QIZ Qiongzhong 161.17 183 *e*PKP PKPdf 15 15 02.3 +0.7
QIZ LR LR
comp=N,276nm,25.5s
QIZ LR LR
comp=Z,345nm,22.7s
QIZ Qiongzhong 161.17 183 PFAKE 15 15 10.0 +8.4
QIZ LR LR
comp=Z,717nm,21.0s
WMQ Urumqi 162.90 63 PKP PKPdf 15 15 02.3 -1.0
WMQ APKP 15 15 10.8
WMQ PKP2 PKPab 15 15 54.3 +1.6
WMQ PKS 15 18 34.3
WMQ PP PP 15 19 39.5 +2.1
WMQ SKS SKSdf 15 22 03.0 -1.6
WMQ SKKS SKKSac 15 26 24.0 +1.8
WMQ SS SS 15 40 00.0 +1.8
WMQ PP PP
comp=Z,20nm,16.0s
WMQ LR LR
comp=N,574nm,25.0s
WMQ LR LR
comp=E,611nm,28.0s
WMQ LR LR
comp=Z,661nm,24.0s
LSA Lhasa 163.11 114 PKPdf PKPdf 15 15 04.5 +0.9
LSA LR LR
comp=Z,574nm,22.0s
MDJ Mudanjiang 163.12 300 PFAKE 15 15 10.0 +6.4
MDJ LR LR
comp=Z,317nm,21.0s
KSRS Korea Array 164.96 274 PKP PKPdf 15 15 02.9 -2.3
comp=Z,3.6nm,1.1s,baz=212,slow=1.1,SNR=9.2
KSRS PKPab PKPab 15 16 00.7 -1.2
comp=Z,1.3nm,0.8s,baz=100,slow=4.8,SNR=4.9
TLY Talaya 165.74 13 PFAKE 15 15 20.0 +14
TLY LR LR
comp=Z,152nm,21.0s
INCN Inchon 165.98 274 PFAKE 15 15 20.0 +14
INCN LR LR
comp=Z,347nm,20.0s
KMI Kunming 166.20 156 PKP PKPdf 15 15 06.5 +0.3
KMI APKP 15 15 17.0
KMI PKP2 PKPab 15 16 10.0 +2.7
KMI PKS 15 18 38.3
KMI PP PP 15 19 57.0 +2.3
KMI SKS SKSdf 15 22 06.0 -0.9
KMI SS SS 15 40 39.5 +7.5
KMI PP PP
comp=Z,139nm,7.9s
KMI LR LR
comp=N,507nm,17.7s
KMI LR LR
comp=E,319nm,16.7s
KMI LR LR
comp=Z,638nm,20.2s
KMI Kunming 166.20 156 PKP PKPdf 15 15 06.4 +0.2
KMI pPKP pPKPdf 15 15 17.1 -2.4
KMI sPKP 15 15 20.7

HIA Hailar 166.24 329 PFAKE 15 15 20.0 +14
HIA LR LR
comp=Z,615nm,22.0s
SSE Sheshan 167.83 240 PKP PKPdf 15 15 07.5 0.0
SSE PP PP 15 20 06.0 +2.9
SSE LR LR
comp=N,172nm,25.0s
SSE LR LR
comp=E,167nm,25.0s
SSE LR LR
comp=Z,441nm,18.4s
SSE Sheshan 167.83 240 PKP PKPdf 15 15 07.6 +0.1
SSE PP PP 15 20 06.1 +3.0
SSE SS SS 15 40 51.8 +3.3
SSE LR LR
comp=Z,440nm,18.4s
GYA Guiyang 168.42 170 PKP PKPdf 15 15 08.3 +0.4
GYA APKP 15 15 18.5
GYA PKP2 PKPab 15 16 20.3 +3.2
GYA PP PP 15 20 10.0 +4.0
GYA SKS SKSdf 15 22 07.0 -1.2
GYA SKKS SKKSac 15 26 52.8 +2.9
SONM Songino Array 169.91 10 PKP PKPdf 15 15 07.0 -1.7
comp=Z,3.0nm,1.0s,baz=221,slow=0.8,SNR=14
SONM PKPab PKPab 15 16 24.0 +0.3
comp=Z,11nm,1.1s,baz=338,slow=3.8,SNR=15
SONM PP PP 15 20 13.7 +0.1
comp=Z,6.6nm,1.3s,baz=333,slow=3.6,SNR=8.9
ULN Ulaanbaatar 169.96 7 *e*PKPdf PKPdf 15 15 07.6 -1.3
ULN *e*PKPab PKPab 15 16 24.1 +0.2
ULN LR LR
comp=Z,645nm,21.0s
CD2 Chengdu 171.81 147 *e*PKP PKPdf 15 15 09.0 -0.8
CD2 APKP 15 15 19.5
CD2 PKP2 PKPab 15 16 34.0 +1.9
CD2 SKKS SKKSac 15 27 08.0 +1.6
CD2 PP PP
comp=Z,150nm,10.2s
GTA Gaotai 172.70 75 PKP PKPdf 15 15 10.5 +0.3
GTA APKP 15 15 20.0
GTA PKP2 PKPab 15 16 37.3 +1.2
GTA PKS 15 18 40.5
GTA PP PP 15 20 30.5 +3.0
GTA SKS SKSdf 15 22 06.5 -3.5
GTA SKKS SKKSac 15 27 12.5 +1.8
GTA SS SS 15 41 39.5 +2.8
GTA PP PP
comp=Z,260nm,9.1s
GTA LR LR
comp=N,366nm,23.6s
GTA LR LR
comp=E,354nm,24.3s
GTA LR LR
comp=Z,780nm,22.0s
TIA Tai'an 173.24 258 *e*PKP PKPdf 15 15 10.0 -0.4
BJI Beijing 173.98 293 PKP PKPdf 15 15 11.5 +0.8
BJI PP PP
comp=Z,376nm,6.4s
BJI LR LR
comp=N,382nm,21.9s
BJI LR LR
comp=E,327nm,21.9s
BJI LR LR
comp=Z,634nm,25.8s
BJI Beijing 173.98 293 PKP PKPdf 15 15 11.4 +0.7
BJI PP PP 15 20 36.8 +3.1
BJI LR LR
comp=Z,630nm,25.8s
BJT Baijiatuau 173.99 293 PFAKE 15 15 20.0 +9.3
BJT LR LR
comp=Z,631nm,21.0s
XAN Xi'an 176.13 180 PKP PKPdf 15 15 11.0 -0.3
HHC Hu-ho-hao-te 176.44 326 *e*PKP PKPdf 15 15 11.0 -0.3
HHC APKP 15 15 21.8
HHC PKS 15 18 42.8
HHC PP PP 15 20 46.5 +1.0
HHC SKS SKSdf 15 22 08.5 -2.4
HHC SKKS SKKSac 15 27 28.5 +0.1
HHC PP PP
comp=Z,163nm,11.9s
HHC LR LR
comp=N,222nm,29.7s
HHC LR LR
comp=E,320nm,30.9s
HHC LR LR
comp=Z,398nm,29.1s

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*CSEM **31** 14:55:51.9±0.1,3503N×4.12W,h20km,MD3.0,Error ellipse: s-maj=4.4km s-min=2.7km az=104.0*
*ISCJB **31** 14:55:52.5±0.6,3503N±003×4.16W±005,h26km±6km, Error ellipse: s-maj=6.6km s-min=4.6km az=52.6*
*MDD **31** 14:55:52.8±1.1,3502N×4.09W,h7km±10km,mb4.3/2, Error ellipse: s-maj=9.5km s-min=4.9km az=114.0, PRXIMO SOLUCIN POBRE*
*CNRM **31** 14:55:53.0,3504N×3.70W,h34km,MD3.0*
ISC 31 14:55:52.6±0.7,3502N±003×412W±004,h19km±5km,n24, σ0:97/43,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.25**	**36**	*i* P	**Pg**	**14 56 00.0**	**+1.6**
MPAL				*i* S	**Sg**	**14 56 06.5**	**+4.2**
TOU	**Touzarine**	**0.31**	**101**	P	**Pg**	**14 55 58.0**	**-1.3**
TOU				S	**Sg**	**14 56 02.0**	**-1.9**
TOU	**Touzarine**	**0.31**	**101**	*i* P	**Pg**	**14 55 58.0**	**-1.3**
TZK	**Tazeka**	**0.93**	**183**	*i* P	**Pb**	**14 56 10.0**	**-0.2**
TZK				*i* S	**Sb**	**14 56 23.0**	**+0.8**
EMEL	**Melilla** 12nm,0.1s,SNR=4.0	**0.99**	**73**	P	**Pb**	**14 56 11.4**	**+0.2**
EMEL				S	**Sb**	**14 56 23.7**	**-0.2**
EMLI	**Melilla** 12nm,0.1s,SNR=4.0	**1.00**	**74**	P	**Pb**	**14 56 11.4**	**+0.1**
EMLI				S	**Sb**	**14 56 23.7**	**-0.3**
EALB	**Alboran** 0.5nm,0.1s,SNR=7.9	**1.27**	**44**	P	**Pn**	**14 56 15.1**	**-0.4**
EALB				S	**Sn**	**14 56 31.2**	**-0.7**
EALB	**Alboran** 0.5nm,0.1s,SNR=7.9	**1.27**	**44**	P	**Pn**	**14 56 15.1**	**-0.3**
EALB				S	**Sn**	**14 56 31.2**	**-0.8**
EMIJ	**Mijas** 0.0nm,0.1s,SNR=7.9	**1.63**	**341**	P	**Pn**	**14 56 20.4**	**+0.1**
EMIJ				S	**Sn**	**14 56 40.1**	**-0.6**
EGUA	**Guajares** 0.1nm,0.1s,SNR=7.9	**1.86**	**14**	P	**Pn**	**14 56 23.0**	**-0.5**
EGUA				S	**Sn**	**14 56 45.5**	**-1.0**
EBER	**Berja** 2.1nm,0.0s,SNR=7.9	**2.12**	**28**	P	**Pn**	**14 56 28.5**	**+1.4**
EBER				S	**Sn**	**14 56 53.2**	**+0.3**
EBER	**Berja** 2.1nm,0.0s,SNR=7.9	**2.12**	**28**	P	**Pn**	**14 56 28.5**	**+1.4**
EBER				S	**Sn**	**14 56 53.2**	**+0.3**
CZD	**Col de Zad**	**2.13**	**201**	*e*P	**Pn**	**14 56 28.0**	**+0.9**
CZD				*i* S	**Sn**	**14 56 52.5**	**-0.5**
EQUE	**Quentar** 0.1nm,0.2s,SNR=4.0	**2.25**	**14**	P	**Pn**	**14 56 29.0**	**+0.2**
EQUE				S	**Sn**	**14 56 56.5**	**+0.5**
EQES	**Quesada** 0.1nm,0.2s,SNR=7.9	**2.90**	**17**	P	**Pn**	**14 56 40.6**	**+2.8**
EQES				S	**Sn**	**14 57 13.4**	**+1.3**
EQES	**Quesada** 0.1nm,0.2s,SNR=7.9	**2.90**	**17**	P	**Pn**	**14 56 40.6**	**+2.8**
EQES				S	**Sn**	**14 57 13.4**	**+1.3**
EADA	**Adamuz** 0.0nm,0.0s,SNR=4.0	**3.16**	**353**	S	**Sn**	**14 57 18.9**	**+0.4**
EADA	**Adamuz** SNR=4.0	**3.16**	**353**	S	**Sn**	**14 57 18.9**	**+0.4**
EMIN	**Mina Concepcio** 0.2nm,0.2s,SNR=4.0	**3.43**	**324**	P	**Pn**	**14 56 46.0**	**+0.9**
EMIN				S	**Sn**	**14 57 24.1**	**-1.1**
EMIN	**Mina Concepcio** 0.2nm,0.2s,SNR=4.0	**3.43**	**324**	P	**Pn**	**14 56 46.0**	**+1.0**

EMIN S **Sn** **14 57 24.1 -1.0**
0.1nm,0.1s,SNR=4.0
EGRO El Granado 3.70 314 P **Pn** **14 56 49.0 +0.2**
0.1nm,0.1s,SNR=7.9
EGRO S **Sn** **14 57 30.1 -1.6**
0.0nm,0.1s,SNR=7.9
EGRO El Granado 3.70 314 P **Pn** **14 56 49.0 +0.3**
0.1nm,0.1s,SNR=7.9
EGRO S **Sn** **14 57 30.1 -1.7**
SNR=7.9
EBAD Badajoz 4.39 329 S **Sn** **14 57 47.9 -1.0**
0.1nm,0.1s,SNR=7.9
EBAD Badajoz 4.39 329 S **Sn** **14 57 47.9 -0.9**
0.1nm,0.1s,SNR=7.9

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*IDC **31** 15:00:55.8±0.8, 1314N×14406E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/21, mbtmp3.7/7, MS3.3/4, Ms1 3.3/4, ms1mx3.1/36, Error ellipse: s-maj=21.0km s-min=15.8km az=137.0*
*NEIC **31** 15:00:57.7±0.7, 1313N×144.10E, h10km, mb3.9/1, Error ellipse: s-maj=17.3km s-min=12.0km az=129.0*
*ISCJB **31** 15:00:59.7±0.6, 1311N±0.10×14395E±008, h35km, mb3.7/8, MS3.2/3, Error ellipse: s-maj=15.2km s-min=9.7km az=111.2*
ISC 31 15:01:01.8±0.7, 1313N±009×14399E±009, h35km, n15, σ1§02/14, mb3.7/8, MS3.2/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.97**	**62**	*e*Pg	**Pn**	**15 01 15.2**	**-3.8**
	225nm,0.3s,baz=128,slow=7.1,SNR=33						
GUMO				Sn	**Sn**	**15 01 31.6**	**0.0**
	309nm,0.3s,baz=334,slow=22,SNR=16						
GUMO	**Guam**	**0.97**	**62**	*e*Pg	**Pn**	**15 01 14.5**	**-4.5**
GUMO				Pn	**Pn**	**15 01 15.2**	**-3.8**
GUMO				Sn	**Sn**	**15 01 31.6**	**0.0**
CBIJ	**Chichi jima**	**14.00**	**353**	LR	LR	15 07 56.8	
	comp=Z,136nm,21.0s,baz=134,slow=30						
PMG	**Port Moresby**	**22.61**	**172**	LR	LR	15 14 11.2	
	comp=Z,344nm,21.4s,MS2.8,baz=79,slow=35						
MJAR	**Matsushiro Arr**	**23.88**	**348**	LR	LR	15 14 24.3	
	comp=Z,152nm,19.6s,MS3.5,baz=210,slow=34						
KSRS	**Korea Array**	**28.15**	**332**	P	**P**	**15 06 49.7**	**-1.0**
	0.7nm,0.6s,mb3.5,baz=142,slow=9.2,SNR=4.7						
ASAJ	**Asahikawa**	**30.90**	**358**	LR	LR	15 18 18.1	
	comp=Z,60nm,20.2s,MS3.2,baz=182,slow=34						
WB2	**Warrarmunga Arr**	**34.20**	**196**	*e*P	**P**	**15 07 44.6**	**+0.6**
WRA	**Warrarmunga Arr**	**34.21**	**196**	P	**P**	**15 07 44.4**	**+0.4**
	1.0nm,0.6s,mb3.9,baz=23,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**37.88**	**195**	P	**P**	**15 08 14.1**	**-1.3**
	0.4nm,0.5s,mb3.4,baz=19,slow=10,SNR=19						
ULN	**Ulaanbaatar**	**46.27**	**326**	P	**P**	**15 09 24.6**	**+0.8**
	1.1nm,0.8s,mb3.8						
SONM	**Songino Array**	**46.62**	**326**	P	**P**	**15 09 27.5**	**+1.0**
	0.2nm,0.5s,mb3.4,baz=104,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**61.22**	**316**	P	**P**	**15 11 13.7**	**+0.5**
	0.3nm,0.4s,mb3.8,baz=91,slow=8.4,SNR=8.9						
BVAR	**Borovoye Array**	**69.75**	**322**	P	**P**	**15 12 06.4**	**-1.9**
	1.1nm,0.6s,mb3.9,baz=114,slow=7.0,SNR=8.8						
NVAR	**Mina Array Bea**	**87.88**	**51**	P	**P**	**15 13 48.5**	**+0.8**
	0.6nm,0.6s,mb4.0,baz=270,slow=4.5,SNR=6.1						

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*ISCJB **31** 15:03:17.9±0.4, 3497N±002×405W±004, h26km±4km, Error ellipse: s-maj=5.2km s-min=2.6km az=53.2*
*MDD **31** 15:03:18.5±0.6, 3497N×402W, h11km±6km, mbLg2.2/13, Error ellipse: s-maj=6.0km s-min=3.1km az=121.0, PRXIMO*
*CSEM **31** 15:03:18.0±0.1, 3499N×400W, h25km, MD3.4, Error ellipse: s-maj=4.4km s-min=2.3km az=115.0*
*CNRM **31** 15:03:19.3, 3487N×392W, h9km, MD3.4*
*SFS **31** 15:03:19.0, 3598N×414W, h0km, ML2.1*
ISC 31 15:03:18.4±0.5, 3496N±002×404W±003, h20km±5km, n52, σ1§25/93, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.23**	**89**	P	**Pb**	**15 03 23.0**	**-1.0**
TOU				S	**Sb**	**15 03 26.5**	**-1.3**
TOU	**Touzarine**	**0.23**	**89**	*i* P	**Pb**	**15 03 23.0**	**-1.0**
MPAL	**Palemas**	**0.28**	**16**	*i* P	**Pb**	**15 03 25.0**	**+0.3**
MPAL				*i* S	**Sb**	**15 03 30.5**	**+1.5**
TZK	**Tazeka**	**0.88**	**188**	P	**Pb**	**15 03 34.0**	**-0.9**
TZK				S	**Sb**	**15 03 46.0**	**-0.2**
TZK	**Tazeka**	**0.88**	**188**	*i* P	**Pb**	**15 03 34.0**	**-0.9**
EMEL	**Melilla**	**0.95**	**69**	P	**Pb**	**15 03 35.7**	**-0.4**
	73nm,0.2s,SNR=14						
EMEL				S	**Sb**	**15 03 49.6**	**+1.4**
	22nm,0.1s,SNR=6.2						
EMLI	**Melilla**	**0.95**	**69**	P	**Pb**	**15 03 35.7**	**-0.5**
	73nm,0.2s,SNR=14						
EMLI				S	**Sb**	**15 03 49.6**	**+1.2**
	22nm,0.1s,SNR=6.2						
ZAI	**Zaio**	**1.06**	**89**	*i* P	**Pb**	**15 03 36.0**	**-2.0**
ZAI				*i* S	**Sb**	**15 03 50.0**	**-1.5**
DKH	**Dar Kharkhour**	**1.21**	**296**	*i* P	**Pn**	**15 03 41.5**	**+1.4**
TGT	**Taghat**	**1.22**	**224**	*i* P	**Pn**	**15 03 40.5**	**+0.2**
TGT				*i* S	**Sb**	**15 03 58.0**	**+1.9**
EALB	**Alboran**	**1.27**	**40**	P	**Pn**	**15 03 40.0**	**-1.0**
	2.3nm,0.1s,SNR=15						
EALB				S	**Sn**	**15 03 56.6**	**-0.9**
	8.3nm,0.1s						
EALB	**Alboran**	**1.27**	**40**	P	**Pn**	**15 03 40.0**	**-1.1**
	2.3nm,0.1s,SNR=15						
EALB				S	**Sn**	**15 03 56.6**	**-1.0**
	8.3nm,0.1s						
TSY	**Tnine Yamani**	**1.64**	**285**	*i* P	**Pn**	**15 03 48.0**	**+2.0**
TSY				*i* S	**Sn**	**15 04 08.0**	**+1.5**
EMIJ	**Mijas**	**1.71**	**340**	P	**Pn**	**15 03 45.0**	**-2.0**
	0.2nm,0.1s,SNR=14						
EMIJ				S	**Sn**	**15 04 05.4**	**-2.9**
	5.6nm,0.1s,SNR=9.6						
EMAL	**Malaga-Limoner**	**1.83**	**350**	P	**Pn**	**15 03 48.5**	**-0.2**
EMAL				S	**Sn**	**15 04 11.2**	**+0.1**
EMAL	**Malaga-Limoner**	**1.83**	**350**	*e*P	**Pn**	**15 03 48.5**	**-0.1**
EMAL				*e*S	**Sn**	**15 04 11.2**	**0.0**
MIF	**Mishlifen**	**1.83**	**213**	*i* P	**Pn**	**15 03 49.5**	**+0.7**
MIF				*i* S	**Sn**	**15 04 13.0**	**+1.6**
EGUA	**Guajares**	**1.91**	**11**	P	**Pn**	**15 03 48.5**	**-1.3**
	0.7nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**15 04 12.1**	**-1.1**
	3.6nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.06**	**5**	P	**Pn**	**15 03 51.4**	**-0.5**
	0.4nm,0.1s,SNR=7.0						
ERON				S	**Sn**	**15 04 15.8**	**-1.2**
	3.1nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.10**	**204**	*i* P	**Pn**	**15 03 53.5**	**+1.2**
CZD				*i* S	**Sn**	**15 04 18.0**	**+0.2**
EBER	**Berja**	**2.15**	**25**	P	**Pn**	**15 03 52.9**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**15 04 20.4**	**+1.4**
	11nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.15**	**25**	P	**Pn**	**15 03 52.9**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**15 04 20.4**	**+1.3**
	11nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.19**	**358**	P	**Pn**	**15 03 52.7**	**-0.9**
	0.3nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**15 04 21.4**	**+1.4**
	1.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.29**	**12**	P	**Pn**	**15 03 55.1**	**+0.1**
	0.4nm,0.1s,SNR=12						
EQUE				S	**Sn**	**15 04 23.2**	**+0.6**
	3.2nm,0.2s,SNR=4.9						
ESPR	**Espera**	**2.41**	**323**	P	**Pn**	**15 03 57.1**	**+0.5**
	0.8nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**15 04 24.5**	**-1.1**
	3.1nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.41**	**323**	P	**Pn**	**15 03 57.1**	**+0.4**
	0.8nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**15 04 24.5**	**-1.1**
	3.1nm,0.2s,SNR=7.9						
KIB	**El Ksiba**	**2.90**	**216**	P	**Pn**	**15 04 04.5**	**+1.1**
KIB				S	**Sn**	**15 04 36.0**	**-1.7**
KIB	**El Ksiba**	**2.90**	**216**	*i* P	**Pn**	**15 04 04.5**	**+1.1**
EQES	**Quesada**	**2.94**	**15**	P	**Pn**	**15 04 05.5**	**+1.6**
	1.9nm,0.2s,SNR=9.2						
EQES				S	**Sn**	**15 04 40.2**	**+1.5**
	6.8nm,0.3s,SNR=4.6						
EQES	**Quesada**	**2.94**	**15**	P	**Pn**	**15 04 05.5**	**+1.5**
	1.9nm,0.2s,SNR=9.2						
EQES				S	**Sn**	**15 04 40.2**	**+1.5**
	6.8nm,0.3s,SNR=4.6						
EHUE	**Huescar**	**3.08**	**22**	P	**Pn**	**15 04 08.3**	**+2.5**
	0.8nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**15 04 44.0**	**+2.0**
	1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.23**	**352**	P	**Pn**	**15 04 08.3**	**+0.3**
	0.1nm,0.1s,SNR=9.9						
EADA				S	**Sn**	**15 04 44.8**	**-1.0**
	0.9nm,0.2s,SNR=5.1						
EADA	**Adamuz**	**3.23**	**352**	P	**Pn**	**15 04 08.3**	**+0.3**
	0.1nm,0.1s,SNR=9.9						
EADA				S	**Sn**	**15 04 44.8**	**-1.0**
	0.9nm,0.2s,SNR=5.1						
TZC	**Tazercounte**	**3.47**	**217**	P	**Pn**	**15 04 11.0**	**-0.3**
TZC				S	**Sn**	**15 04 51.0**	**-0.8**
TZC	**Tazercounte**	**3.47**	**217**	*i* P	**Pn**	**15 04 11.0**	**-0.3**
EMIN	**Mina Concepcio**	**3.52**	**324**	P	**Pn**	**15 04 11.0**	**-0.9**
	0.6nm,0.1s,SNR=12						
EMIN				S	**Sn**	**15 04 50.7**	**-2.2**
	1.7nm,0.2s						
EMIN	**Mina Concepcio**	**3.52**	**324**	P	**Pn**	**15 04 11.0**	**-0.9**
	0.6nm,0.1s,SNR=12						
EMIN				S	**Sn**	**15 04 50.7**	**-2.2**
	1.7nm,0.2s						
EMUR	**La Murta**	**3.66**	**37**	P	**Pn**	**15 04 15.0**	**+1.2**
	0.1nm,0.2s,SNR=9.7						
EMUR				S	**Sn**	**15 04 55.0**	**-1.3**
	3.4nm,0.3s						
EMUR	**La Murta**	**3.66**	**37**	P	**Pn**	**15 04 15.0**	**+1.2**
	0.1nm,0.2s,SNR=9.7						
EMUR				S	**Sn**	**15 04 55.0**	**-1.3**
	3.4nm,0.3s						
EGRO	**El Granado**	**3.79**	**314**	P	**Pn**	**15 04 14.3**	**-1.3**
	0.2nm,0.1s,SNR=18						
EGRO				S	**Sn**	**15 04 55.6**	**-4.0**
	2.1nm,0.1s						
EGRO	**El Granado**	**3.79**	**314**	P	**Pn**	**15 04 14.3**	**-1.3**
	0.2nm,0.1s,SNR=18						
ETOB	**Tobarra**	**4.18**	**28**	P	**Pn**	**15 04 22.7**	**+1.7**
	0.8nm,0.2s,SNR=9.6						
ETOB				S	**Sn**	**15 05 10.9**	**+1.5**
	1.0nm,0.2s						
ETOB	**Tobarra**	**4.18**	**28**	P	**Pn**	**15 04 22.7**	**+1.6**
	0.8nm,0.2s,SNR=9.6						
ETOB				S	**Sn**	**15 05 10.9**	**+1.5**
	1.0nm,0.2s						
EBAD	**Badajoz**	**4.48**	**329**	P	**Pn**	**15 04 24.9**	**-0.2**
	0.8nm,0.2s,SNR=6.0						
EBAD				S	**Sn**	**15 05 13.7**	**-2.9**
	4.9nm,0.2s						
EBAD	**Badajoz**	**4.48**	**329**	P	**Pn**	**15 04 24.9**	**-0.2**
	0.8nm,0.2s,SNR=6.0						
ESDC	**Sonseca Array**	**4.71**	**1**	P	**Pn**	**15 04 28.9**	**+0.6**
	0.4nm,0.1s,baz=183,slow=12,SNR=5.7						
OUK	**Oukaimeden**	**4.93**	**222**	P	**Pn**	**15 04 33.0**	**+1.7**
OUK				S	**Sn**	**15 05 27.0**	**-0.8**
OUK	**Oukaimeden**	**4.93**	**222**	*e*P	**Pn**	**15 04 33.0**	**+1.7**
CIA	**Chichaoua**	**5.21**	**231**	P	**Pn**	**15 04 35.0**	**-0.1**
CIA				S	**Sn**	**15 05 32.0**	**-2.5**
CIA	**Chichaoua**	**5.21**	**231**	*i* P	**Pn**	**15 04 35.0**	**-0.1**
GUD	**Guadarrama**	**5.67**	**359**	P	**Pn**	**15 04 41.2**	**-0.4**
	0.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.92**	**45**	P	**Pn**	**15 04 45.5**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**15 05 48.4**	**-3.6**
	SNR=7.9						

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*IDC **31** 15:42:57.0±7.5, 055N×12457E, h175km±76km, mb3.7/12, mb1 3.9/13, mb1mx3.8/19, mbtmp3.7/13, Error ellipse: s-maj=40.9km s-min=14.2km az=82.0*
*ISCJB **31** 15:43:01.1±3.0, 06N±0.1×1248E±02, h232km±31km, mb3.9/13, Error ellipse: s-maj=30.5km s-min=11.9km az=124.4*
*NEIC **31** 15:43:01.3±3.2, 057N×12481E, h220km±33km, mb4.2/2, Error ellipse: s-maj=26.9km s-min=9.5km az=59.0*
*BJI **31** 15:43:01.0, 060N×12480E, h219km, mb4.5*
ISC 31 15:43:02.7±3.3, 05N±01×1248E±02, h233km±34km, n19, σ0§65/19, mb3.9/13, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**14.48**	**274**	*e*P	**Pn**	**15 46 17.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.54**	**177**	*e*P	**P**	**15 47 01.1**	**-1.0**
	9.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.54**	**177**	P	**P**	**15 47 00.8**	**-1.4**
	0.9nm,0.3s,baz=347,slow=7.2,SNR=19						
WRA	**Warramunga Arr**	**22.41**	**156**	P	**P**	**15 47 41.6**	**-0.2**
	11nm,0.4s,mb4.8,baz=333,slow=10,SNR=97						
WB2	**Warramunga Arr**	**22.41**	**156**	||*i*P	**P**	**15 47 41.5**	**-0.3**
ASAR	**Alice Springs**	**25.64**	**160**	P	**P**	**15 48 11.6**	**+0.6**
	2.2nm,0.5s,mb4.0,baz=347,slow=13,SNR=54						
STKA	**Stephens Creek**	**35.96**	**155**	*e*P	**P**	**15 49 42.9**	**+1.7**
	1.5nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**35.96**	**155**	P	**P**	**15 49 42.3**	**+1.1**
	1.6nm,0.4s,mb3.9,baz=330,slow=11,SNR=9.5						
XAN	**Xi'an**	**36.49**	**338**	P	**P**	**15 49 46.3**	**+0.6**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
KSRS	**Korea Array**	**36.85**	**4**	P	**P**	**15 49 49.1**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.4,baz=178,slow=9.8,SNR=5.3						
MJAR	**Matsushiro Arr**	**37.94**	**18**	P	**P**	**15 49 57.0**	**-0.8**
	comp=Z,2.0nm,0.7s,mb3.8,baz=192,slow=8.3,SNR=8.6						
SONM	**Songino Array**	**49.74**	**344**	P	**P**	**15 51 31.0**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.3,baz=160,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**59.10**	**327**	P	**P**	**15 52 38.6**	**-0.1**
	comp=Z,1.2nm,0.4s,mb3.9,baz=123,slow=7.9,SNR=32						
ZAL	**Zalesovo**	**62.57**	**335**	P	**P**	**15 53 02.4**	**+0.4**
	comp=Z,1.0nm,0.3s,mb3.9,baz=329,slow=6.9,SNR=3.8						
AKTK	**Aktyubinsk**	**74.95**	**323**	P	**P**	**15 54 17.7**	**-0.5**
AKTO	**Aktyubinsk**	**74.95**	**323**	P	**P**	**15 54 17.7**	**-0.5**
	comp=Z,2.0nm,0.4s,mb4.1,baz=102,slow=7.5,SNR=15						
BRTR	**Keskin Array B**	**90.53**	**310**	P	**P**	**15 55 37.7**	**-0.5**
	comp=Z,0.3nm,0.8s,mb3.3,baz=69,slow=7.9,SNR=4.2						
ARCES	**ARCESS Array B**	**92.75**	**340**	P	**P**	**15 55 49.4**	**+0.9**
	comp=Z,3.1nm,1.1s,mb4.3,baz=83,slow=3.8,SNR=5.6						
FINES	**FINESS Array B**	**93.69**	**332**	P	**P**	**15 55 52.8**	**0.0**
	comp=Z,1.6nm,0.9s,mb4.0,baz=158,slow=5.6,SNR=3.8						

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*ISCJB **31** 15:44:42.1±0.9, 142N±02×534E±0.1, h10km, mb3.8/13, Error ellipse: s-maj=23.8km s-min=17.4km az=18.6*
*IDC **31** 15:44:42.1±1.1, 1415N×5341E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.8/21, mbtmp3.8/12, Error ellipse: s-maj=30.6km s-min=20.8km az=14.0*
*NEIC **31** 15:44:43.6±0.7, 1415N×5333E, h10km, mb3.9/1, Error ellipse: s-maj=17.1km s-min=14.0km az=192.0*
ISC 31 15:44:44.3±0.9, 142N±02×534E±01, h10km, n16, σ0§69/16, mb3.8/13, 1D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**4.23**	**274**	||*i*P	**Pn**	**15 45 40.5**	**-8.3**
MUKL				*e*		15 45 40.7	
	baz=166,slow=1.4						
MUKL				*i* S	Sn	15 46 08.9	-29
MUKL				AML	AML	15 46 10.1	
	comp=N,215nm,0.2s						
MKAR	**Makanchi Array**	**40.45**	**31**	P	**P**	**15 52 23.8**	**+0.9**
	comp=N,0.9nm,0.7s,mb3.6,baz=210,slow=8.6,SNR=11						
AKASG	**Malin Array Be**	**41.30**	**337**	P	**P**	**15 52 29.7**	**-0.3**
	comp=N,0.1nm,0.3s,mb2.9,baz=145,slow=7.2,SNR=4.7						
AKASG	**Malin Array Be**	**41.30**	**337**	P	**P**	**15 52 29.7**	**-0.3**
KURK	**Kurchatov**	**41.72**	**24**	*e*P	**P**	**15 52 33.7**	**+0.3**
	comp=N,2.7nm,1.0s,mb3.8						
KEST	**Kesra**	**44.83**	**307**	P	**P**	**15 52 60.0**	**+1.5**
	comp=N,1.4nm,0.9s,mb3.8,baz=346,slow=1.8,SNR=5.0						
ZAL	**Zalesovo**	**46.65**	**25**	P	**P**	**15 53 11.9**	**-0.9**
	comp=N,1.3nm,0.7s,mb4.0,baz=238,slow=7.2,SNR=9.5						
ZAL	**Zalesovo**	**46.65**	**25**	P	**P**	**15 53 11.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**50.16**	**275**	P	**P**	**15 53 39.9**	**-0.1**
	comp=N,0.3nm,0.8s,mb3.4,baz=115,slow=6.4,SNR=4.1						
FINES	**FINESS Array B**	**51.07**	**344**	P	**P**	**15 53 46.6**	**-0.3**
	comp=N,1.1nm,0.5s,mb4.1,baz=184,slow=17,SNR=8.3						
SONM	**Songino Array**	**54.98**	**41**	P	**P**	**15 54 16.6**	**+1.0**
	comp=N,0.4nm,0.9s,mb3.5,baz=229,slow=7.2,SNR=3.8						
ESDC	**Sonseca Array**	**56.01**	**308**	P	**P**	**15 54 22.6**	**-0.5**
	comp=N,2.0nm,0.9s,mb4.1,baz=88,slow=6.4,SNR=7.4						
ARCES	**ARCESS Array B**	**57.98**	**349**	P	**P**	**15 54 36.2**	**-0.8**
	comp=N,3.3nm,0.9s,mb4.3,baz=156,slow=8.9,SNR=4.0						
KSRS	**Korea Array**	**69.27**	**55**	P	**P**	**15 55 51.0**	**-0.6**
	comp=N,0.6nm,0.7s,mb3.6,baz=275,slow=5.9,SNR=3.6						
WRA	**Warramunga Arr**	**86.52**	**111**	P	**P**	**15 57 27.4**	**-0.1**
	comp=N,1.0nm,0.8s,mb4.1,baz=296,slow=3.5,SNR=6.8						
ASAR	**Alice Springs**	**87.19**	**115**	P	**P**	**15 57 30.8**	**0.0**
	comp=N,0.7nm,0.9s,mb3.9,baz=297,slow=4.4,SNR=5.6						

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*ISCJB **31** 15:47:33.3±0.9, 98N±0.1×1269E±02, h10km, mb3.6/6, Error ellipse: s-maj=26.1km s-min=16.4km az=118.0*
*IDC **31** 15:47:33.8±1.5, 968N×12661E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=200.3km s-min=20.2km az=71.0*
*MAN **31** 15:47:38.2, 971N×12675E, h9km, mb3.0, ML4.3, MS3.4*
ISC 31 15:47:35.3±0.9, 98N±01×1268E±02, h10km, n9, σ0§40/9, mb3.6/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.31**	**271**	||*e*P	**Pn**	**15 47 59.7**	**0.0**
BESP	**Borongan**	**2.27**	**323**	*e*P	**Sn**	**15 48 32.1**	**-8.8**
PLP	**Palo**	**2.28**	**308**	*e*P	**Pn**	**15 48 20.1**	**+7.1**
WRA	**Warramunga Arr**	**30.44**	**166**	P	**P**	**15 53 47.6**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=334,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**33.94**	**168**	P	**P**	**15 54 18.8**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=355,slow=6.9,SNR=7.2						
SONM	**Songino Array**	**41.67**	**339**	P	**P**	**15 55 23.4**	**-0.6**
	0.5nm,0.7s,mb3.3,baz=157,slow=9.3,SNR=5.4						
MKAR	**Makanchi Array**	**52.75**	**323**	P	**P**	**15 56 50.0**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=119,slow=7.7,SNR=4.8						
ARCES	**ARCESS Array B**	**84.85**	**340**	P	**P**	**16 00 10.8**	**+0.7**
	1.6nm,0.8s,mb4.2,baz=68,slow=5.4,SNR=5.5						
FINES	**FINESS Array B**	**86.59**	**332**	P	**P**	**16 00 19.1**	**+0.4**
	1.7nm,1.0s,mb4.2,baz=93,slow=3.8,SNR=7.9						

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*IDC **31** 15:56:52.5±3.2, 590S×15105E, h15km±19km, mb4.2/10, mb1 4.5/10, mb1mx4.3/15, mbtmp4.2/10, MS3.1/2, Ms1 3.1/2, ms1mx3.0/18, Error ellipse: s-maj=20.9km s-min=13.4km az=119.0*
*ISCJB **31** 15:56:53.5±0.5, 593S±008×151.10E±008, h35km, mb4.2/13, Error ellipse: s-maj=13.3km s-min=9.9km az=99.0*
*NEIC **31** 15:56:57.6±1.7, 596S×15108E, h57km±15km, mb4.6/4, Error ellipse: s-maj=11.5km s-min=9.9km az=198.0*
ISC 31 15:56:55.3±0.5, 593S±008×15111E±007, h35km, n28, σ0§93/23, mb4.2/13, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**228**	Pn	**Pn**	**15 58 12.7**	**+1.9**
	11nm,0.3s,baz=347,slow=8.0,SNR=28						
PMG				Sn	**Sn**	**15 59 07.9**	**-1.8**
	baz=257,slow=0.0						
PMG				LR	LR	15 59 42.8	
	comp=Z,116nm,19.7s,baz=358,slow=33						
HNR	**Honiara**	**9.43**	**112**	LR	LR	16 02 09.7	
	comp=Z,171nm,21.6s,baz=90,slow=33						
HNR	**Honiara**	**9.43**	**112**	Pn	**Pn**	**15 59 07.2**	**-1.3**
KAKA	**Kakadu**	**19.60**	**249**	||*i*P	**Pn**	**16 01 20.9**	**-1.1**
	23nm,0.5s						
WB2	**Warramunga Arr**	**21.43**	**228**	||*i*P	**P**	**16 01 40.8**	**+0.6**
WRA	**Warramunga Arr**	**21.44**	**228**	P	**P**	**16 01 41.0**	**+0.6**
	12nm,0.4s,mb4.6,baz=53,slow=11,SNR=132						
WRA				S	**S**	**16 05 36.2**	**0.0**
	4.5nm,1.1s,baz=53,slow=19,SNR=6.3						
WRA				ScP	ScP	16 09 18.9	+1.9
	1.0nm,1.0s,baz=44,slow=3.1,SNR=4.2						
DZM	**Mont Dzumac**	**21.85**	**139**	P	**P**	**16 01 45.3**	**+0.6**
	6.3nm,0.7s,mb4.2,baz=44,slow=16,SNR=7.4						
ASAR	**Alice Springs**	**24.19**	**221**	P	**P**	**16 02 09.2**	**+0.9**
	18nm,0.7s,mb4.6,baz=54,slow=9.1,SNR=280						
ASAR				S	**S**	**16 06 29.9**	**+5.7**
	1.1nm,1.0s,baz=35,slow=21,SNR=5.1						
STKA	**Stephens Creek**	**27.30**	**198**	P	**P**	**16 02 36.3**	**-0.3**
	1.6nm,0.7s,mb3.6,baz=1.0,slow=19,SNR=5.8						
STKA	**Stephens Creek**	**27.30**	**198**	*e*P	**P**	**16 02 36.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**27.64**	**242**	||*i*P	**P**	**16 02 39.9**	**+0.3**
	17nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.64**	**242**	P	**P**	**16 02 39.7**	**+0.1**
	8.0nm,0.7s,mb4.5,baz=83,slow=6.2,SNR=24						
URZ	**Urewera**	**39.91**	**147**	P	**P**	**16 04 25.6**	**-0.2**
	4.6nm,0.7s,mb4.3,baz=213,slow=18,SNR=5.9						
KSRS	**Korea Array**	**48.28**	**335**	P	**P**	**16 05 32.4**	**-0.5**
	0.8nm,0.8s,mb3.8,baz=159,slow=9.0,SNR=4.2						
SONM	**Songino Array**	**66.40**	**329**	P	**P**	**16 07 40.9**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=147,slow=5.9,SNR=6.4						
MKAR	**Makanchi Array**	**80.07**	**319**	P	**P**	**16 09 01.1**	**-0.3**
	0.2nm,0.5s,mb3.3,baz=99,slow=7.9,SNR=5.7						
COLA	**College**	**83.52**	**22**	*e*P	**P**	**16 09 18.7**	**-0.8**
	3.5nm,0.7s,mb4.6						
**QS

HNR Honiara 27.87 291 P **P 16 43 45.2 +0.2**
18nm,0.3s,mb5.1,baz=220,slow=4.7,SNR=3.3
CTAO Charters Tower 37.23 265 *e*P **P 16 45 06.7 -0.1**
3.5nm,0.8s,mb4.2
STKA Stephens Creek 40.86 246 P **P 16 45 34.9 -2.3**
2.7nm,0.7s,mb4.0,baz=64,slow=7.2,SNR=4.4
STKA Stephens Creek 40.86 246 P **P 16 45 35.5 -1.7**
ASAR Alice Springs 48.04 257 P **P 16 46 34.5 -0.1**
5.7nm,0.8s,mb4.7,baz=100,slow=7.3,SNR=65
WB2 Warramunga Arr 48.26 262 *e*P **P 16 46 35.3 -1.0**
WRA Warramunga Arr 48.27 262 P **P 16 46 35.9 -0.5**
4.5nm,0.8s,mb4.5,baz=95,slow=8.1,SNR=49
MJAR Matsushiro Arr 73.33 321 P **P 16 49 27.1 +0.1**
4.5nm,1.0s,mb4.4,baz=151,slow=5.8,SNR=11
YBH Yreka Blue Hor 78.72 36 P **P 16 50 00.6 +2.8**
1.6nm,0.8s,mb4.0,baz=0.3,slow=6.9,SNR=4.1
NVAR Mina Array Bea 79.16 41 P **P 16 50 04.3 +4.1**
0.9nm,0.7s,mb3.8,baz=221,slow=9.5,SNR=7.1
KSRS Korea Array 80.21 317 P **P 16 50 08.2 +2.4**
2.1nm,0.9s,mb4.1,baz=130,slow=6.5,SNR=6.8
PDAR Pinedale Array 87.09 42 P **P 16 50 44.0 +2.9**
0.3nm,0.8s,mb3.6,baz=241,slow=3.7,SNR=2.8
YKA Yellowknife Ar 95.83 24 P **P 16 51 22.6 +0.8**
0.2nm,0.7s,mb3.6,baz=232,slow=4.3,SNR=3.4
MKAR Makanchi Array 114.68 313 PKP PKiKP 16 56 36.7 +0.9
0.2nm,0.6s,baz=49,slow=1.0,SNR=3.8
ARCES ARCESS Array B 130.53 351 PKP PKPdf 16 57 07.8 +1.7
2.3nm,0.9s,baz=119,slow=1.5,SNR=3.9
FINES FINESS Array B 137.73 346 PKP PKPdf 16 57 20.8 +1.1
1.7nm,0.9s,baz=344,slow=2.0,SNR=2.5
AKASG Malin Array Be 145.67 334 PKPbc PKPbc 16 57 35.5 +1.4
1.0nm,0.4s,baz=39,slow=4.0,SNR=13
KIEV Kiev 145.68 334 *e*PKP PKPdf 16 57 35.9 +2.1
BRTR Keskin Array B 150.32 314 PKPbc PKPbc 16 57 49.5 +2.8
1.5nm,0.9s,baz=130,slow=4.7,SNR=9.2
BRTR PKPab PKPab 16 57 56.2 +3.2
1.7nm,0.9s,baz=97,slow=1.2,SNR=5.5
GERES GERESS Array B 152.04 349 PKPbc PKPbc 16 57 52.7 +2.0
0.5nm,0.7s,baz=40,slow=2.3,SNR=5.0
GERES PKPab PKPab 16 58 02.1 +2.0
1.1nm,0.9s,baz=284,slow=2.2,SNR=3.4

*NEIC **31** 16:43:07.0±0.4,2190N×1430 4E,h35km,mb4.0/1,Error ellipse: s-maj=18.8km s-min=10.2km az=82.0*
*ISCJB **31** 16:43:17.8±6.9,2181N±009×1429E±02,h149km±64km, mb3.8/15,Error ellipse: s-maj=31.0km s-min=13.3km az=152.4*
*IDC **31** 16:43:18.6±6.8,2183N×1428 9E,h142km±63km,mb3.6/15, mb1 3.8/15,mb1mx3.7/23,mbtmp3.6/15,Error ellipse: s-maj=25.4km s-min=12.1km az=78.0*
ISC 31 16:43:20.5±6.0,2183N±009×1429E±02,h159km±56km, n23,σ0°71/21,mb3.8/15,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.24**	**324**	P	**P**	**16 47 43.3**	**0.0**
	3.5nm,0.7s,baz=144,slow=8.2,SNR=18						
ULN	**Ulaanbaatar**	**38.69**	**321**	*e*P	**P**	**16 50 28.8**	**0.0**
	2.4nm,0.8s,mb3.9						
SONM	**Songino Array**	**39.06**	**321**	P	**P**	**16 50 31.6**	**-0.3**
	2.0nm,0.7s,mb3.8,baz=131,slow=7.1,SNR=16						
CTA	**Charters Tower**	**41.79**	**175**	P	**P**	**16 50 55.4**	**+1.1**
	4.8nm,0.9s,mb4.1,baz=66,slow=4.0,SNR=3.6						
WB2	**Warramunga Arr**	**42.35**	**192**	P	**P**	**16 50 59.3**	**+0.4**
WRA	**Warramunga Arr**	**42.35**	**192**	P	**P**	**16 50 58.9**	**0.0**
	1.5nm,0.8s,mb3.7,baz=19,slow=8.9,SNR=9.8						
ASAR	**Alice Springs**	**46.06**	**191**	P	**P**	**16 51 28.1**	**-0.2**
	1.1nm,0.6s,mb3.7,baz=15,slow=9.8,SNR=30						
STKA	**Stephens Creek**	**53.42**	**181**	P	**P**	**16 52 22.1**	**-1.8**
	2.2nm,0.8s,mb3.9,baz=309,slow=8.7,SNR=4.5						
ZAL	**Zalesovo**	**53.95**	**322**	P	**P**	**16 52 27.5**	**-0.2**
	1.6nm,0.8s,mb3.8,baz=12,slow=8.6,SNR=14						
ZAL	**Zalesovo**	**53.95**	**322**	P	**P**	**16 52 27.5**	**-0.2**
MKAR	**Makanchi Array**	**54.41**	**313**	P	**P**	**16 52 31.4**	**+0.4**
	0.8nm,0.7s,mb3.6,baz=94,slow=8.6,SNR=10						
BRVK	**Borovoye**	**62.46**	**319**	*e*P	**P**	**16 53 27.5**	**+0.8**
INK	**Inuvik**	**67.55**	**24**	P	**P**	**16 53 58.6**	**-1.1**
	2.1nm,1.0s,mb3.8,baz=250,slow=9.2,SNR=4.3						
INK	**Inuvik**	**67.55**	**24**	*e*P	**P**	**16 53 59.1**	**-0.6**
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**	**16 54 52.1**	**-0.5**
	1.3nm,0.6s,mb3.7,baz=293,slow=5.9,SNR=25						
YBH	**Yreka Blue Hor**	**78.94**	**50**	P	**P**	**16 55 07.1**	**+0.7**
	1.3nm,0.9s,mb3.6,baz=46,slow=15,SNR=3.7						
FINES	**FINESS Array B**	**82.94**	**334**	P	**P**	**16 55 27.6**	**0.0**
	1.8nm,0.8s,mb3.8,baz=126,slow=2.6,SNR=3.5						
NVAR	**Mina Array Bea**	**83.27**	**51**	P	**P**	**16 55 29.9**	**+0.7**
	1.0nm,0.8s,mb3.6,baz=63,slow=33,SNR=9.6						
NVAR	**Mina Array Bea**	**83.27**	**51**	P	**P**	**16 55 29.9**	**+0.6**
AKASG	**Malin Array Be**	**87.24**	**324**	P	**P**	**16 55 47.8**	**-1.1**
	0.6nm,0.7s,mb3.5,baz=48,slow=5.5,SNR=4.1						
BRTR	**Keskin Array B**	**90.05**	**313**	P	**P**	**16 56 03.0**	**+0.8**
	1.0nm,0.9s,mb3.8,baz=61,slow=5.9,SNR=7.2						
LPAZ	**La Paz**	**150.20**	**85**	PKPbc	PKPbc	17 02 54.5	+1.9
	2.4nm,1.0s,baz=3.8,slow=2.7,SNR=6.7						
LPAZ				PKPab	PKPab	17 03 01.6	+2.4
	1.3nm,0.7s,baz=202,slow=5.8,SNR=5.8						
LPAZ	**La Paz**	**150.20**	**85**	PKPbc	PKPbc	17 02 55.0	+2.4
LPAZ				PKPab	PKPab	17 03 01.6	+2.4

IDC 31 16:53:47.1±1.6,655S×12959E,h0km,mb3.8/2,mb1 3.9/5, mb1mx3.6/15,mbtmp3.7/5,ML3.6/3,Error ellipse: s-maj=70.9km s-min=24.2km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.11**	**198**	Pn	Pn	16 56 41.8	+0.9
	0.1nm,0.3s,baz=45,slow=17,SNR=13						
FITZ				Sn	Sn	16 58 43.8	-13
	0.3nm,0.3s,baz=252,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**14.09**	**161**	Pn	Pn	16 57 07.8	0.0
	0.4nm,0.3s,baz=339,slow=12,SNR=24						
WRA				Sn	Sn	16 59 32.7	-12
	0.6nm,0.3s,baz=334,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.52**	**167**	P	Pn	16 57 53.3	+0.6
	0.5nm,0.3s,baz=343,slow=10,SNR=65						
ASAR				S	Sn	17 00 56.6	-12
	0.2nm,0.3s,baz=320,slow=17,SNR=5.7						
STKA	**Stephens Creek**	**27.58**	**158**	P	P	16 59 35.6	-0.2
	1.0nm,0.5s,baz=313,slow=9.8,SNR=2.9						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	17 04 45.9	+0.2
	0.2nm,0.3s,baz=115,slow=7.6,SNR=9.4						

MAN 31 17:10:29.4,1635N×12227E,h5km,mb2.7,ML4.1,MS2.2, 2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.72**	**12**	*e*P	Pg	17 10 42.9	-0.4
PALP				*e*S	Sg	17 10 51.6	-1.1
CAUP	**Cauayan**	**0.73**	**324**	*e*P	Pg	17 10 42.9	-0.5
CAUP				*e*S	Sg	17 10 53.4	+0.5
PCPH	**Palayan**	**1.37**	**235**	||*e*P	Pn	17 10 55.0	-0.3
PCPH				*e*S	Sb	17 11 13.7	+0.2
CVP	**Callao Caves**	**1.41**	**342**	*e*P	Pn	17 10 52.5	-3.2
CVP				*e*S	Sb	17 11 09.9	-4.6
POLP	**Polilio Island**	**1.64**	**191**	*e*P	Pn	17 10 59.0	0.0
POLP				*e*S	Sn	17 11 20.2	-0.3
ABRA	**Dolores**	**1.97**	**311**	*e*P	Sn	17 11 22.2	-6.3
GQP	**Guinayangan**	**2.44**	**176**	||*e*P	Pn	17 11 11.2	+1.4
GQP				*e*S	Sn	17 11 40.9	+0.8

IDC 31 17:14:09.3±2.6,850S×11596E,h0km,mb3.0/3,mb1 3.3/3, mb1mx3.1/17,mbtmp3.1/3,Error ellipse: s-maj=169.0km s-min=25.3km az=49.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.11**	**125**	P	P	17 18 56.1	+0.7
	0.4nm,0.9s,baz=300,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**22.86**	**133**	P	P	17 19 14.2	0.0
	0.3nm,0.5s,baz=309,slow=9.4,SNR=9.0						
MKAR	**Makanchi Array**	**62.68**	**335**	P	P	17 24 35.9	+0.1
	0.3nm,0.8s,baz=148,slow=6.3,SNR=3.3						

*NEIC **31** 17:15:34.3,1687N×9531W,h108km,MD4.1(MEX),After MEX.*
MEX 31 17:15:34.7±0.7,1688N×9530W,h104km±7km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.45**	**62**	*i*P	Pn	17 15 49.4	-1.2
CMIG				*i*S	Sn	17 16 00.5	-2.0
HUIG	**Huatulco**	**1.35**	**215**	*i*P	Pn	17 15 57.6	-1.7
HUIG				*i*S	Sn	17 16 17.0	-1.0
OXX	**Oaxaca**	**1.38**	**279**	*i*P	Pn	17 15 59.0	-0.7
OXX				*i*S	Sn	17 16 17.5	-1.2
VHO	**Vista Hermosa**	**1.39**	**278**	*i*P	Pn	17 15 59.2	-0.6
VHO				*i*S	Sn	17 16 17.4	-1.4
TUIG	**Tuzandepetl**	**1.42**	**36**	*i*P	Pn	17 15 59.0	-1.2
TUIG				*e*S	Sn	17 16 17.1	-2.4
TPIG	**Tehuac#an**	**2.50**	**308**	*i*P	Pn	17 16 13.5	-0.3
TPIG				*i*S	Sn	17 16 42.1	-1.8
PNIG	**Pinotepa**	**2.75**	**260**	*i*P	Pn	17 16 14.8	-2.4
PNIG				*i*S	Sn	17 16 47.3	-2.7
PNIG	**Pinotepa**	**2.75**	**260**	*i*P	Pn	17 16 14.7	-2.5
PNIG				*i*S	Sn	17 16 47.1	-2.9
CCIG	**Comitan**	**3.09**	**101**	*e*P	Pn	17 16 21.7	+0.1
CCIG				*i*S	Sn	17 16 57.5	-0.4
CCIG	**Comitan**	**3.09**	**101**	*i*P	Pn	17 16 22.7	+1.1
CCIG				*i*S	Sn	17 16 55.7	-2.2
IIO	**Organos**	**4.23**	**310**	*i*P	Pn	17 16 38.1	+1.1
MEIG	**Mezcala**	**4.26**	**285**	*i*P	Pn	17 16 36.8	-0.6
MEIG				*i*S	Sn	17 17 23.3	-2.7
CAIG	**El Cayaco**	**4.76**	**273**	*i*P	Pn	17 16 42.1	-2.0
CAIG				*i*S	Sn	17 16 36.4	-1.8
CAIG	**El Cayaco**	**4.76**	**273**	*i*P	Pn	17 16 42.1	-2.0
CAIG				*i*S	Sn	17 17 29.9	-8.2
TEIG	**Tepich**	**7.45**	**62**	*i*P	Pn	17 17 17.4	-3.2
TEIG				*i*S	Sn	17 18 39.8	-3.7
TEIG	**Tepich**	**7.45**	**62**	*i*P	Pn	17 17 17.8	-2.8
TEIG				*i*S	Sn	17 18 36.1	-7.3

*ISCJB **31** 17:16:30.8±0.7,2127S±004×683W±0.1,h112km±9km, mb4.2/6,Error ellipse: s-maj=17.3km s-min=6.1km az=29.8*
*NEIC **31** 17:16:31.5±1.0,2116S×6830W,h102km±10km,mb4.9/3, Error ellipse: s-maj=18.1km s-min=10.7km az=98.0*
*IDC **31** 17:16:34.7±2.3,2111S×6812W,h126km±20km,mb3.7/4, mb1 4.0/7,mb1mx3.7/17,mbtmp3.9/7,Error ellipse: s-maj=26.3km s-min=17.2km az=88.0*
*GUC **31** 17:16:35.0±0.7,2168S×6821W,h150km,ML4.5*
ISC 31 17:16:31.9±0.5,2130S±004×6815W±009,h101km±8km, n26,σ1°51/37,mb4.2/6,5D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.81**	**222**	||*i*P	**Pn**	**17 17 20.0**	**+4.9**
CEN1				*i*S	**Sn**	**17 17 54.4**	**+6.0**
CEN1				AML	AML	17 17 57.4	
	comp=N,457nm,0.9s						
ANCH	**Antofagasta**	**3.16**	**221**	||*i*P	**Pn**	**17 17 21.6**	**+1.9**
ANCH				*i*S	**Sn**	**17 17 57.1**	**+0.5**
ANCH				AML	AML	17 18 02.9	
	comp=N,2μm,0.3s						
ANCH	**Antofagasta**	**3.16**	**221**	||*i*P	**Pn**	**17 17 21.6**	**+1.9**
ANCH				*i*S	**Sn**	**17 17 57.1**	**+0.5**
CPN1	**Cerro Paranal**	**3.90**	**212**	*e*P	**Pn**	**17 17 31.3**	**+1.6**
CPN1				*i*S	**Sn**	**17 18 15.3**	**+0.7**
CPN1				AML	AML	17 18 18.9	
	comp=E,486nm,0.3s						
LPAZ	**La Paz**	**4.99**	**0**	P	**Pn**	**17 17 46.5**	**+2.1**
	comp=E,11nm,0.3s,baz=170,slow=8.0,SNR=183						
LPAZ				S	**Sn**	**17 18 41.3**	**+0.4**
	baz=235,slow=16,SNR=1.8						
LPAZ	**La Paz**	**4.99**	**0**	*e*P	**Pn**	**17 17 46.3**	**+1.9**
ARE	**Arequipa**	**5.76**	**326**	*e*P	**Pn**	**17 17 52.0**	**-2.9**
ARE				*e*S	**Sn**	**17 18 48.0**	**-12**
CDCH	**Caldera**	**6.24**	**203**	||*i*P	**Pn**	**17 18 00.6**	**-0.9**
CDCH				*i*S	**Sn**	**17 19 06.7**	**-4.6**
CDCH	**Caldera**	**6.24**	**203**	||*i*P	**Pn**	**17 18 00.6**	**-0.9**
CDCH				*i*S	**Sn**	**17 19 06.7**	**-4.6**
CPCH	**Copiapo**	**6.35**	**198**	*e*P	**Pn**	**17 18 01.6**	**-1.4**
CPCH				*i*S	**Sn**	**17 19 12.4**	**-1.6**
CPCH	**Copiapo**	**6.35**	**198**	P	**Pn**	**17 18 01.6**	**-1.4**
CPCH				*i*S	**Sn**	**17 19 12.4**	**-1.6**
LCO	**Las Campanas**	**8.01**	**196**	*e*P	**Pn**	**17 18 24.6**	**-0.9**
	comp=E,58nm,0.3s						
LCO				*e*S	**Sn**	**17 19 51.7**	**-2.8**
SIV	**San Ignacio**	**8.54**	**53**	P	**Pn**	**17 18 34.0**	**+1.3**
	comp=E,14nm,0.3s,baz=252,slow=12,SNR=181						
SIV				S	**Sn**	**17 20 05.4**	**-1.8**
	baz=298,slow=17,SNR=3.0						
CFAA	**Coronel Fontan**	**10.26**	**180**	P	**Pn**	**17 18 56.1**	**0.0**
	comp=E,0.2nm,0.3s,baz=350,slow=14,SNR=31						
CFAA				S	**Sn**	**17 20 43.0**	**-6.2**
	comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=2.6						
PLCA	**Paso Flores**	**19.48**	**185**	P	**P**	**17 20 53.2**	**+2.5**
	comp=E,0.4nm,0.3s,baz=12,slow=11,SNR=11						
PLCA	**Paso Flores**	**19.48**	**185**	P	**P**	**17 20 53.2**	**+2.5**
SNAA	**Sanae**	**62.24**	**161**	P	**P**	**17 26 44.0**	**+1.0**
	comp=E,0.9nm,0.6s,mb4.0,baz=313,slow=7.6,SNR=10.0						
WMOK	**Wichita Mounta**	**62.87**	**332**	*e*P	**P**	**17 26 44.9**	**-2.3**
	comp=E,4.3nm,0.5s,mb4.6						
QSPA	**South Pole Qui**	**68.89**	**180**	*e*P	**P**	**17 27 27.6**	**+1.9**
	comp=E,5.7nm,0.4s,mb4.8						
TOA0	**Torodi Ar. Sit**	**76.62**	**70**	*e*P	**P**	**17 28 11.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.62**	**70**	P	**P**	**17 28 11.8**	**+0.3**
	comp=E,1.8nm,0.6s,mb4.0,baz=254,slow=5.5,SNR=22						
BOSA	**Boshof**	**82.92**	**118**	P	**P**	**17 28 46.5**	**+1.0**
	comp=E,3.2nm,0.9s,mb4.2,baz=252,slow=3.2,SNR=3.6						
YKA	**Yellowknife Ar**	**91.24**	**340**	P	**P**	**17 29 23.4**	**-2.4**
	comp=E,0.3nm,0.6s,mb3.6,baz=133,slow=4.7,SNR=9.6						
YKA				pP	pP	17 29 57.8	+5.5
	comp=E,0.8nm,0.7s,baz=132,slow=4.7,SNR=6.7						
YKA	**Yellowknife Ar**	**91.24**	**340**	P	**P**	**17 29 23.4**	**-2.4**
YKA				pP	pP	17 29 57.8	+5.5
MKAR	**Makanchi Array**	**145.06**	**36**	PKP	PKPdf	17 35 56.8	-0.6
	comp=E,0.6nm,0.3s,baz=351,slow=2.6,SNR=28						
MKAR				pPKP	pPKPdf	17 36 31.1	+6.1
	comp=E,0.9nm,0.9s,baz=286,slow=4.5,SNR=3.5						
SONM	**Songino Array**	**153.17**	**8**	PKPbc	PKPbc	17 36 17.2	-0.6
	comp=E,0.3nm,0.5s,baz=345,slow=1.6,SNR=2.9						

*IDC **31** 17:28:57.9±0.9,497N×12534E,h0km,mb3.8/9,mb1 3.9/9, mb1mx3.8/19,mbtmp3.8/9,MS3.6/3,Ms1 3.6/3, ms1mx3.2/29,Error ellipse: s-maj=81.5km s-min=15.5km az=72.0*
*NEIC **31** 17:28:59.3±0.5,495N×12535E,h10km,mb4.4/4,Error ellipse: s-maj=33.8km s-min=8.7km az=76.0*
*MAN **31** 17:28:59.4,670N×127.12E,h194km,mb4.7,ML5.4,MS1.3*
*ISCJB **31** 17:29:05.2±1.7,50N±01×1255E±03,h74km±17km, mb3.9/12,Error ellipse: s-maj=56.3km s-min=10.7km az=147.6*
ISC 31 17:29:07.2±1.5,50N±01×1255E±03,h74km±17km,n23, σ1°29/23,mb3.9/12,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.01**	**348**	||*e*P	**Pn**	**17 29 38.4**	**-0.6**
KCP				*e*S	**Sn**	**17 30 08.3**	**+5.0**
DAV	**Davao City (W)**	**2.03**	**2**	*e*Pn	**Pn**	**17 29 34.9**	**-4.3**
DMPH	**Davao City--Mi**	**2.04**	**360**	||*e*P	**Pn**	**17 29 34.8**	**-4.6**
DMPH				*i*S	**Sn**	**17 30 01.8**	**-2.1**
SCPH	**Surigao**	**4.72**	**360**	||*e*P	**Pn**	**17 30 17.5**	**+1.7**
MSLP	**Maasin**	**5.11**	**353**	*e*P	**Pn**	**17 30 23.4**	**+2.3**
KAKA	**Kakadu**	**18.92**	**159**	*e*P	**Pn**	**17 33 25.5**	**+2.2**
	3.2nm,0.6s						
PMG	**Port Moresby**	**25.90**	**124**	LR	LR	17 45 52.9	
	comp=Z,89nm,19.9s,baz=77,slow=39						
WRA	**Warramunga Arr**	**26.29**	**161**	P	**P**	**17 34 36.0**	**+0.4**
	1.2nm,0.6s,mb3.5,baz=342,slow=10,SNR=13						
WB2	**Warramunga Arr**	**26.29**	**161**	*e*P	**P**	**17 34 34.0**	**-1.6**
ASAR	**Alice Springs**	**29.67**	**164**	P	**P**	**17 35 06.0**	**+0.2**
	0.1nm,0.3s,mb2.9,baz=346,slow=6.9,SNR=4.8						
NWAO	**Narrogin (SRO)**	**38.56**	**191**	P	**P**	**17 36 20.4**	**-2.1**
	7.9nm,1.0s,mb4.5,baz=29,slow=19,SNR=2.3						
STKA	**Stephens Creek**	**39.77**	**158**	P	**P**	**17 36 32.2**	**-0.5**
	0.7nm,0.7s,mb3.6,baz=320,slow=7.9,SNR=1.6						
STKA	**Stephens Creek**	**39.77**	**158**	P	**P**	**17 36 32.2**	**-0.5**
ULN	**Ulaanbaatar**	**45.52**	**343**	*e*P	**P**	**17 37 19.9**	**+0.7**
	2.7nm,0.8s,mb4.0						
SONM	**Songino Array**	**45.69**	**342**	P	**P**	**17 37 19.0**	**-1.6**
	0.2nm,0.6s,mb3.1,baz=150,slow=7.6,SNR=2.9						
SONM				LR	LR	17 57 15.2	
	comp=Z,69nm,19.4s,baz=203,slow=37						
MKAR	**Makanchi Array**	**55.81**	**325**	P	**P**	**17 38 37.5**	**+0.9**
	0.9nm,0.5s,mb4.0,baz=118,slow=7.9,SNR=9.7						
ZAL	**Zalesovo**	**58.89**	**333**	P	**P**	**17 38 59.4**	**+1.1**
	0.6nm,0.3s,mb4.1,baz=350,slow=9.5,SNR=3.4						
ZAL				LR	LR	18 05 32.9	
	comp=Z,78nm,18.2s,baz=131,slow=37						
KURK	**Kurchatov**	**60.00**	**328**	*e*P	**P**	**17 39 06.2**	**+0.2**
	4.7nm,0.6s,mb4.7						
BRVK	**Borovoye**	**65.65**	**327**	*e*P	**P**	**17 39 43.6**	**+0.2**
	3.0nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**88.82**	**340**	P	**P**	**17 41 53.4**	**+0.6**
	2.5nm,0.9s,mb4.2,baz=70,slow=8.2,SNR=3.3						
ARCES	**ARCESS Array B**	**88.82**	**340**	P	**P**	**17 41 53.4**	**+0.6**
FINES	**FINESS Array B**	**90.12**	**332**	P	**P**	**17 41 58.0**	**-1.0**
	1.5nm,0.8s,mb4.2,baz=95,slow=6.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**121.37**	**289**	PKP	PKPdf	17 47 54.9	+3.2
	0.3nm,0.7s,baz=43,slow=2.8,SNR=3.1						

*NEIC **31** 17:57:20.5,3790N×2115E,h15km,MD3.6(ATH),After ATH.*
*CSEM **31** 17:57:20.5,3790N×2115E,h15km,MD3.6/12,After ATH*
ATH 31 17:57:20.5,3790N×2115E,h15km±3km,MD3.6/12,1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.30**	**58**	||*i*PB	Pg	17 57 26.1	-0.6
RLS				*e*SB	Sg	17 57 31.2	+0.3
VLS	**Valsamata**	**0.52**	**302**	*e*PN	Pg	17 57 30.1	-0.7
VLS				*e*SN	Sg	17 57 39.4	+1.6
ITM	**Ithomi**	**0.95**	**139**	*e*PB	Pb	17 57 37.8	-0.8
ITM				*e*SN	Sn	17 57 52.4	-0.1
EVR	**Evrytania**	**1.14**	**27**	*e*PN	Pn	17 57 41.7	-0.2
EVR				*e*SN	Sn	17 57 58.8	+1.6
LKR	**Lokris**	**1.64**	**62**	*e*PB	Pb	17 57 49.7	-0.7
MGER	**Gerania Oros**	**1.67**	**86**	*e*PB	Pb	17 57 50.0	-0.9
JAN	**Janina**	**1.77**	**352**	*e*PN	Pn	17 57 52.0	+1.4
THL	**Klokotos Trika**	**1.79**	**22**	*e*PN	Pn	17 57 53.3	+2.4
VLI	**Veliai**	**1.85**	**129**	*e*PN	Pn	17 57 54.8	+3.1
NAIG	**Nisos Aigina**	**1.86**	**94**	*e*PN	Pn	17 57 55.0	+3.2
KEK	**Kerkira**	**2.10**	**330**	*e*PN	Pn	17 57 57.8	+2.8
NEO	**Neokhori**	**2.15**	**49**	*e*PN	Pn	17 57 58.5	+2.7

GUC 31 17:57:45.2±0.6,2440S×6741W,h200km,ML3.6,1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**2.74**	**265**	*e*P	Pn	17 58 33.9	+2.1
CPN1				*i*S	Sn	17 59 11.2	+3.1
CPN1				AML	AML	17 59 18.6	
	comp=E,118nm,0.5s						
CEN1	**Los Morros**	**2.75**	**291**	||*i*P	Pn	17 58 34.1	+2.3
CEN1				*i*S	Sn	17 59 11.0	+2.7
CEN1				AML	AML	17 59 13.6	
	comp=N,112nm,0.5s						
ANCH	**Antofagasta**	**2.84**	**284**	*e*P	Pn	17 58 34.6	+1.7
ANCH				*i*S	Sn	17 59 12.4	+2.2
CDCH	**Caldera**	**4.08**	**228**	||*i*P	Pn	17 58 48.9	+0.9
CDCH				*i*S	Sn	17 59 38.3	+1.1

*ISCJB **31** 17:59:12.0±0.5,4470N±002×680E±004,h12km±5km, Error ellipse: s-maj=5.5km s-min=3.3km az=124.0*
*LDG **31** 17:59:12.9±0.1,4472N×687E,h2km,Md2.2/3,Ml2.2/6, Error ellipse: s-maj=3.2km s-min=1.8km az=83.0*
*STR **31** 17:59:14.6±1.7,4347N×665E,h2km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 31 17:59:12.8±0.5,4471N±002×681E±004,h10km±5km,n13, σ0°66/25,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.04**	**299**	*e*Pg	**Pg**	**17 59 14.6**	**-0.1**
MBDF				*e*Sg	**Sg**	**17 59 15.6**	**-0.4**
	414nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.70**	**288**	*e*Pg	**Pg**	**17 59 26.4**	**+0.1**
ORIF				*e*Sg	**Sg**	**17 59 34.2**	**-1.2**
	5.0nm,0.2s						
TOUF	**Mont Tournerai**	**0.76**	**156**	Pg	**Pg**	**17 59 27.3**	**-0.3**
TOUF				Sg	**Sg**	**17 59 37.5**	**0.0**
LPG	**La Plagne**	**0.79**	**357**	*e*Pg	**Pg**	**17 59 28.0**	**-0.1**
LPG				*e*Sg	**Sg**	**17 59 38.4**	**0.0**
	6.5nm,0.3s						
LPL	**La Plagne**	**0.81**	**356**	*e*Pg	**Pg**	**17 59 28.4**	**0.0**
LPL				*e*Sg	**Sg**	**17 59 39.7**	**+0.7**
	2.5nm,0.2s						
AUTN	**L'Aution**	**0.84**	**148**	Pg	**Pg**	**17 59 28.8**	**-0.2**
AUTN				Sg	**Sg**	**17 59 41.0**	**+1.0**
SAOF	**Saorge**	**0.90**	**143**	Pg	**Pg**	**17 59 31.3**	**+1.2**
SAOF				Sg	**Sg**	**17 59 40.9**	**-0.9**
SBF	**Sospel**	**0.96**	**152**	*e*Pg	**Pg**	**17 59 30.6**	**-0.7**
SBF				*e*Sg	**Sg**	**17 59 43.4**	**-0.3**
	6.3nm

*ISCJB **31** 18:06:26.9±2.0, 352N±01×227E±01, h11km±8km, Error ellipse: s-maj=27.9km s-min=6.7km az=91.2*
*CSEM **31** 18:06:26.1±0.7, 3499N×2252E, h15km, MD3.7, Error ellipse: s-maj=15.1km s-min=4.2km az=46.0*
*NEIC **31** 18:06:27.5, 35.14N×2276E, h12km±7km, MD3.7(ATH), After ATH.*
*ATH **31** 18:06:27.5, 35.14N×2276E, h12km±7km, MD3.7/8*
*THE **31** 18:06:28.7, 35.14N×2261E, h62km*

ISC 31 18:06:28.0±2.0, 352N±01×228E±01, h8km±8km, n16, σ1§07/19, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	Karanos	0.97	79	ePg	Pg	18 06 48.2	+1.5
KARN	Karanos	0.97	79	ePg	Pg	18 06 48.2	+1.5
KYTH	Kithira	1.08	13	ePB	Pb	18 06 50.0	+1.0
GVD	Gavdhos	1.17	109	ePg	Pg	18 06 49.1	-1.3
GVD	Gavdhos	1.17	109	ePB	Pb	18 06 49.0	-1.4
VAM	Vamos	1.20	81	ePB	Pb	18 06 50.6	-0.5
VLI	Veliai	1.50	6	ePG	Pg	18 06 56.1	-0.7
ITM	Ithomi	2.06	341	ePN	Pn	18 07 06.1	+3.1
LAST	Lasithi	2.24	91	ePn	Pn	18 07 05.6	+0.2
NPS	Neapolis	2.35	88	ePN	Pn	18 07 07.5	+0.6
ZKR	Zakros	2.84	91	ePn	Pn	18 07 14.0	+0.2
ZKR				eSn	Sn	18 07 48.0	-0.2
KARP	Karpathos	3.62	84	ePN	Pn	18 07 25.8	+1.4
EVR	Evrytania	3.76	349	ePN	Pn	18 07 28.2	+1.9
AGG	Agios Georgios	3.81	355	ePn	Pn	18 07 26.9	-0.1
AGG				eSn	Sn	18 08 11.2	-0.7
MEV	Metsovon	4.71	346	ePn	Pn	18 07 38.3	-1.1
MEV				eSn	Sn	18 08 33.6	-0.6
OUR	Ouranopolis	5.19	10	ePn	Pn	18 07 44.9	-1.2

*NEIC **31** 18:14:30.2, 2862S×7126W, h46km, MG3.6(GUC), After GUC.*

GUC 31 18:14:30.2±0.8, 2862S×7126W, h46km±4km, ML3.6, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.44	84	eP	Pn	18 14 41.1	+0.6
VACH				i S	Sn	18 14 48.5	+0.8
VACH				AML	AML	18 14 49.1	
	comp=N,8μm,0.2s						
VACH	Vallenar	0.44	84	eP	Pn	18 14 41.1	+0.6
VACH				i S	Sn	18 14 48.5	+0.8
LCO	Las Campanas	0.62	128	eP	Pn	18 14 43.1	+0.3
LCO				eS	Sn	18 14 50.6	-1.2
CPCH	Copiapo	1.49	33	⇓iP	Pn	18 14 54.8	+0.3
CPCH				i S	Sn	18 15 14.7	+1.9
CPCH				AML	AML	18 15 18.1	
	comp=E,2μm,0.1s						
CPCH	Copiapo	1.49	33	⇓iP	Pn	18 14 54.8	+0.3
CPCH				i S	Sn	18 15 14.7	+1.9
CDCH	Caldera	1.59	14	eP	Pn	18 14 56.8	+0.9
CDCH				i S	Sn	18 15 16.1	+0.9
TLL	Tololo Astrono	1.59	166	⇓iP	Pn	18 14 57.5	+1.6
TLL				i S	Sn	18 15 17.5	+2.3
CMCH	Combarbala	2.55	175	⇑iP	Pn	18 15 09.9	+0.8
CMCH				i S	Sn	18 15 40.1	+1.3
CMCH				AML	AML	18 15 54.3	
	comp=E,142nm,1.1s						
CMCH	Combarbala	2.55	175	⇑iP	Pn	18 15 09.9	+0.8
CMCH				i S	Sn	18 15 40.1	+1.3

*IDC **31** 18:15:29.6±0.9, 3155×13072E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.1/16, mbtmp4.1/7, MS3.6/2, Ms1 3.6/2, ms1mx3.0/28, Error ellipse: s-maj=57.7km s-min=17.2km az=72.0*
*NEIC **31** 18:15:30.4±0.7, 331S×13056E, h10km, mb4.2/3, Error ellipse: s-maj=33.7km s-min=10.3km az=78.0*
*ISCJB **31** 18:15:32.3±0.6, 350S±005×1303E±01, h35km, mb3.9/8, MS3.8/1, Error ellipse: s-maj=20.8km s-min=7.0km az=165.0*

ISC 31 18:15:34.5±0.6, 347S±005×1303E±01, h35km, n18, σ1§11/22, mb3.9/8, MS3.8/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.42	167	eP	Pn	18 17 47.9	+0.3
	15nm,0.3s						
KAKA				eS	Sn	18 19 32.4	+0.1
FITZ	Fitzroy Crossi	15.23	197	eP	Pn	18 19 08.3	+1.4
	5.0nm,0.3s						
FITZ	Fitzroy Crossi	15.23	197	Pn	Pn	18 19 07.8	+0.9
	0.3nm,0.3s,baz=28,slow=12,SNR=5.7						
FITZ				Sn	Sn	18 21 53.6	-0.8
	0.2nm,0.3s,baz=235,slow=21,SNR=1.9						
FITZ				LR	LR	18 25 54.8	
	comp=Z,118nm,19.2s,baz=90,slow=40						
WRA	Warramunga Arr	16.84	167	P	Pn	18 19 26.4	-1.0
	1.1nm,0.3s,baz=349,slow=13,SNR=58						
WRA				S	S	18 22 26.6	-16
	0.8nm,0.3s,baz=343,slow=23,SNR=5.3						
WRA	Warramunga Arr	16.84	167	P	Pn	18 19 26.4	-1.0
WRA				S	S	18 22 26.6	-16
WB2	Warramunga Arr	16.84	167	eP	Pn	18 19 25.8	-1.6
WB2				eS	S	18 22 26.6	-16
ASAR	Alice Springs	20.38	170	P	P	18 20 10.8	+2.8
	16nm,0.4s,baz=351,slow=11,SNR=524						
ASAR				S	S	18 23 53.6	-0.8
	1.0nm,0.8s,baz=351,slow=23,SNR=5.9						
CTA	Charters Tower	22.70	138	P	P	18 20 33.2	+0.4
	2.4nm,0.3s,mb4.0,baz=315,slow=11,SNR=4.1						
STKA	Stephens Creek	30.19	161	eP	P	18 21 43.3	+1.9
	1.4nm,0.3s,mb4.2						
STKA	Stephens Creek	30.19	161	P	P	18 21 43.1	+1.7
	1.7nm,0.3s,mb4.2,baz=323,slow=9.2,SNR=7.2						
JNU	Nakatsue	36.40	1	LR	LR	18 35 35.2	
	comp=Z,161nm,21.5s,MS3.8,baz=310,slow=33						
MJAR	Matsushiro Arr	40.49	10	P	P	18 23 05.8	-4.0
	0.9nm,0.7s,mb3.6,baz=184,slow=8.8,SNR=4.2						
KSRS	Korea Array	40.78	357	P	P	18 23 10.8	-1.4
	1.1nm,0.6s,mb3.6,baz=174,slow=9.6,SNR=8.9						
ULN	Ulaanbaatar	55.03	341	eP	P	18 25 02.7	+0.2
	1.4nm,1.0s,mb4.0						
SONM	Songino Array	55.22	341	P	P	18 25 03.6	-0.3
	0.4nm,0.5s,mb3.7,baz=157,slow=6.7,SNR=5.6						
MKAR	Makanchi Array	65.47	326	P	P	18 26 14.7	+0.8
	1.7nm,0.7s,mb4.2,baz=112,slow=7.7,SNR=25						
BRVK	Borovoye	75.33	327	eP	P	18 27 14.3	+0.2
	2.5nm,0.9s,mb4.1						
TORD	Torodi Ar. Bea	128.33	284	PKP	PKPdf	18 34 38.6	+1.4
	0.6nm,0.8s,baz=98,slow=2.3,SNR=3.3						

*IDC **31** 18:24:01.5±1.3, 538N×12622E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, Error ellipse: s-maj=99.0km s-min=18.3km az=73.0*
*ISCJB **31** 18:24:08.1±2.3, 52N±02×1259E±06, h59km±23km, mb3.8/7, Error ellipse: s-maj=98.3km s-min=17.2km az=153.4*
*NEIC **31** 18:24:08.6±2.4, 518N×12577E, h45km±26km, mb4.6/1, Error ellipse: s-maj=85.2km s-min=14.9km az=78.0*

ISC 31 18:24:09.0±2.2, 52N±01×1258E±05, h48km±23km, n8, σ1§58/8, mb3.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.87	354	eP	Pn	18 24 38.6	+0.1
FITZ	Fitzroy Crossi	23.16	180	P	P	18 29 12.2	+0.9
	2.3nm,1.0s,mb3.6,baz=142,slow=16,SNR=2.7						
WRA	Warramunga Arr	26.36	162	P	P	18 29 38.7	-1.9
	1.4nm,0.6s,mb3.6,baz=343,slow=10,SNR=10.0						
ASAR	Alice Springs	29.77	165	P	P	18 30 11.3	+0.4
	0.2nm,0.7s,mb3.0,baz=346,slow=7.0,SNR=6.0						
SONM	Songino Array	45.61	342	P	P	18 32 23.4	-1.0
	0.3nm,0.8s,mb3.3,baz=126,slow=2.0,SNR=2.1						
MKAR	Makanchi Array	55.82	325	P	P	18 33 40.1	-1.1
	0.8nm,0.8s,mb3.8,baz=117,slow=7.2,SNR=11						
TIXI	Tiksi	66.39	1	eP	P	18 34 53.8	+0.8
	4.0nm,0.6s,mb4.6						
FINES	FINESS Array B	90.10	332	P	P	18 37 05.4	+1.6
	2.1nm,1.0s,mb4.4,baz=32,slow=7.6,SNR=4.1						

*ISCJB **31** 18:26:53.4±1.3, 2320S±008×676W±02, h88km±18km, mb3.5/2, Error ellipse: s-maj=29.1km s-min=9.7km az=39.2*
*IDC **31** 18:26:54.6±9.3, 2304S×6821W, h96km±66km, mb3.4/2, mb1 3.6/4, mb1mx3.4/15, mbtmp3.5/4, ML3.9/2, Error ellipse: s-maj=99.2km s-min=44.6km az=14.0*
*NEIC **31** 18:26:56.0±1.1, 2300S×6802W, h109km±11km, Error ellipse: s-maj=28.9km s-min=12.7km az=113.0*

ISC 31 18:26:55.5±1.1, 2321S±008×675W±02, h76km±16km, n10, σ1§02/9, mb3.5/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	6.44	206	P	Pn	18 28 28.8	+1.2
LPAZ	La Paz	6.91	355	P	Pn	18 28 32.9	-1.2
	0.3nm,0.3s,baz=182,slow=6.5,SNR=7.2						
LPAZ	La Paz	6.91	355	eP	Pn	18 28 32.9	-1.1
CFAA	Coronel Fontan	8.39	184	S	Sn	18 30 26.2	-1.1
	0.0nm,0.3s,baz=272,slow=19,SNR=3.1						
SIV	San Ignacio	9.41	41	P	Pn	18 29 09.8	+1.6
	3.7nm,0.3s,baz=244,slow=11,SNR=96						
SIV				S	Sn	18 30 51.7	-0.6
	0.1nm,0.3s,baz=150,slow=23,SNR=1.9						
TOA0	Torodi Ar. Sit	76.75	69	eP	P	18 38 38.2	-0.4
TORD	Torodi Ar. Bea	76.75	69	P	P	18 38 39.1	+0.5
	0.5nm,0.4s,mb3.6,baz=255,slow=5.6,SNR=15						
YKA	Yellowknife Ar	93.22	340	P	P	18 39 54.6	-6.9
	0.1nm,0.4s,mb3.5,baz=135,slow=4.8,SNR=5.6						
WRA	Warramunga Arr	132.09	208	PKP	PKPdf	18 45 57.1	-3.3
	0.3nm,0.6s,baz=154,slow=1.4,SNR=4.8						
MKAR	Makanchi Array	146.22	38	PKPbc	PKPbc	18 46 24.8	-2.4
	0.5nm,0.7s,baz=333,slow=2.9,SNR=4.6						

IDC 31 18:28:59.1±2.3, 526N×12581E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=203.9km s-min=25.5km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.41	162	P	P	18 34 37.6	+0.2
	0.8nm,0.6s,baz=341,slow=10,SNR=11						
ASAR	Alice Springs	29.82	165	P	P	18 35 08.3	+0.5
	0.3nm,1.0s,baz=345,slow=6.8,SNR=4.0						
MKAR	Makanchi Array	55.78	325	P	P	18 38 37.9	+0.1
	0.6nm,0.6s,baz=113,slow=8.5,SNR=7.5						

*PRU **31** 18:57:11.5, 3319N×3244E, h30km, M4.1*
*IDC **31** 18:57:16.5±1.0, 3447N×3226E, h0km, mb3.9/9, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, ML4.0/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/34, Error ellipse: s-maj=21.3km s-min=16.0km az=14.0*
*MOS **31** 18:57:19.1±1.1, 3431N×3230E, h33km, mb4.3/10, Error ellipse: s-maj=13.1km s-min=4.4km az=118.0*
*ISCJB **31** 18:57:20.2±0.2, 3430N±002×3230E±002, h51km±4km, mb3.9/19, Error ellipse: s-maj=3.4km s-min=2.0km az=112.4*
*CSEM **31** 18:57:20.1±0.0, 3433N×3226E, h47km, mb4.1/9, Mw3.2, Error ellipse: s-maj=1.7km s-min=1.0km az=56.0*
*GRAL **31** 18:57:20.8±2.6, 3427N×3229E, h24km±28km, MD3.9*
*ISK **31** 18:57:20.1, 3429N×3226E, h57km, MD3.8, ML4.3*
*NEIC **31** 18:57:21.9±0.2, 3432N×3231E, h48km±4km, mb4.1/12, MD3.8(ISK), Error ellipse: s-maj=5.0km s-min=2.5km az=55.0*
NEIC Felt [III] at Emba and Paphos.
*HLW **31** 18:57:22.2, 3426N×3231E, h33km, Mb4.2*
*NIC **31** 18:57:22.5±0.3, 3440N×3226E, h25km, ML3.7, MW3.6*
NIC Felt earthquake; Maximum Intensity 3; Felt I=III MM at Emba, Pafos.
*GII **31** 18:57:23.1±0.7, 3430N×3226E, h31km±1km, ML3.5/4, Mw2.9/4*
*NSSC **31** 18:57:29, 3445N×3308E, h40km*

ISC 31 18:57:21.8±0.2, 3431N±002×3231E±002, h50km±4km, n196, σ0§99/240, mb3.9/19, 9C-21D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.57	3	iPg	Pn	18 57 32.2	-1.7
SZAC	Souni-Zanaja	0.65	47	iPg	Pn	18 57 33.5	-1.4
AKMC	Akamas	0.72	2	iPg	Pn	18 57 34.2	-1.5
ALFC	Alevga	0.88	16	⇑P	Pn	18 57 36.2	-1.7
ALFC				S	Sn	18 57 47.0	-2.6
ALFC	Alevga	0.88	16	⇑eP	Pn	18 57 36.2	-1.7
ALFC				S	Sn	18 57 47.0	-2.6
ALFC	Alevga	0.88	16	iPg	Pn	18 57 36.2	-1.7
CSS	Prodhromos	1.07	52	P	Pn	18 57 39.6	-0.8
	34nm,0.2s						
CSS				S	Sn	18 57 53.6	-0.5
CSS	Prodhromos	1.07	52	iPg	Pn	18 57 39.6	-0.8
MAMC	Mammari	1.14	41	iPg	Pn	18 57 41.1	-0.3
PHNC	Paralimni	1.58	64	iPg	Pn	18 57 48.1	+0.7
IKL	Isikli	2.23	30	PN	Pn	18 57 56.2	-0.1
IKL				SN	Sn	18 58 22.6	0.0
ERMK	Ermenek	2.38	12	iP	Pn	18 57 59.6	+1.3
ERMK				i S	Sn	18 58 28.2	+1.9
MATL	Matirih	2.64	107	ePn	Pn	18 58 01.4	-0.5
HDMB	Hadim	2.65	3	PN	Pn	18 58 03.1	+1.0
HNTI	Hanita	2.69	116	Pn	Pn	18 58 02.5	0.0
OFRI	'Ofer	2.80	126	Pn	Pn	18 58 04.0	0.0
BHL	Bhannes	2.81	97	ePn	Pn	18 58 03.0	-1.1
BHL				Sn	Sn	18 58 33.3	-3.5
MMA0B	Mount Meron ar	2.89	116	Pn	Pn	18 58 05.1	-0.2
MMA0B				Sn	Sn	18 58 39.6	+0.8
MMAI	Mount Meron Ar	2.89	116	Pn	Pn	18 58 05.2	0.0
	35nm,0.3s,baz=313,slow=11,SNR=131						
MMAI				Sn	Sn	18 58 39.5	+0.8
	111nm,0.3s,baz=260,slow=13,SNR=16						
AKAS	Kas	2.93	312	iP	Pn	18 58 05.6	-0.3
AKAS				i S	Sn	18 58 35.5	-4.3
KSDI	Kefar Szold	3.01	111	Pn	Pn	18 58 06.7	-0.2
KSDI				Sn	Sn	18 58 41.9	+0.2
KSDI	Kefar Szold	3.01	111	Pn	Pn	18 58 07.2	+0.3
KSDI	Kefar Szold	3.01	111	Pn	Pn	18 58 07.2	+0.3
HWQ	Hawqa	3.01	90	ePn	Pn	18 58 07.4	+0.4
HWQ				Sn	Sn	18 58 40.0	-1.8
RCY	Rachaya	3.04	105	ePn	Pn	18 58 07.4	+0.1
RCY				Sn	Sn	18 58 41.3	-1.1
HRI	Mount Hermon	3.04	109	Pn	Pn	18 58 07.6	+0.2
SLTI	Sal'it	3.08	131	Pn	Pn	18 58 07.6	-0.3
SLTI				Sn	Sn	18 58 43.8	+0.3
SLTI	Sal'it	3.08	131	Pn	Pn	18 58 07.6	-0.3
SLTI				S	Sn	18 58 44.2	+0.7
ELL	Elmali	3.12	322	PN	Pn	18 58 08.4	-0.1
MERS	Mersin	3.13	35	PN	Pn	18 58 09.4	+0.8
BRBR	Barbar	3.16	105	⇑P	Pn	18 58 09.0	0.0
BRBR	Barbar	3.16	105	⇑iP	Pn	18 58 09.4	+0.4
MMLI	Mount Malkishu	3.21	125	Pn	Pn	18 58 09.8	+0.2
MMLI				Sn	Sn	18 58 46.5	-0.1
ARNB	Al Arnab	3.38	62	⇑P	Pn	18 58 10.0	-2.0
ARNB				⇑S	Sn	18 58 42.0	-8.9
ARNB	Al Arnab	3.38	62	⇑iP	Pn	18 58 10.9	-1.1
BIDA	Albida	3.38	77	⇓P	Pn	18 58 10.0	-2.1
BIDA				⇓S	Sn	18 58 41.0	-10
BIDA	Albida	3.38	77	⇓iP	Pn	18 58 10.9	-1.2
FKH	Fakeheh	3.39	90	ePn	Pn	18 58 13.0	+0.8
FKH				Sn	Sn	18 58 50.8	-0.4
SLNF	Slenfeh	3.46	67	⇓P	Pn	18 58 11.0	-2.2
SLNF				⇓S	Sn	18 58 42.0	-11
SLNF	Slenfeh	3.46	67	⇓iP	Pn	18 58 11.9	-1.3
TCHB	Talchebab	3.47	117	⇑P	Pn	18 58 14.0	+0.7
TCHB				⇑S	Sn	18 58 47.0	-6.1
TCHB	Talchebab	3.47	117	⇑iP	Pn	18 58 14.2	+0.9
FETY	Fethiye	3.51	312	PN	Pn	18 58 14.0	+0.2
AMAZ	Amatzia	3.53	141	Pn	Pn	18 58 14.4	+0.3
AMAZ				Sn	Sn	18 58 54.1	-0.5
WRDH	Warideh	3.58	69	⇓P	Pn	18 58 13.0	-1.8
WRDH				⇓S	Sn	18 58 45.0	-11
WRDH	Warideh	3.58	69	⇓iP	Pn	18 58 13.9	-0.9
KONT	Konya--Tatoy	3.63	1	PN	Pn	18 58 16.9	+1.5
GOLH	Golhisar	3.68	323	iP	Pn	18 58 18.0	+1.9
GOLH				i S	Sn	18 58 59.2	+1.1
AMAG	Maghara	3.73	168	⇓P	Pn	18 58 17.2	+0.3
AMAG				S	Sn	18 58 57.3	-2.3
DRGI	Dragot	3.75	135	Pn	Pn	18 58 17.8	+0.6
DRGI	Dragot	3.75	135	Pn	Pn	18 58 17.7	+0.6
DSI	Dead Sea	3.76	136	Pn	Pn	18 58 18.2	+1.0
YTIR	Yattir	3.77	140	Pn	Pn	18 58 18.1	+0.7
BTCH	Batrach	3.81	62	⇓P	Pn	18 58 17.0	-1.0
BTCH				⇓S	Sn	18 58 51.0	-11
BTCH	Batrach	3.81	62	⇓iP	Pn	18 58 17.2	-0.8
ISP	Isparta	3.82	338	PN	Pn	18 58 18.5	+0.5
KZIT	Kziot	3.82	152	Pn	Pn	18 58 18.6	+0.5
KZIT				Sn	Sn	18 59 02.1	+0.4
COBT	Iskenderun	3.91	55	iP	Pn	18 58 19.5	+0.3
COBT				i S	Sn	18 59 03.9	0.0
ARG	Arkhangelos	3.91	300	eP	Pn	18 58 18.5	-0.8
ARG				eS	Sn	18 59 00.0	-4.0
MZDA	Masada	3.94	138	Pn	Pn	18 58 20.6	+0.8
MZDA				Sn	Sn	18 59 05.1	+0.3
TKTP	Tekketepe	4.05	337	iP	Pn	18 58 22.4	+1.1
TKTP				i S	Sn	18 59 09.9	+2.5
AANS		4.08	191	P	Pn	18 58 21.8	+0.2
KDHN	Kadinhani	4.21	358	iP	Pn	18 58 23.8	+0.4
KDHN				i S	Sn	18 59 11.0	-0.2
RMNI	Mount Ramon	4.24	150	Pn	Pn	18 58 24.2	+0.3
YER	Yerkesik	4.32	312	PN	Pn	18 58 25.5	+0.6
DENT	Denizli	4.34	323	PN	Pn	18 58 26.0	+0.8
HHAG	Hagoal	4.35	182	⇑P	Pn	18 58 25.8	+0.5
ASF	Jabal al Asfar	4.40	118	Pn	Pn	18 58 27.1	+1.1
	6.5nm,0.3s,baz=178,slow=7.3,SNR=64						
ASF				Sn	Sn	18 59 19.1	+3.2
	5.5nm,0.3s,baz=208,slow=23,SNR=3.9						
ASF				LR	LR	19 00 34.7	
	comp=Z,81nm,18.5s,baz=259,slow=44						
ASF	Jabal al Asfar	4.40	118	Pn	Pn	18 58 27.1	+1.1
ASF				S	Sn	18 59 19.1	+3.2
KARP	Karpathos	4.40	288	eP	Pn	18 58 25.9	-0.2
ZFRI	Zfri	4.46	146	Pn	Pn	18 58 26.6	-0.2
ZFRI	Zfri	4.46	146	Pn	Pn	18 58 26.6	-0.3
SHUT	Suhut-Afyon	4.47	342	PN	Pn	18 58 28.2	+1.3
SUZ		4.48	174	⇓P	Pn	18 58 27.5	+0.4
DAT	Datca	4.55	303	PN	Pn	18 58 28.3	+0.2
PRNI	Paran	4.56	149	Pn	Pn	18 58 28.5	+0.3
PRNI				Sn	Sn	18 59 19.2	-0.7
KIZT	Kizilcal	4.58	356	PN	Pn	18 58 28.9	+0.5
HNKL	Nakhl	4.59	162	⇓P	Pn	18 58 28.6	0.0
HNKL				S	Sn	18 59 17.3	-3.4
KHL	Karahalli	4.59	332	PN	Pn	18 58 28.9	+0.2
FYM	Al Fayyum	4.73	193	⇓P	Pn	18 58 30.6	+0.2
FYM	Al Fayyum	4.73	193	P	Pn	18 58 30.6	+0.1
MLSB	Milas	4.74	310	PN	Pn	18 58 31.3	+0.7
GLL	Jalalah	4.75	186	⇑P	Pn	18 58 30.9	+0.1
BDRM	Kayabasi	4.82	306	iP	Pn	18 58 31.7	-0.1
BDRM				i S	Sn	18 59 23.5	-2.8
HRFI	Mount Harif	4.85	151	Pn	Pn	18 58 32.7	+0.5
HRFI				Sn	Sn	18 59 26.8	-0.2
ZNM		4.94	174	⇓P	Pn	18 58 33.6	+0.1
ZAF		5.02	178	⇑P	Pn	18 58 34.4	-0.1
ZAF				S	Sn	18 59 27.2	-3.9
ZAF		5.02	178	P	Pn	18 58 34.3	-0.2
ALT	Altintas	5.05	340	ePN	Pn	18 58 35.4	+0.4
AQBJ	Aqaba	5.13	152	Pn	Pn	18 58 36.3	+0.3
EIL	Elat	5.14	153	Pn	Pn	18 58 36.7	+0.5
MANT	Manisa	5.15	325	iP	Pn	18 58 35.7	-0.6
MANT				i S	Sn	18 59 29.7	-4.8
MANT	Manisa	5.15	325	iP	Pn	18 58 35.7	-0.7
MANT				i S	Sn	18 59 35.2	+0.7
KAMT	Kaman	5.17	12	ePN	Pn	18 58 38.0	+1.4
GZT	Gaziantep	5.24	53	iP	Pn	18 58 37.8	+0.2
GZT				i S	Sn	18 59 42.8	+6.1
GDZ	Gediz	5.28	335	iP	Pn	18 58 38.5	+0.3
GDZ				i S	Sn	18 59 35.2	-2.5
GLFJ		5.31	154	eP	Pn	18 58 39.0	+0.5
	SNR=43						
ESKT	Eskisehir	5.33	348	ePN	Pn	18 58 39.2	+0.4
HMAT	Matruh	5.44	235	⇑P	Pn	18 58 40.7	+0.5
HMAT				S	Sn	18 59 38.3	-3.1
HBST	Basata	5.48	157	⇓P	Pn	18 58 41.2	+0.3
BR131	Keskin Array S	5.51	11	eP	Pn	18 58 41.9	+0.7
	2.9nm,0.3s						
BR131	Keskin Array S	5.51	11	eP	Pn	18 58 41.9	+0.6
	2.9nm,0.3s						
BRTR	Keskin Array B	5.51	11	Pn	Pn	18 58 41.0	-0.2
	0.8nm,0.3s,baz=198,slow=14,SNR=52						
BRTR				Sn	Sn	18 59 42.3	-1.0
	0.7nm,0.3s,baz=183,slow=26,SNR=4.2						
SMG	Samos	5.58	309	eP	Pn	18 58 41.4	-0.9
NPS	Neapolis	5.59	282	eP	Pn	18 58 41.2	-1.1
AKS	Akhisar	5.82	323	ePN	Pn	18 58 45.3	-0.2
BLCB	Balcova	5.88	315	ePN	Pn	18 58 46.4	+0.1
HDHB	Dhahab	5.91	160	⇓P	Pn	18 58 46.7	0.0
GRB	Gharib	6.03	176	⇑P	Pn	18 58 48.1	-0.3
DST	Dursunbey	6.05	332	ePN	Pn	18 58 49.3	+0.6
APE	Apeiranthos	6.16	298	eP	Pn	18 58 47.8	-2.4
IDI	Anoyia	6.18	281	Pn	Pn	18 58 49.3	-1.2
	3.4nm,0.3s,baz=95,slow=2.0,SNR=28						
IDI				Sn	Sn	18 59 57.3	-2.5
	12nm,0.3s,baz=207,slow=21,SNR=9.9						
IDI	Anoyia	6.18	281	Pn	Pn	18 58 49.2	-1.2
IZI	Iznik	6.43	340	ePN	Pn	18 58 54.2	+0.4
SHRM		6.58	166	⇑P	Pn	18 58 56.4	+0.4
KCT	Karacabey	6.73	333	ePN	Pn	18 58 58.3	+0.4
VAM	Vamos	6.75	282	eP	Pn	18 58 58.7	+0.4
LPK	Lapseki	7.49	326	ePN	Pn	18 59 08.3	-0.1
VLI	Veliai	8.01	290	eP	Pn	18 59 13.1	-2.4
EVR	Evrytania	9.61	302	eP	Pn	18 59 40.2	+2.8
VTS	Vitosha	10.91	322	⇑iP	Pn	18 59 56.9	+1.6
MTUR	Matau	12.24	335	⇓iP	Pn	19 00 15.2	+1.9
BURAR	Bucovina Array	14.32	340	⇓iP	Pn	19 00 49.5	+7.8
KOLS	Kolonicke sedl	16.40	336	eP	Pn	19 01 10.1	+1.6
KIEV	Kiev	16.53	353	eP	Pn	19 01 09.5	-0.6
KIEV				pmax	pmax

comp=Z,6.0nm,0.7s,mb4.1
LPG La Plagne 22.47 307 *e*P **P 19 02 16.7 0.0**
comp=Z,5.9nm,0.7s,mb4.1
LPL La Plagne 22.49 307 *e*P **P 19 02 16.6 -0.3**
comp=Z,14nm,1.0s,mb4.0
LPL La Plagne 22.49 307 *e*P **P 19 02 16.6 -0.3**
LPL pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
LPL La Plagne 22.49 307 *e*P **P 19 02 16.6 -0.3**
comp=Z,7.1nm,1.0s,mb4.0
SMRF Simiane la Rot 22.79 303 *e*P **P 19 02 19.9 -0.1**
ORIF Oris-en-Rattie 22.86 305 *e*P **P 19 02 19.9 -0.8**
comp=Z,9.7nm,0.8s,mb4.0
ORIF Oris-en-Rattie 22.86 305 *e*P **P 19 02 19.9 -0.8**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
ORIF Oris-en-Rattie 22.86 305 *e*P **P 19 02 19.9 -0.8**
comp=Z,4.8nm,0.8s,mb4.0
CABF La Chapelle 23.31 310 *e*P **P 19 02 24.1 -1.4**
comp=Z,11nm,0.8s,mb4.0
CABF La Chapelle 23.31 310 *e*P **P 19 02 24.1 -1.4**
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
CABF La Chapelle 23.31 310 *e*P **P 19 02 24.1 -1.4**
comp=Z,5.7nm,0.8s,mb4.0
VIVF Saint-Julien-l 23.65 305 *e*P **P 19 02 28.1 -0.5**
ATD Arta Tunnel 24.63 155 LR LR 19 12 30.7
comp=Z,38nm,18.5s,baz=169,slow=37
AKTK Aktyubinsk 24.73 42 P **P 19 02 38.7 +0.3**
AKTO Aktyubinsk 24.73 42 P **P 19 02 38.7 +0.3**
comp=Z,1.6nm,0.4s,mb3.9,baz=244,slow=8.7,SNR=20
LOR Lormes 24.97 310 *e*P **P 19 02 40.4 -0.2**
SSF Saint Saulge 25.13 309 *e*P **P 19 02 42.1 +0.1**
comp=Z,13nm,1.0s,mb4.1
SSF Saint Saulge 25.13 309 *e*P **P 19 02 42.1 +0.1**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
SSF Saint Saulge 25.13 309 *e*P **P 19 02 42.1 +0.1**
comp=Z,6.6nm,1.0s,mb4.1
RJF Les Rejaudoux 25.93 304 *e*P **P 19 02 49.5 +0.2**
comp=Z,21nm,1.0s,mb4.3
RJF Les Rejaudoux 25.93 304 *e*P **P 19 02 49.5 +0.2**
RJF pmax pmax
comp=Z,11nm,1.0s,mb4.3
RJF Les Rejaudoux 25.93 304 *e*P **P 19 02 49.5 +0.2**
comp=Z,11nm,1.0s,mb4.3
FINES FINESS Array B 27.45 354 P **P 19 03 01.9 -1.0**
comp=Z,1.4nm,0.4s,mb3.8,baz=157,slow=12,SNR=21
FINES FINESS Array B 27.45 354 P **P 19 03 01.9 -1.0**
KAF Kangasniemi 28.08 354 *e*p **P 19 03 07.5 -1.1**
baz=171,slow=9.6
HFS Hagfors 28.55 340 P **P 19 03 12.6 -0.2**
comp=Z,4.7nm,0.8s,mb4.3,baz=148,slow=11,SNR=8.3
JOF Joensuu 28.64 359 *e*p **P 19 03 12.5 -1.1**
ESDC Sonseca Array 29.33 291 P **P 19 03 18.9 -0.8**
comp=Z,0.8nm,0.9s,mb3.5,baz=339,slow=20,SNR=4.4
NB2 NORSAR Subarra 30.00 339 P **P 19 03 25.3 -0.4**
comp=Z,0.6nm,0.5s,mb3.6,baz=143,slow=9.3
NOA NORSAR Array B 30.00 339 P **P 19 03 24.7 -1.0**
comp=Z,0.6nm,0.6s,mb3.5,baz=143,slow=8.2,SNR=2.8
TORD Torodi Ar. Bea 34.84 240 P **P 19 04 09.4 +1.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=53,slow=9.3,SNR=14
ARCES ARCESS Array B 35.48 356 P **P 19 04 12.7 -0.9**
comp=Z,1.9nm,0.9s,mb4.0,baz=173,slow=9.1,SNR=22
SONM Songino Array 55.42 52 P **P 19 06 52.4 +1.3**
comp=Z,0.4nm,0.8s,mb3.5,baz=277,slow=7.8,SNR=4.0
BOD Bodaibo 57.46 39 *e*P **P 19 07 03.7 -1.9**
BOD pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
YKA Yellowknife Ar 79.93 345 P **P 19 09 25.9 +0.5**
comp=Z,0.7nm,0.7s,mb3.7,baz=29,slow=5.6,SNR=11
YKA Yellowknife Ar 79.93 345 P **P 19 09 25.9 +0.5**
YKA Yellowknife Ar 79.93 345 P **P 19 09 25.9 +0.5**

NIED ***31*** *19:19:00.2*, ***2200N****×12070E, h47km, Mw3.9 Best double couple: M₀7.50000×10¹⁴ NP1:*ϕ_s*148.00000°,* δ*88.00000°,* λ*-80.00000°. NP2:*ϕ_s*249.00000°,* δ*10.00000°,* λ*-169.00000°.*
NEIC ***31*** *19:19:37.2±1.0, 2175N×12082E, h10km, mb3.6/1, Error ellipse: s-maj=22.6km s-min=13.7km az=96.0*
ISCJB ***31*** *19:19:40.4±1.1, 2183N±006×12072E±008, h52km±11km, mb3.4/7, Error ellipse: s-maj=14.4km s-min=8.7km az=64.2*
JMA ***31*** *19:19:41.1±0.2, 2197N×12067E, h130km, M3.7*
IDC ***31*** *19:19:44.9±5.4, 2182N×12104E, h74km±53km, mb3.1/6, mb1 3.4/8, mb1mx3.3/21, mbtmp3.3/8, ML3.5/2, Error ellipse: s-maj=40.3km s-min=17.5km az=71.0*
ISC 31 19:19:41.6±1.1, 2187N±007×12063E±009, h50km±12km, n22, σ0°83/28, mb3.4/7, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.46**	**21**	*e*P	**Pn**	**19 20 17.0**	**-2.2**
YHNB	**Yeheng**	**2.87**	**14**	*e*P	**Pn**	**19 20 23.1**	**-1.7**
TATO	**Taipei**	**3.19**	**14**	*e*P	**Pn**	**19 20 30.3**	**+1.1**
YOJ	**Yonaguni jima**	**3.38**	**40**	P	**Pn**	**19 20 32.1**	**+0.2**
YOJ				S	**Sn**	**19 21 10.8**	**+0.1**
HATJ	**Hateruma jima**	**3.65**	**53**	P	**Pn**	**19 20 35.6**	**+0.1**
HATJ				S	**Sn**	**19 21 17.5**	**+0.3**
IRIF	**Iriomote-Funau**	**3.76**	**49**	P	**Pn**	**19 20 37.2**	**+0.1**
IRIF				S	**Sn**	**19 21 21.1**	**+1.0**
JKRS	**Kuro-shima**	**3.90**	**52**	P	**Pn**	**19 20 39.3**	**+0.3**
JKRS				S	**Sn**	**19 21 23.9**	**+0.4**
JIJ	**Ishigaki jima**	**4.08**	**52**	P	**Pn**	**19 20 41.2**	**-0.2**
JIJ				S	**Sn**	**19 21 27.7**	**-0.1**
CVP	**Callao Caves**	**4.29**	**165⇑**	*e*P	**Pn**	**19 20 45.0**	**+0.6**
CVP				*e*S	Sx	19 21 01.0	
JTJ	**Tarama**	**4.65**	**53**	P	**Pn**	**19 20 49.4**	**+0.2**
JTJ				S	**Sn**	**19 21 41.8**	**-0.1**
JMJ	**Miyako jima 2**	**5.19**	**55**	P	**Pn**	**19 20 56.0**	**-0.7**
JOGS	**Gusukube**	**5.25**	**56**	P	**Pn**	**19 20 57.9**	**+0.5**
JOW	**Kunigami**	**8.54**	**53**	P	**Pn**	**19 21 41.8**	**-0.8**
	1.9nm,0.3s,baz=142,slow=24,SNR=5.3						
KSRS	**Korea Array**	**16.75**	**21**	P	**Pn**	**19 23 33.6**	**+0.8**
	baz=195,slow=12,SNR=4.9						
MAJO	**Matsushiro**	**21.14**	**42**	*e*P	**P**	**19 24 21.6**	**-0.7**
	1.7nm,0.6s,mb3.5						
MJAR	**Matsushiro Arr**	**21.14**	**42**	P	**P**	**19 24 21.7**	**-0.6**
	1.1nm,0.5s,mb3.4,baz=240,slow=8.2,SNR=8.0						
MJAR	**Matsushiro Arr**	**21.14**	**42**	P	**P**	**19 24 21.7**	**-0.6**
SONM	**Songino Array**	**28.32**	**340**	P	**P**	**19 25 34.8**	**+4.3**
	0.3nm,0.8s,mb3.0,baz=154,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**39.68**	**318**	P	**P**	**19 27 10.9**	**+2.2**
	0.3nm,0.8s,mb3.1,baz=103,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**43.66**	**161**	P	**P**	**19 27 40.9**	**-0.4**
	1.0nm,0.7s,mb3.6,baz=343,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**47.07**	**163**	P	**P**	**19 28 08.3**	**0.0**
	0.5nm,0.5s,mb3.8,baz=342,slow=7.0,SNR=37						
YKA	**Yellowknife Ar**	**85.29**	**23**	P	**P**	**19 32 12.3**	**-0.8**
	0.2nm,0.6s,mb3.4,baz=316,slow=4.6,SNR=4.5						

CSEM ***31*** *19:21:44.5, 6787N×2019E, h3km, ML3.1, Suspected Mining explosion. After UPP*
UPP ***31*** *19:21:44.5, 6787N×2019E, h3km, ML3.1, Suspected Mining explosion.*
HEL 31 19:21:45.2±0.2, 6786N×2017E, h0km, ML1.9, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**33**	*i* P	Pg	19 21 46.6	-0.9
NIKU	**Nikkaluokta**	**0.43**	**272**	*i* P	Pg	19 21 52.7	-0.8
LANU	**Lannavaara**	**0.71**	**73**	*i* P	Pg	19 21 57.6	-1.3
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	19 21 59.7	-0.8
SALU	**Saltoluokta**	**0.80**	**234**	P	Pg	19 21 59.7	-0.8
	baz=77						
MASU	**Masugnsbyn**	**0.81**	**119**	*i* P	Pg	19 21 59.2	-1.5
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	19 22 07.4	-0.4
KIF				*e*S	Sg	19 22 24.9	+1.9
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	19 22 15.7	-0.8
HARU	**Harads**	**1.73**	**169**	P	Pn	19 22 15.7	-0.8
	baz=324						
SGF	**Sodankyl**	**2.47**	**97**	*e*P	Pn	19 22 27.0	+0.4
SGF				*e*SG	Sg	19 23 00.4	-4.0
KEV	**Kevo**	**3.13**	**49**	*e*P	Pn	19 22 36.3	+0.5
KEV				*e*S	Sn	19 23 14.8	+0.9
OUL	**Oulu**	**3.61**	**138**	*e*PG	Pg	19 22 49.6	-4.7
OUL				*e*S	Sn	19 23 26.6	+1.0
OUL				*e*SG	Sg	19 23 36.6	-4.5
OUL				MSG		19 23 43.6	
	comp=Z,3.8nm,0.3s						
KU4	**Liikasenvaara**	**3.97**	**108**	MSG		19 23 52.2	
	comp=Z,2.5nm,0.4s						
KU6	**Riekki**	**4.24**	**111**	*e*SG	Sg	19 23 57.4	-4.1
KJN	**Kajaani**	**4.88**	**137**	MSG		19 24 20.5	
	comp=Z,0.9nm,0.3s						

ISCJB ***31*** *19:22:53.8±3.3, 7.1S±02×1073E±02, h38km±33km, mb4.0/9, Error ellipse: s-maj=44.2km s-min=12.4km az=101.3*
NEIC ***31*** *19:22:55.1±0.6, 708S×10729E, h30km, mb4.3/2, Error ellipse: s-maj=32.6km s-min=9.0km az=50.0*
IDC ***31*** *19:22:59.8±2.9, 7.12S×10723E, h79km±25km, mb3.6/9, mb1 3.8/10, mb1mx3.6/21, mbtmp3.6/10, Error ellipse: s-maj=46.2km s-min=13.8km az=52.0*
ISC 31 19:22:57.3±2.2, 71S±02×1072E±02, h53km±23km, n15, σ0°49/14, mb3.9/10, 1C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**12.85**	**320**	P	**Pn**	**19 25 57.3**	**+0.1**
	0.2nm,0.3s,baz=267,slow=19,SNR=2.9						
FITZ	**Fitzroy Crossi**	**21.03**	**123**	P	**P**	**19 27 36.9**	**+0.3**
	3.2nm,0.9s,mb3.7,baz=173,slow=6.4,SNR=5.8						
NWAO	**Narrogin (SRO)**	**27.32**	**161**	P	**P**	**19 28 36.8**	**-0.4**
	3.5nm,0.6s,mb4.0,baz=181,slow=2.4,SNR=4.0						
NWAO	**Narrogin (SRO)**	**27.32**	**161**	P	**P**	**19 28 37.1**	**-0.1**
WRA	**Warramunga Arr**	**29.25**	**119**	P	**P**	**19 28 53.9**	**-0.4**
	0.6nm,0.4s,mb3.6,baz=285,slow=10,SNR=22						
WRA				PcP	PcP	19 31 59.9	-0.3
	0.1nm,0.5s,baz=302,slow=2.1,SNR=6.2						
WB2	**Warramunga Arr**	**29.26**	**119**	*e*P	**P**	**19 28 54.1**	**-0.2**
ASAR	**Alice Springs**	**30.46**	**126**	P	**P**	**19 29 05.2**	**+0.1**
	1.4nm,0.7s,mb3.8,baz=302,slow=9.3,SNR=28						
ASAR				PcP	PcP	19 32 03.7	+0.4
	0.3nm,0.5s,baz=294,slow=2.0,SNR=4.6						
STKA	**Stephens Creek**	**40.42**	**132⇑**	*i*P	**P**	**19 30 30.9**	**+0.5**
	7.7nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**40.42**	**132**	P	**P**	**19 30 30.2**	**-0.1**
	8.9nm,0.7s,mb4.6,baz=302,slow=7.9,SNR=18						
SONM	**Songino Array**	**54.72**	**359**	P	**P**	**19 32 21.5**	**+0.3**
	0.5nm,0.8s,mb3.6,baz=168,slow=7.6,SNR=5.1						
SONM				PcP	PcP	19 33 23.3	-0.1
	0.3nm,0.4s,baz=182,slow=4.2,SNR=5.9						
SONM				ScP	ScP	19 37 11.6	-5.7
	0.8nm,0.8s,baz=160,slow=4.0,SNR=6.7						
ULN	**Ulaanbaatar**	**54.74**	**360**	*e*P	**P**	**19 32 21.6**	**+0.2**
	1.6nm,1.0s,mb4.0						
MKAR	**Makanchi Array**	**58.06**	**340**	P	**P**	**19 32 43.7**	**-1.3**
	0.2nm,0.3s,mb3.6,baz=156,slow=7.8,SNR=7.5						
BRTR	**Keskin Array B**	**82.05**	**312**	P	**P**	**19 35 12.2**	**+0.2**
	0.7nm,0.8s,mb3.7,baz=96,slow=6.3,SNR=7.0						
FINES	**FINESS Array B**	**91.97**	**332**	P	**P**	**19 36 00.9**	**+0.7**
	3.3nm,1.1s,mb4.6,baz=23,slow=10,SNR=4.1						
YKA	**Yellowknife Ar**	**116.90**	**20**	PKP	PKPdf	19 41 35.7	-0.3
	0.1nm,0.5s,baz=150,slow=7.9,SNR=3.9						

NEIC ***31*** *19:32:57.8, 1708N×9397W, h132km, MD4.0(MEX), After MEX.*
MEX 31 19:32:57.8±0.7, 1711N×9397W, h131km±12km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.88**	**269**	*i* P	Pn	19 33 18.7	-1.0
CMIG				*i* S	Sn	19 33 34.2	-2.1
TUIG	**Tuzandepetl**	**1.02**	**335**	*i* P	Pn	19 33 19.3	-1.6
TUIG				*i* S	Sn	19 33 37.4	-1.2
TUIG	**Tuzandepetl**	**1.02**	**335**	*i* P	Pn	19 33 19.3	-1.6
TUIG				*i* S	Sn	19 33 38.0	-0.5
CCIG	**Comitan**	**1.94**	**115**	*i* P	Pn	19 33 30.0	-1.0
CCIG				*i* S	Sn	19 33 55.0	-1.5
HUIG	**Huatulco**	**2.45**	**237**	*e*P	Pn	19 33 36.4	-1.0
HUIG				*i* S	Sn	19 34 07.4	-0.4
HUIG	**Huatulco**	**2.45**	**237**	*e*P	Pn	19 33 42.2	+4.8
HUIG				*i* S	Sn	19 34 16.2	+8.4
OXX	**Oaxaca**	**2.64**	**270**	*e*P	Pn	19 33 43.0	+3.2
OXX				*e*S	Sn	19 34 13.0	+1.0
VHO	**Vista Hermosa**	**2.65**	**270**	*e*P	Pn	19 33 37.5	-2.4
VHO				*i* S	Sn	19 34 10.1	-2.2
VHO	**Vista Hermosa**	**2.65**	**270**	*i* P	Pn	19 33 46.9	+7.0
VHO				*i* S	Sn	19 34 15.1	+2.8
CAIG	**El Cayaco**	**6.03**	**270**	*i* S	Sn	19 35 32.0	-0.4
TEIG	**Tepich**	**6.22**	**59**	*i* P	Pn	19 34 25.2	-2.1
TEIG				*i* S	Sn	19 35 33.1	-4.0
TEIG	**Tepich**	**6.22**	**59**	*i* P	Pn	19 34 25.0	-2.3
TEIG				*i* S	Sn	19 35 27.0	-10

NAO ***31*** *19:34:18.6±1.5, 6775N×3358E, ML2.2*
HEL 31 19:34:18.5±0.3, 6772N×3369E, h0km, ML2.5, ML2.2(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.29**	**247**	Pg	Pg	19 34 23.6	-0.5
	baz=78,slow=16						
APA0				Lg		19 34 27.4	
	baz=83,slow=37						
APA0				Rg		19 34 29.2	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.29**	**247**	*i* P	Pg	19 34 23.6	-0.5
APA0				*i* S	Sg	19 34 27.4	-0.5
APA0				*e*RG		19 34 29.2	
KU4	**Liikasenvaara**	**2.11**	**232**	*e*P	Pn	19 34 55.1	0.0
KU4				*e*S	Sn	19 35 22.1	+0.1
KU6	**Riekki**	**2.27**	**223**	*e*P	Pn	19 34 57.4	+0.1
KU6				*e*SB	Sb	19 35 26.6	-2.3
SGF	**Sodankyl**	**2.76**	**267**	*e*PB	Pb	19 35 06.9	-1.9
SGF				*e*SB	Sb	19 35 41.8	-1.3
KEV	**Kevo**	**3.18**	**313**	*e*P	Pn	19 35 10.1	+0.4
KEV				*e*S	Sn	19 35 47.6	-0.8
KEV				MSG		19 35 58.9	
	comp=Z,14nm,0.4s						
ARA0	**ARCESS Array S**	**3.50**	**305**	Pn	Pn	19 35 14.2	-0.1
	baz=122,slow=16						
ARA0				Sn	Sn	19 35 54.4	-2.1
	baz=123,slow=28						
ARA0				Lg		19 36 05.2	
	baz=117,slow=37						
ARA0	**ARCESS Array S**	**3.50**	**305**	*e*P	Pn	19 35 14.2	-0.1
ARA0				*e*S	Sn	19 35 54.4	-2.1
ARA0				*e*SG		19 36 05.2	
OUL	**Oulu**	**4.10**	**233**	*e*SG	Sg	19 36 25.9	-4.4
OUL				MSG		19 36 30.2	
	comp=Z,7.8nm,0.4s						
KJN	**Kajaani**	**4.40**	**217**	MSG		19 36 39.3	
	comp=Z,8.2nm,0.5s						
FIA0	**FINESS Array S**	**7.10**	**211**	Pn	Pn	19 36 01.4	-2.2
FIA0				Sn	Sn	19 37 21.3	-3.7
	baz=37,slow=22						
FIA0				Lg		19 37 54.9	
	baz=21,slow=28						
FIA0	**FINESS Array S**	**7.10**	**211**	*e*P	Pn	19 36 01.4	-2.2
FIA0				*e*S	Sn	19 37 21.3	-3.7
FIA0				*e*SG		19 37 54.9	

ISCJB ***31*** *19:36:05.0±0.5, 1142S±007×16147E±009, h10km, mb4.6/23, MS3.7/8, Error ellipse: s-maj=12.5km s-min=9.7km az=18.2*
IDC ***31*** *19:36:04.9±0.9, 1132S×16143E, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.4/18, mbtmp4.3/14, ML3.9/3, MS3.7/11, Ms1 3.7/11, ms1mx3.4/27, Error ellipse: s-maj=25.5km s-min=17.3km az=108.0*
BJI ***31*** *19:36:06.1, 1140S×16150E, h27km, mb4.8*
NEIC ***31*** *19:36:09.2±2.8, 1137S×16148E, h28km±19km, mb4.9/11, Error ellipse: s-maj=10.6km s-min=9.0km az=90.0*
ISC 31 19:36:05.9±5.1, 1135S±008×16150E±009, h4km±31km, n45, σ0°98/40, mb4.6/23, MS3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.44**	**321**	Pn	**Pn**	**19 36 45.7**	**-0.8**
	52nm,0.3s,baz=173,slow=1.0,SNR=23						
HNR				Sn	**Sn**	**19 37 12.2**	**-4.7**
	112nm,0.3s,baz=256,slow=20,SNR=10.0						
HNR	**Honiara**	**2.44**	**321**	*e*Pn	**Pn**	**19 36 46.4**	**-0.2**
HNR				Sn	**Sn**	**19 37 12.2**	**-4.7**
DZM	**Mont Dzumac**	**11.66**	**157**	Pn	**Pn**	**19 38 54.0**	**+1.0**
	0.3nm,0.3s,baz=239,slow=22,SNR=13						
DZM				Sn	**Sn**	**19 40 55.4**	**-8.3**
	0.2nm,0.3s,baz=165,slow=20,SNR=2.4						
DZM				LR	LR	19 42 28.1	
	comp=Z,243nm,18.1s,baz=20,slow=33						
PMG	**Port Moresby**	**14.24**	**276**	LR	LR	19 44 16.2	
	comp=Z,158nm,19.7s,baz=306,slow=35						
CTA	**Charters Tower**	**17.05**	**237**	*e*P	**Pn**	**19 40 06.5**	**+1.4**
	5.2nm,1.1s						
CTA	**Charters Tower**	**17.05**	**237**	P	**Pn**	**19 40 05.2**	**+0.2**
	0.4nm,0.3s,baz=59,slow=13,SNR=6.4						
CTA				LR	LR	19 45 21.9	
	comp=Z,162nm,18.8s,baz=62,slow=33						
CTAO	**Charters Tower**	**17.05**	**237**	*e*P	**Pn**	**19 40 06.3**	**+1.2**
	9.4nm,1.0s						
STKA	**Stephens Creek**	**27.47**	**219**	P	**P**	**19 41 53.5**	**+0.5**
	1.7nm,0.6s,mb3.8,baz=61,slow=10,SNR=2.9						
STKA				LR	LR	19 52 11.2	
	comp=Z,283nm,19.6s,MS3.9,baz=25,slow=35						
WB2	**Warramunga Arr**	**27.47**	**249**	*e*P	**P**	**19 41 52.1**	**-1.0**
WRA	**Warramunga Arr**	**27.48**	**249**	P	**P**	**19 41 52.6**	**-0.5**
	2.3nm,0.6s,mb3.9,baz=78,slow=9.5,SNR=48						
WRA				LR	LR	19 51 15.3	
	comp=Z,109nm,19.1s,MS3.4,baz=75,slow=33						
KAKA	**Kakadu**	**28.45**	**264**	*e*P	**P**	**19 42 01.2**	**-0.6**
	10nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**28.96**	**241**	P	**P**	**19 42 05.3**	**-1.1**
	1.4nm,0.8s,mb3.8,baz=66,slow=9.9,SNR=22						
URZ	**Urewera**	**30.21**	**155**	LR	LR	19 51 58.1	
	comp=Z,133nm,20.4s,MS3.6,baz=3.3,slow=32						
FITZ	**Fitzroy Crossi**	**35.28**	**255**	P	**P**	**19 43 00.8**	**-1.0**
	1.7nm,0.6s,mb4.2,baz=83,slow=16,SNR=7.6						
FITZ				LR	LR	19 57 12.8	
	comp=Z,118nm,18.8s,MS3.7,baz=78,slow=36						
MJAR	**Matsushiro Arr**	**52.45**	**336**	P	**P**	**19 45 17.9**	**-1.7**
	0.6nm,0.6s,mb3.7,baz=165,slow=10,SNR=4.0						
ASAJ	**Asahikawa**	**57.82**	**344**	LR	LR	20 08 04.7	
	comp=Z,107nm,19.1s,MS4.0,baz=7.0,slow=33						
KSRS	**Korea Array**	**57.87**	**329**	P	**P**	**19 45 58.7**	**-0.1**
	4.1nm,0.9s,mb4.4,baz=140,slow=7.3,SNR=14						
KSRS				LR	LR	20 08 50.7	
	comp=Z,28nm,19.6s,MS3.4,baz=165,slow=34						
CN2	**Changchun**	**63.95**	**332**	*e*P	**P**	**19 46 39.5**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
VNDA	**Vanda**	**66.16**	**180**	*e*P	**P**	**19 46 51.9**	**-2.7**
KMI	**Kunming**	**67.76**	**303**	P	**P**	**19 47 06.8**	**+2.1**
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
KMI	**Kunming**	**67.76**	**303**	P	**P**	**19 47 06.8**	**+2.1**
	comp=Z,12nm,0.6s,mb5.1						
ULN	**Ulaanbaatar**	**76.15**	**326**	*e*P	**P**	**19 47 55.7**	**+0.7**
	comp=Z,7.0nm,1.2s,mb4.5						
GTA	**Gaotai**	**76.31**	**315**	P	**P**	**19 47 57.3**	**+1.4**
GTA				AP	pP	19 48 00.5	+3.3
GTA				XP	sP	19 48 02.8	+5.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
SONM	**Songino Array**	**76.50**	**325**	P	**P**	**19 47 57.6**	**+0.5**
	comp=Z,8.0nm,0.6s,mb4.8,baz=143,slow=5.7,SNR=77						
LSA	**Lhasa**	**79.02**	**303**	*e*P	**P**	**19 48 12.7**	**+1.6**
	comp=Z,2.9nm,1.0s,mb4.2						
BILL	**Bilibino**	**79.25**	**2**	*e*P	**P**	**19 48 11.4**	**-0.9**
	comp=Z,3.2nm,0.9s,mb4.2						
SVW2	**Sparrevohn**	**79.75**	**20**	*e*P	**P**	**19 48 15.3**	**+0.3**
GUN	**Gumba**	**82.85**	**300**	*e*P	**P**	**19 48 32.5**	**+1.0**
MAW	**Mawson**	**82.86**	**202**	P	**P**	**19 48 31.2**	**-0.4**
	comp=Z,3.3nm,0.3s,mb4.8,baz=157,slow=22,SNR=4.8						
PKI	**Pulchoki**	**83.15**	**300**	*e*P	**P**	**19 48 33.7**	**+0.6**
	comp=Z,12nm,0.6s,mb5.1						
KKN	**Kakani**	**83.33**	**300**	*e*P	**P**	**19 48 34.7**	**+0.7**
DMN	**Daman**	**83.42**	**300**	*e*P	**P**	**19 48 35.3**	**+0.8**
	comp=Z,53nm,1.0s,mb5.5						
GKN	**Gorkha**	**83.93**	**300**	*e*P	**P**	**19 48 37.4**	**+0.3**
	comp=Z,50nm,0.8s,mb5.7						
IMA2	**Indian Mountai**	**83.96**	**17**	*e*P	**P**	**19 48 37.0**	**-0.2**
KOLN	**Koldanda**	**84.75**	**300**	*e*P	**P**	**19 48 41.2**	**0.0**
	comp=Z,26nm,0.8s,mb5.4						
EGAK	**Eagle**	**87.13**	**21**	*e*P	**P**	**19 48 52.3**	**-0.7**
	comp=Z,14nm,1.3s,mb5.0						
NVAR	**Mina Array Bea**	**89.42**	**51**	P	**P**	**19 49 04.8**	**+0.9**
	comp=Z,0.5nm,0.7s,mb4.0,baz=222,slow=6.6,SNR=4.2						
MKAR	**Makanchi Array**	**90.91**	**318**	P	**P**	**19 49 10.2**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.5,baz=96,slow=5.5,SNR=25						
INK	**Inuvik**	**91.56**	**20**	LR	LR	20 25 56.4	
	comp=Z,90nm,18.9s,MS4.2,baz=273,slow=33						
YKA	**Yellowknife Ar**	**97.17**	**28**	P	**P**	**19 49 38.2**	**-1.4**
	comp=Z,0.8nm,0.5s,mb4.4,baz=261,slow=4.7,SNR=30						
YKA				LR	LR	20 35 12.3	
	comp=Z,24nm,18.4s,MS3.7,baz=60,slow=36						
YKA	**Yellowknife Ar**	**97.17**	**28**	P	**P**	**19 49 38.2**	**-1.4**
YKA				LR	LR	20 35 12.3	
KEST	**Kesra**	**145.01**	**318**	PKP	PKPdf	19 55 43.2	-1.2
	comp=Z,1.4nm,0.9s,baz=311,slow=4.3,SNR=7.0						
ESDC	**Sonseca Array**	**148.98**	**338**	PKPbc	PKPbc	19 55 54.3	-0.8
	comp=Z,0.4nm,0.6s,baz=10,slow=3.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**160.19**	**277**	PKP	PKPdf	19 56 06.5	0.0
	comp=Z,0.9nm,0.8s,baz=26,slow=1.7,SNR=6.1						
TORD				PKPab	PKPab	19 56 45.5	-1.1
	comp=Z,0.9nm,1.0s,baz=109,slow=5.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**160.19**	**277**	PKP	PKPdf	19 56 06.5	0.0

az=38.9
*JMA **31** 20:08:56.5±0.2,2957N×13065E,h39km±5km,M3.5*
*NEIC **31** 20:08:57.3±0.8,2960N×13057E,h42km±9km,mb3.8/6, Error ellipse: s-maj=12.0km s-min=7.1km az=116.0*
*IDC **31** 20:08:58.9±1.8,2957N×13049E,h57km±16km,mb3.3/6, mb1 3.4/9,mb1mx3.3/24,mbtmp3.3/9,ML3.3/3,MS3.0/1, Ms1 3.0/1,ms1mx2.2/15,Error ellipse: s-maj=27.5km s-min=9.0km az=105.0*

ISC 31 20:08:58.0±0.6,2958N±004×13058E±007,h50km±6km, n31,σ0§88/36,mb3.7/10,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.67**	**293**	P	**Pn**	**20 09 10.4**	**-0.8**
JNN				S	**Sn**	**20 09 21.0**	**+0.1**
JKC	**Kuchinoerabu**	**0.94**	**339**	P	**Pn**	**20 09 14.0**	**-0.9**
JKC				S	**Sn**	**20 09 27.5**	**+0.2**
JTN	**Tanegashima 3**	**1.13**	**18**	P	**Pn**	**20 09 16.5**	**-0.9**
JAM	**Amami Oshima**	**1.44**	**217**	P	**Pn**	**20 09 21.7**	**0.0**
JAM				*e*S	**Sn**	**20 09 40.3**	**+0.9**
JTSR	**Tashiro 2**	**1.61**	**10**	P	**Pn**	**20 09 23.9**	**0.0**
JSU	**Suzuyama**	**1.92**	**357**	P	**Pn**	**20 09 27.6**	**-0.6**
JTK	**Tokunoshima**	**2.29**	**219**	P	**Pn**	**20 09 33.8**	**+0.6**
JOW	**Kunigami**	**3.41**	**217**	P	**Pn**	**20 09 48.1**	**-0.5**
JOW	9.6nm,0.3s,baz=96,slow=17,SNR=21			S	**Sn**	**20 10 27.6**	**-0.1**
JNU	**Nakatsue**	**3.54**	**4**	P	**Pn**	**20 09 51.2**	**+0.8**
JNU	14nm,0.3s,baz=95,slow=25,SNR=6.3 3.8nm,0.3s,baz=224,slow=19,SNR=40			S	**Sn**	**20 10 33.2**	**+2.2**
JNU	5.8nm,0.3s,baz=206,slow=20,SNR=3.9			LR	LR	20 11 25.4	
KSRS	**Korea Array**	**8.16**	**345**	P	**Pn**	**20 10 54.9**	**+1.1**
INCN	**Inchon**	**8.54**	**338**	*e*Pn	**Pn**	**20 10 55.2**	**-3.8**
TATO	**Taipei**	**9.30**	**243**	Pn	**Pn**	**20 11 09.2**	**-0.1**
MAJO	**Matsushiro**	**9.44**	**41**	Pn	**Pn**	**20 11 12.2**	**+1.0**
MJAR	**Matsushiro Arr**	**9.44**	**41**	P	**Pn**	**20 11 08.4**	**-2.8**
YHNB	**Yeheng**	**9.54**	**241**	*e*Pn	**Pn**	**20 11 12.1**	**-0.6**
NACB	**Ninganchiao**	**9.66**	**238**	Pn	**Pn**	**20 11 13.7**	**-0.6**
MDJ	**Mudanjiang**	**15.03**	**357**	*e*Pn	**Pn**	**20 12 27.7**	**+0.6**
BJT	**Baijiatuau**	**15.75**	**315**	*e*Pn	**Pn**	**20 12 36.3**	**-0.1**
HIA	**Hailar**	**21.33**	**340**	*e*P	**P**	**20 13 40.6**	**0.0**
SONM	**Songino Array**	**26.07**	**321**	P	**P**	**20 14 26.5**	**-0.2**
YAK	**Yakutsk**	**32.46**	**359**	P	**P**	**20 15 23.7**	**+0.2**
MKAR	**Makanchi Array**	**40.97**	**309**	P	**P**	**20 16 36.5**	**+0.7**
PMG	**Port Moresby**	**41.92**	**155**	P	**P**	**20 16 44.7**	**+1.1**
BILL	**Bilibino**	**43.85**	**18**	*e*P	**P**	**20 16 58.4**	**-0.8**
KURK	**Kurchatov**	**43.92**	**314**	*e*P	**P**	**20 17 00.4**	**+0.7**
BRVK	**Borovoye**	**49.30**	**316**	*e*P	**P**	**20 17 42.1**	**+0.2**
FINES	**FINESS Array B**	**70.98**	**331**	P	**P**	**20 20 08.4**	**-1.9**
YKA	**Yellowknife Ar**	**74.62**	**26**	P	**P**	**20 20 31.9**	**0.0**

*JMA **31** 20:11:40.9±0.2,3045N×139.16E,h497km,M3.3*
*ISCJB **31** 20:11:42.7±0.6,3037N±007×1387E±0.1,h444km±7km, mb3.0/8,Error ellipse: s-maj=20.0km s-min=8.5km az=143.9*
*IDC **31** 20:11:43.7±1.4,3037N×13862E,h435km±17km,mb2.7/8, mb1 2.9/1,mb1mx2.8/23,mbtmp2.7/11,Error ellipse: s-maj=23.2km s-min=13.0km az=78.0*

ISC 31 20:11:43.9±0.6,3038N±007×1389E±01,h444km±7km,n24, σ0§98/29,mb3.0/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.83**	**16**	P	**P**	**20 12 51.1**	**+1.9**
TK02	**Tokai 2**	**3.68**	**345**	P	**P**	**20 12 57.6**	**+1.8**
CBIJ	**Chichi jima**	**4.37**	**138**	P	**P**	**20 13 02.0**	**+0.1**
CBIJ	11nm,0.3s,baz=275,slow=20,SNR=8.1 **Chichi jima**	**4.37**	**138**	P	**P**	**20 13 01.9**	**-0.1**
CBIJ				*e*S	**S**	**20 14 04.0**	**-1.5**
JIE	**Ise**	**4.40**	**336**	P	**P**	**20 13 03.5**	**+1.3**
BSO1	**Boso 1**	**4.61**	**22**	P	**P**	**20 13 04.3**	**+0.1**
BSO1				*e*S	**S**	**20 14 09.4**	**-0.2**
BSO4	**Boso 4**	**4.75**	**15**	*e*S	**S**	**20 14 11.5**	**-0.6**
JOD2	**Odawara 2**	**4.87**	**2**	P	**P**	**20 13 07.1**	**+0.5**
JNY	**Yasuok**	**5.04**	**350**	P	**P**	**20 13 09.4**	**+1.1**
JNY				*e*S	**S**	**20 14 12.7**	**-4.4**
JHU	**Hanno**	**5.46**	**3**	P	**P**	**20 13 11.6**	**-0.9**
JHU				S	**S**	**20 14 20.6**	**-4.2**
JRY	**Ryogami san**	**5.62**	**0**	P	**P**	**20 13 14.2**	**+0.2**
JAG	**Ashikaga**	**6.04**	**4**	P	**P**	**20 13 17.3**	**-1.1**
JAG				S	**S**	**20 14 30.1**	**-5.5**
MJAR	**Matsushiro Arr**	**6.17**	**355**	P	**P**	**20 13 19.0**	**-0.7**
MAT	0.5nm,0.3s,baz=174,slow=11,SNR=8.1 **Matsushiro**	**6.17**	**355**	P	**P**	**20 13 19.6**	**-0.1**
JHO	**Hitachi**	**6.37**	**12**	P	**P**	**20 13 21.2**	**-0.5**
KSRS	**Korea Array**	**11.51**	**311**	P	**P**	**20 14 16.7**	**-0.7**
SONM	baz=127,slow=10,SNR=7.7 **Songino Array**	**30.35**	**314**	P	**P**	**20 17 16.8**	**-0.8**
MKAR	0.3nm,0.8s,mb2.7,baz=127,slow=8.9,SNR=3.9 **Makanchi Array**	**46.17**	**307**	P	**P**	**20 19 26.2**	**-0.8**
WRA	0.2nm,0.6s,mb2.6,baz=88,slow=9.1,SNR=3.2 **Warrumunga Arr**	**50.23**	**186**	P	**P**	**20 19 58.0**	**+0.6**
ASAR	0.3nm,0.6s,mb2.8,baz=0.6,slow=7.8,SNR=10 **Alice Springs**	**53.95**	**186**	P	**P**	**20 20 24.9**	**+0.5**
INK	0.2nm,0.8s,mb2.4,baz=358,slow=5.3,SNR=5.7 **Inuvik**	**61.27**	**25**	P	**P**	**20 21 16.0**	**+1.4**
ARCES	0.3nm,0.4s,mb3.1,baz=236,slow=3.6,SNR=3.3 **ARCESS Array B**	**69.48**	**340**	P	**P**	**20 22 05.6**	**-0.8**
YKA	1.2nm,0.8s,mb3.6,baz=2.3,slow=6.1,SNR=5.0 **Yellowknife Ar**	**70.63**	**28**	P	**P**	**20 22 14.5**	**+1.3**
FINES	0.3nm,0.6s,mb3.0,baz=301,slow=6.1,SNR=5.3 **FINESS Array B**	**73.72**	**333**	P	**P**	**20 22 30.2**	**-1.1**
	1.0nm,0.8s,mb3.5,baz=59,slow=7.4,SNR=4.3						

IDC 31 20:15:59.1±6.2,2043S×17094W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/16,mbtmp4.0/3,Error ellipse: s-maj=270.4km s-min=51.5km az=146.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**40.08**	**263**	P	P	20 23 36.6	+0.5
ASAR	1.8nm,0.3s,baz=90,slow=10,SNR=6.9 **Alice Springs**	**50.97**	**256**	P	P	20 25 01.8	-0.6
WB2	0.2nm,0.3s,baz=92,slow=7.2,SNR=17 **Warrumunga Arr**	**51.15**	**260**	*e*P	P	20 25 04.8	+1.1
WRA	**Warrumunga Arr**	**51.16**	**260**	P	P	20 25 05.1	+1.3
AKASG	0.8nm,0.3s,baz=99,slow=7.0,SNR=50 **Malin Array Be**	**145.86**	**337**	PKPbc	PKPbc	20 35 39.4	-0.9
	0.5nm,0.6s,baz=37,slow=3.1,SNR=2.8						

*IDC **31** 20:31:27.1±2.3,1038S×16044E,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.5/15,mbtmp3.5/4,ML3.8/1,Error ellipse: s-maj=52.0km s-min=20.1km az=80.0*
*ISCJB **31** 20:31:29.3±0.9,1053S±007×1606E±0.1,h33km,mb3.4/4, Error ellipse: s-maj=19.9km s-min=7.4km az=130.7*
*NEIC **31** 20:31:31.5±0.9,1039S×16050E,h35km,mb4.3/1,Error ellipse: s-maj=20.1km s-min=12.0km az=67.0*

ISC 31 20:31:27.0±4.9,1041S±009×1606E±01,h4km±30km,n11, σ0§87/13,mb3.4/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.15**	**327**	Pn	**Pn**	**20 31 48.5**	**-1.4**
HNR	140nm,0.3s,baz=107,slow=5.1,SNR=48			Sn	**Sn**	**20 32 06.0**	**-0.1**
DZM	88nm,0.3s,baz=86,slow=2.4,SNR=10 **Mont Dzumac**	**12.89**	**155**	Pn	**Pn**	**20 34 31.9**	**+1.0**
	0.5nm,0.3s,baz=235,slow=17,SNR=15						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM				Sn	**Sn**	**20 36 51.4**	**-3.3**
PMG	0.1nm,0.3s,baz=84,slow=21,SNR=2.6 **Port Moresby**	**13.26**	**273**	Pn	**Pn**	**20 34 35.6**	**-0.4**
WB2	**Warrumunga Arr**	**27.00**	**246**	*e*P	**P**	**20 37 10.6**	**+0.7**
WRA	**Warrumunga Arr**	**27.01**	**246**	P	**P**	**20 37 10.2**	**+0.3**
	0.5nm,0.6s,mb3.2,baz=74,slow=9.1,SNR=6.6						
STKA	**Stephens Creek**	**27.66**	**217**	P	**P**	**20 37 15.9**	**+0.1**
ASAR	**Alice Springs**	**28.64**	**239**	P	**P**	**20 37 24.3**	**-0.3**
	0.1nm,0.5s,mb2.8,baz=62,slow=11,SNR=3.6						
TAU	**Tasmania Unive**	**34.38**	**197**	P	**P**	**20 38 14.9**	**-0.2**
MKAR	**Makanchi Array**	**89.61**	**318**	P	**P**	**20 44 27.2**	**+1.3**
	0.1nm,0.5s,mb3.4,baz=97,slow=5.7,SNR=5.2						
KURK	**Kurchatov**	**92.93**	**321**	P	**P**	**20 44 41.2**	**-0.1**
BRVK	**Borovoye**	**98.41**	**322**	*e*P	**P**	**20 45 06.4**	**+0.2**
	0.4nm,0.4s,mb4.3						

IDC 31 20:38:10.8±32.0,618N×12494E,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.6/19,mbtmp4.0/3,Error ellipse: s-maj=546.1km s-min=209.1km az=156.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrumunga Arr**	**27.56**	**161**	P	P	20 43 58.0	-1.4
	1.5nm,0.4s,baz=340,slow=9.0,SNR=38						
WB2	**Warrumunga Arr**	**27.56**	**161**	*e*P	P	20 43 58.6	-0.8
ASAR	**Alice Springs**	**30.93**	**164**	P	P	20 44 29.9	+0.6
	0.6nm,0.5s,baz=344,slow=7.8,SNR=25						
STKA	**Stephens Creek**	**41.05**	**158**	P	P	20 45 57.7	+1.8
	1.3nm,0.4s,baz=335,slow=9.3,SNR=5.1						

*IDC **31** 20:47:30.3±4.4,2221N×12068E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/20,mbtmp3.3/3,Error ellipse: s-maj=349.6km s-min=26.4km az=60.0*
*ISCJB **31** 20:47:36.0±2.0,2214N±0.1×1206E±0.1,h54km±22km, mb3.3/3,Error ellipse: s-maj=24.6km s-min=14.9km az=99.7*
*JMA **31** 20:47:36.4±0.2,2205N×12065E,h131km,M3.1*

ISC 31 20:47:36.8±2.1,221N±01×1205E±01,h43km±25km,n9, σ0§49/15,mb3.3/3,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.32**	**44**	P	**Pn**	**20 48 26.7**	**+0.4**
YOJ				S	**Sn**	**20 49 05.5**	**+1.0**
HATJ	**Hateruma jima**	**3.64**	**57**	P	**Pn**	**20 48 30.6**	**0.0**
HATJ				S	**Sn**	**20 49 11.8**	**-0.5**
IRIF	**Iriomote-Funau**	**3.74**	**52**	P	**Pn**	**20 48 32.1**	**+0.1**
IRIF				S	**Sn**	**20 49 15.2**	**+0.5**
JKRS	**Kuro-shima**	**3.89**	**56**	P	**Pn**	**20 48 34.1**	**0.0**
JKRS				S	**Sn**	**20 49 18.9**	**+0.3**
JIJ	**Ishigaki jima**	**4.06**	**55**	P	**Pn**	**20 48 36.0**	**-0.5**
JIJ				S	**Sn**	**20 49 22.0**	**-0.8**
JTJ	**Tarama**	**4.64**	**56**	P	**Pn**	**20 48 44.2**	**-0.2**
JTJ				S	**Sn**	**20 49 36.6**	**-0.4**
MKAR	**Makanchi Array**	**39.43**	**318**	P	**P**	**20 55 02.1**	**-0.4**
	0.2nm,0.6s,mb3.1,baz=116,slow=8.9,SNR=3.6						
WRA	**Warrumunga Arr**	**43.90**	**161**	P	**P**	**20 55 38.9**	**-0.3**
	0.4nm,0.7s,mb3.3,baz=342,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**47.31**	**163**	P	**P**	**20 56 06.8**	**+0.7**
	0.3nm,0.6s,mb3.4,baz=348,slow=7.1,SNR=7.5						

MAN 31 21:10:10.0,1373N×12058E,h109km,mb2.7,ML4.1, MS2.0,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.32**	**272**	*e*P	Pn	21 10 27.4	+1.7
LUBP				*e*S	Sn	21 10 39.7	+2.2
TGY	**Tagaytay City**	**0.51**	**43⇑**	*e*P	Pn	21 10 28.7	+1.9
TGY				*e*S	Sn	21 10 42.9	+3.5
BUSP	**Coron**	**1.75**	**192**	*e*P	Pn	21 10 40.6	+0.8
BUSP				*e*S	Sn	21 11 03.5	+1.0
SCZP	**Santa Cruz**	**2.14**	**343**	*e*P	Pn	21 10 44.9	+0.2
ENPP	**El Nido**	**2.74**	**204**	*e*P	Pn	21 10 54.1	+1.5

*ISCJB **31** 21:11:53.7±1.6,79S±0.1×1233E±0.1,h194km±19km, mb3.6/3,Error ellipse: s-maj=26.4km s-min=9.2km az=101.6*
*NEIC **31** 21:11:55.4±1.4,790S×12326E,h197km±18km,mb4.1/4, Error ellipse: s-maj=24.1km s-min=9.8km az=54.0*
*IDC **31** 21:11:55.2±5.5,747S×12406E,h194km±54km,mb2.9/1, mb1 3.1/3,mb1mx2.8/15,mbtmp2.9/3,Error ellipse: s-maj=134.9km s-min=15.0km az=60.0*

ISC 31 21:11:55.1±1.5,79S±01×1234E±01,h190km±17km,n9, σ0§72/13,mb3.6/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.14**	**119**	*e*P	**Pn**	**21 14 17.7**	**+1.5**
	1.9nm,0.2s						
KAKA				*e*S	**Sn**	**21 16 08.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.42**	**168**	*e*P	**Pn**	**21 14 19.5**	**-0.3**
	3.0nm,0.3s						
KKM	**Kota Kinabalu**	**15.55**	**332**	*e*Pn	**Pn**	**21 15 24.2**	**-0.1**
WRA	**Warrumunga Arr**	**16.04**	**140**	P	**Pn**	**21 15 30.1**	**-0.1**
	0.4nm,0.3s,baz=318,slow=13,SNR=29						
WRA				S	**S**	**21 18 23.6**	**-4.4**
	0.3nm,0.3s,baz=316,slow=23,SNR=6.1						
WB2	**Warrumunga Arr**	**16.04**	**140**	*e*P	**Pn**	**21 15 30.1**	**-0.2**
WB2				*e*S	**S**	**21 18 20.9**	**-7.2**
ASAR	**Alice Springs**	**18.68**	**148**	P	**P**	**21 16 00.0**	**+1.1**
	0.1nm,0.3s,baz=325,slow=9.0,SNR=12						
ASAR				S	**S**	**21 19 21.3**	**-0.2**
	0.1nm,0.3s,baz=334,slow=25,SNR=4.6						
PMG	**Port Moresby**	**23.56**	**95**	*e*P	**P**	**21 16 48.7**	**+0.4**
	3.6nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**65.52**	**330**	P	**P**	**21 22 17.5**	**-0.5**
	0.2nm,0.5s,mb3.2,baz=127,slow=7.2,SNR=5.8						
BRVK	**Borovoye**	**75.47**	**330**	*e*P	**P**	**21 23 18.0**	**-0.2**
	0.6nm,0.4s,mb3.6						

IDC 31 21:24:01.1±6.6,284N×9994E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.1/20,mbtmp3.2/3,Error ellipse: s-maj=378.2km s-min=27.8km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrumunga Arr**	**40.66**	**125**	P	P	21 31 44.3	+1.4
	0.2nm,0.5s,baz=306,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**42.28**	**130**	P	P	21 31 55.3	-0.9
	0.1nm,0.6s,baz=304,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**46.40**	**343**	P	P	21 32 29.2	+0.1
	0.2nm,0.5s,baz=154,slow=8.4,SNR=6.8						

*ISCJB **31** 21:32:15.9±1.4,3794N±009×2027E±009,h12km,Error ellipse: s-maj=13.8km s-min=9.3km az=43.5*
*CSEM **31** 21:32:15.3±0.2,3785N×2030E,h1km±1km,MD3.5,Error ellipse: s-maj=5.1km s-min=2.8km az=52.0*
*NEIC **31** 21:32:15.0,3788N×2029E,h12km,MD3.5(ATH),After ATH.*
*ATH **31** 21:32:15.0,3788N×2029E,h12km±3km,MD3.5/8*

ISC 31 21:32:15.0±2.0,3785N±007×2031E±010,h1km±12km,n9, σ0§84/12,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.40**	**34**	*e*PB	**Pg**	**21 32 23.0**	**+0.4**
VLS				*e*SB	**Sg**	**21 32 27.9**	**+0.2**
RLS	**Riolos of Patr**	**0.94**	**77**	*e*PB	**Pb**	**21 32 33.1**	**-1.0**
RLS				*e*SB	**Sb**	**21 32 46.3**	**-0.8**
ITM	**Ithomi**	**1.45**	**117**	*e*PG	**Pg**	**21 32 42.3**	**-0.5**
EVR	**Evrytania**	**1.59**	**47**	*e*PB	**Pb**	**21 32 45.3**	**+0.1**
KEK	**Kerkira**	**1.90**	**348**	*e*PN	**Pn**	**21 32 48.8**	**+0.2**
THL	**Klokotos Trika**	**2.17**	**37**	*e*PN	**Pn**	**21 32 53.6**	**+1.3**
LKR	**Lokris**	**2.27**	**68**	*e*PB	**Pn**	**21 32 53.8**	**+0.2**
VLI	**Veliai**	**2.38**	**117**	*e*PN	**Pn**	**21 32 56.4**	**+1.2**
STON	**Ston**	**5.40**	**339**	*i* Pn	**Pn**	**21 33 35.0**	**-1.6**
STON				*i* Sn	**Sn**	**21 34 34.0**	**-5.4**

NEIC 31 21:33:42.7,5399N×16304W,h14km,ML3.4(AEIC),After AEIC.,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.90**	**346**	P	Pb	21 33 57.9	-2.1
FALS				S	Sb	21 34 11.5	-0.3
AKLV	**Akutan Long Va**	**1.73**	**277**	P	Pn	21 34 09.9	-2.4
SDPT	**Sand Point**	**2.02**	**46**	P	Pn	21 34 14.7	-1.5
UNV	**Unalaska Valle**	**2.06**	**267**	P	Pn	21 34 14.3	-2.5
SVW2	**Sparrevohn**	**8.17**	**26**	*e*Pn	Pn	21 35 41.0	+0.2
SVW2				*e*Sn	Sn	21 37 12.2	-0.7
DAWY	**Dawson**	**15.70**	**41**	Pn	Pn	21 37 24.3	+0.9

CASC 31 21:36:07.0±1.4,1420N×9137W,h14km±7km,MD3.7, 5C-3D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.28**	**295⇑**	*e*P	Pg	21 36 13.0	0.0
FUG	**Fuego 3**	**0.57**	**64⇑**	*e*P	Pg	21 36 18.7	+0.6
PCG	**Pacaya**	**0.76**	**75**	*e*P	Pg	21 36 21.7	-0.1
RBDL	**Robledal**	**1.63**	**93⇑**	*e*P	x	21 36 36.0	
RTR	**El Retiro**	**1.70**	**100⇓**	*e*P	x	21 36 36.9	
SBLS	**San Blas**	**1.73**	**102⇓**	*e*P	x	21 36 36.7	
SBLS				*e*S	x	21 36 60.0	
SNJE	**San Jose**	**1.74**	**101⇑**	*e*P	x	21 36 36.8	
SNJE				*e*S	x	21 36 59.8	
MTO2	**Montecristo 2**	**1.96**	**84**	*e*P	x	21 36 40.1	
BOQS	**Boqueron**	**2.08**	**103⇑**	*e*P	x	21 36 41.6	
BOQS				*e*S	x	21 37 08.3	
LFRS	**El Faro**	**2.31**	**104⇓**	*e*P	x	21 36 44.7	
LFRS				*e*S	x	21 37 13.1	
LCBS	**La Ceiba**	**2.38**	**103**	*e*P	x	21 36 45.5	
LCBS				*e*S	x	21 37 15.1	
SNVI	**San Vicente**	**2.52**	**103**	*e*P	x	21 36 47.6	
SNVI				*e*S	x	21 37 19.1	

*MOS **31** 21:36:50.7±0.7,2796N×8798E,h33km,mb4.5/9,Error ellipse: s-maj=13.7km s-min=7.9km az=100.8*
*BJI **31** 21:36:53.4,2829N×8807E,h20km,mB4.7,mb4.0,Ms3.9*
*NDI **31** 21:36:53.7±4.3,2811N×8811E,h33km,ML4.0, mb4.1(NEIC)*
*ISCJB **31** 21:36:54.9±0.6,2796N±004×8781E±004,h74km±7km, mb4.2/29,Error ellipse: s-maj=6.9km s-min=5.2km az=42.6*
*IDC **31** 21:36:54.3±7.0,2799N×8794E,h49km±66km,mb3.8/16, mb1 4.0/17,mb1mx3.9/23,mbtmp3.8/17,ML2.5/1,Error ellipse: s-maj=26.2km s-min=14.1km az=32.0*
*NEIC **31** 21:36:54.1±0.6,2822N×8823E,h35km,mb4.1/9,Error ellipse: s-maj=12.8km s-min=8.0km az=158.0*
*DMN **31** 21:36:58.5±0.7,2711N×8734E,h10km,Ml4.6/4,Error ellipse: s-maj=25.5km s-min=10.7km az=36.0*

ISC 31 21:36:56.0±0.6,2800N±004×8788E±004,h66km±7km,n90, σ1§18/113,mb4.2/29,7C-2D,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**0.93**	**135**	*ex*	x	21 36 55.0	
SLGI	**Shiliguri**	**1.38**	**160**	*i* P	**Pn**	**21 37 20.0**	**+0.8**
SLGI				*i* S	**Sn**	**21 37 36.3**	**-0.3**
JIRN	**Jiri**	**1.54**	**258**	*e*Sn	**Sn**	**21 37 47.0**	**+6.6**
	2μm,0.3s						
JIRN	**Jiri**	**1.54**	**258**	*e*Pn	**Pn**	**21 37 25.8**	**+4.5**
JIRN				*e*Sn	**Sn**	**21 37 47.0**	**+6.6**
GUN	**Gumba**	**1.77**	**268**	*e*Pg	**Pn**	**21 37 29.0**	**+4.5**
GUN				*e*Sg	**Sn**	**21 37 52.0**	**+5.9**
PKI	**Pulchoki**	**2.23**	**260**	*e*Pn	**Pn**	**21 37 34.6**	**+3.9**
PKI				*e*Sn	**Sn**	**21 38 01.8**	**+4.6**
	660nm,0.3s						
KKN	**Kakani**	**2.31**	**266**	*e*Pn	**Pn**	**21 37 35.7**	**+3.9**
DMN	**Daman**	**2.49**	**262**	*e*Pn	**Pn**	**21 37 38.0**	**+3.8**
DMN				*e*Sn	**Sn**	**21 38 08.3**	**+4.8**
	517nm,0.3s						
GKN	**Gorkha**	**2.87**	**271**	*e*Pn	**Pn**	**21 37 42.4**	**+3.0**
GKN				*e*Sn	**Sn**	**21 38 15.5**	**+2.7**
LSA	**Lhasa**	**3.33**	**59**	PG	**Pn**	**21 37 46.8**	**+1.1**
LSA				SG	**Sn**	**21 38 19.5**	**-4.5**
LSA	**Lhasa**	**3.33**	**59⇑**	*i* Pn	**Pn**	**21 37 46.8**	**+1.1**
LSA				*e*Sn	**Sn**	**21 38 02.9**	**-21**
KOLN	**Koldanda**	**3.80**	**268**	*e*Pn	**Pn**	**21 37 54.7**	**+2.7**
KOLN				*e*Sn	**Sn**	**21 38 37.5**	**+2.0**
	411nm,0.2s						
SHL	**Shillong**	**4.32**	**123**	*e*P	**Pn**	**21 37 55.0**	**-4.2**
SHL				*e*S	**Sn**	**21 38 39.3**	**-8.8**
BOK	**Bokaro**	**4.55**	**204**	*e*P	**Pn**	**21 38 04.1**	**+1.7**
BOK				*e*S	**Sn**	**21 38 52.8**	**-1.2**
BOK				AML	AML	21 38 56.2	
	comp=N,323nm,0.3s						
CAL	**Calcutta**	**5.45**	**176**	*ex*	x	21 38 47.6	
CAL				*ex*	x	21 40 43.5	
ALBI	**Allahabad**	**6.06**	**245**	*e*P	**Pn**	**21 38 22.5**	**-0.4**
ALBI				*ex*	x	21 39 27.5	
LGTI	**Lohaghat**	**6.86**	**284**	*i* x	x	21 38 11.0	
LGTI				*e*S	**Sn**	**21 39 50.5**	**-0.1**
PTH	**Pithoragarh**	**6.91**	**285**	*ex*	**Pn**	**21 38 39.9**	**+5.4**
PTH				*ex*	**Sn**	**21 39 40.9**	**-11**
JOSI	**Joshimath**	**7.71**	**291**	*e*P	**Pn**	**21 38 47.5**	**+2.0**
JOSI				*e*S	**Sn**	**21 40 10.0**	**-1.2**
JOSI				AML	AML	21 40 19.4	
	comp=N,224nm,0.5s						
JOSI				AML	AML	21 40 20.0	
	comp=E,187nm,0.5s						
JBP	**Jabalpur**	**8.60**	**238⇓**	*i* P	**Pn**	**21 38 58.9**	**+1.2**
JBP				*e*S	**Sn**	**21 40 31.5**	**-1.7**
NDI	**New Delhi**	**9.43**	**277**	*e*S	**Sn**	**21 40 47.6**	**-5.7**
NDI				AML	AML	21 40 51.0	
	comp=N,105nm,0.2s						
NDI				AML	AML	21 40 51.4	
	comp=E,152nm,0.4s						
AYAN	**Aya Nagar**	**9.50**	**275**	*e*S	**Sn**	**21 40 49.1**	**-6.0**
AYAN				AML	AML	21 40 55.1	
	comp=Z,44nm,0.2s						
SONA	**Sohna**	**9.54**	**274**	*e*P	**Pn**	**21 39 11.1**	**+0.5**
SONA				*e*S	**Sn**	**21 40 50.0**	**-6.2**
SONA				AML	AML	21 40 53.8	
	comp=N,61nm,0.3s						
SDNR	**Sundarnagar**	**10.11**	**293**	*e*P	**Pn**	**21 39 19.4**	**+1.1**
SDNR				*ex*	**Sn**	**21 41 08.6**	**-1.4**
NGP	**Nagpur**	**10.54**	**232**	*e*P	**Pn**	**21 39 23.5**	**-0.6**
NGP				*ex*	x	21 39 24.8	
	comp=Z,30nm,0.3s						
NGP				*i* S	**Sn**	**21 41 14.7**	**-5.8**
BHPL	**Bhopal**	**10.56**	**246**	*e*P	**Pn**	**21 39 23.5**	**-0.9**
BHPL				*e*S	**Sn**	**21 41 13.9**	**-7.1**
BHPL				AML	AML	21 41 22.0	
	comp=E,68nm,0.2s						
BHPL				AML	AML	21 41 22.6	
	comp=N,91nm,0.4s						
KHET	**Khetri**	**

KBL	**Kabul**	17.37	297	*e*Pn		**Pn**	21 40 52.3 -1.5
KBL				*e*Sn		**Sn**	21 43 56.0 -10
AAK	**Ala-Archa**	18.20	327⇑	*e*P		**Pn**	21 41 04.3 +0.3
AAK				pmax	pmax		
	comp=Z,13nm,2.3s						
AAK	**Ala-Archa**	18.20	327	*e*P		**Pn**	21 41 04.1 +0.1
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	19.27	348	P		**Pn**	21 41 15.8 -1.0
	comp=Z,0.0nm,0.3s,baz=159,slow=10,SNR=11						
KURK	**Kurchatov**	23.76	345⇑	*e*P		**P**	21 42 02.8 +0.6
KURK	**Kurchatov**	23.76	345	*e*P		**P**	21 42 02.5 +0.4
	comp=Z,17nm,0.9s,mb4.4						
SONM	**Songino Array**	24.49	31	P		**P**	21 42 09.5 +0.6
	comp=Z,4.2nm,0.5s,mb4.0,baz=218,slow=10,SNR=38						
ULN	**Ulaanbaatar**	24.82	32⇑	*e*P		**P**	21 42 11.7 -0.2
ULN	**Ulaanbaatar**	24.82	32	*e*P		**P**	21 42 11.6 -0.3
	comp=Z,3.6nm,0.6s,mb4.0						
NVS	**Novosibirsk**	27.04	354	*e*P		**P**	21 42 31.4 -0.5
BVAR	**Borovoye Array**	28.17	337	P		**P**	21 42 42.0 -0.1
	comp=Z,1.9nm,0.5s,mb3.9,baz=141,slow=9.7,SNR=27						
BVAR				PcP	PcP		21 45 55.0 +0.6
	comp=Z,0.6nm,0.6s,baz=147,slow=3.4,SNR=5.6						
BRVK	**Borovoye**	28.23	337	*e*P		**P**	21 42 43.0 +0.4
BRVK				*e*	pP		21 42 54.0 -4.6
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
BRVK	**Borovoye**	28.23	337	*e*P		**P**	21 42 43.0 +0.4
	comp=Z,2.0nm,0.5s,mb3.9						
BRVK				*e*	pP		21 42 54.0 -4.6
HIA	**Hailar**	32.35	40	P		**P**	21 43 18.3 -0.6
KSRS	**Korea Array**	34.76	64	P		**P**	21 43 38.4 -1.5
	comp=Z,0.7nm,0.6s,mb3.7,baz=258,slow=8.5,SNR=5.9						
BOD	**Bodaibo**	34.98	24	*e*P		**P**	21 43 41.4 -0.4
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
ARU	**Arti**	35.26	332⇓	*i*P		**P**	21 43 45.0 +0.8
ARU				*e*			21 45 05.1
ARU				*e*			21 46 08.2
ARU				*e*S		**S**	21 49 18.8 +5.7
ARU				*e*SS		SS	21 51 38.6 -10
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
KIV	**Kislovodsk**	39.38	306	*e*P		**P**	21 44 20.0 +1.0
KIV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
KIV	**Kislovodsk**	39.38	306	*e*P		**P**	21 44 20.0 +1.0
	comp=Z,1.8nm,0.4s,mb4.2						
VRHR	**Novokhopersk**	41.59	317	*e*P		**P**	21 44 38.1 +0.8
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
VRHR				pmax	pmax		
	comp=N,9.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,3.0nm,0.3s						
MAJO	**Matsushiro**	42.99	65	*e*P		**P**	21 44 48.0 -0.6
MAJO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MAJO	**Matsushiro**	42.99	65	*e*P		**P**	21 44 48.0 -0.6
	comp=Z,1.4nm,0.5s,mb4.0						
YAK	**Yakutsk**	43.73	27⇑	*e*P		**P**	21 44 53.9 -0.7
YAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
YAK	**Yakutsk**	43.73	27	*e*P		**P**	21 44 54.1 -0.5
	comp=Z,4.6nm,0.5s,mb4.5						
OBN	**Obninsk**	45.59	321	*e*P		**P**	21 45 09.5 +0.1
BR131	**Keskin Array S**	45.91	299	*e*P		**P**	21 45 11.6 -0.4
	comp=Z,0.4nm,0.4s,mb3.5						
BRTR	**Keskin Array B**	45.91	299	P		**P**	21 45 13.3 +1.3
	comp=Z,0.4nm,0.4s,mb3.5,baz=103,slow=7.1,SNR=9.8						
BRTR	**Keskin Array B**	45.91	299⇑	*e*P		**P**	21 45 13.5 +1.5
TIXI	**Tiksi**	49.13	16⇑	*e*P		**P**	21 45 35.4 -1.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AKASG	**Malin Array Be**	49.24	314	P		**P**	21 45 37.0 -0.7
	comp=Z,1.3nm,0.5s,mb4.1,baz=78,slow=7.1,SNR=12						
JOF	**Joensuu**	50.35	330	*e*p		**P**	21 45 46.7 +0.6
	comp=Z,12nm,0.3s,mb5.3						
FINES	**FINESS Array B**	52.39	328	P		**P**	21 46 01.6 +0.2
	comp=Z,3.1nm,0.4s,mb4.7,baz=109,slow=7.6,SNR=66						
KAF	**Kangasniemi**	52.41	329	*e*p		**P**	21 46 01.9 +0.3
	comp=Z,0.9nm,0.3s,mb4.3,baz=98,slow=6.9						
KAF	**Kangasniemi**	52.41	329	*e*P		**P**	21 46 01.9 +0.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ARCES	**ARCESS Array B**	54.46	337	P		**P**	21 46 16.8 +0.3
	comp=Z,3.8nm,0.6s,mb4.6,baz=104,slow=7.7,SNR=41						
GERES	**GERESS Array B**	59.35	312	P		**P**	21 46 52.1 +0.9
	comp=Z,1.7nm,0.7s,mb4.2,baz=76,slow=7.0,SNR=10						
KHC	**Kasperske Hory**	59.39	313	*e*P		**P**	21 46 52.0 +0.6
NB2	**NORSAR Subarra**	59.53	327	P		**P**	21 46 52.0 -0.4
	comp=Z,2.3nm,0.7s,mb4.3,baz=86,slow=6.9						
NOA	**NORSAR Array B**	59.53	327	P		**P**	21 46 51.9 -0.5
	comp=Z,1.4nm,0.6s,mb4.2,baz=86,slow=6.9,SNR=6.1						
BILL	**Bilibino**	60.03	25	P		**P**	21 46 56.0 +0.2
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	65.49	131	P		**P**	21 47 32.6 +0.4
	comp=Z,1.3nm,0.5s,mb4.0,baz=326,slow=6.6,SNR=36						
WRA	**Warramunga Arr**	65.49	131	*i* P		**P**	21 47 32.5 +0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WB2	**Warramunga Arr**	65.50	131	*e*P		**P**	21 47 32.6 +0.4
KEST	**Kesra**	65.52	299	P		**P**	21 47 33.7 +1.4
	comp=Z,2.2nm,0.9s,mb4.0,baz=304,slow=5.0,SNR=11						
ASAR	**Alice Springs**	67.87	135	P		**P**	21 47 47.9 +0.5
	comp=Z,1.0nm,0.6s,mb3.8,baz=315,slow=6.6,SNR=26						
ESDC	**Sonseca Array**	74.04	307	P		**P**	21 48 25.4 +0.8
	comp=Z,0.6nm,0.6s,mb3.5,baz=59,slow=6.2,SNR=8.8						
INK	**Inuvik**	79.23	14	P		**P**	21 48 54.0 +0.1
	comp=Z,4.0nm,0.7s,mb4.3,baz=350,slow=5.2,SNR=13						
TORD	**Torodi Ar. Bea**	80.63	280	P		**P**	21 49 02.1 +0.6
	comp=Z,0.3nm,0.4s,mb3.5,baz=56,slow=3.8,SNR=10						
YKA	**Yellowknife Ar**	88.04	10	P		**P**	21 49 38.5 -0.5
	comp=Z,0.5nm,0.6s,mb3.7,baz=330,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	88.04	10	P		**P**	21 49 38.5 -0.5

*SFS **31** 21:38:40.0, 3555N×404W, h0km, ML2.2*
*ISCJB **31** 21:38:41.0±0.5, 3557N±002×407W±003, h19km±5km, Error ellipse: s-maj=3.6km s-min=3.1km az=178.8*
*CSEM **31** 21:38:40.4±0.1, 3551N×406W, h20km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.5km az=82.0*
*INMG **31** 21:38:40.9±1.2, 3556N×405W, h0km±4km, ML2.1, Error ellipse: s-maj=4.0km s-min=2.9km az=11.0*
*MDD **31** 21:38:41.6±0.3, 3560N×403W, h0km, mbLg2.2/14, Error ellipse: s-maj=4.1km s-min=2.8km az=57.0, PRXIMO*
*CNRM **31** 21:38:45.4, 3542N×401W, h15km, MD3.1*

ISC 31 21:38:40.5±0.5, 3561N±002×406W±002, h4km±3km, n54, σ1§24/95, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	0.40	166	*i* P		**Pg**	21 38 49.0	+0.9
TOU	**Touzarine**	0.69	159	*i* P		**Pg**	21 38 54.5	+0.7
TOU				*i* S		**Sg**	21 39 03.0	+0.2
EALB	**Alboran**	0.89	68	P		**Pg**	21 38 57.1	-0.6
	13nm,0.1s,SNR=33							
EALB				S		**Sg**	21 39 08.7	-0.5
	71nm,0.1s,SNR=9.7							
EALB	**Alboran**	0.89	68	P		**Pg**	21 38 57.1	-0.5
	13nm,0.1s,SNR=33							
EALB				S		**Sg**	21 39 08.7	-0.5
	71nm,0.1s,SNR=9.7							
EMEL	**Melilla**	0.95	109	P		**Pg**	21 38 58.0	-0.7
	187nm,0.1s,SNR=12							
EMEL				S		**Sg**	21 39 09.6	-1.4
	462nm,0.1s,SNR=18							
EMLI	**Melilla**	0.95	109	P		**Pg**	21 38 58.0	-0.8
	187nm,0.1s,SNR=12							
EMLI				S		**Sg**	21 39 09.6	-1.6
	462nm,0.1s,SNR=18							
EMIJ	**Mijas**	1.11	329	P		**Pg**	21 39 01.8	-0.1
	0.9nm,0.1s,SNR=33							
EMIJ				S		**Sg**	21 39 18.0	+1.7
	14nm,0.1s,SNR=17							
EMAL	**Malaga-Limoner**	1.19	345	P		**Pg**	21 39 03.2	-0.1
	2.3nm,0.2s,SNR=7.9							
EMAL				S		**Sg**	21 39 18.5	-0.2
	16nm,0.3s,SNR=7.9							
ZAI	**Zaio**	1.25	120	P		**Pg**	21 39 06.0	+1.6
ZAI				S		**Sg**	21 39 19.0	-1.6
EGUA	**Guajares**	1.28	18	P		**Pg**	21 39 03.7	-1.4
	1.6nm,0.1s,SNR=7.9							
EGUA				S		**Sg**	21 39 20.0	-1.7
	6.7nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	1.42	307	P		**Pn**	21 39 07.5	+0.5
	0.2nm,0.1s,SNR=7.9							
EJIF				S		**Sb**	21 39 25.2	-0.8
	4.4nm,0.2s,SNR=7.9							
ERON	**Agron**	1.42	8	P		**Pn**	21 39 07.0	0.0
	2.2nm,0.2s,SNR=4.0							
ERON				S		**Sb**	21 39 23.5	-2.5
	7.8nm,0.2s,SNR=14							
TZK	**Tazeka**	1.52	184	*i* P		**Pn**	21 39 08.0	-0.5
TZK				*i* S		**Sn**	21 39 24.0	-4.7
ELOJ	**Sierra Loja**	1.54	357	P		**Pn**	21 39 08.2	-0.5
	0.4nm,0.2s,SNR=7.9							
ELOJ				S		**Sn**	21 39 29.5	+0.4
	5.0nm,0.2s,SNR=7.9							
EBER	**Berja**	1.59	36	P		**Pn**	21 39 10.0	+0.6
	1.8nm,0.0s,SNR=7.9							
EBER				S		**Sn**	21 39 30.5	0.0
	13nm,0.2s,SNR=7.9							
EBER	**Berja**	1.59	36	P		**Pn**	21 39 10.0	+0.5
	1.8nm,0.0s,SNR=7.9							
EQUE	**Quentar**	1.67	17	P		**Pn**	21 39 11.0	+0.5
	0.5nm,0.2s,SNR=20							
EQUE				S		**Sn**	21 39 32.8	+0.5
	4.6nm,0.2s,SNR=5.7							
ECOG	**Cogollos-Vega**	1.71	13	P		**Pn**	21 39 11.3	+0.2
	0.3nm,0.1s,SNR=7.9							
ECOG				S		**Sn**	21 39 33.7	+0.4
	4.0nm,0.2s,SNR=7.9							
TGT	**Taghat**	1.74	208	P		**Pn**	21 39 12.0	+0.5
TGT	**Taghat**	1.74	208	*i* S		**Sn**	21 39 31.0	-3.1
ESPR	**Espera**	1.92	311	P		**Pn**	21 39 13.8	-0.2
	0.4nm,0.2s,SNR=4.8							
ESPR				S		**Sn**	21 39 39.6	+1.0
	0.6nm,0.1s,SNR=4.7							
ESPR	**Espera**	1.92	311	P		**Pn**	21 39 13.8	-0.2
	0.4nm,0.2s,SNR=4.8							
ESPR				S		**Sn**	21 39 39.6	+1.0
	0.6nm,0.1s,SNR=4.7							
ELUQ	**Luque**	1.95	355	P		**Pn**	21 39 16.8	+2.4
	0.6nm,0.2s,SNR=17							
ELUQ				S		**Sn**	21 39 41.7	+2.4
	4.9nm,0.3s,SNR=4.7							
ENIJ	**Nijar**	2.02	47	P		**Pn**	21 39 15.0	-0.3
	0.8nm,0.1s,SNR=4.6							
ENIJ				S		**Sn**	21 39 41.4	+0.4
	1.2nm,0.1s,SNR=6.2							
EQES	**Quesada**	2.33	20	P		**Pn**	21 39 21.4	+1.8
	3.1nm,0.2s,SNR=81							
EQES				S		**Sn**	21 39 49.4	+0.8
	1.6nm,0.2s							
EQES	**Quesada**	2.33	20	P		**Pn**	21 39 21.4	+1.9
	3.1nm,0.2s,SNR=81							
EQES				S		**Sn**	21 39 49.4	+0.8
	1.6nm,0.2s							
EHUE	**Huescar**	2.50	28	P		**Pn**	21 39 23.2	+1.4
	0.7nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	21 39 53.7	+0.9
	0.7nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	2.56	5	P		**Pn**	21 39 25.8	+3.1
	0.2nm,0.1s,SNR=7.9							
EBAN				S		**Sn**	21 39 56.8	+2.5
	0.5nm,0.1s,SNR=6.3							
EADA	**Adamuz**	2.59	351	P		**Pn**	21 39 25.4	+2.3
	0.4nm,0.1s,SNR=11							
EADA				S		**Sn**	21 39 55.8	+0.8
	0.5nm,0.1s,SNR=5.6							
EADA	**Adamuz**	2.59	351	P		**Pn**	21 39 25.4	+2.3
	0.4nm,0.1s,SNR=11							
CZD	**Col de Zad**	2.70	198	*i* P		**Pn**	21 39 25.0	+0.4
CZD				*i* S		**Sn**	21 39 53.0	-4.7
EMIN	**Mina Concepcio**	3.01	316	P		**Pn**	21 39 29.2	+0.3
	0.1nm,0.2s,SNR=8.5							
EMIN				S		**Sn**	21 40 04.1	-1.3
	0.4nm,0.1s							
EMIN	**Mina Concepcio**	3.01	316	P		**Pn**	21 39 29.2	+0.3
	0.1nm,0.2s,SNR=8.5							
EMIN				S		**Sn**	21 40 04.1	-1.3
	0.4nm,0.1s							
EMUR	**La Murta**	3.17	45	P		**Pn**	21 39 32.3	+1.1
	0.1nm,0.2s,SNR=6.2							
EMUR				S		**Sn**	21 40 07.5	-2.0
	0.1nm,0.1s,SNR=7.9							
EMUR	**La Murta**	3.17	45	P		**Pn**	21 39 32.3	+1.1
	0.1nm,0.2s,SNR=6.2							
EMUR				S		**Sn**	21 40 07.5	-2.0
	0.1nm,0.1s,SNR=7.9							
EVIA	**Vianos**	3.27	22	S		**Sn**	21 40 11.9	+0.1
	0.4nm,0.1s,SNR=7.9							
EGRO	**El Granado**	3.36	306	P		**Pn**	21 39 33.9	+0.2
	0.5nm,0.1s,SNR=10							
EGRO				S		**Sn**	21 40 11.8	-2.3
	0.7nm,0.1s							
EGRO	**El Granado**	3.36	306	P		**Pn**	21 39 33.9	+0.1
	0.5nm,0.1s,SNR=10							
EGRO				S		**Sn**	21 40 11.8	-2.3
	0.7nm,0.1s							
ETOB	**Tobarra**	3.63	33	P		**Pn**	21 39 37.7	+0.2
	0.3nm,0.3s,SNR=12							
ETOB				S		**Sn**	21 40 20.9	+0.1
	0.5nm,0.3s							
ETOB	**Tobarra**	3.63	33	P		**Pn**	21 39 37.7	+0.2
	0.3nm,0.3s,SNR=12							
ETOB				S		**Sn**	21 40 20.9	+0.1
	0.5nm,0.3s							
PBEJ	**Beja**	3.89	309	*e*Pn		**Pn**	21 39 41.9	+0.8
PBEJ				*e*Sn		**Sn**	21 40 26.3	-0.9
PBEJ				A			21 40 32.0	
	1.9nm,0.3s							
PBEJ	**Beja**	3.89	309	Pn		**Pn**	21 39 41.9	+0.8
PBEJ				Sn		**Sn**	21 40 26.3	-0.9
	0.9nm,0.3s							
EBAD	**Badajoz**	3.93	324	P		**Pn**	21 39 42.2	+0.6
	0.2nm,0.1s,SNR=6.5							
EBAD				S		**Sn**	21 40 25.8	-2.3
	0.7nm,0.2s							
EBAD	**Badajoz**	3.93	324	P		**Pn**	21 39 42.2	+0.6
	0.2nm,0.1s,SNR=6.5							
ESDC	**Sonseca Array**	4.06	1	P		**Pn**	21 39 44.6	+1.2
	1.8nm,0.1s,baz=180,slow=12,SNR=13							
ESDC				S		**Sn**	21 40 30.1	-1.2
	0.6nm,0.2s,baz=181,slow=23,SNR=14							
PTEO	**Sao Teotonio**	4.22	299	*e*Sn		**Sn**	21 40 34.5	-0.9
PESTR	**Estremoz**	4.30	320	*e*Pn		**Pn**	21 39 48.1	+1.4
PESTR				*e*Sn		**Sn**	21 40 35.3	-2.0
PESTR				A			21 40 47.2	
	1.7nm,0.6s							
MOE	**Montemor**	4.50	312	*e*Sn		**Sn**	21 40 40.5	-1.7
PCBR	**Castelo Branco**	5.02	328	*e*Pn		**Pn**	21 39 57.4	+0.9
PCBR				*e*Sn		**Sn**	21 40 51.8	-3.2
GUD	**Guadarrama**	5.03	359	P		**Pn**	21 39 57.1	+0.4
	0.1nm,0.1s,SNR=7.9							
ETOR	**Torete**	5.43	16	P		**Pn**	21 40 02.7	+0.4
	1.3nm,0.1s,SNR=7.9							
ETOR				S		**Sn**	21 41 03.6	-1.7
	0.5nm,0.1s,SNR=7.9							
PVIS	**Viseu**	5.93	330	*e*Sn		**Sn**	21 41 15.2	-2.1
PVRL	**Vila Real**	6.34	334	*e*Sn		**Sn**	21 41 24.6	-3.0
PBRG	**Braganca**	6.53	342	*e*Pn		**Pn**	21 40 19.4	+2.1

*IDC **31** 21:56:20.8±1.4, 3.10S×14199E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/14, mbtmp3.8/7, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/22, Error ellipse: s-maj=54.2km s-min=21.6km az=100.0*
*ISCJB **31** 21:56:25.8±3.1, 32S±0.1×1417E±0.1, h40km±31km, mb3.8/9, Error ellipse: s-maj=22.3km s-min=14.0km az=99.6*
*NEIC **31** 21:56:28.4±1.8, 3.17S×14180E, h54km±16km, mb4.2/3, Error ellipse: s-maj=13.8km s-min=12.8km az=205.0*

ISC 31 21:56:28.7±2.4, 32S±01×14175E±010, h51km±24km, n20, σ0§78/16, mb3.8/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	8.19	139	*e*Pn		**Pn**	21 58 25.1	+0.2
KAKA	**Kakadu**	13.21	224	*e*P		**Pn**	21 59 32.8	-0.6
	11nm,0.5s							
KAKA				*e*S		**Sn**	22 01 57.7	-1.0
CTA	**Charters Tower**	17.37	166	LR		LR	22 05 54.3	
	comp=Z,52nm,21.2s,baz=50,slow=33							
WB2	**Warramunga Arr**	18.15	203	*e*P		**Pn**	22 00 38.7	+1.7
WB2	**Warramunga Arr**	18.15	203	*e*Pn		**Pn**	22 00 37.8	+0.9
WRA	**Warramunga Arr**	18.16	203	P		**Pn**	22 00 37.1	+0.1
	0.3nm,0.3s,baz=26,slow=12,SNR=38							
FITZ	**Fitzroy Crossi**	21.65	226	P		**P**	22 01 14.9	+0.1
	1.6nm,0.5s,mb3.7,baz=46,slow=10,SNR=5.6							
ASAR	**Alice Springs**	21.73	200	P		**P**	22 01 15.8	+0.2
	1.1nm,0.7s,mb3.4,baz=30,slow=10.0,SNR=20							
KKM	**Kota Kinabalu**	27.09	290	P		**P**	22 02 08.1	+1.6
LSA	**Lhasa**	58.38	308	*e*P		**P**	22 06 19.0	+0.2
	1.3nm,0.6s,mb4.1							
SONM	**Songino Array**	59.47	333	P		**P**	22 06 26.1	-0.3
	0.3nm,0.7s,mb3.5,baz=157,slow=8.1,SNR=3.6							
MKAR	**Makanchi Array**	72.03	322	P		**P**	22 07 47.3	+0.1
	0.8nm,0.8s,mb3.7,baz=111,slow=7.9,SNR=6.8							
BVAR	**Borovoye Array**	81.44	325	P		**P**	22 08 40.2	-0.1
	1.2nm,0.6s,mb4.0,baz=113,slow=6.6,SNR=12							
BRVK	**Borovoye**	81.51	325	*e*P		**P**	22 08 40.6	0.0
	1.5nm,0.7s,mb4.0							
BRVK				*e*PcP	PcP		22 08 45.9	-0.6
QSPA	**South Pole Qui**	86.77	180	*e*P		**P**	22 09 07.4	+0.1
	2.0nm,0.8s,mb4.4							
YKA	**Yellowknife Ar**	99.11	27	P		**P**	22 10 02.3	-2.0
	0.2nm,0.8s,mb3.7,baz=276,slow=5.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	139.30	286	PKhKP			22 15 41.3	
	0.4nm,0.9s,baz=40,slow=2.5,SNR=2.3							
TORD	**Torodi Ar. Bea**	139.30	286	PKP			22 15 41.3	
ROSC	**El Rosal**	143.98	86	PKP		PKPdf	22 15 58.0	-0.4
	5.2nm,0.3s,baz=102,slow=9.3,SNR=4.2							
LPAZ	**La Paz**	144.70	124	PKP		PKPdf	22 16 01.1	+1.4
	1.9nm,0.7s,baz=229,slow=3.3,SNR=10							

*IDC **31** 22:31:21.6±3.4, 2015S×17686W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=196.1km s-min=37.9km az=148.0*
*ISCJB **31** 22:31:27.2±0.8, 206S±0.1×1770W±0.1, h33km, mb4.4/8, Error ellipse: s-maj=21.8km s-min=14.3km az=117.2*
*NEIC **31** 22:31:34.7±2.1, 2026S×17690W, h101km±21km, mb4.3/3, Error ellipse: s-maj=23.3km s-min=15.1km az=165.0*

ISC 31 22:31:37.1±3.8, 201S±03×1769W±02, h129km±44km, n17, σ1§26/11, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	7.83	39	Pn		**Pn**	22 33 28.2	0.0
HNR	**Honiara**	24.75	292	*e*P		**P**	22 36 46.8	+0.3
	54nm,0.8s,mb5.1							
CTAO	**Charters Tower**	34.59	263	*e*P		**P**	22 38 15.3	+1.9
	2.4nm,0.7s,mb3.9							
STKA	**Stephens Creek**	38.92	244	P		**P**	22 38 49.5	-0.7
	2.5nm,0.9s,mb3.9,baz=84,slow=9.0,SNR=3.7							
ASAR	**Alice Springs**	45.65	256	P		**P**	22 39 43.9	-0.7
	1.7nm,0.6s,mb3.8,baz=94,slow=8.1,SNR=37							
WB2	**Warramunga Arr**	45.70	261	P		**P**	22 39 47.3	+2.4
WRA	**Warramunga Arr**	45.71	261	P		**P**	22 39 44.6	-0.5
	0.5nm,0.3s,mb3.6,baz=97,slow=7.3,SNR=35							
GUMO	**Guam**	50.36	309	P		**P**	22 40 18.4	-2.4
CASY	**Casey**	64.80	205	*e*P		**P**	22 42 00.2	-1.6
	2.8nm,0.8s,mb4.1							
QSPA	**South Pole Qui**	69.99	180	P		**P**	22 42 34.4	-0.1
	12nm,1.6s,mb4.4							
PLCA	**Paso Flores**	88.79	133	*e*P		**P**	22 44 17.5	+1.3
	7.5nm,1.2s,mb4.5							
LPAZ	**La Paz**	101.24	112	Pdif		Pdif	22 45 14.2	+1.2
MKAR	**Makanchi Array**	111.68	313	PKiKP		PKiKP	22 49 57.6	+1.3
	0.1nm,0.4s,baz=92,slow=0.7,SNR=3.7							
BVAR	**Borovoye Array**	119.44	320	PKP		PKPdf	22 50 12.6	+1.4
	0.3nm,0.3s,baz=105,slow=4.3,SNR=4.7							
AKASG	**Malin Array Be**	143.15	332	PKP		PKPdf	22 50 56.1	+0.4
	0.7nm,0.3s,baz=43,slow=4.1,SNR=7.0							
BRTR	**Keskin Array B**	147.33	314	PKPbc		PKPbc	22 51 07.8	+2.4
	0.4nm,0.6s,baz=105,slow=4.0,SNR=4.6							
MMAI	**Mount Meron Ar**	148.52	301	PKPbc		PKPbc	22 51 10.6	+2.0
	0.5nm,0.4s,baz=49,slow=6.6,SNR=4.5							

*IDC **31** 22:35:24.4±0.5, 4986N×15569E, h0km, mb4.2/28, mb1 4.4/29, mb1mx4.3/31, mbtmp4.2/29, ML4.2/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/32, Error ellipse: s-maj=16.5km s-min=12.2km az=135.0*
*MOS **31** 22:35:29.8±0.9, 4976N×15571E, h51km, mb4.8/23, Error ellipse: s-maj=9.8km s-min=4.8km az=82.9*
*ISCJB **31** 22:35:31.7±0.5, 4978N±004×15580E±005, h70km±4km, mb4.3/67, Error ellipse: s-maj=7.9km s-min=3.8km az=102.8*
*KRSC **31** 22:35:31.1±1.3, 4975N×15663E, h14km±16km, ML5.1*
*BJI **31** 22:35:32.4, 4971N×15581E, h79km, mB4.7, mb4.3, Ms4.3, Ms

comp=Z,280nm,0.4s
YSS Yuzh-Sakhalins 9.12 257 *e*PN **Pn 22 37 45.5 +3.0**
YSS *e*S **Sn 22 39 26.5 +3.0**
YSS pmax pmax
comp=E,30nm,0.6s
YSS pmax pmax
comp=Z,50nm,0.6s
YSS smax
comp=N,20nm,0.6s
YSS Yuzh-Sakhalins 9.12 257 *e*Pn **Pn 22 37 45.6 +3.1**
MA2 Magadan 10.20 346⇓ *e*PN **Pn 22 37 57.8 +0.5**
MA2 pmax pmax
comp=Z,21nm,0.6s
MA2 Magadan 10.20 346 *e*Pn **Pn 22 37 58.5 +1.2**
ASAJ Asahikawa 10.64 243 Pn **Pn 22 38 05.3 +2.0**
comp=Z,4.4nm,0.3s,baz=92,slow=13,SNR=35
ASAJ LR LR 22 41 37.7
comp=Z,398nm,21.8s,baz=352,slow=35
ASAJ Asahikawa 10.64 243 PN **Pn 22 38 05.4 +2.0**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ MLR MLR
comp=Z,398nm,21.8s
HABR Khabarovsk 13.62 272 *e*P **Pn 22 38 41.1 -2.5**
HABR *e*S **Sn 22 41 09.5 -3.7**
KLR Kul'dur 15.59 277 *e*P **Pn 22 39 11.8 +2.7**
MJAR Matsushiro Arr 18.37 230 P **Pn 22 39 40.8 -2.5**
comp=Z,0.7nm,0.3s,baz=20,slow=12,SNR=30
MJAR LR LR 22 46 21.9
comp=Z,168nm,21.0s,baz=25,slow=36
MAJO Matsushiro 18.37 230 *e*P **Pn 22 39 42.1 -1.2**
MAT Matsushiro 18.37 230 P **Pn 22 39 42.2 -1.1**
MDJ Mudanjiang 18.48 264 P **Pn 22 39 43.5 -1.0**
MDJ AP pP 22 40 00.0 +1.1
MDJ S **S 22 43 12.8 +2.4**
MDJ AMB AMB
comp=Z,8.0nm,1.6s
MDJ AMB AMB
comp=Z,132nm,5.7s
MDJ LR LR
comp=N,155nm,25.1s
MDJ LR LR
comp=E,156nm,23.9s
MDJ LR LR
comp=Z,243nm,25.1s
MDJ Mudanjiang 18.48 264 *e*P **Pn 22 39 42.9 -1.6**
comp=Z,4.2nm,0.4s
MDJ *e* 22 39 59.7
YAK Yakutsk 18.89 320 *e*P **Pn 22 39 49.4 -0.1**
YAK *e*S **S 22 43 20.2 +1.5**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK MLR MLR
comp=Z,413nm,26.0s
YAK MLR MLR
comp=N,190nm,16.0s
YAK MLR MLR
comp=E,185nm,19.0s
YAK Yakutsk 18.89 320 *e*Pn **Pn 22 39 48.0 -1.5**
comp=E,42nm,0.7s
BILL Bilibino 19.02 12⇓ *e*P **Pn 22 39 49.0 -2.0**
BILL pmax pmax
comp=Z,9.0nm,0.7s
BILL Bilibino 19.02 12 *e*P **Pn 22 39 49.1 -1.9**
comp=Z,13nm,0.6s
HIA Hailar 23.25 283 *e*P **P 22 40 33.5 -0.9**
HIA *e* 22 40 50.2
HIA pmax pmax
comp=Z,6.0nm,0.7s
HIA Hailar 23.25 283 *e*P **P 22 40 33.5 -0.9**
comp=Z,6.1nm,0.7s,mb4.0
HIA *e* 22 40 50.1
KSRS Korea Array 23.48 249 P **P 22 40 36.4 -0.2**
comp=Z,7.5nm,0.8s,mb4.1,baz=46,slow=10.0,SNR=30
KSRS LR LR 22 49 00.8
comp=Z,134nm,20.0s,baz=268,slow=35
KS15 Wonju Array Si 23.51 249 *e*P **P 22 40 36.6 -0.3**
INCN Inchon 24.25 251 *e*P **P 22 40 35.6 -8.0**
comp=Z,34nm,0.9s,mb4.7
TNA Tin City 24.51 36 *e*P **P 22 40 46.4 +0.4**
comp=Z,13nm,0.7s,mb4.5
JNU Nakatsue 24.84 237 P **P 22 40 49.6 +0.7**
comp=Z,19nm,0.7s,mb4.7,baz=231,slow=12,SNR=8.0
TIXI Tiksi 25.10 340⇓ *i*P **P 22 40 49.2 -2.1**
TIXI pmax pmax
comp=Z,13nm,0.6s,mb4.5
TIXI MLR MLR
comp=Z,141nm,16.0s
TIXI Tiksi 25.10 340 *e*P **P 22 40 49.6 -1.7**
BOD Bodaibo 25.56 304 *e*P **P 22 40 55.3 -0.2**
BOD pmax pmax
comp=Z,2.0nm,0.8s,mb3.6
IMA2 Indian Mountai 30.30 39 *e*P **P 22 41 37.5 -0.2**
SONM Songino Array 32.09 286 P **P 22 41 53.1 -0.5**
comp=Z,0.3nm,0.5s,baz=69,slow=7.5,SNR=3.8
SONM PcP PcP 22 44 41.7 +0.4
comp=Z,1.2nm,0.6s,baz=124,slow=3.6,SNR=5.8
SONM LR LR 22 55 46.6
comp=Z,146nm,19.7s,baz=65,slow=38
SONM Songino Array 32.09 286 P **P 22 41 53.1 -0.5**
SONM 22 44 41.7
TLY Talaya 32.46 294 *e*P **P 22 41 52.0 -4.8**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
TLY MLR MLR
comp=Z,168nm,18.0s
TLY Talaya 32.46 294 P **P 22 41 54.1 -2.6**
SML Sawmill 32.56 47 *e*P **P 22 41 59.0 +1.4**
COLA College 32.65 41 *e*P **P 22 41 58.7 +0.2**
COLA pmax pmax
comp=Z,15nm,2.2s,mb4.4
COLA College 32.65 41 *e*P **P 22 41 58.7 +0.2**
comp=Z,15nm,2.2s,mb4.5
ZAK Zakamensk 33.09 292 *e*P **P 22 42 02.7 +0.4**
ZAK *e* 22 43 20.9
EGAK Eagle 35.51 41 *e*P **P 22 42 22.8 -0.5**
comp=Z,8.5nm,0.6s,mb4.8
YHNB Yeheng 36.62 239 P **P 22 42 32.5 -0.1**
NACB Ninganchiao 36.89 239 P **P 22 42 34.6 -0.4**
GUMO Guam 37.21 198 *e*P **P 22 42 38.4 +0.7**
comp=Z,75nm,0.7s
INK Inuvik 38.12 35 P **P 22 42 45.6 +0.3**
comp=Z,1.9nm,0.5s,mb4.2,baz=282,slow=7.2,SNR=16
INK Inuvik 38.12 35 *e*P **P 22 42 45.8 +0.4**
comp=Z,90nm,0.7s,mb5.7
NVS Novosibirsk 42.78 306 *e*P **P 22 43 24.3 +0.5**
CD2 Chengdu 42.93 264 *e*P **P 22 43 25.0 0.0**
CD2 AP pP 22 43 44.0 +0.4
CD2 XP sP 22 43 54.5 +2.1
CD2 PP PP 22 45 08.0 +2.1
CD2 S **S 22 49 43.0 -1.4**
CD2 XS sS 22 50 15.0 -1.2
CD2 SS SS 22 52 49.5 -9.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,180nm,14.2s
CD2 LR LR
comp=Z,150nm,15.2s
GYA Guiyang 44.12 257 P **P 22 43 36.0 +1.4**
GYA AP pP 22 43 57.5 +4.2
GYA XP sP 22 44 08.8 +6.8
GYA PCP PcP 22 45 20.8 +2.4
GYA S **S 22 50 01.3 -0.4**
GYA XS sS 22 50 38.3 +4.7
GYA SS SS 22 53 12.5 -9.2
GYA SCS ScS 22 53 23.5 -2.2
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA LR LR
comp=N,420nm,15.8s
GYA LR LR
comp=E,480nm,16.4s
GYA LR LR
comp=Z,430nm,16.9s
WMQ Urumqi 45.51 290 *e*P **P 22 43 48.0 +2.4**
WMQ AMB AMB
comp=Z,3.0nm,1.0s,mb4.0
WMQ LR LR
comp=N,118nm,22.0s
WMQ LR LR
comp=E,114nm,22.0s
WMQ LR LR
comp=Z,105nm,26.0s
MKAR Makanchi Array 47.15 296 P **P 22 43 58.0 -0.4**
comp=Z,2.1nm,0.7s,mb4.0,baz=63,slow=7.9,SNR=21
KURK Kurchatov 47.18 302⇑ *iP* **P 22 43 58.7 0.0**
KURK Kurchatov 47.18 302 *e*P **P 22 43 58.5 -0.2**
RES Resolute Bay 47.36 20 *e*P **P 22 44 00.1 0.0**
comp=Z,80nm,0.5s
YKW3 Yellowknife Ar 47.38 39 *e*P **P 22 44 00.5 +0.3**
YKA Yellowknife Ar 47.42 39 P **P 22 44 00.7 +0.1**
comp=Z,2.0nm,0.6s,mb4.0,baz=299,slow=7.7,SNR=34
YKA Yellowknife Ar 47.42 39 P **P 22 44 00.7 +0.1**
KMI Kunming 47.55 259 P **P 22 44 02.5 +0.9**
KMI AP pP 22 44 24.8 +4.3
KMI S **S 22 50 48.3 -2.7**
KMI AMB AMB
comp=Z,2.0nm,0.5s,mb4.2
KMI LR LR
comp=Z,60nm,29.0s
KMI Kunming 47.55 259 P **P 22 44 02.4 +0.8**
KMI *PP pP 22 44 24.8 +4.3
KMI S **S 22 50 48.3 -2.7**
KMI pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
KMI MLR MLR
comp=Z,60nm,29.0s
KMI Kunming 47.55 259 P **P 22 44 02.4 +0.8**
comp=Z,2.0nm,0.5s,mb4.2
KMI pP pP 22 44 24.8 +4.3
KMI S **S 22 50 48.3 -2.7**
KMI LR LR
comp=Z,60nm,29.0s
QIZ Qiongzhong 47.68 247 P **P 22 44 00.7 -1.8**
BVAR Borovoye Array 50.31 309 P **P 22 44 22.5 -0.2**
comp=Z,2.0nm,0.4s,mb4.4,baz=57,slow=7.6,SNR=30
BVAR PcP PcP 22 45 40.6 +0.2
comp=Z,2.7nm,0.7s,baz=63,slow=3.1,SNR=7.7
BRVK Borovoye 50.34 309 *e*P **P 22 44 22.6 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRVK Borovoye 50.34 309 *e*P **P 22 44 22.6 -0.3**
comp=Z,4.8nm,0.7s,mb4.5
LSA Lhasa 51.89 273 P **P 22 44 34.9 +0.4**
NEW Newport 53.95 56 *e*P **P 22 44 49.5 -0.1**
NEW pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 53.95 56 *e*P **P 22 44 49.5 -0.2**
comp=Z,0.7nm,0.5s,mb4.0
ARU Arti 53.96 317⇑ *iP* **P 22 44 48.6 -1.1**
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ARU Arti 53.96 317 *e*P **P 22 44 48.8 -0.9**
comp=Z,7.2nm,0.6s,mb4.9
AAK Ala-Archa 54.08 296 *e*P **P 22 44 50.7 +0.1**
AAK *e* pP 22 45 10.2 +0.3
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AAK Ala-Archa 54.08 296 *e*P **P 22 44 50.7 +0.1**
comp=Z,2.1nm,0.8s,mb4.2
AAK *e* pP 22 45 10.2 +0.3
WALA Waterton Lakes 55.16 53 *e*P **P 22 44 58.7 +0.3**
comp=Z,2.1nm,0.5s,mb4.4
ARCES ARCESS Array B 55.54 341 P **P 22 44 59.1 -2.0**
comp=Z,1.6nm,0.9s,mb4.1,baz=42,slow=7.8,SNR=12
ARCES LR LR 23 10 40.6
comp=Z,184nm,18.8s,baz=54,slow=38
WVOR Wild Horse Val 56.71 62 *e*P **P 22 45 09.3 -0.2**
WVOR *e* pP 22 45 24.7 -4.2
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WVOR Wild Horse Val 56.71 62 *e*P **P 22 45 09.3 -0.2**
comp=Z,3.9nm,0.9s,mb4.4
WVOR *e* pP 22 45 24.7 -4.2
FCC Fort Churchill 57.74 35 *e*P **P 22 45 16.6 -0.1**
FCC pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
FCC Fort Churchill 57.74 35 *e*P **P 22 45 16.6 -0.1**
comp=Z,5.0nm,0.6s,mb4.7
AKTK Aktyubinsk 58.01 312 P **P 22 45 17.9 -0.7**
AKTK PcP PcP 22 46 10.9 +1.0
AKTO Aktyubinsk 58.01 312 P **P 22 45 17.9 -0.7**
comp=Z,2.3nm,0.5s,mb4.5,baz=69,slow=8.8,SNR=17
AKTO PcP PcP 22 46 10.9 +1.0
comp=Z,1.7nm,0.7s,baz=31,slow=2.0,SNR=3.9
HLID Hailey 58.36 59 *e*P **P 22 45 21.7 +0.6**
comp=Z,2.4nm,1.1s,mb4.1
CMB Columbia Colle 58.52 67 P **P 22 45 20.9 -1.3**
QLMT Earthquake Lak 59.16 56 P **P 22 45 26.9 +0.3**
QLMT *e* pP 22 45 41.9 -4.2
JOF Joensuu 59.36 334 *e*p **P 22 45 27.4 -0.6**
PMG Port Moresby 59.45 190 P **P 22 45 29.9 +1.3**
NVAR Mina Array Bea 59.50 65 P **P 22 45 29.9 +0.9**
comp=Z,0.9nm,0.6s,mb4.0,baz=295,slow=5.7,SNR=5.7
ELK Elko 59.74 62 P **P 22 45 31.6 +1.0**
comp=Z,50nm,1.2s,mb5.4
HWUT Hardware Ranch 61.23 59 P **P 22 45 40.8 0.0**
DUG Dugway 61.49 61 *e*P **P 22 45 43.5 +1.0**
DUG pmax pmax
comp=Z,13nm,1.1s,mb4.9
DUG Dugway 61.49 61 *e*P **P 22 45 43.5 +1.1**
comp=Z,13nm,1.1s,mb4.9
PDAR Pinedale Array 61.55 57 P **P 22 45 43.9 +1.0**
comp=Z,1.7nm,0.8s,mb4.2,baz=307,slow=2.1,SNR=17
FINES FINESS Array B 62.01 335 P **P 22 45 44.7 -1.3**
comp=Z,2.1nm,0.7s,mb4.3,baz=38,slow=5.9,SNR=17
FINES LR LR 23 15 23.6
comp=Z,129nm,19.9s,baz=158,slow=39
FINES FINESS Array B 62.01 335 P **P 22 45 44.7 -1.3**
FINES LR LR 23 15 23.6
KBL Kabul 62.58 292 *e*P **P 22 45 48.4 -1.4**
ARUT Antelope Range 62.77 63 *e*P **P 22 45 47.4 -3.6**
CCUT Cedar City 62.97 63 *e*P **P 22 45 51.5 -0.9**
CCUT *e* 22 46 21.4
MSU Marysvale 62.99 62 *e*P **P 22 45 53.1 +0.6**
ULM Lac du Bonnet 63.06 43 P **P 22 45 52.4 -0.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=319,slow=11,SNR=2.6
ULM Lac du Bonnet 63.06 43 P **P 22 45 52.4 -0.6**
SRU San Rafael 63.52 60 *e*P **P 22 45 57.0 +1.0**
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SRU San Rafael 63.52 60 *e*P **P 22 45 57.0 +0.9**
comp=Z,4.8nm,0.7s,mb4.4
SMCO Snowmass 65.44 58 *e*P **P 22 46 08.0 -0.5**
comp=Z,3.9nm,0.7s,mb4.3
SMCO *e* pP 22 46 24.6 -3.8
KAKA Kakadu 65.55 205 *e*P **P 22 46 09.6 +0.4**
comp=Z,4.2nm,0.6s,mb4.5
NB2 NORSAR Subarra 65.88 342 P **P 22 46 11.4 0.0**
comp=Z,1.1nm,0.6s,mb3.9,baz=25,slow=6.5
NOA NORSAR Array B 65.88 342 P **P 22 46 10.7 -0.7**
comp=Z,1.7nm,0.7s,mb4.0,baz=25,slow=6.6,SNR=5.9
HFS Hagfors 66.19 340 P **P 22 46 12.1 -1.2**
comp=Z,1.2nm,0.4s,mb4.1,baz=30,slow=4.7,SNR=14
ANMO Albuquerque 68.75 61 *e*P **P 22 46 30.5 +1.0**
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 68.75 61 *e*P **P 22 46 30.5 +1.0**
comp=Z,0.6nm,0.5s,mb3.7
SCHQ Schefferville 69.79 25 P **P 22 46 36.1 +0.1**
comp=Z,3.9nm,0.4s,mb4.6,baz=352,slow=5.1,SNR=23
KIV Kislovodsk 69.91 315 P **P 22 46 34.3 -2.4**
KIV Kislovodsk 69.91 315 P **P 22 46 34.3 -2.4**
AKASG Malin Array Be 69.96 327 P **P 22 46 35.5 -1.5**
comp=Z,1.9nm,0.5s,mb4.2,baz=32,slow=6.3,SNR=9.3
AKASG Malin Array Be 69.96 327 *i P* **P 22 46 36.5 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
ANN Anapa 71.57 319 *e*P **P 22 46 43.7 -3.1**
ANN pmax pmax
comp=Z,84nm,1.1s,mb5.5
WB2 Warramunga Arr 71.99 201 *e*P **P 22 46 48.8 -0.5**
WRA Warramunga Arr 72.00 201 P **P 22 46 48.8 -0.5**
comp=Z,2.2nm,0.5s,mb4.2,baz=16,slow=6.1,SNR=15
FITZ Fitzroy Crossi 72.68 210 P **P 22 46 53.7 +0.3**
comp=Z,2.6nm,0.7s,mb4.2,baz=85,slow=5.5,SNR=5.3
EKA Eskdalemuir Ar 73.75 348 P **P 22 46 59.4 -0.3**
comp=Z,1.1nm,0.5s,mb3.9,baz=25,slow=5.3,SNR=5.5
VRAC Vranov 75.22 334 P **P 22 47 08.5 +0.3**
comp=Z,1.2nm,0.6s,mb3.8,baz=347,slow=2.5,SNR=4.2
ASAR Alice Springs 75.69 201 P **P 22 47 11.3 +0.4**
comp=Z,2.3nm,0.7s,mb4.0,baz=12,slow=5.1,SNR=20
KHC Kasperske Hory 76.22 336 *e*P **P 22 47 15.0 +1.1**
KHC x x 22 47 20.0
KHC Kasperske Hory 76.22 336 *e*P **P 22 47 15.0 +1.1**
KHC *e* 22 47 20.0
GERES GERESS Array B 76.44 335 P **P 22 47 15.6 +0.4**
comp=Z,0.4nm,0.5s,mb3.4,baz=19,slow=4.4,SNR=7.7
BR131 Keskin Array S 77.33 318 *e*P **P 22 47 20.5 +0.3**
comp=Z,0.7nm,0.5s,mb3.6
BRTR Keskin Array B 77.33 318 P **P 22 47 20.7 +0.5**
comp=Z,0.9nm,0.5s,mb3.7,baz=29,slow=3.3,SNR=17
BAIF Baives 77.57 342 *e*P **P 22 47 21.5 0.0**
CDF Champ du Feu 78.46 339 *e*P **P 22 47 27.1 +0.7**
FLN La Foliniere 79.70 344 *e*P **P 22 47 32.8 -0.4**
LDF La Druitiere 79.80 344 *e*P **P 22 47 33.2 -0.5**
GRR Gorron 80.13 344 *e*P **P 22 47 35.5 0.0**
LOR Lormes 80.29 341 *e*P **P 22 47 36.0 -0.4**
comp=Z,6.5nm,0.6s,mb4.3
LOR Lormes 80.29 341 *e*P **P 22 47 36.0 -0.4**
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LOR Lormes 80.29 341 *e*P **P 22 47 36.0 -0.4**
comp=Z,3.3nm,0.6s,mb4.3
SGMF Saint Gilles 80.54 346 *e*P **P 22 47 37.7 0.0**
SSF Saint Saulge 80.56 341 *e*P **P 22 47 37.7 -0.1**
ROSF Rostrenen 80.58 346 *e*P **P 22 47 37.9 0.0**
AVF Avril sur Loir 80.85 341 *e*P **P 22 47 39.1 -0.3**
SMF Signal de Mont 80.89 341 *e*P **P 22 47 39.4 -0.2**
BGF Bois d'Agland 81.18 341 *e*P **P 22 47 41.0 -0.1**
LPL La Plagne 81.31 339 *e*P **P 22 47 42.7 +0.9**
comp=Z,16nm,0.7s,mb4.6
LPL La Plagne 81.31 339 *e*P **P 22 47 42.7 +0.9**
LPL pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
LPL La Plagne 81.31 339 *e*P **P 22 47 42.7 +0.9**
comp=Z,7.8nm,0.7s,mb4.7
LPG La Plagne 81.32 339 *e*P **P 22 47 42.8 +1.0**
comp=Z,11nm,0.6s,mb4.6
LPG La Plagne 81.32 339 *e*P **P 22 47 42.8 +1.0**
LPG pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
LPG La Plagne 81.32 339 *e*P **P 22 47 42.8 +1.0**
comp=Z,5.6nm,0.6s,mb4.6
TCF Toulx Ste Croi 81.57 342 *e*P **P 22 47 43.4 +0.2**
comp=Z,25nm,1.0s,mb4.7
TCF Toulx Ste Croi 81.57 342 *e*P **P 22 47 43.4 +0.2**
TCF pmax pmax
comp=Z,12nm,1.0s,mb4.7
TCF Toulx Ste Croi 81.57 342 *e*P **P 22 47 43.4 +0.2**
comp=Z,12nm,1.0s,mb4.7
MFF Saint Martin d 81.72 343 *e*P **P 22 47 44.1 +0.1**
MBDF Montbardon 82.04 338 *e*P **P 22 47 45.7 +0.1**
comp=Z,9.0nm,0.7s,mb4.4
MBDF Montbardon 82.04 338 *e*P **P 22 47 45.7 +0.1**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MBDF Montbardon 82.04 338 *e*P **P 22 47 45.7 +0.1**
comp=Z,4.5nm,0.7s,mb4.4
ASF Jabal al Asfar 82.04 311 P **P 22 47 47.4 +1.7**
comp=Z,5.3nm,0.8s,mb4.4,baz=13,slow=1.0,SNR=12
MMAI Mount Meron Ar 82.07 313 P **P 22 47 47.1 +1.4**
comp=Z,9.4nm,0.6s,mb4.8,baz=38,slow=6.9,SNR=23
ORIF Oris-en-Rattie 82.07 339 *e*P **P 22 47 46.4 +0.6**
comp=Z,22nm,0.8s,mb4.7
ORIF Oris-en-Rattie 82.07 339 *e*P **P 22 47 46.4 +0.6**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.7
ORIF Oris-en-Rattie 82.07 339 *e*P **P 22 47 46.4 +0.6**
comp=Z,11nm,0.8s,mb4.7
STKA Stephens Creek 82.30 192 *e*P **P 22 47 47.2 +0.2**
VIVF Saint-Julien-l 82.41 340 *e*P **P 22 47 48.0 +0.4**
comp=Z,6.3nm,0.8s,mb4.2
VIVF Saint-Julien-l 82.41 340 *e*P **P 22 47 48.0 +0.4**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
VIVF Saint-Julien-l 82.41 340 *e*P **P 22 47 48.0 +0.4**
comp=Z,3.2nm,0.8s,mb4.2
RJF Les Rejaudouix 82.65 342 *e*P **P 22 47 49.1 +0.3**
SBF Sospel 82.69 337 *e*P **P 22 47 48.7 -0.3**
CAF Calviac 82.90 342 *e*P **P 22 47 50.7 +0.6**
comp=Z,11nm,0.7s,mb4.5
CAF Calviac 82.90 342 *e*P **P 22 47 50.7 +0.6**
CAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CAF Calviac 82.90 342 *e*P **P 22 47 50.7 +0.6**
comp=Z,5.3nm,0.7s,mb4.5
SMRF Simiane la Rot 83.03 339 *e*P **P 22 47 50.8 0.0**
LFF La Frestale 83.15 342 *e*P **P 22 47 51.8 +0.4**
comp=Z,52nm,1.1s,mb5.0
LFF La Frestale 83.15 342 *e*P **P 22 47 51.8 +0.4**
LFF pmax pmax
comp=Z,26nm,1.1s,mb5.0
LFF La Frestale 83.15 342 *e*P **P 22 47 51.8 +0.4**
comp=Z,26nm,1.1s,mb5.0
FRF La Foret Royal 83.17 338 *e*P **P 22 47 51.2 -0.3**
LMR La Mourre 83.42 338 *e*P **P 22 47 52.1 -0.7**
PGF Pioggiola 83.52 336 *e*P **P 22 47 53.6 +0.3**
comp=Z,46nm,1.1s,mb4.9
PGF Pioggiola 83.52 336 *e*P **P 22 47 53.6 +0.3**
PGF pmax pmax
comp=Z,23nm,1.1s,mb4.9
PGF Pioggiola 83.52 336 *e*P **P 22 47 53.6 +0.3**
comp=Z,23nm,1.1s,mb4.9
MTLF Montolieu 84.39 341 *e*P **P 22 47 57.3 -0.4**
comp=Z,7.0nm,0.7s,mb4.3
MTLF Montolieu 84.39 341 *e*P **P 22 47 57.3 -0.4**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
MTLF Montolieu 84.39 341 *e*P **P 22 47 57.3 -0.4**
comp=Z,3.5nm,0.7s,mb4.3
EPF Esparros 85.07 342 *e*P **P 22 48 00.7 -0.4**
comp=Z,8.7nm,0.7s,mb4.5
EPF Esparros 85.07 342 *e*P **P 22 48 00.7 -0.4**
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
EPF Esparros 85.07 342 *e*P **P 22 48 00.7 -0.4**
comp=Z,4.3nm,0.7s,mb4.5
SJPF Ste Jean 85.29 343 *e*P **P 22 48 02.9 +0.7**
ETSF Etsaut 85.37 343 *e*P **P 22 48 03.2 +0.6**
comp=Z,6.3nm,0.6s,mb4.4
ETSF Etsaut 85.37 343 *e*P **P 22 48 03.2 +0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ETSF Etsaut 85.37 343 *e*P **P 22 48 03.2 +0.6**
comp=Z,3.2nm,0.6s,mb4.4
ESDC Sonseca Array 89.12 344 P **P 22 48 20.3 -0.4**
comp=Z,0.6nm,0.5s,mb3.9,baz=360,slow=3.8,SNR=14
KEST Kesra 89.78 333 P **P 22 48 25.1 +1.3**
comp=Z,1.3nm,0.7s,mb4.2,baz=339,slow=3.4,SNR=14
PLCA Paso Flores 146.64 92 PKPbc PKPbc 22 55 06.8 +0.2
comp=Z,1.6nm,0.6s,baz=312,slow=3.7,SNR=5.9
PLCA Paso Flores 146.64 92 PKPbc PKPbc 22 55 06.8 +0.1

ISCJB ***31*** *22:36:20.6±0.9, 10.1S±02×1086E±02, h10km, mb3.8/7, Error ellipse: s-maj=36.3km s-min=10.6km az=95.1*
IDC ***31*** *22:36:21.0±1.9, 10.10S×10851E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=100.5km s-min=17.9km az=49.0*
NEIC ***31*** *22:36:22.3±0.8, 10.14S×10851E, h10km, mb4.5/1, Error ellipse: s-maj=32.4km s-min=9.4km az=48.0*
ISC 31 22:36:22.3±0.9, 102S±02×1085E±02, h10km, n14, σ0:89/13, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**17.23**	**333**	Pn		**Pn**		**22 40 22.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.41**	**117**	P		**Pn**		**22 40 37.4**	**-0.2**
	0.3nm,0.3s,baz=307,slow=13,SNR=6.4								
WRA	**Warramunga Arr**	**26.76**	**114**	P		**P**		**22 42 01.7**	**-0.5**
	1.1nm,0.6s,mb3.6,baz=286,slow=11,SNR=10								
WB2	**Warramunga Arr**	**26.77**	**114**	P		**P**		**22 42 02.3**	**0.0**
ASAR	**Alice Springs**	**27.72**	**122**	P		**P**		**22 42 13.4**	**+2.6**
	0.5nm,0.6s,mb3.3,baz=297,slow=9.5,SNR=12								
ASAR				PcP		PcP		22 45 27.9	+0.5
	0.3nm,0.8s,baz=308,slow=2.1,SNR=5.1								
STKA	**Stephens Creek**	**37.47**	**130**	P		**P**		**22 43 35.6**	**-0.3**
	2.1nm,0.9s,mb4.0,baz=307,slow=10,SNR=4.6								
PMG	**Port Moresby**	**38.12**	**92**	*e*P		**P**		**22 43 40.9**	**-0.5**
	7.0nm,0.7s,mb4.5								
LSA	**Lhasa**	**43.02**	**338**	P		**P**		**22 44 23.9**	**+1.9**
SONM	**Songino Array**	**57.79**	**358**	P		**P**		**22 46 13.7**	**0.0**
	0.4nm,0.5s,mb3.8,baz=169,slow=6.5,SNR=5.8								
MKAR	**Makanchi Array**	**61.35**	**340**	P		**P**		**22 46 38.0**	**-0.3**
	0.4nm,0.6s,mb3.8,baz=129,slow=8.4,SNR=3.1								
BVAR	**Borovoye Array**	**70.85**	**337**	P		**P**		**22 47 39.1**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=133,slow=6.1,SNR=2.4								
BVAR	**Borovoye Array**	**70.85**	**337**	P		**P**		**22 47 39.1**	**-0.2**

QSPA South Pole Qui 79.83 180 P **P 22 48 30.5 -0.4**
YKA Yellowknife Ar 119.31 21 PKP PKPdf 22 55 12.1 +0.3
0.2nm,0.8s,baz=294,slow=3.5,SNR=3.9

NIED ***31*** *22:37:00,2480N×12250E,h98km,Mw4.4 Best double couple: M₀4.68000×10¹⁵ NP1:φs97.00000°,δ62.00000°, λ-90.00000°. NP2:φs276.00000°,δ28.00000°, λ-91.00000°.*
MOS ***31*** *22:37:16.8±1.4,2493N×12279E,h33km,mb5.0/8,Error ellipse: s-maj=15.3km s-min=8.5km az=116.0*
ISCJB ***31*** *22:37:25.1±0.3,2479N±004×12255E±003,h107km±3km, mb4.3/36,Error ellipse: s-maj=6.8km s-min=3.9km az=0.7*
NEIC ***31*** *22:37:26.1±0.5,2483N×12258E,h102km±5km,mb4.6/18, Error ellipse: s-maj=6.6km s-min=6.0km az=51.0*
IDC ***31*** *22:37:26.1±0.8,2486N×12256E,h104km±7km,mb3.8/19, mb1 3.8/21,mb1mx3.8/26,mbtmp3.7/21,MS3.5/2, Ms1 3.5/2,ms1mx3.1/27,Error ellipse: s-maj=14.4km s-min=10.5km az=75.0*
JMA ***31*** *22:37:26.1±0.2,2477N×12255E,h99km±2km,M4.0*
BJI ***31*** *22:37:26.2,2460N×12242E,h112km,mB4.6,mb4.3*
ISC 31 22:37:26.1±0.2,**2480N**±004×**12253E**±002,**h100**km±3km, **h108**km±4.9km;**pP-P,n93,**σ1**07**/106,**mb4.3**/36,**1C-2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**127**	P	**Pn**	**22 37 42.0**	**-0.2**
YOJ				*e*S	**Sn**	**22 37 53.7**	**-0.6**
TATO	**Taipei**	**0.96**	**281**	⇓*i*Pn	**Pn**	**22 37 46.6**	**+0.6**
TATO				*e*Sn	**Sn**	**22 38 01.5**	**+0.4**
NACB	**Ninganchiao**	**1.05**	**234**	*e*Pn	**Pn**	**22 37 46.6**	**-0.5**
NACB				*e*Sn	**Sn**	**22 37 59.0**	**-3.9**
YHNB	**Yeheng**	**1.05**	**263**	*e*Pn	**Pn**	**22 37 48.0**	**+1.0**
YHNB				*e*Sn	**Sn**	**22 38 00.3**	**-2.6**
IRIF	**Iriomote-Funau**	**1.19**	**113**	P	**Pn**	**22 37 48.1**	**-0.5**
IRIF				S	**Sn**	**22 38 05.1**	**-0.5**
HATJ	**Hateruma jima**	**1.38**	**122**	P	**Pn**	**22 37 50.6**	**-0.2**
HATJ				*e*S	**Sn**	**22 38 10.0**	**+0.4**
JKRS	**Kuro-shima**	**1.46**	**112**	P	**Pn**	**22 37 51.8**	**0.0**
JKRS				*e*S	**Sn**	**22 38 11.4**	**+0.1**
JIJ	**Ishigaki jima**	**1.53**	**106**	P	**Pn**	**22 37 52.4**	**-0.3**
JIJ				*e*S	**Sn**	**22 38 12.0**	**-0.9**
JTJ	**Tarama**	**1.98**	**94**	P	**Pn**	**22 37 59.2**	**+0.8**
JTJ				*e*S	**Sn**	**22 38 23.8**	**+0.7**
JMJ	**Miyako jima 2**	**2.51**	**89**	*e*S	**Sn**	**22 38 35.7**	**+0.2**
JOGS	**Gusukube**	**2.62**	**90**	*e*S	**Sn**	**22 38 38.4**	**+0.5**
QZH	**Quanzhou**	**3.58**	**273**	⇑*i*P	**Pn**	**22 38 20.0**	**+0.4**
QZH				S	**Sn**	**22 38 58.3**	**-2.6**
QZH				Smax			
	comp=N,260nm,0.9s						
QZH				Smax			
	comp=E,320nm,0.8s						
JKE	**Kume jima 2**	**4.14**	**68**	P	**Pn**	**22 38 28.3**	**+1.2**
JAGN	**Aguni-jima**	**4.61**	**66**	P	**Pn**	**22 38 34.6**	**+1.1**
JAGN				*e*S	**Sn**	**22 39 27.0**	**+1.1**
JOW	**Kunigami**	**5.56**	**67**	P	**Pn**	**22 38 45.9**	**-0.5**
	comp=E,5.7nm,0.3s,baz=232,slow=11,SNR=17						
JOW				S	**Sn**	**22 39 47.9**	**-1.1**
	comp=E,1.6nm,0.3s,baz=171,slow=19,SNR=2.9						
JOW	**Kunigami**	**5.56**	**67**	P	**Pn**	**22 38 45.9**	**-0.5**
JOW				*e*S	**Sn**	**22 39 47.6**	**-1.4**
JTK	**Tokunoshima**	**6.49**	**61**	P	**Pn**	**22 38 58.2**	**-0.8**
JTK				*e*S	**Sn**	**22 40 13.2**	**+1.7**
JAM	**Amami Oshima**	**7.29**	**59**	P	**Pn**	**22 39 08.4**	**-1.4**
GZH	**Guangzhou**	**8.57**	**260**	P	**Pn**	**22 39 22.8**	**-4.5**
GZH				Smax			
	comp=N,64nm,0.8s						
GZH				Smax			
	comp=E,53nm,0.7s						
WHN	**Wuhan**	**9.23**	**310**	*e*P	**Pn**	**22 39 38.3**	**+2.0**
ENH	**Enshi**	**12.79**	**298**	*e*Pn	**Pn**	**22 40 22.9**	**-1.2**
XAN	**Xi'an**	**15.00**	**311**	P	**Pn**	**22 40 58.0**	**+5.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.2s						
BJT	**Baijiatuan**	**16.09**	**342**	*e*P	**Pn**	**22 41 08.5**	**+2.1**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJT	**Baijiatuan**	**16.09**	**342**	*e*Pn	**Pn**	**22 41 08.5**	**+2.1**
	comp=Z,5.4nm,0.6s						
BJI	**Beijing**	**16.11**	**342**	P	**Pn**	**22 41 12.5**	**+5.9**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
BJI				LR	LR		
	comp=Z,223nm,28.3s						
BJI	**Beijing**	**16.11**	**342**	P	**Pn**	**22 41 12.6**	**+6.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SNY	**Shenyang**	**17.01**	**3**	⇓P	**Pn**	**22 41 20.3**	**+2.6**
SNY				AMB	AMB		
	comp=Z,18nm,1.0s						
SNY				AMB	AMB		
	comp=Z,197nm,5.3s						
SNY				LR	LR		
	comp=N,196nm,14.3s						
SNY				LR	LR		
	comp=Z,222nm,22.9s						
MJAR	**Matsushiro Arr**	**17.83**	**45**	P	**Pn**	**22 41 27.3**	**-0.4**
	baz=231,slow=9.1,SNR=3.0						
HHC	**Hu-ho-hao-te**	**18.44**	**333**	*e*P	**Pn**	**22 41 36.5**	**+1.5**
HHC				AMB	AMB		
	comp=Z,16nm,1.1s						
HHC				AMB	AMB		
	comp=Z,48nm,3.0s						
HHC				LR	LR		
	comp=N,164nm,18.6s						
HHC				LR	LR		
	comp=E,231nm,16.7s						
HHC				LR	LR		
	comp=Z,242nm,27.4s						
CN2	**Changchun**	**19.11**	**6**	*e*P	**Pn**	**22 41 42.8**	**-0.1**
CN2				*e*AP	pP	22 42 03.0	+3.2
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
CN2				LR	LR		
	comp=N,200nm,19.0s						
CN2				LR	LR		
	comp=E,300nm,19.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
LZH	**Lanzhou**	**19.61**	**309**	*e*P	**Pn**	**22 41 48.5**	**-0.3**
LZH				AP	pP	22 42 08.8	+3.4
LZH				AMB	AMB		
	comp=Z,38nm,1.2s						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH	**Lanzhou**	**19.61**	**309**	*e*P	**Pn**	**22 41 48.6**	**-0.2**
LZH				pmax	pmax		
	comp=Z,38nm,1.2s						
LZH	**Lanzhou**	**19.61**	**309**	*e*P	**Pn**	**22 41 48.6**	**-0.2**
	comp=Z,38nm,1.2s						
LZH				pP	pP	22 42 08.7	+3.3
LZH				sP	sP	22 42 17.5	-0.5
CHTO	**Chiang Mai**	**22.68**	**259**	*e*P	**P**	**22 42 20.3**	**+1.1**
	comp=Z,5.4nm,0.6s,mb4.0						
CM31	**Chiang Mai Arr**	**22.80**	**259**	*e*P	**P**	**22 42 21.2**	**+0.8**
GTA	**Gaotai**	**24.04**	**313**	P	**P**	**22 42 32.0**	**+0.2**
GTA				AP		22 42 52.5	
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,108nm,6.1s						
GTA				LR	LR		
	comp=N,126nm,14.5s						
GTA				LR	LR		
	comp=E,105nm,15.2s						
GTA				LR	LR		
	comp=Z,156nm,13.3s						
HIA	**Hailar**	**24.52**	**356**	P	**P**	**22 42 35.2**	**-1.0**
ULN	**Ulaanbaatar**	**26.08**	**336**	*e*P	**P**	**22 42 50.4**	**+0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**26.08**	**336**	*e*P	**P**	**22 42 50.4**	**+0.1**
	comp=Z,5.7nm,0.9s,mb4.0						
SONM	**Songino Array**	**26.30**	**335**	P	**P**	**22 42 52.6**	**+0.3**
	comp=Z,9.1nm,0.9s,mb4.2,baz=153,slow=9.2,SNR=44						
SONM				pP	pP	22 43 18.9	+4.5
	comp=Z,5.9nm,0.9s,baz=142,slow=8.6,SNR=8.0						
SHL	**Shillong**	**27.71**	**278**	*e*P	**P**	**22 43 07.0**	**+2.1**
LSA	**Lhasa**	**28.27**	**287**	P	**P**	**22 43 12.0**	**+2.1**
LSA	**Lhasa**	**28.27**	**287**	*e*P	**P**	**22 43 11.7**	**+1.8**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
LSA	**Lhasa**	**28.27**	**287**	*e*P	**P**	**22 43 11.7**	**+1.9**
	comp=Z,14nm,0.8s,mb4.5						
TLY	**Talaya**	**30.48**	**337**	P	**P**	**22 43 28.6**	**-0.8**
PSI	**Prapat**	**31.56**	**230**	P	**P**	**22 43 44.4**	**+5.4**
	comp=Z,1.6nm,0.3s,mb4.2,baz=164,slow=7.4,SNR=12						
PSI				LR	LR	22 56 11.6	
	comp=Z,55nm,19.7s,baz=43,slow=36						
GUN	**Gumba**	**32.91**	**284**	*e*P	**P**	**22 43 52.1**	**+1.4**
	comp=Z,28nm,0.7s,mb5.2						
PKI	**Pulchoki**	**33.35**	**283**	*e*P	**P**	**22 43 55.7**	**+1.2**
	comp=Z,11nm,0.6s,mb4.8						
PKI	**Pulchoki**	**33.35**	**283**	*e*P	**P**	**22 43 55.7**	**+1.2**
PKI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
KKN	**Kakani**	**33.45**	**283**	*e*P	**P**	**22 43 56.2**	**+0.8**
	comp=Z,30nm,0.8s,mb5.2						
KKN	**Kakani**	**33.45**	**283**	*e*P	**P**	**22 43 56.2**	**+0.8**
KKN				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
DMN	**Daman**	**33.61**	**283**	*e*P	**P**	**22 43 57.9**	**+1.1**
	comp=Z,24nm,0.9s,mb5.0						
GKN	**Gorkha**	**34.00**	**284**	*e*P	**P**	**22 44 00.8**	**+0.6**
	comp=Z,26nm,0.8s,mb5.1						
KOLN	**Koldanda**	**34.93**	**284**	*e*P	**P**	**22 44 09.2**	**+1.0**
	comp=Z,21nm,0.9s,mb5.0						
YAK	**Yakutsk**	**37.53**	**6**	*e*P	**P**	**22 44 29.0**	**-1.4**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
YAK	**Yakutsk**	**37.53**	**6**	*e*P	**P**	**22 44 29.0**	**-1.4**
	comp=Z,7.5nm,0.7s,mb4.6						
MKAR	**Makanchi Array**	**38.76**	**315**	P	**P**	**22 44 40.8**	**+0.1**
	comp=Z,4.5nm,0.8s,mb4.3,baz=104,slow=10,SNR=16						
MKAR				PcP	PcP	22 46 49.6	-0.6
	comp=Z,2.8nm,0.7s,baz=98,slow=4.5,SNR=11						
PMG	**Port Moresby**	**41.63**	**142**	*e*P	**P**	**22 45 03.7**	**-0.6**
PMG				pmax	pmax		
	comp=Z,13nm,0.9s						
PMG	**Port Moresby**	**41.63**	**142**	*e*P	**P**	**22 45 03.7**	**-0.6**
	comp=Z,13nm,0.9s,mb4.7						
KURK	**Kurchatov**	**42.42**	**319**	*e*P	**P**	**22 45 10.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
KURK	**Kurchatov**	**42.42**	**319**	*e*P	**P**	**22 45 10.2**	**-0.5**
	comp=Z,3.1nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**42.75**	**176**	P	**P**	**22 45 13.5**	**0.0**
	comp=Z,2.0nm,0.9s,mb3.9,baz=18,slow=9.6,SNR=2.1						
FITZ				PcP	PcP	22 47 02.7	-0.5
	comp=Z,1.8nm,0.5s,baz=338,slow=5.4,SNR=5.8						
WRA	**Warramunga Arr**	**45.93**	**164**	P	**P**	**22 45 38.7**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.7,baz=347,slow=8.5,SNR=9.5						
WRA				pP	pP	22 46 01.8	-0.6
	comp=Z,3.1nm,0.8s,baz=347,slow=8.5,SNR=4.7						
WRA				PcP	PcP	22 47 13.5	-0.6
	comp=Z,1.8nm,0.6s,baz=346,slow=3.5,SNR=8.3						
WB2	**Warramunga Arr**	**45.94**	**164**	*e*P	**P**	**22 45 39.4**	**+0.6**
TIXI	**Tiksi**	**47.02**	**3**	*e*P	**P**	**22 45 45.7**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
TIXI	**Tiksi**	**47.02**	**3**	*e*P	**P**	**22 45 45.7**	**-1.6**
	comp=Z,2.6nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**47.98**	**320**	P	**P**	**22 45 54.3**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.2,baz=108,slow=7.6,SNR=7.1						
BVAR				PcP	PcP	22 47 20.5	-0.9
	comp=Z,2.3nm,0.6s,baz=127,slow=2.9,SNR=6.9						
BRVK	**Borovoye**	**48.05**	**320**	*e*P	**P**	**22 45 54.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**48.05**	**320**	*e*P	**P**	**22 45 54.4**	**-0.9**
	comp=Z,2.8nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**49.42**	**166**	P	**P**	**22 46 07.0**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=346,slow=6.6,SNR=7.2						
ASAR				pP	pP	22 46 31.2	+1.6
	comp=Z,2.7nm,0.9s,baz=343,slow=9.4,SNR=9.2						
ASAR				PcP	PcP	22 47 26.2	-0.4
	comp=Z,2.1nm,0.6s,baz=0.5,slow=3.9,SNR=8.1						
NWAO	**Narrogin (SRO)**	**57.62**	**185**	P	**P**	**22 47 05.5**	**-0.2**
STKA	**Stephens Creek**	**59.23**	**161**	P	**P**	**22 47 17.1**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=0.0,slow=4.0,SNR=2.6						
JOF	**Joensuu**	**68.78**	**331**	*e*p	**P**	**22 48 16.8**	**-2.5**
KEV	**Kevo**	**68.86**	**338**	*e*p	**P**	**22 48 18.7**	**-1.2**
ARCES	**ARCESS Array B**	**69.43**	**338**	P	**P**	**22 48 22.4**	**-1.0**
	comp=Z,2.9nm,0.9s,mb4.1,baz=57,slow=4.5,SNR=5.1						
FINES	**FINESS Array B**	**71.54**	**330**	P	**P**	**22 48 34.7**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.0,baz=64,slow=6.9,SNR=9.3						
INK	**Inuvik**	**72.20**	**22**	P	**P**	**22 48 38.6**	**-1.5**
	comp=Z,1.6nm,0.8s,mb3.9,baz=265,slow=6.3,SNR=6.3						
INK	**Inuvik**	**72.20**	**22**	*e*P	**P**	**22 48 38.1**	**-2.0**
	comp=Z,42nm,0.6s,mb5.4						
AKASG	**Malin Array Be**	**73.23**	**318**	P	**P**	**22 48 44.6**	**-1.6**
	comp=Z,0.6nm,0.5s,mb3.6,baz=59,slow=6.7,SNR=2.6						
ASF	**Jabal al Asfar**	**73.76**	**298**	LR	LR	23 23 46.5	
	comp=Z,43nm,20.3s,baz=335,slow=38						
BRTR	**Keskin Array B**	**73.79**	**307**	P	**P**	**22 48 50.1**	**+0.6**
	comp=Z,1.3nm,0.9s,mb3.7,baz=108,slow=6.6,SNR=4.9						
HFS	**Hagfors**	**77.63**	**331**	P	**P**	**22 49 09.7**	**-1.7**
	comp=Z,1.5nm,0.6s,mb3.9,baz=149,slow=4.3,SNR=4.4						
NB2	**NORSAR Subarra**	**78.25**	**332**	P	**P**	**22 49 13.4**	**-1.5**
	comp=Z,0.9nm,0.6s,mb3.7,baz=56,slow=5.3						
NOA	**NORSAR Array B**	**78.25**	**332**	P	**P**	**22 49 13.3**	**-1.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=60,slow=5.1,SNR=3.9						
NOA	**NORSAR Array B**	**78.25**	**332**	P	**P**	**22 49 13.3**	**-1.6**
YKA	**Yellowknife Ar**	**81.93**	**23**	P	**P**	**22 49 33.4**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=310,slow=5.0,SNR=20						
YKA				pP	pP	22 50 01.3	+0.7
	comp=Z,0.5nm,0.7s,baz=312,slow=5.0,SNR=3.4						
YKA	**Yellowknife Ar**	**81.93**	**23**	P	**P**	**22 49 33.4**	**-1.2**
YKA				pP	pP	22 50 01.3	+0.7
GERES	**GERESS Array B**	**83.14**	**321**	P	**P**	**22 49 40.8**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.6,baz=57,slow=4.9,SNR=4.8						
NEW	**Newport**	**89.80**	**35**	P	**P**	**22 50 13.8**	**+0.4**
	comp=Z,0.7nm,0.6s,mb4.0,baz=285,slow=2.0,SNR=6.3						
NEW	**Newport**	**89.80**	**35**	P	**P**	**22 50 13.8**	**+0.4**
YBH	**Yreka Blue Hor**	**90.48**	**43**	P	**P**	**22 50 17.1**	**+0.5**
	comp=Z,2.2nm,0.9s,mb4.3,baz=303,slow=5.3,SNR=3.6						
KEST	**Kesra**	**92.79**	**312**	P	**P**	**22 50 27.3**	**+0.1**
	comp=Z,1.0nm,1.0s,mb4.1,baz=60,slow=8.1,SNR=3.6						
NVAR	**Mina Array Bea**	**95.15**	**44**	P	**P**	**22 50 39.1**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.7,baz=289,slow=5.8,SNR=9.7						

IDC ***31*** *22:48:51.6±0.8,2869S×11263W,h0km,mb4.6/12, mb1 4.7/12,mb1mx4.6/17,mbtmp4.6/12,MS5.1/21, Ms1 5.1/21,ms1mx5.1/22,Error ellipse: s-maj=24.2km s-min=20.7km az=45.0*
ISCJB ***31*** *22:48:52.5±0.3,2860S±004×11238W±006,h10km, mb5.0/49,MS5.3/104,Error ellipse: s-maj=7.9km s-min=6.0km az=132.4*
BJI ***31*** *22:48:54.5,2860S×11230W,h10km,mB5.5,Ms5.5, Msz5.2*
GCMT ***31*** *22:48:54.5±0.1,2885S×11252W,h12km,MW5.6/95, Moment Tensor Solution. s88,c157; s95,c246; Duration: 1§6 Moment tensor: Scale 10¹⁷Nm; Mrr-0.19±.03; Mθθ-0.72±.03; Mφφ0.91±.04; Mrθ0.00±.09; Mθφ-3.26±.03; Mφr-0.35±.09; Best double couple: M₀3.37900×10¹⁷ NP1:φs97.00000°,δ84.00000°, λ180.00000°. NP2:φs187.00000°,δ90.00000°,λ6.00000°. Principal axes: T 3.4770, Plg4.0000°, Azm52.0000°; N -0.1950, Plg84.0000°, Azm190.0000°; P -3.2820, Plg4.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***31*** *22:48:54.5±0.3,2859S×11233W,h10km,mb5.2/37, MS5.3/87,MW5.6 Error ellipse: s-maj=9.8km s-min=7.2km az=90.0,Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁷Nm; Mrr0.03; Mθθ-1.29; Mφφ1.26; Mrθ1.08; Mθφ-3.26; Mφr-0.29; Best double couple: M₀3.70000×10¹⁷ NP1:φs100.00000°,δ89.00000°,λ162.00000°. NP2: φs191.00000°,δ72.00000°,λ1.00000°. Principal axes: T 3.6800, Plg13.0000°, Azm54.0000°; N -0.0200, Plg72.0000°, Azm276.0000°; P -3.6600, Plg11.0000°, Azm147.0000°;*
MOS ***31*** *22:48:56.5±1.3,2849S×11220W,h33km,mb5.2/16, MS5.2/15 Error ellipse: s-maj=17.2km s-min=8.3km az=82.3*
ISC 31 22:48:54.1±0.3,**2868S**±005×**11245W**±006,**h10**km,**n516,** σ0**84**/384,**mb5.0**/48,**MS5.3**/104,**90C-111D,Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.16**	**61**	Pn	**Pn**	**22 49 39.9**	**-3.9**
	51nm,0.3s,baz=240,slow=8.6,SNR=25						
RPN				Sn	**Sn**	**22 50 27.3**	**+5.7**
	baz=242,slow=14,SNR=3.8						
RPN				LR	LR	22 50 35.3	
	comp=Z,26μm,21.8s,baz=186,slow=31						
RPN	**Rapa Nui**	**3.16**	**61**	*e*Pn	**Pn**	**22 49 40.3**	**-3.6**
RKT	**Rikitea**	**20.99**	**280**	*e*P	**P**	**22 53 37.1**	**-0.5**
	1μm,2.2s						
TAOE	**Nuku Hiva Isla**	**32.66**	**302**	*e*S	**S**	**23 00 31.3**	**-11**
	2μm,29.0s						
TAOE				*e*LR	LR	23 03 49.0	
	15μm,31.1s						
TBI	**Tubuai**	**33.59**	**270**	*e*S	**S**	**23 00 45.7**	**-11**
	2μm,28.0s						
TBI				*e*LQ		23 03 02.0	
	12μm,28.8s						
TBI				*e*LR	LR	23 04 12.3	
	6μm,27.8s						
PAYG	**Puerto Ayora**	**34.98**	**41**	P	**P**	**22 55 47.4**	**+0.9**
PPT	**Papeete**	**35.76**	**280**	*e*S	**S**	**23 01 27.0**	**-3.2**
	2μm,25.8s						
PPT				*e*LQ		23 04 03.7	
	9μm,27.0s						
PPT				*e*LR	LR	23 04 47.4	
	4μm,27.5s						
PPT	**Papeete**	**35.76**	**280**	LR	LR	23 05 53.9	
	comp=Z,2μm,21.2s,MS4.8,baz=113,slow=29						
PLCA	**Paso Flores**	**36.16**	**121**	P	**P**	**22 55 55.9**	**-0.7**
	8.8nm,0.9s,mb4.7,baz=282,slow=8.2,SNR=9.0						
PLCA				LR	LR	23 06 55.8	
	comp=Z,4μm,19.4s,MS5.2,baz=275,slow=30						
PLCA	**Paso Flores**	**36.16**	**121**	*e*P	**P**	**22 55 57.0**	**+0.4**
PLCA				pmax	pmax		
	comp=Z,94nm,1.7s						
PLCA	**Paso Flores**	**36.16**	**121**	*e*P	**P**	**22 55 57.0**	**+0.3**
	comp=Z,94nm,1.7s,mb5.4						
LCO	**Las Campanas**	**36.43**	**101**	*e*P	**P**	**22 56 00.4**	**+1.5**
	comp=Z,56nm,1.3s,mb5.3						
LCO				*e*PP	PP	22 57 26.6	+4.9
NNA	**Nana**	**37.10**	**71**	LR	LR	23 07 13.9	
	comp=Z,6μm,20.8s,MS5.4,baz=317,slow=30						
NNA	**Nana**	**37.10**	**71**	P	**P**	**22 56 02.7**	**-1.9**
CFAA	**Coronel Fontan**	**38.15**	**106**	LR	LR	23 07 51.0	
	comp=Z,443nm,19.7s,MS4.3,baz=263,slow=30						
ATAH	**Atahualpa**	**38.70**	**63**	P	**P**	**22 56 18.8**	**+0.7**
	comp=Z,14nm,1.1s,mb4.6,baz=248,slow=6.9,SNR=15						
ATAH				LR	LR	23 08 14.7	
	comp=Z,7μm,18.7s,MS5.5,baz=57,slow=30						
ARE	**Arequipa**	**39.54**	**81**	*e*P	**P**	**22 56 22.0**	**-3.1**
USHA	**Ushuaia**	**40.98**	**142**	P	**P**	**22 56 37.6**	**+0.6**
	comp=Z,26nm,1.1s,mb4.8,baz=295,slow=2.8,SNR=4.0						
USHA				LR	LR	23 09 58.8	
	comp=Z,8μm,18.7s,MS5.6,baz=283,slow=31						
LPAZ	**La Paz**	**42.54**	**83**	P	**P**	**22 56 51.0**	**+1.2**
	comp=Z,4.7nm,0.9s,mb4.2,baz=264,slow=6.9,SNR=10						
LPAZ				LR	LR	23 10 34.5	
	comp=Z,2μm,21.3s,MS4.9,baz=244,slow=30						
TRQA	**Tornquist**	**42.73**	**116**	*e*P	**P**	**22 56 51.0**	**-0.4**
	comp=Z,51nm,1.3s,mb5.1						
RAR	**Rarotonga**	**43.33**	**269**	LR	LR	23 08 15.1	
	comp=Z,495nm,21.5s,MS4.4,baz=107,slow=27						
OTAV	**Otavalo**	**43.40**	**54**	*e*P	**P**	**22 56 58.2**	**+1.4**
EFI	**East Falkland**	**46.20**	**135**	*e*P	**P**	**22 57 19.1**	**0.0**
EFI				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.4						
EFI	**East Falkland**	**46.20**	**135**	*e*P	**P**	**22 57 19.1**	**0.0**
	comp=Z,43nm,0.9s,mb5.4						
JTS	**JuntasAbangare**	**46.97**	**38**	P	**P**	**22 57 25.2**	**0.0**
	comp=Z,9.4nm,0.9s,mb4.7,baz=349,slow=7.9,SNR=5.5						
JTS	**JuntasAbangare**	**46.97**	**38**	*e*P	**P**	**22 57 25.1**	**-0.1**
PMSA	**Palmer Station**	**47.05**	**154**	LR	LR	23 12 46.4	
	comp=Z,3μm,18.5s,MS5.3,baz=191,slow=30						
PMSA	**Palmer Station**	**47.05**	**154**	*e*P	**P**	**22 57 26.5**	**+0.7**
	comp=Z,38nm,1.2s,mb5.2						
TGUH	**Tegucigalpa,Un**	**48.97**	**33**	*e*P	**P**	**22 57 40.9**	**+0.3**
	comp=Z,19nm,0.8s,mb5.2						
BCIP	**Isla Barro Col**	**49.06**	**45**	*e*P	**P**	**22 57 42.3**	**+1.0**
BCIP				*e*S	**S**	**23 04 44.6**	**-1.4**
ROSC	**El Rosal**	**49.55**	**54**	P	**P**	**22 57 47.1**	**+2.0**
	comp=Z,9.2nm,1.0s,mb4.8,baz=276,slow=23,SNR=11						
ROSC				LR	LR	23 14 45.4	
	comp=Z,3μm,20.1s,MS5.2,baz=193,slow=31						
TEIG	**Tepich**	**53.93**	**28**	*e*P	**P**	**22 58 18.2**	**+0.4**
	comp=Z,19nm,1.0s,mb5.0						
TEIG				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
KVTX	**Kingsville**	**57.62**	**15**	P	**P**	**22 58 41.6**	**-2.7**
KVTX				*e*S	**S**	**23 06 33.3**	**-9.0**
KVTX				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
LTX	**Lajitas**	**58.29**	**9**	*e*P	**P**	**22 58 48.6**	**-0.4**
LTX				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
LTX	**Lajitas**	**58.29**	**9**	*e*P	**P**	**22 58 48.6**	**-0.4**
	comp=Z,20nm,1.4s,mb5.0						
SNZO	**South Karori**	**59.39**	**237**	*e*P	**P**	**22 58 49.5**	**-7.1**
SNZO				*e*S	**S**	**23 07 21.3**	**+16**
SNZO				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
JCT	**Junction City**	**60.05**	**13**	*e*P	**P**	**22 59 00.9**	**-0.3**
SBA	**Scott Base**	**60.24**	**194**	P	**P**	**22 59 05

DECC Green Verdugo 62.83 355 ⇑P P 22 59 20.5 +0.5
baz=63
X13A Yucca 62.94 359 ⇑P P 22 59 21.1 +0.4
baz=63
NEE2 Needles Airpor 63.13 358 ⇓P P 22 59 22.4 +0.4
baz=63
GMRC Granite Mounta 63.19 357 ⇓P P 22 59 22.8 +0.4
baz=63
OSI Osito Adit 63.23 354 ⇑P P 22 59 22.6 0.0
baz=63
HEC Hector,Ludlow 63.27 356 ⇓P P 22 59 23.0 +0.1
baz=64
EDW2 Edwards Air Fo 63.43 355 ⇓P P 22 59 24.4 +0.5
baz=64
W13A Hualapai Mount 63.45 359 ⇓P P 22 59 24.6 +0.5
baz=64
W15A Williams 63.51 0 ⇓P P 22 59 24.7 +0.2
baz=64
ANMO Albuquerque 63.53 5 ⇑P P 22 59 26.1 +1.4
ANMO Albuquerque 63.53 5 eP P 22 59 25.7 +1.1
W14A Seligman 63.55 359 P P 22 59 25.2 +0.5
baz=64,SNR=17
PKM Peak Mountain 63.61 353 ⇑P P 22 59 25.4 +0.3
baz=64
POHA Pohakuloa 63.64 314 P P 22 59 22.1 -3.2
POHA S S 23 08 07.3 +7.9
POHA LR LR
comp=Z,4μm,21.0s,MS5.6
GRGR Grenville 63.67 58 eP P 22 59 18.8 -6.8
GRGR eS S 23 07 56.1 -3.7
W12A Cal Nev Ari 63.67 358 ⇓P P 22 59 26.6 +1.0
baz=64
GSC Goldstone 63.77 356 P P 22 59 26.6 +0.5
baz=64,SNR=13
DWPF Disney 63.80 30 eS S 23 08 04.6 +3.2
DWPF LR LR
comp=Z,871nm,19.0s,MS5.0
TUQ Turquoise Mtn. 63.85 357 ⇓P P 22 59 27.6 +0.9
baz=64
WUAZ Wupatki 63.86 1 eP P 22 59 28.6 +1.9
WUAZ Wupatki 63.86 1 ⇓P P 22 59 27.3 +0.5
baz=64
LRMC Laurel Mountai 64.00 355 ⇓P P 22 59 28.8 +1.1
baz=64
AMTX Amarillo 64.03 10 eP P 22 59 21.1 -6.8
AMTX eS S 23 08 09.5 +5.2
SMMC Simmler 64.04 353 ⇓P P 22 59 29.1 +1.2
baz=64
BRAL Brewton 64.10 24 eS S 23 08 08.5 +3.4
BRAL LR LR
comp=Z,2μm,19.0s,MS5.3
V12A Nelson 64.10 358 ⇓P P 22 59 28.9 +0.6
baz=64
V11A Goodsprings 64.23 357 ⇑P P 22 59 30.1 +0.9
baz=64
ISA Isabella 64.25 355 ⇓P P 22 59 30.0 +0.6
baz=64
SHOC Shoshone 64.33 357 ⇓P P 22 59 30.6 +0.7
baz=64
WMOK Wichita Mounta 64.38 12 eP P 22 59 30.0 -0.2
WMOK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
WMOK Wichita Mounta 64.38 12 eP P 22 59 30.0 -0.2
comp=Z,2.4nm,0.7s,mb4.3
VES Vestal, Richgr 64.47 354 ⇓P P 22 59 31.3 +0.5
baz=65
SJG San Juan 64.54 50 eP P 22 59 29.7 -1.6
SJG eS S 23 08 08.3 -2.3
SJG MLR MLR
comp=Z,2μm,22.0s
MPMC Manual Prospec 64.56 355 P P 22 59 31.9 +0.5
baz=65,SNR=14
PKD Parkfield 64.73 353 ⇑P P 22 59 33.6 +1.1
baz=65
DAC Darwin (Calif) 64.79 355 eP P 22 59 33.1 +0.2
U12A Valley of Fire 64.79 358 ⇓P P 22 59 33.6 +0.7
baz=65
SHPR Sheep Range 64.89 358 eP P 22 59 34.2 +0.7
FURC Furnace Creek, 64.93 356 ⇓P P 22 59 34.9 +1.1
baz=65
CWC Cottonwood Cre 64.98 355 ⇓P P 22 59 35.0 +0.8
baz=65
U04C Hernandez Rese 65.17 353 ⇓P P 22 59 35.7 +0.4
baz=65
HELL Mitchell Peak, 65.30 354 ⇑P P 22 59 37.2 +1.0
baz=66
MIAR Mount Ida 65.36 17 eP P 22 59 35.5 -1.1
MIAR MLR MLR
comp=Z,1μm,20.0s,MS5.1
SAO San Andreas Ge 65.64 352 PFAKE 22 59 50.0 +12
SAO LR LR
comp=Z,3μm,19.0s,MS5.5
MVCO Mesa Verde 65.64 3 eP P 22 59 37.7 -0.7
comp=Z,58nm,1.5s,mb5.4
MVCO Mesa Verde 65.64 3 ⇑P P 22 59 38.2 -0.2
baz=66
T06C Millerton Lake 65.69 354 ⇑P P 22 59 38.4 -0.3
baz=66
BBGH Gun Hill 65.88 58 PFAKE 22 59 50.0 +10
BBGH LR LR
comp=Z,3μm,21.0s,MS5.5
CCUT Cedar City 65.88 359 eP P 22 59 40.5 +0.5
UALR University of 65.91 18 P P 22 59 37.6 -2.6
MTUM Tungsten Hills 65.93 355 eP P 22 59 38.4 -1.9
S08C White Mtn Res 66.05 355 P P 22 59 41.8 +0.8
baz=66,SNR=12
S05C Merced 66.09 353 ⇑P P 22 59 41.0 -0.3
baz=66
ARUT Antelope Range 66.12 359 eP P 22 59 42.4 +0.9
S09A Goldfield 66.20 356 P P 22 59 42.7 +0.7
baz=66,SNR=19
S04C Ingram Canyon, 66.36 352 ⇓P P 22 59 44.3 +1.3
baz=67
SDCO Great Sand Dun 66.39 6 eP P 22 59 42.9 -0.4
comp=Z,34nm,1.7s,mb5.1
OXF Oxford 66.51 21 P P 22 59 44.0 0.0
TPH Tonopah 66.55 356 eP P 22 59 44.5 +0.2
TPH pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
TPH Tonopah 66.55 356 eP P 22 59 44.5 +0.3
comp=Z,5.2nm,0.5s,mb4.8
PV01 Paradox Valley 66.56 3 eP P 22 59 45.6 +1.3
S06C San Francisco 66.57 354 ⇓P P 22 59 44.9 +0.5
baz=67
R07C Lee Vining 66.70 354 ⇑P P 22 59 45.4 +0.2
baz=67
R09A Tonopah 66.71 356 P P 22 59 45.9 +0.7
baz=67,SNR=16
R10A Warm Springs 66.71 357 ⇓P P 22 59 45.6 +0.3
baz=67
CMB Columbia Colle 66.78 353 eP P 22 59 45.6 -0.1
CMB pmax pmax
comp=Z,27nm,1.4s,mb5.1
CMB Columbia Colle 66.78 353 eP P 22 59 45.6 -0.1
comp=Z,27nm,1.4s,mb5.1
CMB Columbia Colle 66.78 353 ⇓P P 22 59 45.7 0.0
baz=67
PV10 Paradox Valley 66.78 3 eP P 22 59 45.3 -0.4
MVU Marysvale 66.83 0 PFAKE 23 00 00.0 +14
MVU LR LR
comp=Z,1μm,19.0s,MS5.2
MSU Marysvale 66.84 0 eP P 22 59 48.3 +2.2
R08A Mina 66.88 355 ⇓P P 22 59 46.4 0.0
baz=67
NVAR Mina Array Bea 66.98 355 P P 22 59 47.5 +0.5
comp=Z,5.3nm,0.9s,mb4.6,baz=177,slow=8.6,SNR=14
WAKR Walker 67.15 354 eP P 22 59 50.4 +2.3
R06C Coleville 67.17 354 ⇑P P 22 59 49.0 +0.8
baz=67
MCCM Marconi Confer 67.19 351 PFAKE 23 00 00.0 +12
MCCM LR LR
comp=Z,3μm,14.1s,MS5.7
Q11A Duckwater 67.24 357 P P 22 59 49.6 +0.9
baz=67,SNR=15
CVS Carmenet Viney 67.33 351 ⇓P P 22 59 50.0 +0.8
baz=68
Q08A Gabbs 67.38 355 ⇑P P 22 59 49.7 +0.1
baz=68
Q12A Willow Creek R 67.40 358 ⇑P P 22 59 49.7 +0.1
baz=68
R05C Kirkwood Meado 67.41 354 ⇓P P 22 59 50.0 +0.3
baz=68
SRU San Rafael 67.46 2 eP P 22 59 49.2 -0.8
NSHM Saint Helena R 67.52 351 P P 22 59 49.9 -0.5
Q07A Schurz 67.53 355 ⇓P P 22 59 50.9 +0.5
baz=68

LAVA Lava Cap Winer 67.53 353 ⇑P P 22 59 50.2 -0.3
baz=68
GOGA Godfrey 67.58 26 eP P 22 59 49.7 -1.1
GOGA pmax pmax
comp=Z,12nm,0.9s,mb4.9
GOGA Godfrey 67.58 26 eP P 22 59 49.7 -1.1
comp=Z,12nm,0.9s,mb4.9
TMUT Trail Mountain 67.63 1 eP P 22 59 52.0 +0.9
Q04C Lincoln 67.68 352 ⇑P P 22 59 51.5 0.0
baz=68
SMCO Snowmass 67.69 5 eP P 22 59 53.0 +1.5
P12A McGill 67.84 358 ⇑P P 22 59 52.5 +0.1
baz=68
MNRC McLaughlin Nat 67.85 352 ⇑P P 22 59 52.7 +0.2
baz=68
P11A Circle Ranch, 67.95 357 ⇓P P 22 59 53.4 +0.2
baz=68
HOPS Hopland 68.05 351 PFAKE 23 00 10.0 +16
HOPS LR LR
comp=Z,3μm,20.0s,MS5.5
P10A Eureka 68.05 357 ⇑P P 22 59 53.7 -0.1
baz=68
P05C Yuba Gap, Truc 68.05 353 ⇓P P 22 59 54.1 +0.3
baz=68
OHCM Honcut 68.18 352 eP P 22 59 54.6 0.0
PAHR Pah Rah Range 68.34 354 eP P 22 59 56.4 +0.8
comp=Z,16nm,1.3s,mb4.9
MPU Maple Canyon 68.34 1 eP P 22 59 56.4 +0.8
MPU LR LR
comp=Z,3μm,21.0s,MS5.5
P06A Stead Airport, 68.36 354 ⇓P P 22 59 55.8 +0.2
baz=69
ORV Oroville 68.40 352 ⇓P P 22 59 55.5 -0.5
baz=69
WVT Waverly 68.50 21 eP P 22 59 55.5 -1.1
WVT pmax pmax
comp=Z,73nm,1.9s,mb5.3
WVT Waverly 68.50 21 eP P 22 59 55.5 -1.1
comp=Z,73nm,1.9s,mb5.3
DUG Dugway 68.52 360 eP P 22 59 56.6 -0.1
DUG pmax pmax
comp=Z,24nm,1.4s,mb4.9
DUG Dugway 68.52 360 eP P 22 59 56.6 -0.1
comp=Z,24nm,1.4s,mb4.9
DUG Dugway 68.52 360 ⇓P P 22 59 55.9 -0.8
baz=69
O11A Cowboy Ranch, 68.52 357 ⇑P P 22 59 56.3 -0.4
baz=69
BEKR Beckwourth 68.59 353 ⇑P P 22 59 57.0 -0.2
baz=69
O09A Fish Creek Ran 68.64 356 ⇓P P 22 59 56.6 -0.9
baz=69
GASB Alder Springs 68.64 351 ⇓P P 22 59 56.7 -0.7
baz=69
NHSC New Hope 68.65 29 eP P 23 00 01.5 +4.0
NHSC eS S 23 08 55.5 -4.8
NHSC LR LR
comp=Z,768nm,21.0s,MS4.9
O10A Cortez Mining, 68.72 357 ⇓P P 22 59 57.1 -0.9
baz=69
O05C Quincy 68.74 353 ⇑P P 22 59 57.6 -0.5
baz=69
DAU Daniels Canyon 68.74 1 eP P 22 59 58.4 +0.3
O07A Toulon 68.75 355 ⇓P P 22 59 57.9 -0.2
baz=69
O06A Flanigan 68.83 354 ⇓P P 22 59 58.5 -0.2
baz=69
BMN Battle Mountai 68.90 356 eP P 23 00 00.0 +0.9
BMN MLR MLR
comp=Z,2μm,19.0s,MS5.3
SNAA Sanae 68.93 161 LR LR 23 25 11.9
comp=Z,287nm,19.7s,MS4.5,baz=104,slow=32
JLU Jordanelle 68.93 1 eP P 22 59 59.4 +0.1
NOQ North Oquirrh 68.98 0 eP P 23 00 01.0 +1.5
CTU Camp Tracy 69.02 1 eP P 22 59 52.4 -7.4
KSU1 Kansas State U 69.03 13 eP P 22 59 58.9 -1.0
comp=Z,12nm,0.8s,mb4.9
O04C Chester 69.11 353 ⇑P P 23 00 00.4 0.0
baz=69
O02C Red Bluff 69.17 352 ⇑P P 23 00 00.5 -0.3
baz=69
N13A Wendover, West 69.20 359 ⇓P P 23 00 00.5 -0.4
baz=69
N12A Clover Valley, 69.22 358 ⇑P P 23 00 01.3 +0.2
baz=69
N09A Rock Creek Ran 69.33 356 ⇑P P 23 00 01.7 -0.1
baz=70
N07B Gerlach 69.37 355 ⇓P P 23 00 02.4 +0.4
baz=70
ELFS Eagle Lake Fie 69.37 353 ⇓P P 23 00 02.5 +0.5
baz=70
N06A Buffalo Meadow 69.41 354 ⇑P P 23 00 02.2 0.0
baz=70
FVM French Village 69.44 18 eP P 23 00 01.4 -1.1
WDC Whiskeytown Da 69.54 352 PFAKE 23 00 10.0 +7.0
WDC LR LR
comp=Z,3μm,20.0s,MS5.5
WDC Whiskeytown Da 69.54 352 ⇓P P 23 00 03.0 0.0
baz=70
SIUC Southern Illin 69.54 20 eP P 23 00 02.6 -0.5
SPUT South Promonto 69.63 360 eP P 22 59 59.5 -4.2
HATC Hat Creek Radi 69.64 353 ⇓P P 23 00 02.9 -0.8
baz=70
M13A Montello 69.70 359 ⇓P P 23 00 03.4 -0.6
baz=70
M12A Wells 69.78 358 ⇓P P 23 00 04.1 -0.4
baz=70
M11A Holland Ranch, 69.82 357 ⇓P P 23 00 04.2 -0.6
baz=70
M09A Mamel Ranch, 69.90 356 ⇓P P 23 00 04.9 -0.4
baz=70
M06C Likely Place G 69.92 354 ⇓P P 23 00 05.4 0.0
baz=70
PHWY Pilot Hill 69.92 6 eP P 23 00 07.5 +2.1
HWUT Hardware Ranch 69.93 1 eP P 23 00 04.5 -1.0
comp=Z,22nm,1.6s,mb4.8
KHMM Horse Mountain 69.98 351 eP P 23 00 05.8 0.0
M08A Happy Creek Ra 69.99 355 ⇑P P 23 00 06.2 +0.4
baz=70
M07A Soldier Meadow 69.99 355 ⇑P P 23 00 05.9 +0.1
baz=70
M05C Lookout 70.14 353 P P 23 00 06.6 -0.1
baz=70,SNR=11
M03C McCloud 70.17 352 ⇑P P 23 00 06.6 -0.3
baz=70
TZTN Tazewell 70.33 24 eP P 23 00 09.7 +1.8
M02C Callahan 70.38 352 ⇓P P 23 00 08.2 0.0
baz=71
L13A Double Diamond 70.42 359 ⇑P P 23 00 08.2 -0.3
baz=71
L09A Wilkinson Ranc 70.51 356 ⇓P P 23 00 09.1 +0.1
baz=71
L12A House Creek Ra 70.51 358 ⇓P P 23 00 09.0 0.0
baz=71
MOD Modoc 70.60 354 eP P 23 00 09.5 -0.1
MOD Modoc 70.60 354 P P 23 00 09.6 +0.1
baz=71,SNR=18
L07A Adell 70.63 355 ⇓P P 23 00 10.5 +0.8
baz=71
M04C Macdoel 70.64 353 ⇓P P 23 00 09.3 -0.5
baz=71
YBH Yreka Blue Hor 70.69 352 P P 23 00 09.7 -0.4
YBH S S 23 09 34.6 +10
YBH LR LR
comp=Z,3μm,22.0s,MS5.5
YBH Yreka Blue Hor 70.69 352 ⇓P P 23 00 10.0 -0.2
baz=71
L08A Fields 70.72 355 ⇑P P 23 00 10.1 -0.2
baz=71
L05A Lakeview 70.79 353 ⇓P P 23 00 10.2 -0.5
baz=71
K14A Jones Ranch, D 70.87 359 ⇑P P 23 00 10.2 -0.9
baz=71
WCI Wyandotte Cave 70.91 22 P P 23 00 10.9 -0.6
WCI eS S 23 09 11.9 -15
WCI MLR MLR
comp=Z,1μm,21.0s,MS5.1
WVOR Wild Horse Val 70.98 355 eP P 23 00 12.0 +0.1
WVOR pmax pmax
comp=Z,27nm,1.1s,mb5.1
WVOR Wild Horse Val 70.98 355 eP P 23 00 12.0 +0.1
comp=Z,27nm,1.1s,mb5.1
K13A Stover Farm, H 70.99 359 ⇓P P 23 00 11.4 -0.5
baz=71
K12A Draper Farm, C 70.99 358 ⇑P P 23 00 11.2 -0.8
baz=71
L04A Klamath Falls 71.03 353 ⇑P P 23 00 12.0 -0.2
baz=71

PDAR Pinedale Array 71.14 2 P P 23 00 11.3 -1.5
comp=Z,4.0nm,1.0s,mb4.3,baz=173,slow=6.8,SNR=9.4
K09A Rome 71.19 356 P P 23 00 13.5 +0.4
baz=71,SNR=7.4
K10A MacKenzie Ranc 71.22 357 ⇑P P 23 00 13.5 +0.2
baz=71
L02A Cave Junction 71.23 351 ⇓P P 23 00 14.2 +0.8
baz=72
K08A Mann Creek Ran 71.27 355 ⇑P P 23 00 14.0 +0.4
baz=72
K07A Rock Creek Ran 71.29 355 ⇑P P 23 00 14.2 +0.4
baz=72
CNNC Cliffs of the 71.45 29 eP P 23 00 14.6 -0.1
CNNC eS S 23 09 35.5 +2.4
CNNC LR LR
comp=Z,1μm,19.0s,MS5.1
K05A Sumner Lake 71.47 353 ⇑P P 23 00 15.1 +0.3
baz=72
K06A Valley Falls 71.48 354 ⇓P P 23 00 14.9 0.0
baz=72
HUMO Hull Mountain 71.59 352 PFAKE 23 00 30.0 +14
HUMO LR LR
comp=Z,3μm,22.0s,MS5.5
HUMO Hull Mountain 71.59 352 ⇓P P 23 00 15.0 -0.5
baz=72
J12A Stokes Ranch, 71.61 358 ⇑P P 23 00 15.2 -0.4
baz=72
REDW Red Top Meadow 71.70 1 eP P 23 00 16.9 +0.7
J13A Cove Ranch, Pi 71.74 359 ⇓P P 23 00 15.6 -0.8
baz=72
SNOW Snow King Moun 71.80 1 eP P 23 00 11.6 -5.2
SNOW ePP PP 23 03 03.0 +6.9
SNOW eS S 23 09 42.2 +5.0
SNOW ePKKPdf PKKPdf 23 19 55.1 +5.1
MFID Camas Ranch 71.80 357 ⇑P P 23 00 16.4 -0.4
baz=72
TPAW Teton Pass 71.82 1 eP P 23 00 16.2 -0.7
comp=Z,14nm,0.9s,mb4.9
J09A Fry Pan Ranch, 71.83 356 P P 23 00 17.5 +0.5
baz=72,SNR=7.7
J08A Circle Bar Ran 71.89 355 ⇑P P 23 00 17.5 +0.1
baz=72
HLID Hailey 71.91 358 eP P 23 00 17.1 -0.3
HLID Hailey 71.91 358 P P 23 00 17.3 -0.2
baz=72,SNR=27
J06A Christmas Vall 71.92 354 ⇑P P 23 00 17.2 -0.4
baz=72
DCID1 Drake Creek 71.92 1 eP P 23 00 20.6 +3.0
LOHW Long Hollow 71.95 1 eP P 23 00 16.8 -0.9
comp=Z,27nm,1.4s,mb5.0
J05A Fort Rock 72.06 353 P P 23 00 18.6 +0.3
baz=72,SNR=12
MOOW Moose Ponds 72.09 1 eP P 23 00 17.9 -0.7
comp=Z,30nm,1.7s,mb5.0
BLA Blacksburg 72.10 26 P P 23 00 15.9 -2.7
BLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BLA Blacksburg 72.10 26 P P 23 00 15.9 -2.8
comp=Z,6.9nm,0.7s,mb4.7
J04A Umpqua Nationa 72.11 353 ⇓P P 23 00 19.1 +0.4
baz=72
IMW Indian Meadow 72.23 1 eP P 23 00 18.6 -0.8
comp=Z,21nm,1.3s,mb4.9
I11A Placerville 72.30 357 ⇓P P 23 00 19.7 -0.1
baz=72
J03A Ideyld Park 72.34 352 ⇓P P 23 00 20.0 0.0
baz=73
J02A Umpqua 72.41 352 ⇑P P 23 00 20.1 -0.3
baz=73
SCIA State Center 72.44 15 eP P 23 00 18.7 -1.9
SCIA LR LR
comp=Z,2μm,21.0s,MS5.3
I08A Drewsey 72.45 355 ⇓P P 23 00 20.8 +0.1
baz=73
I09A Lost Marbles R 72.46 356 ⇓P P 23 00 20.5 -0.3
baz=73
I06A Prineville 72.61 354 ⇑P P 23 00 21.9 +0.2
baz=73
I07A Izee 72.69 355 ⇓P P 23 00 22.4 +0.2
baz=73
I04A Tendick Farm, 72.69 352 ⇑P P 23 00 21.9 -0.2
baz=73
H12A Diamond D Ranc 72.90 358 ⇑P P 23 00 23.9 +0.5
baz=73
H13A Challis 72.90 359 ⇓P P 23 00 23.6 +0.2
baz=73
I05A Bend 72.93 353 ⇑P P 23 00 24.3 +0.7
baz=73
YMR Madison River 73.00 1 eP P 23 00 28.9 +5.0
YMR eS S 23 10 01.0 +10
YMR LR LR
comp=Z,651nm,19.0s,MS4.9
H10A Noah's Angus R 73.02 357 ⇓P P 23 00 23.8 -0.3
baz=73
H08A Prairie City 73.06 355 P P 23 00 24.6 +0.3
baz=73,SNR=13
I02A Mapleton 73.07 351 ⇑P P 23 00 24.4 0.0
baz=73
H11A Donnelly 73.10 357 ⇑P P 23 00 24.6 0.0
baz=73
H09A Durkee 73.14 356 ⇓P P 23 00 24.9 0.0
baz=73
MCMT McKenzie Canyo 73.15 360 eP P 23 00 24.2 -0.7
QLMT Earthquake Lak 73.16 1 eP P 23 00 25.1 +0.1
H07A Lands Inn, Kim 73.20 355 P P 23 00 25.4 +0.2
baz=73,SNR=15
BMO Blue Mountains 73.31 356 eP P 23 00 25.3 -0.5
NVL N'lazarevskaya 73.36 163 ⇑P P 23 00 26.3 +0.2
NVL pmax pmax
comp=Z,53nm,1.5s,mb5.2
H05A Madras 73.41 353 ⇑P P 23 00 26.2 -0.2
baz=74
H06A Lindquist Farm 73.41 354 ⇓P P 23 00 26.0 -0.4
baz=74
G13A Cobalt 73.43 359 ⇓P P 23 00 26.5 0.0
baz=74,SNR=8.4
G15A Dillon 73.49 360 ⇓P P 23 00 27.9 +1.1
baz=74
RLMT Red Lodge 73.50 2 eP P 23 00 27.1 +0.2
comp=Z,12nm,0.2s,mb5.5
G14A Jackson 73.57 359 ⇓P P 23 00 28.1 +0.8
baz=74
COR Corvallis 73.58 352 P P 23 00 33.4 +6.0
COR MLR MLR
comp=Z,2μm,22.0s,MS5.2
H03A Soap Creek Ran 73.67 352 ⇓P P 23 00 29.0 +1.1
baz=74
G08A Pilot Rock 73.85 355 P P 23 00 29.3 +0.3
baz=74,SNR=16
G07A Ruggs Ranch, H 73.88 355 ⇓P P 23 00 29.7 +0.5
baz=74
G06A Carlson Farm, 73.93 354 ⇓P P 23 00 29.9 +0.4
baz=74
BOZ Bozeman (W) 73.97 1 ⇑P P 23 00 29.5 -0.2
baz=74
G05A Wamic 74.00 353 ⇑P P 23 00 30.0 +0.1
baz=74
F12A Elk City 74.12 358 P P 23 00 30.2 -0.4
baz=74,SNR=8.6
F13A Darby 74.13 359 P P 23 00 30.1 -0.6
baz=74,SNR=9.4
F14A Wisdom 74.14 359 ⇑P P 23 00 30.6 0.0
baz=74
GCMT Greycliff 74.16 2 eP P 23 00 31.6 +0.8
CBN Corbin 74.18 28 eS S 23 10 02.0 -2.3
CBN LR LR
comp=Z,818nm,19.0s,MS5.0
F09A S2 Ranch, Elgi 74.19 356 ⇓P P 23 00 30.2 -0.8
baz=74
F11A Grangeville 74.28 357 P P 23 00 31.1 -0.5
baz=74,SNR=14
F08A Pendleton 74.34 355 P P 23 00 31.9 0.0
baz=75,SNR=16
F10A Beach Ranch, E 74.42 357 ⇓P P 23 00 32.0 -0.3
baz=75
F07A Phinny Hill Vi 74.53 355 ⇑P P 23 00 32.5 -0.4
baz=75
F05A White Salmon 74.66 353 ⇑P P 23 00 33.1 -0.6
baz=75
E14A Clinton 74.74 359 ⇓P P 23 00 33.8 -0.4
baz=75
E15A Deer Lodge 74.75 360 ⇓P P 23 00 33.7 -0.5
baz=75
E11A Bogner Ranch, 74.75 357 P P 23 00 33.7 -0.6
baz=75,SNR=17
E13A Victor 74.78 359 ⇓P P 23 00 33.2 -1.2

baz=75
F04A Amboy 74.80 353 ⇓P **P 23 00 34.6 +0.1**
baz=75
E10A Myers Farm, Un 74.92 357 ⇑P **P 23 00 34.4 -0.8**
baz=75
HAWA Hanford 74.99 355 *e*P **P 23 00 29.4 -6.3**
HAWA LR LR
comp=Z,2μm,20.0s,MS5.4
E08A Dider Farm, El 75.05 355 ⇓P **P 23 00 35.0 -0.9**
baz=75
MSO Missoula 75.16 359 P **P 23 00 41.8 +5.1**
MSO LR LR
comp=Z,762nm,19.0s,MS5.0
E07A Sunnyside 75.18 355 ⇓P **P 23 00 35.9 -0.8**
baz=75
LAO LASA Array 75.22 4 P **P 23 00 28.9 -8.0**
comp=Z,20nm,0.9s,mb5.0
CHMT Chamberlain Mo 75.24 359 *e*P **P 23 00 38.1 +1.0**
E06A Yakima 75.26 354 ⇑P **P 23 00 36.8 -0.4**
baz=76
E05A Randle 75.36 353 ⇑P **P 23 00 37.3 -0.4**
baz=76
D15A Lincoln 75.36 360 ⇓P **P 23 00 36.7 -1.0**
baz=76
D14A Greenough 75.41 359 ⇑P **P 23 00 37.6 -0.4**
baz=76
D13A Huson 75.44 359 ⇓P **P 23 00 37.7 -0.5**
baz=76
AAM Ann Arbor 75.45 22 PFAKE 23 00 50.0 +12
AAM LR LR
comp=Z,1μm,20.0s,MS5.2
D10A Wagner Farm, O 75.50 357 ⇓P **P 23 00 37.6 -1.0**
baz=76
E03A Lebam 75.54 352 ⇓P **P 23 00 37.9 -0.9**
baz=76
D09A Jones Farm, Ri 75.57 356 ⇑P **P 23 00 37.8 -1.1**
baz=76
D08A Wollman Farm, 75.61 355 ⇓P **P 23 00 38.5 -0.6**
baz=76
BBSR BB Station 75.78 40 PFAKE 23 00 50.0 +10
BBSR LR LR
comp=Z,2μm,20.0s,MS5.4
D07A Quincy 75.82 355 ⇑P **P 23 00 40.1 -0.3**
baz=76
D06A Cle Elum 75.89 354 ⇑P **P 23 00 40.5 -0.3**
baz=76
D05A Enumclaw 76.00 353 ⇓P **P 23 00 41.3 -0.1**
baz=76
C13A Hot Springs 76.03 359 ⇓P **P 23 00 41.2 -0.4**
baz=76
SSPA Standing Stone 76.05 26 *e*P **P 23 00 38.4 -3.3**
SSPA LR LR
comp=Z,871nm,19.0s,MS5.1
C14A Swan Lake 76.10 359 ⇑P **P 23 00 41.7 -0.2**
baz=76,SNR=5.2
BSMT Bassoo Peak 76.20 358 *e*P **P 23 00 42.2 -0.3**
C10A Spilker Farm, 76.27 357 ⇓P **P 23 00 42.9 0.0**
baz=76
C09A Chrisman Ranch 76.30 356 ⇓P **P 23 00 43.1 0.0**
baz=76
C07A Waterville 76.32 355 P **P 23 00 42.8 -0.4**
baz=76,SNR=7.3
C08A Higginbotham F 76.34 355 ⇓P **P 23 00 43.0 -0.3**
baz=77
EGMT Eagleton 76.38 2 *e*P **P 23 00 42.9 -0.7**
comp=Z,28nm,1.3s,mb5.0
EGMT Eagleton 76.38 2 ⇓P **P 23 00 43.6 0.0**
baz=77
GNW Green Mountain 76.46 353 *e*P **P 23 00 43.9 -0.2**
C05A Tolt Reservoir 76.47 354 ⇑P **P 23 00 43.5 -0.6**
baz=77
C04A Brinnon 76.63 353 ⇑P **P 23 00 44.4 -0.6**
baz=77
NEW Newport 76.70 357 *e*P **P 23 00 44.7 -0.7**
NEW pmax pmax
comp=Z,38nm,1.4s
NEW Newport 76.70 357 *e*P **P 23 00 44.7 -0.7**
comp=Z,38nm,1.4s,mb5.1
B10A Chitwood Farm, 76.74 357 ⇓P **P 23 00 44.8 -0.8**
baz=77
B11A Sandpoint 76.84 357 ⇓P **P 23 00 45.6 -0.5**
baz=77
B09A Rice 76.91 356 ⇑P **P 23 00 45.8 -0.8**
baz=77
B08A Colville Reser 76.93 355 ⇑P **P 23 00 45.9 -0.8**
baz=77
B04A Port Angeles 77.02 352 ⇑P **P 23 00 46.4 -0.8**
baz=77
B05A Bryant 77.07 353 ⇑P **P 23 00 46.4 -1.1**
baz=77
B07A Winthrop 77.09 355 ⇑P **P 23 00 46.8 -0.8**
baz=77
A13A Flathead Natio 77.28 359 ⇓P **P 23 00 48.2 -0.4**
baz=78
A12A Yaak River Ran 77.31 358 ⇓P **P 23 00 48.3 -0.6**
baz=78
A11A Hall Mountain, 77.36 357 ⇑P **P 23 00 48.7 -0.4**
baz=78
WALA Waterton Lakes 77.39 359 *e*P **P 23 00 49.3 0.0**
comp=Z,13nm,1.1s,mb4.8
A09A Danville 77.49 356 ⇑P **P 23 00 49.3 -0.5**
baz=78
A08A Turner Farm, O 77.52 355 ⇑P **P 23 00 49.3 -0.7**
baz=78
A07A Ashnola River, 77.69 355 ⇑P **P 23 00 50.5 -0.5**
baz=78
A05A Maple Falls 77.80 354 ⇓P **P 23 00 51.4 -0.2**
baz=78
TAU Tasmania Unive 77.93 228 *e*P **P 23 01 00.8 +8.5**
TAU *e*S S 23 10 49.2 +3.6
TAU MLR MLR
comp=Z,588nm,20.0s,MS4.9
BINY Binghamton 78.13 27 *e*P **P 23 00 52.9 -0.5**
BINY *e*S S 23 10 37.1 -11
BINY LR LR
comp=Z,728nm,19.0s,MS5.0
CASY Casey 79.83 196 *e*P **P 23 01 01.0 -1.7**
ULM Lac du Bonnet 79.94 11 P **P 23 01 01.4 -1.9**
comp=Z,4.8nm,0.9s,mb4.4,baz=235,slow=5.0,SNR=7.0
ULM LR LR 23 32 49.6
comp=Z,799nm,19.9s,MS5.1,baz=9.6,slow=33
ULM Lac du Bonnet 79.94 11 P **P 23 01 01.4 -1.9**
ULM LR LR 23 32 49.6
HRV Harvard--Oak R 80.22 29 PFAKE 23 01 20.0 +15
HRV LR LR
comp=Z,810nm,19.0s,MS5.1
NCB Newcomb 80.32 27 *e*P **P 23 01 10.6 +5.2**
NCB *e*S S 23 10 58.1 -13
NCB LR LR
comp=Z,1μm,21.0s,MS5.2
TRIS Tristan da Cun 80.63 127 PFAKE 23 01 20.0 +13
TRIS LR LR
comp=Z,2μm,20.0s,MS5.5
LONY Lake Ozonia 80.72 26 *e*P **P 23 01 06.5 -1.0**
comp=Z,64nm,1.6s,mb5.3
LONY LR LR
comp=Z,711nm,19.0s,MS5.0
LBNH Lisbon 81.48 28 *e*P **P 23 01 09.1 -2.4**
LBNH *e*S S 23 11 17.5 -5.6
LBNH MLR MLR
comp=Z,704nm,19.0s,MS5.0
EDM Edmonton 81.55 359 *e*P **P 23 01 10.2 -1.8**
HNR Honiara 83.46 263 PFAKE 23 01 30.0 +8.1
HNR LR LR
comp=Z,988nm,22.0s,MS5.1
MAW Mawson 83.95 178 LR LR 23 38 02.2
comp=Z,1μm,19.1s,MS5.2,baz=359,slow=35
MAW Mawson 83.95 178 P **P 23 01 25.9 +1.5**
WRAK Wrangell Islan 86.43 349 PFAKE 23 01 50.0 +13
WRAK LR LR
comp=Z,2μm,20.0s,MS5.6
STKA Stephens Creek 87.40 235 P **P 23 01 47.2 +5.6**
comp=Z,4.2nm,1.1s,mb4.6,baz=134,slow=6.8,SNR=4.0
STKA LR LR 23 33 17.2
comp=Z,1μm,21.7s,MS5.3,baz=102,slow=30
STKA Stephens Creek 87.40 235 P **P 23 01 44.4 +2.9**
SIT Sitka 87.56 348 PFAKE 23 01 50.0 +7.7
SIT LR LR
comp=Z,2μm,21.0s,MS5.5
DLBC Dease Lake 88.02 351 *e*P **P 23 01 40.8 -3.7**
CTA Charters Tower 89.93 247 P **P 23 01 53.1 -0.4**
comp=Z,5.2nm,1.1s,mb4.8,baz=59,slow=4.1,SNR=3.4
CTA LR LR 23 39 12.9
comp=Z,864nm,18.0s,MS5.2,baz=106,slow=34
CTA Charters Tower 89.93 247 P **P 23 01 53.1 -0.4**
CTA LR LR 23 39 12.9
CTAO Charters Tower 89.93 247 P **P 23 01 56.3 +2.8**

YKA Yellowknife Ar 90.86 359 P **P 23 01 55.9 -2.0**
comp=Z,1.9nm,0.8s,mb4.5,baz=170,slow=4.8,SNR=15
YKA LR LR 23 38 16.4
comp=Z,2μm,18.5s,MS5.5,baz=175,slow=33
SCHQ Schefferville 91.93 24 LR LR 23 42 44.0
comp=Z,564nm,18.1s,MS5.0,baz=223,slow=35
SCHQ Schefferville 91.93 24 *e*P **P 23 02 01.9 -0.9**
KDAK Kodiak Island 92.48 340 PFAKE 23 02 20.0 +15
KDAK LR LR
comp=Z,575nm,19.0s,MS5.0
ASCN Ascension 93.27 101 PFAKE 23 02 20.0 +11
ASCN LR LR
comp=Z,201nm,20.0s,MS4.6
PMG Port Moresby 94.53 257 LR LR 23 38 39.0
comp=Z,758nm,19.1s,MS5.2,baz=110,slow=32
PMG Port Moresby 94.53 257 PFAKE 23 02 30.0 +15
PMG LR LR
comp=Z,731nm,20.0s,MS5.1
PMR Palmer 94.72 343 PFAKE 23 02 30.0 +14
PMR LR LR
comp=Z,1μm,20.0s,MS5.4
EGAK Eagle 95.80 348 PFAKE 23 02 30.0 +9.4
EGAK LR LR
comp=Z,1μm,19.0s,MS5.3
COLA College 97.23 346 P **P 23 02 27.6 +0.5**
ASAR Alice Springs 97.62 238 P **P 23 02 27.7 -1.1**
comp=Z,0.2nm,0.6s,baz=108,slow=3.0,SNR=3.8
WRA Warramunga Arr 99.44 241 LR LR 23 43 26.2
comp=Z,3μm,18.8s,MS5.8,baz=125,slow=33
NWAO Narrogin (SRO) 102.70 221 *e*P Pdif 23 02 53.6 +2.1
SMY Shemya 103.11 323 PFAKE 23 03 00.0 +6.7
SMY LR LR
comp=Z,1μm,19.0s,MS5.5
SUR Sutherland 104.78 140 PFAKE 23 03 10.0 +9.3
SUR LR LR
comp=Z,444nm,19.0s,MS5.0
BOSA Boshof 110.12 141 PFAKE 23 07 40.0 +14
BOSA LR LR
comp=Z,1μm,19.0s,MS5.5
PET Petropavlovsk 111.73 319 PFAKE 23 07 40.0 +11
PET LR LR
comp=Z,2μm,21.0s,MS5.8
TSUM Tsumeb 112.21 129 PFAKE 23 07 40.0 +10
TSUM LR LR
comp=Z,1μm,20.0s,MS5.5
LBTB Lobatse 113.09 139 PFAKE 23 07 40.0 +8.4
LBTB LR LR
comp=Z,1μm,20.0s,MS5.5
BILL Bilibino 113.09 336 PFAKE 23 07 40.0 +8.3
BILL LR LR
comp=Z,945nm,21.0s,MS5.4
TORD Torodi Ar. Bea 117.26 89 PKP PKPdf 23 07 39.9 +0.3
comp=Z,1.2nm,1.0s,baz=272,slow=2.3,SNR=4.0
TORD Torodi Ar. Bea 117.26 89 PKP PKPdf 23 07 39.9 +0.3
MA2 Magadan 117.63 325 PFAKE 23 07 50.0 +10
MA2 LR LR
comp=Z,1μm,22.0s,MS5.4
ERM Erimo 118.76 305 PFAKE 23 07 50.0 +7.5
ERM LR LR
comp=Z,267nm,21.0s,MS4.8
YSS Yuzh-Sakhalins 120.10 310 *e*PKIKP PKPdf 23 07 45.8 +0.7
PAB San Pablo 120.92 59 PFAKE 23 08 00.0 +13
PAB LR LR
comp=Z,1μm,19.0s,MS5.5
MAJO Matsushiro 121.16 297 PFAKE 23 08 00.0 +13
MAJO LR LR
comp=Z,385nm,21.0s,MS5.0
ESDC Sonseca Array 121.23 59 PKP PKPdf 23 07 50.0 +2.7
comp=Z,0.4nm,0.6s,baz=288,slow=2.2,SNR=4.6
ESLA Sonseca Array 121.23 59 PFAKE 23 08 00.0 +13
ESLA LR LR
comp=Z,7μm,20.0s,MS6.3
DAV Davao City (W) 121.34 260 PFAKE 23 08 00.0 +12
DAV LR LR
comp=Z,798nm,19.0s,MS5.4
LSZ Lusaka 122.05 134 PFAKE 23 08 00.0 +11
LSZ LR LR
comp=Z,1μm,21.0s,MS5.6
KBS Kingsbay 124.35 11 PFAKE 23 08 00.0 +6.7
KBS LR LR
comp=Z,1μm,19.0s,MS5.5
TIXI Tiksi 125.90 340 ⇑*i*PKIKP PKPdf 23 07 54.5 -1.7
TIXI Tiksi 125.90 340 PFAKE 23 08 10.0 +14
TIXI LR LR
comp=Z,688nm,19.4s,MS5.3
KLR Kul'dur 127.68 312 *e*PKIKP PKPdf 23 07 56.0 -3.6
YAK Yakutsk 127.93 328 PFAKE 23 08 10.0 +10
YAK LR LR
comp=Z,865nm,20.0s,MS5.4
MDJ Mudanjiang 128.93 306 PKP PKPdf 23 08 02.0 0.0
MDJ PP PP
comp=Z,104nm,6.5s
MDJ LR LR
comp=E,353nm,35.8s
MDJ LR LR
comp=Z,510nm,34.5s,MS5.0
MDJ Mudanjiang 128.93 306 PFAKE 23 08 10.0 +8.0
MDJ LR LR
comp=Z,524nm,19.0s,MS5.2
BUG Bochum--Univer 130.16 45 *e*SS SS 23 28 12.3 +29
INCN Inchon 130.42 296 PFAKE 23 08 20.0 +15
INCN LR LR
comp=Z,495nm,22.0s,MS5.2
BFO Black Forest 130.96 49 *e*SS SS 23 28 20.4 +28
TNS Taunus Mts 130.97 47 *e*SS SS 23 28 20.8 +28
GRFO Grafenberg 132.79 47 *e*SS SS 23 28 43.6 +28
GRFO Grafenberg 132.79 47 PFAKE 23 08 20.0 +11
GRFO LR LR
comp=Z,588nm,20.0s,MS5.3
GRF Grafenberg Arr 132.79 47 *e*SS SS 23 28 42.6 +27
GRF *e*L 23 59 02.0
comp=Z,426nm,20.7s
KEV Kevo 132.84 18 PFAKE 23 08 20.0 +11
KEV LR LR
comp=Z,898nm,22.0s,MS5.4
MOX Moxa 132.96 46 *e*SS SS 23 28 45.5 +28
MANZ Manzenberg 133.34 47 *e*SS SS 23 28 48.3 +27
RGN Rugen 133.41 41 *e*SS SS 23 28 45.5 +23
ROTZ Rotzenmuhle 133.42 47 *e*SS SS 23 28 52.1 +29
TANN Tannenbergstha 133.52 46 *e*SS SS 23 28 51.1 +27
CLL Collm 133.75 45 *e*SS SS 23 28 57.8 +31
CLL Collm 133.75 45 *e*SS SS 23 28 48.0 +21
SSE Sheshan 133.81 287 PKP PKPdf 23 08 10.5 -0.8
SSE PP PP 23 10 44.8 +4.2
SSE SS SS 23 28 26.0 -1.5
SSE PP PP
comp=Z,143nm,4.6s
SSE LR LR
comp=N,66nm,25.0s,MS4.7
SSE LR LR
comp=E,163nm,25.0s,MS4.7
SSE LR LR
comp=Z,213nm,24.7s,MS4.8
WET Wettzell 133.92 48 *e*SS SS 23 29 01.6 +33
BRG Berggiesshubel 134.40 46 *e*SS SS 23 29 12.4 +38
GEC2 GERESS Array S 134.49 48 *e*SS SS 23 29 07.9 +32
GERES GERESS Array B 134.49 48 PKP PKPdf 23 08 12.8 +0.2
comp=Z,0.8nm,0.8s,baz=293,slow=2.5,SNR=3.8
HIA Hailar 135.53 312 PFAKE 23 08 30.0 +16
HIA LR LR
comp=Z,665nm,20.0s,MS5.4
APA Apatity 136.05 18 ⇑*i*PKIKP PKPdf 23 08 24.8 +9.4
APA pmax pmax
comp=Z,90nm,1.8s
APA MLR MLR
comp=Z,1μm,20.0s,MS5.5
BOD Bodaibo 136.66 326 *e*PKIKP PKPdf 23 08 13.8 -2.8
BOD pmax pmax
comp=Z,6.0nm,1.8s
FINES FINESS Array B 137.31 28 PKP PKPdf 23 08 17.7 0.0
comp=Z,1.6nm,0.9s,baz=172,slow=1.2,SNR=3.6
KMBO Kilima Mbogo 138.52 130 PKIKP PKPdf 23 08 22.4 +2.4
KMBO MLR MLR
comp=Z,692nm,21.0s
BJI Beijing 138.75 299 PKP PKPdf 23 08 23.5 +3.1
BJI PP PP
comp=Z,162nm,7.0s
BJI LR LR
comp=N,338nm,18.7s,MS5.2
BJI LR LR
comp=E,304nm,18.7s,MS5.2
BJI LR LR
comp=Z,410nm,20.1s,MS5.2
BJI Beijing 138.75 299 PKIKP PKPdf 23 08 23.4 +3.0
BJI 23 11 22.4

BJI MLR MLR
comp=Z,410nm,20.1s,MS5.2
BJI Beijing 138.75 299 PKP PKPdf 23 08 23.4 +3.0
BJI PP PP 23 11 22.4 +11
BJI SKKS SKKSac 23 17 59.2 -6.8
BJI SS SS 23 29 34.2 +7.8
BJI LR LR
comp=Z,410nm,20.1s,MS5.2
BJT Baijiatuau 138.75 299 PFAKE 23 08 30.0 +10
BJT LR LR
comp=Z,675nm,19.0s,MS5.4
QIZ Qiongzhong 140.32 266 PKP PKPdf 23 08 26.5 +3.2
QIZ PP PP 23 11 24.0 +2.7
QIZ PP PP
comp=Z,58nm,15.8s
QIZ LR LR
comp=N,193nm,31.0s
QIZ LR LR
comp=Z,215nm,27.3s,MS4.8
QIZ Qiongzhong 140.32 266 PFAKE 23 08 40.0 +17
QIZ LR LR
comp=Z,424nm,19.0s,MS5.2
KULM Kulim 140.97 240 *e*PKP PKPdf 23 08 27.4 +3.0
HHC Hu-ho-hao-te 142.23 301 PKP PKPdf 23 08 25.0 -1.7
HHC APKP 23 08 35.0
HHC PP PP 23 11 36.3 +3.4
HHC PKS 23 11 57.0
HHC SKKS SKKSac 23 18 22.5 -3.8
HHC SS SS 23 30 08.5 +1.3
HHC PP PP
comp=Z,145nm,16.7s
HHC LR LR
comp=E,351nm,23.8s,MS5.2
HHC LR LR
comp=N,258nm,20.2s,MS5.2
KLMR Klimovskoe 142.75 22 PKIKP PKPdf 23 08 26.8 -0.8
ENH Enshi 143.60 283 PFAKE 23 08 40.0 +11
ENH LR LR
comp=Z,3.0nm,21.0s
KIEV Kiev 143.77 42 *e*PKIKP PKPdf 23 08 26.9 -2.5
AKASG Malin Array Be 143.78 42 PKP PKPdf 23 08 27.5 -2.0
comp=Z,2.9nm,0.8s,baz=280,slow=4.3,SNR=9.4
AKBB Malin Array Si 143.78 42 *e*PKHKP 23 08 20.5
DGAR Diego Garcia 143.81 188 PFAKE 23 08 40.0 +10
DGAR LR LR
comp=Z,1μm,19.0s,MS5.7
ULN Ulaanbaatar 144.04 313 *e*PKIKP PKPdf 23 08 26.6 -3.3
IRK Irkutsk 144.05 321 *e*PKIKP PKPdf 23 08 27.3 -2.6
IRK pmax pmax
comp=Z,64nm,1.8s
XAN Xi'an 144.45 289 PKP PKPdf 23 08 29.8 -0.8
SONM Songino Array 144.48 313 PKP PKPdf 23 08 27.8 -2.9
comp=Z,3.4nm,0.7s,baz=95,slow=2.6,SNR=23
TLY Talaya 144.65 321 *e*PKHKP 23 08 08.7
TLY *i* PKPdf 23 08 30.0 -1.0
TLY *e* 23 08 36.5
TLY *e*PPP 23 11 56.1
TLY pmax pmax
comp=Z,12nm,1.0s
TLY Talaya 144.65 321 PFAKE 23 08 40.0 +9.0
TLY LR LR
comp=Z,382nm,21.0s,MS5.2
KIS Kishinev 144.80 48 *e*PKIKP PKPdf 23 08 28.0 -3.2
KIS *i* 23 08 39.0
MSEY Mahe Island 144.87 159 PFAKE 23 08 40.0 +8.7
MSEY LR LR
comp=Z,4μm,20.0s,MS6.2
KKTK Khon Kaen 145.31 257 P PKPbc 23 08 32.0 +0.1
GYA Guiyang 145.36 276 PKP PKPdf 23 08 33.5 +1.3
GYA PKP2 PKPab 23 08 36.3 +4.1
GYA PP PP 23 11 58.0 +6.3
GYA PKS 23 12 07.5
GYA SKS SKSdf 23 15 37.3 -4.1
GYA SKKS SKKSac 23 18 43.0 -1.3
GYA PP PP
comp=Z,120nm,7.9s
GYA LR LR
comp=N,130nm,20.4s
GYA LR LR
comp=Z,270nm,20.8s,MS5.0
ZAK Zakamensk 145.43 319 ⇑*e*PKIKP PKPdf 23 08 31.4 -0.9
ZAK pmax pmax
comp=Z,14nm,1.5s
OBN Obninsk 145.44 31 ⇑*i*PKIKP PKPdf 23 08 31.9 -0.4
OBN *e* 23 08 43.2
OBN MLR MLR
comp=Z,500nm,17.0s,MS5.4
OBN Obninsk 145.44 31 *e*PKP PKPdf 23 08 31.6 -0.7
MOY Mondy 146.11 322 *e*PKP2 PKPab 23 08 33.7 -1.3
NST Nakhon Sawan 147.29 254 P PKPdf 23 08 35.0 -0.5
PECR Pechory 147.73 25 *e*PKP2 PKPab 23 08 38.0 -3.3
NANT Nan 148.20 259 ⇑P PKPdf 23 08 40.3 +3.3
comp=Z,175nm,0.9s
SOKR Solikamsk 148.25 10 ⇓*i*PKP2 PKPab 23 08 41.5 -1.9
SOKR pmax pmax
comp=Z,40nm,1.4s
KMI Kunming 148.49 272 PKP PKPdf 23 08 40.8 +3.4
KMI PKP2 PKPab 23 08 49.5 +5.1
KMI PKS 23 12 12.0
KMI PP PP 23 12 17.3 +7.2
KMI SKS SKSdf 23 15 41.5 -4.3
KMI SKKS SKKSac 23 19 00.5 -1.4
KMI SS SS 23 31 24.0 +5.4
KMI PP PP
comp=Z,211nm,4.6s
KMI LR LR
comp=N,263nm,22.6s,MS5.1
KMI LR LR
comp=E,154nm,18.2s,MS5.1
KMI LR LR
comp=Z,192nm,25.4s
KMI Kunming 148.49 272 PKP2 PKPab 23 08 40.8 -3.6
KMI 23 12 11.9
KMI PPP 23 15 38.2
KMI 23 15 41.5
KMI SS SS 23 31 23.9 +5.3
KMI SSS 23 36 57.8
KMI MLR MLR
comp=Z,190nm,25.4s,MS4.8
KMI Kunming 148.49 272 PKP PKPdf 23 08 40.8 +3.4
KMI PKP PKPab 23 08 49.6 +5.2
KMI pPKP pPKPdf 23 08 51.5 +11
KMI sPKP 23 08 55.1
KMI PKS 23 12 11.9
KMI PP PP 23 12 17.3 +7.2
KMI PPP 23 15 38.2
KMI SKS SKSdf 23 15 41.5 -4.3
KMI SKKS SKKSac 23 19 00.5 -1.4
KMI SS SS 23 31 23.9 +5.3
KMI SSS 23 36 57.8
KMI LR LR
comp=Z,190nm,25.4s,MS4.8
LZH Lanzhou 148.61 293 *e*PKP PKPbc 23 08 42.0 +0.7
LZH PP PP 23 12 20.0 +9.2
LZH SKKS SKKSac 23 19 03.3 +0.8
LZH *e*SS SS 23 31 25.0 +5.0
LZH PP PP
comp=Z,240nm,5.1s
LZH LR LR
comp=E,290nm,18.5s
LZH LR LR
comp=Z,350nm,20.0s,MS5.2
LZH Lanzhou 148.61 293 *e*PKP2 PKPbc 23 08 42.1 +0.8
LZH 23 12 20.1
LZH *e*SS SS 23 31 25.0 +5.0
LZH MLR MLR
comp=Z,350nm,20.0s,MS5.2
LZH Lanzhou 148.61 293 *e*PKP PKPbc 23 08 42.1 +0.8
LZH pPKP pPKPdf 23 08 52.7 +12
LZH sPKP 23 08 57.0
LZH PP PP 23 12 20.1 +9.3
LZH SKKS SKKSac 23 19 03.2 +0.7
LZH *e*SS SS 23 31 25.0 +5.0
LZH LR LR
comp=Z,350nm,20.0s,MS5.2
ANTO Ankara 149.36 59 *e*PKP2 PKPbc 23 08 41.5 -1.7
ANTO MLR MLR
comp=Z,377nm,20.0s,MS5.2
CM31 Chiang Mai Arr 149.57 257 PFAKE 23 08 50.0 +11
CM31 LR LR
comp=Z,728nm,20.0s,MS5.5
CHG Chiang Mai 149.72 258 ⇓P PKPab 23 08 48.3 -1.1
comp=Z,25nm,1.1s

CHTO	Chiang Mai	149.72	258	*e*PKHKP	PKPdf	23 08 40.9	+1.5
BR131	Keskin Array S	150.03	59	*e*PKPdf	PKPdf	23 08 42.9	+3.0
BRTR	Keskin Array B	150.03	59	PKPbc	PKPbc	23 08 44.9	0.0
	comp=Z,2.5nm,0.9s,baz=183,slow=1.4,SNR=13						
VRHR	Novokhopersk	150.32	34	*e*PKIKP	PKPdf	23 08 44.5	+4.1
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				pmax	pmax		
	comp=E,2.0nm,0.3s						
SVE	Sverdlovsk	151.44	8	*e*PKIKP	PKPbc	23 08 48.0	-0.2
NVS	Novosibirsk	151.49	341	*e*PKIKP	PKPdf	23 08 42.1	-0.1
NVS				pmax	pmax		
	comp=Z,147nm,3.3s						
ARU	Arti	151.53	10	*i* PKIKP	PKPbc	23 08 48.0	-0.4
ARU				*e*		23 12 26.2	
ARU				*e*PPP		23 15 47.4	
ARU				*e*SS	SS	23 31 51.9	-0.6
ARU	Arti	151.53	10	*e*PKPbc	PKPbc	23 08 48.6	+0.2
EIL	Elat	151.56	80	*e*PKPdf	PKPdf	23 08 43.8	+1.5
ASF	Jabal al Asfar	153.38	75	PKPbc	PKPbc	23 08 51.0	-1.6
	comp=Z,2.6nm,0.8s,baz=193,slow=2.9,SNR=4.4						
KIV	Kislovodsk	154.95	46	*i* PKIKP	PKPbc	23 08 57.0	+1.1
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KIV	Kislovodsk	154.95	46	*e*PKPbc	PKPbc	23 08 56.8	+0.9
KIV				LR	LR		
	comp=Z,127nm,20.0s,MS4.7						
BRVK	Borovoye	155.56	356	*e*PKIKP	PKPdf	23 08 55.6	+7.6
KURK	Kurchatov	156.45	342	*e*PKIKP	PKPdf	23 08 53.6	+4.4
WMQ	Urumqi	157.90	319	*e*PKP	PKPdf	23 08 53.5	+2.5
WMQ				PKP2	PKPab	23 09 30.5	+6.5
WMQ				PKS		23 12 25.8	
WMQ				PP	PP	23 13 09.0	+5.6
WMQ				SKS	SKSdf	23 15 55.5	-1.4
WMQ				SKKS	SKKSac	23 19 54.0	+1.2
WMQ				SS	SS	23 33 04.0	+2.4
WMQ				PP	PP		
	comp=Z,39nm,17.0s						
WMQ				LR	LR		
	comp=N,348nm,24.0s,MS5.6						
WMQ				LR	LR		
	comp=E,887nm,21.0s,MS5.6						
WMQ				LR	LR		
	comp=Z,753nm,24.0s,MS5.5						
MKAR	Makanchi Array	158.55	331	PKP	PKPdf	23 08 50.1	-1.7
	comp=Z,0.8nm,0.9s,baz=54,slow=5.9,SNR=4.0						
MKAR				PKPab	PKPab	23 09 25.9	-0.9
	comp=Z,1.5nm,1.0s,baz=46,slow=5.2,SNR=4.3						
MKAR	Makanchi Array	158.55	331	PKP	PKPdf	23 08 50.1	-1.7
MKAR				PKPab	PKPab	23 09 25.9	-0.9
LSA	Lhasa	159.38	279	*e*PKPdf	PKPdf	23 08 52.5	-0.3
LSA				*e*PKPab	PKPab	23 09 33.8	+3.4
LSA				LR	LR		
	comp=Z,2μm,22.0s,MS5.9						
AAK	Ala-Archa	164.98	340	PFAKE		23 09 10.0	+12
AAK				LR	LR		
	comp=Z,200nm,21.0s						

ISCJB ***31*** *23:08:57.9±0.6, 2269S×003×6739W±007, h170km±6km, mb4.1/14, Error ellipse: s-maj=10.0km s-min=5.5km az=169.0*
NEIC ***31*** *23:08:58.7±0.8, 2263S×6740W, h159km±8km, mb4.3/12, Error ellipse: s-maj=13.0km s-min=7.8km az=81.0*
IDC ***31*** *23:08:59.4±1.5, 2256S×6738W, h155km±13km, mb3.8/7, mb1 4.1/12, mb1mx3.9/19, mbtmp4.0/12, Error ellipse: s-maj=21.6km s-min=11.9km az=76.0*
GUC ***31*** *23:09:01.1±0.7, 2295S×6771W, h200km, ML4.8*

ISC 31 23:08:59.0±0.6, 2263S±003×6744W±007, h160km±6km, n54, σ1°9±34/63, mb4.1/14, 2C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	2.65	253	⇓*i* P	Pn	23 09 46.4	+4.0
CEN1				*i* S	Sn	23 10 20.8	+4.8
CEN1				AML	AML	23 10 22.6	
	comp=N,1μm,0.8s						
ANCH	Antofagasta	2.93	248	⇑*i* P	Pn	23 09 48.6	+2.8
ANCH				*i* S	Sn	23 10 23.2	+1.2
CPN1	Cerro Paranal	3.37	233	⇑*i* P	Pn	23 09 53.1	+1.8
CPN1				*i* S	Sn	23 10 32.1	+0.1
CPN1				AML	AML	23 10 34.7	
	comp=N,2μm,0.6s						
CDCH	Caldera	5.39	214	*e*P	Pn	23 10 15.9	-1.7
CDCH				*i* S	Sn	23 11 14.8	-4.3
CPCH	Copiapo	5.40	209	*i* P	Pn	23 10 18.0	+0.3
CPCH				*i* S	Sn	23 11 17.4	-2.0
LPAZ	La Paz	6.34	354	P	Pn	23 10 32.4	+2.2
	comp=N,17nm,0.3s,baz=151,slow=10,SNR=309						
LPAZ				S	Sn	23 11 41.6	-0.1
	comp=N,2.9nm,0.3s,baz=348,slow=21,SNR=8.2						
LPAZ	La Paz	6.34	354	P	Pn	23 10 32.4	+2.2
LPAZ				S	Sn	23 11 41.6	-0.1
LCO	Las Campanas	7.00	204	*e*Pn	Pn	23 10 37.4	-1.6
	comp=N,27nm,0.4s						
LCO				*e*Sn	Sn	23 11 50.4	-7.3
ARE	Arequipa	7.22	327	*e*P	Pn	23 10 42.0	+0.1
ARE				*e*		23 11 56.0	
ARE				*e*S	Sn	23 12 00.0	-2.9
SIV	San Ignacio	8.93	43	P	Pn	23 11 03.1	-1.4
	comp=N,35nm,0.3s,baz=247,slow=11,SNR=586						
SIV				S	Sn	23 12 35.2	-8.6
	comp=N,2.5nm,0.3s,baz=225,slow=17,SNR=4.0						
CFAA	Coronel Fontan	8.97	184	P	Pn	23 11 05.2	+0.1
	comp=N,1.0nm,0.3s,baz=352,slow=13,SNR=215						
CFAA				S	Sn	23 12 40.5	-4.4
	comp=N,0.8nm,0.3s,baz=208,slow=17,SNR=9.2						
CFAA	Coronel Fontan	8.97	184	P	Pn	23 11 05.2	+0.1
CFAA				S	Sn	23 12 40.5	-4.4
NNA	Nana	13.87	318	P	Pn	23 12 09.5	+0.8
	comp=N,1.1nm,0.3s,baz=153,slow=13,SNR=5.3						
NNA				S	Sn	23 14 41.4	-1.1
	comp=N,1.1nm,0.3s,baz=30,slow=22,SNR=3.8						
NNA	Nana	13.87	318	*e*Pn	Pn	23 12 10.5	+1.8
	comp=N,19nm,0.7s						
NNA				S	Sn	23 14 41.4	-1.1
TRQA	Tornquist	16.08	164	*e*Pn	Pn	23 12 34.8	-1.3
	comp=N,11nm,0.4s						
PLCA	Paso Flores	18.24	188	P	P	23 13 01.6	+1.6
	comp=N,0.9nm,0.3s,baz=4.5,slow=12,SNR=31						
PLCA	Paso Flores	18.24	188	*e*Pn	Pn	23 13 01.6	-0.3
	comp=N,9.1nm,0.5s						
ATAH	Atahualpa	18.78	324	P	P	23 13 09.3	+3.4
	comp=N,0.5nm,0.3s,baz=55,slow=1.9,SNR=8.1						
OTAV	Otavalo	25.13	333	*e*P	P	23 14 09.8	+0.7
	comp=N,3.3nm,0.6s,mb4.0						
EFI	East Falkland	29.89	168	*e*P	P	23 14 47.1	-4.5
PAYG	Puerto Ayora	31.14	311	P	P	23 15 00.4	-2.1
RCBR	Riachuelo	34.71	66	P	P	23 15 34.0	+0.5
JTS	JuntasAbangare	36.94	330	*e*P	P	23 15 51.4	-1.1
PMSA	Palmer Station	42.20	178	*e*P	P	23 16 30.4	-5.5
	comp=N,7.4nm,0.8s,mb4.4						
TEIG	Tepich	47.20	333	*e*P	P	23 17 15.8	+0.3
	comp=N,16nm,0.9s,mb4.7						
OXF	Oxford	60.54	339	P	P	23 18 51.2	-1.1
SNAA	Sanae	60.77	161	P	P	23 18 55.3	+1.4
	comp=N,4.7nm,0.7s,mb4.4,baz=279,slow=6.7,SNR=40						
WVT	Waverly	61.54	341	*e*P	P	23 18 58.4	-0.6
	comp=N,2.4nm,0.5s,mb4.3						
MIAR	Mount Ida	62.04	336	*e*P	P	23 19 02.8	+0.5
	comp=N,1.1nm,0.5s,mb3.9						
ACSO	Alum Creek Sta	64.19	347	P	P	23 19 15.9	-0.6
WMOK	Wichita Mounta	64.35	332	*e*P	P	23 19 16.9	-0.6
	comp=N,1.1nm,0.6s,mb3.9						
QSPA	South Pole Qui	67.57	180	*e*P	P	23 19 40.1	+2.0
	comp=N,39nm,0.6s						
ANMO	Albuquerque	68.19	326	P	P	23 19 40.8	-1.2
	comp=N,0.7nm,0.6s,mb3.6						
SDCO	Great Sand Dun	69.91	329	P	P	23 19 50.5	-2.0
PDAR	Pinedale Array	75.76	329	P	P	23 20 28.1	+1.1
	comp=N,0.2nm,0.5s,baz=129,slow=8.2,SNR=3.2						
VNDA	Vanda	75.98	190	*e*P	P	23 20 22.2	-6.1
	comp=N,5.3nm,1.0s,mb4.1						
TOAO	Torodi Ar. Sit	76.46	69	*e*P	P	23 20 31.6	+0.6
TORD	Torodi Ar. Bea	76.46	69	P	P	23 20 31.6	+0.6
	comp=N,6.2nm,0.5s,mb4.5,baz=254,slow=5.6,SNR=229						
ULM	Lac du Bonnet	76.80	342	P	P	23 20 32.7	-0.2
	comp=N,2.0nm,0.5s,mb4.0,baz=135,slow=5.8,SNR=6.8						
NVAR	Mina Array Bea	77.22	321	P	P	23 20 36.8	+1.6
	comp=N,0.3nm,0.7s,mb3.1,baz=113,slow=6.9,SNR=2.6						
TSUM	Tsumeb	78.42	106	P	P	23 20 41.3	-0.6
HLID	Hailey	78.72	327	*e*P	P	23 20 45.8	+2.3
BOSA	Boshof	81.72	117	P	P	23 21 01.0	+1.4
	comp=N,1.5nm,0.4s,mb3.9,baz=64,slow=16,SNR=9.7						
BOSA	Boshof	81.72	117	P	P	23 21 01.0	+1.4
LBTB	Lobatse	83.31	114	*e*P	P	23 21 06.0	-1.8
NEW	Newport	83.40	329	P	P	23 21 05.6	-2.7
ESLA	Sonseca Array	85.69	44	P	P	23 21 20.5	+0.7
CASY	Casey	91.36	179	*e*P	P	23 21 41.7	-4.9
YKA	Yellowknife Ar	92.70	340	P	P	23 21 52.8	+0.1
	comp=N,1.2nm,0.7s,mb4.2,baz=132,slow=4.5,SNR=28						
ASAR	Alice Springs	129.52	206	PKP	PKPdf	23 27 50.2	+1.5
	comp=N,2.5nm,0.7s,baz=134,slow=1.9,SNR=31						
WRA	Warramunga Arr	132.65	208	PKP	PKPdf	23 27 56.6	+2.0
	comp=N,2.7nm,0.6s,baz=161,slow=1.7,SNR=27						
WRA				SKPbc	SKPbc	23 31 07.8	+0.9
	comp=N,0.7nm,0.6s,baz=156,slow=3.8,SNR=6.3						
MKAR	Makanchi Array	145.71	38	PKPbc	PKPbc	23 28 19.7	+0.7
	comp=N,2.8nm,0.7s,baz=320,slow=3.0,SNR=31						
MKAR	Makanchi Array	145.71	38	PKPbc	PKPbc	23 28 19.7	+0.7
SONM	Songino Array	154.37	10	PKP	PKPdf	23 28 32.9	+1.0
	comp=N,0.4nm,0.9s,baz=40,slow=1.6,SNR=5.4						
SONM				PKPbc	PKPbc	23 28 40.8	+0.6
	comp=N,0.6nm,0.7s,baz=288,slow=1.4,SNR=5.8						
SONM				PKPab	PKPab	23 28 56.1	+1.0
	comp=N,0.7nm,0.9s,baz=323,slow=4.1,SNR=3.4						

ISCJB ***31*** *23:20:08.6±0.4, 2863S±007×11284W±007, h10km, mb4.5/28, MS4.7/14, Error ellipse: s-maj=10.0km s-min=9.4km az=21.1*
IDC ***31*** *23:20:08.7±0.9, 2863S×11284W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, MS4.6/13, Ms1 4.6/13, ms1mx4.5/16, Error ellipse: s-maj=29.3km s-min=22.3km az=52.0*
NEIC ***31*** *23:20:10.3±0.3, 2866S×11277W, h10km, mb4.8/20, Error ellipse: s-maj=13.4km s-min=8.9km az=76.0*
GCMT ***31*** *23:20:10.3±0.2, 2880S×11253W, h12km, MW5.3/84, Moment Tensor Solution. s46,c62; s84,c130; Duration: 1±1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18±.02; $M_{\theta\theta}$-0.50±.02; $M_{\phi\phi}$0.67±.02; $M_{r\theta}$-0.36±.06; $M_{\theta\phi}$-0.72±.02; $M_{\phi r}$-0.02±.06; Best double couple: $M_0$1.01000×10^{17} NP1:ϕ_s17.00000°, δ69.00000°, λ-12.00000°. NP2: ϕ_s112.00000°, δ79.00000°, λ-158.00000°. Principal axes: T 1.0360, Plg7.0000°, Azm243.0000°; N -0.0530, Plg66.0000°, Azm138.0000°; P -0.9830, Plg23.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***31*** *23:20:14.3±1.5, 2832S×11240W, h33km, mb4.7/10 Error ellipse: s-maj=25.1km s-min=11.4km az=84.7*
BJI ***31*** *23:20:15.3, 2870S×11280W, h10km*

ISC 31 23:20:10.3±0.4, 2867S±007×11287W±007, h10km, n104, σ0°95/64, mb4.5/28, MS4.7/14, 1C-3D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.48	65	Pn	Pn	23 20 58.0	-6.5
	42nm,0.3s,baz=243,slow=8.8,SNR=17						
RPN				Sn	Sn	23 21 46.0	+0.2
	baz=292,slow=21,SNR=3.5						
RPN	Rapa Nui	3.48	65	*e*Pn	Pn	23 20 58.2	-6.3
RPN				Sn	Sn	23 21 46.0	+0.2
TAOE	Nuku Hiva Isla	32.35	302	*e*LR	LR	23 34 47.2	
	4μm,24.0s						
TBI	Tubuai	33.23	271	*e*LQ		23 33 55.4	
	3μm,29.5s						
TBI				*e*LR	LR	23 35 17.2	
	4μm,27.5s,baz=112						
PAYG	Puerto Ayora	35.22	42	P	P	23 27 04.5	-0.2
PPT	Papeete	35.39	280	*e*LQ		23 34 48.8	
	2μm,26.2s						
PPT				*e*LR	LR	23 36 15.3	
	3μm,27.2s,baz=107						
PPT	Papeete	35.39	280	LR	LR	23 37 21.4	
	comp=Z,1μm,21.5s,MS4.6,baz=107,slow=29						
PLCA	Paso Flores	36.48	121	LR	LR	23 37 12.5	
	comp=Z,201nm,19.0s,MS3.9,baz=104,slow=28						
PLCA	Paso Flores	36.48	121	P	P	23 27 14.5	-1.0
PLCA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PLCA	Paso Flores	36.48	121	P	P	23 27 14.5	-1.0
	comp=Z,8.3nm,1.2s,mb4.5						
NNA	Nana	37.45	71	*e*P	P	23 27 22.4	-1.3
	comp=Z,7.0nm,0.9s,mb4.5						
CFAA	Coronel Fontan	38.51	106	P	P	23 27 31.8	-0.9
	comp=Z,0.4nm,0.7s,baz=266,slow=7.9,SNR=8.5						
CFAA				LR	LR	23 40 11.6	
	comp=Z,83nm,18.4s,MS3.6,baz=261,slow=31						
ATAH	Atahualpa	39.02	63	P	P	23 27 37.1	+0.2
	comp=Z,14nm,1.1s,mb4.6,baz=228,slow=5.4,SNR=13						
LPAZ	La Paz	42.90	83	P	P	23 28 09.8	+0.9
	comp=Z,4.5nm,0.9s,mb4.2,baz=246,slow=6.5,SNR=16						
LPAZ				LR	LR	23 41 50.7	
	comp=Z,977nm,19.9s,MS4.7,baz=67,slow=30						
TRQA	Tornquist	43.06	116	*e*P	P	23 28 11.0	+0.8
	comp=Z,5.5nm,0.8s,mb4.3						
OTAV	Otavalo	43.70	55	*e*P	P	23 28 16.0	+0.6
	comp=Z,33nm,1.5s,mb4.8						
JTS	JuntasAbangare	47.20	39	P	P	23 28 42.6	-0.5
	comp=Z,5.9nm,0.9s,mb4.5,baz=293,slow=11,SNR=3.5						
JTS	JuntasAbangare	47.20	39	*e*P	P	23 28 42.7	-0.4
JTS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
JTS	JuntasAbangare	47.20	39	*e*P	P	23 28 42.7	-0.4
	comp=Z,5.3nm,0.6s,mb4.7						
ROSC	El Rosal	49.85	54	P	P	23 29 05.0	+1.5
	comp=Z,2.1nm,0.4s,mb4.5,baz=277,slow=21,SNR=7.5						
ROSC				LR	LR	23 46 13.0	
	comp=Z,656nm,20.0s,MS4.6,baz=81,slow=31						
LTX	Lajitas	58.34	9	*e*P	P	23 30 00.8	-4.7
LTX				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
LTX	Lajitas	58.34	9	*e*P	P	23 30 00.8	-4.7
	comp=Z,6.8nm,1.0s,mb4.6						
JCT	Junction City	60.12	13	*e*P	P	23 30 18.3	+0.5
JCT				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
JCT	Junction City	60.12	13	*e*P	P	23 30 18.3	+0.5
	comp=Z,32nm,1.3s,mb5.2						
TUC	Tucson	60.67	2	P	P	23 30 22.2	+0.6
TUC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
TUC	Tucson	60.67	2	P	P	23 30 22.2	+0.6
	comp=Z,2.5nm,0.8s,mb4.4						
VNDA	Vanda	61.21	194	LR	LR	23 51 09.4	
	comp=Z,632nm,19.2s,MS4.8,baz=87,slow=30						
QSPA	South Pole Qui	61.51	180	*e*P	P	23 30 27.9	+0.7
	comp=Z,26nm,1.4s,mb5.2						
ANMO	Albuquerque	63.56	6	*e*P	P	23 30 39.6	-1.4
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	Albuquerque	63.56	6	*e*P	P	23 30 39.6	-1.4
	comp=Z,2.2nm,0.9s,mb4.2						
WMOK	Wichita Mounta	64.45	13	P	P	23 30 48.2	+1.3
SJG	San Juan	64.81	50	P	P	23 30 49.3	+0.1
MIAR	Mount Ida	65.47	17	*e*P	P	23 30 55.0	+1.6
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
MIAR	Mount Ida	65.47	17	*e*P	P	23 30 55.0	+1.5
	comp=Z,3.1nm,0.6s,mb4.5						
MVCO	Mesa Verde	65.66	4	*e*P	P	23 30 55.0	+0.3
	comp=Z,12nm,1.2s,mb4.8						
SDCO	Great Sand Dun	66.43	6	*e*P	P	23 30 59.9	+0.3
	comp=Z,13nm,1.5s,mb4.7						
TPH	Tonopah	66.52	356	P	P	23 31 02.2	+2.0
PV01	Paradox Valley	66.58	4	*e*P	P	23 31 00.7	+0.1
CMB	Columbia Colle	66.73	354	*e*P	P	23 31 01.1	-0.4
CMB				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.6						
CMB	Columbia Colle	66.73	354	*e*P	P	23 31 01.1	-0.5
	comp=Z,10nm,1.6s,mb4.6						
PV10	Paradox Valley	66.79	3	*e*P	P	23 31 01.9	-0.1
NVAR	Mina Array Bea	66.94	355	P	P	23 31 04.1	+1.2
	comp=Z,2.1nm,0.8s,mb4.2,baz=201,slow=10,SNR=14						
SRU	San Rafael	67.47	2	*e*P	P	23 31 05.0	-1.2
SRU				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
SRU	San Rafael	67.47	2	*e*P	P	23 31 05.0	-1.2
	comp=Z,13nm,1.1s,mb4.9						
DUG	Dugway	68.51	0	*e*P	P	23 31 12.4	-0.4
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
DUG	Dugway	68.51	0	*e*P	P	23 31 12.4	-0.4
	comp=Z,5.3nm,1.0s,mb4.4						
WVT	Waverly	68.63	22	*e*P	P	23 31 12.6	-0.9
DAU	Daniels Canyon	68.75	1	*e*P	P	23 31 12.6	-1.7
SNAA	Sanae	69.05	161	P	P	23 31 16.9	+0.7
	comp=Z,2.3nm,1.0s,mb4.1,baz=230,slow=11,SNR=6.8						
KSU1	Kansas State U	69.11	13	P	P	23 31 14.2	-2.3
MOD	Modoc	70.55	354	*e*P	P	23 31 26.1	+0.7
	comp=Z,7.9nm,1.1s,mb4.6						
PDAR	Pinedale Array	71.15	3	P	P	23 31 27.6	-1.4
	comp=Z,2.2nm,1.0s,mb4.0,baz=123,slow=5.5,SNR=5.9						
PDAR				LR	LR	23 56 40.1	
	comp=Z,361nm,18.2s,MS4.7,baz=194,slow=31						
HLID	Hailey	71.89	359	*e*P	P	23 31 34.5	+1.0
	comp=Z,17nm,1.3s,mb4.8						
RSSD	Black Hills	72.89	7	P	P	23 31 37.8	-1.6
MCMT	McKenzie Canyo	73.14	0	*e*P	P	23 31 41.4	+0.4
CHMT	Chamberlain Mo	75.23	360	*e*P	P	23 31 53.4	+0.3
NEW	Newport	76.67	357	*e*P	P	23 32 01.5	+0.1
NEW				*e*		23 32 11.4	
NEW				pmax	pmax		
	comp=Z,12nm,1.1s						
NEW	Newport	76.67	357	*e*P	P	23 32 01.5	+0.1
	comp=Z,12nm,1.1s,mb4.7						
NEW				*e*PcP	PcP	23 32 11.3	-1.4
WALA	Waterton Lakes	77.38	359	*e*P	P	23 32 06.0	+0.6
WALA				*e*PcP	PcP	23 32 15.6	-0.2
PGC	Sidney	77.55	353	P	P	23 32 07.3	+1.0
CASY	Casey	79.74	196	*e*P	P	23 32 19.2	+0.8
	comp=Z,4.4nm,0.4s,mb4.7						
ULM	Lac du Bonnet	80.00	11	P	P	23 32 19.6	-0.2
	comp=Z,1.4nm,0.6s,mb4.0,baz=303,slow=5.3,SNR=4.9						
ULM				LR	LR	00 07 05.0	
	comp=Z,168nm,18.3s,MS4.4,baz=197,slow=35						
EDM	Edmonton	81.55	360	*e*P	P	23 32 28.0	-0.1
MAW	Mawson	83.97	178	LR	LR	00 06 34.9	
	comp=Z,568nm,21.7s,MS4.9,baz=23,slow=33						
MAW	Mawson	83.97	178	*e*P	P	23 32 39.1	-1.6
STKA	Stephens Creek	87.10	235	LR	LR	00 03 03.8	
	comp=Z,718nm,20.8s,MS5.1,baz=297,slow=30						
DLBC	Dease Lake	87.95	351	P	P	23 33 01.0	+0.6
FCC	Fort Churchill	88.50	10	P	P	23 33 01.8	-1.1
CTA	Charters Tower	89.60	247	LR	LR	00 06 04.4	
	comp=Z,525nm,21.0s,MS4.9,baz=315,slow=31						
YKA	Yellowknife Ar	90.85	359	P	P	23 33 13.0	-1.0
	comp=Z,0.7nm,0.8s,mb4.0,baz=173,slow=4.8,SNR=14						
YKA				LR	LR	00 09 22.8	
	comp=Z,526nm,18.4s,MS5.0,baz=180,slow=32						
INK	Inuvik	97.89	352	P	P	23 33 45.9	-0.3
WRA	Warramunga Arr	99.12	241	LR	LR	00 12 46.4	
	comp=Z,1μm,20.4s,MS5.3,baz=140,slow=32						
BORG	Borgarnes	116.18	29	PKPdf	PKPdf	23 38 50.7	-3.0
TORD	Torodi Ar. Bea	117.62	90	PKP	PKPdf	23 38 56.6	+0.1
	comp=Z,0.9nm,1.0s,baz=254,slow=2.1,SNR=3.9						
ESDC	Sonseca Array	121.55	59	PKP	PKPdf	23 39 04.9	+0.9
	comp=Z,0.2nm,0.5s,baz=178,slow=4.4,SNR=3.5						
LSZ	Lusaka	122.32	134	*e*PKIKP	PKPdf	23 39 06.5	+1.0
ULN	Ulaanbaatar	143.77	313	*e*PKIKP	PKPdf	23 39 44.2	-1.4
AKASG	Malin Array Be	144.02	42	PKP	PKPdf	23 39 43.0	-3.0
	comp=Z,0.8nm,0.6s,baz=276,slow=4.2,SNR=8.4						
AKBB	Malin Array Si	144.02	42	*e*PKIKP	PKPdf	23 39 45.9	-0.1
XAN	Xi'an	144.10	289	PKP	PKPdf	23 39 48.3	+2.1
SONM	Songino Array	144.20	313	PKP	PKPdf	23 39 45.4	-1.0
	comp=Z,3.1nm,0.8s,baz=105,slow=2.3,SNR=19						
KIS	Kishinev	145.07	48	*e*P	PKPbc	23 39 48.0	+0.7
ZAK	Zakamensk	145.18	319	*e*PKIKP	PKPdf	23 39 48.9	+0.9
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
OBN	Obninsk	145.62	31	⇓*i* PKIKP	PKPdf	23 39 50.6	+1.8
OBN				*e*		23 39 58.9	
OBN				*e*		23 40 05.6	
OBN				pmax	pmax		
	comp=Z,48nm,1.5s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.7						
OBN	Obninsk	145.62	31	*e*PKPdf	PKPdf	23 39 49.0	+0.2
NANT	Nan	147.84	260	⇓P	PKPab	23 39 59.8	+1.9
	comp=Z,76nm,1.0s						
PECR	Pechory	147.87	24	*e*PKP2	PKPab	23 40 08.4	+10
LZH	Lanzhou	148.27	293	*e*PKP	PKPab	23 40 03.0	+3.4
LZH	Lanzhou	148.27	293	*e*P	PKPab	23 40 02.9	+3.3
LZH				pP		23 40 12.0	
LZH				sP		23 40 16.4	
CHG	Chiang Mai	149.36	258	⇓P	PKPab	23 40 01.8	-2.2
	comp=Z,17nm,1.3s						
CHTO	Chiang Mai	149.36	258	*e*PKHKP	PKPab	23 39 59.6	-4.4
ANTO	Ankara	149.67	59	*e*PKHKP	PKPdf	23 39 55.0	-0.5
ANTO				*e*		23 40 02.4	
BR131	Keskin Array S	150.34	59	*e*PKPdf	PKPdf	23 39 59.2	+2.7
BRTR	Keskin Array B	150.34	59	PKPbc	PKPbc	23 40 01.4	-0.4
	comp=Z,4.0nm,1.0s,

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     comp=E,551nm,0.6s,SNR=90
KRBR Kerman          1.78 339  ePg      Pg      23 27 24.9 -1.2
KRBR                           eSg      Sg      23 27 49.8 +0.7
KRBR                            AML     AML     23 28 06.7
     comp=E,200nm,0.6s
KRBR                            AML     AML     23 28 07.0
     comp=N,244nm,0.5s
KRBR Kerman          1.78 339  ePg      Pg      23 27 24.9 -1.2
     SNR=90
KRBR                           eSg      Sg      23 27 49.8 +0.7
     comp=N,244nm,0.5s,SNR=90
ZHSF Zahedan         3.14  65  ePn      Pn      23 27 41.4 -0.6
GHIR Ghir-Karzin     3.98 271  ePn      Pn      23 27 55.0 +1.5
GHIR                            AML     AML     23 28 55.4
     comp=N,30nm,0.5s
GHIR                            AML     AML     23 29 02.7
     comp=E,27nm,0.4s
UMR  Umm Al-Rimmam   8.66 280  eP       Pn      23 28 58.3 +0.5
UMR                            eS       Sn      23 30 35.3 -0.5
UMR                             AML     AML     23 30 36.4
     comp=Z,7.1nm,0.3s
RDF  Al-Radifah      8.77 276  eP       Pn      23 28 59.5 +0.2
RDF                            eS       Sn      23 30 38.1 -0.3
RDF                             AML     AML     23 30 41.9
     comp=Z,7.0nm,0.4s
MIB  Mutribah        9.02 282  eP       Pn      23 29 03.9 +1.2
MIB                            eS       Sn      23 30 43.2 -1.3
MIB                             AML     AML     23 30 47.0
     comp=Z,6.0nm,0.6s
NAY  Al-Naaiem       9.05 278  eP       Pn      23 29 04.0 +0.8
NAY                            eS       Sn      23 30 45.2 -0.1
NAY                             AML     AML     23 30 49.3
     comp=Z,4.2nm,0.5s
```
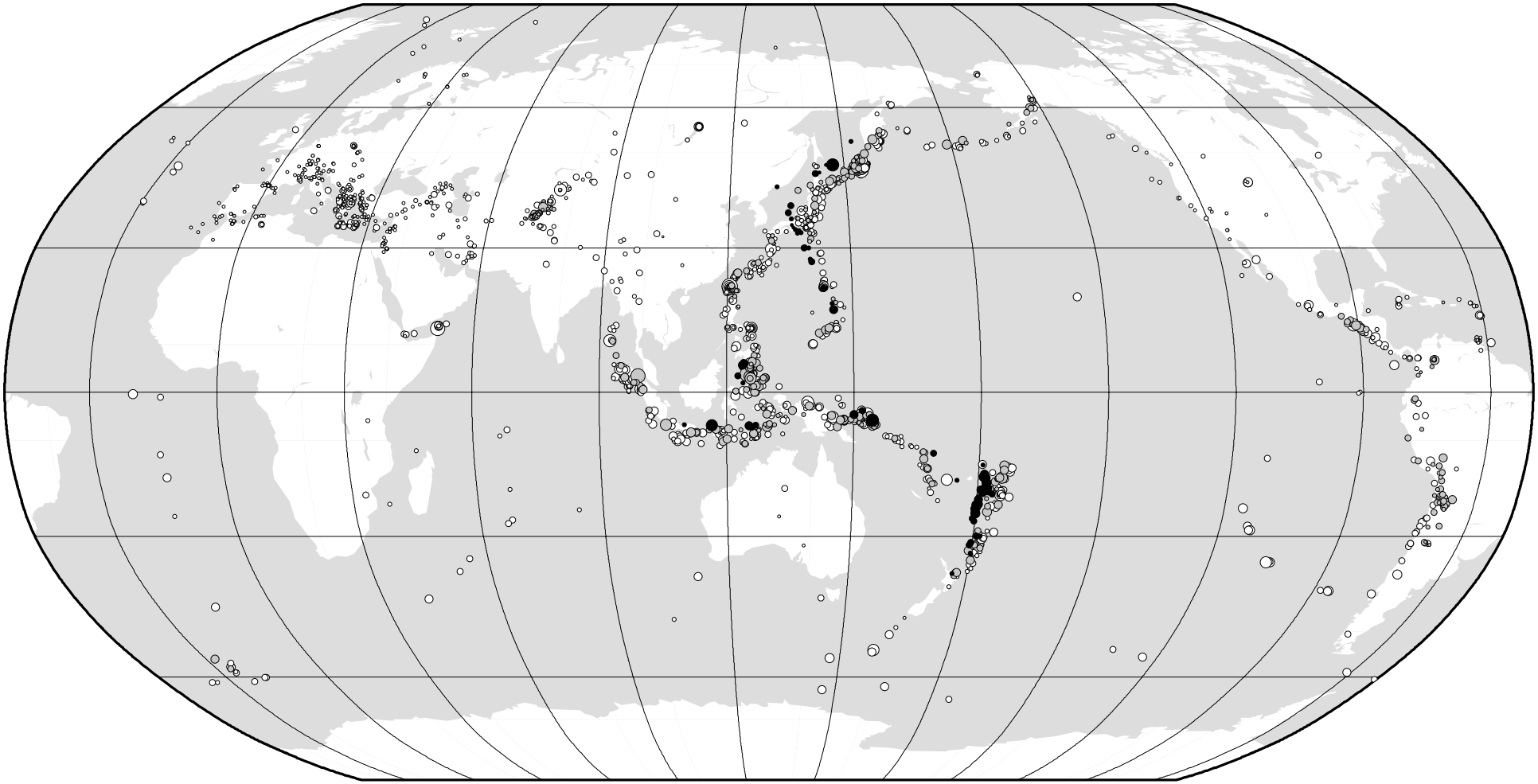

IDC 31 23:42:07.7±9.2,825S×12674E,h261km±111km,mb2.8/1,
mb1 3.3/4,mb1mx3.0/14,mbtmp3.1/4,Error ellipse:
s-maj=77.2km s-min=49.8km az=35.0,Timor region

```
Code Station Name        Δ°   AZ°   Phase ID        Time      Res
                                    Op      ISC     h  m  s    ISC
FITZ Fitzroy Crossi      9.85 186   P       Pn      23 44 23.6 -0.5
     0.3nm,0.3s,baz=11,slow=14,SNR=15
FITZ                               S       S       23 46 15.0  0.0
     0.7nm,0.3s,baz=311,slow=20,SNR=5.7
WRA  Warramunga Arr     13.75 148  P       Pn      23 45 11.9 -0.5
     0.5nm,0.3s,baz=327,slow=12,SNR=11
WRA                                S       S       23 47 31.8  -13
     0.3nm,0.3s,baz=329,slow=23,SNR=4.8
ASAR Alice Springs      16.79 157  P       P       23 45 47.9 +1.5
     0.6nm,0.3s,baz=343,slow=12,SNR=55
MKAR Makanchi Array     67.55 329  P       P       23 52 36.1 +0.1
     0.2nm,0.6s,baz=118,slow=8.0,SNR=4.1
```

ISC Computed Locations for December 2006



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2152 Events

IASPEI Standard Seismic Phase List

After numerous consultations with the seismological community this list was finalized in May 2002 by the IASPEI Working group on Phase names, chaired by D.A. Storchak. Other members of the WG were R.D. Adams, P.Bormann, E.R. Engdahl, J. Havskov, B.N.L. Kennett and J. Schweitzer. The list has finally been approved by the IASPEI Commission on Seismological Observation and Interpretation (CoSOI) and adopted by IASPEI in Sapporo on 9 July 2003

Storchak D.A., Schweitzer J., Bormann P. (2003) The IASPEI Standard Seismic Phase List, Seismological Research Letters 74, 6, 761-772

Storchak D.A., Schweitzer J., Bormann P. (2002) Standard Nomenclature of Seismic Phases. New Manual of Seismological Observatory Practice (NMSOP), GeoForschungZentrum Potsdam, volume 2, annex IS 2.1, 1-17.

Crustal Phases

Pg	At short distances, either an upgoing P wave from a source in the upper crust or a P wave bottoming in the upper crust. At larger distances also arrivals caused by multiple P-wave reverberations inside the whole crust with a group velocity around 5.8 km/s.
Pb	Either an upgoing P wave from a source in the lower crust or a P wave bottoming in the lower crust (alt: P*)
Pn	Any P wave bottoming in the uppermost mantle or an upgoing P wave from a source in the uppermost mantle
PnPn	Pn free-surface reflection
PgPg	Pg free-surface reflection
PmP	P reflection from the outer side of the Moho
PmP*N*	PmP multiple free surface reflection; *N* is a positive integer. For example, PmP2 is PmPPmP.
PmS	P to S reflection from the outer side of the Moho
Sg	At short distances, either an upgoing S wave from a source in the upper crust or an S wave bottoming in the upper crust. At larger distances also arrivals caused by superposition of multiple S-wave reverberations and SV to P and/or P to SV conversions inside the whole crust.
Sb	Either an upgoing S wave from a source in the lower crust or an S wave bottoming in the lower crust (alt: S*)
Sn	Any S wave bottoming in the uppermost mantle or an upgoing S wave from a source in the uppermost mantle
SnSn	Sn free-surface reflection
SgSg	Sg free-surface reflection
SmS	S reflection from the outer side of the Moho
SmS*N*	SmS multiple free-surface reflection; *N* is a positive integer. For example, SmS2 is SmSSmS.
SmP	S to P reflection from the outer side of the Moho
Lg	A wave group observed at larger regional distances and caused by superposition of multiple S-wave reverberations and SV to P and/or P to SV conversions inside the whole crust. Themaximum energy travels with a group velocity around 3.5 km/s.
Rg	Short-period crustal Rayleigh wave

Mantle Phases

P	A longitudinal wave, bottoming below the uppermost mantle; also an upgoing longitudinal wave from a source below the uppermost mantle
PP	Free-surface reflection of P wave leaving a source downward
PS	P, leaving a source downward, reflected as an S at the free surface. At shorter distances the first leg is represented by a crustal P wave.
PPP	Analogous to PP
PPS	PP to S converted reflection at the free surface; travel time matches that of PSP
PSS	PS reflected at the free surface
PcP	P reflection from the core-mantle boundary (CMB)
PcS	P to S converted reflection from the CMB
PcP*N*	PcP multiple free-surface reflection; *N* is a positive integer. For example PcP2 is PcPPcP.
P*z*+P	P reflection from outer side of a discontinuity at depth *z*; *z* may be a positive numerical value in km. For example, P660+P is a P reflection from the top of the 660 km discontinuity. (alt: P*z*P)
P*z*-P	P reflection from inner side of discontinuity at depth *z*. For example, P660-P is a P reflection from below the 660 km discontinuity, which means it is precursory to PP.
P*z*+S	P to S converted reflection from outer side of discontinuity at depth *z* (alt: P*z*S)
P*z*-S	P to S converted reflection from inner side of discontinuity at depth *z*
PScS	P (leaving a source downward) to ScS reflection at the free surface
Pdif	P diffracted along the CMB in the mantle (old: Pdiff)
S	Shear wave, bottoming below the uppermost mantle; also an upgoing shear wave from a source below the uppermost mantle
SS	Free-surface reflection of an S wave leaving a source downward
SP	S, leaving source downward, reflected as P at the free surface. At shorter distances the second leg is represented by a crustal P wave.
SSS	Analogous to SS
SSP	SS to P converted reflection at the free surface; travel time matches that of SPS.
SPP	SP reflected at the free surface
ScS	S reflection from the CMB
ScP	S to P converted reflection from the CMB
ScS*N*	ScS multiple free-surface reflection; *N* is a positive integer. For example ScS2 is ScSScS.
S*z*+S	S reflection from outer side of a discontinuity at depth *z*; *z* may be a positive numerical value in km. For example S660+S is an S reflection from the top of the 660 km discontinuity. (alt: S*z*S)
S*z*-S	S reflection from inner side of discontinuity at depth *z*. For example, S660-S is an S reflection from below the 660 km discontinuity, which means it is precursory to SS.
S*z*+P	S to P converted reflection from outer side of discontinuity at depth *z* (alt: S*z*P)
S*z*-P	S to P converted reflection from inner side of discontinuity at depth *z*
ScSP	ScS to P reflection at the free surface
Sdif	S diffracted along the CMB in the mantle (old: Sdiff)

Core Phases

PKP	Unspecified P wave bottoming in the core (alt: P')
PKPab	P wave bottoming in the upper outer core; ab indicates the retrograde branch of the PKP caustic (old: PKP2)
PKPbc	P wave bottoming in the lower outer core; bc indicates the prograde branch of the PKP caustic (old: PKP1)
PKPdf	P wave bottoming in the inner core (alt: PKIKP)
PKPpre	A precursor to PKPdf due to scattering near or at the CMB (old: PKhKP)
PKPdif	P wave diffracted at the inner core boundary (ICB) in the outer core
PKS	Unspecified P wave bottoming in the core and converting to S at the CMB
PKSab	PKS bottoming in the upper outer core
PKSbc	PKS bottoming in the lower outer core
PKSdf	PKS bottoming in the inner core
P'P'	Free-surface reflection of PKP (alt: PKPPKP)

P'*N*	PKP reflected at the free surface *N* - 1 times; *N* is a positive integer. For example, P'3 is P'P'P'. (alt: PKP*N*)
P'*z*-P'	PKP reflected from inner side of a discontinuity at depth *z* outside the core, which means it is precursory to P'P'; *z* may be a positive numerical value in km.
P'S'	PKP to SKS converted reflection at the free surface; other examples are P'PKS, P'SKP (alt: PKPSKS)
PS'	P (leaving a source downward) to SKS reflection at the free surface (alt: PSKS)
PKKP	Unspecified P wave reflected once from the inner side of the CMB
PKKPab	PKKP bottoming in the upper outer core
PKKPbc	PKKP bottoming in the lower outer core
PKKPdf	PKKP bottoming in the inner core
P*N*KP	P wave reflected *N* - 1 times from inner side of the CMB; *N* is a positive integer.
PKKPpre	A precursor to PKKP due to scattering near the CMB
PKiKP	P wave reflected from the inner core boundary (ICB)
PK*N*IKP	P wave reflected *N* - 1 times from the inner side of the ICB
PKJKP	P wave traversing the outer core as P and the inner core as S
PKKS	P wave reflected once from inner side of the CMB and converted to S at the CMB
PKKSab	PKKS bottoming in the upper outer core
PKKSbc	PKKS bottoming in the lower outer core
PKKSdf	PKKS bottoming in the inner core
PcPP'	PcP to PKP reflection at the free surface; other examples are PcPS', PcSP', PcSS', PcPSKP, PcSSKP. (alt: PcPPKP)
SKS	unspecified S wave traversing the core as P (alt: S')
SKSac	SKS bottoming in the outer core
SKSdf	SKS bottoming in the inner core (alt: SKIKS)
SPdifKS	SKS wave with a segment of mantleside Pdif at the source and/or the receiver side of the ray path (alt: SKPdifS)
SKP	Unspecified S wave traversing the core and then the mantle as P
SKPab	SKP bottoming in the upper outer core
SKPbc	SKP bottoming in the lower outer core
SKPdf	SKP bottoming in the inner core
S'S'	Free-surface reflection of SKS (alt: SKSSKS)
S'*N*	SKS reflected at the free surface *N* - 1 times; *N* is a positive integer
S'*z*-S'	SKS reflected from inner side of discontinuity at depth *z* outside the core, which means it is precursory to S'S'; *z* may be a positive numerical value in km.
S'P'	SKS to PKP converted reflection at the free surface; other examples are S'SKP, S'PKS. (alt: SKSPKP)
S'P	SKS to P reflection at the free surface (alt: SKSP)
SKKS	Unspecified S wave reflected once from inner side of the CMB
SKKSac	SKKS bottoming in the outer core
SKKSdf	SKKS bottoming in the inner core
S*N*KS	S wave reflected *N* - 1 times from inner side of the CMB; *N* is a positive integer.
SKiKS	S wave traversing the outer core as P and reflected from the ICB
SKJKS	S wave traversing the outer core as P and the inner core as S
SKKP	S wave traversing the core as P with one reflection from the inner side of the CMB and then continuing as P in the mantle
SKKPab	SKKP bottoming in the upper outer core
SKKPbc	SKKP bottoming in the lower outer core
SKKPdf	SKKP bottoming in the inner core
ScSS'	ScS to SKS reflection at the free surface; other examples are ScPS', ScSP', ScPP', ScSSKP, ScPSKP. (alt: ScSSKS)

Near-source Surface reflections (Depth Phases)

pP*y*	All P-type onsets (P*y*), as defined above, which resulted from reflection of an upgoing P wave at the free surface or an ocean bottom. WARNING: The character *y* is only a wild card for any seismic phase, which could be generated at the free surface. Examples are pP, pPKP, pPP, pPcP, etc.
sP*y*	All Py resulting from reflection of an upgoing S wave at the free surface or an ocean bottom; for example, sP, sPKP, sPP, sPcP, etc.
pS*y*	All S-type onsets (S*y*), as defined above, which resulted from reflection of an upgoing P wave at the free surface or an ocean bottom; for example, pS, pSKS, pSS, pScP, etc.
sS*y*	All Sy resulting from reflection of an upgoing S wave at the free surface or an ocean bottom; for example, sSn, sSS, sScS, sSdif, etc.
pwP*y*	All Py resulting from reflection of an upgoing P wave at the ocean's free surface
pmP*y*	All Py resulting from reflection of an upgoing P wave from the inner side of the Moho

Surface Waves

L	Unspecified long-period surface wave
LQ	Love wave
LR	Rayleigh wave
G	Mantle wave of Love type
G*N*	Mantle wave of Love type; *N* is integer and indicates wave packets traveling along the minor arcs (odd numbers) or major arc (even numbers) of the great circle
R	Mantle wave of Rayleigh type
R*N*	Mantle wave of Rayleigh type; *N* is integer and indicates wave packets traveling along the minor arcs (odd numbers) or major arc (even numbers) of the great circle
PL	Fundamental leaking mode following P onsets generated by coupling of P energy into the waveguide formed by the crust and upper mantle SPL S wave coupling into the PL waveguide; other examples are SSPL, SSSPL.

Acoustic Phases

H	A hydroacoustic wave from a source in the water, which couples in the ground
HPg	H phase converted to Pg at the receiver side
HSg	H phase converted to Sg at the receiver side
HRg	H phase converted to Rg at the receiver side
I	An atmospheric sound arrival which couples in the ground
IPg	I phase converted to Pg at the receiver side
ISg	I phase converted to Sg at the receiver side
IRg	I phase converted to Rg at the receiver side
T	A tertiary wave. This is an acoustic wave from a source in the solid earth, usually trapped in a low-velocity oceanic water layer called the SOFAR channel (SOund Fixing And Ranging).
TPg	T phase converted to Pg at the receiver side
TSg	T phase converted to Sg at the receiver side
TRg	T phase converted to Rg at the receiver side

Amplitude Measurement Phases

A	Unspecified amplitude measurement
AML	Amplitude measurement for local magnitude
AMB	Amplitude measurement for body-wave magnitude
AMS	Amplitude measurement for surface-wave magnitude
END	Time of visible end of record for duration magnitude

Unidentified Arrivals

x	unidentified arrival (old: i, e, NULL)
rx	unidentified regional arrival (old: i, e, NULL)
tx	unidentified teleseismic arrival (old: i, e, NULL)
Px	unidentified arrival of P type (old: i, e, NULL, (P), P?)
Sx	unidentified arrival of S type (old: i, e, NULL, (S), S?)